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Imperial Oil Limited

# 287 Main Street, Selkirk, Manitoba
# Closure Report

**Prepared by:**

AECOM Canada Ltd.
99 Commerce Dr.
Winnipeg, MB R3P 0Y7

**Prepared for:**

Imperial Oil Limited
505 Quarry Park Blvd S.E.
Calgary AB, T2C 5N1

**Date:** April, 2021

**Project #:** 60549588

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AECOM Canada Ltd.
99 Commerce Drive
Winnipeg MB R3P 0Y7
Canada

T: 204.477.5381
F: 204.284.2040

April 6, 2021

Warren Rospad
Contaminated Sites Program Specialist, Environment Officer
Hazardous Waste, Petroleum & Contaminated Sites Section
Environmental Compliance & Enforcement Branch
Manitoba Conservation and Climate
1007 Century Street
Winnipeg, MB R3H 0W4

Dear Mr. Rospad:

**AECOM Project No:** **60549588**
**Regarding:** **Closure Report**
**Site Address:** **287 Main Street, Selkirk, MB**
**Imperial Oil Site #:** **88001943**
**Facility Type:** **Former Service Station**

On behalf of Imperial Oil Limited (IOL), AECOM Canada Ltd. (AECOM) is pleased to submit the subject Closure Report for remedial activities conducted at the former Esso service station located at 287 Main Street, Selkirk, Manitoba (Imperial Site #88001943).

If you have any questions or concerns, please feel free to contact Aaron Jambrosic at 403-270-4810.

Sincerely,
**AECOM Canada Ltd.**

Aaron Jambrosic M.Sc.
Senior Environmental Scientist
Environment

JM:
Encl.

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# Quality Information

**Report Prepared By:**

Jen Murray, B.Env.Sc. EP CECAB
Environmental Scientist
Environment

Aaron Jambrosic M.Sc.
Senior Environmental Scientist
Environment

2021-04-06

**Report Reviewed By:**

Amber Zilinsky, P.Eng
Environmental Engineer
Environment

APEGM
Certificate of Authorization
AECOM Canada Ltd.
No. 4671 Date: 2021-04-06

# Executive Summary

| Site | 287 Main Street, Selkirk, Manitoba |
|---|---|
| **Type of Facility** | Former Service Station |
| **Legal Land Description** | Lots 22 and 23 Plan 22 WLTO (L DIV), in RL 45 Parish of St Clements. And, firstly: The N ½ of Lot 69 and all of Lots 70, 71, 72, and 73 Plan 9328 WLTO (L Div), Exc out of all of said Lots public land Plan 100518 WLTO in RL 46 Parish of St. Clements. Secondly, All that portion of Lot 69 PLAN 9328 WLTO (L Div) taken for public land plan 5570 WLTO (closed) which lies to the east of a line drawn east of parallel with perp distant 20 feet from the western limit of said Lot 69 Exc out of secondly all mines and minerals in RL 46 Parish of St. Clements. Thirdly, Lots 20, and 21 Plan 22 WLTO (L Div) in RL 45 of said Parish. |
| **Municipal Zoning** | Central Commercial (C3) |
| **Adjacent Land Use** | The properties to the southeast and southwest are also zoned C3. The properties northwest of the Site are zoned as Residential General (R) which includes single family dwellings. The properties northeast of the Site are zoned as central commercial (C2), which includes the central business area and provides for multifunctional uses such as retail business, multi-family residential, recreational, social and administrative uses (City of Selkirk Zoning By- law 4968, June 23, 2020). |
| **Scope of Work** | Remedial excavation |
| **Applicable Soil and Groundwater Guidelines** | • CCME Canadian Environmental Quality Guidelines (CEQG), (most recent online version).<br>• CCME Canada-Wide Standards (CWS) for Petroleum Hydrocarbons (PHC) in Soil, January 2008a.<br>• Health Canada, Guidelines for Canadian Drinking Water Quality – Summary Table, 2020.<br>• Federal Interim Groundwater Quality Guidelines, June 2016.<br>• Ontario Ministry of the Environment (MOE) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, 2011.<br>• AEP Alberta Environment and Parks Tier 1 and Tier 2 Soil and Groundwater Remediation Guidelines 2019. |
| **Type of Organic Vapour Meter Used** | RKI Eagle |
| **Remediation - Dates on Site:** | August 27 to September 25, 2020 |
| **Number of Excavations Advanced** | Seven |
| **Final Remedial Excavation Soil Samples that Exceed Applicable Guidelines** | None |
| **Segregated Soil Piles Reused to Backfill Remedial Excavation that Exceed Applicable Guidelines** | None |

| | |
|---|---|
| **Imported Backfill Soil Samples that Exceeded Applicable Guidelines** | None |
| **Number of Decommissioned Groundwater Monitoring Wells** | Two: 04-4 and 04-7 |
| **Number of Installed Groundwater Monitoring Wells (Post-Remediation)** | Five (MW20-01, MW20-02, MW20-03, MW20-04, MW20-05, and MW20-06) |

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# 1. Introduction

AECOM Canada Ltd. (AECOM) was retained by Imperial Oil Limited (Imperial) to complete remedial activities for a former Esso service station located at 287 Main Street, Selkirk, Manitoba (Imperial Site #88001943); hereinafter referred to as “the Site”.

A Remediation Plan (RP) was submitted to Manitoba Conservation and Climate (MCC) on July 30, 2020. The objective of the RP was to remove the impacted soils identified at the Site that exceeded the remedial objectives through excavation. Benzene, toluene, ethylbenzene and xylenes (BTEX) and petroleum hydrocarbon (PHC) fraction F1 and F2 were the impacts identified at the Site. The initial remedial plan was to stockpile impacted soil, treat the soil on-site with an Allu Bucket to promote degradation to meet the remedial criteria, and then reuse the treated soil on-site as backfill. The RP was approved by MCC on August 5, 2020. Due to the high clay and moisture content in the excavated impacted soil, Allu Bucket treatment proved to be not effective and as a result, all impacted soil was hauled off-site and disposed of at the Prairie Green Landfill in Stonewall, Manitoba. The excavations were backfilled with imported fill and/or segregated material from the Site that met the remedial objectives.

AECOM retained Secure Energy Services (Secure) to provide contractor services and to conduct the remedial activities in conjunction with AECOM who provided site supervision and environmental services. This report summarizes the Site remedial activities, including site preparation, excavation and disposal of impacted soil, and site restoration.

# 2. Site Description and Background

The Site occupies an area of approximately 0.30 hectares, and is located on the northwest side of Main Street between Rosser Avenue and Pacific Avenue in Selkirk, Manitoba. The legal land description for the Site is:

> Lots 22 and 23 Plan 22 WLTO (L DIV), in RL 45 Parish of St Clements. And, firstly: The N ½ of Lot 69 and all of Lots 70, 71, 72, and 73 Plan 9328 WLTO (L Div), Exc out of all of said Lots public land Plan 100518 WLTO in RL 46 Parish of St. Clements. Secondly, All that portion of Lot 69 PLAN 9328 WLTO (L Div) taken for public land plan 5570 WLTO (closed) which lies to the east of a line drawn east of parallel with perp distant 20 feet from the western limit of said Lot 69 Exc out of secondly all mines and minerals in RL 46 Parish of St. Clements. Thirdly, Lots 20, and 21 Plan 22 WLTO (L Div) in RL 45 of said Parish.

The Site is currently owned by Imperial and is the location of a former Esso servicestation. The location of the Site is indicated on **Figure 1** and a Site plan is provided as **Figure 2** (without utilities) and **Figure 3** (with utilities).

The Site was operated as a service station and retail fuel outlet from 1967 to 1995 and as a retail fuel outlet with a car wash from 1995 to 2004. The Site configuration between 1967 and 1989 included a service station building (repair garage) with a 2,270 L waste oil underground storage tank (UST); a tank nest with five 22,730 L steel gasoline underground storage tanks (USTs); two pump islands, associated product piping and dispensing equipment; a propane aboveground storage tank (and a storage garage. In 1989, the waste oil UST was removed, along with the gasoline tank nest with five USTs which were subsequently replaced with four 27,275 L fibreglass gasoline USTs in approximately the same location. In 1995, the repair garage was removed and a kiosk and carwash were installed. In 2004, Site operations were ceased and all Site facilities were decommissioned and removed, including four fiberglass USTs, two pump islands, a kiosk, car wash, propane AST, and a garbage enclosure. Since 2004, there have been no facilities located on the Site.

Currently the Site is vacant with a fence located near the properly line on the northwest side of the Site. The Site can be accessed via roadway approaches from Main Street or Rosser Avenue, however concrete safety barriers are currently blocking these entrances.

## 2.1 Soil Stratigraphy

Based on the results of previous environmental investigations that have been undertaken at the Site, the soil stratigraphy at the Site generally consists of a surface layer of sand, gravel, silt or clay fill, encountered to depths of approximately 1.5 m below ground surface (bgs), underlain by highly plastic clay (with silt and sand lenses) to depths between 3.4 m to 5.3 mbgs, followed by a glacial till to the maximum depth of investigation of 7.6 mbgs.

## 2.2 Hydrogeology

Based on previous environmental investigations completed between 1988 and 2016, shallow groundwater was encountered between 2.4 mbgs and 4.3 mbgs and the shallow groundwater flow was reported to be indeterminate but was generally inferred towards the south/southeast.

A 2003 investigation conducted hydraulic conductivity tests on monitoring wells MW-32, MW-33, MW-34, MW-35, MW-36, MW37, and MW-38 (all screened from 1.6 mbgs to 4.6 mbgs in silt/clay), and reported horizontal hydraulic conductivity values ranging from $1.46 \times 10^{-8}$ m/s to $5.11 \times 10^{-8}$ m/s.

## 2.3 Topography and Drainage

The Site topography is relatively flat, with surface water drainage generally through surface infiltration. The ground surface of the Site is generally covered by vegetation, gravel, and asphalt.

The nearest surface water body is the Red River located approximately 475 m to the east of the Site. Regional drainage is generally east towards the Red River.

Based on the horizontal shallow groundwater flow velocity, it would take groundwater approximately 4,750 years to reach the river.

## 2.4 Structures and Utilities

During the assessment and decommissioning of the four 22,730 L fibreglass USTs in 2004, all facilities at the Site associated with the former service station, retail fuel outlet, and car wash were reported to be decommissioned and removed, except for a sewer line on the southern portion of the Site. During daylighting activities prior to the remedial excavation, several electrical conduits and additional storm sewers were identified. The electrical conduits and storm sewer lines that crossed through the excavations were removed during excavation. An electrical box on a concrete pad remains in the northwestern portion of the Site.

Some Site plans created by previous consultants since 2013 indicated the presence of a waste oil UST, located on the southeast side of the former car wash. Previous tank information included in the Phase I ESA and the 2004 Site decommissioning do not indicate the presence of this UST. During remedial excavation to 1.0 mbgs in this area, the UST was not encountered.

A total of 30 groundwater monitoring wells were known to have been installed at or around the Site, with 13 monitoring wells on-site and three monitoring wells off-site (along Main Street) still in service. All other previous monitoring wells were reported to be destroyed. During remedial activities, two monitoring wells (04-4 and 04-7) were decommissioned by removing the top approximate 1.0 m of PVC pipe and filling the remaining PVC pipe with bentonite chips.

## 2.5 Vegetation

Visible vegetation within the boundary of the Site is generally limited to grasses, shrubs and trees.

## 2.6 Land Use

The Site is zoned as Central Commercial (C3), which is intended for properties located along major collector or arterial streets and is used for single or multi-tenant sites for multifunctional uses such as retail business, multi-family residential, recreational, social, cultural and administrative uses. The properties to the southeast and southwest are also zoned C3. The properties northwest of the Site are zoned as Residential General (R) which includes single family dwellings. The properties northeast of the Site are zoned as central commercial (C2), which includes the central business area and provides for multifunctional uses such as retail business, multi-family residential, recreational, social and administrative uses (City of Selkirk Zoning By- law 4968, June 23, 2020).

Based on communications from Imperial, the Site is intended for commercial land use in the future.

## 2.7 Previous Environmental Investigations

Previous environmental investigations at the Site are summarized in the following reports provided by Imperial:

- Re: Red River Esso, (60256A), Selkirk, Manitoba. Prepared by O'Connor Associates Environmental Inc. on January 3, 1989. (O'Connor Associates Environmental Inc., 1989a)
- Re: Red River Esso, Service Station No. 60256A, Selkirk, Manitoba. Prepared by O'Connor Associates Environmental Inc. on March 20, 1989. (O'Connor Associates Environmental Inc.,1989b)
- Re: Red River Esso, Service Station No. 60256A, Selkirk, Manitoba. Prepared by O'Connor Associates Environmental Inc. on July 31, 1989. (O'Connor Associates Environmental Inc.,1989c)
- Phase II Environmental Assessment, Red River Esso Service Station, Site #860265, 287 Main Street, Selkirk, Manitoba. Prepared by Aqua Terre Solutions Inc. on October 15, 2003. (Aqua Terre Solutions Inc., 2003)
- Environmental Assessment Program, Former IOL Automotive Retail Station, 287 Main Street, Selkirk, Manitoba, 860265/88001943. Prepared by AMEC Earth & Environmental on October 22, 2004. (AMEC Earth & Environmental, 2004)
- Phase II Environmental Site Assessment, City of Selkirk Property Adjacent to the Former IOL Automotive Retail Station, 287 Main Street, Selkirk, Manitoba, 860265/88001943. Prepared by AMEC Earth & Environmental on February 9, 2005. (AMEC Earth & Environmental, 2005)
- Re: Remedial Excavation Estimate Report, Former Red River Service Station, 287 Main Street, Selkirk, Manitoba, Location No. 8600265/88001943. Prepared by O'Connor Associates Environmental Inc. on April 9, 2007. (O'Connor Associates Environmental Inc., 2007)
- Field Data Report, Former ESSO Retail, 287 Main Street, Selkirk, MB, 88001943 / 860265. Prepared by O'Connor Associates Environmental Inc. on May 13, 2010. (O'Connor Associates Environmental Inc., 2010)
- Phase I Environmental Site Assessment, Former Service Station, 287 Main Street, Selkirk, Manitoba, 8001943. Prepared by O'Connor Associates Environmental Inc. on January 19, 2012. (O'Connor Associates Environmental Inc., 2012)
- Groundwater Monitoring and Sampling Report, 287 Main Street, Selkirk, Manitoba, Location No.: 88001943. Prepared by O'Connor Associates Environmental Inc. on February 21, 2013 (O'Connor Associates Environmental Inc., 2013)

- Phase II Environmental Site Assessment, Former Esso Service Station, Car Wash and Retail Fuel Facility, 287 Main Street, Selkirk, Manitoba, 8001943. Prepared by Parsons on December 13, 2013. (Parsons, 2013)
- Remedial Action Plan, Former Retail Fuel Facility and Carwash, 287 Main Street, Selkirk, Manitoba, 8001943. Prepared by Kleinfelder Canada Inc. on April 21, 2015. (Kleinfelder Canada Inc., 2015)
- Remediation Plan, Former Service Station, Car Wash and Retail Fuel Facility, 287 Main Street, Selkirk, Manitoba, 8001943. Prepared by Parsons on September 22, 2016. (Parsons, 2016a)
- Groundwater Monitoring and Sampling Data Package, 287 Main Street, Selkirk, Manitoba. Prepared by Parsons on December 19, 2016. (Parsons, 2016b)

## 2.8 Areas of Environmental Concern

Based on the previous environmental investigations, areas of environmental concern (AECs) include the following:

- Former service station and waste oil UST.
- Former fuel USTs, associated pump islands, and proximate plumes of PHC impacted soil and groundwater.
- Former car wash.

## 2.9 Contaminants of Concern

Based on the past use of the Site as a retail fuel outlet, service station, and car wash, potential contaminants of concern (PCOCs) at the Site include those associated with lead and unleaded gasoline, middle distillate fuels (diesel), engine oils, engine coolants, used oil, degreasing solvents, and transformer oil. Fuel oxygenates were excluded from the PCOCs for the Site based on communication from Imperial indicating that these were not used in fuels within Manitoba. The PCOCs based on past use of the Site are summarized in **Table 2-1** below.

**Table 2-1: Potential Contaminants of Concern by Area of Environmental Concern**

| Area of Environmental Concern | Associated Material or Product | Potential Contaminants of Concern |
|---|---|---|
| **Former Service Station & Waste Oil UST** | Leaded motor gasoline | Benzene, toluene, ethylbenzene xylenes (BTEX), n-hexane, PHC F1-F3, 2-ring polycyclic aromatic hydrocarbons (PAHs), 1,2-dibromoethane (1,2-DBA), 1,2-dichloroethane (1,2-DCA), lead |
| | Unleaded motor gasoline | BTEX, n-hexane, PHC F1-F3, 2-ring PAHs |
| | Engine oils | PHC F2-F4, PAHs, barium, zinc |
| | Engine coolants | Ethylene glycol, 1,2-propylene glycol |
| | Used oil | BTEX, n-hexane, PHC F1-F4, PAHs, volatile organic compounds (VOCs), arsenic, barium, chromium, copper, |

| Area of Environmental Concern | Associated Material or Product | Potential Contaminants of Concern |
|---|---|---|
| | | lead, tin, zinc, PCBs, ethylene glycol, 1,2-propylene glycol |
| | Degreasing solvents | PHC F1, 1,1,1-trichloroethane (1,1,1-TCA), 1,1,2-trichloroethane (1,1,2-TCA), 1,1-dichloroethane (1,1-DCA), tetrachloroethene (perchloroethylene, PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), 1,1-dichloroethene (1,1-DCE), chloroethene (vinyl chloride, VC) |
| | Transformer oil | PHC F2-F4, polychlorinated biphenyls (PCBs) |
| **Gasoline USTs** | Leaded motor gasoline | BTEX, n-hexane, PHC F1-F3, 2-ring PAHs, 1,2-DBA, 1,2-DCA, lead |
| | Unleaded motor gasoline | BTEX, n-hexane, PHC F1-F3, 2-ring PAHs |
| **Diesel UST** | Middle distillate fuels | BTEX, PHC F1-F3, 2-ring and 3-ring PAHs |
| **Former Car Wash** | Leaded motor gasoline | BTEX, n-hexane, PHC F1-F3, 2-ring PAHs, 1,2-DBA, 1,2-DCA, lead |
| | Unleaded motor gasoline | BTEX, PHC F1-F3, 2-ring PAHs |
| | Used oil | BTEX, n-hexane, PHC F1-F4, PAHs, VOCs, arsenic, barium, chromium, copper, lead, tin, zinc, PCBs, ethylene glycol, 1,2-propylene glycol |
| | Engine Coolants | Ethylene glycol, 1,2-propylene glycol |

Previous environmental investigations completed by AECOM and others have included soil and groundwater sampling for parameters related to PHCs, lead scavengers, PAHs, and select metals in the known AECs. A previous investigation completed by Parsons Canada Ltd. in 2013 assessed select volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals and glycols in soil in the vicinity of the former service station building footprint, adjacent fuel oil UST, and car wash, and reported concentrations of these parameters below reportable detection limits and/or applied guideline values. In 2018, AECOM completed a PCOC investigation to address data gaps associated with assessment of VOCs (including n-hexane and those associated with degreasing solvents), tin, glycols, and polychlorinated biphenyls (PCBs) at the Site. Details of the 2018 PCOC investigation are presented with the pre-remedial activities in Section 4.2.3 of this document.

Based on environmental investigations completed at the Site, the contaminants of concern (COCs) identified at the Site are PHC parameters (benzene and PHC fractions F1, F2, and F3) associated with historical Site activities involving the storage and handling of diesel and gasoline fuel.

# 3. Applicable Guidelines and Remedial Objectives

## 3.1 Remediation Guideline Selection

The Province of Manitoba currently references documents from the Canadian Council of Ministers of the Environment (CCME) and Health Canada as Primary standards; Ontario Ministry of the Environment and Climate Change (Ontario MOECC) as Secondary standards; and where these documents do not include applicable guidelines, the Province of Manitoba references documents from Alberta Environment and Parks (AEP) as a tertiary standard. The Province of Manitoba also approves the use of the Government of Canada's Guidance Document on *Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites* where the CCME standards do not apply.

Primary standards:

- CCME Canadian Environmental Quality Guidelines (CEQG), (most recent online version).
- CCME Canada-Wide Standards (CWS) for Petroleum Hydrocarbons (PHC) in Soil, January 2008a.
- Health Canada, Guidelines for Canadian Drinking Water Quality – Summary Table, 2020
- Federal Interim Groundwater Quality Guidelines, June 2016.

Secondary standard:

- Ontario Ministry of the Environment (MOE) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 2011.

Tertiary standard:

- AEP Alberta Tier 1 and Tier 2 Soil and Groundwater Remediation Guidelines, January 2019.

The CCME CEQG and CWS use a risk-based approach allowing limited modification of the generic EQGs in light of prescribed site-specific factors affecting contaminant mobility and receptor characterization. In other words, in cases where soil and/or groundwater concentrations exceed the generic guidelines, an analysis of risk factors specific to the site in question is acceptable in order to allow for a realistic assessment of the actual risks at the site. Using this approach, EQGs are selected based on a step-through procedure eliminating the exposure pathways that do not apply to receptors in the vicinity of the Site and finally selecting the appropriate and most conservative guideline remaining after the elimination procedure. The guidelines are protective of both human and environmental receptors.

This approach was undertaken for the Site in order to provide a more realistic assessment of human and environmental risks at the Site. The applicable site-specific factors at the Site and the supporting rationale are summarized below and in **Table 3-1** and **Table 3-2**.

**Table 3-1: Applicability of Receptors and Exposure Pathways for BTEX**

| Potential Exposure Pathway | Applicability (Yes/No) | Rationale |
|---|---|---|
| **Human Health Exposure Pathways** | | |
| Soil Ingestion | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. |
| Soil Dermal Contact | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. |
| Soil Inhalation | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt overlaying fine grained soils. Asphalt previously in place at the Site may be removed during remediation or future development. |
| Inhalation of Indoor Air (Basement) | Yes | Buildings on adjacent properties are residential with potential basements, inhalation of indoor air into basements must be considered within 30 m of residential properties. |
| Inhalation of Indoor Air (Slab-on-Grade) | Yes | Potential for future building development at the Site. Buildings on adjacent properties are residential. |
| Off-Site Migration | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. Potential for migration via wind/water from the Site to adjacent residential properties. |
| Groundwater (Drinking Water) | No | According to the City of Selkirk there is a by-law in place that prevents installation and use of private water wells with the City limits. Site conditions that provide isolation between the shallow impacted soil/groundwater and the deeper groundwater carbonate aquifer with a 5 m thickness of massive unfractured saturated fine-grained material with a bulk hydraulic conductivity of less than $10^{-6}$ m/s. |
| Produce, Meat and Milk | No | No agricultural land use in vicinity of the Site. Site land use is commercial, limiting potential for garden exposure. |
| **Environmental Health Exposure Pathways** | | |
| Soil Contact | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. |

| Potential Exposure Pathway | Applicability (Yes/No) | Rationale |
|---|---|---|
| Soil and Food Ingestion | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. |
| Nutrient and Energy Cycling | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. |
| Off-Site Migration | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. Potential for migration via wind/water from the Site to adjacent residential properties. |
| Groundwater (Livestock) | No | No agricultural land use in vicinity of the Site. |
| Groundwater (Aquatic Life) | No | The nearest surface water body is the Red River located approximately 475 m east of the Site. However, the aquatic life pathway is not considered to be applicable because based on the following:<br>• The average hydraulic conductivity of upper overburden soils at the Site, in which the soil and groundwater impacts are present, is sufficiently low (in the range of $10^{-8}$ m/s) to limit contaminant migration.<br>• Based on the calculated shallow groundwater horizontal flow velocity it would take approximately 4,750 years to reach the river. |

**Table 3-2: Applicability of Receptors and Exposure Pathways for PHC fractions F1–F4**

| Potential Exposure Pathway | Applicability (Yes/No) | Rationale |
|---|---|---|
| Direct Contact (Ingestion & Dermal Contact) | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt may be removed during remediation or future development. |
| Vapour Inhalation (Indoor) | Yes | Potential for future building development at the Site. Buildings on adjacent properties are residential. |
| Protection of Potable Groundwater | No | According to the City of Selkirk there is a by-law in place that prevents installation and use of private water wells with the City limits. Site conditions that provide isolation between the shallow impacted soil/groundwater and the deeper groundwater carbonate aquifer with a 5 m thickness of massive unfractured saturated fine-grained material with a bulk hydraulic conductivity of less than $10^{-6}$ m/s. |
| Protection of Groundwater for Aquatic Life | No | The nearest surface water body is the Red River which is located approximately 475 m east of the Site. However, the aquatic life pathway is not considered to be applicable because based on the following:<br>• The average hydraulic conductivity of upper overburden soils at the Site, in which the soil and groundwater impacts are present, is sufficiently low (in the range of $10^{-8}$ m/s) to limit contaminant migration.<br>• Based on the calculated shallow groundwater horizontal flow velocity it would take approximately 4,750 years to reach the river. |
| Nutrient Cycling | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. |
| Eco Soil Contact | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. |
| Off-Site Migration | Yes | The Site ground surface cover consists predominantly of gravel areas with some vegetation and asphalt. Asphalt previously in place at the Site may be removed during remediation or future development. Potential for migration via wind/water from the Site to adjacent residential properties. |
| Management Limit | Yes | Applicable at all soil depths and not adjustable. |

Environmental quality guidelines for commercial land use were selected based on zoning and communications from Imperial indicating that the Site is intended for continued commercial use in the future.

According to the City of Selkirk there is a by-law in place that prevents installation and use of private water wells with the City limits. Drinking water is supplied to the area via a municipal distribution system fed by four wells located 380 m to 460 m north, northeast, and east from the Site and drawing groundwater from the carbonate bedrock aquifer. The well records indicate the well installations encountered bedrock at a minimum of 26 mbgs and were installed with a solid casing to depths of a minimum of 26 mbgs.

Based on available well records from a search of the MCC (formerly Manitoba Conservation and Water Stewardship) water well records data base and information included in environmental investigations previously completed by others, 24 water wells (17 domestic, municipal, 3 test wells, 1 air conditioning well, and 1 recharge well) are reportedly potentially within a 500 m radius of the Site. The wells were drilled between 1963 and 2006 and are completed in bedrock formation at depths ranging between 7.9 mbgs and 84.4 mgbs. A summary of the wells identified as potentially within 500 m of the Site is presented in **Appendix A**. The nearest wells identified were located approximately 70 m (verified with homeowner that this well does not exist or is not in use) and 125 m from the Site (screened in the conductive bedrock interval at 27.1 – 28.3 mbgs and 28.5 – 61.8 mbgs, respectfully, below 26 m of fine-grained material).

The low permeability overburden thickness is estimated to be approximately 20 m thick in the Site area. The average hydraulic conductivity of upper overburden soils at the Site, in which the soil and groundwater impacts are present, is sufficiently low (in the range of $10^{-8}$ m/s) to limit use as a domestic use aquifer.

The potable groundwater pathway is not considered applicable to the Site based on conditions at the Site that indicate isolation between the shallow impacted soil/groundwater and the deeper groundwater carbonate aquifer with a 5 m thickness of massive unfractured saturated fine-grained material with bulk hydraulic conductivity of less than $10^{-6}$ m/s.

The nearest surface water body is the Red River which is located approximately 475 m east of the Site. However, the average hydraulic conductivity of upper overburden soils at the Site, in which the soil and groundwater impacts are present, is sufficiently low (in the range of $10^{-8}$ m/s) to limit contaminant migration, based on the calculated shallow groundwater horizontal flow velocity it would take approximately 4,750 years to reach the river. The aquatic life pathway is not considered to be applicable.

According to the CWS Technical Supplement Document (2008c), the soil contact exposure pathway may be eliminated for depths below 3 m with the provincial regulator to dictate how to address soils between 1.5 m and 3 mbgs. According to MCC, surface soil is defined as soil at or above 1.5 mbgs with subsurface soil defined as soil below 1.5 mbgs, meaning the ecological soil contact exposure pathway may be eliminated below a depth of 1.5 m provided there are other applicable exposure pathways. Therefore, where appropriate, the ecological soil contact pathway has been removed from consideration for soil at depths greater than 1.5 mbgs (BTEX and PHC fraction F1-F4 parameters).

CCME developed soil quality guidelines (SQGs) for benzene based on incremental cancer risk for human health with human health SGQs having $10^{-5}$ and $10^{-6}$ incremental cancer risks. The $10^{-5}$ incremental

cancer risk values were selected as part of this remedial program, as per MCC Guideline Manitoba Criteria for BTEX in Investigation Results (Manitoba Sustainable Development, 2016a).

Further assessment of the vapour inhalation pathways was completed as part of a pre-remediation soil vapour investigation. The applicable site-specific receptors, exposure pathways, and associated remediation objectives and remedial approach/design were evaluated based on the results of the soil vapour investigation. A summary of the vapour inhalation pathways analysis and revisions to the remedial approach/design are provided in Section 4.2.4. MCC approved this revision as part of the RP.

In summary, the current applied guidelines are based on the primary, secondary, and tertiary standards listed above, for Commercial land use and fine-grained soil, with potable groundwater and aquatic life exposure pathways excluded, and ecological direct contact excluded below 1.5 m for BTEX and PHC fractions F1–F4.

## 3.2 Remediation Objectives

The following table summarizes the applied SQG values used as soil remediation objectives for the Site.

**Table 3-3: Soil Remediation Objectives for Primary COCs**

| Parameter | Surface Soil (≤1.5 mbgs) SQG (mg/kg) | Subsoil (>1.5 mbgs) SQG (mg/kg) |
|---|---|---|
| Benzene | 2.8 [a,d,e,i] | 2.9 [a,d,i] |
| Toluene | 330 [a,f] | 660 [a,f] |
| Ethylbenzene | 430 [a,f] | 860 [a,f] |
| Xylenes | 230 [a,f] | 460 [a,f] |
| PHC fraction F1 | 320 [b,g] | 800 [b,h] |
| PHC fraction F2 | 260 [b,g] | 1,000 [b,h] |
| PHC fraction F3 | 2,500 [b,g] | 5,000 [b,h] |
| PHC fraction F4 | 6,600 [b,g] | 10,000 [b,h] |

Notes:
[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils.
[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008a) - Commercial Land Use, Fine Grained Soils.
[c] Ontario Ministry of the Environment (MOE) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards Non-Potable Ground Water Condition, Fine Textured Soil, Commercial Land Use.
[d] Inhalation of indoor air (basement).
[e] Inhalation of indoor air (slab on grade).
[f] Soil contact - Environmental Health.
[g] Eco Soil Contact.
[h] Management Limit.
[i] Guideline values of 110 mg/kg (surface soil) and 620 mg/kg (subsoil) utilized in select area of the Site, based on indoor air vapour modeling.

Note these general objectives tables do not take into account site-specific soil vapour assessment presented in Section 4.2.4 and **Appendix B** as the guideline modification was only applied to benzene in the subsoil.

**Table 3-4** summarizes the applicable groundwater quality guideline (GWQG) values used as groundwater

remediation objectives for the Site.

**Table 3-4: Groundwater Remediation Objectives for Primary COCs**

| Parameter | GWQG (mg/L) [a] |
|---|---|
| Benzene | 19 |
| Toluene | 240 |
| Ethylbenzene | 150 |
| Xylenes | 74 |
| PHC fraction F1 | 9.9 |
| PHC fraction F2 | 3.1 |
| PHC fraction F3 | NGR |
| PHC fraction F4 | NGR |

Notes:

[a] 2016 Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites, for commercial land use and fine grained soil, with the potable water, freshwater aquatic life, and livestock watering pathways excluded for petroleum hydrocarbons.

Note that the groundwater criteria presented with in this report have been revised from that present in approved 2020 RP. The RP presented the Ontario MOE Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOE, 2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, fine grained soil. This criterion only excludes potable water pathway and not freshwater aquatic life and livestock watering, as is applicable to the Site, so is overly conservative and not representative of Site conditions. Based on this and the guidance set out in the June 2016 MCC Information Bulletin on Assessment Criteria for Groundwater, the groundwater criteria have been revised to those presented in the Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (Environment Canada, 2016).

# 4. Scope of Remedial Actions

## 4.1 Summary of Proposed Remediation Activities

AECOM provided an RP to MCC on July 30, 2020 detailing the proposed excavation, treating or disposal of select impacted soils, and Site restoration.

AECOM completed the following scope of work prior to initiation of the remedial excavation to better design the soil remediation at the Site:

- Pre-Remediation Activities:
  - Preliminary health and safety planning;
  - Pre-remediation groundwater monitoring and sampling;
  - Soil PCOC and remaining infrastructure investigation; and
  - Soil vapour investigation.

AECOM performed the following scope of work to conduct soil remediation at the Site:

- Site Remediation:
  - Finalization of health and safety plan;
  - Site survey;
  - Imported fill material verification;
  - Waste characterization and landfill acceptance;
  - Re-route/protect utilities/install shoring as required;
  - Turn soil within former building footprints;
  - On-site treatment of select impacted soils;
  - Excavation and disposal of select impacted soil; and
  - Site restoration.
- Post-Remediation Activities:
  - Post-remediation groundwater well installation, monitoring, and sampling.

The RP was approved by MCC on August 5, 2020.

## 4.2 Pre-Remediation Activities

### *4.2.1 Preliminary Health and Safety Planning*

A Site-Specific Health and Safety Plan (SSHASP) was prepared to address safety, health, and security considerations for the tasks completed as part of the pre-remediation activities. The SSHASP was provided to Imperial under separate cover.

### *4.2.2 Pre-Remedial Groundwater Monitoring and Sampling*

Groundwater monitoring and sampling conducted previously in 2010, 2012, 2015, and 2016 indicated groundwater impacts related to benzene and PHC fractions F1-F2, however these past programs had not assessed all the applicable PCOCs in the groundwater. On October 10 and 12, 2018, a pre-remedial

groundwater monitoring and sampling event was completed at all existing on-site groundwater monitoring wells to confirm current groundwater conditions and concentrations of COCs and PCOCs. Results of the 2018 event indicated concentrations were below the applicable 2016 Federal Interim Groundwater Quality Guidelines for all parameters analyzed, which include BTEX and PHC fractions F1 – F4. Details of the pre-remedial groundwater investigation as well as historical groundwater analytical results are presented in the approved RP.

### *4.2.3 Soil PCOC and Remaining Infrastructure Investigation*

On November 11 through 13, 2018, eight boreholes were advanced to a depth of up to 6.75 mbgs, and representative soil samples were collected from each of the AECs to investigate unassessed PCOCs and determine potential presence of remaining infrastructure. The collected soil samples were field screened for volatile organic vapours. Based on the field screening and observations, select soil samples were submitted for laboratory analysis of PCOCs associated with the AEC as outlined in **Table 2-1**. The 2018 laboratory analytical results were reviewed in combination with previous environmental investigation data to determine the need for additional COCs, additional investigation, and/or revision to the remedial approach/design. Results of the 2018 investigation identified benzene above remedial criteria in three boreholes (BH4, BH5, and BH6) and a concentration of PHC fraction F1 above remedial criteria in one borehole (BH6), all within the former Fuel UST Area. No other PCOCs or COCs, or remaining infrastructure were identified during the 2018 investigation. The locations of the eight boreholes are shown on **Figure 4.** Details of this investigation are presented in the approved RP.

### *4.2.4 Soil Vapour Investigation*

Between November 2018 and February 2019, a soil vapour investigation was completed at the Site to assess the vapour inhalation exposure pathway. The soil vapour investigation included:

- Installation of four soil vapour probes;
- Two rounds of soil vapour sampling;
- Model indoor air concentrations using CCME dilution factors based on the Johnson and Ettinger (1991) model to assess potential risks posed by the indoor infiltration of volatile contaminants emanating from soil and/or groundwater; and
- Evaluation of potential modification to the remedial approach based on application of the soil vapour screening criteria.

On November 22, 2018, four soil vapour probes (VW18-1, VW18-2, VW18-3 and VW18-4) were installed for collection of representative soil vapour samples from areas exhibiting soil impacts. The assessment area was located southeast of the former tank farm (between the tank farm and Main Street) where identified soil impacts were driven by the vapour intrusion pathway for benzene (based on soil concentrations in locations BH4, BH5 and TP-17), and within the former tank farm (based on soil concentrations observed in BH6). The soil vapour monitoring probes were installed at 1.6-1.85 mbgs, above the water table and in the area of worst-case impacts. Two rounds of soil vapour sampling were completed, in November 2018 and February 2019.

The measured soil vapour concentrations were used to calculate predicted indoor air concentrations using soil gas to indoor air dilution factors (DF) as a function of depth/distance from building to contamination. These predicted concentrations were then used to determine a Hazard Quotient (HQ) for threshold chemicals, or an Incremental Lifetime Cancer Risk (ILCR) for non-threshold chemicals for each of the BTEX constituents and PHC fractions F1 and F2.

The HQ / ILCR for each of the BTEX constituents and PHC fractions F1 and F2 was found to be less than 1 (i.e. the predicted indoor air concentrations were less than the respective indoor air guideline concentrations), therefore, there are no significant risks associated with the occupancy of a building exhibiting such concentrations.

Based on the soil vapour assessment the remedial design was modified as follows:

- Benzene impacted soil (based on indoor air vapour guideline values) that is not co-located with other contaminants requiring remediation, unless driven a pathway other than indoor, were left in place. This is a result of the modeling indicating that there is negligible exposure risk from soil vapours and benzene concentrations do not exceed remedial criteria for any other applicable exposure pathway.
- For conservative purposes and to reduce potential re-development restrictions, surface soil benzene criteria for the remediation included the vapour intrusion pathway.
- Subsoil benzene criteria for the remediation was set to maximum soil concentration observed in the area of vapour monitoring used to inform the model (12 mg/kg).
    - Note the limit of 12 mg/kg for benzene left in place in subsoil was not specifically identified in the approved RP which instead eliminated the vapour intrusion pathway in the vapour assessment area. To be conservative this limit was used as soils with greater benzene concentrations may represent greater vapour intrusion risk than the area where the vapour investigation was performed.
    - Additionally, the 12 mg/kg limit was applied to subsoil through out the Site as the vapour assessment was performed in the identified worst case area of the for benzene soil concentrations, and the excavation areas were backfilled with equivalent fine grained soil by the same methods. Therefore vapour attenuation in these areas is considered to be similar to the vapour assessment area. Soils with benzene concentrations below those observed in the vapour assessment area were not considered a vapour intrusion risk.

The location of the vapour wells are shown on **Figure 5**. Full details of the soil vapour assessment are presented in **Appendix B.**

## 4.3 Site Remediation Activities

### *4.3.1 Preliminary Health and Safety Planning*

The Site-Specific Health and Safety Plan (SSHASP) was updated to address any additional safety, health, and security considerations for the Site tasks required for remediation. This document was provided to Imperial under separate cover.

### *4.3.2 Site Survey*

The Site property boundaries and excavation boundaries were surveyed and staked prior to remedial activities. Final extents of the excavation are shown on **Figure 6**.

A copy of the most recent legal property survey identifying property boundaries and Site infrastructure is attached in **Appendix C**.

### *4.3.3 Imported Fill Material Verification*

3,079.75 metric tonne (MT) of imported fill material was required to replace the impacted soil that was excavated and disposed of off-site. The backfill material was sourced from Glacial Aggregates in Springfield, Manitoba. To verify that the backfill material met the remedial criteria for the Site, soil samples were collected and submitted for laboratory analysis of grain size, BTEX, PHC fractions F1-F4, metals, VOCs, PAHs, salinity parameters, and PCBs.

Four import fill samples were collected from the import fill source, two initial characterization samples and two during importation to verify fill quality. The initial samples analytical results were within the acceptable criteria for all parameters. In the two later samples pH marginally exceeded the CCME range of 6.0-8.0 at values of 8.18 and 8.31. Based on pH analysis of the landfill characterization samples from the Site, the Site soils had naturally occurring elevated pH with concentrations of 8.25 and 8.37. Therefore, it was considered that the backfill was of equivalent to the natural soil at the Site. To confirm potential risks, following the Province of Manitoba's recognition of Alberta Environment and Parks (AEP) as an acceptable alternative standard (as stated in Section 1), the pH values were compared to the 2019 Alberta Tier 1 criteria for the same ecological direct contact pathway, with limits of 6.0–8.5. As a result, the soil pH values are not considered a risk to environment. The analytical results are included in the **Tables** section of this report.

### *4.3.4 Waste Characterization and Disposal Facility Acceptance*

To obtain approval for acceptance of impacted soils at an appropriate disposal facility, two soil samples were collected during daylighting activities in known impacted areas prior to the start of remedial work. One soil sample (LF1) was collected from the former location of test pit TP17 in Excavation 2 at a depth of 1.9 mbgs and the second soil sample (LF2) was collected from the former location of test pit TP16 in Excavation 1 at a depth of 1.25 mbgs. Samples were submitted for laboratory analysis of landfill acceptance parameters. The waste characterization sample results were forwarded to the Waste Connections of Canada (Progressive Waste Solutions) Prairie Green Landfill in Stony Mountain, Manitoba for approval. The waste characterization samples analytical results were deemed suitable for disposal and approved by the Prairie Green Landfill facility. The analytical results are included in **Table 1** and **Table 7**.

### *4.3.5 Monitoring Well Decommissioning*

A total of two monitoring wells (identified as 04-4 and 04-7) were encountered within the excavation extents and were decommissioned during remedial activities by filling the well annulus with bentonite chips and hydrating with water. The metal road boxes, top approximately 1.0 m of the PVC well casing and other monitoring well components were removed during the excavation and disposed according to applicable provincial regulatory requirements. No historical groundwater monitoring wells remained within the excavation areas following the completion of remediation activities.

### *4.3.6 Overhead Power Lines and Underground Utilities*

On-site utilities were confirmed prior to the excavation by utility company representatives (public utilities) and Structure Scan In. (private utilities), along with Badger Daylighting who completed hydro-excavation services to visually confirm presence/absence of utilities. Several land drainage and electrical conduits

were daylighted by Badger Daylighting prior to remediation. Once daylighted, the electrical conduits were tested by Structure Scan to determine if there was any live electrical on-site.

The land drainage line was removed on the south, east, and west portions of the Site (as it was found to have been abandoned with manholes and catch basins filled with soil) and electrical conduits were removed from the excavations during remedial activities.

### *4.3.7 Excavation and Disposal*

#### *4.3.7.1 Former Service Station, Garage and Car Wash Building Footprints*

The soil beneath the former service station, garage, and car wash buildings footprints (approximately 335 $m^3$) were turned by excavating to 1.0 mgs, a depth below the grade of the former slab or base support of said infrastructure for due diligence purposes. Soil excavated from these areas was stockpiled on-site, and confirmatory samples were collected from the walls and base of the excavations as described in Section 4.3.7.3 below, and from the stockpiles as described in Section 4.3.7.4 below. The approximate soil turnover excavation area of the former building footprint is shown on **Figure 6**. Stockpile and confirmatory soil samples from the building footprints were submitted for laboratory analysis of BTEX, PHC fractions F1-F4, PAHs, and VOCs. One sample from below the former carwash reported a concentration of PHC fraction F4G above the applicable remedial criteria. As this was the only reported concentration of PHC fraction F4G identified at the Site, the location was re-sampled to confirm if the result was accurate or erroneous. As the second sample reported all PHC concentrations to be below detection limits (well below the applicable remedial criteria as well as the original sample results), and similar to the other soil samples collected from the car wash footprint, the second sample was considered to be reflective of soil conditions with the first sample considered to be a laboratory error. Analytical results for the stockpile samples and confirmatory samples were below the remedial objectives and are attached in the **Tables** section of this report.

#### *4.3.7.2 Soil Excavation and Management*

Between August 28, 2020 and September 25, 2020, 2,268.9 MT of soil impacted by PHCs was excavated, loaded into trucks, and disposed off-site at the Prairie Green Landfill in Stony Mountain. Waste disposal tickets for all soil disposed at the landfill are attached in **Appendix D.**

The initial remedial plan included on-site treatment of impacted soil using an Allu Bucket to promote degradation of the contaminants. Secure attempted to treat approximately 23 $m^3$ of impacted soil with an Allu Bucket, however due to the high clay and moisture content of the soil, treatment was deemed not effective and all impacted soil was hauled off-site for disposal.

Impacted areas of the Site were segregated into separate areas for rotational excavation, sampling, and backfilling purposes. The extents and volume of each excavation area are shown on **Figure 6**.

Impacted soils were excavated using a tracked excavator at depths ranging from ground surface to a maximum of 5.0 mbgs. Overburden soil that were not suspected to be impacted was stockpiled separately at the Site for potential re-use as backfill material following sampling and laboratory analysis to confirm soil quality.

### *4.3.7.3 Confirmatory Soil Sampling*

The primary limits of the excavation were based on organic vapour readings (i.e. using an RKI Eagle Combustible Vapour Analyzer) of soil samples obtained at the time of excavation, as well as any visual indicators of PHC impacts (staining and/or odour). Confirmatory samples were collected once the primary margins of the excavation had been reached in a given section of the excavation. Discrete samples were collected at 1 m depth intervals on excavation walls, spaced 5 m apart laterally (i.e. approximately one sample collected from every 5 $m^2$ or less) and along the base of the excavation using a maximum 3 m by 3 m grid.

Select soil samples from the excavation extents were submitted for laboratory analysis of BTEX and PHC fractions F1-F4, to confirm that residual soils met the remedial objectives. Samples selected for laboratory analysis were considered to represent the worst-case potential impacts from the sampled area, based on organic vapour readings and field observations. Samples from the excavation base were collected and submitted for laboratory analysis at approximately one for every 50 $m^2$ in area, at a minimum. Samples from the excavation walls were collected and submitted for laboratory analysis based on one sample from every wall profile (i.e. minimum every 5 m laterally along the excavation walls). Any analytical result which exceeded the approved remedial objectives resulted in additional excavation and representative samples being collected from the new limits of the excavation.

A total of 115 soil samples from the final excavation extents were submitted to Bureau Veritas (BV) Laboratories for analysis. Analyzed confirmation samples that exceeded the remedial criteria were removed by additional excavation and subsequent confirmation sampling/analysis was completed. The failed samples are identified as “interim” in the confirmation sample tables. Analytical results from the final extents of all excavations were below the remedial objectives.

The soil laboratory results and organic vapour results are presented in the **Tables** section of this report and the laboratory certificates of analyses are provided in **Appendix E**. Sample locations are shown on **Figure 6**.

### *4.3.7.4 Stockpile Soil Sampling*

Stockpiles created on-site consisted of suspected non-impacted soil (e.g. overburden) from the excavation areas, known impacted soil from the excavations, and potentially impacted soil from the building footprints.

For the suspected non-impacted soil stockpiles and the potentially impacted soil stockpiles, one soil sample for each 10 $m^3$ of stockpiled soil was collected for field screening and organic vapour analysis. Based on field results, one discrete soil sample for each 50 $m^3$ of stockpiled soil was submitted to the laboratory for BTEX and PHC fractions F1-F4 analysis (i.e. the sample with the highest organic vapour reading of the five samples collected per 50 $m^3$ was submitted for laboratory analysis). No samples were collected from the known impacted soil stockpiles, which were temporarily placed until the soil could be transported off-site for disposal.

One stockpile soil sample (SP8-2) from the suspected non-impacted soil stockpiles exceeded the remedial objectives for surface soil, but was within remedial objectives for subsoil. This stockpile was placed as backfill in Excavation 4 at approximately 4.5 mbgs. Stockpiles SP13 and SP14 were contaminated soil from Excavation 3; Allu Bucket treatment was attempted on these soils to evaluate

treatment feasibility but was found to be ineffective and these soils were disposed of off-site (represented by samples SP13-4 and SP14-2 in the analytical result summary tables). All other suspected non-impacted and potentially impacted soil stockpiles had analytical results below the remedial objectives and were re-used on-site as backfill. This resulted in approximately 700 $m^3$ of stockpiled soil from the excavations and 335 $m^3$ of stockpiled soil from the building footprints being re-used on-site. Stockpile analytical results are shown in the **Tables** section of this report.

### *4.3.8 Backfilling of Excavations*

3,079.75 MT of imported fill was supplied by Glacial Aggregates and hauled by D&D Excavating to backfill the excavations. Four samples were collected from the imported backfill for characterization and confirmation of soil quality prior to use as described above in Section 4.3.3.

The backfill soil was placed in approximately 0.3 m lifts and compacted with the excavator tracks and/or bucket prior to placement of the next lift.

### *4.3.9 Site Restoration*

Restoration included placement and compaction of backfill to a level approximately 0.15 m higher than the original grade to account for future subsidence. Upon the conclusion of Site restoration activities, all equipment and temporary site fencing was removed.

## 4.4 Post-Remediation Activities

### *4.4.1 Post-Remedial Groundwater Sampling*

To confirm post-remedial groundwater conditions and quality, six groundwater monitoring wells were installed at the Site on November 2, 2020. The groundwater monitoring wells were monitored and sampled between November 2 and 4, 2020, between November 18 and 24, and between January 18 and 21, 2021. Groundwater samples were submitted to BV Laboratories for analysis of BTEX and PHC fractions F1-F4.

The analytical results from both groundwater sampling events were below the remedial objectives for all samples analyzed. The post-remedial groundwater results tables, figures, boring logs, laboratory certificates, and quality control analysis are provided in **Appendix F**.

The six new groundwater monitoring wells currently remain at the Site, along with seven existing monitoring wells. However, following approval of this closure report by MCC, the monitoring wells will be decommissioned using applicable industry and regulatory standards.

# 5. Quality Assurance and Quality Control

A quality assurance and quality control (QA/QC) program was implemented during the sampling events to minimize and quantify impacts introduced during sample collection, handling, shipping and analysis. As part of the QA/QC program, sampling protocols included minimizing sample handing, submitting field QA/QC samples, using dedicated sampling equipment, using sample-specific identification and labelling procedures, and using chain of custody records.

The results of the laboratory QA/QC analyses are provided in the Laboratory Certificates of Analysis which can be found in **Appendix E**. The analysis included method blanks, matrix spikes, laboratory control samples and matrix duplicates. An independent data quality check was completed for each Laboratory Certificate of Analysis and is included in **Appendix G**.

For the remedial excavation program, field QA/QC samples consisted of 13 field duplicate soil samples that were collected and analyzed by BV Laboratories. The results of the field QA/QC sample analysis are discussed in **Appendix H**. The results obtained for the field duplicates are considered acceptable.

In summary, no QA/QC issues were identified that would materially affect the overall results of the remedial findings.

# 6. Summary and Conclusions

Based on the work completed at the Site, the following conclusions can be made:

- The Site was segregated into seven excavation areas (including 3 building turn footprints), and the final depth of the excavations ranged from approximately 1.0 mbgs to approximately 4.5 mbgs.
- Between August 27 and September 25, 2020, approximately 2,268.9 MT of PHC impacted soil was excavated, removed from the Site, and disposed off-site at the Waste Connections of Canada (Progressive Waste Solutions) Prairie Green Landfill.
- All confirmatory soil samples collected from the final excavation limits were below the remedial objectives. Confirmation samples collected that exceeded criteria were removed by additional excavation and subsequent confirmation sampling was performed, these failed samples are identified as “interim” in the confirmation sample tables.
- Approximately 1,035 $m^3$ of non-impacted overburden soil was re-used on-site in addition to approximately 3,079.75 MT of imported fill to backfill the remedial excavations.
- Laboratory analytical results for all soil samples collected from the imported fill and excavated non-impacted overburden soil re-used on-site as backfill met the applicable remedial objectives established for the Site.
- Six post-remedial groundwater monitoring wells were installed at the Site on November 2, 2020 and two post-remedial groundwater sampling events were subsequently completed on November 24, 2020 and January 21, 2021, respectively, with all groundwater sample analytical results below the applicable guidelines.
- Based on the review of the QA/QC results, no QA/QC issues were identified that would materially affect the overall results of the remediation program.
- 13 monitoring wells currently remain at the Site. Following approval of this closure report by MCC, the monitoring wells will be decommissioned using applicable industry and regulatory standards.

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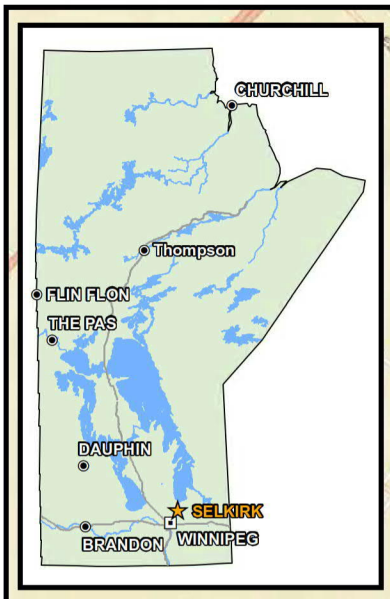
# Figures




NORTH
W E
S

SITE LOCATION

Selkirk

Selkirk Golf & Country Club

**REFERENCE:**

LAYER CREDITS: © 2010 NAVTEQ © AND © 2016 MICROSOFT CORPORATION

0 0.25 0.5 Kilometers

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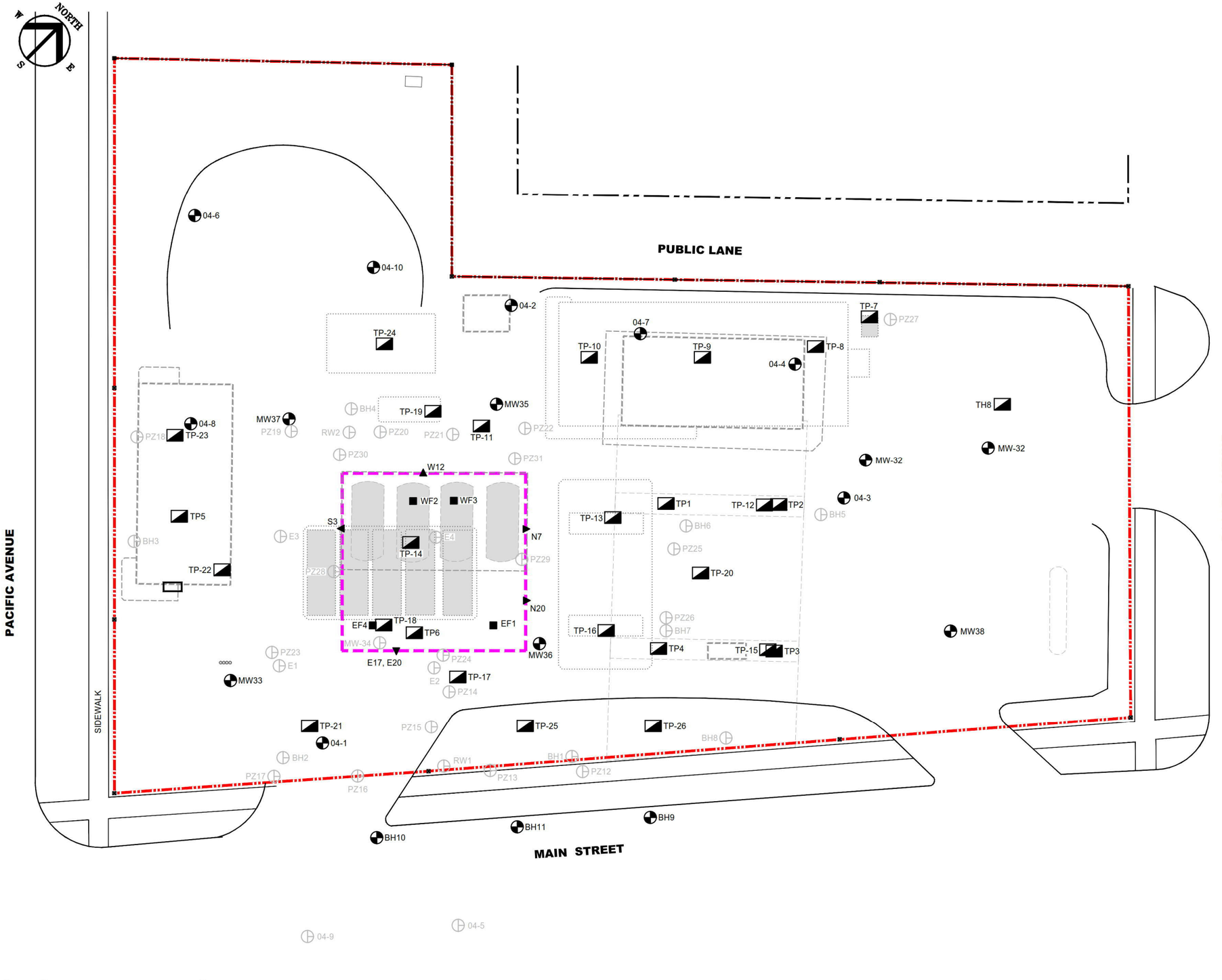
AECOM

# SITE LOCATION MAP

| CLIENT NAME: | PROJECT LOCATION: | | | |
|---|---|---|---|---|
| IMPERIAL OIL LIMITED | 287 MAIN STREET<br>SELKIRK, MB | DRAWN BY: CM | SCALE: 1:20,000 | FIGURE No. 1 |
| | | CHECKED BY: AB | DATE: 03.01.2018 | REVISION 0 |

File Location: \\cawpg1fp001\data\Projects\60549588\900-CAD_GIS\920-929 (GIS-Graphics)\H\Selkirk\2018-01-03 ACM IOL Selkirk.mxd Date Revised: January 05, 2018 Prepared by: mahec Project: 60120262




## LEGEND

- CURRENT PROPERTY LINE
- PROPERTY BOUNDARY PIN
- ADJACENT LOT LINE
- FENCE OF PROPERTY LINE
- FORMER FEATURES (1967-1995)
- FORMER FEATURES (1995-2004)
- TANK NEST EXCAVATION (2004)
- MONITORING WELL
- MONITORING WELL (DESTROYED)
- TEST PIT
- CONFIRMATORY WALL SAMPLE
- CONFIRMATORY FLOOR SAMPLE

## NOTES:

1. ORIGINAL DRAWING IN COLOUR.
2. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED ON SITE. NOT ALL UTILITIES MAY BE SHOWN.

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## REVISIONS

| REV. | DATE | DESCRIPTION | BY | CHK |
|---|---|---|---|---|
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| | | | | |
| 0 | OCT. 2018 | | | |

AECOM

CLIENT NAME:
IMPERIAL OIL LIMITED

PROJECT LOCATION:
287 MAIN STREET
SELKIRK, MB

# SITE PLAN

| | | |
|---|---|---|
| DRAWN BY: CM | SCALE: 1:300 | FIGURE No. 2 |
| CHECKED: AB | DATE: 31.10.18 | REVISION 0 |

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## LEGEND

- CURRENT PROPERTY LINE
- PROPERTY BOUNDARY PIN
- ADJACENT LOT LINE
- FORMER FEATURES (1967-1995)
- FORMER FEATURES (1995-2004)
- FORMER TANK NEST EXCAVATION
- FLAG POLE
- MONITORING WELL
- MONITORING WELL BLOCKED. NO SAMPLE COLLECTED
- GROUNDWATER CONCENTRATIONS LESS THAN OR EQUAL TO APPLICABLE STANDARD FOR ALL PARAMETERS ANALYSED
- GROUNDWATER CONCENTRATIONS GREATER THAN APPLICABLE STANDARD FOR AT LEAST ONE PARAMETER ANALYSED

**ABBREVIATIONS**: B - Benzene; T - Toluene; E - Ethylbenzene; X - Xylenes; F1 - PHC fraction F1; F2 - PHC fraction F2; F3 - PHC fraction F3; F4 - PHC Fraction F4; m bgs - metres below ground surface; NG - No Guideline.

BTEX, F1-F4 Criteria: 2016 Federal Interim Groundwater Quality Guidelines, for commercial land use and fine grained soils, with the potable water, freshwater aquatic life, and life stock watering pathways excluded for petroleum hydrocarbons.

-: Denotes analysis not conducted.

<: Denotes concentration less than reportable detection limit.

mg/L: Unit for all groundwater quality guideline criteria and analytical results is milligrams per litre.

**XX**: Bold and underlined analytical results indicate Reportable Detection Limit (RDL) exceeds applicable standards.

**XX**: Red and bold analytical results exceeded applicable standards.

## NOTES:

1. ORIGINAL DRAWING IN COLOUR.
2. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED ON SITE. NOT ALL UTILITIES MAY BE SHOWN.

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## REVISIONS

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| 0 | Oct 2018 | | | |

AECOM

CLIENT NAME:
IMPERIAL OIL LIMITED

PROJECT LOCATION:
287 MAIN STREET
SELKIRK, MB

# 2018 PRE-REMEDIATION GROUNDWATER ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS

| | | |
|---|---|---|
| DRAWN BY: SC | SCALE: 1:300 | FIGURE No. 3 |
| CHECKED: MK | DATE: 31-10-2018 | REVISION 0 |

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| BH1 | | | | | | | | Sample Date: 2018-07-13 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 3 | 0.012 | <0.020 | <0.010 | <0.040 | 30 | 22 | <50 | <50 |
| 3 | <0.0050 | <0.020 | <0.010 | <0.040 | 83 | 84 | 55 | <50 |
| 4.5 | <0.0050 | <0.020 | <0.010 | <0.040 | <10 | <10 | <50 | <50 |

| BH2 | | | | | | | | Sample Date: 2018-07-12 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 5.25 | 0.170 | <0.020 | 0.81 | 0.19 | 50 | 47 | <50 | <50 |
| 6.75 | 0.13 | <0.020 | 0.077 | <0.040 | <10 | <10 | <50 | <50 |

| BH3 | | | | | | | | Sample Date: 2018-07-12 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 3.75 | 2.2 | <0.020 | 1.8 | 0.71 | 120 | 25 | <50 | <50 |
| 6 | 0.02 | <0.020 | <0.010 | <0.040 | <10 | <10 | 73 | <50 |

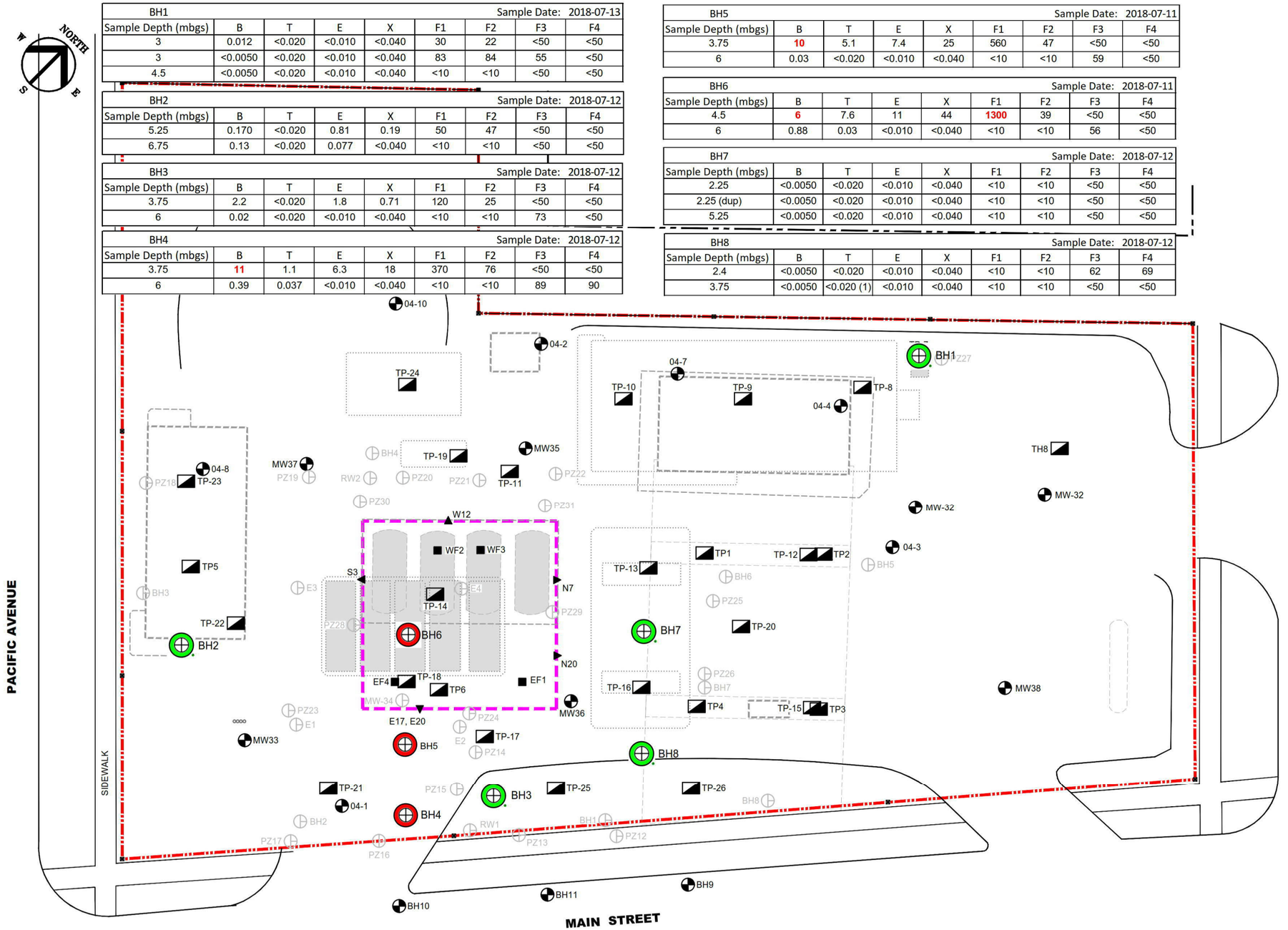
| BH4 | | | | | | | | Sample Date: 2018-07-12 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 3.75 | **11** | 1.1 | 6.3 | 18 | 370 | 76 | <50 | <50 |
| 6 | 0.39 | 0.037 | <0.010 | <0.040 | <10 | <10 | 89 | 90 |

| BH5 | | | | | | | | Sample Date: 2018-07-11 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 3.75 | **10** | 5.1 | 7.4 | 25 | 560 | 47 | <50 | <50 |
| 6 | 0.03 | <0.020 | <0.010 | <0.040 | <10 | <10 | 59 | <50 |

| BH6 | | | | | | | | Sample Date: 2018-07-11 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 4.5 | **6** | 7.6 | 11 | 44 | **1300** | 39 | <50 | <50 |
| 6 | 0.88 | 0.03 | <0.010 | <0.040 | <10 | <10 | 56 | <50 |

| BH7 | | | | | | | | Sample Date: 2018-07-12 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 2.25 | <0.0050 | <0.020 | <0.010 | <0.040 | <10 | <10 | <50 | <50 |
| 2.25 (dup) | <0.0050 | <0.020 | <0.010 | <0.040 | <10 | <10 | <50 | <50 |
| 5.25 | <0.0050 | <0.020 | <0.010 | <0.040 | <10 | <10 | <50 | <50 |

| BH8 | | | | | | | | Sample Date: 2018-07-12 |
|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 |
| 2.4 | <0.0050 | <0.020 | <0.010 | <0.040 | <10 | <10 | 62 | 69 |
| 3.75 | <0.0050 | <0.020 (1) | <0.010 | <0.040 | <10 | <10 | <50 | <50 |




## LEGEND

- CURRENT PROPERTY LINE
- PROPERTY BOUNDARY PIN
- ADJACENT LOT LINE
- FENCE OF PROPERTY LINE
- FORMER FEATURES (1967-1995)
- FORMER FEATURES (1995-2004)
- TANK NEST EXCAVATION (2004)
- MONITORING WELL
- MONITORING WELL (DESTROYED)
- TEST PIT
- CONFIRMATORY WALL SAMPLE
- CONFIRMATORY FLOOR SAMPLE
- SAMPLES LESS THAN OR EQUAL TO APPLICABLE GUIDELINE FOR ALL PARAMETERS ANALYSED
- SAMPLES GREATER THAN APPLICABLE GUIDELINE FOR AT LEAST ONE PARAMETER ANALYSED

**ABBREVIATIONS**: B - Benzene; T - Toluene; E - Ethylbenzene; X - Xylenes; F1 - PHC fraction F1; F2 - PHC fraction F2; F3 - PHC fraction F3; F4 - PHC fraction F4; mbgs - metres below ground surface; NG - No Guideline.

Remedial Objective: Canadian Council fo Ministers of the Environment (CCME) Soil Quality Guidelines - Commercial Land Use, Fine Grained Soil, with the Potable Water and Freshwater Aquatic Life Pathways Excluded, and Ecological Direct Contact Excluded Below 1.5 mgbs for BTEX and PHC Fraction F1 - F4.

-: Denotes analysis not conducted.

<: Denotes concentration less than reportable detection limit.

mg/kg: Unit for all soil quality guideline criteria and analytical results is milligrams per kilogram.

**XX**: Bold and underlined analytical results indicate Reportable Detection Limit (RDL) exceeds applicable guidelines.

**XX**: Red and bold analytical results exceeded applicable guidelines.

## NOTES:

1. ORIGINAL DRAWING IN COLOUR.
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### REVISIONS

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| 0 | JUL. 2018 | | | |

AECOM

CLIENT NAME:
IMPERIAL OIL LIMITED

PROJECT LOCATION:
287 MAIN STREET
SELKIRK, MB

# 2018 PRE-REMEDIATION SOIL ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS

| | | |
|---|---|---|
| DRAWN BY: CM | SCALE: 1:300 | FIGURE No. 4 |
| CHECKED: AB | DATE: 30.07.18 | REVISION 0 |

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| MW32 | | | | | | | | | | | Sample Date: 2003/08/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.6 | <0.04 | <0.10 | <0.010 | <0.1 | <10 | <10 | <10 | <10 | - | - | 13.7 |
| 4.3 | <0.04 | <0.10 | <0.010 | <0.1 | <10 | <10 | <10 | <10 | - | - | 11 |

| MW33 | | | | | | | | | | | Sample Date: 2003/08/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.6 | <0.04 | <0.10 | <0.010 | <0.1 | <10 | <10 | 47 | 40 | - | - | 11.3 |
| 3.4 | <0.04 | <0.10 | <0.010 | <0.1 | <10 | <10 | <10 | <10 | - | - | 15 |

| MW34 | | | | | | | | | | | Sample Date: 2003/08/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.6 | 7.4 | 16 | 5.0 | 27 | 310 | 52 | <10 | <10 | - | - | 15.2 |
| 2.6 Dup | 2.8 | 11 | 6.5 | 27 | 420 | 63 | <10 | <10 | - | - | 14.6 |
| 3.4 | 2.3 | 2.2 | 1.1 | 5.1 | 58 | <10 | <10 | <10 | - | - | 8.8 |

| MW35 | | | | | | | | | | | Sample Date: 2003/08/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.4 | 1.1 | <0.10 | 2.4 | 3.7 | 220 | 26 | 29 | <10 | - | - | 14.4 |
| 4.3 | 0.13 | <0.10 | <0.010 | <0.1 | <10 | <10 | 20 | <10 | - | - | 15 |

| MW36 | | | | | | | | | | | Sample Date: 2003/08/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.4 | 2.6 | 0.48 | 2.5 | 6.5 | 150 | 60 | 45 | <10 | - | - | 14.5 |
| 3.4 Dup | 2.6 | 1 | 6.4 | 19 | 320 | 64 | 22 | <10 | - | - | 13.4 |
| 4.3 | 0.89 | <0.10 | <0.010 | <0.1 | <10 | <10 | 28 | 13 | - | - | 9.8 |

| MW37 | | | | | | | | | | | Sample Date: 2003/08/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 4.2 | 1.7 | 0.19 | 3.9 | 9.5 | 370 | 55 | 18 | <10 | - | - | 13.7 |
| 4.9 | 1.5 | <0.10 | 0.73 | 6.3 | 59 | <10 | <10 | <10 | - | - | 7.6 |
| 5.6 | 0.16 | <0.10 | <0.010 | 3.9 | <10 | <10 | 18 | <10 | - | - | 9.6 |

| MW38 | | | | | | | | | | | Sample Date: 2003/08/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.3 | <0.04 | <0.10 | <0.010 | <0.1 | <10 | <10 | 20 | <10 | - | - | 9.7 |
| 1.8 | <0.04 | <0.10 | <0.010 | <0.1 | <10 | <10 | 42 | 16 | - | - | 14.0 |
| 3.4 | <0.04 | <0.10 | <0.010 | <0.1 | <10 | <10 | 25 | <10 | - | - | 13.9 |

| 04-1 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.8 | 1.4 | 0.094 | 2.5 | 2.3 | 65 | <50 | <50 | <50 | - | - | 11.8 |
| 3.8 Dup | 1.6 | 0.024 | 2.3 | 2.1 | 64 | <50 | <50 | <50 | - | - | 12.0 |
| 4.6 | 0.12 | <0.010 | 0.037 | <0.1 | <10 | <50 | <50 | <50 | - | - | 4.5 |

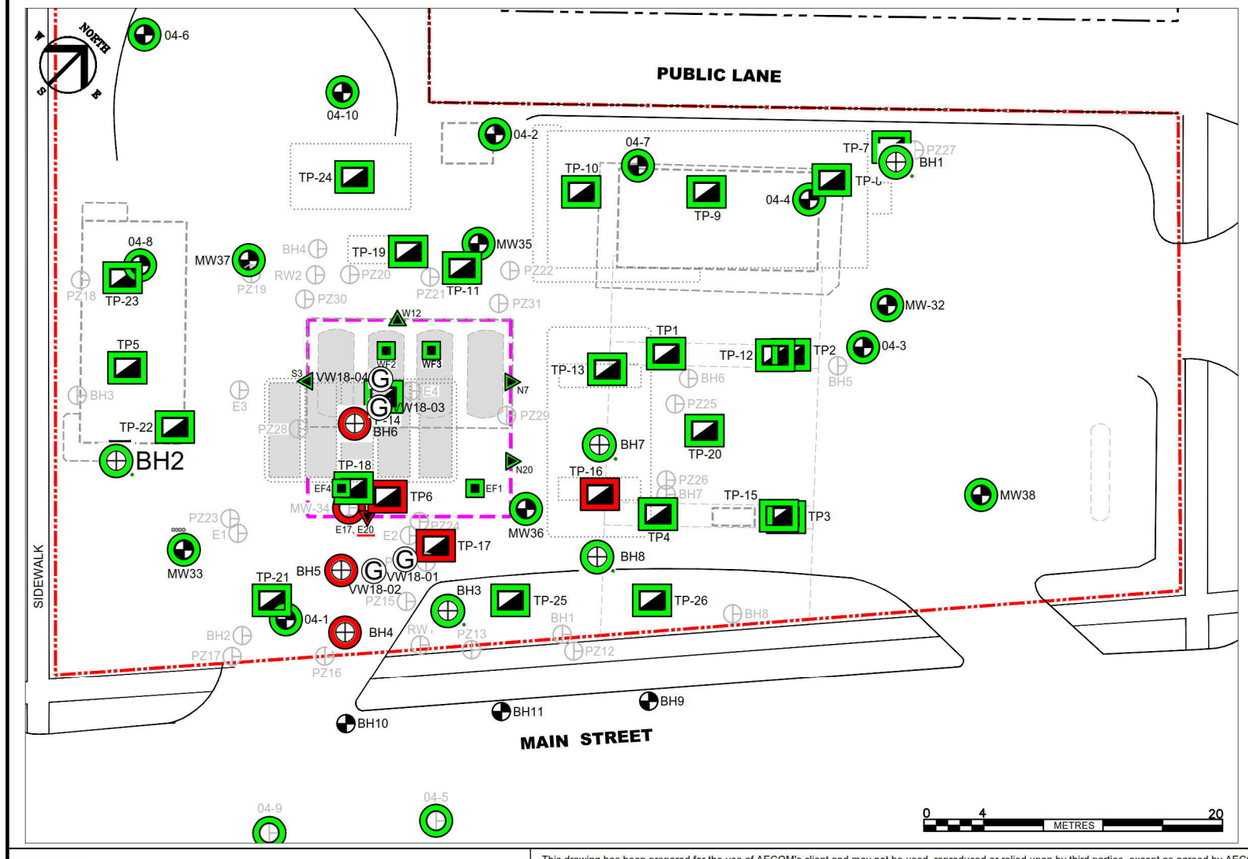
| 04-2 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.5-2.3 | 0.006 | <0.010 | 0.009 | <0.1 | <10 | <50 | <50 | <50 | - | - | 12.4 |

| 04-3 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.1-3.8 | 0.006 | <0.010 | 0.008 | <0.1 | <10 | <50 | <50 | <50 | - | - | 13.2 |

| 04-4 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.3-3.1 | 0.005 | <0.010 | 0.008 | <0.1 | <10 | <50 | <50 | <50 | - | - | 12.1 |

| 04-5 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.1-3.8 | 0.008 | <0.010 | 0.008 | <0.1 | <10 | <50 | <50 | <50 | - | - | 10.1 |

| 04-6 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 6.9 | 0.003 | <0.010 | 0.005 | <0.1 | <10 | <50 | <50 | <50 | - | - | 3.5 |




| 04-7 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.3-3.1 | 0.006 | <0.010 | 0.007 | <0.1 | <10 | <50 | <50 | <50 | - | - | 12.2 |

| 04-8 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 4.6 | 1.3 | 0.094 | 0.34 | 1.1 | 77 | <50 | <50 | <50 | - | - | 12.9 |
| 5.3 | 0.25 | <0.010 | 0.13 | <0.1 | <10 | <50 | <50 | <50 | - | - | 7.7 |

| 04-9 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.5 | 0.004 | <0.010 | 0.007 | <0.1 | <10 | <50 | <50 | <50 | - | - | 9.8 |

| 04-10 | | | | | | | | | | | Sample Date: 2004/08/04 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 0.8 | 0.004 | <0.010 | 0.006 | <0.1 | <10 | <50 | <50 | <50 | - | - | 18.3 |

| E17 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 0.5 | 0.002 | 0.018 | 0.004 | <0.1 | <10 | <50 | <50 | <50 | - | - | 2.0 |

| E20 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.0 | 0.32 | 3.1 | 27 | 160 | 2400 | 970 | 130 | <50 | - | - | 2.3 |

| EF1 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.2 | 0.037 | 0.055 | 0.52 | 1.8 | 41 | <50 | <50 | <50 | - | - | 11.0 |

| EF4 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.2 | 0.077 | 0.12 | 0.4 | 2.1 | 33 | <50 | <50 | <50 | - | - | 15.4 |

| N7 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.0 | 1.1 | 0.32 | 5.0 | 11 | 120 | 100 | <50 | <50 | - | - | 13.0 |

| N20 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.0 | 0.31 | 1.1 | 2.8 | 13 | 93 | <50 | <50 | <50 | - | - | 15.9 |

| S3 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.0 | 1.4 | 0.72 | 8.2 | 21 | 290 | 110 | <50 | <50 | - | - | 14.1 |

| W12 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.0 | 0.1 | 0.037 | 1.4 | 1.5 | 51 | <50 | <50 | <50 | - | - | 15.1 |

| WF2 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.2 | 1.6 | 3.3 | 6.2 | 18 | 380 | 170 | <50 | <50 | - | - | 14.5 |

| WF3 | | | | | | | | | | | Sample Date: 2004/07/13 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.2 | 0.4 | 0.28 | 4.3 | 23 | 160 | <50 | <50 | <50 | - | - | 14.4 |

| TP1 | | | | | | | | | | | Sample Date: 2004/07/16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.1 | 0.005 | 0.039 | 0.024 | <0.1 | <10 | <50 | <50 | <50 | - | - | - |

| TP2 | | | | | | | | | | | Sample Date: 2004/07/16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.4 | 0.18 | <0.10 | 5.0 | 18 | 540 | 190 | <50 | <50 | - | - | - |
| 3.7 | 0.50 | 0.026 | 0.57 | <0.1 | 34 | <50 | <50 | <50 | - | - | - |

| TP3 | | | | | | | | | | | Sample Date: 2004/07/16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.4 | 0.005 | 0.030 | 0.008 | <0.1 | <10 | 190 | <50 | <50 | - | - | - |

| TP4 | | | | | | | | | | | Sample Date: 2004/07/16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8 | 0.002 | 0.029 | <0.003 | <0.1 | <10 | 190 | <50 | <50 | - | - | - |

| TP5 | | | | | | | | | | | Sample Date: 2004/07/16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.1 | 0.008 | 0.049 | 0.014 | <0.1 | <10 | 190 | <50 | <50 | - | - | - |

| TP6 | | | | | | | | | | | Sample Date: 2004/07/16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.4 | 1.4 | 12 | 21 | 150 | 1800 | 1200 | <50 | <50 | - | - | - |
| 3.7 | 8.5 | 18 | 4.9 | 30 | 190 | <50 | <50 | <50 | - | - | - |

| TP-7 | | | | | | | | | | | Sample Date: 2013/08/01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 790 | <50 | <0.0020 | <0.0020 | 14 |
| 1.8-2.4 Dup | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | 11 | 860 | <50 | <0.0020 | <0.0020 | 14 |
| 2.4-3.1 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 550 | <50 | <0.0020 | <0.0020 | 13 |
| 4.3-4.9 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 5.0 |

| TP-8 | | | | | | | | | | | Sample Date: 2013/08/01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 790 | <50 | <0.0020 | <0.0020 | 13 |
| 4.3-4.9 | <0.0050 | 0.026 | <0.010 | <0.040 | <12 | 11 | 860 | <50 | <0.0020 | <0.0020 | 6.2 |

| TP-9 | | | | | | | | | | | Sample Date: 2013/08/01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 790 | <50 | <0.0020 | <0.0020 | 14 |

| TP-10 | | | | | | | | | | | Sample Date: 2013/08/01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 790 | <50 | <0.0020 | <0.0020 | 13 |

| TP-11 | | | | | | | | | | | Sample Date: 2013/08/01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | <0.020 | 0.094 | <0.040 | 45 | 49 | <50 | <50 | <0.0020 | <0.0020 | 16 |

| TP-12 | | | | | | | | | | | Sample Date: 2013/08/01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 3.1-3.7 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 16 |

| TP-13 | | | | | | | | | | | Sample Date: 2013/08/01 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | 0.0084 | <0.020 | 0.68 | 0.14 | 52 | 60 | <50 | <50 | <0.0020 | <0.0020 | 14 |
| 3.1-3.7 | 0.11 | <0.020 | 2.3 | <0.040 | 150 | 93 | <50 | <50 | <0.0020 | <0.0020 | 13 |
| 3.1-3.7 Dup | <0.033 | <0.020 | 1.5 | 0.43 | 140 | 110 | <50 | <50 | <0.0020 | <0.0020 | 13 |
| 4.3-4.9 | 0.9 | <0.020 | 2.7 | 0.96 | 73 | 45 | <50 | <50 | <0.0020 | <0.0020 | 14 |

| TP-14 | | | | | | | | | | | Sample Date: 2013/08/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 0.6-1.2 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 2.7 |

| TP-15 | | | | | | | | | | | Sample Date: 2013/08/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.4-3.1 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 57 | <50 | <0.0020 | <0.0020 | 13 |

| TP-16 | | | | | | | | | | | Sample Date: 2013/08/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 0.9-1.5 | 0.29 | 4.8 | 9.9 | 130 | 1800 | 690 | 53 | <50 | <0.0020 | <0.0020 | 7.4 |
| 0.9-1.5 Dup | 0.35 | 3.4 | 11 | 150 | 2300 | 1100 | 55 | <50 | <0.0020 | <0.0020 | 7.6 |
| 1.8-2.4 | 1.2 | 0.05 | 3.9 | 1.8 | 170 | 60 | 84 | <50 | <0.0020 | 0.0393 | 16 |
| 4.3-4.9 | 2.6 | 0.14 | 5.9 | 27 | 300 | 130 | <50 | <50 | <0.0020 | 0.0764 | 14 |

| TP-17 | | | | | | | | | | | Sample Date: 2013/08/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.2-1.8 | <0.090 | 0.077 | 1.4 | 8.6 | 450 | 330 | 67 | <50 | <0.027 | <0.0020 | 14 |
| 1.8-2.4 | 12.00 | 19 | 7.8 | 47 | 460 | 81 | <50 | <50 | 0.0138 | <0.0020 | 15 |
| 3.7-4.3 | 9.7 | 0.9 | 4.2 | 17 | 180 | 38 | 53 | <50 | <0.0020 | <0.0020 | 15 |

| TP-18 | | | | | | | | | | | Sample Date: 2013/08/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 0.6-1.2 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 2.4 |

| TP-19 | | | | | | | | | | | Sample Date: 2013/08/02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 15 |
| 2.4-3.1 | <0.090 | <0.020 | 1.4 | <0.040 | 230 | 26 | <50 | <50 | <0.0020 | <0.0020 | 15 |
| 4.3-4.9 | 0.78 | 0.078 | 2.4 | 3.4 | 200 | 38 | <50 | <50 | <0.0020 | <0.0020 | 9 |

| TP-20 | | | | | | | | | | | Sample Date: 2013/08/06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.4-3.1 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 52 | <50 | <0.0020 | <0.0020 | 14 |

| TP-21 | | | | | | | | | | | Sample Date: 2013/08/06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.5-1.8 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | 66 | <50 | <0.0020 | <0.0020 | 13 |
| 2.4-3.1 | 1.3 | 0.026 | 7.0 | 3.6 | 520 | 120 | 60 | <50 | <0.011 | <0.0020 | 11 |
| 4.3-4.9 | 0.69 | 0.026 | 0.3 | 0.06 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 5.5 |

| TP-22 | | | | | | | | | | | Sample Date: 2013/08/06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.2-1.8 | <0.0050 | 0.04 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 9.8 |

| TP-23 | | | | | | | | | | | Sample Date: 2013/08/06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 2.4-3.1 | <0.0050 | <0.020 | <0.010 | <0.040 | 180 | 29 | <50 | <50 | <0.0020 | <0.0020 | 13 |
| 2.4-3.1 Dup | <0.0050 | <0.020 | <0.010 | <0.040 | 200 | 21 | <50 | <50 | <0.0020 | <0.0020 | 13 |
| 4.3-4.9 | <0.0050 | <0.020 | 0.098 | <0.040 | 490 | 81 | 58 | <50 | <0.013 | <0.0020 | 12 |

| TP-24 | | | | | | | | | | | Sample Date: 2013/08/06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 13 |
| 3.7-4.3 | <0.0050 | <0.020 | <0.010 | <0.040 | 29 | <10 | <50 | <50 | <0.0020 | <0.0020 | 21 |

| TP-25 | | | | | | | | | | | Sample Date: 2013/08/06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | 0.13 | <0.020 | 0.07 | 0.068 | <12 | <10 | 65 | <50 | <0.0020 | <0.0020 | 13 |
| 2.4-3.1 | 1.8 | <0.020 | 5.6 | 4.3 | 420 | 45 | 55 | <50 | <0.015 | <0.0020 | 14 |
| 4.3-4.9 | 0.55 | 0.54 | 2.5 | 12 | 160 | 63 | <50 | <50 | <0.0020 | <0.0020 | 4.6 |

| TP-26 | | | | | | | | | | | Sample Date: 2013/08/06 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Depth (mbgs) | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
| 1.8-2.4 | <0.0050 | 0.040 | <0.010 | <0.040 | <12 | <10 | 66 | <50 | <0.0020 | <0.0020 | 14 |
| 2.4-3.1 | <0.013 | <0.020 | 2.4 | 6.7 | 670 | 260 | <50 | <50 | <0.031 | <0.0020 | 14 |
| 2.4-3.1 Dup | 0.12 | <0.020 | 1.7 | 5.1 | 550 | 130 | <50 | <50 | <0.025 | <0.0020 | 13 |
| 4.3-4.9 | <0.0050 | <0.020 | <0.010 | <0.040 | <12 | <10 | <50 | <50 | <0.0020 | <0.0020 | 4.8 |

## LEGEND

- CURRENT PROPERTY LINE
- ADJACENT LOT LINE
- FENCE OF PROPERTY LINE
- FORMER FEATURES (1967-1995)
- FORMER FEATURES (1995-2004)
- TANK NEST EXCAVATION (2004)
- TESTPIT
- SOIL VAPOUR WELL (2018)
- MONITORING WELL
- MONITORING WELL (DESTROYED)
- CONFIRMATORY BASE SAMPLE
- CONFIRMATORY WALL SAMPLE
- SAMPLE ID'S UNDERLINED FOR CLARITY
- SAMPLES LESS THAN OR EQUAL TO APPLICABLE GUIDELINE FOR ALL PARAMETERS ANALYSED
- SAMPLES GREATER THAN APPLICABLE GUIDELINE FOR AT LEAST ONE PARAMETER ANALYSED

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**ABBREVIATIONS:** B - Benzene; T - Toluene; E - Ethylbenzene; X - Xylenes; F1 - PHC fraction F1; F2 - PHC fraction F2; F3 - PHC fraction F3; F4 - PHC fraction F4; 1,2-DBA - 1,2-Dibromoethane; 1,2-DCA - 1,2-Dichloroethane; Pb - Lead; mbgs - metres below ground surface; NG - No Guideline.

**BTEX, 1,2-DCA, Pb:** Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils with the Potable Water and Freshwater Aquatic Life Pathways Excluded, and Ecological Direct Contact Excluded Below 1.5 mgbs.
**F1-F4:** CCME Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils with the Potable Water and Freshwater Aquatic Life Pathways Excluded, and Ecological Direct Contact Excluded Below 1.5 mgbs.
**1,2-DBA:** Ontario Ministry of the Environment and Climate Change (MOECC) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards Non-Potable Ground Water Condition - Commercial Land Use.

-: Denotes analysis not conducted.

<: Denotes concentration less than reportable detection limit.

**mg/kg:** Unit for all soil quality guideline criteria and analytical results is milligrams per kilogram.

**XX:** Bold and underlined analytical results indicate Reportable Detection Limit (RDL) exceeds applicable guidelines.

**XX:** Red and bold text results exceeded applicable guidelines.

| Soil Quality Guidelines | B | T | E | X | F1 | F2 | F3 | F4 | 1,2-DBA | 1,2-DCA | Pb |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Surface Soil (≤ 1.5 mbgs) | 2.8 | 330 | 430 | 230 | 320 | 260 | 2500 | 6600 | 0.05 | 50 | 260 |
| Subsurface Soil (>1.5 mbgs) | 2.9 | 660 | 860 | 460 | 800 | 1000 | 5000 | 10000 | 0.05 | 50 | 260 |

## REFERENCE DRAWINGS

| NO. | DATE | DESCRIPTION |
|---|---|---|

## REVISIONS

| REV. | DATE | DESCRIPTION | BY | CHK |
|---|---|---|---|---|
| 0 | DEC. 2018 | | | |

AECOM

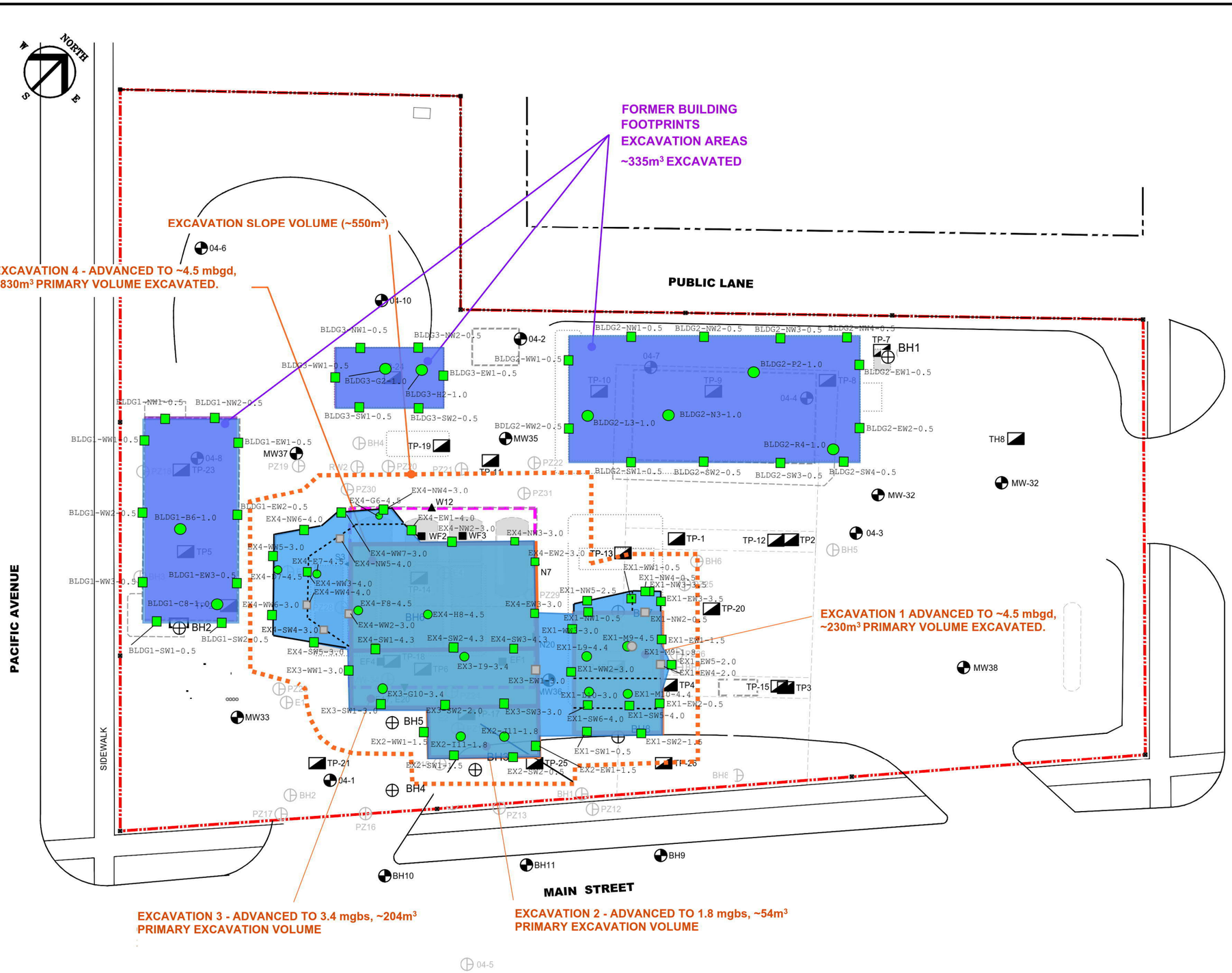
CLIENT NAME: IMPERIAL OIL LIMITED

PROJECT LOCATION: 287 MAIN STREET SELKIRK, MB

# SOIL VAPOUR WELL INSTALLATION LOCATIONS

DRAWN BY: CM | SCALE: 1:500 | FIGURE No. 5
CHECKED: BR | DATE: 15.12.2018 | REVISION 0

P:\60549588\900-CAD_GIS\910-CAD\20-SHEETS\H\Selkirk\60549588-Selkirk_Fig04_HistoricalSoilAnalyticalResults.dwg




## LEGEND

- CURRENT PROPERTY LINE
- PROPERTY BOUNDARY PIN
- ADJACENT LOT LINE
- FENCE OF PROPERTY LINE
- FORMER FEATURES (1967-1995)
- FORMER FEATURES (1995-2004)
- TANK NEST EXCAVATION (2004)
- MONITORING WELL
- MONITORING WELL (DESTROYED)
- TEST PIT
- CONFIRMATORY WALL SAMPLE
- CONFIRMATORY FLOOR SAMPLE
- AREA TO BE EXCAVATED FOR OFF-SITE DISPOSAL
- TOP OF EXCAVATION SLOPE (1:1)
- SOIL TURNOVER AREA
- SAMPLES GREATER THAN APPLICABLE GUIDELINE FOR AT LEAST ONE PARAMETER ANALYSED
- SAMPLES LESS THAN OR EQUAL TO APPLICABLE GUIDELINE FOR ALL PARAMETERS ANALYSED
- INTERIM SAMPLES, GREATER THAN CRITERIA BUT REMOVED THROUGH FURTHER EXCAVATION
- 2020 EXCAVATION EXTENT

## NOTES:

1. ORIGINAL DRAWING IN COLOUR.
2. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED ON SITE. NOT ALL UTILITIES MAY BE SHOWN.

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### REFERENCE DRAWINGS

| NO. | DATE | DESCRIPTION |
|---|---|---|
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### REVISIONS

| REV. | DATE | DESCRIPTION | BY | CHK |
|---|---|---|---|---|
| | | | | |
| | | | | |
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| | | | | |
| 0 | MAR. 2021 | | | |

AECOM

CLIENT NAME: IMPERIAL OIL LIMITED

PROJECT LOCATION: 287 MAIN STREET SELKIRK, MB

# EXCAVATION COMPLETION LIMITS AND SOIL SAMPLING LOCATIONS

| | | |
|---|---|---|
| DRAWN BY: CM | SCALE: 1:300 | FIGURE No. 6 |
| CHECKED: AJ | DATE: 29.03.21 | REVISION 0 |

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# Tables

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | BLDG1-B6-1.0 | BLDG1-C8-1.0 | BLDG1-EW1-0.5 | BLDG1-EW2-0.5 | BLDG1-EW3-0.5 | BLDG1-NW1-0.5 | BLDG1-DUP1 | BLDG1-NW2-0.5 | BLDG1-SW1-0.5 |
| Sample Depth (m) | | | | | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| BV Labs ID | | | | | YI7664 | YJ9970 | YI7655 | YI7656 | YI7657 | YI7652 | YI7654 | YI7653 | YI7659 |
| Sampling Date | | | | | 08/28/2020 14:30 | 09/04/2020 10:30 | 08/28/2020 12:30 | 08/28/2020 12:40 | 08/28/2020 12:50 | 08/28/2020 12:00 | 08/28/2020 12:00 | 08/28/2020 12:10 | 08/28/2020 13:15 |
| COC Number | | | | | 312891 | 312652 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <61 (1) |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | BLDG1-SW2-0.5 | BLDG1-WW1-0.5 | BLDG1-WW2-0.5 | BLDG1-WW3-0.5 | BLDG2-EW1-0.5 | BLDG2-EW1-0.5 | BLDG2-EW2-0.5 | BLDG2-L3-1.0 | BLDG2-N3-1.0 |
| Sample Depth (m) | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 1.0 |
| BV Labs ID | | | | | YI7658 | YI7663 | YI7662 | YI7661 | YJ8017 | YJ8106 | YJ8107 | YJ8012 | YJ8011 |
| Sampling Date | | | | | 08/28/2020 13:00 | 08/28/2020 14:10 | 08/28/2020 14:00 | 08/28/2020 13:45 | 09/03/2020 16:45 | 09/03/2020 | 09/03/2020 | 09/03/2020 15:50 | 09/03/2020 15:40 |
| COC Number | | | | | 312888 | 312891 | 312891 | 312891 | 312651 | 312893 | 312893 | 312651 | 312651 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | 50 | 81 | <50 | 250 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | 52 | 99 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | BLDG2-NW1-0.5 | BLDG2-NW1-0.5 | BLDG2-NW1-DUP5 | BLDG2-NW2-0.5 | BLDG2-NW2-0.5 | BLDG2-NW3-0.5 | BLDG2-NW4-0.5 | BLDG2-P2-1.0 | BLDG2-R4-1.0 |
| Sample Depth (m) | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 1.0 |
| BV Labs ID | | | | | YJ8015 | YJ8101 | YJ8102 | YJ8016 | YJ8103 | YJ8104 | YJ8105 | YJ8014 | YJ8013 |
| Sampling Date | | | | | 09/03/2020 18:20 | 09/03/2020 | 09/03/2020 | 09/03/2020 16:30 | 09/03/2020 | 09/03/2020 | 09/03/2020 | 09/03/2020 16:10 | 09/03/2020 16:00 |
| COC Number | | | | | 312651 | 312893 | 312893 | 312651 | 312893 | 312893 | 312893 | 312651 | 312651 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | <10 | 16 | <10 | <10 | <10 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | 57 | <50 | 240 | 290 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | 70 | 76 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Garage | Former Garage | Former Garage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | BLDG2-SW1-0.5 | BLDG2-SW2-0.5 | BLDG2-SW3-0.5 | BLDG2-SW4-0.5 | BLDG2-WW1-0.5 | BLDG2-WW2-0.5 | BLDG3-G2-1.0 | BLDG3-H2-1.0 | BLDG3-SW1-0.5 |
| Sample Depth (m) | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 1.0 | 0.5 |
| BV Labs ID | | | | | YJ8108 | YJ8109 | YJ8110 | YJ8008 | YJ8009 | YJ8010 | YJ7826 | YJ7827 | YJ7823 |
| Sampling Date | | | | | 09/03/2020 | 09/03/2020 | 09/03/2020 | 09/03/2020 15:00 | 09/03/2020 15:10 | 09/03/2020 15:30 | 09/03/2020 17:10 | 09/03/2020 17:15 | 09/03/2020 16:50 |
| COC Number | | | | | 312893 | 312893 | 312893 | 312651 | 312651 | 312651 | 312653 | 312653 | 312653 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Former Garage | Former Garage | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island (Interim) | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | BLDG3-SW2-0.5 | BLDG3-WW1-0.5 | EX1-EW1-1.5 | EX1-EW2-0.5 | EX1-EW3-0.5 | EX1-EW3-3.5 | EX1-EW4-2.0 | EX1-L10-1.8 | EX1-L9-4.3 |
| Sample Depth (m) | | | | | 0.5 | 0.5 | 1.5 | 0.5 | 0.5 | 3.5 | 2.0 | 1.8 | 4.3 |
| BV Labs ID | | | | | YJ7824 | YJ7825 | YJ9973 | YJ9974 | YK6406 | YM1309 | YM1310 | YJ9977 | YK6408 |
| Sampling Date | | | | | 09/03/2020 17:00 | 09/03/2020 17:05 | 09/04/2020 12:40 | 09/04/2020 13:20 | 09/09/2020 15:00 | 09/17/2020 15:20 | 09/17/2020 15:30 | 09/04/2020 14:45 | 09/09/2020 16:20 |
| COC Number | | | | | 312653 | 312653 | 312652 | 312652 | 312896 | 312555 | 312555 | 312654 | 312896 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.33 | <0.0050 | 0.50 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 11 | 0.042 | 0.03 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | 0.20 | 0.40 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | 940 | 20 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | 130 | 120 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | 54 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | Interim sample confirmed clean EX1-EW5-2.0 | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

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mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island (Interim) | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island (Interim) | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | EX1-L9-4.4 | EX1-L9-DUP13 | EX1-M10-4.4 | EX1-M9-1.8 | EX1-M9-4.5 | EX1-M9-DUP6 | EX1-NW1-0.5 | EX1-NW2-0.5 | EX1-NW3-0.5 | EX1-NW3-3.5 |
| Sample Depth (m) | | | | | 4.4 | 4.4 | 4.4 | 1.8 | 4.5 | 1.8 | 0.5 | 0.5 | 0.5 | 3.5 |
| BV Labs ID | | | | | YM1315 | YM1316 | YM1317 | YJ9978 | YK6407 | YJ9979 | YJ9971 | YJ9972 | YK6405 | YM1308 |
| Sampling Date | | | | | 09/17/2020 16:20 | 09/17/2020 16:20 | 09/17/2020 16:30 | 09/04/2020 15:00 | 09/09/2020 16:00 | 09/04/2020 15:00 | 09/04/2020 12:00 | 09/04/2020 12:20 | 09/09/2020 14:40 | 09/17/2020 15:10 |
| COC Number | | | | | 312555 | 312555 | 312889 | 312654 | 312896 | 312654 | 312652 | 312652 | 312896 | 312555 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | 0.71 | 1.0 | 0.024 | 0.14 | 0.47 | 0.12 | <0.0050 | 2.5 | <0.0050 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | 0.093 | <0.050 | 0.076 | <0.050 | 1.5 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | 0.64 | 0.74 | 0.054 | 3.0 | 0.025 | 2.6 | <0.010 | 35 | <0.010 | <0.010 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | 0.052 | 0.068 | <0.045 | 44 | <0.045 | 37 | <0.045 | 640 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | 29 | 31 | 11 | 850 | <10 | 750 | <10 | 8700 | <10 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | 24 | <10 | <10 | 310 | <10 | 370 | <10 | 1900 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | Interim sample confirmed clean EX1-M9-4.5 | | | | Interim sample confirmed clean EX1-NW4-0.5 and EX1-NW4 DUP7 | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | EX1-NW4-0.5 | EX1-NW4-DUP7 | EX1-NW5-0.5 | EX1-NW5-2.5 | EX1-SW1-0.5 | EX1-SW2-1.5 | EX1-SW5-2.8 | EX1-SW5-4.0 | EX1-SW6-2.8 | EX1-SW6-4.0 |
| Sample Depth (m) | | | | | 0.5 | 0.5 | 0.5 | 2.5 | 0.5 | 1.5 | 2.8 | 4.0 | 2.8 | 4.0 |
| BV Labs ID | | | | | YK6402 | YK6403 | YK6411 | YM1307 | YJ9975 | YJ9976 | YK6409 | YM1311 | YK6410 | YM1312 |
| Sampling Date | | | | | 09/09/2020 14:00 | 09/09/2020 14:00 | 09/10/2020 09:50 | 09/17/2020 15:00 | 09/04/2020 14:00 | 09/04/2020 14:30 | 09/10/2020 09:00 | 09/17/2020 15:40 | 09/10/2020 09:15 | 09/17/2020 15:50 |
| COC Number | | | | | 312896 | 312896 | 312896 | 312555 | 312654 | 312654 | 312896 | 312555 | 312896 | 312555 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | 0.012 | 1.6 | 0.11 | <0.0050 | <0.0050 | 2.3 | 0.042 | 4.3 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.37 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | 0.25 | 8.3 | 2.0 | <0.010 | <0.010 | 9.6 | 0.095 | 6.1 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | 0.098 | 14 | 3.0 | <0.045 | <0.045 | 10 | <0.045 | 22 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | 150 | 360 | 170 | <10 | <10 | 600 | 25 | 300 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | 170 | 110 | <10 | <10 | 13 | 140 | 16 | 63 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 1 -Former Pump Island | Excavation 2 - Former UST Nest | Excavation 2 - Former UST Nest | Excavation 2 - Former UST Nest | Excavation 2 - Former UST Nest | Excavation 2 - Former UST Nest | Excavation 2 - Former UST Nest |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | EX1-WW1-0.5 | EX1-WW2-3.0 | EX1-WW3-3.0 | EX1-WW3-DUP8 | EX2-EW1-1.5 | EX2-I11-1.8 | EX2-J11-1.8 | EX2-SW1-1.5 | EX2-SW2-0.5 | EX2-WW1-1.5 |
| Sample Depth (m) | | | | | 0.5 | 3.0 | 3.0 | 3.0 | 1.5 | 1.8 | 1.8 | 1.5 | 0.5 | 1.5 |
| BV Labs ID | | | | | YK6404 | YK6412 | YK6413 | YK6414 | YJ3445 | YJ3443 | YJ3444 | YJ3441 | YJ3442 | YJ3440 |
| Sampling Date | | | | | 09/09/2020 14:20 | 09/09/2020 16:30 | 09/10/2020 10:30 | 09/10/2020 10:45 | 09/01/2020 13:30 | 09/01/2020 11:45 | 09/01/2020 12:00 | 09/01/2020 10:40 | 09/01/2020 11:30 | 09/01/2020 10:20 |
| COC Number | | | | | 312896 | 312657 | 312657 | 312657 | 312894 | 312894 | 312894 | 312894 | 312894 | 312894 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | 0.34 | 2.0 | 1.9 | <0.0050 | 0.044 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | 0.091 | 0.091 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | 2.0 | 8.8 | 8.8 | <0.010 | 0.022 | <0.010 | <0.010 | <0.010 | <0.010 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | 1.9 | 6.3 | 6.7 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | 220 | 560 | 630 | <10 | 210 | <10 | <10 | <10 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | 36 | 47 | 37 | <10 | 30 | <10 | <10 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | 53 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Excavation 3 - Former UST Nest (Interim) | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest | Excavation 3 - Former UST Nest |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | EX3-EW1-3.0 | EX3-G10-3.4 | EX3-I9-3.4 | EX3-SW1-3.0 | EX3-SW1-DUP3 | EX3-SW2-2.0 | EX3-SW3-3.0 | EX3-SW3-DUP4 | EX3-WW1-3.0 | EX3-WW1-DUP2 |
| Sample Depth (m) | | | | | 3.0 | 3.4 | 3.4 | 3.0 | 3.0 | 2.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| BV Labs ID | | | | | YJ3470 | YJ3471 | YJ3467 | YJ3439 | YJ3473 | YJ3446 | YJ3468 | YJ3474 | YJ3438 | YJ3472 |
| Sampling Date | | | | | 09/01/2020 14:30 | 09/01/2020 14:45 | 09/01/2020 14:00 | 09/01/2020 10:10 | 09/01/2020 10:10 | 09/01/2020 13:45 | 09/01/2020 14:10 | 09/01/2020 14:10 | 09/01/2020 10:00 | 09/01/2020 10:00 |
| COC Number | | | | | 312892 | 312892 | 312892 | 312894 | 312892 | 312894 | 312892 | 312892 | 312894 | 312892 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | 13 | 8.4 | 8.4 | 7.2 | 7.9 | 0.71 | 5.7 | 1.8 | 0.92 | 1.2 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | 0.70 | 11 | 1.3 | 2.2 | 1.5 | 0.11 | 0.23 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | 7.9 | 8.9 | 4.8 | 10 | 14 | 1.1 | 5.1 | 2.3 | 1.9 | 3.1 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | 22 | 49 | 26 | 44 | 46 | 2.3 | 8.2 | 1.3 | 0.091 | 0.98 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | 260 | 610 | 270 | 490 | 780 | 380 | 330 | 280 | 520 | 440 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | 29 | 47 | 20 | 96 | 58 | 70 | 32 | 28 | 42 | 26 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | East wall of EX3 was removed joining EX3 and EX1 removing the impact. | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

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BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | EX4-D7-4.5 | EX4-E7-4.5 | EX4-EW1-4.0 | EX4-EW2-3.0 | EX4-EW3-3.0 | EX4-F8-4.5 | EX4-G6-4.5 | EX4-H8-4.5 | EX4-H8-DUP 9 | EX4-NW2-3.0 |
| Sample Depth (m) | | | | | 4.5 | 4.5 | 4.0 | 3.0 | 3.0 | 4.5 | 4.5 | 4.5 | 4.5 | 3.0 |
| BV Labs ID | | | | | YL5652 | YL3603 | YL3607 | YM1313 | YM1314 | YL1157 | YL5653 | YL1158 | YL1159 | YL3596 |
| Sampling Date | | | | | 09/16/2020 14:10 | 09/15/2020 15:50 | 09/15/2020 16:00 | 09/17/2020 16:00 | 09/17/2020 16:10 | 09/14/2020 15:00 | 09/16/2020 14:30 | 09/14/2020 15:10 | 09/14/2020 15:10 | 09/15/2020 11:00 |
| COC Number | | | | | 312897 | 312554 | 312898 | 312555 | 312555 | 312556 | 312897 | 312556 | 312556 | 312554 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | 3.7 | 1.8 | 1.8 | 0.25 | 0.31 | 3.6 | 0.20 | 2.2 | 1.2 | 0.32 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | 1.5 | 0.17 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | 2.0 | 0.34 | 1.5 | 6.8 | <0.010 | 0.36 | 0.25 | 0.14 | 0.19 | 1.0 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | 12 | 0.82 | 1.2 | 1.5 | <0.045 | 0.82 | <0.045 | 0.39 | 0.35 | 0.8 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | 110 | 14 | 190 | 670 | <10 | <10 | <10 | <10 | <10 | 230 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | 21 | <10 | 14 | 71 | <10 | <10 | <10 | <10 | <10 | 13 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

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[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

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[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

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BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

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**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest (Interim) | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | EX4-NW3-3.0 | EX4-NW3-DUP10 | EX4-NW4-3.0 | EX4-NW5-4.0 | EX4-NW6-4.0 | EX4-NW6-DUP12 | EX4-SW1-4.3 | EX4-SW2-4.3 | EX4-SW3-4.3 |
| Sample Depth (m) | | | | | 3.0 | 3.0 | 3.0 | 4.0 | 4.0 | 4.0 | 4.3 | 4.3 | 4.3 |
| BV Labs ID | | | | | YL3597 | YL3598 | YL3604 | YL3602 | YL5659 | YL5660 | YL1160 | YL1161 | YL1162 |
| Sampling Date | | | | | 09/15/2020 11:10 | 09/15/2020 11:10 | 09/15/2020 14:10 | 09/15/2020 15:30 | 09/16/2020 15:45 | 09/16/2020 15:45 | 09/14/2020 15:30 | 09/14/2020 15:40 | 09/14/2020 16:00 |
| COC Number | | | | | 312554 | 312554 | 312554 | 312554 | 312897 | 312897 | 312556 | 312556 | 312556 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | 0.022 | 0.014 | 0.93 | 4.8 | 1.4 | 1.6 | 3.1 | 2.9 | 3.6 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | 21 | <0.050 | <0.050 | <0.050 | <0.050 | 0.078 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | 0.09 | 0.085 | 2.2 | 11 | 3.7 | 3.3 | 0.19 | 0.33 | 0.86 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | 4.7 | 75 | 0.16 | 0.15 | 0.82 | 0.86 | 1.7 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | 140 | 95 | 300 | 1000 | 220 | 160 | <10 | <10 | 20 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | 20 | 30 | 46 | 270 | 34 | 24 | <10 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | Interim sample confirmed clean EX4-NW6-4.0 | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Excavation 4 - Former UST Nest (Interim) | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest (Interim) | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest (Interim) | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest | Excavation 4 - Former UST Nest |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | EX4-SW4-3.0 | EX4-SW5-3.0 | EX4-WW2-3.0 | EX4-WW3-4.0 | EX4-WW4-4.0 | EX4-WW5-3.0 | EX4-WW6-3.0 | EX4-WW7-3.0 | EX4-WW7-DUP11 |
| Sample Depth (m) | | | | | 3.0 | 3.0 | 3.0 | 4.0 | 4.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| BV Labs ID | | | | | YL3599 | YL5654 | YL1163 | YL3601 | YL3600 | YL5656 | YL5655 | YL5657 | YL5658 |
| Sampling Date | | | | | 09/15/2020 13:40 | 09/16/2020 14:50 | 09/14/2020 16:10 | 09/15/2020 14:30 | 09/15/2020 14:00 | 09/16/2020 15:10 | 09/16/2020 15:00 | 09/16/2020 15:30 | 09/16/2020 15:30 |
| COC Number | | | | | 312554 | 312897 | 312556 | 312554 | 312554 | 312897 | 312897 | 312897 | 312897 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | 0.066 | 0.53 | 0.43 | 4.2 | 3.0 | 4.8 | 0.24 | 0.051 | 0.012 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | 1.4 | <0.050 | 6.4 | 3.1 | 15 | 0.22 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | 9.6 | 1.7 | 27 | 7.2 | 12 | 4.0 | 0.95 | 0.22 | 0.16 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | 92 | 0.12 | 180 | 41 | 80 | 10 | 0.095 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | 1300 | 180 | 3000 | 580 | 1100 | 250 | 230 | 500 | 490 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | 890 | 23 | 310 | 300 | 290 | <10 | 26 | 47 | 41 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | Interim sample confirmed clean EX4-SW5-3.0 | | EX4-WW6-3.0 and EX4-SW5-3.0 | | Interim sample confirmed clean EX4-WW6-3.0 | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Stockpile - Former Carwash | Stockpile - Former Carwash | Stockpile - Excavation 4 | Stockpile - Excavation 4 | Stockpile - Excavation 4 | Stockpile - Excavation 4 | Stockpile - Excavation 1,2,4 | Stockpile - Excavation 1,2,4 | Stockpile - Excavation 1,2,4 | Stockpile - Excavation 1,2,4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | SP1-2 | SP2-1 | SP3-3 | SP4-1 | SP5-5 | SP6-5 | SP7-5 | SP8-2 | SP9-1 | SP10-5 |
| Sample Depth (m) | | | | | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BV Labs ID | | | | | YI7665 | YI7666 | YI7667 | YI7668 | YI7669 | YI7660 | YJ1625 | YJ1626 | YJ1627 | YJ1628 |
| Sampling Date | | | | | 08/28/2020 15:30 | 08/28/2020 15:40 | 08/28/2020 16:00 | 08/28/2020 16:10 | 08/28/2020 16:20 | 08/28/2020 16:30 | 08/31/2020 15:40 | 08/31/2020 15:50 | 08/31/2020 16:10 | 08/31/2020 16:30 |
| COC Number | | | | | 312891 | 312891 | 312891 | 312891 | 312891 | 312888 | 312887 | 312887 | 312887 | 312887 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.010 | 0.090 | 0.30 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.097 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.31 | 3.3 | 1.9 | 0.021 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | 1.3 | 3.2 | 0.66 | 0.13 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | 28 | <10 | <10 | <10 | 110 | 650 | 310 | 15 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | <10 | 15 | 33 | 100 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | | reused as subsoil in base of Excavation 4 at 4.5 mgbs | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Stockpile - Excavation 2 | Stockpile - Excavation 4 | Stockpile - Excavation 3 | Stockpile - Excavation 3 | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Garage | Stockpile - Excavation 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | SP11-1 | SP12-2 | SP13-4 | SP14-2 | SP15-3 | SP16-5 | SP17-4 | SP18-2 | SP19-3 | SP20-3 |
| Sample Depth (m) | | | | | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| BV Labs ID | | | | | YJ3469 | YJ5358 | YJ5359 | YJ5360 | YJ9965 | YJ9966 | YJ9967 | YJ9968 | YJ9969 | YL3609 |
| Sampling Date | | | | | 09/01/2020 14:15 | 09/02/2020 10:00 | 09/02/2020 13:45 | 09/02/2020 13:50 | 09/04/2020 09:00 | 09/04/2020 09:10 | 09/04/2020 09:20 | 09/04/2020 09:30 | 09/04/2020 09:40 | 09/15/2020 16:45 |
| COC Number | | | | | 312892 | 312895 | 312895 | 312895 | 312652 | 312652 | 312652 | 312652 | 312652 | 312898 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | 0.061 | 2.1 | 5.9 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | 0.32 | 0.73 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | 1.4 | 4.5 | 8.4 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | 8.0 | 16 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | 220 | 310 | 470 | <10 | <10 | <10 | <10 | <10 | <10 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | 74 | 32 | 120 | <10 | <10 | <10 | <10 | <10 | <10 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | 96 | 91 | 80 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | 89 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | Stockpile disposed offsite | Stockpile disposed offsite | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 1: Laboratory Analytical Results - Petroleum Hydrocarbons**

| APEC | | | | | Stockpile - Excavation 4 | Import Fill | Import Fill | Import Fill | Import Fill | Landfill Characterization | Landfill Characterization |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | SP21-2 | IMPORT FILL-1 | IMPORT FILL-2 | IMPORT FILL - 3 | IMPORT FILL - 4 | LF-1 | LF-2 |
| Sample Depth (m) | | | | | N/A | N/A | N/A | N/A | N/A | 1.9 | 1.25 |
| BV Labs ID | | | | | YL5651 | YE5117 | YE5118 | YM5438 | YM5439 | YE5119 | YE5120 |
| Sampling Date | | | | | 09/16/2020 14:00 | 07/30/2020 12:15 | 07/30/2020 13:10 | 2020/09/21 13:00 | 2020/09/21 16:00 | 07/30/2020 14:30 | 07/30/2020 14:15 |
| COC Number | | | | | 312897 | 312886 | 312886 | 312890 | 312890 | 312886 | 312886 |
| Parameters | Criteria Surface Soil (≤1.5 mbgs) | Criteria Subsoil (>1.5 mbgs) | UNITS | RDL | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | |
| Benzene | 2.8 [a,d,e] | 12 [i] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.058 | <0.0050 |
| Toluene | 330 [a,f] | 660 [a,f] | mg/kg | 0.05 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Ethylbenzene | 430 [a,f] | 860 [a,f] | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.26 | 0.045 |
| Xylenes (Total) | 230 [a,f] | 460 [a,f] | mg/kg | 0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | 0.51 |
| F1 (C6-C10) - BTEX | 320 [b,g] | 800 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | 380 | 260 |
| F2 (C10-C16 Hydrocarbons) | 260 [b,g] | 1,000 [b,h] | mg/kg | 10 | <10 | <10 | <10 | <10 | <10 | 15 | 28 |
| F3 (C16-C34 Hydrocarbons) | 2,500 [b,g] | 5,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| F4 (C34-C50 Hydrocarbons) | 6,600 [b,g] | 10,000 [b,h] | mg/kg | 50 | <50 | <50 | <50 | <50 | <50 | <50 | <50 |
| Sample Notes | | | | | | | | | | | |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] CCME, Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) - Commercial Land Use, Fine Grained Soils

[c] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[d] Inhalation of indoor air (basement)

[e] Inhalation of Indoor Air (slab on grade)

[f] Soil Contact - Environmental Health

[g] Eco Soil Contact

[h] Management Limit

[i] Subsoil benzene criteria based on site specific vapour modeling, set to maximum soil concentration observed in area of vapour monitoring used to inform the model

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/kg milligram/kilogram

mbgs metres below ground surface

PHC petroleum hydrocarbon

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

XX Exceeds surficial soil but below subsoil remedial objective (applied to stockpiles only)

**Table 2: Laboratory Analytical Results - Polycyclic Aromatic Hydrocarbons**

| APEC | | | | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG1-B6-1.0 | BLDG1-C8-1.0 | BLDG1-C8-1.0 | BLDG1-EW1-0.5 | BLDG1-EW2-0.5 | BLDG1-EW3-0.5 | BLDG1-NW1-0.5 | BLDG1-DUP1 | BLDG1-NW2-0.5 | BLDG1-SW1-0.5 | BLDG1-SW2-0.5 |
| BV Labs ID | | | | YI7664 | YJ3437 | YJ9970 | YI7655 | YI7656 | YI7657 | YI7652 | YI7654 | YI7653 | YI7659 | YI7658 |
| Sampling Date | | | | 08/28/2020 14:30 | 09/01/2020 09:40 | 09/04/2020 10:30 | 08/28/2020 12:30 | 08/28/2020 12:40 | 08/28/2020 12:50 | 08/28/2020 12:00 | 08/28/2020 12:00 | 08/28/2020 12:10 | 08/28/2020 13:15 | 08/28/2020 13:00 |
| COC Number | | | | 312891 | 312894 | 312652 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | |
| Polycyclic Aromatics Hydrocarbons | | | | | | | | | | | | | | |
| Acenaphthene | 96[c] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B[a]P TPE Total Potency Equivalents | 5.3[a] | mg/kg | 0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 |
| Acenaphthylene | 0.17[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Acridine | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Anthracene | 32[a] | mg/kg | 0.004 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 |
| Benzo(a)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(b&j)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0063 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(k)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(g,h,i)perylene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | 0.0069 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(c)phenanthrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(a)pyrene | 72[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(e)pyrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Chrysene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Dibenz(a,h)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluoranthene | 180[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0077 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluorene | 69[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Indeno(1,2,3-cd)pyrene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 1-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 2-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Naphthalene | 22[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Phenanthrene | 50[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Perylene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Pyrene | 100[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0079 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Quinoline | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines for the Protection of Environmental and Human Health, Polycyclic Aromatic Hydrocarbons. 2010

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 2: Laboratory Analytical Results - Polycyclic Aromatic Hydrocarbons**

| APEC | | | | Former Carwash | Former Carwash | Former Carwash | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG1-WW1-0.5 | BLDG1-WW2-0.5 | BLDG1-WW3-0.5 | BLDG2-EW1-0.5 | BLDG2-EW1-0.5 | BLDG2-EW2-0.5 | BLDG2-L3-1.0 | BLDG2-N3-1.0 | BLDG2-NW1-0.5 | BLDG2-NW1-0.5 | BLDG2-NW1-DUP5 |
| BV Labs ID | | | | YI7663 | YI7662 | YI7661 | YJ8106 | YJ8017 | YJ8107 | YJ8012 | YJ8011 | YJ8101 | YJ8015 | YJ8102 |
| Sampling Date | | | | 08/28/2020 14:10 | 08/28/2020 14:00 | 08/28/2020 13:45 | 09/03/2020 | 09/03/2020 16:45 | 09/03/2020 | 09/03/2020 15:50 | 09/03/2020 15:40 | 09/03/2020 | 09/03/2020 18:20 | 09/03/2020 |
| COC Number | | | | 312891 | 312891 | 312891 | 312893 | 312651 | 312893 | 312651 | 312651 | 312893 | 312651 | 312893 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | |
| Polycyclic Aromatics Hydrocarbons | | | | | | | | | | | | | | |
| Acenaphthene | 96[c] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B[a]P TPE Total Potency Equivalents | 5.3[a] | mg/kg | 0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 |
| Acenaphthylene | 0.17[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Acridine | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Anthracene | 32[a] | mg/kg | 0.004 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 |
| Benzo(a)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(b&j)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(k)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(g,h,i)perylene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | 0.01 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(c)phenanthrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(a)pyrene | 72[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(e)pyrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | 0.0072 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Chrysene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Dibenz(a,h)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluoranthene | 180[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluorene | 69[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Indeno(1,2,3-cd)pyrene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | 0.0057 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 1-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 2-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Naphthalene | 22[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Phenanthrene | 50[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Perylene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | 0.0055 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Pyrene | 100[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Quinoline | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines for the Protection of Environmental and Human Health, Polycyclic Aromatic Hydrocarbons. 2010

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 2: Laboratory Analytical Results - Polycyclic Aromatic Hydrocarbons**

| APEC | | | | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG2-NW2-0.5 | BLDG2-NW2-0.5 | BLDG2-NW3-0.5 | BLDG2-NW4-0.5 | BLDG2-P2-1.0 | BLDG2-R4-1.0 | BLDG2-SW1-0.5 | BLDG2-SW2-0.5 | BLDG2-SW3-0.5 | BLDG2-SW4-0.5 | BLDG2-WW1-0.5 |
| BV Labs ID | | | | YJ8103 | YJ8016 | YJ8104 | YJ8105 | YJ8014 | YJ8013 | YJ8108 | YJ8109 | YJ8110 | YJ8008 | YJ8009 |
| Sampling Date | | | | 09/03/2020 | 09/03/2020 16:30 | 09/03/2020 | 09/03/2020 | 09/03/2020 16:10 | 09/03/2020 16:00 | 09/03/2020 | 09/03/2020 | 09/03/2020 | 09/03/2020 15:00 | 09/03/2020 15:10 |
| COC Number | | | | 312893 | 312651 | 312893 | 312893 | 312651 | 312651 | 312893 | 312893 | 312893 | 312651 | 312651 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | |
| Polycyclic Aromatics Hydrocarbons | | | | | | | | | | | | | | |
| Acenaphthene | 96[c] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B[a]P TPE Total Potency Equivalents | 5.3[a] | mg/kg | 0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 |
| Acenaphthylene | 0.17[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Acridine | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Anthracene | 32[a] | mg/kg | 0.004 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 |
| Benzo(a)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | 0.0063 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(b&j)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(k)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(g,h,i)perylene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | 0.016 | 0.014 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0091 | <0.0050 |
| Benzo(c)phenanthrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(a)pyrene | 72[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(e)pyrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0069 | <0.0050 |
| Chrysene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Dibenz(a,h)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluoranthene | 180[a] | mg/kg | 0.005 | <0.0050 | 0.011 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluorene | 69[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Indeno(1,2,3-cd)pyrene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 1-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 2-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Naphthalene | 22[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Phenanthrene | 50[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Perylene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Pyrene | 100[a] | mg/kg | 0.005 | <0.0050 | 0.0096 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Quinoline | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines for the Protection of Environmental and Human Health, Polycyclic Aromatic Hydrocarbons. 2010

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 2: Laboratory Analytical Results - Polycyclic Aromatic Hydrocarbons**

| APEC | | | | Former Service Station | Former Garage | Former Garage | Former Garage | Former Garage | Former Garage | Stockpile - Former Carwash | Stockpile - Former Carwash | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG2-WW2-0.5 | BLDG3-G2-1.0 | BLDG3-H2-1.0 | BLDG3-SW1-0.5 | BLDG3-SW2-0.5 | BLDG3-WW1-0.5 | SP1-2 | SP2-1 | SP15-3 | SP16-5 | SP17-4 | SP18-2 |
| BV Labs ID | | | | YJ8010 | YJ7826 | YJ7827 | YJ7823 | YJ7824 | YJ7825 | YI7665 | YI7666 | YJ9965 | YJ9966 | YJ9967 | YJ9968 |
| Sampling Date | | | | 09/03/2020 15:30 | 09/03/2020 17:10 | 09/03/2020 17:15 | 09/03/2020 16:50 | 09/03/2020 17:00 | 09/03/2020 17:05 | 08/28/2020 15:30 | 08/28/2020 15:40 | 09/04/2020 09:00 | 09/04/2020 09:10 | 09/04/2020 09:20 | 09/04/2020 09:30 |
| COC Number | | | | 312651 | 312653 | 312653 | 312653 | 312653 | 312653 | 312891 | 312891 | 312652 | 312652 | 312652 | 312652 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | | |
| Polycyclic Aromatics Hydrocarbons | | | | | | | | | | | | | | | |
| Acenaphthene | 96[c] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B[a]P TPE Total Potency Equivalents | 5.3[a] | mg/kg | 0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 |
| Acenaphthylene | 0.17[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Acridine | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Anthracene | 32[a] | mg/kg | 0.004 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 |
| Benzo(a)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(b&j)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0077 | <0.0050 | <0.0050 |
| Benzo(k)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(g,h,i)perylene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0096 | 0.015 | 0.01 | 0.0071 |
| Benzo(c)phenanthrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(a)pyrene | 72[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(e)pyrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0065 | 0.011 | 0.0066 | <0.0050 |
| Chrysene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Dibenz(a,h)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluoranthene | 180[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluorene | 69[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Indeno(1,2,3-cd)pyrene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0077 | <0.0050 | <0.0050 |
| 1-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 2-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.006 | <0.0050 | <0.0050 |
| Naphthalene | 22[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Phenanthrene | 50[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Perylene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Pyrene | 100[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Quinoline | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines for the Protection of Environmental and Human Health, Polycyclic Aromatic Hydrocarbons. 2010

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 2: Laboratory Analytical Results - Polycyclic Aromatic Hydrocarbons**

| APEC | | | | Stockpile - Former Garage | Import Fill | Import Fill | Import Fill | Import Fill |
|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | SP19-3 | IMPORT FILL-1 | IMPORT FILL-2 | IMPORT FILL - 3 | IMPORT FILL - 4 |
| BV Labs ID | | | | YJ9969 | YE5117 | YE5118 | YM5438 | YM5439 |
| Sampling Date | | | | 09/04/2020 09:40 | 07/30/2020 12:15 | 07/30/2020 13:10 | 2020/09/21 13:00 | 2020/09/21 16:00 |
| COC Number | | | | 312652 | 312886 | 312886 | 312890 | 312890 |
| Parameters | Criteria | UNITS | RDL | | | | | |
| Polycyclic Aromatics Hydrocarbons | | | | | | | | |
| Acenaphthene | 96[c] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| B[a]P TPE Total Potency Equivalents | 5.3[a] | mg/kg | 0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 |
| Acenaphthylene | 0.17[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Acridine | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Anthracene | 32[a] | mg/kg | 0.004 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 |
| Benzo(a)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(b&j)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(k)fluoranthene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(g,h,i)perylene | 9.6[b] | mg/kg | 0.005 | 0.0061 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(c)phenanthrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(a)pyrene | 72[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Benzo(e)pyrene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Chrysene | 9.6[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Dibenz(a,h)anthracene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluoranthene | 180[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Fluorene | 69[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Indeno(1,2,3-cd)pyrene | 10[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 1-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| 2-Methylnaphthalene | 85[b] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Naphthalene | 22[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Phenanthrene | 50[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Perylene | NG | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Pyrene | 100[a] | mg/kg | 0.005 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 |
| Quinoline | NG | mg/kg | 0.01 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines for the Protection of Environmental and Human Health, Polycyclic Aromatic Hydrocarbons. 2010

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 3: Laboratory Analytical Results - Volatile Organic Compounds**

| APEC | | | | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG1-B6-1.0 | BLDG1-C8-1.0 | BLDG1-C8-1.0 | BLDG1-EW1-0.5 | BLDG1-EW2-0.5 | BLDG1-EW3-0.5 | BLDG1-NW1-0.5 | BLDG1-DUP1 | BLDG1-NW2-0.5 | BLDG1-SW1-0.5 | BLDG1-SW2-0.5 | BLDG1-WW1-0.5 | BLDG1-WW2-0.5 | BLDG1-WW3-0.5 |
| BV Labs ID | | | | YI7664 | YJ3437 | YJ9970 | YI7655 | YI7656 | YI7657 | YI7652 | YI7654 | YI7653 | YI7659 | YI7658 | YI7663 | YI7662 | YI7661 |
| Sampling Date | | | | 08/28/2020 14:30 | 09/01/2020 09:40 | 09/04/2020 10:30 | 08/28/2020 12:30 | 08/28/2020 12:40 | 08/28/2020 12:50 | 08/28/2020 12:00 | 08/28/2020 12:00 | 08/28/2020 12:10 | 08/28/2020 13:15 | 08/28/2020 13:00 | 08/28/2020 14:10 | 08/28/2020 14:00 | 08/28/2020 13:45 |
| COC Number | | | | 312891 | 312894 | 312652 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312891 | 312891 | 312891 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | | | | |
| Volatile Organic Compounds | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | 18 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Bromoform | 1.7 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Bromomethane | 0.05 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Carbon tetrachloride | 50 [a] | mg/kg | 0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| Chlorobenzene | 10 [a] | mg/kg | 0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| Chlorodibromomethane | 13 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroethane | NG | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroform | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Chloromethane | NG | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dibromoethane | 0.05 [b] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,2-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,3-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,4-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1-dichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2-dichloroethane | 50 [a] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,1-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Dichloromethane | 50 [a] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dichloropropane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Methyl methacrylate | 1.3 [c] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| Methyl-tert-butylether (MTBE) | 3.2 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Styrene | 50 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,1,2-tetrachloroethane | 0.11 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| 1,1,2,2-tetrachloroethane | 50 [a] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Tetrachloroethene | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,2,3-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,2,4-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,3,5-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,1,1-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,2-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Trichloroethene | 0.01 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Trichlorofluoromethane | 5.8 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2,4-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| 1,3,5-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Vinyl chloride | 0.25 [b] | mg/kg | 0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 3: Laboratory Analytical Results - Volatile Organic Compounds**

| APEC | | | | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG2-EW1-0.5 | BLDG2-EW1-0.5 | BLDG2-EW2-0.5 | BLDG2-L3-1.0 | BLDG2-N3-1.0 | BLDG2-NW1-0.5 | BLDG2-NW1-0.5 | BLDG2-NW1-DUP5 | BLDG2-NW2-0.5 | BLDG2-NW2-0.5 | BLDG2-NW3-0.5 | BLDG2-NW4-0.5 | BLDG2-P2-1.0 |
| BV Labs ID | | | | YJ8017 | YJ8106 | YJ8107 | YJ8012 | YJ8011 | YJ8015 | YJ8101 | YJ8102 | YJ8016 | YJ8103 | YJ8104 | YJ8105 | YJ8014 |
| Sampling Date | | | | 09/03/2020 16:45 | 09/03/2020 | 09/03/2020 | 09/03/2020 15:50 | 09/03/2020 15:40 | 09/03/2020 18:20 | 09/03/2020 | 09/03/2020 | 09/03/2020 16:30 | 09/03/2020 | 09/03/2020 | 09/03/2020 | 09/03/2020 16:10 |
| COC Number | | | | 312651 | 312893 | 312893 | 312651 | 312651 | 312651 | 312893 | 312893 | 312651 | 312893 | 312893 | 312893 | 312651 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | | | |
| Volatile Organic Compounds | | | | | | | | | | | | | | | | |
| Bromodichloromethane | 18 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Bromoform | 1.7 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Bromomethane | 0.05 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Carbon tetrachloride | 50 [a] | mg/kg | 0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| Chlorobenzene | 10 [a] | mg/kg | 0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| Chlorodibromomethane | 13 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroethane | NG | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroform | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Chloromethane | NG | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dibromoethane | 0.05 [b] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,2-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,3-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,4-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1-dichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2-dichloroethane | 50 [a] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,1-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Dichloromethane | 50 [a] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dichloropropane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Methyl methacrylate | 1.3 [c] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| Methyl-tert-butylether (MTBE) | 3.2 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Styrene | 50 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,1,2-tetrachloroethane | 0.11 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| 1,1,2,2-tetrachloroethane | 50 [a] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Tetrachloroethene | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,2,3-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,2,4-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,3,5-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,1,1-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,2-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Trichloroethene | 0.01 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Trichlorofluoromethane | 5.8 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2,4-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| 1,3,5-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Vinyl chloride | 0.25 [b] | mg/kg | 0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

**Table 3: Laboratory Analytical Results - Volatile Organic Compounds**

| APEC | | | | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Garage | Former Garage | Former Garage | Former Garage | Former Garage | Stockpile - Former Carwash | Stockpile - Former Carwash |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG2-R4-1.0 | BLDG2-SW1-0.5 | BLDG2-SW2-0.5 | BLDG2-SW3-0.5 | BLDG2-SW4-0.5 | BLDG2-WW1-0.5 | BLDG2-WW2-0.5 | BLDG3-G2-1.0 | BLDG3-H2-1.0 | BLDG3-SW1-0.5 | BLDG3-SW2-0.5 | BLDG3-WW1-0.5 | SP1-2 | SP15-3 |
| BV Labs ID | | | | YJ8013 | YJ8108 | YJ8109 | YJ8110 | YJ8008 | YJ8009 | YJ8010 | YJ7826 | YJ7827 | YJ7823 | YJ7824 | YJ7825 | YI7665 | YJ9965 |
| Sampling Date | | | | 09/03/2020 16:00 | 09/03/2020 | 09/03/2020 | 09/03/2020 | 09/03/2020 15:00 | 09/03/2020 15:10 | 09/03/2020 15:30 | 09/03/2020 17:10 | 09/03/2020 17:15 | 09/03/2020 16:50 | 09/03/2020 17:00 | 09/03/2020 17:05 | 08/28/2020 15:30 | 09/04/2020 09:00 |
| COC Number | | | | 312651 | 312893 | 312893 | 312893 | 312651 | 312651 | 312651 | 312653 | 312653 | 312653 | 312653 | 312653 | 312891 | 312652 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | | | | |
| Volatile Organic Compounds | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | 18 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Bromoform | 1.7 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Bromomethane | 0.05 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Carbon tetrachloride | 50 [a] | mg/kg | 0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| Chlorobenzene | 10 [a] | mg/kg | 0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0020 (1) | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| Chlorodibromomethane | 13 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroethane | NG | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroform | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Chloromethane | NG | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dibromoethane | 0.05 [b] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,2-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,3-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,4-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1-dichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2-dichloroethane | 50 [a] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,1-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Dichloromethane | 50 [a] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dichloropropane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Methyl methacrylate | 1.3 [c] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| Methyl-tert-butylether (MTBE) | 3.2 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Styrene | 50 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,1,2-tetrachloroethane | 0.11 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| 1,1,2,2-tetrachloroethane | 50 [a] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Tetrachloroethene | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,2,3-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,2,4-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,3,5-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,1,1-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,2-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Trichloroethene | 0.01 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Trichlorofluoromethane | 5.8 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2,4-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| 1,3,5-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Vinyl chloride | 0.25 [b] | mg/kg | 0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

**Table 3: Laboratory Analytical Results - Volatile Organic Compounds**

| APEC | | | | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Garage | Import Fill | Import Fill | Import Fill | Import Fill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | SP16-5 | SP17-4 | SP18-2 | SP19-3 | SP2-1 | IMPORT FILL-1 | IMPORT FILL-2 | IMPORT FILL - 3 | IMPORT FILL - 4 |
| BV Labs ID | | | | YJ9966 | YJ9967 | YJ9968 | YJ9969 | YI7666 | YE5117 | YE5118 | YM5438 | YM5439 |
| Sampling Date | | | | 09/04/2020 09:10 | 09/04/2020 09:20 | 09/04/2020 09:30 | 09/04/2020 09:40 | 08/28/2020 15:40 | 2020/07/30 12:15 | 2020/07/30 13:10 | 2020/09/21 13:00 | 2020/09/21 16:00 |
| COC Number | | | | 312652 | 312652 | 312652 | 312652 | 312891 | 312886 | 312886 | 312890 | 312890 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | |
| Volatile Organic Compounds | | | | | | | | | | | | |
| Bromodichloromethane | 18 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Bromoform | 1.7 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Bromomethane | 0.05 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Carbon tetrachloride | 50 [a] | mg/kg | 0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 |
| Chlorobenzene | 10 [a] | mg/kg | 0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| Chlorodibromomethane | 13 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroethane | NG | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Chloroform | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Chloromethane | NG | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dibromoethane | 0.05 [b] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,2-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,3-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,4-dichlorobenzene | 10 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1-dichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2-dichloroethane | 50 [a] | mg/kg | 0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 |
| 1,1-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,2-dichloroethene | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Dichloromethane | 50 [a] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| 1,2-dichloropropane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| cis-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| trans-1,3-dichloropropene | 0.21 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Methyl methacrylate | 1.3 [c] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| Methyl-tert-butylether (MTBE) | 3.2 [b] | mg/kg | 0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 |
| Styrene | 50 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,1,2-tetrachloroethane | 0.11 [b] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| 1,1,2,2-tetrachloroethane | 50 [a] | mg/kg | 0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| Tetrachloroethene | 50 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 1,2,3-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,2,4-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,3,5-trichlorobenzene | 10 [a] | mg/kg | 0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 |
| 1,1,1-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,1,2-trichloroethane | 50 [a] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| Trichloroethene | 0.01 [a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Trichlorofluoromethane | 5.8 [b] | mg/kg | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 1,2,4-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| 1,3,5-trimethylbenzene | NG | mg/kg | 0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Vinyl chloride | 0.25 [b] | mg/kg | 0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] Alberta Environment and Parks (AEP). 2019. Alberta Tier 1 Soil and Groundwater Remediation Guidelines. Land Policy Branch, Policy and Planning Division. 197 pp. - Table 1. Alberta Tier 1 Soil Remediation Guidelines - Fine grained soils, Commercial land use

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 4: Laboratory Analytical Results - Metals**

| APEC | | | | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash | Former Carwash |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG1-B6-1.0 | BLDG1-C8-1.0 | BLDG1-C8-1.0 | BLDG1-EW1-0.5 | BLDG1-EW2-0.5 | BLDG1-EW3-0.5 | BLDG1-NW1-0.5 | BLDG1-DUP1 | BLDG1-NW2-0.5 | BLDG1-SW1-0.5 | BLDG1-SW2-0.5 | BLDG1-WW1-0.5 | BLDG1-WW2-0.5 | BLDG1-WW3-0.5 |
| BV Labs ID | | | | YI7664 | YJ3437 | YJ9970 | YI7655 | YI7656 | YI7657 | YI7652 | YI7654 | YI7653 | YI7659 | YI7658 | YI7663 | YI7662 | YI7661 |
| Sampling Date | | | | 08/28/2020 14:30 | 09/01/2020 09:40 | 09/04/2020 10:30 | 08/28/2020 12:30 | 08/28/2020 12:40 | 08/28/2020 12:50 | 08/28/2020 12:00 | 08/28/2020 12:00 | 08/28/2020 12:10 | 08/28/2020 13:15 | 08/28/2020 13:00 | 08/28/2020 14:10 | 08/28/2020 14:00 | 08/28/2020 13:45 |
| COC Number | | | | 312891 | 312894 | 312652 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312888 | 312891 | 312891 | 312891 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | | | | |
| Metals | | | | | | | | | | | | | | | | | |
| Soluble (Hot water) Boron (B) | 2[c] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Hex. Chromium (Cr 6+) | 1.4[a] | mg/kg | 0.08 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Antimony (Sb) | 40[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Arsenic (As) | 12[a] | mg/kg | 1 | 1.8 | 1.1 | 1.8 | 1.1 | 1.0 | 2.3 | 1.0 | <1.0 | 1.5 | 1.5 | 1.1 | 2.1 | 2.0 | 1.6 |
| Total Barium (Ba) | 2000[a] | mg/kg | 1 | 34 | 15 | 30 | 14 | 15 | 38 | 15 | 16 | 20 | 16 | 16 | 38 | 33 | 22 |
| Total Beryllium (Be) | 8[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Cadmium (Cd) | 22[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Chromium (Cr) | 87[a] | mg/kg | 1 | - | 5.0 | 11 | 4.8 | 5.8 | 10 | 5.4 | 5.1 | 5.7 | 5.7 | 5.0 | - | - | - |
| Total Cobalt (Co) | 300[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Copper (Cu) | 91[a] | mg/kg | 1 | 7.3 | 3.5 | 6.7 | 8.8 | 5.6 | 8.7 | 3.6 | 3.6 | 5.1 | 4.2 | 3.8 | 8.1 | 7.2 | 8.6 |
| Total Lead (Pb) | 260[a] | mg/kg | 0.5 | 6.4 | 2.1 | 4.0 | 2.0 | 2.1 | 11 | 2.0 | 2.0 | 2.8 | 3.2 | 2.7 | 6.3 | 3.9 | 3.6 |
| Total Mercury (Hg) | 24[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Molybdenum (Mo) | 40[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Nickel (Ni) | 89[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Selenium (Se) | 2.9[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Silver (Ag) | 40[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Thallium (Tl) | 1[a] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Tin (Sn) | 300[a] | mg/kg | 1 | <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 |
| Total Uranium (U) | 33[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Vanadium (V) | 130[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Zinc (Zn) | 410[a] | mg/kg | 10 | 16 | <10 | 14 | <10 | <10 | 20 | <10 | <10 | 11 | <10 | <10 | 19 | 20 | 12 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] AEP Alberta Environment and Parks, Alberta Tier 1 Soil and Groundwater Remediation Guidelines, January 10, 2019

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

**Table 4: Laboratory Analytical Results - Metals**

| APEC | | | | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG2-EW1-0.5 | BLDG2-EW1-0.5 | BLDG2-EW2-0.5 | BLDG2-L3-1.0 | BLDG2-N3-1.0 | BLDG2-NW1-0.5 | BLDG2-NW1-0.5 | BLDG2-NW1-DUP5 | BLDG2-NW2-0.5 | BLDG2-NW2-0.5 |
| BV Labs ID | | | | YJ8017 | YJ8106 | YJ8107 | YJ8012 | YJ8011 | YJ8015 | YJ8101 | YJ8102 | YJ8016 | YJ8103 |
| Sampling Date | | | | 09/03/2020 16:45 | 09/03/2020 | 09/03/2020 | 09/03/2020 15:50 | 09/03/2020 15:40 | 09/03/2020 18:20 | 09/03/2020 | 09/03/2020 | 09/03/2020 16:30 | 09/03/2020 |
| COC Number | | | | 312651 | 312893 | 312893 | 312651 | 312651 | 312651 | 312893 | 312893 | 312651 | 312893 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | |
| Metals | | | | | | | | | | | | | |
| Soluble (Hot water) Boron (B) | 2[c] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - |
| Hex. Chromium (Cr 6+) | 1.4[a] | mg/kg | 0.08 | - | - | - | - | - | - | - | - | - | - |
| Total Antimony (Sb) | 40[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - |
| Total Arsenic (As) | 12[a] | mg/kg | 1 | 4.1 | 2.3 | <1.0 | 3.2 | 1.1 | 6.0 | 2.2 | 2.1 | 4.6 | 3.2 |
| Total Barium (Ba) | 2000[a] | mg/kg | 1 | 52 | 46 | 8.9 | 59 | 12 | 94 | 46 | 40 | 70 | 54 |
| Total Beryllium (Be) | 8[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - |
| Total Cadmium (Cd) | 22[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - |
| Total Chromium (Cr) | 87[a] | mg/kg | 1 | 25 | 16 | 4.0 | 18 | 5.2 | 26 | 19 | 17 | 24 | 20 |
| Total Cobalt (Co) | 300[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - |
| Total Copper (Cu) | 91[a] | mg/kg | 1 | 14 | 9.9 | 3.1 | 13 | 3.9 | 25 | 10 | 9.3 | 26 | 14 |
| Total Lead (Pb) | 260[a] | mg/kg | 0.5 | 7.5 | 17 | 1.7 | 7.0 | 2.8 | 18 | 8.4 | 9.6 | 13 | 15 |
| Total Mercury (Hg) | 24[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - |
| Total Molybdenum (Mo) | 40[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - |
| Total Nickel (Ni) | 89[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - |
| Total Selenium (Se) | 2.9[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - |
| Total Silver (Ag) | 40[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - |
| Total Thallium (Tl) | 1[a] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - |
| Total Tin (Sn) | 300[a] | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.6 | <1.0 | <1.0 | 1.3 | <1.0 |
| Total Uranium (U) | 33[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - |
| Total Vanadium (V) | 130[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - |
| Total Zinc (Zn) | 410[a] | mg/kg | 10 | 27 | 47 | <10 | 25 | <10 | 53 | 21 | 19 | 44 | 32 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] AEP Alberta Environment and Parks, Alberta Tier 1 Soil and Groundwater Remediation Guidelines, January 10, 2019

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

**Table 4: Laboratory Analytical Results - Metals**

| APEC | | | | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Service Station | Former Garage | Former Garage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG2-NW3-0.5 | BLDG2-NW4-0.5 | BLDG2-P2-1.0 | BLDG2-R4-1.0 | BLDG2-SW1-0.5 | BLDG2-SW2-0.5 | BLDG2-SW3-0.5 | BLDG2-SW4-0.5 | BLDG2-WW1-0.5 | BLDG2-WW2-0.5 | BLDG3-G2-1.0 | BLDG3-H2-1.0 |
| BV Labs ID | | | | YJ8104 | YJ8105 | YJ8014 | YJ8013 | YJ8108 | YJ8109 | YJ8110 | YJ8008 | YJ8009 | YJ8010 | YJ7826 | YJ7827 |
| Sampling Date | | | | 09/03/2020 | 09/03/2020 | 09/03/2020 16:10 | 09/03/2020 16:00 | 09/03/2020 | 09/03/2020 | 09/03/2020 | 09/03/2020 15:00 | 09/03/2020 15:10 | 09/03/2020 15:30 | 09/03/2020 17:10 | 09/03/2020 17:15 |
| COC Number | | | | 312893 | 312893 | 312651 | 312651 | 312893 | 312893 | 312893 | 312651 | 312651 | 312651 | 312653 | 312653 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | | |
| Metals | | | | | | | | | | | | | | | |
| Soluble (Hot water) Boron (B) | 2[c] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Hex. Chromium (Cr 6+) | 1.4[a] | mg/kg | 0.08 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Antimony (Sb) | 40[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Arsenic (As) | 12[a] | mg/kg | 1 | 2.5 | 2.8 | 7.2 | 3.1 | 1.3 | 1.9 | <1.0 | 3.4 | 5.8 | 3.5 | <1.0 | 2.4 |
| Total Barium (Ba) | 2000[a] | mg/kg | 1 | 44 | 37 | 150 | 69 | 18 | 39 | 10 | 74 | 120 | 59 | 8.9 | 42 |
| Total Beryllium (Be) | 8[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Cadmium (Cd) | 22[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Chromium (Cr) | 87[a] | mg/kg | 1 | 22 | 18 | 40 | 21 | 8.4 | 18 | 3.7 | 23 | 31 | 22 | 4.4 | 13 |
| Total Cobalt (Co) | 300[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Copper (Cu) | 91[a] | mg/kg | 1 | 7.3 | 7.9 | 30 | 16 | 4.2 | 10 | 2.5 | 17 | 21 | 18 | 4.8 | 8.6 |
| Total Lead (Pb) | 260[a] | mg/kg | 0.5 | 74 | 41 | 12 | 6.5 | 2.3 | 12 | 1.5 | 13 | 10 | 7.7 | 2.0 | 3.7 |
| Total Mercury (Hg) | 24[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Molybdenum (Mo) | 40[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Nickel (Ni) | 89[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Selenium (Se) | 2.9[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Silver (Ag) | 40[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Thallium (Tl) | 1[a] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Tin (Sn) | 300[a] | mg/kg | 1 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Total Uranium (U) | 33[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Vanadium (V) | 130[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Zinc (Zn) | 410[a] | mg/kg | 10 | 34 | 33 | 64 | 32 | <10 | 33 | <10 | 36 | 47 | 25 | <10 | 18 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] AEP Alberta Environment and Parks, Alberta Tier 1 Soil and Groundwater Remediation Guidelines, January 10, 2019

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

**Table 4: Laboratory Analytical Results - Metals**

| APEC | | | | Former Garage | Former Garage | Former Garage | Stockpile - Former Carwash | Stockpile - Former Carwash | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Service Station | Stockpile - Former Garage | Import Fill | Import Fill | Import Fill | Import Fill |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | BLDG3-SW1-0.5 | BLDG3-SW2-0.5 | BLDG3-WW1-0.5 | SP1-2 | SP2-1 | SP15-3 | SP16-5 | SP17-4 | SP18-2 | SP19-3 | IMPORT FILL-1 | IMPORT FILL-2 | IMPORT FILL - 3 | IMPORT FILL - 4 |
| BV Labs ID | | | | YJ7823 | YJ7824 | YJ7825 | YI7665 | YI7666 | YJ9965 | YJ9966 | YJ9967 | YJ9968 | YJ9969 | YE5117 | YE5118 | YM5438 | YM5439 |
| Sampling Date | | | | 09/03/2020 16:50 | 09/03/2020 17:00 | 09/03/2020 17:05 | 08/28/2020 15:30 | 08/28/2020 15:40 | 09/04/2020 09:00 | 09/04/2020 09:10 | 09/04/2020 09:20 | 09/04/2020 09:30 | 09/04/2020 09:40 | 2020/07/30 12:15 | 2020/07/30 13:10 | 2020/09/21 13:00 | 2020/09/21 16:00 |
| COC Number | | | | 312653 | 312653 | 312653 | 312891 | 312891 | 312652 | 312652 | 312652 | 312652 | 312652 | 312886 | 312886 | 312890 | 312890 |
| Parameters | Criteria | UNITS | RDL | | | | | | | | | | | | | | |
| Metals | | | | | | | | | | | | | | | | | |
| Soluble (Hot water) Boron (B) | 2[c] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - | <0.10 | <0.10 | - | - |
| Hex. Chromium (Cr 6+) | 1.4[a] | mg/kg | 0.08 | - | - | - | - | - | - | - | - | - | - | <0.080 | <0.080 | - | - |
| Total Antimony (Sb) | 40[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | <0.50 | <0.50 | - | - |
| Total Arsenic (As) | 12[a] | mg/kg | 1 | <1.0 | 2.9 | 8.5 | 1.2 | 2.1 | 1.9 | 2.5 | 2.5 | 1.3 | 1.0 | 2.6 | 1.3 | 1.1 | <1.0 |
| Total Barium (Ba) | 2000[a] | mg/kg | 1 | 12 | 61 | 230 | 21 | 38 | 37 | 43 | 42 | 15 | 12 | 29 | 15 | 13 | 18 |
| Total Beryllium (Be) | 8[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - | <0.40 | <0.40 | - | - |
| Total Cadmium (Cd) | 22[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - | <0.050 | <0.050 | - | - |
| Total Chromium (Cr) | 87[a] | mg/kg | 1 | 6.5 | 15 | 40 | - | - | 16 | 15 | 17 | 7.5 | 3.7 | 9.2 | 6.6 | 6.5 | 4.5 |
| Total Cobalt (Co) | 300[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | 4.2 | 1.8 | - | - |
| Total Copper (Cu) | 91[a] | mg/kg | 1 | 4.2 | 15 | 33 | 7.0 | 8.3 | 8.6 | 10 | 11 | 4.7 | 3.7 | 9.7 | 3.7 | 4.6 | 3.1 |
| Total Lead (Pb) | 260[a] | mg/kg | 0.5 | 2.4 | 8.0 | 15 | 3.1 | 4.7 | 14 | 10 | 13 | 2.3 | 1.8 | 3.7 | 2.9 | 1.8 | 1.5 |
| Total Mercury (Hg) | 24[a] | mg/kg | 0.05 | - | - | - | - | - | - | - | - | - | - | <0.050 | <0.050 | - | - |
| Total Molybdenum (Mo) | 40[a] | mg/kg | 0.4 | - | - | - | - | - | - | - | - | - | - | <0.40 | <0.40 | - | - |
| Total Nickel (Ni) | 89[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - | 8.8 | 5.7 | - | - |
| Total Selenium (Se) | 2.9[a] | mg/kg | 0.5 | - | - | - | - | - | - | - | - | - | - | <0.50 | <0.50 | - | - |
| Total Silver (Ag) | 40[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - | <0.20 | <0.20 | - | - |
| Total Thallium (Tl) | 1[a] | mg/kg | 0.1 | - | - | - | - | - | - | - | - | - | - | <0.10 | <0.10 | - | - |
| Total Tin (Sn) | 300[a] | mg/kg | 1 | <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 |
| Total Uranium (U) | 33[a] | mg/kg | 0.2 | - | - | - | - | - | - | - | - | - | - | 0.59 | 0.47 | - | - |
| Total Vanadium (V) | 130[a] | mg/kg | 1 | - | - | - | - | - | - | - | - | - | - | 12 | 6.9 | - | - |
| Total Zinc (Zn) | 410[a] | mg/kg | 10 | <10 | 24 | 76 | 10 | 19 | 27 | 26 | 25 | <10 | <10 | 15 | <10 | <10 | <10 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] Ontario MOECC Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act (2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition

[c] AEP Alberta Environment and Parks, Alberta Tier 1 Soil and Groundwater Remediation Guidelines, January 10, 2019

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

XX Exceeds remedial objective

**Table 5: Laboratory Analytical Results - PCBs**

| APEC | | | | Import Fill | Import Fill | Import Fill | Import Fill |
|---|---|---|---|---|---|---|---|
| Sample Name | | | | IMPORT FILL-1 | IMPORT FILL-2 | IMPORT FILL - 3 | IMPORT FILL - 4 |
| BV Labs ID | | | | YE5117 | YE5118 | YM5438 | YM5439 |
| Sampling Date | | | | 07/30/2020 12:15 | 07/30/2020 13:10 | 2020/09/21 13:00 | 2020/09/21 16:00 |
| COC Number | | | | 312886 | 312886 | 312890 | 312890 |
| Parameters | Criteria[a] | UNITS | RDL | | | | |
| Polychlorinated Biphenyls | | | | | | | |
| Aroclor 1016 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1221 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1232 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1242 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1248 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1254 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1260 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1262 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Aroclor 1268 | NG | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| Total PCB | 33[a] | mg/kg | 0.010 | <0.010 | <0.010 | <0.010 | <0.010 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

PCB polychlorinated biphenols

mg/kg milligram/kilogram

mbgs metres below ground surface

NG Denotes no applicable guideline value

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**Table 6: Laboratory Analytical Results - Salinity Parameters**

| APEC | | | | | Import Fill | Import Fill | Import Fill | Import Fill |
|---|---|---|---|---|---|---|---|---|
| Sample Name | | | | | IMPORT FILL-1 | IMPORT FILL-2 | IMPORT FILL - 3 | IMPORT FILL - 4 |
| BV Labs ID | | | | | YE5117 | YE5118 | YM5438 | YM5439 |
| Sampling Date | | | | | 07/30/2020 12:15 | 07/30/2020 13:10 | 2020/09/21 13:00 | 2020/09/21 16:00 |
| COC Number | | | | | 312886 | 312886 | 312890 | 312890 |
| Parameters | Criteria[a] | Criteria[b] | UNITS | RDL | | | | |
| Calculated Parameters | | | | | | | | |
| Calculated Calcium (Ca) | NG | NA | mg/kg | 0.34 | 12 | 18 | 11 | 12 |
| Calculated Magnesium (Mg) | NG | NA | mg/kg | 0.23 | 4.8 | 3.6 | 6.3 | 6.4 |
| Calculated Sodium (Na) | NG | NA | mg/kg | 0.56 | 16 | 4.4 | 2.4 | 2.4 |
| Calculated Potassium (K) | NG | NA | mg/kg | 0.29 | 1.6 | 0.96 | 1.2 | 1.1 |
| Calculated Boron (B) | NG | NA | mg/kg | 0.023 | <0.023 | <0.024 | <0.023 | <0.022 |
| Calculated Chloride (Cl) | NG | NA | mg/kg | 2.3 | 16 | 13 | 5.2 | 4.4 |
| Calculated Sulphate (SO4) | NG | NA | mg/kg | 1.1 | 42 | 12 | 30 | 31 |
| Soluble Parameters | | | | | | | | |
| Soluble Boron (B) | 2[a] | NA | mg/L | 0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| Soluble Chloride (Cl) | NG | NA | mg/L | 10 | 72 | 55 | 23 | 20 |
| Soluble Conductivity | 2[a] | NA | dS/m | 0.02 | 0.8 | 0.63 | 0.49 | 0.48 |
| Soluble (CaCl2) pH | 6.0 - 8.0[a] | 6.0 - 8.5[b] | pH | NA | 7.86 | 7.86 | 8.18 | 8.31 |
| Sodium Adsorption Ratio | 5[a] | NA | NA | 0.1 | 2.1 | 0.50 | 0.30 | 0.29 |
| Soluble Calcium (Ca) | NG | NA | mg/L | 1.5 | 52 | 74 | 47 | 53 |
| Soluble Magnesium (Mg) | NG | NA | mg/L | 1 | 21 | 15 | 28 | 29 |
| Soluble Sodium (Na) | NG | NA | mg/L | 2.5 | 71 | 18 | 10 | 11 |
| Soluble Potassium (K) | NG | NA | mg/L | 1.3 | 7.2 | 3.9 | 5.1 | 5.0 |
| Saturation % | NG | NA | % | NA | 23 | 24 | 23 | 22 |
| Soluble Sulphate (SO4) | NG | NA | mg/L | 5 | 190 | 48 | 130 | 140 |

**Table Notes:**

[a] Canadian Council of Ministers of the Environment (CCME) Soil Quality Guidelines (2014) - Commercial Land Use, Fine Grained Soils, Human Health Guideline Check Values $10^{-5}$ incremental risk

[b] AEP Alberta Environment and Parks, Alberta Tier 1 Soil and Groundwater Remediation Guidelines, January 10, 2019

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/kg milligram/kilogram

mg/L milligram/litre

dS/m decisiemens/metre

mbgs metres below ground surface

NG Denotes no applicable guideline value

NA Denotes not applicable

Units: all units milligrams per kilogram (mg/kg) unless otherwise specified

**XX** Reportable Detection Limit (RDL) exceeds the remedial objective

**XX** Exceeds remedial objective

**XX** Exceeds CCME criteria but below alternative 2019 Alberta Tier 1 criteria for the same ecological direct contact pathway, which is considered to be representative of the site depositional environment, the exceedance is not considered a risk to environment

**Table 7: Laboratory Analytical Results - Waste Charaterization**

| APEC | | | | Waste Characterization | Waste Characterization |
|---|---|---|---|---|---|
| Sample ID | | | | LF-1 | LF-2 |
| BV Labs ID | | | | YE5119 | YE5120 |
| Sampling Date | | | | 07/30/2020 14:30 | 07/30/2020 14:15 |
| COC Number | | | | 312886 | 312886 |
| Parameter | Criteria[a] | UNITS | RDL | | |
| Soluble Parameters | | | | | |
| Soluble (1:1) pH | 2-12.5 | pH | N/A | 8.37 | 8.25 |
| Physical Properties | | | | | |
| Closed Cup Flash Point | 61-500 | deg. C | NA | >61 | >61 |
| Free Liquid | Pass/Fail | NA | NA | PASS | PASS |
| Elements | | | | | |
| Leachable Antimony (Sb) | 500 | mg/L | 1.0 | <1.0 | <1.0 |
| Leachable Arsenic (As) | 5 | mg/L | 0.50 | <0.50 | <0.50 |
| Leachable Barium (Ba) | 100 | mg/L | 1.0 | 1.3 | 1.1 |
| Leachable Beryllium (Be) | 5 | mg/L | 0.50 | <0.50 | <0.50 |
| Leachable Boron (B) | 500 | mg/L | 1.0 | <1.0 | <1.0 |
| Leachable Cadmium (Cd) | 1 | mg/L | 0.10 | <0.10 | <0.10 |
| Leachable Chromium (Cr) | 5 | mg/L | 0.50 | <0.50 | <0.50 |
| Leachable Cobalt (Co) | 100 | mg/L | 1.0 | <1.0 | <1.0 |
| Leachable Copper (Cu) | 100 | mg/L | 1.0 | <1.0 | <1.0 |
| Leachable Iron (Fe) | 1000 | mg/L | 1.0 | 25 | 13 |
| Leachable Lead (Pb) | 5 | mg/L | 0.50 | <0.50 | <0.50 |
| Leachable Mercury (Hg) | 0.2 | mg/L | 0.020 | <0.020 | <0.020 |
| Leachable Nickel (Ni) | 5 | mg/L | 0.50 | <0.50 | <0.50 |
| Leachable Selenium (Se) | 1 | mg/L | 0.10 | <0.10 | <0.10 |
| Leachable Silver (Ag) | 5 | mg/L | 0.50 | <0.50 | <0.50 |
| Leachable Thallium (Tl) | 5 | mg/L | 0.50 | <0.50 | <0.50 |
| Leachable Uranium (U) | 2 | mg/L | 0.20 | <0.20 | <0.20 |
| Leachable Vanadium (V) | 100 | mg/L | 1.0 | <1.0 | <1.0 |
| Leachable Zinc (Zn) | 500 | mg/L | 1.0 | <1.0 | <1.0 |
| Leachable Zirconium (Zr) | 500 | mg/L | 1.0 | <1.0 | <1.0 |
| Volatiles | | | | | |
| Leachable (ZH) Benzene | 0.5 | mg/L | 0.010 | <0.010 | <0.010 |
| Leachable (ZH) Toluene | 0.5 | mg/L | 0.010 | <0.010 | <0.010 |
| Leachable (ZH) Ethylbenzene | 0.5 | mg/L | 0.010 | <0.010 | <0.010 |
| Leachable (ZH) o-Xylene | 0.5 | mg/L | 0.010 | <0.010 | <0.010 |
| Leachable (ZH) m & p-Xylene | 0.5 | mg/L | 0.020 | <0.020 | <0.020 |
| Leachable (ZH) Xylenes (Total) | 0.5 | mg/L | 0.020 | <0.020 | <0.020 |

**Table Notes:**

[a]Alberta Environmental Protection, Alberta User Guide for Waste Managers, August 1996

< Denotes concentration less than reportable detection limit

- Denotes analysis not conducted

mg/L milligram/litre

deg. C degrees celcius

NG Denotes no applicable guideline value

**XX** Reportable Detection Limit (RDL) exceeds the criteria

XX Exceeds criteria

**Table 8: Field Organic Vapour Results**

| Collection Date (dd/mm/yyyy) | Sample type (Soil/IF/SP/Water) | Source | Wall or Floor? | Depth (m) | Sample ID | Duplicate ID | Screening (Y/N) | Submitted to Lab (Y/N) | Organic Vapour Readings (PPM) |
|---|---|---|---|---|---|---|---|---|---|
| 30/07/2020 | Landfill Accept | Excavation 2 | Vac Hole | 1.9 | LF1 | - | Y | Y | 10 |
| 30/07/2020 | Landfill Accept | Excavation 1 | Vac Hole | 1.25 | LF2 | - | Y | Y | 50 |
| 30/07/2020 | IF | Glacial Aggregates | - | - | Import Fill - 1 | - | Y | Y | 0 |
| 30/07/2020 | IF | Bodner Quarries | - | - | Import Fill - 2 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-NW1-0.5 | BLDG1-DUP1 | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-NW2-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-EW1-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-EW2-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-EW3-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-SW1-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-SW2-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-WW1-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-WW2-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Wall | 0.5 | BLDG1-WW3-0.5 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-B4 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-B5 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-B6-1.0 | - | Y | Y | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-B7 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-B8 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-B4 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-C4 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-C5 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-C6 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-C7 | - | Y | N | 0 |
| 28/08/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-C8 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP1-1 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP1-2 | - | Y | Y | 5 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP1-3 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP1-4 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP1-5 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP2-1 | - | Y | Y | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP2-2 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP2-3 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP2-4 | - | Y | N | 0 |
| 28/08/2020 | SP | Car Wash Footprint | - | 0-1 | SP2-5 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP3-1 | - | Y | N | 10 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP3-2 | - | Y | N | 35 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP3-3 | - | Y | Y | 65 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP3-4 | - | Y | N | 25 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP3-5 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP4-1 | - | Y | N | 15 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP4-2 | - | Y | N | 10 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP4-3 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP4-4 | - | Y | N | 5 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP4-5 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP5-1 | - | Y | N | 5 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP5-2 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP5-3 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP5-4 | - | Y | N | 5 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP5-5 | - | Y | Y | 5 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP6-1 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP6-2 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP6-3 | - | Y | N | 5 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP6-4 | - | Y | N | 0 |
| 28/08/2020 | SP | Excavation 4 | - | 0-2 | SP6-5 | - | Y | Y | 10 |
| 31/08/2020 | SP | Excavation 1,2,3 | - | - | SP7-1 | - | Y | N | 15 |
| 31/08/2020 | SP | Excavation 1,2,3 | - | - | SP7-2 | - | Y | N | 15 |
| 31/08/2020 | SP | Excavation 1,2,3 | - | - | SP7-3 | - | Y | N | 10 |
| 31/08/2020 | SP | Excavation 1,2,3 | - | - | SP7-4 | - | Y | N | 10 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP7-5 | - | Y | Y | 20 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP8-1 | - | Y | N | 20 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP8-2 | - | Y | Y | 45 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP8-3 | - | Y | N | 35 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP8-4 | - | Y | N | 25 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP8-5 | - | Y | N | 35 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP9-1 | - | Y | Y | 30 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP9-2 | - | Y | N | 25 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP9-3 | - | Y | N | 25 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP9-4 | - | Y | N | 25 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP9-5 | - | Y | N | 25 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP10-1 | - | Y | N | 35 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP10-2 | - | Y | N | 30 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP10-3 | - | Y | N | 30 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP10-4 | - | Y | N | 35 |
| 31/08/2020 | SP | Excavation 1,2,4 | - | - | SP10-5 | - | Y | Y | 60 |
| 01/09/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-C8-1.0 | - | Y | Y | 0 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 1.0 | EX3-WW1-1.0 | | Y | N | 5 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 2.0 | EX3-WW1-2.0 | | Y | N | 0 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 3.0 | EX3-WW1-3.0 | EX3-WW1-DUP2 | Y | Y | 16%LEL |
| 01/09/2020 | Soil | Excavation 3 | Wall | 1.0 | EX3-SW1-1.0 | | Y | N | 0 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 2.0 | EX3-SW1-2.0 | | Y | N | 45 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 3.0 | EX3-SW1-3.0 | EX3-SW1-DUP3 | Y | Y | 19%LEL |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-G9-3.4 | | Y | N | 36%LEL |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-G10-3.4 | - | Y | Y | 49%LEL |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-H9-3.4 | | Y | N | 960 |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-H10-3.4 | | Y | N | 650 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 2.0 | EX3-SW2-2.0 | - | Y | Y | 18%LEL |
| 01/09/2020 | Soil | Excavation 3 | Wall | 3.0 | EX3-SW2-3.0 | | Y | N | 980 |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-I9-3.4 | - | Y | Y | 12%LEL |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-I10-3.4 | | Y | N | 940 |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-J9-3.4 | | Y | N | 970 |
| 01/09/2020 | Soil | Excavation 3 | Floor | 3.4 | EX3-J10-3.4 | | Y | N | 440 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 2.0 | EX3-SW3-2.0 | | Y | N | 10%LEL |
| 01/09/2020 | Soil | Excavation 3 | Wall | 3.0 | EX3-SW3-3.0 | EX3-SW3-DUP4 | Y | Y | 14%LEL |
| 01/09/2020 | Soil | Excavation 3 | Wall | 2.0 | EX3-EW1-2.0 | | Y | N | 270 |
| 01/09/2020 | Soil | Excavation 3 | Wall | 3.0 | EX3-EW1-3.0 | - | Y | Y | 19%LEL |
| 01/09/2020 | SP | Excavation 2 | - | - | SP11-1 | - | Y | Y | 0 |
| 01/09/2020 | SP | Excavation 2 | - | - | SP11-2 | - | Y | N | 0 |
| 01/09/2020 | SP | Excavation 2 | - | - | SP11-3 | - | Y | N | 0 |
| 01/09/2020 | SP | Excavation 2 | - | - | SP11-4 | - | Y | N | 0 |
| 01/09/2020 | SP | Excavation 2 | - | - | SP11-5 | - | Y | N | 0 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 0.5 | EX2-WW1-0.5 | | Y | N | 0 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 1.5 | EX2-WW1-1.5 | - | Y | Y | 65 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 0.5 | EX2-SW1-0.5 | | Y | N | 0 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 1.5 | EX2-SW1-1.5 | - | Y | Y | 0 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 0.5 | EX2-SW2-0.5 | - | Y | Y | 0 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 1.5 | EX2-SW2-1.5 | | Y | N | 0 |
| 01/09/2020 | Soil | Excavation 2 | Floor | 1.8 | EX2-I11-1.8 | - | Y | Y | 180 |
| 01/09/2020 | Soil | Excavation 2 | Floor | 1.8 | EX2-J11-1.8 | - | Y | Y | 0 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 0.5 | EX2-EW1-0.5 | | Y | N | 0 |
| 01/09/2020 | Soil | Excavation 2 | Wall | 1.5 | EX2-EW1-1.5 | - | Y | Y | 0 |
| 02/09/2020 | SP | Excavation 4 | - | 2-2.4 | SP12-1 | - | Y | N | 40 |

**Table Notes:**
IF - denotes import fill
SP - denotes stockpile
PPM - parts per million
LEL - lower explosive limit expressed as
Organic vapour readings measured as LEL in ppm and %LEL, % LEL = 110 ppm calibrated for hexane
Y - yes
N - no
m - metre

**Table 8: Field Organic Vapour Results**

| Collection Date (dd/mm/yyyy) | Sample type (Soil/IF/SP/Water) | Source | Wall or Floor? | Depth (m) | Sample ID | Duplicate ID | Screening (Y/N) | Submitted to Lab (Y/N) | Organic Vapour Readings (PPM) |
|---|---|---|---|---|---|---|---|---|---|
| 02/09/2020 | SP | Excavation 4 | - | 2-2.4 | SP12-2 | - | Y | Y | 120 |
| 02/09/2020 | SP | Excavation 4 | - | 2-2.4 | SP12-3 | - | Y | N | 5 |
| 02/09/2020 | SP | Excavation 4 | - | 2-2.4 | SP12-4 | - | Y | N | 40 |
| 02/09/2020 | SP | Excavation 4 | - | 2-2.4 | SP12-5 | - | Y | N | 0 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP13-1 | - | Y | N | 170 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP13-2 | - | Y | N | 180 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP13-3 | - | Y | N | 60 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP13-4 | - | Y | Y | 460 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP13-5 | - | Y | N | 95 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP14-1 | - | Y | N | 180 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP14-2 | - | Y | Y | 11%LEL |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP14-3 | - | Y | N | 150 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP14-4 | - | Y | N | 130 |
| 02/09/2020 | SP | Excavation 3 | - | 2.0-3.4 | SP14-5 | - | Y | N | 50 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-NW1-0.5 | BLDG2-NW1-DUP5 | Y | Y | 15 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-NW2-0.5 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-NW3-0.5 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-NW4-0.5 | - | Y | Y | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-EW1-0.5 | - | Y | Y | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-EW2-0.5 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-SW1-0.5 | - | Y | Y | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-SW2-0.5 | - | Y | Y | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-SW3-0.5 | - | Y | Y | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-SW4-0.5 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-WW1-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Wall | 0.5 | BLDG2-WW2-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-R2-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-R3-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-R4-1.0 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-Q2-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-Q3-1.0 | - | Y | N | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-Q4-1.0 | - | Y | N | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-P2-1.0 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-P3-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-P4-1.0 | - | Y | N | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-O2-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-O3-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-O4-1.0 | - | Y | N | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-O3-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-O4-1.0 | - | Y | N | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-N2-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-N3-1.0 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-N4-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-M2-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-M3-1.0 | - | Y | N | 5 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-M4-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-L2-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-L3-1.0 | - | Y | Y | 10 |
| 03/09/2020 | Soil | Kiosk Building Footprint | Floor | 1.0 | BLDG2-L4-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Wall | 0.5 | BLDG3-NW1-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Wall | 0.5 | BLDG3-NW2-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Wall | 0.5 | BLDG3-SW1-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Wall | 0.5 | BLDG3-SW2-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Wall | 0.5 | BLDG3-EW1-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Wall | 0.5 | BLDG3-WW1-0.5 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Floor | 1.0 | BLDG3-F2-1.0 | - | Y | N | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Floor | 1.0 | BLDG3-G2-1.0 | - | Y | Y | 0 |
| 03/09/2020 | Soil | Garage Building Footprint | Floor | 1.0 | BLDG3-H2-1.0 | - | Y | Y | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP15-1 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP15-2 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP15-3 | - | Y | Y | 45 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP15-4 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP15-5 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP16-1 | - | Y | N | 5 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP16-2 | - | Y | N | 5 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP16-3 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP16-4 | - | Y | N | 5 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP16-5 | - | Y | Y | 5 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP17-1 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP17-2 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP17-3 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP17-4 | - | Y | Y | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP17-5 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP18-1 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP18-2 | - | Y | Y | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP18-3 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP18-4 | - | Y | N | 0 |
| 04/09/2020 | SP | Kiosk Building Footprint | - | 0-1.0 | SP18-5 | - | Y | N | 0 |
| 04/09/2020 | SP | Garage Building Footprint | - | 0-1.0 | SP19-1 | - | Y | N | 0 |
| 04/09/2020 | SP | Garage Building Footprint | - | 0-1.0 | SP19-2 | - | Y | N | 0 |
| 04/09/2020 | SP | Garage Building Footprint | - | 0-1.0 | SP19-3 | - | Y | Y | 5 |
| 04/09/2020 | SP | Garage Building Footprint | - | 0-1.0 | SP19-4 | - | Y | N | 0 |
| 04/09/2020 | SP | Garage Building Footprint | - | 0-1.0 | SP19-5 | - | Y | N | 0 |
| 04/09/2020 | Soil | Car Wash Footprint | Floor | 1.0 | BLDG1-C8-1.0 | - | Y | Y | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-NW1-0.5 | - | Y | Y | 20 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-NW1-1.5 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-NW2-0.5 | - | Y | Y | 63%LEL |
| 04/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-NW2-1.5 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-EW1-0.5 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-EW1-1.5 | - | Y | Y | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-EW2-0.5 | - | Y | Y | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-EW2-1.5 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-SW1-0.5 | - | Y | Y | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-SW1-1.5 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-SW2-0.5 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-SW2-1.5 | - | Y | Y | 0 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-L8-1.8 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-L9-1.8 | - | Y | N | 11%LEL |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-L10-1.8 | - | Y | Y | 60 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-L11-1.8 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-M8-1.8 | - | Y | N | 9%LEL |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-M9-1.8 | EX1-M9-DUP6 | Y | Y | 16%LEL |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-M10-1.8 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-M11-1.8 | - | Y | N | 5 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-N8-1.8 | - | Y | N | 20 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-N9-1.8 | - | Y | N | 400 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-N10-1.8 | - | Y | N | 0 |
| 04/09/2020 | Soil | Excavation 1 | Floor | 1.8 | EX1-N11-1.8 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Floor | 2.3 | EX1-L8-2.3 | - | Y | N | 53% LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 2.3 | EX1-L9-2.3 | - | Y | N | 170 |
| 09/09/2020 | Soil | Excavation 1 | Floor | 2.3 | EX1-M8-2.3 | - | Y | N | 55% LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 2.3 | EX1-M9-2.3 | - | Y | N | 24% LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 2.3 | EX1-N8-2.3 | - | Y | N | 13%LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 2.3 | EX1-N9-2.3 | - | Y | N | 0 |

**Table Notes:**
IF - denotes import fill
SP - denotes stockpile
PPM - parts per million
LEL - lower explosive limit expressed as
Organic vapour readings measured as LEL in ppm and %LEL, % LEL = 110 ppm calibrated for hexane
Y - yes
N - no
m - metre

**Table 8: Field Organic Vapour Results**

| Collection Date (dd/mm/yyyy) | Sample type (Soil/IF/SP/Water) | Source | Wall or Floor? | Depth (m) | Sample ID | Duplicate ID | Screening (Y/N) | Submitted to Lab (Y/N) | Organic Vapour Readings (PPM) |
|---|---|---|---|---|---|---|---|---|---|
| 09/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-NW4-0.5 | EX1-NW4-DUP7 | Y | Y | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-NW4-1.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 2.5 | EX1-NW4-2.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-WW1-0.5 | - | Y | Y | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-WW1-1.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 2.5 | EX1-WW1-2.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-NW3-0.5 | - | Y | Y | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-NW3-1.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 2.5 | EX1-NW3-2.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-EW3-0.5 | - | Y | Y | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-EW3-1.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 2.5 | EX1-EW3-2.5 | - | Y | N | 0 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 2.2 | EX1-SW3-2.2 | - | Y | N | 28%LEL |
| 09/09/2020 | Soil | Excavation 1 | Wall | 2.2 | EX1-SW4-2.2 | - | Y | N | 24%LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-M10-3.0 | - | Y | N | 60%LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 2.8 | EX1-L9-2.8 | - | Y | N | 300 |
| 09/09/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-L9-3.0 | - | Y | N | 21%LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 3.5 | EX1-L9-3.5 | - | Y | N | 12%LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 3.9 | EX1-L9-3.9 | - | Y | N | 650 |
| 09/09/2020 | Soil | Excavation 1 | Floor | 4.1 | EX1-L9-4.1 | - | Y | N | 12%LEL |
| 09/09/2020 | Soil | Excavation 1 | Floor | 4.3 | EX1-L9-4.3 | - | Y | Y | 25 |
| 09/09/2020 | Soil | Excavation 1 | Floor | 4.5 | EX1-M9-4.5 | - | Y | Y | 10 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 2.5 | EX1-NW5-2.5 | - | Y | N | 100 |
| 09/09/2020 | Soil | Excavation 1 | Wall | 3.0 | EX1-WW2-3.0 | - | Y | Y | 18%LEL |
| 10/09/2020 | Soil | Excavation 1 | Wall | 2.8 | EX1-SW6-2.8 | - | Y | Y | 0 |
| 10/09/2020 | Soil | Excavation 1 | Wall | 2.8 | EX1-SW5-2.8 | - | Y | Y | 10 |
| 10/09/2020 | Soil | Excavation 1 | Wall | 0.5 | EX1-NW5-0.5 | - | Y | Y | 290 |
| 10/09/2020 | Soil | Excavation 1 | Wall | 1.5 | EX1-NW5-1.5 | - | Y | N | 55 |
| 10/09/2020 | Soil | Excavation 1 | Wall | 3.0 | EX1-WW3-3.0 | EX1-WW3-DUP8 | Y | Y | 12%LEL |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.0 | EX4-F7-4.0 | - | Y | N | 240 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.0 | EX4-F8-4.0 | - | Y | N | 23%LEL |
| 14/9/2020 | Soil | Excavation 4 | Floor | 3.5 | EX4-G7-3.5 | - | Y | N | 380 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.0 | EX4-G8-4.0 | - | Y | N | 28%LEL |
| 14/9/2020 | Soil | Excavation 4 | Floor | 3.5 | EX4-H7-3.5 | - | Y | N | 70 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.0 | EX4-H8-4.0 | - | Y | N | 11%LEL |
| 14/9/2020 | Soil | Excavation 4 | Floor | 3.5 | EX4-I7-3.5 | - | Y | N | 12%LEL |
| 14/9/2020 | Soil | Excavation 4 | Floor | 3.5 | EX4-I8-3.5 | - | Y | N | 9%LEL |
| 14/9/2020 | Soil | Excavation 4 | Floor | 3.5 | EX4-J7-3.5 | - | Y | N | 11%LEL |
| 14/9/2020 | Soil | Excavation 4 | Floor | 3.5 | EX4-J8-3.5 | - | Y | N | 900 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.3 | EX4-F8-4.3 | - | Y | N | 70 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-G8-4.3 | - | Y | N | 30 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-H8-4.3 | - | Y | N | 45 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-I8-4.3 | - | Y | N | 30 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-F7-4.5 | - | Y | N | 25 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-F8-4.5 | - | Y | Y | 130 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-G7-4.5 | - | Y | N | 10 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-G8-4.5 | - | Y | N | 100 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-H7-4.5 | - | Y | N | 15 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-H8-4.5 | EX4-H8-DUP9 | Y | Y | 320 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-I7-4.5 | - | Y | N | 15 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-I8-4.5 | - | Y | N | 50 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-J7-4.5 | - | Y | N | 25 |
| 14/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-J8-4.5 | - | Y | N | 45 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 4.3 | EX4-SW1-4.3 | - | Y | Y | 50 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 4.3 | EX4-SW2-4.3 | - | Y | Y | 120 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 4.3 | EX4-SW3-4.3 | - | Y | Y | 180 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-WW1-1.0 | - | Y | N | 0 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-WW1-2.0 | - | Y | N | 5 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW1-3.0 | - | Y | N | 20 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW1-4.0 | - | Y | N | 100%LEL |
| 14/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-WW2-1.0 | - | Y | N | 10 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-WW2-2.0 | - | Y | N | 0 |
| 14/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW2-3.0 | - | Y | Y | 100%LEL |
| 14/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW2-4.0 | - | Y | N | 100%LEL |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW3-3.0 | - | Y | N | 100 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-NW1-3.0 | - | Y | N | 28%LEL |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-NW2-3.0 | - | Y | Y | 270 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-NW3-3.0 | EX4-NW3-DUP10 | Y | Y | 170 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-NW1-4.0 | - | Y | N | 150 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-NW2-4.0 | - | Y | N | 35 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-NW3-4.0 | - | Y | N | 25 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW3-4.0 | - | Y | N | 550 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-NW4-3.0 | - | Y | Y | 410 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-NW4-4.0 | - | Y | N | 60 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-NW2-1.0 | - | Y | N | 50 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-NW2-2.0 | - | Y | N | 55 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-NW3-1.0 | - | Y | N | 55 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-NW3-2.0 | - | Y | N | 110 |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-L8-3.0 | - | Y | N | 29%LEL |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-L9-3.0 | - | Y | N | 610 |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-L10-3.0 | - | Y | Y | 51%LEL |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-M8-3.0 | - | Y | N | 34%LEL |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-M9-3.0 | - | Y | N | 50%LEL |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-M10-3.0 | - | Y | Y | 59%LEL |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-N8-3.0 | - | Y | N | 130 |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-N9-3.0 | - | Y | N | 10%LEL |
| 15/9/2020 | Soil | Excavation 1 | Floor | 3.0 | EX1-N10-3.0 | - | Y | N | 240 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-SW4-1.0 | - | Y | N | 50 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-SW4-2.0 | - | Y | N | 80 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-SW4-3.0 | - | Y | Y | 100%LEL |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-SW4-4.0 | - | Y | N | 18%LEL |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-WW4-1.0 | - | Y | N | 15 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-WW4-2.0 | - | Y | N | 0 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW4-3.0 | - | Y | N | 100 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW4-4.0 | - | Y | Y | 100%LEL |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-WW3-1.0 | - | Y | N | 10 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-WW3-2.0 | - | Y | N | 5 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW3-3.0 | - | Y | N | 20 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW3-4.0 | - | Y | Y | 84%LEL |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-NW5-1.0 | - | Y | N | 0 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-NW5-2.0 | - | Y | N | 0 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-NW5-3.0 | - | Y | N | 110 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-NW5-4.0 | - | Y | Y | 100%LEL |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.5 | EX4-E7-4.5 | - | Y | Y | 720 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.5 | EX4-E8-4.5 | - | Y | N | 55 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-NW4-1.0 | - | Y | N | 5 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-NW4-2.0 | - | Y | N | 5 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-EW1-1.0 | - | Y | N | 5 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-EW1-2.0 | - | Y | N | 55 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-EW1-3.0 | - | Y | N | 15 |
| 15/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-EW1-4.0 | - | Y | Y | 110 |

**Table Notes:**

IF - denotes import fill

SP - denotes stockpile

PPM - parts per million

LEL - lower explosive limit expressed as

Organic vapour readings measured as LEL in ppm and %LEL, % LEL = 110 ppm calibrated for hexane

Y - yes

N - no

m - metre

**Table 8: Field Organic Vapour Results**

| Collection Date (dd/mm/yyyy) | Sample type (Soil/IF/SP/Water) | Source | Wall or Floor? | Depth (m) | Sample ID | Duplicate ID | Screening (Y/N) | Submitted to Lab (Y/N) | Organic Vapour Readings (PPM) |
|---|---|---|---|---|---|---|---|---|---|
| 15/9/2020 | SP | Excavation 4 | - | 0-2 | SP20-1 | - | Y | N | 0 |
| 15/9/2020 | SP | Excavation 4 | - | 0-2 | SP20-2 | - | Y | N | 0 |
| 15/9/2020 | SP | Excavation 4 | - | 0-2 | SP20-3 | - | Y | Y | 20 |
| 15/9/2020 | SP | Excavation 4 | - | 0-2 | SP20-4 | - | Y | N | 5 |
| 15/9/2020 | SP | Excavation 4 | - | 0-2 | SP20-5 | - | Y | N | 0 |
| 16/9/2020 | SP | Excavation 4 | - | 0-3 | SP21-1 | - | Y | N | 15 |
| 16/9/2020 | SP | Excavation 4 | - | 0-4 | SP21-2 | - | Y | Y | 40 |
| 16/9/2020 | SP | Excavation 4 | - | 0-5 | SP21-3 | - | Y | N | 15 |
| 16/9/2020 | SP | Excavation 4 | - | 0-6 | SP21-4 | - | Y | N | 15 |
| 16/9/2020 | SP | Excavation 4 | - | 0-7 | SP21-5 | - | Y | N | 10 |
| 16/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-D8-4.5 | - | Y | N | 13%LEL |
| 16/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-D7-4.5 | - | Y | Y | 22%LEL |
| 16/9/2020 | Soil | Excavation 4 | Floor | 4.5 | EX4-G6-4.5 | - | Y | Y | 40 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-SW5-1.0 | - | Y | N | 0 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-SW5-2.0 | - | Y | N | 20 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-SW5-3.0 | - | Y | Y | 42%LEL |
| 16/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-SW5-4.0 | - | Y | N | 30%LEL |
| 16/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-WW6-1.0 | - | Y | N | 35 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-WW6-2.0 | - | Y | N | 20 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW6-3.0 | - | Y | Y | 960 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW6-4.0 | - | Y | N | 770 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-WW5-1.0 | - | Y | N | 10 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-WW5-2.0 | - | Y | N | 5 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW5-3.0 | - | Y | Y | 260 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW5-4.0 | - | Y | N | 200 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-WW7-1.0 | - | Y | N | 45 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-WW7-2.0 | - | Y | N | 12%LEL |
| 16/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-WW7-3.0 | EX4-WW7-DUP11 | Y | Y | 16%LEL |
| 16/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-WW7-4.0 | - | Y | N | 15%LEL |
| 16/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-NW6-1.0 | - | Y | N | 20 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-NW6-2.0 | - | Y | N | 40 |
| 16/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-NW6-3.0 | - | Y | N | 14%LEL |
| 16/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-NW6-4.0 | EX4-NW6-DUP12 | Y | Y | 29%LEL |
| 17/9/2020 | Soil | Excavation 1 | Wall | 2.5 | EX1-NW5-2.5 | - | Y | Y | 41%LEL |
| 17/9/2020 | Soil | Excavation 1 | Wall | 3.5 | EX1-NW5-3.5 | - | Y | N | 120 |
| 17/9/2020 | Soil | Excavation 1 | Wall | 3.5 | EX1-NW3-3.5 | - | Y | Y | 5 |
| 17/9/2020 | Soil | Excavation 1 | Wall | 3.5 | EX1-EW3-3.5 | - | Y | Y | 10 |
| 17/9/2020 | Soil | Excavation 1 | Wall | 1.0 | EX1-EW4-1.0 | - | Y | N | 10 |
| 17/9/2020 | Soil | Excavation 1 | Wall | 2.0 | EX1-EW4-2.0 | - | Y | Y | 12%LEL |
| 17/9/2020 | Soil | Excavation 1 | Wall | 3.0 | EX1-EW4-3.0 | - | Y | N | 35 |
| 17/9/2020 | Soil | Excavation 1 | Wall | 4.0 | EX1-EW4-4.0 | - | Y | N | 20 |
| 17/9/2020 | Soil | Excavation 1 | Wall | 4.0 | EX1-SW5-4.0 | - | Y | Y | 16%LEL |
| 17/9/2020 | Soil | Excavation 1 | Wall | 4.0 | EX1-SW6-4.0 | - | Y | Y | 34%LEL |
| 17/9/2020 | Soil | Excavation 1 | Wall | 4.0 | EX1-WW2-4.0 | - | Y | N | 10%LEL |
| 17/9/2020 | Soil | Excavation 1 | Wall | 4.0 | EX1-WW3-4.0 | - | Y | N | 130 |
| 17/9/2020 | Soil | Excavation 4 | Wall | 1.0 | EX4-EW2-1.0 | - | Y | N | 10 |
| 17/9/2020 | Soil | Excavation 4 | Wall | 2.0 | EX4-EW2-2.0 | - | Y | N | 40 |
| 17/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-EW2-3.0 | - | Y | Y | 10%LEL |
| 17/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-EW2-4.0 | - | Y | N | 35 |
| 17/9/2020 | Soil | Excavation 4 | Wall | 3.0 | EX4-EW3-3.0 | - | Y | Y | 25 |
| 17/9/2020 | Soil | Excavation 4 | Wall | 4.0 | EX4-EW3-4.0 | - | Y | N | 25 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-N10-4.4 | - | Y | N | 50 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-N9-4.4 | - | Y | N | 20 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-N8-4.4 | - | Y | N | 8 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-L10-4.4 | - | Y | N | 65 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-L9-4.4 | EX1-L9-DUP13 | Y | Y | 11%LEL |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-L8-4.4 | - | Y | N | 45 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-M10-4.4 | - | Y | Y | 230 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-M9-4.4 | - | Y | N | 170 |
| 17/9/2020 | Soil | Excavation 1 | Floor | 4.4 | EX1-M8-4.4 | - | Y | N | 170 |
| 21/9/2020 | IF | Glacial Aggregates | - | - | Import Fill-3 | - | Y | Y | 0 |
| 21/9/2020 | IF | Glacial Aggregates | - | - | Import Fill-4 | - | Y | Y | 0 |
| 22/9/2020 | Soil | Excavation 1 | Wall | 1.0 | EX1-EW5-1.0 | - | Y | N | 0 |
| 22/9/2020 | Soil | Excavation 1 | Wall | 2.0 | EX1-EW5-2.0 | - | Y | Y | 0 |
| 22/9/2020 | Soil | Excavation 1 | Wall | 3.0 | EX1-EW5-3.0 | - | Y | N | 0 |

**Table Notes:**

IF - denotes import fill

SP - denotes stockpile

PPM - parts per million

LEL - lower explosive limit expressed as

Organic vapour readings measured as LEL in ppm and %LEL, % LEL = 110 ppm calibrated for hexane

Y - yes

N - no

m - metre

# Appendix A

## Well Record Summary

Appendix A - Summary of Wells Identified as Potentially within 500 m of Site

| No. | Well_PID | Well Use | Water Use | UTMX | UTMY | Accuracy XY | top of screen (ft) | Top of Screen (m) | bottom of screen (ft) | Bottom of Screen (m) | water level (ft) | Depth to Water (m) | total depth (ft) | Total Depth (m) | Owner | Address/NOTES | Approximate Distance from Site |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Well_PID: 29955 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 649996.552 | UTMY: 5556958.08 | UNKNOWN | 66 | 20.1 | 153.9 | 46.9 | - | - | - | - | Owner: F HAWTHORNE | CORNER OF SELKIRK AVE AND SELKRIK BYPASS (PTH #9A) | 3.1km |
| 2 | Well_PID: 43509 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650064.188 | UTMY: 5557012.24 | UNKNOWN | 80.9 | 24.7 | 118.9 | 36.2 | - | - | - | - | Owner: SELKIRK G & C CLUB | SUTHERLAND AVE EAST | >162m |
| 3 | Well_PID: 71328 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650064.188 | UTMY: 5557012.24 | UNKNOWN | 89.4 | 27.2 | 185.9 | 56.7 | - | - | - | - | Owner: SELKIRK GOLF COURSE | 100 SUTHERLAND AVE, SELKIRK, H=35 GPG, FE=.1 PPM | 534 m |
| 4 | Well_PID: 49643 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650064.188 | UTMY: 5557012.24 | UNKNOWN | 64 | 19.5 | 177.9 | 54.2 | - | - | - | - | Owner: L HEBISCHUK | MAPLETON PLACE ZONES - 39.6M;0.5 L/S- 53.0M;1.4 L/S | 2.5 km |
| 5 | Well_PID: 20330 | Well Use: TEST WELL | | UTMX: 650123.868 | UTMY: 5557080.7 | UNKNOWN | N/A | N/A | N/A | N/A | 34 | 10.4 | 205.9 | 62.8 | Owner: WRB | 130 FT HWY #9, .3 MI S CLOVERDALE RD, NEAR GRAVEL PIT | 2.5km |
| 6 | Well_PID: 63048 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650123.868 | UTMY: 5557080.7 | UNKNOWN | 93.4 | 28.5 | 202.9 | 61.8 | - | - | - | - | Owner: H COOK | 225 TORONTO AVE., SELKIRK | 125 m |
| 7 | Well_PID: 10585 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650172.404 | UTMY: 5557127.31 | UNKNOWN | 56 | 17.1 | 79.9 | 24.4 | - | - | - | - | Owner: J BUNID | 50 FT S OF PACIFIC ST, E OF RAILWAY ST, GROUND LEVEL ELEV EST 730 FT | >500m |
| 8 | Well_PID: 58043 | Well Use: PRODUCTION | Water Use: Municipal | UTMX: 651953 | UTMY: 5556168 | 1 EXACT [<5M] [GPS] | 184.9 | 56.4 | 259.8 | 79.2 | - | - | - | - | Owner: CITY OF SELKIRK | EAST END OF ROSSER AVE AND EVELINE ST, NEAR RIVER INTAKE | 450m |
| 9 | Well_PID: 57211 | Well Use: TEST WELL | | UTMX: 650240.04 | UTMY: 5557201.76 | UNKNOWN | 96.9 | 29.5 | 261.8 | 79.8 | - | - | - | - | Owner: CITY OF SELKIRK | E. END ROSSER AVE. N. SIDE RIVER INTAKE PUMPHOUSE | 450 m |
| 10 | Well_PID: 17864 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650240.04 | UTMY: 5557201.76 | UNKNOWN | 26 | 7.9 | 57 | 17.4 | - | - | - | - | Owner: C STEPHANSON | N/A | N/A |
| 11 | Well_PID: 43455 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650240.04 | UTMY: 5557201.76 | UNKNOWN | 88.9 | 27.1 | 92.9 | 28.3 | - | - | - | - | Owner: J BOYCE | 307 ROSSER AVE (AECOM verified with home owner there is no operational well at this property) | 70 m |
| 12 | Well_PID: 32421 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650240.04 | UTMY: 5557201.76 | UNKNOWN | 60 | 18.3 | 96.9 | 29.5 | - | - | - | - | Owner: W MARSH | N/A | N/A |
| 13 | Well_PID: 18220 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650240.04 | UTMY: 5557201.76 | UNKNOWN | 43 | 13.1 | 86.9 | 26.5 | - | - | - | - | Owner: A STEFANSON | CLOVERDALE RD | 4 km |
| 14 | Well_PID: 13422 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650375.311 | UTMY: 5557337.14 | UNKNOWN | 44 | 13.4 | 106.9 | 32.6 | - | - | - | - | Owner: S SCHKAWRITKA | 150 FT E OF HWY #9, GROUND LEVEL ELEV EST 750 FT | >5 km |
| 15 | Well_PID: 5098 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650402.365 | UTMY: 5557384.53 | UNKNOWN | N/A | N/A | N/A | N/A | 27 | 8.2 | 86.9 | 26.5 | Owner: H SIEMEN | 150 FT W OF SELKIRK BY PASS | >2.8 km |
| 16 | Well_PID: 141797 | Well Use: RECHARGE | | UTMX: 650402.365 | UTMY: 5557384.53 | 5 GENERAL [1KM-8KM] | 110 | 33.5 | 120 | 36.6 | - | - | - | - | Owner: BRAD BELL | 226 VAUGHN, SELKIRK, WELL IS IN THE FRONT YARD. | 330 m |
| 17 | Well_PID: 141709 | Well Use: PRODUCTION | Water Use: Air conditioning | UTMX: 650402.365 | UTMY: 5557384.53 | 5 GENERAL [1KM-8KM] | 107 | 32.6 | 115 | 35.1 | - | - | - | - | Owner: BRAD BELL | 226 VAUGHN, SELKIRK, SUPPLY WELL BEHIND THE HOUSE. | 330 m |
| 18 | Well_PID: 52039 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650402.365 | UTMY: 5557384.53 | UNKNOWN | 57 | 17.4 | 159.9 | 48.7 | - | - | - | - | Owner: J SEAMENS | N/A | N/A |
| 19 | Well_PID: 64735 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650402.365 | UTMY: 5557384.53 | UNKNOWN | 61 | 18.6 | 239.8 | 73.1 | - | - | - | - | Owner: J STEPHANSON | 631 VAUGHAN AVE., SELKIRK | 850 m |
| 20 | Well_PID: 7985 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650402.365 | UTMY: 5557384.53 | UNKNOWN | 50 | 15.2 | 74 | 22.6 | - | - | - | - | Owner: S STEFENSON | N/A | 3.5 km |
| 21 | Well_PID: 35852 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650444.135 | UTMY: 5557431.14 | UNKNOWN | 88.9 | 27.1 | 116.9 | 35.6 | - | - | - | - | Owner: B SPARKES | 705 MCLEAN AVE | 1 km |
| 22 | Well_PID: 104580 | Well Use: PRODUCTION | Water Use: Municipal | UTMX: 651601 | UTMY: 5556777 | 2 VERY ACCURATE [<50M] | 172 | 52.4 | 277 | 84.4 | - | - | - | - | Owner: CITY OF SELKIRK | SELKIRK - PUBLIC WATER SYSTEM WELL | 375 m |
| 23 | Well_PID: 110013 | Well Use: TEST WELL | | UTMX: 650507.981 | UTMY: 5557476.59 | N/A | 85.2 | 26.0 | 137.7 | 42.0 | - | - | - | - | Owner: TOWN OF SELKIRK/UMA | 7.3 M E OF SELKIRK WATER TOWER, BETWEEN WATER | 480 m |
| 24 | Well_PID: 79681 | Well Use: PRODUCTION | Water Use: Domestic | UTMX: 650507.981 | UTMY: 5557476.59 | UNKNOWN | 48 | 14.6 | 165.9 | 50.6 | - | - | - | - | Owner: SELKRK ALLIANCE CHURCH | N SIDE MANITOBA AVE, W SIDE OF CHURCH | 2.6 km |

Notes:
Records sourced from Manitoba Water Stewardship water well records GWDrill data base

# Appendix B

## Soil Vapour Assessment

# Appendix B - Soil Vapour Assessment

**Background**

Prior to initiation of the remedial excavation, a soil vapour investigation was completed at the Site. The results of the soil vapour investigation were used to further assess the vapour inhalation exposure pathway at the Site.

**Soil Vapour Investigation**

Between November 2018 and February 2019, a soil vapour investigation was completed to assess the vapour inhalation exposure pathway at the Site. The soil vapour investigation included:

- Installation of four soil vapour probes;
- Two rounds of soil vapour sampling;
- Model indoor air concentrations using CCME dilution factors based on the Johnson and Ettinger (1991) model to assess potential risks posed by the indoor infiltration of volatile contaminants emanating from soil and/or groundwater; and
- Evaluation of potential modification to the remedial approach based on application of the soil vapour screening criteria.

On November 22, 2018, four soil vapour probes (VW18-1, VW18-2, VW18-3 and VW18-4) were installed for collection of representative soil vapour samples from areas exhibiting soil impacts. The assessment area comprised two locations, as illustrated on **Figure 5**:

- VW18-1 and VW18-2 were located in the southeast of the former tank farm (between the tank farm and Main Street) where identified soil impacts were driven by the vapour intrusion pathway for benzene (based on soil concentrations in locations BH4, BH5 and TP-17). Benzene in soil exceed the applicable CCME Tier 2 soil criteria (i.e. commercial land use and fine-grained soil, with potable groundwater and aquatic life exposure pathways excluded, and ecological direct contact excluded below 1.5 m for BTEX and PHC fractions F1–F4) in subsoil (below 1.5 metres below ground surface (mbgs)) but not within surface soil (0-1.5 mbgs). No remediation would be necessary for benzene in this area if soil vapour concentrations meet the soil vapour screening criteria.
- VW18-3 and VW18-4 were located within the former tank farm (based on soil concentrations observed in BH6). Soil concentrations in BH6 exceed management limits so excavation is required of these soils regardless of the soil vapour sampling and vapour intrusions modeling results.

The soil vapour monitoring probes were installed at 1.6-1.85 mbgs, above the water table and in the area of worst-case impacts. Two rounds of soil vapour sampling were completed, in November 2018 and February 2019 from VW18-1 and VW18-2, and one round of sampling was completed from VW18-3 and VW18-4 in November 2018. Soil vapour samples were submitted for analysis of benzene, toluene, ethylbenzene, xylenes (BTEX), aliphatic and aromatic petroleum hydrocarbon (F1–F2) fractions. All samples were shipped to Buena Vista Laboratory in Calgary, Alberta. Analytical results are summarized in **Table B-3** and **Table B-4**.

**Vapour Intrusion Modeling**

The measured soil vapour concentrations were used to calculate predicted indoor air concentrations using soil gas to indoor air dilution factors (DF) as a function of depth/distance from building to contamination as presented in

Table 3.2 of CCME Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document, January 2008(b), also provided below.

**Table 3.2: Soil gas to indoor air dilution factor (DF)* as a function of depth/distance from building to contamination ($L_t$).**

| Dilution Factors for Indoor Infiltration (DF) | | | | | | |
|---|---|---|---|---|---|---|
| $L_T$ (cm) | Residential, with basement | | Residential, slab-on-grade | | Commercial/Industrial, slab-on-grade | |
| | f/g | c/g | f/g | c/g | f/g | c/g |
| 30 | 35671 | 1889 | 30524 | 1438 | 62935 | 4605 |
| 100 | 36137 | 2469 | 31360 | 2480 | 64190 | 6167 |
| 200 | 36802 | 3297 | 32556 | 3968 | 65983 | 8399 |
| 300 | 37468 | 4125 | 33751 | 5456 | 67777 | 10630 |
| 500 | 38798 | 5781 | 36142 | 8431 | 71363 | 15094 |
| 1000 | 42124 | 9922 | 42119 | 15871 | 80328 | 26252 |
| 2000 | 48778 | 18202 | 54073 | 30749 | 98259 | 48570 |
| 3000 | 55430 | 26483 | 66026 | 45627 | 116189 | 70887 |

* - adjustment factor (below) not included in DF

Calculations were made according to the following equation to determine the indoor air concentration:

$$C_{air} = C_v / DF$$

$C_{air}$ = indoor air concentration
$C_v$ = soil vapour concentration
$DF$ = dilution factor

According to the most recent guidance, (CCME 2014, *A Protocol For The Derivation Of Soil Vapour Quality Guidelines For Protection Of Human Exposures Via Inhalation Of Vapours*), a bioattenuation adjustment factor of 10 is applicable to soil vapour inhalation modelling results. The adjustment factor only pertains to petroleum hydrocarbons (BTEX, F1 and F2), assuming there is at least one metre of clean soil between the top of the soil vapour probe screen and building foundation, or ground surface in the case of outdoor air guidelines. Based on the observed Site conditions (no soil impacts between ground surface and a depth of 1.5 m), the adjustment factor has been applied to the calculated indoor air concentrations.

The highest measured concentration was used to convert measured soil vapour concentrations to predicted indoor air concentrations (**Table B-3** and **Table B-4**). These predicted concentrations were then used to determine a Hazard Quotient (HQ) for threshold chemicals, or an Incremental Lifetime Cancer Risk (ILCR) for non-threshold chemicals, for each of the BTEX constituents and PHC fractions F1 and F2.

The HQ or ILCR is an indication of potential risk from contaminants. It is estimated by dividing the expected exposure level by the associated reference dose for that contaminant (Tolerable Concentration (TC) for threshold contaminants and Risk-Specific Concentration (RsC) for non-threshold contaminants) (CCME, 2008b). To be conservative, a soil allocation factor (SAF) of 0.5 was applied to all threshold substances to account for exposure form other media.

$$\textit{Incremental Lifetime Cancer Risk (ILCR)} = C_{air} * ET / RsC$$
$$\textit{Hazard Quotient (HQ)} = C_{air} * ET / TC / SAF$$

To derive soil quality guidelines for a PHC fraction, guidelines must first be estimated for each individual sub-fraction, for the target Hazard Quotient desired. Then, the guidelines for sub-fractions must be combined according to their mass fraction within the fraction, according to the algorithm below (CCME, 2008b).

$$SQG_{Fraction\_i} = \frac{1}{\sum\left(\frac{MF_{subfraction\ j}}{SQG_{subfraction\ j}}\right)}$$

$SQG_{fraction\_i}$ = soil quality guideline for the fraction *i* (mg/kg)
$SQG_{sub\text{-}fraction\ j}$ = soil quality guideline (mg/kg) for each sub-fraction within fraction *i* for the target Hazard Quotient for fraction *i*
$MF_{sub\text{-}fraction\ j}$ = mass fraction of each sub-fraction within the fraction *i*

Dilution factors and mass fraction are grain size specific, although the site is identified as fine-grained based on boring logs and grain size analysis, the soil vapour intrusion modeling was conducted for both fine-grained and coarse-grained soil conditions to be conservative and evaluate the relative risk. The dilution factor for minimum depth of contamination of 1.0 m was used for this modelling .

Soil vapour intrusion modeling is presented in **Tables B-3** and **Table B-4.**

**Soil Vapour Intrusion Modeling Results**

The HQ / ILCR for each of the BTEX constituents and PHC fractions F1 and F2 was found to be less than 1 (i.e. the predicted indoor air concentrations were less than the respective indoor air guideline concentrations), therefore, there are no significant risks associated with the occupancy of a building exhibiting such concentrations.

Benzene is the only soil contaminant for which vapour indoor air was the driving pathway. Based on the soil vapour evaluation there is no risk from soil vapour intrusion in areas evaluated, therefore the vapour indoor air pathway can be eliminated for these areas. The revised soil guidelines, based on the exclusion of soil vapour in select areas, is detailed in the tables below.

**Table B-1: Modified Tier 2 Guideline Summary - CCME Commercial Fine-Grained (Surface Soil)**

| Parameter | B | T | E | X | F1 | F2 | F3 | F4 |
|---|---|---|---|---|---|---|---|---|
| Tier 1 | 0.0068 | 0.08 | 0.018 | 2.4 | 170 | 230 | 2,500 | 6,600 |
| Tier 2 (site specific) | 110 | 330 | 430 | 230 | 320 | 260 | 2,500 | 6,600 |
| **Human Health $10^{-5}$** | | | | | | | | |
| soil ingestion | **110** | 82,000 | 36,000 | 560,000 | 19,000 | 10,000 | 23,000 | RES |
| soil dermal contact | 250 | 790,000 | 210,000 | NA | | | | |
| soil inhalation | NC | NC | NC | NC | - | - | - | - |
| vapour indoor air (basement) | - | - | - | - | 4,600 | 23,000 | NA | NA |
| vapour indoor air (slab on grade) | 2.8 | 13,000 | 6,500 | 1,600 | | | | |
| offsite migration | - | - | - | - | - | - | - | - |
| GW (potable) | 0.0068 | 0.08 | 0.018 | 2.4 | 170 | 230 | NA | NA |
| produce, meat and milk | - | - | - | - | - | - | - | - |
| **Environmental Risk** | | | | | | | | |
| soil dermal contact | 310 | **330** | **430** | **230** | **320** | **260** | **2,500** | **6,600** |
| soil and food ingestion | - | - | - | - | - | - | - | - |
| nutrient and energy cycling | NC | NC | NC | NC | NC | NC | NC | NC |
| offsite migration | - | - | - | - | NA | NA | 19,000 | RES |
| GW (livestock) | - | - | - | - | - | - | - | - |
| GW (aquatic life) | NC | NC | NC | NC | RES | RES | NA | NA |
| management limit | - | - | - | - | 800 | 1,000 | 5,000 | 10,000 |

Notes:

NA = Not applicable. Calculated value exceeds 1,000,000 mg/kg or pathway excluded.

RES = Residual PHC formation. Calculated value exceeds 30,000 mg/kg and solubility limit.

NC = Not calculated. Insufficient data to allow derivation.

- = no value available

**Bold** = applicable guideline

Grey = Excluded pathway

**Table B-2: Modified Tier 2 Guideline Summary - CCME Commercial Fine-Grained (Subsoil)**

| Parameter | B | T | E | X | F1 | F2 | F3 | F4 |
|---|---|---|---|---|---|---|---|---|
| Tier 1 | 0.0068 | 0.08 | 0.018 | 2.4 | 170 | 230 | 5,000 | 10,000 |
| Tier 2 (site specific) | 620 | 660 | 860 | 460 | 800 | 1,000 | 5,000 | 10,000 |
| **Human Health $10^{-5}$** | | | | | | | | |
| soil ingestion | NC | NC | NC | NC | NA | NA | NA | RES |
| soil dermal contact | NC | NC | NC | NC | | | | |
| soil inhalation | NC | NC | NC | NC | - | - | - | - |
| vapour indoor air (basement) | - | - | - | - | 4,600 | 23,000 | NA | NA |
| vapour indoor air (slab on grade) | 2.9 | 13,000 | 6,700 | 1,600 | | | | |
| off-site migration | - | - | - | - | - | - | - | - |
| GW (potable) | 0.0068 | 0.08 | 0.018 | 2.4 | 170 | 230 | NA | NA |
| produce, meat and milk | - | - | - | - | - | - | - | - |
| **Environmental Risk** | | | | | | | | |
| soil dermal contact | **620** | **660** | **860** | **460** | NA | NA | NA | NA |
| soil and food ingestion | - | - | - | - | - | - | - | - |
| nutrient and energy cycling | NC | NC | NC | NC | NC | NC | NC | NC |
| offsite migration | - | - | - | - | NA | NA | 19,000 | NA |
| GW (livestock) | - | - | - | - | - | - | - | - |
| GW (aquatic life) | NC | NC | NC | NC | RES | RES | NA | NA |
| management limit | - | - | - | - | **800** | **1,000** | **5,000** | **10,000** |

Notes:

NA = Not applicable. Calculated value exceeds 1,000,000 mg/kg or pathway excluded.

RES = Residual PHC formation. Calculated value exceeds 30,000 mg/kg and solubility limit.

NC = Not calculated. Insufficient data to allow derivation.

- = no value available

**Bold** = applicable guideline

Grey = Excluded pathway

Based on the soil vapour assessment, the remedial design will be modified as follows:

- Benzene impacted soil (based on indoor air vapour guideline values), that is not co-located with other contaminants requiring remediation, unless driven by a pathway other than indoor air, will be left in place. This is a result of the modeling indicating there is negligible exposure risk from soil vapours and benzene concentrations do not exceed remedial criteria for any other applicable exposure pathway.
- For conservative purposes and to reduce potential re-development restrictions, surface soil benzene criteria for the remediation included the vapour intrusion pathway.
- Subsoil benzene criteria for the remediation was set to maximum soil concentration observed in the area of vapour monitoring used to inform the model (12 mg/kg).
    - Note the limit of 12 mg/kg for benzene left in place in subsoil was not specifically identified in the approved RP which instead eliminated the vapour intrusion pathway in the vapour assessment area.

To be conservative this limit was used as soils with greater benzene concentrations may represent greater vapour intrusion risk than the area where the vapour investigation was performed.

- Additionally, the 12 mg/kg limit was applied to subsoil through out the Site as the vapour assessment was performed in the identified worst case area of the for benzene soil concentrations, and the excavation areas were backfilled with equivalent fine grained soil by the same methods. Therefore vapour attenuation in these areas is considered to be similar to the vapour assessment area. Soils with benzene concentrations below those observed in the vapour assessment area were not considered a vapour intrusion risk.

**Table B-3: VAPOUR INTRUSION MODEL - SOIL VAPOUR (FINE GRAINED SOIL)**

**Chemical Properties**

| Name | Units | Benzene | Toluene | Ethylbenzene | Xylenes | Aliphatic C6-C8 | Aliphatic C>8-C10 | Aromatic C>8-C10 | F1 | Aliphatic C>10-C12 | Aliphatic C>12-C16 | Aromatic C>10-C12 | Aromatic C>12-C16 | F2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Threshold / Non-Threshold | N/A | Non-Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold |
| Risk-Specific Concentration (RsC) or Tolerable Concentration (TC) | $mg/m^3$ | 0.003 | 3.8 | 1 | 0.18 | 1.84E+01 | 1.00E+00 | 2.00E-01 | - | 1.00E+00 | 1.00E+00 | 2.00E-01 | 2.00E-01 | - |
| Background Air Concentration | $mg/m^3$ | NA | 0.0442 | 0.0075 | 0.00182 | 9.11E-02 | 3.88E-02 | 3.75E-02 | - | 0 | 0 | 0 | 0 | - |
| Background Soil Concentration | (mg/kg) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - |
| Soil Allocation Factor (SAF) | N/A | NA | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | - | 0.5 | 0.5 | 0.5 | 0.5 | - |
| **Exposure Term** | N/A | 1 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 |

**Site Specific Soil Vapour Sampling Results**

| Sample Results | Date | Units | Benzene | Toluene | Ethylbenzene | Total Xylenes | Aliphatic >C6-C8 | Aromatic >C8-C10 | Aliphatic >C8-C10 | F1 | Aliphatic >C10-C12 | Aliphatic >C12-C16 | Aromatic >C10-C12 | Aromatic >C12-C16 | F2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VW18-1 | 11/29/2018 | $mg/m^3$ | 52 | 8.15 | 41.4 | 281 | 42,400 | 462 | 1,430 | 47,100 | 70.1 | <15 | 237 | <15 | 407 |
| VW18-2 | 11/29/2018 | $mg/m^3$ | 2.9 | <0.8 | 2.18 | 202 | 7,870 | 239 | 681 | 9,070 | 96.9 | <2.5 | 155 | <2.5 | 359 |
| VW18-3 | 11/29/2018 | $mg/m^3$ | <0.0034 | <0.011 | 0.032 | 0.337 | 10.7 | 1.53 | 2.52 | 15.8 | 0.971 | 0.099 | 1.55 | 0.097 | 5.02 |
| VW18-4 | 11/29/2018 | $mg/m^3$ | 0.0008 | 0.0019 | 0.0031 | 0.043 | 1.09 | 0.241 | 0.407 | 1.9 | 0.306 | 0.386 | 0.362 | 0.0915 | 2.28 |
| VW18-1 | 02/21/2020 | $mg/m^3$ | 39.9 | <9.7 | <9.7 | 79.4 | 37,300 | 847 | 94.4 | 26,900 | <30 | <30 | <30 | <30 | 58.8 |
| VW18-1 (Duplicate) | 02/21/2020 | $mg/m^3$ | 26.4 | <8.9 | <8.9 | 76.7 | 24,100 | 1400 | 197 | 19,300 | <28 | <28 | 95.9 | <28 | 147 |
| VW18-2 | 02/21/2020 | $mg/m^3$ | <0.0038 | <0.012 | <0.012 | <0.017 | 10.7 | 5.23 | <0.038 | 11.8 | 8.03 | 0.188 | 0.053 | <0.038 | 5.72 |
| **Maximum** | | $mg/m^3$ | 52 | 8.15 | 41.4 | 281 | 42,400 | 462 | 1,430 | 47100 | 96.9 | 30 | 237 | 30 | 407 |

**Site Specific Indoor Air Concentration Calculation and Risk Evaluation**

Based on CCME Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document, January 2008
Soil gas to indoor air dilution factor (DF) as a function of depth/distance from building to contamination.

| Depth to Contamination | DF | Units | Benzene | Toluene | Ethylbenzene | Total Xylenes | Aliphatic >C6-C8 | Aromatic >C8-C10 | Aliphatic >C8-C10 | F1 | Aliphatic >C10-C12 | Aliphatic >C12-C16 | Aromatic >C10-C12 | Aromatic >C12-C16 | F2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 cm | 62,935 | $mg/m^3$ | 8.26E-04 | 1.29E-04 | 6.58E-04 | 4.46E-03 | 6.74E-01 | 7.34E-03 | 2.27E-02 | 7.48E-01 | 1.54E-03 | 4.77E-04 | 3.77E-03 | 4.77E-04 | 6.47E-03 |
| 100 cm | 64,190 | $mg/m^3$ | 8.10E-04 | 1.27E-04 | 6.45E-04 | 4.38E-03 | 6.61E-01 | 7.20E-03 | 2.23E-02 | 7.34E-01 | 1.51E-03 | 4.67E-04 | 3.69E-03 | 4.67E-04 | 6.34E-03 |
| 200 cm | 65,983 | $mg/m^3$ | 7.88E-04 | 1.24E-04 | 6.27E-04 | 4.26E-03 | 6.43E-01 | 7.00E-03 | 2.17E-02 | 7.14E-01 | 1.47E-03 | 4.55E-04 | 3.59E-03 | 4.55E-04 | 6.17E-03 |
| 300 cm | 67,777 | $mg/m^3$ | 7.67E-04 | 1.20E-04 | 6.11E-04 | 4.15E-03 | 6.26E-01 | 6.82E-03 | 2.11E-02 | 6.95E-01 | 1.43E-03 | 4.43E-04 | 3.50E-03 | 4.43E-04 | 6.00E-03 |
| Adjustment Factor | | N/A | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Adjusted Indoor Air Concentration | | $mg/m^3$ | 8.26E-05 | 1.29E-05 | 6.58E-05 | 4.46E-04 | 6.74E-02 | 7.34E-04 | 2.27E-03 | 7.48E-02 | 1.54E-04 | 4.77E-05 | 3.77E-04 | 4.77E-05 | 6.47E-04 |
| Soil Allocation Factor | | N/A | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Mass Fraction in Soil Vapour (fine-grained site) | | N/A | N/A | N/A | N/A | N/A | 8.40E-01 | 1.55E-01 | 5.00E-03 | N/A | 7.66E-01 | 2.07E-01 | 2.25E-02 | 5.30E-03 | N/A |
| Hazard Quotient | | N/A | 2.75E-02 | 1.87E-06 | 3.61E-05 | 1.36E-03 | 2.01E-03 | 4.03E-04 | 6.24E-03 | 1.25E-03 | 8.46E-05 | 2.62E-05 | 1.03E-03 | 1.31E-04 | 5.88E-05 |
| Indoor Vapour Risk | | N/A | No | No | No | No | No | No | No | No | No | No | No | No | No |

Notes:
1. Calculation performed on sample exhibiting the highest concentration. Wjhere a none detect value exceeded detected concentration the unmodified non-detected values was used.
2. Indoor air concentration values derived by dividing result concentration by the commercial, slab-on-grade dilution factor, for fine-grained soil, adopted from *CCME Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document* , January 2008
3. Toxicity Reference Values, Tolerable Concentration (TC) for PHC Fractions adopted from values publised in CCME, 2008, *Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document,* January 2008
4. Toxicity Reference Values, Risk-Specific Concentration (RsC) or Tolerable Concentration (TC) for Benzene, Toluene, Xylene, adopted from values publised in Health Canada, 2004, *Federal Contaminated Site Risk Assessment in Canada. Part II: Health Canada Toxicological Reference Values (TRVs)* .
5. Toxicity Reference Values, Tolerable Concentration (TC) for Ethylbenzene adopted from values publised in US EPA (United States Environmental Protection Agency), 2006. *Integrated Risk Information System (IRIS) On-Line Database* available at www.epa.gov/iris
6. Hazard Quotient derived by summing the fractions of recommended guidelines for PHC fraction but is considered individually for BTEX parameters. A soil allocation factor of 0.5 has been applied to all threshold substances to account for exposure form other media.
7. Hazard Quotient >1 for BTEX, PHC F1-F2 indicates no indoor air risk (CCME, 2008b).
8. Exposure Term for non-threshold is defaulted as "one" as the exposure time (e.g., 10hr/day, 5 days/week, 48weeks/year for 30-40 years over a lifetime) exceeds the likely latency period for most carcinogens, as explained in Heath Canada - Part I (2004).
9. Background Air Concentration and Soil Allocation Factor (SAF) are not applicable to non-threshold contaminants (CCME, 2006).

**Table B-4: VAPOUR INTRUSION MODEL - SOIL VAPOUR (COARSE GRAINED SOIL)**

**Chemical Properties**

| Name | Units | Benzene | Toluene | Ethylbenzene | Xylenes | Aliphatic C6-C8 | Aliphatic C>8-C10 | Aromatic C>8-C10 | F1 | Aliphatic C>10-C12 | Aliphatic C>12-C16 | Aromatic C>10-C12 | Aromatic C>12-C16 | F2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Threshold / Non-Threshold | N/A | Non-Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold | Threshold |
| Risk-Specific Concentration (RsC) or Tolerable Concentration (TC) | ($mg/m^3$) | 0.003 | 3.8 | 1 | 0.18 | 18.4 | 1 | 0.2 | - | 1 | 1 | 0.2 | 0.2 | - |
| Background Air Concentration | ($mg/m^3$) | | 0.0442 | 0.0075 | 0.00182 | 0.0911 | 0.0388 | 0.0375 | - | 0 | 0 | 0 | 0 | - |
| Background Soil Concentration | (mg/kg) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | 0 | - |
| Soil Allocation Factor (SAR) | N/A | | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | - | 0.5 | 0.5 | 0.5 | 0.5 | - |
| **Exposure Term** | N/A | 1 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 | 0.2747 |

**Site Specific Soil Vapour Sampling Results**

| Sample | Date | Units | Benzene | Toluene | Ethylbenzene | Total Xylenes | Aliphatic >C6-C8 | Aromatic >C8-C10 | Aliphatic >C8-C10 | F1 | Aliphatic >C10-C12 | Aliphatic >C12-C16 | Aromatic >C10-C12 | Aromatic >C12-C16 | F2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VW18-1 | 11/29/2018 | ($mg/m^3$) | 52 | 8.15 | 41.4 | 281 | 42,400 | 462 | 1,430 | 47100 | 70.1 | <15 | 237 | <15 | 407 |
| VW18-2 | 11/29/2018 | ($mg/m^3$) | 2.9 | <0.8 | 2.18 | 202 | 7,870 | 239 | 681 | 9070 | 96.9 | <2.5 | 155 | <2.5 | 359 |
| VW18-3 | 11/29/2018 | ($mg/m^3$) | <0.0034 | <0.011 | 0.032 | 0.337 | 10.7 | 1.53 | 2.52 | 15.8 | 0.971 | 0.099 | 1.55 | 0.097 | 5.02 |
| VW18-4 | 11/29/2018 | ($mg/m^3$) | 0.0008 | 0.0019 | 0.0031 | 0.043 | 1.09 | 0.241 | 0.407 | 1.9 | 0.306 | 0.386 | 0.362 | 0.0915 | 2.28 |
| VW18-1 | 02/21/2020 | ($mg/m^3$) | 39.9 | <9.7 | <9.7 | 79.4 | 37,300 | 847 | 94.4 | 26900 | <30 | <30 | <30 | <30 | 58.8 |
| VW18-1 (Duplicate) | 02/21/2020 | ($mg/m^3$) | 26.4 | <8.9 | <8.9 | 76.7 | 24,100 | 1,400 | 197 | 19300 | <28 | <28 | 95.9 | <28 | 147 |
| VW18-2 | 02/21/2020 | ($mg/m^3$) | <0.0038 | <0.012 | <0.012 | <0.017 | 10.7 | 5.23 | <0.038 | 11.8 | 8.03 | 0.188 | 0.053 | <0.038 | 5.72 |
| **Maximum** | | ($mg/m^3$) | 52 | 8.15 | 41.4 | 281 | 42,400 | 462 | 1,430 | 47100 | 96.9 | 30 | 237 | 30 | 407 |

**Site Specific Indoor Air Concentration Calculation and Risk Evaluation**

Based on CCME Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document, January 2008

Soil gas to indoor air dilution factor (DF) as a function of depth/distance from building to contamination.

| Depth to Contamination | DF | Units | Benzene | Toluene | Ethylbenzene | Total Xylenes | Aliphatic >C6-C8 | Aromatic >C8-C10 | Aliphatic >C8-C10 | F1 | Aliphatic >C10-C12 | Aliphatic >C12-C16 | Aromatic >C10-C12 | Aromatic >C12-C16 | F2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 cm | 4,605 | ($mg/m^3$) | 1.13E-02 | 1.77E-03 | 8.99E-03 | 6.10E-02 | 9.21E+00 | 1.00E-01 | 3.11E-01 | 1.02E+01 | 2.10E-02 | 6.51E-03 | 5.15E-02 | 6.51E-03 | 8.84E-02 |
| 100 cm | 6,167 | ($mg/m^3$) | 8.43E-03 | 1.32E-03 | 6.71E-03 | 4.56E-02 | 6.88E+00 | 7.49E-02 | 2.32E-01 | 7.64E+00 | 1.57E-02 | 4.86E-03 | 3.84E-02 | 4.86E-03 | 6.60E-02 |
| 200 cm | 8,399 | ($mg/m^3$) | 6.19E-03 | 9.70E-04 | 4.93E-03 | 3.35E-02 | 5.05E+00 | 5.50E-02 | 1.70E-01 | 5.61E+00 | 1.15E-02 | 3.57E-03 | 2.82E-02 | 3.57E-03 | 4.85E-02 |
| 300 cm | 10,630 | ($mg/m^3$) | 4.89E-03 | 7.67E-04 | 3.89E-03 | 2.64E-02 | 3.99E+00 | 4.35E-02 | 1.35E-01 | 4.43E+00 | 9.12E-03 | 2.82E-03 | 2.23E-02 | 2.82E-03 | 3.83E-02 |
| Adjustment Factor | | N/A | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Adjusted Indoor Air Concentration | | ($mg/m^3$) | 8.43E-04 | 1.77E-04 | 8.99E-04 | 6.10E-03 | 9.21E-01 | 1.00E-02 | 3.11E-02 | 1.02E+00 | 2.10E-03 | 6.51E-04 | 5.15E-03 | 6.51E-04 | 8.84E-03 |
| Soil Allocation Factor | | N/A | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Mass Fraction in Soil Vapour (coarse-grained site) | | N/A | N/A | N/A | N/A | N/A | 0.8531 | 0.1424 | 0.0045 | N/A | 0.7666 | 0.2056 | 0.0225 | 0.0052 | N/A |
| Hazard Quotient | | N/A | 2.81E-01 | 2.56E-05 | 4.94E-04 | 1.86E-02 | 2.75E-02 | 5.51E-03 | 8.53E-02 | 1.76E-02 | 1.16E-03 | 3.58E-04 | 1.41E-02 | 1.79E-03 | 8.05E-04 |
| Indoor Vapour Risk | | N/A | No | No | No | No | No | No | No | No | No | No | No | No | No |

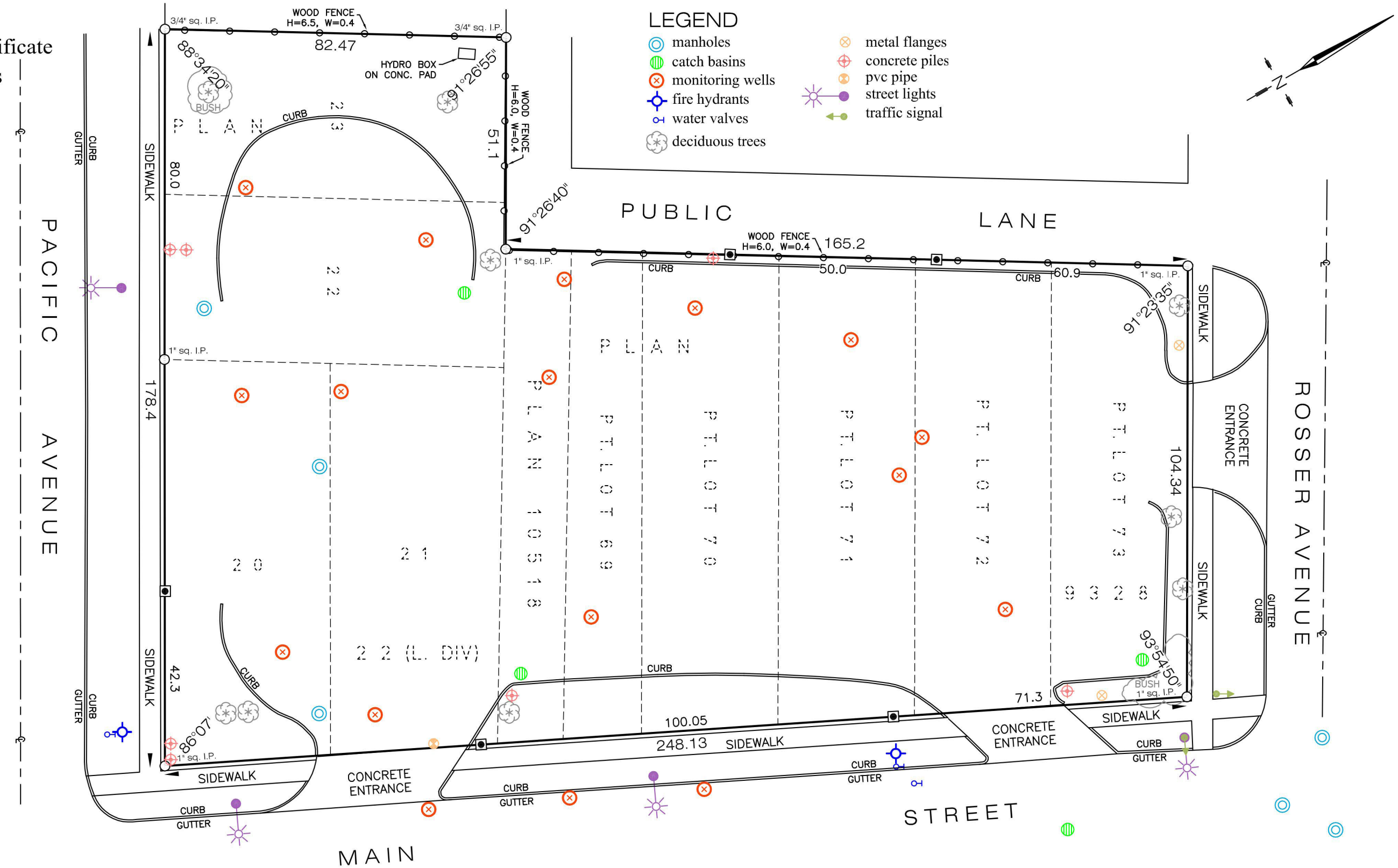
Notes:

1. Calculation performed on sample exhibiting the highest concentration. Where a none detect value exceeded detected concentration the unmodified non-detected values was used.
2. Indoor air concentration values derived by dividing result concentration by the commercial, slab-on-grade dilution factor, for fine-grained soil, adopted from *CCME Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document*, January 2008
3. Toxicity Reference Values, Tolerable Concentration (TC) for PHC Fractions adopted from values published in CCME, 2008, *Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil: Scientific Rationale Supporting Technical Document,* January 2008
4. Toxicity Reference Values, Risk-Specific Concentration (RsC) or Tolerable Concentration (TC) for Benzene, Toluene, Xylene, adopted from values published in Health Canada, 2004, *Federal Contaminated Site Risk Assessment in Canada. Part II: Health Canada Toxicological Reference Values (TRVs)*.
5. Toxicity Reference Values, Tolerable Concentration (TC) for Ethylbenzene adopted from values published in US EPA (United States Environmental Protection Agency), 2006. *Integrated Risk Information System (IRIS) On-Line Database* available at www.epa.gov/iris
6. Hazard Quotient derived by summing the fractions of recommended guidelines for PHC fraction but is considered individually for BTEX parameters. A soil allocation factor of 0.5 has been applied to all threshold substances to account for exposure form other media.
7. Hazard Quotient >1 for BTEX, PHC F1-F2 indicates no indoor air risk.
8. Exposure Term for non-threshold is defaulted as "one" as the exposure time (e.g., 10hr/day, 5 days/week, 48weeks/year for 30-40 years over a lifetime) exceeds the likely latency period for most carcinogens, as explained in Heath Canada - Part I (2004)

# Appendix C

## Site Survey Plan

Sketch of
Surveyor's Staking Certificate
showing Certain Features
287 Main Street
Selkirk, Manitoba

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298 Fort Street
Winnipeg, Manitoba
R3C 1E5

180-A, 5th Street
Morden, Manitoba
R6M 1C9

Our File: 10-1122
Acad dwg: 10-1122 SKETCH
Field Book: 1136/28-33_BD
Drafter: HT

Iron Posts found and confirmed are described and shown thus _____○
1/2" x 1/2" x 18" iron posts are placed at all points shown thus _____▣

SKETCH - all distances are in feet and decimals of a foot.
This survey was made on the 23rd day of July, 2013.

Signed & Sealed

Jesse P.S. Carels, M.L.S.
Dated this
26th day of July, 2013

©Barnes & Duncan, 2013
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# Appendix D

## Waste Disposal Tickets

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287671** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 9:41 am | 9/8/20 10:12 am | D&DPDP840 | 40 YARD | PDP 840 |

| REFERENCE | ORIGIN |
|---|---|
| 278699 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 38,230 kg Scale In
TARE 16,420 kg Scale Out
NET 21,810 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 21.81 | MT | Contaminated Soil | 40 | $15.00 | 16.36 | $ 343.51 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.19 | $ 3.89 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$347.40
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287661** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 9:10 am | 9/8/20 9:52 am | D&DPEC572 | 40 YARD | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278696 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 35,900 kg Scale In
TARE 15,640 kg Scale Out
NET 20,260 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 20.26 | MT | Contaminated Soil | 40 | $15.00 | 15.20 | $ 319.10 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.17 | $ 3.60 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$322.70
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Carey Kolb

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287750** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 11:42 am | 9/8/20 11:42 am | D&DPDP840 | 10 YARI | PDP 840 |

| REFERENCE | ORIGIN |
|---|---|
| 278688 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 37,900 kg Scale In
TARE 16,260 kg Tare Out
NET 21,640 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 21.64 | MT | Contaminated Soil | 10 | $15.00 | $ 16.23 | $340.83 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.18 | $3.85 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$344.68
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287796** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 1:05 pm | 9/8/20 1:05 pm | D&DPBX837 | 40 YARI | |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,130 kg Scale In
TARE 16,740 kg Tare Out
NET 27,390 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.39 | MT | Contaminated Soil | 40 | $15.00 | $ 20.54 | $431.39 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.87 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$436.26
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287786** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 12:51 pm | 9/8/20 12:51 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 35,520 kg Scale In
TARE 17,250 kg Tare Out
NET 18,270 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 18.27 | MT | Contaminated Soil | | $15.00 | $ 13.70 | $287.75 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.16 | $3.26 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$291.01
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Corey Kalk

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287739** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 11:10 am | 9/8/20 11:27 am | CASH LANDFILL WE | | |

| REFERENCE | ORIGIN |
|---|---|
| 278687 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 36,170 kg Scale In
TARE 15,600 kg Scale Out
NET 20,570 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 20.57 | MT | Contaminated Soil | | $15.00 | 15.43 | $ 323.98 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.17 | $ 3.66 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$327.64
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Tony Kolk

**DISTRICT COPY**

$0.00

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287807** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 1:20 pm | 9/8/20 1:20 pm | D&DPDP840 | 40 YARI | PDP 840 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 37,620 kg Scale In
TARE 16,260 kg Tare Out
NET 21,360 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 21.36 | MT | Contaminated Soil | 40 | $15.00 | $ 16.02 | $336.42 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.18 | $3.80 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$340.22
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287745** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 11:36 am | 9/8/20 11:36 am | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,850 kg Scale In
TARE 17,630 kg Tare Out
NET 26,220 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.22 | MT | Contaminated Soil | | $15.00 | 19.67 | $ 412.97 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.22 | $ 4.66 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$417.63
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287803** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 1:14 pm | 9/8/20 1:14 pm | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 45,220 kg Scale In
TARE 17,630 kg Tare Out
NET 27,590 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.59 | MT | Contaminated Soil | 40 | $15.00 | $ 20.69 | $434.54 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.91 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$439.45
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287860** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 2:40 pm | 9/8/20 2:40 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 36,940 kg Scale In
TARE 17,250 kg Tare Out
NET 19,690 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 19.69 | MT | Contaminated Soil | | $15.00 | $ 14.77 | $310.12 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.17 | $3.51 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$313.63
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Carey Kolb

$0.00

CUSTOMER COPY

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287668** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 9:33 am | 9/8/20 10:01 am | D&DPDT169 | 40 YARD | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| 278698 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 41,900 kg Scale In
TARE 17,840 kg Scale Out
NET 24,060 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 24.06 | MT | Contaminated Soil | 40 | $15.00 | $ 18.05 | $378.95 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.28 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$383.23
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287740** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 11:27 am | 9/8/20 11:27 am | D&DPBX837 | 40 YARI | |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,710 kg Scale In
TARE 16,740 kg Tare Out
NET 26,970 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.97 | MT | Contaminated Soil | 40 | $15.00 | $ 20.23 | $424.78 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.80 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$429.58
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287664** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 9:25 am | 9/8/20 9:55 am | D&DPBX837 | 40 YARI | |

| REFERENCE | ORIGIN |
|---|---|
| 278697 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 42,540 kg Scale In
TARE 18,530 kg Scale Out
NET 24,010 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 24.01 | MT | Contaminated Soil | 40 | $15.00 | $ 18.01 | $378.16 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.27 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$382.43
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287902** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 4:10 pm | 9/8/20 4:10 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 35,490 kg Scale In
TARE 17,250 kg Tare Out
NET 18,240 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 18.24 | MT | Contaminated Soil | | $15.00 | $ 13.68 | $287.28 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.15 | $3.24 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$290.52
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287870** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 2:58 pm | 9/8/20 2:58 pm | D&DPDP840 | | PDP 840 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 39,710 kg Scale In
TARE 16,260 kg Tare Out
NET 23,450 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.45 | MT | Contaminated Soil | | $15.00 | $ 17.59 | $369.34 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.17 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$373.51
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287876** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 3:09 pm | 9/8/20 3:09 pm | D&DPBX837 | 40 YARI | |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 44,640 kg Scale In
TARE 16,740 kg Tare Out
NET 27,900 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.90 | MT | Contaminated Soil | 40 | $15.00 | $ 20.93 | $439.43 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $4.97 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$444.40
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1287868** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/8/20 2:54 pm | 9/8/20 2:54 pm | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,860 kg Scale In
TARE 17,630 kg Tare Out
NET 27,230 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.23 | MT | Contaminated Soil | | $15.00 | $ 20.42 | $428.87 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.85 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$433.72
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

CUSTOMER COPY

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288259** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/9/20 3:32 pm | 9/9/20 3:32 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278690 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 42,100 kg Scale In
TARE 17,250 kg Tare Out
NET 24,850 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 24.85 | MT | Contaminated Soil | | $15.00 | $ 18.64 | $391.39 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.21 | $4.42 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$395.81
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288157** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/9/20 12:08 pm | 9/9/20 12:08 pm | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278693 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 41,670 kg Scale In
TARE 17,250 kg Tare Out
NET 24,420 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 24.42 | MT | Contaminated Soil | 40 | $15.00 | 18.32 | $ 384.62 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.21 | $ 4.35 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$388.97
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Tony Kalk

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288022** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/9/20 8:57 am | 9/9/20 8:57 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278692 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 41,510 kg Scale In
TARE 17,250 kg Tare Out
NET 24,260 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 24.26 | MT | Contaminated Soil | 40 | $15.00 | $ 18.20 | $382.10 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.21 | $4.32 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$386.42
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Corey Kalk

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288083** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/9/20 10:31 am | 9/9/20 10:31 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278981 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 40,800 kg Scale In
TARE 17,250 kg Tare Out
NET 23,550 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.55 | MT | Contaminated Soil | 40 | $15.00 | $ 17.66 | $370.91 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.19 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$375.10
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Larry Kalk

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288211** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/9/20 1:54 pm | 9/9/20 1:54 pm | D&DPEC572 | 60 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278694 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 40,720 kg Scale In
TARE 17,250 kg Tare Out
NET 23,470 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.47 | MT | Contaminated Soil | 60 | $15.00 | $ 17.60 | $369.65 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.18 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$373.83
$0.00

$0.0

certify that this load does not contain any

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288639** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/10/20 3:28 pm | 9/10/20 3:28 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278486 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,450 kg Scale In
TARE 17,250 kg Tare Out
NET 28,200 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.20 | MT | Contaminated Soil | | $15.00 | $ 21.15 | $444.15 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.02 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$449.17
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288573** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/10/20 1:32 pm | 9/10/20 1:32 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,900 kg Scale In
TARE 17,250 kg Tare Out
NET 28,650 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.65 | MT | Contaminated Soil | | $15.00 | 21.49 | $ 451.24 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.24 | $ 5.10 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$456.34
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288504** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/10/20 11:52 am | 9/10/20 11:52 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,970 kg Scale In
TARE 17,250 kg Tare Out
NET 27,720 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.72 | MT | Contaminated Soil | 40 | $15.00 | $ 20.79 | $436.59 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $4.94 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$441.53
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288382** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/10/20 8:37 am | 9/10/20 8:37 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 42,420 kg Scale In
TARE 17,250 kg Tare Out
NET 25,170 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 25.17 | MT | Contaminated Soil | 40 | $15.00 | 18.88 | $ 396.43 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.21 | $ 4.48 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$400.91
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288451** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/10/20 10:16 am | 9/10/20 10:16 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,660 kg Scale In
TARE 17,250 kg Tare Out
NET 27,410 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.41 | MT | Contaminated Soil | 40 | $15.00 | $ 20.56 | $431.71 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.88 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$436.59
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

| SITE | TICKET # | | OPERATOR | |
|---|---|---|---|---|
| 01 | **1288906** | | tchowdhury | |
| IN | OUT | TRUCK | CONT. | LICENCE |
| 9/11/20 1:53 pm | 9/11/20 1:53 pm | D&DPDT169 | 60 YARI | PDT 169 |
| REFERENCE | | | ORIGIN | |
| 278478 | | | | |

GROSS 45,530 kg Scale In
TARE 17,630 kg Tare Out
NET 27,900 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.90 | MT | Contaminated Soil | 60 | $15.00 | $ 20.93 | $439.43 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $4.97 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$444.40
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288904** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 1:39 pm | 9/11/20 1:39 pm | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278990 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 46,310 kg Scale In
TARE 17,250 kg Tare Out
NET 29,060 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 29.06 | MT | Contaminated Soil | 40 | $15.00 | $ 21.80 | $457.70 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.25 | $5.18 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$462.88
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:** Larry Kalb

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288866** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 12:09 pm | 9/11/20 12:09 pm | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,610 kg Scale In
TARE 17,250 kg Tare Out
NET 27,360 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.36 | MT | Contaminated Soil | 40 | $15.00 | $ 20.52 | $430.92 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.87 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$435.79
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Corey Kalk

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288755** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 8:44 am | 9/11/20 8:44 am | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,030 kg Scale In
TARE 17,630 kg Tare Out
NET 27,400 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.40 | MT | Contaminated Soil | 40 | $15.00 | $ 20.55 | $431.55 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.87 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$436.42
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

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**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288944** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 3:15 pm | 9/11/20 3:15 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278989 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 46,630 kg Scale In
TARE 17,250 kg Tare Out
NET 29,380 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 29.38 | MT | Contaminated Soil | | $15.00 | $ 22.04 | $462.74 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.25 | $5.23 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$467.97
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:** Corey Kalk

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**RECYCLERY**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 02 | **657064** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 3:33 pm | 9/11/20 3:33 pm | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| 278483 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 46,030 kg Scale In
TARE 17,630 kg Tare Out
NET 28,400 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.40 | MT | Contaminated Soil | | $15.00 | $ 21.30 | $447.30 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.05 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$452.35
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288859** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 12:03 pm | 9/11/20 12:03 pm | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 46,050 kg Scale In
TARE 17,630 kg Tare Out
NET 28,420 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.42 | MT | Contaminated Soil | 40 | $15.00 | $ 21.32 | $447.62 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.06 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$452.68
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288809** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 10:26 am | 9/11/20 10:26 am | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,710 kg Scale In
TARE 17,630 kg Tare Out
NET 27,080 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.08 | MT | Contaminated Soil | 40 | $15.00 | 20.31 | $ 426.51 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.23 | $ 4.82 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$431.33
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288813** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 10:33 am | 9/11/20 10:33 am | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 27840 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,820 kg Scale In
TARE 17,250 kg Tare Out
NET 28,570 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.57 | MT | Contaminated Soil | | $15.00 | $ 21.43 | $449.98 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.08 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$455.06
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Larry Kalb

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1288757** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/11/20 8:49 am | 9/11/20 8:49 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,680 kg Scale In
TARE 17,250 kg Tare Out
NET 27,430 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.43 | MT | Contaminated Soil | 40 | $15.00 | $ 20.57 | $432.02 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.88 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$436.90
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289235** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/14/20 9:35 am | 9/14/20 9:35 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 42,980 kg Scale In
TARE 17,250 kg Tare Out
NET 25,730 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 25.73 | MT | Contaminated Soil | 40 | $15.00 | $ 19.30 | $405.25 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.22 | $4.58 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$409.83
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289231** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/14/20 9:25 am | 9/14/20 9:25 am | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,110 kg Scale In
TARE 17,630 kg Tare Out
NET 26,480 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.48 | MT | Contaminated Soil | 40 | $15.00 | $ 19.86 | $417.06 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.22 | $4.71 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$421.77
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289289** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/14/20 11:20 am | 9/14/20 11:20 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,130 kg Scale In
TARE 17,250 kg Tare Out
NET 26,880 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.88 | MT | Contaminated Soil | 40 | $15.00 | $ 20.16 | $423.36 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.79 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$428.15
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:** Tony Kolk

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289286** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/14/20 11:14 am | 9/14/20 11:14 am | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,920 kg Scale In
TARE 17,630 kg Tare Out
NET 28,290 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.29 | MT | Contaminated Soil | 40 | $15.00 | $ 21.22 | $445.57 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.04 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$450.61
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

CUSTOMER COPY

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289356** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/14/20 12:52 pm | 9/14/20 12:52 pm | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 46,590 kg Scale In
TARE 17,630 kg Tare Out
NET 28,960 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.96 | MT | Contaminated Soil | 40 | $15.00 | $ 21.72 | $456.12 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.25 | $5.16 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$461.28
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289361** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/14/20 1:02 pm | 9/14/20 1:02 pm | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,940 kg Scale In
TARE 17,250 kg Tare Out
NET 27,690 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.69 | MT | Contaminated Soil | 40 | $15.00 | $ 20.77 | $436.12 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.92 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$441.04
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289556** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/15/20 8:36 am | 9/15/20 8:36 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,740 kg Scale In
TARE 17,250 kg Tare Out
NET 26,490 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.49 | MT | Contaminated Soil | 40 | $15.00 | $ 19.87 | $417.22 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.22 | $4.71 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$421.93
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289622** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/15/20 10:10 am | 9/15/20 10:10 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278782 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,600 kg Scale In
TARE 17,250 kg Tare Out
NET 28,350 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.35 | MT | Contaminated Soil | 40 | $15.00 | $ 21.26 | $446.51 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.05 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$451.56
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289674** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/15/20 11:52 am | 9/15/20 11:52 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,450 kg Scale In
TARE 17,250 kg Tare Out
NET 27,200 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.20 | MT | Contaminated Soil | 40 | $15.00 | $ 20.40 | $428.40 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.84 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$433.24
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289738** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/15/20 1:39 pm | 9/15/20 1:39 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278779 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 42,830 kg Scale In
TARE 17,250 kg Tare Out
NET 25,580 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 25.58 | MT | Contaminated Soil | | $15.00 | $ 19.19 | $402.89 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.22 | $4.56 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$407.45
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289805** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/15/20 3:16 pm | 9/15/20 3:16 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278780 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 44,660 kg Scale In
TARE 17,250 kg Tare Out
NET 27,410 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.41 | MT | Contaminated Soil | | $15.00 | $ 20.56 | $431.71 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.88 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$436.59
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290038** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/16/20 11:42 am | 9/16/20 11:42 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,180 kg Scale In
TARE 17,250 kg Tare Out
NET 27,930 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.93 | MT | Contaminated Soil | 40 | $15.00 | $ 20.95 | $439.90 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $4.97 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$444.87
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290110** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/16/20 1:36 pm | 9/16/20 1:36 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278786 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,740 kg Scale In
TARE 17,250 kg Tare Out
NET 28,490 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.49 | MT | Contaminated Soil | | $15.00 | $ 21.37 | $448.72 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.07 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$453.79
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289930** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/16/20 8:29 am | 9/16/20 8:29 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,720 kg Scale In
TARE 17,250 kg Tare Out
NET 27,470 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.47 | MT | Contaminated Soil | 40 | $15.00 | $ 20.60 | $432.65 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.89 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$437.54
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1289980** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/16/20 10:03 am | 9/16/20 10:03 am | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 45,390 kg Scale In
TARE 17,250 kg Tare Out
NET 28,140 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.14 | MT | Contaminated Soil | | $15.00 | $ 21.11 | $443.21 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.01 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$448.22
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290159** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/16/20 3:20 pm | 9/16/20 3:20 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278787 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,780 kg Scale In
TARE 17,250 kg Tare Out
NET 26,530 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.53 | MT | Contaminated Soil | | $15.00 | $ 19.90 | $417.85 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.73 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$422.58
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290505** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 3:02 pm | 9/17/20 3:18 pm | D&DPEA725 | | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| 278795 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 36,420 kg Scale In
TARE 15,760 kg Scale Out
NET 20,660 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 20.66 | MT | Contaminated Soil | | $15.00 | $ 15.50 | $325.40 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.18 | $3.68 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$329.08
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290492** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 2:50 pm | 9/17/20 2:50 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278794 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,100 kg Scale In
TARE 17,250 kg Tare Out
NET 26,850 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.85 | MT | Contaminated Soil | | $15.00 | $ 20.14 | $422.89 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.78 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$427.67
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290504** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 3:14 pm | 9/17/20 3:14 pm | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| 278796 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 45,990 kg Scale In
TARE 17,630 kg Tare Out
NET 28,360 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.36 | MT | Contaminated Soil | | $15.00 | $ 21.27 | $446.67 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.05 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$451.72
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290273** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 8:27 am | 9/17/20 8:27 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

GROSS 40,130 kg Scale In
TARE 17,250 kg Tare Out
NET 22,880 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 22.88 | MT | Contaminated Soil | 40 | $15.00 | $ 17.16 | $360.36 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.19 | $4.07 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$364.43
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Larry Kelk

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290279** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 8:41 am | 9/17/20 8:41 am | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,280 kg Scale In
TARE 17,630 kg Tare Out
NET 25,650 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 25.65 | MT | Contaminated Soil | 40 | $15.00 | $ 19.24 | $403.99 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.22 | $4.57 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$408.56
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290282** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 8:46 am | 9/17/20 8:46 am | D&DPEA725 | 40 YARI | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 35,810 kg Scale In
TARE ~~17,750 kg Tare Out~~ 15840
NET 18,060 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 18.06 | MT | Contaminated Soil | 40 | $15.00 | $ 13.55 | $284.45 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.15 | $3.21 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$287.66
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290331** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 10:10 am | 9/17/20 10:10 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 40,890 kg Scale In
TARE 17,250 kg Tare Out
NET 23,640 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.64 | MT | Contaminated Soil | 40 | $15.00 | $ 17.73 | $372.33 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.21 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$376.54
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290340** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 10:22 am | 9/17/20 10:22 am | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,510 kg Scale In
TARE 17,630 kg Tare Out
NET 26,880 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.88 | MT | Contaminated Soil | 40 | $15.00 | $ 20.16 | $423.36 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.79 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$428.15
$0.00

$0.00

I hereby certify that this load does not contain any

SIGNATURE:

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290344** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 10:28 am | 9/17/20 10:28 am | D&DPEA725 | 40 YARI | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 36,000 kg Scale In
TARE 15,840 kg Manual Out
NET 20,160 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 20.16 | MT | Contaminated Soil | 40 | $15.00 | $ 15.12 | $317.52 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.17 | $3.59 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$321.11
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290391** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 11:43 am | 9/17/20 11:43 am | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 40,300 kg Scale In
TARE 17,250 kg Tare Out
NET 23,050 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.05 | MT | Contaminated Soil | 40 | $15.00 | 17.29 | $ 363.04 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.20 | $ 4.11 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$367.15
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Tanay Kale

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290396** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 11:59 am | 9/17/20 11:59 am | D&DPEA725 | 40 YARI | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 36,160 kg Scale In
TARE 15,840 kg Manual Out
NET 20,320 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 20.32 | MT | Contaminated Soil | 40 | $15.00 | $ 15.24 | $320.04 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.17 | $3.61 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$323.65
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290394** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 11:53 am | 9/17/20 11:53 am | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,350 kg Scale In
TARE 17,630 kg Tare Out
NET 27,720 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.72 | MT | Contaminated Soil | | $15.00 | 20.79 | $ 436.59 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.24 | $ 4.94 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$441.53
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

$0.00

**SIGNATURE:**_____

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290439** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 1:18 pm | 9/17/20 1:18 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 278791 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,990 kg Scale In
TARE 17,250 kg Tare Out
NET 26,740 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.74 | MT | Contaminated Soil | | $15.00 | $ 20.06 | $421.16 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.76 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$425.92
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290445** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 1:26 pm | 9/17/20 1:26 pm | D&DPEA725 | 40 YARI | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| 278792 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 37,630 kg Scale In
TARE ~~17,750~~ kg Tare Out 15,850
NET 19,880 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 19.88 | MT | Contaminated Soil | 40 | $15.00 | $ 14.91 | $313.11 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.17 | $3.54 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$316.65
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290460** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/17/20 1:43 pm | 9/17/20 1:43 pm | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| 278793 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 45,510 kg Scale In
TARE 17,630 kg Tare Out
NET 27,880 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.88 | MT | Contaminated Soil | | $15.00 | $ 20.91 | $439.11 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $4.97 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$444.08
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290632** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 8:50 am | 9/18/20 8:50 am | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 42,560 kg Scale In
TARE 17,250 kg Tare Out
NET 25,310 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 25.31 | MT | Contaminated Soil | | $15.00 | $ 18.98 | $398.63 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.21 | $4.50 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$403.13
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290637** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 8:56 am | 9/18/20 8:56 am | D&DPEA725 | 40 YARI | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 38,370 kg Scale In
TARE 15,840 kg Manual Out
NET 22,530 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 22.53 | MT | Contaminated Soil | 40 | $15.00 | 16.90 | $ 354.85 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.19 | $ 4.01 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$358.86
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290629** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 8:44 am | 9/18/20 8:44 am | D&DPDP840 | 100 YAF | PDP 840 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 40,060 kg Scale In
TARE 16,260 kg Tare Out
NET 23,800 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.80 | MT | Contaminated Soil | 100 | $15.00 | $ 17.85 | $374.85 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.23 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$379.08
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290623** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 8:35 am | 9/18/20 8:35 am | D&DPDT169 | 40 YARI | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 40,700 kg Scale In
TARE 17,630 kg Tare Out
NET 23,070 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.07 | MT | Contaminated Soil | 40 | $15.00 | $ 17.30 | $363.35 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.11 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$367.46
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290667** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 10:15 am | 9/18/20 10:15 am | D&DPDT169 | 100 YAF | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,630 kg Scale In
TARE 17,630 kg Tare Out
NET 26,000 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 26.00 | MT | Contaminated Soil | 100 | $15.00 | $ 19.50 | $409.50 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.22 | $4.63 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$414.13
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290719** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 11:36 am | 9/18/20 11:36 am | D&DPDP840 | 40 YARI | PDP 840 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,150 kg Scale In
TARE 16,260 kg Tare Out
NET 27,890 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.89 | MT | Contaminated Soil | 40 | $15.00 | 20.92 | $ 439.27 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.24 | $ 4.97 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$444.24
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290730** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 11:50 am | 9/18/20 11:50 am | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| 278993 | |

GROSS 46,720 kg Scale In
TARE 17,630 kg Tare Out
NET 29,090 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 29.09 | MT | Contaminated Soil | | $15.00 | $ 21.82 | $458.17 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.25 | $5.18 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$463.35
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290734** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 12:02 pm | 9/18/20 12:02 pm | D&DPEA725 | 40 YARI | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 39,590 kg Scale In
TARE 15,840 kg Manual Out
NET 23,750 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.75 | MT | Contaminated Soil | 40 | $15.00 | 17.81 | $ 374.06 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.20 | $ 4.23 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |
| | | GST# 866808298RT0005 | | | | |

$378.29
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**

DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290788** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 1:29 pm | 9/18/20 1:29 pm | D&DPDT169 | | PDT 169 |

| REFERENCE | ORIGIN |
|---|---|
| 278995 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 48,140 kg Scale In
TARE 17,630 kg Tare Out
NET 30,510 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 30.51 | MT | Contaminated Soil | | $15.00 | $ 22.88 | $480.53 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.26 | $5.43 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$485.96
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290807** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 2:00 pm | 9/18/20 2:00 pm | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 279002 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 46,330 kg Scale In
TARE 17,250 kg Tare Out
NET 29,080 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 29.08 | MT | Contaminated Soil | | $15.00 | $ 21.81 | $458.01 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.25 | $5.18 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$463.19
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290793** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 1:38 pm | 9/18/20 1:38 pm | D&DPEA725 | | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| 278992 | |

GROSS 38,680 kg Scale In
TARE 17,750 kg Tare Out 16030
NET 20,930 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 20.93 | MT | Contaminated Soil | | $15.00 | $ 15.70 | $329.65 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.18 | $3.73 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$333.38
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290780** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 1:16 pm | 9/18/20 1:16 pm | D&DPDP840 | | PDP 840 |

| REFERENCE | ORIGIN |
|---|---|
| 279159 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 43,860 kg Scale In
TARE 16,260 kg Tare Out
NET 27,600 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.60 | MT | Contaminated Soil | | $15.00 | $ 20.70 | $434.70 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.91 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$439.61
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290677** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 10:29 am | 9/18/20 10:29 am | D&DPEA725 | 40 YARI | PEA 725 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 39,540 kg Scale In
TARE 15,840 kg Manual Out
NET 23,700 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.70 | MT | Contaminated Soil | 40 | $15.00 | $ 17.78 | $373.28 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.22 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$377.50
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290741** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 12:07 pm | 9/18/20 12:07 pm | D&DPEC572 | 40 YARI | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 45,190 kg Scale In
TARE 17,250 kg Tare Out
NET 27,940 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.94 | MT | Contaminated Soil | 40 | $15.00 | $ 20.96 | $440.06 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $4.98 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$445.04
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1290673** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/18/20 10:22 am | 9/18/20 10:22 am | D&DPEC572 | | PEC 572 |

| REFERENCE | ORIGIN |
|---|---|
| 279000 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 44,720 kg Scale In
TARE 17,250 kg Tare Out
NET 27,470 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 27.47 | MT | Contaminated Soil | | $15.00 | $ 20.60 | $432.65 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.23 | $4.89 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$437.54
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** Tony Ralfe

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

| SITE | TICKET # | | OPERATOR | |
|---|---|---|---|---|
| 01 | **1291871** | | tchowdhury | |
| IN | OUT | TRUCK | CONT. | LICENCE |
| 9/23/20 11:52 am | 9/23/20 11:52 am | DOTPCN345 | | |
| REFERENCE | | | ORIGIN | |
| | | | | |

GROSS 39,670 kg Scale In
TARE 14,640 kg Tare Out
NET 25,030 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 25.03 | MT | Contaminated Soil | | $15.00 | $ 18.77 | $394.22 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.21 | $4.45 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$398.67
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

**CUSTOMER COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1291934** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/23/20 1:19 pm | 9/23/20 1:19 pm | DOTPCN345 | | |

| REFERENCE | ORIGIN |
|---|---|
| 279006 | |

GROSS 39,470 kg Scale In
TARE 14,640 kg Tare Out
NET 24,830 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 24.83 | MT | Contaminated Soil | | $15.00 | 18.62 | $ 391.07 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.21 | $ 4.42 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$395.49
$0.00

$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

**DISTRICT COPY**

23rd Sept 2020

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1291741** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/23/20 8:28 am | 9/23/20 8:44 am | CASH LANDFILL WE | 20 YARD | |

| REFERENCE | ORIGIN |
|---|---|
| PCN345 # 279009 | |

GROSS 38,420 kg Scale In
TARE 14,470 kg Scale Out
NET 23,950 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 23.95 | MT | Contaminated Soil | 20 | $15.00 | $ 17.96 | $377.21 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.20 | $4.26 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |
| | | GST# 866808298RT0005 | | | | |

$381.47
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:** _____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1291797** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/23/20 10:24 am | 9/23/20 10:24 am | CASH LANDFILL WE | 40 YARI | |

| REFERENCE | ORIGIN |
|---|---|
| 279008 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 40,560 kg Scale In
TARE 14,640 kg Manual Out
NET 25,920 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 25.92 | MT | Contaminated Soil | 40 | $15.00 | 19.44 | $ 408.24 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.22 | $ 4.61 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$412.85
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

**DISTRICT COPY**

**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1291984** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/23/20 2:50 pm | 9/23/20 2:50 pm | DOTPCN345 | | |

| REFERENCE | ORIGIN |
|---|---|
| 279005 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 39,180 kg Scale In
TARE 14,640 kg Tare Out
NET 24,540 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 24.54 | MT | Contaminated Soil | | $15.00 | 18.41 | $ 386.51 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | 0.21 | $ 4.37 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | 0.00 | $ 0.00 |

GST# 866808298RT0005

$390.88
$0.00

$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1292015** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/23/20 4:14 pm | 9/23/20 4:14 pm | DOTPCN345 | | |

| REFERENCE | ORIGIN |
|---|---|
| 279004 | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

CONTRACT: PO#OS-OP1872-SELKIRK DL

INVOICE
INBOUND

GROSS 42,890 kg Scale In
TARE 14,640 kg Tare Out
NET 28,250 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 28.25 | MT | Contaminated Soil | | $15.00 | $ 21.19 | ~~$444.94~~ |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.24 | $5.03 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$449.97
$0.00

*I hereby certify that this load does not contain any unauthorized hazardous waste.*

**SIGNATURE:**_____

$0.00

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**WASTE CONNECTIONS OF CANADA**
**PRAIRIE GREEN IWMF**
DES 14-12-2E
PRAIRIE GREEN RD
ROSSNER, MB R3C 2E6
(204) 694-7615

| SITE | TICKET # | OPERATOR |
|---|---|---|
| 01 | **1292097** | tchowdhury |

| IN | OUT | TRUCK | CONT. | LICENCE |
|---|---|---|---|---|
| 9/24/20 8:25 am | 9/24/20 8:25 am | DOTPCN345 | | |

| REFERENCE | ORIGIN |
|---|---|
| | |

040884
SECURE ENERGY SERVICES
#120, 8832 BLACKFOOT TRAIL SE
CALGARY, AB

INVOICE
INBOUND

CONTRACT: PO#OS-OP1872-SELKIRK DL

GROSS 35,070 kg Scale In
TARE 14,640 kg Tare Out
NET 20,430 kg

ZONE:
BOL:

| QTY | UNIT | DESCRIPTION | TRACKING QTY | RATE | TAX | TOTAL |
|---|---|---|---|---|---|---|
| 20.43 | MT | Contaminated Soil | | $15.00 | $ 15.32 | $321.77 |
| 1.00 | | Carbon Emissions Recovery | | 1.13% | $ 0.17 | $3.63 |
| 1.00 | | MANITOBA ENVIRONMENTAL LEVY | | $10.00 | $ 0.00 | $0.00 |

GST# 866808298RT0005

$325.40
$0.00

I hereby certify that this load does not contain any unauthorized hazardous waste.

**SIGNATURE:**_____

$0.00

CUSTOMER COPY

# Appendix E

## Laboratory Certificates of Analyses

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588
Your C.O.C. #: 312888

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/08/31**
Report #: R2922941
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C061816**
**Received: 2020/08/29, 07:40**

Sample Matrix: Soil
# Samples Received: 9

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 9 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 9 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 9 | AB SOP-00036 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 8 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 9 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 8 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 8 | | Auto Calc |
| PAH in Soil by GC/MS | 8 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| VOCs in Soil by HS GC/MS (Std List) (1) | 8 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard. All samples were analyzed within hold time unless otherwise flagged.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's


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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588
Your C.O.C. #: 312888

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/08/31**
Report #: R2922941
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C061816**

**Received: 2020/08/29, 07:40**

Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Kandise Wilson
Customer Solutions Representative
31 Aug 2020 17:51:58

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YI7652 | | | YI7652 | | | YI7653 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | | | 2020/08/28 12:00 | | | 2020/08/28 12:10 | | |
| COC Number | | 312888 | | | 312888 | | | 312888 | | |
| | **UNITS** | **BLDG1-NW1-0.5** | **RDL** | **QC Batch** | **BLDG1-NW1-0.5 Lab-Dup** | **RDL** | **QC Batch** | **BLDG1-NW2-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9980636 | | | | <10 | 10 | 9980636 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9980636 | | | | <50 | 50 | 9980636 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9980636 | | | | <50 | 50 | 9980636 |
| Reached Baseline at C50 | mg/kg | Yes | | 9980636 | | | | Yes | | 9980636 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9979652 | | | | <0.045 | 0.045 | 9979652 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 10 | 9979652 | | | | <10 | 10 | 9979652 |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.0050 | 9980095 | <0.0050 | 0.0050 | 9980095 | <0.0050 | 0.0050 | 9980095 |
| Toluene | mg/kg | <0.050 | 0.050 | 9980095 | <0.050 | 0.050 | 9980095 | <0.050 | 0.050 | 9980095 |
| Ethylbenzene | mg/kg | <0.010 | 0.010 | 9980095 | <0.010 | 0.010 | 9980095 | <0.010 | 0.010 | 9980095 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9980095 | <0.040 | 0.040 | 9980095 | <0.040 | 0.040 | 9980095 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9980095 | <0.020 | 0.020 | 9980095 | <0.020 | 0.020 | 9980095 |
| F1 (C6-C10) | mg/kg | <10 | 10 | 9980095 | <10 | 10 | 9980095 | <10 | 10 | 9980095 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 104 | | 9980095 | 104 | | 9980095 | 90 | | 9980095 |
| O-TERPHENYL (sur.) | % | 125 | | 9980636 | | | | 119 | | 9980636 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 103 | | 9980095 | 104 | | 9980095 | 105 | | 9980095 |
| 4-Bromofluorobenzene (sur.) | % | 92 | | 9980095 | 91 | | 9980095 | 90 | | 9980095 |
| D4-1,2-Dichloroethane (sur.) | % | 107 | | 9980095 | 104 | | 9980095 | 104 | | 9980095 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YI7653 | | | YI7654 | YI7655 | YI7656 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:10 | | | 2020/08/28 12:00 | 2020/08/28 12:30 | 2020/08/28 12:40 | | |
| COC Number | | 312888 | | | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-NW2-0.5 Lab-Dup** | **RDL** | **QC Batch** | **BLDG1-DUP1** | **BLDG1-EW1-0.5** | **BLDG1-EW2-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9980636 | <10 | <10 | <10 | 10 | 9980636 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9980636 | <50 | <50 | <50 | 50 | 9980636 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9980636 | <50 | <50 | <50 | 50 | 9980636 |
| Reached Baseline at C50 | mg/kg | Yes | | 9980636 | Yes | Yes | Yes | | 9980636 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | | | | <0.045 | <0.045 | <0.045 | 0.045 | 9979652 |
| F1 (C6-C10) - BTEX | mg/kg | | | | <10 | <10 | <10 | 10 | 9979652 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | | | | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980095 |
| Toluene | mg/kg | | | | <0.050 | <0.050 | <0.050 | 0.050 | 9980095 |
| Ethylbenzene | mg/kg | | | | <0.010 | <0.010 | <0.010 | 0.010 | 9980095 |
| m & p-Xylene | mg/kg | | | | <0.040 | <0.040 | <0.040 | 0.040 | 9980095 |
| o-Xylene | mg/kg | | | | <0.020 | <0.020 | <0.020 | 0.020 | 9980095 |
| F1 (C6-C10) | mg/kg | | | | <10 | <10 | <10 | 10 | 9980095 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | | | | 92 | 94 | 92 | | 9980095 |
| O-TERPHENYL (sur.) | % | 120 | | 9980636 | 129 | 116 | 111 | | 9980636 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | | | | 102 | 105 | 104 | | 9980095 |
| 4-Bromofluorobenzene (sur.) | % | | | | 90 | 91 | 93 | | 9980095 |
| D4-1,2-Dichloroethane (sur.) | % | | | | 103 | 109 | 103 | | 9980095 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YI7657 | YI7658 | | YI7659 | | | YI7660 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:50 | 2020/08/28 13:00 | | 2020/08/28 13:15 | | | 2020/08/28 16:30 | | |
| COC Number | | 312888 | 312888 | | 312888 | | | 312888 | | |
| | **UNITS** | **BLDG1-EW3-0.5** | **BLDG1-SW2-0.5** | **RDL** | **BLDG1-SW1-0.5** | **RDL** | **QC Batch** | **SP6-5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | 10 | <10 | 10 | 9980636 | <10 | 10 | 9980748 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | 50 | <61 (1) | 61 | 9980636 | <50 | 50 | 9980748 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | 50 | <50 | 50 | 9980636 | <50 | 50 | 9980748 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | | Yes | | 9980636 | Yes | | 9980748 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | 0.045 | <0.045 | 0.045 | 9979652 | <0.045 | 0.045 | 9979652 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | 10 | <10 | 10 | 9979652 | <10 | 10 | 9979652 |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | 0.0050 | <0.0050 | 0.0050 | 9980095 | <0.0050 | 0.0050 | 9980095 |
| Toluene | mg/kg | <0.050 | <0.050 | 0.050 | <0.050 | 0.050 | 9980095 | <0.050 | 0.050 | 9980095 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | 0.010 | <0.010 | 0.010 | 9980095 | <0.010 | 0.010 | 9980095 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | 0.040 | <0.040 | 0.040 | 9980095 | <0.040 | 0.040 | 9980095 |
| o-Xylene | mg/kg | <0.020 | <0.020 | 0.020 | <0.020 | 0.020 | 9980095 | <0.020 | 0.020 | 9980095 |
| F1 (C6-C10) | mg/kg | <10 | <10 | 10 | <10 | 10 | 9980095 | <10 | 10 | 9980095 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 96 | 98 | | 89 | | 9980095 | 95 | | 9980095 |
| O-TERPHENYL (sur.) | % | 136 | 123 | | 124 | | 9980636 | 92 | | 9980748 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 106 | 105 | | 105 | | 9980095 | 104 | | 9980095 |
| 4-Bromofluorobenzene (sur.) | % | 92 | 92 | | 92 | | 9980095 | 91 | | 9980095 |
| D4-1,2-Dichloroethane (sur.) | % | 106 | 103 | | 102 | | 9980095 | 104 | | 9980095 |

RDL = Reportable Detection Limit
(1) Detection limit raised due to interferent.



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YI7652 | YI7653 | YI7654 | YI7655 | YI7655 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:10 | 2020/08/28 12:00 | 2020/08/28 12:30 | 2020/08/28 12:30 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-NW1-0.5** | **BLDG1-NW2-0.5** | **BLDG1-DUP1** | **BLDG1-EW1-0.5** | **BLDG1-EW1-0.5 Lab-Dup** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | |
| Moisture | % | 6.0 | 6.1 | 5.0 | 4.3 | 4.7 | 0.30 | 9980589 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

| BV Labs ID | | YI7656 | YI7657 | YI7658 | YI7659 | YI7660 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:40 | 2020/08/28 12:50 | 2020/08/28 13:00 | 2020/08/28 13:15 | 2020/08/28 16:30 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-EW2-0.5** | **BLDG1-EW3-0.5** | **BLDG1-SW2-0.5** | **BLDG1-SW1-0.5** | **SP6-5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | |
| Moisture | % | 4.3 | 7.8 | 7.2 | 4.3 | 5.3 | 0.30 | 9980589 |

RDL = Reportable Detection Limit


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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7652 | YI7653 | | | YI7653 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:10 | | | 2020/08/28 12:10 | | |
| COC Number | | 312888 | 312888 | | | 312888 | | |
| | **UNITS** | **BLDG1-NW1-0.5** | **BLDG1-NW2-0.5** | **RDL** | **QC Batch** | **BLDG1-NW2-0.5 Lab-Dup** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | 0.10 | 9979820 | | | |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | 0.0071 | 9979815 | | | |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | 0.10 | 9979820 | | | |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Acridine | mg/kg | <0.010 | <0.010 | 0.010 | 9980632 | <0.010 | 0.010 | 9980632 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | 0.0040 | 9980632 | <0.0040 | 0.0040 | 9980632 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9980632 | <0.0050 | 0.0050 | 9980632 |
| Quinoline | mg/kg | <0.010 | <0.010 | 0.010 | 9980632 | <0.010 | 0.010 | 9980632 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 91 | 89 | | 9980632 | 92 | | 9980632 |
| D8-ACENAPHTHYLENE (sur.) | % | 92 | 86 | | 9980632 | 96 | | 9980632 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7652 | YI7653 | | | YI7653 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:10 | | | 2020/08/28 12:10 | | |
| COC Number | | 312888 | 312888 | | | 312888 | | |
| | **UNITS** | **BLDG1-NW1-0.5** | **BLDG1-NW2-0.5** | **RDL** | **QC Batch** | **BLDG1-NW2-0.5 Lab-Dup** | **RDL** | **QC Batch** |
| D8-NAPHTHALENE (sur.) | % | 85 | 81 | | 9980632 | 86 | | 9980632 |
| TERPHENYL-D14 (sur.) | % | 105 | 102 | | 9980632 | 103 | | 9980632 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate


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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7654 | YI7655 | YI7656 | YI7657 | YI7658 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:30 | 2020/08/28 12:40 | 2020/08/28 12:50 | 2020/08/28 13:00 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-DUP1** | **BLDG1-EW1-0.5** | **BLDG1-EW2-0.5** | **BLDG1-EW3-0.5** | **BLDG1-SW2-0.5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9979820 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9979815 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9979820 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980632 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9980632 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0063 | <0.0050 | 0.0050 | 9980632 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0077 | <0.0050 | 0.0050 | 9980632 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0079 | <0.0050 | 0.0050 | 9980632 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980632 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 96 | 88 | 93 | 88 | 83 | | 9980632 |
| D8-ACENAPHTHYLENE (sur.) | % | 90 | 88 | 143 (1) | 87 | 83 | | 9980632 |

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


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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7654 | YI7655 | YI7656 | YI7657 | YI7658 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:30 | 2020/08/28 12:40 | 2020/08/28 12:50 | 2020/08/28 13:00 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-DUP1** | **BLDG1-EW1-0.5** | **BLDG1-EW2-0.5** | **BLDG1-EW3-0.5** | **BLDG1-SW2-0.5** | **RDL** | **QC Batch** |
| D8-NAPHTHALENE (sur.) | % | 88 | 82 | 121 | 86 | 83 | | 9980632 |
| TERPHENYL-D14 (sur.) | % | 108 | 103 | 129 | 89 | 98 | | 9980632 |
| RDL = Reportable Detection Limit | | | | | | | | |



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7659 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:15 | | |
| COC Number | | 312888 | | |
| | **UNITS** | **BLDG1-SW1-0.5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | 0.10 | 9979820 |
| Acenaphthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | 0.0071 | 9979815 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | 0.10 | 9979820 |
| Acenaphthylene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Acridine | mg/kg | <0.010 | 0.010 | 9980632 |
| Anthracene | mg/kg | <0.0040 | 0.0040 | 9980632 |
| Benzo(a)anthracene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(a)pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(e)pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Chrysene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Fluoranthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Fluorene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Naphthalene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Phenanthrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Perylene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Quinoline | mg/kg | <0.010 | 0.010 | 9980632 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-ANTHRACENE (sur.) | % | 86 | | 9980632 |
| D8-ACENAPHTHYLENE (sur.) | % | 86 | | 9980632 |
| D8-NAPHTHALENE (sur.) | % | 84 | | 9980632 |
| RDL = Reportable Detection Limit | | | | |



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AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7659 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:15 | | |
| COC Number | | 312888 | | |
| | **UNITS** | **BLDG1-SW1-0.5** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 103 | | 9980632 |
| RDL = Reportable Detection Limit | | | | |


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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YI7652 | YI7653 | YI7654 | YI7655 | YI7656 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:10 | 2020/08/28 12:00 | 2020/08/28 12:30 | 2020/08/28 12:40 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-NW1-0.5** | **BLDG1-NW2-0.5** | **BLDG1-DUP1** | **BLDG1-EW1-0.5** | **BLDG1-EW2-0.5** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | |
| Total Arsenic (As) | mg/kg | 1.0 | 1.5 | <1.0 | 1.1 | 1.0 | 1.0 | 9980941 |
| Total Barium (Ba) | mg/kg | 15 | 20 | 16 | 14 | 15 | 1.0 | 9980941 |
| Total Chromium (Cr) | mg/kg | 5.4 | 5.7 | 5.1 | 4.8 | 5.8 | 1.0 | 9980941 |
| Total Copper (Cu) | mg/kg | 3.6 | 5.1 | 3.6 | 8.8 | 5.6 | 1.0 | 9980941 |
| Total Lead (Pb) | mg/kg | 2.0 | 2.8 | 2.0 | 2.0 | 2.1 | 0.50 | 9980941 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | 9980941 |
| Total Zinc (Zn) | mg/kg | <10 | 11 | <10 | <10 | <10 | 10 | 9980941 |
| RDL = Reportable Detection Limit | | | | | | | | |

| BV Labs ID | | YI7657 | YI7658 | YI7659 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:50 | 2020/08/28 13:00 | 2020/08/28 13:15 | | |
| COC Number | | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-EW3-0.5** | **BLDG1-SW2-0.5** | **BLDG1-SW1-0.5** | **RDL** | **QC Batch** |
| **Elements** | | | | | | |
| Total Arsenic (As) | mg/kg | 2.3 | 1.1 | 1.5 | 1.0 | 9980941 |
| Total Barium (Ba) | mg/kg | 38 | 16 | 16 | 1.0 | 9980941 |
| Total Chromium (Cr) | mg/kg | 10 | 5.0 | 5.7 | 1.0 | 9980941 |
| Total Copper (Cu) | mg/kg | 8.7 | 3.8 | 4.2 | 1.0 | 9980941 |
| Total Lead (Pb) | mg/kg | 11 | 2.7 | 3.2 | 0.50 | 9980941 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | <1.0 | 1.0 | 9980941 |
| Total Zinc (Zn) | mg/kg | 20 | <10 | <10 | 10 | 9980941 |
| RDL = Reportable Detection Limit | | | | | | |



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7652 | YI7653 | YI7653 | YI7654 | YI7655 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:10 | 2020/08/28 12:10 | 2020/08/28 12:00 | 2020/08/28 12:30 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-NW1-0.5** | **BLDG1-NW2-0.5** | **BLDG1-NW2-0.5 Lab-Dup** | **BLDG1-DUP1** | **BLDG1-EW1-0.5** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9980123 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9980123 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9980123 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9980123 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7652 | YI7653 | YI7653 | YI7654 | YI7655 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:00 | 2020/08/28 12:10 | 2020/08/28 12:10 | 2020/08/28 12:00 | 2020/08/28 12:30 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-NW1-0.5** | **BLDG1-NW2-0.5** | **BLDG1-NW2-0.5 Lab-Dup** | **BLDG1-DUP1** | **BLDG1-EW1-0.5** | **RDL** | **QC Batch** |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9980123 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9980123 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9980123 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 110 | 107 | 108 | 105 | 106 | | 9980123 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 93 | 93 | 93 | 93 | 93 | | 9980123 |
| 4-Bromofluorobenzene (sur.) | % | 86 | 86 | 88 | 88 | 88 | | 9980123 |
| D4-1,2-Dichloroethane (sur.) | % | 103 | 102 | 101 | 103 | 103 | | 9980123 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7656 | YI7657 | YI7658 | YI7659 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:40 | 2020/08/28 12:50 | 2020/08/28 13:00 | 2020/08/28 13:15 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-EW2-0.5** | **BLDG1-EW3-0.5** | **BLDG1-SW2-0.5** | **BLDG1-SW1-0.5** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9980123 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9980123 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9980123 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9980123 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| RDL = Reportable Detection Limit | | | | | | | |



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7656 | YI7657 | YI7658 | YI7659 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 12:40 | 2020/08/28 12:50 | 2020/08/28 13:00 | 2020/08/28 13:15 | | |
| COC Number | | 312888 | 312888 | 312888 | 312888 | | |
| | **UNITS** | **BLDG1-EW2-0.5** | **BLDG1-EW3-0.5** | **BLDG1-SW2-0.5** | **BLDG1-SW1-0.5** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9980123 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9980123 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9980123 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| D10-o-Xylene (sur.) | % | 103 | 104 | 114 | 100 | | 9980123 |
| **Instrument Surrogate Recovery (%)** | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 93 | 93 | 93 | 102 | | 9980123 |
| 4-Bromofluorobenzene (sur.) | % | 88 | 87 | 87 | 87 | | 9980123 |
| D4-1,2-Dichloroethane (sur.) | % | 103 | 104 | 101 | 132 | | 9980123 |
| RDL = Reportable Detection Limit | | | | | | | |



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YI7652
**Sample ID:** BLDG1-NW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7652 Dup
**Sample ID:** BLDG1-NW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |

**BV Labs ID:** YI7653
**Sample ID:** BLDG1-NW2-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7653 Dup
**Sample ID:** BLDG1-NW2-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YI7654
**Sample ID:** BLDG1-DUP1
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7655
**Sample ID:** BLDG1-EW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7655 Dup
**Sample ID:** BLDG1-EW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |

**BV Labs ID:** YI7656
**Sample ID:** BLDG1-EW2-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YI7656
**Sample ID:** BLDG1-EW2-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7657
**Sample ID:** BLDG1-EW3-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7658
**Sample ID:** BLDG1-SW2-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7659
**Sample ID:** BLDG1-SW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979815 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |



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BV Labs Job #: C061816
Report Date: 2020/08/31

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YI7659
**Sample ID:** BLDG1-SW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7660
**Sample ID:** SP6-5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979652 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980748 | 2020/08/31 | 2020/08/31 | Haixia (Annie) Zhou |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |



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AECOM Canada Ltd.
Task Order#: AECOM PO 7586
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Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 5.7°C |

**Results relate only to the items tested.**


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## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9980095 | JNG | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 92 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 102 | % | 50 - 140 |
| | | | Benzene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/08/30 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/08/30 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/08/30 | <10 | | mg/kg | |
| 9980123 | QW1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 94 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 87 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 102 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 108 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/08/30 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/08/30 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/08/30 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/08/30 | <0.0010 | | mg/kg | |
| | | | Chlorodibromomethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/08/30 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/08/30 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/08/30 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/08/30 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/08/30 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/08/30 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/30 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/30 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/30 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/08/30 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/08/30 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/08/30 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/08/30 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/08/30 | <0.00030 | | mg/kg | |

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9980589 | TER | Method Blank | Moisture | 2020/08/31 | <0.30 | | % | |
| 9980632 | JC7 | Method Blank | D10-ANTHRACENE (sur.) | 2020/08/30 | | 106 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/08/30 | | 122 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/08/30 | | 92 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/08/30 | | 89 | % | 50 - 130 |
| | | | Acenaphthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/08/30 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/08/30 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/08/30 | <0.010 | | mg/kg | |
| 9980636 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/08/30 | | 112 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/30 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/30 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/30 | <50 | | mg/kg | |
| 9980748 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/08/31 | | 107 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| 9980941 | ANE | Method Blank | Total Arsenic (As) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/08/31 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/08/31 | <10 | | mg/kg | |
| 9980095 | JNG | RPD [YI7652-03] | Benzene | 2020/08/30 | NC | | % | 50 |
| | | | Toluene | 2020/08/30 | NC | | % | 50 |
| | | | Ethylbenzene | 2020/08/30 | NC | | % | 50 |
| | | | m & p-Xylene | 2020/08/30 | NC | | % | 50 |
| | | | o-Xylene | 2020/08/30 | NC | | % | 50 |
| | | | F1 (C6-C10) | 2020/08/30 | NC | | % | 30 |
| 9980123 | QW1 | RPD [YI7653-03] | Bromodichloromethane | 2020/08/30 | NC | | % | 50 |
| | | | Bromoform | 2020/08/30 | NC | | % | 50 |
| | | | Bromomethane | 2020/08/30 | NC | | % | 50 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Carbon tetrachloride | 2020/08/30 | NC | | % | 50 |
| | | | Chlorobenzene | 2020/08/30 | NC | | % | 50 |
| | | | Chlorodibromomethane | 2020/08/30 | NC | | % | 50 |
| | | | Chloroethane | 2020/08/30 | NC | | % | 50 |
| | | | Chloroform | 2020/08/30 | NC | | % | 50 |
| | | | Chloromethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,2-dibromoethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,2-dichlorobenzene | 2020/08/30 | NC | | % | 50 |
| | | | 1,3-dichlorobenzene | 2020/08/30 | NC | | % | 50 |
| | | | 1,4-dichlorobenzene | 2020/08/30 | NC | | % | 50 |
| | | | 1,1-dichloroethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,2-dichloroethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,1-dichloroethene | 2020/08/30 | NC | | % | 50 |
| | | | cis-1,2-dichloroethene | 2020/08/30 | NC | | % | 50 |
| | | | trans-1,2-dichloroethene | 2020/08/30 | NC | | % | 50 |
| | | | Dichloromethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,2-dichloropropane | 2020/08/30 | NC | | % | 50 |
| | | | cis-1,3-dichloropropene | 2020/08/30 | NC | | % | 50 |
| | | | trans-1,3-dichloropropene | 2020/08/30 | NC | | % | 50 |
| | | | Methyl methacrylate | 2020/08/30 | NC | | % | 50 |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/30 | NC | | % | 50 |
| | | | Styrene | 2020/08/30 | NC | | % | 50 |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/30 | NC | | % | 50 |
| | | | Tetrachloroethene | 2020/08/30 | NC | | % | 50 |
| | | | 1,2,3-trichlorobenzene | 2020/08/30 | NC | | % | 50 |
| | | | 1,2,4-trichlorobenzene | 2020/08/30 | NC | | % | 50 |
| | | | 1,3,5-trichlorobenzene | 2020/08/30 | NC | | % | 50 |
| | | | 1,1,1-trichloroethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,1,2-trichloroethane | 2020/08/30 | NC | | % | 50 |
| | | | Trichloroethene | 2020/08/30 | NC | | % | 50 |
| | | | Trichlorofluoromethane | 2020/08/30 | NC | | % | 50 |
| | | | 1,2,4-trimethylbenzene | 2020/08/30 | NC | | % | 50 |
| | | | 1,3,5-trimethylbenzene | 2020/08/30 | NC | | % | 50 |
| | | | Vinyl chloride | 2020/08/30 | NC | | % | 50 |
| 9980632 | JC7 | RPD [YI7653-02] | Acenaphthene | 2020/08/30 | NC | | % | 50 |
| | | | Acenaphthylene | 2020/08/30 | NC | | % | 50 |
| | | | Acridine | 2020/08/30 | NC | | % | 50 |
| | | | Anthracene | 2020/08/30 | NC | | % | 50 |
| | | | Benzo(a)anthracene | 2020/08/30 | NC | | % | 50 |
| | | | Benzo(b&j)fluoranthene | 2020/08/30 | NC | | % | 50 |
| | | | Benzo(k)fluoranthene | 2020/08/30 | NC | | % | 50 |
| | | | Benzo(g,h,i)perylene | 2020/08/30 | NC | | % | 50 |
| | | | Benzo(c)phenanthrene | 2020/08/30 | NC | | % | 50 |
| | | | Benzo(a)pyrene | 2020/08/30 | NC | | % | 50 |
| | | | Benzo(e)pyrene | 2020/08/30 | NC | | % | 50 |
| | | | Chrysene | 2020/08/30 | NC | | % | 50 |
| | | | Dibenz(a,h)anthracene | 2020/08/30 | NC | | % | 50 |
| | | | Fluoranthene | 2020/08/30 | NC | | % | 50 |
| | | | Fluorene | 2020/08/30 | NC | | % | 50 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/30 | NC | | % | 50 |
| | | | 1-Methylnaphthalene | 2020/08/30 | NC | | % | 50 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 2-Methylnaphthalene | 2020/08/30 | NC | | % | 50 |
| | | | Naphthalene | 2020/08/30 | NC | | % | 50 |
| | | | Phenanthrene | 2020/08/30 | NC | | % | 50 |
| | | | Perylene | 2020/08/30 | NC | | % | 50 |
| | | | Pyrene | 2020/08/30 | NC | | % | 50 |
| | | | Quinoline | 2020/08/30 | NC | | % | 50 |
| 9980636 | MHF | RPD [YI7653-02] | F2 (C10-C16 Hydrocarbons) | 2020/08/30 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/30 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/30 | NC | | % | 40 |
| 9980589 | TER | RPD [YI7655-02] | Moisture | 2020/08/31 | 8.9 | | % | 20 |
| 9980095 | JNG | Matrix Spike [YI7652-03] | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 101 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 91 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 102 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 104 | % | 50 - 140 |
| | | | Benzene | 2020/08/30 | | 102 | % | 50 - 140 |
| | | | Toluene | 2020/08/30 | | 98 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/08/30 | | 98 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/08/30 | | 97 | % | 50 - 140 |
| | | | o-Xylene | 2020/08/30 | | 97 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/08/30 | | 91 | % | 60 - 140 |
| 9980123 | QW1 | Matrix Spike [YI7654-03] | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 108 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 104 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 100 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | Bromoform | 2020/08/30 | | 117 | % | 50 - 140 |
| | | | Bromomethane | 2020/08/30 | | 116 | % | 50 - 140 |
| | | | Carbon tetrachloride | 2020/08/30 | | 87 | % | 50 - 140 |
| | | | Chlorobenzene | 2020/08/30 | | 84 | % | 50 - 140 |
| | | | Chlorodibromomethane | 2020/08/30 | | 110 | % | 50 - 140 |
| | | | Chloroethane | 2020/08/30 | | 106 | % | 50 - 140 |
| | | | Chloroform | 2020/08/30 | | 80 | % | 50 - 140 |
| | | | Chloromethane | 2020/08/30 | | 87 | % | 50 - 140 |
| | | | 1,2-dibromoethane | 2020/08/30 | | 91 | % | 50 - 140 |
| | | | 1,2-dichlorobenzene | 2020/08/30 | | 103 | % | 50 - 140 |
| | | | 1,3-dichlorobenzene | 2020/08/30 | | 94 | % | 50 - 140 |
| | | | 1,4-dichlorobenzene | 2020/08/30 | | 99 | % | 50 - 140 |
| | | | 1,1-dichloroethane | 2020/08/30 | | 87 | % | 50 - 140 |
| | | | 1,2-dichloroethane | 2020/08/30 | | 90 | % | 50 - 140 |
| | | | 1,1-dichloroethene | 2020/08/30 | | 99 | % | 50 - 140 |
| | | | cis-1,2-dichloroethene | 2020/08/30 | | 90 | % | 50 - 140 |
| | | | trans-1,2-dichloroethene | 2020/08/30 | | 86 | % | 50 - 140 |
| | | | Dichloromethane | 2020/08/30 | | 103 | % | 50 - 140 |
| | | | 1,2-dichloropropane | 2020/08/30 | | 100 | % | 50 - 140 |
| | | | cis-1,3-dichloropropene | 2020/08/30 | | 102 | % | 50 - 140 |
| | | | trans-1,3-dichloropropene | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | Methyl methacrylate | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/30 | | 82 | % | 50 - 140 |
| | | | Styrene | 2020/08/30 | | 97 | % | 50 - 140 |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/30 | | 88 | % | 50 - 140 |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/30 | | 112 | % | 50 - 140 |
| | | | Tetrachloroethene | 2020/08/30 | | 85 | % | 50 - 140 |

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 1,2,3-trichlorobenzene | 2020/08/30 | | 101 | % | 50 - 140 |
| | | | 1,2,4-trichlorobenzene | 2020/08/30 | | 96 | % | 50 - 140 |
| | | | 1,3,5-trichlorobenzene | 2020/08/30 | | 87 | % | 50 - 140 |
| | | | 1,1,1-trichloroethane | 2020/08/30 | | 91 | % | 50 - 140 |
| | | | 1,1,2-trichloroethane | 2020/08/30 | | 98 | % | 50 - 140 |
| | | | Trichloroethene | 2020/08/30 | | 103 | % | 50 - 140 |
| | | | Trichlorofluoromethane | 2020/08/30 | | 88 | % | 50 - 140 |
| | | | 1,2,4-trimethylbenzene | 2020/08/30 | | 91 | % | 50 - 140 |
| | | | 1,3,5-trimethylbenzene | 2020/08/30 | | 91 | % | 50 - 140 |
| | | | Vinyl chloride | 2020/08/30 | | 80 | % | 50 - 140 |
| 9980632 | JC7 | Matrix Spike [YI7653-02] | Acenaphthene | 2020/08/30 | | 78 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/08/30 | | 73 | % | 50 - 130 |
| | | | Acridine | 2020/08/30 | | 64 | % | 50 - 130 |
| | | | Anthracene | 2020/08/30 | | 64 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/08/30 | | 77 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/08/30 | | 76 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/08/30 | | 80 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/08/30 | | 92 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/08/30 | | 76 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/08/30 | | 79 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/08/30 | | 79 | % | 50 - 130 |
| | | | Chrysene | 2020/08/30 | | 76 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/08/30 | | 96 | % | 50 - 130 |
| | | | Fluoranthene | 2020/08/30 | | 97 | % | 50 - 130 |
| | | | Fluorene | 2020/08/30 | | 69 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/30 | | 94 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/08/30 | | 78 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/08/30 | | 75 | % | 50 - 130 |
| | | | Naphthalene | 2020/08/30 | | 71 | % | 50 - 130 |
| | | | Phenanthrene | 2020/08/30 | | 80 | % | 50 - 130 |
| | | | Perylene | 2020/08/30 | | 79 | % | 50 - 130 |
| | | | Pyrene | 2020/08/30 | | 95 | % | 50 - 130 |
| | | | Quinoline | 2020/08/30 | | 104 | % | 50 - 130 |
| 9980636 | MHF | Matrix Spike [YI7653-02] | O-TERPHENYL (sur.) | 2020/08/30 | | 110 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/30 | | 99 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/30 | | 101 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/30 | | 103 | % | 60 - 140 |
| 9980095 | JNG | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 91 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 103 | % | 50 - 140 |
| | | | Benzene | 2020/08/30 | | 106 | % | 60 - 130 |
| | | | Toluene | 2020/08/30 | | 102 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/08/30 | | 100 | % | 60 - 130 |
| | | | o-Xylene | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/08/30 | | 99 | % | 60 - 140 |
| 9980123 | QW1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 112 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 99 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/08/30 | | 100 | % | 60 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Bromoform | 2020/08/30 | | 103 | % | 60 - 130 |
| | | | Bromomethane | 2020/08/30 | | 128 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/08/30 | | 86 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/08/30 | | 82 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/08/30 | | 101 | % | 60 - 130 |
| | | | Chloroethane | 2020/08/30 | | 107 | % | 60 - 130 |
| | | | Chloroform | 2020/08/30 | | 78 | % | 60 - 130 |
| | | | Chloromethane | 2020/08/30 | | 83 | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/08/30 | | 97 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/08/30 | | 91 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/08/30 | | 95 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/08/30 | | 86 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/08/30 | | 98 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/08/30 | | 88 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | Dichloromethane | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/08/30 | | 96 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/08/30 | | 114 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/08/30 | | 125 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/08/30 | | 96 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/30 | | 79 | % | 60 - 130 |
| | | | Styrene | 2020/08/30 | | 91 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/30 | | 83 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/08/30 | | 92 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/08/30 | | 84 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/08/30 | | 90 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/08/30 | | 90 | % | 60 - 130 |
| | | | Trichloroethene | 2020/08/30 | | 102 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/08/30 | | 87 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/08/30 | | 90 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/08/30 | | 92 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/08/30 | | 78 | % | 60 - 130 |
| 9980632 | JC7 | LCS | Acenaphthene | 2020/08/30 | | 86 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/08/30 | | 87 | % | 50 - 130 |
| | | | Acridine | 2020/08/30 | | 65 | % | 50 - 130 |
| | | | Anthracene | 2020/08/30 | | 69 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/08/30 | | 83 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/08/30 | | 82 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/08/30 | | 88 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/08/30 | | 98 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/08/30 | | 83 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/08/30 | | 85 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/08/30 | | 87 | % | 50 - 130 |
| | | | Chrysene | 2020/08/30 | | 84 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/08/30 | | 102 | % | 50 - 130 |
| | | | Fluoranthene | 2020/08/30 | | 106 | % | 50 - 130 |
| | | | Fluorene | 2020/08/30 | | 81 | % | 50 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/30 | | 100 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/08/30 | | 91 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/08/30 | | 89 | % | 50 - 130 |
| | | | Naphthalene | 2020/08/30 | | 88 | % | 50 - 130 |
| | | | Phenanthrene | 2020/08/30 | | 87 | % | 50 - 130 |
| | | | Perylene | 2020/08/30 | | 86 | % | 50 - 130 |
| | | | Pyrene | 2020/08/30 | | 105 | % | 50 - 130 |
| | | | Quinoline | 2020/08/30 | | 103 | % | 50 - 130 |
| 9980636 | MHF | LCS | O-TERPHENYL (sur.) | 2020/08/30 | | 106 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/30 | | 96 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/30 | | 99 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/30 | | 100 | % | 60 - 140 |
| 9980748 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/08/31 | | 94 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | | 87 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | | 87 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | | 86 | % | 60 - 140 |
| 9980941 | ANE | LCS | Total Arsenic (As) | 2020/08/31 | | 100 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/08/31 | | 106 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/08/31 | | 105 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/08/31 | | 106 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/08/31 | | 109 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/08/31 | | 106 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/08/31 | | 94 | % | 80 - 120 |
| 9980941 | ANE | SRM | Total Arsenic (As) | 2020/08/31 | | 98 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/08/31 | | 99 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/08/31 | | 95 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/08/31 | | 101 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/08/31 | | 113 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/08/31 | | 107 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/08/31 | | 94 | % | 79 - 121 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



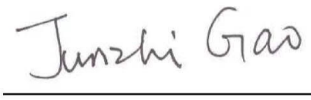
Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061816
Report Date: 2020/08/31

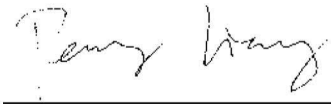
AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## VALIDATION SIGNATURE PAGE

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



Janet Gao, B.Sc., QP, Supervisor, Organics



Harry (Peng) Liang, Senior Analyst

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

1323

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312888

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray / Lindsay Jackman | Consultant Project #: 60549588 W.MB.3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | waste oil metals *see comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 BLDG1-NW1-0.5 | | | X | | 7 | 2020/08/28 | 12:00 | | | X | X | | X | | | | | X | TM | | | | | | | | X |
| 2 BLDG1-NW2-0.5 | | | X | | 7 | 2020/08/28 | 12:10 | | | X | X | | X | | | | | | TM | | | | | | | | X |
| 3 BLDG1-DUP1 | | | X | | 7 | 2020/08/28 | 12:20 | | | X | X | | X | | | | | | TM | | | | | | | | X |
| 4 BLDG1-EW1-0.5 | | | X | | 7 | 2020/08/28 | 12:30 | | | X | X | | X | | | | | | TM | | | | | | | | X |
| 5 BLDG1-EW2-0.5 | | | X | | 7 | 2020/08/28 | 12:40 | | | X | X | | X | | | | | | TM | | | | | | | | X |
| 6 BLDG1-EW3-0.5 | | | X | | 7 | 2020/08/28 | 12:50 | | | X | X | | X | | | | | | TM | | | | | | | | X |
| 7 BLDG1-SW2-0.5 | | | X | | 7 | 2020/08/28 | 13:00 | | | X | X | | X | | | | | | TM | | | | | | | | X |
| 8 BLDG1-SW1-0.5 | | | X | | 7 | 2020/08/28 | 13:15 | | | X | X | | X | | | | | | TM | | | | | | | | X |
| 9 SP6-5 | | | X | | 3 | 2020/08/28 | 16:30 | | | | | | X | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main Street Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: Pending

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS: arsenic, barium, chromium, copper, lead, tin & zinc = waste oil metals

# JARS USED & NOT SUBMITTED Enter N/A for Water

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Aug 31/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | | | | |
| SEAL INTACT | ✓ | | | | | |
| COOLING MEDIA PRESENT | ✓ | | TEMP °C | 6 (1) | 3 (2) | 8 (3) |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | TEMP °C | 1 | 2 | 3 |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | TEMP °C | 1 | 2 | 3 |

LAB USE ONLY
MAXXAM JOB # C061816

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | Jen Murray | 2020/08/28 | 17:00 | 1. | SARA BISCHOFF | 2020/08/29 | 07:40 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

SAMPLES
LABELED BY: CUW
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312891

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/01**
Report #: R2923264
Version: 2 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C061817**
**Received: 2020/08/29, 07:40**

Sample Matrix: Soil
# Samples Received: 9

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 9 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 9 | | Auto Calc |
| Container Supply & Nonhazardous Disposal | 9 | | |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 9 | AB SOP-00036 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 6 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 9 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 6 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 6 | | Auto Calc |
| PAH in Soil by GC/MS | 6 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| VOCs in Soil by HS GC/MS (Std List) (1) | 6 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312891

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/01**
Report #: R2923264
Version: 2 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C061817**

**Received: 2020/08/29, 07:40**

of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Mary (Xiaohong) Xu
Project Manager I
01 Sep 2020 13:35:07

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

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Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YI7661 | YI7662 | YI7663 | YI7664 | YI7665 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:45 | 2020/08/28 14:00 | 2020/08/28 14:10 | 2020/08/28 14:30 | 2020/08/28 15:30 | | |
| COC Number | | 312891 | 312891 | 312891 | 312891 | 312891 | | |
| | **UNITS** | **BLDG1-WW3-0.5** | **BLDG1-WW2-0.5** | **BLDG1-WW1-0.5** | **BLDG1-B6-1.0** | **SP1-2** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9980636 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 81 | 50 | <50 | <50 | <50 | 50 | 9980636 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 99 | 52 | <50 | <50 | <50 | 50 | 9980636 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | | 9980636 |
| **Volatiles** | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | 0.045 | 9979842 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9979842 |
| **Field Preserved Volatiles** | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980095 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980095 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980095 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980095 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980095 |
| F1 (C6-C10) | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9980095 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 89 | 97 | 107 | 100 | 94 | | 9980095 |
| O-TERPHENYL (sur.) | % | 120 | 124 | 123 | 127 | 133 | | 9980636 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 104 | 105 | 108 | 108 | 107 | | 9980095 |
| 4-Bromofluorobenzene (sur.) | % | 92 | 91 | 91 | 91 | 90 | | 9980095 |
| D4-1,2-Dichloroethane (sur.) | % | 102 | 108 | 106 | 108 | 106 | | 9980095 |

RDL = Reportable Detection Limit



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YI7666 | | YI7667 | | | YI7667 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 15:40 | | 2020/08/28 16:00 | | | 2020/08/28 16:00 | | |
| COC Number | | 312891 | | 312891 | | | 312891 | | |
| | **UNITS** | **SP2-1** | **QC Batch** | **SP3-3** | **RDL** | **QC Batch** | **SP3-3 Lab-Dup** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 9980636 | <10 | 10 | 9980263 | <10 | 10 | 9980263 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 9980636 | <50 | 50 | 9980263 | <50 | 50 | 9980263 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 9980636 | <50 | 50 | 9980263 | <50 | 50 | 9980263 |
| Reached Baseline at C50 | mg/kg | Yes | 9980636 | Yes | | 9980263 | Yes | | 9980263 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 9979842 | <0.045 | 0.045 | 9979842 | | | |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 9979842 | 28 | 10 | 9979842 | | | |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 9980095 | <0.0050 | 0.0050 | 9980095 | | | |
| Toluene | mg/kg | <0.050 | 9980095 | <0.050 | 0.050 | 9980095 | | | |
| Ethylbenzene | mg/kg | <0.010 | 9980095 | <0.010 | 0.010 | 9980095 | | | |
| m & p-Xylene | mg/kg | <0.040 | 9980095 | <0.040 | 0.040 | 9980095 | | | |
| o-Xylene | mg/kg | <0.020 | 9980095 | <0.020 | 0.020 | 9980095 | | | |
| F1 (C6-C10) | mg/kg | <10 | 9980095 | 28 | 10 | 9980095 | | | |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 97 | 9980095 | 97 | | 9980095 | | | |
| O-TERPHENYL (sur.) | % | 118 | 9980636 | 132 | | 9980263 | 106 | | 9980263 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 103 | 9980095 | 104 | | 9980095 | | | |
| 4-Bromofluorobenzene (sur.) | % | 92 | 9980095 | 90 | | 9980095 | | | |
| D4-1,2-Dichloroethane (sur.) | % | 105 | 9980095 | 115 | | 9980095 | | | |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YI7668 | | YI7669 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 16:10 | | 2020/08/28 16:20 | | |
| COC Number | | 312891 | | 312891 | | |
| | **UNITS** | **SP4-1** | **QC Batch** | **SP5-5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 9980626 | <10 | 10 | 9980626 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 9980626 | <50 | 50 | 9980626 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 9980626 | <50 | 50 | 9980626 |
| Reached Baseline at C50 | mg/kg | Yes | 9980626 | Yes | | 9980626 |
| **Volatiles** | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 9979842 | <0.045 | 0.045 | 9979842 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 9979842 | <10 | 10 | 9979842 |
| **Field Preserved Volatiles** | | | | | | |
| Benzene | mg/kg | <0.0050 | 9981199 | <0.0050 | 0.0050 | 9980095 |
| Toluene | mg/kg | <0.050 | 9981199 | <0.050 | 0.050 | 9980095 |
| Ethylbenzene | mg/kg | <0.010 | 9981199 | <0.010 | 0.010 | 9980095 |
| m & p-Xylene | mg/kg | <0.040 | 9981199 | <0.040 | 0.040 | 9980095 |
| o-Xylene | mg/kg | <0.020 | 9981199 | <0.020 | 0.020 | 9980095 |
| F1 (C6-C10) | mg/kg | <10 | 9981199 | <10 | 10 | 9980095 |
| **Extraction Surrogate Recovery (%)** | | | | | | |
| D10-o-Xylene (sur.) | % | 95 | 9981199 | 95 | | 9980095 |
| O-TERPHENYL (sur.) | % | 93 | 9980626 | 97 | | 9980626 |
| **Instrument Surrogate Recovery (%)** | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 100 | 9981199 | 105 | | 9980095 |
| 4-Bromofluorobenzene (sur.) | % | 98 | 9981199 | 92 | | 9980095 |
| D4-1,2-Dichloroethane (sur.) | % | 106 | 9981199 | 106 | | 9980095 |

RDL = Reportable Detection Limit



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YI7661 | YI7662 | YI7663 | YI7664 | YI7665 | YI7666 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:45 | 2020/08/28 14:00 | 2020/08/28 14:10 | 2020/08/28 14:30 | 2020/08/28 15:30 | 2020/08/28 15:40 | | |
| COC Number | | 312891 | 312891 | 312891 | 312891 | 312891 | 312891 | | |
| | **UNITS** | **BLDG1-WW3-0.5** | **BLDG1-WW2-0.5** | **BLDG1-WW1-0.5** | **BLDG1-B6-1.0** | **SP1-2** | **SP2-1** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 4.4 | 6.9 | 16 | 4.1 | 6.8 | 6.9 | 0.30 | 9980589 |
| RDL = Reportable Detection Limit | | | | | | | | | |

| BV Labs ID | | YI7667 | | YI7668 | YI7669 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 16:00 | | 2020/08/28 16:10 | 2020/08/28 16:20 | | |
| COC Number | | 312891 | | 312891 | 312891 | | |
| | **UNITS** | **SP3-3** | **QC Batch** | **SP4-1** | **SP5-5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | |
| Moisture | % | 5.4 | 9980269 | 5.3 | 4.5 | 0.30 | 9980589 |
| RDL = Reportable Detection Limit | | | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7661 | YI7662 | YI7663 | YI7664 | YI7665 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:45 | 2020/08/28 14:00 | 2020/08/28 14:10 | 2020/08/28 14:30 | 2020/08/28 15:30 | | |
| COC Number | | 312891 | 312891 | 312891 | 312891 | 312891 | | |
| | **UNITS** | **BLDG1-WW3-0.5** | **BLDG1-WW2-0.5** | **BLDG1-WW1-0.5** | **BLDG1-B6-1.0** | **SP1-2** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9979820 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9979892 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9979820 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980632 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9980632 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Perylene | mg/kg | 0.0055 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9980632 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980632 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 84 | 87 | 85 | 89 | 87 | | 9980632 |
| D8-ACENAPHTHYLENE (sur.) | % | 84 | 86 | 85 | 89 | 87 | | 9980632 |
| D8-NAPHTHALENE (sur.) | % | 83 | 86 | 83 | 86 | 85 | | 9980632 |

RDL = Reportable Detection Limit



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7661 | YI7662 | YI7663 | YI7664 | YI7665 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:45 | 2020/08/28 14:00 | 2020/08/28 14:10 | 2020/08/28 14:30 | 2020/08/28 15:30 | | |
| COC Number | | 312891 | 312891 | 312891 | 312891 | 312891 | | |
| | **UNITS** | **BLDG1-WW3-0.5** | **BLDG1-WW2-0.5** | **BLDG1-WW1-0.5** | **BLDG1-B6-1.0** | **SP1-2** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 100 | 103 | 102 | 107 | 105 | | 9980632 |
| RDL = Reportable Detection Limit | | | | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7666 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/08/28 15:40 | | |
| COC Number | | 312891 | | |
| | **UNITS** | **SP2-1** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | 0.10 | 9979820 |
| Acenaphthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | 0.0071 | 9979892 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | 0.10 | 9979820 |
| Acenaphthylene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Acridine | mg/kg | <0.010 | 0.010 | 9980632 |
| Anthracene | mg/kg | <0.0040 | 0.0040 | 9980632 |
| Benzo(a)anthracene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(a)pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Benzo(e)pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Chrysene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Fluoranthene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Fluorene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Naphthalene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Phenanthrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Perylene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Pyrene | mg/kg | <0.0050 | 0.0050 | 9980632 |
| Quinoline | mg/kg | <0.010 | 0.010 | 9980632 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-ANTHRACENE (sur.) | % | 85 | | 9980632 |
| D8-ACENAPHTHYLENE (sur.) | % | 85 | | 9980632 |
| D8-NAPHTHALENE (sur.) | % | 83 | | 9980632 |
| RDL = Reportable Detection Limit | | | | |



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## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7666 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/08/28 15:40 | | |
| COC Number | | 312891 | | |
| | **UNITS** | **SP2-1** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 102 | | 9980632 |
| RDL = Reportable Detection Limit | | | | |

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YI7661 | YI7662 | YI7663 | YI7663 | YI7664 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:45 | 2020/08/28 14:00 | 2020/08/28 14:10 | 2020/08/28 14:10 | 2020/08/28 14:30 | | |
| COC Number | | 312891 | 312891 | 312891 | 312891 | 312891 | | |
| | **UNITS** | **BLDG1-WW3-0.5** | **BLDG1-WW2-0.5** | **BLDG1-WW1-0.5** | **BLDG1-WW1-0.5 Lab-Dup** | **BLDG1-B6-1.0** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | |
| Total Arsenic (As) | mg/kg | 1.6 | 2.0 | 2.1 | 2.0 | 1.8 | 1.0 | 9980941 |
| Total Barium (Ba) | mg/kg | 22 | 33 | 38 | 37 | 34 | 1.0 | 9980941 |
| Total Chromium (Cr) | mg/kg | 6.4 | 9.6 | 9.6 | 10 | 10 | 1.0 | 9980941 |
| Total Copper (Cu) | mg/kg | 8.6 | 7.2 | 8.1 | 8.4 | 7.3 | 1.0 | 9980941 |
| Total Lead (Pb) | mg/kg | 3.6 | 3.9 | 6.3 | 7.2 | 6.4 | 0.50 | 9980941 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | 9980941 |
| Total Zinc (Zn) | mg/kg | 12 | 20 | 19 | 20 | 16 | 10 | 9980941 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

| BV Labs ID | | YI7665 | YI7666 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 15:30 | 2020/08/28 15:40 | | |
| COC Number | | 312891 | 312891 | | |
| | **UNITS** | **SP1-2** | **SP2-1** | **RDL** | **QC Batch** |
| **Elements** | | | | | |
| Total Arsenic (As) | mg/kg | 1.2 | 2.1 | 1.0 | 9980941 |
| Total Barium (Ba) | mg/kg | 21 | 38 | 1.0 | 9980941 |
| Total Chromium (Cr) | mg/kg | 6.5 | 11 | 1.0 | 9980941 |
| Total Copper (Cu) | mg/kg | 7.0 | 8.3 | 1.0 | 9980941 |
| Total Lead (Pb) | mg/kg | 3.1 | 4.7 | 0.50 | 9980941 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | 1.0 | 9980941 |
| Total Zinc (Zn) | mg/kg | 10 | 19 | 10 | 9980941 |

RDL = Reportable Detection Limit


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7661 | YI7662 | YI7663 | YI7664 | YI7665 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:45 | 2020/08/28 14:00 | 2020/08/28 14:10 | 2020/08/28 14:30 | 2020/08/28 15:30 | | |
| COC Number | | 312891 | 312891 | 312891 | 312891 | 312891 | | |
| | **UNITS** | **BLDG1-WW3-0.5** | **BLDG1-WW2-0.5** | **BLDG1-WW1-0.5** | **BLDG1-B6-1.0** | **SP1-2** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9980123 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9980123 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9980123 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9980123 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9980123 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9980123 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9980123 |

RDL = Reportable Detection Limit



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7661 | YI7662 | YI7663 | YI7664 | YI7665 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/28 13:45 | 2020/08/28 14:00 | 2020/08/28 14:10 | 2020/08/28 14:30 | 2020/08/28 15:30 | | |
| COC Number | | 312891 | 312891 | 312891 | 312891 | 312891 | | |
| | **UNITS** | **BLDG1-WW3-0.5** | **BLDG1-WW2-0.5** | **BLDG1-WW1-0.5** | **BLDG1-B6-1.0** | **SP1-2** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9980123 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9980123 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9980123 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9980123 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9980123 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 110 | 109 | 113 | 109 | 107 | | 9980123 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 93 | 93 | 93 | 94 | 93 | | 9980123 |
| 4-Bromofluorobenzene (sur.) | % | 88 | 89 | 88 | 87 | 89 | | 9980123 |
| D4-1,2-Dichloroethane (sur.) | % | 100 | 103 | 106 | 102 | 102 | | 9980123 |

RDL = Reportable Detection Limit



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7666 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/08/28 15:40 | | |
| COC Number | | 312891 | | |
| | **UNITS** | **SP2-1** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | |
| Bromodichloromethane | mg/kg | <0.030 | 0.030 | 9980123 |
| Bromoform | mg/kg | <0.050 | 0.050 | 9980123 |
| Bromomethane | mg/kg | <0.020 | 0.020 | 9980123 |
| Carbon tetrachloride | mg/kg | <0.00050 | 0.00050 | 9980123 |
| Chlorobenzene | mg/kg | <0.0010 | 0.0010 | 9980123 |
| Chlorodibromomethane | mg/kg | <0.020 | 0.020 | 9980123 |
| Chloroethane | mg/kg | <0.020 | 0.020 | 9980123 |
| Chloroform | mg/kg | <0.010 | 0.010 | 9980123 |
| Chloromethane | mg/kg | <0.030 | 0.030 | 9980123 |
| 1,2-dibromoethane | mg/kg | <0.0020 | 0.0020 | 9980123 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9980123 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9980123 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9980123 |
| 1,1-dichloroethane | mg/kg | <0.020 | 0.020 | 9980123 |
| 1,2-dichloroethane | mg/kg | <0.0020 | 0.0020 | 9980123 |
| 1,1-dichloroethene | mg/kg | <0.020 | 0.020 | 9980123 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9980123 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9980123 |
| Dichloromethane | mg/kg | <0.030 | 0.030 | 9980123 |
| 1,2-dichloropropane | mg/kg | <0.020 | 0.020 | 9980123 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9980123 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9980123 |
| Methyl methacrylate | mg/kg | <0.040 | 0.040 | 9980123 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | 0.030 | 9980123 |
| Styrene | mg/kg | <0.020 | 0.020 | 9980123 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9980123 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9980123 |
| Tetrachloroethene | mg/kg | <0.010 | 0.010 | 9980123 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9980123 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9980123 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9980123 |
| RDL = Reportable Detection Limit | | | | |



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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YI7666 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/08/28 15:40 | | |
| COC Number | | 312891 | | |
| | **UNITS** | **SP2-1** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | 0.020 | 9980123 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | 0.020 | 9980123 |
| Trichloroethene | mg/kg | <0.010 | 0.010 | 9980123 |
| Trichlorofluoromethane | mg/kg | <0.020 | 0.020 | 9980123 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9980123 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9980123 |
| Vinyl chloride | mg/kg | <0.00030 | 0.00030 | 9980123 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 109 | | 9980123 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 94 | | 9980123 |
| 4-Bromofluorobenzene (sur.) | % | 88 | | 9980123 |
| D4-1,2-Dichloroethane (sur.) | % | 99 | | 9980123 |
| RDL = Reportable Detection Limit | | | | |



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BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YI7661
**Sample ID:** BLDG1-WW3-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979892 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/30 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7662
**Sample ID:** BLDG1-WW2-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979892 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/31 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7663
**Sample ID:** BLDG1-WW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979892 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/31 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |



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BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YI7663 Dup
**Sample ID:** BLDG1-WW1-0.5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |

**BV Labs ID:** YI7664
**Sample ID:** BLDG1-B6-1.0
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979892 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/31 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7665
**Sample ID:** SP1-2
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979892 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/31 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7666
**Sample ID:** SP2-1
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980636 | 2020/08/30 | 2020/08/30 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9980941 | 2020/08/31 | 2020/08/31 | Anna Nelson |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |
| Benzo[a]pyrene Equivalency | GC/MSD | 9979892 | N/A | 2020/08/31 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9979820 | N/A | 2020/08/31 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9980632 | 2020/08/30 | 2020/08/31 | Shuang (Jessica) Chen |



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BV Labs Job #: C061817
Report Date: 2020/09/01

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YI7666
**Sample ID:** SP2-1
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9980123 | N/A | 2020/08/30 | Qiliang (Alex) Wu |

**BV Labs ID:** YI7667
**Sample ID:** SP3-3
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980263 | 2020/08/29 | 2020/08/31 | Haixia (Annie) Zhou |
| Moisture | BAL | 9980269 | N/A | 2020/08/30 | Margarita Aguilera |

**BV Labs ID:** YI7667 Dup
**Sample ID:** SP3-3
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980263 | 2020/08/29 | 2020/08/31 | Haixia (Annie) Zhou |

**BV Labs ID:** YI7668
**Sample ID:** SP4-1
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9981199 | N/A | 2020/08/31 | Darrus Ong |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980626 | 2020/08/30 | 2020/08/31 | Luba Shymushovska |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |

**BV Labs ID:** YI7669
**Sample ID:** SP5-5
**Matrix:** Soil

**Collected:** 2020/08/28
**Relinquished:** 2020/08/28
**Received:** 2020/08/29

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9980095 | N/A | 2020/08/30 | Jason Ngo |
| F1-BTEX | CALC/MS | 9979842 | N/A | 2020/08/31 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980626 | 2020/08/30 | 2020/08/31 | Luba Shymushovska |
| Moisture | BAL | 9980589 | N/A | 2020/08/31 | Tobi Erinle |



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BV Labs Job #: C061817
Report Date: 2020/09/01

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 4.7°C |

Note: Bottles listed on C of C, but not found in shipment;Sample BLDG1-NW3-0.5 was listed on the Chain of Custody but not received.
Note: Broken bottle(s) in transit;For sample BLDG1-WW1-0.5, one of the jars submitted was received broken.

**Results relate only to the items tested.**


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BV Labs Job #: C061817
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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9980095 | JNG | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 92 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 102 | % | 50 - 140 |
| | | | Benzene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/08/30 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/08/30 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/08/30 | <10 | | mg/kg | |
| 9980123 | QW1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 94 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 87 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 102 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 108 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/08/30 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/08/30 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/08/30 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/08/30 | <0.0010 | | mg/kg | |
| | | | Chlorodibromomethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/08/30 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/08/30 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/08/30 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/08/30 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/08/30 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/08/30 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/30 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/30 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/30 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/08/30 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/08/30 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/08/30 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/08/30 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/08/30 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/08/30 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/08/30 | <0.00030 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9980263 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/08/31 | | 126 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| 9980269 | MAE | Method Blank | Moisture | 2020/08/30 | <0.30 | | % | |
| 9980589 | TER | Method Blank | Moisture | 2020/08/31 | <0.30 | | % | |
| 9980626 | LSH | Method Blank | O-TERPHENYL (sur.) | 2020/08/31 | | 108 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| 9980632 | JC7 | Method Blank | D10-ANTHRACENE (sur.) | 2020/08/30 | | 106 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/08/30 | | 122 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/08/30 | | 92 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/08/30 | | 89 | % | 50 - 130 |
| | | | Acenaphthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/08/30 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/08/30 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/08/30 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/08/30 | <0.010 | | mg/kg | |
| 9980636 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/08/30 | | 112 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/30 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/30 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/30 | <50 | | mg/kg | |
| 9980941 | ANE | Method Blank | Total Arsenic (As) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/08/31 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/08/31 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/08/31 | <10 | | mg/kg | |
| 9981199 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/31 | | 87 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/31 | | 99 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/31 | | 88 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/31 | | 92 | % | 50 - 140 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Benzene | 2020/08/31 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/08/31 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/08/31 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/08/31 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/08/31 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/08/31 | <10 | | mg/kg | |
| 9980941 | ANE | RPD [YI7663-01] | Total Arsenic (As) | 2020/08/31 | 4.0 | | % | 30 |
| | | | Total Barium (Ba) | 2020/08/31 | 1.8 | | % | 35 |
| | | | Total Chromium (Cr) | 2020/08/31 | 3.8 | | % | 30 |
| | | | Total Copper (Cu) | 2020/08/31 | 3.8 | | % | 30 |
| | | | Total Lead (Pb) | 2020/08/31 | 12 | | % | 35 |
| | | | Total Tin (Sn) | 2020/08/31 | NC | | % | 35 |
| | | | Total Zinc (Zn) | 2020/08/31 | 1.2 | | % | 30 |
| 9980263 | HAZ | RPD [YI7667-01] | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | NC | | % | 40 |
| 9980263 | HAZ | Matrix Spike [YI7667-01] | O-TERPHENYL (sur.) | 2020/08/31 | | 125 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | | 116 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | | 118 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | | 116 | % | 60 - 140 |
| 9980941 | ANE | Matrix Spike [YI7663-01] | Total Arsenic (As) | 2020/08/31 | | 101 | % | 75 - 125 |
| | | | Total Barium (Ba) | 2020/08/31 | | 118 | % | 75 - 125 |
| | | | Total Chromium (Cr) | 2020/08/31 | | 112 | % | 75 - 125 |
| | | | Total Copper (Cu) | 2020/08/31 | | 101 | % | 75 - 125 |
| | | | Total Lead (Pb) | 2020/08/31 | | 104 | % | 75 - 125 |
| | | | Total Tin (Sn) | 2020/08/31 | | 109 | % | 75 - 125 |
| | | | Total Zinc (Zn) | 2020/08/31 | | 97 | % | 75 - 125 |
| 9980095 | JNG | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 91 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 103 | % | 50 - 140 |
| | | | Benzene | 2020/08/30 | | 106 | % | 60 - 130 |
| | | | Toluene | 2020/08/30 | | 102 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/08/30 | | 100 | % | 60 - 130 |
| | | | o-Xylene | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/08/30 | | 99 | % | 60 - 140 |
| 9980123 | QW1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/30 | | 112 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/30 | | 105 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/30 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/30 | | 99 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/08/30 | | 100 | % | 60 - 130 |
| | | | Bromoform | 2020/08/30 | | 103 | % | 60 - 130 |
| | | | Bromomethane | 2020/08/30 | | 128 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/08/30 | | 86 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/08/30 | | 82 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/08/30 | | 101 | % | 60 - 130 |
| | | | Chloroethane | 2020/08/30 | | 107 | % | 60 - 130 |
| | | | Chloroform | 2020/08/30 | | 78 | % | 60 - 130 |
| | | | Chloromethane | 2020/08/30 | | 83 | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/08/30 | | 97 | % | 60 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 1,3-dichlorobenzene | 2020/08/30 | | 91 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/08/30 | | 95 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/08/30 | | 86 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/08/30 | | 98 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/08/30 | | 88 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | Dichloromethane | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/08/30 | | 96 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/08/30 | | 114 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/08/30 | | 125 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/08/30 | | 96 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/30 | | 79 | % | 60 - 130 |
| | | | Styrene | 2020/08/30 | | 91 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/30 | | 83 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/08/30 | | 85 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/08/30 | | 99 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/08/30 | | 92 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/08/30 | | 84 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/08/30 | | 90 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/08/30 | | 90 | % | 60 - 130 |
| | | | Trichloroethene | 2020/08/30 | | 102 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/08/30 | | 87 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/08/30 | | 90 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/08/30 | | 92 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/08/30 | | 78 | % | 60 - 130 |
| 9980263 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/08/31 | | 127 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | | 118 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | | 119 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | | 115 | % | 60 - 140 |
| 9980626 | LSH | LCS | O-TERPHENYL (sur.) | 2020/08/31 | | 93 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | | 82 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | | 86 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | | 88 | % | 60 - 140 |
| 9980632 | JC7 | LCS | Acenaphthene | 2020/08/30 | | 86 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/08/30 | | 87 | % | 50 - 130 |
| | | | Acridine | 2020/08/30 | | 65 | % | 50 - 130 |
| | | | Anthracene | 2020/08/30 | | 69 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/08/30 | | 83 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/08/30 | | 82 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/08/30 | | 88 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/08/30 | | 98 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/08/30 | | 83 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/08/30 | | 85 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/08/30 | | 87 | % | 50 - 130 |
| | | | Chrysene | 2020/08/30 | | 84 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/08/30 | | 102 | % | 50 - 130 |
| | | | Fluoranthene | 2020/08/30 | | 106 | % | 50 - 130 |
| | | | Fluorene | 2020/08/30 | | 81 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/30 | | 100 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/08/30 | | 91 | % | 50 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 2-Methylnaphthalene | 2020/08/30 | | 89 | % | 50 - 130 |
| | | | Naphthalene | 2020/08/30 | | 88 | % | 50 - 130 |
| | | | Phenanthrene | 2020/08/30 | | 87 | % | 50 - 130 |
| | | | Perylene | 2020/08/30 | | 86 | % | 50 - 130 |
| | | | Pyrene | 2020/08/30 | | 105 | % | 50 - 130 |
| | | | Quinoline | 2020/08/30 | | 103 | % | 50 - 130 |
| 9980636 | MHF | LCS | O-TERPHENYL (sur.) | 2020/08/30 | | 106 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/30 | | 96 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/30 | | 99 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/30 | | 100 | % | 60 - 140 |
| 9980941 | ANE | LCS | Total Arsenic (As) | 2020/08/31 | | 100 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/08/31 | | 106 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/08/31 | | 105 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/08/31 | | 106 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/08/31 | | 109 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/08/31 | | 106 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/08/31 | | 94 | % | 80 - 120 |
| 9981199 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/31 | | 86 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/31 | | 98 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/31 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/31 | | 88 | % | 50 - 140 |
| | | | Benzene | 2020/08/31 | | 89 | % | 60 - 130 |
| | | | Toluene | 2020/08/31 | | 89 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/08/31 | | 92 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/08/31 | | 89 | % | 60 - 130 |
| | | | o-Xylene | 2020/08/31 | | 89 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/08/31 | | 87 | % | 60 - 140 |
| 9980941 | ANE | SRM | Total Arsenic (As) | 2020/08/31 | | 98 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/08/31 | | 99 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/08/31 | | 95 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/08/31 | | 101 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/08/31 | | 113 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/08/31 | | 107 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/08/31 | | 94 | % | 79 - 121 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C061817
Report Date: 2020/09/01

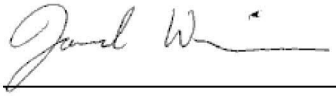
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VALIDATION SIGNATURE PAGE

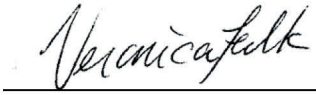
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

Janet Gao, B.Sc., QP, Supervisor, Organics



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

1324 **EXXON MOBIL/IMPERIAL OIL - MAXXAM**
**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

C of C # 312891

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECom Canada Ltd |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@Aecom.com | Email: Aaron.Jambrosic@Aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray/Lindsay Jackman | Consultant Project #: 60549588 W.MB.3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ANALYSIS REQUESTED: VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | waste oil metals *see comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 BLDG1-NW3-0.5 | | | X | | 7 | 2020/08/28 | 13:30 | | | X | X | | X | | | | | | | | | | | | | | X |
| 2 BLDG1-WW3-0.5 | | | X | | 7 | 2020/08/28 | 13:45 | | | X | X | | X | | | | | | | | | | | | | | X |
| 3 BLDG1-WW2-0.5 | | | X | | 7 | 2020/08/28 | 14:00 | | | X | X | | X | | | | | | | | | | | | | | X |
| 4 BLDG1-WW1-0.5 | | | X | | 7 | 2020/08/28 | 14:10 | | | X | X | | X | | | | | | | | | | | | | | X |
| 5 BLDG1-B6-1.0 | | | X | | 7 | 2020/08/28 | 14:30 | | | X | X | | X | | | | | | | | | | | | | | X |
| 6 SP1-2 | | | X | | 7 | 2020/08/28 | 15:30 | | | X | X | | X | | | | | | | | | | | | | | X |
| 7 SP2-1 | | | X | | 7 | 2020/08/28 | 15:40 | | | X | X | | X | | | | | | | | | | | | | | X |
| 8 SP3-3 | | | X | | 3 | 2020/08/28 | 16:00 | | | | | | X | | | | | | | | | | | | | | |
| 9 SP4-1 | | | X | | 3 | 2020/08/28 | 16:10 | | | | | | X | | | | | | | | | | | | | | |
| 10 SP5-5 | | | X | | 3 | 2020/08/28 | 16:20 | | | | | | X | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: Pending

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS: waste oil metals: arsenic, barium, chromium, copper, lead, tin, zinc

# JARS USED & NOT SUBMITTED (Enter N/A for Water)

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Aug 31/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 4 | 5 | 5 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. J Murray | Jen Murray | 2020/08/28 | 17:00 | 1. | SARA BISCHOFF | 2020/08/29 | 08:07:40 |
| 2. | | | | 2. | | | SB2 2020/08/29 |
| 3. | | | | 3. | | | |

LAB USE ONLY
MAXXAM JOB # C061817

SAMPLES
LABELED BY: CUW
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312887

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/02**
Report #: R2923877
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C062440**
**Received: 2020/09/01, 08:50**

Sample Matrix: Soil
# Samples Received: 4

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 4 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 4 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 4 | AB SOP-00036 | CCME PHC-CWS m |
| Moisture | 4 | AB SOP-00002 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312887

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/02**
Report #: R2923877
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C062440**
**Received: 2020/09/01, 08:50**

Encryption Key

Mary (Xiaohong) Xu
Project Manager I
02 Sep 2020 15:28:37

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C062440
Report Date: 2020/09/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ1625 | YJ1626 | YJ1627 | YJ1628 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/31 15:40 | 2020/08/31 15:50 | 2020/08/31 16:10 | 2020/08/31 16:30 | | |
| COC Number | | 312887 | 312887 | 312887 | 312887 | | |
| | **UNITS** | **SP-7** | **SP8-2** | **SP9-1** | **SP10-5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 15 | 33 | 100 | <10 | 10 | 9980748 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | 50 | 9980748 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | 50 | 9980748 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | | 9980748 |
| **Volatiles** | | | | | | | |
| Xylenes (Total) | mg/kg | 1.3 | 3.2 | 0.66 | 0.13 | 0.045 | 9982237 |
| F1 (C6-C10) - BTEX | mg/kg | 110 | 650 | 310 | 15 | 10 | 9982237 |
| **Field Preserved Volatiles** | | | | | | | |
| Benzene | mg/kg | 0.010 (1) | 0.090 (1) | 0.30 (1) | <0.0050 | 0.0050 | 9982421 |
| Toluene | mg/kg | <0.050 | 0.097 | <0.050 | <0.050 | 0.050 | 9982421 |
| Ethylbenzene | mg/kg | 0.31 | 3.3 | 1.9 | 0.021 | 0.010 | 9982421 |
| m & p-Xylene | mg/kg | 1.1 | 2.5 | 0.56 | 0.088 | 0.040 | 9982421 |
| o-Xylene | mg/kg | 0.23 | 0.69 | 0.10 | 0.038 | 0.020 | 9982421 |
| F1 (C6-C10) | mg/kg | 110 | 650 | 320 | 15 | 10 | 9982421 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| D10-o-Xylene (sur.) | % | 99 | 90 | 103 | 98 | | 9982421 |
| O-TERPHENYL (sur.) | % | 90 | 89 | 101 | 96 | | 9980748 |
| **Instrument Surrogate Recovery (%)** | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 93 | 88 | 88 | 93 | | 9982421 |
| 4-Bromofluorobenzene (sur.) | % | 90 | 97 | 97 | 93 | | 9982421 |
| D4-1,2-Dichloroethane (sur.) | % | 81 | 85 | 85 | 89 | | 9982421 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C062440
Report Date: 2020/09/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ1625 | YJ1626 | YJ1627 | YJ1628 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/08/31 15:40 | 2020/08/31 15:50 | 2020/08/31 16:10 | 2020/08/31 16:30 | | |
| COC Number | | 312887 | 312887 | 312887 | 312887 | | |
| | **UNITS** | **SP-7** | **SP8-2** | **SP9-1** | **SP10-5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | |
| Moisture | % | 18 | 12 | 28 | 11 | 0.30 | 9983139 |
| RDL = Reportable Detection Limit | | | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C062440
Report Date: 2020/09/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YJ1625
**Sample ID:** SP-7
**Matrix:** Soil

**Collected:** 2020/08/31
**Relinquished:** 2020/08/31
**Received:** 2020/09/01

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9982421 | N/A | 2020/09/01 | Darrus Ong |
| F1-BTEX | CALC/MS | 9982237 | N/A | 2020/09/02 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980748 | 2020/09/01 | 2020/09/02 | Haixia (Annie) Zhou |
| Moisture | BAL | 9983139 | N/A | 2020/09/02 | Sophie Reid |

**BV Labs ID:** YJ1626
**Sample ID:** SP8-2
**Matrix:** Soil

**Collected:** 2020/08/31
**Relinquished:** 2020/08/31
**Received:** 2020/09/01

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9982421 | N/A | 2020/09/01 | Darrus Ong |
| F1-BTEX | CALC/MS | 9982237 | N/A | 2020/09/02 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980748 | 2020/09/01 | 2020/09/02 | Haixia (Annie) Zhou |
| Moisture | BAL | 9983139 | N/A | 2020/09/02 | Sophie Reid |

**BV Labs ID:** YJ1627
**Sample ID:** SP9-1
**Matrix:** Soil

**Collected:** 2020/08/31
**Relinquished:** 2020/08/31
**Received:** 2020/09/01

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9982421 | N/A | 2020/09/01 | Darrus Ong |
| F1-BTEX | CALC/MS | 9982237 | N/A | 2020/09/02 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980748 | 2020/09/01 | 2020/09/02 | Haixia (Annie) Zhou |
| Moisture | BAL | 9983139 | N/A | 2020/09/02 | Sophie Reid |

**BV Labs ID:** YJ1628
**Sample ID:** SP10-5
**Matrix:** Soil

**Collected:** 2020/08/31
**Relinquished:** 2020/08/31
**Received:** 2020/09/01

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9982421 | N/A | 2020/09/01 | Darrus Ong |
| F1-BTEX | CALC/MS | 9982237 | N/A | 2020/09/02 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9980748 | 2020/09/01 | 2020/09/02 | Haixia (Annie) Zhou |
| Moisture | BAL | 9983139 | N/A | 2020/09/02 | Sophie Reid |



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C062440
Report Date: 2020/09/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | -0.7°C |

**Results relate only to the items tested.**



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BV Labs Job #: C062440
Report Date: 2020/09/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9980748 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/08/31 | | 107 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | <50 | | mg/kg | |
| 9982421 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/01 | | 120 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/01 | | 106 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/01 | | 124 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/01 | | 114 | % | 50 - 140 |
| | | | Benzene | 2020/09/01 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/01 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/01 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/01 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/01 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/01 | <10 | | mg/kg | |
| 9983139 | SRI | Method Blank | Moisture | 2020/09/02 | <0.30 | | % | |
| 9980748 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/08/31 | | 94 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/31 | | 87 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/31 | | 87 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/31 | | 86 | % | 60 - 140 |
| 9982421 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/01 | | 101 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/01 | | 102 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/01 | | 108 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/01 | | 102 | % | 50 - 140 |
| | | | Benzene | 2020/09/01 | | 98 | % | 60 - 130 |
| | | | Toluene | 2020/09/01 | | 96 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/01 | | 98 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/01 | | 99 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/01 | | 100 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/01 | | 106 | % | 60 - 140 |

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.



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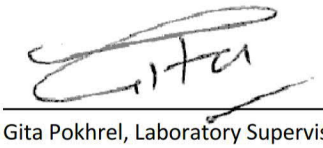
BV Labs Job #: C062440
Report Date: 2020/09/02

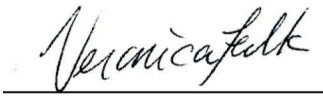
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Gita Pokhrel, Laboratory Supervisor



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD

28



C of C # 312887

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Road NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Stefano Strapazzon Jen Murray/~~Lindsay Jackman~~ | Consultant Project #: 60549588 W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SP7-5 | | | X | | 3 | 2020/08/31 | 15:40 | | | | | | X | | | | | | | | | | | | | | |
| 2 | SP8-2 | | | X | | 3 | 2020/08/31 | 15:50 | | | | | | X | | | | | | | | | | | | | | |
| 3 | SP9-1 | | | X | | 3 | 2020/08/31 | 16:10 | | | | | | X | | | | | | | | | | | | | | |
| 4 | SP10-5 | | | X | | 3 | 2020/08/31 | 16:30 | | | | | | X | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: Pending

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Sept. 2, 2020
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | -1 | -2 | 1 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C662440

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature | Jen Murray printed name | 2020/08/31 YYYY/MM/DD | 17:00 HH:MM | 1. signature | Jessica Lee printed name | 2020/09/01 YYYY/MM/DD | 08:50 HH:MM |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: CLW
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588
Your C.O.C. #: 312894, 312892

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/03**
Report #: R2924653
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C062803**
**Received: 2020/09/02, 08:50**

Sample Matrix: Soil
# Samples Received: 18

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 18 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 18 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 18 | AB SOP-00036 | CCME PHC-CWS m |
| CCME Hydrocarbons (F4G in soil) (2) | 1 | AB SOP-00036<br>AB SOP-00040 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 1 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 18 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 1 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 1 | | Auto Calc |
| PAH in Soil by GC/MS | 1 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| VOCs in Soil by HS GC/MS (Std List) (1) | 1 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588
Your C.O.C. #: 312894, 312892

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/03**
Report #: R2924653
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C062803**

**Received: 2020/09/02, 08:50**

(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Geraldlyn Gouthro
Key Account Specialist
03 Sep 2020 17:50:31

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: C062803
Report Date: 2020/09/03

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ3437 | | | YJ3437 | | | YJ3438 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | | | 2020/09/01 09:40 | | | 2020/09/01 10:00 | | |
| COC Number | | 312894 | | | 312894 | | | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** | **BLDG1-C8-1.0 Lab-Dup** | **RDL** | **QC Batch** | **EX3-WW1-3.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 21 | 10 | 9985252 | | | | 42 | 10 | 9985252 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 530 | 50 | 9985252 | | | | <50 | 50 | 9985252 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 550 | 50 | 9985252 | | | | <50 | 50 | 9985252 |
| Reached Baseline at C50 | mg/kg | No | | 9985252 | | | | Yes | | 9985252 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9983836 | | | | 0.091 | 0.045 | 9983836 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 10 | 9983836 | | | | 520 | 10 | 9983836 |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.0050 | 9985155 | <0.0050 | 0.0050 | 9985155 | 0.92 | 0.0050 | 9985155 |
| Toluene | mg/kg | <0.050 | 0.050 | 9985155 | <0.050 | 0.050 | 9985155 | <0.050 | 0.050 | 9985155 |
| Ethylbenzene | mg/kg | <0.010 | 0.010 | 9985155 | 0.015 | 0.010 | 9985155 | 1.9 | 0.010 | 9985155 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9985155 | <0.040 | 0.040 | 9985155 | 0.091 | 0.040 | 9985155 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9985155 | <0.020 | 0.020 | 9985155 | <0.020 | 0.020 | 9985155 |
| F1 (C6-C10) | mg/kg | <10 | 10 | 9985155 | <10 | 10 | 9985155 | 520 | 10 | 9985155 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 130 | | 9985155 | 127 | | 9985155 | 140 | | 9985155 |
| O-TERPHENYL (sur.) | % | 91 | | 9985252 | | | | 92 | | 9985252 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 92 | | 9985155 | 92 | | 9985155 | 93 | | 9985155 |
| 4-Bromofluorobenzene (sur.) | % | 100 | | 9985155 | 103 | | 9985155 | 100 | | 9985155 |
| D4-1,2-Dichloroethane (sur.) | % | 96 | | 9985155 | 96 | | 9985155 | 126 | | 9985155 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C062803
Report Date: 2020/09/03

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ3439 | YJ3440 | | | YJ3440 | | | YJ3441 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 10:10 | 2020/09/01 10:20 | | | 2020/09/01 10:20 | | | 2020/09/01 10:40 | | |
| COC Number | | 312894 | 312894 | | | 312894 | | | 312894 | | |
| | **UNITS** | **EX3-SW1-3.0** | **EX2-WW1-1.5** | **RDL** | **QC Batch** | **EX2-WW1-1.5 Lab-Dup** | **RDL** | **QC Batch** | **EX2-SW1-1.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 96 | <10 | 10 | 9985252 | <10 | 10 | 9985252 | <10 | 10 | 9985252 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | 50 | 9985252 | <50 | 50 | 9985252 | <50 | 50 | 9985252 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | 50 | 9985252 | <50 | 50 | 9985252 | <50 | 50 | 9985252 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | | 9985252 | Yes | | 9985252 | Yes | | 9985252 |
| **Volatiles** | | | | | | | | | | | |
| Xylenes (Total) | mg/kg | 44 | <0.045 | 0.045 | 9983836 | | | | <0.045 | 0.045 | 9983836 |
| F1 (C6-C10) - BTEX | mg/kg | 490 | <10 | 10 | 9983836 | | | | <10 | 10 | 9983836 |
| **Field Preserved Volatiles** | | | | | | | | | | | |
| Benzene | mg/kg | 7.2 | <0.0050 | 0.0050 | 9985155 | | | | <0.0050 | 0.0050 | 9985155 |
| Toluene | mg/kg | 2.2 | <0.050 | 0.050 | 9985155 | | | | <0.050 | 0.050 | 9985155 |
| Ethylbenzene | mg/kg | 10 | <0.010 | 0.010 | 9985155 | | | | <0.010 | 0.010 | 9985155 |
| m & p-Xylene | mg/kg | 33 | <0.040 | 0.040 | 9985155 | | | | <0.040 | 0.040 | 9985155 |
| o-Xylene | mg/kg | 11 | <0.020 | 0.020 | 9985155 | | | | <0.020 | 0.020 | 9985155 |
| F1 (C6-C10) | mg/kg | 560 | <10 | 10 | 9985155 | | | | <10 | 10 | 9985155 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 133 | 126 | | 9985155 | | | | 139 | | 9985155 |
| O-TERPHENYL (sur.) | % | 90 | 93 | | 9985252 | 90 | | 9985252 | 90 | | 9985252 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 92 | 90 | | 9985155 | | | | 90 | | 9985155 |
| 4-Bromofluorobenzene (sur.) | % | 100 | 102 | | 9985155 | | | | 103 | | 9985155 |
| D4-1,2-Dichloroethane (sur.) | % | 137 | 94 | | 9985155 | | | | 94 | | 9985155 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C062803
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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ3442 | YJ3443 | YJ3444 | YJ3445 | YJ3446 | YJ3467 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 11:30 | 2020/09/01 11:45 | 2020/09/01 12:00 | 2020/09/01 13:30 | 2020/09/01 13:45 | 2020/09/01 14:00 | | |
| COC Number | | 312894 | 312894 | 312894 | 312894 | 312894 | 312892 | | |
| | **UNITS** | **EX2-SW2-0.5** | **EX2-I11-1.8** | **EX2-J11-1.8** | **EX2-EW1-1.5** | **EX3-SW2-2.0** | **EX3-I9-3.4** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 30 | <10 | <10 | 70 | 20 | 10 | 9985252 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 53 | <50 | <50 | <50 | <50 | <50 | 50 | 9985252 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | 9985252 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | Yes | | 9985252 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | <0.045 | <0.045 | 2.3 | 26 | 0.045 | 9983836 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 210 | <10 | <10 | 380 | 270 | 10 | 9983836 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.044 (1) | <0.0050 | <0.0050 | 0.71 | 8.4 | 0.0050 | 9985155 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 0.11 | 1.3 | 0.050 | 9985155 |
| Ethylbenzene | mg/kg | <0.010 | 0.022 | <0.010 | <0.010 | 1.1 | 4.8 | 0.010 | 9985155 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | 2.0 | 19 | 0.040 | 9985155 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.30 | 6.7 | 0.020 | 9985155 |
| F1 (C6-C10) | mg/kg | <10 | 210 | <10 | <10 | 380 | 310 | 10 | 9985155 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 128 | 136 | 135 | 138 | 139 | 139 | | 9985155 |
| O-TERPHENYL (sur.) | % | 115 | 92 | 92 | 92 | 92 | 92 | | 9985252 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 93 | 92 | 91 | 91 | 91 | 93 | | 9985155 |
| 4-Bromofluorobenzene (sur.) | % | 99 | 97 | 101 | 100 | 101 | 104 | | 9985155 |
| D4-1,2-Dichloroethane (sur.) | % | 94 | 126 | 97 | 97 | 133 | 125 | | 9985155 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.



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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ3468 | YJ3469 | YJ3470 | YJ3471 | YJ3472 | YJ3473 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 14:10 | 2020/09/01 14:15 | 2020/09/01 14:30 | 2020/09/01 14:45 | 2020/09/01 10:00 | 2020/09/01 10:10 | | |
| COC Number | | 312892 | 312892 | 312892 | 312892 | 312892 | 312892 | | |
| | **UNITS** | **EX3-SW3-3.0** | **SP11-1** | **EX3-EW1-3.0** | **EX3-G10-3.4** | **EX3-WW1-DUP2** | **EX3-SW1-DUP3** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 32 | <10 | 29 | 47 | 26 | 58 | 10 | 9985252 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | 9985252 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | 9985252 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | Yes | | 9985252 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | 8.2 | <0.045 | 22 | 49 | 0.98 | 46 | 0.045 | 9983836 |
| F1 (C6-C10) - BTEX | mg/kg | 330 | <10 | 260 | 610 | 440 | 780 | 10 | 9983836 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | 5.7 | <0.0050 | 13 | 8.4 | 1.2 | 7.9 | 0.0050 | 9985155 |
| Toluene | mg/kg | 0.23 | <0.050 | 0.70 | 11 | <0.050 | 1.5 | 0.050 | 9985155 |
| Ethylbenzene | mg/kg | 5.1 | <0.010 | 7.9 | 8.9 | 3.1 | 14 | 0.010 | 9985155 |
| m & p-Xylene | mg/kg | 8.1 | <0.040 | 19 | 36 | 0.98 | 41 | 0.040 | 9985155 |
| o-Xylene | mg/kg | 0.14 | <0.020 | 2.2 | 13 | <0.020 | 4.3 | 0.020 | 9985155 |
| F1 (C6-C10) | mg/kg | 350 | <10 | 310 | 680 | 440 | 850 | 10 | 9985155 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 140 | 139 | 131 | 137 | 139 | 137 | | 9985155 |
| O-TERPHENYL (sur.) | % | 92 | 95 | 100 | 101 | 97 | 90 | | 9985252 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 91 | 92 | 92 | 93 | 91 | 93 | | 9985155 |
| 4-Bromofluorobenzene (sur.) | % | 103 | 102 | 102 | 101 | 100 | 102 | | 9985155 |
| D4-1,2-Dichloroethane (sur.) | % | 133 | 97 | 125 | 116 | 136 | 131 | | 9985155 |

RDL = Reportable Detection Limit



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BV Labs Job #: C062803
Report Date: 2020/09/03

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ3474 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 14:10 | | |
| COC Number | | 312892 | | |
| | **UNITS** | **EX3-SW3-DUP4** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 28 | 10 | 9985252 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9985252 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9985252 |
| Reached Baseline at C50 | mg/kg | Yes | | 9985252 |
| **Volatiles** | | | | |
| Xylenes (Total) | mg/kg | 1.3 | 0.045 | 9984760 |
| F1 (C6-C10) - BTEX | mg/kg | 280 | 10 | 9984760 |
| **Field Preserved Volatiles** | | | | |
| Benzene | mg/kg | 1.8 | 0.0050 | 9985155 |
| Toluene | mg/kg | <0.050 | 0.050 | 9985155 |
| Ethylbenzene | mg/kg | 2.3 | 0.010 | 9985155 |
| m & p-Xylene | mg/kg | 1.3 | 0.040 | 9985155 |
| o-Xylene | mg/kg | 0.043 | 0.020 | 9985155 |
| F1 (C6-C10) | mg/kg | 290 | 10 | 9985155 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 138 | | 9985155 |
| O-TERPHENYL (sur.) | % | 103 | | 9985252 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 92 | | 9985155 |
| 4-Bromofluorobenzene (sur.) | % | 100 | | 9985155 |
| D4-1,2-Dichloroethane (sur.) | % | 133 | | 9985155 |
| RDL = Reportable Detection Limit | | | | |


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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## PETROLEUM HYDROCARBONS (CCME)

| BV Labs ID | | YJ3437 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | | |
| COC Number | | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | |
| F4G-SG (Heavy Hydrocarbons-Grav.) | mg/kg | 6700 | 500 | 9986630 |
| RDL = Reportable Detection Limit | | | | |


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BV Labs Job #: C062803
Report Date: 2020/09/03

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ3437 | YJ3438 | YJ3439 | YJ3440 | YJ3441 | YJ3442 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | 2020/09/01 10:00 | 2020/09/01 10:10 | 2020/09/01 10:20 | 2020/09/01 10:40 | 2020/09/01 11:30 | | |
| COC Number | | 312894 | 312894 | 312894 | 312894 | 312894 | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **EX3-WW1-3.0** | **EX3-SW1-3.0** | **EX2-WW1-1.5** | **EX2-SW1-1.5** | **EX2-SW2-0.5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 6.0 | 32 | 36 | 20 | 28 | 12 | 0.30 | 9985350 |
| RDL = Reportable Detection Limit | | | | | | | | | |

| BV Labs ID | | YJ3443 | | YJ3444 | | YJ3445 | YJ3445 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 11:45 | | 2020/09/01 12:00 | | 2020/09/01 13:30 | 2020/09/01 13:30 | | |
| COC Number | | 312894 | | 312894 | | 312894 | 312894 | | |
| | **UNITS** | **EX2-I11-1.8** | **QC Batch** | **EX2-J11-1.8** | **QC Batch** | **EX2-EW1-1.5** | **EX2-EW1-1.5 Lab-Dup** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 30 | 9985353 | 29 | 9985350 | 16 | 16 | 0.30 | 9985353 |
| RDL – Reportable Detection Limit<br>Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | |

| BV Labs ID | | YJ3446 | YJ3446 | | YJ3467 | | YJ3468 | YJ3469 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 13:45 | 2020/09/01 13:45 | | 2020/09/01 14:00 | | 2020/09/01 14:10 | 2020/09/01 14:15 | | |
| COC Number | | 312894 | 312894 | | 312892 | | 312892 | 312892 | | |
| | **UNITS** | **EX3-SW2-2.0** | **EX3-SW2-2.0 Lab-Dup** | **QC Batch** | **EX3-I9-3.4** | **QC Batch** | **EX3-SW3-3.0** | **SP11-1** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | | |
| Moisture | % | 34 | 33 | 9985350 | 35 | 9985353 | 33 | 26 | 0.30 | 9985350 |
| RDL = Reportable Detection Limit<br>Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | | |

| BV Labs ID | | YJ3470 | YJ3471 | | YJ3472 | | YJ3473 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/01 14:30 | 2020/09/01 14:45 | | 2020/09/01 10:00 | | 2020/09/01 10:10 | | |
| COC Number | | 312892 | 312892 | | 312892 | | 312892 | | |
| | **UNITS** | **EX3-EW1-3.0** | **EX3-G10-3.4** | **QC Batch** | **EX3-WW1-DUP2** | **QC Batch** | **EX3-SW1-DUP3** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 31 | 38 | 9985350 | 32 | 9985353 | 35 | 0.30 | 9985350 |
| RDL = Reportable Detection Limit | | | | | | | | | |



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Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ3474 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 14:10 | | |
| COC Number | | 312892 | | |
| | **UNITS** | **EX3-SW3-DUP4** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | |
| Moisture | % | 33 | 0.30 | 9985350 |
| RDL = Reportable Detection Limit | | | | |


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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ3437 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | | |
| COC Number | | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | 0.10 | 9983796 |
| Acenaphthene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | 0.0071 | 9984779 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | 0.10 | 9983796 |
| Acenaphthylene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Acridine | mg/kg | <0.010 | 0.010 | 9985594 |
| Anthracene | mg/kg | <0.0040 | 0.0040 | 9985594 |
| Benzo(a)anthracene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Benzo(a)pyrene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Benzo(e)pyrene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Chrysene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Fluoranthene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Fluorene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Naphthalene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Phenanthrene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Perylene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Pyrene | mg/kg | <0.0050 | 0.0050 | 9985594 |
| Quinoline | mg/kg | <0.010 | 0.010 | 9985594 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-ANTHRACENE (sur.) | % | 84 | | 9985594 |
| D8-ACENAPHTHYLENE (sur.) | % | 85 | | 9985594 |
| D8-NAPHTHALENE (sur.) | % | 79 | | 9985594 |
| RDL = Reportable Detection Limit | | | | |



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Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ3437 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | | |
| COC Number | | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 98 | | 9985594 |
| RDL = Reportable Detection Limit | | | | |



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BV Labs Job #: C062803
Report Date: 2020/09/03

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YJ3437 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | | |
| COC Number | | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| **Elements** | | | | |
| Total Arsenic (As) | mg/kg | 1.1 | 1.0 | 9985982 |
| Total Barium (Ba) | mg/kg | 15 | 1.0 | 9985982 |
| Total Chromium (Cr) | mg/kg | 5.0 | 1.0 | 9985982 |
| Total Copper (Cu) | mg/kg | 3.5 | 1.0 | 9985982 |
| Total Lead (Pb) | mg/kg | 2.1 | 0.50 | 9985982 |
| Total Tin (Sn) | mg/kg | <1.0 | 1.0 | 9985982 |
| Total Zinc (Zn) | mg/kg | <10 | 10 | 9985982 |
| RDL = Reportable Detection Limit | | | | |


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Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ3437 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | | |
| COC Number | | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | |
| Bromodichloromethane | mg/kg | <0.030 | 0.030 | 9981405 |
| Bromoform | mg/kg | <0.050 | 0.050 | 9981405 |
| Bromomethane | mg/kg | <0.020 | 0.020 | 9981405 |
| Carbon tetrachloride | mg/kg | <0.00050 | 0.00050 | 9981405 |
| Chlorobenzene | mg/kg | <0.0010 | 0.0010 | 9981405 |
| Chlorodibromomethane | mg/kg | <0.020 | 0.020 | 9981405 |
| Chloroethane | mg/kg | <0.020 | 0.020 | 9981405 |
| Chloroform | mg/kg | <0.010 | 0.010 | 9981405 |
| Chloromethane | mg/kg | <0.030 | 0.030 | 9981405 |
| 1,2-dibromoethane | mg/kg | <0.0020 | 0.0020 | 9981405 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9981405 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9981405 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9981405 |
| 1,1-dichloroethane | mg/kg | <0.020 | 0.020 | 9981405 |
| 1,2-dichloroethane | mg/kg | <0.0020 | 0.0020 | 9981405 |
| 1,1-dichloroethene | mg/kg | <0.020 | 0.020 | 9981405 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9981405 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9981405 |
| Dichloromethane | mg/kg | <0.030 | 0.030 | 9981405 |
| 1,2-dichloropropane | mg/kg | <0.020 | 0.020 | 9981405 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9981405 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9981405 |
| Methyl methacrylate | mg/kg | <0.040 | 0.040 | 9981405 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | 0.030 | 9981405 |
| Styrene | mg/kg | <0.020 | 0.020 | 9981405 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9981405 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9981405 |
| Tetrachloroethene | mg/kg | <0.010 | 0.010 | 9981405 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9981405 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9981405 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9981405 |
| RDL = Reportable Detection Limit | | | | |



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Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ3437 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/01 09:40 | | |
| COC Number | | 312894 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | 0.020 | 9981405 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | 0.020 | 9981405 |
| Trichloroethene | mg/kg | <0.010 | 0.010 | 9981405 |
| Trichlorofluoromethane | mg/kg | <0.020 | 0.020 | 9981405 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9981405 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9981405 |
| Vinyl chloride | mg/kg | <0.00030 | 0.00030 | 9981405 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 113 | | 9981405 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 112 | | 9981405 |
| 4-Bromofluorobenzene (sur.) | % | 102 | | 9981405 |
| D4-1,2-Dichloroethane (sur.) | % | 131 | | 9981405 |
| RDL = Reportable Detection Limit | | | | |



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BV Labs Job #: C062803
Report Date: 2020/09/03

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YJ3437
**Sample ID:** BLDG1-C8-1.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| CCME Hydrocarbons (F4G in soil) | /BAL | 9986630 | 2020/09/02 | 2020/09/03 | Junyan Ban |
| Elements by ICPMS - Soils | ICPM | 9985982 | 2020/09/03 | 2020/09/03 | Anna Nelson |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |
| Benzo[a]pyrene Equivalency | GC/MSD | 9984779 | N/A | 2020/09/03 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9983796 | N/A | 2020/09/03 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9985594 | 2020/09/03 | 2020/09/03 | Nora Kazemian |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9981405 | N/A | 2020/09/03 | Maggie Zhao |

**BV Labs ID:** YJ3437 Dup
**Sample ID:** BLDG1-C8-1.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |

**BV Labs ID:** YJ3438
**Sample ID:** EX3-WW1-3.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3439
**Sample ID:** EX3-SW1-3.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3440
**Sample ID:** EX2-WW1-1.5
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |



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BV Labs Job #: C062803
Report Date: 2020/09/03

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YJ3440
**Sample ID:** EX2-WW1-1.5
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3440 Dup
**Sample ID:** EX2-WW1-1.5
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |

**BV Labs ID:** YJ3441
**Sample ID:** EX2-SW1-1.5
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3442
**Sample ID:** EX2-SW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3443
**Sample ID:** EX2-I11-1.8
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| Moisture | BAL | 9985353 | N/A | 2020/09/03 | Sophie Reid |



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BV Labs Job #: C062803
Report Date: 2020/09/03

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YJ3444
**Sample ID:** EX2-J11-1.8
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3445
**Sample ID:** EX2-EW1-1.5
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/02 | Vian Pereira |
| Moisture | BAL | 9985353 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3445 Dup
**Sample ID:** EX2-EW1-1.5
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Moisture | BAL | 9985353 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3446
**Sample ID:** EX3-SW2-2.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3446 Dup
**Sample ID:** EX3-SW2-2.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3467
**Sample ID:** EX3-I9-3.4
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |



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BV Labs Job #: C062803
Report Date: 2020/09/03

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YJ3467
**Sample ID:** EX3-I9-3.4
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985353 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3468
**Sample ID:** EX3-SW3-3.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3469
**Sample ID:** SP11-1
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3470
**Sample ID:** EX3-EW1-3.0
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3471
**Sample ID:** EX3-G10-3.4
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |



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BV Labs Job #: C062803
Report Date: 2020/09/03

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## TEST SUMMARY

**BV Labs ID:** YJ3472
**Sample ID:** EX3-WW1-DUP2
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985353 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3473
**Sample ID:** EX3-SW1-DUP3
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9983836 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |

**BV Labs ID:** YJ3474
**Sample ID:** EX3-SW3-DUP4
**Matrix:** Soil

**Collected:** 2020/09/01
**Relinquished:** 2020/09/01
**Received:** 2020/09/02

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9985155 | N/A | 2020/09/02 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | 9984760 | N/A | 2020/09/03 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9985252 | 2020/09/02 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9985350 | N/A | 2020/09/03 | Sophie Reid |



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BV Labs Job #: C062803
Report Date: 2020/09/03

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 3.7°C |

**Results relate only to the items tested.**


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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9981405 | MZ | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/02 | | 112 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/02 | | 99 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/02 | | 116 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/02 | | 113 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/02 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/09/02 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/09/02 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/09/02 | <0.0020 (1) | | mg/kg | |
| | | | Chlorodibromomethane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/09/02 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/09/02 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/09/02 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/09/02 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/09/02 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/09/02 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/02 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/02 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/02 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/09/02 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/09/02 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/09/02 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/09/02 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/09/02 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/09/02 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/09/02 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/09/02 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/09/02 | <0.00030 | | mg/kg | |
| 9985155 | RSU | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/02 | | 92 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/02 | | 101 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/02 | | 124 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/02 | | 93 | % | 50 - 140 |
| | | | Benzene | 2020/09/02 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/02 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/02 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/02 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/02 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/02 | <10 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9985252 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/09/02 | | 97 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/02 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/02 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/02 | <50 | | mg/kg | |
| 9985350 | SRI | Method Blank | Moisture | 2020/09/03 | <0.30 | | % | |
| 9985353 | SRI | Method Blank | Moisture | 2020/09/03 | <0.30 | | % | |
| 9985594 | NK3 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/03 | | 86 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/03 | | 102 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/03 | | 87 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/03 | | 80 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/03 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/03 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/03 | <0.010 | | mg/kg | |
| 9985982 | ANE | Method Blank | Total Arsenic (As) | 2020/09/03 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/03 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/03 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/03 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/03 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/03 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/03 | <10 | | mg/kg | |
| 9986630 | JB9 | Method Blank | F4G-SG (Heavy Hydrocarbons-Grav.) | 2020/09/03 | <500 | | mg/kg | |
| 9985155 | RSU | RPD [YJ3437-03] | Benzene | 2020/09/02 | NC | | % | 50 |
| | | | Toluene | 2020/09/02 | NC | | % | 50 |
| | | | Ethylbenzene | 2020/09/02 | 41 | | % | 50 |
| | | | m & p-Xylene | 2020/09/02 | NC | | % | 50 |
| | | | o-Xylene | 2020/09/02 | NC | | % | 50 |
| | | | F1 (C6-C10) | 2020/09/02 | NC | | % | 30 |
| 9985252 | VP4 | RPD [YJ3440-01] | F2 (C10-C16 Hydrocarbons) | 2020/09/02 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/02 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/02 | NC | | % | 40 |
| 9985353 | SRI | RPD [YJ3445-01] | Moisture | 2020/09/03 | 0.64 | | % | 20 |
| 9985350 | SRI | RPD [YJ3446-01] | Moisture | 2020/09/03 | 1.8 | | % | 20 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9985155 | RSU | Matrix Spike [YJ3437-03] | 1,4-Difluorobenzene (sur.) | 2020/09/02 | | 94 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/02 | | 105 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/02 | | 133 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/02 | | 95 | % | 50 - 140 |
| | | | Benzene | 2020/09/02 | | 94 | % | 50 - 140 |
| | | | Toluene | 2020/09/02 | | 106 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/09/02 | | 112 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/09/02 | | 112 | % | 50 - 140 |
| | | | o-Xylene | 2020/09/02 | | 113 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/09/02 | | 98 | % | 60 - 140 |
| 9985252 | VP4 | Matrix Spike [YJ3440-01] | O-TERPHENYL (sur.) | 2020/09/02 | | 89 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/02 | | 82 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/02 | | 82 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/02 | | 84 | % | 60 - 140 |
| 9981405 | MZ | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/02 | | 122 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/02 | | 104 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/02 | | 104 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/02 | | 153 (2) | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/02 | | 127 | % | 60 - 130 |
| | | | Bromoform | 2020/09/02 | | 126 | % | 60 - 130 |
| | | | Bromomethane | 2020/09/02 | | 90 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/09/02 | | 121 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/09/02 | | 88 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/09/02 | | 118 | % | 60 - 130 |
| | | | Chloroethane | 2020/09/02 | | 60 | % | 60 - 130 |
| | | | Chloroform | 2020/09/02 | | 108 | % | 60 - 130 |
| | | | Chloromethane | 2020/09/02 | | 53 (2) | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/09/02 | | 94 | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/09/02 | | 84 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/09/02 | | 86 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/09/02 | | 90 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/09/02 | | 98 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/09/02 | | 110 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/09/02 | | 78 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/09/02 | | 98 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/09/02 | | 89 | % | 60 - 130 |
| | | | Dichloromethane | 2020/09/02 | | 78 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/09/02 | | 92 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/09/02 | | 109 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/09/02 | | 111 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/09/02 | | 101 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/02 | | 105 | % | 60 - 130 |
| | | | Styrene | 2020/09/02 | | 91 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/02 | | 108 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/02 | | 87 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/09/02 | | 90 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/09/02 | | 81 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/09/02 | | 84 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/09/02 | | 89 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/09/02 | | 119 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/09/02 | | 97 | % | 60 - 130 |
| | | | Trichloroethene | 2020/09/02 | | 107 | % | 60 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Trichlorofluoromethane | 2020/09/02 | | 89 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/09/02 | | 90 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/09/02 | | 93 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/09/02 | | 62 | % | 60 - 130 |
| 9985155 | RSU | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/02 | | 90 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/02 | | 105 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/02 | | 120 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/02 | | 96 | % | 50 - 140 |
| | | | Benzene | 2020/09/02 | | 88 | % | 60 - 130 |
| | | | Toluene | 2020/09/02 | | 97 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/02 | | 104 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/02 | | 103 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/02 | | 105 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/02 | | 96 | % | 60 - 140 |
| 9985252 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/09/02 | | 88 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/02 | | 81 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/02 | | 82 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/02 | | 82 | % | 60 - 140 |
| 9985594 | NK3 | LCS | D10-ANTHRACENE (sur.) | 2020/09/03 | | 84 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/03 | | 102 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/03 | | 85 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/03 | | 81 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/03 | | 82 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/03 | | 78 | % | 50 - 130 |
| | | | Acridine | 2020/09/03 | | 66 | % | 50 - 130 |
| | | | Anthracene | 2020/09/03 | | 64 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/03 | | 87 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/03 | | 82 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/03 | | 71 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/03 | | 89 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/03 | | 83 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/03 | | 82 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/03 | | 82 | % | 50 - 130 |
| | | | Chrysene | 2020/09/03 | | 83 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/03 | | 91 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/03 | | 86 | % | 50 - 130 |
| | | | Fluorene | 2020/09/03 | | 85 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/03 | | 83 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/03 | | 82 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/03 | | 79 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/03 | | 77 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/03 | | 79 | % | 50 - 130 |
| | | | Perylene | 2020/09/03 | | 80 | % | 50 - 130 |
| | | | Pyrene | 2020/09/03 | | 85 | % | 50 - 130 |
| | | | Quinoline | 2020/09/03 | | 105 | % | 50 - 130 |
| 9985982 | ANE | LCS | Total Arsenic (As) | 2020/09/03 | | 95 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/09/03 | | 99 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/03 | | 96 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/03 | | 98 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/03 | | 100 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/03 | | 97 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/03 | | 97 | % | 80 - 120 |



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9986630 | JB9 | LCS | F4G-SG (Heavy Hydrocarbons-Grav.) | 2020/09/03 | | 105 | % | 60 - 140 |
| 9985982 | ANE | SRM | Total Arsenic (As) | 2020/09/03 | | 109 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/03 | | 101 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/03 | | 92 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/09/03 | | 98 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/03 | | 108 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/03 | | 101 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/09/03 | | 98 | % | 79 - 121 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Detection limit raised due to interferent.

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



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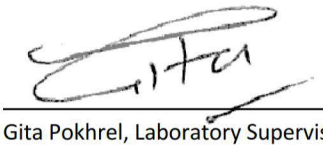
BV Labs Job #: C062803
Report Date: 2020/09/03

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588

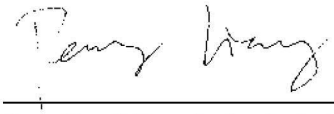
## VALIDATION SIGNATURE PAGE

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

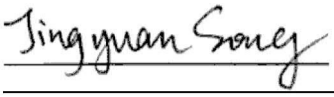


Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics



Harry (Peng) Liang, Senior Analyst



Jingyuan Song, QP, Organics – Senior Analyst

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Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

76

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312894

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 3000 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Stefano Stapazzon Jen Murray / ~~Andrea Jachman~~ | Consultant Project #: 60549588 w.mb.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | waste oil metals * see comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | BLDG1-C8-1.0 | | | X | | 7 | 2020/09/01 | 9:40 | | | X | X | | X | | | | | | | | | | | | | | X |
| 2 | EX3-WW1-3.0 | | | X | | 3 | 2020/09/01 | 10:00 | | | | | | X | | | | | | | | | | | | | | |
| 3 | EX3-SW1-3.0 | | | X | | 3 | 2020/09/01 | 10:10 | | | | | | X | | | | | | | | | | | | | | |
| 4 | EX2-WW1-1.5 | | | X | | 3 | 2020/09/01 | 10:20 | | | | | | X | | | | | | | | | | | | | | |
| 5 | EX2-SW1-1.5 | | | X | | 3 | 2020/09/01 | 10:40 | | | | | | X | | | | | | | | | | | | | | |
| 6 | EX2-SW2-0.5 | | | X | | 3 | 2020/09/01 | 11:30 | | | | | | X | | | | | | | | | | | | | | |
| 7 | EX2-I11-1.8 | | | X | | 3 | 2020/09/01 | 11:45 | | | | | | X | | | | | | | | | | | | | | |
| 8 | EX2-J11-1.8 | | | X | | 3 | 2020/09/01 | 12:00 | | | | | | X | | | | | | | | | | | | | | |
| 9 | EX2-EW1-1.5 | | | X | | 3 | 2020/09/01 | 13:30 | | | | | | X | | | | | | | | | | | | | | |
| 10 | EX3-SW2-2.0 | | | X | | 3 | 2020/09/01 | 13:45 | | | | | | X | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: Pending

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS: * Waste oil metals - Arsenic, barium, chromium, copper, lead, tin, zinc

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Sept. 3/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 4 | 4 | 3 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C062803

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | Jen Murray | 2020/09/01 | 15:30 | 1. | Jessica Lee | 2020/09/02 | 08:50 |
| 2. signature | printed name | YYYY/MM/DD | HR:MN | 2. signature | printed name | YYYY/MM/DD | HR:MN |
| 3. signature | printed name | YYYY/MM/DD | HR:MN | 3. signature | printed name | YYYY/MM/DD | HR:MN |

SAMPLES
LABELED BY: CLW
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB White: Maxxam Yellow: Client

Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312892

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: Aecom Canada Ltd |
| Contact Name: Accounts Payable | Contact Name: Aaron Sambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 3000 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com | Email: Aaron.Sambrosic@Aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray/Lindsay Jackman | Consultant Project #: 60549588 W.MB.3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ANALYSIS REQUESTED: VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 EX3-I9-3.4 | | | X | | 3 | 2020/09/01 | 14:00 | | | | | | X | | | | | | | | | | | | | | |
| 2 EX3-SW3-3.0 | | | X | | 3 | 2020/09/01 | 14:10 | | | | | | X | | | | | | | | | | | | | | |
| 3 SP11-1 | | | X | | 3 | 2020/09/01 | 14:15 | | | | | | X | | | | | | | | | | | | | | |
| 4 EX3-EW1-3.0 | | | X | | 3 | 2020/09/01 | 14:30 | | | | | | X | | | | | | | | | | | | | | |
| 5 EX3-G10-3.4 | | | X | | 3 | 2020/09/01 | 14:45 | | | | | | X | | | | | | | | | | | | | | |
| 6 EX3-WW1-DUP2 | | | X | | 3 | 2020/09/01 | 10:00 | | | | | | X | | | | | | | | | | | | | | |
| 7 EX3-SW1-DUP3 | | | X | | 3 | 2020/09/01 | 10:10 | | | | | | X | | | | | | | | | | | | | | |
| 8 EX3-SW3-DUP4 | | | X | | 3 | 2020/09/01 | 14:10 | | | | | | X | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: Pending

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Sept. 3/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 4 | 4 | 3 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C062803

SAMPLES
LABELED BY: CW
VERIFIED BY: JEM

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature: JMurray | printed name: Jen Murray | 2020/09/01 | 15:30 | 1. signature: | printed name: Jessica Lee | 2020/09/02 | 08:50 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

COC-1010 (06/2016) IOL-AB White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312895

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/04**
Report #: R2925148
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063218**
**Received: 2020/09/03, 08:50**

Sample Matrix: Soil
# Samples Received: 3

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 3 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 3 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 3 | AB SOP-00036 | CCME PHC-CWS m |
| Moisture | 3 | AB SOP-00002 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312895

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/04**
Report #: R2925148
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063218**
**Received: 2020/09/03, 08:50**

Encryption Key

Mary (Xiaohong) Xu
Project Manager I
04 Sep 2020 16:15:40

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

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Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063218
Report Date: 2020/09/04

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ5358 | | | YJ5358 | | | YJ5359 | YJ5360 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/02 10:00 | | | 2020/09/02 10:00 | | | 2020/09/02 13:45 | 2020/09/02 13:50 | | |
| COC Number | | 312895 | | | 312895 | | | 312895 | 312895 | | |
| | **UNITS** | **SP12-2** | **RDL** | **QC Batch** | **SP12-2 Lab-Dup** | **RDL** | **QC Batch** | **SP13-4** | **SP14-2** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 74 | 10 | 9986504 | | | | 32 | 120 | 10 | 9986504 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9986504 | | | | <50 | <50 | 50 | 9986504 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9986504 | | | | <50 | <50 | 50 | 9986504 |
| Reached Baseline at C50 | mg/kg | Yes | | 9986504 | | | | Yes | Yes | | 9986504 |
| **Volatiles** | | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9985941 | | | | 8.0 | 16 | 0.045 | 9985941 |
| F1 (C6-C10) - BTEX | mg/kg | 220 | 10 | 9985941 | | | | 310 | 470 | 10 | 9985941 |
| **Field Preserved Volatiles** | | | | | | | | | | | |
| Benzene | mg/kg | 0.061 (1) | 0.0050 | 9986749 | 0.061 | 0.0050 | 9986749 | 2.1 | 5.9 | 0.0050 | 9986749 |
| Toluene | mg/kg | <0.050 | 0.050 | 9986749 | <0.050 | 0.050 | 9986749 | 0.32 | 0.73 | 0.050 | 9986749 |
| Ethylbenzene | mg/kg | 1.4 | 0.010 | 9986749 | 1.4 | 0.010 | 9986749 | 4.5 | 8.4 | 0.010 | 9986749 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9986749 | <0.040 | 0.040 | 9986749 | 7.8 | 16 | 0.040 | 9986749 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9986749 | <0.020 | 0.020 | 9986749 | 0.28 | 0.88 | 0.020 | 9986749 |
| F1 (C6-C10) | mg/kg | 220 | 10 | 9986749 | 250 | 10 | 9986749 | 330 | 500 | 10 | 9986749 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 107 | | 9986749 | 106 | | 9986749 | 111 | 109 | | 9986749 |
| O-TERPHENYL (sur.) | % | 93 | | 9986504 | | | | 92 | 105 | | 9986504 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 90 | | 9986749 | 90 | | 9986749 | 90 | 88 | | 9986749 |
| 4-Bromofluorobenzene (sur.) | % | 107 | | 9986749 | 109 | | 9986749 | 107 | 105 | | 9986749 |
| D4-1,2-Dichloroethane (sur.) | % | 110 | | 9986749 | 108 | | 9986749 | 110 | 114 | | 9986749 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063218
Report Date: 2020/09/04

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ5358 | YJ5359 | YJ5360 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/02 10:00 | 2020/09/02 13:45 | 2020/09/02 13:50 | | |
| COC Number | | 312895 | 312895 | 312895 | | |
| | **UNITS** | **SP12-2** | **SP13-4** | **SP14-2** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | |
| Moisture | % | 28 | 32 | 30 | 0.30 | 9986954 |
| RDL = Reportable Detection Limit | | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063218
Report Date: 2020/09/04

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YJ5358
**Sample ID:** SP12-2
**Matrix:** Soil

**Collected:** 2020/09/02
**Relinquished:** 2020/09/02
**Received:** 2020/09/03

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9986749 | N/A | 2020/09/03 | Jason Ngo |
| F1-BTEX | CALC/MS | 9985941 | N/A | 2020/09/04 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9986504 | 2020/09/03 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9986954 | N/A | 2020/09/03 | Eric Tse |

**BV Labs ID:** YJ5358 Dup
**Sample ID:** SP12-2
**Matrix:** Soil

**Collected:** 2020/09/02
**Relinquished:** 2020/09/02
**Received:** 2020/09/03

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9986749 | N/A | 2020/09/03 | Jason Ngo |

**BV Labs ID:** YJ5359
**Sample ID:** SP13-4
**Matrix:** Soil

**Collected:** 2020/09/02
**Relinquished:** 2020/09/02
**Received:** 2020/09/03

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9986749 | N/A | 2020/09/03 | Jason Ngo |
| F1-BTEX | CALC/MS | 9985941 | N/A | 2020/09/04 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9986504 | 2020/09/03 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9986954 | N/A | 2020/09/03 | Eric Tse |

**BV Labs ID:** YJ5360
**Sample ID:** SP14-2
**Matrix:** Soil

**Collected:** 2020/09/02
**Relinquished:** 2020/09/02
**Received:** 2020/09/03

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9986749 | N/A | 2020/09/03 | Jason Ngo |
| F1-BTEX | CALC/MS | 9985941 | N/A | 2020/09/04 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9986504 | 2020/09/03 | 2020/09/03 | Vian Pereira |
| Moisture | BAL | 9986954 | N/A | 2020/09/03 | Eric Tse |



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BV Labs Job #: C063218
Report Date: 2020/09/04

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 5.0°C |

**Results relate only to the items tested.**


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BV Labs Job #: C063218
Report Date: 2020/09/04

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9986504 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/09/03 | | 99 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/03 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/03 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/03 | <50 | | mg/kg | |
| 9986749 | JNG | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/03 | | 90 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/03 | | 104 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/03 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/03 | | 104 | % | 50 - 140 |
| | | | Benzene | 2020/09/03 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/03 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/03 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/03 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/03 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/03 | <10 | | mg/kg | |
| 9986954 | ETS | Method Blank | Moisture | 2020/09/04 | <0.30 | | % | |
| 9986749 | JNG | RPD [YJ5358-02] | Benzene | 2020/09/03 | 0.26 | | % | 50 |
| | | | Toluene | 2020/09/03 | NC | | % | 50 |
| | | | Ethylbenzene | 2020/09/03 | 0.78 | | % | 50 |
| | | | m & p-Xylene | 2020/09/03 | NC | | % | 50 |
| | | | o-Xylene | 2020/09/03 | NC | | % | 50 |
| | | | F1 (C6-C10) | 2020/09/03 | 13 | | % | 30 |
| 9986749 | JNG | Matrix Spike [YJ5358-02] | 1,4-Difluorobenzene (sur.) | 2020/09/03 | | 89 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/03 | | 108 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/03 | | 105 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/03 | | 107 | % | 50 - 140 |
| | | | Benzene | 2020/09/03 | | 92 | % | 50 - 140 |
| | | | Toluene | 2020/09/03 | | 90 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/09/03 | | 95 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/09/03 | | 93 | % | 50 - 140 |
| | | | o-Xylene | 2020/09/03 | | 91 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/09/03 | | 93 | % | 60 - 140 |
| 9986504 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/09/03 | | 77 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/03 | | 81 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/03 | | 85 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/03 | | 81 | % | 60 - 140 |
| 9986749 | JNG | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/03 | | 89 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/03 | | 106 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/03 | | 110 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/03 | | 105 | % | 50 - 140 |
| | | | Benzene | 2020/09/03 | | 92 | % | 60 - 130 |
| | | | Toluene | 2020/09/03 | | 91 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/03 | | 95 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/03 | | 94 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/03 | | 94 | % | 60 - 130 |


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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F1 (C6-C10) | 2020/09/03 | | 73 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



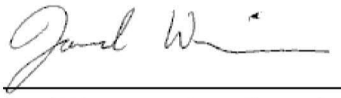
Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063218
Report Date: 2020/09/04

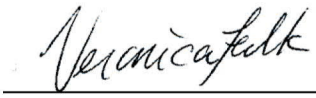
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

153

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312895

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@Aecom.com | Email: Aaron.Jambrosic@Aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray / Lindsay Jackman | Consultant Project #: 60549588 W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SP12-2 | | | X | | 3 | 2020/09/02 | 10:00 | | | | | | X | | | | | | | | | | | | | |
| 2 | SP13-2 JM 4 | | | X | | 3 | 2020/09/02 | 13:45 | | | | | | X | | | | | | | | | | | | | |
| 3 | SP14-2 | | | X | | 3 | 2020/09/02 | 13:50 | | | | | | X | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☑
(1 day) ☒ X
(same day) ☐
Sept. 4/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 4 | 5 | 6 |
| SEAL INTACT | ✓ | | 1 | | | |
| COOLING MEDIA PRESENT | ✓ | | 2 | | | |
| | | | 3 | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | 1 | | | |
| COOLING MEDIA PRESENT | | | 2 | | | |
| | | | 3 | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | 1 | | | |
| COOLING MEDIA PRESENT | | | 2 | | | |
| | | | 3 | | | |

LAB USE ONLY
MAXXAM JOB # C063218

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | Jen Murray | 2020/09/02 | 14:00 | 1. | Jessica Lee | 2020/09/03 | 08:50 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: CUW
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312653

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/06**
Report #: R2925453
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063665**
**Received: 2020/09/04, 08:55**

Sample Matrix: Soil
# Samples Received: 5

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 5 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 5 | | Auto Calc |
| Container Supply & Nonhazardous Disposal | 5 | | |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 5 | AB SOP-00036 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 5 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 5 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 5 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 5 | | Auto Calc |
| PAH in Soil by GC/MS | 5 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| VOCs in Soil by HS GC/MS (Std List) (1) | 5 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements

Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12
Your C.O.C. #: 312653

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/06**
Report #: R2925453
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063665**

**Received: 2020/09/04, 08:55**

of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Namita Sahni
Burnaby Project Manager
06 Sep 2020 15:33:49

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

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Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ7823 | | | YJ7823 | | | YJ7824 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:50 | | | 2020/09/03 16:50 | | | 2020/09/03 17:00 | | |
| COC Number | | 312653 | | | 312653 | | | 312653 | | |
| | **UNITS** | **BLDG3-SW1-0.5** | **RDL** | **QC Batch** | **BLDG3-SW1-0.5 Lab-Dup** | **RDL** | **QC Batch** | **BLDG3-SW2-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9988280 | | | | <10 | 10 | 9988280 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9988280 | | | | <50 | 50 | 9988280 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9988280 | | | | <50 | 50 | 9988280 |
| Reached Baseline at C50 | mg/kg | Yes | | 9988280 | | | | Yes | | 9988280 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9987205 | | | | <0.045 | 0.045 | 9987205 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 10 | 9987205 | | | | <10 | 10 | 9987205 |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.0050 | 9988257 | <0.0050 | 0.0050 | 9988257 | <0.0050 | 0.0050 | 9988257 |
| Toluene | mg/kg | <0.050 | 0.050 | 9988257 | <0.050 | 0.050 | 9988257 | <0.050 | 0.050 | 9988257 |
| Ethylbenzene | mg/kg | <0.010 | 0.010 | 9988257 | <0.010 | 0.010 | 9988257 | <0.010 | 0.010 | 9988257 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9988257 | <0.040 | 0.040 | 9988257 | <0.040 | 0.040 | 9988257 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9988257 | <0.020 | 0.020 | 9988257 | <0.020 | 0.020 | 9988257 |
| F1 (C6-C10) | mg/kg | <10 | 10 | 9988257 | <10 | 10 | 9988257 | <10 | 10 | 9988257 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 94 | | 9988257 | 92 | | 9988257 | 101 | | 9988257 |
| O-TERPHENYL (sur.) | % | 99 | | 9988280 | | | | 101 | | 9988280 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 101 | | 9988257 | 100 | | 9988257 | 101 | | 9988257 |
| 4-Bromofluorobenzene (sur.) | % | 98 | | 9988257 | 98 | | 9988257 | 98 | | 9988257 |
| D4-1,2-Dichloroethane (sur.) | % | 101 | | 9988257 | 102 | | 9988257 | 101 | | 9988257 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ7824 | | | YJ7825 | YJ7826 | YJ7827 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 17:00 | | | 2020/09/03 17:05 | 2020/09/03 17:10 | 2020/09/03 17:15 | | |
| COC Number | | 312653 | | | 312653 | 312653 | 312653 | | |
| | **UNITS** | **BLDG3-SW2-0.5 Lab-Dup** | **RDL** | **QC Batch** | **BLDG3-WW1-0.5** | **BLDG3-G2-1.0** | **BLDG3-H2-1.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9988280 | <10 | <10 | <10 | 10 | 9988280 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9988280 | <50 | <50 | <50 | 50 | 9988280 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9988280 | <50 | <50 | <50 | 50 | 9988280 |
| Reached Baseline at C50 | mg/kg | Yes | | 9988280 | Yes | Yes | Yes | | 9988280 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | | | | <0.045 | <0.045 | <0.045 | 0.045 | 9987205 |
| F1 (C6-C10) - BTEX | mg/kg | | | | <10 | <10 | <10 | 10 | 9987205 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | | | | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988257 |
| Toluene | mg/kg | | | | <0.050 | <0.050 | <0.050 | 0.050 | 9988257 |
| Ethylbenzene | mg/kg | | | | <0.010 | <0.010 | <0.010 | 0.010 | 9988257 |
| m & p-Xylene | mg/kg | | | | <0.040 | <0.040 | <0.040 | 0.040 | 9988257 |
| o-Xylene | mg/kg | | | | <0.020 | <0.020 | <0.020 | 0.020 | 9988257 |
| F1 (C6-C10) | mg/kg | | | | <10 | <10 | <10 | 10 | 9988257 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | | | | 104 | 102 | 104 | | 9988257 |
| O-TERPHENYL (sur.) | % | 99 | | 9988280 | 92 | 99 | 97 | | 9988280 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | | | | 100 | 100 | 101 | | 9988257 |
| 4-Bromofluorobenzene (sur.) | % | | | | 98 | 98 | 97 | | 9988257 |
| D4-1,2-Dichloroethane (sur.) | % | | | | 102 | 102 | 102 | | 9988257 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ7823 | YJ7824 | YJ7825 | | YJ7826 | YJ7826 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:50 | 2020/09/03 17:00 | 2020/09/03 17:05 | | 2020/09/03 17:10 | 2020/09/03 17:10 | | |
| COC Number | | 312653 | 312653 | 312653 | | 312653 | 312653 | | |
| | **UNITS** | **BLDG3-SW1-0.5** | **BLDG3-SW2-0.5** | **BLDG3-WW1-0.5** | **QC Batch** | **BLDG3-G2-1.0** | **BLDG3-G2-1.0 Lab-Dup** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 6.3 | 8.4 | 26 | 9988235 | 14 | 14 | 0.30 | 9988799 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

| BV Labs ID | | YJ7827 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/03 17:15 | | |
| COC Number | | 312653 | | |
| | **UNITS** | **BLDG3-H2-1.0** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | |
| Moisture | % | 20 | 0.30 | 9988235 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7823 | YJ7824 | | | YJ7824 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:50 | 2020/09/03 17:00 | | | 2020/09/03 17:00 | | |
| COC Number | | 312653 | 312653 | | | 312653 | | |
| | **UNITS** | **BLDG3-SW1-0.5** | **BLDG3-SW2-0.5** | **RDL** | **QC Batch** | **BLDG3-SW2-0.5 Lab-Dup** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | 0.10 | 9987602 | | | |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | 0.0071 | 9987213 | | | |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | 0.10 | 9987602 | | | |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Acridine | mg/kg | <0.010 | <0.010 | 0.010 | 9988286 | <0.010 | 0.010 | 9988286 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | 0.0040 | 9988286 | <0.0040 | 0.0040 | 9988286 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9988286 | <0.0050 | 0.0050 | 9988286 |
| Quinoline | mg/kg | <0.010 | <0.010 | 0.010 | 9988286 | <0.010 | 0.010 | 9988286 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 90 | 92 | | 9988286 | 95 | | 9988286 |
| D8-ACENAPHTHYLENE (sur.) | % | 90 | 90 | | 9988286 | 93 | | 9988286 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7823 | YJ7824 | | | YJ7824 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:50 | 2020/09/03 17:00 | | | 2020/09/03 17:00 | | |
| COC Number | | 312653 | 312653 | | | 312653 | | |
| | **UNITS** | **BLDG3-SW1-0.5** | **BLDG3-SW2-0.5** | **RDL** | **QC Batch** | **BLDG3-SW2-0.5 Lab-Dup** | **RDL** | **QC Batch** |
| D8-NAPHTHALENE (sur.) | % | 83 | 84 | | 9988286 | 86 | | 9988286 |
| TERPHENYL-D14 (sur.) | % | 111 | 115 | | 9988286 | 120 | | 9988286 |

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BV Labs Job #: C063665
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Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7825 | YJ7826 | YJ7827 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 17:05 | 2020/09/03 17:10 | 2020/09/03 17:15 | | |
| COC Number | | 312653 | 312653 | 312653 | | |
| | **UNITS** | **BLDG3-WW1-0.5** | **BLDG3-G2-1.0** | **BLDG3-H2-1.0** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9987213 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9988286 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| **Extraction Surrogate Recovery (%)** | | | | | | |
| D10-ANTHRACENE (sur.) | % | 83 | 90 | 88 | | 9988286 |
| D8-ACENAPHTHYLENE (sur.) | % | 84 | 89 | 86 | | 9988286 |
| D8-NAPHTHALENE (sur.) | % | 78 | 83 | 81 | | 9988286 |
| RDL = Reportable Detection Limit | | | | | | |



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BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7825 | YJ7826 | YJ7827 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 17:05 | 2020/09/03 17:10 | 2020/09/03 17:15 | | |
| COC Number | | 312653 | 312653 | 312653 | | |
| | **UNITS** | **BLDG3-WW1-0.5** | **BLDG3-G2-1.0** | **BLDG3-H2-1.0** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 105 | 107 | 105 | | 9988286 |
| RDL = Reportable Detection Limit | | | | | | |


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Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YJ7823 | YJ7824 | YJ7825 | | YJ7826 | YJ7827 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:50 | 2020/09/03 17:00 | 2020/09/03 17:05 | | 2020/09/03 17:10 | 2020/09/03 17:15 | | |
| COC Number | | 312653 | 312653 | 312653 | | 312653 | 312653 | | |
| | **UNITS** | **BLDG3-SW1-0.5** | **BLDG3-SW2-0.5** | **BLDG3-WW1-0.5** | **QC Batch** | **BLDG3-G2-1.0** | **BLDG3-H2-1.0** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | | |
| Total Arsenic (As) | mg/kg | <1.0 | 2.9 | 8.5 | 9989587 | <1.0 | 2.4 | 1.0 | 9989588 |
| Total Barium (Ba) | mg/kg | 12 | 61 | 230 | 9989587 | 8.9 | 42 | 1.0 | 9989588 |
| Total Chromium (Cr) | mg/kg | 6.5 | 15 | 40 | 9989587 | 4.4 | 13 | 1.0 | 9989588 |
| Total Copper (Cu) | mg/kg | 4.2 | 15 | 33 | 9989587 | 4.8 | 8.6 | 1.0 | 9989588 |
| Total Lead (Pb) | mg/kg | 2.4 | 8.0 | 15 | 9989587 | 2.0 | 3.7 | 0.50 | 9989588 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | <1.0 | 9989587 | <1.0 | <1.0 | 1.0 | 9989588 |
| Total Zinc (Zn) | mg/kg | <10 | 24 | 76 | 9989587 | <10 | 18 | 10 | 9989588 |
| RDL = Reportable Detection Limit | | | | | | | | | |



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Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7823 | YJ7824 | YJ7824 | YJ7825 | YJ7826 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:50 | 2020/09/03 17:00 | 2020/09/03 17:00 | 2020/09/03 17:05 | 2020/09/03 17:10 | | |
| COC Number | | 312653 | 312653 | 312653 | 312653 | 312653 | | |
| | **UNITS** | **BLDG3-SW1-0.5** | **BLDG3-SW2-0.5** | **BLDG3-SW2-0.5 Lab-Dup** | **BLDG3-WW1-0.5** | **BLDG3-G2-1.0** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988264 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9988264 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9988264 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988264 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988264 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988264 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988264 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988264 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988264 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |

RDL = Reportable Detection Limit
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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7823 | YJ7824 | YJ7824 | YJ7825 | YJ7826 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:50 | 2020/09/03 17:00 | 2020/09/03 17:00 | 2020/09/03 17:05 | 2020/09/03 17:10 | | |
| COC Number | | 312653 | 312653 | 312653 | 312653 | 312653 | | |
| | **UNITS** | **BLDG3-SW1-0.5** | **BLDG3-SW2-0.5** | **BLDG3-SW2-0.5 Lab-Dup** | **BLDG3-WW1-0.5** | **BLDG3-G2-1.0** | **RDL** | **QC Batch** |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988264 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988264 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988264 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9988264 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 122 | 110 | 117 | 116 | 110 | | 9988264 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 100 | 98 | 100 | 99 | 99 | | 9988264 |
| 4-Bromofluorobenzene (sur.) | % | 96 | 93 | 97 | 98 | 98 | | 9988264 |
| D4-1,2-Dichloroethane (sur.) | % | 86 | 107 | 90 | 90 | 113 | | 9988264 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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AECOM CANADA LTD.
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Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7827 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/03 17:15 | | |
| COC Number | | 312653 | | |
| | **UNITS** | **BLDG3-H2-1.0** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | |
| Bromodichloromethane | mg/kg | <0.030 | 0.030 | 9988264 |
| Bromoform | mg/kg | <0.050 | 0.050 | 9988264 |
| Bromomethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Carbon tetrachloride | mg/kg | <0.00050 | 0.00050 | 9988264 |
| Chlorobenzene | mg/kg | <0.0010 | 0.0010 | 9988264 |
| Chlorodibromomethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Chloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Chloroform | mg/kg | <0.010 | 0.010 | 9988264 |
| Chloromethane | mg/kg | <0.030 | 0.030 | 9988264 |
| 1,2-dibromoethane | mg/kg | <0.0020 | 0.0020 | 9988264 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,1-dichloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,2-dichloroethane | mg/kg | <0.0020 | 0.0020 | 9988264 |
| 1,1-dichloroethene | mg/kg | <0.020 | 0.020 | 9988264 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9988264 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9988264 |
| Dichloromethane | mg/kg | <0.030 | 0.030 | 9988264 |
| 1,2-dichloropropane | mg/kg | <0.020 | 0.020 | 9988264 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9988264 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9988264 |
| Methyl methacrylate | mg/kg | <0.040 | 0.040 | 9988264 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | 0.030 | 9988264 |
| Styrene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9988264 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9988264 |
| Tetrachloroethene | mg/kg | <0.010 | 0.010 | 9988264 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9988264 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9988264 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9988264 |
| RDL = Reportable Detection Limit | | | | |



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ7827 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/03 17:15 | | |
| COC Number | | 312653 | | |
| | **UNITS** | **BLDG3-H2-1.0** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Trichloroethene | mg/kg | <0.010 | 0.010 | 9988264 |
| Trichlorofluoromethane | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9988264 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9988264 |
| Vinyl chloride | mg/kg | <0.00030 | 0.00030 | 9988264 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 110 | | 9988264 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 99 | | 9988264 |
| 4-Bromofluorobenzene (sur.) | % | 97 | | 9988264 |
| D4-1,2-Dichloroethane (sur.) | % | 94 | | 9988264 |
| RDL = Reportable Detection Limit | | | | |



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YJ7823
**Sample ID:** BLDG3-SW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988257 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987205 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ7823 Dup
**Sample ID:** BLDG3-SW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988257 | N/A | 2020/09/04 | Darrus Ong |

**BV Labs ID:** YJ7824
**Sample ID:** BLDG3-SW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988257 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987205 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ7824 Dup
**Sample ID:** BLDG3-SW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |



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BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YJ7825
**Sample ID:** BLDG3-WW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988257 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987205 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ7826
**Sample ID:** BLDG3-G2-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988257 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987205 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988799 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ7826 Dup
**Sample ID:** BLDG3-G2-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Moisture | BAL | 9988799 | N/A | 2020/09/05 | Margarita Aguilera |

**BV Labs ID:** YJ7827
**Sample ID:** BLDG3-H2-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988257 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987205 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |



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BV Labs Job #: C063665
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YJ7827
**Sample ID:** BLDG3-H2-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |



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## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 2.0°C |

**Results relate only to the items tested.**



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Project #: 60549588 W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9988235 | MAE | Method Blank | Moisture | 2020/09/05 | <0.30 | | % | |
| 9988257 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 96 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 87 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 101 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/04 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/04 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/04 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/04 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/04 | <10 | | mg/kg | |
| 9988264 | RSU | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/06 | | 101 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/06 | | 92 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/06 | | 105 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/06 | | 97 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/06 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/09/06 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/09/06 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/09/06 | <0.0010 | | mg/kg | |
| | | | Chlorodibromomethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/09/06 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/09/06 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/09/06 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/09/06 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/09/06 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/06 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/06 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/06 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/09/06 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/09/06 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/09/06 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/09/06 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/09/06 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/09/06 | <0.50 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Vinyl chloride | 2020/09/06 | <0.00030 | | mg/kg | |
| 9988280 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/05 | | 104 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| 9988286 | JC7 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/06 | | 92 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 120 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 86 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/06 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/06 | <0.010 | | mg/kg | |
| 9988799 | MAE | Method Blank | Moisture | 2020/09/05 | <0.30 | | % | |
| 9989587 | ANE | Method Blank | Total Arsenic (As) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/06 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/06 | <10 | | mg/kg | |
| 9989588 | ANE | Method Blank | Total Arsenic (As) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/06 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/06 | <10 | | mg/kg | |
| 9988257 | DO1 | RPD [YJ7823-03] | Benzene | 2020/09/04 | NC | | % | 50 |
| | | | Toluene | 2020/09/04 | NC | | % | 50 |
| | | | Ethylbenzene | 2020/09/04 | NC | | % | 50 |
| | | | m & p-Xylene | 2020/09/04 | NC | | % | 50 |
| | | | o-Xylene | 2020/09/04 | NC | | % | 50 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F1 (C6-C10) | 2020/09/04 | NC | | % | 30 |
| 9988264 | RSU | RPD [YJ7824-03] | Bromodichloromethane | 2020/09/06 | NC | | % | 50 |
| | | | Bromoform | 2020/09/06 | NC | | % | 50 |
| | | | Bromomethane | 2020/09/06 | NC | | % | 50 |
| | | | Carbon tetrachloride | 2020/09/06 | NC | | % | 50 |
| | | | Chlorobenzene | 2020/09/06 | NC | | % | 50 |
| | | | Chlorodibromomethane | 2020/09/06 | NC | | % | 50 |
| | | | Chloroethane | 2020/09/06 | NC | | % | 50 |
| | | | Chloroform | 2020/09/06 | NC | | % | 50 |
| | | | Chloromethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,2-dibromoethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,2-dichlorobenzene | 2020/09/06 | NC | | % | 50 |
| | | | 1,3-dichlorobenzene | 2020/09/06 | NC | | % | 50 |
| | | | 1,4-dichlorobenzene | 2020/09/06 | NC | | % | 50 |
| | | | 1,1-dichloroethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,2-dichloroethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,1-dichloroethene | 2020/09/06 | NC | | % | 50 |
| | | | cis-1,2-dichloroethene | 2020/09/06 | NC | | % | 50 |
| | | | trans-1,2-dichloroethene | 2020/09/06 | NC | | % | 50 |
| | | | Dichloromethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,2-dichloropropane | 2020/09/06 | NC | | % | 50 |
| | | | cis-1,3-dichloropropene | 2020/09/06 | NC | | % | 50 |
| | | | trans-1,3-dichloropropene | 2020/09/06 | NC | | % | 50 |
| | | | Methyl methacrylate | 2020/09/06 | NC | | % | 50 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/06 | NC | | % | 50 |
| | | | Styrene | 2020/09/06 | NC | | % | 50 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/06 | NC | | % | 50 |
| | | | Tetrachloroethene | 2020/09/06 | NC | | % | 50 |
| | | | 1,2,3-trichlorobenzene | 2020/09/06 | NC | | % | 50 |
| | | | 1,2,4-trichlorobenzene | 2020/09/06 | NC | | % | 50 |
| | | | 1,3,5-trichlorobenzene | 2020/09/06 | NC | | % | 50 |
| | | | 1,1,1-trichloroethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,1,2-trichloroethane | 2020/09/06 | NC | | % | 50 |
| | | | Trichloroethene | 2020/09/06 | NC | | % | 50 |
| | | | Trichlorofluoromethane | 2020/09/06 | NC | | % | 50 |
| | | | 1,2,4-trimethylbenzene | 2020/09/06 | NC | | % | 50 |
| | | | 1,3,5-trimethylbenzene | 2020/09/06 | NC | | % | 50 |
| | | | Vinyl chloride | 2020/09/06 | NC | | % | 50 |
| 9988280 | MHF | RPD [YJ7824-02] | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | NC | | % | 40 |
| 9988286 | JC7 | RPD [YJ7824-02] | Acenaphthene | 2020/09/06 | NC | | % | 50 |
| | | | Acenaphthylene | 2020/09/06 | NC | | % | 50 |
| | | | Acridine | 2020/09/06 | NC | | % | 50 |
| | | | Anthracene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(a)anthracene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(k)fluoranthene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(a)pyrene | 2020/09/06 | NC | | % | 50 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Benzo(e)pyrene | 2020/09/06 | NC | | % | 50 |
| | | | Chrysene | 2020/09/06 | NC | | % | 50 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | NC | | % | 50 |
| | | | Fluoranthene | 2020/09/06 | NC | | % | 50 |
| | | | Fluorene | 2020/09/06 | NC | | % | 50 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | NC | | % | 50 |
| | | | 1-Methylnaphthalene | 2020/09/06 | NC | | % | 50 |
| | | | 2-Methylnaphthalene | 2020/09/06 | NC | | % | 50 |
| | | | Naphthalene | 2020/09/06 | NC | | % | 50 |
| | | | Phenanthrene | 2020/09/06 | NC | | % | 50 |
| | | | Perylene | 2020/09/06 | NC | | % | 50 |
| | | | Pyrene | 2020/09/06 | NC | | % | 50 |
| | | | Quinoline | 2020/09/06 | NC | | % | 50 |
| 9988799 | MAE | RPD [YJ7826-02] | Moisture | 2020/09/05 | 2.2 | | % | 20 |
| 9988257 | DO1 | Matrix Spike [YJ7823-03] | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 100 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 96 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 109 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | | 103 | % | 50 - 140 |
| | | | Toluene | 2020/09/04 | | 94 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/09/04 | | 92 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/09/04 | | 92 | % | 50 - 140 |
| | | | o-Xylene | 2020/09/04 | | 90 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/09/04 | | 79 | % | 60 - 140 |
| 9988264 | RSU | Matrix Spike [YJ7825-03] | 1,4-Difluorobenzene (sur.) | 2020/09/06 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/06 | | 101 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/06 | | 125 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/06 | | 102 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/06 | | 100 | % | 50 - 140 |
| | | | Bromoform | 2020/09/06 | | 99 | % | 50 - 140 |
| | | | Bromomethane | 2020/09/06 | | 101 | % | 50 - 140 |
| | | | Carbon tetrachloride | 2020/09/06 | | 100 | % | 50 - 140 |
| | | | Chlorobenzene | 2020/09/06 | | 98 | % | 50 - 140 |
| | | | Chlorodibromomethane | 2020/09/06 | | 106 | % | 50 - 140 |
| | | | Chloroethane | 2020/09/06 | | 107 | % | 50 - 140 |
| | | | Chloroform | 2020/09/06 | | 93 | % | 50 - 140 |
| | | | Chloromethane | 2020/09/06 | | 79 | % | 50 - 140 |
| | | | 1,2-dibromoethane | 2020/09/06 | | 100 | % | 50 - 140 |
| | | | 1,2-dichlorobenzene | 2020/09/06 | | 90 | % | 50 - 140 |
| | | | 1,3-dichlorobenzene | 2020/09/06 | | 93 | % | 50 - 140 |
| | | | 1,4-dichlorobenzene | 2020/09/06 | | 88 | % | 50 - 140 |
| | | | 1,1-dichloroethane | 2020/09/06 | | 99 | % | 50 - 140 |
| | | | 1,2-dichloroethane | 2020/09/06 | | 91 | % | 50 - 140 |
| | | | 1,1-dichloroethene | 2020/09/06 | | 114 | % | 50 - 140 |
| | | | cis-1,2-dichloroethene | 2020/09/06 | | 102 | % | 50 - 140 |
| | | | trans-1,2-dichloroethene | 2020/09/06 | | 99 | % | 50 - 140 |
| | | | Dichloromethane | 2020/09/06 | | 92 | % | 50 - 140 |
| | | | 1,2-dichloropropane | 2020/09/06 | | 93 | % | 50 - 140 |
| | | | cis-1,3-dichloropropene | 2020/09/06 | | 92 | % | 50 - 140 |
| | | | trans-1,3-dichloropropene | 2020/09/06 | | 88 | % | 50 - 140 |
| | | | Methyl methacrylate | 2020/09/06 | | 96 | % | 50 - 140 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/06 | | 89 | % | 50 - 140 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Styrene | 2020/09/06 | | 102 | % | 50 - 140 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/06 | | 103 | % | 50 - 140 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/06 | | 87 | % | 50 - 140 |
| | | | Tetrachloroethene | 2020/09/06 | | 104 | % | 50 - 140 |
| | | | 1,2,3-trichlorobenzene | 2020/09/06 | | 90 | % | 50 - 140 |
| | | | 1,2,4-trichlorobenzene | 2020/09/06 | | 91 | % | 50 - 140 |
| | | | 1,3,5-trichlorobenzene | 2020/09/06 | | 92 | % | 50 - 140 |
| | | | 1,1,1-trichloroethane | 2020/09/06 | | 103 | % | 50 - 140 |
| | | | 1,1,2-trichloroethane | 2020/09/06 | | 92 | % | 50 - 140 |
| | | | Trichloroethene | 2020/09/06 | | 104 | % | 50 - 140 |
| | | | Trichlorofluoromethane | 2020/09/06 | | 96 | % | 50 - 140 |
| | | | 1,2,4-trimethylbenzene | 2020/09/06 | | 98 | % | 50 - 140 |
| | | | 1,3,5-trimethylbenzene | 2020/09/06 | | 96 | % | 50 - 140 |
| | | | Vinyl chloride | 2020/09/06 | | 92 | % | 50 - 140 |
| 9988280 | MHF | Matrix Spike [YJ7824-02] | O-TERPHENYL (sur.) | 2020/09/06 | | 98 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/06 | | 90 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/06 | | 94 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/06 | | 91 | % | 60 - 140 |
| 9988286 | JC7 | Matrix Spike [YJ7824-02] | D10-ANTHRACENE (sur.) | 2020/09/06 | | 84 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 101 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 87 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 89 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | | 77 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/06 | | 76 | % | 50 - 130 |
| | | | Acridine | 2020/09/06 | | 62 | % | 50 - 130 |
| | | | Anthracene | 2020/09/06 | | 60 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/06 | | 84 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | | 79 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/06 | | 76 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | | 77 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | | 84 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/06 | | 78 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/06 | | 82 | % | 50 - 130 |
| | | | Chrysene | 2020/09/06 | | 83 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | | 70 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/06 | | 80 | % | 50 - 130 |
| | | | Fluorene | 2020/09/06 | | 77 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | | 69 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/06 | | 82 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/06 | | 79 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/06 | | 81 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/06 | | 76 | % | 50 - 130 |
| | | | Perylene | 2020/09/06 | | 78 | % | 50 - 130 |
| | | | Pyrene | 2020/09/06 | | 78 | % | 50 - 130 |
| | | | Quinoline | 2020/09/06 | | 104 | % | 50 - 130 |
| 9988257 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 102 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 97 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 96 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 106 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | | 99 | % | 60 - 130 |
| | | | Toluene | 2020/09/04 | | 98 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/04 | | 94 | % | 60 - 130 |



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|---|---|---|---|---|---|---|---|---|
| | | | m & p-Xylene | 2020/09/04 | | 95 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/04 | | 93 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/04 | | 81 | % | 60 - 140 |
| 9988264 | RSU | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/06 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/06 | | 103 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/06 | | 119 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/06 | | 91 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/06 | | 116 | % | 60 - 130 |
| | | | Bromoform | 2020/09/06 | | 116 | % | 60 - 130 |
| | | | Bromomethane | 2020/09/06 | | 104 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/09/06 | | 123 | % | 60 - 130 |
| | | | Chloroethane | 2020/09/06 | | 87 | % | 60 - 130 |
| | | | Chloroform | 2020/09/06 | | 102 | % | 60 - 130 |
| | | | Chloromethane | 2020/09/06 | | 70 | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/09/06 | | 120 | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/09/06 | | 103 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/09/06 | | 107 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/09/06 | | 102 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/09/06 | | 117 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/09/06 | | 115 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/09/06 | | 106 | % | 60 - 130 |
| | | | Dichloromethane | 2020/09/06 | | 104 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/09/06 | | 107 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/09/06 | | 107 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/09/06 | | 118 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/06 | | 104 | % | 60 - 130 |
| | | | Styrene | 2020/09/06 | | 114 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/06 | | 117 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/06 | | 99 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/09/06 | | 93 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/09/06 | | 99 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/09/06 | | 103 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/09/06 | | 110 | % | 60 - 130 |
| | | | Trichloroethene | 2020/09/06 | | 115 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/09/06 | | 93 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/09/06 | | 110 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/09/06 | | 83 | % | 60 - 130 |
| 9988280 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/06 | | 109 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/06 | | 99 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/06 | | 104 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/06 | | 104 | % | 60 - 140 |
| 9988286 | JC7 | LCS | D10-ANTHRACENE (sur.) | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 119 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 99 | % | 50 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 95 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Acridine | 2020/09/06 | | 75 | % | 50 - 130 |
| | | | Anthracene | 2020/09/06 | | 73 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/06 | | 102 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/06 | | 89 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | | 91 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | | 97 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/06 | | 96 | % | 50 - 130 |
| | | | Chrysene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | Fluorene | 2020/09/06 | | 97 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | | 85 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/06 | | 88 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/06 | | 91 | % | 50 - 130 |
| | | | Perylene | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | Pyrene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Quinoline | 2020/09/06 | | 103 | % | 50 - 130 |
| 9989587 | ANE | LCS | Total Arsenic (As) | 2020/09/06 | | 94 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/09/06 | | 102 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 99 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/06 | | 102 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/06 | | 99 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/06 | | 97 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 99 | % | 80 - 120 |
| 9989588 | ANE | LCS | Total Arsenic (As) | 2020/09/06 | | 96 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/09/06 | | 95 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 95 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/06 | | 96 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/06 | | 98 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/06 | | 94 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 93 | % | 80 - 120 |
| 9989587 | ANE | SRM | Total Arsenic (As) | 2020/09/06 | | 98 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/06 | | 99 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 89 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/09/06 | | 95 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/06 | | 106 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/06 | | 91 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 95 | % | 79 - 121 |
| 9989588 | ANE | SRM | Total Arsenic (As) | 2020/09/06 | | 99 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/06 | | 100 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 96 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/09/06 | | 99 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/06 | | 108 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/06 | | 101 | % | 67 - 133 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Total Zinc (Zn) | 2020/09/06 | | 95 | % | 79 - 121 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



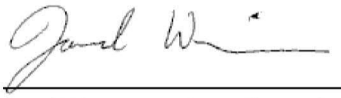
Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063665
Report Date: 2020/09/06

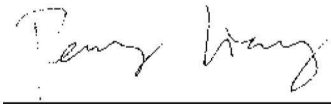
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: CTC
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Harry (Peng) Liang, Senior Analyst

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

215

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312653

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: Aecom Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@Aecom.com | Email: Aaron.Jambrosic@Aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray / Lindsay Jachman | Consultant Project #: 60549588 WMB3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ANALYSIS REQUESTED: VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | waste oil metals *see notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 BLDG3-SW1-0.5 | | | X | | 7 | 2020/09/03 | 16:50 | | | X | X | | X | | | | | | | | | | | | | | X |
| 2 BLDG3-SW2-0.5 | | | X | | 7 | 2020/09/03 | 17:00 | | | X | X | | X | | | | | | | | | | | | | | X |
| 3 BLDG3-SWW1-0.5 | | | X | | 7 | 2020/09/03 | 17:05 | | | X | X | | X | | | | | | | | | | | | | | X |
| 4 BLDG3-G2-1.0 | | | X | | 7 | 2020/09/03 | 17:10 | | | X | X | | X | | | | | | | | | | | | | | X |
| 5 BLDG3-H2-1.0 | | | X | | 7 | 2020/09/03 | 17:15 | | | X | X | | X | | | | | | | | | | | | | | X |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS
* waste oil metals = Arsenic, barium, chromium, copper, lead, tin, zinc

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☐
(same day) ☐
Sunday Sept. 6/20
Date Required

| | YES | NO | COOLER ID # | | | | YES | NO | COOLER ID # | | | | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 1 | 2 | 3 | SEAL PRESENT | | | | | | SEAL PRESENT | | | | | |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 | SEAL INTACT | | | | | | SEAL INTACT | | | | | |
| COOLING MEDIA PRESENT | ✓ | | | | | | COOLING MEDIA PRESENT | | | | | | COOLING MEDIA PRESENT | | | | | |

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature: JMurray | printed name: Jen Murray | 2020/09/03 | 18:00 | 1. signature | printed name: Jessica Lee | 2020/09/04 | 08:55 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

LAB USE ONLY
MAXXAM JOB #: C0631665

SAMPLES
LABELED BY: JEM
VERIFIED BY: CHW

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312
Your C.O.C. #: 312651

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/06**
Report #: R2925440
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063699**
**Received: 2020/09/04, 08:55**

Sample Matrix: Soil
# Samples Received: 10

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 10 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 10 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 10 | AB SOP-00036 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 10 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 10 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 10 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 10 | | Auto Calc |
| PAH in Soil by GC/MS | 10 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| VOCs in Soil by HS GC/MS (Std List) (1) | 10 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's



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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312
Your C.O.C. #: 312651

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/06**
Report #: R2925440
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063699**

**Received: 2020/09/04, 08:55**

Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Namita Sahni
Burnaby Project Manager
06 Sep 2020 14:33:34

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ8008 | | | YJ8008 | | | YJ8009 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:00 | | | 2020/09/03 15:00 | | | 2020/09/03 15:10 | | |
| COC Number | | 312651 | | | 312651 | | | 312651 | | |
| | **UNITS** | **BLDG2-SW4-0.5** | **RDL** | **QC Batch** | **BLDG2-SW4-0.5 Lab-Dup** | **RDL** | **QC Batch** | **BLDG2-WW1-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9988280 | | | | <10 | 10 | 9988280 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9988280 | | | | <50 | 50 | 9988280 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9988280 | | | | <50 | 50 | 9988280 |
| Reached Baseline at C50 | mg/kg | Yes | | 9988280 | | | | Yes | | 9988280 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9987781 | | | | <0.045 | 0.045 | 9987781 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 10 | 9987781 | | | | <10 | 10 | 9987781 |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.0050 | 9988246 | <0.0050 | 0.0050 | 9988246 | <0.0050 | 0.0050 | 9988246 |
| Toluene | mg/kg | <0.050 | 0.050 | 9988246 | <0.050 | 0.050 | 9988246 | <0.050 | 0.050 | 9988246 |
| Ethylbenzene | mg/kg | <0.010 | 0.010 | 9988246 | <0.010 | 0.010 | 9988246 | <0.010 | 0.010 | 9988246 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9988246 | <0.040 | 0.040 | 9988246 | <0.040 | 0.040 | 9988246 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9988246 | <0.020 | 0.020 | 9988246 | <0.020 | 0.020 | 9988246 |
| F1 (C6-C10) | mg/kg | <10 | 10 | 9988246 | <10 | 10 | 9988246 | <10 | 10 | 9988246 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 109 | | 9988246 | 103 | | 9988246 | 115 | | 9988246 |
| O-TERPHENYL (sur.) | % | 97 | | 9988280 | | | | 96 | | 9988280 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 101 | | 9988246 | 102 | | 9988246 | 102 | | 9988246 |
| 4-Bromofluorobenzene (sur.) | % | 107 | | 9988246 | 102 | | 9988246 | 104 | | 9988246 |
| D4-1,2-Dichloroethane (sur.) | % | 103 | | 9988246 | 106 | | 9988246 | 106 | | 9988246 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate


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BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ8010 | YJ8011 | YJ8012 | YJ8013 | YJ8014 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:30 | 2020/09/03 15:40 | 2020/09/03 15:50 | 2020/09/03 16:00 | 2020/09/03 16:10 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-WW2-0.5** | **BLDG2-N3-1.0** | **BLDG2-L3-1.0** | **BLDG2-R4-1.0** | **BLDG2-P2-1.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9988280 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | 50 | 9988280 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | 50 | 9988280 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | | 9988280 |
| **Volatiles** | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | 0.045 | 9987781 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9987781 |
| **Field Preserved Volatiles** | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988246 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988246 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988246 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988246 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988246 |
| F1 (C6-C10) | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9988246 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 109 | 111 | 122 | 116 | 121 | | 9988246 |
| O-TERPHENYL (sur.) | % | 96 | 101 | 95 | 98 | 94 | | 9988280 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 102 | 103 | 102 | 104 | 101 | | 9988246 |
| 4-Bromofluorobenzene (sur.) | % | 102 | 105 | 101 | 104 | 102 | | 9988246 |
| D4-1,2-Dichloroethane (sur.) | % | 105 | 104 | 104 | 105 | 103 | | 9988246 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ8015 | YJ8016 | | YJ8017 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 18:20 | 2020/09/03 16:30 | | 2020/09/03 16:45 | | |
| COC Number | | 312651 | 312651 | | 312651 | | |
| | **UNITS** | **BLDG2-NW1-0.5** | **BLDG2-NW2-0.5** | **QC Batch** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 16 | 9988280 | <10 | 10 | 9988373 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 57 | 9988280 | <50 | 50 | 9988373 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | 9988280 | <50 | 50 | 9988373 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | 9988280 | Yes | | 9988373 |
| **Volatiles** | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | 9987781 | <0.045 | 0.045 | 9987781 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | 9987781 | <10 | 10 | 9987781 |
| **Field Preserved Volatiles** | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | 9988246 | <0.0050 | 0.0050 | 9988246 |
| Toluene | mg/kg | <0.050 | <0.050 | 9988246 | <0.050 | 0.050 | 9988246 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | 9988246 | <0.010 | 0.010 | 9988246 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | 9988246 | <0.040 | 0.040 | 9988246 |
| o-Xylene | mg/kg | <0.020 | <0.020 | 9988246 | <0.020 | 0.020 | 9988246 |
| F1 (C6-C10) | mg/kg | <10 | <10 | 9988246 | <10 | 10 | 9988246 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| D10-o-Xylene (sur.) | % | 117 | 114 | 9988246 | 113 | | 9988246 |
| O-TERPHENYL (sur.) | % | 96 | 93 | 9988280 | 109 | | 9988373 |
| **Instrument Surrogate Recovery (%)** | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 102 | 102 | 9988246 | 102 | | 9988246 |
| 4-Bromofluorobenzene (sur.) | % | 104 | 102 | 9988246 | 101 | | 9988246 |
| D4-1,2-Dichloroethane (sur.) | % | 107 | 104 | 9988246 | 104 | | 9988246 |

RDL = Reportable Detection Limit



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ8008 | YJ8009 | YJ8010 | YJ8011 | YJ8012 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:00 | 2020/09/03 15:10 | 2020/09/03 15:30 | 2020/09/03 15:40 | 2020/09/03 15:50 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-SW4-0.5** | **BLDG2-WW1-0.5** | **BLDG2-WW2-0.5** | **BLDG2-N3-1.0** | **BLDG2-L3-1.0** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | |
| Moisture | % | 15 | 28 | 12 | 4.9 | 19 | 0.30 | 9988235 |
| RDL = Reportable Detection Limit | | | | | | | | |

| BV Labs ID | | YJ8013 | YJ8014 | | YJ8015 | YJ8016 | YJ8017 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:00 | 2020/09/03 16:10 | | 2020/09/03 18:20 | 2020/09/03 16:30 | 2020/09/03 16:45 | | |
| COC Number | | 312651 | 312651 | | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-R4-1.0** | **BLDG2-P2-1.0** | **QC Batch** | **BLDG2-NW1-0.5** | **BLDG2-NW2-0.5** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 17 | 28 | 9988235 | 12 | 19 | 14 | 0.30 | 9988654 |
| RDL = Reportable Detection Limit | | | | | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8008 | YJ8009 | YJ8010 | YJ8011 | YJ8012 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:00 | 2020/09/03 15:10 | 2020/09/03 15:30 | 2020/09/03 15:40 | 2020/09/03 15:50 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-SW4-0.5** | **BLDG2-WW1-0.5** | **BLDG2-WW2-0.5** | **BLDG2-N3-1.0** | **BLDG2-L3-1.0** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9987213 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9988286 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(g,h,i)perylene | mg/kg | 0.0091 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(e)pyrene | mg/kg | 0.0069 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 89 | 90 | 88 | 93 | 99 | | 9988286 |
| D8-ACENAPHTHYLENE (sur.) | % | 88 | 88 | 87 | 93 | 98 | | 9988286 |
| D8-NAPHTHALENE (sur.) | % | 83 | 83 | 81 | 87 | 93 | | 9988286 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8008 | YJ8009 | YJ8010 | YJ8011 | YJ8012 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:00 | 2020/09/03 15:10 | 2020/09/03 15:30 | 2020/09/03 15:40 | 2020/09/03 15:50 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-SW4-0.5** | **BLDG2-WW1-0.5** | **BLDG2-WW2-0.5** | **BLDG2-N3-1.0** | **BLDG2-L3-1.0** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 103 | 111 | 105 | 111 | 120 | | 9988286 |
| RDL = Reportable Detection Limit | | | | | | | | |


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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8013 | YJ8014 | YJ8015 | YJ8016 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:00 | 2020/09/03 16:10 | 2020/09/03 18:20 | 2020/09/03 16:30 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-R4-1.0** | **BLDG2-P2-1.0** | **BLDG2-NW1-0.5** | **BLDG2-NW2-0.5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9987213 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9988286 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0063 | 0.0050 | 9988286 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.011 | 0.0050 | 9988286 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0096 | 0.0050 | 9988286 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 88 | 96 | 92 | 94 | | 9988286 |
| D8-ACENAPHTHYLENE (sur.) | % | 86 | 94 | 92 | 93 | | 9988286 |
| D8-NAPHTHALENE (sur.) | % | 82 | 90 | 86 | 87 | | 9988286 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8013 | YJ8014 | YJ8015 | YJ8016 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:00 | 2020/09/03 16:10 | 2020/09/03 18:20 | 2020/09/03 16:30 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-R4-1.0** | **BLDG2-P2-1.0** | **BLDG2-NW1-0.5** | **BLDG2-NW2-0.5** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 104 | 120 | 114 | 114 | | 9988286 |
| RDL = Reportable Detection Limit | | | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8017 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:45 | | |
| COC Number | | 312651 | | |
| | **UNITS** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | 0.10 | 9987602 |
| Acenaphthene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | 0.0071 | 9987213 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | 0.10 | 9987602 |
| Acenaphthylene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Acridine | mg/kg | <0.010 | 0.010 | 9987807 |
| Anthracene | mg/kg | <0.0040 | 0.0040 | 9987807 |
| Benzo(a)anthracene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Benzo(a)pyrene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Benzo(e)pyrene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Chrysene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Fluoranthene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Fluorene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Naphthalene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Phenanthrene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Perylene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Pyrene | mg/kg | <0.0050 | 0.0050 | 9987807 |
| Quinoline | mg/kg | <0.010 | 0.010 | 9987807 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-ANTHRACENE (sur.) | % | 89 | | 9987807 |
| D8-ACENAPHTHYLENE (sur.) | % | 85 | | 9987807 |
| D8-NAPHTHALENE (sur.) | % | 81 | | 9987807 |
| RDL = Reportable Detection Limit | | | | |



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## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8017 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:45 | | |
| COC Number | | 312651 | | |
| | **UNITS** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 107 | | 9987807 |
| RDL = Reportable Detection Limit | | | | |

BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YJ8008 | YJ8009 | YJ8010 | YJ8011 | YJ8012 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:00 | 2020/09/03 15:10 | 2020/09/03 15:30 | 2020/09/03 15:40 | 2020/09/03 15:50 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-SW4-0.5** | **BLDG2-WW1-0.5** | **BLDG2-WW2-0.5** | **BLDG2-N3-1.0** | **BLDG2-L3-1.0** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | |
| Total Arsenic (As) | mg/kg | 3.4 | 5.8 | 3.5 | 1.1 | 3.2 | 1.0 | 9989587 |
| Total Barium (Ba) | mg/kg | 74 | 120 | 59 | 12 | 59 | 1.0 | 9989587 |
| Total Chromium (Cr) | mg/kg | 23 | 31 | 22 | 5.2 | 18 | 1.0 | 9989587 |
| Total Copper (Cu) | mg/kg | 17 | 21 | 18 | 3.9 | 13 | 1.0 | 9989587 |
| Total Lead (Pb) | mg/kg | 13 | 10 | 7.7 | 2.8 | 7.0 | 0.50 | 9989587 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | 9989587 |
| Total Zinc (Zn) | mg/kg | 36 | 47 | 25 | <10 | 25 | 10 | 9989587 |
| RDL = Reportable Detection Limit | | | | | | | | |

| BV Labs ID | | YJ8013 | YJ8014 | YJ8015 | YJ8016 | YJ8017 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:00 | 2020/09/03 16:10 | 2020/09/03 18:20 | 2020/09/03 16:30 | 2020/09/03 16:45 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-R4-1.0** | **BLDG2-P2-1.0** | **BLDG2-NW1-0.5** | **BLDG2-NW2-0.5** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | |
| Total Arsenic (As) | mg/kg | 3.1 | 7.2 | 6.0 | 4.6 | 4.1 | 1.0 | 9989587 |
| Total Barium (Ba) | mg/kg | 69 | 150 | 94 | 70 | 52 | 1.0 | 9989587 |
| Total Chromium (Cr) | mg/kg | 21 | 40 | 26 | 24 | 25 | 1.0 | 9989587 |
| Total Copper (Cu) | mg/kg | 16 | 30 | 25 | 26 | 14 | 1.0 | 9989587 |
| Total Lead (Pb) | mg/kg | 6.5 | 12 | 18 | 13 | 7.5 | 0.50 | 9989587 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | 1.6 | 1.3 | <1.0 | 1.0 | 9989587 |
| Total Zinc (Zn) | mg/kg | 32 | 64 | 53 | 44 | 27 | 10 | 9989587 |
| RDL = Reportable Detection Limit | | | | | | | | |



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8008 | | YJ8009 | YJ8009 | YJ8010 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:00 | | 2020/09/03 15:10 | 2020/09/03 15:10 | 2020/09/03 15:30 | | |
| COC Number | | 312651 | | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-SW4-0.5** | **RDL** | **BLDG2-WW1-0.5** | **BLDG2-WW1-0.5 Lab-Dup** | **BLDG2-WW2-0.5** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | 0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Bromoform | mg/kg | <0.050 | 0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Bromomethane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Carbon tetrachloride | mg/kg | <0.00050 | 0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9988247 |
| Chlorobenzene | mg/kg | <0.0020 (1) | 0.0020 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9988247 |
| Chlorodibromomethane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroethane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroform | mg/kg | <0.010 | 0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Chloromethane | mg/kg | <0.030 | 0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dibromoethane | mg/kg | <0.0020 | 0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1-dichloroethane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2-dichloroethane | mg/kg | <0.0020 | 0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,1-dichloroethene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Dichloromethane | mg/kg | <0.030 | 0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dichloropropane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Methyl methacrylate | mg/kg | <0.040 | 0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | 0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Styrene | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Tetrachloroethene | mg/kg | <0.010 | 0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | 0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
(1) Detection limit raised due to interferent.



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8008 | | YJ8009 | YJ8009 | YJ8010 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:00 | | 2020/09/03 15:10 | 2020/09/03 15:10 | 2020/09/03 15:30 | | |
| COC Number | | 312651 | | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-SW4-0.5** | **RDL** | **BLDG2-WW1-0.5** | **BLDG2-WW1-0.5 Lab-Dup** | **BLDG2-WW2-0.5** | **RDL** | **QC Batch** |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | 0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | 0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,1,1-trichloroethane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Trichloroethene | mg/kg | <0.010 | 0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Trichlorofluoromethane | mg/kg | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | 0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | 0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| Vinyl chloride | mg/kg | <0.00030 | 0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9988247 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 125 | | 127 | 127 | 116 | | 9988247 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 98 | | 98 | 98 | 99 | | 9988247 |
| 4-Bromofluorobenzene (sur.) | % | 99 | | 99 | 100 | 99 | | 9988247 |
| D4-1,2-Dichloroethane (sur.) | % | 80 | | 83 | 85 | 83 | | 9988247 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8011 | YJ8012 | YJ8013 | YJ8014 | YJ8015 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:40 | 2020/09/03 15:50 | 2020/09/03 16:00 | 2020/09/03 16:10 | 2020/09/03 18:20 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-N3-1.0** | **BLDG2-L3-1.0** | **BLDG2-R4-1.0** | **BLDG2-P2-1.0** | **BLDG2-NW1-0.5** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9988247 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9988247 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8011 | YJ8012 | YJ8013 | YJ8014 | YJ8015 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 15:40 | 2020/09/03 15:50 | 2020/09/03 16:00 | 2020/09/03 16:10 | 2020/09/03 18:20 | | |
| COC Number | | 312651 | 312651 | 312651 | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-N3-1.0** | **BLDG2-L3-1.0** | **BLDG2-R4-1.0** | **BLDG2-P2-1.0** | **BLDG2-NW1-0.5** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9988247 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 124 | 131 | 121 | 130 | 123 | | 9988247 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 99 | 98 | 98 | 98 | 99 | | 9988247 |
| 4-Bromofluorobenzene (sur.) | % | 100 | 100 | 96 | 98 | 99 | | 9988247 |
| D4-1,2-Dichloroethane (sur.) | % | 85 | 87 | 81 | 84 | 92 | | 9988247 |

RDL = Reportable Detection Limit



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8016 | YJ8017 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:30 | 2020/09/03 16:45 | | |
| COC Number | | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-NW2-0.5** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | 0.030 | 9988247 |
| Bromoform | mg/kg | <0.050 | <0.050 | 0.050 | 9988247 |
| Bromomethane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | 0.00050 | 9988247 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | 0.0010 | 9988247 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroform | mg/kg | <0.010 | <0.010 | 0.010 | 9988247 |
| Chloromethane | mg/kg | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | 0.040 | 9988247 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | 0.030 | 9988247 |
| Styrene | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | 0.050 | 9988247 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | 0.050 | 9988247 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | 0.010 | 9988247 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | 9988247 |
| RDL = Reportable Detection Limit | | | | | |



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BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8016 | YJ8017 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 16:30 | 2020/09/03 16:45 | | |
| COC Number | | 312651 | 312651 | | |
| | **UNITS** | **BLDG2-NW2-0.5** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | 0.010 | 9988247 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | 0.50 | 9988247 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | 0.50 | 9988247 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | 0.00030 | 9988247 |
| **Extraction Surrogate Recovery (%)** | | | | | |
| D10-o-Xylene (sur.) | % | 129 | 123 | | 9988247 |
| **Instrument Surrogate Recovery (%)** | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 98 | 97 | | 9988247 |
| 4-Bromofluorobenzene (sur.) | % | 101 | 99 | | 9988247 |
| D4-1,2-Dichloroethane (sur.) | % | 84 | 84 | | 9988247 |
| RDL = Reportable Detection Limit | | | | | |



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BV Labs Job #: C063699
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8008
**Sample ID:** BLDG2-SW4-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8008 Dup
**Sample ID:** BLDG2-SW4-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |

**BV Labs ID:** YJ8009
**Sample ID:** BLDG2-WW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8009 Dup
**Sample ID:** BLDG2-WW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8010
**Sample ID:** BLDG2-WW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |



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BV Labs Job #: C063699
Report Date: 2020/09/06

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8010
**Sample ID:** BLDG2-WW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8011
**Sample ID:** BLDG2-N3-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8012
**Sample ID:** BLDG2-L3-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |



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Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8013
**Sample ID:** BLDG2-R4-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8014
**Sample ID:** BLDG2-P2-1.0
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988235 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8015
**Sample ID:** BLDG2-NW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |



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BV Labs Job #: C063699
Report Date: 2020/09/06

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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8016
**Sample ID:** BLDG2-NW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8017
**Sample ID:** BLDG2-EW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988373 | 2020/09/04 | 2020/09/04 | Vian Pereira |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/05 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/05 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9987807 | 2020/09/04 | 2020/09/05 | Nora Kazemian |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |



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Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 2.7°C |

**Results relate only to the items tested.**


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## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9987807 | NK3 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/04 | | 97 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/04 | | 125 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/04 | | 94 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/04 | | 88 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/04 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/04 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/04 | <0.010 | | mg/kg | |
| 9988235 | MAE | Method Blank | Moisture | 2020/09/05 | <0.30 | | % | |
| 9988246 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 101 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 102 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 100 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 104 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/04 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/04 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/04 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/04 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/04 | <10 | | mg/kg | |
| 9988247 | MZ | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 100 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 100 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 88 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/05 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/09/05 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/09/05 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/09/05 | <0.0020 (1) | | mg/kg | |
| | | | Chlorodibromomethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/09/05 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/09/05 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/09/05 | <0.0020 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 1,2-dichlorobenzene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/09/05 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/09/05 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/09/05 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/05 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/05 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/05 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/09/05 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/09/05 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/09/05 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/09/05 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/09/05 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/09/05 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/09/05 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/09/05 | <0.00030 | | mg/kg | |
| 9988280 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/05 | | 104 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| 9988286 | JC7 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/06 | | 92 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 120 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 86 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/06 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 1-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/06 | <0.010 | | mg/kg | |
| 9988373 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/09/04 | | 106 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/04 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/04 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/04 | <50 | | mg/kg | |
| 9988654 | MTA | Method Blank | Moisture | 2020/09/05 | <0.30 | | % | |
| 9989587 | ANE | Method Blank | Total Arsenic (As) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/06 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/06 | <10 | | mg/kg | |
| 9988246 | DO1 | RPD [YJ8008-03] | Benzene | 2020/09/04 | NC | | % | 50 |
| | | | Toluene | 2020/09/04 | NC | | % | 50 |
| | | | Ethylbenzene | 2020/09/04 | NC | | % | 50 |
| | | | m & p-Xylene | 2020/09/04 | NC | | % | 50 |
| | | | o-Xylene | 2020/09/04 | NC | | % | 50 |
| | | | F1 (C6-C10) | 2020/09/04 | NC | | % | 30 |
| 9988247 | MZ | RPD [YJ8009-03] | Bromodichloromethane | 2020/09/05 | NC | | % | 50 |
| | | | Bromoform | 2020/09/05 | NC | | % | 50 |
| | | | Bromomethane | 2020/09/05 | NC | | % | 50 |
| | | | Carbon tetrachloride | 2020/09/05 | NC | | % | 50 |
| | | | Chlorobenzene | 2020/09/05 | NC | | % | 50 |
| | | | Chlorodibromomethane | 2020/09/05 | NC | | % | 50 |
| | | | Chloroethane | 2020/09/05 | NC | | % | 50 |
| | | | Chloroform | 2020/09/05 | NC | | % | 50 |
| | | | Chloromethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,2-dibromoethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,2-dichlorobenzene | 2020/09/05 | NC | | % | 50 |
| | | | 1,3-dichlorobenzene | 2020/09/05 | NC | | % | 50 |
| | | | 1,4-dichlorobenzene | 2020/09/05 | NC | | % | 50 |
| | | | 1,1-dichloroethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,2-dichloroethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,1-dichloroethene | 2020/09/05 | NC | | % | 50 |
| | | | cis-1,2-dichloroethene | 2020/09/05 | NC | | % | 50 |
| | | | trans-1,2-dichloroethene | 2020/09/05 | NC | | % | 50 |
| | | | Dichloromethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,2-dichloropropane | 2020/09/05 | NC | | % | 50 |
| | | | cis-1,3-dichloropropene | 2020/09/05 | NC | | % | 50 |
| | | | trans-1,3-dichloropropene | 2020/09/05 | NC | | % | 50 |
| | | | Methyl methacrylate | 2020/09/05 | NC | | % | 50 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/05 | NC | | % | 50 |
| | | | Styrene | 2020/09/05 | NC | | % | 50 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/05 | NC | | % | 50 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Tetrachloroethene | 2020/09/05 | NC | | % | 50 |
| | | | 1,2,3-trichlorobenzene | 2020/09/05 | NC | | % | 50 |
| | | | 1,2,4-trichlorobenzene | 2020/09/05 | NC | | % | 50 |
| | | | 1,3,5-trichlorobenzene | 2020/09/05 | NC | | % | 50 |
| | | | 1,1,1-trichloroethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,1,2-trichloroethane | 2020/09/05 | NC | | % | 50 |
| | | | Trichloroethene | 2020/09/05 | NC | | % | 50 |
| | | | Trichlorofluoromethane | 2020/09/05 | NC | | % | 50 |
| | | | 1,2,4-trimethylbenzene | 2020/09/05 | NC | | % | 50 |
| | | | 1,3,5-trimethylbenzene | 2020/09/05 | NC | | % | 50 |
| | | | Vinyl chloride | 2020/09/05 | NC | | % | 50 |
| 9988246 | DO1 | Matrix Spike [YJ8008-03] | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 99 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 102 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 104 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 102 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | | 94 | % | 50 - 140 |
| | | | Toluene | 2020/09/04 | | 86 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/09/04 | | 93 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/09/04 | | 90 | % | 50 - 140 |
| | | | o-Xylene | 2020/09/04 | | 91 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/09/04 | | 96 | % | 60 - 140 |
| 9988247 | MZ | Matrix Spike [YJ8010-03] | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 102 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 91 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/05 | | 111 | % | 50 - 140 |
| | | | Bromoform | 2020/09/05 | | 141 (2) | % | 50 - 140 |
| | | | Bromomethane | 2020/09/05 | | 92 | % | 50 - 140 |
| | | | Carbon tetrachloride | 2020/09/05 | | 92 | % | 50 - 140 |
| | | | Chlorobenzene | 2020/09/05 | | 117 | % | 50 - 140 |
| | | | Chlorodibromomethane | 2020/09/05 | | 139 | % | 50 - 140 |
| | | | Chloroethane | 2020/09/05 | | 95 | % | 50 - 140 |
| | | | Chloroform | 2020/09/05 | | 96 | % | 50 - 140 |
| | | | Chloromethane | 2020/09/05 | | 72 | % | 50 - 140 |
| | | | 1,2-dibromoethane | 2020/09/05 | | 135 | % | 50 - 140 |
| | | | 1,2-dichlorobenzene | 2020/09/05 | | 102 | % | 50 - 140 |
| | | | 1,3-dichlorobenzene | 2020/09/05 | | 101 | % | 50 - 140 |
| | | | 1,4-dichlorobenzene | 2020/09/05 | | 98 | % | 50 - 140 |
| | | | 1,1-dichloroethane | 2020/09/05 | | 97 | % | 50 - 140 |
| | | | 1,2-dichloroethane | 2020/09/05 | | 101 | % | 50 - 140 |
| | | | 1,1-dichloroethene | 2020/09/05 | | 110 | % | 50 - 140 |
| | | | cis-1,2-dichloroethene | 2020/09/05 | | 110 | % | 50 - 140 |
| | | | trans-1,2-dichloroethene | 2020/09/05 | | 99 | % | 50 - 140 |
| | | | Dichloromethane | 2020/09/05 | | 102 | % | 50 - 140 |
| | | | 1,2-dichloropropane | 2020/09/05 | | 99 | % | 50 - 140 |
| | | | cis-1,3-dichloropropene | 2020/09/05 | | 85 | % | 50 - 140 |
| | | | trans-1,3-dichloropropene | 2020/09/05 | | 80 | % | 50 - 140 |
| | | | Methyl methacrylate | 2020/09/05 | | 121 | % | 50 - 140 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/05 | | 94 | % | 50 - 140 |
| | | | Styrene | 2020/09/05 | | 110 | % | 50 - 140 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/05 | | 123 | % | 50 - 140 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/05 | | 124 | % | 50 - 140 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Tetrachloroethene | 2020/09/05 | | 107 | % | 50 - 140 |
| | | | 1,2,3-trichlorobenzene | 2020/09/05 | | 95 | % | 50 - 140 |
| | | | 1,2,4-trichlorobenzene | 2020/09/05 | | 96 | % | 50 - 140 |
| | | | 1,3,5-trichlorobenzene | 2020/09/05 | | 94 | % | 50 - 140 |
| | | | 1,1,1-trichloroethane | 2020/09/05 | | 97 | % | 50 - 140 |
| | | | 1,1,2-trichloroethane | 2020/09/05 | | 117 | % | 50 - 140 |
| | | | Trichloroethene | 2020/09/05 | | 106 | % | 50 - 140 |
| | | | Trichlorofluoromethane | 2020/09/05 | | 85 | % | 50 - 140 |
| | | | 1,2,4-trimethylbenzene | 2020/09/05 | | 98 | % | 50 - 140 |
| | | | 1,3,5-trimethylbenzene | 2020/09/05 | | 96 | % | 50 - 140 |
| | | | Vinyl chloride | 2020/09/05 | | 84 | % | 50 - 140 |
| 9987807 | NK3 | LCS | D10-ANTHRACENE (sur.) | 2020/09/04 | | 97 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/04 | | 121 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/04 | | 96 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/04 | | 100 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/04 | | 94 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/04 | | 88 | % | 50 - 130 |
| | | | Acridine | 2020/09/04 | | 73 | % | 50 - 130 |
| | | | Anthracene | 2020/09/04 | | 74 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/04 | | 103 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/04 | | 94 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/04 | | 82 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/04 | | 100 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Chrysene | 2020/09/04 | | 103 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/04 | | 79 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/04 | | 118 | % | 50 - 130 |
| | | | Fluorene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/04 | | 79 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/04 | | 96 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/04 | | 92 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/04 | | 91 | % | 50 - 130 |
| | | | Perylene | 2020/09/04 | | 89 | % | 50 - 130 |
| | | | Pyrene | 2020/09/04 | | 114 | % | 50 - 130 |
| | | | Quinoline | 2020/09/04 | | 104 | % | 50 - 130 |
| 9988246 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 104 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 105 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 107 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | | 93 | % | 60 - 130 |
| | | | Toluene | 2020/09/04 | | 95 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/04 | | 97 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/04 | | 97 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/04 | | 97 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/04 | | 96 | % | 60 - 140 |
| 9988247 | MZ | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 99 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 117 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 88 | % | 50 - 140 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Bromodichloromethane | 2020/09/05 | | 110 | % | 60 - 130 |
| | | | Bromoform | 2020/09/05 | | 138 (2) | % | 60 - 130 |
| | | | Bromomethane | 2020/09/05 | | 106 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/09/05 | | 94 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/09/05 | | 114 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/09/05 | | 130 | % | 60 - 130 |
| | | | Chloroethane | 2020/09/05 | | 92 | % | 60 - 130 |
| | | | Chloroform | 2020/09/05 | | 95 | % | 60 - 130 |
| | | | Chloromethane | 2020/09/05 | | 66 | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/09/05 | | 133 (2) | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/09/05 | | 104 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/09/05 | | 100 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/09/05 | | 98 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/09/05 | | 96 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/09/05 | | 100 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/09/05 | | 109 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/09/05 | | 109 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/09/05 | | 95 | % | 60 - 130 |
| | | | Dichloromethane | 2020/09/05 | | 100 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/09/05 | | 99 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/09/05 | | 94 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/09/05 | | 91 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/09/05 | | 123 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/05 | | 96 | % | 60 - 130 |
| | | | Styrene | 2020/09/05 | | 118 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/05 | | 123 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/05 | | 126 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/09/05 | | 106 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/09/05 | | 115 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/09/05 | | 108 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/09/05 | | 98 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/09/05 | | 98 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/09/05 | | 117 | % | 60 - 130 |
| | | | Trichloroethene | 2020/09/05 | | 105 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/09/05 | | 86 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/09/05 | | 99 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/09/05 | | 94 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/09/05 | | 78 | % | 60 - 130 |
| 9988280 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/06 | | 109 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/06 | | 99 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/06 | | 104 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/06 | | 104 | % | 60 - 140 |
| 9988286 | JC7 | LCS | D10-ANTHRACENE (sur.) | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 119 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 95 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Acridine | 2020/09/06 | | 75 | % | 50 - 130 |
| | | | Anthracene | 2020/09/06 | | 73 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/06 | | 102 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | | 94 | % | 50 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Benzo(k)fluoranthene | 2020/09/06 | | 89 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | | 91 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | | 97 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/06 | | 96 | % | 50 - 130 |
| | | | Chrysene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | Fluorene | 2020/09/06 | | 97 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | | 85 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/06 | | 88 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/06 | | 91 | % | 50 - 130 |
| | | | Perylene | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | Pyrene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Quinoline | 2020/09/06 | | 103 | % | 50 - 130 |
| 9988373 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/09/04 | | 84 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/04 | | 104 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/04 | | 109 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/04 | | 102 | % | 60 - 140 |
| 9989587 | ANE | LCS | Total Arsenic (As) | 2020/09/06 | | 94 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/09/06 | | 102 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 99 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/06 | | 102 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/06 | | 99 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/06 | | 97 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 99 | % | 80 - 120 |
| 9989587 | ANE | SRM | Total Arsenic (As) | 2020/09/06 | | 98 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/06 | | 99 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 89 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/09/06 | | 95 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/06 | | 106 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/06 | | 91 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 95 | % | 79 - 121 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Detection limit raised due to interferent.

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



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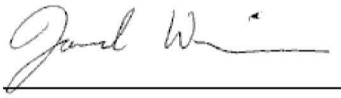
BV Labs Job #: C063699
Report Date: 2020/09/06

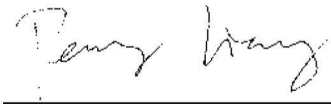
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB312

## VALIDATION SIGNATURE PAGE

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



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Harry (Peng) Liang, Senior Analyst

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For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

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Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

214

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312651

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: Aecom Canada Ltd |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@Aecom.com | Email: Aaron.Jambrosic@Aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray/Lindsay Jackman | Consultant Project #: 60549588 W.MB.3.12 |

ANALYSIS REQUESTED

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | waste oil metals *see comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 BLD62-SW4-0.5 | | | X | | 7 | 2020/09/03 | 15:00 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 2 BLD62-WW1-0.5 | | | X | | 7 | 2020/09/03 | 15:10 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 3 BLD62-WW2-0.5 | | | X | | 7 | 2020/09/03 | 15:30 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 4 BLD62-N3-1.0 | | | X | | 7 | 2020/09/03 | 15:40 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 5 BLD62-L3-1.0 | | | X | | 7 | 2020/09/03 | 15:50 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 6 BLD62-R4-1.0 | | | X | | 7 | 2020/09/03 | 16:00 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 7 BLD62-P2-1.0 | | | X | | 7 | 2020/09/03 | 16:10 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 8 BLD63-NW1-0.5 | | | X | | 7 | 2020/09/03 | 16:20 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 9 BLD63-NW2-0.5 | | | X | | 7 | 2020/09/03 | 16:30 | | | X | X | | X | | | | | | | | | | | | | | X | X |
| 10 BLD63-EW1-0.5 | | | X | | 7 | 2020/09/03 | 16:45 | | | X | X | | X | | | | | | | | | | | | | | X | X |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS: *Waste oil metals - Arsenic, barium, Chromium, copper, lead, tin, zinc

# JARS USED & NOT SUBMITTED Enter N/A for Water: 0

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
sunday (2 days) ☐
(1 day) ☐
(same day) ☐
Sept. 6/20 Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 2 | 3 | 3 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | JEN MURRAY | 2020/09/03 | 18:00 | 1. | JESSICA LEE | 2020/09/04 | 08:55 |
| 2. signature | printed name | YYYY/MM/DD | HR/MM | 2. signature | printed name | YYYY/MM/DD | HR/MM |
| 3. signature | printed name | YYYY/MM/DD | HR/MM | 3. signature | printed name | YYYY/MM/DD | HR/MM |

LAB USE ONLY
MAXXAM JOB # C063699

SAMPLES
LABELED BY: CLW
VERIFIED BY: JEM

SOC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312
Your C.O.C. #: 312893

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
PO Box 5250 West Beaver Creek
Richmond Hill, ON
CANADA L4B 0E4

**Report Date: 2020/09/06**
Report #: R2925454
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063720**
**Received: 2020/09/04, 08:55**

Sample Matrix: Soil
# Samples Received: 10

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 10 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 10 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 10 | AB SOP-00036 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 10 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 10 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 10 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 10 | | Auto Calc |
| PAH in Soil by GC/MS | 10 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| VOCs in Soil by HS GC/MS (Std List) (1) | 10 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's


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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312
Your C.O.C. #: 312893

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
PO Box 5250 West Beaver Creek
Richmond Hill, ON
CANADA L4B 0E4

**Report Date: 2020/09/06**
Report #: R2925454
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C063720**

**Received: 2020/09/04, 08:55**

Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Namita Sahni
Burnaby Project Manager
06 Sep 2020 15:37:30

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ8101 | YJ8102 | YJ8103 | YJ8104 | YJ8105 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-NW1-0.5** | **BLDG2-NW1-DUP5** | **BLDG2-NW2-0.5** | **BLDG2-NW3-0.5** | **BLDG2-NW4-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9988280 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 240 | 290 | 50 | 9988280 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 70 | 76 | 50 | 9988280 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | | 9988280 |
| **Volatiles** | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | <0.045 | <0.045 | <0.045 | 0.045 | 9987781 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9987781 |
| **Field Preserved Volatiles** | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988246 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988246 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988246 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988246 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988246 |
| F1 (C6-C10) | mg/kg | <10 | <10 | <10 | <10 | <10 | 10 | 9988246 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 109 | 109 | 117 | 111 | 105 | | 9988246 |
| O-TERPHENYL (sur.) | % | 97 | 96 | 95 | 92 | 93 | | 9988280 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 102 | 102 | 101 | 103 | 102 | | 9988246 |
| 4-Bromofluorobenzene (sur.) | % | 101 | 103 | 101 | 104 | 103 | | 9988246 |
| D4-1,2-Dichloroethane (sur.) | % | 105 | 106 | 102 | 106 | 106 | | 9988246 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ8106 | | YJ8107 | YJ8108 | YJ8109 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-EW1-0.5** | **QC Batch** | **BLDG2-EW2-0.5** | **BLDG2-SW1-0.5** | **BLDG2-SW2-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 9988280 | <10 | <10 | <10 | 10 | 9988373 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 250 | 9988280 | <50 | <50 | <50 | 50 | 9988373 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 9988280 | <50 | <50 | <50 | 50 | 9988373 |
| Reached Baseline at C50 | mg/kg | Yes | 9988280 | Yes | Yes | Yes | | 9988373 |
| **Volatiles** | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 9987781 | <0.045 | <0.045 | <0.045 | 0.045 | 9987781 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 9987781 | <10 | <10 | <10 | 10 | 9987781 |
| **Field Preserved Volatiles** | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 9988246 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988246 |
| Toluene | mg/kg | <0.050 | 9988246 | <0.050 | <0.050 | <0.050 | 0.050 | 9988246 |
| Ethylbenzene | mg/kg | <0.010 | 9988246 | <0.010 | <0.010 | <0.010 | 0.010 | 9988246 |
| m & p-Xylene | mg/kg | <0.040 | 9988246 | <0.040 | <0.040 | <0.040 | 0.040 | 9988246 |
| o-Xylene | mg/kg | <0.020 | 9988246 | <0.020 | <0.020 | <0.020 | 0.020 | 9988246 |
| F1 (C6-C10) | mg/kg | <10 | 9988246 | <10 | <10 | <10 | 10 | 9988246 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 103 | 9988246 | 110 | 105 | 105 | | 9988246 |
| O-TERPHENYL (sur.) | % | 96 | 9988280 | 103 | 100 | 100 | | 9988373 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 103 | 9988246 | 101 | 102 | 105 | | 9988246 |
| 4-Bromofluorobenzene (sur.) | % | 103 | 9988246 | 101 | 102 | 100 | | 9988246 |
| D4-1,2-Dichloroethane (sur.) | % | 107 | 9988246 | 102 | 107 | 103 | | 9988246 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ8110 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | |
| COC Number | | 312893 | | |
| | **UNITS** | **BLDG2-SW3-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9988373 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9988373 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9988373 |
| Reached Baseline at C50 | mg/kg | Yes | | 9988373 |
| **Volatiles** | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9987781 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 10 | 9987781 |
| **Field Preserved Volatiles** | | | | |
| Benzene | mg/kg | <0.0050 | 0.0050 | 9988246 |
| Toluene | mg/kg | <0.050 | 0.050 | 9988246 |
| Ethylbenzene | mg/kg | <0.010 | 0.010 | 9988246 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9988246 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9988246 |
| F1 (C6-C10) | mg/kg | <10 | 10 | 9988246 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 110 | | 9988246 |
| O-TERPHENYL (sur.) | % | 102 | | 9988373 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 105 | | 9988246 |
| 4-Bromofluorobenzene (sur.) | % | 100 | | 9988246 |
| D4-1,2-Dichloroethane (sur.) | % | 101 | | 9988246 |
| RDL = Reportable Detection Limit | | | | |


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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ8101 | | YJ8102 | YJ8103 | YJ8104 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-NW1-0.5** | **QC Batch** | **BLDG2-NW1-DUP5** | **BLDG2-NW2-0.5** | **BLDG2-NW3-0.5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | |
| Moisture | % | 7.8 | 9988588 | 13 | 20 | 8.2 | 0.30 | 9988654 |
| RDL = Reportable Detection Limit | | | | | | | | |

| BV Labs ID | | YJ8105 | | YJ8106 | YJ8107 | YJ8108 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-NW4-0.5** | **QC Batch** | **BLDG2-EW1-0.5** | **BLDG2-EW2-0.5** | **BLDG2-SW1-0.5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | |
| Moisture | % | 13 | 9988654 | 7.7 | 4.5 | 6.1 | 0.30 | 9988799 |
| RDL = Reportable Detection Limit | | | | | | | | |

| BV Labs ID | | YJ8109 | | YJ8110 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | 2020/09/03 | | |
| COC Number | | 312893 | | 312893 | | |
| | **UNITS** | **BLDG2-SW2-0.5** | **QC Batch** | **BLDG2-SW3-0.5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | |
| Moisture | % | 8.6 | 9988654 | 4.7 | 0.30 | 9988799 |
| RDL = Reportable Detection Limit | | | | | | |



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8101 | YJ8102 | YJ8103 | YJ8104 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-NW1-0.5** | **BLDG2-NW1-DUP5** | **BLDG2-NW2-0.5** | **BLDG2-NW3-0.5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9987213 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9988286 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.016 | 0.0050 | 9988286 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9988286 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988286 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 95 | 92 | 89 | 96 | | 9988286 |
| D8-ACENAPHTHYLENE (sur.) | % | 93 | 93 | 88 | 94 | | 9988286 |
| D8-NAPHTHALENE (sur.) | % | 87 | 87 | 84 | 90 | | 9988286 |
| TERPHENYL-D14 (sur.) | % | 114 | 109 | 111 | 119 | | 9988286 |
| RDL = Reportable Detection Limit | | | | | | | |



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8105 | | YJ8106 | | YJ8107 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | 2020/09/03 | | 2020/09/03 | | |
| COC Number | | 312893 | | 312893 | | 312893 | | |
| | **UNITS** | **BLDG2-NW4-0.5** | **QC Batch** | **BLDG2-EW1-0.5** | **QC Batch** | **BLDG2-EW2-0.5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | 9987602 | <0.10 | 9987602 | <0.10 | 0.10 | 9987602 |
| Acenaphthene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | 9987213 | <0.0071 | 9987930 | <0.0071 | 0.0071 | 9987930 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | 9987602 | <0.10 | 9987602 | <0.10 | 0.10 | 9987602 |
| Acenaphthylene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Acridine | mg/kg | <0.010 | 9988286 | <0.010 | 9988286 | <0.010 | 0.010 | 9987807 |
| Anthracene | mg/kg | <0.0040 | 9988286 | <0.0040 | 9988286 | <0.0040 | 0.0040 | 9987807 |
| Benzo(a)anthracene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Benzo(g,h,i)perylene | mg/kg | 0.014 | 9988286 | 0.010 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Benzo(a)pyrene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Benzo(e)pyrene | mg/kg | <0.0050 | 9988286 | 0.0072 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Chrysene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Fluoranthene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Fluorene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | 9988286 | 0.0057 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Naphthalene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Phenanthrene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Perylene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Pyrene | mg/kg | <0.0050 | 9988286 | <0.0050 | 9988286 | <0.0050 | 0.0050 | 9987807 |
| Quinoline | mg/kg | <0.010 | 9988286 | <0.010 | 9988286 | <0.010 | 0.010 | 9987807 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 95 | 9988286 | 87 | 9988286 | 89 | | 9987807 |
| D8-ACENAPHTHYLENE (sur.) | % | 94 | 9988286 | 86 | 9988286 | 84 | | 9987807 |
| D8-NAPHTHALENE (sur.) | % | 89 | 9988286 | 81 | 9988286 | 79 | | 9987807 |
| TERPHENYL-D14 (sur.) | % | 115 | 9988286 | 108 | 9988286 | 104 | | 9987807 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8108 | YJ8109 | YJ8110 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-SW1-0.5** | **BLDG2-SW2-0.5** | **BLDG2-SW3-0.5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9987930 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | 0.10 | 9987602 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | 0.010 | 9987807 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9987807 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9987807 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | 0.010 | 9987807 |
| **Extraction Surrogate Recovery (%)** | | | | | | |
| D10-ANTHRACENE (sur.) | % | 82 | 93 | 91 | | 9987807 |
| D8-ACENAPHTHYLENE (sur.) | % | 79 | 90 | 88 | | 9987807 |
| D8-NAPHTHALENE (sur.) | % | 74 | 84 | 83 | | 9987807 |
| TERPHENYL-D14 (sur.) | % | 101 | 110 | 107 | | 9987807 |
| RDL = Reportable Detection Limit | | | | | | |



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YJ8101 | YJ8101 | | YJ8102 | | YJ8103 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | | 2020/09/03 | | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | | 312893 | | 312893 | | |
| | **UNITS** | **BLDG2-NW1-0.5** | **BLDG2-NW1-0.5 Lab-Dup** | **QC Batch** | **BLDG2-NW1-DUP5** | **QC Batch** | **BLDG2-NW2-0.5** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | | |
| Total Arsenic (As) | mg/kg | 2.2 | 2.2 | 9989587 | 2.1 | 9989588 | 3.2 | 1.0 | 9989587 |
| Total Barium (Ba) | mg/kg | 46 | 51 | 9989587 | 40 | 9989588 | 54 | 1.0 | 9989587 |
| Total Chromium (Cr) | mg/kg | 19 | 21 | 9989587 | 17 | 9989588 | 20 | 1.0 | 9989587 |
| Total Copper (Cu) | mg/kg | 10 | 11 | 9989587 | 9.3 | 9989588 | 14 | 1.0 | 9989587 |
| Total Lead (Pb) | mg/kg | 8.4 | 7.8 | 9989587 | 9.6 | 9989588 | 15 | 0.50 | 9989587 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | 9989587 | <1.0 | 9989588 | <1.0 | 1.0 | 9989587 |
| Total Zinc (Zn) | mg/kg | 21 | 23 | 9989587 | 19 | 9989588 | 32 | 10 | 9989587 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

| BV Labs ID | | YJ8104 | | YJ8105 | | YJ8106 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | 2020/09/03 | | 2020/09/03 | | |
| COC Number | | 312893 | | 312893 | | 312893 | | |
| | **UNITS** | **BLDG2-NW3-0.5** | **QC Batch** | **BLDG2-NW4-0.5** | **QC Batch** | **BLDG2-EW1-0.5** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | |
| Total Arsenic (As) | mg/kg | 2.5 | 9989588 | 2.8 | 9989587 | 2.3 | 1.0 | 9989588 |
| Total Barium (Ba) | mg/kg | 44 | 9989588 | 37 | 9989587 | 46 | 1.0 | 9989588 |
| Total Chromium (Cr) | mg/kg | 22 | 9989588 | 18 | 9989587 | 16 | 1.0 | 9989588 |
| Total Copper (Cu) | mg/kg | 7.3 | 9989588 | 7.9 | 9989587 | 9.9 | 1.0 | 9989588 |
| Total Lead (Pb) | mg/kg | 74 | 9989588 | 41 | 9989587 | 17 | 0.50 | 9989588 |
| Total Tin (Sn) | mg/kg | <1.0 | 9989588 | <1.0 | 9989587 | <1.0 | 1.0 | 9989588 |
| Total Zinc (Zn) | mg/kg | 34 | 9989588 | 33 | 9989587 | 47 | 10 | 9989588 |

RDL = Reportable Detection Limit


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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YJ8107 | | YJ8108 | | YJ8109 | YJ8110 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | | 2020/09/03 | | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | | 312893 | | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-EW2-0.5** | **QC Batch** | **BLDG2-SW1-0.5** | **QC Batch** | **BLDG2-SW2-0.5** | **BLDG2-SW3-0.5** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | | |
| Total Arsenic (As) | mg/kg | <1.0 | 9989587 | 1.3 | 9989588 | 1.9 | <1.0 | 1.0 | 9989587 |
| Total Barium (Ba) | mg/kg | 8.9 | 9989587 | 18 | 9989588 | 39 | 10 | 1.0 | 9989587 |
| Total Chromium (Cr) | mg/kg | 4.0 | 9989587 | 8.4 | 9989588 | 18 | 3.7 | 1.0 | 9989587 |
| Total Copper (Cu) | mg/kg | 3.1 | 9989587 | 4.2 | 9989588 | 10 | 2.5 | 1.0 | 9989587 |
| Total Lead (Pb) | mg/kg | 1.7 | 9989587 | 2.3 | 9989588 | 12 | 1.5 | 0.50 | 9989587 |
| Total Tin (Sn) | mg/kg | <1.0 | 9989587 | <1.0 | 9989588 | <1.0 | <1.0 | 1.0 | 9989587 |
| Total Zinc (Zn) | mg/kg | <10 | 9989587 | <10 | 9989588 | 33 | <10 | 10 | 9989587 |
| RDL = Reportable Detection Limit | | | | | | | | | |



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8101 | YJ8102 | YJ8103 | YJ8104 | YJ8105 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-NW1-0.5** | **BLDG2-NW1-DUP5** | **BLDG2-NW2-0.5** | **BLDG2-NW3-0.5** | **BLDG2-NW4-0.5** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9988247 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9988247 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8101 | YJ8102 | YJ8103 | YJ8104 | YJ8105 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-NW1-0.5** | **BLDG2-NW1-DUP5** | **BLDG2-NW2-0.5** | **BLDG2-NW3-0.5** | **BLDG2-NW4-0.5** | **RDL** | **QC Batch** |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9988247 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 122 | 120 | 111 | 124 | 124 | | 9988247 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 99 | 98 | 98 | 98 | 98 | | 9988247 |
| 4-Bromofluorobenzene (sur.) | % | 93 | 99 | 98 | 100 | 99 | | 9988247 |
| D4-1,2-Dichloroethane (sur.) | % | 97 | 90 | 103 | 81 | 94 | | 9988247 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8106 | YJ8107 | YJ8108 | YJ8109 | YJ8110 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-EW1-0.5** | **BLDG2-EW2-0.5** | **BLDG2-SW1-0.5** | **BLDG2-SW2-0.5** | **BLDG2-SW3-0.5** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9988247 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9988247 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988247 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988247 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988247 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988247 |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ8106 | YJ8107 | YJ8108 | YJ8109 | YJ8110 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | 2020/09/03 | | |
| COC Number | | 312893 | 312893 | 312893 | 312893 | 312893 | | |
| | **UNITS** | **BLDG2-EW1-0.5** | **BLDG2-EW2-0.5** | **BLDG2-SW1-0.5** | **BLDG2-SW2-0.5** | **BLDG2-SW3-0.5** | **RDL** | **QC Batch** |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988247 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988247 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988247 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9988247 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 118 | 124 | 121 | 117 | 121 | | 9988247 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 99 | 99 | 98 | 97 | 98 | | 9988247 |
| 4-Bromofluorobenzene (sur.) | % | 100 | 99 | 102 | 98 | 99 | | 9988247 |
| D4-1,2-Dichloroethane (sur.) | % | 82 | 83 | 82 | 86 | 84 | | 9988247 |

RDL = Reportable Detection Limit



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8101
**Sample ID:** BLDG2-NW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988588 | N/A | 2020/09/05 | Sneha Bashyal |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8101 Dup
**Sample ID:** BLDG2-NW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |

**BV Labs ID:** YJ8102
**Sample ID:** BLDG2-NW1-DUP5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8103
**Sample ID:** BLDG2-NW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8103
**Sample ID:** BLDG2-NW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8104
**Sample ID:** BLDG2-NW3-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8105
**Sample ID:** BLDG2-NW4-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987213 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8106
**Sample ID:** BLDG2-EW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988280 | 2020/09/04 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988799 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987930 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9988286 | 2020/09/04 | 2020/09/06 | Shuang (Jessica) Chen |



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BV Labs Job #: C063720
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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8106
**Sample ID:** BLDG2-EW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8107
**Sample ID:** BLDG2-EW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988373 | 2020/09/04 | 2020/09/04 | Vian Pereira |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988799 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987930 | N/A | 2020/09/05 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/05 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9987807 | 2020/09/04 | 2020/09/05 | Nora Kazemian |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8108
**Sample ID:** BLDG2-SW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988373 | 2020/09/04 | 2020/09/04 | Vian Pereira |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988799 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987930 | N/A | 2020/09/05 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/05 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9987807 | 2020/09/04 | 2020/09/05 | Nora Kazemian |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8109
**Sample ID:** BLDG2-SW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988373 | 2020/09/04 | 2020/09/04 | Vian Pereira |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988654 | N/A | 2020/09/05 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987930 | N/A | 2020/09/05 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/05 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9987807 | 2020/09/04 | 2020/09/05 | Nora Kazemian |



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## TEST SUMMARY

**BV Labs ID:** YJ8109
**Sample ID:** BLDG2-SW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |

**BV Labs ID:** YJ8110
**Sample ID:** BLDG2-SW3-0.5
**Matrix:** Soil

**Collected:** 2020/09/03
**Relinquished:** 2020/09/03
**Received:** 2020/09/04

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9988246 | N/A | 2020/09/04 | Darrus Ong |
| F1-BTEX | CALC/MS | 9987781 | N/A | 2020/09/05 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9988373 | 2020/09/04 | 2020/09/05 | Vian Pereira |
| Elements by ICPMS - Soils | ICPM | 9989587 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9988799 | N/A | 2020/09/05 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9987930 | N/A | 2020/09/05 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9987602 | N/A | 2020/09/05 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9987807 | 2020/09/04 | 2020/09/05 | Nora Kazemian |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988247 | N/A | 2020/09/05 | Maggie Zhao |



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 1.7°C |

**Results relate only to the items tested.**



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BV Labs Job #: C063720
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9987807 | NK3 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/04 | | 97 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/04 | | 125 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/04 | | 94 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/04 | | 88 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/04 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/04 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/04 | <0.010 | | mg/kg | |
| 9988246 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 101 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 102 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 100 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 104 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/04 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/04 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/04 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/04 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/04 | <10 | | mg/kg | |
| 9988247 | MZ | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 100 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 100 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 88 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/05 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/09/05 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/09/05 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/09/05 | <0.0020 (1) | | mg/kg | |
| | | | Chlorodibromomethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/09/05 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/09/05 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/09/05 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/09/05 | <0.020 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 1,3-dichlorobenzene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/09/05 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/09/05 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/09/05 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/05 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/05 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/05 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/09/05 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/09/05 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/09/05 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/09/05 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/09/05 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/09/05 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/09/05 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/09/05 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/09/05 | <0.00030 | | mg/kg | |
| 9988280 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/05 | | 104 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| 9988286 | JC7 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/06 | | 92 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 120 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 86 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/06 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | 2-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/06 | <0.010 | | mg/kg | |
| 9988373 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/09/04 | | 106 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/04 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/04 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/04 | <50 | | mg/kg | |
| 9988588 | SBJ | Method Blank | Moisture | 2020/09/05 | <0.30 | | % | |
| 9988654 | MTA | Method Blank | Moisture | 2020/09/05 | <0.30 | | % | |
| 9988799 | MAE | Method Blank | Moisture | 2020/09/05 | <0.30 | | % | |
| 9989587 | ANE | Method Blank | Total Arsenic (As) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/06 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/06 | <10 | | mg/kg | |
| 9989588 | ANE | Method Blank | Total Arsenic (As) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/06 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/06 | <10 | | mg/kg | |
| 9989587 | ANE | RPD [YJ8101-01] | Total Arsenic (As) | 2020/09/06 | 0.94 | | % | 30 |
| | | | Total Barium (Ba) | 2020/09/06 | 11 | | % | 35 |
| | | | Total Chromium (Cr) | 2020/09/06 | 9.4 | | % | 30 |
| | | | Total Copper (Cu) | 2020/09/06 | 8.1 | | % | 30 |
| | | | Total Lead (Pb) | 2020/09/06 | 7.5 | | % | 35 |
| | | | Total Tin (Sn) | 2020/09/06 | NC | | % | 35 |
| | | | Total Zinc (Zn) | 2020/09/06 | 6.5 | | % | 30 |
| 9989587 | ANE | Matrix Spike [YJ8101-01] | Total Arsenic (As) | 2020/09/06 | | 97 | % | 75 - 125 |
| | | | Total Barium (Ba) | 2020/09/06 | | 109 | % | 75 - 125 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 104 | % | 75 - 125 |
| | | | Total Copper (Cu) | 2020/09/06 | | 99 | % | 75 - 125 |
| | | | Total Lead (Pb) | 2020/09/06 | | 101 | % | 75 - 125 |
| | | | Total Tin (Sn) | 2020/09/06 | | 104 | % | 75 - 125 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 93 | % | 75 - 125 |
| 9987807 | NK3 | LCS | D10-ANTHRACENE (sur.) | 2020/09/04 | | 97 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/04 | | 121 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/04 | | 96 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/04 | | 100 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/04 | | 94 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/04 | | 88 | % | 50 - 130 |
| | | | Acridine | 2020/09/04 | | 73 | % | 50 - 130 |
| | | | Anthracene | 2020/09/04 | | 74 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/04 | | 103 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/04 | | 94 | % | 50 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Benzo(g,h,i)perylene | 2020/09/04 | | 82 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/04 | | 100 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Chrysene | 2020/09/04 | | 103 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/04 | | 79 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/04 | | 118 | % | 50 - 130 |
| | | | Fluorene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/04 | | 79 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/04 | | 96 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/04 | | 92 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/04 | | 93 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/04 | | 91 | % | 50 - 130 |
| | | | Perylene | 2020/09/04 | | 89 | % | 50 - 130 |
| | | | Pyrene | 2020/09/04 | | 114 | % | 50 - 130 |
| | | | Quinoline | 2020/09/04 | | 104 | % | 50 - 130 |
| 9988246 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/04 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/04 | | 104 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/04 | | 105 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/04 | | 107 | % | 50 - 140 |
| | | | Benzene | 2020/09/04 | | 93 | % | 60 - 130 |
| | | | Toluene | 2020/09/04 | | 95 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/04 | | 97 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/04 | | 97 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/04 | | 97 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/04 | | 96 | % | 60 - 140 |
| 9988247 | MZ | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 99 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 117 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 88 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/05 | | 110 | % | 60 - 130 |
| | | | Bromoform | 2020/09/05 | | 138 (2) | % | 60 - 130 |
| | | | Bromomethane | 2020/09/05 | | 106 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/09/05 | | 94 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/09/05 | | 114 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/09/05 | | 130 | % | 60 - 130 |
| | | | Chloroethane | 2020/09/05 | | 92 | % | 60 - 130 |
| | | | Chloroform | 2020/09/05 | | 95 | % | 60 - 130 |
| | | | Chloromethane | 2020/09/05 | | 66 | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/09/05 | | 133 (2) | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/09/05 | | 104 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/09/05 | | 100 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/09/05 | | 98 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/09/05 | | 96 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/09/05 | | 100 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/09/05 | | 109 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/09/05 | | 109 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/09/05 | | 95 | % | 60 - 130 |
| | | | Dichloromethane | 2020/09/05 | | 100 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/09/05 | | 99 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/09/05 | | 94 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/09/05 | | 91 | % | 60 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Methyl methacrylate | 2020/09/05 | | 123 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/05 | | 96 | % | 60 - 130 |
| | | | Styrene | 2020/09/05 | | 118 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/05 | | 123 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/05 | | 126 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/09/05 | | 106 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/09/05 | | 115 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/09/05 | | 108 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/09/05 | | 98 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/09/05 | | 98 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/09/05 | | 117 | % | 60 - 130 |
| | | | Trichloroethene | 2020/09/05 | | 105 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/09/05 | | 86 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/09/05 | | 99 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/09/05 | | 94 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/09/05 | | 78 | % | 60 - 130 |
| 9988280 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/06 | | 109 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/06 | | 99 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/06 | | 104 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/06 | | 104 | % | 60 - 140 |
| 9988286 | JC7 | LCS | D10-ANTHRACENE (sur.) | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 119 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 95 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Acridine | 2020/09/06 | | 75 | % | 50 - 130 |
| | | | Anthracene | 2020/09/06 | | 73 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/06 | | 102 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/06 | | 89 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | | 91 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | | 97 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/06 | | 96 | % | 50 - 130 |
| | | | Chrysene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/06 | | 99 | % | 50 - 130 |
| | | | Fluorene | 2020/09/06 | | 97 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | | 85 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/06 | | 88 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/06 | | 91 | % | 50 - 130 |
| | | | Perylene | 2020/09/06 | | 93 | % | 50 - 130 |
| | | | Pyrene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Quinoline | 2020/09/06 | | 103 | % | 50 - 130 |
| 9988373 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/09/04 | | 84 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/04 | | 104 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/04 | | 109 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/04 | | 102 | % | 60 - 140 |
| 9989587 | ANE | LCS | Total Arsenic (As) | 2020/09/06 | | 94 | % | 80 - 120 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Total Barium (Ba) | 2020/09/06 | | 102 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 99 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/06 | | 102 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/06 | | 99 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/06 | | 97 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 99 | % | 80 - 120 |
| 9989588 | ANE | LCS | Total Arsenic (As) | 2020/09/06 | | 96 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/09/06 | | 95 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 95 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/06 | | 96 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/06 | | 98 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/06 | | 94 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 93 | % | 80 - 120 |
| 9989587 | ANE | SRM | Total Arsenic (As) | 2020/09/06 | | 98 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/06 | | 99 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 89 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/09/06 | | 95 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/06 | | 106 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/06 | | 91 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 95 | % | 79 - 121 |
| 9989588 | ANE | SRM | Total Arsenic (As) | 2020/09/06 | | 99 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/06 | | 100 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 96 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/09/06 | | 99 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/06 | | 108 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/06 | | 101 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 95 | % | 79 - 121 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Detection limit raised due to interferent.

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



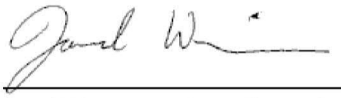
Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C063720
Report Date: 2020/09/06

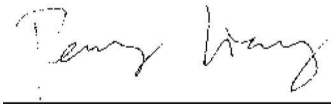
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 W.MB312

## VALIDATION SIGNATURE PAGE

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



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Harry (Peng) Liang, Senior Analyst

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

219 **EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD**



C of C # 312893

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: Aecom Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC_E-billing@Aecom.com | Email: Aaron.Jambrosic@Aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray / Lindsay Jackman | Consultant Project #: 60549588 W.MB.3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ANALYSIS REQUESTED: VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | waste Oil metals *See Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 BLD62-NW1-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 2 BLD62-NW1-DUP5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 3 BLD62-NW2-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 4 BLD62-NW3-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 5 BLD62-NW4-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 6 BLD62-EW1-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 7 BLD62-EW2-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 8 BLD62-SW1-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 9 BLD62-SW2-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |
| 10 BLD62-SW3-0.5 | | | X | | 7 | 2020/09/03 | | | | X | X | | X | | X3M | | | | | | | | | | | | | X |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS: *waste oil metals – Arsenic, barium, chromium, copper, lead, tin, zinc

# JARS USED & NOT SUBMITTED Enter N/A for Water: 0

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
Sunday (1 day) ☐
(same day) ☐
Sept. 6/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 3 | 1 | 1 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C063720

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | JEN MURRAY | 2020/09/03 | 18:00 | 1. | JESSICA LEE | 2020/09/04 | 08:55 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

SAMPLES
LABELED BY: CUW
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12
Your C.O.C. #: 312652, 312654

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
PO Box 5250 West Beaver Creek
Richmond Hill, ON
CANADA L4B 0E4

**Report Date: 2020/09/06**
Report #: R2925456
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C064043**
**Received: 2020/09/05, 07:50**

Sample Matrix: Soil
# Samples Received: 15

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 15 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 15 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 15 | AB SOP-00036 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 6 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 15 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 6 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 6 | | Auto Calc |
| PAH in Soil by GC/MS | 6 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| VOCs in Soil by HS GC/MS (Std List) (1) | 6 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12
Your C.O.C. #: 312652, 312654

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
PO Box 5250 West Beaver Creek
Richmond Hill, ON
CANADA L4B 0E4

**Report Date: 2020/09/06**
Report #: R2925456
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C064043**

**Received: 2020/09/05, 07:50**

Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Namita Sahni
Burnaby Project Manager
06 Sep 2020 15:35:15

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ9965 | | | YJ9965 | | | YJ9966 | YJ9967 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:00 | | | 2020/09/04 09:00 | | | 2020/09/04 09:10 | 2020/09/04 09:20 | | |
| COC Number | | 312652 | | | 312652 | | | 312652 | 312652 | | |
| | **UNITS** | **SP15-3** | **RDL** | **QC Batch** | **SP15-3 Lab-Dup** | **RDL** | **QC Batch** | **SP16-5** | **SP17-4** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9989310 | <10 | 10 | 9989310 | <10 | <10 | 10 | 9989310 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 96 | 50 | 9989310 | 65 | 50 | 9989310 | 91 | 80 | 50 | 9989310 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9989310 | <50 | 50 | 9989310 | 89 | <50 | 50 | 9989310 |
| Reached Baseline at C50 | mg/kg | Yes | | 9989310 | Yes | | 9989310 | Yes | Yes | | 9989310 |
| **Volatiles** | | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9988997 | | | | <0.045 | <0.045 | 0.045 | 9988997 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 10 | 9988997 | | | | <10 | <10 | 10 | 9988997 |
| **Field Preserved Volatiles** | | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.0050 | 9989085 | <0.0050 | 0.0050 | 9989085 | <0.0050 | <0.0050 | 0.0050 | 9989085 |
| Toluene | mg/kg | <0.050 | 0.050 | 9989085 | <0.050 | 0.050 | 9989085 | <0.050 | <0.050 | 0.050 | 9989085 |
| Ethylbenzene | mg/kg | <0.010 | 0.010 | 9989085 | <0.010 | 0.010 | 9989085 | <0.010 | <0.010 | 0.010 | 9989085 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9989085 | <0.040 | 0.040 | 9989085 | <0.040 | <0.040 | 0.040 | 9989085 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9989085 | <0.020 | 0.020 | 9989085 | <0.020 | <0.020 | 0.020 | 9989085 |
| F1 (C6-C10) | mg/kg | <10 | 10 | 9989085 | <10 | 10 | 9989085 | <10 | <10 | 10 | 9989085 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 96 | | 9989085 | 107 | | 9989085 | 121 | 114 | | 9989085 |
| O-TERPHENYL (sur.) | % | 100 | | 9989310 | 94 | | 9989310 | 94 | 115 | | 9989310 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 98 | | 9989085 | 97 | | 9989085 | 97 | 98 | | 9989085 |
| 4-Bromofluorobenzene (sur.) | % | 105 | | 9989085 | 104 | | 9989085 | 103 | 104 | | 9989085 |
| D4-1,2-Dichloroethane (sur.) | % | 102 | | 9989085 | 101 | | 9989085 | 102 | 99 | | 9989085 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ9968 | YJ9969 | YJ9970 | YJ9971 | | YJ9972 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:30 | 2020/09/04 09:40 | 2020/09/04 10:30 | 2020/09/04 12:00 | | 2020/09/04 12:20 | | |
| COC Number | | 312652 | 312652 | 312652 | 312652 | | 312652 | | |
| | **UNITS** | **SP18-2** | **SP19-3** | **BLDG1-C8-1.0** | **EX1-NW1-0.5** | **RDL** | **EX1-NW2-0.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | <10 | <10 | 10 | 1900 | 10 | 9989310 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | 50 | <50 | 50 | 9989310 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | 50 | <50 | 50 | 9989310 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | | Yes | | 9989310 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | <0.045 | <0.045 | 0.045 | 640 | 0.45 | 9988997 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | <10 | <10 | 10 | 8700 | 100 | 9988997 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 2.5 (1) | 0.0050 | 9989085 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 1.5 | 0.050 | 9989085 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 35 | 0.010 | 9989085 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 370 (2) | 0.40 | 9989085 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 270 (2) | 0.20 | 9989085 |
| F1 (C6-C10) | mg/kg | <10 | <10 | <10 | <10 | 10 | 9400 (2) | 100 | 9989085 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 111 | 118 | 111 | 111 | | 99 | | 9989085 |
| O-TERPHENYL (sur.) | % | 97 | 95 | 95 | 99 | | 98 | | 9989310 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 98 | 99 | 98 | 99 | | 95 | | 9989085 |
| 4-Bromofluorobenzene (sur.) | % | 105 | 106 | 101 | 100 | | 110 | | 9989085 |
| D4-1,2-Dichloroethane (sur.) | % | 102 | 102 | 100 | 103 | | 109 | | 9989085 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.
(2) Detection limits raised due to dilution to bring analyte within the calibrated range.


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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ9973 | YJ9974 | YJ9975 | YJ9976 | YJ9977 | YJ9978 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 12:40 | 2020/09/04 13:20 | 2020/09/04 14:00 | 2020/09/04 14:30 | 2020/09/04 14:45 | 2020/09/04 15:00 | | |
| COC Number | | 312652 | 312652 | 312654 | 312654 | 312654 | 312654 | | |
| | **UNITS** | **EX1-EW1-1.5** | **EX1-EW2-0.5** | **EX1-SW1-0.5** | **EX1-SW2-1.5** | **EX1-L10-1.8** | **EX1-M9-1.8** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | <10 | <10 | 120 | 310 | 10 | 9989310 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | 54 | <50 | 50 | 9989310 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | 9989310 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | Yes | | 9989310 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | 3.0 | <0.045 | 0.40 | 44 | 0.045 | 9988997 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | 170 | <10 | 20 | 850 | 10 | 9988997 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | 0.11 (1) | <0.0050 | <0.0050 | 0.14 (1) | 0.0050 | 9989085 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.093 | 0.050 | 9989085 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | 2.0 | <0.010 | 0.042 | 3.0 | 0.010 | 9989085 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | 2.6 | <0.040 | 0.24 | 29 | 0.040 | 9989085 |
| o-Xylene | mg/kg | <0.020 | <0.020 | 0.34 | <0.020 | 0.15 | 15 | 0.020 | 9989085 |
| F1 (C6-C10) | mg/kg | <10 | <10 | 170 | <10 | 20 | 900 | 10 | 9989085 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 119 | 118 | 116 | 125 | 116 | 131 | | 9989085 |
| O-TERPHENYL (sur.) | % | 101 | 102 | 93 | 104 | 135 | 98 | | 9989310 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 98 | 98 | 96 | 100 | 98 | 96 | | 9989085 |
| 4-Bromofluorobenzene (sur.) | % | 99 | 103 | 100 | 103 | 103 | 111 | | 9989085 |
| D4-1,2-Dichloroethane (sur.) | % | 106 | 102 | 128 | 101 | 105 | 126 | | 9989085 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.



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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YJ9979 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/04 15:00 | | |
| COC Number | | 312654 | | |
| | **UNITS** | **EX1-M9-DUP6** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 370 | 10 | 9989310 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9989310 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9989310 |
| Reached Baseline at C50 | mg/kg | Yes | | 9989310 |
| **Volatiles** | | | | |
| Xylenes (Total) | mg/kg | 37 | 0.045 | 9988997 |
| F1 (C6-C10) - BTEX | mg/kg | 750 | 10 | 9988997 |
| **Field Preserved Volatiles** | | | | |
| Benzene | mg/kg | 0.12 (1) | 0.0050 | 9989085 |
| Toluene | mg/kg | 0.076 | 0.050 | 9989085 |
| Ethylbenzene | mg/kg | 2.6 | 0.010 | 9989085 |
| m & p-Xylene | mg/kg | 24 | 0.040 | 9989085 |
| o-Xylene | mg/kg | 13 | 0.020 | 9989085 |
| F1 (C6-C10) | mg/kg | 790 | 10 | 9989085 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 127 | | 9989085 |
| O-TERPHENYL (sur.) | % | 114 | | 9989310 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 97 | | 9989085 |
| 4-Bromofluorobenzene (sur.) | % | 110 | | 9989085 |
| D4-1,2-Dichloroethane (sur.) | % | 120 | | 9989085 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.


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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YJ9965 | YJ9966 | YJ9967 | YJ9968 | YJ9969 | YJ9970 | YJ9971 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:00 | 2020/09/04 09:10 | 2020/09/04 09:20 | 2020/09/04 09:30 | 2020/09/04 09:40 | 2020/09/04 10:30 | 2020/09/04 12:00 | | |
| COC Number | | 312652 | 312652 | 312652 | 312652 | 312652 | 312652 | 312652 | | |
| | **UNITS** | **SP15-3** | **SP16-5** | **SP17-4** | **SP18-2** | **SP19-3** | **BLDG1-C8-1.0** | **EX1-NW1-0.5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | | |
| Moisture | % | 8.1 | 12 | 9.0 | 5.0 | 4.5 | 9.0 | 5.7 | 0.30 | 9989400 |
| RDL = Reportable Detection Limit | | | | | | | | | | |

| BV Labs ID | | YJ9972 | YJ9973 | YJ9974 | YJ9975 | YJ9976 | YJ9977 | YJ9978 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 12:20 | 2020/09/04 12:40 | 2020/09/04 13:20 | 2020/09/04 14:00 | 2020/09/04 14:30 | 2020/09/04 14:45 | 2020/09/04 15:00 | | |
| COC Number | | 312652 | 312652 | 312652 | 312654 | 312654 | 312654 | 312654 | | |
| | **UNITS** | **EX1-NW2-0.5** | **EX1-EW1-1.5** | **EX1-EW2-0.5** | **EX1-SW1-0.5** | **EX1-SW2-1.5** | **EX1-L10-1.8** | **EX1-M9-1.8** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | | |
| Moisture | % | 25 | 23 | 15 | 18 | 3.2 | 27 | 25 | 0.30 | 9989400 |
| RDL = Reportable Detection Limit | | | | | | | | | | |

| BV Labs ID | | YJ9979 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/04 15:00 | | |
| COC Number | | 312654 | | |
| | **UNITS** | **EX1-M9-DUP6** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | |
| Moisture | % | 23 | 0.30 | 9989400 |
| RDL = Reportable Detection Limit | | | | |



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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9965 | | | YJ9965 | | | YJ9966 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:00 | | | 2020/09/04 09:00 | | | 2020/09/04 09:10 | | |
| COC Number | | 312652 | | | 312652 | | | 312652 | | |
| | **UNITS** | **SP15-3** | **RDL** | **QC Batch** | **SP15-3 Lab-Dup** | **RDL** | **QC Batch** | **SP16-5** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | 0.10 | 9989005 | | | | <0.10 | 0.10 | 9989005 |
| Acenaphthene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | 0.0071 | 9989000 | | | | <0.0071 | 0.0071 | 9989000 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | 0.10 | 9989005 | | | | <0.10 | 0.10 | 9989005 |
| Acenaphthylene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Acridine | mg/kg | <0.010 | 0.010 | 9989309 | <0.010 | 0.010 | 9989309 | <0.010 | 0.010 | 9989309 |
| Anthracene | mg/kg | <0.0040 | 0.0040 | 9989309 | <0.0040 | 0.0040 | 9989309 | <0.0040 | 0.0040 | 9989309 |
| Benzo(a)anthracene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | 0.0077 | 0.0050 | 9989309 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Benzo(g,h,i)perylene | mg/kg | 0.0096 | 0.0050 | 9989309 | 0.010 | 0.0050 | 9989309 | 0.015 | 0.0050 | 9989309 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Benzo(a)pyrene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Benzo(e)pyrene | mg/kg | 0.0065 | 0.0050 | 9989309 | 0.0075 | 0.0050 | 9989309 | 0.011 | 0.0050 | 9989309 |
| Chrysene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Fluoranthene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Fluorene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | 0.0077 | 0.0050 | 9989309 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | 0.0060 | 0.0050 | 9989309 |
| Naphthalene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Phenanthrene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Perylene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Pyrene | mg/kg | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 | <0.0050 | 0.0050 | 9989309 |
| Quinoline | mg/kg | <0.010 | 0.010 | 9989309 | <0.010 | 0.010 | 9989309 | <0.010 | 0.010 | 9989309 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 93 | | 9989309 | 89 | | 9989309 | 89 | | 9989309 |
| D8-ACENAPHTHYLENE (sur.) | % | 90 | | 9989309 | 87 | | 9989309 | 86 | | 9989309 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9965 | | | YJ9965 | | | YJ9966 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:00 | | | 2020/09/04 09:00 | | | 2020/09/04 09:10 | | |
| COC Number | | 312652 | | | 312652 | | | 312652 | | |
| | **UNITS** | **SP15-3** | **RDL** | **QC Batch** | **SP15-3 Lab-Dup** | **RDL** | **QC Batch** | **SP16-5** | **RDL** | **QC Batch** |
| D8-NAPHTHALENE (sur.) | % | 88 | | 9989309 | 83 | | 9989309 | 81 | | 9989309 |
| TERPHENYL-D14 (sur.) | % | 112 | | 9989309 | 104 | | 9989309 | 104 | | 9989309 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate


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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9967 | YJ9968 | YJ9969 | YJ9970 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:20 | 2020/09/04 09:30 | 2020/09/04 09:40 | 2020/09/04 10:30 | | |
| COC Number | | 312652 | 312652 | 312652 | 312652 | | |
| | **UNITS** | **SP17-4** | **SP18-2** | **SP19-3** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9989005 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | <0.0071 | <0.0071 | 0.0071 | 9989000 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | <0.10 | <0.10 | 0.10 | 9989005 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Acridine | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9989309 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | <0.0040 | <0.0040 | 0.0040 | 9989309 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Benzo(g,h,i)perylene | mg/kg | 0.010 | 0.0071 | 0.0061 | 0.0069 | 0.0050 | 9989309 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Benzo(e)pyrene | mg/kg | 0.0066 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Perylene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | <0.0050 | <0.0050 | 0.0050 | 9989309 |
| Quinoline | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9989309 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| D10-ANTHRACENE (sur.) | % | 90 | 91 | 91 | 89 | | 9989309 |
| D8-ACENAPHTHYLENE (sur.) | % | 88 | 90 | 88 | 86 | | 9989309 |
| D8-NAPHTHALENE (sur.) | % | 83 | 84 | 84 | 81 | | 9989309 |
| RDL = Reportable Detection Limit | | | | | | | |



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BV Labs Job #: C064043
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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9967 | YJ9968 | YJ9969 | YJ9970 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:20 | 2020/09/04 09:30 | 2020/09/04 09:40 | 2020/09/04 10:30 | | |
| COC Number | | 312652 | 312652 | 312652 | 312652 | | |
| | **UNITS** | **SP17-4** | **SP18-2** | **SP19-3** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 104 | 104 | 103 | 102 | | 9989309 |
| RDL = Reportable Detection Limit | | | | | | | |



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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YJ9965 | YJ9966 | YJ9967 | YJ9968 | YJ9969 | YJ9970 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:00 | 2020/09/04 09:10 | 2020/09/04 09:20 | 2020/09/04 09:30 | 2020/09/04 09:40 | 2020/09/04 10:30 | | |
| COC Number | | 312652 | 312652 | 312652 | 312652 | 312652 | 312652 | | |
| | **UNITS** | **SP15-3** | **SP16-5** | **SP17-4** | **SP18-2** | **SP19-3** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | | |
| Total Arsenic (As) | mg/kg | 1.9 | 2.5 | 2.5 | 1.3 | 1.0 | 1.8 | 1.0 | 9989588 |
| Total Barium (Ba) | mg/kg | 37 | 43 | 42 | 15 | 12 | 30 | 1.0 | 9989588 |
| Total Chromium (Cr) | mg/kg | 16 | 15 | 17 | 7.5 | 3.7 | 11 | 1.0 | 9989588 |
| Total Copper (Cu) | mg/kg | 8.6 | 10 | 11 | 4.7 | 3.7 | 6.7 | 1.0 | 9989588 |
| Total Lead (Pb) | mg/kg | 14 | 10 | 13 | 2.3 | 1.8 | 4.0 | 0.50 | 9989588 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | 9989588 |
| Total Zinc (Zn) | mg/kg | 27 | 26 | 25 | <10 | <10 | 14 | 10 | 9989588 |
| RDL = Reportable Detection Limit | | | | | | | | | |


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## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9965 | YJ9966 | YJ9967 | YJ9968 | YJ9969 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:00 | 2020/09/04 09:10 | 2020/09/04 09:20 | 2020/09/04 09:30 | 2020/09/04 09:40 | | |
| COC Number | | 312652 | 312652 | 312652 | 312652 | 312652 | | |
| | **UNITS** | **SP15-3** | **SP16-5** | **SP17-4** | **SP18-2** | **SP19-3** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| Bromoform | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988264 |
| Bromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | <0.00050 | <0.00050 | <0.00050 | 0.00050 | 9988264 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 | 0.0010 | 9988264 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Chloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Chloroform | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988264 |
| Chloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988264 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | <0.0020 | <0.0020 | <0.0020 | 0.0020 | 9988264 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | <0.030 | <0.030 | <0.030 | 0.030 | 9988264 |
| Styrene | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988264 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | 0.050 | 9988264 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988264 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | 0.040 | 9988264 |

RDL = Reportable Detection Limit

BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9965 | YJ9966 | YJ9967 | YJ9968 | YJ9969 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/04 09:00 | 2020/09/04 09:10 | 2020/09/04 09:20 | 2020/09/04 09:30 | 2020/09/04 09:40 | | |
| COC Number | | 312652 | 312652 | 312652 | 312652 | 312652 | | |
| | **UNITS** | **SP15-3** | **SP16-5** | **SP17-4** | **SP18-2** | **SP19-3** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.010 | 9988264 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | 9988264 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988264 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | 0.50 | 9988264 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | <0.00030 | <0.00030 | <0.00030 | 0.00030 | 9988264 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| D10-o-Xylene (sur.) | % | 97 | 110 | 105 | 109 | 114 | | 9988264 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 99 | 99 | 98 | 99 | 99 | | 9988264 |
| 4-Bromofluorobenzene (sur.) | % | 98 | 98 | 98 | 99 | 97 | | 9988264 |
| D4-1,2-Dichloroethane (sur.) | % | 91 | 94 | 99 | 90 | 94 | | 9988264 |

RDL = Reportable Detection Limit



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9970 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/04 10:30 | | |
| COC Number | | 312652 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | |
| Bromodichloromethane | mg/kg | <0.030 | 0.030 | 9988264 |
| Bromoform | mg/kg | <0.050 | 0.050 | 9988264 |
| Bromomethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Carbon tetrachloride | mg/kg | <0.00050 | 0.00050 | 9988264 |
| Chlorobenzene | mg/kg | <0.0010 | 0.0010 | 9988264 |
| Chlorodibromomethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Chloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Chloroform | mg/kg | <0.010 | 0.010 | 9988264 |
| Chloromethane | mg/kg | <0.030 | 0.030 | 9988264 |
| 1,2-dibromoethane | mg/kg | <0.0020 | 0.0020 | 9988264 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,1-dichloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,2-dichloroethane | mg/kg | <0.0020 | 0.0020 | 9988264 |
| 1,1-dichloroethene | mg/kg | <0.020 | 0.020 | 9988264 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9988264 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | 0.020 | 9988264 |
| Dichloromethane | mg/kg | <0.030 | 0.030 | 9988264 |
| 1,2-dichloropropane | mg/kg | <0.020 | 0.020 | 9988264 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9988264 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | 0.020 | 9988264 |
| Methyl methacrylate | mg/kg | <0.040 | 0.040 | 9988264 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | 0.030 | 9988264 |
| Styrene | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9988264 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | 0.050 | 9988264 |
| Tetrachloroethene | mg/kg | <0.010 | 0.010 | 9988264 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9988264 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9988264 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | 0.040 | 9988264 |
| RDL = Reportable Detection Limit | | | | |



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YJ9970 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/04 10:30 | | |
| COC Number | | 312652 | | |
| | **UNITS** | **BLDG1-C8-1.0** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | 0.020 | 9988264 |
| Trichloroethene | mg/kg | <0.010 | 0.010 | 9988264 |
| Trichlorofluoromethane | mg/kg | <0.020 | 0.020 | 9988264 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9988264 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | 0.50 | 9988264 |
| Vinyl chloride | mg/kg | <0.00030 | 0.00030 | 9988264 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 103 | | 9988264 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 100 | | 9988264 |
| 4-Bromofluorobenzene (sur.) | % | 96 | | 9988264 |
| D4-1,2-Dichloroethane (sur.) | % | 88 | | 9988264 |
| RDL = Reportable Detection Limit | | | | |



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## TEST SUMMARY

**BV Labs ID:** YJ9965
**Sample ID:** SP15-3
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/05 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9989000 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9989005 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9989309 | 2020/09/05 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ9965 Dup
**Sample ID:** SP15-3
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/05 | Mosharraf Hossain |
| PAH in Soil by GC/MS | GC/MS | 9989309 | 2020/09/05 | 2020/09/06 | Shuang (Jessica) Chen |

**BV Labs ID:** YJ9966
**Sample ID:** SP16-5
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9989000 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9989005 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9989309 | 2020/09/05 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ9967
**Sample ID:** SP17-4
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9989000 | N/A | 2020/09/06 | Automated Statchk |



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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## TEST SUMMARY

**BV Labs ID:** YJ9967
**Sample ID:** SP17-4
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Index of Additive Cancer Risk | GC/MSD | 9989005 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9989309 | 2020/09/05 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ9968
**Sample ID:** SP18-2
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9989000 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9989005 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9989309 | 2020/09/05 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ9969
**Sample ID:** SP19-3
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9989000 | N/A | 2020/09/06 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9989005 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9989309 | 2020/09/05 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ9970
**Sample ID:** BLDG1-C8-1.0
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Elements by ICPMS - Soils | ICPM | 9989588 | 2020/09/06 | 2020/09/06 | Anna Nelson |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |
| Benzo[a]pyrene Equivalency | GC/MSD | 9989000 | N/A | 2020/09/06 | Automated Statchk |



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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## TEST SUMMARY

**BV Labs ID:** YJ9970
**Sample ID:** BLDG1-C8-1.0
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Index of Additive Cancer Risk | GC/MSD | 9989005 | N/A | 2020/09/06 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9989309 | 2020/09/05 | 2020/09/06 | Shuang (Jessica) Chen |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9988264 | N/A | 2020/09/06 | Rahul Suryawanshi |

**BV Labs ID:** YJ9971
**Sample ID:** EX1-NW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |

**BV Labs ID:** YJ9972
**Sample ID:** EX1-NW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/06 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |

**BV Labs ID:** YJ9973
**Sample ID:** EX1-EW1-1.5
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/06 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |

**BV Labs ID:** YJ9974
**Sample ID:** EX1-EW2-0.5
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |



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BV Labs Job #: C064043
Report Date: 2020/09/06

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## TEST SUMMARY

**BV Labs ID:** YJ9975
**Sample ID:** EX1-SW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |

**BV Labs ID:** YJ9976
**Sample ID:** EX1-SW2-1.5
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |

**BV Labs ID:** YJ9977
**Sample ID:** EX1-L10-1.8
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |

**BV Labs ID:** YJ9978
**Sample ID:** EX1-M9-1.8
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |

**BV Labs ID:** YJ9979
**Sample ID:** EX1-M9-DUP6
**Matrix:** Soil

**Collected:** 2020/09/04
**Relinquished:** 2020/09/04
**Received:** 2020/09/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9989085 | N/A | 2020/09/05 | Darrus Ong |
| F1-BTEX | CALC/MS | 9988997 | N/A | 2020/09/06 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9989310 | 2020/09/05 | 2020/09/06 | Mosharraf Hossain |
| Moisture | BAL | 9989400 | N/A | 2020/09/06 | Margarita Aguilera |



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AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 2.7°C |

**Results relate only to the items tested.**


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## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9988264 | RSU | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/06 | | 101 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/06 | | 92 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/06 | | 105 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/06 | | 97 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/06 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/09/06 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/09/06 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/09/06 | <0.0010 | | mg/kg | |
| | | | Chlorodibromomethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/09/06 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/09/06 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/09/06 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/09/06 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/09/06 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/06 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/06 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/06 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/09/06 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/09/06 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/09/06 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/09/06 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/09/06 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/09/06 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/09/06 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/09/06 | <0.00030 | | mg/kg | |
| 9989085 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 99 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 105 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 104 | % | 50 - 140 |
| | | | Benzene | 2020/09/05 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/05 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/05 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/05 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/05 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/05 | <10 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9989309 | JC7 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/06 | | 95 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 111 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 92 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/06 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/06 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/06 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/06 | <0.010 | | mg/kg | |
| 9989310 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/05 | | 103 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | <50 | | mg/kg | |
| 9989400 | MAE | Method Blank | Moisture | 2020/09/06 | <0.30 | | % | |
| 9989588 | ANE | Method Blank | Total Arsenic (As) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/06 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/06 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/06 | <10 | | mg/kg | |
| 9989085 | DO1 | RPD [YJ9965-03] | Benzene | 2020/09/05 | NC | | % | 50 |
| | | | Toluene | 2020/09/05 | NC | | % | 50 |
| | | | Ethylbenzene | 2020/09/05 | NC | | % | 50 |
| | | | m & p-Xylene | 2020/09/05 | NC | | % | 50 |
| | | | o-Xylene | 2020/09/05 | NC | | % | 50 |
| | | | F1 (C6-C10) | 2020/09/05 | NC | | % | 30 |
| 9989309 | JC7 | RPD [YJ9965-02] | Acenaphthene | 2020/09/06 | NC | | % | 50 |
| | | | Acenaphthylene | 2020/09/06 | NC | | % | 50 |
| | | | Acridine | 2020/09/06 | NC | | % | 50 |
| | | | Anthracene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(a)anthracene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(k)fluoranthene | 2020/09/06 | NC | | % | 50 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Benzo(g,h,i)perylene | 2020/09/06 | 8.7 | | % | 50 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(a)pyrene | 2020/09/06 | NC | | % | 50 |
| | | | Benzo(e)pyrene | 2020/09/06 | 14 | | % | 50 |
| | | | Chrysene | 2020/09/06 | NC | | % | 50 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | NC | | % | 50 |
| | | | Fluoranthene | 2020/09/06 | NC | | % | 50 |
| | | | Fluorene | 2020/09/06 | NC | | % | 50 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | NC | | % | 50 |
| | | | 1-Methylnaphthalene | 2020/09/06 | NC | | % | 50 |
| | | | 2-Methylnaphthalene | 2020/09/06 | NC | | % | 50 |
| | | | Naphthalene | 2020/09/06 | NC | | % | 50 |
| | | | Phenanthrene | 2020/09/06 | NC | | % | 50 |
| | | | Perylene | 2020/09/06 | NC | | % | 50 |
| | | | Pyrene | 2020/09/06 | NC | | % | 50 |
| | | | Quinoline | 2020/09/06 | NC | | % | 50 |
| 9989310 | MHF | RPD [YJ9965-02] | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | 39 | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | NC | | % | 40 |
| 9989085 | DO1 | Matrix Spike [YJ9966-03] | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 95 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 105 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 109 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 98 | % | 50 - 140 |
| | | | Benzene | 2020/09/05 | | 93 | % | 50 - 140 |
| | | | Toluene | 2020/09/05 | | 93 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/09/05 | | 98 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/09/05 | | 97 | % | 50 - 140 |
| | | | o-Xylene | 2020/09/05 | | 95 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/09/05 | | 91 | % | 60 - 140 |
| 9989309 | JC7 | Matrix Spike [YJ9965-02] | D10-ANTHRACENE (sur.) | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 105 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 88 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 84 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | | 65 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/06 | | 61 | % | 50 - 130 |
| | | | Acridine | 2020/09/06 | | 52 | % | 50 - 130 |
| | | | Anthracene | 2020/09/06 | | 51 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/06 | | 68 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | | 62 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/06 | | 69 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | | 65 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | | 65 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/06 | | 65 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/06 | | 63 | % | 50 - 130 |
| | | | Chrysene | 2020/09/06 | | 67 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | | 71 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/06 | | 69 | % | 50 - 130 |
| | | | Fluorene | 2020/09/06 | | 68 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | | 67 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/06 | | 64 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/06 | | 63 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/06 | | 60 | % | 50 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Phenanthrene | 2020/09/06 | | 64 | % | 50 - 130 |
| | | | Perylene | 2020/09/06 | | 62 | % | 50 - 130 |
| | | | Pyrene | 2020/09/06 | | 69 | % | 50 - 130 |
| | | | Quinoline | 2020/09/06 | | 78 | % | 50 - 130 |
| 9989310 | MHF | Matrix Spike [YJ9965-02] | O-TERPHENYL (sur.) | 2020/09/05 | | 110 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | | 101 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | | 102 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | | 103 | % | 60 - 140 |
| 9988264 | RSU | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/06 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/06 | | 103 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/06 | | 119 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/06 | | 91 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/06 | | 116 | % | 60 - 130 |
| | | | Bromoform | 2020/09/06 | | 116 | % | 60 - 130 |
| | | | Bromomethane | 2020/09/06 | | 104 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/09/06 | | 123 | % | 60 - 130 |
| | | | Chloroethane | 2020/09/06 | | 87 | % | 60 - 130 |
| | | | Chloroform | 2020/09/06 | | 102 | % | 60 - 130 |
| | | | Chloromethane | 2020/09/06 | | 70 | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/09/06 | | 120 | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/09/06 | | 103 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/09/06 | | 107 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/09/06 | | 102 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/09/06 | | 117 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/09/06 | | 115 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/09/06 | | 106 | % | 60 - 130 |
| | | | Dichloromethane | 2020/09/06 | | 104 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/09/06 | | 107 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/09/06 | | 108 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/09/06 | | 107 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/09/06 | | 118 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/06 | | 104 | % | 60 - 130 |
| | | | Styrene | 2020/09/06 | | 114 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/06 | | 117 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/06 | | 99 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/09/06 | | 93 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/09/06 | | 99 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/09/06 | | 103 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/09/06 | | 110 | % | 60 - 130 |
| | | | Trichloroethene | 2020/09/06 | | 115 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/09/06 | | 93 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/09/06 | | 112 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/09/06 | | 110 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/09/06 | | 83 | % | 60 - 130 |
| 9989085 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/05 | | 96 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/05 | | 107 | % | 50 - 140 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | D10-o-Xylene (sur.) | 2020/09/05 | | 116 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/05 | | 103 | % | 50 - 140 |
| | | | Benzene | 2020/09/05 | | 86 | % | 60 - 130 |
| | | | Toluene | 2020/09/05 | | 89 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/05 | | 93 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/05 | | 94 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/05 | | 93 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/05 | | 89 | % | 60 - 140 |
| 9989309 | JC7 | LCS | D10-ANTHRACENE (sur.) | 2020/09/06 | | 95 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/06 | | 110 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/06 | | 92 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/06 | | 90 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/06 | | 84 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/06 | | 79 | % | 50 - 130 |
| | | | Acridine | 2020/09/06 | | 65 | % | 50 - 130 |
| | | | Anthracene | 2020/09/06 | | 66 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/06 | | 85 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/06 | | 80 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/06 | | 89 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/06 | | 82 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/06 | | 83 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/06 | | 94 | % | 50 - 130 |
| | | | Chrysene | 2020/09/06 | | 87 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/06 | | 91 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/06 | | 98 | % | 50 - 130 |
| | | | Fluorene | 2020/09/06 | | 88 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/06 | | 88 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/06 | | 83 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/06 | | 81 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/06 | | 79 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/06 | | 81 | % | 50 - 130 |
| | | | Perylene | 2020/09/06 | | 80 | % | 50 - 130 |
| | | | Pyrene | 2020/09/06 | | 104 | % | 50 - 130 |
| | | | Quinoline | 2020/09/06 | | 96 | % | 50 - 130 |
| 9989310 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/05 | | 99 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/05 | | 93 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/05 | | 94 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/05 | | 93 | % | 60 - 140 |
| 9989588 | ANE | LCS | Total Arsenic (As) | 2020/09/06 | | 96 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/09/06 | | 95 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 95 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/06 | | 96 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/06 | | 98 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/06 | | 94 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/06 | | 93 | % | 80 - 120 |
| 9989588 | ANE | SRM | Total Arsenic (As) | 2020/09/06 | | 99 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/06 | | 100 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/06 | | 96 | % | 59 - 141 |
| | | | Total Copper (Cu) | 2020/09/06 | | 99 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/06 | | 108 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/06 | | 101 | % | 67 - 133 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Total Zinc (Zn) | 2020/09/06 | | 95 | % | 79 - 121 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



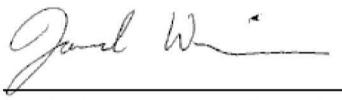
Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C064043
Report Date: 2020/09/06

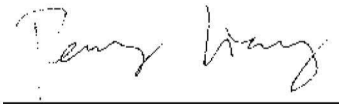
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 MAIN STREET, SELKIRK MB
Project #: 60549588 W.MB3.12

## VALIDATION SIGNATURE PAGE

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



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Harry (Peng) Liang, Senior Analyst

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

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4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD

295



C of C # 312652

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@Aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray ~~Heather Jackman~~ | Consultant Project #: 60549588 W.MB.3.12 |

| # | FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS ☐ TOT ☐ DIS | MERCURY ☐ TOTAL ☐ DISSOLVED | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY ☐ pH ☐ EC ☐ ALKALINITY | BASIC CLASS II LANDFILL PKG | waste oil / metals * see note |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SP15-3 | | | X | | 7 | 2020/09/04 | 9:00 | | | X | X | | X | | | | | | | | | | | | | | X |
| 2 | SP16-5 | | | X | | 7 | 2020/09/04 | 9:10 | | | X | X | | X | | | | | | | | | | | | | | X |
| 3 | SP17-4 | | | X | | 7 | 2020/09/04 | 9:20 | | | X | X | | X | | | | | | | | | | | | | | X |
| 4 | SP18-2 | | | X | | 7 | 2020/09/04 | 9:30 | | | X | X | | X | | | | | | | | | | | | | | X |
| 5 | SP19-3 | | | X | | 7 | 2020/09/04 | 9:40 | | | X | X | | X | | | | | | | | | | | | | | X |
| 6 | BLDG1-C8-1.0 | | | X | | 7 | 2020/09/04 | 10:30 | | | X | X | | X | | | | | | | | | | | | | | X |
| 7 | EX1-NW1-0.5 | | | X | | 3 | 2020/09/04 | 12:00 | | | | | | X | | | | | | | | | | | | | | |
| 8 | EX1-NW2-0.5 | | | X | | 3 | 2020/09/04 | 12:20 | | | | | | X | | | | | | | | | | | | | | |
| 9 | EX1-EW1-1.5 | | | X | | 3 | 2020/09/04 | 12:40 | | | | | | X | | | | | | | | | | | | | | |
| 10 | EX1-EW2-0.5 | | | X | | 3 | 2020/09/04 | 13:20 | | | | | | X | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS: * waste oil metals includes Arsenic, barium, chromium, copper, lead, tin, zinc

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
Sunday (1 day) ☐
(same day) ☐
Sept. 6/20
Date Required

| | YES | NO | COOLER ID # MCAL | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 6 | 2 | 0 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C064043

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray signature | Jen Murray printed name | 2020/09/04 YYYY/MM/DD | 16:30 HH:MM | 1. signature | SARA BISCHOFF printed name | 2020/09/05 YYYY/MM/DD | ~~06:00~~ SB 2020/09/05 07:50 HH:MM |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: MMM
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

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Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD

295



C of C # 312654

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton AB T5S 0C2 | Address: 48 Gloury Park Blvd SE Suite 300 Calgary AB |
| Email: CANSCCE-billingC@Aecom.com | Email: Aaron.Jambrosic@Aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray Lindsay Jackman | Consultant Project #: 60549588 W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ANALYSIS REQUESTED: VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EX1-SW1-0.5 | | | X | | 3 | 2020/09/04 | 14:00 | | | | | | X | | | | | | | | | | | | | | |
| 2 | EX1-SW2-1.5 | | | X | | 3 | 2020/09/04 | 14:30 | | | | | | X | | | | | | | | | | | | | | |
| 3 | EX1-L10-1.8 | | | X | | 3 | 2020/09/04 | 14:45 | | | | | | X | | | | | | | | | | | | | | |
| 4 | EX1-M9-1.8 | | | X | | 3 | 2020/09/04 | 15:00 | | | | | | X | | | | | | | | | | | | | | |
| 5 | EX1-M9-DUP6 | | | X | | 3 | 2020/09/04 | 15:00 | | | | | | X | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☐
(same day) ☐
Sunday Sept. 6/20
Date Required

| | YES | NO | COOLER ID # MCAL | TEMP °C 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | | 6 | 2 | 0 |
| SEAL INTACT | ✓ | | | | | |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | TEMP °C 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | TEMP °C 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB #: C064043

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | Jen Murray | 2020/09/04 | 16:30 | 1. | SARA BISCHOFF | 2020/09/05 | 07:50 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: MM M
VERIFIED BY: JEM

White: Maxxam Yellow: Client

Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12
Your C.O.C. #: 312896, 312657

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
PO Box 5250 West Beaver Creek
Richmond Hill, ON
CANADA L4B 0E4

**Report Date: 2020/09/14**
Report #: R2928117
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C065347**
**Received: 2020/09/11, 09:00**

Sample Matrix: Soil
# Samples Received: 13

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 13 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 13 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 13 | AB SOP-00036 | CCME PHC-CWS m |
| Moisture | 13 | AB SOP-00002 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12
Your C.O.C. #: 312896, 312657

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
PO Box 5250 West Beaver Creek
Richmond Hill, ON
CANADA L4B 0E4

**Report Date: 2020/09/14**
Report #: R2928117
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C065347**
**Received: 2020/09/11, 09:00**

Encryption Key

Mary (Xiaohong) Xu
Project Manager I
14 Sep 2020 12:44:22

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YK6402 | | | YK6402 | | | YK6403 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/09 14:00 | | | 2020/09/09 14:00 | | | 2020/09/09 14:00 | | |
| COC Number | | 312896 | | | 312896 | | | 312896 | | |
| | **UNITS** | **EX1-NW4-0.5** | **RDL** | **QC Batch** | **EX1-NW4-0.5 Lab-Dup** | **RDL** | **QC Batch** | **EX1-NW4-DUP7** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 10 | 9996515 | <10 | 10 | 9996515 | <10 | 10 | 9996515 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9996515 | <50 | 50 | 9996515 | <50 | 50 | 9996515 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9996515 | <50 | 50 | 9996515 | <50 | 50 | 9996515 |
| Reached Baseline at C50 | mg/kg | Yes | | 9996515 | Yes | | 9996515 | Yes | | 9996515 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.045 | 9994817 | | | | <0.045 | 0.045 | 9994817 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 10 | 9994817 | | | | <10 | 10 | 9994817 |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.0050 | 9995553 | | | | <0.0050 | 0.0050 | 9995553 |
| Toluene | mg/kg | <0.050 | 0.050 | 9995553 | | | | <0.050 | 0.050 | 9995553 |
| Ethylbenzene | mg/kg | <0.010 | 0.010 | 9995553 | | | | <0.010 | 0.010 | 9995553 |
| m & p-Xylene | mg/kg | <0.040 | 0.040 | 9995553 | | | | <0.040 | 0.040 | 9995553 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9995553 | | | | <0.020 | 0.020 | 9995553 |
| F1 (C6-C10) | mg/kg | <10 | 10 | 9995553 | | | | <10 | 10 | 9995553 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 122 | | 9995553 | | | | 125 | | 9995553 |
| O-TERPHENYL (sur.) | % | 85 | | 9996515 | 91 | | 9996515 | 85 | | 9996515 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 89 | | 9995553 | | | | 89 | | 9995553 |
| 4-Bromofluorobenzene (sur.) | % | 107 | | 9995553 | | | | 108 | | 9995553 |
| D4-1,2-Dichloroethane (sur.) | % | 89 | | 9995553 | | | | 90 | | 9995553 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YK6404 | YK6405 | | YK6406 | YK6407 | YK6408 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/09 14:20 | 2020/09/09 14:40 | | 2020/09/09 15:00 | 2020/09/09 16:00 | 2020/09/09 16:20 | | |
| COC Number | | 312896 | 312896 | | 312896 | 312896 | 312896 | | |
| | **UNITS** | **EX1-WW1-0.5** | **EX1-NW3-0.5** | **QC Batch** | **EX1-EW3-0.5** | **EX1-M9-4.5** | **EX1-L9-4.3** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | 9996119 | <10 | <10 | <10 | 10 | 9996515 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | 9996119 | <50 | <50 | <50 | 50 | 9996515 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | 9996119 | <50 | <50 | <50 | 50 | 9996515 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | 9996119 | Yes | Yes | Yes | | 9996515 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | 9994817 | <0.045 | <0.045 | <0.045 | 0.045 | 9994817 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | 9994817 | <10 | <10 | <10 | 10 | 9994817 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | 9995553 | <0.0050 | 0.47 | 0.50 | 0.0050 | 9995553 |
| Toluene | mg/kg | <0.050 | <0.050 | 9995553 | <0.050 | <0.050 | <0.050 | 0.050 | 9995553 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | 9995553 | <0.010 | 0.025 | 0.030 | 0.010 | 9995553 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | 9995553 | <0.040 | <0.040 | <0.040 | 0.040 | 9995553 |
| o-Xylene | mg/kg | <0.020 | <0.020 | 9995553 | <0.020 | <0.020 | <0.020 | 0.020 | 9995553 |
| F1 (C6-C10) | mg/kg | <10 | <10 | 9995553 | <10 | <10 | <10 | 10 | 9995553 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 128 | 130 | 9995553 | 125 | 131 | 136 | | 9995553 |
| O-TERPHENYL (sur.) | % | 92 | 97 | 9996119 | 85 | 98 | 88 | | 9996515 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 89 | 89 | 9995553 | 89 | 91 | 89 | | 9995553 |
| 4-Bromofluorobenzene (sur.) | % | 105 | 105 | 9995553 | 107 | 103 | 106 | | 9995553 |
| D4-1,2-Dichloroethane (sur.) | % | 88 | 88 | 9995553 | 89 | 99 | 89 | | 9995553 |

RDL = Reportable Detection Limit



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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YK6409 | YK6410 | YK6411 | | YK6412 | YK6413 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/10 09:00 | 2020/09/10 09:15 | 2020/09/10 09:50 | | 2020/09/09 16:30 | 2020/09/10 10:30 | | |
| COC Number | | 312896 | 312896 | 312896 | | 312657 | 312657 | | |
| | **UNITS** | **EX1-SW5-2.8** | **EX1-SW6-2.8** | **EX1-NW5-0.5** | **QC Batch** | **EX1-WW2-3.0** | **EX1-WW3-3.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 13 | 16 | 170 | 9995819 | 36 | 47 | 10 | 9996515 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 9995819 | <50 | <50 | 50 | 9996515 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 9995819 | <50 | <50 | 50 | 9996515 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | 9995819 | Yes | Yes | | 9996515 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | 0.098 | 9994817 | 1.9 | 6.3 | 0.045 | 9994817 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 25 | 150 | 9994817 | 220 | 560 | 10 | 9994817 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.042 | 0.012 (1) | 9995553 | 0.34 (1) | 2.0 | 0.0050 | 9995553 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | 9995553 | <0.050 | 0.091 | 0.050 | 9995553 |
| Ethylbenzene | mg/kg | <0.010 | 0.095 | 0.25 | 9995553 | 2.0 | 8.8 | 0.010 | 9995553 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | 0.098 | 9995553 | 1.9 | 6.2 | 0.040 | 9995553 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | 9995553 | <0.020 | 0.040 | 0.020 | 9995553 |
| F1 (C6-C10) | mg/kg | <10 | 26 | 150 | 9995553 | 220 | 580 | 10 | 9995553 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 134 | 136 | 129 | 9995553 | 128 | 128 | | 9995553 |
| O-TERPHENYL (sur.) | % | 84 | 90 | 94 | 9995819 | 99 | 93 | | 9996515 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 90 | 90 | 89 | 9995553 | 90 | 92 | | 9995553 |
| 4-Bromofluorobenzene (sur.) | % | 106 | 104 | 103 | 9995553 | 104 | 104 | | 9995553 |
| D4-1,2-Dichloroethane (sur.) | % | 90 | 94 | 95 | 9995553 | 115 | 109 | | 9995553 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.



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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YK6414 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/10 10:45 | | |
| COC Number | | 312657 | | |
| | **UNITS** | **EX1-WW3-DUP8** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 37 | 10 | 9996515 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | 9996515 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | 9996515 |
| Reached Baseline at C50 | mg/kg | Yes | | 9996515 |
| **Volatiles** | | | | |
| Xylenes (Total) | mg/kg | 6.7 | 0.045 | 9994817 |
| F1 (C6-C10) - BTEX | mg/kg | 630 | 10 | 9994817 |
| **Field Preserved Volatiles** | | | | |
| Benzene | mg/kg | 1.9 | 0.0050 | 9995553 |
| Toluene | mg/kg | 0.091 | 0.050 | 9995553 |
| Ethylbenzene | mg/kg | 8.8 | 0.010 | 9995553 |
| m & p-Xylene | mg/kg | 6.7 | 0.040 | 9995553 |
| o-Xylene | mg/kg | <0.020 | 0.020 | 9995553 |
| F1 (C6-C10) | mg/kg | 650 | 10 | 9995553 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 140 | | 9995553 |
| O-TERPHENYL (sur.) | % | 105 | | 9996515 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 92 | | 9995553 |
| 4-Bromofluorobenzene (sur.) | % | 105 | | 9995553 |
| D4-1,2-Dichloroethane (sur.) | % | 115 | | 9995553 |
| RDL = Reportable Detection Limit | | | | |


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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YK6402 | YK6403 | YK6404 | YK6405 | YK6406 | YK6407 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/09 14:00 | 2020/09/09 14:00 | 2020/09/09 14:20 | 2020/09/09 14:40 | 2020/09/09 15:00 | 2020/09/09 16:00 | | |
| COC Number | | 312896 | 312896 | 312896 | 312896 | 312896 | 312896 | | |
| | **UNITS** | **EX1-NW4-0.5** | **EX1-NW4-DUP7** | **EX1-WW1-0.5** | **EX1-NW3-0.5** | **EX1-EW3-0.5** | **EX1-M9-4.5** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 4.1 | 4.4 | 4.0 | 17 | 14 | 32 | 0.30 | 9995789 |
| RDL = Reportable Detection Limit | | | | | | | | | |

| BV Labs ID | | YK6408 | YK6409 | YK6410 | YK6411 | YK6412 | YK6413 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/09 16:20 | 2020/09/10 09:00 | 2020/09/10 09:15 | 2020/09/10 09:50 | 2020/09/09 16:30 | 2020/09/10 10:30 | | |
| COC Number | | 312896 | 312896 | 312896 | 312896 | 312657 | 312657 | | |
| | **UNITS** | **EX1-L9-4.3** | **EX1-SW5-2.8** | **EX1-SW6-2.8** | **EX1-NW5-0.5** | **EX1-WW2-3.0** | **EX1-WW3-3.0** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 33 | 31 | 30 | 16 | 31 | 29 | 0.30 | 9995789 |
| RDL = Reportable Detection Limit | | | | | | | | | |

| BV Labs ID | | YK6414 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/10 10:45 | | |
| COC Number | | 312657 | | |
| | **UNITS** | **EX1-WW3-DUP8** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | |
| Moisture | % | 31 | 0.30 | 9995789 |
| RDL = Reportable Detection Limit | | | | |


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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YK6402
**Sample ID:** EX1-NW4-0.5
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/12 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6402 Dup
**Sample ID:** EX1-NW4-0.5
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |

**BV Labs ID:** YK6403
**Sample ID:** EX1-NW4-DUP7
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/12 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6404
**Sample ID:** EX1-WW1-0.5
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/12 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996119 | 2020/09/11 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6405
**Sample ID:** EX1-NW3-0.5
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/12 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996119 | 2020/09/11 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |



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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YK6406
**Sample ID:** EX1-EW3-0.5
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/12 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6407
**Sample ID:** EX1-M9-4.5
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6408
**Sample ID:** EX1-L9-4.3
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6409
**Sample ID:** EX1-SW5-2.8
**Matrix:** Soil

**Collected:** 2020/09/10
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9995819 | 2020/09/11 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6410
**Sample ID:** EX1-SW6-2.8
**Matrix:** Soil

**Collected:** 2020/09/10
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9995819 | 2020/09/11 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |



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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YK6411
**Sample ID:** EX1-NW5-0.5
**Matrix:** Soil

**Collected:** 2020/09/10
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9995819 | 2020/09/11 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6412
**Sample ID:** EX1-WW2-3.0
**Matrix:** Soil

**Collected:** 2020/09/09
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6413
**Sample ID:** EX1-WW3-3.0
**Matrix:** Soil

**Collected:** 2020/09/10
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |

**BV Labs ID:** YK6414
**Sample ID:** EX1-WW3-DUP8
**Matrix:** Soil

**Collected:** 2020/09/10
**Relinquished:** 2020/09/10
**Received:** 2020/09/11

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9995553 | N/A | 2020/09/13 | Mike Wang |
| F1-BTEX | CALC/MS | 9994817 | N/A | 2020/09/14 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9996515 | 2020/09/12 | 2020/09/12 | Mosharraf Hossain |
| Moisture | BAL | 9995789 | N/A | 2020/09/11 | Eric Tse |



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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 2.3°C |

Note: C of C information incomplete;The Chain of Custody is missing the # of jars used but not submitted information.

**Results relate only to the items tested.**


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BV Labs Job #: C065347
Report Date: 2020/09/14

AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9995553 | MWB | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/12 | | 89 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/12 | | 106 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/12 | | 124 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/12 | | 88 | % | 50 - 140 |
| | | | Benzene | 2020/09/12 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/12 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/12 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/12 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/12 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/12 | <10 | | mg/kg | |
| 9995789 | ETS | Method Blank | Moisture | 2020/09/11 | <0.30 | | % | |
| 9995819 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/12 | | 103 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | <50 | | mg/kg | |
| 9996119 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/12 | | 88 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | <50 | | mg/kg | |
| 9996515 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/12 | | 93 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | <50 | | mg/kg | |
| 9996515 | MHF | RPD [YK6402-01] | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | NC | | % | 40 |
| 9996515 | MHF | Matrix Spike [YK6402-01] | O-TERPHENYL (sur.) | 2020/09/12 | | 96 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | | 92 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | | 90 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | | 91 | % | 60 - 140 |
| 9995553 | MWB | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/12 | | 89 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/12 | | 108 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/12 | | 124 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/12 | | 88 | % | 50 - 140 |
| | | | Benzene | 2020/09/12 | | 85 | % | 60 - 130 |
| | | | Toluene | 2020/09/12 | | 96 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/12 | | 104 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/12 | | 101 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/12 | | 105 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/12 | | 79 | % | 60 - 140 |
| 9995819 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/12 | | 86 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | | 76 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | | 78 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | | 79 | % | 60 - 140 |
| 9996119 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/12 | | 85 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | | 82 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | | 77 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | | 83 | % | 60 - 140 |
| 9996515 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/12 | | 86 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/12 | | 81 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/12 | | 80 | % | 60 - 140 |


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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/12 | | 80 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



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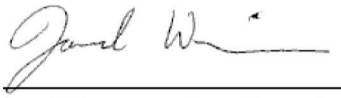
BV Labs Job #: C065347
Report Date: 2020/09/14

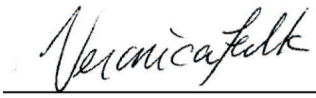
AECOM CANADA LTD.
Task Order#: AECOM po 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588 - W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

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Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

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9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

497

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312896

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain RD NW Edmonton, AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: Cansac.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588 - W.MB.3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS ☐ TOT ☐ DIS | MERCURY ☐ TOTAL ☐ DISSOLVED | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 EX1-NW4-0.5 | | | X | | 3 | 2020/09/09 | 14:00 | | | | | | X | | | | | | | | | | | | | | |
| 2 EX1-NW4-DUP7 | | | X | | 3 | 2020/09/09 | 14:00 | | | | | | X | | | | | | | | | | | | | | |
| 3 EX1-WW1-0.5 | | | X | | 3 | 2020/09/09 | 14:20 | | | | | | X | | | | | | | | | | | | | | |
| 4 EX1-NW3-0.5 | | | X | | 3 | 2020/09/09 | 14:40 | | | | | | X | | | | | | | | | | | | | | |
| 5 EX1-EW3-0.5 | | | X | | 3 | 2020/09/09 | 15:00 | | | | | | X | | | | | | | | | | | | | | |
| 6 EX1-M9-4.5 | | | X | | 3 | 2020/09/09 | 16:00 | | | | | | X | | | | | | | | | | | | | | |
| 7 EX1-L9-4.3 | | | X | | 3 | 2020/09/09 | 16:20 | | | | | | X | | | | | | | | | | | | | | |
| 8 EX1-SW5-2.8 | | | X | | 3 | 2020/09/10 | 9:00 | | | | | | X | | | | | | | | | | | | | | |
| 9 EX1-SW6-2.8 | | | X | | 3 | 2020/09/10 | 9:15 | | | | | | X | | | | | | | | | | | | | | |
| 10 EX1-NW5-0.5 | | | X | | 3 | 2020/09/10 | 9:50 | | | | | | X | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Sept. 14/20 Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 1 | 1 | 5 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C065347

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. J Murray | JEN MURRAY | 2020/09/10 | 15:00 | 1. | JESSICA LEE | 2020/09/11 | 09:00 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

SAMPLES
LABELED BY: JEM
VERIFIED BY: CUV

COC-1010 (06/2016) IOL-AB White: Maxxam Yellow: Client

Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

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9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312657

## INVOICE INFORMATION

Company Name: ☑ Imperial Oil ☐ ExxonMobil
Contact Name: Accounts Payable
Address: 18817 Stony Plain Rd NW
Edmonton, AB T5S 0C2
Email: CanSSC.E-billing@aecom.com
Ph: 780-486-7000
Sampler Name (Print): Jen Murray

## REPORT INFORMATION

Company Name: AECOM Canada Ltd.
Contact Name: Aaron Jambrosic
Address: 48 Quarry Park Blvd SE
Suite 300
Calgary, AB T2C 5P2
Email: Aaron.Jambrosic@aecom.com
Ph: 403-254-3301
Consultant Project #: 60549588-W.MB.3.12

## ANALYSIS REQUESTED

| FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | BTEX F1-F4 | PAHs | Total Metals | Total Suspended Solids |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 EX1-WW2-3.0 | | | X | | 3 | 2020/09/10 | 16:30 | | | | | | X | | | | | | | | | | | | | | | | | | |
| 2 EX1-WW3-3.0 | | | X | | 3 | 2020/09/10 | 10:30 | | | | | | X | | | | | | | | | | | | | | | | | | |
| 3 EX1-WW3-DUP8 | | | X | | 3 | 2020/09/10 | 10:45 | | | | | | X | | | | | | | | | | | | | | | | | | |
| JM | X | | | | 8 | 2020/09/10 | | | | | | | | | | | | | | | | | | | | | | X | | JM | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB
IOL PROJECT # (if applicable): CTC
MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME commercial (incl. level) ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED (Enter N/A for Water)

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Sept. 14/20 Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 1 | 1 | 5 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C065347

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | Jen Murray | 2020/09/10 | | 1. | Jessica Lee | 2020/09/11 | 09:00 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

SAMPLES
LABELED BY: JEM
VERIFIED BY: CMW

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: Pending
Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312556

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/16**
Report #: R2929339
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C066164**
**Received: 2020/09/15, 08:45**

Sample Matrix: Soil
# Samples Received: 7

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 7 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 7 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 7 | AB SOP-00036 | CCME PHC-CWS m |
| Moisture | 7 | AB SOP-00002 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard. All samples were analyzed within hold time unless otherwise flagged.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: Pending
Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312556

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/16**
Report #: R2929339
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C066164**
**Received: 2020/09/15, 08:45**

Encryption Key

Mary (Xiaohong) Xu
Project Manager I
16 Sep 2020 17:12:33

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C066164
Report Date: 2020/09/16

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL1157 | | YL1158 | | | YL1158 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/14 15:00 | | 2020/09/14 15:10 | | | 2020/09/14 15:10 | | |
| COC Number | | 312556 | | 312556 | | | 312556 | | |
| | **UNITS** | **EX4-F8-4.5** | **QC Batch** | **EX4-H8-4.5** | **RDL** | **QC Batch** | **EX4-H8-4.5 Lab-Dup** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | A000085 | <10 | 10 | A000316 | <10 | 10 | A000316 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | A000085 | <50 | 50 | A000316 | <50 | 50 | A000316 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | A000085 | <50 | 50 | A000316 | <50 | 50 | A000316 |
| Reached Baseline at C50 | mg/kg | Yes | A000085 | Yes | | A000316 | Yes | | A000316 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | 0.82 | 9999740 | 0.39 | 0.045 | 9999740 | | | |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 9999740 | <10 | 10 | 9999740 | | | |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | 3.6 | 9999625 | 2.2 | 0.0050 | 9999625 | | | |
| Toluene | mg/kg | <0.050 | 9999625 | <0.050 | 0.050 | 9999625 | | | |
| Ethylbenzene | mg/kg | 0.36 | 9999625 | 0.14 | 0.010 | 9999625 | | | |
| m & p-Xylene | mg/kg | 0.82 | 9999625 | 0.39 | 0.040 | 9999625 | | | |
| o-Xylene | mg/kg | <0.020 | 9999625 | <0.020 | 0.020 | 9999625 | | | |
| F1 (C6-C10) | mg/kg | <10 | 9999625 | <10 | 10 | 9999625 | | | |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 113 | 9999625 | 109 | | 9999625 | | | |
| O-TERPHENYL (sur.) | % | 103 | A000085 | 95 | | A000316 | 98 | | A000316 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 97 | 9999625 | 98 | | 9999625 | | | |
| 4-Bromofluorobenzene (sur.) | % | 105 | 9999625 | 107 | | 9999625 | | | |
| D4-1,2-Dichloroethane (sur.) | % | 106 | 9999625 | 112 | | 9999625 | | | |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C066164
Report Date: 2020/09/16

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL1159 | | YL1160 | YL1161 | YL1162 | YL1163 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/14 15:10 | | 2020/09/14 15:30 | 2020/09/14 15:40 | 2020/09/14 16:00 | 2020/09/14 16:10 | | |
| COC Number | | 312556 | | 312556 | 312556 | 312556 | 312556 | | |
| | **UNITS** | **EX4-H8-DUP 9** | **QC Batch** | **EX4-SW1-4.3** | **EX4-SW2-4.3** | **EX4-SW3-4.3** | **EX4-WW2-3.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | A000316 | <10 | <10 | <10 | 310 | 10 | A000085 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | A000316 | <50 | <50 | <50 | <50 | 50 | A000085 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | A000316 | <50 | <50 | <50 | <50 | 50 | A000085 |
| Reached Baseline at C50 | mg/kg | Yes | A000316 | Yes | Yes | Yes | Yes | | A000085 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | 0.35 | 9999740 | 0.82 | 0.86 | 1.7 | 180 | 0.045 | 9999740 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 9999740 | <10 | <10 | 20 | 3000 | 10 | 9999740 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | 1.2 | 9999625 | 3.1 | 2.9 | 3.6 | 0.43 (1) | 0.0050 | 9999625 |
| Toluene | mg/kg | <0.050 | 9999625 | <0.050 | <0.050 | 0.078 | 6.4 | 0.050 | 9999625 |
| Ethylbenzene | mg/kg | 0.19 | 9999625 | 0.19 | 0.33 | 0.86 | 27 | 0.010 | 9999625 |
| m & p-Xylene | mg/kg | 0.35 | 9999625 | 0.78 | 0.86 | 1.7 | 130 | 0.040 | 9999625 |
| o-Xylene | mg/kg | <0.020 | 9999625 | 0.042 | <0.020 | 0.072 | 45 | 0.020 | 9999625 |
| F1 (C6-C10) | mg/kg | <10 | 9999625 | <10 | <10 | 26 | 3300 | 10 | 9999625 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 110 | 9999625 | 114 | 115 | 123 | 110 | | 9999625 |
| O-TERPHENYL (sur.) | % | 95 | A000316 | 100 | 100 | 114 | 99 | | A000085 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 96 | 9999625 | 99 | 97 | 99 | 103 | | 9999625 |
| 4-Bromofluorobenzene (sur.) | % | 101 | 9999625 | 105 | 103 | 106 | 110 | | 9999625 |
| D4-1,2-Dichloroethane (sur.) | % | 107 | 9999625 | 108 | 106 | 107 | 119 | | 9999625 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.



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BV Labs Job #: C066164
Report Date: 2020/09/16

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YL1157 | YL1158 | YL1158 | YL1159 | YL1160 | YL1161 | YL1162 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/14 15:00 | 2020/09/14 15:10 | 2020/09/14 15:10 | 2020/09/14 15:10 | 2020/09/14 15:30 | 2020/09/14 15:40 | 2020/09/14 16:00 | | |
| COC Number | | 312556 | 312556 | 312556 | 312556 | 312556 | 312556 | 312556 | | |
| | **UNITS** | **EX4-F8-4.5** | **EX4-H8-4.5** | **EX4-H8-4.5 Lab-Dup** | **EX4-H8-DUP 9** | **EX4-SW1-4.3** | **EX4-SW2-4.3** | **EX4-SW3-4.3** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | | |
| Moisture | % | 31 | 15 | 16 | 14 | 15 | 20 | 16 | 0.30 | A000403 |
| RDL = Reportable Detection Limit<br>Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | | |

| BV Labs ID | | YL1163 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/14 16:10 | | |
| COC Number | | 312556 | | |
| | **UNITS** | **EX4-WW2-3.0** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | |
| Moisture | % | 25 | 0.30 | A000403 |
| RDL = Reportable Detection Limit | | | | |


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BV Labs Job #: C066164
Report Date: 2020/09/16

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL1157
**Sample ID:** EX4-F8-4.5
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9999625 | N/A | 2020/09/15 | Jason Ngo |
| F1-BTEX | CALC/MS | 9999740 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000085 | 2020/09/15 | 2020/09/16 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |

**BV Labs ID:** YL1158
**Sample ID:** EX4-H8-4.5
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9999625 | N/A | 2020/09/15 | Jason Ngo |
| F1-BTEX | CALC/MS | 9999740 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000316 | 2020/09/15 | 2020/09/15 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |

**BV Labs ID:** YL1158 Dup
**Sample ID:** EX4-H8-4.5
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000316 | 2020/09/15 | 2020/09/15 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |

**BV Labs ID:** YL1159
**Sample ID:** EX4-H8-DUP 9
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9999625 | N/A | 2020/09/15 | Jason Ngo |
| F1-BTEX | CALC/MS | 9999740 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000316 | 2020/09/15 | 2020/09/16 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |

**BV Labs ID:** YL1160
**Sample ID:** EX4-SW1-4.3
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9999625 | N/A | 2020/09/15 | Jason Ngo |
| F1-BTEX | CALC/MS | 9999740 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000085 | 2020/09/15 | 2020/09/16 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |


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BV Labs Job #: C066164
Report Date: 2020/09/16

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL1161
**Sample ID:** EX4-SW2-4.3
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9999625 | N/A | 2020/09/15 | Jason Ngo |
| F1-BTEX | CALC/MS | 9999740 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000085 | 2020/09/15 | 2020/09/16 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |

**BV Labs ID:** YL1162
**Sample ID:** EX4-SW3-4.3
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9999625 | N/A | 2020/09/15 | Jason Ngo |
| F1-BTEX | CALC/MS | 9999740 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000085 | 2020/09/15 | 2020/09/16 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |

**BV Labs ID:** YL1163
**Sample ID:** EX4-WW2-3.0
**Matrix:** Soil

**Collected:** 2020/09/14
**Relinquished:** 2020/09/14
**Received:** 2020/09/15

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9999625 | N/A | 2020/09/15 | Jason Ngo |
| F1-BTEX | CALC/MS | 9999740 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A000085 | 2020/09/15 | 2020/09/16 | Haixia (Annie) Zhou |
| Moisture | BAL | A000403 | N/A | 2020/09/15 | Eric Tse |



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## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 2.3°C |

**Results relate only to the items tested.**



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BV Labs Job #: C066164
Report Date: 2020/09/16

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9999625 | JNG | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/15 | | 102 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/15 | | 101 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/15 | | 85 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/15 | | 83 | % | 50 - 140 |
| | | | Benzene | 2020/09/15 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/15 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/15 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/15 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/15 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/15 | <10 | | mg/kg | |
| A000085 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/09/15 | | 107 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/15 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/15 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/15 | <50 | | mg/kg | |
| A000316 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/09/15 | | 98 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/15 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/15 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/15 | <50 | | mg/kg | |
| A000403 | ETS | Method Blank | Moisture | 2020/09/15 | <0.30 | | % | |
| A000316 | HAZ | RPD [YL1158-01] | F2 (C10-C16 Hydrocarbons) | 2020/09/15 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/15 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/15 | NC | | % | 40 |
| A000403 | ETS | RPD [YL1158-01] | Moisture | 2020/09/15 | 9.0 | | % | 20 |
| A000316 | HAZ | Matrix Spike [YL1158-01] | O-TERPHENYL (sur.) | 2020/09/15 | | 93 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/15 | | 84 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/15 | | 86 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/15 | | 87 | % | 60 - 140 |
| 9999625 | JNG | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/15 | | 104 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/15 | | 103 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/15 | | 89 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/15 | | 85 | % | 50 - 140 |
| | | | Benzene | 2020/09/15 | | 82 | % | 60 - 130 |
| | | | Toluene | 2020/09/15 | | 89 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/15 | | 86 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/15 | | 91 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/15 | | 92 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/15 | | 65 | % | 60 - 140 |
| A000085 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/09/15 | | 102 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/15 | | 96 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/15 | | 96 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/15 | | 94 | % | 60 - 140 |
| A000316 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/09/15 | | 94 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/15 | | 86 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/15 | | 87 | % | 60 - 140 |


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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/15 | | 89 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

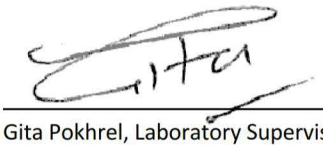
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

BV Labs Job #: C066164
Report Date: 2020/09/16

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

693

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312556

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton, AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: Canssc.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-W.MB.3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Ex4-F8-4.5 | | | X | | 3 | 2020/09/14 | 15:00 | | | | | | X | | | | | | | | | | | | | |
| 2 Ex4-H8-4.5 | | | X | | 3 | 2020/09/14 | 15:10 | | | | | | X | | | | | | | | | | | | | |
| 3 Ex4-H8-DUP JM 9 | | | X | | 3 | 2020/09/14 | 15:10 | | | | | | X | | | | | | | | | | | | | |
| 4 Ex4-SW1-4.3 | | | X | | 3 | 2020/09/14 | 15:30 | | | | | | X | | | | | | | | | | | | | |
| 5 Ex4-SW2-4.3 | | | X | | 3 | 2020/09/14 | 15:40 | | | | | | X | | | | | | | | | | | | | |
| 6 Ex4-SW3-4.3 | | | X | | 3 | 2020/09/14 | 16:00 | | | | | | X | | | | | | | | | | | | | |
| 7 Ex4-WW2-3.0 | | | X | | 3 | 2020/09/14 | 16:10 | | | | | | X | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Sept 16/20
Date Required

| | YES | NO | COOLER ID # | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 1 | 1 | 5 |
| SEAL INTACT | ✓ | | | | | |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C066164

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature | JEN MURRAY printed name | 2020/09/14 YYYY/MM/DD | 17:00 HR:MM | 1. signature | JESSICA LEE printed name | 2020/09/15 YYYY/MM/DD | 08:45 HR:MM |
| 2. signature | printed name | YYYY/MM/DD | HR:MM | 2. signature | printed name | YYYY/MM/DD | HR:MM |
| 3. signature | printed name | YYYY/MM/DD | HR:MM | 3. signature | printed name | YYYY/MM/DD | HR:MM |

SAMPLES
LABELED BY: SBZ
VERIFIED BY: JEM

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312554, 312898

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/17**
Report #: R2929668
Version: 2 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C066600**
**Received: 2020/09/16, 08:45**

Sample Matrix: Soil
# Samples Received: 11

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 11 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 11 | | Auto Calc |
| Container Supply & Nonhazardous Disposal | 11 | | |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 11 | AB SOP-00036 | CCME PHC-CWS m |
| Moisture | 11 | AB SOP-00002 | CCME PHC-CWS m |

Sample Matrix: Water
# Samples Received: 1

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| Container Supply & Nonhazardous Disposal | 1 | | |
| Sample on Hold | 1 | | |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312554, 312898

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/17**
Report #: R2929668
Version: 2 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C066600**

**Received: 2020/09/16, 08:45**

(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Mary (Xiaohong) Xu
Project Manager I
17 Sep 2020 13:32:26

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

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BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL3596 | YL3597 | YL3598 | YL3599 | | YL3600 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/15 11:00 | 2020/09/15 11:10 | 2020/09/15 11:10 | 2020/09/15 13:40 | | 2020/09/15 14:00 | | |
| COC Number | | 312554 | 312554 | 312554 | 312554 | | 312554 | | |
| | **UNITS** | **EX4-NW2-3.0** | **EX4-NW3-3.0** | **EX4-NW3-DUP10** | **EX4-SW4-3.0** | **QC Batch** | **EX4-WW4-4.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 13 | 20 | 30 | 890 | A001825 | 290 | 10 | A001085 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | A001825 | <50 | 50 | A001085 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | A001825 | <50 | 50 | A001085 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | A001825 | Yes | | A001085 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | 0.80 | <0.045 | <0.045 | 92 | A001319 | 80 | 0.045 | A001319 |
| F1 (C6-C10) - BTEX | mg/kg | 230 | 140 | 95 | 1300 | A001319 | 1100 | 10 | A001319 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | 0.32 | 0.022 (1) | 0.014 (1) | 0.066 (1) | A001229 | 3.0 | 0.0050 | A001229 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | 1.4 | A001229 | 15 | 0.050 | A001229 |
| Ethylbenzene | mg/kg | 1.0 | 0.090 | 0.085 | 9.6 | A001229 | 12 | 0.010 | A001229 |
| m & p-Xylene | mg/kg | 0.80 | <0.040 | <0.040 | 69 | A001229 | 57 | 0.040 | A001229 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | 23 | A001229 | 23 | 0.020 | A001229 |
| F1 (C6-C10) | mg/kg | 230 | 140 | 95 | 1400 | A001229 | 1200 | 10 | A001229 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 101 | 92 | 102 | 92 | A001229 | 97 | | A001229 |
| O-TERPHENYL (sur.) | % | 117 | 104 | 106 | 110 | A001825 | 92 | | A001085 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 104 | 104 | 103 | 91 | A001229 | 104 | | A001229 |
| 4-Bromofluorobenzene (sur.) | % | 95 | 101 | 98 | 84 | A001229 | 98 | | A001229 |
| D4-1,2-Dichloroethane (sur.) | % | 93 | 97 | 85 | 93 | A001229 | 109 | | A001229 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.



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BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL3601 | | YL3602 | YL3603 | | | YL3603 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/15 14:30 | | 2020/09/15 15:30 | 2020/09/15 15:50 | | | 2020/09/15 15:50 | | |
| COC Number | | 312554 | | 312554 | 312554 | | | 312554 | | |
| | **UNITS** | **EX4-WW3-4.0** | **QC Batch** | **EX4-NW5-4.0** | **EX4-E7-4.5** | **RDL** | **QC Batch** | **EX4-E7-4.5 Lab-Dup** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 300 | A001085 | 270 | <10 | 10 | A001825 | <10 | 10 | A001825 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | A001085 | <50 | <50 | 50 | A001825 | <50 | 50 | A001825 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | A001085 | <50 | <50 | 50 | A001825 | <50 | 50 | A001825 |
| Reached Baseline at C50 | mg/kg | Yes | A001085 | Yes | Yes | | A001825 | Yes | | A001825 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | 41 | A001319 | 75 | 0.82 | 0.045 | A001319 | | | |
| F1 (C6-C10) - BTEX | mg/kg | 580 | A001319 | 1000 | 14 | 10 | A001319 | | | |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | 4.2 | A001229 | 4.8 | 1.8 | 0.0050 | A001600 | | | |
| Toluene | mg/kg | 3.1 | A001229 | 21 | 0.17 | 0.050 | A001600 | | | |
| Ethylbenzene | mg/kg | 7.2 | A001229 | 11 | 0.34 | 0.010 | A001600 | | | |
| m & p-Xylene | mg/kg | 30 | A001229 | 55 | 0.60 | 0.040 | A001600 | | | |
| o-Xylene | mg/kg | 12 | A001229 | 20 | 0.22 | 0.020 | A001600 | | | |
| F1 (C6-C10) | mg/kg | 640 | A001229 | 1200 | 17 | 10 | A001600 | | | |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 112 | A001229 | 99 | 110 | | A001600 | | | |
| O-TERPHENYL (sur.) | % | 104 | A001085 | 106 | 105 | | A001825 | 119 | | A001825 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 104 | A001229 | 92 | 96 | | A001600 | | | |
| 4-Bromofluorobenzene (sur.) | % | 101 | A001229 | 105 | 101 | | A001600 | | | |
| D4-1,2-Dichloroethane (sur.) | % | 110 | A001229 | 89 | 102 | | A001600 | | | |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL3604 | YL3607 | YL3609 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/15 14:10 | 2020/09/15 16:00 | 2020/09/15 16:45 | | |
| COC Number | | 312554 | 312898 | 312898 | | |
| | **UNITS** | **EX4-NW4-3.0** | **EX4-EW1-4.0** | **SP20-3** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 46 | 14 | <10 | 10 | A001825 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 50 | A001825 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 50 | A001825 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | | A001825 |
| **Volatiles** | | | | | | |
| Xylenes (Total) | mg/kg | 4.7 | 1.2 | <0.045 | 0.045 | A001319 |
| F1 (C6-C10) - BTEX | mg/kg | 300 | 190 | <10 | 10 | A001319 |
| **Field Preserved Volatiles** | | | | | | |
| Benzene | mg/kg | 0.93 | 1.8 | <0.0050 | 0.0050 | A001600 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | 0.050 | A001600 |
| Ethylbenzene | mg/kg | 2.2 | 1.5 | <0.010 | 0.010 | A001600 |
| m & p-Xylene | mg/kg | 4.3 | 1.2 | <0.040 | 0.040 | A001600 |
| o-Xylene | mg/kg | 0.35 | <0.020 | <0.020 | 0.020 | A001600 |
| F1 (C6-C10) | mg/kg | 310 | 200 | <10 | 10 | A001600 |
| **Extraction Surrogate Recovery (%)** | | | | | | |
| D10-o-Xylene (sur.) | % | 110 | 112 | 104 | | A001600 |
| O-TERPHENYL (sur.) | % | 106 | 119 | 107 | | A001825 |
| **Instrument Surrogate Recovery (%)** | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 96 | 97 | 100 | | A001600 |
| 4-Bromofluorobenzene (sur.) | % | 104 | 99 | 95 | | A001600 |
| D4-1,2-Dichloroethane (sur.) | % | 96 | 102 | 101 | | A001600 |
| RDL = Reportable Detection Limit | | | | | | |



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YL3596 | YL3597 | YL3598 | | YL3599 | YL3599 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/15 11:00 | 2020/09/15 11:10 | 2020/09/15 11:10 | | 2020/09/15 13:40 | 2020/09/15 13:40 | | |
| COC Number | | 312554 | 312554 | 312554 | | 312554 | 312554 | | |
| | **UNITS** | **EX4-NW2-3.0** | **EX4-NW3-3.0** | **EX4-NW3-DUP10** | **QC Batch** | **EX4-SW4-3.0** | **EX4-SW4-3.0 Lab-Dup** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 31 | 21 | 29 | A001883 | 5.1 | 4.7 | 0.30 | A002352 |
| RDL = Reportable Detection Limit<br>Lab-Dup = Laboratory Initiated Duplicate | | | | | | | | | |

| BV Labs ID | | YL3600 | YL3601 | | YL3602 | YL3603 | YL3604 | YL3607 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/15 14:00 | 2020/09/15 14:30 | | 2020/09/15 15:30 | 2020/09/15 15:50 | 2020/09/15 14:10 | 2020/09/15 16:00 | | |
| COC Number | | 312554 | 312554 | | 312554 | 312554 | 312554 | 312898 | | |
| | **UNITS** | **EX4-WW4-4.0** | **EX4-WW3-4.0** | **QC Batch** | **EX4-NW5-4.0** | **EX4-E7-4.5** | **EX4-NW4-3.0** | **EX4-EW1-4.0** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | | |
| Moisture | % | 13 | 21 | A001390 | 10 | 23 | 36 | 33 | 0.30 | A001883 |
| RDL = Reportable Detection Limit | | | | | | | | | | |

| BV Labs ID | | YL3609 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/15 16:45 | | |
| COC Number | | 312898 | | |
| | **UNITS** | **SP20-3** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | |
| Moisture | % | 5.6 | 0.30 | A001883 |
| RDL = Reportable Detection Limit | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL3596
**Sample ID:** EX4-NW2-3.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001229 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3597
**Sample ID:** EX4-NW3-3.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001229 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3598
**Sample ID:** EX4-NW3-DUP10
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001229 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3599
**Sample ID:** EX4-SW4-3.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001229 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A002352 | N/A | 2020/09/17 | Tobi Erinle |

**BV Labs ID:** YL3599 Dup
**Sample ID:** EX4-SW4-3.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Moisture | BAL | A002352 | N/A | 2020/09/17 | Tobi Erinle |



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BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL3600
**Sample ID:** EX4-WW4-4.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001229 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001085 | 2020/09/16 | 2020/09/16 | Vian Pereira |
| Moisture | BAL | A001390 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3601
**Sample ID:** EX4-WW3-4.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001229 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/16 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001085 | 2020/09/16 | 2020/09/16 | Vian Pereira |
| Moisture | BAL | A001390 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3602
**Sample ID:** EX4-NW5-4.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001600 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3603
**Sample ID:** EX4-E7-4.5
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001600 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/16 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3603 Dup
**Sample ID:** EX4-E7-4.5
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/16 | Haixia (Annie) Zhou |



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BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL3604
**Sample ID:** EX4-NW4-3.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001600 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3607
**Sample ID:** EX4-EW1-4.0
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001600 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |

**BV Labs ID:** YL3609
**Sample ID:** SP20-3
**Matrix:** Soil

**Collected:** 2020/09/15
**Relinquished:** 2020/09/15
**Received:** 2020/09/16

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A001600 | N/A | 2020/09/16 | Darrus Ong |
| F1-BTEX | CALC/MS | A001319 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A001825 | 2020/09/16 | 2020/09/17 | Haixia (Annie) Zhou |
| Moisture | BAL | A001883 | N/A | 2020/09/16 | Eric Tse |



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BV Labs Job #: C066600
Report Date: 2020/09/17

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Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 1.7°C |

Note: C of C not signed/dated by Consultant. Page 2 of 2 chain of custody 312898 was not relinquished.

Sample YL3596 [EX4-NW2-3.0] : Note: C of C not signed/dated by Consultant

**Results relate only to the items tested.**


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AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A001085 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/09/16 | | 130 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/16 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/16 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/16 | <50 | | mg/kg | |
| A001229 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/16 | | 107 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/16 | | 99 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/16 | | 102 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/16 | | 106 | % | 50 - 140 |
| | | | Benzene | 2020/09/16 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/16 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/16 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/16 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/16 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/16 | <10 | | mg/kg | |
| A001390 | ETS | Method Blank | Moisture | 2020/09/16 | <0.30 | | % | |
| A001600 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/16 | | 102 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/16 | | 93 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/16 | | 103 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/16 | | 101 | % | 50 - 140 |
| | | | Benzene | 2020/09/16 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/16 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/16 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/16 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/16 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/16 | <10 | | mg/kg | |
| A001825 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/09/16 | | 113 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/16 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/16 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/16 | <50 | | mg/kg | |
| A001883 | ETS | Method Blank | Moisture | 2020/09/16 | <0.30 | | % | |
| A002352 | TER | Method Blank | Moisture | 2020/09/17 | <0.30 | | % | |
| A002352 | TER | RPD [YL3599-01] | Moisture | 2020/09/17 | 8.2 | | % | 20 |
| A001825 | HAZ | RPD [YL3603-01] | F2 (C10-C16 Hydrocarbons) | 2020/09/16 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/16 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/16 | NC | | % | 40 |
| A001825 | HAZ | Matrix Spike [YL3603-01] | O-TERPHENYL (sur.) | 2020/09/16 | | 100 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/16 | | 89 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/16 | | 92 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/16 | | 94 | % | 60 - 140 |
| A001085 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/09/16 | | 114 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/16 | | 105 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/16 | | 106 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/16 | | 105 | % | 60 - 140 |
| A001229 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/16 | | 109 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/16 | | 99 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/16 | | 105 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/16 | | 109 | % | 50 - 140 |
| | | | Benzene | 2020/09/16 | | 106 | % | 60 - 130 |
| | | | Toluene | 2020/09/16 | | 106 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/16 | | 103 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/16 | | 101 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/16 | | 98 | % | 60 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F1 (C6-C10) | 2020/09/16 | | 72 | % | 60 - 140 |
| A001600 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/16 | | 98 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/16 | | 101 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/16 | | 105 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/16 | | 95 | % | 50 - 140 |
| | | | Benzene | 2020/09/16 | | 86 | % | 60 - 130 |
| | | | Toluene | 2020/09/16 | | 96 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/16 | | 99 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/16 | | 100 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/16 | | 100 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/16 | | 97 | % | 60 - 140 |
| A001825 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/09/16 | | 102 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/16 | | 92 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/16 | | 94 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/16 | | 96 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



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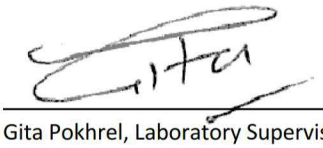
BV Labs Job #: C066600
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: AECOM IOL PO
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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A Bureau Veritas Group Company

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4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

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9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
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757

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312554

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton, AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: Canssc.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-WMB.3.12 |

ANALYSIS REQUESTED

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 EX4-NW2-3.0 | | | X | | 3 | 2020/09/15 | 11:00 | | | | | | X | | | | | | | | | | | | | |
| 2 EX4-NW3-3.0 | | | X | | 3 | 2020/09/15 | 11:10 | | | | | | X | | | | | | | | | | | | | |
| 3 EX4-NW3-DUP10 | | | X | | 3 | 2020/09/15 | 11:10 | | | | | | X | | | | | | | | | | | | | |
| ~~4 EX4-EX10-3.0~~ | | | X | | 3 | 2020/09/15 | 12:30 | | | | | | X | | | | | | | | | | | | | |
| 5 EX4-SW4-NW10-3.0 | | | X | | 3 | 2020/09/15 | 13:40 ~~12:40~~ | | | | | | X | | | | | | | | | | | | | |
| 6 EX4-WW4-4.0 | | | X | | 3 | 2020/09/15 | 14:00 | | | | | | X | | | | | | | | | | | | | |
| 7 EX4-WW3-4.0 | | | X | | 3 | 2020/09/15 | 14:30 | | | | | | X | | | | | | | | | | | | | |
| 8 EX4-NW5-4.0 | | | X | | 3 | 2020/09/15 | 15:30 | | | | | | X | | | | | | | | | | | | | |
| 9 EX4-E7-4.5 | | | X | | 3 | 2020/09/15 | 15:50 | | | | | | X | | | | | | | | | | | | | |
| 10 EX4-NW4-3.0 | | | X | | 3 | 2020/09/15 | 14:10 | | | | | | X | | | | | | | | | | | | | |

JM

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS: Sample EX4-WW4-4.0 same day rush and EX4-WW3-4.0 same day rush #all other samples 1 day

# JARS USED & NOT SUBMITTED Enter N/A for Water: 0

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
see notes (2 days) ☐
(1 day) ☒
(same day) ☒
Sept. 16/17/20 Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 1 | 4 | 0 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C0606000

SAMPLES
LABELED BY: JEM
VERIFIED BY: CUW

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | Jen Murray | 2020/09/15 | 17:00 | 1. | Clementine Uwitije | 2020/09/16 | 08:45 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312898

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton, AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: Canssc.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☒ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | Total Suspended Solids | HOLD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EX4-EW1-4.0 | | | X | | 3 | 2020/09/15 | 16:00 | | | | | | X | | | | | | | | | | | | | | | |
| 2 | EX4-SEEP3 | X | | | | 7 | 2020/09/15 | 15:45 | | | | X | | X | | | | | | X | | | | | | | | X | X |
| 3 | JM EX4-SEEP4 | X | | | | 7 | 2020/09/15 | 15:40 | | | | X | | X | | | | | | X | | | | | | | | X | X |
| 4 | SP20-3 | | | X | | 3 | 2020/09/15 | 16:45 | | | | | | X | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

JM

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS: Please hold groundwater samples

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☒
(same day) ☐
Sept. 17/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 1 | 4 | 0 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C0606000

| RELINQUISHED BY: | DATE: | TIME (24 HR) | RECEIVED BY: | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|
| 1. signature / printed name | YYYY/MM/DD | HH:MM | 1. signature / Clementine Ukwuije | 2020/09/16 | 08:45 |
| 2. signature / printed name | YYYY/MM/DD | HH:MM | 2. signature / printed name | YYYY/MM/DD | HH:MM |
| 3. signature / printed name | YYYY/MM/DD | HH:MM | 3. signature / printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: JEM
VERIFIED BY: CUW

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: PENDING
Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12
Your C.O.C. #: 312897

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/17**
Report #: R2929978
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C067033**
**Received: 2020/09/17, 08:40**

Sample Matrix: Soil
# Samples Received: 10

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 10 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 10 | | Auto Calc |
| Container Supply & Nonhazardous Disposal | 10 | | |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 10 | AB SOP-00036 | CCME PHC-CWS m |
| Moisture | 10 | AB SOP-00002 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: PENDING
Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12
Your C.O.C. #: 312897

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/17**
Report #: R2929978
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C067033**
**Received: 2020/09/17, 08:40**

Encryption Key

Geraldlyn Gouthro
Key Account Specialist
17 Sep 2020 17:24:05

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL5651 | YL5652 | | | YL5652 | | | YL5653 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/16 14:00 | 2020/09/16 14:10 | | | 2020/09/16 14:10 | | | 2020/09/16 14:30 | | |
| COC Number | | 312897 | 312897 | | | 312897 | | | 312897 | | |
| | **UNITS** | **SP21-2** | **EX4-D7-4.5** | **RDL** | **QC Batch** | **EX4-D7-4.5 Lab-Dup** | **RDL** | **QC Batch** | **EX4-G6-4.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 21 | 10 | A002911 | 23 | 10 | A002911 | <10 | 10 | A002911 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | 50 | A002911 | <50 | 50 | A002911 | <50 | 50 | A002911 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | 50 | A002911 | <50 | 50 | A002911 | <50 | 50 | A002911 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | | A002911 | Yes | | A002911 | Yes | | A002911 |
| **Volatiles** | | | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 12 | 0.045 | A002978 | | | | <0.045 | 0.045 | A002978 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 110 | 10 | A002978 | | | | <10 | 10 | A002978 |
| **Field Preserved Volatiles** | | | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 3.7 | 0.0050 | A003113 | | | | 0.20 | 0.0050 | A003113 |
| Toluene | mg/kg | <0.050 | 1.5 | 0.050 | A003113 | | | | <0.050 | 0.050 | A003113 |
| Ethylbenzene | mg/kg | <0.010 | 2.0 | 0.010 | A003113 | | | | 0.25 | 0.010 | A003113 |
| m & p-Xylene | mg/kg | <0.040 | 8.8 | 0.040 | A003113 | | | | <0.040 | 0.040 | A003113 |
| o-Xylene | mg/kg | <0.020 | 3.3 | 0.020 | A003113 | | | | <0.020 | 0.020 | A003113 |
| F1 (C6-C10) | mg/kg | <10 | 130 | 10 | A003113 | | | | <10 | 10 | A003113 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 131 | 99 | | A003113 | | | | 136 | | A003113 |
| O-TERPHENYL (sur.) | % | 81 | 79 | | A002911 | 83 | | A002911 | 94 | | A002911 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 87 | 105 | | A003113 | | | | 84 | | A003113 |
| 4-Bromofluorobenzene (sur.) | % | 101 | 99 | | A003113 | | | | 110 | | A003113 |
| D4-1,2-Dichloroethane (sur.) | % | 93 | 95 | | A003113 | | | | 96 | | A003113 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL5654 | YL5655 | YL5656 | YL5657 | YL5658 | YL5659 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/16 14:50 | 2020/09/16 15:00 | 2020/09/16 15:10 | 2020/09/16 15:30 | 2020/09/16 15:30 | 2020/09/16 15:45 | | |
| COC Number | | 312897 | 312897 | 312897 | 312897 | 312897 | 312897 | | |
| | **UNITS** | **EX4-SW5-3** | **EX4-WW6-3** | **EX4-WW5-3** | **EX4-WW7-3** | **EX4-WW7-DUP11** | **EX4-NW6-4** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 23 | 26 | <10 | 47 | 41 | 34 | 10 | A002911 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | A002911 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | A002911 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | Yes | | A002911 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | 0.12 | 0.095 | 10 | <0.045 | <0.045 | 0.16 | 0.045 | A002978 |
| F1 (C6-C10) - BTEX | mg/kg | 180 | 230 | 250 | 500 | 490 | 220 | 10 | A002978 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | 0.53 | 0.24 (1) | 4.8 | 0.051 (1) | 0.012 (1) | 1.4 | 0.0050 | A003113 |
| Toluene | mg/kg | <0.050 | <0.050 | 0.22 | <0.050 | <0.050 | <0.050 | 0.050 | A003113 |
| Ethylbenzene | mg/kg | 1.7 | 0.95 | 4.0 | 0.22 | 0.16 | 3.7 | 0.010 | A003113 |
| m & p-Xylene | mg/kg | 0.12 | 0.095 | 10 | <0.040 | <0.040 | 0.16 | 0.040 | A003113 |
| o-Xylene | mg/kg | <0.020 | <0.020 | 0.13 | <0.020 | <0.020 | <0.020 | 0.020 | A003113 |
| F1 (C6-C10) | mg/kg | 180 | 230 | 270 | 500 | 490 | 220 | 10 | A003113 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 105 | 104 | 103 | 138 | 106 | 105 | | A003113 |
| O-TERPHENYL (sur.) | % | 103 | 93 | 103 | 93 | 95 | 92 | | A002911 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 105 | 101 | 100 | 93 | 102 | 99 | | A003113 |
| 4-Bromofluorobenzene (sur.) | % | 98 | 99 | 95 | 99 | 91 | 97 | | A003113 |
| D4-1,2-Dichloroethane (sur.) | % | 89 | 90 | 81 | 101 | 98 | 101 | | A003113 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YL5660 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/09/16 15:45 | | |
| COC Number | | 312897 | | |
| | **UNITS** | **EX4-NW6-DUP12** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 24 | 10 | A002911 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | A002911 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | A002911 |
| Reached Baseline at C50 | mg/kg | Yes | | A002911 |
| **Volatiles** | | | | |
| Xylenes (Total) | mg/kg | 0.15 | 0.045 | A002978 |
| F1 (C6-C10) - BTEX | mg/kg | 160 | 10 | A002978 |
| **Field Preserved Volatiles** | | | | |
| Benzene | mg/kg | 1.6 | 0.0050 | A003113 |
| Toluene | mg/kg | <0.050 | 0.050 | A003113 |
| Ethylbenzene | mg/kg | 3.3 | 0.010 | A003113 |
| m & p-Xylene | mg/kg | 0.15 | 0.040 | A003113 |
| o-Xylene | mg/kg | <0.020 | 0.020 | A003113 |
| F1 (C6-C10) | mg/kg | 170 | 10 | A003113 |
| **Extraction Surrogate Recovery (%)** | | | | |
| D10-o-Xylene (sur.) | % | 114 | | A003113 |
| O-TERPHENYL (sur.) | % | 87 | | A002911 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 101 | | A003113 |
| 4-Bromofluorobenzene (sur.) | % | 101 | | A003113 |
| D4-1,2-Dichloroethane (sur.) | % | 101 | | A003113 |
| RDL = Reportable Detection Limit | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YL5651 | YL5652 | YL5653 | YL5654 | YL5655 | YL5656 | YL5657 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/16 14:00 | 2020/09/16 14:10 | 2020/09/16 14:30 | 2020/09/16 14:50 | 2020/09/16 15:00 | 2020/09/16 15:10 | 2020/09/16 15:30 | | |
| COC Number | | 312897 | 312897 | 312897 | 312897 | 312897 | 312897 | 312897 | | |
| | **UNITS** | **SP21-2** | **EX4-D7-4.5** | **EX4-G6-4.5** | **EX4-SW5-3** | **EX4-WW6-3** | **EX4-WW5-3** | **EX4-WW7-3** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | | |
| Moisture | % | 5.4 | 22 | 13 | 33 | 34 | 34 | 32 | 0.30 | A003183 |
| RDL = Reportable Detection Limit | | | | | | | | | | |

| BV Labs ID | | YL5658 | YL5659 | YL5660 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/16 15:30 | 2020/09/16 15:45 | 2020/09/16 15:45 | | |
| COC Number | | 312897 | 312897 | 312897 | | |
| | **UNITS** | **EX4-WW7-DUP11** | **EX4-NW6-4** | **EX4-NW6-DUP12** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | |
| Moisture | % | 31 | 31 | 31 | 0.30 | A003183 |
| RDL = Reportable Detection Limit | | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL5651
**Sample ID:** SP21-2
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |

**BV Labs ID:** YL5652
**Sample ID:** EX4-D7-4.5
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |

**BV Labs ID:** YL5652 Dup
**Sample ID:** EX4-D7-4.5
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |

**BV Labs ID:** YL5653
**Sample ID:** EX4-G6-4.5
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |

**BV Labs ID:** YL5654
**Sample ID:** EX4-SW5-3
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL5655
**Sample ID:** EX4-WW6-3
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |

**BV Labs ID:** YL5656
**Sample ID:** EX4-WW5-3
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |

**BV Labs ID:** YL5657
**Sample ID:** EX4-WW7-3
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |

**BV Labs ID:** YL5658
**Sample ID:** EX4-WW7-DUP11
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |

**BV Labs ID:** YL5659
**Sample ID:** EX4-NW6-4
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |



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BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YL5660
**Sample ID:** EX4-NW6-DUP12
**Matrix:** Soil

**Collected:** 2020/09/16
**Relinquished:** 2020/09/16
**Received:** 2020/09/17

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A003113 | N/A | 2020/09/17 | Darrus Ong |
| F1-BTEX | CALC/MS | A002978 | N/A | 2020/09/17 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A002911 | 2020/09/17 | 2020/09/17 | Mosharraf Hossain |
| Moisture | BAL | A003183 | N/A | 2020/09/17 | Katrina Leboeuf |



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Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 4.0°C |

**Results relate only to the items tested.**


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BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A002911 | MHF | Method Blank | O-TERPHENYL (sur.) | 2020/09/17 | | 93 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/17 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/17 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/17 | <50 | | mg/kg | |
| A003113 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/17 | | 102 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/17 | | 106 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/17 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/17 | | 100 | % | 50 - 140 |
| | | | Benzene | 2020/09/17 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/17 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/17 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/17 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/17 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/17 | <10 | | mg/kg | |
| A003183 | KLB | Method Blank | Moisture | 2020/09/17 | <0.30 | | % | |
| A002911 | MHF | RPD [YL5652-01] | F2 (C10-C16 Hydrocarbons) | 2020/09/17 | 12 | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/17 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/17 | NC | | % | 40 |
| A002911 | MHF | Matrix Spike [YL5652-01] | O-TERPHENYL (sur.) | 2020/09/17 | | 86 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/17 | | 80 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/17 | | 78 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/17 | | 80 | % | 60 - 140 |
| A002911 | MHF | LCS | O-TERPHENYL (sur.) | 2020/09/17 | | 81 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/17 | | 78 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/17 | | 76 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/17 | | 79 | % | 60 - 140 |
| A003113 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/17 | | 100 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/17 | | 106 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/17 | | 115 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/17 | | 98 | % | 50 - 140 |
| | | | Benzene | 2020/09/17 | | 84 | % | 60 - 130 |
| | | | Toluene | 2020/09/17 | | 91 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/17 | | 92 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/17 | | 92 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/17 | | 90 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/17 | | 84 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067033
Report Date: 2020/09/17

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST., SELKIRK, MB
Project #: 60549588-M.MB.3.12

## VALIDATION SIGNATURE PAGE

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

Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

838

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312897

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton, AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: Canssc.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-w.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ANALYSIS REQUESTED: VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | JM EX4 SP21-2 | | | X | | 3 | 2020/09/16 | 14:00 | | | | | | X | | | | | | | | | | | | | | |
| 2 | EX4-D7-4.5 | | | X | | 3 | 2020/09/16 | 14:10 | | | | | | X | | | | | | | | | | | | | | |
| 3 | EX4-G6-4.5 | | | X | | 3 | 2020/09/16 | 14:30 | | | | | | X | | | | | | | | | | | | | | |
| 4 | EX4-SW5-3 | | | X | | 3 | 2020/09/16 | 14:50 | | | | | | X | | | | | | | | | | | | | | |
| 5 | EX4-WW6-3 | | | X | | 3 | 2020/09/16 | 15:00 | | | | | | X | | | | | | | | | | | | | | |
| 6 | EX4-WW5-3 | | | X | | 3 | 2020/09/16 | 15:10 | | | | | | X | | | | | | | | | | | | | | |
| 7 | EX4-WW7-3 | | | X | | 3 | 2020/09/16 | 15:30 | | | | | | X | | | | | | | | | | | | | | |
| 8 | EX4-WW7-DUP11 | | | X | | 3 | 2020/09/16 | 15:30 | | | | | | X | | | | | | | | | | | | | | |
| 9 | EX4-NW6-4 | | | X | | 3 | 2020/09/16 | 15:45 | | | | | | X | | | | | | | | | | | | | | |
| 10 | EX4-NW6-DUP12 | | | X | | 3 | 2020/09/16 | 15:45 | | | | | | X | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water: 0

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
same day (1 day) ☒
(same day) ☒
Sept. 17/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 4 | 3 | 5 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB #: C067033

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | JEN MURRAY | 2020/09/16 | 16:00 | 1. | Clementine Uwitije | 2020/09/17 | 08:40 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

SAMPLES
LABELED BY: JEM
VERIFIED BY: CMW

COC-1010 (06/2016) IOL-AB White: Maxxam Yellow: Client

Task Order#: PENDING
Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312555, 312889

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/21**
Report #: R2931661
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C067966**
**Received: 2020/09/21, 09:00**

Sample Matrix: Soil
# Samples Received: 11

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 11 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 11 | | Auto Calc |
| Container Supply & Nonhazardous Disposal | 11 | | |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 11 | AB SOP-00036 | CCME PHC-CWS m |
| Moisture | 11 | AB SOP-00002 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: PENDING
Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312555, 312889

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/21**
Report #: R2931661
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C067966**
**Received: 2020/09/21, 09:00**

Encryption Key

Kandise Wilson
Customer Solutions Representative
21 Sep 2020 17:31:42

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

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BV Labs Job #: C067966
Report Date: 2020/09/21

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YM1307 | | | YM1307 | | | YM1308 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/17 15:00 | | | 2020/09/17 15:00 | | | 2020/09/17 15:10 | | |
| COC Number | | 312555 | | | 312555 | | | 312555 | | |
| | **UNITS** | **EX1-NW5-2.5** | **RDL** | **QC Batch** | **EX1-NW5-2.5 Lab-Dup** | **RDL** | **QC Batch** | **EX1-NW3-3.5** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 110 | 10 | A008412 | | | | <10 | 10 | A008412 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | 50 | A008412 | | | | <50 | 50 | A008412 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | 50 | A008412 | | | | <50 | 50 | A008412 |
| Reached Baseline at C50 | mg/kg | Yes | | A008412 | | | | Yes | | A008412 |
| **Volatiles** | | | | | | | | | | |
| Xylenes (Total) | mg/kg | 14 | 0.045 | A008103 | | | | <0.045 | 0.045 | A008103 |
| F1 (C6-C10) - BTEX | mg/kg | 360 | 10 | A008103 | | | | <10 | 10 | A008103 |
| **Field Preserved Volatiles** | | | | | | | | | | |
| Benzene | mg/kg | 1.6 | 0.0050 | A008249 | 1.6 | 0.0050 | A008249 | <0.0050 | 0.0050 | A008249 |
| Toluene | mg/kg | <0.050 | 0.050 | A008249 | <0.050 | 0.050 | A008249 | <0.050 | 0.050 | A008249 |
| Ethylbenzene | mg/kg | 8.3 | 0.010 | A008249 | 8.0 | 0.010 | A008249 | <0.010 | 0.010 | A008249 |
| m & p-Xylene | mg/kg | 14 | 0.040 | A008249 | 13 | 0.040 | A008249 | <0.040 | 0.040 | A008249 |
| o-Xylene | mg/kg | 0.11 | 0.020 | A008249 | 0.11 | 0.020 | A008249 | <0.020 | 0.020 | A008249 |
| F1 (C6-C10) | mg/kg | 380 | 10 | A008249 | 380 | 10 | A008249 | <10 | 10 | A008249 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 135 | | A008249 | 137 | | A008249 | 108 | | A008249 |
| O-TERPHENYL (sur.) | % | 99 | | A008412 | | | | 101 | | A008412 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 90 | | A008249 | 90 | | A008249 | 88 | | A008249 |
| 4-Bromofluorobenzene (sur.) | % | 102 | | A008249 | 100 | | A008249 | 106 | | A008249 |
| D4-1,2-Dichloroethane (sur.) | % | 113 | | A008249 | 114 | | A008249 | 108 | | A008249 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C067966
Report Date: 2020/09/21

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YM1309 | YM1310 | YM1311 | YM1312 | YM1313 | YM1314 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/17 15:20 | 2020/09/17 15:30 | 2020/09/17 15:40 | 2020/09/17 15:50 | 2020/09/17 16:00 | 2020/09/17 16:10 | | |
| COC Number | | 312555 | 312555 | 312555 | 312555 | 312555 | 312555 | | |
| | **UNITS** | **EX1-EW3-3.5** | **EX1-EW4-2.0** | **EX1-SW5-4.0** | **EX1-SW6-4.0** | **EX4-EW2-3.0** | **EX4-EW3-3.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | 130 | 140 | 63 | 71 | <10 | 10 | A008412 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | A008412 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | <50 | <50 | <50 | 50 | A008412 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | Yes | Yes | Yes | | A008412 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | 0.20 | 10 | 22 | 1.5 | <0.045 | 0.045 | A008103 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | 940 | 600 | 300 | 670 | <10 | 10 | A008103 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | 0.33 (1) | 2.3 | 4.3 | 0.25 (1) | 0.31 | 0.0050 | A008249 |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | 0.37 | <0.050 | <0.050 | 0.050 | A008249 |
| Ethylbenzene | mg/kg | <0.010 | 11 | 9.6 | 6.1 | 6.8 | <0.010 | 0.010 | A008249 |
| m & p-Xylene | mg/kg | <0.040 | 0.20 | 10 | 21 | 1.5 | <0.040 | 0.040 | A008249 |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | 1.4 | <0.020 | <0.020 | 0.020 | A008249 |
| F1 (C6-C10) | mg/kg | <10 | 950 | 620 | 330 | 680 | <10 | 10 | A008249 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 123 | 134 | 125 | 116 | 125 | 106 | | A008249 |
| O-TERPHENYL (sur.) | % | 104 | 104 | 104 | 106 | 100 | 100 | | A008412 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 90 | 92 | 89 | 90 | 92 | 88 | | A008249 |
| 4-Bromofluorobenzene (sur.) | % | 106 | 103 | 102 | 101 | 102 | 102 | | A008249 |
| D4-1,2-Dichloroethane (sur.) | % | 106 | 153 (2) | 121 | 114 | 158 (2) | 104 | | A008249 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.
(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.


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Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YM1315 | YM1316 | YM1317 | | | YM1317 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/17 16:20 | 2020/09/17 16:20 | 2020/09/17 16:30 | | | 2020/09/17 16:30 | | |
| COC Number | | 312555 | 312555 | 312889 | | | 312889 | | |
| | **UNITS** | **EX1-L9-4.4** | **EX1-L9-DUP13** | **EX1-M10-4.4** | **RDL** | **QC Batch** | **EX1-M10-4.4 Lab-Dup** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 24 | <10 | <10 | 10 | A008412 | <10 | 10 | A008412 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 50 | A008412 | <50 | 50 | A008412 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | <50 | 50 | A008412 | <50 | 50 | A008412 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | Yes | | A008412 | Yes | | A008412 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | 0.052 | 0.068 | <0.045 | 0.045 | A008103 | | | |
| F1 (C6-C10) - BTEX | mg/kg | 29 | 31 | 11 | 10 | A008103 | | | |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | 0.71 | 1.0 | 0.024 | 0.0050 | A008249 | | | |
| Toluene | mg/kg | <0.050 | <0.050 | <0.050 | 0.050 | A008249 | | | |
| Ethylbenzene | mg/kg | 0.64 | 0.74 | 0.054 | 0.010 | A008249 | | | |
| m & p-Xylene | mg/kg | 0.052 | 0.068 | <0.040 | 0.040 | A008249 | | | |
| o-Xylene | mg/kg | <0.020 | <0.020 | <0.020 | 0.020 | A008249 | | | |
| F1 (C6-C10) | mg/kg | 31 | 33 | 11 | 10 | A008249 | | | |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 111 | 124 | 111 | | A008249 | | | |
| O-TERPHENYL (sur.) | % | 104 | 102 | 88 | | A008412 | 97 | | A008412 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 89 | 88 | 89 | | A008249 | | | |
| 4-Bromofluorobenzene (sur.) | % | 103 | 103 | 104 | | A008249 | | | |
| D4-1,2-Dichloroethane (sur.) | % | 112 | 113 | 107 | | A008249 | | | |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YM1307 | YM1308 | YM1309 | YM1310 | YM1311 | YM1312 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/17 15:00 | 2020/09/17 15:10 | 2020/09/17 15:20 | 2020/09/17 15:30 | 2020/09/17 15:40 | 2020/09/17 15:50 | | |
| COC Number | | 312555 | 312555 | 312555 | 312555 | 312555 | 312555 | | |
| | **UNITS** | **EX1-NW5-2.5** | **EX1-NW3-3.5** | **EX1-EW3-3.5** | **EX1-EW4-2.0** | **EX1-SW5-4.0** | **EX1-SW6-4.0** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | |
| Moisture | % | 35 | 33 | 33 | 31 | 32 | 35 | 0.30 | A007672 |
| RDL = Reportable Detection Limit | | | | | | | | | |

| BV Labs ID | | YM1313 | YM1314 | YM1315 | YM1316 | YM1317 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/17 16:00 | 2020/09/17 16:10 | 2020/09/17 16:20 | 2020/09/17 16:20 | 2020/09/17 16:30 | | |
| COC Number | | 312555 | 312555 | 312555 | 312555 | 312889 | | |
| | **UNITS** | **EX4-EW2-3.0** | **EX4-EW3-3.0** | **EX1-L9-4.4** | **EX1-L9-DUP13** | **EX1-M10-4.4** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | |
| Moisture | % | 35 | 13 | 17 | 17 | 20 | 0.30 | A007672 |
| RDL = Reportable Detection Limit | | | | | | | | |


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Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YM1307
**Sample ID:** EX1-NW5-2.5
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1307 Dup
**Sample ID:** EX1-NW5-2.5
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |

**BV Labs ID:** YM1308
**Sample ID:** EX1-NW3-3.5
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1309
**Sample ID:** EX1-EW3-3.5
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1310
**Sample ID:** EX1-EW4-2.0
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |



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Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
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## TEST SUMMARY

**BV Labs ID:** YM1311
**Sample ID:** EX1-SW5-4.0
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1312
**Sample ID:** EX1-SW6-4.0
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1313
**Sample ID:** EX4-EW2-3.0
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1314
**Sample ID:** EX4-EW3-3.0
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1315
**Sample ID:** EX1-L9-4.4
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |



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Task Order#: PENDING, Line Item: 10
Site#: CTC
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## TEST SUMMARY

**BV Labs ID:** YM1316
**Sample ID:** EX1-L9-DUP13
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1317
**Sample ID:** EX1-M10-4.4
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A008249 | N/A | 2020/09/21 | Jason Ngo |
| F1-BTEX | CALC/MS | A008103 | N/A | 2020/09/21 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |
| Moisture | BAL | A007672 | N/A | 2020/09/21 | Sophie Reid |

**BV Labs ID:** YM1317 Dup
**Sample ID:** EX1-M10-4.4
**Matrix:** Soil

**Collected:** 2020/09/17
**Relinquished:** 2020/09/17
**Received:** 2020/09/21

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A008412 | 2020/09/21 | 2020/09/21 | Haixia (Annie) Zhou |



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## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 9.7°C |

**Results relate only to the items tested.**


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Task Order#: PENDING, Line Item: 10
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## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A007672 | SRI | Method Blank | Moisture | 2020/09/21 | <0.30 | | % | |
| A008249 | JNG | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/21 | | 88 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/21 | | 102 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/21 | | 102 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/21 | | 105 | % | 50 - 140 |
| | | | Benzene | 2020/09/21 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/21 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/21 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/21 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/21 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/21 | <10 | | mg/kg | |
| A008412 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/09/21 | | 100 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/21 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/21 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/21 | <50 | | mg/kg | |
| A008249 | JNG | RPD [YM1307-02] | Benzene | 2020/09/21 | 4.3 | | % | 50 |
| | | | Toluene | 2020/09/21 | NC | | % | 50 |
| | | | Ethylbenzene | 2020/09/21 | 3.4 | | % | 50 |
| | | | m & p-Xylene | 2020/09/21 | 4.3 | | % | 50 |
| | | | o-Xylene | 2020/09/21 | 6.3 | | % | 50 |
| | | | F1 (C6-C10) | 2020/09/21 | 0.97 | | % | 30 |
| A008412 | HAZ | RPD [YM1317-01] | F2 (C10-C16 Hydrocarbons) | 2020/09/21 | NC | | % | 40 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/21 | NC | | % | 40 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/21 | NC | | % | 40 |
| A008249 | JNG | Matrix Spike [YM1307-02] | 1,4-Difluorobenzene (sur.) | 2020/09/21 | | 93 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/21 | | 106 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/21 | | 136 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/21 | | 112 | % | 50 - 140 |
| | | | Benzene | 2020/09/21 | | 116 | % | 50 - 140 |
| | | | Toluene | 2020/09/21 | | 118 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/09/21 | | 122 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/09/21 | | 124 | % | 50 - 140 |
| | | | o-Xylene | 2020/09/21 | | 121 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/09/21 | | 88 | % | 60 - 140 |
| A008412 | HAZ | Matrix Spike [YM1317-01] | O-TERPHENYL (sur.) | 2020/09/21 | | 92 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/21 | | 90 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/21 | | 85 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/21 | | 87 | % | 60 - 140 |
| A008249 | JNG | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/21 | | 88 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/21 | | 106 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/21 | | 109 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/21 | | 105 | % | 50 - 140 |
| | | | Benzene | 2020/09/21 | | 108 | % | 60 - 130 |
| | | | Toluene | 2020/09/21 | | 110 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/21 | | 114 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/21 | | 113 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/21 | | 117 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/21 | | 71 | % | 60 - 140 |
| A008412 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/09/21 | | 87 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/21 | | 79 | % | 60 - 140 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/21 | | 80 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/21 | | 79 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C067966
Report Date: 2020/09/21

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: CTC
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588-W.MB.3.12

## VALIDATION SIGNATURE PAGE

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

Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM 1098
# CHAIN-OF-CUSTODY RECORD



C of C # 312555

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton, AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: Canssc.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-W, MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | EX1-NW5-2.5 | | | X | | 3 | 2020/09/17 | 15:00 | | | | | | X | | | | | | | | | | | | | |
| 2 | EX1-NW3-3.5 | | | X | | 3 | 2020/09/17 | 15:10 | | | | | | X | | | | | | | | | | | | | |
| 3 | EX1-EW3-3.5 | | | X | | 3 | 2020/09/17 | 15:20 | | | | | | X | | | | | | | | | | | | | |
| 4 | EX1-EW4-2.0 | | | X | | 3 | 2020/09/17 | 15:30 | | | | | | X | | | | | | | | | | | | | |
| 5 | EX1-SW5-4.0 | | | X | | 3 | 2020/09/17 | 15:40 | | | | | | X | | | | | | | | | | | | | |
| 6 | EX1-SW6-4.0 | | | X | | 3 | 2020/09/17 | 15:50 | | | | | | X | | | | | | | | | | | | | |
| 7 | EX4-EW2-3.0 | | | X | | 3 | 2020/09/17 | 16:00 | | | | | | X | | | | | | | | | | | | | |
| 8 | EX4-EW3-3.0 | | | X | | 3 | 2020/09/17 | 16:10 | | | | | | X | | | | | | | | | | | | | |
| 9 | EX1-L9-4.4 | | | X | | 3 | 2020/09/17 | 16:20 | | | | | | X | | | | | | | | | | | | | |
| 10 | EX1-L9-DUP13 | | | X | | 3 | 2020/09/17 | 16:20 | | | | | | X | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED (Enter N/A for Water): 0

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☐
(same day) ☒
Sept. 18/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 10 | 10 | 9 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB #: C067966

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature: Murray | printed name: Jen Murray | YYYY/MM/DD: 2020/09/17 | HH:MM: 18:00 | 1. signature: | printed name: ARDRIN VILLAMAYOR | YYYY/MM/DD: 2020/09/21 | HH:MM: 09:00 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: AV2
VERIFIED BY:

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Maxxam
A Bureau Veritas Group Company

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4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

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Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD

1088



C of C # 312889

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Rd NW Edmonton, AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: CANSSC_E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-W.MB.3.12 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☐ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 EX1-M10-4.4 | | | V | | 3 | 2020/09/17 | 16:30 | | | | | | X | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: 7586

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water: 0

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
(2 days) ☐
(1 day) ☐
(same day) ☒
Sept. 18/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 10 | 10 | 9 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | | | |
| SEAL INTACT | | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY

MAXXAM JOB # C067966

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature: Jen Murray | printed name: Jen Murray | YYYY/MM/DD: 2020/09/17 | HH:MM: 18:00 | 1. signature: [illegible] | printed name: ARDRIN ULLAMAYOR | YYYY/MM/DD: 2020/09/21 | HH:MM: 09:00 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: AW2
VERIFIED BY: YLB

C0C-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3
Your C.O.C. #: 312886

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/20**
Report #: R2930932
Version: 2 - Partial

# CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

**BV LABS JOB #: C053970**
**Received: 2020/07/31, 08:45**

Sample Matrix: Soil
# Samples Received: 4

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| Boron (Hot Water Soluble) | 2 | AB SOP-00034 / AB SOP-00042 | EPA 6010d R5 m |
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 4 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 4 | | Auto Calc |
| BTEX in Leachates by HS GC/MS/FID (2) | 2 | AB SOP-00039 | EPA 8260d m |
| Chloride (Soluble) | 2 | AB SOP-00033 / AB SOP-00020 | SM 23-4500-Cl-E m |
| Hexavalent Chromium (3) | 2 | AB SOP-00063 | SM 23 3500-Cr B m |
| Conductivity @25C (Soluble) | 2 | AB SOP-00033 / AB SOP-00004 | SM 23 2510 B m |
| CCME Hydrocarbons (F2-F4 in soil) (4) | 4 | AB SOP-00036 | CCME PHC-CWS m |
| Flash Point | 2 | AB SOP-00062 | ASTM D3828-16a/ A m |
| ICPMS Metals on TCLP Leachate (2) | 2 | AB SOP-00043 | EPA 6020b R2 m |
| Elements by ICPMS - Soils | 2 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 4 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 2 | | Auto Calc |
| Index of Additive Cancer Risk (5) | 2 | | Auto Calc |
| PAH in Soil by GC/MS | 2 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| Free Liquid (Paint filter) | 2 | AB SOP-00047 | EPA 9095B R2 m |
| Polychlorinated Biphenyls in Soil | 2 | CAL SOP-00149 | EPA 8082A R1 m |
| Total PCBs in Soil | 2 | | Auto Calc |
| pH @25C (1:2 Calcium Chloride Extract) | 2 | AB SOP-00033 / AB SOP-00006 | SM 23 4500 H+B m |
| TCLP pH Measurements | 2 | AB SOP-00006 | SM 23 4500 H+B m |
| pH @25C (1:1 extract, solid waste) | 2 | AB SOP-00033 / AB SOP-00006 | SM 23 4500 H+B m |
| Particle Size by Sieve (75 micron) | 2 | | Auto Calc |
| Particle Size by Sieve | 2 | AB SOP-00022 | ASTM D6913-17 m |
| Sodium Adsorption Ratio | 2 | | Auto Calc |
| Soluble Ions | 2 | AB SOP-00033 / AB SOP-00042 | EPA 6010d R5 m |
| Ratio Extract (1:1) | 2 | AB SOP-00033 | Carter 2nd ed 15.2 m |
| Soluble Paste | 2 | AB SOP-00033 | Carter 2nd ed 15.2 m |
| Soluble Boron Calculation | 2 | | Auto Calc |
| Soluble Ions Calculation | 2 | | Auto Calc |
| Metals TCLP Extraction (2) | 2 | AB SOP-00015 | EPA 1311 |
| BTEX (Zero-Headspace) TCLP Extraction (2) | 2 | AB SOP-00059 | EPA 1311 |

BV Labs - Partial/Rush Results



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3
Your C.O.C. #: 312886

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/20**
Report #: R2930932
Version: 2 - Partial

# CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

**BV LABS JOB #: C053970**
**Received: 2020/07/31, 08:45**

Sample Matrix: Soil
# Samples Received: 4

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| VOCs in Soil by HS GC/MS (Std List) (1) | 2 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) Samples were extracted as per EPA 1311 unless otherwise noted in the report.
(3) Some soil samples may react with the Cr(VI) spike reducing it to Cr(III). These samples are highly unlikely to contain native hexavalent chromium. Thus a failed spike recovery does not invalidate a negative result on the native sample.
(4) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(5) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

BV Labs - Partial/Rush Results


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3
Your C.O.C. #: 312886

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/20**
Report #: R2930932
Version: 2 - Partial

# CERTIFICATE OF ANALYSIS – PARTIAL RESULTS

**BV LABS JOB #: C053970**
**Received: 2020/07/31, 08:45**

Encryption Key

Joyce Kimani
Project Manager
20 Sep 2020 16:13:27

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs - Partial Rush Results



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YE5117 | YE5118 | | YE5119 | | YE5120 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | 2020/07/30 13:10 | | 2020/07/30 14:30 | | 2020/07/30 14:15 | | |
| COC Number | | 312886 | 312886 | | 312886 | | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **IMPORT FILL-2** | **QC Batch** | **LF-1** | **QC Batch** | **LF-2** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | 9950267 | 15 | 9950273 | 28 | 10 | 9950273 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | 9950267 | <50 | 9950273 | <50 | 50 | 9950273 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | 9950267 | <50 | 9950273 | <50 | 50 | 9950273 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | 9950267 | Yes | 9950273 | Yes | | 9950273 |
| **Volatiles** | | | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | 9943870 | <0.045 | 9943870 | 0.51 | 0.045 | 9943870 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | 9943870 | 380 | 9943870 | 260 | 10 | 9943870 |
| **Field Preserved Volatiles** | | | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | 9949522 | 0.058 (1) | 9949522 | <0.0050 | 0.0050 | 9950718 |
| Toluene | mg/kg | <0.050 | <0.050 | 9949522 | <0.050 | 9949522 | <0.050 | 0.050 | 9950718 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | 9949522 | 0.26 | 9949522 | 0.045 | 0.010 | 9950718 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | 9949522 | <0.040 | 9949522 | 0.43 | 0.040 | 9950718 |
| o-Xylene | mg/kg | <0.020 | <0.020 | 9949522 | <0.020 | 9949522 | 0.082 | 0.020 | 9950718 |
| F1 (C6-C10) | mg/kg | <10 | <10 | 9949522 | 380 | 9949522 | 260 | 10 | 9950718 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| D10-o-Xylene (sur.) | % | 107 | 127 | 9949522 | 126 | 9949522 | 119 | | 9950718 |
| O-TERPHENYL (sur.) | % | 115 | 128 | 9950267 | 109 | 9950273 | 110 | | 9950273 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 101 | 104 | 9949522 | 96 | 9949522 | 96 | | 9950718 |
| 4-Bromofluorobenzene (sur.) | % | 99 | 96 | 9949522 | 101 | 9949522 | 99 | | 9950718 |
| D4-1,2-Dichloroethane (sur.) | % | 108 | 107 | 9949522 | 106 | 9949522 | 98 | | 9950718 |

RDL = Reportable Detection Limit
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.



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BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

## SALINITY – SOIL (SOIL)

| BV Labs ID | | YE5117 | | YE5118 | | | YE5118 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | | 2020/07/30 13:10 | | | 2020/07/30 13:10 | | |
| COC Number | | 312886 | | 312886 | | | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **RDL** | **IMPORT FILL-2** | **RDL** | **QC Batch** | **IMPORT FILL-2 Lab-Dup** | **RDL** | **QC Batch** |
| **Calculated Parameters** | | | | | | | | | |
| Calculated Calcium (Ca) | mg/kg | 12 | 0.34 | 18 | 0.36 | 9943918 | | | |
| Calculated Magnesium (Mg) | mg/kg | 4.8 | 0.23 | 3.6 | 0.24 | 9943918 | | | |
| Calculated Sodium (Na) | mg/kg | 16 | 0.56 | 4.4 | 0.61 | 9943918 | | | |
| Calculated Potassium (K) | mg/kg | 1.6 | 0.29 | 0.96 | 0.31 | 9943918 | | | |
| Calculated Boron (B) | mg/kg | <0.023 | 0.023 | <0.024 | 0.024 | 9943803 | | | |
| Calculated Chloride (Cl) | mg/kg | 16 | 2.3 | 13 | 2.4 | 9943918 | | | |
| Calculated Sulphate (SO4) | mg/kg | 42 | 1.1 | 12 | 1.2 | 9943918 | | | |
| **Soluble Parameters** | | | | | | | | | |
| Soluble Boron (B) | mg/L | <0.10 | 0.10 | <0.10 | 0.10 | 9952101 | <0.10 | 0.10 | 9952101 |
| Soluble Chloride (Cl) | mg/L | 72 | 10 | 55 | 10 | 9952158 | 59 | 10 | 9952158 |
| Soluble Conductivity | dS/m | 0.80 | 0.020 | 0.63 | 0.020 | 9952082 | 0.65 | 0.020 | 9952082 |
| Soluble (CaCl2) pH | pH | 7.86 | N/A | 7.86 | N/A | 9950956 | 7.88 | N/A | 9950956 |
| Sodium Adsorption Ratio | N/A | 2.1 | 0.10 | 0.50 | 0.10 | 9943914 | | | |
| Soluble Calcium (Ca) | mg/L | 52 | 1.5 | 74 | 1.5 | 9952101 | 81 | 1.5 | 9952101 |
| Soluble Magnesium (Mg) | mg/L | 21 | 1.0 | 15 | 1.0 | 9952101 | 16 | 1.0 | 9952101 |
| Soluble Sodium (Na) | mg/L | 71 | 2.5 | 18 | 2.5 | 9952101 | 20 | 2.5 | 9952101 |
| Soluble Potassium (K) | mg/L | 7.2 | 1.3 | 3.9 | 1.3 | 9952101 | 4.2 | 1.3 | 9952101 |
| Saturation % | % | 23 | N/A | 24 | N/A | 9950953 | 23 | N/A | 9950953 |
| Soluble Sulphate (SO4) | mg/L | 190 | 5.0 | 48 | 5.0 | 9952101 | 50 | 5.0 | 9952101 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

BV Labs - Partial Results



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## BASIC CLASS II LANDFILL PACKAGE (SOIL)

| BV Labs ID | | YE5119 | | | YE5119 | | | YE5120 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 14:30 | | | 2020/07/30 14:30 | | | 2020/07/30 14:15 | | |
| COC Number | | 312886 | | | 312886 | | | 312886 | | |
| | **UNITS** | **LF-1** | **RDL** | **QC Batch** | **LF-1 Lab-Dup** | **RDL** | **QC Batch** | **LF-2** | **RDL** | **QC Batch** |
| **Soluble Parameters** | | | | | | | | | | |
| Soluble (1:1) pH | pH | 8.37 | N/A | 9950957 | | | | 8.25 | N/A | 9950957 |
| **Physical Properties** | | | | | | | | | | |
| Closed Cup Flash Point | deg. C | >61 | N/A | 9948096 | | | | >61 | N/A | 9948096 |
| Free Liquid | N/A | PASS | N/A | 9948097 | | | | PASS | N/A | 9948097 |
| **Elements** | | | | | | | | | | |
| Leachable Antimony (Sb) | mg/L | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950677 |
| Leachable Arsenic (As) | mg/L | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950677 |
| Leachable Barium (Ba) | mg/L | 1.3 | 1.0 | 9950679 | 1.5 | 1.0 | 9950679 | 1.1 | 1.0 | 9950677 |
| Leachable Beryllium (Be) | mg/L | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950677 |
| Leachable Boron (B) | mg/L | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950677 |
| Leachable Cadmium (Cd) | mg/L | <0.10 | 0.10 | 9950679 | <0.10 | 0.10 | 9950679 | <0.10 | 0.10 | 9950677 |
| Leachable Chromium (Cr) | mg/L | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950677 |
| Leachable Cobalt (Co) | mg/L | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950677 |
| Leachable Copper (Cu) | mg/L | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950677 |
| Leachable Iron (Fe) | mg/L | 25 | 1.0 | 9950679 | 26 | 1.0 | 9950679 | 13 | 1.0 | 9950677 |
| Leachable Lead (Pb) | mg/L | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950677 |
| Leachable Mercury (Hg) | mg/L | <0.020 | 0.020 | 9950679 | <0.020 | 0.020 | 9950679 | <0.020 | 0.020 | 9950677 |
| Leachable Nickel (Ni) | mg/L | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950677 |
| Leachable Selenium (Se) | mg/L | <0.10 | 0.10 | 9950679 | <0.10 | 0.10 | 9950679 | <0.10 | 0.10 | 9950677 |
| Leachable Silver (Ag) | mg/L | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950677 |
| Leachable Thallium (Tl) | mg/L | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950679 | <0.50 | 0.50 | 9950677 |
| Leachable Uranium (U) | mg/L | <0.20 | 0.20 | 9950679 | <0.20 | 0.20 | 9950679 | <0.20 | 0.20 | 9950677 |
| Leachable Vanadium (V) | mg/L | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950677 |
| Leachable Zinc (Zn) | mg/L | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950677 |
| Leachable Zirconium (Zr) | mg/L | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950679 | <1.0 | 1.0 | 9950677 |
| **Volatiles** | | | | | | | | | | |
| Leachable (ZH) Benzene | mg/L | <0.010 | 0.010 | 9948302 | | | | <0.010 | 0.010 | 9948302 |
| Leachable (ZH) Toluene | mg/L | <0.010 | 0.010 | 9948302 | | | | <0.010 | 0.010 | 9948302 |
| Leachable (ZH) Ethylbenzene | mg/L | <0.010 | 0.010 | 9948302 | | | | <0.010 | 0.010 | 9948302 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable



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BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

## BASIC CLASS II LANDFILL PACKAGE (SOIL)

| BV Labs ID | | YE5119 | | | YE5119 | | | YE5120 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 14:30 | | | 2020/07/30 14:30 | | | 2020/07/30 14:15 | | |
| COC Number | | 312886 | | | 312886 | | | 312886 | | |
| | **UNITS** | **LF-1** | **RDL** | **QC Batch** | **LF-1 Lab-Dup** | **RDL** | **QC Batch** | **LF-2** | **RDL** | **QC Batch** |
| Leachable (ZH) o-Xylene | mg/L | <0.010 | 0.010 | 9948302 | | | | <0.010 | 0.010 | 9948302 |
| Leachable (ZH) m & p-Xylene | mg/L | <0.020 | 0.020 | 9948302 | | | | <0.020 | 0.020 | 9948302 |
| Leachable (ZH) Xylenes (Total) | mg/L | <0.020 | 0.020 | 9948302 | | | | <0.020 | 0.020 | 9948302 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| Leachable (ZH) 1,4-Difluorobenzene (sur.) | % | 102 | | 9948302 | | | | 103 | | 9948302 |
| Leachable (ZH) 4-Bromofluorobenzene (sur.) | % | 96 | | 9948302 | | | | 97 | | 9948302 |
| Leachable (ZH) D4-1,2-Dichloroethane (sur.) | % | 103 | | 9948302 | | | | 105 | | 9948302 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

BV Labs - Partial/Rush Results



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BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial Results

## CCME REGULATED METALS - SOILS (SOIL)

| BV Labs ID | | YE5117 | | | YE5117 | | | YE5118 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | | | 2020/07/30 12:15 | | | 2020/07/30 13:10 | | |
| COC Number | | 312886 | | | 312886 | | | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **RDL** | **QC Batch** | **IMPORT FILL-1 Lab-Dup** | **RDL** | **QC Batch** | **IMPORT FILL-2** | **RDL** | **QC Batch** |
| **Elements** | | | | | | | | | | |
| Soluble (Hot water) Boron (B) | mg/kg | <0.10 | 0.10 | 9953502 | | | | <0.10 | 0.10 | 9953502 |
| Hex. Chromium (Cr 6+) | mg/kg | <0.080 | 0.080 | 9948465 | <0.080 | 0.080 | 9948465 | <0.080 | 0.080 | 9948465 |
| Total Antimony (Sb) | mg/kg | <0.50 | 0.50 | 9951319 | | | | <0.50 | 0.50 | 9951319 |
| Total Arsenic (As) | mg/kg | 2.6 | 1.0 | 9951319 | | | | 1.3 | 1.0 | 9951319 |
| Total Barium (Ba) | mg/kg | 29 | 1.0 | 9951319 | | | | 15 | 1.0 | 9951319 |
| Total Beryllium (Be) | mg/kg | <0.40 | 0.40 | 9951319 | | | | <0.40 | 0.40 | 9951319 |
| Total Cadmium (Cd) | mg/kg | <0.050 | 0.050 | 9951319 | | | | <0.050 | 0.050 | 9951319 |
| Total Chromium (Cr) | mg/kg | 9.2 | 1.0 | 9951319 | | | | 6.6 | 1.0 | 9951319 |
| Total Cobalt (Co) | mg/kg | 4.2 | 0.50 | 9951319 | | | | 1.8 | 0.50 | 9951319 |
| Total Copper (Cu) | mg/kg | 9.7 | 1.0 | 9951319 | | | | 3.7 | 1.0 | 9951319 |
| Total Lead (Pb) | mg/kg | 3.7 | 0.50 | 9951319 | | | | 2.9 | 0.50 | 9951319 |
| Total Mercury (Hg) | mg/kg | <0.050 | 0.050 | 9951319 | | | | <0.050 | 0.050 | 9951319 |
| Total Molybdenum (Mo) | mg/kg | <0.40 | 0.40 | 9951319 | | | | <0.40 | 0.40 | 9951319 |
| Total Nickel (Ni) | mg/kg | 8.8 | 1.0 | 9951319 | | | | 5.7 | 1.0 | 9951319 |
| Total Selenium (Se) | mg/kg | <0.50 | 0.50 | 9951319 | | | | <0.50 | 0.50 | 9951319 |
| Total Silver (Ag) | mg/kg | <0.20 | 0.20 | 9951319 | | | | <0.20 | 0.20 | 9951319 |
| Total Thallium (Tl) | mg/kg | <0.10 | 0.10 | 9951319 | | | | <0.10 | 0.10 | 9951319 |
| Total Tin (Sn) | mg/kg | <1.0 | 1.0 | 9951319 | | | | <1.0 | 1.0 | 9951319 |
| Total Uranium (U) | mg/kg | 0.59 | 0.20 | 9951319 | | | | 0.47 | 0.20 | 9951319 |
| Total Vanadium (V) | mg/kg | 12 | 1.0 | 9951319 | | | | 6.9 | 1.0 | 9951319 |
| Total Zinc (Zn) | mg/kg | 15 | 10 | 9951319 | | | | <10 | 10 | 9951319 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

## RESULTS OF CHEMICAL ANALYSES OF SOIL

| BV Labs ID | | YE5117 | | | YE5117 | | | YE5118 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | | | 2020/07/30 12:15 | | | 2020/07/30 13:10 | | |
| COC Number | | 312886 | | | 312886 | | | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **RDL** | **QC Batch** | **IMPORT FILL-1 Lab-Dup** | **RDL** | **QC Batch** | **IMPORT FILL-2** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | | | |
| Grain Size | N/A | FINE | N/A | A004666 | | | | FINE | N/A | A004666 |
| Sieve - #10 (>2.00mm) | % | 1.1 | 0.20 | A007533 | 1.4 | 0.20 | A007533 | 17 | 0.20 | A007533 |
| Sieve - #200 (>0.075mm) | % | 40 | 0.20 | A007533 | 40 | 0.20 | A007533 | 45 | 0.20 | A007533 |
| Sieve - Pan | % | 60 | 0.20 | A007533 | 60 | 0.20 | A007533 | 55 | 0.20 | A007533 |

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N/A = Not Applicable

| BV Labs ID | | YE5119 | YE5120 | |
|---|---|---|---|---|
| Sampling Date | | 2020/07/30 14:30 | 2020/07/30 14:15 | |
| COC Number | | 312886 | 312886 | |
| | **UNITS** | **LF-1** | **LF-2** | **QC Batch** |
| **Misc. Inorganics** | | | | |
| Leachable Initial pH of Sample | pH | 9.04 | 9.44 | 9949788 |
| Leachable pH after HCl | pH | 5.79 | 1.93 | 9949788 |
| Leachable Final pH of Leachate | pH | 5.26 | 6.08 | 9949788 |

BV Labs - Partial/Rush Results



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Report Date: 2020/09/20

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Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

## POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

| BV Labs ID | | YE5117 | | | YE5117 | | | YE5118 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | | | 2020/07/30 12:15 | | | 2020/07/30 13:10 | | |
| COC Number | | 312886 | | | 312886 | | | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **RDL** | **QC Batch** | **IMPORT FILL-1 Lab-Dup** | **RDL** | **QC Batch** | **IMPORT FILL-2** | **RDL** | **QC Batch** |
| **Polychlorinated Biphenyls** | | | | | | | | | | |
| Aroclor 1016 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1221 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1232 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1242 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1248 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1254 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1260 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1262 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Aroclor 1268 | mg/kg | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 | <0.010 | 0.010 | 9948676 |
| Total PCB | mg/kg | <0.010 | 0.010 | 9942465 | | | | <0.010 | 0.010 | 9942465 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| NONACHLOROBIPHENYL (sur.) | % | 94 | | 9948676 | 81 | | 9948676 | 94 | | 9948676 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

BV Labs - Partial/Rush Results



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AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YE5117 | YE5118 | YE5119 | YE5120 | YE5120 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | 2020/07/30 13:10 | 2020/07/30 14:30 | 2020/07/30 14:15 | 2020/07/30 14:15 | | |
| COC Number | | 312886 | 312886 | 312886 | 312886 | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **IMPORT FILL-2** | **LF-1** | **LF-2** | **LF-2 Lab-Dup** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | | |
| Moisture | % | 6.1 | 6.4 | 33 | 33 | 35 | 0.30 | 9946536 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial Results

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YE5117 | YE5118 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | 2020/07/30 13:10 | | |
| COC Number | | 312886 | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **IMPORT FILL-2** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | 0.10 | 9943855 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | 0.0071 | 9943851 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | 0.10 | 9943855 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Acridine | mg/kg | <0.010 | <0.010 | 0.010 | 9950266 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | 0.0040 | 9950266 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | 9950266 |
| Quinoline | mg/kg | <0.010 | <0.010 | 0.010 | 9950266 |
| **Extraction Surrogate Recovery (%)** | | | | | |
| D10-ANTHRACENE (sur.) | % | 99 | 90 | | 9950266 |
| D8-ACENAPHTHYLENE (sur.) | % | 95 | 86 | | 9950266 |
| D8-NAPHTHALENE (sur.) | % | 97 | 81 | | 9950266 |
| RDL = Reportable Detection Limit | | | | | |



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Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YE5117 | YE5118 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | 2020/07/30 13:10 | | |
| COC Number | | 312886 | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **IMPORT FILL-2** | **RDL** | **QC Batch** |
| TERPHENYL-D14 (sur.) | % | 84 | 75 | | 9950266 |
| RDL = Reportable Detection Limit | | | | | |


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Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YE5117 | YE5118 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | 2020/07/30 13:10 | | |
| COC Number | | 312886 | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **IMPORT FILL-2** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | 0.030 | 9946545 |
| Bromoform | mg/kg | <0.050 | <0.050 | 0.050 | 9946545 |
| Bromomethane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | 0.00050 | 9946545 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | 0.0010 | 9946545 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| Chloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| Chloroform | mg/kg | <0.010 | <0.010 | 0.010 | 9946545 |
| Chloromethane | mg/kg | <0.030 | <0.030 | 0.030 | 9946545 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | 0.0020 | 9946545 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | 0.0020 | 9946545 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | 0.030 | 9946545 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | 0.040 | 9946545 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | 0.030 | 9946545 |
| Styrene | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | 0.050 | 9946545 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | 0.050 | 9946545 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | 0.010 | 9946545 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | 9946545 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | 9946545 |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | 9946545 |
| RDL = Reportable Detection Limit | | | | | |



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Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YE5117 | YE5118 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/07/30 12:15 | 2020/07/30 13:10 | | |
| COC Number | | 312886 | 312886 | | |
| | **UNITS** | **IMPORT FILL-1** | **IMPORT FILL-2** | **RDL** | **QC Batch** |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | 0.010 | 9946545 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | 0.020 | 9946545 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | 0.50 | 9946545 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | 0.50 | 9946545 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | 0.00030 | 9946545 |
| **Extraction Surrogate Recovery (%)** | | | | | |
| D10-o-Xylene (sur.) | % | 108 | 122 | | 9946545 |
| **Instrument Surrogate Recovery (%)** | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 98 | 98 | | 9946545 |
| 4-Bromofluorobenzene (sur.) | % | 100 | 98 | | 9946545 |
| D4-1,2-Dichloroethane (sur.) | % | 90 | 101 | | 9946545 |
| RDL = Reportable Detection Limit | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial Results

## TEST SUMMARY

**BV Labs ID:** YE5117
**Sample ID:** IMPORT FILL-1
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Boron (Hot Water Soluble) | ICPA | 9953502 | 2020/08/10 | 2020/08/10 | Mary Anne Dela Cruz |
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9949522 | N/A | 2020/08/07 | Darrus Ong |
| F1-BTEX | CALC/MS | 9943870 | N/A | 2020/08/08 | Automated Statchk |
| Chloride (Soluble) | KONE | 9952158 | 2020/08/07 | 2020/08/08 | Fadia Mostafa |
| Hexavalent Chromium | KONE | 9948465 | 2020/08/05 | 2020/08/06 | Serena Tian |
| Conductivity @25C (Soluble) | COND | 9952082 | 2020/08/07 | 2020/08/07 | Zafar Iqbal |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9950267 | 2020/08/07 | 2020/08/08 | Vian Pereira |
| Elements by ICPMS - Soils | ICPM | 9951319 | 2020/08/07 | 2020/08/08 | Paula Calzada |
| Moisture | BAL | 9946536 | N/A | 2020/08/05 | Sophie Reid |
| Benzo[a]pyrene Equivalency | GC/MSD | 9943851 | N/A | 2020/08/08 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9943855 | N/A | 2020/08/08 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9950266 | 2020/08/07 | 2020/08/07 | Liping Zong |
| Polychlorinated Biphenyls in Soil | GC/ECD | 9948676 | 2020/08/06 | 2020/08/06 | Liping Zong |
| Total PCBs in Soil | GC/ECD | 9942465 | N/A | 2020/08/06 | Automated Statchk |
| pH @25C (1:2 Calcium Chloride Extract) | PH | 9950956 | 2020/08/07 | 2020/08/07 | John Panchol |
| Particle Size by Sieve (75 micron) | SIEV | A004666 | N/A | 2020/09/20 | Automated Statchk |
| Particle Size by Sieve | SIEV | A007533 | N/A | 2020/09/20 | Farzana Zaman |
| Sodium Adsorption Ratio | CALC | 9943914 | N/A | 2020/08/08 | Automated Statchk |
| Soluble Ions | ICPA | 9952101 | 2020/08/07 | 2020/08/08 | Jason Bao |
| Soluble Paste | BAL | 9950953 | 2020/08/07 | 2020/08/07 | Julia Mangaly |
| Soluble Boron Calculation | CALC | 9943803 | N/A | 2020/08/08 | Automated Statchk |
| Soluble Ions Calculation | CALC | 9943918 | N/A | 2020/08/05 | Automated Statchk |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9946545 | N/A | 2020/08/08 | Maggie Zhao |

**BV Labs ID:** YE5117 Dup
**Sample ID:** IMPORT FILL-1
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Hexavalent Chromium | KONE | 9948465 | 2020/08/05 | 2020/08/06 | Serena Tian |
| Polychlorinated Biphenyls in Soil | GC/ECD | 9948676 | 2020/08/06 | 2020/08/06 | Liping Zong |
| Particle Size by Sieve | SIEV | A007533 | N/A | 2020/09/20 | Farzana Zaman |

**BV Labs ID:** YE5118
**Sample ID:** IMPORT FILL-2
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Boron (Hot Water Soluble) | ICPA | 9953502 | 2020/08/10 | 2020/08/10 | Mary Anne Dela Cruz |
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9949522 | N/A | 2020/08/07 | Darrus Ong |
| F1-BTEX | CALC/MS | 9943870 | N/A | 2020/08/08 | Automated Statchk |
| Chloride (Soluble) | KONE | 9952158 | 2020/08/07 | 2020/08/08 | Fadia Mostafa |
| Hexavalent Chromium | KONE | 9948465 | 2020/08/05 | 2020/08/06 | Serena Tian |
| Conductivity @25C (Soluble) | COND | 9952082 | 2020/08/07 | 2020/08/07 | Zafar Iqbal |



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Project #: 60549588 W.MB.3

## TEST SUMMARY

**BV Labs ID:** YE5118
**Sample ID:** IMPORT FILL-2
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9950267 | 2020/08/07 | 2020/08/08 | Vian Pereira |
| Elements by ICPMS - Soils | ICPM | 9951319 | 2020/08/07 | 2020/08/08 | Paula Calzada |
| Moisture | BAL | 9946536 | N/A | 2020/08/05 | Sophie Reid |
| Benzo[a]pyrene Equivalency | GC/MSD | 9943851 | N/A | 2020/08/08 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | 9943855 | N/A | 2020/08/08 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | 9950266 | 2020/08/07 | 2020/08/07 | Liping Zong |
| Polychlorinated Biphenyls in Soil | GC/ECD | 9948676 | 2020/08/06 | 2020/08/06 | Liping Zong |
| Total PCBs in Soil | GC/ECD | 9942465 | N/A | 2020/08/06 | Automated Statchk |
| pH @25C (1:2 Calcium Chloride Extract) | PH | 9950956 | 2020/08/07 | 2020/08/07 | John Panchol |
| Particle Size by Sieve (75 micron) | SIEV | A004666 | N/A | 2020/09/20 | Automated Statchk |
| Particle Size by Sieve | SIEV | A007533 | N/A | 2020/09/20 | Farzana Zaman |
| Sodium Adsorption Ratio | CALC | 9943914 | N/A | 2020/08/08 | Automated Statchk |
| Soluble Ions | ICPA | 9952101 | 2020/08/07 | 2020/08/08 | Jason Bao |
| Soluble Paste | BAL | 9950953 | 2020/08/07 | 2020/08/07 | Julia Mangaly |
| Soluble Boron Calculation | CALC | 9943803 | N/A | 2020/08/08 | Automated Statchk |
| Soluble Ions Calculation | CALC | 9943918 | N/A | 2020/08/05 | Automated Statchk |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | 9946545 | N/A | 2020/08/08 | Maggie Zhao |

**BV Labs ID:** YE5118 Dup
**Sample ID:** IMPORT FILL-2
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Chloride (Soluble) | KONE | 9952158 | 2020/08/07 | 2020/08/08 | Fadia Mostafa |
| Conductivity @25C (Soluble) | COND | 9952082 | 2020/08/07 | 2020/08/07 | Zafar Iqbal |
| pH @25C (1:2 Calcium Chloride Extract) | PH | 9950956 | 2020/08/07 | 2020/08/07 | John Panchol |
| Soluble Ions | ICPA | 9952101 | 2020/08/07 | 2020/08/08 | Jason Bao |
| Soluble Paste | BAL | 9950953 | 2020/08/07 | 2020/08/07 | Julia Mangaly |

**BV Labs ID:** YE5119
**Sample ID:** LF-1
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9949522 | N/A | 2020/08/07 | Darrus Ong |
| F1-BTEX | CALC/MS | 9943870 | N/A | 2020/08/08 | Automated Statchk |
| BTEX in Leachates by HS GC/MS/FID | HSMS/MS | 9948302 | 2020/08/05 | 2020/08/06 | Darrus Ong |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9950273 | 2020/08/07 | 2020/08/07 | Vian Pereira |
| Flash Point | FLAS | 9948096 | N/A | 2020/08/05 | Riazuddin Khan |
| ICPMS Metals on TCLP Leachate | ICPM | 9950679 | 2020/08/06 | 2020/08/07 | Paula Calzada |
| Moisture | BAL | 9946536 | N/A | 2020/08/05 | Sophie Reid |
| Free Liquid (Paint filter) | M | 9948097 | N/A | 2020/08/05 | Riazuddin Khan |
| TCLP pH Measurements | PHEL | 9949788 | 2020/08/06 | 2020/08/07 | Jason Cho |
| pH @25C (1:1 extract, solid waste) | PH | 9950957 | 2020/08/07 | 2020/08/07 | John Panchol |

BV Labs - Partial Results



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Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

## TEST SUMMARY

**BV Labs ID:** YE5119 Dup
**Sample ID:** LF-1
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| ICPMS Metals on TCLP Leachate | ICPM | 9950679 | 2020/08/06 | 2020/08/07 | Paula Calzada |

**BV Labs ID:** YE5120
**Sample ID:** LF-2
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | 9950718 | N/A | 2020/08/07 | Darrus Ong |
| F1-BTEX | CALC/MS | 9943870 | N/A | 2020/08/07 | Automated Statchk |
| BTEX in Leachates by HS GC/MS/FID | HSMS/MS | 9948302 | 2020/08/05 | 2020/08/06 | Darrus Ong |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | 9950273 | 2020/08/07 | 2020/08/07 | Vian Pereira |
| Flash Point | FLAS | 9948096 | N/A | 2020/08/05 | Riazuddin Khan |
| ICPMS Metals on TCLP Leachate | ICPM | 9950677 | 2020/08/06 | 2020/08/07 | Anna Nelson |
| Moisture | BAL | 9946536 | N/A | 2020/08/05 | Sophie Reid |
| Free Liquid (Paint filter) | M | 9948097 | N/A | 2020/08/05 | Riazuddin Khan |
| TCLP pH Measurements | PHEL | 9949788 | 2020/08/06 | 2020/08/07 | Jason Cho |
| pH @25C (1:1 extract, solid waste) | PH | 9950957 | 2020/08/07 | 2020/08/07 | John Panchol |

**BV Labs ID:** YE5120 Dup
**Sample ID:** LF-2
**Matrix:** Soil

**Collected:** 2020/07/30
**Relinquished:** 2020/07/30
**Received:** 2020/07/31

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Moisture | BAL | 9946536 | N/A | 2020/08/05 | Sophie Reid |

BV Labs - Partial/Rush Results



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 5.0°C |

Report reissued to include grainsize addition for samples Import Fill-1 and Import Fill-2 as per Aaron Jambrosic.

**Results relate only to the items tested.**



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9946536 | SRI | Method Blank | Moisture | 2020/08/05 | <0.30 | | % | |
| 9946545 | MZ | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/08 | | 99 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/08 | | 98 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/08 | | 107 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/08 | | 91 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/08/08 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/08/08 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/08/08 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/08/08 | <0.0010 | | mg/kg | |
| | | | Chlorodibromomethane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/08/08 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/08/08 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/08/08 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/08/08 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/08/08 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/08/08 | <0.040 | | mg/kg | |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/08 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/08/08 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/08 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/08 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/08/08 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/08/08 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/08/08 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/08/08 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/08/08 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/08/08 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/08/08 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/08/08 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/08/08 | <0.00030 | | mg/kg | |
| 9948302 | DO1 | Method Blank | Leachable (ZH) 1,4-Difluorobenzene (sur.) | 2020/08/06 | | 100 | % | 50 - 140 |
| | | | Leachable (ZH) 4-Bromofluorobenzene (sur.) | 2020/08/06 | | 101 | % | 50 - 140 |
| | | | Leachable (ZH) D4-1,2-Dichloroethane (sur.) | 2020/08/06 | | 104 | % | 50 - 140 |
| | | | Leachable (ZH) Benzene | 2020/08/06 | <0.010 | | mg/L | |
| | | | Leachable (ZH) Toluene | 2020/08/06 | <0.010 | | mg/L | |
| | | | Leachable (ZH) Ethylbenzene | 2020/08/06 | <0.010 | | mg/L | |
| | | | Leachable (ZH) o-Xylene | 2020/08/06 | <0.010 | | mg/L | |
| | | | Leachable (ZH) m & p-Xylene | 2020/08/06 | <0.020 | | mg/L | |
| | | | Leachable (ZH) Xylenes (Total) | 2020/08/06 | <0.020 | | mg/L | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9948465 | STI | Method Blank | Hex. Chromium (Cr 6+) | 2020/08/06 | <0.080 | | mg/kg | |
| 9948676 | LZ3 | Method Blank | NONACHLOROBIPHENYL (sur.) | 2020/08/06 | | 88 | % | 50 - 130 |
| | | | Aroclor 1016 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1221 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1232 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1242 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1248 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1254 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1260 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1262 | 2020/08/06 | <0.010 | | mg/kg | |
| | | | Aroclor 1268 | 2020/08/06 | <0.010 | | mg/kg | |
| 9949522 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/07 | | 102 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/07 | | 96 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/07 | | 111 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/07 | | 104 | % | 50 - 140 |
| | | | Benzene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/08/07 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/08/07 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/08/07 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/08/07 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/08/07 | <10 | | mg/kg | |
| 9950266 | LZ3 | Method Blank | D10-ANTHRACENE (sur.) | 2020/08/07 | | 98 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/08/07 | | 100 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/08/07 | | 93 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/08/07 | | 89 | % | 50 - 130 |
| | | | Acenaphthene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/08/07 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/08/07 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/08/07 | <0.010 | | mg/kg | |
| 9950267 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/08/08 | | 112 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/08 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/08 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/08 | <50 | | mg/kg | |



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| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9950273 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/08/07 | | 126 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/07 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/07 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/07 | <50 | | mg/kg | |
| 9950677 | ANE | Method Blank | Leachable Chromium (Cr) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Cobalt (Co) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Copper (Cu) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Mercury (Hg) | 2020/08/07 | <0.020 | | mg/L | |
| | | | Leachable Iron (Fe) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Lead (Pb) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Antimony (Sb) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Nickel (Ni) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Selenium (Se) | 2020/08/07 | <0.10 | | mg/L | |
| | | | Leachable Silver (Ag) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Arsenic (As) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Thallium (Tl) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Uranium (U) | 2020/08/07 | <0.20 | | mg/L | |
| | | | Leachable Vanadium (V) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Zinc (Zn) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Barium (Ba) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Zirconium (Zr) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Beryllium (Be) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Boron (B) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Cadmium (Cd) | 2020/08/07 | <0.10 | | mg/L | |
| 9950679 | PC5 | Method Blank | Leachable Chromium (Cr) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Cobalt (Co) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Copper (Cu) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Mercury (Hg) | 2020/08/07 | <0.020 | | mg/L | |
| | | | Leachable Iron (Fe) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Lead (Pb) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Antimony (Sb) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Nickel (Ni) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Selenium (Se) | 2020/08/07 | <0.10 | | mg/L | |
| | | | Leachable Silver (Ag) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Arsenic (As) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Thallium (Tl) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Uranium (U) | 2020/08/07 | <0.20 | | mg/L | |
| | | | Leachable Vanadium (V) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Zinc (Zn) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Barium (Ba) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Zirconium (Zr) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Beryllium (Be) | 2020/08/07 | <0.50 | | mg/L | |
| | | | Leachable Boron (B) | 2020/08/07 | <1.0 | | mg/L | |
| | | | Leachable Cadmium (Cd) | 2020/08/07 | <0.10 | | mg/L | |
| 9950718 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/08/07 | | 95 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/07 | | 99 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/07 | | 108 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/07 | | 98 | % | 50 - 140 |
| | | | Benzene | 2020/08/07 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/08/07 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/08/07 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/08/07 | <0.040 | | mg/kg | |



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| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | o-Xylene | 2020/08/07 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/08/07 | <10 | | mg/kg | |
| 9951319 | PC5 | Method Blank | Total Antimony (Sb) | 2020/08/08 | <0.50 | | mg/kg | |
| | | | Total Arsenic (As) | 2020/08/08 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/08/08 | <1.0 | | mg/kg | |
| | | | Total Beryllium (Be) | 2020/08/08 | <0.40 | | mg/kg | |
| | | | Total Cadmium (Cd) | 2020/08/08 | <0.050 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/08/08 | <1.0 | | mg/kg | |
| | | | Total Cobalt (Co) | 2020/08/08 | <0.50 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/08/08 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/08/08 | <0.50 | | mg/kg | |
| | | | Total Mercury (Hg) | 2020/08/08 | <0.050 | | mg/kg | |
| | | | Total Molybdenum (Mo) | 2020/08/08 | <0.40 | | mg/kg | |
| | | | Total Nickel (Ni) | 2020/08/08 | <1.0 | | mg/kg | |
| | | | Total Selenium (Se) | 2020/08/08 | <0.50 | | mg/kg | |
| | | | Total Silver (Ag) | 2020/08/08 | <0.20 | | mg/kg | |
| | | | Total Thallium (Tl) | 2020/08/08 | <0.10 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/08/08 | <1.0 | | mg/kg | |
| | | | Total Uranium (U) | 2020/08/08 | <0.20 | | mg/kg | |
| | | | Total Vanadium (V) | 2020/08/08 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/08/08 | <10 | | mg/kg | |
| 9952082 | ZI | Method Blank | Soluble Conductivity | 2020/08/07 | <0.020 | | dS/m | |
| 9952101 | JAB | Method Blank | Soluble Boron (B) | 2020/08/08 | <0.10 | | mg/L | |
| | | | Soluble Calcium (Ca) | 2020/08/08 | <1.5 | | mg/L | |
| | | | Soluble Magnesium (Mg) | 2020/08/08 | <1.0 | | mg/L | |
| | | | Soluble Sodium (Na) | 2020/08/08 | <2.5 | | mg/L | |
| | | | Soluble Potassium (K) | 2020/08/08 | <1.3 | | mg/L | |
| | | | Soluble Sulphate (SO4) | 2020/08/08 | <5.0 | | mg/L | |
| 9952158 | FM0 | Method Blank | Soluble Chloride (Cl) | 2020/08/08 | <10 | | mg/L | |
| 9953502 | MAP | Method Blank | Soluble (Hot water) Boron (B) | 2020/08/10 | <0.10 | | mg/kg | |
| 9948465 | STI | RPD [YE5117-01] | Hex. Chromium (Cr 6+) | 2020/08/06 | NC | | % | 35 |
| 9948676 | LZ3 | RPD [YE5117-02] | Aroclor 1016 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1221 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1232 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1242 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1248 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1254 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1260 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1262 | 2020/08/06 | NC | | % | 50 |
| | | | Aroclor 1268 | 2020/08/06 | NC | | % | 50 |
| A007533 | FZ | RPD [YE5117-01] | Sieve - #10 (>2.00mm) | 2020/09/20 | 19 | | % | 30 |
| | | | Sieve - #200 (>0.075mm) | 2020/09/20 | 1.8 | | % | 30 |
| | | | Sieve - Pan | 2020/09/20 | 1.2 | | % | 30 |
| 9950953 | JUM | RPD [YE5118-01] | Saturation % | 2020/08/07 | 6.5 | | % | 12 |
| 9950956 | JPS | RPD [YE5118-01] | Soluble (CaCl2) pH | 2020/08/07 | 0.25 | | % | N/A |
| 9952082 | ZI | RPD [YE5118-01] | Soluble Conductivity | 2020/08/07 | 3.6 | | % | 20 |
| 9952101 | JAB | RPD [YE5118-01] | Soluble Boron (B) | 2020/08/08 | NC | | % | 30 |
| | | | Soluble Calcium (Ca) | 2020/08/08 | 8.6 | | % | 30 |
| | | | Soluble Magnesium (Mg) | 2020/08/08 | 10 | | % | 30 |
| | | | Soluble Sodium (Na) | 2020/08/08 | 9.3 | | % | 30 |
| | | | Soluble Potassium (K) | 2020/08/08 | 6.9 | | % | 30 |
| | | | Soluble Sulphate (SO4) | 2020/08/08 | 4.0 | | % | 30 |

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| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| 9952158 | FM0 | RPD [YE5118-01] | Soluble Chloride (Cl) | 2020/08/08 | 7.0 | | % | 30 |
| 9950679 | PC5 | RPD [YE5119-01] | Leachable Chromium (Cr) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Cobalt (Co) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Copper (Cu) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Mercury (Hg) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Iron (Fe) | 2020/08/07 | 3.8 | | % | 35 |
| | | | Leachable Lead (Pb) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Antimony (Sb) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Nickel (Ni) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Selenium (Se) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Silver (Ag) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Arsenic (As) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Thallium (Tl) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Uranium (U) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Vanadium (V) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Zinc (Zn) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Barium (Ba) | 2020/08/07 | 13 | | % | 35 |
| | | | Leachable Zirconium (Zr) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Beryllium (Be) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Boron (B) | 2020/08/07 | NC | | % | 35 |
| | | | Leachable Cadmium (Cd) | 2020/08/07 | NC | | % | 35 |
| 9946536 | SRI | RPD [YE5120-02] | Moisture | 2020/08/05 | 6.2 | | % | 20 |
| 9948465 | STI | Matrix Spike [YE5117-01] | Hex. Chromium (Cr 6+) | 2020/08/06 | | 103 | % | 75 - 125 |
| 9948676 | LZ3 | Matrix Spike [YE5117-02] | NONACHLOROBIPHENYL (sur.) | 2020/08/06 | | 66 | % | 50 - 130 |
| | | | Aroclor 1260 | 2020/08/06 | | 105 | % | 50 - 130 |
| 9950679 | PC5 | Matrix Spike [YE5119-01] | Leachable Chromium (Cr) | 2020/08/07 | | 95 | % | 75 - 125 |
| | | | Leachable Cobalt (Co) | 2020/08/07 | | 94 | % | 75 - 125 |
| | | | Leachable Copper (Cu) | 2020/08/07 | | 91 | % | 75 - 125 |
| | | | Leachable Mercury (Hg) | 2020/08/07 | | 89 | % | 75 - 125 |
| | | | Leachable Iron (Fe) | 2020/08/07 | | NC | % | 75 - 125 |
| | | | Leachable Lead (Pb) | 2020/08/07 | | 93 | % | 75 - 125 |
| | | | Leachable Antimony (Sb) | 2020/08/07 | | 128 (1) | % | 75 - 125 |
| | | | Leachable Nickel (Ni) | 2020/08/07 | | 92 | % | 75 - 125 |
| | | | Leachable Selenium (Se) | 2020/08/07 | | 97 | % | 75 - 125 |
| | | | Leachable Silver (Ag) | 2020/08/07 | | 93 | % | 75 - 125 |
| | | | Leachable Arsenic (As) | 2020/08/07 | | 95 | % | 75 - 125 |
| | | | Leachable Thallium (Tl) | 2020/08/07 | | 93 | % | 75 - 125 |
| | | | Leachable Uranium (U) | 2020/08/07 | | 101 | % | 75 - 125 |
| | | | Leachable Vanadium (V) | 2020/08/07 | | 99 | % | 75 - 125 |
| | | | Leachable Zinc (Zn) | 2020/08/07 | | 94 | % | 75 - 125 |
| | | | Leachable Barium (Ba) | 2020/08/07 | | NC | % | 75 - 125 |
| | | | Leachable Zirconium (Zr) | 2020/08/07 | | 95 | % | 75 - 125 |
| | | | Leachable Beryllium (Be) | 2020/08/07 | | 97 | % | 75 - 125 |
| | | | Leachable Boron (B) | 2020/08/07 | | 102 | % | 75 - 125 |
| | | | Leachable Cadmium (Cd) | 2020/08/07 | | 94 | % | 75 - 125 |
| 9952158 | FM0 | Matrix Spike [YE5118-01] | Soluble Chloride (Cl) | 2020/08/08 | | 88 | % | 75 - 125 |
| 9946545 | MZ | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/08 | | 104 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/08 | | 103 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/08 | | 111 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/08 | | 114 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/08/08 | | 98 | % | 60 - 130 |
| | | | Bromoform | 2020/08/08 | | 98 | % | 60 - 130 |

BV Labs - Partial/Rush Results

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Bromomethane | 2020/08/08 | | 63 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/08/08 | | 90 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/08/08 | | 91 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/08/08 | | 107 | % | 60 - 130 |
| | | | Chloroethane | 2020/08/08 | | 64 | % | 60 - 130 |
| | | | Chloroform | 2020/08/08 | | 90 | % | 60 - 130 |
| | | | Chloromethane | 2020/08/08 | | 56 (1) | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/08/08 | | 97 | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/08/08 | | 91 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/08/08 | | 93 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/08/08 | | 91 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/08/08 | | 93 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/08/08 | | 90 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/08/08 | | 86 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/08/08 | | 95 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/08/08 | | 83 | % | 60 - 130 |
| | | | Dichloromethane | 2020/08/08 | | 81 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/08/08 | | 96 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/08/08 | | 82 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/08/08 | | 69 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/08/08 | | 105 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/08/08 | | 91 | % | 60 - 130 |
| | | | Styrene | 2020/08/08 | | 95 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/08/08 | | 95 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/08/08 | | 92 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/08/08 | | 95 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/08/08 | | 87 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/08/08 | | 88 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/08/08 | | 94 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/08/08 | | 93 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/08/08 | | 95 | % | 60 - 130 |
| | | | Trichloroethene | 2020/08/08 | | 96 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/08/08 | | 77 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/08/08 | | 94 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/08/08 | | 97 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/08/08 | | 67 | % | 60 - 130 |
| 9948302 | DO1 | LCS | Leachable (ZH) 1,4-Difluorobenzene (sur.) | 2020/08/06 | | 98 | % | 50 - 140 |
| | | | Leachable (ZH) 4-Bromofluorobenzene (sur.) | 2020/08/06 | | 98 | % | 50 - 140 |
| | | | Leachable (ZH) D4-1,2-Dichloroethane (sur.) | 2020/08/06 | | 101 | % | 50 - 140 |
| | | | Leachable (ZH) Benzene | 2020/08/06 | | 85 | % | 60 - 130 |
| | | | Leachable (ZH) Toluene | 2020/08/06 | | 84 | % | 60 - 130 |
| | | | Leachable (ZH) Ethylbenzene | 2020/08/06 | | 85 | % | 60 - 130 |
| | | | Leachable (ZH) o-Xylene | 2020/08/06 | | 81 | % | 60 - 130 |
| | | | Leachable (ZH) m & p-Xylene | 2020/08/06 | | 84 | % | 60 - 130 |
| 9948465 | STI | LCS | Hex. Chromium (Cr 6+) | 2020/08/06 | | 100 | % | 80 - 120 |
| 9948676 | LZ3 | LCS | NONACHLOROBIPHENYL (sur.) | 2020/08/06 | | 92 | % | 50 - 130 |
| | | | Aroclor 1260 | 2020/08/06 | | 88 | % | 50 - 130 |
| 9949522 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/07 | | 100 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/07 | | 97 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/07 | | 112 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/07 | | 103 | % | 50 - 140 |
| | | | Benzene | 2020/08/07 | | 102 | % | 60 - 130 |



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BV Labs - Partial/Rush Results

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Toluene | 2020/08/07 | | 101 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/08/07 | | 103 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/08/07 | | 101 | % | 60 - 130 |
| | | | o-Xylene | 2020/08/07 | | 101 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/08/07 | | 101 | % | 60 - 140 |
| 9949788 | JAX | LCS | Leachable Initial pH of Sample | 2020/08/07 | | 100 | % | 97 - 103 |
| | | | Leachable pH after HCl | 2020/08/07 | | 100 | % | 97 - 103 |
| | | | Leachable Final pH of Leachate | 2020/08/07 | | 100 | % | 97 - 103 |
| 9950266 | LZ3 | LCS | D10-ANTHRACENE (sur.) | 2020/08/07 | | 98 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/08/07 | | 106 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/08/07 | | 97 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/08/07 | | 103 | % | 50 - 130 |
| | | | Acenaphthene | 2020/08/07 | | 88 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/08/07 | | 84 | % | 50 - 130 |
| | | | Acridine | 2020/08/07 | | 68 | % | 50 - 130 |
| | | | Anthracene | 2020/08/07 | | 68 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/08/07 | | 90 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/08/07 | | 81 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/08/07 | | 81 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/08/07 | | 87 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/08/07 | | 88 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/08/07 | | 83 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/08/07 | | 84 | % | 50 - 130 |
| | | | Chrysene | 2020/08/07 | | 88 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/08/07 | | 90 | % | 50 - 130 |
| | | | Fluoranthene | 2020/08/07 | | 97 | % | 50 - 130 |
| | | | Fluorene | 2020/08/07 | | 89 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/08/07 | | 91 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/08/07 | | 91 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/08/07 | | 90 | % | 50 - 130 |
| | | | Naphthalene | 2020/08/07 | | 93 | % | 50 - 130 |
| | | | Phenanthrene | 2020/08/07 | | 86 | % | 50 - 130 |
| | | | Perylene | 2020/08/07 | | 81 | % | 50 - 130 |
| | | | Pyrene | 2020/08/07 | | 98 | % | 50 - 130 |
| | | | Quinoline | 2020/08/07 | | 99 | % | 50 - 130 |
| 9950267 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/08/08 | | 114 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/08 | | 112 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/08 | | 117 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/08 | | 113 | % | 60 - 140 |
| 9950273 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/08/07 | | 103 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/08/07 | | 96 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/08/07 | | 99 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/08/07 | | 98 | % | 60 - 140 |
| 9950677 | ANE | LCS | Leachable Chromium (Cr) | 2020/08/07 | | 96 | % | 80 - 120 |
| | | | Leachable Cobalt (Co) | 2020/08/07 | | 95 | % | 80 - 120 |
| | | | Leachable Copper (Cu) | 2020/08/07 | | 93 | % | 80 - 120 |
| | | | Leachable Mercury (Hg) | 2020/08/07 | | 89 | % | 80 - 120 |
| | | | Leachable Iron (Fe) | 2020/08/07 | | 99 | % | 80 - 120 |
| | | | Leachable Lead (Pb) | 2020/08/07 | | 89 | % | 80 - 120 |
| | | | Leachable Antimony (Sb) | 2020/08/07 | | 129 (1) | % | 80 - 120 |
| | | | Leachable Nickel (Ni) | 2020/08/07 | | 94 | % | 80 - 120 |
| | | | Leachable Selenium (Se) | 2020/08/07 | | 98 | % | 80 - 120 |



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BV Labs - Partial/Rush Results

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Leachable Silver (Ag) | 2020/08/07 | | 91 | % | 80 - 120 |
| | | | Leachable Arsenic (As) | 2020/08/07 | | 96 | % | 80 - 120 |
| | | | Leachable Thallium (Tl) | 2020/08/07 | | 90 | % | 80 - 120 |
| | | | Leachable Uranium (U) | 2020/08/07 | | 87 | % | 80 - 120 |
| | | | Leachable Vanadium (V) | 2020/08/07 | | 100 | % | 80 - 120 |
| | | | Leachable Zinc (Zn) | 2020/08/07 | | 93 | % | 80 - 120 |
| | | | Leachable Barium (Ba) | 2020/08/07 | | 101 | % | 80 - 120 |
| | | | Leachable Zirconium (Zr) | 2020/08/07 | | 101 | % | 80 - 120 |
| | | | Leachable Beryllium (Be) | 2020/08/07 | | 99 | % | 80 - 120 |
| | | | Leachable Boron (B) | 2020/08/07 | | 101 | % | 80 - 120 |
| | | | Leachable Cadmium (Cd) | 2020/08/07 | | 94 | % | 80 - 120 |
| 9950679 | PC5 | LCS | Leachable Chromium (Cr) | 2020/08/07 | | 95 | % | 80 - 120 |
| | | | Leachable Cobalt (Co) | 2020/08/07 | | 96 | % | 80 - 120 |
| | | | Leachable Copper (Cu) | 2020/08/07 | | 93 | % | 80 - 120 |
| | | | Leachable Mercury (Hg) | 2020/08/07 | | 93 | % | 80 - 120 |
| | | | Leachable Iron (Fe) | 2020/08/07 | | 101 | % | 80 - 120 |
| | | | Leachable Lead (Pb) | 2020/08/07 | | 93 | % | 80 - 120 |
| | | | Leachable Antimony (Sb) | 2020/08/07 | | 118 | % | 80 - 120 |
| | | | Leachable Nickel (Ni) | 2020/08/07 | | 95 | % | 80 - 120 |
| | | | Leachable Selenium (Se) | 2020/08/07 | | 97 | % | 80 - 120 |
| | | | Leachable Silver (Ag) | 2020/08/07 | | 91 | % | 80 - 120 |
| | | | Leachable Arsenic (As) | 2020/08/07 | | 96 | % | 80 - 120 |
| | | | Leachable Thallium (Tl) | 2020/08/07 | | 94 | % | 80 - 120 |
| | | | Leachable Uranium (U) | 2020/08/07 | | 88 | % | 80 - 120 |
| | | | Leachable Vanadium (V) | 2020/08/07 | | 95 | % | 80 - 120 |
| | | | Leachable Zinc (Zn) | 2020/08/07 | | 98 | % | 80 - 120 |
| | | | Leachable Barium (Ba) | 2020/08/07 | | 106 | % | 80 - 120 |
| | | | Leachable Zirconium (Zr) | 2020/08/07 | | 88 | % | 80 - 120 |
| | | | Leachable Beryllium (Be) | 2020/08/07 | | 96 | % | 80 - 120 |
| | | | Leachable Boron (B) | 2020/08/07 | | 96 | % | 80 - 120 |
| | | | Leachable Cadmium (Cd) | 2020/08/07 | | 93 | % | 80 - 120 |
| 9950718 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/08/07 | | 92 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/08/07 | | 101 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/08/07 | | 109 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/08/07 | | 100 | % | 50 - 140 |
| | | | Benzene | 2020/08/07 | | 98 | % | 60 - 130 |
| | | | Toluene | 2020/08/07 | | 99 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/08/07 | | 99 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/08/07 | | 103 | % | 60 - 130 |
| | | | o-Xylene | 2020/08/07 | | 105 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/08/07 | | 92 | % | 60 - 140 |
| 9950956 | JPS | LCS | Soluble (CaCl2) pH | 2020/08/07 | | 100 | % | 97 - 103 |
| 9950957 | JPS | LCS | Soluble (1:1) pH | 2020/08/07 | | 100 | % | 97 - 103 |
| 9951319 | PC5 | LCS | Total Antimony (Sb) | 2020/08/08 | | 123 (1) | % | 80 - 120 |
| | | | Total Arsenic (As) | 2020/08/08 | | 94 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/08/08 | | 95 | % | 80 - 120 |
| | | | Total Beryllium (Be) | 2020/08/08 | | 96 | % | 80 - 120 |
| | | | Total Cadmium (Cd) | 2020/08/08 | | 92 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/08/08 | | 93 | % | 80 - 120 |
| | | | Total Cobalt (Co) | 2020/08/08 | | 94 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/08/08 | | 93 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/08/08 | | 92 | % | 80 - 120 |



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BV Labs - Partial/Rush Results

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Total Mercury (Hg) | 2020/08/08 | | 90 | % | 80 - 120 |
| | | | Total Molybdenum (Mo) | 2020/08/08 | | 93 | % | 80 - 120 |
| | | | Total Nickel (Ni) | 2020/08/08 | | 94 | % | 80 - 120 |
| | | | Total Selenium (Se) | 2020/08/08 | | 95 | % | 80 - 120 |
| | | | Total Silver (Ag) | 2020/08/08 | | 92 | % | 80 - 120 |
| | | | Total Thallium (Tl) | 2020/08/08 | | 93 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/08/08 | | 84 | % | 80 - 120 |
| | | | Total Uranium (U) | 2020/08/08 | | 82 | % | 80 - 120 |
| | | | Total Vanadium (V) | 2020/08/08 | | 95 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/08/08 | | 84 | % | 80 - 120 |
| 9952082 | ZI | LCS | Soluble Conductivity | 2020/08/07 | | 99 | % | 90 - 110 |
| 9952101 | JAB | LCS | Soluble Boron (B) | 2020/08/08 | | 97 | % | 80 - 120 |
| | | | Soluble Calcium (Ca) | 2020/08/08 | | 95 | % | 80 - 120 |
| | | | Soluble Magnesium (Mg) | 2020/08/08 | | 98 | % | 80 - 120 |
| | | | Soluble Sodium (Na) | 2020/08/08 | | 97 | % | 80 - 120 |
| | | | Soluble Potassium (K) | 2020/08/08 | | 93 | % | 80 - 120 |
| 9952158 | FM0 | LCS | Soluble Chloride (Cl) | 2020/08/08 | | 102 | % | 80 - 120 |
| 9953502 | MAP | LCS | Soluble (Hot water) Boron (B) | 2020/08/10 | | 98 | % | 80 - 120 |
| 9950953 | JUM | SRM | Saturation % | 2020/08/07 | | 101 | % | 75 - 125 |
| 9950956 | JPS | SRM | Soluble (CaCl2) pH | 2020/08/07 | | 99 | % | 98 - 102 |
| 9950957 | JPS | SRM | Soluble (1:1) pH | 2020/08/07 | | 100 | % | 98 - 102 |
| 9951319 | PC5 | SRM | Total Antimony (Sb) | 2020/08/08 | | 131 | % | 15 - 182 |
| | | | Total Arsenic (As) | 2020/08/08 | | 90 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/08/08 | | 90 | % | 80 - 119 |
| | | | Total Cadmium (Cd) | 2020/08/08 | | 96 | % | 72 - 128 |
| | | | Total Chromium (Cr) | 2020/08/08 | | 78 | % | 59 - 141 |
| | | | Total Cobalt (Co) | 2020/08/08 | | 86 | % | 58 - 142 |
| | | | Total Copper (Cu) | 2020/08/08 | | 89 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/08/08 | | 103 | % | 79 - 121 |
| | | | Total Molybdenum (Mo) | 2020/08/08 | | 113 | % | 67 - 133 |
| | | | Total Nickel (Ni) | 2020/08/08 | | 94 | % | 79 - 121 |
| | | | Total Silver (Ag) | 2020/08/08 | | 79 | % | 47 - 153 |
| | | | Total Tin (Sn) | 2020/08/08 | | 94 | % | 67 - 133 |
| | | | Total Uranium (U) | 2020/08/08 | | 119 | % | 77 - 123 |
| | | | Total Vanadium (V) | 2020/08/08 | | 87 | % | 79 - 121 |
| | | | Total Zinc (Zn) | 2020/08/08 | | 86 | % | 79 - 121 |
| 9952082 | ZI | SRM | Soluble Conductivity | 2020/08/07 | | 89 | % | 75 - 125 |
| 9952101 | JAB | SRM | Soluble Calcium (Ca) | 2020/08/08 | | 79 | % | 75 - 125 |
| | | | Soluble Magnesium (Mg) | 2020/08/08 | | 79 | % | 75 - 125 |
| | | | Soluble Sodium (Na) | 2020/08/08 | | 88 | % | 75 - 125 |
| | | | Soluble Potassium (K) | 2020/08/08 | | 88 | % | 75 - 125 |
| | | | Soluble Sulphate (SO4) | 2020/08/08 | | 75 | % | 75 - 125 |
| 9952158 | FM0 | SRM | Soluble Chloride (Cl) | 2020/08/08 | | 88 | % | 75 - 125 |
| A007533 | FZ | SRM | Sieve - #200 (>0.075mm) | 2020/09/20 | | 102 | % | 75 - 125 |



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AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Sieve - Pan | 2020/09/20 | | 99 | % | 75 - 125 |

N/A = Not Applicable

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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

BV Labs - Partial/Rush Results



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BV Labs Job #: C053970
Report Date: 2020/09/20

AECOM CANADA LTD.
Task Order#: 60549588 w.mb.3
Site#:
Site Location: 287 MAIN ST. SELKIRK, MB
Project #: 60549588 W.MB.3

BV Labs - Partial/Rush Results

## VALIDATION SIGNATURE PAGE

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

Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Luba Shymushovska, B.Sc., QP, Senior Analyst, Organics

Harry (Peng) Liang, Senior Analyst

Jingyuan Song, QP, Organics – Senior Analyst

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs - Partial/Rush Results

Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

1404

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312886

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☑ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Road NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com | Email: Aaron.Jambrosic@aecom.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588 W.MB.3 |

| FIELD SAMPLE ID | MATRIX: GROUND WATER | SURFACE WATER | SOIL | OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ANALYSIS REQUESTED: VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS TOT ☑ DIS ☐ | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | PCBs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Import Fill - 1 | | | X | | 8 | 2020/07/30 | 12:15 | | | X | X | | X | | | | | | X | | X | | | | | | X |
| 2 Import Fill - 2 | | | X | | 8 | 2020/07/30 | 13:10 | | | X | X | | X | | | | | | X | | X | | | | | | X |
| 3 LF1 | | | X | | 6 | 2020/07/30 | 14:30 | | | | | | X | | | | | | | | | | | | | | X | |
| 4 LF2 | | | X | | 6 | 2020/07/30 | 14:15 | | | | | | X | | | | | | | | | | | | | | X | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: Pending

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☑ CCME (incl. level) Commercial ☐ Other

SPECIAL INSTRUCTIONS

# JARS USED & NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
Standard (5 days) ☒
Rush (3 days) ☐
(2 days) ☐
(1 day) ☐
(same day) ☐
Date Required

| | YES | NO | COOLER ID # | TEMP °C 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | | | | |
| SEAL INTACT | ✓ | | | | | |
| COOLING MEDIA PRESENT | ✓ | | | | | |
| | | | TEMP °C | 3 | 5 | 7 |

| | YES | NO | COOLER ID # | TEMP °C 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | TEMP °C 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB # C053970

| RELINQUISHED BY: | printed name | DATE: YYYY/MM/DD | TIME (24 HR) | RECEIVED BY: | printed name | DATE: YYYY/MM/DD | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature | Jen Murray | 2020/07/30 | 15:30 | 1. signature | Jessica Lee | 2020/07/31 | 08:45 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: JKy
VERIFIED BY: AIN

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312890

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/30**
Report #: R2935554
Version: 2 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C068670**
**Received: 2020/09/23, 08:40**

Sample Matrix: Soil
# Samples Received: 3

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) (1) | 3 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 3 | | Auto Calc |
| Chloride (Soluble) | 2 | AB SOP-00033 / AB SOP-00020 | SM 23-4500-Cl-E m |
| Conductivity @25C (Soluble) | 2 | AB SOP-00033 / AB SOP-00004 | SM 23 2510 B m |
| CCME Hydrocarbons (F2-F4 in soil) (2) | 3 | AB SOP-00036 | CCME PHC-CWS m |
| Elements by ICPMS - Soils | 2 | AB SOP-00001 / AB SOP-00043 | EPA 6020b R2 m |
| Moisture | 3 | AB SOP-00002 | CCME PHC-CWS m |
| Benzo[a]pyrene Equivalency | 2 | | Auto Calc |
| Index of Additive Cancer Risk (3) | 2 | | Auto Calc |
| PAH in Soil by GC/MS | 2 | AB SOP-00036 / AB SOP-00003 | EPA 3540C/8270E m |
| Polychlorinated Biphenyls in Soil | 2 | CAL SOP-00149 | EPA 8082A R1 m |
| Total PCBs in Soil | 2 | | Auto Calc |
| pH @25C (1:2 Calcium Chloride Extract) | 2 | AB SOP-00033 / AB SOP-00006 | SM 23 4500 H+B m |
| Sodium Adsorption Ratio | 2 | | Auto Calc |
| Soluble Ions | 2 | AB SOP-00033 / AB SOP-00042 | EPA 6010d R5 m |
| Soluble Paste | 2 | AB SOP-00033 | Carter 2nd ed 15.2 m |
| Soluble Boron Calculation | 2 | | Auto Calc |
| Soluble Ions Calculation | 2 | | Auto Calc |
| VOCs in Soil by HS GC/MS (Std List) (1) | 2 | AB SOP-00056 | EPA 5021a/8260d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard. All samples were analyzed within hold time unless otherwise flagged.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 312890

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/09/30**
Report #: R2935554
Version: 2 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C068670**
**Received: 2020/09/23, 08:40**

use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(2) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Index of Additive Cancer Risk, (C) denotes coarse, (F) denotes fine.

Encryption Key

Mary (Xiaohong) Xu
Project Manager I
30 Sep 2020 14:38:56

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN SOIL (VIALS)

| BV Labs ID | | YM5438 | YM5439 | | YM5440 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | 2020/09/22 10:00 | | |
| COC Number | | 312890 | 312890 | | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **QC Batch** | **EX1-EW5-2.0** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/kg | <10 | <10 | A020118 | <10 | 10 | A010787 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | <50 | <50 | A020118 | <50 | 50 | A010787 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | <50 | <50 | A020118 | <50 | 50 | A010787 |
| Reached Baseline at C50 | mg/kg | Yes | Yes | A020118 | Yes | | A010787 |
| **Volatiles** | | | | | | | |
| Xylenes (Total) | mg/kg | <0.045 | <0.045 | A011732 | <0.045 | 0.045 | A011732 |
| F1 (C6-C10) - BTEX | mg/kg | <10 | <10 | A011732 | <10 | 10 | A011732 |
| **Field Preserved Volatiles** | | | | | | | |
| Benzene | mg/kg | <0.0050 | <0.0050 | A012125 | <0.0050 | 0.0050 | A011815 |
| Toluene | mg/kg | <0.050 | <0.050 | A012125 | <0.050 | 0.050 | A011815 |
| Ethylbenzene | mg/kg | <0.010 | <0.010 | A012125 | <0.010 | 0.010 | A011815 |
| m & p-Xylene | mg/kg | <0.040 | <0.040 | A012125 | <0.040 | 0.040 | A011815 |
| o-Xylene | mg/kg | <0.020 | <0.020 | A012125 | <0.020 | 0.020 | A011815 |
| F1 (C6-C10) | mg/kg | <10 | <10 | A012125 | <10 | 10 | A011815 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| D10-o-Xylene (sur.) | % | 100 | 102 | A012125 | 101 | | A011815 |
| O-TERPHENYL (sur.) | % | 104 | 103 | A020118 | 104 | | A010787 |
| **Instrument Surrogate Recovery (%)** | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 104 | 104 | A012125 | 99 | | A011815 |
| 4-Bromofluorobenzene (sur.) | % | 108 | 107 | A012125 | 97 | | A011815 |
| D4-1,2-Dichloroethane (sur.) | % | 97 | 102 | A012125 | 115 | | A011815 |

RDL = Reportable Detection Limit



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BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## SALINITY – SOIL (SOIL)

| BV Labs ID | | YM5438 | | YM5439 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | | 2020/09/21 16:00 | | |
| COC Number | | 312890 | | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **RDL** | **IMPORT FILL - 4** | **RDL** | **QC Batch** |
| **Calculated Parameters** | | | | | | |
| Calculated Calcium (Ca) | mg/kg | 11 | 0.34 | 12 | 0.33 | A011752 |
| Calculated Magnesium (Mg) | mg/kg | 6.3 | 0.23 | 6.4 | 0.22 | A011752 |
| Calculated Sodium (Na) | mg/kg | 2.4 | 0.57 | 2.4 | 0.55 | A011752 |
| Calculated Potassium (K) | mg/kg | 1.2 | 0.30 | 1.1 | 0.29 | A011752 |
| Calculated Boron (B) | mg/kg | <0.023 | 0.023 | <0.022 | 0.022 | A011888 |
| Calculated Chloride (Cl) | mg/kg | 5.2 | 2.3 | 4.4 | 2.2 | A011752 |
| Calculated Sulphate (SO4) | mg/kg | 30 | 1.1 | 31 | 1.1 | A011752 |
| **Soluble Parameters** | | | | | | |
| Soluble Boron (B) | mg/L | <0.10 | 0.10 | <0.10 | 0.10 | A019542 |
| Soluble Chloride (Cl) | mg/L | 23 | 10 | 20 | 10 | A020211 |
| Soluble Conductivity | dS/m | 0.49 | 0.020 | 0.48 | 0.020 | A020641 |
| Soluble (CaCl2) pH | pH | 8.18 | N/A | 8.31 | N/A | A017079 |
| Sodium Adsorption Ratio | N/A | 0.30 | 0.10 | 0.29 | 0.10 | A011744 |
| Soluble Calcium (Ca) | mg/L | 47 | 1.5 | 53 | 1.5 | A019542 |
| Soluble Magnesium (Mg) | mg/L | 28 | 1.0 | 29 | 1.0 | A019542 |
| Soluble Sodium (Na) | mg/L | 10 | 2.5 | 11 | 2.5 | A019542 |
| Soluble Potassium (K) | mg/L | 5.1 | 1.3 | 5.0 | 1.3 | A019542 |
| Saturation % | % | 23 | N/A | 22 | N/A | A017070 |
| Soluble Sulphate (SO4) | mg/L | 130 | 5.0 | 140 | 5.0 | A019542 |

RDL = Reportable Detection Limit
N/A = Not Applicable



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BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

| BV Labs ID | | YM5438 | YM5439 | | | YM5439 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | | 2020/09/21 16:00 | | |
| COC Number | | 312890 | 312890 | | | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **RDL** | **QC Batch** | **IMPORT FILL - 4 Lab-Dup** | **RDL** | **QC Batch** |
| **Polychlorinated Biphenyls** | | | | | | | | |
| Aroclor 1016 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1221 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1232 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1242 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1248 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1254 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1260 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1262 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Aroclor 1268 | mg/kg | <0.010 | <0.010 | 0.010 | A021093 | <0.010 | 0.010 | A021093 |
| Total PCB | mg/kg | <0.010 | <0.010 | 0.010 | A011881 | | | |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| NONACHLOROBIPHENYL (sur.) | % | 88 | 85 | | A021093 | 77 | | A021093 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## PHYSICAL TESTING (SOIL)

| BV Labs ID | | YM5438 | YM5439 | | YM5440 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | 2020/09/22 10:00 | | |
| COC Number | | 312890 | 312890 | | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **QC Batch** | **EX1-EW5-2.0** | **RDL** | **QC Batch** |
| **Physical Properties** | | | | | | | |
| Moisture | % | 10 | 6.2 | A019187 | 30 | 0.30 | A011830 |
| RDL = Reportable Detection Limit | | | | | | | |


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BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YM5438 | YM5439 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | |
| COC Number | | 312890 | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **RDL** | **QC Batch** |
| **Polycyclic Aromatics** | | | | | |
| Index of Additive Cancer Risk (C) | N/A | <0.10 | <0.10 | 0.10 | A011878 |
| Acenaphthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| B[a]P TPE Total Potency Equivalents | mg/kg | <0.0071 | <0.0071 | 0.0071 | A011877 |
| Index of Additive Cancer Risk (F) | N/A | <0.10 | <0.10 | 0.10 | A011878 |
| Acenaphthylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Acridine | mg/kg | <0.010 | <0.010 | 0.010 | A020147 |
| Anthracene | mg/kg | <0.0040 | <0.0040 | 0.0040 | A020147 |
| Benzo(a)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Benzo(b&j)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Benzo(k)fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Benzo(g,h,i)perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Benzo(c)phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Benzo(a)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Benzo(e)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Chrysene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Dibenz(a,h)anthracene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Fluoranthene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Fluorene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Indeno(1,2,3-cd)pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| 1-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| 2-Methylnaphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Naphthalene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Phenanthrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Perylene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Pyrene | mg/kg | <0.0050 | <0.0050 | 0.0050 | A020147 |
| Quinoline | mg/kg | <0.010 | <0.010 | 0.010 | A020147 |
| **Extraction Surrogate Recovery (%)** | | | | | |
| D10-ANTHRACENE (sur.) | % | 99 | 107 | | A020147 |
| D8-ACENAPHTHYLENE (sur.) | % | 96 | 103 | | A020147 |
| RDL = Reportable Detection Limit | | | | | |



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AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YM5438 | YM5439 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | |
| COC Number | | 312890 | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **RDL** | **QC Batch** |
| D8-NAPHTHALENE (sur.) | % | 89 | 96 | | A020147 |
| TERPHENYL-D14 (sur.) | % | 119 | 124 | | A020147 |
| RDL = Reportable Detection Limit | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

| BV Labs ID | | YM5438 | YM5439 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | |
| COC Number | | 312890 | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **RDL** | **QC Batch** |
| **Elements** | | | | | |
| Total Arsenic (As) | mg/kg | 1.1 | <1.0 | 1.0 | A019919 |
| Total Barium (Ba) | mg/kg | 13 | 18 | 1.0 | A019919 |
| Total Chromium (Cr) | mg/kg | 6.5 | 4.5 | 1.0 | A019919 |
| Total Copper (Cu) | mg/kg | 4.6 | 3.1 | 1.0 | A019919 |
| Total Lead (Pb) | mg/kg | 1.8 | 1.5 | 0.50 | A019919 |
| Total Tin (Sn) | mg/kg | <1.0 | <1.0 | 1.0 | A019919 |
| Total Zinc (Zn) | mg/kg | <10 | <10 | 10 | A019919 |
| RDL = Reportable Detection Limit | | | | | |


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YM5438 | YM5439 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | |
| COC Number | | 312890 | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **RDL** | **QC Batch** |
| **Field Preserved Volatiles** | | | | | |
| Bromodichloromethane | mg/kg | <0.030 | <0.030 | 0.030 | A012130 |
| Bromoform | mg/kg | <0.050 | <0.050 | 0.050 | A012130 |
| Bromomethane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| Carbon tetrachloride | mg/kg | <0.00050 | <0.00050 | 0.00050 | A012130 |
| Chlorobenzene | mg/kg | <0.0010 | <0.0010 | 0.0010 | A012130 |
| Chlorodibromomethane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| Chloroethane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| Chloroform | mg/kg | <0.010 | <0.010 | 0.010 | A012130 |
| Chloromethane | mg/kg | <0.030 | <0.030 | 0.030 | A012130 |
| 1,2-dibromoethane | mg/kg | <0.0020 | <0.0020 | 0.0020 | A012130 |
| 1,2-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| 1,3-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| 1,4-dichlorobenzene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| 1,1-dichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| 1,2-dichloroethane | mg/kg | <0.0020 | <0.0020 | 0.0020 | A012130 |
| 1,1-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| cis-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| trans-1,2-dichloroethene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| Dichloromethane | mg/kg | <0.030 | <0.030 | 0.030 | A012130 |
| 1,2-dichloropropane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| cis-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| trans-1,3-dichloropropene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| Methyl methacrylate | mg/kg | <0.040 | <0.040 | 0.040 | A012130 |
| Methyl-tert-butylether (MTBE) | mg/kg | <0.030 | <0.030 | 0.030 | A012130 |
| Styrene | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| 1,1,1,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | 0.050 | A012130 |
| 1,1,2,2-tetrachloroethane | mg/kg | <0.050 | <0.050 | 0.050 | A012130 |
| Tetrachloroethene | mg/kg | <0.010 | <0.010 | 0.010 | A012130 |
| 1,2,3-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | A012130 |
| 1,2,4-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | A012130 |
| RDL = Reportable Detection Limit | | | | | |


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BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## VOLATILE ORGANICS BY GC-MS (SOIL)

| BV Labs ID | | YM5438 | YM5439 | | |
|---|---|---|---|---|---|
| Sampling Date | | 2020/09/21 13:00 | 2020/09/21 16:00 | | |
| COC Number | | 312890 | 312890 | | |
| | **UNITS** | **IMPORT FILL - 3** | **IMPORT FILL - 4** | **RDL** | **QC Batch** |
| 1,3,5-trichlorobenzene | mg/kg | <0.040 | <0.040 | 0.040 | A012130 |
| 1,1,1-trichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| 1,1,2-trichloroethane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| Trichloroethene | mg/kg | <0.010 | <0.010 | 0.010 | A012130 |
| Trichlorofluoromethane | mg/kg | <0.020 | <0.020 | 0.020 | A012130 |
| 1,2,4-trimethylbenzene | mg/kg | <0.50 | <0.50 | 0.50 | A012130 |
| 1,3,5-trimethylbenzene | mg/kg | <0.50 | <0.50 | 0.50 | A012130 |
| Vinyl chloride | mg/kg | <0.00030 | <0.00030 | 0.00030 | A012130 |
| **Extraction Surrogate Recovery (%)** | | | | | |
| D10-o-Xylene (sur.) | % | 117 | 116 | | A012130 |
| **Instrument Surrogate Recovery (%)** | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 98 | 98 | | A012130 |
| 4-Bromofluorobenzene (sur.) | % | 97 | 100 | | A012130 |
| D4-1,2-Dichloroethane (sur.) | % | 91 | 88 | | A012130 |
| RDL = Reportable Detection Limit | | | | | |


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BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YM5438
**Sample ID:** IMPORT FILL - 3
**Matrix:** Soil

**Collected:** 2020/09/21
**Relinquished:**
**Received:** 2020/09/23

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A012125 | N/A | 2020/09/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A011732 | N/A | 2020/09/27 | Automated Statchk |
| Chloride (Soluble) | KONE | A020211 | 2020/09/26 | 2020/09/28 | Marjolen Busslinger |
| Conductivity @25C (Soluble) | COND | A020641 | 2020/09/27 | 2020/09/28 | Nerissa Schwartz |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A020118 | 2020/09/28 | 2020/09/29 | Haixia (Annie) Zhou |
| Elements by ICPMS - Soils | ICPM | A019919 | 2020/09/26 | 2020/09/28 | Lesley Quan |
| Moisture | BAL | A019187 | N/A | 2020/09/27 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | A011877 | N/A | 2020/09/29 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | A011878 | N/A | 2020/09/29 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | A020147 | 2020/09/28 | 2020/09/28 | Jingyuan Song |
| Polychlorinated Biphenyls in Soil | GC/ECD | A021093 | 2020/09/29 | 2020/09/29 | Liping Zong |
| Total PCBs in Soil | GC/ECD | A011881 | N/A | 2020/09/29 | Automated Statchk |
| pH @25C (1:2 Calcium Chloride Extract) | PH | A017079 | 2020/09/26 | 2020/09/26 | John Panchol |
| Sodium Adsorption Ratio | CALC | A011744 | N/A | 2020/09/28 | Automated Statchk |
| Soluble Ions | ICPA | A019542 | 2020/09/26 | 2020/09/27 | Jason Bao |
| Soluble Paste | BAL | A017070 | 2020/09/26 | 2020/09/26 | Julia Mangaly |
| Soluble Boron Calculation | CALC | A011888 | N/A | 2020/09/28 | Automated Statchk |
| Soluble Ions Calculation | CALC | A011752 | N/A | 2020/09/26 | Automated Statchk |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | A012130 | N/A | 2020/09/24 | Qiliang (Alex) Wu |

**BV Labs ID:** YM5439
**Sample ID:** IMPORT FILL - 4
**Matrix:** Soil

**Collected:** 2020/09/21
**Relinquished:**
**Received:** 2020/09/23

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A012125 | N/A | 2020/09/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A011732 | N/A | 2020/09/27 | Automated Statchk |
| Chloride (Soluble) | KONE | A020211 | 2020/09/26 | 2020/09/28 | Marjolen Busslinger |
| Conductivity @25C (Soluble) | COND | A020641 | 2020/09/27 | 2020/09/28 | Nerissa Schwartz |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A020118 | 2020/09/28 | 2020/09/29 | Haixia (Annie) Zhou |
| Elements by ICPMS - Soils | ICPM | A019919 | 2020/09/28 | 2020/09/28 | Lesley Quan |
| Moisture | BAL | A019187 | N/A | 2020/09/27 | Mohsen Tavakolian |
| Benzo[a]pyrene Equivalency | GC/MSD | A011877 | N/A | 2020/09/29 | Automated Statchk |
| Index of Additive Cancer Risk | GC/MSD | A011878 | N/A | 2020/09/29 | Automated Statchk |
| PAH in Soil by GC/MS | GC/MS | A020147 | 2020/09/28 | 2020/09/28 | Jingyuan Song |
| Polychlorinated Biphenyls in Soil | GC/ECD | A021093 | 2020/09/29 | 2020/09/29 | Liping Zong |
| Total PCBs in Soil | GC/ECD | A011881 | N/A | 2020/09/29 | Automated Statchk |
| pH @25C (1:2 Calcium Chloride Extract) | PH | A017079 | 2020/09/26 | 2020/09/26 | John Panchol |
| Sodium Adsorption Ratio | CALC | A011744 | N/A | 2020/09/28 | Automated Statchk |
| Soluble Ions | ICPA | A019542 | 2020/09/26 | 2020/09/27 | Jason Bao |
| Soluble Paste | BAL | A017070 | 2020/09/26 | 2020/09/26 | Julia Mangaly |
| Soluble Boron Calculation | CALC | A011888 | N/A | 2020/09/28 | Automated Statchk |
| Soluble Ions Calculation | CALC | A011752 | N/A | 2020/09/26 | Automated Statchk |
| VOCs in Soil by HS GC/MS (Std List) | HSGC/MS | A012130 | N/A | 2020/09/24 | Qiliang (Alex) Wu |



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BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YM5439 Dup
**Sample ID:** IMPORT FILL - 4
**Matrix:** Soil

**Collected:** 2020/09/21
**Relinquished:**
**Received:** 2020/09/23

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| Polychlorinated Biphenyls in Soil | GC/ECD | A021093 | 2020/09/29 | 2020/09/29 | Liping Zong |

**BV Labs ID:** YM5440
**Sample ID:** EX1-EW5-2.0
**Matrix:** Soil

**Collected:** 2020/09/22
**Relinquished:**
**Received:** 2020/09/23

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 by HS GC/MS/FID (MeOH extract) | HSGC/MS | A011815 | N/A | 2020/09/23 | Darrus Ong |
| F1-BTEX | CALC/MS | A011732 | N/A | 2020/09/23 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in soil) | GC/FID | A010787 | 2020/09/23 | 2020/09/23 | Vian Pereira |
| Moisture | BAL | A011830 | N/A | 2020/09/23 | Ting Liu |



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AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 0.3°C |

**Results relate only to the items tested.**


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AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A010787 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/09/22 | | 106 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/22 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/22 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/22 | <50 | | mg/kg | |
| A011815 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/23 | | 105 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/23 | | 98 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/23 | | 99 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/23 | | 101 | % | 50 - 140 |
| | | | Benzene | 2020/09/23 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/23 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/23 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/23 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/23 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/23 | <10 | | mg/kg | |
| A011830 | TL0 | Method Blank | Moisture | 2020/09/23 | <0.30 | | % | |
| A012125 | RSU | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/25 | | 104 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/25 | | 107 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/25 | | 113 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/25 | | 98 | % | 50 - 140 |
| | | | Benzene | 2020/09/25 | <0.0050 | | mg/kg | |
| | | | Toluene | 2020/09/25 | <0.050 | | mg/kg | |
| | | | Ethylbenzene | 2020/09/25 | <0.010 | | mg/kg | |
| | | | m & p-Xylene | 2020/09/25 | <0.040 | | mg/kg | |
| | | | o-Xylene | 2020/09/25 | <0.020 | | mg/kg | |
| | | | F1 (C6-C10) | 2020/09/25 | <10 | | mg/kg | |
| A012130 | QW1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/09/24 | | 99 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/24 | | 90 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/24 | | 112 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/24 | | 104 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/24 | <0.030 | | mg/kg | |
| | | | Bromoform | 2020/09/24 | <0.050 | | mg/kg | |
| | | | Bromomethane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | Carbon tetrachloride | 2020/09/24 | <0.00050 | | mg/kg | |
| | | | Chlorobenzene | 2020/09/24 | <0.0010 | | mg/kg | |
| | | | Chlorodibromomethane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | Chloroethane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | Chloroform | 2020/09/24 | <0.010 | | mg/kg | |
| | | | Chloromethane | 2020/09/24 | <0.030 | | mg/kg | |
| | | | 1,2-dibromoethane | 2020/09/24 | <0.0020 | | mg/kg | |
| | | | 1,2-dichlorobenzene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | 1,3-dichlorobenzene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | 1,4-dichlorobenzene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | 1,1-dichloroethane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | 1,2-dichloroethane | 2020/09/24 | <0.0020 | | mg/kg | |
| | | | 1,1-dichloroethene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | cis-1,2-dichloroethene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | trans-1,2-dichloroethene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | Dichloromethane | 2020/09/24 | <0.030 | | mg/kg | |
| | | | 1,2-dichloropropane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | cis-1,3-dichloropropene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | trans-1,3-dichloropropene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | Methyl methacrylate | 2020/09/24 | <0.040 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Methyl-tert-butylether (MTBE) | 2020/09/24 | <0.030 | | mg/kg | |
| | | | Styrene | 2020/09/24 | <0.020 | | mg/kg | |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/24 | <0.050 | | mg/kg | |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/24 | <0.050 | | mg/kg | |
| | | | Tetrachloroethene | 2020/09/24 | <0.010 | | mg/kg | |
| | | | 1,2,3-trichlorobenzene | 2020/09/24 | <0.040 | | mg/kg | |
| | | | 1,2,4-trichlorobenzene | 2020/09/24 | <0.040 | | mg/kg | |
| | | | 1,3,5-trichlorobenzene | 2020/09/24 | <0.040 | | mg/kg | |
| | | | 1,1,1-trichloroethane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | 1,1,2-trichloroethane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | Trichloroethene | 2020/09/24 | <0.010 | | mg/kg | |
| | | | Trichlorofluoromethane | 2020/09/24 | <0.020 | | mg/kg | |
| | | | 1,2,4-trimethylbenzene | 2020/09/24 | <0.50 | | mg/kg | |
| | | | 1,3,5-trimethylbenzene | 2020/09/24 | <0.50 | | mg/kg | |
| | | | Vinyl chloride | 2020/09/24 | <0.00030 | | mg/kg | |
| A019187 | MTA | Method Blank | Moisture | 2020/09/27 | <0.30 | | % | |
| A019542 | JAB | Method Blank | Soluble Boron (B) | 2020/09/27 | <0.10 | | mg/L | |
| | | | Soluble Calcium (Ca) | 2020/09/27 | <1.5 | | mg/L | |
| | | | Soluble Magnesium (Mg) | 2020/09/27 | <1.0 | | mg/L | |
| | | | Soluble Sodium (Na) | 2020/09/27 | <2.5 | | mg/L | |
| | | | Soluble Potassium (K) | 2020/09/27 | <1.3 | | mg/L | |
| | | | Soluble Sulphate (SO4) | 2020/09/27 | <5.0 | | mg/L | |
| A019919 | LQ1 | Method Blank | Total Arsenic (As) | 2020/09/28 | <1.0 | | mg/kg | |
| | | | Total Barium (Ba) | 2020/09/28 | <1.0 | | mg/kg | |
| | | | Total Chromium (Cr) | 2020/09/28 | <1.0 | | mg/kg | |
| | | | Total Copper (Cu) | 2020/09/28 | <1.0 | | mg/kg | |
| | | | Total Lead (Pb) | 2020/09/28 | <0.50 | | mg/kg | |
| | | | Total Tin (Sn) | 2020/09/28 | <1.0 | | mg/kg | |
| | | | Total Zinc (Zn) | 2020/09/28 | <10 | | mg/kg | |
| A020118 | HAZ | Method Blank | O-TERPHENYL (sur.) | 2020/09/29 | | 104 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/29 | <10 | | mg/kg | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/29 | <50 | | mg/kg | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/29 | <50 | | mg/kg | |
| A020147 | SJ1 | Method Blank | D10-ANTHRACENE (sur.) | 2020/09/28 | | 62 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/28 | | 78 | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/28 | | 59 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/28 | | 56 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Acenaphthylene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Acridine | 2020/09/28 | <0.010 | | mg/kg | |
| | | | Anthracene | 2020/09/28 | <0.0040 | | mg/kg | |
| | | | Benzo(a)anthracene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Benzo(b&j)fluoranthene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Benzo(k)fluoranthene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Benzo(g,h,i)perylene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Benzo(c)phenanthrene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Benzo(a)pyrene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Benzo(e)pyrene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Chrysene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Dibenz(a,h)anthracene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Fluoranthene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Fluorene | 2020/09/28 | <0.0050 | | mg/kg | |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | 1-Methylnaphthalene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | 2-Methylnaphthalene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Naphthalene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Phenanthrene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Perylene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Pyrene | 2020/09/28 | <0.0050 | | mg/kg | |
| | | | Quinoline | 2020/09/28 | <0.010 | | mg/kg | |
| A020211 | MB5 | Method Blank | Soluble Chloride (Cl) | 2020/09/28 | <10 | | mg/L | |
| A020641 | NSW | Method Blank | Soluble Conductivity | 2020/09/28 | <0.020 | | dS/m | |
| A021093 | LZ3 | Method Blank | NONACHLOROBIPHENYL (sur.) | 2020/09/29 | | 79 | % | 50 - 130 |
| | | | Aroclor 1016 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1221 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1232 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1242 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1248 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1254 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1260 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1262 | 2020/09/29 | <0.010 | | mg/kg | |
| | | | Aroclor 1268 | 2020/09/29 | <0.010 | | mg/kg | |
| A021093 | LZ3 | RPD [YM5439-01] | Aroclor 1016 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1221 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1232 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1242 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1248 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1254 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1260 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1262 | 2020/09/29 | NC | | % | 50 |
| | | | Aroclor 1268 | 2020/09/29 | NC | | % | 50 |
| A021093 | LZ3 | Matrix Spike [YM5439-01] | NONACHLOROBIPHENYL (sur.) | 2020/09/29 | | 82 | % | 50 - 130 |
| | | | Aroclor 1260 | 2020/09/29 | | 102 | % | 50 - 130 |
| A010787 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/09/22 | | 99 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/22 | | 92 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/22 | | 94 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/22 | | 94 | % | 60 - 140 |
| A011815 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/23 | | 104 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/23 | | 95 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/23 | | 94 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/23 | | 98 | % | 50 - 140 |
| | | | Benzene | 2020/09/23 | | 94 | % | 60 - 130 |
| | | | Toluene | 2020/09/23 | | 96 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/09/23 | | 100 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/23 | | 100 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/23 | | 99 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/23 | | 109 | % | 60 - 140 |
| A012125 | RSU | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/25 | | 100 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/25 | | 109 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/25 | | 109 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/25 | | 100 | % | 50 - 140 |
| | | | Benzene | 2020/09/25 | | 88 | % | 60 - 130 |
| | | | Toluene | 2020/09/25 | | 88 | % | 60 - 130 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Ethylbenzene | 2020/09/25 | | 92 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/09/25 | | 92 | % | 60 - 130 |
| | | | o-Xylene | 2020/09/25 | | 90 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/09/25 | | 94 | % | 60 - 140 |
| A012130 | QW1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/09/24 | | 101 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/09/24 | | 100 | % | 50 - 140 |
| | | | D10-o-Xylene (sur.) | 2020/09/24 | | 111 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/09/24 | | 100 | % | 50 - 140 |
| | | | Bromodichloromethane | 2020/09/24 | | 97 | % | 60 - 130 |
| | | | Bromoform | 2020/09/24 | | 130 | % | 60 - 130 |
| | | | Bromomethane | 2020/09/24 | | 88 | % | 60 - 130 |
| | | | Carbon tetrachloride | 2020/09/24 | | 82 | % | 60 - 130 |
| | | | Chlorobenzene | 2020/09/24 | | 99 | % | 60 - 130 |
| | | | Chlorodibromomethane | 2020/09/24 | | 116 | % | 60 - 130 |
| | | | Chloroethane | 2020/09/24 | | 88 | % | 60 - 130 |
| | | | Chloroform | 2020/09/24 | | 88 | % | 60 - 130 |
| | | | Chloromethane | 2020/09/24 | | 86 | % | 60 - 130 |
| | | | 1,2-dibromoethane | 2020/09/24 | | 115 | % | 60 - 130 |
| | | | 1,2-dichlorobenzene | 2020/09/24 | | 103 | % | 60 - 130 |
| | | | 1,3-dichlorobenzene | 2020/09/24 | | 94 | % | 60 - 130 |
| | | | 1,4-dichlorobenzene | 2020/09/24 | | 93 | % | 60 - 130 |
| | | | 1,1-dichloroethane | 2020/09/24 | | 90 | % | 60 - 130 |
| | | | 1,2-dichloroethane | 2020/09/24 | | 98 | % | 60 - 130 |
| | | | 1,1-dichloroethene | 2020/09/24 | | 84 | % | 60 - 130 |
| | | | cis-1,2-dichloroethene | 2020/09/24 | | 93 | % | 60 - 130 |
| | | | trans-1,2-dichloroethene | 2020/09/24 | | 82 | % | 60 - 130 |
| | | | Dichloromethane | 2020/09/24 | | 98 | % | 60 - 130 |
| | | | 1,2-dichloropropane | 2020/09/24 | | 97 | % | 60 - 130 |
| | | | cis-1,3-dichloropropene | 2020/09/24 | | 86 | % | 60 - 130 |
| | | | trans-1,3-dichloropropene | 2020/09/24 | | 93 | % | 60 - 130 |
| | | | Methyl methacrylate | 2020/09/24 | | 110 | % | 60 - 130 |
| | | | Methyl-tert-butylether (MTBE) | 2020/09/24 | | 95 | % | 60 - 130 |
| | | | Styrene | 2020/09/24 | | 102 | % | 60 - 130 |
| | | | 1,1,1,2-tetrachloroethane | 2020/09/24 | | 101 | % | 60 - 130 |
| | | | 1,1,2,2-tetrachloroethane | 2020/09/24 | | 120 | % | 60 - 130 |
| | | | Tetrachloroethene | 2020/09/24 | | 93 | % | 60 - 130 |
| | | | 1,2,3-trichlorobenzene | 2020/09/24 | | 102 | % | 60 - 130 |
| | | | 1,2,4-trichlorobenzene | 2020/09/24 | | 95 | % | 60 - 130 |
| | | | 1,3,5-trichlorobenzene | 2020/09/24 | | 90 | % | 60 - 130 |
| | | | 1,1,1-trichloroethane | 2020/09/24 | | 85 | % | 60 - 130 |
| | | | 1,1,2-trichloroethane | 2020/09/24 | | 104 | % | 60 - 130 |
| | | | Trichloroethene | 2020/09/24 | | 90 | % | 60 - 130 |
| | | | Trichlorofluoromethane | 2020/09/24 | | 78 | % | 60 - 130 |
| | | | 1,2,4-trimethylbenzene | 2020/09/24 | | 88 | % | 60 - 130 |
| | | | 1,3,5-trimethylbenzene | 2020/09/24 | | 87 | % | 60 - 130 |
| | | | Vinyl chloride | 2020/09/24 | | 81 | % | 60 - 130 |
| A017079 | JPS | LCS | Soluble (CaCl2) pH | 2020/09/26 | | 99 | % | 97 - 103 |
| A019542 | JAB | LCS | Soluble Boron (B) | 2020/09/27 | | 99 | % | 80 - 120 |
| | | | Soluble Calcium (Ca) | 2020/09/27 | | 103 | % | 80 - 120 |
| | | | Soluble Magnesium (Mg) | 2020/09/27 | | 98 | % | 80 - 120 |
| | | | Soluble Sodium (Na) | 2020/09/27 | | 97 | % | 80 - 120 |
| | | | Soluble Potassium (K) | 2020/09/27 | | 99 | % | 80 - 120 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A019919 | LQ1 | LCS | Total Arsenic (As) | 2020/09/28 | | 97 | % | 80 - 120 |
| | | | Total Barium (Ba) | 2020/09/28 | | 96 | % | 80 - 120 |
| | | | Total Chromium (Cr) | 2020/09/28 | | 99 | % | 80 - 120 |
| | | | Total Copper (Cu) | 2020/09/28 | | 100 | % | 80 - 120 |
| | | | Total Lead (Pb) | 2020/09/28 | | 98 | % | 80 - 120 |
| | | | Total Tin (Sn) | 2020/09/28 | | 98 | % | 80 - 120 |
| | | | Total Zinc (Zn) | 2020/09/28 | | 99 | % | 80 - 120 |
| A020118 | HAZ | LCS | O-TERPHENYL (sur.) | 2020/09/29 | | 100 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/09/29 | | 92 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/09/29 | | 94 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/09/29 | | 91 | % | 60 - 140 |
| A020147 | SJ1 | LCS | D10-ANTHRACENE (sur.) | 2020/09/28 | | 108 | % | 50 - 130 |
| | | | TERPHENYL-D14 (sur.) | 2020/09/28 | | 139 (1) | % | 50 - 130 |
| | | | D8-ACENAPHTHYLENE (sur.) | 2020/09/28 | | 111 | % | 50 - 130 |
| | | | D8-NAPHTHALENE (sur.) | 2020/09/28 | | 118 | % | 50 - 130 |
| | | | Acenaphthene | 2020/09/28 | | 100 | % | 50 - 130 |
| | | | Acenaphthylene | 2020/09/28 | | 98 | % | 50 - 130 |
| | | | Acridine | 2020/09/28 | | 82 | % | 50 - 130 |
| | | | Anthracene | 2020/09/28 | | 99 | % | 50 - 130 |
| | | | Benzo(a)anthracene | 2020/09/28 | | 117 | % | 50 - 130 |
| | | | Benzo(b&j)fluoranthene | 2020/09/28 | | 102 | % | 50 - 130 |
| | | | Benzo(k)fluoranthene | 2020/09/28 | | 101 | % | 50 - 130 |
| | | | Benzo(g,h,i)perylene | 2020/09/28 | | 99 | % | 50 - 130 |
| | | | Benzo(c)phenanthrene | 2020/09/28 | | 108 | % | 50 - 130 |
| | | | Benzo(a)pyrene | 2020/09/28 | | 97 | % | 50 - 130 |
| | | | Benzo(e)pyrene | 2020/09/28 | | 95 | % | 50 - 130 |
| | | | Chrysene | 2020/09/28 | | 108 | % | 50 - 130 |
| | | | Dibenz(a,h)anthracene | 2020/09/28 | | 99 | % | 50 - 130 |
| | | | Fluoranthene | 2020/09/28 | | 124 | % | 50 - 130 |
| | | | Fluorene | 2020/09/28 | | 103 | % | 50 - 130 |
| | | | Indeno(1,2,3-cd)pyrene | 2020/09/28 | | 107 | % | 50 - 130 |
| | | | 1-Methylnaphthalene | 2020/09/28 | | 114 | % | 50 - 130 |
| | | | 2-Methylnaphthalene | 2020/09/28 | | 106 | % | 50 - 130 |
| | | | Naphthalene | 2020/09/28 | | 103 | % | 50 - 130 |
| | | | Phenanthrene | 2020/09/28 | | 99 | % | 50 - 130 |
| | | | Perylene | 2020/09/28 | | 102 | % | 50 - 130 |
| | | | Pyrene | 2020/09/28 | | 113 | % | 50 - 130 |
| | | | Quinoline | 2020/09/28 | | 103 | % | 50 - 130 |
| A020211 | MB5 | LCS | Soluble Chloride (Cl) | 2020/09/28 | | 108 | % | 80 - 120 |
| A020641 | NSW | LCS | Soluble Conductivity | 2020/09/28 | | 99 | % | 90 - 110 |
| A021093 | LZ3 | LCS | NONACHLOROBIPHENYL (sur.) | 2020/09/29 | | 78 | % | 50 - 130 |
| | | | Aroclor 1260 | 2020/09/29 | | 80 | % | 50 - 130 |
| A017070 | JUM | SRM | Saturation % | 2020/09/26 | | 97 | % | 75 - 125 |
| A017079 | JPS | SRM | Soluble (CaCl2) pH | 2020/09/26 | | 100 | % | 98 - 102 |
| A019542 | JAB | SRM | Soluble Calcium (Ca) | 2020/09/28 | | 125 | % | 75 - 125 |
| | | | Soluble Magnesium (Mg) | 2020/09/28 | | 115 | % | 75 - 125 |
| | | | Soluble Sodium (Na) | 2020/09/28 | | 103 | % | 75 - 125 |
| | | | Soluble Potassium (K) | 2020/09/28 | | 102 | % | 75 - 125 |
| | | | Soluble Sulphate (SO4) | 2020/09/28 | | 109 | % | 75 - 125 |
| A019919 | LQ1 | SRM | Total Arsenic (As) | 2020/09/28 | | 104 | % | 53 - 147 |
| | | | Total Barium (Ba) | 2020/09/28 | | 97 | % | 80 - 119 |
| | | | Total Chromium (Cr) | 2020/09/28 | | 103 | % | 59 - 141 |



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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | Total Copper (Cu) | 2020/09/28 | | 105 | % | 83 - 117 |
| | | | Total Lead (Pb) | 2020/09/28 | | 111 | % | 79 - 121 |
| | | | Total Tin (Sn) | 2020/09/28 | | 120 | % | 67 - 133 |
| | | | Total Zinc (Zn) | 2020/09/28 | | 105 | % | 79 - 121 |
| A020211 | MB5 | SRM | Soluble Chloride (Cl) | 2020/09/28 | | 103 | % | 75 - 125 |
| A020641 | NSW | SRM | Soluble Conductivity | 2020/09/28 | | 114 | % | 75 - 125 |

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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



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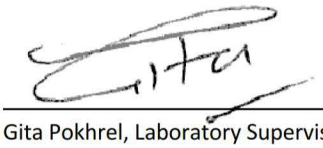
BV Labs Job #: C068670
Report Date: 2020/09/30

AECOM Canada Ltd.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

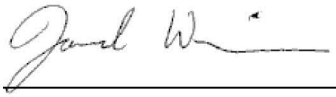
## VALIDATION SIGNATURE PAGE

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

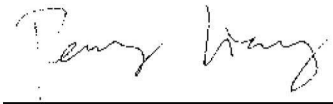


Gita Pokhrel, Laboratory Supervisor

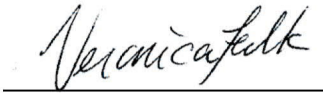
Janet Gao, B.Sc., QP, Supervisor, Organics



Jared Wiseman, B.Sc., P.Chem., QP, Senior Analyst, Organics



Harry (Peng) Liang, Senior Analyst



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



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Maxxam
A Bureau Veritas Group Company

☐ Calgary
4000 19th St. NE, T2E 6P8
Phone: (403) 291-3077
Fax: (403) 735-2240
Toll Free: (800) 386-7247

☐ Edmonton
9331 - 48 Street, T6B 2R4
Phone: (780) 577-7100
Fax: (780) 450-4187
Toll Free: (800) 386-7247

1216

# EXXON MOBIL/IMPERIAL OIL - MAXXAM CHAIN-OF-CUSTODY RECORD



C of C # 312890

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: ☐ Imperial Oil ☐ ExxonMobil | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: 18817 Stony Plain Road NW Edmonton AB T5S 0C2 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary, AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com | Email: Aaron.Jambrosic@AECOM.com |
| Ph: 780-486-7000 | Ph: 403-254-3301 |
| Sampler Name (Print): Jen Murray / ~~Lindsay Jackman~~ | Consultant Project #: 60549588 - W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | VOC | PAH | PHCs (FRACTIONS 1-2 PLUS BTEX) | PHCs (FRACTIONS 1-4 PLUS BTEX) | PHCs (FRACTIONS 2-4) | PHCs (FRACTION 1 PLUS BTEX) | GRAIN SIZE (75 MICRON) | TEXTURE (% SAND, SILT, CLAY) | PARTICLE SIZE DISTRIBUTION WITH GRAPH | REGULATED METALS (waste oil) TOT ☑ DIS ☐ (*see comments) | MERCURY TOTAL ☐ DISSOLVED ☐ | SALINITY SOIL | FERTILIZER SOIL | FERTILIZER WATER | NUTRIENTS SOIL | ROUTINE POTABILITY | pH ☐ EC ☐ ALKALINITY ☐ | BASIC CLASS II LANDFILL PKG | PCBs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Import Fill-3 | | | X | | 8 | 2020/09/21 | 13:00 | | | X | X | | X | | | | | | X | | X | | | | | | X |
| 2 | Import Fill-4 | | | X | | 8 | 2020/09/21 | 16:00 | | | X | X | | X | | | | | | X | | X | | | | | | X |
| 3 | EX1-EW5-2.0 | | | X | | 3 | 2020/09/22 | 10:00 | | | | | | X | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main St. Selkirk, MB

IOL PROJECT # (if applicable): CTC

MAXXAM TASK ORDER # OR SERVICE ORDER # + LINE ITEM: Pending

REGULATORY CRITERIA / DETECTION LIMITS:
☐ Alberta Tier 1 ☐ CDWG
☐ SEQG (SK) ☐ NoSC (SK)
☒ CCME commercial (incl. level) ☐ Other

SPECIAL INSTRUCTIONS
*waste oil metals - Arsenic, barium, chromium, copper, lead, tin, zinc
-sample EX1-EW5-2.0 same day
- Import Fill-3 & Import Fill-4 - Regular

# JARS USED & NOT SUBMITTED (Enter N/A for Water): 0

TURNAROUND TIME
Standard (5 days) ☐
Rush (3 days) ☐
EX1-EW5-2.0 (2 days) ☐
(1 day) ☐
(same day) ☒
Sept. 23/20
Date Required

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | TEMP °C | 1 | 0 | 0 |
| SEAL INTACT | ✓ | | | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID # | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | TEMP °C | 1 | 2 | 3 |
| SEAL INTACT | | | | | | |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY
MAXXAM JOB #: C068670

| RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature: JMurray | printed name: Jen Murray | YYYY/MM/DD | HH:MM | 1. signature | printed name: Clementine Uwitije | 2020/09/23 | 08:40 |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: JEM
VERIFIED BY: SBZ

COC-1010 (06/2016) IOL-AB

White: Maxxam Yellow: Client

# Appendix F

## Post-Remedial Groundwater Monitoring Program

# Appendix F – Post Remedial Groundwater Monitoring Program

To confirm post-remedial groundwater conditions and quality, six groundwater monitoring wells were installed at the Site on November 2, 2020. The groundwater monitoring wells were monitored and sampled between November 2 and 4, 2020, between November 18 and 24, and between January 18 and 21, 2021. Groundwater samples were submitted to BV Laboratories for analysis of BTEX and PHC fractions F1-F4.

Note that the groundwater criteria presented with in this report have been revised from that present in 2020 Remediation Plan. The Remediation Plan presented the Ontario MOE Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act (MOE, 2011) - Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition, fine grained soil. This criterion only excludes potable water pathway and not freshwater aquatic life and livestock watering, as is applicable to the Site, so is overly conservative and not representative of Site conditions. Based on this and the guidance set out in the June 2016 Manitoba Conservation and Climate (formerly Manitoba Sustainable Development) Information Bulletin on Assessment Criteria for Groundwater, the groundwater criteria have been revised to those presented in the Guidance Document on Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (Environment Canada, 2016).

The revised groundwater criteria applicable to the Site are the 2016 Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites, for commercial land use and fine-grained soil, with the potable water, freshwater aquatic life, and livestock watering pathways excluded for petroleum hydrocarbons.

The analytical results from the both groundwater sampling events were below applicable remedial objectives for all samples analyzed. The post-remedial groundwater results tables, figures, boring logs, laboratory certificates and quality control analysis are provided in this Appendix.

## Quality Assurance/Quality Control Program

A quality assurance and quality control (QA/QC) program was implemented during the sampling events to minimize and quantify potential impacts introduced during sample collection, handling, shipping and analysis. As part of the QA/QC program, sampling protocols included minimizing sample handing, submitting field QA/QC samples, using dedicated sampling equipment, using sample-specific identification and labelling procedures and using chain of custody records.

Field QA/QC samples include:

A **field duplicate sample**, which is collected at the same time as the parent sample but placed in a different container and is labelled as a randomized sample ID. The field duplicate sample is then submitted to the laboratory along with the original sample for analysis of the same parameters.

A **trip blank sample**, which is a sample of analyte-free media taken from the laboratory to the sampling site and returned unopened.

A **field blank sample** is a sample of laboratory supplied reverse osmosis de-ionized (RODI) water. The field blank sample is prepared by the laboratory, and then taken into the field, it is treated as an environmental sample in the field and laboratory. The laboratory supplied water is poured from the original container through new dedicated sampling equipment (eg. disposable bailer) into the laboratory supplied containers, with the

same preservatives as the field sample, and at the same time and location that the other sampling is completed. These containers are sealed and shipped back to the laboratory, where they are analyzed using the same methodology as any other field sample.

Laboratory QA/QC measures included analysis of a laboratory blank, spiked blank, duplicate, matrix spike, and laboratory control samples. Details of the internal QA/QC procedures and methodologies employed by Bureau Veritas (BV) Laboratories are presented in the laboratory reports provided in this Appendix.

The field duplicate samples provide a means to evaluate the precision of the field quality control program. Reproducibility is quantified by calculating the relative percent difference (RPD) defined by the following equation:

$$Field\ Duplicate\ RPD\ (\%) = \frac{(C1 - C2)}{\frac{(C1 + C2)}{2}} * 100$$

where: RPD = relative percent difference
C1 = larger of the two observed values from the field duplicate analysis
C2 = smaller of the two observed values from the field duplicate analysis

In order for a valid Field Duplicate RPD to be calculated, both sets of results must be greater than five times (5x) the Laboratory Reportable Detection Limit (RDL). If one or both sets of analytical results for the field duplicate samples are less than 5x the RDL for an analyte, then it is not possible to calculate a valid Field Duplicate RPD.

## Quality Assurance and Quality Control Results – 1st Post Remedial Groundwater Monitoring

AECOM QA/QC programs are tailored to each investigation. This investigation QA/QC samples and results are presented in **Tables F-5 and F-6** attached to this appendix and a summary is provided below.

| | Sample Type | # of Samples | Analysis | Result | Issue Identified |
|---|---|---|---|---|---|
| **Groundwater QA/QC Samples** | Field Duplicate | 1 | Petroleum Hydrocarbons | The concentration in the parent sample and/or the field duplicate were too low to permit a reliable RPD calculation. | None |
| | Field Blank | 1 | Petroleum Hydrocarbons | Within the acceptable limit of < RDL | None |
| | Trip Blank | 1 | Petroleum Hydrocarbons | Within the acceptable limit of < RDL | None |

The results of the laboratory QA/QC analyses are provided in the Laboratory Certificates of Analysis (C of A). The analysis included method blanks, matrix spikes, laboratory control samples and matrix duplicates. An independent data quality check was completed for each Laboratory C of A and is also included following the laboratory report.

No laboratory QA/QC issues were identified; no data quality waivers were issued.

All laboratory data are considered reliable.

# Quality Assurance and Quality Control Results – 2nd Post Remedial Groundwater Monitoring

AECOM QA/QC programs are tailored to each investigation. This investigation QA/QC samples from the 2021 sampling event and results are presented in **Tables F-7 and F-8** attached to this appendix and a summary is provided below.

| | Sample Type | # of Samples | Analysis | Result | Issue Identified |
|---|---|---|---|---|---|
| Groundwater QA/QC Samples | Field Duplicate | 1 | Petroleum Hydrocarbons | The concentration in the parent sample and/or the field duplicate were too low to permit a reliable RPD calculation. | For the F2 parameter, there was a 10X difference in analytical results between the parent sample and the field duplicate. |
| | Field Blank | 1 | Petroleum Hydrocarbons | Within the acceptable limit of < RDL | None |
| | Trip Blank | 1 | Petroleum Hydrocarbons | Within the acceptable limit of < RDL | None |

The results of the laboratory QA/QC analyses are provided in the Laboratory Certificates of Analysis (C of A). The analysis included method blanks, matrix spikes, laboratory control samples and matrix duplicates. An independent data quality check was completed for each Laboratory C of A and is also included following the laboratory report.

No laboratory QA/QC issues were identified; no data quality waivers were issued.

With regards to the QA/QC issue identified for the field duplicate (PHC F2), the analytical results for field duplicate sample was 1.2 mg/L while the result for the parent sample were below the laboratory detection limits. As the samples were outside of the hold times for the analysis, re analysis of the samples for F2 could not be accomplished. The original extract from the field duplicate sample was re-analyzed for PHC F2 parameters and confirmed the original findings. A raw data recheck for the field duplicate and parent sample was performed. The raw data recheck found no sample swap or labeling error, and the lab ID matched the client ID. The discrepancy between the parent sample and the field duplicate is believed to be due to sample heterogeneity potentially associated with varying levels of suspended sediment in the sample since samples were collected by bailer. The results are considered reliable. As both the parent and the duplicate sample concentration were below the applicable remedial objectives, the difference in analytical results between the field duplicate and the parent sample is not expected to affect the interpretation of the results.

All laboratory data are considered reliable.

NORTH

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## LEGEND

- CURRENT PROPERTY LINE
- PROPERTY BOUNDARY PIN
- ADJACENT LOT LINE
- FORMER FEATURES (1967-1995)
- FORMER FEATURES (1995-2004)
- FORMER TANK NEST EXCAVATION
- FLAG POLE
- MONITORING WELL
- MONITORING WELL ABANDONED, BLOCKED/DAMAGED
- GROUNDWATER CONCENTRATIONS LESS THAN OR EQUAL TO APPLICABLE STANDARD FOR ALL PARAMETERS ANALYSED
- GROUNDWATER CONCENTRATIONS GREATER THAN APPLICABLE STANDARD FOR AT LEAST ONE PARAMETER ANALYSED
- 2020 AECOM MONITORING WELL INSTALLATION LOCATION

## NOTES:

1. ORIGINAL DRAWING IN COLOUR.
2. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND SHOULD BE CONFIRMED ON SITE. NOT ALL UTILITIES MAY BE SHOWN.

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|---|---|---|---|---|
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| | | | | |
| 0 | DEC. 2020 | | | |

AECOM

CLIENT NAME:
IMPERIAL OIL LIMITED

PROJECT LOCATION:
287 MAIN STREET
SELKIRK, MB

# 2020 POST-REMEDIATION GROUNDWATER SAMPLING RESULTS

| | | |
|---|---|---|
| DRAWN BY: SC | SCALE: 1:300 | FIGURE No. **F-1** |
| CHECKED: MK | DATE: 15-12-2020 | REVISION **0** |

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## LEGEND

- CURRENT PROPERTY LINE
- PROPERTY BOUNDARY PIN
- ADJACENT LOT LINE
- FORMER FEATURES (1967-1995)
- FORMER FEATURES (1995-2004)
- FORMER TANK NEST EXCAVATION
- FLAG POLE
- MONITORING WELL
- MONITORING WELL ABANDONED, BLOCKED/DAMAGED
- GROUNDWATER CONCENTRATIONS LESS THAN OR EQUAL TO APPLICABLE GUIDELINE FOR ALL PARAMETERS ANALYSED
- GROUNDWATER CONCENTRATIONS GREATER THAN APPLICABLE GUIDELINE FOR AT LEAST ONE PARAMETER ANALYSED
- 2020 AECOM MONITORING WELL INSTALLATION LOCATION

## NOTES:

1. ORIGINAL DRAWING IN COLOUR.
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## REVISIONS

| REV. | DATE | DESCRIPTION | BY | CHK |
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| | | | | |
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| | | | | |
| 0 | JAN. 2021 | | | |

AECOM

CLIENT NAME:
IMPERIAL OIL LIMITED

PROJECT LOCATION:
287 MAIN STREET
SELKIRK, MB

# 2021 POST-REMEDIATION GROUNDWATER SAMPLING RESULTS

| | | |
|---|---|---|
| DRAWN BY: SC | SCALE: 1:300 | FIGURE No. F-2 |
| CHECKED: MK | DATE: 30-01-2021 | REVISION 0 |

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**Table F-1: 2020 Post Remedial Groundwater Monitoring Results**

| Well Location | Screen Interval (mbgs) | Date | Depth to Product (mbTOC) | Depth to Groundwater (mbTOC) | Depth to Bottom (mbTOC) | Product Thickness (m) | Water Column Thickness (m) | Notes |
|---|---|---|---|---|---|---|---|---|
| 04-1 | 6.7-7.6 | 11/02/2020 | NP | 2.884 | 7.134 | NP | 4.25 | |
| 04-2 | 3.1-6.1 | 11/02/2020 | NP | 2.802 | 6.094 | NP | 3.292 | |
| 04-3 | 3.1-6.1 | 11/02/2020 | - | - | - | - | - | Decommisioned/Distroyed |
| 04-4 | 6.0-6.9 | 11/02/2020 | - | - | - | - | - | Decommisioned/Distroyed |
| 04-6 | 6.7-7.6 | 11/02/2020 | NP | 3.337 | 7.44 | NP | 4.103 | |
| 04-7 | 3.1-5.5 | 11/02/2020 | - | - | - | - | - | Decommisioned |
| 04-8 | 3.1-6.1 | 11/02/2020 | - | - | - | - | - | Decommisioned |
| 04-10 | 3.1-6.1 | 11/02/2020 | NP | 2.778 | 5.862 | NP | 3.084 | |
| MW32 | 1.6-4.6 | 11/02/2020 | NP | 2.656 | 5.497 | NP | 2.841 | |
| MW33 | 1.6-4.6 | 11/02/2020 | NP | 3.298 | 4.071 | NP | 0.773 | |
| MW34 | 1.6-4.6 | 11/02/2020 | - | - | - | - | - | |
| MW35 | 1.6-4.6 | 11/02/2020 | NM | NM | NM | NM | NM | Damaged/ Blocked |
| MW36 | 1.6-4.6 | 11/02/2020 | - | - | - | - | - | Decommisioned/Distroyed |
| MW37 | 1.6-4.6 | 11/02/2020 | - | - | - | - | - | Decommisioned/Distroyed |
| MW38 | 1.6-4.6 | 11/02/2020 | NP | 2.556 | 3.994 | NP | 1.438 | |
| MW20-01 | 1.6-4.6 | 11/04/2020 | NP | 4.179 | 4.384 | NP | 0.205 | |
| MW20-02 | 1.6-4.6 | 11/04/2020 | NP | 2.882 | 4.447 | NP | 1.565 | |
| MW20-03 | 1.6-4.6 | 11/04/2020 | NP | Dry | 4.438 | NP | 0 | |
| MW20-04 | 1.6-4.6 | 11/04/2020 | NP | Dry | 4.445 | NP | 0 | |
| MW20-05 | 1.6-4.6 | 11/04/2020 | NP | Dry | 4.47 | NP | 0 | |
| MW20-06 | 1.6-4.6 | 11/04/2020 | NP | Dry | 4.445 | NP | 0 | |
| MW20-01 | 1.6-4.6 | 11/18/2020 | NP | 3.931 | 4.391 | NP | 0.46 | |
| MW20-02 | 1.6-4.6 | 11/18/2020 | NP | 2.869 | 4.452 | NP | 1.583 | |
| MW20-03 | 1.6-4.6 | 11/18/2020 | NP | 4.038 | 4.416 | NP | 0.378 | |
| MW20-04 | 1.6-4.6 | 11/18/2020 | NP | 4.285 | 4.451 | NP | 0.166 | |
| MW20-05 | 1.6-4.6 | 11/18/2020 | NP | Dry | 4.47 | NP | 0 | |
| MW20-06 | 1.6-4.6 | 11/18/2020 | NP | 4.306 | 4.446 | NP | 0.14 | |
| MW20-01 | 1.6-4.6 | 11/24/2020 | NP | 3.869 | 4.391 | NP | 0.522 | |
| MW20-02 | 1.6-4.6 | 11/24/2020 | NP | 2.906 | 4.452 | NP | 1.546 | |
| MW20-03 | 1.6-4.6 | 11/24/2020 | NP | 4.078 | 4.416 | NP | 0.338 | |
| MW20-04 | 1.6-4.6 | 11/24/2020 | NP | 4.256 | 4.451 | NP | 0.195 | |
| MW20-05 | 1.6-4.6 | 11/24/2020 | NP | Dry | 4.47 | NP | 0 | |
| MW20-06 | 1.6-4.6 | 11/24/2020 | NP | 3.611 | 4.446 | NP | 0.835 | |

Notes:

NP = not present

NM = not measured

mbTOC = meters below top of casing

mbgs = meters below groundsurface

m = meters

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**Table F-2: 2020 Post Remedial Groundwater Analytical Results for Petroleum Hydrocarbons in Water**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Location | MW20-01 | MW20-02 | MW20-02 | MW20-03 | MW20-04 | MW20-06 | 04-1 | FIELD BLANK | TRIP BLANK |
| | | | Sample ID | MW20-01 | MW20-02 | MW20-22 (DUP of MW20-02) | MW20-03 | MW20-04 | MW20-06 | 04-1 | FIELD BLANK | TRIP BLANK |
| | | | Sample Date & Time | 2020/11/24 15:00 | 2020/11/24 14:45 | 2020/11/24 14:45 | 2020/11/24 14:30 | 2020/11/24 14:00 | 2020/11/24 14:15 | 2020/11/04 13:30 | 2020/11/24 15:10 | 2020/11/24 15:15 |
| | | | Screen Interval | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 6.7 to 7.6 mbgs | N/A | N/A |
| Parameter | Federal Guideline Value[1] | Units | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | |
| Benzene | 19 | mg/L | 0.00040 | <0.00040 | <0.00040 | <0.00040 | <0.00040 | 0.042 | <0.00040 | 0.00057 | <0.00040 | <0.00040 |
| Toluene | 240 | mg/L | 0.00040 | <0.00040 | <0.00040 | <0.00040 | <0.00040 | 0.0016 | <0.00040 | 0.00074 | <0.00040 | <0.00040 |
| Ethylbenzene | 150 | mg/L | 0.00040 | <0.00040 | <0.00040 | <0.00040 | <0.00040 | 0.022 | <0.00040 | 0.0012 | <0.00040 | <0.00040 |
| Xylenes, Total | 74 | mg/L | 0.00089 | <0.00089 | <0.00089 | <0.00089 | <0.00089 | 0.0064 | <0.00089 | <0.00089 | <0.00089 | <0.00089 |
| F1 - BTEX (C6-C10) | 9.9 | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.55 | 0.22 | <0.10 | <0.10 | <0.10 |
| F2 (C10-C16) | 3.1 | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.80 | 1.1 | <0.10 | <0.10 | <0.10 |
| F3 (C16-C34) | NGR | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.72 | 0.1 | <0.10 | <0.10 | <0.10 |
| F4 (C34-C50) | NGR | mg/L | 0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 0.54 | <0.20 | <0.20 | <0.20 | <0.20 |

**Table Notes:**

[1] 2016 Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites, for commercial land use and fine grained soil, with the potable water, freshwater aquatic life, and live stock watering pathways excluded for petroleum hydrocarbons

- Denotes analysis not conducted

BTEX - benzene, toluene, ethylbenzene, xylene

mg/L milligram/litre

mbgs metres below ground surface

**XX** Reportable Detection Limit (RDL) exceeds the applicable guideline value

XX Exceeds applicable Federal guideline value

**Table F-3: 2021 Post Remedial Groundwater Gauging Data**

| Well Location | Screen Interval (mbgs) | Date | Depth to Product (mbTOC) | Depth to Groundwater (mbTOC) | Depth to Bottom (mbTOC) | Product Thickness (m) | Water Column Thickness (m) | Notes |
|---|---|---|---|---|---|---|---|---|
| 04-1 | 6.7-7.6 | 01/18/2021 | NA | 3.164 | 7.134 | NA | 3.97 | Well bent. Could not get bailer down well |
| MW20-01 | 1.5-4.5 | 01/18/2021 | NA | 3.634 | 4.391 | NA | 0.757 | dry in 2L |
| MW20-02 | 1.5-4.5 | 01/18/2021 | NA | 3.176 | 4.452 | NA | 1.276 | 3x = 7.56 L, dry in 3L |
| MW20-03 | 1.5-4.5 | 01/18/2021 | NA | 3.357 | 4.416 | NA | 1.059 | dry in 3 L |
| MW20-04 | 1.5-4.5 | 01/18/2021 | NA | 3.721 | 4.451 | NA | 0.730 | purge 2.5 L dry |
| MW20-05 | 1.5-4.5 | 01/18/2021 | NA | 4.072 | 4.47 | NA | 0.398 | purge 1 L; dry |
| MW20-06 | 1.5-4.5 | 01/18/2021 | NA | 3.367 | 4.446 | NA | 1.079 | 3x = 6.474, purged 2.5 L |
| MW20-01 | 1.5-4.5 | 01/21/2021 | NA | 3.647 | 4.391 | NA | 0.744 | |
| MW20-02 | 1.5-4.5 | 01/21/2021 | NA | 3.191 | 4.452 | NA | 1.261 | Dup MW20-22 |
| MW20-03 | 1.5-4.5 | 01/21/2021 | NA | 4.018 | 4.416 | NA | 0.398 | |
| MW20-04 | 1.5-4.5 | 01/21/2021 | NA | 4.192 | 4.451 | NA | 0.259 | |
| MW20-05 | 1.5-4.5 | 01/21/2021 | NA | 4.282 | 4.47 | NA | 0.188 | |
| MW20-06 | 1.5-4.5 | 01/21/2021 | NA | 3.362 | 4.446 | NA | 1.084 | |

Notes:

mbgs = meters below groundsurface

mbTOC = meters below top of casing

m = meters

L = liters

NA = not applicable

**Table F-4: 2021 Post Remedial Groundwater Analytical Results for Petroleum Hydrocarbons in Water**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Location | MW20-01 | MW20-02 | MW20-02 | MW20-03 | MW20-04 | MW20-05 | MW20-06 | FIELD BLANK | TRIP BLANK |
| | | | Sample ID | MW20-01 | MW20-02 | MW20-22 (dupicate of MW20-02) | MW20-03 | MW20-04 | MW20-05 | MW20-06 | FIELD BLANK | TRIP BLANK |
| | | | Sample Date & Time | 2021/01/21 15:30 | 2021/01/21 15:45 | 2021/01/21 15:45 | 2021/01/21 16:00 | 2021/01/21 14:10 | 2021/01/21 13:45 | 2021/01/21 15:20 | 2021/01/21 17:00 | 2021/01/21 17:10 |
| | | | Screen Interval | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | 1.5 - 4.5 mbgs | N/A | N/A |
| Parameter | Federal Guideline Value[1] | Units | RDL | | | | | | | | | |
| Petroleum Hydrocarbons | | | | | | | | | | | | |
| Benzene | 19 | mg/L | 0.00040 | <0.00040 | <0.00040 | <0.00040 | <0.00040 | 0.29 | 0.017 | 0.0062 | <0.00040 | <0.00040 |
| Toluene | 240 | mg/L | 0.00040 | <0.00040 | <0.00040 | <0.00040 | <0.00040 | 0.0056 | <0.00040 | <0.00040 | <0.00040 | <0.00040 |
| Ethylbenzene | 150 | mg/L | 0.00040 | <0.00040 | <0.00040 | <0.00040 | <0.00040 | 0.048 | <0.00040 | 0.00058 | <0.00040 | <0.00040 |
| Xylenes, Total | 74 | mg/L | 0.00089 | <0.00089 | <0.00089 | <0.00089 | <0.00089 | 0.018 | <0.00089 | <0.00089 | <0.00089 | <0.00089 |
| F1 - BTEX (C6-C10) | 9.9 | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 1.1 | 0.20 | 0.23 | <0.10 | <0.10 |
| F2 (C10-C16) | 3.1 | mg/L | 0.10 | <0.10 | <0.10 | 1.2 | <0.10 | 0.90 | <0.10 | 1.1 | <0.10 | <0.10 |
| F3 (C16-C34) | NGR | mg/L | 0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.32 | 0.15 | <0.10 | <0.10 | <0.10 |
| F4 (C34-C50) | NGR | mg/L | 0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |

**Table Notes:**

[1]2016 Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites, for commercial land use and fine grained soil, with the potable water, freshwater aquatic life, and live stock watering pathways excluded for petroleum hydrocarbons

- Denotes analysis not conducted

NGR - no guideline required

BTEX - benzene, toluene, ethylbenzene, xylene

mg/L milligram/litre

mbgs metres below ground surface

**XX** Reportable Detection Limit (RDL) exceeds the applicable guideline value

XX Exceeds applicable Federal guideline value

## Table F-5: 2020 Post Remedial Groundwater Field Duplicate Relative Percent Differences Calculations

| | | Sample | MW20-02 | MW20-22 | RPD (%) | Alert Limits (%) |
|---|---|---|---|---|---|---|
| | | Sample Date & Time | 2020/11/24 14:45 | 2020/11/24 14:45 | | |
| **Parameters** | **Units** | **RDL** | | | | |
| **Petroleum Hydrocarbons** | | | | | | |
| Benzene | mg/L | 0.00040 | <0.00040 | <0.00040 | NC | 80 |
| Toluene | mg/L | 0.00040 | <0.00040 | <0.00040 | NC | 80 |
| Ethylbenzene | mg/L | 0.00040 | <0.00040 | <0.00040 | NC | 80 |
| Total Xylenes | mg/L | 0.00089 | <0.00089 | <0.00089 | NC | 80 |
| F1 - BTEX (C6-C10) | mg/L | 0.10 | <0.10 | <0.10 | NC | 80 |
| F2 (C10-C16) | mg/L | 0.10 | <0.10 | <0.10 | NC | 80 |
| F3 (C16-C34) | mg/L | 0.10 | <0.10 | <0.10 | NC | 80 |
| F4 (C34-C50) | mg/L | 0.20 | <0.20 | <0.20 | NC | 80 |

Notes:

NC - Not calculated

mg/L - milligram/litre

BTEX - benzene, toluene, ethylbenzene, xylene

RDL - Reportable Detection Limit

RPD - Relative Percent Difference (not calculated when one or both results are less than 5X RDL)

**BOLD** - Exceeds Alert Limits

## Table F-6: 2020 Post Remedial Groundwater Field Blank and Trip Blank Results

| | | ***Sample*** | FIELD BLANK | TRIP BLANK |
|---|---|---|---|---|
| | | ***Sample Date*** | 2020/11/24 15:10 | 2020/11/24 15:15 |
| **Parameters** | **Units** | **RDL** | | |
| **Petroleum Hydrocarbons** | | | | |
| Benzene | mg/L | 0.00040 | <0.00040 | <0.00040 |
| Toluene | mg/L | 0.00040 | <0.00040 | <0.00040 |
| Ethylbenzene | mg/L | 0.00040 | <0.00040 | <0.00040 |
| Total Xylenes | mg/L | 0.00089 | <0.00089 | <0.00089 |
| F1 - BTEX (C6-C10) | mg/L | 0.10 | <0.10 | <0.10 |
| F2 (C10-C16) | mg/L | 0.10 | <0.10 | <0.10 |
| F3 (C16-C34) | mg/L | 0.10 | <0.10 | <0.10 |
| F4 (C34-C50) | mg/L | 0.20 | <0.20 | <0.20 |

**Notes:**

- Denotes analysis not conducted

mg/L - milligram/litre

BTEX - benzene, toluene, ethylbenzene, xylene

RDL - Reportable Detection Limit

**BOLD** - Exceeds Reportable Detection Limit

## Table F-7: 2021 Post Remedial Groundwater Field Duplicate Relative Percent Differences Calculations

| | | Sample | MW20-02 | MW20-22 | RPD (%) | Alert Limits (%) |
|---|---|---|---|---|---|---|
| | | Sample Date & Time | 2021/01/21 15:45 | 2021/01/21 15:45 | | |
| **Parameters** | **Units** | **RDL** | | | | |
| **Petroleum Hydrocarbons** | | | | | | |
| Benzene | mg/L | 0.00040 | <0.00040 | <0.00040 | NC | 80 |
| Toluene | mg/L | 0.00040 | <0.00040 | <0.00040 | NC | 80 |
| Ethylbenzene | mg/L | 0.00040 | <0.00040 | <0.00040 | NC | 80 |
| Total Xylenes | mg/L | 0.00089 | <0.00089 | <0.00089 | NC | 80 |
| F1 - BTEX (C6-C10) | mg/L | 0.10 | <0.10 | <0.10 | NC | 80 |
| F2 (C10-C16) | mg/L | 0.10 | <0.10 | 1.2 | NC | 80 |
| F3 (C16-C34) | mg/L | 0.10 | <0.10 | <0.10 | NC | 80 |
| F4 (C34-C50) | mg/L | 0.20 | <0.20 | <0.20 | NC | 80 |

Notes:

NC - Not calculated

RDL - Reportable Detection Limit

mg/L - milligram/litre

BTEX - benzene, toluene, ethylbenzene, xylene

RPD - Relative Percent Difference (not calculated when one or both results are less than 5X RDL)

**BOLD** - Exceeds Alert Limits

## Table F-8: 2021 Post Remedial Groundwater Field Blank and Trip Blank Results

| | | ***Sample*** | FIELD BLANK | TRIP BLANK |
|---|---|---|---|---|
| | | ***Sample Date*** | 2021/01/21 17:00 | 2021/01/21 17:10 |
| **Parameters** | **Units** | **RDL** | | |
| **Petroleum Hydrocarbons** | | | | |
| Benzene | mg/L | 0.00040 | <0.00040 | <0.00040 |
| Toluene | mg/L | 0.00040 | <0.00040 | <0.00040 |
| Ethylbenzene | mg/L | 0.00040 | <0.00040 | <0.00040 |
| Total Xylenes | mg/L | 0.00089 | <0.00089 | <0.00089 |
| F1 - BTEX (C6-C10) | mg/L | 0.10 | <0.10 | <0.10 |
| F2 (C10-C16) | mg/L | 0.10 | <0.10 | <0.10 |
| F3 (C16-C34) | mg/L | 0.10 | <0.10 | <0.10 |
| F4 (C34-C50) | mg/L | 0.20 | <0.20 | <0.20 |

**Notes:**

mg/L - milligram/litre

BTEX - benzene, toluene, ethylbenzene, xylene

RDL - Reportable Detection Limit

**BOLD** - Exceeds Reportable Detection Limit

| | | |
|---|---|---|
| PROJECT: Selkirk IOL | CLIENT: Imperial Oil Ltd. | TESTHOLE NO: **MW20-01** |
| LOCATION: 287 Main Street | | PROJECT NO.: 60549588 |
| CONTRACTOR: Paddock Drilling Ltd. | METHOD: Solid Stem | ELEVATION (m): |

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

| DEPTH (m) | WELL INSTALLATION | SOIL SYMBOL | SOIL DESCRIPTION | SAMPLE TYPE | SAMPLE # | ⊗ Vapour Reading ⊗ (ppm) 10 100 1000 | COMMENTS | DEPTH (m) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | FILL - SILT - some sand<br>- light brown<br>- soft, moist<br>- fine grained sand | | | | | 0 |
| 1 | | | | | | | | 1 |
| 2 | | | | | | | | 2 |
| 3 | | | | | | | | 3 |
| 4 | | | | | | | | 4 |
| 5 | | | END OF BOREHOLE AT 4.6 m BELOW GROUND SURFACE IN SILT | | | | | 5 |

ENVIRONMENTAL (VAPOUR ONLY) FALCON LAKE POST-REMEDIAL GINT LOGS 2018-12-13.GPJ UMA.GDT 12/7/20

AECOM

| | |
|---|---|
| LOGGED BY: JM | COMPLETION DEPTH: 4.57 m |
| REVIEWED BY: Aaron Jambrosic | COMPLETION DATE: 11/2/20 |
| PROJECT ENGINEER: Aaron Jambrosic | Page 1 of 1 |

| | | |
|---|---|---|
| PROJECT: Selkirk IOL | CLIENT: Imperial Oil Ltd. | TESTHOLE NO: **MW20-02** |
| LOCATION: 287 Main Street | | PROJECT NO.: 60549588 |
| CONTRACTOR: Paddock Drilling Ltd. | METHOD: Solid Stem | ELEVATION (m): |

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

| DEPTH (m) | WELL INSTALLATION | SOIL SYMBOL | SOIL DESCRIPTION | SAMPLE TYPE | SAMPLE # | ⊗ Vapour Reading ⊗ (ppm) 10 100 1000 | COMMENTS | DEPTH (m) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | FILL - SILT - some sand<br>- light brown<br>- soft, moist<br>- fine grained sand | | | | | 0 |
| 1 | | | | | | | | 1 |
| 2 | | | | | | | | 2 |
| 3 | | | | | | | | 3 |
| 4 | | | | | | | | 4 |
| 4.6 | | | END OF BOREHOLE AT 4.6 m BELOW GROUND SURFACE IN SILT | | | | | |
| 5 | | | | | | | | |

ENVIRONMENTAL (VAPOUR ONLY) FALCON LAKE POST-REMEDIAL GINT LOGS 2018-12-13.GPJ UMA.GDT 12/7/20

AECOM

| | |
|---|---|
| LOGGED BY: JM | COMPLETION DEPTH: 4.57 m |
| REVIEWED BY: Aaron Jambrosic | COMPLETION DATE: 11/2/20 |
| PROJECT ENGINEER: Aaron Jambrosic | Page 1 of 1 |

| | | |
|---|---|---|
| PROJECT: Selkirk IOL | CLIENT: Imperial Oil Ltd. | TESTHOLE NO: **MW20-03** |
| LOCATION: 287 Main Street | | PROJECT NO.: 60549588 |
| CONTRACTOR: Paddock Drilling Ltd. | METHOD: Solid Stem | ELEVATION (m): |

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

| DEPTH (m) | WELL INSTALLATION | SOIL SYMBOL | SOIL DESCRIPTION | SAMPLE TYPE | SAMPLE # | ⊗ Vapour Reading ⊗ (ppm) 10 100 1000 | COMMENTS | DEPTH (m) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | REPLACEMENT WELL - SOIL NOT LOGGED - SEE 04-7 FOR SOIL DESCRIPTION | | | | | 0 |
| 1 | | | | | | | | 1 |
| 2 | | | | | | | | 2 |
| 3 | | | | | | | | 3 |
| 4 | | | | | | | | 4 |
| 5 | | | END OF BOREHOLE AT 4.6 m BELOW GROUND SURFACE IN CLAY | | | | | 5 |

AECOM

| | |
|---|---|
| LOGGED BY: JM | COMPLETION DEPTH: 4.57 m |
| REVIEWED BY: Aaron Jambrosic | COMPLETION DATE: 11/2/20 |
| PROJECT ENGINEER: Aaron Jambrosic | Page 1 of 1 |

ENVIRONMENTAL (VAPOUR ONLY) FALCON LAKE POST-REMEDIAL GINT LOGS 2018-12-13.GPJ UMA.GDT 12/7/20

| PROJECT: Selkirk IOL | CLIENT: Imperial Oil Ltd. | TESTHOLE NO: **MW20-04** |
|---|---|---|
| LOCATION: 287 Main Street | | PROJECT NO.: 60549588 |
| CONTRACTOR: Paddock Drilling Ltd. | METHOD: Solid Stem | ELEVATION (m): |

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

| DEPTH (m) | WELL INSTALLATION | SOIL SYMBOL | SOIL DESCRIPTION | SAMPLE TYPE | SAMPLE # | ⊗ Vapour Reading ⊗ (ppm) 10 100 1000 | COMMENTS | DEPTH (m) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | REPLACEMENT WELL - SOIL NOT LOGGED - SEE MW37 FOR SOIL DESCRIPTION | | | | | 0 |
| 1 | | | | | | | | 1 |
| 2 | | | | | | | | 2 |
| 3 | | | | | | | | 3 |
| 4 | | | | | | | | 4 |
| 5 | | | END OF BOREHOLE AT 4.6 m BELOW GROUND SURFACE IN CLAY | | | | | 5 |

AECOM

| LOGGED BY: JM | COMPLETION DEPTH: 4.57 m |
|---|---|
| REVIEWED BY: Aaron Jambrosic | COMPLETION DATE: 11/2/20 |
| PROJECT ENGINEER: Aaron Jambrosic | Page 1 of 1 |

ENVIRONMENTAL (VAPOUR ONLY) FALCON LAKE POST-REMEDIAL GINT LOGS 2018-12-13.GPJ UMA.GDT 12/7/20

| PROJECT: Selkirk IOL | CLIENT: Imperial Oil Ltd. | TESTHOLE NO: **MW20-05** |
|---|---|---|
| LOCATION: 287 Main Street | | PROJECT NO.: 60549588 |
| CONTRACTOR: Paddock Drilling Ltd. | METHOD: Solid Stem | ELEVATION (m): |

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

| DEPTH (m) | WELL INSTALLATION | SOIL SYMBOL | SOIL DESCRIPTION | SAMPLE TYPE | SAMPLE # | ⊗ Vapour Reading ⊗ (ppm) 10 100 1000 | COMMENTS | DEPTH (m) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | REPLACEMENT WELL - SOIL NOT LOGGED - SEE 04-8 FOR SOIL DESCRIPTION | | | | | 0 |
| 1 | | | | | | | | 1 |
| 2 | | | | | | | | 2 |
| 3 | | | | | | | | 3 |
| 4 | | | | | | | | 4 |
| 5 | | | END OF BOREHOLE AT 4.6 m BELOW GROUND SURFACE IN CLAY | | | | | 5 |

AECOM

| LOGGED BY: JM | COMPLETION DEPTH: 4.57 m |
|---|---|
| REVIEWED BY: Aaron Jambrosic | COMPLETION DATE: 11/2/20 |
| PROJECT ENGINEER: Aaron Jambrosic | Page 1 of 1 |

ENVIRONMENTAL (VAPOUR ONLY) FALCON LAKE POST-REMEDIAL GINT LOGS 2018-12-13.GPJ UMA.GDT 12/7/20

| PROJECT: Selkirk IOL | CLIENT: Imperial Oil Ltd. | TESTHOLE NO: **MW20-06** |
|---|---|---|
| LOCATION: 287 Main Street | | PROJECT NO.: 60549588 |
| CONTRACTOR: Paddock Drilling Ltd. | METHOD: Solid Stem | ELEVATION (m): |

SAMPLE TYPE: GRAB | SHELBY TUBE | SPLIT SPOON | BULK | NO RECOVERY | CORE

BACKFILL TYPE: BENTONITE | GRAVEL | SLOUGH | GROUT | CUTTINGS | SAND

| DEPTH (m) | WELL INSTALLATION | SOIL SYMBOL | SOIL DESCRIPTION | SAMPLE TYPE | SAMPLE # | ⊗ Vapour Reading ⊗ (ppm) 10 100 1000 | COMMENTS | DEPTH (m) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | REPLACEMENT WELL - SOIL NOT LOGGED - SEE MW35 FOR SOIL DESCRIPTION | | | | | 0 |
| 1 | | | | | | | | 1 |
| 2 | | | | | | | | 2 |
| 3 | | | | | | | | 3 |
| 4 | | | | | | | | 4 |
| 5 | | | END OF BOREHOLE AT 4.6 m BELOW GROUND SURFACE IN CLAY | | | | | 5 |

AECOM

| LOGGED BY: JM | COMPLETION DEPTH: 4.57 m |
|---|---|
| REVIEWED BY: Aaron Jambrosic | COMPLETION DATE: 11/2/20 |
| PROJECT ENGINEER: Aaron Jambrosic | Page 1 of 1 |

ENVIRONMENTAL (VAPOUR ONLY) FALCON LAKE POST-REMEDIAL GINT LOGS 2018-12-13.GPJ UMA.GDT 12/7/20

Task Order#: Pending
Line Item: 10
Site#: N/A
Site Location: 287 MAINSTREET, SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 624607-02-01

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/11/13**
Report #: R2954749
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C082022**
**Received: 2020/11/05, 08:40**

Sample Matrix: Water
# Samples Received: 1

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | 1 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 1 | | Auto Calc |
| CCME Hydrocarbons (F2-F4 in water) (1) | 1 | AB SOP-00037 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard. All samples were analyzed within hold time unless otherwise flagged.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Silica gel clean up employed.


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Task Order#: Pending
Line Item: 10
Site#: N/A
Site Location: 287 MAINSTREET, SELKIRK, MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 624607-02-01

**Attention: Aaron Jambrosic**

AECOM Canada Ltd.
48 Quarry Park Blvd SE
Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2020/11/13**
Report #: R2954749
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C082022**
**Received: 2020/11/05, 08:40**

Encryption Key

Mary (Xiaohong) Xu
Customer Solutions Representative
13 Nov 2020 13:32:29

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BV Labs Job #: C082022
Report Date: 2020/11/13

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#: N/A
Site Location: 287 MAINSTREET, SELKIRK, MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN WATER (WATER)

| BV Labs ID | | YU6322 | | |
|---|---|---|---|---|
| Sampling Date | | 2020/11/04 13:30 | | |
| COC Number | | 624607-02-01 | | |
| | **UNITS** | **04-1** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | <0.10 | 0.10 | A079847 |
| F3 (C16-C34 Hydrocarbons) | mg/L | <0.10 | 0.10 | A079847 |
| F4 (C34-C50 Hydrocarbons) | mg/L | <0.20 | 0.20 | A079847 |
| **Volatiles** | | | | |
| Benzene | mg/L | 0.00057 | 0.00040 | A080044 |
| Toluene | mg/L | 0.00074 | 0.00040 | A080044 |
| Ethylbenzene | mg/L | 0.0012 | 0.00040 | A080044 |
| m & p-Xylene | mg/L | <0.00080 | 0.00080 | A080044 |
| o-Xylene | mg/L | <0.00040 | 0.00040 | A080044 |
| Xylenes (Total) | mg/L | <0.00089 | 0.00089 | A078995 |
| F1 (C6-C10) - BTEX | mg/L | <0.10 | 0.10 | A078995 |
| F1 (C6-C10) | mg/L | <0.10 | 0.10 | A080044 |
| **Extraction Surrogate Recovery (%)** | | | | |
| O-TERPHENYL (sur.) | % | 97 | | A079847 |
| **Instrument Surrogate Recovery (%)** | | | | |
| 1,4-Difluorobenzene (sur.) | % | 102 | | A080044 |
| 4-Bromofluorobenzene (sur.) | % | 96 | | A080044 |
| D4-1,2-Dichloroethane (sur.) | % | 94 | | A080044 |
| RDL = Reportable Detection Limit | | | | |


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BV Labs Job #: C082022
Report Date: 2020/11/13

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#: N/A
Site Location: 287 MAINSTREET, SELKIRK, MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YU6322
**Sample ID:** 04-1
**Matrix:** Water

**Collected:** 2020/11/04
**Relinquished:** 2020/11/04
**Received:** 2020/11/05

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A080044 | N/A | 2020/11/10 | Darrus Ong |
| F1-BTEX | CALC/MS | A078995 | N/A | 2020/11/10 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A079847 | 2020/11/09 | 2020/11/09 | Vian Pereira |


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## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 1.3°C |

**Results relate only to the items tested.**

BV Labs Job #: C082022
Report Date: 2020/11/13

AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#: N/A
Site Location: 287 MAINSTREET, SELKIRK, MB
Project #: 60549588-W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A079847 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/11/09 | | 96 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/11/09 | <0.10 | | mg/L | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/11/09 | <0.10 | | mg/L | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/11/09 | <0.20 | | mg/L | |
| A080044 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/11/10 | | 102 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/11/10 | | 90 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/11/10 | | 92 | % | 50 - 140 |
| | | | Benzene | 2020/11/10 | <0.00040 | | mg/L | |
| | | | Toluene | 2020/11/10 | <0.00040 | | mg/L | |
| | | | Ethylbenzene | 2020/11/10 | <0.00040 | | mg/L | |
| | | | m & p-Xylene | 2020/11/10 | <0.00080 | | mg/L | |
| | | | o-Xylene | 2020/11/10 | <0.00040 | | mg/L | |
| | | | F1 (C6-C10) | 2020/11/10 | <0.10 | | mg/L | |
| A079847 | VP4 | Matrix Spike [YU6322-01] | O-TERPHENYL (sur.) | 2020/11/09 | | 92 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/11/09 | | 90 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/11/09 | | 89 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/11/09 | | 83 | % | 60 - 140 |
| A079847 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/11/09 | | 99 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/11/09 | | 98 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/11/09 | | 96 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/11/09 | | 91 | % | 60 - 140 |
| A080044 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2020/11/09 | | 103 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/11/09 | | 95 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/11/09 | | 91 | % | 50 - 140 |
| | | | Benzene | 2020/11/09 | | 104 | % | 60 - 130 |
| | | | Toluene | 2020/11/09 | | 102 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/11/09 | | 107 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/11/09 | | 108 | % | 60 - 130 |
| | | | o-Xylene | 2020/11/09 | | 105 | % | 60 - 130 |
| | | | F1 (C6-C10) | 2020/11/09 | | 111 | % | 60 - 140 |

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.



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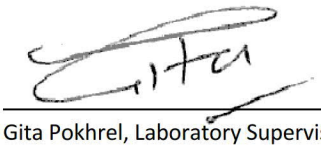
BV Labs Job #: C082022
Report Date: 2020/11/13

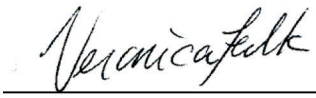
AECOM Canada Ltd.
Task Order#: Pending, Line Item: 10
Site#: N/A
Site Location: 287 MAINSTREET, SELKIRK, MB
Project #: 60549588-W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Gita Pokhrel, Laboratory Supervisor



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.



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D-675 Berry Street
Winnipeg, Manitoba R3H 1A7
www.bvlabs.com

Phone: (204) 772-7276
Fax: (204) 772-2386
Toll Free: 800-563-6266

170

# EXXONMOBIL/IMPERIAL OIL - BV LABS
## CHAIN-OF-CUSTODY RECORD
### ANALYSIS REQUESTED



C of C # 624607-02-01

624607

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: Imperial Oil Ltd - AECOM Canada Ltd. | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: PO Box 5250 West Beaver Creek Richmond Hill ON L4B 0E4 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC E-billing@aecom.com;Laura.MacIs | Email: Aaron.Jambrosic@aecom.com |
| Phone: (780) 486-7000 | Phone: (403) 270-4810 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | AT1 BTEX and F1-F4 in Water |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 04-1 | X | | | | 5 | 2020/11/04 | 13:30 | | | X |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |

IOL SITE LOCATION: 287 Mainstreet, Selkirk, MB

IOL PROJECT # (if applicable): N/A

BV LABS TASK ORDER # OR SERVICE ORDER # + LINE ITEM: -N/A

REGULATORY CRITERIA / DETECTION LIMITS:
- ☐ Alberta Tier I _____
- ☐ SEQG (SK)
- ☒ CCME
- ☐ CDWG
- ☐ NoSC (SK)
- ☐ Other

SPECIAL INSTRUCTIONS:

# JARS USED AND NOT SUBMITTED Enter N/A for Water: Ø

TURNAROUND TIME
- Standard (5 days) ☒
- Rush (3 days) ☐
- (2 days) ☐
- (1 day) ☐
- (same day) ☐

Date Required

| | YES | NO | COOLER ID: | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | | | | |
| SEAL INTACT | ✓ | | TEMP °C | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | ✓ | | | 1 | 1 | 2 |

| | YES | NO | COOLER ID: | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | TEMP °C | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

| | YES | NO | COOLER ID: | | | |
|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | |
| SEAL INTACT | | | TEMP °C | 1 | 2 | 3 |
| COOLING MEDIA PRESENT | | | | | | |

LAB USE ONLY

BV LABS JOB # C082022

SAMPLES

LABELED BY: YLS VERIFIED BY: AIN

| * RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. J Murray | Jen Murray | 2020/11/04 | 15:00 | 1. | Clementine Uwitije | 2020/11/05 | 08:40 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

COC – 1010 (2016) IOL – AB

White: BV Labs

Yellow: Client

Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 624607-01-01

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
PO Box 5250 West Beaver Creek
Richmond Hill, ON
CANADA L4B 0E4

**Report Date: 2020/12/02**
Report #: R2962385
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C086887**
**Received: 2020/11/25, 10:50**

Sample Matrix: Water
# Samples Received: 8

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | 8 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 8 | | Auto Calc |
| Container Supply & Nonhazardous Disposal | 6 | | |
| CCME Hydrocarbons (F2-F4 in water) (1) | 8 | AB SOP-00037 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Silica gel clean up employed.


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Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 624607-01-01

**Attention: Aaron Jambrosic**

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Cost of Closure
PO Box 5250 West Beaver Creek
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CANADA L4B 0E4

**Report Date: 2020/12/02**
Report #: R2962385
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C086887**
**Received: 2020/11/25, 10:50**

Encryption Key

Rhecie Phayouphone
Key Account Specialist
02 Dec 2020 15:36:42

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bvlabs.com
Phone# (780)577-7109

==========

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BV Labs Job #: C086887
Report Date: 2020/12/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN WATER (WATER)

| BV Labs ID | | YX6582 | YX6583 | | | YX6583 | | |
|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/11/24 15:10 | 2020/11/24 15:15 | | | 2020/11/24 15:15 | | |
| COC Number | | 624607-01-01 | 624607-01-01 | | | 624607-01-01 | | |
| | **UNITS** | **FIELD BLANK** | **TRIP BLANK** | **RDL** | **QC Batch** | **TRIP BLANK Lab-Dup** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | <0.10 | <0.10 | 0.10 | A093233 | <0.10 | 0.10 | A093233 |
| F3 (C16-C34 Hydrocarbons) | mg/L | <0.10 | <0.10 | 0.10 | A093233 | <0.10 | 0.10 | A093233 |
| F4 (C34-C50 Hydrocarbons) | mg/L | <0.20 | <0.20 | 0.20 | A093233 | <0.20 | 0.20 | A093233 |
| **Volatiles** | | | | | | | | |
| Benzene | mg/L | <0.00040 | <0.00040 | 0.00040 | A096617 | | | |
| Toluene | mg/L | <0.00040 | <0.00040 | 0.00040 | A096617 | | | |
| Ethylbenzene | mg/L | <0.00040 | <0.00040 | 0.00040 | A096617 | | | |
| m & p-Xylene | mg/L | <0.00080 | <0.00080 | 0.00080 | A096617 | | | |
| o-Xylene | mg/L | <0.00040 | <0.00040 | 0.00040 | A096617 | | | |
| Xylenes (Total) | mg/L | <0.00089 | <0.00089 | 0.00089 | A096166 | | | |
| F1 (C6-C10) - BTEX | mg/L | <0.10 | <0.10 | 0.10 | A096166 | | | |
| F1 (C6-C10) | mg/L | <0.10 | <0.10 | 0.10 | A096617 | | | |
| **Extraction Surrogate Recovery (%)** | | | | | | | | |
| O-TERPHENYL (sur.) | % | 104 | 101 | | A093233 | 109 | | A093233 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 111 | 112 | | A096617 | | | |
| 4-Bromofluorobenzene (sur.) | % | 86 | 87 | | A096617 | | | |
| D4-1,2-Dichloroethane (sur.) | % | 103 | 103 | | A096617 | | | |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate


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BV Labs Job #: C086887
Report Date: 2020/12/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN WATER (WATER)

| BV Labs ID | | YX6576 | | | YX6576 | | | YX6577 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/11/24 15:00 | | | 2020/11/24 15:00 | | | 2020/11/24 14:45 | | |
| COC Number | | 624607-01-01 | | | 624607-01-01 | | | 624607-01-01 | | |
| | **UNITS** | **MW20-01** | **RDL** | **QC Batch** | **MW20-01 Lab-Dup** | **RDL** | **QC Batch** | **MW20-02** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | <0.10 | 0.10 | A093233 | | | | <0.10 | 0.10 | A093233 |
| F3 (C16-C34 Hydrocarbons) | mg/L | <0.10 | 0.10 | A093233 | | | | <0.10 | 0.10 | A093233 |
| F4 (C34-C50 Hydrocarbons) | mg/L | <0.20 | 0.20 | A093233 | | | | <0.20 | 0.20 | A093233 |
| **Volatiles** | | | | | | | | | | |
| Benzene | mg/L | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 |
| Toluene | mg/L | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 |
| Ethylbenzene | mg/L | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 |
| m & p-Xylene | mg/L | <0.00080 | 0.00080 | A096617 | <0.00080 | 0.00080 | A096617 | <0.00080 | 0.00080 | A096617 |
| o-Xylene | mg/L | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 | <0.00040 | 0.00040 | A096617 |
| Xylenes (Total) | mg/L | <0.00089 | 0.00089 | A096166 | | | | <0.00089 | 0.00089 | A096166 |
| F1 (C6-C10) - BTEX | mg/L | <0.10 | 0.10 | A096166 | | | | <0.10 | 0.10 | A096166 |
| F1 (C6-C10) | mg/L | <0.10 | 0.10 | A096617 | <0.10 | 0.10 | A096617 | <0.10 | 0.10 | A096617 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| O-TERPHENYL (sur.) | % | 103 | | A093233 | | | | 112 | | A093233 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 111 | | A096617 | 111 | | A096617 | 112 | | A096617 |
| 4-Bromofluorobenzene (sur.) | % | 85 | | A096617 | 83 | | A096617 | 87 | | A096617 |
| D4-1,2-Dichloroethane (sur.) | % | 103 | | A096617 | 103 | | A096617 | 101 | | A096617 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



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BV Labs Job #: C086887
Report Date: 2020/12/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN WATER (WATER)

| BV Labs ID | | YX6581 | YX6578 | YX6579 | YX6580 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2020/11/24 14:45 | 2020/11/24 14:30 | 2020/11/24 14:00 | 2020/11/24 14:15 | | |
| COC Number | | 624607-01-01 | 624607-01-01 | 624607-01-01 | 624607-01-01 | | |
| | **UNITS** | **MW20-22** | **MW20-03** | **MW20-04** | **MW20-06** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | <0.10 | <0.10 | 0.80 | 1.1 | 0.10 | A093233 |
| F3 (C16-C34 Hydrocarbons) | mg/L | <0.10 | <0.10 | 0.72 | 0.10 | 0.10 | A093233 |
| F4 (C34-C50 Hydrocarbons) | mg/L | <0.20 | <0.20 | 0.54 | <0.20 | 0.20 | A093233 |
| **Volatiles** | | | | | | | |
| Benzene | mg/L | <0.00040 | <0.00040 | 0.042 | <0.00040 | 0.00040 | A096617 |
| Toluene | mg/L | <0.00040 | <0.00040 | 0.0016 | <0.00040 | 0.00040 | A096617 |
| Ethylbenzene | mg/L | <0.00040 | <0.00040 | 0.022 | <0.00040 | 0.00040 | A096617 |
| m & p-Xylene | mg/L | <0.00080 | <0.00080 | 0.0025 | <0.00080 | 0.00080 | A096617 |
| o-Xylene | mg/L | <0.00040 | <0.00040 | 0.0039 | <0.00040 | 0.00040 | A096617 |
| Xylenes (Total) | mg/L | <0.00089 | <0.00089 | 0.0064 | <0.00089 | 0.00089 | A096166 |
| F1 (C6-C10) - BTEX | mg/L | <0.10 | <0.10 | 0.55 | 0.22 | 0.10 | A096166 |
| F1 (C6-C10) | mg/L | <0.10 | <0.10 | 0.63 | 0.22 | 0.10 | A096617 |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| O-TERPHENYL (sur.) | % | 106 | 103 | 98 | 105 | | A093233 |
| **Instrument Surrogate Recovery (%)** | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 108 | 111 | 107 | 107 | | A096617 |
| 4-Bromofluorobenzene (sur.) | % | 87 | 88 | 87 | 90 | | A096617 |
| D4-1,2-Dichloroethane (sur.) | % | 103 | 105 | 103 | 105 | | A096617 |

RDL = Reportable Detection Limit


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BV Labs Job #: C086887
Report Date: 2020/12/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YX6576
**Sample ID:** MW20-01
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/26 | Vian Pereira |

**BV Labs ID:** YX6576 Dup
**Sample ID:** MW20-01
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |

**BV Labs ID:** YX6577
**Sample ID:** MW20-02
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/26 | Vian Pereira |

**BV Labs ID:** YX6578
**Sample ID:** MW20-03
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/26 | Vian Pereira |

**BV Labs ID:** YX6579
**Sample ID:** MW20-04
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/26 | Vian Pereira |

**BV Labs ID:** YX6580
**Sample ID:** MW20-06
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |



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BV Labs Job #: C086887
Report Date: 2020/12/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** YX6580
**Sample ID:** MW20-06
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/26 | Vian Pereira |

**BV Labs ID:** YX6581
**Sample ID:** MW20-22
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/27 | Vian Pereira |

**BV Labs ID:** YX6582
**Sample ID:** FIELD BLANK
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/27 | Vian Pereira |

**BV Labs ID:** YX6583
**Sample ID:** TRIP BLANK
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A096617 | N/A | 2020/11/26 | Rahul Suryawanshi |
| F1-BTEX | CALC/MS | A096166 | N/A | 2020/11/27 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/26 | Vian Pereira |

**BV Labs ID:** YX6583 Dup
**Sample ID:** TRIP BLANK
**Matrix:** Water

**Collected:** 2020/11/24
**Relinquished:** 2020/11/24
**Received:** 2020/11/25

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A093233 | 2020/11/26 | 2020/11/26 | Vian Pereira |



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C086887
Report Date: 2020/12/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 1.3°C |

Note: Incorrect Task Order Number provided to the lab. The Chain of Custody is missing the Task Order information.

**Results relate only to the items tested.**


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BV Labs Job #: C086887
Report Date: 2020/12/02

AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A093233 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2020/11/26 | | 124 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/11/26 | <0.10 | | mg/L | |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/11/26 | <0.10 | | mg/L | |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/11/26 | <0.20 | | mg/L | |
| A096617 | RSU | Method Blank | 1,4-Difluorobenzene (sur.) | 2020/11/26 | | 112 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/11/26 | | 85 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/11/26 | | 102 | % | 50 - 140 |
| | | | Benzene | 2020/11/26 | <0.00040 | | mg/L | |
| | | | Toluene | 2020/11/26 | <0.00040 | | mg/L | |
| | | | Ethylbenzene | 2020/11/26 | <0.00040 | | mg/L | |
| | | | m & p-Xylene | 2020/11/26 | <0.00080 | | mg/L | |
| | | | o-Xylene | 2020/11/26 | <0.00040 | | mg/L | |
| | | | F1 (C6-C10) | 2020/11/26 | <0.10 | | mg/L | |
| A096617 | RSU | RPD [YX6576-02] | Benzene | 2020/11/26 | NC | | % | 30 |
| | | | Toluene | 2020/11/26 | NC | | % | 30 |
| | | | Ethylbenzene | 2020/11/26 | NC | | % | 30 |
| | | | m & p-Xylene | 2020/11/26 | NC | | % | 30 |
| | | | o-Xylene | 2020/11/26 | NC | | % | 30 |
| | | | F1 (C6-C10) | 2020/11/26 | NC | | % | 30 |
| A093233 | VP4 | RPD [YX6583-01] | F2 (C10-C16 Hydrocarbons) | 2020/11/26 | NC | | % | 30 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/11/26 | NC | | % | 30 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/11/26 | NC | | % | 30 |
| A096617 | RSU | Matrix Spike [YX6577-02] | 1,4-Difluorobenzene (sur.) | 2020/11/26 | | 106 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/11/26 | | 94 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/11/26 | | 100 | % | 50 - 140 |
| | | | Benzene | 2020/11/26 | | 94 | % | 50 - 140 |
| | | | Toluene | 2020/11/26 | | 96 | % | 50 - 140 |
| | | | Ethylbenzene | 2020/11/26 | | 103 | % | 50 - 140 |
| | | | m & p-Xylene | 2020/11/26 | | 102 | % | 50 - 140 |
| | | | o-Xylene | 2020/11/26 | | 101 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2020/11/26 | | 76 | % | 60 - 140 |
| A093233 | VP4 | LCS | O-TERPHENYL (sur.) | 2020/11/26 | | 108 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2020/11/26 | | 97 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2020/11/26 | | 104 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2020/11/26 | | 96 | % | 60 - 140 |
| A096617 | RSU | LCS | 1,4-Difluorobenzene (sur.) | 2020/11/26 | | 106 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2020/11/26 | | 92 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2020/11/26 | | 99 | % | 50 - 140 |
| | | | Benzene | 2020/11/26 | | 97 | % | 60 - 130 |
| | | | Toluene | 2020/11/26 | | 99 | % | 60 - 130 |
| | | | Ethylbenzene | 2020/11/26 | | 107 | % | 60 - 130 |
| | | | m & p-Xylene | 2020/11/26 | | 106 | % | 60 - 130 |
| | | | o-Xylene | 2020/11/26 | | 105 | % | 60 - 130 |


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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F1 (C6-C10) | 2020/11/26 | | 94 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



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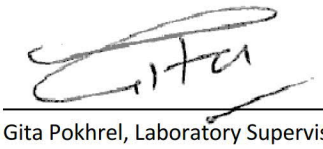
BV Labs Job #: C086887
Report Date: 2020/12/02

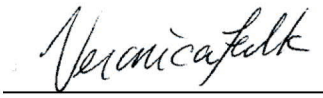
AECOM CANADA LTD.
Task Order#: AECOM PO 7586
Site#: N/A
Site Location: 287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Gita Pokhrel, Laboratory Supervisor



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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928

BUREAU VERITAS

D-675 Berry Street
Winnipeg, Manitoba R3H 1A7
www.bvlabs.com

Phone: (204) 772-7276
Fax: (204) 772-2386
Toll Free: 800-563-6266

# EXXONMOBIL/IMPERIAL OIL - BV LABS
## CHAIN-OF-CUSTODY RECORD
### ANALYSIS REQUESTED



C of C # 624607-01-01

624607

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: Imperial Oil Ltd - AECOM Canada Ltd. | Company Name: AECOM Canada Ltd. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: PO Box 5250 West Beaver Creek Richmond Hill ON L4B 0E4 | Address: 48 Quarry Park Blvd SE Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com;Laura.Macls | Email: Aaron.Jambrosic@aecom.com |
| Phone: (780) 486-7000 | Phone: (403) 270-4810 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | ATI BTEX and F1-F4 in Water |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | FIELD BLANK | X | | | | 5 | 2020/11/24 | 15:10 | | | X |
| 2 | TRIP BLANK | X | | | | 5 | 2020/11/24 | 15:15 | | | X |
| 3 | MW20-01 | X | | | | 5 | 2020/11/24 | 15:00 | | | X |
| 4 | MW20-02 | X | | | | 5 | 2020/11/24 | 14:45 | | | X |
| 5 | MW20-22 | X | | | | 5 | 2020/11/24 | 14:45 | | | X |
| 6 | MW20-03 | X | | | | 4 | 2020/11/24 | 14:30 | | | X |
| 7 | MW20-04 | X | | | | 2 | 2020/11/24 | 14:00 | | | X |
| 8 | MW20-06 | X | | | | 5 | 2020/11/24 | 14:15 | | | X |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |

IOL SITE LOCATION: 287 Main Street, Selkirk, MB

IOL PROJECT # (if applicable): N/A

BV LABS TASK ORDER # OR SERVICE ORDER # + LINE ITEM: -N/A

REGULATORY CRITERIA / DETECTION LIMITS:
- ☐ Alberta Tier I
- ☐ SEQG (SK)
- ☒ CCME
- ☐ CDWG
- ☐ NoSC (SK)
- ☐ Other

SPECIAL INSTRUCTIONS: Please decant to minimize suspended sediment before analysis. Limited sample for MW20-03 & MW20-04

# JARS USED AND NOT SUBMITTED Enter N/A for Water: N/A 0

TURNAROUND TIME
- Standard (5 days) ☒
- Rush (3 days) ☐
- (2 days) ☐
- (1 day) ☐
- (same day) ☐

Date Required

| | YES | NO | COOLER ID: | | | | YES | NO | COOLER ID: | | | | YES | NO | COOLER ID: | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | | | | | | | | | | | | | | | | |
| SEAL INTACT | ✓ | | | | | | | | | | | | | | | | | |
| COOLING MEDIA PRESENT | ✓ | | TEMP °C | 2 | 1/2 | 1.3 | | | TEMP °C | 1 | 2 | 3 | | | TEMP °C | 1 | 2 | 3 |

| * RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. JMurray | Jen Murray | 2020/11/24 | 16:30 | 1. | Clementine Uwitije | 2020/11/25 | 10:50 |
| 2. | | | | 2. | | | |
| 3. | | | | 3. | | | |

LAB USE ONLY
BV LABS JOB # C086887
SAMPLES
LABELED BY: LTS
VERIFIED BY: SBZ

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

COC – 1010 (2016) IOL – AB

White: BV Labs

Yellow: Client

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | Nov 4, 2020 |
| Location: | 287 Main St, Selkirk MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 – W.MB.3.13 | Sample Submission Number: | C082022 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☐ | ☐ | ☒ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | |
| Trip Blank Concentration | ☐ | ☐ | ☒ | |
| Field Duplicate RPD | ☐ | ☐ | ☒ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Date: November 13, 2020

Reviewed by (Signature):

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | Nov 24, 2020 |
| Location: | 287 Main St, Selkirk MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 – W.MB.3.13 | Sample Submission Number: | C086887 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☐ | ☐ | ☒ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☒ | ☐ | ☐ | |
| Trip Blank Concentration | ☒ | ☐ | ☐ | |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Date: December 2, 2020

Reviewed by (Signature):

Task Order#: PENDING
Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 628653-01-01

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2021/01/28**
Report #: R2981275
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C104443**
**Received: 2021/01/22, 09:00**

Sample Matrix: Water
# Samples Received: 9

| Analyses | Quantity | Laboratory Method | Analytical Method |
|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | 9 | AB SOP-00039 | CCME CWS/EPA 8260d m |
| F1-BTEX | 9 | | Auto Calc |
| Container Supply & Nonhazardous Disposal | 9 | | |
| CCME Hydrocarbons (F2-F4 in water) (1) | 9 | AB SOP-00037 | CCME PHC-CWS m |

**Remarks:**

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Silica gel clean up employed.


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Task Order#: PENDING
Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12
Your C.O.C. #: 628653-01-01

**Attention: Aaron Jambrosic**

AECOM CANADA LTD.
Cost of Closure
48 Quarry Park Blvd, Suite 300
Calgary, AB
Canada T2C 5P2

**Report Date: 2021/01/28**
Report #: R2981275
Version: 1 - Final

# CERTIFICATE OF ANALYSIS

**BV LABS JOB #: C104443**
**Received: 2021/01/22, 09:00**

Encryption Key

Mary (Xiaohong) Xu
Customer Solutions Representative
28 Jan 2021 16:39:37

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Kandise Wilson, B.Sc, Customer Solutions Representative
Email: Kandise.Wilson@bureauveritas.com
Phone# (780)577-7109

==========

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BV Labs Job #: C104443
Report Date: 2021/01/28

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN WATER (WATER)

| BV Labs ID | | ZE7469 | | | ZE7469 | | | ZE7470 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2021/01/21 15:30 | | | 2021/01/21 15:30 | | | 2021/01/21 15:45 | | |
| COC Number | | 628653-01-01 | | | 628653-01-01 | | | 628653-01-01 | | |
| | **UNITS** | **MW20-01** | **RDL** | **QC Batch** | **MW20-01 Lab-Dup** | **RDL** | **QC Batch** | **MW20-02** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | <0.10 | 0.10 | A139747 | | | | <0.10 | 0.10 | A139747 |
| F3 (C16-C34 Hydrocarbons) | mg/L | <0.10 | 0.10 | A139747 | | | | <0.10 | 0.10 | A139747 |
| F4 (C34-C50 Hydrocarbons) | mg/L | <0.20 | 0.20 | A139747 | | | | <0.20 | 0.20 | A139747 |
| **Volatiles** | | | | | | | | | | |
| Benzene | mg/L | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 |
| Toluene | mg/L | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 |
| Ethylbenzene | mg/L | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 |
| m & p-Xylene | mg/L | <0.00080 | 0.00080 | A140747 | <0.00080 | 0.00080 | A140747 | <0.00080 | 0.00080 | A140747 |
| o-Xylene | mg/L | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 | <0.00040 | 0.00040 | A140747 |
| Xylenes (Total) | mg/L | <0.00089 | 0.00089 | A139073 | | | | <0.00089 | 0.00089 | A139073 |
| F1 (C6-C10) - BTEX | mg/L | <0.10 | 0.10 | A139073 | | | | <0.10 | 0.10 | A139073 |
| F1 (C6-C10) | mg/L | <0.10 | 0.10 | A140747 | <0.10 | 0.10 | A140747 | <0.10 | 0.10 | A140747 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | | |
| O-TERPHENYL (sur.) | % | 94 | | A139747 | | | | 100 | | A139747 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 95 | | A140747 | 95 | | A140747 | 94 | | A140747 |
| 4-Bromofluorobenzene (sur.) | % | 122 | | A140747 | 124 | | A140747 | 121 | | A140747 |
| D4-1,2-Dichloroethane (sur.) | % | 88 | | A140747 | 88 | | A140747 | 89 | | A140747 |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C104443
Report Date: 2021/01/28

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN WATER (WATER)

| BV Labs ID | | ZE7471 | ZE7472 | ZE7473 | ZE7474 | ZE7475 | ZE7476 | | |
|---|---|---|---|---|---|---|---|---|---|
| Sampling Date | | 2021/01/21 15:45 | 2021/01/21 16:00 | 2021/01/21 14:10 | 2021/01/21 13:45 | 2021/01/21 15:20 | 2021/01/21 17:00 | | |
| COC Number | | 628653-01-01 | 628653-01-01 | 628653-01-01 | 628653-01-01 | 628653-01-01 | 628653-01-01 | | |
| | **UNITS** | **MW20-22** | **MW20-03** | **MW20-04** | **MW20-05** | **MW20-06** | **FIELD BLANK** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | 1.2 | <0.10 | 0.90 | <0.10 | 1.1 | <0.10 | 0.10 | A139747 |
| F3 (C16-C34 Hydrocarbons) | mg/L | <0.10 | <0.10 | 0.32 | 0.15 | <0.10 | <0.10 | 0.10 | A139747 |
| F4 (C34-C50 Hydrocarbons) | mg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 0.20 | A139747 |
| **Volatiles** | | | | | | | | | |
| Benzene | mg/L | <0.00040 | <0.00040 | 0.29 | 0.017 | 0.0062 | <0.00040 | 0.00040 | A140747 |
| Toluene | mg/L | <0.00040 | <0.00040 | 0.0056 | <0.00040 | <0.00040 | <0.00040 | 0.00040 | A140747 |
| Ethylbenzene | mg/L | <0.00040 | <0.00040 | 0.048 | <0.00040 | 0.00058 | <0.00040 | 0.00040 | A140747 |
| m & p-Xylene | mg/L | <0.00080 | <0.00080 | 0.014 | <0.00080 | <0.00080 | <0.00080 | 0.00080 | A140747 |
| o-Xylene | mg/L | <0.00040 | <0.00040 | 0.0038 | <0.00040 | <0.00040 | <0.00040 | 0.00040 | A140747 |
| Xylenes (Total) | mg/L | <0.00089 | <0.00089 | 0.018 | <0.00089 | <0.00089 | <0.00089 | 0.00089 | A139073 |
| F1 (C6-C10) - BTEX | mg/L | <0.10 | <0.10 | 1.1 | 0.20 | 0.23 | <0.10 | 0.10 | A139073 |
| F1 (C6-C10) | mg/L | <0.10 | <0.10 | 1.4 | 0.22 | 0.24 | <0.10 | 0.10 | A140747 |
| **Extraction Surrogate Recovery (%)** | | | | | | | | | |
| O-TERPHENYL (sur.) | % | 106 | 95 | 93 | 99 | 95 | 100 | | A139747 |
| **Instrument Surrogate Recovery (%)** | | | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 95 | 94 | 96 | 92 | 92 | 96 | | A140747 |
| 4-Bromofluorobenzene (sur.) | % | 133 | 120 | 124 | 120 | 119 | 114 | | A140747 |
| D4-1,2-Dichloroethane (sur.) | % | 90 | 86 | 82 | 89 | 84 | 88 | | A140747 |

RDL = Reportable Detection Limit



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AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## AT1 BTEX AND F1-F4 IN WATER (WATER)

| BV Labs ID | | ZE7477 | | | ZE7477 | | |
|---|---|---|---|---|---|---|---|
| Sampling Date | | 2021/01/21 17:10 | | | 2021/01/21 17:10 | | |
| COC Number | | 628653-01-01 | | | 628653-01-01 | | |
| | **UNITS** | **TRIP BLANK** | **RDL** | **QC Batch** | **TRIP BLANK Lab-Dup** | **RDL** | **QC Batch** |
| **Ext. Pet. Hydrocarbon** | | | | | | | |
| F2 (C10-C16 Hydrocarbons) | mg/L | <0.10 | 0.10 | A139747 | <0.10 | 0.10 | A139747 |
| F3 (C16-C34 Hydrocarbons) | mg/L | <0.10 | 0.10 | A139747 | <0.10 | 0.10 | A139747 |
| F4 (C34-C50 Hydrocarbons) | mg/L | <0.20 | 0.20 | A139747 | <0.20 | 0.20 | A139747 |
| **Volatiles** | | | | | | | |
| Benzene | mg/L | <0.00040 | 0.00040 | A140747 | | | |
| Toluene | mg/L | <0.00040 | 0.00040 | A140747 | | | |
| Ethylbenzene | mg/L | <0.00040 | 0.00040 | A140747 | | | |
| m & p-Xylene | mg/L | <0.00080 | 0.00080 | A140747 | | | |
| o-Xylene | mg/L | <0.00040 | 0.00040 | A140747 | | | |
| Xylenes (Total) | mg/L | <0.00089 | 0.00089 | A139073 | | | |
| F1 (C6-C10) - BTEX | mg/L | <0.10 | 0.10 | A139073 | | | |
| F1 (C6-C10) | mg/L | <0.10 | 0.10 | A140747 | | | |
| **Extraction Surrogate Recovery (%)** | | | | | | | |
| O-TERPHENYL (sur.) | % | 93 | | A139747 | 108 | | A139747 |
| **Instrument Surrogate Recovery (%)** | | | | | | | |
| 1,4-Difluorobenzene (sur.) | % | 92 | | A140747 | | | |
| 4-Bromofluorobenzene (sur.) | % | 121 | | A140747 | | | |
| D4-1,2-Dichloroethane (sur.) | % | 89 | | A140747 | | | |

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate



Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C104443
Report Date: 2021/01/28

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** ZE7469
**Sample ID:** MW20-01
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7469 Dup
**Sample ID:** MW20-01
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |

**BV Labs ID:** ZE7470
**Sample ID:** MW20-02
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7471
**Sample ID:** MW20-22
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7472
**Sample ID:** MW20-03
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7473
**Sample ID:** MW20-04
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |



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BV Labs Job #: C104443
Report Date: 2021/01/28

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## TEST SUMMARY

**BV Labs ID:** ZE7473
**Sample ID:** MW20-04
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7474
**Sample ID:** MW20-05
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7475
**Sample ID:** MW20-06
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7476
**Sample ID:** FIELD BLANK
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/26 | Vian Pereira |

**BV Labs ID:** ZE7477
**Sample ID:** TRIP BLANK
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| BTEX/F1 in Water by HS GC/MS/FID | HSGC/MS | A140747 | N/A | 2021/01/25 | Darrus Ong |
| F1-BTEX | CALC/MS | A139073 | N/A | 2021/01/26 | Automated Statchk |
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/25 | Vian Pereira |

**BV Labs ID:** ZE7477 Dup
**Sample ID:** TRIP BLANK
**Matrix:** Water

**Collected:** 2021/01/21
**Relinquished:** 2021/01/21
**Received:** 2021/01/22

| Test Description | Instrumentation | Batch | Extracted | Date Analyzed | Analyst |
|---|---|---|---|---|---|
| CCME Hydrocarbons (F2-F4 in water) | GC/FID | A139747 | 2021/01/25 | 2021/01/25 | Vian Pereira |



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BV Labs Job #: C104443
Report Date: 2021/01/28

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## GENERAL COMMENTS

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

| | |
|---|---|
| Package 1 | 0.0°C |

**Results relate only to the items tested.**


Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C104443
Report Date: 2021/01/28

AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## QUALITY ASSURANCE REPORT

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| A139747 | VP4 | Method Blank | O-TERPHENYL (sur.) | 2021/01/25 | | 97 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2021/01/25 | <0.10 | | mg/L | |
| | | | F3 (C16-C34 Hydrocarbons) | 2021/01/25 | <0.10 | | mg/L | |
| | | | F4 (C34-C50 Hydrocarbons) | 2021/01/25 | <0.20 | | mg/L | |
| A140747 | DO1 | Method Blank | 1,4-Difluorobenzene (sur.) | 2021/01/25 | | 94 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2021/01/25 | | 124 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2021/01/25 | | 90 | % | 50 - 140 |
| | | | Benzene | 2021/01/25 | <0.00040 | | mg/L | |
| | | | Toluene | 2021/01/25 | <0.00040 | | mg/L | |
| | | | Ethylbenzene | 2021/01/25 | <0.00040 | | mg/L | |
| | | | m & p-Xylene | 2021/01/25 | <0.00080 | | mg/L | |
| | | | o-Xylene | 2021/01/25 | <0.00040 | | mg/L | |
| | | | F1 (C6-C10) | 2021/01/25 | <0.10 | | mg/L | |
| A140747 | DO1 | RPD [ZE7469-02] | Benzene | 2021/01/25 | NC | | % | 30 |
| | | | Toluene | 2021/01/25 | NC | | % | 30 |
| | | | Ethylbenzene | 2021/01/25 | NC | | % | 30 |
| | | | m & p-Xylene | 2021/01/25 | NC | | % | 30 |
| | | | o-Xylene | 2021/01/25 | NC | | % | 30 |
| | | | F1 (C6-C10) | 2021/01/25 | NC | | % | 30 |
| A139747 | VP4 | RPD [ZE7477-01] | F2 (C10-C16 Hydrocarbons) | 2021/01/25 | NC | | % | 30 |
| | | | F3 (C16-C34 Hydrocarbons) | 2021/01/25 | NC | | % | 30 |
| | | | F4 (C34-C50 Hydrocarbons) | 2021/01/25 | NC | | % | 30 |
| A140747 | DO1 | Matrix Spike [ZE7470-02] | 1,4-Difluorobenzene (sur.) | 2021/01/25 | | 93 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2021/01/25 | | 125 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2021/01/25 | | 87 | % | 50 - 140 |
| | | | Benzene | 2021/01/25 | | 80 | % | 50 - 140 |
| | | | Toluene | 2021/01/25 | | 80 | % | 50 - 140 |
| | | | Ethylbenzene | 2021/01/25 | | 88 | % | 50 - 140 |
| | | | m & p-Xylene | 2021/01/25 | | 85 | % | 50 - 140 |
| | | | o-Xylene | 2021/01/25 | | 83 | % | 50 - 140 |
| | | | F1 (C6-C10) | 2021/01/25 | | 108 | % | 60 - 140 |
| A139747 | VP4 | LCS | O-TERPHENYL (sur.) | 2021/01/25 | | 97 | % | 60 - 140 |
| | | | F2 (C10-C16 Hydrocarbons) | 2021/01/25 | | 89 | % | 60 - 140 |
| | | | F3 (C16-C34 Hydrocarbons) | 2021/01/25 | | 93 | % | 60 - 140 |
| | | | F4 (C34-C50 Hydrocarbons) | 2021/01/25 | | 94 | % | 60 - 140 |
| A140747 | DO1 | LCS | 1,4-Difluorobenzene (sur.) | 2021/01/25 | | 88 | % | 50 - 140 |
| | | | 4-Bromofluorobenzene (sur.) | 2021/01/25 | | 135 | % | 50 - 140 |
| | | | D4-1,2-Dichloroethane (sur.) | 2021/01/25 | | 85 | % | 50 - 140 |
| | | | Benzene | 2021/01/25 | | 78 | % | 60 - 130 |
| | | | Toluene | 2021/01/25 | | 77 | % | 60 - 130 |
| | | | Ethylbenzene | 2021/01/25 | | 90 | % | 60 - 130 |
| | | | m & p-Xylene | 2021/01/25 | | 87 | % | 60 - 130 |
| | | | o-Xylene | 2021/01/25 | | 86 | % | 60 - 130 |


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## QUALITY ASSURANCE REPORT(CONT'D)

| QA/QC Batch | Init | QC Type | Parameter | Date Analyzed | Value | Recovery | UNITS | QC Limits |
|---|---|---|---|---|---|---|---|---|
| | | | F1 (C6-C10) | 2021/01/25 | | 107 | % | 60 - 140 |

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



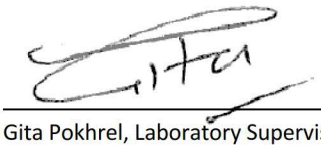
Bureau Veritas Laboratories Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

BV Labs Job #: C104443
Report Date: 2021/01/28

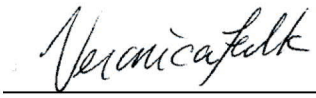
AECOM CANADA LTD.
Task Order#: PENDING, Line Item: 10
Site#: N/A
Site Location: N/A;287 Main Street, Selkirk MB
Project #: 60549588-W.MB.3.12

## VALIDATION SIGNATURE PAGE

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



Gita Pokhrel, Laboratory Supervisor



Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



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BUREAU VERITAS

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www.bvlabs.com

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SO7

**EXXONMOBIL/IMPERIAL OIL - BV LABS**
**CHAIN-OF-CUSTODY RECORD**
**ANALYSIS REQUESTED**



C of C # 628653-01-01

628653

| INVOICE INFORMATION | REPORT INFORMATION |
|---|---|
| Company Name: AECOM CANADA LTD. | Company Name: AECOM CANADA LTD. |
| Contact Name: Accounts Payable | Contact Name: Aaron Jambrosic |
| Address: PO Box 5250 West Beaver Creek Richmond Hill ON L4B 0E4 | Address: 48 Quarry Park Blvd, Suite 300 Calgary AB T2C 5P2 |
| Email: CANSSC.E-billing@aecom.com; Jennifer.hoo | Email: Aaron.Jambrosic@aecom.com |
| Phone: (905) 822-4401 | Phone: (403) 254-3301 |
| Sampler Name (Print): Jen Murray | Consultant Project #: 60549588-W.MB.3.12 |

| | FIELD SAMPLE ID | MATRIX: GROUND WATER | MATRIX: SURFACE WATER | MATRIX: SOIL | MATRIX: OTHER | # CONTAINERS | SAMPLING: DATE (YYYY/MM/DD) | SAMPLING: TIME (24 HR) | FIELD FILTERED & PRESERVED | LAB FILTRATION REQUIRED | AT1 BTEX and F1-F4 in Water |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW20-01 | X | | | | 5 | 2021/01/21 | 15:30 | | | X |
| 2 | MW20-02 | X | | | | 5 | 2021/01/21 | 15:45 | | | X |
| 3 | MW20-22 | X | | | | 5 | 2021/01/21 | 15:45 | | | X |
| 4 | MW20-03 | X | | | | 3 | 2021/01/21 | 16:00 | | | X |
| 5 | MW20-04 | X | | | | 4 | 2021/01/21 | 14:10 | | | X |
| 6 | MW20-05 | X | | | | 3 | 2021/01/21 | 13:45 | | | X |
| 7 | MW20-06 | X | | | | 5 | 2021/01/21 | 15:20 | | | X |
| 8 | FIELD BLANK | X | | | | 5 | 2021/01/21 | 17:00 | | | X |
| 9 | TRIP BLANK | X | | | | 5 | 2021/01/21 | 17:10 | | | X |
| 10 | | | | | | | YYYY/MM/DD | HH:MM | | | |

IOL SITE LOCATION: 287 Main Street, Selkirk MB

IOL PROJECT # (if applicable): N/A

BV LABS TASK ORDER # OR SERVICE ORDER # + LINE ITEM: PENDING-10

REGULATORY CRITERIA / DETECTION LIMITS:
- ☐ Alberta Tier I _____
- ☐ CDWG
- ☐ SEQG (SK)
- ☐ NoSC (SK)
- ☒ CCME
- ☐ Other

SPECIAL INSTRUCTIONS: Please decant to minimize suspended sediment before analysis. limited sample for: MW20-03, MW20-04, MW20-05

# JARS USED AND NOT SUBMITTED Enter N/A for Water: N/A

TURNAROUND TIME
- Standard (5 days) ☒
- Rush (3 days) ☐
- (2 days) ☐
- (1 day) ☐
- (same day) ☐

Date Required

| | YES | NO | COOLER ID: | TEMP °C | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|
| SEAL PRESENT | ✓ | | | | | | |
| SEAL INTACT | ✓ | | | | | | |
| COOLING MEDIA PRESENT | ✓ | | | | | | |

| | YES | NO | COOLER ID: | TEMP °C | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | | |
| SEAL INTACT | | | | | | | |
| COOLING MEDIA PRESENT | | | | | | | |

| | YES | NO | COOLER ID: | TEMP °C | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|
| SEAL PRESENT | | | | | | | |
| SEAL INTACT | | | | | | | |
| COOLING MEDIA PRESENT | | | | | | | |

LAB USE ONLY
BV LABS JOB # C104443

| * RELINQUISHED BY: | | DATE: | TIME (24 HR) | RECEIVED BY: | | DATE: | TIME (24 HR) |
|---|---|---|---|---|---|---|---|
| 1. signature | Jen MURRAY printed name | 2021/01/21 YYYY/MM/DD | 17:30 HH:MM | 1. signature | Clementine Uwimjc printed name | 2021/01/22 YYYY/MM/DD | 09:00 HH:MM |
| 2. signature | printed name | YYYY/MM/DD | HH:MM | 2. signature | printed name | YYYY/MM/DD | HH:MM |
| 3. signature | printed name | YYYY/MM/DD | HH:MM | 3. signature | printed name | YYYY/MM/DD | HH:MM |

SAMPLES
LABELED BY: YLS
VERIFIED BY: YFY

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

COC – 1010 (2016) IOL – AB

White: BV Labs

Yellow: Client

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2021/01/21 |
| Location: | 287 Main St, Selkirk MB | Laboratory: | Bureau Veritas |
| Consultant Project Number: | 60549588 – W.MB.3.13 | Sample Submission Number: | C104443 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☒ | ☐ | ☐ | |
| Trip Blank Concentration | ☒ | ☐ | ☐ | |
| Field Duplicate RPD | ☐ | ☐ | ☒ | The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation. |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

The F2 result for the field duplicate sample (MW20-22) was 1.2 mg/L, while the F2 result for the parent sample was at non detectable concentrations. All remaining PHC concentrations in the field duplicate sample were below the laboratory detection limits. As the samples at the lab were beyond the hold times, reanalysis of the samples for F2 could not be accomplished. AECOM requested reanalysis of the original F2 extract, as well as raw data recheck. The extract analysis confirmed the initial results, and the raw data recheck found no sample swap or labeling error, and the lab id matched the client id.

The results are considered to be reliable, and the discrepancy between the parent sample and the field duplicate sample is believed to be due to sample non-homogeneity.

Reviewed by (Print): Mark Beker

Reviewed by (Signature):

Date: February 11, 2021

# Appendix G

## Data Quality Review Checklists

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/08/28 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C061816 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | **FLAG:** surrogate recover above the control limits for D8-Aecnapthylene in sample BLDG1-EW2-0.5, but overall quality control for this analysis meets acceptability criteria. |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/01

Other:

**FLAG**: *Detection limit raised due to interferent.* Detection limit for PHC F3 in BLDG1-SW1-0.5 below applicable remedial criteria so no effect on the quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/08/28 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C061817 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Date: 2020/09/01

Reviewed by (Signature):

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/08/28 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C062803 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | FLAG: Method Blank Detection limit raised due to interferent for Chlorobenzene in batch 9981405. The detection limit was still well below the applicable criteria for the parameter, and does not effect quality of the data. |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | FLAG: Lab Control Sample Recovery for D4-1,2-Dichloroethane (sur.) and Chloromethane in batch 9981405 had the following flag, Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria. |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☒ | ☐ | The duplicates were run, 2 were within limits for all parameters, one EX3-SW3-DUP4 was outside the RPD limit for benzene and xylene, both dup and parent sample concentrations were below the remedial objective so has no effect on the quality of the data. |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/01

Other:

**FLAG:** *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high* for Benzene in samples EX2-I11-1.8, results were still below criteria so no effect on the quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/02 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C063218 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☐ | ☐ | ☒ | No lab duplicate analyzed. |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | . |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/04

Other:

**FLAG:** *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high* for Benzene in samples SP12-2, results were still below criteria so no effect on the quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/08/31 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C062440 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☐ | ☐ | ☒ | No laboratory matrix duplicate analyzed. |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Date: 2020/09/03

Reviewed by (Signature):

*Other:*

***FLAG:*** *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high* for Benzene in samples SP-7, SP8-2, SP9-1, results were still below criteria so no effect on the quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/03 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C063720 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/07

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/03 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C063665 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/07

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/03 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C063699 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | **FLAG:** *Detection limit raised due to interferent*, for Chlorobenzene, RDL was still below the guideline so no effect on the quality of the data. |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | **FLAG:** *Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.* for Bromoform and 1,2-dibromoethane, this flag has no effect on the quality of the data. |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | No field duplicate analyzed. |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☒ Yes | ☐ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Date: 2020/09/06

Reviewed by (Signature):

Other:

**FLAG:** *Detection limit raised due to interferent*, for sample BLDG2-SW4-0.5 for Chlorobenzene, RDL was still below the guideline so now effect on the quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/04 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C064043 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

| | | | |
|---|---|---|---|
| Reviewed by (Print): | Aaron Jambrosic | Reviewed by (Signature): | |
| Date: | 2020/09/06 | | |

Other:

**FLAG:** Samples EX1-NW2-0.5, EX1-SW1-0.5, EX1-M9-1.8 and EX1-M9-DUP6 for benzene, *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high*, concentration was still below criteria so has not affect on quality of the data.

**FLAG:** Sample EX1-NW2-0.5 for m & p-Xylene, o-Xylene and F1 (C6-C10), *Detection limits raised due to dilution to bring analyte within the calibrated range*, concentration above the detection limit so has not affect on quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/09 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C065347 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/14

Other:

**FLAG:** Samples EX1-NW5-0.5 and EX1-WW2-3.0 for benzene, *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high*, concentration was still below criteria so has not affect on quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/14 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C066164 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☐ | ☐ | ☒ | No laboratory matrix duplicate analyzed. |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/16

Other:

**FLAG:** Samples EX4-WW2-3.0 for benzene, *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high*, concentration was still below criteria so has not affect on quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/15 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C066600 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☐ | ☐ | ☒ | No laboratory matrix duplicate analyzed. |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/17

Other:

**FLAG:** Samples EX4-NW3-3.0, EX4-NW3-DUP10, and EX4-SW4-3.0 for benzene, *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high*, concentration was still below criteria so has not affect on quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/16 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C067033 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/17

Other:

**FLAG:** Samples EX4-WW6-3, EX4-WW7-3, and EX4-WW7-DUP11 for benzene, *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high*, concentration was still below criteria so has not affect on quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/17 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C067966 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | **FLAG:** Lab Control Sample Recovery for D4-1,2-Dichloroethane (sur.) in batch A008249 had the following flag, *Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.* |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☒ | ☐ | ☐ | |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☒ | ☐ | ☐ | |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/21

Other:

**FLAG:** Samples EX1-EW4-2.0 and EX4-EW2-3.0 for benzene, *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high*, concentration was still below criteria so has not affect on quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/17 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C053970 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☐ | ☐ | ☒ | **FLAG**: Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria, for Leachable Antimony in batch 9950679. |
| Lab Control Sample Recovery | ☐ | ☐ | ☒ | **FLAG**: Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria, for Chloromethane in batch 9946545 and leachable nickel in batch 9950677. |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | No field duplicate analyzed. |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Reviewed by (Signature):

Date: 2020/09/21

Other:

**FLAG:** Samples LF-1 for benzene, *Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high*, concentration was still below criteria so has not affect on quality of the data.

AECOM

# Data Quality Review Checklist

| | | | |
|---|---|---|---|
| Consultant: | AECOM | Sampling Date: | 2020/09/21 |
| Location: | 287 Main Street, Selkirk, MB | Laboratory: | Maxxam |
| Consultant Project Number: | 60549588 | Sample Submission Number: | C068670 |

Are All Laboratory QC Samples Within Acceptance Criteria (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Instrument Surrogate Recovery | ☒ | ☐ | ☐ | |
| Extraction Surrogate Recovery | ☒ | ☐ | ☐ | |
| Method Blank Concentration | ☒ | ☐ | ☐ | |
| Matrix Duplicate RPD | ☒ | ☐ | ☐ | |
| Matrix Spike Recovery | ☒ | ☐ | ☐ | |
| Lab Control Sample Recovery | ☐ | ☐ | ☒ | **FLAG**: *Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria,* for TERPHENYL—D14(sur.) in batch A020147. |

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

| | Yes | No | NA | Comments |
|---|---|---|---|---|
| Field Blank Concentration | ☐ | ☐ | ☒ | No field blank analyzed. |
| Trip Blank Concentration | ☐ | ☐ | ☒ | No trip blank analyzed. |
| Field Duplicate RPD | ☐ | ☐ | ☒ | No field duplicate analyzed. |

| | | |
|---|---|---|
| Has CoA been signed off? | ☒ Yes | ☐ No |
| Has lab warranted all tests were in statistical control in CoA? | ☐ Yes | ☒ No |
| Has lab warranted all tests were analyzed following SOP's in CoA? | ☒ Yes | ☐ No |
| Were all samples analyzed within hold times? | ☒ Yes | ☐ No |
| All volatiles samples methanol extracted (if required) within 48 hours? | ☒ Yes | ☐ No |
| Is Chain of Custody completed and signed? | ☒ Yes | ☐ No |
| Were sample temperatures acceptable when they reached lab? | ☒ Yes | ☐ No |

Is data considered to be reliable? ☒ Yes ☐ No

If answer is "No", describe and provide rationale:

Reviewed by (Print): Aaron Jambrosic

Date: 2020/09/30

Reviewed by (Signature):

# Appendix H

## Quality Assurance and Quality Control

# Appendix H - Quality Assurance and Quality Control Program

A quality assurance and quality control (QA/QC) program was implemented during the sampling events to minimize and quantify potential impacts introduced during sample collection, handling, shipping and analysis. As part of the QA/QC program, sampling protocols included minimizing sample handing, submitting field QA/QC samples, using dedicated sampling equipment, using sample-specific identification and labelling procedures and using chain of custody records.

Field QA/QC samples include:

- **Field duplicate samples**, which is collected at the same time as the parent sample but placed in a different container and labelled as a randomized sample ID. The field duplicate sample is then submitted to the laboratory along with the original sample for analysis of the same parameters.

Laboratory QA/QC measures included analysis of a laboratory blank, spiked blank, duplicate, matrix spike, and laboratory control samples. Details of the internal QA/QC procedures and methodologies employed by Bureau Veritas (BV) Laboratories are presented in the laboratory reports provided.

The field duplicate samples provide a means to evaluate the precision of the field quality control program. Reproducibility is quantified by calculating the relative percent difference (RPD) defined by the following equation:

$$Field\ Duplicate\ RPD\ (\%) = \frac{C1 - C2}{(C1 + C2)/2} * 100$$

where: RPD = relative percent difference
C1 = larger of the two observed values from the field duplicate analysis
C2 = smaller of the two observed values from the field duplicate analysis

In order for a valid Field Duplicate RPD to be calculated, both sets of results must be greater than five times (5x) the Laboratory Reportable Detection Limit (RDL). If one or both sets of analytical results for the field duplicate samples are less than 5x the RDL for an analyte, then it is not possible to calculate a valid Field Duplicate RPD.

**Quality Assurance and Quality Control Results**

Field duplicate soil samples were collected and analyzed for some or all of the following analytes: BTEX, PHC fractions F1-F4, PAHs, VOCs, and metals. The RPD values for the duplicate sample pairs were within the acceptable range of 0% to 100% for all analytes in all samples with exception of those detailed below.

The RPD calculations for the field duplicate soil samples are presented in Table H-1 in this Attachment.

- The RPD exceeded the acceptable limit for sample EX3-SW3-3.0 and its duplicate EX3-SW3-DUP4 for Benzene, m & p-Xylene, and Xylenes (Total). Concentrations for both the primary sample and the duplicate

were below the applicable guidelines for these parameters, the variation is attributed to natural sample heterogeneity and is on not considered to affect the reliability of the data.

The results of the laboratory QA/QC analyses are provided in the Laboratory Certificates of Analysis (CoA) which can be found in **Appendix E**. The analysis included method blanks, matrix spikes, laboratory control samples and matrix duplicates. Data quality review checklists are provided in **Appendix G**.

No laboratory QA/QC issues were identified that would affect the reliability of the data.

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | BLDG1-NW1-0.5 | BLDG1-DUP1 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YI7652 | YI7654 | | |
| Sampling Date | | | | 08/28/2020 12:00 | 08/28/2020 12:00 | | |
| COC Number | | | | 312888 | 312888 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | <0.010 | <0.010 | NC | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | <0.040 | <0.040 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | <0.045 | <0.045 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| Polycyclic Aromatics Hydrocarbons | | | | | | | |
| Index of Additive Cancer Risk (C) | mg/kg | 0.1 | 0.5 | <0.10 | <0.10 | NC | 100 |
| Acenaphthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| B[a]P TPE Total Potency Equivalents | mg/kg | 0.0071 | 0.0355 | <0.0071 | <0.0071 | NC | 100 |
| Index of Additive Cancer Risk (F) | mg/kg | 0.1 | 0.5 | <0.10 | <0.10 | NC | 100 |
| Acenaphthylene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Acridine | mg/kg | 0.01 | 0.05 | <0.010 | <0.010 | NC | 100 |
| Anthracene | mg/kg | 0.004 | 0.02 | <0.0040 | <0.0040 | NC | 100 |
| Benzo(a)anthracene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(b&j)fluoranthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(k)fluoranthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(g,h,i)perylene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(c)phenanthrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(a)pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(e)pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Chrysene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Dibenz(a,h)anthracene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Fluoranthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Fluorene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| 1-Methylnaphthalene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| 2-Methylnaphthalene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Naphthalene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Phenanthrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Perylene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Quinoline | mg/kg | 0.01 | 0.05 | <0.010 | <0.010 | NC | 100 |

**Table Notes:**

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | BLDG2-NW1-0.5 | BLDG2-NW1-DUP5 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YJ8101 | YJ8102 | | |
| Sampling Date | | | | 09/03/2020 | 09/03/2020 | | |
| COC Number | | | | 312893 | 312893 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | <0.010 | <0.010 | NC | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | <0.040 | <0.040 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | <0.045 | <0.045 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| Polycyclic Aromatics Hydrocarbons | | | | | | | |
| Index of Additive Cancer Risk (C) | mg/kg | 0.1 | 0.5 | <0.10 | <0.10 | NC | 100 |
| Acenaphthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| B[a]P TPE Total Potency Equivalents | mg/kg | 0.0071 | 0.0355 | <0.0071 | <0.0071 | NC | 100 |
| Index of Additive Cancer Risk (F) | mg/kg | 0.1 | 0.5 | <0.10 | <0.10 | NC | 100 |
| Acenaphthylene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Acridine | mg/kg | 0.01 | 0.05 | <0.010 | <0.010 | NC | 100 |
| Anthracene | mg/kg | 0.004 | 0.02 | <0.0040 | <0.0040 | NC | 100 |
| Benzo(a)anthracene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(b&j)fluoranthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(k)fluoranthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(g,h,i)perylene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(c)phenanthrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(a)pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Benzo(e)pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Chrysene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Dibenz(a,h)anthracene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Fluoranthene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Fluorene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| 1-Methylnaphthalene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| 2-Methylnaphthalene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Naphthalene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Phenanthrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Perylene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Pyrene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Quinoline | mg/kg | 0.01 | 0.05 | <0.010 | <0.010 | NC | 100 |

**Table Notes:**

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | BLDG1-NW1-0.5 | BLDG1-DUP1 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YI7652 | YI7654 | | |
| Sampling Date | | | | 08/28/2020 12:00 | 08/28/2020 12:00 | | |
| COC Number | | | | 312888 | 312888 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Volatile Organic Compounds | | | | | | | |
| Bromodichloromethane | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| Bromoform | mg/kg | 0.050 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Bromomethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Carbon tetrachloride | mg/kg | 0.00050 | 0.0025 | <0.00050 | <0.00050 | NC | 100 |
| Chlorobenzene | mg/kg | 0.0010 | 0.005 | <0.0010 | <0.0010 | NC | 100 |
| Chlorodibromomethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Chloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Chloroform | mg/kg | 0.010 | 0.05 | <0.010 | <0.010 | NC | 100 |
| Chloromethane | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| 1,2-dibromoethane | mg/kg | 0.0020 | 0.01 | <0.0020 | <0.0020 | NC | 100 |
| 1,2-dichlorobenzene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,3-dichlorobenzene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,4-dichlorobenzene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,1-dichloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,2-dichloroethane | mg/kg | 0.0020 | 0.01 | <0.0020 | <0.0020 | NC | 100 |
| 1,1-dichloroethene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| cis-1,2-dichloroethene | mg/kg | 0.005 | 0.025 | <0.020 | <0.020 | NC | 100 |
| trans-1,2-dichloroethene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Dichloromethane | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| 1,2-dichloropropane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| cis-1,3-dichloropropene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| trans-1,3-dichloropropene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Methyl methacrylate | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| Methyl-tert-butylether (MTBE) | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| Styrene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,1,1,2-tetrachloroethane | mg/kg | 0.050 | 0.25 | <0.050 | <0.050 | NC | 100 |
| 1,1,2,2-tetrachloroethane | mg/kg | 0.050 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Tetrachloroethene | mg/kg | 0.010 | 0.05 | <0.010 | <0.010 | NC | 100 |
| 1,2,3-trichlorobenzene | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| 1,2,4-trichlorobenzene | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| 1,3,5-trichlorobenzene | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| 1,1,1-trichloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,1,2-trichloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Trichloroethene | mg/kg | 0.010 | 0.05 | <0.010 | <0.010 | NC | 100 |
| Trichlorofluoromethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,2,4-trimethylbenzene | mg/kg | 0.50 | 2.5 | <0.50 | <0.50 | NC | 100 |
| 1,3,5-trimethylbenzene | mg/kg | 0.50 | 2.5 | <0.50 | <0.50 | NC | 100 |
| Vinyl chloride | mg/kg | 0.00030 | 0.0015 | <0.00030 | <0.00030 | NC | 100 |
| Metals | | | | | | | |
| Total Arsenic (As) | mg/kg | 1 | 5 | 1.0 | <1.0 | NC | 100 |
| Total Barium (Ba) | mg/kg | 1 | 5 | 15 | 16 | 6.5 | 100 |
| Total Chromium (Cr) | mg/kg | 1 | 5 | 5.4 | 5.1 | 5.7 | 100 |
| Total Copper (Cu) | mg/kg | 1 | 5 | 3.6 | 3.6 | NC | 100 |
| Total Lead (Pb) | mg/kg | 0.5 | 2.5 | 2.0 | 2.0 | NC | 100 |
| Total Tin (Sn) | mg/kg | 1 | 5 | <1.0 | <1.0 | NC | 100 |
| Total Zinc (Zn) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |

**Table Notes:**

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | BLDG2-NW1-0.5 | BLDG2-NW1-DUP5 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YJ8101 | YJ8102 | | |
| Sampling Date | | | | 09/03/2020 | 09/03/2020 | | |
| COC Number | | | | 312893 | 312893 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Volatile Organic Compounds | | | | | | | |
| Bromodichloromethane | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| Bromoform | mg/kg | 0.050 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Bromomethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Carbon tetrachloride | mg/kg | 0.00050 | 0.0025 | <0.00050 | <0.00050 | NC | 100 |
| Chlorobenzene | mg/kg | 0.0010 | 0.005 | <0.0010 | <0.0010 | NC | 100 |
| Chlorodibromomethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Chloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Chloroform | mg/kg | 0.010 | 0.05 | <0.010 | <0.010 | NC | 100 |
| Chloromethane | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| 1,2-dibromoethane | mg/kg | 0.0020 | 0.01 | <0.0020 | <0.0020 | NC | 100 |
| 1,2-dichlorobenzene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,3-dichlorobenzene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,4-dichlorobenzene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,1-dichloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,2-dichloroethane | mg/kg | 0.0020 | 0.01 | <0.0020 | <0.0020 | NC | 100 |
| 1,1-dichloroethene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| cis-1,2-dichloroethene | mg/kg | 0.005 | 0.025 | <0.020 | <0.020 | NC | 100 |
| trans-1,2-dichloroethene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Dichloromethane | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| 1,2-dichloropropane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| cis-1,3-dichloropropene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| trans-1,3-dichloropropene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Methyl methacrylate | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| Methyl-tert-butylether (MTBE) | mg/kg | 0.030 | 0.15 | <0.030 | <0.030 | NC | 100 |
| Styrene | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,1,1,2-tetrachloroethane | mg/kg | 0.050 | 0.25 | <0.050 | <0.050 | NC | 100 |
| 1,1,2,2-tetrachloroethane | mg/kg | 0.050 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Tetrachloroethene | mg/kg | 0.010 | 0.05 | <0.010 | <0.010 | NC | 100 |
| 1,2,3-trichlorobenzene | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| 1,2,4-trichlorobenzene | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| 1,3,5-trichlorobenzene | mg/kg | 0.040 | 0.2 | <0.040 | <0.040 | NC | 100 |
| 1,1,1-trichloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,1,2-trichloroethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Trichloroethene | mg/kg | 0.010 | 0.05 | <0.010 | <0.010 | NC | 100 |
| Trichlorofluoromethane | mg/kg | 0.020 | 0.1 | <0.020 | <0.020 | NC | 100 |
| 1,2,4-trimethylbenzene | mg/kg | 0.50 | 2.5 | <0.50 | <0.50 | NC | 100 |
| 1,3,5-trimethylbenzene | mg/kg | 0.50 | 2.5 | <0.50 | <0.50 | NC | 100 |
| Vinyl chloride | mg/kg | 0.00030 | 0.0015 | <0.00030 | <0.00030 | NC | 100 |
| Metals | | | | | | | |
| Total Arsenic (As) | mg/kg | 1 | 5 | 2.2 | 2.1 | NC | 100 |
| Total Barium (Ba) | mg/kg | 1 | 5 | 46 | 40 | 14.0 | 100 |
| Total Chromium (Cr) | mg/kg | 1 | 5 | 19 | 17 | 11.1 | 100 |
| Total Copper (Cu) | mg/kg | 1 | 5 | 10 | 9.3 | 7.3 | 100 |
| Total Lead (Pb) | mg/kg | 0.5 | 2.5 | 8.4 | 9.6 | 13.3 | 100 |
| Total Tin (Sn) | mg/kg | 1 | 5 | <1.0 | <1.0 | NC | 100 |
| Total Zinc (Zn) | mg/kg | 10 | 50 | 21 | 19 | NC | 100 |

**Table Notes:**

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX1-L9-4.4 | EX1-L9-DUP13 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YM1315 | YM1316 | | |
| Sampling Date | | | | 09/17/2020 16:20 | 09/17/2020 16:20 | | |
| COC Number | | | | 312555 | 312555 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 0.71 | 1.0 | 33.9 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 0.64 | 0.74 | 14.5 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 0.052 | 0.068 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 0.052 | 0.068 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 29 | 31 | NC | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 31 | 33 | NC | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 24 | <10 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX1-M9-1.8 | EX1-M9-DUP6 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YJ9978 | YJ9979 | | |
| Sampling Date | | | | 09/04/2020 15:00 | 09/04/2020 15:00 | | |
| COC Number | | | | 312654 | 312654 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 0.14 | 0.12 | 15.4 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | 0.093 | 0.076 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 3.0 | 2.6 | 14.3 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 29 | 24 | 18.9 | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | 15 | 13 | 14.3 | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 44 | 37 | 17.3 | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 850 | 750 | 12.5 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 900 | 790 | 13.0 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 310 | 370 | 17.6 | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX1-WW3-3.0 | EX1-WW3-DUP8 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YK6413 | YK6414 | | |
| Sampling Date | | | | 09/10/2020 10:30 | 09/10/2020 10:45 | | |
| COC Number | | | | 312657 | 312657 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 2.0 | 1.9 | 5.1 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | 0.091 | 0.091 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 8.8 | 8.8 | 0.0 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 6.2 | 6.7 | 7.8 | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | 0.04 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 6.3 | 6.7 | 6.2 | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 560 | 630 | 11.8 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 580 | 650 | 11.4 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 47 | 37 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX3-SW1-3.0 | EX3-SW1-DUP3 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YJ3439 | YJ3473 | | |
| Sampling Date | | | | 09/01/2020 10:10 | 09/01/2020 10:10 | | |
| COC Number | | | | 312894 | 312892 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 7.2 | 7.9 | 9.3 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | 2.2 | 1.5 | 37.8 | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 10 | 14 | 33.3 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 33 | 41 | 21.6 | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | 11 | 4.3 | 87.6 | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 44 | 46 | 4.4 | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 490 | 780 | 45.7 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 560 | 850 | 41.1 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 96 | 58 | 49.4 | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX3-SW3-3.0 | EX3-SW3-DUP4 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YJ3468 | YJ3474 | | |
| Sampling Date | | | | 09/01/2020 14:10 | 09/01/2020 14:10 | | |
| COC Number | | | | 312892 | 312892 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 5.7 | 1.8 | 104.0 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | 0.23 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 5.1 | 2.3 | 75.7 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 8.1 | 1.3 | 144.7 | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | 0.14 | 0.043 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 8.2 | 1.3 | 145.3 | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 330 | 280 | 16.4 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 350 | 290 | 18.8 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 32 | 28 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX3-WW1-3.0 | EX3-WW1-DUP2 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YJ3438 | YJ3472 | | |
| Sampling Date | | | | 09/01/2020 10:00 | 09/01/2020 10:00 | | |
| COC Number | | | | 312894 | 312892 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 0.92 | 1.2 | 26.4 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 1.9 | 3.1 | 48.0 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 0.091 | 0.98 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 0.091 | 0.98 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 520 | 440 | 16.7 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 520 | 440 | 16.7 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 42 | 26 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX4-H8-4.5 | EX4-H8-DUP 9 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YL1158 | YL1159 | | |
| Sampling Date | | | | 09/14/2020 15:10 | 09/14/2020 15:10 | | |
| COC Number | | | | 312556 | 312556 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 2.2 | 1.2 | 58.8 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 0.14 | 0.19 | 30.3 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 0.39 | 0.35 | 10.8 | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 0.39 | 0.35 | 10.8 | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX4-NW3-3.0 | EX4-NW3-DUP10 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YL3597 | YL3598 | | |
| Sampling Date | | | | 09/15/2020 11:10 | 09/15/2020 11:10 | | |
| COC Number | | | | 312554 | 312554 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 0.022 | 0.014 | NC | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 0.09 | 0.085 | 5.7 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | <0.040 | <0.040 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | <0.045 | <0.045 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 140 | 95 | 38.3 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 140 | 95 | 38.3 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 20 | 30 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX4-NW6-4 | EX4-NW6-DUP12 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YL5659 | YL5660 | | |
| Sampling Date | | | | 09/16/2020 15:45 | 09/16/2020 15:45 | | |
| COC Number | | | | 312897 | 312897 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 1.4 | 1.6 | 13.3 | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 3.7 | 3.3 | 11.4 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | 0.16 | 0.15 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | 0.16 | 0.15 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 220 | 160 | 31.6 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 220 | 170 | 25.6 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 34 | 24 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX4-WW7-3 | EX4-WW7-DUP11 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YL5657 | YL5658 | | |
| Sampling Date | | | | 09/16/2020 15:30 | 09/16/2020 15:30 | | |
| COC Number | | | | 312897 | 312897 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | 0.051 | 0.012 | NC | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | 0.22 | 0.16 | 31.6 | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | <0.040 | <0.040 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | <0.045 | <0.045 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | 500 | 490 | 2.0 | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | 500 | 490 | 2.0 | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | 47 | 41 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005

**Table H-1 Soil Laboratory QA/QC Relative Percent Difference Calculations**

| Sample Name | | | | EX1-NW4-0.5 | EX1-NW4-DUP7 | RPD (%) | Acceptable RPD (%) |
|---|---|---|---|---|---|---|---|
| BV Labs ID | | | | YK6402 | YK6403 | | |
| Sampling Date | | | | 09/09/2020 14:00 | 09/09/2020 14:00 | | |
| COC Number | | | | 312896 | 312896 | | |
| Parameters | Units | Laboratory RDL | PQL | | | | |
| Petroleum Hydrocarbons | | | | | | | |
| Benzene | mg/kg | 0.005 | 0.025 | <0.0050 | <0.0050 | NC | 100 |
| Toluene | mg/kg | 0.05 | 0.25 | <0.050 | <0.050 | NC | 100 |
| Ethylbenzene | mg/kg | 0.01 | 0.05 | <0.010 | <0.010 | NC | 100 |
| m & p-Xylene | mg/kg | 0.04 | 0.2 | <0.040 | <0.040 | NC | 100 |
| o-Xylene | mg/kg | 0.02 | 0.1 | <0.020 | <0.020 | NC | 100 |
| Xylenes (Total) | mg/kg | 0.045 | 0.225 | <0.045 | <0.045 | NC | 100 |
| F1 (C6-C10) - BTEX | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F1 (C6-C10) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F2 (C10-C16 Hydrocarbons) | mg/kg | 10 | 50 | <10 | <10 | NC | 100 |
| F3 (C16-C34 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |
| F4 (C34-C50 Hydrocarbons) | mg/kg | 50 | 250 | <50 | <50 | NC | 100 |

Table Notes:

RDL - Reportable Detection Limit.

PQL - Practical Quantitation Limit (5 x RDL).

NC - Not Calculated (result < 5x the laboratory detection limit).

mg/kg milligram/kilogram

**BOLD** - Exceeds acceptable RPD value.

0.005