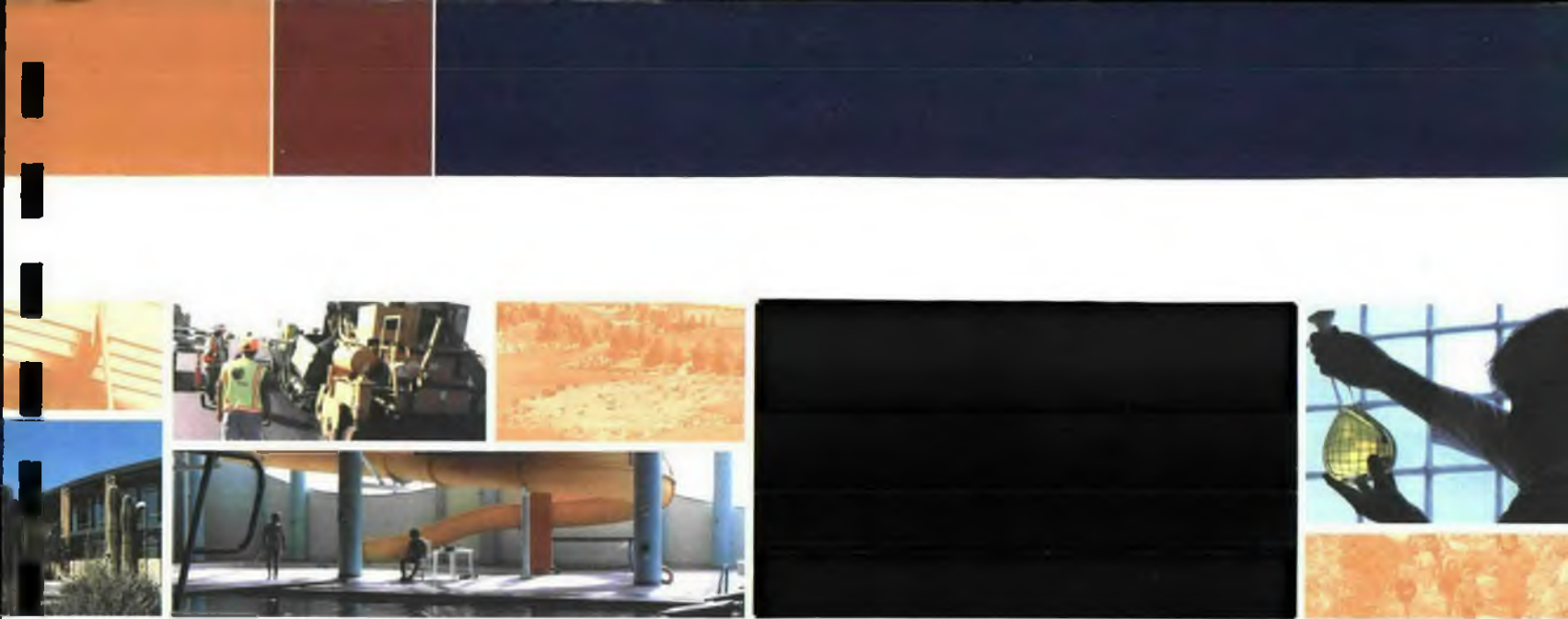


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**Focused Environmental Assessment
of Lease Area Within the CP Weston
Yard in Winnipeg, MB**

FINAL REPORT

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Sign-off Sheet



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Executive Summary

On January 2, 2013, Stantec Consulting Ltd. (Stantec) was retained by Canadian Pacific (CP) to support the return of a lease area of the Weston Yard in Winnipeg, Manitoba from Progress Rail (PR) back to CP. A summary of the findings was provided to CP in a memorandum on January 23, 2013.

The lease area (herein referred to as the "Site") is located in the northwest quadrant of the City of Winnipeg, west of McPhillips Street, at the intersection of McPhillips Street and Jarvis Avenue. It encompasses approximately 30 hectares and is located within the larger CP Weston Yard. The Site is neighbored in all directions by industrial land use and railway operations.

Stantec reviewed previous available environmental information and reports (with a review focus on the lease area), conducted a tour of the Site with CP and PR, and completed a focused subsurface intrusive investigation of select areas utilized by PR or its third-party subcontractor(s), including:

- Drum storage area.
- Aboveground gasoline and diesel storage tank location.
- Smaller metal scrapping area north of the employee parking area.
- PR Subcontractor office/trailer area at the southwest corner of lease area (chemical storage).
- PR Subcontractor large metal scrapping operations area.

The purpose of the intrusive investigation was to determine if soil and/or groundwater impacts were present in the identified areas of potential environmental concern. The investigation included the:

- Advancement of 12 boreholes including a background location immediately outside the lease area, with the completion of four as groundwater-monitoring wells.
- Collection of surface and subsurface soil samples at each borehole location at regular depth intervals to a maximum depth of 6.0 meters below ground level.
- Monitoring, well development and sampling (as possible) of all newly installed groundwater monitoring wells.

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- Submission of soil and groundwater samples to Maxxam Analytics Inc. in Winnipeg, Manitoba for petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons and metals analysis.
- Review of all received analytical results in comparison with the current stipulated regulatory guidelines.

On the basis of the results of the Focused Environmental Assessment undertaken, to the extent that the samples analyzed were representative of the entire Site, and per our conclusions reported to CP on January 23, 2013, Stantec concludes that:

- Review of previous environmental documents and a tour of the Site with CP and PR identified potential environmental concerns associated with the drum storage area, aboveground gasoline and diesel storage tank location, smaller metal scrapping area north of the employee parking area, PR subcontractor office/trailer area at the southwest corner of lease area (chemical storage) and PR subcontractor large metal scrapping operations area.
- The subsurface intrusive investigation identified:
 - Polycyclic aromatic hydrocarbons in surface soils in the drum storage area, in the vicinity of the aboveground storage tanks, in both metal scrapping areas and the PR subcontractor office/trailer area (chemical storage).
 - Metals impacts in surface soils in all of the investigated areas.
 - The highest and leachable metal concentrations were identified in the top 0.5 mbgl in the larger of the two metal scrapping areas.
 - Petroleum hydrocarbons in near-surface and subsurface soils in the vicinity of the aboveground storage tanks, the drum storage area and in the smaller metal scrapping area.
 - Groundwater impacts were not identified.
- Delineation of environmental impacts, such as that required to evaluate the need for remediation, was beyond the scope of this Focused Environmental Assessment.

1.0 Introduction

On January 2, 2013, Stantec Consulting Ltd. (Stantec) was retained by Canadian Pacific (CP) to support the return of a lease area of the Weston Yard in Winnipeg, Manitoba from Progress Rail (PR) back to CP.

A memorandum summary of the findings of this focused environmental assessment was provided to CP on January 23, 2013. The following subsections provide a brief overview of the background information and the basis for the Focused Environmental Assessment. An expanded discussion of the assessment activities completed and field observations are then presented in Sections 2.0 and 3.0 followed by the regulatory framework and assessment findings in Sections 4.0 and 5.0, respectively.

1.1 SITE DESCRIPTION

1.1.1 Subject Property and Surrounding Land Use

The location of the Site is shown in Figure 1 in Appendix A. The general lease area location (herein referred to as the "Site") is shown in Figure 2 in Appendix A.

The lease area (herein referred to as the "Site") is located in the northwest quadrant of the City of Winnipeg, west of McPhillips Street, at the intersection of McPhillips Street and Jarvis Avenue. It encompasses approximately 30 hectares and is located within the larger CP Weston Yard. The Site is neighbored in all directions by industrial land use and railway operations.

The Site is occupied by several buildings associated with the rail activities of the Weston Yard including a Frog Shop, Component Shop, Wheel Shop, Mobile Equipment Repair Facility, Hopper Shop, Blacksmith Shop and an Administration Building. The Site also consists of an employee parking lot, several railway tracks and railway spurs, as well as, undeveloped areas that were utilized for metal scrapping and storage. PR assumed its activities on the Site from CP in 2000.

1.1.2 Topography and Drainage

The Site is generally flat and at grade with adjacent properties. Based on an available topographic map¹ and the observed site topography, regional surface drainage (and anticipated

¹ Baracos, A., D.H. Shields, B. Kjartanson, 1983: "Geological Engineering Maps & Report for Urban Development of Winnipeg - Plate 1: Surface Topography", Scale 1:50,000, Department of Geological Engineering, The University of Manitoba.

shallow groundwater flow direction) appears to be to the east toward the Red River, located approximately 3.5 km from the Site. It should be noted that the direction of the shallow groundwater flow in limited areas can also be influenced by the presence of underground utility corridors and is therefore not necessarily a reflection of regional or local groundwater flow and may not follow the site or area topography. Utility tunnels are known to be present beneath the Site and these possibly affect local groundwater flow.

1.1.3 Site Stratigraphy

Geologic information typical of the area of the Site was obtained from the Reconnaissance Soil Survey Report (No. 5) of the Winnipeg and Morris Region². Based on the information provided by this map, the native surficial soils of the Site are described as belonging to the Fort Garry Association. The Fort Garry Association is developed on a clay and silty clay mantle which lies over strongly calcareous silty and fine sandy clay dolomitic sediments. The soil texture is dominantly clay, and the soils are poorly drained.

Additionally, previous subsurface investigations conducted on the Site indicated a subsurface stratigraphy generally consisting of material ranging from 0.9 to 3.2 m below ground level (mbgl) underlain by successive layers of clay, silt and clay (at the extent of previous drilling).

1.2 SCOPE OF WORK

The scope of work developed and implemented for the Focused Environmental Assessment included the following:

- Completion of an RMS1 (Risk Management Strategy) form and a site-specific Health and Safety Plan (HASP) identifying the potential risks associated with working on the Site.
- Arrangements for, and the completion of, the location of all potential utilities prior to ground disturbance (public and private locators) and the arrangement of a contractor for a subsurface intrusive investigation.
- Review of previous environmental assessments completed at the Weston Yard.
- Site walk-through with CP and PR including review of the on-site buildings and exterior areas within the PR lease, current on-site operations (with discussion of historical operations), and chemical storage areas to evaluate areas of potential environmental concern.

² Ehrlich, W.A., E.A. Poyser, L.E. Pratt, J.H. Ellis, 1953. Report of Reconnaissance Soil Survey of Winnipeg and Morris Map Sheet Areas. Scale of 1:126,720, Manitoba Soil Survey.

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- Completion of an intrusive investigation to assess soil and groundwater quality in select areas. This included:
 - Advancement of 12 boreholes with the completion of four as groundwater-monitoring wells.
 - Collection of surface and subsurface soil samples at each borehole location at regular depth intervals (0-0.5 m, 0.5-1 m and every 0.5 m thereafter) to a maximum depth of 6.0 mbgl.
 - Monitoring, well development and sampling (as possible) of all newly installed groundwater monitoring wells.
 - Submission of soil and groundwater samples to Maxxam Analytics Inc. (Maxxam) in Winnipeg, Manitoba for petroleum hydrocarbons (PHCs), specifically benzene, toluene, ethylbenzene, xylenes (BTEX) and PHC Fractions F1 to F4 (F1-F4); volatile organic compounds (VOCs); polycyclic aromatic hydrocarbons (PAHs) and metals analysis.
 - Review of all received analytical results in comparison with the current stipulated regulatory guidelines.
- Preparation of this report detailing the activities completed and resultant findings.

2.0 Site Visit

Stantec completed a walk-through of the Site and most active Site buildings with CP and PR on January 8, 2013. The walk-through included inspection of all safe, readily-accessible areas within the buildings as well as exterior areas of the Site. Blowing snow and snow cover on the day of the Site tour hindered a visual assessment of some of the outside ground areas.

2.1 SITE BUILDINGS

Stantec was provided access to all buildings located on the Site, which appeared typical for the activities being conducted. Photographs are provided in Appendix A.

The Site buildings were utilized for track production, railcar repairs, and equipment maintenance. Chemical storage was observed in several locations within the buildings. The volumes of chemicals varied from one litre to 45 gallon drums. Limited areas of petroleum hydrocarbon staining were noted on the floor within several of the site buildings; however, the floor slabs appeared to be in good condition with no substantial cracks or pitting.

2.2 OUTSIDE AREAS

Stantec was able to access all of the areas surrounding the Site buildings. No staining that might be indicative of spilled chemicals was observed in the areas adjacent to the chemical storage; however, as previously noted, snow cover limited a thorough examination of the ground surface of the Site. Photographs are provided in Appendix A.

A PR subcontractor trailer area was present in the southwest corner of the Site. A portable trailer that appeared to be used as an office as well as a lunch area was located here. A chemical storage area was noted on the north side of this trailer and included lubricants; however, several drums did not appear to be labeled. A small building located northwest of the trailer, appeared to contain several 5 gallon pails including oil and hydraulic oil. No access was provided to the interior of the building, however, to confirm the number of pails and/or the contents of all pails.

Two active 500 gallon aboveground storage tanks; one housing gasoline and the other diesel fuel were located adjacent to the northeast corner of the employee parking lot. The storage tank area was protected by non-continuous concrete barriers (see photographs in Appendix A). Secondary containment was not confirmed at the time of the site visit as snow cover limited a thorough examination of the ground surface in the vicinity of the tank.

PR's drum storage was located northwest of the Powerhouse. New and used drums were located in this area, separated by a portable storage trailer. The used drum storage was located adjacent to the south end and east side of the storage trailer (see photographs in Appendix A). Two used oil aboveground storage tanks were also observed in this area. The new drum chemical storage area was located on the north end of the storage trailer and included transmission fluid and oils on pallets and generally still wrapped from shipping.

There were two metal scrapping areas observed during the Site visit. The small metal scrapping area, comprising an area of approximately 5,000 m² was noted to the north of the employee parking lot on the western portion of the Site, which consisted of several piles of scrapped metal. A large metal scrapping area comprising an area of approximately 17,100 m² occupied by a PR subcontractor was also noted on the western portion of the Site. At the time of the Site visit, the PR subcontractor was actively conducting metal scrapping activities (i.e., cutting and sorting metal scrap). Numerous large scrap metal piles (many greater than 6 m high) were noted across this larger area and the piles covered approximately 75% of the area, with the remainder consisting of an access route around a central area with several piles and to off-site travel ways to the north of the Site. Metal debris was noted in the surface soil not covered by snow in both the small and large metal scrapping areas.

2.3 IDENTIFIED POTENTIAL ENVIRONMENTAL CONCERNS

Based on the observations of the walk-through of the interior building areas and discussions with CP, potential environmental concerns requiring further investigation were not identified within these spaces.

Environmental sampling (soil and groundwater) and groundwater monitoring had been completed on the Weston Yard prior to Stantec's investigation, however, few of the areas of use by PR or its third-party subcontractor(s) appeared to have been investigated. Previously installed groundwater monitoring wells had also been decommissioned prior to Stantec's assessment. Descriptions of past site use were, however, documented by the prior environmental site assessments and visible on available aerial photography prior to and during the lease term.

In consultation with CP, the following exterior areas used by PR and/or its third-party subcontractor(s) were identified as requiring assessment through an intrusive investigation:

- Drum storage area.
- Aboveground gasoline and diesel storage tank location.
- Smaller metal scrapping area north of the employee parking area.

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- PR Subcontractor office/trailer area at the southwest corner of lease area (chemical storage).
- PR Subcontractor large metal scrapping operations area.

3.0 Intrusive Investigation Methods & Field Observations

The following details the methods applied to complete the focused intrusive investigation portion of the scope of work, as well as field observations made during the execution of this investigation.

3.1 SAFETY PROCEDURES

Stantec staff associated with the intrusive investigation (and prior Site visit) wore the following personal protective equipment (PPE) while on the Site:

- Hard hat.
- Safety glasses.
- Safety vest.
- Steel toe boots.
- Nitrile gloves.
- Clothing appropriate for the weather (January 2013).

Prior to commencing all Site work, safety meetings were held. Before the intrusive investigation, a safety meeting covering job safety planning checklists, equipment checklists, emergency information, and work site hazards was also held between Stantec staff and the contracted driller.

3.2 SITE PREPARATIONS

All underground utilities were located by their respective proprietors prior to ground disturbance (i.e., drilling). Additional location by a third party contractor (McCaine Electric) was also conducted to make sure any residual private utilities were located.

Paddock Drilling Ltd. (Paddock) was commissioned directly by Stantec to complete the drilling activities on the Site.

3.3 SOIL INVESTIGATION

To evaluate Site soil conditions, drilling was completed by Paddock using a truck-mounted drill rig equipped with solid-stem augers. A total of twelve boreholes were drilled on the Site between January 10 and 11, 2013 (Figure 3 in Appendix A). The twelve boreholes were positioned as follows:

- BH01 and BH02 – sited to address the drum storage area.
- BH03 and BH04/MW03 – sited to address the aboveground diesel and gasoline fuel storage tanks.
- BH05/MW02 and BH06 – sited to address the smaller metal scrapping area north of the employee parking lot.
- BH07/MW01 – sited to address the PR subcontractor office/trailer area at the southwest corner of the lease area (chemical storage).
- BH08, BH10, BH12/MW04 and BH14 – sited to address the PR subcontractor large metal scrapping area.
- BH13/BHB – "background" location located immediately outside the Site boundary or lease area.

The soil at all borehole locations was visually inspected, logged (Appendix B), and representative samples were taken. Stantec's Standard Operating Procedures, which adhere to industry standards, were followed while collecting and submitting soil samples. Information including lithology, colour, relative moisture content, and visual or olfactory evidence of odour or staining was recorded and then translated onto the respective log for that borehole (see Appendix B).

Soil samples were collected from the solid-stem auger flytes³ from surface to a depth of 0.5 m, from 0.5 to 1.0 m, from 1.0 to 1.5 m and then at regular 0.75-m depth intervals (or wherever marked changes in soil colour or composition were found) down to a maximum depth of approximately 6.0 mbgl in the boreholes. The soil samples were manually collected from the auger at the designated intervals using a steel knife and were then pared by Stantec and the driller's assistant such that soil that had touched the auger or sides of the borehole was discarded. Disposable nitrile gloves were worn by Stantec during sample collection (a new pair per sample). A total of 93 soil samples were collected.

The soil stratigraphy in the areas of investigation at the Site consisted of gravel fill underlain by gravel/soil to clay fill to a maximum depth of 1.5 mbgl. Native soil beneath the fill consisted of

³Based on the soil types encountered in the Winnipeg area (silts and clays), solid stem augers are typically used for the advancement of boreholes. Manitoba Conservation and Water Stewardship accept the use of solid stem augers for soil sample collection as the sampling methods during borehole advancement is not regulated and is at the discretion of the consultant.

interbedded layers of silt, silty clay and clay. Based on the observed stratigraphy at the Site, the majority of the soil at the Site would be considered fine grained in accordance with CCME Canadian Environmental Quality Guidelines and Canada Wide Standards.

Field headspace analysis of the borehole soil was undertaken using an RKL Eagle 2 portable gas detector equipped with a Flame-Ionization Detector (FID) soil-vapour monitor. The analysis commenced after the samples collected had warmed to approximately ambient temperature. The headspace in each bag was measured for a set amount of time and the maximum reading was recorded in field notes and then translated onto the borehole logs (see Appendix B). The headspace vapour concentrations measured in the soil samples ranged from 0 parts per million by volume (ppmv) at three sampling intervals within BH08 to 630 ppmv for sample BH13 0-0.5 (background location) collected between surface and 0.5 mbgl.

Each borehole was backfilled with drill cuttings, with the exception of the four boreholes completed as monitoring wells (see Section 3.4). Drill cuttings were collected in a soil tote bag and left on-site in the drum storage area.

Each soil sample collected was carefully packaged (i.e., jarred in sterile laboratory-issued glass jars for laboratory analysis) following industry-standard sampling protocol. Stantec maintained custody of all the samples until delivery to Maxxam Analytics in Winnipeg on the same day of collection. Of the 93 samples, a total of 41 soil samples were submitted to the laboratory for analysis of a combination of petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons, and/or metals. Toxicity Characteristic Leaching Procedure (TCLP) metals analysis was also requested on a few samples based on the initial metals analytical results. Samples were selected for analysis based on the soil vapour readings, visual and olfactory factors and/or professional judgment. The remaining 52 samples collected were submitted to the laboratory to "hold" for analysis if warranted on the basis of the results of the initial sample analysis (and allowed by specific parameter "hold times"; see chain-of-custody documentation in Appendix C).

The analytical results are discussed in Section 5.1.

3.4 GROUNDWATER INVESTIGATION

During the intrusive investigation between January 10 and 11, 2013, Paddock completed four of the twelve boreholes drilled on the Site as monitoring wells under Stantec's direction (labeled MW01 through MW04; see Figure 3 in Appendix A). Each well was constructed of portions of 2" screened and unscreened/solid polyvinyl chloride (PVC) piping. The monitoring-well construction details are noted on the borehole logs provided in Appendix B.

Sand was added within the annular space around the piping to a height of about 0.3 m above the screened PVC portion; followed by bentonite pellets, which were placed on top of the sand,

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around the solid PVC portion, to create a seal in each well. A flush-with-grade steel cover was then installed to protect the well from tampering and/or accidental damage.

The groundwater levels in the four newly-installed wells were established on January 10, 2013 using a battery-operated Solinst water-level meter. At this time, only MW01, MW02 and MW04 contained any accumulated groundwater. These wells were purged and left to recharge prior to sampling on January 11, 2013⁴. The recorded water-level measurements for the wells are noted on the borehole logs provided in Appendix B.

A new pair of disposable nitrile gloves was worn for each sample collection and the samples were collected with certified clean, dedicated sampling bailers (i.e., new bailer/well). Samples were field filtered (as appropriate to the analysis being conducted) into sterile laboratory-issued containers following industry-standard sampling protocol. The samples were stored in a cooler containing ice immediately following collection and were delivered to the laboratory (Maxxam) on the day of collection.

The analytical results received are discussed in Section 5.2.

⁴ Water levels in monitoring well MW03 (which had been dry) was checked again on January 11, 2013, however, conditions had not changed.

4.0 Regulatory Framework

The regulatory framework that provided guidance in the determination of impacts and the need for site-specific remediation consisted of:

- Canadian Council of Ministers of the Environment (CCME). 1999. *Canadian Environmental Quality Guidelines (CEQG) for the Protection of Environmental and Human Health – industrial land use guidelines*. Report 1-896997-34-1. Publication No. 1299. Winnipeg, Manitoba (Updates to present).
- Canadian Council of Ministers of the Environment (CCME). 2001. *Canada-Wide Standard for Petroleum Hydrocarbons (PHC) in Soil – industrial land use guidelines*. Endorsed by CCME Council of Ministers, April 30-May 1, 2001, Winnipeg (Revised in January 2008).
- Canadian Council of Ministers of the Environment (CCME) 2008. *Canadian Environmental Quality Guidelines (CEQG) for the Protection of Environmental and Human Health. Polycyclic Aromatic Hydrocarbons – industrial land use guidelines*. Report 1-896997-34-1. Publication No. 1299. Winnipeg, Manitoba (Revised 2010).
- Ministry of Ontario Environment (MOE). March 2004. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*. PIBS #7382e01. Revised April 15, 2011.

These four key elements of the framework provided criteria for assessing soil and groundwater impacts. Manitoba Conservation and Water Stewardship (formerly Manitoba Conservation) has adopted the CCME guidelines as their default guidelines.

The MOE document was chosen in addition to the CCME documents because it contains standards for sites with non-potable water conditions. Manitoba does not currently have its own set of guidelines for non-potable water conditions and accepts the use of Ontario standards (Manitoba Conservation, *pers. comm.* 1999). Neighbouring properties are provided with drinking water by the City of Winnipeg. Based on this information, shallow groundwater at the Site is not considered to be used as a source of potable water. Therefore, the MOE standards for a non-potable water condition are appropriate for this Site and were applied in conjunction with the CCME guidelines.

In addition it is noted that the CCME PAH guidelines for soil include an Index of Additive Cancer Risk (IARC) which assess the potential threats to potable groundwater quality from leaching of carcinogenic PAH mixtures from soil. As the Site and neighbouring properties are provided drinking water by the City of Winnipeg water distribution system, the IARC guidelines would not apply to the Site. It has therefore not been included in the evaluation of the soil analytical results.

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All four elements of the regulatory framework applied in this assessment constitute guidance documents rather than formal prescription documents. Since it is not feasible to conduct analysis for all the parameters listed within these documents, the parameters selected for analysis by Stantec related to the types of impacts suspected, namely petroleum hydrocarbons, volatile organic compounds, polycyclic aromatic hydrocarbons and metals.

5.0 Assessment Findings

5.1 SOIL SAMPLE ANALYTICAL RESULTS

The soil analytical results received were compared with the appropriate respective regulatory guidelines/standards (see Section 4.0 and Tables A through C at the end of the report). Copies of the final original results (and the QA/QC documentation) sent from the laboratory are provided in Appendix C.

As shown in Tables A and B, metals and polycyclic aromatic hydrocarbons in excess of the stipulated regulatory guidelines were identified in surface soils in the off-Site "background" sample location. More specifically, at borehole BH13 (BHB), arsenic, selenium, naphthalene and phenanthrene exceeded the CCME guidelines from surface up to 1.0 mbgl.

Impacts to Site soils (i.e., chemical concentrations exceeding the stipulated regulatory guidelines) were found as follows (see also Figure 3 in Appendix A):

- Polycyclic aromatic hydrocarbons in surface soils in the drum storage area, in the vicinity of the aboveground storage tanks, in both metal scrapping areas and the PR subcontractor office/trailer area (chemical storage).
 - At borehole BH01, naphthalene and phenanthrene exceeded the CCME guidelines from surface to 1.5 mbgl.
 - At borehole BH02, naphthalene and phenanthrene exceeded the CCME guidelines from surface to 0.5 mbgl.
 - At boreholes BH04 and BH06, naphthalene and phenanthrene exceeded the CCME guidelines from surface up to 1.0 mbgl.
 - At borehole BH07, naphthalene exceeded the CCME guideline from surface up to 1.0 mbgl.
 - At borehole BH08, naphthalene and phenanthrene exceeded the CCME guidelines from surface up to 1.5 mbgl.
 - At borehole BH10, naphthalene and phenanthrene exceeded the CCME guidelines from surface to 0.5 mbgl.
- Petroleum hydrocarbons in near-surface and subsurface soils in the vicinity of the aboveground storage tanks, the drum storage area and in the smaller metal scrapping area.
 - At borehole BH01, benzene exceeded the CCME guideline from surface to 1.5 mbgl.

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- At borehole BH02, benzene exceeded the CCME guideline from surface to 0.5 mbgl.
- At borehole BH03, benzene exceeded the CCME guideline from 0.5 to 1.0 mbgl and 3.0 to 3.75 mbgl.
- At boreholes BH03 and BH04, PHC F2 exceeded the CCME guideline from 2.25 to 3.0 mbgl.
- At borehole BH05, benzene, toluene and ethylbenzene exceeded the CCME guidelines from surface up to 1.0 mbgl.
- Metals impacts in surface soils in all of the investigated areas, as follows:
 - At borehole BH01, antimony, arsenic, copper, lead, nickel, tin, and zinc exceeded the CCME guidelines from surface to 1.5 mbgl. In addition, nickel exceeded the CCME guidelines from 1.5 to 2.25 mbgl.
 - At borehole BH02, arsenic, copper, lead, and zinc exceeded the CCME guidelines from surface to 0.5 mbgl.
 - At borehole BH04, arsenic and chromium exceeded the CCME guidelines from surface up to 1.0 mbgl.
 - At boreholes BH05 and BH06, antimony, arsenic, copper, lead, tin, and/or zinc exceeded the CCME guideline from surface up to 1.0 mbgl.
 - At borehole BH07, arsenic, copper, lead, nickel, selenium, tin, and vanadium exceeded the CCME guidelines from surface up to 1.0 mbgl.
 - At borehole BH08, antimony, arsenic, beryllium, chromium, copper, lead, nickel, selenium, tin, and vanadium exceeded the CCME guidelines from surface up to 1.5 mbgl.
 - At boreholes BH12 and BH14, antimony, arsenic, copper, lead, nickel, tin and vanadium exceeded the CCME guidelines from surface up to 1.5 mbgl.

No volatile organic compounds exceeding regulatory guidelines were identified in soils analyzed at the locations investigated.

Additionally, in all but two of the soil samples, the pH measured slightly above to above the guideline range of 6-8, ranging from 8.01 to 8.68 indicating alkaline to strongly alkaline soils at the Site. Alkaline soils are common in Manitoba. There is no exposure concern at this time (no pathway and no water bodies within 50 m of the Site).

Additional testing of five soil samples (specifically Toxicity Characteristic Leaching Procedure or TCLP metals analysis; four samples from the two metal scrapping areas and one sample from

the drum storage area) was undertaken to understand the leachability of the detected metals as this affects the risk and remediation options (see Table C at the end of this report). The sample with the highest total lead concentration of all the samples submitted (BH08 0 to 0.5 metres below the ground surface from the south-central area of the larger metal scrapping area) was found to contain a leachable lead concentration that exceeds the respective Manitoba leachate quality criterion (see Section 5.3).

5.2 GROUNDWATER-SAMPLE ANALYTICAL RESULTS

The groundwater analytical results received were compared with the appropriate respective regulatory standards (see Section 4.0 and Table D at the end of the report). Copies of the final original results (and the QA/QC documentation) sent from the laboratory are provided in Appendix C.

The groundwater-analytical results indicated that none of the samples analyzed exceeded the applicable guidelines/standards for petroleum hydrocarbons, volatile organic compounds, dissolved metals or polycyclic aromatic hydrocarbons.

5.3 DISCUSSION

Assuming that the soil samples collected and analyzed from the Site are representative of the larger area surrounding the collection locations, the analytical results indicate the presence of environmental impacts (i.e., concentrations above soil-industrial standards) on the Site. In terms of policy created by Manitoba Conservation and Water Stewardship, remediation is required if the identified impacts pose "*...a threat to human health, safety, or the environment*" (<http://www.gov.mb.ca/conservation/regoperations/database/csra-guide-july-2002.pdf>).

Table E (at the end of this report) provides a tabular summary of the subsurface investigation areas assessed on January 10 and 11, 2013 and the resultant findings. The identified environmental impacts on the Site include metals, polycyclic aromatic hydrocarbons and petroleum hydrocarbons. The metal and polycyclic aromatic hydrocarbon impacts appear confined to the top 1.5 metres below the ground surface, with the highest concentrations (and in particular lead) appearing to be situated within the upper 0.5 metres. These impacts appear pervasive across the areas investigated but particularly in both metal scrapping areas and the PR subcontractor office/trailer area (chemical storage).

The petroleum hydrocarbon impacts (specifically benzene, toluene and ethylbenzene) were identified in surface soil in the drum storage and the small metal scrapping areas and in subsurface soil adjacent to the aboveground gasoline and diesel fuel storage tanks.

**FOCUSED ENVIRONMENTAL ASSESSMENT OF LEASE AREA WITHIN THE CP WESTON
YARD IN WINNIPEG, MB**

No impacts to groundwater were detected, however, some of the metals in the soil, and most particularly lead, were found to be leachable. The concentration of leachable lead in the surface soil in the large metal scrapping area was sufficiently elevated such that this soil would not be accepted by a landfill or typical soil treatment facility.

Delineation of environmental impacts, such as that required to evaluate the need for remediation, was beyond the scope of this Focused Environmental Assessment.

6.0 Conclusions

On the basis of the results of the Focused Environmental Assessment undertaken as discussed in the preceding sections, to the extent that the samples analyzed were representative of the entire Site, and per our conclusions reported to CP on January 23, 2013, Stantec concludes that:

- Review of previous environmental documents and a tour of the Site with CP and PR identified potential environmental concerns associated with the drum storage area, aboveground gasoline and diesel storage tank location, smaller metal scrapping area north of the employee parking area, PR subcontractor office/trailer area at the southwest corner of lease area (chemical storage) and PR subcontractor large metal scrapping operations area.
- The subsurface intrusive investigation identified:
 - Polycyclic aromatic hydrocarbons in surface soils in the drum storage area, in the vicinity of the aboveground storage tanks, in both metal scrapping areas and the PR subcontractor office/trailer area (chemical storage).
 - Metals impacts in surface soils in all of the investigated areas.
 - The highest and leachable metal concentrations were identified in the top 0.5 mbgl in the larger of the two metal scrapping areas.
 - Petroleum hydrocarbons in near-surface and subsurface soils in the vicinity of the aboveground storage tanks, the drum storage area and in the smaller metal scrapping area.
 - Groundwater impacts were not identified.
- Delineation of environmental impacts, such as that required to evaluate the need for remediation, was beyond the scope of this Focused Environmental Assessment.

7.0 Limitations

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified property.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities or claims, howsoever arising, from third party use of this report.

This report is limited by the following:

1. Snow cover was present on the Site at the time of the assessment.
2. Sampling was limited to specific areas.
3. The analytical program was limited to the determination of the specific suite of parameters indicated.
4. Stantec can only comment on the condition of the sampling program at the time of completion and within the areas sampled.

5. Stantec can only make findings or draw conclusions regarding the laboratory analysis completed on the soil and groundwater samples.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. Before starting work, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed at the specific testing and/or sampling locations, and conditions may vary among sampling locations. Factors such as areas of potential concern identified in previous studies, site conditions (e.g., utilities) and cost may have constrained the sampling locations used in this assessment. In addition, analysis has been carried out for only a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities nor that the sampling results are indicative of the condition of the entire site. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment.

Should additional information become available which differs significantly from our understanding of conditions presented in this report, Stantec specifically disclaims any responsibility to update the conclusions in this report.

Stantec

**FOCUSED ENVIRONMENTAL ASSESSMENT OF LEASE AREA WITHIN THE CP WESTON
YARD IN WINNIPEG, MB**

Summary Tables

Table A
Summary of Soil Analytical Results - Shallow Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH1			BH2		BH3		BH4		BH5		BH6					
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	
Sample ID			BH01 0-0.5	BH01 0.5-1	BH01 1-1.5	BH02 0-0.5	BH02 0.5-1	BH03 0.5-1	BH03 0.5-1LR	BH04 0-0.5	BH04 0-0.5LR	BH04 0.5-1	BH05 0-0.5	BH05 0.5-1	BH05 1-1.5	BH06 0-0.5	BH06 0.5-1	BH06 1-1.5	BH06 1-1.5LR
Sample Depth			0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	0.5 - 1 m	0.5 - 1 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	1 - 1.5 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	MAXX	STANTEC	MAXX	MAXX	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	MAXX
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302682	B302682	B302682	B302682	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302682	B302682	B302682	B302682
Laboratory Sample ID			FJ0791	FJ0792	FJ0793	FJ0800	FJ0801	FJ0783	FJ0783	F19562	F19562	F19563	F19553	F19554	F19555	FJ0775	FJ0776	FJ0777	FJ0777
Sample Type	Units	CCME							Lab Replicate		Lab Replicate								Lab Replicate
General Chemistry																			
Moisture Content	%	n/v	-	16	18	13	-	4.3	-	20	-	-	24	23	-	-	20	25	24
pH	S.U.	6-8 ^{MIN}	8.28 ^{MIN}	8.10 ^{MIN}	8.08 ^{MIN}	8.01 ^{MIN}	7.92	-	-	8.27 ^{MIN}	8.28 ^{MIN}	8.28 ^{MIN}	8.28 ^{MIN}	8.22 ^{MIN}	8.20 ^{MIN}	8.21 ^{MIN}	8.19 ^{MIN}	8.22 ^{MIN}	-
General Chemistry-TCLP																			
pH (Leaching Fluid)	S.U.	n/v	-	4.96	-	-	-	-	-	-	-	-	-	4.96	-	-	-	-	-
pH after HCl	S.U.	n/v	-	1.90	-	-	-	-	-	-	-	-	-	1.80	-	-	-	-	-
pH Final	S.U.	n/v	-	6.14	-	-	-	-	-	-	-	-	-	6.12	-	-	-	-	-
pH Initial	S.U.	n/v	-	9.69	-	-	-	-	-	-	-	-	-	9.12	-	-	-	-	-
Petroleum Hydrocarbons																			
PHC F1 (C6-C10 range)	mg/kg	320 ^{AB}	-	15	-	< 10	-	54	54	-	-	-	-	-	-	-	-	-	-
PHC F1 (C6-C10 range) minus BTEX (calc)	mg/kg	320 ^{AB}	-	15	-	< 10	-	54	54	-	-	-	-	-	-	-	-	-	-
PHC F2 (>C10-C16 range)	mg/kg	260 ^{AB}	-	< 20	-	58	-	96	95	-	-	-	-	-	-	-	-	-	-
PHC F3 (>C16-C34 range)	mg/kg	1700 ^{AB}	-	130	-	450	-	< 20	< 20	-	-	-	-	-	-	-	-	-	-
PHC F4 (>C34-C50 range)	mg/kg	3300 ^{AB}	-	49	-	180	-	< 20	< 20	-	-	-	-	-	-	-	-	-	-
Chromatogram to baseline at nC50	mg/kg	n/v	-	YES	-	YES	-	YES	YES	-	-	-	-	-	-	-	-	-	-
Metals																			
Aluminum	mg/kg	n/v	5780	9130	10500	9420	19100	-	-	10500	10700	2210	5270	3880	18200	12200	2920	28900	-
Antimony	mg/kg	40 ^{MIN}	37.1	915 ^{MIN}	39.1 ^{MIN}	17.5	2.26	-	-	4.12	4.27	0.62	405 ^{MIN}	393 ^{MIN}	1.94	10.6	207 ^{MIN}	1.71	-
Arsenic	mg/kg	12 ^{MIN}	21.7 ^{MIN}	23.3 ^{MIN}	38.8 ^{MIN}	36.1 ^{MIN}	9.66	-	-	12.5 ^{MIN}	12.5 ^{MIN}	1.92	38.2 ^{MIN}	75.5 ^{MIN}	5.27	12.1 ^{MIN}	68.9 ^{MIN}	10.3	-
Barium	mg/kg	2000 ^{MIN}	632	300	211	378	229	-	-	306	304	23.3	545	703	148	313	258	198	-
Beryllium	mg/kg	8 ^{MIN}	0.58	0.62	0.95	1.10	1.03	-	-	0.74	0.72	< 0.40	0.62	0.52	0.75	0.57	0.48	1.23	-
Bismuth	mg/kg	n/v	0.71	5.04	0.92	0.35	0.28	-	-	0.16	0.15	< 0.10	2.31	3.02	0.15	0.19	0.59	0.25	-
Cadmium	mg/kg	22 ^{MIN}	5.75	2.76	1.97	1.11	0.862	-	-	0.488	0.486	0.124	4.10	1.28	0.474	0.719	0.913	0.568	-
Calcium	mg/kg	n/v	61900	31600	34900	28600	34800	-	-	56400	56000	127000	34900	17400	72500	71600	17700	29600	-
Chromium (Total)	mg/kg	87 ^{MIN}	24.0	35.3	29.8	25.3	36.9	-	-	22.6	22.9	39.9 ^{MIN}	41.3	73.4	31.8	28.5	26.6	47.0	-
Cobalt	mg/kg	300 ^{MIN}	12.5	11.6	13.6	9.26	12.0	-	-	8.35	8.90	2.39	12.0	12.6	7.98	8.09	23.8	13.0	-
Copper	mg/kg	91 ^{MIN}	400 ^{MIN}	639 ^{MIN}	722 ^{MIN}	388 ^{MIN}	42.7	-	-	60.9	60.7	11.4	675 ^{MIN}	1018 ^{MIN}	27.5	675 ^{MIN}	640 ^{MIN}	37.2	-
Iron	mg/kg	n/v	45300	61000	74900	49900	26800	-	-	32200	32500	10900	124000	141000	23900	42100	203000	30000	-
Lead	mg/kg	260 ^{MIN}	110 ^{MIN}	110 ^{MIN}	255 ^{MIN}	1130 ^{MIN}	130	-	-	90.5	88.5	6.60	110 ^{MIN}	110 ^{MIN}	62.4	545 ^{MIN}	1570 ^{MIN}	28.5	-
Lithium	mg/kg	n/v	8.8	14.8	14.6	15.6	25.1	-	-	14.4	14.0	6.0	8.4	5.9	20.2	14.3	5.2	35.3	-
Magnesium	mg/kg	n/v	23200	13200	16100	9790	19000	-	-	26500	26800	52900	12400	4700	27700	26600	4350	22400	-
Manganese	mg/kg	n/v	617	800	718	395	397	-	-	404	409	170	740	740	244	367	886	331	-
Mercury	mg/kg	24 ^{MIN}	4.29	5.62	0.574	0.261	0.059	-	-	0.103	0.101	< 0.050	13.8	6.90	0.104	5.47	3.48	0.087	-
Molybdenum	mg/kg	40 ^{MIN}	3.13	2.45	2.71	3.81	1.45	-	-	2.08	2.12	13.4	4.60	4.43	0.52	1.81	7.24	0.49	-
Nickel	mg/kg	50 ^{MIN}	248 ^{MIN}	89.7 ^{MIN}	71.8 ^{MIN}	29.0	37.0	-	-	27.4	27.7	7.49	40.0	49.7	26.4	41.2	48.9	41.7	-
Phosphorus	mg/kg	n/v	645	656	777	457	492	-	-	405	402	188	641	566	403	526	496	475	-
Potassium	mg/kg	n/v	1050	1650	1580	1600	3570	-	-	1750	1760	706	646	580	3800	2660	530	5440	-
Selenium	mg/kg	2.9 ^{MIN}	1.28	1.20	2.10	1.84	0.59	-	-	< 0.50	< 0.50	< 0.50	1.70	2.82	< 0.50	0.55	0.94	< 0.50	-
Silver	mg/kg	40 ^{MIN}	1.21	1.11	5.23	0.351	0.167	-	-	0.140	0.145	< 0.050	1.47	4.81	0.093	0.282	0.461	0.154	-
Sodium	mg/kg	n/v	549	341	276	471	354	-	-	522	488	112	742	467	253	256	325	285	-
Strontium	mg/kg	n/v	120	88.3	89.3	95.5	77.5	-	-	80.8	81.6	50.4	188	118	89.7	112	74.5	61.1	-
Thallium	mg/kg	1 ^{MIN}	0.284	0.373	0.631	0.474	0.280	-	-	0.195	0.188	0.070	0.462	0.490	0.225	0.221	0.083	0.330	-
Tin	mg/kg	300 ^{MIN}	74.0	646 ^{MIN}	178	34.2	3.51	-	-	7.00	6.90	0.94	712 ^{MIN}	1190 ^{MIN}	3.10	14.7	168	2.12	-
Titanium	mg/kg	n/v	223	265	321	276	115	-	-	150	150	200	157	144	222	146	75.9	227	-
Uranium	mg/kg	33 ^{MIN}	1.12	0.932	1.15	1.37	1.65	-	-	1.01	1.02	0.332	1.14	1.14	1.41	0.894	0.723	1.12	-
Vanadium	mg/kg	130 ^{MIN}	26.9	35.8	41.0	28.2	60.0	-	-	36.4	36.8	9.9	30.8	27.8	46.8	38.2	21.6	77.7	-
Zinc	mg/kg	360 ^{MIN}	400 ^{MIN}	300 ^{MIN}	618 ^{MIN}	450 ^{MIN}	127	-	-	85.8	87.0	14.3	3020 ^{MIN}	675 ^{MIN}	62.4	187	671 ^{MIN}	91.0	-
Zirconium	mg/kg	n/v	4.79	9.11	11.8	5.70	14.7	-	-	9.75	9.74	1.85	4.71	2.27	9.42	5.21	2.59	15.9	-
Metals - TCLP																			
Antimony	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Arsenic	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Barium	mg/L	n/v	-	0.94	-	-	-	-	-	-	-	-	-	0.69	-	-	-	-	-
Beryllium	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Boron	mg/L	n/v	-	0.11	-	-	-	-	-	-	-	-	-	0.36	-	-	-	-	-
Cadmium	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-

See notes on last page

Table A
Summary of Soil Analytical Results - Shallow Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH1			BH2		BH3		BH4			BH5			BH6			
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13
Sample ID			BH01 0-0.5	BH01 0.5-1	BH01 1-1.5	BH02 0-0.5	BH02 0.5-1	BH03 0.5-1	BH03 0.5-1LR	BH04 0-0.5	BH04 0-0.5LR	BH04 0.5-1	BH05 0-0.5	BH05 0.5-1	BH05 1-1.5	BH06 0-0.5	BH06 0.5-1	BH06 1-1.5	BH06 1-1.5LR
Sample Depth			0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	0.5 - 1 m	0.5 - 1 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	1 - 1.5 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302682	B302682	B302682	B302682	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302682	B302682	B302682	B302682
Laboratory Sample ID			FJ0791	FJ0792	FJ0793	FJ0800	FJ0801	FJ0783	FJ0783	FJ9562	FJ9562	FJ9563	FJ9553	FJ9554	FJ9555	FJ0775	FJ0776	FJ0777	FJ0777
Sample Type	Units	CCME						Lab Replicate		Lab Replicate						Lab Replicate			
Metals - TCLP																			
Chromium (Total)	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Cobalt	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Copper	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Iron	mg/L	n/v	-	1.34	-	-	-	-	-	-	-	-	-	1.16	-	-	-	-	-
Lead	mg/L	n/v	-	0.70	-	-	-	-	-	-	-	-	-	0.96	-	-	-	-	-
Mercury	mg/L	n/v	-	< 0.0020	-	-	-	-	-	-	-	-	-	< 0.0020	-	-	-	-	-
Molybdenum	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Nickel	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Selenium	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Silver	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Thallium	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Uranium	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Vanadium	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Zinc	mg/L	n/v	-	0.54	-	-	-	-	-	-	-	-	-	0.56	-	-	-	-	-
Zirconium	mg/L	n/v	-	< 0.10	-	-	-	-	-	-	-	-	-	< 0.10	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons																			
Acenaphthene	mg/kg	NC ^{CL} n/v ^{CL} NC ^A CF ^M CF ^N	-	0.020	0.0057	0.36	-	-	-	0.019	-	-	-	-	-	-	0.26	< 0.0050	-
Acenaphthylene	mg/kg	NC ^{CL} n/v ^{CL} NC ^A CF ^M CF ^N	-	0.15	0.038	0.072	-	-	-	0.059	-	-	-	-	-	-	0.089	< 0.0050	-
Anthracene	mg/kg	3 ^{DF} GU	-	0.16	0.027	0.70	-	-	-	0.13	-	-	-	-	-	-	0.66	< 0.0040	-
Benzo(a)anthracene	mg/kg	10 ^{DF} S	-	1.1	0.16	1.4	-	-	-	0.43	-	-	-	-	-	-	1.2	< 0.020	-
Benzo(a)pyrene	mg/kg	1.4 ^I	-	1.1	0.27	1.1	-	-	-	0.37	-	-	-	-	-	-	1.1	< 0.020	-
Benzo(a)pyrene Total Potency Equivalents	none	0.6/5.3 ^{CE}	-	1.1 ^{CE}	0.49	1.1 ^{CE}	-	-	-	1.1 ^{CE}	-	-	-	-	-	-	1.1 ^{CE}	< 0.10	-
Benzo(b)fluoranthene	mg/kg	10 ^{DF} S	-	-	-	-	-	-	-	0.43	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	10 ^{DF} S	-	2.1	0.45	1.5	-	-	-	0.65	-	-	-	-	-	-	1.6	< 0.020	-
Benzo(g,h,i)perylene	mg/kg	NC ^{CL} n/v ^{CL} NC ^A	-	2.2	0.48	0.64	-	-	-	0.26	-	-	-	-	-	-	1.9	< 0.050	-
Benzo(k)fluoranthene	mg/kg	10 ^{DF} S	-	0.56	0.12	0.48	-	-	-	0.20	-	-	-	-	-	-	0.47	< 0.020	-
Chrysene	mg/kg	NC ^{CL} n/v ^{CL} NC ^A CF ^M CF ^N	-	1.5	0.22	1.6	-	-	-	0.54	-	-	-	-	-	-	1.5	< 0.020	-
Dibenzo(a,h)anthracene	mg/kg	10 ^{DF} S	-	0.40	0.10	0.19	-	-	-	0.084	-	-	-	-	-	-	0.24	< 0.050	-
Fluoranthene	mg/kg	180 ^{DF} GU	-	1.2	0.12	3.3	-	-	-	0.78	-	-	-	-	-	-	2.0	< 0.020	-
Fluorene	mg/kg	NC ^{CL} n/v ^{CL} NC ^A CF ^M CF ^N	-	0.029	< 0.020	0.38	-	-	-	0.038	-	-	-	-	-	-	0.33	< 0.020	-
Indeno(1,2,3-cd)pyrene	mg/kg	10 ^{DF} S	-	1.4	0.35	0.56	-	-	-	0.25	-	-	-	-	-	-	0.72	< 0.050	-
Methylnaphthalene, 2-	mg/kg	n/v	-	0.29	0.36	1.4	-	-	-	0.29	-	-	-	-	-	-	1.1	< 0.020	-
Naphthalene	mg/kg	0.013 ^{DF}	-	0.013 ^{DF}	0.24 ^{DF}	0.90 ^{DF}	-	-	-	0.20 ^{DF}	-	-	-	-	-	-	1.0 ^{DF}	< 0.010	-
Phenanthrene	mg/kg	0.046 ^{DF}	-	0.046 ^{DF}	0.26 ^{DF}	3.4 ^{DF}	-	-	-	0.26 ^{DF}	-	-	-	-	-	-	2.1 ^{DF}	< 0.020	-
Pyrene	mg/kg	100 ^{DF} S	-	2.1	0.17	3.2	-	-	-	0.64	-	-	-	-	-	-	1.9	< 0.020	-
Index of Additive Cancer Risk	none	n/v	-	26	5.6	22	-	-	-	8.4	-	-	-	-	-	-	21	0.31	-
Low Molecular Weight PAH's	mg/kg	n/v	-	1.8	0.94	7.2	-	-	-	1.1	-	-	-	-	-	-	5.6	< 0.050	-
High Molecular Weight PAH's	mg/kg	n/v	-	15	2.7	15	-	-	-	4.6	-	-	-	-	-	-	14	< 0.050	-
Total PAH	mg/kg	n/v	-	16	3.7	22	-	-	-	5.7	-	-	-	-	-	-	19	< 0.050	-
Volatile Organic Compounds																			
Benzene	mg/kg	0.030 ^{MB}	-	0.030 ^{MB}	-	0.029	-	0.23 ^{MB}	0.19 ^{MB}	-	-	-	0.000 ^{MB}	0.000 ^{MB}	-	-	-	-	-
Bromodichloromethane	mg/kg	n/v	-	< 0.050 MH	-	< 0.050 MH	-	< 0.050 MH	-	-	-	-	< 0.050 MH	< 0.050 MH	-	-	-	-	-
Bromoform (Tribromomethane)	mg/kg	n/v	-	< 0.050 MH	-	< 0.050 MH	-	< 0.050 MH	-	-	-	-	< 0.050 MH	< 0.050 MH	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	n/v	-	< 0.30 MH	-	< 0.30 MH	-	< 0.30 MH	-	-	-	-	< 0.30 MH	< 0.30 MH	-	-	-	-	-
Carbon Tetrachloride (Tetrachloromethane)	mg/kg	50 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Chlorobenzene (Monochlorobenzene)	mg/kg	10 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Chloroethane (Ethyl Chloride)	mg/kg	n/v	-	< 0.10 MH	-	< 0.10 MH	-	< 0.10 MH	-	-	-	-	< 0.10 MH	< 0.10 MH	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	50 ^{MB}	-	< 0.050 MH	-	< 0.050 MH	-	< 0.050 MH	-	-	-	-	< 0.050 MH	< 0.050 MH	-	-	-	-	-
Chloromethane	mg/kg	n/v	-	< 0.10 MH	-	< 0.10 MH	-	< 0.10 MH	-	-	-	-	< 0.10 MH	< 0.10 MH	-	-	-	-	-
Dibromochloromethane	mg/kg	n/v	-	< 0.050 MH	-	< 0.050 MH	-	< 0.050 MH	-	-	-	-	< 0.050 MH	< 0.050 MH	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	10 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	10 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	10 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	50 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	50 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	50 ^{MB}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichloroethylene, cis-1,2-	mg/kg	n/v	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-

See notes on last page

Table A
Summary of Soil Analytical Results - Shallow Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH1			BH2		BH3		BH4			BH5			BH6			
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13
Sample ID			BH01 0-0.5	BH01 0.5-1	BH01 1-1.5	BH02 0-0.5	BH02 0.5-1	BH03 0.5-1	BH03 0.5-1LR	BH04 0-0.5	BH04 0-0.5LR	BH04 0.5-1	BH05 0-0.5	BH05 0.5-1	BH05 1-1.5	BH06 0-0.5	BH06 0.5-1	BH06 1-1.5	BH06 1-1.5LR
Sample Depth			0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	0.5 - 1 m	0.5 - 1 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	1 - 1.5 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302682	B302682	B302682	B302682	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302682	B302682	B302682	B302682
Laboratory Sample ID			FJ0791	FJ0792	FJ0793	FJ0800	FJ0801	FJ0783	FJ0783	F19562	F19562	F19563	F19553	F19554	F19555	FJ0775	FJ0776	FJ0777	FJ0777
Sample Type	Units	CCME						Lab Replicate		Lab Replicate						Lab Replicate			
Volatile Organic Compounds																			
Dichloroethylene, trans-1,2-	mg/kg	n/v	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	50 ^{MH}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Dichloropropene, cis-1,3-	mg/kg	n/v	-	< 0.050 MH	-	< 0.050 MH	-	< 0.050 MH	-	-	-	-	< 0.050 MH	< 0.050 MH	-	-	-	-	-
Dichloropropene, trans-1,3-	mg/kg	n/v	-	< 0.050 MH	-	< 0.050 MH	-	< 0.050 MH	-	-	-	-	< 0.050 MH	< 0.050 MH	-	-	-	-	-
Ethylbenzene	mg/kg	0.082 ^{CL}	-	< 0.010	-	0.062	-	0.069	0.057	-	-	-	0.021 MH	0.50 MH	-	-	-	-	-
Ethylene Dibromide (Dibromoethane, 1,2-)	mg/kg	n/v	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	mg/kg	n/v	-	< 0.20 MH	-	< 0.20 MH	-	< 0.20 MH	-	-	-	-	< 0.20 MH	< 0.20 MH	-	-	-	-	-
Methyl tert-butyl ether (MTBE)	mg/kg	n/v	-	< 0.10	-	< 0.10 MH	-	< 0.10	< 0.10	-	-	-	< 0.10 MH	< 0.10 MH	-	-	-	-	-
Methylene Chloride (Dichloromethane)	mg/kg	50 ^{MH}	-	< 0.10 MH	-	< 0.10 MH	-	< 0.10 MH	-	-	-	-	0.78 MH	0.83 MH	-	-	-	-	-
Styrene	mg/kg	50 ^{MH}	-	< 0.030 MH	-	< 0.030 MH	-	< 0.030 MH	-	-	-	-	< 0.030 MH	< 0.030 MH	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	n/v	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	50 ^{MH}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Tetrachloroethylene (PCE)	mg/kg	0.5 ^M	-	0.15 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Toluene	mg/kg	0.37 ^{CL}	-	0.058	-	0.24	-	0.11	0.086	-	-	-	0.14 MH	1.3 MH	-	-	-	-	-
Trichlorobenzene, 1,2,3-	mg/kg	10 ^{MH}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Trichlorobenzene, 1,2,4-	mg/kg	10 ^{MH}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	50 ^{MH}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	50 ^{MH}	-	< 0.025 MH	-	< 0.025 MH	-	< 0.025 MH	-	-	-	-	< 0.025 MH	< 0.025 MH	-	-	-	-	-
Trichloroethylene (TCE)	mg/kg	0.01 ^{MH}	-	< 0.0090 MH	-	< 0.0090 MH	-	< 0.0090 MH	-	-	-	-	< 0.0090 MH	< 0.0090 MH	-	-	-	-	-
Trichlorofluoromethane (Freon 11)	mg/kg	n/v	-	< 0.20 MH	-	< 0.20 MH	-	< 0.20 MH	-	-	-	-	< 0.20 MH	< 0.20 MH	-	-	-	-	-
Vinyl chloride	mg/kg	n/v	-	< 0.060 MH	-	< 0.060 MH	-	< 0.060 MH	-	-	-	-	< 0.060 MH	< 0.060 MH	-	-	-	-	-
Xylene, m & p-	mg/kg	n/v	-	0.085	-	0.35	-	0.21	0.18	-	-	-	0.15 MH	2.0 MH	-	-	-	-	-
Xylene, o-	mg/kg	n/v	-	0.058	-	0.21	-	0.028	0.026	-	-	-	0.045 MH	0.84 MH	-	-	-	-	-
Xylenes, Total	mg/kg	11 ^{MH}	-	0.14	-	0.56	-	0.23	0.20	-	-	-	0.19	2.8	-	-	-	-	-

Table A
Summary of Soil Analytical Results - Shallow Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH7		BH8			BH10	BH12			BH13			BH14			
Sample Date			10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	
Sample ID			BH07 0-0.5	BH07 0.5-1	BH08 0-0.5	BH08 0.5-1	BH08 1-1.5	BH10 0-0.5	BH12 0-0.5	BH12 0.5-1	BH12 1-1.5	BH13 0-0.5	BH13 0-0.5LR	BH13 0.5-1	BH13 1-1.5	BH14 0-0.5	BH14 0.5-1	BH14 1-1.5
Sample Depth			0 - 0.5 m	0.5 - 1 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302434	B302434	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302682	B302682	B302682
Laboratory Sample ID			FI8544	FI8545	FJ0768	FJ0769	FJ0770	FI9589	FI9571	FI9572	FI9573	FI9580	FI9580	FI9581	FI9582	FJ0761	FJ0762	FJ0763
Sample Type	Units	CCME	Lab Replicate															
General Chemistry																		
Moisture Content	%	n/v	-	30	20	-	27	22	35	-	23	16	-	18	21	-	31	-
pH	S.U.	6-8 ^{AB}	8.24 ^{AB}	8.38 ^{AB}	8.10 ^{AB}	8.31 ^{AB}	8.47 ^{AB}	8.23 ^{AB}	8.09 ^{AB}	8.13 ^{AB}	8.18 ^{AB}	7.77	-	8.00	8.29 ^{AB}	7.99	7.64	8.23 ^{AB}
General Chemistry-TCLP																		
pH (Leaching Fluid)	S.U.	n/v	-	-	4.96	-	-	-	4.96	-	-	-	-	-	-	-	4.96	-
pH after HCl	S.U.	n/v	-	-	1.91	-	-	-	1.89	-	-	-	-	-	-	-	2.36	-
pH Final	S.U.	n/v	-	-	5.87	-	-	-	5.53	-	-	-	-	-	-	-	6.40	-
pH Initial	S.U.	n/v	-	-	9.01	-	-	-	8.43	-	-	-	-	-	-	-	8.70	-
Petroleum Hydrocarbons																		
PHC F1 (C6-C10 range)	mg/kg	320 ^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHC F1 (C6-C10 range) minus BTEX (calc)	mg/kg	320 ^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHC F2 (>C10-C16 range)	mg/kg	260 ^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHC F3 (>C16-C34 range)	mg/kg	1700 ^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PHC F4 (>C34-C50 range)	mg/kg	3300 ^{AB}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromatogram to baseline at nC50	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals																		
Aluminum	mg/kg	n/v	14100	26100	7630	16200	25000	14900	14200	25100	13100	8960	-	27100	14300	6030	12400	27000
Antimony	mg/kg	40 ^{AB}	27.9	2.04	770 ^{AB}	265 ^{AB}	2.74	1.60	56.7 ^{AB}	1.10	0.32	1.65	-	0.31	0.30	332 ^{AB}	51.8 ^{AB}	2.89
Arsenic	mg/kg	12 ^{AB}	39.0 ^{AB}	9.95	866 ^{AB}	75.1 ^{AB}	7.40	11.4	111 ^{AB}	7.26	4.39	17.5 ^{AB}	-	9.03	4.42	69.0 ^{AB}	102 ^{AB}	9.84
Barium	mg/kg	2000 ^{AB}	1580	186	1060	1300	147	1880	828	123	179	441	-	168	154	772	802	226
Beryllium	mg/kg	8 ^{AB}	0.90	1.06	14.5 ^{AB}	1.55	1.13	1.26	0.80	1.11	0.44	0.90	-	1.10	0.52	0.51	0.78	1.17
Bismuth	mg/kg	n/v	0.71	0.20	5.2	0.93	0.22	< 0.10	1.27	0.20	0.11	0.15	-	0.18	0.11	2.64	0.85	0.30
Cadmium	mg/kg	22 ^{AB}	2.47	0.582	7.39	12.5	0.667	0.820	13.3	0.750	0.429	0.622	-	0.519	0.437	1.71	4.26	1.35
Calcium	mg/kg	n/v	43500	38500	25500	23500	39700	21000	37000	24000	133000	10400	-	24600	91300	45100	14800	21900
Chromium (Total)	mg/kg	87 ^{AB}	39.3	43.2	392 ^{AB}	160 ^{AB}	40.9	10.6	63.3	42.0	23.4	12.3	-	40.4	25.0	52.7	42.7	50.6
Cobalt	mg/kg	300 ^{AB}	14.6	12.4	32.5	25.6	13.2	5.82	16.3	11.5	5.77	17.5	-	14.2	7.29	22.1	16.5	15.6
Copper	mg/kg	91 ^{AB}	564 ^{AB}	39.0	2730 ^{AB}	1880 ^{AB}	40.7	86.1	111 ^{AB}	45.3	15.3	78.6	-	25.5	17.8	2350 ^{AB}	630 ^{AB}	167 ^{AB}
Iron	mg/kg	n/v	141000	34700	243000	158000	26300	21900	70800	26100	13800	18000	-	26700	15400	176000	121000	35100
Lead	mg/kg	260 ^{AB}	1080 ^{AB}	56.4	29500 ^{AB}	4746 ^{AB}	87.9	190	111 ^{AB}	32.4	7.79	65.1	-	13.1	9.06	111 ^{AB}	107 ^{AB}	107
Lithium	mg/kg	n/v	20.6	31.3	< 50	16.9	28.0	18.4	18.1	27.7	22.7	11.9	-	27.3	22.8	8.1	13.4	31.6
Magnesium	mg/kg	n/v	11500	20400	10400	4360	18800	4080	17000	16300	40200	4730	-	16900	41000	12700	8010	18400
Manganese	mg/kg	n/v	848	361	14900	7920	584	120	931	251	263	135	-	1130	325	816	639	306
Mercury	mg/kg	24 ^{AB}	0.700	< 0.050	2.94	4.09	< 0.050	0.075	0.597	0.052	< 0.050	0.187	-	< 0.050	< 0.050	0.657	0.098	< 0.050
Molybdenum	mg/kg	40 ^{AB}	7.47	0.84	31.0	14.7	0.95	3.95	15.5	0.79	0.27	3.47	-	0.39	0.21	10.7	4.69	0.83
Nickel	mg/kg	50 ^{AB}	53.2 ^{AB}	37.7	539 ^{AB}	247 ^{AB}	40.1	14.8	191 ^{AB}	51.6 ^{AB}	19.3	35.6	-	44.8	23.3	111 ^{AB}	111 ^{AB}	65.8 ^{AB}
Phosphorus	mg/kg	n/v	1050	447	815	1000	426	474	820	487	323	310	-	463	380	794	919	489
Potassium	mg/kg	n/v	1350	5180	< 1000	620	5710	604	2050	6310	3030	1060	-	5230	2360	1330	3350	5710
Selenium	mg/kg	2.9 ^{AB}	2.85	< 0.50	6.2 ^{AB}	0.93	< 0.50	0.83	2.00	< 0.50	< 0.50	4.01 ^{AB}	-	< 0.50	< 0.50	2.59	1.44	< 0.50
Silver	mg/kg	40 ^{AB}	0.479	0.134	3.21	0.768	0.155	0.567	4.47	0.152	0.077	0.286	-	0.125	0.084	1.44	0.697	0.262
Sodium	mg/kg	n/v	3120	530	1700	3550	886	4850	924	589	386	1900	-	478	377	913	760	413
Strontium	mg/kg	n/v	587	95.9	236	629	74.4	889	192	59.0	154	214	-	53.0	113	243	101	54.1
Thallium	mg/kg	1 ^{AB}	0.463	0.275	< 0.50	0.133	0.289	< 0.050	0.190	0.308	0.160	0.322	-	0.315	0.200	0.275	0.230	0.361
Tin	mg/kg	300 ^{AB}	528 ^{AB}	5.15	1190 ^{AB}	577 ^{AB}	3.56	2.98	111 ^{AB}	2.35	0.79	1.89	-	0.96	0.59	111 ^{AB}	77.9	5.48
Titanium	mg/kg	n/v	485	243	325	575	237	480	133	169	363	142	-	236	339	177	228	233
Uranium	mg/kg	33 ^{AB}	3.05	1.89	2.46	2.37	1.11	3.41	1.84	2.10	1.30	1.12	-	0.875	0.987	1.89	1.72	0.969
Vanadium	mg/kg	130 ^{AB}	42.4	70.2	34	35.0	61.4	18.8	37.7	58.9	36.2	16.3	-	68.9	39.0	28.1	39.3	67.2
Zinc	mg/kg	360 ^{AB}	591 ^{AB}	88.5	1110 ^{AB}	1110 ^{AB}	125	182	111 ^{AB}	212	38.5	116	-	85.5	45.7	1080 ^{AB}	1830 ^{AB}	249
Zirconium	mg/kg	n/v	14.8	14.3	11.1	20.5	13.9	22.7	4.49	13.5	8.94	7.69	-	9.30	10.7	3.91	9.61	15.0
Metals - TCLP																		
Antimony	mg/L	n/v	-	-	0.18	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Arsenic	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Barium	mg/L	n/v	-	-	0.90	-	-	-	1.24	-	-	-	-	-	-	-	0.52	-
Beryllium	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Boron	mg/L	n/v	-	-	0.82	-	-	-	0.68	-	-	-	-	-	-	-	0.60	-
Cadmium	mg/L	n/v	-	-	< 0.10	-	-	-	0.20	-	-	-	-	-	-	-	< 0.10	-

See notes on last page

Table A
Summary of Soil Analytical Results - Shallow Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH7		BH8			BH10	BH12			BH13				BH14		
Sample Date			10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	
Sample ID			BH07 0-0.5	BH07 0.5-1	BH08 0-0.5	BH08 0.5-1	BH08 1-1.5	BH10 0-0.5	BH12 0-0.5	BH12 0.5-1	BH12 1-1.5	BH13 0-0.5	BH13 0-0.5LR	BH13 0.5-1	BH13 1-1.5	BH14 0-0.5	BH14 0.5-1	BH14 1-1.5
Sample Depth			0 - 0.5 m	0.5 - 1 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302434	B302434	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302682	B302682	B302682
Laboratory Sample ID			FI9544	FI9545	FJ0760	FJ0760	FJ0770	FI9588	FI9571	FI9572	FI9573	FI9580	FI9580	FI9581	FI9582	FJ0761	FJ0762	FJ0763
Sample Type	Units	CCME	Lab Replicate															
Metals - TCLP																		
Chromium (Total)	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Cobalt	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Copper	mg/L	n/v	-	-	0.78	-	-	-	3.65	-	-	-	-	-	-	-	< 0.10	-
Iron	mg/L	n/v	-	-	0.88	n/v	-	-	0.65	-	-	-	-	-	-	-	1.18	-
Lead	mg/L	n/v	-	-	32.5	-	-	-	0.52	-	-	-	-	-	-	-	0.19	-
Mercury	mg/L	n/v	-	-	< 0.0020	-	-	-	< 0.0020	-	-	-	-	-	-	-	< 0.0020	-
Molybdenum	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Nickel	mg/L	n/v	-	-	0.78	-	-	-	1.03	-	-	-	-	-	-	-	< 0.10	-
Selenium	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Silver	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Thallium	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Uranium	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Vanadium	mg/L	n/v	-	-	< 0.10	n/v	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Zinc	mg/L	n/v	-	-	26.4	-	-	-	71.6	-	-	-	-	-	-	-	0.51	-
Zirconium	mg/L	n/v	-	-	< 0.10	-	-	-	< 0.10	-	-	-	-	-	-	-	< 0.10	-
Polycyclic Aromatic Hydrocarbons																		
Acenaphthene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^N	-	< 0.0050	0.16	-	0.18	0.0078	0.093	-	< 0.0050	0.17 IF	0.14 IF	< 0.0050	< 0.0050	-	0.12	-
Acenaphthylene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^N	-	< 0.0050	0.036	-	< 0.0050	< 0.0050	0.065	-	< 0.0050	< 0.0050	0.014	< 0.0050	< 0.0050	-	0.033	-
Anthracene	mg/kg	32 ^{DF,CL}	-	0.0054	0.21	-	0.25	0.012	0.15	-	< 0.0040	0.089	0.10	< 0.0040	< 0.0040	-	0.30	-
Benzo(a)anthracene	mg/kg	10 ^{DF,S}	-	< 0.020	0.47	-	0.29	0.020	0.41	-	< 0.020	0.16	0.17	< 0.020	< 0.020	-	0.82	-
Benzo(a)pyrene	mg/kg	1.4 ^I	-	< 0.020	0.45	-	0.18	< 0.020	0.46	-	< 0.020	0.067	0.10	< 0.020	< 0.020	-	0.61	-
Benzo(a)pyrene Total Potency Equivalents	none	0.6/5.3 ^{CE}	-	< 0.10	0.75 ^{CE}	-	0.29	< 0.10	0.77 ^{CE}	-	< 0.10	0.13	-	< 0.10	< 0.10	-	1.2 ^{CE}	-
Benzo(b)fluoranthene	mg/kg	10 ^{DF,S}	-	< 0.020	-	-	-	0.022	0.64	-	< 0.020	0.075	0.12	< 0.020	< 0.020	-	-	-
Benzo(b)fluoranthene	mg/kg	10 ^{DF,CL}	-	0.025	0.82	-	0.28	0.032	0.92	-	< 0.020	0.12	0.18	< 0.020	< 0.020	-	1.1	-
Benzo(g,h,i)perylene	mg/kg	NC ^G n/v ^H NC ^A	-	< 0.050	0.41	-	0.10	< 0.050	0.49	-	< 0.050	0.071	0.15	< 0.050	< 0.050	-	0.50	-
Benzo(k)fluoranthene	mg/kg	10 ^{DF,S}	-	< 0.020	0.21	-	0.10	< 0.020	0.25	-	< 0.020	< 0.020	0.031	< 0.020	< 0.020	-	0.33	-
Chrysene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^N	-	< 0.020	0.66	-	0.28	0.035	0.66	-	< 0.020	0.19	0.23	< 0.020	< 0.020	-	1.0	-
Dibenzo(a,h)anthracene	mg/kg	10 ^{DF,CL}	-	< 0.050	0.11	-	< 0.050	< 0.050	0.11	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	-	0.11	-
Fluoranthene	mg/kg	180 ^{DF,CL}	-	0.028	0.97	-	0.72	0.079	0.96	-	< 0.020	0.28	0.35	< 0.020	< 0.020	-	2.0	-
Fluorene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^N	-	< 0.020	0.24	-	0.22	< 0.020	0.098	-	< 0.020	0.12	0.099	< 0.020	< 0.020	-	0.16	-
Indeno(1,2,3-cd)pyrene	mg/kg	10 ^{DF,CL}	-	< 0.050	0.33	-	0.099	< 0.050	0.38	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	-	0.41	-
Methylnaphthalene, 2-	mg/kg	n/v	-	< 0.020	1.1	-	0.061	0.083	1.1	-	< 0.020	5.2	4.5	0.11	< 0.020	-	1.3	-
Naphthalene	mg/kg	0.013 ^{DF}	-	0.014 ^{DF}	0.75 ^{DF}	-	0.077 ^{DF}	0.059 ^{DF}	0.61 ^{DF}	-	< 0.010	3.2 ^{DF}	3.2 ^{DF}	0.036	< 0.010	-	0.01 ^{DF}	-
Phenanthrene	mg/kg	0.046 ^{DF}	-	0.030	1.3 ^{DF}	-	0.31 ^{DF}	0.083 ^{DF}	0.88 ^{DF}	-	< 0.020	3.2 ^{DF}	3.2 ^{DF}	0.036	< 0.020	-	1.2 ^{DF}	-
Pyrene	mg/kg	100 ^{DF,S}	-	0.027	0.86	-	0.54	0.062	0.79	-	< 0.020	0.29	0.34	< 0.020	< 0.020	-	1.7	-
Index of Additive Cancer Risk	none	n/v	-	0.40	10	-	4.1	0.49	11	-	0.31	1.7	-	0.31	0.31	-	14	-
Low Molecular Weight PAH's	mg/kg	n/v	-	< 0.050	3.8	-	1.7	0.24	3.0	-	< 0.050	1.1	-	0.21	< 0.050	-	4.5	-
High Molecular Weight PAH's	mg/kg	n/v	-	0.080	5.8	-	2.8	0.25	6.1	-	< 0.050	1.2	-	< 0.050	< 0.050	-	9.3	-
Total PAH	mg/kg	n/v	-	0.13	9.6	-	4.5	0.49	9.1	-	< 0.050	12	-	0.21	< 0.050	-	14	-
Volatile Organic Compounds																		
Benzene	mg/kg	0.030 ^{CL}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform (Tribromomethane)	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride (Tetrachloromethane)	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene (Monochlorobenzene)	mg/kg	10 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane (Ethyl Chloride)	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	10 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	10 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	10 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,1-	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethylene, cis-1,2-	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page

Table A
Summary of Soil Analytical Results - Shallow Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH7		BH8			BH10	BH12			BH13				BH14		
			10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13
Sample Date			BH07 0-0.5	BH07 0.5-1	BH08 0-0.5	BH08 0.5-1	BH08 1-1.5	BH10 0-0.5	BH12 0-0.5	BH12 0.5-1	BH12 1-1.5	BH13 0-0.5	BH13 0-0.5LR	BH13 0.5-1	BH13 1-1.5	BH14 0-0.5	BH14 0.5-1	BH14 1-1.5
Sample ID																		
Sample Depth			0 - 0.5 m	0.5 - 1 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m	0 - 0.5 m	0.5 - 1 m	1 - 1.5 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302434	B302434	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302682	B302682	B302682
Laboratory Sample ID			F19544	F19545	FJ0768	FJ0768	FJ0770	F19589	F19571	F19572	F19573	F19580	F19580	F19581	F19582	FJ0761	FJ0762	FJ0763
Sample Type	Units	CCME																
Volatile Organic Compounds																		
Dichloroethylene, trans-1,2-	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, cis-1,3-	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, trans-1,3-	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.082 ^{CL}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene Dibromide (Dibromoethane, 1,2-)	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene (Heachloro-1,3-butadiene)	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether (MTBE)	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethylene (PCE)	mg/kg	0.5 ^{CL}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	mg/kg	0.37 ^{CL}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorobenzene, 1,2,3-	mg/kg	10 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorobenzene, 1,2,4-	mg/kg	10 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	50 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene (TCE)	mg/kg	0.01 ^{MIN}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (Freon 11)	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene, m & p-	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene, o-	mg/kg	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes, Total	mg/kg	11 ^{PE}	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

CCME	Canadian Council of Ministers of the Environment
A	Canada Wide Standards for PHC in Soil - Commercial land use - Coarse-grained Surface Soil, Tier 1 (Revised Jan 2008, Table 3), lowest guideline of all path
B	Canada Wide Standards for PHC in Soil - Industrial land use - Coarse-grained Soil, Tier 1 (Revised Jan 2008, Table 3), lowest guideline of all pathways
C	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 1 - Direct contact)
D	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 1 - Environmental health guidelines based on non-carcinogenic effects of PAHs)
E	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an Industrial land use (Table 1 - Direct contact)
F	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an Industrial land use (Table 1 - Environmental health guidelines based on non-carcinogenic effects of PAHs)
G	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 2 - Soil Quality Guideline for Soil Contact)
H	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 2 - Soil Quality Guideline for Soil and food ingestion)
I	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 2 - Interim/Provisional Soil Quality Criteria, CCME 1991)
J	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an Industrial land use (Table 2 - Soil Quality Guideline for Soil Contact)
K	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an Industrial land use (Table 2 - Soil Quality Guideline for Soil and food ingestion)
L	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an Industrial land use (Table 2 - Interim/Provisional Soil Quality Criteria, CCME 1991)
M	Canadian Environmental Quality Guidelines, Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health, on-line summary table viewed on date, for a commercial land use and coarse grained soil
N	Canadian Environmental Quality Guidelines, Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health, on-line summary table viewed on date, for an industrial land use and coarse grained soil
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantitation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
CF	Consult Factsheet
NC	Not calculated.
OR	SOQ based on an incremental lifetime cancer risk (ILCR) of 1 in 1,000,000 (10e-6) or 1 in 100,000 (10e-5) B[a]P TPE = Benzo[a]pyrene Total Potency Equivalents, which is the sum of estimated cancer potency relative to B[a]P for all potentially carcinogenic unsubstituted PAHs. The B[a]P TPE for a soil sample is calculated by multiplying the concentration of each PAH in the sample by its B[a]P Potency Equivalence Factor (PEF), given below, and summing the products: Benzo[a]anthracene = 0.1, Benzo[a]pyrene = 1, Benzo[b]k]fluoranthene = 0.1, Benzo[g,h,i]perylene = 0.01, Chrysene = 0.01, Dibenzo[a,h]anthracene =1, Indeno[1,2,3-cd]pyrene = 0.1. This value is the Soil Quality Guideline for the Protection of Freshwater Life. Users may wish to consider the application, on a site-specific basis, of this value where potential impacts to nearby surface waters are a concern (the value may be less than the common limit of detection in some jurisdictions, and the 1991 Interim Soil Quality Criteria for phenanthrene.
MH	Sample extracted past 48 hours from receipt of sample but within the 7 day extraction holdtime.

Table B
Summary of Soil Analytical Results - Sub Soil Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH1	BH2	BH3			BH4			BH5	BH7		BH10	BH14
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13
Sample ID			BH01 1.5-2.25	BH02 1.5-2.25	BH03 2.25-3	BH03 3-3.75	BH03 3-3.75LR	BH04 1.5-2.25	BH04 2.25-3	BH04 3-3.75	BH05 2.25-3	BH07 3-3.75	BH07 3-3.75LR	BH10 1.5-2.25	BH14 1.5-2.25
Sample Depth			1.5 - 2.25 m	1.5 - 2.25 m	2.25 - 3 m	3 - 3.75 m	3 - 3.75 m	1.5 - 2.25 m	2.25 - 3 m	3 - 3.75 m	2.25 - 3 m	3 - 3.75 m	3 - 3.75 m	1.5 - 2.25 m	1.5 - 2.25 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302682	B302682	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302682
Laboratory Sample ID			FJ0794	FJ0803	FJ0786	FJ0787	FJ0787	FI9565	FI9566	FI9567	FI9557	FI9549	FI9549	FI9592	FJ0764
Sample Type		Units	CCME				Lab Replicate					Lab Replicate			
General Chemistry															
Moisture Content	%	n/v	-	19	28	35	34	19	32	28	-	31	31	25	19
pH	S.U.	6-8 ^{MIN}			-	-	-	-	-	-		7.94	-		
Petroleum Hydrocarbons															
PHC F1 (C6-C10 range)	mg/kg	320 ^{AB}	-	-	< 10	< 10	-	< 10	< 10	-	-	-	-	-	-
PHC F1 (C6-C10 range) minus BTEX (calc)	mg/kg	320 ^{AB}	-	-	< 10	< 10	-	< 10	< 10	-	-	-	-	-	-
PHC F2 (>C10-C16 range)	mg/kg	260 ^{AB}	-	-		260	-	40		30	-	-	-	-	-
PHC F3 (>C16-C34 range)	mg/kg	2500 ^{AB}	-	-	440	180	-	< 20	570	61	-	-	-	-	-
PHC F4 (>C34-C50 range)	mg/kg	6600 ^{AB}	-	-	44	< 20	-	< 20	43	< 20	-	-	-	-	-
Chromatogram to baseline at nC50	mg/kg	n/v	-	-	YES	YES	-	YES	YES	YES	-	-	-	-	-
Metals															
Aluminum	mg/kg	n/v	25100	10200	-	-	-	-	-	-	22500	21900	-	28800	4980
Antimony	mg/kg	8 ^{MIN}	9.90	0.54	-	-	-	-	-	-	0.85	0.47	-	1.18	0.30
Arsenic	mg/kg	12 ^{MIN}	6.88	4.64	-	-	-	-	-	-	4.92	5.69	-	7.70	2.30
Barium	mg/kg	2000 ^{MIN}	310	85.9	-	-	-	-	-	-	271	204	-	269	27.7
Beryllium	mg/kg	8 ^{MIN}	0.94	0.41	-	-	-	-	-	-	0.78	0.84	-	1.11	< 0.40
Bismuth	mg/kg	n/v	0.43	0.10	-	-	-	-	-	-	0.23	0.21	-	0.26	< 0.10
Cadmium	mg/kg	22 ^{MIN}	0.792	0.556	-	-	-	-	-	-	0.740	0.581	-	0.779	0.281
Calcium	mg/kg	n/v	31900	75200	-	-	-	-	-	-	33100	39400	-	35500	94500
Chromium (Total)	mg/kg	87 ^{MIN}	56.6	18.8	-	-	-	-	-	-	47.7	43.8	-	49.6	11.3
Cobalt	mg/kg	300 ^{MIN}	16.2	6.13	-	-	-	-	-	-	14.7	13.3	-	14.9	2.87
Copper	mg/kg	91 ^{MIN}	86.7	16.2	-	-	-	-	-	-	41.8	34.5	-	35.3	9.22
Iron	mg/kg	n/v	34300	13700	-	-	-	-	-	-	28600	26400	-	26800	7360
Lead	mg/kg	260 ^{MI}	218	13.4	-	-	-	-	-	-	31.3	18.5	-	37.6	5.92
Lithium	mg/kg	n/v	51.0	15.6	-	-	-	-	-	-	43.0	36.9	-	43.9	9.1
Magnesium	mg/kg	n/v	23000	39200	-	-	-	-	-	-	23600	23900	-	17500	53600
Manganese	mg/kg	n/v	560	377	-	-	-	-	-	-	476	538	-	532	165
Mercury	mg/kg	24 ^{MI}	0.168	< 0.050	-	-	-	-	-	-	0.054	< 0.050	-	< 0.050	< 0.050
Molybdenum	mg/kg	40 ^{MIN}	0.75	0.62	-	-	-	-	-	-	0.56	0.98	-	0.98	0.28
Nickel	mg/kg	50 ^{MIN}	55.2 ^{MIN}	17.9	-	-	-	-	-	-	44.5	40.5	-	46.4	8.64
Phosphorus	mg/kg	n/v	613	424	-	-	-	-	-	-	538	541	-	552	304
Potassium	mg/kg	n/v	6000	1740	-	-	-	-	-	-	4950	4820	-	5530	980
Selenium	mg/kg	2.9 ^{MIN}	< 0.50	< 0.50	-	-	-	-	-	-	< 0.50	< 0.50	-	< 0.50	< 0.50
Silver	mg/kg	40 ^{MIN}	0.194	0.082	-	-	-	-	-	-	0.111	0.130	-	0.164	0.052
Sodium	mg/kg	n/v	613	254	-	-	-	-	-	-	917	766	-	1550	209
Strontium	mg/kg	n/v	67.9	69.6	-	-	-	-	-	-	71.8	73.4	-	103	41.3
Thallium	mg/kg	1 ^{MIN}	0.457	0.183	-	-	-	-	-	-	0.419	0.354	-	0.370	0.081
Tin	mg/kg	300 ^{MIN}	29.1	0.91	-	-	-	-	-	-	2.18	6.82	-	1.96	0.51
Titanium	mg/kg	n/v	982	232	-	-	-	-	-	-	684	567	-	462	271
Uranium	mg/kg	33 ^{MI}	1.49	1.12	-	-	-	-	-	-	1.61	1.50	-	1.41	0.510
Vanadium	mg/kg	130 ^{MIN}	64.1	33.9	-	-	-	-	-	-	57.9	59.0	-	76.6	17.9
Zinc	mg/kg	360 ^{MIN}	162	42.3	-	-	-	-	-	-	105	90.4	-	103	19.3
Zirconium	mg/kg	n/v	21.0	10.8	-	-	-	-	-	-	16.2	15.0	-	18.4	7.88

see notes on last page

Table B
Summary of Soil Analytical Results - Sub Soil Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH1	BH2	BH3	BH3	BH3	BH4	BH4	BH5	BH7	BH7	BH10	BH14	
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13	
Sample ID			BH01 1.5-2.25	BH02 1.5-2.25	BH03 2.25-3	BH03 3-3.75	BH03 3-3.75SLR	BH04 1.5-2.25	BH04 2.25-3	BH04 3-3.75	BH05 2.25-3	BH07 3-3.75	BH07 3-3.75SLR	BH10 1.5-2.25	BH14 1.5-2.25
Sample Depth			1.5 - 2.25 m	1.5 - 2.25 m	2.25 - 3 m	3 - 3.75 m	3 - 3.75 m	1.5 - 2.25 m	2.25 - 3 m	3 - 3.75 m	2.25 - 3 m	3 - 3.75 m	3 - 3.75 m	1.5 - 2.25 m	1.5 - 2.25 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302682	B302682	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302682
Laboratory Sample ID			FJ0794	FJ0803	FJ0786	FJ0787	FJ0787	F19565	F19566	F19567	F19557	F19549	F19549	F19592	FJ0764
Sample Type	Units	CCME					Lab Replicate						Lab Replicate		
Polycyclic Aromatic Hydrocarbons															
Acenaphthene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^H	-	< 0.0050	-	-	-	-	-	-	< 0.0050	-	< 0.0050	< 0.0050	< 0.0050
Acenaphthylene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^H	-	< 0.0050	-	-	-	-	-	-	< 0.0050	-	< 0.0050	< 0.0050	< 0.0050
Anthracene	mg/kg	32 ^{DFGU}	-	0.0048	-	-	-	-	-	-	< 0.0040	-	< 0.0040	< 0.0040	< 0.0040
Benzo(a)anthracene	mg/kg	10 ^{DFL}	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Benzo(a)pyrene	mg/kg	1.4 ^L	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Benzo(a)pyrene Total Potency Equivalents	none	0.6/5.3 _{a,b,c} ^{CE}	-	< 0.10	-	-	-	-	-	-	< 0.10	-	< 0.10	< 0.10	< 0.10
Benzo(b)fluoranthene	mg/kg	10 ^{DFL}	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Benzo(b)fluoranthene	mg/kg	10 ^{DFL}	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Benzo(g,h,i)perylene	mg/kg	NC ^G n/v ^H NC ^A	-	< 0.050	-	-	-	-	-	-	< 0.050	-	< 0.050	< 0.050	< 0.050
Benzo(k)fluoranthene	mg/kg	10 ^{DFL}	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Chrysene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^H	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Dibenzo(a,h)anthracene	mg/kg	10 ^{DFL}	-	< 0.050	-	-	-	-	-	-	< 0.050	-	< 0.050	< 0.050	< 0.050
Fluoranthene	mg/kg	180 ^{DFGU}	-	0.026	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Fluorene	mg/kg	NC ^G n/v ^H NC ^A CF ^M CF ^H	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Indeno(1,2,3-cd)pyrene	mg/kg	10 ^{DFL}	-	< 0.050	-	-	-	-	-	-	< 0.050	-	< 0.050	< 0.050	< 0.050
Methylnaphthalene, 2-	mg/kg	n/v	-	< 0.020	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Naphthalene	mg/kg	0.013 _a ^{DF}	-	< 0.010	-	-	-	-	-	-	< 0.010	-	< 0.010	< 0.010	< 0.010
Phenanthrene	mg/kg	0.046 _a ^{DF}	-	0.026	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Pyrene	mg/kg	100 ^{DFL}	-	0.026	-	-	-	-	-	-	< 0.020	-	< 0.020	< 0.020	< 0.020
Index of Additive Cancer Risk	none	n/v	-	0.31	-	-	-	-	-	-	0.31	-	0.31	0.31	0.31
Low Molecular Weight PAH's	mg/kg	n/v	-	< 0.050	-	-	-	-	-	-	< 0.050	-	< 0.050	< 0.050	< 0.050
High Molecular Weight PAH's	mg/kg	n/v	-	0.052	-	-	-	-	-	-	< 0.050	-	< 0.050	< 0.050	< 0.050
Total PAH	mg/kg	n/v	-	0.083	-	-	-	-	-	-	< 0.050	-	< 0.050	< 0.050	< 0.050
Volatile Organic Compounds															
Benzene	mg/kg	0.0068 _{CF} ^{MH}	-	-	< 0.0050	0.0011 ^{MH}	-	< 0.0050	< 0.0050	-	-	-	-	-	-
Bromodichloromethane	mg/kg	n/v	-	-	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	-	-	-	-	-	-
Bromoform (Tribromomethane)	mg/kg	n/v	-	-	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	-	-	-	-	-	-
Bromomethane (Methyl bromide)	mg/kg	n/v	-	-	< 0.30 MH	< 0.30 MH	< 0.30 MH	< 0.30 MH	< 0.30 MH	-	-	-	-	-	-
Carbon Tetrachloride (Tetrachloromethane)	mg/kg	50 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Chlorobenzene (Monochlorobenzene)	mg/kg	10 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Chloroethane (Ethyl Chloride)	mg/kg	n/v	-	-	< 0.10 MH	< 0.10 MH	< 0.10 MH	< 0.10 MH	< 0.10 MH	-	-	-	-	-	-
Chloroform (Trichloromethane)	mg/kg	50 ^{MH}	-	-	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	-	-	-	-	-	-
Chloromethane	mg/kg	n/v	-	-	< 0.10 MH	< 0.10 MH	< 0.10 MH	< 0.10 MH	< 0.10 MH	-	-	-	-	-	-
Dibromochloromethane	mg/kg	n/v	-	-	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	-	-	-	-	-	-
Dichlorobenzene, 1,2-	mg/kg	10 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichlorobenzene, 1,3-	mg/kg	10 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichlorobenzene, 1,4-	mg/kg	10 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichloroethane, 1,1-	mg/kg	50 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichloroethane, 1,2-	mg/kg	50 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichloroethene, 1,1-	mg/kg	50 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichloroethylene, cis-1,2-	mg/kg	n/v	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichloroethylene, trans-1,2-	mg/kg	n/v	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichloropropane, 1,2-	mg/kg	50 ^{MH}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Dichloropropene, cis-1,3-	mg/kg	n/v	-	-	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	-	-	-	-	-	-
Dichloropropene, trans-1,3-	mg/kg	n/v	-	-	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	< 0.050 MH	-	-	-	-	-	-
Ethylbenzene	mg/kg	0.018 _{CF} ^{MH}	-	-	< 0.010	< 0.010	-	< 0.010	< 0.010	-	-	-	-	-	-
Ethylene Dibromide (Dibromoethane, 1,2-)	mg/kg	n/v	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-

see notes on last page

Table B
Summary of Soil Analytical Results - Sub Soil Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH1	BH2	BH3			BH4			BH5	BH7		BH10	BH14
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	11-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	10-Jan-13	11-Jan-13
Sample ID			BH01 1.5-2.25	BH02 1.5-2.25	BH03 2.25-3	BH03 3-3.75	BH03 3-3.75LR	BH04 1.5-2.25	BH04 2.25-3	BH04 3-3.75	BH05 2.25-3	BH07 3-3.75	BH07 3-3.75LR	BH10 1.5-2.25	BH14 1.5-2.25
Sample Depth			1.5 - 2.25 m	1.5 - 2.25 m	2.25 - 3 m	3 - 3.75 m	3 - 3.75 m	1.5 - 2.25 m	2.25 - 3 m	3 - 3.75 m	2.25 - 3 m	3 - 3.75 m	3 - 3.75 m	1.5 - 2.25 m	1.5 - 2.25 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC	STANTEC	STANTEC	STANTEC		STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302682	B302682	B302682	B302682	B302682	B302434	B302434	B302434	B302434	B302434	B302434	B302434	B302682
Laboratory Sample ID			FJ0794	FJ0803	FJ0786	FJ0787	FJ0787	F19565	F19566	F19567	F19557	F19549	F19549	F19592	FJ0764
Sample Type	Units	CCME					Lab Replicate						Lab Replicate		
Volatile Organic Compounds (Contd.)															
Hexachlorobutadiene (Heschloro-1,3-butadiene)	mg/kg	n/v	-	-	< 0.20 MH	< 0.20 MH	< 0.20 MH	< 0.20 MH	< 0.20 MH	-	-	-	-	-	-
Methyl tert-butyl ether (MTBE)	mg/kg	n/v	-	-	< 0.10	< 0.10	-	< 0.10	< 0.10	-	-	-	-	-	-
Methylene Chloride (Dichloromethane)	mg/kg	50 ^{MN}	-	-	< 0.10 MH	< 0.10 MH	< 0.10 MH	< 0.10 MH	< 0.10 MH	-	-	-	-	-	-
Styrene	mg/kg	50 ^{MN}	-	-	< 0.030 MH	< 0.030 MH	< 0.030 MH	< 0.030 MH	< 0.030 MH	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	mg/kg	n/v	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	mg/kg	50 ^{MN}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Tetrachloroethylene (PCE)	mg/kg	0.5 ^M	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Toluene	mg/kg	0.08 ^{CF}	-	-	< 0.020	< 0.020	-	< 0.020	< 0.020	-	-	-	-	-	-
Trichlorobenzene, 1,2,3-	mg/kg	10 ^{MN}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Trichlorobenzene, 1,2,4-	mg/kg	10 ^{MN}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Trichloroethane, 1,1,1-	mg/kg	50 ^{MN}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Trichloroethane, 1,1,2-	mg/kg	50 ^{MN}	-	-	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	< 0.025 MH	-	-	-	-	-	-
Trichloroethylene (TCE)	mg/kg	0.01 ^{MN}	-	-	< 0.0090 MH	< 0.0090 MH	< 0.0090 MH	< 0.0090 MH	< 0.0090 MH	-	-	-	-	-	-
Trichlorofluoromethane (Freon 11)	mg/kg	n/v	-	-	< 0.20 MH	< 0.20 MH	< 0.20 MH	< 0.20 MH	< 0.20 MH	-	-	-	-	-	-
Vinyl chloride	mg/kg	n/v	-	-	< 0.060 MH	< 0.060 MH	< 0.060 MH	< 0.060 MH	< 0.060 MH	-	-	-	-	-	-
Xylene, m & p-	mg/kg	n/v	-	-	< 0.040	< 0.040	-	< 0.040	< 0.040	-	-	-	-	-	-
Xylene, o-	mg/kg	n/v	-	-	< 0.020	< 0.020	-	< 0.020	< 0.020	-	-	-	-	-	-
Xylenes, Total	mg/kg	2.4 ^{CF}	-	-	< 0.040	< 0.040	-	< 0.040	< 0.040	-	-	-	-	-	-

Notes:

CCME	Canadian Council of Ministers of the Environment
A	Canada Wide Standards for PHC in Soil - Commercial land use - Fine-grained, Surface Soil, Tier 1 (Revised Jan 2008, Table 2), lowest guideline of all pathways
B	Canada Wide Standards for PHC in Soil - Industrial land use - Fine-grained, Surface Soil, Tier 1 (Revised Jan 2008, Table 2), lowest guideline of all pathways
C	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 1 - Direct contact)
D	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 1 - Environmental health guidelines based on non-carcinogenic effects of PAHs)
E	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an industrial land use (Table 1 - Direct contact)
F	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an industrial land use (Table 1 - Environmental health guidelines based on non-carcinogenic effects of PAHs)
G	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 2 - Soil Quality Guideline for Soil Contact)
H	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 2 - Soil Quality Guideline for Soil and food ingestion)
I	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for a Commercial land use (Table 2 - Interim/Provisional Soil Quality Criteria, CCME 1991)
J	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an industrial land use (Table 2 - Soil Quality Guideline for Soil Contact)
K	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an industrial land use (Table 2 - Soil Quality Guideline for Soil and food ingestion)
L	Canadian Soil Quality Guideline for the Protection of Environmental and Human Health, PAH, 2008, revised 2010, for an industrial land use (Table 2 - Interim/Provisional Soil Quality Criteria, CCME 1991)
M	Canadian Environmental Quality Guidelines, Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health, on-line summary table viewed on date, for a commercial land use and fine grained soil
N	Canadian Environmental Quality Guidelines, Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health, on-line summary table viewed on date, for an industrial land use and fine grained soil
6.5^A	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantitation limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
-	Consult Factsheet
-	Not calculated.
-	SQG based on an incremental lifetime cancer risk (ILCR) of 1 in 1,000,000 (10e-6) or 1 in 100,000 (10e-5). B[a]P TPE = Benzo[a]pyrene Total Potency Equivalents, which is the sum of estimated cancer potency relative to B[a]P for all potentially carcinogenic unsubstituted PAHs. The B[a]P TPE for a soil sample is calculated by multiplying the concentration of each PAH in the sample by its B[a]P Potency Equivalence Factor (PEF), given below, and summing the products: Benzo[a]anthracene = 0.1, Benzo[a]pyrene = 1, Benzo[b+g+h]fluoranthene = 0.1, Benzo[g,h,i]perylene = 0.01, Chrysene = 0.01, Dibenzo[a,h]anthracene = 1, Indeno[1,2,3-cd]pyrene = 0.1.
-	This value is the Soil Quality Guideline for the Protection of Freshwater Life. Users may wish to consider the application, on a site-specific basis, of this value where potential impacts to nearby surface waters are a concern (the value may be less than the common limit of detection in some jurisdictions; and the 1991 Interim Soil Quality Criteria for phenanthrene.
MH	Sample extracted past 48 hours from receipt of sample but within the 7 day extraction holdtime.

Table C
Summary of Soil Analytical Results - TCLP
Shallow Samples
Weston Yard
Canadian Pacific Railway Co.

Sample Location			BH1	BH5	BH8	BH12	BH14
Sample Date			11-Jan-13	10-Jan-13	11-Jan-13	10-Jan-13	11-Jan-13
Sample ID			BH01 0.5-1	BH05 0.5-1	BH08 0-0.5	BH12 0-0.5	BH14 0.5-1
Sample Depth			0.5 - 1 m	0.5 - 1 m	0 - 0.5 m	0 - 0.5 m	0.5 - 1 m
Sampling Company			STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX	MAXX	MAXX
Laboratory Work Order			B302682	B302434	B302682	B302434	B302682
Laboratory Sample ID	Units	Leachate	FJ0792	FI9554	FJ0768	FI9571	FJ0762

General Chemistry-TCLP							
pH (Leaching Fluid)	S.U.	n/v	4.96	4.96	4.96	4.96	4.96
pH after HCl	S.U.	n/v	1.90	1.80	1.91	1.89	2.36
pH Final	S.U.	n/v	6.14	6.12	5.87	5.53	6.40
pH Initial	S.U.	n/v	9.69	9.12	9.01	8.43	8.70

Metals - TCLP							
Antimony	mg/L	n/v	< 0.10	< 0.10	0.18	< 0.10	< 0.10
Arsenic	mg/L	5 ^A	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Barium	mg/L	100 ^A	0.94	0.69	0.90	1.24	0.52
Beryllium	mg/L	n/v	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Boron	mg/L	500 ^A	0.11	0.36	0.82	0.68	0.60
Cadmium	mg/L	0.5 ^A	< 0.10	< 0.10	< 0.10	0.20	< 0.10
Chromium (Total)	mg/L	5 ^A	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Cobalt	mg/L	n/v	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Copper	mg/L	n/v	< 0.10	< 0.10	0.78	3.65	< 0.10
Iron	mg/L	n/v	1.34	1.16	0.88	0.65	1.18
Lead	mg/L	5 ^A	0.70	0.96	11.8 ^A	0.52	0.19
Mercury	mg/L	0.1 ^A	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Molybdenum	mg/L	n/v	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	mg/L	n/v	< 0.10	< 0.10	0.78	1.03	< 0.10
Selenium	mg/L	1.0 ^A	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Silver	mg/L	5.0 ^A	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Thallium	mg/L	n/v	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Uranium	mg/L	2.0 ^A	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Vanadium	mg/L	n/v	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Zinc	mg/L	n/v	0.54	0.56	26.4	71.6	0.51
Zirconium	mg/L	n/v	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

- Notes:
- Leachate Province of Manitoba Leachate Quality Criteria
 - ^A Leachate Quality Criteria - Column II - Concentration in Waste Extract
 - 6.5^A Concentration exceeds the indicated standard.
 - 15.2 Concentration was detected.
 - < 0.03 The analyte was not detected above the laboratory estimated quantitation limit.
 - Parameter not analyzed / not available
 - n/v No value

Table D
Summary of Groundwater Analytical Results
Weston Yard
Canadian Pacific Railway Co.

Sample Location		WESTON	MW1	MW2	MW4
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13
Sample ID			MW01	MW02	MW04
Sampling Company			STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX
Laboratory Work Order		Amended	B302638	B302638	B302638
Laboratory Sample ID	Units	O.Reg 153/04	FJ0573	FJ0559	FJ0574
General Chemistry					
Filter and HNO3 Preservation	none	n/v	FIELD	FIELD	FIELD
Hardness (as CaCO3)	µg/L	n/v	2340000	3170000	1010000
Petroleum Hydrocarbons					
PHC F1 (C6-C10 range)	µg/L	750 ₁₇ ^A	< 300	< 300	< 300
PHC F1 (C6-C10 range) minus BTEX (calc)	µg/L	750 ₁₇ ^A	< 300	< 300	< 300
PHC F2 (>C10-C16 range)	µg/L	150 ₁₅ ^A	< 150	< 150	< 150
PHC F3 (>C16-C34 range)	µg/L	500 ₁₈ ^A	< 150	< 150	< 150
PHC F4 (>C34-C50 range)	µg/L	500 ₁₀ ^A	< 150	< 150	< 150
Metals					
Aluminum	µg/L	n/v	42.1	< 12	< 3.0
Antimony	µg/L	20000 ^A	< 0.50	< 2.0	1.29
Arsenic	µg/L	1900 ^A	0.51	1.33	0.51
Barium	µg/L	29000 ^A	14.9	31.3	22.3
Beryllium	µg/L	67 ^A	< 0.10	< 0.40	< 0.10
Bismuth	µg/L	n/v	< 1.0	< 4.0	< 1.0
Boron	µg/L	45000 ^A	328	325	1290
Cadmium	µg/L	2.7 ^A	0.053 IF	0.112	0.473
Calcium	µg/L	n/v	276000	317000	135000
Chromium (Total)	µg/L	810 ^A	< 1.0	< 4.0	< 1.0
Cobalt	µg/L	66 ^A	< 0.50	< 2.0	< 0.50
Copper	µg/L	87 ^A	2.18	5.53	81.4
Iron	µg/L	n/v	58.8	< 20	14.3
Lead	µg/L	25 ^A	0.64	0.93	0.41
Lithium	µg/L	n/v	313	392	276
Magnesium	µg/L	n/v	401000	578000	162000
Manganese	µg/L	n/v	93.7	366	39.2
Mercury	µg/L	0.29 ^A	< 0.010	< 0.010	0.011
Molybdenum	µg/L	9200 ^A	6.2	< 4.0	3.6
Nickel	µg/L	490 ^A	6.1	5.3	12.9
Potassium	µg/L	n/v	5420	11600	35000
Selenium	µg/L	63 ^A	< 0.10	< 0.40	3.61
Silicon	µg/L	n/v	9100	7900	4150
Silver	µg/L	1.5 ^A	< 0.020	< 0.080	< 0.020
Sodium	µg/L	2300000 ^A	279000	350000	294000
Strontium	µg/L	n/v	1980	2330	1010
Sulfur	µg/L	n/v	630000	932000	241000
Thallium	µg/L	510 ^A	< 0.050	< 0.20	< 0.050
Tin	µg/L	n/v	< 5.0	< 20	< 5.0
Titanium	µg/L	n/v	< 5.0	< 20	< 5.0
Uranium	µg/L	420 ^A	55.2	113	32.4
Vanadium	µg/L	250 ^A	< 5.0	< 20	< 5.0
Zinc	µg/L	1100 ^A	14.3	25	181
Zirconium	µg/L	n/v	1.33	< 2.0	0.71
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	µg/L	600 ^A	< 0.050	< 0.050	< 0.050
Acenaphthylene	µg/L	1.8 ^A	< 0.050	< 0.050	< 0.050
Acridine	µg/L	n/v	< 0.050	< 0.050	< 0.050
Anthracene	µg/L	2.4 ^A	0.014	0.088	< 0.010
Benzo(a)anthracene	µg/L	4.7 ^A	< 0.010	< 0.010	< 0.010
Benzo(a)pyrene	µg/L	0.81 ^A	< 0.0090	< 0.0090	< 0.0090
Benzo(b)pyridine (Quinoline)	µg/L	n/v	< 0.50	< 0.50	< 0.50
Benzo(b,j)fluoranthene	µg/L	0.75 ₁₂ ^A	< 0.050	< 0.050	< 0.050
Benzo(g,h,i)perylene	µg/L	0.2 ^A	< 0.050	< 0.050	< 0.050
Benzo(k)fluoranthene	µg/L	0.4 ^A	< 0.050	< 0.050	< 0.050
Chrysene	µg/L	1 ^A	< 0.050	< 0.050	< 0.050
Dibenzo(a,h)anthracene	µg/L	0.52 ^A	< 0.050	< 0.050	< 0.050
Fluoranthene	µg/L	130 ^A	0.053	0.037	< 0.020
Fluorene	µg/L	400 ^A	< 0.050	< 0.050	< 0.050
Indeno(1,2,3-cd)pyrene	µg/L	0.2 ^A	< 0.050	< 0.050	< 0.050
Methylnaphthalene, 2-	µg/L	1 ₁₃ ^A	< 0.10	0.10	< 0.10
Naphthalene	µg/L	1400 ^A	< 0.10	< 0.10	< 0.10
Phenanthrene	µg/L	580 ^A	0.079	0.098	< 0.050
Pyrene	µg/L	68 ^A	0.048	0.030	< 0.020
Low Molecular Weight PAH's	µg/L	n/v	< 0.50	< 0.50	< 0.50
High Molecular Weight PAH's	µg/L	n/v	0.10	0.066	< 0.050
Total PAH	µg/L	n/v	< 0.50	< 0.50	< 0.50
Volatile Organic Compounds					
Benzene	µg/L	44 ^A	< 0.4	< 0.4	< 0.4
Bromodichloromethane	µg/L	85000 ^A	< 1.0	< 1.0	< 1.0
Bromoform (Tribromomethane)	µg/L	380 ^A	< 1.0	< 1.0	< 1.0
Bromomethane (Methyl bromide)	µg/L	5.6 ^A	< 1.0	< 1.0	< 1.0
Carbon Tetrachloride (Tetrachloromethane)	µg/L	0.79 ^A	< 0.50	< 0.50	< 0.50
Chlorobenzene (Monochlorobenzene)	µg/L	630 ^A	< 0.50	< 0.50	< 0.50
Chloroethane (Ethyl Chloride)	µg/L	n/v	< 1.0	< 1.0	< 1.0
Chloroform (Trichloromethane)	µg/L	2.4 ^A	< 1.0	< 1.0	< 1.0
Chloromethane	µg/L	n/v	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/L	82000 ^A	< 1.0	< 1.0	< 1.0
Dichlorobenzene, 1,2-	µg/L	4600 ^A	< 0.50	< 0.50	< 0.50
Dichlorobenzene, 1,3-	µg/L	9600 ^A	< 0.50	< 0.50	< 0.50
Dichlorobenzene, 1,4-	µg/L	8 ^A	< 0.50	< 0.50	< 0.50
Dichlorodifluoromethane (Freon 12)	µg/L	4400 ^A	< 2.0	< 2.0	< 2.0
Dichloroethane, 1,1-	µg/L	320 ^A	< 0.50	< 0.50	< 0.50
Dichloroethane, 1,2-	µg/L	1.6 ^A	< 0.50	< 0.50	< 0.50
Dichloroethene, 1,1-	µg/L	1.6 ^A	< 0.50	< 0.50	< 0.50
Dichloroethylene, cis-1,2-	µg/L	1.6 ^A	< 1.0	< 1.0	< 1.0
Dichloroethylene, trans-1,2-	µg/L	1.6 ^A	< 1.0	< 1.0	< 1.0
See notes on the last page					

Table E - 111440143.200 - Weston Yard Lease Area Assessment Summary				
Area of Potential Environmental Concern	Investigation	Samples Submitted For Analysis	Analytical Parameters	Findings
Drum storage	2 boreholes: BH01 and BH02 No wells	5 shallow soil: BH01 (0-0.5, 0.5-1 and 1-1.5 mbgl) and BH02 (0-0.5 and 0.5-1 mbgl) 2 sub soil: BH01 (1.5-2.25 mbgl) and BH02 (1.5-2.25 mbgl)	Soil: petroleum hydrocarbons (F1-F4), metals, metals TCLP, PAHs and VOCs	BH01 (0-0.5 mbgl): Arsenic, Copper, Lead, Nickel and Zinc (between 1.8x and 13.1x the respective guidelines) BH01 (0.5-1 mbgl): Antimony, Arsenic, Copper, Lead, Nickel, Tin, Zinc, Naphthalene, Phenanthrene and Benzene (between 1.1x and 69x the respective guidelines) BH01 (1-1.5 mbgl): Antimony, Arsenic, Copper, Lead, Nickel, Zinc, Naphthalene, Phenanthrene and Benzene (between 1.4x and 18.5x the respective guidelines) BH01 (1.5-2.25 mbgl): Nickel (1.1x the respective guideline) BH02 (0-0.5 mbgl): Arsenic, Copper, Lead, Zinc, Naphthalene, Phenanthrene and Benzene (between 1.3x and 74x the respective guidelines)
Aboveground diesel and gas fuel storage tanks	2 boreholes: BH03 and BH04 1 well: MW03	3 shallow soil: BH03 (0.5-1 mbgl) and BH04 (0-0.5 and 0.5-1 mbgl) 5 sub soil: BH03 (2.25-3 and 3-3.75 mbgl) and BH04 (1.5-2.25, 2.25-3 and 3-3.75 mbgl) 0 groundwater: MW03 (dry)	Soil: petroleum hydrocarbons (F1-F4), metals, PAHs and VOCs Groundwater: petroleum hydrocarbons (F1-F4), dissolved metals, PAHs and VOCs	BH03: highest reading of soil-vapour in surface soil (0-0.5 mbgl) BH03 (0.5-1 mbgl): Benzene (7.7x the respective guideline) BH03 (2.25-3 mbgl): PHC F2 (2.1x the respective guideline) BH03 (3-3.75 mbgl): Benzene (3.1x the respective guideline) BH04 (0-0.5 mbgl): Arsenic, Naphthalene and Phenanthrene (between 1.03x and 15x the respective guidelines) BH04 (0.5-1 mbgl): Chromium (total) (1.1x the respective guideline) BH04 (2.25-3 mbgl): PHC F2 (2.4x the respective guideline)
Smaller scrapping area north of employee parking	2 boreholes: BH05 and BH06 1 well: MW02	6 shallow soil: BH05 (0-0.5, 0.5-1 and 1-1.5 mbgl) and BH06 (0-0.5, 0.5-1 and 1-1.5 mbgl) 1 sub soil: BH05 (2.25-3 mbgl) 1 groundwater: MW02	Soil: petroleum hydrocarbons (F1-F4), metals, metals TCLP, PAHs and VOCs Groundwater: petroleum hydrocarbons (F1-F4), dissolved metals, PAHs and VOCs	BH05 (0-0.5 mbgl): Antimony, Arsenic, Copper, Lead, Tin, Zinc and Benzene (between 1.3x and 73x the respective guidelines) BH05 (0.5-1 mbgl): Antimony, Arsenic, Copper, Lead, Tin, Zinc, Benzene, Ethylbenzene and Toluene (between 1.3x and 155x the respective guidelines) BH06 (0-0.5 mbgl): Arsenic, Copper and Lead (between 1x and 7.4x the respective guidelines) BH06 (0.5-1 mbgl): Antimony, Arsenic, Copper, Lead, Zinc, Naphthalene and Phenanthrene (between 1.7x and 77x the respective guidelines)
PR Subcontractor office/trailer area at southwest corner of lease area (chemical storage)	1 borehole: BH07 1 well: MW01	2 shallow soil: BH07 (0-0.5 and 0.5-1 mbgl) 1 sub soil: BH07 (1.5-2.25 mbgl) 1 groundwater: MW01	Soil: petroleum hydrocarbons (F1-F4), metals, PAHs and VOCs Groundwater: petroleum hydrocarbons (F1-F4), dissolved metals, PAHs and VOCs	BH07 (0-0.5 mbgl): Arsenic, Copper, Lead, Nickel, Selenium, Tin and Vanadium (between 1.1x and 6.2x the respective guidelines) BH07 (0.5-1 mbgl): Naphthalene (1.1x the respective guideline)
PR Subcontractor large scrapping operations area	4 boreholes: BH08, BH10, BH12 and BH14 1 well: MW04	10 shallow soil: BH08 (0-0.5, 0.5-1 and 1-1.5 mbgl), BH10 (0-0.5 mbgl), BH12 (0-0.5, 0.5-1 and 1-1.5 mbgl) and BH14 (0-0.5, 0.5-1 and 1-1.5 mbgl) 2 sub soil: BH10 (1.5-2.25 mbgl) and BH14 (1.5-2.25 mbgl) 1 groundwater: MW04	Soil: petroleum hydrocarbons (F1-F4), metals, metals TCLP, PAHs and VOCs Groundwater: petroleum hydrocarbons (F1-F4), dissolved metals, PAHs and VOCs	BH08 (0-0.5 mbgl): Antimony, Arsenic, Chromium (total), Copper, Lead, Leachable Lead (TCLP), Nickel, Selenium, Tin, Vanadium, Naphthalene and Phenanthrene (between 1.8x and 113.5x the respective guidelines) BH08 (0.5-1 mbgl): Antimony, Arsenic, Beryllium, Chromium (total), Copper, Lead, Nickel, Tin and Vanadium (between 1.6x and 47x the respective guidelines) BH08 (1-1.5 mbgl): Naphthalene and Phenanthrene (between 5.9x and 19.8x the respective guidelines) BH10 (0-0.5 mbgl): Naphthalene and Phenanthrene (between 1.8x and 4.5x the respective guidelines) BH12 (0-0.5 mbgl): Antimony, Arsenic, Copper, Lead, Nickel, Tin, Vanadium, Naphthalene and Phenanthrene (between 1.4x and 59x the respective guidelines) BH12 (0.5-1 mbgl): Nickel (1.03x the respective guideline) BH14 (0-0.5 mbgl): Antimony, Arsenic, Copper, Lead, Nickel, Tin and Vanadium (between 1.54 and 32.42 x the respective guidelines) BH14 (0.5-1 mbgl): Antimony, Arsenic, Copper, Lead, Nickel and Vanadium (between 1.30 and 8.50 x the respective guidelines) BH14 (1-1.5 mbgl): Copper and Nickel (between 1.18 and 1.38 x the respective guidelines)
"Background" sample location immediately outside lease area	1 borehole: BH13 (or BHB) No wells	3 shallow soil: BH13 (0-0.5, 0.5-1 and 1-1.5 mbgl) 0 sub soil samples	Soil: petroleum hydrocarbons (F1-F4), metals, PAHs and VOCs	BH13: highest reading of soil-vapour in surface soil (0-0.5 mbgl) BH13 (0-0.5 mbgl): Arsenic, Selenium, Naphthalene and Phenanthrene (between 1.4x and 285x the respective guidelines) BH13 (0.5-1 mbgl): Naphthalene (246x the respective guideline)

* Drilling completed on January 10 and 11, 2013

* Stratigraphy consisted of gravel/soil fill to 1.5 m underlain by silt or silty clay to 2-2.5 m followed by clay (with some silt lenses in areas) to depth

* Boreholes were completed to depth between 4.5 and 6 m below the ground surface

* Soil samples were collected at regular intervals from each borehole

* Field soil-vapour (headspace) readings were collected on each interval, readings ranged from 0 ppm to 630 ppm

* No significant olfactory hydrocarbon odours were recorded

* Groundwater wells were purged on January 10, 2013 and sampled on January 11, 2013

* MW01, MW02 and MW04 contained groundwater to 1.6 to 2.7 mbgl in the respective flush mount 2" wells

* All soil and groundwater samples were analyzed by MAXXAM Analytics

* Some soils on Site exceeded pH guidelines range of 6-8, this is typical for Manitoba soils

*Subsurface soil is defined as soil at a depth greater than approximately 4.5 feet or 1.4 m

*mbgl = metres below ground level

*Petroleum hydrocarbon (PHC) Fractions are defined as follows:

F1 = C₆-C₁₀

F2 = >C₁₀-C₁₆

F3 = >C₁₆-C₃₄

F4 = >C₃₄

Table D
Summary of Groundwater Analytical Results
Weston Yard
Canadian Pacific Railway Co.

Sample Location		WESTON	MW1	MW2	MW4
Sample Date			11-Jan-13	11-Jan-13	11-Jan-13
Sample ID			MW01	MW02	MW04
Sampling Company			STANTEC	STANTEC	STANTEC
Laboratory			MAXX	MAXX	MAXX
Laboratory Work Order		Amended	B302638	B302638	B302638
Laboratory Sample ID	Units	O.Reg 153/04	FJ0573	FJ0559	FJ0574
Volatile Organic Compounds					
Dichloropropane, 1,2-	µg/L	16 ^A	< 0.50	< 0.50	< 0.50
Dichloropropene, 1,3- (sum of isomers cis + trans)	µg/L	5.2 ^A	< 1.0	< 1.0	< 1.0
Dichloropropene, cis-1,3-	µg/L	n ^A	< 1.0	< 1.0	< 1.0
Dichloropropene, trans-1,3-	µg/L	n ^A	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/L	2300 ^A	< 0.4	< 0.4	< 0.4
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/L	0.25 ^A	< 0.20	< 0.20	< 0.20
Hexachlorobutadiene (Heachloro-1,3-butadiene)	µg/L	0.44 ^A	< 0.50	< 0.50	< 0.50
Methyl tert-butyl ether (MTBE)	µg/L	190 ^A	< 4	< 4	< 4
Methylene Chloride (Dichloromethane)	µg/L	610 ^A	< 2.0	< 2.0	< 2.0
Styrene	µg/L	1300 ^A	< 0.50	< 0.50	< 0.50
Tetrachloroethane, 1,1,1,2-	µg/L	3.3 ^A	< 0.50	< 0.50	< 0.50
Tetrachloroethane, 1,1,2,2-	µg/L	3.2 ^A	< 0.50	< 0.50	< 0.50
Tetrachloroethylene (PCE)	µg/L	1.6 ^A	< 0.50	< 0.50	< 0.50
Toluene	pg/L	18000 ^A	< 0.4	< 0.4	< 0.4
Trichlorobenzene, 1,2,3-	µg/L	n/v	< 2.0	< 2.0	< 2.0
Trichlorobenzene, 1,2,4-	µg/L	180 ^A	< 2.0	< 2.0	< 2.0
Trichloroethane, 1,1,1-	µg/L	640 ^A	< 0.50	< 0.50	< 0.50
Trichloroethane, 1,1,2-	µg/L	4.7 ^A	< 0.50	< 0.50	< 0.50
Trichloroethylene (TCE)	µg/L	1.6 ^A	< 0.50	< 0.50	< 0.50
Trichlorofluoromethane (Freon 11)	µg/L	2500 ^A	< 4.0	< 4.0	< 4.0
Trichlorotrifluoroethane (Freon 113)	µg/L	n/v	< 2.0	< 2.0	< 2.0
Vinyl chloride	µg/L	0.5 ^A	< 0.50	< 0.50	< 0.50
Xylene, m & p-	µg/L	n ^A	< 0.8	< 0.8	< 0.8
Xylene, o-	µg/L	n ^A	< 0.4	< 0.4	< 0.4
Xylenes, Total	µg/L	4200 ^A	< 0.8	< 0.8	< 0.8

Notes:

Amended	Amended (April 15, 2011) Site Condition Standards
O.Reg 153/04	Province of Ontario "Soil, Ground Water and Sediment Standards for use under Part XV.i of the Environmental Protection Act"
^A	MOE Table 3 - All Types of Property Use - Coarse Textured Soils
6.5 ^A	Concentration exceeds the indicated standard.
15.2	Concentration was detected but did not exceed applicable standards.
< 0.50	Laboratory estimated quantitation limit exceeded standard.
< 0.03	The analyte was not detected above the laboratory estimated quantitation limit.
n/v	No standard/guideline value
-	Parameter not analyzed / not available
n1	The criterion is applicable to total xylenes, and m & p-xylenes and o-xylenes should be summed for comparison.
n2	The criterion is for benzo(b)fluoranthene, however, the analytical laboratory can not distinguish between benzo(b)fluoranthene and benzo(j)fluoranthene and therefore the result is a combination of the two isomers, against which the criterion has been compared.
n3	The methyl naphthalene standards are applicable to both 1-methyl naphthalene and 2-methyl naphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.
n7	Criterion is applicable to PHC in the F1 range minus any BTEX.
n8	Criterion is applicable to PHC in the F3, minus any PAHs (other than naphthalene). If PAHs have not been measured, the criterion is applied to F3.
n10	If baseline is not reached during F4 analysis, then Gravimetric Heavy Hydrocarbon analysis is to be performed, and the criterion applied to the higher of the two results.
n11	The criterion is applicable to 1,3-Dichloropropene, and the individual isomers (cis + trans) should be added for comparison.
n15	Criterion is applicable to PHC in the F2 range minus any naphthalene. If naphthalene is not analyzed for, the criterion is applied to F2.
IF	RDL raised due to sample matrix interference

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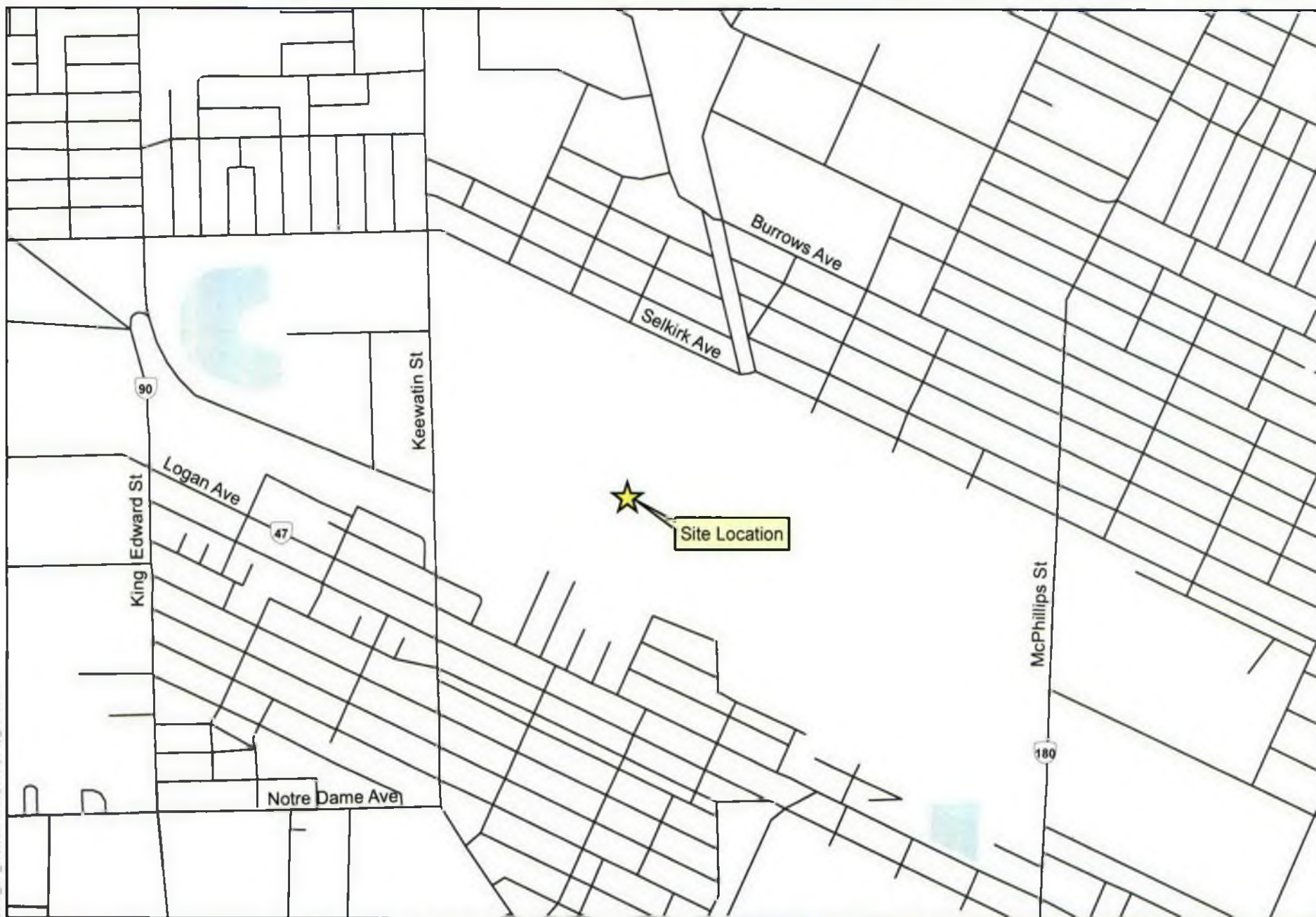
**FOCUSED ENVIRONMENTAL ASSESSMENT OF LEASE AREA WITHIN THE CP WESTON
YARD IN WINNIPEG, MB**

Appendices

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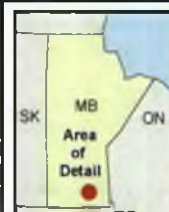
**FOCUSED ENVIRONMENTAL ASSESSMENT OF LEASE AREA WITHIN THE CP WESTON
YARD IN WINNIPEG, MB**

APPENDIX A FIGURES AND PHOTOGRAPHS



CP Weston Yard

Site Map



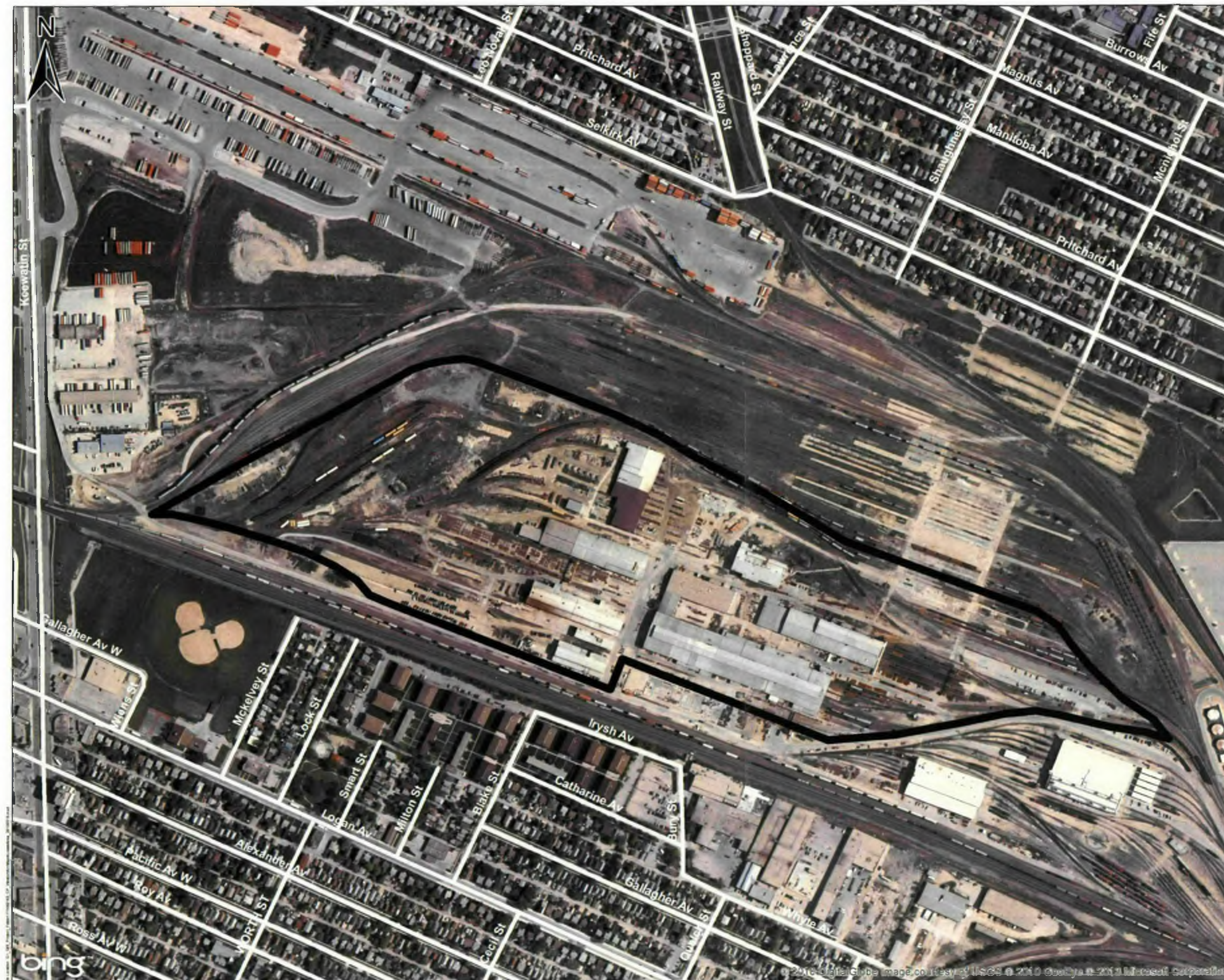
0 100 200 400
Meters

Acknowledgements
Original Drawing by Stantec Consulting Ltd
Base Data by MLI, NTS



Stantec

MAP SCALE 1: 15,000		DATA SCALE NA	
DATE March 5, 2013		PROJECT 1114 40143	FIGURE NO. 1
DRAWN AC	CHECKED SC	APPROVED KM	



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Legend

 Lease Boundary

PROJECT NUMBER
111440143

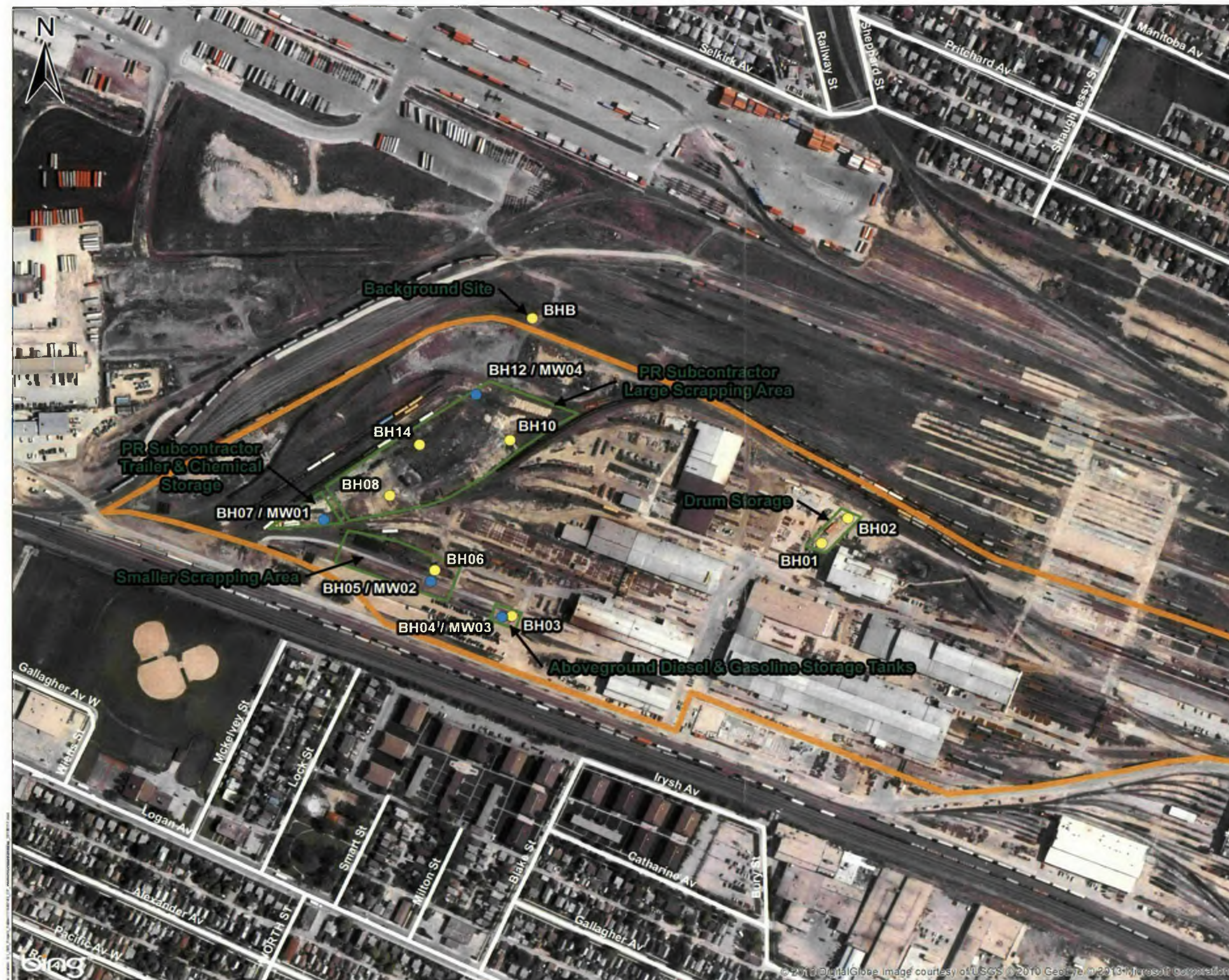
DATA SOURCE:
NTS, MLI, Stantec Consulting Ltd
Imagery Provided by Bing

CREATED BY:
Stantec Consulting Ltd

COORDINATE SYSTEM	DATE CREATED	REVISION DATE
UTM Zone 14N NAD83	07-JAN-13	18-MAR-13
0 0.05 0.1 Kilometres 0 0.015 0.03 Miles	1:5,000	VERSION NO: 1.0
		QA/QC: ACU/H

Map of Lease Area CP Weston Yard in Winnipeg, MB

Figure 2



Legend

- Borehole
- Monitoring Well
- Lease Area Boundary

PROJECT NUMBER:
111440143

DATA SOURCE:
NTS, MLI, Stantec Consulting Ltd
Imagery Provided by Bing

CREATED BY:
Stantec Consulting Ltd

COORDINATE SYSTEM:
UTM Zone 14N NAD83

DATE CREATED:
07-JAN-13

REVISION DATE:
06-MAR-13

**Borehole/Monitoring Well
Site Map
CP Weston Yard in
Winnipeg, MB**

Figure 3



View looking east of the blacksmith shop



View looking south of the aboveground gasoline and diesel fuel storage tanks



View looking west of the small scrapping area north of the employee parking lot



View looking west of the PR subcontractor scrapping area



View of chemical storage on the PR subcontractor scrapping area



View of scrapping piles on the PR subcontractor scrapping area



View looking south of several metal scrapping piles in the PR subcontractor scrapping area



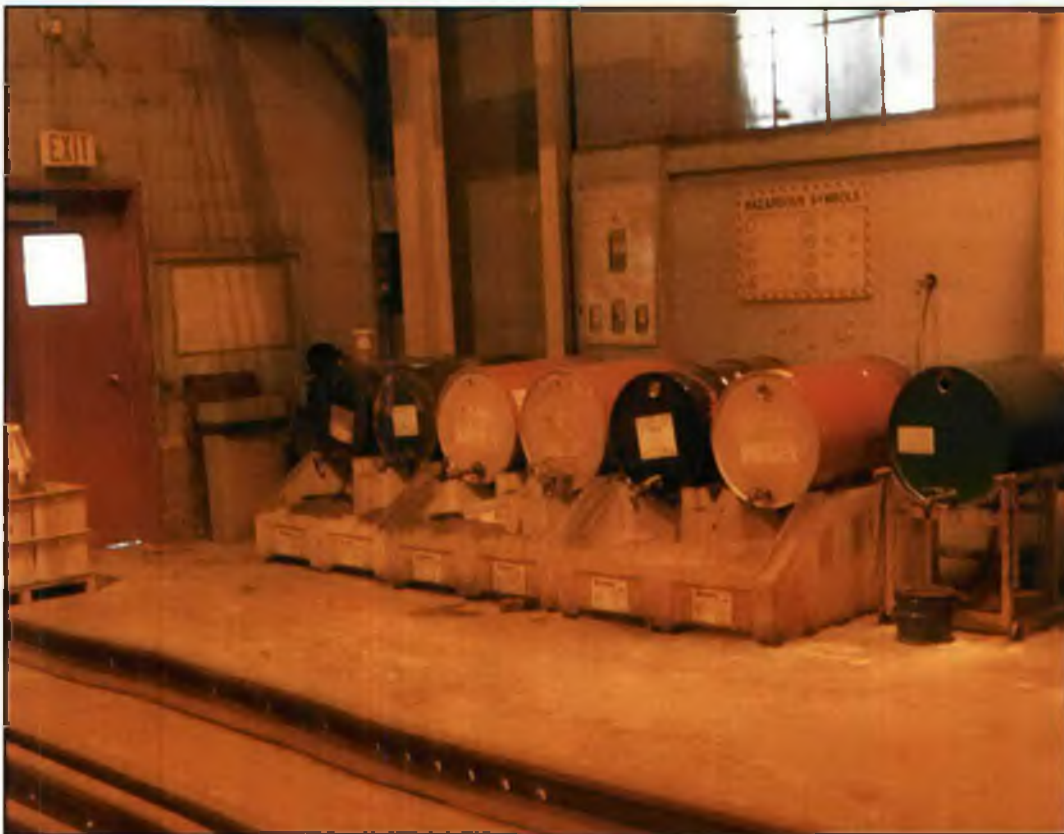
Oil dipping tank located in the welding shop



View of the interior of the welding shop



View of interior of the component shop



View of chemical storage within the component shop



View of used oil aboveground storage tank located in the component shop



View looking south of chemical storage northwest of the powerhouse building



View looking south of chemical storage and used oil aboveground storage tanks



View of chemical storage within the wheel shop



View looking south of the drill rig advancing BH01

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View looking west of the drill rig advancing BH02



View looking northwest of the drill rig advancing BH03



View looking north of the drill rig advancing BH04



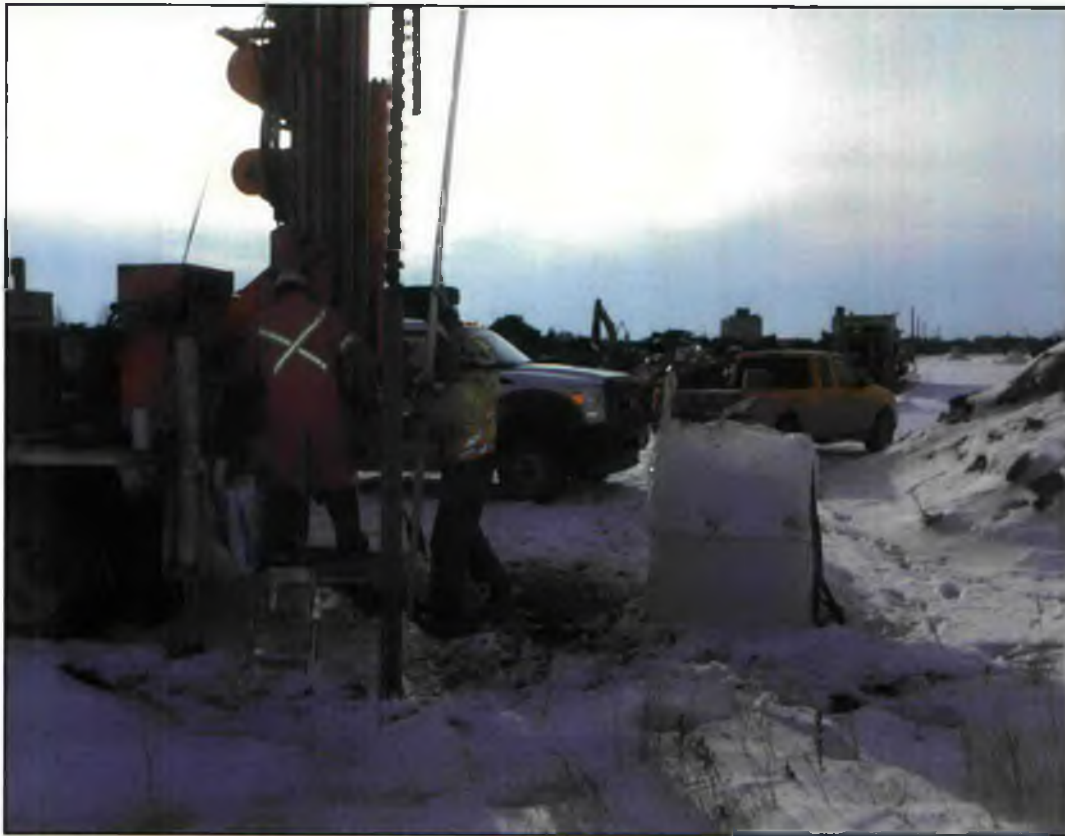
View looking east of the drill rig advancing BH05



View looking west of the drill rig advancing BH07



View looking east of the drill rig advancing BH08



View looking south of the monitoring well being installed at BH12



View looking southeast of the drill rig advancing BH13

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**FOCUSED ENVIRONMENTAL ASSESSMENT OF LEASE AREA WITHIN THE CP WESTON
YARD IN WINNIPEG, MB**

APPENDIX B BOREHOLE LOGS

CLIENT: **Canadian Pacific**

PROJECT:

**CP Weston Yard
Winnipeg, MB****BOREHOLE RECORD**

BOREHOLE NO:

BH01

PROJECT NO: 111440143.200

COORDINATES

SURFACE ELEVATION: N/A

630446 N

SITE DATUM: 14 U

5531680 E

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]				SAMPLE ID Analysis [If Requested]	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
					1	10	100	1000					
0.2		gravel fill brown, frozen to 0.7 m											
0.4		soil angular stones 0-4 mm, no oxidation or salt deposits present, coarse soil, black					80		BH01 0-0.5			bentonite seal	
0.6													
0.8							190		BH01 0.5-1				
1.0													1.0
1.2							75		BH01 1-1.5				
1.4													
1.6		silt no stones, oxidation or salt deposits present, brown, moist at 1.5 to 6 m					25		BH01 1.5-2.25				
1.8		clay no stones or oxidation present, salt deposits 2.7 to 5.6 m, gray											2.0
2.0													
2.2													
2.4													
2.6							60		BH01 2.25-3				
2.8													
3.0		brown										backfilled with drill cuttings	3.0
3.2													
3.4							30		BH01 3-3.75				
3.6													
3.8													
4.0													
4.2							60		BH01 3.75-4.5				4.0
4.4													
4.6													
4.8													
5.0									BH01 4.5-5.25				5.0
5.2													
5.4													
5.6							75		BH01 5.25-6			bentonite seal	
5.8													
6.0		End of borehole at 6.0 m											6.0
		Native clay at 1.8 m.											

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: January 10, 2013

LOGGED BY: BE

Sample Notes: ☒ Auger Sample

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Sheet 1 of 1

CLIENT: **Canadian Pacific**

PROJECT:

CP Weston Yard**Winnipeg, MB****BOREHOLE RECORD**

BOREHOLE NO:

BH02PROJECT NO: **111440143.200**

COORDINATES

SURFACE ELEVATION: **N/A****630473 N**SITE DATUM: **14 U****5531707 E**

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis [If Requested]	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
0.2		gravel fill brown, frozen to 0.7 m			10					
0.4		soil no stones, oxidation or salt deposits present, coarse soil, black			70	BH02 0-0.5			bentonite seal	
0.6										
0.8					80	BH02 0.5-1				
1.0										1.0
1.2					60	BH02 1-1.5				
1.4										
1.6		silt no stones, oxidation or salt deposits present, brown, moist at 1.6 to 6 m			55	BH02 1.5-2.25				
1.8										
2.0		clay no stones or oxidation present, salt deposits 2.6 to 5.8 m, gray								2.0
2.2										
2.4										
2.6					40	BH02 2.25-3				
2.8										
3.0		no stones or oxidation present, brown							backfilled with drill cuttings	3.0
3.2										
3.4					60	BH02 3-3.75				
3.6										
3.8										
4.0					55	BH02 3.75-4.5				4.0
4.2										
4.4										
4.6										
4.8					40	BH02 4.5-5.25				
5.0										5.0
5.2										
5.4										
5.6					50	BH02 5.25-6			bentonite seal	
5.8										
6.0		End of borehole at 6.0 m								6.0
		Native clay at 1.9 m.								

INVESTIG. METHOD: Solid Stem Auger

Sample Notes: ☒ Auger Sample

INVESTIG. DATE: January 10, 2013

LOGGED BY: BE


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Sheet 1 of 1

CLIENT: Canadian Pacific PROJECT: CP Weston Yard Winnipeg, MB				BOREHOLE RECORD				BOREHOLE NO: BH03					
				PROJECT NO: 111440143.200		COORDINATES 630125 N							
				SURFACE ELEVATION: N/A		5531603 E							
				SITE DATUM: 14 U									
DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis [If Requested]	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]			
					1 10 100 1000								
0.2		gravel fill brown, frozen to 0.7 m				62Q	BH03 0-0.5		bentonite seal				
0.4													
0.6													
0.8													
1.0													
1.2		clay no stones, oxidation or salt deposits present, black no stones, oxidation or salt deposits present, gray stained clay, hydrocarbon odour, gray				195	BH03 0.5-1			1.0			
1.4													
1.6													
1.8													
2.0													
2.2		silt no stones, oxidation or salt deposits present, light hydrocarbon odour, brown, moist 1.6 to 6 m				33Q	BH03 1-1.5						
2.4													
2.6													
2.8													
3.0													
3.2		no stones, oxidation or salt deposits present, gray stained silt, hydrocarbon odour, gray				37Q	BH03 1.5-2.25			2.0			
3.4													
3.6													
3.8													
4.0													
4.2		clay no stones, oxidation or salt deposits present, hydrocarbon odour, gray/brown				8Q	BH03 2.25-3						
4.4													
4.6													
4.8													
5.0													
5.2		no stones or oxidation present, salt deposits 2.8 to 5.7 m, brown					BH03 3-3.75		backfilled with drill cuttings	3.0			
5.4													
5.6													
5.8													
6.0													
6.2						65	BH03 3.75-4.5			4.0			
6.4													
6.6													
6.8													
7.0													
7.2						22Q	BH03 4.5-5.25			5.0			
7.4													
7.6													
7.8													
8.0													
8.2							BH03 5.25-6		bentonite seal	6.0			
8.4													
8.6													
8.8													
9.0													
9.2		End of borehole at 6.0 m											
9.4													
9.6													
9.8													
10.0													
10.2		Native clay at 1.4 m. Auger flight 3 to 4.5 m may have been contaminated from frozen silt on inside of auger. Changed auger flight out and continued drilling to 6m.											
10.4													
10.6													
10.8													
11.0													

STANTEC - ESAR 2008 GINT CP WESTON.GPJ EE DATA TEMPLATE V5.GDT 3/4/13

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: January 10, 2013
LOGGED BY: BE

Sample Notes ☒ Auger Sample

CLIENT: **Canadian Pacific**

PROJECT:

CP Weston Yard
Winnipeg, MB**BOREHOLE RECORD**

BOREHOLE NO:

PROJECT NO: **111440143.200**

COORDINATES

SURFACE ELEVATION: N/A

630115 N

SITE DATUM: **14 U**

5531602 E

BH04/MW03

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]				SAMPLE ID Analysis [If Requested]	WELL COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
					1	10	100	1000					
0.2		gravel fill brown, frozen to 0.7 m							370	BH04 0-0.5			
0.4		coarse gravel, black brown							330	BH04 0.5-1			
0.8													
1.0													
1.2		clay no stones, oxidation or salt deposits present, gray/black							230	BH04 1-1.5			
1.4													
1.6													
1.8		silt no stones, oxidation or salt deposits present, brown, moist 1.7 to 6 m							230	BH04 1.5-2.25			
2.0													
2.2		no stones, oxidation or salt deposits present, gray stained silt, hydrocarbon odour, gray											
2.4		clay no stones, oxidation or salt deposits present, hydrocarbon odour to 2.6 m, gray							340	BH04 2.25-3			
2.6													
2.8		no stones, oxidation or salt deposits present, brown											
3.0													
3.2		no stones or oxidation, salt deposits 3.2 to 5.2 m, gray							290	BH04 3-3.75			
3.4													
3.6		silty clay no stones or oxidation present, gray											
3.8		clay no stones or oxidation present, gray											
4.0									360	BH04 3.75-4.5			
4.2													
4.4													
4.6													
4.8									380	BH04 4.5-5.25			
5.0													
5.2													
5.4													
5.6									380	BH04 5.25-6			
5.8													
6.0		End of borehole at 6.0 m											
		Native clay at 2.3 m.											

INVESTIG. METHOD: Solid Stem Auger

Sample Notes: ☐ Auger Sample

INVESTIG. DATE: January 11, 2013

LOGGED BY: BE


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Sheet 1 of 1

CLIENT: Canadian Pacific

PROJECT:

CP Weston Yard
Winnipeg, MB

BOREHOLE RECORD

BOREHOLE NO:

PROJECT NO: 111440143.200

COORDINATES

SURFACE ELEVATION: N/A

630041 N

SITE DATUM: 14 U

5531640 E

BH05/MW02

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis (If Requested)	WELL COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
0.2		gravel fill brown, frozen to 0.7 m			1	10	100	1000		
0.4		soil no stones, oxidation or salt deposits present, coarse soil, wood debris, metal wire at 0.7 m, metal debris, black				410	BH05 0-0.5			
0.6						290	BH05 0.5-1		flush mount road box with bentonite packing 0 to 1.2 m	
0.8										
1.0										1.0
1.2		clay no stones, oxidation or salt deposits present, gray/white				500	BH05 1-1.5			
1.4										
1.6		silt no stones, oxidation or salt deposits present, brown, moist at 1.5 to 6 m								
1.8						300	BH05 1.5-2.25			
2.0										2.0
2.2										
2.4		clay no stones present, oxidation 4.2 to 4.3 m and 5 to 5.4 m, salt deposits 2.5 to 6 m, gray				165	BH05 2.25-3			
2.6										
2.8										
3.0										3.0
3.2										
3.4						400	BH05 3-3.75			
3.6										
3.8									slotted pipe packed in silica sand 1.2 to 6 m	
4.0										
4.2						430	BH05 3.75-4.5			4.0
4.4										
4.6										
4.8						380	BH05 4.5-5.25			
5.0										5.0
5.2										
5.4										
5.6						340	BH05 5.25-6			
5.8										
6.0		End of borehole at 6.0 m								6.0
		Native clay at 1.2 m.								

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: January 10, 2013

LOGGED BY: BE

Sample Notes: ☒ Auger Sample

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Sheet 1 of 1

CLIENT: **Canadian Pacific**PROJECT: **CP Weston Yard
Winnipeg, MB****BOREHOLE RECORD**

BOREHOLE NO:

PROJECT NO: **111440143.200**

COORDINATES

SURFACE ELEVATION: **N/A****630045 N**SITE DATUM: **14 U****5531652 E****BH06**

DEPTH (m)	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis [If Requested]	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH (m)
					1 10 100 1000					
0.2	gravel fill	brown, frozen to 0.7 m								
0.4	soil	coarse stained soil, black			110	BH06 0-0.5			bentonite seal	
0.6										
0.8					250	BH06 0.5-1				
1.0	clay	no stones, oxidation or salt deposits present, gray/black								1.0
1.2					11	BH06 1-1.5				
1.4										
1.6	silt	no stones, oxidation or salt deposits present, brown, moist 1.5 to 4.5 m								
1.8					55	BH06 1.5-2.25				2.0
2.0										
2.2									backfilled with drill cuttings	
2.4										
2.6	clay	no stones or oxidation present, salt deposits 2.6 to 4.5 m, brown/gray			40	BH06 2.25-3				
2.8										
3.0		no stones or oxidation present, gray								3.0
3.2										
3.4					60	BH06 3-3.75				
3.6										
3.8										
4.0										4.0
4.2					95	BH06 3.75-4.5			bentonite seal	
4.4										
		End of borehole at 4.5 m								
		Native clay at 1 m.								

INVESTIG. METHOD: Solid Stem Auger

Sample Notes: ☒ Auger Sample

INVESTIG. DATE: January 11, 2013

LOGGED BY: BE


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Sheet 1 of 1

CLIENT: Canadian Pacific

PROJECT:

CP Weston Yard
Winnipeg, MB

BOREHOLE RECORD

BOREHOLE NO:

PROJECT NO: 111440143.200

COORDINATES

SURFACE ELEVATION: N/A

629930 N

SITE DATUM: 14 U

5531706 E

BH07/MW01

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis [If Requested]	WELL COMPLETION WATER LEVEL	COMPLETION NOTES	DEPTH [m]
0.2		soil/gravel fill coarse soil, black, frozen to 0.7 m			70	BH07 0-0.5			
0.4		clay fill no stones, oxidation or salts present, black			240	BH07 0.5-1			
0.6									
0.8									
1.0		no stones, oxidation or salts present, gray							-1.0
1.2		silt no stones, oxidation or salts present, brown, moist at 1.2 to 6 m			70	BH07 1-1.5			
1.4									
1.6									
1.8					145	BH07 1.5-2.25			-2.0
2.0									
2.2		silty clay no stones, oxidation or salts present, brown							
2.4		silt no stones, oxidation or salts present, brown							
2.6					210	BH07 2.25-3			
2.8		silty clay angular stones 0-7 mm from 3 to 3.1 m, no oxidation or salt deposits present, brown							-3.0
3.0									
3.2		clay no stones or oxidation present, salt deposits 3.9 to 5.7 m			260	BH07 3-3.75			
3.4									
3.6									
3.8									
4.0					25	BH07 3.75-4.5			-4.0
4.2									
4.4									
4.6									
4.8					320	BH07 4.5-5.25			-5.0
5.0									
5.2									
5.4									
5.6					260	BH07 5.25-6			
5.8									
6.0		End of borehole at 6.0 m							-6.0
		Native clay at 2.1 m.							

flush mount
road box with
bentonite
packing 0 to 1.2
mslotted pipe
packed in silica
sand 1.2 to 6 m

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: January 10, 2013

LOGGED BY: BE

Sample Notes: ☒ Auger Sample

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Sheet 1 of 1

CLIENT: **Canadian Pacific**PROJECT: **CP Weston Yard
Winnipeg, MB****BOREHOLE RECORD**

BOREHOLE NO:

PROJECT NO: **111440143.200**

COORDINATES

SURFACE ELEVATION: **N/A****629998 N**SITE DATUM: **14 U****5531732 E****BH08**

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis [If Requested]	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
0.2		gravel/soil fill								
0.4		coarse soil, black/brown, frozen to 0.7 m				BH08 0-0.5			bentonite seal	
0.6										
0.8					35	BH08 0.5-1				
1.0										1.0
1.2		clay				BH08 1-1.5				
1.4		no stones, oxidation or salt deposits present, black								
1.6										
1.8		silt			65	BH08 1.5-2.25				
2.0		no stones, oxidation or salt deposits present, brown, moist at 1.7 to 4.5 m								2.0
2.2		clay							backfilled with drill cuttings	
2.4		no stones or oxidation present, salt deposits 1.9 to 4.5 m, brown								
2.6						BH08 2.25-3				
2.8										
3.0										3.0
3.2		clay								
3.4		no stones or oxidation present, gray			55	BH08 3-3.75				
3.6										
3.8										
4.0					55	BH08 3.75-4.5			bentonite seal	4.0
4.2										
4.4										
End of borehole at 4.5 m										
Native clay at 1.9 m.										

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: January 10, 2013

LOGGED BY: BE

Sample Notes ☒ Auger Sample

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Sheet 1 of 1

CLIENT: Canadian Pacific

PROJECT:

CP Weston Yard
Winnipeg, MB

BOREHOLE RECORD

BOREHOLE NO:

PROJECT NO: 111440143.200

COORDINATES

SURFACE ELEVATION: N/A

630123 N

SITE DATUM: 14 U

5531791 E

BH10

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]				SAMPLE ID Analysis [If Requested]	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
					1	10	100	1000					
0.2		gravel/clay fill black, frozen to 0.7 m											
0.4		soil coarse soil (ash like), black							BH10 0-0.5			bentonite seal	
0.6													
0.8		clay no stones, oxidation or salt deposits present, gray							BH10 0.5-1				
1.0		no stones, oxidation or salt deposits present, light gray											
1.2									BH10 1-1.5				
1.4													
1.6		no stones or oxidation present, salt deposits 2.4 to 5.4 m, gray											
1.8									BH10 1.5-2.25				
2.0													
2.2													
2.4													
2.6		silty clay no stones or oxidation present, brown							BH10 2.25-3				
2.8		clay no stones or oxidation present, brown											
3.0												backfilled with drill cuttings	
3.2													
3.4									BH10 3-3.75				
3.6													
3.8													
4.0													
4.2									BH10 3.75-4.5				
4.4													
4.6													
4.8									BH10 4.5-5.25				
5.0													
5.2													
5.4													
5.6									BH10 5.25-6			bentonite seal	
5.8													
6.0		End of borehole at 6.0 m											
		Native clay at 1.5 m.											

INVESTIG. METHOD: Solid Stem Auger

Sample Notes: ☒ Auger Sample

INVESTIG. DATE: January 11, 2013

LOGGED BY: BE


Stantec

Sheet 1 of 1

CLIENT: Canadian Pacific

PROJECT:

CP Weston Yard
Winnipeg, MB

BOREHOLE RECORD

BOREHOLE NO:

PROJECT NO: 111440143.200

COORDINATES

SURFACE ELEVATION: N/A

630088 N

SITE DATUM: 14 U

5531853 E

BH12/MW04

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis [If Requested]	WELL COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
0.2		gravel fill/soil wood debris, black, frozen to 0.7 m				310	BH12 0-0.5			
0.4		clay no stones, oxidation or salt deposits present, gray/black				310	BH12 0.5-1			
0.6										
0.8										
1.0										
1.2		silt no stones, oxidation or salt deposits present, brown, moist at 1.1 to 6 m				270	BH12 1-1.5			
1.4										
1.6										
1.8						250	BH12 1.5-2.25			
2.0		clay no stones present, oxidation at 2.5 to 2.7 m, salt deposits at 1.9 to 5.6 m, brown								
2.2										
2.4										
2.6						200	BH12 2.25-3			
2.8										
3.0		no stones present, oxidation 3.2 to 4 m, gray								
3.2										
3.4						185	BH12 3-3.75			
3.6										
3.8										
4.0										
4.2						170	BH12 3.75-4.5			
4.4										
4.6										
4.8						260	BH12 4.5-5.25			
5.0										
5.2										
5.4										
5.6						320	BH12 5.25-6			
5.8										
6.0		End of borehole at 6.0 m								
		Native clay at 1.9 m.								

flush mount
road box with
bentonite
packing 0 to 1.2
mslotted pipe
packed in silica
sand 1.2 to 6 m

ground cover

INVESTIG. METHOD: Solid Stem Auger

INVESTIG. DATE: January 11, 2013

LOGGED BY: BE

Sample Notes: ☒ Auger Sample

Stantec

Sheet 1 of 1

CLIENT: **Canadian Pacific**

PROJECT:

CP Weston Yard
Winnipeg, MB**BOREHOLE RECORD**

BOREHOLE NO:

PROJECT NO: 111440143.200

COORDINATES

SURFACE ELEVATION: N/A

630146 N

SITE DATUM: 14 U

5531921 E

BH13-BKGD

DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis [If Requested]	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
0.2		soil coarse soil, black, frozen to 0.7 m				630	BH13 0-0.5		bentonite seal	
0.4										
0.6										
0.8		clay no stones, oxidation or salt deposits present, black/gray			110		BH13 0.5-1			
1.0		silt no stones, oxidation or salt deposits present, brown, moist at 0.9 m								1.0
1.2					55		BH13 1-1.5			
1.4										
1.6										
1.8		clay no stones or oxidation present, salt deposits 1.8 to 5.6 m, brown			60		BH13 1.5-2.25			2.0
2.0										
2.2										
2.4										
2.6					70		BH13 2.25-3			
2.8										
3.0									backfilled with drill cuttings	3.0
3.2										
3.4		no stones or oxidation present, brown/gray			75		BH13 3-3.75			
3.6										
3.8										
4.0										4.0
4.2		no stones or oxidation present, gray			100		BH13 3.75-4.5			
4.4										
4.6										
4.8					85		BH13 4.5-5.25			5.0
5.0										
5.2										
5.4										
5.6					110		BH13 5.25-6		bentonite seal	
5.8										
6.0		End of borehole at 6.0 m								6.0
		Native clay at 1.8 m.								

INVESTIG. METHOD: Solid Stem Auger

Sample Notes: ☐ Auger Sample

INVESTIG. DATE: January 11, 2013

LOGGED BY: BE


Stantec

Sheet 1 of 1

CLIENT: Canadian Pacific PROJECT: CP Weston Yard Winnipeg, MB				BOREHOLE RECORD				BOREHOLE NO: BH14		
				PROJECT NO: 111440143.200		COORDINATES 630029 N				
				SURFACE ELEVATION: N/A						
				SITE DATUM: 14 U		5531786 E				
DEPTH [m]	SOIL TYPE	SOIL DESCRIPTION	SAMPLE TYPE	BLOW COUNT	COMBUSTIBLE VAPOUR LEVEL [ppmv]	SAMPLE ID Analysis (If Requested)	BOREHOLE COMPLETION	WATER LEVEL	COMPLETION NOTES	DEPTH [m]
					1 10 100 1000					
0.2		gravel/soil fill black, frozen to 0.7 m			45	BH14 0-0.5			bentonite seal	
0.4										
0.6										
0.8										
1.0		clay no stones, oxidation or salt deposits present, black				BH14 0.5-1				1.0
1.2										
1.4		no stones, oxidation or salt deposits present, gray/brown			55	BH14 1-1.5				
1.6										
1.8		silt no stones, oxidation or salt deposits present, brown, moist at 1.5 to 6 m			15	BH14 1.5-2.25			backfilled with drill cuttings	2.0
2.0										
2.2										
2.4										
2.6		clay no stones or oxidation present, salt deposits 2.7 to 4.5 m, brown			45	BH14 2.25-3				3.0
2.8										
3.0										
3.2										
3.4		no stones or oxidation present, gray			2	BH14 3-3.75				
3.6										
3.8										
4.0										
4.2						BH14 3.75-4.5			bentonite seal	4.0
4.4										
		End of borehole at 4.5 m								
		Native clay at 1.2 m.								

STANTEC - ESAR 2008 GINT CP WESTON.GPJ EE DATA TEMPLATE V5.GDT 3/4/13

INVESTIG. METHOD: Solid Stem Auger
INVESTIG. DATE: January 10, 2013
LOGGED BY: BE

Sample Notes ☒ Auger Sample

Stantec

**FOCUSED ENVIRONMENTAL ASSESSMENT OF LEASE AREA WITHIN THE CP WESTON
YARD IN WINNIPEG, MB**

**APPENDIX C COPIES OF CHAIN-OF-CUSTODY, ORIGINAL LAB RESULTS AND
QA/QC DOCUMENTATION**



Your Project #: 111440143.200
Site#: CP WESTON
Site Location: CP WESTON
Your C.O.C. #: 35075801

Attention: KAREN MATHERS
STANTEC CONSULTING
603-386 BROADWAY AVENUE
WINNIPEG, MB
CANADA R3C 3R6

Report Date: 2013/01/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B302682
Received: 2013/01/11, 15:45

Sample Matrix: Soil
Samples Received: 20

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS (MeOH extract) (1)	5	2013/01/14	2013/01/14	WINSOP-00054 WINSOP-00055	EPA8260C/CCME PHCCWS
CCME Hydrocarbons (F2-F4 in soil) (1)	5	2013/01/14	2013/01/14	WINSOP-00056	CCME PHC-CWS
Elements by ICPMS (total)	10	2013/01/15	2013/01/15	BBY7SOP-00001	EPA 6020A
Elements by ICPMS (total)	7	2013/01/18	2013/01/18	BBY7SOP-00001	EPA 6020A
Metals - TCLP	3	2013/01/17	2013/01/18	BBY7SOP-00001	EPA 6020A
Moisture	8	N/A	2013/01/15	BBY8SOP-00017	Ont MOE -E 3139
Moisture (1)	5	N/A	2013/01/08	WIN SOP-00060	Carter Method 51.2
PAH in Soil by GC/MS (SIM) - CCME	10	2013/01/14	2013/01/16	BBY8SOP-00022	EPA 8270D
Benzo[a]pyrene Equivalency	10	N/A	2013/01/17	BBY WI-00033	CCME Guidelines
Total LMW, HMW, Total PAH Calc	10	N/A	2013/01/17	BBY WI-00033	BC MOE Lab Method
pH (2:1 DI Water Extract)	10	2013/01/15	2013/01/15	BBY6SOP-00028	Carter, SSMA 16.2
pH (2:1 DI Water Extract)	7	2013/01/18	2013/01/18	BBY6SOP-00028	Carter, SSMA 16.2
TCLP pH Measurements	3	N/A	2013/01/18	BBY7SOP-00005	EPA 1311
VOCs in Soil by HS GC/MS	5	2013/01/14	2013/01/15	BBY8-SOP-0009	EPA 8260C

* Results relate only to the items tested.

(1) This test was performed by Maxxam Winnipeg

Encryption Key

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

Janelle Kochan, B.Sc., Project Manager,
Email: JKochan@maxxam.ca
Phone# (204) 772-7276 Ext.2209

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

BTEX/F1-F4 IN SOIL (SOIL)

Maxxam ID		FJ0783	FJ0783	FJ0786	FJ0787	FJ0787	FJ0792	FJ0800		
Sampling Date		2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH03 0.5-1	BH03 0.5-1 Lab-Dup	BH03 2.25-3	BH03 3-3.75	BH03 3-3.75 Lab-Dup	BH01 0.5-1	BH02 0-0.5	RDL	QC Batch
Physical Properties										
Moisture	%	4.3		28	35	34	16	13	0.3	6485143
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	96	95	550	260		<20	58	20	6485138
F3 (C16-C34 Hydrocarbons)	mg/kg	<20	<20	440	180		130	450	20	6485138
F4 (C34-C50 Hydrocarbons)	mg/kg	<20	<20	44	<20		49	180	20	6485138
Reached Baseline at C50	mg/kg	YES	YES	YES	YES		YES	YES		6485138
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	87	98	99	99		99	100		6485138
Volatiles										
Benzene	mg/kg	0.23	0.19	<0.0050	0.021		0.033	0.029	0.0050	6485139
Toluene	mg/kg	0.11	0.086	<0.020	<0.020		0.058	0.24	0.020	6485139
Ethylbenzene	mg/kg	0.069	0.057	<0.010	<0.010		<0.010	0.062	0.010	6485139
Xylenes (Total)	mg/kg	0.23	0.20	<0.040	<0.040		0.14	0.56	0.040	6485139
m & p-Xylene	mg/kg	0.21	0.18	<0.040	<0.040		0.085	0.35	0.040	6485139
o-Xylene	mg/kg	0.028	0.026	<0.020	<0.020		0.058	0.21	0.020	6485139
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	<0.10	<0.10		<0.10	<0.10	0.10	6485139
F1 (C6-C10) - BTEX	mg/kg	54	54	<10	<10		15	<10	10	6485139
(C6-C10)	mg/kg	54	54	<10	<10		15	<10	10	6485139
Surrogate Recovery (%)										
4-BROMOFLUOROBENZENE (sur.)	%	94	94	94	99		99	98		6485139
D10-ETHYLBENZENE (sur.)	%	112	117	126	119		109	112		6485139
D4-1,2-DICHLOROETHANE (sur.)	%	104	103	102	109		101	101		6485139
D8-TOLUENE (sur.)	%	91	92	94	92		93	94		6485139

PHYSICAL TESTING (SOIL)

Maxxam ID		FJ0762	FJ0764	FJ0768	FJ0770	FJ0776	FJ0777	FJ0777	FJ0793	FJ0803		
Sampling Date		2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH14 0.5-1	BH14 1.5-2.25	BH08 0-0.5	BH08 1-1.5	BH06 0.5-1	BH06 1-1.5	BH06 1-1.5 Lab-Dup	BH01 1-1.5	BH02 1.5-2.25	RDL	QC Batch
Physical Properties												
Moisture	%	31	19	20	27	20	25	24	18	19	0.30	6485758

RDL = Reportable Detection Limit



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		FJ0762	FJ0768	FJ0792		
Sampling Date		2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH14 0.5-1	BH08 0.0-5	BH01 0.5-1	RDL	QC Batch
TCLP Extraction Procedure						
Initial pH of Sample	pH Units	8.70	9.01	9.69	N/A	6496444
pH after HCl	pH Units	2.36	1.91	1.90	N/A	6496444
Final pH of Leachate	pH Units	6.40	5.87	6.14	N/A	6496444
pH of Leaching Fluid	pH Units	4.96	4.96	4.96	N/A	6496444

N/A = Not Applicable

RDL = Reportable Detection Limit



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		FJ0783	FJ0786	FJ0787	FJ0787	FJ0792	FJ0800		
Sampling Date		2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH03 0.5-1	BH03 2.25-3	BH03 3-3.75	BH03 3-3.75 Lab-Dun	BH01 0.5-1	BH02 0-0.5	RDL	QC Batch
Volatiles									
Chloromethane	mg/kg	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	0.10	6489677
Vinyl chloride	mg/kg	<0.060 ₍₁₎	<0.060 ₍₁₎	<0.060 ₍₁₎	<0.060 ₍₁₎	<0.060 ₍₁₎	<0.060 ₍₁₎	0.060	6489677
Bromomethane	mg/kg	<0.30 ₍₁₎	<0.30 ₍₁₎	<0.30 ₍₁₎	<0.30 ₍₁₎	<0.30 ₍₁₎	<0.30 ₍₁₎	0.30	6489677
Chloroethane	mg/kg	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	0.10	6489677
Trichlorofluoromethane	mg/kg	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	0.20	6489677
1,1-dichloroethene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Dichloromethane	mg/kg	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	<0.10 ₍₁₎	0.10	6489677
trans-1,2-dichloroethene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,1-dichloroethane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
cis-1,2-dichloroethene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Chloroform	mg/kg	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	0.050	6489677
1,1,1-trichloroethane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,2-dichloroethane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Carbon tetrachloride	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,2-dichloropropane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Trichloroethene	mg/kg	<0.0090 ₍₁₎	<0.0090 ₍₁₎	<0.0090 ₍₁₎	<0.0090 ₍₁₎	<0.0090 ₍₁₎	<0.0090 ₍₁₎	0.0090	6489677
Bromodichloromethane	mg/kg	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	0.050	6489677
cis-1,3-dichloropropene	mg/kg	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	0.050	6489677
trans-1,3-dichloropropene	mg/kg	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	0.050	6489677
1,1,2-trichloroethane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Chlorodibromomethane	mg/kg	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	0.050	6489677
1,2-dibromoethane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Tetrachloroethene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.15 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Chlorobenzene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,1,1,2-tetrachloroethane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Bromoform	mg/kg	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	<0.050 ₍₁₎	0.050	6489677
Styrene	mg/kg	<0.030 ₍₁₎	<0.030 ₍₁₎	<0.030 ₍₁₎	<0.030 ₍₁₎	<0.030 ₍₁₎	<0.030 ₍₁₎	0.030	6489677
1,1,2,2-tetrachloroethane	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,2-dichlorobenzene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,3-dichlorobenzene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,4-dichlorobenzene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
1,2,3-trichlorobenzene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677
Hexachlorobutadiene	mg/kg	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	<0.20 ₍₁₎	0.20	6489677
1,2,4-trichlorobenzene	mg/kg	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	<0.025 ₍₁₎	0.025	6489677

RDL = Reportable Detection Limit

(1) - Sample extracted past 48 hours from receipt of sample but within the 7 day extraction holdtime



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		FJ0783	FJ0786	FJ0787	FJ0787	FJ0792	FJ0800		
Sampling Date		2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH03 0.5-1	BH03 2.25-3	BH03 3-3.75	BH03 3-3.75 Lab-Dup	BH01 0.5-1	BH02 0-0.5	RDL	QC Batch
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	149 ⁽¹⁾	149 ⁽¹⁾	149 ⁽¹⁾	150 ⁽¹⁾	149 ⁽¹⁾	75		6489677
4-BROMOFLUOROBENZENE (sur.)	%	112	105	105	106	107	93		6489677
D10-ETHYLBENZENE (sur.)	%	114	121	118	121	110	99		6489677
D4-1,2-DICHLOROETHANE (sur.)	%	105	104	105	107	105	85		6489677

RDL = Reportable Detection Limit

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



Maxxam Job #: B302682
Report Date: 2013/01/18

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CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		FJ0761		FJ0762		FJ0763		FJ0764		FJ0768		
Sampling Date		2013/01/11		2013/01/11		2013/01/11		2013/01/11		2013/01/11		
	UNITS	BH14 0-0.5	QC Batch	BH14 0.5-1	QC Batch	BH14 1-1.5	QC Batch	BH14 1.5-2.25	RDL	BH08 0-0.5	RDL	QC Batch
Physical Properties												
Soluble (2:1) pH	pH Units	7.99	6498168	7.64	6488150	8.25	6498168	8.68	0.010	8.10	0.010	6488150
Total Metals by ICPMS												
Total Aluminum (Al)	mg/kg	6030	6498067	12400	6488110	27000	6498067	4980	100	7630	1000	6488110
Total Antimony (Sb)	mg/kg	332	6498067	51.8	6488110	2.89	6498067	0.30	0.10	770	1.0	6488110
Total Arsenic (As)	mg/kg	69.0	6498067	86.6	6488110	9.84	6498067	2.30	0.50	866	5.0	6488110
Total Barium (Ba)	mg/kg	772	6498067	802	6488110	226	6498067	27.7	0.10	1060	1.0	6488110
Total Beryllium (Be)	mg/kg	0.51	6498067	0.78	6488110	1.17	6498067	<0.40	0.40	14.8	4.0	6488110
Total Bismuth (Bi)	mg/kg	2.64	6498067	0.85	6488110	0.30	6498067	<0.10	0.10	5.2	1.0	6488110
Total Cadmium (Cd)	mg/kg	1.71	6498067	4.26	6488110	1.35	6498067	0.281	0.050	7.39	0.50	6488110
Total Calcium (Ca)	mg/kg	45100	6498067	14800	6488110	21900	6498067	94500	100	25500	1000	6488110
Total Chromium (Cr)	mg/kg	52.7	6498067	42.7	6488110	50.6	6498067	11.3	1.0	392	10	6488110
Total Cobalt (Co)	mg/kg	22.1	6498067	16.5	6488110	15.6	6498067	2.87	0.30	32.5	3.0	6488110
Total Copper (Cu)	mg/kg	2950	6498067	630	6488110	107	6498067	9.22	0.50	2730	5.0	6488110
Total Iron (Fe)	mg/kg	176000	6498067	121000	6488110	35100	6498067	7360	100	243000	1000	6488110
Total Lead (Pb)	mg/kg	6380	6498067	2210	6488110	107	6498067	5.92	0.10	29500	1.0	6488110
Total Lithium (Li)	mg/kg	8.1	6498067	13.4	6488110	31.6	6498067	9.1	5.0	<50	50	6488110
Total Magnesium (Mg)	mg/kg	12700	6498067	8010	6488110	18400	6498067	53600	100	10400	1000	6488110
Total Manganese (Mn)	mg/kg	816	6498067	639	6488110	306	6498067	165	0.20	14900	2.0	6488110
Total Mercury (Hg)	mg/kg	0.657	6498067	0.098	6488110	<0.050	6498067	<0.050	0.050	2.94	0.50	6488110
Total Molybdenum (Mo)	mg/kg	10.7	6498067	4.69	6488110	0.93	6498067	0.28	0.10	31.0	1.0	6488110
Total Nickel (Ni)	mg/kg	85.7	6498067	53.1	6488110	68.8	6498067	8.64	0.80	539	8.0	6488110
Total Phosphorus (P)	mg/kg	794	6498067	919	6488110	489	6498067	304	10	815	100	6488110
Total Potassium (K)	mg/kg	1330	6498067	3350	6488110	5710	6498067	980	100	<1000	1000	6488110
Total Selenium (Se)	mg/kg	2.59	6498067	1.44	6488110	<0.50	6498067	<0.50	0.50	6.2	5.0	6488110
Total Silver (Ag)	mg/kg	1.44	6498067	0.697	6488110	0.262	6498067	0.052	0.050	3.21	0.50	6488110
Total Sodium (Na)	mg/kg	913	6498067	760	6488110	413	6498067	209	100	1700	1000	6488110
Total Strontium (Sr)	mg/kg	243	6498067	101	6488110	54.1	6498067	41.3	0.10	236	1.0	6488110
Total Thallium (Tl)	mg/kg	0.275	6498067	0.230	6488110	0.361	6498067	0.081	0.050	<0.50	0.50	6488110
Total Tin (Sn)	mg/kg	463	6498067	77.9	6488110	5.48	6498067	0.51	0.10	1190	1.0	6488110
Total Titanium (Ti)	mg/kg	177	6498067	228	6488110	233	6498067	271	1.0	325	10	6488110
Total Uranium (U)	mg/kg	1.89	6498067	1.72	6488110	0.969	6498067	0.510	0.050	2.46	0.50	6488110
Total Vanadium (V)	mg/kg	28.1	6498067	39.3	6488110	67.2	6498067	17.9	2.0	34	20	6488110
Total Zinc (Zn)	mg/kg	1080	6498067	1830	6488110	249	6498067	19.3	1.0	5940	10	6488110
Total Zirconium (Zr)	mg/kg	3.91	6498067	9.61	6488110	15.0	6498067	7.89	0.50	11.1	5.0	6488110

RDL = Reportable Detection Limit



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		FJ0769		FJ0770		FJ0775		FJ0776		FJ0777		FJ0791		
Sampling Date		2013/01/11		2013/01/11		2013/01/11		2013/01/11		2013/01/11		2013/01/11		
	UNITS	BH08 0.5-1	QC Batch	BH08 1-1.5	QC Batch	BH06 0-0.5	QC Batch	BH06 0.5-1	QC Batch	BH06 1-1.5	QC Batch	BH01 0-0.5	RDL	QC Batch
Physical Properties														
Soluble (2:1) pH	pH Units	8.31	6498168	8.47	6488150	8.31	6498168	8.16	8.39	6488150	8.38	0.010	6498168	
Total Metals by ICPMS														
Total Aluminum (Al)	mg/kg	16200	6498067	25000	6488110	12200	6498067	2920	28900	6488110	5780	100	6498067	
Total Antimony (Sb)	mg/kg	265	6498067	2.74	6488110	10.8	6498067	207	1.71	6488110	37.1	0.10	6498067	
Total Arsenic (As)	mg/kg	75.1	6498067	7.40	6488110	12.1	6498067	68.0	10.3	6488110	21.7	0.50	6498067	
Total Barium (Ba)	mg/kg	1300	6498067	147	6488110	313	6498067	258	198	6488110	632	0.10	6498067	
Total Beryllium (Be)	mg/kg	1.55	6498067	1.13	6488110	0.57	6498067	0.48	1.23	6488110	0.58	0.40	6498067	
Total Bismuth (Bi)	mg/kg	0.93	6498067	0.22	6488110	0.19	6498067	0.59	0.25	6488110	0.71	0.10	6498067	
Total Cadmium (Cd)	mg/kg	12.5	6498067	0.667	6488110	0.719	6498067	0.913	0.568	6488110	5.75	0.050	6498067	
Total Calcium (Ca)	mg/kg	23500	6498067	39700	6488110	71600	6498067	17700	29600	6488110	61900	100	6498067	
Total Chromium (Cr)	mg/kg	160	6498067	40.9	6488110	28.5	6498067	26.6	47.0	6488110	24.0	1.0	6498067	
Total Cobalt (Co)	mg/kg	25.6	6498067	13.2	6488110	8.09	6498067	23.8	13.0	6488110	12.5	0.30	6498067	
Total Copper (Cu)	mg/kg	1880	6498067	40.7	6488110	675	6498067	640	37.2	6488110	400	0.50	6498067	
Total Iron (Fe)	mg/kg	158000	6498067	26300	6488110	42100	6498067	203000	30000	6488110	49300	100	6498067	
Total Lead (Pb)	mg/kg	4740	6498067	87.9	6488110	545	6498067	1570	28.5	6488110	1190	0.10	6498067	
Total Lithium (Li)	mg/kg	16.9	6498067	28.0	6488110	14.3	6498067	5.2	35.3	6488110	8.8	5.0	6498067	
Total Magnesium (Mg)	mg/kg	4360	6498067	18800	6488110	26600	6498067	4350	22400	6488110	23200	100	6498067	
Total Manganese (Mn)	mg/kg	7920	6498067	584	6488110	367	6498067	886	331	6488110	617	0.20	6498067	
Total Mercury (Hg)	mg/kg	4.09	6498067	<0.050	6488110	5.47	6498067	3.48	0.087	6488110	4.29	0.050	6498067	
Total Molybdenum (Mo)	mg/kg	14.7	6498067	0.95	6488110	1.81	6498067	7.24	0.49	6488110	3.13	0.10	6498067	
Total Nickel (Ni)	mg/kg	247	6498067	40.1	6488110	41.2	6498067	48.9	41.7	6488110	248	0.80	6498067	
Total Phosphorus (P)	mg/kg	1000	6498067	426	6488110	526	6498067	496	475	6488110	645	10	6498067	
Total Potassium (K)	mg/kg	620	6498067	5710	6488110	2660	6498067	530	5440	6488110	1050	100	6498067	
Total Selenium (Se)	mg/kg	0.93	6498067	<0.50	6488110	0.55	6498067	0.94	<0.50	6488110	1.28	0.50	6498067	
Total Silver (Ag)	mg/kg	0.768	6498067	0.155	6488110	0.282	6498067	0.461	0.154	6488110	1.21	0.050	6498067	
Total Sodium (Na)	mg/kg	3550	6498067	886	6488110	256	6498067	325	285	6488110	549	100	6498067	
Total Strontium (Sr)	mg/kg	629	6498067	74.4	6488110	112	6498067	74.5	61.1	6488110	120	0.10	6498067	
Total Thallium (Tl)	mg/kg	0.133	6498067	0.289	6488110	0.221	6498067	0.083	0.330	6488110	0.284	0.050	6498067	
Total Tin (Sn)	mg/kg	577	6498067	3.56	6488110	14.7	6498067	168	2.12	6488110	74.0	0.10	6498067	
Total Titanium (Ti)	mg/kg	575	6498067	237	6488110	146	6498067	75.9	227	6488110	223	1.0	6498067	
Total Uranium (U)	mg/kg	2.37	6498067	1.11	6488110	0.894	6498067	0.723	1.12	6488110	1.12	0.050	6498067	
Total Vanadium (V)	mg/kg	35.0	6498067	61.4	6488110	38.2	6498067	21.6	77.7	6488110	26.9	2.0	6498067	
Total Zinc (Zn)	mg/kg	9290	6498067	125	6488110	187	6498067	610	91.0	6488110	4730	1.0	6498067	
Total Zirconium (Zr)	mg/kg	20.5	6498067	13.9	6488110	5.21	6498067	2.59	15.9	6488110	4.79	0.50	6498067	

RDL = Reportable Detection Limit



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		FJ0792	FJ0793		FJ0794		FJ0800		FJ0801		FJ0803		
Sampling Date		2013/01/11	2013/01/11		2013/01/11		2013/01/11		2013/01/11		2013/01/11		
	UNITS	BH01 0.5-1	BH01 1-1.5	QC Batch	BH01 1.5-2.25	QC Batch	BH02 0-0.5	QC Batch	BH02 0.5-1	QC Batch	BH02 1.5-2.25	RDL	QC Batch
Physical Properties													
Soluble (2:1) pH	pH Units	8.18	8.08	6488150	8.38	6498168	8.01	6488150	7.92	6498168	8.64	0.010	6488150
Total Metals by ICPMS													
Total Aluminum (Al)	mg/kg	9130	10500	6488110	25100	6498067	9420	6488110	19100	6498067	10200	100	6488110
Total Antimony (Sb)	mg/kg	915	99.1	6488110	9.90	6498067	17.5	6488110	2.26	6498067	0.54	0.10	6488110
Total Arsenic (As)	mg/kg	29.3	38.8	6488110	6.88	6498067	36.1	6488110	9.66	6498067	4.64	0.50	6488110
Total Barium (Ba)	mg/kg	300	211	6488110	310	6498067	378	6488110	229	6498067	85.9	0.10	6488110
Total Beryllium (Be)	mg/kg	0.62	0.95	6488110	0.94	6498067	1.10	6488110	1.03	6498067	0.41	0.40	6488110
Total Bismuth (Bi)	mg/kg	5.04	0.92	6488110	0.43	6498067	0.35	6488110	0.28	6498067	0.10	0.10	6488110
Total Cadmium (Cd)	mg/kg	2.76	1.97	6488110	0.792	6498067	1.11	6488110	0.862	6498067	0.556	0.050	6488110
Total Calcium (Ca)	mg/kg	31600	34900	6488110	31900	6498067	28600	6488110	34800	6498067	75200	100	6488110
Total Chromium (Cr)	mg/kg	35.3	29.8	6488110	56.6	6498067	25.3	6488110	36.9	6498067	18.9	1.0	6488110
Total Cobalt (Co)	mg/kg	11.6	13.6	6488110	16.2	6498067	9.26	6488110	12.0	6498067	6.13	0.30	6488110
Total Copper (Cu)	mg/kg	639	722	6488110	86.7	6498067	186	6488110	42.7	6498067	16.2	0.50	6488110
Total Iron (Fe)	mg/kg	61000	74900	6488110	34300	6498067	49900	6488110	26800	6498067	13700	100	6488110
Total Lead (Pb)	mg/kg	18000	2050	6488110	218	6498067	1130	6488110	130	6498067	13.4	0.10	6488110
Total Lithium (Li)	mg/kg	14.8	14.6	6488110	51.0	6498067	15.6	6488110	25.1	6498067	15.6	5.0	6488110
Total Magnesium (Mg)	mg/kg	13200	16100	6488110	23000	6498067	9790	6488110	19000	6498067	39200	100	6488110
Total Manganese (Mn)	mg/kg	800	718	6488110	560	6498067	395	6488110	397	6498067	377	0.20	6488110
Total Mercury (Hg)	mg/kg	5.62	0.574	6488110	0.168	6498067	0.251	6488110	0.059	6498067	<0.050	0.050	6488110
Total Molybdenum (Mo)	mg/kg	2.45	2.71	6488110	0.75	6498067	3.81	6488110	1.45	6498067	0.62	0.10	6488110
Total Nickel (Ni)	mg/kg	69.7	71.8	6488110	55.2	6498067	29.0	6488110	37.0	6498067	17.9	0.80	6488110
Total Phosphorus (P)	mg/kg	656	777	6488110	613	6498067	457	6488110	492	6498067	424	10	6488110
Total Potassium (K)	mg/kg	1650	1580	6488110	6000	6498067	1600	6488110	3570	6498067	1740	100	6488110
Total Selenium (Se)	mg/kg	1.20	2.10	6488110	<0.50	6498067	1.84	6488110	0.59	6498067	<0.50	0.50	6488110
Total Silver (Ag)	mg/kg	1.11	5.23	6488110	0.194	6498067	0.351	6488110	0.167	6498067	0.082	0.050	6488110
Total Sodium (Na)	mg/kg	341	276	6488110	613	6498067	471	6488110	354	6498067	254	100	6488110
Total Strontium (Sr)	mg/kg	88.3	89.3	6488110	67.9	6498067	95.5	6488110	77.5	6498067	69.6	0.10	6488110
Total Thallium (Tl)	mg/kg	0.373	0.631	6488110	0.457	6498067	0.474	6488110	0.280	6498067	0.183	0.050	6488110
Total Tin (Sn)	mg/kg	646	178	6488110	29.1	6498067	34.2	6488110	3.51	6498067	0.91	0.10	6488110
Total Titanium (Ti)	mg/kg	265	321	6488110	982	6498067	276	6488110	115	6498067	232	1.0	6488110
Total Uranium (U)	mg/kg	0.932	1.15	6488110	1.49	6498067	1.37	6488110	1.65	6498067	1.12	0.050	6488110
Total Vanadium (V)	mg/kg	35.8	41.0	6488110	64.1	6498067	28.2	6488110	60.0	6498067	33.9	2.0	6488110
Total Zinc (Zn)	mg/kg	1200	618	6488110	162	6498067	450	6488110	127	6498067	42.3	1.0	6488110
Total Zirconium (Zr)	mg/kg	9.11	11.8	6488110	21.0	6498067	5.70	6488110	14.7	6498067	10.8	0.50	6488110

RDL = Reportable Detection Limit



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

TCLP METALS (SOIL)

Maxxam ID		FJ0762	FJ0768	FJ0792		
Sampling Date		2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH14 0.5-1	BH08 0-0.5	BH01 0.5-1	RDL	QC Batch
Metals						
LEACHATE Antimony (Sb)	mg/L	<0.10	0.18	<0.10	0.10	6499260
LEACHATE Arsenic (As)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Barium (Ba)	mg/L	0.52	0.90	0.94	0.10	6499260
LEACHATE Beryllium (Be)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Boron (B)	mg/L	0.60	0.82	0.11	0.10	6499260
LEACHATE Cadmium (Cd)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Chromium (Cr)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Cobalt (Co)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Copper (Cu)	mg/L	<0.10	0.78	<0.10	0.10	6499260
LEACHATE Iron (Fe)	mg/L	1.18	0.88	1.34	0.50	6499260
LEACHATE Lead (Pb)	mg/L	0.19	32.5	0.70	0.10	6499260
LEACHATE Mercury (Hg)	mg/L	<0.0020	<0.0020	<0.0020	0.0020	6499260
LEACHATE Molybdenum (Mo)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Nickel (Ni)	mg/L	<0.10	0.78	<0.10	0.10	6499260
LEACHATE Selenium (Se)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Silver (Ag)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Thallium (Tl)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Uranium (U)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Vanadium (V)	mg/L	<0.10	<0.10	<0.10	0.10	6499260
LEACHATE Zinc (Zn)	mg/L	0.51	26.4	0.54	0.10	6499260
LEACHATE Zirconium (Zr)	mg/L	<0.10	<0.10	<0.10	0.10	6499260

RDL = Reportable Detection Limit



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
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Site Location: CP WESTON

CCME PAH IN SOIL BY GC-MS (SOIL)

Maxxam ID		FJ0762	FJ0764	FJ0768	FJ0770		
Sampling Date		2013/01/11	2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH14 0.5-1	BH14 1.5-2.25	BH08 0-0.5	BH08 1-1.5	RDL	QC Batch
Calculated Parameters							
Index of Additive Cancer Risk(IARC)	N/A	14	0.31	10	4.1	0.10	6481164
Benzo[a]pyrene equivalency	N/A	1.0	<0.10	0.75	0.29	0.10	6481164
Polycyclic Aromatics							
Naphthalene	mg/kg	0.91	<0.010	0.75	0.077	0.010	6488787
2-Methylnaphthalene	mg/kg	1.3	<0.020	1.1	0.061	0.020	6488787
Acenaphthylene	mg/kg	0.033	<0.0050	0.036	<0.0050	0.0050	6488787
Acenaphthene	mg/kg	0.12	<0.0050	0.16	0.18	0.0050	6488787
Fluorene	mg/kg	0.16	<0.020	0.24	0.22	0.020	6488787
Phenanthrene	mg/kg	1.7	<0.020	1.3	0.91	0.020	6488787
Anthracene	mg/kg	0.30	<0.0040	0.21	0.25	0.0040	6488787
Fluoranthene	mg/kg	2.0	<0.020	0.97	0.72	0.020	6488787
Pyrene	mg/kg	1.7	<0.020	0.86	0.54	0.020	6488787
Benzo(a)anthracene	mg/kg	0.82	<0.020	0.47	0.29	0.020	6488787
Chrysene	mg/kg	1.0	<0.020	0.66	0.28	0.020	6488787
Benzo(b&i)fluoranthene	mg/kg	1.1	<0.020	0.82	0.28	0.020	6488787
Benzo(k)fluoranthene	mg/kg	0.33	<0.020	0.21	0.10	0.020	6488787
Benzo(a)pyrene	mg/kg	0.61	<0.020	0.45	0.18	0.020	6488787
Indeno(1,2,3-cd)pyrene	mg/kg	0.41	<0.050	0.33	0.099	0.050	6488787
Dibenz(a,h)anthracene	mg/kg	0.11	<0.050	0.11	<0.050	0.050	6488787
Benzo(g,h,i)perylene	mg/kg	0.50	<0.050	0.41	0.10	0.050	6488787
Low Molecular Weight PAH's	mg/kg	4.5	<0.050	3.8	1.7	0.050	6481165
High Molecular Weight PAH's	mg/kg	9.3	<0.050	5.8	2.8	0.050	6481165
Total PAH	mg/kg	14	<0.050	9.6	4.5	0.050	6481165
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	86(1)	83	77	77		6488787
D8-ACENAPHTHYLENE (sur.)	%	71	82	79	88		6488787
D8-NAPHTHALENE (sur.)	%	75	82	84	89		6488787
TERPHENYL-D14 (sur.)	%	72	87	82	95		6488787

N/A = Not Applicable

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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CCME PAH IN SOIL BY GC-MS (SOIL)

Maxxam ID		FJ0776	FJ0777	FJ0792	FJ0793	FJ0800	FJ0803		
Sampling Date		2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11	2013/01/11		
	UNITS	BH06 0.5-1	BH06 1-1.5	BH01 0.5-1	BH01 1-1.5	BH02 0-0.5	BH02 1.5-2.25	RDL	QC Batch
Calculated Parameters									
Index of Additive Cancer Risk(IARC)	N/A	21	0.31	26	5.6	22	0.31	0.10	6481164
Benzo[a]pyrene equivalency	N/A	1.7	<0.10	2.1	0.49	1.7	<0.10	0.10	6481164
Polycyclic Aromatics									
Naphthalene	mg/kg	1.0	<0.010	0.20	0.24	0.90	<0.010	0.010	6488787
2-Methylnaphthalene	mg/kg	1.1	<0.020	0.29	0.36	1.4	<0.020	0.020	6488787
Acenaphthylene	mg/kg	0.089	<0.0050	0.15	0.038	0.072	<0.0050	0.0050	6488787
Acenaphthene	mg/kg	0.26	<0.0050	0.020	0.0057	0.36	<0.0050	0.0050	6488787
Fluorene	mg/kg	0.33	<0.020	0.029	<0.020	0.38	<0.020	0.020	6488787
Phenanthrene	mg/kg	2.1	<0.020	0.94	0.26	3.4	0.026	0.020	6488787
Anthracene	mg/kg	0.66	<0.0040	0.16	0.027	0.70	0.0048	0.0040	6488787
Fluoranthene	mg/kg	2.0	<0.020	1.2	0.12	3.3	0.026	0.020	6488787
Pyrene	mg/kg	1.9	<0.020	2.1	0.17	3.2	0.026	0.020	6488787
Benzo(a)anthracene	mg/kg	1.2	<0.020	1.1	0.16	1.4	<0.020	0.020	6488787
Chrysene	mg/kg	1.5	<0.020	1.5	0.22	1.6	<0.020	0.020	6488787
Benzo(b&j)fluoranthene	mg/kg	1.6	<0.020	2.1	0.45	1.5	<0.020	0.020	6488787
Benzo(k)fluoranthene	mg/kg	0.47	<0.020	0.56	0.12	0.48	<0.020	0.020	6488787
Benzo(a)pyrene	mg/kg	1.1	<0.020	1.1	0.27	1.1	<0.020	0.020	6488787
Indeno(1,2,3-cd)pyrene	mg/kg	0.72	<0.050	1.4	0.35	0.56	<0.050	0.050	6488787
Dibenz(a,h)anthracene	mg/kg	0.24	<0.050	0.40	0.10	0.19	<0.050	0.050	6488787
Benzo(g,h,i)perylene	mg/kg	1.9	<0.050	2.2	0.48	0.64	<0.050	0.050	6488787
Low Molecular Weight PAH's	mg/kg	5.6	<0.050	1.8	0.94	7.2	<0.050	0.050	6481165
High Molecular Weight PAH's	mg/kg	14	<0.050	15	2.7	15	0.052	0.050	6481165
Total PAH	mg/kg	19	<0.050	16	3.7	22	0.083	0.050	6481165
Surrogate Recovery (%)									
D10-ANTHRACENE (sur.)	%	71	81	74	83	74	81		6488787
D8-ACENAPHTHYLENE (sur.)	%	78	80	79	84	83	82		6488787
D8-NAPHTHALENE (sur.)	%	81	80	80	85	85	82		6488787
TERPHENYL-D14 (sur.)	%	77	87	80	90	81	90		6488787

N/A = Not Applicable

RDL = Reportable Detection Limit



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Package 1	0.5°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

CSR/CCME METALS IN SOIL (SOIL) Comments

Sample FJ0768-02 Elements by ICPMS (total): Detection Limits raised due to sample matrix interference.



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QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6485138	O-TERPHENYL (sur.)	2013/01/14	91	50 - 130	86	50 - 130	100	%				
6485138	F2 (C10-C16 Hydrocarbons)	2013/01/14	NC	50 - 130	91	80 - 120	<20	mg/kg	NC	50		
6485138	F3 (C16-C34 Hydrocarbons)	2013/01/14	92	50 - 130	93	80 - 120	<20	mg/kg	NC	50		
6485138	F4 (C34-C50 Hydrocarbons)	2013/01/14	94	50 - 130	90	80 - 120	<20	mg/kg	NC	50		
6485139	4-BROMOFLUOROBENZENE (sur.)	2013/01/14	99	60 - 140	98	60 - 140	97	%				
6485139	D10-ETHYLBENZENE (sur.)	2013/01/14	117	30 - 130	111	30 - 130	107	%				
6485139	D4-1,2-DICHLOROETHANE (sur.)	2013/01/14	105	60 - 140	103	60 - 140	100	%				
6485139	D8-TOLUENE (sur.)	2013/01/14	93	60 - 140	95	60 - 140	95	%				
6485139	Benzene	2013/01/14	109	60 - 140	99	60 - 140	<0.0050	mg/kg	20.1	50		
6485139	Toluene	2013/01/14	108	60 - 140	100	60 - 140	<0.020	mg/kg	NC	50		
6485139	Ethylbenzene	2013/01/14	113	60 - 140	105	60 - 140	<0.010	mg/kg	19.5	50		
6485139	m & p-Xylene	2013/01/14	110	60 - 140	102	60 - 140	<0.040	mg/kg	NC	50		
6485139	o-Xylene	2013/01/14	111	60 - 140	102	60 - 140	<0.020	mg/kg	NC	50		
6485139	Methyl-tert-butylether (MTBE)	2013/01/14	105	60 - 140	97	60 - 140	<0.10	mg/kg	NC	N/A		
6485139	(C6-C10)	2013/01/14	108	60 - 140	86	60 - 140	<10	mg/kg	0.03	50		
6485139	Xylenes (Total)	2013/01/14					<0.040	mg/kg	14.4	50		
6485139	F1 (C6-C10) - BTEX	2013/01/14					<10	mg/kg	0.2	50		
6485143	Moisture	2013/01/08					<0.3	%	4.7	20		
6485758	Moisture	2013/01/15					<0.30	%	4.2	20		
6488110	Total Antimony (Sb)	2013/01/15	89	75 - 125	106	75 - 125	<0.10	mg/kg	3.7	30	105	70 - 130
6488110	Total Arsenic (As)	2013/01/15	107	75 - 125	102	75 - 125	0.51, RDL=0.50	mg/kg	1.6	30	97	70 - 130
6488110	Total Barium (Ba)	2013/01/15	NC	75 - 125	103	75 - 125	<0.10	mg/kg	0.6	35	101	70 - 130
6488110	Total Beryllium (Be)	2013/01/15	108	75 - 125	102	75 - 125	<0.40	mg/kg	NC	30		
6488110	Total Cadmium (Cd)	2013/01/15	106	75 - 125	104	75 - 125	<0.050	mg/kg	0.3	30	111	70 - 130
6488110	Total Chromium (Cr)	2013/01/15	95	75 - 125	96	75 - 125	<1.0	mg/kg	1.3	30	95	70 - 130
6488110	Total Cobalt (Co)	2013/01/15	94	75 - 125	98	75 - 125	<0.30	mg/kg	1.8	30	87	70 - 130
6488110	Total Copper (Cu)	2013/01/15	NC	75 - 125	106	75 - 125	<0.50	mg/kg	0.3	30	86	70 - 130
6488110	Total Lead (Pb)	2013/01/15	NC	75 - 125	104	75 - 125	<0.10	mg/kg	2.3	35	93	70 - 130
6488110	Total Lithium (Li)	2013/01/15	106	75 - 125	99	75 - 125	<5.0	mg/kg	NC	30		
6488110	Total Manganese (Mn)	2013/01/15	NC	75 - 125	100	75 - 125	<0.20	mg/kg	1.2	30	95	70 - 130
6488110	Total Mercury (Hg)	2013/01/15	105	75 - 125	102	75 - 125	<0.050	mg/kg	NC	35	82	70 - 130
6488110	Total Molybdenum (Mo)	2013/01/15	105	75 - 125	105	75 - 125	<0.10	mg/kg	1.7	35	114	70 - 130
6488110	Total Nickel (Ni)	2013/01/15	NC	75 - 125	103	75 - 125	<0.80	mg/kg	1.2	30	93	70 - 130
6488110	Total Selenium (Se)	2013/01/15	117	75 - 125	109	75 - 125	<0.50	mg/kg	NC	30		
6488110	Total Silver (Ag)	2013/01/15	97	75 - 125	99	75 - 125	<0.050	mg/kg	NC	35		
6488110	Total Strontium (Sr)	2013/01/15	NC	75 - 125	99	75 - 125	<0.10	mg/kg	1.0	35	96	70 - 130
6488110	Total Thallium (Tl)	2013/01/15	88	75 - 125	107	75 - 125	<0.050	mg/kg	NC	30	96	70 - 130
6488110	Total Tin (Sn)	2013/01/15	NC	75 - 125	103	75 - 125	<0.10	mg/kg	1.4	35		
6488110	Total Titanium (Ti)	2013/01/15	NC	75 - 125	98	75 - 125	<1.0	mg/kg	0.2	35	92	70 - 130
6488110	Total Uranium (U)	2013/01/15	99	75 - 125	96	75 - 125	<0.050	mg/kg	0.5	30	93	70 - 130

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6488110	Total Vanadium (V)	2013/01/15	NC	75 - 125	98	75 - 125	<2.0	mg/kg	1.2	30	97	70 - 130
6488110	Total Zinc (Zn)	2013/01/15	NC	75 - 125	110	75 - 125	<1.0	mg/kg	1.4	30	95	70 - 130
6488110	Total Aluminum (Al)	2013/01/15					<100	mg/kg	1.8	35	103	70 - 130
6488110	Total Calcium (Ca)	2013/01/15					<100	mg/kg	0.8	30	86	70 - 130
6488110	Total Iron (Fe)	2013/01/15					<100	mg/kg	1.0	30	87	70 - 130
6488110	Total Magnesium (Mg)	2013/01/15					<100	mg/kg	1.1	30	84	70 - 130
6488110	Total Phosphorus (P)	2013/01/15					<10	mg/kg	0.8	30	88	70 - 130
6488110	Total Bismuth (Bi)	2013/01/15					<0.10	mg/kg	NC	30		
6488110	Total Potassium (K)	2013/01/15					<100	mg/kg	0.5	35		
6488110	Total Sodium (Na)	2013/01/15					<100	mg/kg	NC	35		
6488110	Total Zirconium (Zr)	2013/01/15					<0.50	mg/kg	0.07	30		
6488150	Soluble (2:1) pH	2013/01/15			101	96 - 104			0.1	20		
6488787	D10-ANTHRACENE (sur.)	2013/01/16	95	60 - 130	86	60 - 130	91	%				
6488787	D8-ACENAPHTHYLENE (sur.)	2013/01/16	101	50 - 130	87	50 - 130	91	%				
6488787	D8-NAPHTHALENE (sur.)	2013/01/16	101	50 - 130	87	50 - 130	92	%				
6488787	TERPHENYL-D14 (sur.)	2013/01/16	102	60 - 130	91	60 - 130	97	%				
6488787	Naphthalene	2013/01/16	NC	50 - 130	84	50 - 130	<0.010	mg/kg	14.4	50		
6488787	2-Methylnaphthalene	2013/01/16	NC	50 - 130	86	50 - 130	<0.020	mg/kg	15.4	50		
6488787	Acenaphthylene	2013/01/16	107	50 - 130	85	50 - 130	<0.0050	mg/kg	NC	50		
6488787	Acenaphthene	2013/01/16	102	50 - 130	87	50 - 130	<0.0050	mg/kg	NC(1)	50		
6488787	Fluorene	2013/01/16	103	50 - 130	86	50 - 130	<0.020	mg/kg	NC	50		
6488787	Phenanthrene	2013/01/16	NC	60 - 130	87	60 - 130	<0.020	mg/kg	11.1	50		
6488787	Anthracene	2013/01/16	102	60 - 130	84	60 - 130	<0.0040	mg/kg	12.4	50		
6488787	Fluoranthene	2013/01/16	96	60 - 130	87	60 - 130	<0.020	mg/kg	20.0	50		
6488787	Pyrene	2013/01/16	96	60 - 130	88	60 - 130	<0.020	mg/kg	16.8	50		
6488787	Benzo(a)anthracene	2013/01/16	85	60 - 130	87	60 - 130	<0.020	mg/kg	9.4	50		
6488787	Chrysene	2013/01/16	82	60 - 130	88	60 - 130	<0.020	mg/kg	18.9	50		
6488787	Benzo(b&i)fluoranthene	2013/01/16	85	60 - 130	90	60 - 130	<0.020	mg/kg	39.2	50		
6488787	Benzo(k)fluoranthene	2013/01/16	77	60 - 130	86	60 - 130	<0.020	mg/kg	NC	50		
6488787	Benzo(a)pyrene	2013/01/16	79	60 - 130	92	60 - 130	<0.020	mg/kg	NC	50		
6488787	Indeno(1,2,3-cd)pyrene	2013/01/16	78	60 - 130	102	60 - 130	<0.050	mg/kg	NC	50		
6488787	Dibenz(a,h)anthracene	2013/01/16	84	60 - 130	101	60 - 130	<0.050	mg/kg	NC	50		
6488787	Benzo(g,h,i)perylene	2013/01/16	71	60 - 130	98	60 - 130	<0.050	mg/kg	NC	50		
6489677	1,4-Difluorobenzene (sur.)	2013/01/15	148(2)	70 - 130	148(2)	70 - 130	150(2)	%				
6489677	4-BROMOFLUOROBENZENE (sur.)	2013/01/15	109	70 - 130	108	70 - 130	104	%				
6489677	D10-ETHYLBENZENE (sur.)	2013/01/15	121	50 - 130	96	50 - 130	105	%				
6489677	D4-1,2-DICHLOROETHANE (sur.)	2013/01/15	117	70 - 130	111	70 - 130	105	%				
6489677	Chloromethane	2013/01/15	106	40 - 150	93	40 - 150	<0.10	mg/kg	NC(3)	40		
6489677	Vinyl chloride	2013/01/15	138	40 - 150	118	40 - 150	<0.060	mg/kg	NC(3)	40		
6489677	Bromomethane	2013/01/15	114	40 - 150	94	40 - 150	<0.30	mg/kg	NC(3)	40		



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QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6489677	Chloroethane	2013/01/15	113	40 - 150	104	40 - 150	<0.10	mg/kg	NC (3)	40		
6489677	Trichlorofluoromethane	2013/01/15	139	40 - 150	124	40 - 150	<0.20	mg/kg	NC (3)	40		
6489677	1,1-dichloroethene	2013/01/15	115	60 - 140	100	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Dichloromethane	2013/01/15	122	60 - 140	106	60 - 140	<0.10	mg/kg	NC (3)	40		
6489677	trans-1,2-dichloroethene	2013/01/15	116	60 - 140	100	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,1-dichloroethane	2013/01/15	116	60 - 140	102	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	cis-1,2-dichloroethene	2013/01/15	117	60 - 140	102	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Chloroform	2013/01/15	112	60 - 140	98	60 - 140	<0.050	mg/kg	NC (3)	40		
6489677	1,1,1-trichloroethane	2013/01/15	113	60 - 140	99	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,2-dichloroethane	2013/01/15	122	60 - 140	107	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Carbon tetrachloride	2013/01/15	114	60 - 140	100	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,2-dichloropropane	2013/01/15	114	60 - 140	99	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Trichloroethene	2013/01/15	113	60 - 140	98	60 - 140	<0.0090	mg/kg	NC (3)	40		
6489677	Bromodichloromethane	2013/01/15	114	60 - 140	98	60 - 140	<0.050	mg/kg	NC (3)	40		
6489677	cis-1,3-dichloropropene	2013/01/15	117	60 - 140	102	60 - 140	<0.050	mg/kg	NC (3)	40		
6489677	trans-1,3-dichloropropene	2013/01/15	91	60 - 140	84	60 - 140	<0.050	mg/kg	NC (3)	40		
6489677	1,1,2-trichloroethane	2013/01/15	115	60 - 140	99	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Chlorodibromomethane	2013/01/15	119	60 - 140	101	60 - 140	<0.050	mg/kg	NC (3)	40		
6489677	1,2-dibromopropane	2013/01/15	119	60 - 140	102	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Tetrachloroethene	2013/01/15	113	60 - 140	99	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Chlorobenzene	2013/01/15	110	60 - 140	97	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,1,1,2-tetrachloroethane	2013/01/15	112	60 - 140	96	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Bromoform	2013/01/15	121	60 - 140	104	60 - 140	<0.050	mg/kg	NC (3)	40		
6489677	Styrene	2013/01/15	132	60 - 140	115	60 - 140	<0.030	mg/kg	NC (3)	40		
6489677	1,1,2,2-tetrachloroethane	2013/01/15	111	60 - 140	97	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,2-dichlorobenzene	2013/01/15	107	60 - 140	92	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,3-dichlorobenzene	2013/01/15	108	60 - 140	94	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,4-dichlorobenzene	2013/01/15	111	60 - 140	97	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	1,2,3-trichlorobenzene	2013/01/15	133	60 - 140	108	60 - 140	<0.025	mg/kg	NC (3)	40		
6489677	Hexachlorobutadiene	2013/01/15	109	60 - 140			<0.20	mg/kg	NC (3)	40		
6489677	1,2,4-trichlorobenzene	2013/01/15	129	60 - 140	103	60 - 140	<0.025	mg/kg	NC (3)	40		
6496444	Initial pH of Sample	2013/01/18					4.96, RDL=N/A	pH Units	0.6	20		
6496444	Final pH of Leachate	2013/01/18					4.96, RDL=N/A	pH Units	3.6	20		
6496444	pH of Leaching Fluid	2013/01/18					4.96, RDL=N/A	pH Units	0	20		
6496444	pH after HCl	2013/01/18							2.4	20		
6498067	Total Antimony (Sb)	2013/01/18	93	75 - 125	103	75 - 125	<0.10	mg/kg			92	70 - 130
6498067	Total Arsenic (As)	2013/01/18	102	75 - 125	106	75 - 125	0.58, RDL=0.50	mg/kg			97	70 - 130
6498067	Total Barium (Ba)	2013/01/18	NC	75 - 125	105	75 - 125	<0.10	mg/kg			105	70 - 130
6498067	Total Beryllium (Be)	2013/01/18	102	75 - 125	112	75 - 125	<0.40	mg/kg				
6498067	Total Cadmium (Cd)	2013/01/18	109	75 - 125	107	75 - 125	0.051, RDL=0.050	mg/kg			111	70 - 130

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6498067	Total Chromium (Cr)	2013/01/18	NC	75 - 125	104	75 - 125	<1.0	mg/kg	2.1	30	100	70 - 130
6498067	Total Cobalt (Co)	2013/01/18	95	75 - 125	104	75 - 125	<0.30	mg/kg			92	70 - 130
6498067	Total Copper (Cu)	2013/01/18	NC	75 - 125	108	75 - 125	<0.50	mg/kg			90	70 - 130
6498067	Total Lead (Pb)	2013/01/18	102	75 - 125	108	75 - 125	<0.10	mg/kg			100	70 - 130
6498067	Total Lithium (Li)	2013/01/18	100	75 - 125	103	75 - 125	<5.0	mg/kg				
6498067	Total Manganese (Mn)	2013/01/18	NC	75 - 125	103	75 - 125	<0.20	mg/kg			96	70 - 130
6498067	Total Mercury (Hg)	2013/01/18	113	75 - 125	109	75 - 125	<0.050	mg/kg			91	70 - 130
6498067	Total Molybdenum (Mo)	2013/01/18	103	75 - 125	106	75 - 125	<0.10	mg/kg			109	70 - 130
6498067	Total Nickel (Ni)	2013/01/18	NC	75 - 125	104	75 - 125	<0.80	mg/kg			95	70 - 130
6498067	Total Selenium (Se)	2013/01/18	113	75 - 125	116	75 - 125	<0.50	mg/kg				
6498067	Total Silver (Ag)	2013/01/18	99	75 - 125	106	75 - 125	<0.050	mg/kg				
6498067	Total Strontium (Sr)	2013/01/18	NC	75 - 125	100	75 - 125	<0.10	mg/kg			94	70 - 130
6498067	Total Thallium (Tl)	2013/01/18	105	75 - 125	106	75 - 125	<0.050	mg/kg			95	70 - 130
6498067	Total Tin (Sn)	2013/01/18	100	75 - 125	101	75 - 125	<0.10	mg/kg				
6498067	Total Titanium (Ti)	2013/01/18	NC	75 - 125	103	75 - 125	<1.0	mg/kg			97	70 - 130
6498067	Total Uranium (U)	2013/01/18	100	75 - 125	104	75 - 125	<0.050	mg/kg			101	70 - 130
6498067	Total Vanadium (V)	2013/01/18	NC	75 - 125	104	75 - 125	<2.0	mg/kg			103	70 - 130
6498067	Total Zinc (Zn)	2013/01/18	NC	75 - 125	116	75 - 125	<1.0	mg/kg			101	70 - 130
6498067	Total Aluminum (Al)	2013/01/18					<100	mg/kg			101	70 - 130
6498067	Total Calcium (Ca)	2013/01/18					<100	mg/kg			94	70 - 130
6498067	Total Iron (Fe)	2013/01/18					<100	mg/kg	0.9	30	94	70 - 130
6498067	Total Magnesium (Mg)	2013/01/18					<100	mg/kg			90	70 - 130
6498067	Total Phosphorus (P)	2013/01/18					<10	mg/kg			96	70 - 130
6498067	Total Bismuth (Bi)	2013/01/18					<0.10	mg/kg				
6498067	Total Potassium (K)	2013/01/18					<100	mg/kg				
6498067	Total Sodium (Na)	2013/01/18					<100	mg/kg				
6498067	Total Zirconium (Zr)	2013/01/18					<0.50	mg/kg				
6498168	Soluble (2:1) pH	2013/01/18			102	96 - 104			0.3	20		
6499260	LEACHATE Arsenic (As)	2013/01/18	109	75 - 125	110	75 - 125	<0.10	mg/L				
6499260	LEACHATE Beryllium (Be)	2013/01/18	96	75 - 125	96	75 - 125	<0.10	mg/L				
6499260	LEACHATE Cadmium (Cd)	2013/01/18	103	75 - 125	104	75 - 125	<0.10	mg/L				
6499260	LEACHATE Chromium (Cr)	2013/01/18	94	75 - 125	97	75 - 125	<0.10	mg/L				
6499260	LEACHATE Cobalt (Co)	2013/01/18	92	75 - 125	96	75 - 125	<0.10	mg/L				
6499260	LEACHATE Copper (Cu)	2013/01/18	99	75 - 125	105	75 - 125	<0.10	mg/L				
6499260	LEACHATE Lead (Pb)	2013/01/18	99	75 - 125	98	75 - 125	<0.10	mg/L	NC	35		
6499260	LEACHATE Nickel (Ni)	2013/01/18	98	75 - 125	104	75 - 125	<0.10	mg/L				
6499260	LEACHATE Selenium (Se)	2013/01/18	117	75 - 125	114	75 - 125	<0.10	mg/L				
6499260	LEACHATE Uranium (U)	2013/01/18	98	75 - 125	101	75 - 125	<0.10	mg/L				
6499260	LEACHATE Vanadium (V)	2013/01/18	97	75 - 125	101	75 - 125	<0.10	mg/L				
6499260	LEACHATE Zinc (Zn)	2013/01/18	109	75 - 125	111	75 - 125	<0.10	mg/L				



Maxxam Job #: B302682
Report Date: 2013/01/18

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6499260	LEACHATE Antimony (Sb)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Barium (Ba)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Boron (B)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Iron (Fe)	2013/01/18					<0.50	mg/L				
6499260	LEACHATE Mercury (Hg)	2013/01/18					<0.0020	mg/L				
6499260	LEACHATE Molybdenum (Mo)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Silver (Ag)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Thallium (Tl)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Zirconium (Zr)	2013/01/18					<0.10	mg/L				

N/A = Not Applicable

RDL = Reportable Detection Limit

RPD = Relative Percent Difference

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - RDL raised due to sample matrix interference.

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

(3) - Sample extracted past 48 hours from receipt of sample but within the 7 day extraction holdtime

Page 2 of 2

INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		Laboratory Use Only:	
Company Name	#4140 STANTEC CONSULTING LTD	Company Name	#7087 STANTEC CONSULTING LTD	Customer #	B20340	MATERIAL JOB #	BOTTLE ORDER #.
Contact Name	SCOTT COUGHTREY C/O AP	Contact Name	SCOTT COUGHTREY	P.O.#		G3c9e52	XXXXXXXXXX
Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R6	Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R6	Fax#	111440143 200	CHAIN OF CUSTODY #.	PROJECT MANAGER
Phone	(204)475-9966 Fax	Phone	(204)307-3958 Fax (204)942-2548	Project Name	CP Weston	XXXXXXXXXXXXXXX	Janele +scran
E-mail	stantec.accounts@ap; ap.invoice@stantec.com	Email	scott.coughtrey@stantec.com bob.ezzano@stantec.com	Sampled By	BE	CX30754-CZ-EI	

[illegible]

RELEASED BY: (Signature Print)	Date (Y/M/DD)	Time	RECEIVED BY: (Signature Print)	Date (Y/M/DD)	Time	Is Jars Used and Not Submerged	Laboratory Use Only	
B. J. A. / B. J. A.	12/1/11	1515	[Signature] Amanda	12/1/11	1545		Temp. Storage ☐	Temperature (°C) or (°F) 12.6 3.6 8

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD AND COMPLETE CHAIN OF CUSTODY NOT TO HAVE ANALYTICAL TEST DELAYS

Page 10 of 25
MARTIN ANTHONY INVESTIGATIONS

INVOICE INFORMATION		REPORT INFORMATION (if differs from invoice)		PROJECT INFORMATION		Laboratory Use Only:	
Company Name	#1140 STANTEC CONSULTING LTD	Company Name	#7087 STANTEC CONSULTING LTD	Quotation #	B20340	MAXIMUM JOB #	BOTTLE ORDER #
Contact Name	SCOTT COUGHTREY C/O AP	Contact Name	SCOTT COUGHTREY	P.O. #			
Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R8	Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R8	Project #	111440143.200		
Phone	(204) 775-9566 Fax	Phone	(204) 807-3958 Fax (204) 842-2548	Project Name		CHAIN OF CUSTODY #	PROJECT MANAGER
E-mail	stantec_accounts_payable_invoices@stantec.com	E-mail	scott.coughtrey@stantec.com, bob.ezzard@stantec.com	Site #	CP Weston		
				Sampled by	BB		

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

PLEASE PROVIDE ADVANCE NOTICE FOR ALL PROJECTS

Keywords: (Stereotype) IAT

Not an answer / Not a? is not possible

January "4" = 5: Average days for each week

Plasma rate: Standing 7.47, 1st sample with ACT on 8/20 and 8/21; 8.20 and 8.25

2014 - 2015: 100% of the 2014-2015 budget was spent.

See specific Rate TAT (if applies to entire customer-order)

Date Received _____ **File Number** _____

Resistant to water

SAMPLES MUST BE KEPT COOL (< 15°C) FROM TIME OF SAMPLING UNTIL DELIVERED TO LAB.

43

[illegible]

LESTER LINE CODE

5/25/1989	1989	13/6/11	1505	Not Submitted	☐ New Service ☐	Temperature (°C) or Weight 1 1 1 1 1 1	Catches less than 100 g ☐ 100 ☐
-----------	------	---------	------	---------------	--	---	--

*IT IS THE RESPONSIBILITY OF THE RE-ADJUSTER TO FIND OUT THE ACTUALLY OF THE CHANGE CUSTODY HELD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL DELAYS

Page 26 of 29

1-10-1944

INVOICE INFORMATION		REPORT INFORMATION (if differs from deposit)		PROJECT INFORMATION		Laboratory Use Only:	
Company Name	#4140 STANTEC CONSULTING LTD	Company Name	#7087 STANTEC CONSULTING LTD	Collection #	B20349	MAXIMUM JOB #	BOTTLE ORDER #:
Contact Name	SCOTT COUGHTREY C/O AP	Contact Name	SCOTT COUGHTREY	# Q #		RSC 2682	
Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R5	Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R5	Project #	111440143.200	CHAIN OF CUSTODY #	PROJECT MANAGER:
Phone	(204)475-9958 Fax	Phone	(204)807-3958 Fax (204)842-2548	Project Name			Jarvis HARRIS
E-mail	scantecc.accounts.payable.invoices@stantec.com	E-mail	scott.coughtrey@stantec.com, bob.ezzard@stantec.com	Sig #	CP Weston	CERT# 24-04-01	
				Sampled By	RSC		

REGULATORY CRITERIA						SPECIAL INSTRUCTIONS							ANALYSIS REQUESTED (Please Print Name)								TURNAROUND TIME (TAT) REQUIRED PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS		
Note: For regulated drinking water samples - please add the Drinking Water Chain of Custody Form.													Regulated Drinking Water T (Y/N) Metals Field Filtered T (Y/N) RTEX/F 1-74 In Soil CCME PAH In Soil by GC-MS VOCs In Soil by HS GCMS CCME Metals In Soil <i>Held</i>								Regular (Standard) TAT: (will be applied if Rush TAT is not specified)		☒
																					Standard TAT = 5-7 working days for most cases. Please note Standard TAT for certain tests such as BOD and Dissolved Oxygen are + 5 days - check your Project Manager for details.		
SAMPLES MUST BE KEPT COOL (+10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO LAB/LAU																					Job Specific Rush TAT (if applies to entire submission)		
																					Days Required _____ Time Required _____		☐
																					Rush Confirmation Number _____		
Sample Barcode Label	Sample Location Identification	DIST Sample	Time Samples	Memo														# of Samples	Comments				
FJC782	BHC's C-C9	BIG/H	AM	S														3					
53	BHC's C5-1																	3					
54	BHC's 1-15																	3					
55	BHC's 15-235																	3					
56	BHC's 375-3																	3					
57	BHC's 3-375																	3					
EE	BHC's 375-45																	3					
58	BHC's 45-535																	3					
V 9C	BHC's 535-6																	3					

PREPARED BY (Signature Press)

B. Rogers / B. Fazzari

Date (YY/MM/DD)

12/1/11

Time

1735

RECEIVED BY (Signature Press)

[Signature]

Date (YY/MM/DD)

12/1/11

Time

1545

Jars Used and Not Submitted

☐ Yes ☐ No

Laboratory Use Only

Temperature (°C) or Recipe

21.0 ± 0.5

Carey Saw used or "Clean"

☐ Yes ☐ No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY SERVE IN ANALYTICAL, FBI DELAYS

Mexico City April 7-8 International

Call Now, Save Money! Upgrade Your Life To The Best Value For Your Money. Call Today!

REGULATORY CRITERIA	SPECIAL INSTRUCTIONS	ANALYSES REQUESTED (NAME OF METHOD)	TURNAROUND TIME (TAT) REQUIRED	
			PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS	
Notes: For requested drinking water samples, please use the Drinking Water Check or Custody Form. SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO LAB/VAH.		Regulator (Standard) TAT - will be applied if Rush TAT is not specified Standard TAT = 5-7 working days for most tests Please note: Standard TAT for certain tests such as DOC and Occurrence Forms are + 5 days - dependent on Project Manager for details. Job Specific Rush TAT (if applies to entire submittal) Date Requested: _____ Time Required: _____ Rush Confirmation Number: _____		

[illegible]

RELINQUISHED BY (Signature/Print):	Date (MM/DD/YY):	Time:	RECEIVED BY (Signature/Print):	Date (MM/DD/YY):	Time:	0 Airtel Used and Not Submitted	Laboratory Use Only	
P. J. ...	3/11/11	1515	[Signature] ...	3/11/11	1515	☐	Time Spent:	Follow-Up (Y/N) or Record
								1.6.1.1.1.1.1
								Case# See Head of Case: ☐ Yes ☐ No

*IT IS THE RESPONSIBILITY OF THE USER TO OBTAIN THE ACCURACY OF THE DATA OF THE INFORMATION SYSTEM BY THE USER'S OWN MEANS.

MALLUM ASHLEY MONTAGUE

INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		Laboratory Use Only:	
Company Name	#4140 STANTEC CONSULTING LTD	Company Name	#7057 STANTEC CONSULTING LTD	Quotation #	B70340	WALZAN JOB #	BOTTLE ORDER #
Contact Name	SCOTT COUGHTREY C/O AP	Contact Name	SCOTT COUGHTREY	P.O. #		523687	001010100010
Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R6	Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R6	Project #	111440143 200	147714	
Phone	(204)475-9566 Fax	Phone	(204)807-3958 Fax (204)942-2548	Project Name		CHAIN OF CUSTODY #	PROJECT MANAGER
E-mail	stantec.accounts.payable@stantec.com	E-mail	scott.coughtrey@stantec.com, doc.ozard@stantec.com	Sales #	CP Weston	PROJECTED START DATE FOR ANALYSIS (YYYY-MM-DD)	ANALYST'S SIGNATURE
				Serviced by	HS	DATE RECEIVED	

REGULATORY CRITERIA						SPECIAL INSTRUCTIONS							ANALYSIS REQUESTED - Please Indicate "Y" or "N"								TURNAROUND TIME (TAT) REQUIRED							
													Regular (Standard) TAT. (will be applied if Rush TAT is not specified) Standard TAT = 5-7 working days for most tests Please note: Standard TAT for certain tests such as BOD and Dissolved Phos are + 5 days - contact your Project Manager for details. Job Specific Rush TAT (if applies to entire submission) Days Required _____ Time Required _____ Rush Confirmation Number _____								☒							
Note: For requested drinking water samples - please use the Drinking Water Order of Priority Form.						Regulated Drinking Water Y (Y/N)							Unregulated Drinking Water Y (Y/N)								Samples MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO LAB/LAB							
Sample Barcode Label	Sample Location Identification	Date Sampled	Time Sampled	Use:		BTEX	VOCs	Semivolatiles	Pesticides	Herbicides	Fertilizers	Trace Metals	Cadmium	Chromium	Copper	Lead	Manganese	Nickel	Selenium	Zinc	TSS	pH	Dissolved Oxygen	Total Hardness	Specific Conductance	Temperature	Turnaround Time (TAT)	Comments
FJ0800	BHC3	13/01/11	AM	S		✓	✓	✓	✓																	3		
1	C1	BHC3																								3		
2	C2	BHC3																									3	
3	C3	BHC3																									3	
4	C4	BHC3																									3	
5	C5	BHC3																									3	
6	C6	BHC3																									3	
7	C7	BHC3																									3	
8	C8	BHC3																									3	
9																												
10																												

RECEIVED BY: [Signature]

DATE/TIME: 13/01/11 1535

RECEIVED BY: [Signature]

DATE/TIME: 13/01/11 1545

Lab Use Only

Temperature (°C) at Receipt: 20.6, 22.6, 22.8

* IT IS THE RESPONSIBILITY OF THE REL- MEMBERS TO ENSURE THE ACTUALITY OF THE CHAIN OF CUSTODY RECORDS. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL FATIGUE AND

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Your Project #: 111440143.200
Your C.O.C. #: 35089701

Attention: KAREN MATHERS
STANTEC CONSULTING
603-386 BROADWAY AVENUE
WINNIPEG, MB
CANADA R3C 3R6

Report Date: 2013/01/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B302638
Received: 2013/01/11, 14:30

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 in Water by HS GC/MS	3	N/A	2013/01/14	WINSOP-00054 WINSOP-00055	EPA8260C/CCME PHCCWS
CCME Hydrocarbons (F2-F4 in water)	3	2013/01/14	2013/01/14	WINSOP-00056	CCME PHC-CWS
Hardness (calculated as CaCO ₃) (1)	3	N/A	2013/01/15	BBY WI-00033	Calculated Parameter
Mercury (Dissolved) by CVAf (1)	3	N/A	2013/01/15	BBY7SOP-00015	EPA 245.7
Na, K, Ca, Mg, S by CRC ICPMS (diss.) (1)	3	N/A	2013/01/15	BBY7SOP-00002	EPA 6020A
Elements by CRC ICPMS (dissolved) (1)	3	N/A	2013/01/15	BBY7SOP-00002	EPA 6020A
PAH in Water by GC/MS (SIM) (1)	3	2013/01/15	2013/01/16	BBY8SOP-00021	EPA 8270D
Total LMW, HMW, Total PAH Calc (1)	3	N/A	2013/01/16	BBY WI-00033	BC MOE Lab Method
Filter and HNO ₃ Preserve for Metals (1)	3	N/A	2013/01/11	BBY6WI-00001	EPA 200.2
VOCs in Water by HS GC/MS (1)	3	2013/01/15	2013/01/16	BBY8-SOP-0009	EPA 8260C

* Results relate only to the items tested.

(1) This test was performed by Maxxam Vancouver

Encryption Key

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

Janelle Kochan, B.Sc., Project Manager,
Email: JKochan@maxxam.ca
Phone# (204) 772-7276 Ext.2209

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

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BTEX/F1-F4 IN WATER (WATER)

Maxxam ID		FJ0559	FJ0573	FJ0574		
Sampling Date		2013/01/11 12:30	2013/01/11 13:30	2013/01/11 13:55		
	UNITS	MW02	MW01	MW04	RDL	QC Batch
Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/L	<0.15	<0.15	<0.15	0.15	6485053
F3 (C16-C34 Hydrocarbons)	mg/L	<0.15	<0.15	<0.15	0.15	6485053
F4 (C34-C50 Hydrocarbons)	mg/L	<0.15	<0.15	<0.15	0.15	6485053
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	102	102	101		6485053
Volatiles						
Benzene	ug/L	<0.4	<0.4	<0.4	0.4	6485056
Toluene	ug/L	<0.4	<0.4	<0.4	0.4	6485056
Ethylbenzene	ug/L	<0.4	<0.4	<0.4	0.4	6485056
o-Xylene	ug/L	<0.4	<0.4	<0.4	0.4	6485056
m & p-Xylene	ug/L	<0.8	<0.8	<0.8	0.8	6485056
Xylenes (Total)	ug/L	<0.8	<0.8	<0.8	0.8	6485056
Methyl-tert-butylether (MTBE)	ug/L	<4	<4	<4	4	6485056
F1 (C6-C10) - BTEX	ug/L	<300	<300	<300	300	6485056
(C6-C10)	ug/L	<300	<300	<300	300	6485056
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	98	98	97		6485056
D4-1,2-DICHLOROETHANE (sur.)	%	95	99	92		6485056
D8-TOLUENE (sur.)	%	96	97	98		6485056

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		FJ0559	FJ0573	FJ0574		
Sampling Date		2013/01/11 12:30	2013/01/11 13:30	2013/01/11 13:55		
	UNITS	MW02	MW01	MW04	RDL	QC Batch
Calculated Parameters						
Filter and HNO3 Preservation	N/A	FIELD	FIELD	FIELD	N/A	ONSITE

N/A = Not Applicable

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		FJ0559	FJ0573	FJ0574		
Sampling Date		2013/01/11 12:30	2013/01/11 13:30	2013/01/11 13:55		
	UNITS	MW02	MW01	MW04	RDL	QC Batch
Volatiles						
Chloromethane	ug/L	<1.0	<1.0	<1.0	1.0	6488587
Vinyl chloride	ug/L	<0.50	<0.50	<0.50	0.50	6488587
Chloroethane	ug/L	<1.0	<1.0	<1.0	1.0	6488587
Trichlorofluoromethane	ug/L	<4.0	<4.0	<4.0	4.0	6488587
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<2.0	<2.0	<2.0	2.0	6488587
Dichlorodifluoromethane	ug/L	<2.0	<2.0	<2.0	2.0	6488587
1,1-dichloroethene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
Dichloromethane	ug/L	<2.0	<2.0	<2.0	2.0	6488587
trans-1,2-dichloroethene	ug/L	<1.0	<1.0	<1.0	1.0	6488587
1,1-dichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	6488587
cis-1,2-dichloroethene	ug/L	<1.0	<1.0	<1.0	1.0	6488587
Chloroform	ug/L	<1.0	<1.0	<1.0	1.0	6488587
1,1,1-trichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,2-dichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	6488587
Carbon tetrachloride	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,2-dichloropropane	ug/L	<0.50	<0.50	<0.50	0.50	6488587
cis-1,3-dichloropropene	ug/L	<1.0	<1.0	<1.0	1.0	6488587
trans-1,3-dichloropropene	ug/L	<1.0	<1.0	<1.0	1.0	6488587
Bromomethane	ug/L	<1.0	<1.0	<1.0	1.0	6488587
1,1,2-trichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	6488587
Trichloroethene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
Chlorodibromomethane	ug/L	<1.0	<1.0	<1.0	1.0	6488587
1,2-dibromoethane	ug/L	<0.20	<0.20	<0.20	0.20	6488587
Tetrachloroethene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
Bromodichloromethane	ug/L	<1.0	<1.0	<1.0	1.0	6488587
Bromoform	ug/L	<1.0	<1.0	<1.0	1.0	6488587
Styrene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,1,1,2-tetrachloroethane	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,1,2,2-tetrachloroethane	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,2-dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,3-dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,4-dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
Chlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	6488587
1,2,3-trichlorobenzene	ug/L	<2.0	<2.0	<2.0	2.0	6488587
1,2,4-trichlorobenzene	ug/L	<2.0	<2.0	<2.0	2.0	6488587
Hexachlorobutadiene	ug/L	<0.50	<0.50	<0.50	0.50	6488587

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		FJ0559	FJ0573	FJ0574		
Sampling Date		2013/01/11 12:30	2013/01/11 13:30	2013/01/11 13:55		
	UNITS	MW02	MW01	MW04	RDL	QC Batch
Surrogate Recovery (%)						
1,4-Difluorobenzene (sur.)	%	149 ⁽¹⁾	81	110		6488587
4-BROMOFLUOROBENZENE (sur.)	%	98	87	103		6488587
D4-1,2-DICHLOROETHANE (sur.)	%	101	74	97		6488587

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.

CCME DISSOLVED METALS IN WATER (WATER)

Maxxam ID		FJ0559		FJ0573	FJ0574		
Sampling Date		2013/01/11 12:30		2013/01/11 13:30	2013/01/11 13:55		
	UNITS	MW02	RDL	MW01	MW04	RDL	QC Batch
Misc. Inorganics							
Dissolved Hardness (CaCO ₃)	mg/L	3170	0.50	2340	1010	0.50	6480880
Elements							
Dissolved Mercury (Hg)	ug/L	<0.010	0.010	<0.010	0.011	0.010	6488148

RDL = Reportable Detection Limit

CCME DISSOLVED METALS IN WATER (WATER)

Maxxam ID		FJ0559		FJ0573	FJ0574		
Sampling Date		2013/01/11 12:30		2013/01/11 13:30	2013/01/11 13:55		
	UNITS	MW02	RDL	MW01	MW04	RDL	QC Batch
Dissolved Metals by ICPMS							
Dissolved Aluminum (Al)	ug/L	<12	12	42.1	<3.0	3.0	6484515
Dissolved Antimony (Sb)	ug/L	<2.0	2.0	<0.50	1.29	0.50	6484515
Dissolved Arsenic (As)	ug/L	1.33	0.40	0.51	0.51	0.10	6484515
Dissolved Barium (Ba)	ug/L	31.3	4.0	14.9	22.3	1.0	6484515
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	<0.10	<0.10	0.10	6484515
Dissolved Bismuth (Bi)	ug/L	<4.0	4.0	<1.0	<1.0	1.0	6484515
Dissolved Boron (B)	ug/L	325	200	328	1290	50	6484515
Dissolved Cadmium (Cd)	ug/L	0.112	0.050	0.053 ⁽¹⁾	0.473	0.010	6484515
Dissolved Chromium (Cr)	ug/L	<4.0	4.0	<1.0	<1.0	1.0	6484515
Dissolved Cobalt (Co)	ug/L	<2.0	2.0	<0.50	<0.50	0.50	6484515
Dissolved Copper (Cu)	ug/L	5.53	0.80	2.18	61.4	0.20	6484515
Dissolved Iron (Fe)	ug/L	<20	20	58.8	14.3	5.0	6484515
Dissolved Lead (Pb)	ug/L	0.93	0.80	0.64	0.41	0.20	6484515
Dissolved Lithium (Li)	ug/L	392	20	313	276	5.0	6484515
Dissolved Manganese (Mn)	ug/L	366	4.0	93.7	39.2	1.0	6484515
Dissolved Molybdenum (Mo)	ug/L	<4.0	4.0	6.2	3.6	1.0	6484515
Dissolved Nickel (Ni)	ug/L	5.3	4.0	6.1	12.9	1.0	6484515
Dissolved Selenium (Se)	ug/L	<0.40	0.40	<0.10	3.61	0.10	6484515
Dissolved Silicon (Si)	ug/L	7900	400	9100	4150	100	6484515
Dissolved Silver (Ag)	ug/L	<0.080	0.080	<0.020	<0.020	0.020	6484515
Dissolved Strontium (Sr)	ug/L	2330	4.0	1980	1010	1.0	6484515
Dissolved Thallium (Tl)	ug/L	<0.20	0.20	<0.050	<0.050	0.050	6484515
Dissolved Tin (Sn)	ug/L	<20	20	<5.0	<5.0	5.0	6484515
Dissolved Titanium (Ti)	ug/L	<20	20	<5.0	<5.0	5.0	6484515
Dissolved Uranium (U)	ug/L	113	0.40	55.2	32.4	0.10	6484515
Dissolved Vanadium (V)	ug/L	<20	20	<5.0	<5.0	5.0	6484515
Dissolved Zinc (Zn)	ug/L	25	20	14.3	181	5.0	6484515
Dissolved Zirconium (Zr)	ug/L	<2.0	2.0	1.33	0.71	0.50	6484515
Dissolved Calcium (Ca)	mg/L	317	0.20	276	135	0.050	6480881
Dissolved Magnesium (Mg)	mg/L	578	0.20	401	162	0.050	6480881
Dissolved Potassium (K)	mg/L	11.6	0.20	5.42	35.0	0.050	6480881
Dissolved Sodium (Na)	mg/L	350	0.20	279	294	0.050	6480881
Dissolved Sulphur (S)	mg/L	932	12	630	241	3.0	6480881

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

CCME PAH IN WATER BY GC-MS (WATER)

Maxxam ID		FJ0559	FJ0573	FJ0574		
Sampling Date		2013/01/11 12:30	2013/01/11 13:30	2013/01/11 13:55		
	UNITS	MW02	MW01	MW04	RDL	QC Batch
Polycyclic Aromatics						
Low Molecular Weight PAH's	ug/L	<0.50	<0.50	<0.50	0.50	6481349
High Molecular Weight PAH's	ug/L	0.066	0.10	<0.050	0.050	6481349
Total PAH	ug/L	<0.50	<0.50	<0.50	0.50	6481349
Naphthalene	ug/L	<0.10	<0.10	<0.10	0.10	6488582
2-Methylnaphthalene	ug/L	0.10	<0.10	<0.10	0.10	6488582
Quinoline	ug/L	<0.50	<0.50	<0.50	0.50	6488582
Acenaphthylene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Acenaphthene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Fluorene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Phenanthrene	ug/L	0.098	0.079	<0.050	0.050	6488582
Anthracene	ug/L	0.088	0.014	<0.010	0.010	6488582
Acridine	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Fluoranthene	ug/L	0.037	0.053	<0.020	0.020	6488582
Pyrene	ug/L	0.030	0.048	<0.020	0.020	6488582
Benzo(a)anthracene	ug/L	<0.010	<0.010	<0.010	0.010	6488582
Chrysene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Benzo(b&j)fluoranthene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	<0.0090	0.0090	6488582
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Dibenz(a,h)anthracene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	<0.050	0.050	6488582
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	71	74	74		6488582
D8-ACENAPHTHYLENE (sur.)	%	69	74	72		6488582
D8-NAPHTHALENE (sur.)	%	63	67	67		6488582
D9-Acridine	%	51	49(1)	60		6488582
TERPHENYL-D14 (sur.)	%	69	70	72		6488582

RDL = Reportable Detection Limit

(1) - Surrogate recovery below control limit - Matrix interference - Pot. low bias



Maxxam Job #: B302638
Report Date: 2013/01/16

STANTEC CONSULTING
Client Project #: 111440143.200

Package 1	0.9°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

CCME DISSOLVED METALS IN WATER (WATER) Comments

Sample FJ0559-05 Elements by CRC ICPMS (dissolved): Detection limits raised due to matrix interference.

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6484515	Dissolved Aluminum (Al)	2013/01/15	102	80 - 120	102	80 - 120	<3.0	ug/L		
6484515	Dissolved Antimony (Sb)	2013/01/15	97	80 - 120	99	80 - 120	<0.50	ug/L		
6484515	Dissolved Arsenic (As)	2013/01/15	101	80 - 120	100	80 - 120	<0.10	ug/L		
6484515	Dissolved Barium (Ba)	2013/01/15	NC	80 - 120	96	80 - 120	<1.0	ug/L		
6484515	Dissolved Beryllium (Be)	2013/01/15	92	80 - 120	90	80 - 120	<0.10	ug/L		
6484515	Dissolved Bismuth (Bi)	2013/01/15	96	80 - 120	97	80 - 120	<1.0	ug/L		
6484515	Dissolved Cadmium (Cd)	2013/01/15	98	80 - 120	97	80 - 120	<0.010	ug/L		
6484515	Dissolved Chromium (Cr)	2013/01/15	98	80 - 120	99	80 - 120	<1.0	ug/L		
6484515	Dissolved Cobalt (Co)	2013/01/15	92	80 - 120	95	80 - 120	<0.50	ug/L		
6484515	Dissolved Copper (Cu)	2013/01/15	97	80 - 120	98	80 - 120	<0.20	ug/L		
6484515	Dissolved Iron (Fe)	2013/01/15	103	80 - 120	103	80 - 120	<5.0	ug/L		
6484515	Dissolved Lead (Pb)	2013/01/15	94	80 - 120	95	80 - 120	<0.20	ug/L		
6484515	Dissolved Lithium (Li)	2013/01/15	103	80 - 120	95	80 - 120	<5.0	ug/L		
6484515	Dissolved Manganese (Mn)	2013/01/15	95	80 - 120	98	80 - 120	<1.0	ug/L		
6484515	Dissolved Molybdenum (Mo)	2013/01/15	NC	80 - 120	94	80 - 120	<1.0	ug/L		
6484515	Dissolved Nickel (Ni)	2013/01/15	109	80 - 120	99	80 - 120	<1.0	ug/L		
6484515	Dissolved Selenium (Se)	2013/01/15	104	80 - 120	105	80 - 120	<0.10	ug/L		
6484515	Dissolved Silver (Ag)	2013/01/15	92	80 - 120	87	80 - 120	<0.020	ug/L		
6484515	Dissolved Strontium (Sr)	2013/01/15	NC	80 - 120	93	80 - 120	<1.0	ug/L		
6484515	Dissolved Thallium (Tl)	2013/01/15	94	80 - 120	102	80 - 120	<0.050	ug/L		
6484515	Dissolved Tin (Sn)	2013/01/15	102	80 - 120	103	80 - 120	<5.0	ug/L		
6484515	Dissolved Titanium (Ti)	2013/01/15	109	80 - 120	96	80 - 120	<5.0	ug/L		
6484515	Dissolved Uranium (U)	2013/01/15	95	80 - 120	94	80 - 120	<0.10	ug/L		
6484515	Dissolved Vanadium (V)	2013/01/15	100	80 - 120	99	80 - 120	<5.0	ug/L		
6484515	Dissolved Zinc (Zn)	2013/01/15	104	80 - 120	106	80 - 120	<5.0	ug/L		
6484515	Dissolved Boron (B)	2013/01/15					<50	ug/L		
6484515	Dissolved Silicon (Si)	2013/01/15					<100	ug/L		
6484515	Dissolved Zirconium (Zr)	2013/01/15					<0.50	ug/L		
6485053	O-TERPHENYL (sur.)	2013/01/14	97	50 - 130	103	50 - 130	107	%		
6485053	F2 (C10-C16 Hydrocarbons)	2013/01/14	99	50 - 130	101	80 - 120	<0.15	mg/L	NC	40
6485053	F3 (C16-C34 Hydrocarbons)	2013/01/14	96	50 - 130	99	80 - 120	<0.15	mg/L	NC	40
6485053	F4 (C34-C50 Hydrocarbons)	2013/01/14	93	50 - 130	97	80 - 120	<0.15	mg/L	NC	40
6485056	4-BROMOFLUOROBENZENE (sur.)	2013/01/14	100	60 - 140	100	60 - 140	97	%		
6485056	D4-1,2-DICHLOROETHANE (sur.)	2013/01/14	90	60 - 140	93	60 - 140	92	%		
6485056	D8-TOLUENE (sur.)	2013/01/14	97	60 - 140	97	60 - 140	98	%		
6485056	Benzene	2013/01/14	86	70 - 130	84	70 - 130	<0.4	ug/L	NC	40
6485056	Toluene	2013/01/14	92	70 - 130	91	70 - 130	<0.4	ug/L	NC	40
6485056	Ethylbenzene	2013/01/14	98	70 - 130	96	70 - 130	<0.4	ug/L	NC	40
6485056	o-Xylene	2013/01/14	101	70 - 130	98	70 - 130	<0.4	ug/L	NC	40
6485056	m & p-Xylene	2013/01/14	103	70 - 130	99	70 - 130	<0.8	ug/L	NC	40

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6485056	Methyl-tert-butylether(MTBE)	2013/01/14	84	70 - 130	85	70 - 130	<4	ug/L	NC	40
6485056	(C6-C10)	2013/01/14	91	70 - 130	96	70 - 130	<300	ug/L	NC	40
6485056	Xylenes (Total)	2013/01/14					<0.8	ug/L	NC	40
6485056	F1 (C6-C10) - BTEX	2013/01/14					<300	ug/L	NC	40
6488148	Dissolved Mercury (Hg)	2013/01/15	89	80 - 120	89	80 - 120	<0.010	ug/L	NC	20
6488582	D10-ANTHRACENE (sur.)	2013/01/15	68	60 - 130	67	60 - 130	77	%		
6488582	D8-ACENAPHTHYLENE (sur.)	2013/01/15	66	50 - 130	67	50 - 130	73	%		
6488582	D8-NAPHTHALENE (sur.)	2013/01/15	58	50 - 130	62	50 - 130	68	%		
6488582	D9-Acndine	2013/01/15	58	50 - 130	59	50 - 130	66	%		
6488582	TERPHENYL-D14 (sur.)	2013/01/15	66	60 - 130	71	60 - 130	80	%		
6488582	Naphthalene	2013/01/16	61	50 - 130	63	50 - 130	<0.10	ug/L	NC	40
6488582	2-Methylnaphthalene	2013/01/16	66	50 - 130	67	50 - 130	<0.10	ug/L	37.1	40
6488582	Quinoline	2013/01/16	122	50 - 130	123	50 - 130	<0.50	ug/L	NC	40
6488582	Acenaphthylene	2013/01/16	69	50 - 130	70	50 - 130	<0.050	ug/L	NC	40
6488582	Acenaphthene	2013/01/16	70	50 - 130	71	50 - 130	<0.050	ug/L	NC	40
6488582	Fluorene	2013/01/16	71	50 - 130	72	50 - 130	<0.050	ug/L	NC	40
6488582	Phenanthrene	2013/01/16	78	60 - 130	76	60 - 130	<0.050	ug/L	NC	40
6488582	Anthracene	2013/01/16	66	60 - 130	65	60 - 130	<0.010	ug/L	NC	40
6488582	Acridine	2013/01/16	60	50 - 130	61	50 - 130	<0.050	ug/L	NC	40
6488582	Fluoranthene	2013/01/16	72	60 - 130	71	60 - 130	<0.020	ug/L	NC	40
6488582	Pyrene	2013/01/16	74	60 - 130	73	60 - 130	<0.020	ug/L	NC	40
6488582	Benzo(a)anthracene	2013/01/16	74	60 - 130	76	60 - 130	<0.010	ug/L	NC	40
6488582	Chrysene	2013/01/16	75	60 - 130	77	60 - 130	<0.050	ug/L	NC	40
6488582	Benzo(b&i)fluoranthene	2013/01/16	71	60 - 130	77	60 - 130	<0.050	ug/L	NC	40
6488582	Benzo(k)fluoranthene	2013/01/16	72	60 - 130	72	60 - 130	<0.050	ug/L	NC	40
6488582	Benzo(a)pyrene	2013/01/16	76	60 - 130	79	60 - 130	<0.0090	ug/L	NC	40
6488582	Indeno(1,2,3-cd)pyrene	2013/01/16	72	60 - 130	78	60 - 130	<0.050	ug/L	NC	40
6488582	Dibenz(a,h)anthracene	2013/01/16	70	60 - 130	75	60 - 130	<0.050	ug/L	NC	40
6488582	Benzo(g,h,i)perylene	2013/01/16	71	60 - 130	76	60 - 130	<0.050	ug/L	NC	40
6488587	1,4-Difluorobenzene (sur.)	2013/01/16	80	70 - 130	142(1)	70 - 130	150(1)	%		
6488587	4-BROMOFLUOROBENZENE (sur.)	2013/01/16	89	70 - 130	101	70 - 130	99	%		
6488587	D4-1,2-DICHLOROETHANE (sur.)	2013/01/16	80	70 - 130	104	70 - 130	97	%		
6488587	Chloromethane	2013/01/16	100	60 - 140	114	60 - 140	<1.0	ug/L	NC	30
6488587	Vinyl chloride	2013/01/16	124	60 - 140	138	60 - 140	<0.50	ug/L	NC	30
6488587	Chloroethane	2013/01/16	101	60 - 140	123	60 - 140	<1.0	ug/L	NC	30
6488587	Trichlorofluoromethane	2013/01/16	120	60 - 140	140	60 - 140	<4.0	ug/L	NC	30
6488587	1,1-dichloroethene	2013/01/16	90	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
6488587	Dichloromethane	2013/01/16	95	70 - 130	108	70 - 130	<2.0	ug/L	NC	30
6488587	trans-1,2-dichloroethene	2013/01/16	92	70 - 130	100	70 - 130	<1.0	ug/L	NC	30
6488587	1,1-dichloroethane	2013/01/16	93	70 - 130	106	70 - 130	<0.50	ug/L	NC	30

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6488587	cis-1,2-dichloroethene	2013/01/16	91	70 - 130	103	70 - 130	<1.0	ug/L	NC	30
6488587	Chloroform	2013/01/16	89	70 - 130	102	70 - 130	<1.0	ug/L	NC	30
6488587	1,1,1-trichloroethane	2013/01/16	90	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
6488587	1,2-dichloroethane	2013/01/16	84	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
6488587	Carbon tetrachloride	2013/01/16	87	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
6488587	1,2-dichloropropane	2013/01/16	87	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
6488587	cis-1,3-dichloropropene	2013/01/16	66 ⁽¹⁾	70 - 130	69 ⁽¹⁾	70 - 130	<1.0	ug/L	NC	30
6488587	trans-1,3-dichloropropene	2013/01/16	57 ⁽¹⁾	70 - 130	59 ^(1,2)	70 - 130	<1.0	ug/L	NC	30
6488587	Bromomethane	2013/01/16	95	60 - 140	87	60 - 140	<1.0	ug/L	NC	30
6488587	1,1,2-trichloroethane	2013/01/16	86	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
6488587	Trichloroethene	2013/01/16	87	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
6488587	Chlorodibromomethane	2013/01/16	89	70 - 130	101	70 - 130	<1.0	ug/L	NC	30
6488587	1,2-dibromoethane	2013/01/16	88	70 - 130	99	70 - 130	<0.20	ug/L		
6488587	Tetrachloroethene	2013/01/16	91	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
6488587	Bromodichloromethane	2013/01/16	87	70 - 130	99	70 - 130	<1.0	ug/L	NC	30
6488587	Bromoform	2013/01/16	88	70 - 130	99	70 - 130	<1.0	ug/L	NC	30
6488587	Styrene	2013/01/16	90	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
6488587	1,1,1,2-tetrachloroethane	2013/01/16	87	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
6488587	1,1,2,2-tetrachloroethane	2013/01/16	102	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
6488587	1,2-dichlorobenzene	2013/01/16	101	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
6488587	1,3-dichlorobenzene	2013/01/16	91	70 - 130	89	70 - 130	<0.50	ug/L	NC	30
6488587	1,4-dichlorobenzene	2013/01/16	95	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
6488587	Chlorobenzene	2013/01/16	85	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
6488587	1,2,3-trichlorobenzene	2013/01/16	97	70 - 130	93	70 - 130	<2.0	ug/L		
6488587	1,2,4-trichlorobenzene	2013/01/16	89	70 - 130	82	70 - 130	<2.0	ug/L		
6488587	Hexachlorobutadiene	2013/01/16	97	70 - 130	95	70 - 130	<0.50	ug/L		
6488587	Dichlorodifluoromethane	2013/01/16			161 ^(1,3)	60 - 140	<2.0	ug/L		
6488587	1,1,2-Trichloro-1,2,2-Trifluoroethane	2013/01/16					<2.0	ug/L		

N/A = Not Applicable

RPD = Relative Percent Difference

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.



Maxxam Job #: B302638
Report Date: 2013/01/16

STANTEC CONSULTING
Client Project #: 111440143.200

- (1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.
- (2) - LCS recovery below control limit - Pot. low bias
- (3) - LCS recovery above control limit - Pot. high bias (No impact - ND)



Your Project #: 111440143.200
Site Location: CP WESTON
Your C.O.C. #: 35075810

Attention: KAREN MATHERS
STANTEC CONSULTING
603-386 BROADWAY AVENUE
WINNIPEG, MB
CANADA R3C 3R6

Report Date: 2013/01/21

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B302434
Received: 2013/01/11, 08:00

Sample Matrix: Soil
Samples Received: 20

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/F1 by HS GC/MS (MeOH extract)	2	2013/01/11	2013/01/12	WINSOP-00054 WINSOP-00055	EPA8260C/CCME PHCCWS
CCME Hydrocarbons (F2-F4 in soil)	2	2013/01/11	2013/01/11	WINSOP-00056	CCME PHC-CWS
CCME Hydrocarbons (F2-F4 in soil)	1	2013/01/18	2013/01/18	WINSOP-00056	CCME PHC-CWS
Elements by ICPMS (total) (1)	12	2013/01/15	2013/01/15	BBY7SOP-00001	EPA 6020A
Elements by ICPMS (total) (1)	5	2013/01/18	2013/01/18	BBY7SOP-00001	EPA 6020A
Metals - TCLP (1)	2	2013/01/17	2013/01/18	BBY7SOP-00001	EPA 6020A
Moisture (1)	12	N/A	2013/01/15	BBY8SOP-00017	Ont MOE -E 3139
Moisture	2	N/A	2013/01/07	WIN SOP-00060	Carter Method 51.2
Moisture	1	N/A	2013/01/21	WIN SOP-00060	Carter Method 51.2
PAH in Soil by GC/MS (SIM) - CCME (1)	10	2013/01/14	2013/01/16	BBY8SOP-00022	EPA 8270D
Benzo[a]pyrene Equivalency (1)	10	N/A	2013/01/17	BBY WI-00033	CCME Guidelines
Total LMW, HMW, Total PAH Calc (1)	10	N/A	2013/01/17	BBY WI-00033	BC MOE Lab Method
pH (2:1 DI Water Extract) (1)	12	2013/01/15	2013/01/15	BBY6SOP-00028	Carter, SSMA 16.2
pH (2:1 DI Water Extract) (1)	5	2013/01/18	2013/01/18	BBY6SOP-00028	Carter, SSMA 16.2
TCLP pH Measurements (1)	2	N/A	2013/01/18	BBY7SOP-00005	EPA 1311
VOCs in Soil by HS GC/MS (1)	4	2013/01/14	2013/01/15	BBY8-SOP-0009	EPA 8260C

* Results relate only to the items tested.

(1) This test was performed by Maxxam Vancouver

Encryption Key

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

Janelle Kochan, B.Sc., Project Manager,
Email: JKochan@maxxam.ca
Phone# (204) 772-7276 Ext: 2209

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

BTEX/F1-F4 IN SOIL (SOIL)

Maxxam ID		FI9565	FI9566		
Sampling Date		2013/01/10	2013/01/10		
	UNITS	BH04 1.5-2.25	BH04 2.25-3	RDL	QC Batch
Physical Properties					
Moisture	%	19	32	0.3	6480443
Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/kg	40	630	20	6480442
F3 (C16-C34 Hydrocarbons)	mg/kg	<20	570	20	6480442
F4 (C34-C50 Hydrocarbons)	mg/kg	<20	43	20	6480442
Reached Baseline at C50	mg/kg	YES	YES		6480442
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	95	100		6480442
Volatiles					
Benzene	mg/kg	<0.0050	<0.0050	0.0050	6480439
Toluene	mg/kg	<0.020	<0.020	0.020	6480439
Ethylbenzene	mg/kg	<0.010	<0.010	0.010	6480439
Xylenes (Total)	mg/kg	<0.040	<0.040	0.040	6480439
m & p-Xylene	mg/kg	<0.040	<0.040	0.040	6480439
o-Xylene	mg/kg	<0.020	<0.020	0.020	6480439
Methyl-tert-butylether (MTBE)	mg/kg	<0.10	<0.10	0.10	6480439
F1 (C6-C10) - BTEX	mg/kg	<10	<10	10	6480439
(C6-C10)	mg/kg	<10	<10	10	6480439
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	98	99		6480439
D10-ETHYLBENZENE (sur.)	%	115	129		6480439
D4-1,2-DICHLOROETHANE (sur.)	%	98	107		6480439
D8-TOLUENE (sur.)	%	96	94		6480439

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		FI9567		
Sampling Date		2013/01/10		
	UNITS	BH04 3-3.75	RDL	QC Batch
Physical Properties				
Moisture	%	28	0.3	6497973

RDL = Reportable Detection Limit

Maxxam Job #: B302434
Report Date: 2013/01/21

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON
Sampler Initials: BE

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		FI9567		
Sampling Date		2013/01/10		
	UNITS	BH04 3-3.75	RDL	QC Batch
Ext. Pat. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	30	20	6497971
F3 (C16-C34 Hydrocarbons)	mg/kg	61	20	6497971
F4 (C34-C50 Hydrocarbons)	mg/kg	<20	20	6497971
Reached Baseline at C50	mg/kg	YES		6497971
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	94		6497971

PHYSICAL TESTING (SOIL)

Maxxam ID		FI9545	FI9549	FI9549	FI9553	FI9554	FI9562	FI9571		
Sampling Date		2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10		
	UNITS	BH07 0.5-1	BH07 3-3.75	BH07 3-3.75 Lab-Dup	BH05 0-0.5	BH05 0.5-1	BH04 0-0.5	BH12 0-0.5	RDL	QC Batch
Physical Properties										
Moisture	%	30	31	31	24	23	20	35	0.30	6484763

Maxxam ID		FI9573	FI9580	FI9581	FI9582	FI9589	FI9592		
Sampling Date		2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10		
	UNITS	BH12 1-1.5	BH13 0-0.5	BH13 0.5-1	BH13 1-1.5	BH10 0-0.5	BH10 1.5-2.25	RDL	QC Batch
Physical Properties									
Moisture	%	23	16	18	21	22	25	0.30	6484763

RDL = Reportable Detection Limit



Maxxam Job #: B302434
Report Date: 2013/01/21

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON
Sampler Initials: BE

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		FI9554	FI9571		
Sampling Date		2013/01/10	2013/01/10		
	UNITS	BH05 0.5-1	BH12 0-0.5	RDL	QC Batch
TCLP Extraction Procedure					
Initial pH of Sample	pH Units	9.12	8.43	N/A	6496444
pH after HCl	pH Units	1.80	1.89	N/A	6496444
Final pH of Leachate	pH Units	6.12	5.53	N/A	6496444
pH of Leaching Fluid	pH Units	4.96	4.96	N/A	6496444

N/A = Not Applicable

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		FI9553	FI9554	FI9565	FI9566		
Sampling Date		2013/01/10	2013/01/10	2013/01/10	2013/01/10		
	UNITS	BH05 0-0.5	BH05 0.5-1	BH04 1.5-2.25	BH04 2.25-3	RDL	QC Batch
Volatiles							
Chloromethane	mg/kg	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾	0.10	6489677
Vinyl chloride	mg/kg	<0.060 ⁽¹⁾	<0.060 ⁽¹⁾	<0.060 ⁽¹⁾	<0.060 ⁽¹⁾	0.060	6489677
Bromomethane	mg/kg	<0.30 ⁽¹⁾	<0.30 ⁽¹⁾	<0.30 ⁽¹⁾	<0.30 ⁽¹⁾	0.30	6489677
Chloroethane	mg/kg	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾	0.10	6489677
Trichlorofluoromethane	mg/kg	<0.20 ⁽¹⁾	<0.20 ⁽¹⁾	<0.20 ⁽¹⁾	<0.20 ⁽¹⁾	0.20	6489677
1,1-dichloroethene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Dichloromethane	mg/kg	0.78 ⁽¹⁾	0.83 ⁽¹⁾	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾	0.10	6489677
trans-1,2-dichloroethene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
1,1-dichloroethane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
cis-1,2-dichloroethene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Chloroform	mg/kg	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	0.050	6489677
1,1,1-trichloroethane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
1,2-dichloroethane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Carbon tetrachloride	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Benzene	mg/kg	0.040 ⁽¹⁾	0.40 ⁽¹⁾			0.0050	6489677
Methyl-tert-butylether (MTBE)	mg/kg	<0.10 ⁽¹⁾	<0.10 ⁽¹⁾			0.10	6489677
1,2-dichloropropane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Trichloroethene	mg/kg	<0.0090 ⁽¹⁾	<0.0090 ⁽¹⁾	<0.0090 ⁽¹⁾	<0.0090 ⁽¹⁾	0.0090	6489677
Bromodichloromethane	mg/kg	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	0.050	6489677
cis-1,3-dichloropropene	mg/kg	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	0.050	6489677
trans-1,3-dichloropropene	mg/kg	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	0.050	6489677
1,1,2-trichloroethane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Toluene	mg/kg	0.14 ⁽¹⁾	1.7 ⁽¹⁾			0.020	6489677
Chlorodibromomethane	mg/kg	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	0.050	6489677
1,2-dibromoethane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Tetrachloroethene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Chlorobenzene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
1,1,1,2-tetrachloroethane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Ethylbenzene	mg/kg	0.021 ⁽¹⁾	0.36 ⁽¹⁾			0.010	6489677
m & p-Xylene	mg/kg	0.15 ⁽¹⁾	2.0 ⁽¹⁾			0.040	6489677
Bromoform	mg/kg	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	<0.050 ⁽¹⁾	0.050	6489677
Styrene	mg/kg	<0.030 ⁽¹⁾	<0.030 ⁽¹⁾	<0.030 ⁽¹⁾	<0.030 ⁽¹⁾	0.030	6489677
o-Xylene	mg/kg	0.045 ⁽¹⁾	0.84 ⁽¹⁾			0.040	6489677
Xylenes (Total)	mg/kg	0.19	2.8			0.040	6489677
1,1,2,2-tetrachloroethane	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677

RDL = Reportable Detection Limit

(1) - Sample extracted past 48 hours from receipt of sample but within the 7 day extraction holdtime



Maxxam Job #: B302434
Report Date: 2013/01/21

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON
Sampler Initials: BE

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		F19553	F19554	F19565	F19566		
Sampling Date		2013/01/10	2013/01/10	2013/01/10	2013/01/10		
	UNITS	BH05 0-0.5	BH05 0.5-1	BH04 1.5-2.25	BH04 2.25-3	RDL	QC Batch
1,2-dichlorobenzene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
1,3-dichlorobenzene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
1,4-dichlorobenzene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
1,2,3-trichlorobenzene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Hexachlorobutadiene	mg/kg	<0.20 ⁽¹⁾	<0.20 ⁽¹⁾	<0.20 ⁽¹⁾	<0.20 ⁽¹⁾	0.20	6489677
1,2,4-trichlorobenzene	mg/kg	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	<0.025 ⁽¹⁾	0.025	6489677
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	146 ⁽²⁾	76	150 ⁽²⁾	150 ⁽²⁾		6489677
4-BROMOFLUOROBENZENE (sur.)	%	103	96	107	107		6489677
D10-ETHYLBENZENE (sur.)	%	109	92	112	118		6489677
D4-1,2-DICHLOROETHANE (sur.)	%	107	85	107	107		6489677

RDL = Reportable Detection Limit

(1) - Sample extracted past 48 hours from receipt of sample but within the 7 day extraction holdtime

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

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		F19544		F19545	F19549	F19553	F19554		F19555	F19557		
Sampling Date		2013/01/10		2013/01/10	2013/01/10	2013/01/10	2013/01/10		2013/01/10	2013/01/10		
	UNITS	BH07 0-0.5	QC Batch	BH07 0.5-1	BH07 3-3.75	BH05 0-0.5	BH05 0.5-1	QC Batch	BH05 1-1.5	BH05 2.25-3	RDL	QC Batch
Physical Properties												
Soluble (2:1) pH	pH Units	8.24	6498168	8.38	7.94	8.09	8.03	6488107	8.50	8.20	0.010	6498168
Total Metals by ICPMS												
Total Aluminum (Al)	mg/kg	14100	6498067	26100	21900	5270	3880	6488077	18200	22500	100	6498067
Total Antimony (Sb)	mg/kg	27.9	6498067	2.04	0.47	405	393	6488077	1.94	0.85	0.10	6498067
Total Arsenic (As)	mg/kg	39.0	6498067	9.95	5.69	38.2	75.5	6488077	5.27	4.92	0.50	6498067
Total Barium (Ba)	mg/kg	1580	6498067	186	204	545	703	6488077	148	271	0.10	6498067
Total Beryllium (Be)	mg/kg	0.90	6498067	1.06	0.84	0.62	0.52	6488077	0.75	0.78	0.40	6498067
Total Bismuth (Bi)	mg/kg	0.71	6498067	0.20	0.21	2.31	3.02	6488077	0.15	0.23	0.10	6498067
Total Cadmium (Cd)	mg/kg	2.47	6498067	0.582	0.581	4.10	1.28	6488077	0.474	0.740	0.050	6498067
Total Calcium (Ca)	mg/kg	43500	6498067	38500	39400	34900	17400	6488077	72500	33100	100	6498067
Total Chromium (Cr)	mg/kg	39.3	6498067	43.2	43.8	41.3	73.4	6488077	31.8	47.7	1.0	6498067
Total Cobalt (Co)	mg/kg	14.6	6498067	12.4	13.3	12.0	12.6	6488077	7.98	14.7	0.30	6498067
Total Copper (Cu)	mg/kg	564	6498067	39.0	34.5	6650	14100	6488077	27.5	41.8	0.50	6498067
Total Iron (Fe)	mg/kg	141000	6498067	34700	26400	124000	141000	6488077	23900	28600	100	6498067
Total Lead (Pb)	mg/kg	1080	6498067	56.4	18.5	5510	7890	6488077	62.4	31.3	0.10	6498067
Total Lithium (Li)	mg/kg	20.6	6498067	31.3	36.9	8.4	5.9	6488077	20.2	43.0	5.0	6498067
Total Magnesium (Mg)	mg/kg	11500	6498067	20400	23900	12400	4700	6488077	27700	23600	100	6498067
Total Manganese (Mn)	mg/kg	848	6498067	361	538	740	740	6488077	244	476	0.20	6498067
Total Mercury (Hg)	mg/kg	0.700	6498067	<0.050	<0.050	13.8	6.90	6488077	0.104	0.054	0.050	6498067
Total Molybdenum (Mo)	mg/kg	7.47	6498067	0.84	0.98	4.60	4.43	6488077	0.52	0.56	0.10	6498067
Total Nickel (Ni)	mg/kg	53.7	6498067	37.7	40.5	40.0	49.7	6488077	26.4	44.5	0.80	6498067
Total Phosphorus (P)	mg/kg	1050	6498067	447	541	641	566	6488077	403	539	10	6498067
Total Potassium (K)	mg/kg	1350	6498067	5180	4820	646	580	6488077	3800	4950	100	6498067
Total Selenium (Se)	mg/kg	2.85	6498067	<0.50	<0.50	1.70	2.82	6488077	<0.50	<0.50	0.50	6498067
Total Silver (Ag)	mg/kg	0.479	6498067	0.134	0.130	1.47	4.81	6488077	0.093	0.111	0.050	6498067
Total Sodium (Na)	mg/kg	3120	6498067	530	766	742	467	6488077	253	917	100	6498067
Total Strontium (Sr)	mg/kg	587	6498067	95.9	73.4	188	118	6488077	89.7	71.8	0.10	6498067
Total Thallium (Tl)	mg/kg	0.463	6498067	0.275	0.354	0.462	0.490	6488077	0.225	0.419	0.050	6498067
Total Tin (Sn)	mg/kg	528	6498067	5.15	6.82	712	1190	6488077	3.10	2.18	0.10	6498067
Total Titanium (Ti)	mg/kg	485	6498067	243	567	157	144	6488077	222	684	1.0	6498067
Total Uranium (U)	mg/kg	3.05	6498067	1.89	1.50	1.14	1.14	6488077	1.41	1.61	0.050	6498067
Total Vanadium (V)	mg/kg	42.4	6498067	70.2	59.0	30.8	27.8	6488077	46.8	57.9	2.0	6498067
Total Zinc (Zn)	mg/kg	591	6498067	88.5	90.4	3020	675	6488077	62.4	105	1.0	6498067
Total Zirconium (Zr)	mg/kg	14.8	6498067	14.3	15.0	4.71	2.27	6488077	9.42	16.2	0.50	6498067

RDL = Reportable Detection Limit

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		FI9562	FI9562		FI9563		FI9571		FI9572		
Sampling Date		2013/01/10	2013/01/10		2013/01/10		2013/01/10		2013/01/10		
	UNITS	BH04 0-0.5	BH04 0-0.5 Lab-Dup	QC Batch	BH04 0.5-1	QC Batch	BH12 0-0.5	QC Batch	BH12 0.5-1	RDL	QC Batch
Physical Properties											
Soluble (2:1) pH	pH Units	8.27	8.28	6488150	9.04	6498168	8.09	6488150	8.13	0.010	6498168
Total Metals by ICPMS											
Total Aluminum (Al)	mg/kg	10500	10700	6488110	2210	6498067	14200	6488110	25100	100	6498067
Total Antimony (Sb)	mg/kg	4.12	4.27	6488110	0.62	6498067	56.7	6488110	1.10	0.10	6498067
Total Arsenic (As)	mg/kg	12.3	12.5	6488110	1.92	6498067	26.1	6488110	7.26	0.50	6498067
Total Barium (Ba)	mg/kg	306	304	6488110	23.3	6498067	828	6488110	123	0.10	6498067
Total Beryllium (Be)	mg/kg	0.74	0.72	6488110	<0.40	6498067	0.80	6488110	1.11	0.40	6498067
Total Bismuth (Bi)	mg/kg	0.16	0.15	6488110	<0.10	6498067	1.27	6488110	0.20	0.10	6498067
Total Cadmium (Cd)	mg/kg	0.488	0.486	6488110	0.124	6498067	13.3	6488110	0.750	0.050	6498067
Total Calcium (Ca)	mg/kg	56400	56000	6488110	127000	6498067	37000	6488110	24000	100	6498067
Total Chromium (Cr)	mg/kg	22.6	22.9	6488110	99.0	6498067	63.3	6488110	42.0	1.0	6498067
Total Cobalt (Co)	mg/kg	8.35	8.50	6488110	2.39	6498067	16.3	6488110	11.5	0.30	6498067
Total Copper (Cu)	mg/kg	60.9	60.7	6488110	11.4	6498067	5370	6488110	45.3	0.50	6498067
Total Iron (Fe)	mg/kg	32200	32500	6488110	10900	6498067	70800	6488110	26100	100	6498067
Total Lead (Pb)	mg/kg	90.5	88.5	6488110	6.60	6498067	1260	6488110	32.4	0.10	6498067
Total Lithium (Li)	mg/kg	14.4	14.0	6488110	6.0	6498067	18.1	6488110	27.7	5.0	6498067
Total Magnesium (Mg)	mg/kg	26500	26800	6488110	52900	6498067	17000	6488110	16300	100	6498067
Total Manganese (Mn)	mg/kg	404	409	6488110	170	6498067	931	6488110	251	0.20	6498067
Total Mercury (Hg)	mg/kg	0.103	0.101	6488110	<0.050	6498067	0.597	6488110	0.052	0.050	6498067
Total Molybdenum (Mo)	mg/kg	2.08	2.12	6488110	13.4	6498067	15.5	6488110	0.79	0.10	6498067
Total Nickel (Ni)	mg/kg	27.4	27.7	6488110	7.49	6498067	191	6488110	51.6	0.80	6498067
Total Phosphorus (P)	mg/kg	405	402	6488110	188	6498067	820	6488110	487	10	6498067
Total Potassium (K)	mg/kg	1750	1760	6488110	706	6498067	2050	6488110	6310	100	6498067
Total Selenium (Se)	mg/kg	<0.50	<0.50	6488110	<0.50	6498067	2.00	6488110	<0.50	0.50	6498067
Total Silver (Ag)	mg/kg	0.140	0.145	6488110	<0.050	6498067	4.47	6488110	0.152	0.050	6498067
Total Sodium (Na)	mg/kg	522	488	6488110	112	6498067	924	6488110	589	100	6498067
Total Strontium (Sr)	mg/kg	80.8	81.6	6488110	50.4	6498067	192	6488110	59.0	0.10	6498067
Total Thallium (Tl)	mg/kg	0.195	0.188	6488110	0.070	6498067	0.190	6488110	0.308	0.050	6498067
Total Tin (Sn)	mg/kg	7.00	6.90	6488110	0.94	6498067	491	6488110	2.35	0.10	6498067
Total Titanium (Ti)	mg/kg	150	150	6488110	200	6498067	133	6488110	169	1.0	6498067
Total Uranium (U)	mg/kg	1.01	1.02	6488110	0.332	6498067	1.84	6488110	2.10	0.050	6498067
Total Vanadium (V)	mg/kg	36.4	36.8	6488110	9.9	6498067	37.7	6488110	58.9	2.0	6498067
Total Zinc (Zn)	mg/kg	85.8	87.0	6488110	14.3	6498067	4940	6488110	212	1.0	6498067
Total Zirconium (Zr)	mg/kg	9.75	9.74	6488110	1.85	6498067	4.49	6488110	13.5	0.50	6498067

RDL = Reportable Detection Limit

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		FI9573	FI9580	FI9581	FI9582	FI9589	FI9592		
Sampling Date		2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10		
	UNITS	BH12 1-1.5	BH13 0-0.5	BH13 0.5-1	BH13 1-1.5	BH10 0-0.5	BH10 1.5-2.25	RDL	QC Batch
Physical Properties									
Soluble (2:1) pH	pH Units	8.78	7.77	8.00	8.49	8.25	8.46	0.010	6488150
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg	13100	8960	27100	14300	14900	28800	100	6488110
Total Antimony (Sb)	mg/kg	0.32	1.65	0.31	0.30	1.60	1.18	0.10	6488110
Total Arsenic (As)	mg/kg	4.39	17.8	9.03	4.42	11.4	7.70	0.50	6488110
Total Barium (Ba)	mg/kg	179	441	168	154	1880	269	0.10	6488110
Total Beryllium (Be)	mg/kg	0.44	0.90	1.10	0.52	1.26	1.11	0.40	6488110
Total Bismuth (Bi)	mg/kg	0.11	0.15	0.18	0.11	<0.10	0.26	0.10	6488110
Total Cadmium (Cd)	mg/kg	0.429	0.622	0.519	0.437	0.820	0.779	0.050	6488110
Total Calcium (Ca)	mg/kg	133000	10400	24600	91300	21000	35500	100	6488110
Total Chromium (Cr)	mg/kg	23.4	12.3	40.4	25.0	10.6	49.6	1.0	6488110
Total Cobalt (Co)	mg/kg	5.77	17.5	14.2	7.29	5.82	14.9	0.30	6488110
Total Copper (Cu)	mg/kg	15.3	78.6	25.5	17.8	86.1	35.3	0.50	6488110
Total Iron (Fe)	mg/kg	13800	18000	26700	15400	21900	29800	100	6488110
Total Lead (Pb)	mg/kg	7.79	65.1	13.1	9.06	190	37.6	0.10	6488110
Total Lithium (Li)	mg/kg	22.7	11.9	27.3	22.8	18.4	43.9	5.0	6488110
Total Magnesium (Mg)	mg/kg	40200	4730	16900	41000	4080	17500	100	6488110
Total Manganese (Mn)	mg/kg	263	135	1130	325	120	532	0.20	6488110
Total Mercury (Hg)	mg/kg	<0.050	0.187	<0.050	<0.050	0.075	<0.050	0.050	6488110
Total Molybdenum (Mo)	mg/kg	0.27	3.47	0.39	0.21	3.95	0.98	0.10	6488110
Total Nickel (Ni)	mg/kg	19.3	35.6	44.8	23.3	14.8	46.4	0.80	6488110
Total Phosphorus (P)	mg/kg	323	310	463	380	474	552	10	6488110
Total Potassium (K)	mg/kg	3030	1060	5230	2360	604	5530	100	6488110
Total Selenium (Se)	mg/kg	<0.50	4.01	<0.50	<0.50	0.83	<0.50	0.50	6488110
Total Silver (Ag)	mg/kg	0.077	0.286	0.125	0.084	0.567	0.164	0.050	6488110
Total Sodium (Na)	mg/kg	386	1900	478	377	4850	1550	100	6488110
Total Strontium (Sr)	mg/kg	154	214	53.0	113	889	103	0.10	6488110
Total Thallium (Tl)	mg/kg	0.160	0.322	0.315	0.200	<0.050	0.370	0.050	6488110
Total Tin (Sn)	mg/kg	0.79	1.89	0.96	0.59	2.98	1.96	0.10	6488110
Total Titanium (Ti)	mg/kg	363	142	236	339	480	462	1.0	6488110
Total Uranium (U)	mg/kg	1.30	1.12	0.875	0.987	3.41	1.41	0.050	6488110
Total Vanadium (V)	mg/kg	36.2	16.3	68.9	39.0	18.8	76.6	2.0	6488110
Total Zinc (Zn)	mg/kg	38.5	116	85.5	45.7	182	103	1.0	6488110
Total Zirconium (Zr)	mg/kg	8.94	7.69	9.30	10.7	22.7	18.4	0.50	6488110

RDL = Reportable Detection Limit

TCLP METALS (SOIL)

Maxxam ID		FI9554	FI9571		
Sampling Date		2013/01/10	2013/01/10		
	UNITS	BH05 0.5-1	BH12 0-0.5	RDL	QC Batch
Metals					
LEACHATE Antimony (Sb)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Arsenic (As)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Barium (Ba)	mg/L	0.69	1.24	0.10	6499260
LEACHATE Beryllium (Be)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Boron (B)	mg/L	0.36	0.68	0.10	6499260
LEACHATE Cadmium (Cd)	mg/L	<0.10	0.20	0.10	6499260
LEACHATE Chromium (Cr)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Cobalt (Co)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Copper (Cu)	mg/L	<0.10	3.65	0.10	6499260
LEACHATE Iron (Fe)	mg/L	1.16	0.65	0.50	6499260
LEACHATE Lead (Pb)	mg/L	0.96	0.52	0.10	6499260
LEACHATE Mercury (Hg)	mg/L	<0.0020	<0.0020	0.0020	6499260
LEACHATE Molybdenum (Mo)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Nickel (Ni)	mg/L	<0.10	1.03	0.10	6499260
LEACHATE Selenium (Se)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Silver (Ag)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Thallium (Tl)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Uranium (U)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Vanadium (V)	mg/L	<0.10	<0.10	0.10	6499260
LEACHATE Zinc (Zn)	mg/L	0.56	71.6	0.10	6499260
LEACHATE Zirconium (Zr)	mg/L	<0.10	<0.10	0.10	6499260

RDL = Reportable Detection Limit

CCME PAH IN SOIL BY GC-MS (SOIL)

Maxxam ID		F19545	F19549	F19562	F19571	F19573		F19580		
Sampling Date		2013/01/10	2013/01/10	2013/01/10	2013/01/10	2013/01/10		2013/01/10		
	UNITS	BH07 0.5-1	BH07 3-3.75	BH04 0-0.5	BH12 0-0.5	BH12 1-1.5	RDL	BH13 0-0.5	RDL	QC Batch
Calculated Parameters										
Index of Additive Cancer Risk(IARC)	N/A	0.40	0.31	8.4	11	0.31	0.10	1.7	0.10	6481164
Benzo(a)pyrene equivalency	N/A	<0.10	<0.10	0.61	0.77	<0.10	0.10	0.13	0.10	6481164
Polycyclic Aromatics										
Naphthalene	mg/kg	0.014	<0.010	0.20	0.61	<0.010	0.010	3.7	0.010	6488787
2-Methylnaphthalene	mg/kg	<0.020	<0.020	0.29	1.1	<0.020	0.020	5.2	0.020	6488787
Acenaphthylene	mg/kg	<0.0050	<0.0050	0.059	0.065	<0.0050	0.0050	<0.0050	0.0050	6488787
Acenaphthene	mg/kg	<0.0050	<0.0050	0.019	0.093	<0.0050	0.0050	0.17 ⁽¹⁾	0.14	6488787
Fluorene	mg/kg	<0.020	<0.020	0.038	0.098	<0.020	0.020	0.12	0.020	6488787
Phenanthrene	mg/kg	0.030	<0.020	0.36	0.88	<0.020	0.020	1.4	0.020	6488787
Anthracene	mg/kg	0.0054	<0.0040	0.13	0.15	<0.0040	0.0040	0.089	0.0040	6488787
Fluoranthene	mg/kg	0.028	<0.020	0.78	0.96	<0.020	0.020	0.28	0.020	6488787
Pyrene	mg/kg	0.027	<0.020	0.64	0.79	<0.020	0.020	0.29	0.020	6488787
Benzo(a)anthracene	mg/kg	<0.020	<0.020	0.43	0.41	<0.020	0.020	0.16	0.020	6488787
Chrysene	mg/kg	<0.020	<0.020	0.54	0.66	<0.020	0.020	0.19	0.020	6488787
Benzo(b&j)fluoranthene	mg/kg	0.025	<0.020	0.65	0.92	<0.020	0.020	0.12	0.020	6488787
Benzo(b)fluoranthene	mg/kg	<0.020	<0.020	0.43	0.64	<0.020		0.075		6488787
Benzo(k)fluoranthene	mg/kg	<0.020	<0.020	0.20	0.25	<0.020	0.020	<0.020	0.020	6488787
Benzo(a)pyrene	mg/kg	<0.020	<0.020	0.37	0.46	<0.020	0.020	0.067	0.020	6488787
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	<0.050	0.25	0.38	<0.050	0.050	<0.050	0.050	6488787
Dibenz(a,h)anthracene	mg/kg	<0.050	<0.050	0.084	0.11	<0.050	0.050	<0.050	0.050	6488787
Benzo(g,h,i)perylene	mg/kg	<0.050	<0.050	0.26	0.49	<0.050	0.050	0.071	0.050	6488787
Low Molecular Weight PAH's	mg/kg	<0.050	<0.050	1.1	3.0	<0.050	0.050	11	0.14	6481165
High Molecular Weight PAH's	mg/kg	0.080	<0.050	4.6	6.1	<0.050	0.050	1.2	0.050	6481165
Total PAH	mg/kg	0.13	<0.050	5.7	9.1	<0.050	0.050	12	0.14	6481165
Surrogate Recovery (%)										
D10-ANTHRACENE (sur.)	%	64	80	74	72	86		61		6488787
D8-ACENAPHTHYLENE (sur.)	%	73	80	77	79	86		67		6488787
D8-NAPHTHALENE (sur.)	%	79	81	79	82	87		76		6488787
TERPHENYL-D14 (sur.)	%	83	87	81	81	93		68		6488787

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

CCME PAH IN SOIL BY GC-MS (SOIL)

Maxxam ID		F19580		F19581	F19582	F19589	F19592		
Sampling Date		2013/01/10		2013/01/10	2013/01/10	2013/01/10	2013/01/10		
	UNITS	BH13 0-0.5 Lab-Dup	RDL	BH13 0.5-1	BH13 1-1.5	BH10 0-0.5	BH10 1.5-2.25	RDL	QC Batch
Calculated Parameters									
Index of Additive Cancer Risk(IARC)	N/A			0.31	0.31	0.49	0.31	0.10	6481164
Benzo[a]pyrene equivalency	N/A			<0.10	<0.10	<0.10	<0.10	0.10	6481164
Polycyclic Aromatics									
Naphthalene	mg/kg	3.2	0.010	0.065	<0.010	0.059	<0.010	0.010	6488787
2-Methylnaphthalene	mg/kg	4.5	0.020	0.11	<0.020	0.083	<0.020	0.020	6488787
Acenaphthylene	mg/kg	0.014	0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	6488787
Acenaphthene	mg/kg	0.14(1)	0.12	<0.0050	<0.0050	0.0078	<0.0050	0.0050	6488787
Fluorene	mg/kg	0.099	0.020	<0.020	<0.020	<0.020	<0.020	0.020	6488787
Phenanthrene	mg/kg	1.2	0.020	0.036	<0.020	0.083	<0.020	0.020	6488787
Anthracene	mg/kg	0.10	0.0040	<0.0040	<0.0040	0.012	<0.0040	0.0040	6488787
Fluoranthene	mg/kg	0.35	0.020	<0.020	<0.020	0.079	<0.020	0.020	6488787
Pyrene	mg/kg	0.34	0.020	<0.020	<0.020	0.062	<0.020	0.020	6488787
Benzo(a)anthracene	mg/kg	0.17	0.020	<0.020	<0.020	0.020	<0.020	0.020	6488787
Chrysene	mg/kg	0.23	0.020	<0.020	<0.020	0.035	<0.020	0.020	6488787
Benzo(b&j)fluoranthene	mg/kg	0.18	0.020	<0.020	<0.020	0.032	<0.020	0.020	6488787
Benzo(b)fluoranthene	mg/kg	0.12		<0.020	<0.020	0.022	<0.020		6488787
Benzo(k)fluoranthene	mg/kg	0.031	0.020	<0.020	<0.020	<0.020	<0.020	0.020	6488787
Benzo(a)pyrene	mg/kg	0.10	0.020	<0.020	<0.020	<0.020	<0.020	0.020	6488787
Indeno(1,2,3-cd)pyrene	mg/kg	<0.050	0.050	<0.050	<0.050	<0.050	<0.050	0.050	6488787
Dibenz(a,h)anthracene	mg/kg	<0.050	0.050	<0.050	<0.050	<0.050	<0.050	0.050	6488787
Benzo(g,h,i)perylene	mg/kg	0.15	0.050	<0.050	<0.050	<0.050	<0.050	0.050	6488787
Low Molecular Weight PAH's	mg/kg			0.21	<0.050	0.24	<0.050	0.050	6481165
High Molecular Weight PAH's	mg/kg			<0.050	<0.050	0.25	<0.050	0.050	6481165
Total PAH	mg/kg			0.21	<0.050	0.49	<0.050	0.050	6481165
Surrogate Recovery (%)									
D10-ANTHRACENE (sur.)	%	61		67	85	56(2)	74		6488787
D8-ACENAPHTHYLENE (sur.)	%	72		80	86	69	73		6488787
D8-NAPHTHALENE (sur.)	%	80		83	86	73	74		6488787
TERPHENYL-D14 (sur.)	%	72		87	91	70	79		6488787

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

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



Maxxam Job #: B302434
Report Date: 2013/01/21

STANTEC CONSULTING
Client Project #: 111440143.200
Site Location: CP WESTON
Sampler Initials: BE

Package 1	5.1°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6480439	4-BROMOFLUOROBENZENE (sur.)	2013/01/11	96	60 - 140	100	60 - 140	99	%				
6480439	D10-ETHYLBENZENE (sur.)	2013/01/11	117	30 - 130	110	30 - 130	112	%				
6480439	D4-1,2-DICHLOROETHANE (sur.)	2013/01/11	108	60 - 140	106	60 - 140	101	%				
6480439	D8-TOLUENE (sur.)	2013/01/11	97	60 - 140	97	60 - 140	98	%				
6480439	Benzene	2013/01/11	117	60 - 140	111	60 - 140	<0.0050	mg/kg	NC	50		
6480439	Toluene	2013/01/11	118	60 - 140	110	60 - 140	<0.020	mg/kg	NC	50		
6480439	Ethylbenzene	2013/01/11	122	60 - 140	114	60 - 140	<0.010	mg/kg	NC	50		
6480439	m & p-Xylene	2013/01/11	118	60 - 140	111	60 - 140	<0.040	mg/kg	NC	50		
6480439	o-Xylene	2013/01/11	118	60 - 140	111	60 - 140	<0.020	mg/kg	NC	50		
6480439	Methyl-tert-butylether(MTBE)	2013/01/11	110	60 - 140	104	60 - 140	<0.10	mg/kg	NC	N/A		
6480439	(C6-C10)	2013/01/11	78	60 - 140	103	60 - 140	<10	mg/kg	NC	50		
6480439	Xylenes(Total)	2013/01/11					<0.040	mg/kg	NC	50		
6480439	F1 (C6-C10) - BTEX	2013/01/11					<10	mg/kg	NC	50		
6480442	O-TERPHENYL (sur.)	2013/01/11	93	50 - 130	108	50 - 130	93	%				
6480442	F2(C10-C16 Hydrocarbons)	2013/01/11	114	50 - 130	117	80 - 120	<20	mg/kg	NC	50		
6480442	F3(C16-C34 Hydrocarbons)	2013/01/11	112	50 - 130	115	80 - 120	<20	mg/kg	NC	50		
6480442	F4(C34-C50 Hydrocarbons)	2013/01/11	111	50 - 130	119	80 - 120	<20	mg/kg	NC	50		
6480443	Moisture	2013/01/07					<0.3	%	6.9	20		
6484763	Moisture	2013/01/15					<0.30	%	0.3	20		
6488077	Total Antimony (Sb)	2013/01/15	98	75 - 125	99	75 - 125	<0.10	mg/kg	NC	30	103	70 - 130
6488077	Total Arsenic (As)	2013/01/15	104	75 - 125	98	75 - 125	0.64, RDL=0.50	mg/kg	1.4	30	97	70 - 130
6488077	Total Barium (Ba)	2013/01/15	NC	75 - 125	97	75 - 125	<0.10	mg/kg	2.6	35	101	70 - 130
6488077	Total Beryllium (Be)	2013/01/15	116	75 - 125	106	75 - 125	<0.40	mg/kg	NC	30		
6488077	Total Cadmium (Cd)	2013/01/15	109	75 - 125	104	75 - 125	<0.050	mg/kg	NC	30	111	70 - 130
6488077	Total Chromium (Cr)	2013/01/15	99	75 - 125	96	75 - 125	<1.0	mg/kg	1.7	30	101	70 - 130
6488077	Total Cobalt (Co)	2013/01/15	99	75 - 125	97	75 - 125	<0.30	mg/kg	1.3	30	88	70 - 130
6488077	Total Copper (Cu)	2013/01/15	100	75 - 125	100	75 - 125	<0.50	mg/kg	1.1	30	86	70 - 130
6488077	Total Lead (Pb)	2013/01/15	103	75 - 125	102	75 - 125	<0.10	mg/kg	1.9	35	97	70 - 130
6488077	Total Lithium (Li)	2013/01/15	105	75 - 125	99	75 - 125	<5.0	mg/kg	NC	30		
6488077	Total Manganese (Mn)	2013/01/15	NC	75 - 125	101	75 - 125	<0.20	mg/kg	1.8	30	98	70 - 130
6488077	Total Mercury (Hg)	2013/01/15	108	75 - 125	101	75 - 125	<0.050	mg/kg	NC	35	95	70 - 130
6488077	Total Molybdenum (Mo)	2013/01/15	103	75 - 125	101	75 - 125	<0.10	mg/kg	NC	35	106	70 - 130
6488077	Total Nickel (Ni)	2013/01/15	101	75 - 125	97	75 - 125	<0.80	mg/kg	0.2	30	88	70 - 130
6488077	Total Selenium (Se)	2013/01/15	122	75 - 125	106	75 - 125	<0.50	mg/kg	NC	30		
6488077	Total Silver (Ag)	2013/01/15	100	75 - 125	95	75 - 125	<0.050	mg/kg	NC	35		
6488077	Total Strontium (Sr)	2013/01/15	102	75 - 125	98	75 - 125	<0.10	mg/kg	3.8	35	97	70 - 130
6488077	Total Thallium (Tl)	2013/01/15	100	75 - 125	100	75 - 125	<0.050	mg/kg	NC	30	93	70 - 130
6488077	Total Tin (Sn)	2013/01/15	95	75 - 125	95	75 - 125	<0.10	mg/kg	NC	35		
6488077	Total Titanium (Ti)	2013/01/15	NC	75 - 125	96	75 - 125	<1.0	mg/kg	1.4	35	103	70 - 130
6488077	Total Uranium (U)	2013/01/15	99	75 - 125	98	75 - 125	<0.050	mg/kg	1.5	30	97	70 - 130

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6488077	Total Vanadium (V)	2013/01/15	NC	75 - 125	98	75 - 125	<2.0	mg/kg	0.09	30	105	70 - 130
6488077	Total Zinc (Zn)	2013/01/15	NC	75 - 125	109	75 - 125	<1.0	mg/kg	0.1	30	97	70 - 130
6488077	Total Aluminum (Al)	2013/01/15					<100	mg/kg	1.7	35	112	70 - 130
6488077	Total Calcium (Ca)	2013/01/15					<100	mg/kg	0.4	30	94	70 - 130
6488077	Total Iron (Fe)	2013/01/15					<100	mg/kg	1.2	30	95	70 - 130
6488077	Total Magnesium (Mg)	2013/01/15					<100	mg/kg	2.6	30	89	70 - 130
6488077	Total Phosphorus (P)	2013/01/15					<10	mg/kg	0.3	30	90	70 - 130
6488077	Total Bismuth (Bi)	2013/01/15					<0.10	mg/kg	NC	30		
6488077	Total Potassium (K)	2013/01/15					<100	mg/kg	NC	35		
6488077	Total Sodium (Na)	2013/01/15					<100	mg/kg	NC	35		
6488077	Total Zirconium (Zr)	2013/01/15					<0.50	mg/kg	1.5	30		
6488107	Soluble (2:1) pH	2013/01/15			101	96 - 104			0.1	20		
6488110	Total Antimony (Sb)	2013/01/15	89	75 - 125	106	75 - 125	<0.10	mg/kg	3.7	30	105	70 - 130
6488110	Total Arsenic (As)	2013/01/15	107	75 - 125	102	75 - 125	0.51, RDL=0.50	mg/kg	1.6	30	97	70 - 130
6488110	Total Barium (Ba)	2013/01/15	NC	75 - 125	103	75 - 125	<0.10	mg/kg	0.6	35	101	70 - 130
6488110	Total Beryllium (Be)	2013/01/15	108	75 - 125	102	75 - 125	<0.40	mg/kg	NC	30		
6488110	Total Cadmium (Cd)	2013/01/15	106	75 - 125	104	75 - 125	<0.050	mg/kg	0.3	30	111	70 - 130
6488110	Total Chromium (Cr)	2013/01/15	95	75 - 125	96	75 - 125	<1.0	mg/kg	1.3	30	95	70 - 130
6488110	Total Cobalt (Co)	2013/01/15	94	75 - 125	98	75 - 125	<0.30	mg/kg	1.8	30	87	70 - 130
6488110	Total Copper (Cu)	2013/01/15	NC	75 - 125	106	75 - 125	<0.50	mg/kg	0.3	30	86	70 - 130
6488110	Total Lead (Pb)	2013/01/15	NC	75 - 125	104	75 - 125	<0.10	mg/kg	2.3	35	93	70 - 130
6488110	Total Lithium (Li)	2013/01/15	106	75 - 125	99	75 - 125	<5.0	mg/kg	NC	30		
6488110	Total Manganese (Mn)	2013/01/15	NC	75 - 125	100	75 - 125	<0.20	mg/kg	1.2	30	95	70 - 130
6488110	Total Mercury (Hg)	2013/01/15	105	75 - 125	102	75 - 125	<0.050	mg/kg	NC	35	82	70 - 130
6488110	Total Molybdenum (Mo)	2013/01/15	105	75 - 125	105	75 - 125	<0.10	mg/kg	1.7	35	114	70 - 130
6488110	Total Nickel (Ni)	2013/01/15	NC	75 - 125	103	75 - 125	<0.80	mg/kg	1.2	30	93	70 - 130
6488110	Total Selenium (Se)	2013/01/15	117	75 - 125	109	75 - 125	<0.50	mg/kg	NC	30		
6488110	Total Silver (Ag)	2013/01/15	97	75 - 125	99	75 - 125	<0.050	mg/kg	NC	35		
6488110	Total Strontium (Sr)	2013/01/15	NC	75 - 125	99	75 - 125	<0.10	mg/kg	1.0	35	96	70 - 130
6488110	Total Thallium (Tl)	2013/01/15	88	75 - 125	107	75 - 125	<0.050	mg/kg	NC	30	96	70 - 130
6488110	Total Tin (Sn)	2013/01/15	NC	75 - 125	103	75 - 125	<0.10	mg/kg	1.4	35		
6488110	Total Titanium (Ti)	2013/01/15	NC	75 - 125	98	75 - 125	<1.0	mg/kg	0.2	35	92	70 - 130
6488110	Total Uranium (U)	2013/01/15	98	75 - 125	96	75 - 125	<0.050	mg/kg	0.5	30	93	70 - 130
6488110	Total Vanadium (V)	2013/01/15	NC	75 - 125	98	75 - 125	<2.0	mg/kg	1.2	30	97	70 - 130
6488110	Total Zinc (Zn)	2013/01/15	NC	75 - 125	110	75 - 125	<1.0	mg/kg	1.4	30	95	70 - 130
6488110	Total Aluminum (Al)	2013/01/15					<100	mg/kg	1.8	35	103	70 - 130
6488110	Total Calcium (Ca)	2013/01/15					<100	mg/kg	0.8	30	86	70 - 130
6488110	Total Iron (Fe)	2013/01/15					<100	mg/kg	1.0	30	87	70 - 130
6488110	Total Magnesium (Mg)	2013/01/15					<100	mg/kg	1.1	30	84	70 - 130
6488110	Total Phosphorus (P)	2013/01/15					<10	mg/kg	0.8	30	88	70 - 130

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6488110	Total Bismuth (Bi)	2013/01/15					<0.10	mg/kg	NC	30		
6488110	Total Potassium (K)	2013/01/15					<100	mg/kg	0.5	35		
6488110	Total Sodium (Na)	2013/01/15					<100	mg/kg	NC	35		
6488110	Total Zirconium (Zr)	2013/01/15					<0.50	mg/kg	0.07	30		
6488150	Soluble (2:1) pH	2013/01/15			101	96 - 104			0.1	20		
6488787	D10-ANTHRACENE (sur.)	2013/01/16	95	60 - 130	86	60 - 130	91	%				
6488787	D8-ACENAPHTHYLENE (sur.)	2013/01/16	101	50 - 130	87	50 - 130	91	%				
6488787	D8-NAPHTHALENE (sur.)	2013/01/16	101	50 - 130	87	50 - 130	92	%				
6488787	TERPHENYL-D14 (sur.)	2013/01/16	102	60 - 130	91	60 - 130	97	%				
6488787	Naphthalene	2013/01/16	NC	50 - 130	84	50 - 130	<0.010	mg/kg	14.4	50		
6488787	2-Methylnaphthalene	2013/01/16	NC	50 - 130	86	50 - 130	<0.020	mg/kg	15.4	50		
6488787	Acenaphthylene	2013/01/16	107	50 - 130	85	50 - 130	<0.0050	mg/kg	NC	50		
6488787	Acenaphthene	2013/01/16	102	50 - 130	87	50 - 130	<0.0050	mg/kg	NC ⁽¹⁾	50		
6488787	Fluorene	2013/01/16	103	50 - 130	86	50 - 130	<0.020	mg/kg	NC	50		
6488787	Phenanthrene	2013/01/16	NC	60 - 130	87	60 - 130	<0.020	mg/kg	11.1	50		
6488787	Anthracene	2013/01/16	102	60 - 130	84	60 - 130	<0.0040	mg/kg	12.4	50		
6488787	Fluoranthene	2013/01/16	96	60 - 130	87	60 - 130	<0.020	mg/kg	20.0	50		
6488787	Pyrene	2013/01/16	96	60 - 130	88	60 - 130	<0.020	mg/kg	16.8	50		
6488787	Benzo(a)anthracene	2013/01/16	85	60 - 130	87	60 - 130	<0.020	mg/kg	9.4	50		
6488787	Chrysene	2013/01/16	82	60 - 130	88	60 - 130	<0.020	mg/kg	18.9	50		
6488787	Benzo(b&j)fluoranthene	2013/01/16	85	60 - 130	90	60 - 130	<0.020	mg/kg	39.2	50		
6488787	Benzo(k)fluoranthene	2013/01/16	77	60 - 130	86	60 - 130	<0.020	mg/kg	NC	50		
6488787	Benzo(a)pyrene	2013/01/16	79	60 - 130	92	60 - 130	<0.020	mg/kg	NC	50		
6488787	Indeno(1,2,3-cd)pyrene	2013/01/16	78	60 - 130	102	60 - 130	<0.050	mg/kg	NC	50		
6488787	Dibenz(a,h)anthracene	2013/01/16	84	60 - 130	101	60 - 130	<0.050	mg/kg	NC	50		
6488787	Benzo(g,h,i)perylene	2013/01/16	71	60 - 130	98	60 - 130	<0.050	mg/kg	NC	50		
6488787	Benzo(b)fluoranthene	2013/01/16					<0.020	mg/kg	NC	N/A		
6489677	1,4-Difluorobenzene (sur.)	2013/01/15	148 ⁽²⁾	70 - 130	148 ⁽²⁾	70 - 130	150 ⁽²⁾	%				
6489677	4-BROMOFLUOROBENZENE (sur.)	2013/01/15	109	70 - 130	108	70 - 130	104	%				
6489677	D10-ETHYLBENZENE (sur.)	2013/01/15	121	50 - 130	96	50 - 130	105	%				
6489677	D4-1,2-DICHLOROETHANE (sur.)	2013/01/15	117	70 - 130	111	70 - 130	105	%				
6489677	Chloromethane	2013/01/15	106	40 - 150	93	40 - 150	<0.10	mg/kg	NC ⁽³⁾	40		
6489677	Vinyl chloride	2013/01/15	138	40 - 150	118	40 - 150	<0.060	mg/kg	NC ⁽³⁾	40		
6489677	Bromomethane	2013/01/15	114	40 - 150	94	40 - 150	<0.30	mg/kg	NC ⁽³⁾	40		
6489677	Chloroethane	2013/01/15	113	40 - 150	104	40 - 150	<0.10	mg/kg	NC ⁽³⁾	40		
6489677	Trichlorofluoromethane	2013/01/15	139	40 - 150	124	40 - 150	<0.20	mg/kg	NC ⁽³⁾	40		
6489677	1,1-dichloroethene	2013/01/15	115	60 - 140	100	60 - 140	<0.025	mg/kg	NC ⁽³⁾	40		
6489677	Dichloromethane	2013/01/15	122	60 - 140	106	60 - 140	<0.10	mg/kg	NC ⁽³⁾	40		
6489677	trans-1,2-dichloroethene	2013/01/15	116	60 - 140	100	60 - 140	<0.025	mg/kg	NC ⁽³⁾	40		
6489677	1,1-dichloroethane	2013/01/15	116	60 - 140	102	60 - 140	<0.025	mg/kg	NC ⁽³⁾	40		

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6489677	cis-1,2-dichloroethene	2013/01/15	117	60 - 140	102	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Chloroform	2013/01/15	112	60 - 140	98	60 - 140	<0.050	mg/kg	NC(3)	40		
6489677	1,1,1-trichloroethane	2013/01/15	113	60 - 140	99	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	1,2-dichloroethane	2013/01/15	122	60 - 140	107	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Carbon tetrachloride	2013/01/15	114	60 - 140	100	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Benzene	2013/01/15	118	60 - 140	101	60 - 140	<0.0050	mg/kg				
6489677	1,2-dichloropropane	2013/01/15	114	60 - 140	99	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Trichloroethene	2013/01/15	113	60 - 140	98	60 - 140	<0.0090	mg/kg	NC(3)	40		
6489677	Bromodichloromethane	2013/01/15	114	60 - 140	98	60 - 140	<0.050	mg/kg	NC(3)	40		
6489677	cis-1,3-dichloropropene	2013/01/15	117	60 - 140	102	60 - 140	<0.050	mg/kg	NC(3)	40		
6489677	trans-1,3-dichloropropene	2013/01/15	91	60 - 140	84	60 - 140	<0.050	mg/kg	NC(3)	40		
6489677	1,1,2-trichloroethane	2013/01/15	115	60 - 140	99	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Toluene	2013/01/15	123	60 - 140	107	60 - 140	<0.020	mg/kg				
6489677	Chlorodibromomethane	2013/01/15	119	60 - 140	101	60 - 140	<0.050	mg/kg	NC(3)	40		
6489677	1,2-dibromoethane	2013/01/15	119	60 - 140	102	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Tetrachloroethene	2013/01/15	113	60 - 140	99	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Chlorobenzene	2013/01/15	110	60 - 140	97	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	1,1,1,2-tetrachloroethane	2013/01/15	112	60 - 140	96	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Ethylbenzene	2013/01/15	124	60 - 140	109	60 - 140	<0.010	mg/kg				
6489677	m & p-Xylene	2013/01/15	126	60 - 140	109	60 - 140	<0.040	mg/kg				
6489677	Bromoform	2013/01/15	121	60 - 140	104	60 - 140	<0.050	mg/kg	NC(3)	40		
6489677	Styrene	2013/01/15	132	60 - 140	115	60 - 140	<0.030	mg/kg	NC(3)	40		
6489677	o-Xylene	2013/01/15	114	60 - 140	99	60 - 140	<0.040	mg/kg				
6489677	1,1,2,2-tetrachloroethane	2013/01/15	111	60 - 140	97	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	1,2-dichlorobenzene	2013/01/15	107	60 - 140	92	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	1,3-dichlorobenzene	2013/01/15	108	60 - 140	94	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	1,4-dichlorobenzene	2013/01/15	111	60 - 140	97	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	1,2,3-trichlorobenzene	2013/01/15	133	60 - 140	108	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Hexachlorobutadiene	2013/01/15	109	60 - 140			<0.20	mg/kg	NC(3)	40		
6489677	1,2,4-trichlorobenzene	2013/01/15	129	60 - 140	103	60 - 140	<0.025	mg/kg	NC(3)	40		
6489677	Methyl-tert-butylether(MTBE)	2013/01/15					<0.10	mg/kg				
6489677	Xylenes (Total)	2013/01/15					<0.040	mg/kg				
6496444	Initial pH of Sample	2013/01/18					4.96, RDL=N/A	pH Units	0.6	20		
6496444	Final pH of Leachate	2013/01/18					4.96, RDL=N/A	pH Units	3.6	20		
6496444	pH of Leaching Fluid	2013/01/18					4.96, RDL=N/A	pH Units	0	20		
6496444	pH after HCl	2013/01/18							2.4	20		
6497971	O-TERPHENYL (sur.)	2013/01/18	93	50 - 130	96	50 - 130	97	%				
6497971	F2 (C10-C16 Hydrocarbons)	2013/01/18	103	50 - 130	107	80 - 120	<20	mg/kg	NC	50		
6497971	F3 (C16-C34 Hydrocarbons)	2013/01/18	108	50 - 130	106	80 - 120	<20	mg/kg	NC	50		
6497971	F4 (C34-C50 Hydrocarbons)	2013/01/18	108	50 - 130	106	80 - 120	<20	mg/kg	NC	50		

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6497973	Moisture	2013/01/21					<0.3	%	7.5	20		
6498067	Total Antimony (Sb)	2013/01/18	93	75 - 125	103	75 - 125	<0.10	mg/kg			92	70 - 130
6498067	Total Arsenic (As)	2013/01/18	102	75 - 125	106	75 - 125	0.58, RDL=0.50	mg/kg			97	70 - 130
6498067	Total Barium (Ba)	2013/01/18	NC	75 - 125	105	75 - 125	<0.10	mg/kg			105	70 - 130
6498067	Total Beryllium (Be)	2013/01/18	102	75 - 125	112	75 - 125	<0.40	mg/kg				
6498067	Total Cadmium (Cd)	2013/01/18	109	75 - 125	107	75 - 125	0.051, RDL=0.050	mg/kg			111	70 - 130
6498067	Total Chromium (Cr)	2013/01/18	NC	75 - 125	104	75 - 125	<1.0	mg/kg	2.1	30	100	70 - 130
6498067	Total Cobalt (Co)	2013/01/18	95	75 - 125	104	75 - 125	<0.30	mg/kg			92	70 - 130
6498067	Total Copper (Cu)	2013/01/18	NC	75 - 125	108	75 - 125	<0.50	mg/kg			90	70 - 130
6498067	Total Lead (Pb)	2013/01/18	102	75 - 125	108	75 - 125	<0.10	mg/kg			100	70 - 130
6498067	Total Lithium (Li)	2013/01/18	100	75 - 125	103	75 - 125	<5.0	mg/kg				
6498067	Total Manganese (Mn)	2013/01/18	NC	75 - 125	103	75 - 125	<0.20	mg/kg			96	70 - 130
6498067	Total Mercury (Hg)	2013/01/18	113	75 - 125	109	75 - 125	<0.050	mg/kg			91	70 - 130
6498067	Total Molybdenum (Mo)	2013/01/18	103	75 - 125	106	75 - 125	<0.10	mg/kg			109	70 - 130
6498067	Total Nickel (Ni)	2013/01/18	NC	75 - 125	104	75 - 125	<0.80	mg/kg			95	70 - 130
6498067	Total Selenium (Se)	2013/01/18	113	75 - 125	116	75 - 125	<0.50	mg/kg				
6498067	Total Silver (Ag)	2013/01/18	99	75 - 125	106	75 - 125	<0.050	mg/kg				
6498067	Total Strontium (Sr)	2013/01/18	NC	75 - 125	100	75 - 125	<0.10	mg/kg			94	70 - 130
6498067	Total Thallium (Tl)	2013/01/18	105	75 - 125	106	75 - 125	<0.050	mg/kg			95	70 - 130
6498067	Total Tin (Sn)	2013/01/18	100	75 - 125	101	75 - 125	<0.10	mg/kg				
6498067	Total Titanium (Ti)	2013/01/18	NC	75 - 125	103	75 - 125	<1.0	mg/kg			97	70 - 130
6498067	Total Uranium (U)	2013/01/18	100	75 - 125	104	75 - 125	<0.050	mg/kg			101	70 - 130
6498067	Total Vanadium (V)	2013/01/18	NC	75 - 125	104	75 - 125	<2.0	mg/kg			103	70 - 130
6498067	Total Zinc (Zn)	2013/01/18	NC	75 - 125	116	75 - 125	<1.0	mg/kg			101	70 - 130
6498067	Total Aluminum (Al)	2013/01/18					<100	mg/kg			101	70 - 130
6498067	Total Calcium (Ca)	2013/01/18					<100	mg/kg			94	70 - 130
6498067	Total Iron (Fe)	2013/01/18					<100	mg/kg	0.9	30	94	70 - 130
6498067	Total Magnesium (Mg)	2013/01/18					<100	mg/kg			90	70 - 130
6498067	Total Phosphorus (P)	2013/01/18					<10	mg/kg			96	70 - 130
6498067	Total Bismuth (Bi)	2013/01/18					<0.10	mg/kg				
6498067	Total Potassium (K)	2013/01/18					<100	mg/kg				
6498067	Total Sodium (Na)	2013/01/18					<100	mg/kg				
6498067	Total Zirconium (Zr)	2013/01/18					<0.50	mg/kg				
6498168	Soluble (2:1) pH	2013/01/18			102	96 - 104			0.3	20		
6499260	LEACHATE Arsenic (As)	2013/01/18	109	75 - 125	110	75 - 125	<0.10	mg/L				
6499260	LEACHATE Beryllium (Be)	2013/01/18	96	75 - 125	96	75 - 125	<0.10	mg/L				
6499260	LEACHATE Cadmium (Cd)	2013/01/18	103	75 - 125	104	75 - 125	<0.10	mg/L				
6499260	LEACHATE Chromium (Cr)	2013/01/18	94	75 - 125	97	75 - 125	<0.10	mg/L				
6499260	LEACHATE Cobalt (Co)	2013/01/18	92	75 - 125	96	75 - 125	<0.10	mg/L				
6499260	LEACHATE Copper (Cu)	2013/01/18	99	75 - 125	105	75 - 125	<0.10	mg/L				

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6499260	LEACHATE Lead (Pb)	2013/01/18	99	75 - 125	98	75 - 125	<0.10	mg/L	NC	35		
6499260	LEACHATE Nickel (Ni)	2013/01/18	98	75 - 125	104	75 - 125	<0.10	mg/L				
6499260	LEACHATE Selenium (Se)	2013/01/18	117	75 - 125	114	75 - 125	<0.10	mg/L				
6499260	LEACHATE Uranium (U)	2013/01/18	98	75 - 125	101	75 - 125	<0.10	mg/L				
6499260	LEACHATE Vanadium (V)	2013/01/18	97	75 - 125	101	75 - 125	<0.10	mg/L				
6499260	LEACHATE Zinc (Zn)	2013/01/18	109	75 - 125	111	75 - 125	<0.10	mg/L				
6499260	LEACHATE Antimony (Sb)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Barium (Ba)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Boron (B)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Iron (Fe)	2013/01/18					<0.50	mg/L				
6499260	LEACHATE Mercury (Hg)	2013/01/18					<0.0020	mg/L				
6499260	LEACHATE Molybdenum (Mo)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Silver (Ag)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Thallium (Tl)	2013/01/18					<0.10	mg/L				
6499260	LEACHATE Zirconium (Zr)	2013/01/18					<0.10	mg/L				

N/A = Not Applicable

RDL = Reportable Detection Limit

RPD = Relative Percent Difference

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

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

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

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

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - RDL raised due to sample matrix interference.

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

(3) - Sample extracted past 48 hours from receipt of sample but within the 7 day extraction holdtime

Maxxam Analytics International Corporation o/a Maxxam Analytics, Unit D - 675 Berry Street, Winnipeg, MB, R3H 1A7, Tel: (204) 772-7276, Fax: (204) 772-2386 www.maxxam.ca

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INVOICE INFORMATION		REPORT INFORMATION (If differs from invoice)		PROJECT INFORMATION		Laboratory Use Only:	
Company Name	#4143 STANTEC CONSULTING LTD	Company Name	#7067 STANTEC CONSULTING LTD	Quotation #	B20340	MAXXAM JOB #	BOTTLE ORDER #
Contact Name	SCOTT COUGHTREY C/O AP	Contact Name	SCOTT COUGHTREY	P.O. #		5312434	
Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R8	Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R8	Project #	111440143.200	CHAIN OF CUSTODY #	PROJECT MANAGER:
Phone	(204) 75-0968 Fax	Phone	(204) 807-3958 Fax (204) 842-2548	Project Name			Jamela Kucner
Email	stantec.accounts.payable.invoices@stantec.com	Email	scott.coughtrey@stantec.com, bob.ozzard@stantec.com	Site #	CP Wesson	CASSIDIA-1401	
				Sampled By	RE		

REGULATORY CRITERIA		SPECIAL INSTRUCTIONS		ANALYSIS REQUESTED (Please tick box)										TURNAROUND TIME (TAT) REQUIRED:		
				Regulated Drinking Water 2 (Y/N) Metals & Field Parameters 2 (Y/N) USEX/F1-F4 in Soil CCME PAH in Soil by GC/MS VOCs in Soil by US GC/MS CCME Metals in Soil Hold Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 working days for most tests Please note: Standard TAT for certain tests such as SCC and Organic Pesticides are > 1 week - contact your Project Manager for details Job Specific Rush TAT (if applies to your submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS ☒ Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 working days for most tests Please note: Standard TAT for certain tests such as SCC and Organic Pesticides are > 1 week - contact your Project Manager for details Job Specific Rush TAT (if applies to your submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____		
Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form		SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM														
Sample Number	Sample Location/Identifier	Date Sampled	Time Sampled	Urgency	Regulated Drinking Water 2 (Y/N)	Metals & Field Parameters 2 (Y/N)	USEX/F1-F4 in Soil	CCME PAH in Soil by GC/MS	VOCs in Soil by US GC/MS	CCME Metals in Soil	Other	Other	Other	Other	# of Bottles	Comments
1	E14571 BHD C-C5	13/11/14	PM	S				✓		✓					3	
2	72 BHD C5-1	1	1	1							✓				3	
3	73 BHD 1-15	1	1	1				✓		✓					3	
4	74 BHD 1.5-2.25	1	1	1							✓				3	
5	75 BHD 2.25-3	1	1	1							✓				3	
6	76 BHD 3-3.75	1	1	1							✓				3	
7	77 BHD 3.75-4.5	1	1	1							✓				3	
8	78 BHD 4.5-5.25	1	1	1							✓				3	
9	79 BHD 5.25-6	1	1	1							✓				3	
10																

RELINQUISHED BY (Signature/Print)		Date (YY/MM/DD)	Time	RECEIVED BY (Signature/Print)		Date (YY/MM/DD)	Time	# Jars Used and	Laboratory Use Only		
B. Lyndal R. Etzel		13/11/14	18:30	[Signature]		13/11/14	18:30	Not Submitted	Tare Sample	Tare Blank (g) in Reagent	Cleanup Date (YY/MM/DD)
									☐	50.5251g	☐ Yes ☐ No

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INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#1140 STANTEC CONSULTING LTD	Company Name:	#7087 STANTEC CONSULTING LTD	Quotation #	B20340	MASTAM JOB #:	BOTTLE ORDER #
Contact Name:	SCOTT COUGHTREY CO AP	Contact Name:	SCOTT COUGHTREY	P.O. #		B302434	0000000000
Address:	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R6	Address:	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R6	Project #	111440143.200	CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(204) 475-3966 Fax:	Phone:	(204) 807-3958 Fax: (204) 842-2548	Project Name:		00000000000000000000	JAMES HODGKIN
Email:	stantec.accounts.payable.invoices@stantec.com	Email:	scott.coughtrey@stantec.com, bob.azzaro@stantec.com	Site #	CP Weston	CR250758-14-01	
				Service By:	DE		

REGULATORY CRITERIA	SPECIAL INSTRUCTIONS	ANALYSIS REQUESTED: Print or type										TURNAROUND TIME (TAT) REQUIRED					
		Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	BTX/UF1-F4 in Soil	GC/MS PAH in Soil by GC/MS	VOCs in Soil by MS GC/MS	GC/MS Metals in Soil										
Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form		Regular (Standard) TAT: (will be applied if Rush TAT is not specified) ☒ Standard TAT = 5-7 working days for most tests Please note: Standard TAT for certain tests such as BOD and Seawater Fungus are > 5 days - contact your Project Manager for details Job Specific Rush TAT (if applies to entire submission) ☐ Date Required: _____ Time Required: _____ Rush Confirmation Number: _____															

SAMPLES MUST BE Labeled (1-100) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM																					
Sample Barcode Label	Sample Location Identifier	Date Sampled	Time Sampled	Matrix																	
1 FI958C	BHB C-05	13/01/11	PM	S																	
2 31	BHB C5-1	1	1	1																	
3 82	BHB 1-15																				
4 83	BHB 15-2.25																				
5 84	BHB 2.25-3																				
6 85	BHB 3-3.75																				
7 86	BHB 3.75-4.5																				
8 87	BHB 4.5-5.25																				
9 88	BHB 5.25-6																				
10																					

RELINQUISHED BY: (Signature/Print)	Date (YY-MM-DD)	Time	RECEIVED BY: (Signature/Print)	Date (YY-MM-DD)	Time	# Jars Used and	Laboratory Use Only		
						Not Submitted	Test Samples	Temperature (°C) at Receipt	Catch the Price of Glass?
							☐	5.0, 5.0, 5.0 °C	☐ Yes ☐ No

INVOICE INFORMATION		REPORT INFORMATION (If differs from invoice)		PROJECT INFORMATION		Laboratory Use Only	
Company Name	#4140 STANTEC CONSULTING LTD	Company Name	#7087 STANTEC CONSULTING LTD	Customer #	B20340	MAXXAM JOB #	BOTTLE ORDER #
Contact Name	SCOTT COUGHTREY C/O AP	Contact Name	SCOTT COUGHTREY	P.O. #		302434	
Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R8	Address	603-386 BROADWAY AVENUE WINNIPEG MB R3C 3R8	Project #	111440143.200	CHAIN OF CUSTODY #	PROJECT MANAGER
Phone	(204) 475-0968 Fax	Phone	(204) 807-3958 Fax (204) 942-2543	Project Name			Janelle Kachar
Email	stantec.accounts.payable.invoices@stantec.com	Email	scott.coughtrey@stantec.com, bob.ezzard@stantec.com	Site #	CP Weston	CHSCTER-1301	
				Sampled By	RE		

REGULATORY CRITERIA		SPECIAL INSTRUCTIONS		ANALYSES REQUESTED (Please tick YES/NO)										TURNAROUND TIME (TAT) REQUIRED													
				YES/NO REQUESTED: Please tick YES/NO Regulated Drinking Water 7 (Y/N) ☐ Metcalf Field Filtered 7 (Y/N) ☐ BTX/1,1,1 in Soil ☐ CCME PAH in Soil by GC-MS ☐ VOCs in Soil by HS GC/MS ☐ CCME Metals in Soil ☐ Hold										PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 working days for most tests Please note: Standard TAT for certain tests such as SOO and Ozone Fluores are > 5 days - consult your Account Manager for details. Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____													
Note: For regulated drinking water samples - include and fill out Drinking Water Chain of Custody Form		SAMPLES MUST BE KEPT COOL (< 15°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM		Date Sampled		Time Sampled		Matrix		Regulated Drinking Water 7 (Y/N)		Metcalf Field Filtered 7 (Y/N)		BTX/1,1,1 in Soil		CCME PAH in Soil by GC-MS		VOCs in Soil by HS GC/MS		CCME Metals in Soil		Hold		TAT		Comments	
1	F19539	BHC	13/01/14	PM	S																			3			
2	90	BHC																						3			
3	91	BHC																						3			
4	92	BHC																						3			
5	93	BHC																						3			
6	94	BHC																						3			
7	95	BHC																						3			
8	96	BHC																						3			
9	97	BHC																						3			
10																											

RELINQUISHED BY (Signature/Print)	Date (YY/MM/DD)	Time	RECEIVED BY (Signature/Print)	Date (YY/MM/DD)	Time	# Jars Used and	Laboratory Use Only		
B. Ezzard	12/01/14	14:30		12/01/14	14:30	Not Submitted	Take Sample	Temperature (°C) of Sample	Control See read in
							☐	5: 9.2.51°C	☐ Yes ☐ No

One Team. Infinite Solutions.



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