APPENDIX 1:

BEAR ISLAND
REMEDIATION PROJECT

REMEDIATION COMPLETION REPORT, BEAR ISLAND, NUNAVUT

Public Works and Government Services Canada

Remediation Completion Report
Bear Island, Nunavut

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Project Number:

60155434 (405)

Date:

February 21, 2012

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February 21, 2012

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Dear Mr. McElwaine:

Project No: **60155434 (405)**

Regarding: **Remediation Completion Report**
Bear Island, Nunavut

AECOM is pleased to present a summary report for the Bear Island remediation project. This report summarizes resident services, construction contract administration, geotechnical inspection, environmental inspection, water and land permit reporting requirements and quality assurance work carried out at the site during the 2010 and 2011 seasons.

If you have any questions or comments, please do not hesitate to contact the undersigned at (780) 486-7000.

Sincerely,
AECOM Canada Ltd.

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Project Manager
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RM:cn

Distribution List

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1. Introduction

AECOM was retained by Public Works and Government Services Canada (PWGSC) on behalf of Aboriginal Affairs and Northern Development (AANDC) to provide site resident services, construction contract administration and geotechnical/environmental inspection services for the remediation of the site at Bear Island, Nunavut. This report summarizes the remediation activities, water/land permit reporting requirements and quality assurance work performed at Bear Island during the 2010 and 2011 construction seasons. The majority of the remedial activities at Bear Island were completed in October 2010. Remaining tasks were completed in August 2011.

1.1 Background

Bear Island is located within James Bay, approximately 160 kilometres (km) northwest of Chisasibi, Quebec and 300 km southwest of Sanikiluaq, Nunavut (54°20'N, 81°05'W); hereinafter referred to as the "Site". Bear Island is approximately 5 km long (north to south) and 1.5 km wide. Two Doppler Radar Stations were operated on Bear Island from the 1950s to 1965 as part of the former Mid-Canada Early Warning Line. The Site was abandoned in 1965.

The environmental issues at Bear Island included former landfills, site buildings and various hazardous materials including: lead-acid batteries, petroleum products, asbestos, barrels with unknown contents and scrap metal.

1.2 Previous Site Remediation Efforts

The Bear Island site has been the subject of several site investigations, including the following:

- *Remedial Action Plan, Bear Island, Nunavut.* Earth Tech. 2008
- *Phase III Environmental Site Assessment, Material Audit and Geotechnical Investigation, Bear Island, Nunavut.* Earth Tech. 2008
- *Archaeological Impact Assessment (AIA) of the Mid-Canada Line Radar Site, Bear Island, Nunavut.* Golder Associates Ltd. 2008
- *An Environmental Assessment of Two Mid-Canada Line Sites at Bear Island.* Environmental Sciences Group, Royal Military College. 1996

Detailed explanations of the previous site investigations can be found in the Phase III Environmental Site Assessment prepared by Earth Tech in 2008.

1.3 Summary of Remedial Action Plan

The remediation activities undertaken at Bear Island during 2010 were conducted to achieve the requirements described in the Tender and Construction Drawings and Specifications prepared by AECOM. These requirements were developed from recommendations and information given in the Remedial Action Plan (RAP) prepared by Earth Tech in 2008. A summary of information and recommendations stated in RAP are provided below:

1.3.1 Hydrocarbon Contaminated Soils

Hydrocarbon contamination was identified at several locations across Bear Island including the Existing Landfill north of the South Doppler Site Area, the Small Barrel Cache Area, the Petroleum, Oil and Lubrication (POL) Storage Area, the Beach Area in the vicinity of the bulldozer and the Airstrip Area. In total, 109.8 cubic metres (m^3) of hydrocarbon impacted soil was estimated to be on Bear Island. Several remedial options were offered including excavation and offsite disposal, on-site land farming, landfilling, engineered cap cover, in-situ soil vapour extraction, bio-piling and scarification.

1.3.2 Metals Contaminated Soils

Metals contamination was identified at several locations across Bear Island including several areas at the South Doppler Site Area (Doppler Building, South Outfall, Emergency Shelter and Garage), the Barrel Cache Area, the POL Storage Area, the Beach Area and the North Doppler Site Area. In total, 94.3 m^3 of metals impacted soil was estimated to be on Bear Island. Remedial options offered included on-site disposal of soils exceeding Tier I criteria within a landfill and offsite disposal of soils exceeding Tier II criteria at a licensed facility.

1.3.3 Partially Buried Debris and Surface Debris

Approximately 727 m^3 of non-hazardous materials was estimated to have been left on Bear Island. This includes 622.5 m^3 of surface debris, 14.7 m^3 of debris with the Existing Landfill and 41.7 m^3 of debris within the western toe of the North Landfill. Approximately 48 m^3 of the above total was estimated to be concrete structures which were recommended to be regraded and left in place. The non-hazardous materials on-site included, but were not limited to, concrete pillars/foundations, radar antennas, metal piping, heavy equipment, power poles, empty barrels, building materials and miscellaneous scrap wood/metal.

1.3.4 Hazardous Materials

Approximately 27 m^3 of lead painted materials and 18.8 m^3 of other miscellaneous hazardous materials (asbestos, lead acid batteries and gas cylinders) were identified on-site. Re-sampling of some of the painted structures for lead and PCB analysis was recommended. It was estimated that 1050 litres (L) of POL fluids were stored on-site. It was recommended that these fluids, and any other POL fluids discovered, be analyzed in accordance with the AANDC Barrel Protocol and either incinerated on-site or shipped for offsite disposal accordingly. Asbestos Containing Material (ACM) on Bear Island consisted of floor tiles and cement board. It was recommended that all collected ACM be sealed in labelled containers and disposed of in an on-site landfill. It was recommended that materials found to be painted with lead or PCB paint either be removed from Site for disposal at a licensed facility or physically remove the paint from the substrate for offsite disposal.

1.4 Remediation Team

Key personnel involved in the remediation of the Bear Island site during 2010 were:

Owner

AANDC Project Manager	Mark Yetman
PWGSC Project Manager	Matthew McElwaine

Departmental Representatives (AECOM)

Project Manager	Roland Merkosky
Site Resident Engineer	Rob Nichol
Site Environmental Inspector	Mitch Bliss
Site Geotechnical Inspector	Chris Kjarsgaard

Prime Contractor (Biogenie)

Project Manager	Jean-Pierre Pelletier
Project Co-ordinator	Francois DeCourval
Site Superintendent	Mathieu Levesque
Hazardous Materials Specialist	Robert Desjardins
Surveyor	Pierre Poirier

2. Site Activities

The following section outlines the remediation activities conducted on-site during the 2010 and 2011 construction seasons. General remediation photographs can be found in **Appendix F**. Before and after remediation photographs of various areas on Bear Island can be found in **Appendix G**. All laboratory reports can be found in **Appendix H**. The Resident Engineer's weekly reports and the weekly meeting minutes can be found in **Appendix I**.

2.1 Camp, Site Infrastructure, and Equipment

2.1.1 Pre-Construction Camp and Equipment Inspection

Prior to mobilization an inspection was performed to confirm the suitability of the construction equipment and camp components for the project. AECOM, along with representatives from Biogenie and Wiinibek, visited the equipment staging locations on June 24, 2010. Some of the equipment had already been sent by rail to Moosonee and the dorm units had not arrived from Alberta, as such these items were not inspected. The remainder of the equipment was located in three locations: Cochrane, ON rail yards (two excavators, three ATCO kitchen units, Hamm Packer, Tractor Backhoe and one Boxcar / four sea-cans containing various supplies), Kapaskasing, ON location 1 (construction garage, loader, vac-truck and the analytical laboratory trailer) and Kapaskasing, ON location 2 (geotechnical laboratory trailer).

Photos from the camp and equipment inspection can be found in **Appendix F.**

2.1.2 Camp

At full operation the main Bear Island remediation camp consisted of the following:

- Seven (7) module trailer dorm units (including washrooms and laundry)
- One (1) office module trailer
- One (1) laboratory module trailer
- One (1) kitchen trailer
- One (1) dining room trailer
- One (1) recreation room trailer
- One (1) 40' generator barge container
- One (1) 40' camp water barge container
- One (1) 40' mud room barge container
- One (1) 20' PPE storage barge container
- Three (3) 20' general storage barge containers
- Sewage transfer tank
- Containment berms

Power was supplied by a diesel generator and heating throughout the camp was provided by electric heaters. All camp waste was collected and burned daily in a dedicated incinerator.

A Facilities Site Plan outlining all the Bear Island camp components can be found in **Appendix A**.

2.1.3 Site Equipment

All heavy construction equipment and supplies were brought to Site at various times during the remediation project via barge. The barge was delayed on several occasions due mostly to poor weather. Heavy construction equipment brought to the Site included:

- One (1) Komatsu Tracked Excavator (350)
- One (1) John Deere Tracked Excavator (200 LC)
- One (1) Komatsu Wheeled Loader/Forklift (WA 480-6)
- One (1) Komatsu Wheeled Backhoe/Forklift (WB 156PS)
- One (1) Komatsu Dozer (D4 1P-6)
- One (1) Hamm Smooth Drum Compactor (66)
- One (1) Western Star Tandem Truck (4900)
- One (1) International Tandem Truck (9900)
- One (1) Ford Semi Tractor with 40' Triple Axle Flatbed Trailer (LTL9000)
- One (1) Service Truck
- One (1) Vac Truck
- Two (2) Kubota All Terrain Vehicles
- Two (2) Crew Cab Pickup Trucks
- Three (3) Fuel Trucks

2.1.4 Camp Activities

2.1.4.1 Mobilization

Equipment and camp facilities were mobilized to Bear Island using a barge owned by Moosonee Transportation Limited (MTL) based out of Moosonee, Ontario. Mobilization, initially scheduled for early July, was delayed on several occasions due to tugboat mechanical issues and poor weather. The first barge arrived on August 19, 2010 and supplies were offloaded and the camp was constructed throughout the week. The initial camp setup consisted of four (4) sleeper modules, washroom/laundry modules, kitchen/dining modules, a mud room and barge containers containing miscellaneous supplies. Initial potable water for drinking/cooking was brought in from Moosonee until analytical results from the drinking water source were received. Personnel and miscellaneous gear was flown to Bear Island by Wabusk Air out of Moosonee, Ontario.

2.1.4.2 Demobilization

All consolidated waste, camp components and equipment were transported offsite via barge. The majority of the demobilization took place from late September to early October of 2010. Remaining demobilizations tasks were completed in August 2011. The 2011 tasks included repairing/reshaping roadways, packing up Material Processing Area (MPA) components and regrading the area, packing up the incinerator and removing all remaining camp components, equipment and POL fluid from the Site.

2.1.4.3 Post Construction Visit to Scrap Yard and Recycling Depot

AECOM visited the scrap yard and recycling depot that received material from Bear Island on October 18 and 19, 2010. Recyclable materials from Bear Island were barged from Site to Moosonee, ON where they were loaded onto railcars and shipped to Cochrane, ON, then subsequently trucked to North Bay or Witbey, ON.

The scrap yard used is called *Fern Piche & Sons Ltd.* and is located in North Bay, ON. This scrap yard received, classified and purchased all the recyclable scrap removed from the Site. The scrap was sorted and bailed, if necessary. Materials will be sold depending on the current market. All scrap was paid for by weight and the market was said to vary greatly. Most of the scrap brought from Bear Island was categorized as tin and was valued at $145 per ton. Loose, thin materials such as the rusted barrels brought out of the Site would be considered tin. Steel was valued at $190 per ton and would include such items as the antenna towers and vehicles. Premium metals (copper/brass/cast/etc.) were valued at $2.75 per pound. Based on these rates and quantities provided by Biogenie it was estimated that the Bear Island scrap metal was valued at about $80,661. Photos from the scrap yard visit can be found in **Appendix F**.

The recycling depot used is called *Gerdau Ameristeel Recycling* and is located in Witbey, ON. Raw materials are delivered to a specific area at this facility to await intake into the shredder. The material is classified as cars, miscellaneous scrap and white-goods. Materials are loaded in the shredder in whatever sequence maximizes its efficiency. The average shredding rate was estimated at 120 tonnes per hour. Once the material passes through the shredder it is put through various magnetic and centrifugal processes to further sort the material. Once the material is put through the above processes it is prepared for sale depending on the current market. Photos from the recycling depot visit can be found in **Appendix F**.

2.1.5 Site Infrastructure Improvement Activities

The geotechnical and geophysical evaluation completed in 2008 also included the inspection of the airstrip and access roads on Bear Island. In general, site road and airstrip conditions were found to be reasonably good and suitable to support the equipment requirements for the proposed remedial activities. Spring thaw and extended rainy periods were suspected to cause soft and oversaturated conditions and as such re-compaction or repair was thought to be required throughout the remediation project.

2.1.5.1 Airstrip

The Bear Island site was serviced by a granular airstrip that runs approximately north-south along the central west shore of the island. The airstrip is predominantly constructed of gravel and sand overlying bedrock. The approximate length of the airstrip is 1,350 metres (m). The airstrip was found to be quite soft at the beginning of the project creating conditions which prevented the planes from turning around once they had landed. The Contractor compacted the airstrip with a drum compactor throughout the project to rectify this issue.

2.1.5.2 Access Roads

Approximately 5 km of access roads exist on Bear Island in varying condition. During the course of the remediation project minor repairs and ongoing maintenance of the access roads were required. At project completion the following road maintenance and repairs were performed:

- Culvert removal and regrading of the access road immediately north of the airstrip
- Culvert removal and regrading of the access road south of the Barrel Cache Area

2.2 Demolition

2.2.1 Non-Hazardous Demolition and Debris Remediation

The majority of the non-hazardous materials present on Bear Island consisted of surface debris that did not require heavy equipment to demolish/package for offsite disposal. This surface debris generally consisted of scrap wood and metal. Most surface debris was collected by hand and was temporarily stored in bags or roll-off bins prior to being moved to the Temporary Staging Area to await demobilization. ATV's with trailers were often used to assist in the collection of surface debris located in rugged terrain. Collected debris was sorted as recyclable and non-recyclable prior to shipping offsite.

Unpainted wood collected during the demolition of non-hazardous materials was burned in dedicated roll-off bins at the North Doppler Site Area and the South Doppler Site Area. After all wooden materials on-site were burned, ash samples were collected from each roll-off bin and analyzed for total metals and leachable metals/PCBs. Both samples contained concentrations in exceedance of Tier II metals guidelines and were under criteria for leachable metals/PCBs. It should be noted that an uncontrolled burn occurred at the South Doppler Site Area due to high winds and the re-ignition of a fire thought to be extinguished. In the middle of the night, the fire jumped from the burn bin to a nearby pile of wood awaiting incineration. By the time the area was visited in the morning the entire wood pile had completely burned. Ash samples were collected in the immediate vicinity and were sent for laboratory analysis of total metals and leachable metals/PCBs. All concentrations were below criteria. Analytical data from the ash sampling conducted on Bear Island can be found in **Appendix B**.

One (1) small wooden electrical building located at the Beach Area was demolished and burned as outlined above. The same was done for one (1) small wooden terminal building and two (2) partial wooden huts located at the Airstrip Area.

Total PCB and leachable lead analysis of the paint on the electrical cabinets located at the Beach Area were found to be under criteria and as such the electrical cabinets were classified as non-hazardous. All electrical capacitors were removed from the electrical cabinets and placed in a metal drum. These items were not analyzed for PCBs, but were treated as is they were PCB-containing and as such were disposed of as hazardous waste.

Concrete tower bases and metal anchors were demolished / cut below grade. Concrete debris from both doppler site areas was placed in the North Doppler Site Area building foundation and subsequently regraded.

The bulldozer located at the Beach Area was cut into sections using a welding torch. The pieces were pulled apart using an excavator and taken to the Temporary Staging Area.

The POL line was cut at various high points along its length and inspected for product. Once the high points were inspected a cut was made at low points with vacuum trucks standing by to collect any product present. In total approximately 3000 L of diesel-water mixture was collected from the POL line. Samples were collected and sent for analysis of the parameters outlined in the Barrel Protocol. All samples were under criteria and were approved for incineration. Results can be found in **Appendix B**. Once the POL line was cleared of all product and cut into manageable lengths, the pieces of the line were cleaned at the MPA and sent to the Temporary Staging Area as non-hazardous waste.

Wiinibek Limited Partnership requested permission to salvage the following non-hazardous equipment located on Bear Island:

- Crawler dozer and front blade
- Bombardier swamp buggy
- Bombardier passenger snowmobile
- Snow plow wing
- Radar towers
- Steel wheel cylinder carts

The waiver of liability to the Crown for these salvaged items is provided in **Appendix E**.

2.2.2 Hazardous Demolition and Debris Remediation

2.2.2.1 Hazardous Material Classification

Hazardous PCB-Amended Painted (PAP) Material is defined as material coated with PCB-amended paint that has been analyzed and the materials (including the paint) contain PCB concentrations in excess of 50 parts per million (ppm). All painted structures on-site required sampling to determine PCB concentrations. Samples sent for analysis included both paint and substrate. All sampled painted structures on-site were under criteria. Laboratory results for PCB analysis of paint sample can be found in **Appendix B**.

Leachable Lead Painted Material is defined as material that is coated with lead based paint that has been analyzed and determined to contain leachable lead concentrations in excess of 5 milligrams per litre (mg/L) (as specified in TDGA regulations for Toxic Characteristic Leaching Procedure (TCLP) test - leachable lead). The TCLP test for leachable lead seeks to reproduce the worst scenario that could be encountered in a landfill where the painted debris is subjected to full immersion in highly acidic conditions. This required both paint and substrate to be

submitted for analysis. Analysis of all painted structures on-site revealed TCLP Lead exceedances in building panels and an abandoned boat located near the Beach Area. Laboratory results for leachable lead analysis of paint samples can be found in **Appendix B**.

Asbestos-Containing Material (ACM) is defined as material containing asbestos concentrations of 1% by weight or greater. No additional asbestos analysis was conducted during the remediation project. All ACMs on-site were identified according to the results outlined in the RAP prepared by Earth Tech in 2008. Items identified as containing asbestos in excess of 1% by weight included floor tiles and asbestos board. These materials were mostly located at the North Doppler Site Area and the South Doppler Site Area. ACM was collected, double-bagged and labelled for offsite disposal.

Several stockpiles of zinc coated conduit and lead acid batteries were present on-site and were found to be associated with metals concentrations in soil exceeding Tier II guidelines. As such, all zinc coated conduit, lead pipe and lead acid batteries were deemed hazardous and were packaged for offsite transportation and disposal accordingly. All compressed gas cylinders were vented prior to offsite disposal as non-hazardous waste.

2.2.2.2 Hazardous Waste Demolition

Building panels located at the Beach Area were found to be painted with leachable lead containing paint. These building panels were loaded into marine shipping containers prepared to transport hazardous waste by internally bracing the containers with plywood then coating the inner walls with plastic sheeting. The abandoned boat located near the Beach Area was also found to be painted with leachable lead containing paint. The boat was sprayed with a binding agent to minimize the amount of paint flaking during demolition. Once the binding agent was set, the boat was sectioned using a skill saw and placed into a marine shipping container prepared to transport hazardous waste as described above.

Lead acid batteries, lead pipe and zinc coated conduit located on-site were placed into plastic-lined sea cans for offsite transportation and disposal. Collected asbestos was first bagged then placed into plastic-lined sea cans for offsite transportation and disposal. Two (2) barrels found to contain product with barrel protocol total chlorine exceedances were transported offsite in their original containers as they were still structurally intact; these barrels are discussed further in Section 2.3 below.

All hazardous waste was brought to the Temporary Storage Area (TSA) prior to demobilization. The TSA was located on the south end of the island near the barge landing area. Baseline samples were obtained at the TSA prior to usage and confirmatory samples were obtained once all hazardous waste was removed from the area. All samples in this area were analyzed for hydrocarbons, metals and PCBs. All samples met criteria. A summary of the baseline and confirmatory analytical results can be found within **Appendix B**.

2.3 Barrel Processing

All barrels encountered on-site were handled according to the Barrel Protocol outlined in the INAC Abandoned Military Site Protocol (2008). Upon discovery, all barrels were inspected by the Contractors' Hazardous Materials Specialist under the supervision of a Departmental Representative. Barrels found to be empty/dry were crushed at the Temporary Staging Area. Sealed barrels and barrels containing water and/or product were taken to the MPA.

The MPA consisted of a bermed and lined area to inspect, classify, rinse and/or consolidate barrels and their contents as required. The MPA was approximately 15 m by 20 m and was constructed west of the Barrel Cache Area across the access road. Two (2) rinsate lagoons were constructed adjacent to the north edge of the MPA and measured approximately 10 m by 10 m each. The first rinsate lagoon held rinsate from the barrel washing process while the second rinsate lagoon was circulated through a water treatment system to meet the discharge criteria outlined in the water license. Baseline soil samples were obtained at the MPA prior to usage and confirmatory soil samples were obtained once all hazardous waste was removed from the area. All samples in this area were

analyzed for hydrocarbons, metals and PCBs. One (1) confirmatory sample exceeded Tier I metals guidelines and as such the area was regraded. A summary of the baseline and confirmatory analytical results can be found within **Appendix B**.

Sealed barrels were opened by the Contractor for inspection and classification. Barrels which were found to be empty were sent to the Temporary Staging Area for crushing. Barrels which were found to contain water were rinsed with a water/detergent solution, drained and sent for crushing. Barrels which were found to contain product or unknown contents were marked and set aside for consolidation and/or sampling. The analytical results of the barrel samples were compared to the barrel processing criteria presented in **Table 1**.

Table 1: Barrel Processing Criteria

Phase	% Alcohol or Glycols	PCBs	Chlorine (ppm)	Cadmium (ppm)	Chromium (ppm)	Lead (ppm)	Disposal Method
Organic	-	< 2	< 1000	< 2	< 10	< 100	On-site Incineration
Organic	-	> 2	> 1000	> 2	> 10	> 100	Ship Offsite
Aqueous	> 2	-	> 1000	> 2	> 10	> 100	Ship Offsite
Aqueous	> 2	-	< 1000	< 2	< 10	< 100	On-site Incineration
Aqueous	< 2	-	-	-	-	-	Discard in Accordance with Wastewater Discharge Criteria

A summary of the analytical results from the barrel sampling program can be found in **Appendix B**.

Two (2) barrels contained levels of total chlorine exceeding criteria. All other barrels met criteria and were approved for incineration. The Contractor decided not to perform any fuel incineration on-site during the remediation project. The 3000 L of fuel collected from the POL lines on-site was removed from the Site.

2.4 Buried Debris Excavation

A geophysical investigation was conducted in 2008 as part of the Phase III Environmental Site Assessment to identify potential areas containing buried debris. Ferric properties of the bedrock on Bear Island interfered with the magnetometer/gradiometer survey equipment used to conduct this investigation. As a result, areas defined as potentially containing buried debris in fact did not contain any buried debris at all. This mainly applied to the North Landfill Area located west of the Barrel Cache Area (also referred to as Site Debris Area 5).

2.4.1 Site Debris Area 5 (North Landfill Area)

Site Debris Area 5 encompasses a large area west of the Barrel Cache Area. As mentioned above, the magnetic nature of the underlying bedrock interfered with attempts to define the limits of the potentially buried debris area using a magnetometer survey. As a result, the lateral limits in the design drawings were established using field and aerial photograph observations.

Testpits were advanced within the area during the remediation project and the only significant buried debris in the area was near the shore of a water body along the eastern boundary of Site Debris Area 5. All debris was considered non-hazardous debris and was excavated as such. Scattered surface debris within this area was also collected for offsite disposal.

2.4.2 Site Debris Area 6 (Existing Landfill Area)

Site Debris Area 6 is located north of the South Doppler Site Area and contained a partially buried and non-structured debris disposal area. Surface debris in the area consisted of barrels, batteries, wire and other miscellaneous wood and metal debris. The original estimated contaminated area was 388.6 m^2. The estimated depth of contamination was 1 m.

The contents of this disposal area were excavated and placed in 20 m^3 stockpiles at the Waste Processing Area (WPA) located adjacent to the south boundary of the WPA. These stockpiles were sorted to remove all non-hazardous debris. In total six (6) stockpiles were formed. Discrete and composite soil samples were obtained to classify the contents of the stockpiles. Samples were analyzed for hydrocarbons, metals and PCBs. Two (2) of the stockpiles met criteria and were replaced in the base of the disposal area excavation during regrading activities. The remaining four (4) stockpiles exceeded Tier II metals guidelines and were shipped offsite for disposal.

Confirmatory samples were obtained prior to regrading this debris disposal area. Samples were analyzed for hydrocarbons, metals and PCBs. One (1) confirmatory sample exceeded Tier II metals guidelines. The area in the vicinity of this exceedance was excavated and the entire area was backfilled and regraded.

A summary of all the analytical data can be found in **Appendix B**.

2.5 Contaminated Soil Remediation Activities

2.5.1 Modifications to the RAP

Metal debris, including zinc conduit, was identified near the Barrel Cache Area. Soil samples were obtained to assess the area and analytical results exceeded Tier II metals guidelines. This area was identified as 3-DT2-02. A battery was also found near the Barrel Cache Area. A soil sample was obtained to assess the area and analytical results exceeded Tier II metals guidelines. This area was identified as 3-DT2-03.

An assessment of the soil in the vicinity of the lead wrapped cable located north of the South Doppler Site Area was conducted to fill data gaps from the Phase III ESA conducted in 2008. The assessment identified three (3) areas exceeding Tier I metals guidelines which required regrading. These areas were identified as 4-DT1-01, 4-DT1-02 and 4-DT1-03.

An assessment of the condition of the soil in the Barrel Cache Area was conducted to determine if any metals impacts were present as a result of the barrel storage in general and the large amount of barrel dust in the area. The assessment identified three (3) areas exceeding Tier II metals guidelines which required excavation. These areas were identified as 3-DT2-04, 3-DT2-05 and 3-DT2-06.

A soil assessment was conducted in the vicinity of the antenna towers located at the North Doppler Site Area and the South Doppler Site Area on August 28, 2010. Soil samples were obtained along the length of the zinc conduit attached to the towers and some of the analytical results exceeded Tier II metals guidelines. The contaminated area at the North Doppler Site Area was identified as 1-DT2-03. The contaminated area at the South Doppler Site Area was identified as 4-DT2-05.

2.5.2 Metals Excavations and Regrades

Metals contaminated soils on-site were either excavated for offsite disposal or regraded with clean borrow material, depending on the severity of the metal concentration exceeding the 2008 INAC Abandoned Military Site Remediation Protocol. Tier II contaminated soil exceeding guidelines was excavated for offsite disposal while Tier I contaminated soil was regraded with clean borrow material.

In total seventeen (17) areas were identified as requiring excavation based on Tier II metals exceedances. Confirmatory samples were obtained after excavating was complete and sent for laboratory analysis. Areas around any sample exceedances were re-excavated and re-sampled until analytical results were below guidelines. In total five (5) areas were identified as requiring regrading based on Tier I metals exceedances. These areas were regraded with clean borrow material.

A summary of all the analytical data and confirmatory sampling details can be found in **Appendix B**.

2.6 Hydrocarbon Contaminated Soil Remediation Activities

2.6.1 Modifications to the RAP

An assessment of the condition of the soil in the Barrel Cache Area was conducted to determine if any hydrocarbon impacts were present as a result of the barrel storage in general and the large amount of barrel dust in the area. The assessment identified one (1) area exceeding F3 hydrocarbon guidelines which required regrading. This area was identified as 3-PHC-02.

Two (2) barrels identified in the RAP as containing oil exceeding applicable metals guidelines, BAR-02 and BAR-03, were found to exceed the criteria since the Phase III ESA. The contents of the barrels spilled and were visible in the immediate vicinity of the barrels. One (1) sample was obtained near each barrel and was analyzed for hydrocarbons, metals and PCBs. Both samples exceeded F3 hydrocarbon guidelines and required regrading. The contaminated area in the vicinity of BAR-02 was identified as 3-PHC-03 and the contaminated area in the vicinity of BAR-03 was identified as 3-PHC-04.

2.6.2 Hydrocarbon Excavations and Regrades

Hydrocarbon contaminated soils on-site were either excavated for offsite disposal or regraded with clean borrow material, depending on the hydrocarbon fractions exceeding the 2008 INAC Abandoned Military Site Remediation Protocol. F1/F2 contaminated soil exceeding guidelines was excavated for offsite disposal while F3/F4 contaminated soil was regraded with clean borrow material.

In total four (4) areas were identified as requiring excavation based on F1/F2 hydrocarbon exceedances. Confirmatory samples were obtained after excavating was complete and sent for laboratory analysis. Areas around any sample exceedances were re-excavated and re-sampled until analytical results were below guidelines. In total seven (7) areas were identified as requiring regrading based on F3/F4 hydrocarbon exceedances. These areas were regraded with clean borrow material.

A summary of all the analytical data and confirmatory sampling details can be found in **Appendix B**.

2.7 Environmental Data QA/QC

2.7.1 Environmental Sampling Guidelines

The methods for the sampling of hazardous material, barrel contents and confirmatory sampling of excavations are governed by both industry best practice and protocols developed specifically for northern military site remediation work. Site remediation work on Bear Island was governed by the Indian and Northern Affairs Abandoned Military Remediation Protocol (2008).

Samples collected by AECOM were submitted for analysis to Maxxam Analytics in Montreal, Quebec. This laboratory is accredited with the Canadian Association for Laboratory Accreditation (CALA). All hydrocarbon analysis was conducted at Maxxam's Mississauga office. Some of the barrel content analysis was subcontracted by Maxxam to EXOVA in Pointe-Claire, Quebec.

In order to ensure that the sampling and analytical data collected were interpretable, defensible and comparable, a Quality Assurance and Quality Control (QA/QC) program was implemented for the project. QA/QC measures were taken in both the collection and analysis of samples obtained during the remediation program. The following sections outline the Bear Island QA/QC program.

2.7.2 AECOM QA/QC Program

Quality Control (QC) measures used in the collection, preservation, shipment and analysis of samples included the following:

- Sampling techniques were performed in accordance with standard written AECOM protocols
- Field notes were recorded during the investigation
- All samples were kept cool prior to shipment to the laboratory
- Samples were assigned unique sample control ID's and transported under chain of custody procedures
- The analytical laboratory is CALA accredited

Quality Assurance (QA) measures established during this remediation project included the collection of duplicate field samples at a rate of approximately 10%. A blind duplicate consists of a duplicate of an individual sample being submitted to the laboratory under a different sample ID such that the laboratory has no knowledge of what sample is being duplicated. Duplicate samples from numerous locations were submitted to the laboratory for analysis.

The relative percent difference (RPD) between the duplicate results was used to assess the overall precision of the sampling program. The RPD is a measure of the variability between two duplicate analyses and is calculated by the following equation:

$$RPD = 100 \times \{[2 \times (x1 - x2)]/[x1 + x2]\}$$

Where x1 is the primary result and x2 is the result of the blind duplicate.

Appendix B presents a comparison between original analytical results and the results of the field duplicates. Acceptable RPD values vary on the analytical parameters, the sample matrix and the concentrations of the analytes in the sample. For metals in soils, acceptable RPD values are 35% or less. For organics in soil (PHCs and PCBs), the acceptable RPD values are 50% or less. Only when concentrations are at least 10 times the laboratory detection limit are RPD calculations considered valid.

2.7.3 Field Duplicate Samples

A total of 37 (thirty seven) duplicate soil samples were obtained during the 2010 Bear Island remediation program. The field duplicates were analyzed for various parameters based on their location and the suspected contaminants present. RPDs were calculated for all parameters analyzed in each samples. The majority of the RPD values for the duplicate samples analyzed were acceptable. The results of these calculations are summarized in **Appendix B**.

Eleven (11) of the duplicate soil samples were found to exceed the acceptable RPD value of 35% for metals in soil. Four (4) of the duplicate soil samples were found to exceed the acceptable RPD value of 50% for hydrocarbons in soil. Thirteen (13) of the duplicate soil samples had RPD values that were above the recommended criteria, however, the concentrations of one or both of the samples in the duplicate set were less than 10 times the laboratory detection limit. RPD values for these samples are not considered strictly valid. All other parameters within the remaining duplicate sets had acceptable RPD values.

Based on field observations during the remediation project the material on Bear Island consisted mostly of coarse material (sand/gravel/cobbles) and mossy-vegetation. The variations in gravel, sand, cobble and vegetation within the samples made it difficult to obtain perfectly homogeneous samples. The elevated RPD values mentioned above are likely due to the inconsistency of the material found on-site which has a direct affect on the weight/weight concentrations determined during laboratory analysis.

2.7.4 Laboratory QA/QC

All samples requiring analysis were sent to Maxxam Analytics (Maxxam) out of Montreal, Quebec. Maxxam has its own internal Quality Assurance (QA) program to ensure their reported results are accurate. This program includes internal sample duplicates analysis, surrogate recovery and the use of spiked/method blanks. Surrogate recovery is

used to evaluate extraction efficiency, spiked blanks are used to evaluate analyte recovery and method blanks are used to identify laboratory contamination.

2.8 Borrow Materials

A geotechnical and geophysical evaluation for the Bear Island site was completed as part of the Phase III Environmental Site Assessment conducted by Earth Tech in 2008. The primary objective of this evaluation was to identify and assess borrow sources and potential landfill locations. Of the borrow source locations identified during this evaluation, two (2) were selected for potential use during the remediation. These borrow areas collectively are suitable to supply Type 2, 3 and 6 granular fill originally required for site remediation activities. Both sources are located on the south end of the island.

Plans to construct a non-hazardous landfill on-site were replaced with a plan to salvage / recycle and dispose of all materials offsite. The remediation plan was revised to include removal and transportation of all hazardous and nonhazardous material offsite for disposal at licensed facilities. As no landfill was constructed on Bear Island as part of the remedial work the need for borrow materials was greatly decreased. Only Type 2 material was needed to achieve cover and regrading requirements.

All borrow material was obtained from Borrow Area 1 located on the south end of the island. Prior to use, the limits of the borrow area were identified and an adjacent archaeological site was located and marked to avoid any potential disturbance of this and the surrounding area. An existing working face approximately 3 m high and at a 1H to 1V slope existed from previous borrow activities in this area. In 2010 this working face was extended and provided all of the material required for remediation activities. At the end of 2010 all side slopes were graded to 3H:1V and no depressions were created within the base of the borrow area that may restrict surface water flow.

Borrow materials were assessed by the Geotechnical Inspector and samples were taken periodically throughout the remediation project. Test results showed that borrow material used on-site met the gradation requirements outlined below. A copy of these test results can be found in **Appendix C**. A summary of the available borrow material is outlined below for reference purposes.

2.8.1 Type 2 Granular Fill

Type 2 Granular Fill generally consists of pit-run, screened stone, gravel or sand in an unfrozen state and free from rocks larger than 200 millimetres (mm), waste or other deleterious material. Type 2 Granular Fill is used for construction of landfill berms and cover and regrading requirements. The specified gradations for Type 2 Granular Fill for the remedial work on Bear Island are as follows:

Sieve Designation (millimetres)	% Passing by Weight
150	100
50	60-100
25	45-90
16	40-85
5	25-70
0.425	2-25
0.08	0-15

2.8.2 Type 3 Granular Fill

Type 3 Granular Fill consists of granular pit-run material, with a maximum particle size of 300 mm, from identified borrow sources and is generally used for regrading low areas as indicated, backfill for contaminated soil and landfill waste excavation and general site grading requirements.

2.8.3 Type 6 Granular Fill

Type 6 Granular Fill is selected material from excavations or other sources approved by the Departmental Representative, generally consisting of screened stone, gravel or sand in an unfrozen state. Type 6 Granular Fill is generally used as an intermediate cover within landfills. The maximum particle size of the material is to be 150 mm with less than 8% of the material, by weight, passing the 0.08 mm sieve.

2.9 Construction Contract Administration

2.9.1 General

PWGSC retained AECOM to perform on-site contract administration and liaison with the contractor. AECOM was to record construction quantities and progress of contract items were to be communicated with PWGSC.

Significant changes to the contract defined scope of work require issuance of a contract Change Order. Scope changes are communicated to the contractor through the issuance of a design revision, and the contractor submits a new price based on the revised scope of work for the affected contract items.

Additional work in excess of the defined contract quantities is considered Potential Additional Work (PAW) and requires approval of the planned additional work and estimated cost from PWGSC prior to PAW being performed. Upon identification of additional work, a cost estimate to complete the work, using hourly person and equipment rates, is prepared by the contractor and submitted to PWGSC for review and approval. Approval of PAW is granted to the contractor through the issuance of a Task Authorization. Once a Task Authorization is issued to complete a PAW item, the person-hours and equipment used must be documented by the contractor and monitored by the AECOM resident engineer. Daily records of PAW items are submitted to the resident engineer for approval and documented to verify that the sum of daily records does not exceed the value of the Task Authorization. Should the initial estimate provided by the contractor require additional work, an amendment to the Task Authorization is required.

2.9.2 Pre-mobilization Activities

2.9.2.1 Community Meetings

Pre-Construction 2010

A community meeting was held in Chisasibi, QC on June 22, 2010 prior to construction. The meeting was held in the hall at the community centre at 7:00 pm and was well attended with 35 to 40 visitors, including the council chief. Presentations on the project were performed by AANDC and Biogenie which was followed by a Q&A session and refreshments.

On June 23, 2010 a second meeting was held at the council office with elders and community members who had previously worked at Bear Island. Discussions were held regarding buried debris locations, the previous removal of buildings and the suitability of barge landing areas.

Post-Construction 2010

Following construction activities in 2010 a community meeting was held in Chisasibi, QC on November 24, 2010. The meeting was held in the hall at the community centre at 8:30 pm and was poorly attended with 7 visitors, including the council chief. A presentation on the project activities for 2010 was performed by Biogenie, followed by discussions with the chief and a lunch. One comment received was that some of the council members and the chief would benefit from a site visit to review the final construction works in 2011.

An elder's site visit was conducted on June 15, 2011 and consisted of a guided tour and review of the remediation activities conducted on-site. Photos from the community meetings and the elder's site visit can be found in **Appendix F.**

2.9.2.2 Pre-Construction Camp and Equipment Inspection

Prior to mobilization an inspection was performed to confirm the suitability of the construction equipment and camp components for the project. AECOM, along with representatives from Biogenie and Wiinibek, visited the equipment staging locations on June 24, 2010. Some of the equipment had already been sent by rail to Moosonee and the dorm units had not arrived from Alberta, as such these items were not inspected. The remainder of the equipment was located in three locations: Cochrane, ON rail yards (two excavators, three ATCO kitchen units, Hamm Packer, Tractor Backhoe and one Boxcar / four sea-cans containing various supplies), Kapaskasing, ON location 1 (construction garage, loader, vac-truck and the analytical laboratory trailer) and Kapaskasing, ON location 2 (geotechnical laboratory trailer).

Photos from the camp and equipment inspection can be found in **Appendix F.**

2.9.3 Regulatory Compliance

2.9.3.1 Health and Safety

The health and safety of the entire Bear Island remediation team was a major factor in the implementation of any and all work on-site. Prior to construction, the Contractor provided a detailed, site-specific Health and Safety Plan to AANDC. This plan outlined the policies and safe working practices that all on-site personnel were to follow. Site specific work methodologies and personal protective equipment that were required for remedial work were also outlined in this document.

A medic was on-site during the duration of the project and provided medical attention when required. Weekly Health and Safety meetings were held with all personnel on-site in attendance. These meetings provided a platform for workers to bring up any Health and Safety issues and for the Contractor to discuss any recent incidents, lessons learned or general site-specific safety topics. A Health and Safety Committee was formed for a portion of the project to review and improve upon the regular Health and Safety meetings and other related issues on-site. A detailed Health and Safety audit was performed once the camp was fully operational and all noted deficiencies were corrected. Tailgate meetings were conducted by all Contractor foremen everyday to discuss the relevant work related risks that the workers would be encountering that day. Planned Job Observation (PJO) inspections were conducted without warning to assess and correct any deficiencies found. All Health and Safety documentation can be found in **Appendix D**.

Incidents reported on-site consisted of a case of nausea/dizziness, a minor burn, two (2) minor muscle strains, a minor quad accident and an ankle sprain. Copies of the incident reports can be found in **Appendix D**.

All vehicles on-site were equipped with first aid kits and fire extinguishers. All relevant project documentation was posted in the recreation room. This documentation included but was not limited to: health and safety plans, work plans and land/water use permits.

Health and Safety Training

All site personnel were given a Worker Orientation Seminar (WOS) prior to working on-site. This orientation was prepared and conducted by the Contractor and provided workers with information pertaining to the general history of the Site, objectives of the project, information regarding hazardous materials on-site, personal protective equipment required, health and safety policies and emergency information. A copy of the WOS can be found in **Appendix D**.

Environmental Protection

Work and camp activities conducted during the Bear Island remediation project were governed by environmental protection protocols outlined in the following documents: AECOM specifications, AANDC protocols, Biogenie work practices and the conditions of the Land Use Permit, Quarry Permits and Water License.

2.9.3.2 Permits

AANDC was granted a Land Use Permit, Quarry Permits and a Water Licence in order to proceed with the remedial activities and camp operations on Bear Island. Conditions outlined in these documents governed the operation of key activities on-site. The details of the permits and the efforts undertaken to comply with them are described in the following sections.

Weekly reports prepared by AECOM staff onsite were sent to AANDC and PWGSC.

2.9.3.2.1 Land Use Permit

Land Use Permit #N2010X0005 was issued to AANDC by the Land Administration Department of AANDC on February 16, 2010. A copy of this permit is included in **Appendix D**.

The general intent of this permit is to minimize the disturbance to the Site. This was achieved by protecting sensitive archaeological/paleontological areas and any species at risk in the area. Other specific conditions were outlined with respect to camp operations and general site works. These conditions were followed to ensure the disturbance to the Site was kept to a minimum.

Wildlife

Several polar bears were spotted on Bear Island or on islands in the immediate vicinity during previous site investigations. During the 2010 remediation project only one (1) polar bear was on Bear Island and stayed away from the camp and work areas. In 2011, during the elder's site visit and the final demobilization activities, two foxes were observed and no polar bears. The only other wildlife in the area was various species of birds. The only impact they had on the remediation work was the established nesting area along the south beach of Bear Island. All onsite workers were made aware of its location and it was not disturbed during the duration of the project.

Multiple wildlife monitors were on duty 24 hours a day for the duration of the remediation activities. The exact number of wildlife monitors changed depending on the number of personnel onsite. Each wildlife monitor used an ATV to patrol the work areas and to make regular patrols of the Site and areas frequented by the polar bear. Each wildlife monitor was equipped with a firearm and several types of ammunition including standard bullets/shells, bear bangers and rubber slugs.

Archaeological Sites

An Archaeological Impact Assessment (AIA) was completed by Golder Associates Ltd. in 2008. This assessment identified a tent ring as a heritage resource site. This site was considered to be of low significance due to a lack of cultural materials or evidence of additional cultural activity. The tent ring was located adjacent to Borrow Area 1 and was flagged off during the implementation of the 2010 remediation program. All onsite workers were made aware of its location and it was not disturbed during the duration of the project.

2.9.3.2.2 Water License

Water License No. 1BR-BEA1015 was issued to AANDC by the Nunavut Water Board on April 1, 2010. A copy of the license is included in **Appendix D**.

The water license governs the rate and manner in which water could be extracted from natural water bodies and provides discharge criteria for wastewater. Wastewater on Bear Island consisted of sewage/greywater and rinsate from the barrel washing process.

The water license allowed for the daily uptake of 20 m^3 of fresh water from onsite water sources surrounding the camp. The actual volume of water collected for daily use at the camp did not exceed this allowance. A summary of the weekly volumes of water collected are shown below in **Table 2**. The water was collected from a previously used source located north of the South Doppler Site Area and south of the Barrel Cache Area on the eastern portion of the island. This water was brought to camp and treated before use. Analytical results for the water post-treatment met the applicable drinking water quality guidelines. Bottled water was also provided.

Table 2: Camp Water Intake

Week	Weekly Quantity of Fresh Water Obtained (m^3)	Average Daily Quantity of Fresh Water Obtained (m^3)
20-08-10 to 27-08-10	40.5	5.8
27-08-10 to 03-09-10	37.7	5.4
03-09-10 to 10-09-10	69.5	9.9
10-09-10 to 17-09-10	65.0	9.3
17-09-10 to 24-09-10	78.5	11.2
24-09-10 to 01-10-10	64.5	9.2
01-10-10 to 08-10-10	58.5	8.4

Sewage/Greywater and Rinsate

Sewage and greywater produced onsite was collected in a septic tank adjacent to the camp. The septic tank had two compartments separated with a weir. Sludge would settle in one compartment and greywater would pass over the weir into the next compartment to be pumped to the sewage lagoon as required. Once remedial activities were completed onsite this lagoon was backfilled. The septic tank has been removed and has been taken, along with the sludge, for offsite disposal.

Rinsate from the barrel washing process was stored in a lined lagoon within the MPA located west of the Barrel Cache Area. When this lagoon reached capacity another lagoon was constructed adjacent to the existing lagoon in order to hold rinsate undergoing treatment. A water treatment system cycled the rinsate within the second lagoon. The discharge point from the treatment system was elevated from the lagoon to provide aeration. Treated rinsate samples were collected by the Biogenie and sent to AGAT in St. Laurent, Quebec for analysis. **Table 3** below shows the discharge criteria stated in the water license and the results of the rinsate analysis. The rinsate within Lagoon 1 was sampled and found to meet the applicable criteria and was discharged onsite. The rinsate within Lagoon 2 was sampled and exceeded discharge requirements and was held in order to treat further in 2011. On return to the Site in 2011 for the elders visit, it was discovered that wildlife had damaged the liner in Lagoon 2 and all the rinsate was discharged. A spill report was therefore submitted for this incident and can be found in **Appendix D**.

Table 3: Rinsate Analytical Results

Parameter	Maximum Allowable Concentration (µg/L)	LAG – 1 (µg/L)	LAG – 2 (µg/L)
pH	6 to 9	8.76	8.66
Oil and Grease	5000	<4500	<4500
Arsenic (Total)	100	5.5	18
Cadmium (Dissolved)	10	<0.8	<0.8
Chromium (Dissolved)	100	<10	<10
Cobalt (Dissolved)	50	<20	<20
Copper (Dissolved)	200	5	<3
Lead (Dissolved)	50	1	<1.0
Mercury (Total)	0.6	<0.1	<0.1
Nickel (Dissolved)	200	<3.0	4.3
Iron	1000	835	**2670**
PCBs (Total)	1000	<0.02	<0.1
Zinc (Total)	500	347	**629**
Phenols	20	<2	**78**
Benzene	370	<0.3	<0.3
Toluene	2	<1.0	<1.0
Ethylbenzene	90	<0.3	<0.3

Spills and Non-Compliances

Spills and unauthorized discharges that occurred during remedial activities are summarized in **Table 4** below. Spill reports are presented in **Appendix D**.

Table 4: Spill and Unauthorized Discharge Summary

Date of Spill	Work Activity	Product Spilt	Volume	Affected Area	Action Taken
20-Aug-10	Mobilization and Camp Commissioning	Hydraulic Oil	1 L	< 1 m^3	Excavator leak repaired and absorbent booms used to absorb spill.
03-Sep-10	Barrel Crushing	Diesel	15 L	1 m^3	Biogenie HAZMAT specialist supervising barrel inspection was replaced and 1 m^3 of soil was excavated in the vicinity of the spill.
06-Sep-10	Chartered Plane	Kerosene	6 L	< 1 m^3	Minor equipment problem on plane was repaired.
13-Sep-10	Excavator Bucket Change	Hydraulic Oil	2 L	< 1 m^3	Worker informed on proper procedure to change bucket and 0.1 m^3 of soil was excavated.
20-Jun-11	Lagoon Damage by Wildlife	Barrel Washing Rinsate	9,000 L	Unknown	Event was documented in spill report and photographs were taken.

2.9.3.2.3 Quarry Permits

Quarry Permits 2010QP0099 and 2010QP0100 were issued to AANDC by the Land Administration Department of AANDC on June 2, 2010. These permits allow for the excavation of 45,000 m^3 and 18,000 m^3 from two separate borrow sources. Copies of these permits are included in **Appendix D.**

3. Contract Items

Unit rate items were recorded by the contractor and the resident engineer as construction activities progressed. Measurement for payment was detailed in the specifications. Where surveying was the specified measurement for unit rate payment items, such as excavation, AECOM provided a check on the contractor's survey information and volume calculations.

The remediation contract consists of three applicable payment items; Section 1 – Firm Unit/ Lump Sum Prices, Section 1 – Balance of Project Complete and Section 2 – Potential Addition Work.

Table 5: Summary of Work

Item #	Description	Unit	Quantity	Final Quantities (To Be Provided)
BOPC-1	Balance of Project Costs including but not limited to: - Any Variable Indirect Costs for Overhead and Admin., - Costs for Expeditors, - Closeout Submittals, - CGL Insurance, - All Risk Insurance, - WCB Costs, - Business Expenses, - Contractor's Portion of Training Expenses, - EMT, - Ancillary Equipment, - Service Vehicles	lump sum	1	
01 11 00-1	Worker Orientation Seminar	lump sum	1	
01 29 83-1	Packaging, Handling and Transport of Departmental Representative's Samples to Accredited Lab in Montreal	kilogram	800	
01 29 83-2	Contractor's Testing Requirements including Sampling, Transportation and Analysis at an Accredited Laboratory	lump sum	1	
01 31 19-1	Pre-Construction Meeting at location of Contractor's choice	lump sum	1	
01 31 19-2	Inter-Season Meeting at location of Contractor's choice	each	2	
01 31 19-3	Community Meetings – Chisasibi, Quebec	each	3	
01 35 32-1	Site-Specific Health and Safety Plan	lump sum	1	
01 35 32-2	Wildlife Monitors including ATV	days	175	
01 35 43-1	Environmental Protection Supplies	lump sum	1	
01 53 00-1	Mobilization	lump sum	1	
01 53 00-2	Demobilization	lump sum	1	
01 54 00-1	Camp Start up	each	2	
01 54 00-2	Camp Winterization	each	1	
01 54 00-3	Operation and Maintenance of Camp Services	week	20	
01 54 00-4	Departmental Representative and Departmental Representative's Authorized Personnel Room and Board	person-day	385	
01 54 00-5	Casual Meals – Departmental Representative's Authorized Personnel	each	40	
01 54 00-6	Return Transportation - Contractor's Charter Base to Bear Island.	person-trips	40	
01 54 00-7	Departmental Representative's Communication Links	lump sum	1	
01 54 00-8	Consumable Office Supplies	provisional cost sum	$ 5,000	

01 71 01-1	Survey	lump sum	1	
02 41 16-1	Demolition: Electrical Shed at Beach Area	lump sum	1	
02 41 16-2	Demolition: Shed at Airstrip Area	lump sum	1	
02 41 16-3	Demolition: Doppler Building Wooden Foundations	lump sum	1	
02 41 16-4	Demolition: Garage Concrete Foundations	lump sum	1	
02 41 16-5	Demolition: Fallen Antennas	lump sum	1	
02 41 16-6	Demolition: Boat at Beach Area	lump sum	1	
02 41 16-7	Demolition: POL Lines and Electrical Cables	lump sum	1	
02 41 16-8	Demolition: Concrete Antenna Foundations	lump sum	1	
02 41 23-1	Known Debris Removal	lump sum	1	
02 41 23-2	Collection and Containerization of Lead Painted Material at the Beach Area	cubic metre	23	
02 51 00-1	Drilling	metre	16	
02 51 00-2	Monitoring Wells - Supply and Installation	each	4	
02 55 13-1	Excavation and Containerization of Contaminated Soil - for Off-Site Disposal	cubic metre	225	
02 55 13-2	Excavation, Transport and On-site Disposal of Contaminated Soil to Non-Hazardous Waste Landfill	cubic metre	65	
02 55 13-3	Off-Site Transport and Disposal of Contaminated Soils from Buried Debris Areas to the Contractors Designated Contaminated Soil Disposal Facility	cubic metre	300	
02 61 33-1	Supply of Steel Barge Containers - PCB Amended Painted Materials	each	5	
02 61 33-2	Supply of Intermediate Containers - PCB-Amended Painted Materials	each	175	
02 61 33-3	Supply of Hazardous Waste Containers	cubic metre	10	
02 61 33-4	Collection and Containerization of Known Hazardous Materials	cubic metre	10	
02 61 33-5	Off-site Transport and Disposal of Containerized Hazardous Waste to Contractor's Designated Hazardous Waste Disposal Facility	cubic metre	50	
31 22 15-1	Reshaping	square metre	30,000	
31 22 15-2	Type 2 Granular Fill	cubic metre	7,000	
31 22 15-3	Type 3 Granular Fill	cubic metre	750	
31 22 15-4	Type 6 Granular Fill	cubic metre	400	
31 22 15-5	Unclassified Excavation	cubic metre	100	
31 22 15-6	Test Pit Excavation - Equipment Usage	operating hours	40	
31 22 15-7	Upgrading and Maintenance of Airstrip and Site Access Roads	lump sum	1	
31 23 11-1	Buried Debris Excavation	cubic metre	350	

3.1 Surveying

Biogenie provided surveying services for the 2010 Bear Island remediation project. Tasks completed by the surveyor included:

- Installation of benchmarks where required
- Detailed existing ground contour surveys in areas where excavation and/or regrading will take place
- Locating and staking extents of contaminated soil excavations
- Installation of grade stakes during fill placement
- Detailed post-excavation and post-regrade ground contour surveys
- Borrow source survey before and after remediation
- Calculation of excavation and fill placement quantities for payment
- Survey of soil sample points

4. Scope Variance

Two significant revisions to the remediation plan were implemented.

1. The amount of non-hazardous debris on Bear Island requiring disposal was relatively small and several large debris items were to be salvaged by the Contractor. As such, it was proposed that the Contractor would remove the requirement for constructing a non-hazardous waste landfill onsite and instead backhaul all of the non-hazardous waste offsite by barge. This amendment (Amendment #2) was approved prior to mobilization. Amendment #2 removed a large portion of the requirement for production, hauling, placing and compacting of Type 2 and Type 3 materials and the requirement for monitoring wells. Non-hazardous wastes consisting of metal debris, wood and asbestos was shipped offsite for disposal at recycling facilities and municipal landfills in Ontario. Tier I soils were remediated onsite in accordance with approved procedures.
2. As mentioned, Site Debris Area 5 encompassed a large area west of the Barrel Cache Area and was scheduled to be regraded. The result of visual and subsurface inspections concluded that no buried debris was present at this location and no regrade therefore required.

5. Schedule Variance

Although the contract allowed for two seasons of site work, the contractor intended to complete the project within one season and completely demobilize from the site.

Mobilization, initially scheduled for early July, was delayed and the first barge arrived on August 19, 2010. The primary reasons for this delay lay with the barging company and included equipment failure (2 large repair issues related to the tug boat), the inability to hire another barge company, weather issues and the need to reschedule this work along with other commitments once barging operations resumed.

Even with this large delay getting started, the contractor completed the majority of work on-site in 2010. At the end of the season the barging company could not completely demobilize the equipment and supplies from site due to weather and scheduling related issues. This required returning in 2011 to complete the demobilization and final restoration works associated with removing the remaining equipment and camp.

6. References

- *Environmental Site Remediation, Bear Island, Nunavut, Project Record Documents*. Biogenie. 2011.
- *Abandoned Military Site Remediation Protocol.* Indian and Northern Affairs Canada (INAC). 2008.
- *Remedial Action Plan, Bear Island, Nunavut.* Earth Tech. 2008.
- *Phase III Environmental Site Assessment, Material Audit and Geotechnical Investigation, Bear Island, Nunavut.* Earth Tech. 2008.
- *Archaeological Impact Assessment (AIA) of the Mid-Canada Line Radar Site, Bear Island, Nunavut.* Golder Associates Ltd. 2008.
- *An Environmental Assessment of Two Mid-Canada Line Sites at Bear Island.* Environmental Sciences Group, Royal Military College. 1996

Appendix A

Figures

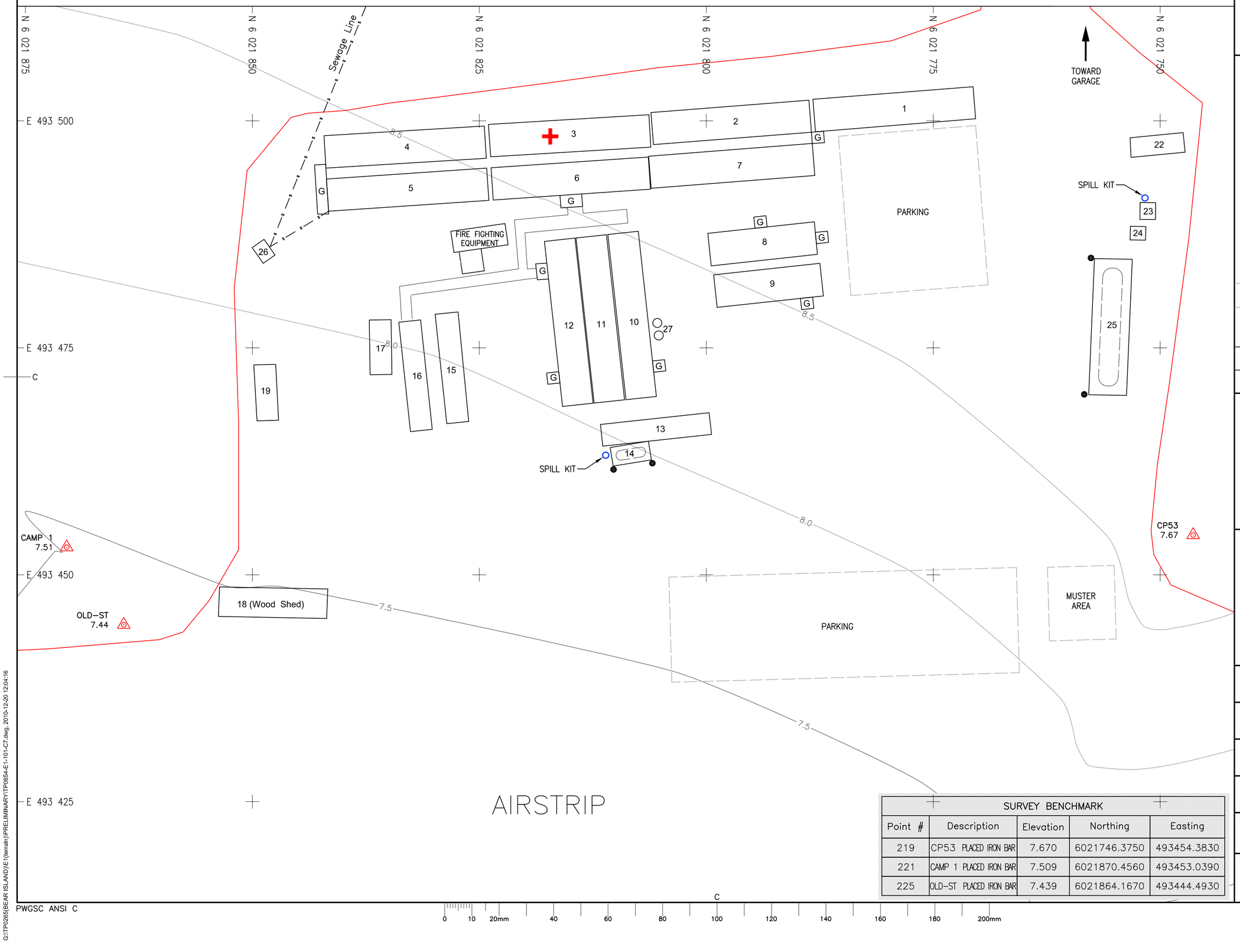
Appendix A – Table of Contents

Facilities Site Plan……1

LEGEND:

1 TO 7	DORMS	12	RECREATION ROOM	17	PPE CONTENER	23–24	ULTRA CONTAINMENT BERM–GAZ DRUM
8	OFFICE	13	GENERATOR	18–19	GENERAL STORAGE	25	ULTRA CONTAINMENT BERM–DIESEL TANKER
9	LABORATORY	14	FULL TANK	20	FIRE FIGHTING EQUIPMENT	26	SEWAGE TRANSFER TANK
10	KITCHEN	15	CAMP WATER			27	PROPANE TANK (1mø) – 2 TANKS
11	DINING ROOM	16	MUD ROOM	22	GENARAL STORAGE	●	FIRE EXTINGUISHER

+ CLINIC
G GALLERY
SEWAGE PIPE
CAMP 1 7.51 BENCHMARK
LIMIT OF CAMP PAD AREA



SURVEY BENCHMARK				
Point #	Description	Elevation	Northing	Easting
219	CP53 PLACED IRON BAR	7.670	6021746.3750	493454.3830
221	CAMP 1 PLACED IRON BAR	7.509	6021870.4560	493453.0390
225	OLD–ST PLACED IRON BAR	7.439	6021864.1670	493444.4930

PWGSC ANSI C

0 10 20mm 40 60 80 100 120 140 160 180 200mm

G:\TP0265(BEAR ISLAND)\E1(terrain)\PRELIMINARY\TP0654-E1-101-C7.dwg, 2010-12-20 12:04:16

Public Works and Government Services Canada / Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region

Client Client

Indian and Northern Affairs Canada / Affaires indiennes et du Nord Canada

Canada

NUNAVUT REGIONAL OFFICE
IQALUIT, NUNAVUT

Client Client

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. SITE PLANS AND TOPOGRAPHIC INFORMATION ARE BASED ON AIR PHOTOS AND SURVEY PROVIDED BY EARTH TECH AND INAC. CURRENT CONDITIONS MAY NOT BE EXACTLY AS SHOWN.
3. COORDINATE SYSTEM : CANADA/NAD83(SCRS)/UTM, zone 17N.

0 3m 6m 9m 12m 15m

SITE REMEDIATION SOLUTIONS
Biogenie, division of EnGlobe Corp.
4495, boulevard Wilfrid-Hamel, local 200
Quebec, (Quebec) CANADA G1P 2J7
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A	PRELIMINARY AS–BUILT	2010–12–10
revisions		date

project / projet

BEAR ISLAND REMEDIATION PROJECT

drawing / dessin

FACILITIES SITE PLAN

designed	N.FUGARU	conçu
date	DEC–2010	
drawn	N.FUGARU	dessiné
date	DEC–2010	
approved	J.BLANCHET, Eng.	approuvé
date	DEC–2010	

J–P PELLETIER
Project Manager / Administrateur de projets

project number / no. du projet: TP0654

drawing no. / no. du dessin: TP0654–E1–101–C7

E–DRM/GDD–E: TP0654

Appendix B

Summary of Environmental Results

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Table B1 - Analytical Summary of Data Gap and Additional Delineation Samples

Tier II Metals Guideline							**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**500**					**50**
Tier I Metals Guideline												**200**								
Hydrocarbon Guidelines																	**11000**	**20000**		
Sample ID	**Area No.**	**Associated Excavation ID**	**Sample Date**	**Sample Description**	**Maxxam Job No.**	**Maxxam Sample ID**	**Parameter**													
							Arsenic (mg/kg)	**Cadmium (mg/kg)**	**Chromium (mg/kg)**	**Cobalt (mg/kg)**	**Copper (mg/kg)**	**Lead (mg/kg)**	**Mercury (mg/kg)**	**Nickel (mg/kg)**	**Zinc (mg/kg)**	**F1 (mg/kg)**	**F2 (mg/kg)**	**F3 (mg/kg)**	**F4 (mg/kg)**	**Total PCBs (mg/kg)**
BAR02 - Soil	3	3-PHC-03	23-Aug-10	BAR-02 (spilt)	B045118	L50306	ND	ND	9	3	8	ND	ND	4	14	ND	350	28000	3800	ND
BAR03 - Soil	3	3-PHC-04	23-Aug-10	BAR-03 (spilt)	B045118	L50321	ND	0.6	13	3	13	63	0.04	7	49	ND	290	34000	4400	ND
BAR05 - Soil	5	-	23-Aug-10	BAR-05 (spilt)	B045118	L50324	ND	ND	14	4	9	ND	ND	7	15	ND	ND	15	ND	ND
BCA - BATT	3	3-DT2-03	28-Aug-10	Delineating Lead Battery	B046067	L55175	6	0.6	18	5	29	**5500**	ND	12	62	-	-	-	-	-
BCA - Debris - 1	3	3-DT2-02	28-Aug-10	Delineating Metal Debris (Zinc Pipe)	B046067	L55171	ND	0.8	4	4	**140**	26	0.07	16	ND	-	-	-	-	-
BCA - Debris - 2	3		28-Aug-10		B046067	L55172	ND	0.9	6	ND	69	21	0.03	12	46	-	-	-	-	-
BCA - Debris - 3	3		28-Aug-10		B046067	L55173	ND	ND	3	ND	34	ND	0.05	6	ND	-	-	-	-	-
BCA - Debris - 4	3		28-Aug-10		B046067	L55174	ND	0.7	4	ND	47	27	0.13	8	27	-	-	-	-	-
ND - TOW - 1	1	1-DT2-03	28-Aug-10	Delineating Antenna Tower (Zinc Pipe)	B046067	L55176	7	ND	11	4	10	7	ND	8	77	-	-	-	-	-
ND - TOW - 2	1		28-Aug-10		B046067	L55177	5	ND	17	5	11	18	ND	10	420	-	-	-	-	-
ND - TOW - 3	1		28-Aug-10		B046067	L55178	5	ND	18	5	11	9	ND	11	94	-	-	-	-	-
ND - TOW - 4	1		28-Aug-10		B046067	L55179	7	ND	18	5	9	12	ND	10	33	-	-	-	-	-
ND - TOW - 5	1		28-Aug-10		B046067	L55180	6	1.1	39	5	19	160	ND	7	**1300**	-	-	-	-	-
SD - TOW - 1	4	4-DT2-05	28-Aug-10	Delineating Antenna Tower (Zinc Pipe)	B046067	L55181	ND	ND	11	5	10	10	ND	6	190	-	-	-	-	-
SD - TOW - 2	4		28-Aug-10		B046067	L55182	ND	ND	13	6	14	7	0.02	8	140	-	-	-	-	-
SD - TOW - 3	4		28-Aug-10		B046067	L55183	ND	0.7	18	4	17	63	ND	6	**5800**	-	-	-	-	-
SD - TOW - 4	4		28-Aug-10		B046067	L55184	15	3	140	28	**140**	**970**	0.15	38	**5700**	-	-	-	-	-
SD - TOW - 5	4		28-Aug-10		B046067	L55185	18	**18**	180	21	**240**	**880**	0.12	85	**6500**	-	-	-	-	-
LP - 1	4	-	28-Aug-10	Delineating Lead-Wrapped Cable	B046067	L55136	ND	ND	14	6	12	9	ND	10	37	-	-	-	-	-
LP - 2	4	-	28-Aug-10		B046067	L55153	ND	ND	11	2	18	35	0.29	4	39	-	-	-	-	-
LP - 3	4	-	28-Aug-10		B046067	L55154	ND	ND	11	6	29	36	0.28	7	110	-	-	-	-	-
LP - 4	4	-	28-Aug-10		B046067	L55155	ND	ND	21	8	10	22	0.1	15	47	-	-	-	-	-
LP - 5	4	-	28-Aug-10		B046067	L55156	ND	ND	9	3	5	20	0.24	5	34	-	-	-	-	-
LP - 6	4	-	28-Aug-10		B046067	L55157	ND	ND	1	2	26	46	0.21	5	150	-	-	-	-	-
LP - 7	4	-	28-Aug-10		B046067	L55158	ND	ND	18	5	11	93	0.1	10	26	-	-	-	-	-
LP - 8	4	-	28-Aug-10		B046067	L55159	ND	0.5	5	ND	43	19	0.19	3	120	-	-	-	-	-
LP - 9	4	-	28-Aug-10		B046067	L55160	ND	ND	7	ND	68	54	0.17	5	97	-	-	-	-	-
LP - 10	4	4-DT1-01	28-Aug-10		B046067	L55161	ND	ND	23	7	15	**240**	0.02	17	24	-	-	-	-	-
LP - 11	4	-	28-Aug-10		B046067	L55162	ND	0.8	3	ND	11	83	0.24	2	120	-	-	-	-	-
LP - 12	4	-	28-Aug-10		B046067	L55163	6	0.7	20	7	94	61	0.13	14	91	-	-	-	-	-
LP - 13	4	-	28-Aug-10		B046067	L55164	ND	ND	25	6	26	120	ND	17	55	-	-	-	-	-
LP - 14	4	4-DT1-02	28-Aug-10		B046067	L55165	ND	1.7	14	4	56	**220**	0.15	10	310	-	-	-	-	-
LP - 15	4	-	28-Aug-10		B046067	L55166	ND	ND	4	ND	11	14	0.32	2	23	-	-	-	-	-
LP - 16	4	4-DT1-03	28-Aug-10		B046067	L55167	ND	ND	15	5	11	**490**	ND	8	28	-	-	-	-	-
LP - 17	4	-	28-Aug-10		B046067	L55168	ND	ND	16	5	11	9	ND	10	27	-	-	-	-	-
LP - 18	4	-	28-Aug-10		B046067	L55169	ND	ND	19	6	21	21	ND	14	25	-	-	-	-	-
BCA - 1	3	-	6-Sep-10	Delineating Barrel Cache Area	B047223	L59697	0.17	6	3	1	27	33	0.17	11	61	ND	ND	160	82	ND
BCA - 2	3	-	6-Sep-10		B047223	L59698	ND	ND	4	2	26	ND	0.09	6	ND	ND	ND	110	ND	ND
BCA - 3	3	-	6-Sep-10		B047223	L59699	ND	ND	3	ND	29	ND	0.1	2	16	ND	ND	76	ND	ND
BCA - 4	3	-	6-Sep-10		B047223	L59700	ND	ND	8	3	14	13	0.16	5	41	ND	ND	260	110	ND
BCA - 5	3	-	6-Sep-10		B047223	L59701	7	0.8	16	4	100	56	0.12	15	170	ND	250	2700	1700	ND
BCA - 6	3	-	6-Sep-10		B047223	L59702	ND	ND	12	4	27	ND	0.02	6	16	ND	ND	34	ND	ND
BCA - 7	3	-	6-Sep-10		B047223	L59703	6	ND	16	5	33	11	0.03	14	16	ND	320	2800	73	ND
BCA - 8	3	-	6-Sep-10		B047223	L59705	ND	0.5	8	ND	9	9	0.11	5	23	ND	ND	310	140	ND
BCA - 9	3	-	6-Sep-10		B047223	L59706	ND	0.9	2	ND	8	9	0.14	2	27	ND	ND	1200	760	ND
BCA - 10	3	3-PHC-02	6-Sep-10		B047223	L59709	7	ND	11	8	37	18	0.21	29	27	ND	7200	24000	790	ND
BCA - 11	3	-	6-Sep-10		B047223	L59711	ND	ND	6	ND	19	ND	0.06	4	10	ND	ND	260	100	ND
BCA - 12	3	3-DT2-05	6-Sep-10		B047223	L59712	25	ND	120	24	**150**	**620**	0.09	82	200	ND	ND	390	280	ND
BCA - 13	3	-	6-Sep-10		B047223	L59713	ND	0.5	15	5	17	45	0.12	16	270	ND	ND	540	280	ND
BCA - 14	3	-	6-Sep-10		B047223	L59714	8	ND	34	12	100	40	0.07	62	36	ND	260	1600	210	ND
BCA - 15	3	-	6-Sep-10		B047223	L59715	10	0.9	21	7	57	65	0.15	28	230	ND	ND	660	380	ND
BCA - 16	3	-	6-Sep-10		B047223	L59716	ND	ND	12	4	12	ND	0.03	7	27	ND	ND	200	110	ND
BCA - 17	3	3-DT2-06	6-Sep-10		B047223	L59717	26	0.8	31	15	**120**	33	0.16	49	48	ND	ND	340	ND	ND
BCA - 18	3	-	6-Sep-10		B047223	L59718	ND	ND	13	5	11	140	0.19	14	41	ND	110	750	ND	ND
BCA - 19	3	3-DT2-05	6-Sep-10		B047223	L59719	**41**	2.9	66	29	**140**	**280**	0.16	70	360	ND	510	2200	130	ND
BCA - 20	3	-	6-Sep-10		B047223	L59720	5	1	27	6	17	150	0.19	11	220	ND	ND	2700	840	ND
BCA - 21	3	3-DT2-04	6-Sep-10		B047223	L59721	15	ND	58	21	**170**	130	**6.3**	79	480	ND	1900	2600	54	ND
BCA - 22	3	-	6-Sep-10		B047223	L59722	ND	ND	13	4	7	6	ND	6	15	ND	ND	33	ND	ND
BCA - 23	3	-	6-Sep-10		B047223	L59723	ND	ND	14	4	7	35	0.07	7	42	ND	ND	150	19	ND
BCA - 24	3	-	6-Sep-10		B047223	L59724	ND	ND	14	4	7	8	0.04	7	21	ND	ND	210	34	ND
BCA - 25	3	-	6-Sep-10		B047223	L59725	ND	ND	14	5	12	7	ND	8	19	ND	ND	ND	ND	ND
BCA - 26	3	-	6-Sep-10		B047223	L59726	ND	ND	11	3	4	ND	ND	4	ND	ND	99	440	24	ND
BCA - 27	3	-	6-Sep-10		B047223	L59727	ND	ND	11	4	6	ND	ND	4	12	ND	ND	ND	ND	ND
BCA - 28	3	-	6-Sep-10		B047223	L59728	ND	ND	12	3	6	5	ND	4	17	ND	ND	27	ND	ND
BCA - 29	3	-	6-Sep-10		B047223	L59729	ND	ND	12	4	9	5	ND	6	14	ND	ND	62	20	ND
BCA - 30	3	-	6-Sep-10		B047223	L59730	ND	ND	12	4	8	ND	ND	4	15	ND	ND	110	34	ND
BCA - 31	3	-	6-Sep-10		B047223	L59731	ND	ND	12	4	9	10	ND	5	21	ND	ND	37	ND	ND
BCA - 32	3	-	6-Sep-10		B047223	L59732	ND	ND	11	3	6	6	ND	4	11	ND	ND	28	ND	ND
BCA - 33	3	-	6-Sep-10		B047223	L59733	ND	ND	3	ND	20	ND	0.09	2	ND	ND	ND	440	ND	ND
BCA - 34	3	-	6-Sep-10		B047223	L59735	ND	ND	18	4	9	ND	ND	9	19	ND	ND	34	ND	ND
BCA - 35	3	-	6-Sep-10		B047223	L59736	ND	ND	2	ND	13	ND	0.1	ND	15	ND	ND	520	220	ND
BCA - 36	3	-	6-Sep-10		B047223	L59737	ND	ND	3	ND	30	10	0.1	5	18	ND	ND	300	ND	ND
BCA - 37	3	-	6-Sep-10		B047223	L59738	ND	ND	15	4	49	15	0.03	16	28	ND	ND	170	ND	ND
BCA - 38	3	-	6-Sep-10		B047223	L59739	ND	ND	15	4	6	ND	ND	6	21	ND	160	870	510	ND
BCA - 8 @ 0.5m	3	-	6-Sep-10		B047223	L59743	ND	ND	11	3	6	ND	ND	4	10	ND	ND	ND	ND	ND
BCA - 14 @ 0.5m	3	-	6-Sep-10		B047223	L59744	ND	ND	11	4	8	ND	ND	4	12	ND	ND	ND	ND	ND
BCA - 14 @ 1m	3	-	6-Sep-10		B047223	L59747	6	ND	10	3	12	ND	ND	4	15	ND	ND	ND	ND	ND
BCA - 19 @ 0.5m	3	-	6-Sep-10		B047223	L59748	7	ND	12	5	9	ND	0.03	5	17	ND	130	160	ND	ND
BCA - 19 @ 1m	3	-	6-Sep-10		B047223	L59749	ND	ND	13	4	9	ND	ND	6	13	ND	53	61	ND	ND
BCA - 23 @ 0.5m	3	-	6-Sep-10		B047223	L59750	ND	ND	15	4	8	ND	ND	7	15	ND	ND	12	ND	ND
BCA - 26 @ 0.5m	3	-	6-Sep-10		B047223	L59751	ND	ND	11	3	7	ND	ND	4	12	ND	ND	ND	ND	ND

Table B2 - Analytical Summary of Area 1 Excavations

Tier II Metals Guideline							**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**500**				**50**
Tier I Metals Guideline												**200**							
Hydrocarbon Guidelines																	**11000**	**20000**		
Sample ID	**Area No.**	**Sample Date**	**Sample Description**	**Maxxam Job No.**	**Maxxam Sample ID**	**Comments**	**Parameter**												
							Arsenic (mg/kg)	**Cadmium (mg/kg)**	**Chromium (mg/kg)**	**Cobalt (mg/kg)**	**Copper (mg/kg)**	**Lead (mg/kg)**	**Mercury (mg/kg)**	**Nickel (mg/kg)**	**Zinc (mg/kg)**	**F1 (mg/kg)**	**F2 (mg/kg)**	**F3 (mg/kg)**	**F4 (mg/kg)**	**Total PCBs**
1-DT2-02-1	1	12-Sep-10	wall sample	B048848	L67122	Exceedances	7	1	9	3	71	97	0.25	8	**520**	-	-	-	-	-
1-DT2-02-2	1	12-Sep-10	wall sample	B048848	L67123	Re-Excavated to	ND	0.6	3	ND	36	23	0.19	2	**840**	-	-	-	-	-
1-DT2-02-3	1	12-Sep-10	wall sample	B048848	L67124	Bedrock	ND	ND	2	ND	92	ND	0.2	3	**650**	-	-	-	-	-
1-DT2-03-1	1	12-Sep-10	wall sample	B048848	L67125	Exceedances	ND	ND	12	4	8	ND	ND	5	30	-	-	-	-	-
1-DT2-03-2	1	12-Sep-10	wall sample	B048848	L67126	Re-Excavated to	5	ND	83	5	**220**	**340**	ND	8	**3700**	-	-	-	-	-
1-DT2-03-3	1	12-Sep-10	wall sample	B048848	L67127	Bedrock	5	ND	14	4	11	14	ND	6	94	-	-	-	-	-

Table B3 - Analytical Summary of Area 2 Excavations

Tier II Metals Guideline							30	5	250	50	100	500	2	100	500					50
Tier I Metals Guideline												200								
Hydrocarbon Guidelines																	11000	20000		
Sample ID	Area No.	Sample Date	Sample Description	Maxxam Job No.	Maxxam Sample ID	Comments	Parameter													
							Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	F1 (mg/kg)	F2 (mg/kg)	F3 (mg/kg)	F4 (mg/kg)	Total PCBs
2-DT2-01-1 @surface	2	11-Sep-10	wall sample	B048788	L66873	Met Criteria	9	3.7	34	6	91	25	0.02	31	110	-	-	-	-	-
2-DT2-01-1 @0.3m	2	11-Sep-10	wall sample	B048788	L66874		5	ND	15	4	17	12	ND	11	17	-	-	-	-	-
2-DT2-01-2 @surface	2	11-Sep-10	wall sample	B048788	L66875		5	ND	12	3	7	ND	ND	4	12	-	-	-	-	-
2-DT2-01-2 @0.3m	2	11-Sep-10	wall sample	B048788	L66876		ND	ND	15	3	8	ND	ND	4	12	-	-	-	-	-
2-DT2-01-3 @surface	2	11-Sep-10	wall sample	B048788	L66877		8	ND	19	7	53	28	0.03	15	490	-	-	-	-	-
2-DT2-01-3 @0.3m	2	11-Sep-10	wall sample	B048788	L66878		ND	ND	10	3	8	ND	ND	2	15	-	-	-	-	-
2-DT2-01-4 @surface	2	11-Sep-10	wall sample	B048788	L66880		ND	ND	13	3	8	ND	ND	4	10	-	-	-	-	-
2-DT2-01-4 @0.3m	2	11-Sep-10	wall sample	B048788	L66881		ND	ND	9	2	4	ND	ND	ND	ND	-	-	-	-	-
2-DT2-01-5	2	11-Sep-10	base sample	B048788	L66882		ND	0.8	15	3	15	ND	ND	6	51	-	-	-	-	-
2-DT2-02-1 @ surface	2	11-Sep-10	wall sample	B048788	L66885	Met Criteria	6	1	13	4	10	22	ND	6	23	-	-	-	-	-
2-DT2-02-1 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66886		ND	ND	11	3	7	ND	ND	4	11	-	-	-	-	-
2-DT2-02-2 @ surface	2	11-Sep-10	wall sample	B048788	L66887		5	ND	12	4	11	ND	ND	5	14	-	-	-	-	-
2-DT2-02-2 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66888		5	ND	12	3	9	ND	ND	5	11	-	-	-	-	-
2-DT2-02-3 @ surface	2	11-Sep-10	wall sample	B048788	L66889		ND	1.5	10	3	7	ND	ND	3	13	-	-	-	-	-
2-DT2-02-3 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66890		ND	2	13	4	13	ND	ND	6	12	-	-	-	-	-
2-DT2-02-4 @ surface	2	11-Sep-10	wall sample	B048788	L66891		ND	4	12	4	12	6	ND	6	19	-	-	-	-	-
2-DT2-02-4 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66893		ND	ND	12	3	12	ND	ND	5	10	-	-	-	-	-
2-DT2-02-5	2	11-Sep-10	base sample	B048788	L66894		ND	ND	13	4	13	ND	0.02	6	14	-	-	-	-	-
2-DT2-03-1 @ surface	2	11-Sep-10	wall sample	B048788	L66896	Met Criteria	5	ND	17	5	14	14	ND	8	20	-	-	-	-	-
2-DT2-03-1 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66897		5	ND	14	4	9	ND	ND	6	15	-	-	-	-	-
2-DT2-03-2 @ surface	2	11-Sep-10	wall sample	B048788	L66898		5	ND	21	4	14	51	ND	6	29	-	-	-	-	-
2-DT2-03-2 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66899		5	ND	11	3	7	ND	ND	3	10	-	-	-	-	-
2-DT2-03-3 @ surface	2	11-Sep-10	wall sample	B048788	L66900		7	ND	32	10	40	39	ND	19	44	-	-	-	-	-
2-DT2-03-3 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66901		ND	ND	12	3	11	ND	ND	5	11	-	-	-	-	-
2-DT2-03-4 @ surface	2	11-Sep-10	wall sample	B048788	L66902		6	ND	18	5	16	16	ND	11	29	-	-	-	-	-
2-DT2-03-4 @ 0.3m	2	11-Sep-10	wall sample	B048788	L66903		ND	ND	12	3	7	ND	ND	4	ND	-	-	-	-	-
2-DT2-03-5	2	11-Sep-10	base sample	B048788	L66904		ND	ND	13	4	9	ND	ND	5	14	-	-	-	-	-
2-PHC-01-1@SU	2	18-Sep-10	wall sample	B050178	HG2508	Met Criteria	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-1@1m	2	18-Sep-10	wall sample	B050178	HG2509		-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-2@SU	2	18-Sep-10	wall sample	B050178	HG2510		-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-2@1m	2	18-Sep-10	wall sample	B050178	HG2511		-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-3@SU	2	18-Sep-10	wall sample	B050178	HG2512		-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-3@1m	2	18-Sep-10	wall sample	B050178	HG2513		-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-4@SU	2	18-Sep-10	wall sample	B050178	HG2514		-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-4@1m	2	18-Sep-10	wall sample	B050178	HG2515		-	-	-	-	-	-	-	-	-	-	ND	ND	ND	-
2-PHC-01-5	2	18-Sep-10	base sample	B050178	HG2516		-	-	-	-	-	-	-	-	-	-	28	29	ND	-
2-PHC-02-1@Surface	2	15-Sep-10	wall sample	B049616	HF4045	Met Criteria	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
2-PHC-02-1@1M	2	15-Sep-10	wall sample	B049616	HF4046		-	-	-	-	-	-	-	-	-	ND	520	690	ND	-
2-PHC-02-2@Surface	2	15-Sep-10	wall sample	B049616	HF4047		-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
2-PHC-02-2@1M	2	15-Sep-10	wall sample	B049616	HF4048		-	-	-	-	-	-	-	-	-	ND	71	83	ND	-
2-PHC-02-3@Surface	2	15-Sep-10	wall sample	B049616	HF4049		-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
2-PHC-02-3@1M	2	15-Sep-10	wall sample	B049616	HF4050		-	-	-	-	-	-	-	-	-	ND	140	250	ND	-
2-PHC-02-4@Surface	2	15-Sep-10	wall sample	B049616	HF4051		-	-	-	-	-	-	-	-	-	ND	26	100	ND	-
2-PHC-02-4@1M	2	15-Sep-10	wall sample	B049616	HF4052		-	-	-	-	-	-	-	-	-	ND	2300	1400	ND	-
2-PHC-02-5@Surface	2	15-Sep-10	wall sample	B049616	HF4053		-	-	-	-	-	-	-	-	-	ND	ND	ND	26	-
2-PHC-02-5@1M	2	15-Sep-10	wall sample	B049616	HF4054		-	-	-	-	-	-	-	-	-	ND	2100	1300	ND	-
2-PHC-02-6@Surface	2	15-Sep-10	wall sample	B049616	HF4055		-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
2-PHC-02-6@1M	2	15-Sep-10	wall sample	B049616	HF4056		-	-	-	-	-	-	-	-	-	ND	140	280	ND	-
2-PHC-02-7@Surface	2	15-Sep-10	wall sample	B049616	HF4057		-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
2-PHC-02-7@1M	2	15-Sep-10	wall sample	B049616	HF4058		-	-	-	-	-	-	-	-	-	ND	ND	21	ND	-
2-PHC-02-8@Surface	2	15-Sep-10	wall sample	B049616	HF4059		-	-	-	-	-	-	-	-	-	ND	ND	ND	13	-
2-PHC-02-8@1M	2	15-Sep-10	wall sample	B049616	HF4060		-	-	-	-	-	-	-	-	-	ND	ND	270	ND	-

Table B4 - Analytical Summary of Area 3 Excavations

Tier II Metals Guideline							30	5	250	50	100	500	2	100	500					50
Tier I Metals Guideline												200								
Hydrocarbon Guidelines																	11000	20000		
Sample ID	Area No.	Sample Date	Sample Description	Maxxam Job No.	Maxxam Sample ID	Comments	Parameter													
							Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	F1 (mg/kg)	F2 (mg/kg)	F3 (mg/kg)	F4 (mg/kg)	Total PCBs
3-DT2-01-1 @surface	3	10-Sep-10	wall sample	B048788	L66801	Met Criteria	5	ND	13	3	7	ND	0.03	5	17	-	-	-	-	-
3-DT2-01-1 @0.3m	3	10-Sep-10	wall sample	B048788	L66815		5	ND	13	3	6	ND	0.02	5	13	-	-	-	-	-
3-DT2-01-2 @surface	3	10-Sep-10	wall sample	B048788	L66816		ND	ND	16	4	10	ND	0.03	7	18	-	-	-	-	-
3-DT2-01-2 @0.3m	3	10-Sep-10	wall sample	B048788	L66817		6	ND	11	3	6	ND	ND	2	ND	-	-	-	-	-
3-DT2-01-3 @surface	3	10-Sep-10	wall sample	B048788	L66818		ND	ND	15	4	7	ND	0.03	6	15	-	-	-	-	-
3-DT2-01-3 @0.3m	3	10-Sep-10	wall sample	B048788	L66819		ND	ND	13	4	6	ND	ND	4	11	-	-	-	-	-
3-DT2-01-4 @surface	3	10-Sep-10	wall sample	B048788	L66820		ND	ND	3	ND	5	ND	0.16	1	43	-	-	-	-	-
3-DT2-01-4 @0.3m	3	10-Sep-10	wall sample	B048788	L66821		ND	ND	12	3	6	ND	ND	3	11	-	-	-	-	-
3-DT2-01-5	3	10-Sep-10	base sample	B048788	L66822		ND	ND	13	4	8	ND	ND	9	14	-	-	-	-	-
3-DT2-02-1	3	14-Sep-10	wall sample	B049176	L68895	Exceedance Re-Excavated	ND	0.7	8	ND	340	6	0.17	11	ND	-	-	-	-	-
3-DT2-02-2	3	14-Sep-10	wall sample	B049176	L68896		ND	ND	12	3	16	ND	0.02	5	13	-	-	-	-	-
3-DT2-02-3	3	14-Sep-10	wall sample	B049176	L68897		6	ND	12	4	9	5	ND	6	11	-	-	-	-	-
3-DT2-02-4	3	14-Sep-10	base sample	B049176	L68898		ND	ND	13	4	7	ND	ND	7	12	-	-	-	-	-
3-DT2-03-1	3	23-Sep-10	wall sample	B049176	L68899	Exceedances Re-Excavated to Bedrock	ND	ND	13	4	11	890	ND	7	24	-	-	-	-	-
3-DT2-03-2	3	23-Sep-10	wall sample	B049176	L68900		ND	ND	12	3	10	74	ND	5	19	-	-	-	-	-
3-DT2-03-3	3	23-Sep-10	wall sample	B049176	L68901		ND	ND	15	3	17	150	ND	5	30	-	-	-	-	-
3-DT2-03-4	3	23-Sep-10	wall sample	B049176	L68902		ND	1	14	4	37	390	ND	6	110	-	-	-	-	-
3-DT2-03-5	3	23-Sep-10	base sample	B049176	L68903		ND	ND	14	3	10	7500	ND	7	21	-	-	-	-	-
3-DT2-03-6	3	23-Sep-10	wall sample	B050890	L76167		ND	ND	10	3	6	ND	0.02	3	10	-	-	-	-	-
3-DT2-03-7	3	23-Sep-10	wall sample	B050890	L76172		ND	ND	12	3	6	ND	ND	3	11	-	-	-	-	-
3-DT2-03-8	3	23-Sep-10	base sample	B050890	L76173		ND	ND	11	3	7	700	ND	4	13	-	-	-	-	-
3-DT2-04-1	3	19-Sep-10	wall sample	B050178	L73094	Met Criteria	ND	ND	12	4	5	ND	ND	4	12	-	-	-	-	-
3-DT2-04-2	3	19-Sep-10	wall sample	B050178	L73108		ND	ND	12	4	6	ND	ND	5	12	-	-	-	-	-
3-DT2-04-3	3	19-Sep-10	wall sample	B050178	L73109		ND	ND	13	3	6	ND	ND	5	11	-	-	-	-	-
3-DT2-04-4	3	19-Sep-10	wall sample	B050178	L73110		ND	ND	12	3	5	ND	ND	4	ND	-	-	-	-	-
3-DT2-04-5	3	19-Sep-10	wall sample	B050178	L73111		ND	ND	9	2	9	ND	ND	2	ND	-	-	-	-	-
3-DT2-04-6	3	19-Sep-10	wall sample	B050178	L73112		ND	ND	12	3	6	ND	ND	4	11	-	-	-	-	-
3-DT2-04-7	3	19-Sep-10	wall sample	B050178	L73113		ND	ND	13	4	8	ND	ND	5	12	-	-	-	-	-
3-DT2-04-8	3	19-Sep-10	wall sample	B050178	L73114		ND	ND	13	3	5	ND	ND	5	11	-	-	-	-	-
3-DT2-04-9	3	19-Sep-10	base sample	B050178	L73115		ND	ND	18	6	19	13	ND	11	20	-	-	-	-	-
3-DT2-04-10	3	19-Sep-10	base sample	B050178	L73116		ND	ND	12	3	4	ND	ND	4	12	-	-	-	-	-
3-DT2-04-11	3	19-Sep-10	base sample	B050178	L73117		ND	ND	14	4	8	ND	ND	6	13	-	-	-	-	-
3-DT2-04-12	3	19-Sep-10	base sample	B050178	L73118		ND	ND	14	4	7	ND	ND	5	12	-	-	-	-	-
3-DT2-05-1	3	20-Sep-10	wall sample	B050178	L73196	Met Criteria	6	ND	17	5	27	8	ND	14	15	-	-	-	-	-
3-DT2-05-2	3	20-Sep-10	wall sample	B050178	L73203		ND	ND	16	5	6	ND	ND	6	15	-	-	-	-	-
3-DT2-05-3	3	20-Sep-10	wall sample	B050178	L73204		ND	ND	14	4	8	ND	ND	6	23	-	-	-	-	-
3-DT2-05-4	3	20-Sep-10	wall sample	B050178	L73205		ND	ND	15	5	11	ND	ND	8	15	-	-	-	-	-
3-DT2-05-5	3	20-Sep-10	wall sample	B050178	L73206		8	ND	25	8	29	10	ND	21	49	-	-	-	-	-
3-DT2-05-6	3	20-Sep-10	wall sample	B050178	L73207		ND	ND	14	4	10	ND	ND	7	27	-	-	-	-	-
3-DT2-05-7	3	20-Sep-10	wall sample	B050178	L73208		ND	ND	12	4	6	ND	ND	5	54	-	-	-	-	-
3-DT2-05-8	3	20-Sep-10	wall sample	B050178	L73209		ND	ND	12	4	7	ND	ND	4	11	-	-	-	-	-
3-DT2-05-9	3	20-Sep-10	base sample	B050178	L73210		ND	ND	12	4	9	ND	ND	6	17	-	-	-	-	-
3-DT2-05-10	3	20-Sep-10	base sample	B050178	L73211		ND	ND	13	4	6	ND	ND	5	17	-	-	-	-	-
3-DT2-05-11	3	20-Sep-10	base sample	B050178	L73212		ND	ND	15	5	14	26	ND	7	21	-	-	-	-	-
3-DT2-06-1	3	20-Sep-10	wall sample	B050178	L73215	Met Criteria	18	ND	18	8	26	9	ND	16	17	-	-	-	-	-
3-DT2-06-2	3	20-Sep-10	wall sample	B050178	L73216		ND	ND	14	4	7	ND	ND	6	14	-	-	-	-	-
3-DT2-06-3	3	20-Sep-10	wall sample	B050178	L73217		ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-
3-PHC-01-1	3	15-Sep-10	wall sample	B049616	HF4035	Exceedance Re-Graded	-	-	-	-	-	-	-	-	-	ND	ND	440	75	-
3-PHC-01-2	3	15-Sep-10	wall sample	B049616	HF4036		-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
3-PHC-01-3	3	15-Sep-10	wall sample	B049616	HF4037		-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
3-PHC-01-4	3	15-Sep-10	wall sample	B049616	HF4038		-	-	-	-	-	-	-	-	-	ND	ND	46	ND	-
3-PHC-01-5	3	15-Sep-10	wall sample	B049616	HF4039		-	-	-	-	-	-	-	-	-	ND	ND	280	45	-
3-PHC-01-6	3	15-Sep-10	wall sample	B049616	HF4040		-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
3-PHC-01-7	3	15-Sep-10	wall sample	B049616	HF4041		-	-	-	-	-	-	-	-	-	ND	530	23000	2300	-
3-PHC-01-8	3	15-Sep-10	base sample	B049616	HF4042		-	-	-	-	-	-	-	-	-	ND	14	770	110	-
3-PHC-01-9	3	15-Sep-10	base sample	B049616	HF4043		-	-	-	-	-	-	-	-	-	ND	14	840	230	-

Table B5 - Analytical Summary of Area 4 Excavations

Tier II Metals Guideline							30	5	250	50	100	500	2	100	500					50
Tier I Metals Guideline												200								
Hydrocarbon Guidelines																	11000	20000		
Sample ID	Area No.	Sample Date	Sample Description	Maxxam Job No.	Maxxam Sample ID	Comments	Parameter													
							Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	F1 (mg/kg)	F2 (mg/kg)	F3 (mg/kg)	F4 (mg/kg)	Total PCBs
4-DT2-01-1 @ surface	4	13-Sep-10	wall sample	B048845	L67102	Met Criteria	ND	ND	14	5	28	ND	ND	8	42	-	-	-	-	-
4-DT2-01-1 @ 0.3m	4	13-Sep-10	wall sample	B048845	L67103		ND	ND	24	3	7	24	ND	4	49	-	-	-	-	-
4-DT2-01-2 @ surface	4	13-Sep-10	wall sample	B048845	L67104		ND	ND	16	4	11	ND	ND	7	24	-	-	-	-	-
4-DT2-01-2 @ 0.3m	4	13-Sep-10	wall sample	B048845	L67105		ND	ND	17	5	10	ND	ND	9	18	-	-	-	-	-
4-DT2-01-3 @ surface	4	13-Sep-10	wall sample	B048845	L67106		ND	ND	18	5	10	ND	ND	9	18	-	-	-	-	-
4-DT2-01-3 @ 0.3m	4	13-Sep-10	wall sample	B048845	L67107		ND	ND	14	4	9	ND	ND	7	15	-	-	-	-	-
4-DT2-01-4 @ surface	4	13-Sep-10	wall sample	B048845	L67108		ND	ND	17	4	10	ND	ND	8	19	-	-	-	-	-
4-DT2-01-4 @ 0.3m	4	13-Sep-10	wall sample	B048845	L67109		7	ND	6	4	7	7	ND	5	59	-	-	-	-	-
4-DT2-01-5	4	13-Sep-10	base sample	B048845	L67110		ND	ND	18	4	10	ND	ND	8	24	-	-	-	-	-
4-DT2-02-1	4	13-Sep-10	wall sample	B048845	L67096	Exceedances Re-Excavated to Bedrock	ND	**7**	18	5	**1400**	**240**	0.32	11	210	-	-	-	-	-
4-DT2-02-2	4	13-Sep-10	wall sample	B048845	L67097		ND	0.5	15	5	45	18	0.11	9	130	-	-	-	-	-
4-DT2-02-3	4	13-Sep-10	wall sample	B048845	L67098		ND	ND	18	5	17	33	0.12	10	120	-	-	-	-	-
4-DT2-02-4	4	13-Sep-10	wall sample	B048845	L67099		ND	ND	15	6	16	12	0.14	9	57	-	-	-	-	-
4-DT2-02-5	4	13-Sep-10	base sample	B048845	L67100		ND	ND	15	6	19	15	0.21	9	50	-	-	-	-	-
4-DT2-02-6	4	23-Sep-10	wall sample	B050890	L76175		ND	ND	14	6	13	5	0.05	9	29	-	-	-	-	-
4-DT2-02-7	4	23-Sep-10	wall sample	B050890	L76176		ND	ND	14	5	41	21	0.21	7	56	-	-	-	-	-
4-DT2-02-8	4	23-Sep-10	wall sample	B050890	L76177		ND	0.6	16	7	55	11	0.08	11	59	-	-	-	-	-
4-DT2-02-9	4	23-Sep-10	base sample	B050890	L76178		ND	1.9	17	5	**360**	39	0.12	9	130	-	-	-	-	-
4-DT2-03-1 @ surface	4	14-Sep-10	wall sample	B049176	L68863	Tier II Exceedance was Re-Excavated. Tier I Exceedances were Re-Graded	ND	ND	21	5	**110**	**380**	ND	11	240	-	-	-	-	-
4-DT2-03-1 @ 0.3m	4	14-Sep-10	wall sample	B049176	L68870		ND	ND	19	4	29	**250**	ND	9	150	-	-	-	-	-
4-DT2-03-2 @ surface	4	14-Sep-10	wall sample	B049176	L68871		ND	ND	18	5	10	28	ND	9	40	-	-	-	-	-
4-DT2-03-2 @ 0.3m	4	14-Sep-10	wall sample	B049176	L68872		ND	ND	N	4	9	8	ND	8	19	-	-	-	-	-
4-DT2-03-3 @ surface	4	14-Sep-10	wall sample	B049176	L68873		ND	ND	N	4	10	ND	ND	8	18	-	-	-	-	-
4-DT2-03-3 @ 0.3m	4	14-Sep-10	wall sample	B049176	L68874		ND	ND	N	4	8	ND	ND	6	13	-	-	-	-	-
4-DT2-03-4 @ surface	4	14-Sep-10	wall sample	B049176	L68875		ND	ND	16	5	46	**210**	ND	12	77	-	-	-	-	-
4-DT2-03-4 @ 0.3m	4	14-Sep-10	wall sample	B049176	L68876		ND	ND	18	5	31	**320**	ND	12	130	-	-	-	-	-
4-DT2-03-5 @ surface	4	14-Sep-10	wall sample	B049176	L68877		ND	ND	18	4	10	12	ND	9	34	-	-	-	-	-
4-DT2-03-5 @ 0.3m	4	14-Sep-10	wall sample	B049176	L68878		ND	ND	17	5	11	ND	ND	9	17	-	-	-	-	-
4-DT2-03-6 @ surface	4	14-Sep-10	wall sample	B049176	L68879		ND	ND	15	4	11	6	ND	8	18	-	-	-	-	-
4-DT2-03-6 @ 0.3m	4	14-Sep-10	wall sample	B049176	L68880		ND	ND	16	4	9	ND	ND	9	16	-	-	-	-	-
4-DT2-03-7	4	14-Sep-10	base sample	B049176	L68881		ND	ND	12	4	10	ND	ND	6	15	-	-	-	-	-
4-DT2-03-8	4	14-Sep-10	base sample	B049176	L68882		ND	ND	14	4	11	31	ND	7	26	-	-	-	-	-
4-DT2-04-1 @ surface	4	11-Sep-10	wall sample	B048788	L66824	Tier II Exceedances were Re-Excavated. Tier I Exceedances were Re-Graded	ND	ND	14	4	16	19	0.05	7	36	-	-	-	-	-
4-DT2-04-1 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66825		ND	0.7	14	5	17	61	0.07	6	59	-	-	-	-	-
4-DT2-04-2	4	11-Sep-10	wall sample	B048788	L66827		ND	ND	14	4	10	**250**	0.02	7	27	-	-	-	-	-
4-DT2-04-3 @ surface	4	11-Sep-10	wall sample	B048788	L66828		ND	ND	18	5	16	27	0.06	9	44	-	-	-	-	-
4-DT2-04-3 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66829		ND	2.2	14	5	21	46	0.07	6	41	-	-	-	-	-
4-DT2-04-4	4	11-Sep-10	base sample	B048788	L66830		ND	0.9	17	5	86	**250**	0.04	8	120	-	-	-	-	-
4-DT2-04-5 @ surface	4	11-Sep-10	wall sample	B048788	L66831		ND	ND	16	5	48	14	0.04	8	84	-	-	-	-	-
4-DT2-04-5 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66832		ND	ND	15	5	9	18	0.03	7	28	-	-	-	-	-
4-DT2-04-6	4	11-Sep-10	base sample	B048788	L66833		ND	ND	14	5	11	9	ND	7	23	-	-	-	-	-
4-DT2-04-7 @ surface	4	11-Sep-10	wall sample	B048788	L66834		8	**6.8**	33	7	89	160	ND	33	**1800**	-	-	-	-	-
4-DT2-04-7 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66835		ND	ND	13	4	14	7	ND	6	30	-	-	-	-	-
4-DT2-04-8	4	11-Sep-10	base sample	B048788	L66836		ND	ND	14	5	10	ND	ND	7	21	-	-	-	-	-
4-DT2-04-9	4	11-Sep-10	base sample	B048788	L66839		ND	ND	12	4	9	ND	ND	6	16	-	-	-	-	-
4-DT2-04-10 @ surface	4	11-Sep-10	wall sample	B048788	L66840		ND	ND	15	4	10	7	0.03	7	21	-	-	-	-	-
4-DT2-04-10 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66841		ND	ND	12	4	9	ND	ND	5	15	-	-	-	-	-
4-DT2-04-11 @ surface	4	11-Sep-10	wall sample	B048788	L66842		ND	ND	17	5	10	9	ND	9	20	-	-	-	-	-
4-DT2-04-11 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66843		ND	ND	17	6	9	ND	ND	10	19	-	-	-	-	-
4-DT2-04-12	4	11-Sep-10	base sample	B048788	L66844		ND	ND	12	4	8	ND	ND	5	16	-	-	-	-	-
4-DT2-04-13	4	11-Sep-10	base sample	B048788	L66845		ND	ND	11	4	8	11	ND	6	16	-	-	-	-	-
4-DT2-04-14 @ surface	4	11-Sep-10	wall sample	B048788	L66846		ND	1.5	17	5	64	73	0.03	7	65	-	-	-	-	-
4-DT2-04-14 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66847		ND	ND	13	5	11	8	ND	7	20	-	-	-	-	-
4-DT2-04-15 @ surface	4	11-Sep-10	wall sample	B048788	L66848		ND	ND	14	4	11	130	ND	7	22	-	-	-	-	-
4-DT2-04-15 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66849		ND	ND	13	5	9	ND	ND	7	15	-	-	-	-	-
4-DT2-04-16 @ surface	4	11-Sep-10	wall sample	B048788	L66859		ND	ND	15	5	11	60	0.03	7	26	-	-	-	-	-
4-DT2-04-16 @ 0.3m	4	11-Sep-10	wall sample	B048788	L66860		ND	ND	15	5	8	11	ND	7	18	-	-	-	-	-
4-DT2-04-17	4	23-Sep-10	wall sample	B050890	L76179		5	ND	17	5	13	10	0.02	7	24	-	-	-	-	-
4-DT2-04-18	4	23-Sep-10	wall sample	B050890	L76180		ND	ND	13	4	11	7	ND	5	18	-	-	-	-	-
4-DT2-04-19	4	23-Sep-10	base sample	B050890	L76181		ND	ND	14	4	9	ND	ND	6	16	-	-	-	-	-
4-DT2-05-1	4	14-Sep-10	wall sample	B049176	L69884	Exceedances Re-Excavated	ND	ND	15	6	11	5	ND	9	46	-	-	-	-	-
4-DT2-05-2	4	14-Sep-10	wall sample	B049176	L69885		ND	ND	13	5	10	ND	ND	7	66	-	-	-	-	-
4-DT2-05-3	4	14-Sep-10	wall sample	B049176	L69886		ND	ND	14	5	10	9	0.02	8	200	-	-	-	-	-
4-DT2-05-4	4	14-Sep-10	wall sample	B049176	L69887		ND	ND	14	5	9	ND	ND	8	52	-	-	-	-	-
4-DT2-05-5	4	14-Sep-10	wall sample	B049176	L69888		ND	0.6	19	6	12	22	0.03	9	**1200**	-	-	-	-	-
4-DT2-05-6	4	14-Sep-10	wall sample	B049176	L69889		ND	**6.5**	30	5	12	99	0.03	8	**730**	-	-	-	-	-
4-DT2-05-7	4	14-Sep-10	wall sample	B049176	L69890		ND	ND	12	5	11	ND	ND	7	170	-	-	-	-	-
4-DT2-05-8	4	14-Sep-10	base sample	B049176	L69891		6	ND	67	10	22	6	0.03	37	40	-	-	-	-	-
4-DT2-05-9	4	14-Sep-10	base sample	B049176	L69892		ND	ND	14	5	12	ND	ND	9	20	-	-	-	-	-
4-DT2-05-10	4	14-Sep-10	base sample	B049176	L69893		ND	ND	12	3	11	6	0.09	6	31	-	-	-	-	-
4-DT2-05-11	4	23-Sep-10	wall sample	B050890	L76182		ND	ND	15	5	8	ND	ND	8	21	-	-	-	-	-
4-DT2-05-12	4	23-Sep-10	wall sample	B050890	L76183		ND	ND	14	6	11	ND	ND	8	24	-	-	-	-	-
4-DT2-05-13	4	23-Sep-10	wall sample	B050890	L76184		ND	ND	16	7	10	6	ND	9	22	-	-	-	-	-
4-DT2-05-14	4	23-Sep-10	base sample	B050890	L76185		ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-
4-DT2-05-15	4	23-Sep-10	base sample	B050890	L76186		ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-

Table B6 - Analytical Summary of Area 5 Excavations

Tier II Metals Guideline							**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**500**					**50**
Tier I Metals Guideline												**200**								
Hydrocarbon Guidelines																	**11000**	**20000**		
Sample ID	**Area No.**	**Sample Date**	**Sample Description**	**Maxxam Job No.**	**Maxxam Sample ID**	**Comments**	**Parameter**													
							Arsenic (mg/kg)	**Cadmium (mg/kg)**	**Chromium (mg/kg)**	**Cobalt (mg/kg)**	**Copper (mg/kg)**	**Lead (mg/kg)**	**Mercury (mg/kg)**	**Nickel (mg/kg)**	**Zinc (mg/kg)**	**F1 (mg/kg)**	**F2 (mg/kg)**	**F3 (mg/kg)**	**F4 (mg/kg)**	**Total PCBs**
5-PHC-01-1	5	14-Sep-10	wall sample	B049176	HF0274	Met Criteria	-	-	-	-	-	-	-	-	-	ND	15	29	ND	-
5-PHC-01-2	5	14-Sep-10	wall sample	B049176	HF0275		-	-	-	-	-	-	-	-	-	ND	ND	65	26	-
5-PHC-01-3	5	14-Sep-10	wall sample	B049176	HF0276		-	-	-	-	-	-	-	-	-	ND	14	52	ND	-
5-PHC-01-4	5	14-Sep-10	wall sample	B049176	HF0277		-	-	-	-	-	-	-	-	-	ND	150	200	ND	-
5-PHC-01-5	5	14-Sep-10	base sample	B049176	HF0278		-	-	-	-	-	-	-	-	-	ND	15	21	ND	-

Table B7 - Analytical Summary of Existing Landfill Excavation

Tier II Metals Guideline							**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**500**					**50**
Tier I Metals Guideline												**200**								
Hydrocarbon Guidelines																	**11000**	**20000**		
Sample ID	**Area No.**	**Sample Date**	**Sample Description**	**Maxxam Job No.**	**Maxxam Sample ID**	**Comments**	**Parameter**													
							Arsenic (mg/kg)	**Cadmium (mg/kg)**	**Chromium (mg/kg)**	**Cobalt (mg/kg)**	**Copper (mg/kg)**	**Lead (mg/kg)**	**Mercury (mg/kg)**	**Nickel (mg/kg)**	**Zinc (mg/kg)**	**F1 (mg/kg)**	**F2 (mg/kg)**	**F3 (mg/kg)**	**F4 (mg/kg)**	**Total PCBs (mg/kg)**
ELA - 3	4	7-Sep-10	base sample	B047990	L63062	Exceedance Re-Excavated	ND	ND	15	4	6	ND	0.02	6	16	ND	ND	ND	ND	ND
ELA - 4 @ 0.5m	4	7-Sep-10	wall sample	B047990	L63064		ND	ND	16	4	7	ND	ND	7	15	ND	ND	ND	ND	ND
ELA - 5	4	7-Sep-10	base sample	B047990	L63066		ND	ND	20	5	11	9	0.02	11	43	ND	ND	ND	ND	ND
ELA - 7 @ surface	4	7-Sep-10	wall sample	B047990	L63068		ND	0.8	8	4	11	48	0.24	5	43	ND	ND	90	99	ND
ELA - 7 @ 1.0m	4	7-Sep-10	wall sample	B047990	L63070		ND	ND	10	3	8	ND	ND	4	15	ND	ND	ND	ND	ND
ELA - 9	4	7-Sep-10	base sample	B047990	L63702		ND	ND	16	5	7	ND	ND	8	22	ND	ND	ND	ND	ND
ELA - 10 @ 0.5m	4	7-Sep-10	wall sample	B047990	L63074		ND	ND	12	4	9	ND	ND	6	20	ND	ND	ND	ND	ND
ELA - 11	4	7-Sep-10	base sample	B047990	L63076		ND	1.5	19	5	**110**	28	0.1	17	120	ND	ND	570	49	ND
ELA - 13 @ surface	4	7-Sep-10	wall sample	B047990	L63078		ND	ND	3	ND	5	ND	0.23	2	48	ND	ND	380	210	ND
ELA - 13 @ 1.0m	4	7-Sep-10	wall sample	B047990	L63080		ND	ND	10	3	8	ND	ND	5	15	ND	ND	ND	ND	ND
ELA - 14 @ 0.5m	4	7-Sep-10	wall sample	B047990	L63082		ND	ND	26	6	17	ND	ND	9	21	ND	ND	ND	ND	ND
Stockpile - 1 - 1	4	8-Sep-10	discrete	B047990	L63085	Met Criteria	ND	ND	16	5	9	ND	ND	9	22	ND	ND	14	ND	ND
Stockpile - 1 - 2	4	8-Sep-10		B047990	L63086		ND	ND	14	4	8	ND	ND	6	21	ND	ND	13	ND	ND
Stockpile - 1 - 3	4	8-Sep-10		B047990	L63087		ND	ND	15	5	7	ND	ND	7	23	ND	ND	16	ND	ND
Stockpile - 1 - 4	4	8-Sep-10		B047990	L63088		ND	ND	17	5	8	ND	ND	8	25	ND	ND	20	11	ND
Stockpile - 1 - 5	4	8-Sep-10		B047990	L63089		ND	ND	16	4	9	5	ND	7	21	ND	ND	39	ND	ND
Stockpile - 1 - comp	4	8-Sep-10	composite	B047990	L63090		ND	ND	22	6	11	ND	ND	11	32	ND	ND	18	ND	ND
Stockpile - 2 - 1	4	8-Sep-10	discrete	B047990	L63091	Met Criteria	ND	ND	14	4	9	ND	ND	7	29	ND	ND	43	46	ND
Stockpile - 2 - 2	4	8-Sep-10		B047990	L63092		ND	ND	18	5	14	37	ND	9	37	ND	ND	26	32	ND
Stockpile - 2 - 3	4	8-Sep-10		B047990	L63093		ND	1.5	19	7	26	44	0.05	15	120	ND	ND	70	130	0.97
Stockpile - 2 - 4	4	8-Sep-10		B047990	L63094		ND	ND	17	5	10	24	ND	9	26	ND	ND	25	33	ND
Stockpile - 2 - 5	4	8-Sep-10		B047990	L63095		ND	ND	16	5	11	78	ND	8	28	ND	ND	19	19	ND
Stockpile - 2 - comp	4	8-Sep-10	composite	B047990	L63096		ND	ND	18	5	12	19	ND	9	35	ND	ND	55	41	ND
Stockpile - 3 - 1	4	8-Sep-10	discrete	B047990	L63097	Containerized	ND	ND	20	5	22	33	ND	12	120	ND	ND	40	40	ND
Stockpile - 3 - 2	4	8-Sep-10		B047990	L63098		ND	ND	19	6	50	52	ND	11	100	ND	ND	58	47	ND
Stockpile - 3 - 3	4	8-Sep-10		B047990	L63099		ND	0.7	23	7	34	170	ND	15	120	ND	ND	130	110	ND
Stockpile - 3 - 4	4	8-Sep-10		B047990	L63100		ND	ND	18	5	15	38	ND	10	62	ND	ND	32	28	ND
Stockpile - 3 - 5	4	8-Sep-10		B047990	L63101		ND	ND	19	6	29	140	ND	14	61	ND	15	100	62	ND
Stockpile - 3 - comp	4	8-Sep-10	composite	B047990	L63102		7	ND	22	6	**220**	**330**	ND	13	71	ND	ND	39	32	ND
Stockpile 4-1	4	19-Sep-10	discrete	B050178	L73169	Containerized	5	ND	25	10	**1500**	180	0.09	26	270	ND	78	440	550	ND
Stockpile 4-2	4	19-Sep-10		B050178	L73171		8	ND	29	9	**260**	**300**	0.09	24	230	ND	120	480	310	0.1
Stockpile 4-3	4	19-Sep-10		B050178	L73172		8	ND	27	10	**200**	**800**	0.09	29	**570**	ND	170	600	420	0.15
Stockpile 4-4	4	19-Sep-10		B050178	L73173		11	ND	32	11	**430**	**520**	0.17	33	440	ND	260	380	260	ND
Stockpile 4-5	4	19-Sep-10		B050178	L73174		8	ND	29	10	**1200**	**630**	0.06	33	420	ND	80	300	190	ND
Stockpile 4-composite	4	19-Sep-10	composite	B050178	L73175		11	ND	36	12	**150**	**690**	0.07	37	**510**	ND	79	340	220	0.13
Stockpile 5-1	4	19-Sep-10	discrete	B050178	L73176	Containerized	13	0.8	28	10	**150**	**560**	0.07	25	340	ND	53	350	240	0.13
Stockpile 5-2	4	19-Sep-10		B050178	L73177		9	0.8	33	10	**150**	**1400**	0.06	41	370	ND	160	390	210	0.11
Stockpile 5-3	4	19-Sep-10		B050178	L73178		13	ND	32	10	**130**	**610**	0.05	29	280	ND	64	280	180	ND
Stockpile 5-4	4	19-Sep-10		B050178	L73179		ND	ND	17	5	17	20	ND	7	40	ND	12	82	57	ND
Stockpile 5-5	4	19-Sep-10		B050178	L73180		12	ND	26	9	**110**	**390**	0.04	24	210	ND	85	350	340	ND
Stockpile 5-composite	4	19-Sep-10	composite	B050178	L73181		7	0.9	23	7	87	**310**	0.05	18	220	ND	83	260	350	ND
Stockpile 6-1	4	19-Sep-10	discrete	B050178	L73183	Containerized	18	ND	42	17	**410**	**1600**	0.12	55	**5000**	ND	370	1100	820	0.11
Stockpile 6-2	4	19-Sep-10		B050178	L73184		16	ND	37	15	**840**	**1700**	0.17	44	**1200**	15	180	680	400	0.13
Stockpile 6-3	4	19-Sep-10		B050178	L73185		18	ND	50	18	**810**	**630**	0.09	72	**1600**	ND	130	510	260	0.13
Stockpile 6-4	4	19-Sep-10		B050178	L73186		14	ND	41	15	**840**	**1200**	0.12	53	**1300**	ND	190	640	600	0.17
Stockpile 6-5	4	19-Sep-10		B050178	L73187		19	ND	55	18	**1400**	**650**	0.09	74	**1100**	ND	140	660	420	0.17
Stockpile 6-composite	4	19-Sep-10	composite	B050178	L73188		21	ND	42	17	**700**	**1300**	0.09	55	**1800**	ND	170	560	380	0.2

Table B8 - Analytical Summary of Baseline Samples

Tier II Metals Guideline							30	5	250	50	100	500	2	100	500					50
Tier I Metals Guideline												200								
Hydrocarbon Guidelines																	11000	20000		
Sample ID	Area No.	Sample Date	Sample Description	Maxxam Job No.	Maxxam Sample ID	Comments	Parameter													
							Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	F1 (mg/kg)	F2 (mg/kg)	F3 (mg/kg)	F4 (mg/kg)	Total PCBs
MPA - BASE - 1	MPA	27-Aug-10	baseline sample	B045643	L53174		7	ND	14	4	8	10	ND	7	20	ND	ND	33	ND	ND
MPA - BASE - 2	MPA	27-Aug-10	baseline sample	B045643	L53188		8	ND	12	4	9	8	ND	7	29	ND	ND	56	19	ND
MPA - BASE - 3	MPA	27-Aug-10	baseline sample	B045643	L53189		7	ND	14	5	11	15	0.03	8	33	ND	ND	230	64	ND
MPA - BASE - 4	MPA	27-Aug-10	baseline sample	B045643	L53190		7	ND	15	4	7	5	ND	8	17	ND	ND	15	ND	ND
MPA - BASE - 5	MPA	27-Aug-10	baseline sample	B045643	L53191		7	ND	14	4	9	8	ND	7	22	ND	ND	22	ND	ND
MPA - BASE - 6	MPA	27-Aug-10	baseline sample	B045643	L53192		6	ND	13	4	9	8	ND	7	19	ND	ND	35	ND	ND
MPA - BASE - 7	MPA	27-Aug-10	baseline sample	B045643	L53193		7	ND	12	4	8	9	ND	6	19	ND	ND	57	160	ND
MPA - BASE - 8	MPA	27-Aug-10	baseline sample	B045643	L53194		8	ND	11	5	9	16	ND	6	20	ND	ND	ND	ND	ND
MPA - BASE - 9	MPA	27-Aug-10	baseline sample	B045643	L53195		8	ND	14	4	13	ND	ND	7	18	ND	ND	18	ND	ND
MPA - BASE - 10	MPA	27-Aug-10	baseline sample	B045643	L53196		7	ND	17	5	10	14	ND	9	24	ND	ND	23	ND	ND
MPA - BASE - 11	MPA	27-Aug-10	baseline sample	B045643	L53217		6	ND	15	4	9	9	ND	8	20	ND	ND	29	ND	ND
TSA - BASE - 1	TSA	27-Aug-10	baseline sample	B045643	L53219		6	ND	15	5	9	ND	ND	8	16	ND	ND	ND	ND	ND
TSA - BASE - 2	TSA	27-Aug-10	baseline sample	B045643	L53220		6	ND	17	5	11	ND	ND	9	16	ND	ND	ND	ND	ND
TSA - BASE - 3	TSA	27-Aug-10	baseline sample	B045643	L53221		5	ND	18	5	10	ND	ND	10	17	ND	ND	ND	ND	ND
TSA - BASE - 4	TSA	27-Aug-10	baseline sample	B045643	L53222		ND	ND	19	5	10	ND	ND	10	18	ND	ND	ND	ND	ND
TSA - BASE - 5	TSA	27-Aug-10	baseline sample	B045643	L53223	Met Criteria	ND	ND	19	5	11	5	ND	11	23	ND	ND	ND	ND	ND
TSA - BASE - 6	TSA	27-Aug-10	baseline sample	B045643	L53224		6	ND	12	3	8	ND	ND	6	15	ND	ND	ND	ND	ND
TSA - BASE - 7	TSA	27-Aug-10	baseline sample	B045643	L53225		5	ND	18	5	11	ND	ND	10	19	ND	ND	ND	ND	ND
TSA - BASE - 8	TSA	27-Aug-10	baseline sample	B045643	L53256		5	ND	18	4	10	ND	ND	9	16	ND	ND	ND	ND	ND
TSA - BASE - 9	TSA	27-Aug-10	baseline sample	B045643	L53257		ND	ND	18	5	9	ND	ND	10	16	ND	ND	ND	ND	ND
TSA - BASE - 10	TSA	27-Aug-10	baseline sample	B045643	L53258		6	ND	21	6	11	ND	ND	13	19	ND	ND	ND	ND	ND
TSA - BASE - 11	TSA	27-Aug-10	baseline sample	B045643	L53259		ND	ND	17	5	10	ND	ND	9	16	ND	ND	ND	ND	ND
TSA - BASE - 12	TSA	27-Aug-10	baseline sample	B045643	L53261		ND	ND	19	5	12	7	ND	11	22	ND	ND	ND	ND	ND
TSA - BASE - 13	TSA	27-Aug-10	baseline sample	B045643	L53262		6	ND	13	3	7	ND	ND	6	13	ND	ND	ND	ND	ND
TSA - BASE - 14	TSA	27-Aug-10	baseline sample	B045643	L53263		ND	ND	18	4	13	ND	ND	10	20	ND	ND	ND	ND	ND
TSA - BASE - 15	TSA	27-Aug-10	baseline sample	B045643	L53483		6	ND	12	4	8	ND	ND	7	12	ND	ND	ND	ND	ND
TSA - BASE - 16	TSA	27-Aug-10	baseline sample	B045643	L53484		ND	ND	15	4	8	7	ND	8	19	ND	ND	ND	ND	ND
WPA - BASE - 1	WPA	5-Sep-10	baseline sample	B047223	L59659		ND	ND	15	4	10	90	ND	7	37	ND	ND	35	31	ND
WPA - BASE - 2	WPA	5-Sep-10	baseline sample	B047223	L59694		ND	ND	13	5	11	7	ND	6	25	ND	ND	36	25	ND
WPA - BASE - 3	WPA	5-Sep-10	baseline sample	B047223	L69695		6	ND	10	4	7	ND	ND	3	15	ND	ND	13	ND	ND
WPA - BASE - 4	WPA	5-Sep-10	baseline sample	B047223	L59696		ND	0.5	15	3	21	30	0.06	5	38	ND	ND	100	63	ND

Table B9 - Analytical Summary of Confirmatory Samples

Tier II Metals Guideline							30	5	250	50	100	500	2	100	500					50
Tier I Metals Guideline												200								
Hydrocarbon Guidelines																	11000	20000		
Sample ID	Area No.	Sample Date	Sample Description	Maxxam Job No.	Maxxam Sample ID	Comments	Parameter													
							Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	F1 (mg/kg)	F2 (mg/kg)	F3 (mg/kg)	F4 (mg/kg)	Total PCBs (mg/kg)
TSA-CON-1	TSA	26-Sep-10	confirmatory sample	B051426	L78482		ND	ND	16	4	11	ND	ND	9	16	ND	ND	ND	ND	ND
TSA-CON-2	TSA	26-Sep-10	confirmatory sample	B051426	L78496		ND	ND	17	4	15	ND	ND	10	31	ND	ND	ND	ND	ND
TSA-CON-3	TSA	26-Sep-10	confirmatory sample	B051426	L78497		ND	ND	17	4	12	ND	ND	10	15	ND	ND	ND	ND	ND
TSA-CON-4	TSA	26-Sep-10	confirmatory sample	B051426	L78498		ND	ND	16	4	11	ND	ND	10	16	ND	ND	ND	ND	ND
TSA-CON-5	TSA	26-Sep-10	confirmatory sample	B051426	L78499		ND	ND	14	4	10	ND	ND	9	15	ND	ND	ND	ND	ND
TSA-CON-6	TSA	26-Sep-10	confirmatory sample	B051426	L78500		ND	ND	15	3	8	ND	ND	9	16	ND	ND	ND	ND	ND
TSA-CON-7	TSA	26-Sep-10	confirmatory sample	B051426	L78501		ND	ND	14	4	10	ND	ND	9	13	ND	ND	ND	ND	ND
TSA-CON-8	TSA	26-Sep-10	confirmatory sample	B051426	L78502		ND	ND	15	4	11	ND	ND	9	13	ND	ND	ND	ND	ND
TSA-CON-9	TSA	26-Sep-10	confirmatory sample	B051426	L78503		ND	ND	17	4	11	ND	ND	11	17	ND	ND	ND	ND	ND
TSA-CON-10	TSA	26-Sep-10	confirmatory sample	B051426	L78505		ND	ND	15	4	9	ND	ND	9	15	ND	ND	ND	ND	ND
TSA-CON-11	TSA	26-Sep-10	confirmatory sample	B051426	L78506		ND	ND	17	4	11	ND	ND	10	14	ND	ND	ND	ND	ND
TSA-CON-12	TSA	26-Sep-10	confirmatory sample	B051426	L78507		ND	ND	16	4	10	ND	ND	10	15	ND	ND	ND	ND	ND
TSA-CON-13	TSA	26-Sep-10	confirmatory sample	B051426	L78508		ND	ND	15	4	13	ND	ND	9	15	ND	ND	35	11	ND
TSA-CON-14	TSA	26-Sep-10	confirmatory sample	B051426	L78510		ND	ND	11	3	8	ND	ND	7	11	ND	ND	ND	ND	ND
TSA-CON-15	TSA	26-Sep-10	confirmatory sample	B051426	L78511		ND	ND	13	3	9	ND	ND	7	15	ND	ND	ND	ND	ND
TSA-CON-16	TSA	26-Sep-10	confirmatory sample	B051426	L78512		ND	ND	12	3	7	ND	ND	7	ND	ND	ND	ND	ND	ND
TSA-CON-17	TSA	4-Oct-10	confirmatory sample	B053607	L87915		ND	ND	13	3	7	ND	ND	3	12	ND	ND	ND	ND	ND
TSA-CON-18	TSA	4-Oct-10	confirmatory sample	B053607	L87917		ND	ND	11	3	7	ND	ND	3	ND	ND	ND	ND	ND	ND
TSA-CON-19	TSA	4-Oct-10	confirmatory sample	B053607	L87918		ND	ND	13	4	7	ND	ND	4	15	ND	ND	ND	ND	ND
TSA-CON-20	TSA	4-Oct-10	confirmatory sample	B053607	L87919		ND	ND	16	4	9	ND	ND	8	16	ND	ND	ND	ND	ND
TSA-CON-21	TSA	4-Oct-10	confirmatory sample	B053607	L87920	Met Criteria	ND	ND	16	4	11	ND	0.04	8	19	ND	ND	ND	ND	ND
TSA-CON-22	TSA	4-Oct-10	confirmatory sample	B053607	L87921		ND	ND	19	5	10	5	ND	9	17	ND	ND	ND	ND	ND
TSA-CON-23	TSA	4-Oct-10	confirmatory sample	B053607	L87922		ND	ND	19	5	11	6	ND	10	18	ND	ND	ND	ND	ND
TSA-CON-24	TSA	4-Oct-10	confirmatory sample	B053607	L87923		ND	ND	17	5	9	ND	ND	8	16	ND	ND	ND	ND	ND
TSA-CON-25	TSA	4-Oct-10	confirmatory sample	B053607	L87924		ND	ND	15	4	9	ND	0.04	7	15	ND	ND	ND	ND	ND
TSA-CON-26	TSA	4-Oct-10	confirmatory sample	B053607	L87925		ND	ND	16	4	9	7	0.02	8	18	ND	ND	ND	ND	ND
TSA-CON-27	TSA	4-Oct-10	confirmatory sample	B053607	L87926		ND	ND	15	4	9	ND	ND	8	14	ND	ND	ND	ND	ND
TSA-CON-28	TSA	4-Oct-10	confirmatory sample	B053607	L87927		ND	ND	13	4	7	ND	ND	5	12	ND	ND	ND	ND	ND
TSA-CON-29	TSA	4-Oct-10	confirmatory sample	B053607	L87928		ND	ND	15	4	8	ND	ND	6	15	ND	ND	ND	ND	ND
TSA-CON-30	TSA	4-Oct-10	confirmatory sample	B053607	L87929		ND	ND	16	4	8	ND	ND	9	15	ND	ND	11	ND	ND
TSA-CON-31	TSA	4-Oct-10	confirmatory sample	B053607	L87930		ND	ND	17	5	9	ND	ND	9	15	ND	ND	ND	ND	ND
TSA-CON-32	TSA	4-Oct-10	confirmatory sample	B053607	L87931		ND	ND	16	4	9	ND	ND	8	15	ND	ND	ND	ND	ND
WPA-CON-1	WPA	10-Oct-10	confirmatory sample	B054109	L90312		5	ND	12	4	8	11	ND	7	28	ND	ND	52	51	ND
WPA-CON-2	WPA	10-Oct-10	confirmatory sample	B054109	L90354		5	ND	17	5	13	22	ND	8	39	ND	ND	98	180	ND
WPA-CON-3	WPA	10-Oct-10	confirmatory sample	B054109	L90355		5	ND	15	4	13	14	ND	8	24	ND	ND	61	44	ND
WPA-CON-4	WPA	10-Oct-10	confirmatory sample	B054109	L90356		ND	ND	14	4	10	10	ND	7	34	ND	ND	46	19	ND
WPA-CON-5	WPA	10-Oct-10	confirmatory sample	B054109	L90357		6	ND	10	4	6	ND	ND	5	10	ND	ND	39	26	ND
WPA-CON-6	WPA	10-Oct-10	confirmatory sample	B054109	L90358		6	ND	16	4	11	14	ND	7	26	ND	ND	55	27	ND
WPA-CON-7	WPA	10-Oct-10	confirmatory sample	B054109	L90359		5	ND	11	4	5	ND	ND	6	14	ND	ND	25	ND	ND
WPA-CON-8	WPA	10-Oct-10	confirmatory sample	B054109	L90360		6	ND	14	4	8	6	ND	6	21	ND	ND	35	ND	ND
WPA-CON-9	WPA	10-Oct-10	confirmatory sample	B054109	L90361		6	ND	15	5	52	29	ND	8	44	ND	ND	87	62	ND
MPA-CON-1	MPA	10-Oct-10	confirmatory sample	B054109	L90363	Re-Graded	7	1.4	18	5	25	**390**	ND	10	79	ND	ND	26	12	ND
MPA-CON-2	MPA	10-Oct-10	confirmatory sample	B054109	L90370		ND	ND	19	4	11	33	ND	9	39	ND	ND	41	16	ND
MPA-CON-3	MPA	10-Oct-10	confirmatory sample	B054109	L90371		6	ND	13	4	9	7	ND	6	17	ND	ND	38	18	ND
MPA-CON-4	MPA	10-Oct-10	confirmatory sample	B054109	L90372		ND	ND	14	5	9	ND	ND	8	21	ND	ND	34	ND	ND
MPA-CON-5	MPA	10-Oct-10	confirmatory sample	B054109	L90373		ND	ND	15	4	6	ND	ND	6	18	ND	ND	39	13	ND
MPA-CON-6	MPA	10-Oct-10	confirmatory sample	B054109	L90374		6	ND	12	4	7	ND	ND	5	14	ND	ND	10	ND	ND
MPA-CON-7	MPA	10-Oct-10	confirmatory sample	B054109	L90375		ND	ND	13	4	7	7	ND	8	20	ND	ND	160	61	ND
MPA-CON-8	MPA	10-Oct-10	confirmatory sample	B054109	L90376	Met Criteria	5	ND	10	3	7	6	ND	5	15	ND	ND	71	39	ND
MPA-CON-9	MPA	10-Oct-10	confirmatory sample	B054109	L90377		5	ND	17	5	10	13	ND	9	23	ND	ND	120	49	ND
MPA-CON-10	MPA	10-Oct-10	confirmatory sample	B054109	L90378		ND	ND	11	4	9	5	ND	6	20	ND	ND	66	28	ND
MPA-CON-11	MPA	10-Oct-10	confirmatory sample	B054109	L90379		6	ND	14	4	10	ND	ND	8	16	ND	ND	43	ND	ND
MPA-CON-12	MPA	10-Oct-10	confirmatory sample	B054109	L90380		ND	ND	14	4	11	8	ND	8	22	ND	ND	ND	ND	ND
MPA-CON-13	MPA	10-Oct-10	confirmatory sample	B054109	L90381		5	ND	13	4	9	7	ND	7	17	ND	ND	92	46	ND
MPA-CON-14	MPA	10-Oct-10	confirmatory sample	B054109	L90382		5	ND	13	4	8	7	ND	7	19	ND	ND	51	19	ND
MPA-CON-15	MPA	10-Oct-10	confirmatory sample	B054109	L90383		5	ND	13	4	9	7	ND	7	21	ND	ND	65	ND	ND

Table B10 - Analytical Summary of Ash Samples

Tier II Metals Guideline							**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**500**				**50**
Tier I Metals Guideline												**200**							
Hydrocarbon Guidelines																	**11000**	**20000**	
Leachate Criteria							**2.5**	**0.5**	**5**			**5**	**0.1**						
							Parameter												
Sample ID	**Area No.**	**Sample Date**	**Sample Description**	**Maxxam Job No.**	**Maxxam Sample ID**	**Comments**	**Arsenic (mg/kg)**	**Cadmium (mg/kg)**	**Chromium (mg/kg)**	**Cobalt (mg/kg)**	**Copper (mg/kg)**	**Lead (mg/kg)**	**Mercury (mg/kg)**	**Nickel (mg/kg)**	**Zinc (mg/kg)**	**F1 (mg/kg)**	**F2 (mg/kg)**	**F3 (mg/kg)**	**F4 (mg/kg)**	**Total PCBs (mg/kg)**
ND-Ash	1	19-Sep-10	Total Metals	B050178	L73120	Containerized	ND	1.1	17	6	**170**	**450**	ND	10	81	-	-	-	-	-
SD - Woodpile	4	18-Sep-10		B050178	L73057		10	ND	29	7	14	12	ND	15	38	-	-	-	-	-
SDASH-Final	4	4-Oct-10		B053607	L87940		14	**17**	140	5	**320**	**480**	ND	25	**560**	-	-	-	-	-
ND-Ash	1	19-Sep-10	Leachable Metals / PCBs	B050178	L73120		ND	0.005	ND	ND	0.04	0.03	ND	ND	ND	-	-	-	-	ND
SD - Woodpile	4	18-Sep-10		B050178	L73057		ND	ND	ND	ND	ND	ND	ND	ND	0.2	-	-	-	-	ND
SD ASH - FINAL	4	4-Oct-10		B053607	L87940		0.011	0.11	ND	0.03	0.41	0.05	0.0012	0.077	110	-	-	-	-	ND

Table B11 - Analytical Summary of Barrel Samples

INAC Guidelines						1000	2	10	100	2
						Parameter				
Sample ID	Sample Date	Sample Description	Maxxam Job No.	Maxxam Sample ID	Comments	Total Chlorine (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Total PCBs (mg/L)
BAR - 01	23-Aug-10	Area 3	B045118	L50297	Offsite Disposal	1256	-	<1	-	-
BAR - 04	23-Aug-10	Area 3	B045118	L50305		1867	-	<1	-	-
BAR - 06	5-Sep-10	Area 3	B047223	L59973	Approved for Incineration	<100	<1	<1	<5	ND
BAR - 07	5-Sep-10	Area 3	B047223	L59980		<100	<1	<1	<5	ND
BAR - 08	13-Sep-10	Area 3	B048845	L67112		<100	<1	<1	18.3	<2
BAR - 09	13-Sep-10	Area 3	B048845	L67118		<100	<1	<1	<5	<2
BAR - 10	13-Sep-10	Area 3	B048845	L67119		<100	<1	<1	<5	<2
BAR - 11	13-Sep-10	Area 3	B048845	L67120		210	<1	<1	<5	<2
BAR - 12	20-Sep-10	Area 3	B050178	L73214		<100	<1	<1	<5	<2
BAR - 13	26-Sep-10	Area 3	B051426	L78521		159	ND	ND	ND	ND
BAR - 14	26-Sep-10	Area 3	B051426	L78542		<100	ND	ND	ND	ND
BAR - 15	26-Sep-10	Area 3	B051426	L78543		<100	ND	ND	ND	ND
BAR - 16	26-Sep-10	Area 3	B051426	L78544		<100	ND	ND	ND	ND
BAR - 17	26-Sep-10	Area 3	B051426	L78545		<100	ND	ND	ND	ND
BAR - 18	7-Oct-10	Area 3	B053862	L89070		<100	ND	ND	ND	ND

Table B12 - Analytical Summary of Paint Samples

INAC Guidelines							50	5
							Parameter	
Sample ID	Area No.	Sample Date	Sample Description	Comments	Maxxam Job No.	Maxxam Sample ID	Total PCBs (mg/kg)	Leachable Lead (mg/L)
Tower - Orange	Area 1	22-Aug-10	paint on antenna tower	Deemed Non-Hazardous	B045118	L50343	16	-
Tower - White	Area 1	22-Aug-10	paint on antenna tower		B045118	L50365	3	-
Electrical Cabinets	Area 2	22-Aug-10	paint on electrical cabinets		B045118	L50335	15	0.062
Building Panels	Area 2	22-Aug-10	paint on building panels	Containerized	B045118	L50330	4.5	**29**
Boat - White	Area 2	22-Aug-10	various colours of paint on boat		B045118	L50339	ND	-
Boat - Red	Area 2	22-Aug-10			B045118	L50340	ND	**17**
Boat - Green	Area 2	22-Aug-10			B045118	L50341	ND	**6.2**
Boat - Light Green	Area 2	22-Aug-10			B045118	L50342	0.04	**13**

Table B13 - QA/QC - Summary of Relative Percent Difference (RPD) of Duplicate Soil Samples

Repored Detection Limit			5	0.5	2	2	2	5	0.02	1	10	10	10	10	10	0.1
Allowable Relative Percent Difference (RPD)			≤35%									≤50%				
Sample ID	Area No.	Date Collected	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Zinc (mg/kg)	F1 (mg/kg)	F2 (mg/kg)	F3 (mg/kg)	F4 (mg/kg)	Total PCBs (mg/kg)
SD - TOW - 2	4	28-Aug-10	ND	ND	13	6	14	7	0.02	8	140	-	-	-	-	-
SD - TOW - QA/QC			ND	ND	12	5	10	5	ND	7	110	-	-	-	-	-
RPD			0%	0%	8%	18%	33%	33%	0%	13%	24%	-	-	-	-	-
LP - 7	4	28-Aug-10	ND	ND	18	5	11	93	0.1	10	26	-	-	-	-	-
LP - QA/QC			ND	ND	19	5	12	120	ND	10	32	-	-	-	-	-
RPD			0%	0%	5%	0%	9%	25%	0%	0%	21%	-	-	-	-	-
BCA - 11	3	6-Sep-10	ND	ND	6	ND	19	ND	0.06	4	10	ND	ND	260	100	ND
BCA - QA/QC - 1			ND	ND	5	ND	21	ND	0.06	4	11	ND	ND	450	60	ND
RPD			0%	0%	18%	0%	10%	0%	0%	0%	10%	0%	0%	54%	50%	0%
BCA - 21	3	6-Sep-10	15	ND	58	21	170	130	6.3	79	480	ND	1900	2600	54	ND
BCA - QA/QC - 2			13	ND	54	20	130	150	2.8	71	390	ND	1100	2400	190	ND
RPD			14%	0%	7%	5%	27%	14%	77%	11%	21%	0%	53%	8%	111%	0%
BCA - 33	3	6-Sep-10	ND	ND	3	ND	20	ND	0.09	2	ND	ND	ND	440	ND	ND
BCA - QA/QC - 3			ND	ND	5	ND	25	ND	0.1	3	ND	ND	ND	460	52	ND
RPD			0%	0%	50%	0%	22%	0%	11%	40%	0%	0%	0%	4%	0%	0%
ELA - 3	4	7-Sep-10	ND	ND	15	4	6	ND	0.02	6	16	ND	ND	ND	ND	ND
ELA - QA/QC - 1			ND	ND	17	5	8	ND	ND	8	25	ND	ND	ND	ND	ND
RPD			0%	0%	13%	22%	29%	0%	0%	29%	44%	0%	0%	0%	0%	0%
ELA - 14 @ 0.5m	4	7-Sep-10	ND	ND	26	6	17	ND	ND	9	21	ND	ND	ND	ND	ND
ELA - QA/QC - 2			ND	ND	17	6	20	47	ND	11	72	ND	ND	ND	ND	ND
RPD			0%	0%	42%	0%	16%	0%	0%	20%	110%	0%	0%	0%	0%	0%
Stockpile - 1 - 3	4	8-Sep-10	ND	ND	15	5	7	ND	ND	7	23	ND	ND	16	ND	ND
Stockpile - QA/QC - 1			ND	ND	14	4	7	ND	ND	5	14	ND	ND	24	11	ND
RPD			0%	0%	7%	22%	0%	0%	0%	33%	49%	0%	0%	40%	0%	0%
Stockpile - 3 - comp	4	8-Sep-10	7	ND	22	6	220	330	ND	13	71	ND	ND	39	32	ND
Stockpile - QA/QC - 2			ND	ND	15	4	6	ND	ND	7	19	ND	ND	41	42	ND
RPD			0%	0%	38%	40%	189%	0%	0%	60%	116%	0%	0%	5%	27%	0%
3-DT2-01-5	3	10-Sep-10	ND	ND	13	4	8	ND	ND	9	14	-	-	-	-	-
3-DT2-01-QA/QC			ND	ND	12	4	6	ND	ND	4	13	-	-	-	-	-
RPD			0%	0%	8%	0%	29%	0%	0%	77%	7%	-	-	-	-	-
2-DT2-01-5	2	11-Sep-10	ND	0.8	15	3	15	ND	ND	6	51	-	-	-	-	-
2-DT2-01-QA/QC			5	ND	15	4	16	12	ND	6	31	-	-	-	-	-
RPD			0%	0%	0%	29%	6%	0%	0%	0%	49%	-	-	-	-	-
4-DT2-02-03	4	13-Sep-10	ND	ND	18	5	17	33	0.12	10	120	-	-	-	-	-
4-DT2-02-QA/QC			ND	0.8	19	6	23	57	0.31	11	220	-	-	-	-	-
RPD			0%	0%	5%	18%	30%	53%	88%	10%	59%	-	-	-	-	-
4-DT2-01-5	4	13-Sep-10	ND	ND	18	4	10	ND	ND	8	24	-	-	-	-	-
4-DT2-01-QA/QC			ND	ND	16	4	10	ND	ND	8	20	-	-	-	-	-
RPD			0%	0%	12%	0%	0%	0%	0%	0%	18%	-	-	-	-	-
4-DT2-04-1 @ 0.3m	4	11-Sep-10	ND	0.7	14	5	17	61	0.07	6	59	-	-	-	-	-
4-DT2-04-QA/QC-1			ND	0.7	15	5	19	72	0.04	8	58	-	-	-	-	-
RPD			0%	0%	7%	0%	11%	17%	55%	29%	2%	-	-	-	-	-
4-DT2-04-8	4	11-Sep-10	ND	ND	14	5	10	ND	ND	7	21	-	-	-	-	-
4-DT2-04-QA/QC-2			ND	ND	14	5	7	ND	ND	7	17	-	-	-	-	-
RPD			0%	0%	0%	0%	35%	0%	0%	0%	21%	-	-	-	-	-
4-DT2-04-15 @ surface	4	11-Sep-10	ND	ND	14	4	11	130	ND	7	22	-	-	-	-	-
4-DT2-04-QA/QC-3			ND	1.3	16	6	13	240	ND	8	28	-	-	-	-	-
RPD			0%	0%	13%	40%	17%	59%	0%	13%	24%	-	-	-	-	-
2-DT2-02-1 @ surface	2	11-Sep-10	6	1	13	4	10	22	ND	6	23	-	-	-	-	-
2-DT2-02-QA/QC			5	ND	13	4	8	16	ND	6	18	-	-	-	-	-
RPD			18%	0%	0%	0%	22%	32%	0%	0%	24%	-	-	-	-	-
2-DT2-03-3 @ 0.3m	2	11-Sep-10	ND	ND	12	3	11	ND	ND	5	11	-	-	-	-	-
2-DT2-03-QA/QC			ND	ND	13	3	9	ND	ND	5	13	-	-	-	-	-
RPD			0%	0%	8%	0%	20%	0%	0%	0%	17%	-	-	-	-	-
4-DT2-03-8	4	14-Sep-10	ND	ND	14	4	11	31	ND	7	26	-	-	-	-	-
4-DT2-03-QA/QC			ND	ND	15	5	12	35	ND	8	37	-	-	-	-	-
RPD			0%	0%	7%	22%	9%	12%	0%	13%	35%	-	-	-	-	-
4-DT2-05-10	4	14-Sep-10	ND	ND	12	3	11	6	0.09	6	31	-	-	-	-	-
4-DT2-05-QA/QC			ND	ND	13	4	9	ND	0.05	7	65	-	-	-	-	-
RPD			0%	0%	8%	29%	20%	0%	57%	15%	71%	-	-	-	-	-
3-DT2-03-5	3	14-Sep-10	ND	ND	14	3	10	7500	ND	7	21	-	-	-	-	-
3-DT2-03-QA/QC			9	ND	11	3	8	25000	ND	4	17	-	-	-	-	-
RPD			0%	0%	24%	0%	22%	108%	0%	55%	21%	-	-	-	-	-
5-PHC-01-3	5	14-Sep-10	-	-	-	-	-	-	-	-	-	ND	14	52	ND	-
5-PHC-01-QA/QC			-	-	-	-	-	-	-	-	-	ND	ND	24	ND	-
RPD			-	-	-	-	-	-	-	-	-	0%	0%	74%	0%	-
3-DT2-04-9	3	19-Sep-10	ND	ND	18	6	19	13	ND	11	20	-	-	-	-	-
3-DT2-04-QA/QC			ND	ND	14	4	7	ND	ND	6	12	-	-	-	-	-
RPD			0%	0%	25%	40%	92%	0%	0%	59%	50%	-	-	-	-	-
Stockpile 5-5	-	19-Sep-10	12	ND	26	9	110	390	0.04	24	210	ND	85	350	340	ND
Stockpile 5-QA/QC			8	ND	22	8	310	310	0.05	19	190	ND	64	280	190	ND
RPD			40%	0%	17%	12%	95%	23%	22%	23%	10%	0%	28%	22%	57%	0%
Stockpile 6-composite	-	19-Sep-10	21	ND	42	17	700	1300	0.09	55	1800	ND	170	560	380	0.2
Stockpile 6-QA/QC			15	ND	45	16	1800	3300	0.14	57	1100	11	200	780	600	0.18
RPD			33%	0%	7%	6%	88%	87%	43%	4%	48%	0%	16%	33%	45%	11%
3-DT2-05-5	3	20-Sep-10	8	ND	25	8	29	10	ND	21	49	-	-	-	-	-
3-DT2-05-QA/QC			ND	ND	19	5	10	5	ND	10	20	-	-	-	-	-
RPD			0%	0%	27%	46%	97%	67%	0%	71%	84%	-	-	-	-	-
2-PHC-01-5	2	18-Sep-10	-	-	-	-	-	-	-	-	-	-	28	29	ND	ND
2-PHC-01-QA/QC			-	-	-	-	-	-	-	-	-	-	36	30	ND	ND
RPD			-	-	-	-	-	-	-	-	-	-	25%	3%	0%	0%
3-DT2-03-8	3	23-Sep-10	ND	ND	11	3	7	700	ND	4	13	-	-	-	-	-
3-DT2-03-QA/QC-2			ND	ND	11	3	5	66	ND	3	12	-	-	-	-	-
RPD			0%	0%	0%	0%	33%	166%	0%	29%	8%	-	-	-	-	-
4-DT2-05-15	4	23-Sep-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-
4-DT2-05-QA/QC-2			ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-
RPD			0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-	-	-
3-PHC-01-1	3	15-Sep-10	-	-	-	-	-	-	-	-	-	ND	ND	440	75	-
3-PHC-01-QA/QC			-	-	-	-	-	-	-	-	-	ND	13	790	200	-
RPD			-	-	-	-	-	-	-	-	-	0%	0%	57%	91%	-
2-PHC-02-2@Surface	2	15-Sep-10	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
2-PHC-02-QA/QC			-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	-
RPD			-	-	-	-	-	-	-	-	-	0%	0%	0%	0%	-
TSA-CON-12	-	26-Sep-10	ND	ND	16	4	10	ND	ND	10	15	ND	ND	ND	ND	ND
TSA-CON-QA/QC-1			ND	ND	15	4	10	ND	ND	9	13	ND	ND	21	ND	ND
RPD			0%	0%	6%	0%	0%	0%	0%	11%	14%	0%	0%	0%	0%	0%
TSA-CON-29	-	4-Oct-10	ND	ND	15	4	8	ND	ND	6	15	ND	ND	ND	ND	ND
TSA-CON-QA/QC-2			ND	ND	15	4	10	ND	ND	7	16	ND	ND	ND	ND	ND
RPD			0%	0%	0%	0%	22%	0%	0%	15%	6%	0%	0%	0%	0%	0%
WPA-CON-1	-	10-Oct-10	5	ND	12	4	8	11	ND	7	28	ND	ND	52	51	ND
WPA-CON-QA/QC			ND	ND	12	4	9	12	ND	7	28	ND	ND	56	53	ND
RPD			0%	0%	0%	0%	12%	9%	0%	0%	0%	0%	0%	7%	4%	0%
MPA-CON-5	-	10-Oct-10	ND	ND	15	4	6	ND	ND	6	18	ND	ND	39	13	ND
MPA-CON-QA/QC			5	ND	15	4	7	ND	ND	7	16	ND	ND	45	15	ND
RPD			0%	0%	0%	0%	15%	0%	0%	15%	12%	0%	0%	14%	14%	0%
MPA - BASE - 5	-	27-Aug-10	7	ND	14	4	9	8	ND	7	22	ND	ND	22	ND	ND
MPA - BASE - QA/QC			7	ND	15	4	10	10	ND	8	34	ND	ND	23	ND	ND
RPD			0%	0%	7%	0%	11%	22%	0%	13%	43%	0%	0%	4%	0%	0%
TSA - BASE - 6	-	27-Aug-10	6	ND	12	3	8	ND	ND	6	15	ND	ND	ND	ND	ND
TSA - BASE - QA/AC			6	ND	14	3	8	ND	ND	7	13	ND	ND	ND	ND	ND
RPD			0%	0%	15%	0%	0%	0%	0%	15%	14%	0%	0%	0%	0%	0%

Appendix C

Summary of Geotechnical Results

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Grain Size Distribution – BI 10-01……1
Grain Size Distribution – BI 10-02……2
Grain Size Distribution – BI 10-03……3
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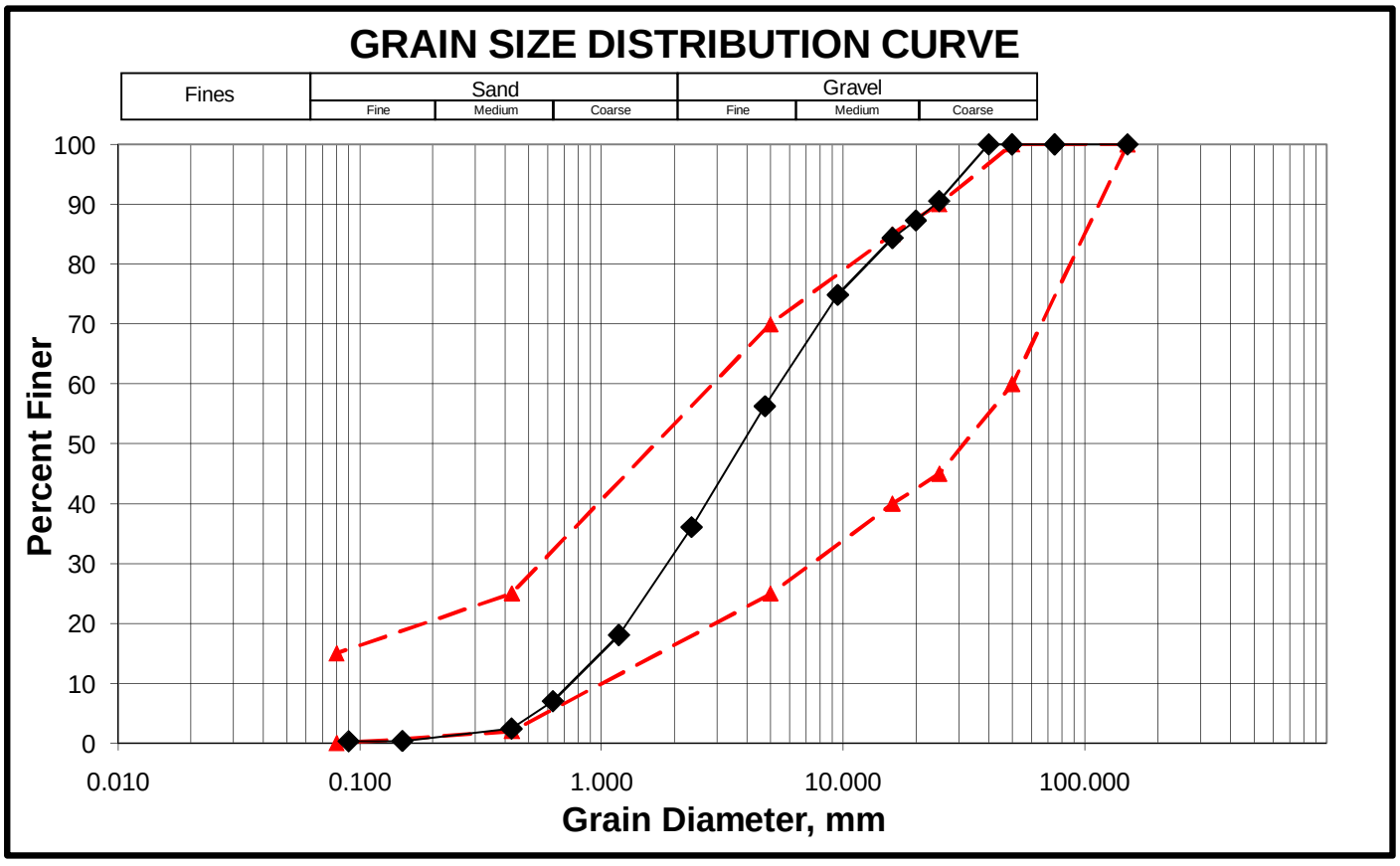
GRAIN SIZE DISTRIBUTION

MATERIALS LABORATORY
AECOM
Bear Island NT Field Lab
tel (403) 387-3220

Client: Public Works Canada
Project: Bear Island Environmental Site Remediation
Job No: 6015 5434 Sample No.: BI 10-01
Date : 20-Sep-10 Sample Description: TYPE 2

Sieve (mm.)	Sieve No.	Total Percent Passing	Specification (min - max)
150	4"	100.0	100 - 100
75	3"	100.0	
50	2"	100.0	60 - 100
40	-	100.0	
25	1"	91	45 - 90
20	-	87	
16	5/8"	84	40 - 85
9.5	3/8"	75	
4.75	No. 4	56	25 - 75*
2.36	No. 8	36	
1.18	No. 16	18	
0.630	-	7.0	
0.425	No. 40	2.4	2 - 25
0.150	No. 100	0.34	
0.090	No. 170	0.29	0 - 15*



Notes: The material was washed over a 0.075 mm sieve prior to sieving.
*As per the Specification the Sieve Designation used is the 5.0 mm instead of the 4.75 mm and the 0.080 mm instead of the 0.090 mm.

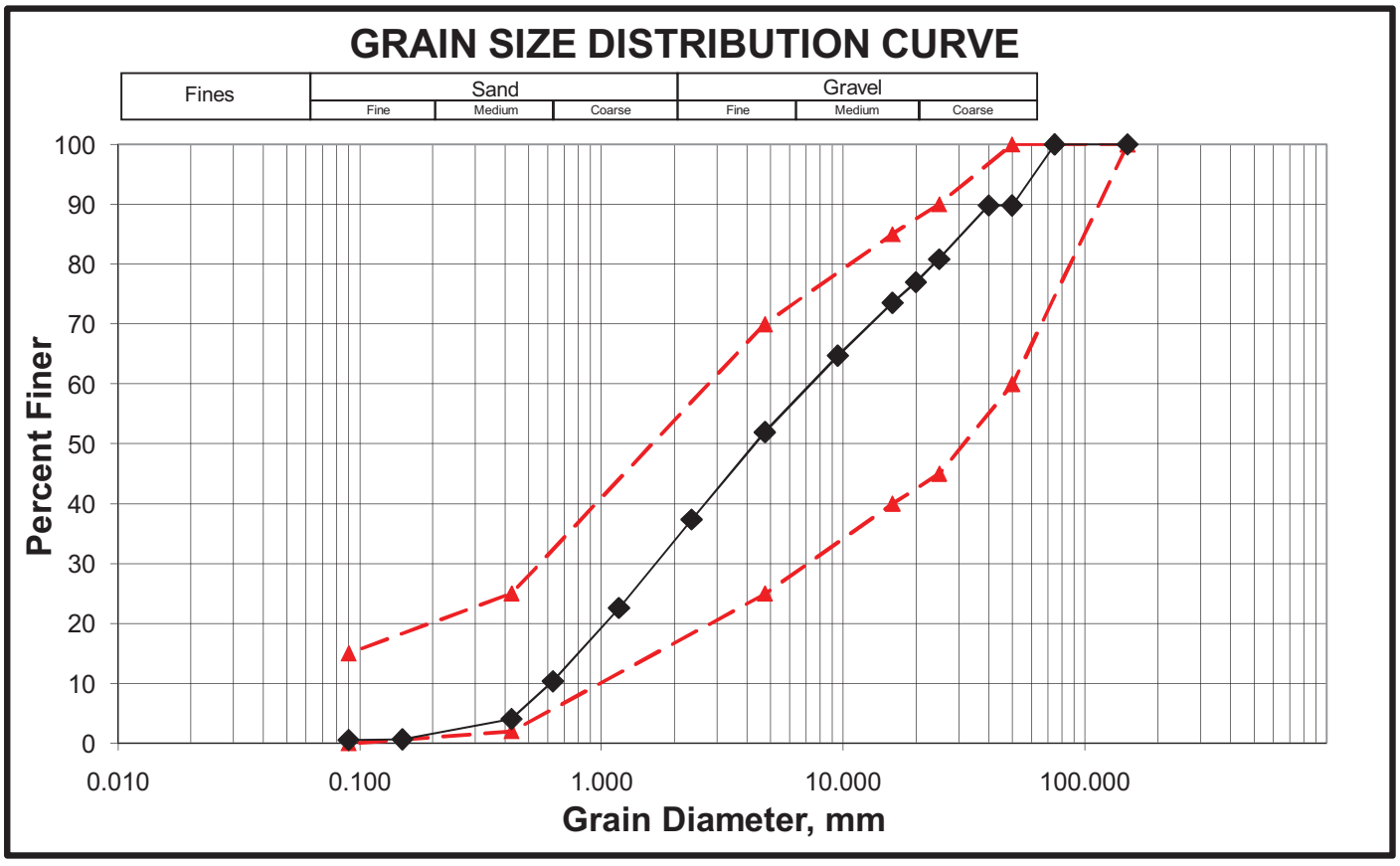
GRAIN SIZE DISTRIBUTION

MATERIALS LABORATORY
AECOM
Bear Island NT Field Lab
tel (403) 387-3220

Client: Public Works Canada
Project: Bear Island Environmental Site Remediation
Job No: 6015 5434
Date : 20-Sep-10

Sample From: North Doppler Regrade
Sample No.: BI 10-02
Sample Description: TYPE 2

Sieve (mm.)	Sieve No.	Total Percent Passing	Specification (min - max)
150	4"	100.0	100 - 100
75	3"	100.0	
50	2"	89.8	60 - 100
40	-	89.8	
25	1"	81	45 - 90
20	-	77	
16	5/8"	74	40 - 85
9.5	3/8"	65	
4.75	No. 4	52	25 - 75*
2.36	No. 8	37	
1.18	No. 16	23	
0.630	-	10.3	
0.425	No. 40	4.0	2 - 25
0.150	No. 100	0.61	
0.090	No. 170	0.50	0 - 15*



Notes: The material was washed over a 0.075 mm sieve prior to sieving.
*As per the Specification the Sieve Designation used is the 5.0 mm instead of the 4.75 mm and the 0.080 mm instead of the 0.090 mm.

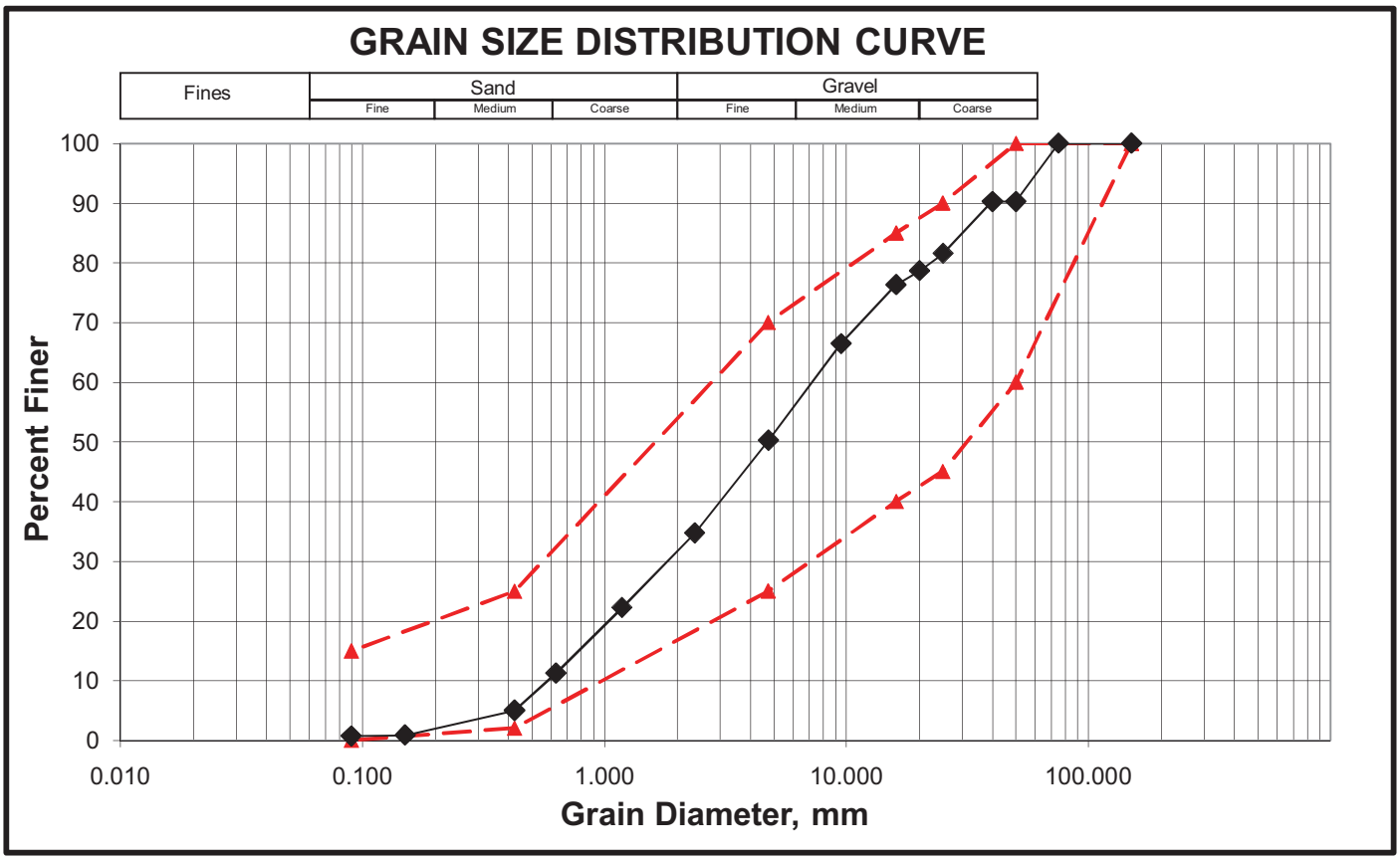
GRAIN SIZE DISTRIBUTION

MATERIALS LABORATORY
AECOM
Bear Island NT Field Lab
tel (403) 387-3220

Client: Public Works Canada
Project: Bear Island Environmental Site Remediation
Job No: 6015 5434
Date : 24-Sep-10

Sample From: Regrade 2-DT1-01
Sample No.: BI 10-03
Sample Description: TYPE 2

Sieve (mm.)	Sieve No.	Total Percent Passing	Specification (min - max)
150	4"	100.0	100 - 100
75	3"	100.0	
50	2"	90.3	60 - 100
40	-	90.3	
25	1"	82	45 - 90
20	-	79	
16	5/8"	76	40 - 85
9.5	3/8"	66	
4.75	No. 4	50	25 - 75*
2.36	No. 8	35	
1.18	No. 16	22	
0.630	-	11.2	
0.425	No. 40	5.0	2 - 25
0.150	No. 100	0.85	
0.090	No. 170	0.72	0 - 15*



Notes: The material was washed over a 0.075 mm sieve prior to sieving.
*As per the Specification the Sieve Designation used is the 5.0 mm instead of the 4.75 mm and the 0.080 mm instead of the 0.090 mm.

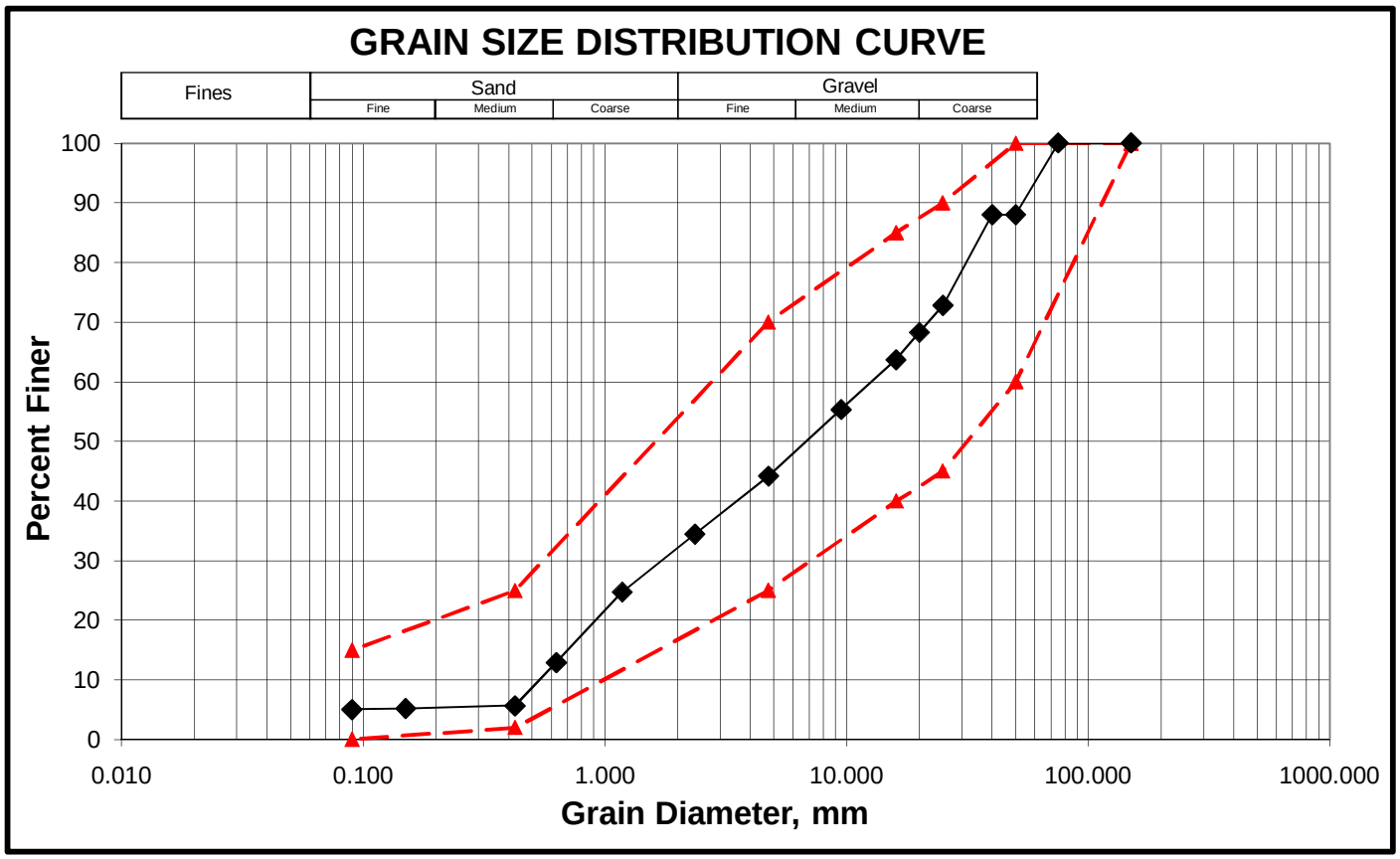
GRAIN SIZE DISTRIBUTION

MATERIALS LABORATORY
AECOM
Bear Island NT Field Lab
tel (403) 387-3220

Client: Public Works Canada
Project: Bear Island Environmental Site Remediation
Job No: 6015 5434
Date : 26-Sep-10

Sample From: South Doppler Foundation Regrade
Sample No.: BI 10-04
Sample Description: TYPE 2

Sieve (mm.)	Sieve No.	Total Percent Passing	Specification (min - max)
150	4"	100.0	100 - 100
75	3"	100.0	
50	2"	88.0	60 - 100
40	-	88.0	
25	1"	73	45 - 90
20	-	68	
16	5/8"	64	40 - 85
9.5	3/8"	55	
4.75	No. 4	44	25 - 75*
2.36	No. 8	34	
1.18	No. 16	25	
0.630	-	13.0	
0.425	No. 40	5.7	2 - 25
0.150	No. 100	5.25	
0.090	No. 170	5.08	0 - 15*



Notes: The material was washed over a 0.075 mm sieve prior to sieving.
*As per the Specification the Sieve Designation used is the 5.0 mm instead of the 4.75 mm and the 0.080 mm instead of the 0.090 mm.

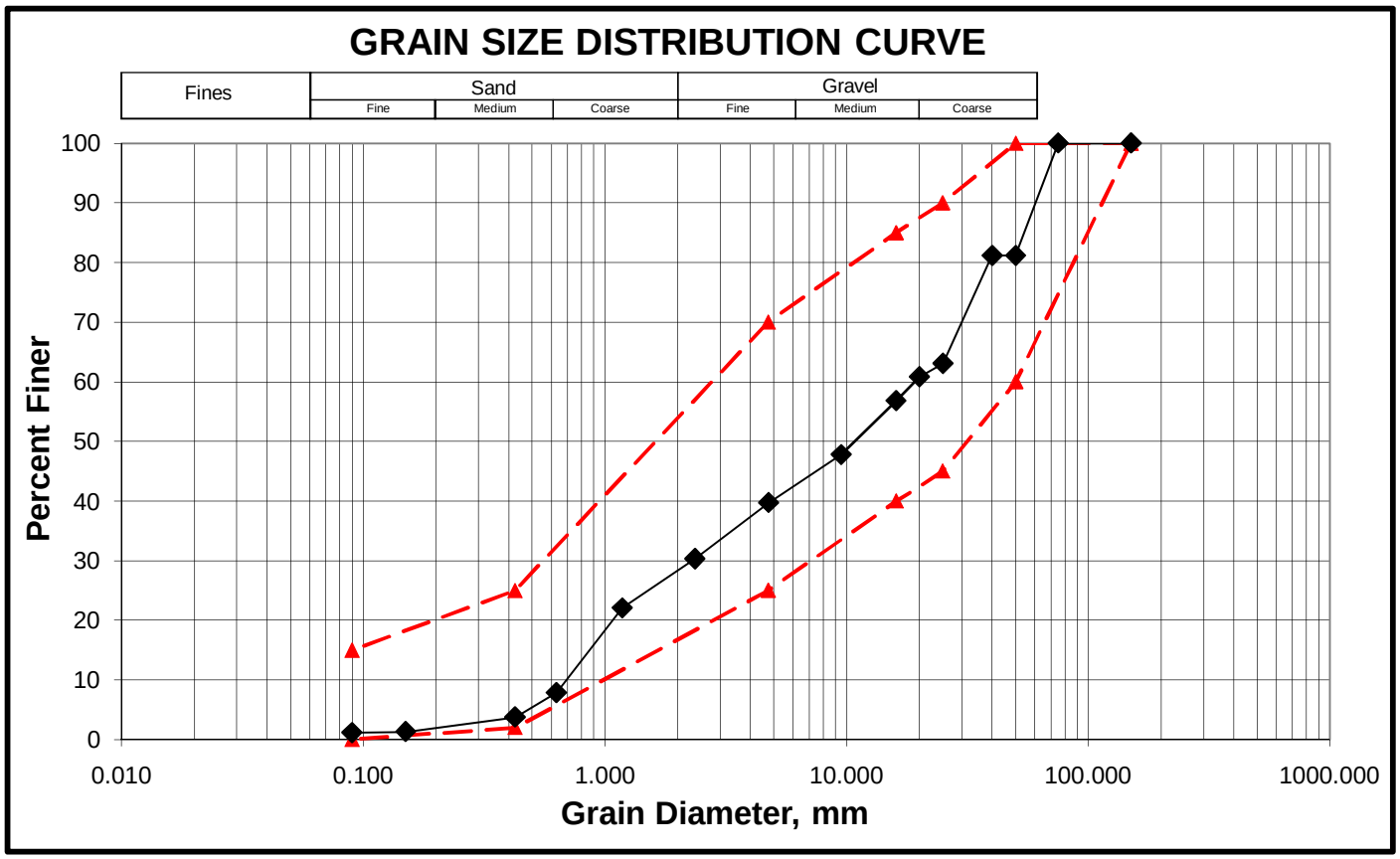
GRAIN SIZE DISTRIBUTION

MATERIALS LABORATORY
AECOM
Bear Island NT Field Lab
tel (403) 387-3220

Client: Public Works Canada
Project: Bear Island Environmental Site Remediation
Job No: 6015 5434
Date : 28-Sep-10

Sample From: Garage Pad Regrade
Sample No.: BI 10-05
Sample Description: TYPE 2

Sieve (mm.)	Sieve No.	Total Percent Passing	Specification (min - max)
150	4"	100.0	100 - 100
75	3"	100.0	
50	2"	81.1	60 - 100
40	-	81.1	
25	1"	63	45 - 90
20	-	61	
16	5/8"	57	40 - 85
9.5	3/8"	48	
4.75	No. 4	40	25 - 75*
2.36	No. 8	30	
1.18	No. 16	22	
0.630	-	7.9	
0.425	No. 40	3.7	2 - 25
0.150	No. 100	1.29	
0.090	No. 170	1.14	0 - 15*



Notes: The material was washed over a 0.075 mm sieve prior to sieving.
*As per the Specification the Sieve Designation used is the 5.0 mm instead of the 4.75 mm and the 0.080 mm instead of the 0.090 mm.

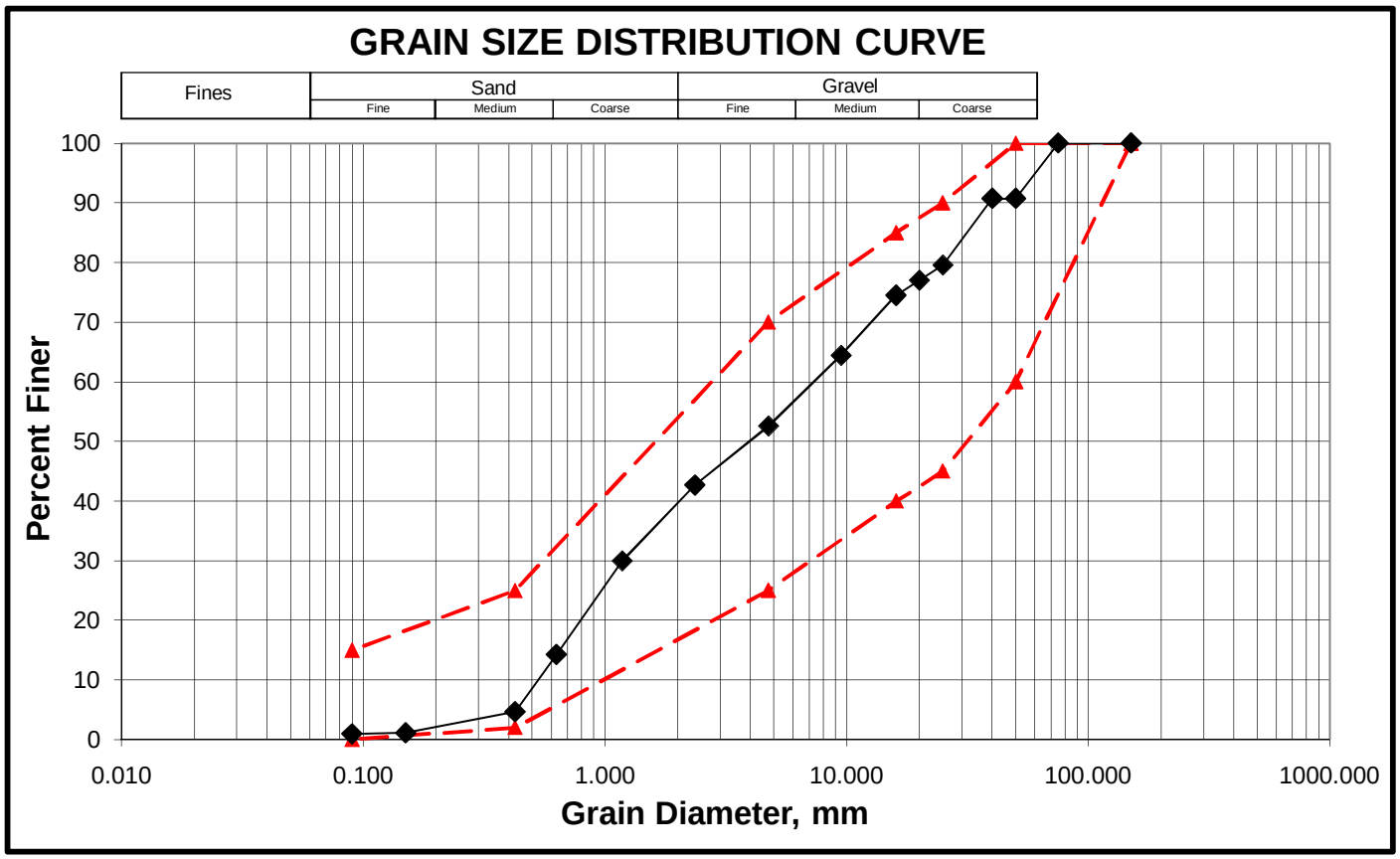
GRAIN SIZE DISTRIBUTION

MATERIALS LABORATORY
AECOM
Bear Island NT Field Lab
tel (403) 387-3220

Client: Public Works Canada
Project: Bear Island Environmental Site Remediation
Job No: 6015 5434
Date : 1-Oct-10

Sample From: Regrade 2-PHC-02
Sample No.: BI 10-06
Sample Description: TYPE 2

Sieve (mm.)	Sieve No.	Total Percent Passing	Specification (min - max)
150	4"	100.0	100 - 100
75	3"	100.0	
50	2"	90.7	60 - 100
40	-	90.7	
25	1"	80	45 - 90
20	-	77	
16	5/8"	74	40 - 85
9.5	3/8"	64	
4.75	No. 4	53	25 - 75*
2.36	No. 8	43	
1.18	No. 16	30	
0.630	-	14.3	
0.425	No. 40	4.7	2 - 25
0.150	No. 100	1.11	
0.090	No. 170	0.97	0 - 15*



Notes: The material was washed over a 0.075 mm sieve prior to sieving.
*As per the Specification the Sieve Designation used is the 5.0 mm instead of the 4.75 mm and the 0.080 mm instead of the 0.090 mm.

Appendix D

Permits and Health & Safety Reports (ON ATTACHED CD)

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Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

www.inac.gc.ca
www.ainc.gc.ca

Your file - Votre référence

Our file - Notre référence

Land Administration
P.O. Box 100
IQALUIT, NU X0A 0H0
Phone: 867-975-4275
FAX: 867-975-4286

February 16, 2010

Natalie Plato
c/o DIAND-Contaminated Sites
P.O. Box 2200
X0A 0H0

Dear Ms. Plato:

Re: Land Use Permit #N2010X0005
Type of Operation: Mid-Canada Line Radar Station Remediation Project
Location: Bear Island, Nunavik Marine Region, NU, NTS 43I

Enclosed is your copy of Land Use permit number N2010X0005 authorizing your project as described in your application dated November 10, 2008, received by this office November 12, 2008.

This application was processed under the Nunavik Inuit Land Claims Agreement (NILCA) and reviewed by the Nunavik Marine Region Impact Review Board (NMRIRB). The NMRIRB has screened this project as per section 7.4.4 (a) of the NILCA and determined it may be processed as without a review under Part 7.5 (Review of Project Proposals by NMRIRB) or Part 7.6 (Review by a Federal Environment Assessment Panel) of the Agreement. Their recommendations were based on benefits to the local Cree and Inuit communities, the positive impacts on wildlife and future human use of the area, and that the requirements for environmental remediation will mitigate adverse effects towards the environment.

Based on this review we have set the terms and conditions in the permit that will, in our opinion, provide the necessary protection to the environment.

The Proponent is also advised that the following legislation may apply to the project:

1. The *Fisheries Act* (http://laws.justice.gc.ca/en/showtdm/cs/F-14///en).
2. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (http://www.canlii.org/ca/sta/n-28.8/whole.html).
3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations* (http://laws.justice.gc.ca/en/showtdm/cs/M-7.01).

3. The *Migratory Birds Convention Act* and *Migratory Birds Regulations*

4. The *Species at Risk Act* (http://laws.justice.gc.ca/en/showtdm/cs/S-15.3). Attached in **Appendix B** is a list of Species at Risk in Nunavut.

5. The *Nunavut Wildlife Act* which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.

6. The *Nunavut Act* (http://laws.justice.gc.ca/en/showtdm/cs/N-28.6).

7. The *Transportation of Dangerous Goods Regulations*, *Transportation of Dangerous Goods Act* (http://www.tc.gc.ca/tdg/menu.htm), and the *Environmental Protection Act* (http://laws.justice.gc.ca/en/C-15.31/text.html) The Proponent must ensure that proper shipping documents accompany all movements of dangerous goods. The Proponent must register with the GN-DOE Manager of Pollution Control and Air Quality at 867-975-7748.

8. The *Aeronautics Act* (http://laws.justice.gc.ca/en/A-2/).

9. The *Navigable Waters Protection Act (NWPA)* (http://laws.justice.gc.ca/en/N-22/index.html.

Please ensure that you adhere to the operating conditions, along with the Archaeological Palaeontological terms and conditions and the Species at Risk Act, annexed to your permit. Should you have any questions regarding any conditions of this permit, please contact Jeff Mercer at 867-975-4283 or email jeff.mercer@inac.gc.ca.

Sincerely,

Jeff Mercer
Land Administration Specialist
Land Administration

cc: Manager, Field Operations
Manager, Land Administration
RMO - Baffin RMO
NMRIRB

Indian and Northern Affairs Canada | Affaires indiennes et du Nord Canada

LAND USE PERMIT
NORTHERN AFFAIRS PROGRAM

PERMIS D'UTILISATION DES TERRES
PROGRAMME DES AFFAIRES DU NORD

Permit Class - Permis Categorie	Permit No - N° de permis
A	N2010X0005

Subject to the Territorial Land Use Regulations and the terms and conditions in this permit, authority is hereby granted to:

Sous réserve du Règlement sur l'utilisation des terres territoriales et des conditions de ce permis:

Indian and Northern Affairs Canada – Contaminated Sites
Permittee - Détenteur de permis

To proceed with the land use operation described in the application of:

Est autorisé à entreprendre les travaux d'exploitation des terres décrits dans la demande de permis du:

Name	Date
Natalie Plato, Director, Contaminated Sites, INAC	**February 16, 2010**

Type of Land Use Operation - Genre de travaux d'exploitation des terres

Mid-Canada Line Radar Station Remediation Project

Location - Emplacement

Bear Island, Nunavik Marine Region, Nunavut NTS 43I

This permit may be assigned, extended, discontinued, suspended or cancelled pursuant to the Territorial Land Use Regulations.

Ce permis peut faire l'objet d'une cession, d'une prolongation d'une cessation d'une suspension ou d'une annulation, en vertu du Règlement sur l'utilisation des terres territoriales.

Dated at / Date a **Iqaluit**

Engineer / Ingénieur

This / Ce **16th** Day of / jour de **February**, **2010**.

Commencement Date / Date du déut des travaux **May 1, 2010**

Expiry Date / Date d'achèvement **April 30, 2012**

NOTE

IT IS A CONDITION OF THIS PERMIT THAT THE PERMITTEE COMPLY WITH ANY OTHER APPLICABLE ACT, REGULATION, ORDINANCE BY - LAW OR ORDER DEFAULT HEREOF MAY RESULT IN SUSPENSION OR CANCELLATION OF THIS PERMIT.

REMARQUE

LE DÉTENTEUR DU PRÉSENT PERMIS DOIT SE CONFORMER À TOUT AUTRE RÈGLEMENT, LOI, DÉCRET RÈGLEMENT MUNICIPAL OU ARRETÉ APPLICABLE. LE MANQUEMENT À CETTE OBLIGATION POURRAIT DONNER LIEU À LA SUSPENSION OU À L'ANNULATION DU PERMIS.

Canada

Canada

ARCHAEOLOGICAL AND PALAEONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS

BACKGROUND

Archaeology

As stated in Article 33 of the Nunavut Land Claims Agreement:

The archaeological record of the Inuit of Nunavut is a record of Inuit use and occupancy of lands and resources through time. The evidence associated with their use and occupancy represents a cultural, historical and ethnographic heritage of Inuit society and, as such, Government recognizes that Inuit have a special relationship with such evidence, which shall be expressed in terms of special rights and responsibilities. [33.2.1]

The archaeological record of Nunavut is of spiritual, cultural, religious and educational importance to Inuit. Accordingly, the identification, protection and conservation of archaeological sites and specimens and the interpretation of the archaeological record is of primary importance to Inuit and their involvement is both desirable and necessary. [33.2.2]

In recognition of the cultural, spiritual and religious importance of certain areas in Nunavut to Inuit, Inuit have special rights and interests in these areas as defined by Article 33 of the Nunavut Land Claims Agreement. [33.2.5]

Palaeontology

Under the Nunavut Act[1], the federal government can make regulations for the protection, care and preservation of palaeontological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*[2], it is illegal to alter or disturb any palaeontological site in Nunavut unless permission is first granted through the permitting process.

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

"archaeological site" means a place where an archaeological artifact is found.

[1] s. 51(1)
[2] P.C. 2001-1111 14 June, 2001

[2] P.C. 2001-1111 14 June, 2001

"archaeological artifact" means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.

"palaeontological site" means a site where a fossil is found.

"fossil" includes:

(a) natural casts
(b) preserved tracks, coprolites and plant remains; and
(c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates.

Terms and Conditions

1) The permittee shall not operate any vehicle over a known or suspected archaeological or palaeontological site.

2) The permittee shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.

3) The permittee shall immediately contact the Department of Culture, Language, Elders and Youth (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035 should an archaeological site or specimen, or a palaeontological site or fossil be encountered or disturbed by any land use activity.

4) The permittee shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation, until permitted to proceed with the authorization of the Department of Culture, Language, Elders and Youth, Government of Nunavut.

5) The permittee shall follow the direction of the Department of Culture, Language, Elders and Youth and DIAND in restoring disturbed archaeological or palaeontological sites to an acceptable condition.

6) The permittee shall provide all information requested by the Department of Culture, Language, Elders and Youth concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.

7) The permittee shall make best efforts to ensure that all persons working under authority of the permit are aware of these conditions concerning archaeological sites and artifacts, and palaeontological sites and fossils.

8) The permittee shall avoid the known archaeological and/or palaeontological sites listed in Attachment 1.

listed in Attachment 1.

9) The permittee shall have an archaeologist or palaeontologist perform the following functions, as required by the Department of Culture, Language, Elders and Youth:

   a) survey
   b) inventory and documentation of the archaeological or palaeontological resources of the land use area
   c) assessment of potential for damage to archaeological or palaeontological sites
   d) mitigation
   e) marking boundaries of archaeological or palaeontological sites
   f) site restoration

The Department of Culture, Language, Elders and Youth shall authorize by way of a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit, all procedures subsumed under the above operations.

Appendix B
Species At Risk in Nunavut

This list includes species listed on one of the Schedules of SARA (*Species at Risk Act*) and under consideration for listing on Schedule 1 of SARA. These species have been designated as at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). This list may not include all species identified as at risk by the Territorial Government.

a) Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term "listed" species refers to species on Schedule 1.

(b) Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.

(c) Some species identified at risk by COSEWIC are "pending" addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

Schedules of SARA are amended on a regular basis so it is important to periodically check the SARA registry (www.sararegistry.gc.ca) to get the current status of a species.

Updated: August 4, 2009 Species at Risk	COSEWIC Designation	Schedule of SARA	Government Organization with Lead Management Responsibility [1]
Eskimo Curlew	Endangered	Schedule 1	EC
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Peregrine Falcon (*anatum-tundrius* complex)	Special Concern	Schedule 1 (*anatum*) Schedule 3 (*tundrius*)	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peary Caribou	Endangered	Pending	Government of Nunavut
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO
Red Knot (*rufa* subspecies)	Endangered	Pending	EC
Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Atlantic Cod (Arctic population)	Special Concern	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
population)			

Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO

CONDITIONS ANNEXED TO AND FORMING PART OF LAND USE PERMIT NUMBER N2008X0038

31 (1) (a) - Location and Area

1.	The Permittee shall not conduct this land use operation on any lands not designated in the accepted application, unless otherwise authorized in writing by the Engineer.	PLANS
2.	The Permittee shall remove from Territorial Lands, all scrap metal, discarded machinery and parts, barrels and kegs, buildings and building material.	REMOVE WASTE MATERIAL
3.	The Permittee shall locate all camps on gravel, sand or other durable land.	CAMP LOCATION

31 (1) (b) – Time

4.	The Permittee's Field Supervisor shall contact or meet with a Land Use Inspector at the Iqaluit office of the Department of Indian Affairs and Northern Development, phone number (867) 975-4295, at least 48 hours prior to the commencement of this land use operation.	CONTACT INSPECTOR
5.	The Permittee shall advise a Land Use Inspector at least 10 days prior to the completion of the land use operation of ; a) his plan for removal or storage of equipment and materials, and b) when final clean-up and restoration of the lands used will be completed.	REPORTS BEFORE REMOVAL
6.	The Permittee shall notify a Land Use Inspector at least 10 days prior to backfilling any sump.	BACKFILLING NOTIFICATION
7.	The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this permit.	CLEAN-UP
8.	The Engineer reserves the right to impose closure to any area to the Permittee in periods when dangers to natural resources are severe.	CLOSURE

31 (1) (c) - Equipment

9.	The Permittee shall not use any equipment except of the type, size and number that is listed in the accepted application, unless otherwise authorized in writing by the Land Use Inspector.	ONLY APPROVED EQUIPMENT
10.	The Permittee shall use a forced-air fuel-fired incinerator to incinerate all combustible garbage and debris.	INCINERATORS
11.	The Permittee shall burn all combustible garbage and debris in a container acceptable to a Land Use Inspector.	INCINERATION

12.	The Permittee shall use portable ramps during loading or unloading ships or barges.	PORTABLE RAMPS
13.	The Permittee shall not place dirt or debris into streams to serve as ramps for loading or unloading ships or barges, unless authorized in writing by a Land Use Inspector.	DIRT RAMPS

31 (1) (d) - Methods and Techniques

13.	The Permittee shall remove all wire from the land as the land use operation progresses.	REMOVE WIRE
14.	The Permittee shall slope the sides of excavations and embankments except in solid rock to a horizontal/vertical ratio of 2:1 unless otherwise authorized in writing by the Land Use Inspector.	EXCAVATIONS AND EMBANKMENTS
15.	The Permittee shall not erect camps or store material on the surface ice of streams.	STORAGE ON ICE

31 (1) (e) - Type, Location, Capacity and Operation of Facilities

16.	The Permittee shall not locate any sump within 31 metres of the normal high water mark of any stream.	SUMPS FROM WATER
17.	The Permittee shall backfill and restore all sumps prior to the expiry date of this permit.	BACKFILL SUMPS
18.	The Permittee shall ensure that the land use area is kept clean and tidy at all times.	CLEAN WORK AREA

31 (1) (f) - Control or Prevention of Flooding, Erosion and Subsidence of Land

19.	The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation.	NATURAL DRAINAGE
20.	The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface.	PREVENTION OF RUTTING

31 (1) (g) - Use, Storage, Handling and Disposal of Chemical or Toxic Material

21.	The Permittee shall not use chemicals in connection with the land use operation without the prior approval of the Engineer.	APPROVAL OF CHEMICALS
22.	The Permittee shall deposit all sewage into a sump.	SEWAGE DISPOSAL
23.	The Permittee shall burn all garbage and debris at least daily.	GARBAGE DISPOSAL
24.	The Permittee shall remove all non-combustible garbage and debris from the land use area to a disposal site approved in writing by a Land Use Inspector.	REMOVE GARBAGE

	the land use area to a disposal site approved in writing by a Land Use Inspector.	GARBAGE

25.	The Permittee shall dispose of all combustible waste petroleum products by removal.	WASTE PETROLEUM DISPOSAL
26.	The Permittee shall dispose of all toxic or persistent substances in a manner as approved in writing by the Engineer.	WASTE CHEMICAL DISPOSAL
27.	The Permittee shall dispose of all fluids used to wash machinery and equipment in a sump unless otherwise authorized in writing by a Land Use Inspector.	RIG WASH DISPOSAL
28.	The Permittee Shall use drip pans or other preventative measures when refueling equipment at the project site.	USE DRIP PANS WHEN REFUELING
29	The Permittee shall report all spills immediately in accordance with instructions contained in "Spill Report" form NWT 1752(05/93). Twenty four (24) hour spill report line (867)920-8130.	REPORT CHEMICAL AND PETROLEUM SPILLS
30.	The Permittee prior to the discharge of fluids from any sump, shall carry out an analysis of the fluids in a manner prescribed by the Engineer and obtain his written approval to discharge.	SUMP DISCHARGE

31 (1) (h) - Wildlife and Fisheries Habitat

31.	The Permittee shall not unnecessarily damage wildlife habitat in conducting this land use operation.	HABITAT DAMAGE
32.	The Permittee shall not feed wildlife.	NO FEEDING WILDLIFE
33.	The Permittee shall construct and maintain all structures placed in streams frequented by fish, in such a manner that will not obstruct passage of fish.	FREE FISH MOVEMENT
34.	The Permittee shall not obstruct the movement of fish while conducting this land use operation.	FREE FISH MOVEMENT
35.	Your operation is in an area where bears may be encountered. Proper food handling and garbage disposal procedures will lessen the likelihood of bears being attracted to your operation. Information about the latest bear detection and deterrent techniques can be obtained from the Department of Renewable Resources at Iqaluit (867) 979-7800.	BEAR/MAN CONFLICT
36.	The Proponent shall restrict aircraft/helicopter activity related to the project to a minimum altitude of 610 metres above ground level unless there is a specific requirement for low-level flying, which does not disturb wildlife and migratory birds.	LOW LEVEL FLYING
37.	The Proponent shall ensure that aircraft maintain a vertical	LOW LEVEL

37.	The Proponent shall ensure that aircraft maintain a vertical	LOW LEVEL

	distance of 1000 metres and a horizontal distance of 1500 metres from any observed groups (colonies) of migratory birds.	FLYING
38.	The Proponent shall ensure that aircraft/helicopter do not, unless for emergency, touch-down in areas where wildlife are present.	AIRCRAFT RESTRICTION
39	The Permittee shall not disturb or destroy the nests or eggs of any birds. If nests are encountered and/or identified, the Permittee shall take precaution to avoid further interaction and or disturbance.	BIRDS NESTS/EGGS

31 (1) (k) - Petroleum Fuel Storage

40.	The Permittee shall report in writing to a Land Use Inspector the location and quantity of all petroleum fuel caches within ten (10) days after their establishment.	REPORT FUEL LOCATION
41.	The Permittee shall not place any petroleum fuel storage containers within thirty one (31) metres of the normal high water mark of any stream.	FUEL BY STREAM
42.	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT
43.	The Permittee shall have one extra fuel storage container on site equal to, or greater than, the size of the largest fuel container.	FUEL EXTRA CONTAINER
44.	The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the Engineer.	LINE DYKE
45.	The volume of the dyked area shall be 10% greater than the capacity of the largest fuel container placed therein.	CAPACITY
46..	The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times	IMPERMEABLE DYKE
47.	The Permittee shall:	CHECK FOR LEAKS
	a) examine all fuel storage containers for leaks a minimum of once every day.	
	(b) repair all leaks immediately.	
48.	The Permittee shall mark all stationary petroleum products storage facilities with flags, posts or similar devices so that they are at all times plainly visible to local vehicle travel.	MARK FUEL LOCATION
49.	The Permittee shall seal all container outlets except the outlet currently in use.	SEAL OUTLET
50.	The Permittee shall mark all fuel containers with the Permittee's name.	MARK CONTAINERS

31 (1) (m) - Matters Not Inconsistent with the Regulations

51.	The Permittee shall display a copy of this permit in a conspicuous place in each campsite established to carry out this land use operation.	DISPLAY PERMIT
52.	The Permittee shall keep on hand, at all times during this land use operation, a copy of the Land Use Permit.	COPY OF PERMIT
53.	The Permittee shall provide in writing to the Engineer, at least forty-eight (48) hours prior to commencement of this land use operation, the following information: a) person, or persons, in charge of the field operation to whom notices, orders, and reports may be served; b) alternates; c) all the indirect methods for contacting the above person(s).	IDENTIFY AGENT
54.	The Permittee shall conspicuously display the land use permit number on all vehicles and equipment.	DISPLAY PERMIT NUMBER
55.	Part 1 - In this Permit: "sump" means a man-made pit, trench hollow or cavity in the earth's surface used for the purpose of depositing waste material therein.	DEFINITIONS
56..	The Permittee shall abide by and comply with all applicable lawful rules, acts, regulations, and by-laws of Canada, Nunavut, any Municipal or regulatory body or authority having jurisdiction, the Nunavik Inuit Land Claim Agreement, and all other agreements, permits, licenses, and other instruments whatsoever related to the project.	ADHERENCE TO LAWFUL RULES, ACTS, REGS & BYLAWS

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

www.inac.gc.ca
www.ainc.gc.ca

Land Administration
P.O. Box 100
IQALUIT, NU X0A 0H0
Phone: 867-975-4275
FAX: 867-975-4286

Your file - Votre référence

Our file - Notre référence

June 7th, 2010

Natalie Plato
c/o DIAND-Contaminated Sites
P.O. Box 2200
Iqaluit, NU
X0A 0H0

Dear Ms. Plato:

Re: Land Use Permit #N2010X0005
Type of Operation: Site Remediation
Location: Bear Island, Nunavik Marine Region, NTS 43I

This letter will confirm that your quarry permit request has been approved. Please see the attached Quarry Permits 2010QP0099-2010QP0100.

Please be advised that no screening is required as the activities were indicated in the original Land Use Permit application.

All conditions annexed to land use permit N2010X0005 will apply to this extension.

Sincerely,

Brian O'Mara
Land Specialist
Land Administration

cc: Manager, Field Operations
RMO - Baffin
NMRIRB

Canada

TERRITORIAL QUARRYING REGULATIONS

QUARRYING PERMIT NO. 2010QP0099

Permit Fee.....Free Permit under Section 12(2)(b)
of Territorial Quarrying Regulations.

DIAND-Contaminated Sites

of **P.O. Box 2200, Iqaluit, Nunavut, X0A 0H0**, is hereby authorized to take **45'000 cubic meters of Sand/Gravel** from the lands described as follows: **From one (1) Borrow area, Borrow Area 1, Bear Island, Baffin Nunavut.**

SUBJECT TO THE FOLLOWING CONDITIONS:

1. This permit expires twelve months from the date of issue or when the authorized quantity of material has been quarried or removed, whichever is the sooner.

2. This permit does not grant to the Permittee any exclusive right or leasehold interest in the land described herein.

3. This permit shall not be assigned.

4. All quarrying under this permit shall be carried out in accordance with the Nunavut Mining Safety Ordinance.

5. This permit is subject to the provisions of the Territorial Quarrying Regulations and the conditions set out herein. Failure to comply with the provisions of the Regulations and the conditions prescribed in this permit may result in cancellation of the permit in accordance with Section 12(5) of the Territorial Quarrying Regulations without prior notice to the Permittee.

6. The Permittee will identify the work area to the satisfaction of the Land Use Inspector prior to the removal of any material and any change in location will require prior approval of the Land Use Inspector.

7. The Permittee will not work any area worked by any other Permittee except as co-ordinated by the Land Use Inspector.

8. No material is to be removed from any land protected by a registered mineral claim, without the Permittee obtaining prior permission of the registered owner(s).

9. Prior to the tenth day of each month, the Permittee shall submit a report to the Land Use Inspector at **Iqaluit** indicating the quantity of material quarried and the quantity of material removed from the site.

10. Upon expiration of this Permit, as prescribed in Condition One, the Permittee shall level the excavation and restore the lands to the satisfaction of the Land Use Inspector within 30 days of said expiration date or as may be authorized by the Land Use Inspector.

11. Land Use Permit **N2010X0005** and its operating conditions will apply.

Issued at Iqaluit, this **2nd** day of **June, 2010**.

Land Agent

TERRITORIAL QUARRYING REGULATIONS

QUARRYING PERMIT NO. 2010QP0100

Permit Fee.....Free Permit under Section 12(2)(b)
of Territorial Quarrying Regulations.

DIAND-Contaminated Sites

of **P.O. Box 2200, Iqaluit, Nunavut, X0A 0H0**, is hereby authorized to take **18'000 cubic meters of Sand/Gravel** from the lands described as follows: **From one (1) Borrow area, Borrow Area 1, Bear Island, Baffin Nunavut.**

SUBJECT TO THE FOLLOWING CONDITIONS:

1. This permit expires twelve months from the date of issue or when the authorized quantity of material has been quarried or removed, whichever is the sooner.

2. This permit does not grant to the Permittee any exclusive right or leasehold interest in the land described herein.

3. This permit shall not be assigned.

4. All quarrying under this permit shall be carried out in accordance with the Nunavut Mining Safety Ordinance.

5. This permit is subject to the provisions of the Territorial Quarrying Regulations and the conditions set out herein. Failure to comply with the provisions of the Regulations and the conditions prescribed in this permit may result in cancellation of the permit in accordance with Section 12(5) of the Territorial Quarrying Regulations without prior notice to the Permittee.

6. The Permittee will identify the work area to the satisfaction of the Land Use Inspector prior to the removal of any material and any change in location will require prior approval of the Land Use Inspector.

7. The Permittee will not work any area worked by any other Permittee except as co-ordinated by the Land Use Inspector.

8. No material is to be removed from any land protected by a registered mineral claim, without the Permittee obtaining prior permission of the registered owner(s).

9. Prior to the tenth day of each month, the Permittee shall submit a report to the Land Use Inspector at **Iqaluit** indicating the quantity of material quarried and the quantity of material removed from the site.

10. Upon expiration of this Permit, as prescribed in Condition One, the Permittee shall level the excavation and restore the lands to the satisfaction of the Land Use Inspector within 30 days of said expiration date or as may be authorized by the Land Use Inspector.

11. Land Use Permit **N2010X0005** and its operating conditions will apply.

Issued at Iqaluit, this **2nd** day of **June, 2010**.

Land Agent

P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: 1BR-BEA1015

April 6, 2010

Natalie Plato
Director, Contaminated Sites
Indian and Northern Affairs Canada
P.O. Box 2200
Iqaluit, NU X0A 0H0
E-mail: platon@inac-ainc.gc.ca

RE: NWB LICENCE No. 1BR-BEA1015

Dear Ms. Plato:

Please find attached Licence No. **1BR-BEA1015** issued to Indian and Northern Affairs Canada – Contaminated Sites by the Nunavut Water Board **Motion #: 2009-23-L03** pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*. The terms and conditions of the attached Licence related to water use and waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then water use and waste disposal must cease, or the Licensee will be in contravention of the Nunavut Land Claims Agreement. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three months prior to the Licence expiry date.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment

process. The process and timing may vary depending on the scope of the amendment; however, a minimum of sixty (60) days is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments[1] received by interested persons on issues identified. Among others, Environment Canada commented that Chisasibi Quebec, may not have the proper facilities to receive PHC contaminated soils as stated in the remedial action plan. This information is attached for your consideration.

Sincerely,

Thomas Kabloona
Nunavut Water Board
Chair

TK/dc

Enclosure: Licence No. **1BR-BEA1015**
Comments
NMRIRB[2]

Cc: Distribution – Qikiqtani

[1] Environment Canada (EC), March 5, 2009 and Indian and Northern Affairs Canada (INAC) – Water Resources Division, March 2, 2009.

[2] Nunavik Marine Region Impact Review Board (NMRIRB), Screening Decision 7.4.4 (a) (Nunavik Inuit Land Claims Agreement) – May be processed without a review, February 1, 2010.

P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

DECISION

LICENCE NO.: 1BR-BEA1015

This is the decision of the Nunavut Water Board (NWB) with respect to an application, dated November 10, 2008, for a new Licence made by:

INDIAN AND NORTHEN AFFAIRS CANADA – CONTAMINATED SITES

to allow for the implementation of a remedial action plan at two Abandoned Mid-Canada Line Radar Stations, located on Bear Island in the north central section of James Bay within the Qikiqtani Region, Nunavut (at general latitude of 54° 20” N and general longitude 81° 05" W).

DECISION

After having been satisfied that the application was exempt from the requirement for screening by the Nunavut Impact Review Board and with a 7.4.4(a) Screening Decision on February 1, 2010 from the Nunavik Marine Region Impact Review Board (NMRIRB) in accordance with the Nunavik Inuit Land Claims Agreement, the NWB decided that the application could proceed through the regulatory process. In accordance with S.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)* and Article 13 of the *Nunavut Land Claim Agreement (NLCA)*, public notice of the application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *NLCA* and of the *NWNSRTA*, decided to waive the requirement to hold a public hearing and determined that:

Licence Number 1BR-BEA1015 be issued subject to the terms and conditions contained therein. (Motion #: 2009-23-L03)

SIGNED this 1st day of April 2010 at Gjoa Haven, NU.

Thomas Kabloona
Nunavut Water Board
Chair

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I. INTRODUCTION

The Bear Island Mid-Canada Line Radar Station (Bear Island Station) included two Doppler radar stations operated from the 1950s to 1965 as part of the former Mid-Canada Early Warning Line. They were abandoned in 1965 and although the majority of the buildings were removed to their foundation, no cleanup operations were carried out. The environmental issues at Bear Island include former landfills and site buildings, as well as abandoned hazardous materials (lead acid batteries, petroleum products, asbestos), barrels and scrap metal.

Bear Island is approximately 5 km long, north to south, by 1.5 km wide. It is a low lying black basalt outcrop, covered with small lakes and ponds, which were created by glacial scouring. Typical plants found in this region include ground cover of dwarf birch, willow, cotton grass, lichen and moss. Seabird activity and bear and fox evidence were noted in the 1995 investigation. The wildlife typically found in this region includes black and polar bears, wolf, red fox, snowshoe hare, raven, osprey, shorebirds, seabirds, waterfowl, seal, walrus and whale.

At Site 413 there is a toppled radar tower and only the building foundation and most of the floor remains. The petroleum, oils and lubricants (POL) tanks have been removed but some piping is still present. The buildings appear to have been equipped with sanitary toilet systems, where the waste was discharged into a deep tank under the building. A partially covered landfill and a surface dump are present at the site, northeast of Site 412. In addition, there is a 3,300 m long pipeline and 2,850 m long electrical cable, which runs through the sites and physical debris is scattered throughout the island. A 1,500 m airstrip (abandoned) is located on the west side of the island, between the two stations; the roads between the two sites are connected via the airstrip. There is a beaching area on the east side of the island in a natural bay, approximately 1 km north of Site 412 and connected to the site by road. The beach area is believed to be where supplies were unloaded for the island and consists of a storage and hut area with a POL site to the south. There is very little of the POL site remaining with the exception of some petroleum piping.

A preliminary environmental assessment of the Bear Island Station was conducted in 1995 by the Environmental Sciences Group (ESG) of Royal Roads Military College. Surface soil, vegetation and water samples, were collected, from various locations on the island to investigate possible contamination. Chemical contamination at Bear Island was reported to be minimal and mostly confined to localized areas. Physical debris, however, is ubiquitous and abundant. An environmental site delineation and material inventory was completed over two days in 2001 by Earth Tech Canada, using the ESG report as a template for gathering and compiling more specific information on Bear Island. Soils contaminated with arsenic, cadmium, copper, chromium, lead, selenium and zinc were identified in a number of areas at the Main Doppler Detection Building Site 412, Barrel Cache Area, Beach Area and Northern Doppler Detection Building Site 413. Earth Tech reported an estimated 354 m3 of soil contaminated with metals, which exceeds the CCME Environmental Soil Quality Guidelines for residential/parkland use. The volume of hydrocarbon-contamination on site, according to the Canada Wide Standards for

Petroleum Hydrocarbons in Soil, is approximately 85 m3 located around the landfill site northeast of the main site.

INAC augmented the work carried out in previous years with a detailed site investigation in the summer of 2007. At the same time, a geotechnical investigation was completed to identify suitable borrow source material and potential locations for non hazardous landfills. An archaeological assessment was also completed to identify areas of potential cultural or historical significance.

The Licensee will undertake a Remedial Action Plan that includes the following:

- Accessing site via sealift;
- Establishing a camp to support site operations;
- Existing site infrastructure will be demolished and demolition wastes will be segregated into hazardous and non-hazardous materials;
- Hazardous materials and soil to be disposed of at an off-site licensed disposal facility;
- Metal/BCP/hydrocarbon contaminated soil areas will be disposed at an off-site licensed disposal facility;
- Hydrocarbon impacted soil areas to be excavated, containerized and shipped off-site to a licensed disposal facility;
- A Non-Hazardous Waste Landfill (NHWL) to be constructed;
- Existing landfills/dumps to be remediated;
- Barrel consolidation including either incinerating or shipping contents off site for disposal, empty drums to be crushed and disposed in the NHWL;
- Scattered surface debris and partially buried debris to be collected and disposed in NWHL;
- Roads and airstrip will be re-constructed and repaired as required; and
- Several borrow sources will be developed and the material used to assist in the remediation work.

Following completion of the Remedial Action Plan, the site will then enter a 25 year long term monitoring phase to ensure remediation efforts were successful.

II. PROCEDURAL HISTORY

On November 19, 2008 a water licence application was filed with the Nunavut Water Board by Indian and Northern Affairs Canada – Contaminated Sites for water use and waste disposal activities associated with the implementation of a remedial action plan for Bear Island. The application included the following documents:

- Application Form;
- Supplementary Questionnaire;
- Letter to NIRB Regarding Bear Island Jurisdiction;

- Executive Summary (English);
- Executive Summary (Inuktitut);
- Remedial Action Plan;
- Site Maps & Drawings;
- Environmental Screening;
- Preliminary Spill Contingency Plan;
- Project Schedule;
- Archaeological Impact Assessment
- List of Additional Documents; and
- Supplementary Information to be Provided

On November 28, 2008 the Nunavut Planning Commission confirmed the application was for a project outside an approved land use plan and a conformity determination would not be required. As the application was outside the Nunavut Settlement Area and located in the Nunavut Marine Region as established under the Nunavik Inuit Land Claims Agreement (NILCA), Nunavut Impact Review Board screening was not required. On February 1, 2010, the Nunavik Marine Region Impact Review Board issued a 7.4.4(a) Screening Decision under the NILCA, which allowed the project to proceed without a review.

The NWB issued notice of the application on February 2, 2009 and again on May 7, 2009. Comments were received from Environment Canada and Indian and Northern Affairs Canada – Water Resources Division. Following review of the application and submissions received, the Board has issued Licence No. 1BR-BEA1015.

III. GENERAL CONSIDERATIONS

A. Term of the Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* S. 45, the NWB may issue a licence for a term not exceeding twenty-five years. The NWB has taken into consideration the Long Term Monitoring Program put forward by the applicant and the request for a five (5) year licence term, two years for remediation activities and three for early stage long term monitoring is appropriate. This duration will allow the Licensee to properly carry out the terms and conditions of the licence and implement the Remedial Action Plan, to the satisfaction of the NWB.

B. Annual Report

The requirements imposed on the Licensee in this licence are for the purpose of ensuring that the NWB has an accurate annual update of water use and depositions of waste during a calendar year. This information is maintained on the public registry and is available to any interested persons upon request. The requirements of this Annual Report can be found in Part B, Item 1. A

standard form for annual reporting can be downloaded from the NWB ftp site at http://nunavutwaterboard.org/ftp/ in the administration folder.

C. Water Use

The Licensee has requested the use of twenty cubic metres per day in support of camp operations and for the cleaning of drums. As such, twenty (20) cubic metres per day is authorized to be extracted from lakes on Bear Island, stored in the reservoir and used for camp operations and barrel rinsing.

D. Deposit of Waste

The Licensee is authorized construct, operate and close a Non-Hazardous Waste Landfill and to deposit into the NHWL wastes from sources such as camp operations, surface debris collection, existing landfill remediation, Tier I Contaminated Soils, compressed gas cylinders and double bagged asbestos wastes.

All other hazardous wastes, Tier II Contaminated Soils, Petroleum Hydrocarbon Contaminated Soils, POL's that do not meet incineration criteria and lead painted products shall be backhauled for approval in a currently approved facility designed to contain or treat the respective waste product.

Prior to discharge, all sewage will be directed to and treated in the Sewage Disposal Facilities, which is comprised of two independently operated sewage lagoons. All sewage will be required to meet the effluent standards listed in Part D, Item 10 prior to discharge at Monitoring Program Stations BEA-2a and BEA-2b. Although the Licence is not as stringent as the limits under the "Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments", the Licensee is encouraged to attempt to meet the higher standards.

Effluent resulting from barrel rinsing activities that occur in the Waste Handling Facility shall be collected and contained in a series of lined lagoons. The effluent shall be treated to standards listed under Part D, Item 12 and discharged at Monitoring Program Station BEA-3. If the effluent cannot be treated to such levels, it shall be considered hazardous waste and be backhauled for proper disposal.

E. Operations and Maintenance

The Licensee shall submit for Board approval within sixty (60) days following issuance of the Licence, an operations and maintenance plan (O&M Plan) for the Sewage Disposal Facilities. The O&M Plan shall include 95% complete For-Construction Drawings of the Sewage Disposal Facilities stamped and signed by an Engineer, identify final discharge locations BEA-2a and BEA-2b identified on a map, include the monitoring program for the facility and provide abandonment and restoration information including sludge disposal instructions. This requirement is detailed under Part E, Item 1.

F. Construction and Modifications

The Licensee shall submit for review at least ninety (90) days prior to construction of the Non-Hazardous Waste Landfill and Material Processing Area; stamped and signed 95% compete For Construction drawings of the respective facility.

G. Spill Contingency Planning

The Licensee is required to submit for approval a complete Spill Contingency Plan within sixty (60) days following issuance of the Licence. As the requested Licence duration extends into the long term monitoring phase, the Plan shall also have a section to address spills during the long term monitoring following remediation of the site. The Plan shall address comments received by Environment Canada and INAC – Contaminated site during the application review process. The requirements for the Plan are included under Part I of this licence for spill response and reporting.

H. Abandonment and Restoration

The Board has approved the Plan entitled "Bear Island Mid-Canada Line Radar Station, Remedial Action Plan" revised September, 2008. The Licensee shall implement site remediation activities in accordance with the approved Plan and the conditions of this Licence.

I. Monitoring

A QA/QC plan is to be provided to the Board with a cover letter from the analyzing lab stating that the plan is acceptable. All results of monitoring are to be provided to the NWB with an analysis as part of the annual report.

The Licensee shall submit to the Board approval prior to March 31, 2012, a Long Term Monitoring Plan.

NUNAVUT WATER BOARD
WATER LICENCE

Pursuant to the Nunavut *Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

INDIAN AND NORTHERN AFFAIRS CANADA – CONTAMINATED SITES
(Licensee)

P.O. BOX 2200, IQALUIT, NU, X0A 0H0
(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water or dispose of waste for a period subject to restrictions and conditions contained within this Licence:

Licence Number/Type:	1BR-BEA1015 TYPE "B"
Water Management Area:	NUNAVUT 04
Location:	BEAR ISLAND MID-CANDA LINE RADAR STAION JAMES BAY, QIKIQTANI REGION (54° 20" N and 81° 05" W)
Classification:	INDUSTRIAL UNDERTAKING
Purpose:	DIRECT WATER USE AND WASTE DISPOSAL DURING REMEDIAL ACTIVITIES
Quantity of Water use not to Exceed:	TWENTY (20) CUBIC METRES PER DAY
Date of Licence Issuance:	APRIL 1, 2010
Expiry of Licence:	MAY 1, 2015

This Licence, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Thomas Kabloona
Nunavut Water Board
Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the implementation of a remedial action plan at the Bear Island Mid-Canada Line Radar Stations during an Industrial Undertaking, located on Bear Island in James Bay, approximately 160 km northwest of Chisasibi, QC and 300 km south of Sanikiluaq within the Qikiqtani Region, Nunavut (at general latitude of 54° 20" N and general longitude 81° 05" W).

a. This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the Nunavut Waters and Nunavut Surface Rights Tribunal Act, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and;

b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence: **1BR-BEA1015**

"Act" means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*

"Appurtenant Undertaking"' means an undertaking in relation to which a use of waters or a deposit of waste is permitted by a licence issued by the Board;

"Board" means the Nunavut Water Board established under the *Nunavut Land Claims Agreement*;

"Effluent" means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond or following a treatment process

"Hazardous waste" means waste classified as "hazardous" by Nunavut Territorial or Federal Legislation, or as "dangerous goods" under the *Transportation of Dangerous Goods Act* at the time of clean-up;

"Inspector" means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

"Licensee" means the individual or organization to which Licence 1BR-BEA1015 Type "B" is issued or assigned;

"Modification" means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

"Non-Hazardous Waste Landfill" (NHWL) comprises the landfill and adjacent monitoring wells and associated structures designed to contain wastes from camp operations, surface debris collection, existing landfill remediation, Tier I Contaminated Soils, compressed gas cylinders and double bagged asbestos wastes as detailed in preliminary drawings 421391-C07 and 421391-C08;

"Nunavut Land Claims Agreement" (NLCA) means the "*Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada*," including its preamble and schedules, and any amendments to that agreement made pursuant to it;

"Sewage" means all toilet wastes and greywater;

"Sewage Disposal Facilities" means the two independently operated sewage lagoons with a minimum capacity of 45 days or half the duration of the construction season and a maximum fluid depth that does not exceed one metre and sited a minimum of 100 metres from drainage paths as described in the new application received November 19, 2008;

"Tier I Soil" means soil containing contaminant concentrations within the types and ranges defined as DCC Tier I in Appendix E of the NTI Agreement, including its preamble and schedules, and any amendments to that agreement made pursuant to it (see Table No.1);

"Tier II Soil" means soil containing contaminant concentrations within the types and ranges defined as DCC Tier II in Appendix E of the NTI Agreement including its preamble and schedules, and any amendments to that agreement made pursuant to it (see Table No.1);

"Toilet Wastes" means all human excreta and associated products, but does not include greywater;

"**Type A Soil**" means soil contaminated with hydrocarbons in which the primary

petroleum product present in the soil as determined by laboratory analysis consists of lubricating oil and grease (F3 – F4 Fractions);

"**Type B Soil**" means soil contaminated with hydrocarbons in which the primary petroleum product present in the soil as determined by laboratory analysis consists of fuel oil and/or diesel fuel and /or gasoline (F1 – F2 Fractions);

"Waste" means waste as defined in Section 85 (1) of the *Act*;

"Waste Handling Facility" means an area designated for the handling of wastes and washing of old barrels and designed to contain and direct all effluent to a lined lagoon. Additional lined lagoons and treatment equipment are included which are designed to treat effluent to acceptable levels prior to discharge;

"Water Supply Facility" means the reservoir designed to hold approximately 300 cubic metres of water and associated intake structure described in an e-mail submitted in support of the application on February 19, 2010;

3. Enforcement

a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;

b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and

c. For the purpose of enforcing this Licence and with respect to the use of water and deposit or discharge of waste by the licensee, Inspectors appointed under the *Act,* hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. Licensee shall file an Annual Report on the appurtenant undertaking with the Board no later than March 31 of the year following the calendar year being reported which shall contain the following information:

a. The monthly and annual quantities (in cubic metres) of fresh water obtained from all sources;
b. The monthly and annual quantities (in cubic meters) of treated sewage discharged;
c. The monthly and annual quantities (in cubic metres) of material deposited in the NHWL;

d. A summary of all waste backhauled for disposal at approved facilities under Part D, Item 6;
e. A summary of all contaminated soil and hazardous wastes backhauled;
f. A summary of any construction work, modification and major maintenance work (including as-built diagrams) carried out on the NHWL, Waste Handling Facility and Sewage Disposal Facility, including all associated structures;
g. Tabular summaries for all data and information generated under the "Monitoring Program";
h. An analysis of data collected during the "Monitoring Program" and a brief description of any future studies planned by the Licensee;
i. A summary of remediation work undertaken during the year and an outline of work anticipated for the following year;
j. A summary of any studies requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned;
k. A list of unauthorized discharges and summary of follow-up actions taken;
l. Any revisions to the approved "Bear Island Mid-Canada Line Radar Station, Remedial Action Plan" revised September, 2008 for Board approval;
m. Any revisions to the site specific Spill Contingency Plan, submitted under Part I, Item 2, which may require Board approval;
n. If applicable, a description of any trenches and sumps excavated, including but not limited to the following: GPS coordinates, dimensions, depth below active layer, and secondary containment features;
o. A public consultation/participation report describing consultation with local organizations and the residents of the nearby communities;
p. A brief summary of work done to address concerns or deficiencies listed in the inspection reports and/or compliance reports prepared by an Inspector;
q. An executive summary in English, French and Inuktitut of all plans, reports, or studies conducted under this Licence; and
r. Any other details on water use or waste disposal requested by the Board by November 1st of the year being reported.

2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.

3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of water volumes as required by the Monitoring Program under Part K.

4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.

5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.

6. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.

7. The Licensee shall, within thirty (30) days of arrival on site, post signs in the appropriate areas identifying the locations of the Water Supply Facilities, Solid Waste Disposal Facilities, and the "Monitoring Program Stations". All postings shall be in the Official Languages of Nunavut.

8. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:

(a) **Manager of Licensing:**
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
Email: licensing@nunavutwaterboard.org

(b) **Inspector Contact:**
Manager of Field Operations
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

9. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.

10. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board is received and acknowledged by the Manager of Licensing.

11. This Licence is assignable as provided for in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain water for camp use and barrel washing from lakes proximal to the Water Supply Facility, up to a maximum of twenty (20) cubic meters per day.

2. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that there is no entrainment of fish and shall withdraw water at a rate such that fish do not become impinged on the screen.

3. The Licensee shall not remove any material from below the ordinary high water mark of any water body.

4. If the Licensee requires water in sufficient volume that the source water body may be drawn down the Licensee shall, at least thirty (30) days prior to commencement of use of water, submit to the Board for approval in writing, the following: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.

5. The Licensee shall implement sediment and erosion control measures to prevent the deposition of dust and/or sediment into fresh water, arising from contractor activities or on-site vehicular travel.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty one (31) metres from the ordinary high water mark of any water body such that the quality, quantity or flow of water is not impaired, unless otherwise approved by the Board in writing.

2. The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.

3. The Licensee shall utilize the Non-Hazardous Waste Landfill (NHWL) for the disposal of wastes from camp operations, surface debris collection, existing landfill remediation, Tier I Contaminated Soils, compressed gas cylinders and double bagged asbestos wastes.

4. The Licensee shall dispose of any material coated with Polychlorinated Biphenyl (PCB) - amended paints or lead painted products, hazardous materials, Tier II Contaminated Soils, Petroleum Hydrocarbon Contaminated Soils and POL’s that do not meet incineration criteria off site at a currently approved treatment facility, in accordance with the application received by the Board by the Applicant on November 19, 2008.

5. The Licensee shall provide to the Board, documented authorization from any community

in Nunavut receiving wastes from the project, prior to backhauling any wastes for storage or disposal.

6. The Licensee shall maintain records of all waste backhauled and records of confirmation of proper disposal of backhauled waste and include this information within the Annual Report, Part B, Item 1. These records shall be made available to an Inspector upon request. The Licensee shall not transport hazardous wastes prior to registering with the Government of Nunavut as a waste generator and utilizing the prescribed manifests.

7. The Licensee shall direct all sewage to the Sewage Disposal Facilities as described in the application or as otherwise approved by the Board in writing.

8. During camp setup and construction of the sewage lagoon, the Licensee may contain all camp Sewage in a sump. The sump shall be located at a distance of at least thirty one (31) meters above the ordinary high water mark of any water body, treated with lime and covered with native material to achieve the pre-existing natural contours of the land prior to abandonment. The location shall be included in the Annual Report, as per Part B Item 1.

9. The Licensee shall provide notice to an Inspector at least ten (10) days prior to initiating discharge from the Sewage Disposal Facilities.

10. All waste discharged from the Final Discharge Point of the Sewage Disposal Facilities at Monitoring Program Stations BEA-2a and BEA-2b shall not exceed the following effluent quality limits:

Parameter	Maximum Allowable Concentration
BOD	80 mg/L
Total Suspended Solids	100 mg/L
Fecal Coliforms	1×10^4 CFU/100mL
pH	6.0 to 9.0
Oil and Grease	no visible sheen

11. The Licensee shall collect and temporarily store all effluent resulting from barrel cleaning activities, in lined lagoons located at the Waste Handling Facility.

12. All discharge from the Waste Handling Facility and contact water within the NHWL at Monitoring Program Stations BEA-3 and BEA-4, shall meet the following wastewater discharge limits prior to being released:

Parameter	Maximum Allowable Concentration (µg/L)
pH	6 to 9 (pH units)
Oil and Grease	5000
Arsenic (total)	100
Cadmium (dissolved)	10
Chromium (dissolved)	100
Cobalt (dissolved)	50
Copper (dissolved)	200
Lead (dissolved)	50
Mercury (total)	0.6
Nickel (dissolved)	200
Iron	1000
PCB (total)	1000
Zinc (total)	500
Phenols	20
Benzene	370
Toluene	2
Ethylbenzene	90

13. If the effluent referred to in Part D, Item 10 and Item 12 does not meet the wastewater discharge limits, it shall be considered hazardous waste and require disposal off-site at an approved facility.

14. The discharge location for all treated effluents described in Part D, Items 10 and 12, shall be located at a minimum of thirty one (31) metres from the ordinary high water mark of any water body and where direct flow into a water body is not possible and no additional impacts are created.

15. All pump out water from excavation and borrow pits shall be pumped to an area as described in Part D, Item 14, or as otherwise approved by the Board in writing.

16. The Licensee shall provide, proper storage, treatment and disposal at an approved facility for any hazardous waste materials, including waste oil generated through the demolition and remediation activities, unless otherwise approved by the Board in writing.

17. The Licensee shall not mix or blend soils that exceed the maximum levels of Tier II criteria for the expressed purpose of attaining the specific limits of Tier I as listed under Table No.1.

PART E: CONDITIONS APPLYING TO THE UNDERTAKING

1. The Licensee shall submit to the Board for approval within sixty (60) days following issuance of the Licence, an Operations and Maintenance Plan for the Sewage Disposal Facilities that includes but is not limited to:
    a. 95% complete For-Construction Drawings of the Sewage Disposal Facilities stamped and signed by an Engineer;
    b. Final discharge locations BEA-2a and BEA-2b identified on a map;
    c. Monitoring Program; and
    d. Abandonment and Restoration information including sludge disposal instructions.

2. The Licensee shall, upon the failure of any constructed facilities, repair such facilities immediately to the appropriate standards as recommended by an Engineer.

3. The Licensee shall implement proper handling, storage and transportation procedures for hazardous materials during clean-up activities.

4. The Licensee shall minimize disturbance to terrain, permafrost and drainage during extraction of granular material, development and closure of landfills, movement of contractor's equipment and personnel around the site and removal of site debris.

5. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.

6. Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into water.

7. The Licensee shall design and construct all stream crossings to minimize erosion and/or deposition of waste into water.

8. The Licensee shall ensure that existing creek channels are maintained at their normal width and depth to the extent possible, during and after site remediation.

9. Granular materials and rock rip-rap used for any temporary stream crossings, approaches or as may be required for bank stabilization must be obtained from a source approved by an Inspector, and be clean and free of contaminants. Such material must not be removed or gathered from below the ordinary high water mark of a creek, stream or from any water body.

10. All sites affected by remediation activities shall be stabilized, landscaped as necessary, and suitable erosion control measures implemented to minimize sediment deposition into watercourses located on or adjacent to the site.

11. The Licensee shall restore and stabilize all areas affected by the undertaking upon completion of the work.

12. The Licensee shall not deposit any waste in any body of water, or on the banks thereof, which may impair the quality, quantity, or flow of water.

13. The Licensee shall dispose of all scrap metal, discarded machinery and parts, and other bulky material in a manner that conforms to the Plans submitted to the Board.

PART F: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.

2. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.

3. Winter lake and stream crossings, including ice bridges, shall be constructed entirely of water, ice or snow, and shall be removed prior to spring break-up.

4. With respect to access road, pad construction, demolition or other earthworks, the deposition of debris or sediment into any water body is prohibited. These materials shall be disposed of above the ordinary high water mark in such a fashion that they do not enter the water.

PART G: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is authorized to drill for the purpose of installing monitoring wells and thermistors.

2. The Licensee shall not conduct any land based drilling within thirty one (31) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board in writing

3. The Licensee shall ensure that all drill waste, including water, chips, muds and salts (CaCl2) in any quantity or concentration, from land-based drilling, shall be disposed of in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are

created

PART H: CONDITIONS APPLYING TO CONSTRUCTION AND MODIFICATIONS

1. The Licensee shall provide to the Board for review, ninety (90) days prior to construction, detailed designs for the NHWL and Waste Handling Facility, complete with "For Construction Drawings", signed and stamped by an Engineer. These designs shall consider, siting, operation, monitoring, sampling and analytical methods, decommissioning and closure options and plans for the proposed Facilities.

2. The Licensee shall provide to the Board, within ninety (90) days of completion of construction, as-built drawings of the facilities referred to in this Licence. These plans and drawings shall be stamped by an Engineer.

3. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities, NHWL, Sewage Disposal Facilities and Waste Handling Facility provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:

   a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
   b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
   c. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
   d. the Board has not rejected the proposed Modifications.

4. Modifications for which all of the conditions referred to in Part H, Item 3 have not been met can be carried out only with written approval from the Board.

5. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped and signed by an Engineer.

PART I: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall submit for Board approval, within sixty (60) days of issuance of this Licence, a site specific Spill Contingency Plan prepared in accordance with the *Consolidation of Spill Contingency Planning and Reporting Regulations R-068-93*. The Licensee shall take into consideration the comments received by INAC and EC during the review of the application.

2. The Licensee shall review the Plan referred to in this Part as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an addendum to be included with the Annual Report, unless directed otherwise by the Board.

3. The Licensee shall ensure that any chemicals, petroleum products or wastes associated with the project do not enter water. All sumps and fuel caches shall be located a minimum of thirty one (31) metres above the ordinary high water mark of any adjacent water body and inspected on a regular basis. The Licensee is encouraged to use some form of secondary containment on fuel and chemical storage facilities associated with this undertaking.

4. The Licensee shall ensure that any equipment maintenance and servicing be conducted only in designated areas and shall implement special procedures (such as the use of drip pans) to manage fluids, waste and contain potential spills.

5. If during the term of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:

   a. Employ the Approved Spill Contingency Plan;
   b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the INAC Manager of Field Operations at (867) 975-4295; and
   c. Submit to the INAC Water Resources Inspector on each occurrence, a detailed report including the GPS location, no later than thirty (30) days after initially reporting the event.

PART J: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE

1. The Board has approved the recommended options identified within the Plan entitled "*Bear Island Mid-Canada Line Radar Station Remedial Action* Plan" revised September 2008, submitted with the application filed with the Board on November 19, 2008.

2. The Licensee shall complete all reclamation work for the temporary camp facilities and waste disposal activities, not included under Part J, Item 1 of this Licence, prior to the expiry of this Licence.

3. The Licensee shall backfill and restore, all temporary containment sumps, to the pre-existing natural contours of the land.

4. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work, and restored as practically as possible to a pre-disturbed state.

PART K: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall submit to the Board for approval by March 31, 2012, a Post-Closure Monitoring Plan for the site that includes the long term monitoring of Waste Disposal Facilities addressing water quality monitoring, stability and the requirement for thermal monitoring and ground water monitoring.

2. The Licensee shall maintain Monitoring Program Stations at the following locations:

Monitoring Program Station Number	Description	Status
BEA-1	Raw water intake at the Water Supply Facilities	Active (Volume)
BEA-2a	Final Discharge Point from the Sewage Disposal Facilities, Lagoon 1	Active (Volume and Water Quality)
BEA-2b	Final Discharge Point from the Sewage Disposal Facilities, Lagoon 2	Active (Volume and Water Quality)
BEA-3	Final Point of Discharge from the Waste Handling Facility	Active (Water Quality)
BEA-4	Final Point of Discharge from the Non-Hazardous Waste Landfill	Active (Water Quality)
BEA-5	Monitoring Well up-gradient from the Non-Hazardous Waste Landfill	Active (Water Quality)
BEA-6	Monitoring Well located south of the Non-Hazardous Waste Landfill	Active (Water Quality)
BEA-7	Monitoring Well located southwest of the Non-Hazardous Waste Landfill	Active (Water Quality)
BEA-8	Monitoring Well located west of the Non-Hazardous Waste Landfill	Active (Water Quality)

3. The Licensee shall measure and record in cubic metres, the daily quantities of water withdrawn from lakes for use in the Water Supply Facilities, Monitoring Program Station BEA-1.

4. The Licensee shall measure and record in cubic metres, the daily quantities of effluent discharged from the Sewage Disposal Facilities at monitoring stations BEA-2a and BEA-2b.

5. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized for all purposes.

6. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with camp operations are deposited.

7. The Licensee shall monitor compliance with respect to Part D Item 10, by collecting a representative composite sample once at the beginning of discharge upon initial release and prior to the end of discharge, from the Final Discharge Point of the Sewage Treatment Facility, Monitoring Program Station BEA-2a and BEA-2b:

8. The Licensee shall monitor compliance with respect to Part D Item 12, by collecting a representative composite sample from a minimum of 5% of the total volume to be released from the Final Discharge Point of the Waste Handling Facility and Non-Hazardous Waste Landfill, Monitoring Program Stations BEA-3 and BEA-4.

9. The Licensee shall monitor groundwater quality proximal to the NHWL at Monitoring Program Stations BEA-5, BEA-6, BEA-7 and BEA-8. Parameters to be sampled for shall include, but not be limited to those listed under Part D, Item 12.

10. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.

11. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.

12. The Licensee shall submit to the Board for information, ninety (90) days prior to release of any effluent, a Quality Assurance/Quality Control Plan that conforms to the guidance document *"Quality Assurance (QA) and Quality Control (QC) Guidelines For Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and for Submission of a QAQC Plan"* INAC (1996). The Plan shall be acceptable to an accredited laboratory as required by Part K, Item 10 and Part K, Item 11. The Plan shall include a covering letter from the accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence.

13. The Licensee shall review the Plan referred to in this Part as required by changes in operation and/or technology and modify the Plan accordingly. Revisions to the Plan are to be submitted in the form of an addendum to be included with the Annual Report, unless directed otherwise by the Board.

Table No.1
(From INAC Abandoned Military Site Remediation Protocol)
DEW Line Clean-up Criteria (DCC)[a]

Substance	DCC Tier I[bc] (mg/L)	DCC Tier II[d] (mg/L)
Arsenic	-	30
Cadmium	-	5.0
Chromium	-	250
Cobalt	-	50
Copper		100
Lead	200	500
Mercury	-	2.0
Nickel	-	100
Zinc	-	500
PCB's	1.0	5.0

a. These criteria were adopted specifically for the cleanup of Arctic DEW Line Sites from the 1991 versions of the Quebec Soil Contamination Indicators and the Canadian Council of Ministers of the Environment Interim Canadian Environmental Criteria for Contaminated Sites.
b. Soil criteria are given in parts per million, ppm.
c. Soils containing lead and/or PCBs at concentrations in excess of DCC I, but less than DCC II, may be landfilled,
d. Soils containing one or more substrates in excess of DCC II must be containerized - i.e. removed in a manner which precludes contact with the Arctic ecosystem.

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

March 2, 2009

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
PO Box 119
Gjoa Haven, NU X0A 1J0

Re: 1BR-BEA – Type 'B' New Water Licence Application – Indian and Northern Affairs Canada – Bear Island Project

Please be advised that Indian and Northern Affairs Canada (INAC) has completed a review of the above referenced Type 'B' water licence application. Indian and Northern Affairs applied for this new water licence November 12, 2008.

The NWB invited representations to be made to the Board, concerning the licence application by March 5, 2009.

In conducting this review, I have referred to all documents on the Nunavut Water Board FTP site as it relates to 1BR-BEA. Attached is a Technical Review Memorandum for your consideration in the approval of the application.

Please feel free to contact me should you have any questions or comments. I can be reached at (867) 975-4566 or by email at trenholmt@inac.gc.ca.

Sincerely,

Original signed by

Tanya Trenholm
Pollution Policy Specialist

Our File #: 9545-1
Doc. CIDMS #:312680

Technical Review Memorandum

To: Phyllis Beaulieu, Manager of Licensing - Nunavut Water Board

From: Tanya Trenholm, Pollution Policy Specialist - Indian and Northern Affairs Canada – Water Resources Division

Re: Indian and Northern Affairs Canada – Bear Island Project – New Water Licence Application

Background Information:

The application stated that the information listed below will be provided to the NWB by the Contractor, following award of the Contract and prior to mobilization;

1. Contractor Work Methodology Plan, including
    a. Camp operation, including wastewater treatment unit specifications
    b. Details, including incinerator specifications and contaminated water treatment unit specifications;
    c. Project drawings, including final location of camp, staging area, containerization area and any potential sumps; and
    d. A detailed work schedule
2. Environmental Protection Plan
3. Spill Contingency Plan, including
    a. Site specific spill response plans
    b. Spill kit quantities and locations;
    c. Training;
    d. Key contacts
4. Emergency Response Plan, including
    a. Site specific response plans
    b. Roles and responsibilities
    c. Training
    d. Key contacts

Recommendations / Comments

1. Submission of Outstanding Plans

The NWB should ensure that applicable terms and conditions similar to existing approved water licences for this type of remediation project are imposed (i.e. water licence 1BR-SAR0607 issued to INAC on July 14, 2006). In addition, prior to the commencement of any activities related to the project, the applicant should submit the following plans to the NWB for approval;

- Operation and Maintenance of the proposed lagoon and landfill
- As-built plans and drawings stamped by a qualified engineer for the lagoon and landfill
- Spill Contingency Plan

- Abandonment and Restoration Plan

Furthermore, the applicant should inform the NWB of the location of the water source once it is identified. Incineration specifications and a Monitoring Program should also be provided to the NWB prior to the commencement of any project related activities.

The application states that the permafrost on Bear Island is sporadic discontinuous. The applicant should verify this using an accepted methodology. All plans for construction related to remediation activities should consider climate change, for example, with respect to cover materials, etc.

Please feel free to contact me at your convenience should you wish to further discuss any part of this submission to the Board. I can be reached at 867-975-4566 or via email, tanya.trenholm@inac.gc.ca.

Sincerely,

Tanya Trenholm

Pollution Policy Specialist
Indian and Northern Affairs Canada
Nunavut Regional Office – Water Resources Division

Cc. Kevin Buck, Manager, Water Resources Division – Indian and Northern Affairs Canada;

Environment Canada **Environnement Canada**

Environmental Protection Branch
Qimugjuk Building 969 P.O. Box 1870
Iqaluit, NU X0A 0H0
Tel: (867) 975-4631
Fax: (867) 975-4645

March 5, 2009

Our file: 4517 000 045
NWB file: 1BR-BEA

Phyllis Beaulieu
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369

Via Email at licensing@nunavutwaterboard.org

RE: NWB 1BR-BEA- INAC Bear Island Project New Water Licence Application

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act,* and the *Species at Risk Act*.

The Department of Indian and Northern Affairs Canada (INAC), has applied for a water license for the clean-up of federally owned contaminated sites. The Bear Island Mid-Canada Line Radar Station is located on Bear-Island approximately 160 km northwest of Chisasibi, Quebec and 300 km south of Sanikiluaq, Nunavut. The site consists of four main areas including two abandoned Mid-Canada Line Radar Stations (Sites 412 and 413), Beach Area, and Airstrip.

Proposed remediation activities include:

- Demolishing remaining site infrastructure;
- Segregating waste materials into hazardous and non hazardous piles. Hazardous waste will be packaged and shipped south for proper disposal, and non hazardous wastes will be buried in the new landfill;
- Remediation of existing landfills,
- Metal, polychlorinated biphenyls (PCB) and petroleum hydrocarbon (PHC) contaminated soils will be excavated and properly disposed of at on off-site licensed facility;
- Consolidation and disposal of approximately 4300 barrels. Those barrels with unknown contents will be tested and either incinerated or shipped off-site for disposal. Empty barrels will be crushed and buried at the landfill;
- Reconstruction of roads and airstrip as needed; and,
- Use of borrow sources for construction of the new landfill and general site grading.

In support of the remediation activities, the proponent proposes to establish a seasonally occupied camp from June 15th to September 15th. The camp is expected to have approximately 35 people with a maximum occupancy of 50 people. The camp will be located in a previously disturbed area, west of the barrel cash. Water will be pumped from either the Freshwater Reservoir or from shallow lakes in the vicinity. Water will be tested to meet health Canada Guidelines for Canadian Drinking Water Quality prior to consumption. Two temporary independently operated sewage lagoons are proposed to be installed for camp sewage. The lagoons will each have a capacity of 45 days or one half of the

duration of the construction season, whichever is more. The exact location of the sewage lagoons has not yet been determined.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

General

- The proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes, or sediment into any water body. According to the Fisheries Act, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water is prohibited.
- Environment Canada recommends that the proponent take measures to prevent erosion and sedimentation during site grading, excavation, and the removal of culverts, especially when near waterbodies.
- The proponent shall not deposit, nor permit the deposit of sediment into any water body. It is recommended that an undisturbed buffer zone of at least 100 metres be maintained between any proposed borrow source operations and the normal high water mark of any water body.
- Any sumps shall be located above the high water mark of any water body and in such a manner as to prevent the contents from entering any water body frequented by fish. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.

Waste Management

- Environment Canada requests that additional information be provided regarding the proposed disposal and/or treatment of the water used to flush and clean the barrels prior to their demolition.
- The proponent is considering onsite incineration as another waste disposal option. EC is developing a Technical Document for Batch Waste Incinerators. The technical aspects of the document focus on appropriate incineration equipment and best management practices required to achieve the Canada-Wide Standards for dioxins/furans and mercury. To assist the board, a draft copy of the executive summary of the technical document is provided. The board and the proponent are encouraged to contact EC for further information regarding the technical document.
- The proponent is proposing to dispose of PHC contaminated soils, lead painted products, and DCC Tier II contaminated soils at off-site at an unspecified licensed disposal facility. The *Remedial Action Plan Revised Sept 2008*, considers the municipal landfill at Chisasibi, Quebec as an option for PHC contaminated soils. Is this community landfill designed to take this type of waste and does the landfill have the sufficient capacity to accommodate waste from these camps?
- Environment Canada requests clarification on the planned disposal method of asbestos. In the *Water Licence Application Form*, page 1, Question 4, states that “All hazardous materials and soil will be disposed of at an off-site licensed disposal facility.” However, on page 7 of the *Remedial Action Plan-Revised Sept 2008*, it states that “In general, all hazardous materials will be shipped off site to a licensed hazardous waste disposal facility. Exceptions include asbestos, which is to be double bagged and disposed in an engineered landfill onsite, in accordance to local regulations.” Additionally, on page 18 of the same report it is stated that “All asbestos debris shall be abated and placed in a sealed, airtight container, clearly labeled "ASBESTOS".” Could the proponent please clarify the proposed disposal location and the method of disposal (i.e. double bagged or sealed, airtight container) proposed for asbestos waste.
- Environment Canada has developed the “*Industrial Treated Wood Users Guidance Document*” (2004) which includes a hierarchy of end of use options for creosote-treated

wood, listing disposal as the last option. If disposal is deemed to be the only viable option, Environment Canada recommends that creosote treated lumber should be transported off-site to an approved facility.

- The Remedial Action Plan submitted with the water license application indicates that the majority of hydrocarbon contaminated soils are being excavated and shipped off-site for disposal. However, 31.9m^3 of hydrocarbon contaminated soils have been selected to be scarified to 0.3m at the Beach Bulldozer and Garage areas. Scarification is the recommended remedial option for Type A soil (non mobile, F3 and F4 hydrocarbons with <10% slope) as selected by the Abandoned Military Site Remediation Protocol, adapted by INAC from the DCC DCLU. However, the presence of co-contaminants in the soil should give cause to re-examine scarification as an appropriate remedial option. Metals and PCBs have been identified as co-contaminants at the Beach Bulldozer and Garage sites; according to the INAC protocol, the presence of co-contaminants must be confirmed or disproved in type A hydrocarbon impacted soil, and the "most stringent requirements" applied. It is therefore unclear why scarification has been selected as the best remedial option for these two areas. Environment Canada recommends that the proponent consider removing co-contaminated soils for off-site treatment and disposal in favor of scarification.

Sewage Treatment

- The proponent's site remediation plan does not provide operation procedures for its sewage lagoons. The lagoons' location, final discharge points (including a general description and geo-referenced locations), monitoring program and sludge management program should be submitted for review.
- Environment Canada would like to remind the proponent of the "Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments" that were published by EC, and it is recommended that these guidelines be mirrored in the water license.
- Environment Canada recommends that the location of the sewage lagoons be indicated with appropriate signage.
- Environment Canada recommends that the proponent maintain a minimum of a 1 metre freeboard in the sewage lagoon at all times.
- An Abandonment and Reclamation Plan for the sewage lagoons should be submitted for approval as a condition of the water licence.

Spill Contingency

- Environment Canada recommends the use of secondary contaminant, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on natural depressions. Additionally, fuel caches shall be located above the high water mark of any water body, and in such a manner as to prevent the contents from entering any water body frequented by fish.
- Environment Canada recommends the use of drip pans, or other similar preventative measures, when refueling equipment on site.
- In Appendix 7, Part 6, Section 1.7, the 24hr number for Environment Canada Environmental Emergencies should be listed as 1-866-845-6037 and for Environmental Enforcement listed as 1-867-766-3737. Also in Table C.1, the contact information for Curtis Didham, Enforcement Officer should be changed to:

    - Work: 867-975-4644
    - Cell: 867-222-1925
    - Fax: 867-975-4594

Wildlife and Species at Risk

The Canadian Wildlife Service (CWS) of Environment Canada has reviewed the above-mentioned submission and makes the following comments and recommendations pursuant to the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations)*, and the *Species at Risk Act* (SARA).

- Section 6 (a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds. In order to minimize the risk of accidentally disturbing or destroying nests or eggs of migratory birds during demolition or remediation activities, Environment Canada recommends the following mitigation measures for migratory birds:
    a. Remediation work in known nesting areas should be undertaken either before or after the nesting season. Structures with known nests should be taken down either before or after the nesting season.
    b. If other demolition or remediation work occurs during the nesting season, these areas should be inspected for active nests before any demolition or remediation work starts.
    c. If active nests (i.e., nests containing eggs or young) are discovered, the proponent should delay any work in the area until nesting is complete (i.e., the young have left the nest).
- Section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
- Environment Canada recommends that food, domestic wastes, and petroleum-based chemicals (e.g., greases, gasoline, glycol-based antifreeze) be made inaccessible to wildlife at all times. Such items can attract predators of migratory birds such as foxes, ravens, gulls, and bears. Although these animals may initially be attracted to the novel food sources, they often will also eat eggs and young birds in the area. These predators can have significant negative effects on the local bird populations.
- In order to reduce aircraft disturbance to migratory birds, Environment Canada recommends the following:
    - Fly at times when few birds are present (e.g., early spring, late fall, winter)
    - If flights cannot be scheduled when few birds are present, plan flight paths that minimize flights over habitat likely to have birds and maintain a minimum flight altitude of 650 m (2100 feet).
    - Minimize flights during periods when birds are particularly sensitive to disturbance such as migration, nesting, and moulting.
    - Plan flight paths to avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of at least 1.5 km. If avoidance is not possible, maintain a minimum flight altitude of 1100 m (3500 feet) over areas where birds are known to concentrate.
    - Avoid the seaward side of seabird colonies and areas used by flocks of migrating waterfowl by 3 km.
    - Avoid excessive hovering or circling over areas likely to have birds.
    - Inform pilots of these recommendations and areas known to have birds.

- The following comments are pursuant to the Species at Risk Act (SARA), which came into full effect on June 1, 2004. Section 79 (2) of SARA, states that during an assessment of effects of a project, the adverse effects of the project on listed wildlife species and its critical habitat must be identified, that measures are taken to avoid or lessen those effects, and that the effects need to be monitored. This section applies to all species listed on Schedule 1 of SARA. However, as a matter of best practice, Environment Canada suggests that species on other Schedules of SARA and under consideration for listing on SARA, including those designated as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), be considered during an environmental assessment in a similar manner.

  Impacts could be disturbance and attraction to operations.

In the Environmental Screening report, the proponent has identified Species at Risk that could be potentially found in the project area.

Environment Canada recommends:

- If Species at Risk are encountered or affected, the primary mitigation measure should be avoidance. The proponent should avoid contact with or disturbance to each species, its habitat and/or its residence.
- Monitoring should be undertaken by the proponent to determine the effectiveness of mitigation and/or identify where further mitigation is required. As a minimum, this monitoring should include recording the locations and dates of any observations of Species at Risk, behaviour or actions taken by the animals when project activities were encountered, and any actions taken by the proponent to avoid contact or disturbance to the species, its habitat, and/or its residence. This information should be submitted to the appropriate regulators and organizations with management responsibility for that species, as requested.
- For species primarily managed by the Territorial Government, the Territorial Government should be consulted to identify other appropriate mitigation and/or monitoring measures to minimize effects to these species from the project.
- Mitigation and monitoring measures must be taken in a way that is consistent with applicable recovery strategies and action/management plans.

- All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. Environment Canada recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
- Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds and Species at Risk, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act*, *Migratory Birds Regulations*, and the *Species at Risk Act*. The proponent must ensure they remain in compliance during all phases and in all undertakings related to the project.

If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at carrie.spavor@ec.gc.ca.

Yours truly,

Original signed by

Carrie Spavor
Environmental Assessment Coordinator

cc: Carey Ogilvie (Head, EA-North, Environment Canada, Yellowknife, NT)
Jody Klassen (Head, Contaminated Sites, Environment Canada, Edmonton, AB)
Anne Wilson (Water Pollution Specialist, Environment Canada, Yellowknife, NT)
Myra Robertson (EA Coordinator, Canadian Wildlife Service, Environment Canada, Yellowknife, NT)
Dave Fox (Air Issues Specialist, Environment Canada, Yellowknife, NT)

E9950-6(UNC)

NUNAVIK MARINE REGION IMPACT REVIEW BOARD
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February 1, 2010

Honourable Daniel Shewchuk
Minister of Environment
Government of Nunavut
P.O. Box 2410
Iqaluit, NU
X0A 0H0

Honourable Chuck Strahl, P.C., M.P
Minister of Indian Affairs and Northern Development
10 Wellington Street
Gatineau, Quebec
K1A 0H4

Re: Screening Decision for Bear Island Mid-Canada Line Radar Station Remediation Project

Dear Ministers;

I am writing to you as interim-chairman of the Nunavik Marine Region Impact Review Board (NMRIRB) in respect to the proposed environmental clean-up and decontamination project of Bear Island in James Bay. The NMRIRB has completed its screening of this proposed project and has decided, as set out in section 7.4.4 (a) of the Nunavik Inuit Land Claims Agreement, that the proposal may be processed without a review under Part 7.5 (Review of Project Proposals by NMRIRB) or Part 7.6 (Review by a Federal Environmental Assessment Panel) of the Agreement. This recommendation is based on four main reasons:

1. The project proposal appears to address the requirements for environmental remediation of the impacts of the former Mid-Canada Line outpost;
2. The proposal is satisfactory to both the local Cree and Inuit communities and they will receive benefits from involvement in its undertaking;
3. Further assessment is unlikely to significantly change or improve the proposal; and
4. The remediation of these impacts is very likely to have positive impacts on the wildlife and on future human uses of the island over the long term.

.../2

Background

The proponent, Indian and Northern Affairs Canada (INAC), submitted the proposal for the required permits to the Nunavut Water Board and to the Land Manager of Indian and Northern Affairs Canada, having deemed that neither the Nunavut Planning Commission (because it did not have an accepted regional land-use plan) nor the Nunavut Impact Review Board (because it did not have jurisdiction over the island) were required to review the project, however is subject to provisions of the Nunavik Inuit Land Claims Agreement. As such and because Bear Island is located within the boundaries of the Nunavik Marine Region, INAC concluded that the project must be submitted to the Nunavik Marine Region Impact Review Board for screening. It was further determined that, as set out in section 7.3.5 of the Nunavik Inuit Land Claims Agreement, that the project proposal did not need to be reviewed by the Nunavik Marine Region Planning Commission as a land use plan has not yet been approved for the Nunavik Marine Region.

The island is the site of a former Mid-Canada Line radar station, airstrip and related facilities. It is currently uninhabited but is within the "Cree Zone of Interest" as set out in the Eeyou Marine Region Land Claim Agreement initialled in 2009 by Canada and the Grand Council of the Crees (Eeyou Istchee) which is currently the subject of a referendum process being undertaken by the Grand Council of the Crees (Eeyou Istchee).

During the course of developing the proposal for remediation of the impacts of the former Mid-Canada Line site at Bear Island, INAC presented the project to the communities of Chisasibi, Wemindji and Waskaganish, who did not express concerns over the proposal. In fact, much of the on-site work will be undertaken by a Cree company from Wemindji called "Wiinibeck", that has an agreement with the primary contractor, "Biogenie", for a sub-contract. The involvement of a local company that will engage local workers, along with the possibility of significant training benefits for those workers is an aspect of this project that is attractive to the Cree community and in the view of the members of the NMRIRB is consistent with the principles of the Board's mandate.

Mr. Mark Yetman, Contaminated Sites Project Manager from the Department of Indian and Northern Affairs Canada, presented a detailed overview of the proposal to the members of the NMRIRB on December 16, 2009. He also made available to the members the studies that were done in the course of developing this proposal.

INAC carried out an initial environmental screening assessment (published March 2008) and an archaeological impact assessment (published March 2008). The screening revealed limited presence of toxic materials (to be transported off the island) and considerable non-toxic refuse requiring containment and burial on the island. The archaeological survey recorded three sites of interest (a tent ring, an Inuksuk and a wooden shipwreck) none of which will be touched by the

proposed work. Based on these, the proponent developed the proposal for the clean-up and decontamination of the island.

The original proposal was to undertake the project in 2009 but it has now been delayed by one year. If the staging of the project begins soon it will be undertaken in 2010. We ask that in your letter to the proponent that you require that a final report on the outcomes of this work be sent to the NMRIRB.

In conclusion please be advised that the NMRIRB deems the clean-up of Bear Island proceed in 2010 and urges that all steps, including allocation of the required funding, proceed immediately.

I thank you for your attention to this matter.

Sincerely Yours,

Putulik Papigatuk
Interim Chairman of the
Nunavik Marine Region Impact Review Board

Cc: Mark Yetman, INAC
James Yantha, INAC

BEAR ISLAND MID-CANADA LINE SITE REMEDIATION PROJECT

WORKER'S ORIENTATION SEMINAR

Bear Island

September 2010

Bear Island Mid-Canada Line Site Remediation

Seminar Outline

- Introduction
- Regional Overview of Bear Island Area
- Remediation Activities (Scope of Work)
- Project Organization and Administration
- Environmental Issues and Protection Procedures
- General Health and Safety Prevention Program

Bear Island Mid-Canada Line Site Remediation

Introduction

Objectives

- Inform You (The Workers)
  - activities which will be performed throughout the project as well as how these will be accomplished
- Make Workplace Safer
  - presenting hazards and instructions on how to mitigate these hazards throughout the course of the project

Bear Island Mid-Canada Line Site Remediation

Introduction

Biogénie

Bear Island Mid-Canada Line Site Remediation

Regional Overview of Bear Island Area

Biogénie

Bear Island Mid-Canada Line Site Remediation

Regional Overview of Bear Island Area

Location

- Central northern end of James Bay
- 54° 20’ N 81° 05’ W

- 160 km NW of Chisasibi, QC
- 300 km S of Sanikiluaq, NU

Heritage Resources

•One tent ring has been identified on site
•Inukshuk near beach area

•Buffer zone of 20 m

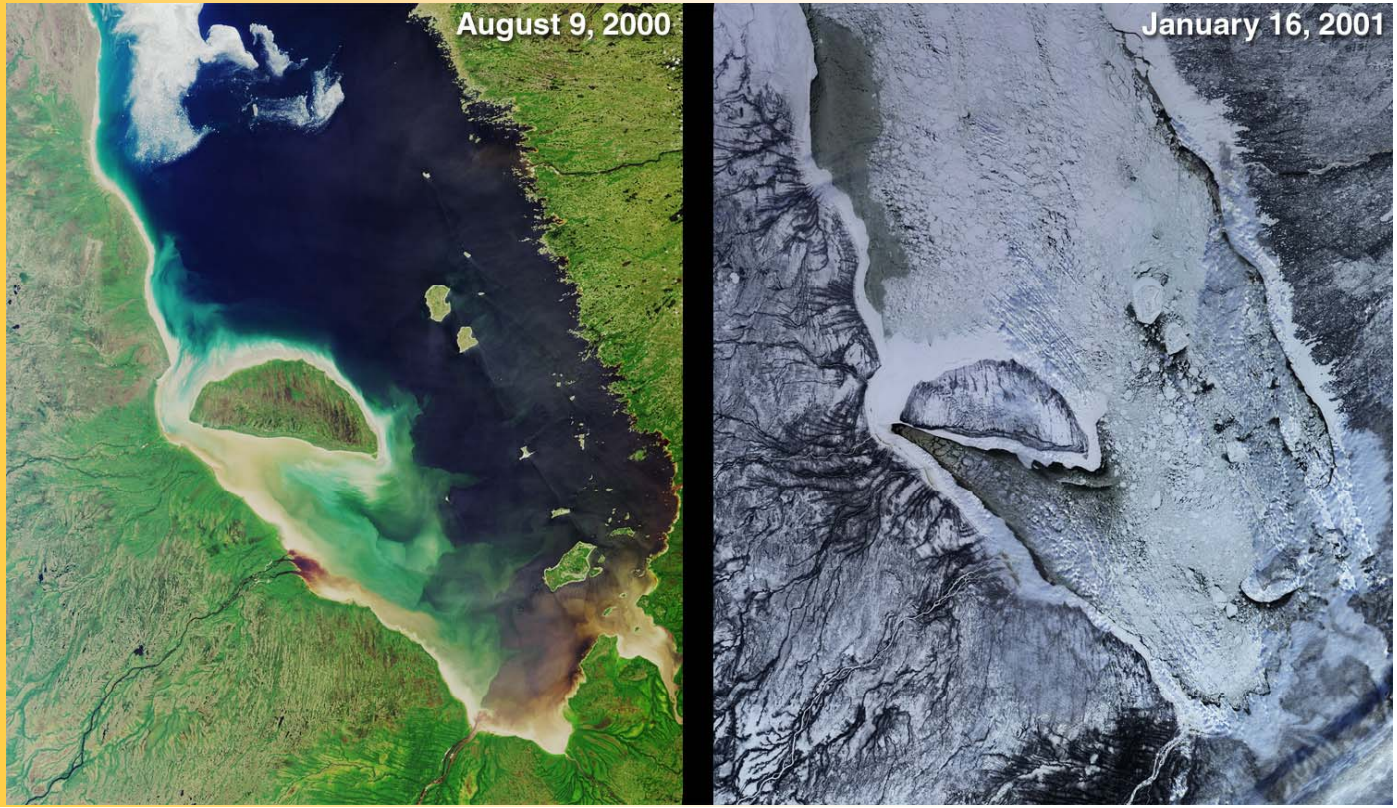
If you encounter any Archaeological Resource:

1. Leave it alone
2. Mark area around it
3. Advise site supervisor

Bear Island Mid-Canada Line Site Remediation

Regional Overview of Bear Island Area

Climate



Bear Island Mid-Canada Line Site Remediation

Regional Overview of Bear Island Area

Geology and Hydrology

- A low lying black basalt outcrop
- Covered with small lakes/ponds
- Coarse gravel cover (up to 1.5 m)
- Generally flat

Bear Island Mid-Canada Line Site Remediation

Regional Overview of Bear Island Area

Flora

- Mostly low-lying vegetation
- Interior areas of the island
- Communities of vegetation are rich in lichens

Bear Island Mid-Canada Line Site Remediation

Regional Overview of Bear Island Area

Fauna

Polar Bear

- Island is a gathering point in summer
- Abundance of food on island

Arctic Fox

- Abundant food sources present on the island

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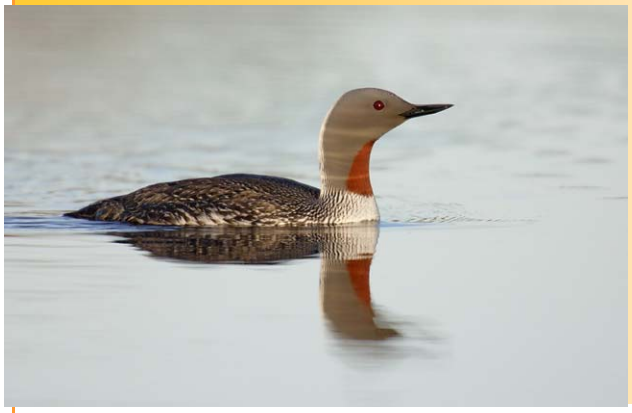
Bear Island Mid-Canada Line Site Remediation

Regional Overview of Bear Island Area

Avifauna

Arctic tern

Red-Throated Loon



Canada Geese

Hunting and Fishing

- Hunting is not permitted
- Fishing is not permitted

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Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

- Project Overview
  - Mobilization/Demobilization
  - Construction Camp
  - Demolition of Buildings and Structures
  - Contaminated Soil Excavation
  - Non-Hazardous Waste Landfill
  - Temporary Storage Area
  - Material Processing Areas
  - Debris Collection
  - Site Grading

Biogénie

Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Mobilization/Demobilization

- Mobilized to/from Moosonee, ON
- Performed by Moosonee Transportation Limited
- Majority of equipment/supplies brought by Barge
- To be performed in June (Mob) and September (Demob)

Biogénie

Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Air Mobilization

- Wabusk Air - Moosonee
- Chartered flights twice a week to site
- Will re-supply site with:
  - Food
  - Needed work supplies
- Will transport workers to/from site

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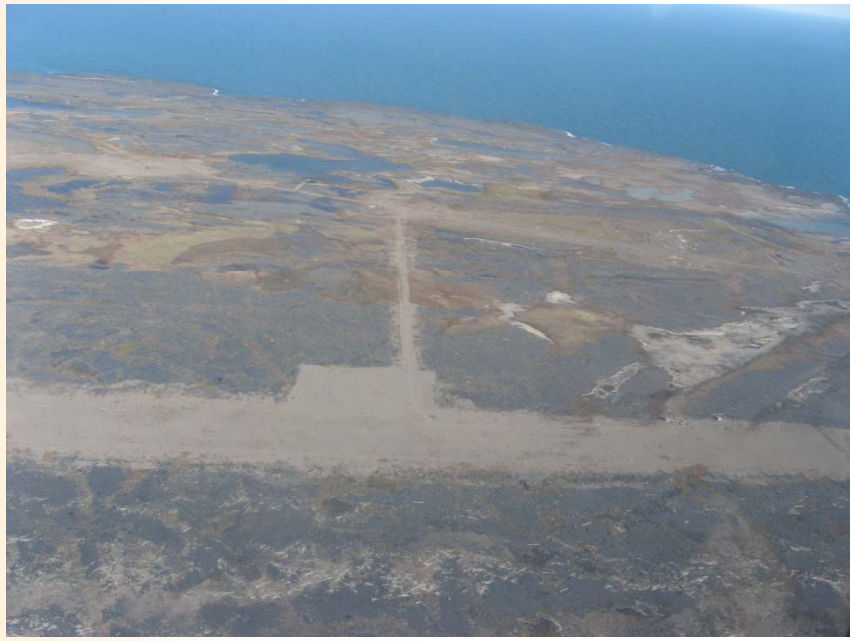
Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Construction Camp

- Accommodate 41 beds
- Kitchen and Dining Room Complex
- Entertainment Room
- Engineer Office and Lab
- Biogénie Office
- Drinking Water Treatment Unit
- Wastewater Treatment Unit
- Generators
- Garbage and Fuel Storage Facility



Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Demolition of Buildings and Structures

- All buildings to be demolished to their foundations
- Majority are demolished with only footprints remaining
- Includes:
  - Sheds
  - Garage
  - Emergency Shelter
  - Doppler Radar Stations
  - Antennas

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Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Hazardous and Regulated Materials

- These materials will be removed prior to dismantling buildings
- Includes:
  - Lead Paint
  - Zinc Pipe
  - PCB-amended Paint (PAP)
- Materials will be containerized for off site disposal

Biogénie

Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Contaminated Soil Excavation

- Contaminated soil on site includes:
  - Tier I (Metals, PCBs)
  - Tier II (Metals, PCBs)
  - PHC Contaminated
- Soil will be excavated and disposed of properly :
  - Temporary Storage Area
  - Regrade

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Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Shipping off-site of debris

- Debris to be shipped off-site
- No Non Hazardous Waste Landfill on-site

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Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Temporary Storage Area

- Hazardous wastes and soils stored here
- Will contain TDG Act and Regulations approved containers
- Will be restricted to authorized personnel only
- At the end of the work season these containers will be transported south for disposal

Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Material Processing Areas

- Sorting, inspections, testing, and classification of materials will occur here
- Hazardous MPA will be lined/bermed
- Water collected will be treated

Bear Island Mid-Canada Line Site Remediation

Remediation Activities (Scope of Work)

Debris Collection

- Surface debris will be collected by hand
- Buried debris will be collected by an excavator
- Drums with solids/liquids will be transported to the MPA for testing/consolidation
- Debris will be disposed of appropriately

Bear Island Mid-Canada Line Site Remediation

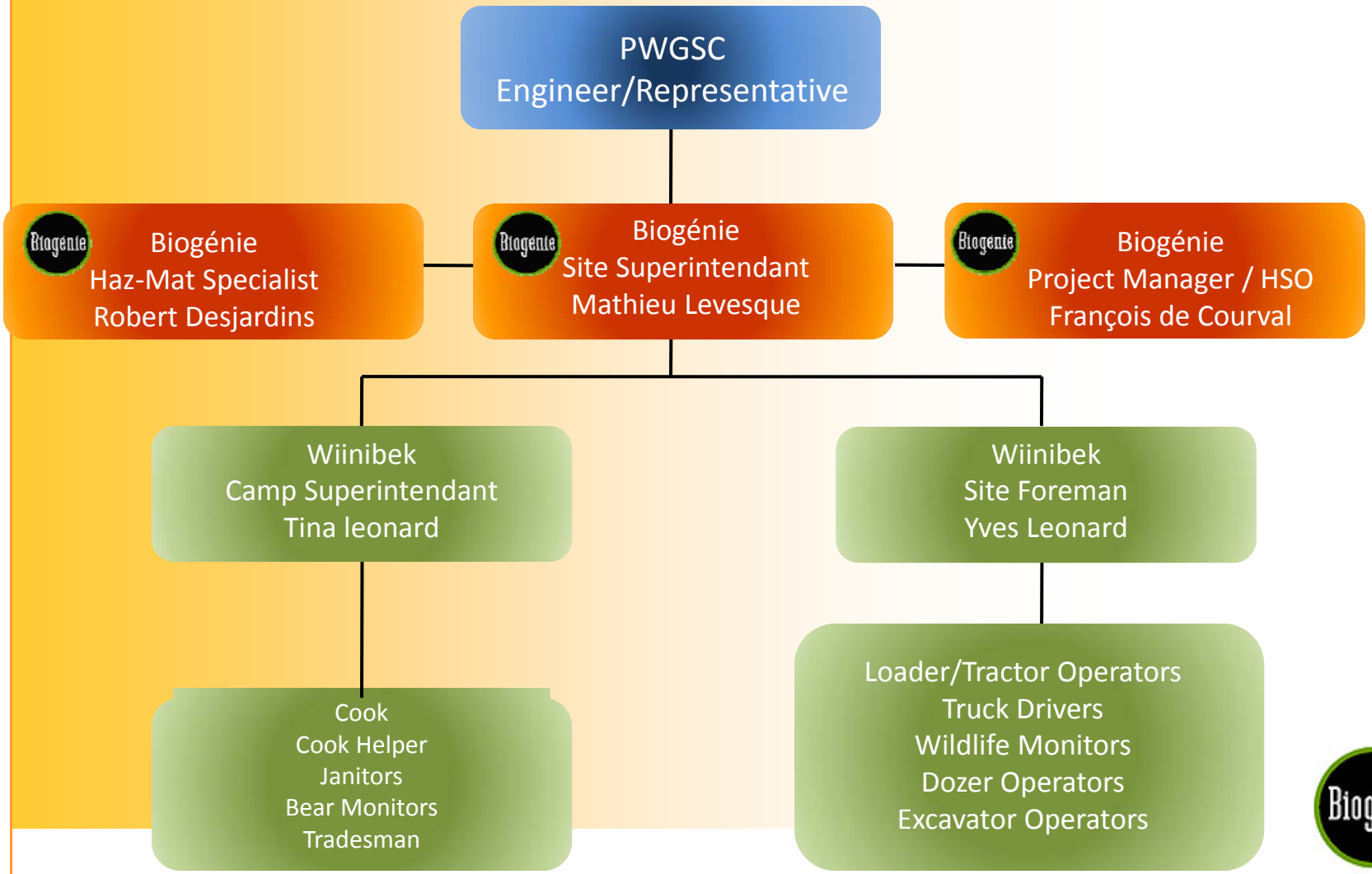
Remediation Activities (Scope of Work)

Site Grading

- All work areas will be regraded at the end of the work season
- Will help prevent erosion
- Leave the island more natural

Bear Island Mid-Canada Line Site Remediation

Project Organization and Administration



Bear Island Mid-Canada Line Site Remediation

Project Organization and Administration

Training

May receive the following training:

- CPR and First Aid
- Use of Fire Extinguisher
- WHMIS
- PCB/Lead Paint Removal
- Health and Safety

Work Attitudes and Teamwork

- Teamwork and Positive Attitude are essential
- Promotes safe, pleasant, positive, and stimulating work environment
- Key aspects:
  - Listening
  - Questioning
  - Respect
  - Helping
  - Sharing
  - Participate
  - Communicate

Biogénie

Anti-Harassment Policy

- **Zero tolerance** for any form of harassment
- Applies to all relationships on site

- Objective is to:
  - Maintain a safe work environment for all employees
  - Respect for all employees
  - Provide support and assistance to victims of harassment

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Bear Island Mid-Canada Line Site Remediation

Project Organization and Administration

Personnel Policies

- Time Off
- Vehicle Usage
- Smoking
- Payroll
- Off-duty Activities
- Communication Systems Usage

Alcohol, Illegal Drugs, and Firearms

- Consumption of alcohol on site is **Prohibited**
- **No alcohol or illegal drugs are to be brought to the site**
- Possession of firearms is prohibited on site, except for wildlife monitoring
- **Violation of these policies will be grounds for immediate dismissal**

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Work Schedules and Hours

- Breakfast: 06:00 a.m. To 06:55a.m.
- Report for work: 6:55 a.m.
- Work starts: 7:00 a.m.
- Break: 9:45 a.m. to 10:00 a.m.
- Lunch break: 12:00 p.m. to 13:00 p.m.
- Break: 4:00 p.m. to 4:15 p.m.
- Clean-up period: 6:30 p.m.
- Work ends: 7:00 p.m
- Dinner hour: 7:00 p.m. to 8:00 p.m.
- **Quiet hours: 9:30 p.m. to 5:30 a.m.**

Work shifts are 30 consecutive days with 8 days of rest in a population centre

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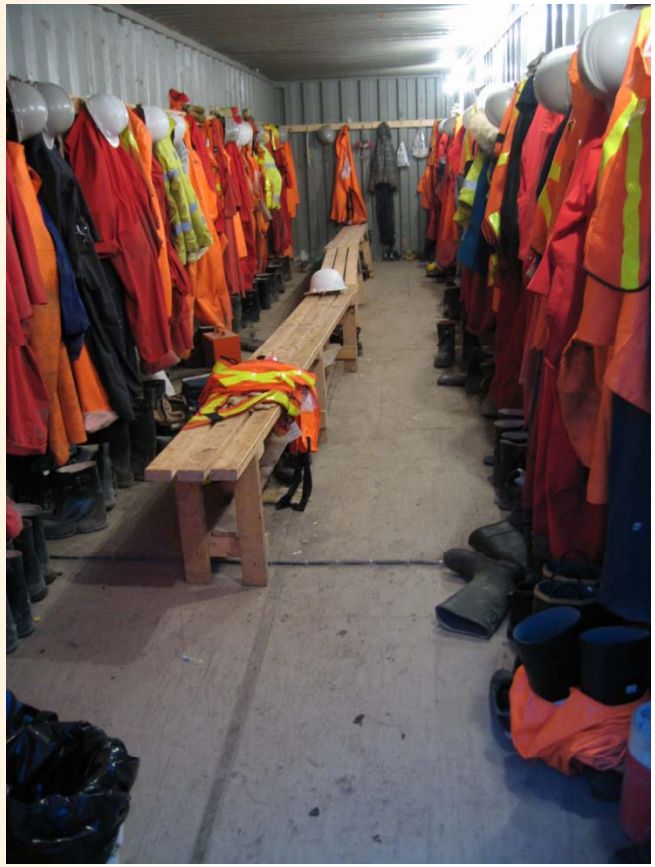
Bear Island Mid-Canada Line Site Remediation

Project Organization and Administration

Camp Rules

1. Clothing
2. Violent Behaviour
3. Intentional Damage to property
4. Theft of property
5. Smoking
6. Alcohol, drugs, and substance abuse
7. Personal Weapons
8. Curfew
9. Housekeeping
10. Work clothing/Mud Rooms
11. Fire safety equipment
12. In/out registry
13. Personal hygiene



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Termination Procedures

- Failure to follow any of the personnel policies or camp rules will result in a warning being given by Wiinibek
- Second violation results in immediate dismissal
- Person will leave site on the next available flight

Land Use – Soil Degradation

- Ice-rich soils are sensitive to erosion and degradation, and depend on vegetation cover for protection
- Follow these procedures while on site:
  - Equipment stays on existing roads
  - Activities limited to work areas
  - No off-road operations while soil is saturated
  - Drainage and erosion controls will be used
  - Prepare any ruts/damage to permafrost

Biogénie

Wildlife Monitoring and Protection

- Fulltime wildlife monitors will be employed on site
- Supplied with firearms and ATVS
- Ensure safety of everyone on site
- Do not leave camp at night or without a Bear Monitor
- Rules of engagement for Polar Bear!

Biogénie

Solid Waste Management

- Waste will be of two varieties:
  - Putrescible
  - Non-putrescible
- Combustible waste will be incinerated
- No hazardous wastes will be generated during operations

Bear Island Mid-Canada Line Site Remediation

Environmental Issues and Protection Procedures

Drinking Water

•Bottled water will be supplied to start
•Water will be tested prior to treatment
•Water will be taken from small reservoir on island

•Treatment by carbon filters and UV

•Will meet Canadian guidelines for drinking water quality
•Tested regularly to ensure it meets the guidelines

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Wastewater Management

- Wastewater and Sewage to be stored in lined Lagoons
- Sampling to occur to ensure water is properly treated
- Use Wastewater Discharge Criteria guidelines as outlined in the project specifications
- Discharge on-land once treated

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Fuel Management

- Fuel to be stored in Terra Arctic Tanks within Insta-Berms
- Refuelling to be performed with pump, by authorized personnel only
- Absorbent pads will be available at all times
- No smoking around the fuel storage area

Biogénie

Cross Contamination Prevention

- Can occur when equipment or people leave an area during excavation of contaminated soil
- Between different contaminated zones equipment will be cleaned
  - Scrape dirt off tracks, box, bucket

Biogénie

Bear Island Mid-Canada Line Site Remediation

Environmental Issues and Protection Procedures

Free-Phase Petroleum Products

- Absorbent pads and booms available on site if encountered
- Preventative measures include diverting water from excavations

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Site-Specific Health and Safety Program

- Has been put together for the work at Bear Island
- Covers many aspects of the project including:
  - General prevention instructions
  - First-aid procedures
  - PPE
  - Work procedures
  - Etc.
- Is available on site in the Biogenie office for more information

Emergency Response Plan (ERP)

- Response times for emergencies are expected to be lengthy
- ERP has been prepared to minimize/eliminate risks associated with the project
- ERP includes:
  - List of possible situations
  - Emergency response procedures
  - MEDEVAC procedures
  - Roles and responsibilities of project team
  - Description of training
- ERP is included in the Site-Specific HASP

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Bear Island Mid-Canada Line Site Remediation

General Health and Safety Prevention Program

Biogénie

Hazard Identification

Major hazards with this project include:

- Chemical hazards
- Physical hazards
- Thermal hazards
- Environmental hazards
- Water hazards
- Fire hazards

Specific instructions have been developed for each of these hazards and will be reviewed with workers prior to work

Biogénie

Chemical Hazards

- Work on site will involve chemical contamination
- Of concern are:
  - PCBs (Soil, Paint, Barrels, Electrical Equipment)
  - Lead (Soil, Paint, Battery debris)
  - PHCs (Soil, Barrels)
- All can cause serious health problems if not mitigated properly
- Exposure routes include:
  - Inhalation
  - Dermal (skin) Contact
  - Eye Contact
  - Ingestion

Biogénie

Hazard Prevention

- Work zones will be created on site
- Proper PPE will be used
- Employee training
- Hazardous materials will be stored and handled properly
- Dust and noise control
- On-site first aid facilities

Personal Protective Equipment (PPE)

- To mitigate hazards on site PPE will be supplied
- PPE will be adapted to the activity being performed
- PPE should be kept clean and well maintained

Biogénie

Bear Island Mid-Canada Line Site Remediation

General Health and Safety Prevention Program

Additional Equipment

Dust and Noise Control

The following will be implemented during the project:

1. Speed limit of 30 km/h at all times
2. Water will be used as dust control
3. Dust will be prevented, if possible
4. Unnecessary transport will be limited
5. Vehicles and equipment will be fitted with appropriate mufflers
6. **Avoid rolling on the Airstrip**

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Heavy Equipment

- Work on site involves heavy equipment
- Workers need to be aware of their surroundings at all times
- Wear appropriate clothing (Bright vests, coveralls)
- Establish eye contact with operator before working near heavy equipment

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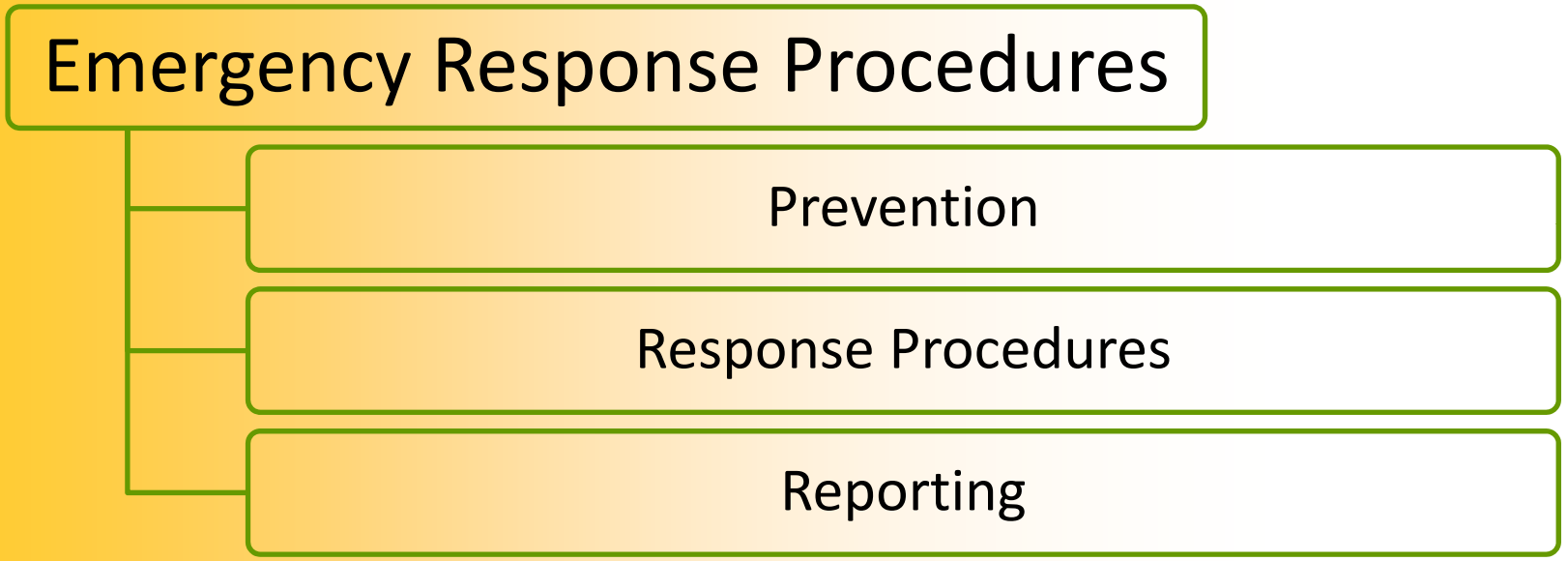
Bear Island Mid-Canada Line Site Remediation

General Health and Safety Prevention Program



Bear Island Mid-Canada Line Site Remediation

General Health and Safety Prevention Program

Prevention

- Work procedures have been developed for when working with chemicals
- Most products on site are in small quantities, except for POL
- These are kept in the Fuel Storage Area, and have specific containment to help prevent spills
    - Approved containers
    - Secondary containment

Response Procedures

- Procedures will be posted in appropriate areas on site
- Spill kits will be present on site
- If you encounter a spill, the following procedure should be followed:
    1. Identify the spilled material (Proceed only if it is safe to do so)
    2. Contain the source
    3. Contain the spread
    4. Contact the site Superintendant and foreman
    5. Mobilize the spill kit
    6. Recover the spilled material
    7. Ensure the source of the spill is secure
    8. Prepare a spill report

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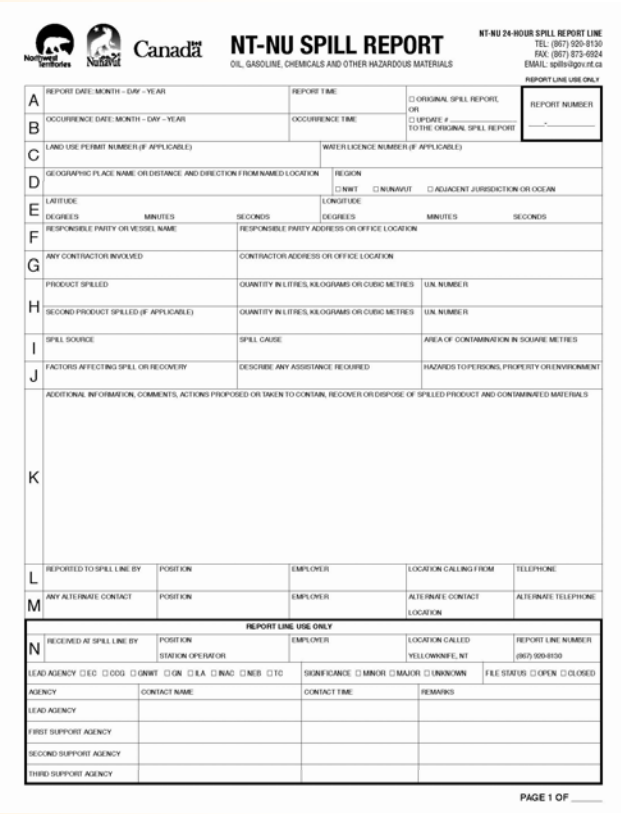
Bear Island Mid-Canada Line Site Remediation

General Health and Safety Prevention Program

Spill Reporting

- After a spill a report must be completed and submitted to the site Engineer within 24 hours
- If the spill exceeds 70 L, this report must also be forwarded to the Nunavut Department of Environment
- The appropriate spill report form is included in the Site-Specific HASP



NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR ☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME		
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			
L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM / TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION / ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

PAGE 1 OF _____

Bear Island Mid-Canada Line Site Remediation

General Health and Safety Prevention Program

Fire and Explosion Response

- Equipment
- Response Procedures
- Major Emergency
- Record Keeping

Fire Fighting Equipment

- Numerous portable extinguishers will be available on site for any incidents
- Radios will be available for communications
- All buildings will have working smoke detectors
- A firefighting team will be created and trained to respond in the event of a fire

Response Procedures

•In the event of a fire, the following procedure should be followed:

1. Notify the Site Superintendant via radio
2. Sound the designated emergency signal, inform supervisor
3. Assemble at the muster station
4. Follow the Superintendants instructions
5. Notify all applicable authorities
6. Complete an incident report

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Major Emergency

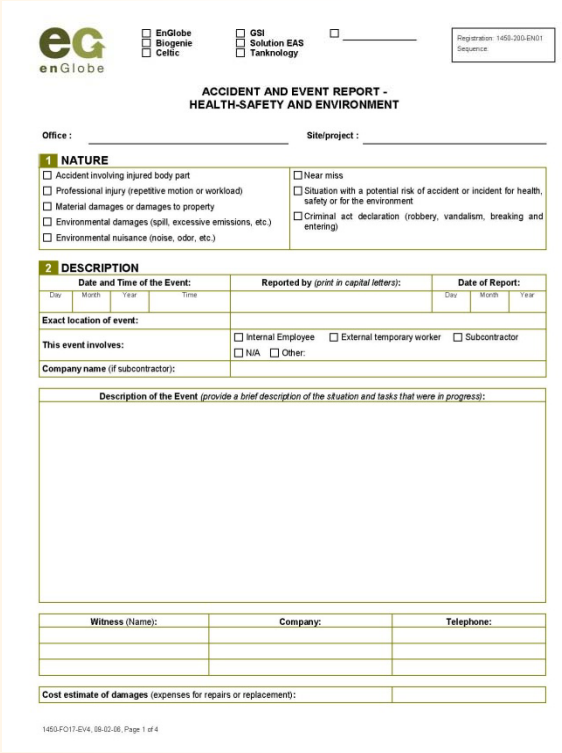
- In the event of a major emergency (fire, explosion, etc) all personnel will converge to a muster point
- After a head count, instructions will be given by the Site Superintendant on the next step

Bear Island Mid-Canada Line Site Remediation

General Health and Safety Prevention Program

Fire Record Keeping

- In the event of a fire, the incident will be recorded on Biogenie's *Accident and Event Report* (1450-FO17)
- This will be submitted to the Engineer



EnGlobe
Biogenie
Celtic
GSI
Solution EAS
Tanknology

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Site/project :

1 NATURE

- Accident involving injured body part
- Professional injury (repetitive motion or workload)
- Material damages or damages to property
- Environmental damages (spill, excessive emissions, etc.)
- Environmental nuisance (noise, odor, etc.)
- Near miss
- Situation with a potential risk of accident or incident for health, safety or for the environment
- Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event: (Day, Month, Year, Time)	Reported by (print in capital letters):	Date of Report: (Day, Month, Year)
Exact location of event:		
This event involves:	☐ Internal Employee ☐ External temporary worker ☐ Subcontractor ☐ N/A ☐ Other:	
Company name (if subcontractor):		

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

Witness (Name):	Company:	Telephone:

Cost estimate of damages (expenses for repairs or replacement):

1450-FO17-EV4, 09-02-06, Page 1 of 4

On-Site Medical Services

- A paramedic will be on-site at all times to provide emergency services
- Several Biogenie employees will also be CPR and First Aid certified
- If an accident occurs, the following procedure applies:
    1. Assess the nature of the injury
    2. Call for help, if required
    3. Administer the appropriate first aid
    4. Notify Site Superintendant and medic
    5. Organize evacuation, if required
    6. Complete an incident report
    7. Complete a Worker's Compensation Form

Off-Site Medical Services

- During the project the cite medic will maintain communications with the medical services in Chisasibi, QC
- Should a MEDEVAC be needed, the medic will contact the emergency services there
- The emergency services will contact the MEDEVAC and arrange for the appropriate services to be available on the plane
- The plane will take the patient to the nearest, most appropriate, hospital/service
- Should the need arise, the medic may directly contact the MEDEVAC to decrease the transit time

Biogénie

Bear Island Mid-Canada Line Site Remediation

Questions/Comments

Biogenie S.R.D.C. Inc
1140 Lévis Street
Lachenaie, Québec, J6W 5S6
www.biogenie-env.com

Meeting report

Project Description: Bear Island Site Restoration Project

Meeting Description: Weekly Safety Meeting

Meeting Date: 2010-08-25 **Location:** Cafeteria

Speaker: Mathieu Levesque

Recorded By: François de Courval

Attendance: See attached attendance sheet

Distribution : Rob Nichol (Site Engineer), Mathieu Levesque (Site Superintendant), Yves Leonard (Site Foreman), Pat O'brien (Backup Foreman), Callie Powers (Site Paramedic)

Item	Discussion	Action By
1.0	Introduction to the Weekly Safety Meeting • Mathieu Levesque is welcoming everyone and mentioned that we just started the season. Mathieu Levesque brings the following point to the attention of the attendance. o Explanation, purpose and frequency of the Safety Meeting. Meeting will be held every Wednesday at 18h30. o Camp is still under construction. o Organization of the workforce is underway. o Arrival of the HSO and presentation of the HSO, François de Courval. o Explanation of the situation of the second barge. The barge will not reach Bear Island before Tuesday August 31st. o Reinforcement of the camp rules. o Location of the muster stations. o Mud room and disposal of PPE after the work day.	All Site Personnel
2.0	Site Paramedic • Callie Powers explains her role and duties. • Explanation of the medical form to be filled and given back to Site Paramedic.	All Site Personnel

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any Omissions, please advise, otherwise we will assume the contents to be correct.

Item	Discussion	Action By
3.0	Heavy Equipment and rolling vehicles • Speed limit is 30 km/h everywhere. • HEO and machinery safety considerations. Keep eye contact and wearing of marker vests at all time.	All Site Personnel
4.0	Wearing of PPE • All site personnel must wear their PPE on work site including but not limited to helmet, safety glasses, gloves and work boots. • Exception for PPE for office staff within camp vicinity. • PPE must be requested to HSO/team supervisor in order to track requirement and inventory.	Worker Concerned
5.0	Sources of injuries • The most common injury is cuts. Work gloves are the main way of avoiding cuts.	All Workers
6.0	Miscellaneous • **<u>MP3s and headsets are not allowed during the work hours!!!</u>** • Emergency response sign-up • Joint Health & Safety committee sign-up	All Workers

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Meeting report

Project Description: Bear Island Site Restoration Project

Meeting Description: Weekly Safety Meeting

Meeting Date: 2010-09-01 **Location:** Cafeteria

Speaker: François de Courval

Recorded By: François de Courval

Attendance: See attached attendance sheet

Distribution: Rob Nichol + Mitch Bliss (Site Engineers), Mathieu Levesque (Site Superintendant), Yves Leonard (Site Foreman), Pat O'brien (Backup Foreman), Peter Engler (Site Paramedic)

Item	Discussion	Action By
1.0	**1. General Points (Camp). The following points were raised by the HSO :** **Introduction of the new Site Paramedic.** a. Fire extinguishers: Explanation of the fire extinguishers location in the camp. b. Signs: Muster Area Primary and Secondary, Fuel Storage Signs. c. Emergency exit at camp / restricted use of the door at the end of the camp corridor. d. No access area signs. e. Washing machine for work clothes only. f. Close the water tap and water usage (pay attention to water use). g. Move the boots from the corridor (Tripping Hazard). h. Internet use – Not a mass download connection. i. Phone is up in the kitchen. j. Garbage. Bins are located next to the rear door of the kitchen.	All Site Personnel

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Item	Discussion	Action By
2.0	**2. Field work: The following points were raised by the HSO :** a. Bear Monitor, Sighting and eye contact at all time. b. Wearing of the PPE at all time (Gloves!!!). c. Defensive driving principles when heavy fog. d. Tripping Hazard: Wires, roots and debris. e. Survey flags. Stay alert please. f. Archaeological zone. OUT OF BOUND!	All Site Personnel
3.0	**3. Health and Safety Committee :** a. Volunteers needed. The following personnel volunteered for the committee. - François de Courval, Chairman, HSO - Fred Sutherland, Chief Cook. - Pat O'Brien, Foreman - Peter Engler, Site Paramedic - Thomas Katapatuk - Starr Hester, Bear Monitor - Gordon Wynne, Heavy Equipment Operator - Nigel Diamond, Labor - Mitch Bliss or Rob Nichol, AECOM b. First meeting on Saturday 04th September 2010. Timing: 20h00.	Worker Concerned
4.0	**4. Fire Team:** a. Volunteers needed. The following personnel volunteered for the team. - François de Courval, Incident Commander - Bruce Robichaud, Mechanic (Team Leader) - Jack Diamond, Labor - Preston Bleuboy, Bear Monitor - Starr Hester, Bear Monitor b. First meeting on Sunday 05th September 2010. Timing: 20h00.	Worker Concerned

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Item	Discussion	Action By
5.0	**Varia:** **a.** Cecil Morrison mentioned that the survey flags within the roads at the Regrade Area and South Doppler might be interfering with vehicle circulation. Rob Nichol proposed to change them with a nail. Surveyor will proceed with the changes. **b.** Fred Sutherland asked the threat related with isolation material removed from different work site. Rob Nichol mentioned it is fibreglass. François de Courval mentioned that dust mask will be worn by workers dealing with such kind of material.	
6.0	**END OF H&S Meeting.**	

Biogenie, division of EnGlobe Corp.
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Meeting report

Project Description: Bear Island Site Restoration Project

Meeting Description: H&S Committee Meeting Minutes

Meeting Date: 2010-09-09 **Location:** Cafeteria

Chairman: François de Courval

Recorded By: François de Courval

Attendance: Mitch Bliss, Peter Engler, Pat O'Brien, Starr Hester, Thomas Katapatuk, Nigel Diamond, Gordon Wynne.

Distribution: Rob Nichol + Mitch Bliss + Scott Chapman (Site Engineers), Mathieu Levesque (Site Superintendant), Yves Leonard (Site Foreman), Pat O'brien (Backup Foreman), Peter Engler (Site Paramedic)

Item	Discussion	Action By
1.0	**1. François de Courval reviewed the minutes of last week H&S meeting.** a. Quick review of last week incident. b. H&S Audit key points were reviewed.	N/A
2.0	**2. François de Courval reviewed in depth the points noted during the H&S Audit Field Work portion.** a. Very few deficiencies noted. Good work done in general. b. Safety glasses is the most neglected piece of PPE. c. Heavy equipment operation safety will be of the utmost importance as the excavation activity will be starting soon.	All Site Personnel
3.0	**3. The committee reviewed the format of the H&S Weekly Meeting to ensure maximum effectiveness. The following points were noted in order to improve the Weekly Meeting.** a. Add more demonstration during the meeting. For example, a demonstration for lifting heavy weight could be shown by site Foreman. b. Have more speakers involved in the meeting. Site Superintendant, HSO, Wiinibek representative should all speak. c. Workers should share their experience. One worker should share an H&S issue that he encountered during the week. For example, the worker could explain a near miss in which he got personally involved. d. In general, the committee is satisfied by the format of the Weekly Meeting.	HSO

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Item	Discussion	Action By
4.0	**4. Workers were asked to share their H&S concerns.** a. Workers lack of knowledge about jobs involving Hazardous Material. b. Tool box meeting should be more detailed. c. Some workers are late at the tool box meeting. d. A H&S board should be placed in the recreation room. e. A suggestion box would be appropriate for workers that are afraid to communicate their concerns. f. Workers should sign the Job Safety Analysis (JSA) when starting a new job. g. We should have a Bear Island Safety Slogan.	N/A
5.0	**5. The committee established the top three priorities.** a. Improve communication and improve the buddy system. b. Improve quality of tool box meeting. c. Use JSA more often.	HSO
6.0	**6. Review of the Main H&S events to come.** a. Next round of the H&S Audit will be September 19th.	N/A
7.0	**End of H&S Meeting.**	

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Meeting report

Project Description: Bear Island Site Restoration Project

Meeting Description: Weekly Safety Meeting

Meeting Date: 2010-09-15 **Location:** Cafeteria

Speaker: Mathieu Levesque

Recorded By: François de Courval

Attendance: See attached attendance sheet

Distribution: Rob Nichol + Mitch Bliss + Scott Chapman (Site Engineers), Mathieu Levesque (Site Superintendant), Yves Leonard (Site Foreman), Pat O'brien (Backup Foreman), Peter Engler (Site Paramedic)

Item	Discussion	Action By
1.0	**1. Mathieu Levesque reviewed the minutes of last week H&S meeting.** a. H&S Committee first meeting was conducted. b. H&S Audit key points were reviewed.	N/A
2.0	**2. Mathieu Levesque reviewed the last week H&S incidents.** a. Spills: 4L at the Airstrip and 2L excavator spill. 1. Mathieu Levesque made a quick review of the Spill Response Plan. b. Boardwalk fall incident. c. 2nd degree burn at the kitchen.	N/A
3.0	**3. Camp construction and operation at the same time.** a. The camp is being built at the moment. Stay vigilant at all time. Mathieu Levesque reviewed some hazard that could be encountered. 1. Missing hand rail. 2. Unburied wires. 3. Slippery surfaces. 4. Heavy weight lifting injury.	All Site Personnel

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Item	Discussion	Action By
4.0	**4. François de Courval reviewed the main points brought during the H&S committee meeting.** a. Lack of communication and knowledge of the hazard by most of the workers. b. Better tool box meeting needed, use of the JSA and introduction of a suggestion box. c. Please raise any concerns to representatives of the committee.	All Site Personnel
5.0	**5. Paramedic's top three point.** a. Kitchen hygiene is very important. Wash and sanitize your hand before eating. b. Out of bound zone for the kitchen cooking area. c. Keep the bathrooms clean as bacteria can spread easily.	All Site Personnel
6.0	**6. Review of the Main H&S events to come.** a. Next round of the H&S Audit will be September 19th. b. Next H&S committee meeting will be tomorrow at 18h30 in the recreation room.	HSO and H&S committee members
7.0	**7. Varia.** a. François de Courval brought the following points to the attention of site personnel. 1. Speed limit is 30 Km/h, wear your ATV helmet at all time and it's prohibited to use vehicle on the airstrip in order to avoid landing or takeoff problem to Wabusk Air. b. Mathieu Levesque asked to use the bin for papers in the bathrooms and not the toilets. c. Denis Larabie congratulated everyone for their huge efforts in making this project a success. He asked to pay attention to garbage management on work site and to remain responsible in reporting unsafe work practice.	All Site Personnel
8.0	**End of H&S Meeting.**	

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Meeting report

Project Description: Bear Island Site Restoration Project

Meeting Description: Weekly Safety Meeting

Meeting Date: 2010-09-22 **Location:** Cafeteria

Speaker: François de Courval

Recorded By: François de Courval

Attendance: See attached attendance sheet

Distribution: Rob Nichol + Mitch Bliss (Site Engineers), Mathieu Levesque + Daniel Blais (Site Superintendant), Yves Leonard (Site Foreman), Matthew Atwell (Site Paramedic), Tina Leonard and Denis Larabie (Wiinibek Management Inc.)

Item	Discussion	Action By
1.0	**1. The HSO Reviewed the minutes of the last week H&S meeting.** a. Review of the incidents of last week: 2 spills recorded and 2 work related incidents. b. Review of the hazards related with construction and operation of a camp at the same time. c. Review of the H&S Committee Meeting key points noted. (Improvement of communication) d. Paramedic top three points – Hygiene reminder.	N/A
2.0	**2. The HSO Reviewed the last week H&S incidents.** a. Uncontrolled fire at the South Doppler. b. Fall in the stairs.	N/A
3.0	**3. The HSO reviewed the causes of the incident at point 2.b.** a. Work zone was not marked properly. b. Stay alert and pay attention to signals when work is ongoing.	All Site Personnel

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Item	Discussion	Action By
4.0	**4. Summary of the Health and Safety Audit completed 08-09-2010.** **4a. CAMP AND GENERAL ITEMS** a. Weapon to be locked in rooms when not using. Ammunition will be accounted for. b. Documents (permits and HASP) are posted in the recreation room. c. Vehicle pre-inspection. d. Worksite inspection: Clean your mess... Bottles, papers, others... e. Smoke bin and smoking point. The smoke shack is functional. f. General garbage in camp area. g. Kitchen staff only in the kitchen cooking area. h. Door at the back of the kitchen is for kitchen staff only. I. Fire extinguishers tag: DO NOT REMOVE!!! j. Wash your hands and use sanitizer before eating. k. No access to electrical room in the dorm section. l. No access to furnace door. m. Boot mat in the hallway are to be removed and boots also. n. No personal belonging left in the bathrooms. o. Clean the Mud Room. p. Use the hooks for work clothes (Mud Room). q. Don't let the unclean work clothes left on the bench of the Mud Room. r. Shoes aligned to the wall to let the path clear. **4b. FIELD WORK OBSERVATION** a. Protection glasses. PPE container. Personnel reading glasses not suitable. b. Tools gathered all over the place. Gather tools together and out of the road. c. Work calmly and stay vigilant. d. Stay out of range of the machinery if you are waiting. **EXCAVATOR.** e. Generally good working practice observed during the audit.	All Site Personnel

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Item	Discussion	Action By
5.0	**5. Paramedic's top three points.** a. Fall protection devices to be used. b. Hygiene reminder especially for washing hands. c. New Site Paramedic rules and functioning.	All Site Personnel
6.0	**6. Fresh water responsible consumption.** a. Use water responsibly. b. Close the water tap when done. c. If you notice a broken equipment, notice camp manager. d. If you notice a leak, notice camp manager.	All Site Personnel
7.0	**7. Varia.** a. Wind hazard and flying objects hazard were reviewed. b. Each individual presented themselves.	All Site Personnel
8.0	**END OF H&S Meeting.**	

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Report of Meeting

Project Description: **Bear Island Site Restoration Project**

Meeting Description: Weekly Safety Meeting

Meeting Date: 2010-10-13 **Location:** Cafeteria

Recorded By: Mathieu Levesque

Date:

2010-10-013

Attendance: 15 OF 15

Distribution:

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any Omissions, please advise, otherwise we will assume the contents to be correct.

1.0	Introduction on Weekly Safety Meeting • The end of the season if near, we had to postpone the closing of the camp by a couple of days. It does not mean we don't have to carry on with our proper safety practices. • Two incidents and a near miss happened this week. All three of them could of easily being prevented. 1. <u>The accident involving a vehicle</u>: When reversing, make eye contact with the banksman and always looks in all mirrors. 2. <u>The near miss with propane</u>: Make sure you know how to use the equipment. If you don't know, please ask Yves. 3. <u>The ATV accident</u>: Speed limit is 30 km/hr everywhere. Quads be advised, at night the speed should be less than that. **Adapt your speed to the condition**. **Don't use sunglasses on a Quad at night.** Stay on the road, and **always** drive with head lights on! • **<u>Barge Landing</u>**: Can be a dangerous place. If you don't belong there or are not affected to a task on the barge; please don't go. There will be lots of machinery working in a small area, make sure they see you or stay visible and at a fair distance. • **<u>We are cleaning the camp and organizing. If you take something, a tool or equipment, bring it back.</u>** • <u>The mud room is for all work clothes, keep everything there, don't come in the kitchen or in your room with them. The PPE container is getting closed. If you need something, let Yves, Thomas or myself know.</u>	All Workers
2.0	Kitchen • Help the kitchen staff, they are only two, so give them a hand and reuse your cup. • Only take what you need and don't leave anything on the tables.	All Workers
3.0	Vehicles • Speed limit is 30 km/hr everywhere. Everyone be advised, at night should be less then that. **Adapt your speed to the condition**. **Don't use sunglasses when driving.** • Stay on the road, and **always** drive with head lights on.	All Workers

4.0	Various • Thanks to the worker that are leaving tomorrow morning. It was a pleasure working with you.	Worker Concerned
5.0	Clean Up Project: • Pick-up debris if you see some. Smokers: don't throw your cigarette butts on the ground, place them in a can. Please.	All Workers
6.0	Various: • The bad temperature is making our life harder. We have to fight the wind to transport equipment, sometime a hard time to breathe or hear properly: 1. Make sure to locate what surrounds you; 2. Don't assume that the camp items are still at the same place; 3. Take your time in doing a task, make it right and safe.	All Workers

BEAR ISLAND - HEALTH & SAFETY AUDIT
September 2010

Updated As of 09 September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
1.1	**General safety requirements**		• Conduct site audits every two weeks and provide contractor with results for completion	• **Camp and work area audit will be conducted every two weeks.**	N/A	Next inspection 19 September 2010. OPI: HSO
			• Weapon Testing	• **Not all weapon tested. Weapon testing should be completed especially for riffle.**	5	Sunday 19th September 2010. OPI: HSO
			• Posted Materials; Biogénie Safety Policy, CLC Part II, Canada OH&S Regs, Emergency Response Procedure, Accountability Chart/board, Training certificates, First Aid Supplies, PPE, Territory Regs, Contractor HASP, Specs documents	• **Posted material should be added as per Specs, AHJ and Biogénie's policies.** • **Posted material will be placed in the kitchen and moved to the recreation room upon reception of the 2nd barge.**	4	Sunday 19th September 2010. OPI: HSO
			• Off-Site communication	• **No action required.** • **Plan A: Internet, phone and fax.** • **Plan B: Iridium phones** • **Plan C: VHF Cree radio on site.**	5	N/A

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Bear monitor used/advised of location on site.	• **Bear monitor should be more disciplined on shift change and constant patrolling during break and meal hours.**	2	Immediate action required. HSO talked to Elder Bear Monitor for corrective action to be taken immediately.
			• Interview other Team Members	• **No action required.** • **Team leaders proceeded with interview.**	5	N/A
			• MEDEVAC Procedure	• **Chisasibi might not be the best MEDEVAC location for severe trauma or specialized medical services.** • **Night landing impossible at Bear Island.** • **MEDEVAC Plan needs to be rechecked and updated.**	3	Sunday 19th September 2010. OPI: Site Paramedic
1.2	**Contractor Safety Requirements**	1.2.1 Contractor Administrative Safety Audit	• Emergency Phone List	• **Emergency phone list needs some minor update.** • **Posted emergency phone list needs to be updated.**	4	Sunday 19th September 2010. OPI: HSO
			• Report Forms	• **EnGlobe and AHJ forms are used.** • **Incident Reports need to be sent to AECOM Resident Engineer within 24 hours.**	4	Report to be filled accordingly. OPI: HSO and Biogénie Head Office
			• Safety Officer	• **No action required.** • **HSO possesses all required qualification as per proposal**	5	N/A

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
				document and Biogénie's HASP. • **HSO is performing 1h30 routine inspection daily of camp and work site.**		
			• Vehicle Pre-Use Inspections	• **Daily maintenance is performed for every vehicle.** • **Pre-use inspection could be more thorough for ATV and Dodge Ram.**	4	Point already brought at the Weekly H&S Meeting on September 08, 2010. OPI: HSO and Head Mechanic
			• Job Safety Analysis	• **JSA Forms from EnGlobe not used by Team Leader.** • **Tool box meeting should include JSA form.** • **Better Kick off meeting formula should be implemented.**	2	Sunday 12th September 2010. OPI: Site Superintendant
			• Procedure Development / communicated	• **WOS, HASP, ERP need minor update.**	5	Sunday 19th September 2010. OPI: HSO
			• Emergency Response Programs	• **Document needs minor update such as layout of the camp emergency equipment, ppe, muster area and fire safety equipment.** • **Phone number list require update.** • **MEDEVAC Procedure to be updated.**	5	Sunday 19th September 2010. OPI: HSO
			• Joint Health and Safety Committee	• **First meeting needs to be completed.**	4	First Meeting held Thursday 09th September. OPI: HSO

BEAR ISLAND - HEALTH & SAFETY AUDIT
September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Worksite Inspections	• **Inspections are conducted daily.** • **Audit to be completed every two weeks.**	5	Next inspection 19 September 2010. OPI: HSO
			• Training and Documentation	• **Aboriginal declaration needed.** • **WHIMIS Training certificate needed for the workforce.**	5	Sunday 19th September 2010. OPI: Wiinibek Management Inc.
			• Worker Orientation Seminar (WOS)	• **WOS needs minor update to reflect actual contract modification.**	5	Sunday 19th September 2010. OPI: Site Superintendant
			• Accident investigation and reporting	• **No action required.** • **EnGlobe Form used.**	5	N/A
			• Safety Talks	• **Tool box meeting should be better structured and occurring every morning.** • **More discipline needed.**	4	Sunday 12th September 2010. OPI: Site Superintendant

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
		1.2.2 Camp Facility	• Kitchen/Dining	• **Kitchen stair needs more lighting.** • **Smoke bin should be displaced at the smoke point. Smoke shack needed** • **Emergency exit for the dining room users is locked and has no stair. Emergency door needed when the recreation module will be installed.** • **Noise zone warning signs need to be installed next to the generator exhaust.** • **Burry the generator cable to avoid tripping.** • **A Kitchen Staff Only sign should be installed on top of the door leading to the cooking area.** • **A barrier should be installed to avoid people moving between the kitchen and generator.** • **Bins should have covers to avoid smell.** • **Bins should be labelled (Garbage and cardboard).** • **Proper Fire Code labelling should be installed on the propane tanks.** • **Stair behind the kitchen needs to be labelled as emergency exit only.** • **Hand rails should be installed on every stairs.** • **Boardwalk will become a slippery surface with the cold season starting.**	2	Camp is being finalized at the moment. Priority will be placed on fire safety. Deadline Sunday 19th September 2010. OPI: HSO, Tradesman, Head Mechanic Wiinibek Management Inc.

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Kitchen/Dining (continued)	• **Light bulb in storage needs to be changed.** • **Missing certification tag on the fire extinguishers. Extinguisher needs inspection as well.** • **Cleaning product should be segregated from food.** • **MSDS are missing for most of the cleaning products.** • **Cleaning mop pail should be in the storage room.** • **Furnace room door should be closed and locked.** • **Fire alarm system is not working and trouble lights are On.** • **Emergency lighting not functional.** • **Mayonnaise should be stored in the fridge.** • **Dishwasher is not cleaning properly.** • **Main oven needs to be functional.** • **Hot plate is partially working.** • **Manual lighting is needed for most of the propane cooking device.** • **Steak grill is not working.** • **Cleaning checklist needs to be given to kitchen staff.** • **Extinguisher system for main fan/hot system needs inspection.** • **Main sink should not be blocked.** • **Bulb in the freezer needs to be changed.** • **Heater not working in kitchen.**	2	Camp is being finalized at the moment. Priority will be placed on fire safety. Deadline Sunday 19th September 2010. OPI: HSO, Tradesman, Head Mechanic Wiinibek Management Inc, Site Paramedic

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Dorms	• **Exit signs and emergency lighting needs to be installed.** • **Electrical room door needs to be fixed to close properly. Handle needs to be changed. Door needs to be locked.** • **Fire hose in fire point is missing.** • **MSDS are needed for cleaning product in the washing machine room. Relocate some products.** • **Furnace door should be locked.** • **Bar soap should be replaced by liquid soap in dispensers.** • **Cleaning procedure and checklist should be given to janitor.**	4	Camp is being finalized at the moment. Priority will be placed on fire safety. Deadline Sunday 19th September 2010. OPI: HSO, Tradesman, Head Mechanic Wiinibek Management Inc, Site Paramedic
			• Mudroom	• **A sign indicating the purpose of the Mud room should be placed on the entrance door.** • **Fire extinguisher needs inspection and certification tag is missing.** • **Mud room needs to be cleaned.** • **Dirty clothes need to be removed and washed.** • **Hooks should be used for hanging work clothes.** • **Shoes need to be aligned on the wall.** • **Stretcher need to be relocated in Paramedic's clinic.** • **Electrical cord needs to be taped on the floor.**	4	Camp is being finalized at the moment. Priority will be placed on fire safety. Deadline Sunday 19th September 2010. OPI: HSO, Tradesman, Head Mechanic Wiinibek Management Inc, Site Paramedic

BEAR ISLAND - HEALTH & SAFETY AUDIT
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Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Tradesman shop and PPE Container	• **Extinguisher needs inspection and certification tag is missing.** • **Light is needed in PPE container.**		Sunday 19th September 2010. OPI: Tradesman, Wiinibek Management Inc
			• Generator	• **Noise warning sign needed on the entrance door of generator room.** • **Fire extinguisher needed inside of the generator room.**	.4	Sunday 19th September 2010. OPI: HSO, Tradesman
			• Fuel Caches	• **Flags needed for generator fuel point.** • **Snow fences needed.**	4	Sunday 19th September 2010. Depends of the date of reception for equipment. OPI: HSO
			• Housekeeping/storage of materials	• **MSDS needed for cleaning product.**	4	Sunday 19th September 2010. OPI: HSO
			• Fire Detection Systems	• **Whole fire system needs to be inspected. System is not working.**	3	Camp is being finalized at the moment. Priority will be placed on fire safety. Deadline Sunday 19th September 2010. OPI: HSO, Tradesman, Head Mechanic Wiinibek Management Inc, Site Paramedic
			• Lighting Inside/Outside	• **No action required.**	5	N/A

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Walkways/Hallways	• **Boot mats need to be removed of the hallway.**	4	Monday 13th September 2010. Point already brought at the Weekly H&S meeting. OPI: HSO, workers
			• Steps/Ramps	• **Some stairs such as exit for half dorm are missing.**	4	Sunday 19th September 2010. OPI: Tradesman
			• Emergency Exits/Signage	• **Most are missing especially in the corridor of the dorm unit.**	4	Camp is being finalized at the moment. Priority will be placed on fire safety. Deadline Sunday 19th September 2010. OPI: HSO, Tradesman, Head Mechanic Wiinibek Management Inc, Site Paramedic
			• Mould	• **No action required.**	5	N/A
		1.2.3 Contractor Field Observations	• Road Signage, Reflectors, Barriers, maintenance and right of ways	• **No action required.**	5	N/A
			• Medic Office	• **Stretcher needed in the medic's clinic.** • **Clinic should be located closer to an exit door.**	4	Camp is being finalized at the moment. Relocation will occur once dorms are finalized. Deadline Sunday 19th September 2010. OPI: HSO and Site Paramedic

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Hazmat Removal/ Signage	• **No action required.**	5	N/A
			• Waste Management	• **No action required.**	5	N/A
			• Equipment Use	• **No action required.**	5	N/A
			• Fire Protection Equipment / Fire separation	• **Fire team meeting and training need to be conducted.**	4	Sunday 19th September 2010. OPI: HSO, Wiinibek Management Inc., Certified trainer for extingsuisher
			• Housekeeping	• **An additional janitor might be needed.** • **Routine for cleaning the rooms needs to be clarified.** • **Routine for bed linen needs to be clarified.**	4	Sunday 19th September 2010. OPI: HSO, Janitor
			• Fall Protection	• **No action required.**	5	N/A

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Confined Spaces/ Equipment	• **No action required.**	5	N/A
			• Power Tools	• **No action required.**	5	N/A
			• Extension Cords	• **No action required.**	5	N/A
			• Gas Cylinders	• **Compressed gas near kitchen and garage area need proper Fire Code signage to be installed.**	4	Sunday 19th September 2010. OPI: Wiinibek Management Inc.
			• Cranes/Hoisting	• **No action required.**	5	N/A
			• Welding	• **No action required.**	5	N/A
			• Traffic Control	• **No action required.**	5	N/A

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Elevating Work Platforms	• **No action required.**	5	N/A
			• Temporary Power Supply/Electrical Circuits	• **No action required.**	5	N/A
			• Trenches /Excavations	• **No action required.**	5	N/A
			• Portable Radio	• **No action required.** • **More radio chargers needed.**	5	Radio chargers already brought on site.
			• Emergency Equipment	• **No action required.**	5	N/A
			• Polar Bear Repulsive System	• **No action required.**	5	N/A

Memo submitted to: Rob NICHOL, AECOM Resident Engineer
Submitted by: François DE COURVAL, On-Site Project Manager / HSO
Subject: H&S Audit round two, September 19th 2010

01 October 2010

The purpose of this memo is to present the corrective measures taken following the first H&S Audit performed as well as the major outstanding items noted during the H&S Audit round two performed on 19th September 2010.

Following round two audit, it was noted that all major deficiencies were corrected or mitigated to an acceptable low risk level.

Main effort was placed on fire safety and camp corrective measures. Fire alarm, fire extinguishers, fire hoses, propane cooking appliances, fire safety lights/emergency exit signs and stairs/rails were thoroughly looked over.

The main outstanding item identified during round two audit was the faulty fire system alarm in the kitchen area which will require to be fixed following the demobilization. Bear monitors fire watch was created to mitigate the risk of night fire.

Finally, attached table summarize the mitigation measures taken so far and the evaluation of the residual risks. Outstanding items noted during the round two audit are identified in red and followed by the proposed deadline and OPI for corrective measures.

Regards,

François de Courval

On-Site Project Manager / HSO

BEAR ISLAND - HEALTH & SAFETY AUDIT ROUND 2
19th September 2010

Updated As of 01 October 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
1.1	**General safety requirements**		• Conduct site audits every two weeks and provide contractor with results for completion	• **Camp and work area audit will be conducted every two weeks.**	• **Audit is performed every two weeks.**	N/A	• **No action required.** Second round performed 19th September. This second round was the last of the work season as demobilization will take place soon.
			• Weapon Testing	• **Not all weapon tested. Weapon testing should be completed especially for riffle.**	• **Weapons were tested off site.** • **Bear monitors on site got their weapon tested 19th Sept 2010.**	N/A	• **No action required.**
			• Posted Materials; Biogénie Safety Policy, CLC Part II, Canada OH&S Regs, Emergency Response Procedure, Accountability Chart/board, Training certificates, First Aid Supplies, PPE, Territory Regs, Contractor HASP, Specs documents	• **Posted material should be added as per Specs, AHJ and Biogénie's policies.** • **Posted material will be placed in the kitchen and moved to the recreation room upon reception of the 2nd barge.**	• **Material posted in the recreation room on 19th Sept 2010.**	N/A	• **No action required.**
			• Off-Site communication	• **Plan A: Internet, phone and fax.** • **Plan B: Iridium phones** • **Plan C: VHF Cree radio on site.**	N/A	N/A	• **No action required.**

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Bear monitor used/advised of location on site.	• **Bear monitor should be more disciplined on shift change and constant patrolling during break and meal hours.**	• **Camp management reinforced the rules.** • **Elder talked to Bear Monitors.** • **Bear Monitors were added to a total of 7 on site.**	5	• **No action required.**
			• Interview other Team Members	• **Team leaders proceeded with interview.**	N/A	N/A	• **No action required.**
			• MEDEVAC Procedure	• **Chisasibi might not be the best MEDEVAC location for severe trauma or specialized medical services.** • **Night landing impossible at Bear Island.** • **MEDEVAC Plan needs to be rechecked and updated.**	• **Site Paramedic updated the procedure.** • **Liaison with hospital completed.** • **Wabusk Air and Ontario Air Ambulance Dispatch informed of situation.**	5	• **No action required.**
1.2	**Contractor Safety Requirements**	1.2.1 Contractor Administrative Safety Audit	• Emergency Phone List	• **Emergency phone list needs some minor update.** • **Posted emergency phone list needs to be updated.**	• **Site Paramedic updated the lists.** • **Posted list needs to be changed**	5	Sunday 10th October 2010. OPI: HSO

BEAR ISLAND - HEALTH & SAFETY AUDIT ROUND 2
19th September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Report Forms	• **EnGlobe and AHJ forms are used.** • **Incident Reports need to be sent to AECOM Resident Engineer within 24 hours.**	• **Delays decreased and we are working on getting the answering speed better.**	5	• **No action required.**
			• Safety Officer	• **HSO possesses all required qualification as per proposal document and Biogénie's HASP.** • **HSO is performing 1h30 routine inspection daily of camp and work site.**	N/A	N/A	• **No action required.**
			• Vehicle Pre-Use Inspections	• **Daily maintenance is performed for every vehicle.** • **Pre-use inspection could be more thorough for ATV and Dodge Ram.**	• **Point was brought up twice during weekly safety meeting.**	5	• **No action required.**
			• Job Safety Analysis	• **JSA Forms from EnGlobe not used by Team Leader.** • **Tool box meeting should include JSA form.** • **Better Kick off meeting formula should be implemented.**	• **Better tool box meeting are in place.** • **Daily supervisor meeting in place.** • **JSA are used at the beginning of a new work station.**	5	• **No action required.**
			• Procedure Development / communicated	• **WOS, HASP, ERP need minor update.**	• **Documents still need minor updates.**	5	Sunday 10th October 2010. OPI: HSO
			• Emergency Response Programs	• **Document needs minor update such as layout of the camp emergency equipment, ppe, muster area and fire safety equipment.**	• **Documents still need minor updates.**	5	Sunday 10th October 2010. OPI: HSO

BEAR ISLAND - HEALTH & SAFETY AUDIT ROUND 2
19th September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
				• **Phone number list require update.** • **MEDEVAC Procedure to be updated.**	• **List still need minor updates.** • **MEDEVAC procedures updated.**		
			• Joint Health and Safety Committee	• **First meeting needs to be completed.**	• **First meeting was held Thursday 09th September 2010.** • **No more meeting will be completed.**	5	• **No action required.**
			• Worksite Inspections	• **Inspections are conducted daily.** • **Audit to be completed every two weeks.**	N/A	N/A	• **No action required.**
			• Training and Documentation	• **Aboriginal declaration needed.** • **WHIMIS Training certificate needed for the workforce.**	• **Wiinibek Management gathered all the lists.**	N/A	• **No action required.**
			• Worker Orientation Seminar (WOS)	• **WOS needs minor update to reflect actual contract modification.**	• **WOS was updated 19th September 2010.**	N/A	• **No action required.**
			• Accident investigation and reporting	• **EnGlobe Form used.**	N/A	N/A	• **No action required.**
			• Safety Talks	• **Tool box meeting should be better structured and occurring every morning.** • **More discipline needed.**	• **Better tool box meeting are in place.** • **Daily supervisor meeting in place.**	5	• **No action required.**

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
		1.2.2 Camp Facility	• Kitchen/Dining	• **Kitchen stair needs more lighting.** • **Smoke bin should be displaced at the smoke point. Smoke shack needed** • **Emergency exit for the dining room users is locked and has no stair. Emergency door needed when the recreation module will be installed.** • **Burry the generator cable to avoid tripping.** • **A Kitchen Staff Only sign should be installed on top of the door leading to the cooking area.** • **A barrier should be installed to avoid people moving between the kitchen and generator.** • **Bins should have covers to avoid smell.** • **Proper Fire Code labelling should be installed on the propane tanks.** • **Stair behind the kitchen needs to be labelled as emergency exit only.** • **Hand rails should be installed on every stairs.** • **Boardwalk will become a slippery surface with the cold season starting.**	• **Tower light in place.** • **Smoke shack in place.** • **Exit has stair.** • **Cable is buried.** • **Sign is in place.** • **Warning tape in place.** • **Covers are available.** • **Labels were installed.** • **Sign is in place.** • **Handrails available everywhere.** • **Calcium is available and boardwalks will be removed soon.**	5	• **No action required.**

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Kitchen/Dining (continued)	• **Light bulb in storage needs to be changed.** • **Missing certification tag on the fire extinguishers. Extinguisher needs inspection as well.** • **Cleaning product should be segregated from food.** • **MSDS are missing for most of the cleaning products.** • **Cleaning mop pail should be in the storage room.** • **Furnace room door should be closed and locked.** • **Fire alarm system is not working and trouble lights are On.** • **Emergency lighting not functional.** • **Mayonnaise should be stored in the fridge.** • **Dishwasher is not cleaning properly.** • **Main oven needs to be functional.** • **Hot plate is partially working.** • **Manual lighting is needed for most of the propane device.** • **Steak grill is not working.** • **Cleaning checklist needs to be given to kitchen staff.** • **Extinguisher system for main fan/hot system needs inspection.** • **Main sink should not be blocked.** • **Bulb in the freezer needs to be changed.**	• **Bulb was changed.** • **Tags are in place.** • **Furnace room is now used for storage.** • **MSDS available in the recreation room.** • **Furnace room is now used for storage.** • **Door closed with key available.** • **Action required.** • **Emergency lighting is working.** • **Product are stored in the fridge.** • **Dishwasher was fixed.** • **Oven is fixed.** • **Action required.** • **Lighting devices are fixed.** • **Fixed.** • **Checklist given to kitchen staff.** • **System is certified and working.** • **Sink is available.** • **Bulb is changed.**	5	• **Bear Monitor are doing fire watch as the system will need to be fixed after demobilization.** • **Appliance will be fixed after demobilization.**

BEAR ISLAND - HEALTH & SAFETY AUDIT ROUND 2
19th September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Dorms	• **Exit signs and emergency lighting needs to be installed.** • **Electrical room door needs to be fixed to close properly. Handle needs to be changed. Door needs to be locked.** • **Fire hose in fire point is missing.** • **MSDS are needed for cleaning product in the washing machine room. Relocate some products.** • **Furnace door should be locked.** • **Bar soap should be replaced by liquid soap in dispensers.** • **Cleaning procedure and checklist should be given to janitor.**	• **Devices are in place and working.** • **Door needs to be fixed.** • **Fire hoses are fixed.** • **MSDS are available in the HASP in the recreation room.** • **Keys not available.** • **Liquid soap is available.** • **Checklist was given to cleaning staff.**	5	Sunday 10th October 2010. OPI: HSO **No access signs were placed as keys are not available.**
			• Mudroom	• **A sign indicating the purpose of the Mud room should be placed on the entrance door.** • **Fire extinguisher needs inspection and certification tag is missing.** • **Mud room needs to be cleaned.** • **Dirty clothes need to be removed and washed.** • **Hooks should be used for hanging work clothes.** • **Shoes need to be aligned on the wall.** • **Stretcher need to be relocated in Paramedic's clinic.** • **Electrical cord needs to be taped on the floor.**	• **Sign is not in place.** • **Tags are all in place.** • **Done.** • **Mentioned in the H&S meeting.** • **Done.** • **Mentioned in the H&S meeting.** • **Done.** • **Done.**	5	Sunday 10th October 2010. OPI: HSO
			• Tradesman shop and PPE Container	• **Extinguisher needs inspection and certification tag is missing.** • **Light is needed in PPE container.**	• **Tag is in place.** • **Light is available.**	N/A	• **No action required.**

BEAR ISLAND - HEALTH & SAFETY AUDIT ROUND 2
19th September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Generator	• **Noise warning sign needed on the entrance door of generator room.** • **Fire extinguisher needed inside of the generator room.**	• **Sign is not in place.** • **Fire extinguisher is available.**	5	Sunday 10th October 2010. OPI: HSO
			• Fuel Caches	• **Flags needed for generator fuel point.** • **Snow fences needed.**	• **Flags are in place.** • **Snow fence missing.**	5	Snow fences will be installed if winterization is required Sunday 10th October 2010. OPI: HSO
			• Housekeeping/storage of materials	• **MSDS needed for cleaning product.**	• **MSDS available in the recreation room.**	N/A	• **No action required.**
			• Fire Detection Systems	• **Whole fire system needs to be inspected. System is not working.**	• **Fire system is working everywhere except in the kitchen.**	5	• **Bear Monitor are doing fire watch as the system will need to be fixed after demobilization.**
			• Lighting Inside/Outside	• **Lighting inside and outside is available.**	N/A	N/A	• **No action required.**
			• Walkways/Hallways	• **Boot mats need to be removed of the hallway.**	• **Boot mats were removed.**	N/A	• **No action required.**

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Steps/Ramps	• **Some stairs such as exit for half dorm are missing.**	• **Stairs and ramps are available everywhere.** • **Geo textile strips are in place to avoid slippery surface.**	N/A	• **No action required.**
			• Emergency Exits/Signage	• **Most are missing especially in the corridor of the dorm unit.**	• **All exit signs are in place.**	N/A	• **No action required.**
			• Mould	• **No moulds were observed.**	N/A	N/A	• **No action required.**
		1.2.3 Contractor Field Observations	• Road Signage, Reflectors, Barriers, maintenance and right of ways	• **Signage and warning signals are appropriate for the site.**	N/A	N/A	• **No action required.**
			• Medic Office	• **Stretcher needed in the medic's clinic.** • **Clinic should be located closer to an exit door.**	• **Done.** • **Clinic was relocated in front of service door.**	N/A	• **No action required.**
			• Hazmat Removal/ Signage	• **Hazmat signs are according specs and AHJ requirements.**	N/A	N/A	• **No action required.**

BEAR ISLAND - HEALTH & SAFETY AUDIT ROUND 2
19th September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Waste Management	• **Waste management is according to detailed work plan.**	N/A	N/A	• **No action required.**
			• Equipment Use	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Fire Protection Equipment / Fire separation	• **Fire team meeting and training need to be conducted.**	• **Fire team is in place with qualified firefighter as team leader Freddie Bobbish.** • **First meeting needs to be conducted.**	4	Saturday 02nd October 2010. OPI: HSO
			• Housekeeping	• **An additional janitor might be needed.** • **Routine for cleaning the rooms needs to be clarified.** • **Routine for bed linen needs to be clarified.**	• **2 janitors are in place.** • **Routine is in place.** • **Routine is in place.**	N/A	• **No action required.**
			• Fall Protection	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Confined Spaces/ Equipment	• **Nothing special to report.**	N/A	N/A	• **No action required.**

BEAR ISLAND - HEALTH & SAFETY AUDIT ROUND 2
19th September 2010

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Power Tools	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Extension Cords	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Gas Cylinders	• **Compressed gas near kitchen and garage area need proper Fire Code signage to be installed.**	• **Signage is in place.**	N/A	• **No action required.**
			• Cranes/Hoisting	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Welding	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Traffic Control	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Elevating Work Platforms	• **Nothing special to report.**	N/A	N/A	• **No action required.**

Item No.	Item		Discussion Points	Observations, action(s) Required and/or Taken	Mitigation measures	Residual Risk 1-5 1-High 5-Low	Status (Deadline) (OPI)
			• Temporary Power Supply/Electrical Circuits	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Trenches /Excavations	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Portable Radio	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Emergency Equipment	• **Nothing special to report.**	N/A	N/A	• **No action required.**
			• Polar Bear Repulsive System	• **Nothing special to report.**	N/A	N/A	• **No action required.**

☐ EnGlobe ☐ GSI ☐ _____
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☐ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)	☐ Near miss
☐ Material damage or damage to property or the environment (including environmental nuisance)	☒ Situation with a potential risk of accident or incident for health, safety or for the environment
	☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time	Mathieu Levesque	Day	Month	Year
19	08	10	13h00		14	09	10

Exact location of event:	
This event involves:	☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Wabusk Air

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On August 19th 2010 at approximately 13h00, a Wabusk Air plane got stock on Bear Island for 3 hours while turning on the soft and unpacted airstrip. The incident was caused by the poor quality of the airstrip and the small tires on the plane. Bigger tires for remote area airstrip should have been used to avoid this situation.

Following the incident, 3 hours of work were required to free the plane.

Witness (Name):	**Company:**	**Telephone:**
Mathieu Levesque	Biogénie	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	
Quantity of product discharged (if accidental spill or emission):	

3 IDENTIFICATION OF THE INJURED VICTIM

☒ Check if not applicable and proceed to Section 5

First and Last Name:		
Position:		
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:		
Body Part Injured:		☐ Left ☐ Right

Consultation with a Physician:	☐ No ☐ Yes – Date and Time:	Day	Month	Year	Time
Location (emergency, clinic, etc.):					
Care and Prescriptions Received:					

Work Stoppage*: ☐ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☐ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☒ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☐ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 7	Detail of the planned corrective action
The plane was landing on a soft airstrip requiring maintenance and compacting. The airstrip was compacted. Plane is now turned using a pickup truck and a towing device from Wabusk Air. Bigger cargo are being sent with a King Air 90 with bigger tire to avoid digging or getting stuck.	
Deadline:	☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	**Health and Safety**	**Environment**	**Public - Media**	**Finance** (Loss)	**Periodical** (4 times/year or +)	**Frequent** (1 to 3 times/year)	**Occasional** (1 to 3 times/3 years)	**Isolated** (1 to 3 times/10 years)	**Improbable** (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☒	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☐	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 14-09-10

Site Supervisor or HSE Officer: _____ **Date:** 14-09-10

Director of relevant unit: Luc Daigle **Date:** 16-09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

enGlobe

☐ EnGlobe ☐ GSI ☐ _____
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island, Nunavut

1 NATURE

☐ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)	☐ Near miss
☒ Material damage or damage to property or the environment (including environmental nuisance)	☐ Situation with a potential risk of accident or incident for health, safety or for the environment
	☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time		Day	Month	Year
20	08	2010	08H00	François de Courval	05	09	2010

Exact location of event:	LAT 54,34442 LONG 81,10074
This event involves:	☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Wiinibek Management Inc.

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

During mobilization and camp commissioning on August 20 2010 at 08h00, a 1L of Hydraulic Oil spilled at camp site. A leakage from the excavator was the source of the liquid. The spill occurred while the excavator lifted a camp module to be positionned at the Airstrip parking.

Following the spill, absorbent boom were used to clean the area. No addtionnal remediation activity were needed.

The incident was reported to the AECOM Resident Engineer upon his arrival on site.

Witness (Name):	**Company:**	**Telephone:**
Mathieu Levesque	Biogenie	403-387-2370 / 418-563-8436
Yves Leonard	Wiinibek Management Inc.	705-336-1116

Cost estimate of damages (expenses for repairs or replacement):	Negligeable
Quantity of product discharged (if accidental spill or emission):	1L Hydraulic Oil

3 IDENTIFICATION OF THE INJURED VICTIM

☒ Check if not applicable and proceed to Section 5

First and Last Name:		
Position:		
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:		
Body Part Injured:		☐ Left ☐ Right

Consultation with a Physician:	☐ No ☐ Yes – Date and Time:	Day	Month	Year	Time
Location (emergency, clinic, etc.):					
Care and Prescriptions Received:					

Work Stoppage*: ☐ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☐ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☐ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☒ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 8	Detail of the planned corrective action
The excavator is brand new. Preventive daily inspection and maintenance were performed. This incident was unavoidable.	
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☐	☒

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 07 - 09 - 10

Site Supervisor or HSE Officer: _____ **Date:** 07-09-10

Director of relevant unit: _____ **Date:** 08 - 09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

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Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** TP0654 - Bear Island, Nunavut

1 NATURE

☒ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)

☐ Material damage or damage to property or the environment (including environmental nuisance)

☐ Near miss

☐ Situation with a potential risk of accident or incident for health, safety or for the environment

☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				**Reported by** *(print in capital letters)*:	**Date of Report:**		
Day	Month	Year	Time	Peter ENGLER, Site Paramedic	Day	Month	Year
02	09	2010	17h20		02	09	2010

Exact location of event:	
This event involves:	☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Wiinibek Management Inc.

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

Nigel DIAMOND was working as a labor at the Barrel Sorting Area. He's tasked to this work station since August 31st. Before the work day ending, Nigel reported dizziness symptoms and suffered from nausea. He reported to the site paramedic at the end of the work shift for medical consultation. Site Paramedic declared the incident as non-occupational as the symptoms could not be linked with assurance to fuel volatile or airborne threat at the work site. Root cause raised by the site Paramedic was cold symptoms, fatigue, dehydration and maybe fuel vapor breathing. Incident was reported to Site Engineer. Nigel will be reassesed the next morning by the site medic. Nigel has been given the 03 September 2010 off to in order to rest properly.

Corrective action will be proper rehydration following highly physical work and wearing of filter mask and cartridge for this work station.

Witness (Name):	**Company:**	**Telephone:**
Mathieu Levesque	Biogénie	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	N/A
Quantity of product discharged (if accidental spill or emission):	N/A

3 IDENTIFICATION OF THE INJURED VICTIM

☐ Check if not applicable and proceed to Section 5

First and Last Name:	Nigel DIAMOND	
Position:	Labour	
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☒ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:	N/A	
Body Part Injured:	N/A	☐ Left ☐ Right

Consultation with a Physician:	☐ No ☒ Yes – Date and Time:	Day 02	Month 09	Year 2010	Time 18h00
Location (emergency, clinic, etc.):	Site Medical Clinic				
Care and Prescriptions Received:	Rest, Gravol, Re-Assesment the following day (03-09-2010), 1 x day off				

Work Stoppage*: ☒ No ☐ Yes	Expected Return Date:	Day 03	Month 09	Year 2010
Reassignment*: ☒ No ☐ Yes	Expected Return Date to Regular Activities :	Day 03	Month 09	Year 2010

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ 1 – **Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ 2 – **Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ 3 – **Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ 4 – **Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☒ 5 – **Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ 6 – **Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☐ 7 – **Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☒ 8 – **External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 5	Detail of the planned corrective action
Tool box meeting and JSA will be reinforced for this work station by putting more emphasis on the explanation of the effect of dehydration and diesel vapor inhalation effect and symptoms. Work procedure will be update in the detailed work plan to make sure workers wear filter mask as preventive measure as vapor inhalation threat will be raised at higher level.	
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.: 8	Detail of the planned corrective action
Cold spreading within camp personnel, heavy work, de-hydration and fatigue might be the root cause of this problem. Preventive medecine will be covered during the next H&S.	
Deadline:	☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☒	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 07-09-10

Site Supervisor or HSE Officer: _____ **Date:** 07-09-10

Director of relevant unit: _____ **Date:** 08-09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

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Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island, Nunavut

1 NATURE

☐ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)	☐ Near miss
☒ Material damage or damage to property or the environment (including environmental nuisance)	☐ Situation with a potential risk of accident or incident for health, safety or for the environment
	☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time	Mathieu Levesque	Day	Month	Year
03	09	2010	14h00		05	09	2010

Exact location of event:	LAT 54,33198 LONG 81,09723
This event involves:	☒ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Biogénie and Wiinibek Management Inc.

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

This incident occurred at the Barrel Sorting Area and involved Normand Bergeron, HAZMAT Spec and a labor from Wiinibek Management Inc.

On Sept 3 2010 at 14h00, AECOM Resident Engineer reported to the Site Superintendant that the barrels being loaded in the loader for hauling were not being inspected before being crushed at the Staging Area. While the work was being stopped at the Barrel Sorting Area, the excavator operator reported that a spill occurred while crushing the drums at the Staging Area. Inspection of the site at the Staging Area revealed a spill of 15L of Diesel.

Following the incident, Normand Bergeron was instructed to not supervise any HAZMAT Spec work and Mathieu Levesque was designated as Acting HAZMAT Spec.

Following the incident, Normand Bergeron had a verbal debrief with François de Courval at 20h30. During that verbal debrief, he could not explain how this situation occurred and mentionned that the direction given by Mathieu Levesque before beginning the task were clear. He mentionned that incident occurred unintentionaly and apologized.

Procedures on site has proven to be clear as the Resident Engineer reinforced the procedure with Site Superintendant as well as being well explained within project specifications and site detailled work planned.

Following the incident, 1 cubic meter of soil was excavated. Following excavation, it appeared that all the spill was remediated causing low to inexistant damage to the environment.

Witness (Name):	**Company:**	**Telephone:**
Darren Schecapio	Wiinibek Management Inc.	819-895-4054
Rob Nichol	AECOM Resident Engineer	403-387-2370
Mathieu Levesque	Site Superintendant	403-387-2370 / 418-563-8436

Cost estimate of damages (expenses for repairs or replacement):	1 cubic meter of soil excavated
Quantity of product discharged (if accidental spill or emission):	15 L Diesel

3 IDENTIFICATION OF THE INJURED VICTIM

☒ Check if not applicable and proceed to Section 5

First and Last Name:		
Position:		
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:		
Body Part Injured:		☐ Left ☐ Right

Consultation with a Physician:	☐ No ☐ Yes – Date and Time:	Day	Month	Year	Time
Location (emergency, clinic, etc.)**:**					
Care and Prescriptions Received:					

Work Stoppage*: ☐ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☐ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☒ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☒ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☐ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☐ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 4	Detail of the planned corrective action
Normand Bergeron had a discussion with François de Courval. Both agreed that additional supervision would have been necessary to avoid this incident as this was the main source of the incident. Normand mentionned that directions given by Mathieu Levesque were clear.	
Deadline:	☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.: 6	Detail of the planned corrective action
Tool box meeting and introduction meeting to site will be reinforced to ensure proper information sharing and understanding of the task to be conducted.	
Deadline:	☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☒	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 01-09-10

Site Supervisor or HSE Officer: _____ **Date:** 07-09-10

Director of relevant unit: _____ **Date:** 08-09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

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Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☐ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)

☒ Material damage or damage to property or the environment (including environmental nuisance)

☐ Near miss

☐ Situation with a potential risk of accident or incident for health, safety or for the environment

☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time	François de Courval	Day	Month	Year
06	09	10	15h25		14	09	10

Exact location of event:	Lat 54,3443 Long 81,0985 (Airstrip)
This event involves:	☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Wabusk Air

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On sept 06 2010, A Wabusk Air plane landing at Bear Island reported a minor fuel leakage from the left wing drain. This leakage was the result of a minor problem with the equipment.

A drip pan was placed under the wing to avoid more leakage on the airstrip as the plane has to remain at Bear Island long enough to allow the soil samples to be prepared and shipped on time to Waskaganish.

Witness (Name):	**Company:**	**Telephone:**
François de Courval	Biogénie	403-387-2370
Mathieu Levesque	Biogénie	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	negligible
Quantity of product discharged (if accidental spill or emission):	4L of Kerosene

3 IDENTIFICATION OF THE INJURED VICTIM

☒ Check if not applicable and proceed to Section 5

First and Last Name:		
Position:		
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:		
Body Part Injured:		☐ Left ☐ Right

Consultation with a Physician:	☐ No ☐ Yes – Date and Time:	Day	Month	Year	Time
Location (emergency, clinic, etc.)**:**					
Care and Prescriptions Received:					

Work Stoppage*: ☐ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☐ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☒ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☐ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 7	Detail of the planned corrective action
This incident was caused by a minor equipment problem. Maintenance was performed in order to correct the situation. No additionnal leakage was reported on the following flight landing at Bear Island.	
Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

Factor No.:	Detail of the planned corrective action
Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

Factor No.:	Detail of the planned corrective action
Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☒	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 14-09-10

Site Supervisor or HSE Officer: _____ **Date:** 14-09-10

Director of relevant unit: _____ **Date:** 16-09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

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☑ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☒ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)	☐ Near miss
☐ Material damage or damage to property or the environment (including environmental nuisance)	☐ Situation with a potential risk of accident or incident for health, safety or for the environment
	☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time		Day	Month	Year
08	09	10	18h00	Peter Engler	14	09	10

Exact location of event:	
This event involves:	☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Wiinibek Management Inc

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On September 08th 2010 at approximately 18h00, Annie Diamond suffered from a 2nd degree burn on the forearm while preparing the daily supper. The incident occurred while cutting the goose for supper as she did not notice that the head cook placed another hot pan next to her.

Following the accident, Annie Diamond went to the Medical Clinic to receive first aid (ointment and bandage).

Site Paramedic followed up during a few days to refresh the bandage and avoid infection.

Witness (Name):	**Company:**	**Telephone:**
Freddy Sutherland	Wiinibek Management Inc.	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	
Quantity of product discharged (if accidental spill or emission):	

3 IDENTIFICATION OF THE INJURED VICTIM

☐ Check if not applicable and proceed to Section 5

First and Last Name:	Annie Diamond		
Position:	Cook helper		
Department:			
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☒ Female	

4 DESCRIPTION OF THE INJURY

Type of Injury:	2nd degree burn					
Body Part Injured:	Right forearm	☐ Left ☒ Right				
Consultation with a Physician:	☐ No ☒ Yes – Date and Time:	Day 08	Month 09	Year 10	Time 18h10	
Location (emergency, clinic, etc.):	Site clinic					
Care and Prescriptions Received:	Bandage, ointment					

Work Stoppage*: ☒ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☒ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☒ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☐ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☐ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 6	Detail of the planned corrective action
As the kitchen personnel are all qualified workers with considerable experience, the level of communication could be better to avoid such kind of incident. JSA, toolbox meeting and better internal communication were encouraged to avoid similar incident.	
Deadline: ☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

Factor No.:	Detail of the planned corrective action
Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

Factor No.:	Detail of the planned corrective action
Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☒
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☐	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 14-09-10

Site Supervisor or HSE Officer: _____ **Date:** 14-09-10

Director of relevant unit: _____ **Date:** 16-09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

☐ EnGlobe ☐ GSI
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☒ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)	☐ Near miss
☐ Material damage or damage to property or the environment (including environmental nuisance)	☐ Situation with a potential risk of accident or incident for health, safety or for the environment
	☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				**Reported by** *(print in capital letters)*:	**Date of Report:**		
Day	Month	Year	Time	François de Courval	Day	Month	Year
13	09	10	15h00		14	09	10

Exact location of event:	Bear Island camp site
This event involves:	☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Wiinibek Management Inc

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On September 13, 2010 at approximately 15h00, the camp boardwalk on which Ruby Moar was standing fell off on the ground from an height of approximately 0,6 meter.

The accident occurred while the camp new dorms were being installed following the landing of the second barge at Bear Island.

Following the accident. The boardwalk situated close to the washing machine was repaired and other sections were inspected by site Foreman.

Ruby Moar was assessed by the site Paramedic which stated that Ruby suffered minor muscular strain.

Witness (Name):	**Company:**	**Telephone:**
François de Courval	Biogénie	403-387-2370
Peter Engler	Frontier Medical	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	
Quantity of product discharged (if accidental spill or emission):	

3 IDENTIFICATION OF THE INJURED VICTIM

☐ Check if not applicable and proceed to Section 5

First and Last Name:	Ruby Moar		
Position:	Janitor		
Department:			
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☒ Female	

4 DESCRIPTION OF THE INJURY

Type of Injury:	Minor Muscular Strain					
Body Part Injured:	Back	☐ Left ☐ Right				
Consultation with a Physician:	☐ No ☒ Yes – Date and Time:	Day 13	Month 09	Year 10	Time 15h05	
Location (emergency, clinic, etc.):	Site clinic					
Care and Prescriptions Received:	Ice pack, rest					

Work Stoppage*: ☒ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☒ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☒ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☐ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 7	Detail of the planned corrective action
Rails holding the boardwalk were bent causing a weakness in the support of the boardwalk. Foreman corrected the problem with the equipment by adding more piece of wood. As well, all the boardwalk was inspected immediately by site Foreman and Tradesman in order to avoid any other boardwalk problem. The camp is brand new and this accident will most likely not re-occur.	
Deadline:	☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☒	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: Ruby McLean (Injured person or main witness of the event) **Date:** Sept 14, 2010

Site Supervisor or HSE Officer: [signature] **Date:** 14-09-10

Director of relevant unit: Luc Daigle **Date:** 16-09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

☐ EnGlobe ☒ Biogenie ☐ Celtic ☐ GSI ☐ Solution EAS ☐ Tanknology ☐ _____

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☐ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)

☒ Material damage or damage to property or the environment (including environmental nuisance)

☐ Near miss

☐ Situation with a potential risk of accident or incident for health, safety or for the environment

☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				**Reported by** *(print in capital letters)*:	**Date of Report:**		
Day	Month	Year	Time	Mathieu Levesque	Day	Month	Year
13	09	10	13h30		14	09	10

Exact location of event:	Lat 54,3432 Long 81,0978 (Parking Area)
This event involves:	☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:
Company name (if subcontractor):	Wiinibek Management Inc

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On September 13th 2010 at 13h30 a spill of 2L of hydraulic Oil occurred at the parking area near the camp while changing the bucket on the PC-200 excavator. A problem in training caused this spill.

Following the spill, 0,1 cubic meter of soil was removed and placed in a Quatrex bag.

Witness (Name):	**Company:**	**Telephone:**
Bruce Robichaud	Wiinibek Management Inc	403-387-2370
Mathieu Levesque	Biogénie	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	
Quantity of product discharged (if accidental spill or emission):	

3 IDENTIFICATION OF THE INJURED VICTIM

☒ Check if not applicable and proceed to Section 5

First and Last Name:		
Position:		
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:		
Body Part Injured:		☐ Left ☐ Right

Consultation with a Physician:	☐ No ☐ Yes – Date and Time:	Day	Month	Year	Time
Location (emergency, clinic, etc.)**:**					
Care and Prescriptions Received:					

Work Stoppage*: ☐ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☐ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☒ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☐ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☐ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 1	Detail of the planned corrective action
The Head Mechanic possesses very few knowledge of heavy machinery. Site Foreman will be handling these kind of manoeuver as he possesses the required qualification. Site Foreman was on holiday at the moment of the incident.	
Deadline: ☒ Done or within the next few days	☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline: ☒ Done or within the next few days	☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline: ☐ Done or within the next few days	☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☐	☒

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ■ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** _____

Site Supervisor or HSE Officer: _____ **Date:** 14-09-10

Director of relevant unit: _____ **Date:** 16-09-2010

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

☐ EnGlobe ☐ GSI ☐ _____
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☒ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)

☐ Material damage or damage to property or the environment (including environmental nuisance)

☐ Near miss

☐ Situation with a potential risk of accident or incident for health, safety or for the environment

☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time		Day	Month	Year
15	09	10	11h00	François de Courval	19	09	10

Exact location of event:

This event involves: ☐ Internal Employee ☐ External temporary worker ☒ Subcontractor ☐ N/A ☐ Other:

Company name (if subcontractor): Wiinibek Management Inc

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On September 15th 2010 at approximately 11h00, Ruby Moar fell in the stairs leading to the offices. Stairs were being fixed by the tradesman at the moment as the camp construction was ongoing.

Following the accident, Site Paramedic was notified by François de Courval and first aid was given at Site Clinic. Following the Site Paramedic's assessment, worker was sent back to work immediately.

Witness (Name):	Company:	Telephone:
Denis Larabie	Wiinibek Management Inc.	403-387-2370
François de Courval	Biogénie	403-387-2370
Thomas Katapatuk	Wiinibek Management Inc.	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	N/A
Quantity of product discharged (if accidental spill or emission):	N/A

3 IDENTIFICATION OF THE INJURED VICTIM

☐ Check if not applicable and proceed to Section 5

First and Last Name:	Ruby Moar
Position:	Janitor
Department:	
Is this person a:	☐ Right-handed ☐ Left-handed ☐ Male ☒ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:	Minor bruise on both ankles				
Body Part Injured:	Both ankles	☒ Left ☒ Right			
Consultation with a Physician: (Site PARAMEDIC FDC 02-02-10)	☐ No ☒ Yes – Date and Time:	Day 15	Month 09	Year 10	Time 11h10
Location (emergency, clinic, etc.):	Site Clinic				
Care and Prescriptions Received:	Ice packs				

Work Stoppage*: ☒ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☒ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☒ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☐ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☐ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 4	Detail of the planned corrective action
Accident is mostly related to bad working habits. Ongoing construction zone should have been marked with tape and stairs should have been closed until the work is completed.	

Deadline: ☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action

Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action

Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☒
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☐	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ☐ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 2010-10

Site Supervisor or HSE Officer: _____ **Date:** 1-10-10

Director of relevant unit: _____ **Date:** 2010-10-01

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety

☐ EnGlobe ☒ Biogenie ☐ Celtic ☐ GSI ☐ Solution EAS ☐ Tanknology ☐ _____

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☐ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)

☒ Material damage or damage to property or the environment (including environmental nuisance)

☐ Near miss

☐ Situation with a potential risk of accident or incident for health, safety or for the environment

☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time	Mathieu Levesque	Day	Month	Year
18	09	10	01h00		19	09	10

Exact location of event:

This event involves: ☒ Internal Employee ☐ External temporary worker ☐ Subcontractor ☐ N/A ☐ Other:

Company name (if subcontractor): Biogénie

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On September 18th 2010 at approximately 01h00, an uncontrolled burning activity occurred at the South Doppler Area when fire was set accidentally to a wood pile sitting at approximately 30 meters from the burning bin.

Incident was reported on the morning of September 18th by Mathieu Levesque. Incident was reported immediately to AECOM Resident Engineer. To mitigate the effect of the ashes being spread by heavy wind, water was sprayed on the ashes and they were moved into the wood burning bin.

Heavy wind going up to 70Km/h that day is probably the source of the fire as a fire brand looks to have been transported to the wood pile. As the previous burning activity was held the day before and heavy rain occurred all night, chances of setting fire accidentally were minimal.

Witness (Name):	Company:	Telephone:
Mathieu Levesque	Biogénie	403-387-2370

Cost estimate of damages (expenses for repairs or replacement):	N/A
Quantity of product discharged (if accidental spill or emission):	N/A

3 IDENTIFICATION OF THE INJURED VICTIM

☒ Check if not applicable and proceed to Section 5

First and Last Name:		
Position:		
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:					
Body Part Injured:				☐ Left ☐ Right	
Consultation with a Physician:	☐ No ☐ Yes – Date and Time:	Day	Month	Year	Time
Location (emergency, clinic, etc.):					
Care and Prescriptions Received:					

Work Stoppage*: ☐ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☐ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these corrective actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☐ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☒ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☐ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☒ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 5	Detail of the planned corrective action
Procedures for wood burning will be updated/reinforced to lower the risk of recurrence. Wood will be staged at the originating area and will be moved to the wood burning bin once the burning activity will be ready to be conducted therefore eradicating all risk to set an uncontrolled fire.	
Deadline: ☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

Factor No.: 8	Detail of the planned corrective action
Wood burning activity guidelines of the detailed work plan, specifications and LUP were respected. The wood pile was positioned at a safe distance. No wood burning activity occurred that day because of heavy wind. Also, heavy rain during the day rendered to very low the probability of having an uncontrolled burning activity. This incident occurred because of uncontrollable external factor.	
Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

Factor No.:	Detail of the planned corrective action
Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan	

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☒	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ☒ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** 1-10-10

Site Supervisor or HSE Officer: _____ **Date:** 1-10-10

Director of relevant unit: _____ **Date:** 2010-10-01

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety

☐ EnGlobe ☐ GSI ☐ _____
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Québec **Site/project :** Bear Island

1 NATURE

☒ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)

☐ Material damage or damage to property or the environment (including environmental nuisance)

☐ Near miss

☐ Situation with a potential risk of accident or incident for health, safety or for the environment

☐ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time		Day	Month	Year
21	09	10	18h30	François de Courval	22	09	10

Exact location of event:

This event involves: ☐ Internal Employee ☐ External temporary worker ☐ Subcontractor ☐ N/A ☒ Other: Resident Engineer

Company name (if subcontractor): AECOM

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

On September 21th 2010 at approximately 18h00, Rob Nichol fell in the dorm service door stairs.

He reported to the Site Paramedic at approximately 19h00 and got treated for a sore ankle.

He received cold packs, ibuprofen and anti-inflammatory.

Heavy rain occurred all day. Surface was slippery but the fall was mainly caused because of the Croc shoes he was wearing at the moment of the accident.

Witness (Name):	Company:	Telephone:
N/A		

Cost estimate of damages (expenses for repairs or replacement): N/A

Quantity of product discharged (if accidental spill or emission): N/A

3 IDENTIFICATION OF THE INJURED VICTIM

☐ Check if not applicable and proceed to Section 5

First and Last Name:	Rob Nichol
Position:	Resident Engineer
Department:	AECOM
Is this person a:	☐ Right-handed ☐ Left-handed ☒ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:	Sore ankle FAC 07-10-10				
Body Part Injured:	~~Right forearm~~ Right Ankle			☐ Left	☒ Right
Consultation with a ~~Physician~~ Site PARAMEDIC FAC 07-10-10:	☐ No ☒ Yes – Date and Time:	Day 21	Month 09	Year 10	Time 19h00
Location (emergency, clinic, etc.):	Site clinic				
Care and Prescriptions Received:	Ibuprofen, anti-inflammatory, cold pack, elevation				

Work Stoppage*: ☒ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☒ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these corrective actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

☐ **2 – Behaviour:** Non-compliance of directives by a worker because he/she wanted to save time, money or effort.
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **3 – Management:** Non compliance of directives that were encouraged by the managerial staff.
Recommended Corrective Action: Immediate discussion with the forman and his/her supervisor.

☒ **4 – Rigor:** Lack of rigor (consider that it is not important, oversight, bad working habits - tolerated or not by managerial staff).
Recommended Corrective Action: Immediate discussion with the concerned worker and his/her supervisor.

☐ **5 – Procedures:** Lack of written procedures or work instructions.
Recommended Corrective Action: Creation or updating relevant procedures or work instructions.

☐ **6 – Communications:** Lack of information transferred to workers (including signs).
Recommended Corrective Action: Review the communication path. Install proper signs if required.

☒ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☒ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 4	Detail of the planned corrective action
Rob Nichol should have used better shoes suitable for slippery surfaces that could be encountered in a work environment and area where rain occurs on a daily basis.	

Deadline: ☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.: 7	Detail of the planned corrective action
Stairs and boardwalk have proven to be a bit slippery when rain occurs for long period of time. Geotextile will be placed on stairs to avoid slippery surface and boardwalk will be removed when freezing and cold temperature will start.	

Deadline: ☒ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.: 8	Detail of the planned corrective action
Heavy wind and continual rain rendered the surface slippery. Weather is one of the main source of this accident.	

Deadline: ☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☐	☒	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ☐ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** _____

Site Supervisor or HSE Officer: _____ **Date:** 01-10-10

Director of relevant unit: _____ **Date:** 2010-10-01

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety

enGlobe

☐ EnGlobe ☐ GSI ☐ _____
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-200-EN01
Sequence:

ACCIDENT AND EVENT REPORT - HEALTH-SAFETY AND ENVIRONMENT

Office : Northern Canada Office **Site/project :** TP0654: Bear Island

1 NATURE

☐ Accident involving body injury (including professional injuries due to repetitive motion, work overload, etc.)	☐ Near miss
☒ Material damage or damage to property or the environment (including environmental nuisance)	☐ Situation with a potential risk of accident or incident for health, safety or for the environment
	☒ Criminal act declaration (robbery, vandalism, breaking and entering)

2 DESCRIPTION

Date and Time of the Event:				Reported by *(print in capital letters)*:	Date of Report:		
Day	Month	Year	Time	Jean-Pierre Pelletier	Day	Month	Year
					20	06	2011
Exact location of event:				Treated Water Lagoon - Bear Island, Nunavut			
This event involves:				☐ Internal Employee ☐ External temporary worker ☐ Subcontractor ☒ N/A ☐ Other:			
Company name (if subcontractor):							

Description of the Event *(provide a brief description of the situation and tasks that were in progress)*:

After the end of the 2010 work season on Bear Island, treated barrel processing water was left within a lined lagoon. Estimated volume was about 9,000 L. Parameter slightly exceeding discharge guidelines were Iron and Zinc.

Between mid-October 2010 and June15, 2011, polar bears visited the island and damaged the lagoon causing an accidental spill which fully emptied the lagoon.

Witness (Name):	Company:	Telephone:
Mark Yetman	DIAND	(867) 975-4733
Matthew McElwaine	PWGSC	(780) 497-3690
Luc Daigle	Biogenie	(418) 653-4422

Cost estimate of damages (expenses for repairs or replacement):	NA
Quantity of product discharged (if accidental spill or emission):	9,000 L

3 IDENTIFICATION OF THE INJURED VICTIM

☐ Check if not applicable and proceed to Section 5

First and Last Name:	NA	
Position:		
Department:		
Is this person a:	☐ Right-handed ☐ Left-handed	☐ Male ☐ Female

4 DESCRIPTION OF THE INJURY

Type of Injury:	NA	
Body Part Injured:		☐ Left ☐ Right

Consultation with a Physician:	☐ No ☐ Yes – Date and Time:	Day	Month	Year	Time
Location (emergency, clinic, etc.):					
Care and Prescriptions Received:					

Work Stoppage*: ☐ No ☐ Yes	Expected Return Date:	Day	Month	Year
Reassignment*: ☐ No ☐ Yes	Expected Return Date to Regular Activities :	Day	Month	Year

* Prescribed by the physician for the days following the day of the event

5 ROOT CAUSE ANALYSIS AND CORRECTIVE ACTIONS

Which factor(s) is this event associated with and what would the corrective actions be in order to minimize the risk? *(this section should be completed with the assistance of the site supervisor or the HSE Officer).*

A thorough analysis of this situation must allow you to associate the event, at a minimum, with one or more of the eight (8) factors listed below. The corrective actions which result from these factors will permit the problem to be corrected at its source. To be efficient, these correctives actions must be simple, practical, inexpensive, easily applicable and proportional with the level of risk to be controlled.

To determine the root cause, the word "directive" includes written requirements as well as implied requirements. The word "worker" refers to an employee, one of our subcontractors or any other person under our direct supervision.

Check and complete the applicable section(s) – minimum of 1 factor

☐ **1 – Training:** Lack of training or skill of the worker.
Recommended Corrective Action: Provide training or reassign the worker.

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☐ **7 – Equipment:** Problem with tools, equipment, installations or protective equipment.
Recommended Corrective Action: Repair, improve or replace the problematic tool, equipment, installation or protective equipment and/or update their maintenance program if applicable.

☒ **8 – External Factor:** Problem of which the source is totally out of the rational control of the workers or subcontractors.
Recommended Corrective Action: If appropriate, tell the workers to increase their vigilance considering that the identified cause cannot be reasonably controlled and the problem could reoccur.

For each factor previously checked, describe:

Factor No.: 1	Detail of the planned corrective action
None	
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

Factor No.:	Detail of the planned corrective action
Deadline:	☐ Done or within the next few days ☐ Later, requires further follow-up from the office QHSE Action Plan

6 RISK ASSESSMENT *(Check only one box considering real or potential impact and probability of recurrence)*

Impacts*	Health and Safety	Environment	Public - Media	Finance (Loss)	Periodical (4 times/year or +)	Frequent (1 to 3 times/year)	Occasional (1 to 3 times/3 years)	Isolated (1 to 3 times/10 years)	Improbable (1 time/30 years or -)
Fatality	One or More Fatalities	N/A	N/A	N/A	☐	☐	☐	☐	☐
Critical	Permanent Disability, Potential Fatalities	Receiving Area Heavily Damaged	Demonstration, National Coverage	> 100 000	☐	☐	☐	☐	☐
Major	Long Term Convalescence (Lost Time Injury)	Receiving Area Seriously Damaged (Long Period)	Proceedings, Regional Coverage	< 100 000	☐	☐	☐	☐	☐
Serious	Medical Aid, Restricted Work, Short Term Convalescence (few days)	Receiving Area Seriously Damaged (Short Period)	Repetitive Complains, Local Coverage	< 20 000	☐	☐	☐	☐	☐
Minor	First Aid or Less	Receiving Area Slightly or Undamaged	Isolated Complaint, No Media Coverage	< 5 000	☐	☐	☒	☐	☐

* Overall impact should be selected from the category that represents the most severe impact

Risk Level: ☐ Low ☐ Medium ☐ High

Prepared by: _____ (Injured person or main witness of the event) **Date:** _____

Site Supervisor or HSE Officer: _____ **Date:** 2011/06/20

Director of relevant unit: _____ **Date:** 2011/06/20

*** Please send a completed copy to the EnGlobe QHSE Director and to the relevant Project Manager if applicable ***

Safety without compromise

☐ EnGlobe ☐ GSI ☐ _____
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-100-EN01
Sequence: Version09-04-15

JOB SAFETY ANALYSIS (JSA)

1 DESCRIPTION OF THE TASK / ACTIVITY

Task / Activity:	**MOBILE HEAVY EQUIPMENT ACTIVITIES**	**Number of Pages:**	4
Risk Assessment:	**Safety:** ☐ Low ☒ Medium ☐ High	**Environment:** ☒ Low ☐ Medium ☐ High	

2 SPECIFIC INSTRUCTION – Safety (Saf.) and Environment (Env.)

Work Sequence	Saf.	Env.	Potential Risks	Preventive Measures
Define the traffic areas and set up the necessary signs	☒	☐	- Ankle injury while walking around the site	- Familiarize yourself with the site's features (water, ice, snow, clay, holes, rocks, slope, drop, etc.) before walking around the work areas - Locate and identify hazard-prone areas on the site, and inform your colleagues of these areas - Define safe walkways - As much possible, level out uneven traffic areas and make sure they are free of rocks, debris or materials - As much as possible, remove materials that make the surface slippery (water, snow, soil on a hard and smooth surface, etc.), or if possible, add an abrasive - Request that tall grass be cut in the work areas so it is easier to see the ground's profile - Watch where you step when moving around - Move slowly using the designated walkways - Bypass hazard-prone areas - Avoid walking on hazard-prone surfaces as much as possible - Make sure you wear the proper footwear and that the soles are free of accumulated material - Avoid venturing off designated pathways
Upon arrival, inspect the equipment (see form 1450-FO18)	☒	☐	- Proximity to machinery	- Ensure that the operator can see you - Wear highly-visible clothing with reflecting bands - Wait until machinery has been stopped and until all components have been lowered before approaching it - Keep a safe distance from machinery when it is being operated - Ensure that the equipment's specifications are appropriate for the work to be performed - Ensure that the machinery operator has the required qualifications and permits
Get in and out of heavy machinery	☒	☐	- Falling or tripping	- Always maintain three points of contact when getting in and out of machines - Never jump down from machinery - Check the ground's surface and make sure that the soles of your boots are free of snow or mud accumulations
Carry out the work	☒	☐	- Machinery traffic	- Always stand in a location where you are visible to the operator - Wear highly-visible clothing with reflecting bands

				- Limit the speed of traffic - Plan the work to ensure the fluidity of traffic - Maintain a safe distance (> 6m) from operating machinery - Persons not directly involved with the work must be kept away from the work area - When relevant, use fences, signs or cones to delineate the work area around machinery and prevent access by unauthorized persons - If required, use a signalman to guide trucks, especially when they are backing up - If you must approach machinery, make visual contact with the operator so he may lower the hydraulic components and stop the operation in your presence - Make sure the equipment is working properly, especially the horn and back-up alarm
	☒	☐	- Machinery tipping over	- Ensure the stability of the ground surface - If applicable, make sure that the hydraulic stands are properly used - Do not leave the tracks of machinery hanging in mid-air - Ensure that the machinery operator is wearing a safety belt
	☒	☐	- Crushing	- Do not touch the mobile components without having established a clear contact with the operator - Handle the components according to the instructions provided - Before performing the work, re-position the components to ensure that pinching areas are eliminated as much as possible - Ensure that all safety mechanisms are secure, and keep hands as far away as possible from the pinching areas - Do not personally intervene to repair a mobile component that has jammed - Ensure that there is an emergency switch (drilling machine) - Do not wear any jewellery or loose clothing
	☒	☐	- Projection of particles	- Wear the required protection equipment (hard hat, goggles, etc.) - Keep a safe distance from the operations - Be aware of rocks that can fall and roll from the bucket of a moving excavator - Ensure the proper maintenance of the equipment and carry out periodic inspections
	☒	☐	- Dust emissions	- Wear a face mask, if required - Use a tank truck to spread water over access pathways and other work areas
	☒	☐	- Fire	- Keep all flammable substances away - Ensure that each machinery operator has an extinguisher - Do not refuel when the engine is running, and park the machinery or vehicle on a stable surface - During refuelling, prevent accumulations of static electricity by always keeping a hand on the nozzle and keeping the nozzle in contact with the vehicle or the machinery - No smoking
	☒	☐	- Electrocution or rupture of electric wires	- Check for electric wires in the vicinity - Make sure that the truck driver lowers his bucket before driving away (to avoid hitting electric wires over the access paths)

	☒	☐	- Injuries due to activities in the surrounding area	- Ensure that the operator is aware of the nature of the work to be performed and knows the health and safety instructions applicable to the site - Ensure that heavy vehicle operators wear the required safety equipment when they step down from their trucks onto the site - Coordinate the different work teams, i.e. make sure that all workers are aware of other work being carried out nearby that could impact them
	☐	☒	- Exhaust gas and CO_2 emissions	- Avoid leaving machinery turned on unnecessarily
	☐	☒	- Noise nuisance	- If possible, keep machinery away from residential zones - In urban areas, follow the rules regarding authorized working hours as much as possible (from 8:00 a.m. to 6:00 p.m.) - Avoid making noise needlessly (e.g., slamming the rear doors of truck boxes, using engine brakes in urban areas, etc.)
	☐	☒	- Deterioration of the natural environment due to the operation of trucks and machinery	- Keep machinery traffic to a minimum on the site - Make sure trucks use the defined paths
	☐	☒	- Dispersion of contaminants outside the site	- Clean the wheels of trucks before they drive off the worksite or have the site's exits cleaned
	☐	☐	-	-
	☐	☐	-	-
	☐	☐	-	-
	☐	☐	-	-

3 LIST OF ADDITIONAL TOOLS OR EQUIPMENT

☐ Hearing protector for excess noise	☐ Gas detector	☐
☐ Face mask for vapour or dust	☐ Fences, cones and signs	☐

4 COMMENTS

Prepared by: _____ **Date:** _____ **Approved by:** _____ **Date:** _____

Safety
without compromise

☐ EnGlobe ☐ GSI ☐ _____
☒ Biogenie ☐ Solution EAS
☐ Celtic ☐ Tanknology

Registration: 1450-100-EN01
Sequence: Version 09-07-14

JOB SAFETY ANALYSIS (JSA)

1 DESCRIPTION OF THE TASK / ACTIVITY

Task / Activity:	**Soil Excavation**	**Number of Pages:**	4
Risk Assessment:	**Safety:** ☐ Low ☒ Medium ☐ High	**Environment:** ☒ Low ☐ Medium ☐ High	

2 SPECIFIC INSTRUCTION – Safety (Saf.) and Environment (Env.)

Work Sequence	Saf.	Env.	Potential Risks	Preventive Measures
Get the necessary permits, and ensure that all underground utilities have been identified and marked and that utility owners have been notified	☒	☐	- Damage or disruption to public or private utilities - Electrocution, explosion or release of harmful substances due to contact with utilities	- Before disturbing the ground, determine whether or not a buried facility may exist within the limits of the proposed ground disturbance, and whether or not a buried pipeline may exist within an additional 30-metre perimeter around the work area - Fill out the "**Underground Clearance**" and "**Work Near a High-Tension Line**" Critical Task Checklists, if applicable - Commence work within the validity period provided on the utility location document - Ensure workers are aware of the location of all underground facilities, restricted areas and limitations, and have a copy of all ground disturbance documents, including any required rights-of-way - If possible, have the utility shut down and follow the requirements regarding exclusion zones (>1 m around underground facilities) - Make sure you have on hand the emergency contact list and the itinerary to the nearest hospital - Organize the site so that pathways are left open in case of emergency
Define, delineate and secure the work area	☒	☐		- Refer to the "**Site Visit and Preparation**" Job Safety Analysis (JSA) - Use fences, signs or cones to delineate the work area and prevent access by unauthorized persons - Use the service vehicle to deviate traffic - Install a barricade that is at least 90 cm high if the depth of the excavation exceeds 3 meters or poses a hazard to the public - If an excavation is left unattended, place fencing around the site, and if possible, partially backfill the excavation to compensate for the steep slopes
Determine whether work will be performed on or near a public road	☒	☐	- Collision - Obstruction to pedestrian and vehicle traffic on the road	- Refer to the "**Operations in Traffic Areas**" JSA
Dewatering	☒	☒	- Fire, load lifting	- Refer to the "**Pumping of Liquids or Flammable Products**" JSA
Excavate and take soil samples	☒	☐	- Proximity to machinery and heavy vehicle traffic	- Do not leave the tracks of machinery hanging in mid-air - Position the tracks of machinery so they are perpendicular to the pit's wall - Refer to the "**Heavy Machinery Operations**" and "**Soil Loading and Unloading**" JSAs

	☒	☒	- Ground condition and presence of infrastructures	- Before performing a deep excavation, remove the topsoil to check the ground's condition
	☒	☒	- Vapour or dust emissions	- Wear an appropriate face mask when required - Stand with your back to the wind, if possible - Wear safety glasses - Spray the ground surface with water to avoid dust emissions
	☒	☐	- Ankle injury while walking around the site	- Familiarize yourself with the site's features (water, ice, snow, clay, holes, rocks, slope, drop, etc.) before walking around the work areas - Locate and identify hazard-prone areas on the site, and inform your colleagues of these areas - Define safe walkways - As much possible, level out uneven traffic areas and make sure they are free of rocks, debris or materials - As much as possible, remove materials that make the surface slippery (water, snow, soil on a hard and smooth surface, etc.), or if possible, add an abrasive - Request that tall grass be cut in the work areas so it is easier to see the ground's profile - Watch where you step when walking around the site - Move slowly using the designated walkways - Bypass hazard-prone areas - Make sure you wear the proper footwear and that the soles are free of accumulated material - Avoid venturing off designated pathways - Do not run, walk slowly - Avoid having your arms full (make several trips with the material) or having your hands in your pockets when walking around - Check that the path is clear before manually moving a load that obstructs your view of the ground, and remove items that pose a tripping hazard - Wear cleats when walking on a slippery surface in winter
	☒	☐	- Fire - Sparks produced by the bucket of the excavator	- Avoid going into the excavation pit, or check the concentration of flammable vapours beforehand - Never enter the excavation pit if the lower explosive limit is greater than 10% - Keep all flammable substances at a distance - Keep an extinguisher within close proximity
	☒	☐	- Collapse of excavation walls	- Control water infiltrations - Pile excavated materials at a distance of at least 1.2 m from the excavation and slope stockpiles at 45 degrees - Keep vehicles at a 3-metre distance from the excavation - Slope excavation walls at 45 degrees - If sloping the walls is not feasible, use temporary protective structures such as shoring or bracing that has been constructed and installed in accordance with the specifications of a professional engineer
				- Be aware of unfavourable factors that decrease soil stability or cohesion for the excavation (uneven ground profile, presence of water, weather conditions, increase in the depth of the excavation, presence of loose backfill material or loads at the top of the walls, presence of foundations

				or buildings, vibrations due to machinery, or nearby public roads or compaction work, etc.) - Use caution when excavating near buildings as digging may render the structures unstable
	☒	☐	- Falling into an open excavation pit and burial	- Avoid going into the excavation pit - Collect samples from the excavator bucket - Stay at least 1.2 m away from the excavation (or more in the presence of sandy soil) - Do not stand on top of a wall that is being excavated - Before entering an excavation pit, ensure the excavation walls are stable or well supported by engineered shoring - Use ladders to enter an excavation pit safely
	☒	☐	- Machinery tipping over	- Fill out the "**Entry Into an Excavation Pit**" Critical Task Checklist
	☒	☐	- Contact with contaminated soils and clean-up solvents	- Wear appropriate gloves - Wear safety glasses - Wear an appropriate coverall
✣ Load or unload soils and backfill materials	☒	☐	- Proximity to machinery and heavy vehicle traffic	- Refer to the "**Heavy Machinery Operations**" and "**Soil Loading and Unloading**" JSAs
	☒	☐	- Overturned truck	- Have an emergency spill kit on hand
✣ Depth measurement or observation of a test pit or excavation wall	☒	☐	- Collapsed walls - Fall and burial into a test pit or an excavation	- Keep a distance of over 1.2 metres from the walls (or more in the presence of sandy soil) - Do not stand on top of a wall that is being excavated - Assess the depth of a wall or trench with an excavator arm that has been previously marked (e.g., with tape) in increments of 25 or 50 centimetres - Otherwise, use a rigid object that is at least 1.5 metres long to lower the tape measure inside the pit until it reaches the bottom. Ask the excavator's operator for help to guide the tape measure as it is being lowered - For the observation of trench or excavation walls, get someone to slope a wall at 45° or less, and observe the walls and the bottom only from this slanted wall - Choose an excavator over a backhoe to dig out test pits that are large enough to be observed from a distance
✣			-	-
✣			-	-
✣			-	-

			-	-

3 LIST OF ADDITIONAL TOOLS OR EQUIPMENT

☐ Hearing protectors for excess noise	☐ Gas detector	☐ Emergency spill kit
☐ Face mask for vapour or dust	☐ Fences, cones and signs	☐

4 COMMENTS

Refer to the "**Heavy Machinery Operations**," "**Site Visit and Preparation**" and "**Soil Loading and Unloading**" JSAs. Fill out the "**Underground Clearance**" Critical Task Checklist. If applicable, refer to the "**Operations in Traffic Areas**" JSA, and fill out the "**Entry Into an Excavation Pit**" and "**Work Near a High-Tension Line**" Critical Task Checklists.

Prepared by: _____ **Date:** _____ **Approved by:** _____ **Date:** _____

Safety
without compromise

enGlobe

☐ EnGlobe ☐ Solution EAS
☒ Biogenie ☐ Tanknology
☐ GSI ☐

Registration: 1110-200-EN04
Sequence:

PLANNED JOB OBSERVATION (PJO) – HEALTH & SAFETY AND ENVIRONMENT

1 IDENTIFICATION

Observed Company Name:	Biogénie / Wiinibek Management Inc.	**Site :**	Bear Island, Nunavut
Description of Work Observed:	Debris Removal at the Beach and POL Area.		

2 CHECKLIST

Elements to be observed	Appraisal*	Comments	Suggested Corrective Actions
☒ **Human Behaviour**			
Attention to work	☐ 0 ☐ 1 ☒ 2	n/a	
Efficiency of communications	☐ 0 ☐ 1 ☒ 2	n/a	
Planned work sequence (LMRA)	☐ 0 ☐ 1 ☒ 2	n/a	
Use of personal protection equipment	☐ 0 ☒ 1 ☐ 2	1 worker not wearing protection glasses.	Buddy system, inspection by supervisors.
Working position or location of workers	☐ 0 ☐ 1 ☒ 2	n/a	
Following procedures or work instructions	☐ 0 ☐ 1 ☒ 2	n/a	
Proper use of equipment	☐ 0 ☐ 1 ☒ 2	n/a	
Receptiveness to a change	☐ 0 ☐ 1 ☒ 2	n/a	
☒ **Working Conditions**			
Ambient conditions (temperature, lighting)	☐ 0 ☐ 1 ☒ 2	n/a	
Condition of tools and equipment	☐ 0 ☐ 1 ☒ 2	n/a	
Housekeeping conditions	☐ 0 ☐ 1 ☒ 2	n/a	
Site and worker protection	☐ 0 ☐ 1 ☒ 2	Bear monitors are present close to work station.	
☒ **Environmental Nuisances**			
Visual, olfactory or auditory nuisances	☐ 0 ☐ 1 ☒ 2	n/a	
Environmental discharge compliance	☐ 0 ☐ 1 ☒ 2	n/a	
Effective use of material resources	☐ 0 ☐ 1 ☒ 2	n/a	

☒ **HSE Management**			
Guidance given to workers	☐ 0 ☒ 1 ☐ 2	Workers lack of knowledge on ongoing work.	Better Tool Box Meeting and use of JSA Forms.
Qualification follow-up of employees and subcontractors	☐ 0 ☒ 1 ☐ 2	Some WHMIS qualification certification	Request to Wiinibek Management Inc.
Periodic HSE monitoring of site	☐ 0 ☐ 1 ☒ 2	n/a	
Availability and mastery of procedures and emergency equipment	☐ 0 ☐ 1 ☒ 2	n/a	

* Scale: 0 = major breach observed; 1 = minor breach observed; 2 = meets requirements

Observer Name : _____ **Date:** 12-09-10.

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☐ EnGlobe ☐ Solution EAS
☒ Biogenie ☐ Tanknology
☐ GSI ☐

Registration: 1110-200-EN04
Sequence:

PLANNED JOB OBSERVATION (PJO) – HEALTH & SAFETY AND ENVIRONMENT

1 IDENTIFICATION

Observed Company Name:	Biogénie / Wiinibek Management Inc.	**Site :**	Bear Island, Nunavut
Description of Work Observed:	Excavation of the Existing Landfill Area.		

2 CHECKLIST

Elements to be observed	Appraisal*	Comments	Suggested Corrective Actions
☒ **Human Behaviour**			
Attention to work	☐ 0 ☐ 1 ☒ 2	n/a	
Efficiency of communications	☐ 0 ☐ 1 ☒ 2	n/a	
Planned work sequence (LMRA)	☐ 0 ☐ 1 ☒ 2	n/a	
Use of personal protection equipment	☐ 0 ☒ 1 ☐ 2	1 worker not wearing protection glasses.	Buddy system, inspection by supervisors.
Working position or location of workers	☐ 0 ☒ 1 ☐ 2	Workers should be out of range of the excavator.	Point brought at the Weekly H&S Meeting 08 Sept 10.
Following procedures or work instructions	☐ 0 ☐ 1 ☒ 2	n/a	
Proper use of equipment	☐ 0 ☐ 1 ☒ 2	n/a	
Receptiveness to a change	☐ 0 ☐ 1 ☒ 2	n/a	
☒ **Working Conditions**			
Ambient conditions (temperature, lighting)	☐ 0 ☐ 1 ☒ 2	n/a	
Condition of tools and equipment	☐ 0 ☐ 1 ☒ 2	n/a	
Housekeeping conditions	☐ 0 ☐ 1 ☒ 2	n/a	
Site and worker protection	☐ 0 ☐ 1 ☒ 2	Bear monitors are present close to work station.	
☒ **Environmental Nuisances**			
Visual, olfactory or auditory nuisances	☐ 0 ☐ 1 ☒ 2	n/a	
Environmental discharge compliance	☐ 0 ☐ 1 ☒ 2	n/a	
Effective use of material resources	☐ 0 ☐ 1 ☒ 2	n/a	

☒ HSE Management			
Guidance given to workers	☐ 0 ☒ 1 ☐ 2	Workers lack of knowledge on ongoing work.	Better Tool Box Meeting and use of JSA Forms.
Qualification follow-up of employees and subcontractors	☐ 0 ☒ 1 ☐ 2	Some WHMIS qualification certification.	Request to Wiinibek Management Inc.
Periodic HSE monitoring of site	☐ 0 ☐ 1 ☒ 2	n/a	
Availability and mastery of procedures and emergency equipment	☐ 0 ☐ 1 ☒ 2	n/a	

* Scale: 0 = major breach observed; 1 = minor breach observed; 2 = meets requirements

Observer Name : Emil, HSO **Date:** 12-09-10.

Safety
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Appendix E

Wiinibek Salvage Liability Waiver Form and Waste Receipts

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Wiinibek Salvage Liability Waiver Form.....1

Wiinibek Limited Partnership
238 Missisicabi Street
Waskaganish, Quebec
J0M-1R0

July 15/2010

Biogenie, a division of EnGlobe
4495 Wilfrid-Hamel Blvd., Suite 200
Quebec, Quebec
G1P-2J7

Attention:
Jean-Pierre Pelletier

Subject : Equipment Salvation – Bear Island Project

Dear Jean-Pierre :

Wiinibek Limited Partnership is requesting permission to salvage and take full responsibility for the following non-hazardous equipment currently on Bear Island:

- Crawler dozer and front blade
- Bombardier swamp buggy
- Bombardier passenger snowmobile
- Snow plow wing
- Radar towers
- Steel wheel cylinder carts

This material will be loaded onto the empty barges leaving Bear Island during mobilization and will be transported to Moosonee, Ontario.

If you require additional information, do not hesitate to contact me.

Best Regards,

Denis Larabie
Wiinibek Limited Partnership

Appendix F

General Remediation Photographs

Photograph 1. Pre-Construction Community Meeting #1 (June 22, 2010)

Photograph 2. Pre-Construction Community Meeting #2 (June 23, 2010)

Photograph 3. Camp / Equipment Inspection – ATCO Trailers ↑

Photograph 4. Camp / Equipment Inspection – Komatsu Wheeled Backhoe / Forklift ↑

Photograph 5. Camp / Equipment Inspection – John Deere Tracked Excavator

Photograph 6. Camp / Equipment Inspection – Hamm Smooth Drum Compactor

Photograph 7. Camp / Equipment Inspection – Kitchen Area ↑

Photograph 8. Camp / Equipment Inspection – Komatsu Loader / Forklift ↑

Photograph 9. Camp / Equipment Inspection – Laboratory Module Trailer ↑

Photograph 10. Camp / Equipment Inspection – Kubota and ATVs ↑

Photograph 11. Initial Camp Setup ↑

Photograph 12. Dining Room Area ↑

Photograph 13. Kitchen Area ↑

Photograph 14. Drinking Water Source ↑

Photograph 15. Installation of Septic System ↑

Photograph 16. Sewage Lagoon (prior to use) ↑

Photograph 17. Sewage Lagoon (peak volume) ↑

Photograph 18. Overview of Incinerator and Sea-Can Construction Area ↑

Photograph 19. Bombardier Passenger Snowmobile ↑

Photograph 20. Bombardier Swamp Buggy ↑

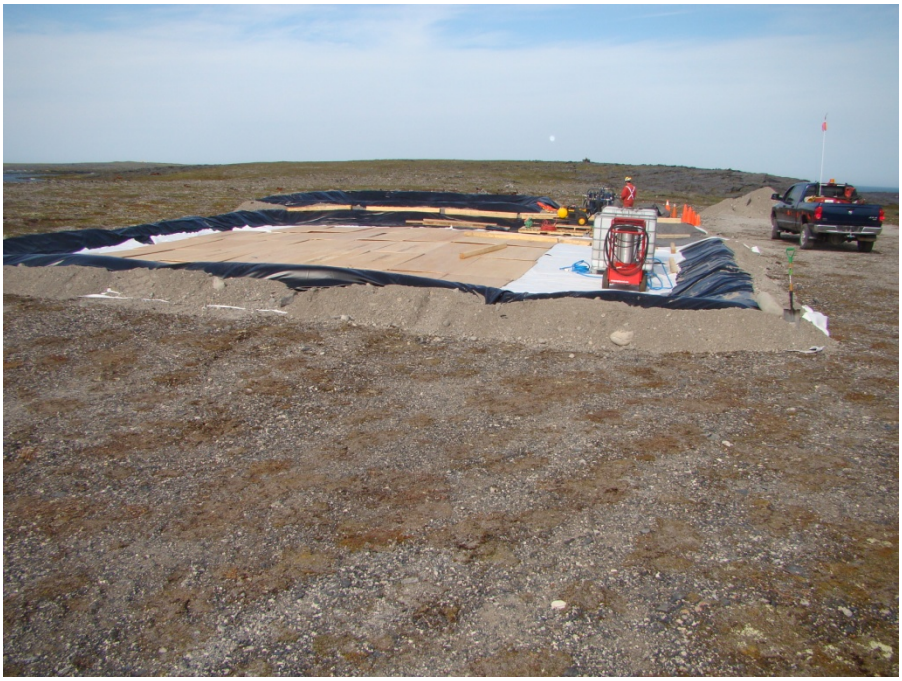
Photograph 21. Sea-Can Construction ↑

Photograph 22. Asbestos Tile Collection at the South Doppler Site Area ↑

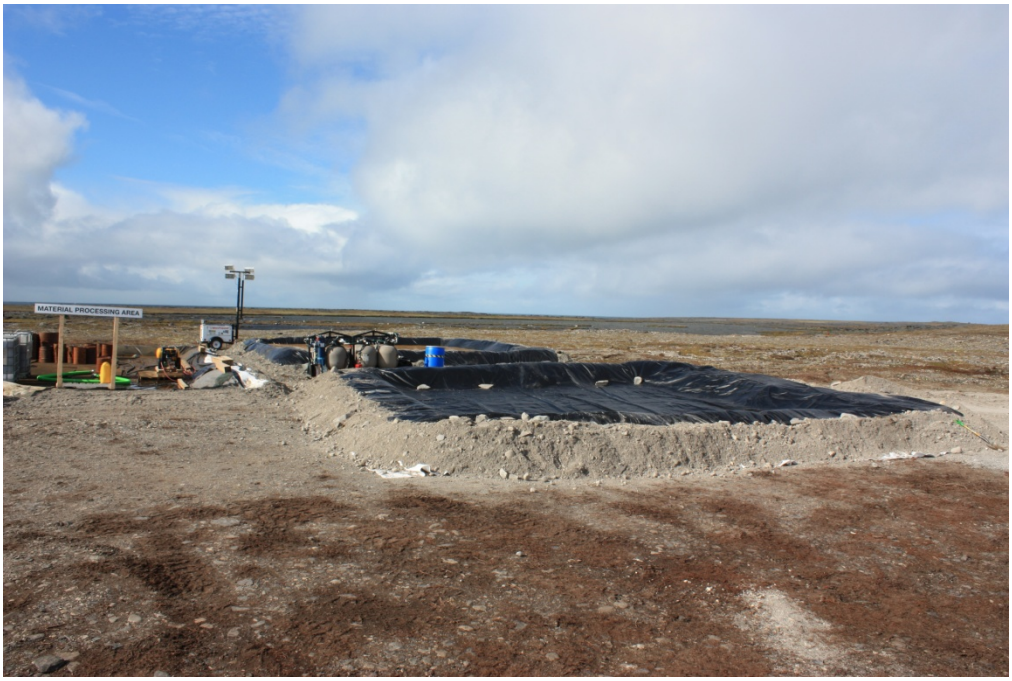
Photograph 23. General Debris Collection at the Existing Landfill ↑

Photograph 24. Wood Burning at the North Doppler Site Area ↑

Photograph 25. Demolition of Crawler Dozer at the Beach Area ↑



Photograph 26. Material Processing Area (MPA) ↑



Photograph 27. Lagoon #1 at the MPA (held rinsate prior to treatment) ↑

Photograph 28. Lagoon #2 at the MPA (held rinsate after treatment) ↑

Photograph 29. Water Treatment System at the MPA ↑

Photograph 30. Temporary Barrel Storage Liners ↑

Photograph 31. Loading Empty Barrels for Crushing ↑

Photograph 32. Crushed Barrels at the Temporary Staging Area ↑

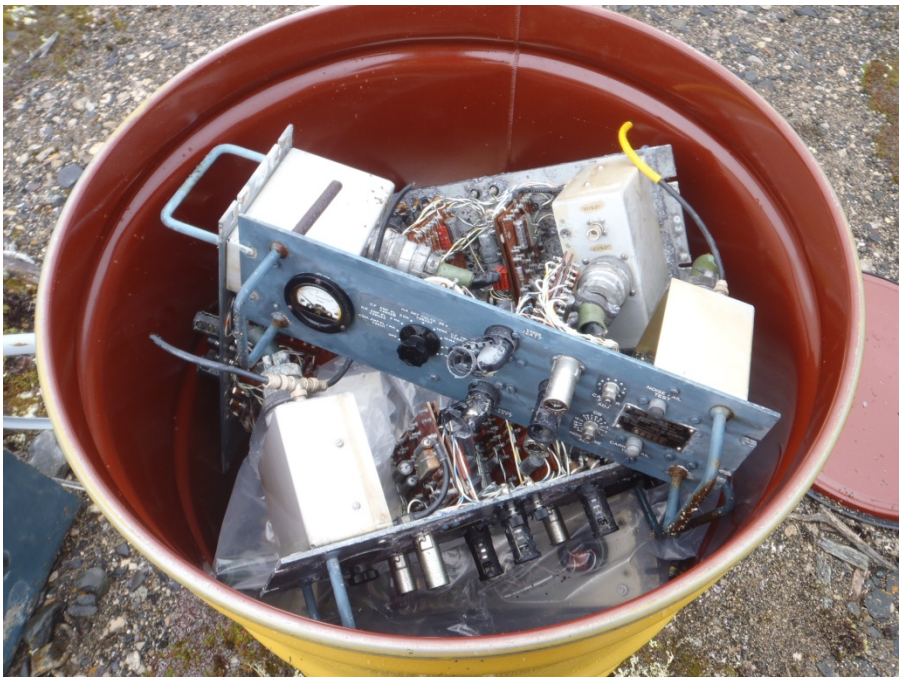
Photograph 33. Soil Excavation (soil loaded into sea-cans) ↑

Photograph 34. Soil Excavation (soil loaded in “quatrex” bags) ↑

Photograph 35. Typical Stockpile of Material from the Existing Landfill ↑

Photograph 36. Spraying Boat with Binding Agent Prior to Demolition ↑

Photograph 37. Electrical Components from the Beach Area ↑

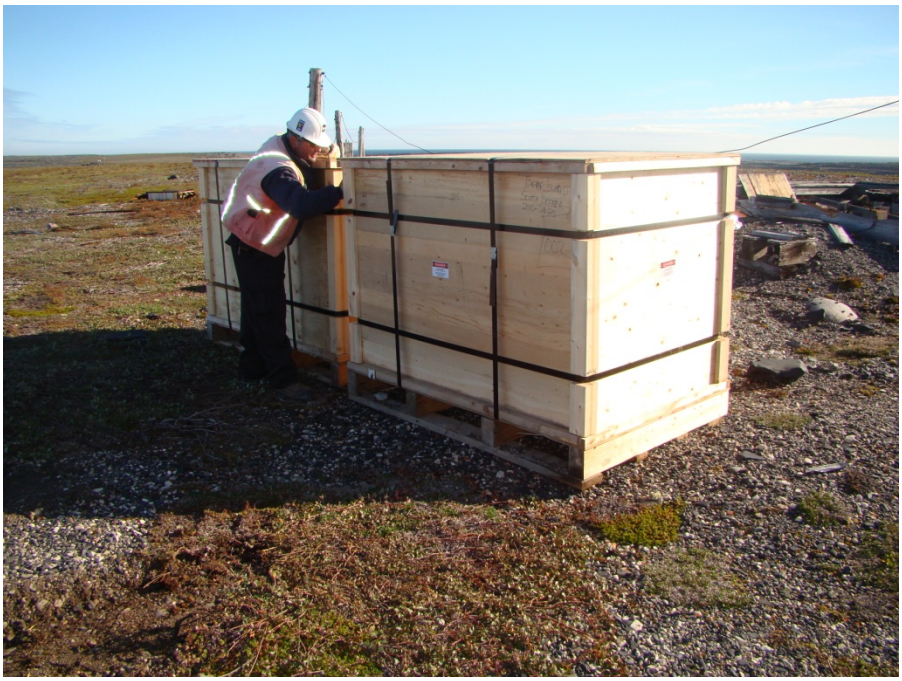


Photograph 38. Containerization of Electrical Components ↑

Photograph 39. Typical Ash-Gravel Mixture in Burn Bins ↑

Photograph 40. Collecting POL Line Contents Prior to Demolition ↑

Photograph 41. Containerization of Zinc Piping ↑



Photograph 42. Sea-Can Prepared for Off-Site Shipment ↑

Photograph 43. Containerization of Building Panels at the Beach Area (painted with leachable lead paint) ↑

Photograph 44. General Debris Stored at the Temporary Staging Area ↑

Photograph 45. Drum Compactor Performing Regular Maintenance on Airstrip ↑

Photograph 46. Gravel Truck Performing Proof-Roll on Re-grade at the North Doppler Site Area ↑

Photograph 47. Barge Landing ↑

Photograph 48. Borrow Area #1 ↑

Photograph 49. Culvert Removal and Access Road Repair North of the Airstrip ↑

Photograph 50. Bear Island 2010 Remediation Team ↑

Photograph 51. Scrap Yard in North Bay, ON (Fern Piche & Sons Ltd.) ↑

Photograph 52. General Overview of Scrap Yard ↑

Photograph 53. Crushed Barrels from Bear Island ↑

Photograph 54. Dissected Doppler Towers from Bear Island ↑

Photograph 55. Bailed Metal Debris Being Sorted ↑

Photograph 56. Recycling Depot in Whitbey, ON (Gerdau Ameristeel) ↑

Photograph 57. On Tour of Recycling Facilities ↑

Photograph 58. Overview of Recycling Depot ↑

Photograph 59. On Tour of Recycling Facilities

Photograph 60. Post-Construction Community Meeting (November 24, 2010)

Photograph 61. Staging Remaining Camp Components for Backhaul (2011 Construction Season) ↑

Photograph 62. Barge Loaded for Backhaul (2011 Construction Season) ↑

Photograph 63. Surface Water Drainage Improvements (2011 Construction Season)

Photograph 64. Elder's Site Visit (June 15, 2011)

Appendix G

Before and After Photographs

Photograph 1. Area 1 – North Doppler Site Area – View 1 (Before) ↑

Photograph 2. Area 1 – North Doppler Site Area – View 1 (After) ↑

Photograph 3. Area 1 – North Doppler Site Area – View 2 (Before) ↑

Photograph 4. Area 1 – North Doppler Site Area – View 2 (After) ↑

Photograph 5. Area 1 – North Doppler Site Area – View 3 (Before) ↑

Photograph 6. Area 1 – North Doppler Site Area – View 3 (After) ↑

Photograph 7. Area 1 – North Doppler Site Area – Antennae Concrete Foundation (Before) ↑

Photograph 8. Area 1 – North Doppler Site Area – Antennae Concrete Foundation (After) ↑

Photograph 9. Area 1 – North Doppler Site Area – POL Line (Before) ↑

Photograph 10. Area 1 – North Doppler Site Area – POL Line (After) ↑

Photograph 11. Area 2 – Beach and POL Area – View 1 (Before) ↑

Photograph 12. Area 2 – Beach and POL Area – View 1 (After) ↑

Photograph 13. Area 2 – Beach and POL Area – View 2 (Before) ↑

Photograph 14. Area 2 – Beach and POL Area – View 2 (After) ↑

Photograph 15. Area 2 – Beach and POL Area – View 3 (Before) ↑

Photograph 16. Area 2 – Beach and POL Area – View 3 (After) ↑

Photograph 17. Area 2 – Beach and POL Area – View 4 (Before) ↑

Photograph 18. Area 2 – Beach and POL Area – View 4 (After) ↑

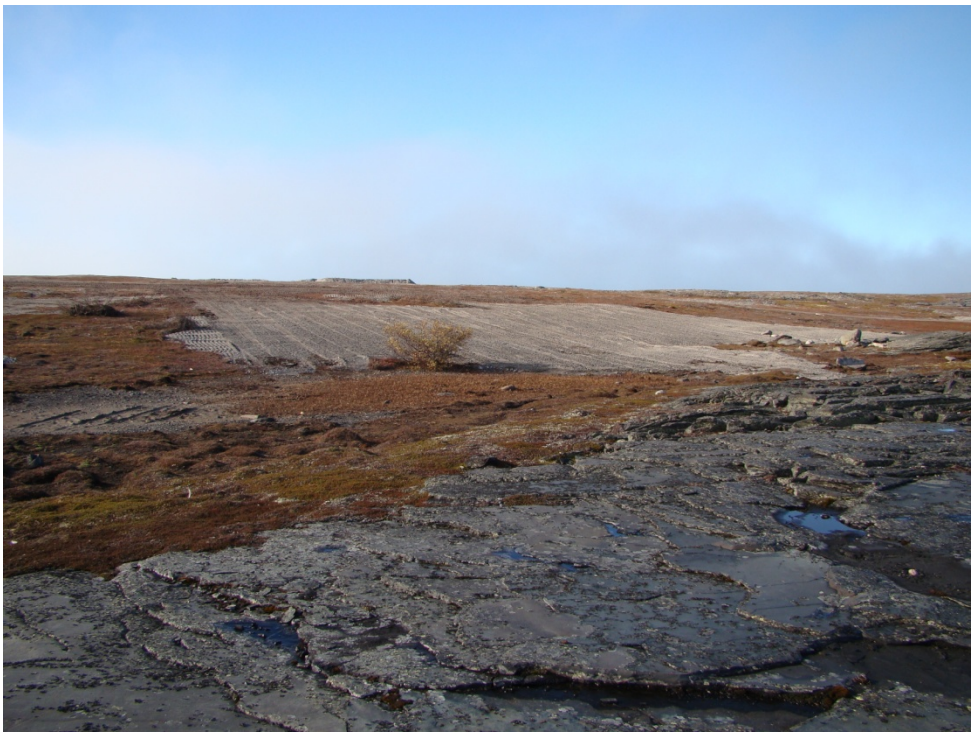
Photograph 19. Area 2 – Boat (Before) ↑

Photograph 20. Area 2 – Boat (After) ↑

Photograph 21. Area 3 – Barrel Cache and North Landfill Area (Before) ↑

Photograph 22. Area 3 – Barrel Cache and North Landfill Area (During) ↑

Photograph 23. Area 3 – Barrel Cache and North Landfill Area (During) ↑



Photograph 24. Area 3 – Barrel Cache and North Landfill Area (After) ↑

Photograph 25. Area 3 – Small Barrel Cache Area – 1 (Before) ↑

Photograph 26. Area 3 – Small Barrel Cache Area – 1 (After) ↑

Photograph 27. Area 3 – Small Barrel Cache Area – 2 (Before) ↑

Photograph 28. Area 3 – Small Barrel Cache Area – 2 (After) ↑

Photograph 29. Area 4 – South Doppler Site Area – View 1 (Before) ↑

Photograph 30. Area 4 – South Doppler Site Area – View 1 (After) ↑

Photograph 31. Area 4 – South Doppler Site Area – View 2 (Before) ↑

Photograph 32. Area 4 – South Doppler Site Area – View 2 (After) ↑

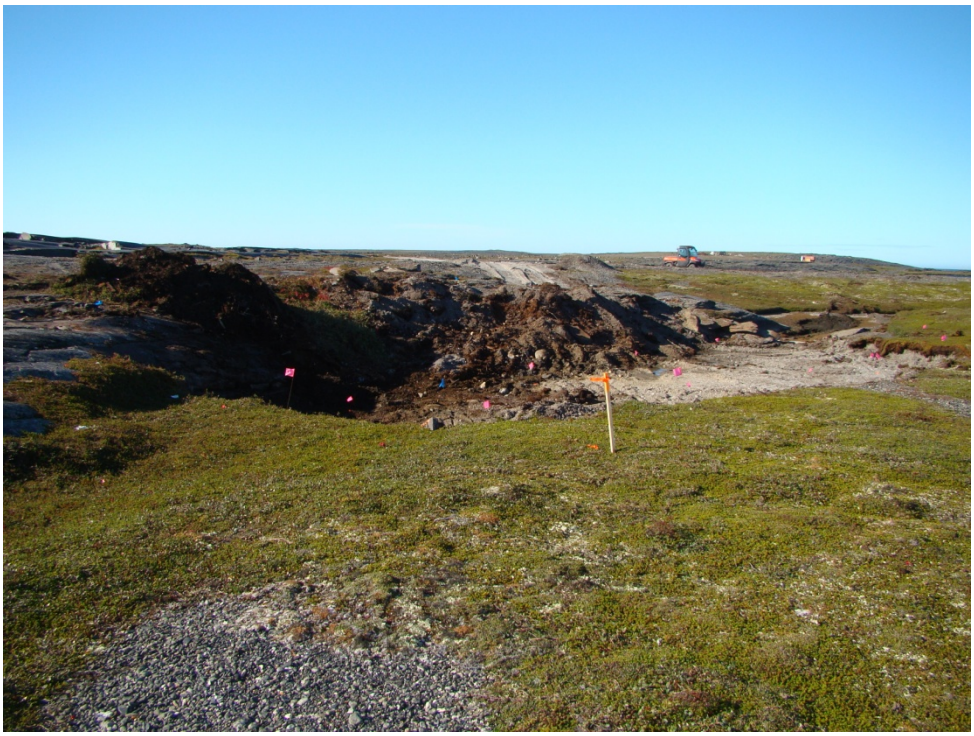
Photograph 33. Area 4 – South Doppler Site Area – View 3 (Before) ↑

Photograph 34. Area 4 – South Doppler Site Area – View 3 (After) ↑

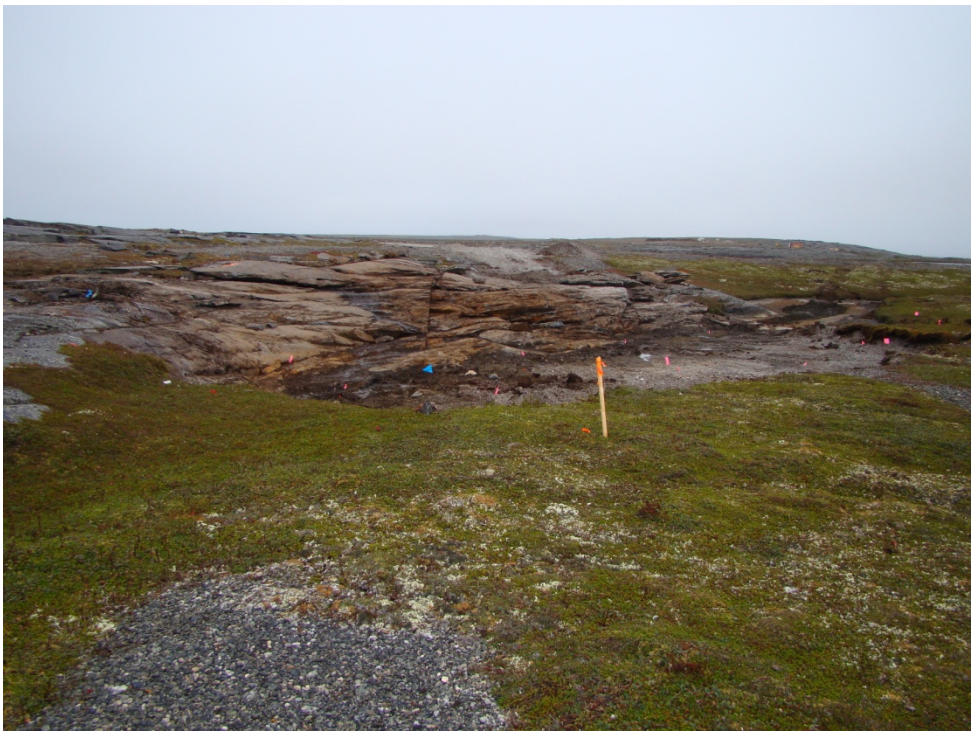
Photograph 35. Area 4 – South Doppler Site Area – View 4 (Before) ↑

Photograph 36. Area 4 – South Doppler Site Area – View 4 (After) ↑

Photograph 37. Area 4 – Existing Landfill Area (Before) ↑



Photograph 38. Area 4 – Existing Landfill Area (During) ↑



Photograph 39. Area 4 – Existing Landfill Area (During) ↑

Photograph 40. Area 4 – Existing Landfill Area (After) ↑

Photograph 41. Area 4 – Above Existing Landfill Area (Before) ↑

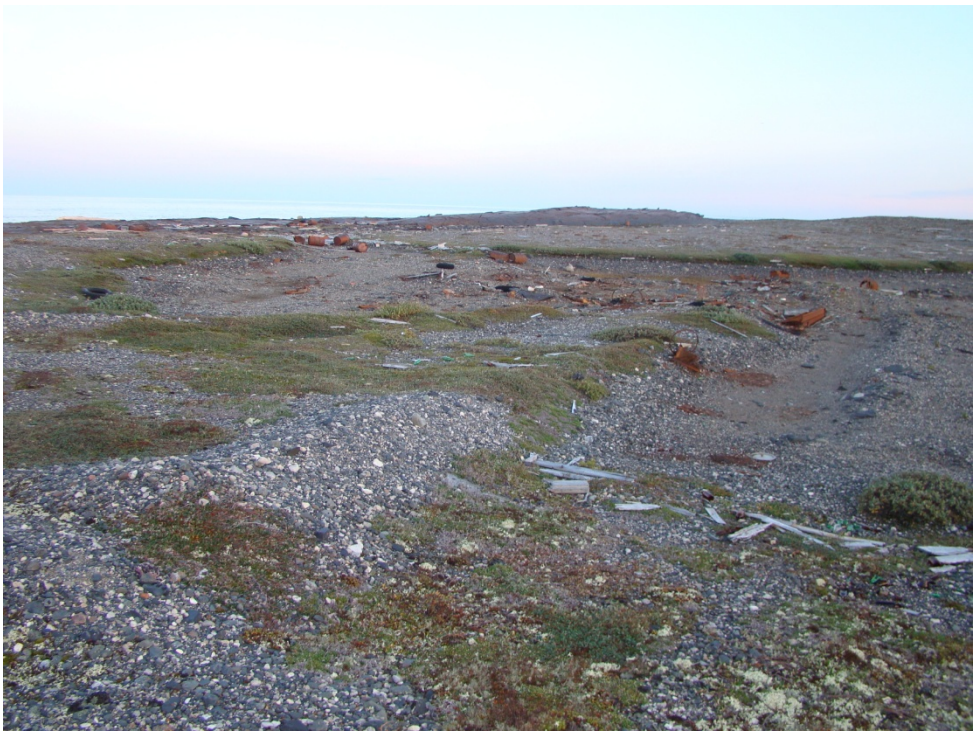
Photograph 42. Area 4 – Above Existing Landfill Area (After) ↑

Photograph 43. Area 5 – Airstrip Area – View 1 (Before) ↑

Photograph 44. Area 5 – Airstrip Area – View 1 (After) ↑

Photograph 45. Area 5 – Airstrip Area – View 2 (Before) ↑

Photograph 46. Area 5 – Airstrip Area – View 2 (After) ↑



Photograph 47. Unknown Debris Area (Before) ↑

Photograph 48. Unknown Debris Area (After) ↑

Appendix H

Laboratory Reports

(ON ATTACHED CD)

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Your Project #: 60155434-1.2
Your C.O.C. #: 003440, 003439

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B045118
Received: 2010/08/26, 13:15

Sample Matrix: LEACHATE
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	4	2010/08/31	2010/09/02	STL SOP-00006/8	MA.200- Mét 1.1

Sample Matrix: OIL
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Anions ⊘	2	N/A	N/A		
Disposal Charges	2	2010/08/27	2010/08/26		
Metals by ICP ⊘	2	N/A	N/A		

Sample Matrix: PAINT
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	8	2010/08/27	2010/08/26		
Total PCB	4	2010/08/30	2010/08/31	STL SOP-00133/1	MA. 400 - BPC 1.0
Total PCB	4	2010/08/30	2010/09/01	STL SOP-00133/1	MA. 400 - BPC 1.0
Toxicity Charact. Leach. Proc.(EPA 1311)	4	2010/08/30	2010/08/30	STL SOP-00024/5	MA.100-Lix. com.1.0

Sample Matrix: SOIL
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	3	2010/08/27	2010/08/26		
Petroleum Hydro. CCME F1 & BTEX ⊘	3	N/A	N/A		
Petroleum Hydrocarbons (F2-F4) ⊘	3	N/A	N/A		
Mercury by ICP/MS	3	2010/08/30	2010/08/30	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	3	2010/08/30	2010/08/31	STL SOP-00006/8	MA.200- Mét 1.1
Total PCB	3	2010/08/30	2010/08/31	STL SOP-00133/1	MA. 400 - BPC 1.0

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)

Ce certificat ne doit pas être reproduit, sinon en entier, sans l'autorisation écrite du laboratoire.
This certificate may not be reproduced, except in its entirety, without the written approval of the laboratory.

Your Project #: 60155434-1.2
Your C.O.C. #: 003440, 003439

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/11

CERTIFICATE OF ANALYSIS

(1) This test was performed by Bodycote - Pte.Claire
(2) This test was performed by Maxxam - Mississauga

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B045118
Report Date: 2010/10/11

AECOM
Client Project #: 60155434-1.2

METALS (LEACHATE)

Maxxam ID		L50335	L50340	L50341	L50342		
Sampling Date		2010/08/22	2010/08/22	2010/08/22	2010/08/22		
COC Number		003439	003439	003439	003439		
	Units	**ELECTRICAL CABINETS**	**BOAT-RED**	**BOAT-GREEN**	**BOAT-LIGHT GREEN**	**RDL**	**QC Batch**
METALS							
Lead (Pb)	mg/L	0.62	17	6.2	13	0.01	793128

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045118
Report Date: 2010/10/11

AECOM
Client Project #: 60155434-1.2

PCB CONGENERS (PAINT)

Maxxam ID		L50330		L50335		L50339		L50340		
Sampling Date		2010/08/22		2010/08/22		2010/08/22		2010/08/22		
COC Number		003439		003439		003439		003439		
	Units	**BUILDING PANELS**	**RDL**	**ELECTRICAL CABINETS**	**RDL**	**BOAT-WHITE**	**RDL**	**BOAT-RED**	**RDL**	**QC Batch**
PCB										
Total PCB	mg/kg	4.5	0.01	15	0.02	ND	0.01	ND	1	792468
Surrogate Recovery (%)										
2,3,3',4,6-Pentachlorobiphenyl	%	103	N/A	108	N/A	104	N/A	**	N/A	792468
2',3,5-Trichlorobiphenyl	%	95	N/A	89	N/A	104	N/A	**	N/A	792468
22'33'44'566'-Nonachlorobiphenyl	%	104	N/A	89	N/A	99	N/A	**	N/A	792468

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L50341	L50342		L50343		L50365		
Sampling Date		2010/08/22	2010/08/22		2010/08/22		2010/08/22		
COC Number		003439	003439		003439		003439		
	Units	**BOAT-GREEN**	**BOAT-LIGHT GREEN**	**RDL**	**TOWER-ORANGE**	**RDL**	**TOWER-WHITE**	**RDL**	**QC Batch**
PCB									
Total PCB	mg/kg	ND	0.04	0.01	16	0.1	3.0	0.01	792468
Surrogate Recovery (%)									
2,3,3',4,6-Pentachlorobiphenyl	%	94	89	N/A	**	N/A	106	N/A	792468
2',3,5-Trichlorobiphenyl	%	92	82	N/A	**	N/A	94	N/A	792468
22'33'44'566'-Nonachlorobiphenyl	%	89	73	N/A	**	N/A	96	N/A	792468

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045118
Report Date: 2010/10/11

AECOM
Client Project #: 60155434-1.2

METALS (SOIL)

Maxxam ID					L50306	L50321	L50324	L50324		
Sampling Date					2010/08/23	2010/08/23	2010/08/23	2010/08/23		
COC Number					003440	003440	003440	003440		
	Units	**A**	**B**	**C**	**BAR02-SOIL**	**BAR03-SOIL**	**BAR05-SOIL**	**BAR05-SOIL Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.0	11	2.8	2.8	N/A	N/A
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.04	ND	ND	0.02	792499
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	792499
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.6	ND	ND	0.5	792499
Cobalt (Co)	mg/kg	**15**	50	300	3	3	4	4	2	792499
Chromium (Cr)	mg/kg	**85**	250	800	9	13	14	14	2	792499
Copper (Cu)	mg/kg	**40**	100	500	8	13	9	10	2	792499
Nickel (Ni)	mg/kg	**50**	100	500	4	7	7	7	1	792499
Lead (Pb)	mg/kg	**50**	500	1000	ND	**63**	ND	ND	5	792499
Zinc (Zn)	mg/kg	**110**	500	1500	14	49	15	16	10	792499

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045118
Report Date: 2010/10/11

AECOM
Client Project #: 60155434-1.2

PCB CONGENERS (SOIL)

Maxxam ID					L50306	L50321		L50324		
Sampling Date					2010/08/23	2010/08/23		2010/08/23		
COC Number					003440	003440		003440		
	Units	**A**	**B**	**C**	**BAR02-SOIL**	**BAR03-SOIL**	**RDL**	**BAR05-SOIL**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.0	11	N/A	2.8	N/A	N/A
PCB										
Total PCB	mg/kg	**0.05**	1	10	ND	ND	0.1	ND	0.01	792468
Surrogate Recovery (%)										
2,3,3',4,6-Pentachlorobiphenyl	%	-	-	-	**	**	N/A	113	N/A	792468
2',3,5-Trichlorobiphenyl	%	-	-	-	**	**	N/A	113	N/A	792468
22'33'44'566'-Nonachlorobiphenyl	%	-	-	-	**	**	N/A	58 (1)	N/A	792468

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Maxxam Job #: B045118
Report Date: 2010/10/11

AECOM
Client Project #: 60155434-1.2

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

METALS (LEACHATE)

Please note that the results have not been corrected for QC recoveries.
Please note that the above results have not been corrected for the leachate blank.

PCB CONGENERS (PAINT)

Please note that the results have not been corrected for QC recovery (spiked blank) nor for the method blank. The results have been corrected for the percent surrogate recoveries.

** = Due to excessive dilution the recovery could not be determined.

Reported detection limits are multiplied by dilution factors used for sample analysis.

Please note that the results that required a dilution, the percent surrogate recoveries were not corrected.

Due to the sample matrix, a better detection limit could not be determined for "L50340".

METALS (SOIL)

Veuillez noter que les résultats n'ont pas été corrigés ni pour la récupération des échantillons de contrôle qualité, ni pour le blanc de méthode.

PCB CONGENERS (SOIL)

Please note that the results have not been corrected for QC recovery (spiked blank) nor for the method blank. The results have been corrected for the percent surrogate recoveries.

** = Due to excessive dilution the recovery could not be determined.

Reported detection limits are multiplied by dilution factors used for sample analysis.

Please note that the results that required a dilution, the percent surrogate recoveries were not corrected.

Due to the sample matrix, a better detection limit could not be determined for "L50306" and "L50321".

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B045118

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
792468 TN	Spiked Blank	2,3,3',4,6-Pentachlorobiphenyl	2010/08/31		107	%
	Spiked Blank DUP	2,3,3',4,6-Pentachlorobiphenyl	2010/08/31		100	%
	Spiked Blank	2',3,5-Trichlorobiphenyl	2010/08/31		106	%
	Spiked Blank DUP	2',3,5-Trichlorobiphenyl	2010/08/31		97	%
	Spiked Blank	22'33'44'566'-Nonachlorobiphenyl	2010/08/31		94	%
	Spiked Blank DUP	22'33'44'566'-Nonachlorobiphenyl	2010/08/31		89	%
	Spiked Blank	Total PCB	2010/08/31		93	%
	Spiked Blank DUP	Total PCB	2010/08/31		86	%
	Method Blank	2,3,3',4,6-Pentachlorobiphenyl	2010/08/31		94	%
		2',3,5-Trichlorobiphenyl	2010/08/31		97	%
		22'33'44'566'-Nonachlorobiphenyl	2010/08/31		91	%
		Total PCB	2010/08/31	ND, RDL=0.01		mg/kg
792499 KK	Spiked Blank	Mercury (Hg)	2010/08/31		95	%
		Arsenic (As)	2010/08/31		97	%
		Cadmium (Cd)	2010/08/31		95	%
		Cobalt (Co)	2010/08/31		95	%
		Chromium (Cr)	2010/08/31		95	%
		Copper (Cu)	2010/08/31		97	%
		Nickel (Ni)	2010/08/31		95	%
		Lead (Pb)	2010/08/31		95	%
		Zinc (Zn)	2010/08/31		95	%
	Method Blank	Mercury (Hg)	2010/08/31	ND, RDL=0.02		mg/kg
		Arsenic (As)	2010/08/31	ND, RDL=5		mg/kg
		Cadmium (Cd)	2010/08/31	ND, RDL=0.5		mg/kg
		Cobalt (Co)	2010/08/31	ND, RDL=2		mg/kg
		Chromium (Cr)	2010/08/31	ND, RDL=2		mg/kg
		Copper (Cu)	2010/08/31	ND, RDL=2		mg/kg
		Nickel (Ni)	2010/08/31	ND, RDL=1		mg/kg
		Lead (Pb)	2010/08/31	ND, RDL=5		mg/kg
		Zinc (Zn)	2010/08/31	ND, RDL=10		mg/kg
793128 KQ	LEACH. BLANK	Lead (Pb)	2010/09/02	ND, RDL=0.01		mg/L
	Spiked Blank	Lead (Pb)	2010/09/02		97	%
	Method Blank	Lead (Pb)	2010/09/02	ND, RDL=0.01		mg/L

RDL = Reportable Detection Limit
Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Your Project #: B045118
Your C.O.C. #: N/A

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/09/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B8537
Received: 2010/08/30, 09:30

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	1	2010/08/30	2010/08/31	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	1	2010/08/30	2010/09/01	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	1	2010/08/30	2010/09/02	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	3	2010/08/31	2010/09/02	CAM SOP-00316	CCME CWS
Moisture	3	N/A	2010/08/31	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	3	2010/08/30	2010/09/02	CAM SOP-00226	EPA 8260 modified

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

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Total cover pages: 1

Maxxam Job #: B0B8537
Report Date: 2010/09/02

Maxxam Analytique
Client Project #: B045118

RESULTS OF ANALYSES OF SOIL

Maxxam ID		GZ2080	GZ2081	GZ2082		
Sampling Date		2010/08/23	2010/08/23	2010/08/23		
COC Number		N/A	N/A	N/A		
	Units	**L50306-02R \ BAR02-SOIL**	**L50321-02R \ BAR03-SOIL**	**L50324-02R \ BAR05-SOIL**	**RDL**	**QC Batch**
Moisture	%	4	8	2	1	2252203

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0B8537
Report Date: 2010/09/02

Maxxam Analytique
Client Project #: B045118

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID		GZ2080		GZ2081	GZ2082		
Sampling Date		2010/08/23		2010/08/23	2010/08/23		
COC Number		N/A		N/A	N/A		
	Units	**L50306-02R \ BAR02-SOIL**	**RDL**	**L50321-02R \ BAR03-SOIL**	**L50324-02R \ BAR05-SOIL**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.1	ND	ND	0.002	2250609
Ethylbenzene	ug/g	ND	0.1	0.002	0.003	0.002	2250609
Toluene	ug/g	ND	0.1	0.007	0.004	0.002	2250609
p+m-Xylene	ug/g	ND	0.1	0.002	ND	0.002	2250609
o-Xylene	ug/g	ND	0.1	ND	ND	0.002	2250609
Xylene (Total)	ug/g	ND	0.1	0.002	ND	0.002	2250609
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	101	N/A	54 (1)	94	N/A	2250609
D4-1,2-Dichloroethane	%	97	N/A	96	99	N/A	2250609
D8-Toluene	%	102	N/A	164 (2)	99	N/A	2250609

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) The recovery for the surrogate compound was below the control limit. This likely indicates the presence of a sample matrix effect. As a result, there is an increased level of uncertainty associated with the values reported for this sample.
(2) The recovery for the surrogate compound was above the control limit. This likely indicates the presence of a sample matrix effect. As a result, there is an increased level of uncertainty associated with the values reported for this sample.

Maxxam Job #: B0B8537
Report Date: 2010/09/02

Maxxam Analytique
Client Project #: B045118

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		GZ2080	GZ2080	GZ2081	GZ2082		
Sampling Date		2010/08/23	2010/08/23	2010/08/23	2010/08/23		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L50306-02R \ BAR02-SOIL**	**L50306-02R \ BAR02-SOIL Lab-Dup**	**L50321-02R \ BAR03-SOIL**	**L50324-02R \ BAR05-SOIL**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	2250864
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	2250864
F2 (C10-C16 Hydrocarbons)	ug/g	350	350	290	ND	10	2251060
F3 (C16-C34 Hydrocarbons)	ug/g	28000	28000	34000	15	10	2251060
F4 (C34-C50 Hydrocarbons)	ug/g	3800	3900	4400	ND	10	2251060
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	2251060
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	97	96	97	99	N/A	2250864
4-Bromofluorobenzene	%	98	105	105	102	N/A	2250864
D10-Ethylbenzene	%	102	91	82	89	N/A	2250864
D4-1,2-Dichloroethane	%	123	117	115	110	N/A	2250864
o-Terphenyl	%	87	87	87	91	N/A	2251060

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0B8537
Report Date: 2010/09/02

Maxxam Analytique
Client Project #: B045118

GENERAL COMMENTS

Sample GZ2080-01: VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the sample could not be analysed by the low level direct purge method. The sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly.

Results relate only to the items tested.

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B045118
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB0B8537

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2250609	JNG	Matrix Spike	4-Bromofluorobenzene	2010/08/31		96	%	60 - 140
			D4-1,2-Dichloroethane	2010/08/31		93	%	60 - 140
			D8-Toluene	2010/08/31		103	%	60 - 140
			Benzene	2010/08/31		85	%	39 - 137
			Ethylbenzene	2010/08/31		83	%	46 - 150
			Toluene	2010/08/31		52	%	30 - 158
			p+m-Xylene	2010/08/31		49	%	29 - 161
			o-Xylene	2010/08/31		76	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/08/31		101	%	60 - 140
			D4-1,2-Dichloroethane	2010/08/31		104	%	60 - 140
			D8-Toluene	2010/08/31		100	%	60 - 140
			Benzene	2010/08/31		102	%	60 - 140
			Ethylbenzene	2010/08/31		99	%	60 - 140
			Toluene	2010/08/31		98	%	60 - 140
			p+m-Xylene	2010/08/31		101	%	60 - 140
			o-Xylene	2010/08/31		103	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/08/31		103	%	60 - 140
			D4-1,2-Dichloroethane	2010/08/31		107	%	60 - 140
			D8-Toluene	2010/08/31		96	%	60 - 140
			Benzene	2010/08/31	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/08/31	ND, RDL=0.002		ug/g	
			Toluene	2010/08/31	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/08/31	ND, RDL=0.002		ug/g	
			o-Xylene	2010/08/31	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/08/31	ND, RDL=0.002		ug/g	
		RPD	Benzene	2010/09/01	NC		%	50
			Ethylbenzene	2010/09/01	NC		%	50
			Toluene	2010/09/01	0		%	50
			p+m-Xylene	2010/09/01	31.9		%	50
			o-Xylene	2010/09/01	NC		%	50
			Xylene (Total)	2010/09/01	31.9		%	50
2250864	DAN	Matrix Spike [GZ2080-01]	1,4-Difluorobenzene	2010/09/02		100	%	60 - 140
			4-Bromofluorobenzene	2010/09/02		105	%	60 - 140
			D10-Ethylbenzene	2010/09/02		100	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/02		109	%	60 - 140
			F1 (C6-C10)	2010/09/02		103	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/08/31		98	%	60 - 140
			4-Bromofluorobenzene	2010/08/31		104	%	60 - 140
			D10-Ethylbenzene	2010/08/31		95	%	30 - 130
			D4-1,2-Dichloroethane	2010/08/31		107	%	60 - 140
			F1 (C6-C10)	2010/08/31		94	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/08/31		100	%	60 - 140
			4-Bromofluorobenzene	2010/08/31		100	%	60 - 140
			D10-Ethylbenzene	2010/08/31		92	%	30 - 130
			D4-1,2-Dichloroethane	2010/08/31		111	%	60 - 140
			F1 (C6-C10)	2010/08/31	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/08/31	ND, RDL=10		ug/g	
		RPD [GZ2080-01]	F1 (C6-C10)	2010/09/02	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/02	NC		%	50
2251060	BLZ	Matrix Spike [GZ2080-01]	o-Terphenyl	2010/09/02		117	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/02		NC	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/02		NC	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/02		NC	%	60 - 130

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B045118
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0B8537

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2251060	BLZ	Spiked Blank	o-Terphenyl	2010/09/02		98	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/02		93	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/02		93	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/02		93	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/01		123	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/01	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/01	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/01	ND, RDL=10		ug/g	
		RPD [GZ2080-01]	F2 (C10-C16 Hydrocarbons)	2010/09/02	0.8		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/02	1.7		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/02	0.3		%	50
2252203	GKL	RPD	Moisture	2010/08/31	NC		%	20

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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.

Validation Signature Page

Maxxam Job #: B0B8537

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

JEEVARAJ JEEVARATRNAM, Senior Analyst

MEDHAT RISKALLAH, Manager, Hydrocarbon Department

==========

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Certificat d'analyses

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
adresse : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

No de certificat : 10-387086
Version : 1
Date de réception : 2010-09-01
Votre projet : B045118

No. de commande : ----
No. de client : 000391

Résultats exprimés en base humide sauf indication contraire.

Paramètres	Accrédité MDDEP	Unités	Date Préparation	Date Analyse	L50297-01R BAR-01 Huile 2010-08-23 NA Client 1805242 Résultat(s)	L50305-01R BAR-04 Huile 2010-08-23 NA Client 1805243 Résultat(s)
Identification					L50297-01R	L50305-01R
Identification (suite)					BAR-01	BAR-04
Matrice					Huile	Huile
Date de prélèvement					2010-08-23	2010-08-23
Lieu du prélèvement					NA	NA
Prélevé par					Client	Client
No de laboratoire					1805242	1805243
Arsenic, As		mg/kg	2010-09-02	2010-09-02	<2	<2
Cadmium, Cd	x	mg/kg	2010-09-02	2010-09-02	<1	<1
Chrome, Cr	x	mg/kg	2010-09-02	2010-09-02	<1	<1
Plomb, Pb	x	mg/kg	2010-09-02	2010-09-02	<5	<5
Cobalt, Co		mg/kg	2010-09-02	2010-09-02	<1	<1
Cuivre, Cu		mg/kg	2010-09-02	2010-09-02	<1	<1
Nickel, Ni		mg/kg	2010-09-02	2010-09-02	<1	<1
Zinc, Zn		mg/kg	2010-09-02	2010-09-02	1	1.9
Mercure, Hg		mg/kg	2010-09-02	2010-09-02	<0.5	<0.5

Commentaires:

Méthodes d'analyse : Annexe I
Contrôle de qualité : Annexe II

CHIMISTE
Alain Fauteux
2009-004
QUÉBEC

Chimiste : Alain Fauteux
2010-09-02

Note : Ces résultats ne se rapportent qu'aux échantillons soumis pour analyse.

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Certificat d'analyses

Attention : Leila Sabouri

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St-Laurent, Québec
H4T 1P5

No de certificat : 10-387086
Version : 1
Date de réception : 2010-09-01
Votre projet : B045118

No. de commande : ----
No. de client : 000391

Annexe I

Paramètres	No. de méthode ou référence	Instruments ou techniques
Arsenic, As	E-A-EN-EN-FL-PC-MD003	ICP
Cadmium, Cd	E-A-EN-EN-FL-PC-MD002	ICP
Chrome, Cr	E-A-EN-EN-FL-PC-MD002	ICP
Plomb, Pb	E-A-EN-EN-FL-PC-MD002	ICP
Cobalt, Co	----	ICP
Cuivre, Cu	----	ICP
Nickel, Ni	----	ICP
Zinc, Zn	----	ICP
Mercure, Hg	----	ICP

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Certificat d'analyses

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adresse : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

No de certificat : 10-387086
Version : 1
Date de réception : 2010-09-01
Votre projet : B045118

No. de commande : ----
No. de client : 000391

Annexe II

Identification		Blanc analyse	Duplicata d'échantillon			Matériaux de référence		
Paramètres	Unités	Résultats	No de laboratoire	Résultats 1	Résultats 2	Valeurs	Écarts	Obtenus
Arsenic, As	mg/kg	< 2	----	----	----	10.0	7.5 - 12.5	9.6
Cadmium, Cd	mg/kg	< 1	----	----	----	10.0	8.0 - 12.0	9.8
Chrome, Cr	mg/kg	< 1	----	----	----	10.0	7.0 - 13.0	9.6
Plomb, Pb	mg/kg	< 5	----	----	----	10.0	8.0 - 12.0	10.0
Cobalt, Co	mg/kg	< 1	----	----	----	----	----	----
Cuivre, Cu	mg/kg	< 1	----	----	----	----	----	----
Nickel, Ni	mg/kg	< 1	----	----	----	----	----	----
Zinc, Zn	mg/kg	< 1	----	----	----	----	----	----
Mercure, Hg	mg/kg	<0.5	----	----	----	1.00	0.75 - 1.25	1.12

NA : Non applicable

Note : Ces résultats ne se rapportent qu'aux échantillons soumis pour analyse.

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-386566
Version : 2
Date received : 2010-08-30
Project No. : B045118

P.O. No. : ----
Client No. : 000391

Identification	Accredited MDDEP				L-50297-01R BAR-01	L50305-01R BAR-04
Matrix					Oil	Oil
Date sampled					2010-08-23	2010-08-23
Sampling location					NA	NA
Collected by					Client	Client
Laboratory No.					1803028	1803029
Parameters		Units	Date Prepared	Date Analysed	Result(s)	Result(s)
Total halides (as chlorides)	x	mg/kg	2010-08-31	2010-08-31	1256	1867
Total chlorine, Cl	x	mg/kg	2010-08-31	2010-08-31	1256	1867

Comments: Version 2 : added total chlorine results.

Analytical methods: Appendix I
Quality control: Appendix II

CHIMISTE
Alain Fauteux
2009-004
QUÉBEC

Chemist : _____
2010-09-27

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-386566
Version : 2
Date received : 2010-08-30
Project No. : B045118

P.O. No. : ----
Client No. : 000391

Appendix I

Parameters	Methods No. or references	Technics or instruments
Total halides (as chlorides)	E-A-EN-EN-FL-PC-MD004	Colorimetric

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Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-386566
Version : 2
Date received : 2010-08-30
Project No. : B045118

P.O. No. : ----
Client No. : 000391

Appendix II

Identification		Blank	Duplicate			Reference material		
Parameters	Units	Results	Laboratory No.	Results 1	Results 2	Value	Range	Obtained
Total halides (as chlorides)	mg/kg	< 100	----	----	----	1000	750 - 1250	860

NA : Non applicable

Note: These results only apply to the samples submitted

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Your Project #: 60155434
Site: BEAR ISLAND
Your C.O.C. #: 003442, 003443, 003444

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/10

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B045643
Received: 2010/08/30, 12:30

Sample Matrix: SOIL
Samples Received: 29

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Anions	17	2010/09/02	2010/09/02	STL SOP-00014/7	MA. 300 - Ions 1.2
Anions	12	2010/09/02	2010/09/03	STL SOP-00014/7	MA. 300 - Ions 1.2
Disposal Charges	29	2010/08/31	2010/08/30		
Petroleum Hydro. (F1) Low Level BTEX (1)	29	N/A	N/A		
Petroleum Hydrocarbons (F2-F4) (1)	29	N/A	N/A		
Flash Point (2)	1	N/A	N/A		
Glycols	14	2010/09/02	2010/09/02	STL SOP-00157/6	EPA 8015D
Glycols	15	2010/09/02	2010/09/03	STL SOP-00157/6	EPA 8015D
Mercury by ICP/MS	29	2010/09/02	2010/09/02	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	28	2010/09/02	2010/09/02	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	1	2010/09/02	2010/09/03	STL SOP-00006/8	MA.200- Mét 1.1
PCB	29	2010/09/01	2010/09/02	STL SOP-00160/4	MA. 403 - BPC 2.0
pH	29	2010/09/02	2010/09/02	STL SOP-00016/9	MA.100- pH1.1

(1) This test was performed by Maxxam - Mississauga
(2) This test was performed by Maxxam - Calgary

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

GLYCOLS BY GC-FID (SOIL)

Maxxam ID				L53174	L53188	L53188	L53189	L53190		
Sampling Date				2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number				003442	003442	003442	003442	003442		
	Units	**B**	**C**	**MPA-BASE-1**	**MPA-BASE-2**	**MPA-BASE-2 Lab-Dup**	**MPA-BASE-3**	**MPA-BASE-4**	**RDL**	**QC Batch**
% Moisture	%	-	-	5.5	6.3	6.3	26	9.2	N/A	N/A
GLYCOLS										
Ethylene Glycol	mg/kg	97	411	ND	ND	ND	ND	ND	5	793827
Tetraethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827
Triethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827
Propylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	10	793827
Diethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID				L53191	L53192	L53193	L53194	L53195		
Sampling Date				2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number				003442	003442	003442	003442	003442		
	Units	**B**	**C**	**MPA-BASE-5**	**MPA-BASE-6**	**MPA-BASE-7**	**MPA-BASE-8**	**MPA-BASE-9**	**RDL**	**QC Batch**
% Moisture	%	-	-	6.6	9.6	3.9	5.5	7.7	N/A	N/A
GLYCOLS										
Ethylene Glycol	mg/kg	97	411	ND	ND	ND	ND	ND	5	793827
Tetraethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827
Triethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827
Propylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	10	793827
Diethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

GLYCOLS BY GC-FID (SOIL)

Maxxam ID				L53196	L53217	L53218	L53219	L53220		
Sampling Date				2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number				003443	003443	003443	003443	003443		
	Units	**B**	**C**	**MPA-BASE-10**	**MPA-BASE-11**	**MPA-BASE-QA/QC**	**TSA-BASE-1**	**TSA-BASE-2**	**RDL**	**QC Batch**
% Moisture	%	-	-	6.0	13	5.4	4.2	6.8	N/A	N/A
GLYCOLS										
Ethylene Glycol	mg/kg	97	411	ND	ND	ND	ND	ND	5	793827
Tetraethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827
Triethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827
Propylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	10	793827
Diethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793827

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID				L53221		L53222	L53223	L53224	L53225		
Sampling Date				2010/08/27		2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number				003443		003443	003443	003443	003444		
	Units	**B**	**C**	**TSA-BASE-3**	**QC Batch**	**TSA-BASE-4**	**TSA-BASE-5**	**TSA-BASE-6**	**TSA-BASE-7**	**RDL**	**QC Batch**
% Moisture	%	-	-	7.8	N/A	13	12	4.0	10	N/A	N/A
GLYCOLS											
Ethylene Glycol	mg/kg	97	411	ND	793827	ND	ND	ND	ND	5	793832
Tetraethylene Glycol	mg/kg	-	-	ND	793827	ND	ND	ND	ND	5	793832
Triethylene Glycol	mg/kg	-	-	ND	793827	ND	ND	ND	ND	5	793832
Propylene Glycol	mg/kg	-	-	ND	793827	ND	ND	ND	ND	10	793832
Diethylene Glycol	mg/kg	-	-	ND	793827	ND	ND	ND	ND	5	793832

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

GLYCOLS BY GC-FID (SOIL)

Maxxam ID				L53225	L53256	L53257	L53258	L53259		
Sampling Date				2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number				003444	003444	003444	003444	003444		
	Units	**B**	**C**	**TSA-BASE-7 Lab-Dup**	**TSA-BASE-8**	**TSA-BASE-9**	**TSA-BASE-10**	**TSA-BASE-11**	**RDL**	**QC Batch**
% Moisture	%	-	-	10	5.4	8.2	12	13	N/A	N/A
GLYCOLS										
Ethylene Glycol	mg/kg	97	411	ND	ND	ND	ND	ND	5	793832
Tetraethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793832
Triethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793832
Propylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	10	793832
Diethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793832

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID				L53261	L53262	L53263	L53264	L53483		
Sampling Date				2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number				003444	003444	003444	003444	003444		
	Units	**B**	**C**	**TSA-BASE-12**	**TSA-BASE-13**	**TSA-BASE-14**	**TSA-BASE-QA/QC**	**TSA-BASE-15**	**RDL**	**QC Batch**
% Moisture	%	-	-	5.5	3.4	11	4.0	3.4	N/A	N/A
GLYCOLS										
Ethylene Glycol	mg/kg	97	411	ND	ND	ND	ND	ND	5	793832
Tetraethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793832
Triethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793832
Propylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	10	793832
Diethylene Glycol	mg/kg	-	-	ND	ND	ND	ND	ND	5	793832

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

GLYCOLS BY GC-FID (SOIL)

Maxxam ID				L53484		
Sampling Date				2010/08/27		
COC Number				003444		
	Units	**B**	**C**	**TSA-BASE-16**	**RDL**	**QC Batch**
% Moisture	%	-	-	5.2	N/A	N/A
GLYCOLS						
Ethylene Glycol	mg/kg	97	411	ND	5	793832
Tetraethylene Glycol	mg/kg	-	-	ND	5	793832
Triethylene Glycol	mg/kg	-	-	ND	5	793832
Propylene Glycol	mg/kg	-	-	ND	10	793832
Diethylene Glycol	mg/kg	-	-	ND	5	793832

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

METALS (SOIL)

Maxxam ID					L53174	L53188	L53189	L53190	L53191		
Sampling Date					2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number					003442	003442	003442	003442	003442		
	Units	**A**	**B**	**C**	**MPA-BASE-1**	**MPA-BASE-2**	**MPA-BASE-3**	**MPA-BASE-4**	**MPA-BASE-5**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.5	6.3	26	9.2	6.6	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	0.03	ND	ND	0.02	793765
Arsenic (As)	mg/kg	**6**	30	50	**7**	**8**	**7**	**7**	**7**	5	793765
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	793765
Cobalt (Co)	mg/kg	**15**	50	300	4	4	5	4	4	2	793765
Chromium (Cr)	mg/kg	**85**	250	800	14	12	14	15	14	2	793765
Copper (Cu)	mg/kg	**40**	100	500	8	9	11	7	9	2	793765
Nickel (Ni)	mg/kg	**50**	100	500	7	7	8	8	7	1	793765
Lead (Pb)	mg/kg	**50**	500	1000	10	8	15	5	8	5	793765
Zinc (Zn)	mg/kg	**110**	500	1500	20	29	33	17	22	10	793765

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

METALS (SOIL)

Maxxam ID					L53192	L53193	L53194	L53194	L53195		
Sampling Date					2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number					003442	003442	003442	003442	003442		
	Units	**A**	**B**	**C**	**MPA-BASE-6**	**MPA-BASE-7**	**MPA-BASE-8**	**MPA-BASE-8 Lab-Dup**	**MPA-BASE-9**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	9.6	3.9	5.5	5.5	7.7	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	793765
Arsenic (As)	mg/kg	**6**	30	50	6	**7**	**8**	**7**	**8**	5	793765
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	793765
Cobalt (Co)	mg/kg	**15**	50	300	4	4	5	4	4	2	793765
Chromium (Cr)	mg/kg	**85**	250	800	13	12	11	13	14	2	793765
Copper (Cu)	mg/kg	**40**	100	500	9	8	9	9	13	2	793765
Nickel (Ni)	mg/kg	**50**	100	500	7	6	6	7	7	1	793765
Lead (Pb)	mg/kg	**50**	500	1000	8	9	16	17	ND	5	793765
Zinc (Zn)	mg/kg	**110**	500	1500	19	19	20	21	18	10	793765

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

METALS (SOIL)

Maxxam ID					L53196	L53196	L53217	L53218	L53219		
Sampling Date					2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number					003443	003443	003443	003443	003443		
	Units	**A**	**B**	**C**	**MPA-BASE-10**	**MPA-BASE-10 Lab-Dup**	**MPA-BASE-11**	**MPA-BASE-QA/QC**	**TSA-BASE-1**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	6.0	6.0	13	5.4	4.2	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	793765
Arsenic (As)	mg/kg	**6**	30	50	**7**	**7**	6	**7**	6	5	793765
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	793765
Cobalt (Co)	mg/kg	**15**	50	300	5	5	4	4	5	2	793765
Chromium (Cr)	mg/kg	**85**	250	800	17	15	15	15	15	2	793765
Copper (Cu)	mg/kg	**40**	100	500	10	9	9	10	9	2	793765
Nickel (Ni)	mg/kg	**50**	100	500	9	8	8	8	8	1	793765
Lead (Pb)	mg/kg	**50**	500	1000	14	13	9	10	ND	5	793765
Zinc (Zn)	mg/kg	**110**	500	1500	24	22	20	34	16	10	793765

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

METALS (SOIL)

Maxxam ID					L53220	L53221	L53222	L53223	L53224	L53225		
Sampling Date					2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number					003443	003443	003443	003443	003443	003444		
	Units	**A**	**B**	**C**	**TSA-BASE-2**	**TSA-BASE-3**	**TSA-BASE-4**	**TSA-BASE-5**	**TSA-BASE-6**	**TSA-BASE-7**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	6.8	7.8	13	12	4.0	10	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	793765
Arsenic (As)	mg/kg	**6**	30	50	6	5	ND	ND	6	5	5	793765
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	793765
Cobalt (Co)	mg/kg	**15**	50	300	5	5	5	5	3	5	2	793765
Chromium (Cr)	mg/kg	**85**	250	800	17	18	19	19	12	18	2	793765
Copper (Cu)	mg/kg	**40**	100	500	11	10	10	11	8	11	2	793765
Nickel (Ni)	mg/kg	**50**	100	500	9	10	10	11	6	10	1	793765
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	5	ND	ND	5	793765
Zinc (Zn)	mg/kg	**110**	500	1500	16	17	18	23	15	19	10	793765

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

METALS (SOIL)

Maxxam ID					L53256	L53257	L53258	L53259	L53261		
Sampling Date					2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number					003444	003444	003444	003444	003444		
	Units	**A**	**B**	**C**	**TSA-BASE-8**	**TSA-BASE-9**	**TSA-BASE-10**	**TSA-BASE-11**	**TSA-BASE-12**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.4	8.2	12	13	5.5	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	793765
Arsenic (As)	mg/kg	**6**	30	50	5	ND	6	ND	ND	5	793765
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	793765
Cobalt (Co)	mg/kg	**15**	50	300	4	5	6	5	5	2	793765
Chromium (Cr)	mg/kg	**85**	250	800	18	18	21	17	19	2	793765
Copper (Cu)	mg/kg	**40**	100	500	10	9	11	10	12	2	793765
Nickel (Ni)	mg/kg	**50**	100	500	9	10	13	9	11	1	793765
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	7	5	793765
Zinc (Zn)	mg/kg	**110**	500	1500	16	16	19	16	22	10	793765

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

METALS (SOIL)

Maxxam ID					L53262	L53263	L53264	L53264		
Sampling Date					2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number					003444	003444	003444	003444		
	Units	**A**	**B**	**C**	**TSA-BASE-13**	**TSA-BASE-14**	**TSA-BASE-QA/QC**	**TSA-BASE-QA/QC Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.4	11	4.0	4.0	N/A	N/A
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	793765
Arsenic (As)	mg/kg	**6**	30	50	6	ND	6	6	5	793765
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	793765
Cobalt (Co)	mg/kg	**15**	50	300	3	4	3	4	2	793765
Chromium (Cr)	mg/kg	**85**	250	800	13	18	14	14	2	793765
Copper (Cu)	mg/kg	**40**	100	500	7	13	8	7	2	793765
Nickel (Ni)	mg/kg	**50**	100	500	6	10	7	7	1	793765
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	5	793765
Zinc (Zn)	mg/kg	**110**	500	1500	13	20	13	13	10	793765

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

METALS (SOIL)

Maxxam ID					L53483		L53484		
Sampling Date					2010/08/27		2010/08/27		
COC Number					003444		003444		
	Units	**A**	**B**	**C**	**TSA-BASE-15**	**QC Batch**	**TSA-BASE-16**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.4	N/A	5.2	N/A	N/A
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	793765	ND	0.02	793759
Arsenic (As)	mg/kg	**6**	30	50	6	793765	ND	5	793759
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	793765	ND	0.5	793759
Cobalt (Co)	mg/kg	**15**	50	300	4	793765	4	2	793759
Chromium (Cr)	mg/kg	**85**	250	800	12	793765	15	2	793759
Copper (Cu)	mg/kg	**40**	100	500	8	793765	8	2	793759
Nickel (Ni)	mg/kg	**50**	100	500	7	793765	8	1	793759
Lead (Pb)	mg/kg	**50**	500	1000	ND	793765	7	5	793759
Zinc (Zn)	mg/kg	**110**	500	1500	12	793765	19	10	793759

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

CONVENTIONAL PARAMETERS (SOIL)

Maxxam ID		L53174	L53188	L53188		L53189	L53190		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		2010/08/27	2010/08/27		
COC Number		003442	003442	003442		003442	003442		
	Units	**MPA-BASE-1**	**MPA-BASE-2**	**MPA-BASE-2 Lab-Dup**	**RDL**	**MPA-BASE-3**	**MPA-BASE-4**	**RDL**	**QC Batch**
% Moisture	%	5.5	6.3	6.3	N/A	26	9.2	N/A	N/A
CONVENTIONALS									
pH	pH	8.80	8.66	8.67	N/A	8.23	8.42	N/A	793727
Chloride (Cl)	mg/kg	3.0	1.7	1.7	0.9	5	2	1	793760

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L53191	L53192	L53193	L53194		L53195	L53196		
Sampling Date		2010/08/27	2010/08/27	2010/08/27	2010/08/27		2010/08/27	2010/08/27		
COC Number		003442	003442	003442	003442		003442	003443		
	Units	**MPA-BASE-5**	**MPA-BASE-6**	**MPA-BASE-7**	**MPA-BASE-8**	**RDL**	**MPA-BASE-9**	**MPA-BASE-10**	**RDL**	**QC Batch**
% Moisture	%	6.6	9.6	3.9	5.5	N/A	7.7	6.0	N/A	N/A
CONVENTIONALS										
pH	pH	8.84	8.53	8.96	8.90	N/A	8.53	8.64	N/A	793727
Chloride (Cl)	mg/kg	2.7	3.6	2.9	2.4	0.9	1	3	1	793760

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

CONVENTIONAL PARAMETERS (SOIL)

Maxxam ID		L53217		L53218	L53219	L53219	L53220		
Sampling Date		2010/08/27		2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number		003443		003443	003443	003443	003443		
	Units	**MPA-BASE-11**	**RDL**	**MPA-BASE-QA/QC**	**TSA-BASE-1**	**TSA-BASE-1 Lab-Dup**	**TSA-BASE-2**	**RDL**	**QC Batch**
% Moisture	%	13	N/A	5.4	4.2	4.2	6.8	N/A	N/A
CONVENTIONALS									
pH	pH	8.35	N/A	9.10	9.45	9.43	9.18	N/A	793727
Chloride (Cl)	mg/kg	4	1	2.5	1.6	N/A	2.6	0.9	793760

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L53221		L53222	L53223		L53224	L53225		
Sampling Date		2010/08/27		2010/08/27	2010/08/27		2010/08/27	2010/08/27		
COC Number		003443		003443	003443		003443	003444		
	Units	**TSA-BASE-3**	**RDL**	**TSA-BASE-4**	**TSA-BASE-5**	**QC Batch**	**TSA-BASE-6**	**TSA-BASE-7**	**RDL**	**QC Batch**
% Moisture	%	7.8	N/A	13	12	N/A	4.0	10	N/A	N/A
CONVENTIONALS										
pH	pH	8.77	N/A	8.91	9.01	793727	9.44	8.88	N/A	793727
Chloride (Cl)	mg/kg	3.2	0.9	3	6	793760	2	15	1	793813

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

CONVENTIONAL PARAMETERS (SOIL)

Maxxam ID		L53225		L53256		L53257	L53258	L53259		
Sampling Date		2010/08/27		2010/08/27		2010/08/27	2010/08/27	2010/08/27		
COC Number		003444		003444		003444	003444	003444		
	Units	**TSA-BASE-7 Lab-Dup**	**RDL**	**TSA-BASE-8**	**RDL**	**TSA-BASE-9**	**TSA-BASE-10**	**TSA-BASE-11**	**RDL**	**QC Batch**
% Moisture	%	10	N/A	5.4	N/A	8.2	12	13	N/A	N/A
CONVENTIONALS										
pH	pH	8.89	N/A	8.91	N/A	9.03	8.80	8.96	N/A	793727
Chloride (Cl)	mg/kg	17	1	2.7	0.9	4	7	8	1	793813

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L53261	L53262		L53263		L53264	L53483		
Sampling Date		2010/08/27	2010/08/27		2010/08/27		2010/08/27	2010/08/27		
COC Number		003444	003444		003444		003444	003444		
	Units	**TSA-BASE-12**	**TSA-BASE-13**	**RDL**	**TSA-BASE-14**	**RDL**	**TSA-BASE-QA/QC**	**TSA-BASE-15**	**RDL**	**QC Batch**
% Moisture	%	5.5	3.4	N/A	11	N/A	4.0	3.4	N/A	N/A
CONVENTIONALS										
pH	pH	8.99	9.54	N/A	8.90	N/A	9.40	9.33	N/A	793727
Chloride (Cl)	mg/kg	6.4	2.0	0.9	12	1	ND	2.0	0.9	793813

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)
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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

CONVENTIONAL PARAMETERS (SOIL)

Maxxam ID		L53484		
Sampling Date		2010/08/27		
COC Number		003444		
	Units	**TSA-BASE-16**	**RDL**	**QC Batch**
% Moisture	%	5.2	N/A	N/A
CONVENTIONALS				
pH	pH	9.17	N/A	793727
Chloride (Cl)	mg/kg	2.8	0.9	793813

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

PCB (SOIL)

Maxxam ID		L53174	L53188	L53188	L53189	L53190	L53191		
Sampling Date		2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number		003442	003442	003442	003442	003442	003442		
	Units	**MPA-BASE-1**	**MPA-BASE-2**	**MPA-BASE-2 Lab-Dup**	**MPA-BASE-3**	**MPA-BASE-4**	**MPA-BASE-5**	**RDL**	**QC Batch**
% Moisture	%	5.5	6.3	6.3	26	9.2	6.6	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Surrogate Recovery (%)									
Decachlorobiphenyl	%	100	97	97	103	100	91	N/A	793617

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L53192	L53193	L53194	L53195	L53196	L53217		
Sampling Date		2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number		003442	003442	003442	003442	003443	003443		
	Units	**MPA-BASE-6**	**MPA-BASE-7**	**MPA-BASE-8**	**MPA-BASE-9**	**MPA-BASE-10**	**MPA-BASE-11**	**RDL**	**QC Batch**
% Moisture	%	9.6	3.9	5.5	7.7	6.0	13	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793617
Surrogate Recovery (%)									
Decachlorobiphenyl	%	101	102	86	89	94	92	N/A	793617

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

PCB (SOIL)

Maxxam ID		L53218	L53219	L53220	L53221		L53222		
Sampling Date		2010/08/27	2010/08/27	2010/08/27	2010/08/27		2010/08/27		
COC Number		003443	003443	003443	003443		003443		
	Units	**MPA-BASE-QA/QC**	**TSA-BASE-1**	**TSA-BASE-2**	**TSA-BASE-3**	**QC Batch**	**TSA-BASE-4**	**RDL**	**QC Batch**
% Moisture	%	5.4	4.2	6.8	7.8	N/A	13	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	793617	ND	0.10	793618
Aroclor 1248	mg/kg	ND	ND	ND	ND	793617	ND	0.10	793618
Aroclor 1254	mg/kg	ND	ND	ND	ND	793617	ND	0.10	793618
Aroclor 1260	mg/kg	ND	ND	ND	ND	793617	ND	0.10	793618
Total PCB	mg/kg	ND	ND	ND	ND	793617	ND	0.10	793618
Surrogate Recovery (%)									
Decachlorobiphenyl	%	90	90	100	96	793617	121	N/A	793618

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L53223	L53224	L53225	L53225	L53256	L53257		
Sampling Date		2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number		003443	003443	003444	003444	003444	003444		
	Units	**TSA-BASE-5**	**TSA-BASE-6**	**TSA-BASE-7**	**TSA-BASE-7 Lab-Dup**	**TSA-BASE-8**	**TSA-BASE-9**	**RDL**	**QC Batch**
% Moisture	%	12	4.0	10	10	5.4	8.2	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793618
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793618
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793618
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793618
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	793618
Surrogate Recovery (%)									
Decachlorobiphenyl	%	116	118	123	115	104	112	N/A	793618

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

PCB (SOIL)

Maxxam ID		L53258	L53259	L53261	L53262	L53263		
Sampling Date		2010/08/27	2010/08/27	2010/08/27	2010/08/27	2010/08/27		
COC Number		003444	003444	003444	003444	003444		
	Units	**TSA-BASE-10**	**TSA-BASE-11**	**TSA-BASE-12**	**TSA-BASE-13**	**TSA-BASE-14**	**RDL**	**QC Batch**
% Moisture	%	12	13	5.5	3.4	11	N/A	N/A
PCB								
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	0.10	793618
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	0.10	793618
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	0.10	793618
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	0.10	793618
Total PCB	mg/kg	ND	ND	ND	ND	ND	0.10	793618
Surrogate Recovery (%)								
Decachlorobiphenyl	%	120	100	110	120	115	N/A	793618

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L53264	L53483	L53484		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		003444	003444	003444		
	Units	**TSA-BASE-QA/QC**	**TSA-BASE-15**	**TSA-BASE-16**	**RDL**	**QC Batch**
% Moisture	%	4.0	3.4	5.2	N/A	N/A
PCB						
Aroclor 1242	mg/kg	ND	ND	ND	0.10	793618
Aroclor 1248	mg/kg	ND	ND	ND	0.10	793618
Aroclor 1254	mg/kg	ND	ND	ND	0.10	793618
Aroclor 1260	mg/kg	ND	ND	ND	0.10	793618
Total PCB	mg/kg	ND	ND	ND	0.10	793618
Surrogate Recovery (%)						
Decachlorobiphenyl	%	104	115	111	N/A	793618

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B045643
Report Date: 2010/09/10

AECOM
Client Project #: 60155434
Project name: BEAR ISLAND

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

GLYCOLS BY GC-FID (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank). Please note that the results have not been corrected for the method blank except the samples L53193, L53256.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

CONVENTIONAL PARAMETERS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

PCB (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434
P.O. #:
Project name: BEAR ISLAND

Quality Assurance Report

Maxxam Job Number: B045643

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
793617	JW2	Spiked Blank	Decachlorobiphenyl	2010/09/02		100	%
			Aroclor 1242	2010/09/02		97	%
			Aroclor 1260	2010/09/02		96	%
		Method Blank	Decachlorobiphenyl	2010/09/02		104	%
			Aroclor 1242	2010/09/02	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/02	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/02	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/02	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/02	ND, RDL=0.10		mg/kg
793618	JW2	Spiked Blank	Decachlorobiphenyl	2010/09/02		127	%
			Aroclor 1242	2010/09/02		110	%
			Aroclor 1260	2010/09/02		120	%
		Method Blank	Decachlorobiphenyl	2010/09/02		124	%
			Aroclor 1242	2010/09/02	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/02	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/02	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/02	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/02	ND, RDL=0.10		mg/kg
793727	AC3	Calibration Check	pH	2010/09/02		100	%
		QC STANDARD	pH	2010/09/02		100	%
		Spiked Blank	pH	2010/09/02		90	%
		Spiked Blank DUP	pH	2010/09/02		90	%
793759	HC	Spiked Blank	Mercury (Hg)	2010/09/03		91	%
			Arsenic (As)	2010/09/03		97	%
			Cadmium (Cd)	2010/09/03		95	%
			Cobalt (Co)	2010/09/03		92	%
			Chromium (Cr)	2010/09/03		92	%
			Copper (Cu)	2010/09/03		91	%
			Nickel (Ni)	2010/09/03		90	%
			Lead (Pb)	2010/09/03		93	%
			Zinc (Zn)	2010/09/03		92	%
		Method Blank	Mercury (Hg)	2010/09/03	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/03	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/03	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/03	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/03	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/03	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/03	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/03	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/03	ND, RDL=10		mg/kg
793760	DB2	Spiked Blank	Chloride (Cl)	2010/09/02		94	%
		Method Blank	Chloride (Cl)	2010/09/02	2, RDL=1		mg/kg
793765	HC	Spiked Blank	Mercury (Hg)	2010/09/02		94	%
			Arsenic (As)	2010/09/02		97	%
			Cadmium (Cd)	2010/09/02		94	%
			Cobalt (Co)	2010/09/02		92	%
			Chromium (Cr)	2010/09/02		93	%
			Copper (Cu)	2010/09/02		92	%
			Nickel (Ni)	2010/09/02		90	%
			Lead (Pb)	2010/09/02		95	%
			Zinc (Zn)	2010/09/02		92	%
		Method Blank	Mercury (Hg)	2010/09/02	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/02	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/02	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/02	ND, RDL=2		mg/kg

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434
P.O. #:
Project name: BEAR ISLAND

Quality Assurance Report (Continued)

Maxxam Job Number: B045643

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
793765	HC	Method Blank	Chromium (Cr)	2010/09/02	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/02	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/02	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/02	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/02	ND, RDL=10		mg/kg
793813	DB2	Spiked Blank	Chloride (Cl)	2010/09/03		99	%
		Method Blank	Chloride (Cl)	2010/09/03	ND, RDL=1		mg/kg
793827	CT2	Spiked Blank	Ethylene Glycol	2010/09/03		96	%
			Tetraethylene Glycol	2010/09/03		96	%
			Triethylene Glycol	2010/09/03		105	%
			Propylene Glycol	2010/09/03		88	%
			Diethylene Glycol	2010/09/03		93	%
		Method Blank	Ethylene Glycol	2010/09/03	ND, RDL=5		mg/kg
			Tetraethylene Glycol	2010/09/03	5, RDL=5		mg/kg
			Triethylene Glycol	2010/09/03	ND, RDL=5		mg/kg
			Propylene Glycol	2010/09/03	ND, RDL=10		mg/kg
			Diethylene Glycol	2010/09/03	ND, RDL=5		mg/kg
793832	CT2	Spiked Blank	Ethylene Glycol	2010/09/02		91	%
			Tetraethylene Glycol	2010/09/02		82	%
			Triethylene Glycol	2010/09/02		97	%
			Propylene Glycol	2010/09/02		80	%
			Diethylene Glycol	2010/09/02		87	%
		Method Blank	Ethylene Glycol	2010/09/02	ND, RDL=5		mg/kg
			Tetraethylene Glycol	2010/09/02	ND, RDL=5		mg/kg
			Triethylene Glycol	2010/09/02	ND, RDL=5		mg/kg
			Propylene Glycol	2010/09/02	ND, RDL=10		mg/kg
			Diethylene Glycol	2010/09/02	ND, RDL=5		mg/kg

RDL = Reportable Detection Limit
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Your Project #: B045643
Your C.O.C. #: N/A

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/09/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0C1839
Received: 2010/09/03, 08:57

Sample Matrix: Soil
Samples Received: 29

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	1	2010/09/03	2010/09/03	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	28	2010/09/03	2010/09/04	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	1	2010/09/03	2010/09/03	CAM SOP-00316	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	28	2010/09/03	2010/09/04	CAM SOP-00316	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	1	2010/09/07	2010/09/08	CAM SOP-00316	CCME CWS
Moisture	19	N/A	2010/09/03	CAM SOP-00445	McKeague 2nd ed 1978
Moisture	10	N/A	2010/09/04	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	11	2010/09/03	2010/09/07	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	16	2010/09/03	2010/09/08	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	2	2010/09/03	2010/09/09	CAM SOP-00226	EPA 8260 modified

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

==========

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 #: B0C1839
Report Date: 2010/09/09

Maxxam Analytique
Client Project #: B045643

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0906	HB0907	HB0908		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53174-02R\MPA-BASE-1**	**L53188-02R\MPA-BASE-2**	**L53189-02R\MPA-BASE-3**	**RDL**	**QC Batch**
Moisture	%	5	7	7	1	2256432
F1 (C6-C10)	ug/g	ND	ND	ND	10	2255873
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2255873
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2255883
F3 (C16-C34 Hydrocarbons)	ug/g	33	56	230	10	2255883
F4 (C34-C50 Hydrocarbons)	ug/g	ND	19	64	10	2255883
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2255883
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	110	105	107	N/A	2255873
4-Bromofluorobenzene	%	99	97	102	N/A	2255873
D10-Ethylbenzene	%	93	79	79	N/A	2255873
D4-1,2-Dichloroethane	%	95	95	94	N/A	2255873
o-Terphenyl	%	96	95	95	N/A	2255883

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0C1839
Report Date: 2010/09/09

Maxxam Analytique
Client Project #: B045643

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0908		HB0909		
Sampling Date		2010/08/27		2010/08/27		
COC Number		N/A		N/A		
	Units	**L53189-02R\MPA-BASE-3 Lab-Dup**	**QC Batch**	**L53190-02R\MPA-BASE-4**	**RDL**	**QC Batch**
Moisture	%	N/A	2256432	9	1	2256563
F1 (C6-C10)	ug/g	ND	2255873	ND	10	2255873
F1 (C6-C10) - BTEX	ug/g	ND	2255873	ND	10	2255873
F2 (C10-C16 Hydrocarbons)	ug/g	ND	2255883	ND	10	2255883
F3 (C16-C34 Hydrocarbons)	ug/g	270	2255883	15	10	2255883
F4 (C34-C50 Hydrocarbons)	ug/g	76	2255883	ND	10	2255883
Reached Baseline at C50	ug/g	Yes	2255883	Yes	N/A	2255883
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	106	2255873	108	N/A	2255873
4-Bromofluorobenzene	%	96	2255873	100	N/A	2255873
D10-Ethylbenzene	%	97	2255873	99	N/A	2255873
D4-1,2-Dichloroethane	%	97	2255873	97	N/A	2255873
o-Terphenyl	%	98	2255883	93	N/A	2255883

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0910	HB0911	HB0912		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53191-02R\MPA-BASE-5**	**L53192-02R\MPA-BASE-6**	**L53193-02R\MPA-BASE-7**	**RDL**	**QC Batch**
Moisture	%	5	5	3	1	2256432
F1 (C6-C10)	ug/g	ND	ND	ND	10	2255873
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2255873
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2255883
F3 (C16-C34 Hydrocarbons)	ug/g	22	35	57	10	2255883
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	160	10	2255883
Reached Baseline at C50	ug/g	Yes	Yes	No	N/A	2255883
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	103	105	104	N/A	2255873
4-Bromofluorobenzene	%	95	98	97	N/A	2255873
D10-Ethylbenzene	%	88	91	90	N/A	2255873
D4-1,2-Dichloroethane	%	93	96	97	N/A	2255873
o-Terphenyl	%	95	92	96	N/A	2255883

ND = Not detected
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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0913		HB0914		
Sampling Date		2010/08/27		2010/08/27		
COC Number		N/A		N/A		
	Units	**L53194-02R\MPA-BASE-8**	**QC Batch**	**L53195-02R\MPA-BASE-9**	**RDL**	**QC Batch**
Moisture	%	4	2256432	9	1	2256563
F1 (C6-C10)	ug/g	ND	2255873	ND	10	2256097
F1 (C6-C10) - BTEX	ug/g	ND	2255873	ND	10	2256097
F2 (C10-C16 Hydrocarbons)	ug/g	ND	2255883	ND	10	2256131
F3 (C16-C34 Hydrocarbons)	ug/g	ND	2255883	18	10	2256131
F4 (C34-C50 Hydrocarbons)	ug/g	ND	2255883	ND	10	2256131
Reached Baseline at C50	ug/g	Yes	2255883	Yes	N/A	2256131
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	110	2255873	102	N/A	2256097
4-Bromofluorobenzene	%	99	2255873	100	N/A	2256097
D10-Ethylbenzene	%	84	2255873	101	N/A	2256097
D4-1,2-Dichloroethane	%	101	2255873	98	N/A	2256097
o-Terphenyl	%	88	2255883	88	N/A	2256131

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0915	HB0916		
Sampling Date		2010/08/27	2010/08/27		
COC Number		N/A	N/A		
	Units	**L53196-02R\MPA-BASE-10**	**L53217-02R\MPA-BASE-11**	**RDL**	**QC Batch**
Moisture	%	9	19	1	2256432
F1 (C6-C10)	ug/g	ND	ND	10	2255873
F1 (C6-C10) - BTEX	ug/g	ND	ND	10	2255873
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	10	2255883
F3 (C16-C34 Hydrocarbons)	ug/g	23	29	10	2255883
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	10	2255883
Reached Baseline at C50	ug/g	Yes	Yes	N/A	2255883
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	105	110	N/A	2255873
4-Bromofluorobenzene	%	100	101	N/A	2255873
D10-Ethylbenzene	%	83	77	N/A	2255873
D4-1,2-Dichloroethane	%	96	100	N/A	2255873
o-Terphenyl	%	92	95	N/A	2255883

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0917		HB0918		
Sampling Date		2010/08/27		2010/08/27		
COC Number		N/A		N/A		
	Units	**L53218-02R\MPA-BASE-QA/**	**QC Batch**	**L53219-02R\TSA-BASE-1**	**RDL**	**QC Batch**
Moisture	%	5	2256563	3	1	2256432
F1 (C6-C10)	ug/g	ND	2255873	ND	10	2255873
F1 (C6-C10) - BTEX	ug/g	ND	2255873	ND	10	2255873
F2 (C10-C16 Hydrocarbons)	ug/g	ND	2255883	ND	10	2255883
F3 (C16-C34 Hydrocarbons)	ug/g	23	2255883	ND	10	2255883
F4 (C34-C50 Hydrocarbons)	ug/g	ND	2255883	ND	10	2255883
Reached Baseline at C50	ug/g	Yes	2255883	Yes	N/A	2255883
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	108	2255873	106	N/A	2255873
4-Bromofluorobenzene	%	101	2255873	95	N/A	2255873
D10-Ethylbenzene	%	85	2255873	84	N/A	2255873
D4-1,2-Dichloroethane	%	96	2255873	96	N/A	2255873
o-Terphenyl	%	91	2255883	87	N/A	2255883

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0919		HB0920	HB0921		
Sampling Date		2010/08/27		2010/08/27	2010/08/27		
COC Number		N/A		N/A	N/A		
	Units	**L53220-02R\TSA-BASE-2**	**QC Batch**	**L53221-02R\TSA-BASE-3**	**L53222-02R\TSA-BASE-4**	**RDL**	**QC Batch**
Moisture	%	10	2256563	10	5	1	2256432
F1 (C6-C10)	ug/g	ND	2255873	ND	ND	10	2255873
F1 (C6-C10) - BTEX	ug/g	ND	2255873	ND	ND	10	2255873
F2 (C10-C16 Hydrocarbons)	ug/g	ND	2255883	ND	ND	10	2255883
F3 (C16-C34 Hydrocarbons)	ug/g	ND	2255883	ND	ND	10	2255883
F4 (C34-C50 Hydrocarbons)	ug/g	ND	2255883	ND	ND	10	2255883
Reached Baseline at C50	ug/g	Yes	2255883	Yes	Yes	N/A	2255883
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	112	2255873	108	107	N/A	2255873
4-Bromofluorobenzene	%	95	2255873	102	96	N/A	2255873
D10-Ethylbenzene	%	94	2255873	89	78	N/A	2255873
D4-1,2-Dichloroethane	%	98	2255873	98	97	N/A	2255873
o-Terphenyl	%	87	2255883	87	85	N/A	2255883

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0922	HB0923	HB0924		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53223-02R\TSA-BASE-5**	**L53224-02R\TSA-BASE-6**	**L53225-02R\TSA-BASE-7**	**RDL**	**QC Batch**
Moisture	%	12	3	15	1	2256432
F1 (C6-C10)	ug/g	ND	ND	ND	10	2255873
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2255873
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2255883
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	2255883
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2255883
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2255883
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	108	111	113	N/A	2255873
4-Bromofluorobenzene	%	95	98	98	N/A	2255873
D10-Ethylbenzene	%	81	94	91	N/A	2255873
D4-1,2-Dichloroethane	%	94	98	97	N/A	2255873
o-Terphenyl	%	83	86	87	N/A	2255883

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0925	HB0926		HB0927		
Sampling Date		2010/08/27	2010/08/27		2010/08/27		
COC Number		N/A	N/A		N/A		
	Units	**L53256-02R\TSA-BASE-8**	**L53257-02R\TSA-BASE-9**	**QC Batch**	**L53258-02R\TSA-BASE-10**	**RDL**	**QC Batch**
Moisture	%	7	14	2256432	11	1	2256432
F1 (C6-C10)	ug/g	ND	ND	2255873	ND	10	2256097
F1 (C6-C10) - BTEX	ug/g	ND	ND	2255873	ND	10	2256097
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	2255883	ND	10	2256131
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	2255883	ND	10	2256131
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	2255883	ND	10	2256131
Reached Baseline at C50	ug/g	Yes	Yes	2255883	Yes	N/A	2256131
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	107	107	2255873	104	N/A	2256097
4-Bromofluorobenzene	%	97	99	2255873	97	N/A	2256097
D10-Ethylbenzene	%	86	77	2255873	96	N/A	2256097
D4-1,2-Dichloroethane	%	94	100	2255873	95	N/A	2256097
o-Terphenyl	%	81	85	2255883	87	N/A	2256131

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C1839
Report Date: 2010/09/09

Maxxam Analytique
Client Project #: B045643

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0928		HB0929		
Sampling Date		2010/08/27		2010/08/27		
COC Number		N/A		N/A		
	Units	**L53259-02R\TSA-BASE-11**	**QC Batch**	**L53261-02R\TSA-BASE-12**	**RDL**	**QC Batch**
Moisture	%	14	2256563	17	1	2256432
F1 (C6-C10)	ug/g	ND	2256097	ND	10	2256097
F1 (C6-C10) - BTEX	ug/g	ND	2256097	ND	10	2256097
F2 (C10-C16 Hydrocarbons)	ug/g	ND	2256131	ND	10	2256131
F3 (C16-C34 Hydrocarbons)	ug/g	ND	2256131	ND	10	2256131
F4 (C34-C50 Hydrocarbons)	ug/g	ND	2256131	ND	10	2256131
Reached Baseline at C50	ug/g	Yes	2256131	Yes	N/A	2256131
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	106	2256097	105	N/A	2256097
4-Bromofluorobenzene	%	98	2256097	99	N/A	2256097
D10-Ethylbenzene	%	99	2256097	79	N/A	2256097
D4-1,2-Dichloroethane	%	94	2256097	95	N/A	2256097
o-Terphenyl	%	96	2256131	93	N/A	2256131

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0929		HB0930		
Sampling Date		2010/08/27		2010/08/27		
COC Number		N/A		N/A		
	Units	**L53261-02R\TSA-BASE-12 Lab-Dup**	**QC Batch**	**L53262-02R\TSA-BASE-13**	**RDL**	**QC Batch**
Moisture	%	N/A	2256432	6	1	2256563
F1 (C6-C10)	ug/g	ND	2256097	ND	10	2256097
F1 (C6-C10) - BTEX	ug/g	ND	2256097	ND	10	2256097
F2 (C10-C16 Hydrocarbons)	ug/g	ND	2256131	ND	10	2256131
F3 (C16-C34 Hydrocarbons)	ug/g	ND	2256131	ND	10	2256131
F4 (C34-C50 Hydrocarbons)	ug/g	ND	2256131	ND	10	2256131
Reached Baseline at C50	ug/g	Yes	2256131	Yes	N/A	2256131
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	111	2256097	104	N/A	2256097
4-Bromofluorobenzene	%	103	2256097	99	N/A	2256097
D10-Ethylbenzene	%	93	2256097	95	N/A	2256097
D4-1,2-Dichloroethane	%	99	2256097	99	N/A	2256097
o-Terphenyl	%	93	2256131	91	N/A	2256131

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0931	HB0932	HB0933		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53263-02R\TSA-BASE-14**	**L53264-02R\TSA-BASE-QA/Q**	**L53483-02R\TSA-BASE-15**	**RDL**	**QC Batch**
Moisture	%	14	14	4	1	2256563
F1 (C6-C10)	ug/g	ND	ND	ND	10	2256097
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2256097
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2256131
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	2256131
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2256131
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2256131
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	104	108	104	N/A	2256097
4-Bromofluorobenzene	%	99	99	98	N/A	2256097
D10-Ethylbenzene	%	83	98	82	N/A	2256097
D4-1,2-Dichloroethane	%	97	99	97	N/A	2256097
o-Terphenyl	%	89	89	88	N/A	2256131

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HB0934	HB0934		
Sampling Date		2010/08/27	2010/08/27		
COC Number		N/A	N/A		
	Units	**L53484-02R\TSA-BASE-16**	**L53484-02R\TSA-BASE-16 Lab-Dup**	**RDL**	**QC Batch**
Moisture	%	5	4	1	2256563
F1 (C6-C10)	ug/g	ND	N/A	10	2256097
F1 (C6-C10) - BTEX	ug/g	ND	N/A	10	2256097
F2 (C10-C16 Hydrocarbons)	ug/g	ND	N/A	10	2256131
F3 (C16-C34 Hydrocarbons)	ug/g	ND	N/A	10	2256131
F4 (C34-C50 Hydrocarbons)	ug/g	ND	N/A	10	2256131
Reached Baseline at C50	ug/g	Yes	N/A	N/A	2256131
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	110	N/A	N/A	2256097
4-Bromofluorobenzene	%	101	N/A	N/A	2256097
D10-Ethylbenzene	%	97	N/A	N/A	2256097
D4-1,2-Dichloroethane	%	97	N/A	N/A	2256097
o-Terphenyl	%	82	N/A	N/A	2256131

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0906	HB0907	HB0908		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53174-02R\MPA-BASE-1**	**L53188-02R\MPA-BASE-2**	**L53189-02R\MPA-BASE-3**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	0.003	0.002	0.002	2256049
Ethylbenzene	ug/g	0.006	0.007	0.006	0.002	2256049
Toluene	ug/g	0.008	0.009	0.009	0.002	2256049
p+m-Xylene	ug/g	0.003	0.003	0.003	0.002	2256049
o-Xylene	ug/g	ND	ND	ND	0.002	2256049
Xylene (Total)	ug/g	0.003	0.003	0.003	0.002	2256049
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	90	89	77	N/A	2256049
D4-1,2-Dichloroethane	%	102	94	102	N/A	2256049
D8-Toluene	%	102	101	118	N/A	2256049

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0909	HB0910	HB0911		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53190-02R\MPA-BASE-4**	**L53191-02R\MPA-BASE-5**	**L53192-02R\MPA-BASE-6**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	0.002	ND	0.002	2256049
Ethylbenzene	ug/g	0.005	0.007	0.005	0.002	2256049
Toluene	ug/g	0.007	0.009	0.006	0.002	2256049
p+m-Xylene	ug/g	0.003	0.003	0.002	0.002	2256049
o-Xylene	ug/g	ND	ND	ND	0.002	2256049
Xylene (Total)	ug/g	0.003	0.003	0.002	0.002	2256049
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	87	95	90	N/A	2256049
D4-1,2-Dichloroethane	%	101	99	99	N/A	2256049
D8-Toluene	%	108	101	105	N/A	2256049

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0C1839
Report Date: 2010/09/09

Maxxam Analytique
Client Project #: B045643

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0912		HB0913	HB0914		
Sampling Date		2010/08/27		2010/08/27	2010/08/27		
COC Number		N/A		N/A	N/A		
	Units	**L53193-02R\MPA-BASE-7**	**QC Batch**	**L53194-02R\MPA-BASE-8**	**L53195-02R\MPA-BASE-9**	**RDL**	**QC Batch**
Benzene	ug/g	ND	2256049	0.002	0.003	0.002	2256766
Ethylbenzene	ug/g	0.004	2256049	0.005	0.008	0.002	2256766
Toluene	ug/g	0.006	2256049	0.007	0.010	0.002	2256766
p+m-Xylene	ug/g	ND	2256049	0.002	0.003	0.002	2256766
o-Xylene	ug/g	ND	2256049	ND	ND	0.002	2256766
Xylene (Total)	ug/g	ND	2256049	0.002	0.003	0.002	2256766
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	87	2256049	91	87	N/A	2256766
D4-1,2-Dichloroethane	%	95	2256049	100	99	N/A	2256766
D8-Toluene	%	104	2256049	100	103	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0914	HB0915	HB0916		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53195-02R\MPA-BASE-9 Lab-Dup**	**L53196-02R\MPA-BASE-10**	**L53217-02R\MPA-BASE-11**	**RDL**	**QC Batch**
Benzene	ug/g	0.004	0.003	0.003	0.002	2256766
Ethylbenzene	ug/g	0.009	0.007	0.005	0.002	2256766
Toluene	ug/g	0.012	0.011	0.009	0.002	2256766
p+m-Xylene	ug/g	0.004	0.003	0.002	0.002	2256766
o-Xylene	ug/g	ND	ND	ND	0.002	2256766
Xylene (Total)	ug/g	0.004	0.003	0.002	0.002	2256766
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	85	88	70	N/A	2256766
D4-1,2-Dichloroethane	%	98	94	99	N/A	2256766
D8-Toluene	%	104	107	128	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0917	HB0918		
Sampling Date		2010/08/27	2010/08/27		
COC Number		N/A	N/A		
	Units	**L53218-02R\MPA-BASE-QA/**	**L53219-02R\TSA-BASE-1**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	ND	0.002	2256766
Ethylbenzene	ug/g	0.005	0.005	0.002	2256766
Toluene	ug/g	0.007	0.007	0.002	2256766
p+m-Xylene	ug/g	0.002	0.002	0.002	2256766
o-Xylene	ug/g	ND	ND	0.002	2256766
Xylene (Total)	ug/g	0.002	0.002	0.002	2256766
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	91	97	N/A	2256766
D4-1,2-Dichloroethane	%	97	98	N/A	2256766
D8-Toluene	%	99	98	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Client Project #: B045643

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0919	HB0920		HB0921		
Sampling Date		2010/08/27	2010/08/27		2010/08/27		
COC Number		N/A	N/A		N/A		
	Units	**L53220-02R\TSA-BASE-2**	**L53221-02R\TSA-BASE-3**	**QC Batch**	**L53222-02R\TSA-BASE-4**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	2256049	ND	0.002	2256766
Ethylbenzene	ug/g	0.003	0.004	2256049	0.004	0.002	2256766
Toluene	ug/g	0.004	0.006	2256049	0.006	0.002	2256766
p+m-Xylene	ug/g	ND	0.002	2256049	ND	0.002	2256766
o-Xylene	ug/g	ND	ND	2256049	ND	0.002	2256766
Xylene (Total)	ug/g	ND	0.002	2256049	ND	0.002	2256766
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	101	99	2256049	91	N/A	2256766
D4-1,2-Dichloroethane	%	100	100	2256049	98	N/A	2256766
D8-Toluene	%	99	98	2256049	100	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0922	HB0923	HB0924		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53223-02R\TSA-BASE-5**	**L53224-02R\TSA-BASE-6**	**L53225-02R\TSA-BASE-7**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	0.003	0.002	2256766
Ethylbenzene	ug/g	0.005	0.004	0.006	0.002	2256766
Toluene	ug/g	0.006	0.006	0.008	0.002	2256766
p+m-Xylene	ug/g	0.002	ND	0.003	0.002	2256766
o-Xylene	ug/g	ND	ND	ND	0.002	2256766
Xylene (Total)	ug/g	0.002	ND	0.003	0.002	2256766
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	93	98	98	N/A	2256766
D4-1,2-Dichloroethane	%	97	99	97	N/A	2256766
D8-Toluene	%	99	97	97	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0925	HB0926	HB0927		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53256-02R\TSA-BASE-8**	**L53257-02R\TSA-BASE-9**	**L53258-02R\TSA-BASE-10**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	ND	0.002	2256766
Ethylbenzene	ug/g	0.006	0.004	0.005	0.002	2256766
Toluene	ug/g	0.007	0.006	0.006	0.002	2256766
p+m-Xylene	ug/g	0.002	ND	0.002	0.002	2256766
o-Xylene	ug/g	ND	ND	ND	0.002	2256766
Xylene (Total)	ug/g	0.002	ND	0.002	0.002	2256766
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	95	96	95	N/A	2256766
D4-1,2-Dichloroethane	%	97	101	97	N/A	2256766
D8-Toluene	%	96	96	98	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0928	HB0929	HB0930		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53259-02R\TSA-BASE-11**	**L53261-02R\TSA-BASE-12**	**L53262-02R\TSA-BASE-13**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	0.002	ND	0.002	2256766
Ethylbenzene	ug/g	0.006	0.006	0.003	0.002	2256766
Toluene	ug/g	0.007	0.007	0.004	0.002	2256766
p+m-Xylene	ug/g	0.003	0.003	ND	0.002	2256766
o-Xylene	ug/g	ND	ND	ND	0.002	2256766
Xylene (Total)	ug/g	0.003	0.003	ND	0.002	2256766
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	95	96	97	N/A	2256766
D4-1,2-Dichloroethane	%	97	98	99	N/A	2256766
D8-Toluene	%	97	97	100	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0931	HB0932	HB0933		
Sampling Date		2010/08/27	2010/08/27	2010/08/27		
COC Number		N/A	N/A	N/A		
	Units	**L53263-02R\TSA-BASE-14**	**L53264-02R\TSA-BASE-QA/Q**	**L53483-02R\TSA-BASE-15**	**RDL**	**QC Batch**
Benzene	ug/g	0.004	ND	ND	0.002	2256766
Ethylbenzene	ug/g	0.009	0.004	0.003	0.002	2256766
Toluene	ug/g	0.011	0.006	0.004	0.002	2256766
p+m-Xylene	ug/g	0.003	0.002	ND	0.002	2256766
o-Xylene	ug/g	ND	ND	ND	0.002	2256766
Xylene (Total)	ug/g	0.003	0.002	ND	0.002	2256766
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	91	97	95	N/A	2256766
D4-1,2-Dichloroethane	%	99	98	100	N/A	2256766
D8-Toluene	%	99	98	100	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Client Project #: B045643

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HB0934		
Sampling Date		2010/08/27		
COC Number		N/A		
	Units	**L53484-02R\TSA-BASE-16**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	0.002	2256766
Ethylbenzene	ug/g	0.006	0.002	2256766
Toluene	ug/g	0.008	0.002	2256766
p+m-Xylene	ug/g	0.003	0.002	2256766
o-Xylene	ug/g	ND	0.002	2256766
Xylene (Total)	ug/g	0.003	0.002	2256766
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	95	N/A	2256766
D4-1,2-Dichloroethane	%	100	N/A	2256766
D8-Toluene	%	98	N/A	2256766

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/09

Maxxam Analytique
Client Project #: B045643

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HB0912		
Sampling Date		2010/08/27		
COC Number		N/A		
	Units	**L53193-02R\MPA-BASE-7**	**RDL**	**QC Batch**
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	720	100	2257994

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Results relate only to the items tested.

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Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B045643
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB0C1839

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2255873	DCA	Matrix Spike						
		[HB0908-01]	1,4-Difluorobenzene	2010/09/04		107	%	60 - 140
			4-Bromofluorobenzene	2010/09/04		102	%	60 - 140
			D10-Ethylbenzene	2010/09/04		89	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/04		97	%	60 - 140
			F1 (C6-C10)	2010/09/04		86	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/04		109	%	60 - 140
			4-Bromofluorobenzene	2010/09/04		103	%	60 - 140
			D10-Ethylbenzene	2010/09/04		77	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/04		99	%	60 - 140
			F1 (C6-C10)	2010/09/04		81	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/04		108	%	60 - 140
			4-Bromofluorobenzene	2010/09/04		95	%	60 - 140
			D10-Ethylbenzene	2010/09/04		93	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/04		100	%	60 - 140
			F1 (C6-C10)	2010/09/04	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/04	ND, RDL=10		ug/g	
		RPD [HB0908-01]	F1 (C6-C10)	2010/09/04	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/04	NC		%	50
2255883	ZZ	Matrix Spike						
		[HB0908-01]	o-Terphenyl	2010/09/03		108	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/03		102	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/03		102	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/03		102	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/03		93	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/03		83	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/03		83	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/03		83	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/03		94	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/03	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/03	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/03	ND, RDL=10		ug/g	
		RPD [HB0908-01]	F2 (C10-C16 Hydrocarbons)	2010/09/04	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/04	17.8		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/04	16.7		%	50
2256049	JZO	Matrix Spike	4-Bromofluorobenzene	2010/09/09		94	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/09		99	%	60 - 140
			D8-Toluene	2010/09/09		111	%	60 - 140
			Benzene	2010/09/09		74	%	39 - 137
			Ethylbenzene	2010/09/09		62	%	46 - 150
			Toluene	2010/09/09		79	%	30 - 158
			p+m-Xylene	2010/09/09		65	%	29 - 161
			o-Xylene	2010/09/09		64	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/09/06		102	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/06		100	%	60 - 140
			D8-Toluene	2010/09/06		99	%	60 - 140
			Benzene	2010/09/06		110	%	60 - 140
			Ethylbenzene	2010/09/06		118	%	60 - 140
			Toluene	2010/09/06		110	%	60 - 140
			p+m-Xylene	2010/09/06		121	%	60 - 140
			o-Xylene	2010/09/06		121	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/06		99	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/06		98	%	60 - 140
			D8-Toluene	2010/09/06		100	%	60 - 140
			Benzene	2010/09/06	ND, RDL=0.002		ug/g	

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Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B045643
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C1839

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2256049	JZO	Method Blank	Ethylbenzene	2010/09/06	ND, RDL=0.002		ug/g	
			Toluene	2010/09/06	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/06	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/06	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/06	ND, RDL=0.002		ug/g	
		RPD	Benzene	2010/09/08	NC		%	50
			Ethylbenzene	2010/09/08	NC		%	50
			Toluene	2010/09/08	27.4		%	50
			p+m-Xylene	2010/09/08	26.7		%	50
			o-Xylene	2010/09/08	NC		%	50
			Xylene (Total)	2010/09/08	27.8		%	50
2256097	DCA	Matrix Spike						
		[HB0929-01]	1,4-Difluorobenzene	2010/09/03		108	%	60 - 140
			4-Bromofluorobenzene	2010/09/03		101	%	60 - 140
			D10-Ethylbenzene	2010/09/03		96	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/03		97	%	60 - 140
			F1 (C6-C10)	2010/09/03		97	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/03		105	%	60 - 140
			4-Bromofluorobenzene	2010/09/03		100	%	60 - 140
			D10-Ethylbenzene	2010/09/03		97	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/03		96	%	60 - 140
			F1 (C6-C10)	2010/09/03		80	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/03		108	%	60 - 140
			4-Bromofluorobenzene	2010/09/03		99	%	60 - 140
			D10-Ethylbenzene	2010/09/03		96	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/03		96	%	60 - 140
			F1 (C6-C10)	2010/09/03	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/03	ND, RDL=10		ug/g	
		RPD [HB0929-01]	F1 (C6-C10)	2010/09/03	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/03	NC		%	50
2256131	ZZ	Matrix Spike						
		[HB0929-01]	o-Terphenyl	2010/09/03		111	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/03		103	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/03		103	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/03		103	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/03		100	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/03		90	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/03		90	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/03		90	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/03		96	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/03	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/03	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/03	ND, RDL=10		ug/g	
		RPD [HB0929-01]	F2 (C10-C16 Hydrocarbons)	2010/09/04	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/04	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/04	NC		%	50
2256432	LKA	RPD	Moisture	2010/09/03	1.7		%	20
2256563	MYG	RPD [HB0934-01]	Moisture	2010/09/04	NC		%	20
2256766	FS	Matrix Spike						
		[HB0914-01]	4-Bromofluorobenzene	2010/09/07		86	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/07		99	%	60 - 140
			D8-Toluene	2010/09/07		107	%	60 - 140
			Benzene	2010/09/07		100	%	39 - 137
			Ethylbenzene	2010/09/07		92	%	46 - 150
			Toluene	2010/09/07		96	%	30 - 158

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Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B045643
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C1839

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2256766	FS	Matrix Spike						
		[HB0914-01]	p+m-Xylene	2010/09/07		84	%	29 - 161
			o-Xylene	2010/09/07		92	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/09/07		100	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/07		96	%	60 - 140
			D8-Toluene	2010/09/07		100	%	60 - 140
			Benzene	2010/09/07		108	%	60 - 140
			Ethylbenzene	2010/09/07		112	%	60 - 140
			Toluene	2010/09/07		109	%	60 - 140
			p+m-Xylene	2010/09/07		101	%	60 - 140
			o-Xylene	2010/09/07		98	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/04		104	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/04		115	%	60 - 140
			D8-Toluene	2010/09/04		96	%	60 - 140
			Benzene	2010/09/04	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/04	ND, RDL=0.002		ug/g	
			Toluene	2010/09/04	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/04	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/04	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/04	ND, RDL=0.002		ug/g	
		RPD [HB0914-01]	Benzene	2010/09/07	NC		%	50
			Ethylbenzene	2010/09/07	NC		%	50
			Toluene	2010/09/07	NC		%	50
			p+m-Xylene	2010/09/07	NC		%	50
			o-Xylene	2010/09/07	NC		%	50
			Xylene (Total)	2010/09/07	NC		%	50
2257994	RUS	Matrix Spike	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/08		85	%	65 - 135
		Spiked Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/08		97	%	65 - 135
		Method Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/08	ND, RDL=100		ug/g	
		RPD	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/08	0		%	50

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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 (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.

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Validation Signature Page

Maxxam Job #: B0C1839

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

MAMDOUH SALIB, Analyst, Hydrocarbons

==========

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Your P.O. #: 60155434-1.2
Site: BEAR ISLAND

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B046067
Received: 2010/09/01, 12:15

Sample Matrix: SOIL
Samples Received: 35

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	35	2010/09/02	2010/09/01		
Mercury by ICP/MS	35	2010/09/03	2010/09/05	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	27	2010/09/03	2010/09/04	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	7	2010/09/03	2010/09/08	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	1	2010/09/09	2010/09/09	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

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AECOM

Maxxam Job #: B046067
Report Date: 2010/09/09

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55136	L55153	L55153	L55154	L55155	L55156		
Sampling Date					2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28		
	Units	**A**	**B**	**C**	**LP-1**	**LP-2**	**LP-2 Lab-Dup**	**LP-3**	**LP-4**	**LP-5**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	**0.29**	**0.29**	**0.28**	0.10	**0.24**	0.02	794488
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	794488
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	794488
Cobalt (Co)	mg/kg	**15**	50	300	6	2	2	6	8	3	2	794488
Chromium (Cr)	mg/kg	**85**	250	800	14	11	11	11	21	9	2	794488
Copper (Cu)	mg/kg	**40**	100	500	12	18	12 (1)	29	10	5	2	794488
Nickel (Ni)	mg/kg	**50**	100	500	10	4	5	7	15	5	1	794488
Lead (Pb)	mg/kg	**50**	500	1000	9	35	31	36	22	20	5	794488
Zinc (Zn)	mg/kg	**110**	500	1500	37	39	38	110	47	34	10	794488

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Maxxam Job #: B046067
Report Date: 2010/09/09

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55157	L55158	L55159	L55160	L55161	L55161		
Sampling Date					2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28		
	Units	**A**	**B**	**C**	**LP-6**	**LP-7**	**LP-8**	**LP-9**	**LP-10**	**LP-10 Lab-Dup**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	**0.21**	0.10	0.19	0.17	0.02	ND	0.02	794488
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	794488
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	0.5	ND	ND	ND	0.5	794488
Cobalt (Co)	mg/kg	**15**	50	300	2	5	ND	ND	7	6	2	794488
Chromium (Cr)	mg/kg	**85**	250	800	7	18	5	7	23	23	2	794488
Copper (Cu)	mg/kg	**40**	100	500	26	11	**43**	**68**	15	13	2	794488
Nickel (Ni)	mg/kg	**50**	100	500	5	10	3	5	17	16	1	794488
Lead (Pb)	mg/kg	**50**	500	1000	46	**93**	19	**54**	**240**	**190**	5	794488
Zinc (Zn)	mg/kg	**110**	500	1500	**150**	26	**120**	97	24	23	10	794488

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B046067
Report Date: 2010/09/09

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55162	L55163	L55164	L55165	L55166	L55167		
Sampling Date					2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28		
	Units	**A**	**B**	**C**	**LP-11**	**LP-12**	**LP-13**	**LP-14**	**LP-15**	**LP-16**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	**0.24**	0.13	ND	0.15	**0.32**	ND	0.02	794488
Arsenic (As)	mg/kg	**6**	30	50	ND	6	ND	ND	ND	ND	5	794488
Cadmium (Cd)	mg/kg	**1.5**	5	20	0.8	0.7	ND	**1.7**	ND	ND	0.5	794488
Cobalt (Co)	mg/kg	**15**	50	300	ND	7	6	4	ND	5	2	794488
Chromium (Cr)	mg/kg	**85**	250	800	3	20	25	14	4	15	2	794488
Copper (Cu)	mg/kg	**40**	100	500	11	**94**	26	**56**	11	11	2	794488
Nickel (Ni)	mg/kg	**50**	100	500	2	14	17	10	2	8	1	794488
Lead (Pb)	mg/kg	**50**	500	1000	**83**	**61**	**120**	**220**	14	**490**	5	794488
Zinc (Zn)	mg/kg	**110**	500	1500	**120**	91	55	**310**	23	28	10	794488

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B046067
Report Date: 2010/09/09

AECOM

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55168	L55168	L55169	L55170	L55171		
Sampling Date					2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28		
	Units	**A**	**B**	**C**	**LP-17**	**LP-17 Lab-Dup**	**LP-18**	**LP-QA/QC**	**BCA-DEBRIS-1**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.07	0.02	794488
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	794488
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.8	0.5	794488
Cobalt (Co)	mg/kg	**15**	50	300	5	6	6	5	4	2	794488
Chromium (Cr)	mg/kg	**85**	250	800	16	18	19	19	4	2	794488
Copper (Cu)	mg/kg	**40**	100	500	11	15	21	12	140	2	794488
Nickel (Ni)	mg/kg	**50**	100	500	10	12	14	10	16	1	794488
Lead (Pb)	mg/kg	**50**	500	1000	9	8	21	**120**	26	5	794488
Zinc (Zn)	mg/kg	**110**	500	1500	27	33	25	32	ND	10	794488

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B046067
Report Date: 2010/09/09

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55172	L55173	L55174	L55175	L55176		
Sampling Date					2010/08/28	2010/08/28	2010/08/28	2010/08/28	2010/08/28		
	Units	**A**	**B**	**C**	**BCA-DEBRIS-2**	**BCA-DEBRIS-3**	**BCA-DEBRIS-4**	**BCA-BATT**	**ND-TOW-1**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.03	0.05	0.13	ND	ND	0.02	794488
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	6	**7**	5	794488
Cadmium (Cd)	mg/kg	**1.5**	5	20	0.9	ND	0.7	0.6	ND	0.5	794488
Cobalt (Co)	mg/kg	**15**	50	300	ND	ND	ND	5	4	2	794488
Chromium (Cr)	mg/kg	**85**	250	800	6	3	4	18	11	2	794488
Copper (Cu)	mg/kg	**40**	100	500	**69**	34	**47**	29	10	2	794488
Nickel (Ni)	mg/kg	**50**	100	500	12	6	8	12	8	1	794488
Lead (Pb)	mg/kg	**50**	500	1000	21	ND	27	5500	7	5	794488
Zinc (Zn)	mg/kg	**110**	500	1500	46	ND	27	62	77	10	794488

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B046067
Report Date: 2010/09/09

AECOM

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55177	L55178	L55179		L55180	L55181		
Sampling Date					2010/08/28	2010/08/28	2010/08/28		2010/08/28	2010/08/28		
	Units	**A**	**B**	**C**	**ND-TOW-2**	**ND-TOW-3**	**ND-TOW-4**	**QC Batch**	**ND-TOW-5**	**SD-TOW-1**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	794488	ND	ND	0.02	794552
Arsenic (As)	mg/kg	**6**	30	50	5	5	**7**	794488	6	ND	5	794552
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	794488	1.1	ND	0.5	794552
Cobalt (Co)	mg/kg	**15**	50	300	5	5	5	794488	5	5	2	794552
Chromium (Cr)	mg/kg	**85**	250	800	17	18	18	794488	39	11	2	794552
Copper (Cu)	mg/kg	**40**	100	500	11	11	9	794488	19	10	2	794552
Nickel (Ni)	mg/kg	**50**	100	500	10	11	10	794488	7	6	1	794552
Lead (Pb)	mg/kg	**50**	500	1000	18	9	12	794488	**160**	10	5	794552
Zinc (Zn)	mg/kg	**110**	500	1500	**420**	94	33	794488	1300	**190**	10	794552

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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AECOM

Maxxam Job #: B046067
Report Date: 2010/09/09

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55182	L55183	L55184		L55184		
Sampling Date					2010/08/28	2010/08/28	2010/08/28		2010/08/28		
	Units	**A**	**B**	**C**	**SD-TOW-2**	**SD-TOW-3**	**SD-TOW-4**	**QC Batch**	**SD-TOW-4 REPEAT**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.02	ND	0.15	794552	**0.25**	0.02	795686
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	**15**	794552	5	5	795686
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.7	**3.0**	794552	**4.0**	0.5	795686
Cobalt (Co)	mg/kg	**15**	50	300	6	4	**28**	794552	4	2	795686
Chromium (Cr)	mg/kg	**85**	250	800	13	18	**140**	794552	25	2	795686
Copper (Cu)	mg/kg	**40**	100	500	14	17	140	794552	**42**	2	795686
Nickel (Ni)	mg/kg	**50**	100	500	8	6	38	794552	11	1	795686
Lead (Pb)	mg/kg	**50**	500	1000	7	**63**	970	794552	**130**	5	795686
Zinc (Zn)	mg/kg	**110**	500	1500	**140**	5800	5700	794552	3100	10	795686

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B046067
Report Date: 2010/09/09

AECOM

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L55184	L55185	L55186		
Sampling Date					2010/08/28	2010/08/28	2010/08/28		
	Units	**A**	**B**	**C**	**SD-TOW-4 Lab-Dup**	**SD-TOW-5**	**SD-TOW-QA/QC**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	0.18	0.12	ND	0.02	794552
Arsenic (As)	mg/kg	**6**	30	50	**14**	**18**	ND	5	794552
Cadmium (Cd)	mg/kg	**1.5**	5	20	**3.2**	38	ND	0.5	794552
Cobalt (Co)	mg/kg	**15**	50	300	**30**	**21**	5	2	794552
Chromium (Cr)	mg/kg	**85**	250	800	**230 (1)**	**180**	12	2	794552
Copper (Cu)	mg/kg	**40**	100	500	150	240	10	2	794552
Nickel (Ni)	mg/kg	**50**	100	500	37	**85**	7	1	794552
Lead (Pb)	mg/kg	**50**	500	1000	1600 (1)	880	5	5	794552
Zinc (Zn)	mg/kg	**110**	500	1500	6200	6500	110	10	794552

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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AECOM

Maxxam Job #: B046067
Report Date: 2010/09/09

Project name: BEAR ISLAND
Your P.O. #: 60155434-1.2
Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.
Les écarts relatifs (RPD) pour certains paramètres de l'échantillon L55184 sont en dehors des limites tolérées , mais l'ensemble du contrôle qualité rencontre les critères d'acceptabilité pour cette analyse. Ceci est dû à l'hétérogénéité de l'échantillon. Les résultats de tous les duplicatas sont présentés dans le tableau ci-dessus.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #:
P.O. #: 60155434-1.2
Project name: BEAR ISLAND

Quality Assurance Report

Maxxam Job Number: B046067

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
794488	MCA	Spiked Blank	Mercury (Hg)	2010/09/04		97	%
			Arsenic (As)	2010/09/04		99	%
			Cadmium (Cd)	2010/09/04		93	%
			Cobalt (Co)	2010/09/04		109	%
			Chromium (Cr)	2010/09/04		106	%
			Copper (Cu)	2010/09/04		108	%
			Nickel (Ni)	2010/09/04		108	%
			Lead (Pb)	2010/09/04		100	%
			Zinc (Zn)	2010/09/04		105	%
		Method Blank	Mercury (Hg)	2010/09/04	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/04	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/04	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/04	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/04	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/04	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/04	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/04	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/04	ND, RDL=10		mg/kg
794552	MCL	Spiked Blank	Mercury (Hg)	2010/09/03		93	%
			Arsenic (As)	2010/09/03		101	%
			Cadmium (Cd)	2010/09/03		99	%
			Cobalt (Co)	2010/09/03		107	%
			Chromium (Cr)	2010/09/03		105	%
			Copper (Cu)	2010/09/03		103	%
			Nickel (Ni)	2010/09/03		105	%
			Lead (Pb)	2010/09/03		96	%
			Zinc (Zn)	2010/09/03		102	%
		Method Blank	Mercury (Hg)	2010/09/03	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/03	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/03	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/03	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/03	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/03	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/03	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/03	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/03	ND, RDL=10		mg/kg
795686	KK	Spiked Blank	Mercury (Hg)	2010/09/09		95	%
			Arsenic (As)	2010/09/09		92	%
			Cadmium (Cd)	2010/09/09		95	%
			Cobalt (Co)	2010/09/09		103	%
			Chromium (Cr)	2010/09/09		105	%
			Copper (Cu)	2010/09/09		100	%
			Nickel (Ni)	2010/09/09		101	%
			Lead (Pb)	2010/09/09		106	%
			Zinc (Zn)	2010/09/09		86	%
		Method Blank	Mercury (Hg)	2010/09/09	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/09	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/09	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/09	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/09	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/09	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/09	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/09	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/09	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit

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AECOM
Attention: MITCHELL BLISS
Client Project #:
P.O. #: 60155434-1.2
Project name: BEAR ISLAND

Quality Assurance Report (Continued)

Maxxam Job Number: B046067

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B047223
Received: 2010/09/08, 11:45

Sample Matrix: WOOD
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	1	2010/09/08	2010/09/08		
Toxicity Charact. Leach. Proc.(EPA 1311)	1	2010/09/09	2010/09/09	STL SOP-00024/5	MA.100-Lix. com.1.0

Sample Matrix: LEACHATE
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	1	2010/09/10	2010/09/11	STL SOP-00006/8	MA.200- Mét 1.1

Sample Matrix: OIL
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Anions ◊	2	N/A	N/A		
Disposal Charges	2	2010/09/09	2010/09/08		
Metals by ICP ◊	2	N/A	N/A		
PCB	2	2010/09/13	2010/09/13	STL SOP-00155/2	MA. 409-BPC 1.0

Sample Matrix: SOIL
Samples Received: 52

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Benzene, toluene, ethylbenzene,xylene	29	2010/09/09	2010/09/09	STL SOP-00145/11	MA. 400 - COV 1.1
Benzene, toluene, ethylbenzene,xylene	23	2010/09/09	2010/09/10	STL SOP-00145/11	MA. 400 - COV 1.1
Disposal Charges	52	2010/09/08	2010/09/08		
Petroleum Hydro. (F1) Low Level BTEX ◊	52	N/A	N/A		
Petroleum Hydrocarbons (F2-F4) ◊	52	N/A	N/A		
Mercury by ICP/MS	52	2010/09/10	2010/09/10	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	23	2010/09/10	2010/09/10	STL SOP-00006/8	MA.200- Mét 1.1

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/17

CERTIFICATE OF ANALYSIS

-2-

Sample Matrix: SOIL
Samples Received: 52

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	29	2010/09/10	2010/09/11	STL SOP-00006/8	MA.200- Mét 1.1
PCB	52	2010/09/10	2010/09/11	STL SOP-00160/5	MA. 403 - BPC 2.0

(1) This test was performed by Bodycote - Pte.Claire
(2) This test was performed by Maxxam - Mississauga

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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.

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (LEACHATE)

Maxxam ID		L59801		
Sampling Date		2010/09/03		
	Units	**BUILDING PANELS**	**RDL**	**QC Batch**
METALS				
Lead (Pb)	mg/L	29	0.01	796287

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (OIL)

Maxxam ID		L59973	L59980		
Sampling Date		2010/09/05	2010/09/05		
	Units	**BAR-06**	**BAR-07**	**RDL**	**QC Batch**
PCB					
Aroclor 1242	mg/kg	ND	ND	0.5	796810
Aroclor 1248	mg/kg	ND	ND	0.5	796810
Aroclor 1254	mg/kg	ND	ND	0.5	796810
Aroclor 1260	mg/kg	ND	ND	0.5	796810
Total PCB	mg/kg	ND	ND	0.5	796810
Surrogate Recovery (%)					
Decachlorobiphenyl	%	101	93	N/A	796810

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59659	L59659	L59694	L59695	L59696		
Sampling Date					2010/09/05	2010/09/05	2010/09/05	2010/09/05	2010/09/05		
	Units	**A**	**B**	**C**	**WPA-BASE-1**	**WPA-BASE-1 Lab-Dup**	**WPA-BASE-2**	**WPA-BASE-3**	**WPA-BASE-4**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	6.0	6.0	11	4.0	7.0	N/A	N/A
VOLATILES											
Benzene	mg/kg	**0.1**	0.5	5	ND	ND	ND	ND	ND	0.1	795671
Toluene	mg/kg	**0.2**	3	30	ND	ND	ND	ND	ND	0.2	795671
Ethylbenzene	mg/kg	**0.2**	5	50	ND	ND	ND	ND	ND	0.2	795671
Total_Xylenes	mg/kg	**0.2**	5	50	ND	ND	ND	ND	ND	0.2	795671
Surrogate Recovery (%)											
4-Bromofluorobenzene	%	-	-	-	98	99	101	99	103	N/A	795671
D10-Ethylbenzene	%	-	-	-	106	108	110	112	107	N/A	795671
D4-1,2-Dichloroethane	%	-	-	-	95	95	98	95	98	N/A	795671
D8-Toluene	%	-	-	-	94	94	94	93	93	N/A	795671

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59697	L59698		L59699		L59700		
Sampling Date					2010/09/06	2010/09/06		2010/09/06		2010/09/06		
	Units	**A**	**B**	**C**	**BCA-1**	**BCA-2**	**RDL**	**BCA-3**	**RDL**	**BCA-4**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	78	83	N/A	84	N/A	77	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	ND	0.2	ND	0.4	ND	0.2	795671
Toluene	mg/kg	**0.2**	3	30	ND	ND	0.4	ND	0.8	ND	0.4	795671
Ethylbenzene	mg/kg	**0.2**	5	50	ND	ND	0.4	ND	0.8	ND	0.4	795671
Total_Xylenes	mg/kg	**0.2**	5	50	ND	ND	0.4	ND	0.8	ND	0.4	795671
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	105	103	N/A	97	N/A	99	N/A	795671
D10-Ethylbenzene	%	-	-	-	62	67	N/A	67	N/A	103	N/A	795671
D4-1,2-Dichloroethane	%	-	-	-	100	102	N/A	101	N/A	92	N/A	795671
D8-Toluene	%	-	-	-	94	93	N/A	98	N/A	95	N/A	795671

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59701		L59702	L59703		L59705		
Sampling Date					2010/09/06		2010/09/06	2010/09/06		2010/09/06		
	Units	**A**	**B**	**C**	**BCA-5**	**RDL**	**BCA-6**	**BCA-7**	**RDL**	**BCA-8**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	80	N/A	7.7	28	N/A	74	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	0.2	ND	ND	0.1	ND	0.2	795671
Toluene	mg/kg	**0.2**	3	30	ND	0.4	ND	ND	0.2	ND	0.4	795671
Ethylbenzene	mg/kg	**0.2**	5	50	ND	0.4	ND	ND	0.2	ND	0.4	795671
Total_Xylenes	mg/kg	**0.2**	5	50	ND	0.4	ND	ND	0.2	ND	0.4	795671
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	101	N/A	102	99	N/A	100	N/A	795671
D10-Ethylbenzene	%	-	-	-	73	N/A	104	95	N/A	87	N/A	795671
D4-1,2-Dichloroethane	%	-	-	-	91	N/A	94	94	N/A	97	N/A	795671
D8-Toluene	%	-	-	-	97	N/A	96	94	N/A	96	N/A	795671

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)
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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59706		L59709		L59711		L59712		
Sampling Date					2010/09/06		2010/09/06		2010/09/06		2010/09/06		
	Units	**A**	**B**	**C**	**BCA-9**	**RDL**	**BCA-10**	**RDL**	**BCA-11**	**RDL**	**BCA-12**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	74	N/A	77	N/A	76	N/A	60	N/A	N/A
VOLATILES													
Benzene	mg/kg	**0.1**	0.5	5	ND	0.2	ND	0.4	ND	0.2	ND	0.1	795671
Toluene	mg/kg	**0.2**	3	30	ND	0.4	ND	0.8	ND	0.4	ND	0.2	795671
Ethylbenzene	mg/kg	**0.2**	5	50	ND	0.4	ND	0.8	ND	0.4	ND	0.2	795671
Total_Xylenes	mg/kg	**0.2**	5	50	ND	0.4	ND	0.8	ND	0.4	ND	0.2	795671
Surrogate Recovery (%)													
4-Bromofluorobenzene	%	-	-	-	99	N/A	99	N/A	104	N/A	98	N/A	795671
D10-Ethylbenzene	%	-	-	-	65	N/A	102	N/A	84	N/A	94	N/A	795671
D4-1,2-Dichloroethane	%	-	-	-	90	N/A	91	N/A	97	N/A	90	N/A	795671
D8-Toluene	%	-	-	-	96	N/A	95	N/A	94	N/A	94	N/A	795671

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)
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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59713		L59714		L59715	L59716		
Sampling Date					2010/09/06		2010/09/06		2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-13**	**RDL**	**BCA-14**	**RDL**	**BCA-15**	**BCA-16**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	74	N/A	35	N/A	72	70	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	0.2	ND	0.1	ND	ND	0.2	795671
Toluene	mg/kg	**0.2**	3	30	ND	0.4	ND	0.2	ND	ND	0.4	795671
Ethylbenzene	mg/kg	**0.2**	5	50	ND	0.4	ND	0.2	ND	ND	0.4	795671
Total_Xylenes	mg/kg	**0.2**	5	50	ND	0.4	ND	0.2	ND	ND	0.4	795671
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	98	N/A	97	N/A	99	102	N/A	795671
D10-Ethylbenzene	%	-	-	-	77	N/A	80	N/A	62	100	N/A	795671
D4-1,2-Dichloroethane	%	-	-	-	102	N/A	93	N/A	101	95	N/A	795671
D8-Toluene	%	-	-	-	96	N/A	95	N/A	99	95	N/A	795671

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59717		L59718	L59718		L59719		
Sampling Date					2010/09/06		2010/09/06	2010/09/06		2010/09/06		
	Units	**A**	**B**	**C**	**BCA-17**	**RDL**	**BCA-18**	**BCA-18 Lab-Dup**	**QC Batch**	**BCA-19**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	54	N/A	76	76	N/A	56	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	0.1	ND	ND	795671	ND	0.2	795673
Toluene	mg/kg	**0.2**	3	30	ND	0.2	ND	ND	795671	ND	0.4	795673
Ethylbenzene	mg/kg	**0.2**	5	50	ND	0.2	ND	ND	795671	ND	0.4	795673
Total_Xylenes	mg/kg	**0.2**	5	50	ND	0.2	ND	ND	795671	ND	0.4	795673
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	104	N/A	103	104	795671	99	N/A	795673
D10-Ethylbenzene	%	-	-	-	94	N/A	69	71	795671	120	N/A	795673
D4-1,2-Dichloroethane	%	-	-	-	95	N/A	94	93	795671	96	N/A	795673
D8-Toluene	%	-	-	-	95	N/A	95	95	795671	93	N/A	795673

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59719	L59720		L59721	L59722	L59723		
Sampling Date					2010/09/06	2010/09/06		2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-19 Lab-Dup**	**BCA-20**	**RDL**	**BCA-21**	**BCA-22**	**BCA-23**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	56	64	N/A	34	9.9	36	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	ND	0.2	ND	ND	ND	0.1	795673
Toluene	mg/kg	**0.2**	3	30	ND	ND	0.4	ND	ND	ND	0.2	795673
Ethylbenzene	mg/kg	**0.2**	5	50	ND	ND	0.4	ND	ND	ND	0.2	795673
Total_Xylenes	mg/kg	**0.2**	5	50	ND	ND	0.4	ND	ND	ND	0.2	795673
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	100	106	N/A	100	102	100	N/A	795673
D10-Ethylbenzene	%	-	-	-	103	119	N/A	82	114	119	N/A	795673
D4-1,2-Dichloroethane	%	-	-	-	104	104	N/A	106	98	100	N/A	795673
D8-Toluene	%	-	-	-	97	99	N/A	97	93	98	N/A	795673

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59724	L59725	L59726	L59727	L59728		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-24**	**BCA-25**	**BCA-26**	**BCA-27**	**BCA-28**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	20	2.6	7.9	4.4	6.7	N/A	N/A
VOLATILES											
Benzene	mg/kg	**0.1**	0.5	5	ND	ND	ND	ND	ND	0.1	795673
Toluene	mg/kg	**0.2**	3	30	ND	ND	ND	ND	ND	0.2	795673
Ethylbenzene	mg/kg	**0.2**	5	50	ND	ND	ND	ND	ND	0.2	795673
Total_Xylenes	mg/kg	**0.2**	5	50	ND	ND	ND	ND	ND	0.2	795673
Surrogate Recovery (%)											
4-Bromofluorobenzene	%	-	-	-	100	104	99	98	99	N/A	795673
D10-Ethylbenzene	%	-	-	-	114	109	112	100	112	N/A	795673
D4-1,2-Dichloroethane	%	-	-	-	95	98	98	99	95	N/A	795673
D8-Toluene	%	-	-	-	95	94	94	98	95	N/A	795673

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QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59729	L59730	L59731	L59732		L59733		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06		2010/09/06		
	Units	**A**	**B**	**C**	**BCA-29**	**BCA-30**	**BCA-31**	**BCA-32**	**RDL**	**BCA-33**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	11	8.8	7.0	4.9	N/A	82	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	ND	ND	ND	0.1	ND	0.4	795673
Toluene	mg/kg	**0.2**	3	30	ND	ND	ND	ND	0.2	ND	0.8	795673
Ethylbenzene	mg/kg	**0.2**	5	50	ND	ND	ND	ND	0.2	ND	0.8	795673
Total_Xylenes	mg/kg	**0.2**	5	50	ND	ND	ND	ND	0.2	ND	0.8	795673
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	104	99	99	98	N/A	100	N/A	795673
D10-Ethylbenzene	%	-	-	-	100	109	109	108	N/A	104	N/A	795673
D4-1,2-Dichloroethane	%	-	-	-	99	96	91	100	N/A	93	N/A	795673
D8-Toluene	%	-	-	-	99	93	95	94	N/A	94	N/A	795673

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QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59735		L59736	L59737		L59738		
Sampling Date					2010/09/06		2010/09/06	2010/09/06		2010/09/06		
	Units	**A**	**B**	**C**	**BCA-34**	**RDL**	**BCA-35**	**BCA-36**	**RDL**	**BCA-37**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	8.0	N/A	81	80	N/A	59	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	0.1	ND	ND	0.4	ND	0.1	795673
Toluene	mg/kg	**0.2**	3	30	ND	0.2	ND	ND	0.8	ND	0.2	795673
Ethylbenzene	mg/kg	**0.2**	5	50	ND	0.2	ND	ND	0.8	ND	0.2	795673
Total_Xylenes	mg/kg	**0.2**	5	50	ND	0.2	ND	ND	0.8	ND	0.2	795673
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	97	N/A	99	100	N/A	105	N/A	795673
D10-Ethylbenzene	%	-	-	-	109	N/A	101	106	N/A	116	N/A	795673
D4-1,2-Dichloroethane	%	-	-	-	98	N/A	95	96	N/A	100	N/A	795673
D8-Toluene	%	-	-	-	92	N/A	94	94	N/A	94	N/A	795673

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59739	L59739			L59740		
Sampling Date					2010/09/06	2010/09/06			2010/09/06		
	Units	**A**	**B**	**C**	**BCA-38**	**BCA-38 Lab-Dup**	**RDL**	**QC Batch**	**BCA-QA/QC-1**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	15	15	N/A	N/A	75	N/A	N/A
VOLATILES											
Benzene	mg/kg	**0.1**	0.5	5	ND	ND	0.1	795673	ND	0.2	795675
Toluene	mg/kg	**0.2**	3	30	ND	ND	0.2	795673	ND	0.4	795675
Ethylbenzene	mg/kg	**0.2**	5	50	ND	ND	0.2	795673	ND	0.4	795675
Total_Xylenes	mg/kg	**0.2**	5	50	ND	ND	0.2	795673	ND	0.4	795675
Surrogate Recovery (%)											
4-Bromofluorobenzene	%	-	-	-	100	100	N/A	795673	100	N/A	795675
D10-Ethylbenzene	%	-	-	-	120	113	N/A	795673	68	N/A	795675
D4-1,2-Dichloroethane	%	-	-	-	98	99	N/A	795673	101	N/A	795675
D8-Toluene	%	-	-	-	95	93	N/A	795673	99	N/A	795675

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QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59741		L59742		L59743	L59744		
Sampling Date					2010/09/06		2010/09/06		2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-QA/QC-2**	**RDL**	**BCA-QA/QC-3**	**RDL**	**BCA-8 @ 50 CM**	**BCA-14 @ 50 CM**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	32	N/A	82	N/A	3.4	2.9	N/A	N/A
VOLATILES												
Benzene	mg/kg	**0.1**	0.5	5	ND	0.1	ND	0.2	ND	ND	0.1	795675
Toluene	mg/kg	**0.2**	3	30	ND	0.2	ND	0.4	ND	ND	0.2	795675
Ethylbenzene	mg/kg	**0.2**	5	50	ND	0.2	ND	0.4	ND	ND	0.2	795675
Total_Xylenes	mg/kg	**0.2**	5	50	ND	0.2	ND	0.4	ND	ND	0.2	795675
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	-	-	-	100	N/A	103	N/A	99	98	N/A	795675
D10-Ethylbenzene	%	-	-	-	73	N/A	39	N/A	86	84	N/A	795675
D4-1,2-Dichloroethane	%	-	-	-	99	N/A	100	N/A	99	104	N/A	795675
D8-Toluene	%	-	-	-	99	N/A	98	N/A	98	96	N/A	795675

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QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59747		L59748	L59749	L59750		
Sampling Date					2010/09/06		2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-14 @ 1 M**	**QC Batch**	**BCA-19 @ 50 CM**	**BCA-19 @ 1 M**	**BCA-23 @ 50 CM**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	2.1	N/A	3.7	2.6	3.0	N/A	N/A
VOLATILES											
Benzene	mg/kg	**0.1**	0.5	5	ND	796100	ND	ND	ND	0.1	795675
Toluene	mg/kg	**0.2**	3	30	ND	796100	ND	ND	ND	0.2	795675
Ethylbenzene	mg/kg	**0.2**	5	50	ND	796100	ND	ND	ND	0.2	795675
Total_Xylenes	mg/kg	**0.2**	5	50	ND	796100	ND	ND	ND	0.2	795675
Surrogate Recovery (%)											
4-Bromofluorobenzene	%	-	-	-	97	796100	99	101	97	N/A	795675
D10-Ethylbenzene	%	-	-	-	100	796100	82	88	89	N/A	795675
D4-1,2-Dichloroethane	%	-	-	-	103	796100	99	99	98	N/A	795675
D8-Toluene	%	-	-	-	98	796100	98	97	98	N/A	795675

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

BTEX BY GC/MS (SOIL)

Maxxam ID					L59751		
Sampling Date					2010/09/06		
	Units	**A**	**B**	**C**	**BCA-26 @ 50 CM**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	2.8	N/A	N/A
VOLATILES							
Benzene	mg/kg	**0.1**	0.5	5	ND	0.1	795675
Toluene	mg/kg	**0.2**	3	30	ND	0.2	795675
Ethylbenzene	mg/kg	**0.2**	5	50	ND	0.2	795675
Total_Xylenes	mg/kg	**0.2**	5	50	ND	0.2	795675
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	-	-	-	107	N/A	795675
D10-Ethylbenzene	%	-	-	-	89	N/A	795675
D4-1,2-Dichloroethane	%	-	-	-	100	N/A	795675
D8-Toluene	%	-	-	-	102	N/A	795675

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59659	L59694	L59695		L59696	L59697		
Sampling Date					2010/09/05	2010/09/05	2010/09/05		2010/09/05	2010/09/06		
	Units	**A**	**B**	**C**	**WPA-BASE-1**	**WPA-BASE-2**	**WPA-BASE-3**	**QC Batch**	**WPA-BASE-4**	**BCA-1**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	6.0	11	4.0	N/A	7.0	78	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	796407	0.06	0.17	0.02	796402
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	6	796407	ND	6	5	796402
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	796407	0.5	1.0	0.5	796402
Cobalt (Co)	mg/kg	**15**	50	300	4	5	4	796407	3	3	2	796402
Chromium (Cr)	mg/kg	**85**	250	800	15	13	10	796407	15	12	2	796402
Copper (Cu)	mg/kg	**40**	100	500	10	11	7	796407	21	27	2	796402
Nickel (Ni)	mg/kg	**50**	100	500	7	6	3	796407	5	11	1	796402
Lead (Pb)	mg/kg	**50**	500	1000	**90**	7	ND	796407	30	33	5	796402
Zinc (Zn)	mg/kg	**110**	500	1500	37	25	15	796407	38	61	10	796402

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59698	L59699	L59700	L59701	L59702	L59703		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-2**	**BCA-3**	**BCA-4**	**BCA-5**	**BCA-6**	**BCA-7**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	83	84	77	80	7.7	28	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	0.09	0.10	0.16	0.12	0.02	0.03	0.02	796402
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	**7**	ND	6	5	796402
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.8	ND	ND	0.5	796402
Cobalt (Co)	mg/kg	**15**	50	300	2	ND	3	4	4	5	2	796402
Chromium (Cr)	mg/kg	**85**	250	800	4	3	8	16	12	16	2	796402
Copper (Cu)	mg/kg	**40**	100	500	26	29	14	**100**	27	33	2	796402
Nickel (Ni)	mg/kg	**50**	100	500	6	2	5	15	6	14	1	796402
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	13	**56**	ND	11	5	796402
Zinc (Zn)	mg/kg	**110**	500	1500	ND	16	41	**170**	16	16	10	796402

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59705	L59706	L59709	L59711	L59712	L59713		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-8**	**BCA-9**	**BCA-10**	**BCA-11**	**BCA-12**	**BCA-13**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	74	74	77	76	60	74	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	0.11	0.14	**0.21**	0.06	0.09	0.12	0.02	796402
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	**7**	ND	**25**	ND	5	796402
Cadmium (Cd)	mg/kg	**1.5**	5	20	0.5	0.9	ND	ND	ND	0.5	0.5	796402
Cobalt (Co)	mg/kg	**15**	50	300	ND	ND	8	ND	**24**	5	2	796402
Chromium (Cr)	mg/kg	**85**	250	800	8	2	11	6	**120**	15	2	796402
Copper (Cu)	mg/kg	**40**	100	500	9	8	37	19	150	17	2	796402
Nickel (Ni)	mg/kg	**50**	100	500	5	2	29	4	**82**	16	1	796402
Lead (Pb)	mg/kg	**50**	500	1000	9	9	18	ND	620	45	5	796402
Zinc (Zn)	mg/kg	**110**	500	1500	23	27	27	10	**200**	**270**	10	796402

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59714	L59715	L59716	L59717	L59718	L59719		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-14**	**BCA-15**	**BCA-16**	**BCA-17**	**BCA-18**	**BCA-19**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	35	72	70	54	76	56	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	0.07	0.15	0.03	0.16	0.19	0.16	0.02	796402
Arsenic (As)	mg/kg	**6**	30	50	**8**	**10**	ND	**26**	ND	41	5	796402
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.9	ND	0.8	ND	**2.9**	0.5	796402
Cobalt (Co)	mg/kg	**15**	50	300	12	7	4	15	5	**29**	2	796402
Chromium (Cr)	mg/kg	**85**	250	800	34	21	12	31	13	66	2	796402
Copper (Cu)	mg/kg	**40**	100	500	**100**	**57**	12	120	11	140	2	796402
Nickel (Ni)	mg/kg	**50**	100	500	**62**	28	7	49	14	**70**	1	796402
Lead (Pb)	mg/kg	**50**	500	1000	40	**65**	ND	33	**140**	**280**	5	796402
Zinc (Zn)	mg/kg	**110**	500	1500	36	**230**	27	48	41	**360**	10	796402

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59720	L59721	L59722	L59723	L59724	L59724		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-20**	**BCA-21**	**BCA-22**	**BCA-23**	**BCA-24**	**BCA-24 Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	64	34	9.9	36	20	20	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	0.19	6.3	ND	0.07	0.04	0.03	0.02	796402
Arsenic (As)	mg/kg	**6**	30	50	5	**15**	ND	ND	ND	ND	5	796402
Cadmium (Cd)	mg/kg	**1.5**	5	20	1.0	ND	ND	ND	ND	ND	0.5	796402
Cobalt (Co)	mg/kg	**15**	50	300	6	**21**	4	4	4	4	2	796402
Chromium (Cr)	mg/kg	**85**	250	800	27	58	13	14	14	14	2	796402
Copper (Cu)	mg/kg	**40**	100	500	17	170	7	7	7	8	2	796402
Nickel (Ni)	mg/kg	**50**	100	500	11	**79**	6	7	7	7	1	796402
Lead (Pb)	mg/kg	**50**	500	1000	**150**	**130**	6	35	8	7	5	796402
Zinc (Zn)	mg/kg	**110**	500	1500	**220**	**480**	15	42	21	20	10	796402

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QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59725	L59726	L59726	L59727	L59727		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-25**	**BCA-26**	**BCA-26 Lab-Dup**	**BCA-27**	**BCA-27 Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	2.6	7.9	7.9	4.4	4.4	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	796402
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	796402
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	796402
Cobalt (Co)	mg/kg	**15**	50	300	5	3	3	4	3	2	796402
Chromium (Cr)	mg/kg	**85**	250	800	14	11	10	11	11	2	796402
Copper (Cu)	mg/kg	**40**	100	500	12	4	4	6	5	2	796402
Nickel (Ni)	mg/kg	**50**	100	500	8	4	3	4	3	1	796402
Lead (Pb)	mg/kg	**50**	500	1000	7	ND	ND	ND	ND	5	796402
Zinc (Zn)	mg/kg	**110**	500	1500	19	ND	ND	12	10	10	796402

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N/A = Not Applicable
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QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59728	L59729	L59730	L59731	L59732	L59733		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-28**	**BCA-29**	**BCA-30**	**BCA-31**	**BCA-32**	**BCA-33**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	6.7	11	8.8	7.0	4.9	82	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.09	0.02	796407
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	796407
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	796407
Cobalt (Co)	mg/kg	**15**	50	300	3	4	4	4	3	ND	2	796407
Chromium (Cr)	mg/kg	**85**	250	800	12	12	12	12	11	3	2	796407
Copper (Cu)	mg/kg	**40**	100	500	6	9	8	9	6	20	2	796407
Nickel (Ni)	mg/kg	**50**	100	500	4	6	4	5	4	2	1	796407
Lead (Pb)	mg/kg	**50**	500	1000	5	5	ND	10	6	ND	5	796407
Zinc (Zn)	mg/kg	**110**	500	1500	17	14	15	21	11	ND	10	796407

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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59735	L59736	L59737	L59738	L59739	L59739		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-34**	**BCA-35**	**BCA-36**	**BCA-37**	**BCA-38**	**BCA-38 Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	8.0	81	80	59	15	15	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.10	0.10	0.03	ND	ND	0.02	796407
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	796407
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	796407
Cobalt (Co)	mg/kg	**15**	50	300	4	ND	ND	4	4	4	2	796407
Chromium (Cr)	mg/kg	**85**	250	800	18	2	3	15	15	12	2	796407
Copper (Cu)	mg/kg	**40**	100	500	9	13	30	**49**	6	7	2	796407
Nickel (Ni)	mg/kg	**50**	100	500	9	ND	5	16	6	5	1	796407
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	10	15	ND	ND	5	796407
Zinc (Zn)	mg/kg	**110**	500	1500	19	15	18	28	21	15	10	796407

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59740	L59741	L59742	L59743	L59744		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-QA/QC-1**	**BCA-QA/QC-2**	**BCA-QA/QC-3**	**BCA-8 @ 50 CM**	**BCA-14 @ 50 CM**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	75	32	82	3.4	2.9	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.06	2.8	0.10	ND	ND	0.02	796407
Arsenic (As)	mg/kg	**6**	30	50	ND	**13**	ND	ND	ND	5	796407
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	796407
Cobalt (Co)	mg/kg	**15**	50	300	ND	**20**	ND	3	4	2	796407
Chromium (Cr)	mg/kg	**85**	250	800	5	54	5	11	11	2	796407
Copper (Cu)	mg/kg	**40**	100	500	21	130	25	6	8	2	796407
Nickel (Ni)	mg/kg	**50**	100	500	4	**71**	3	4	4	1	796407
Lead (Pb)	mg/kg	**50**	500	1000	ND	**150**	ND	ND	ND	5	796407
Zinc (Zn)	mg/kg	**110**	500	1500	11	**390**	ND	10	12	10	796407

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59747	L59748	L59748	L59749	L59750	L59751		
Sampling Date					2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**A**	**B**	**C**	**BCA-14 @ 1 M**	**BCA-19 @ 50 CM**	**BCA-19 @ 50 CM Lab-Dup**	**BCA-19 @ 1 M**	**BCA-23 @ 50 CM**	**BCA-26 @ 50 CM**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	2.1	3.7	3.7	2.6	3.0	2.8	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.03	ND	ND	ND	ND	0.02	796407
Arsenic (As)	mg/kg	**6**	30	50	6	**7**	6	ND	ND	ND	5	796407
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	796407
Cobalt (Co)	mg/kg	**15**	50	300	3	5	4	4	4	3	2	796407
Chromium (Cr)	mg/kg	**85**	250	800	10	12	12	13	15	11	2	796407
Copper (Cu)	mg/kg	**40**	100	500	12	9	9	9	8	7	2	796407
Nickel (Ni)	mg/kg	**50**	100	500	4	5	4	6	7	4	1	796407
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	ND	5	796407
Zinc (Zn)	mg/kg	**110**	500	1500	15	17	17	13	15	12	10	796407

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L59751		
Sampling Date					2010/09/06		
	Units	**A**	**B**	**C**	**BCA-26 @ 50 CM Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	2.8	N/A	N/A
METALS							
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.02	796407
Arsenic (As)	mg/kg	**6**	30	50	ND	5	796407
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.5	796407
Cobalt (Co)	mg/kg	**15**	50	300	4	2	796407
Chromium (Cr)	mg/kg	**85**	250	800	13	2	796407
Copper (Cu)	mg/kg	**40**	100	500	10	2	796407
Nickel (Ni)	mg/kg	**50**	100	500	5	1	796407
Lead (Pb)	mg/kg	**50**	500	1000	ND	5	796407
Zinc (Zn)	mg/kg	**110**	500	1500	14	10	796407

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N/A = Not Applicable
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QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L59659	L59694	L59695	L59696		L59697		
Sampling Date		2010/09/05	2010/09/05	2010/09/05	2010/09/05		2010/09/06		
	Units	**WPA-BASE-1**	**WPA-BASE-2**	**WPA-BASE-3**	**WPA-BASE-4**	**QC Batch**	**BCA-1**	**RDL**	**QC Batch**
% Moisture	%	6.0	11	4.0	7.0	N/A	78	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	796553	ND	0.10	796680
Aroclor 1248	mg/kg	ND	ND	ND	ND	796553	ND	0.10	796680
Aroclor 1254	mg/kg	ND	ND	ND	ND	796553	ND	0.10	796680
Aroclor 1260	mg/kg	ND	ND	ND	ND	796553	ND	0.10	796680
Total PCB	mg/kg	ND	ND	ND	ND	796553	ND	0.10	796680
Surrogate Recovery (%)									
Decachlorobiphenyl	%	105	100	116	117	796553	113	N/A	796680

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L59698	L59699	L59700	L59701		L59702		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		2010/09/06		
	Units	**BCA-2**	**BCA-3**	**BCA-4**	**BCA-5**	**QC Batch**	**BCA-6**	**RDL**	**QC Batch**
% Moisture	%	83	84	77	80	N/A	7.7	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	796680	ND	0.10	796553
Aroclor 1248	mg/kg	ND	ND	ND	ND	796680	ND	0.10	796553
Aroclor 1254	mg/kg	ND	ND	ND	ND	796680	ND	0.10	796553
Aroclor 1260	mg/kg	ND	ND	ND	ND	796680	ND	0.10	796553
Total PCB	mg/kg	ND	ND	ND	ND	796680	ND	0.10	796553
Surrogate Recovery (%)									
Decachlorobiphenyl	%	110	100	88	110	796680	113	N/A	796553

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L59703		L59705	L59706	L59709	L59711		
Sampling Date		2010/09/06		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**BCA-7**	**QC Batch**	**BCA-8**	**BCA-9**	**BCA-10**	**BCA-11**	**RDL**	**QC Batch**
% Moisture	%	28	N/A	74	74	77	76	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	796588	ND	ND	ND	ND	0.10	796680
Aroclor 1248	mg/kg	ND	796588	ND	ND	ND	ND	0.10	796680
Aroclor 1254	mg/kg	ND	796588	ND	ND	ND	ND	0.10	796680
Aroclor 1260	mg/kg	ND	796588	ND	ND	ND	ND	0.10	796680
Total PCB	mg/kg	ND	796588	ND	ND	ND	ND	0.10	796680
Surrogate Recovery (%)									
Decachlorobiphenyl	%	114	796588	96	96	99	112	N/A	796680

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L59712	L59712	L59713		L59714		
Sampling Date		2010/09/06	2010/09/06	2010/09/06		2010/09/06		
	Units	**BCA-12**	**BCA-12 Lab-Dup**	**BCA-13**	**QC Batch**	**BCA-14**	**RDL**	**QC Batch**
% Moisture	%	60	60	74	N/A	35	N/A	N/A
PCB								
Aroclor 1242	mg/kg	ND	ND	ND	796680	ND	0.10	796588
Aroclor 1248	mg/kg	ND	ND	ND	796680	ND	0.10	796588
Aroclor 1254	mg/kg	ND	ND	ND	796680	ND	0.10	796588
Aroclor 1260	mg/kg	ND	ND	ND	796680	ND	0.10	796588
Total PCB	mg/kg	ND	ND	ND	796680	ND	0.10	796588
Surrogate Recovery (%)								
Decachlorobiphenyl	%	102	99	112	796680	113	N/A	796588

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L59715	L59716		L59717		L59718		
Sampling Date		2010/09/06	2010/09/06		2010/09/06		2010/09/06		
	Units	**BCA-15**	**BCA-16**	**QC Batch**	**BCA-17**	**QC Batch**	**BCA-18**	**RDL**	**QC Batch**
% Moisture	%	72	70	N/A	54	N/A	76	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	796680	ND	796588	ND	0.10	796680
Aroclor 1248	mg/kg	ND	ND	796680	ND	796588	ND	0.10	796680
Aroclor 1254	mg/kg	ND	ND	796680	ND	796588	ND	0.10	796680
Aroclor 1260	mg/kg	ND	ND	796680	ND	796588	ND	0.10	796680
Total PCB	mg/kg	ND	ND	796680	ND	796588	ND	0.10	796680
Surrogate Recovery (%)									
Decachlorobiphenyl	%	94	92	796680	111	796588	109	N/A	796680

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L59719		L59720		L59721	L59722		
Sampling Date		2010/09/06		2010/09/06		2010/09/06	2010/09/06		
	Units	**BCA-19**	**QC Batch**	**BCA-20**	**QC Batch**	**BCA-21**	**BCA-22**	**RDL**	**QC Batch**
% Moisture	%	56	N/A	64	N/A	34	9.9	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	796588	ND	796680	ND	ND	0.10	796553
Aroclor 1248	mg/kg	ND	796588	ND	796680	ND	ND	0.10	796553
Aroclor 1254	mg/kg	ND	796588	ND	796680	ND	ND	0.10	796553
Aroclor 1260	mg/kg	ND	796588	ND	796680	ND	ND	0.10	796553
Total PCB	mg/kg	ND	796588	ND	796680	ND	ND	0.10	796553
Surrogate Recovery (%)									
Decachlorobiphenyl	%	115	796588	103	796680	117	113	N/A	796553

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L59723		L59724		L59725	L59726		
Sampling Date		2010/09/06		2010/09/06		2010/09/06	2010/09/06		
	Units	**BCA-23**	**QC Batch**	**BCA-24**	**QC Batch**	**BCA-25**	**BCA-26**	**RDL**	**QC Batch**
% Moisture	%	36	N/A	20	N/A	2.6	7.9	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	796553	ND	796588	ND	ND	0.10	796553
Aroclor 1248	mg/kg	ND	796553	ND	796588	ND	ND	0.10	796553
Aroclor 1254	mg/kg	ND	796553	ND	796588	ND	ND	0.10	796553
Aroclor 1260	mg/kg	ND	796553	ND	796588	ND	ND	0.10	796553
Total PCB	mg/kg	ND	796553	ND	796588	ND	ND	0.10	796553
Surrogate Recovery (%)									
Decachlorobiphenyl	%	115	796553	104	796588	104	115	N/A	796553

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L59727	L59727	L59728	L59729	L59730	L59731		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**BCA-27**	**BCA-27 Lab-Dup**	**BCA-28**	**BCA-29**	**BCA-30**	**BCA-31**	**RDL**	**QC Batch**
% Moisture	%	4.4	4.4	6.7	11	8.8	7.0	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Surrogate Recovery (%)									
Decachlorobiphenyl	%	116	111	113	113	113	116	N/A	796553

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L59732		L59733		L59735		L59736		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		2010/09/06		
	Units	**BCA-32**	**QC Batch**	**BCA-33**	**QC Batch**	**BCA-34**	**QC Batch**	**BCA-35**	**RDL**	**QC Batch**
% Moisture	%	4.9	N/A	82	N/A	8.0	N/A	81	N/A	N/A
PCB										
Aroclor 1242	mg/kg	ND	796553	ND	796680	ND	796553	ND	0.10	796680
Aroclor 1248	mg/kg	ND	796553	ND	796680	ND	796553	ND	0.10	796680
Aroclor 1254	mg/kg	ND	796553	ND	796680	ND	796553	ND	0.10	796680
Aroclor 1260	mg/kg	ND	796553	ND	796680	ND	796553	ND	0.10	796680
Total PCB	mg/kg	ND	796553	ND	796680	ND	796553	ND	0.10	796680
Surrogate Recovery (%)										
Decachlorobiphenyl	%	113	796553	96	796680	104	796553	97	N/A	796680

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L59737	L59738		L59739		L59740		
Sampling Date		2010/09/06	2010/09/06		2010/09/06		2010/09/06		
	Units	**BCA-36**	**BCA-37**	**QC Batch**	**BCA-38**	**QC Batch**	**BCA-QA/QC-1**	**RDL**	**QC Batch**
% Moisture	%	80	59	N/A	15	N/A	75	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	796680	ND	796553	ND	0.10	796680
Aroclor 1248	mg/kg	ND	ND	796680	ND	796553	ND	0.10	796680
Aroclor 1254	mg/kg	ND	ND	796680	ND	796553	ND	0.10	796680
Aroclor 1260	mg/kg	ND	ND	796680	ND	796553	ND	0.10	796680
Total PCB	mg/kg	ND	ND	796680	ND	796553	ND	0.10	796680
Surrogate Recovery (%)									
Decachlorobiphenyl	%	97	104	796680	106	796553	97	N/A	796680

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L59741		L59742		L59743	L59743		
Sampling Date		2010/09/06		2010/09/06		2010/09/06	2010/09/06		
	Units	**BCA-QA/QC-2**	**QC Batch**	**BCA-QA/QC-3**	**QC Batch**	**BCA-8 @ 50 CM**	**BCA-8 @ 50 CM Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	32	N/A	82	N/A	3.4	3.4	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	796553	ND	796680	ND	ND	0.10	796553
Aroclor 1248	mg/kg	ND	796553	ND	796680	ND	ND	0.10	796553
Aroclor 1254	mg/kg	ND	796553	ND	796680	ND	ND	0.10	796553
Aroclor 1260	mg/kg	ND	796553	ND	796680	ND	ND	0.10	796553
Total PCB	mg/kg	ND	796553	ND	796680	ND	ND	0.10	796553
Surrogate Recovery (%)									
Decachlorobiphenyl	%	117	796553	122	796680	101	103	N/A	796553

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L59744	L59747	L59747	L59748	L59749	L59750		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06	2010/09/06		
	Units	**BCA-14 @ 50 CM**	**BCA-14 @ 1 M**	**BCA-14 @ 1 M Lab-Dup**	**BCA-19 @ 50 CM**	**BCA-19 @ 1 M**	**BCA-23 @ 50 CM**	**RDL**	**QC Batch**
% Moisture	%	2.9	2.1	2.1	3.7	2.6	3.0	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	796553
Surrogate Recovery (%)									
Decachlorobiphenyl	%	109	103	107	115	112	100	N/A	796553

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L59751		
Sampling Date		2010/09/06		
	Units	**BCA-26 @ 50 CM**	**RDL**	**QC Batch**
% Moisture	%	2.8	N/A	N/A
PCB				
Aroclor 1242	mg/kg	ND	0.10	796553
Aroclor 1248	mg/kg	ND	0.10	796553
Aroclor 1254	mg/kg	ND	0.10	796553
Aroclor 1260	mg/kg	ND	0.10	796553
Total PCB	mg/kg	ND	0.10	796553
Surrogate Recovery (%)				
Decachlorobiphenyl	%	102	N/A	796553

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047223
Report Date: 2010/09/17

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD except for the following:
Benzene, toluene, ethylbenzene,xylene: Sample container contained head space.: L59747

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

METALS (LEACHATE)

Please note that the results have not been corrected for QC recoveries nor for the leachate blank results.

PCB (OIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

BTEX BY GC/MS (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

Please note that the samples were analyzed by Headspace GC/MS. Primary reference method EPA 5021A .

A surface extraction was done for the analysis of sample L59747.

Please note that we deviated from our SOP for the extraction of sample L59747 .

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

PCB (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B047223

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
795671 AK3	Spiked Blank	4-Bromofluorobenzene	2010/09/09		102	%
		D10-Ethylbenzene	2010/09/09		105	%
		D4-1,2-Dichloroethane	2010/09/09		96	%
		D8-Toluene	2010/09/09		95	%
		Benzene	2010/09/09		90	%
		Toluene	2010/09/09		90	%
		Ethylbenzene	2010/09/09		97	%
		Total_Xylenes	2010/09/09		99	%
	Method Blank	4-Bromofluorobenzene	2010/09/09		102	%
		D10-Ethylbenzene	2010/09/09		106	%
		D4-1,2-Dichloroethane	2010/09/09		100	%
		D8-Toluene	2010/09/09		94	%
		Benzene	2010/09/09	ND, RDL=0.1		mg/kg
		Toluene	2010/09/09	ND, RDL=0.2		mg/kg
		Ethylbenzene	2010/09/09	ND, RDL=0.2		mg/kg
		Total_Xylenes	2010/09/09	ND, RDL=0.2		mg/kg
795673 SCW	Spiked Blank	4-Bromofluorobenzene	2010/09/09		100	%
		D10-Ethylbenzene	2010/09/09		105	%
		D4-1,2-Dichloroethane	2010/09/09		99	%
		D8-Toluene	2010/09/09		93	%
		Benzene	2010/09/09		87	%
		Toluene	2010/09/09		88	%
		Ethylbenzene	2010/09/09		94	%
		Total_Xylenes	2010/09/09		99	%
	Method Blank	4-Bromofluorobenzene	2010/09/09		97	%
		D10-Ethylbenzene	2010/09/09		106	%
		D4-1,2-Dichloroethane	2010/09/09		100	%
		D8-Toluene	2010/09/09		94	%
		Benzene	2010/09/09	ND, RDL=0.1		mg/kg
		Toluene	2010/09/09	ND, RDL=0.2		mg/kg
		Ethylbenzene	2010/09/09	ND, RDL=0.2		mg/kg
		Total_Xylenes	2010/09/09	ND, RDL=0.2		mg/kg
795675 SCW	Spiked Blank	4-Bromofluorobenzene	2010/09/09		99	%
		D10-Ethylbenzene	2010/09/09		86	%
		D4-1,2-Dichloroethane	2010/09/09		98	%
		D8-Toluene	2010/09/09		98	%
		Benzene	2010/09/09		83	%
		Toluene	2010/09/09		85	%
		Ethylbenzene	2010/09/09		93	%
		Total_Xylenes	2010/09/09		93	%
	Method Blank	4-Bromofluorobenzene	2010/09/09		98	%
		D10-Ethylbenzene	2010/09/09		86	%
		D4-1,2-Dichloroethane	2010/09/09		100	%
		D8-Toluene	2010/09/09		98	%
		Benzene	2010/09/09	ND, RDL=0.1		mg/kg
		Toluene	2010/09/09	ND, RDL=0.2		mg/kg
		Ethylbenzene	2010/09/09	ND, RDL=0.2		mg/kg
		Total_Xylenes	2010/09/09	ND, RDL=0.2		mg/kg
796100 TE	Spiked Blank	4-Bromofluorobenzene	2010/09/10		99	%
		D10-Ethylbenzene	2010/09/10		100	%
		D4-1,2-Dichloroethane	2010/09/10		103	%
		D8-Toluene	2010/09/10		99	%
		Benzene	2010/09/10		98	%
		Toluene	2010/09/10		102	%
		Ethylbenzene	2010/09/10		111	%

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: B047223

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
796100	TE	Spiked Blank	Total_Xylenes	2010/09/10		111	%
		Method Blank	4-Bromofluorobenzene	2010/09/10		97	%
			D10-Ethylbenzene	2010/09/10		98	%
			D4-1,2-Dichloroethane	2010/09/10		103	%
			D8-Toluene	2010/09/10		98	%
			Benzene	2010/09/10	ND, RDL=0.1		mg/kg
			Toluene	2010/09/10	ND, RDL=0.2		mg/kg
			Ethylbenzene	2010/09/10	ND, RDL=0.2		mg/kg
			Total_Xylenes	2010/09/10	ND, RDL=0.2		mg/kg
796287	SC5	LEACH. BLANK	Lead (Pb)	2010/09/11	ND, RDL=0.01		mg/L
		Spiked Blank	Lead (Pb)	2010/09/11		91	%
		Method Blank	Lead (Pb)	2010/09/11	ND, RDL=0.01		mg/L
796402	MCA	Spiked Blank	Mercury (Hg)	2010/09/11		100	%
			Arsenic (As)	2010/09/11		103	%
			Cadmium (Cd)	2010/09/11		102	%
			Cobalt (Co)	2010/09/11		96	%
			Chromium (Cr)	2010/09/11		98	%
			Copper (Cu)	2010/09/11		98	%
			Nickel (Ni)	2010/09/11		96	%
			Lead (Pb)	2010/09/11		99	%
			Zinc (Zn)	2010/09/11		100	%
		Method Blank	Mercury (Hg)	2010/09/11	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/11	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/11	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/11	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/11	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/11	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/11	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/11	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/11	ND, RDL=10		mg/kg
796407	MCA	Spiked Blank	Mercury (Hg)	2010/09/10		100	%
			Arsenic (As)	2010/09/10		101	%
			Cadmium (Cd)	2010/09/10		102	%
			Cobalt (Co)	2010/09/10		97	%
			Chromium (Cr)	2010/09/10		98	%
			Copper (Cu)	2010/09/10		98	%
			Nickel (Ni)	2010/09/10		97	%
			Lead (Pb)	2010/09/10		100	%
			Zinc (Zn)	2010/09/10		98	%
		Method Blank	Mercury (Hg)	2010/09/10	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/10	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/10	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/10	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/10	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/10	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/10	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/10	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/10	ND, RDL=10		mg/kg
796553	RK2	Spiked Blank	Decachlorobiphenyl	2010/09/11		110	%
			Aroclor 1242	2010/09/11		101	%
			Aroclor 1260	2010/09/11		103	%
		Method Blank	Decachlorobiphenyl	2010/09/11		113	%
			Aroclor 1242	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/11	ND, RDL=0.10		mg/kg

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)
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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: B047223

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
796553	RK2	Method Blank	Aroclor 1260	2010/09/11	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/11	ND, RDL=0.10		mg/kg
796588	RK2	Spiked Blank	Decachlorobiphenyl	2010/09/11		103	%
			Aroclor 1242	2010/09/11		99	%
			Aroclor 1260	2010/09/11		105	%
		Method Blank	Decachlorobiphenyl	2010/09/11		115	%
			Aroclor 1242	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/11	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/11	ND, RDL=0.10		mg/kg
796680	RK2	Spiked Blank	Decachlorobiphenyl	2010/09/11		98	%
		Spiked Blank DUP	Decachlorobiphenyl	2010/09/11		110	%
		Spiked Blank	Aroclor 1242	2010/09/11		99	%
		Spiked Blank DUP	Aroclor 1242	2010/09/11		93	%
		Spiked Blank	Aroclor 1260	2010/09/11		105	%
		Spiked Blank DUP	Aroclor 1260	2010/09/11		104	%
		Method Blank	Decachlorobiphenyl	2010/09/11		113	%
			Aroclor 1242	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/11	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/11	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/11	ND, RDL=0.10		mg/kg
796810	TN	Spiked Blank	Decachlorobiphenyl	2010/09/13		102	%
			Aroclor 1242	2010/09/13		95	%
			Aroclor 1260	2010/09/13		99	%
		Method Blank	Decachlorobiphenyl	2010/09/13		102	%
			Aroclor 1242	2010/09/13	ND, RDL=0.5		mg/kg
			Aroclor 1248	2010/09/13	ND, RDL=0.5		mg/kg
			Aroclor 1254	2010/09/13	ND, RDL=0.5		mg/kg
			Aroclor 1260	2010/09/13	ND, RDL=0.5		mg/kg
			Total PCB	2010/09/13	ND, RDL=0.5		mg/kg

RDL = Reportable Detection Limit
Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Your Project #: B047223
Your C.O.C. #: N/A

Attention: Melanie Leclerc
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/09/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0C5190
Received: 2010/09/10, 09:13

Sample Matrix: Soil
Samples Received: 52

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	47	2010/09/11	2010/09/14	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	5	2010/09/11	2010/09/15	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	20	2010/09/13	2010/09/13	CAM SOP-00316	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	12	2010/09/13	2010/09/14	CAM SOP-00316	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	20	2010/09/13	2010/09/15	CAM SOP-00316	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	6	2010/09/15	2010/09/16	CAM SOP-00316	CCME CWS
Moisture	52	N/A	2010/09/13	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	24	2010/09/11	2010/09/13	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	12	2010/09/11	2010/09/14	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	16	2010/09/11	2010/09/15	CAM SOP-00226	EPA 8260 modified

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

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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 #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6739	HC6739	HC6740		
Sampling Date		2010/09/05	2010/09/05	2010/09/05		
COC Number		N/A	N/A	N/A		
	Units	**L59659-02R\WPA-BASE-1**	**L59659-02R\WPA-BASE-1 Lab-Dup**	**L59694-02R\WPA-BASE-2**	**RDL**	**QC Batch**
Moisture	%	6	N/A	10	1	2263352
F1 (C6-C10)	ug/g	ND	ND	ND	10	2263435
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2263435
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2263735
F3 (C16-C34 Hydrocarbons)	ug/g	35	41	36	10	2263735
F4 (C34-C50 Hydrocarbons)	ug/g	31	37	25	10	2263735
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2263735
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	105	87	100	N/A	2263435
4-Bromofluorobenzene	%	98	106	100	N/A	2263435
D10-Ethylbenzene	%	102	93	103	N/A	2263435
D4-1,2-Dichloroethane	%	97	125	101	N/A	2263435
o-Terphenyl	%	92	92	92	N/A	2263735

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6741	HC6742		HC6743		
Sampling Date		2010/09/05	2010/09/05		2010/09/06		
COC Number		N/A	N/A		N/A		
	Units	**L59695-02R\WPA-BASE-3**	**L59696-02R\WPA-BASE-4**	**RDL**	**L59697-02R\BCA-1**	**RDL**	**QC Batch**
Moisture	%	4	8	1	75	1	2263352
F1 (C6-C10)	ug/g	ND	ND	10	ND	40	2263435
F1 (C6-C10) - BTEX	ug/g	ND	ND	10	ND	40	2263435
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	10	ND	40	2263735
F3 (C16-C34 Hydrocarbons)	ug/g	13	100	10	160	40	2263735
F4 (C34-C50 Hydrocarbons)	ug/g	ND	63	10	82	40	2263735
Reached Baseline at C50	ug/g	Yes	Yes	N/A	Yes	N/A	2263735
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	105	104	N/A	101	N/A	2263435
4-Bromofluorobenzene	%	96	98	N/A	100	N/A	2263435
D10-Ethylbenzene	%	104	102	N/A	98	N/A	2263435
D4-1,2-Dichloroethane	%	103	99	N/A	55 (1)	N/A	2263435
o-Terphenyl	%	94	100	N/A	95	N/A	2263735

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6744		HC6745		HC6746		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59698-02R\BCA-2**	**RDL**	**L59699-02R\BCA-3**	**RDL**	**L59700-02R\BCA-4**	**RDL**	**QC Batch**
Moisture	%	85	1	78	1	76	1	2263352
F1 (C6-C10)	ug/g	ND	70	ND	50	ND	40	2263435
F1 (C6-C10) - BTEX	ug/g	ND	70	ND	50	ND	40	2263435
F2 (C10-C16 Hydrocarbons)	ug/g	ND	70	ND	40	ND	40	2263735
F3 (C16-C34 Hydrocarbons)	ug/g	110	70	76	40	260	40	2263735
F4 (C34-C50 Hydrocarbons)	ug/g	ND	70	ND	40	110	40	2263735
Reached Baseline at C50	ug/g	Yes	N/A	Yes	N/A	Yes	N/A	2263735
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	106	N/A	104	N/A	104	N/A	2263435
4-Bromofluorobenzene	%	98	N/A	98	N/A	96	N/A	2263435
D10-Ethylbenzene	%	108	N/A	105	N/A	108	N/A	2263435
D4-1,2-Dichloroethane	%	95	N/A	96	N/A	95	N/A	2263435
o-Terphenyl	%	95	N/A	93	N/A	96	N/A	2263735

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6747		HC6748		HC6749		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59701-02R\BCA-5**	**RDL**	**L59702-02R\BCA-6**	**RDL**	**L59703-02R\BCA-7**	**RDL**	**QC Batch**
Moisture	%	77	1	15	1	66	1	2263352
F1 (C6-C10)	ug/g	ND	40	ND	10	ND	30	2263435
F1 (C6-C10) - BTEX	ug/g	ND	40	ND	10	ND	30	2263435
F2 (C10-C16 Hydrocarbons)	ug/g	250	40	ND	10	320	30	2263735
F3 (C16-C34 Hydrocarbons)	ug/g	2700	40	34	10	2800	30	2263735
F4 (C34-C50 Hydrocarbons)	ug/g	1700	40	ND	10	73	30	2263735
Reached Baseline at C50	ug/g	No	N/A	Yes	N/A	Yes	N/A	2263735
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	95	N/A	105	N/A	101	N/A	2263435
4-Bromofluorobenzene	%	104	N/A	97	N/A	101	N/A	2263435
D10-Ethylbenzene	%	96	N/A	110	N/A	120	N/A	2263435
D4-1,2-Dichloroethane	%	56 (1)	N/A	96	N/A	95	N/A	2263435
o-Terphenyl	%	107	N/A	99	N/A	123	N/A	2263735

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6750		HC6751		HC6752		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59705-02R\BCA-8**	**RDL**	**L59706-02R\BCA-9**	**RDL**	**L59709-02R\BCA-10**	**RDL**	**QC Batch**
Moisture	%	63	1	73	1	78	1	2263352
F1 (C6-C10)	ug/g	ND	30	ND	30	ND	40	2263435
F1 (C6-C10) - BTEX	ug/g	ND	30	ND	30	ND	40	2263435
F2 (C10-C16 Hydrocarbons)	ug/g	ND	30	ND	40	7200	40	2263735
F3 (C16-C34 Hydrocarbons)	ug/g	310	30	1200	40	24000	40	2263735
F4 (C34-C50 Hydrocarbons)	ug/g	140	30	760	40	790	40	2263735
Reached Baseline at C50	ug/g	No	N/A	No	N/A	Yes	N/A	2263735
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	103	N/A	103	N/A	101	N/A	2263435
4-Bromofluorobenzene	%	99	N/A	96	N/A	101	N/A	2263435
D10-Ethylbenzene	%	99	N/A	105	N/A	96	N/A	2263435
D4-1,2-Dichloroethane	%	102	N/A	99	N/A	99	N/A	2263435
o-Terphenyl	%	101	N/A	102	N/A	129	N/A	2263735

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6753		HC6754		HC6755		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59711-02R\BCA-11**	**RDL**	**L59712-02R\BCA-12**	**RDL**	**L59713-02R\BCA-13**	**RDL**	**QC Batch**
Moisture	%	77	1	57	1	77	1	2263352
F1 (C6-C10)	ug/g	ND	40	ND	20	ND	40	2263435
F1 (C6-C10) - BTEX	ug/g	ND	40	ND	20	ND	40	2263435
F2 (C10-C16 Hydrocarbons)	ug/g	ND	40	ND	20	ND	40	2263735
F3 (C16-C34 Hydrocarbons)	ug/g	260	40	390	20	540	40	2263735
F4 (C34-C50 Hydrocarbons)	ug/g	100	40	280	20	280	40	2263735
Reached Baseline at C50	ug/g	Yes	N/A	No	N/A	No	N/A	2263735
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	104	N/A	105	N/A	102	N/A	2263435
4-Bromofluorobenzene	%	99	N/A	99	N/A	98	N/A	2263435
D10-Ethylbenzene	%	111	N/A	107	N/A	98	N/A	2263435
D4-1,2-Dichloroethane	%	99	N/A	96	N/A	107	N/A	2263435
o-Terphenyl	%	105	N/A	100	N/A	106	N/A	2263735

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6755		HC6756		HC6757		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59713-02R\BCA-13 Lab-Dup**	**RDL**	**L59714-02R\BCA-14**	**RDL**	**L59715-02R\BCA-15**	**RDL**	**QC Batch**
Moisture	%	74	1	25	1	58	1	2263352
F1 (C6-C10)	ug/g	N/A	40	ND	10	ND	20	2263435
F1 (C6-C10) - BTEX	ug/g	N/A	40	ND	10	ND	20	2263435
F2 (C10-C16 Hydrocarbons)	ug/g	N/A	40	260	10	ND	20	2263735
F3 (C16-C34 Hydrocarbons)	ug/g	N/A	40	1600	10	660	20	2263735
F4 (C34-C50 Hydrocarbons)	ug/g	N/A	40	210	10	380	20	2263735
Reached Baseline at C50	ug/g	N/A	N/A	Yes	N/A	No	N/A	2263735
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	N/A	N/A	103	N/A	106	N/A	2263435
4-Bromofluorobenzene	%	N/A	N/A	98	N/A	99	N/A	2263435
D10-Ethylbenzene	%	N/A	N/A	102	N/A	110	N/A	2263435
D4-1,2-Dichloroethane	%	N/A	N/A	100	N/A	96	N/A	2263435
o-Terphenyl	%	N/A	N/A	120	N/A	100	N/A	2263735

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6758			HC6759	HC6759		
Sampling Date		2010/09/06			2010/09/06	2010/09/06		
COC Number		N/A			N/A	N/A		
	Units	**L59716-02R\BCA-16**	**RDL**	**QC Batch**	**L59717-02R\BCA-17**	**L59717-02R\BCA-17 Lab-Dup**	**RDL**	**QC Batch**
Moisture	%	76	1	2263352	53	N/A	1	2263399
F1 (C6-C10)	ug/g	ND	40	2263435	ND	ND	20	2263412
F1 (C6-C10) - BTEX	ug/g	ND	40	2263435	ND	ND	20	2263412
F2 (C10-C16 Hydrocarbons)	ug/g	ND	40	2263735	ND	ND	20	2263159
F3 (C16-C34 Hydrocarbons)	ug/g	200	40	2263735	340	100 (1)	20	2263159
F4 (C34-C50 Hydrocarbons)	ug/g	110	40	2263735	ND	ND	20	2263159
Reached Baseline at C50	ug/g	Yes	N/A	2263735	Yes	Yes	N/A	2263159
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	105	N/A	2263435	100	99	N/A	2263412
4-Bromofluorobenzene	%	98	N/A	2263435	97	99	N/A	2263412
D10-Ethylbenzene	%	121	N/A	2263435	87	92	N/A	2263412
D4-1,2-Dichloroethane	%	97	N/A	2263435	101	66	N/A	2263412
o-Terphenyl	%	94	N/A	2263735	102	96	N/A	2263159

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6760		HC6761		HC6762		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59718-02R\BCA-18**	**RDL**	**L59719-02R\BCA-19**	**RDL**	**L59720-02R\BCA-20**	**RDL**	**QC Batch**
Moisture	%	63	1	60	1	72	1	2263399
F1 (C6-C10)	ug/g	ND	30	ND	20	ND	70	2263412
F1 (C6-C10) - BTEX	ug/g	ND	30	ND	20	ND	70	2263412
F2 (C10-C16 Hydrocarbons)	ug/g	110	30	510	20	ND	70	2263159
F3 (C16-C34 Hydrocarbons)	ug/g	750	30	2200	20	2700	70	2263159
F4 (C34-C50 Hydrocarbons)	ug/g	ND	30	130	20	840	70	2263159
Reached Baseline at C50	ug/g	Yes	N/A	Yes	N/A	Yes	N/A	2263159
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	95	N/A	99	N/A	98	N/A	2263412
4-Bromofluorobenzene	%	99	N/A	98	N/A	99	N/A	2263412
D10-Ethylbenzene	%	76	N/A	83	N/A	78	N/A	2263412
D4-1,2-Dichloroethane	%	105	N/A	105	N/A	108	N/A	2263412
o-Terphenyl	%	98	N/A	101	N/A	91	N/A	2263159

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytique
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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6763		HC6764	HC6765		
Sampling Date		2010/09/06		2010/09/06	2010/09/06		
COC Number		N/A		N/A	N/A		
	Units	**L59721-02R\BCA-21**	**RDL**	**L59722-02R\BCA-22**	**L59723-02R\BCA-23**	**RDL**	**QC Batch**
Moisture	%	41	1	12	21	1	2263399
F1 (C6-C10)	ug/g	ND	100	ND	ND	10	2263412
F1 (C6-C10) - BTEX	ug/g	ND	100	ND	ND	10	2263412
F2 (C10-C16 Hydrocarbons)	ug/g	1900	20	ND	ND	10	2263159
F3 (C16-C34 Hydrocarbons)	ug/g	2600	20	33	150	10	2263159
F4 (C34-C50 Hydrocarbons)	ug/g	54	20	ND	19	10	2263159
Reached Baseline at C50	ug/g	Yes	N/A	Yes	Yes	N/A	2263159
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	103	N/A	101	100	N/A	2263412
4-Bromofluorobenzene	%	99	N/A	96	97	N/A	2263412
D10-Ethylbenzene	%	86	N/A	84	86	N/A	2263412
D4-1,2-Dichloroethane	%	97	N/A	98	102	N/A	2263412
o-Terphenyl	%	113	N/A	92	94	N/A	2263159

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
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Maxxam Analytique
Client Project #: B047223

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6766	HC6766	HC6767	HC6768		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L59724-02R\BCA-24**	**L59724-02R\BCA-24 Lab-Dup**	**L59725-02R\BCA-25**	**L59726-02R\BCA-26**	**RDL**	**QC Batch**
Moisture	%	25	26	3	17	1	2263399
F1 (C6-C10)	ug/g	ND	N/A	ND	ND	10	2263412
F1 (C6-C10) - BTEX	ug/g	ND	N/A	ND	ND	10	2263412
F2 (C10-C16 Hydrocarbons)	ug/g	ND	N/A	ND	99	10	2263159
F3 (C16-C34 Hydrocarbons)	ug/g	210	N/A	ND	440	10	2263159
F4 (C34-C50 Hydrocarbons)	ug/g	34	N/A	ND	24	10	2263159
Reached Baseline at C50	ug/g	Yes	N/A	Yes	Yes	N/A	2263159
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	93	N/A	92	102	N/A	2263412
4-Bromofluorobenzene	%	101	N/A	101	100	N/A	2263412
D10-Ethylbenzene	%	78	N/A	82	85	N/A	2263412
D4-1,2-Dichloroethane	%	115	N/A	113	102	N/A	2263412
o-Terphenyl	%	93	N/A	92	97	N/A	2263159

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6769	HC6770	HC6771	HC6772		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L59727-02R\BCA-27**	**L59728-02R\BCA-28**	**L59729-02R\BCA-29**	**L59730-02R\BCA-30**	**RDL**	**QC Batch**
Moisture	%	5	5	12	17	1	2263399
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	2263412
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	2263412
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	2263159
F3 (C16-C34 Hydrocarbons)	ug/g	ND	27	62	110	10	2263159
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	20	34	10	2263159
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	2263159
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	101	101	101	96	N/A	2263412
4-Bromofluorobenzene	%	99	96	96	99	N/A	2263412
D10-Ethylbenzene	%	89	85	87	84	N/A	2263412
D4-1,2-Dichloroethane	%	95	102	98	106	N/A	2263412
o-Terphenyl	%	95	91	94	94	N/A	2263159

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6773	HC6774		HC6775		
Sampling Date		2010/09/06	2010/09/06		2010/09/06		
COC Number		N/A	N/A		N/A		
	Units	**L59731-02R\BCA-31**	**L59732-02R\BCA-32**	**RDL**	**L59733-02R\BCA-33**	**RDL**	**QC Batch**
Moisture	%	7	4	1	83	1	2263399
F1 (C6-C10)	ug/g	ND	ND	10	ND	50	2263412
F1 (C6-C10) - BTEX	ug/g	ND	ND	10	ND	50	2263412
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	10	ND	50	2263159
F3 (C16-C34 Hydrocarbons)	ug/g	37	28	10	440	50	2263159
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	10	ND	50	2263159
Reached Baseline at C50	ug/g	Yes	Yes	N/A	Yes	N/A	2263159
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	95	96	N/A	92	N/A	2263412
4-Bromofluorobenzene	%	100	100	N/A	102	N/A	2263412
D10-Ethylbenzene	%	80	81	N/A	79	N/A	2263412
D4-1,2-Dichloroethane	%	105	107	N/A	111	N/A	2263412
o-Terphenyl	%	91	91	N/A	96	N/A	2263159

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6776		HC6777	HC6778		
Sampling Date		2010/09/06		2010/09/06	2010/09/06		
COC Number		N/A		N/A	N/A		
	Units	**L59735-02R\BCA-34**	**RDL**	**L59736-02R\BCA-35**	**L59737-02R\BCA-36**	**RDL**	**QC Batch**
Moisture	%	14	1	82	82	1	2263399
F1 (C6-C10)	ug/g	ND	10	ND	ND	50	2263412
F1 (C6-C10) - BTEX	ug/g	ND	10	ND	ND	50	2263412
F2 (C10-C16 Hydrocarbons)	ug/g	ND	10	ND	ND	50	2263159
F3 (C16-C34 Hydrocarbons)	ug/g	34	10	520	300	50	2263159
F4 (C34-C50 Hydrocarbons)	ug/g	ND	10	220	ND	50	2263159
Reached Baseline at C50	ug/g	Yes	N/A	Yes	Yes	N/A	2263159
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	92	N/A	86	100	N/A	2263412
4-Bromofluorobenzene	%	102	N/A	104	100	N/A	2263412
D10-Ethylbenzene	%	77	N/A	69	84	N/A	2263412
D4-1,2-Dichloroethane	%	114	N/A	123	103	N/A	2263412
o-Terphenyl	%	93	N/A	94	95	N/A	2263159

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6779	HC6779	HC6780		
Sampling Date		2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A		
	Units	**L59738-02R\BCA-37**	**L59738-02R\BCA-37 Lab-Dup**	**L59739-02R\BCA-38**	**RDL**	**QC Batch**
Moisture	%	56	N/A	46	1	2263457
F1 (C6-C10)	ug/g	ND	ND	ND	20	2263451
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	20	2263451
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	160	20	2262933
F3 (C16-C34 Hydrocarbons)	ug/g	170	150	870	20	2262933
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	510	20	2262933
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2262933
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	100	99	99	N/A	2263451
4-Bromofluorobenzene	%	98	98	96	N/A	2263451
D10-Ethylbenzene	%	103	96	115	N/A	2263451
D4-1,2-Dichloroethane	%	100	102	100	N/A	2263451
o-Terphenyl	%	94	92	101	N/A	2262933

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6781		HC6782		
Sampling Date		2010/09/06		2010/09/06		
COC Number		N/A		N/A		
	Units	**L59740-02R\BCA-QA/QC-1**	**RDL**	**L59741-02R\BCA-QA/QC-2**	**RDL**	**QC Batch**
Moisture	%	77	1	40	1	2263457
F1 (C6-C10)	ug/g	ND	40	ND	10	2263451
F1 (C6-C10) - BTEX	ug/g	ND	40	ND	10	2263451
F2 (C10-C16 Hydrocarbons)	ug/g	ND	40	1100	10	2262933
F3 (C16-C34 Hydrocarbons)	ug/g	450	40	2400	10	2262933
F4 (C34-C50 Hydrocarbons)	ug/g	60	40	190	10	2262933
Reached Baseline at C50	ug/g	Yes	N/A	Yes	N/A	2262933
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	98	N/A	101	N/A	2263451
4-Bromofluorobenzene	%	98	N/A	100	N/A	2263451
D10-Ethylbenzene	%	103	N/A	103	N/A	2263451
D4-1,2-Dichloroethane	%	101	N/A	99	N/A	2263451
o-Terphenyl	%	96	N/A	118	N/A	2262933

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6783		HC6784	HC6785		
Sampling Date		2010/09/06		2010/09/06	2010/09/06		
COC Number		N/A		N/A	N/A		
	Units	**L59742-02R\BCA-QA/QC-3**	**RDL**	**L59743-02R\BCA-8 @ 50 CM**	**L59744-02R\BCA-14 @ 50 CM**	**RDL**	**QC Batch**
Moisture	%	82	1	6	2	1	2263457
F1 (C6-C10)	ug/g	ND	50	ND	ND	10	2263451
F1 (C6-C10) - BTEX	ug/g	ND	50	ND	ND	10	2263451
F2 (C10-C16 Hydrocarbons)	ug/g	ND	50	ND	ND	10	2262933
F3 (C16-C34 Hydrocarbons)	ug/g	460	50	ND	ND	10	2262933
F4 (C34-C50 Hydrocarbons)	ug/g	52	50	ND	ND	10	2262933
Reached Baseline at C50	ug/g	Yes	N/A	Yes	Yes	N/A	2262933
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	98	N/A	98	99	N/A	2263451
4-Bromofluorobenzene	%	99	N/A	98	96	N/A	2263451
D10-Ethylbenzene	%	96	N/A	98	96	N/A	2263451
D4-1,2-Dichloroethane	%	100	N/A	99	99	N/A	2263451
o-Terphenyl	%	96	N/A	90	93	N/A	2262933

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytique
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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6786	HC6787	HC6788	HC6789		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L59747-02R\BCA-14 @ 1 CM**	**L59748-02R\BCA-19 @ 50 CM**	**L59749-02R\BCA-19 @ 1 CM**	**L59750-02R\BCA-23 @ 50 CM**	**RDL**	**QC Batch**
Moisture	%	2	3	3	3	1	2263457
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	2263451
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	2263451
F2 (C10-C16 Hydrocarbons)	ug/g	ND	130	53	ND	10	2262933
F3 (C16-C34 Hydrocarbons)	ug/g	ND	160	61	12	10	2262933
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	2262933
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	2262933
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	99	101	96	98	N/A	2263451
4-Bromofluorobenzene	%	98	99	102	96	N/A	2263451
D10-Ethylbenzene	%	91	102	111	95	N/A	2263451
D4-1,2-Dichloroethane	%	99	99	98	98	N/A	2263451
o-Terphenyl	%	90	92	90	90	N/A	2262933

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HC6790		
Sampling Date		2010/09/06		
COC Number		N/A		
	Units	**L59751-02R\BCA-26 @ 50 CM**	**RDL**	**QC Batch**
Moisture	%	3	1	2263457
F1 (C6-C10)	ug/g	ND	10	2263451
F1 (C6-C10) - BTEX	ug/g	ND	10	2263451
F2 (C10-C16 Hydrocarbons)	ug/g	ND	10	2262933
F3 (C16-C34 Hydrocarbons)	ug/g	ND	10	2262933
F4 (C34-C50 Hydrocarbons)	ug/g	ND	10	2262933
Reached Baseline at C50	ug/g	Yes	N/A	2262933
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	99	N/A	2263451
4-Bromofluorobenzene	%	98	N/A	2263451
D10-Ethylbenzene	%	100	N/A	2263451
D4-1,2-Dichloroethane	%	99	N/A	2263451
o-Terphenyl	%	93	N/A	2262933

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6739	HC6740	HC6741		
Sampling Date		2010/09/05	2010/09/05	2010/09/05		
COC Number		N/A	N/A	N/A		
	Units	**L59659-02R\WPA-BASE-1**	**L59694-02R\WPA-BASE-2**	**L59695-02R\WPA-BASE-3**	**RDL**	**QC Batch**
Benzene	ug/g	0.003	0.003	0.002	0.002	2262824
Ethylbenzene	ug/g	0.007	0.007	0.005	0.002	2262824
Toluene	ug/g	0.009	0.012	0.008	0.002	2262824
p+m-Xylene	ug/g	0.003	0.004	0.003	0.002	2262824
o-Xylene	ug/g	0.002	0.002	ND	0.002	2262824
Xylene (Total)	ug/g	0.005	0.006	0.003	0.002	2262824
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	91	82	94	N/A	2262824
D4-1,2-Dichloroethane	%	96	96	98	N/A	2262824
D8-Toluene	%	103	111	100	N/A	2262824

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6742		HC6743		HC6744		
Sampling Date		2010/09/05		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59696-02R\WPA-BASE-4**	**RDL**	**L59697-02R\BCA-1**	**RDL**	**L59698-02R\BCA-2**	**RDL**	**QC Batch**
Benzene	ug/g	0.003	0.002	ND	0.008	ND	0.02	2262824
Ethylbenzene	ug/g	0.008	0.002	ND	0.008	ND	0.02	2262824
Toluene	ug/g	0.012	0.002	ND	0.008	ND	0.02	2262824
p+m-Xylene	ug/g	0.005	0.002	ND	0.008	ND	0.02	2262824
o-Xylene	ug/g	0.003	0.002	ND	0.008	ND	0.02	2262824
Xylene (Total)	ug/g	0.007	0.002	ND	0.008	ND	0.02	2262824
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	83	N/A	80	N/A	77	N/A	2262824
D4-1,2-Dichloroethane	%	97	N/A	101	N/A	113	N/A	2262824
D8-Toluene	%	109	N/A	131	N/A	128	N/A	2262824

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6745	HC6746	HC6747		HC6748		
Sampling Date		2010/09/06	2010/09/06	2010/09/06		2010/09/06		
COC Number		N/A	N/A	N/A		N/A		
	Units	**L59699-02R\BCA-3**	**L59700-02R\BCA-4**	**L59701-02R\BCA-5**	**RDL**	**L59702-02R\BCA-6**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	ND	0.01	0.003	0.002	2262824
Ethylbenzene	ug/g	ND	ND	ND	0.01	0.006	0.002	2262824
Toluene	ug/g	ND	ND	0.02	0.01	0.010	0.002	2262824
p+m-Xylene	ug/g	ND	ND	ND	0.01	0.004	0.002	2262824
o-Xylene	ug/g	ND	ND	ND	0.01	ND	0.002	2262824
Xylene (Total)	ug/g	ND	ND	ND	0.01	0.004	0.002	2262824
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	75	73	75	N/A	92	N/A	2262824
D4-1,2-Dichloroethane	%	103	104	106	N/A	98	N/A	2262824
D8-Toluene	%	129	138	126	N/A	102	N/A	2262824

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6749	HC6750		HC6751		
Sampling Date		2010/09/06	2010/09/06		2010/09/06		
COC Number		N/A	N/A		N/A		
	Units	**L59703-02R\BCA-7**	**L59705-02R\BCA-8**	**RDL**	**L59706-02R\BCA-9**	**RDL**	**QC Batch**
Benzene	ug/g	0.006	ND	0.002	ND	0.008	2262824
Ethylbenzene	ug/g	0.007	ND	0.002	ND	0.008	2262824
Toluene	ug/g	0.022	0.005	0.002	0.014	0.008	2262824
p+m-Xylene	ug/g	0.004	ND	0.002	ND	0.008	2262824
o-Xylene	ug/g	ND	ND	0.002	ND	0.008	2262824
Xylene (Total)	ug/g	0.004	ND	0.002	ND	0.008	2262824
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	77	73	N/A	77	N/A	2262824
D4-1,2-Dichloroethane	%	107	108	N/A	106	N/A	2262824
D8-Toluene	%	124	144 (1)	N/A	137	N/A	2262824

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) The recovery for the surrogate compound was above the control limit. This likely indicates the presence of a sample matrix effect. As a result, there is an increased level of uncertainty associated with the values reported for this sample.

Maxxam Job #: B0C5190
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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6752	HC6753		HC6754		
Sampling Date		2010/09/06	2010/09/06		2010/09/06		
COC Number		N/A	N/A		N/A		
	Units	**L59709-02R\BCA-10**	**L59711-02R\BCA-11**	**RDL**	**L59712-02R\BCA-12**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	0.01	ND	0.002	2262824
Ethylbenzene	ug/g	ND	ND	0.01	ND	0.002	2262824
Toluene	ug/g	ND	ND	0.01	0.004	0.002	2262824
p+m-Xylene	ug/g	ND	ND	0.01	0.002	0.002	2262824
o-Xylene	ug/g	ND	ND	0.01	ND	0.002	2262824
Xylene (Total)	ug/g	ND	ND	0.01	0.002	0.002	2262824
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	77	74	N/A	77	N/A	2262824
D4-1,2-Dichloroethane	%	100	95	N/A	103	N/A	2262824
D8-Toluene	%	133	141 (1)	N/A	132	N/A	2262824

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) The recovery for the surrogate compound was above the control limit for the soil sample. This likely indicates the presence of a sample matrix effect. As a result, there is an increased level of uncertainty associated with the values reported for this sample.

Maxxam Job #: B0C5190
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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6755		HC6756	HC6757		
Sampling Date		2010/09/06		2010/09/06	2010/09/06		
COC Number		N/A		N/A	N/A		
	Units	**L59713-02R\BCA-13**	**RDL**	**L59714-02R\BCA-14**	**L59715-02R\BCA-15**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.01	0.002	ND	0.002	2262824
Ethylbenzene	ug/g	ND	0.01	0.003	ND	0.002	2262824
Toluene	ug/g	ND	0.01	0.009	0.008	0.002	2262824
p+m-Xylene	ug/g	ND	0.01	0.003	0.004	0.002	2262824
o-Xylene	ug/g	ND	0.01	ND	ND	0.002	2262824
Xylene (Total)	ug/g	ND	0.01	0.003	0.004	0.002	2262824
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	76	N/A	71	77	N/A	2262824
D4-1,2-Dichloroethane	%	105	N/A	105	101	N/A	2262824
D8-Toluene	%	144 (1)	N/A	128	140	N/A	2262824

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) The recovery for the surrogate compound was above the control limit. This likely indicates the presence of a sample matrix effect. As a result, there is an increased level of uncertainty associated with the values reported for this sample.

Maxxam Job #: B0C5190
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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6758		HC6759	HC6760		
Sampling Date		2010/09/06		2010/09/06	2010/09/06		
COC Number		N/A		N/A	N/A		
	Units	**L59716-02R\BCA-16**	**QC Batch**	**L59717-02R\BCA-17**	**L59718-02R\BCA-18**	**RDL**	**QC Batch**
Benzene	ug/g	0.003	2262826	0.003	ND	0.002	2262825
Ethylbenzene	ug/g	ND	2262826	ND	ND	0.002	2262825
Toluene	ug/g	0.008	2262826	0.006	0.006	0.002	2262825
p+m-Xylene	ug/g	0.003	2262826	ND	0.004	0.002	2262825
o-Xylene	ug/g	ND	2262826	ND	ND	0.002	2262825
Xylene (Total)	ug/g	0.003	2262826	ND	0.004	0.002	2262825
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	75	2262826	78	77	N/A	2262825
D4-1,2-Dichloroethane	%	99	2262826	99	108	N/A	2262825
D8-Toluene	%	122	2262826	121	138	N/A	2262825

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6761		HC6762		HC6763		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59719-02R\BCA-19**	**RDL**	**L59720-02R\BCA-20**	**RDL**	**L59721-02R\BCA-21**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.002	ND	0.01	ND	0.1	2262825
Ethylbenzene	ug/g	ND	0.002	ND	0.01	ND	0.1	2262825
Toluene	ug/g	0.005	0.002	0.05	0.01	ND	0.1	2262825
p+m-Xylene	ug/g	0.002	0.002	0.01	0.01	ND	0.1	2262825
o-Xylene	ug/g	ND	0.002	ND	0.01	ND	0.1	2262825
Xylene (Total)	ug/g	0.002	0.002	0.01	0.01	ND	0.1	2262825
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	74	N/A	78	N/A	97	N/A	2262825
D4-1,2-Dichloroethane	%	110	N/A	107	N/A	88	N/A	2262825
D8-Toluene	%	135	N/A	130	N/A	104	N/A	2262825

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6764	HC6765	HC6766	HC6767		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L59722-02R\BCA-22**	**L59723-02R\BCA-23**	**L59724-02R\BCA-24**	**L59725-02R\BCA-25**	**RDL**	**QC Batch**
Benzene	ug/g	0.004	0.003	0.003	ND	0.002	2262825
Ethylbenzene	ug/g	0.008	0.005	0.005	0.003	0.002	2262825
Toluene	ug/g	0.013	0.011	0.010	0.005	0.002	2262825
p+m-Xylene	ug/g	0.004	0.003	0.003	ND	0.002	2262825
o-Xylene	ug/g	ND	ND	ND	ND	0.002	2262825
Xylene (Total)	ug/g	0.004	0.003	0.003	ND	0.002	2262825
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	81	72	77	84	N/A	2262825
D4-1,2-Dichloroethane	%	98	100	99	98	N/A	2262825
D8-Toluene	%	111	132	124	111	N/A	2262825

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6768	HC6769		HC6770		
Sampling Date		2010/09/06	2010/09/06		2010/09/06		
COC Number		N/A	N/A		N/A		
	Units	**L59726-02R\BCA-26**	**L59727-02R\BCA-27**	**RDL**	**L59728-02R\BCA-28**	**RDL**	**QC Batch**
Benzene	ug/g	0.004	0.002	0.002	ND	0.1	2262825
Ethylbenzene	ug/g	0.007	0.005	0.002	ND	0.1	2262825
Toluene	ug/g	0.011	0.007	0.002	ND	0.1	2262825
p+m-Xylene	ug/g	0.003	0.003	0.002	ND	0.1	2262825
o-Xylene	ug/g	ND	ND	0.002	ND	0.1	2262825
Xylene (Total)	ug/g	0.003	0.003	0.002	ND	0.1	2262825
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	83	97	N/A	97	N/A	2262825
D4-1,2-Dichloroethane	%	98	99	N/A	88	N/A	2262825
D8-Toluene	%	110	99	N/A	103	N/A	2262825

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6771	HC6772	HC6773	HC6774		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L59729-02R\BCA-29**	**L59730-02R\BCA-30**	**L59731-02R\BCA-31**	**L59732-02R\BCA-32**	**RDL**	**QC Batch**
Benzene	ug/g	0.003	0.004	0.003	0.002	0.002	2262825
Ethylbenzene	ug/g	0.005	0.006	0.007	0.007	0.002	2262825
Toluene	ug/g	0.009	0.012	0.010	0.009	0.002	2262825
p+m-Xylene	ug/g	0.002	0.003	0.003	0.003	0.002	2262825
o-Xylene	ug/g	ND	ND	ND	ND	0.002	2262825
Xylene (Total)	ug/g	0.002	0.003	0.003	0.003	0.002	2262825
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	82	74	83	88	N/A	2262825
D4-1,2-Dichloroethane	%	97	99	100	100	N/A	2262825
D8-Toluene	%	113	123	111	105	N/A	2262825

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6775		HC6776		HC6777		
Sampling Date		2010/09/06		2010/09/06		2010/09/06		
COC Number		N/A		N/A		N/A		
	Units	**L59733-02R\BCA-33**	**RDL**	**L59735-02R\BCA-34**	**RDL**	**L59736-02R\BCA-35**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.01	0.003	0.002	ND	0.8	2262825
Ethylbenzene	ug/g	ND	0.01	0.008	0.002	ND	0.8	2262825
Toluene	ug/g	ND	0.01	0.010	0.002	ND	0.8	2262825
p+m-Xylene	ug/g	ND	0.01	0.004	0.002	ND	0.8	2262825
o-Xylene	ug/g	ND	0.01	ND	0.002	ND	0.8	2262825
Xylene (Total)	ug/g	ND	0.01	0.004	0.002	ND	0.8	2262825
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	70	N/A	83	N/A	95	N/A	2262825
D4-1,2-Dichloroethane	%	109	N/A	98	N/A	87	N/A	2262825
D8-Toluene	%	127	N/A	107	N/A	101	N/A	2262825

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6778		HC6779	HC6780		
Sampling Date		2010/09/06		2010/09/06	2010/09/06		
COC Number		N/A		N/A	N/A		
	Units	**L59737-02R\BCA-36**	**RDL**	**L59738-02R\BCA-37**	**L59739-02R\BCA-38**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.01	ND	0.002	0.002	2262826
Ethylbenzene	ug/g	ND	0.01	ND	0.002	0.002	2262826
Toluene	ug/g	ND	0.01	0.004	0.005	0.002	2262826
p+m-Xylene	ug/g	ND	0.01	ND	ND	0.002	2262826
o-Xylene	ug/g	ND	0.01	ND	ND	0.002	2262826
Xylene (Total)	ug/g	ND	0.01	ND	ND	0.002	2262826
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	76	N/A	77	80	N/A	2262826
D4-1,2-Dichloroethane	%	99	N/A	100	101	N/A	2262826
D8-Toluene	%	127	N/A	126	118	N/A	2262826

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6781		HC6782		
Sampling Date		2010/09/06		2010/09/06		
COC Number		N/A		N/A		
	Units	**L59740-02R\BCA-QA/QC-1**	**RDL**	**L59741-02R\BCA-QA/QC-2**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.7	0.002	0.002	2262826
Ethylbenzene	ug/g	ND	0.7	0.003	0.002	2262826
Toluene	ug/g	ND	0.7	0.008	0.002	2262826
p+m-Xylene	ug/g	ND	0.7	0.004	0.002	2262826
o-Xylene	ug/g	ND	0.7	ND	0.002	2262826
Xylene (Total)	ug/g	ND	0.7	0.004	0.002	2262826
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	96	N/A	77	N/A	2262826
D4-1,2-Dichloroethane	%	85	N/A	111	N/A	2262826
D8-Toluene	%	103	N/A	127	N/A	2262826

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6783		HC6784	HC6785		
Sampling Date		2010/09/06		2010/09/06	2010/09/06		
COC Number		N/A		N/A	N/A		
	Units	**L59742-02R\BCA-QA/QC-3**	**RDL**	**L59743-02R\BCA-8 @ 50 CM**	**L59744-02R\BCA-14 @ 50 CM**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.01	0.003	ND	0.002	2262826
Ethylbenzene	ug/g	ND	0.01	0.005	0.005	0.002	2262826
Toluene	ug/g	ND	0.01	0.007	0.006	0.002	2262826
p+m-Xylene	ug/g	ND	0.01	0.003	ND	0.002	2262826
o-Xylene	ug/g	ND	0.01	ND	ND	0.002	2262826
Xylene (Total)	ug/g	ND	0.01	0.003	ND	0.002	2262826
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	75	N/A	98	100	N/A	2262826
D4-1,2-Dichloroethane	%	101	N/A	99	100	N/A	2262826
D8-Toluene	%	126	N/A	96	96	N/A	2262826

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6786	HC6787	HC6788	HC6789		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L59747-02R\BCA-14 @ 1 CM**	**L59748-02R\BCA-19 @ 50 CM**	**L59749-02R\BCA-19 @ 1 CM**	**L59750-02R\BCA-23 @ 50 CM**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	0.002	0.002	0.002	2262826
Ethylbenzene	ug/g	0.006	0.003	0.005	0.006	0.002	2262826
Toluene	ug/g	0.007	0.005	0.008	0.008	0.002	2262826
p+m-Xylene	ug/g	0.003	ND	0.003	0.003	0.002	2262826
o-Xylene	ug/g	ND	ND	ND	ND	0.002	2262826
Xylene (Total)	ug/g	0.003	ND	0.003	0.003	0.002	2262826
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	100	101	100	98	N/A	2262826
D4-1,2-Dichloroethane	%	100	100	101	100	N/A	2262826
D8-Toluene	%	96	98	96	97	N/A	2262826

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HC6790		
Sampling Date		2010/09/06		
COC Number		N/A		
	Units	**L59751-02R\BCA-26 @ 50 CM**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	0.002	2262826
Ethylbenzene	ug/g	0.006	0.002	2262826
Toluene	ug/g	0.008	0.002	2262826
p+m-Xylene	ug/g	0.003	0.002	2262826
o-Xylene	ug/g	ND	0.002	2262826
Xylene (Total)	ug/g	0.003	0.002	2262826
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	101	N/A	2262826
D4-1,2-Dichloroethane	%	100	N/A	2262826
D8-Toluene	%	98	N/A	2262826

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
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PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HC6747	HC6750	HC6751	HC6754		
Sampling Date		2010/09/06	2010/09/06	2010/09/06	2010/09/06		
COC Number		N/A	N/A	N/A	N/A		
	Units	**L59701-02R\BCA-5**	**L59705-02R\BCA-8**	**L59706-02R\BCA-9**	**L59712-02R\BCA-12**	**RDL**	**QC Batch**
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	5700	650	2500	310	100	2267041

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HC6755	HC6757		
Sampling Date		2010/09/06	2010/09/06		
COC Number		N/A	N/A		
	Units	**L59713-02R\BCA-13**	**L59715-02R\BCA-15**	**RDL**	**QC Batch**
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	850	1100	100	2267041

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5190
Report Date: 2010/09/16

Maxxam Analytique
Client Project #: B047223

GENERAL COMMENTS

Sample HC6743-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6744-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6745-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6746-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6747-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6749-01: F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6750-01: F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6751-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6752-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6753-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6754-01: F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6755-01: VOC Analysis: Detection limits were adjusted for high moisture content.

F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6757-01: F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6758-01: F1-BTEX and F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HC6759-01: F1/BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content .

Sample HC6760-01: F1/BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

Sample HC6761-01: F1/BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

Sample HC6762-01: VOC Analysis: Detection limits were adjusted for high moisture content.
F1/BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content, and sample weight.

Sample HC6763-01: F1/BTEX Analysis:Due to high amount of late eluting hydrocarbons , sample required dilution. Reporting limits were adjusted accordingly.

VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the sample could not be analysed by the low level direct purge method. The sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035)

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gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly.

Sample HC6770-01: VOC Analysis: Due to matrix interference on internal standard responses by low level direct purge method, the sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly.

Sample HC6775-01: VOC Analysis: Detection limits were adjusted for high moisture content.
F1/BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

Sample HC6777-01: VOC Analysis: Due to matrix interference on internal standard responses by low level direct purge method, the sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly. Detection limits were further adjusted for high moisture content (82.2%).

F1/BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

Sample HC6778-01: F1/BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

VOC Analysis: Detection limits were adjusted for high moisture content.

Sample HC6779-01: F1-BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

Sample HC6780-01: F1-BTEX and F2-F4 Analyses:Detection limits were adjusted for moisture content.

Sample HC6781-01: F1-BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

VOC Analysis: Due to the nature of sample matrix, the sample could not be analysed by the low level direct purge method. The sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly. Detection limits were further adjusted for high moisture content.

Sample HC6783-01: F1-BTEX and F2-F4 Analyses: Detection limits were adjusted for moisture content.

VOC Analysis: Detection limits were adjusted for high moisture content.

Results relate only to the items tested.

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Quality Assurance Report

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2262824	FS	Matrix Spike	4-Bromofluorobenzene	2010/09/15		99	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/15		84	%	60 - 140
			D8-Toluene	2010/09/15		104	%	60 - 140
			Benzene	2010/09/15		109	%	39 - 137
			Ethylbenzene	2010/09/15		110	%	46 - 150
			Toluene	2010/09/15		111	%	30 - 158
			p+m-Xylene	2010/09/15		106	%	29 - 161
			o-Xylene	2010/09/15		98	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/09/13		104	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/13		103	%	60 - 140
			D8-Toluene	2010/09/13		101	%	60 - 140
			Benzene	2010/09/13		109	%	60 - 140
			Ethylbenzene	2010/09/13		114	%	60 - 140
			Toluene	2010/09/13		109	%	60 - 140
			p+m-Xylene	2010/09/13		102	%	60 - 140
			o-Xylene	2010/09/13		99	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/11		105	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/11		99	%	60 - 140
			D8-Toluene	2010/09/11		96	%	60 - 140
			Benzene	2010/09/11	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/11	ND, RDL=0.002		ug/g	
			Toluene	2010/09/11	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/11	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/11	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/11	ND, RDL=0.002		ug/g	
		RPD	Benzene	2010/09/15	NC		%	50
			Ethylbenzene	2010/09/15	NC		%	50
			Toluene	2010/09/15	NC		%	50
			p+m-Xylene	2010/09/15	NC		%	50
			o-Xylene	2010/09/15	NC		%	50
			Xylene (Total)	2010/09/15	NC		%	50
2262825	FS	Matrix Spike	4-Bromofluorobenzene	2010/09/14		100	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/14		86	%	60 - 140
			D8-Toluene	2010/09/14		102	%	60 - 140
			Benzene	2010/09/14		104	%	60 - 140
			Ethylbenzene	2010/09/14		85	%	60 - 140
			Toluene	2010/09/14		104	%	60 - 140
			p+m-Xylene	2010/09/14		NC (1)	%	60 - 140
			o-Xylene	2010/09/14		87	%	60 - 140
		Spiked Blank	4-Bromofluorobenzene	2010/09/13		102	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/13		98	%	60 - 140
			D8-Toluene	2010/09/13		99	%	60 - 140
			Benzene	2010/09/13		102	%	60 - 140
			Ethylbenzene	2010/09/13		96	%	60 - 140
			Toluene	2010/09/13		97	%	60 - 140
			p+m-Xylene	2010/09/13		85	%	60 - 140
			o-Xylene	2010/09/13		86	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/12		103	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/12		106	%	60 - 140
			D8-Toluene	2010/09/12		94	%	60 - 140
			Benzene	2010/09/12	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/12	ND, RDL=0.002		ug/g	
			Toluene	2010/09/12	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/12	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/12	ND, RDL=0.002		ug/g	

Maxxam Analytique
Attention: Melanie Leclerc
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5190

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2262825	FS	Method Blank	Xylene (Total)	2010/09/12	ND, RDL=0.002		ug/g	
		RPD	Benzene	2010/09/14	NC		%	50
			Ethylbenzene	2010/09/14	NC		%	50
			Toluene	2010/09/14	NC		%	50
			p+m-Xylene	2010/09/14	0.3		%	50
			o-Xylene	2010/09/14	NC		%	50
			Xylene (Total)	2010/09/14	0.05		%	50
2262826	MAL	Matrix Spike	4-Bromofluorobenzene	2010/09/15		96	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/15		100	%	60 - 140
			D8-Toluene	2010/09/15		101	%	60 - 140
			Benzene	2010/09/15		103	%	39 - 137
			Ethylbenzene	2010/09/15		100	%	46 - 150
			Toluene	2010/09/15		102	%	30 - 158
			p+m-Xylene	2010/09/15		98	%	29 - 161
			o-Xylene	2010/09/15		93	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/09/14		101	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/14		97	%	60 - 140
			D8-Toluene	2010/09/14		99	%	60 - 140
			Benzene	2010/09/14		109	%	60 - 140
			Ethylbenzene	2010/09/14		110	%	60 - 140
			Toluene	2010/09/14		107	%	60 - 140
			p+m-Xylene	2010/09/14		99	%	60 - 140
			o-Xylene	2010/09/14		96	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/12		93	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/12		124	%	60 - 140
			D8-Toluene	2010/09/12		105	%	60 - 140
			Benzene	2010/09/12	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/12	ND, RDL=0.002		ug/g	
			Toluene	2010/09/12	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/12	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/12	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/12	ND, RDL=0.002		ug/g	
		RPD	Benzene	2010/09/15	NC		%	50
			Ethylbenzene	2010/09/15	NC		%	50
			Toluene	2010/09/15	NC		%	50
			p+m-Xylene	2010/09/15	NC		%	50
			o-Xylene	2010/09/15	NC		%	50
			Xylene (Total)	2010/09/15	NC		%	50
2262933	BLZ	Matrix Spike [HC6779-01]	o-Terphenyl	2010/09/14		93	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/14		94	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/14		94	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/14		94	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/14		85	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/14		82	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/14		82	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/14		82	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/14		90	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/14	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/14	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/14	ND, RDL=10		ug/g	
		RPD [HC6779-01]	F2 (C10-C16 Hydrocarbons)	2010/09/14	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/14	10.9		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/14	NC		%	50
2263159	YY	Matrix Spike [HC6759-01]	o-Terphenyl	2010/09/13		97	%	30 - 130

Maxxam Analytique
Attention: Melanie Leclerc
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5190

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2263159	YY	Matrix Spike						
		[HC6759-01]	F2 (C10-C16 Hydrocarbons)	2010/09/13		NC	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/13		NC	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/13		NC	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/13		85	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/13		82	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/13		82	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/13		82	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/13		94	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/13	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/13	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/13	ND, RDL=10		ug/g	
		RPD [HC6759-01]	F2 (C10-C16 Hydrocarbons)	2010/09/13	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/13	108 (2)		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/13	NC		%	50
2263352	GKL	RPD [HC6755-01]	Moisture	2010/09/13	3.8		%	20
2263399	GKL	RPD [HC6766-01]	Moisture	2010/09/13	2.0		%	20
2263412	SPV	Matrix Spike						
		[HC6759-01]	1,4-Difluorobenzene	2010/09/14		98	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		98	%	60 - 140
			D10-Ethylbenzene	2010/09/14		82	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		108	%	60 - 140
			F1 (C6-C10)	2010/09/14		87	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/14		103	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		98	%	60 - 140
			D10-Ethylbenzene	2010/09/14		85	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		97	%	60 - 140
			F1 (C6-C10)	2010/09/14		89	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/14		100	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		96	%	60 - 140
			D10-Ethylbenzene	2010/09/14		82	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		101	%	60 - 140
			F1 (C6-C10)	2010/09/14	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/14	ND, RDL=10		ug/g	
		RPD [HC6759-01]	F1 (C6-C10)	2010/09/14	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/14	NC		%	50
2263435	GBA	Matrix Spike						
		[HC6739-01]	1,4-Difluorobenzene	2010/09/14		102	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		99	%	60 - 140
			D10-Ethylbenzene	2010/09/14		105	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		102	%	60 - 140
			F1 (C6-C10)	2010/09/14		95	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/14		101	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		100	%	60 - 140
			D10-Ethylbenzene	2010/09/14		107	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		99	%	60 - 140
			F1 (C6-C10)	2010/09/14		89	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/14		103	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		98	%	60 - 140
			D10-Ethylbenzene	2010/09/14		103	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		98	%	60 - 140
			F1 (C6-C10)	2010/09/14	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/14	ND, RDL=10		ug/g	
		RPD [HC6739-01]	F1 (C6-C10)	2010/09/14	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/14	NC		%	50

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Attention: Melanie Leclerc
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5190

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2263451	AGA	Matrix Spike						
		[HC6779-01]	1,4-Difluorobenzene	2010/09/14		98	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		101	%	60 - 140
			D10-Ethylbenzene	2010/09/14		94	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		101	%	60 - 140
			F1 (C6-C10)	2010/09/14		79	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/14		100	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		102	%	60 - 140
			D10-Ethylbenzene	2010/09/14		103	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		101	%	60 - 140
			F1 (C6-C10)	2010/09/14		98	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/14		101	%	60 - 140
			4-Bromofluorobenzene	2010/09/14		99	%	60 - 140
			D10-Ethylbenzene	2010/09/14		101	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/14		101	%	60 - 140
			F1 (C6-C10)	2010/09/14	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/14	ND, RDL=10		ug/g	
		RPD [HC6779-01]	F1 (C6-C10)	2010/09/14	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/14	NC		%	50
2263457	GKL	RPD	Moisture	2010/09/13	8.9		%	20
2263735	RGA	Matrix Spike						
		[HC6739-01]	o-Terphenyl	2010/09/15		89	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/15		88	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/15		88	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/15		88	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/15		89	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/15		88	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/15		88	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/15		88	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/15		93	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/15	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/15	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/15	ND, RDL=10		ug/g	
		RPD [HC6739-01]	F2 (C10-C16 Hydrocarbons)	2010/09/15	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/15	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/15	NC		%	50
2267041	RUS	Matrix Spike	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/16		99	%	65 - 135
		Spiked Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/16		99	%	65 - 135
		Method Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/16	ND, RDL=100		ug/g	
		RPD	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/16	NC		%	50

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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) The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.
(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Validation Signature Page

Maxxam Job #: B0C5190

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

SUZANA POPOVIC, Supervisor, Hydrocarbons

MEDHAT RISKALLAH, Manager, Hydrocarbon Department

CRISTINA CARRIERE, Scientific Services

==========

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.

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-388183
Version : 2
Date received : 2010-09-09
Project No. : B047223

P.O. No. : ----
Client No. : 000391

Identification	Accredited MDDEP				L59973-01R	L59980-01R
					BAR-06	BAR-07
Matrix					Oil	Oil
Date sampled					2010-09-05	2010-09-05
Sampling location					NA	NA
Collected by					Client	Client
Laboratory No.					1809319	1809320
Parameters		Units	Date Prepared	Date Analysed	Result(s)	Result(s)
Cadmium, Cd	x	mg/kg	2010-09-10	2010-09-10	< 1	< 1
Chromium, Cr	x	mg/kg	2010-09-10	2010-09-10	< 1	< 1
Lead, Pb	x	mg/kg	2010-09-10	2010-09-10	< 5	9.5
Total halides (as chlorides)	x	mg/kg	2010-09-10	2010-09-10	< 100	< 100
Total chlorine, Cl	x	mg/kg	2010-09-10	2010-09-10	< 100	< 100

Comments: Version 2 : added total chlorine results.

Analytical methods: Appendix I
Quality control: Appendix II

CHIMISTE
Alain Fauteux
2009-004
QUÉBEC

Chemist : Alain Fauteux
2010-09-27

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-388183
Version : 2
Date received : 2010-09-09
Project No. : B047223

P.O. No. : ----
Client No. : 000391

Appendix I

Parameters	Methods No. or references	Technics or instruments
Cadmium, Cd	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Chromium, Cr	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Lead, Pb	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Total halides (as chlorides)	E-A-EN-EN-FL-PC-MD004	Colorimetric

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-388183
Version : 2
Date received : 2010-09-09
Project No. : B047223

P.O. No. : ----
Client No. : 000391

Appendix II

Identification		Blank	Duplicate			Reference material		
Parameters	Units	Results	Laboratory No.	Results 1	Results 2	Value	Range	Obtained
Cadmium, Cd	mg/kg	< 1	----	----	----	10.0	8.0 - 12.0	9.8
Chromium, Cr	mg/kg	< 1	----	----	----	10.0	7.0 - 13.0	9.8
Lead, Pb	mg/kg	< 5	----	----	----	10.0	8.0 - 12.0	9.2
Total halides (as chlorides)	mg/kg	< 100	----	----	----	1000	750 - 1250	892

NA : Non applicable

Note: These results only apply to the samples submitted

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Your Project #: B047990
Your C.O.C. #: n/a

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/09/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0C6820
Received: 2010/09/14, 10:15

Sample Matrix: Soil
Samples Received: 34

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	34	2010/09/15	2010/09/16	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	34	2010/09/16	2010/09/16	CAM SOP-00316	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	3	2010/09/17	2010/09/20	CAM SOP-00316	CCME CWS
Moisture	34	N/A	2010/09/16	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	19	2010/09/15	2010/09/16	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	15	2010/09/15	2010/09/17	CAM SOP-00226	EPA 8260 modified

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

==========

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Total cover pages: 1

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4669	HD4670	HD4671	HD4671	HD4672		
Sampling Date		2010/09/07	2010/09/07	2010/09/07	2010/09/07	2010/09/07		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	**L63060 \ ELA-1@0.5M**	**L63062 \ ELA-3**	**L63064 \ ELA-4@0.5M**	**L63064 \ ELA-4@0.5M Lab-Dup**	**L63066 \ ELA-5**	**RDL**	**QC Batch**
Moisture	%	2	3	ND	N/A	13	1	2267544
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2266973
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2266973
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	N/A	ND	10	2267190
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	N/A	ND	10	2267190
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	N/A	ND	10	2267190
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	Yes	N/A	2267190
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	94	97	98	98	96	N/A	2266973
4-Bromofluorobenzene	%	102	100	101	100	100	N/A	2266973
D10-Ethylbenzene	%	90	95	91	101	91	N/A	2266973
D4-1,2-Dichloroethane	%	112	102	103	101	102	N/A	2266973
o-Terphenyl	%	88	84	82	N/A	81	N/A	2267190

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4673	HD4674	HD4675	HD4676		HD4677		
Sampling Date		2010/09/07	2010/09/07	2010/09/07	2010/09/07		2010/09/07		
COC Number		n/a	n/a	n/a	n/a		n/a		
	Units	**L63068 \ ELA-7@SURFACE**	**L63070 \ ELA-7@1.0M**	**L63072 \ ELA-9**	**L63074 \ ELA-10@0.5M**	**RDL**	**L63076 \ ELA-11**	**RDL**	**QC Batch**
Moisture	%	3	2	3	2	1	71	1	2267544
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	ND	30	2266973
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	ND	30	2266973
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	130	30	2267190
F3 (C16-C34 Hydrocarbons)	ug/g	90	ND	ND	ND	10	570	30	2267190
F4 (C34-C50 Hydrocarbons)	ug/g	99	ND	ND	ND	10	49	30	2267190
Reached Baseline at C50	ug/g	No	Yes	Yes	Yes	N/A	Yes	N/A	2267190
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	96	95	96	98	N/A	97	N/A	2266973
4-Bromofluorobenzene	%	99	102	102	101	N/A	100	N/A	2266973
D10-Ethylbenzene	%	87	97	100	95	N/A	106	N/A	2266973
D4-1,2-Dichloroethane	%	106	110	108	104	N/A	102	N/A	2266973
o-Terphenyl	%	85	86	84	85	N/A	95	N/A	2267190

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4677		HD4678	HD4678		HD4679		
Sampling Date		2010/09/07		2010/09/07	2010/09/07		2010/09/07		
COC Number		n/a		n/a	n/a		n/a		
	Units	**L63076 \ ELA-11 Lab-Dup**	**RDL**	**L63078 \ ELA-13@SURFACE**	**L63078 \ ELA-13@SURFACE Lab-Dup**	**RDL**	**L63080 \ ELA-13@1.0M**	**RDL**	**QC Batch**
Moisture	%	71	1	76	N/A	1	1	1	2267544
F1 (C6-C10)	ug/g	N/A	30	ND	N/A	40	ND	10	2266973
F1 (C6-C10) - BTEX	ug/g	N/A	30	ND	N/A	40	ND	10	2266973
F2 (C10-C16 Hydrocarbons)	ug/g	N/A	30	ND	ND	40	ND	10	2267190
F3 (C16-C34 Hydrocarbons)	ug/g	N/A	30	380	540	40	ND	10	2267190
F4 (C34-C50 Hydrocarbons)	ug/g	N/A	30	210	380 (1)	40	ND	10	2267190
Reached Baseline at C50	ug/g	N/A	N/A	No	No	N/A	Yes	N/A	2267190
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	N/A	N/A	95	N/A	N/A	95	N/A	2266973
4-Bromofluorobenzene	%	N/A	N/A	104	N/A	N/A	104	N/A	2266973
D10-Ethylbenzene	%	N/A	N/A	92	N/A	N/A	103	N/A	2266973
D4-1,2-Dichloroethane	%	N/A	N/A	120	N/A	N/A	108	N/A	2266973
o-Terphenyl	%	N/A	N/A	75	96	N/A	88	N/A	2267190

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4680	HD4681	HD4682	HD4683	HD4684		
Sampling Date		2010/09/07	2010/09/07	2010/09/07	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	**L63082 \ ELA-14@0.5M**	**L63083 \ ELA-QA/QC-1**	**L63084 \ ELA-QA/QC-2**	**L63085 \ STOCKPILE-1-1**	**L63086 \ STOCKPILE-1-2**	**RDL**	**QC Batch**
Moisture	%	2	3	2	3	3	1	2267544
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2266973
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2266973
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2267190
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	14	13	10	2267190
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2267190
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	Yes	N/A	2267190
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	97	98	97	95	97	N/A	2266973
4-Bromofluorobenzene	%	100	100	101	101	102	N/A	2266973
D10-Ethylbenzene	%	100	95	103	103	90	N/A	2266973
D4-1,2-Dichloroethane	%	103	104	101	104	108	N/A	2266973
o-Terphenyl	%	83	82	85	78	81	N/A	2267190

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4685	HD4686	HD4687	HD4688		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a		
	Units	**L63087 \ STOCKPILE-1-3**	**L63088 \ STOCKPILE-1-4**	**L63089 \ STOCKPILE-1-5**	**L63090 \ STOCKPILE-1-COMP**	**RDL**	**QC Batch**
Moisture	%	3	4	3	3	1	2267544
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	2266973
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	2266973
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	2267190
F3 (C16-C34 Hydrocarbons)	ug/g	16	20	39	18	10	2267190
F4 (C34-C50 Hydrocarbons)	ug/g	ND	11	ND	ND	10	2267190
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	2267190
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	96	97	91	95	N/A	2266973
4-Bromofluorobenzene	%	102	102	105	101	N/A	2266973
D10-Ethylbenzene	%	100	93	106	109	N/A	2266973
D4-1,2-Dichloroethane	%	107	108	105	100	N/A	2266973
o-Terphenyl	%	79	79	79	78	N/A	2267190

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4689	HD4690	HD4691	HD4692	HD4693		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	**L63091 \ STOCKPILE-2-1**	**L63092 \ STOCKPILE-2-2**	**L63093 \ STOCKPILE-2-3**	**L63094 \ STOCKPILE-2-4**	**L63095 \ STOCKPILE-2-5**	**RDL**	**QC Batch**
Moisture	%	6	5	6	4	4	1	2267785
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2267069
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2267069
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2267060
F3 (C16-C34 Hydrocarbons)	ug/g	43	26	70	25	19	10	2267060
F4 (C34-C50 Hydrocarbons)	ug/g	46	32	130	33	19	10	2267060
Reached Baseline at C50	ug/g	Yes	Yes	No	Yes	Yes	N/A	2267060
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	102	104	104	101	101	N/A	2267069
4-Bromofluorobenzene	%	99	96	98	99	97	N/A	2267069
D10-Ethylbenzene	%	91	86	91	85	87	N/A	2267069
D4-1,2-Dichloroethane	%	100	90	103	101	98	N/A	2267069
o-Terphenyl	%	103	101	101	104	104	N/A	2267060

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4694	HD4695	HD4696	HD4697		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a		
	Units	**L63096 \ STOCKPILE-2-COMP**	**L63097 \ STOCKPILE-3-1**	**L63098 \ STOCKPILE-3-2**	**L63099 \ STOCKPILE-3-3**	**RDL**	**QC Batch**
Moisture	%	4	6	5	5	1	2267785
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	2267069
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	2267069
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	2267060
F3 (C16-C34 Hydrocarbons)	ug/g	55	40	58	130	10	2267060
F4 (C34-C50 Hydrocarbons)	ug/g	41	40	47	110	10	2267060
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	2267060
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	96	106	102	105	N/A	2267069
4-Bromofluorobenzene	%	102	102	100	100	N/A	2267069
D10-Ethylbenzene	%	80	92	88	88	N/A	2267069
D4-1,2-Dichloroethane	%	101	106	101	102	N/A	2267069
o-Terphenyl	%	99	100	103	103	N/A	2267060

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4698	HD4699	HD4700	HD4701		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a		
	Units	**L63100 \ STOCKPILE-3-4**	**L63101 \ STOCKPILE-3-5**	**L63102 \ STOCKPILE-3-COMP**	**L63103 \ STOCKPILE-QA/QC-1**	**RDL**	**QC Batch**
Moisture	%	5	5	5	3	1	2267785
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	2267069
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	2267069
F2 (C10-C16 Hydrocarbons)	ug/g	ND	15	ND	ND	10	2267060
F3 (C16-C34 Hydrocarbons)	ug/g	32	100	39	24	10	2267060
F4 (C34-C50 Hydrocarbons)	ug/g	28	62	32	11	10	2267060
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	2267060
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	101	100	98	105	N/A	2267069
4-Bromofluorobenzene	%	100	94	97	99	N/A	2267069
D10-Ethylbenzene	%	87	82	90	94	N/A	2267069
D4-1,2-Dichloroethane	%	98	66	95	70	N/A	2267069
o-Terphenyl	%	101	105	104	107	N/A	2267060

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HD4702		
Sampling Date		2010/09/08		
COC Number		n/a		
	Units	**L63104 \ STOCKPILE-QA/QC-2**	**RDL**	**QC Batch**
Moisture	%	6	1	2267785
F1 (C6-C10)	ug/g	ND	10	2267069
F1 (C6-C10) - BTEX	ug/g	ND	10	2267069
F2 (C10-C16 Hydrocarbons)	ug/g	ND	10	2267060
F3 (C16-C34 Hydrocarbons)	ug/g	41	10	2267060
F4 (C34-C50 Hydrocarbons)	ug/g	42	10	2267060
Reached Baseline at C50	ug/g	Yes	N/A	2267060
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	99	N/A	2267069
4-Bromofluorobenzene	%	99	N/A	2267069
D10-Ethylbenzene	%	93	N/A	2267069
D4-1,2-Dichloroethane	%	97	N/A	2267069
o-Terphenyl	%	103	N/A	2267060

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4669	HD4670	HD4671	HD4672	HD4673	HD4674		
Sampling Date		2010/09/07	2010/09/07	2010/09/07	2010/09/07	2010/09/07	2010/09/07		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L63060 \ ELA-1@0.5M**	**L63062 \ ELA-3**	**L63064 \ ELA-4@0.5M**	**L63066 \ ELA-5**	**L63068 \ ELA-7@SURFACE**	**L63070 \ ELA-7@1.0M**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2267527
Ethylbenzene	ug/g	ND	0.003	ND	0.003	ND	ND	0.002	2267527
Toluene	ug/g	ND	0.003	ND	0.005	0.002	ND	0.002	2267527
p+m-Xylene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2267527
o-Xylene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2267527
Xylene (Total)	ug/g	ND	ND	ND	ND	ND	ND	0.002	2267527
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	96	94	96	103	87	100	N/A	2267527
D4-1,2-Dichloroethane	%	99	98	99	99	98	100	N/A	2267527
D8-Toluene	%	100	101	99	99	106	100	N/A	2267527

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4675	HD4676		HD4677	HD4677		
Sampling Date		2010/09/07	2010/09/07		2010/09/07	2010/09/07		
COC Number		n/a	n/a		n/a	n/a		
	Units	**L63072 \ ELA-9**	**L63074 \ ELA-10@0.5M**	**RDL**	**L63076 \ ELA-11**	**L63076 \ ELA-11 Lab-Dup**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	0.002	ND	ND	0.006	2267527
Ethylbenzene	ug/g	0.003	0.002	0.002	ND	ND	0.006	2267527
Toluene	ug/g	0.004	0.004	0.002	0.016	0.019	0.006	2267527
p+m-Xylene	ug/g	ND	ND	0.002	ND	ND	0.006	2267527
o-Xylene	ug/g	ND	ND	0.002	ND	ND	0.006	2267527
Xylene (Total)	ug/g	ND	ND	0.002	ND	ND	0.006	2267527
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	98	98	N/A	73	75	N/A	2267527
D4-1,2-Dichloroethane	%	101	100	N/A	100	103	N/A	2267527
D8-Toluene	%	100	98	N/A	128	125	N/A	2267527

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
Report Date: 2010/09/20

Maxxam Analytique
Client Project #: B047990

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4678		HD4679	HD4680	HD4681	HD4682		
Sampling Date		2010/09/07		2010/09/07	2010/09/07	2010/09/07	2010/09/07		
COC Number		n/a		n/a	n/a	n/a	n/a		
	Units	**L63078 \ ELA-13@SURFACE**	**RDL**	**L63080 \ ELA-13@1.0M**	**L63082 \ ELA-14@0.5M**	**L63083 \ ELA-QA/QC-1**	**L63084 \ ELA-QA/QC-2**	**RDL**	**QC Batch**
Benzene	ug/g	ND	0.6	ND	ND	ND	ND	0.002	2267527
Ethylbenzene	ug/g	ND	0.6	0.003	0.002	ND	ND	0.002	2267527
Toluene	ug/g	ND	0.6	0.004	0.004	ND	0.002	0.002	2267527
p+m-Xylene	ug/g	ND	0.6	ND	ND	ND	ND	0.002	2267527
o-Xylene	ug/g	ND	0.6	ND	ND	ND	ND	0.002	2267527
Xylene (Total)	ug/g	ND	0.6	ND	ND	ND	ND	0.002	2267527
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	98	N/A	100	98	104	101	N/A	2267527
D4-1,2-Dichloroethane	%	83	N/A	99	101	102	101	N/A	2267527
D8-Toluene	%	106	N/A	98	98	97	99	N/A	2267527

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4683	HD4684	HD4685	HD4686	HD4687		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	**L63085 \ STOCKPILE-1-1**	**L63086 \ STOCKPILE-1-2**	**L63087 \ STOCKPILE-1-3**	**L63088 \ STOCKPILE-1-4**	**L63089 \ STOCKPILE-1-5**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	ND	ND	ND	0.002	2267527
Ethylbenzene	ug/g	ND	0.002	ND	0.003	0.003	0.002	2267527
Toluene	ug/g	0.002	0.003	0.003	0.004	0.004	0.002	2267527
p+m-Xylene	ug/g	ND	ND	ND	ND	ND	0.002	2267527
o-Xylene	ug/g	ND	ND	ND	ND	ND	0.002	2267527
Xylene (Total)	ug/g	ND	ND	ND	ND	ND	0.002	2267527
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	97	99	99	95	100	N/A	2267527
D4-1,2-Dichloroethane	%	104	104	104	104	105	N/A	2267527
D8-Toluene	%	98	98	98	101	98	N/A	2267527

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4688		HD4689	HD4690	HD4691		
Sampling Date		2010/09/08		2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a		n/a	n/a	n/a		
	Units	**L63090 \ STOCKPILE-1-COMP**	**QC Batch**	**L63091 \ STOCKPILE-2-1**	**L63092 \ STOCKPILE-2-2**	**L63093 \ STOCKPILE-2-3**	**RDL**	**QC Batch**
Benzene	ug/g	ND	2267527	ND	ND	ND	0.002	2266940
Ethylbenzene	ug/g	0.002	2267527	ND	ND	0.002	0.002	2266940
Toluene	ug/g	0.004	2267527	0.002	0.003	0.004	0.002	2266940
p+m-Xylene	ug/g	ND	2267527	ND	ND	ND	0.002	2266940
o-Xylene	ug/g	ND	2267527	ND	ND	ND	0.002	2266940
Xylene (Total)	ug/g	ND	2267527	ND	ND	ND	0.002	2266940
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	96	2267527	87	89	85	N/A	2266940
D4-1,2-Dichloroethane	%	103	2267527	95	95	96	N/A	2266940
D8-Toluene	%	100	2267527	105	101	105	N/A	2266940

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4692	HD4693	HD4694	HD4695		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a		
	Units	**L63094 \ STOCKPILE-2-4**	**L63095 \ STOCKPILE-2-5**	**L63096 \ STOCKPILE-2-COMP**	**L63097 \ STOCKPILE-3-1**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	ND	ND	0.002	2266940
Ethylbenzene	ug/g	0.002	0.003	ND	0.003	0.002	2266940
Toluene	ug/g	0.003	0.004	0.003	0.005	0.002	2266940
p+m-Xylene	ug/g	ND	ND	ND	ND	0.002	2266940
o-Xylene	ug/g	ND	ND	ND	ND	0.002	2266940
Xylene (Total)	ug/g	ND	ND	ND	ND	0.002	2266940
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	83	89	87	84	N/A	2266940
D4-1,2-Dichloroethane	%	97	96	96	98	N/A	2266940
D8-Toluene	%	109	101	103	106	N/A	2266940

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4696	HD4697	HD4698	HD4699		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a	n/a		
	Units	**L63098 \ STOCKPILE-3-2**	**L63099 \ STOCKPILE-3-3**	**L63100 \ STOCKPILE-3-4**	**L63101 \ STOCKPILE-3-5**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	0.030	0.003	0.002	2266940
Ethylbenzene	ug/g	ND	0.003	0.004	0.003	0.002	2266940
Toluene	ug/g	0.003	0.005	0.018	0.005	0.002	2266940
p+m-Xylene	ug/g	ND	ND	0.003	0.002	0.002	2266940
o-Xylene	ug/g	ND	ND	ND	ND	0.002	2266940
Xylene (Total)	ug/g	ND	ND	0.003	0.002	0.002	2266940
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	89	81	87	91	N/A	2266940
D4-1,2-Dichloroethane	%	97	98	99	97	N/A	2266940
D8-Toluene	%	102	108	104	103	N/A	2266940

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HD4700	HD4701	HD4702		
Sampling Date		2010/09/08	2010/09/08	2010/09/08		
COC Number		n/a	n/a	n/a		
	Units	**L63102 \ STOCKPILE-3-COMP**	**L63103 \ STOCKPILE-QA/QC-1**	**L63104 \ STOCKPILE-QA/QC-2**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	ND	0.002	2266940
Ethylbenzene	ug/g	0.003	ND	ND	0.002	2266940
Toluene	ug/g	0.006	0.003	0.004	0.002	2266940
p+m-Xylene	ug/g	0.002	ND	ND	0.002	2266940
o-Xylene	ug/g	ND	ND	ND	0.002	2266940
Xylene (Total)	ug/g	0.002	ND	ND	0.002	2266940
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	83	96	91	N/A	2266940
D4-1,2-Dichloroethane	%	97	99	103	N/A	2266940
D8-Toluene	%	106	99	103	N/A	2266940

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HD4673	HD4678	HD4691		
Sampling Date		2010/09/07	2010/09/07	2010/09/08		
COC Number		n/a	n/a	n/a		
	Units	**L63068 \ ELA-7@SURFACE**	**L63078 \ ELA-13@SURFACE**	**L63093 \ STOCKPILE-2-3**	**RDL**	**QC Batch**
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	690	1800	350	100	2269340

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C6820
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GENERAL COMMENTS

F1-BTEX Analysis:
For Samples# 4669,HD4670,HD4671,HD4671Dup.,HD4672,HD4673,HD4674,HD4675,HD4676,HD4677, HD4678, HD4679,HD4680,HD4681& HD4682., analysis was performed past sample holding time. This may increase the variability associated with these results.

Sample HD4677-01: F1-BTEX Analysis:
Detection limits were adjusted for high moisture content .

VOC Analysis: Detection limits were adjusted for high moisture content.

Sample HD4678-01: F1-BTEX & F2-F4 Analysis:
Detection limits were adjusted for high moisture content .

VOC Analysis: Due to matrix interference on internal satndard responses in the low level direct purge method, the sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260B (modified). The DLs were adjusted accordingly. The DLs were further adjusted due to high moisture content (75.9%).

Results relate only to the items tested.

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B047990
P.O. #:
Project name:

Quality Assurance Report

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2266940	JZO	Matrix Spike	4-Bromofluorobenzene	2010/09/16		78	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/16		96	%	60 - 140
			D8-Toluene	2010/09/16		135	%	60 - 140
			Benzene	2010/09/16		97	%	39 - 137
			Ethylbenzene	2010/09/16		102	%	46 - 150
			Toluene	2010/09/16		120	%	30 - 158
			p+m-Xylene	2010/09/16		84	%	29 - 161
			o-Xylene	2010/09/16		92	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/09/16		102	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/16		100	%	60 - 140
			D8-Toluene	2010/09/16		98	%	60 - 140
			Benzene	2010/09/16		109	%	60 - 140
			Ethylbenzene	2010/09/16		112	%	60 - 140
			Toluene	2010/09/16		107	%	60 - 140
			p+m-Xylene	2010/09/16		102	%	60 - 140
			o-Xylene	2010/09/16		98	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/16		105	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/16		104	%	60 - 140
			D8-Toluene	2010/09/16		96	%	60 - 140
			Benzene	2010/09/16	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/16	ND, RDL=0.002		ug/g	
			Toluene	2010/09/16	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/16	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/16	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/16	ND, RDL=0.002		ug/g	
		RPD	Benzene	2010/09/16	NC		%	50
			Ethylbenzene	2010/09/16	NC		%	50
			Toluene	2010/09/16	NC		%	50
			p+m-Xylene	2010/09/16	NC		%	50
			o-Xylene	2010/09/16	NC		%	50
			Xylene (Total)	2010/09/16	NC		%	50
2266973	MSB	Matrix Spike [HD4671-01]	1,4-Difluorobenzene	2010/09/16		99	%	60 - 140
			4-Bromofluorobenzene	2010/09/16		99	%	60 - 140
			D10-Ethylbenzene	2010/09/16		99	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/16		101	%	60 - 140
			F1 (C6-C10)	2010/09/16		75	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/16		99	%	60 - 140
			4-Bromofluorobenzene	2010/09/16		101	%	60 - 140
			D10-Ethylbenzene	2010/09/16		97	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/16		102	%	60 - 140
			F1 (C6-C10)	2010/09/16		79	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/17		99	%	60 - 140
			4-Bromofluorobenzene	2010/09/17		102	%	60 - 140
			D10-Ethylbenzene	2010/09/17		100	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/17		105	%	60 - 140
			F1 (C6-C10)	2010/09/17	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/17	ND, RDL=10		ug/g	
		RPD [HD4671-01]	F1 (C6-C10)	2010/09/16	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/16	NC		%	50
2267060	DPO	Matrix Spike	o-Terphenyl	2010/09/16		99	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/16		91	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/16		91	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/16		91	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/16		99	%	30 - 130

Maxxam Analytique
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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2267060	DPO	Spiked Blank	F2 (C10-C16 Hydrocarbons)	2010/09/16		76	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/16		76	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/16		76	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/16		103	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/16	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/16	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/16	ND, RDL=10		ug/g	
		RPD	F2 (C10-C16 Hydrocarbons)	2010/09/16	9.0		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/16	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/16	NC		%	50
2267069	DCA	Matrix Spike	1,4-Difluorobenzene	2010/09/16		100	%	60 - 140
			4-Bromofluorobenzene	2010/09/16		98	%	60 - 140
			D10-Ethylbenzene	2010/09/16		92	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/16		98	%	60 - 140
			F1 (C6-C10)	2010/09/16		NC	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/16		104	%	60 - 140
			4-Bromofluorobenzene	2010/09/16		100	%	60 - 140
			D10-Ethylbenzene	2010/09/16		91	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/16		100	%	60 - 140
			F1 (C6-C10)	2010/09/16		73	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/16		103	%	60 - 140
			4-Bromofluorobenzene	2010/09/16		97	%	60 - 140
			D10-Ethylbenzene	2010/09/16		85	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/16		100	%	60 - 140
			F1 (C6-C10)	2010/09/16	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/16	ND, RDL=10		ug/g	
		RPD	F1 (C6-C10)	2010/09/16	21.9		%	50
			F1 (C6-C10) - BTEX	2010/09/16	21.2		%	50
2267190	YY	Matrix Spike						
		[HD4678-01]	o-Terphenyl	2010/09/16		97	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/16		NC	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/16		NC	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/16		NC	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/16		87	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/16		80	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/16		80	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/16		80	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/16		91	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/16	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/16	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/16	ND, RDL=10		ug/g	
		RPD [HD4678-01]	F2 (C10-C16 Hydrocarbons)	2010/09/16	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/16	36.0		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/16	59.8 (1)		%	50
2267527	JZO	Matrix Spike						
		[HD4677-01]	4-Bromofluorobenzene	2010/09/16		74	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/16		102	%	60 - 140
			D8-Toluene	2010/09/16		132	%	60 - 140
			Benzene	2010/09/16		110	%	39 - 137
			Ethylbenzene	2010/09/16		95	%	46 - 150
			Toluene	2010/09/16		138	%	30 - 158
			p+m-Xylene	2010/09/16		79	%	29 - 161
			o-Xylene	2010/09/16		75	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/09/16		104	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/16		101	%	60 - 140

Maxxam Analytique
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C6820

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2267527	JZO	Spiked Blank	D8-Toluene	2010/09/16		99	%	60 - 140
			Benzene	2010/09/16		107	%	60 - 140
			Ethylbenzene	2010/09/16		111	%	60 - 140
			Toluene	2010/09/16		106	%	60 - 140
			p+m-Xylene	2010/09/16		100	%	60 - 140
			o-Xylene	2010/09/16		97	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/16		103	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/16		101	%	60 - 140
			D8-Toluene	2010/09/16		99	%	60 - 140
			Benzene	2010/09/16	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/16	ND, RDL=0.002		ug/g	
			Toluene	2010/09/16	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/16	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/16	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/16	ND, RDL=0.002		ug/g	
		RPD [HD4677-01]	Benzene	2010/09/16	NC		%	50
			Ethylbenzene	2010/09/16	NC		%	50
			Toluene	2010/09/16	NC		%	50
			p+m-Xylene	2010/09/16	NC		%	50
			o-Xylene	2010/09/16	NC		%	50
			Xylene (Total)	2010/09/16	NC		%	50
2267544	AC	RPD [HD4677-01]	Moisture	2010/09/16	0.1		%	20
2267785	LKA	RPD	Moisture	2010/09/16	5.6		%	20
2269340	RUS	Matrix Spike	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/20		98	%	65 - 135
		Spiked Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/20		98	%	65 - 135
		Method Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/20	ND, RDL=100		ug/g	
		RPD	F4G-sg (Grav. Heavy Hydrocarbons)	2010/09/20	NC		%	50

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Validation Signature Page

Maxxam Job #: B0C6820

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

MEDHAT RISKALLAH, Manager, Hydrocarbon Department

MAMDOUH SALIB, Analyst, Hydrocarbons

==========

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.

Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B047990
Received: 2010/09/10, 12:20

Sample Matrix: SOIL
Samples Received: 46

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Sample rec'd - no analysis requested	12	N/A	2010/09/10		
Benzene, toluene, ethylbenzene,xylene	34	2010/09/14	2010/09/15	STL SOP-00145/11	MA. 400 - COV 1.1
Disposal Charges	34	2010/09/11	2010/09/10		
Petroleum Hydro. (F1) Low Level BTEX (1)	34	N/A	N/A		
Petroleum Hydrocarbons (F2-F4) (1)	34	N/A	N/A		
Mercury by ICP/MS	34	2010/09/15	2010/09/15	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	17	2010/09/15	2010/09/15	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	17	2010/09/15	2010/09/16	STL SOP-00006/8	MA.200- Mét 1.1
PCB	34	2010/09/15	2010/09/15	STL SOP-00160/5	MA. 403 - BPC 2.0

(1) This test was performed by Maxxam - Mississauga

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63060	L63062	L63062	L63064	L63066		
Sampling Date					2010/09/07	2010/09/07	2010/09/07	2010/09/07	2010/09/07		
	Units	**A**	**B**	**C**	**ELA-1@0.5M**	**ELA-3**	**ELA-3 Lab-Dup**	**ELA-4@0.5M**	**ELA-5**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	1.7	4.1	4.1	2.0	13	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.03	0.02	ND	ND	0.02	0.02	798003
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	798003
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	798003
Cobalt (Co)	mg/kg	**15**	50	300	4	4	4	4	5	2	798003
Chromium (Cr)	mg/kg	**85**	250	800	14	15	15	16	20	2	798003
Copper (Cu)	mg/kg	**40**	100	500	7	6	7	7	11	2	798003
Nickel (Ni)	mg/kg	**50**	100	500	7	6	7	7	11	1	798003
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	9	5	798003
Zinc (Zn)	mg/kg	**110**	500	1500	18	16	18	15	43	10	798003

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63068	L63070	L63072	L63074	L63076		
Sampling Date					2010/09/07	2010/09/07	2010/09/07	2010/09/07	2010/09/07		
	Units	**A**	**B**	**C**	**ELA-7@SURFACE**	**ELA-7@1.0M**	**ELA-9**	**ELA-10@0.5M**	**ELA-11**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	72	1.4	2.9	1.2	74	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	**0.24**	ND	ND	ND	0.10	0.02	798003
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	798003
Cadmium (Cd)	mg/kg	**1.5**	5	20	0.8	ND	ND	ND	1.5	0.5	798003
Cobalt (Co)	mg/kg	**15**	50	300	4	3	5	4	5	2	798003
Chromium (Cr)	mg/kg	**85**	250	800	8	10	16	12	19	2	798003
Copper (Cu)	mg/kg	**40**	100	500	11	8	7	9	110	2	798003
Nickel (Ni)	mg/kg	**50**	100	500	5	4	8	6	17	1	798003
Lead (Pb)	mg/kg	**50**	500	1000	48	ND	ND	ND	28	5	798003
Zinc (Zn)	mg/kg	**110**	500	1500	43	15	22	20	**120**	10	798003

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63078	L63080	L63082	L63083	L63084		
Sampling Date					2010/09/07	2010/09/07	2010/09/07	2010/09/07	2010/09/07		
	Units	**A**	**B**	**C**	**ELA-13@SURFACE**	**ELA-13@1.0M**	**ELA-14@0.5M**	**ELA-QA/QC-1**	**ELA-QA/QC-2**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	80	1.3	2.6	3.3	6.5	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	**0.23**	ND	ND	ND	ND	0.02	798003
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	798003
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	798003
Cobalt (Co)	mg/kg	**15**	50	300	ND	3	6	5	6	2	798003
Chromium (Cr)	mg/kg	**85**	250	800	3	10	26	17	17	2	798003
Copper (Cu)	mg/kg	**40**	100	500	5	8	17	8	20	2	798003
Nickel (Ni)	mg/kg	**50**	100	500	2	5	9	8	11	1	798003
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	47	5	798003
Zinc (Zn)	mg/kg	**110**	500	1500	48	15	21	25	72	10	798003

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63085	L63086	L63087		L63088		
Sampling Date					2010/09/08	2010/09/08	2010/09/08		2010/09/08		
	Units	**A**	**B**	**C**	**STOCKPILE-1-1**	**STOCKPILE-1-2**	**STOCKPILE-1-3**	**QC Batch**	**STOCKPILE-1-4**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.1	2.9	3.6	N/A	3.0	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	798003	ND	0.02	798011
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	798003	ND	5	798011
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	798003	ND	0.5	798011
Cobalt (Co)	mg/kg	**15**	50	300	5	4	5	798003	5	2	798011
Chromium (Cr)	mg/kg	**85**	250	800	16	14	15	798003	17	2	798011
Copper (Cu)	mg/kg	**40**	100	500	9	8	7	798003	8	2	798011
Nickel (Ni)	mg/kg	**50**	100	500	9	6	7	798003	8	1	798011
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	798003	ND	5	798011
Zinc (Zn)	mg/kg	**110**	500	1500	22	21	23	798003	25	10	798011

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QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63089	L63090	L63091	L63092		
Sampling Date					2010/09/08	2010/09/08	2010/09/08	2010/09/08		
	Units	**A**	**B**	**C**	**STOCKPILE-1-5**	**STOCKPILE-1-COMP**	**STOCKPILE-2-1**	**STOCKPILE-2-2**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.4	3.4	4.0	5.9	N/A	N/A
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	798011
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798011
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	798011
Cobalt (Co)	mg/kg	**15**	50	300	4	6	4	5	2	798011
Chromium (Cr)	mg/kg	**85**	250	800	16	22	14	18	2	798011
Copper (Cu)	mg/kg	**40**	100	500	9	11	9	14	2	798011
Nickel (Ni)	mg/kg	**50**	100	500	7	11	7	9	1	798011
Lead (Pb)	mg/kg	**50**	500	1000	5	ND	ND	37	5	798011
Zinc (Zn)	mg/kg	**110**	500	1500	21	31	29	37	10	798011

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QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63093	L63094	L63094	L63095		
Sampling Date					2010/09/08	2010/09/08	2010/09/08	2010/09/08		
	Units	**A**	**B**	**C**	**STOCKPILE-2-3**	**STOCKPILE-2-4**	**STOCKPILE-2-4 Lab-Dup**	**STOCKPILE-2-5**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.6	6.5	6.5	3.2	N/A	N/A
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	0.05	ND	ND	ND	0.02	798011
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798011
Cadmium (Cd)	mg/kg	**1.5**	5	20	1.5	ND	ND	ND	0.5	798011
Cobalt (Co)	mg/kg	**15**	50	300	7	5	5	5	2	798011
Chromium (Cr)	mg/kg	**85**	250	800	19	17	16	16	2	798011
Copper (Cu)	mg/kg	**40**	100	500	26	10	9	11	2	798011
Nickel (Ni)	mg/kg	**50**	100	500	15	9	7	8	1	798011
Lead (Pb)	mg/kg	**50**	500	1000	44	24	14	**78**	5	798011
Zinc (Zn)	mg/kg	**110**	500	1500	**120**	26	23	28	10	798011

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63096	L63097	L63098	L63099		
Sampling Date					2010/09/08	2010/09/08	2010/09/08	2010/09/08		
	Units	**A**	**B**	**C**	**STOCKPILE-2-COMP**	**STOCKPILE-3-1**	**STOCKPILE-3-2**	**STOCKPILE-3-3**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.2	6.6	5.5	6.8	N/A	N/A
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	798011
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798011
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.7	0.5	798011
Cobalt (Co)	mg/kg	**15**	50	300	5	5	6	7	2	798011
Chromium (Cr)	mg/kg	**85**	250	800	18	20	19	23	2	798011
Copper (Cu)	mg/kg	**40**	100	500	12	22	**50**	34	2	798011
Nickel (Ni)	mg/kg	**50**	100	500	9	12	11	15	1	798011
Lead (Pb)	mg/kg	**50**	500	1000	19	33	**52**	**170**	5	798011
Zinc (Zn)	mg/kg	**110**	500	1500	35	**120**	100	**120**	10	798011

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63100	L63101	L63102	L63103		
Sampling Date					2010/09/08	2010/09/08	2010/09/08	2010/09/08		
	Units	**A**	**B**	**C**	**STOCKPILE-3-4**	**STOCKPILE-3-5**	**STOCKPILE-3-COMP**	**STOCKPILE-QA/QC-1**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	8.3	7.8	8.2	2.5	N/A	N/A
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	798011
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	**7**	ND	5	798011
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	798011
Cobalt (Co)	mg/kg	**15**	50	300	5	6	6	4	2	798011
Chromium (Cr)	mg/kg	**85**	250	800	18	19	22	14	2	798011
Copper (Cu)	mg/kg	**40**	100	500	15	29	220	7	2	798011
Nickel (Ni)	mg/kg	**50**	100	500	10	14	13	5	1	798011
Lead (Pb)	mg/kg	**50**	500	1000	38	**140**	**330**	ND	5	798011
Zinc (Zn)	mg/kg	**110**	500	1500	62	61	71	14	10	798011

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N/A = Not Applicable
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QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L63104		
Sampling Date					2010/09/08		
	Units	**A**	**B**	**C**	**STOCKPILE-QA/QC-2**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	2.2	N/A	N/A
METALS							
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.02	798011
Arsenic (As)	mg/kg	**6**	30	50	ND	5	798011
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.5	798011
Cobalt (Co)	mg/kg	**15**	50	300	4	2	798011
Chromium (Cr)	mg/kg	**85**	250	800	15	2	798011
Copper (Cu)	mg/kg	**40**	100	500	6	2	798011
Nickel (Ni)	mg/kg	**50**	100	500	7	1	798011
Lead (Pb)	mg/kg	**50**	500	1000	ND	5	798011
Zinc (Zn)	mg/kg	**110**	500	1500	19	10	798011

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L63060		L63062	L63064		L63066		
Sampling Date		2010/09/07		2010/09/07	2010/09/07		2010/09/07		
	Units	**ELA-1@0.5M**	**QC Batch**	**ELA-3**	**ELA-4@0.5M**	**QC Batch**	**ELA-5**	**RDL**	**QC Batch**
% Moisture	%	1.7	N/A	4.1	2.0	N/A	13	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	797645	ND	ND	797706	ND	0.10	797645
Aroclor 1248	mg/kg	ND	797645	ND	ND	797706	ND	0.10	797645
Aroclor 1254	mg/kg	ND	797645	ND	ND	797706	ND	0.10	797645
Aroclor 1260	mg/kg	ND	797645	ND	ND	797706	ND	0.10	797645
Total PCB	mg/kg	ND	797645	ND	ND	797706	ND	0.10	797645
Surrogate Recovery (%)									
Decachlorobiphenyl	%	112	797645	117	115	797706	113	N/A	797645

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L63068		L63070		L63072		
Sampling Date		2010/09/07		2010/09/07		2010/09/07		
	Units	**ELA-7@SURFACE**	**QC Batch**	**ELA-7@1.0M**	**QC Batch**	**ELA-9**	**RDL**	**QC Batch**
% Moisture	%	72	N/A	1.4	N/A	2.9	N/A	N/A
PCB								
Aroclor 1242	mg/kg	ND	797831	ND	797645	ND	0.10	797706
Aroclor 1248	mg/kg	ND	797831	ND	797645	ND	0.10	797706
Aroclor 1254	mg/kg	ND	797831	ND	797645	ND	0.10	797706
Aroclor 1260	mg/kg	ND	797831	ND	797645	ND	0.10	797706
Total PCB	mg/kg	ND	797831	ND	797645	ND	0.10	797706
Surrogate Recovery (%)								
Decachlorobiphenyl	%	86	797831	111	797645	115	N/A	797706

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N/A = Not Applicable
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QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L63074		L63076	L63078		L63080		
Sampling Date		2010/09/07		2010/09/07	2010/09/07		2010/09/07		
	Units	**ELA-10@0.5M**	**QC Batch**	**ELA-11**	**ELA-13@SURFACE**	**QC Batch**	**ELA-13@1.0M**	**RDL**	**QC Batch**
% Moisture	%	1.2	N/A	74	80	N/A	1.3	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	797645	ND	ND	797831	ND	0.10	797706
Aroclor 1248	mg/kg	ND	797645	ND	ND	797831	ND	0.10	797706
Aroclor 1254	mg/kg	ND	797645	ND	ND	797831	ND	0.10	797706
Aroclor 1260	mg/kg	ND	797645	ND	ND	797831	ND	0.10	797706
Total PCB	mg/kg	ND	797645	ND	ND	797831	ND	0.10	797706
Surrogate Recovery (%)									
Decachlorobiphenyl	%	112	797645	93	97	797831	114	N/A	797706

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L63082	L63083	L63084	L63085	L63086		
Sampling Date		2010/09/07	2010/09/07	2010/09/07	2010/09/08	2010/09/08		
	Units	**ELA-14@0.5M**	**ELA-QA/QC-1**	**ELA-QA/QC-2**	**STOCKPILE-1-1**	**STOCKPILE-1-2**	**RDL**	**QC Batch**
% Moisture	%	2.6	3.3	6.5	3.1	2.9	N/A	N/A
PCB								
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	0.10	797645
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	0.10	797645
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	0.10	797645
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	0.10	797645
Total PCB	mg/kg	ND	ND	ND	ND	ND	0.10	797645
Surrogate Recovery (%)								
Decachlorobiphenyl	%	111	111	112	110	111	N/A	797645

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L63087	L63088	L63089	L63090		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08		
	Units	**STOCKPILE-1-3**	**STOCKPILE-1-4**	**STOCKPILE-1-5**	**STOCKPILE-1-COMP**	**RDL**	**QC Batch**
% Moisture	%	3.6	3.0	3.4	3.4	N/A	N/A
PCB							
Aroclor 1242	mg/kg	ND	ND	ND	ND	0.10	797645
Aroclor 1248	mg/kg	ND	ND	ND	ND	0.10	797645
Aroclor 1254	mg/kg	ND	ND	ND	ND	0.10	797645
Aroclor 1260	mg/kg	ND	ND	ND	ND	0.10	797645
Total PCB	mg/kg	ND	ND	ND	ND	0.10	797645
Surrogate Recovery (%)							
Decachlorobiphenyl	%	118	114	109	112	N/A	797645

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L63091	L63091	L63092		L63093		
Sampling Date		2010/09/08	2010/09/08	2010/09/08		2010/09/08		
	Units	**STOCKPILE-2-1**	**STOCKPILE-2-1 Lab-Dup**	**STOCKPILE-2-2**	**QC Batch**	**STOCKPILE-2-3**	**RDL**	**QC Batch**
% Moisture	%	4.0	4.0	5.9	N/A	5.6	N/A	N/A
PCB								
Aroclor 1242	mg/kg	ND	ND	ND	797706	ND	0.10	797645
Aroclor 1248	mg/kg	ND	ND	ND	797706	ND	0.10	797645
Aroclor 1254	mg/kg	ND	ND	ND	797706	0.57	0.10	797645
Aroclor 1260	mg/kg	ND	ND	ND	797706	0.40	0.10	797645
Total PCB	mg/kg	ND	ND	ND	797706	0.97	0.10	797645
Surrogate Recovery (%)								
Decachlorobiphenyl	%	118	114	115	797706	112	N/A	797645

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L63094	L63095		L63096		
Sampling Date		2010/09/08	2010/09/08		2010/09/08		
	Units	**STOCKPILE-2-4**	**STOCKPILE-2-5**	**QC Batch**	**STOCKPILE-2-COMP**	**RDL**	**QC Batch**
% Moisture	%	6.5	3.2	N/A	5.2	N/A	N/A
PCB							
Aroclor 1242	mg/kg	ND	ND	797645	ND	0.10	797706
Aroclor 1248	mg/kg	ND	ND	797645	ND	0.10	797706
Aroclor 1254	mg/kg	ND	ND	797645	ND	0.10	797706
Aroclor 1260	mg/kg	ND	ND	797645	ND	0.10	797706
Total PCB	mg/kg	ND	ND	797645	ND	0.10	797706
Surrogate Recovery (%)							
Decachlorobiphenyl	%	111	105	797645	114	N/A	797706

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L63097	L63098	L63098	L63099		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08		
	Units	**STOCKPILE-3-1**	**STOCKPILE-3-2**	**STOCKPILE-3-2 Lab-Dup**	**STOCKPILE-3-3**	**RDL**	**QC Batch**
% Moisture	%	6.6	5.5	5.5	6.8	N/A	N/A
PCB							
Aroclor 1242	mg/kg	ND	ND	ND	ND	0.10	797645
Aroclor 1248	mg/kg	ND	ND	ND	ND	0.10	797645
Aroclor 1254	mg/kg	ND	ND	ND	ND	0.10	797645
Aroclor 1260	mg/kg	ND	ND	ND	ND	0.10	797645
Total PCB	mg/kg	ND	ND	ND	ND	0.10	797645
Surrogate Recovery (%)							
Decachlorobiphenyl	%	112	108	108	119	N/A	797645

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L63100		L63101	L63101		
Sampling Date		2010/09/08		2010/09/08	2010/09/08		
	Units	**STOCKPILE-3-4**	**QC Batch**	**STOCKPILE-3-5**	**STOCKPILE-3-5 Lab-Dup**	**RDL**	**QC Batch**
% Moisture	%	8.3	N/A	7.8	7.8	N/A	N/A
PCB							
Aroclor 1242	mg/kg	ND	797706	ND	ND	0.10	797645
Aroclor 1248	mg/kg	ND	797706	ND	ND	0.10	797645
Aroclor 1254	mg/kg	ND	797706	ND	ND	0.10	797645
Aroclor 1260	mg/kg	ND	797706	ND	ND	0.10	797645
Total PCB	mg/kg	ND	797706	ND	ND	0.10	797645
Surrogate Recovery (%)							
Decachlorobiphenyl	%	107	797706	109	114	N/A	797645

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L63102	L63103	L63104		
Sampling Date		2010/09/08	2010/09/08	2010/09/08		
	Units	**STOCKPILE-3-COMP**	**STOCKPILE-QA/QC-1**	**STOCKPILE-QA/QC-2**	**RDL**	**QC Batch**
% Moisture	%	8.2	2.5	2.2	N/A	N/A
PCB						
Aroclor 1242	mg/kg	ND	ND	ND	0.10	797706
Aroclor 1248	mg/kg	ND	ND	ND	0.10	797706
Aroclor 1254	mg/kg	ND	ND	ND	0.10	797706
Aroclor 1260	mg/kg	ND	ND	ND	0.10	797706
Total PCB	mg/kg	ND	ND	ND	0.10	797706
Surrogate Recovery (%)						
Decachlorobiphenyl	%	101	108	100	N/A	797706

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B047990
Report Date: 2010/09/20

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

PCB (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B047990

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
797645	TN	Spiked Blank	Decachlorobiphenyl	2010/09/15		93	%
			Aroclor 1242	2010/09/15		92	%
			Aroclor 1260	2010/09/15		106	%
		Method Blank	Decachlorobiphenyl	2010/09/15		110	%
			Aroclor 1242	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/15	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/15	ND, RDL=0.10		mg/kg
797706	TN	Spiked Blank	Decachlorobiphenyl	2010/09/15		115	%
			Aroclor 1242	2010/09/15		93	%
			Aroclor 1260	2010/09/15		108	%
		Method Blank	Decachlorobiphenyl	2010/09/15		108	%
			Aroclor 1242	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/15	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/15	ND, RDL=0.10		mg/kg
797831	TN	Spiked Blank	Decachlorobiphenyl	2010/09/15		95	%
			Aroclor 1242	2010/09/15		67 (1)	%
			Aroclor 1260	2010/09/15		92	%
		Method Blank	Decachlorobiphenyl	2010/09/15		99	%
			Aroclor 1242	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/15	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/15	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/15	ND, RDL=0.10		mg/kg
798003	KK	Spiked Blank	Mercury (Hg)	2010/09/15		101	%
			Arsenic (As)	2010/09/15		102	%
			Cadmium (Cd)	2010/09/15		105	%
			Cobalt (Co)	2010/09/15		102	%
			Chromium (Cr)	2010/09/15		102	%
			Copper (Cu)	2010/09/15		102	%
			Nickel (Ni)	2010/09/15		103	%
			Lead (Pb)	2010/09/15		103	%
			Zinc (Zn)	2010/09/15		104	%
		Method Blank	Mercury (Hg)	2010/09/15	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/15	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/15	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/15	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/15	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/15	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/15	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/15	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/15	ND, RDL=10		mg/kg
798011	KK	Spiked Blank	Mercury (Hg)	2010/09/16		103	%
			Arsenic (As)	2010/09/16		101	%
			Cadmium (Cd)	2010/09/16		101	%
			Cobalt (Co)	2010/09/16		99	%
			Chromium (Cr)	2010/09/16		102	%
			Copper (Cu)	2010/09/16		101	%
			Nickel (Ni)	2010/09/16		99	%
			Lead (Pb)	2010/09/16		103	%
			Zinc (Zn)	2010/09/16		101	%
		Method Blank	Mercury (Hg)	2010/09/16	ND, RDL=0.02		mg/kg

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: B047990

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
798011	KK	Method Blank	Arsenic (As)	2010/09/16	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/16	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/16	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/16	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/16	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/16	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/16	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/16	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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.
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/21

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B048788
Received: 2010/09/15, 15:45

Sample Matrix: SOIL
Samples Received: 68

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	68	2010/09/15	2010/09/16		
Mercury by ICP/MS	28	2010/09/16	2010/09/16	STL SOP-0006/8	MA.200-Hg 1.0
Mercury by ICP/MS	10	2010/09/16	2010/09/17	STL SOP-0006/8	MA.200-Hg 1.0
Mercury by ICP/MS	30	2010/09/17	2010/09/17	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	27	2010/09/16	2010/09/17	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	40	2010/09/17	2010/09/21	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	1	2010/09/20	2010/09/20	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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.

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66801	L66815	L66816		
Sampling Date					2010/09/10	2010/09/10	2010/09/10		
	Units	**A**	**B**	**C**	**3-DT2-01-1@SURFACE**	**3-DT2-01-1@0.3M**	**3-DT2-01-2@SURFACE**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	0.03	0.02	0.03	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	5	5	ND	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	3	3	4	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	13	13	16	2	798347
Copper (Cu)	mg/kg	**40**	100	500	7	6	10	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	5	5	7	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	17	13	18	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66817	L66818	L66819		
Sampling Date					2010/09/10	2010/09/10	2010/09/10		
	Units	**A**	**B**	**C**	**3-DT2-01-2@0.3M**	**3-DT2-01-3@SURFACE**	**3-DT2-01-3@0.3M**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.03	ND	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	6	ND	ND	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	3	4	4	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	11	15	13	2	798347
Copper (Cu)	mg/kg	**40**	100	500	6	7	6	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	2	6	4	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	ND	15	11	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66820	L66821	L66822	L66822	L66822		
Sampling Date					2010/09/10	2010/09/10	2010/09/10	2010/09/10	2010/09/10		
	Units	**A**	**B**	**C**	**3-DT2-01-4@SURFACE**	**3-DT2-01-4@0.3M**	**3-DT2-01-5**	**3-DT2-01-5 Lab-Dup**	**3-DT2-01-5 Lab-Dup 2**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.16	ND	ND	ND	ND	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	ND	3	4	3	3	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	3	12	13	11	14	2	798347
Copper (Cu)	mg/kg	**40**	100	500	5	6	8	6	7	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	1	3	9	4	5	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	43	11	14	12	12	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66823	L66824	L66825	L66827		
Sampling Date					2010/09/10	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**3-DT2-01-QA/QC**	**4-DT2-04-1@SURFACE**	**4-DT2-04-1@0.3M**	**4-DT2-04-2**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.05	0.07	0.02	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	0.7	ND	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	4	4	5	4	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	12	14	14	14	2	798347
Copper (Cu)	mg/kg	**40**	100	500	6	16	17	10	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	4	7	6	7	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	ND	19	**61**	**250**	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	13	36	59	27	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66828	L66829		L66829		
Sampling Date					2010/09/11	2010/09/11		2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-3@SURFACE**	**4-DT2-04-3@0.3M**	**QC Batch**	**4-DT2-04-3@0.3M REPEAT**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	0.06	0.07	798347	0.05	0.02	799498
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	798347	ND	5	799498
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	**2.2**	798347	1.4	0.5	799498
Cobalt (Co)	mg/kg	**15**	50	300	5	5	798347	5	2	799498
Chromium (Cr)	mg/kg	**85**	250	800	18	14	798347	18	2	799498
Copper (Cu)	mg/kg	**40**	100	500	16	21	798347	25	2	799498
Nickel (Ni)	mg/kg	**50**	100	500	9	6	798347	11	1	799498
Lead (Pb)	mg/kg	**50**	500	1000	27	46	798347	45	5	799498
Zinc (Zn)	mg/kg	**110**	500	1500	44	41	798347	51	10	799498

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66829	L66830	L66831	L66832		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-3@0.3M Lab-Dup**	**4-DT2-04-4**	**4-DT2-04-5@SURFACE**	**4-DT2-04-5@0.3M**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	0.06	0.04	0.04	0.03	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	1.3	0.9	ND	ND	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	6	5	5	5	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	18	17	16	15	2	798347
Copper (Cu)	mg/kg	**40**	100	500	32 (1)	**86**	**48**	9	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	9 (1)	8	8	7	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	49	**250**	14	18	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	92	**120**	84	28	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Report Date: 2010/09/21

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Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66833	L66834	L66835	L66836	L66836		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-6**	**4-DT2-04-7@SURFACE**	**4-DT2-04-7@0.3M**	**4-DT2-04-8**	**4-DT2-04-8 Lab-Dup**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	798649
Arsenic (As)	mg/kg	**6**	30	50	ND	**8**	ND	ND	ND	5	798649
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	6.8	ND	ND	ND	0.5	798649
Cobalt (Co)	mg/kg	**15**	50	300	5	7	4	5	4	2	798649
Chromium (Cr)	mg/kg	**85**	250	800	14	33	13	14	14	2	798649
Copper (Cu)	mg/kg	**40**	100	500	11	**89**	14	10	8	2	798649
Nickel (Ni)	mg/kg	**50**	100	500	7	33	6	7	7	1	798649
Lead (Pb)	mg/kg	**50**	500	1000	9	**160**	7	ND	ND	5	798649
Zinc (Zn)	mg/kg	**110**	500	1500	23	1800	30	21	17	10	798649

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66836	L66839	L66840	L66841		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-8 Lab-Dup 2**	**4-DT2-04-9**	**4-DT2-04-10@SURFACE**	**4-DT2-04-10@0.3M**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	0.03	ND	0.02	798649
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798649
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	798649
Cobalt (Co)	mg/kg	**15**	50	300	4	4	4	4	2	798649
Chromium (Cr)	mg/kg	**85**	250	800	11	12	15	12	2	798649
Copper (Cu)	mg/kg	**40**	100	500	7	9	10	9	2	798649
Nickel (Ni)	mg/kg	**50**	100	500	5 (1)	6	7	5	1	798649
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	7	ND	5	798649
Zinc (Zn)	mg/kg	**110**	500	1500	15	16	21	15	10	798649

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Report Date: 2010/09/21

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Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66842	L66843	L66844	L66845		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-11@SURFACE**	**4-DT2-04-11@0.3M**	**4-DT2-04-12**	**4-DT2-04-13**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	798649
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798649
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	798649
Cobalt (Co)	mg/kg	**15**	50	300	5	6	4	4	2	798649
Chromium (Cr)	mg/kg	**85**	250	800	17	17	12	11	2	798649
Copper (Cu)	mg/kg	**40**	100	500	10	9	8	8	2	798649
Nickel (Ni)	mg/kg	**50**	100	500	9	10	5	6	1	798649
Lead (Pb)	mg/kg	**50**	500	1000	9	ND	ND	11	5	798649
Zinc (Zn)	mg/kg	**110**	500	1500	20	19	16	16	10	798649

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/21

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Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66845	L66845	L66846	L66847		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-13 Lab-Dup**	**4-DT2-04-13 Lab-Dup 2**	**4-DT2-04-14@SURFACE**	**4-DT2-04-14@0.3M**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	0.03	ND	0.02	798649
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798649
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	1.5	ND	0.5	798649
Cobalt (Co)	mg/kg	**15**	50	300	4	4	5	5	2	798649
Chromium (Cr)	mg/kg	**85**	250	800	12	12	17	13	2	798649
Copper (Cu)	mg/kg	**40**	100	500	6	13 (1)	**64**	11	2	798649
Nickel (Ni)	mg/kg	**50**	100	500	6	6	7	7	1	798649
Lead (Pb)	mg/kg	**50**	500	1000	8	10	**73**	8	5	798649
Zinc (Zn)	mg/kg	**110**	500	1500	14	17	65	20	10	798649

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66848	L66849	L66859		
Sampling Date					2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-15@SURFACE**	**4-DT2-04-15@0.3M**	**4-DT2-04-16@SURFACE**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	0.03	0.02	798649
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	5	798649
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	798649
Cobalt (Co)	mg/kg	**15**	50	300	4	5	5	2	798649
Chromium (Cr)	mg/kg	**85**	250	800	14	13	15	2	798649
Copper (Cu)	mg/kg	**40**	100	500	11	9	11	2	798649
Nickel (Ni)	mg/kg	**50**	100	500	7	7	7	1	798649
Lead (Pb)	mg/kg	**50**	500	1000	**130**	ND	**60**	5	798649
Zinc (Zn)	mg/kg	**110**	500	1500	22	15	26	10	798649

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

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Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66860		L66861	L66861		
Sampling Date					2010/09/11		2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-16@0.3M**	**QC Batch**	**4-DT2-04-QA/QC-1**	**4-DT2-04-QA/QC-1 Lab-Dup**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	798649	0.04	0.06	0.02	798651
Arsenic (As)	mg/kg	**6**	30	50	ND	798649	ND	ND	5	798651
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	798649	0.7	1.4	0.5	798651
Cobalt (Co)	mg/kg	**15**	50	300	5	798649	5	6	2	798651
Chromium (Cr)	mg/kg	**85**	250	800	15	798649	15	19	2	798651
Copper (Cu)	mg/kg	**40**	100	500	8	798649	19	**65 (1)**	2	798651
Nickel (Ni)	mg/kg	**50**	100	500	7	798649	8	10	1	798651
Lead (Pb)	mg/kg	**50**	500	1000	11	798649	**72**	**74**	5	798651
Zinc (Zn)	mg/kg	**110**	500	1500	18	798649	58	79 (1)	10	798651

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66861		L66862	L66863		
Sampling Date					2010/09/11		2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**4-DT2-04-QA/QC-1 Lab-Dup 2**	**QC Batch**	**4-DT2-04-QA/QC-2**	**4-DT2-04-QA/QC-3**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	0.04	798651	ND	ND	0.02	798649
Arsenic (As)	mg/kg	**6**	30	50	ND	798651	ND	ND	5	798649
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	798651	ND	1.3	0.5	798649
Cobalt (Co)	mg/kg	**15**	50	300	5	798651	5	6	2	798649
Chromium (Cr)	mg/kg	**85**	250	800	14	798651	14	16	2	798649
Copper (Cu)	mg/kg	**40**	100	500	15	798651	7	13	2	798649
Nickel (Ni)	mg/kg	**50**	100	500	7	798651	7	8	1	798649
Lead (Pb)	mg/kg	**50**	500	1000	**71**	798651	ND	**240**	5	798649
Zinc (Zn)	mg/kg	**110**	500	1500	45	798651	17	28	10	798649

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

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Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66873	L66874	L66875		
Sampling Date					2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-01-1@SURFACE**	**2-DT2-01-1@0.3M**	**2-DT2-01-2@SURFACE**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	0.02	ND	ND	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	**9**	5	5	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	**3.7**	ND	ND	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	6	4	3	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	34	15	12	2	798347
Copper (Cu)	mg/kg	**40**	100	500	**91**	17	7	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	31	11	4	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	25	12	ND	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	110	17	12	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66876	L66877	L66878	L66878		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-01-2@0.3M**	**2-DT2-01-3@SURFACE**	**2-DT2-01-3@0.3M**	**2-DT2-01-3@0.3M Lab-Dup**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.03	ND	ND	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	ND	**8**	ND	5	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	3	7	3	ND	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	15	19	10	9	2	798347
Copper (Cu)	mg/kg	**40**	100	500	8	**53**	8	5	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	4	15	2	ND	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	ND	28	ND	ND	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	12	**490**	15	ND	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66878	L66880	L66881	L66882		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-01-3@0.3M Lab-Dup 2**	**2-DT2-01-4@SURFACE**	**2-DT2-01-4@0.3M**	**2-DT2-01-5**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	798347
Arsenic (As)	mg/kg	**6**	30	50	6	ND	ND	ND	5	798347
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.8	0.5	798347
Cobalt (Co)	mg/kg	**15**	50	300	3	3	2	3	2	798347
Chromium (Cr)	mg/kg	**85**	250	800	15 (1)	13	9	15	2	798347
Copper (Cu)	mg/kg	**40**	100	500	6	8	4	15	2	798347
Nickel (Ni)	mg/kg	**50**	100	500	ND	4	ND	6	1	798347
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	5	798347
Zinc (Zn)	mg/kg	**110**	500	1500	ND	10	ND	51	10	798347

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66883		L66885		L66886		
Sampling Date					2010/09/11		2010/09/11		2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-01-QA/QC**	**QC Batch**	**2-DT2-02-1@SURFACE**	**QC Batch**	**2-DT2-02-1@0.3M**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	798347	ND	798651	ND	0.02	798649
Arsenic (As)	mg/kg	**6**	30	50	5	798347	6	798651	ND	5	798649
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	798347	1.0	798651	ND	0.5	798649
Cobalt (Co)	mg/kg	**15**	50	300	4	798347	4	798651	3	2	798649
Chromium (Cr)	mg/kg	**85**	250	800	15	798347	13	798651	11	2	798649
Copper (Cu)	mg/kg	**40**	100	500	16	798347	10	798651	7	2	798649
Nickel (Ni)	mg/kg	**50**	100	500	6	798347	6	798651	4	1	798649
Lead (Pb)	mg/kg	**50**	500	1000	12	798347	22	798651	ND	5	798649
Zinc (Zn)	mg/kg	**110**	500	1500	31	798347	23	798651	11	10	798649

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66887	L66888	L66889		
Sampling Date					2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-02-2@SURFACE**	**2-DT2-02-2@0.3M**	**2-DT2-02-3@SURFACE**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	798651
Arsenic (As)	mg/kg	**6**	30	50	5	5	ND	5	798651
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	1.5	0.5	798651
Cobalt (Co)	mg/kg	**15**	50	300	4	3	3	2	798651
Chromium (Cr)	mg/kg	**85**	250	800	12	12	10	2	798651
Copper (Cu)	mg/kg	**40**	100	500	11	9	7	2	798651
Nickel (Ni)	mg/kg	**50**	100	500	5	5	3	1	798651
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	5	798651
Zinc (Zn)	mg/kg	**110**	500	1500	14	11	13	10	798651

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66890	L66891	L66893	L66894		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-02-3@0.3M**	**2-DT2-02-4@SURFACE**	**2-DT2-02-4@0.3M**	**2-DT2-02-5**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	0.02	798651
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798651
Cadmium (Cd)	mg/kg	**1.5**	5	20	**2.0**	**4.0**	ND	ND	0.5	798651
Cobalt (Co)	mg/kg	**15**	50	300	4	4	3	4	2	798651
Chromium (Cr)	mg/kg	**85**	250	800	13	12	12	13	2	798651
Copper (Cu)	mg/kg	**40**	100	500	27	14	8	9	2	798651
Nickel (Ni)	mg/kg	**50**	100	500	6	6	5	6	1	798651
Lead (Pb)	mg/kg	**50**	500	1000	ND	6	ND	ND	5	798651
Zinc (Zn)	mg/kg	**110**	500	1500	12	19	10	14	10	798651

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66895	L66896	L66897		
Sampling Date					2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-02-QA/QC**	**2-DT2-03-1@SURFACE**	**2-DT2-03-1@0.3M**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	798651
Arsenic (As)	mg/kg	**6**	30	50	5	5	5	5	798651
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	798651
Cobalt (Co)	mg/kg	**15**	50	300	4	5	4	2	798651
Chromium (Cr)	mg/kg	**85**	250	800	13	17	14	2	798651
Copper (Cu)	mg/kg	**40**	100	500	8	14	9	2	798651
Nickel (Ni)	mg/kg	**50**	100	500	6	8	6	1	798651
Lead (Pb)	mg/kg	**50**	500	1000	16	14	ND	5	798651
Zinc (Zn)	mg/kg	**110**	500	1500	18	20	15	10	798651

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66898	L66899	L66900		
Sampling Date					2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-03-2@SURFACE**	**2-DT2-03-2@0.3M**	**2-DT2-03-3@SURFACE**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	798651
Arsenic (As)	mg/kg	**6**	30	50	5	5	**7**	5	798651
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	798651
Cobalt (Co)	mg/kg	**15**	50	300	4	3	10	2	798651
Chromium (Cr)	mg/kg	**85**	250	800	21	11	32	2	798651
Copper (Cu)	mg/kg	**40**	100	500	14	7	40	2	798651
Nickel (Ni)	mg/kg	**50**	100	500	6	3	19	1	798651
Lead (Pb)	mg/kg	**50**	500	1000	**51**	ND	39	5	798651
Zinc (Zn)	mg/kg	**110**	500	1500	29	10	44	10	798651

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66901	L66902	L66902		
Sampling Date					2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-03-3@0.3M**	**2-DT2-03-4@SURFACE**	**2-DT2-03-4@SURFACE Lab-Dup**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	798651
Arsenic (As)	mg/kg	**6**	30	50	ND	6	ND	5	798651
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	798651
Cobalt (Co)	mg/kg	**15**	50	300	3	5	4	2	798651
Chromium (Cr)	mg/kg	**85**	250	800	12	18	15	2	798651
Copper (Cu)	mg/kg	**40**	100	500	11	16	14	2	798651
Nickel (Ni)	mg/kg	**50**	100	500	5	11	8	1	798651
Lead (Pb)	mg/kg	**50**	500	1000	ND	16	23	5	798651
Zinc (Zn)	mg/kg	**110**	500	1500	11	29	25	10	798651

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L66902	L66903	L66904	L66905		
Sampling Date					2010/09/11	2010/09/11	2010/09/11	2010/09/11		
	Units	**A**	**B**	**C**	**2-DT2-03-4@SURFACE Lab-Dup 2**	**2-DT2-03-4@0.3M**	**2-DT2-03-5**	**2-DT2-03-QA/QC**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	798651
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	798651
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	798651
Cobalt (Co)	mg/kg	**15**	50	300	5	3	4	3	2	798651
Chromium (Cr)	mg/kg	**85**	250	800	17	12	13	13	2	798651
Copper (Cu)	mg/kg	**40**	100	500	14	7	9	9	2	798651
Nickel (Ni)	mg/kg	**50**	100	500	10	4	5	5	1	798651
Lead (Pb)	mg/kg	**50**	500	1000	12	ND	ND	ND	5	798651
Zinc (Zn)	mg/kg	**110**	500	1500	19	ND	14	13	10	798651

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048788
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.
Please note that samples "L66878-01,L66861-01" is not homogeneous, therefore all duplicates are shown in the above results table.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B048788

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
798347	KK	Spiked Blank	Mercury (Hg)	2010/09/17		100	%
			Arsenic (As)	2010/09/17		98	%
			Cadmium (Cd)	2010/09/17		103	%
			Cobalt (Co)	2010/09/17		101	%
			Chromium (Cr)	2010/09/17		100	%
			Copper (Cu)	2010/09/17		102	%
			Nickel (Ni)	2010/09/17		101	%
			Lead (Pb)	2010/09/17		100	%
			Zinc (Zn)	2010/09/17		101	%
		Method Blank	Mercury (Hg)	2010/09/17	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/17	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/17	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/17	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/17	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/17	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/17	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/17	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/17	ND, RDL=10		mg/kg
798649	KK	QC STANDARD	Arsenic (As)	2010/09/21		105	%
			Cobalt (Co)	2010/09/21		106	%
			Chromium (Cr)	2010/09/21		79	%
			Copper (Cu)	2010/09/21		85	%
			Nickel (Ni)	2010/09/21		91	%
			Lead (Pb)	2010/09/21		87	%
			Zinc (Zn)	2010/09/21		90	%
		Spiked Blank	Mercury (Hg)	2010/09/21		93	%
			Arsenic (As)	2010/09/21		96	%
			Cadmium (Cd)	2010/09/21		94	%
			Cobalt (Co)	2010/09/21		101	%
			Chromium (Cr)	2010/09/21		101	%
			Copper (Cu)	2010/09/21		96	%
			Nickel (Ni)	2010/09/21		99	%
			Lead (Pb)	2010/09/21		92	%
			Zinc (Zn)	2010/09/21		93	%
		Method Blank	Mercury (Hg)	2010/09/21	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/21	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/21	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/21	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/21	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/21	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/21	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/21	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/21	ND, RDL=10		mg/kg
798651	KK	Spiked Blank	Mercury (Hg)	2010/09/21		98	%
			Arsenic (As)	2010/09/21		100	%
			Cadmium (Cd)	2010/09/21		100	%
			Cobalt (Co)	2010/09/21		103	%
			Chromium (Cr)	2010/09/21		103	%
			Copper (Cu)	2010/09/21		97	%
			Nickel (Ni)	2010/09/21		102	%
			Lead (Pb)	2010/09/21		96	%
			Zinc (Zn)	2010/09/21		94	%
		Method Blank	Mercury (Hg)	2010/09/21	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/21	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/21	ND, RDL=0.5		mg/kg

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: B048788

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
798651	KK	Method Blank	Cobalt (Co)	2010/09/21	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/21	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/21	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/21	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/21	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/21	ND, RDL=10		mg/kg
799498	KK	Spiked Blank	Mercury (Hg)	2010/09/20		92	%
			Arsenic (As)	2010/09/20		89	%
			Cadmium (Cd)	2010/09/20		98	%
			Cobalt (Co)	2010/09/20		96	%
			Chromium (Cr)	2010/09/20		96	%
			Copper (Cu)	2010/09/20		95	%
			Nickel (Ni)	2010/09/20		95	%
			Lead (Pb)	2010/09/20		94	%
			Zinc (Zn)	2010/09/20		95	%
		Method Blank	Mercury (Hg)	2010/09/20	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/20	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/20	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/20	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/20	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/20	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/20	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/20	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/20	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/21
This report supersedes all previous reports with the same Maxxam job number

RESULTS FOR METALS

MAXXAM JOB #: B048845
Received: 2010/09/15, 15:45

Sample Matrix: SOIL
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	16	2010/09/20	2010/09/20	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B048845
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

METALS (SOIL)

Maxxam ID		L67096	L67097	L67098	L67099	L67100	L67101		
Sampling Date		2010/09/13	2010/09/13	2010/09/13	2010/09/13	2010/09/13	2010/09/13		
	Units	**4-DT2-02-1**	**4-DT2-02-2**	**4-DT2-02-3**	**4-DT2-02-4**	**4-DT2-02-5**	**4-DT2-02-QA/QC**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	0.32	0.11	0.12	0.14	0.21	0.31	0.02	799498
Arsenic (As)	mg/kg	ND	ND	ND	ND	ND	ND	5	799498
Cadmium (Cd)	mg/kg	7.0	0.5	ND	ND	ND	0.8	0.5	799498
Cobalt (Co)	mg/kg	5	5	5	6	6	6	2	799498
Chromium (Cr)	mg/kg	18	15	18	15	15	19	2	799498
Copper (Cu)	mg/kg	1400	45	17	16	19	23	2	799498
Nickel (Ni)	mg/kg	11	9	10	9	9	11	1	799498
Lead (Pb)	mg/kg	240	18	33	12	15	57	5	799498
Zinc (Zn)	mg/kg	210	130	120	57	50	220	10	799498

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L67102	L67103	L67104	L67105		
Sampling Date		2010/09/13	2010/09/13	2010/09/13	2010/09/13		
	Units	**4-DT2-01-1@SURFACE**	**4-DT2-01-1@0.3M**	**4-DT2-01-2@SURFACE**	**4-DT2-01-2@O.3M**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	ND	ND	ND	ND	0.02	799498
Arsenic (As)	mg/kg	ND	ND	ND	ND	5	799498
Cadmium (Cd)	mg/kg	ND	ND	ND	ND	0.5	799498
Cobalt (Co)	mg/kg	5	3	4	5	2	799498
Chromium (Cr)	mg/kg	14	24	16	17	2	799498
Copper (Cu)	mg/kg	28	7	11	10	2	799498
Nickel (Ni)	mg/kg	8	4	7	9	1	799498
Lead (Pb)	mg/kg	ND	24	ND	ND	5	799498
Zinc (Zn)	mg/kg	42	49	24	18	10	799498

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048845
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

METALS (SOIL)

Maxxam ID		L67106	L67107	L67108	L67109	L67110		
Sampling Date		2010/09/13	2010/09/13	2010/09/13	2010/09/13	2010/09/13		
	Units	**4-DT2-01-3@SURFACE**	**4-DT2-01-3@0.3M**	**4-DT2-01-4@SURFACE**		**4-DT2-01-5**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	ND	ND	ND	ND	ND	0.02	799498
Arsenic (As)	mg/kg	ND	ND	ND	7	ND	5	799498
Cadmium (Cd)	mg/kg	ND	ND	ND	ND	ND	0.5	799498
Cobalt (Co)	mg/kg	5	4	4	4	4	2	799498
Chromium (Cr)	mg/kg	18	14	17	6	18	2	799498
Copper (Cu)	mg/kg	10	9	10	7	10	2	799498
Nickel (Ni)	mg/kg	9	7	8	5	8	1	799498
Lead (Pb)	mg/kg	ND	ND	ND	7	ND	5	799498
Zinc (Zn)	mg/kg	18	15	19	59	24	10	799498

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L67111	L67111		
Sampling Date		2010/09/13	2010/09/13		
	Units	**4-DT2-01-QA/QC**	**4-DT2-01-QA/QC Lab-Dup**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	ND	ND	0.02	799498
Arsenic (As)	mg/kg	ND	ND	5	799498
Cadmium (Cd)	mg/kg	ND	ND	0.5	799498
Cobalt (Co)	mg/kg	4	4	2	799498
Chromium (Cr)	mg/kg	16	18	2	799498
Copper (Cu)	mg/kg	10	9	2	799498
Nickel (Ni)	mg/kg	8	8	1	799498
Lead (Pb)	mg/kg	ND	ND	5	799498
Zinc (Zn)	mg/kg	20	24	10	799498

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048845
Report Date: 2010/09/21

AECOM
Client Project #: 60155434-1.2

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B048845

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
799498	KK	Spiked Blank	Mercury (Hg)	2010/09/20		92	%
			Arsenic (As)	2010/09/20		89	%
			Cadmium (Cd)	2010/09/20		98	%
			Cobalt (Co)	2010/09/20		96	%
			Chromium (Cr)	2010/09/20		96	%
			Copper (Cu)	2010/09/20		95	%
			Nickel (Ni)	2010/09/20		95	%
			Lead (Pb)	2010/09/20		94	%
			Zinc (Zn)	2010/09/20		95	%
		Method Blank	Mercury (Hg)	2010/09/20	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/20	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/20	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/20	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/20	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/20	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/20	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/20	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/20	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Canada
H9R 1E6

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C: ventes@exova.com
W: www.exova.com

Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-389398
Version : 2
Date received : 2010-09-17
Project No. : B048845

P.O. No. : ----
Client No. : 000391

Identification	Accredited MDDEP				L67112-01R Bar-8	L67118-01R Bar-9
Matrix						
Date sampled					2010-09-13	2010-09-13
Sampling location					----	----
Collected by					Client	Client
Laboratory No.					1813865	1813866
Parameters		Units	Date Prepared	Date Analysed	Result(s)	Result(s)
Cadmium, Cd	x	mg/kg	2010-09-17	2010-09-20	< 1	< 1
Chromium, Cr	x	mg/kg	2010-09-17	2010-09-20	< 1	< 1
Lead, Pb	x	mg/kg	2010-09-17	2010-09-20	18.3	< 5
Total halides (as chlorides)	x	mg/kg	2010-09-17	2010-09-17	< 100	< 100
Total chlorine, Cl	x	mg/kg	2010-09-17	2010-09-17	< 100	< 100
PCB	x	mg/kg	2010-09-20	2010-09-20	< 2*	< 2*

Comments: * matrix interference. Detection limit modified.
Version 2 : added total chlorine results.
Analytical methods: Appendix I
Quality control: Appendix II

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-389398
Version : 2
Date received : 2010-09-17
Project No. : B048845

P.O. No. : ----
Client No. : 000391

Identification					L67119-01R Bar-10	L67120-01R Bar-11
Matrix						
Date sampled					2010-09-13	2010-09-13
Sampling location					----	----
Collected by					Client	Client
Laboratory No.					1813867	1813868
Parameters	Accredited MDDEP	Units	Date Prepared	Date Analysed	Result(s)	Result(s)
Cadmium, Cd	x	mg/kg	2010-09-17	2010-09-20	< 1	< 1
Chromium, Cr	x	mg/kg	2010-09-17	2010-09-20	< 1	< 1
Lead, Pb	x	mg/kg	2010-09-17	2010-09-20	< 5	< 5
Total halides (as chlorides)	x	mg/kg	2010-09-17	2010-09-17	< 100	210
Total halides (as chlorides)	x	mg/kg	2010-09-17	2010-09-17	< 100	210
PCB	x	mg/kg	2010-09-20	2010-09-20	< 2*	< 2*

Comments: * matrix interference. Detection limit modified.
Version 2 : added total chlorine results.
Analytical methods: Appendix I
Quality control: Appendix II

CHIMISTE
Alain Fauteux
2009-004
QUÉBEC

Chemist : Alain Fauteux
2010-09-27

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-389398
Version : 2
Date received : 2010-09-17
Project No. : B048845

P.O. No. : ----
Client No. : 000391

Appendix I

Parameters	Methods No. or references	Technics or instruments
Cadmium, Cd	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Chromium, Cr	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Lead, Pb	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Total halides (as chlorides)	E-A-EN-EN-FL-PC-MD004	Colorimetric
PCB	E-A-EN-EN-CHO-PC-MD001	GC-ECD

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-389398
Version : 2
Date received : 2010-09-17
Project No. : B048845

P.O. No. : ----
Client No. : 000391

Appendix II

Identification		Blank	Duplicate			Reference material		
Parameters	Units	Results	Laboratory No.	Results 1	Results 2	Value	Range	Obtained
Cadmium, Cd	mg/kg	< 1	----	----	----	10.0	8.0 - 12.0	8
Chromium, Cr	mg/kg	< 1	----	----	----	10.0	7.0 - 13.0	8.4
Lead, Pb	mg/kg	< 5	----	----	----	10.0	8.0 - 12.0	8.2
Total halides (as chlorides)	mg/kg	< 100	----	----	----	1000	750 - 1250	990
PCB	mg/kg	< 1	----	----	----	----	----	----

NA : Non applicable

Note: These results only apply to the samples submitted

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/23
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B048848
Received: 2010/09/15, 15:45

Sample Matrix: SOIL
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	6	2010/09/16	2010/09/16		
Mercury by ICP/MS	6	2010/09/20	2010/09/20	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	6	2010/09/20	2010/09/22	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

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Maxxam Job #: B048848
Report Date: 2010/09/23

AECOM
Client Project #: 60155434-1.2

METALS (SOIL)

Maxxam ID		L67122	L67123	L67124	L67125	L67126	L67127		
Sampling Date		2010/09/12	2010/09/12	2010/09/12	2010/09/12	2010/09/12	2010/09/12		
	Units	**1-DT2-02-1**	**1-DT2-02-2**	**1-DT2-02-3**	**1-DT2-03-1**	**1-DT2-03-2**	**1-DT2-03-3**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	0.25	0.19	0.20	ND	ND	ND	0.02	799503
Arsenic (As)	mg/kg	7	ND	ND	ND	5	5	5	799503
Cadmium (Cd)	mg/kg	1.0	0.6	ND	ND	ND	ND	0.5	799503
Cobalt (Co)	mg/kg	3	ND	ND	4	5	4	2	799503
Chromium (Cr)	mg/kg	9	3	2	12	83	14	2	799503
Copper (Cu)	mg/kg	71	36	92	8	220	11	2	799503
Nickel (Ni)	mg/kg	8	2	3	5	8	6	1	799503
Lead (Pb)	mg/kg	97	23	ND	ND	340	14	5	799503
Zinc (Zn)	mg/kg	520	840	650	30	3700	94	10	799503

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B048848
Report Date: 2010/09/23

AECOM
Client Project #: 60155434-1.2

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

This report supersedes all previous reports with the same Maxxam job number

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B048848

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
799503	HC	Spiked Blank	Mercury (Hg)	2010/09/22		102	%
			Arsenic (As)	2010/09/22		95	%
			Cadmium (Cd)	2010/09/22		100	%
			Cobalt (Co)	2010/09/22		98	%
			Chromium (Cr)	2010/09/22		101	%
			Copper (Cu)	2010/09/22		102	%
			Nickel (Ni)	2010/09/22		99	%
			Lead (Pb)	2010/09/22		103	%
			Zinc (Zn)	2010/09/22		101	%
		Method Blank	Mercury (Hg)	2010/09/22	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/22	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/22	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/22	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/22	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/22	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/22	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/22	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/22	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B049176
Received: 2010/09/16, 12:20

Sample Matrix: SOIL
Samples Received: 42

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Grinding	1	2010/09/21	2010/09/21	STL SOP-00065/1	SK100 Grinder
Disposal Charges	42	2010/09/17	2010/09/16		
Petroleum Hydro. (F1) Low Level BTEX (1)	6	N/A	N/A		
Petroleum Hydrocarbons (F2-F4) (1)	6	N/A	N/A		
Mercury by ICP/MS	35	2010/09/21	2010/09/21	STL SOP-0006/8	MA.200-Hg 1.0
Mercury by ICP/MS	1	2010/09/22	2010/09/22	STL SOP-0006/8	MA.200-Hg 1.0
Humidity (Water Content)	6	2010/09/17	2010/09/16	STL SOP-00021/7	MA.416 - C10-C50 1.0
Metals by ICP	24	2010/09/21	2010/09/21	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	10	2010/09/21	2010/09/22	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	2	2010/09/22	2010/09/22	STL SOP-00006/8	MA.200- Mét 1.1

(1) This test was performed by Maxxam - Mississauga

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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.

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Maxxam Job #: B049176
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68863	L68870	L68871		
Sampling Date					2010/09/14	2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**4-DT2-03-1@SURFACE**	**4-DT2-03-1@0.3M**	**4-DT2-03-2@SURFACE**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	799698
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	5	799698
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	799698
Cobalt (Co)	mg/kg	**15**	50	300	5	4	5	2	799698
Chromium (Cr)	mg/kg	**85**	250	800	21	19	18	2	799698
Copper (Cu)	mg/kg	**40**	100	500	110	29	10	2	799698
Nickel (Ni)	mg/kg	**50**	100	500	11	9	9	1	799698
Lead (Pb)	mg/kg	**50**	500	1000	**380**	**250**	28	5	799698
Zinc (Zn)	mg/kg	**110**	500	1500	**240**	**150**	40	10	799698

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68872	L68873	L68874		
Sampling Date					2010/09/14	2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**4-DT2-03-2@0.3M**	**A-DT2-03-1@SURFACE-5**	**4-DT2-03-3@0.3M**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	799698
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	5	799698
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	799698
Cobalt (Co)	mg/kg	**15**	50	300	4	4	4	2	799698
Chromium (Cr)	mg/kg	**85**	250	800	16	15	14	2	799698
Copper (Cu)	mg/kg	**40**	100	500	9	10	8	2	799698
Nickel (Ni)	mg/kg	**50**	100	500	8	8	6	1	799698
Lead (Pb)	mg/kg	**50**	500	1000	8	ND	ND	5	799698
Zinc (Zn)	mg/kg	**110**	500	1500	19	18	13	10	799698

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QC Batch = Quality Control Batch

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Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68875	L68876	L68877		
Sampling Date					2010/09/14	2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**4-DT2-03-4@SURFACE**	**4-DT2-03-4@0.3M**	**4-DT2-03-5@SURFACE**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	799698
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	5	799698
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	799698
Cobalt (Co)	mg/kg	**15**	50	300	5	5	4	2	799698
Chromium (Cr)	mg/kg	**85**	250	800	16	18	18	2	799698
Copper (Cu)	mg/kg	**40**	100	500	**46**	31	10	2	799698
Nickel (Ni)	mg/kg	**50**	100	500	12	12	9	1	799698
Lead (Pb)	mg/kg	**50**	500	1000	**210**	**320**	12	5	799698
Zinc (Zn)	mg/kg	**110**	500	1500	77	**130**	34	10	799698

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QC Batch = Quality Control Batch

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Maxxam Job #: B049176
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68878	L68879	L68880	L68881		
Sampling Date					2010/09/14	2010/09/14	2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**4-DT2-03-5@0.3M**	**4-DT2-03-6@SURFACE**	**4-DT2-03-6@0.3**	**4-DT2-03-7**	**RDL**	**QC Batch**
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	799698
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	799698
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	799698
Cobalt (Co)	mg/kg	**15**	50	300	5	4	4	4	2	799698
Chromium (Cr)	mg/kg	**85**	250	800	17	15	16	12	2	799698
Copper (Cu)	mg/kg	**40**	100	500	11	11	9	10	2	799698
Nickel (Ni)	mg/kg	**50**	100	500	9	8	9	6	1	799698
Lead (Pb)	mg/kg	**50**	500	1000	ND	6	ND	ND	5	799698
Zinc (Zn)	mg/kg	**110**	500	1500	17	18	16	15	10	799698

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QC Batch = Quality Control Batch

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Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68882	L68883	L68884	L68884	L68885		
Sampling Date					2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**4-DT2-03-8**	**4-DT2-03-QA/QC**	**4-DT2-05-1**	**4-DT2-05-1 Lab-Dup**	**4-DT2-05-2**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	799698
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	799698
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	799698
Cobalt (Co)	mg/kg	**15**	50	300	4	5	6	5	5	2	799698
Chromium (Cr)	mg/kg	**85**	250	800	14	15	15	14	13	2	799698
Copper (Cu)	mg/kg	**40**	100	500	11	12	11	9	10	2	799698
Nickel (Ni)	mg/kg	**50**	100	500	7	8	9	8	7	1	799698
Lead (Pb)	mg/kg	**50**	500	1000	31	35	5	ND	ND	5	799698
Zinc (Zn)	mg/kg	**110**	500	1500	26	27	46	41	66	10	799698

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68886	L68887	L68888	L68889	L68890		
Sampling Date					2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**4-DT2-05-3**	**4-DT2-05-4**	**4-DT2-05-5**	**4-DT2-05-6**	**4-DT2-05-7**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.02	ND	0.03	0.03	ND	0.02	799721
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	799721
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	0.6	6.5	ND	0.5	799721
Cobalt (Co)	mg/kg	**15**	50	300	5	5	6	5	5	2	799721
Chromium (Cr)	mg/kg	**85**	250	800	14	14	19	30	12	2	799721
Copper (Cu)	mg/kg	**40**	100	500	10	9	12	12	11	2	799721
Nickel (Ni)	mg/kg	**50**	100	500	8	8	9	8	7	1	799721
Lead (Pb)	mg/kg	**50**	500	1000	9	ND	22	**99**	ND	5	799721
Zinc (Zn)	mg/kg	**110**	500	1500	**200**	52	1200	730	**170**	10	799721

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QC Batch = Quality Control Batch

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Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68891		L68892	L68893	L68894	L68895		
Sampling Date					2010/09/14		2010/09/14	2010/09/14	2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**4-DT2-05-8**	**QC Batch**	**4-DT2-05-9**	**4-DT2-05-10**	**4-DT2-05-QA/QC**	**3-DT2-02-1**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	0.03	800154	ND	0.09	0.05	0.17	0.02	799721
Arsenic (As)	mg/kg	**6**	30	50	6	800154	ND	ND	ND	ND	5	799721
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	800154	ND	ND	ND	0.7	0.5	799721
Cobalt (Co)	mg/kg	**15**	50	300	10	800154	5	3	4	ND	2	799721
Chromium (Cr)	mg/kg	**85**	250	800	67	800154	14	12	13	8	2	799721
Copper (Cu)	mg/kg	**40**	100	500	22	800154	12	11	9	340	2	799721
Nickel (Ni)	mg/kg	**50**	100	500	37	800154	9	6	7	11	1	799721
Lead (Pb)	mg/kg	**50**	500	1000	6	800154	ND	6	ND	6	5	799721
Zinc (Zn)	mg/kg	**110**	500	1500	40	800154	20	31	65	ND	10	799721

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B049176
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68896	L68897	L68898		L68899		
Sampling Date					2010/09/14	2010/09/14	2010/09/14		2010/09/14		
	Units	**A**	**B**	**C**	**3-DT2-02-2**	**3-DT2-02-3**	**3-DT2-02-4**	**QC Batch**	**3-DT2-03-1**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.02	ND	ND	799721	ND	0.02	799698
Arsenic (As)	mg/kg	**6**	30	50	ND	6	ND	799721	ND	5	799698
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	799721	ND	0.5	799698
Cobalt (Co)	mg/kg	**15**	50	300	3	4	4	799721	4	2	799698
Chromium (Cr)	mg/kg	**85**	250	800	12	12	13	799721	13	2	799698
Copper (Cu)	mg/kg	**40**	100	500	16	9	7	799721	11	2	799698
Nickel (Ni)	mg/kg	**50**	100	500	5	6	7	799721	7	1	799698
Lead (Pb)	mg/kg	**50**	500	1000	ND	5	ND	799721	890	5	799698
Zinc (Zn)	mg/kg	**110**	500	1500	13	11	12	799721	24	10	799698

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B049176
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68899		L68899		L68900	L68900		
Sampling Date					2010/09/14		2010/09/14		2010/09/14	2010/09/14		
	Units	**A**	**B**	**C**	**3-DT2-03-1 REPEAT**	**QC Batch**	**3-DT2-03-1 Lab-Dup**	**QC Batch**	**3-DT2-03-2**	**3-DT2-03-2 Lab-Dup**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	N/A	799698	ND	799698	ND	ND	0.02	799721
Arsenic (As)	mg/kg	**6**	30	50	ND	800222	5	799698	ND	ND	5	799721
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	800222	ND	799698	ND	ND	0.5	799721
Cobalt (Co)	mg/kg	**15**	50	300	3	800222	4	799698	3	3	2	799721
Chromium (Cr)	mg/kg	**85**	250	800	12	800222	14	799698	12	12	2	799721
Copper (Cu)	mg/kg	**40**	100	500	9	800222	13	799698	10	10	2	799721
Nickel (Ni)	mg/kg	**50**	100	500	5	800222	7	799698	5	4	1	799721
Lead (Pb)	mg/kg	**50**	500	1000	**290**	800222	1300 (1)	799698	**61**	**74**	5	799721
Zinc (Zn)	mg/kg	**110**	500	1500	16	800222	26	799698	19	20	10	799721

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Maxxam Job #: B049176
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L68901	L68902	L68903	L68903		L68904		
Sampling Date					2010/09/14	2010/09/14	2010/09/14	2010/09/14		2010/09/14		
	Units	**A**	**B**	**C**	**3-DT2-03-3**	**3-DT2-03-4**	**3-DT2-03-5**	**3-DT2-03-5 Lab-Dup**	**RDL**	**3-DT2-03-QA/QC**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	ND	0.02	799721
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	**9**	5	799721
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	1.0	ND	ND	0.5	ND	0.5	799721
Cobalt (Co)	mg/kg	**15**	50	300	3	4	3	3	2	3	2	799721
Chromium (Cr)	mg/kg	**85**	250	800	15	14	14	13	2	11	2	799721
Copper (Cu)	mg/kg	**40**	100	500	17	37	10	10	2	8	2	799721
Nickel (Ni)	mg/kg	**50**	100	500	5	6	7	5	1	4	1	799721
Lead (Pb)	mg/kg	**50**	500	1000	**150**	**390**	7500	8700	5	25000	50	799721
Zinc (Zn)	mg/kg	**110**	500	1500	30	110	21	19	10	17	10	799721

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QC Batch = Quality Control Batch

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AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

CONVENTIONAL PARAMETERS (SOIL)

Maxxam ID		L68891		
Sampling Date		2010/09/14		
	Units	**4-DT2-05-8**	**RDL**	**QC Batch**
CONVENTIONALS				
2 mm	mg/kg	TBA	TBA	799869

TBA = Result to follow
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.
Reported detection limits are multiplied by dilution factors used for sample analysis.
Please note that sample L69999 is not homogeneous, therefore all duplicates are shown in the above results table.

Results relate only to the items tested.

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)
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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B049176

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
799698	HC	QC STANDARD	Arsenic (As)	2010/09/21		116	%
			Cobalt (Co)	2010/09/21		98	%
			Chromium (Cr)	2010/09/21		78	%
			Copper (Cu)	2010/09/21		89	%
			Nickel (Ni)	2010/09/21		88	%
			Lead (Pb)	2010/09/21		100	%
			Zinc (Zn)	2010/09/21		98	%
		Spiked Blank	Mercury (Hg)	2010/09/21		101	%
			Arsenic (As)	2010/09/21		100	%
			Cadmium (Cd)	2010/09/21		109	%
			Cobalt (Co)	2010/09/21		99	%
			Chromium (Cr)	2010/09/21		97	%
			Copper (Cu)	2010/09/21		97	%
			Nickel (Ni)	2010/09/21		98	%
			Lead (Pb)	2010/09/21		103	%
			Zinc (Zn)	2010/09/21		101	%
		Method Blank	Mercury (Hg)	2010/09/21	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/21	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/21	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/21	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/21	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/21	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/21	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/21	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/21	ND, RDL=10		mg/kg
799721	KK	Spiked Blank	Mercury (Hg)	2010/09/21		104	%
			Arsenic (As)	2010/09/21		93	%
			Cadmium (Cd)	2010/09/21		101	%
			Cobalt (Co)	2010/09/21		99	%
			Chromium (Cr)	2010/09/21		99	%
			Copper (Cu)	2010/09/21		99	%
			Nickel (Ni)	2010/09/21		97	%
			Lead (Pb)	2010/09/21		101	%
			Zinc (Zn)	2010/09/21		101	%
		Method Blank	Mercury (Hg)	2010/09/21	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/21	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/21	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/21	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/21	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/21	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/21	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/21	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/21	ND, RDL=10		mg/kg
800154	KK	QC STANDARD	Arsenic (As)	2010/09/22		111	%
			Cobalt (Co)	2010/09/22		101	%
			Chromium (Cr)	2010/09/22		81	%
			Copper (Cu)	2010/09/22		94	%
			Nickel (Ni)	2010/09/22		90	%
			Lead (Pb)	2010/09/22		103	%
			Zinc (Zn)	2010/09/22		98	%
		Spiked Blank	Mercury (Hg)	2010/09/22		98	%
			Arsenic (As)	2010/09/22		94	%
			Cadmium (Cd)	2010/09/22		102	%
			Cobalt (Co)	2010/09/22		98	%
			Chromium (Cr)	2010/09/22		99	%

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: B049176

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
800154	KK	Spiked Blank	Copper (Cu)	2010/09/22		98	%
			Nickel (Ni)	2010/09/22		98	%
			Lead (Pb)	2010/09/22		101	%
			Zinc (Zn)	2010/09/22		97	%
		Method Blank	Mercury (Hg)	2010/09/22	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/22	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/22	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/22	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/22	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/22	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/22	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/22	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/22	ND, RDL=10		mg/kg
800222	HC	Spiked Blank	Arsenic (As)	2010/09/22		95	%
			Cadmium (Cd)	2010/09/22		104	%
			Cobalt (Co)	2010/09/22		103	%
			Chromium (Cr)	2010/09/22		102	%
			Copper (Cu)	2010/09/22		100	%
			Nickel (Ni)	2010/09/22		102	%
			Lead (Pb)	2010/09/22		101	%
			Zinc (Zn)	2010/09/22		100	%
		Method Blank	Arsenic (As)	2010/09/22	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/22	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/22	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/22	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/22	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/22	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/22	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/22	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: B049176
Your C.O.C. #: SUB

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/09/23

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0D0124
Received: 2010/09/18, 11:21

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	6	2010/09/18	2010/09/22	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	6	2010/09/21	2010/09/22	CAM SOP-00316	CCME CWS
Moisture	6	N/A	2010/09/20	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	6	2010/09/18	2010/09/21	CAM SOP-00226	EPA 8260 modified

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

==========

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Total cover pages: 1

Maxxam Job #: B0D0124
Report Date: 2010/09/23

Maxxam Analytique
Client Project #: B049176

RESULTS OF ANALYSES OF SOIL

Maxxam ID		HF0274	HF0275	HF0276	HF0277	HF0278	HF0279		
Sampling Date		2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14		
COC Number		SUB	SUB	SUB	SUB	SUB	SUB		
	Units	**L68930-02R \ 5-PHC-01-1**	**L68944-02R \ 5-PHC-01-2**	**L68945-02R \ 5-PHC-01-3**	**L68946-02R \ 5-PHC-01-4**	**L68947-02R \ 5-PHC-01-5**	**L68948-02R \ 5-PHC-01-QA/QC**	**RDL**	**QC Batch**
Moisture	%	5	16	3	3	3	3	1	2270807

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D0124
Report Date: 2010/09/23

Maxxam Analytique
Client Project #: B049176

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID		HF0274	HF0275	HF0276	HF0277	HF0278	HF0279		
Sampling Date		2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14		
COC Number		SUB	SUB	SUB	SUB	SUB	SUB		
	Units	**L68930-02R \ 5-PHC-01-1**	**L68944-02R \ 5-PHC-01-2**	**L68945-02R \ 5-PHC-01-3**	**L68946-02R \ 5-PHC-01-4**	**L68947-02R \ 5-PHC-01-5**	**L68948-02R \ 5-PHC-01-QA/QC**	**RDL**	**QC Batch**
Benzene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2270405
Ethylbenzene	ug/g	0.003	0.002	0.004	0.003	0.002	0.002	0.002	2270405
Toluene	ug/g	0.003	0.004	0.006	0.004	0.003	0.003	0.002	2270405
p+m-Xylene	ug/g	ND	ND	0.002	ND	ND	ND	0.002	2270405
o-Xylene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2270405
Xylene (Total)	ug/g	ND	ND	0.002	ND	ND	ND	0.002	2270405
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	95	77	97	98	105	102	N/A	2270405
D4-1,2-Dichloroethane	%	102	107	101	101	101	100	N/A	2270405
D8-Toluene	%	103	128	102	102	98	99	N/A	2270405

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D0124
Report Date: 2010/09/23

Maxxam Analytique
Client Project #: B049176

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HF0274	HF0275	HF0276	HF0277	HF0278	HF0279		
Sampling Date		2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14	2010/09/14		
COC Number		SUB	SUB	SUB	SUB	SUB	SUB		
	Units	**L68930-02R \ 5-PHC-01-1**	**L68944-02R \ 5-PHC-01-2**	**L68945-02R \ 5-PHC-01-3**	**L68946-02R \ 5-PHC-01-4**	**L68947-02R \ 5-PHC-01-5**	**L68948-02R \ 5-PHC-01-QA/QC**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	ND	10	2273229
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	ND	10	2273229
F2 (C10-C16 Hydrocarbons)	ug/g	15	ND	14	150	15	ND	10	2272787
F3 (C16-C34 Hydrocarbons)	ug/g	29	65	52	200	21	24	10	2272787
F4 (C34-C50 Hydrocarbons)	ug/g	ND	26	ND	ND	ND	ND	10	2272787
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	Yes	Yes	N/A	2272787
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	101	94	93	93	97	97	N/A	2273229
4-Bromofluorobenzene	%	104	96	99	97	105	100	N/A	2273229
D10-Ethylbenzene	%	112	89	99	105	104	109	N/A	2273229
D4-1,2-Dichloroethane	%	97	97	96	100	101	95	N/A	2273229
o-Terphenyl	%	87	90	86	91	83	89	N/A	2272787

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D0124
Report Date: 2010/09/23

Maxxam Analytique
Client Project #: B049176

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B049176
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB0D0124

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2270405	JZO	Matrix Spike	4-Bromofluorobenzene	2010/09/20		80	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/20		106	%	60 - 140
			D8-Toluene	2010/09/20		119	%	60 - 140
			Benzene	2010/09/20		59	%	39 - 137
			Ethylbenzene	2010/09/20		81	%	46 - 150
			Toluene	2010/09/20		110	%	30 - 158
			p+m-Xylene	2010/09/20		107	%	29 - 161
			o-Xylene	2010/09/20		107	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/09/20		102	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/20		99	%	60 - 140
			D8-Toluene	2010/09/20		99	%	60 - 140
			Benzene	2010/09/20		102	%	60 - 140
			Ethylbenzene	2010/09/20		101	%	60 - 140
			Toluene	2010/09/20		99	%	60 - 140
			p+m-Xylene	2010/09/20		102	%	60 - 140
			o-Xylene	2010/09/20		100	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/20		96	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/20		100	%	60 - 140
			D8-Toluene	2010/09/20		102	%	60 - 140
			Benzene	2010/09/20	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/20	ND, RDL=0.002		ug/g	
			Toluene	2010/09/20	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/20	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/20	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/20	ND, RDL=0.002		ug/g	
		RPD	Benzene	2010/09/20	4.4		%	50
			Ethylbenzene	2010/09/20	34.9		%	50
			Toluene	2010/09/20	5.5		%	50
			p+m-Xylene	2010/09/20	1.9		%	50
			o-Xylene	2010/09/20	NC		%	50
			Xylene (Total)	2010/09/20	5.4		%	50
2270807	LKA	RPD	Moisture	2010/09/20	0.6		%	20
2272787	JJE	Matrix Spike	o-Terphenyl	2010/09/22		87	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/22		96	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/22		96	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/22		96	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/22		85	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/22		82	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/22		82	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/22		82	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/22		100	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/22	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/22	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/22	ND, RDL=10		ug/g	
		RPD	F2 (C10-C16 Hydrocarbons)	2010/09/22	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/22	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/22	NC		%	50
2273229	JXI	Spiked Blank	1,4-Difluorobenzene	2010/09/22		100	%	60 - 140
			4-Bromofluorobenzene	2010/09/22		103	%	60 - 140
			D10-Ethylbenzene	2010/09/22		108	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/22		100	%	60 - 140
			F1 (C6-C10)	2010/09/22		105	%	60 - 140
		RPD	F1 (C6-C10)	2010/09/22	9.8		%	50
		Method Blank	1,4-Difluorobenzene	2010/09/22		102	%	60 - 140
			4-Bromofluorobenzene	2010/09/22		105	%	60 - 140

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B049176
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0D0124

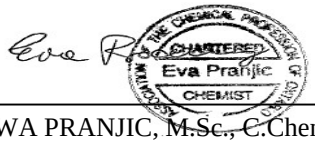
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2273229	JXI	Method Blank	D10-Ethylbenzene	2010/09/22		109	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/22		102	%	60 - 140
			F1 (C6-C10)	2010/09/22	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/22	ND, RDL=10		ug/g	

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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 (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.

Validation Signature Page

Maxxam Job #: B0D0124

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

SUZANA POPOVIC, Supervisor, Hydrocarbons

==========

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Your Project #: B049616
Your C.O.C. #: n/a

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/09/28

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0D0894
Received: 2010/09/21, 08:40

Sample Matrix: Soil
Samples Received: 27

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	7	2010/09/21	2010/09/23	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	2	2010/09/21	2010/09/24	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	18	2010/09/21	2010/09/25	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	7	2010/09/21	2010/09/22	CAM SOP-00316	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	10	2010/09/22	2010/09/22	CAM SOP-00316	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	10	2010/09/22	2010/09/23	CAM SOP-00316	CCME CWS
Moisture	27	N/A	2010/09/23	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	15	2010/09/21	2010/09/22	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	1	2010/09/21	2010/09/23	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	1	2010/09/21	2010/09/24	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	8	2010/09/21	2010/09/27	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	2	2010/09/21	2010/09/28	CAM SOP-00226	EPA 8260 modified

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

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Total cover pages: 1

Maxxam Job #: B0D0894
Report Date: 2010/09/28

Maxxam Analytique
Client Project #: B049616

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HF4035	HF4036	HF4036	HF4037	HF4038	HF4039	HF4040		HF4041		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		2010/09/15		
	Units	**L70924 \ 3-PHC-01-1**	**L70925 \ 3-PHC-01-2**	**L70925 \ 3-PHC-01-2 Lab-Dup**	**L70926 \ 3-PHC-01-3**	**L70927 \ 3-PHC-01-4**	**L70928 \ 3-PHC-01-5**	**L70929 \ 3-PHC-01-6**	**QC Batch**	**L70930 \ 3-PHC-01-7**	**RDL**	**QC Batch**
Inorganics												
Moisture	%	7	3		2	3	3	8	2276132	6	1	2276242
BTEX & F1 Hydrocarbons												
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	ND	ND	2274192	ND	10	2274192
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	ND	ND	2274192	ND	10	2274192
F2-F4 Hydrocarbons												
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	ND	ND	2273395	530	10	2273395
F3 (C16-C34 Hydrocarbons)	ug/g	440	ND	ND	ND	46	280	ND	2273395	23000	10	2273395
F4 (C34-C50 Hydrocarbons)	ug/g	75	ND	ND	ND	ND	45	ND	2273395	2300	10	2273395
Reached Baseline at C50	ug/g	YES	YES	YES	YES	YES	YES	YES	2273395	YES		2273395
Surrogate Recovery (%)												
1,4-Difluorobenzene	%	99	102	98	103	100	98	96	2274192	99		2274192
4-Bromofluorobenzene	%	99	97	98	96	101	100	100	2274192	99		2274192
D10-Ethylbenzene	%	105	112	105	114	106	106	110	2274192	110		2274192
D4-1,2-Dichloroethane	%	106	102	107	105	108	106	111	2274192	109		2274192
o-Terphenyl	%	92	93	91	91	91	94	93	2273395	112		2273395

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HF4042		HF4043		HF4044		HF4045	HF4046		
Sampling Date		2010/09/15		2010/09/15		2010/09/15		2010/09/15	2010/09/15		
	Units	**L70931 \ 3-PHC-01-8**	**QC Batch**	**L70932 \ 3-PHC-01-9**	**QC Batch**	**L70933 \ 3-PHC-01-QA/QC**	**QC Batch**	**L70934 \ 2-PHC-02-1@SURFACE**	**L70935 \ 2-PHC-02-1@1M**	**RDL**	**QC Batch**
Inorganics											
Moisture	%	7	2276242	6	2275967	6	2276242	7	3	1	2275967
BTEX & F1 Hydrocarbons											
F1 (C6-C10)	ug/g	ND	2274192	ND	2274192	ND	2274192	ND	ND	10	2274192
F1 (C6-C10) - BTEX	ug/g	ND	2274192	ND	2274192	ND	2274192	ND	ND	10	2274192
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	14	2273395	14	2273395	13	2273395	ND	520	10	2273395
F3 (C16-C34 Hydrocarbons)	ug/g	770	2273395	840	2273395	790	2273395	ND	690	10	2273395
F4 (C34-C50 Hydrocarbons)	ug/g	110	2273395	230	2273395	200	2273395	ND	ND	10	2273395
Reached Baseline at C50	ug/g	YES	2273395	YES	2273395	YES	2273395	YES	YES		2273395
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	101	2274192	100	2274192	100	2274192	100	102		2274192
4-Bromofluorobenzene	%	100	2274192	100	2274192	95	2274192	97	101		2274192
D10-Ethylbenzene	%	114	2274192	113	2274192	111	2274192	112	111		2274192
D4-1,2-Dichloroethane	%	107	2274192	107	2274192	106	2274192	109	106		2274192
o-Terphenyl	%	95	2273395	96	2273395	94	2273395	92	97		2273395

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D0894
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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HF4047	HF4048	HF4049	HF4050	HF4051		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**L70936 \ 2-PHC-02-2@SURFACE**	**L70937 \ 2-PHC-02-2@1M**	**L70938 \ 2-PHC-02-3@SURFACE**	**L70939 \ 2-PHC-02-3@1M**	**L70940 \ 2-PHC-02-4@SURFACE**	**RDL**	**QC Batch**
Inorganics								
Moisture	%	8	3	3	2	2	1	2275967
BTEX & F1 Hydrocarbons								
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2274192
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2274192
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	ND	71	ND	140	26	10	2273395
F3 (C16-C34 Hydrocarbons)	ug/g	ND	83	ND	250	100	10	2273395
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2273395
Reached Baseline at C50	ug/g	YES	YES	YES	YES	YES		2273395
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	96	96	99	100	103		2274192
4-Bromofluorobenzene	%	96	99	101	100	101		2274192
D10-Ethylbenzene	%	111	113	108	113	111		2274192
D4-1,2-Dichloroethane	%	108	110	107	106	106		2274192
o-Terphenyl	%	90	93	91	94	93		2273395

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D0894
Report Date: 2010/09/28

Maxxam Analytique
Client Project #: B049616

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HF4052	HF4053	HF4054		HF4055	HF4056		
Sampling Date		2010/09/15	2010/09/15	2010/09/15		2010/09/15	2010/09/15		
	Units	**L70941 \ 2-PHC-02-4@1M**	**L70942 \ 2-PHC-02-5@SURFACE**	**L70943 \ 2-PHC-02-5@1M**	**QC Batch**	**L70944 \ 2-PHC-02-6@SURFACE**	**L70945 \ 2-PHC-02-6@1M**	**RDL**	**QC Batch**
Inorganics									
Moisture	%	4	4	4	2275967	4	2	1	2275967
BTEX & F1 Hydrocarbons									
F1 (C6-C10)	ug/g	ND	ND	ND	2274192	ND	ND	10	2273175
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	2274192	ND	ND	10	2273175
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	2300	ND	2100	2273395	ND	140	10	2273042
F3 (C16-C34 Hydrocarbons)	ug/g	1400	ND	1300	2273395	ND	280	10	2273042
F4 (C34-C50 Hydrocarbons)	ug/g	ND	26	ND	2273395	ND	ND	10	2273042
Reached Baseline at C50	ug/g	YES	YES	YES	2273395	YES	YES		2273042
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	99	98	102	2274192	103	100		2273175
4-Bromofluorobenzene	%	104	98	100	2274192	99	101		2273175
D10-Ethylbenzene	%	115	103	112	2274192	97	96		2273175
D4-1,2-Dichloroethane	%	103	108	105	2274192	99	100		2273175
o-Terphenyl	%	105	89	97	2273395	84	98		2273042

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D0894
Report Date: 2010/09/28

Maxxam Analytique
Client Project #: B049616

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HF4057	HF4058	HF4059	HF4060	HF4061		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**L70946 \ 2-PHC-02-7@SURFACE**	**L70947 \ 2-PHC-02-7@1M**	**L70948 \ 2-PHC-02-8@SURFACE**	**L70949 \ 2-PHC-02-8@1M**	**L70950 \ 2-PHC-02-QA/QC**	**RDL**	**QC Batch**
Inorganics								
Moisture	%	4	3	5	3	9	1	2275967
BTEX & F1 Hydrocarbons								
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2273175
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2273175
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	ND	25	ND	280	ND	10	2273042
F3 (C16-C34 Hydrocarbons)	ug/g	ND	21	ND	270	ND	10	2273042
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	13	ND	ND	10	2273042
Reached Baseline at C50	ug/g	YES	YES	YES	YES	YES		2273042
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	99	100	102	101	101		2273175
4-Bromofluorobenzene	%	100	100	102	100	99		2273175
D10-Ethylbenzene	%	93	97	94	99	98		2273175
D4-1,2-Dichloroethane	%	96	98	104	100	97		2273175
o-Terphenyl	%	85	85	87	95	88		2273042

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D0894
Report Date: 2010/09/28

Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HF4035	HF4035	HF4036	HF4037	HF4038	HF4039	HF4040		HF4041		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		2010/09/15		
	Units	**L70924 \ 3-PHC-01-1**	**L70924 \ 3-PHC-01-1 Lab-Dup**	**L70925 \ 3-PHC-01-2**	**L70926 \ 3-PHC-01-3**	**L70927 \ 3-PHC-01-4**	**L70928 \ 3-PHC-01-5**	**L70929 \ 3-PHC-01-6**	**RDL**	**L70930 \ 3-PHC-01-7**	**RDL**	**QC Batch**
Volatile Organics												
Benzene	ug/g	0.003	ND	ND	0.002	ND	0.003	0.002	0.002	ND	0.1	2273157
Ethylbenzene	ug/g	0.005	0.004	0.004	0.005	0.004	0.005	0.004	0.002	ND	0.1	2273157
Toluene	ug/g	0.009	0.007	0.006	0.007	0.006	0.008	0.007	0.002	ND	0.1	2273157
p+m-Xylene	ug/g	0.003	0.002	0.003	0.003	0.003	0.003	0.002	0.002	ND	0.1	2273157
o-Xylene	ug/g	ND	ND	ND	ND	ND	ND	ND	0.002	ND	0.1	2273157
Xylene (Total)	ug/g	0.003	0.002	0.003	0.003	0.003	0.003	0.002	0.002	ND	0.1	2273157
Surrogate Recovery (%)												
4-Bromofluorobenzene	%	88	86	99	103	95	96	95		96		2273157
D4-1,2-Dichloroethane	%	101	102	101	100	100	99	101		107		2273157
D8-Toluene	%	109	114	103	102	104	105	103		99		2273157

Maxxam ID		HF4042	HF4043	HF4044	HF4045		HF4046		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15		2010/09/15		
	Units	**L70931 \ 3-PHC-01-8**	**L70932 \ 3-PHC-01-9**	**L70933 \ 3-PHC-01-QA/QC**	**L70934 \ 2-PHC-02-1@SURFACE**	**RDL**	**L70935 \ 2-PHC-02-1@1M**	**RDL**	**QC Batch**
Volatile Organics									
Benzene	ug/g	0.003	0.003	0.002	0.002	0.002	ND	0.1	2273157
Ethylbenzene	ug/g	0.006	0.005	0.006	0.004	0.002	ND	0.1	2273157
Toluene	ug/g	0.009	0.007	0.009	0.007	0.002	ND	0.1	2273157
p+m-Xylene	ug/g	0.004	0.004	0.003	0.002	0.002	ND	0.1	2273157
o-Xylene	ug/g	ND	ND	ND	ND	0.002	ND	0.1	2273157
Xylene (Total)	ug/g	0.004	0.004	0.003	0.002	0.002	ND	0.1	2273157
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	93	93	78	84		95		2273157
D4-1,2-Dichloroethane	%	99	91	91	93		88		2273157
D8-Toluene	%	105	99	113	106		104		2273157

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytique
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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HF4047	HF4048	HF4049	HF4050	HF4051		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**L70936 \ 2-PHC-02-2@SURFACE**	**L70937 \ 2-PHC-02-2@1M**	**L70938 \ 2-PHC-02-3@SURFACE**	**L70939 \ 2-PHC-02-3@1M**	**L70940 \ 2-PHC-02-4@SURFACE**	**RDL**	**QC Batch**
Volatile Organics								
Benzene	ug/g	ND	ND	ND	ND	ND	0.002	2273157
Ethylbenzene	ug/g	0.003	ND	0.002	ND	0.004	0.002	2273157
Toluene	ug/g	0.005	0.002	0.003	ND	0.005	0.002	2273157
p+m-Xylene	ug/g	ND	ND	ND	ND	0.002	0.002	2273157
o-Xylene	ug/g	ND	ND	ND	ND	ND	0.002	2273157
Xylene (Total)	ug/g	ND	ND	ND	ND	0.002	0.002	2273157
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	87	97	98	99	93		2273157
D4-1,2-Dichloroethane	%	93	93	95	94	93		2273157
D8-Toluene	%	107	96	95	95	97		2273157

Maxxam ID		HF4052		HF4053		HF4054		HF4055		
Sampling Date		2010/09/15		2010/09/15		2010/09/15		2010/09/15		
	Units	**L70941 \ 2-PHC-02-4@1M**	**RDL**	**L70942 \ 2-PHC-02-5@SURFACE**	**RDL**	**L70943 \ 2-PHC-02-5@1M**	**RDL**	**L70944 \ 2-PHC-02-6@SURFACE**	**RDL**	**QC Batch**
Volatile Organics										
Benzene	ug/g	ND	2	ND	0.002	ND	2	ND	0.002	2275272
Ethylbenzene	ug/g	ND	2	0.005	0.002	ND	2	0.004	0.002	2275272
Toluene	ug/g	ND	2	0.007	0.002	ND	2	0.005	0.002	2275272
p+m-Xylene	ug/g	ND	2	0.003	0.002	ND	2	0.002	0.002	2275272
o-Xylene	ug/g	ND	2	ND	0.002	ND	2	ND	0.002	2275272
Xylene (Total)	ug/g	ND	2	0.003	0.002	ND	2	0.002	0.002	2275272
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	95		93		96		94		2275272
D4-1,2-Dichloroethane	%	102		96		101		96		2275272
D8-Toluene	%	101		101		101		99		2275272

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HF4056	HF4057	HF4058	HF4059	HF4060		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**L70945 \ 2-PHC-02-6@1M**	**L70946 \ 2-PHC-02-7@SURFACE**	**L70947 \ 2-PHC-02-7@1M**	**L70948 \ 2-PHC-02-8@SURFACE**	**L70949 \ 2-PHC-02-8@1M**	**RDL**	**QC Batch**
Volatile Organics								
Benzene	ug/g	ND	ND	ND	ND	ND	0.002	2275272
Ethylbenzene	ug/g	0.002	0.004	0.004	0.005	0.004	0.002	2275272
Toluene	ug/g	0.003	0.005	0.005	0.007	0.005	0.002	2275272
p+m-Xylene	ug/g	ND	ND	0.002	0.002	0.002	0.002	2275272
o-Xylene	ug/g	ND	ND	ND	ND	ND	0.002	2275272
Xylene (Total)	ug/g	ND	ND	0.002	0.002	0.002	0.002	2275272
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	98	91	91	89	96		2275272
D4-1,2-Dichloroethane	%	96	94	94	94	94		2275272
D8-Toluene	%	97	103	98	100	97		2275272

Maxxam ID		HF4061		
Sampling Date		2010/09/15		
	Units	**L70950 \ 2-PHC-02-QA/QC**	**RDL**	**QC Batch**
Volatile Organics				
Benzene	ug/g	0.003	0.002	2275272
Ethylbenzene	ug/g	0.006	0.002	2275272
Toluene	ug/g	0.008	0.002	2275272
p+m-Xylene	ug/g	0.003	0.002	2275272
o-Xylene	ug/g	ND	0.002	2275272
Xylene (Total)	ug/g	0.003	0.002	2275272
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	88		2275272
D4-1,2-Dichloroethane	%	93		2275272
D8-Toluene	%	101		2275272

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Sample HF4041-01: VOC Analysis: Due to a matrix interference on internal standard responses in low level direct purge analysis, the sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly.

Sample HF4046-01: VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the sample could not be analysed by the low level direct purge method. The sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly.

Sample HF4052-01: VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the sample could not be analysed by the low level direct purge method. The sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly.

Sample HF4054-01: VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the sample could not be analysed by the low level direct purge method. The sample was preextracted in methanol and the extract analysed by high level purge & trap (US EPA Method 5035) gas chromatography/mass spectrometry using US EPA Method 8260C (modified). The DLs were adjusted accordingly.

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QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2273042	o-Terphenyl	2010/09/22	119	30 - 130	88	30 - 130	90	%		
2273042	F2 (C10-C16 Hydrocarbons)	2010/09/22	122	60 - 130	74	60 - 130	ND, RDL=10	ug/g	4.8	50
2273042	F3 (C16-C34 Hydrocarbons)	2010/09/22	122	60 - 130	74	60 - 130	ND, RDL=10	ug/g	3.5	50
2273042	F4 (C34-C50 Hydrocarbons)	2010/09/22	122	60 - 130	74	60 - 130	ND, RDL=10	ug/g	NC	50
2273157	4-Bromofluorobenzene	2010/09/22	91	60 - 140	107	60 - 140	103	%		
2273157	D4-1,2-Dichloroethane	2010/09/22	103	60 - 140	96	60 - 140	97	%		
2273157	D8-Toluene	2010/09/22	109	60 - 140	98	60 - 140	102	%		
2273157	Benzene	2010/09/22	95	39 - 137	92	60 - 140	ND, RDL=0.002	ug/g	NC	50
2273157	Ethylbenzene	2010/09/22	82	46 - 150	89	60 - 140	ND, RDL=0.002	ug/g	NC	50
2273157	Toluene	2010/09/22	95	30 - 158	89	60 - 140	ND, RDL=0.002	ug/g	NC	50
2273157	p+m-Xylene	2010/09/22	81	29 - 161	89	60 - 140	ND, RDL=0.002	ug/g	NC	50
2273157	o-Xylene	2010/09/22	89	45 - 150	88	60 - 140	ND, RDL=0.002	ug/g	NC	50
2273157	Xylene (Total)	2010/09/22					ND, RDL=0.002	ug/g	NC	50
2273175	1,4-Difluorobenzene	2010/09/23	100	60 - 140	103	60 - 140	104	%		
2273175	4-Bromofluorobenzene	2010/09/23	100	60 - 140	100	60 - 140	101	%		
2273175	D10-Ethylbenzene	2010/09/23	106	30 - 130	91	30 - 130	97	%		
2273175	D4-1,2-Dichloroethane	2010/09/23	99	60 - 140	96	60 - 140	95	%		
2273175	F1 (C6-C10)	2010/09/23	NC	60 - 140	86	60 - 140	ND, RDL=10	ug/g	NC	50
2273175	F1 (C6-C10) - BTEX	2010/09/23					ND, RDL=10	ug/g	NC	50
2273395	o-Terphenyl	2010/09/22	87	30 - 130	90	30 - 130	95	%		
2273395	F2 (C10-C16 Hydrocarbons)	2010/09/22	97	60 - 130	96	60 - 130	ND, RDL=10	ug/g	NC	50
2273395	F3 (C16-C34 Hydrocarbons)	2010/09/22	97	60 - 130	96	60 - 130	ND, RDL=10	ug/g	NC	50
2273395	F4 (C34-C50 Hydrocarbons)	2010/09/22	97	60 - 130	96	60 - 130	ND, RDL=10	ug/g	NC	50
2274192	1,4-Difluorobenzene	2010/09/24	103	60 - 140	97	60 - 140	97	%		
2274192	4-Bromofluorobenzene	2010/09/24	102	60 - 140	101	60 - 140	100	%		
2274192	D10-Ethylbenzene	2010/09/24	113	30 - 130	109	30 - 130	106	%		
2274192	D4-1,2-Dichloroethane	2010/09/24	104	60 - 140	105	60 - 140	106	%		
2274192	F1 (C6-C10)	2010/09/24	80	60 - 140	83	60 - 140	ND, RDL=10	ug/g	NC	50
2274192	F1 (C6-C10) - BTEX	2010/09/24					ND, RDL=10	ug/g	NC	50
2275272	4-Bromofluorobenzene	2010/09/23	96	60 - 140	99	60 - 140	100	%		
2275272	D4-1,2-Dichloroethane	2010/09/23	86	60 - 140	93	60 - 140	95	%		
2275272	D8-Toluene	2010/09/23	100	60 - 140	99	60 - 140	96	%		
2275272	Benzene	2010/09/24	104	39 - 137	101	60 - 140	ND, RDL=0.002	ug/g	NC	50
2275272	Ethylbenzene	2010/09/24	111	46 - 150	106	60 - 140	ND, RDL=0.002	ug/g	NC	50
2275272	Toluene	2010/09/24	104	30 - 158	98	60 - 140	ND, RDL=0.002	ug/g	NC	50
2275272	p+m-Xylene	2010/09/24	111	29 - 161	108	60 - 140	ND, RDL=0.002	ug/g	NC	50
2275272	o-Xylene	2010/09/24	97	45 - 150	95	60 - 140	ND, RDL=0.002	ug/g	NC	50
2275272	Xylene (Total)	2010/09/24					ND, RDL=0.002	ug/g	NC	50
2275967	Moisture	2010/09/23							3.4	20

Maxxam Job #: B0D0894
Report Date: 2010/09/28

Maxxam Analytique
Client Project #: B049616

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2276132	Moisture	2010/09/23							NC	20
2276242	Moisture	2010/09/23							NC	20

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.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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.

Validation Signature Page

Maxxam Job #: B0D0894

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

MEDHAT RISKALLAH, Manager, Hydrocarbon Department

MAMDOUH SALIB, Analyst, Hydrocarbons

==========

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.

Your Project #: B050178
Your C.O.C. #: NA

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/09/24

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0D2800
Received: 2010/09/23, 08:41

Sample Matrix: Soil
Samples Received: 30

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydrocarbons F2-F4 in Soil	30	2010/09/23	2010/09/24	CAM SOP-00316	CCME CWS
Moisture	30	N/A	2010/09/23	CAM SOP-00445	McKeague 2nd ed 1978

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

==========

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Total cover pages: 1

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Maxxam Analytics - Partial/Rush Results

Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

Maxxam Analytics - Partial/Rush Results

RESULTS OF ANALYSES OF SOIL

Maxxam ID		HG2508	HG2509	HG2510	HG2511		
Sampling Date		2010/09/18	2010/09/18	2010/09/18	2010/09/18		
COC Number		NA	NA	NA	NA		
	Units	**L73019\2-PHC-01-1@SU**	**L73026\2-PHC-01-1@1M**	**L73027\2-PHC-01-2@SU**	**L73028\2-PHC-01-2@1M**	**RDL**	**QC Batch**
Moisture	%	3	15	3	4	1	2276132

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2512	HG2513	HG2514	HG2514		
Sampling Date		2010/09/18	2010/09/18	2010/09/18	2010/09/18		
COC Number		NA	NA	NA	NA		
	Units	**L73029\2-PHC-01-3@SU**	**L73030\2-PHC-01-3@1M**	**L73031\2-PHC-01-4@SU**	**L73031\2-PHC-01-4@SU Lab-Dup**	**RDL**	**QC Batch**
Moisture	%	2	3	4	4	1	2276132

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2515	HG2516	HG2517	HG2518		
Sampling Date		2010/09/18	2010/09/18	2010/09/18	2010/09/19		
COC Number		NA	NA	NA	NA		
	Units	**L73032\2-PHC-01-4@1M**	**L73033\2-PHC-01-5**	**L73034\2-PHC-01-QA/QC**	**L73169\STOCKPILE4-1**	**RDL**	**QC Batch**
Moisture	%	4	3	2	19	1	2276132

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2519	HG2520	HG2521		
Sampling Date		2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA		
	Units	**L73171\STOCKPILE4-2**	**L73172\STOCKPILE4-3**	**L73173\STOCKPILE4-4**	**RDL**	**QC Batch**
Moisture	%	24	17	4	1	2276132

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

RESULTS OF ANALYSES OF SOIL

Maxxam ID		HG2522	HG2523	HG2524	HG2525		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA	NA		
	Units	**L73174\STOCKPILE4-5**	**L73175\STOCKPILE4-C**	**L73176\STOCKPILE5-1**	**L73177\STOCKPILE5-2**	**RDL**	**QC Batch**
Moisture	%	8	16	13	14	1	2276115

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2526	HG2527	HG2528	HG2529		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA	NA		
	Units	**L73178\STOCKPILE5-3**	**L73179\STOCKPILE5-4**	**L73180\STOCKPILE5-5**	**L73181\STOCKPILE5-C**	**RDL**	**QC Batch**
Moisture	%	11	12	13	14	1	2276115

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2530	HG2531	HG2532	HG2533		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA	NA		
	Units	**L73182\STOCKPILE5-Q**	**L73183\STOCKPILE6-1**	**L73184\STOCKPILE6-2**	**L73185\STOCKPILE6-3**	**RDL**	**QC Batch**
Moisture	%	17	45	33	26	1	2276115

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2534	HG2535	HG2536	HG2537		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA	NA		
	Units	**L73186\STOCKPILE6-4**	**L73187\STOCKPILE6-5**	**L73188\STOCKPILE6-C**	**L73189\STOCKPILE6-Q**	**RDL**	**QC Batch**
Moisture	%	31	44	32	26	1	2276115

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics - Partial/Rush Results

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Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

Maxxam Analytics - Partial/Rush Results

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HG2508	HG2509	HG2510		
Sampling Date		2010/09/18	2010/09/18	2010/09/18		
COC Number		NA	NA	NA		
	Units	**L73019\2-PHC-01-1@SU**	**L73026\2-PHC-01-1@1M**	**L73027\2-PHC-01-2@SU**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2276260
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2276260
Surrogate Recovery (%)						
o-Terphenyl	%	97	96	95	N/A	2276260

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2511		HG2512	HG2513		
Sampling Date		2010/09/18		2010/09/18	2010/09/18		
COC Number		NA		NA	NA		
	Units	**L73028\2-PHC-01-2@1M**	**QC Batch**	**L73029\2-PHC-01-3@SU**	**L73030\2-PHC-01-3@1M**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	ND	2276260	ND	ND	10	2276288
F3 (C16-C34 Hydrocarbons)	ug/g	ND	2276260	ND	ND	10	2276288
F4 (C34-C50 Hydrocarbons)	ug/g	ND	2276260	ND	ND	10	2276288
Reached Baseline at C50	ug/g	Yes	2276260	Yes	Yes	N/A	2276288
Surrogate Recovery (%)							
o-Terphenyl	%	97	2276260	112	101	N/A	2276288

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HG2514	HG2515	HG2516		
Sampling Date		2010/09/18	2010/09/18	2010/09/18		
COC Number		NA	NA	NA		
	Units	**L73031\2-PHC-01-4@SU**	**L73032\2-PHC-01-4@1M**	**L73033\2-PHC-01-5**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	28	10	2276288
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	29	10	2276288
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2276288
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2276288
Surrogate Recovery (%)						
o-Terphenyl	%	105	100	103	N/A	2276288

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2517	HG2518	HG2519		
Sampling Date		2010/09/18	2010/09/19	2010/09/19		
COC Number		NA	NA	NA		
	Units	**L73034\2-PHC-01-QA/QC**	**L73169\STOCKPILE4-1**	**L73171\STOCKPILE4-2**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	36	78	120	10	2276288
F3 (C16-C34 Hydrocarbons)	ug/g	30	440	480	10	2276288
F4 (C34-C50 Hydrocarbons)	ug/g	ND	550	310	10	2276288
Reached Baseline at C50	ug/g	Yes	No	No	N/A	2276288
Surrogate Recovery (%)						
o-Terphenyl	%	105	104	105	N/A	2276288

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics - Partial/Rush Results

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Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

Maxxam Analytics - Partial/Rush Results

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HG2520	HG2521		HG2522		
Sampling Date		2010/09/19	2010/09/19		2010/09/19		
COC Number		NA	NA		NA		
	Units	**L73172\STOCKPILE4-3**	**L73173\STOCKPILE4-4**	**QC Batch**	**L73174\STOCKPILE4-5**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	170	260	2276288	80	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	600	380	2276288	300	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	420	260	2276288	190	10	2276260
Reached Baseline at C50	ug/g	No	No	2276288	No	N/A	2276260
Surrogate Recovery (%)							
o-Terphenyl	%	114	105	2276288	99	N/A	2276260

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2522	HG2523	HG2524		
Sampling Date		2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA		
	Units	**L73174\STOCKPILE4-5 Lab-Dup**	**L73175\STOCKPILE4-C**	**L73176\STOCKPILE5-1**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	55	79	53	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	250	340	350	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	140	220	240	10	2276260
Reached Baseline at C50	ug/g	No	No	No	N/A	2276260
Surrogate Recovery (%)						
o-Terphenyl	%	93	98	99	N/A	2276260

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

Maxxam Analytics - Partial/Rush Results

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HG2525	HG2526	HG2527		
Sampling Date		2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA		
	Units	**L73177\STOCKPILE5-2**	**L73178\STOCKPILE5-3**	**L73179\STOCKPILE5-4**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	160	64	12	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	390	280	82	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	210	180	57	10	2276260
Reached Baseline at C50	ug/g	No	No	Yes	N/A	2276260
Surrogate Recovery (%)						
o-Terphenyl	%	100	96	98	N/A	2276260

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2528	HG2529	HG2530		
Sampling Date		2010/09/19	2010/09/19	2010/09/19		
COC Number		NA	NA	NA		
	Units	**L73180\STOCKPILE5-5**	**L73181\STOCKPILE5-C**	**L73182\STOCKPILE5-Q**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	85	83	64	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	350	260	280	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	340	350	190	10	2276260
Reached Baseline at C50	ug/g	No	No	No	N/A	2276260
Surrogate Recovery (%)						
o-Terphenyl	%	100	98	102	N/A	2276260

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

Maxxam Analytics - Partial/Rush Results

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HG2531		HG2532	HG2533		
Sampling Date		2010/09/19		2010/09/19	2010/09/19		
COC Number		NA		NA	NA		
	Units	**L73183\STOCKPILE6-1**	**RDL**	**L73184\STOCKPILE6-2**	**L73185\STOCKPILE6-3**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	370	20	180	130	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	1100	20	680	510	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	820	20	400	260	10	2276260
Reached Baseline at C50	ug/g	No	N/A	No	No	N/A	2276260
Surrogate Recovery (%)							
o-Terphenyl	%	103	N/A	103	106	N/A	2276260

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HG2534		HG2535		HG2536		
Sampling Date		2010/09/19		2010/09/19		2010/09/19		
COC Number		NA		NA		NA		
	Units	**L73186\STOCKPILE6-4**	**RDL**	**L73187\STOCKPILE6-5**	**RDL**	**L73188\STOCKPILE6-C**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	190	10	140	20	170	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	640	10	660	20	560	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	600	10	420	20	380	10	2276260
Reached Baseline at C50	ug/g	No	N/A	No	N/A	No	N/A	2276260
Surrogate Recovery (%)								
o-Terphenyl	%	105	N/A	101	N/A	100	N/A	2276260

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

Maxxam Analytics - Partial/Rush Results

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HG2537		
Sampling Date		2010/09/19		
COC Number		NA		
	Units	**L73189\STOCKPILE6-Q**	**RDL**	**QC Batch**
F2 (C10-C16 Hydrocarbons)	ug/g	200	10	2276260
F3 (C16-C34 Hydrocarbons)	ug/g	780	10	2276260
F4 (C34-C50 Hydrocarbons)	ug/g	600	10	2276260
Reached Baseline at C50	ug/g	No	N/A	2276260
Surrogate Recovery (%)				
o-Terphenyl	%	108	N/A	2276260

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D2800
Report Date: 2010/09/24

Maxxam Analytique
Client Project #: B050178

Maxxam Analytics - Partial/Rush Results

GENERAL COMMENTS

Sample HG2531-01: F2-F4 Analysis: Detection limits were adjusted for moisture content.

Sample HG2535-01: F2-F4 Analysis: Detection limits were adjusted for moisture content.

Results relate only to the items tested.

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Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B050178
P.O. #:
Project name:

Maxxam Analytics - Partial/Rush Results

Quality Assurance Report

Maxxam Job Number: MB0D2800

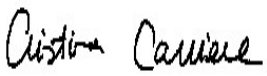
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2276115	DEE	RPD	Moisture	2010/09/23	6.2		%	20
2276132	SJN	RPD [HG2514-01]	Moisture	2010/09/23	NC		%	20
2276260	ZZ	Matrix Spike [HG2522-01]	o-Terphenyl	2010/09/24		90	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/24		72	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/24		72	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/24		72	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/24		92	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/24		85	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/24		85	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/24		85	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/24		99	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/24	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/24	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/24	ND, RDL=10		ug/g	
		RPD [HG2522-01]	F2 (C10-C16 Hydrocarbons)	2010/09/24	36.9		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/24	15.9		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/24	32.3		%	50
2276288	ZZ	Matrix Spike	o-Terphenyl	2010/09/24		104	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/24		111	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/24		111	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/24		111	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/24		99	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/24		99	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/24		99	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/24		99	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/24		105	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/24	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/24	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/24	ND, RDL=10		ug/g	
		RPD	F2 (C10-C16 Hydrocarbons)	2010/09/24	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/24	4.7		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/24	NC		%	50

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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 (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.

Validation Signature Page

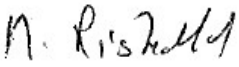
Maxxam Job #: B0D2800

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



CRISTINA CARRIERE, Scientific Services

JEEVARAJ JEEVARATRNAM, Senior Analyst



MEDHAT RISKALLAH, Manager, Hydrocarbon Department

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Maxxam Analytics - Partial/Rush Results

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/24

RESULTS FOR METALS

MAXXAM JOB #: B050178
Received: 2010/09/22, 11:30

Sample Matrix: SOIL
Samples Received: 48

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	48	2010/09/23	2010/09/23	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73094	L73094	L73108	L73108	L73109	L73109		
Sampling Date					2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**A**	**B**	**C**	**3-DT2-04-1**	**3-DT2-04-1 Lab-Dup**	**3-DT2-04-2**	**3-DT2-04-2 Lab-Dup**	**3-DT2-04-3**	**3-DT2-04-3 Lab-Dup**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	800835
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	800835
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	800835
Cobalt (Co)	mg/kg	**15**	50	300	4	3	4	3	3	3	2	800835
Chromium (Cr)	mg/kg	**85**	250	800	12	13	12	12	13	11	2	800835
Copper (Cu)	mg/kg	**40**	100	500	5	5	6	5	6	6	2	800835
Nickel (Ni)	mg/kg	**50**	100	500	4	4	5	4	5	3	1	800835
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	ND	5	800835
Zinc (Zn)	mg/kg	**110**	500	1500	12	11	12	11	11	ND	10	800835

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID					L73110	L73111	L73112	L73113	L73114	L73115		
Sampling Date					2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**A**	**B**	**C**	**3-DT2-04-4**	**3-DT2-04-5**	**3-DT2-04-6**	**3-DT2-04-7**	**3-DT2-04-8**	**3-DT2-04-9**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	800835
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	6	5	800835
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	800835
Cobalt (Co)	mg/kg	**15**	50	300	3	2	3	4	3	6	2	800835
Chromium (Cr)	mg/kg	**85**	250	800	12	9	12	13	13	18	2	800835
Copper (Cu)	mg/kg	**40**	100	500	5	9	6	8	5	19	2	800835
Nickel (Ni)	mg/kg	**50**	100	500	4	2	4	5	5	11	1	800835
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	13	5	800835
Zinc (Zn)	mg/kg	**110**	500	1500	ND	ND	11	12	11	20	10	800835

ND = less than the reported detection limit
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QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73116	L73116		L73117	L73118	L73119		
Sampling Date					2010/09/19	2010/09/19		2010/09/19	2010/09/19	2010/09/19		
	Units	**A**	**B**	**C**	**3-DT2-04-10**	**3-DT2-04-10 Lab-Dup**	**QC Batch**	**3-DT2-04-11**	**3-DT2-04-12**	**3-DT2-04-QA/QC**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	800838	ND	ND	ND	0.02	800835
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	800838	ND	ND	ND	5	800835
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	800838	ND	ND	ND	0.5	800835
Cobalt (Co)	mg/kg	**15**	50	300	3	3	800838	4	4	4	2	800835
Chromium (Cr)	mg/kg	**85**	250	800	12	12	800838	14	14	14	2	800835
Copper (Cu)	mg/kg	**40**	100	500	4	7	800838	8	7	7	2	800835
Nickel (Ni)	mg/kg	**50**	100	500	4	4	800838	6	5	6	1	800835
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	800838	ND	ND	ND	5	800835
Zinc (Zn)	mg/kg	**110**	500	1500	12	10	800838	13	12	12	10	800835

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID					L73120	L73169	L73171	L73172	L73173	L73174		
Sampling Date					2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**A**	**B**	**C**	**ND-ASH**	**STOCKPILE 4-1**	**STOCKPILE 4-2**	**STOCKPILE 4-3**	**STOCKPILE 4-4**	**STOCKPILE 4-5**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	0.6	25	21	28	9.4	12	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.09	0.09	0.09	0.17	0.06	0.02	800835
Arsenic (As)	mg/kg	**6**	30	50	ND	5	**8**	**8**	**11**	**8**	5	800835
Cadmium (Cd)	mg/kg	**1.5**	5	20	1.1	ND	ND	ND	ND	ND	0.5	800835
Cobalt (Co)	mg/kg	**15**	50	300	6	10	9	10	11	10	2	800835
Chromium (Cr)	mg/kg	**85**	250	800	17	25	29	27	32	29	2	800835
Copper (Cu)	mg/kg	**40**	100	500	170	1500	260	200	430	1200	2	800835
Nickel (Ni)	mg/kg	**50**	100	500	10	26	24	29	33	33	1	800835
Lead (Pb)	mg/kg	**50**	500	1000	**450**	**180**	**300**	800	520	630	5	800835
Zinc (Zn)	mg/kg	**110**	500	1500	81	**270**	**230**	570	**440**	**420**	10	800835

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73175	L73176	L73177	L73178	L73179		
Sampling Date					2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**A**	**B**	**C**	**STOCKPILE 4-COMPOSITE**	**STOCKPILE 5-1**	**STOCKPILE 5-2**	**STOCKPILE 5-3**	**STOCKPILE 5-4**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	14	22	28	16	15	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	0.07	0.07	0.06	0.05	ND	0.02	800835
Arsenic (As)	mg/kg	**6**	30	50	**11**	**13**	**9**	**13**	ND	5	800835
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.8	0.8	ND	ND	0.5	800835
Cobalt (Co)	mg/kg	**15**	50	300	12	10	10	10	5	2	800835
Chromium (Cr)	mg/kg	**85**	250	800	36	28	33	32	17	2	800835
Copper (Cu)	mg/kg	**40**	100	500	150	150	150	130	17	2	800835
Nickel (Ni)	mg/kg	**50**	100	500	37	25	41	29	7	1	800835
Lead (Pb)	mg/kg	**50**	500	1000	690	560	1400	610	20	5	800835
Zinc (Zn)	mg/kg	**110**	500	1500	510	**340**	**370**	**280**	40	10	800835

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73180	L73181	L73182		L73183	L73184		
Sampling Date					2010/09/19	2010/09/19	2010/09/19		2010/09/19	2010/09/19		
	Units	**A**	**B**	**C**	**STOCKPILE 5-5**	**STOCKPILE 5-COMPOSITE**	**STOCKPILE 5-QA/QC**	**QC Batch**	**STOCKPILE 6-1**	**STOCKPILE 6-2**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	8.7	22	30	N/A	29	28	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	0.04	0.05	0.05	800835	0.12	0.17	0.02	800838
Arsenic (As)	mg/kg	**6**	30	50	**12**	**7**	**8**	800835	**18**	**16**	5	800838
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.9	ND	800835	ND	ND	0.5	800838
Cobalt (Co)	mg/kg	**15**	50	300	9	7	8	800835	**17**	15	2	800838
Chromium (Cr)	mg/kg	**85**	250	800	26	23	22	800835	42	37	2	800838
Copper (Cu)	mg/kg	**40**	100	500	110	**87**	310	800835	410	840	2	800838
Nickel (Ni)	mg/kg	**50**	100	500	24	18	19	800835	**55**	44	1	800838
Lead (Pb)	mg/kg	**50**	500	1000	**390**	**310**	**310**	800835	1600	1700	5	800838
Zinc (Zn)	mg/kg	**110**	500	1500	**210**	**220**	**190**	800835	5000	1200	10	800838

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73185	L73186	L73187	L73188	L73189	L73196		
Sampling Date					2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/20		
	Units	**A**	**B**	**C**	**STOCKPILE 6-3**	**STOCKPILE 6-4**	**STOCKPILE 6-5**	**STOCKPILE 6-COMPOSITE**	**STOCKPILE 6-QA/QC**	**3-DT2-05-1**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	22	31	20	31	27	N/A	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	0.09	0.12	0.09	0.09	0.14	ND	0.02	800838
Arsenic (As)	mg/kg	**6**	30	50	**18**	**14**	**19**	**21**	**15**	6	5	800838
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	800838
Cobalt (Co)	mg/kg	**15**	50	300	**18**	15	**18**	**17**	**16**	5	2	800838
Chromium (Cr)	mg/kg	**85**	250	800	50	41	55	42	45	17	2	800838
Copper (Cu)	mg/kg	**40**	100	500	810	840	1400	700	1800	27	2	800838
Nickel (Ni)	mg/kg	**50**	100	500	**72**	**53**	**74**	**55**	**57**	14	1	800838
Lead (Pb)	mg/kg	**50**	500	1000	630	1200	650	1300	3300	8	5	800838
Zinc (Zn)	mg/kg	**110**	500	1500	1600	1300	1100	1800	1100	15	10	800838

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73196	L73203	L73204	L73205	L73206	L73207		
Sampling Date					2010/09/20	2010/09/20	2010/09/20	2010/09/20	2010/09/20	2010/09/20		
	Units	**A**	**B**	**C**	**3-DT2-05-1 Lab-Dup**	**3-DT2-05-2**	**3-DT2-05-3**	**3-DT2-05-4**	**3-DT2-05-5**	**3-DT2-05-6**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	800838
Arsenic (As)	mg/kg	**6**	30	50	6	ND	ND	ND	**8**	ND	5	800838
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	800838
Cobalt (Co)	mg/kg	**15**	50	300	6	5	4	5	8	4	2	800838
Chromium (Cr)	mg/kg	**85**	250	800	19	16	14	15	25	14	2	800838
Copper (Cu)	mg/kg	**40**	100	500	30	6	8	11	29	10	2	800838
Nickel (Ni)	mg/kg	**50**	100	500	13	6	6	8	21	7	1	800838
Lead (Pb)	mg/kg	**50**	500	1000	24	ND	ND	ND	10	ND	5	800838
Zinc (Zn)	mg/kg	**110**	500	1500	20	15	23	15	49	27	10	800838

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID					L73208	L73208	L73209	L73210	L73211	L73212		
Sampling Date					2010/09/20	2010/09/20	2010/09/20	2010/09/20	2010/09/20	2010/09/20		
	Units	**A**	**B**	**C**	**3-DT2-05-7**	**3-DT2-05-7 Lab-Dup**	**3-DT2-05-8**	**3-DT2-05-9**	**3-DT2-05-10**	**3-DT2-05-11**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	800838
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	800838
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	800838
Cobalt (Co)	mg/kg	**15**	50	300	4	3	4	4	4	5	2	800838
Chromium (Cr)	mg/kg	**85**	250	800	12	12	12	12	13	15	2	800838
Copper (Cu)	mg/kg	**40**	100	500	6	7	7	9	6	14	2	800838
Nickel (Ni)	mg/kg	**50**	100	500	5	4	4	6	5	7	1	800838
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	26	5	800838
Zinc (Zn)	mg/kg	**110**	500	1500	54	39	11	17	17	21	10	800838

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73213	L73215	L73216		
Sampling Date					2010/09/20	2010/09/20	2010/09/20		
	Units	**A**	**B**	**C**	**3-DT2-05-QA/QC**	**3-DT2-06-1**	**3-DT2-06-2**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	800838
Arsenic (As)	mg/kg	**6**	30	50	ND	**18**	ND	5	800838
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	800838
Cobalt (Co)	mg/kg	**15**	50	300	5	8	4	2	800838
Chromium (Cr)	mg/kg	**85**	250	800	19	18	14	2	800838
Copper (Cu)	mg/kg	**40**	100	500	10	26	7	2	800838
Nickel (Ni)	mg/kg	**50**	100	500	10	16	6	1	800838
Lead (Pb)	mg/kg	**50**	500	1000	5	9	ND	5	800838
Zinc (Zn)	mg/kg	**110**	500	1500	20	17	14	10	800838

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B050178

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
800835	HC	Spiked Blank	Mercury (Hg)	2010/09/23		99	%
			Arsenic (As)	2010/09/23		100	%
			Cadmium (Cd)	2010/09/23		99	%
			Cobalt (Co)	2010/09/23		95	%
			Chromium (Cr)	2010/09/23		96	%
			Copper (Cu)	2010/09/23		97	%
			Nickel (Ni)	2010/09/23		94	%
			Lead (Pb)	2010/09/23		102	%
			Zinc (Zn)	2010/09/23		98	%
		Method Blank	Mercury (Hg)	2010/09/23	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/23	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/23	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/23	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/23	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/23	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/23	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/23	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/23	ND, RDL=10		mg/kg
800838	HC	Spiked Blank	Mercury (Hg)	2010/09/23		99	%
			Arsenic (As)	2010/09/23		102	%
			Cadmium (Cd)	2010/09/23		103	%
			Cobalt (Co)	2010/09/23		96	%
			Chromium (Cr)	2010/09/23		97	%
			Copper (Cu)	2010/09/23		96	%
			Nickel (Ni)	2010/09/23		95	%
			Lead (Pb)	2010/09/23		100	%
			Zinc (Zn)	2010/09/23		100	%
		Method Blank	Mercury (Hg)	2010/09/23	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/23	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/23	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/23	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/23	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/23	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/23	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/23	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/23	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/24

RESULTS FOR METALS

MAXXAM JOB #: B050178
Received: 2010/09/22, 11:30

Sample Matrix: SOIL
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	1	2010/09/23	2010/09/23	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L73217		
Sampling Date					2010/09/20		
	Units	**A**	**B**	**C**	**3-DT2-06-3**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.02	800838
Arsenic (As)	mg/kg	**6**	30	50	ND	5	800838
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.5	800838
Cobalt (Co)	mg/kg	**15**	50	300	ND	2	800838
Chromium (Cr)	mg/kg	**85**	250	800	ND	2	800838
Copper (Cu)	mg/kg	**40**	100	500	ND	2	800838
Nickel (Ni)	mg/kg	**50**	100	500	ND	1	800838
Lead (Pb)	mg/kg	**50**	500	1000	ND	5	800838
Zinc (Zn)	mg/kg	**110**	500	1500	ND	10	800838

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B050178

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
800838	HC	Spiked Blank	Mercury (Hg)	2010/09/23		99	%
			Arsenic (As)	2010/09/23		102	%
			Cadmium (Cd)	2010/09/23		103	%
			Cobalt (Co)	2010/09/23		96	%
			Chromium (Cr)	2010/09/23		97	%
			Copper (Cu)	2010/09/23		96	%
			Nickel (Ni)	2010/09/23		95	%
			Lead (Pb)	2010/09/23		100	%
			Zinc (Zn)	2010/09/23		100	%
		Method Blank	Mercury (Hg)	2010/09/23	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/23	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/23	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/23	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/23	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/23	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/23	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/23	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/23	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/24

RESULTS FOR METALS

MAXXAM JOB #: B050178
Received: 2010/09/22, 11:30

Sample Matrix: Solid Material
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	1	2010/09/23	2010/09/24	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOLID MATERIAL)

Maxxam ID		L73057		
Sampling Date		2010/09/18		
	Units	**SD WOODPILE**	**RDL**	**QC Batch**
Mercury (Hg)	mg/kg	ND	0.02	800699
Arsenic (As)	mg/kg	10	5	800699
Cadmium (Cd)	mg/kg	ND	0.5	800699
Cobalt (Co)	mg/kg	7	2	800699
Chromium (Cr)	mg/kg	29	2	800699
Copper (Cu)	mg/kg	14	2	800699
Nickel (Ni)	mg/kg	15	1	800699
Lead (Pb)	mg/kg	12	5	800699
Zinc (Zn)	mg/kg	38	10	800699

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

For samples of matrix Solid Material, all results are calculated on a wet weight basis.

METALS (SOLID MATERIAL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B050178

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
800699 HC	QC STANDARD	Arsenic (As)	2010/09/24		112	%
		Cobalt (Co)	2010/09/24		96	%
		Chromium (Cr)	2010/09/24		100	%
		Copper (Cu)	2010/09/24		94	%
		Nickel (Ni)	2010/09/24		94	%
		Lead (Pb)	2010/09/24		94	%
		Zinc (Zn)	2010/09/24		82	%
	Spiked Blank	Mercury (Hg)	2010/09/24		87	%
		Arsenic (As)	2010/09/24		89	%
		Cadmium (Cd)	2010/09/24		92	%
		Cobalt (Co)	2010/09/24		95	%
		Chromium (Cr)	2010/09/24		99	%
		Copper (Cu)	2010/09/24		96	%
		Nickel (Ni)	2010/09/24		93	%
		Lead (Pb)	2010/09/24		104	%
		Zinc (Zn)	2010/09/24		82	%
	Method Blank	Mercury (Hg)	2010/09/24	ND, RDL=0.02		mg/kg
		Arsenic (As)	2010/09/24	ND, RDL=5		mg/kg
		Cadmium (Cd)	2010/09/24	ND, RDL=0.5		mg/kg
		Cobalt (Co)	2010/09/24	ND, RDL=2		mg/kg
		Chromium (Cr)	2010/09/24	ND, RDL=2		mg/kg
		Copper (Cu)	2010/09/24	ND, RDL=2		mg/kg
		Nickel (Ni)	2010/09/24	ND, RDL=1		mg/kg
		Lead (Pb)	2010/09/24	ND, RDL=5		mg/kg
		Zinc (Zn)	2010/09/24	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/24

RESULTS FOR PCBS

MAXXAM JOB #: B050178
Received: 2010/09/22, 11:30

Sample Matrix: SOIL
Samples Received: 20

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
PCB	20	2010/09/23	2010/09/23	STL SOP-00160/5	MA. 403 - BPC 2.0

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L73169	L73171	L73172	L73173	L73174	L73175		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**STOCKPILE 4-1**	**STOCKPILE 4-2**	**STOCKPILE 4-3**	**STOCKPILE 4-4**	**STOCKPILE 4-5**	**STOCKPILE 4-COMPOSITE**	**RDL**	**QC Batch**
% Moisture	%	25	21	28	9.4	12	14	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Aroclor 1254	mg/kg	ND	0.10	0.15	ND	ND	0.13	0.10	800808
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Total PCB	mg/kg	ND	0.10	0.15	ND	ND	0.13	0.10	800808
Surrogate Recovery (%)									
Decachlorobiphenyl	%	107	117	91	97	101	107	N/A	800808

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L73176	L73177	L73178	L73179	L73180	L73181		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**STOCKPILE 5-1**	**STOCKPILE 5-2**	**STOCKPILE 5-3**	**STOCKPILE 5-4**	**STOCKPILE 5-5**	**STOCKPILE 5-COMPOSITE**	**RDL**	**QC Batch**
% Moisture	%	22	28	16	15	8.7	22	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Aroclor 1254	mg/kg	0.13	0.11	ND	ND	ND	ND	0.10	800808
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Total PCB	mg/kg	0.13	0.11	ND	ND	ND	ND	0.10	800808
Surrogate Recovery (%)									
Decachlorobiphenyl	%	106	102	104	98	97	103	N/A	800808

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)
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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L73182	L73183	L73184	L73185	L73185	L73186		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**STOCKPILE 5-QA/QC**	**STOCKPILE 6-1**	**STOCKPILE 6-2**	**STOCKPILE 6-3**	**STOCKPILE 6-3 Lab-Dup**	**STOCKPILE 6-4**	**RDL**	**QC Batch**
% Moisture	%	30	29	28	22	22	31	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Aroclor 1254	mg/kg	ND	0.11	0.13	0.13	ND	0.17	0.10	800808
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	800808
Total PCB	mg/kg	ND	0.11	0.13	0.13	ND	0.17	0.10	800808
Surrogate Recovery (%)									
Decachlorobiphenyl	%	95	90	101	102	100	106	N/A	800808

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L73187	L73188	L73188	L73189		
Sampling Date		2010/09/19	2010/09/19	2010/09/19	2010/09/19		
	Units	**STOCKPILE 6-5**	**STOCKPILE 6-COMPOSITE**	**STOCKPILE 6-COMPOSITE Lab-Dup**	**STOCKPILE 6-QA/QC**	**RDL**	**QC Batch**
% Moisture	%	20	31	31	27	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	0.10	800808
Aroclor 1248	mg/kg	ND	ND	ND	ND	0.10	800808
Aroclor 1254	mg/kg	0.17	0.20	0.12	0.18	0.10	800808
Aroclor 1260	mg/kg	ND	ND	ND	ND	0.10	800808
Total PCB	mg/kg	0.17	0.20	0.12	0.18	0.10	800808
Surrogate Recovery (%)							
Decachlorobiphenyl	%	99	119	108	105	N/A	800808

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050178
Report Date: 2010/09/24

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

PCB (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B050178

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
800808 JW2	Spiked Blank	Decachlorobiphenyl	2010/09/23		110	%
		Aroclor 1242	2010/09/23		92	%
		Aroclor 1260	2010/09/23		94	%
	Method Blank	Decachlorobiphenyl	2010/09/23		98	%
		Aroclor 1242	2010/09/23	ND, RDL=0.10		mg/kg
		Aroclor 1248	2010/09/23	ND, RDL=0.10		mg/kg
		Aroclor 1254	2010/09/23	ND, RDL=0.10		mg/kg
		Aroclor 1260	2010/09/23	ND, RDL=0.10		mg/kg
		Total PCB	2010/09/23	ND, RDL=0.10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Exova
121 Boulevard Hymus
Pointe-Claire
Québec
Canada
H9R 1E6

T: +1 (514) 697-3273
F: +1 (514) 697-2090
C: ventes@exova.com
W: www.exova.com

Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-390417
Version : 2
Date received : 2010-09-23
Project No. : B050178

P.O. No. : ----
Client No. : 000391

Identification	Accredited MDDEP				L73214-01R BAR-12
Matrix					
Date sampled					2010-09-20
Sampling location					----
Collected by					Client
Laboratory No.					1818027
Parameters		**Units**	**Date**		**Result(s)**
			Prepared	Analysed	
Cadmium, Cd	x	mg/kg	2010-09-23	2010-09-24	<1
Chromium, Cr	x	mg/kg	2010-09-23	2010-09-24	<1
Lead, Pb	x	mg/kg	2010-09-23	2010-09-24	<5
Total halides (as chlorides)	x	mg/kg	2010-09-23	2010-09-23	<100
Total chlorine, Cl	x	mg/kg	2010-09-23	2010-09-23	<100
PCB	x	mg/kg	2010-09-23	2010-09-23	<2*

Comments: * Detection limit modified du to matrix interference
Version 2 : added total chlorine results.
Analytical methods: Appendix I
Quality control: Appendix II

CHIMISTE
Alain Fauteux
2009-004
QUÉBEC

Chemist : _____
2010-09-27

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-390417
Version : 2
Date received : 2010-09-23
Project No. : B050178

P.O. No. : ----
Client No. : 000391

Appendix I

Parameters	Methods No. or references	Technics or instruments
Cadmium, Cd	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Chromium, Cr	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Lead, Pb	E-A-EN-EN-FL-PC-SOP0021,R4	ICP
Total halides (as chlorides)	E-A-EN-EN-FL-PC-MD004	Colorimetric
PCB	E-A-EN-EN-CHO-PC-MD001	GC-ECD

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-390417
Version : 2
Date received : 2010-09-23
Project No. : B050178

P.O. No. : ----
Client No. : 000391

Appendix II

Identification		Blank	Duplicate			Reference material		
Parameters	Units	Results	Laboratory No.	Results 1	Results 2	Value	Range	Obtained
Cadmium, Cd	mg/kg	< 1	----	----	----	10.0	8.0 - 12.0	8.9
Chromium, Cr	mg/kg	< 1	----	----	----	10.0	7.0 - 13.0	8.4
Lead, Pb	mg/kg	< 5	----	----	----	10.0	8.0 - 12.0	8.9
Total halides (as chlorides)	mg/kg	< 100	----	----	----	1000	750 - 1250	968
PCB	mg/kg	< 1	----	----	----	----	----	----

NA : Non applicable

Note: These results only apply to the samples submitted

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/09/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B050890
Received: 2010/09/24, 12:30

Sample Matrix: SOIL
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	17	2010/09/24	2010/09/24		
Mercury by ICP/MS	3	2010/09/24	2010/09/26	STL SOP-0006/8	MA.200-Hg 1.0
Mercury by ICP/MS	14	2010/09/27	2010/09/27	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	3	2010/09/24	2010/09/24	STL SOP-00006/8	MA.200- Mét 1.1
Metals by ICP	14	2010/09/27	2010/09/27	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B050890
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L76167	L76167	L76172	L76173	L76174		
Sampling Date					2010/09/23	2010/09/23	2010/09/23	2010/09/23	2010/09/23		
	Units	**A**	**B**	**C**	**3-DT2-03-6**	**3-DT2-03-6 Lab-Dup**	**3-DT2-03-7**	**3-DT2-03-8**	**3-DT2-03-QA/QC-2**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	0.02	ND	ND	ND	ND	0.02	801763
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	801763
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	801763
Cobalt (Co)	mg/kg	**15**	50	300	3	3	3	3	3	2	801763
Chromium (Cr)	mg/kg	**85**	250	800	10	10	12	11	11	2	801763
Copper (Cu)	mg/kg	**40**	100	500	6	6	6	7	5	2	801763
Nickel (Ni)	mg/kg	**50**	100	500	3	2	3	4	3	1	801763
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	700	**66**	5	801763
Zinc (Zn)	mg/kg	**110**	500	1500	10	ND	11	13	12	10	801763

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050890
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L76175	L76176	L76177	L76178	L76179	L76179		
Sampling Date					2010/09/23	2010/09/23	2010/09/23	2010/09/23	2010/09/23	2010/09/23		
	Units	**A**	**B**	**C**	**4-DT2-02-6**	**4-DT2-02-7**	**4-DT2-02-8**	**4-DT2-02-9**	**4-DT2-04-17**	**4-DT2-04-17 Lab-Dup**	**RDL**	**QC Batch**
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	0.05	**0.21**	0.08	0.12	0.02	ND	0.02	801763
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	ND	5	801763
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	0.6	**1.9**	ND	ND	0.5	801763
Cobalt (Co)	mg/kg	**15**	50	300	6	5	7	5	5	4	2	801763
Chromium (Cr)	mg/kg	**85**	250	800	14	14	16	17	17	15	2	801763
Copper (Cu)	mg/kg	**40**	100	500	13	**41**	**55**	360	13	12	2	801763
Nickel (Ni)	mg/kg	**50**	100	500	9	7	11	9	7	6	1	801763
Lead (Pb)	mg/kg	**50**	500	1000	5	21	11	39	10	9	5	801763
Zinc (Zn)	mg/kg	**110**	500	1500	29	56	59	**130**	24	20	10	801763

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050890
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L76180	L76181	L76182	L76183	L76184		
Sampling Date					2010/09/23	2010/09/23	2010/09/23	2010/09/23	2010/09/23		
	Units	**A**	**B**	**C**	**4-DT2-04-18**	**4-DT2-04-19**	**4-DT2-05-11**	**4-DT2-05-12**	**4-DT2-05-13**	**RDL**	**QC Batch**
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	801763
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	801763
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	801763
Cobalt (Co)	mg/kg	**15**	50	300	4	4	5	6	7	2	801763
Chromium (Cr)	mg/kg	**85**	250	800	13	14	15	14	16	2	801763
Copper (Cu)	mg/kg	**40**	100	500	11	9	8	11	10	2	801763
Nickel (Ni)	mg/kg	**50**	100	500	5	6	8	8	9	1	801763
Lead (Pb)	mg/kg	**50**	500	1000	7	ND	ND	ND	6	5	801763
Zinc (Zn)	mg/kg	**110**	500	1500	18	16	21	24	22	10	801763

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID					L76185	L76186	L76187		
Sampling Date					2010/09/23	2010/09/23	2010/09/23		
	Units	**A**	**B**	**C**	**4-DT2-05-14**	**4-DT2-05-15**	**4-DT2-05-QA/QC-2**	**RDL**	**QC Batch**
METALS									
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.02	801597
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	5	801597
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	0.5	801597
Cobalt (Co)	mg/kg	**15**	50	300	ND	ND	ND	2	801597
Chromium (Cr)	mg/kg	**85**	250	800	ND	ND	ND	2	801597
Copper (Cu)	mg/kg	**40**	100	500	ND	ND	ND	2	801597
Nickel (Ni)	mg/kg	**50**	100	500	ND	ND	ND	1	801597
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	5	801597
Zinc (Zn)	mg/kg	**110**	500	1500	ND	ND	ND	10	801597

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B050890
Report Date: 2010/09/27

AECOM
Client Project #: 60155434-1.2

Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Wt. L76185-01 Sample =382.530g
Wt. L76185-01 Sample =366.020g
Wt. L76185-01 Sample =319.060g
Each Sample
Vol. HNO3 =20.0ml
Vol HCL =20.0ml
Vol Final =250.0ml
Dil 1:10

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B050890

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
801597	KK	Spiked Blank	Mercury (Hg)	2010/09/24		92	%
			Arsenic (As)	2010/09/24		99	%
			Cadmium (Cd)	2010/09/24		96	%
			Cobalt (Co)	2010/09/24		95	%
			Chromium (Cr)	2010/09/24		96	%
			Copper (Cu)	2010/09/24		95	%
			Nickel (Ni)	2010/09/24		96	%
			Lead (Pb)	2010/09/24		99	%
			Zinc (Zn)	2010/09/24		89	%
		Method Blank	Mercury (Hg)	2010/09/24	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/24	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/24	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/24	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/24	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/24	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/24	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/24	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/24	ND, RDL=10		mg/kg
801763	MCL	Spiked Blank	Mercury (Hg)	2010/09/27		97	%
			Arsenic (As)	2010/09/27		102	%
			Cadmium (Cd)	2010/09/27		104	%
			Cobalt (Co)	2010/09/27		98	%
			Chromium (Cr)	2010/09/27		97	%
			Copper (Cu)	2010/09/27		99	%
			Nickel (Ni)	2010/09/27		97	%
			Lead (Pb)	2010/09/27		101	%
			Zinc (Zn)	2010/09/27		98	%
		Method Blank	Mercury (Hg)	2010/09/27	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/27	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/27	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/27	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/27	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/27	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/27	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/27	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/27	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)

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Your Project #: B051426
Your C.O.C. #: n/a

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/10/04

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0D6294
Received: 2010/09/29, 09:45

Sample Matrix: Soil
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	16	2010/09/29	2010/09/30	CAM SOP-00315	CCME CWS
Petroleum Hydro. CCME F1 & BTEX in Soil	1	2010/10/04	2010/10/04	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	16	2010/09/29	2010/09/30	CAM SOP-00316	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	1	2010/10/04	2010/10/04	CAM SOP-00316	CCME CWS
Moisture	16	N/A	2010/09/29	CAM SOP-00445	McKeague 2nd ed 1978
Moisture	1	N/A	2010/09/30	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	14	2010/09/29	2010/10/02	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	2	2010/09/29	2010/10/04	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	1	2010/10/04	2010/10/02	CAM SOP-00226	EPA 8260 modified

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: Marijane.Cruz@maxxamanalytics.com
Phone# (905) 817-5756

==========

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Total cover pages: 1

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

RESULTS OF ANALYSES OF SOIL

Maxxam ID		HI0052	HI0053	HI0054	HI0055	HI0056		HI0057		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		2010/09/26		
COC Number		n/a	n/a	n/a	n/a	n/a		n/a		
	Units	**L78482 \ TSA-CON-1**	**L78496 \ TSA-CON-2**	**L78497 \ TSA-CON-3**	**L78498 \ TSA-CON-4**	**L78499 \ TSA-CON-5**	**QC Batch**	**L78500 \ TSA-CON-6**	**RDL**	**QC Batch**
Moisture	%	6	2	3	3	4	2282640	ND	1	2282884

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HI0058	HI0059	HI0060	HI0061	HI0062	HI0063	HI0064		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L78501 \ TSA-CON-7**	**L78502 \ TSA-CON-8**	**L78503 \ TSA-CON-9**	**L78505 \ TSA-CON-10**	**L78506 \ TSA-CON-11**	**L78507 \ TSA-CON-12**	**L78508 \ TSA-CON-13**	**RDL**	**QC Batch**
Moisture	%	6	7	ND	2	3	2	4	1	2282640

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HI0065	HI0066	HI0067	HI0068		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a		
	Units	**L78510 \ TSA-CON-14**	**L78511 \ TSA-CON-15**	**L78512 \ TSA-CON-16**	**L78513 \ TSA-CON-QA/QC**	**RDL**	**QC Batch**
Moisture	%	3	2	3	2	1	2282640

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID		HI0052	HI0052	HI0053	HI0054	HI0055	HI0056		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L78482 \ TSA-CON-1**	**L78482 \ TSA-CON-1 Lab-Dup**	**L78496 \ TSA-CON-2**	**L78497 \ TSA-CON-3**	**L78498 \ TSA-CON-4**	**L78499 \ TSA-CON-5**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	ND	0.002	ND	0.003	ND	0.002	2282832
Ethylbenzene	ug/g	0.006	0.004	0.005	0.003	0.006	0.005	0.002	2282832
Toluene	ug/g	0.008	0.006	0.007	0.004	0.008	0.008	0.002	2282832
p+m-Xylene	ug/g	0.003	0.002	0.003	ND	0.003	0.003	0.002	2282832
o-Xylene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2282832
Xylene (Total)	ug/g	0.003	0.002	0.003	ND	0.003	0.003	0.002	2282832
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	90	90	94	91	89	90	N/A	2282832
D4-1,2-Dichloroethane	%	107	108	108	112	109	112	N/A	2282832
D8-Toluene	%	105	107	105	104	106	105	N/A	2282832

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID		HI0057	HI0058	HI0059	HI0060	HI0061	HI0062		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L78500 \ TSA-CON-6**	**L78501 \ TSA-CON-7**	**L78502 \ TSA-CON-8**	**L78503 \ TSA-CON-9**	**L78505 \ TSA-CON-10**	**L78506 \ TSA-CON-11**	**RDL**	**QC Batch**
Benzene	ug/g	0.003	ND	ND	ND	ND	ND	0.002	2282832
Ethylbenzene	ug/g	0.005	0.005	0.005	0.004	0.005	0.004	0.002	2282832
Toluene	ug/g	0.008	0.007	0.006	0.006	0.006	0.005	0.002	2282832
p+m-Xylene	ug/g	0.003	0.002	0.002	0.002	0.002	ND	0.002	2282832
o-Xylene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2282832
Xylene (Total)	ug/g	0.003	0.002	0.002	0.002	0.002	ND	0.002	2282832
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	94	91	92	89	93	93	N/A	2282832
D4-1,2-Dichloroethane	%	110	109	111	108	109	110	N/A	2282832
D8-Toluene	%	102	108	104	110	105	105	N/A	2282832

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HI0063	HI0064	HI0065	HI0066	HI0067	HI0068		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L78507 \ TSA-CON-12**	**L78508 \ TSA-CON-13**	**L78510 \ TSA-CON-14**	**L78511 \ TSA-CON-15**	**L78512 \ TSA-CON-16**	**L78513 \ TSA-CON-QA/QC**	**RDL**	**QC Batch**
Benzene	ug/g	0.002	0.002	ND	ND	ND	0.002	0.002	2282832
Ethylbenzene	ug/g	0.006	0.005	0.004	0.003	0.004	0.006	0.002	2282832
Toluene	ug/g	0.008	0.008	0.006	0.005	0.006	0.008	0.002	2282832
p+m-Xylene	ug/g	0.003	0.003	ND	ND	ND	0.003	0.002	2282832
o-Xylene	ug/g	ND	ND	ND	ND	ND	ND	0.002	2282832
Xylene (Total)	ug/g	0.003	0.003	ND	ND	ND	0.003	0.002	2282832
Surrogate Recovery (%)									
4-Bromofluorobenzene	%	93	91	90	101	93	91	N/A	2282832
D4-1,2-Dichloroethane	%	110	108	108	114	109	111	N/A	2282832
D8-Toluene	%	106	105	106	101	106	106	N/A	2282832

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HI0052	HI0053	HI0054	HI0055	HI0056		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	**L78482 \ TSA-CON-1**	**L78496 \ TSA-CON-2**	**L78497 \ TSA-CON-3**	**L78498 \ TSA-CON-4**	**L78499 \ TSA-CON-5**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2282607
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2282607
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2282578
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2282578
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2282578
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	Yes	N/A	2282578
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	97	101	97	99	100	N/A	2282607
4-Bromofluorobenzene	%	101	102	100	100	100	N/A	2282607
D10-Ethylbenzene	%	102	106	101	106	105	N/A	2282607
D4-1,2-Dichloroethane	%	101	104	103	101	101	N/A	2282607
o-Terphenyl	%	94	97	96	96	95	N/A	2282578

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HI0057	HI0057		HI0058	HI0058	HI0059		
Sampling Date		2010/09/26	2010/09/26		2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a		n/a	n/a	n/a		
	Units	**L78500 \ TSA-CON-6**	**L78500 \ TSA-CON-6 Lab-Dup**	**QC Batch**	**L78501 \ TSA-CON-7**	**L78501 \ TSA-CON-7 Lab-Dup**	**L78502 \ TSA-CON-8**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	N/A	2286604	ND	N/A	ND	10	2282607
F1 (C6-C10) - BTEX	ug/g	ND	N/A	2286604	ND	N/A	ND	10	2282607
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	2286759	ND	ND	ND	10	2282578
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	2286759	ND	ND	ND	10	2282578
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	2286759	ND	ND	ND	10	2282578
Reached Baseline at C50	ug/g	Yes	Yes	2286759	Yes	Yes	Yes	N/A	2282578
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	103	N/A	2286604	97	N/A	101	N/A	2282607
4-Bromofluorobenzene	%	100	N/A	2286604	101	N/A	102	N/A	2282607
D10-Ethylbenzene	%	89	N/A	2286604	103	N/A	111	N/A	2282607
D4-1,2-Dichloroethane	%	105	N/A	2286604	102	N/A	103	N/A	2282607
o-Terphenyl	%	86	86	2286759	95	97	98	N/A	2282578

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HI0060	HI0061	HI0062	HI0063	HI0063	HI0064		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L78503 \ TSA-CON-9**	**L78505 \ TSA-CON-10**	**L78506 \ TSA-CON-11**	**L78507 \ TSA-CON-12**	**L78507 \ TSA-CON-12 Lab-Dup**	**L78508 \ TSA-CON-13**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	ND	10	2282607
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	ND	10	2282607
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	N/A	ND	10	2282578
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	13	N/A	35	10	2282578
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	ND	N/A	11	10	2282578
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	Yes	N/A	2282578
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	99	101	102	101	100	102	N/A	2282607
4-Bromofluorobenzene	%	103	103	104	102	98	103	N/A	2282607
D10-Ethylbenzene	%	106	107	109	107	105	106	N/A	2282607
D4-1,2-Dichloroethane	%	104	104	104	104	101	104	N/A	2282607
o-Terphenyl	%	95	96	96	94	N/A	95	N/A	2282578

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HI0065	HI0066	HI0067	HI0068		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26		
COC Number		n/a	n/a	n/a	n/a		
	Units	**L78510 \ TSA-CON-14**	**L78511 \ TSA-CON-15**	**L78512 \ TSA-CON-16**	**L78513 \ TSA-CON-QA/QC**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	2282607
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	2282607
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	2282578
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	21	10	2282578
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	ND	10	2282578
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	N/A	2282578
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	100	101	100	101	N/A	2282607
4-Bromofluorobenzene	%	103	103	103	101	N/A	2282607
D10-Ethylbenzene	%	107	104	104	108	N/A	2282607
D4-1,2-Dichloroethane	%	103	106	105	103	N/A	2282607
o-Terphenyl	%	109	99	98	97	N/A	2282578

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0D6294
Report Date: 2010/10/04

Maxxam Analytique
Client Project #: B051426

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B051426
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB0D6294

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2282578	ZZ	Matrix Spike						
		[HI0058-01]	o-Terphenyl	2010/09/30		91	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/30		82	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/30		82	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/30		82	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/09/30		93	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/30		82	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/09/30		82	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/09/30		82	%	60 - 130
		Method Blank	o-Terphenyl	2010/09/30		95	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/09/30	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/09/30	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/09/30	ND, RDL=10		ug/g	
		RPD [HI0058-01]	F2 (C10-C16 Hydrocarbons)	2010/09/30	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/09/30	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/09/30	NC		%	50
2282607	GRU	Matrix Spike						
		[HI0063-01]	1,4-Difluorobenzene	2010/09/30		96	%	60 - 140
			4-Bromofluorobenzene	2010/09/30		101	%	60 - 140
			D10-Ethylbenzene	2010/09/30		105	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/30		102	%	60 - 140
			F1 (C6-C10)	2010/09/30		88	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/09/30		97	%	60 - 140
			4-Bromofluorobenzene	2010/09/30		102	%	60 - 140
			D10-Ethylbenzene	2010/09/30		105	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/30		102	%	60 - 140
			F1 (C6-C10)	2010/09/30		79	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/09/30		101	%	60 - 140
			4-Bromofluorobenzene	2010/09/30		104	%	60 - 140
			D10-Ethylbenzene	2010/09/30		107	%	30 - 130
			D4-1,2-Dichloroethane	2010/09/30		105	%	60 - 140
			F1 (C6-C10)	2010/09/30	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/09/30	ND, RDL=10		ug/g	
		RPD [HI0063-01]	F1 (C6-C10)	2010/09/30	NC		%	50
			F1 (C6-C10) - BTEX	2010/09/30	NC		%	50
2282640	AC	RPD	Moisture	2010/09/29	1.6		%	20
2282832	JZO	Matrix Spike						
		[HI0052-01]	4-Bromofluorobenzene	2010/10/02		97	%	60 - 140
			D4-1,2-Dichloroethane	2010/10/02		98	%	60 - 140
			D8-Toluene	2010/10/02		103	%	60 - 140
			Benzene	2010/10/02		93	%	39 - 137
			Ethylbenzene	2010/10/02		89	%	46 - 150
			Toluene	2010/10/02		81	%	30 - 158
			p+m-Xylene	2010/10/02		91	%	29 - 161
			o-Xylene	2010/10/02		101	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/10/02		98	%	60 - 140
			D4-1,2-Dichloroethane	2010/10/02		99	%	60 - 140
			D8-Toluene	2010/10/02		103	%	60 - 140
			Benzene	2010/10/02		95	%	60 - 140
			Ethylbenzene	2010/10/02		87	%	60 - 140
			Toluene	2010/10/02		87	%	60 - 140
			p+m-Xylene	2010/10/02		82	%	60 - 140
			o-Xylene	2010/10/02		88	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/09/30		97	%	60 - 140
			D4-1,2-Dichloroethane	2010/09/30		116	%	60 - 140

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B051426
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0D6294

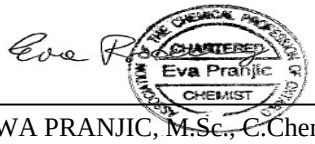
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2282832	JZO	Method Blank	D8-Toluene	2010/09/30		104	%	60 - 140
			Benzene	2010/09/30	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/09/30	ND, RDL=0.002		ug/g	
			Toluene	2010/09/30	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/09/30	ND, RDL=0.002		ug/g	
			o-Xylene	2010/09/30	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/09/30	ND, RDL=0.002		ug/g	
		RPD [HI0052-01]	Benzene	2010/10/02	NC		%	50
			Ethylbenzene	2010/10/02	NC		%	50
			Toluene	2010/10/02	NC		%	50
			p+m-Xylene	2010/10/02	NC		%	50
			o-Xylene	2010/10/02	NC		%	50
			Xylene (Total)	2010/10/02	NC		%	50
2282884	MYG	RPD	Moisture	2010/09/30	2.6		%	20
2286604	AAI	Spiked Blank	1,4-Difluorobenzene	2010/10/04		102	%	60 - 140
			4-Bromofluorobenzene	2010/10/04		103	%	60 - 140
			D10-Ethylbenzene	2010/10/04		84	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/04		105	%	60 - 140
			F1 (C6-C10)	2010/10/04		86	%	60 - 140
		RPD	F1 (C6-C10)	2010/10/04	2.9		%	50
		Method Blank	1,4-Difluorobenzene	2010/10/04		103	%	60 - 140
			4-Bromofluorobenzene	2010/10/04		100	%	60 - 140
			D10-Ethylbenzene	2010/10/04		89	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/04		106	%	60 - 140
			F1 (C6-C10)	2010/10/04	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/10/04	ND, RDL=10		ug/g	
2286759	RGA	Matrix Spike						
		[HI0057-01]	o-Terphenyl	2010/10/04		83	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/04		79	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/04		79	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/04		79	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/10/04		91	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/04		80	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/04		80	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/04		80	%	60 - 130
		Method Blank	o-Terphenyl	2010/10/04		93	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/04	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/10/04	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/10/04	ND, RDL=10		ug/g	
		RPD [HI0057-01]	F2 (C10-C16 Hydrocarbons)	2010/10/04	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/10/04	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/10/04	NC		%	50

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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 (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.

Validation Signature Page

Maxxam Job #: B0D6294

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

MEDHAT RISKALLAH, Manager, Hydrocarbon Department

MAMDOUH SALIB, Analyst, Hydrocarbons

SUZANA POPOVIC, Supervisor, Hydrocarbons

==========

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Your Project #: 60155343-1.2
Site: BEAR ISLAND

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/06
Report #: NM-336458
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B051426
Received: 2010/09/28, 11:20

Sample Matrix: OIL
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Anions (1)	5	N/A	N/A		
Mercury by Cold Vapour AA (1)	5	N/A	N/A		
Metals by ICP	5	2010/10/04	2010/10/05	STL SOP-00006/8	MA.200-Met 1.1
PCB	5	2010/09/29	2010/09/29	STL SOP-00155/2	MA. 409-BPC 1.0

Sample Matrix: SOIL
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Petroleum Hydro. (F1) Low Level BTEX (2)	17	N/A	N/A		
Petroleum Hydrocarbons (F2-F4) (2)	17	N/A	N/A		
Mercury by ICP/MS	17	2010/09/29	2010/09/29	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	17	2010/09/29	2010/09/29	STL SOP-00006/8	MA.200- Mét 1.1
PCB	17	2010/09/28	2010/09/29	STL SOP-00160/5	MA. 403 - BPC 2.0

(1) This test was performed by Bodycote - Pte.Claire
(2) This test was performed by Maxxam - Mississauga

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Your Project #: 60155343-1.2
Site: BEAR ISLAND

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/06
Report #: NM-336458
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

Encryption Key

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

LEILA SABOURI, Project manager
Email: leila.sabouri@maxxamanalytics.com
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (OIL)

Maxxam ID		L78521	L78542	L78543	L78544	L78545		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**BAR-13**	**BAR-14**	**BAR-15**	**BAR-16**	**BAR-17**	**RDL**	**QC Batch**
METALS								
Arsenic (As)	mg/kg	ND	ND	ND	ND	ND	2	804474
Cadmium (Cd)	mg/kg	ND	ND	ND	ND	ND	1	804474
Chromium (Cr)	mg/kg	ND	ND	ND	ND	ND	1	804474
Cobalt (Co)	mg/kg	ND	ND	ND	ND	ND	1	804474
Copper (Cu)	mg/kg	ND	ND	ND	ND	ND	2	804474
Lead (Pb)	mg/kg	ND	ND	ND	ND	ND	5	804474
Mercury (Hg)	mg/kg	ND	ND	ND	ND	ND	1	804474
Nickel (Ni)	mg/kg	ND	ND	ND	ND	ND	1	804474
Zinc (Zn)	mg/kg	76	250	37	81	49	30	804474

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

PCB (OIL)

Maxxam ID		L78521		L78542	L78543	L78544	L78545		
Sampling Date		2010/09/26		2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**BAR-13**	**RDL**	**BAR-14**	**BAR-15**	**BAR-16**	**BAR-17**	**RDL**	**QC Batch**
PCB									
Aroclor 1242	mg/kg	ND	3	ND	ND	ND	ND	0.5	802939
Aroclor 1248	mg/kg	ND	3	ND	ND	ND	ND	0.5	802939
Aroclor 1254	mg/kg	ND	3	ND	ND	ND	ND	0.5	802939
Aroclor 1260	mg/kg	ND	3	ND	ND	ND	ND	0.5	802939
Total PCB	mg/kg	ND	3	ND	ND	ND	ND	0.5	802939
Surrogate Recovery (%)									
Decachlorobiphenyl	%	**	N/A	101	91	89	97	N/A	802939

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L78482	L78496	L78497	L78498	L78499	L78500		
Sampling Date					2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**A**	**B**	**C**	**TSA-CON-1**	**TSA-CON-2**	**TSA-CON-3**	**TSA-CON-4**	**TSA-CON-5**	**TSA-CON-6**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	4.4	2.7	3.5	2.6	4.8	0.7	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	802721
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	802721
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	802721
Cobalt (Co)	mg/kg	**15**	50	300	4	4	4	4	4	3	2	802721
Chromium (Cr)	mg/kg	**85**	250	800	16	17	17	16	14	15	2	802721
Copper (Cu)	mg/kg	**40**	100	500	11	15	12	11	10	8	2	802721
Nickel (Ni)	mg/kg	**50**	100	500	9	10	10	10	9	9	1	802721
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	ND	5	802721
Zinc (Zn)	mg/kg	**110**	500	1500	16	31	15	16	15	16	10	802721

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L78501	L78502	L78503	L78505	L78506	L78507		
Sampling Date					2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**A**	**B**	**C**	**TSA-CON-7**	**TSA-CON-8**	**TSA-CON-9**	**TSA-CON-10**	**TSA-CON-11**	**TSA-CON-12**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.6	8.4	0.8	2.6	3.1	2.3	N/A	N/A
METALS												
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	802721
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	ND	5	802721
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	802721
Cobalt (Co)	mg/kg	**15**	50	300	4	4	4	4	4	4	2	802721
Chromium (Cr)	mg/kg	**85**	250	800	14	15	17	15	17	16	2	802721
Copper (Cu)	mg/kg	**40**	100	500	10	11	11	9	11	10	2	802721
Nickel (Ni)	mg/kg	**50**	100	500	9	9	11	9	10	10	1	802721
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	ND	5	802721
Zinc (Zn)	mg/kg	**110**	500	1500	13	13	17	15	14	15	10	802721

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L78508	L78510	L78511	L78512	L78513		
Sampling Date					2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**A**	**B**	**C**	**TSA-CON-13**	**TSA-CON-14**	**TSA-CON-15**	**TSA-CON-16**	**TSA-CON-QA/QC**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	4.1	2.3	2.1	2.8	1.9	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	802721
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	802721
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	802721
Cobalt (Co)	mg/kg	**15**	50	300	4	3	3	3	4	2	802721
Chromium (Cr)	mg/kg	**85**	250	800	15	11	13	12	15	2	802721
Copper (Cu)	mg/kg	**40**	100	500	13	8	9	7	10	2	802721
Nickel (Ni)	mg/kg	**50**	100	500	9	7	7	7	9	1	802721
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	5	802721
Zinc (Zn)	mg/kg	**110**	500	1500	15	11	15	ND	13	10	802721

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L78482	L78496	L78497	L78498	L78499	L78500		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**TSA-CON-1**	**TSA-CON-2**	**TSA-CON-3**	**TSA-CON-4**	**TSA-CON-5**	**TSA-CON-6**	**RDL**	**QC Batch**
% Moisture	%	4.4	2.7	3.5	2.6	4.8	0.7	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Surrogate Recovery (%)									
Decachlorobiphenyl	%	98	99	94	93	90	92	N/A	802531

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L78501	L78502	L78503	L78503	L78505	L78506		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**TSA-CON-7**	**TSA-CON-8**	**TSA-CON-9**	**TSA-CON-9 Lab-Dup**	**TSA-CON-10**	**TSA-CON-11**	**RDL**	**QC Batch**
% Moisture	%	5.6	8.4	0.8	0.8	2.6	3.1	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Surrogate Recovery (%)									
Decachlorobiphenyl	%	98	99	94	83	91	91	N/A	802531

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L78507	L78508	L78510	L78511	L78512	L78513		
Sampling Date		2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26	2010/09/26		
	Units	**TSA-CON-12**	**TSA-CON-13**	**TSA-CON-14**	**TSA-CON-15**	**TSA-CON-16**	**TSA-CON-QA/QC**	**RDL**	**QC Batch**
% Moisture	%	2.3	4.1	2.3	2.1	2.8	1.9	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	802531
Surrogate Recovery (%)									
Decachlorobiphenyl	%	90	94	90	99	92	89	N/A	802531

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B051426
Report Date: 2010/10/06

AECOM
Client Project #: 60155343-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

METALS (OIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

PCB (OIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

Reported detection limits are multiplied by dilution factors used for sample analysis.

Please note that due to the nature of the sample, a lower detection limits could not be reported for sample L78521.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

PCB (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

This report supersedes all previous reports with the same Maxxam job number

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155343-1.2
P.O. #:
Project name: BEAR ISLAND

Quality Assurance Report

Maxxam Job Number: B051426

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
802531	AK2	Spiked Blank	Decachlorobiphenyl	2010/09/29		90	%
			Aroclor 1242	2010/09/29		96	%
			Aroclor 1260	2010/09/29		96	%
		Method Blank	Decachlorobiphenyl	2010/09/29		82	%
			Aroclor 1242	2010/09/29	ND, RDL=0.10		mg/kg
			Aroclor 1248	2010/09/29	ND, RDL=0.10		mg/kg
			Aroclor 1254	2010/09/29	ND, RDL=0.10		mg/kg
			Aroclor 1260	2010/09/29	ND, RDL=0.10		mg/kg
			Total PCB	2010/09/29	ND, RDL=0.10		mg/kg
802721	KK	Spiked Blank	Mercury (Hg)	2010/09/29		91	%
		Spiked Blank DUP	Mercury (Hg)	2010/09/29		92	%
		Spiked Blank DUP 2	Mercury (Hg)	2010/09/29		91	%
		Spiked Blank	Arsenic (As)	2010/09/29		108	%
		Spiked Blank DUP	Arsenic (As)	2010/09/29		108	%
		Spiked Blank DUP 2	Arsenic (As)	2010/09/29		107	%
		Spiked Blank	Cadmium (Cd)	2010/09/29		91	%
		Spiked Blank DUP	Cadmium (Cd)	2010/09/29		91	%
		Spiked Blank DUP 2	Cadmium (Cd)	2010/09/29		91	%
		Spiked Blank	Cobalt (Co)	2010/09/29		93	%
		Spiked Blank DUP	Cobalt (Co)	2010/09/29		94	%
		Spiked Blank DUP 2	Cobalt (Co)	2010/09/29		94	%
		Spiked Blank	Chromium (Cr)	2010/09/29		93	%
		Spiked Blank DUP	Chromium (Cr)	2010/09/29		90	%
		Spiked Blank DUP 2	Chromium (Cr)	2010/09/29		90	%
		Spiked Blank	Copper (Cu)	2010/09/29		104	%
		Spiked Blank DUP	Copper (Cu)	2010/09/29		97	%
		Spiked Blank DUP 2	Copper (Cu)	2010/09/29		98	%
		Spiked Blank	Nickel (Ni)	2010/09/29		93	%
		Spiked Blank DUP	Nickel (Ni)	2010/09/29		94	%
		Spiked Blank DUP 2	Nickel (Ni)	2010/09/29		94	%
		Spiked Blank	Lead (Pb)	2010/09/29		86	%
		Spiked Blank DUP	Lead (Pb)	2010/09/29		86	%
		Spiked Blank DUP 2	Lead (Pb)	2010/09/29		86	%
		Spiked Blank	Zinc (Zn)	2010/09/29		88	%
		Spiked Blank DUP	Zinc (Zn)	2010/09/29		88	%
		Spiked Blank DUP 2	Zinc (Zn)	2010/09/29		88	%
		Method Blank	Mercury (Hg)	2010/09/29	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/09/29	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/09/29	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/09/29	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/09/29	ND, RDL=2		mg/kg
			Copper (Cu)	2010/09/29	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/09/29	ND, RDL=1		mg/kg
			Lead (Pb)	2010/09/29	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/09/29	ND, RDL=10		mg/kg
802939	AK2	Spiked Blank	Decachlorobiphenyl	2010/09/29		105	%

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155343-1.2
P.O. #:
Project name: BEAR ISLAND

Quality Assurance Report (Continued)

Maxxam Job Number: B051426

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
802939 AK2	Spiked Blank	Aroclor 1242	2010/09/29		109	%
		Aroclor 1260	2010/09/29		115	%
	Method Blank	Decachlorobiphenyl	2010/09/29		95	%
		Aroclor 1242	2010/09/29	ND, RDL=0.5		mg/kg
		Aroclor 1248	2010/09/29	ND, RDL=0.5		mg/kg
		Aroclor 1254	2010/09/29	ND, RDL=0.5		mg/kg
		Aroclor 1260	2010/09/29	ND, RDL=0.5		mg/kg
		Total PCB	2010/09/29	ND, RDL=0.5		mg/kg
804474 KQ	QC STANDARD	Cadmium (Cd)	2010/10/05		79	%
		Chromium (Cr)	2010/10/05		89	%
		Lead (Pb)	2010/10/05		99	%
	Spiked Blank	Arsenic (As)	2010/10/05		113	%
		Cadmium (Cd)	2010/10/05		85	%
		Chromium (Cr)	2010/10/05		110	%
		Cobalt (Co)	2010/10/05		108	%
		Copper (Cu)	2010/10/05		104	%
		Lead (Pb)	2010/10/05		105	%
		Mercury (Hg)	2010/10/05		85	%
		Nickel (Ni)	2010/10/05		105	%
		Zinc (Zn)	2010/10/05		91	%
	Method Blank	Arsenic (As)	2010/10/05	ND, RDL=2		mg/kg
		Cadmium (Cd)	2010/10/05	ND, RDL=1		mg/kg
		Chromium (Cr)	2010/10/05	ND, RDL=1		mg/kg
		Cobalt (Co)	2010/10/05	ND, RDL=1		mg/kg
		Copper (Cu)	2010/10/05	ND, RDL=2		mg/kg
		Lead (Pb)	2010/10/05	ND, RDL=5		mg/kg
		Mercury (Hg)	2010/10/05	ND, RDL=1		mg/kg
		Nickel (Ni)	2010/10/05	ND, RDL=1		mg/kg
		Zinc (Zn)	2010/10/05	ND, RDL=30		mg/kg

RDL = Reportable Detection Limit
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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F: +1 (514) 697-2090
C: ventes@exova.com
W: www.exova.com

Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-391471
Version : 1
Date received : 2010-09-30
Project No. : B051426

P.O. No. : ----
Client No. : 000391

Identification					L78521-01R	L78542-01R
					BAR-13	BAR-14
Matrix					Oil	Oil
Date sampled					2010-09-26	2010-09-26
Sampling location					----	----
Collected by					Client	Client
Laboratory No.					1822735	1822736
Parameters	Accredited MDDEP	Units	Date Prepared	Date Analysed	Result(s)	Result(s)
Mercury, Hg		mg/kg	2010-09-30	2010-10-01	<0.5	<0.5
Total halides (as chlorides)	x	mg/kg	2010-09-30	2010-09-30	159	<100
Total chlorine, Cl		mg/kg	2010-09-30	2010-09-30	159	<100

Comments:

Analytical methods: Appendix I
Quality control: Appendix II

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-391471
Version : 1
Date received : 2010-09-30
Project No. : B051426

P.O. No. : ----
Client No. : 000391

Identification	Accredited MDDEP				L78543-01R BAR-15	L78544-01R BAR-16
Matrix					Oil	Oil
Date sampled					2010-09-26	2010-09-26
Sampling location					----	----
Collected by					Client	Client
Laboratory No.					1822737	1822738
Parameters		Units	Date Prepared	Date Analysed	Result(s)	Result(s)
Mercury, Hg		mg/kg	2010-09-30	2010-10-01	<0.5	<0.5
Total halides (as chlorides)	x	mg/kg	2010-09-30	2010-09-30	<100	<100
Total chlorine, Cl		mg/kg	2010-09-30	2010-09-30	<100	<100

Comments:

Analytical methods: Appendix I
Quality control: Appendix II

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-391471
Version : 1
Date received : 2010-09-30
Project No. : B051426

P.O. No. : ----
Client No. : 000391

Identification					L78545-01R
Matrix					BAR-17
Date sampled					Oil
Sampling location					2010-09-26
Collected by					----
Laboratory No.					Client
					1822739
Parameters	Accredited MDDEP	Units	Date Prepared	Date Analysed	Result(s)
Mercury, Hg		mg/kg	2010-09-30	2010-10-01	<0.5
Total halides (as chlorides)	x	mg/kg	2010-09-30	2010-09-30	<100
Total chlorine, Cl		mg/kg	2010-09-30	2010-09-30	<100

Comments:

Analytical methods: Appendix I
Quality control: Appendix II

Chemist : CHIMISTE Alain Fauteux 2009-004 QUÉBEC
2010-10-01

Note: These results only apply to the samples submitted

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-391471
Version : 1
Date received : 2010-09-30
Project No. : B051426

P.O. No. : ----
Client No. : 000391

Appendix I

Parameters	Methods No. or references	Technics or instruments
Mercury, Hg	----	Cold vapor
Total halides (as chlorides)	E-A-EN-EN-FL-PC-MD004	Colorimetric

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Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. :
Version :
Date received : 2010-09-30
Project No. : B051426

P.O. No. : ----
Client No. : 000391

Appendix II

Identification		Blank	Duplicate			Reference material		
Parameters	Units	Results	Laboratory No.	Results 1	Results 2	Value	Range	Obtained
Mercury, Hg	mg/kg	<0.5	1822735	<0.5	<0.5	1.00	0.75 - 1.25	9.89
Total halides (as chlorides)	mg/kg	< 100	----	----	----	1000	750 - 1250	994

NA : Non applicable

Note: These results only apply to the samples submitted

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/18
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B053607
Received: 2010/10/07, 13:20

Sample Matrix: ASH
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	1	2010/10/07	2010/10/07		
Mercury by ICP/MS	1	2010/10/08	2010/10/09	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	1	2010/10/08	2010/10/08	STL SOP-00006/8	MA.200- Mét 1.1
PCB	1	2010/10/08	2010/10/08	STL SOP-00160/5	MA. 403 - BPC 2.0
Toxicity Charact. Leach. Proc.(EPA 1311)	1	2010/10/08	2010/10/08	STL SOP-00024/5	MA.100-Lix. com.1.0
Toxicity Charact. Leach. Proc.(EPA 1311)	1	2010/10/14	2010/10/14	STL SOP-00024/5	MA.100-Lix. com.1.0

Sample Matrix: LEACHATE
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Mercury by ICPMS	1	2010/10/12	2010/10/13	STL SOP-00006/8	MA.200 - Mét 1.1
Metals by ICP	1	2010/10/12	2010/10/13	STL SOP-00006/8	MA.200- Mét 1.1
PCB	1	2010/10/15	2010/10/16	STL SOP-00160/5	MA. 403 - BPC 2.0

Sample Matrix: SOIL
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Disposal Charges	17	2010/10/07	2010/10/07		
Petroleum Hydro. CCME F1 & BTEX (1)	17	N/A	N/A		
Petroleum Hydrocarbons (F2-F4) (1)	17	N/A	N/A		
Mercury by ICP/MS	17	2010/10/08	2010/10/09	STL SOP-0006/8	MA.200-Hg 1.0
Metals by ICP	17	2010/10/08	2010/10/08	STL SOP-00006/8	MA.200- Mét 1.1
PCB	17	2010/10/08	2010/10/08	STL SOP-00160/5	MA. 403 - BPC 2.0

(1) This test was performed by Maxxam - Mississauga

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Your Project #: 60155434-1.2

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/18
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

Encryption Key

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

LEILA SABOURI, Project manager
Email: LSabouri@maxxam.ca
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

METALS (ASH)

Maxxam ID		L87940		
Sampling Date		2010/10/04		
	Units	**SDASH-FINAL**	**RDL**	**QC Batch**
% Moisture	%	0.3	N/A	N/A
METALS				
Mercury (Hg)	mg/kg	ND	0.02	806275
Arsenic (As)	mg/kg	14	5	806275
Cadmium (Cd)	mg/kg	17	0.5	806275
Cobalt (Co)	mg/kg	5	2	806275
Chromium (Cr)	mg/kg	140	2	806275
Copper (Cu)	mg/kg	320	2	806275
Nickel (Ni)	mg/kg	25	1	806275
Lead (Pb)	mg/kg	480	5	806275
Zinc (Zn)	mg/kg	560	10	806275

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

PCB (ASH)

Maxxam ID		L87940		
Sampling Date		2010/10/04		
	Units	**SDASH-FINAL**	**RDL**	**QC Batch**
% Moisture	%	0.3	N/A	N/A
PCB				
Aroclor 1242	mg/kg	ND	0.10	806202
Aroclor 1248	mg/kg	ND	0.10	806202
Aroclor 1254	mg/kg	ND	0.10	806202
Aroclor 1260	mg/kg	ND	0.10	806202
Total PCB	mg/kg	ND	0.10	806202
Surrogate Recovery (%)				
Decachlorobiphenyl	%	101	N/A	806202

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

METALS (LEACHATE)

Maxxam ID		L87940		
Sampling Date		2010/10/04		
	Units	**SDASH-FINAL**	**RDL**	**QC Batch**
METALS				
Mercury (Hg)	mg/L	0.0012	0.0005	807025
Arsenic (As)	mg/L	0.011	0.004	807016
Cadmium (Cd)	mg/L	0.11	0.002	807016
Chromium (Cr)	mg/L	ND	0.007	807016
Cobalt (Co)	mg/L	0.03	0.01	807016
Copper (Cu)	mg/L	0.41	0.02	807016
Lead (Pb)	mg/L	0.05	0.01	807016
Nickel (Ni)	mg/L	0.077	0.006	807016
Zinc (Zn)	mg/L	110	0.2	807016

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

PCB (LEACHATE)

Maxxam ID		L92782		
Sampling Date		2010/10/04		
	Units	**SDASH-FINAL**	**RDL**	**QC Batch**
PCB				
Aroclor 1242	ug/L	ND	0.10	808494
Aroclor 1248	ug/L	ND	0.10	808494
Aroclor 1254	ug/L	ND	0.10	808494
Aroclor 1260	ug/L	ND	0.10	808494
Total PCB	ug/L	ND	0.10	808494
Surrogate Recovery (%)				
Decachlorobiphenyl	%	113	N/A	808494

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

METALS (SOIL)

Maxxam ID					L87915	L87917	L87918	L87919	L87920		
Sampling Date					2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04		
	Units	**A**	**B**	**C**	**TSA-CON-17**	**TSA-CON-18**	**TSA-CON-19**	**TSA-CON-20**	**TSA-CON-21**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.2	4.5	4.1	4.7	4.5	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.04	0.02	806275
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	806275
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	806275
Cobalt (Co)	mg/kg	**15**	50	300	3	3	4	4	4	2	806275
Chromium (Cr)	mg/kg	**85**	250	800	13	11	13	16	16	2	806275
Copper (Cu)	mg/kg	**40**	100	500	7	7	7	9	11	2	806275
Nickel (Ni)	mg/kg	**50**	100	500	3	3	4	8	8	1	806275
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	5	806275
Zinc (Zn)	mg/kg	**110**	500	1500	12	ND	15	16	19	10	806275

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

METALS (SOIL)

Maxxam ID					L87921	L87922	L87923	L87924	L87925		
Sampling Date					2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04		
	Units	**A**	**B**	**C**	**TSA-CON-22**	**TSA-CON-23**	**TSA-CON-24**	**TSA-CON-25**	**TSA-CON-26**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.8	4.6	5.8	5.3	4.9	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	0.04	0.02	0.02	806275
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	806275
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	806275
Cobalt (Co)	mg/kg	**15**	50	300	5	5	5	4	4	2	806275
Chromium (Cr)	mg/kg	**85**	250	800	19	19	17	15	16	2	806275
Copper (Cu)	mg/kg	**40**	100	500	10	11	9	9	9	2	806275
Nickel (Ni)	mg/kg	**50**	100	500	9	10	8	7	8	1	806275
Lead (Pb)	mg/kg	**50**	500	1000	5	6	ND	ND	7	5	806275
Zinc (Zn)	mg/kg	**110**	500	1500	17	18	16	15	18	10	806275

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

METALS (SOIL)

Maxxam ID					L87926	L87927	L87927	L87928	L87929		
Sampling Date					2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04		
	Units	**A**	**B**	**C**	**TSA-CON-27**	**TSA-CON-28**	**TSA-CON-28 Lab-Dup**	**TSA-CON-29**	**TSA-CON-30**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	4.0	3.0	3.0	5.6	4.3	N/A	N/A
METALS											
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	806275
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	ND	5	806275
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	806275
Cobalt (Co)	mg/kg	**15**	50	300	4	4	3	4	4	2	806275
Chromium (Cr)	mg/kg	**85**	250	800	15	13	13	15	16	2	806275
Copper (Cu)	mg/kg	**40**	100	500	9	7	7	8	8	2	806275
Nickel (Ni)	mg/kg	**50**	100	500	8	5	4	6	9	1	806275
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	ND	5	806275
Zinc (Zn)	mg/kg	**110**	500	1500	14	12	12	15	15	10	806275

ND = less than the reported detection limit
N/A = Not Applicable
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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

METALS (SOIL)

Maxxam ID					L87930	L87931	L87931	L87932		
Sampling Date					2010/10/04	2010/10/04	2010/10/04	2010/10/04		
	Units	**A**	**B**	**C**	**TSA-CON-31**	**TSA-CON-32**	**TSA-CON-32 Lab-Dup**	**TSA2-CON-QA/QC**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	6.3	3.1	3.1	2.9	N/A	N/A
METALS										
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	0.02	806275
Arsenic (As)	mg/kg	**6**	30	50	ND	ND	ND	ND	5	806275
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	0.5	806275
Cobalt (Co)	mg/kg	**15**	50	300	5	4	4	4	2	806275
Chromium (Cr)	mg/kg	**85**	250	800	17	16	16	15	2	806275
Copper (Cu)	mg/kg	**40**	100	500	9	9	9	10	2	806275
Nickel (Ni)	mg/kg	**50**	100	500	9	8	8	7	1	806275
Lead (Pb)	mg/kg	**50**	500	1000	ND	ND	ND	ND	5	806275
Zinc (Zn)	mg/kg	**110**	500	1500	15	15	16	16	10	806275

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

PCB (SOIL)

Maxxam ID		L87915	L87917	L87918	L87919	L87920	L87921		
Sampling Date		2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04		
	Units	**TSA-CON-17**	**TSA-CON-18**	**TSA-CON-19**	**TSA-CON-20**	**TSA-CON-21**	**TSA-CON-22**	**RDL**	**QC Batch**
% Moisture	%	3.2	4.5	4.1	4.7	4.5	5.8	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Surrogate Recovery (%)									
Decachlorobiphenyl	%	85	85	82	82	87	81	N/A	806202

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L87922	L87923	L87924	L87925	L87925	L87926		
Sampling Date		2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04		
	Units	**TSA-CON-23**	**TSA-CON-24**	**TSA-CON-25**	**TSA-CON-26**	**TSA-CON-26 Lab-Dup**	**TSA-CON-27**	**RDL**	**QC Batch**
% Moisture	%	4.6	5.8	5.3	4.9	4.9	4.0	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Surrogate Recovery (%)									
Decachlorobiphenyl	%	88	87	92	90	97	94	N/A	806202

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

PCB (SOIL)

Maxxam ID		L87927	L87927	L87928	L87929	L87930	L87931		
Sampling Date		2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04	2010/10/04		
	Units	**TSA-CON-28**	**TSA-CON-28 Lab-Dup**	**TSA-CON-29**	**TSA-CON-30**	**TSA-CON-31**	**TSA-CON-32**	**RDL**	**QC Batch**
% Moisture	%	3.0	3.0	5.6	4.3	6.3	3.1	N/A	N/A
PCB									
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	806202
Surrogate Recovery (%)									
Decachlorobiphenyl	%	98	97	102	104	97	95	N/A	806202

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L87932		
Sampling Date		2010/10/04		
	Units	**TSA2-CON-QA/QC**	**RDL**	**QC Batch**
% Moisture	%	2.9	N/A	N/A
PCB				
Aroclor 1242	mg/kg	ND	0.10	806202
Aroclor 1248	mg/kg	ND	0.10	806202
Aroclor 1254	mg/kg	ND	0.10	806202
Aroclor 1260	mg/kg	ND	0.10	806202
Total PCB	mg/kg	ND	0.10	806202
Surrogate Recovery (%)				
Decachlorobiphenyl	%	99	N/A	806202

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053607
Report Date: 2010/10/18

AECOM
Client Project #: 60155434-1.2

Sampler Initials: JM

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

METALS (ASH)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

PCB (ASH)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

METALS (LEACHATE)

Please note that the results have not been corrected for QC recoveries nor for the leachate blank results.

PCB (LEACHATE)

Please note that the results have not been corrected for QC recoveries (spiked blank, leachate blank and method blank) nor for the surrogates.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

PCB (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

This report supersedes all previous reports with the same Maxxam job number

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: B053607

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
806202 TN	Spiked Blank	Decachlorobiphenyl	2010/10/08		91	%
		Aroclor 1242	2010/10/08		98	%
		Aroclor 1260	2010/10/08		107	%
	Method Blank	Decachlorobiphenyl	2010/10/08		93	%
		Aroclor 1242	2010/10/08	ND, RDL=0.10		mg/kg
		Aroclor 1248	2010/10/08	ND, RDL=0.10		mg/kg
		Aroclor 1254	2010/10/08	ND, RDL=0.10		mg/kg
		Aroclor 1260	2010/10/08	ND, RDL=0.10		mg/kg
		Total PCB	2010/10/08	ND, RDL=0.10		mg/kg
806275 HC	Spiked Blank	Mercury (Hg)	2010/10/08		96	%
	Spiked Blank DUP	Mercury (Hg)	2010/10/08		95	%
	Spiked Blank	Arsenic (As)	2010/10/08		101	%
	Spiked Blank DUP	Arsenic (As)	2010/10/08		103	%
	Spiked Blank	Cadmium (Cd)	2010/10/08		100	%
	Spiked Blank DUP	Cadmium (Cd)	2010/10/08		104	%
	Spiked Blank	Cobalt (Co)	2010/10/08		101	%
	Spiked Blank DUP	Cobalt (Co)	2010/10/08		102	%
	Spiked Blank	Chromium (Cr)	2010/10/08		94	%
	Spiked Blank DUP	Chromium (Cr)	2010/10/08		96	%
	Spiked Blank	Copper (Cu)	2010/10/08		102	%
	Spiked Blank DUP	Copper (Cu)	2010/10/08		101	%
	Spiked Blank	Nickel (Ni)	2010/10/08		103	%
	Spiked Blank DUP	Nickel (Ni)	2010/10/08		104	%
	Spiked Blank	Lead (Pb)	2010/10/08		101	%
	Spiked Blank DUP	Lead (Pb)	2010/10/08		104	%
	Spiked Blank	Zinc (Zn)	2010/10/08		99	%
	Spiked Blank DUP	Zinc (Zn)	2010/10/08		100	%
	Method Blank	Mercury (Hg)	2010/10/08	ND, RDL=0.02		mg/kg
		Arsenic (As)	2010/10/08	ND, RDL=5		mg/kg
		Cadmium (Cd)	2010/10/08	ND, RDL=0.5		mg/kg
		Cobalt (Co)	2010/10/08	ND, RDL=2		mg/kg
		Chromium (Cr)	2010/10/08	ND, RDL=2		mg/kg
		Copper (Cu)	2010/10/08	ND, RDL=2		mg/kg
		Nickel (Ni)	2010/10/08	ND, RDL=1		mg/kg
		Lead (Pb)	2010/10/08	ND, RDL=5		mg/kg
		Zinc (Zn)	2010/10/08	ND, RDL=10		mg/kg
807016 SC5	LEACH. BLANK	Arsenic (As)	2010/10/13	ND, RDL=0.004		mg/L
		Cadmium (Cd)	2010/10/13	ND, RDL=0.002		mg/L
		Chromium (Cr)	2010/10/13	ND, RDL=0.007		mg/L
		Cobalt (Co)	2010/10/13	ND, RDL=0.01		mg/L
		Copper (Cu)	2010/10/13	ND, RDL=0.02		mg/L
		Lead (Pb)	2010/10/13	ND, RDL=0.01		mg/L
		Nickel (Ni)	2010/10/13	ND, RDL=0.006		mg/L
		Zinc (Zn)	2010/10/13	ND, RDL=0.2		mg/L
	Spiked Blank	Arsenic (As)	2010/10/13		104	%
		Cadmium (Cd)	2010/10/13		96	%
		Chromium (Cr)	2010/10/13		98	%
		Cobalt (Co)	2010/10/13		96	%
		Copper (Cu)	2010/10/13		93	%
		Lead (Pb)	2010/10/13		97	%
		Nickel (Ni)	2010/10/13		94	%
		Zinc (Zn)	2010/10/13		95	%
	Method Blank	Arsenic (As)	2010/10/13	ND, RDL=0.004		mg/L
		Cadmium (Cd)	2010/10/13	ND, RDL=0.002		mg/L
		Chromium (Cr)	2010/10/13	ND, RDL=0.007		mg/L

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: B053607

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
807016	SC5	Method Blank	Cobalt (Co)	2010/10/13	ND, RDL=0.01		mg/L
			Copper (Cu)	2010/10/13	ND, RDL=0.02		mg/L
			Lead (Pb)	2010/10/13	ND, RDL=0.01		mg/L
			Nickel (Ni)	2010/10/13	ND, RDL=0.006		mg/L
			Zinc (Zn)	2010/10/13	ND, RDL=0.2		mg/L
807025	SC5	LEACH. BLANK	Mercury (Hg)	2010/10/13	ND, RDL=0.0005		mg/L
		Spiked Blank	Mercury (Hg)	2010/10/13		92	%
		Method Blank	Mercury (Hg)	2010/10/13	ND, RDL=0.0005		mg/L
808494	JW2	LEACH. BLANK	Decachlorobiphenyl	2010/10/16		118	%
			Aroclor 1242	2010/10/16	ND, RDL=0.10		ug/L
			Aroclor 1248	2010/10/16	ND, RDL=0.10		ug/L
			Aroclor 1254	2010/10/16	ND, RDL=0.10		ug/L
			Aroclor 1260	2010/10/16	ND, RDL=0.10		ug/L
			Total PCB	2010/10/16	ND, RDL=0.10		ug/L
		Spiked Blank	Decachlorobiphenyl	2010/10/16		128	%
			Aroclor 1242	2010/10/16		94	%
			Aroclor 1260	2010/10/16		109	%
		Method Blank	Decachlorobiphenyl	2010/10/16		112	%
			Aroclor 1242	2010/10/16	ND, RDL=0.10		ug/L
			Aroclor 1248	2010/10/16	ND, RDL=0.10		ug/L
			Aroclor 1254	2010/10/16	ND, RDL=0.10		ug/L
			Aroclor 1260	2010/10/16	ND, RDL=0.10		ug/L
			Total PCB	2010/10/16	ND, RDL=0.10		ug/L

RDL = Reportable Detection Limit
Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Your Project #: B053607
Your C.O.C. #: N/A

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/10/12

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0E2388
Received: 2010/10/08, 10:10

Sample Matrix: Soil
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	17	2010/10/08	2010/10/11	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	17	2010/10/08	2010/10/09	CAM SOP-00316	CCME CWS
Moisture	17	N/A	2010/10/08	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds in Soil	5	2010/10/08	2010/10/09	CAM SOP-00226	EPA 8260 modified
Volatile Organic Compounds in Soil	12	2010/10/08	2010/10/10	CAM SOP-00226	EPA 8260 modified

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: MCruz@maxxam.ca
Phone# (905) 817-5756

==========

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 #: B0E2388
Report Date: 2010/10/12

Maxxam Analytique
Client Project #: B053607

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HL1989	HL1989	HL1990		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87915-02R\TSA-CON-17**	**L87915-02R\TSA-CON-17 Lab-Dup**	**L87917-02R\TSA-CON-18**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	10	2293520
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2293520
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2293491
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	103	105	106	N/A	2293520
4-Bromofluorobenzene	%	96	97	100	N/A	2293520
D10-Ethylbenzene	%	100	104	105	N/A	2293520
D4-1,2-Dichloroethane	%	81	86	86	N/A	2293520
o-Terphenyl	%	95	99	97	N/A	2293491

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0E2388
Report Date: 2010/10/12

Maxxam Analytique
Client Project #: B053607

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HL1991	HL1992	HL1993		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87918-02R\TSA-CON-19**	**L87919-02R\TSA-CON-20**	**L87920-02R\TSA-CON-21**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	10	2293520
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2293520
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F3 (C16-C34 Hydrocarbons)	ug/g	15	ND	ND	10	2293491
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2293491
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	105	105	107	N/A	2293520
4-Bromofluorobenzene	%	98	96	99	N/A	2293520
D10-Ethylbenzene	%	104	105	103	N/A	2293520
D4-1,2-Dichloroethane	%	85	84	86	N/A	2293520
o-Terphenyl	%	97	97	96	N/A	2293491

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0E2388
Report Date: 2010/10/12

Maxxam Analytique
Client Project #: B053607

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HL1994	HL1995	HL1996		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87921-02R\TSA-CON-22**	**L87922-02R\TSA-CON-23**	**L87923-02R\TSA-CON-24**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	10	2293520
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2293520
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2293491
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	106	107	108	N/A	2293520
4-Bromofluorobenzene	%	97	96	97	N/A	2293520
D10-Ethylbenzene	%	108	107	107	N/A	2293520
D4-1,2-Dichloroethane	%	85	87	85	N/A	2293520
o-Terphenyl	%	97	99	97	N/A	2293491

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Maxxam Analytique
Client Project #: B053607

O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HL1997	HL1998	HL1999		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87924-02R\TSA-CON-25**	**L87925-02R\TSA-CON-26**	**L87926-02R\TSA-CON-27**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	10	2293520
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2293520
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2293491
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	107	105	108	N/A	2293520
4-Bromofluorobenzene	%	98	95	97	N/A	2293520
D10-Ethylbenzene	%	105	100	100	N/A	2293520
D4-1,2-Dichloroethane	%	87	86	87	N/A	2293520
o-Terphenyl	%	98	97	99	N/A	2293491

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HL2000	HL2001	HL2002		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87927-02R\TSA-CON-28**	**L87928-02R\TSA-CON-29**	**L87929-02R\TSA-CON-30**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	10	2293520
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2293520
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	11	10	2293491
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2293491
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	107	110	110	N/A	2293520
4-Bromofluorobenzene	%	98	100	98	N/A	2293520
D10-Ethylbenzene	%	102	105	107	N/A	2293520
D4-1,2-Dichloroethane	%	88	89	89	N/A	2293520
o-Terphenyl	%	108	94	98	N/A	2293491

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QC Batch = Quality Control Batch

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O'REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		HL2003	HL2004	HL2005		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87930-02R\TSA-CON-31**	**L87931-02R\TSA-CON-32**	**L87932-02R\TSA2-CON-QA/QC**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	10	2293520
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	2293520
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	2293491
Reached Baseline at C50	ug/g	Yes	Yes	Yes	N/A	2293491
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	108	106	109	N/A	2293520
4-Bromofluorobenzene	%	100	97	99	N/A	2293520
D10-Ethylbenzene	%	103	105	107	N/A	2293520
D4-1,2-Dichloroethane	%	87	88	88	N/A	2293520
o-Terphenyl	%	97	100	97	N/A	2293491

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HL1989	HL1989	HL1990		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87915-02R\TSA-CON-17**	**L87915-02R\TSA-CON-17 Lab-Dup**	**L87917-02R\TSA-CON-18**	**RDL**	**QC Batch**
Moisture	%	3	N/A	6	1	2293392
Benzene	ug/g	ND	ND	ND	0.002	2293490
Ethylbenzene	ug/g	0.003	0.004	0.004	0.002	2293490
Toluene	ug/g	0.005	0.005	0.005	0.002	2293490
p+m-Xylene	ug/g	ND	ND	0.002	0.002	2293490
o-Xylene	ug/g	ND	ND	ND	0.002	2293490
Xylene (Total)	ug/g	ND	ND	0.002	0.002	2293490
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	91	92	92	N/A	2293490
D4-1,2-Dichloroethane	%	118	112	115	N/A	2293490
D8-Toluene	%	98	99	97	N/A	2293490

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HL1991	HL1992	HL1993		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87918-02R\TSA-CON-19**	**L87919-02R\TSA-CON-20**	**L87920-02R\TSA-CON-21**	**RDL**	**QC Batch**
Moisture	%	11	5	6	1	2293392
Benzene	ug/g	ND	ND	ND	0.002	2293490
Ethylbenzene	ug/g	0.003	0.005	0.005	0.002	2293490
Toluene	ug/g	0.005	0.007	0.006	0.002	2293490
p+m-Xylene	ug/g	0.002	0.003	0.004	0.002	2293490
o-Xylene	ug/g	ND	ND	ND	0.002	2293490
Xylene (Total)	ug/g	0.002	0.003	0.004	0.002	2293490
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	82	89	88	N/A	2293490
D4-1,2-Dichloroethane	%	111	116	118	N/A	2293490
D8-Toluene	%	103	98	98	N/A	2293490

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HL1994	HL1995	HL1996		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87921-02R\TSA-CON-22**	**L87922-02R\TSA-CON-23**	**L87923-02R\TSA-CON-24**	**RDL**	**QC Batch**
Moisture	%	6	4	6	1	2293392
Benzene	ug/g	ND	ND	0.002	0.002	2293490
Ethylbenzene	ug/g	0.005	0.005	0.006	0.002	2293490
Toluene	ug/g	0.006	0.007	0.008	0.002	2293490
p+m-Xylene	ug/g	0.004	0.004	0.004	0.002	2293490
o-Xylene	ug/g	ND	ND	ND	0.002	2293490
Xylene (Total)	ug/g	0.004	0.004	0.004	0.002	2293490
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	87	87	89	N/A	2293490
D4-1,2-Dichloroethane	%	117	121	119	N/A	2293490
D8-Toluene	%	100	98	99	N/A	2293490

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HL1997	HL1998	HL1999		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87924-02R\TSA-CON-25**	**L87925-02R\TSA-CON-26**	**L87926-02R\TSA-CON-27**	**RDL**	**QC Batch**
Moisture	%	6	3	9	1	2293392
Benzene	ug/g	0.002	ND	0.002	0.002	2293490
Ethylbenzene	ug/g	0.006	0.004	0.004	0.002	2293490
Toluene	ug/g	0.008	0.005	0.007	0.002	2293490
p+m-Xylene	ug/g	0.004	0.003	0.004	0.002	2293490
o-Xylene	ug/g	ND	ND	ND	0.002	2293490
Xylene (Total)	ug/g	0.004	0.003	0.004	0.002	2293490
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	87	89	85	N/A	2293490
D4-1,2-Dichloroethane	%	119	114	113	N/A	2293490
D8-Toluene	%	98	98	99	N/A	2293490

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Client Project #: B053607

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HL2000	HL2001	HL2002		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87927-02R\TSA-CON-28**	**L87928-02R\TSA-CON-29**	**L87929-02R\TSA-CON-30**	**RDL**	**QC Batch**
Moisture	%	3	5	5	1	2293392
Benzene	ug/g	ND	ND	ND	0.002	2293490
Ethylbenzene	ug/g	0.005	0.004	0.004	0.002	2293490
Toluene	ug/g	0.006	0.005	0.006	0.002	2293490
p+m-Xylene	ug/g	0.003	0.003	0.005	0.002	2293490
o-Xylene	ug/g	ND	ND	ND	0.002	2293490
Xylene (Total)	ug/g	0.003	0.003	0.005	0.002	2293490
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	91	87	87	N/A	2293490
D4-1,2-Dichloroethane	%	115	117	117	N/A	2293490
D8-Toluene	%	100	98	98	N/A	2293490

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Analytique
Client Project #: B053607

LOW LEVEL BTEX - TABLE 1, O'REG 153 (SOIL)

Maxxam ID		HL2003	HL2004	HL2005		
Sampling Date		2010/10/04	2010/10/04	2010/10/04		
COC Number		N/A	N/A	N/A		
	Units	**L87930-02R\TSA-CON-31**	**L87931-02R\TSA-CON-32**	**L87932-02R\TSA2-CON-QA/QC**	**RDL**	**QC Batch**
Moisture	%	6	3	6	1	2293392
Benzene	ug/g	ND	0.002	0.002	0.002	2293490
Ethylbenzene	ug/g	0.004	0.006	0.004	0.002	2293490
Toluene	ug/g	0.005	0.008	0.006	0.002	2293490
p+m-Xylene	ug/g	0.003	0.004	0.004	0.002	2293490
o-Xylene	ug/g	ND	ND	ND	0.002	2293490
Xylene (Total)	ug/g	0.003	0.004	0.004	0.002	2293490
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	87	88	85	N/A	2293490
D4-1,2-Dichloroethane	%	119	123	121	N/A	2293490
D8-Toluene	%	97	97	100	N/A	2293490

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Results relate only to the items tested.

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Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B053607
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB0E2388

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2293392	AC	RPD	Moisture	2010/10/08	2.6		%	20
2293490	DKI	Matrix Spike						
		[HL1989-01]	4-Bromofluorobenzene	2010/10/09		91	%	60 - 140
			D4-1,2-Dichloroethane	2010/10/09		116	%	60 - 140
			D8-Toluene	2010/10/09		99	%	60 - 140
			Benzene	2010/10/09		102	%	39 - 137
			Ethylbenzene	2010/10/09		100	%	46 - 150
			Toluene	2010/10/09		91	%	30 - 158
			p+m-Xylene	2010/10/09		106	%	29 - 161
			o-Xylene	2010/10/09		89	%	45 - 150
		Spiked Blank	4-Bromofluorobenzene	2010/10/09		92	%	60 - 140
			D4-1,2-Dichloroethane	2010/10/09		109	%	60 - 140
			D8-Toluene	2010/10/09		99	%	60 - 140
			Benzene	2010/10/09		99	%	60 - 140
			Ethylbenzene	2010/10/09		101	%	60 - 140
			Toluene	2010/10/09		99	%	60 - 140
			p+m-Xylene	2010/10/09		99	%	60 - 140
			o-Xylene	2010/10/09		88	%	60 - 140
		Method Blank	4-Bromofluorobenzene	2010/10/09		94	%	60 - 140
			D4-1,2-Dichloroethane	2010/10/09		111	%	60 - 140
			D8-Toluene	2010/10/09		99	%	60 - 140
			Benzene	2010/10/09	ND, RDL=0.002		ug/g	
			Ethylbenzene	2010/10/09	ND, RDL=0.002		ug/g	
			Toluene	2010/10/09	ND, RDL=0.002		ug/g	
			p+m-Xylene	2010/10/09	ND, RDL=0.002		ug/g	
			o-Xylene	2010/10/09	ND, RDL=0.002		ug/g	
			Xylene (Total)	2010/10/09	ND, RDL=0.002		ug/g	
		RPD [HL1989-01]	Benzene	2010/10/09	NC		%	50
			Ethylbenzene	2010/10/09	NC		%	50
			Toluene	2010/10/09	NC		%	50
			p+m-Xylene	2010/10/09	NC		%	50
			o-Xylene	2010/10/09	NC		%	50
			Xylene (Total)	2010/10/09	NC		%	50
2293491	ZZ	Matrix Spike						
		[HL1989-01]	o-Terphenyl	2010/10/09		94	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/09		83	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/09		83	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/09		83	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/10/09		114	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/09		104	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/09		104	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/09		104	%	60 - 130
		Method Blank	o-Terphenyl	2010/10/09		99	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/09	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/10/09	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/10/09	ND, RDL=10		ug/g	
		RPD [HL1989-01]	F2 (C10-C16 Hydrocarbons)	2010/10/09	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/10/09	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/10/09	NC		%	50
2293520	JXI	Matrix Spike						
		[HL1989-01]	1,4-Difluorobenzene	2010/10/11		105	%	60 - 140
			4-Bromofluorobenzene	2010/10/11		100	%	60 - 140
			D10-Ethylbenzene	2010/10/11		101	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/11		87	%	60 - 140
			F1 (C6-C10)	2010/10/11		73	%	60 - 140

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P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0E2388

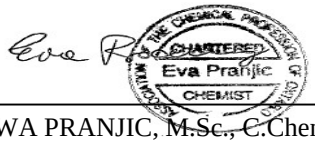
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2293520	JXI	Spiked Blank	1,4-Difluorobenzene	2010/10/11		102	%	60 - 140
			4-Bromofluorobenzene	2010/10/11		99	%	60 - 140
			D10-Ethylbenzene	2010/10/11		97	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/11		84	%	60 - 140
			F1 (C6-C10)	2010/10/11		81	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/10/11		106	%	60 - 140
			4-Bromofluorobenzene	2010/10/11		99	%	60 - 140
			D10-Ethylbenzene	2010/10/11		100	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/11		86	%	60 - 140
			F1 (C6-C10)	2010/10/11	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/10/11	ND, RDL=10		ug/g	
		RPD [HL1989-01]	F1 (C6-C10)	2010/10/11	NC		%	50
			F1 (C6-C10) - BTEX	2010/10/11	NC		%	50

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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 (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.

Validation Signature Page

Maxxam Job #: B0E2388

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

MEDHAT RISKALLAH, Manager, Hydrocarbon Department

==========

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Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Your Project #: 60155434-1.2
Site: BEAR ISLAND

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/15
Report #: NM-337231

RESULTS FOR METALS

MAXXAM JOB #: B053862
Received: 2010/10/08, 11:25

Sample Matrix: OIL
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	1	2010/10/12	2010/10/13	STL SOP-00006/8	MA.200-Met 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: LSabouri@maxxam.ca
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B053862
Report Date: 2010/10/15

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (OIL)

Maxxam ID		L89070		
Sampling Date		2010/10/07		
	Units	**BAR-18**	**RDL**	**QC Batch**
Cadmium (Cd)	mg/kg	ND	1	806919
Chromium (Cr)	mg/kg	ND	1	806919
Lead (Pb)	mg/kg	ND	5	806919

ND = less than the reported detection limit
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B053862
Report Date: 2010/10/15

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

METALS (OIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name: BEAR ISLAND

Quality Assurance Report

Maxxam Job Number: B053862

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
806919 SC5	QC STANDARD	Cadmium (Cd)	2010/10/13		82	%
		Chromium (Cr)	2010/10/13		78	%
		Lead (Pb)	2010/10/13		89	%
	Spiked Blank	Cadmium (Cd)	2010/10/13		100	%
		Chromium (Cr)	2010/10/13		105	%
		Lead (Pb)	2010/10/13		108	%
	Method Blank	Cadmium (Cd)	2010/10/13	ND, RDL=1		mg/kg
		Chromium (Cr)	2010/10/13	ND, RDL=1		mg/kg
		Lead (Pb)	2010/10/13	ND, RDL=5		mg/kg

RDL = Reportable Detection Limit
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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121 Boulevard Hymus
Pointe-Claire
Québec
Canada
H9R 1E6

T: +1 (514) 697-3273
F: +1 (514) 697-2090
C: ventes@exova.com
W: www.exova.com

Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montee de Liesse
St-Laurent, Quebec
H4T 1P5

Certificate No. : 10-393008
Version : 1
Date received : 2010-10-12
Project No. : B053862

P.O. No. : ----
Client No. : 000391

Identification	Accredited MDDEP				L89070-02R
					BAR-18
Matrix					Oil
Date sampled					2010-10-07
Sampling location					NA
Collected by					Client
Laboratory No.					1829216
Parameters		Units	Date Prepared	Date Analysed	Result(s)
Total halides (as chlorides)	x	mg/kg	2010-10-12	2010-10-12	<100
Total chlorine, Cl		mg/kg	2010-10-12	2010-10-12	<100

Comments:

Analytical methods: Appendix I
Quality control: Appendix II

CHIMISTE
Alain Fauteux
2009-004
QUÉBEC

Chemist : _____ 2010-10-13

Note: These results only apply to the samples submitted

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W: www.exova.com

Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. : 10-393008
Version : 1
Date received : 2010-10-12
Project No. : B053862

P.O. No. : ----
Client No. : 000391

Appendix I

Parameters	Methods No. or references	Technics or instruments
Total halides (as chlorides)	E-A-EN-EN-FL-PC-MD004	Colorimetric

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Certificate of analysis

Attention : Leila Sabouri

Client : Maxxam Analytique Inc.
address : 889, Montée de Liesse
St-Laurent, Québec
H4T 1P5

Certificate No. :
Version :
Date received : 2010-10-12
Project No. : B053862

P.O. No. : ----
Client No. : 000391

Appendix II

Identification		Blank	Duplicate			Reference material		
Parameters	Units	Results	Laboratory No.	Results 1	Results 2	Value	Range	Obtained
Total halides (as chlorides)	mg/kg	< 100	----	----	----	1000	750 - 1250	950

NA : Non applicable

Note: These results only apply to the samples submitted

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Your Project #: 60155434-1.2
Site: BEAR ISLAND

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/14

RESULTS FOR METALS

MAXXAM JOB #: B054109
Received: 2010/10/12, 11:00

Sample Matrix: SOIL
Samples Received: 26

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
Metals by ICP	26	2010/10/13	2010/10/13	STL SOP-00006/8	MA.200- Mét 1.1

Encryption Key

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

LEILA SABOURI, Project manager
Email: LSabouri@maxxam.ca
Phone# (514) 448-9001 Ext:4227

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L90312	L90354	L90355	L90356	L90357	L90358		
Sampling Date					2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**A**	**B**	**C**	**WPA-CON-1**	**WPA-CON-2**	**WPA-CON-3**	**WPA-CON-4**	**WPA-CON-5**	**WPA-CON-6**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	14	6.2	8.2	8.8	2.9	5.4	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	807377
Arsenic (As)	mg/kg	**6**	30	50	5	5	5	ND	6	6	5	807377
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	807377
Cobalt (Co)	mg/kg	**15**	50	300	4	5	4	4	4	4	2	807377
Chromium (Cr)	mg/kg	**85**	250	800	12	17	15	14	10	16	2	807377
Copper (Cu)	mg/kg	**40**	100	500	8	13	13	10	6	11	2	807377
Nickel (Ni)	mg/kg	**50**	100	500	7	8	8	7	5	7	1	807377
Lead (Pb)	mg/kg	**50**	500	1000	11	22	14	10	ND	14	5	807377
Zinc (Zn)	mg/kg	**110**	500	1500	28	39	24	34	10	26	10	807377

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L90359	L90360	L90361	L90362	L90363		
Sampling Date					2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**A**	**B**	**C**	**WPA-CON-7**	**WPA-CON-8**	**WPA-CON-9**	**WPA-CON-QA/QC**	**MPA-CON-1**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.0	6.1	6.2	8.5	7.1	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	807377
Arsenic (As)	mg/kg	**6**	30	50	5	6	6	ND	**7**	5	807377
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	1.4	0.5	807377
Cobalt (Co)	mg/kg	**15**	50	300	4	4	5	4	5	2	807377
Chromium (Cr)	mg/kg	**85**	250	800	11	14	15	12	18	2	807377
Copper (Cu)	mg/kg	**40**	100	500	5	8	**52**	9	25	2	807377
Nickel (Ni)	mg/kg	**50**	100	500	6	6	8	7	10	1	807377
Lead (Pb)	mg/kg	**50**	500	1000	ND	6	29	12	**390**	5	807377
Zinc (Zn)	mg/kg	**110**	500	1500	14	21	44	28	79	10	807377

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L90363	L90370	L90370	L90371	L90372	L90373		
Sampling Date					2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**A**	**B**	**C**	**MPA-CON-1 Lab-Dup**	**MPA-CON-2**	**MPA-CON-2 Lab-Dup**	**MPA-CON-3**	**MPA-CON-4**	**MPA-CON-5**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	7.1	6.1	6.1	5.9	9.9	13	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	807377
Arsenic (As)	mg/kg	**6**	30	50	**9**	ND	5	6	ND	ND	5	807377
Cadmium (Cd)	mg/kg	**1.5**	5	20	1.0	ND	ND	ND	ND	ND	0.5	807377
Cobalt (Co)	mg/kg	**15**	50	300	5	4	4	4	5	4	2	807377
Chromium (Cr)	mg/kg	**85**	250	800	17	19	13 (1)	13	14	15	2	807377
Copper (Cu)	mg/kg	**40**	100	500	21	11	9	9	9	6	2	807377
Nickel (Ni)	mg/kg	**50**	100	500	10	9	6	6	8	6	1	807377
Lead (Pb)	mg/kg	**50**	500	1000	**260 (1)**	33	23	7	ND	ND	5	807377
Zinc (Zn)	mg/kg	**110**	500	1500	68	39	25	17	21	18	10	807377

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or relative percent difference (RPD) for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L90374	L90375	L90376	L90377	L90378	L90379		
Sampling Date					2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**A**	**B**	**C**	**MPA-CON-6**	**MPA-CON-7**	**MPA-CON-8**	**MPA-CON-9**	**MPA-CON-10**	**MPA-CON-11**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	3.2	22	10	10	11	3.7	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	ND	0.02	807377
Arsenic (As)	mg/kg	**6**	30	50	6	ND	5	5	ND	6	5	807377
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	ND	0.5	807377
Cobalt (Co)	mg/kg	**15**	50	300	4	4	3	5	4	4	2	807377
Chromium (Cr)	mg/kg	**85**	250	800	12	13	10	17	11	14	2	807377
Copper (Cu)	mg/kg	**40**	100	500	7	7	7	10	9	10	2	807377
Nickel (Ni)	mg/kg	**50**	100	500	5	8	5	9	6	8	1	807377
Lead (Pb)	mg/kg	**50**	500	1000	ND	7	6	13	5	ND	5	807377
Zinc (Zn)	mg/kg	**110**	500	1500	14	20	15	23	20	16	10	807377

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L90380	L90381	L90382	L90382	L90383		
Sampling Date					2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**A**	**B**	**C**	**MPA-CON-12**	**MPA-CON-13**	**MPA-CON-14**	**MPA-CON-14 Lab-Dup**	**MPA-CON-15**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	5.0	4.6	8.7	8.7	6.1	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	ND	ND	ND	ND	0.02	807377
Arsenic (As)	mg/kg	**6**	30	50	ND	5	5	6	5	5	807377
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	ND	ND	ND	ND	0.5	807377
Cobalt (Co)	mg/kg	**15**	50	300	4	4	4	4	4	2	807377
Chromium (Cr)	mg/kg	**85**	250	800	14	13	13	12	13	2	807377
Copper (Cu)	mg/kg	**40**	100	500	11	9	8	8	9	2	807377
Nickel (Ni)	mg/kg	**50**	100	500	8	7	7	6	7	1	807377
Lead (Pb)	mg/kg	**50**	500	1000	8	7	7	7	7	5	807377
Zinc (Zn)	mg/kg	**110**	500	1500	22	17	19	21	21	10	807377

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

889 Montée de Liesse, Ville St-Laurent, Québec, Canada H4T 1P5 Tél. : (514) 448-9001 Télécopieur : (514) 448-9199 Ligne sans frais : 1-877-4MAXXAM (462-9926)

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

METALS (SOIL)

Maxxam ID					L90384		
Sampling Date					2010/10/10		
	Units	**A**	**B**	**C**	**MPA-CON-QA/QC**	**RDL**	**QC Batch**
% Moisture	%	-	-	-	15	N/A	N/A
Mercury (Hg)	mg/kg	**0.2**	2	10	ND	0.02	807377
Arsenic (As)	mg/kg	**6**	30	50	5	5	807377
Cadmium (Cd)	mg/kg	**1.5**	5	20	ND	0.5	807377
Cobalt (Co)	mg/kg	**15**	50	300	4	2	807377
Chromium (Cr)	mg/kg	**85**	250	800	15	2	807377
Copper (Cu)	mg/kg	**40**	100	500	7	2	807377
Nickel (Ni)	mg/kg	**50**	100	500	7	1	807377
Lead (Pb)	mg/kg	**50**	500	1000	ND	5	807377
Zinc (Zn)	mg/kg	**110**	500	1500	16	10	807377

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

A,B,C: Criteria following appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". For all metals analyses in soil, the criterion A refers to " Background Level of St. Lawrence Lowlands Sector ".

For groundwaters:
The A and B criteria follow the appendix 2 of the " Soil Protection and Contaminated Sites Rehabilitation Policy " entitled " Generic criteria for soils and groundwater ". The criterion A refers to " Drinking Water " and the criterion B refers to "Seepage into Surface Water or Infiltration into Sewers ".

These criteria references are shown for visual aid only, and should not be interpreted otherwise.
- = This parameter is not part of the regulation.

METALS (SOIL)

Please note that the results have not been corrected for QC recoveries nor for the method blank results.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name: BEAR ISLAND

Quality Assurance Report

Maxxam Job Number: B054109

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
807377	HC	Spiked Blank	Mercury (Hg)	2010/10/13		97	%
			Arsenic (As)	2010/10/13		102	%
			Cadmium (Cd)	2010/10/13		101	%
			Cobalt (Co)	2010/10/13		100	%
			Chromium (Cr)	2010/10/13		97	%
			Copper (Cu)	2010/10/13		104	%
			Nickel (Ni)	2010/10/13		101	%
			Lead (Pb)	2010/10/13		98	%
			Zinc (Zn)	2010/10/13		101	%
		Method Blank	Mercury (Hg)	2010/10/13	ND, RDL=0.02		mg/kg
			Arsenic (As)	2010/10/13	ND, RDL=5		mg/kg
			Cadmium (Cd)	2010/10/13	ND, RDL=0.5		mg/kg
			Cobalt (Co)	2010/10/13	ND, RDL=2		mg/kg
			Chromium (Cr)	2010/10/13	ND, RDL=2		mg/kg
			Copper (Cu)	2010/10/13	ND, RDL=2		mg/kg
			Nickel (Ni)	2010/10/13	ND, RDL=1		mg/kg
			Lead (Pb)	2010/10/13	ND, RDL=5		mg/kg
			Zinc (Zn)	2010/10/13	ND, RDL=10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

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Your Project #: 60155434-1.2
Site: BEAR ISLAND

Attention: MITCHELL BLISS
AECOM
17007-107 AVE
EDMONTON, AB
CANADA T5S 1G3

Report Date: 2010/10/14

RESULTS FOR PCBS

MAXXAM JOB #: B054109
Received: 2010/10/12, 11:00

Sample Matrix: SOIL
Samples Received: 26

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Primary reference
PCB	26	2010/10/13	2010/10/13	STL SOP-00160/5	MA. 403 - BPC 2.0

Encryption Key

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

LEILA SABOURI, Project manager
Email: LSabouri@maxxam.ca
Phone# (514) 448-9001 Ext:4227

==========

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L90312	L90354	L90355	L90356	L90357	L90358		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**WPA-CON-1**	**WPA-CON-2**	**WPA-CON-3**	**WPA-CON-4**	**WPA-CON-5**	**WPA-CON-6**	**RDL**	**QC Batch**
% Moisture	%	14	6.2	8.2	8.8	2.9	5.4	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Surrogate Recovery (%)									
Decachlorobiphenyl	%	86	88	93	89	88	97	N/A	807247

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L90359	L90360	L90361	L90361	L90362	L90363		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**WPA-CON-7**	**WPA-CON-8**	**WPA-CON-9**	**WPA-CON-9 Lab-Dup**	**WPA-CON-QA/QC**	**MPA-CON-1**	**RDL**	**QC Batch**
% Moisture	%	5.0	6.1	6.2	6.2	8.5	7.1	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Surrogate Recovery (%)									
Decachlorobiphenyl	%	84	90	92	94	83	89	N/A	807247

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L90370	L90371	L90372	L90373	L90374	L90375		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**MPA-CON-2**	**MPA-CON-3**	**MPA-CON-4**	**MPA-CON-5**	**MPA-CON-6**	**MPA-CON-7**	**RDL**	**QC Batch**
% Moisture	%	6.1	5.9	9.9	13	3.2	22	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Surrogate Recovery (%)									
Decachlorobiphenyl	%	93	86	85	90	87	85	N/A	807247

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		L90375	L90376	L90377	L90378	L90379	L90380		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**MPA-CON-7 Lab-Dup**	**MPA-CON-8**	**MPA-CON-9**	**MPA-CON-10**	**MPA-CON-11**	**MPA-CON-12**	**RDL**	**QC Batch**
% Moisture	%	22	10	10	11	3.7	5.0	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Total PCB	mg/kg	ND	ND	ND	ND	ND	ND	0.10	807247
Surrogate Recovery (%)									
Decachlorobiphenyl	%	90	86	101	86	83	86	N/A	807247

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

PCB (SOIL)

Maxxam ID		L90381	L90382	L90383	L90383	L90384		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
	Units	**MPA-CON-13**	**MPA-CON-14**	**MPA-CON-15**	**MPA-CON-15 Lab-Dup**	**MPA-CON-QA/QC**	**RDL**	**QC Batch**
% Moisture	%	4.6	8.7	6.1	6.1	15	N/A	N/A
Aroclor 1242	mg/kg	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1248	mg/kg	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1254	mg/kg	ND	ND	ND	ND	ND	0.10	807247
Aroclor 1260	mg/kg	ND	ND	ND	ND	ND	0.10	807247
Total PCB	mg/kg	ND	ND	ND	ND	ND	0.10	807247
Surrogate Recovery (%)								
Decachlorobiphenyl	%	101	99	101	98	102	N/A	807247

ND = less than the reported detection limit
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B054109
Report Date: 2010/10/14

AECOM
Client Project #: 60155434-1.2
Project name: BEAR ISLAND
Sampler Initials: MB

GENERAL COMMENTS

Condition of sample(s) upon receipt: GOOD

All results are calculated on a dry weight basis except where not applicable.

PCB (SOIL)

Please note that the results have not been corrected for QC recoveries (spiked blank and method blank) nor for the surrogates.

Results relate only to the items tested.

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AECOM
Attention: MITCHELL BLISS
Client Project #: 60155434-1.2
P.O. #:
Project name: BEAR ISLAND

Quality Assurance Report

Maxxam Job Number: B054109

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units
807247 TN	Spiked Blank	Decachlorobiphenyl	2010/10/13		96	%
		Aroclor 1242	2010/10/13		91	%
		Aroclor 1260	2010/10/13		94	%
	Method Blank	Decachlorobiphenyl	2010/10/13		92	%
		Aroclor 1242	2010/10/13	ND, RDL=0.10		mg/kg
		Aroclor 1248	2010/10/13	ND, RDL=0.10		mg/kg
		Aroclor 1254	2010/10/13	ND, RDL=0.10		mg/kg
		Aroclor 1260	2010/10/13	ND, RDL=0.10		mg/kg
		Total PCB	2010/10/13	ND, RDL=0.10		mg/kg

RDL = Reportable Detection Limit
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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Your Project #: B054109
Your C.O.C. #: n/a

Attention: Leila Sabouri
Maxxam Analytique
889 Montée De Liesse
Ville St-Laurent, PQ
H4T 1P5

Report Date: 2010/10/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0E4116
Received: 2010/10/13, 09:10

Sample Matrix: Soil
Samples Received: 26

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil	26	2010/10/13	2010/10/14	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	26	2010/10/13	2010/10/14	CAM SOP-00316	CCME CWS
Moisture	26	N/A	2010/10/13	CAM SOP-00445	McKeague 2nd ed 1978

Encryption Key

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

MARIJANE CRUZ, Project Manager
Email: MCruz@maxxam.ca
Phone# (905) 817-5756

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Total cover pages: 1

Maxxam Analytics | Partial/Rush Results

Maxxam Job #: B0E4116
Report Date: 2010/10/14

Maxxam Analytique
Client Project #: B054109

RESULTS OF ANALYSES OF SOIL

Maxxam ID		HM1087	HM1088	HM1089	HM1090	HM1091	HM1092	HM1093		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L90312 \ WPA-CON-1**	**L90354 \ WPA-CON-2**	**L90355 \ WPA-CON-3**	**L90356 \ WPA-CON-4**	**L90357 \ WPA-CON-5**	**L90358 \ WPA-CON-6**	**L90359 \ WPA-CON-7**	**RDL**	**QC Batch**
Moisture	%	15	7	12	8	3	7	9	1	2296203

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HM1094	HM1095	HM1096	HM1097	HM1098	HM1099		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L90360 \ WPA-CON-8**	**L90361 \ WPA-CON-9**	**L90362 \ WPA-CON-QA/QC**	**L90363 \ MPA-CON-1**	**L90370 \ MPA-CON-2**	**L90371 \ MPA-CON-3**	**RDL**	**QC Batch**
Moisture	%	8	7	17	9	8	6	1	2296203

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HM1100	HM1101	HM1102	HM1103	HM1104		HM1105		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		2010/10/10		
COC Number		n/a	n/a	n/a	n/a	n/a		n/a		
	Units	**L90372 \ MPA-CON-4**	**L90373 \ MPA-CON-5**	**L90374 \ MPA-CON-6**	**L90375 \ MPA-CON-7**	**L90376 \ MPA-CON-8**	**QC Batch**	**L90377 \ MPA-CON-9**	**RDL**	**QC Batch**
Moisture	%	9	28	3	26	25	2296203	12	1	2296369

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics - Partial/Rush Results

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B0E4116
Report Date: 2010/10/14

Maxxam Analytique
Client Project #: B054109

RESULTS OF ANALYSES OF SOIL

Maxxam ID		HM1106		HM1107	HM1108	HM1109	HM1110	HM1111		
Sampling Date		2010/10/10		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
COC Number		n/a		n/a	n/a	n/a	n/a	n/a		
	Units	**L90378 \ MPA-CON-10**	**QC Batch**	**L90379 \ MPA-CON-11**	**L90380 \ MPA-CON-12**	**L90381 \ MPA-CON-13**	**L90382 \ MPA-CON-14**	**L90383 \ MPA-CON-15**	**RDL**	**QC Batch**
Moisture	%	12	2296369	5	12	6	8	6	1	2296551

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HM1112		
Sampling Date		2010/10/10		
COC Number		n/a		
	Units	**L90384 \ MPA-CON-QA/QC**	**RDL**	**QC Batch**
Moisture	%	18	1	2296551

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics - Partial/Rush Results

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Maxxam Job #: B0E4116
Report Date: 2010/10/14

Maxxam Analytique
Client Project #: B054109

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HM1087	HM1087	HM1088	HM1089	HM1090	HM1091		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L90312 \ WPA-CON-1**	**L90312 \ WPA-CON-1 Lab-Dup**	**L90354 \ WPA-CON-2**	**L90355 \ WPA-CON-3**	**L90356 \ WPA-CON-4**	**L90357 \ WPA-CON-5**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	ND	10	2296271
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	ND	10	2296271
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	ND	10	2296283
F3 (C16-C34 Hydrocarbons)	ug/g	52	53	98	61	46	39	10	2296283
F4 (C34-C50 Hydrocarbons)	ug/g	51	62	180	44	19	26	10	2296283
Reached Baseline at C50	ug/g	Yes	Yes	No	Yes	Yes	Yes	N/A	2296283
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	105	102	105	107	101	100	N/A	2296271
4-Bromofluorobenzene	%	93	94	97	96	93	94	N/A	2296271
D10-Ethylbenzene	%	102	105	101	107	98	97	N/A	2296271
D4-1,2-Dichloroethane	%	112	113	124	115	115	123	N/A	2296271
o-Terphenyl	%	98	100	100	101	99	98	N/A	2296283

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics - Partial/Rush Results

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B0E4116
Report Date: 2010/10/14

Maxxam Analytique
Client Project #: B054109

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HM1092	HM1093	HM1094	HM1095	HM1096		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	**L90358 \ WPA-CON-6**	**L90359 \ WPA-CON-7**	**L90360 \ WPA-CON-8**	**L90361 \ WPA-CON-9**	**L90362 \ WPA-CON-QA/QC**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2296271
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2296271
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2296283
F3 (C16-C34 Hydrocarbons)	ug/g	55	25	35	87	56	10	2296283
F4 (C34-C50 Hydrocarbons)	ug/g	27	ND	ND	62	53	10	2296283
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	Yes	N/A	2296283
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	106	106	100	103	100	N/A	2296271
4-Bromofluorobenzene	%	95	95	93	96	94	N/A	2296271
D10-Ethylbenzene	%	109	100	102	99	101	N/A	2296271
D4-1,2-Dichloroethane	%	116	119	118	128	128	N/A	2296271
o-Terphenyl	%	99	100	100	99	101	N/A	2296283

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics - Partial/Rush Results

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Maxxam Job #: B0E4116
Report Date: 2010/10/14

Maxxam Analytique
Client Project #: B054109

Maxxam Analytics - Partial/Rush Results

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HM1097	HM1098	HM1099	HM1100	HM1101	HM1102		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	Units	**L90363 \ MPA-CON-1**	**L90370 \ MPA-CON-2**	**L90371 \ MPA-CON-3**	**L90372 \ MPA-CON-4**	**L90373 \ MPA-CON-5**	**L90374 \ MPA-CON-6**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	ND	10	2296271
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	ND	10	2296271
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	ND	10	2296283
F3 (C16-C34 Hydrocarbons)	ug/g	26	41	38	34	39	10	10	2296283
F4 (C34-C50 Hydrocarbons)	ug/g	12	16	18	ND	13	ND	10	2296283
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	Yes	Yes	N/A	2296283
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	102	108	104	101	97	104	N/A	2296271
4-Bromofluorobenzene	%	93	94	93	94	93	93	N/A	2296271
D10-Ethylbenzene	%	107	107	102	106	105	108	N/A	2296271
D4-1,2-Dichloroethane	%	113	115	119	111	117	115	N/A	2296271
o-Terphenyl	%	101	101	97	101	102	101	N/A	2296283

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0E4116
Report Date: 2010/10/14

Maxxam Analytique
Client Project #: B054109

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HM1103	HM1104	HM1105	HM1106		HM1107		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10		2010/10/10		
COC Number		n/a	n/a	n/a	n/a		n/a		
	Units	**L90375 \ MPA-CON-7**	**L90376 \ MPA-CON-8**	**L90377 \ MPA-CON-9**	**L90378 \ MPA-CON-10**	**QC Batch**	**L90379 \ MPA-CON-11**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	2296271	ND	10	2296355
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	2296271	ND	10	2296355
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	2296283	ND	10	2296416
F3 (C16-C34 Hydrocarbons)	ug/g	160	71	120	66	2296283	43	10	2296416
F4 (C34-C50 Hydrocarbons)	ug/g	61	39	49	28	2296283	ND	10	2296416
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	2296283	Yes	N/A	2296416
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	106	104	102	102	2296271	100	N/A	2296355
4-Bromofluorobenzene	%	96	95	95	91	2296271	97	N/A	2296355
D10-Ethylbenzene	%	115	102	104	105	2296271	109	N/A	2296355
D4-1,2-Dichloroethane	%	120	115	114	110	2296271	105	N/A	2296355
o-Terphenyl	%	100	101	99	101	2296283	84	N/A	2296416

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0E4116
Report Date: 2010/10/14

Maxxam Analytique
Client Project #: B054109

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HM1108	HM1109	HM1110	HM1111	HM1112		
Sampling Date		2010/10/10	2010/10/10	2010/10/10	2010/10/10	2010/10/10		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	**L90380 \ MPA-CON-12**	**L90381 \ MPA-CON-13**	**L90382 \ MPA-CON-14**	**L90383 \ MPA-CON-15**	**L90384 \ MPA-CON-QA/QC**	**RDL**	**QC Batch**
F1 (C6-C10)	ug/g	ND	ND	ND	ND	ND	10	2296355
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	ND	10	2296355
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	ND	ND	10	2296416
F3 (C16-C34 Hydrocarbons)	ug/g	ND	92	51	65	45	10	2296416
F4 (C34-C50 Hydrocarbons)	ug/g	ND	46	19	ND	15	10	2296416
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	Yes	N/A	2296416
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	97	100	98	100	99	N/A	2296355
4-Bromofluorobenzene	%	95	96	96	98	98	N/A	2296355
D10-Ethylbenzene	%	106	108	109	107	105	N/A	2296355
D4-1,2-Dichloroethane	%	105	104	106	105	105	N/A	2296355
o-Terphenyl	%	89	82	87	89	87	N/A	2296416

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B0E4116
Report Date: 2010/10/14

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Client Project #: B054109

Maxxam Analytics - Partial/Rush Results

GENERAL COMMENTS

Results relate only to the items tested.

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Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B054109
P.O. #:
Project name:

Maxxam Analytics - Partial/Rush Results

Quality Assurance Report

Maxxam Job Number: MB0E4116

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2296203	NKO	RPD	Moisture	2010/10/13	2.0		%	20
2296271	GRU	Matrix Spike						
		[HM1087-01]	1,4-Difluorobenzene	2010/10/14		101	%	60 - 140
			4-Bromofluorobenzene	2010/10/14		94	%	60 - 140
			D10-Ethylbenzene	2010/10/14		111	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/14		111	%	60 - 140
			F1 (C6-C10)	2010/10/14		90	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/10/14		103	%	60 - 140
			4-Bromofluorobenzene	2010/10/14		95	%	60 - 140
			D10-Ethylbenzene	2010/10/14		112	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/14		114	%	60 - 140
			F1 (C6-C10)	2010/10/14		115	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/10/14		101	%	60 - 140
			4-Bromofluorobenzene	2010/10/14		93	%	60 - 140
			D10-Ethylbenzene	2010/10/14		100	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/14		111	%	60 - 140
			F1 (C6-C10)	2010/10/14	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/10/14	ND, RDL=10		ug/g	
		RPD [HM1087-01]	F1 (C6-C10)	2010/10/14	NC		%	50
			F1 (C6-C10) - BTEX	2010/10/14	NC		%	50
2296283	BLZ	Matrix Spike						
		[HM1087-01]	o-Terphenyl	2010/10/14		90	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/14		81	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/14		81	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/14		81	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/10/14		103	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/14		93	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/14		93	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/14		93	%	60 - 130
		Method Blank	o-Terphenyl	2010/10/14		99	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/14	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/10/14	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/10/14	ND, RDL=10		ug/g	
		RPD [HM1087-01]	F2 (C10-C16 Hydrocarbons)	2010/10/14	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/10/14	2.8		%	50
			F4 (C34-C50 Hydrocarbons)	2010/10/14	19.0		%	50
2296355	GRU	Matrix Spike	1,4-Difluorobenzene	2010/10/14		98	%	60 - 140
			4-Bromofluorobenzene	2010/10/14		100	%	60 - 140
			D10-Ethylbenzene	2010/10/14		106	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/14		106	%	60 - 140
			F1 (C6-C10)	2010/10/14		82	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2010/10/14		97	%	60 - 140
			4-Bromofluorobenzene	2010/10/14		98	%	60 - 140
			D10-Ethylbenzene	2010/10/14		102	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/14		103	%	60 - 140
			F1 (C6-C10)	2010/10/14		88	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2010/10/14		99	%	60 - 140
			4-Bromofluorobenzene	2010/10/14		97	%	60 - 140
			D10-Ethylbenzene	2010/10/14		105	%	30 - 130
			D4-1,2-Dichloroethane	2010/10/14		102	%	60 - 140
			F1 (C6-C10)	2010/10/14	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2010/10/14	ND, RDL=10		ug/g	
		RPD	F1 (C6-C10)	2010/10/14	NC		%	50
			F1 (C6-C10) - BTEX	2010/10/14	NC		%	50
2296369	NKO	RPD	Moisture	2010/10/13	3.8		%	20

Maxxam Analytique
Attention: Leila Sabouri
Client Project #: B054109
P.O. #:
Project name:

Maxxam Analytics - Partial/Rush Results

Quality Assurance Report (Continued)

Maxxam Job Number: MB0E4116

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2296416	ZZ	Matrix Spike	o-Terphenyl	2010/10/13		89	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/13		81	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/13		81	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/13		81	%	60 - 130
		Spiked Blank	o-Terphenyl	2010/10/13		86	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/13		80	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2010/10/13		80	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2010/10/13		80	%	60 - 130
		Method Blank	o-Terphenyl	2010/10/13		95	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2010/10/13	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2010/10/13	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2010/10/13	ND, RDL=10		ug/g	
		RPD	F2 (C10-C16 Hydrocarbons)	2010/10/14	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2010/10/14	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2010/10/14	NC		%	50
2296551	NKO	RPD	Moisture	2010/10/13	0		%	20

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 to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
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 (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.

Validation Signature Page

Maxxam Job #: B0E4116

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

BRAD NEWMAN, Scientific Specialist

CRISTINA CARRIERE, Scientific Services

MEDHAT RISKALLAH, Manager, Hydrocarbon Department

MAMDOUH SALIB, Analyst, Hydrocarbons

SUZANA POPOVIC, Supervisor, Hydrocarbons

==========

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Appendix I

Resident Engineer Weekly Reports and Weekly Meeting Minutes (ON ATTACHED CD)

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Weekly Site Report No. 1

For Period Ending Friday, August 27, 2010

Project:
Environmental Site Remediation
Bear Island, Nunavut

File:
60155434 (File 201.3)

Contractor:	**Contract Authority:**
Biogenie, division de/of EnGlobe Corp. 4495 Wilfrid-Hamel, Suite/Bureau 200 Quebec, Quebec Tel: (418) 653-4422 Fax: (413) 653-3583	Public Works and Government Services Canada Telus Tower North 5th Floor, 10025 Jasper Avenue Edmonton, AB T5J 1S6 Tel: (780) 497-3862 Cell: (780) 918-6277 Fax: (780) 497-3842

To: **Matthew McElwaine - matthew.mcelwaine@pwgsc.gc.ca**

Firm: **PWGSC**

Fax: **(780) 497-3842**

Date: **August 31, 2010**

From: **Rob Nichol**

C.C.: **Mark Yetman – Mark.Yetman@inac-ainc.gc.ca**

Roland Merkosky – roland.merkosky@aecom.com

Michelle Wainwright – michelle.wainwright@aecom.com

1.0 WEATHER

	SAT	SUN	MON	TUES	WED	THURS	FRI
Date	Aug 21/10	Aug 22/10	Aug 23/10	Aug 24/10	Aug 25/10	Aug 26/10	Aug 27/10
Temp (°C)	7L, 25H	15L, 23H	11L, 22H	12L, 22H	6L, 17H	5L, 15H	6L, 15H
Sunny	X	X					
Cloudy			X	X	X	X	X
Rain (mm)	12	nil	5	5	5	5	10
Snow							
Wind							
Wildlife Sighting							Polar Bear
Other							

2.0 WORK ACTIVITIES

Area 1 – North Doppler Site Area

Asbestos containing materials have been collected. A burning station has been setup in an empty roll-off container adjacent to the building foundation. The majority of this area has been demolished and most of the wood has been burned. Vertical timber poles were assessed as being treated with creosote and have been placed in the Staging Area prior to being wrapped for shipment off site. The majority of general debris in this area has been collected.

Area 2 – Beach and POL Area

Asbestos containing materials and batteries have been collected.

Area 3 – Barrel Cache and North Landfill Area

The Sno-Cats in this area have been collected and taken to the Staging Area.

Area 4 – South Doppler Site Area

Asbestos containing materials and batteries have been collected. Large, sharp pieces of asbestos board are being stored in double-bagged, wooden sea-cans at the cost of Biogenie. Asbestos stickers are placed on exterior of these sea-cans. General debris collection in this area is underway.

Area 5 – Airstrip

Asbestos containing materials have been collected. Demolition of the wood shed and other wood collected from this area and the surrounding airstrip/roads was brought to the North Doppler Area for burning.

Other Miscellaneous Work Activities

A location for the Material Processing Area (MPA) was selected within the North Landfill Area. A treatment system and supplies for barrel washing/sorting has been brought to the MPA. Granular material has been hauled to the MPA for the construction of berms.

A location for the Temporary Storage Area (TSA) has been leveled and bermed.

3.0 ENVIRONMENTAL SUMMARY

The following environmental summary was prepared by Mitch Bliss (Environmental Inspector):

OVERVIEW OF ACTIVITIES

This report summarizes the environmental activities performed from Saturday, August 21st, 2010 to Friday, August 27th, 2010. The bulk of the environmental work conducted over this span consisted of filling data gaps from the Phase III Environmental Site Assessment (ESA) completed by Earth Tech in 2007. This work included obtaining paint samples for total PCB and/or leachable lead analysis and collecting samples from barrels confirmed to be containing product for the analysis of chlorine and chromium.

Other activities included the baseline sampling of the Materials Processing Area (MPA) located west of the Barrel Cache Area and the Temporary Storage Area (TSA) located north of the barge landing area on the south end of Bear Island. These soil samples were analyzed for metals, PCBs and hydrocarbons.

DETAILED ACTIVITIES

Area 1 – North Doppler Site Area

Two (2) paint samples were collected from the antenna tower for analysis of total PCBs. These samples consisted of the orange and white paint on the tower. The paint samples were submitted for analysis on Monday, August 23rd, 2010. Results are expected the morning of August 31st, 2010.

Area 2 – Beach and POL Area

Six (6) paint samples and four (4) paint/substrate samples were collected from various building materials within the Beach and POL Area. Paint samples were collected from the building panels, electrical panels and the four colors of paint on the boat for analysis of total PCBs. Paint/substrate samples were collected from the electrical cabinets and three colors of paint on the boat for analysis of leachable lead. The paint samples were submitted for analysis on Monday, August 23rd, 2010. No results have been received.

Area 3 – Barrel Cache and North Landfill Area

Two (2) of the four (4) barrels, previously identified in the Phase III ESA, contained product when inspected and were sampled for the analysis of chlorine and chromium. The other two (2) barrels in this area have subsequently leaked and as such soil samples were obtained in the immediate vicinity of the spill area for the analysis of metals, PCBs and hydrocarbons. The barrel samples and soil samples were submitted for analysis on Monday, August 23rd, 2010. No results have been received.

Area 4 - South Doppler Site Area

Two (2) paint samples were collected from the antenna tower for analysis of total PCBs. These samples consisted of the orange and white paint on the tower. The paint samples were submitted for analysis on Monday, August 23rd, 2010. Results are expected the morning of August 31st.

Area 5 – Airstrip

One (1) barrel in this area was previously identified as containing product but has subsequently leaked. A soil sample was collected in the immediate vicinity of the spill area for the analysis of metals, PCBs and hydrocarbons. The soil sample was submitted for analysis on Monday, August 23rd, 2010. No results have been received.

BASELINE AND/OR CONFIRMATORY SAMPLING (TEMPORARY WORKING AREAS)

Baseline sampling was conducted at the Materials Processing Area (MPA) located west of the Barrel Cache Area and the Temporary Storage Area (TSA) located north of the barge landing area on the south end of Bear Island. A 10 m x 10 m grid was established in each area and samples were analyzed for metals, PCBs and hydrocarbons. A total of eleven (11) samples were collected at the MPA and sixteen (16) were collected at the TSA.

GENERAL

- A soil sample will be collected where a damaged battery was located near the Barrel Cache Area to determine if there is any metals contamination.
- Barrel inspection and processing is set to begin next week at the Barrel Cache Area. Inspection, handling and processing procedures will be supervised as time permits and any sampling required will be carried out.

4.0 GEOTECHNICAL SUMMARY

No geotechnical activities to date.

5.0 TASK AUTHORIZATIONS AND CHANGE ORDERS

No Task Authorizations or Change Orders to date.

6.0 GENERAL REMARKS

CAMP

The NTCL barge arrived on August 19th with the first load of equipment and MTL/Biogenie employees offloaded the barge. Camp construction took place throughout the week. By the end of the week the camp consisted of four (4) sleeper modules, a washroom/laundry module, a kitchen/dining module, a mud room and barge containers containing supplies. A quad fueling area has been setup near the camp. Plumping and electrical connections were completed. One (1) sewage lagoon has been constructed east of the camp. Septic tank and sewage piping was installed. Initially potable water for drinking/cooking has been brought in from Moosonee, ON until samples from the drinking water source are confirmed. Water for bathrooms and laundry is being taken from the water source south of the Barrel Cache Area.

An incinerator and maintenance garage has been setup south of the Barrel Cache Area. Barge containers with supplies are being stored here and wooden sea-can assembly is also occurring here.

MEETINGS

- The first Health and Safety Site Meeting was held at 6:30 p.m. on August 25th. This meeting was held in the dining room and will occur weekly.
- Weekly construction meetings are proposed to be held Saturdays at 16:00.

ACCIDENTS / INCIDENTS / ENVIRONMENTAL ISSUES

- There was a polar bear sighting on August 27th at about 17:30. The bear has since been observed on nearby islands and at various locations surrounding the site but he stays mostly on the east coast of Bear Island.
- None other reported or observed.

CHARTER FLIGHTS

DATE	COMPANY	TRIP	CARGO	PERSONS IN	PERSONS OUT
21-Aug-2010	Wabusk Air	Moosonee to Waskaganish to Bear Island and return	persons	7	0
22-Aug-2010	Wabusk Air	Moosonee to Bear Island and return	cargo	0	0
23-Aug-2010	Wabusk Air	Moosonee to Waskaganish to Bear Island and return	persons	8	1
24-Aug-2010	-	-	-	0	0
25-Aug-2010	Wabusk Air	Moosonee to Waskaganish to Bear Island and return	persons	3	0
26-Aug-2010	-	-	-	0	0
27-Aug-2010	Wabusk Air	Moosonee to Bear Island and return	persons and cargo	0	1

7.0 CAMP

CAMP SUMMARY

DESCRIPTION	UNIT	CONTRACT TOTAL TO DATE	CONTRACT TOTAL TO END 2010	TOTAL TO DATE (2010)	PREVIOUS WEEK TOTAL (2010)	THIS WEEK TOTAL
Engineer's Room and Board	person-day	14	14	14	0	14
Casual Meals - Breakfast	each	0	0	0	0	0
Casual Meals - Lunch	each	0	0	0	0	0
Casual Meals - Supper	each	0	0	0	0	0
Water Usage	litres	40,500	40,500	40,500	0	40,500

8.0 SCHEDULE, TABLES, PHOTOGRAPHS

- ***See Attachment 1:*** Construction Schedule and Progress
- ***See Attachment 2:*** Summary of Site Activities - Environmental Inspector

Submitted by:
AECOM

Rob Nichol
Site Resident
rob.nichol@aecom.com

Project Schedule and Progress

- Subst. Complete - On Schedule - Behind Schedule - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Mobilization		Open Camp		19-Aug	2-Sep	15	On-going - 75%
		Setup communications systems		26-Aug	29-Aug	4	No progress to date.
Airstrip/ Road Work		Airstrip Improvement		24-Aug	25-Aug	2	On-going (as required)
		Access Roads Improvement		24-Aug	25-Aug	2	On-going (as required)
		Road Maintenance		As required			On-going (as required)
Regrades (Type 2)		North Landfill	710 m^3	19-Sep	24-Sep	6	No progress to date.
						1	
Prepare Temporary Storage Area		Remove Debris - Level/Setup/Signage		26-Aug	30-Aug	5	95% complete (requires signs)
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Storage Haz Wastes		30-Aug	2-Oct	34	On-going
		Final Soil Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Material Processing Area		Remove Debris - Level/Setup/Signage		1-Sep	2-Sep	2	95% complete (requires signs)
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Barrel Processing		2-Sep	2-Oct	31	No progress to date.
		Final Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Landfill Excavation Waste Processing Area		Remove Debris/ Initial Topo landfill		28-Aug	2-Sep	6	No progress to date.
		Background Soil Samples		2-Sep	2-Sep	1	No progress to date.
		Landfill Excavation		5-Sep	10-Sep	6	No progress to date.
		Stockpile Sampling		5-Sep	20-Sep	16	No progress to date.
Locate Temporary Staging Area		Select Area		26-Aug	26-Aug	1	Complete
Site Surveys				22-Aug	2-Oct	42	No progress to date.
North Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~92 $m^{3~~}$	25-Aug	1-Sep	8	On-going
	NonHazRemoval->	Cre Treated Poles	2.5 m^3	25-Aug	1-Sep	8	On-going
	Haz Removals ->	zinc conduit etc.	2 m^3	30-Aug	5-Sep	7	No progress to date.
	Demolition ->	Red & White Tower		4-Sep	5-Sep	2	No progress to date.
		~ Disposal Assessment Samples (PCB's)					Awaiting Results
	Demolition ->	Wood Foundation		3-Sep	4-Sep	2	On-going
	Demolition ->	Concrete Removal/ Regrades		5-Sep	6-Sep	2	No progress to date.
	Tier II Removal ->	**1-DT2-01**	12.8 m^3	3-Sep	4-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	**1-DT2-02**	5.5 m^3	3-Sep	4-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.

Project Schedule and Progress

- Subst. Complete - On Schedule - Behind Schedule - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Beach & POL Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~67 m^{3}~~	16-Sep	24-Sep	9	No progress to date.
	Haz Removals ->	batteries etc.		30-Aug	5-Sep	7	Complete
	Haz Removals ->	****Electrical Cabinets****				1	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Awaiting Results
	Haz Removals ->	****Painted Wood Panels****				1	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Awaiting Results
	Demolition ->	Wooden Shed		12-Sep	13-Sep	2	No progress to date.
	Tier II Removal ->	2-DT2-01	2.4 m^{3}	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	2-DT2-02	2.2 m^{3}	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	2-DT2-03	4.3 m^{3}	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	F1/F2 Removal ->	2-PHC-01	50.8 m^{3}	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier I Regrade ->	2-DT1-01	35 m^{3}	12-Sep	13-Sep	2	No progress to date.
	Tier I Regrade ->	2-DT1-02	40 m^{3}	12-Sep	13-Sep	2	No progress to date.
Abandoned Boat	Demolition ->	****Painted Wood Boat****		13-Sep	15-Sep	3	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Awaiting Results
	NonHazRemoval->	Unknown Debris Removal in area				1	No progress to date.
Barrel Cache(s)	NonHazRemoval->	Inspect/ Remove Barrels & Debris		16-Sep	29-Sep	14	On-going
		Inspect for Staining/ Sample Underlying Areas					No progress to date.
	Haz Removals ->	Barrels with product	4				No progress to date.
		~ Disposal Assessment Samples					Awaiting Results
	Haz Removals ->	Remove Lead Cable to Site 412				1	No progress to date.
		Assessment Samples along Lead Pipe alignment					No progress to date.
	Tier II Removal ->	3-DT2-01	6.7 m^{3}			1	No progress to date.
		Confirmatory Samples					No progress to date.
	F1/F2 Removal ->	3-PHC-01	36.1 m^{3}			1	No progress to date.
		Confirmatory Samples					No progress to date.

Project Schedule and Progress

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
South Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~135m^{3}~~	29-Aug	11-Sep	14	On-going
	NonHazRemoval->	Cre Treated Poles	2.5 m^{3}	29-Aug	11-Sep	14	No progress to date.
	Haz Removals ->	batteries etc.	2.5 m^{3}	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		6-Sep	7-Sep	2	No progress to date.
		~ Disposal Assessment Samples (PCB's)					Awaiting Results
	Demolition ->	Wood Foundation		5-Sep	6-Sep	2	No progress to date.
	Demolition ->	Concrete Removal/ Regrades		7-Sep	9-Sep	3	No progress to date.
	Tier II Removal ->	4-DT2-01	1.3 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-02	1.2 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-03	17.8 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-04	29.6 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Landfill Excav ->	Surface Debris Removal		30-Aug	5-Sep	7	No progress to date.
		Excavation & Stockpiling		5-Sep	10-Sep	6	No progress to date.
		Stockpile Sampling					No progress to date.
	F3/F4 Regrade ->	4-PHC-01	Within LF Excav.				No progress to date.
	F3/F4 Regrade ->	4-PHC-02	60 m^{3}	11-Sep	12-Sep	2	No progress to date.
	F3/F4 Regrade ->	4-PHC-03	60 m^{3}	11-Sep	12-Sep	2	No progress to date.
Airstrip Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~92 m^{3}~~	25-Aug	29-Aug	5	On-going
	Demolition ->	Wood Shed		4-Sep	5-Sep	2	Complete
		Barrels with product	1 - Spilt (Empty)				No progress to date.
		~ Disposal Assessment Samples					Awaiting Results
	F1/F2 Removal ->	5-PHC-01	6.5 m^{3}	4-Sep	5-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
Other Known Debris Removal (Surrounding Airstrip, Site Roads etc.)							On-going
Aboveground POL Line and supports		Demolition		16-Sep	24-Sep	9	No progress to date.
Electrical Cables		Demolition		24-Sep	26-Sep	3	No progress to date.
Unknown Debris Removal							No progress to date.
Camp/site demobilization				20-Sep	10-Oct	21	No progress to date.

Summary of Site Activities - Environmental

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # samples	Date	# Samples Analyzed		28-Aug-10
Baseline and Confirmatory Sampling (Temporary Working Areas)								
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	11	Aug 27	11	Samples sent for analysis	Awaiting Results
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	16	Aug 27	16	Samples sent for analysis	Awaiting Results
Hazardous Waste Materials Processing Area (HWMPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing					
Temporary Staging Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing					
Paint Sampling								
Beach Area	Building Panels	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Sample sent for analysis	Awaiting Results
	Electrical Cabinets	Leachable Lead and PCBs	Sample paint and inspect substrate	2	Aug 22	2	Samples sent for analysis	Awaiting Results
	Boat Hull	Leachable Lead and PCBs	Sample paint and inspect substrate	7	Aug 22	7	Samples sent for analysis	Awaiting Results
North / South Doppler	Antenna Tower - Orange Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Sample sent for analysis	Awaiting Results
	Antenna Tower - White Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Sample sent for analysis	Awaiting Results
Barrel Sampling								
Small Barrel Cache	BAR-01	Cl and Cr	Sampled drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
	BAR-02	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
	BAR-03	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
	BAR-04	Cl and Cr	Sampled drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
Airstrip Area	BAR-05	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
Barrel Counts	-	-	Record crushed, cleaned and full barrels					
Misc. Environmental Sampling								
South Doppler	Lead Pipe	Tier II Metals (Pb)	Collected soil samples along pipe	18	Aug 28	18	Samples to be sent for analysis	Awaiting Results
	Antenna Tower	Tier II Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Samples to be sent for analysis	Awaiting Results
North Doppler	Antenna Tower	Tier II Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Samples to be sent for analysis	Awaiting Results
Excavations								
Area 1 - North Doppler Site Area	1-DT2-01	Tier II Metals	Confirmatory Sampling					
	1-DT2-02	Tier II Metals	Confirmatory Sampling					
Area 2 - Beach and POL Area	2-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
	2-DT1-01	Tier I Metals	Regrade					
	2-DT1-02	Tier I Metals	Regrade					
	2-DT2-01	Tier II Metals	Confirmatory Sampling					
	2-DT2-02	Tier II Metals	Confirmatory Sampling					
	2-DT2-03	Tier II Metals	Confirmatory Sampling					
Area 3 - Barrel Cache and North Landfill Area	3-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
	3-DT2-01	Tier II Metals	Confirmatory Sampling					
	Entire Barrel Cache Area	Analyze for PCBs, Metals and Hydrocarbons	Confirmatory Sampling					
Area 4 - South Doppler Site Area	4-PHC-01	F3/F4 Hydrocarbons	Regrade					
	4-PHC-02	F3/F4 Hydrocarbons	Regrade					
	4-PHC-03	F3/F4 Hydrocarbons	Regrade					
	4-DT2-01	Tier II Metals	Confirmatory Sampling					
	4-DT2-02	Tier II Metals	Confirmatory Sampling					
	4-DT2-03	Tier II Metals	Confirmatory Sampling					
	4-DT2-04	Tier II Metals	Confirmatory Sampling					
	Existing Landfill	Unknown	Categorize Stockpiles					
Area 5 - Airstrip	5-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
Leachate Sampling								
Ash Samples	Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling					

Weekly Site Report No. 2

For Period Ending Friday, September 3, 2010

Project:
Environmental Site Remediation
Bear Island, Nunavut

File:
60155434

Contractor:	**Contract Authority:**
Biogenie, division de/of EnGlobe Corp. 4495 Wilfrid-Hamel, Suite/Bureau 200 Quebec, Quebec G1P 2J7 Tel: (418) 653-4422 Fax: (413) 653-3583	Public Works and Government Services Canada Telus Tower North 5th Floor, 10025 Jasper Avenue Edmonton, AB T5J 1S6 Tel: (780) 497-3690 Cell: (780) 918-6277 Fax: (780) 497-3842

To: **Matthew McElwaine: matthew.mcelwaine@pwgsc.gc.ca**

Firm: **PWGSC**

Fax: **(780) 497-3842**

Date: **September 3, 2010**

From: **Rob Nichol**

C.C.: **Mark Yetman: Mark.Yetman@inac-ainc.gc.ca**

Roland Merkosky: roland.merkosky@aecom.com

1.0 WEATHER

	SAT	SUN	MON	TUES	WED	THURS	FRI
Date	Aug 28/10	Aug 29/10	Aug 30/10	Aug 31/10	Sept. 1/10	Sept. 2/10	Sept. 3/10
Temp (°C)	7L, 25H	8L, 21H	11L, 16H	11L, 16H	10L, 20H	8L, 15H	4L, 11H
Sunny	X	X	X		X	X	
Cloudy	X		X	X			X
Rain (mm)	1	nil	5	5	nil	nil	6
Snow							
Wind					High Winds		X
Wildlife Sighting	Polar Bear	Polar Bear	Polar Bear	Polar Bear	Polar Bear	Polar Bear	Polar Bear
Other			Fog	Fog			

2.0 WORK ACTIVITIES

Area 1 – North Doppler Site Area

Wood burning within the roll off bin continued in this area. Wood was added from the demolished floor section of the building and through this process it was discovered later in the week that a good deal of gravel was being put in the roll off at the time of loading wood. This gravel has resulted in the bin being too heavy to move and it continues to smolder. Mechanic cut-off embedded anchors from concrete foundations. Later in the week once confirmation was received that the red and white painted towers were non-hazardous they were cut into sections as well.

Surveys were performed to lay out the contaminated soil excavations in this area. Existing ground topography surveys were completed to calculate volumes later.

Area 2 – Beach and POL Area

The existing bulldozer was dismantled and taken to the staging area for salvage. Surveys were performed to lay out the contaminated soil excavations and re-grades in these areas. Existing ground topography surveys were completed in these areas in order to calculate cut/ fill volumes later.

Area 3 – Barrel Cache and North Landfill Area

All hazardous wastes have been collected from the Barrel Cache Area and North Landfill Area. This waste included zinc piping and batteries. Almost all the drums have been removed from the Barrel Cache Area and the areas in the immediate vicinity. Barrels which were closed or were observed to contain fluid were taken to the MPA to be processed. Barrels which were assessed as empty and no oily residue were taken to that Staging Area to be crushed. Surveys were performed to lay out the contaminated soil excavations in this area. Existing ground topography surveys were completed in order to calculate volumes later.

Area 4 – South Doppler Site Area

General debris collection in this area was the main activity this week for the demolition/ debris collection crew. By the end of the week 95% of all debris had been removed. All hazardous materials, such as battery pieces and asbestos, have been removed from this area. Some of the zinc coated conduit taken from the tower during demolition has been placed on the garage pad to be packaged in a sea-can for hazardous disposal. Later in the week once confirmation was received that the red and white painted towers were non-hazardous they were cut into sections and taken to the staging area.

Surveys were performed to lay out the contaminated soil excavations and regrades in this area. Existing ground topography surveys were completed in order to calculate volumes later.

Area 5 – Airstrip

Survey was performed to lay out the contaminated soil excavation in this area. Existing ground topography survey was completed in order to calculate volumes later. No further works have been performed in this area this week.

Other Miscellaneous Work Activities

Excavator has been crushing the barrels in the Staging area throughout the week. Survey technician continues to assemble sea-cans in the maintenance garage area as well as perform other small surveys as required.

The Material Processing Area washing and wastewater treatment system was completed. Processing of barrels consisting of inspecting, consolidating and washing continued throughout the week.

The archaeological area was marked with a staked perimeter and orange flagging. Other signs were put up at the various work areas, storage areas, fueling locations, sewage lagoon and sampling points as are required.

The Open Burning in a roll off container at the North Doppler Area ceased early this week. Ash samples will be obtained once the temperature is low enough.

3.0 ENVIRONMENTAL SUMMARY

The following environmental summary was prepared by Mitch Bliss (Environmental Inspector):

OVERVIEW OF ACTIVITIES

This report summarizes the environmental activities performed from Saturday, August 28th, 2010 to Friday, September 3rd, 2010. The bulk of the environmental work conducted over this span consisted of assessing areas where metals contamination was suspected but not previously analyzed and supervising barrel processing at the Barrel Cache Area / MPA. This work included obtaining soil samples along the lead pipe which runs north from the South Doppler Site Area towards the drinking water source, sampling soil underneath the antenna towers at the North and South Doppler Site Area where zinc piping was discovered, sampling soil in an area near the Barrel Cache Area where zinc piping was found, sampling an area near the Barrel Cache Area where a deteriorated battery was found, inspecting the contents of closed barrels at the Materials Processing Area (MPA) located near the Barrel Cache Area and generally supervising the barrel processing procedures at the Barrel Cache Area / MPA. All obtained soil samples mentioned above were sent for analysis of metals.

DETAILED ACTIVITIES

Area 1 – North Doppler Site Area

Five (5) soil samples were collected in the vicinity of the zinc piping running along the antenna tower. It was suspected that the possibility of zinc contamination exists in this area as exceedances were previously recorded in other areas where the same zinc pipe material was found. These soil samples will be analyzed for metals. The soil samples were sent for analysis on Monday, August 30th, 2010. No results have been received.

PCB analysis of paint samples taken from the antenna tower were found to be below 50 ppm. Previous paint analysis data revealed leachable lead levels to be below 5 mg/L and therefore the antenna tower was classified as non-hazardous waste.

Area 2 – Beach and POL Area

The results of the PCB analysis of the building panels, electrical cabinets, and the four (4) different colors of paint on the boat were all found to be below 50 ppm.

Leachable lead levels in the electrical cabinets were found to be below 5 mg/L and were therefore classified as non-hazardous waste. However, there may still be PCB capacitors and ballasts within these electrical panels and how to manage these components is currently being assessed. Three (3) colors of paint on the boat were found to exceed 5 mg/L leachable lead and as result the boat is classified as hazardous. Due to a sampling error the building panels were not analyzed for leachable lead. A sample will be submitted early next week and until results are received the building panels will not be handled.

Area 3 – Barrel Cache and North Landfill Area

Four (4) soil samples were taken from an area north of the Barrel Cache Area where misc. metal including zinc piping was found. A soil sample was also taken from an area where a deteriorated battery was found just south of the Barrel Cache Area. These samples were sent for metals analysis on Monday, August 30th, 2010. No results have been received.

The soil samples taken near the two spilled barrels mentioned in last week's report were analyzed and both had F3 hydrocarbon levels in excess of 20,000 mg/kg. The analysis of the two barrels which still contained product has not yet been received.

Area 4 - South Doppler Site Area

Five (5) soil samples were collected in the vicinity of the zinc piping running along the antenna tower. It was suspected that the possibility of zinc contamination exists in this area as exceedances were previously recorded in other areas where the same zinc pipe material was found. These soil samples will be analyzed for metals. Eighteen (18) soil samples were collected in the vicinity of the lead pipe running from the NE end of the South Doppler Area to the SE edge of the drinking water source located south of the Barrel Cache Area for metals analysis. The soil samples were sent for analysis on Monday, August 30th, 2010. No results have been received.

PCB analysis of paint samples taken from the antenna tower were found to be below 50 ppm. Previous paint analysis data revealed leachable lead levels to be below 5 mg/L and therefore the antenna tower was classified as non-hazardous waste was classified as non-hazardous waste.

Area 5 – Airstrip

The soil sample taken near the spilled barrel mentioned in last week's report was analyzed and all results were below the applicable guidelines.

Baseline and/or Confirmatory Sampling (Temporary Working Areas)

The metals and PCBs results of the baseline sampling conducted at the Materials Processing Area (MPA) and the Temporary Storage Area (TSA) all came back below the applicable guidelines. Hydrocarbon analysis results are yet to be received.

Barrel processing has begun at the MPA. Barrels are being sorted at the Barrel Cache Area with obviously empty/dry barrels being taken away for crushing and closed barrels or barrels with any type of liquids being set aside for inspection. Temporary storage of barrels requiring inspection is provided by insta-berms setup in multiple locations adjacent to the Barrel Cache Area. Barrels requiring inspection are transported by a loader to the MPA and are inspected by the contractor and environmental inspector to classify any contents. Barrels are marked accordingly, eligible contents are consolidated and barrels are washed. The rinsate from the washing process is dumped in the NW corner of the MPA and later pumped into the lagoon pond adjacent to the north end of the MPA. Oil absorbent pads are placed where required to remove any trace amounts of product in the collected rinsate.

On September 3rd, two (2) barrels were confirmed to be containing product after they were crushed. Soil in the immediate area of the spill was collected and sealed within a 1 m^3 soil bag. Measures were taken by Biogenie to correct the problem and closer supervision was provided by AECOM to try and prevent any other spills.

General

- Barrel processing is to continue throughout the first half of next week with the goal of processing all barrels located within the Barrel Cache Area.
- The Existing Landfill Area located north of the South Doppler Area is scheduled to be excavated early next week with the contents to be stockpiled in a Waste Processing Area (WPA) located adjacent to the south side of the MPA. Baseline sampling will be conducted within the WPA. Confirmatory samples of the Existing Landfill Area and stockpile samples will be obtained and sent for analysis of metals, PCBs and hydrocarbons.
- Soil samples will be taken within the Barrel Cache Area to delineate any possible contamination as a result of the barrel storage.

4.0 GEOTECHNICAL SUMMARY

No geotechnical activities to date.

5.0 TASK AUTHORIZATIONS AND CHANGE ORDERS

TA-2 Requested – Unknown Debris Collection

TA-3 Requested – Additional Surveys for AECOM

TA-4 Requested – Barrel Cleaning & Wastewater/ Rinse Water Processing

6.0 GENERAL REMARKS

CAMP

The communication system is now functional with phones and wired internet connections hooked up in Biogenie Project Managers room and both AECOM rooms temporarily serving as offices. In addition a phone has been set up in the dining room for general camp use and a wireless internet connection for all to use throughout camp.

The barge to deliver the final camp, offices, vehicles and additional equipment continues to claim delays primarily related to weather. No date or information for this delivery is known at this time.

The on-site water source initial sample analysis has been received, approved for human consumption and will be used once the bulk water supply brought from Moosanee has been depleted. Camp waste continues to be incinerated.

MEETINGS

- The Health and Safety Site Meeting was held at 6:30 p.m. on September 1st. This meeting was held in the dining room and will continue to occur weekly.
- Weekly construction meeting was held Saturday, August 28th at 4:00 p.m., minutes have been distributed accordingly.

ACCIDENTS / INCIDENTS / ENVIRONMENTAL ISSUES

- Instruction was provided stating that the replacement HazMat Specialist not be allowed to function in this key role at site after he was observed not properly inspecting barrels being removed from the Barrel Cache Area. A separate detailed memo was provided on this incident with instruction to proceed only under the supervision of the site superintendant and AECOM until the regular HazMat Specialist returns to site. This incident resulted in a small fuel spill when a partially filled barrel was sent to the staging area for crushing. A report on this spill/incident has been requested but not yet received.
- The polar bear around site is tracked daily and continues to remain on the northern portion of this island and occasionally is seen on another island to the north. There are many geese at various locations throughout the island.
- One worker complained of feeling ill, thought to be due to inhaling fumes around the barrel cache processing area. As a result Biogenie is requiring all workers in this area, and if required in other areas working around windblown debris, to wear respirators at all times. A report on this incident has been requested but not yet received.
- Another incident resulted in a small spill at the barrel crushing area caused by improperly assessing barrels being taken from the barrel cache. A report on this spill/incident has been requested but not yet received.
- None other reported or observed.

7.0 CAMP

CAMP SUMMARY

DESCRIPTION	UNIT	CONTRACT TOTAL TO DATE	CONTRACT TOTAL TO END 2010	TOTAL TO DATE (2010)	PREVIOUS WEEK TOTAL (2010)	THIS WEEK TOTAL
Engineer's Room and Board	person-day	28	-	28	14	14
Casual Meals - Breakfast	each	0	-	0	0	0
Casual Meals - Lunch	each	0	-	0	0	0
Casual Meals - Supper	each	0	-	0	0	0
Water Usage	litres	78,200	-	78,200	40,500	37,700

8.0 SCHEDULE, TABLES, PHOTOGRAPHS

- ***See Attachment 1:*** Construction Schedule and Progress
- ***See Attachment 2:*** Summary of Site Activities - Environmental Inspector

Submitted by:
AECOM

Rob Nichol
Site Resident
rob.nichol@aecom.com

Project Schedule and Progress

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Mobilization		Open Camp		19-Aug	02-Sep	15	On-going - 75%
		Setup communications systems		26-Aug	29-Aug	4	Complete
Airstrip/ Road Work		Airstrip Improvement		24-Aug	25-Aug	2	On-going (as required)
		Access Roads Improvement		24-Aug	25-Aug	2	On-going (as required)
		Road Maintenance		As required			On-going (as required)
Regrades (Type 2)		North Landfill	710 m^3	19-Sep	24-Sep	6	No progress to date.
						1	
Prepare Temporary Storage Area		Remove Debris - Level/Setup/Signage		26-Aug	30-Aug	5	Complete
		Background Soil Samples		01-Sep	01-Sep	1	Complete
		Storage Haz Wastes		30-Aug	02-Oct	34	On-going
		Final Soil Samples		02-Oct	12-Oct	11	No progress to date.
Prepare Material Processing Area		Remove Debris - Level/Setup/Signage		01-Sep	02-Sep	2	Complete
		Background Soil Samples		01-Sep	01-Sep	1	Complete
		Barrel Processing		02-Sep	02-Oct	31	On-going 30% completed
		Final Samples		02-Oct	12-Oct	11	No progress to date.
Prepare Landfill Excavation Waste Processing Area		Background Soil Samples		02-Sep	02-Sep	1	No progress to date.
Locate Temporary Staging Area		Select Area		26-Aug	26-Aug	1	Complete
Site Surveys				22-Aug	02-Oct	42	On-going
North Doppler Area	NonHazRemoval->	Asbestos		31-Aug	01-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~92 m^{3}~~	25-Aug	01-Sep	8	On-going 80% completed
	NonHazRemoval->	Cre Treated Poles	2.5 m^3	25-Aug	01-Sep	8	Complete
	Haz Removals ->	zinc conduit etc.	2 m^3	30-Aug	05-Sep	7	On-going 50% completed
	Demolition ->	Red & White Tower		04-Sep	05-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		03-Sep	04-Sep	2	On-going 90% completed
	Demolition ->	Concrete or Anchor Removal/ Regrades		05-Sep	06-Sep	2	On-going 50% completed
	Tier II Removal ->	**1-DT2-01**	12.8 m^3	03-Sep	04-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	**1-DT2-02**	5.5 m^3	03-Sep	04-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.

Project Schedule and Progress

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Beach & POL Area	NonHazRemoval->	Asbestos		31-Aug	01-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~67 m^{3}~~	16-Sep	24-Sep	9	On-going 5% completed
	Haz Removals ->	batteries etc.		30-Aug	05-Sep	7	Complete
	Haz Removals ->	****Electrical Cabinets****				1	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - Not LeachLead/Not PAP
	Haz Removals ->	****Painted Wood Panels****				1	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Awaiting Results
	Demolition ->	Wooden Shed		12-Sep	13-Sep	2	No progress to date.
	Tier II Removal ->	2-DT2-01	2.4 m^3	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	2-DT2-02	2.2 m^3	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	2-DT2-03	4.3 m^3	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	F1/F2 Removal ->	2-PHC-01	50.8 m^3	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier I Regrade ->	2-DT1-01	35 m^3	12-Sep	13-Sep	2	No progress to date.
	Tier I Regrade ->	2-DT1-02	40 m^3	12-Sep	13-Sep	2	No progress to date.
Abandoned Boat	Demolition ->	****Painted Wood Boat****		13-Sep	15-Sep	3	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - *LeachLead still*/Not PAP
	NonHazRemoval->	Unknown Debris Removal in area				1	No progress to date.
Barrel Cache(s)	NonHazRemoval->	Inspect/ Remove Barrels & Debris		16-Sep	29-Sep	14	On-going 90% completed
		Inspect for Staining/ Sample Underlying Areas					No progress to date.
	Haz Removals ->	Barrels with product	4				No progress to date.
		~ Disposal Assessment Samples					Awaiting Results
	Haz Removals ->	Remove Lead Cable to Site 412				1	Complete
		Assessment Samples along Lead Pipe alignment					Awaiting Results
	Tier II Removal ->	3-DT2-01	6.7 m^3			1	No progress to date.
		Confirmatory Samples					No progress to date.
	F1/F2 Removal ->	3-PHC-01	36.1 m^3			1	No progress to date.
		Confirmatory Samples					No progress to date.

Project Schedule and Progress

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
South Doppler Area	NonHazRemoval->	Asbestos		31-Aug	01-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~135m^{3}~~	29-Aug	11-Sep	14	On-going 95% completed
	NonHazRemoval->	Cre Treated Poles	2.5 m^{3}	29-Aug	11-Sep	14	On-going 50% completed
	Haz Removals ->	batteries etc.	2.5 m^{3}	30-Aug	05-Sep	7	Complete
	Demolition ->	Red & White Tower		06-Sep	07-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		05-Sep	06-Sep	2	On-going 50% completed
	Demolition ->	Concrete or Anchor Removal/ Regrades		07-Sep	09-Sep	3	On-going 10% completed
	Tier II Removal ->	4-DT2-01	1.3 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-02	1.2 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-03	17.8 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-04	29.6 m^{3}	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Landfill Excav ->	Surface Debris Removal		30-Aug	05-Sep	7	Complete
		Excavation & Stockpiling		05-Sep	10-Sep	6	No progress to date.
		Stockpile Sampling					No progress to date.
	F3/F4 Regrade ->	4-PHC-01	Within LF Excav.				No progress to date.
	F3/F4 Regrade ->	4-PHC-02	60 m^{3}	11-Sep	12-Sep	2	No progress to date.
	F3/F4 Regrade ->	4-PHC-03	60 m^{3}	11-Sep	12-Sep	2	No progress to date.
Airstrip Area	NonHazRemoval->	Asbestos		31-Aug	01-Sep	2	Complete
	NonHazRemoval->	Debris Removal	~~92 m^{3}~~	25-Aug	29-Aug	5	On-going
	Demolition ->	Wood Shed		04-Sep	05-Sep	2	Complete
		Barrels with product	1 - Spilt (Empty)				No progress to date.
		~ Disposal Assessment Samples					Awaiting Results
	F1/F2 Removal ->	5-PHC-01	6.5 m^{3}	04-Sep	05-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
Other Known Debris Removal (Surrounding Airstrip, Site Roads etc.)							On-going
Aboveground POL Line and supports		Demolition		16-Sep	24-Sep	9	On-going
Electrical Cables		Demolition		24-Sep	26-Sep	3	On-going
Unknown Debris Removal							On-going
Camp/site demobilization				20-Sep	10-Oct	21	No progress to date.

Summary of Site Activities - Environmental Inspector

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weeklv Summarv
				Total # samples	Date	# Samples Analyzed		3-Sep-10
Baseline and Confirmatory Sampling (Temporary Working Areas)								
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	11	Aug 27	11	Awaiting hydrocarbon analysis results.	Metals and PCB results below criteria
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	16	Aug 27	16	Awaiting hydrocarbon analysis results.	Metals and PCB results below criteria
Waste Processing Area (WPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing					
Paint Sampling								
Beach Area	Building Panels	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22 / Sept 3	2	Sample to be sent for analysis	PCBs under criteria. Awaiting Leachable lead results
	Electrical Cabinets	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22	2	Completed	PCB and leachable lead results under criteria
	Boat Hull	Leachable Lead and PCBs	Sampled paint/substrate	7	Aug 22	7	Completed	PCBs under criteria. Most leachable lead results exceed criteria.
North / South Doppler	Antenna Tower - Orange Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs under criteria.
	Antenna Tower - White Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs under criteria.
Barrel Sampling								
Small Barrel Cache	BAR-01	Cl and Cr	Sampled drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
	BAR-02	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels in excess of 20,000 mg/kg
	BAR-03	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels in excess of 20,000 mg/kg
	BAR-04	Cl and Cr	Sampled drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
Airstrip Area	BAR-05	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	Results under criteria
Barrel Counts	-	-	Obtain record of crushed, cleaned and full barrels					
Misc. Environmental Activities								
South Doppler	Lead Pipe	Metals (Pb)	Collected soil samples along pipe	18	Aug 28	18	Samples sent for analysis	Awaiting Results
	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Samples sent for analysis	Awaiting Results
North Doppler	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Samples sent for analysis	Awaiting Results
Barrel Cache Area	Debris Location	Metals	Collected soil samples around area	4	Aug 29	4	Samples sent for analysis	Awaiting Results
	Battery Location	Metals	Collected soil sample within area	1	Aug 29	1	Samples sent for analysis	Awaiting Results
	Barrel Processing Supervision						Ongoing	Barrel Cache Area barrels to be completed early next week
Excavations								
Area 1 - North Doppler Site Area	1-DT2-01	Tier II Metals	Confirmatory Sampling					
	1-DT2-02	Tier II Metals	Confirmatory Sampling					
Area 2 - Beach and POL Area	2-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
	2-DT1-01	Tier I Metals	Regrade					
	2-DT1-02	Tier I Metals	Regrade					
	2-DT2-01	Tier II Metals	Confirmatory Sampling					
	2-DT2-02	Tier II Metals	Confirmatory Sampling					
	2-DT2-03	Tier II Metals	Confirmatory Sampling					
Area 3 - Barrel Cache and North Landfill Area	3-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
	3-DT2-01	Tier II Metals	Confirmatory Sampling					
	Entire Barrel Cache Area	Analyze for PCBs, Metals and Hydrocarbons	Confirmatory Sampling					
Area 4 - South Doppler Site Area	4-PHC-01	F3/F4 Hydrocarbons	Regrade					
	4-PHC-02	F3/F4 Hydrocarbons	Regrade					
	4-PHC-03	F3/F4 Hydrocarbons	Regrade					
	4-DT2-01	Tier II Metals	Confirmatory Sampling					
	4-DT2-02	Tier II Metals	Confirmatory Sampling					
	4-DT2-03	Tier II Metals	Confirmatory Sampling					
	4-DT2-04	Tier II Metals	Confirmatory Sampling					
	Existing Landfill	Unknown	Categorize Stockpiles					
Area 5 - Airstrip	5-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
Leachate Sampling								
Ash Samples	Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling					

Weekly Site Report No. 3

For Period Ending Friday, September 10, 2010

Project:
Environmental Site Remediation
Bear Island, Nunavut

File:
60155434

Contractor:	**Contract Authority:**
Biogenie, division de/of EnGlobe Corp. 4495 Wilfrid-Hamel, Suite/Bureau 200 Quebec, Quebec G1P 2J7 Tel: (418) 653-4422 Fax: (413) 653-3583	Public Works and Government Services Canada Telus Tower North 5th Floor, 10025 Jasper Avenue Edmonton, AB T5J 1S6 Tel: (780) 497-3690 Cell: (780) 918-6277 Fax: (780) 497-3842

To: **Matthew McElwaine: matthew.mcelwaine@pwgsc.gc.ca**

Firm: **PWGSC**

Fax: **(780) 497-3842**

Date: **September 10, 2010**

From: **Scott Chapman**

C.C.: **Mark Yetman: Mark.Yetman@inac-ainc.gc.ca**

Roland Merkosky: roland.merkosky@aecom.com

1.0 WEATHER

	SAT	SUN	MON	TUES	WED	THURS	FRI
Date	Sept 4/10	Sept 5/10	Sept 6/10	Sept 7/10	Sept. 8/10	Sept. 9/10	Sept. 10/10
Temp (°C)	4L, 9H	5L, 10H	7L, 15H	10L, 16H	10L, 17H	10L, 17H	5L, 18H
Sunny	X		X	X	X	X	X
Cloudy	X	X					X
Rain (mm)	6	3	nil	nil	nil	nil	nil
Snow							
Wind	Moderate	High	Light	Light	Light	Light	Light
Wildlife Sighting	Polar Bear	Polar Bear	Polar Bear	Polar Bear	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese
Other						Fog (a.m.)	

2.0 WORK ACTIVITIES

Area 1 – North Doppler Site Area

The roll off bin used for wood burning in this area continues to smolder. Debris collection in this area was completed (95%).

Area 2 – Beach and POL Areas

Debris was collected and sorted into unpainted wood, metal and other scrap piles. The metal and other scrap was placed into individual metal roll off bins. Electrical panels found in the area were set aside to await confirmation on an appropriate disposal method for the capacitors and ballasts. Painted wood panels were left awaiting laboratory results and decision on disposal method.

Area 3 – Barrel Cache and North Landfill Areas

All barrels have been removed from the Barrel Cache Area. Empty barrels have been taken to the staging area and crushed. Barrels containing liquid or unopened barrels have all been taken to the Materials Processing Area (MPA). Inspection, consolidation and washing of remaining barrels are still ongoing.

Environmental samples were collected along the Barrel Cache Area and have been submitted for laboratory analysis. Analytical results are pending.

Samples collected from soil lying beneath the zinc piping and batteries indicated Tier II impacts. The areas were marked for future soil excavation.

Excavation of 3-DT2-01 was completed and confirmatory samples were collected. Samples will be shipped to the laboratory on the next air charter to site.

Area 4 – South Doppler Site Area

General debris collection in this area was completed this week (95%).

The excavation of material from the landfill located north of Site 412 was completed. The excavated material was transported to a temporary stockpile area next to the MPA and separated into 5.5 stockpiles of 20 m^3 each. Three of the stockpiles were sorted and environmental samples were collected and submitted for laboratory analysis (results pending). The remaining stockpiles have not yet been sorted.

Excavation of 4-DT2-04 (Garage Area) was completed and confirmatory samples were collected. Samples will be shipped to the laboratory on the next air charter to site.

Area 5 – Airstrip

General debris collection in this area was completed this week (95%). In addition, one (1) full day of compaction on the airstrip was completed.

Other Miscellaneous Work Activities

Excavator has been crushing the barrels in the Staging Area intermittently throughout the week. Survey technician and Haz Mat crew continues to assemble sea-cans as well as perform other small surveys as required.

General debris collection in the new landing area was initiated. Debris was piled and sorted but has yet to be transported to the staging area or MPA as required. Debris was also collected and bagged along the road from Borrow Area 1 to the South Doppler Area.

Processing of barrels consisting of inspecting, consolidating and washing continued throughout the week.

3.0 ENVIRONMENTAL SUMMARY

The following environmental summary was prepared by Mitch Bliss (Environmental Inspector):

OVERVIEW OF ACTIVITIES

This report summarizes the environmental activities performed from Saturday, September 4th, 2010 to Friday, September 10th, 2010. The bulk of the environmental work conducted over this span consisted of supervising barrel processing at the Barrel Cache Area / MPA, obtaining baseline soil samples at the Waste Processing Area (WPA), sampling consolidated barrels at the Materials Processing Area (MPA), obtaining assessment soil samples at the Barrel Cache Area, obtaining confirmatory samples at the Existing Landfill Area, sampling stockpile material from the Existing Landfill Area for categorization and obtaining confirmatory samples from the Tier II contaminated area excavation within the Barrel Cache Area..

DETAILED ACTIVITIES

Area 1 – North Doppler Site Area

The soil samples collected from underneath the fallen antenna tower at the North Doppler Site Area were analyzed for metals and Tier II exceedances of zinc were detected near the southern end of the fallen tower location. This area has been flagged off for excavation to a depth of 0.3 metres below grade.

Area 2 – Beach and POL Area

Leachable lead analysis results of the building panels from the Beach and POL Area are still pending. Potentially PCB-containing components within the electrical cabinets in this area are to be removed and placed in sea-cans for off-site disposal.

Area 3 – Barrel Cache and North Landfill Area

One (1) of the soil samples collected in the vicinity of a debris pile near the Barrel Cache Area contained a copper concentration exceeding Tier II contaminated soil criteria. This area has been flagged off for excavation to a depth of 0.3 metres below grade. The soil sample collected from an area where a deteriorated battery was found just south of the Barrel Cache Area contained a lead concentration exceeding Tier II contaminated soil criteria. This area has been flagged off for excavation to a depth of 0.3 metres below grade.

Assessment samples of the entire Barrel Cache Area were collected once all the barrels had been removed from the area. The assessment consisted of mostly surface samples with a few test pits being excavated to obtain depth samples. Results are pending.

The excavation of the Tier II contaminated zone 3-DT2-01 was completed and confirmatory samples were sent for analysis. Results are pending.

Laboratory analysis of the two (2) barrels which still contained product, BAR-01 and BAR-04, is still pending.

Area 4 - South Doppler Site Area

The soil samples from underneath the fallen antenna tower at the South Doppler Site Area were analyzed for metals and Tier II exceedances of cadmium, copper, lead and zinc were detected near the southern end of the fallen tower location. This area has been flagged off for excavation to a depth of 0.3 metres below grade.

The soil samples collected in the vicinity of the lead-wrapped cable were analyzed for metals. Tier I exceedances were detected in a few pockets along the cable and are to be re-graded.

The Existing Landfill Area located north of the South Doppler Site Area was excavated and confirmatory samples were obtained. Material from the excavation was placed into 5.5 stockpiles roughly 20 m^3 each. Three (3) of the stockpiles were sampled for classification and laboratory results are pending. The remaining stockpiles were not sampled because they still contained debris that requires removal.

The excavation of the Tier II contaminated zone 4-DT2-04 was underway at the end of the week.

Area 5 – Airstrip

No environmental activities this week at the Airstrip.

Baseline and/or Confirmatory Sampling (Temporary Working Areas)

The hydrocarbon analysis results of the baseline sampling conducted at the MPA and the Temporary Storage Area (TSA) indicated concentrations below the applicable guidelines. Baseline samples at the WPA were collected for analysis of metals, PCBs and hydrocarbons. Laboratory results are still pending.

Barrel processing continued at the MPA. All barrels from the Barrel Cache Area have been either taken away to be crushed or brought to the MPA to be processed. Two (2) consolidated barrels were sampled and submitted for analysis of total chloride, cadmium, chromium, lead and total PCBs. Laboratory results are still pending.

General

- Excavation of the remaining Tier II contaminated zones will continue throughout next week. Confirmatory samples will be collected as required.
- Stockpiles containing debris will be sorted and classification samples will be collected.
- Samples from any additional full consolidated drums at the MPA will be collected.

4.0 GEOTECHNICAL SUMMARY

No geotechnical activities to date.

5.0 TASK AUTHORIZATIONS AND CHANGE ORDERS

TA-2 Requested – Unknown Debris Collection (currently under consideration).
TA-3 Requested – Additional Surveys for AECOM (currently under consideration).
TA-4 Requested – Barrel Cleaning & Wastewater/ Rinse Water Processing (currently under consideration).

6.0 GENERAL REMARKS

CAMP

The barge to deliver the final camp, offices, vehicles and additional equipment departed Moosonee on Thursday, September 9th. It is expected that the barge will be able to land on shore at high tide (9:30 a.m.) on Saturday, September 11th, weather permitting.

Camp waste continues to be incinerated.

Health and Safety Audit was completed on September 9th. The audit inspected conditions at the camp and at the various work areas at Bear Island and recorded observations, action items to mitigate issues (if required), and deadlines for issue resolution. The next scheduled Health and Safety Audit will be completed on September 19th. In addition, two (2) Planned Job Observations were completed on September 9th for two (2) separate field activities (debris removal and excavation).

MEETINGS

- The Health and Safety Site Meeting was held at 6:30 p.m. on Wednesday, September 8th. This meeting was held in the dining room and will continue to occur weekly.
- Weekly construction meeting was held Saturday, September 4th at 4:00 p.m., minutes have been distributed accordingly.
- The Health and Safety Committee Meeting was held at 6:00 p.m. on Thursday, September 9th. This meeting was held in the dining room and will continue to occur weekly.

ACCIDENTS / INCIDENTS / ENVIRONMENTAL ISSUES

- On September 7th, it was reported to PWGSC that the sewage lagoon established near the camp is near dry and not retaining pumped sewage. This resulted in contact with INAC and instructions to immediately stop contractors discharge to lagoon. Further discussion on the matter with PWGSC resulted in a plan to continue monitoring the sewage lagoon for another week to observe if the small volume pumped to date is simply being contained in granular material at the base of the lagoon. In an effort to determine alternate containment options, a cost estimate was generated for the installation and removal of a liner. Observations at the lagoon on September 10th seem to indicate an increase in the level of saturation within the lagoon (area of standing water had increased along with the area of visibly saturated soil). Observations around the periphery of the lagoon did not indicate the presence of any leaks in the containment berms or saturated areas outside of the lagoon area. Lagoon monitoring will continue into next week.
- The polar bear around site is tracked daily and continues to remain on the northern/eastern portion of Bear Island and occasionally is seen on another island to the north. There are many geese at various locations throughout the island.
- As reported last week, a worker complained of feeling ill, thought to be due to inhaling fumes around the barrel cache processing area. A report on this incident has been received.
- As reported last week, a small spill occurred at the barrel crushing area caused by improperly assessing barrels being taken from the barrel cache. A report on this spill/incident has been received.
- A small spill of approximately 4 L of kerosene from a Wabusk Air plane occurred on September 6th. Approximately 1 m^3 of soil was excavated. A report on this spill/incident has been requested but not yet received.
- An incident occurred in the kitchen as a cook helper got a moderate burn on the arm. The burn was treated by medical personnel after which, the cook helper returned to work. A report on this incident has been requested but not yet received.

7.0 CAMP

CAMP SUMMARY

DESCRIPTION	UNIT	CONTRACT TOTAL TO DATE	CONTRACT TOTAL TO END 2010	TOTAL TO DATE (2010)	PREVIOUS WEEK TOTAL (2010)	THIS WEEK TOTAL
Engineer's Room and Board	person-day	44	-	44	28	16
Casual Meals - Breakfast	each	0	-	0	0	0
Casual Meals - Lunch	each	0	-	0	0	0
Casual Meals - Supper	each	0	-	0	0	0
Water Usage	litres	147,700	-	147,700	78,200	69,500

8.0 SCHEDULE, TABLES, PHOTOGRAPHS

- ***See Attachment 1:*** Construction Schedule and Progress.
- ***See Attachment 2:*** Summary of Site Activities - Environmental Inspector.

Submitted by:
AECOM

Scott Chapman, M.Sc., P.Eng.
Site Resident Engineer
scott.chapman@aecom.com

Project Schedule and Progress - As of September 10, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Mobilization		Open Camp		19-Aug	2-Sep	15	On-going, 75% completed.
		Setup communications systems		26-Aug	29-Aug	4	Complete
Airstrip/ Road Work		Airstrip Improvement		24-Aug	25-Aug	2	On-going (as required)
		Access Roads Improvement		24-Aug	25-Aug	2	On-going (as required)
		Road Maintenance		As required			On-going (as required)
Regrades (Type 2)		North Landfill	710 m^3	19-Sep	24-Sep	6	No progress to date.
						1	
Prepare Temporary Storage Area		Remove Debris - Level/Setup/Signage		26-Aug	30-Aug	5	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Storage Haz Wastes		30-Aug	2-Oct	34	On-going
		Final Soil Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Material Processing Area		Remove Debris - Level/Setup/Signage		1-Sep	2-Sep	2	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Barrel Processing		2-Sep	2-Oct	31	On-going, 90% completed.
		Final Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Landfill Excavation Waste Processing Area		Background Soil Samples		2-Sep	2-Sep	1	Complete
Locate Temporary Staging Area		Select Area		26-Aug	26-Aug	1	Complete
Site Surveys				22-Aug	2-Oct	42	On-going
North Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 1	~~92 $m^{3~~}$	25-Aug	1-Sep	8	On-going, 95% completed.
	NonHazRemoval->	Cre Treated Poles	2.5 m^3	25-Aug	1-Sep	8	Complete
	Haz Removals ->	zinc conduit etc.	2 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		4-Sep	5-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		3-Sep	4-Sep	2	Complete
	Demolition ->	Concrete or Anchor Removal/ Regrades		5-Sep	6-Sep	2	On-going, 50% completed.
	Tier II Removal ->	**1-DT2-01**	12.8 m^3	3-Sep	4-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	**1-DT2-02**	5.5 m^3	3-Sep	4-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.

Project Schedule and Progress - As of September 10, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Beach & POL Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 2		16-Sep	24-Sep	9	On-going, 75% completed.
		Site Debris Area 3					On-going, 50% completed.
	Haz Removals ->	batteries etc.		30-Aug	5-Sep	7	Complete
	Haz Removals ->	**Electrical Cabinets**				1	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - Not LeachLead/Not PAP
	Haz Removals ->	**Painted Wood Panels**				1	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Awaiting Results
	Demolition ->	Wooden Shed		12-Sep	13-Sep	2	On-going, 50% completed.
	Tier II Removal ->	2-DT2-01	2.4 m^3	13-Sep	14-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	2-DT2-02	2.2 m^3	13-Sep	14-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	2-DT2-03	4.3 m^3	13-Sep	14-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	F1/F2 Removal ->	2-PHC-01	50.8 m^3	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier I Regrade ->	2-DT1-01	35 m^3	12-Sep	13-Sep	2	No progress to date.
	Tier I Regrade ->	2-DT1-02	40 m^3	12-Sep	13-Sep	2	No progress to date.
Abandoned Boat	Demolition ->	**Painted Wood Boat**		13-Sep	15-Sep	3	No progress to date.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - *LeachLead still*/Not PAP
	NonHazRemoval->	Unknown Debris Removal in area				1	No progress to date.
Barrel Cache(s) North Landfill	NonHazRemoval->	Inspect/ Remove Barrels		16-Sep	29-Sep	14	Complete
	NonHazRemoval->	Site Debris Area 4		16-Sep	29-Sep	14	On-going 95% completed
	NonHazRemoval->	Site Debris Area 5		16-Sep	29-Sep	14	On-going 10% completed
		Inspect for Staining/ Sample Underlying Areas					First round complete.
		Confirmatory Samples					Awaiting Results
	Haz Removals ->	Barrels with product	4				In Material Processing Area
		~ Disposal Assessment Samples					Awaiting Results
	Haz Removals ->	Remove Lead Cable to Site 412				1	Complete
		Assessment Samples along Lead Pipe alignment					Assessing Results
	Tier II Removal ->	3-DT2-01	6.7 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	F1/F2 Removal ->	3-PHC-01	36.1 m^3			1	No progress to date.
		Confirmatory Samples					No progress to date.

Project Schedule and Progress - As of September 10, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
South Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 6		29-Aug	11-Sep		On-going 95% completed
	NonHazRemoval->	Site Debris Area 7		29-Aug	11-Sep		On-going 95% completed
	NonHazRemoval->	Site Debris Area 8		30-Aug	5-Sep	7	Complete
	NonHazRemoval->	Creosote Treated Poles		29-Aug	11-Sep	14	Complete
	Haz Removals ->	batteries etc.	2.5 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		6-Sep	7-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		5-Sep	6-Sep	2	On-going 50% completed
	Demolition ->	Concrete or Anchor Removal/ Regrades		7-Sep	9-Sep	3	On-going 10% completed
	Tier II Removal ->	4-DT2-01	1.3 m^3	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-02	1.2 m^3	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-03	17.8 m^3	10-Sep	11-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	4-DT2-04	29.6 m^3	10-Sep	11-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Landfill Excav ->	Excavation & Stockpiling		5-Sep	10-Sep	6	No progress to date.
		Stockpile Sampling					No progress to date.
	F3/F4 Regrade ->	4-PHC-01	Within LF Excav.				No progress to date.
	F3/F4 Regrade ->	4-PHC-02	60 m^3	11-Sep	12-Sep	2	No progress to date.
	F3/F4 Regrade ->	4-PHC-03	60 m^3	11-Sep	12-Sep	2	No progress to date.

Project Schedule and Progress - As of September 10, 2010

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Airstrip Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	Demolition ->	Wood Shed		4-Sep	5-Sep	2	Complete
		Barrels with product	1 - Spilt (Empty)				Complete
		~ Disposal Assessment Samples					Complete, no change to F1/F2 Area
	F1/F2 Removal ->	5-PHC-01	6.5 m^3	4-Sep	5-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
Known Debris	Site Debris Area 9 - Surrounding Airstrip						Ongoing, 80% complete.
	Site Debris Area 10 - Batteries near Borrow Area 1						Complete
	Adjacent Road (North Doppler to Airstrip)						Ongoing, 50% complete.
	Adjacent Road (Airstrip to Borrow Area 2)						Ongoing, 80% complete.
	Adjacent Road (Airstrip at Camp to Cross-Roads)						Ongoing, 50% complete.
	Adjacent Road (Beach to Barrel Cache)						No progress to date.
	Adjacent Road (Barrel Cache to South Doppler)						Ongoing, 50% complete.
	Adjacent Road (South Doppler to Borrow Area 1)						Ongoing, 50% complete.
	Adjacent Road (Road North of North Landfill)						No progress to date.
Aboveground POL Line and supports		Demolition		16-Sep	24-Sep	9	On-going, 5% complete.
Electrical Cables		Demolition		24-Sep	26-Sep	3	On-going, 85% complete.
Unknown Derbis Removal							On-going
Camp/site demobilization				20-Sep	10-Oct	21	No progress to date.

Summary of Site Activities - Environmental Inspector

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # samples	Date	# Samples Analyzed		10-Sep-10
Baseline and Confirmatory Sampling (Temporary Working Areas)								
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	11	Aug 27	11	Awaiting hydrocarbon analysis results.	Metals and PCB results below criteria
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	16	Aug 27	16	Awaiting hydrocarbon analysis results.	Metals and PCB results below criteria
Waste Processing Area (WPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	4	Sept 5	4	Awaiting analysis results.	Awaiting analysis results.
Paint Sampling								
Beach Area	Building Panels	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22 / Sept 3	2	Sample sent for analysis	PCBs under criteria. Awaiting Leachable lead results
	Electrical Cabinets	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22	2	Completed	PCB and leachable lead results under criteria
	Boat Hull	Leachable Lead and PCBs	Sampled paint/substrate	7	Aug 22	7	Completed	PCBs under criteria. Most leachable lead results exceed criteria.
North / South Doppler	Antenna Tower - Orange Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs under criteria.
	Antenna Tower - White Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs under criteria.
Barrel Sampling								
Small Barrel Cache	BAR-01	Cl and Cr	Sampled drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
	BAR-02	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels in excess of 20,000 mg/kg
	BAR-03	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels in excess of 20,000 mg/kg
	BAR-04	Cl and Cr	Sampled drum	1	Aug 23	1	Sample sent for analysis	Awaiting Results
Airstrip Area	BAR-05	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	Results under criteria
Barrel Cache Area	BAR-06	Metals and PCBs	Sampled drum	1	Sept 5	1	Sample sent for analysis	Awaiting Results
	BAR-07	Metals and PCBs	Sampled drum	1	Sept 5	1	Sample sent for analysis	Awaiting Results
Barrel Counts	-	-	Obtain record of crushed, cleaned and full barrels					
Misc. Environmental Activities								
South Doppler	Lead Pipe	Metals (Pb)	Collected soil samples along pipe	18	Aug 28	18	Samples sent for analysis	Awaiting Results
	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Samples sent for analysis	Awaiting Results
North Doppler	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Samples sent for analysis	Awaiting Results
Barrel Cache Area	Debris Location	Metals	Collected soil samples around area	4	Aug 29	4	Samples sent for analysis	Awaiting Results
	Battery Location	Metals	Collected soil sample within area	1	Aug 29	1	Samples sent for analysis	Awaiting Results
	Barrel Processing Supervision						Ongoing	Barrel Cache Area barrels have been crushed or are stored at the MPA
Excavations								
Area 1 - North Doppler Site Area	1-DT2-01	Tier II Metals	Confirmatory Sampling					
	1-DT2-02	Tier II Metals	Confirmatory Sampling					
Area 2 - Beach and POL Area	2-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
	2-DT1-01	Tier I Metals	Regrade					
	2-DT1-02	Tier I Metals	Regrade					
	2-DT2-01	Tier II Metals	Confirmatory Sampling					
	2-DT2-02	Tier II Metals	Confirmatory Sampling					
	2-DT2-03	Tier II Metals	Confirmatory Sampling					
Area 3 - Barrel Cache and North Landfill Area	3-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
	3-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 10	10	Samples sent for analysis	Awaiting Results
	Entire Barrel Cache Area	Analyze for PCBs, Metals and Hydrocarbons	Assessment Sampling	48	Sept 6	48	Samples sent for analysis	Awaiting Results
Area 4 - South Doppler Site Area	4-PHC-01	F3/F4 Hydrocarbons	Regrade					
	4-PHC-02	F3/F4 Hydrocarbons	Regrade					
	4-PHC-03	F3/F4 Hydrocarbons	Regrade					
	4-DT2-01	Tier II Metals	Confirmatory Sampling					
	4-DT2-02	Tier II Metals	Confirmatory Sampling					
	4-DT2-03	Tier II Metals	Confirmatory Sampling					

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # samples	Date	# Samples Analyzed		10-Sep-10
	4-DT2-04	Tier II Metals	Confirmatory Sampling					
	Existing Landfill	Metals, PCBs and HCs	Confirmatory Sampling	26	Sept 8	14	Samples sent for analysis	Awaiting Results
		Metals, PCBs and HCs	Categorize Stockpiles	20	Sept 7	20	Samples sent for analysis	Awaiting Results
Area 5 - Airstrip	5-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
Leachate Sampling								
Ash Samples	Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling					

Weekly Site Report No. 4

For Period Ending Friday, September 17, 2010

Project:
Environmental Site Remediation
Bear Island, Nunavut

File:
60155434

Contractor:	**Contract Authority:**
Biogenie, division de/of EnGlobe Corp. 4495 Wilfrid-Hamel, Suite/Bureau 200 Quebec, Quebec G1P 2J7 Tel: (418) 653-4422 Fax: (413) 653-3583	Public Works and Government Services Canada Telus Tower North 5th Floor, 10025 Jasper Avenue Edmonton, AB T5J 1S6 Tel: (780) 497-3690 Cell: (780) 918-6277 Fax: (780) 497-3842

To: **Matthew McElwaine: matthew.mcelwaine@pwgsc.gc.ca**

Firm: **PWGSC**

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Date: **September 17, 2010**

From: **Scott Chapman**

C.C.: **Mark Yetman: Mark.Yetman@inac-ainc.gc.ca**

Roland Merkosky: roland.merkosky@aecom.com

1.0 WEATHER

	SAT	SUN	MON	TUES	WED	THURS	FRI
Date	Sept 11/10	Sept 12/10	Sept 13/10	Sept 14/10	Sept. 15/10	Sept. 16/10	Sept. 17/10
Temp (°C)	5L, 15H	9L, 16H	7L, 11H	5L, 8H	3L, 7H	2L, 8H	0L, 10H
Sunny	X	X	X			X	X
Cloudy	X	X	X	X	X	X	X
Rain (mm)	nil	4	3	6	4	1	3
Snow							
Wind	High	Light	Light	Light	High	Moderate	High
Wildlife Sighting	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese, Seal	Polar Bear, Geese, Seal	Geese	Geese	Geese
Other				Heavy fog			

2.0 WORK ACTIVITIES

AREA 1 – NORTH DOPPLER SITE AREA

The roll off bin used for wood burning in this area continues to smolder. Debris collection in this area was completed (95%). The demolition of concrete tower bases and anchors was completed and a majority of the metal anchors were cut off below grade. Concrete debris was placed in the North Doppler building foundation. Concrete from South Doppler Area has been relocated to the building foundation at the North Doppler Area.

AREA 2 – BEACH AND POL AREA

The abandoned wood boat was prepared for dismantling and containerization by applying two (2) coats of a binding liquid. The coating was allowed to completely dry between applications and will reduce the potential for paint flaking during dismantling activities.

Laboratory results for paint samples collected from the electrical panels at the Beach Area determined that leachable lead and PCB concentrations are below the applicable criteria. As such, the material can be disposed of as non-hazardous waste. A majority of the electrical panels were dissected and the boards housing potential PCB-containing capacitors and ballasts were set aside for disposal as hazardous material. Building panels containing concentrations of leachable lead exceeding guidelines were loaded into TDG-approved shipping containers.

Tier II excavations were completed for areas 2-DT2-01, 2-DT2-02 and 2-DT2-03 and confirmatory samples were collected (analytical results pending). Excavation of 2-PHC-02 has also been completed (analytical results are pending). One (1) excavation remains to be completed (2-PHC-01). Re-grading is also required for areas 2-DT1-01 and 2-DT1-02.

AREA 3 – BARREL CACHE AND NORTH LANDFILL AREA

Excavations were completed for areas 3-DT2-02 (Tier II soil lying beneath zinc piping) and 3-DT2-02 (Tier II soil lying in an area where batteries had been discarded). Confirmatory samples were collected and shipped for laboratory analysis (analytical results pending).

Environmental samples collected along the Barrel Cache Area were submitted for laboratory analysis. Analytical results indicated the presence of three (3) additional areas exceeding the Tier II soil criteria for metals (identified as 3-DT2-04, 3-DT2-05, and 3-DT2-06). The total estimated volume of the additional required excavations is 90 – 120 m^3, dependent on the depth to bedrock in the area. Excavation of these areas will occur over the weekend. An additional area was also identified for re-grading (identified as 3-PHC-02).

Work continued on debris removal from the remaining unsorted soil stockpiles located next to the MPA. Samples will be collected from the soil stockpiles once the debris removal is complete.

AREA 4 – SOUTH DOPPLER SITE AREA

The demolition of concrete tower bases and anchors was completed and a majority of the metal anchors were cut off below grade. Concrete debris was hauled to the North Doppler Area for placement in the foundation.

All remaining excavations at the South Doppler Area were completed (4-DT2-01, 4-DT2-02, 4-DT2-03, and 4-DT2-05). Excavation 4-DT2-05 is an area located under the fallen antenna. Confirmatory samples were collected and shipped for laboratory analysis (analytical results pending).

A majority of the wood waste stockpile was loaded into a metal burn bin placed at the South Doppler Site Area and burned overnight on two (2) separate occasions throughout the week.

AREA 5 – AIRSTRIP

The excavation of 5-PHC-01 was completed and confirmatory samples were collected (analytical results pending). Approximately one (1) full day of compaction on the airstrip was completed.

OTHER MISCELLANEOUS WORK ACTIVITIES

The barge landed at Bear Island on Saturday, September 11th loaded with final camp buildings, vehicles and additional equipment. Once unloaded, the barge was backloaded with approximately 80% of the scrap metal stored in the staging area and three tandem fuel trucks.

The Survey Technician and Haz Mat Crew continue to assemble sea-cans as well as perform other small surveys as required.

General debris collection in the new landing area to the South Doppler Area was completed.

Processing of barrels including inspection, consolidation and washing continued throughout the week.

3.0 ENVIRONMENTAL SUMMARY

The following environmental summary was prepared by Mitch Bliss (Environmental Inspector):

OVERVIEW OF ACTIVITIES

This report summarizes the environmental activities performed from Saturday, September 11th, 2010 to Friday, September 17th, 2010. The bulk of the environmental work conducted over this span consisted of excavating Tier II metal and F1/F2 hydrocarbon impacted soil areas, collecting confirmatory samples from excavations, processing barrels at the Materials Processing Area (MPA), collecting samples from consolidated barrels and marking out excavation/re-grade areas determined by laboratory analysis.

DETAILED ACTIVITIES

Area 1 – North Doppler Site Area

Areas with Tier II metals exceedances were excavated. These areas were identified as 1-DT2-01 and 1-DT2-02. No soil samples were collected from 1-DT2-01 as only bedrock remained after excavation. Soil samples collected from 2-DT2-02 were collected where possible and submitted for laboratory analysis of metals. Results are pending.

The Tier II metals contaminated area discovered in the former location of the fallen antenna tower has been excavated. This area has been identified as 1-DT2-03. Soil samples were collected where possible and submitted for laboratory analysis of metals. Results are pending.

Area 2 – Beach and POL Area

The results of the leachable lead analysis of the building panels from the Beach Area exceed applicable guidelines. The building panels are to be containerized and removed from site. Potentially PCB-containing components within the electrical cabinets at the Beach Area have been removed and stockpiled until further notice.

The following areas exceeding Tier II metals soil quality guidelines were excavated: 2-DT2-01, 2-DT2-02 and 2-DT2-03. Soil samples were collected where possible and submitted for laboratory analysis of metals. Analytical results for samples collected from 2-DT2-01 met the applicable guidelines. Results are pending for 2-DT2-02 and 2-DT2-03.

F1/F2 hydrocarbon contaminated area 2-PHC-02 was excavated. Soil samples were collected where possible and submitted for laboratory analysis of hydrocarbons. Results are pending. The excavation of 2-PHC-01 will commence next week. This excavation was originally delayed pending the analytical results of the 2-DT2-01 confirmatory samples as the two areas overlap.

The boat at the Beach Area has been sprayed with a binding agent to minimize the potential for paint flaking during demolition. The building panels have been loaded into a TDG-approved barge container.

Area 3 – Barrel Cache and North Landfill Area

The analytical results for the Tier II metals contaminated zone 3-DT2-01 were below applicable guidelines.

Tier II metals contaminated soil in the vicinity of the debris pile near the Barrel Cache Area was excavated. This area was identified as 3-DT2-02. Soil samples were collected and sent for metals analysis. Results are pending. Tier II metals contaminated soil in the vicinity of the deteriorated battery near the Barrel Cache Area was also excavated. This area was identified as 3-DT2-03. Soil samples were collected and submitted for laboratory analysis of metals. Results are pending.

The F1/F2 hydrocarbon contaminated area 3-PHC-01 was excavated and confirmatory samples were collected and submitted for laboratory analysis of hydrocarbons. Results are pending.

Results of the additional soil assessment of the Barrel Cache Area were received. Three (3) zones were identified as exceeding Tier II metals soil quality guidelines and one (1) zone was identified as exceeding F3 hydrocarbon soil guidelines. The new Tier II zones were identified as 3-DT2-04, 3-DT2-05 and 3-DT2-06. The F3 hydrocarbon zone was identified as 3-PHC-02.

In total, the Tier II metals contaminated zones cover an area of approximately 400 m^2 and are to be excavated to a depth of 0.3 m below grade. The estimated volume of Tier II contaminated soil to be removed is between 90 and 120 m^3, depending on depth to bedrock. The F3 hydrocarbon zone is to be re-graded.

Soil samples collected in the vicinity of BAR-02 and BAR-03 exceeded the applicable guidelines for F3 hydrocarbons. Re-grades are necessary in these areas.

Area 4 - South Doppler Site Area

The following areas exceeding Tier II metals soil quality guidelines were excavated: 4-DT2-01, 4-DT2-02, 4-DT2-03 and 4-DT2-04. Soil samples were collected where possible and submitted for laboratory analysis of metals. Results are pending.

The Tier II metals contaminated area discovered in the former location of the fallen antenna tower has been excavated. This area has been identified as 4-DT2-05. Soil samples were collected where possible and submitted for laboratory analysis of metals. Results are pending.

The three (3) areas containing Tier I metals exceedances in the vicinity of the lead-wrapped cable have been marked for re-grading.

To date only PCB and metals analytical results have been received for confirmatory samples collected from the Existing Landfill Area and classification samples taken from the stockpiled contents. One (1) of the stockpiles contains a Tier II metals exceedance (composite sample) and will be containerized. One (1) base sample taken from the Existing Landfill Area excavation contains a Tier II metals exceedance. Hydrocarbon results are pending. Two and a half (2.5) soil stockpiles from the Existing Landfill Area excavation are yet to be sampled as the process of debris removal is ongoing.

Area 5 – Airstrip

The F1/F2 hydrocarbon contaminated area 5-PHC-01 was excavated and confirmatory samples were submitted for laboratory analysis of hydrocarbons. Results are pending.

Baseline and/or Confirmatory Sampling (Temporary Working Areas).

Analytical results for the baseline samples taken at the Waste Processing Area (WPA) were received and all concentrations were below the applicable guidelines.

Barrel processing occurred this week as time permitted. Approximately thirty (30) barrels remain at the Material Processing Area (MPA) to be washed or consolidated. In total, eight (8) drums have been submitted for analysis to date. Two (2) contain concentrations of total chlorides that exceed applicable guidelines and must be containerized and shipped off-site for disposal, two (2) meet applicable guidelines and may be incinerated on site and the analytical results for the remaining four (4) are still pending.

GENERAL

- The additional Tier II excavation areas at the Barrel Cache Area have been marked out and work will commence next week.
- The boat at the Beach Area is scheduled for demolition within the next week.
- The remaining stockpiled material from the Existing Landfill Area excavation will be sorted and classification samples will be collected.

4.0 GEOTECHNICAL SUMMARY

No geotechnical activities to date. Geotechnical lab at camp has not been operational to date.

5.0 TASK AUTHORIZATIONS AND CHANGE ORDERS

TA-2 Requested – Unknown Debris Collection (currently under consideration).

TA-3 Requested – Additional Surveys for AECOM (currently under consideration).

TA-4 Requested – Barrel Cleaning & Wastewater/ Rinse Water Processing (currently under consideration).

6.0 GENERAL REMARKS

CAMP

The barge which delivered the final camp buildings, vehicles and additional equipment on Friday, September 10th was unloaded during the morning of Saturday, September 11th. The office and laboratory buildings were moved into place on September 12th but were not fully operational by the end of the week. An electrician was brought to the site to address wiring issues with the buildings.

Camp waste continues to be incinerated.

The fire alarm system is still not active at the camp. A technician is being brought to site by charter on Monday, September 20, 2010. A trained firefighter will also join the camp crew on September 20th. Fire station at site has now been moved to the center of camp and a four (4)-member team has been designated for fire-fighting if necessary.

The next Health and Safety Audit will be completed on September 19th.

MEETINGS

- The Health and Safety Site Meeting was held at 6:30 p.m. on Wednesday, September 15th. This meeting was held in the dining room and will continue to occur weekly.
- The weekly construction meeting was held Saturday, September 18th at 4:00 p.m., minutes will be distributed accordingly.
- A Health and Safety Committee Meeting was not held this week. The meetings will now be held on a bi-weekly basis with the next meeting scheduled for 6:00 p.m. on Thursday, September 23rd. This meeting will be held in the dining room.

ACCIDENTS / INCIDENTS / ENVIRONMENTAL ISSUES

- Observations at the lagoon during the period of September 11th to September 17th show a slow increase in water retention within the lagoon (area of standing water had increased). Observations around the periphery of the lagoon did not indicate the presence of any leaks in the containment berms or the sewage line extending from camp. In addition, no saturated areas outside of the lagoon area were observed. Lagoon monitoring will continue on a daily basis.
- The polar bear that has been observed on the east side of Bear Island or on the island north of Bear Island has not been observed since September 14th. There are many geese at various locations throughout the island.
- A 2 L spill of hydraulic fluid occurred on September 13th in the equipment parking area next to camp. Absorbent pads were used and approximately 0.5 m^3 of soil was containerized in a Quatrex bag. Incident report was submitted by Biogenie and distributed as required.
- A camp worker sustained minor muscular strain as she fell approximately 0.3 m when a section of dorm boardwalk broke loose and fell to the ground. Incident report was submitted by Biogenie and distributed as required.
- A worker slipped on a stair at camp. A report on this incident has been requested but not yet received.
- During the overnight burning of non-painted wood waste in a metal burn bin at the South Doppler Area on September 17th, embers from the fire spread by strong winds to the larger wood waste stockpile located approximately 10 m away from the burn bin. By morning, the wood waste pile was nearly completely burned and smouldering. Ash, the unburned wood debris and a small quantity of gravel were wetted and placed into the burn bin in the morning. Samples were collected from the soil beneath the residual ash/debris by AECOM and will be submitted for typical ash analysis parameters if future ash samples collected from the burn bin contain any concentrations of parameters exceeding the acceptable limits. A report on this incident has been requested but not yet received.
- Incident reports have been submitted for all previous incidents at site and distributed as required.

7.0 CAMP

CAMP SUMMARY

DESCRIPTION	UNIT	CONTRACT TOTAL TO DATE	CONTRACT TOTAL TO END 2010	TOTAL TO DATE (2010)	PREVIOUS WEEK TOTAL (2010)	THIS WEEK TOTAL
Engineer's Room and Board	person-day	65	-	65	44	21
Casual Meals - Breakfast	each	0	-	0	0	0
Casual Meals - Lunch	each	0	-	0	0	0
Casual Meals - Supper	each	0	-	0	0	0
Water Usage	litres	212,700	-	212,700	147,700	65,000

8.0 SCHEDULE, TABLES, PHOTOGRAPHS

- ***See Attachment 1:*** Construction Schedule and Progress
- ***See Attachment 2:*** Summary of Site Activities - Environmental Inspector

Submitted by:
AECOM

Scott Chapman, M.Sc., P.Eng.
Site Resident Engineer
scott.chapman@aecom.com

Project Schedule and Progress - As of September 17, 2010

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Mobilization		Open Camp		19-Aug	2-Sep	15	On-going, 90% completed.
		Setup communications systems		26-Aug	29-Aug	4	Complete
Airstrip/ Road Work		Airstrip Improvement		24-Aug	25-Aug	2	On-going (as required)
		Access Roads Improvement		24-Aug	25-Aug	2	On-going (as required)
		Road Maintenance		As required			On-going (as required)
Regrades (Type 2)		North Landfill	710 m^3	19-Sep	24-Sep	6	No progress to date.
						1	
Prepare Temporary Storage Area		Remove Debris - Level/Setup/Signage		26-Aug	30-Aug	5	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Storage Haz Wastes		30-Aug	2-Oct	34	On-going
		Final Soil Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Material Processing Area		Remove Debris - Level/Setup/Signage		1-Sep	2-Sep	2	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Barrel Processing		2-Sep	2-Oct	31	On-going, 92% completed.
		Final Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Landfill Excavation Waste Processing Area		Background Soil Samples		2-Sep	2-Sep	1	Complete
Locate Temporary Staging Area		Select Area		26-Aug	26-Aug	1	Complete
Site Surveys				22-Aug	2-Oct	42	On-going
North Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 1	~~92 $m^{3~~}$	25-Aug	1-Sep	8	On-going, 95% completed.
	NonHazRemoval->	Cre Treated Poles	2.5 m^3	25-Aug	1-Sep	8	Complete
	Haz Removals ->	zinc conduit etc.	2 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		4-Sep	5-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		3-Sep	4-Sep	2	Complete
	Demolition ->	Concrete or Anchor Removal/ Regrades		5-Sep	6-Sep	2	On-going, 70% completed.
	Tier II Removal ->	**1-DT2-01**	12.8 m^3	3-Sep	4-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	**1-DT2-02**	5.5 m^3	3-Sep	4-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	**1-DT2-03 (New)**	1 m^3			2	First round complete.
		Confirmatory Samples					Awaiting Results

Project Schedule and Progress - As of September 17, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Beach & POL Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 2		16-Sep	24-Sep	9	On-going, 75% completed.
		Site Debris Area 3					On-going, 50% completed.
	Haz Removals ->	batteries etc.		30-Aug	5-Sep	7	Complete
	Haz Removals ->	**Electrical Cabinets**				1	On-going, 75% completed.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - Not LeachLead/Not PAP
		Component PCB Assessment					On-going, 75% completed.
	Haz Removals ->	**Painted Wood Panels**				1	On-going, 85% completed.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results rec'd - leachable Pb in paint
	Demolition ->	Wooden Shed		12-Sep	13-Sep	2	On-going, 95% completed.
	Tier II Removal ->	2-DT2-01	2.4 m^3	13-Sep	14-Sep	2	Requires backfill/regrade.
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	2-DT2-02	2.2 m^3	13-Sep	14-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	2-DT2-03	4.3 m^3	13-Sep	14-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	F1/F2 Removal ->	2-PHC-01	50.8 m^3	13-Sep	14-Sep	2	No progress to date.
		Confirmatory Samples					No progress to date.
		2-PHC-02	18 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier I Regrade ->	2-DT1-01	35 m^3	12-Sep	13-Sep	2	No progress to date.
	Tier I Regrade ->	2-DT1-02	40 m^3	12-Sep	13-Sep	2	No progress to date.
Abandoned Boat	Demolition ->	**Painted Wood Boat**		13-Sep	15-Sep	3	On-going, 10% completed
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - *LeachLead still*/Not PAP
	NonHazRemoval->	Unknown Debris Removal in area				1	No progress to date.

Project Schedule and Progress - As of September 17, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Barrel Cache(s) North Landfill	NonHazRemoval->	Inspect/ Remove Barrels		16-Sep	29-Sep	14	Complete
	NonHazRemoval->	Site Debris Area 4		16-Sep	29-Sep	14	On-going, 95% completed
	NonHazRemoval->	Site Debris Area 5		16-Sep	29-Sep	14	On-going, 10% completed
		Inspect for Staining/ Sample Underlying Areas					Additional Tier I/II areas identified.
		Confirmatory Samples					Complete
	Haz Removals ->	Barrels with product	10				In Material Processing Area
		~ Disposal Assessment Samples					Awaiting Results
	Haz Removals ->	Remove Lead Cable to Site 412				1	Complete
		Assessment Samples along Lead Pipe alignment					Regrades identified.
	Tier II Removal ->	3-DT2-01	6.7 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	3-DT2-02 (New)	0.3 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	3-DT2-03 (New)	0.3 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	3-DT2-04 (New)	33 m^3			1	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	3-DT2-05 (New)	66 m^3			1	No progress to date.
		Confirmatory Samples					No progress to date.
	Tier II Removal ->	3-DT2-06 (New)	15 m^3			1	No progress to date.
		Confirmatory Samples					No progress to date.
	F1/F2 Removal ->	3-PHC-01	36.1 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	F3/F4 Regrade ->	3-PHC-02	150 m^3			1	No progress to date.

Project Schedule and Progress - As of September 17, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
South Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 6		29-Aug	11-Sep		On-going, 95% completed
	NonHazRemoval->	Site Debris Area 7		29-Aug	11-Sep		On-going, 95% completed
	NonHazRemoval->	Site Debris Area 8		30-Aug	5-Sep	7	Complete
	NonHazRemoval->	Creosote Treated Poles		29-Aug	11-Sep	14	Complete
	Haz Removals ->	batteries etc.	2.5 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		6-Sep	7-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		5-Sep	6-Sep	2	On-going 85% completed
	Demolition ->	Concrete or Anchor Removal/ Regrades		7-Sep	9-Sep	3	On-going 70% completed
	Tier II Removal ->	4-DT2-01	1.3 m^3	10-Sep	11-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	4-DT2-02	1.2 m^3	10-Sep	11-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	4-DT2-03	17.8 m^3	10-Sep	11-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	4-DT2-04	29.6 m^3	10-Sep	11-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
	Landfill Excav ->	Excavation & Stockpiling		5-Sep	10-Sep	6	First round complete.
		Stockpile Sampling					Awaiting Results
	F3/F4 Regrade ->	4-PHC-01	Within LF Excav.				Complete
	F3/F4 Regrade ->	4-PHC-02	60 m^3	11-Sep	12-Sep	2	No progress to date.
	F3/F4 Regrade ->	4-PHC-03	60 m^3	11-Sep	12-Sep	2	No progress to date.

Project Schedule and Progress - As of September 17, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Airstrip Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	Demolition ->	Wood Shed		4-Sep	5-Sep	2	Complete
		Barrels with product	1 - Spilt (Empty)				Complete
		~ Disposal Assessment Samples					Complete, no change to F1/F2 Area
	F1/F2 Removal ->	5-PHC-01	6.5 m^3	4-Sep	5-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
Known Debris	Site Debris Area 9 - Surrounding Airstrip						Ongoing, 80% complete.
	Site Debris Area 10 - Batteries near Borrow Area 1						Complete
	Adjacent Road (North Doppler to Airstrip)						Ongoing, 50% complete.
	Adjacent Road (Airstrip to Borrow Area 2)						Ongoing, 80% complete.
	Adjacent Road (Airstrip at Camp to Cross-Roads)						Ongoing, 80% complete.
	Adjacent Road (Beach to Barrel Cache)						No progress to date.
	Adjacent Road (Barrel Cache to South Doppler)						Ongoing, 50% complete.
	Adjacent Road (South Doppler to Borrow Area 1)						Ongoing, 95% complete.
	Adjacent Road (Road North of North Landfill)						No progress to date.
Aboveground POL Line and supports		Demolition		16-Sep	24-Sep	9	On-going, 5% complete.
Electrical Cables		Demolition		24-Sep	26-Sep	3	On-going, 95% complete.
Unknown Derbis Removal							On-going
Camp/site demobilization				20-Sep	10-Oct	21	No progress to date.

Summary of Site Activities - Environmental Inspector

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # Samples	Date	# Samples Analyzed		17-Sep-10
Baseline and Confirmatory Sampling (Temporary Working Areas)								
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	11	Aug 27	11	Completed	Results meet criteria
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	16	Aug 27	16	Completed	Results meet criteria
Waste Processing Area (WPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	4	Sept 5	4	Completed	Results meet criteria
Paint Sampling								
Beach Area	Building Panels	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22 / Sept 3	2	Completed	PCBs meet criteria. Leachable lead above criteria.
	Electrical Cabinets	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22	2	Completed	PCB and leachable lead results meet criteria
	Boat Hull	Leachable Lead and PCBs	Sampled paint/substrate	7	Aug 22	7	Completed	PCBs meet criteria. Most leachable lead results exceed criteria.
North / South Doppler	Antenna Tower - Orange Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria
	Antenna Tower - White Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria
Barrel Sampling								
Small Barrel Cache	BAR-01	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chloride levels exceed criteria.
	BAR-02	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-03	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-04	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chloride levels exceed criteria.
Airstrip Area	BAR-05	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	Results meet criteria
Barrel Cache Area	BAR-06	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-07	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-08	Metals and PCBs	Sampled drum	1	Sept 13	1	Sample submitted for analysis	Awaiting Results
	BAR-09	Metals and PCBs	Sampled drum	1	Sept 13	1	Sample submitted for analysis	Awaiting Results
	BAR-10	Metals and PCBs	Sampled drum	1	Sept 13	1	Sample submitted for analysis	Awaiting Results
	BAR-11	Metals and PCBs	Sampled drum	1	Sept 13	1	Sample submitted for analysis	Awaiting Results
Barrel Counts	-	-	Obtain record of crushed, cleaned and full barrels					
Misc. Environmental Activities								
South Doppler	Lead Pipe	Metals (Pb)	Collected soil samples along pipe	18	Aug 28	18	Completed	Several locations exceed Tier I
	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
North Doppler	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
Barrel Cache Area	Debris Location	Metals	Collected soil samples around area	4	Aug 29	4	Completed	Tier II exceedances
	Battery Location	Metals	Collected soil sample within area	1	Aug 29	1	Completed	Tier II exceedances
	Barrel Processing Supervision						Ongoing	Barrel Cache Area barrels have been crushed or are stored at the MPA
Excavations								
Area 1 - North Doppler Site Area	1-DT2-01	Tier II Metals	Confirmatory Sampling	0	Sept 12	0	Completed	All soil excavated
	1-DT2-02	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Sample submitted for analysis	Awaiting Results
	1-DT2-03	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Sample submitted for analysis	Awaiting Results
Area 2 - Beach and POL Area	2-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling					
	2-PHC-02	F1/F2 Hydrocarbons	Confirmatory Sampling	17	Sept 15	17	Sample submitted for analysis	Awaiting Results
	2-DT1-01	Tier I Metals	Regrade	-		-		
	2-DT1-02	Tier I Metals	Regrade	-		-		
	2-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
	2-DT2-02	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Sample submitted for analysis	Awaiting Results
	2-DT2-03	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Sample submitted for analysis	Awaiting Results

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # Samples	Date	# Samples Analyzed		17-Sep-10
Area 3 - Barrel Cache and North Landfill Area	3-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	10	Sept 15	10	Sample submitted for analysis	Awaiting Results
	3-PHC-02	F3/F4 Hydrocarbons	Regrade	-		-		
	3-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 10	10	Completed	Results meet criteria
	3-DT2-02	Tier II Metals	Confirmatory Sampling	4	Sept 14	4	Sample submitted for analysis	Awaiting Results
	3-DT2-03	Tier II Metals	Confirmatory Sampling	6	Sept 14	6	Sample submitted for analysis	Awaiting Results
	3-DT2-04	Tier II Metals	Confirmatory Sampling					
	3-DT2-05	Tier II Metals	Confirmatory Sampling					
	3-DT2-06	Tier II Metals	Confirmatory Sampling					
	Former Barrel Locations	F3/F4 Hydrocarbons	Regrade	-		-		
	Entire Barrel Cache Area	Analyze for PCBs, Metals and Hydrocarbons	Assessment Sampling	48	Sept 6	48	Completed	Several locations exceed Tier II. One (1) F3 exceedance
Area 4 - South Doppler Site Area	4-PHC-01	F3/F4 Hydrocarbons	Regrade	-		-		
	4-PHC-02	F3/F4 Hydrocarbons	Regrade	-		-		
	4-PHC-03	F3/F4 Hydrocarbons	Regrade	-		-		
	4-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 13	10	Sample submitted for analysis	Awaiting Results
	4-DT2-02	Tier II Metals	Confirmatory Sampling	6	Sept 13	6	Sample submitted for analysis	Awaiting Results
	4-DT2-03	Tier II Metals	Confirmatory Sampling	15	Sept 14	15	Sample submitted for analysis	Awaiting Results
	4-DT2-04	Tier II Metals	Confirmatory Sampling	28	Sept 11	28	Sample submitted for analysis	Awaiting Results
	4-DT2-05	Tier II Metals	Confirmatory Sampling	11	Sept 14	11	Sample submitted for analysis	Awaiting Results
	Existing Landfill	Metals, PCBs and HCs	Confirmatory Sampling	26	Sept 8	14	Awaiting HC results	One (1) Tier II exceedance. PCBs under criteria.
		Metals, PCBs and HCs	Categorize Stockpiles	20	Sept 7	20	Awaiting HC results	One (1) Tier II exceedance. PCBs under criteria.
	Lead Cable	Tier I Metals	Regrade	-		-		
Area 5 - Airstrip	5-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	6	Sept 14	6	Sample submitted for analysis	Awaiting Results
Leachate Sampling								
Ash Samples	North Doppler Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling					
	South Doppler Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling					
Contractor's Water Sampling								
Drinking Water (Source)	-	-	Track Analytical Results					
Drinking Water (Tap)	-	-	Track Analytical Results					
Sewage Discharge Water	-	-	Track Analytical Results					
MPA Rinsate	-	-	Track Analytical Results					

Weekly Site Report No. 5

For Period Ending Friday, September 24, 2010

Project:
Environmental Site Remediation
Bear Island, Nunavut

File:
60155434

Contractor:	**Contract Authority:**
Biogenie, division de/of EnGlobe Corp. 4495 Wilfrid-Hamel, Suite/Bureau 200 Quebec, Quebec G1P 2J7 Tel: (418) 653-4422 Fax: (413) 653-3583	Public Works and Government Services Canada Telus Tower North 5th Floor, 10025 Jasper Avenue Edmonton, AB T5J 1S6 Tel: (780) 497-3690 Cell: (780) 918-6277 Fax: (780) 497-3842

To: **Matthew McElwaine: matthew.mcelwaine@pwgsc.gc.ca**

Firm: **PWGSC**

Fax: **(780) 497-3842**

Date: **September 24, 2010**

From: **Rob Nichol**

C.C.: **Mark Yetman: Mark.Yetman@inac-ainc.gc.ca**

Roland Merkosky: roland.merkosky@aecom.com

1.0 WEATHER

	SAT	SUN	MON	TUES	WED	THURS	FRI
Date	Sept. 18/10	Sept. 19/10	Sept. 20/10	Sept. 21/10	Sept. 22/10	Sept. 23/10	Sept. 24/10
Temp (°C)	4L, 9H	2L, 7H	5L, 10H	5L, 12H	3L, 10H	2L, 12H	4L, 14H
Sunny					X	X	X
Cloudy	X	X	X	X	X		X
Rain (mm)	7	11	4	15	nil	nil	nil
Snow							
Wind	High	High	Light	High	Light	Light	Light
Wildlife Sighting	Geese	Geese	Geese	Geese	Geese	Geese	Polar Bear, Geese
Other							

2.0 WORK ACTIVITIES

Area 1 – North Doppler Site Area

The roll off bin used for wood burning in this area continues to smolder. Debris collection in this area is now completed, only require a final inspection. All concrete tower anchor pads have been completed, metal or steel rebar has been removed from demolished pads and all pads have been re-graded with Type 2 granular fill and compacted. The previous North Doppler building basement area was used to contain all of the removed concrete pads around the site; this entire area has been re-graded with a minimum of 400mm granular fill.

Area 2 – Beach and POL Area

The abandoned wood boat has been demolished and painted wood from the boat has been containerized for disposal as Leachable Lead Amended Paint (LLAP).

All electrical panels have been assessed for circuit boards having potential PCB-containing capacitors and ballasts, these parts have been removed and collected in two over-pack barrels for disposal as hazardous material. The remaining electrical cabinets will be disposed of as non-hazardous waste. Wooden building wall panels containing LLAP continue to be containerized, one complete container has been filled and additional LLAP wood is being placed in the second container with the abandoned boat LLAP.

Re-grading of Tier I areas 2-DT1-01 and 2-DT1-02 with minimum 300mm thickness of Type 2 granular fill has been completed.

Sections of the POL line have been cleaned in place where appropriate to do so from the North Doppler through the beach area all the way to the barrel cache. All fuels were purged from the POL line and are now stored in 3-1000 litre containers within the MPA for assessment of incineration criteria. Where POL pipelines could not be cleaned effectively on site and fuel was found to be present; these sections of pipe will be taken for washing to the MPA prior to disposal. Where POL lines were already empty and assessed as clean these pipeline sections are disposed of as non-hazardous waste for future recycling.

Debris collection focused in this area later in the week, approximately 75% of all the debris has been collected from the beach area and along the road to the barrel cache.

Area 3 – Barrel Cache and North Landfill Area

Work continued on known debris removal throughout the week within this area. POL pipeline was removed beginning at the water supply point and was performed towards the Beach Area. Much of these pipes were not connected and seemed to have never been used for transferring POL.

Area 4 – South Doppler Site Area

The metal bin continued to be used for wood burning in this area. Debris collection in this area is now completed, only require a final inspection.

Area 5 – Airstrip

No further works performed in this area.

Other Miscellaneous Work Activities

The barge arrived empty to site on September 24th and was loaded with 169 sea-can containers of Tier II and PHC impacted soils for shipment to Moosanee.

The Survey Technician continues to survey original topography and final surveys in completed areas for quantity calculations. No quantities have been received as yet.

General debris collection is being performed throughout the site in both known and unknown locations. Debris collection for the project is estimated to be over 90% completed.

Processing of barrels including inspection, consolidation and washing was substantially completed this week. Wastewater treatment began once Daniel Blais arrived on site Wednesday. Wash water and collected contents from the POL line are being delivered to the MPA for assessment and processing.

3.0 ENVIRONMENTAL SUMMARY

The following environmental summary was prepared by Mitch Bliss (Environmental Inspector):

Overview of Activities

This report summarizes the environmental activities performed from Saturday, September 18th, 2010 to Friday, September 24th, 2010. The bulk of the environmental work conducted over this span consisted of excavating the remaining Tier II metal and F1/F2 hydrocarbon impacted soil areas, collecting confirmatory samples from excavations, processing barrels at the Materials Processing Area (MPA), collecting samples from consolidated barrels, supervising hazardous materials packaging and marking out re-grade areas determined by laboratory analysis.

Detailed Activities

Area 1 – North Doppler Site Area

Areas with Tier II metals exceedances were excavated. These areas were identified as 1-DT2-01 and 1-DT2-02. No soil samples were collected from 1-DT2-02 as only bedrock remained after excavation.

Analytical results for samples collected from 1-DT2-01 exceeded the applicable guidelines. Analytical results for samples collected from 1-DT2-03 exceeded the applicable guidelines.

Area 2 – Beach and POL Area

The paint from the building panels at the Beach Area exceeded applicable guidelines for leachable lead. These building panels have been containerized for off-site disposal. Potentially PCB-containing components within the electrical cabinets at the Beach Area have been containerized for off-site disposal.

Analytical results for samples collected from 2-DT2-01, 2-DT2-02 and 2-DT2-03 met the applicable guidelines.

F1/F2 hydrocarbon contaminated area 2-PHC-01 was excavated. Soil samples were collected where possible and submitted for laboratory analysis of hydrocarbons. Results are pending. Analysis results of soil samples collected from 2-PHC-02 are still pending.

The boat at the Beach Area has been demolished and containerized for off-site disposal.

Area 3 – Barrel Cache and North Landfill Area

The analytical results for the Tier II metals contaminated zone 3-DT2-01, 3-DT2-04, 3-DT2-05 and 3-DT2-06 were below applicable guidelines.

Analytical results for samples collected from 3-DT2-02 and 3-DT2-03 exceeded the applicable guidelines. Area 3-DT2-03 was re-excavated and samples were collected and sent for analysis. Results are pending.

Analysis results of soil samples collected from 3-PHC-01 are still pending. The F3/F4 hydrocarbon contaminated zones 3-PHC-02, 3-PHC-03 and 3-PHC-04 have been marked for re-grading.

Area 4 - South Doppler Site Area

The analytical results for the Tier II metals contaminated zone 4-DT2-01 was below applicable guidelines. The remaining contamination at 4-DT2-03 was excavated.

The following areas still found to be exceeding Tier II metals soil quality guidelines and were re-excavated: 4-DT2-02, 4-DT2-04 and 4-DT2-05. Soil samples were collected where possible and submitted for laboratory analysis of metals. Results are pending.

The three (3) areas containing Tier I metals exceedances in the vicinity of the lead-wrapped cable have been marked for re-grading.

One sample collected from the southwest portion of the base of the Excavated Landfill exceeds Tier II metals guidelines and has been flagged for excavation. Stockpiles 3 – 6 exceed Tier II metals guidelines and are to be containerized for off-site disposal. All waste material has been removed from these stockpiles.

Area 5 – Airstrip

The analytical results for the F1/F2 hydrocarbon contaminated zone 5-PHC-01 were below applicable guidelines
Temporary Working Areas
Barrel processing occurred this week as time permitted. A sample was collected from the fuel found in the POL line as it was being inspected. This sample has been sent for analysis. Results are pending.

A second lagoon has been constructed east of the existing lagoon. Water is being continuously pumped through a water treatment system from the rinsate lagoon into the new lagoon. The water within the new lagoon is being aerated.

General

Any necessary re-excavations will occur next week.

The stockpiled material from the Existing Landfill exceeding Tier II metal quality guidelines will be containerized for off-site disposal.

Re-grading of Tier I and F3/F4 contaminated areas will occur next week.

4.0 GEOTECHNICAL SUMMARY

The following geotechnical summary was prepared by Chris Kjarsgaard (Geotechnical Inspector)

Overview of Activities

General

Geotechnical activities generally consisted of hauling of Type 2 granular material from Borrow area # 1 to regrades and excavation backfills.

Regrades Placement and Compaction

Placement of Type 2 granular material at regrades:

- North Doppler foundation 100% completed
- North Doppler anchors 100% completed
- 2-DT2-01 100% completed
- 2-DT2-02 100% completed

Type 2 granular fill was placed in horizontal lifts not exceeding 300mm in thickness. Once compaction was completed a loaded tandem truck was observed travelling over the surface and the lift was approved if minimal denting (<20mm) in the surface and no rolling of the sub-grade occurred.

Excavation Backfill Placement and Compaction

Placement of Type 3 granular material at excavation backfills:

- 2-DT1-02 100% completed

- 2-DT1-03 100% completed

Lab testing

Mechanical analysis completed on 3 Type 2 samples:

- BI 10-01 - Borrow 1
- BI 10-02 - Regrade North Doppler foundation
- BI 10-03 – Regrade 2-DT1-01

5.0 TASK AUTHORIZATIONS AND CHANGE ORDERS

TA-2 Requested – Unknown Debris Collection (Approved Sept. 22)

TA-3 Requested – Additional Surveys for AECOM (Approved Sept. 22)

TA-4 Requested – Barrel Cleaning & Wastewater/ Rinse Water Processing (Approved Sept. 22)

TA-5 Requested – Additional Quatrex Bags (Approved Sept. 22)

6.0 GENERAL REMARKS

CAMP

Camp waste continues to be incinerated.

The fire alarm system in the dormitories is now active and working, alarm system in the kitchen/ dining still requires repair.

MEETINGS

- The Health and Safety Site Meeting was held at 6:30 p.m. on Wednesday, September 22nd. The meeting was held in the dining room and will continue to occur weekly. Minutes and attendance sheet was provided.
- Weekly PMT meeting was performed while PWGSC and INAC representatives were on site September 22nd at 9:00 a.m., minutes have been distributed accordingly.
- A Health and Safety Committee Meeting was not held this week. The meetings will now be held on a bi-weekly basis with the next meeting scheduled for 6:00 p.m. on Thursday, September 23rd. This meeting will be held in the dining room.

ACCIDENTS / INCIDENTS / ENVIRONMENTAL ISSUES

- Observations at the lagoon during the period of September 18th to September 24th show a definite increase in water retention within the lagoon (area of standing water now covers the entire base). Observations around the lagoon did not indicate the presence of any leaks in the containment berm or the sewage line extending from camp. In addition, no saturated areas outside of the lagoon area were observed. Lagoon monitoring will continue on a daily basis.
- AECOM site resident had a slip/fall incident on the stairs leading out of the dormitory towards the kitchen and sustained muscular strain to his right ankle area. AECOM incident report will be submitted and distributed once completed.
- None other reported or observed.

7.0 CAMP

CAMP SUMMARY

DESCRIPTION	UNIT	CONTRACT TOTAL TO DATE	CONTRACT TOTAL TO END 2010	TOTAL TO DATE (2010)	PREVIOUS WEEK TOTAL (2010)	THIS WEEK TOTAL
Engineer's Room and Board	person-day	94	-	94	65	29
Casual Meals - Breakfast	each	0	-	0	0	0
Casual Meals - Lunch	each	0	-	0	0	0
Casual Meals - Supper	each	0	-	0	0	0
Water Usage	litres	291,200	-	291,200	212,700	78,500

8.0 SCHEDULE, TABLES, PHOTOGRAPHS

- ***See Attachment 1:*** Construction Schedule and Progress
- ***See Attachment 2:*** Summary of Site Activities - Environmental Inspector

Submitted by:
AECOM Canada Ltd.

Rob Nichol
rob.nichol@aecom.com

Project Schedule and Progress - As of September 24, 2010

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Mobilization		Open Camp		19-Aug	2-Sep	15	Complete
		Setup communications systems		26-Aug	29-Aug	4	Complete
Airstrip/ Road Work		Airstrip Improvement		24-Aug	25-Aug	2	On-going (as required)
		Access Roads Improvement		24-Aug	25-Aug	2	On-going (as required)
		Road Maintenance		As required			On-going (as required)
Prepare Temporary Storage Area		Remove Debris - Level/Setup/Signage		26-Aug	30-Aug	5	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Storage Haz Wastes		30-Aug	2-Oct	34	On-going
		Final Soil Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Material Processing Area		Remove Debris - Level/Setup/Signage		1-Sep	2-Sep	2	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Barrel Processing		2-Sep	2-Oct	31	On-going, 98% completed.
		Final Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Landfill Excavation Waste Processing Area		Background Soil Samples		2-Sep	2-Sep	1	Complete
		Final Samples		2-Oct	12-Oct	11	No progress to date.
Locate Temporary Staging Area		Select Area		26-Aug	26-Aug	1	Complete
Site Surveys				22-Aug	2-Oct	42	On-going
North Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 1	~~92 m^3~~	25-Aug	1-Sep	8	Complete
	NonHazRemoval->	Cre Treated Poles	2.5 m^3	25-Aug	1-Sep	8	Complete
	Haz Removals ->	zinc conduit etc.	2 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		4-Sep	5-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		3-Sep	4-Sep	2	Complete
	Demolition ->	Concrete or Anchor Removal/ Regrades		5-Sep	6-Sep	2	Complete
	Tier II Removal ->	**1-DT2-01**	12.8 m^3	3-Sep	4-Sep	2	First round complete.
		Confirmatory Samples		Results exceed, 2nd excavation will remove all soils - no confirmatory will be req'd			
	Tier II Removal ->	**1-DT2-02**	5.5 m^3	3-Sep	4-Sep	2	Complete
		Confirmatory Samples		All soils removed - no confirmatory will be req'd			
	Tier II Removal ->	**1-DT2-03 (New)**	1 m^3			2	First round complete.
		Confirmatory Samples		Results exceed, 2nd excavation will remove all soils - no confirmatory will be req'd			

Project Schedule and Progress - As of September 24, 2010

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Beach & POL Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 2		16-Sep	24-Sep	9	On-going, 75% completed.
		Site Debris Area 3					On-going, 75% completed.
	Haz Removals ->	batteries etc.		30-Aug	5-Sep	7	Complete
	Demolition ->	**Electrical Cabinets**				1	On-going, 75% completed.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - Not LeachLead/Not PAP
		Component PCB Assessment					Complete
	Haz Removals ->	**Painted Wood Panels**				1	On-going, 85% completed.
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results rec'd - leachable Pb in paint
	Demolition ->	Wooden Shed		12-Sep	13-Sep	2	On-going, 65% completed.
	Tier II Removal ->	**2-DT2-01**	2.4 m^3	13-Sep	14-Sep	2	Complete - Pending PHC-01
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	**2-DT2-02**	2.2 m^3	13-Sep	14-Sep	2	Complete - Requires Backfill
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	**2-DT2-03**	4.3 m^3	13-Sep	14-Sep	2	Complete - Requires Backfill
		Confirmatory Samples					Results meet Tier II guidelines.
	F1/F2 Removal ->	**2-PHC-01**	50.8 m^3	13-Sep	14-Sep	2	First round complete.
		Confirmatory Samples					Awaiting Results
		2-PHC-02	18 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	Tier I Regrade ->	**2-DT1-01**	35 m^3	12-Sep	13-Sep	2	Complete
	Tier I Regrade ->	**2-DT1-02**	40 m^3	12-Sep	13-Sep	2	Complete
Abandoned Boat	Demolition ->	**Painted Wood Boat**		13-Sep	15-Sep	3	Complete
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - *LeachLead still*/Not PAP
	NonHazRemoval->	Unknown Debris Removal in area				1	On-going, 95% completed

Project Schedule and Progress - As of September 24, 2010

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Barrel Cache(s) North Landfill	NonHazRemoval->	Inspect/ Remove Barrels		16-Sep	29-Sep	14	Complete
	NonHazRemoval->	Site Debris Area 4		16-Sep	29-Sep	14	On-going, 95% completed
	NonHazRemoval->	Site Debris Area 5		16-Sep	29-Sep	14	On-going, 95% completed
		Inspect for Staining/ Sample Underlying Areas					Additional Tier I/II areas identified.
		Confirmatory Samples					Complete
	Haz Removals ->	Barrels with product	10				In Material Processing Area
		~ Disposal Assessment Samples					On-going - Awaiting Results
	Haz Removals ->	Remove Lead Cable to Site 412				1	Complete
		Assessment Samples along Lead Pipe alignment					Regrades identified - 35% complete.
	Tier II Removal ->	**3-DT2-01**	6.7 m^3			1	Complete - Requires Backfill
		Confirmatory Samples					Complete
	Tier II Removal ->	**3-DT2-02 (New)**	0.3 m^3			1	First round complete.
		Confirmatory Samples		Results exceed, 2nd excavation will remove all soils - no confirmatory will be req'd			
	Tier II Removal ->	**3-DT2-03 (New)**	0.3 m^3			1	Second round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	**3-DT2-04 (New)**	33 m^3			1	Complete - Req'd Backfill
		Confirmatory Samples					Complete
	Tier II Removal ->	**3-DT2-05 (New)**	66 m^3			1	Complete - Req'd Backfill
		Confirmatory Samples					Complete
	Tier II Removal ->	**3-DT2-06 (New)**	15 m^3			1	Complete - Req'd Backfill
		Confirmatory Samples					Complete
	F1/F2 Removal ->	3-PHC-01	36.1 m^3			1	First round complete.
		Confirmatory Samples					Awaiting Results
	F3/F4 Regrade ->	3-PHC-02	150 m^3			1	No progress to date.

Project Schedule and Progress - As of September 24, 2010

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
South Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 6		29-Aug	11-Sep		On-going, 95% completed
	NonHazRemoval->	Site Debris Area 7		29-Aug	11-Sep		On-going, 95% completed
	NonHazRemoval->	Site Debris Area 8		30-Aug	5-Sep	7	Complete
	NonHazRemoval->	Creosote Treated Poles		29-Aug	11-Sep	14	Complete
	Haz Removals ->	batteries etc.	2.5 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		6-Sep	7-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		5-Sep	6-Sep	2	Complete
	Demolition ->	Concrete or Anchor Removal/ Regrades		7-Sep	9-Sep	3	On-going 70% completed
	Tier II Removal ->	**4-DT2-01**	1.3 m^3	10-Sep	11-Sep	2	Complete
		Confirmatory Samples					Complete
	Tier II Removal ->	**4-DT2-02**	1.2 m^3	10-Sep	11-Sep	2	Second round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	**4-DT2-03**	17.8 m^3	10-Sep	11-Sep	2	Complete
		Confirmatory Samples					Complete
	Tier II Removal ->	**4-DT2-04**	29.6 m^3	10-Sep	11-Sep	2	Second round complete.
		Confirmatory Samples					Awaiting Results
	Tier II Removal ->	**4-DT2-05 (New)**	29.6 m^3	10-Sep	11-Sep	2	Second round complete.
		Confirmatory Samples					Awaiting Results
	Landfill Excav ->	Excavation & Stockpiling		5-Sep	10-Sep	6	First round complete.
		Stockpile Sampling		Complete - Piles Clean, 4 piles tier II			
	F3/F4 Regrade ->	**4-PHC-01**	Within LF Excav.				Excavated - Complete
	F3/F4 Regrade ->	**4-PHC-02**	60 m^3	11-Sep	12-Sep	2	No progress to date.
	F3/F4 Regrade ->	**4-PHC-03**	60 m^3	11-Sep	12-Sep	2	No progress to date.

Project Schedule and Progress - As of September 24, 2010

- Subst. Complete | - On Schedule | - Behind Schedule | - Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Airstrip Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	Demolition ->	Wood Shed		4-Sep	5-Sep	2	Complete
		Barrels with product	1 - Spilt (Empty)				Complete
		~ Disposal Assessment Samples					Complete, no change to F1/F2 Area
	F1/F2 Removal ->	**5-PHC-01**	6.5 m^3	4-Sep	5-Sep	2	Complete - Req'd Backfill
		Confirmatory Samples					Complete
Known Debris	Site Debris Area 9 - Surrounding Airstrip						Ongoing, 90% complete.
	Site Debris Area 10 - Batteries near Borrow Area 1						Complete
	Adjacent Road (North Doppler to Airstrip)						Ongoing, 95% complete.
	Adjacent Road (Airstrip to Borrow Area 2)						Ongoing, 95% complete.
	Adjacent Road (Airstrip at Camp to Cross-Roads)						Ongoing, 95% complete.
	Adjacent Road (Beach to Barrel Cache)						Ongoing, 75% complete.
	Adjacent Road (Barrel Cache to South Doppler)						Ongoing, 80% complete.
	Adjacent Road (South Doppler to Borrow Area 1)						Ongoing, 95% complete.
	Adjacent Road (Road North of North Landfill)						Ongoing, 80% complete.
Aboveground POL Line and supports		Demolition		16-Sep	24-Sep	9	On-going, 50% complete.
Electrical Cables		Demolition		24-Sep	26-Sep	3	On-going, 95% complete.
Unknown Derbis Removal							Ongoing, 75% complete.
Camp/site demobilization				20-Sep	10-Oct	21	No progress to date.

Summary of Site Activities - Environmental Inspector

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # samples	Date	# Samples Analyzed		24-Sep-10
Baseline and Confirmatory Sampling (Temporary Working Areas)								
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	11	Aug 27	11	Completed	Results meet criteria
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	16	Aug 27	16	Completed	Results meet criteria
Waste Processing Area (WPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	4	Sept 5	4	Completed	Results meet criteria
Paint Sampling								
Beach Area	Building Panels	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22 / Sept 3	2	Completed	PCBs meet criteria. Leachable lead above criteria.
	Electrical Cabinets	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22	2	Completed	PCB and leachable lead results meet criteria
	Boat Hull	Leachable Lead and PCBs	Sampled paint/substrate	7	Aug 22	7	Completed	PCBs meet criteria. Most leachable lead results exceed criteria.
North / South Doppler	Antenna Tower - Orange Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria
	Antenna Tower - White Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria
Barrel Sampling								
Small Barrel Cache	BAR-01	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chloride levels exceed criteria.
	BAR-02	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-03	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-04	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chloride levels exceed criteria.
Airstrip Area	BAR-05	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	Results meet criteria
Barrel Cache Area	BAR-06	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-07	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-08	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-09	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-10	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-11	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-12	Metals and PCBs	Sampled drum	1	Sept 20	1	Completed	Results meet criteria
Barrel Counts	-	-	Obtain record of crushed, cleaned and full barrels					
Misc. Environmental Activities								
South Doppler	Lead Pipe	Metals (Pb)	Collected soil samples along pipe	18	Aug 28	18	Completed	Several locations exceed Tier I
	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
North Doppler	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
Barrel Cache Area	Debris Location	Metals	Collected soil samples around area	4	Aug 29	4	Completed	Tier II exceedances
	Battery Location	Metals	Collected soil sample within area	1	Aug 29	1	Completed	Tier II exceedances
	Barrel Processing Supervision						Ongoing	Barrel Cache Area barrels have been crushed or are stored at the MPA
Excavations								
Area 1 - North Doppler Site Area	1-DT2-01	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Excavation Required	Remaining Soil to be Excavated
	1-DT2-02	Tier II Metals	Confirmatory Sampling	0	Sept 12	0	Completed	All soil excavated
	1-DT2-03	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Excavation Required	Remaining Soil to be Excavated
Area 2 - Beach and POL Area	2-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	6	Sept 18	6	Samples submitted for analysis	Awaiting Results
	2-PHC-02	F1/F2 Hydrocarbons	Confirmatory Sampling	17	Sept 15	17	Samples submitted for analysis	Awaiting Results
	2-DT1-01	Tier I Metals	Regrade	-	Sept 24	-	Completed	Re-grade Completed
	2-DT1-02	Tier I Metals	Regrade	-	Sept 24	-	Completed	Re-grade Completed
	2-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
	2-DT2-02	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
	2-DT2-03	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary 24-Sep-10
				Total # samples	Date	# Samples Analyzed		
Area 3 - Barrel Cache and North Landfill Area	3-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	10	Sept 15	10	Samples submitted for analysis	Awaiting Results
	3-PHC-02	F3/F4 Hydrocarbons	Regrade	-		-		
	3-PHC-03	F3/F4 Hydrocarbons	Regrade	-		-		
	3-PHC-04	F3/F4 Hydrocarbons	Regrade	-		-		
	3-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 10	10	Completed	Results meet criteria
	3-DT2-02	Tier II Metals	Confirmatory Sampling	4	Sept 14	4	Excavation required.	To remove contaminated area.
	3-DT2-03	Tier II Metals	Confirmatory Sampling	9	Sept 14 / Sept 23	9	Re-excavated. Samples submitted for analysis	Awaiting Results
	3-DT2-04	Tier II Metals	Confirmatory Sampling	13	Sept 19	13	Completed	Results meet criteria
	3-DT2-05	Tier II Metals	Confirmatory Sampling	12	Sept 20	12	Completed	Results meet criteria
	3-DT2-06	Tier II Metals	Confirmatory Sampling	3	Sept 20	3	Completed	Results meet criteria
	Former Barrel Locations	F3/F4 Hydrocarbons	Regrade	-		-		
	Entire Barrel Cache Area	Analyze for PCBs, Metals and Hydrocarbons	Assessment Sampling	48	Sept 6	48	Completed	Several locations exceed Tier II. One (1) F3 exceedance
Area 4 - South Doppler Site Area	4-PHC-01	F3/F4 Hydrocarbons	Regrade	-		-		
	4-PHC-02	F3/F4 Hydrocarbons	Regrade	-		-		
	4-PHC-03	F3/F4 Hydrocarbons	Regrade	-		-		
	4-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 13	10	Completed	Results meet criteria
	4-DT2-02	Tier II Metals	Confirmatory Sampling	10	Sept 13 / Sept 24	10	Re-excavated. Samples submitted for analysis	Awaiting Results
	4-DT2-03	Tier II Metals	Confirmatory Sampling	15	Sept 14	15	Completed	Contaminated area removed.
	4-DT2-04	Tier II Metals	Confirmatory Sampling	31	Sept 11 / Sept 24	31	Re-excavated. Samples submitted for analysis	Awaiting Results
	4-DT2-05	Tier II Metals	Confirmatory Sampling	17	Sept 14 / Sept 24	17	Re-excavated. Samples submitted for analysis	Awaiting Results
	Existing Landfill	Metals, PCBs and HCs	Confirmatory Sampling	26	Sept 8	14	Excavation required.	To remove contaminated area.
		Metals, PCBs and HCs	Categorize Stockpiles	20	Sept 7 / Sept 19	40	Completed	Four (4) of six (6) stockpiles to be containerized (Tier II).
	Lead Cable	Tier I Metals	Regrade	-		-		
Area 5 - Airstrip	5-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	6	Sept 14	6	Completed	Results meet criteria
Leachate Sampling								
Ash Samples	North Doppler Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling	1	Sept 18	1	Samples submitted for analysis	Tier II exceedance. Awaiting TCLP results.

Weekly Site Report No. 6

For Period Ending Friday, October 1, 2010

Project:
Environmental Site Remediation
Bear Island, Nunavut

File:
60155434

Contractor:	**Contract Authority:**
Biogenie, division de/of EnGlobe Corp. 4495 Wilfrid-Hamel, Suite/Bureau 200 Quebec, Quebec G1P 2J7 Tel: (418) 653-4422 Fax: (413) 653-3583	Public Works and Government Services Canada Telus Tower North 5th Floor, 10025 Jasper Avenue Edmonton, AB T5J 1S6 Tel: (780) 497-3690 Cell: (780) 918-6277 Fax: (780) 497-3842

To: **Matthew McElwaine: matthew.mcelwaine@pwgsc.gc.ca**

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Date: **October 5, 2010**

From: **Rob Nichol**

C.C.: **Mark Yetman: Mark.Yetman@inac-ainc.gc.ca**

Roland Merkosky: roland.merkosky@aecom.com

1.0 WEATHER

	SAT	SUN	MON	TUES	WED	THURS	FRI
Date	Sept. 25/10	Sept. 26/10	Sept. 27/10	Sept. 28/10	Sept. 29/10	Sept. 30/10	Oct. 01/10
Temp (°C)	1L, 11H	1L, 11H	4L, 13H	0L, 11H	0L, 11H	5L, 10H	3L, 6H
Sunny	X	X				X	
Cloudy			X	X	X	X	X
Rain (mm)	nil	nil	6	2	7	7	1
Snow							
Wind	Light	Light	High	High	High	Light	High
Wildlife Sighting	Polar Bear, Geese	Geese	Geese	Geese	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese
Other							

2.0 WORK ACTIVITIES

AREA 1 – NORTH DOPPLER SITE AREA

The roll off bin used for wood burning in this area has been removed, contents were classified as Tier II Soils and therefore was wet down and dumped and containerized within the Waste Processing Area. These Tier II soils are the responsibility of Biogenie to containerize and dispose of. Final Debris Sweep has been performed through this area in preparation for substantial performance inspection. All works have been completed other than backfill of two excavations and final back-blading/ tracking of the re-graded area.

AREA 2 – BEACH AND POL AREA

All electrical panels have been moved to the Staging Area. All remaining Leachable Lead Amended Paint (LLAP) has been placed in the hazardous waste barge container. All non-painted wood has been removed from the area to the burn bin at South Doppler for incineration.

Final Debris Sweep has been performed through this area in preparation for substantial performance inspection. One area (100 m x 30 m) on the western side of the road into the beach was assessed as requiring reshaping, another area (80 m x 20 m) between 2-DT1-02 and 2-PHC-02 was also marked for reshaping. Once reshaping is completed, the work area is to be back-bladed and tracked, re-grades to all will be tracked as final.

AREA 3 – BARREL CACHE AND NORTH LANDFILL AREA

In addition to completion of the contaminated soil areas, backfill and placement or re-grades, further Type 2 material was placed in varying thicknesses of approximately 150 mm throughout this area covering barrel rust particles that had developed over time.

AREA 4 – SOUTH DOPPLER SITE AREA

Tier II material placed on the garage pad has been containerized in Quatrex Bags for off-site disposal.

The metal bin continued to be used for wood burning in this area. Final Debris Sweep has been performed through this area in preparation for substantial performance inspection. One area (50 m x 20 m) adjacent to the roadway and the emergency shelter re-grade was assessed as requiring reshaping.

AREA 5 – AIRSTRIP

Final Debris Sweep has been performed through this area in preparation for substantial performance inspection. One area (50 m x 20 m) adjacent to the southeast end of the runway on the western side of the road into the beach was assessed as requiring reshaping.

OTHER MISCELLANEOUS WORK ACTIVITIES

The Survey Technician continues to supervise material placement activities and survey original topography and final surveys in completed areas for quantity calculations. No quantities have been received as yet.

The POL pipeline has been completely removed, cleaned and taken to the Staging Area for off-site recycling.

Detailed final debris collection has been completed throughout the site in both known and unknown locations. Debris collection for the project is estimated to be over 99% completed.

Wastewater filtering of barrel rinsate and rinse waters used in flushing the POL pipeline continued throughout the week.

The two clean landfill stockpiles within the WPA were placed within the previous landfill excavation, Type 3 granular material was hauled, placed and compacted over this clean backfill to achieve final grade.

3.0 ENVIRONMENTAL SUMMARY

The following environmental summary was prepared by Jen Murray (Environmental Inspector):

OVERVIEW OF ACTIVITIES

This report summarizes the environmental activities performed from Saturday, September 25th, 2010 to Friday, October 1st, 2010. The bulk of the environmental work conducted over this span consisted of excavating the remaining Tier II metal and F1/F2 hydrocarbon impacted soil areas, backfilling and re-grading the excavations, collecting confirmatory samples from part of the Temporary Storage Area and collecting samples from consolidated barrels.

DETAILED ACTIVITIES

Area 1 – North Doppler Site Area

Areas with Tier II metals exceedances were excavated to bedrock. These areas were identified as 1-DT2-01 and 1-DT2-03. No confirmatory samples were collected from 1-DT2-01 and 1-DT2-03 as the contaminated areas were excavated and only bedrock remained after excavation.

Area 2 – Beach and POL Area

Analytical results for samples collected from 2-PHC-01 and 2-PHC-02 met the applicable guidelines, were backfilled to surface grade and are now considered complete.

Area 3 – Barrel Cache and North Landfill Area

Backfill of areas 3-DT2-04, 3-DT2-05 and 3-DT2-06 were completed.

Analytical results for samples collected from 3-DT2-03 exceeded the applicable guidelines. The entire area was excavated to bedrock at 0.75 m below ground and backfilled to grade and is considered complete.

Area 3-DT2-02 results exceeded the applicable guidelines. This area was prone to flooding and during recent heavy rainfalls the entire area flooded. Since only one exceedance to the guidelines was encountered and this location could be partially excavated to bedrock, it was determined that the remaining soils toward the bedrock face be excavated surrounding the exceedance and the area be considered completed without further sampling below water. The area was excavated and backfill is pending.

The F3/F4 hydrocarbon contaminated zones 3-PHC-03 and 3-PHC-04 have been re-graded.

Analytical results for Area 3-PHC-01 were received and one location exceeded F3/F4 guidelines. The area was noted to have some surface staining adjacent to this exceedance and therefore the excavation was backfilled and a re-grade was performed over the entire stained area. The area is considered complete.

Area 4 - South Doppler Site Area

Area 4-DT2-02 had one exceedance for the Tier II metals in the base of the zone excavated to 0.15 m below grade. The area was excavated to 1 m below ground. No subsequent samples were taken as only cobbles remained. The excavation was backfilled to grade and is considered complete.

Area 4-DT2-03 backfill was completed.

The analytical results for the Tier II metals contaminated zone 4-DT2-04 were below applicable guidelines. Since there were previous Tier I exceedances during completion of this zone and it adjoins areas 4-PHC-02 and 4-PHC-03 that were identified for re-grades, the entire area including the former garage pad were re-graded with a minimum of 300 mm Type 2 granular fill.

The analytical results for the Tier II metals contaminated zone 4-DT2-05 were below applicable guidelines and the area was backfilled to grade.

Two (2) of the three (3) areas containing Tier I metals exceedances in the vicinity of the lead-wrapped cable have been re-graded. The third area (southern most) has had the material placed but spreading and compaction is still pending.

The area surrounding the one sample collected from the southwest portion of the base of the Excavated Landfill that exceeded Tier II metals guidelines has been excavated and backfilled.

Area 5 – Airstrip

The analytical results for the F1/F2 hydrocarbon contaminated zone 5-PHC-01 were below applicable guidelines and backfill is pending.

Baseline and/or Confirmatory Sampling (Temporary Working Areas)

Results for the sample that was collected from the fuel found in the POL line as it was being inspected were below applicable guidelines.

Three (3) barrel samples containing diesel from the POL were collected and results are pending. One (1) barrel containing motor oil and one (1) containing hydraulic oil were collected and results are pending.

Confirmatory samples were collected from the southern half of the Temporary Storage Area and results are pending.

The ash results for the samples taken at the South Doppler Woodpile and North Doppler Burn Bin were received. Both were below leachate criteria; however the ash sample combined with granular material from the North Doppler exceeds Tier II and Tier I soil guidelines. The contaminated soils within the burn bin will need to be disposed of as Tier II Soil at the contractor's expense.

GENERAL

Remaining backfills will occur next week.

4.0 GEOTECHNICAL SUMMARY

The following geotechnical summary was prepared by Chris Kjarsgaard (Geotechnical Inspector).

OVERVIEW OF ACTIVITIES

General

Geotechnical activities generally are hauling of Type 2 material to re-grades and excavation backfill.

Re-grades Placement and Compaction

Re-grades at all areas are now completed.

Compaction at each location tested with loaded tandem truck axle test. All locations passed loaded axle testing with 20 mm or less of deflection.

Excavation Backfill Placement and Compaction

Placement of Type 3 material at excavation backfills has been completed in all areas except North Doppler backfills 1-DT2-01 and 1-DT2-03.

Laboratory Testing

Mechanical analysis completed on 3 Type 2:

- BI 10-01 – Re-grade South Doppler Foundation.
- BI 10-02 – Re-grade Garage Pad.
- BI 10-03 – Re-grade 2-PHC-02.

5.0 TASK AUTHORIZATIONS AND CHANGE ORDERS

TA-2 Requested – Unknown Debris Collection (Approved September 22)
TA-3 Requested – Additional Surveys for AECOM (Approved September 22)
TA-4 Requested – Barrel Cleaning & Wastewater/ Rinse Water Processing (Approved September 22)
TA-5 Requested – Additional Quatrex Bags (Approved September 22)

6.0 GENERAL REMARKS

CAMP

Camp waste continues to be incinerated.

The fire alarm system in the dormitories is active and working, alarm system in the kitchen/ dining still requires repair but this area is being monitored on a 24 hour basis.

MEETINGS

- Weekly PMT meeting was performed Tuesday September 28th, minutes have been distributed accordingly.
- The Health and Safety Site Meeting was held at 6:30 p.m. on Wednesday, September 29th. The meeting was held in the dining room and will continue to occur weekly. Minutes and attendance sheet was provided.

ACCIDENTS / INCIDENTS / ENVIRONMENTAL ISSUES

- Daily observations of the lagoon during the period of September 25th to October 1st show the area of standing water continues to cover the base of the lagoon. Observations around the lagoon did not indicate the presence of any leaks in the containment berm or the sewage line extending from camp. In addition, no saturated areas outside of the lagoon area were observed. Lagoon monitoring will continue on a daily basis.
- None other reported or observed.

7.0 CAMP

CAMP SUMMARY

DESCRIPTION	UNIT	CONTRACT TOTAL TO DATE	CONTRACT TOTAL TO END 2010	TOTAL TO DATE (2010)	PREVIOUS WEEK TOTAL (2010)	THIS WEEK TOTAL
Engineer's Room and Board	person-day	117	-	117	94	23
Casual Meals - Breakfast	each	0	-	0	0	0
Casual Meals - Lunch	each	0	-	0	0	0
Casual Meals - Supper	each	0	-	0	0	0
Water Usage	litres	355,700	-	355,700	291,200	64,500

8.0 SCHEDULE, TABLES, PHOTOGRAPHS

- ***See Attachment 1:*** Construction Schedule and Progress
- ***See Attachment 2:*** Summary of Site Activities - Environmental Inspector

Submitted by:
AECOM

Rob Nichol
rob.nichol@aecom.com

Project Schedule and Progress - As of October 01, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Mobilization		Open Camp		19-Aug	2-Sep	15	Complete
		Setup communications systems		26-Aug	29-Aug	4	Complete
Airstrip/ Road Work		Airstrip Improvement		24-Aug	25-Aug	2	On-going (as required)
		Access Roads Improvement		24-Aug	25-Aug	2	On-going (as required)
		Road Maintenance		As required			On-going (as required)
Prepare Temporary Storage Area		Remove Debris - Level/Setup/Signage		26-Aug	30-Aug	5	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Storage Haz Wastes		30-Aug	2-Oct	34	Complete
		Final Soil Samples		2-Oct	12-Oct	11	On-going
		Confirmatory Samples taken through the southern 2/3rds of this area					Awaiting Results
Prepare Material Processing Area		Remove Debris - Level/Setup/Signage		1-Sep	2-Sep	2	Complete
		Background Soil Samples		1-Sep	1-Sep	1	Complete
		Barrel Processing		2-Sep	2-Oct	31	Complete
		Final Samples		2-Oct	12-Oct	11	No progress to date.
Prepare Landfill Excavation Waste Processing Area		Background Soil Samples		2-Sep	2-Sep	1	Complete
		Final Samples		2-Oct	12-Oct	11	No progress to date.
Locate Temporary Staging Area		Select Area		26-Aug	26-Aug	1	Complete
Site Surveys				22-Aug	2-Oct	42	On-going
North Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 1	~~92 m^3~~	25-Aug	1-Sep	8	Complete
	NonHazRemoval->	Cre Treated Poles	2.5 m^3	25-Aug	1-Sep	8	Complete
	Haz Removals ->	zinc conduit etc.	2 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		4-Sep	5-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		3-Sep	4-Sep	2	Complete
	Demolition ->	Concrete or Anchor Removal/ Re-grades		5-Sep	6-Sep	2	Complete
	Tier II Removal ->	**1-DT2-01**	12.8 m^3	3-Sep	4-Sep	2	Complete - Requires Backfill
		Confirmatory Samples		Results exceed, 2nd excavation will remove all soils - no confirmatory will be req'd			
	Tier II Removal ->	**1-DT2-02**	5.5 m^3	3-Sep	4-Sep	2	Complete
		Confirmatory Samples		All soils removed - no confirmatory will be req'd			
	Tier II Removal ->	**1-DT2-03 (New)**	1 m^3			2	Complete - Requires Backfill
		Confirmatory Samples		Results exceed, 2nd excavation will remove all soils - no confirmatory will be req'd			

Project Schedule and Progress - As of October 01, 2010

- Subst. Complete
- On Schedule
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Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Beach & POL Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 2		16-Sep	24-Sep	9	Complete
		Site Debris Area 3					Complete
	Haz Removals ->	batteries etc.		30-Aug	5-Sep	7	Complete
	Demolition ->	**Electrical Cabinets**				1	Complete
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - Not LeachLead/Not PAP
		Component PCB Assessment					Complete
	Haz Removals ->	**Painted Wood Panels**				1	Complete
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results rec'd - leachable Pb in paint
	Demolition ->	Wooden Shed		12-Sep	13-Sep	2	Complete
	Tier II Removal ->	**2-DT2-01**	2.4 m^3	13-Sep	14-Sep	2	Complete
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	**2-DT2-02**	2.2 m^3	13-Sep	14-Sep	2	Complete
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	**2-DT2-03**	4.3 m^3	13-Sep	14-Sep	2	Complete
		Confirmatory Samples					Results meet Tier II guidelines.
	F1/F2 Removal ->	**2-PHC-01**	50.8 m^3	13-Sep	14-Sep	2	Complete
		Confirmatory Samples					Results meet guidelines.
		2-PHC-02	18 m^3			1	Complete
		Confirmatory Samples					Results meet guidelines.
	Tier I Re-grade ->	**2-DT1-01**	35 m^3	12-Sep	13-Sep	2	Complete
	Tier I Re-grade ->	**2-DT1-02**	40 m^3	12-Sep	13-Sep	2	Complete
Abandoned Boat	Demolition ->	**Painted Wood Boat**		13-Sep	15-Sep	3	Complete
		~ Disposal Assessment Samples (PCB's & Pb Substrate)				1	Results - *LeachLead still*/Not PAP
	NonHazRemoval->	Unknown Debris Removal in area				1	Complete

Project Schedule and Progress - As of October 01, 2010

- Subst. Complete
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Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Barrel Cache(s) North Landfill	NonHazRemoval->	Inspect/ Remove Barrels		16-Sep	29-Sep	14	Complete
	NonHazRemoval->	Site Debris Area 4		16-Sep	29-Sep	14	On-going, 95% completed
	NonHazRemoval->	Site Debris Area 5		16-Sep	29-Sep	14	On-going, 95% completed
		Inspect for Staining/ Sample Underlying Areas					Additional Tier I/II areas identified.
		Confirmatory Samples					Complete
	Haz Removals ->	Barrels with product	15				In Material Processing Area
		~ Disposal Assessment Samples on-going, completed up to Bar-					On-going - Awaiting Results
	Haz Removals ->	Remove Lead Cable to Site 412				1	Complete
		Assessment Samples along Lead Pipe alignment					Re-grades identified - 80% complete.
	Tier II Removal ->	**3-DT2-01**	6.7 m^3			1	Complete
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	**3-DT2-02 (New)**	0.3 m^3			1	Complete
		Confirmatory Samples		Results exceed, 2nd excavation will remove all soils - no confirmatory will be req'd			
	Tier II Removal ->	**3-DT2-03 (New)**	0.3 m^3			1	Complete
		Confirmatory Samples		Results exceed, 3rd excavation will remove all soils in base - no confirmatory will be req'd			
	Tier II Removal ->	**3-DT2-04 (New)**	33 m^3			1	Complete
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	**3-DT2-05 (New)**	66 m^3			1	Complete
		Confirmatory Samples					Results meet Tier II guidelines.
	Tier II Removal ->	**3-DT2-06 (New)**	15 m^3			1	Complete
		Confirmatory Samples					Results meet Tier II guidelines.
	F1/F2 Removal ->	3-PHC-01	36.1 m^3			1	Complete
		Confirmatory Samples					One Type A exceedance (Re-grade)
	F3/F4 Re-grade ->	3-PHC-02				1	Complete

Project Schedule and Progress - As of October 01, 2010

- Subst. Complete
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- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
South Doppler Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	NonHazRemoval->	Site Debris Area 6		29-Aug	11-Sep		Complete
	NonHazRemoval->	Site Debris Area 7		29-Aug	11-Sep		Complete
	NonHazRemoval->	Site Debris Area 8		30-Aug	5-Sep	7	Complete
	NonHazRemoval->	Creosote Treated Poles		29-Aug	11-Sep	14	Complete
	Haz Removals ->	batteries etc.	2.5 m^3	30-Aug	5-Sep	7	Complete
	Demolition ->	Red & White Tower		6-Sep	7-Sep	2	Complete
		~ Disposal Assessment Samples (PCB's)					Results - Not PAP
	Demolition ->	Wood Foundation		5-Sep	6-Sep	2	Complete
	Demolition ->	Concrete or Anchor Removal/ Re-grades		7-Sep	9-Sep	3	Complete
	Tier II Removal ->	**4-DT2-01**	1.3 m^3	10-Sep	11-Sep	2	Complete
		Confirmatory Samples					Complete
	Tier II Removal ->	**4-DT2-02**	1.2 m^3	10-Sep	11-Sep	2	Complete
		Confirmatory Samples		Results exceed, 3rd excavation will remove all soils in base - no confirmatory will be req'd			
	Tier II Removal ->	**4-DT2-03**	17.8 m^3	10-Sep	11-Sep	2	Complete
		Confirmatory Samples					Complete
	Tier II Removal ->	**4-DT2-04**	29.6 m^3	10-Sep	11-Sep	2	Complete
		Confirmatory Samples		Results meet criteria, Tier I exceedance to re-grade only			
	Tier II Removal ->	**4-DT2-05 (New)**	29.6 m^3	10-Sep	11-Sep	2	Complete
		Confirmatory Samples		Results meet criteria			
	Landfill Excav ->	Excavation & Stockpiling		5-Sep	10-Sep	6	Complete
		Stockpile Sampling		Complete - 2 Piles Clean, 4 piles tier II			
	F3/F4 Re-grade ->	**4-PHC-01**	Within LF Excav.				Excavated - Complete
	F3/F4 Re-grade ->	**4-PHC-02**	60 m^3	11-Sep	12-Sep	2	Complete
	F3/F4 Re-grade ->	**4-PHC-03**	60 m^3	11-Sep	12-Sep	2	Complete

Project Schedule and Progress - As of October 01, 2010

- Subst. Complete
- On Schedule
- Behind Schedule
- Waiting for Lab Results

Tasks		Task Description/ Est. Quantity		Start Date	End Date	No. Days	Notes
Airstrip Area	NonHazRemoval->	Asbestos		31-Aug	1-Sep	2	Complete
	Demolition ->	Wood Shed		4-Sep	5-Sep	2	Complete
		Barrels with product	1 - Spilt (Empty)				Complete
		~ Disposal Assessment Samples					Complete, no change to F1/F2 Area
	F1/F2 Removal ->	**5-PHC-01**	6.5 m^3	4-Sep	5-Sep	2	Complete - Req'd Backfill
		Confirmatory Samples					Complete
Known Debris	Site Debris Area 9 - Surrounding Airstrip						Complete
	Site Debris Area 10 - Batteries near Borrow Area 1						Complete
	Adjacent Road (North Doppler to Airstrip)						Complete
	Adjacent Road (Airstrip to Borrow Area 2)						Complete
	Adjacent Road (Airstrip at Camp to Cross-Roads)						Complete
	Adjacent Road (Beach to Barrel Cache)						Complete
	Adjacent Road (Barrel Cache to South Doppler)						Complete
	Adjacent Road (South Doppler to Borrow Area 1)						Complete
	Adjacent Road (Road North of North Landfill)						Complete
Aboveground POL Line and supports		Demolition		16-Sep	24-Sep	9	Complete
Electrical Cables		Demolition		24-Sep	26-Sep	3	Complete
Unknown Debris Removal							Complete
Camp/site demobilization				20-Sep	10-Oct	21	No progress to date.

Summary of Site Activities - Environmental Inspector

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # samples	Date	# Samples Analyzed		1-Oct-10
Baseline and Confirmatory Sampling (Temporary Working Areas)								
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	11	Aug 27	11	Completed	Results meet criteria
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	16	Aug 27	16	Completed	Results meet criteria
Waste Processing Area (WPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	4	Sept 5	4	Completed	Results meet criteria
Temporary Storage Area (TSA)	TSA-CON- (1 to 16)	Analyze for PCBs, Metals and Hydrocarbons	Confirmatory Sampling	17	Sep-26	17	Samples submitted-awaiting results	Awaiting Results
Paint Sampling								
Beach Area	Building Panels	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22 / Sept 3	2	Completed	PCBs meet criteria. Leachable lead above criteria.
	Electrical Cabinets	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22	2	Completed	PCB and leachable lead results meet criteria
	Boat Hull	Leachable Lead and PCBs	Sampled paint/substrate	7	Aug 22	7	Completed	PCBs meet criteria. Most leachable lead results exceed criteria.
North / South Doppler	Antenna Tower - Orange Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria
	Antenna Tower - White Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria
Barrel Sampling								
Small Barrel Cache	BAR-01	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chlorine levels exceed criteria.
	BAR-02	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-03	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-04	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chlorine levels exceed criteria.
Airstrip Area	BAR-05	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	Results meet criteria
Barrel Cache Area	BAR-06	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-07	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-08	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-09	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-10	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-11	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-12	Metals and PCBs	Sampled drum	1	Sept 20	1	Completed	Results meet criteria
Barrel Counts	-	-	Obtain record of crushed, cleaned and full barrels					
Materials Processing Area (MPA)	BAR-13	Cl, Cr, PCbs, lead	Sampled drum	1	Sep-26	1	Samples submitted-awaiting results	Awaiting Results
	BAR-14	Cl, Cr, PCbs, lead	Sampled drum	1	Sep-26	1	Samples submitted-awaiting results	Awaiting Results
	BAR-15	Cl, Cr, PCbs, lead	Sampled drum	1	Sep-26	1	Samples submitted-awaiting results	Awaiting Results
	BAR-16	Cl, Cr, PCbs, lead	Sampled drum	1	Sep-26	1	Samples submitted-awaiting results	Awaiting Results
	BAR-17	Cl, Cr, PCbs, lead	Sampled drum	1	Sep-26	1	Samples submitted-awaiting results	Awaiting Results
Misc. Environmental Activities								
South Doppler	Lead Pipe	Metals (Pb)	Collected soil samples along pipe	18	Aug 28	18	Completed	Several locations exceed Tier I
	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
North Doppler	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
Barrel Cache Area	Debris Location	Metals	Collected soil samples around area	4	Aug 29	4	Completed	Tier II exceedances
	Battery Location	Metals	Collected soil sample within area	1	Aug 29	1	Completed	Tier II exceedances
	Barrel Processing Supervision						Ongoing	Barrel Cache Area barrels have been crushed or are stored at the MPA
Excavations								
Area 1 - North Doppler Site Area	1-DT2-01	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Excavation complete- Backfill Required	All soil excavated-awaiting backfill
	1-DT2-02	Tier II Metals	Confirmatory Sampling	0	Sept 12	0	Completed	All soil excavated
	1-DT2-03	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Excavation complete-Backfill Required	All soil excavated-awaiting backfill
Area 2 - Beach and POL Area	2-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	6	Sept 18	6	No Exceedances	Backfill Complete
	2-PHC-02	F1/F2 Hydrocarbons	Confirmatory Sampling	17	Sept 15	17	No Exceedances	Backfill Complete
	2-DT1-01	Tier I Metals	Re-grade	-	Sept 24	-	Completed	Re-grade Completed
	2-DT1-02	Tier I Metals	Re-grade	-	Sept 24	-	Completed	Re-grade Completed
	2-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
	2-DT2-02	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Barrel Cache Area barrels have been
	2-DT2-03	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
	3-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	10	Sept 15	10	F3 Exceedance	Re-grade and Compacted Backfill Complete
	3-PHC-02	F3/F4 Hydrocarbons	Re-grade	-		-		Re-grade Completed

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/Status	Weekly Summary
				Total # samples	Date	# Samples Analyzed		1-Oct-10
Area 3 - Barrel Cache and North Landfill Area	3-PHC-03	F3/F4 Hydrocarbons	Re-grade	-		-		Re-grade Completed
	3-PHC-04	F3/F4 Hydrocarbons	Re-grade	-		-		Re-grade Completed
	3-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 10	10	Completed	Results meet criteria
	3-DT2-02	Tier II Metals	Confirmatory Sampling	4	Sept 14	4	Excavation complete-backfill required	All soil excavated-awaiting backfill
	3-DT2-03	Tier II Metals	Confirmatory Sampling	9	Sept 14 / Sept 23	9	Excavation complete	Backfill Complete
	3-DT2-04	Tier II Metals	Confirmatory Sampling	13	Sept 19	13	Completed	Results meet criteria
	3-DT2-05	Tier II Metals	Confirmatory Sampling	12	Sept 20	12	Completed	Results meet criteria
	3-DT2-06	Tier II Metals	Confirmatory Sampling	3	Sept 20	3	Completed	Results meet criteria
	Former Barrel Locations	F3/F4 Hydrocarbons	Re-grade	-		-		
	Entire Barrel Cache Area	Analyze for PCBs, Metals and Hydrocarbons	Assessment Sampling	48	Sept 6	48	Completed	Several locations exceed Tier II. One (1) F3 exceedance
Area 4 - South Doppler Site Area	4-PHC-01	F3/F4 Hydrocarbons	Re-grade	-		-		Re-grade Completed
	4-PHC-02	F3/F4 Hydrocarbons	Re-grade	-		-		Re-grade Completed
	4-PHC-03	F3/F4 Hydrocarbons	Re-grade	-		-		Re-grade Completed
	4-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 13	10	Completed	Results meet criteria
	4-DT2-02	Tier II Metals	Confirmatory Sampling	10	Sept 13 / Sept 24	10	Results received. Require Backfill to Grade	Backfill Completed
	4-DT2-03	Tier II Metals	Confirmatory Sampling	15	Sept 14	15	Completed	Contaminated area removed.
	4-DT2-04	Tier II Metals	Confirmatory Sampling	31	Sept 11 / Sept 24	31	Results received. Require 300mm Fill and Re-grade	Re-grade Completed
	4-DT2-05	Tier II Metals	Confirmatory Sampling	17	Sept 14 / Sept 24	17	Results received. Require Backfill to Grade	Backfill Completed
	Existing Landfill	Metals, PCBs and HCs	Confirmatory Sampling	26	Sept 8	14	Excavation complete	Backfill Completed
		Metals, PCBs and HCs	Categorize Stockpiles	20	Sept 7 / Sept 19	40	Completed	Four (4) of six (6) stockpiles to be containerized (Tier II).
	Lead Cable	Tier I Metals	Re-grade	-		-		
Area 5 - Airstrip	5-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	6	Sept 14	6	Completed	Results meet criteria
Leachate Sampling								
Ash Samples	North Doppler Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling	1	Sept 18	1	Results received	Tier II exceedance. TCLP meets criteria.

Weekly Site Report No. 7

For Period Ending Friday, October 8, 2010

Project:
Environmental Site Remediation
Bear Island, Nunavut

File:
60155434

Contractor:	**Contract Authority:**
Biogenie, division de/of EnGlobe Corp. 4495 Wilfrid-Hamel, Suite/Bureau 200 Quebec, Quebec G1P 2J7 Tel: (418) 653-4422 Fax: (413) 653-3583	Public Works and Government Services Canada Telus Tower North 5th Floor, 10025 Jasper Avenue Edmonton, AB T5J 1S6 Tel: (780) 497-3690 Cell: (780) 918-6277 Fax: (780) 497-3842

To: **Matthew McElwaine: matthew.mcelwaine@pwgsc.gc.ca**

Firm: **PWGSC**

Fax: **(780) 497-3842**

Date: **October 11, 2010**

From: **Rob Nichol**

C.C.: **Mark Yetman: Mark.Yetman@inac-ainc.gc.ca**

Roland Merkosky: roland.merkosky@aecom.com

1.0 WEATHER

	SAT	SUN	MON	TUES	WED	THURS	FRI
Date	Oct. 02/10	Oct. 03/10	Oct. 04/10	Oct. 05/10	Oct. 06/10	Oct. 07/10	Oct. 08/10
Temp (°C)	0L, 7H	2L, 8H	4L, 12H	0L, 8H	0L, 12H	1L, 6H	0L, 63
Sunny			X				
Cloudy	X	X		X	X	X	X
Rain (mm)	1	nil	nil	nil	6	6	2
Snow							
Wind	Light	Light	Light	Light	Moderate	High	High
Wildlife Sighting	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese	Polar Bear, Geese
Other							

2.0 WORK ACTIVITIES

AREA 1 – NORTH DOPPLER SITE AREA

Type 2 material placed in backfill areas at the North Doppler Site Area. Final back-blading has begun. Culvert removed from the roadway between the north end of the airstrip and the North Doppler Site Area.

AREA 2 – BEACH AND POL AREA

Reshaping, Back-Blading and tracking of this entire area is not completed.

AREA 3 – BARREL CACHE AND NORTH LANDFILL AREA

No substantial work completed in this area this week.

AREA 4 – SOUTH DOPPLER SITE AREA

Roll-off containers and burn bins brought to Staging Area. Additional debris found down slope of the South Doppler Site Area and is being collected. Final re-grades completed in lead-wrapped cable areas.

AREA 5 – AIRSTRIP

Final compaction of runway performed. Wires removed. Backfill and re-shaping completed around previously existing building.

OTHER MISCELLANEOUS WORK ACTIVITIES

Tier II soil at the WPA was packed into Quatrex bags for off-site disposal. Full bags were brought to the new staging area adjacent to the Barge Landing location.

Final debris sweep of various areas across site continued.

Repairs were done to the road between South Doppler Site Area and the Staging Area. Roadway near the TSA is also being restored. Damage was done when transporting camp pieces to the Staging Area.

Lengths of cable at the Staging Area were cut into smaller pieces to ease in off-site transportation.

The barrel washing pad at the MPA has been dismantled. All consolidated barrels are stored in insta-berms adjacent to this area. Consolidated POL fluids were transferred from 1000 L containers to an old fuel truck.

Restoration activities completed at BA-1. These activities included creating side slopes at a 2:1 ratio and ensuring the base was level to avoid ponding water.

Hazardous waste containers moved from TSA to Staging Area to allow for confirmatory sample collection.

3.0 ENVIRONMENTAL SUMMARY

The following environmental summary was prepared by Mitch Bliss (Environmental Inspector):

OVERVIEW OF ACTIVITIES

This report summarizes the environmental activities performed from Saturday, October 2nd, 2010 to Friday, October 8th, 2010. The bulk of the environmental work conducted over this span consisted of backfilling excavations, re-grading where required, disassembling portions of the Materials Processing Area (MPA), collecting confirmatory samples from the north portion of the Temporary Storage Area (TSA) and collecting a grease sample from barrels discovered on site.

DETAILED ACTIVITIES

Area 1 – North Doppler Site Area

Excavations 1-DT2-01, 1-DT2-02 and 1-DT2-03 are completed and have been backfilled. All environmental work has been completed in this area.

Area 2 – Beach and POL Area

All environmental work has been completed in this area.

Area 3 – Barrel Cache and North Landfill Area

All environmental work has been completed in this area.

Area 4 - South Doppler Site Area

All Tier I metals exceedances in the vicinity of the lead-wrapped cable have been re-graded. These areas were identified as 4-DT1-01, 4-DT1-02 and 4-DT1-03. A sample from the burn-bin ash was collected and submitted for analysis. Results are pending. All environmental work has been completed in this area.

Area 5 – Airstrip

Excavation 5-PHC-01 has been backfilled. All environmental work has been completed in this area.

Baseline and/or Confirmatory Sampling (Temporary Working Areas)

All barrel sample analytical results received to date meet applicable guidelines except for BAR-01 and BAR-04, which contain exceedances of total chlorine. One (1) grease sample was collected from barrels discovered on-site. Results are pending.

Confirmatory samples collected from the southern half of the TSA met applicable guidelines. Confirmatory samples were collected from the northern half of the TSA. Results are pending.

GENERAL

Confirmatory samples will be collected at MPA and at the WPA. Samples within the MPA will be collected from the barrel washing area and around the rinsate lagoons as the lagoons will not be disassembled this season.

4.0 GEOTECHNICAL SUMMARY

No geotechnical activities this week.

5.0 TASK AUTHORIZATIONS AND CHANGE ORDERS

No additional Task Authorizations or Change Orders this week.

6.0 GENERAL REMARKS

CAMP

Camp waste continues to be incinerated.

The fire alarm system in the dormitories is active and working, alarm system in the kitchen/ dining still requires repair but this area is being monitored on a 24-hour basis.

A mock fire situation was created in camp to test the fire crew. Fire crew responded well but the pump would not run properly. The drill was recreated the following day. The pump ran well and the drill was a success.

Camp decommissioning has begun. Pieces of the camp, including one sleeper unit, have been brought to the Staging Area.

MEETINGS

- The last weekly PMT meeting was performed Wednesday, October 6th, minutes have been distributed accordingly.
- The last Health and Safety Site Meeting was held at 6:30 p.m. on Wednesday, October 6th. The meeting was held in the dining room. Minutes and attendance sheet was provided.

ACCIDENTS / INCIDENTS / ENVIRONMENTAL ISSUES

- Daily observations of the lagoon during the period of October 2nd to October 8th show the area of standing water continues to cover the base of the lagoon. Slight volume changes throughout the week (may be due to evaporation or ground seepage). Observations around the lagoon did not indicate the presence of any leaks in the containment berm or the sewage line extending from camp. In addition, no saturated areas outside of the lagoon area were observed. Lagoon monitoring will continue on a daily basis.
- None other reported or observed.

7.0 CAMP

CAMP SUMMARY

DESCRIPTION	UNIT	CONTRACT TOTAL TO DATE	CONTRACT TOTAL TO END 2010	TOTAL TO DATE (2010)	PREVIOUS WEEK TOTAL (2010)	THIS WEEK TOTAL
Engineer's Room and Board	person-day	134	-	134	117	17
Casual Meals - Breakfast	each	0	-	0	0	0
Casual Meals - Lunch	each	0	-	0	0	0
Casual Meals - Supper	each	0	-	0	0	0
Water Usage	litres	414,200	-	414,200	355,700	58,500

8.0 SCHEDULE, TABLES, PHOTOGRAPHS

- ***See Attachment 1:*** Summary of Site Activities - Environmental Inspector

Submitted by:
AECOM

Rob Nichol
rob.nichol@aecom.com

Summary of Site Activities - Environmental Inspector

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/ Status	Weekly Summary 8-Oct-10
				Total # samples	Date	# Samples Analyzed		
Baseline and Confirmatory Sampling (Temporary Working Areas)								
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	11	Aug 27	11	Completed	Results meet criteria
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	16	Aug 27	16	Completed	Results meet criteria
Waste Processing Area (WPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Baseline testing	4	Sept 5	4	Completed	Results meet criteria
Temporary Storage Area (TSA)	-	Analyze for PCBs, Metals and Hydrocarbons	Confirmatory Sampling	34	Sep 26 / Oct 4	34	Completed	Awaiting Results on North Half
Materials Processing Area (MPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Confirmatory Sampling					
Waste Processing Area (WPA)	-	Analyze for PCBs, Metals and Hydrocarbons	Confirmatory Sampling					
Paint Sampling								
Beach Area	Building Panels	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22 / Sept 3	2	Completed	PCBs meet criteria. Leachable lead above criteria.
	Electrical Cabinets	Leachable Lead and PCBs	Sampled paint/substrate	2	Aug 22	2	Completed	PCB and leachable lead results meet criteria
	Boat Hull	Leachable Lead and PCBs	Sampled paint/substrate	7	Aug 22	7	Completed	PCBs meet criteria. Most leachable lead results exceed criteria.
North / South Doppler	Antenna Tower - Orange Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria.
	Antenna Tower - White Paint	PCBs	Sample paint and inspect substrate	1	Aug 22	1	Completed	PCBs meet criteria
Barrel Sampling								
Small Barrel Cache	BAR-01	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chlorine levels exceed criteria.
	BAR-02	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-03	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	F3 levels exceed criteria.
	BAR-04	Cl and Cr	Sampled drum	1	Aug 23	1	Completed	Total chlorine levels exceed criteria.
Airstrip Area	BAR-05	Metals, PCBs and HCs	Sampled soil around drum	1	Aug 23	1	Completed	Results meet criteria
Barrel Cache Area	BAR-06	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-07	Metals and PCBs	Sampled drum	1	Sept 5	1	Completed	Results meet criteria
	BAR-08	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-09	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-10	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-11	Metals and PCBs	Sampled drum	1	Sept 13	1	Completed	Results meet criteria
	BAR-12	Metals and PCBs	Sampled drum	1	Sept 20	1	Completed	Results meet criteria
	BAR-13	Metals and PCBs	Sampled drum	1	Sep 26	1	Completed	Results meet criteria
	BAR-14	Metals and PCBs	Sampled drum	1	Sep 26	1	Completed	Results meet criteria
	BAR-15	Metals and PCBs	Sampled drum	1	Sep 26	1	Completed	Results meet criteria
	BAR-16	Metals and PCBs	Sampled drum	1	Sep 26	1	Completed	Results meet criteria
	BAR-17	Metals and PCBs	Sampled drum	1	Sep 26	1	Completed	Results meet criteria
	BAR-18	Metals and PCBs	Sampled drum	1	Oct 7	1	Completed	Awaiting Results
Barrel Counts	-	-	Obtain record of crushed, cleaned and full barrels					
Misc. Environmental Activities								
South Doppler	Lead Pipe	Metals (Pb)	Collected soil samples along pipe	18	Aug 28	18	Completed	Several locations exceed Tier I
	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
North Doppler	Antenna Tower	Metals (Zn)	Collected soil samples under tower	5	Aug 28	5	Completed	Tier II exceedances
Barrel Cache Area	Debris Location	Metals	Collected soil samples around area	4	Aug 29	4	Completed	Tier II exceedances
	Battery Location	Metals	Collected soil sample within area	1	Aug 29	1	Completed	Tier II exceedances
	Barrel Processing Supervision						Completed	Barrel Cache Area barrels have been crushed or are stored at the MPA

Summary of Site Activities - Environmental Inspector

Area	Item	Clean Up Issue	Work Required/Completed	Work Completed			Work Remaining/ Status	Weekly Summary 8-Oct-10
				Total # samples	Date	# Samples Analyzed		
Excavations								
Area 1 - North Doppler Site Area	1-DT2-01	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Completed	All soil excavated
	1-DT2-02	Tier II Metals	Confirmatory Sampling	0	Sept 12	0	Completed	All soil excavated
	1-DT2-03	Tier II Metals	Confirmatory Sampling	3	Sept 12	3	Completed	All soil excavated
Area 2 - Beach and POL Area	2-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	6	Sept 18	6	Completed	Results meet criteria
	2-PHC-02	F1/F2 Hydrocarbons	Confirmatory Sampling	17	Sept 15	17	Completed	Results meet criteria
	2-DT1-01	Tier I Metals	Regrade	-	Sept 24	-	Completed	Completed
	2-DT1-02	Tier I Metals	Regrade	-	Sept 24	-	Completed	Completed
	2-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
	2-DT2-02	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
	2-DT2-03	Tier II Metals	Confirmatory Sampling	10	Sept 11	10	Completed	Results meet criteria
Area 3 - Barrel Cache and North Landfill Area	3-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	10	Sept 15	10	Completed	Results meet criteria
	3-PHC-02	F3/F4 Hydrocarbons	Regrade	-	-	-	Completed	Completed
	3-PHC-03	F3/F4 Hydrocarbons	Regrade	-	-	-	Completed	Completed
	3-PHC-04	F3/F4 Hydrocarbons	Regrade	-	-	-	Completed	Completed
	3-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 10	10	Completed	Results meet criteria
	3-DT2-02	Tier II Metals	Confirmatory Sampling	4	Sept 14	4	Completed	Completed
	3-DT2-03	Tier II Metals	Confirmatory Sampling	9	Sept 14 / Sept 23	9	Completed	Completed
	3-DT2-04	Tier II Metals	Confirmatory Sampling	13	Sept 19	13	Completed	Results meet criteria
	3-DT2-05	Tier II Metals	Confirmatory Sampling	12	Sept 20	12	Completed	Results meet criteria
	3-DT2-06	Tier II Metals	Confirmatory Sampling	3	Sept 20	3	Completed	Results meet criteria
	Former Barrel Locations	F3/F4 Hydrocarbons	Regrade	-	-	-	Completed	Completed
	Entire Barrel Cache Area	Analyze for PCBs, Metals and Hydrocarbons	Assessment Sampling	48	Sept 6	48	Completed	Completed
Area 4 - South Doppler Site Area	4-PHC-01	F3/F4 Hydrocarbons	Regrade	-	-	-	Completed	Completed
	4-PHC-02	F3/F4 Hydrocarbons	Regrade	-	-	-	Completed	Completed
	4-PHC-03	F3/F4 Hydrocarbons	Regrade	-	-	-	Completed	Completed
	4-DT2-01	Tier II Metals	Confirmatory Sampling	10	Sept 13	10	Completed	Results meet criteria
	4-DT2-02	Tier II Metals	Confirmatory Sampling	10	Sept 13 / Sept 24	10	Completed	Results meet criteria
	4-DT2-03	Tier II Metals	Confirmatory Sampling	15	Sept 14	15	Completed	Completed
	4-DT2-04	Tier II Metals	Confirmatory Sampling	31	Sept 11 / Sept 24	31	Completed	Results meet criteria
	4-DT2-05	Tier II Metals	Confirmatory Sampling	17	Sept 14 / Sept 24	17	Completed	Results meet criteria
	Existing Landfill	Metals, PCBs and HCs	Confirmatory Sampling	26	Sept 8	14	Completed	Completed
		Metals, PCBs and HCs	Categorize Stockpiles	20	Sept 7 / Sept 19	40	Completed	Completed
	Lead Cable	Tier I Metals	Regrade	-	-	-	Completed	Completed
Area 5 - Airstrip	5-PHC-01	F1/F2 Hydrocarbons	Confirmatory Sampling	6	Sept 14	6	Completed	Results meet criteria
Leachate Sampling								
Ash Samples	North Doppler Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling	1	Sept 18	1	Samples submitted for analysis	Tier II exceedances.
	South Doppler Burn Pit	Analyze for leachable PCBs and Metals	Confirmatory Sampling	1	Oct 4	1	Samples submitted for analysis	Awaiting Results
Contractor's Water Sampling								
Drinking Water (Source)	-	-	Track Analytical Results					
Drinking Water (Tap)	-	-	Track Analytical Results					
Sewage Discharge Water	-	-	Track Analytical Results					
MPA Rinsate	-	-	Track Analytical Results					

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Minutes of Meeting

Date of Meeting	August 28, 2010	Start Time	4:00 p.m.	Project Number	60155434
Project Name	Environmental Site Remediation – Bear Island, Nunavut				
Location	Cafeteria – Bear Island Camp, Bear Island, Nunavut				
Regarding	Weekly Meeting				
Attendees	Biogenie: Francois de Courval Mathieu Levesque AECOM: Rob Nichol Mitch Bliss				
Distribution	Attendees and: PWGSC: Matthew McElwaine INAC: Mark Yetman AECOM: Roland Merkosky Michelle Wainwright				
Minutes Prepared By	Rob Nichol / Mitch Bliss				

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

	Action
1. Review of Previous Meeting Minutes • This is the first weekly site meeting of the project.	
2. Review Work Progress • Camp setup at 75% (on schedule if barge is on time). • Asbestos and batteries as were identified in the contract documents have all been collected (these areas include: North Doppler, Airstrip, Beach, South Doppler and other areas). • Collected and burned 80% of wood from North Doppler and Airstrip areas. • Treated timber posts have been moved from North Doppler to Staging Area. “Still require wrapping”. • Removed 90% of debris from North Doppler and Airstrip (barrels, antenna towers and cables remain). • In process of collecting lead and zinc cables (should be completed August 29). • Laid out MPA and TSA. Baseline sampling completed. • Identified area for staging (temporary storage of debris for off-site disposal).	**Biogenie (Mathieu)**

• The lined wash area at the MPA has been completed and the pond has been constructed; area is ready to begin barrel processing/ cleaning. • Initial packing of the airstrip and roadways repairs are complete; additional works to be completed as needed. • Anchors embedded within concrete foundations at the North Doppler were cut-off in preparation for re-grading (BM3 at North Doppler cut-off by mistake). • Surveyor scheduled to arrive Monday, August 30th. • Second barge scheduled to arrive Wednesday September 1st.	
3. Problems, Conflict, Comments, etc. • Mathieu asked which borrow area for "Type-2 Fill" can be used for re-grading activities? - Answer – most suitable material will be determined once geotechnical inspector arrives. • Rob mentioned archaeological area to be staked with 20 m. No access stakes, this area is one metre from the existing borrow area, and turn nesting area at Borrow Area 1 are not to be disturbed in the borrow retrieval process.	**Biogenie (Mathieu)**
4. Problems Affecting Schedule • No comments at this time.	
5. Schedule Review • Agreed schedule looks realistic at this point in time.	
6. Submittals • AECOM requires H&S meeting minutes. • AECOM has received medics' credentials, request others be provided after shift changes. • Biogenie reminded of LUP's advisement of fuel placement by Monday latest, and applicable markers/ fences agreed to at pre-construction meeting. • Request weekly report, Rob will provide a sample template. • AECOM to provide blank template TA/ PAW forms and truck box forms.	**Biogenie (Francois)** **Biogenie (Francois)** **Biogenie (Francois)** **Biogenie (Francois)** **AECOM (Rob)**
7. Changes • Biogenie has requested to use double-bagged sea-cans for sharp, large pieces of asbestos. Sea-cans will be provided at their own cost (Agreed). • Biogenie has requested to construct only one sewage lagoon cell as to not further disturb the area. If necessary another cell will be constructed. (Agreed).	

• Biogenie has requested to burn wood in roll-off containers. (Agreed). • AECOM has requested that two requests for TAs be submitted: one for the use of the surveyor to provide AECOM with coordinates of sample locations and the other for the collection of unknown debris, one additional large area has already been discovered near the new barge landing area. (Agreed).	
8. H&S Issues • Weekly H&S meeting was held on Wednesday and daily tailgate meetings are being performed. • On Friday, August 27th a meeting was held in the evening following the sighting of a polar bear. This meeting consisted of bear safety information as well as to provide a platform to voice any concerns or comments. • AECOM mentioned that a H&S audit is to be conducted within 14 days of camp opening. Biogenie scheduled this audit for Friday, September 3rd. • Biogenie is in the process of assembling a fire fighting crew. • Biogenie will collect names on Wednesday, September 1st to be on the H&S committee.	
9. Correspondence from AHJ • None.	
10. Camp • AECOM mentioned that water pressure throughout the camp was a low.	**Biogenie (Francois)**
11. Regulatory Compliance • Water samples submitted by Biogenie may exceed time for fecal coliform analysis due to delay in transit. Re-sampling may be required.	
12. **Other Business** • Rob mentioned that every other week's meeting will include a tour of all the site work areas.	

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Minutes of Meeting

Date of Meeting	September 4, 2010	Start Time	4:00 pm	Project Number	60155434
Project Name	Environmental Site Remediation – Bear Island, Nunavut				
Location	Cafeteria – Bear Island Camp, Bear Island, Nunavut				
Regarding	Weekly PMT Meeting				
Attendees	Biogenie: Francois de Courval Mathieu Levesque AECOM: Rob Nichol Mitch Bliss				
Distribution	Attendees and: PWGSC: Matthew McElwaine INAC: Mark Yetman Biogenie Jean-Pierre Pelletier AECOM: Roland Merkosky Michelle Wainwright				
Minutes Prepared By	Mitch Bliss				

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

	Action
1. Review of Previous Meeting • Wrapping treated timber at Staging Area → Completed • Staking of archaeological area → Completed	
2. Review Work Progress • **North Doppler Site Area:** 95% of the antenna tower has been removed. Cables have been removed. 90% of wood and metal debris has been collected. Magnets are being used to help pick up small metal debris. All anchors embedded in concrete have been removed. BM3 will need to be replaced in the same region; Nikolai will establish this. • **South Doppler Site Area** Final sweep for general debris has been completed. 95% of debris has been picked up. There is still wood gathered onsite waiting to be burned. Concrete pad and pillar have been removed. Burn bin at the North Doppler Site Area is too heavy to be moved (filled with gravel). Looking for	

alternative for wood burning at this site. Waiting for ash to cool down before ash sampling for leachable parameter analysis. Treated timber posts from this site are at the Staging Area and require wrapping. All anchors embedded in concrete have been removed except for some small ones. Small amounts of asbestos containing material left to pickup once Robert does his final sweep. • **Airstrip Area** Additional debris picking required along the airstrip. • **Staging Area** Barrel Crushing in progress. • **North Landfill Area** Surface debris has been worked on, but there is still some remaining. Will likely be collected prior to excavation. Windrow zone to be marked as WPA. • **Head Surveyor** Several meetings were held to discuss requirements, procedures, etc. Topography and most layout completed. Beach Area was done with temporary pin flags in case they were knocked over during debris removal and had to be replaced. • **Hazardous Materials** Hazardous materials throughout the unknown debris area adjacent to the new barge landing area were completed this week. Batteries, asbestos, lead cables, zinc piping were all collected.	**Biogenie (Mathieu)**
3. Problems, Conflict, Comments, etc. • Second barge has not yet arrived. AECOM's lack of a second vehicle limit's our ability to have both of us at different locations, once we have 3rd employee this will not be manageable at all with only one vehicle.	
4. Problems Affecting Schedule • Lack of second barge. One third of the equipment is yet to arrive along with the remaining components of the camp and vehicles. The primary affects for AECOM is the lack of an extra vehicle, lab and offices. The primary affects for the contractors are the lack of additional rooms (incomplete workforce), lack of vehicles (cannot transport people properly) and lack of a dozer (will not be able to perform regrades properly).	
5. Schedule Review • Schedule was updated estimating progress to date; there are no work items that are behind schedule at this time. The updated schedule is attached to AECOM's weekly report.	
6. Submittals • H&S minutes → received	

• Medic's credentials → received • Land Use Permit → were advised of fuel placement locations • Biogenie Weekly Report → to receive draft today (1st two weeks) • AECOM forms to provide → PAW / TA (Biogenie already has) →Truck-box form (Biogenie has own similar form)	
7. Changes • An additional TA request has been submitted with regards to barrel washing and wastewater processing.	
8. H&S Issues • Weekly meetings held on Wednesdays and tailgates performed daily. H&S audit is to be conducted before Wednesday. Names for the fire fighting crew have been collected and equipment is being setup. Training will be provided. Mitch to be AECOM H&S representative.	
9. Correspondence from AHJ • None	
10. Camp • Low water pressure in the Engineer's bathroom. Mixer is to be checked to see if there is a problem; it may be that all the bathrooms are affected depending on usage. • Communication systems have been installed. • Closed off PPE area with tradesman shop has been built in a barge container. A fire station is in the process of being built. Fire extinguishers have been placed across the camp. A fire alarm system is installed and is to be tested next week.	
11. Regulatory Compliance • Water analysis results of samples submitted by Biogenie have been reviewed and the treated source water is suitable for drinking.	
12. Other Business • Following the meeting in the cafeteria a site visit was completed to each active work area discussing status and future works.	

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Minutes of Meeting

Date of Meeting	September 11, 2010	Start Time	4:00 pm	Project Number	60155434
Project Name	Environmental Site Remediation – Bear Island, Nunavut				
Location	Cafeteria – Bear Island Camp, Bear Island, Nunavut				
Regarding	Weekly Meeting				
	Biogenie: Francois de Courval Mathieu Levesque AECOM: Rob Nichol Scott Chapman Mitch Bliss				
Distribution	Attendees and: PWGSC: Matthew McElwaine INAC: Mark Yetman Biogenie: Jean Pierre Pelletier AECOM: Roland Merkosky Michelle Wainwright				
Minutes Prepared By	Mitch Bliss				

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

	Action
1. Review of Previous Meeting • Wrapping creosote treated timber at Staging Area → In progress. • Burning bin → Bin is still smouldering; may stir to re-ignite and further reduce volume.	
2. Review Work Progress • **North Doppler Site Area:** 100% of the antenna tower has been removed. A final debris sweep has been conducted. About sixty (60) bags of insulation were collected. Another sweep will be required as asbestos-containing material was found during a recent site tour. 95%+ of debris has been removed. Burn bin to be addressed. Re-grading of the anchor pads and tower bases was discussed. • **South Doppler Site Area:** Re-grading of the anchor pads and tower bases was discussed. Tier II excavation (4-DT2-04) was completed adjacent to the garage pad. Confirmatory samples were collected.	

• **Beach Area:** Most of the barrels have been removed from the area. The shed has been demolished and the materials were organized into piles. Building panels and electrical cabinets were set aside. AECOM to send memo discussing potentially PCB-containing components. Scrap metal collected sent to bin. Tower has been removed. Three (3) POL lines to be removed. Tier II excavations have been completed. Confirmatory samples were collected. • **Material Processing Area (MPA):** Barrel processing still in progress. Sixty (60) barrels still remain at the MPA to be processed. Two (2) consolidated barrels were sampled. • **Barrel Cache Area:** All barrels have been removed. Tier II excavation completed and confirmatory samples have been collected. Assessment samples of the entire Barrel Cache Area were collected. • **Existing Landfill Area:** Excavation completed. Confirmatory samples collected. Three (3) of five and a half (5.5) stockpiles were sampled (stored at Waste Processing Area (WPA)). Remaining stockpiles to be sampled once debris is removed. • **Unknown Debris:** Debris picked in an area southeast of Borrow Area #2 has been sorted into piles. Bagged debris placed along road for transport to Temporary Storage Area (TSA). • Debris was collected in Debris Area #9 (along the shed and airstrip). About 90% complete. • Sea-can assembly and site surveying ongoing throughout the week. • The remaining zinc pipe that was being stored on the garage pad at the South Doppler Site Area was placed in a sea-can and brought to the TSA. To date there are three (3) sea-cans full of zinc and lead pipe for hazardous material disposal. • General barrel collection along the island. South Doppler road and road east of camp were targeted. • The wires running from the North Doppler Area to the South Doppler Area have been removed. Wires were cut as they were pulled and the pieces were hauled to the TSA. Inspection still required. • The barge has landed and the remainder of the camp and equipment is in the process of being unloaded. Back-hauling of debris to occur.	**AECOM (Rob)** **Biogenie (Mathieu)**
3. Problems, Conflict, Comments, etc. • **Lagoon Issue:** Sewage lagoon does not appear to be holding wastewater. Discussions were held with INAC, PWGSC, AECOM and Biogenie on Tuesday, September 7th. Options were reviewed and a decision will be made next week on the necessary course of action (if any). Until then, the lagoon will be monitored to see if there are any changes. As of September 11th the lagoon appears more saturated. No berm leakage was observed.	

4. Problems Affecting Schedule • Barge arrived later than scheduled. This may affect the excavation schedule as the equipment needed to complete excavations efficiently has not arrived yet. Excavations identified by assessments will also extend schedule. Biogenie to assess this schedule and determine if using the 200 tracked excavator (due to arrive with the next barge shipment) will put excavation schedule back on track. May also add a second excavation crew.	
5. Schedule Review • Updated schedule attached to weekly report.	
6. Submittals • H&S meeting minutes → received. • Medic's weekly report → received. • Final water sample results → received. • Reply to barge memo → received. • 3 x incident reports → received. • Sewage lagoon liner cost estimate (supply, install & remove) → received. • Biogenie Weekly Report (week 3) → required. • H&S committee meeting minutes → required. • H&S audit (final report) → required. • Spill report (4 L kerosene from Wabusk Air plane) → required. • Medic work related incident report (burn of cook helper) → assess if report needed.	
7. Changes • None.	
8. H&S Issues • Weekly meetings held on Wednesdays and tailgates performed daily. H&S audit conducted on Wednesday, September 8th. Remedial options and timeline identified. Next audit to occur September 19th to follow-up on findings and perform second inspection. First H&S committee meeting was held on Thursday, September 9th at 6:00 p.m. and will be held every Thursday hereafter. Fire fighting training equipment has been installed and training to be provided.	
9. Correspondence from AHJ • None.	

10. Camp • Low water pressure → Fixed; issue with mixer. • Fire station → installed and functional. To be moved to north end once the lab and office are setup. • Fire alarm → to be tested ASAP.	
11. Regulatory Compliance • Three (3) water sampling events were completed and analytical results were acceptable. • A 4th set of samples is out for analysis. • Samples to be obtained weekly.	
12. Other Business • Potentially PCB-containing components within the electrical cabinets at the Beach Area will be separating into non-hazardous waste, hazardous waste, and potentially hazardous waste (and to be confirmed at a later date). • AECOM to issue memo regarding secondary excavations. These extra excavations may require more sea-cans than are on site; depends on stockpile analysis results. If there are leftover sea-cans they will be used for the material from the secondary excavations. • A site tour will no longer be a part of the weekly project meetings as they will occur every 2 – 3 days.	**AECOM (Mitch)**
13. Contractor's Upcoming Work • Setup remainder of camp once barge arrives. • Carry on with excavations (try to complete all next week, pending laboratory results). • Finish barrel washing and clear MPA. • Pick debris from stockpiles at the WPA. • Remove POL lines after remainder of camp is setup (Barrel Cache Area then North Doppler Area). • Demolish/re-grade concrete piles and anchor pads at Doppler sites. • Pickup debris piles near general debris collection sites. • Collect debris from North Landfill Area. • Fill foundation with concrete at North Doppler Area and re-shape/re-grade. • Foundation at South Doppler may be filled with barrel dust from Barrel Cache Area prior to re-shaping/re-grading.	

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Minutes of Meeting

Date of Meeting	September 18, 2010	Start Time	5:30 p.m.	Project Number	60155434 (204)
Project Name	Environmental Site Remediation – Bear Island, Nunavut				
Location	Cafeteria – Bear Island Camp, Bear Island, Nunavut				
Regarding	Weekly Meeting				
Attendees	Biogenie ..... Francois de Courval ..... Mathieu Levesque AECOM ..... Scott Chapman ..... Mitch Bliss ..... Chris Kjarsgaard				
Distribution	Attendees and: PWGSC ..... Matthew McElwaine INAC ..... Mark Yetman AECOM ..... Roland Merkosky ..... Rob Nichol ..... Michelle Wainwright				
Minutes Prepared By	Mitch Bliss				

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

	Action
1. Review of Previous Meeting • Began separating and stockpiling potentially PCB-containing components from electrical cabinets at the Beach Area. • In the process of removing debris from un-sampled stockpiles. • Additional Tier II areas at the Barrel Cache Area have been marked out and are ready for excavation.	
2. Review Work Progress • **North Doppler Site Area:** Concrete demolition has been completed (rubble placed into foundation); rebar sticking out needs to be cut; re-grading of anchor bases required. First round of Tier II excavations completed and sample results are pending. • **South Doppler Site Area** Concrete demolition has been completed. Rubble has been sent to foundation at North Doppler. First round of Tier II excavations completed and sample results are pending.	**Biogenie (Mathieu)** **Info (All)**

• **Beach Area** Approximately 60% of the potentially PCB-containing electrical components have been set aside. First round of Tier II excavations and 2-PHC-02 have been completed and sample results are pending. Building panels have been loaded into a TDG-approved container for leachable lead. POL lines require removal. One (1) excavation remains to be completed, 2-PHC-01. Boat has been sprayed twice with binding agent to limit paint flaking. If not addressed soon, boat will be re-sprayed with binding agent as rain exposure affects adhesion.	**Info (All)**
• **Materials Processing Area (MPA) / Waste Processing Area (WPA)** Most barrels at MPA have been washed. About thirty (30) barrels of hydraulic oil/diesel barrels yet to be consolidated into approximately ten (10). Debris in soil stockpiles from North Landfill Excavation still being removed. Four (4) barrel samples recently sent for analysis. Four (4) sample results received.	**Info (All)**
• **Barrel Cache Area** All barrels removed. Additional areas requiring excavation have been marked out. Area for re-grade has been marked out. Results for 3-DT2-01 were received and meet criteria. Excavation of 3-PHC-01 completed. Results pending.	**Info (All)**
• **Airstrip Area** Excavation of 5-PHC-01 completed. Results pending	**Info (All)**
• **Existing Landfill Area** Metals exceedances in landfill and a stockpile. Awaiting hydrocarbon analytical results.	**Info (All)**
• **Unknown Debris Area** Fifteen (15) drums, a propane tank and a jerry can were identified southwest of road south of the South Doppler Site Area about 400 metres off road.	**Info (All)**
• The barge arrived last week and was unloaded. Additional components were added to camp. Three (3) fuel tandems taken off site.	**Info (All)**
3. Problems, Conflict, Comments, etc. • Lagoon Issue status unchanged. Observations indicate marginally increased retention and wetness. Daily inspections will continue.	**AECOM (Scott)**
4. Problems Affecting Schedule • Barge delays have affected the overall schedule (equipment delayed and required for a period of 1 - 2 days to stabilize barge on shore). • Extra excavations also required. • Possible contaminated soil container shortage (dependent on results of confirmatory analysis). Will monitor and investigate pricing for provision of additional containers if necessary. In general, AECOM and Biogenie not overly concerned about schedule/progress at this time. Main limitations will be barge schedule and, to a lesser extent, confirmatory sample results. When possible, on-site crew may be downsized.	**Info (All)**
5. Schedule Review • See attached updated schedule.	

6. Submittals • Medic work related incident report → received. • Biogenie Weekly Report (week 3) → received. • H&S meeting minutes → received. • H&S audit (final report) → received. • Three (3) incident reports from last week → received. • Three (3) incident reports from this week → required.	**Biogenie (Francois)**
7. Changes • None.	
8. H&S Issues • H&S committee meetings to be held bi-weekly. Next meeting to occur September 23rd. Next H&S audit to occur September 19th. • Additional H&S issues to be addressed in daily toolbox meetings: - Strong winds beginning to be a concern (airborne debris, doors slamming, etc.). Be sure to wear safety glasses and take shelter if necessary. - Icy/slippery surfaces may start to be a concern as it gets cooler. • Trained fire fighter will join labour crew next Monday and will lead team currently in place; meeting required to train team on equipment.	**Biogenie (Francois)** **Biogenie (Francois)** **Biogenie (Francois)**
9. Correspondence from Authorities Having Jurisdiction (AHJ) • None.	
10. Camp • Fire alarm → electrician could not determine problem. ATCO employee to be brought in next week. • Electrical issues in geotechnical lab and offices occurred. Electrician brought on site to correct wiring issues in offices and geotechnical lab.	**Biogenie (Francois)** **Biogenie (Francois)**
11. Regulatory Compliance • Latest water sample results were acceptable. • Water samples to be sent bi-weekly from now on.	**Biogenie (Mathieu)**
12. Other Business • Memos to be issued promptly summarizing confirmatory sample laboratory results.	**AECOM (Mitch)**

13. Contractor's Upcoming Work • Debris sorting in soil stockpiles to be completed. • Remove POL lines. • Complete additional excavations 3-DT2-04, 3-DT2-05 and 3-DT2-06. • Begin re-grades. • Focus on additional excavations (as required). • Demolish abandoned wood boat. • Ensure all hazardous waste removed. • Barrel collecting in identified zones. • Known/Unknown debris inspection/collection. • Aim to have barge on site between 25th and 30th. Other barge options are still being assessed. Camp components may be sent away at the end of the month (dorm, garage, etc.). • To maintain schedule, may request rush analysis of future confirmatory samples (Biogenie will pay premium).	

Attachment: Updated schedule

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Minutes of Meeting

Date of Meeting	September 22, 2010	Start Time 9:00 a.m.	Project Number 60155434(204)
Project Name	Environmental Site Remediation – Bear Island, Nunavut		
Location	Cafeteria – Bear Island Camp, Bear Island, Nunavut		
Regarding	Site PMT Meeting		
Attendees	Biogenie:	Francois de Courval	
		Mathieu Levesque	
		Jean-Pierre Pelletier	
	Wiinibek:	Denis Larabie	
	AECOM:	Rob Nichol	
	INAC:	Mark Yetman	
	PWGSC:	Matthew McElwaine	
		Andrew Liu	
Distribution	Attendees		
	AECOM:	Roland Merkosky	
		Michelle Wainwright	
Minutes Prepared By	Rob Nichol		

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

	Action
1. Review of Previous Weekly Meeting Minutes	
• At the beginning of the meeting Matthew McElwaine commented to the group on site that he was impressed by the hard work put forward by all so far, the condition and services at the camp and general progress of works.	**Info (All)**
• Jean-Pierre Pelletier questioned the volume of leachable lead painted materials for hazardous disposal, and why the difference in expected volume of disposal off-site and the lower line item for collection in Section 1, Item No. 02 41 23.2 in the schedule of prices. Rob Nichol answered that boat and electrical panels are collected and containerized as per their demolition requirements. Item No. 02 41 23.2 refers to the miscellaneous painted wood and wall panels stockpiled at the beach area.	**Info (All)**
• A review of the previous weekly site meeting minutes and works to date was performed.	**Info (All)**

		Action
2.	Problems Affecting Schedule (From Previous Minutes were discussed as follows) • Barge delays have affected the overall schedule (equipment delayed and required for a period of 1 - 2 days to stabilize barge on shore). • Extra excavations also required. • Contaminated soil containers are running out; waiting for confirmatory sample results may also cause delays. • Jean-Pierre Pelletier advised that the schedule of prices notes that 175 sea-cans were provided and a capacity for 10 m³ of hazardous waste containers are provided. This results in there being 17 m³ of further containers available on site under the contract items. Rob Nichol agreed this is the case. This will also remove the requirement for additional container types for hazardous waste containers (such as battery bags etc.).	**Info (All)** **Info (All)** **Info (All)** **Info (All)**
3.	Problems Affecting Schedule follow up • Matthew McElwaine advised that PAW 5 for the delivery of 125 Quatrex bags will be approved and these bags can be scheduled for delivery immediately. • Rob Nichol advised that further confirmatory samples sent will be requested as rush analysis; Matthew McElwaine and Mark Yetman agreed with this approach and the additional costs for analysis will be within AECOM's contract. (Biogenie will not be required to pay these surcharges.) • Rob Nichol asked if there are any other issues affecting the schedule that PWGSC, INAC or AECOM could help with. Answer was none noted.	**PWGSC (Matthew)** **Info (All)** **Info (All)**
4.	Items to Discuss from PWGSC • Matthew McElwaine asked that since there has been no return of the requested waiver for the salvage at site was there any problems. Jean-Pierre Pelletier responded that their legal department is reviewing the waiver and he has been trying to get it finalized and signed, but there are no problems. • Matthew McElwaine advised Biogenie that they are to fill the blasted out pit, that we are currently collecting our camp water from, at the end of project. The area is a possible liability from a future health and safety standpoint and, as such, after our requirements for getting water, this is to be filled in. A discussion was held on the best method to do this and Mathieu Levesque suggested using the blasted rock from the surrounding area for fill. This was decided to be the best solution and payment for this task will be equipment time and materials currently within the contract items. • Matthew McElwaine requested an update to the recent Site Health and Safety Detailed Audit in which deficiencies were noted. Francois de Courval and Denis Larabie noted that all major deficiencies have now been corrected and an updated report will be provided. Matthew McElwaine requested a summary memo, in addition to the spreadsheet, be prepared and submitted. • Monitoring wells and supplies for the contract have been made the property of Biogenie at no cost.	**Info (All)** **Info (All)** **Info (All)** **Info (All)**

	Action
• Matthew McElwaine advised that outstanding PAWs 2, 3 and 4 are approved and signed copies of authorization will be provided.	**PWGSC (Matthew)**
• Rob Nichol noted that Biogenie should check on their process for getting samples to our lab, as this seems to be taking additional time.	**Biogenie (Francois)**
• Jean-Pierre Pelletier advised that Biogenie has a back-up plan in regard to de-mobilization if MTL cannot provide this service. NSSI will have their ship and barges in this area around October 18th and Jean-Pierre is in discussions with them to do this work if required. If so, demobilization would be to Montreal. Mark Yetman commented that this would work well as INAC needs to provide a report on carrying surplus contract funds through to 2011 by the end of October 2010.	**Info (All)**
• Rob Nichol asked if contacts and further information could be provided for debris, salvage recycling and disposal locations. Detailed receipts or manifests need to be provided for all the debris being disposed of off-site from the disposal facilities. In addition, it is our intent to visit the recycling depot and processing plants to produce a report on recycling of these kinds of waste. Denis Larabie responded that he believed this would be well received and would contact the facility and advise them. He will also provide us with contact information.	**Wiinibek (Denis)**
• Jean-Pierre Pelletier advised that there may be a change in the disposal facility to be used for the contaminated soils; information will be provided.	**Biogenie (Jean-Pierre)**
• At the end of the meeting there was a discussion that it was Biogenie's intent to transfer all contents of barrels that have been classified as able to incinerate off-site, likely to Moosanee, where MTL would incinerate. The response was that this would be acceptable and these volumes would be paid as per the contract price in a PAW at the contract rate. Biogenie is to provide the information on MTL's license and permits to incinerate these wastes. Denis Larabie to get information and provide to Rob Nichol.	**Wiinibek (Denis)**

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Minutes of Meeting

Date of Meeting	September 28, 2010	Start Time	4:00 pm	Project Number	60155434
Project Name	Environmental Site Remediation – Bear Island, Nunavut				
Location	Recreation Centre – Bear Island Camp, Bear Island, Nunavut				
Regarding	Weekly PMT Meeting				
Attendees	Biogenie: Francois de Courval Mathieu Levesque AECOM: Rob Nichol Jen Murray				
Distribution	Attendees and: PWGSC: Matthew McElwaine INAC: Mark Yetman Biogenie: Jean-Pierre Pelletier AECOM: Roland Merkosky Michelle Wainwright				
Minutes Prepared By	Jen Murray				

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

	Action
1. Review of Previous Meeting • Regrades at North Doppler complete and removal of burn bin pending. • At the South Doppler, main building regrade complete and garage regrade complete • Rob Nichol noted that there are 175 sea-cans and 10m^3 of hazardous waste containers under contract. As soon as volume used exceeds, will require to pay for extra sea-cans and volumes. Francois indicated the plane with PAW-5 could only carry 75 Quatrex Bags, the remaining 50 bags will come on scheduled flights. • Rob Nichol revisited the question from Matthew McElwaine on September 22 that since there has been no return of requested waiver for the salvage at site was there any problems. Jean-Pierre Pelletier responded that their legal department is reviewing the waiver and he has been trying to get it finalized and signed, but there are no problems. • Rob Nichol indicated to use contract excavator time to fill the blasted out pit, that we are currently collecting our camp water from, at the end of the project. • Rob Nichol revisited Matthew McElwaine's request for an update to the	**Info (All)** **Biogenie (Francois)**

recent Site Health and Safety Detailed Audit in which deficiencies were noted. Matthew McElwaine requested a summary memo, in addition to the spreadsheet, be prepared and submitted. • Denis has provided the required information on Rob Nichol's September 22nd question on if contacts and further information could be provided for debris, salvage recycling and disposal locations. • A review of the previous two weeks site meetings and works to date were performed.	**Biogenie (Francois)**
2. Review Work Progress • **North Doppler Site Area:** Completing final Tier II excavations. Once complete, backfill to regrade. Detailed debris sweep has been performed, tracking pad pending and removal of burn bin. • **South Doppler Site Area** Main building regrade, garage regrade complete. All contaminated soil excavations have been completed. Work remaining includes final debris sweep, backfilling contaminated soil excavations, one concrete foundation needs requires breaking up and minor reshaping of area. May reshape below garage pad. • **Beach Area** Have all results for all excavations. Require memo by Sept. 29 indicating if additional excavations and sampling is required. Results for the ash samples taken at the North Doppler and South Doppler to be summarized in a memo. One small section of the POL requires removal and final debris sweep. • **Materials Processing Area (MPA) / Waste Processing Area (WPA)** Debris sweep and confirmatory sampling required after dismantling of wash pad and water treatment is complete. Two clean stock piles to be disposed of in existing landfill and covered with Type 3 material. Remaining 3 ½ piles containerize as Tier II. Barrel results summarized in a memo required. • **Barrel Cache Area** Tier I excavations complete and backfilled. Memo summarizing 3-PHC-01 required. • **Airstrip Area** Excavation of 5-PHC-01 completed and can now be backfilled. • **Existing Landfill Area** • **Unknown Debris Area** • Beginning September 28th, detailed debris collection started at North Doppler area and will completed over the entire site. North Doppler, road to North Doppler, Airstrip and working towards the South Doppler completed today.	**Biogenie (Mathieu)** **Biogenie (Mathieu)** **AECOM (Rob and Jen)** **Biogenie (Mathieu)** **Biogenie (Mathieu)** **AECOM (Jen)** **AECOM (Rob and Jen)** **AECOM (Rob and Jen)** **Biogenie (Mathieu)** **Biogenie (Mathieu)**
3. Problems, Conflict, Comments, etc. • Lagoon Issue status unchanged. Observations indicate constant volume of water in lagoon. Daily inspections will continue. Francois noted water accumulation outside of lagoon, thought to be due to recent excessive rainfall but unknown.	**Info (All)**
4. Problems Affecting Schedule • No longer have alternative with NSSI in case MTL cannot provide	**Info (All)**

demobilization barging - may present a problem. • MTL cannot incinerate barrel contents that cannot be incinerated on site. Biogenie is looking for an alternative. Rob noted: Check if the facility can incinerate chlorine, otherwise will have to ship it as hazardous waste. Two barrels have excess levels of chlorine. Cannot ship off site without a clear understanding of where it will go. Jen to advise Mathieu of Barrel 12 contents. • Barge scheduled to stop by October 02 to collect a load and return to Moosanee, exact date is unknown. • Estimating Monday October 04, completion of site works.	**Biogenie (Mathieu)** **AECOM (Jen)**
5. Schedule Review • See attached updated schedule.	
6. Submittals • AECOM owes Biogenie 1 incident report for a slip fall • Medic work related incident report → received • Biogenie Weekly Report (week 3) → received • H&S meeting minutes → received • Three (3) incident reports in total (including AECOM one) → required	**AECOM (Rob)** **Biogenie (Francois)**
7. Changes • POW 2,3,4,5 has been approved.	
8. H&S Issues • Majority of H&S commitee members are no longer on site, including Mitch. Based on one week remaining, no committee is required. Francois will complete plan job observations and safety inspections. • H&S committee meetings to be held bi-weekly. Next meeting to occur October 6th. • Additional H&S issues to be addressed in daily toolbox meetings o Strong winds beginning to be a concern (airborne debris, doors slamming, etc.). Be sure to wear safety glasses and take shelter if necessary. o Icy/slippery surfaces may start to be a concern as it gets cooler. • Toolbox talk completed by each supervisor every morning. • There was not a trained fire fighter available to join labour crew, Francois is still considering options for this.	**Biogenie (Francois)** **Biogenie (Francois)** **Biogenie (Francois)**
9. Correspondence from Authorities Having Jurisdiction (AHJ) • Nunuvut Water Board provided comments on Biogenie's submissions. Rob to provide the comments to Biogenie.	**AECOM (Rob)**
10. Camp • Fire alarm problem in dorms corrected. • Fire alarm system not functioning in Kitchen therefore it is a scheduled item for the Wildlife monitors to monitor 24 hours a day. • Electrical issues in geotechnical lab and offices corrected.	**Info (All)**

11. Regulatory Compliance • Water samples from the waste water lagoon at MPA received at the lab on Sept 28 and is anticipated to have results on Sept 29.	**Biogenie (Mathieu)**
12. Other Business • When work is complete, submit a Substantial Job Completion request and what is required when work is complete.	**Biogenie (Mathieu)**
13. Contractor's Upcoming Work • Completing all excavations and regrades on September 30th. • Filling all bags on site. • Completing debris sweep. • Complete debris sweep at South Doppler and Beach on September 29th. • Fix up rutted ground from machinery around site. • Haul electrical panels to staging area. • Load burn bin. • Next week Monday expecting to complete all work and begin demobilizing.	

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Minutes of Meeting

Date of Meeting	October 6, 2010	Start Time	1:30 pm	Project Number	60155434
Project Name	Environmental Site Remediation – Bear Island, Nunavut				
Location	Cafeteria – Bear Island Camp, Bear Island, Nunavut				
Regarding	Weekly Meeting				
Attendees	Biogenie: Mathieu Levesque AECOM: Rob Nichol Mitch Bliss				
Distribution	Attendees and: PWGSC: Matthew McElwaine INAC: Mark Yetman Biogenie: Francois De Courval Jean-Pierre Pelletier AECOM: Roland Merkosky Michelle Wainwright				
Minutes Prepared By	Mitch Bliss				

PLEASE NOTE: If this report does not agree with your records of the meeting, or if there are any omissions, please advise, otherwise we will assume the contents to be correct.

	Action
1. Review of Previous Meeting	
• This will be the last PMT meeting as all site work is nearly completed.	Info (All)
• Salvage waiver has been provided to AECOM and forwarded to PWGSC.	Info (All)
• Site H&S Detailed Audit summary memo has been provided to AECOM and forwarded to PWGSC.	Info (All)
• Summary memo of the analytical results for all barrel contents has been provided to Biogenie. Two (2) small grease drums have been contained in over-packs and need to be assessed.	AECOM (Mitch)
• All contaminated site areas have been closed.	
• Volume of barrel contents that can be incinerated and that cannot be incinerated is required.	Biogenie (Mathieu)
• Volume/ Cost required for off-site disposal of barrel contents is required ($/L).	Biogenie (Mathieu)
• Once the disposal procedure for the 2 grease barrels has been determined, Mathieu is to request PAW 6 that includes: Total Volume of POL liquid to be incinerated at contract rate of ($1.00 per L.) and Total volume in L. (not able to incinerate) with the price for handling and off-site disposal as per the contract documents. This request will be forwarded to PWGSC for approval before proceeding.	

• Since on-site incineration was not performed, AECOM requires that details for off-site barrel contents incineration be provided (location and credentials/ license of who will perform this work).	Biogenie (Mathieu)
2. Review Work Progress • Survey information required by AECOM. This includes all of the re-grades (Tier I and F3/F4) to ensure that a 300 mm lift has been placed. Re-grade computation for volumes at the larger areas is also required as well as volume at landfill excavation. BM3 needs to be replaced at North Doppler Site Area and survey grade co-ordinates provided. All site work progress has been completed other than what is now noted in the substantial performance checklist, summarized as follows: • **Airstrip/ Camp/ Roads used in Demob:** Repair any areas damaged during demobilization of the camp. • **Materials Processing Area (MPA), Waste Processing Area (WPA) and Barrel Cache Area:** As per Inspection List (Majority of remaining works are within these areas). • **Water Source:** To be decommissioned and abandoned. • **Incinerator and Contractor Garage:** To be removed. • **Temporary Storage Area (TSA):** Any necessary corrective action based on confirmatory analysis. • **Borrow Area 1:** Requires slope flattening (Estimated at 1:1. Needs to be 2:1). Required slope specifications will be looked up. • **Final Cleanup (TSA):** Removal of debris, debris sweep, assessment for stains, etc. • **Demobilization**	Biogenie (Mathieu) Info (All) Info (All) Info (All) Info (All) Info (All) AECOM (Rob) Info (All) Info (All)
3. Problems, Conflict, Comments, etc. • Recent lagoon observations indicated volume of waste water has decreased.	Info (All)
4. Problems Affecting Schedule • Biogenie is trying to get barges in. Barge landing dependent on weather and decisions made by Moosonee Transportation Limited (MTL). • On-site contract work items will be completed. Demobilization of anything further at this time is questionable due to above.	Info (All) Info (All)
5. Schedule Review • N/A	Info (All)
6. Submittals • AECOM owed Biogenie one (1) incident report for slip fall → delivered. • Three (3) incident reports in total (including AECOM report) → received.	Info (All) Info (All)

7. Changes	
• PAWs 2, 3, 4 and 5 have been approved.	Info (All)
• PAW 2 (debris) is expected to be complete. Will be left open until demobilized from site just in case additional debris is found.	Info (All)
• PAW 3 (barrel processing water treatment) is close to budget; unsure at this time if it will be exceeded.	Info (All)
• PAW 4 (surveying). Budgeted amount will be sufficient to completion.	Info (All)
• PAW 5. Project requires more Quatrex bags than were delivered in the original PAW 5. Biogenie has ordered another 125 bags to be delivered to Cochrane, ON. The air charter from Cochrane to site can deliver 75 bags. The total transportation cost is to be split as follows: 1/3 Biogenie and 2/3 INAC. Some of the bags are for Biogenie's work and some for INAC's work.	Info (All)
• PAW 6 to be requested.	Info (All)
8. H&S Issues	
• Mock fire drills were conducted last week. The first drill was unsuccessful and second was successful.	Info (All)
• H&S meetings to continue on Wednesdays.	Info (All)
• Toolbox meetings completed every morning and will continue.	Info (All)
• No more H&S committee meetings.	Info (All)
• H&S inspector is gone. Mathieu acting as H&S inspector.	Info (All)
9. Correspondence from Authorities Having Jurisdiction (AHJ)	
• Comments on submissions from Nunavut Water Board were forwarded to Biogenie.	Info (All)
10. Camp	
• Fire alarm in dorms is functional. Not in kitchen.	Info (All)
• Wildlife monitor to monitor kitchen 24 hours a day.	Info (All)
11. Regulatory Compliance	
• Water samples results from waste water lagoon are still outstanding.	Info (All)
12. Other Business	
• If burn bin contents are non-hazardous they still must be disposed of off site. No remaining wood may be burned.	Info (All)

13. Contractor's Upcoming Work	
• Continue with camp packing.	Info (All)
• Demobilize non-critical items to staging area.	Info (All)
• Expect waste water pond results tomorrow. Absorbent pads and geotextile results expected Friday to determine if they can be incinerated. Once waste water lagoon results are received waste water treatment will end. Waste water will either be discharged or containerize for off-site shipment depending on the results. The MPA can be removed in preparation of confirmatory sampling.	Info (All)
• Quatrex bags expected to be delivered on Thursday. Remaining stockpiles will be containerized.	Info (All)
• Once the stockpiles are containerized confirmatory samples will be taken at the WPA.	Info (All)
• The entire MPA, WPA and Barrel Cache Area can be finalized at this point.	Info (All)
• All other decommissioning and demobilization will be completed after this.	Info (All)