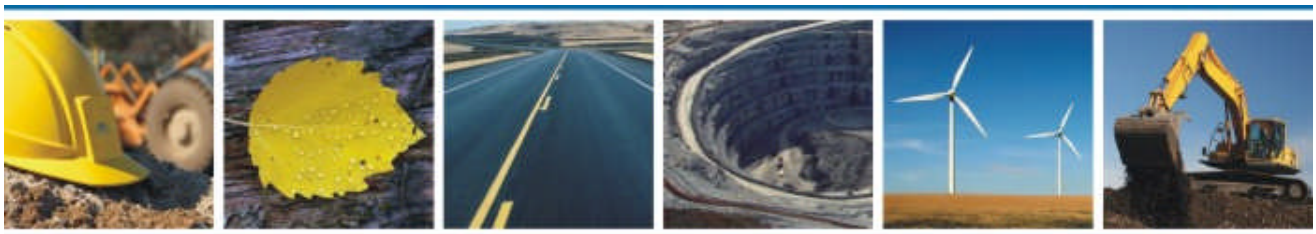
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REMEDIATION CLOSURE REPORT FOR CAPE CHRISTIAN LONG-RANGE NAVIGATION (LORAN) STATION NEAR CLYDE RIVER, NUNAVUT PWGSC PROJECT NO: R.014496.008/R.014832.013



REPORT

MARCH 2011
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EXECUTIVE SUMMARY

The former Cape Christian Long Range Navigation (LORAN) radar station is located on the northeast coast of Baffin Island along the Davis Strait, approximately 16 km northeast of the hamlet of Kangiqtugaapik (Clyde River) in Nunavut. Coordinates for the site are 70°31' N, 68°17' W. The site is currently under the custodial care and management of Indian and Northern Affairs Canada (INAC).

Prior to demolition the major site features included a Main Station, a residential building, a dam and water reservoir, an airstrip and terminal, fuel storage facilities including five 102,600 L above ground fuel tanks, an antenna, a garage, storage/emergency buildings and site roads.

Physical hazards at the site included unsound structures and unconsolidated site debris. Hazardous and non-hazardous materials were scattered throughout the area. Visible site debris included large pieces of abandoned machinery, boilers, compressed gas tanks, scrap metal, domestic wastes, spools of wire, antennas, and poles. Other environmental hazards included asbestos-containing building materials, PCB and lead-amended paint, contaminated soils, and petroleum oils and lubricants (POL) left in above ground storage tanks, barrels, and pipelines. Additional environmental concerns included large areas of buried or partially-buried unconsolidated debris and hazardous wastes at the beach areas. Both the upland site soils near the Main Station and areas of beach sands were impacted by historic spills of hydrocarbons, PCBs, and heavy metals.

EBA Engineering Consultants, a Tetra Tech Company (EBA) provided Resident Engineering services to Public Works and Government Services Canada (PWGSC) on behalf of Indian and Northern Affairs Canada (INAC) in connection with the Remedial Action Plan (RAP) prepared by Earth Tech Canada Inc. in 2007. The RAP was developed in accordance with INAC's Abandoned Military Site Remediation Protocol (March 2005) and included the following remedial objectives:

- Restore the site to an environmentally safe condition;
- Prevent the migration of contaminants into the Arctic ecosystem;
- Remove physical hazards for the protection of human health and safety; and
- Implement a cost effective remediation solution.

Ranked as a priority site, the Cape Christian LORAN station received federal funding for risk management and remediation from 2007 to 2010 through the Federal Contaminated Sites Action Plan (FCSAP).

Remediation work primarily consisted of hazardous materials and contaminated soils testing and mitigation, landfill construction, building and infrastructure demolition, and the collection and disposal of historic buried wastes and barrels at the beach areas. The remediation contractor for the project was Qikiqtaaluk Logistics Inc. (QL) of Iqaluit, Nunavut.

EBA's role in the project included assistance with contract administration provided by PWGSC, on-site review and inspection of work carried out by the remediation contractor, geotechnical quality control, environmental services including confirmatory sampling of soil and water, and waste characterization sampling of known and unknown hazardous wastes encountered during the work.

Contractor mobilization began in the fall of 2008, with heavy equipment and supplies brought to a location near Clyde River, and mobilization to Cape Christian occurred in 2009. Remediation work was completed

within a 12-week period in 2009 and a 14-week period of site activity in 2010, between late June and early October. Resident Engineering (RE) services were provided by EBA during these periods of activity.

The main components of the two-year site remediation program included the following tasks:

- Provision of a facility to sort and containerize site hazardous wastes and to clean barrels;
- Construction of a non-hazardous landfill to contain building demolition wastes, site debris, and DCC Tier I contaminated soil as defined by the DEW Line Clean-up Protocol;
- Decommissioning and demolition of site infrastructure;
- Containerization/shipping/off-site disposal of hazardous materials and soils;
- Excavation and processing of buried wastes, including whole and crushed barrels, in the beach areas (Worked Areas);
- Design, construction and operation of a landfarm for the on-site treatment of F1-F2 range hydrocarbon-impacted soils;
- Dewatering and decommissioning of the former water reservoir; and
- Restoration of areas affected by work and general re-grading of the work areas.

All works were to be carried out in accordance with the terms and conditions of the site permits, including a Land Use Permit, the Water License, and Quarry Permit. Conditions for the Contractor's use of the site included enforcing no trespassing in the designated archaeological areas identified during the archaeological assessment of the site.

Contaminated soils at Cape Christian were classified as DCC Tier I, DCC Tier II, PHC F1-F2, PHC F3-F4, or hazardous. Impacted soils originated from Areas of Environmental Concern (AEC), one solid waste excavation on the beach (Worked Area WA-7), an excavation of tetrachloroethylene (TCE) impacted soils near the Main Station that was discovered at the end of 2009, and PAH-impacted soils removed from the vicinity of creosote-treated utility poles. A description of the excavations is provided in the following sections. Approximate volumes of soils excavated and the fate of the material is summarized below.

Summary of Contaminated Soil Type	Sources (Refer to Figures)	Total Estimated Volumes based on Remedial Works	Fate
PHC F1-F2 soils	AEC-1 (WA-1), AEC-3, AEC-13	1,950 m^3	Treated on-site
PHC F3-F4 soils	AEC-10	160 m^3	On-site landfill
DCC Tier I soils	AEC-4, AEC-8	65 m^3	On-site landfill
DCC Tier I soils	WA-7	570 m^3	On-site landfill
DCC Tier II soil	AEC-2, AEC-5, AEC-6, AEC-7, AEC-9, AEC-11, AEC-12,	391 m^3	Shipped off-site
Hazardous soils	TCE soils	64 m^3	Shipped off-site
Hazardous soils	Creosote from utility poles	19 m^3	Shipped off-site
Hazardous soils	Misc. hazardous soils from WA-2 and WA-7 and the Main Station	1 m^3	Shipped off-site

Approximately 19,000 m^3 of buried wastes and soils were excavated at eleven beach areas. An estimated 11,700 barrels were found, all of which were emptied, cleaned, crushed and disposed of in the non-hazardous landfill. Excavated beach sands were stockpiled and tested for chemical quality prior to backfilling in the excavations.

Hazardous materials were collected from the site buildings and nearby areas as well as from the buried debris areas. EBA provided hazardous waste testing for Transportation of Dangerous Goods purposes. During the project, the following wastes were collected:

- 25 m^3 of gas cylinder hazardous waste was mitigated on-site, except for CFCs which was disposed off-site;
- 44 m^3 of liquid hazardous waste (waste fuel, oil, sludges, etc.);
- 13.5 m^3 of solid hazardous waste (batteries, paint, etc.), excluding PCB and asbestos;
- 10 m^3 of PCB materials, including PCB-amended paint, transformers and capacitors;
- 30 m^3 of asbestos-impacted materials; and
- 6 m^3 of asbestos that was also contaminated with PCB.

These volumes do not include approximately 360,000 L of hazardous phenols-contaminated water that was collected from the buried barrels at the beach during 2009 and 2010, but was collected and treated by QL on-site to meet the Nunavut Water Board Water License discharge criteria prior to discharge.

QL shipped all gaseous, liquid and solid hazardous materials and all Tier II soils off-site to licensed hazardous waste disposal facilities in Quebec and Alberta. The one exception was asbestos, which was double-bagged and disposed of in the engineered site landfill, in accordance with the INAC Protocol. Creosote treated timbers were wrapped in polyethylene and were also placed in the landfill.

Eight borrow sources were developed during the Cape Christian remediation project for the purpose of building roads, the landfarm and the non-hazardous landfill. Borrow sources BA-1, BA-2, BA-4, BA-5, and BA-8 were located in previously disturbed areas, roads, or existing stockpiles of aggregates. Borrow areas, BA-3, BA-7 and BA-14 were located in natural areas. An estimated total of 40,750 m^3 of borrow materials was excavated for use during the project.

Based on the as-built of the constructed non-hazardous landfill, the interior landfill volume was calculated to be 7,100 m^3. Approximate volumes of non-hazardous waste materials are as follows:

- Clean intermediate fill = 900 m^3
- Debris from worked areas: 2,500 m^3.
- Tier I soils and F3-F4 soils from Main Station = 220 m^3
- Tier I soils from buried debris Worked Areas = 575 m^3
- 2,000 m^3 (estimated) compacted surficial debris from the site (buildings, vehicles, scrap metal) hauled by excavator.
- 600 m^3 estimated site debris that was collected by hand.

The remainder of the waste volume (approximately 300 m^3) is attributable to the wrapped utility poles and bagged asbestos.

EBA's post-remediation recommendations for the Cape Christian site are as follows:

- Many physical hazards that used to exist at Cape Christian including disintegrating rows buried barrels at the beach and unsound buildings have been removed and are no longer a concern. However, some physical hazards still remain at the site that could pose a risk to people, especially when traveling by snowmobile or all-terrain vehicle. These features include steep slopes, removed bridge crossings and culverts, and areas of unconsolidated fill. The four groundwater monitoring wells at the landfill are marked with reflective bands but these are obstacles that should be noted and avoided. Use of the Cape Christian site roads is not recommended because the culverts have been removed. Rather, it is advisable to bypass the site using the beach.
- Contaminated soils have been remediated to meet criteria designed to be protective of the environment and land use based on subsistence hunting, trapping and fishing. As a precautionary measure, EBA recommends avoiding the construction of permanent residences overtop formerly-contaminated areas such as the former Main Station and garage, the former AST pad, and former buried debris areas at the beach. Although the risks to human health are anticipated to be small - especially during times when the ground is frozen and providing that the cabin is well-ventilated - in these areas there is a potential for residual hydrocarbons and other substances to generate vapours that can migrate into overlying structures, where they can be inhaled.
- All hazardous materials have been removed from the emergency storm shelter building. The underlying soils were not contaminated, and it is safe to use this building for emergency shelter purposes. The care and maintenance of the storm shelter building is the responsibility of the Hamlet of Clyde River, as per signed agreement.
- The archaeological resources identified at Cape Christian continue to be protected under the Nunavut Archaeological and Paleontological Sites Regulations (2001). The agencies that are responsible for overseeing the protection and management of these sites are Department of Culture, Language, Elders and Youth (CLEY) and the Inuit Heritage Trust.
- A Canada Geodetic Survey monument (#749186) exists on a rock outcrop on the knoll located within the archaeological area. This survey point should be protected and its location noted for future use.

INAC will manage the post-closure monitoring and aftercare of the site as outlined in the 2008 Abandoned Military Site Protocol. Site monitoring will consist of periodic visual inspections of the permanent site facilities including the non-hazardous landfill, the reservoir breach, and the four groundwater monitoring wells installed at the landfill. INAC will also conduct groundwater monitoring at the site periodically up to 25 years post-remediation to verify the performance of the non-hazardous landfill. Other permanent features associated with the site that are no longer the under the jurisdiction of INAC include an emergency storm shelter now owned by the community of Clyde River and a cabin near the coast to the north owned by a resident of Clyde River.

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ACRONYMS & ABBREVIATIONS

AEC	Area of Environmental Concern
AST	Above-Ground Storage Tank
ASTM	American Society for Testing and Materials
ATV	All-Terrain Vehicle
CCME	Canadian Council of Ministers of the Environment
CEAA	Canadian Environmental Assessment Act
CEPA	Canadian Environmental Protection Act
CLEY	Department of Culture, Language Elders and Youth
COC	Chain-of-Custody
CWS-PHC	Canadian Wide Standards for Petroleum Hydrocarbons
DA	Debris Area
DCC	Defense Construction Canada
DEW	Distant Early Warning
DLCU	DEWLine Clean-up
DND	Department of National Defense
EBA	EBA Engineering Consultants Ltd., a Tetra Tech Company
FCSAP	Federal Contaminated Sites Action Plan
GN	Government of Nunavut
GNWT	Government of the Northwest Territories
HTO	Hunters and Trappers Organization
IEC	Item of Environmental Concern
INAC	Indian and Northern Affairs Canada
LORAN	Long Range Navigation
NCSP	Northern Contaminated Sites Program
NCSCS	National Classification System for Contaminated Sites
NHWL	Non-Hazardous Waste Landfill
NLCA	Nunavut Land Claim Agreement
NRI	Nunavut Research Institute
NTI	Nunavut Tunngavik Incorporated
PAH	Polycyclic Aromatic Hydrocarbons
PAP	PCB Amended Painted
PCB	Polychlorinated Biphenyl
POP	Persistent Organic Pollutants
POL	Petroleum, Oils, and Lubricants
PPE	Personal Protective Equipment
PWGSC	Public Works Government Services Canada
QIA	Qikiqtani Inuit Association
QC	Qikiqtaaluk Corporation
QL	Qikiqtaaluk Logistics
RAP	Remedial Action Plan
REC	Resident Engineering Consultant
SPMDD	Standard Proctor Maximum Dry Density

TBM	Temporary Benchmark
TCE	Trichloroethylene
TDGA	Transportation of Dangerous Goods Act
TIER I	Contaminated Soil Exceeding INAC Tier I Criteria
TIER II	Contaminated Soil Exceeding INAC Tier II criteria
WA	Worked Area

1.0 INTRODUCTION

1.1 General

EBA Engineering Consultants Ltd., a Tetra Tech Company, (EBA) is pleased to submit this Project Closure Remediation Report to Public Works and Government Services Canada (PWGSC) for Resident Engineering Consultant (REC) services provided in 2009 and 2010 for PWGSC Project No: WBSE 014832.013, Environmental Site Remediation at the Cape Christian Long Range Navigation (LORAN) Station near the Hamlet of Clyde River, Nunavut.

The services were conducted for PWGSC on behalf of Indian and Northern Affairs Canada (INAC) in connection with the Remedial Action Plan (RAP) for the abandoned communication station prepared by Earth Tech Canada Inc., report PN 95612 dated January 2007. The RAP was developed in accordance with INAC's Abandoned Military Site Remediation Protocol (March 2005) and included the following remedial objectives:

- Restore the site to an environmentally safe condition;
- Prevent the migration of contaminants into the Arctic ecosystem;
- Remove physical hazards for the protection of human health and safety; and
- Implement a cost effective remediation solution.

Resident Engineering services were provided by EBA during the remediation site works that took place between July and October of 2009 and 2010. Cape Christian remediation work primarily consisted of hazardous materials and contaminated soils testing and mitigation (PCB, heavy metals, hydrocarbons, solvents, and asbestos), landfill construction, building and infrastructure demolition, and the collection and disposal of historic buried wastes and barrels at the beach areas. The remediation contractor for the project was Qikiqtaaluk Logistics Inc. (QL) of Iqaluit, Nunavut.

EBA's role in the project included assistance with contract administration, on-site review and inspection of work carried out by the remediation contractor, geotechnical quality control, environmental services including confirmatory sampling of soil and water, and waste characterization sampling of known and unknown hazardous wastes encountered during the work.

1.2 Authorization and Identification

The Project Owner is Indian and Northern Affairs Canada (INAC) and the Contracting Authority is Public Works and Government Services Canada (PWGSC). The remediation contract is No. E0211-060073/001/NCS, and the project title is Cape Christian Remediation Project. The PWGSC project number is R.014496.008.

In response to the PWGSC solicitation for consulting services issued on March 25, 2009, EBA submitted a proposal to PWGSC's Northern Contaminated Sites Program (EBA File: PE22101581, dated April 2009). Based on that submission, EBA was awarded Contract Number EW699-093889/001/NCS on May 7, 2009. Following the termination of the Service Agreement on March 31, 2010, EBA engagement in 2010 was

based on a call-up issued against Standing Offer EW699-100053/003/NCS and EBA's Proposal for 2010 Resident Engineering Services, dated April 13, 2010.

The PWGSC Project Manager was Mr. Jimi Arey, M.Eng., P.Eng., Senior Environmental Engineer for Environmental Services, Northern Contaminated Sites. INAC's project representative was Mr. Dele Morakinyo, Project Manager, Contaminated Sites Program (NRO). The INAC site number is NB018, and the federal site identifier is C1005001.

1.3 Scope of Work

EBA's Scope of Work for resident engineering and consultant services included in the proposal submitted to PWGSC was developed based on the Project Briefs provided by PWGSC (March 2008 and April 2010), the Remedial Action Plan by Earth Tech Canada (January 2007), the Abandoned Military Site Remediation Protocol (INAC 2005 and INAC 2008), and the construction drawings and specifications prepared by UMA/AECOM (March 2009).

The resident engineering consultant services included the following task categories:

- Project management, contract administration, and project meetings;
- Review of contractor project documentation, including reports, specifications, and submittals.
- On-site supervision of remedial works, geotechnical and environmental technical services including geotechnical QA/QC, hazardous waste sampling and classification, and environmental confirmatory sampling.
- Preparation of interim and final remediation reports.

1.4 Licenses and Permitting

The following permits and licenses issued to Indian and Northern Affairs Canada (INAC) related to the site remediation activities at Cape Christian include the following:

- License No. 1BR-LOR0813 (Water License) issued by the Nunavut Water Board for water use and disposal of waste during site remediation, issued on April 30, 2008. The term of the License is five years.
- Land Use Permit No. 701-LUP-B09-001 issued by the Department of Community & Government Services, GN, on April 1, 2009
- Quarry Permit No. 08-701-001 issued by the Department of Community & Government Services, GN, on June 17, 2008.

The Nunavut Impact Review Board (NIRB) screening decision report for the Cape Christian Site Remediation Project Proposal is NIRB File No.: 07DN027, issued by the Honourable Levina Brown, Minister of Community & Government Services, GN, on June 7, 2007. The NIRB Screening Decision contains additional Board-recommended terms and conditions.

2.0 BACKGROUND

2.1 Site History

The former Cape Christian Long Range Navigation (LORAN) radar station is located on the northeast coast of Baffin Island along the Davis Strait, approximately 16 km northeast of the hamlet of Kangiqtugaapik (Clyde River) in Nunavut (Figures 1a and 1b). Coordinates for the site are 70°31' N, 68°17' W.

The site consists of an upper beach ridge and lower beach areas. Prior to demolition the major site features included the Main Station, a dam and water reservoir, an airstrip and terminal, fuel storage facilities including five 102,600-L above ground fuel tanks, an antenna, a garage, storage/emergency buildings and site roads. The site location and pre-remediation features of the site are shown on Figures 1a and 1b, and pre-remediation photographs are shown on Photos 1 to 6.

The site was a communications station built in 1954 and operated by the United States Coast Guard until 1974, after which the facility was abandoned, after which the responsibility for the site was transferred back to the Government of Canada. In 1979, all the buildings and equipment at Cape Christian were transferred to the Government of Northwest Territories (GNWT) pursuant to the federal Surplus Crown Assets Act (Order in Council #P.C 1993-1124).

In 1993, Indian and Northern Affairs Canada (INAC) authorized a block land transfer to the GNWT which included the Cape Christian site. Cape Christian was part of the assets and liabilities transferred from GNWT to the Government of Nunavut when Nunavut became a territory on April 1, 1999. INAC, an agent of the Crown, took a lead role on the Cape Christian project, since it was a site of joint liability.

INAC's Contaminated Sites Management Policy (2002) sets objectives and principles that aim to promote a safer, healthier, sustainable environment. The Policy outlines legal aspects, the timeliness of site assessment, the use of the risk assessment approach, the prioritization and planning of remediation. It also addresses the promotion of social and economic benefits that may accrue to First Nations, Inuit and northerners when carrying out activities related to contaminated sites.

Prior to the comprehensive remediation project which was conducted in 2009 and 2010, the following early assessments of the Cape Christian LORAN site were completed between 1974 and 1992.

- United States Coast Guard (1974 and 1979): Inventory and Evaluation of Buildings.
- Environment Canada (1985): Investigation into the presence of PCB Containing Equipment.
- AVATI-Norecol, for DIAND (1992): Site Assessment and Soil Sampling.

Some remedial activities to remove the most highly-concentrated polychlorinated biphenyl (PCB) sources were also carried out prior to the current remediation project. These included:

- Envirochem Special Projects Inc. for GNWT Dept. of Renewable Resources, Pollution Control Division and Environment Canada (1989 - 1991): PCB Consolidation and Inventory program and Collection of PCBs.
- GNWT Department of Renewable Resources (Environmental Protection Division) (1996): Removal of PCB Containing Equipment.

As part of a more comprehensive remediation approach, the following environmental/archaeological site assessments and reports were completed between 1996 and 2007:

- An Environmental Assessment of a U.S. Coast Guard Loran Station at Cape Christian, NWT. (1996) Environmental Services Group (ESG), Royal Military College, Kingston, Ontario.
- Investigation of PCBs in Paint (1997) Environmental Services Group (ESG), Royal Military College, Kingston, Ontario, 1997.
- Environmental Site Delineation and Material Inventory Former U.S. Coast Guard LORAN Station Cape Christian, Nunavut. (2002) Earth Tech Canada Inc., February 2002.
- Archaeological Impact Assessment Former U.S. Coast Guard LORAN Station Cape Christian, Nunavut. (2006) FMA Heritage Resources Ltd., October 2006.
- Supplemental Environmental Site Assessment, Material Audit and Geotechnical Evaluation. (2007) Former U.S. Coast Guard LORAN Station, Cape Christian, Nunavut, Earth Tech Inc. January 2007.
- Remedial Action Plan Former U.S. Coast Guard Loran Station, Cape Christian, Nunavut. (2007) Earth Tech Inc. January 2007.
- Environmental Assessment of the Site Remediation of the Former U.S. Coast Guard LORAN Station, Cape Christian Nunavut. (2007) Gartner Lee Limited. April 2007.

Ranked as a priority site, the Cape Christian LORAN station received federal funding for risk management and remediation from 2007 to 2010 through the Federal Contaminated Sites Action Plan (FCSAP). In 2007, Earth Tech Canada Ltd. prepared a Remediation Action Plan that described the site-specific remediation objectives and the selected/preferred remedial options. Remediation options were selected from various alternatives based on the most effective reduction of risk to human health and the environment. INAC worked closely with the community, consultants, and the contractor to design and implement the remediation project.

After the development of the RAP, in conjunction with UMA/AECOM, Public Works and Government Services Canada (PWGCS, Real Property Services, Western Region) issued detailed contractor specifications for the site remediation activities. Specifications were issued in March 2007 and the drawings were revised in March 2009. An Environmental Impact Assessment of the proposed remediation activities was completed (Gartner Lee Limited, 2007), as required under the Nunavut Land Claim Agreement (NLCA) and the Canadian Environmental Assessment Act (CEAA).

A remediation contract was awarded in 2007 to Qikiqtaaluk Logistics Inc., an Inuit-owned firm based in Iqaluit, Nunavut. Qikiqtaaluk Logistics is a subsidiary of Qikiqtaaluk Corporation (QC), the wholly Inuit owned birthright development corporation of the Qikiqtani region of Nunavut. The contractor mobilized to a location near the site in the fall of 2008, and remediation was completed two years later in the fall of 2010.

INAC will manage the post-closure site monitoring and aftercare as outlined in the 2008 Abandoned Military Site Protocol. Site monitoring will consist of periodic visual inspections of the permanent site facilities including the non-hazardous landfill, the reservoir breach, and the four groundwater monitoring wells installed at the landfill. INAC will also conduct groundwater monitoring at the site periodically up to

25 years post-remediation to verify the performance of the non-hazardous landfill. Other permanent features associated with the site that are no longer the under the jurisdiction of INAC include an emergency storm shelter (Photo 7) now owned by the community of Clyde River and a cabin near the coast to the north owned by a resident of Clyde River.

2.2 Rationale for Remediation

Prior to remediation, physical hazards at the site included unsound structures and unconsolidated site debris. Hazardous and non-hazardous materials were scattered throughout the area. Visible non-hazardous site debris included large pieces of abandoned machinery, boilers, scrap metal, domestic wastes, spools of wire, antennas, and poles. Known hazardous wastes at the site included asbestos-containing building materials, PCB- and lead-amended paint, compressed gas cylinders, and petroleum oils and lubricants (POL) left in above ground storage tanks, barrels, and pipelines.

Extensive areas of buried or partially-buried unconsolidated debris and hazardous wastes were present at the beach areas. Both the upland site soils near the Main Station and areas of beach sands were impacted by historic spills of hydrocarbons, PCBs, and heavy metals.

Through the Northern Contaminated Sites Program (NCSP), and as a caretaker of federal lands, INAC has made it a priority to assess, prioritize, mitigate and remediate the environmental impacts of contaminated sites in Canada's North. As per INAC's Contaminated Sites Management Policy (2002), full-scale site assessment work was completed at Cape Christian between 1996 and 2007 to identify the nature and extent of the contamination prior to remediation. Comprehensive site assessment is also required by FCSAP; a cost-shared program that has the primary objective of assisting federal custodians such as INAC to reduce the risks and liabilities of contaminated sites for which they are responsible. In addition to site remediation, other objectives of the FCSAP program include supporting socio-economic outcomes, such as training and employment of and promotion of innovative technologies.

FCSAP-funded remediation/risk management and care and maintenance projects are prioritized according to the nature, severity, and immediacy of human health and environmental risks posed by the site. The ranking framework is the 2008 National Classification System for Contaminated Sites (NCSCS) developed by the Soil Quality Guidelines Task Group of the Canadian Council of Ministers of the Environment (CCME). Based on the outcome of the site assessments, prior to remediation the Cape Christian site had a NCSCS score of 76, or a Class 1 site. Class 1 sites are those with a total NCSCS score greater than 70, and receive the designation of High Priority for Action.

2.3 Description of Work

The main components of the contractor's two-year site remediation program included the following tasks:

- Selection of site access and construction of camp including the design and construction of a sewage lagoon.
- Development of borrow sources as required for road improvement, landfarm and landfill construction.
- Provision of a facility to sort and containerize site hazardous wastes and to clean barrels.
- Construction of a non-hazardous landfill to contain demolition wastes and DCC Tier I contaminated soil as defined by the DEWLine Clean-up Protocol.

- Decommissioning and demolition of site infrastructure, and segregation of hazardous and non-hazardous solids and liquids.
- Transportation and disposal of non-hazardous site debris and building materials to on site landfill, and containerization/shipping/off-site disposal of hazardous materials and soils.
- Collection, preparation and landfill disposal of non-hazardous site debris.
- Excavation and processing of buried wastes, including whole and crushed barrels, in the beach areas (Worked Areas).
- Design, construction and operation of a landfarm for the on-site treatment of F1-F2 range hydrocarbon-impacted soils.
- Dewatering and decommissioning of the former water reservoir.
- Restoration of areas affected by work and general re-grading of the work areas.

QL was also responsible for providing camp facilities, site vehicles, site communications, transportation services to and from Clyde River, worker orientation and site-specific training, safety planning and medical services, and the provision of wildlife monitors. All works were to be carried out in accordance with the terms and conditions of the site permits, including a Land Use Permit, the Water License, and Quarry Permit.

2.4 Archaeological Areas

The Department of Culture, Language, Elders and Youth (CLEY) oversees the protection and management of archaeological resources in Nunavut. The Inuit Heritage Trust, under the provisions of Article 33 of the NLCA, also plays a role. CLEY also reviewed the land use permit application to review the potential impacts of the Cape Christian remediation project on heritage resources.

Conditions for the Contractor's use of the site included enforcing no trespassing in the designated archaeological areas identified during the archaeological assessment of the site. Accordingly, at the beginning of the project the boundaries of the archaeological areas were staked and no trespassing signs were posted. Workers were informed of the location of the archaeological resources during the site orientation, and were instructed not to take vehicles into the areas (Figure 1a).

3.0 INAC MILITARY SITE PROTOCOL

3.1 Remediation Objectives

The remedial goal of the Cape Christian project was to restore the site to meet the environmental objectives established for northern sites as per INAC's Abandoned Military Site Remediation Protocol (2005 and 2008). This Protocol is designed to address legal requirements, health and safety issues, Contaminated Sites Management Policy requirements, confirmatory sampling, post-closure monitoring, and other standard environmental issues.

The Protocol identifies financially prudent methodologies that address all the identified project requirements while maintaining a cost effective remediation project in accordance with the federal real property approach.

3.2 Remediation Framework

INAC's Protocol is largely based on the Department of National Defense (DND) DEWLine Cleanup (DLCU) Protocol. The DLCU criteria and Defense Construction Canada (DCC) criteria were developed by DND following a series of environmental investigations conducted at cold climate abandoned radar sites between 1989 and 1994. In addition to providing soils remediation criteria, the Protocol also provides guidance on the remediation of old landfills, dumps, abandoned buildings, physical debris and barrels (INAC, 2005).

DND initiated remediation of the first DEWLine sites using the DLCU Protocol in 1996, and since then has applied the Protocol to all DND sites. The DLCU criteria have been validated at DEWLine sites in part by collecting soil and vegetation samples to monitor contaminant uptake using the CCME framework involving the contaminant source, pathway and receptor approach. As DND projects proceeded and the CCME regulatory framework changed, a number of developments and modifications were made to the DND Protocol such as the addition of petroleum hydrocarbons (PHC) criteria and a revised framework to address the case where background heavy metal concentrations were higher than the DLCU criteria.

In creating the Abandoned Military Site Remediation Protocol, INAC reviewed the applicability of the DLCU Protocol and site conditions to the INAC abandoned military sites (WESA 2004). With minor modification, the DLCU Protocol was found to be generally applicable to INAC military sites, providing a sound approach to address specific remediation technical issues.

During the Cape Christian clean up, two previously unidentified substances were discovered, assessed and remediated. One was a chlorinated solvent trichloroethylene (TCE) that was found in soil near the Main Station, and the other was creosote-impacted (polycyclic aromatic hydrocarbons) soils in the vicinity of the timber poles on the site. In the 2005 Protocol, contaminants excluding hydrocarbons that are not addressed by the DEWLine Cleanup Criteria (2005) are generally treated using the CCME risk assessment approach (Tier 3). In this case, however, a conservative approach using current CCME Tier I environmental soil remediation criteria were used to amend and increase the scope of the RAP to include TCE and PAH affected soils.

3.3 Soils

In the case of the Cape Christian project, clean-up remediation criteria were applied to the contaminated soils, which included soils affected by:

- Heavy metals;
- Polychlorinated biphenyls (PCB);
- Petroleum hydrocarbons (F1 to F4);
- Trichloroethylene (TCE), and
- Polycyclic aromatic hydrocarbons (PAH).

Soil remediation guidelines were taken from the 2005 Abandoned Military Site Remediation Protocol, except for TCE and PAH, where CCME soil quality guidelines were applied. At Cape Christian, contaminated

soils were encountered in the vicinity of buildings, at the sewer outfall, within some of the buried debris areas, and next to creosote-treated utility poles.

3.3.1 Metals and Polychlorinated Biphenyl

Metals-impacted soils were classified according to DCC Tier I and DCC Tier II standards (Table 1). Soils that exceeded the DCC Tier I criteria but were less than the DCC Tier II Criteria were excavated and buried in the on-site nonhazardous landfill. Soils that exceed the DCC Tier II criteria and were excavated, containerized, and shipped off-site for disposal at a licensed facility. The DCC criteria are consistent with the Canadian Environmental Protection Act (CEPA), which regulates the removal and destruction of PCBs at concentrations greater than 50 mg/kg, regardless of the matrix (CEPA, 1999).

Table 1: DCC Tier I and Tier II Criteria for Metals and PCB in Soils (INAC, 2005)

	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	PCB
Tier I (mg/kg)	-	-	-	-	-	200	-	-	-	1
Tier II (mg/kg)	30	5	250	50	100	500	2	100	200	5

3.3.2 Petroleum Hydrocarbons

Clean-up guidelines for hydrocarbon contaminants were derived in the Abandoned Military Site Remediation Protocol following the principles of the 2001 CCME Canada Wide Standards for Petroleum Hydrocarbons (Table 2). Consistent with the CCME framework, hydrocarbon contamination at Cape Christian was addressed through the application of the CCME Canadian Wide Standards for Petroleum Hydrocarbons (CWS-PHC) at the CCME Tier 2 level (CCME 2001).

The hydrocarbon-affected soils at Cape Christian were within 1.5 m from the ground surface, and generally consisted of sand. In the CCME framework, coarse-grained soils are those soils with greater than 50% of the material having a grain size larger than 0.75 µm. The F1 to F4 criteria consider the pathways of soil ingestion (far-shore criteria) and protection of aquatic life (near-shore criteria).

Table 2: Site-Specific Criteria for F1 to F4 Fraction Petroleum Hydrocarbons (INAC, 2005)

	F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
Near Shore (mg/kg) <10 m from shore	230	150	18,000	25,000
Far Shore (mg/kg) >10 m from shore	15,000	8,000	18,000	25,000

3.3.3 Trichloroethylene

An historic spill of trichloroethylene (TCE), a chlorinated hydrocarbon solvent that was formerly used as a degreaser, was confirmed at the start of the 2010 remediation season at Cape Christian. The 2006

Canadian Soil Quality Guidelines for the protection of environmental health were applied as clean-up criteria. The soil guideline value for coarse-grained soils is 0.05 mg/kg TCE.

3.3.4 Polycyclic Aromatic Hydrocarbons

Most of the tall utility poles at the Cape Christian site were preserved with coal-tar creosote. Polycyclic aromatic hydrocarbons, or PAH, are some of the hazardous constituents in creosote that can affect the adjacent soils surrounding the base of the poles. The 2008 Canadian Soil Quality Guidelines for the protection of environmental health were applied as clean-up criteria.

Table 3: Criteria for Polycyclic Aromatic Hydrocarbons for the Protection of Environmental Health (CCME, 2008)

	Anthracene	Benzo[a]-pyrene	Fluoranthene	Other PAHs
Agricultural/residential land use, (mg/kg)	2.5	20	50	No guideline

3.4 Site Debris and Demolition Wastes

Site debris and demolition wastes were collected and segregated into hazardous and non-hazardous waste streams. Non-hazardous wastes such as empty barrels, above-ground storage tanks, abandoned vehicles, and building components were cut up, crushed, and landfilled on-site. Asbestos-containing materials were double-wrapped, labelled disposed of in a surveyed location situated in the southwest corner of the site landfill. Creosote-treated utility poles were wrapped in polyethylene sheets and disposed of along the east side of the landfill.

3.5 Buried Debris Areas

Eight solid waste disposal areas (Worked Areas) were identified on the Cape Christian contract documents, and three additional small areas were identified during the remediation project (Figures 1a and 1b). Buried debris from the Worked Areas was excavated under the supervision of QL's hazardous waste staff, who sorted the materials into hazardous and non-hazardous waste streams.

The soils in the buried debris areas consisted of medium to coarse-grained sand. None of the soils in these areas had been characterized during the previous site investigation phases, with the exception of Worked Area WA-1. EBA performed confirmatory sampling of the excavation base and perimeter, as well as sampling of the excavated sand stockpiles prior to backfilling the excavated areas with excavated sand or other clean borrow materials. The criteria for soil metals, hydrocarbon and PCB that were used in other areas of the site were also applicable to the buried debris areas (Section 3.3).

Confirmatory sampling frequency and location, and the type of chemical analysis performed was adapted from the 2008 INAC Protocol to suit the actual site conditions encountered to adequately verify that the soil environmental quality in the buried waste areas met the project remediation goals.

One example of adaptation of the INAC Protocol to site conditions involved the bulk stockpiling, screening, and transport of large volumes of buried wastes consisting small-sized mixed debris, hazardous wastes and

sand, as was the situation in some areas at Cape Christian. In this case, performing discrete sampling of stockpiles from particular areas as described in the Protocol was not possible due to the bulk mixing of the soils during waste excavation, transport and processing by screening. EBA implemented increased sampling frequency, up to one or two samples per stockpile, and increased suite of analyses for buried debris and soils found in association with hazardous wastes such as batteries, transformers and waste oil (Worked Areas WA-6 and WA-7), or in soils that were stained or had unusual odour that was not attributable to domestic waste organic matter. In contrast, stockpile sampling frequency and analysis type was reduced in areas where only dry, inert wastes were found (Worked Areas WA-5 and WA-9). In this case, because the excavation sampling indicated to evidence of contamination, the associated stockpiles were not sampled.

Contact water and meltwater accumulating in the excavations was sampled prior to discharge to the environment. Discharge criteria were identified in the Nunavut Water Board License, and are provided in Section 3.7.

3.6 Painted Building Materials

When the concentration of PCBs in paint is higher than the Canadian Environmental Protection Act (CEPA) regulation of 50 mg/kg the material must be stored in accordance with the Storage of PCB Materials Regulations and be disposed of at a licensed PCB disposal facility (CEPA, 1999). On-site long-term storage of containerized soil and building materials is impractical because year-round site conditions do not allow for frequent site inspections, as required under PCB storage regulations. Consequently, the Cape Christian RAP stipulated containerization and shipping for off--site destruction of all PCBs soils and materials with over 50 mg/kg PCB.

During the site assessment stage, when the concentration of PCBs in building materials was less than 50 mg/kg, the paint was tested for lead. For this project, the TDGA criterion for determining off-site versus on-site disposal is based on a leachate concentration of 5 mg/L. If the leachate results were higher than this criterion, the material was designated as hazardous waste and was shipped off-site to a licensed disposal facility in accordance with TDGA regulations. If the leachate results were less, the materials were disposed of as non-hazardous waste in the on-suite landfill.

3.7 Barrel Contents

Although the near-surface barrels at the Cape Christian site were mostly empty, many barrels in the buried debris areas (Worked Areas) at the beach contained aqueous liquids or petroleum hydrocarbons. Other barrels containing liquid wastes were discovered in the vicinity of the Main Station. Barrels that contained fluids at the Cape Christian site were handled in accordance with the DEWLine Clean-up Barrel Protocol developed by DND. The barrel protocol (Table 4) is designed to identify barrel contents sufficiently that the contents can either be treated/disposed of on-site, or shipped off-site for disposal.

Table 4: DLCU Barrel Protocol Criteria and Disposal (INAC, 2005)

	% Glycols or Alcohols	PCB ppm	Chlorine ppm	Cadmium ppm	Chromium ppm	Lead ppm	Disposal
Organic	-	<2	<1,000	<2	<10	<100	Incineration
Organic	-	>2	>1,000	>2	>10	>100	Ship
Aqueous	>2%	>2	>1,000	>2	>10	>100	Ship
Aqueous	>2%	<2	<1,000	<2	<10	<100	Incineration
Aqueous	<2%						Dispose on land

As per INAC's barrel protocol, barrel contents were first identified as organic or aqueous and the concentrations of glycols, alcohols, PCBs, chlorine, cadmium, chromium and lead were determined.

Aqueous liquids were stored and treated to meet the permitted water discharge requirements (Table 5) prior to discharge at a suitable location on land. Discharge requirements for treated aqueous barrel contents were required to meet the following concentration limits, as per the Nunavut Water Board Licence No. 1BR-LOR0813:

Table 5: Water Discharge Limits (NWB Water License, 2008)

Parameter	Maximum Allowable Concentration (ug/L)
pH (pH units)	6 to9
Oil and Grease	5,000
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
PCB (total)	1,000
Phenols	20
Zinc (total)	500

These criteria were also applicable to contaminated soil excavation contact water, water accumulating in the ditches at the landfarm, water accumulating within the excavated buried debris areas on the beach, and the landfill contact water during the operational phase of the landfill. This water testing was the responsibility of QL, with results submitted to EBA, PWGSC, and INAC for review of compliance with Water Licence criteria prior to land discharge.

The DEWLine barrel protocol indicates that uncontaminated organic phases (i.e., non-waste oil hydrocarbons with low concentrations of metals) can be incinerated; however, QL chose to not incinerate on-site. All free-phase liquid petroleum hydrocarbons that were collected at the Cape Christian site were shipped off-site for disposal.

Barrels were to be crushed and disposed of in the on-site non-hazardous landfill after emptying and cleaning.

3.8 Hazardous Materials

In accordance with the Cape Christian RAP and the project specifications, hazardous waste materials were designated as hazardous under Nunavut Territorial or Federal legislation, or as "dangerous goods" under the TDGA. For this project, the following items were designated as hazardous:

- Asbestos;
- Batteries;
- Solvents;
- PCB-containing oils;
- Petroleum distillates;
- Tank sludge;
- Soils and paint chips containing PCBs at concentrations in excess of 50 parts per million and/or leachable lead in excess of five parts per million;
- Material, including wastewater, groundwater and surface water, identified to be hazardous as the result of testing;
- Electrical equipment including capacitors, transformers, and regulators which contain or are suspected to contain PCBs at concentrations in excess of 50 ppm; and
- Any aqueous liquids not meeting the water discharge limits as per the NWB Water License.
- Compressed gas cylinders

All hazardous material was shipped off site to licensed hazardous waste disposal facilities in Quebec and Alberta. The one exception was asbestos, which was double-bagged and disposed of in the engineered site landfill, in accordance with the INAC Protocol. Creosote treated timbers were wrapped in polyethylene and were also placed in the landfill.

PCB paint and PCB painted components regulated under the CEPA (greater than 50 ppm) were containerized and shipped to Swan Hills Treatment Centre, which is the only disposal facility in Canada that is licensed to accept high level PCB for destruction.

Lead-based paint considered to be hazardous (leachable lead concentration greater than 5 mg/L) was collected and transported off-site. Painted materials and building components not considered to be hazardous were disposed of in the on-site landfill.

Compressed gasses in cylinders were incinerated or vented to the atmosphere depending on the gas, with the exception of the chlorofluorocarbon (CFC) refrigerant. CFC is a powerful greenhouse gas, and these cylinders were shipped off-site for proper disposal.

4.0 COMMUNITY INVOLVEMENT

4.1 Community Consultation

Several community meetings were held at Clyde River during the site assessment, RAP development, and remediation stages of the Cape Christian project. The purpose of the meetings was to address the comments, questions and concerns of the local population.

The first community meeting was held on March 25, 2002, with representatives of INAC, PWGSC, the Government of Nunavut (GN), the Nunavut Research Institute (NRI) and Clyde River residents in attendance. Following the development of the RAP, a second meeting that included members of the community, representatives of Namautaq Hunters and Trappers Organization (HTO), the elders, the GN, and the hamlet council was held on November 29, 2006.

After the remediation project was awarded to Qikiqtaaluk Logistics, community meetings were held in Clyde River on October 21, 2008 (pre-mobilization), September 9, 2009 (after the first season of remediation activities), and September 15, 2010. The final consultation also included a Community Feast to celebrate the conclusion of a successful remediation project.

Minutes of the questions and answers that were available at the time of issue of this report are provided in Appendix B. Names other than those associated with INAC, PWGSC and QL, the attendance list, and photographs have been removed from the minutes to protect the privacy of Clyde River residents.

4.2 Inuit Employment

Along with restoring the land, Inuit employment, capacity building, training, and promoting the economic growth of Nunavut are key components to INAC's Northern Contaminated Sites Program. The Cape Christian project offered significant opportunities for local skills development. Qikiqtaaluk Logistics was awarded the Cape Christian remediation contract committing to over 85 percent Inuit employment and to providing 75 percent of sub-contract work to Inuit firms. By the end of the third quarter, the actual Inuit employment achieved was 73.92 percent, and Inuit business achieved was 84.87 percent.

In addition to hiring local residents of Clyde River in both the 2009 and 2010 Cape Christian remediation seasons, QL provided the following training to staff, as required during the remediation project:

- Worker site orientation;
- Basic First Aid;
- ATV use;
- Hazardous material handling and respiratory fit testing;
- Workplace Hazardous Material Information System (WHMIS);

- Fire extinguisher training;
- Transport of Dangerous Goods (TDG);
- Camp operation/housekeeping/administration;
- Heavy equipment training for four people at OETIO (Operating Engineers Training Institute of Ontario); and
- On-the-job training support and supervision.

EBA hired and trained local Clyde River residents (youth) as an Environmental Technician Trainees in both 2009 and 2010. The employees received training in safety, soil and groundwater sampling, and geotechnical testing. The employee first hired by EBA in 2009 was subsequently employed by QL the following year.

4.3 Material Salvage

By request, salvaged copper wire and grounding rods were given to Mr. Joshua Illauq, of Clyde River. A number of tall utility poles were in excellent condition, and these were transferred to the Nunavut Airport Authority by signed waiver (Appendix C). Some untreated timbers used for the foundations of the Main Station were retained by the Contractor.

4.4 Traditional Knowledge

The Cape Christian remediation project benefited greatly from site-specific Traditional Knowledge of the climate and the local environment that was provided by Clyde River residents who attended community consultations and who were hired-on. Some of this valuable information, such as migratory mammal behaviour, timing of the ice breakup, site access, and weather patterns, was used by QL to plan work efficiently and safely, thereby contributing to the overall success of the project. Also, some of the elders who had visited the operational military site during their youth could recall specific information about site facilities and past use of buildings and the land. For example, regarding one buried debris area (Worked Area WA-9) that was discovered in 2010, an employee could recall that a cabin had once stood there.

Sightings of birds and mammals were reported to QL by both the Wildlife Monitors, hunters, and other project personnel. The Clyde River elders hired on as Wildlife Monitors for the Cape Christian project provided important information regarding the location and migratory movements of large mammals including polar bears, bowhead whales, and narwhals that were commonly sighted during project works. Local insights into the travel patterns and behaviour of polar bears were used to plan project work with the aim of preventing human-bear encounters and avoiding disturbance to the bear migration.

Employed elders were consulted regarding bones, human remains, and possible archaeological features that were discovered during the course of the project.

5.0 SITE WORK

5.1 Summary of Activities

The overview Figures 2a and 2b highlight the items that were remediated in 2009, and Figures 3a and 3b show the work that was completed in 2010. Work conducted at the Cape Christian site included the following activities:

- Collection and containerization of known liquid/solid/gas hazardous wastes scattered throughout the site, including batteries, transformers, fuel, waste oil, PCB, lead amended paint, paint cans and, asbestos as well as the collection and containerization of unknown hazardous wastes that were discovered during the project, including sodium oxide (former Hazmat building), PAH affected soils removed from the base of creosote-treated utility poles, trichloroethylene (TCE) affected soils (near Main Station), and liquid chlorinated solvent (Worked Area 6). Hazardous wastes work also included asbestos abatement and lead/PCB painted materials abatement. All PCB wastes were removed from the site in 2009, and the balance of the hazardous waste was shipped in 2010. Cylinders of gas that could not be shipped or could not be identified were abated on site in September 2010 by a specialty contractor.
- Excavation of contaminated soils including soils affected with diesel fuel, waste oil, creosote, metals, PCB and TCE. Contaminated soil sites are identified as Areas of Environmental Concern, AEC-1 through AEC-13 on the drawings. Depending on the degree and nature of the contamination, affected soils were treated at the landfarm (F1-F2 hydrocarbons), disposed of in the on-site landfill (Tier I soils) or removed from Cape Christian for off-site disposal (Tier II and hazardous soils). All soils identified on the contract drawings were excavated in 2009, except for some additional hydrocarbon-affected soils in the vicinity of AEC-3 that were remediated in 2010. Soils impacted by TCE and PAH were excavated for off-site shipment in 2010. Containerized Tier II soils are shown on Photo 8.
- Clean-up of debris areas are shown as DA-1 through DA-11 on the drawings. In 2009 this task was increased to include all areas of Cape Christian, as it was evident once remediation was underway that small and large debris was scattered throughout the site and in areas on the beach. Scattered site debris was removed by hand by a work crew and ATV and trailer or by excavator if articles were very large. Site debris removal proceeded throughout the 2009 and 2010 seasons.
- Excavation of eleven buried debris areas (Worked Areas, or WA-1 through WA-11 on the drawings), including nine areas on the beach and one area near the archaeological site. Waste materials were removed by machine excavation, sifting and crushing, as well as manual collection and sorting. If warranted based on field evidence, excavated overburden sand and screened sand was tested for chemical quality prior to backfilling, and additional clean fill was used where required to restore the areas. Eight of the debris areas were identified on the contract drawings (WA-1 through WA-8), and three additional areas were discovered during the remediation project (WA-9 through WA-11). Worked Areas WA-1, WA-3, WA-4 were excavated completely and WA-2 and WA-6 were excavated partially in 2009. The remainder of the buried debris was removed in 2010.

- Demolition of buildings, foundations, utility poles, tanks and pipes, and decommissioning of the former water reservoir. All buildings were decommissioned in 2009, and the water reservoir breach was completed in 2010.
- Site activities in support of the environmental work included borrow area development and restoration, the construction of a non-hazardous landfill, the construction and operation of a landfarm to treat the diesel-fuel affected soils, set up of a hazardous materials processing area (former hazmat building and temporary storage area for containerized wastes, and the installation of four groundwater monitoring wells at the landfill.

5.2 Site Personnel and Equipment

QL staff consisted of a site superintendent, a hazardous materials team, safety supervisor, foreman, heavy equipment operators, mechanics, wildlife monitors, laborers, medic, surveyor, camp operational staff and administrative staff. The numbers of site personnel ranged from a skeleton crew of eight to 10 people pre-camp opening and post-camp closure, and up to 45 staff during the busiest times of site activity.

The camp was constructed at the start of season in 2009, situated close to an unnamed river that was the source of drinking water for 2009 and 2010. The camp location and 600 m^3 sewage lagoon as-built is provided in Appendix D. Camp facilities included two generators, one incinerator, a geotechnical laboratory, a garage, a fuel storage berm, several storage containers, and a recreation room (Photo 9 and Figure 5f).

Site heavy equipment consisted of rock trucks (3), excavators (3), bulldozers (2) and front-end loaders (2). Additional site equipment included a roller-compactor, water truck, fuel truck, rotary air drill, highboy flatdeck, mechanical screener, vacuum truck and oil-water separator. Other vehicles on site included light-duty trucks and all-terrain vehicles.

EBA staff was on-site at Cape Christian continuously throughout both the 2009 and 2010 work seasons to oversee the remediation project. EBA's principal role in the project was to ensure that the works were carried out as per the contract documents and specifications, the health and safety plan for the site, and in accordance with the conditions set forth in INAC's land and water use permits for the site.

Site staff consisted of at least one Resident Engineer (Mr. Herb Zier-Vogel, P.Eng. in alternation with Ms. Daniela Felske, P.Eng) at most times supported by additional environmental and geotechnical staff, as well as the locally-hired technician trainee. EBA staff was present at Cape Christian during the following periods:

- July 4, 2009 to September 24, 2009.
- June 29, 2010 to October 5, 2010.

There were 207 EBA person-days recorded in 2009 and 209 EBA person-days in 2010, for a total of 416 EBA person-days on site. This number also includes days on site for PWGSC and INAC representatives.

Site work responsibilities of the EBA site engineer and technicians included conducting geotechnical testing and QA/QC during the construction of the landfill, confirmatory soil sampling, hazardous waste sampling, and site characterization of previously undiscovered historic spills. The resident engineer was present

on-site daily to monitor and photograph the work and to verify scheduling, quantities and progress of site tasks. Daily and weekly progress reports were provided to PWGSC and INAC.

The summary of quantities tracked on-site, including EBA site personnel, barrels removed, mechanical screening of wastes and borrow material, soil and intermediate fill to the landfill, landfarm quantities, and quarried loads from the nine borrow areas developed during the project are presented in Tables 6 and 7 (see Tables Section). The earthworks and debris quantities presented are not intended to be exact, but are estimates that were used in part to corroborate general quantities of materials where invoicing was not based on surveyed areas and volumes.

EBA tasks related to contract administration included holding weekly construction meetings, compliance meetings, review and approval of invoiced work and quantities, attendance of daily and weekly site safety meetings, and assisting PWGSC in matters related to changes to the contract and potential additional work. Meeting records were prepared by EBA and submitted to PWGCS and INAC.

The EBA Project Manager and Senior Geotechnical Engineer for the Cape Christian project was Mr. Bill Horne, P.Eng. Mr. Horne attended and prepared meeting minutes for the start-up and close-out meetings in both 2009 and 2010. Meetings were held on the following dates:

- May 12, 2009: Pre-Construction Meeting
- February 25, 2010: Construction Start-up Meeting
- December 7, 2010: Project Close out Meeting

Meeting minutes have been provided separately to PWGSC and INAC.

In addition to participation in the project planning meetings, Mr. Horne was at Cape Christian during the following dates:

- July 7 to July 9, 2009 (Site start-up and borrow source inspection)
- July 14 and 15, 2010 (Progress inspection)
- August 25 to August 27, 2010 (Interim completion inspection)
- October 3 to October 5, 2010 (Final inspection)

Other site inspections were done periodically by representatives of DFO, Health Canada, and the INAC Enforcement Officer. An external health and safety audit was carried out in 2009, and internal PWGSC health and safety audits were carried out in both 2009 and 2010.

5.3 Schedule

Mobilization began in the fall of 2008, with heavy equipment and supplies brought to a location near Clyde River. Access to Cape Christian was via a bridge and road that was constructed by QL; work that was not part of this remediation project.

Remediation work was completed within a 12-week period in 2009 and a 14-week period of site activity in 2010, between late June and early October.

The following Table 8 is an outline of the major tasks involved in the remedial works carried out in 2009 and 2010. The photographs at the end of this report show the major components of the work.

Table 8: Summary of Site Work 2009 and 2010

Task	Summary Details
Mobilization	Barge landing in fall of 2008. Materials and equipment were mobilized to a location near the site during winter 2008.
AEC-1	First stage of excavation July 1, 2009, second stage of excavation September 5 to 7, 2009. Soils moved to landfarm for treatment. Backfill with all landfarm soils August 14, 2010.
Camp opening	Set up communications and water supply. Sewage temporarily stored in pit pending construction of sewage lagoon. Site roads upgrading. Official camp opening July 3, 2009 (communications operational).
WA-4	Fully excavated July 4, 2009.
Hazardous materials removal from Hazmat building	July 6 to 9, 2009. Inventory and containerization of hazardous materials in the former Hazmat building (Photo 6). Open and collect fluids from tanks and piping.
Landfill site preparation	Surveying and removal of overburden, prepare landfill base including rock removal. July 8 to July 17, 2009 (Photo 10).
Hazardous materials processing area	July 9, 2009. Decommissioned August 12, 2010 (Photos 11 and 12)
Worker Orientation and training	Orientations provided on July 11, 2009 and July 4, 2010. Asbestos abatement training provided July 18, 2009.
Removal of PCB-amended and lead-amended paint from Main Station and garage	July 11 to August 4, 2009.
Construct sewage lagoon	July 11 to July 19, 2009 (Photo 13).
Archaeological site	July 11, 2009 stake out and demarcate archaeological site.
West landfill berm	July 17 to July 31, 2009 (Photo 14).
Asbestos abatement	Asbestos abatement contractor arrived to site on July 17, 2009. Asbestos abatement July 18 to July 24, 2009 (Photo 15).
Construct landfarm	July 18 to July 19, 2009 (Photo 16).
WA-1 (AEC-13)	Barrel removal July 19 to August 2, 2009. Excavate soils August 3 and 4, 2009 and move to landfarm for treatment. Backfill August 29, 2009 (Photos 17 and 18).
North landfill berm	July 31 to September 10, 2009 (Photo 19).
Infilling wastes at the landfill	August 2, 2009 to August 30, 2010 (Photo 20).
WA-2	Partially excavated August 3 to August 5, 2009. Backfilling September 21, 2009. Further excavation August 2 to August 18, 2010. Backfill September 1 to September 8, 2010.
WA-6	Partially excavated August 5 to September 13, 2009. Further excavation July 4 to August 8, 2010. Backfill August 21, 2010 to September 2, 2010 (Photos 21 and 22)
Main Station	Building demolition from August 5 to August 9, 2009 (Photo 23).

Table 8: Summary of Site Work 2009 and 2010

Task	Summary Details
Groundwater Monitoring Wells	Wells MW-1, MW-2 and MW-3 installed on August 5, 2009. Well MW-4 installed July 12, 2010 (Photos 24 and 25)
Site debris collection	August 8, 2009 to end September, 2010 (Photo 26 and 27).
AEC-2, AEC-5, AEC-6	Excavation of soils August 17, 2009.
Utility poles cutting	August 25 to September 1, 2009 (Photo 28).
East landfill berm	August 27, 2009 to September 1, 2009 (Photo 29).
AEC-7 and AEC-11	Excavation of soils August 30, 2009.
AEC-9	Excavation of soils August 31, 2009.
AEC-12	Excavation of soils September 1, 2009.
AEC-4	Excavation of soils September 3, 2009.
Removal of pole stumps and PAH-affected soils	September 8 to September 18, 2009 (Photo 30).
Phenols water treatment	September 7 to September 20, 2009 and August 8, 2010 to August 11, 2010 (Photo 31). Decommission.
WA-3	Excavation of soils September 13, 2009 (Photo 32).
AEC-8	Excavation of soils September 18, 2009.
AEC-10	Excavation of soils September 19, 2009.
AEC-3	Excavation of soils September 20, 2009. Further excavation of soils July 12 and August 19, 2010 (Photo 33 and 34).
Removal of flagpole foundations in archaeological site	October 1, 2009.
Camp closure 2009	October 2, 2009.
Camp opening 2010	June 30, 2010.
WA-8	Excavated between July 18 and July 20, 2010.
Pump water reservoir	July 15, 2010 to August 5, 2010 (Photo 35).
WA-7	Excavation July 10 to August 7, 2010. Asbestos removed August 6, 2010. 580 m^3 Tier I PCB soils taken to landfill August 15, 2010. Backfill August 17 to 20, 2010 (Photos 36, 37, and 38).
Screening of wastes at buried debris areas	July 18, 2010 to August 13, 2010 (intermittent, as required). Photos 39, 40 and 41.
WA-5	Excavation July 30 to August 16, 2010.
Remove landfarm soils	August 12, 2010. Decommission landfarm August 15, 2010.
TCE soils	Excavation August 13 to August 18, 2010. Pump and backfill August 20, 2010.
WA-9	Excavation August 16 to 18, 2010.
WA-10	Excavation August 18 to 19, 2010.
Burn untreated timber; add wrapped creosote-treated poles to landfill.	August 18, 19 and 20, 2010 (Photo 42).
Landfill cap construction	August 22 to October 4, 2010.
Reservoir breach	August 22 to September 8, 2010 (Photos 43, 44, 45 and 46).

Table 8: Summary of Site Work 2009 and 2010

Task	Summary Details
Geotextile installation	August 25 and 26, 2010 for north side. September 3 and 4, 2010 for south side and slopes (Photos 47, 48 and 49).
South berm	Start August 26, 2010 (Photo 50)
WA-11	Excavation August 31, 2010.
Screening for Type1 materials for landfill cover	September 2, 2010 to October 1, 2010 (Photo 51).
On-site gas cylinder mitigation	September 15, 2010 (Photo 52).
Placement of Type 1 cap at landfill	September 16 to October 3, 2010 (Photos 53, 54, and 55).
Regrade borrow areas	September 19 to October 10, 2010.
Bronze plaque installed at former Main Station	September 29, 2010 (Photo 56).
Decommission sewage lagoon	October 10 to 15, 2010.
Remove final culverts, close camp and demobilize	October 3 to October 5, 2010. Final demobilization October 19, 2010 (Photo 57).

5.4 Permit Quantities

Permit-related site activities that were monitored included quarrying, water usage, sedimentation control, drinking water testing, water usage, and the discharge points for sewage, landfill, and the landfarm.

A tabular summary of quantities tracked by the Resident Engineer in 2009 and 2010 are provided in Tables 6 and 7, respectively. The Monitoring Stations related to the Water License 1BR-LOR0813 are shown on Figure 4.

5.4.1 Water Usage

The source of water at the on-site camp was an unnamed river adjacent to the Cape Christian to Clyde River road. Water use was metered continuously from camp opening on July 4, 2009 to camp close in October 2010. As per the Water License, the maximum daily water use rate was 15 m^3 per day.

Based on daily information collected by EBA, the following Table 9 summarizes the actual water usage during the 2009 and 2010 remediation season:

Table 9: Water Use 2009 and 2010

Month	July 2009	August 2009	September 2009	October 2009
Meter Reading, m^3 end of month	154	345	530	537
Average Daily Water Use, m^3	5.7	6.2	6.2	3.5
Monthly, m^3	154	191	185	7

Table 9: Water Use 2009 and 2010

Month	July 2009	August 2009	September 2009	October 2009
Month	**July 2010**	**August 2010**	**September 2010**	**October 2010**
Meter Reading, m^3 end of month	781	1,005	1,194	1,210
Average Daily Water Use, m^3	7.4	7.2	6.3	7.6
Monthly, m^3	244	224	189	16

Water use was less than the permitted amount at all times in the 2009 and 2010 remediation seasons. A total of 1,210 m^3 of water was used during the remediation timeframe (non-consumptive use).

5.4.2 Sewage

A single cell sewage lagoon with an approximate capacity of 1,200 m^3 was constructed in July of 2009 (Appendix D). Sewage generation was not metered; however, as there was no consumptive use of water, the monthly and total volume of sewage generated is assumed to be equal to the water usage. There were two sewage decants in 2010, with the discharge point located at Monitoring Station LOR-2 (Figure 4).

5.4.3 Monitoring Program Stations

The Water License 1BR-LOR0813 provides a list of Monitoring Stations relevant to the remediation project (Table 10). The Monitoring Stations that were used at Cape Christian are shown on Figure 4. Monitoring Stations LOR-6 and LOR-7 listed in the license (up gradient and downgradient monitoring wells at the landfarm) were not included in the contract documents.

Table 10: Water Monitoring Program Stations

Station Number	Description	Coordinates	Number of Events
LOR-1	Raw water supply intake	N70°31.001' W068°19.001'	Five monitoring events
LOR-2	Final discharge point from the sewage lagoon	N70°30.852' W068°18.773'	Two water discharge events
LOR-3	Final discharge point from demolition rinse water, for this project interpreted as water quality post-treatment at the barrel processing facility	N70°31.400' W068°17.902'	Three water discharge events
LOR-4	Final discharge point from the landfarm	N70°31.684' W068°17.838'	One water discharge event
LOR-5	Final discharge point from the landfill	N70°31.594' W068°18.212'	One water discharge event

Sampling at the Monitoring Stations was the responsibility of QL. Chemical analytical data was submitted to EBA, PWGSC and INAC (permit holder) to verify compliance with the Water License conditions during the remediation project.

6.0 ENVIRONMENTAL SOIL SAMPLING

Environmental site work completed by EBA in 2009 and 2010 included the following soil sampling:

- Baseline environmental soil sampling;
- Confirmatory sampling of known and delineated soil contamination; designated by EBA as Areas of Environmental Concern (AEC);
- Confirmatory sampling of buried debris excavations and stockpiled sand in beach areas not previously characterized; designated as Worked Areas (WA); and
- Characterization, delineation, and confirmatory sampling of previously unknown soil areas of environmental concern, including creosote-contaminated soils in the vicinity of wooden utility poles, and miscellaneous historic spills that were discovered during the remedial works including an historic spill of trichloroethylene (TCE).

EBA's Analytical Sampling Plan (Appendix E) was developed following the principles outlined in the Abandoned Military Site Remediation Protocol (INAC 2005 and 2008). As part of EBA quality assurance sampling, duplicate sampling and testing of every tenth soil sample was implemented.

The designated analytical laboratory for 2009 was Iqaluit Analytical Services Unit (IASU), with a temporary laboratory in Iqaluit, Nunavut and permanent facilities in Kingston, Ontario. In 2009, analyses that could not be completed in-house were subcontracted by IASU to RMC Analytical Sciences Group (Royal Military College), in Kingston, Ontario. In 2010 analyses were completed by the Calgary and Montreal offices of AGAT laboratories.

6.1 Baseline Environmental Soil Monitoring

Baseline environmental sampling was conducted in order to gain an understanding of the natural background concentrations of organic and inorganic elements, to verify that the areas were not sited on a previously unknown historic spill, to confirm that borrow materials used in road-building and remedial activities were pristine, and to ensure that the contractor's activities did not adversely affect the environment at the end of remedial activities.

Soils were tested, where required, for the CCME Canada-Wide Standards for Petroleum Hydrocarbons (CWS PHC) hydrocarbon fractions F1 through F4 and the DEWLine Cleanup Criteria (DCC), including arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel zinc and PCBs.

The areas identified for baseline soil testing included the landfill finished base, the monitoring wells, the landfarm, the barrel processing facility (hazardous materials building), the camp area, the borrow sources, the site roads, and the temporary waste storage area. All areas are to be sampled again in the summer of 2010, at the end of the Contractor's remedial activities.

Additional sampling was done at the camp at the end of 2010 to verify the soil quality underneath the fuel storage lined berm and the unlined garage floor. None of the soils in these areas was observed to have high petroleum hydrocarbon concentrations after removing the surficial soils, except for one area in the garage which was remediated by removing the soils to the hydrocarbon soil backfilled area.

Sampling locations, sampling date, and environmental data are shown on Figures 5a to 5g. Original laboratory reports are provided in Appendix F.

6.2 Summary of Contaminated Soil Volumes

Contaminated soils at Cape Christian were classified as DCC Tier I, DCC Tier II, PHC F1-F2, PHC F3-F4, or hazardous. Approximate volumes of soils excavated from the Cape Christian project site are summarized in Table 11 below. Soils originated from Areas of Environmental Concern (AEC), a buried debris excavation on the beach (Worked Area, or WA), the TCE excavation near the Main Station, and the PAH soils removed from the vicinity of creosote-treated utility poles. A description of the excavations is provided in the following sections.

Table 11: Summary of Contaminated Soils

Summary of Contaminated Soils Soil Type	Sources	Total Estimated Volumes from RAP	Total Estimated Volumes based on Remedial Works
PHC F1-F2 soils	AEC-1 (WA-1), AEC-3, AEC-13	1,539 m^3	1,950 m^3
PHC F3-F4 soils	AEC-10	160 m^3	160 m^3
DCC Tier I soils	AEC-4, AEC-8	59 m^3	65 m^3
DCC Tier I soils	WA-7	-	570 m^3
DCC Tier II soil	AEC-2, AEC-5, AEC-6, AEC-7, AEC-9, AEC-11, AEC-12,	402 m^3	391 m^3
Hazardous soils	TCE soils	-	64 m^3
Hazardous soils	Creosote from utility poles	-	19 m^3
Hazardous soils	Misc. hazardous soils from WA-2 and WA-7 and the Main Station	-	1 m^3
'-' indicates that the soils were discovered during the remedial works			

All of the PHC F1-F2 soils were treated on-site and backfilled in AEC excavations near the Main Station. Approximately 635 m^3 of DCC Tier I soil originating from the Main Station excavations and worked area WA-7 were disposed of at the on-site non-hazardous landfill. The PHC F3-F4 soils from AEC-10 were also disposed of in the landfill. The remainder of the soils, approximately 475 m^3, was shipped off-site for disposal.

6.3 Areas of Environmental Concern

Known areas of environmental concern (AEC) having soil contamination higher than the site clean-up objectives were delineated in previous environmental assessments and summarized in the Remedial Action Plan prepared by Earth Tech Environmental (January 2007). Contaminants of concern that were identified included petroleum hydrocarbon contaminated soils, metals-impacted soils (Tier I and Tier II), and PCB-affected soils. The details of the AECs are shown on Figures 6a to 6m.

In July 2009, Qikiqtaaluk Logistics staked the areas to be excavated as per the Contract Documents, and all thirteen identified AECs were excavated, sampled, and backfilled during the 2009 season. Only one excavation, area AEC-3, required additional excavation in 2010 to meet the F2 hydrocarbon criterion.

Excavations at the Main Station were backfilled with treated (landfarmed) soils, mainly consisting of sands originating from the large beach excavation designated as worked area WA-1 in the contract documents (AEC-13).

6.3.1 Sampling Methodology

Excavated areas were sampled for field screening and laboratory analysis to verify that the concentrations of the contaminant of concern in the remaining soils were less than the specified clean-up objectives outlined in the Contract Documents.

As per EBA's Analytical Sampling Plan (Appendix E), confirmatory soil sampling from known contaminated areas was done on the perimeter and the base of the excavations. Soils were collected in jars and bags. Where the contaminant of concern was volatile hydrocarbons, headspace readings of the bagged soils were taken using a photoionization detector PID. Excavations were photographed and sampling locations were surveyed by the Contractor.

Samples were sent under chain-of-custody (COC) to the designated laboratory. Soils were tested, where required, for the CCME Canada Wide Standards for Petroleum Hydrocarbons (CWS PHC) hydrocarbon fractions F1 through F4 and the DEWLine Cleanup Criteria (DCC), including arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel zinc and PCBs.

6.3.2 Summary of AEC Excavations

Sampling locations, sampling date, and environmental data for the known areas of environmental concern (AEC) are shown on Figures 6a to 6n. A summary of the excavation volume is provided in Table 12 (in the Tables section), which also provides the highest residual concentration of each of the identified contaminants of concern for all of the known AEC following remediation. Original laboratory reports are provided in Appendix F.

All Areas of Environmental Concern (AECs) were addressed during the remediation project, with all residual soils meeting INAC's clean-up criteria at the end of the remediation project.

AEC 1 – Main Station Area ASTs (F1-F2)

The first stage of soil excavation based on the original excavation extents shown on the Contract Drawings was completed on July 21, 2009 (Figure 6a). Confirmatory results indicated that the base of the excavation met the designated remediation criteria, but that additional soil remediation was required on the sides of the excavation. On August 4, 2009, the Resident Engineer and field technician conducted hand auguring and PID field-screening of soils from an additional 27 locations of suspected F2 soil contamination. By comparing the PID-measured volatile hydrocarbon emissions of the hand-augured soils with those sampled during the first excavation, an additional estimated 250 m^3 of soils were identified for removal and treatment in the landfarm and the material was excavated from September 5 to September 7, 2009. The second set of confirmatory analyses done on the extended area met the remediation criteria.

Owing to the relatively high degree of contamination, siltiness, and high moisture content, the soils excavated from AEC-1 were segregated and proved to be more recalcitrant to landfarm treatment compared to the other site soils taken to the landfarm. The soils had a grayish hue and were easily distinguished from those from the worked area beach excavation (AEC-13).

Since the AEC-1 soils were the most highly hydrocarbon-impacted soils on the site, after treatment these soils were retained specifically for backfilling into the AEC-1 excavation, which was done on August 14, 2010.

AEC-2 – North of West Wing of Main Station (DCC Tier II metals)

A small volume of Tier II soils was excavated on August 17, 2009 as shown in Figure 6b. Following receipt of passing confirmatory results, the excavation was backfilled by re-grading the surrounding soils.

AEC-3, AEC-5, AEC-6, AEC-7 – East of East Wing of Main Station (F1-F2, Tier II metals)

AEC-3 was a large excavation encompassing four smaller excavations that were remediated first, including Tier 1 PCB co-contaminated with hydrocarbons (AEC-4) and DCC Tier II metals (AEC-5, AEC-6, AEC-7) shown on Figures 6d to 6g, respectively.

DCC Tier II metals from AEC-5 and AEC-6 were excavated and containerized on August 17, 2009. DCC Tier II metals from AEC-7 were excavated and containerized on August 30, 2009.

Since the soils from AEC-3 were designated for treatment in the landfarm, the remainder of this excavation first required the receipt of passing confirmatory results for the four small included areas AEC-4, AEC-5, AEC-6, and AEC-7. Accordingly, the first stage of AEC-3 excavation was completed on September 20, 2009 (shown on Figure 6ci). Since camp closure was to take place soon, area AEC-3, (as well as AEC-4, AEC-5, AEC-6, AEC-7) was backfilled immediately on September 20, 2009 after sampling and surveying was completed.

A second stage of excavation was required for AEC-3 (shown on Figure 6Cii). Two samples on the east wall of the north leg of the excavation did not meet the F2 remediation criterion. Accordingly, a narrow strip of soil was excavated and taken to the landfarm in 2010 (July 12, 2010). Another area of soil in the northeast corner did not meet the F2 hydrocarbon criteria either. Soils were delineated for F2 hydrocarbons in 2010, and the second stage of hydrocarbon-impacted soils excavation was completed on August 19, 2010.

At the end of 2009, the Resident Engineer identified a small area of silvery light-grey stained soils with a strong, non-hydrocarbon odour. Soil testing in 2010 identified the material as trichloroethylene (TCE). The TCE delineation and excavation is shown on Figure 6cii, and further described in Section 9.1.

AEC-4 – East of East Wing of Main Station (co-contaminated Tier 1 PCB and petroleum hydrocarbon)

The Tier I PCB-contaminated soil near the Main Station (AEC-4, Figure 6d) was excavated on September 3, 2009. Soils were stockpiled on a liner next to the excavation and tested for hydrocarbon content to determine suitability for inclusion in the non-hazardous landfill. Based on the analytical results (F1 less than 60 ppm and F2 3,640 ppm), the soils were landfilled on-site.

Confirmatory soil sampling at AEC-4 indicated that the PCB concentration of the residual soils at the periphery and base of the excavation were less than the method detection limit (< 0.5 mg/kg for arochlor 1,254 and 1,260, respectively).

Approximately 500 L of contact water collected in AEC-4. Water was transferred to a receptacle, sampled by QL, and released prior to camp closure upon receipt of passing confirmatory results indicating that the water met all discharge requirements. Since AEC-4 was part of AEC-3, it was backfilled on September 20, 2009.

AEC-8 – South of East Wing of the Main Station (DCC Tier I Metals)

Area AEC-8 was excavated on September 18, 2009 and was backfilled at the end of the 2009 field season. All confirmatory samples were below criteria as shown on Figure 6h.

Some previously unidentified pipes and wires were discovered during this excavation. These were removed and taken to the non-hazardous landfill.

AEC-9 (DCC Tier II metals) and AEC-10 (F3-F4) – Maintenance Garage

AEC-9 was excavated first, on August 31, 2009, and the adjacent AEC-10 was excavated on September 19, 2009 after receipt of passing confirmatory analytical results for AEC-9. In the middle of the excavation, one narrow (3 m) strip of AEC-10 running north-south was excavated approximately to 0.4 m instead of the full 0.8 m owing to a ridge of permafrost in that area. The F3-F4 range petroleum hydrocarbon soils from AEC-10 were disposed of in the on-site landfill.

All confirmatory samples were below criteria as shown in Figures 6i and 6j, for AEC-9 and AEC-10, respectively.

AEC-11 – Disaster Hut (DCC Tier II Metals)

A small volume of soils was excavated on August 30, 2009 as shown in Figure 6k. Following receipt of passing confirmatory results, the excavation was backfilled by re-grading the surrounding soils.

AEC-12 – Beach Area Outfall (Tier II Metals)

AEC-12 was excavated on September 1, 2009 and was backfilled with clean fill materials prior to camp closure following receipt of passing confirmatory results, as shown in Figure 6l.

AEC-13 – Worked Area 1 (F1-F2)

AEC-13 was excavated on August 3 and 4 (sampled by EBA on August 6 and 7, 2009), following the removal of buried debris consisting of whole and crushed barrels. Since the excavation was so large, the required sampling grid points were first surveyed and staked out by QL's surveyor. Some small areas in the north part of the excavation were very wet or submerged due to the high water table. All confirmatory samples were below criteria as shown on Figure 6m.

The volume of excavated soils was approximately 1,025 m^3, which was higher than the original estimated volume identified in the RAP (871 m^3). After the soils were treated, some of the material was used as backfill for the other AEC excavations at the Main Station.

6.4 Buried Debris Areas (Worked Areas)

Eight buried debris areas on the beach were identified in previous environmental assessments and three additional areas were discovered during the 2010 remediation season (WA-9, WA-10 and WA-11). Locations of the known debris areas (Worked Areas WA-1 to WA-11) are shown on Figures 7a to 7j, along with the base and perimeter sampling locations, sampling date, and environmental data. A summary of the remediation activities, waste streams, barrel numbers and excavated volumes is provided in Table 13 in the Tables section.

Testpitting completed by EarthTech in 2007 (letter-report dated November 8, 2007) indicated that the buried debris mainly consisted of drums, and domestic or demolition wastes. The chemical quality of the soils was also unknown prior to the start of remedial works, except for Worked Area 1 (WA-1), which EBA designated as an Area of Environmental Concern (AEC-13) for the purpose of the remedial activities.

After the removal of clean overburden sand and buried debris, the excavation and resulting sand stockpiles were sampled. Samples were sent for laboratory analysis to verify that concentrations of contaminants of concern in the sands were less than the specified clean-up objectives prior to backfilling the area. Where the contaminant of concern was suspected to be volatile hydrocarbons, headspace readings of the bagged soils were taken using a photo ionization detector PID. Excavations were photographed and sampling locations were surveyed by the Contractor.

Samples were sent under chain-of-custody (COC) to the designated laboratory. Soils were tested for the CCME Canada-Wide Standards for Petroleum Hydrocarbons (CWS PHC) hydrocarbon fractions F1 through F4 and the DEW Line Cleanup Criteria (DCC) parameters including arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel zinc and PCBs.

Sampling analyses and frequency were tailored to the type of wastes encountered. When a large number of empty fuel drums were encountered, such as was found in worked areas WA-1, WA-2, WA-3, WA-4 and WA-6, the primary suspected contaminant was petroleum hydrocarbons. In these excavations, sampling was done similarly to the AEC excavations, whereby soil samples were collected from the perimeter and the base of the excavations. At worked area WA-6, soil sampling was conducted by hand auguring in areas that had not yet been excavated in order to accelerate work in 2010 and avoid the generation of contact water in open excavations. Stockpile sampling in areas containing barrels was adjusted to the type and degree of contamination found or suspected.

Sampling frequency was reduced in areas where only dry, inert wastes were found and there was no visual evidence of contamination. These areas include worked areas WA-3, WA-8, WA-9, WA-10 and WA-11.

In contrast, increased sampling frequency and adjusted methodology was implemented for buried debris areas found to contain hazardous wastes, including WA-6 and WA-7. In addition to hazardous wastes, these areas also contained large amounts of small debris. These soils were stockpiled at WA-7 and passed through a screener. The screened materials were placed in rows/rings around WA-7, and the initial sampling program aimed to test batches of soil with similar appearance and origin. The approximate sampling frequency for the initial round of sampling was one sample per every 10 to 15 stockpiles. It was discovered that two areas of stockpiled soils had Tier I concentrations of PCB, and these areas were sampled again at a much increased density (one or two samples every 2 to 4 stockpiles) until an accurate determination could be made of where in the screening/stockpiling sequence the Tier I PCB soils

commenced and ended. In total, 52 stockpiles were designed by the Resident Engineer to be disposed of in the on-site landfill as Tier I PCB soils (577 m^3). The discovery of Tier I PCB soils in WA-7 was not unexpected since miscellaneous transformers and capacitors were removed from the area.

The variation and heterogeneity of the buried materials precluded the precise determination of the volume of debris in the worked areas prior to start of the remedial works, but the contract documents listed an estimated volume of 17,000 m^3 buried debris. According to current information, approximately 19,000 m^3 of buried wastes and soils were excavated at the beach areas, including approximately 11,700 barrels. Of that total volume of excavated material, approximately 2,500 m^3 (compacted volume) of material was non-hazardous buried debris that was landfilled on-site.

All beach excavations were backfilled to original grade with excavated sand stockpiles that tested clean, supplemented with clean borrow materials primarily originating from borrow areas BA-5 and BA-6, where required. Where possible, the uppermost layer of sand originated from the excavation rather than a borrow area, in order to colour match the backfilled sand to the surrounding beach.

All buried debris areas at the Cape Christian suite were excavated and remediated to INAC's Military Site Protocol (2005 and 2008).

6.5 Site Debris

Thirteen areas containing miscellaneous debris were identified in the Contract Drawings. A detailed summary of the type of wastes recovered from each area is provided in Appendix G. The remote hut was not demolished since it is being used by a Clyde River resident. A waiver was signed to formalize the transfer (Appendix B).

The Cape Christian Remedial Action Plan (RAP) estimated a volume of 2,800 m^3 of uncrushed non-hazardous wastes in the twelve remaining designated areas. Most of the site debris material consisted of building debris from the Main Station and abandoned heavy equipment, and this was transferred to the landfill by heavy equipment. Most of the site debris identified in the contract drawings was removed in 2009.

A large quantity of small debris was collected by a crew of laborers on ATVs with a wagon, and this work continued throughout 2009 and 2010. EBA estimates this site debris volume to be approximately 600 m^3.

6.6 Remedial Work in Archaeological Areas

An area of archaeological significance (site OdDm-1) was identified at the project site by FMA Heritage Resources Consultants Inc. of Calgary, Alberta in 2006 (Permit 06-026A). The area includes the topographic high point southeast of the former Main Station and extends north to include a former antennae area adjacent to the beach (Figure 1a). The area was demarcated and no trespassing signs were posted during remediation activities. Planning for demolition involving the removal of two concrete antenna foundations and four creosote-treated poles was conducted with the input of the Department of Culture, Language Elders and Youth (CLEY).

Site debris was removed by hand in these areas (Debris Areas DA-2 and DA-4). Clean-up of these areas began on July 11, 2009, with work at DA-2 being completed on August 25, 2009, and work at DA-4 being

completed on September 23, 2009. For the subsurface facilities that required removal using heavy equipment, INAC procured permission from CLEY. The stumps of four creosote-treated utility poles were dug up by hand and cut on September 18, 2009. In early October 2009, two flag post foundations (barrels filled with concrete) that existed atop the knoll near the Main Station were pulled directly out of the ground with an excavator keeping the tracks outside of the archaeological site, producing two small shallow holes that were left unfilled. Mr. Jimi Arey of PWGSC provided CLEY with two documents regarding the work in the archaeological area, including the pre-work submission *Removal of Antennae Platforms* (July 29, 2009) and the post-work summary *Removal of Flag & Antennae Posts from within Archaeological* Areas (December 16, 2010).

All of the debris collected at the archaeological area was placed in the landfill. The poles, preserved with creosote were wrapped prior to being placed in the landfill with the other creosote-treated timber.

Despite the precautions including demarcating and warning signs to dissuade entry into the archaeological area, in the summer of 2010, it was noted that some stones atop the knoll had been rearranged and that ATV tracks were observed in this area.

7.0 HAZARDOUS WASTE

7.1 Asbestos

Asbestos materials at the Main Station building included pipe insulation, transite board, and matted insulation. Additional asbestos material was discovered at the former hazardous materials (hazmat) building and in Worked Area WA-7.

Asbestos abatement began on July 6, 2009 with removal of asbestos contaminated materials at the former hazmat building. Fourteen Quatrex bags of approximately one cubic metre volume were removed to the landfill). The hazmat building was substantially abated on July 9, 2009.

Asbestos abatement within the Main Station building began July 18, 2009 and was complete by August 2, 2009. Much of the transit boards were painted with PCB-amended paint, requiring removal for off-site disposal. Wrapped in-place asbestos materials were removed to the landfill and placed adjacent to the west berm in the south corner. Approximately two Quatrex bags of loose materials surrounding the Main Station were removed to the landfill.

Asbestos materials were mostly removed in 2009, but an additional volume of three Quatrex bags were excavated from Worked Area WA-7 in 2010. An estimated 30 m^3 of asbestos materials were disposed of in the on-site landfill at Cape Christian. Materials were double-bagged (Quartrex bags placed inside of plastic asbestos waste disposal bags), labelled, and immediately covered with intermediate fill after landfilling. Approximately 6 m^3 of asbestos co-contaminated with PCB was shipped off-site. The total volume of asbestos material was 36 m^3, compared to the 21 m^3 estimated in the RAP.

All workers conducting abatement were trained, mask fit tested and were wearing appropriate personal protective equipment including half masks, suits, gloves, and rubber boots to be protective against dermal and inhalation exposures.

7.2 PCB and Lead Paint Materials

Removal of PCB impacted materials began on July 11, 2009 and was completed by August 4, 2009. All workers removing PCB materials were appropriately trained and wore personal protective equipment appropriate for the work, including half masks, suits, gloves, and rubber boots to be protective against dermal and inhalation exposures.

Fifteen containers of lead and PCB amended paint materials and associated waste were removed from site in 2009. The total volume of PCB-impacted building materials was nearly 15 m^3, which corresponds closely to the volume of 12 m^3 estimated in the RAP. Eight of these containers contained materials that were also co-contaminated with asbestos. All of the materials containerized in 2009 originated from within the Main Station building with the exception of one small transformer, previously unknown, that was found at the beach.

A detailed inventory of PCB materials found in 2009 is provided in Appendix H. PCB materials containerized in 2009 were removed by sealift on August 30, 2009. The materials were shipped to Swan Hills, Alberta for destruction.

A volume of 1.4 m^3 of assumed PCB wastes were discovered in 2010. The materials consisted of capacitors and transformers that were separated from the non-hazardous wastes removed from Worked Areas WA-6 and WA-7. Although initial testing by EBA did not confirm the presence of PCB, the electrical equipment needed to be sawed through to remove the PCB oil. Tier I concentrations of PCB were detected in zones of these two worked areas.

The total volume of PCB materials requiring off-site disposal was 16.0 m^3.

7.3 Phenols-Impacted Water

A large number of barrels recovered in buried debris areas Worked Areas WA-1, WA-2 and WA-6 contained water. EBA determined that the phenols concentration was higher than the limit provided in the Water License (0.020 mg/L) after passing through QL's primary water treatment system (oil water separator). As per the permit conditions, water not meeting the required discharge concentration limits must be collected and treated as hazardous waste.

Instead of containerization and off-site transport, QL proposed the use of the ULTRASORPTION™ process developed by Sanexen Environmental Services Inc. (Varennes, Quebec) to treat the water. The technology is based on filtering the water through canisters of activated carbon (Cansorber liquid phase carbon adsorber). A bench-scale pilot test was conducted by Sanexen in early August 2009 to test the treatment efficiency. Laboratory results indicated that the treatment system was able to remove over 97% of phenols and over 94% of hydrocarbons and reduce the concentrations of those contaminants to below the discharge criteria.

The water treatment system was brought to site on September 7, 2009, and water treatment started on September 9, 2009 and was operational for approximately two weeks in 2009, and again from August 7 to 11, 2010. Over 350,000 L of phenols-impacted water was recovered by vacuum truck in 2009 and 2010. Sediments that accumulated in the vacuum truck were periodically transferred to barrels for off-site disposal. Water was stored on-site in four cleaned and prepared above-ground storage tanks for

subsequent secondary treatment through the activated carbon, followed by testing and release to the environment. Using the on-site treatment avoided the off-site transport and disposal of an estimated 1,700 barrels of hazardous waste.

7.4 Barrel Wastes

EBA sampled suspected hazardous liquids recovered on the site waste for purposes of determining whether the waste was hazardous and to determine the appropriate UN classification for marine transport. Information obtained by EBA was provided to QL.

Fluids in barrels collected from the site, recovered near buildings or uncovered at the buried debris areas, were taken to the barrel processing area and transferred to new barrels. If the barrel could not safely be moved to the barrel processing area, barrel contents were transferred to new barrels in the field.

QL assisted EBA in the task of opening barrels of suspected hazardous wastes. EBA's procedures and safety precautions were used for sampling barrel contents using drum thieves. In 2009 and 2010, EBA sampled 79 barrels for characterisation. Samples were testing according to the DEWLine Barrel Protocol along with pH and flashpoint, as required for transportation of dangerous goods classification. A summary of the barrel testing is provided in Appendix I. As per EBA's Sampling Protocol, items that were tested for hazardous material classification have the prefix IEC (Item of Environmental Concern). Barrel contents are prefixed with IEC1.

Hazardous wastes were shipped south on August 30, 2009, and the remaining wastes were shipped on September 11, 2010. Hazardous waste items not shipped south at the end of the 2009 season were moved from the temporary storage area to the former hazardous materials building and secured for the winter.

7.5 Other Site Hazardous Wastes

A summary of the hazardous wastes identified in the contract documents compared to the volumes and types of wastes recovered on-site is provided in Table 14 below. The additional materials beyond what was inventoried during site characterization mostly originated from the worked area excavations, and WA-6 and WA-7 in particular. A summary of additional hazardous waste is provided on Figure 8. Some wastes were also generated by using the vacuum truck to removed phenols-impacted water from the barrels. This waste was consolidated and containerized in bags or drums depending on the water content.

Table 14: Hazardous Materials Inventory

	Estimated in RAP	Actual (2009-2010)
Description	**Volume (m^3)**	**Volume (m^3)**
Main Station		
Lubricating oil	3.0	2.3
Waste oil	-	3.5
Waste fuel	-	0.6
Paint	1.5	1.5
Batteries	0.4	1.5
Cylinders (all areas)	13.5	24.7
Purple-stained soils	-	0.3
TCE soils	-	64.4
TCE contact water	-	4.1
Oil-covered electrical wire	-	0.8
Beach Worked Areas		
Lubricating oil, grease	-	0.3
Capacitors/transformers	-	1.4
Chlorinated solvent from WA-6		0.4
Solvent-impacted soils WA-6		0.8
Oily dry sediment from vacuum truck	-	5.3
Oily liquid sludge from vacuum truck	-	29.2
Paint and paint-impacted soils WA-7	-	0.8
Grease	-	0.6
Other mixed hazardous wastes		0.6
General Site Areas		
Sodium oxide		1.5
Waste fuel and oily water		3.3
Tarry liquid	-	0.2
Creosote impacted soils (PAH)	-	18.4
TOTAL CYLINDER WASTE	**13.5**	**24.7**
TOTAL LIQUID WASTE	**3.0**	**43.9**
TOTAL SOLID WASTE	**1.9**	**97.9**

8.0 CONSTRUCTION OF PERMANENT FACILITIES

8.1 Non-Hazardous Landfill

8.1.1 Granular Material Requirements and Overview

The following granular fill types have been specified for the cleanup of the Cape Christian site:

Type 1 granular fill: Well-graded cobbles and boulders with some gravel, clean, with maximum size of 400 mm, and no more than 10% passing 20 mm sieve, to be used for erosion protection.

Type 2 granular fill: Well-graded sand and gravel, trace of fines to be used for landfill berms, cover and regarding. Gradations are to be as follows: 100% passing 200 mm, 60 to 90% passing 50 mm, 30 to 75% passing the 5 mm, 10 to 30% passing 0.425 mm and 5 to 20% passing 0.08 mm.

Type 3 granular fill: Granular pit-run, screened stone, gravel or sand, unfrozen, and free from rocks larger than 300 mm, waste and other deleterious material, and to be used for regarding low areas, backfill for contaminated soil and landfill waste and general grading requirements.

Type 6 granular fill: Screened stone, gravel or sand to be used as an intermediate cover within landfills.

Further description for each of the granular material types is provided in the contract documents.

The Cape Christian project used Type 1, Type 2, Type 3, and Type 6 granular fill. Type 1 granular fills were screened to meet the specified gradations. Types 2 and 3 were used for berm and cap construction, and Type 6 was used as intermediate fill. Type 1 cobbles and boulders material was used as the top 40 cm layer of protective material for the landfill cap construction, and it was used to armor the slopes of the reservoir breach. A summary of the borrow sources used for this project is provided in Section 8.1.6.

8.1.2 Construction

The non-hazardous waste landfill (NHWL) is located north of the reservoir area, as shown in Figure 3a and detailed in Figure 9. The NHWL was designed to contain non-hazardous materials only. It was constructed on native ground with the organic matter stripped and consists of four perimeter berms constructed of granular material.

Construction of the NHWL started on July 8, 2009, with surface boulder removal (larger than 300 mm removal) using a CAT 320 excavator and general base preparation. Excavation to design grade was undertaken after boulder removal. The depth to design grade varied but the greatest depth was at the southeast corner which required excavation to 1.7 m below the existing grade. This work was done using a CAT D6 dozer. The excavated material was very similar to the materials at Borrow Area 2 (silty sand) and was stockpiled for use as landfill berms.

Base preparation continued until completed on July 12, 2009. Boulders were stockpiled at the landfill for potential future use. Placement of Type 3 granular fill was started on July 17, 2009 with the construction of the west berm. The landfill cap was completed in October 2010. A description of the different types of granular fill is provided in Section 8.1.1.

The north, west and east berms were constructed in 2009 and the east and south berm were completed in 2010. To accommodate the waste volumes, the south berm was field-fitted to a location approximately 1.5 m south of the original design drawing. Type 3 materials used to construct the berms mainly originated from borrow areas BA-2 and BA-8, with some materials from BA-1, BA-6 and BA-14. Berms were constructed in lifts of 0.3 m subsequent to placing an initial lift of 0.5 m. Equipment used for compaction and placement included Caterpillar loader, a Caterpillar D30 Haul Truck, a Caterpillar D6 Dozer, Caterpillar 10-ton roller compactor. The inside slopes of the berms were 2:1, and the outside slopes were 4:1.

Materials used to construct the Type 3 cap mainly originated from Borrow Areas BA-1, BA-4, and BA-7. Areas around the former Main Station (BA-4) were known to be impacted by hydrocarbons; therefore testpits in six locations within the former building footprint were excavated on September 10, 2009 in order to verify the chemical suitability of the fill materials for use as intermediate fill or for other purposes.

The pit run material that was screened to produce Type 1 material originated from Borrow Areas BA-2 extension, BA-4 extension, and BA-6. A small quantity of additional Type 1 material was obtained by picking rocks and boulders from the sides of the site roads.

Except for large items such as machinery and boilers placed at the north end of the landfill in 2010, the non-hazardous waste was placed in the landfill in layers consisting of 0.5 metre lifts of waste covered by a minimum 0.15 metres of Type 3 or Type 6 intermediate fill that was ccompacted using a Caterpillar D6 Dozer to reduce air voids within the landfill and increase landfill capacity. Type 6 fill that was approved by Mr. Jimi Arey of PWGSC in August 2009 for use as intermediate fill included approximately 2,600 m^3 of sandy material containing a small quantity (5 to 10%) of small inert debris (less than 15 cm) originating from worked area WA-6. Intermediate fill was also obtained from sources BA-1 and BA-3.

Materials placed into the non-hazardous waste landfill included the non-hazardous materials from the 12 debris areas, crushed drums, main station building materials, oversize items such as trucks and equipment, asbestos containing materials within Quatrex bags, polyethylene wrapped creosote treated poles and Tier I impacted soils. Asbestos-containing materials were placed in the southwest corner of the landfill along the west berm, oversized materials along the north berm, and the creosote poles (wrapped) were placed along the east berm.

Once all the waste layers were completed a final cover consisting of a minimum of 1.0 metres of granular fill was used to cap the landfill. The cap consisted of a 0.3 m layer of Type 3 materials covered by non-woven geotextile which was overlain by another 0.3 m of Type 3 material, covered with a final 0.4 m layer of Type 1 fill. EBA modified the contract drawing landfill cap design in 2010 in light of the scarcity of borrow areas containing suitable Type 1 material. The design was changed to minimize the Type 1 granular fill requirements while preserving the structural integrity and function of the completed landfill. The cap material specification for material overlying the waste was changed from Type 2 granular fill to Type 3 granular fill.

Caterpillar heavy equipment used for aggregate placement and compaction included a front-end loader, D30 articulated haul truck, D6 bulldozer, and an 84" steel drum roller.

The as-built landfill in plan view and section are provided in Figures 9a to 9c.

8.1.3 Geotechnical QA/QC

Geotechnical QA/QC for the construction of the non-hazardous landfill included:

- Testing of identified borrow materials for sieve analysis, moisture content and Standard Proctor testing;
- Observation of the placement of granular fill during landfill construction;
- Field density testing on granular materials;

- Geotechnical design clarifications;
- Observation of debris and intermediate fill placed in the landfill.

Moisture density relationship tests and sieve analyses were completed on borrow source samples during the 2009 and 2010 construction season. Testing was conducted on site by EBA's geotechnical staff.

The compaction characteristics were determined using standard effort in accordance with ASTM D698. Particle size analysis testing was done according to ASTM C117 and ASTM C136, using a set of mechanical shakers and a sieve set provided by QL.

Field density testing was carried out using a nuclear gauge in accordance with ASTM D2922. Density testing performed with the nuclear gauge was evaluated using judgement to verify the 95% compaction requirement. The frequency of testing was three or four tests per lift on each berm, and approximately twelve tests on the Type 3 granular material used to construct the landfill cap.

Results of geotechnical testing are provided in Appendix J.

8.1.4 Placement of Non-Hazardous Waste into the Landfill

Landfilled wastes in 2009 construction season mainly consisted of non-hazardous building components, metal debris collected from site, Tier I contaminated soils, and crushed barrels. Double-wrapped bags of asbestos and asbestos-covered equipment were placed in the southwest corner of the landfarm and the location was surveyed. In 2010, major waste streams included abandoned vehicles, the remaining site debris, non-burnable timber, cinders from the burnt lumber, culverts, and crushed barrels and domestic wastes from the buried debris areas. At the end of the 2010 season four above-ground storage tanks were cut and crushed prior to landfilling.

Lifts of wastes were compacted using the Caterpillar D6 bulldozer to reduce the waste volume. The bulldozer was also used to spread lifts of intermediate fill over the compacted wastes and to fill any void spaces. The surface of the intermediate fill cover was checked by the EBA geotechnical staff and any void spaces seen to develop were filled with additional Type 6 intermediate fill.

In summary, the Cape Christian NHWL contains the following materials:

- Tier I contaminated soil;
- F3 and F4 fraction hydrocarbon contaminated soil;
- Non-hazardous demolition debris, such as timbers, plywood, and sheet metal;
- Non-hazardous site debris, such as scrap metal and wood;
- Non-hazardous debris/soil excavated from buried debris areas (worked areas);
- Wrapped creosote timbers; and
- Double-bagged asbestos.

Based on the as-built of the constructed non-hazardous landfill, the interior landfill volume was calculated to be 7,100 m^3. Approximate volumes of non-hazardous waste materials are as follows:

- Clean intermediate fill = 900 m^3

- Debris from worked areas: 2,500 m^3. Approximately 1,000 m^3 of this volume is crushed barrels. The remainder (1,500 m^3) is other metal debris, domestic waste, and intermediate fill containing small wastes.
- Tier I soils and F3-F4 soils from Main Station = 220 m^3
- Tier I soils from buried debris Worked Areas = 575 m^3
- 2,000 m^3 (estimated) compacted surficial debris from the site (buildings, vehicles, scrap metal) hauled by excavator, based on the RAP estimate of 2,800 m^3 uncrushed debris.
- 600 m^3 estimated site debris that was collected by hand.

The remainder of the waste volume (approximately 300 m^3) is attributable to the wrapped timber utility poles and bagged asbestos.

The locations of asbestos, timber and large items placed in the landfill are shown on the Contractor as-built drawing for the landfill in Appendix D.

8.1.5 Construction Landfill Contact Water

In the 2009 construction season, accumulating water was pumped into an on-site above ground storage tank. The water was returned to the landfill prior to closing camp in 2009. After spring thaw in 2010, the water was tested for Water License discharge limits, and water was discharged to a nearby location shown as LOR-5 on Figure 4 from July 12 to July 14, 2010.

8.1.6 Borrow Source Summary

Borrow sources were identified during the following site investigations:

- Cape Christian LORAN Station Supplementary Environmental Site Assessment, Materials Audit, and Geotechnical Investigation EarthTech, October 2007.
- Cape Christian Former Loran Site Potential Additional Borrow Area Assessment, AECOM, March 30, 2009.

Eight borrow sources were developed during the Cape Christian remediation project (Figure 10). Borrow sources BA-1, BA-2, BA-4, BA-5, and BA-8 were located in previously disturbed areas, roads, or existing stockpiles of aggregates. Borrow areas, BA-3, BA-7 and BA-14 were located in natural areas. An estimated total of 40,750 m^3 of borrow materials was excavated for use during the project.

The following Table 15 is a summary of the borrow source locations and quarried amounts by year, compared with the volume stated on Quarry Permit No. 10-701-001. Permit volumes for the individual granular sources were based on estimated quantities in previous geotechnical assessments, but in some cases the actual quantities available at the borrow source were more than, or less than, the estimated volumes. Borrow source locations and the extent of quarrying are shown on Figure 10.

Table 15: Quarrying during the 2009 and 2010 Remediation Season

Borrow Source	Location	Coordinates	Quarried 2009 m^3	Quarried 2010 m^3	Total Volume m^3	Estimated Volume on Permit m^3
BA-1	Reservoir embankment	7824482 N, 526121 E	0	6,827	6,827	9,000
BA-2 and extension	Drainage ditch berms	7824603 N, 525633 E	1,099	5,117	6,216	1,000
BA-3	Beach pit before river crossing	7823225 N, 525915 E	3,019	4,373	7,393	10,000
BA-4 and extension	Main station and northwest of main station	7824738 N, 525945 E	422	6,571	6,993	5,300
BA-5	Borrow source along road	7824098 N, 525945 E	566	5,905	6,471	1,700
BA-6	Near south beach barrel cache	7822951 N 525096 E	0	0	0	5,250
BA-7	North of main station	7825504 N, 526123 E	1,132	1,365	2,498	4,000
BA-8	Bermed stockpile northwest of landfill (dump)	7824597 N, 525625 E	1,487	500	1,987	3,000
BA-14	1.2 km southwest of station	7822865 N, 525455 E	0	2,353	2,353	8,000
Totals			**7,726**	**33,011**	**40,737**	

Notes:

- Quarrying volumes are estimates only, as recorded by EBA.
- Permitted borrow area BA-6 was not used for this project.
- The total quarry permit for this project was 64,250 m^3 of granular material.

Borrow source BA-5, located near the storm shelter building, consisted of fill materials taken from the side of the road to the Main Station. This material was used to backfill some of the worked Areas, where additional backfill was required. The volume of aggregates removed from borrow pit BA-2 was higher than anticipated due to having to produce Type I materials by screening in September 2010. These borrow sources BA-2 and BA-4 were the closest to the landfill, and these also contained the highest amount of rock. Approximately 900 m^3 of screened materials were returned to BA-4 extension after processing.

8.2 Groundwater Monitoring Wells

8.2.1 Methodology

Groundwater monitoring wells were installed on each of the four sides of the non-hazardous landfill for the purpose of collecting pre-construction background water chemistry, and in the long term to monitor up gradient and downgradient water quality. Three monitoring wells, well MW-1 (downgradient), MW-2

(downgradient), MW-3 (upgradient) were installed in 2009, and the final up gradient well, MW-4, was installed in 2010 after the final landfill footprint had been determined (Figure 3a).

Well locations were chosen on location by the Resident Engineer in 2009. Wells were installed with an air rotary rig. Well pipes were Type 304 stainless steel, flush threaded, with 0.5 mm screen slot size, and equipped with caps at the bottom and top. The pipe length of all four wells was 4.0 m, and wells were assembled with a 2.0 m slotted section between 1.0 m of solid section. Non-woven filter sock was used over the slotted section. The lower solid pipe was keyed into the permafrost using between 0.8 m and 0.9 m grout. Sand was placed in the wellbore to the top of the slotted section. Wells were sealed with a minimum 0.3 m plug of bentonite. Lockable protective casings were installed. Well construction details are provided in Table 16.

Table 16: Groundwater Monitoring Well Construction Details

MW	Location	Installation Date	Ground Elevation (mASL)	Depth of Well (mbg)	Slotted Section Interval (mASL)		Stickup	Elevation at Top of Well (mASL)
MW-1	West of the Landfill	August 7, 2009	14.220	3.397	11.823	13.823	0.603	14.823
MW-2	North of the Landfill	August 7, 2009	12.283	3.345	9.938	11.938	0.655	12.938
MW-3	East of the Landfill	August 7, 2009	16.163	3.317	13.846	15.846	0.683	16.846
MW-4	South of the Landfill	July 12, 2010	16.500	3.525	13.975	15.975	0.475	16.975
mbg = metres below grade mASL = metres above seal level								

Wells were logged at the time of installation, and borehole logs and as-built diagrams are included in Appendix D.

8.2.2 Background Groundwater Monitoring

EBA conducted field monitoring, including purging and sampling of the wells for the purpose of establishing background, pre-landfill water chemistry. Groundwater monitoring was performed on the following dates:

- August 15, 2009
- September 18, 2009
- July 25, 2010 (all wells frozen)
- August 21, 2010
- September 12, 2010

Wells were initially monitored for groundwater elevation and then purged, using a bailer, of a minimum of three well volumes, or until dry.

Following purging, samples were placed in laboratory supplied jars. Samples intended for dissolved metal analysis were field filtered, but preservatives were not supplied in 2009 by IASU laboratories. Results of groundwater monitoring are provided in Table 17 (in the Tables section), and the analytical results for 2009 and 2010 are presented on Figure 10. Original laboratory reports are provided in Appendix F.

8.3 Reservoir Breach

The original Cape Christian site had a drinking water reservoir. The reservoir had been constructed by constructing a 6.5 m high dyke across a gentle valley. The dyke impounded water from a small creek, creating a reservoir. The work scope for the site remediation included breaching the dyke such that water would no longer impound. The water from the creek and upland areas would then flow down to the beach, similar to overland flows that existed prior to the construction of the reservoir dam.

After verifying that the water quality met the Water Licence discharge permit limits, water was pumped using (4-inch to 6-inch pumps) across the berm to the sandy adjacent southern beach area. Pumping commenced in mid-July in 2010 and was completed approximately three weeks later. Silt fencing and geotextile was used in several locations to avoid sedimentation. It appears that the reservoir dam was originally constructed by pushing the sands north, so the pumped water was naturally retained for some time in a shallow, vegetated depression south of the dam prior to release to the watercourse flowing towards the beach and ocean. EBA staff visually monitored the area daily to monitor the progress of water drawdown, and to ensure that the sedimentation measures in place were effective.

The location of the breach and check dam is shown on Figure 3a. Excavation of the breach in the 3.6 m high dam was difficult because of the permafrost, and much of the excavation work was completed with a ripper attachment. Reservoir breaching and check dam construction was done from August 22 to September 8, 2010.

The as-built breach is 5.3 m wide at the bottom. The average slope in the bottom portion of the breach is 3H:1V over a height of 3.5 m. The upper portion of the breach (about 3.5 m high) has a slope of approximately 9H:1V. This differs from the design drawings which specified a constant 4H:1V slope. Type I Granular Fill (riprap) was placed at the base of the breach and partway up the breach slope to approximately 1.5 m above the base of the breach. This differs from the design drawings which specified that the Type I granular fill be placed to the top of the breach slope. This change was required to accommodate a shortage of Type I granular fill. The change in slope and reduced Type I granular fill was approved by the engineering team, as it meets the design intent of the reservoir breach.

9.0 SCOPE VARIANCES

Most changes in scope and Task Authorizations that were issued over the two year remediation contract were related to environmental work, such as the discovery of historic spills and additional hazardous wastes that were discovered in buried debris areas. Other scope changes were related to the procurement of Type 1 granular fill for the landfill cover, snow removal at the beginning of the 2010 construction season, and the on-site treatment of phenols-impacted water that otherwise would have required off-site disposal.

9.1 Clean-up of Additional Hazardous Materials

At the start of the 2009 construction season, additional hazardous materials not identified in the contract documents were discovered in the hazmat building (currently the Storm Shelter Building). Additional for hazardous materials included asbestos, fibreglass insulation and sodium oxide.

9.2 Trichloroethylene Spill at Main Station

An historic spill was discovered on September 20, 2009 during the excavation of the hydrocarbon-impacted soils at AEC-3 near the Main Station (Figure 6jii). A small area of silvery-grey soils with a very strong odour was uncovered in one corner of the northeast leg of the AEC-3 excavation. The stained soils continued to the east and south of the excavated area.

Soil sampling in 2010 confirmed a spill of trichloroethylene (TCE), a chlorinated solvent that was routinely used as a degreaser in the past. EBA delineated the spill in 2010, which was excavated and containerized for off-site shipping as hazardous waste. The environmental criterion (CCME 2008) for TCE is very low at 0.01 mg/kg. Based on current commercial laboratory practices, detecting this low concentration requires additional steps during analysis in order to attain a method detection limit of at least 0.005 mg/kg. The soil excavation limits were based on delineation samples that demonstrated TCE concentrations less than the detection limit (<0.05 mg/kg and <0.005 mg/kg).

There was a concern that TCE materials were inadvertently hauled to the landfarm in 2009 since the TCE spill was adjacent to the AEC-3 soils that were excavated during the 2009 remediation season, and since the environmental criterion is so low. EBA conducted supplementary testing of landfarm soils in 2010 and verified that no TCE materials could be detected in the windrows.

The final excavated volume of soils was 64.4 m^3 of TCE-impacted soils, and 4.1 m^3 of hazardous contact water.

Analytical results are shown on Figure 6cii and original laboratory reports are provided in Appendix F.

9.3 Creosote-Treated Poles

Approximately 50 of the large utility poles on the site were treated with creosote. Additionally, some of the poles were wrapped at the base with a creosote-impregnated paper, similar to tar paper.

Creosote is a type of chemical compound made of several different types of chemicals, including polycyclic aromatic hydrocarbons (PAH). Like PCB, PAH is a persistent organic pollutant that can be toxic to human and environmental health. Their physical and chemical properties, particularly their high stability, give them potential for environmental ubiquity and the capacity to accumulate in plants and animals.

Even though PAH is typically not very mobile in the environment, soil sampling in the vicinity of pole stumps at Cape Christian did confirm that soils were affected by high concentrations of PAH. In addition to removing the pole stumps to at least 30 cm below grade, it was determined that remediation of the creosote-affected soils would also be required.

Five soil samples of PAH-impacted soils were collected on August 15, 2009 for the purpose of characterizing the creosote-affected soils. Environmental data was compared to the polycyclic aromatic

hydrocarbon (PAH) Canadian Council of Ministers for the Environment (CCME) Canadian Environmental Quality Guidelines for the Protection of Environmental and Human Health (2008). The guidelines are divided into receptor categories including environmental health and human health. Following the principles set out in the INAC Abandoned Military Site Remediation Protocol (December 2008), the remedial goal set was to meet environmental health quality guidelines.

The initial characterization sampling results indicated that the soils in the vicinity of the creosote-treated poles had highly variable PAH concentrations. Nevertheless, QL and EBA established a procedure to excavate between 0.25 m^3 and 0.5 m^3 creosote-impacted soils to achieve the remediation objective. A total of close to 18 m^3 of creosote-impacted soils were removed from Cape Christian. This remedial work was conducted under the supervision of QL's hazardous materials experts.

Analytical confirmatory results are shown on Figure 11 and original laboratory reports are provided in Appendix F.

9.4 Purple-Stained Soils near Main Station

One sample of soil was collected on September 8, 2009 and submitted for analysis of hydrocarbon fractions and metals. The purple soil collected in a drum, was obtained from where the northwest wing of the former Main Station was located. The F2 hydrocarbon concentrations were higher than the remediation guidelines, and normally this material would be landfarmed and treated on-site. However, because the material could not be positively identified, the 0.3 m^3 volume of material was shipped off-site for disposal.

9.5 Phenols Water Treatment

It was discovered in 2009 that many of the buried barrels in the beach areas contained phenols-impacted water exceeding the very low water discharge permit criterion for phenols (0.020 mg/L). Implementing on-site water treatment avoided the need to ship over 1,700 drums of phenols-impacted water off-site as hazardous waste. Some wastes that were generated during the water treatment process included oily sediments and sludges originating from the vacuum truck used to remove water from the barrels, and these wastes were shipped off-site for disposal.

9.6 Snow Removal at Start of 2010 Field Season

A great deal of snow covered most of the work areas at Cape Christian site at the start of the field season in 2010, which threatened to hinder work. A snow removal task was authorized to accelerate start of operations at the beginning of the 2010 season. Snow was removed around the camp area, the landfill, and from Worked Area WA-6 to enhance thawing there, because in 2009 removal of a layer of barrels embedded in the permafrost was difficult and time-consuming.

9.7 Additional Buried Debris Excavations

The volume of buried debris was larger than originally anticipated (19,000 m^3 versus 17,000 m^3) in part due to the additional debris areas found at worked area WA-2, requiring additional excavation beyond the surveyed limits specified in the Contract Drawings. The additional buried debris at WA-2 consisted of whole and crushed barrels, which were processed and taken to the landfill. Other contributing factors to the increased waste volume include the discovery of three layers of barrels in some areas of WA-6 (barrels

embedded in the permafrost), and the discovery of three smaller new worked areas, including WA-9, WA-10 and WA-11 shown on Figures 3a and 3b.

9.8 Hazardous Wastes in the Buried Debris Areas

Most of the additional hazardous wastes that were found at Cape Christian originated from worked areas WA-6 and WA-7. These wastes included liquid petroleum hydrocarbons, greases, chlorinated solvent, batteries, transformers, capacitors, asbestos, paint-affected soils and gas cylinders.

9.9 Cylinder Management

Additional gas cylinders were discovered in the buried debris area WA-7 beyond the inventory provided in the RAP. Additionally, since some of the gas cylinders could not be identified on-site and many were in poor shape and were not DOT-approved for transport. For this reason a specialized contractor (Clean Harbors) was brought to site to mitigate the compressed gases. This was accomplished by venting, incinerating, or repackaging the gasses. Since the on-site landfill was already closed, empty cylinders were disposed of at the landfill in Clyde River.

9.10 Transportation of Engineers Samples

Transportation of engineer's samples for EBA's environmental sampling was increased from 700 kg to 944 kg over the course of the two-year project. The increased sampling was mainly attributable to additional delineation and confirmatory sampling required at Areas of Environmental Concern AEC-1 and AEC-3 (F2 petroleum hydrocarbon contamination beyond the original contract extents), confirmatory soil sampling of WA-2 areas due to finding barrels outside of the original contract limits, delineation sampling of TCE found near the Main Station, and for increased due diligence sampling of Tier I PCB soils and hazardous materials originating from buried debris areas WA-6 and WA-7. Also, EBA submitted treated samples for water discharge parameters related to the phenols water treatment system.

9.11 Type I Aggregate Production

The quantity and quality of Type I aggregates available for the construction of the landfill cap was far less than what had been estimated in pre-remediation geotechnical site investigations. The rock available in the designated borrow areas consisted of a thin layer of Type I aggregate underlain by sand and silt. Mitigating the shortage of Type I material necessitated the excavation of large volumes of pit run material and passing the material through a screener. The material that did not pass through the screener was used for Type I. Approximately five loads of pit run material were required to produce one load of rock. Pit run source areas included extensions to borrow areas BA-2 (west and south of landfill) and BA-4 (Main Station). Some rock materials and boulders were also obtained from BA-1, the reservoir dam.

10.0 LESSONS LEARNED

The following insights gained during the project could benefit future similar projects.

10.1 Site Assessment

- More detailed information on the type and quantities of aggregate available at the site to would have established more realistic design constraints on facilities such as landfills. The original design had to be modified to accommodate the shortage of Type I aggregate available on the site. Needing to screen for Type I aggregate was time-consuming and caused wear and tear on Contractor equipment that was not accounted for at the tendering stage. Mitigation measures for gas cylinders in poor condition and with unknown contents proved to be expensive and time-consuming for the Contractor to coordinate. Non-TDG compliant cylinders should be identified during the site assessment stage.
- The detailed contaminated soil delineation prior to mobilization was beneficial in that soil remediation was completed efficiently and with little need for additional delineation and confirmatory sampling during the actual site works. Given the remoteness of the site and delays in receiving laboratory analyses, open excavations represent a hazard, can cause permafrost deterioration, and can collect volumes of contact water requiring additional sampling, possibly treatment, and disposal either on-site or off-site. Only two of the thirteen identified soil contamination areas required additional excavation.
- Consideration should be given to the possible requirement to remediate creosote-impacted soils.

10.2 Contractual

- Water discharge specifications should harmonize with the Water License discharge requirements, or the contract documents should defer to the Water License requirements.
- A prescribed approach to cataloguing survey data would benefit and expedite approval of Contractor billing and would improve quality control, and facilitate the verification items billed by survey post-project.
- Fuel and fuel residual product from tanks and pipelines is currently not included as part of Potential Additional Work; however, it is not always the case that residual fuels can be incinerated on-site. This item should be considered PAW if the fuels is collected for off-site shipment as hazardous waste.
- Inclusion of the possible effect of permafrost on the work may benefit future projects, including better anticipation or communication of difficulties excavating permafrost for structures such as landfills, and for excavation in areas with high frost, such as historic roads. Breaching the water reservoir dam was an example in this project.
- In light of the difficulties in constructing the access road to Cape Christian and the ongoing liability associated with the care and maintenance of such permanent structures, further consideration of site access may be prudent and actual specification of how site access is to be achieved may be preferable.

10.3 Remediation Works

- Although the principal contaminants of concern on abandoned military sites are petroleum hydrocarbons, metals, PCB, lead and PCB in paint and asbestos, the discovery of other unknown substances should be anticipated. In this case, chlorinated solvents were discovered in two locations. Both the contractor and the Resident Engineer should be prepared to contend with unidentified

substances, and should have the correct procedures and personal protective equipment in place in advance.

- It could be beneficial to the project to have a safety audit earlier in the remedial works to ensure that any needed corrective measures are implemented early in the project.
- The restrictions and requirements of the Land Use Permit and the Water Use License should be communicated to the Contractor early, preferably at the tendering stage.
- The Contractor found it beneficial to have the same team of Resident Engineers and field staff on site for both remediation seasons.

11.0 LAND USE RECOMMENDATIONS

11.1 Land Use

- Many physical hazards that used to exist at Cape Christian including disintegrating rows buried barrels at the beach and unsound buildings have been removed and are no longer a concern. However, some physical hazards still remain at the site that could pose a risk, especially when traveling by snowmobile or all-terrain vehicle. These features include steep slopes, removed bridge crossings and culverts, and areas of unconsolidated fill. The four monitoring wells at the landfill are marked with reflective bands but these are obstacles that should be noted and avoided. Use of the Cape Christian site roads is not recommended because the culverts have been removed. Rather, it is advisable to bypass the site using the beach.
- Contaminated soils have been remediated to meet criteria designed to be protective of the environment and land use based on subsistence hunting, trapping and fishing. As a precautionary measure, EBA recommends avoiding the construction of permanent residences overtop formerly-contaminated areas such as the former Main Station and garage, the former AST pad, and former buried debris areas at the beach. Although the risks to human health are anticipated to be small - especially during times when the ground is frozen and providing that the cabin is well-ventilated - in these areas there is a potential for residual hydrocarbons and other substances to generate vapours that can migrate into overlying structures, where they can be inhaled.
- All hazardous materials have been removed from the emergency storm shelter building. The underlying soils were not contaminated, and it is safe to use this building for emergency shelter purposes. The care and maintenance of the storm shelter building is the responsibility of the Hamlet of Clyde River, as per signed agreement.
- The archaeological resources identified at Cape Christian continue to be protected under the Nunavut Archaeological and Paleontological Sites Regulations (2001). The agencies that are responsible for overseeing the protection and management of these sites are Department of Culture, Language, Elders and Youth (CLEY) and the Inuit Heritage Trust.
- A Canada Geodetic Survey monument (#749186) exists on a rock outcrop on the knoll located within the archaeological area. This survey point should be protected and its location noted for future use.

11.2 Post-Construction Monitoring

11.2.1 Landfill

Long-term monitoring of the non-hazardous waste landfill and associated groundwater monitoring wells should be in accordance with INAC's Abandoned Military Site Remediation Protocol (2008). The NHWL will be monitored by:

- Visual Monitoring. This will check the physical integrity of the NHWL and look for evidence of settlement, erosion, frost action, animal burrows, vegetation, staining, vegetation stress, seepage points, exposed debris or geotextile, and condition of monitoring instruments. Photographs should be taken to document the condition of the NHWL.
- Active Layer Water Monitoring. Samples will be taken from the four (4) monitoring wells installed around the NHWL. These samples should be analyzed and the results compared to the background samples. The parameters that will be analyzed include:
  - Petroleum Hydrocarbon Fractions, F1 and F2;
  - Total and dissolved metals;
  - Major ions including salinity;
  - Hardness, Alkalinity, pH, Conductivity;
  - Total Dissolved Solids, Total Suspended Solids; and
  - Polychlorinated biphenyls (PCBs).

All sampling, sample preservation and analyses will be conducted in accordance with current methods.

Quality Assurance/Quality Control (QA/QC) will be consistent with CAEAL regulations and guidelines. At least 20% of samples will be taken and analyzed in duplicate and all appropriate QA/QC data will be generated and reported.

11.2.2 Reservoir Breach

Conduct visual monitoring of the breach to check for physical integrity and to look for evidence of erosion on the constructed slopes and the bottom of the breach. Photographs should be taken to document the condition of the NHWL.

11.2.3 Scheduling

Up to 25 years of post-remediation monitoring at the Cape Christian site will begin in 2011. Based on the groundwater monitoring conducted to date, EBA recommends that field staff do not attempt to monitor the groundwater wells before the first or second or week in September, otherwise the wells may not contain any free water. Sampling should be conducted with Waterra tubing or disposable bailers that are no larger than ¾" in order to fit the stainless steel wells.

12.0 CLOSURE

We trust this report meets your present requirements. Should you have any questions or comments, please contact the undersigned.

EBA, A Tetra Tech Company

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TABLES

Table 6	EBA Tracking Summary 2009
Table 7	EBA Tracking Summary 1010
Table 12	Remediation Summary of Known Areas of Environmental Concern
Table 13	Remediation Summary of Buried Debris Areas (Worked Areas)
Table 17	Groundwater Monitoring Summary 2009 and 2010

Table 6: EBA Tracking Summary 2009

Date	Week 1										Week 2								Week 3								Week 4					
	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	End Week 1	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	End Week 2	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	End Week 3	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	Month End JULY
Water use - TOTAL		0	6	9	20	25	29	35	39	**39**	45	48	53	58	62	68	73	**73**	80	86	91	101	109	116	122	**122**	127	134	141	148	154	**154**
Water use - daily/weekly/monthly		0	5.5	3.5	11.2	4.8	4.2	5.6	4.3	**39**	5.4	3.9	4.1	5.0	4.6	5.8	5.4	**34**	6.7	6.4	4.3	10.0	8.3	7.0	5.7	**48**	5.3	7.3	7.1	6.6	5.8	153.8
EBA person-day TOTAL										**17**								**23**								**21**						**71**
Herb ZV	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1		1	1	1	1										
Michel H																1	1		1	1	1	1	1	1	1		1	1	1	1	1	
Joan J									1		1	1	1	1	1	1	1		1	1	1	1	1									
Daniela F																						1	1	1	1		1	1	1	1	1	
Bill H				1	1	1																										
Kyle L																																
Richard Z																																
Jason S						1	1	1	1		1	1	1	1	1	1	1		1													
Jason Q - INAC																																
Barrels from Worked Areas - TOTAL										**0**								**280**								**626**						**1,947**
Barrels excavated and crushed - daily																	280		305	100				221			200	262	162	231	186	
Area																	WA1		WA1	WA1	WA1	WA1	WA1	WA1	WA1		WA1	WA1	WA1	WA1	WA1	
Crushed barrels and debris to landfill (TOTAL LOADS)																										**6**						**12**
Crushed barrels and debris to landfill (TOTAL m^3)																										**67**						**200**
Crushed barrels daily loads																					6										6	
Other debris to landfill (TOTAL LOADS)										**0**								**0**								**0**						**0**
Other debris to landfill (TOTAL m^3)										**0**								**0**								**0**						**0**
Debris daily loads																																
Intermediate fill from WA6 (TOTAL LOADS)																																**0**
Intermediate fill (TOTAL m^3)																																**0**
Intermediate fill (TOTAL m^3)																																
Soil to landfarm (TOTAL LOADS)																										**25**						**25**
Soil to landfarm (TOTAL m^3)																										**278**						**278**
Soil to landfarm (daily loads)																					25											
Soil from landfarm (TOTAL LOADS)																										**0**						**0**
Soil from landfarm (TOTAL m^3)																										**0**						**0**
Soil from landfarm (daily loads)																																
Quarried (TOTAL LOADS)										**60**								**0**								**27**						**203**
Quarrying - TOTAL (m^3)										**666**								**0**								**300**						**2,253**
BA1 (daily loads)										**0**								**0**								**0**						
BA2 (daily loads)										**0**								**0**				15				**15**				9	8	
BA3 (daily loads)								60		**60**								**0**		0						**0**						
BA4 and borrow extension (daily loads)										**0**								**0**								**0**				9		
BA5 (daily loads)										**0**								**0**								**0**						
BA6 (daily loads)										**0**								**0**								**0**						
BA7 (daily loads)										**0**								**0**				12				**12**			45	25	20	
BA8 (daily loads)										**0**								**0**								**0**						
BA14 (daily loads)										**0**								**0**								**0**						

Table 6: EBA Tracking Summary 2009

Date	Week 4 (cont'd.)			Week 5								Week 6								Week 7								Week 8								Week 9	
	1-Aug	2-Aug	End Week 4	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	End Week 5	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	End Week 6	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	End Week 7	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	End Week 8	31-Aug	Month End AUG
Water use - TOTAL	162	169	**169**	177	182	188	189	196	204	210	**210**	216				237	243	249	**249**	256	268	270	279	283	288	294	**294**	301	309	316	323	328	335	341	**341**	345	**345**
Water use - daily/weekly/monthly	8.4	6.8	**47**	8.1	4.9	5.7	1.2	6.8	8.4	5.9	**41**	5.7							**33**	7.5	11.9	1.6	9.1	3.8	5.2	6.3	**45**	7.2	7.3	7.6	6.4	5.7	6.4	5.8	**46**	4.9	192
EBA person-day TOTAL			**14**								**22**								**35**								**25**								**14**		**102**
Herb ZV															1	1	1	1		1	1	1	1	1	1	1		1	1	1	1	1	1	1		1	
Michel H	1	1																					1	1	1	1		1	1	1	1	1	1	1		1	
Joan J									1	1		1	1	1	1	1	1	1		1	1	1	1	1	1												
Daniela F	1	1		1	1	1	1	1	1	1		1	1	1																							
Bill H																																					
Kyle L				1	1	1	1	1	1	1		1	1	1	1	1	1	1		1	1	1	1														
Richard Z								1	1	1		1	1	1	1	1	1	1																			
Jason S																																					
Jason Q - INAC								1	1	1		1	1	1	1	1	1	1		1	1	1	1														
Barrels from Worked Areas - TOTAL			**1,259**								**1,845**								**1,064**								**753**								**0**		**3,880**
Barrels excavated and crushed - daily	195	23		150	475	490	200	200	130	200		200	135	19	205	284	221				228	265	260														
Area	WA1	WA1		WA4	WA2 and WA4	WA2 and WA6	WA6	WA6	WA6	WA6		WA6	WA6	WA6	WA6	WA2	WA6				WA6	WA6	WA6														
Crushed barrels and debris to landfill (TOTAL LOADS)			**16**								**15**								**18**								**10**								**24**		**86**
Crushed barrels and debris to landfill (TOTAL m^3)			**266**								**250**								**300**								**167**								**400**		**1,432**
Crushed barrels daily loads	8	2			5	2	1		2	5			6			12							7	3							22	2			9	
Other debris to landfill (TOTAL LOADS)											**138**								**3**								**0**								**3**		**144**
Other debris to landfill (TOTAL m^3)											**2,298**								**50**								**0**								**50**		**2,398**
Debris daily loads	8			7	20	26	28	32	25							3																	3				
Intermediate fill from WA6 (TOTAL LOADS)																			**24**								**6**								**0**		**30**
Intermediate fill (TOTAL m^3)																			**400**								**100**								**0**		**500**
Intermediate fill (TOTAL m^3)													24											6													
Soil to landfarm (TOTAL LOADS)											**65**								**0**								**0**								**0**		**65**
Soil to landfarm (TOTAL m^3)											**722**								**0**								**0**								**0**		**722**
Soil to landfarm (daily loads)	1			5	38	22																														
Soil from landfarm (TOTAL LOADS)											**0**								**0**								**0**								**0**		**0**
Soil from landfarm (TOTAL m^3)											**0**								**0**								**0**								**0**		**0**
Soil from landfarm (daily loads)																																					
Quarried (TOTAL LOADS)			**165**								**18**								**83**								**30**								**134**		**314**
Quarrying - TOTAL (m^3)			**1,832**								**200**								**921**								**333**								**1,487**		**3,485**
BA1 (daily loads)			**0**								**0**								**0**								**0**								**0**		
BA2 (daily loads)	22	27	**66**	18							**18**								**0**								**0**								**0**		
BA3 (daily loads)			**0**								**0**		28	25	29	1			**83**				6		5	19	**30**	9					7	20	**36**		
BA4 and borrow extension (daily loads)			**9**								**0**								**0**								**0**								**0**		
BA5 (daily loads)			**0**								**0**								**0**								**0**								**0**		
BA6 (daily loads)			**0**								**0**								**0**								**0**								**0**		
BA7 (daily loads)			**90**								**0**								**0**								**0**								**0**		
BA8 (daily loads)			**0**								**0**								**0**								**0**	6	41	5	46				**98**		
BA14 (daily loads)			**0**																**0**								**0**								**0**		

Table 6: EBA Tracking Summary 2009

Date	Week 9 (cont'd.)							Week 10								Week 11								Week 12										
	1-Sep	2-Sep	3-Sep	4-Sep	5-Sep	6-Sep	End Week 9	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	13-Sep	End Week 10	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	End Week 11	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	End Week 12	Month End SEPT	TOTAL 2009
Water use - TOTAL		353		378	385	392	**392**	400	408	415	422	429	436	442	**442**	449	456	457	466	468	475		**0**	489	493	497						**31**	**530**	**537**
Water use - daily/weekly/monthly	7.5			25.1	7.4	6.9		8.2	7.1	6.4	7.6	6.7	6.4	7.0		7	1.1	8.3	2.5	6.9	13.4			4.4	4.4									
EBA person-day TOTAL							**12**								**22**								**7**									**4**	**49**	**222**
Herb ZV	1	1	1	1	1	1		1	1	1																								
Michel H	1																																	
Joan J						1		1	1	1	1	1	1	1																				
Daniela F										1	1	1	1	1		1	1	1	1	1	1	1		1	1	1	1							
Bill H																																		
Kyle L																																		
Richard Z																																		
Jason S																																		
Jason Q - INAC			1	1	1	1		1	1	1	1	1	1	1		1	1	1	1															
Barrels from Worked Areas - TOTAL							**0**								**0**								**0**									**0**	**0**	**5,827**
Barrels excavated and crushed - daily																																		
Area																																		
Crushed barrels and debris to landfill (TOTAL LOADS)							**19**								**21**								**5**									**1**	**37**	**135**
Crushed barrels and debris to landfill (TOTAL m^3)							**316**								**350**								**83**									**17**	**616**	**2,248**
Crushed barrels daily loads			6	4						2	14			5			5							1										
Other debris to landfill (TOTAL LOADS)							**0**								**51**								**9**									**3**	**63**	**207**
Other debris to landfill (TOTAL m^3)							**0**								**849**								**150**									**50**	**1,049**	**3,447**
Debris daily loads									16	29	6									9						3								
Intermediate fill from WA6 (TOTAL LOADS)															**101**								**25**									**0**	**126**	**156**
Intermediate fill (TOTAL m^3)															**1682**								**416**									**0**	**2,098**	**2,597**
Intermediate fill (TOTAL m^3)										4	25	31	28	13							25													
Soil to landfarm (TOTAL LOADS)							**3**								**24**								**40**									**0**	**67**	**157**
Soil to landfarm (TOTAL m^3)							**33**								**266**								**444**									**0**	**744**	**1,743**
Soil to landfarm (daily loads)		3						24														40												
Soil from landfarm (TOTAL LOADS)							**19**								**0**								**48**									**0**	**67**	**67**
Soil from landfarm (TOTAL m^3)							**211**								**0**								**533**									**0**	**744**	**744**
Soil from landfarm (daily loads)			19																	38		10												
Quarried (TOTAL LOADS)							**29**								**14**								**82**									**18**	**143**	**660**
Quarrying - TOTAL (m^3)							**322**	0							**155**								**910**									**200**	**1,587**	**7,326**
BA1 (daily loads)							**0**								**0**								**0**									**0**		**0**
BA2 (daily loads)							**0**								**0**								**0**									**0**		**1,099**
BA3 (daily loads)		13	2	14			**29**	4				10			**14**							12	**12**	8								**8**		**3,019**
BA4 and borrow extension (daily loads)							**0**								**0**						29		**29**									**0**		**422**
BA5 (daily loads)							**0**								**0**			7	34				**41**	2	8							**10**		**566**
BA6 (daily loads)							**0**								**0**								**0**									**0**		**0**
BA7 (daily loads)							**0**								**0**								**0**									**0**		**1,132**
BA8 (daily loads)	31		5				**36**								**0**								**0**									**0**		**1,487**
BA14 (daily loads)							**0**								**0**								**0**									**0**		**0**

Table 7: EBA Tracking Summary 2010

Date	Week 1							Week 2								Week 3								Week 4								Week 5								
	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	End Week 1	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	End Week 2	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul	17-Jul	18-Jul	End Week 3	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	End Week 4	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	Month End July	1-Aug	End Week 5
Water use - TOTAL (m^3)	551	554	559	565	570	574	**23**	581	585	591	597	604	606	617	**617**	631	640	647	654	662	668	675	**675**	689	696	700	708	715	722	731	**731**	738	743	749	764	776	781	**230**	788	**788**
Water use - daily/weekly/monthly (m^3)	0.0	3.5	5.0	5.7	5.1	3.5	**23**	6.5	3.9	6.0	6.0	7.0	2.2	10.1	**42**	8.9	7.4	6.6	7.6	6.7	7.0	13.4	**58**	6.9	4.3	8.1	7.2	6.7	8.9	7.7	**50**	4.6	6.4	14.3	12.0	5.3	7.2		5.8	**56**
EBA/PWGSC/INAC person-day TOTAL							**10**								**16**								**26**								**16**							**80**		**14**
Herb Ziervogel						1	**1**	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1		**6**																	
Daniela Felske																									1	1	1	1	1	1	**6**	1	1	1	1	1	1		1	**7**
Michel Hebert	1	1	1	1	1	1	**6**	1	1	1	1	1	1	1	**7**	1	1						**2**																	
Michelle Blade																		1	1	1	1	1	**5**	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1		1	**7**
Garry Dang-Vuu																																								
Bill Horne																		1	1				**2**																	
Kristi Arreak													1	1	**2**	1	1	1	1	1	1	1	**7**	1	1	1					**3**									
Dele Morakinyo - INAC																		1	1				**2**																	
Jimi Arey - PWGSC																		1	1				**2**																	
Corinne Stokowski - PWGSC																																								
Jessie Hoyt - PWGSC	1	1	1				**3**																																	
Barrels from Worked Areas - TOTAL							**0**								**2,235**								**963**								**399**							**3,767**		**190**
Barrels excavated and crushed - daily								400	400	400	330	200	335	170		0	235	218	100	150	140	120		110	80	12	14	133	30	20		0	30	30	30	30	50		20	
Area								WA6	WA6	WA6	WA6	WA6	WA6	WA6			WA6	WA6	WA6	WA6	WA6	WA6		WA6	WA6	WA6	WA6	WA6	WA6	WA6			WA6	WA6	WA6	WA6	WA5		WA6	
Crushed barrels and debris to landfill (TOTAL LOADS)															**0**								**16**								**75**							**155**		**69**
Crushed barrels and debris to landfill (TOTAL m^3)															**0**								**90**								**420**						0	**868**		**386**
Crushed barrels and debris from worked areas daily loads																						16		9	14	10	13	17	12	0		14	7	10	9	11	13		5	
Screened loads (TOTAL LOADS)							**0**								**0**								**38**								**229**							**422**		**208**
Screened loads (TOTAL m^3)							**0**								**0**								**422**								**2,542**							**4,684**		**2,309**
Daily screened loads																						38		42	28	54	73	25	7			13	23	10	54	0	55		53	
Area																					WA8	WA8		WA7	WA6	WA6/WA7	WA7	WA7	WA7			WA7	WA7	WA7	WA7	WA7	WA5		WA6/WA7	
Tier I soil to landfill (TOTAL LOADS)							**0**								**0**								**0**								**0**							**0**		**0**
Tier 1 soil to landfill (TOTAL m^3)							**0**								**0**								**0**								**0**							**0**		**0**
Tier I soils daily loads																																								
Area																					WA8	WA8		WA7	WA6	WA6/WA7	WA7	WA7	WA7			WA7	WA7	WA7	WA7	WA7	WA5		WA6/WA7	
Intermediate fill (TOTAL LOADS)															**0**								**39**								**29**							**68**		**0**
Intermediate fill (TOTAL m^3)															**0**								**433**								**322**							**755**		**0**
Intermediate fill daily loads (TOTAL m^3)																					33	6		7	4			18													
Intermediate fill from worked areas (TOTAL LOADS)															**0**								**0**								**0**							**0**		**0**
Intermediate fill from worked areas (TOTAL m^3)															**0**								**0**								**0**							**0**		**0**
Intermediate fill from worked areas daily loads (TOTAL m^3)																																								
Soil to landfarm (TOTAL LOADS)															**0**								**5**								**0**							**5**		**0**
Soil to landfarm (TOTAL m^3)															**0**								**56**								**0**							**56**		**0**
Soil to landfarm daily loads																	5																							
Soil from landfarm (TOTAL LOADS)															**0**								**0**								**0**							**0**		**0**
Soil from landfarm (TOTAL m^3)															**0**								**0**								**0**							**0**		**0**
Soil from landfarm (daily loads)																																								
Quarried (TOTAL LOADS)							**0**								**12**								**43**								**54**							**119**		**10**
Quarrying - TOTAL (m^3)							**0**								**133**								**477**								**599**							**1,321**		**111**
BA-1 (daily loads)															**0**						10	10	**20**	48							**48**					9	1			**10**
BA-2 (daily loads)															**0**								**0**								**0**									**0**
BA-3 (daily loads)										12					**12**						23		**23**	4			2				**6**									**0**
BA-4 (daily loads)															**0**								**0**								**0**									**0**
BA-5 (daily loads)															**0**								**0**								**0**									**0**
BA-6 (daily loads)															**0**								**0**								**0**									**0**
BA-7 (daily loads)															**0**								**0**								**0**									**0**
BA-8 (daily loads)															**0**								**0**								**0**									**0**
BA-14 (daily loads)															**0**								**0**								**0**									**0**

Table 7: EBA Tracking Summary 2010

Date	Week 6								Week 7								Week 8								Week 9								Week 10		
	2-Aug	3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	End Week 6	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	End Week 7	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	End Week 8	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	End Week 9	30-Aug	31-Aug	Month End AUG
Water use - TOTAL (m^3)	794	802	816	824	832	839	848	**848**	859	862	868	876	882	888	895	**895**	914	916	925	934	942	951	957	**957**	964	967	973	980	986	991	995	**995**	999	1,005	**1,005**
Water use - daily/weekly/monthly (m^3)	8.0	14.4	7.6	7.6	7.8	8.6	10.5	**65**	3.3	5.9	8.0	6.1	6.2	7.0	18.6	**55**	2.4	8.5	9.2	8.6	8.2	6.3	7.6	**51**	2.6	6.3	6.3	6.0	5.1	4.4	4.3	**35**	5.1	5.6	**224**
EBA/PWGSC/INAC person-day TOTAL								**22**								**19**								**19**								**30**			**94**
Herb Ziervogel																																			
Daniela Felske	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1		**6**			
Michel Hebert																										1	1	1	1	1	1	**6**	1	1	
Michelle Blade	1	1	1	1	1	1	1	**7**	1	1	1					**3**																			
Garry Dang-Vuu														1	1	**2**	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1	1	**7**	1	1	
Bill Horne																											1	1	1			**3**			
Kristi Arreak						1	1	**2**	1	1	1	1	1	1	1	**7**	1	1	1	1	1			**5**											
Dele Morakinyo - INAC																											1	1	1			**3**			
Jimi Arey - PWGSC																											1	1	1			**3**			
Corinne Stokowski - PWGSC			1	1	1			**3**																											
Jessie Hoyt - PWGSC			1	1	1			**3**																											
Barrels from Worked Areas - TOTAL								**281**								**0**								**400**								**0**			**685**
Barrels excavated and crushed - daily	30	50	80	30	50	40	1											200	200																
Area	WA6	WA2/WA6	WA2	WA6	WA6	WA6	WA6											WA2	WA2																
Crushed barrels and debris to landfill (TOTAL LOADS)								**22**								**0**								**32**								**2**			**56**
Crushed barrels and debris to landfill (TOTAL m^3)								**123**								**0**								**179**								**11**	0		**314**
Crushed barrels and debris from worked areas daily loads	7	2		8			5										2	17	13											2					
Screened loads (TOTAL LOADS)								**385**								**0**								**92**								**0**			**477**
Screened loads (TOTAL m^3)								**4,274**								**0**								**1,021**								**0**			**5,295**
Daily screened loads	69	71	46	32	70	65	32											42		50															
Area	WA7	WA7	WA7	WA7	WA6/WA7	WA6/WA7	WA6/WA7											WA6/WA9		WA9/WA10															
Tier I soil to landfill (TOTAL LOADS)								**0**								**52**								**0**								**0**			**52**
Tier 1 soil to landfill (TOTAL m^3)								**0**								**577**								**0**								**0**			**577**
Tier I soils daily loads															52																				
Area	WA7	WA7	WA7	WA7	WA6/WA7	WA6/WA7	WA6/WA7								WA6/WA7																				
Intermediate fill (TOTAL LOADS)								**17**								**0**								**0**								**0**			**17**
Intermediate fill (TOTAL m^3)								**189**								**0**								**0**								**0**			**189**
Intermediate fill daily loads (TOTAL m^3)							17																												
Intermediate fill from worked areas (TOTAL LOADS)								**0**								**0**								**0**								**0**			**0**
Intermediate fill from worked areas (TOTAL m^3)								**0**								**0**								**0**								**0**			**138**
Intermediate fill from worked areas daily loads (TOTAL m^3)																																			
Soil to landfarm (TOTAL LOADS)								**0**								**0**								**0**								**0**			**0**
Soil to landfarm (TOTAL m^3)								**0**								**0**								**0**								**0**			**0**
Soil to landfarm daily loads																																			
Soil from landfarm (TOTAL LOADS)								**0**								**27**								**0**								**1**			**28**
Soil from landfarm (TOTAL m^3)								**0**								**300**								**0**								**11**			**311**
Soil from landfarm (daily loads)												27																			1				
Quarried (TOTAL LOADS)								**15**								**169**								**234**								**360**			**1,036**
Quarrying - TOTAL (m^3)								**167**								**1,876**								**2,597**								**3,996**			**11,500**
BA-1 (daily loads)							14	**14**		15						**15**					48			**48**			7			9	65	**81**	60	78	
BA-2 (daily loads)								**0**								**0**								**0**								**0**			
BA-3 (daily loads)								**0**				33	24	24	1	**82**	16						32	**48**	13	38	32	34				**117**			
BA-4 (daily loads)								**0**								**0**						44		**44**	14				80	46		**140**			
BA-5 (daily loads)							1	**1**		6	9	8	8	8	1	**40**								**0**		7					15	**22**	32	48	
BA-6 (daily loads)								**0**								**0**								**0**								**0**			
BA-7 (daily loads)								**0**			12				15	**27**	51	1	32	4	6			**94**								**0**			
BA-8 (daily loads)								**0**								**0**								**0**								**0**	22	8	
BA-14 (daily loads)								**0**		3					2	**5**								**0**								**0**			

Table 7: EBA Tracking Summary 2010

Date	Week 10 Cont.						Week 11								Week 12								Week 13							
	1-Sep	2-Sep	3-Sep	4-Sep	5-Sep	End Week 10	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	End Week 11	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	End Week 12	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	End Week 13
Water use - TOTAL (m^3)	1,010	1,016	1,021	1,029	1,038	**1,038**	1,047	1,054	1,060	1,068	1,075	1,081	1,088	**1,088**	1,095	1,100	1,105	1,111	1,117	1,122	1,128	**1,128**	1,134	1,140	1,146	1,151	1,157	1,164	1,170	**1,170**
Water use - daily/weekly/monthly (m^3)	5.7	4.8	8.5	9.1	8.4	**271**	7.0	6.3	8.0	6.9	6.6	6.8	6.4	**48**	5.6	5.2	5.3	6.3	5.4	5.4	6.0	**39**	6.2	6.4	4.6	6.0	6.7	6.3	6.8	**82**
EBA/PWGSC/INAC person-day TOTAL						**14**								**14**								**10**								**7**
Herb Ziervogel																														
Daniela Felske																			1	1	1	**3**	1	1	1	1	1	1	1	**7**
Michel Hebert	1	1	1	1	1	**7**	1	1	1	1	1	1	1	**7**	1	1	1	1	1	1		**6**								
Michelle Blade																														
Garry Dang-Vuu	1	1	1	1	1	**7**	1	1	1	1	1	1	1	**7**	1							**1**								
Bill Horne																														
Kristi Arreak																														
Dele Morakinyo - INAC																														
Jimi Arey - PWGSC																														
Corinne Stokowski - PWGSC																														
Jessie Hoyt - PWGSC																														
Barrels from Worked Areas - TOTAL						**0**								**0**								**0**								**0**
Barrels excavated and crushed - daily																														
Area																														
Crushed barrels and debris to landfill (TOTAL LOADS)						**0**								**0**								**0**								**0**
Crushed barrels and debris to landfill (TOTAL m^3)						**0**								**0**								**0**								**0**
Crushed barrels and debris from worked areas daily loads																						**0**								
Screened loads (TOTAL LOADS)						**77**								**41**								**187**								**401**
Screened loads (TOTAL m^3)						**855**								**455**								**2,076**								**4,451**
Daily screened loads		38	5	22	12		15						26		22	30	30	35	63	7			94	82	65	52	65	30	13	
Area		Type 1	Type 1	Type 1	Type 1		Type 1						Type 1		Type 1	Type 1	Type 1	Type 1	Type 1	Type 1			Type 1	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1	
Tier I soil to landfill (TOTAL LOADS)						**0**								**0**								**0**								**0**
Tier 1 soil to landfill (TOTAL m^3)						**0**								**0**								**0**								**0**
Tier I soils daily loads																														
Area																														
Intermediate fill (TOTAL LOADS)						**0**								**0**								**0**								**0**
Intermediate fill (TOTAL m^3)						**0**								**0**								**0**								**0**
Intermediate fill daily loads (TOTAL m^3)																														
Intermediate fill from worked areas (TOTAL LOADS)						**0**								**0**								**0**								**0**
Intermediate fill from worked areas (TOTAL m^3)						**0**								**0**								**0**								**0**
Intermediate fill from worked areas daily loads (TOTAL m^3)																														
Soil to landfarm (TOTAL LOADS)						**0**								**0**								**0**								**0**
Soil to landfarm (TOTAL m^3)						**0**								**0**								**0**								**0**
Soil to landfarm daily loads																														
Soil from landfarm (TOTAL LOADS)						**0**								**0**								**0**								**0**
Soil from landfarm (TOTAL m^3)						**0**								**0**								**0**								**0**
Soil from landfarm (daily loads)																														
Quarried (TOTAL LOADS)						**505**								**552**								**356**								**442**
Quarrying - TOTAL (m^3)						**5,606**								**6,127**								**3,952**								**4,906**
BA-1 (daily loads)	11	20	41		24	**234**	9	10	1	45				**65**	22	20				22	16	**80**								**0**
BA-2 (daily loads)						**0**					23	33	26	**82**	17		32	41	63		24	**177**				2			13	**15**
BA-3 (daily loads)						**0**						10	16	**26**				12	6		29	**47**								**0**
BA-4 (daily loads)						**0**								**0**								**0**	112	85	83	75	51	2		**408**
BA-5 (daily loads)	55	55	4	42		**236**	1	11	1	58	36	65		**172**	11	31						**42**					15	4		**19**
BA-6 (daily loads)						**0**								**0**								**0**								**0**
BA-7 (daily loads)						**0**								**0**								**0**								**0**
BA-8 (daily loads)	5					**35**								**0**		10						**10**								**0**
BA-14 (daily loads)						**0**	55	22	44	29	57			**207**								**0**								**0**

Table 7: EBA Tracking Summary 2010

Date	Week 14											Project Summary		
	27-Sep	28-Sep	29-Sep	30-Sep	Month End SEPT	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	End Week 14	TOTAL 2009	TOTAL 2010	PROJECT TOTAL
Water use - TOTAL (m^3)	1,177	1,181		1,194	**1,194**			1,204	1,209	1,210	**1,210**			**1,243**
Water use - daily/weekly/monthly (m^3)	4.4				**190**			4.2	1.0		**38**	**537**	**706**	
EBA/PWGSC/INAC person-day TOTAL					**32**						**3**	**207**	**209**	**416**
Herb Ziervogel														
Daniela Felske	1													
Michel Hebert														
Michelle Blade														
Garry Dang-Vuu														
Bill Horne								1	1	1	**3**			
Kristi Arreak														
Dele Morakinyo - INAC														
Jimi Arey - PWGSC														
Corinne Stokowski - PWGSC														
Jessie Hoyt - PWGSC														
Barrels from Worked Areas - TOTAL					**0**						**0**	**5,827**	**4,452**	**10,279**
Barrels excavated and crushed - daily														
Area														
Crushed barrels and debris to landfill (TOTAL LOADS)					**0**						**0**	**126**	**211**	**337**
Crushed barrels and debris to landfill (TOTAL m^3)					**0**						**0**	**700**	**1,182**	**1,882**
Crushed barrels and debris from worked areas daily loads														
Screened loads (TOTAL LOADS)					**816**						**101**	**0**	**1,816**	**1,816**
Screened loads (TOTAL m^3)					**9,058**						**1,121**	**0**	**20,158**	**20,158**
Daily screened loads	53	33		101										
Area	Type 1	Type 1		Type 1										
Tier I soil to landfill (TOTAL LOADS)					**0**						**0**	**0**	**52**	**52**
Tier 1 soil to landfill (TOTAL m^3)					**0**						**0**	**0**	**577**	**577**
Tier I soils daily loads														
Area														
Intermediate fill (TOTAL LOADS)					**0**						**0**		**85**	**85**
Intermediate fill (TOTAL m^3)					**0**						**0**		**944**	**944**
Intermediate fill daily loads (TOTAL m^3)														
Intermediate fill from worked areas (TOTAL LOADS)					**0**						**0**	**156**	**0**	**156**
Intermediate fill from worked areas (TOTAL m^3)					**101**						**0**	**2,597**	**0**	**2,597**
Intermediate fill from worked areas daily loads (TOTAL m^3)														
Soil to landfarm (TOTAL LOADS)					**0**						**0**	**157**	**5**	**162**
Soil to landfarm (TOTAL m^3)					**0**						**0**	**1,743**	**56**	**1,799**
Soil to landfarm daily loads														
Soil from landfarm (TOTAL LOADS)					**0**						**0**	**67**	**28**	**95**
Soil from landfarm (TOTAL m^3)					**0**						**0**	**744**		**744**
Soil from landfarm (daily loads)														
Quarried (TOTAL LOADS)					**2,042**						**222**	**660**	**2,974**	**3,634**
Quarrying - TOTAL (m^3)					**22,666**						**2,464**	**7,726**	**33,011**	**40,737**
BA-1 (daily loads)											**0**	**0**	**6,827**	**6,827**
BA-2 (daily loads)	53	33		101							**187**	**1,099**	**5,117**	**6,216**
BA-3 (daily loads)						1	4	20	3	5	**33**	**3,019**	**4,373**	**7,393**
BA-4 (daily loads)											**0**	**422**	**6,571**	**6,993**
BA-5 (daily loads)											**0**	**566**	**5,905**	**6,471**
BA-6 (daily loads)											**0**	**0**	**0**	**0**
BA-7 (daily loads)								2			**2**	**1,132**	**1,365**	**2,498**
BA-8 (daily loads)											**0**	**1,487**	**500**	**1,987**
BA-14 (daily loads)											**0**	**0**	**2,353**	**2,353**

Table 12: Remediation Summary of Known Areas of Environmental Concern

AEC No.	Location Description	Contaminants of Concern	Date(s) of Excavation	RAP Estimated Soil volume	Actual Soil Volumes	Fate	Number of Confirmatory Samples	Highest Residual Concentration (2009 and 2010)
AEC1	Main Station Area ASTs	Hydrocarbon (F2 fraction)	July 21, 2009 September 5, 2009	246	608	Landfarm	41	8,230 ppm
AEC2	Main Station Building North of West Wing	Tier II Metals (Lead)	August 17, 2009	10	11.5	Off-site ship	5	75 mg/kg Pb
AEC3	Main Station Building East of East Wing	Hydrocarbon (F2 fraction)	Septmeber 20, 2009 July 12, 2010 August 19, 2010	287	350	Landfarm	32	7,360 mg/kg
AEC4	Main Station Building East of East Wing	Tier I PCB	September 3, 2009	18	20	On-Site Non-Hazardous Landfill	11	<MDL
AEC5	Main Station Building East of East Wing	Tier II Metals (Cadmium and Zinc)	August 17, 2009	2	16.1	Off-site ship	5	1.6 mg/kg Cd 51 mg/kg Zn
AEC6	Main Station Building East of East Wing	Tier II Metals (Lead and Zinc)	August 17, 2009	1	9.2	Off-site ship	5	<MDL Pb 37 mg/kg ZN
AEC7	Main Station Building East of East Wing	Tier II Metals (Cadmium and Zinc)	August 17, 2009	55	119.6	Off-site ship	11	<MDL Cd 18 mg/kg Zn
AEC8	Main Station Building East of East Wing	Tier I Metals (Lead)	September 18, 2009	41	45	On-Site Non-Hazardous Landfill	10	<MDL Pb
AEC9	Main Station Area Maintenance Garage	Tier II Metals (Cadmium)	August 31, 2009	126	207	Off-site ship	14	<MDL Cd
AEC10	Main Station Area Maintenance Garage	Hydrocarbon (F3 fraction)	September 19, 2009	160	150	On-Site Non-Hazardous Landfill	17	11,000 ppm F3
AEC11	Main Station Area Disaster Hut	Tier II Metals (Cadmium)	August 30, 2009	1	9.2	Off-site ship	5	<MDL Cd
AEC12	Beach Area Outfall	Tier II Metals (Copper)	September 1, 2009	61	41.4	Off-site ship	14	54.5 mg/kg Cu
AEC13	Work Area 1	Hydrocarbon (F2 fraction)	August 3, 2009 August 4, 2009	871	1,050	Landfarm	35	5,220 ppm F2

Note: Based on site characterization completed by Earth Tech Inc (Edmonon)

Table 13: Remediation Summary of Buried Debris Areas (Worked Areas)

Worked Area No.	Date(s) of Excavation	Approximate Excavated Volume	Approximate Number of Barrels Removed	Waste Streams and Fate	Number of Confirmatory Soil Samples		
					Petroleum Hydrocarbons F2 to F4	Metals	PCB
		m^3					
WA-1	July 19 to August 2, 2009 August 3 to August 5, 2009	690	2,200	Wastes consisted of whole barrels. Water in intact barrels was removed for phenols treatment. Waste oil was collected and containerized for disposal off-site. Barrels were disposed of in on-site landfill. Underlying soils impacted with F1 and F2 hydrocarbon fraction were taken to the landfarm for treatment. Treated soils were used to backfill contaminated soil excavations (AECs) at the Main Station.	Excavation: Stockpiles:	Excavation: Stockpiles:	Excavation: Stockpiles:
WA-2	August 4, 5 and 6, 2009 September 13 and 14, 2009 August 2 to August 18, 2010	2,700	2,300	Wastes consisted of whole and some crushed barrels. Approximately 1,000 were crushed prior to excavation. Water collected from the intact barrels was removed for phenols treatment. Some deeper barrels were embedded in the permafrost and required several weeks thawing prior to removal. Barrels were disposed of in the non-hazardous landfill. Stockpiles of overburden sand were backfilled.	Excavation: 22 Stockpiles: 20	Excavation: 8 Stockpiles: 12	Excavation: 5 Stockpiles: 3
WA-3	September 13, 2009	130	350	Dry,crushed barrels only. Barrels were disposed of in the non-hazardous landfill. No hazardous wastes were found. Stockpiles of overburden sand were backfilled.	Excavation: 10 Stockpiles: 4	Excavation: 4 Stockpiles: 2	Excavation: 2 Stockpiles: 2
WA-4	August 3 and 4, 2009	80	400	Dry, whole barrels only. Barrels were disposed of in the non-hazardous landfill. Stockpiles of overburden sand were backfilled.	Excvation: 11 Stockpiles: 0	Excavation: 11 Stockpiles: 0	Excavation: 5 Stockpiles: 0
WA-5	July 30 to August 15, 2010	250	50	Dry, whole barrels only and some metal debris. Barrels and scrap were disposed of in the non-hazardous landfill. No hazardous wastes were found. Stockpiles of overburden sand were backfilled.	Excavation: 0 Stockpiles: 0	Excavation: 9 Stockpiles: 0	Excavation: 3 Stockpiles: 0
WA-6	August 5 to 15, 2009	5,500	6,400	Wastes consisted of barrels, metal debris and domestic wastes. Buried debris materials that could not be effectively separated using the excavator were stockpiled and screened. A large volume of material (approximately 3,500 m^3) consisted of sand plus a small quantity of small inert wastes. Some of this material was used directly as Type 6 intermediate fill at the landfill. The remainder was sieved and backfilled into WA-6. Hazardous wastes removed included, petroleum hydrocarbons, batteries, transformers and capacitors. One barrel of chlorinated solvent was removed. Hazardous wastes were collected and shipped off-site for disposal. Non-hazarouds wastes were disposed of in the on-site landfill. The remaining clean sand (overburden and screened material) was backfilled.	Excavation: 36 Stockpiles: 22	Excavation: 14 Stockpiles: 41	Excavation: 23 Stockpiles: 19
WA-7	July 10 to August 7, 2010	8,000	0	Wastes consisted of metal and wood debris and domestic wastes. Buried debris materials were pushed up into a stockpile and screened. Hazardous wastes removed included, petroleum hydrocarbons, batteries, transformers, capacitors, asbestos, and compressed gasses. These were removed and shipped off-site. Approximately 570 m^3 of screened Tier 1 soils were taken to the non-hazardous landfill. All other non-hazardous wastes were also landfilled on-site. The remaining clean sand (overburden and screened material) was backfilled.	Excavation: 3 Stockpiles: 1	Excavation: 5 Stockpiles: 56	Excavation: 5 Stockpiles: 52
WA-8	July 18 to July 20, 2010	745	0	Wastes consisted of metal and wood debris and domestic wastes. Buried debris materials that could not be effectively separated using the excavator were stockpiled and screened. The remaining clean sand (overburden and screened material) was backfilled. No hazardous wastes were found.	Excavation: 0 Stockpiles: 0	Excavation: 4 Stockpiles: 8	Excavation: 4 Stockpiles: 8
WA-9	August 16 to 18, 2010	100	0	The site was the remains of a former cabin, and debris mainly consisted of wood and metal cladding. Wastes were dispoed of in the non-hazardous landfill. No hazardous wastes were found. Stockpiles of overburden sand were backfilled.	Excavation: 0 Stockpiles: 0	Excavation: 4 Stockpiles: 0	Excavation: 1 Stockpiles: 0
WA-10	August 18 and 19, 2010	75	0	Wastes consisted of metal scrap, which could mostly be separated using the excavator. The debris was disposed of in the on-site landfill. A small volume of material was sent to the screener for processing. The area was not backfilled, but the rocks and large boulders were replaced. No hazardous wastes were found.	Excavation: 0 Stockpiles: 0	Excavation: 0 Stockpiles: 0	Excavation: 0 Stockpiles: 0
WA-11	August 31, 2010	50	0	Wastes consisted of metal scrap, which could mostly be separated using the excavator. The debris was disposed of in the on-site landfill. No hazardous wastes were found.	Excavation: 4 Stockpiles: 0	Excavation: 4 Stockpiles: 0	Excavation: 4 Stockpiles: 0
TOTAL		18,270	11,700				

Note: * Barrel counts tracked on site only included intact barrels that required machine crushing. Where significant numbers of crushed barrels were found, counts were estimated.

Table 17: Groundwater Monitoring Summary 2009 and 2010

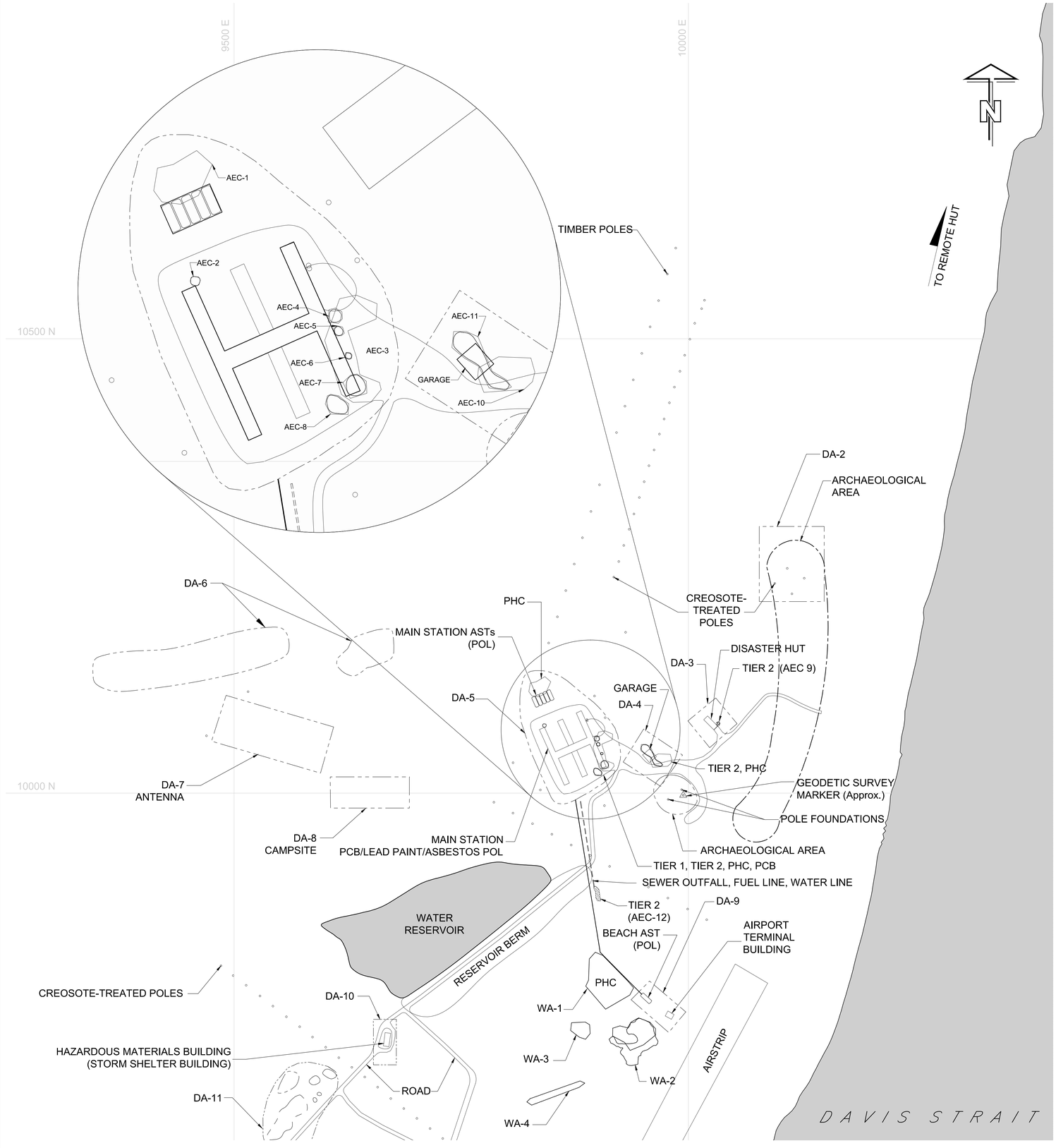
Well ID	Installation Summary								August 15, 2009		September 18, 2009		July 25, 2010		August 21, 2010		September 12, 2010	
	Date Installed	Ground Elevation (m)	Pipe Length (m)	Pipe Stickup (m)	T.O.P. Elevation (m)[1]	Slotted Interval Elevation (m) from	Slotted Interval Elevation (m) to	Slotted Section (m)	Water Level T.O.P. (m)	Water Elevation (m)	Water Level T.O.P. (m)	Water Elevation (m)	Water Level T.O.P. (m)	Water Elevation (m)	Water Level T.O.P. (m)	Water Elevation (m)	Water Level T.O.P. (m)	Water Elevation (m)
MW-1 (West)	07-Aug-09	14.220	4.00	0.603	14.823	11.823	13.823	2.00	1.32	10.503	0.821	14.002	frozen (1.320)	-	1.278	13.545	0.81	14.013
MW-2 (North)	07-Aug-09	12.283	4.00	0.655	12.938	9.938	11.938	2.00	frozen	-	0.783	12.155	frozen (1.205)	-	1.533	11.405	0.8	12.138
MW-3 (East)	07-Aug-09	16.163	4.00	0.683	16.846	13.846	15.846	2.00	1.88	14.966	1.820	15.026	frozen (1.575)	-	frozen (1.583)	-	frozen	-
MW-4 (south)	12-Jul-10	16.500	4.00	0.475	16.975	13.975	15.975	2.00	-	-	-	-	frozen (1.415)	-	1.224	15.622	1.16	15.686

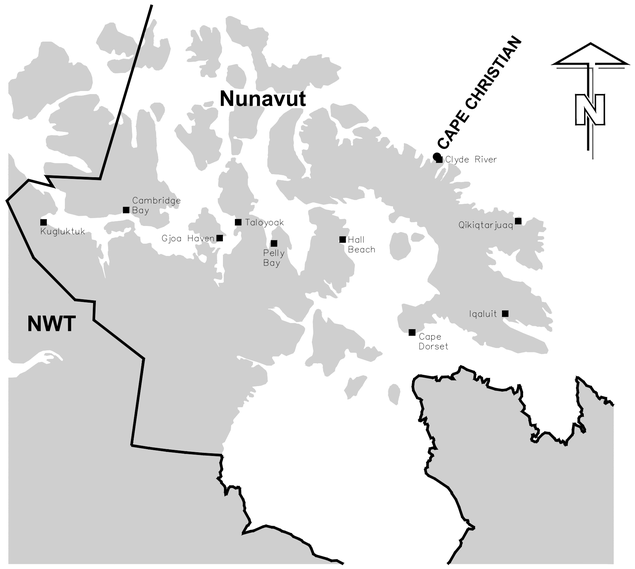
Notes:
1. T.O.P. = Top of Pipe
2. All wells were sampled for routine analyses, metals, F1-F2 petroleum hydrocarbons, and PCB

FIGURES

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Figure 2b	Summary of Remediation 2009 - South
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Figure 6d	AEC-4 Excavation – Tier I PCB
Figure 6e	AEC-5 Excavation -Tier II Metals
Figure 6f	AEC-6 Excavation – Tier II Metals
Figure 6g	AEC-7 Excavation – Tier II Metals
Figure 6h	AEC-8 Excavation – Tier II Metals
Figure 6i	AEC-9 Excavation – Tier II Metals

Figure 6j AEC-10 Excavation – F3-F4 PHC
Figure 6k AEC-11 Excavation – Tier II Metals
Figure 6l AEC-12 Excavation – Tier II Metals
Figure 6m Worked Area 1/AEC13 Excavation – F1-F2 PHC
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Figure 11 Creosote Pole Soil Remediation





LOCATION OF CAPE CHRISTIAN WITHIN NUNAVUT TERRITORY

N.T.S.

BUILDINGS AND FACILITIES REQUIRING DEMOLITION :

MAIN STATION
MAIN STATION ASTs
DISASTER HUT
AIR TERMINAL BUILDING
BEACH AST
POLES
SEWER OUTFALL, FUEL LINE, WATER LINE ANTENNA PLATFORM

KEY:

WA-X: WORKED AREA CONTAINING BURIED BARRELS AND/OR WASTES
DA-X: DEBRIS AREAS CONTAINING SURFACE DEBRIS, AND/OR MACHINERY GAS CYLINDERS, BATTERIES, PINTS, ETC
TIER 1: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 1 CRITERIA
TIER 2: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 2 CRITERIA
PCB/LEAD PAINT: EQUIPMENT AND BUILDING MATERIALS WITH PCB AND OR LEAD HIGHER THAN CRITERIA
ASBESTOS: MATERIALS CONTAINING > 1% (WT) POL FLUIDS % PETROLEUM OILS AND LUBRICANTS
PHC: SOILS WITH PETROLEUM HYDROCARBON FRACTIONS (F1 TO F4)
PCB: SOILS WITH POLYCHLORINATED BIPHENYLS

PERMANENT FACILITIES:

CANADA GEODETIC SURVEY MARKER 749186
NAD 83:
LATITUDE = N70° 31'34.71821"
LONGITUDE = W68° 17' 37.35510"
UTM ZONE 19W
N = 7 824 720.369 m
E = 526 278.450 m

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

REAL PROPERTY SERVICES
Western Region

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

Canada

NUNAVUT REGIONAL OFFICE
IQALUIT, NUNAVUT

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

DEBRIS AREA
ARCHAEOLOGICAL AREA
POLE
GEODETIC SURVEY MARKER
NUMBER: 749186
HORIZONTAL DATUM: NAD83
UTM ZONE: 19
NORTHING: 7824720.369
EASTING: 526278.450
LAT: N70°31'34.71821"
LONG: W68°17'37.3510"

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
2	ISSUED FOR REVIEW	10/12/03
1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
0	ISSUED FOR CONSTRUCTION	07/11/02

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

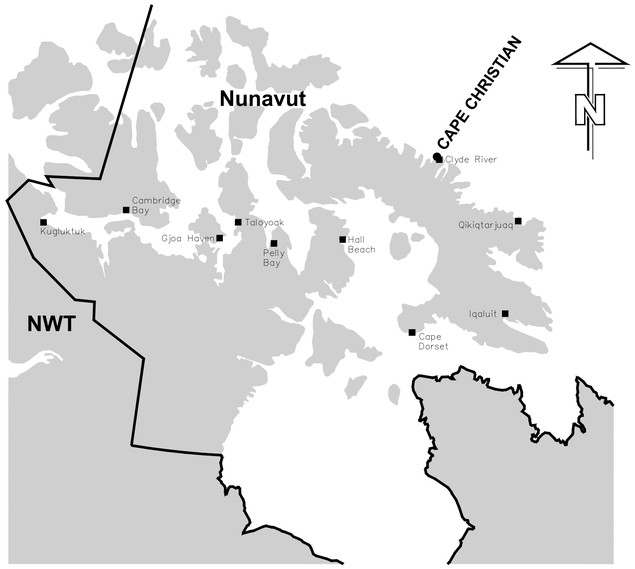
drawing title / titre du dessin
SITE LOCATION AND PRE-REMEDIATION CONDITIONS

designed by / conçu par: M.H.
drawn by / dessiné par: E.L.
approved by / approuvé par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.
scale / echelle: 1:2000
project no. / projet no.: E22101581.001
date: FEBRUARY 2011
sheet / feuille: Fig 1a

E22101581.001_Figure 1a_R0.dwg

EBA File: G:\Edmonton\Working\DWG\01\E2201\E22101581 - Cape Christian\2010\E22101581.001_Figure 1a_R0.dwg
81 1000 x 707





LOCATION OF CAPE CHRISTIAN WITHIN NUNAVUT TERRITORY

N.T.S.

BUILDINGS AND FACILITIES REQUIRING DEMOLITION :

MAIN STATION
MAIN STATION ASTs
DISASTER HUT
AIR TERMINAL BUILDING
BEACH AST
POLES
SEWER OUTFALL, FUEL LINE, WATER LINE ANTENNA PLATFORM

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PCB: SOILS WITH POLYCHLORINATED BIPHENYLS

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

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LEGEND:

—— - - —— DEBRIS AREA
—— - - —— ARCHAEOLOGICAL AREA
◦ POLE

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
2	ISSUED FOR REVIEW	10/12/03
1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
0	ISSUED FOR CONSTRUCTION	07/11/02

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

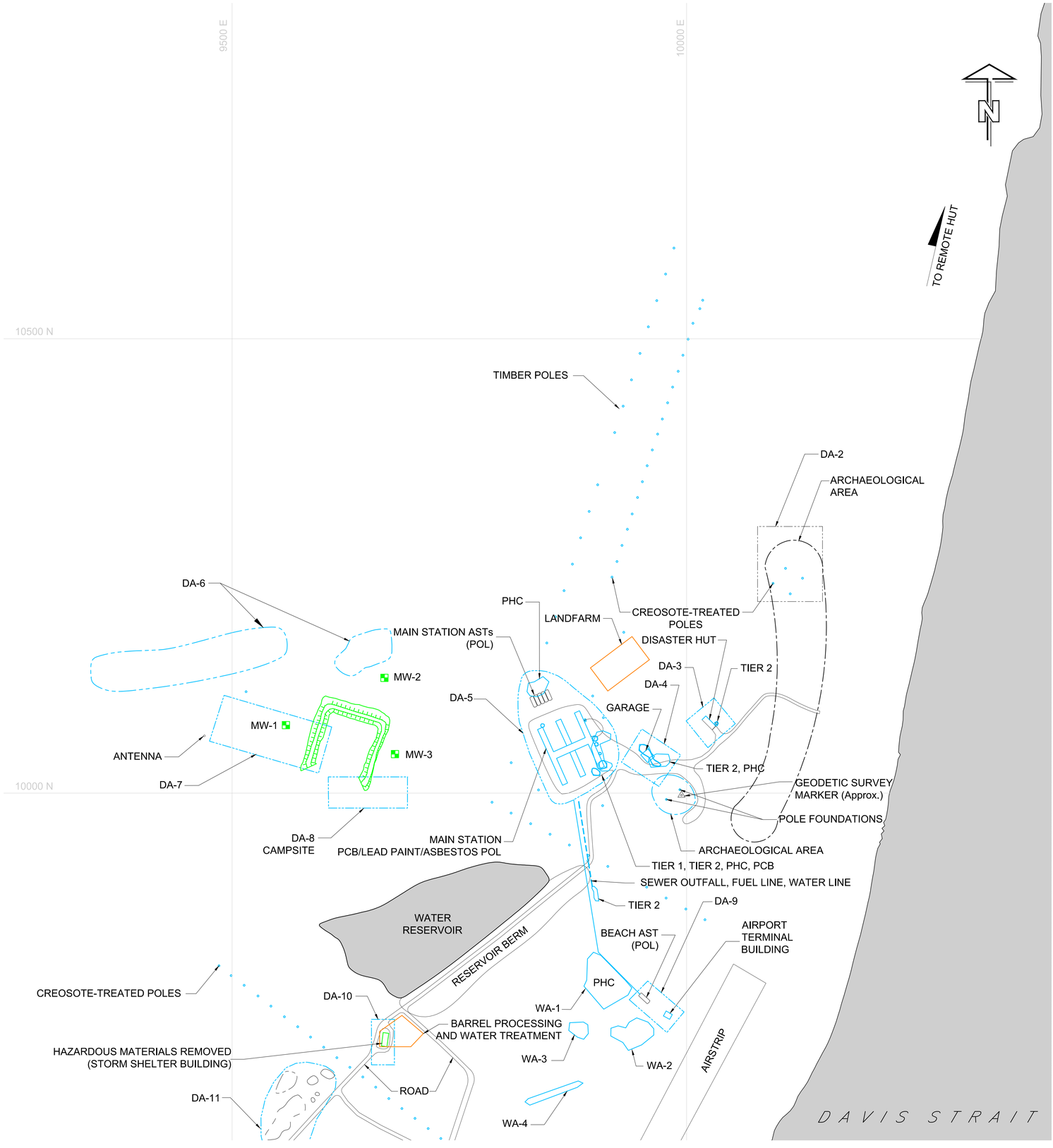
project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
SITE LOCATION AND PRE-REMEDIATION CONDITIONS

designed by / conçu par	M.H.
drawn by / dessiné par	E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:2000
project no. / projet no.	E22101581.001
date / date	FEBRUARY 2011
sheet / feuille	Fig 1b

E22101581.001_Figure 1b_R0.dwg

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181 1000 x 707



KEY:

WA-X: WORKED AREA CONTAINING BURIED BARRELS AND/OR WASTES
DA-X: DEBRIS AREAS CONTAINING SURFACE DEBRIS, AND/OR MACHINERY GAS CYLINDERS, BATTERIES, PINTS, ETC
TIER 1: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 1 CRITERIA
TIER 2: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 2 CRITERIA
PCB/LEAD PAINT: EQUIPMENT AND BUILDING MATERIALS WITH PCB AND OR LEAD HIGHER THAN CRITERIA
ASBESTOS: MATERIALS CONTAINING > 1% (WT) POL FLUIDS % PETROLEUM OILS AND LUBRICANTS
PHC: SOILS WITH PETROLEUM HYDROCARBON FRACTIONS (F1 TO F4)
PCB: SOILS WITH POLYCHLORINATED BIPHENYLS

TEMPORARY FACILITIES:

- BARREL PROCESSING FACILITY
- WATER TREATMENT FACILITY
- LAND FARM

PERMANENT FACILITIES:

- LANDFILL (PARTIAL)
- MONITORING WELLS MW-1, MW-2 AND MW-3
- STORM SHELTER
- CANADA GEODETIC SURVEY MARKER 749186
  NAD 83:
  LATITUDE = N70° 31'34.71821"
  LONGITUDE = W68° 17' 37.35510"
  UTM ZONE 19W
  N = 7 824 720.369 m
  E = 526 278.450 m

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

REAL PROPERTY SERVICES
Western Region

Client

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

Canada

NUNAVUT REGIONAL OFFICE
IQALUIT, NUNAVUT

Client

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- DEBRIS AREA
- ARCHAEOLOGICAL AREA
- POLE
- REMEDIATION 2009
- PERMANENT FACILITIES
- TEMPORARY FACILITIES

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
2	ISSUED FOR REVIEW	10/12/03
1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
0	ISSUED FOR CONSTRUCTION	07/11/02

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
SUMMARY OF REMEDIATION 2009

designed by / conçu par: **M.H.**
drawn by / dessiné par: **E.L.**
approved by / approuvé par: **D.F.**
PWGSC Project Manager / Administrateur de Projets TPSGC: **J.A.**
scale / echelle: **1:2000**
project no. / projet no.: **E22101581.001**
date: **FEBRUARY 2011**
sheet / feuille: **Fig 2a**

EBA File: G:\Edmonton\Qualities\DWG\01\E2211\E2201581 - Cape Christian\2010\E22101581.001_Figure 2a_R0.dwg
81 1000 x 707
E22101581.001_Figure 2a_R0.dwg



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WA-X: WORKED AREA CONTAINING BURIED BARRELS AND/OR WASTES
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- WATER TREATMENT FACILITY
- LANDFARM

PERMANENT FACILITIES:

- LANDFILL (PARTIAL)
- MONITORING WELLS MW-1, MW-2 AND MW-3
- STORM SHELTER
- CANADA GEODETIC SURVEY MARKER 749186

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

REAL PROPERTY SERVICES
Western Region

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LEGEND:

- DEBRIS AREA
- ARCHAEOLOGICAL AREA
- POLE
- REMEDIATION 2009

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
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1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
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B source drawing no. / de dessin no.
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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

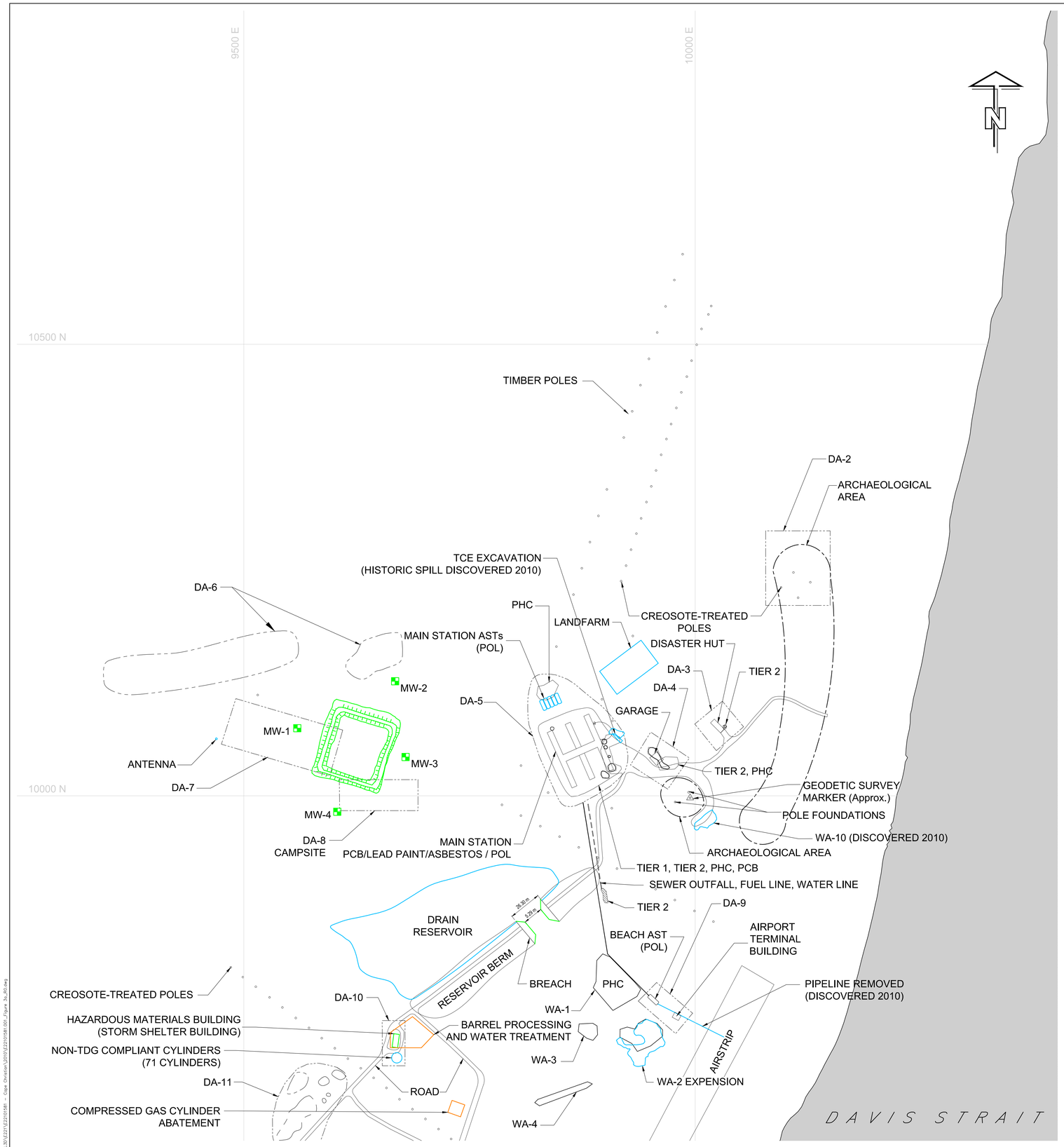
drawing title / titre du dessin
SUMMARY OF REMEDIATION 2009

designed by / conçu par: **M.H.**
drawn by / dessiné par: **E.L.**
approved by / approuvé par: **D.F.**
PWGSC Project Manager / Administrateur de Projets TPSGC: **J.A.**

scale / échelle: **1:2000**
project no. / projet no.: **E22101581.001**
date: **FEBRUARY 2011**
sheet / feuille: **Fig 2b**

E22101581.001_Figure 2b_R0.dwg

EBA File: G:\Edmonton\Working\Civil\E22\E22101581 - Cape Christian\2010\E22101581.001_Figure 2b_R0.dwg
11 1000 x 707



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- COMPRESSED GAS CYLINDER ABATEMENT

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LEGEND:

- DEBRIS AREA
- ARCHAEOLOGICAL AREA
- POLE
- REMEDIATION 2010
- PERMANENT FACILITIES
- TEMPORARY FACILITIES (DECOMMISSIONED BY END OF PROJECT)

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
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1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
0	ISSUED FOR CONSTRUCTION	07/11/02

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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
SUMMARY OF REMEDIATION 2010

designed by / concu par: M.H.
drawn by / dessine par: E.L.
approved by / approuve par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.

scale / echelle: 1:2000
project no. / projet no.: E22101581.001
date: FEBRUARY 2011
sheet / feuille: Fig 3a

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EBA File: G:\Edmonton\Working\CIVIL3D\E22\E22101581 - Cape Christian\2010\E22101581.001_Figure 3a_R0.dwg
181 1000 x 707



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

REAL PROPERTY SERVICES
Western Region

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

Canada

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IQALUIT, NUNAVUT

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LEGEND:

- DEBRIS AREA
- ARCHAEOLOGICAL AREA
- POLE
- REMEDIATION 2010

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
2	ISSUED FOR REVIEW	10/12/03
1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
0	ISSUED FOR CONSTRUCTION	07/11/02

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
DECEMBER 2010 REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
SUMMARY OF REMEDIATIONS 2010

designed by / conçu par	M.H.
drawn by / dessiné par	E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:2000
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 3b

E22101581.001_Figure 3b_R0.dwg

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181 1000 x 707

2009 BACKGROUND GROUNDWATER ANALYTICAL RESULTS FOR NON-HAZARDOUS LANDFILL

Parameters	Units	Comparative Guidelines	MW-1 West of Landfill				MW-2 North of Landfill		MW-3 East of Landfill			
			15-Aug [1]		18-Sep [2]		18-Sep [2]		15-Aug [1]		18-Sep [2]	
Routine Parameters			Field-filtered	Unfiltered	Field-filtered	Unfiltered	Field-filtered	Unfiltered	Field-filtered	Unfiltered	Field-filtered	Unfiltered
pH (laboratory)	pH	6.5 to 8.5	9.4	-	10.9	10.8	7.4	7.3	9.6	-	8.2	8.1
pH (field)	pH	6.5 to 8.5	-	10.6	-	10.1	-	8.2	-	9.8	-	7.8
Electrical Conductivity (EC) (lab)	µS/cm	NG	2,670	-	3,810	3,880	1,540	1,600	427	-	430	453
Electrical Conductivity (EC) (field)	µS/cm	NG	-	7,560	-	3,300	-	1,500	-	-	-	200
Temperature (field)	°C	NG	-	-	-	1.1	-	0.8	-	-	-	0.7
Sodium (Na)	mg/L	200	464	-	813	782	156	159	75.2	-	78.9	77.6
Potassium (K)	mg/L	NG	36.2	-	42.7	41.8	16.0	15.0	0.31	-	7.8	15.8
Magnesium (Mg)	mg/L	NG	6.64	-	0.60	2.5	45.5	45.5	3.0	-	4.9	6.4
Calcium (Ca)	mg/L	NG	10.3	-	46.9	41.9	80.0	82.5	7.0	-	6.7	7.6
Hardness	mg/L	NG	53	-	120	115	387	393	30	-	37	45.4
Iron (Fe)	mg/L	0.3	<0.05	-	<0.05	<0.05	**5.9**	**10.0**	**4.2**	-	0.27	**4.7**
Manganese(Mn)	mg/L	0.05	<0.05	-	<0.05	<0.05	3.1	3.4	0.07	-	<0.05	0.07
Chloride (Cl)	mg/L	230	**704**	-	**1,070**	**1,050**	**427**	**440**	44.5	-	53.6	53.3
Nitrate - N^3	mg/L	10	0.26	-	<5.0	<5.0	<1.0	<1.0	0.38	-	0.28	<0.2
Nitrite - N	mg/L	NG	<0.05	-	<5.0	<5.0	<1.0	<1.0	<0.05	-	<0.2	<0.2
Sulphate (SO4)	mg/L	500	93.4	-	178	189	25.9	24.6	38.2	-	48.9	49.1
Ionic Balance [3]	%	NG	102	-	***115***	***112***	***119***	***118***	***188***	-	***173***	***181***
Organics												
F1 (C_6 to C_{10})	mg/L	NG	<0.05	-	-	-	-	-	<0.05	-	-	-
F2 (C_{10} to C_{16})	mg/L	NG	<0.5	-	-	-	-	-	<0.5	-	-	-
PCB	mg/L	0.05 or 0.005	<0.003	-	-	-	-	-	<0.003	-	-	-
Total Metals												
Copper (Cu)	mg/L	NG	-	-	-	0.0412	-	0.0185	-	-	-	0.111
Nickel (Ni)	mg/L	NG	-	-	-	0.291	-	0.226	-	-	-	0.898
Cobalt (Co)	mg/L	NG	-	-	-	0.0042	-	0.0359	-	-	-	0.0222
Cadmium (Cd)	mg/L	NG	-	-	-	<0.001	-	0.00192	-	-	-	0.00121
Lead (Pb)	mg/L	NG	-	-	-	<0.010	-	<0.010	-	-	-	0.034
Zinc (Zn)	mg/L	0.5	-	-	-	0.0128	-	1.74	-	-	-	0.375
Chromium (Cr)	mg/L	0.100	-	-	-	**0.399**	-	0.0442	-	-	-	**0.938**
Arsenic (As)	mg/L	0.100	-	-	-	0.003235	-	<0.003	-	-	-	0.0132
Dissolved Metals												
Copper (Cu)	mg/L	0.200	0.05475	-	0.0166	-	0.0122	-	0.0462	-	0.00928	-
Nickel (Ni)	mg/L	0.200	**0.482**	-	<0.005	-	0.117	-	0.146	-	0.00516	-
Cobalt (Co)	mg/L	0.050	0.00794	-	<0.003	-	0.0241	-	0.00864	-	<0.003	-
Cadmium (Cd)	mg/L	0.010	<0.001	-	<0.001	-	0.00118	-	<0.001	-	<0.001	-
Lead (Pb)	mg/L	0.050	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-
Zinc (Zn)	mg/L	NG	0.0491	-	<0.010	-	0.903	-	0.0694	-	<0.010	-
Chromium (Cr),	mg/L	0.100	**0.718**	-	<0.005	-	<0.005	-	**0.187**	-	<0.005	-
Arsenic (As)	mg/L	NG	<0.003	-	<0.003	-	<0.003	-	0.00501	-	0.004345	-

Notes:

Monitoring wells installed on August 7, 2009.

Preservatives were not available, so none of the samples were acidified in the field.

[1] Samples were field-filtered, so only dissolved metals are reported. Analyses conducted by IASU, Kingston.

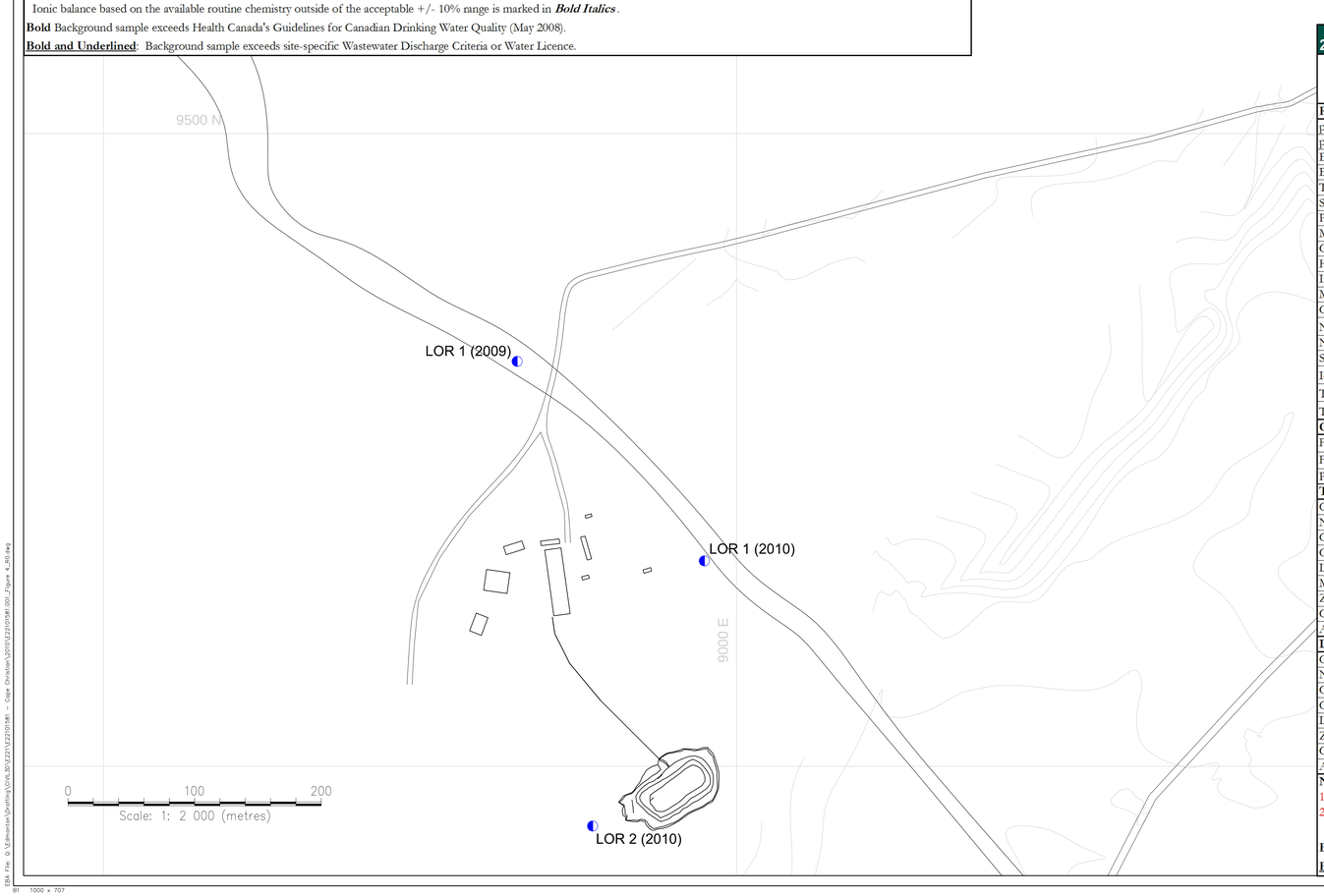
[2] Samples collected included one unfiltered sample for total metals and one field-filtered bottle for dissolved metals. Analyses conducted by IASU, Kingston.

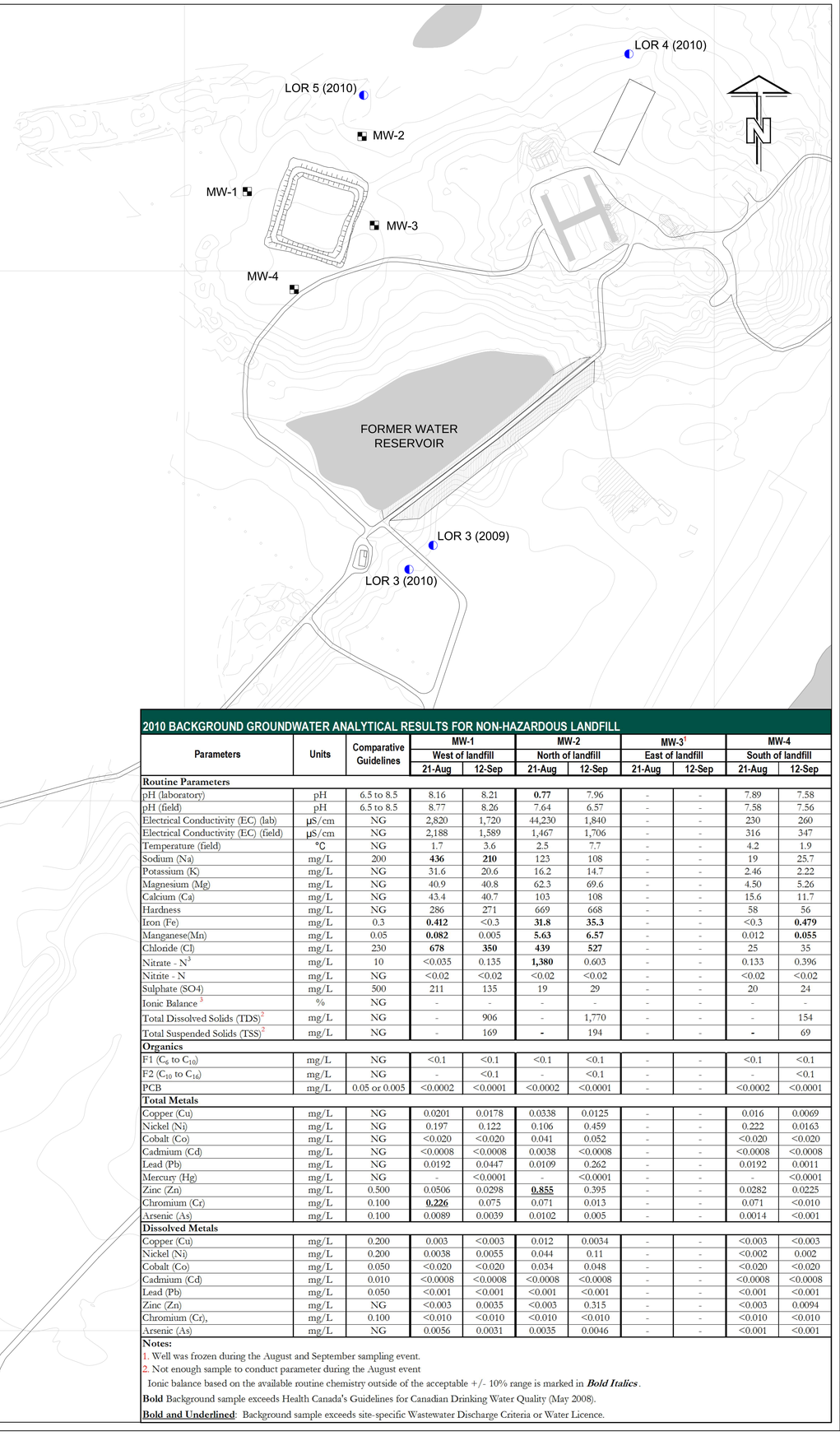
[3] Ionic balance was not reported by the laboratory. The EBA calculation does not include total alkalinity, which was not included in the IASU routine waters chemistry.

Ionic balance based on the available routine chemistry outside of the acceptable +/- 10% range is marked in ***Bold Italics***.

Bold Background sample exceeds Health Canada's Guidelines for Canadian Drinking Water Quality (May 2008).

Bold and Underlined: Background sample exceeds site-specific Wastewater Discharge Criteria or Water Licence.





2010 BACKGROUND GROUNDWATER ANALYTICAL RESULTS FOR NON-HAZARDOUS LANDFILL

Parameters	Units	Comparative Guidelines	MW-1 West of landfill		MW-2 North of landfill		MW-3[1] East of landfill		MW-4 South of landfill	
			21-Aug	12-Sep	21-Aug	12-Sep	21-Aug	12-Sep	21-Aug	12-Sep
Routine Parameters										
pH (laboratory)	pH	6.5 to 8.5	8.16	8.21	**0.77**	7.96	-	-	7.89	7.58
pH (field)	pH	6.5 to 8.5	8.77	8.26	7.64	6.57	-	-	7.58	7.56
Electrical Conductivity (EC) (lab)	µS/cm	NG	2,820	1,720	44,230	1,840	-	-	230	260
Electrical Conductivity (EC) (field)	µS/cm	NG	2,188	1,589	1,467	1,706	-	-	316	347
Temperature (field)	°C	NG	1.7	3.6	2.5	7.7	-	-	4.2	1.9
Sodium (Na)	mg/L	200	**436**	**210**	123	108	-	-	19	25.7
Potassium (K)	mg/L	NG	31.6	20.6	16.2	14.7	-	-	2.46	2.22
Magnesium (Mg)	mg/L	NG	40.9	40.8	62.3	69.6	-	-	4.50	5.26
Calcium (Ca)	mg/L	NG	43.4	40.7	103	108	-	-	15.6	11.7
Hardness	mg/L	NG	286	271	669	668	-	-	58	56
Iron (Fe)	mg/L	0.3	**0.412**	<0.3	**31.8**	**35.3**	-	-	<0.3	**0.479**
Manganese(Mn)	mg/L	0.05	**0.082**	0.005	**5.63**	**6.57**	-	-	0.012	**0.055**
Chloride (Cl)	mg/L	230	**678**	**350**	**439**	**527**	-	-	25	35
Nitrate - N^3	mg/L	10	<0.035	0.135	**1,380**	0.603	-	-	0.133	0.396
Nitrite - N	mg/L	NG	<0.02	<0.02	<0.02	<0.02	-	-	<0.02	<0.02
Sulphate (SO4)	mg/L	500	211	135	19	29	-	-	20	24
Ionic Balance [3]	%	NG	-	-	-	-	-	-	-	-
Total Dissolved Solids (TDS)[2]	mg/L	NG	-	906	-	1,770	-	-	-	154
Total Suspended Solids (TSS)[2]	mg/L	NG	-	169	-	194	-	-	-	69
Organics										
F1 (C_6 to C_{10})	mg/L	NG	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1
F2 (C_{10} to C_{16})	mg/L	NG	-	<0.1	-	<0.1	-	-	-	<0.1
PCB	mg/L	0.05 or 0.005	<0.0002	<0.0001	<0.0002	<0.0001	-	-	<0.0002	<0.0001
Total Metals										
Copper (Cu)	mg/L	NG	0.0201	0.0178	0.0338	0.0125	-	-	0.016	0.0069
Nickel (Ni)	mg/L	NG	0.197	0.122	0.106	0.459	-	-	0.222	0.0163
Cobalt (Co)	mg/L	NG	<0.020	<0.020	0.041	0.052	-	-	<0.020	<0.020
Cadmium (Cd)	mg/L	NG	<0.0008	<0.0008	0.0038	<0.0008	-	-	<0.0008	<0.0008
Lead (Pb)	mg/L	NG	0.0192	0.0447	0.0109	0.262	-	-	0.0192	0.0011
Mercury (Hg)	mg/L	NG	-	<0.0001	-	<0.0001	-	-	-	<0.0001
Zinc (Zn)	mg/L	0.500	0.0506	0.0298	**0.855**	0.395	-	-	0.0282	0.0225
Chromium (Cr)	mg/L	0.100	**0.226**	0.075	0.071	0.013	-	-	0.071	<0.010
Arsenic (As)	mg/L	0.100	0.0089	0.0039	0.0102	0.005	-	-	0.0014	<0.001
Dissolved Metals										
Copper (Cu)	mg/L	0.200	0.003	<0.003	0.012	0.0034	-	-	<0.003	<0.003
Nickel (Ni)	mg/L	0.200	0.0038	0.0055	0.044	0.11	-	-	<0.002	0.002
Cobalt (Co)	mg/L	0.050	<0.020	<0.020	0.034	0.048	-	-	<0.020	<0.020
Cadmium (Cd)	mg/L	0.010	<0.0008	<0.0008	<0.0008	<0.0008	-	-	<0.0008	<0.0008
Lead (Pb)	mg/L	0.050	<0.001	<0.001	<0.001	<0.001	-	-	<0.001	<0.001
Zinc (Zn)	mg/L	NG	<0.003	0.0035	<0.003	0.315	-	-	<0.003	0.0094
Chromium (Cr),	mg/L	0.100	<0.010	<0.010	<0.010	<0.010	-	-	<0.010	<0.010
Arsenic (As)	mg/L	NG	0.0056	0.0031	0.0035	0.0046	-	-	<0.001	<0.001

Notes:

1. Well was frozen during the August and September sampling event.
2. Not enough sample to conduct parameter during the August event

Ionic balance based on the available routine chemistry outside of the acceptable +/- 10% range is marked in ***Bold Italics***.

Bold Background sample exceeds Health Canada's Guidelines for Canadian Drinking Water Quality (May 2008).

Bold and Underlined: Background sample exceeds site-specific Wastewater Discharge Criteria or Water Licence.

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GENERAL NOTES:

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2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- MONITORING WELL INSTALLED IN 2010
- WATER DISCHARGE LOCATION

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REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
2009 AND 2010 GROUND WATER DATA AND WATER LICENCE MONITORING STATIONS

LOR 1-5

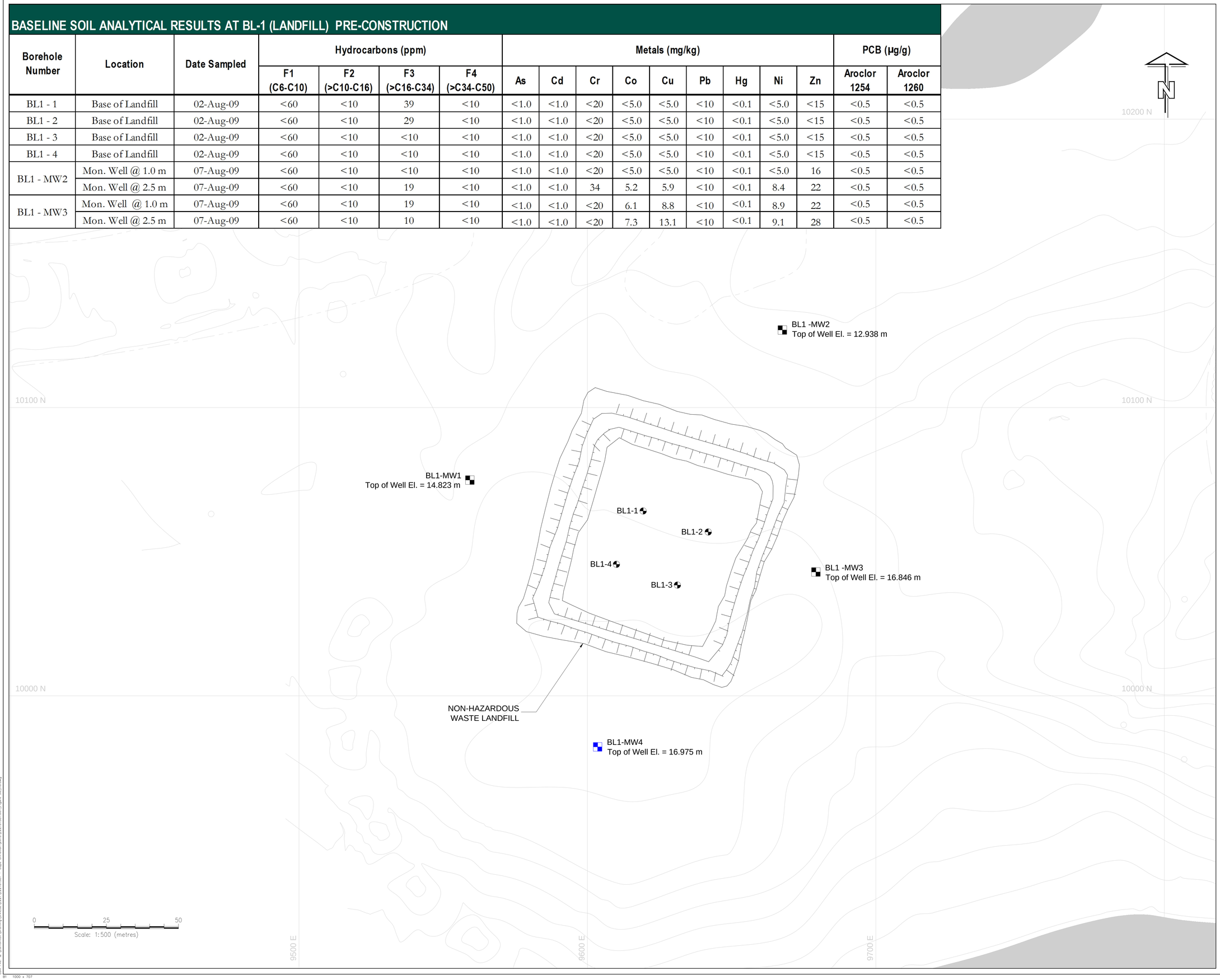
designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L. / R.H.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:2000
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 4

E22101581.001_Figure 4_R0.dwg

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BASELINE SOIL ANALYTICAL RESULTS AT BL-1 (LANDFILL) PRE-CONSTRUCTION

Borehole Number	Location	Date Sampled	Hydrocarbons (ppm)				Metals (mg/kg)									PCB (µg/g)	
			F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1254	Aroclor 1260
BL1 - 1	Base of Landfill	02-Aug-09	<60	<10	39	<10	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
BL1 - 2	Base of Landfill	02-Aug-09	<60	<10	29	<10	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
BL1 - 3	Base of Landfill	02-Aug-09	<60	<10	<10	<10	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
BL1 - 4	Base of Landfill	02-Aug-09	<60	<10	<10	<10	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
BL1 - MW2	Mon. Well @ 1.0 m	07-Aug-09	<60	<10	<10	<10	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	16	<0.5	<0.5
	Mon. Well @ 2.5 m	07-Aug-09	<60	<10	19	<10	<1.0	<1.0	34	5.2	5.9	<10	<0.1	8.4	22	<0.5	<0.5
BL1 - MW3	Mon. Well @ 1.0 m	07-Aug-09	<60	<10	19	<10	<1.0	<1.0	<20	6.1	8.8	<10	<0.1	8.9	22	<0.5	<0.5
	Mon. Well @ 2.5 m	07-Aug-09	<60	<10	10	<10	<1.0	<1.0	<20	7.3	13.1	<10	<0.1	9.1	28	<0.5	<0.5



GENERAL NOTES:

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2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2009 MONITORING WELL LOCATION
- 2010 MONITORING WELL LOCATION
- 2010 SAMPLE LOCATION

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EBA Engineering Consultants Ltd.

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0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
BASELINE SAMPLING OF NON-HAZARDOUS LANDFILL

BL1

designed by / concu par: M.H.
drawn by / dessine par: B.R. / E.L.
approved by / approuve par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.
scale / echelle: 1:500
project no. / projet no.: E22101581.001
date: FEBRUARY 2011
sheet / feuille: Fig 5a

E22101581.001_Figure 5a_R0.dwg

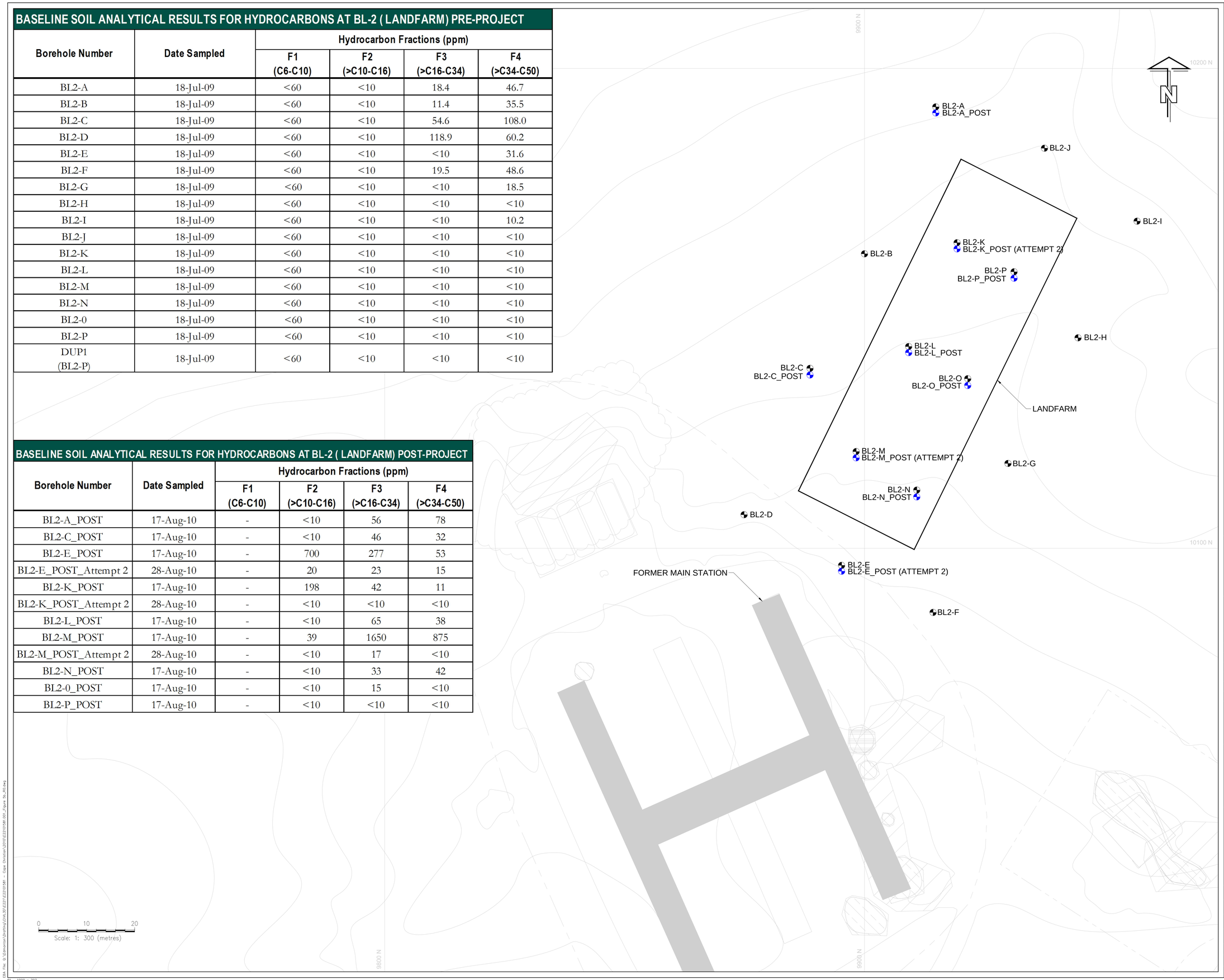
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1000 x 707

BASELINE SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AT BL-2 (LANDFARM) PRE-PROJECT

Borehole Number	Date Sampled	Hydrocarbon Fractions (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
BL2-A	18-Jul-09	<60	<10	18.4	46.7
BL2-B	18-Jul-09	<60	<10	11.4	35.5
BL2-C	18-Jul-09	<60	<10	54.6	108.0
BL2-D	18-Jul-09	<60	<10	118.9	60.2
BL2-E	18-Jul-09	<60	<10	<10	31.6
BL2-F	18-Jul-09	<60	<10	19.5	48.6
BL2-G	18-Jul-09	<60	<10	<10	18.5
BL2-H	18-Jul-09	<60	<10	<10	<10
BL2-I	18-Jul-09	<60	<10	<10	10.2
BL2-J	18-Jul-09	<60	<10	<10	<10
BL2-K	18-Jul-09	<60	<10	<10	<10
BL2-L	18-Jul-09	<60	<10	<10	<10
BL2-M	18-Jul-09	<60	<10	<10	<10
BL2-N	18-Jul-09	<60	<10	<10	<10
BL2-0	18-Jul-09	<60	<10	<10	<10
BL2-P	18-Jul-09	<60	<10	<10	<10
DUP1 (BL2-P)	18-Jul-09	<60	<10	<10	<10

BASELINE SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AT BL-2 (LANDFARM) POST-PROJECT

Borehole Number	Date Sampled	Hydrocarbon Fractions (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
BL2-A_POST	17-Aug-10	-	<10	56	78
BL2-C_POST	17-Aug-10	-	<10	46	32
BL2-E_POST	17-Aug-10	-	700	277	53
BL2-E_POST_Attempt 2	28-Aug-10	-	20	23	15
BL2-K_POST	17-Aug-10	-	198	42	11
BL2-K_POST_Attempt 2	28-Aug-10	-	<10	<10	<10
BL2-L_POST	17-Aug-10	-	<10	65	38
BL2-M_POST	17-Aug-10	-	39	1650	875
BL2-M_POST_Attempt 2	28-Aug-10	-	<10	17	<10
BL2-N_POST	17-Aug-10	-	<10	33	42
BL2-0_POST	17-Aug-10	-	<10	15	<10
BL2-P_POST	17-Aug-10	-	<10	<10	<10



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GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2009 SAMPLE LOCATION
- 2010 SAMPLE LOCATION

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A detail number / number du detail
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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
BASELINE SAMPLING OF LANDFARM

BL2

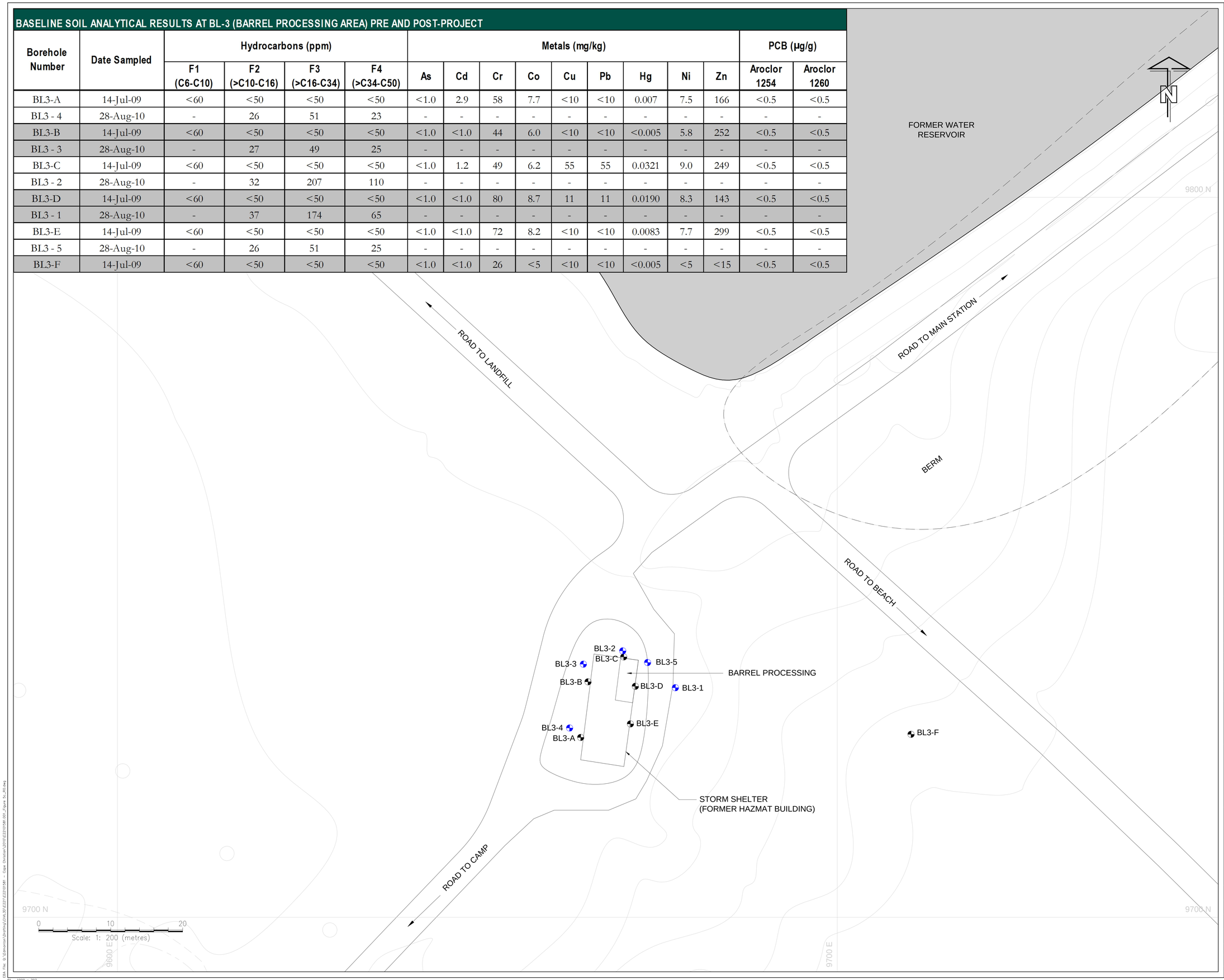
designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:300
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 5b

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81 1000 x 707

BASELINE SOIL ANALYTICAL RESULTS AT BL-3 (BARREL PROCESSING AREA) PRE AND POST-PROJECT

Borehole Number	Date Sampled	Hydrocarbons (ppm)				Metals (mg/kg)									PCB (µg/g)	
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1254	Aroclor 1260
BL3-A	14-Jul-09	<60	<50	<50	<50	<1.0	2.9	58	7.7	<10	<10	0.007	7.5	166	<0.5	<0.5
BL3 - 4	28-Aug-10	-	26	51	23	-	-	-	-	-	-	-	-	-	-	-
BL3-B	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	44	6.0	<10	<10	<0.005	5.8	252	<0.5	<0.5
BL3 - 3	28-Aug-10	-	27	49	25	-	-	-	-	-	-	-	-	-	-	-
BL3-C	14-Jul-09	<60	<50	<50	<50	<1.0	1.2	49	6.2	55	55	0.0321	9.0	249	<0.5	<0.5
BL3 - 2	28-Aug-10	-	32	207	110	-	-	-	-	-	-	-	-	-	-	-
BL3-D	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	80	8.7	11	11	0.0190	8.3	143	<0.5	<0.5
BL3 - 1	28-Aug-10	-	37	174	65	-	-	-	-	-	-	-	-	-	-	-
BL3-E	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	72	8.2	<10	<10	0.0083	7.7	299	<0.5	<0.5
BL3 - 5	28-Aug-10	-	26	51	25	-	-	-	-	-	-	-	-	-	-	-
BL3-F	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	26	<5	<10	<10	<0.005	<5	<15	<0.5	<0.5



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3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2009 SAMPLE LOCATION
- 2010 SAMPLE LOCATION

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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

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BASELINE SAMPLING OF BARREL PROCESSING AREA

BL3

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 5c

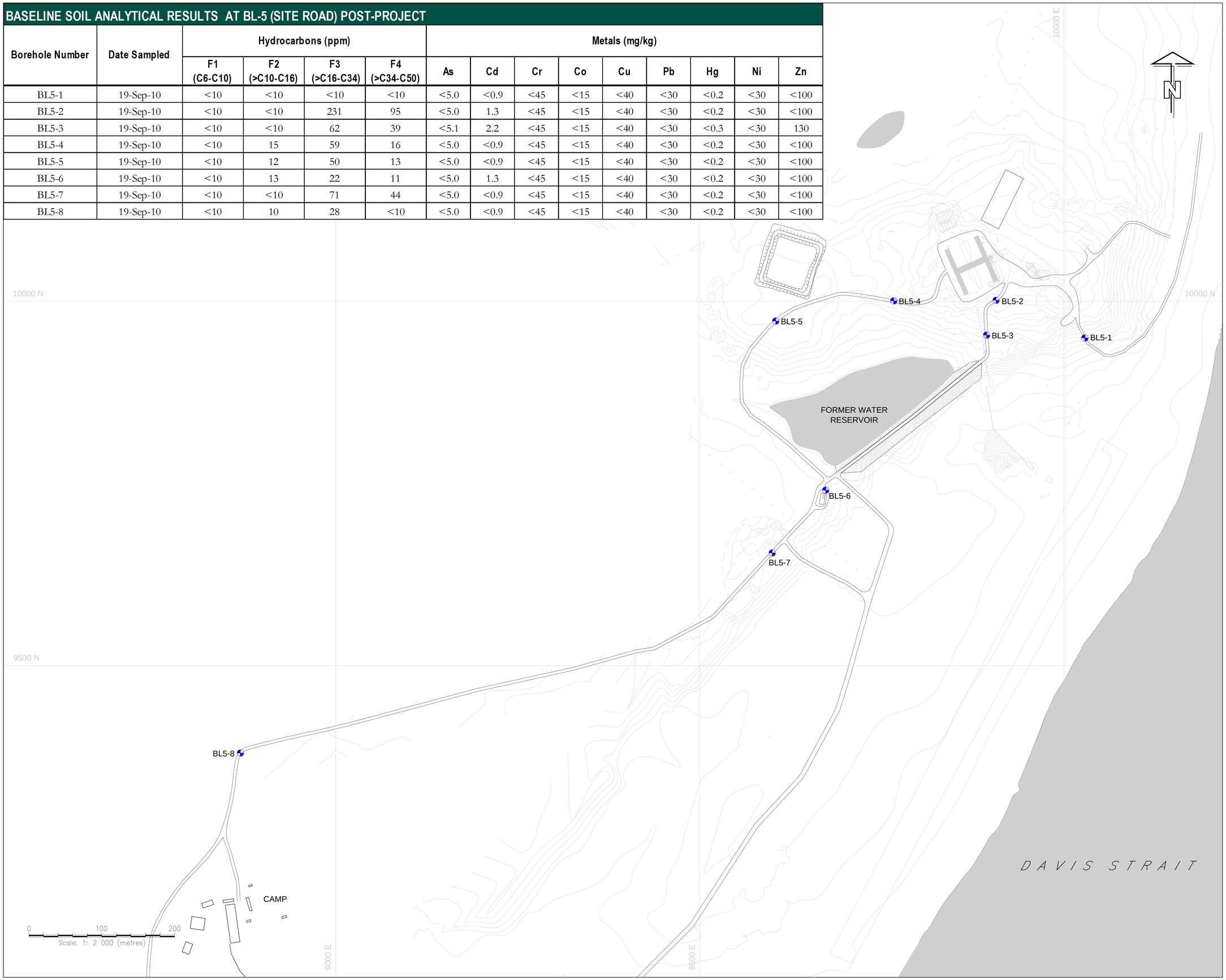
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81 1000 x 707

BASELINE SOIL ANALYTICAL RESULTS AT BL-5 (SITE ROAD) POST-PROJECT

Borehole Number	Date Sampled	Hydrocarbons (ppm)				Metals (mg/kg)								
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
BL5-1	19-Sep-10	<10	<10	<10	<10	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
BL5-2	19-Sep-10	<10	<10	231	95	<5.0	1.3	<45	<15	<40	<30	<0.2	<30	<100
BL5-3	19-Sep-10	<10	<10	62	39	<5.1	2.2	<45	<15	<40	<30	<0.3	<30	130
BL5-4	19-Sep-10	<10	15	59	16	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
BL5-5	19-Sep-10	<10	12	50	13	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
BL5-6	19-Sep-10	<10	13	22	11	<5.0	1.3	<45	<15	<40	<30	<0.2	<30	<100
BL5-7	19-Sep-10	<10	<10	71	44	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
BL5-8	19-Sep-10	<10	10	28	<10	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100



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LEGEND:

2010 SAMPLELOCATION

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drawing title / titre du dessin
BASELINE SAMPLING OF SITE ROADS

BL5

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:2000
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 5d

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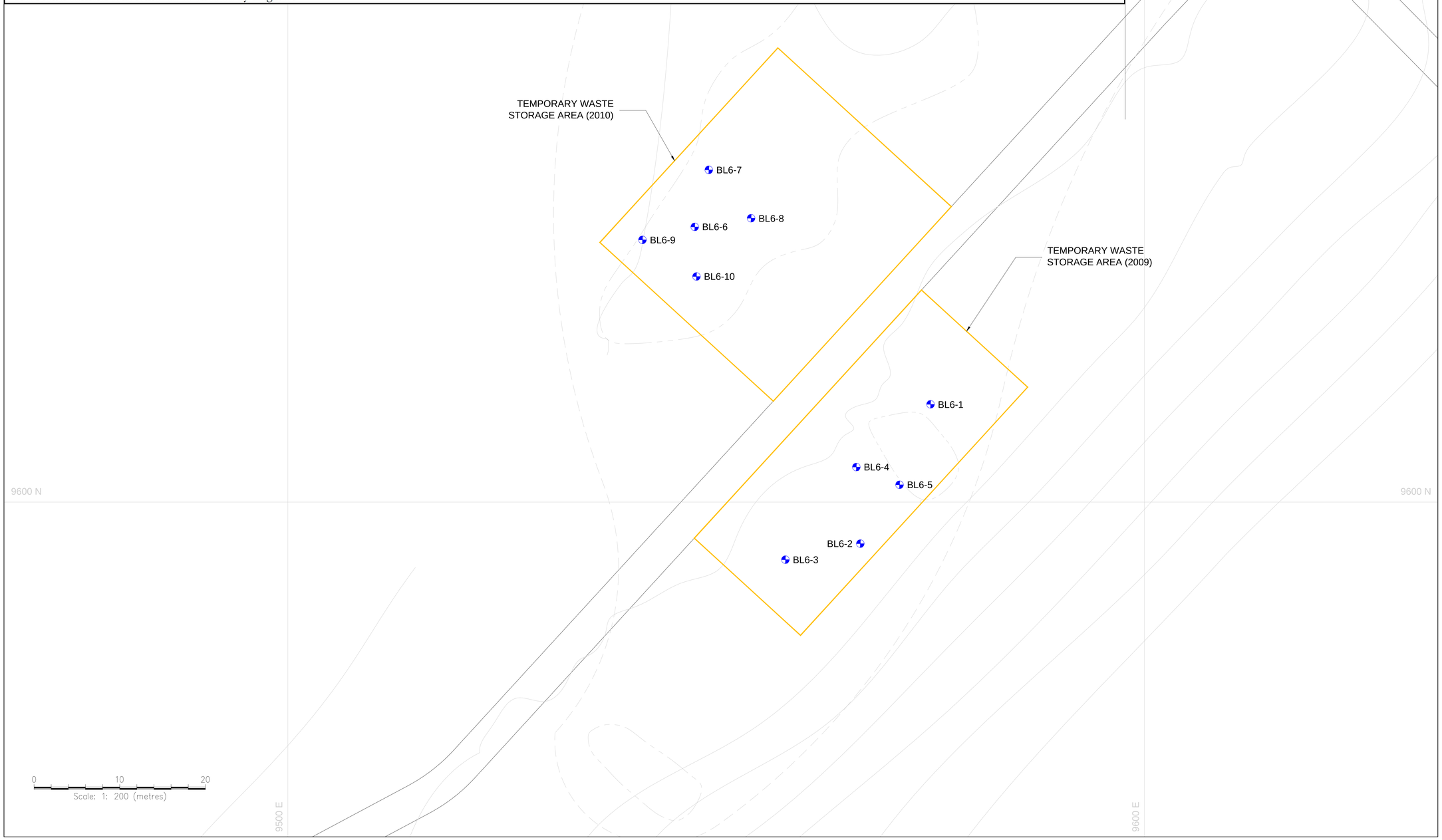
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BASELINE SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AT BL-6 (TEMPORARY WASTE STORAGE) POST-PROJECT

Borehole Number	Date Sampled	Hydrocarbons (ppm)				Metals (mg/kg)									PCB (µg/g)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
BL6-1*	28-Aug-10	-	86	12600	10400	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
BL6-2*	28-Aug-10	-	2350	245	35	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
BL6-3	28-Aug-10	-	27	47	22	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
BL6-4	28-Aug-10	-	67	48	20	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
BL6-5	28-Aug-10	-	53	53	20	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
BL6-6	10-Sep-10	-	<10	51	32	-	-	-	-	-	-	-	-	-	-	-	-	-
BL6-7	10-Sep-10	-	<10	30	18	-	-	-	-	-	-	-	-	-	-	-	-	-
BL6-8*	10-Sep-10	-	<10	287	167	-	-	-	-	-	-	-	-	-	-	-	-	-
BL6-9	10-Sep-10	-	<10	34	20	-	-	-	-	-	-	-	-	-	-	-	-	-
BL6-10*	10-Sep-10	-	528	1070	574	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:

* Additional surficial soils removed as directed by Engineer



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3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009
4. SAMPLED, COLLECTED AND SCREENED WITH PID. ALL RESULTS WERE LESS THAN 20 PPM.

LEGEND:

2010 SAMPLE LOCATION

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C detail on drawing no. / detail sur dessin no.

project title / titre du projet

CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin

BASELINE SAMPLING OF TEMPOARY WASTE STORAGE AREA

BL6

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 5e

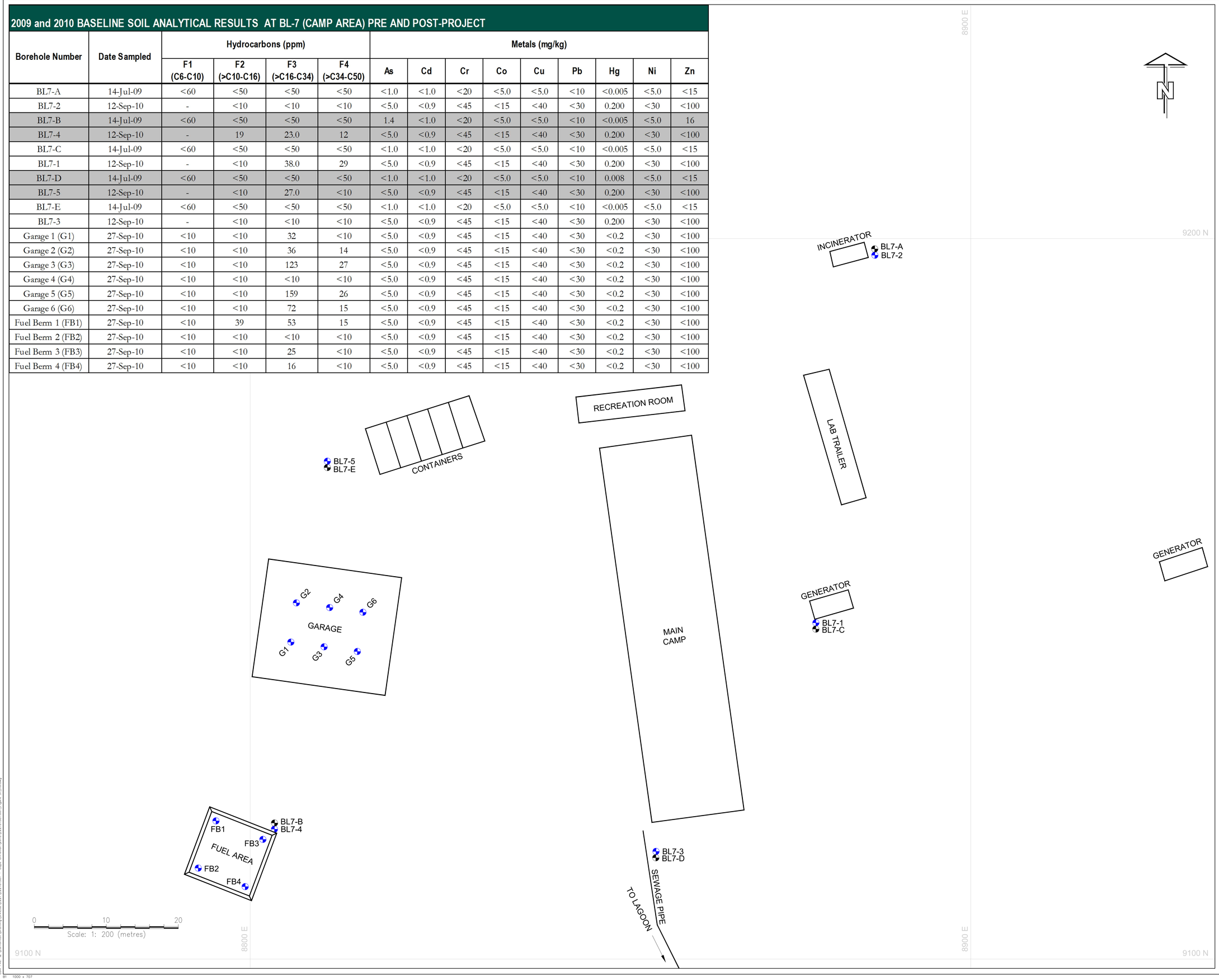
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2009 and 2010 BASELINE SOIL ANALYTICAL RESULTS AT BL-7 (CAMP AREA) PRE AND POST-PROJECT

Borehole Number	Date Sampled	Hydrocarbons (ppm)				Metals (mg/kg)								
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
BL7-A	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.005	<5.0	<15
BL7-2	12-Sep-10	-	<10	<10	<10	<5.0	<0.9	<45	<15	<40	<30	0.200	<30	<100
BL7-B	14-Jul-09	<60	<50	<50	<50	1.4	<1.0	<20	<5.0	<5.0	<10	<0.005	<5.0	16
BL7-4	12-Sep-10	-	19	23.0	12	<5.0	<0.9	<45	<15	<40	<30	0.200	<30	<100
BL7-C	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.005	<5.0	<15
BL7-1	12-Sep-10	-	<10	38.0	29	<5.0	<0.9	<45	<15	<40	<30	0.200	<30	<100
BL7-D	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	<20	<5.0	<5.0	<10	0.008	<5.0	<15
BL7-5	12-Sep-10	-	<10	27.0	<10	<5.0	<0.9	<45	<15	<40	<30	0.200	<30	<100
BL7-E	14-Jul-09	<60	<50	<50	<50	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.005	<5.0	<15
BL7-3	12-Sep-10	-	<10	<10	<10	<5.0	<0.9	<45	<15	<40	<30	0.200	<30	<100
Garage 1 (G1)	27-Sep-10	<10	<10	32	<10	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Garage 2 (G2)	27-Sep-10	<10	<10	36	14	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Garage 3 (G3)	27-Sep-10	<10	<10	123	27	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Garage 4 (G4)	27-Sep-10	<10	<10	<10	<10	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Garage 5 (G5)	27-Sep-10	<10	<10	159	26	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Garage 6 (G6)	27-Sep-10	<10	<10	72	15	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Fuel Berm 1 (FB1)	27-Sep-10	<10	39	53	15	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Fuel Berm 2 (FB2)	27-Sep-10	<10	<10	<10	<10	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Fuel Berm 3 (FB3)	27-Sep-10	<10	<10	25	<10	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100
Fuel Berm 4 (FB4)	27-Sep-10	<10	<10	16	<10	<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100



GENERAL NOTES:

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2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2009 SAMPLE LOCATION
- 2010 SAMPLE LOCATION

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EBA Engineering Consultants Ltd.

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0	ISSUED FOR REVIEW	10/12/03

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C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
BASELINE SAMPLING OF CAMP AREA

BL7

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
date / date	FEBRUARY 2011
sheet / feuille	Fig 5f

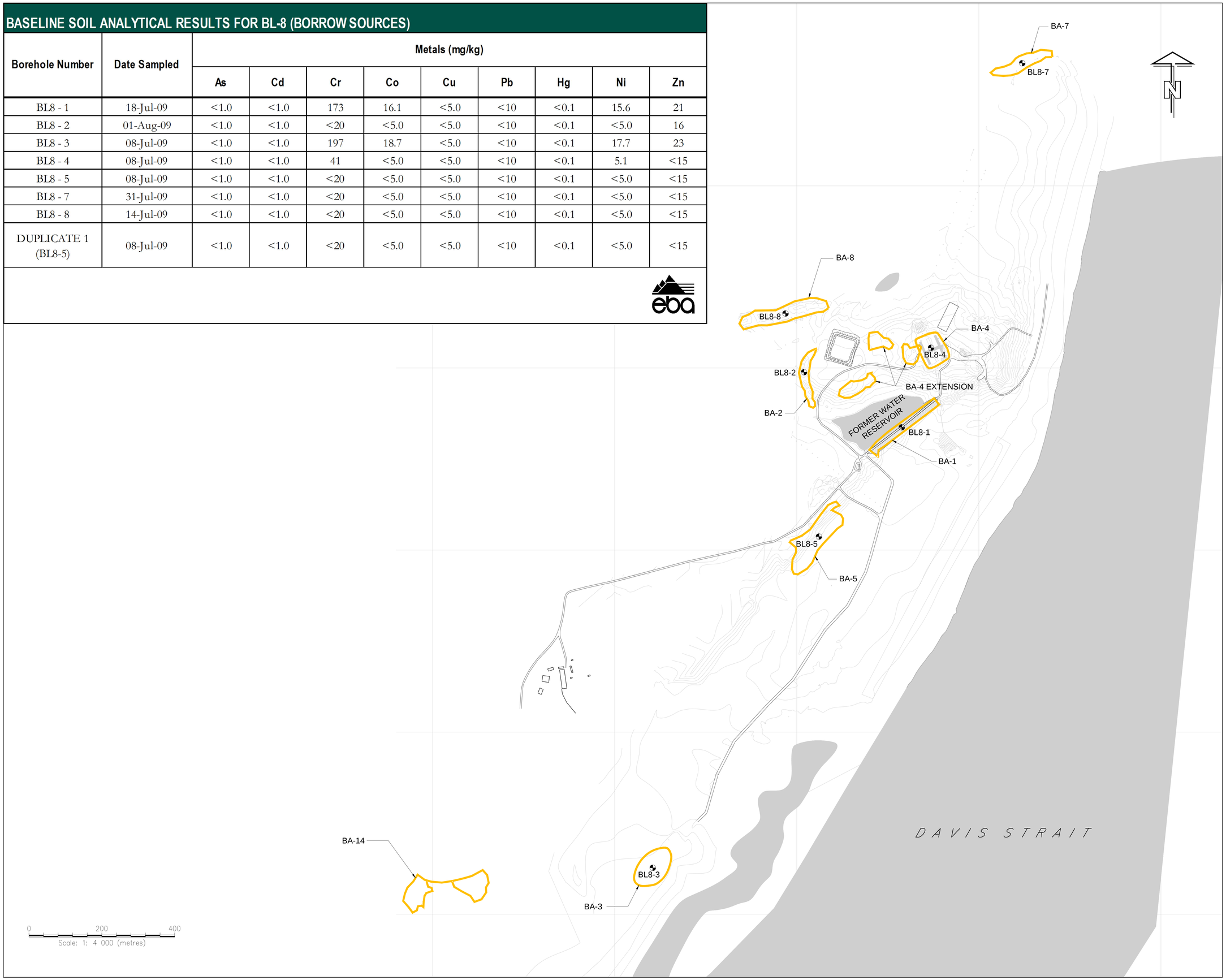
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E22101581.001_Figure 5f_R0.dwg

BASELINE SOIL ANALYTICAL RESULTS FOR BL-8 (BORROW SOURCES)

Borehole Number	Date Sampled	Metals (mg/kg)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
BL8 - 1	18-Jul-09	<1.0	<1.0	173	16.1	<5.0	<10	<0.1	15.6	21
BL8 - 2	01-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	16
BL8 - 3	08-Jul-09	<1.0	<1.0	197	18.7	<5.0	<10	<0.1	17.7	23
BL8 - 4	08-Jul-09	<1.0	<1.0	41	<5.0	<5.0	<10	<0.1	5.1	<15
BL8 - 5	08-Jul-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
BL8 - 7	31-Jul-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
BL8 - 8	14-Jul-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
DUPLICATE 1 (BL8-5)	08-Jul-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15



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LEGEND:

- 2009 SAMPLE LOCATION
- BORROW AREA

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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
BASELINE SAMPLING OF BORROW SOURCES

BL8

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:4000
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 5g

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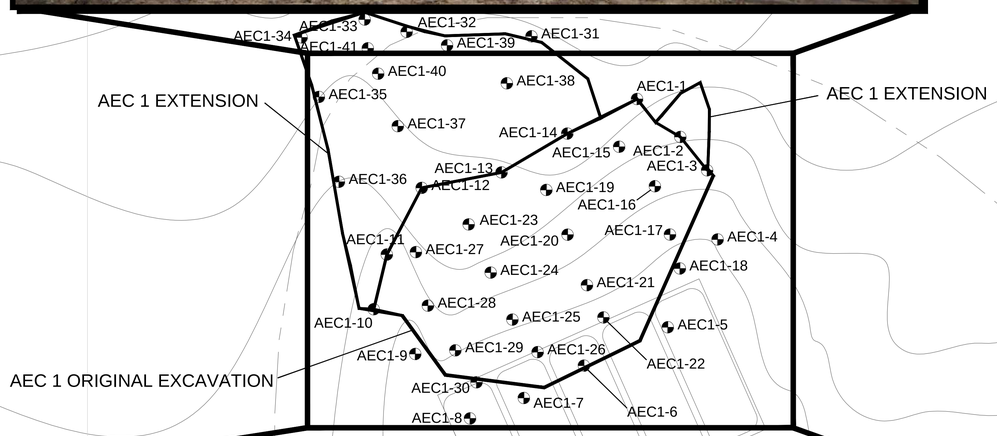
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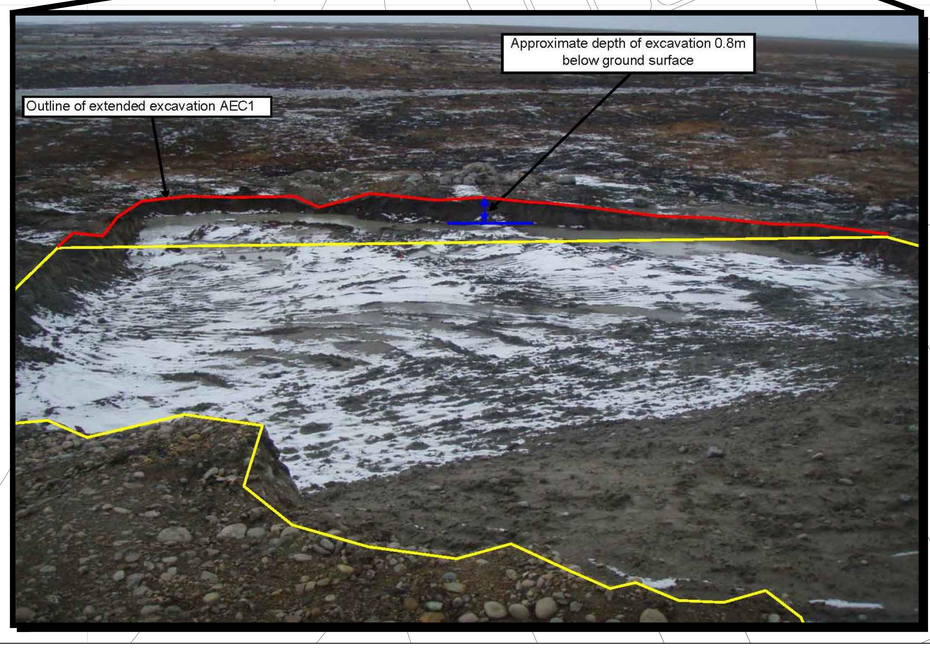
CONFIRMATORY SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AT AEC-1 (MAIN STATION TANKS)

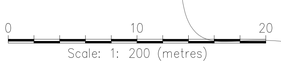
Sample Number	Date Sampled	Hydrocarbon Fractions (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
AEC1-1	22-Jul-09	67	5,800	219	<10
AEC1-2	22-Jul-09	114	**10,900**	<10	<10
AEC1-5	22-Jul-09	<60	9,410	<10	<10
AEC1-7	22-Jul-09	<60	<10	<10	<10
AEC1-9	22-Jul-09	186	**16,700**	249	<10
AEC1-12	22-Jul-09	131	**9,720**	190	<10
AEC1-14	22-Jul-09	321	**13,800**	207	<10
AEC1-15	22-Jul-09	61	2,290	88	<10
AEC1-18	22-Jul-09	162	2,000	78	<10
AEC1-20	22-Jul-09	136	**8,420**	214	<10
AEC1-26	22-Jul-09	62	1,120	39	<10
AEC1-27	22-Jul-09	136	5,120	90	<10
AEC1-29	22-Jul-09	121	3,300	104	<10
AEC1-31	07-Sep-09	116	5,160	118	<50
AEC1-32	07-Sep-09	43	3,090	<50	<50
AEC1-33	07-Sep-09	60	4,330	<50	<50
AEC1-34	07-Sep-09	67	4,130	<50	<50
AEC1-35	07-Sep-09	<60	7,670	<50	<50
AEC1-36	07-Sep-09	136	**8,230**	<50	<50
AEC1-37	07-Sep-09	148	7,810	<50	<50
AEC1-38	07-Sep-09	<60	534	<50	<50
AEC1-39	07-Sep-09	<60	2,320	<50	<50
AEC1-40	07-Sep-09	<60	2,440	<50	<50
AEC1-41	07-Sep-09	116	3,120	<50	<50
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**

Notes:
Results that are **BOLD** and Underlined exceed the site-specific criteria









10100 N

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LEGEND:

2009 SAMPLE LOCATION

DIRECTION OF PHOTO

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C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
NORTHWEST OF MAIN STATION AREA

AEC 1 EXCAVATION F1-F2 PHC

designed by / concu par	M.H.
drawn by / dessine par	B.R. / R.H. / E.L.
approved by / approuve par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6a

E22101581.001_AEC 1_Figure 6a.dwg

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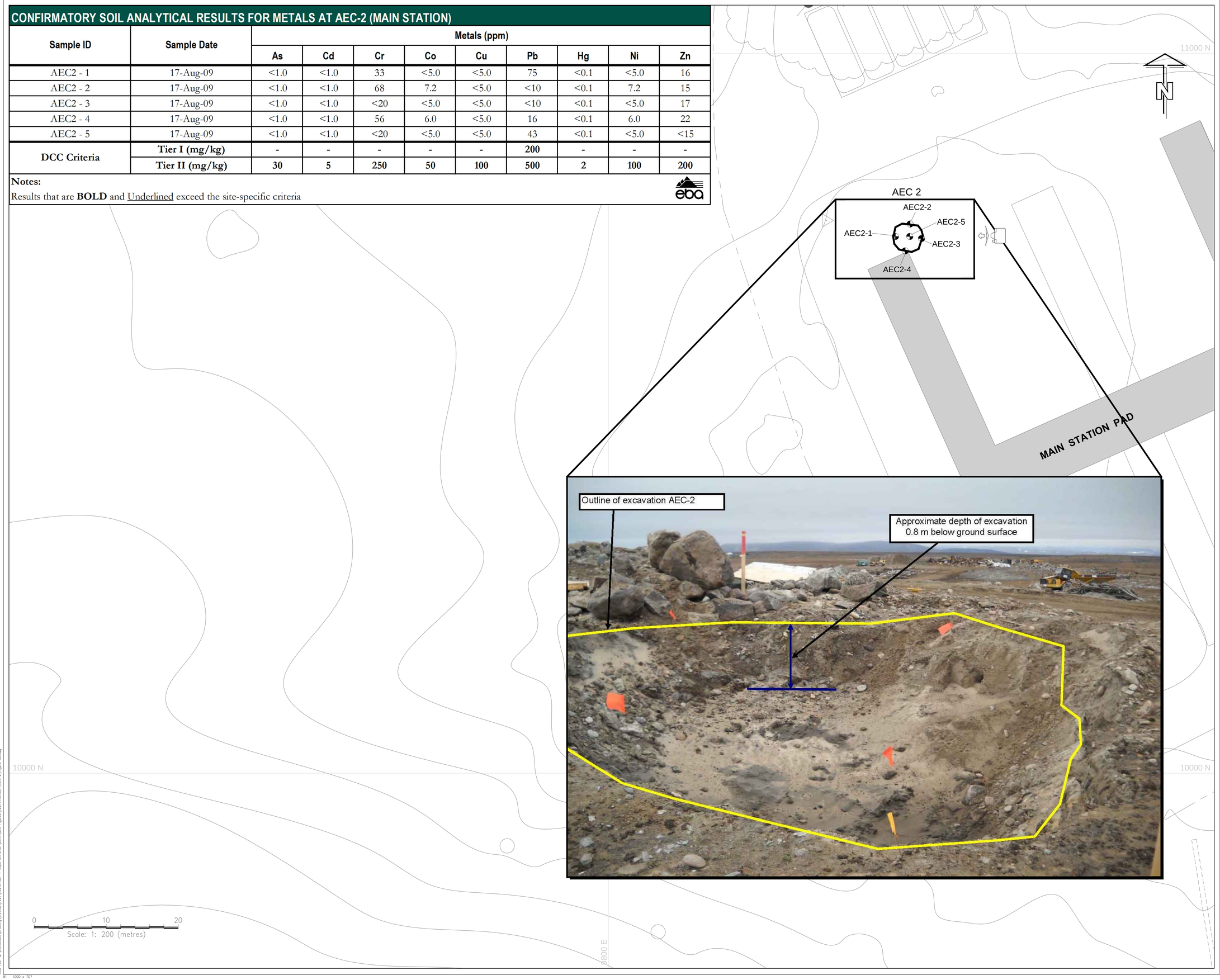
81 1000 x 707

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-2 (MAIN STATION)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC2 - 1	17-Aug-09	<1.0	<1.0	33	<5.0	<5.0	75	<0.1	<5.0	16
AEC2 - 2	17-Aug-09	<1.0	<1.0	68	7.2	<5.0	<10	<0.1	7.2	15
AEC2 - 3	17-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	17
AEC2 - 4	17-Aug-09	<1.0	<1.0	56	6.0	<5.0	16	<0.1	6.0	22
AEC2 - 5	17-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	43	<0.1	<5.0	<15
DCC Criteria	**Tier I (mg/kg)**	-	-	-	-	-	**200**	-	-	-
	Tier II (mg/kg)	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:

Results that are **BOLD** and Underlined exceed the site-specific criteria



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LEGEND:

2009 SAMPLE LOCATION

DIRECTION OF PHOTO

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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
NORTHWEST TIP OF MAIN STATION PAD

AEC 2 EXCAVATION TIER 2 METALS

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6b

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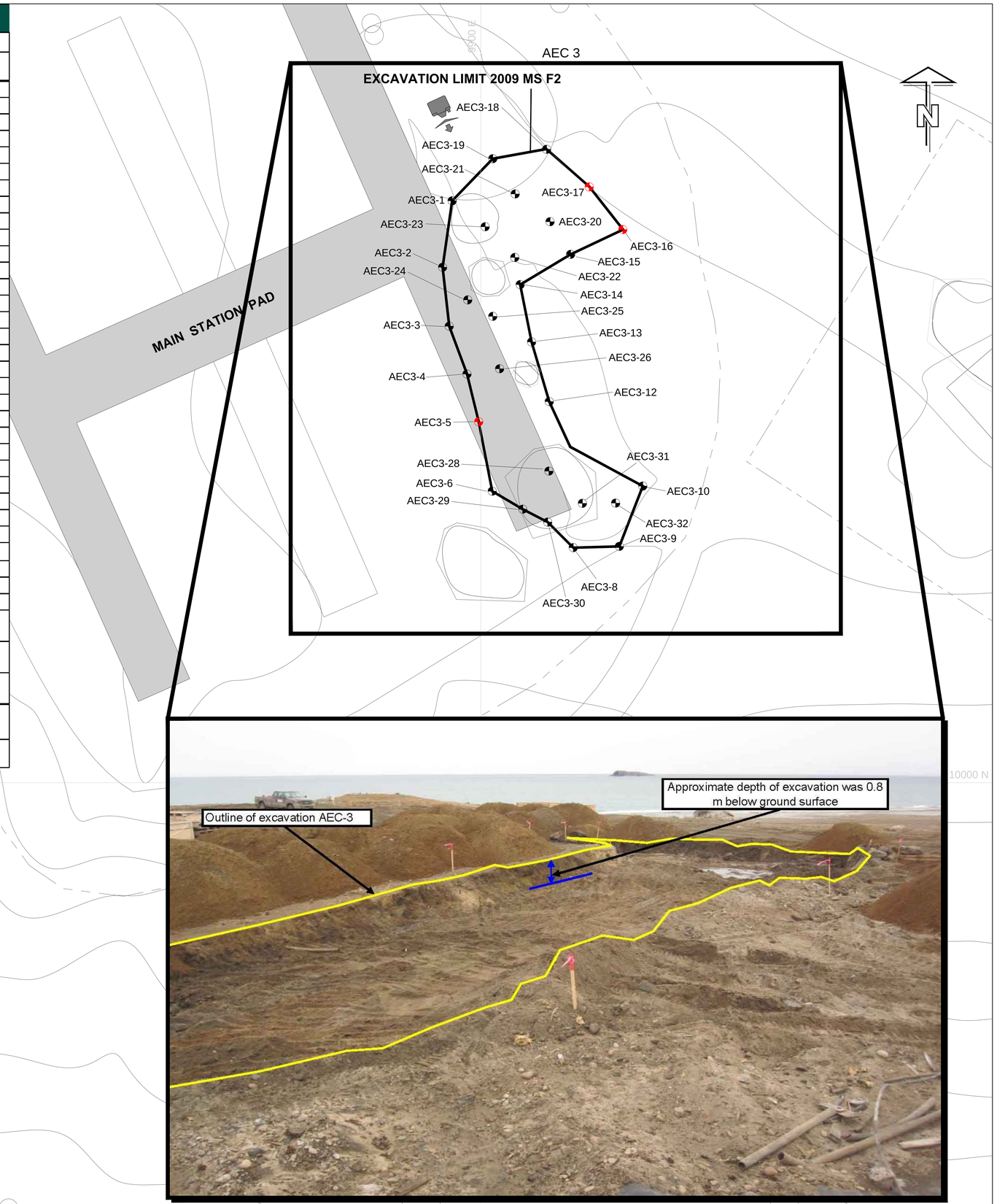
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B1 1000 x 707

2009 SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AT AEC-3 (MAIN STATION)

Sample Number	Date Sampled	Hydrocarbon Fractions (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
AEC3-1	20-Sep-09	<60	3,320	273	<10
AEC3-2	20-Sep-09	<60	47	<10	<10
AEC3-3	20-Sep-09	<60	1,910	67	<10
AEC3-4	20-Sep-09	<60	1,090	<10	<10
AEC3-5	20-Sep-09	<60	**8,460**	523	<10
AEC3-6	20-Sep-09	<60	4,380	118	<10
AEC3-7	20-Sep-09	<60	238	<10	<10
AEC3-8	20-Sep-09	<60	90	<10	<10
AEC3-9	20-Sep-09	<60	36	<10	<10
AEC3-10	20-Sep-09	<60	13	<10	<10
AEC3-11	20-Sep-09	60	2,350	71	<10
AEC3-12	20-Sep-09	<60	2,700	422	<10
AEC3-13	20-Sep-09	95	4,330	77	<10
AEC3-14	20-Sep-09	124	6,050	258	<10
AEC3-15	20-Sep-09	60	3,060	422	<10
AEC3-16	20-Sep-09	249	**19,600**	739	<10
AEC3-17	20-Sep-09	243	**17,500**	954	<10
AEC3-18	20-Sep-09	72	1,120	144	<10
AEC3-19	20-Sep-09	<60	946	146	68
AEC3-20	20-Sep-09	128	**8,160**	551	<10
AEC3-21	20-Sep-09	<60	1,140	131	<10
AEC3-22	20-Sep-09	77	3,310	597	<10
AEC3-23	20-Sep-09	<60	3,170	257	<10
AEC3-24	20-Sep-09	<60	1,596	59	<10
AEC3-25	20-Sep-09	<60	3,840	134	<10
AEC3-26	20-Sep-09	<60	3,760	377	<10
AEC3-27	20-Sep-09	<60	1,940	363	<10
AEC3-28	20-Sep-09	<60	13	<10	<10
AEC3-29	20-Sep-09	<60	562	12	<10
AEC3-30	20-Sep-09	<60	478	330	38
AEC3-31	20-Sep-09	<60	461	23	<10
AEC3-32	20-Sep-09	<60	51	<10	<10
DUP1 (AEC3-15)	20-Sep-09	<60	1,400	62	<10
DUP2 (AEC3-26)	20-Sep-09	<60	1,810	44	<10
DUP3 (AEC3-7)	20-Sep-09	<60	203	<10	<10
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**

Notes:
Results that area **BOLD,** Underlined and shaded exceeds the site specific criteria



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REAL PROPERTY SERVICES
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3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2009 SAMPLE LOCATION
- 2010 TCE SAMPLE LOCATION-ABOVE CRITERIA
- DIRECTION OF PHOTO
- 2009 EXCAVATION BOUNDARY
- 2010 EXCAVATION BOUNDARY

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C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
SOUTHEAST LEG
MAIN STATION PAD

AEC 3 EXCAVATION
2009
F1-F2 PHC

designed by / concu par	M.H.
drawn by / dessine par	B.R. / R.H. / E.L.
approved by / approuve par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6ci

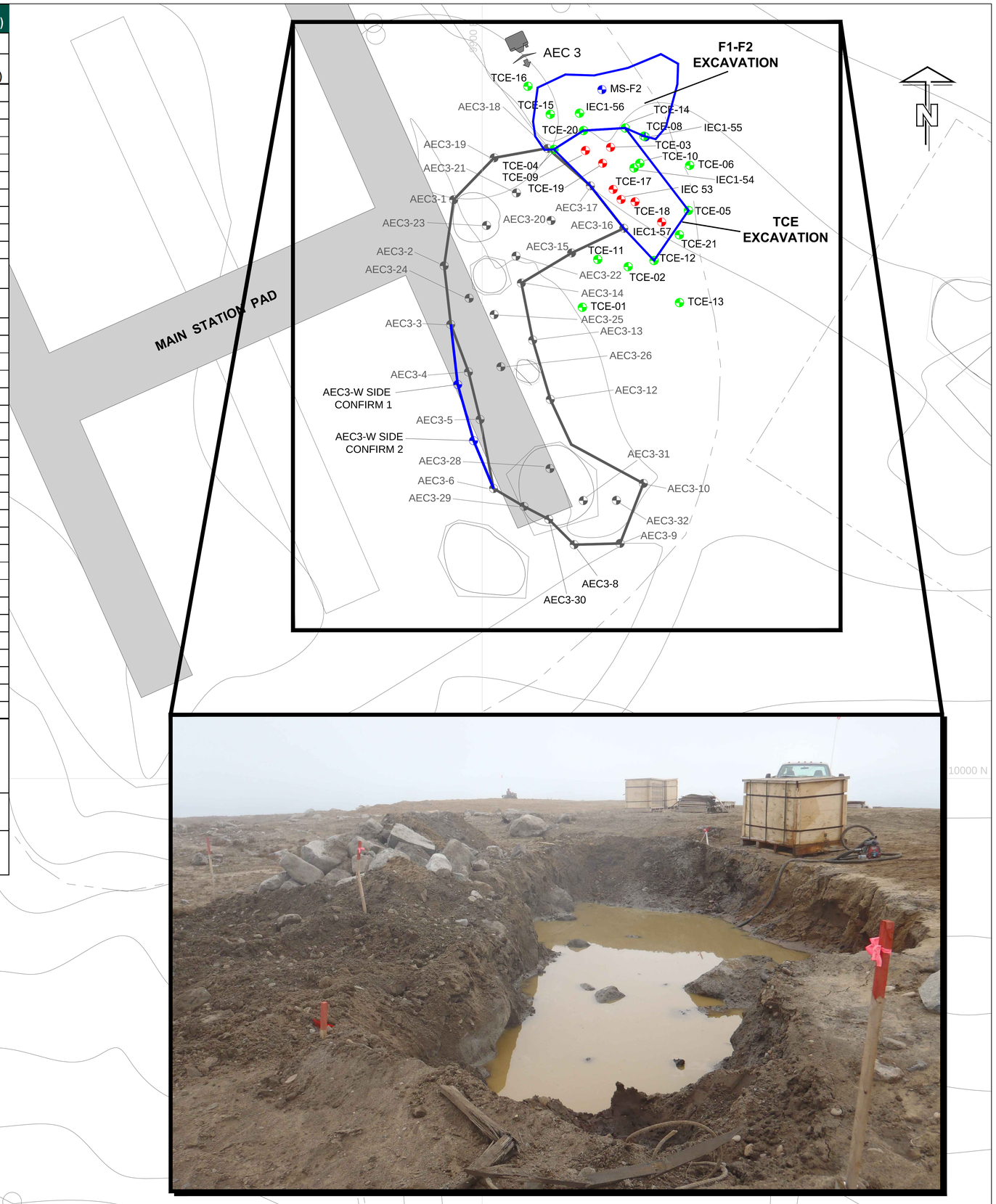
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tbl 1000 x 707

2010 SOIL ANALYTICAL RESULTS FOR TCE DELINEATION AND HYDROCARBONS AT AEC-3 (MAIN STATION)

Sample Number	Depth (m)	Date Sampled	TCE (mg/Kg)	Hydrocarbon Fractions (ppm)		
				F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
IEC1-53	0.10	05-Jul-10	**0.026**	9490	2,430	424
IEC1-53	0.60	05-Jul-10	**0.593**	18,900	1540	182
IEC1-54	0.30	05-Jul-10	<0.005	6,220	913	61
IEC1-54	0.90	05-Jul-10	<0.005	2,260	165	<10
IEC1-55	0.30	05-Jul-10	<0.005	438	550	128
IEC1-55	0.70	05-Jul-10	<0.005	6,850	798	99
IEC1-56	0.30	05-Jul-10	<0.005	4,170	986	70
IEC1-56	0.50	05-Jul-10	<0.005	9,850	1190	78
IEC1-57	0.40	05-Jul-10	<0.005	<10	48	14
IEC1-57	0.90	05-Jul-10	**0.120**	14,600	1170	94
AEC3-W Side Confirm 1	0.30	21-Jul-10	-	3,430	1,870	37
AEC3-W Side Confirm 2	0.30	21-Jul-10	-	24	26	<10
TCE - 01	0.30	22-Jul-10	<0.05	-	-	-
TCE - 02	0.45	22-Jul-10	<0.05	-	-	-
TCE - 03	0.30	22-Jul-10	**0.07**	-	-	-
TCE - 04	0.30	22-Jul-10	<0.005	914	390	74
TCE - 05	0.65	22-Jul-10	<0.01	-	-	-
TCE - 06	0.80	22-Jul-10	<0.005	<10	122	43
TCE - 07	0.25	22-Jul-10	<0.05	-	-	-
TCE - 08	0.80	22-Jul-10	<0.05	-	-	-
TCE - 09	0.50	22-Jul-10	**0.16**	-	-	-
TCE - 10	0.80	22-Jul-10	<0.005	5,290	506	49
TCE - 11	0.30	22-Jul-10	<0.05	-	-	-
TCE - 12	0.40	22-Jul-10	<0.05	5,730	1,200	186
TCE - 13	0.40	22-Jul-10	<0.05	-	-	-
TCE - 14	0.60	22-Jul-10	<0.005	**12,500**	925	107
TCE - 15	0.40	22-Jul-10	<0.05	-	-	-
TCE - 15	0.65	22-Jul-10	<0.05	**20,200**	8,660	147
TCE - 16	0.60	22-Jul-10	<0.005	7,490	1,100	98
TCE - 17	0.45	30-Jul-10	**2.57**	12	10	<10
TCE - 18	0.40	30-Jul-10	**0.77**	-	-	-
TCE - 19	0.40	30-Jul-10	**0.21**	-	-	-
TCE - 20	0.40	30-Jul-10	<0.05	-	-	-
TCE - 21	0.40	07-Aug-10	<0.05	-	-	-
MS-F2	0.40	07-Aug-10	-	7,360	500	84
CCME Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health (update 2006)			**0.01**	-	-	-
Far Shore Site-Specific Hydrocarbon Fraction Criteria			**-**	**8,000**	**18,000**	**25,000**

Notes:
Results that area **BOLD** exceeds the CCME criteria
Results that area **BOLD** and Underlined exceeds the site specific criteria



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GENERAL NOTES:

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2. DO NOT SCALE DRAWING.
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LEGEND:

- 2009 SAMPLE LOCATION
- 2010 SAMPLE LOCATION
- 2010 TCE SAMPLE LOCATION-LESS THAN LABORATORY DETECTION LIMITS
- 2010 TCE SAMPLE LOCATION-ABOVE CRITERIA
- DIRECTION OF PHOTO
- 2009 EXCAVATION BOUNDARY
- 2010 EXCAVATION BOUNDARY

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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
SOUTHEAST LEG MAIN STATION PAD

AEC 3 EXCAVATION F1-F2 PHC AND TCE DELINEATION AND EXCAVATION

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6cii

E22101581.001_AEC 3_Figure 6cii.dwg

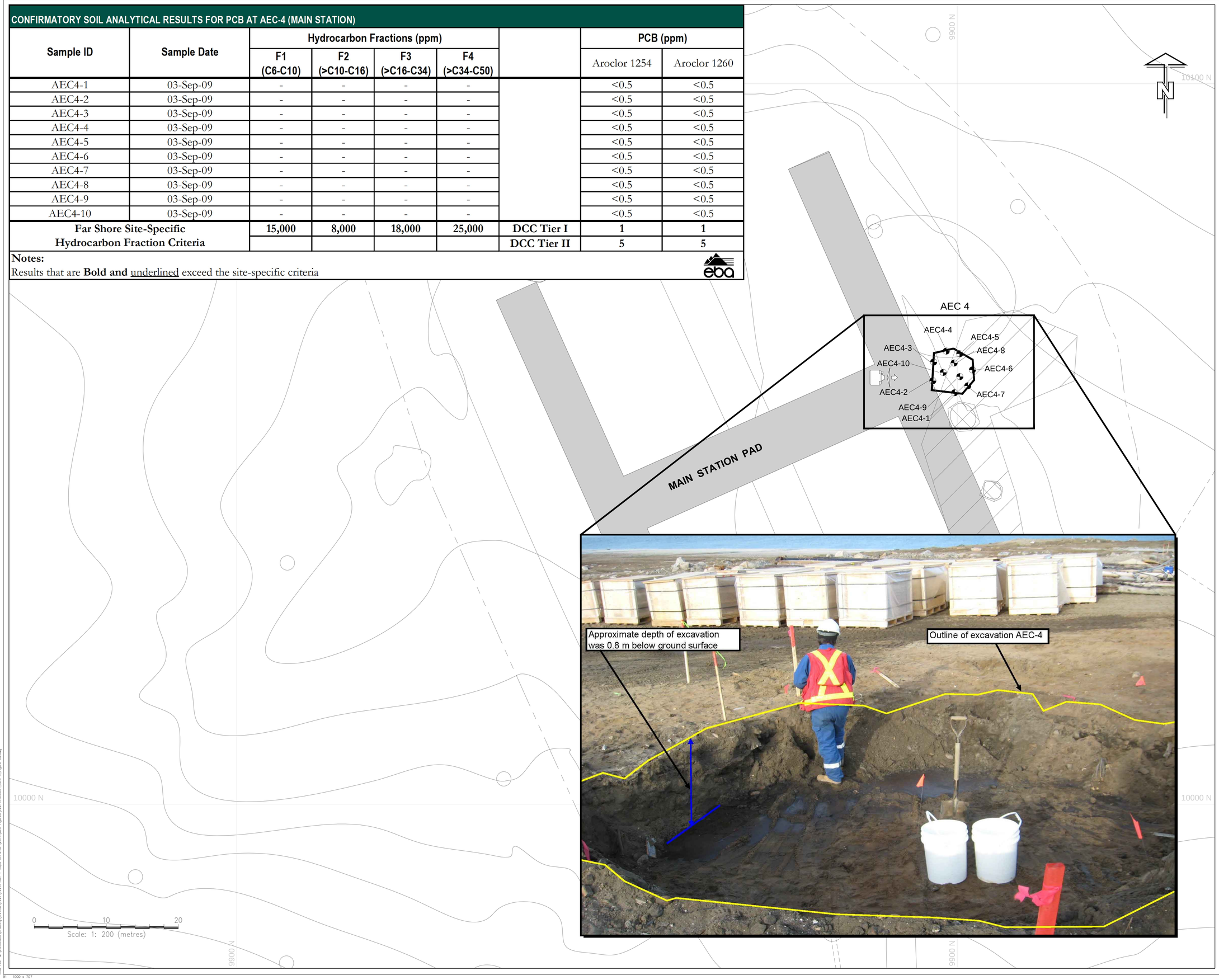
EBA File: G:\Edmonton\Drafting\DWG\E22\E22101581 - Cape Christian\2010\AEC Figures\E22101581.001_AEC 3_Figure 6cii.dwg

01 1000 x 707

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR PCB AT AEC-4 (MAIN STATION)

Sample ID	Sample Date	Hydrocarbon Fractions (ppm)					PCB (ppm)	
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		Aroclor 1254	Aroclor 1260
AEC4-1	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-2	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-3	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-4	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-5	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-6	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-7	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-8	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-9	03-Sep-09	-	-	-	-		<0.5	<0.5
AEC4-10	03-Sep-09	-	-	-	-		<0.5	<0.5
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**1**	**1**
						DCC Tier II	**5**	**5**

Notes:
Results that are **Bold and** underlined exceed the site-specific criteria



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LEGEND:

2009 SAMPLE LOCATION

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drawing title / titre du dessin
MID POINT OF EAST SIDE MAIN STATION PAD

AEC 4 EXCAVATION TIER 1 PCB

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6d

E22101581.001_AEC 4_Figure 6d.dwg

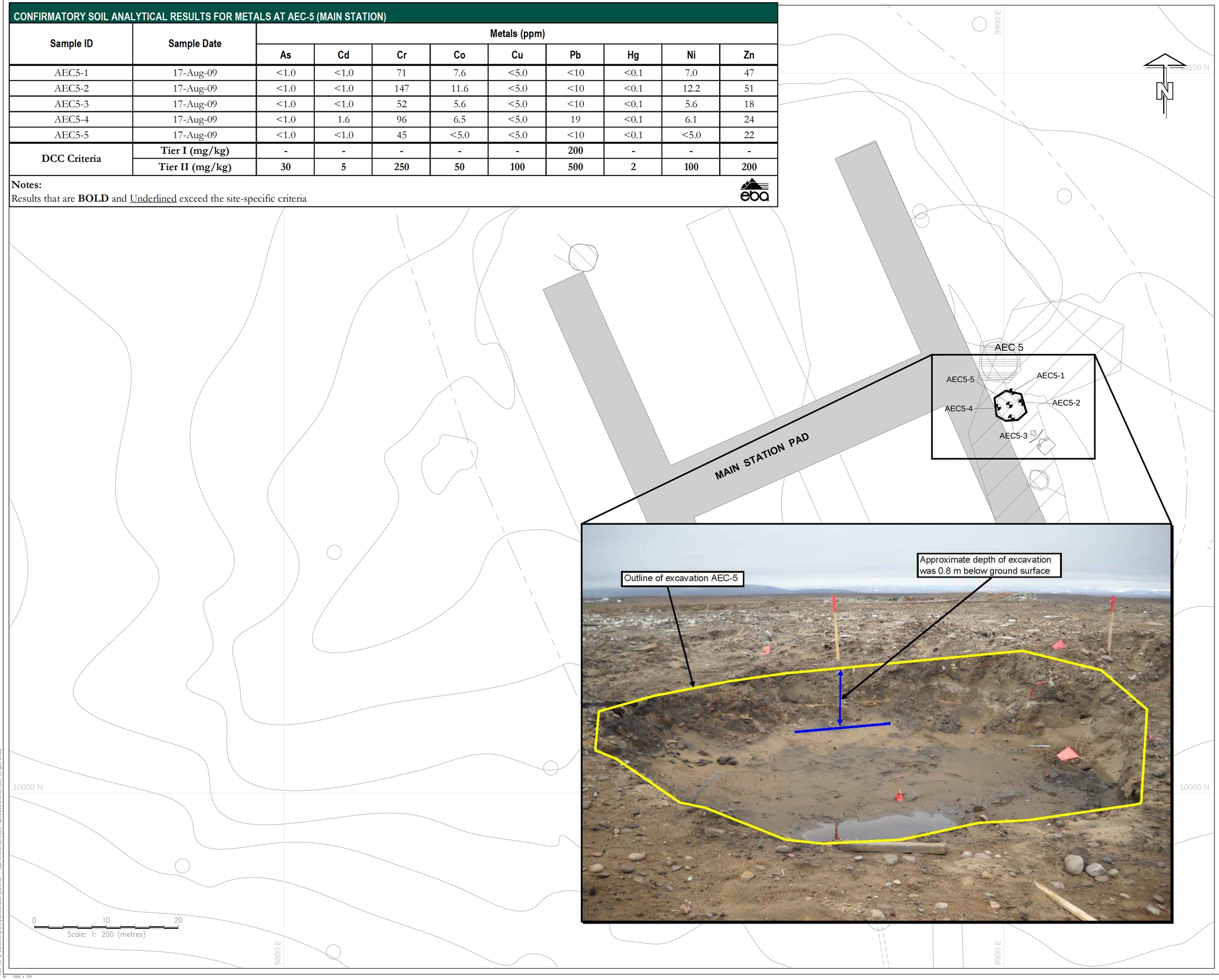
EBA File: Q:\Edmonton\Drafting\DWG\30\E22101581.000 - Cape Christian\2010\AEC Figure\E22101581.000_AEC 4_Figure 6d.dwg

81 1000 x 707

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-5 (MAIN STATION)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC5-1	17-Aug-09	<1.0	<1.0	71	7.6	<5.0	<10	<0.1	7.0	47
AEC5-2	17-Aug-09	<1.0	<1.0	147	11.6	<5.0	<10	<0.1	12.2	51
AEC5-3	17-Aug-09	<1.0	<1.0	52	5.6	<5.0	<10	<0.1	5.6	18
AEC5-4	17-Aug-09	<1.0	1.6	96	6.5	<5.0	19	<0.1	6.1	24
AEC5-5	17-Aug-09	<1.0	<1.0	45	<5.0	<5.0	<10	<0.1	<5.0	22
DCC Criteria	**Tier I (mg/kg)**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**
	Tier II (mg/kg)	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:
Results that are **BOLD** and Underlined exceed the site-specific criteria



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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
MID POINT OF EAST SIDE MAIN STATION PAD

AEC 5 EXCAVATION TIER 2 METALS

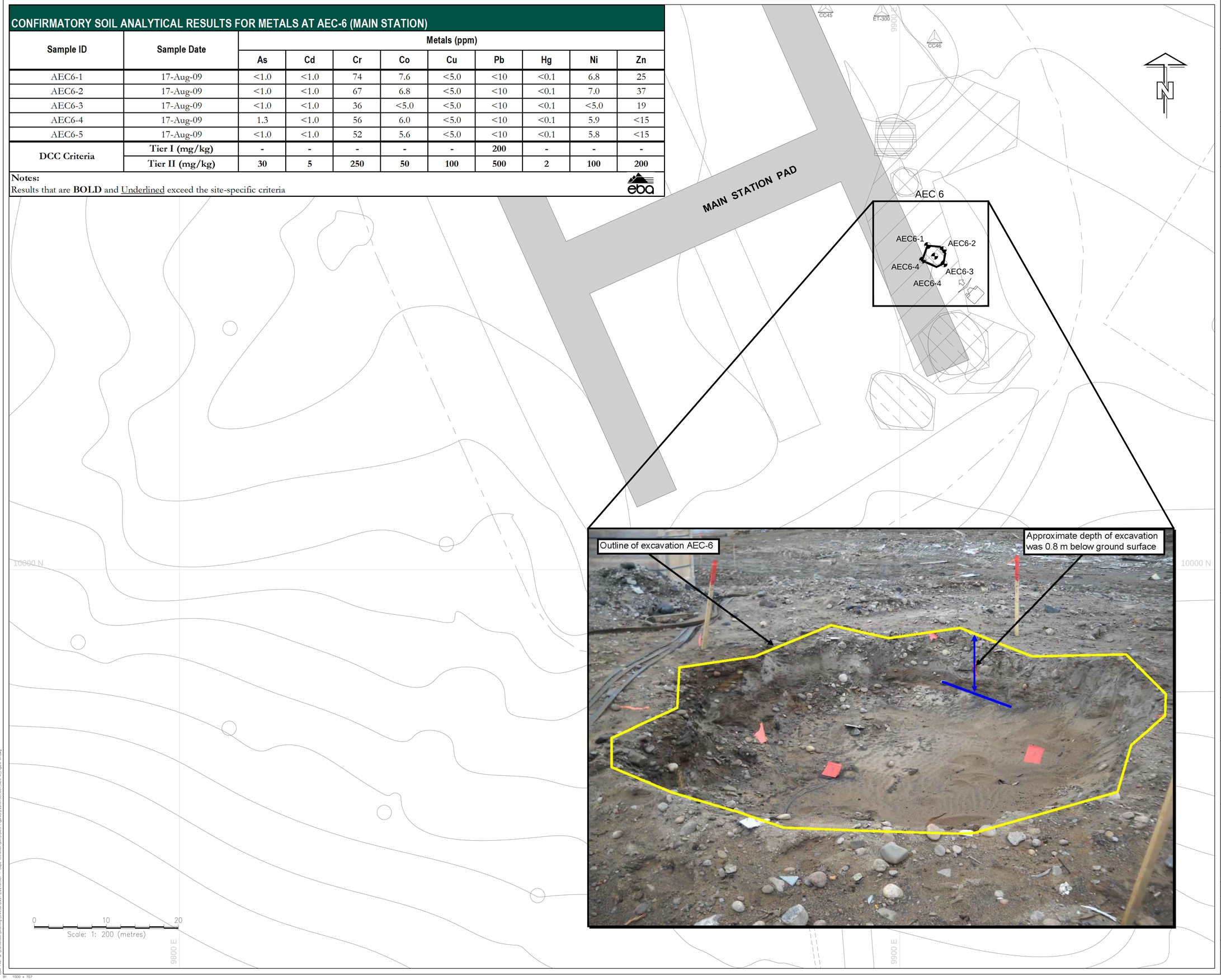
designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6e

EBA File: G:\Edmonton\Shared\Cape Christian\2010\AEC-Figures\E22101581.001_AEC 5_Figure 6e.dwg
B1 1000 x 707
E22101581.001_AEC 5_Figure 6e.dwg

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-6 (MAIN STATION)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC6-1	17-Aug-09	<1.0	<1.0	74	7.6	<5.0	<10	<0.1	6.8	25
AEC6-2	17-Aug-09	<1.0	<1.0	67	6.8	<5.0	<10	<0.1	7.0	37
AEC6-3	17-Aug-09	<1.0	<1.0	36	<5.0	<5.0	<10	<0.1	<5.0	19
AEC6-4	17-Aug-09	1.3	<1.0	56	6.0	<5.0	<10	<0.1	5.9	<15
AEC6-5	17-Aug-09	<1.0	<1.0	52	5.6	<5.0	<10	<0.1	5.8	<15
DCC Criteria	**Tier I (mg/kg)**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**
	Tier II (mg/kg)	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:
Results that are **BOLD** and Underlined exceed the site-specific criteria



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LEGEND:

- 2009 SAMPLE LOCATION
- DIRECTION OF PHOTO

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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
MID POINT OF SOUTHEAST LEG MAIN STATION PAD

AEC 6 EXCAVATION TIER II METALS

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
date / date	FEBRUARY 2011
sheet / feuille	Fig 6f

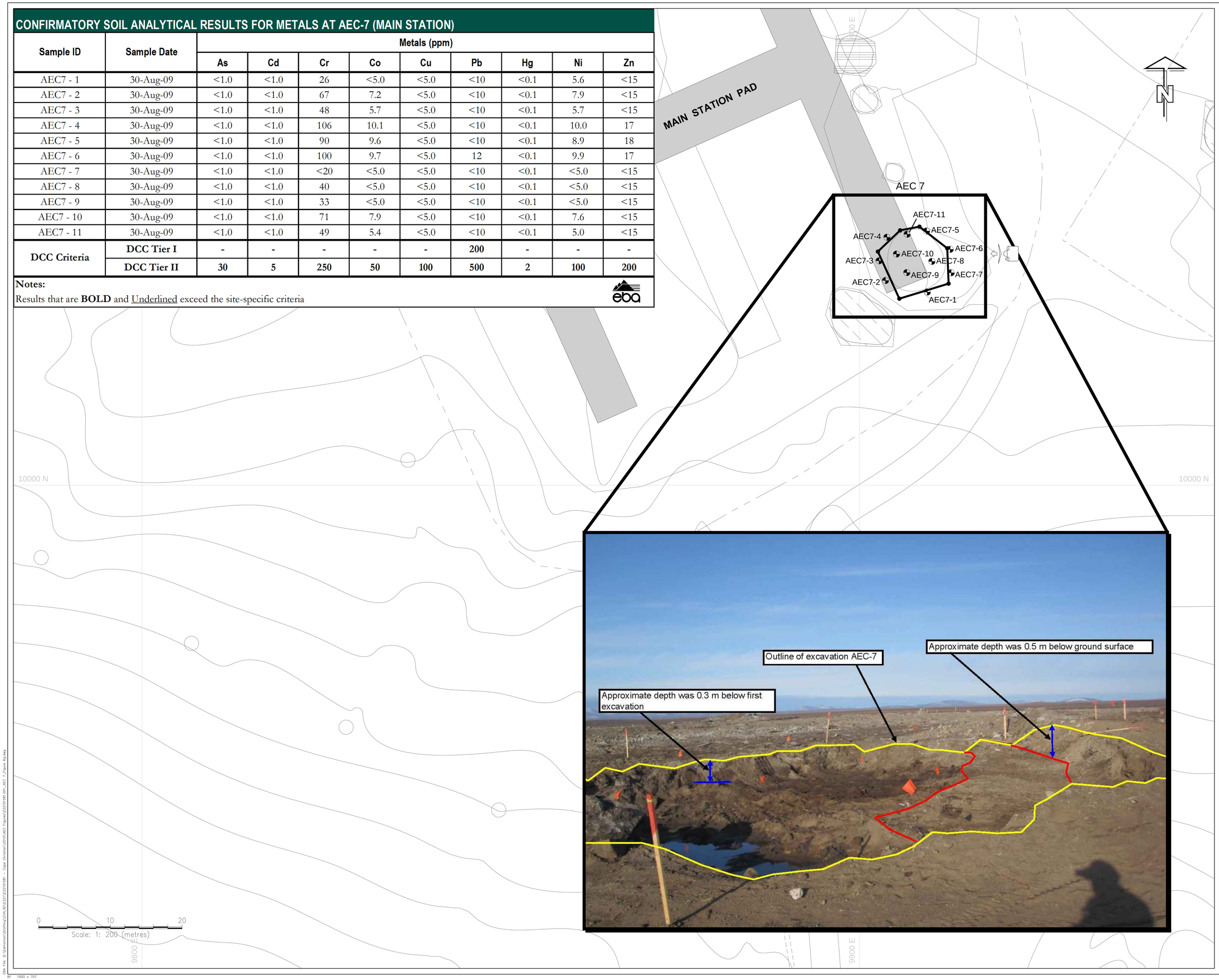
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ltr 1000 x 707

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-7 (MAIN STATION)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC7 - 1	30-Aug-09	<1.0	<1.0	26	<5.0	<5.0	<10	<0.1	5.6	<15
AEC7 - 2	30-Aug-09	<1.0	<1.0	67	7.2	<5.0	<10	<0.1	7.9	<15
AEC7 - 3	30-Aug-09	<1.0	<1.0	48	5.7	<5.0	<10	<0.1	5.7	<15
AEC7 - 4	30-Aug-09	<1.0	<1.0	106	10.1	<5.0	<10	<0.1	10.0	17
AEC7 - 5	30-Aug-09	<1.0	<1.0	90	9.6	<5.0	<10	<0.1	8.9	18
AEC7 - 6	30-Aug-09	<1.0	<1.0	100	9.7	<5.0	12	<0.1	9.9	17
AEC7 - 7	30-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC7 - 8	30-Aug-09	<1.0	<1.0	40	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC7 - 9	30-Aug-09	<1.0	<1.0	33	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC7 - 10	30-Aug-09	<1.0	<1.0	71	7.9	<5.0	<10	<0.1	7.6	<15
AEC7 - 11	30-Aug-09	<1.0	<1.0	49	5.4	<5.0	<10	<0.1	5.0	<15
DCC Criteria	DCC Tier I	-	-	-	-	-	200	-	-	-
	DCC Tier II	30	5	250	50	100	500	2	100	200

Notes:
Results that are **BOLD** and Underlined exceed the site-specific criteria



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2009 SAMPLE LOCATION

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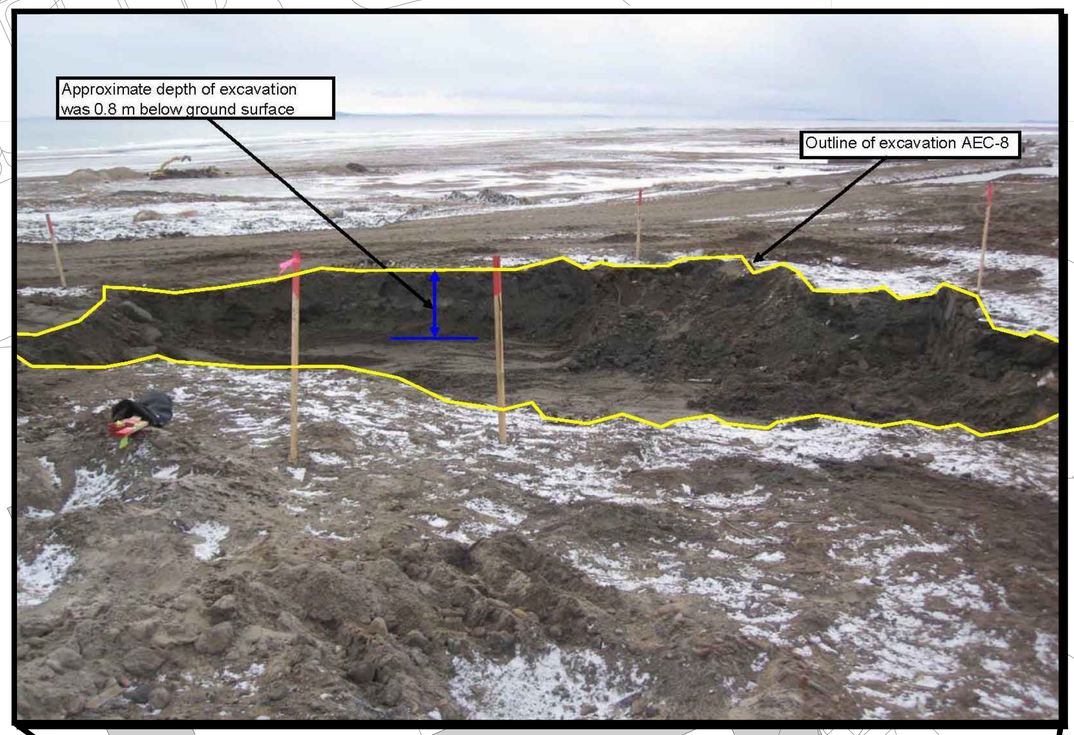
project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
SOUTHEAST LEG MAIN STATION PAD

AEC 7 EXCAVATION TIER II METALS

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6g

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81 1000 x 707
E22101581.001_AEC 7_Figure 6g.dwg



AEC 8

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-8 (MAIN STATION)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC8-1	18-Sep-09	<1.0	1.1	90	6.0	<5.0	<10	<0.1	9.0	23
AEC8-2	18-Sep-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC8-3	18-Sep-09	<1.0	<1.0	44	<5.0	<5.0	<10	<0.1	6.4	17
AEC8-4	18-Sep-09	<1.0	1.4	111	7.7	<5.0	<10	<0.1	11.1	156
AEC8-5	18-Sep-09	<1.0	1.5	106	8.1	<5.0	10	<0.1	13.0	142
AEC8-6	18-Sep-09	<1.0	<1.0	67	5.5	<5.0	<10	<0.1	8.1	17
AEC8-7	18-Sep-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC8-8	18-Sep-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC8-9	18-Sep-09	<1.0	<1.0	46	<5.0	<5.0	<10	<0.1	6.5	19
AEC8-10	18-Sep-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
DCC Criteria	**Tier I**	-	-	-	-	-	**200**	-	-	-
	Tier II	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:
Results that are **BOLD** and Underlined exceed the site-specific criteria

0 10 20
Scale: 1: 200 (metres)

9800 E
9900 E
10100 N
10000 N

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drawing title / titre du dessin
SOUTHEAST LEG MAIN STATION PAD

AEC 8 EXCAVATION TIER 2 METALS

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:200
project no. / projet no.	E22101581.001
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sheet / feuille	Fig 6h

E22101581.001_AEC 8_Figure 6h.dwg

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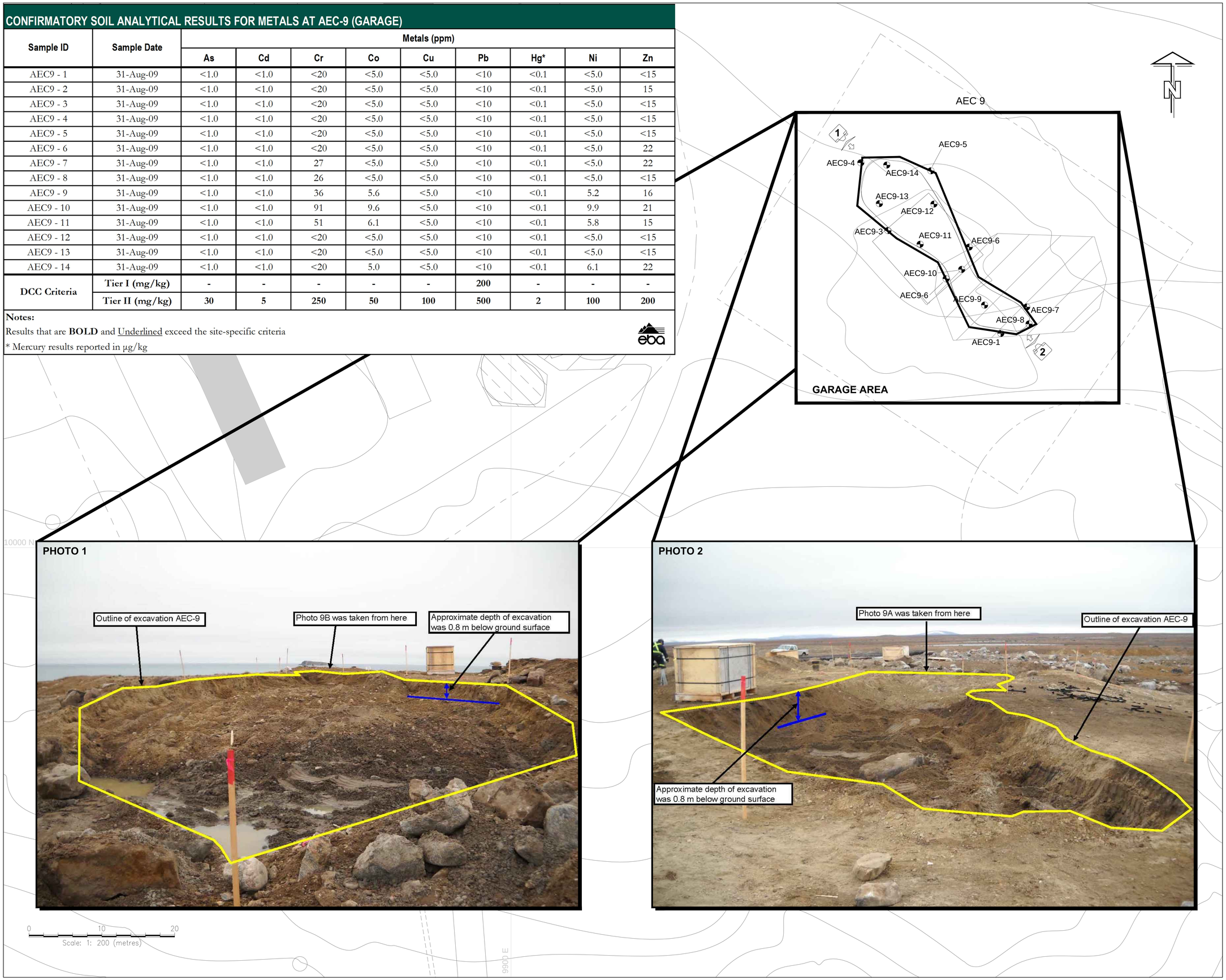
CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-9 (GARAGE)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg*	Ni	Zn
AEC9 - 1	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC9 - 2	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	15
AEC9 - 3	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC9 - 4	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC9 - 5	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC9 - 6	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	22
AEC9 - 7	31-Aug-09	<1.0	<1.0	27	<5.0	<5.0	<10	<0.1	<5.0	22
AEC9 - 8	31-Aug-09	<1.0	<1.0	26	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC9 - 9	31-Aug-09	<1.0	<1.0	36	5.6	<5.0	<10	<0.1	5.2	16
AEC9 - 10	31-Aug-09	<1.0	<1.0	91	9.6	<5.0	<10	<0.1	9.9	21
AEC9 - 11	31-Aug-09	<1.0	<1.0	51	6.1	<5.0	<10	<0.1	5.8	15
AEC9 - 12	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC9 - 13	31-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC9 - 14	31-Aug-09	<1.0	<1.0	<20	5.0	<5.0	<10	<0.1	6.1	22
DCC Criteria	**Tier I (mg/kg)**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**
	Tier II (mg/kg)	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:

Results that are **BOLD** and Underlined exceed the site-specific criteria

* Mercury results reported in µg/kg



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3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

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2009 SAMPLE LOCATION

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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
GARAGE AREA, EAST OF SOUTHEAST LEG OF MAIN STATION PAD

AEC 9 EXCAVATION TIER 2 METALS

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
sheet / feuille	Fig 6i
project no. / projet no.	E22101581.001
date	FEBRUARY 2011

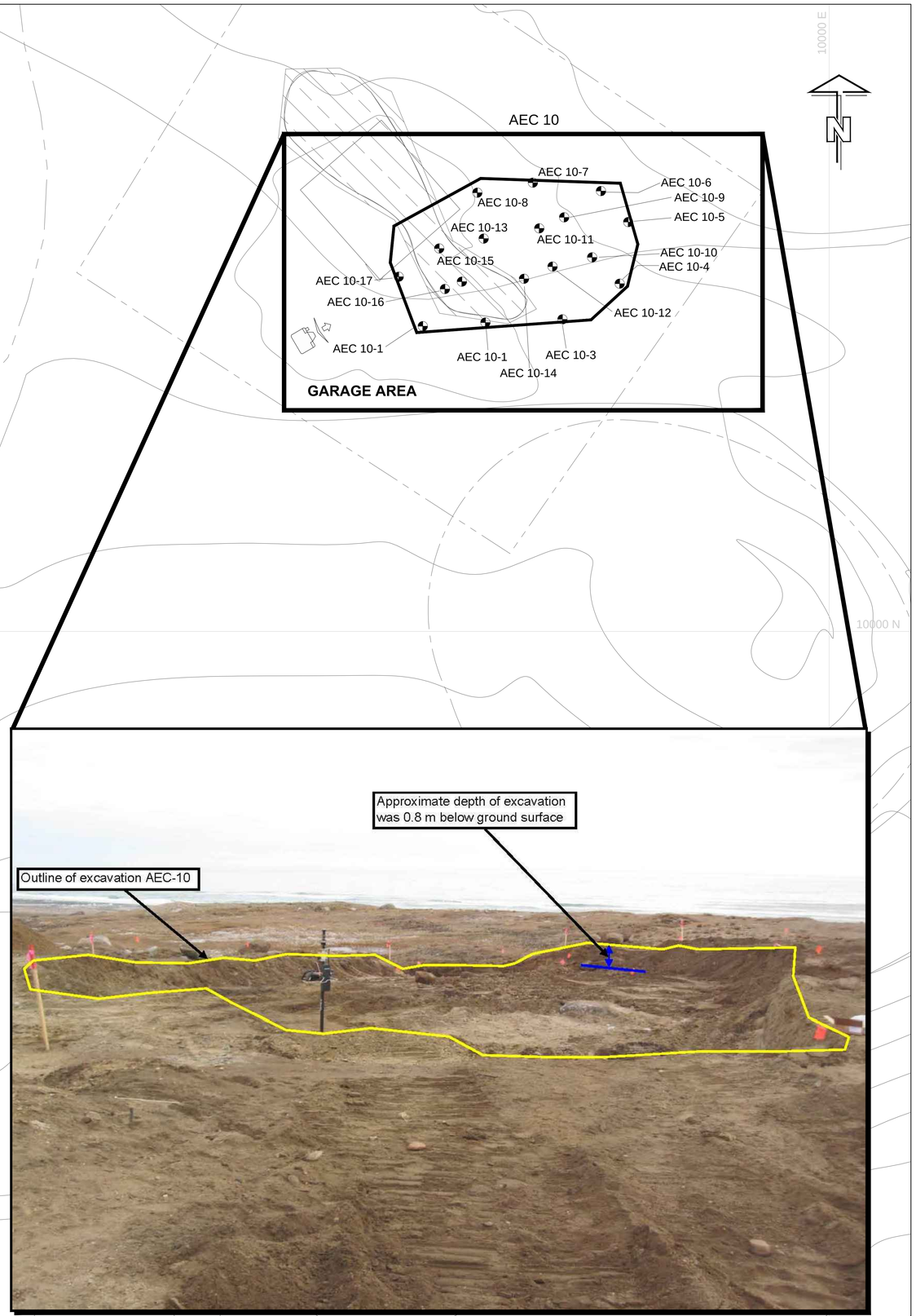
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81 1000 x 707

SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AT AEC-10 (GARAGE)

Sample ID	Borehole Location	Date Sampled	Hydrocarbon Fractions (ppm)		
			F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
AEC10-1	AEC13-10-15-0.35	19-Sep-09	<40	21	<10
AEC10-2	AEC13-15-10-0.35	19-Sep-09	<40	89	<10
AEC10-3	AEC13-20-7-0.35	19-Sep-09	<40	78	41
AEC10-4	AEC13-26-1-0.35	19-Sep-09	<40	62	26
AEC10-5	AEC13-45-4.5-0.35	19-Sep-09	<40	20	<10
AEC10-6	AEC13-51-5-0.35	19-Sep-09	<40	37	<10
AEC10-7	AEC13-60-8-0.35	19-Sep-09	436	62	13
AEC10-8	AEC13-62-15-0.35	19-Sep-09	4,960	277	24
AEC10-9	AEC13-61-20-0.35	19-Sep-09	<40	781	14
AEC10-10	AEC13-43-36-0.35	19-Sep-09	<40	44	14
AEC10-11	AEC13-30-49-0.35	19-Sep-09	585	280	25
AEC10-12	AEC13-25-53-0.35	19-Sep-09	<40	111	26
AEC10-13	AEC13-17-15-0.35	19-Sep-09	384	11,000	2,350
AEC10-14	AEC13-14-44.5-0.35	19-Sep-09	66	593	76
AEC10-16	AEC13-8-34-0.35	19-Sep-09	3,640	9,330	3560
AEC10-17	AEC13-60-12-0.8	19-Sep-09	2,170	1,180	51
Far Shore Site-Specific Hydrocarbon Fraction Criteria			**8,000**	**18,000**	**25,000**

Notes:
Results that are **BOLD** and Underlined exceed the site-specific criteria



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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
GARAGE AREA, EAST OF SOUTHEAST LEG OF MAIN STATION PAD

AEC 10 EXCAVATION F3, F4 PHC

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 6j

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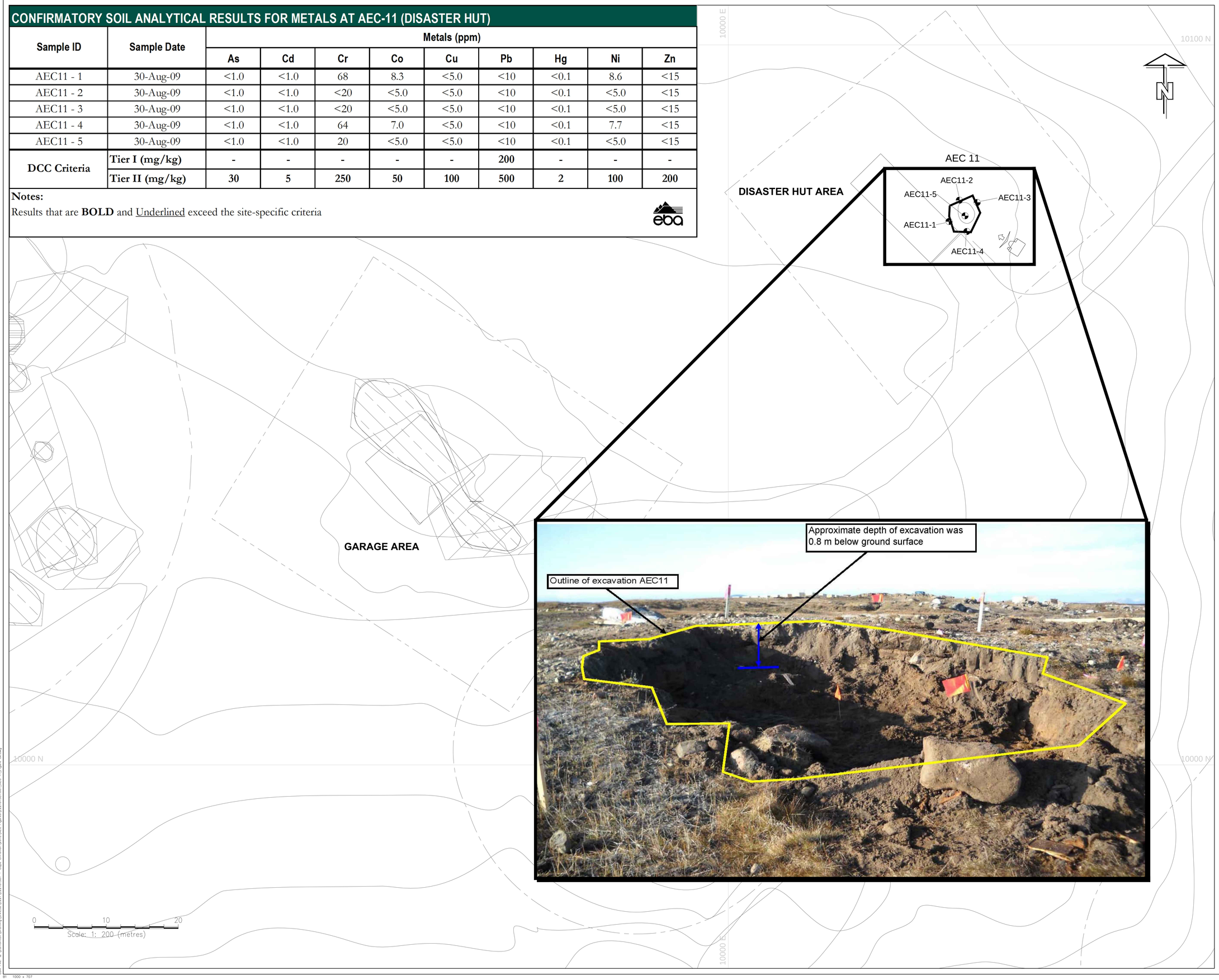
ltr 1000 x 707

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-11 (DISASTER HUT)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC11 - 1	30-Aug-09	<1.0	<1.0	68	8.3	<5.0	<10	<0.1	8.6	<15
AEC11 - 2	30-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC11 - 3	30-Aug-09	<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC11 - 4	30-Aug-09	<1.0	<1.0	64	7.0	<5.0	<10	<0.1	7.7	<15
AEC11 - 5	30-Aug-09	<1.0	<1.0	20	<5.0	<5.0	<10	<0.1	<5.0	<15
DCC Criteria	**Tier I (mg/kg)**	-	-	-	-	-	200	-	-	-
	Tier II (mg/kg)	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:

Results that are **BOLD** and Underlined exceed the site-specific criteria



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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
DISASTER HUT AREA

AEC 11 EXCAVATION TIER 2 METALS

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
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sheet / feuille	Fig 6k

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81 1000 x 707
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CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-12 (CULVERT OUTFALL)

Sample ID	Sample Date	Metals (ppm)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC12 - 1	01-Sep-09	<1.0	<1.0	34	5.3	<5.0	<10	<0.1	5.1	15.35
AEC12 - 2	01-Sep-09	<1.0	<1.0	31	5.6	<5.0	<10	<0.1	6.2	27.52
AEC12 - 3	01-Sep-09	<1.0	<1.0	22	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC12 - 4	01-Sep-09	<1.0	<1.0	26	<5.0	11.0	<10	0.14	9.8	56
AEC12 - 5	01-Sep-09	<1.0	<1.0	<20	<5.0	7.2	<10	<0.1	5.3	45
AEC12 - 6	01-Sep-09	<1.0	<1.0	25	<5.0	54.5	12	<0.1	5.6	121
AEC12 - 7	01-Sep-09	<1.0	<1.0	29	<5.0	6.4	<10	<0.1	5.6	31
AEC12 - 8	01-Sep-09	<1.0	<1.0	26	<5.0	<5.0	<10	<0.1	<5.0	<15
AEC12 - 9	01-Sep-09	<1.0	<1.0	35	5.1	<5.0	<10	<0.1	7.5	<15
AEC12 - 10	01-Sep-09	<1.0	<1.0	46	6.5	<5.0	<10	<0.1	9.3	18
AEC12 - 11	01-Sep-09	<1.0	<1.0	33	5.1	7.1	<10	<0.1	5.7	21
AEC12 - 12	01-Sep-09	<1.0	<1.0	<20	<5.0	19.2	<10	<0.1	5.7	39
AEC12 - 13	01-Sep-09	<1.0	<1.0	39	<5.0	23.7	<10	0.19	6.5	182
AEC12 - 14	01-Sep-09	<1.0	<1.0	34	<5.0	12.2	<10	<0.1	6.6	51
DCC Criteria	**Tier I (mg/kg)**	-	-	-	-	-	**200**	-	-	-
	Tier II (mg/kg)	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:
Results that are **BOLD** and underlined exceed the site-specific criteria



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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
EAST OF NORTH TIP OF EXISTING WATER RESERVOIR, CULVERT OUTFALL

AEC 12 EXCAVATION TIER 2 METALS

designed by / concu par: M.H.
drawn by / dessine par: B.R. / R.H. / E.L.
approved by / approuve par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.

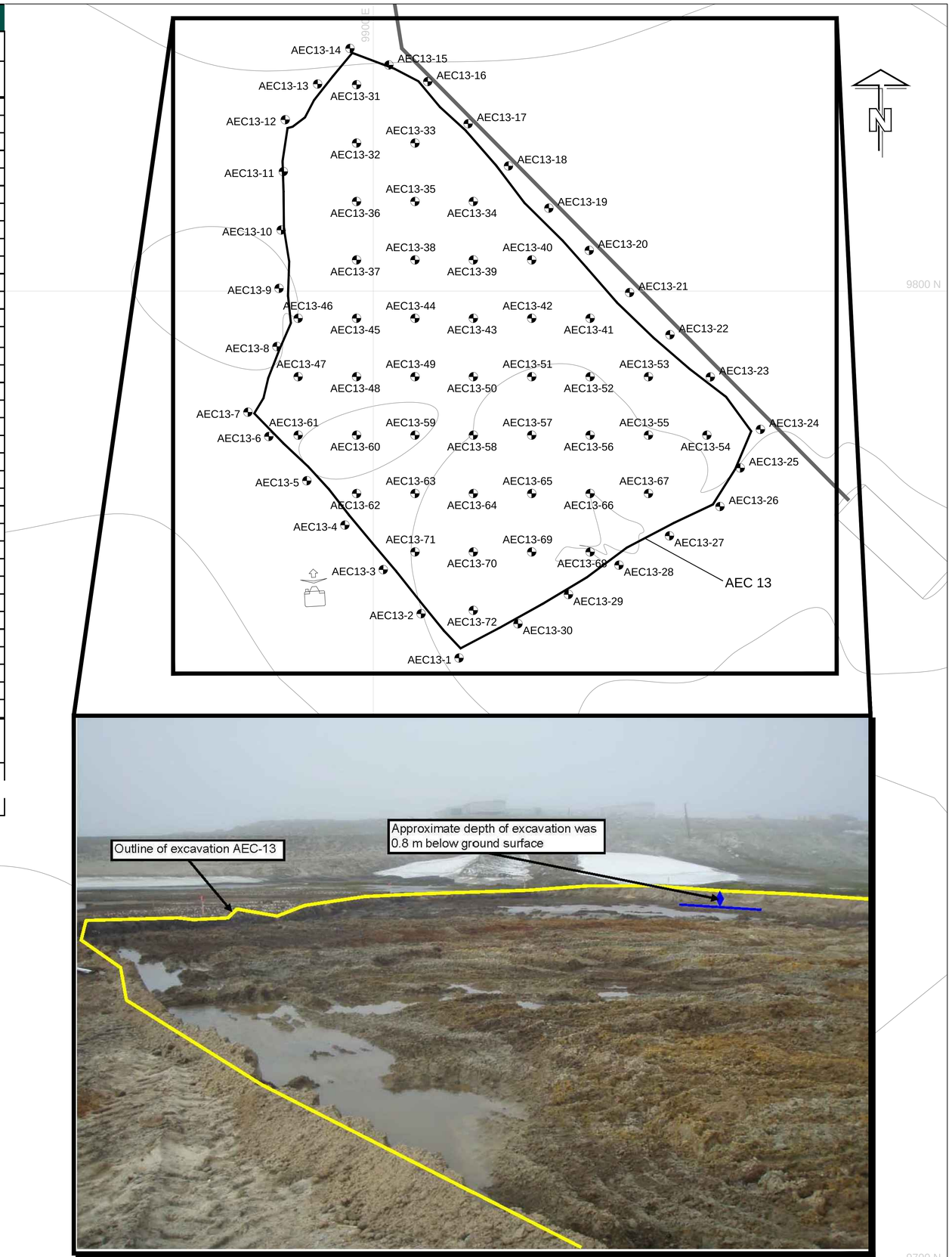
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SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AT AEC-13 (WORKED AREA 1)

Sample ID	Sample Number	Date Sampled	Hydrocarbon Fractions (ppm)			
			F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)
WA1-3	AEC13-3	06-Aug-09	<60	<10	<10	<10
WA1-4	AEC13-4	06-Aug-09	<60	548	222	<10
WA1-5	AEC13-5	06-Aug-09	<60	<10	<10	<10
WA1-7	AEC13-7	06-Aug-09	<60	326	595	31
WA1-10	AEC13-10	06-Aug-09	<60	<10	<10	<10
WA1-11	AEC13-11	06-Aug-09	<60	56	53	<10
WA1-13	AEC13-13	06-Aug-09	<60	<10	<10	<10
WA1-15	AEC13-15	06-Aug-09	<60	<10	<10	<10
WA1-16	AEC13-16	06-Aug-09	<60	<10	<10	<10
WA1-20	AEC13-20	06-Aug-09	<60	1,800	1,460	<10
WA1-23	AEC13-23	06-Aug-09	<60	993	604	<10
WA1-24	AEC13-24	06-Aug-09	<60	31	<10	<10
WA1-26	AEC13-26	06-Aug-09	<60	768	607	<10
WA1-27	AEC13-27	06-Aug-09	<60	<10	<10	<10
WA1-28	AEC13-28	06-Aug-09	<60	<10	<10	<10
WA1-29	AEC13-29	06-Aug-09	<60	<10	<10	<10
WA1-31	AEC13-31	06-Aug-09	<60	186	243	<10
WA1-32	AEC13-32	06-Aug-09	<60	280	135	<10
WA1-36	AEC13-36	07-Aug-09	<60	15	80	<10
WA1-37	AEC13-37	07-Aug-09	<60	<10	37	<10
WA1-40	AEC13-40	07-Aug-09	<60	1,400	806	<10
WA1-42	AEC13-42	07-Aug-09	<60	319	186	<10
WA1-44	AEC13-44	07-Aug-09	<60	<10	<10	<10
WA1-46	AEC13-46	07-Aug-09	<60	<10	<10	<10
WA1-48	AEC13-48	07-Aug-09	<60	<10	<10	<10
WA1-51	AEC13-51	07-Aug-09	<60	<10	<10	<10
WA1-52	AEC13-52	07-Aug-09	<60	130	165	<10
WA1-53	AEC13-53	07-Aug-09	<60	<10	<10	<10
WA1-54	AEC13-54	07-Aug-09	68	5,220	3,530	<10
WA1-57	AEC13-57	07-Aug-09	<60	<10	<10	<10
WA1-59	AEC13-59	07-Aug-09	<60	<10	<10	<10
WA1-63	AEC13-63	07-Aug-09	<60	<10	<10	<10
WA1-65	AEC13-65	07-Aug-09	<60	<10	<10	<10
WA1-66	AEC13-66	07-Aug-09	<60	<10	<10	<10
WA1-70	AEC13-70	07-Aug-09	<60	<10	<10	<10
Far Shore Site-Specific Hydrocarbon Fraction Criteria			**15,000**	**8,000**	**18,000**	**25,000**

Notes:
Results that are **BOLD** and underlined exceed the site-specific criteria



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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
EAST OF EXISTING WATER RESERVOIR, WORKED AREA 1

AEC 13 EXCAVATION F1-F2 PHC

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / R.H. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:200
project no. / projet no.	E22101581.001
date / date	FEBRUARY 2011
sheet / feuille	Fig 6m

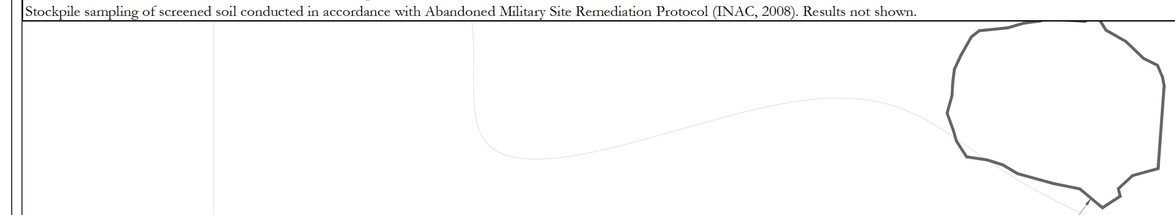
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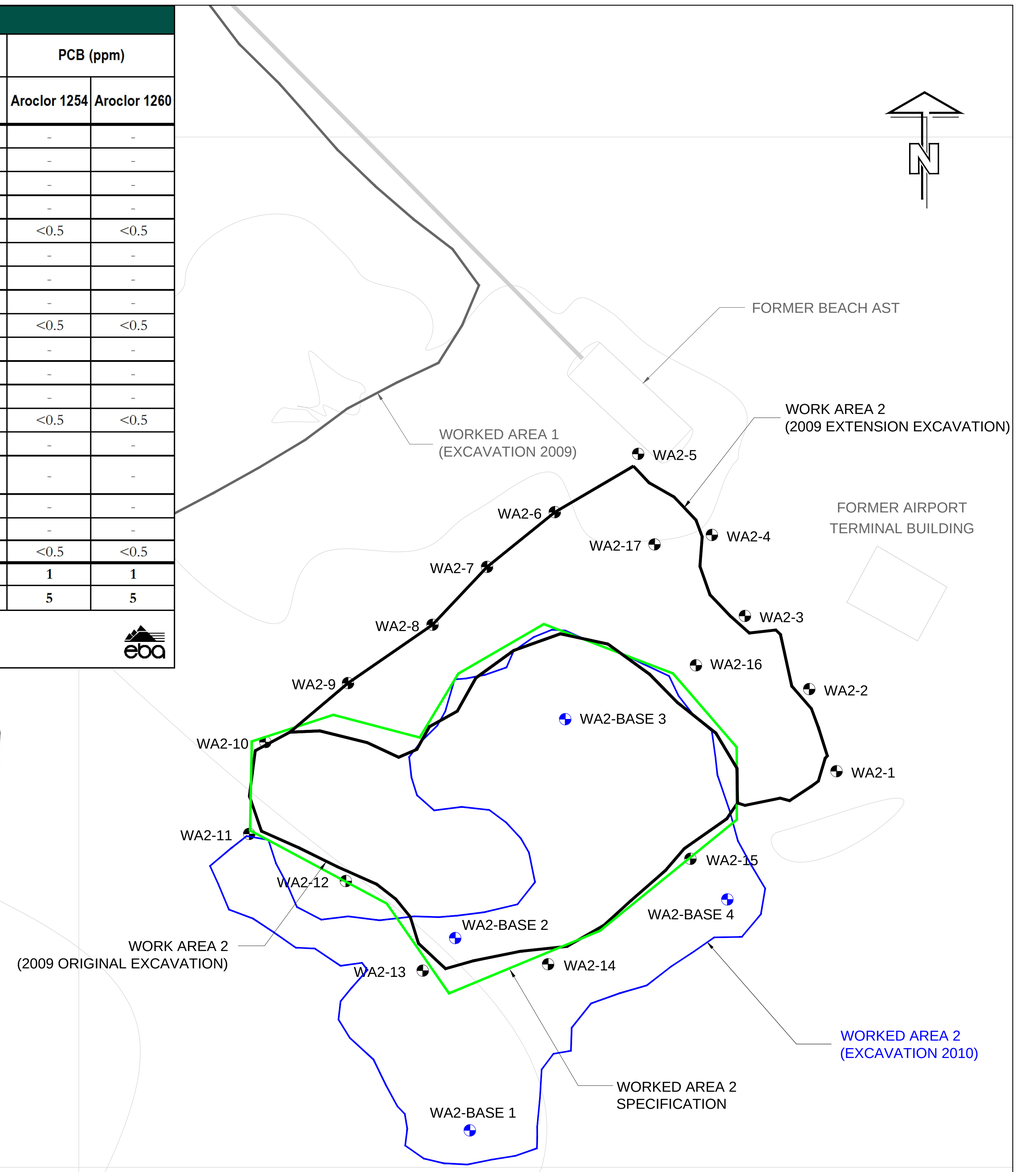
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81 1000 x 707

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-2

Sample Number	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)	
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1254	Aroclor 1260
WA2-1	13-Sep-09	<60	639	138	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-2	13-Sep-09	91	1,660	135	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-3	13-Sep-09	81	1,920	125	19		<1.0	2.5	223	13.5	<5.0	18	<0.1	21.9	23	-	-
WA2-4	13-Sep-09	<60	1,030	80	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-5	13-Sep-09	<60	909	91	<10		<1.0	<1.0	51	<5.0	<5.0	<10	<0.1	5.1	<15	<0.5	<0.5
WA2-6	13-Sep-09	<60	872	283	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-7	13-Sep-09	<60	152	72	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-8	13-Sep-09	<60	600	230	<10		<1.0	<1.0	62	<5.0	<5.0	<10	<0.1	6.3	<15	-	-
WA2-9	13-Sep-09	<60	1,880	299	<10		-	-	-	-	-	-	-	-	-	<0.5	<0.5
WA2-10	13-Sep-09	<60	796	127	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-11	13-Sep-09	<60	461	130	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-12	13-Sep-09	<60	567	117	15		<1.0	<1.0	70	<5.0	<5.0	<10	<0.1	7.1	<15	-	-
WA2-13	13-Sep-09	`	239	58	<10		<1.0	<1.0	64	<5.0	<5.0	<10	<0.1	7	<15	<0.5	<0.5
WA2-14	13-Sep-09	<60	<40	<20	<10		-	-	-	-	-	-	-	-	-	-	-
WA2-BASE NEAR 14	13-Sep-09	<60	515	108	<10		<1.0	1.1	99	6.1	<5.0	33	<0.1	9.5	25	-	-
WA2-15	13-Sep-09	<60	734	222	14		<1.0	<1.0	60	<5.0	<5.0	<10	<0.1	6.5	<15	-	-
WA2-16	13-Sep-09	<60	584	134	24		-	-	-	-	-	-	-	-	-	-	-
WA2-17	13-Sep-09	<60	1,370	101	31		-	-	-	-	-	-	-	-	-	<0.5	<0.5
Far Shore Site-Specific		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**
Hydrocarbon Fraction Criteria						**DCC Tier II**	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.





CONFIRMATORY BASE OF EXCAVATION SOIL ANALYTICAL RESULTS FOR HYDROCARBONS AND METALS AT WA-2

Sample Number	Depth (m)	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)			
			F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WA2 - BASE 1	-	17-Aug-10	-	210	62	<10		-	-	-	-	-	-	-	-	-	-	-	-	-
WA2 - BASE 2	-	17-Aug-10	-	580	132	17		-	-	-	-	-	-	-	-	-	-	-	-	-
WA2 - BASE 3	-	17-Aug-10	-	198	151	<10		-	-	-	-	-	-	-	-	-	-	-	-	-
WA2 - BASE 4	-	17-Aug-10	-	404	281	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<500	<500	<500	<500
Far Shore Site-Specific			**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**	**1**	**1**
Hydrocarbon Fraction Criteria							**DCC Tier II**	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**	**5**	**5**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.

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

REAL PROPERTY SERVICES
Western Region

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

Canada

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3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2009 SAMPLE LOCATION
- 2010 SAMPLE LOCATION
- PROPOSED EXCAVATION BOUNDARY AS PER SPECIFICATIONS
- 2009 EXCAVATION BOUNDARY
- 2010 EXCAVATION BOUNDARY

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
WORKED AREA 2

designed by / conçu par: M.H.
drawn by / dessiné par: B.R. / E.L.
approved by / approuvé par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.
scale / échelle: 1:250
project no. / projet no.: E22101581.001
date: FEBRUARY 2011
sheet / feuille: Fig 7a

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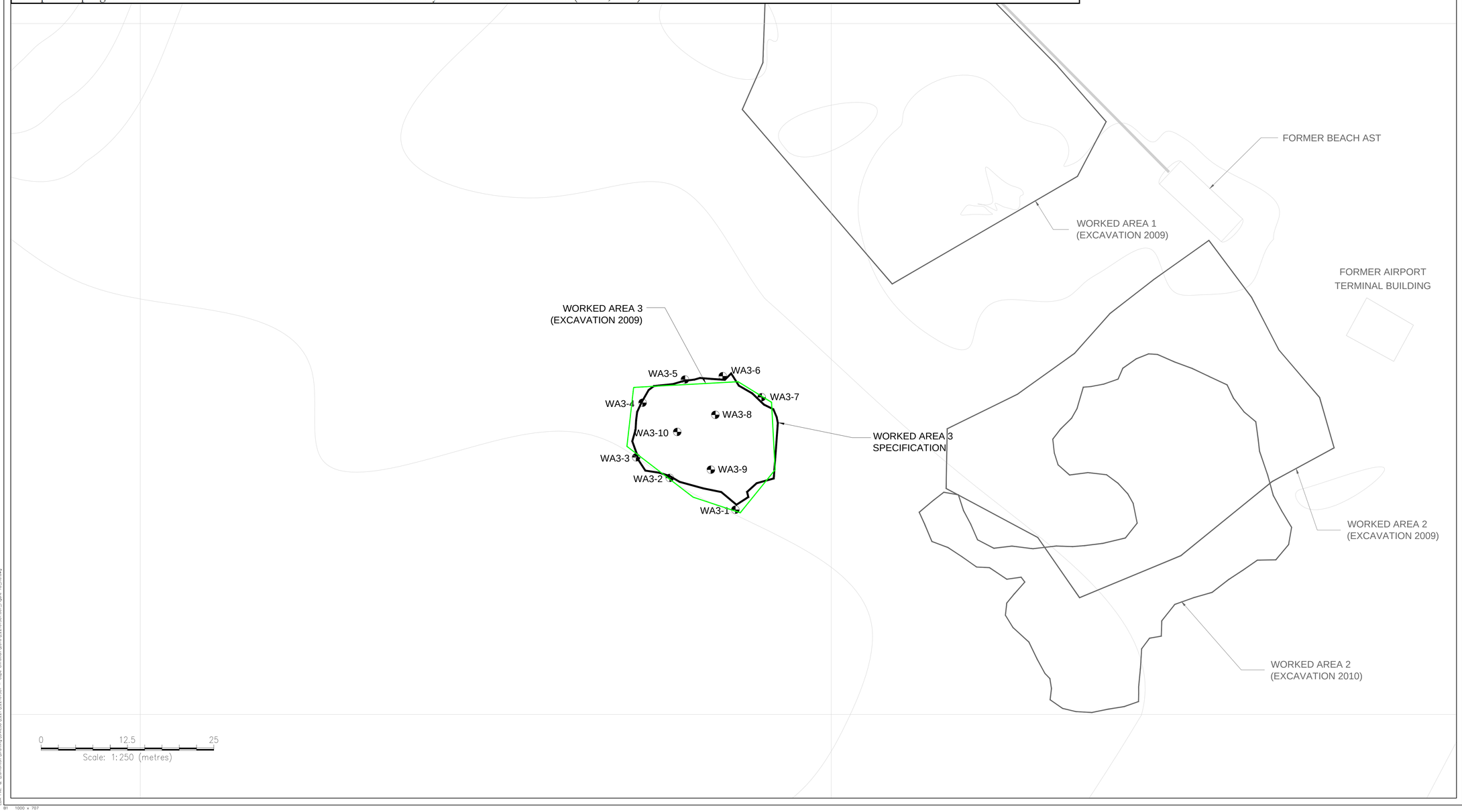
CONFIRMATORY SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-3

Sample ID	Sample Date	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)	
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1254	Aroclor 1260
WA3-1	13-Sep-09	<60	41	19	<10		-	-	-	-	-	-	-	-	-	-	-
WA3-2	13-Sep-09	<60	28	11	<10		<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15	-	-
WA3-3	13-Sep-09	<60	25	43	<10		-	-	-	-	-	-	-	-	-	<0.5	<0.5
WA3-4	13-Sep-09	<60	26	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA3-5	13-Sep-09	<60	<10	24	14		-	-	-	-	-	-	-	-	-	-	-
WA3-6	13-Sep-09	<60	<10	<10	<10		<1.0	<1.0	24	<5.0	<5.0	<10	<0.1	<5.0	<15	-	-
WA3-7	13-Sep-09	<60	<10	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA3-8	13-Sep-09	<60	122	704	58		<1.0	<1.0	28	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
WA3-9	13-Sep-09	<60	2,520	1,410	71		-	-	-	-	-	-	-	-	-	-	-
WA3-10	13-Sep-09	<60	<10	18	<10		<1.0	<1.0	25	<5.0	<5.0	<10	<0.1	<5.0	<15	-	-
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**
						DCC Tier II	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**	**5**	**5**

Notes:

Results that are in **Bold** and underlined exceed the site-specific criteria

Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.



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

REAL PROPERTY SERVICES
Western Region

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LEGEND:

- 2009 SAMPLE LOCATION
- PROPOSED EXCAVATION BOUNDARY AS PER SPECIFICATIONS
- 2009 EXCAVATION BOUNDARY

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REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

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B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

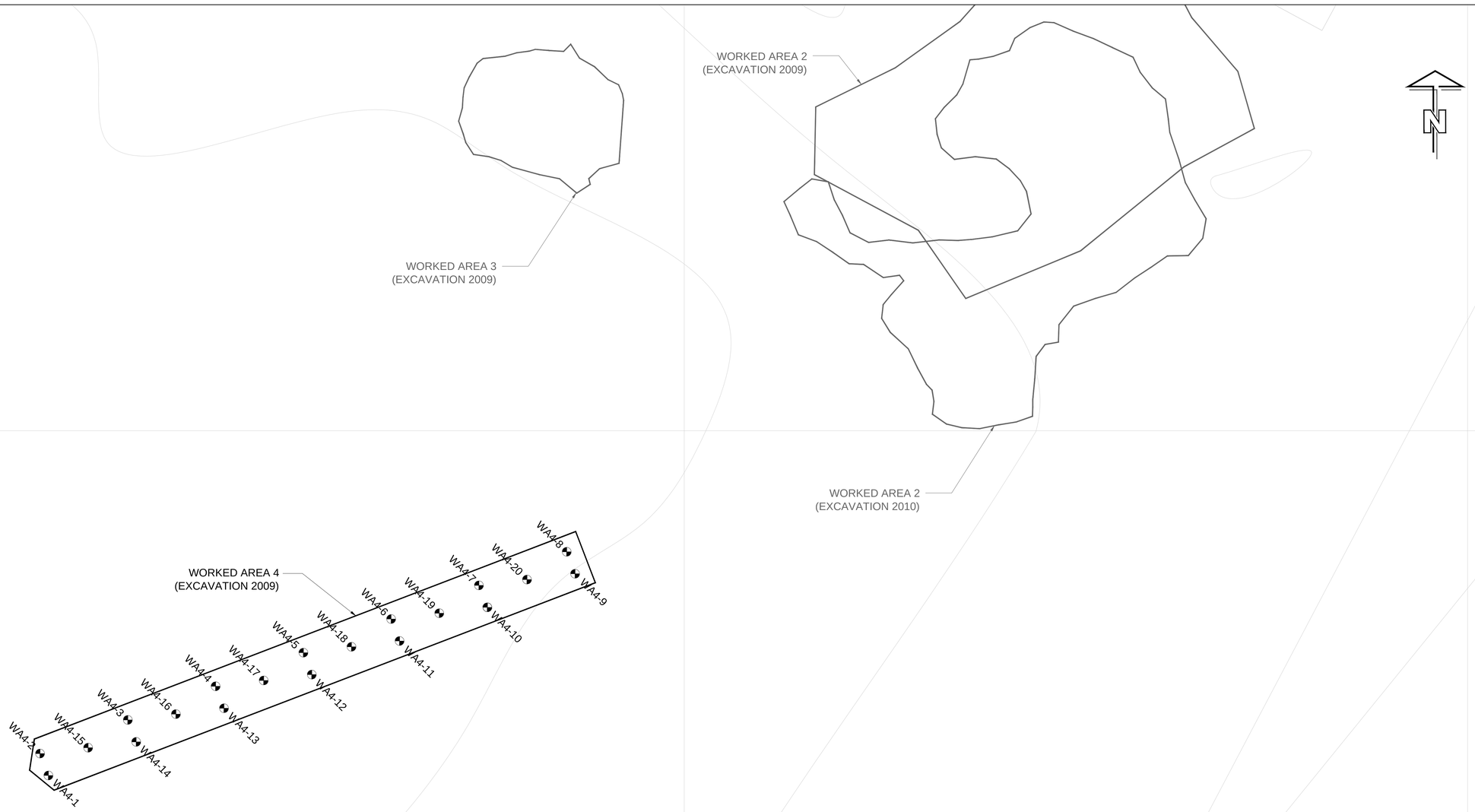
drawing title / titre du dessin
WORKED AREA 3

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:250
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 7b

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CONFIRMATORY SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-4

Borehole Number	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)	
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1254	Aroclor 1260
WA4-1	08-Aug-09	<60	<10	<10	<10		<1.0	<1.0	46	5.2	<5.0	<10	<0.1	<5.0	<15	-	-
WA4-3	08-Aug-09	<60	18	<10	<10		<1.0	<1.0	25	<5.0	<5.0	<10	<0.1	<5.0	<15	-	-
WA4-5	08-Aug-09	<60	18	<10	<10		<1.0	<1.0	48	5.7	<5.0	<10	<0.1	5.1	<15	-	-
WA4-8	08-Aug-09	<60	<10	<10	<10		<1.0	<1.0	54	6.4	<5.0	<10	<0.1	5.7	<15	-	-
WA4-9	08-Aug-09	<60	16	<10	<10		<1.0	<1.0	73	7.5	<5.0	<10	<0.1	7.2	<15	-	-
WA4-11	08-Aug-09	<60	15	<10	<10		<1.0	<1.0	46	5.4	<5.0	<10	<0.1	5.0	<15	-	-
WA4-13	08-Aug-09	<60	<10	<10	<10		<1.0	<1.0	34	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
WA4-14	08-Aug-09	<60	<10	<10	<10		<1.0	<1.0	118	11.6	<5.0	<10	<0.1	11.1	16	<0.5	<0.5
WA4-16	08-Aug-09	<60	<10	<10	<10		<1.0	<1.0	84	9.2	<5.0	<10	<0.1	9.0	<15	<0.5	<0.5
WA4-17	08-Aug-09	<60	<10	3,110	1,700		<1.0	<1.0	43	5.3	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
WA4-19	08-Aug-09	<60	<10	13	<10		<1.0	<1.0	71	7.5	<5.0	<10	<0.1	7.2	<15	<0.5	<0.5
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**
						DCC Tier II	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**	**5**	**5**

Notes:
1. All samples were composite samples collected from stockpiles located at Work Area 4
2. Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008).

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LEGEND:
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- 2009 EXCAVATION BOUNDARY

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REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
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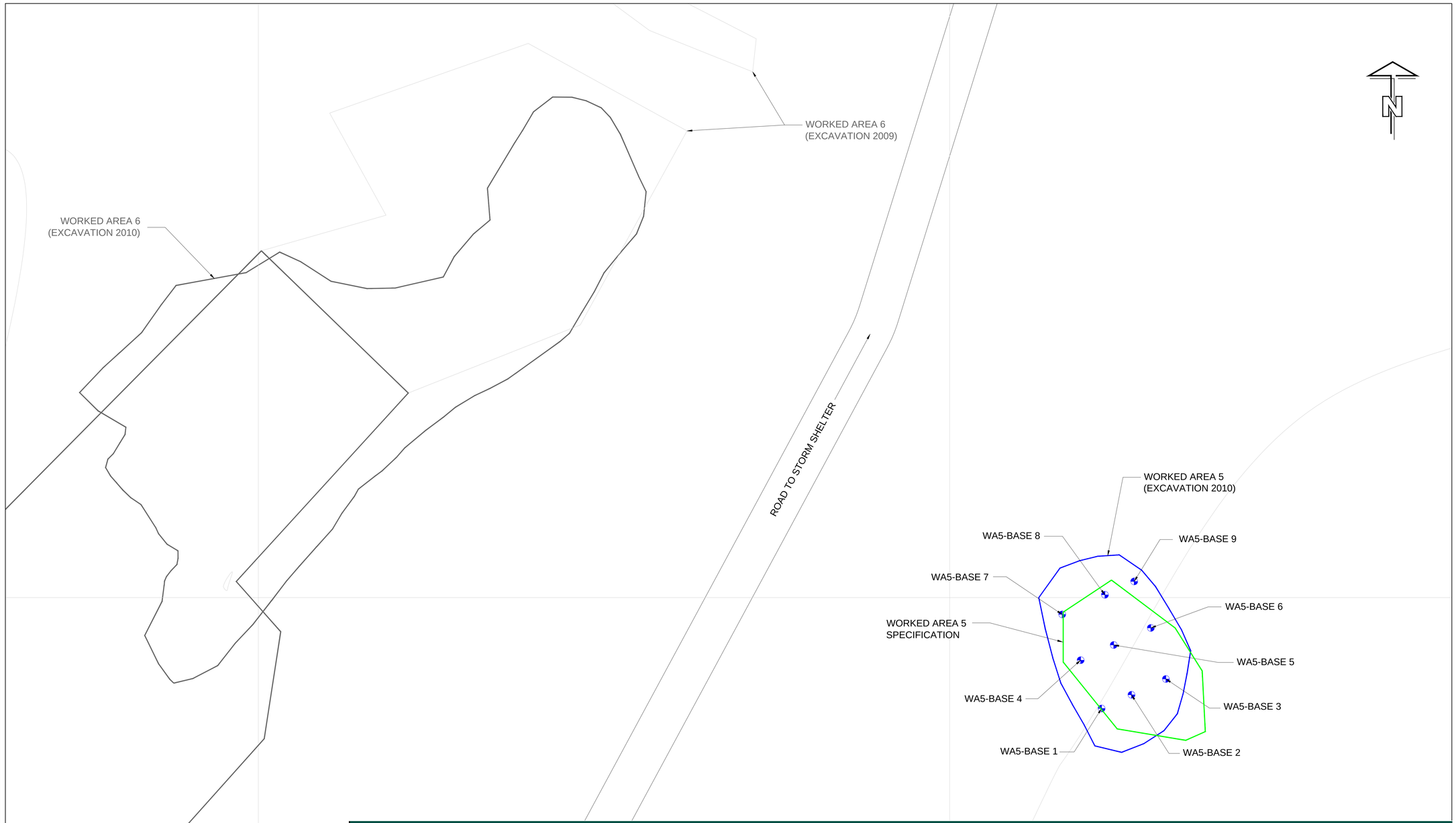
project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
WORKED AREA 4

designed by / conçu par: M.H.
drawn by / dessiné par: B.R. / E.L.
approved by / approuvé par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.

scale / échelle: 1:250
sheet / feuille: Fig 7c
project no. / projet no.: E22101581.001
date: FEBRUARY 2011

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81 1000 x 707
E22101581.001_Figure 7c_R0.dwg



CONFIRMATORY BASE OF EXCAVATION SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-5

Sample Number	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WA5-base 1	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA5-base 2	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA5-base 3	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA5-base 4	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA5-base 5	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA5-base 6	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA5-base 7	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA5-base 8	31-Jul-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA5-base 9	31-Jul-10	-	-	-	-		<5.0	2.8	59	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	-	-	-	-	-	**200**	-	-	-	**1**	**1**	**1**	**1**
						DCC Tier II	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100.0**	**200**	**5**	**5**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.

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

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- PROPOSED EXCAVATION BOUNDARY AS PER SPECIFICATIONS
- 2010 EXCAVATION BOUNDARY

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
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C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
WORKED AREA 5

designed by / conçu par: M.H.
drawn by / dessiné par: B.R. / E.L.
approved by / approuvé par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.
scale / échelle: 1:250
sheet / feuille: Fig 7d
project no. / projet no.: E22101581.001
date: FEBRUARY 2011

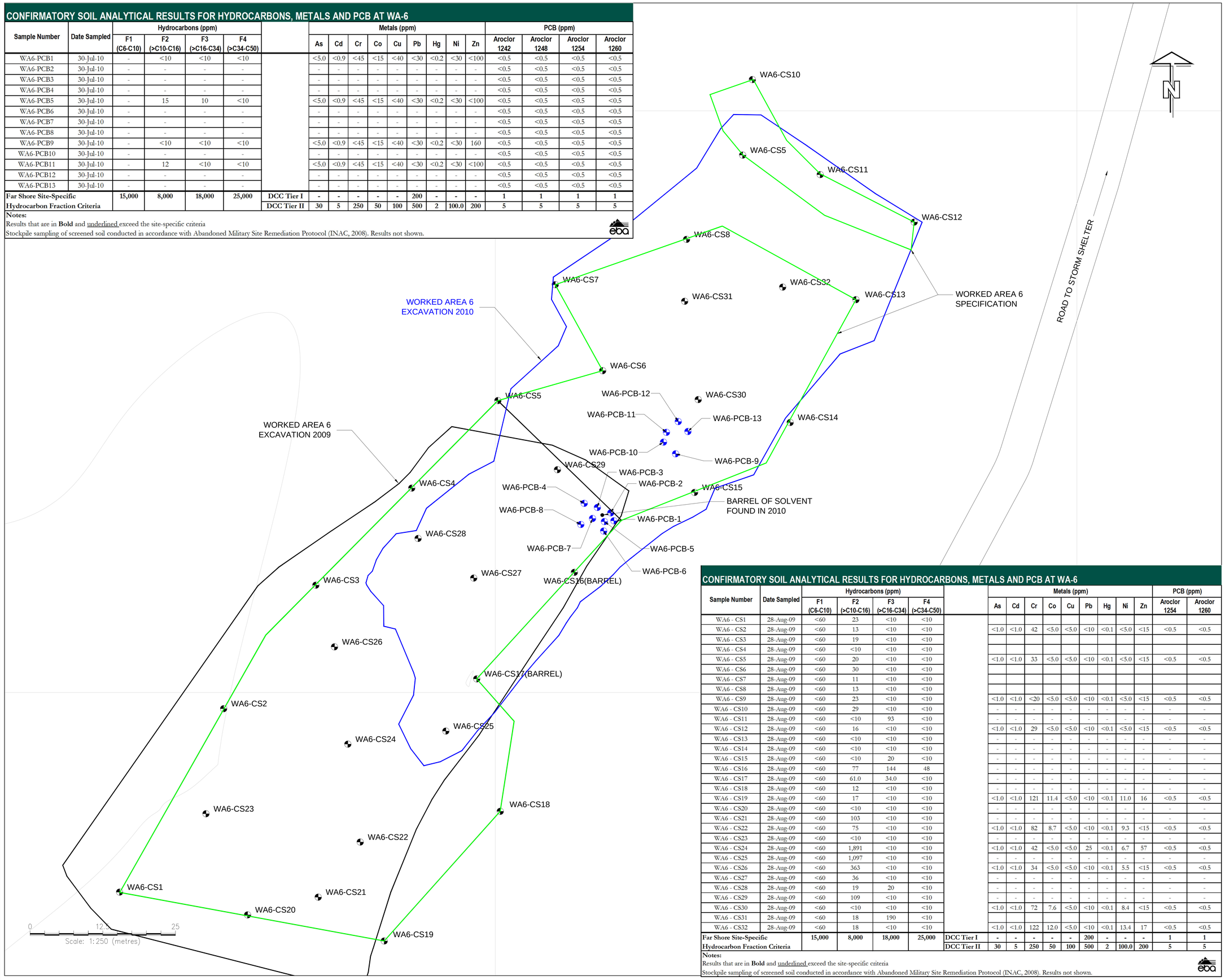
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CONFIRMATORY SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-6

Sample Number	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WA6-PCB1	30-Jul-10	-	<10	<10	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA6-PCB2	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB3	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB4	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB5	30-Jul-10	-	15	10	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA6-PCB6	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB7	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB8	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB9	30-Jul-10	-	<10	<10	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	160	<0.5	<0.5	<0.5	<0.5
WA6-PCB10	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB11	30-Jul-10	-	12	<10	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA6-PCB12	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
WA6-PCB13	30-Jul-10	-	-	-	-		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5
Far Shore Site-Specific		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**	**1**	**1**
Hydrocarbon Fraction Criteria						**DCC Tier II**	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100.0**	**200**	**5**	**5**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
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CONFIRMATORY SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-6

Sample Number	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)	
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1254	Aroclor 1260
WA6 - CS1	28-Aug-09	<60	23	<10	<10												
WA6 - CS2	28-Aug-09	<60	13	<10	<10		<1.0	<1.0	42	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
WA6 - CS3	28-Aug-09	<60	19	<10	<10												
WA6 - CS4	28-Aug-09	<60	<10	<10	<10												
WA6 - CS5	28-Aug-09	<60	20	<10	<10		<1.0	<1.0	33	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
WA6 - CS6	28-Aug-09	<60	30	<10	<10												
WA6 - CS7	28-Aug-09	<60	11	<10	<10												
WA6 - CS8	28-Aug-09	<60	13	<10	<10												
WA6 - CS9	28-Aug-09	<60	23	<10	<10		<1.0	<1.0	<20	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
WA6 - CS10	28-Aug-09	<60	29	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS11	28-Aug-09	<60	<10	93	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS12	28-Aug-09	<60	16	<10	<10		<1.0	<1.0	29	<5.0	<5.0	<10	<0.1	<5.0	<15	<0.5	<0.5
WA6 - CS13	28-Aug-09	<60	<10	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS14	28-Aug-09	<60	<10	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS15	28-Aug-09	<60	<10	20	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS16	28-Aug-09	<60	77	144	48		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS17	28-Aug-09	<60	61.0	34.0	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS18	28-Aug-09	<60	12	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS19	28-Aug-09	<60	17	<10	<10		<1.0	<1.0	121	11.4	<5.0	<10	<0.1	11.0	16	<0.5	<0.5
WA6 - CS20	28-Aug-09	<60	<10	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS21	28-Aug-09	<60	103	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS22	28-Aug-09	<60	75	<10	<10		<1.0	<1.0	82	8.7	<5.0	<10	<0.1	9.3	<15	<0.5	<0.5
WA6 - CS23	28-Aug-09	<60	<10	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS24	28-Aug-09	<60	1,891	<10	<10		<1.0	<1.0	42	<5.0	<5.0	25	<0.1	6.7	57	<0.5	<0.5
WA6 - CS25	28-Aug-09	<60	1,097	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS26	28-Aug-09	<60	363	<10	<10		<1.0	<1.0	34	<5.0	<5.0	<10	<0.1	5.5	<15	<0.5	<0.5
WA6 - CS27	28-Aug-09	<60	36	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS28	28-Aug-09	<60	19	20	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS29	28-Aug-09	<60	109	<10	<10		-	-	-	-	-	-	-	-	-	-	-
WA6 - CS30	28-Aug-09	<60	<10	<10	<10		<1.0	<1.0	72	7.6	<5.0	<10	<0.1	8.4	<15	<0.5	<0.5
WA6 - CS31	28-Aug-09	<60	18	190	<10												
WA6 - CS32	28-Aug-09	<60	18	<10	<10		<1.0	<1.0	122	12.0	<5.0	<10	<0.1	13.4	17	<0.5	<0.5
Far Shore Site-Specific		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**
Hydrocarbon Fraction Criteria						**DCC Tier II**	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100.0**	**200**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.

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

REAL PROPERTY SERVICES
Western Region

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

Canada

NUNAVUT REGIONAL OFFICE
IQALUIT, NUNAVUT

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2009 SAMPLE LOCATION
- 2010 SAMPLE LOCATION
- PROPOSED EXCAVATION BOUNDARY AS PER SPECIFICATIONS
- 2009 EXCAVATION BOUNDARY
- 2010 EXCAVATION BOUNDARY

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

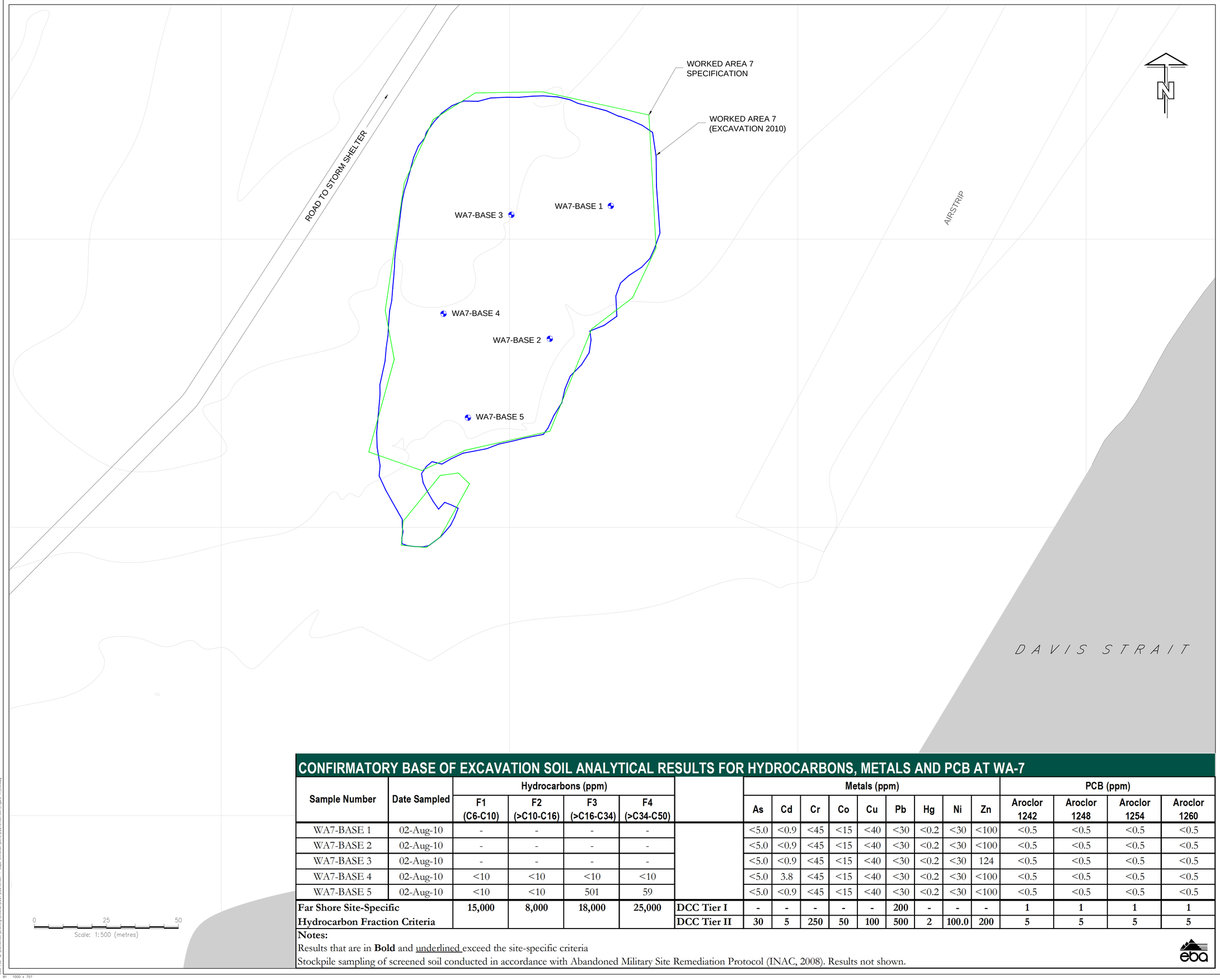
project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
WORKED AREA 6

designed by / conçu par: M.H.
drawn by / dessiné par: B.R. / E.L.
approved by / approuvé par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.

scale / échelle: 1:250
project no. / projet no.: E22101581.001
date: FEBRUARY 2010
sheet / feuille: Fig 7e

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81 1000 x 707
E22101581.001_Figure 7e_80.dwg



CONFIRMATORY BASE OF EXCAVATION SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-7

Sample Number	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WA7-BASE 1	02-Aug-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA7-BASE 2	02-Aug-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA7-BASE 3	02-Aug-10	-	-	-	-		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	124	<0.5	<0.5	<0.5	<0.5
WA7-BASE 4	02-Aug-10	<10	<10	<10	<10		<5.0	3.8	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA7-BASE 5	02-Aug-10	<10	<10	501	59		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	-	-	-	-	-	**200**	-	-	-	**1**	**1**	**1**	**1**
						DCC Tier II	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100.0**	**200**	**5**	**5**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.

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

REAL PROPERTY SERVICES
Western Region

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

Canada

NUNAVUT REGIONAL OFFICE
IQALUIT, NUNAVUT

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2010 SAMPLE LOCATION
- PROPOSED EXCAVATION BOUNDARY AS PER SPECIFICATIONS
- 2010 EXCAVATION BOUNDARY

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

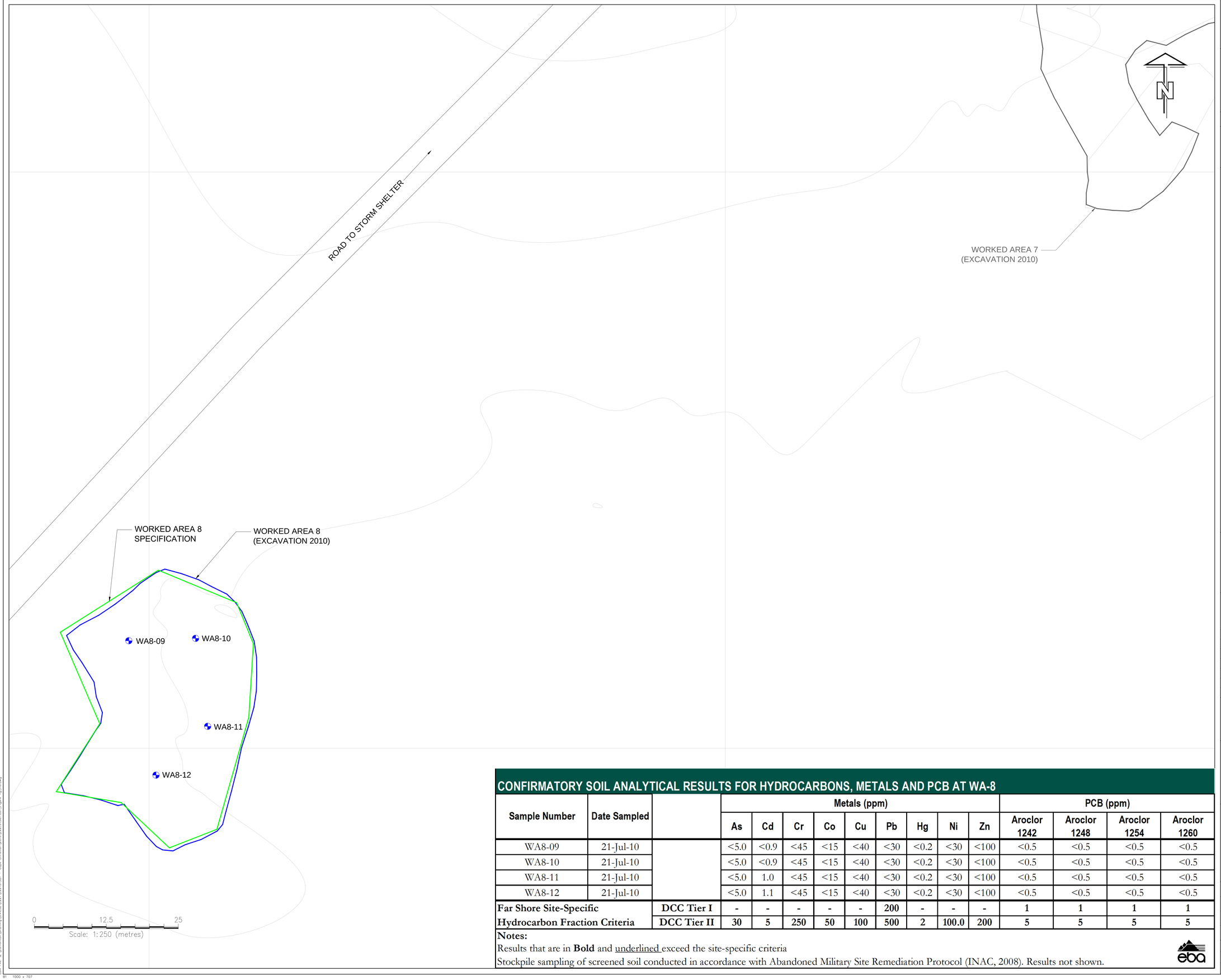
drawing title / titre du dessin
WORKED AREA 7

designed by / conçu par: M.H.
drawn by / dessiné par: B.R. / E.L.
approved by / approuvé par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.

scale / échelle: 1:500
project no. / projet no.: E22101581.001
date: FEBRUARY 2011
sheet / feuille: Fig 7f

E22101581.001_Figure 7f_R0.dwg

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01 1000 x 707



CONFIRMATORY SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-8

Sample Number	Date Sampled		Metals (ppm)									PCB (ppm)			
			As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WA8-09	21-Jul-10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA8-10	21-Jul-10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA8-11	21-Jul-10		<5.0	1.0	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA8-12	21-Jul-10		<5.0	1.1	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
Far Shore Site-Specific		**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**	**1**	**1**
Hydrocarbon Fraction Criteria		**DCC Tier II**	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100.0**	**200**	**5**	**5**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.

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

REAL PROPERTY SERVICES
Western Region

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

Canada

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GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2010 SAMPLE LOCATION
- PROPOSED EXCAVATION BOUNDARY AS PER SPECIFICATIONS
- 2010 EXCAVATION BOUNDARY

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
WORKED AREA 8

designed by / concu par: M.H.
drawn by / dessine par: B.R. / E.L.
approved by / approuve par: D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC: J.A.

scale / echelle: 1:250
project no. / projet no.: E22101581.001
date: FEBRUARY 2011
sheet / feuille: Fig 7g

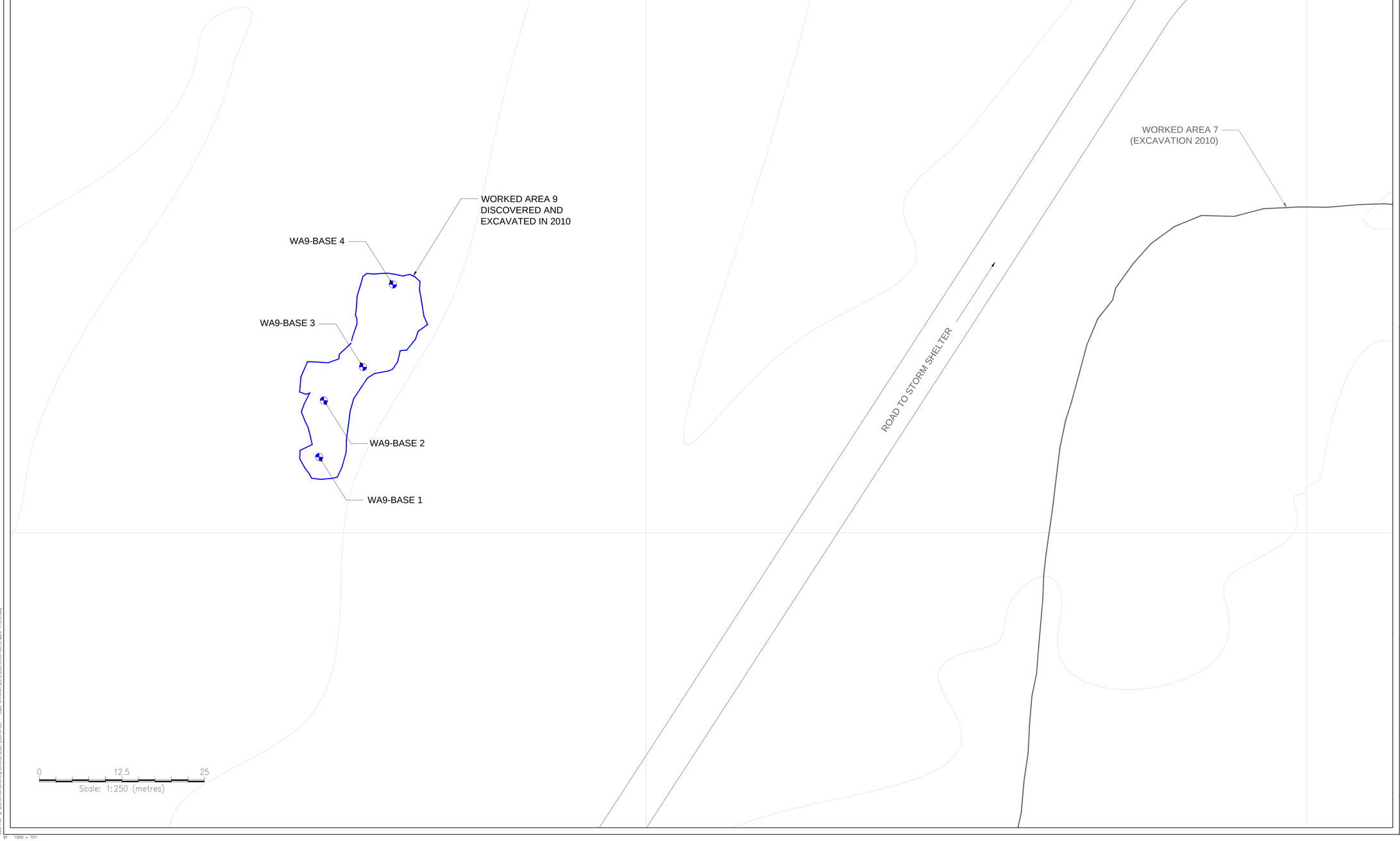
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91 1000 x 707

CONFIRMATORY BASE OF EXCAVATION SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-9

Sample Number	Date Sampled		Metals (ppm)									PCB (ppm)			
			As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WA9 - BASE 1	17-Aug-10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA9 - BASE 2	17-Aug-10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA9 - BASE 3	17-Aug-10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
WA9 - BASE 4	17-Aug-10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	-	-	-	-
Far Shore Site-Specific		**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**	**1**	**1**
Hydrocarbon Fraction Criteria		**DCC Tier II**	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100.0**	**200**	**5**	**5**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.



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REAL PROPERTY SERVICES
Western Region

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

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IQALUIT, NUNAVUT

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2010 SAMPLE LOCATION
- 2010 EXCAVATION BOUNDARY

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

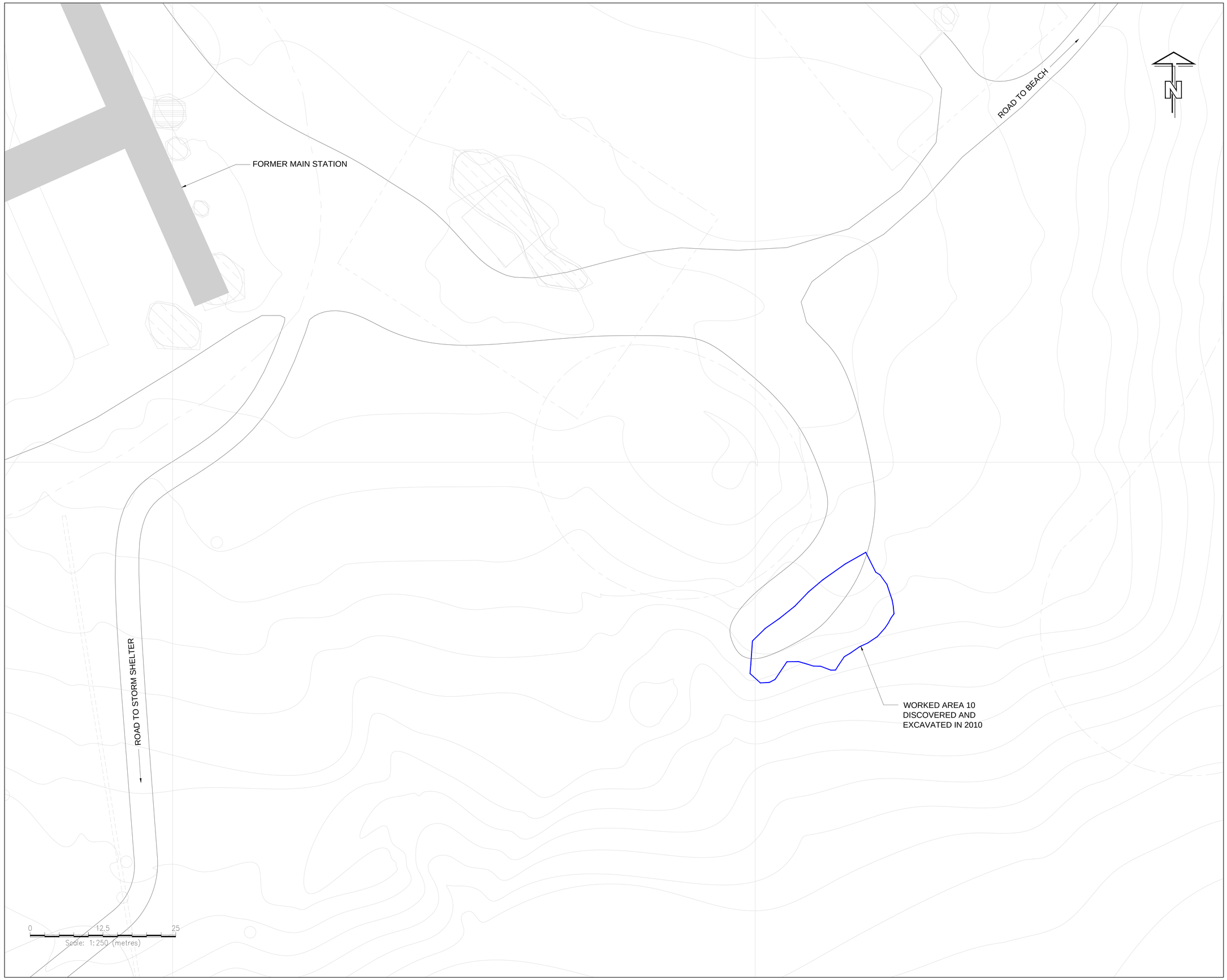
project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
WORKED AREA 9

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:250
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 7h

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Western Region

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Client

Client

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3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

2010 EXCAVATION BOUNDARY

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number
number du detail
B source drawing no.
de dessin no.
C detail on drawing no.
detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
WORKED AREA 10

designed by / conçu par: **M.H.**
drawn by / dessiné par: **B.R. / E.L.**
approved by / approuvé par: **D.F.**
PWGSC Project Manager / Administrateur de Projets TPSGC: **J.A.**

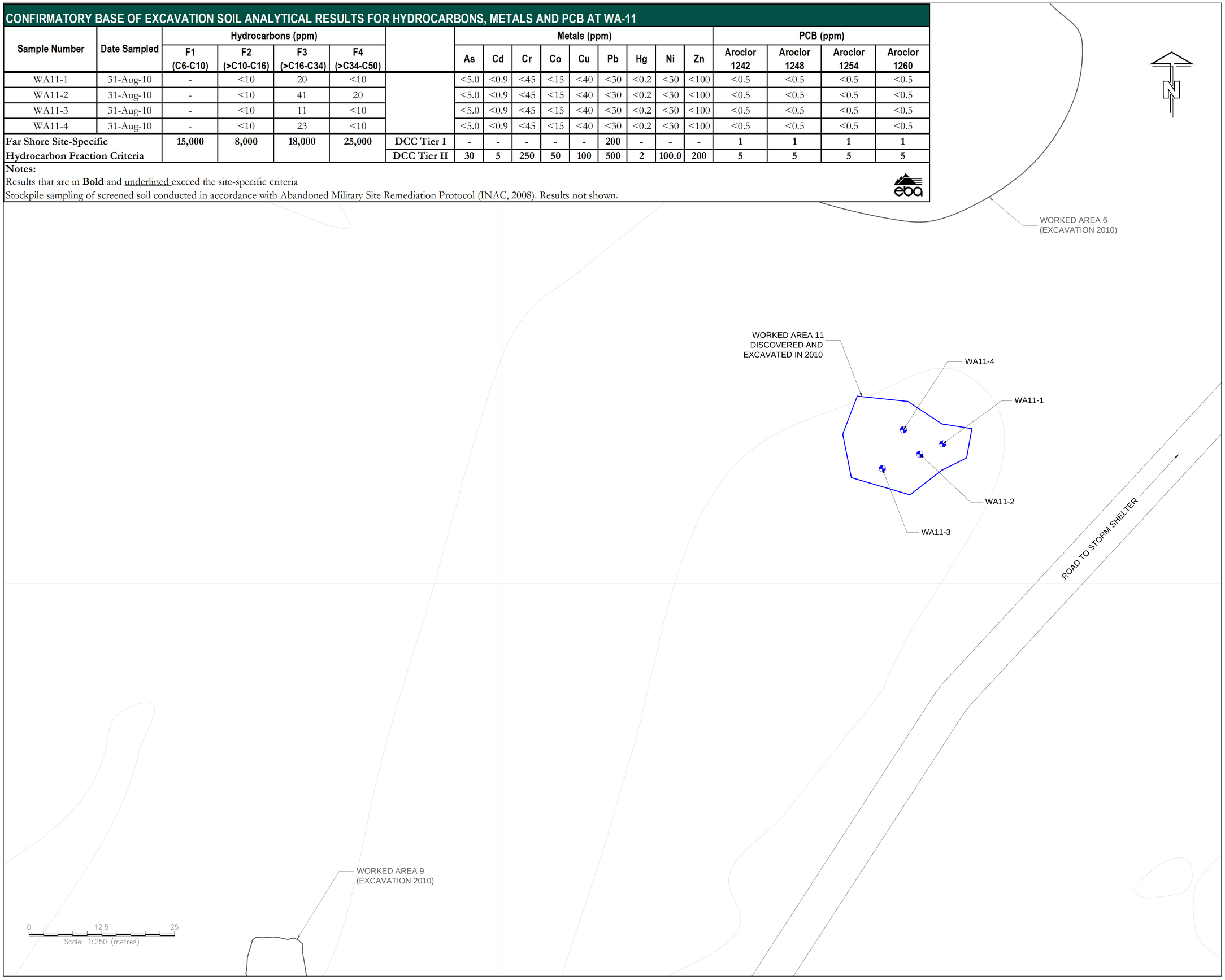
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sheet / feuille: **Fig 7i**
project no. / projet no.: **E22101581.001**
date: **FEBRUARY 2011**

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81 1000 x 707
E22101581.001_Figure 7i_R0.dwg

CONFIRMATORY BASE OF EXCAVATION SOIL ANALYTICAL RESULTS FOR HYDROCARBONS, METALS AND PCB AT WA-11

Sample Number	Date Sampled	Hydrocarbons (ppm)					Metals (ppm)									PCB (ppm)			
		F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
WA11-1	31-Aug-10	-	<10	20	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA11-2	31-Aug-10	-	<10	41	20		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA11-3	31-Aug-10	-	<10	11	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
WA11-4	31-Aug-10	-	<10	23	<10		<5.0	<0.9	<45	<15	<40	<30	<0.2	<30	<100	<0.5	<0.5	<0.5	<0.5
Far Shore Site-Specific Hydrocarbon Fraction Criteria		**15,000**	**8,000**	**18,000**	**25,000**	**DCC Tier I**	**-**	**-**	**-**	**-**	**-**	**200**	**-**	**-**	**-**	**1**	**1**	**1**	**1**
						DCC Tier II	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100.0**	**200**	**5**	**5**	**5**	**5**

Notes:
Results that are in **Bold** and underlined exceed the site-specific criteria
Stockpile sampling of screened soil conducted in accordance with Abandoned Military Site Remediation Protocol (INAC, 2008). Results not shown.



GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- 2010 SAMPLE LOCATION
- 2010 EXCAVATION BOUNDARY

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

REAL PROPERTY SERVICES
Western Region

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

Canada

NUNAVUT REGIONAL OFFICE
IQALUIT, NUNAVUT

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

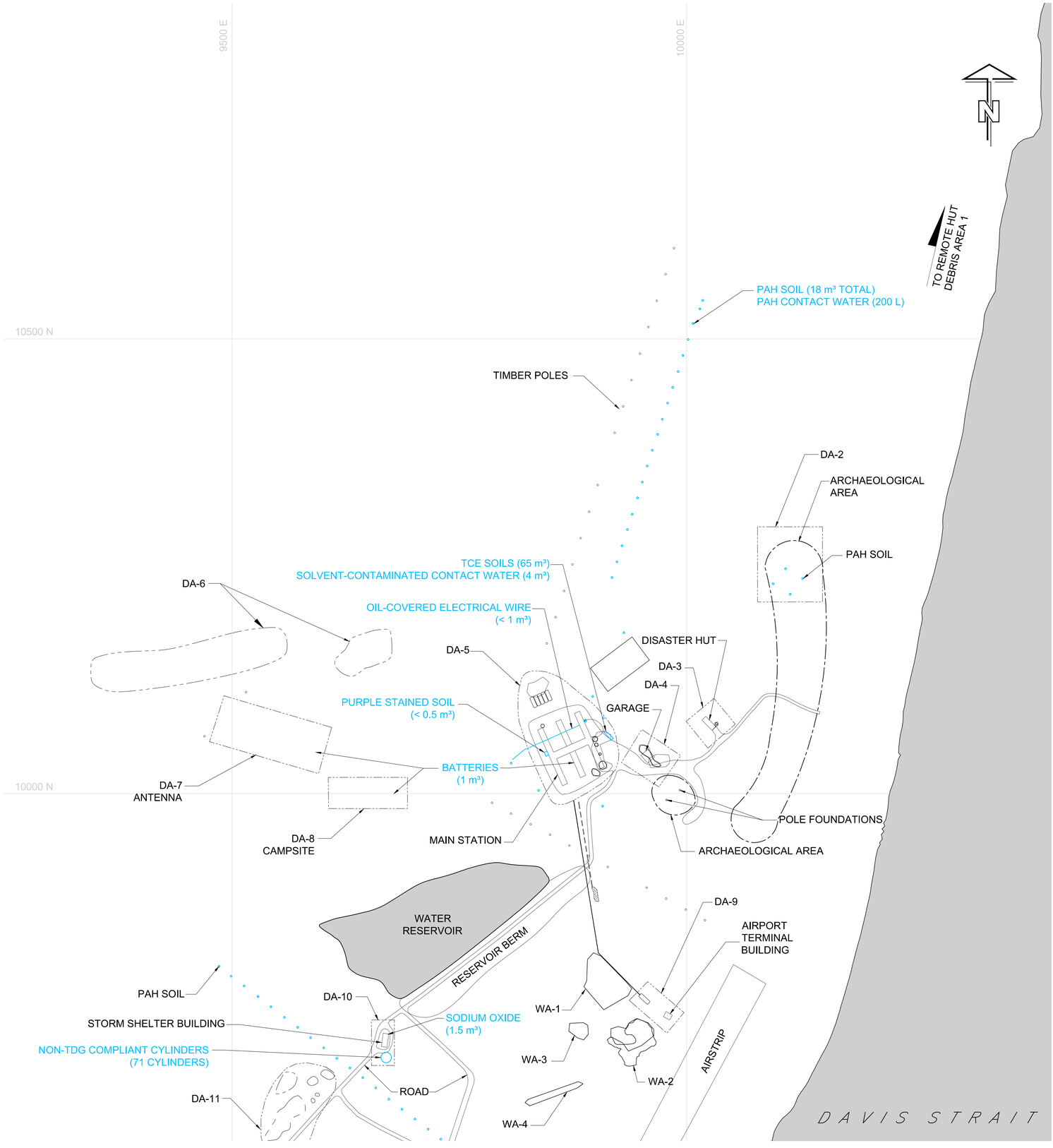
drawing title / titre du dessin
WORKED AREA 11

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:250
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 7j

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81 1000 x 707



KEY:

WA-X: WORKED AREA CONTAINING BURIED BARRELS AND/OR WASTES
DA-X: DEBRIS AREAS CONTAINING SURFACE DEBRIS, AND/OR MACHINERY GAS CYLINDERS, BATTERIES, PINTS, ETC
TIER 1: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 1 CRITERIA
TIER 2: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 2 CRITERIA
PCB/LEAD PAINT: EQUIPMENT AND BUILDING MATERIALS WITH PCB AND OR LEAD HIGHER THAN CRITERIA
ASBESTOS: MATERIALS CONTAINING > 1% (WT) POL FLUIDS % PETROLEUM OILS AND LUBRICANTS
PHC: SOILS WITH PETROLEUM HYDROCARBON FRACTIONS (F1 TO F4)
PCB: SOILS WITH POLYCHLORINATED BIPHENYLS

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. DO NOT SCALE DRAWING.
3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- DEBRIS AREA
- ARCHAEOLOGICAL AREA
- POLE
- UNKNOWN HAZARDOUS WASTE

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

REAL PROPERTY SERVICES
Western Region

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

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NUNAVUT REGIONAL OFFICE
IQALUIT, NUNAVUT

EBA Engineering Consultants Ltd.

REVISIONS	DESCRIPTION	DATE
2	ISSUED FOR REVIEW	10/12/03
1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
0	ISSUED FOR CONSTRUCTION	07/11/02

A detail number / number du detail
B source drawing no. / de dessin no.
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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

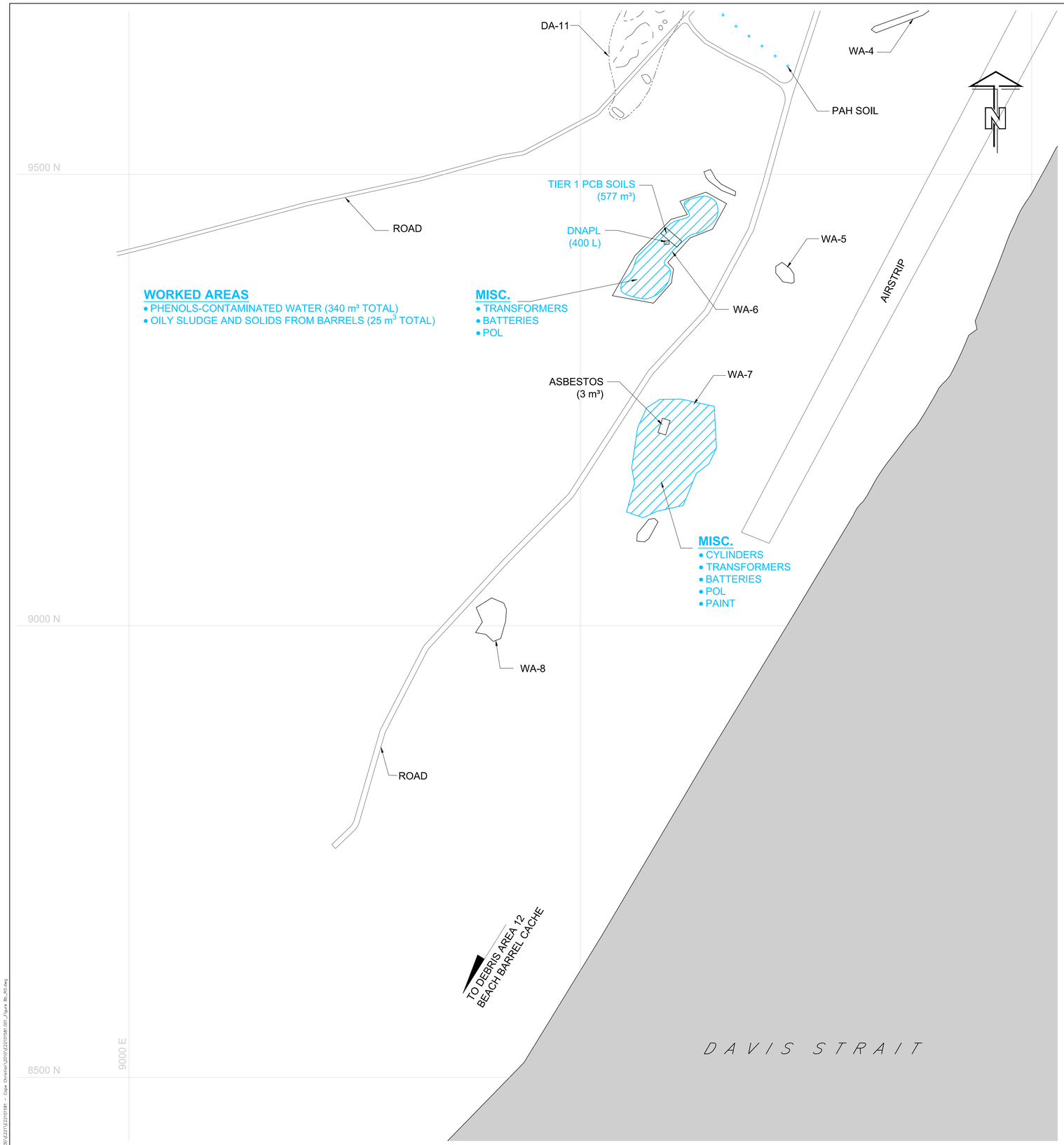
drawing title / titre du dessin
UNKNOWN HAZARDOUS WASTE AND HISTORIC SPILLS DISCOVERED DURING PROJECT

designed by / conçu par	M.H.
drawn by / dessiné par	E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:2000
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 8a

E22101581.001_Figure 8a_R0.dwg

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B1 1000 x 707



KEY:

WA-X: WORKED AREA CONTAINING BURIED BARRELS AND/OR WASTES
DA-X: DEBRIS AREAS CONTAINING SURFACE DEBRIS, AND/OR MACHINERY GAS CYLINDERS, BATTERIES, PINTS, ETC
TIER 1: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 1 CRITERIA
TIER 2: SOILS WITH METALS/PCB HIGHER THAN THE INAC TIER 2 CRITERIA
PCB/LEAD PAINT: EQUIPMENT AND BUILDING MATERIALS WITH PCB AND OR LEAD HIGHER THAN CRITERIA
ASBESTOS: MATERIALS CONTAINING > 1% (WT) POL FLUIDS % PETROLEUM OILS AND LUBRICANTS
PHC: SOILS WITH PETROLEUM HYDROCARBON FRACTIONS (F1 TO F4)
PCB: SOILS WITH POLYCHLORINATED BIPHENYLS

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Western Region

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

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GENERAL NOTES:

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3. BASE DRAWINGS SUPPLIED BY UMA/AECOM, PROJECT 419818, MARCH 2009

LEGEND:

- DEBRIS AREA
- ARCHAEOLOGICAL AREA
- POLE
- UNKNOWN HAZARDOUS WASTE

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REVISIONS	DESCRIPTION	DATE
2	ISSUED FOR REVIEW	10/12/13
1	REVISED, ISSUED FOR CONSTRUCTION	09/03/25
0	ISSUED FOR CONSTRUCTION	07/11/02

A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

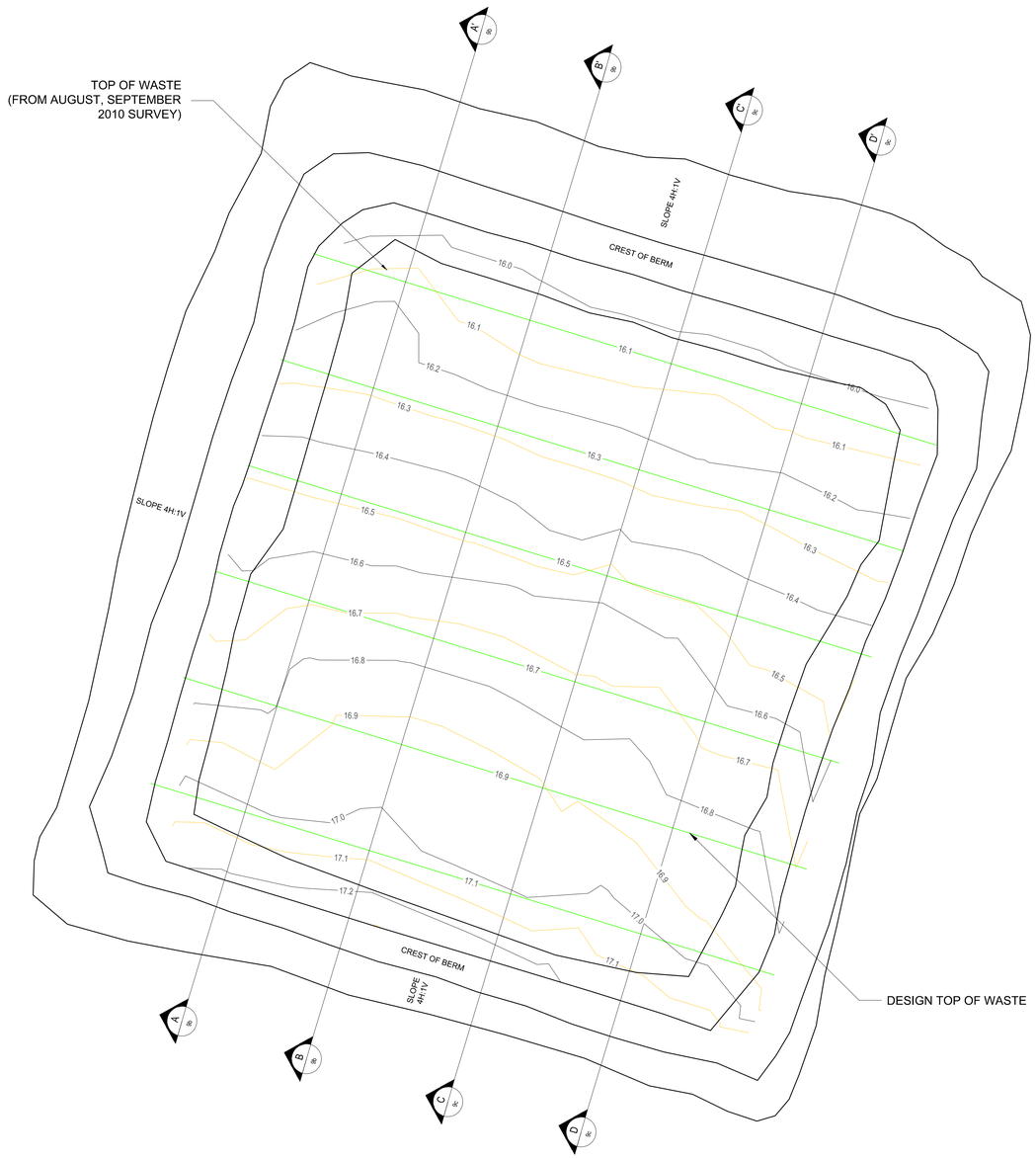
project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
UNKNOWN HAZARDOUS WASTE AND HISTORIC SPILLS DISCOVERED DURING PROJECT

designed by / conçu par	M.H.
drawn by / dessiné par	E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / échelle	1:2000
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 8b

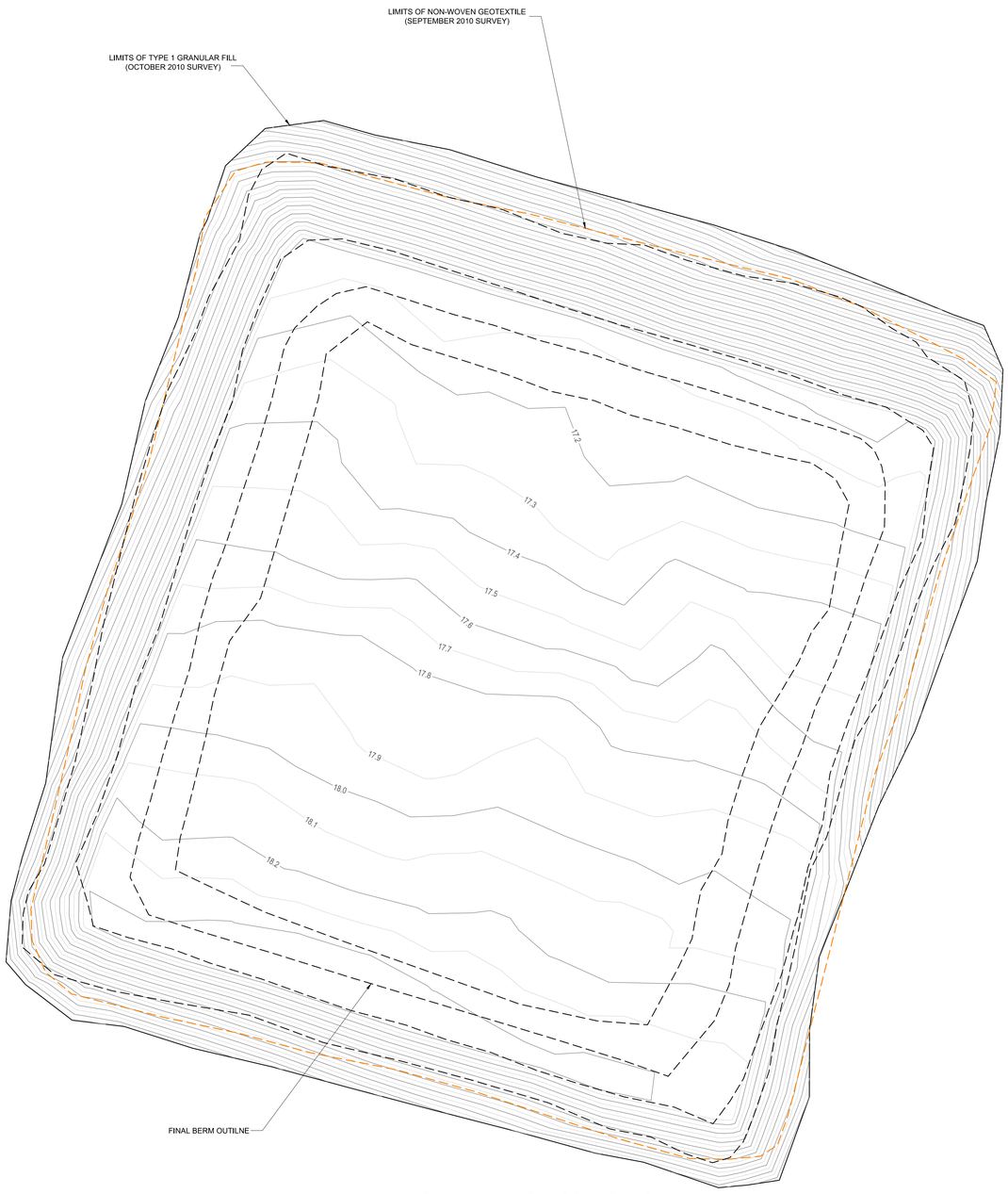
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EBA File: G:\Edmonton\Working\Civil\301\E2210\E22101581 - Cape Christian\2010\E22101581.001_Figure-8b_R0.dwg
181 1000 x 707



EXISTING AND DESIGN TOP OF WASTE

0 12.5 25
Scale: 1:250 (metres)



TYPE 1 GRANULAR FILL CONTOURS

0 12.5 25
Scale: 1:250 (metres)

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4. ADDITIONAL TYPE 1 WAS PLACED IN LOW AREAS AFTER SURVEY COMPLETED.

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REVISIONS	DESCRIPTION	DATE
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A detail number / number du detail
B source drawing no. / de dessin no.
C detail on drawing no. / detail sur dessin no.

project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

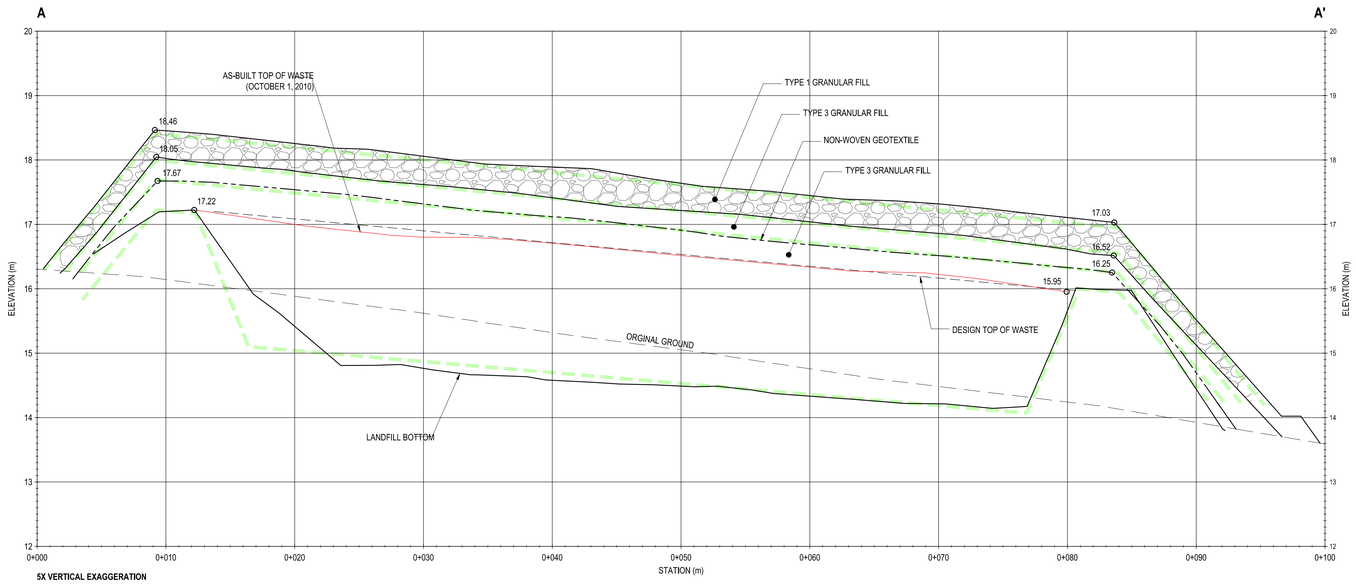
drawing title / titre du dessin
NON-HAZARDOUS LANDFILL PLAN SHOWING EXISTING AND DESIGN TOP OF WASTE

designed by / conçu par	M.H.
drawn by / dessiné par	B.R. / E.L.
approved by / approuvé par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	AS SHOWN
project no. / projet no.	E22101581.001
date / date	JANUARY 2011
sheet / feuille	Fig 9a

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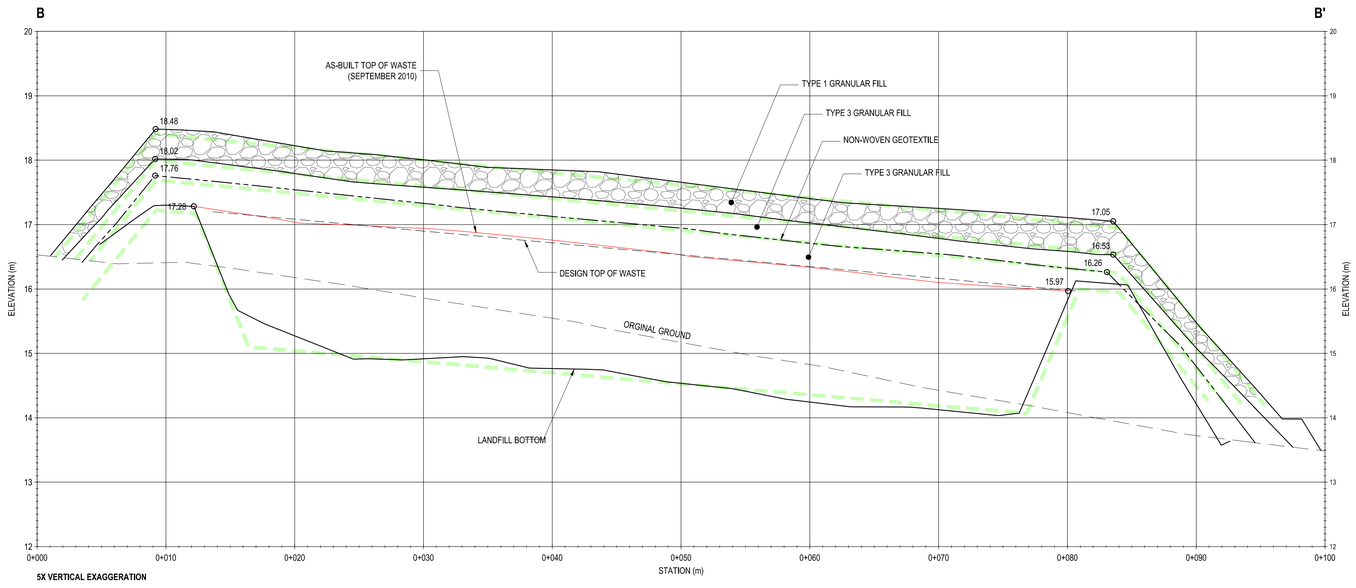
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01 1000 x 707



5X VERTICAL EXAGGERATION

SECTION A



5X VERTICAL EXAGGERATION

SECTION B

TYPE	VOLUMES
BERMS	3,094 m³
CAP TYPE 1	3,144 m³
CAP TYPE 3	4,853 m³
LANDFILL VOLUME	7,095 m³

TYPE	SURFACE AREA
TYPE 1 GRANULAR FILL	8,045 m²
TYPE 3 GRANULAR FILL	7,525 m²
NON-WOVEN GEOTEXTILE	7,269 m²
TOP OF WASTE	4,204 m²

0 10 20
Scale: 1: 200 (metres)

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LEGEND:

DESIGN GRADE

TYPE 1

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0	ISSUED FOR REVIEW	10/12/03

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CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

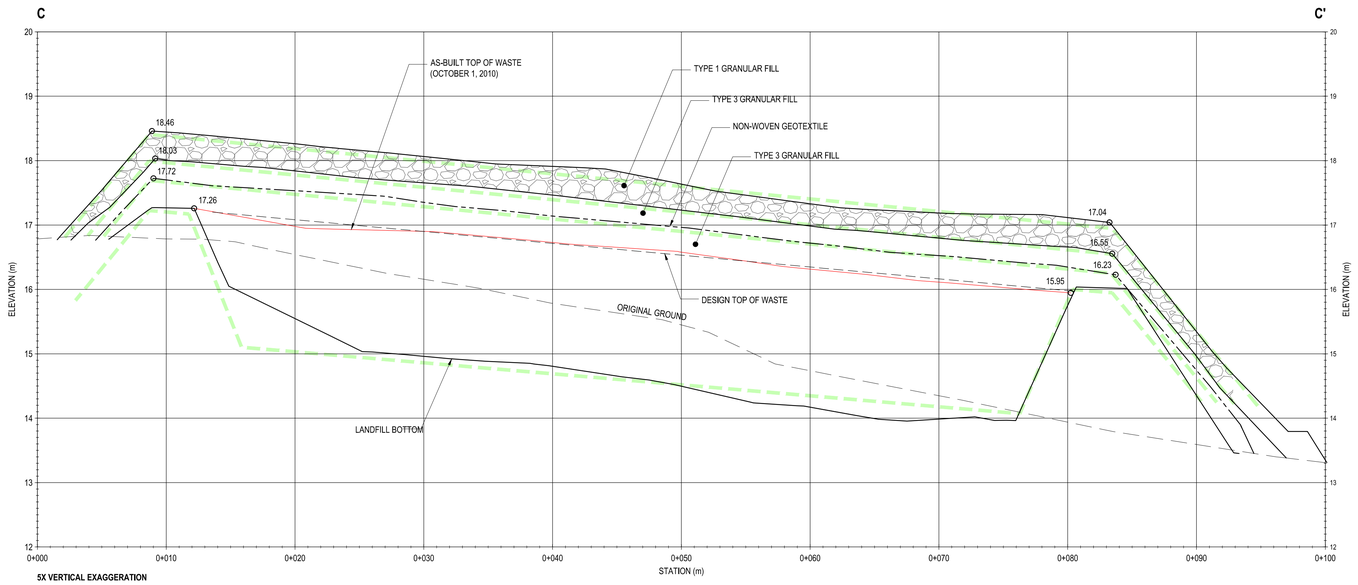
drawing title / titre du dessin
NON-HAZARDOUS LANDFILL CROSS-SECTION A & B

designed by / concu par: **M.H.**
drawn by / dessine par: **B.R. / E.L.**
approved by / approuve par: **D.F.**
PWGSC Project Manager / Administrateur de Projets TPSGC: **J.A.**

scale / echelle: **1:200**
project no. / projet no.: **E22101581.001**
date: **JANUARY 2011**
sheet / feuille: **Fig 9b**

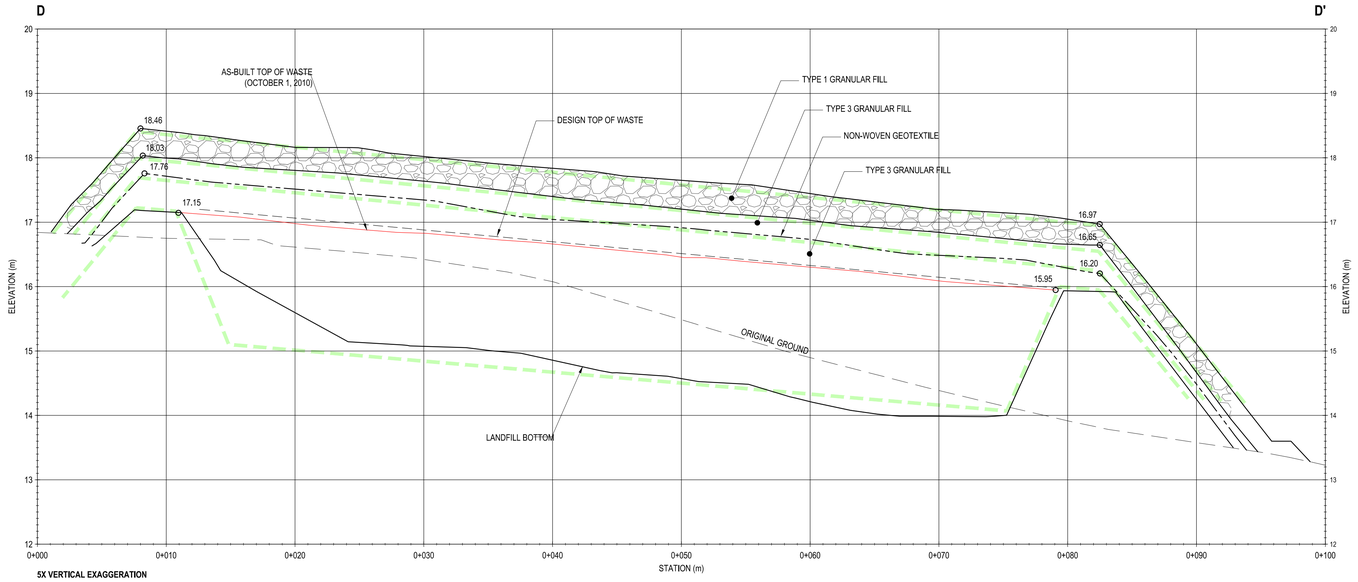
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81 1000 x 707



5X VERTICAL EXAGGERATION

SECTION C



5X VERTICAL EXAGGERATION

SECTION D

TYPE	VOLUMES
BERMS	3,094 m³
CAP TYPE 1	3,144 m³
CAP TYPE 3	4,853 m³
LANDFILL VOLUME	7,095 m³

TYPE	SURFACE AREA
TYPE 1 GRANULAR FILL	8,045 m²
TYPE 3 GRANULAR FILL	7,525 m²
NON-WOVEN GEOTEXTILE	7,269 m²
TOP OF WASTE	4,204 m²

0 10 20
Scale: 1: 200 (metres)

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4. ADDITIONAL TYPE 1 WAS PLACED IN LOW AREAS AFTER SURVEY COMPLETED.

LEGEND:

DESIGN GRADE

TYPE 1

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REVISIONS	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	10/12/03

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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
NON-HAZARDOUS LANDFILL CROSS-SECTION C & D

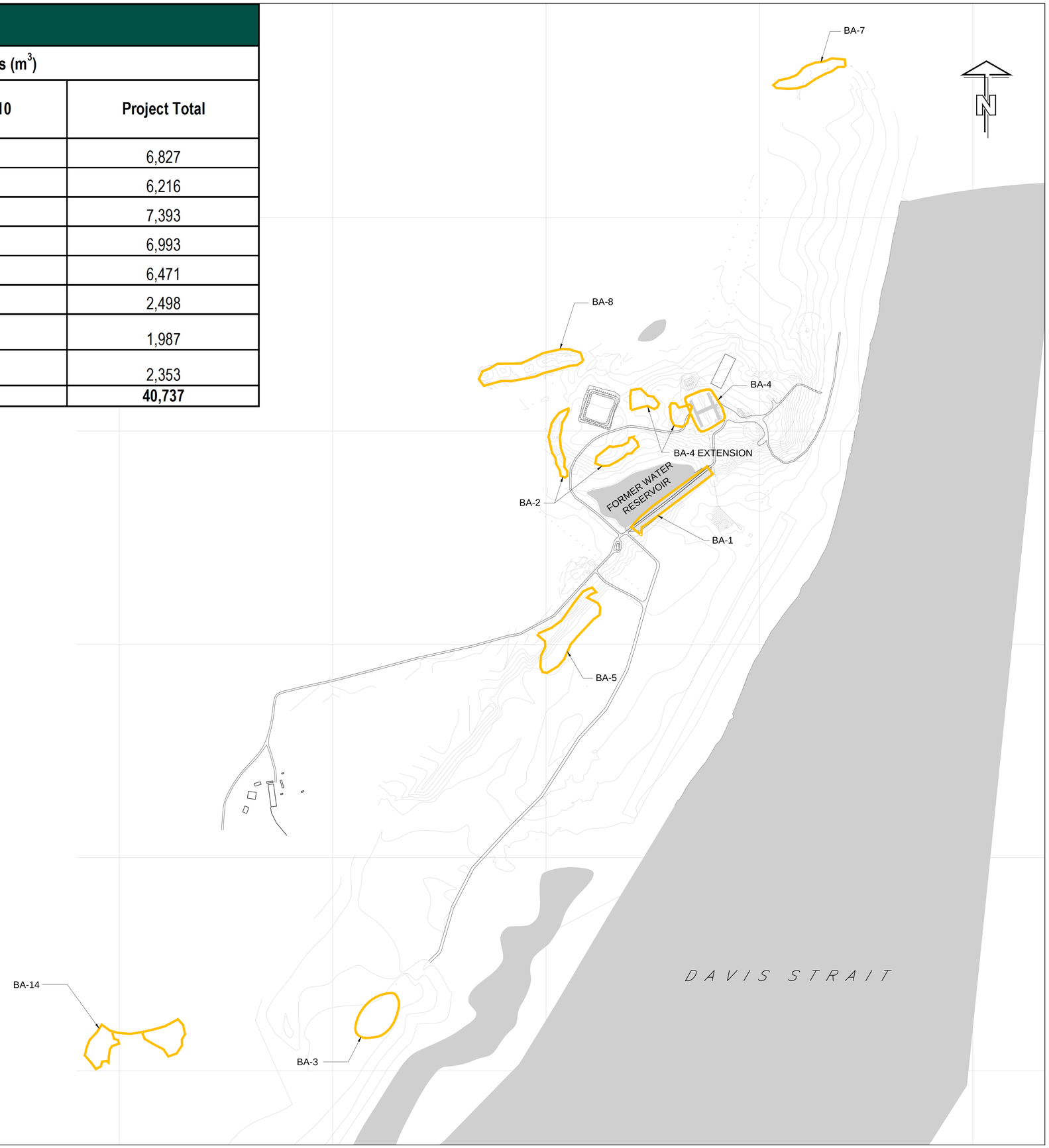
designed by / conçu par: **M.H.**
drawn by / dessiné par: **B.R. / E.L.**
approved by / approuvé par: **D.F.**
PWGSC Project Manager / Administrateur de Projets TPSGC: **J.A.**
scale / échelle: **1:200**
sheet / feuille: **Fig 9c**
project no. / projet no.: **E22101581.001**
date: **JANUARY 2011**

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2009 AND 2010 QUARRY VOLUMES

Borrow Areas	Volumes (m^3)		
	Total 2009	Total 2010	Project Total
BA - 1	0	6,827	6,827
BA - 2	1,099	5,117	6,216
BA - 3	3,019	4,373	7,393
BA - 4	422	6,571	6,993
BA - 5	566	5,905	6,471
BA - 7	1,132	1,365	2,498
BA - 8	1,487	500	1,987
BA - 14	0	2,353	2,353
Total	**7,726**	**33,011**	**40,737**



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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
BORROW AREA QUARRYING 2009 - 2010

designed by / concu par	M.H.
drawn by / dessine par	B.R. / E.L.
approved by / approuve par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:4000
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 10

EBA File: G:\Edmonton\Drafting\CAD\E2201\E22101581 - Cape Christian\2010\E22101581.000_Figure 10_R0.dwg

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2009 SOIL ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS AT AEC-15 (CREOSOTE-TREATED POLES)

Sample ID		AEC15 Confirm1	AEC15 Confirm2	AEC15 Confirm3	AEC15 Confirm4	AEC15 Confirm5	AEC15 Confirm6	AEC15 Confirm7	AEC15 Confirm8	AEC15 Confirm9	AEC15 Confirm10	AEC15 Confirm11	AEC15 Confirm12	AEC15 Confirm13	AEC15 Confirm14	AEC15 Confirm15	AEC15 Confirm16	AEC15 Confirm17	AEC15 Confirm Arch1	AEC15 Confirm Arch2
Date Sampled		17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09	17-Sep-09
Soil Quality Guideline for Environmental Health - Residential/Parkland Land Use																				
Anthracene (ug/g)	2.5	0.09	0.07	0.15	< 0.05	1	**2.6**	0.1	0.22	0.94	0.68	< 0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.19
Benzo(a)pyrene (ug/g)	20	< 0.1	< 0.1	0.12	< 0.1	0.84	4.3	< 0.1	< 0.1	< 0.1	0.28	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.62
Fluoranthene (ug/g)	50	0.26	0.27	0.99	< 0.05	13	34	1.3	1.1	0.4	6.7	0.33	0.3	0.15	0.05	0.05	< 0.05	0.05	0.1	5.3
Soil Quality Guideline for the Protection of Human Health - Residential/Parkland Land Use																				
B[a]P Total Potency Equivalents	0.6 for 10^{-6} 5.3 for 10^{-5}	0.0147	0.0110	0.1930	<MDL	**1.3605**	**6.1296**	0.0527	0.0342	0.0056	0.4251	0.0065	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	0.0050	**0.9462**
Other PAHs - No Guidelines																				
Naphthalene (ug/g)	NG	< 0.06	0.1	< 0.06	< 0.06	0.4	27	2.5	1.1	0.18	1.1	0.25	2.2	0.29	0.07	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Acenaphthylene (ug/g)	NG	< 0.05	< 0.05	< 0.05	< 0.05	0.14	0.4	< 0.05	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.07
Acenaphthene (ug/g)	NG	< 0.05	0.08	< 0.05	< 0.05	5.9	19	0.57	2.1	0.18	2.7	0.58	0.2	0.06	< 0.05	< 0.05	0.08	< 0.05	< 0.05	< 0.05
Fluorene (ug/g)	NG	< 0.05	0.1	0.08	< 0.05	3.6	13	0.33	1.3	0.14	2.2	0.19	0.07	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06
Phenanthrene (ug/g)	NG	0.2	0.54	0.39	< 0.05	14	43	1	2.5	0.85	9.3	0.39	0.43	0.12	0.06	0.06	< 0.05	< 0.05	0.06	0.25
Pyrene (ug/g)	NG	0.2	0.17	0.83	< 0.05	9.2	21	0.8	0.72	0.22	4.2	0.24	0.19	0.1	< 0.05	< 0.05	< 0.05	< 0.05	0.07	4.5

Notes:

* Canadian Soil Quality Guidelines for the Protection of Enviornmental and Human Health - Polycydic Aromatic Hydrocarbons, Canadian Enviornmental Quality Guidelines, Candian Council of Ministers of the Enviornment (CCME) 2008

Results that are **BOLD** and Underlined exceeded the guidelines

Results that are Underlined had a method detection limit that was higher than the guideline

MDL = Method Detction Limit

CONFIRMATORY SOIL ANALYTICAL RESULTS FOR METALS AT AEC-15 (CREOSOTE-TREATED POLES)

Sample Number	Date Sampled	Metals (mg/kg)								
		As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn
AEC15 confirm-6	17-Sep-09	1.3	<1.0	<20	<5.0	<5.0	<10	<0.1	6.2	73
AEC15 confirm-8	17-Sep-09	1.5	<1.0	<20	<5.0	5.4	<10	<0.1	6.1	46
AEC15 confirm-14	17-Sep-09	1.4	<1.0	<20	<5.0	11.5	<10	<0.1	5.2	30
AEC15-confirm Arch-2	17-Sep-09	<1.0	1.2	93	7.3	<5.0	<10	<0.1	11.2	47
DCC Criteria	**Tier I (mg/kg)**	-	-	-	-	-	**200**	-	-	-
	Tier II (mg/kg)	**30**	**5**	**250**	**50**	**100**	**500**	**2**	**100**	**200**

Notes:

Exceedances are in **Bold** and underlined



REMEDIATION

TYPICAL POLE EXCAVATION

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Western Region

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

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LEGEND:

2009 SAMPLE LOCATION

DIRECTION OF PHOTO

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A detail number / number du detail
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project title / titre du projet
CAPE CHRISTIAN REMEDIATION PROJECT NUNAVUT

drawing title / titre du dessin
CREOSOTE POLE SOIL REMEDIATION

AEC 15 EXCAVATION

designed by / concu par	M.H.
drawn by / dessine par	B.R. / E.L.
approved by / approuve par	D.F.
PWGSC Project Manager / Administrateur de Projets TPSGC	J.A.
scale / echelle	1:2500
project no. / projet no.	E22101581.001
date	FEBRUARY 2011
sheet / feuille	Fig 11

E22101581.001_Figure 11_R0.dwg

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11 1000 x 707

PHOTOGRAPHS

Photo 1 Former Main Station and Utility Poles
Photo 2 Aboveground Storage Tanks at AEC-1 and Former Main Station
Photo 3 Surface Debris on Beach
Photo 4 Utility Poles and Timber Posts North of the Former Main Station
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Photo 6 Storm Shelter before Clean-Up
Photo 7 Storm Shelter after Clean-Up
Photo 8 Tier II Soils at Temporary Storage Area at end of 2009 Season
Photo 9 Camp and Garage
Photo 10 Construction of Landfill Base
Photo 11 Hazardous Waste Sampling
Photo 12 Primary Water Treatment (Oil-Water Separation)
Photo 13 Completed Sewage Lagoon
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Photo 15 Wrapped Asbestos from Former Main Station
Photo 16 Treatment of Petroleum Hydrocarbon Impacted Soils at Landfarm
Photo 17 Work Area WA-1 during Excavation
Photo 18 Work Area WA-1 after Excavation
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Photo 25 Monitoring Well MW-1 West of the Landfill
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Photo 28 Typical Utility Pole after Cutting
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Photo 45 Base and Sides of Reservoir Breach
Photo 46 Completed Reservoir Breach
Photo 47 Placement and Compaction of Type 3 Aggregate on North Slope Prior to Geotextile
Photo 48 Geotextile Installation
Photo 49 Placement of Type 3 Aggregate over Geotextile on North Slope and Field Density Testing
Photo 50 South Landfill Berm Construction
Photo 51 Screening for Type 1 Aggregate
Photo 52 On-Site Gas Cylinder Mitigation
Photo 53 Placement of Type 1 Aggregate on Top Surface of Landfill
Photo 54 Placement of Type 1 Aggregate on North Slope of Landfill
Photo 55 Final Cap on Landfill
Photo 56 Bronze Commemorative Plaque Installed on Boulder near Former Main Station
Photo 57 Culverts Removed at End of Project and Protective Boulders Placed



Photo 1: Former Main Station and utility poles, looking northwest from beach



Photo 2: Above ground storage tanks at AEC-1 and former Main Station, looking east from antenna



Photo 3: Surface debris on beach



Photo 4: Utility poles and timber posts north of the former Main Station



Photo 5: Barrels at worked area WA-1



Photo 6: Storm shelter (hazmat building) before clean-up



Photo 7: Storm shelter after clean-up



Photo 8: Tier II soils at temporary storage area at end of 2009 season



Photo 9: Camp and garage



Photo 10: Construction of landfill base



Photo 11: Hazardous waste sampling



Photo 12: Primary water treatment (oil-water separation)



Photo 13: Completed sewage lagoon



Photo 14: West landfill berm construction



Photo 15: Wrapped asbestos from former main station



Photo 16: Treatment of petroleum hydrocarbon impacted soils at landfarm



Photo 17: Work area WA-1 during excavation



Photo 18: Work area WA-1 after excavation



Photo 19: North landfill berm construction



Photo 20: Infilling wastes at the landfill



Photo 21: Excavation of debris at worked area WA-6



Photo 22: Excavation of barrels at worked area WA-6



Photo 23: Demolition of former main station



Photo 24: Groundwater monitoring well installation



Photo 25: Monitoring well MW-1 west fo the landfill



Photo 26: Surface debris collection near landfill



Photo 27: Surface debris removal crew at beach



Photo 28: Typical utility pole after cutting



Photo 29: East landfill berm construction



Photo 30: Typical utility pole creosote-impacted soil excavation



Photo 31: Secondary water treatment for phenols (activated carbon)



Photo 32: Buried debris from worked area WA-3



Photo 33: AEC-3 during excavation of F1-F2 hydrocarbon-impacted soils



Photo 34: AEC-3 after excavation



Photo 35: Pumping water reservoir



Photo 36: Removing buried and partly frozen wastes from worked area WA-7



Photo 37: View of worked area WA-7 from site road



Photo 38: Completed excavation of worked area WA-7



Photo 39: Screening of debris at worked area WA-7



Photo 40: Screened debris at worked area WA-7



Photo 41: Screening and removing stockpiles at worked area WA-7



Photo 42: Wrapping creosote-treated poles at landfill



Photo 43: Excavation of reservoir berm using ripper attachment



Photo 44: Water reservoir beach



Photo 45: Base and sides of reservoir beach



Photo 46: Completed reservoir breach



Photo 47: Placement and compaction of type 3 aggregate on north slope prior to geotextiles



Photo 48: Geotextile installation



Photo 49: Placement of type 3 aggregate over geotextile on north slope and field density testing



Photo 50: South landfill berm construction



Photo 51: Screening for Type 1 aggregate

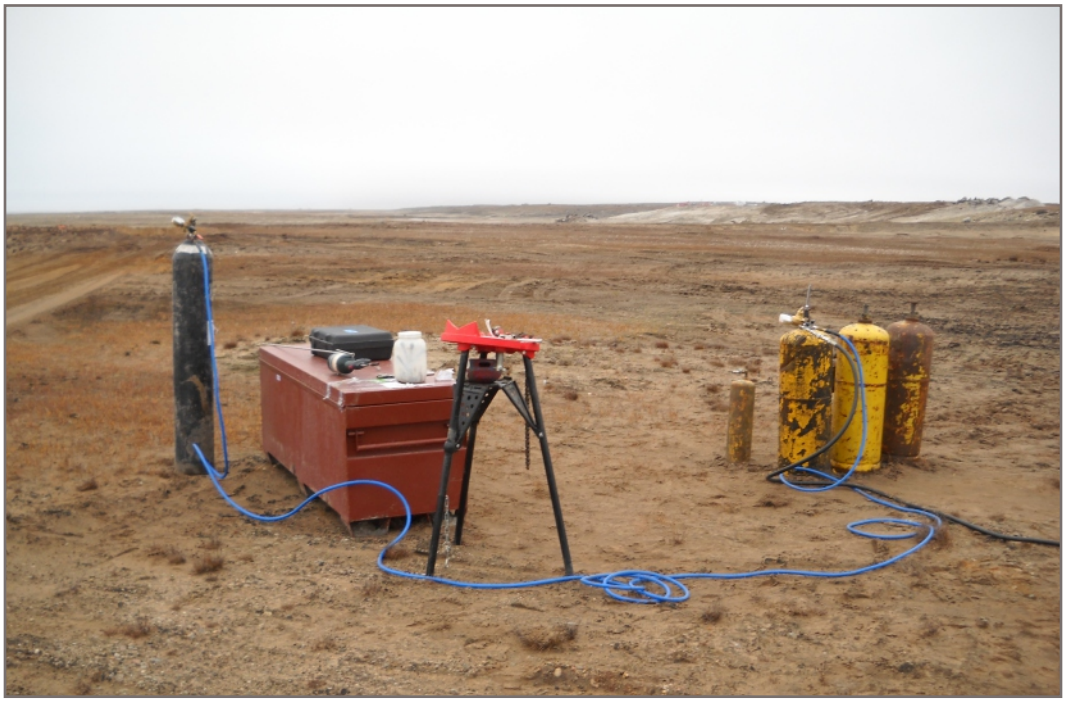


Photo 52: On-site gas cylinder mitigation



Photo 53: Placement of Type 1 aggregate on top surface of landfill



Photo 54: Placement of Type 1 aggregate on north slope of landfill



Photo 55: Final cap on landfill



Photo 56: Bronze commemorative plaque installed on boulder near former Main Station



Photo 57: Culverts removed at end of project and protective boulders placed

APPENDIX A

APPENDIX A EBA'S GENERAL CONDITIONS

GENERAL CONDITIONS

GEO-ENVIRONMENTAL REPORT

This report incorporates and is subject to these “General Conditions”.

1.0 USE OF REPORT AND OWNERSHIP

This report pertains to a specific site, a specific development, and a specific scope of work. It is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site or proposed development would necessitate a supplementary investigation and assessment.

This report and the assessments and recommendations contained in it are intended for the sole use of EBA’s client. EBA does not accept any responsibility for the accuracy of any of the data, the analysis or the recommendations contained or referenced in the report when the report is used or relied upon by any party other than EBA’s Client unless otherwise authorized in writing by EBA. Any unauthorized use of the report is at the sole risk of the user.

This report is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of EBA. Additional copies of the report, if required, may be obtained upon request.

2.0 ALTERNATE REPORT FORMAT

Where EBA submits both electronic file and hard copy versions of reports, drawings and other project-related documents and deliverables (collectively termed EBA’s instruments of professional service), only the signed and/or sealed versions shall be considered final and legally binding. The original signed and/or sealed version archived by EBA shall be deemed to be the original for the Project.

Both electronic file and hard copy versions of EBA’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except EBA. The Client warrants that EBA’s instruments of professional service will be used only and exactly as submitted by EBA.

Electronic files submitted by EBA have been prepared and submitted using specific software and hardware systems. EBA makes no representation about the compatibility of these files with the Client’s current or future software and hardware systems.

3.0 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by EBA in its reasonably exercised discretion.

4.0 INFORMATION PROVIDED TO EBA BY OTHERS

During the performance of the work and the preparation of the report, EBA may rely on information provided by persons other than the Client. While EBA endeavours to verify the accuracy of such information when instructed to do so by the Client, EBA accepts no responsibility for the accuracy or the reliability of such information which may affect the report.

APPENDIX B

APPENDIX B COMMUNITY CONSULTATION MINUTES

Cape Christian Site Remediation Project
Community Meetings at Clyde River –
Wednesday, November 29, 2006, 7.00 PM to 9:30 PM
Clyde River Community Hall

Organized and Coordinated by:

1. Dele Morakinyo, Indian and northern Affairs Canada (INAC) (Project Manager)
2. Sonia Nobrega, Indian and northern Affairs Canada (INAC)
3. John Dawe, Community Government and Services, Government of Nunavut (GN) (GN Rep.)
4. Brad Thompson, Public Works and government services Canada (PWGSC) (Project Manager)
5. Matthew McElwaine, Earth Tech Canada (Consultant) – (Consultant Rep.)

Number of Community Members in attendance: 55 adults + several young people

Questions/Answers

Q: Will ships load up at Cape Christian?
A: Contractors will propose best mobilization options and bid accordingly. The options will be between loading up at Cape Christian and offloading at Clyde River and Cat Train to site.

Q: Community would like a road to the site, especially as lots of money is being spent on the clean up. Permanent road would be convenient.
A: INAC does not plan to build a road between Clyde River and Cape Christian as part of the remediation effort. The funds available are for site remediation only. There are rules associated with the spending of FCSAP fund being used for this project.

Q: Will all the wood from the site be buried?
A: No. Samples will be collected to test if material is hazardous or non-hazardous. Non-hazardous materials will be buried on-site, in the engineered landfill, while hazardous materials will be disposed off-site.

Q: Concern about buried waste in the water reservoir and the proximity to the water.
A: The reservoir will be drained prior to construction of the engineered landfill.

Q: Who is ultimately responsible for the wildlife which is contaminated in the area? Will the contaminants that have accumulated in the animals have effects on people? Who is testing our wildlife?

A: Animals would have to ingest a large amount of contaminants to be of concern. No risk to humans from studies conducted. Human health risk assessment, screening level was conducted and models demonstrated that there was not a significant risk to people.

Q: What preference is given to local community and local businesses?
A: INAC would like as much involvement of local businesses as possible in all aspects of remediation. The contracting procedure has involvement of local businesses built in. There is also the penalty/bonus clause which penalizes a contractor not engaging sufficient local hands and provides bonus for one exceeds the specified local employment limits.

Q: What about the other contaminated sites outside of Clyde River (possibly referring to Old Clyde River site)?
A: Not part of present project.

Q: How far will the clean-up go (i.e. area extent of the remediation)?
A: Remediation work will be limited to the boundaries of the Cape Christian site.

Q: Will waste outside of Cape Christian be removed?
A: All wastes that our studies have identified as resulting from activities at Cape Christian will be removed.

Q: Will you remove all material previously buried?
A: Yes. Buried barrels will be excavated and put in engineered landfill. Soils from these locations will be sampled and tested and remediated based upon the test results.

Q: If material buried in the landfill is non-hazardous, why post-remediation monitoring of the area?
A: Check to see that landfill has not eroded over time and nothing comes out of it and pose a risk.

Q: Will holes in the liner be of concern?
A: No liner will be used. All contaminated soil will be shipped south.

CAPE CHRISTIAN REMEDIATION PROJECT
Community Consultation Qs and As
Clyde River, Nunavut
October 21, 2008

The consultation meeting was arranged and organized by QL and attended by approximately 25 community residents and the following project team members: Dele Morakinyo and Mark Yetman of INAC; Brad Thomson and Jimi Arey of PWGSC, Harry Flaherty and Philippe Simon of QL. While INAC presented an overview of the project, QL provided detailed information on anticipated staffing requirements, site management and how the community may benefit of it. The presentation was aided with a PowerPoint slide show that included a concurrent slide show in the local community language (Inuktitut) together with a live interpretation broadcast to individual ear-sets provided by QL to those who needed one. This memo is prepared specifically to capture the residents' questions and the responses that were presented at the time.

- **Q.** During progress of the remediation activities, would the community be allowed to access the hunting grounds?
- **A.** QL said: Yes. The work area boundaries that are off-limits to the general public will be defined and an effort made to mark these boundary limits. In addition, QL will inform the Hunters and Trappers Association of these limitations so that members will be aware. In general, the shores will be readily accessible and people will be able to hunt/trap in areas around and beyond the subject site while avoiding the active work areas and staying clear of equipment, physical hazard and contaminated areas.
- **Q.** Mr. noted that there were some little red/pink flags placed close to his camp in the area and wondered if his access to those areas will be restricted further during progress of the work?
- **A.** QL (Philip) confirmed that the area in question is not identified for remediation and there should not be any reason for restriction. However, the Crown prefers to make sure of that assertion and then request the Contractor remove the flags and not expect or allow the resident to remove the said flags (i.e. not to set a precedent of individuals removing installations on their own).
- **Q.** Mr. wondered what will happen with an area of interest where the vegetation is noted to be dead.
- **A.** QL indicated that they are familiar with the area in question and that it is currently identified for an archaeological assessment/verification and is currently off-limits to any remediation activities.
- **Q.** There are other areas of archaeological interest that may be affected by the remediation activities – will these be protected?
- **A.** QL confirmed that areas known or suspected to be of archaeological interest are identified and marked as off-limits to any activities until such time an archaeological investigation/verification is completed and the Contractor is given further direction by the Crown.
- **Q.** Mr. indicated that there is a small lake near where the tanks are located and he remembers seeing complete fish-bones in the area; and asked what will happen to that lake?
- **A.** Dele responded and said that the lake in question used to be the fresh water source in the past and that the Crown had checked with DFO and confirmed that there is no fish in that lake and it is not of any particular interest. In addition, considering that Jushua was familiar with the site and voiced his concern with a few site features, Jimi indicated that The resident and perhaps two others from the community will be invited for a tour of the site together with the Contractor and the Crown's representative sometime next summer so that any points of interest/concern are not missed and the intention is that actions taken regarding these areas are clearly communicated back to the community as the work progresses.

CAPE CHRISTIAN REMEDIATION PROJECT
Community Consultation Qs and As
Clyde River, Nunavut
October 21, 2008

- **Q.** Mr. | asked if he could be allowed to remove and take the copper poles and electrical cables. He also indicated that his request is not personal but on behalf of the community.
- **A.** Jimi responded by saying that none of the project team has the authority to give away Crown property, which the subject items are. However, resident was encouraged to make a formal written request to the Crown either directly or through the Contractor. If the request is on behalf of the community, then it is better to have it sent by the council; because the community has precedence over the individual.
- **Q.** Upon completion of the remediation project, will the bridge remain in-place for the community's use?
- **A.** QL responded with Yes; and that construction of the bridge and upgrading of the road are not part of the contract with the Crown and are a gift to the community from QC.
- **Q.** What will happen to the man-mad lake that is there?
- **A.** Dele responded and said that the water in the subject lake will be tested to verify that it meets respective guidelines before it is released into the environment. The objective is to empty the lake and then have it graded to match surrounding ground contours.
- **Q.** When will QL start hiring employees from the community to work on the project?
- **A.** QL responded and said that they will likely start in April 09 and they will come back to the community for that purpose.
- **Q.** Upon completion of the work at Cape Christian, will remediation of the old Clyde River town site be remediated as well?
- **A.** Dele responded and said that remediation of the old Clyde River town site is not related to the subject project and it is the responsibility of the Nunavut Government and they will act on it when they are ready. QL also indicated that it is not part of their current contract. However, if the work is to be done cost-effectively then it would be ideal to make a decision on it while QL have their equipment and labour crew in the area.
- **Q.** Since the Contractor is hiring employees in April 09, when will they announce their need for sub-contractors for the project?
- **A.** QL responded by saying that local small business will be given the best opportunities to benefit from the subject project and that QL will be ready to discuss these opportunities with interested businesses when they come back to Clyde River in April 09.
- **Q.** Some one offered his services for guarding QL's equipment and materials that are temporarily stored near where he lives.
- **A.** QL suggested that the issue will be considered beyond the community meeting and that they will get together with the interested party in private following adjournment of the consultation gathering.
- **Q.** Thanks to QC/QL for upgrading the road and building the bridge to Cape Christian for the Clyde River community; would there be similar gifts/developments planned for the community in the near future?
- **A.** QL responded and said that they encourage every one and the community as a whole to work together with the contractor on the activities that are currently planned in the area so that the Clyde River community can maximize on relevant benefits.

CAPE CHRISTIAN REMEDIATION PROJECT
Community Consultation
Clyde River, Nunavut
September 29, 2009

Minutes (Questions and Answers) / List of Attendees

The consultation meeting was held in the community school and was arranged and organized by QL and attended by approximately 53 community residents (see list) and the following project team members: Dele Morakinyo of INAC; Jimi Arey of PWGSC, Philippe Simon and Jeremiah Groves of QL. While INAC presented an overview of the project, QL provided details on site conditions and work accomplished over the summer. The presentation was aided with a PowerPoint slide show with a live interpretation broadcast to individual ear-sets provided by QL to those who needed one. This memo is prepared specifically to capture the residents' questions, comments and the responses that were presented at the time.

- **Q.** Is the road between Clyde River and Cape Christian going to be fixed?
- **A.** QL said: Of course
- **Comment:** More equipment operators should be hired from the community in addition to the current three.
- **Q.** Will the cable that is extending into the sea be removed?
- **A.** Any structure that we know of will be removed.
- **Q.** With global warming in mind, how will the landfill perform?
- **A.** The landfill is a simple low-profile structure and easily blends with the landscape and contains only non-hazardous materials. In addition, wells have been installed on all sides to monitor any potential impact to the groundwater. Oils, batteries, PCB-containing materials, etc have been removed for off-site disposal and not buried in the landfill.
- **Comment:** The community appreciates the updates, is impressed with the work and thanked the project team.
- **Comment:** Dele – it is INAC's policy that community consultation is made part of the workplan to carry community members along as the project progresses.
- **Comment:** to minimize physical hazards, residents were reminded to avoid the project site over the winter as the project work is not yet completed. QL hired an individual to keep watch over the site until next season's fieldwork commences.
- **Q.** There are two individuals from another community that QL employs on the job; will they be replaced with others from Clyde River.
- **A.** QL said that they are long-term employees and currently there is no reason to discontinue their employment with QL.
- **Q.** Will Old Town Clyde River (OTCR) be cleaned-up too?
- **A.** Cleanup of OTCR is not part of this contract and it is possible that further information on that will come from GN, the responsible authority for that work.
- **Q.** Is the hazmat building going to be ok to use – because "hazmat" is kinda scarry.
- **A.** There are no hazardous materials in that building and that name should be changed to "emergency shelter" from now on.
- **Q.** There are people who took and used some beams from the former main building. Have these people been exposed to hazardous materials?
- **A.** Not necessarily. It all depends on whether the materials were treated/painted and how it was removed and what other materials were disturbed in the process, etc... From what could be seen, the large beams were neither painted nor treated; friable asbestos was on machinery/piping, and non-friable asbestos in panels on the walls.
- **Comment:** That facility stood there for generations and will now be missed by many that grew up in this community.
- **Q.** Will QL have better job description for the various employment opportunities at the site for next season?

- **A.** Yes; we strive to make it easier to understand.
- **Q.** Will there be further training offered?
- **A.** QL said yes; in class, on the job or a combination there-of.
- **Q.** Are current employees guaranteed employment next season?
- **A** Not necessarily; there will likely be a mix of old and new employees.
- **Q** Most or all the people who were hired were trained in WHIMIS &First Aid. Will it be the same next season too?
- **A.** QL responded and said that they trained the people who were going to be hired; because the training was not offered for the sake of training.
- **Q** why are people sent home or go away for breaks? They could produce more and make more money by continuing to work on the job.
- **A** It is the law that people can only work for a given maximum number of hrs before they must take a break.
- **Q** Will QL leave a truck or a large piece of equipment for the community when the work is completed?
- **A** That decision has to be made at a higher level (company management). However, please be mindful that QL has already committed approximately $500,000 to build the road and bridge.

APPENDIX C

APPENDIX C WAIVERS

Waiver of Liability

Salvage Items from
Cape Christian Remediation Site, Nunavut

I/we, ELIJAH H. PALITOQ, of Clyde River accept full responsibility for the following materials that were previously removed from the site without permission and used for the construction of a cabin north of Cape Christian. Furthermore, I/we agree to hold Indian and Northern Affairs and its agents harmless from any future liability associated with these materials.

List of Materials/Items

Item	Description/Identification (i.e. Number)	Picture Appended (Y/N)
Primarily Timber; but there could be other items removed	Unspecified quantities of materials (mainly timber) used to construct a cabin	no

[signature] August 20th 2010

Signature **Date**

Acceptance of Owner

On behalf of Indian and Northern Affairs Canada I,_____ , accept the Waiver of Liability from _____ for the above-referenced items.

_____ _____

Signature **Date**

Old 45 gallon drums

Back to messages |

Steven Aipiliee
To 'Jeremiah Groves'

3:45 PM
Reply ▾

Hi Jeremiah,

The Old 45 gallon fuel drums were used as markers by the crew of Cape Christian, when the old town site of Clyde River was across the bay from our current location, as they were not familiar with the landscape, we request that they be removed.

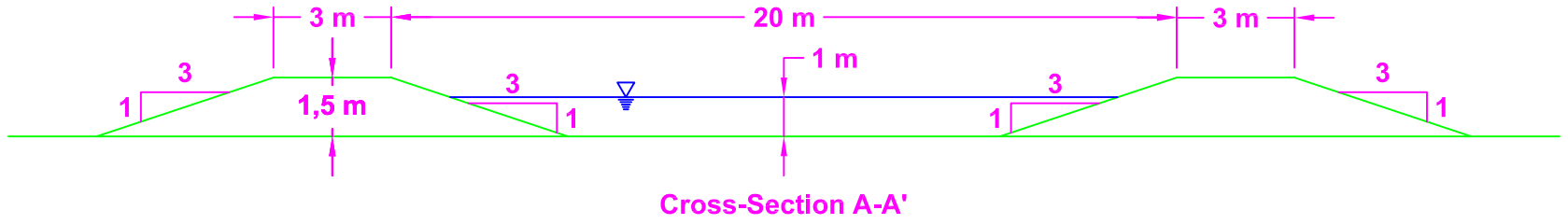
Thank you kindly,

Steven Aipellee
Assistant SAO
Municipality of Clyde River
(867) 924-6220

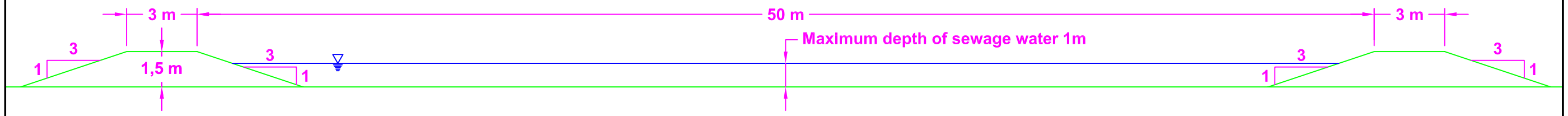
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Move to ▾ |

APPENDIX D

APPENDIX D CONTRACTOR AS-BUILTS



Cross-Section A-A'



Cross-Section B-B'

PERMIT TO PRACTICE
QIKIQTAALUK ENVIRONMENTAL
Signature
Date January 12th, 2009
PERMIT NUMBER: P 530
The Association of Professional Engineers, Geologists and Geophysicists of the NWT / NU

REGISTERED PROFESSIONAL ENGINEER
G.S. JOHNSON
LICENSEE
NWT/NU

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QIKIQTAALUK ENVIRONMENTAL

General Notes:

1. The exact dimensions of the lagoon may be adjusted once a survey of the existing terrain at the planned location is completed and the type and properties of the soil to be used for construction of the berms are known.
2. The berms will be constructed in lifts of 250 mm of loose material and each lift will be compacted to 95 percent of Maximum Dry Density in accordance with ASTM D698.
3. Cross-sections of the sewage lagoon are shown on drawing QESIn 2007 P6-2008-002.

Legend:

No.	DATE	REVISION	REVISION	APPR.

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Qikiqtaaluk Logistics Inc.

PROJECT - PROJET
CAPE CHRISTIAN, NUNAVUT

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TRADE - METIER	DATE
SITING	2008-12-15

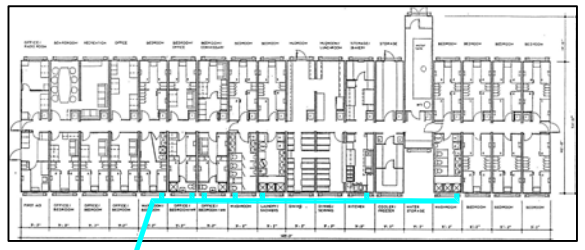
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SUBJECT - SUJET

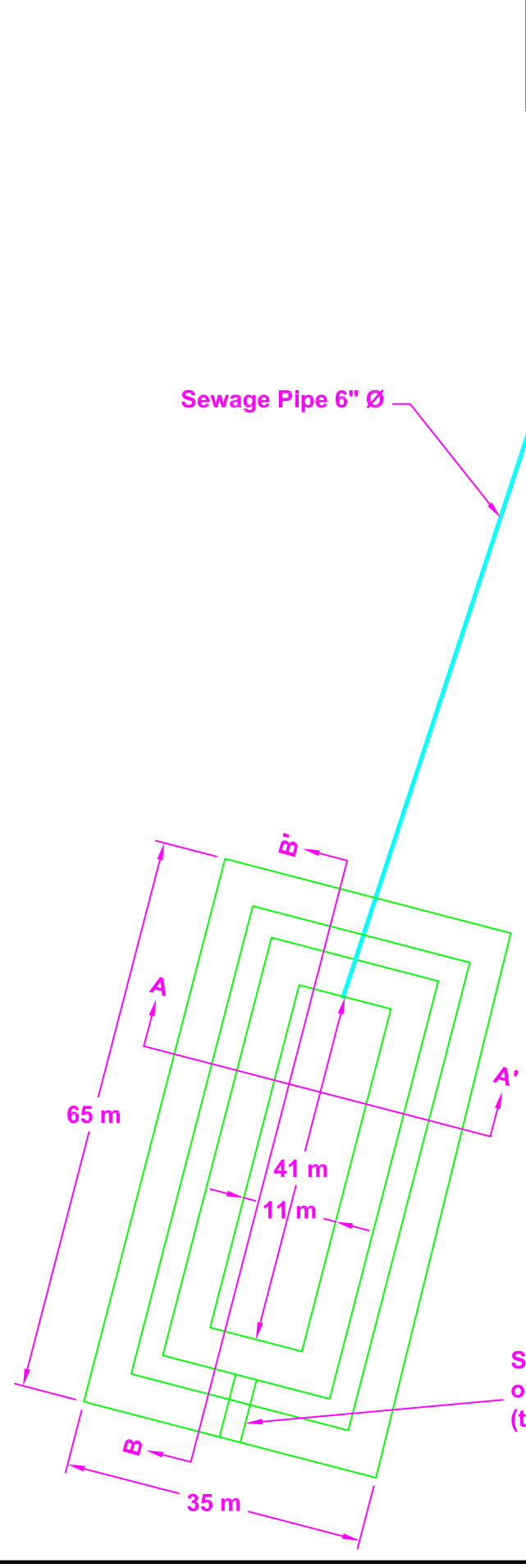
CAPE CHRISTIAN REMEDAITION PROJECT
CROSS-SECTIONS OF SEWAGE LAGOON

PRODUCTION	CONCURRENCE - ASSENTIMENT
DESIGNED ETUDIE	Greg Johnson
DRAWN DESSINE	Greg Johnson
CHECKED VERIFIE	Phillppe SImon
COORDINATION	REVIEWED - REVU

DWG. NO. - DESSIN NO.
QESIn 2007 P6-2008-04



Sewage Pipe 6" Ø



Swail to be installed to accommodate any overflow from spring snowmelt events (to be lined with rock to prevent erosion)

PERMIT TO PRACTICE
QIKIQTAALUK ENVIRONMENTAL
Signature
Date January 12th, 2009
PERMIT NUMBER: P 530
The Association of Professional Engineers, Geologists and Geophysicists of the NWT / NU

REGISTERED PROFESSIONAL ENGINEER
G.S. JOHNSON
LICENSEE
NWT/NU

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QIKIQTAALUK ENVIRONMENTAL

General Notes:

1. The location of the construction camp and the sewage lagoon are not based on survey data and may be adjusted based on conditions found on the field.
2. The exact dimensions of the lagoon may be adjusted once a survey of the existing terrain at the planned location is completed and the type and properties of the soil to be used for construction of the berms are known.
3. The berms will be constructed in lifts of 250 mm of loose material and each lift will be compacted to 95 percent of Maximum Dry Density in accordance with ASTM D698.
4. Cross-sections of the sewage lagoon are shown on drawing QESIn 2007 P6-2008-003.

Legend:

No.	DATE	REVISION	REVISION	APPR.

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PROJECT - PROJET
CAPE CHRISTIAN, NUNAVUT

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TRADE - METIER	DATE
SITING	**2008-12-15**

SCALE - ECHELLE
NOT TO SCALE

SUBJECT - SUJET
CAPE CHRISTIAN REMEDAITION PROJECT
SEWAGE LAGOON DETAILS

PRODUCTION	CONCURRENCE - ASSENTIMENT
DESIGNED / ETUDIE	**Greg Johnson**
DRAWN / DESSINE	**Greg Johnson**
CHECKED / VERIFIE	**Phillppe SImon**
COORDINATION	REVIEWED - REVU

DWG. NO. - DESSIN NO.
QESIn 2007 P6-2008-03



PERMIT TO PRACTICE
QIKIQTAALUK ENVIRONMENTAL
Signature
Date January 12th, 2009
PERMIT NUMBER: P 530
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REGISTERED PROFESSIONAL ENGINEER
G.S. JOHNSON
LICENSEE
NWT/NU

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QIKIQTAALUK ENVIRONMENTAL

General Notes:

1. The location of the construction camp and the sewage lagoon are not based on survey data and may be adjusted based on conditions found on the field.
2. The exact dimensions of the lagoon may be adjusted once a survey of the existing terrain at the planned location is completed and the type and properties of the soil to be used for construction of the berms are known.
3. Distances shown are the minimum distances to be respected from water courses, water bodies and the construction camp.
4. The berms will be constructed in lifts of 250 mm of loose material and each lift will be compacted to 95 percent of Maximum Dry Density in accordance with ASTM D698.

Legend:

No.	DATE	REVISION	REVISION	APPR.

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TRADE - METIER	DATE
SITING	**2008-12-15**

SCALE - ECHELLE
NOT TO SCALE

SUBJECT - SUJET
CAPE CHRISTIAN REMEDAITION PROJECT
APPROXIMATE LOCATION OF THE SEWAGE LAGOON

PRODUCTION	CONCURRENCE - ASSENTIMENT
DESIGNED / ETUDIE	**Greg Johnson**
DRAWN / DESSINE	**Greg Johnson**
CHECKED / VERIFIE	**Philippe Simon**
COORDINATION	REVIEWED - REVU

DWG. NO. - DESSIN NO.
QESIn 2007 P6-2008-02



PERMIT TO PRACTICE
QIKIQTAALUK ENVIRONMENTAL
Signature
Date January 12th, 2009
PERMIT NUMBER: P 530
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REGISTERED PROFESSIONAL ENGINEER
G.S. JOHNSON
LICENSEE
NWT/NU

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QIKIQTAALUK ENVIRONMENTAL

General Notes:

Legend:

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Qikiqtaaluk Logistics Inc.

PROJECT - PROJET
CAPE CHRISTIAN, NUNAVUT

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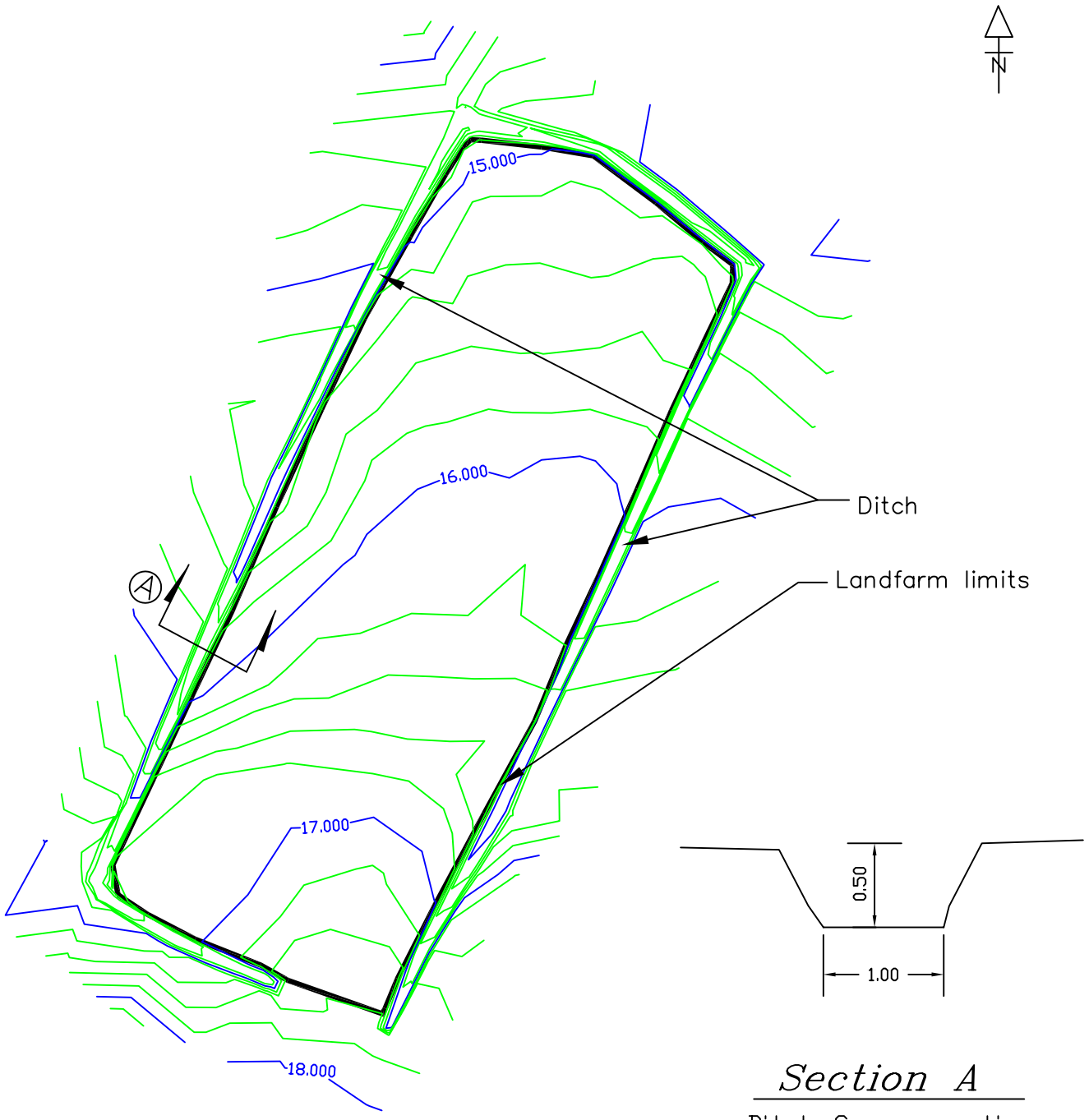
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SITING	**2008-12-15**

SCALE - ECHELLE
NOT TO SCALE

SUBJECT - SUJET
CAPE CHRISTIAN REMEDAITION PROJECT
SITE DETAILS

PRODUCTION	CONCURRENCE - ASSENTIMENT
DESIGNED ETUDIE	**Greg Johnson**
DRAWN DESSINE	**Greg Johnson**
CHECKED VERIFIE	**Phillppe SImon**
COORDINATION	REVIEWED - REVU

DWG. NO. - DESSIN NO.
QESIn 2007 P6-2008-01



Section A

Ditch Cross section

GENERAL NOTES :

1) Landfarm Total Area : 2300 sq.m.

2) Ditch Dimension : 1.0m Wide
0.5m Average Depth

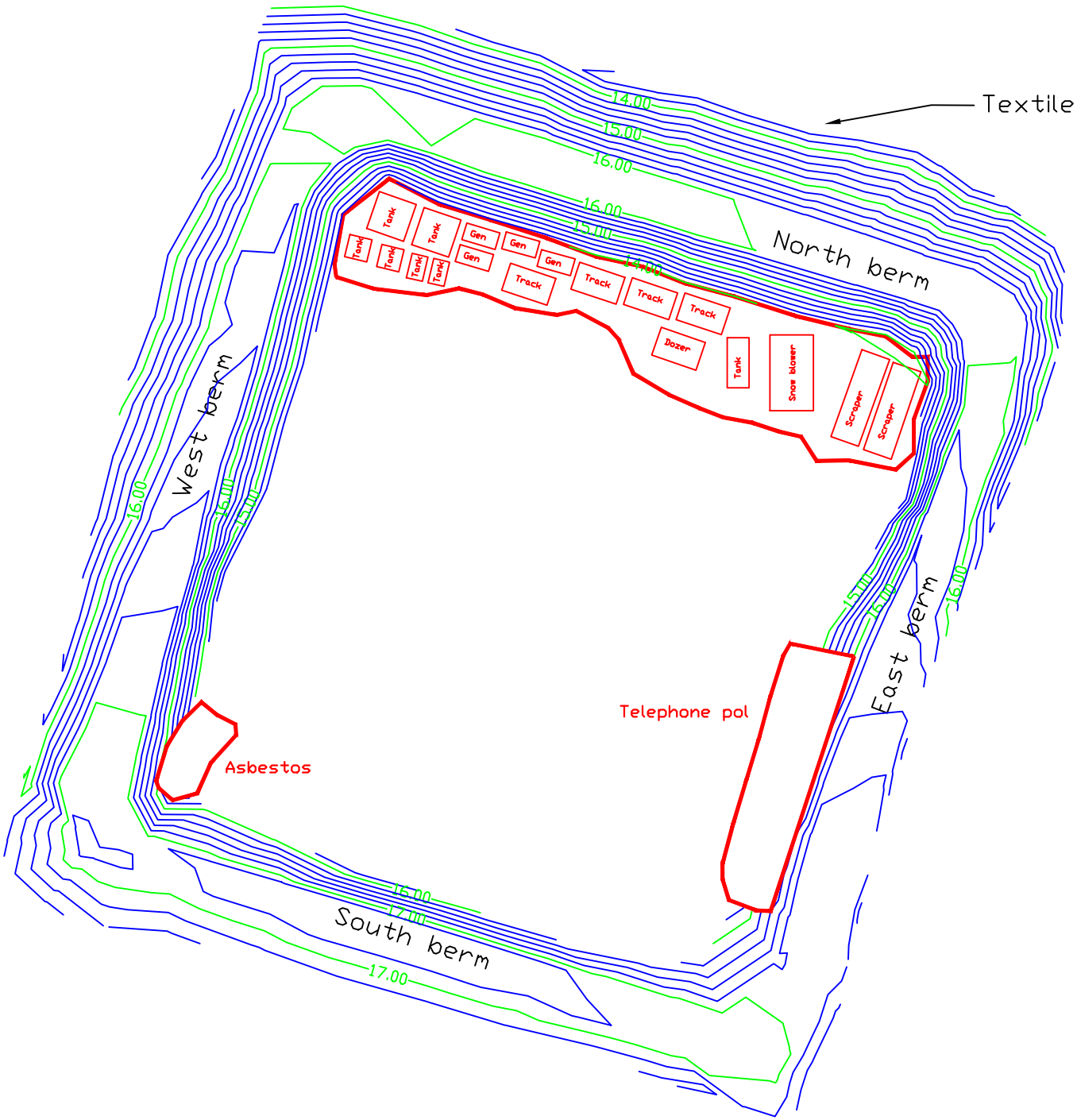
#	DESCRIPTION	BY	DATE

REVISIONS

CAPE CHRISTIAN
CLYDE RIVER

LANDFARM

	SCALE	DRAWER JPG	DATE 20/08/2009
	REF DWG	CHECK	DATE
	CONTRAT	DWG NUM	00



GENERAL NOTES :

1) Oversize object localisation in the landfill – Elev. last layer

2)Asbestos – under a old big tank Elev. z=15.2m

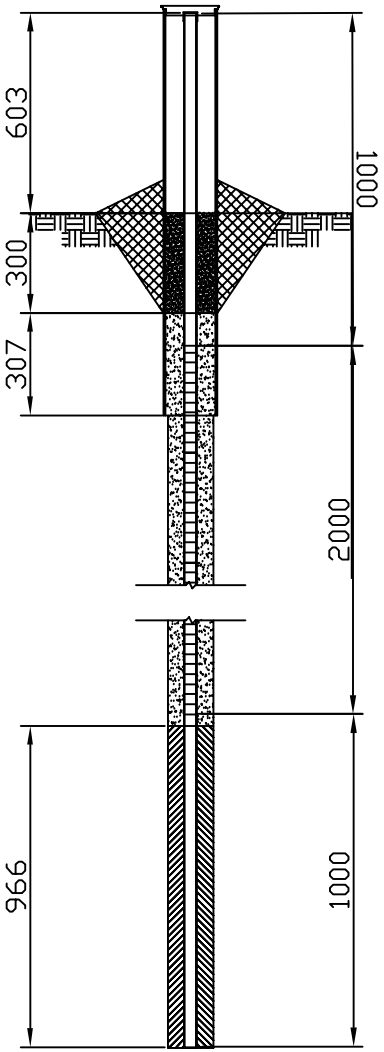
3)Telephone pol – Last layer

#	DESCRIPTION	BY	DATE
	REVISIONS		

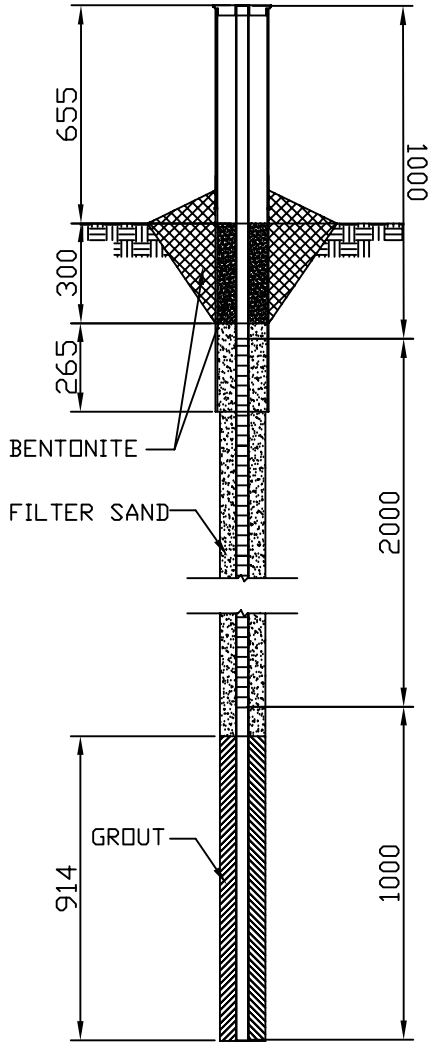
CAPE CHRISTIAN
CLYDE RIVER

LANDFILL - DEBRIS LOCALISATION

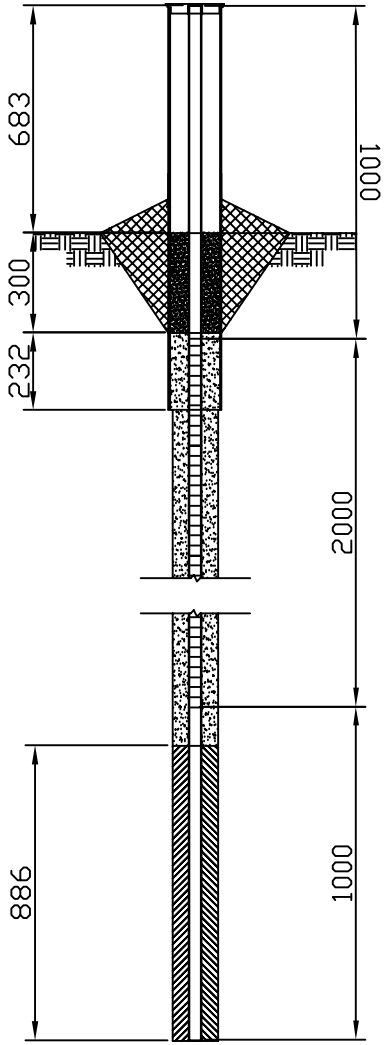
SCALE	DRAWER	DATE
	JPG	07/02/2011
REF DWG	CHECK	DATE
CONTRAT	DWG NUM	
	00	



MONITORING WELL
EAST
x: 10074.831
y: 9559.239
z: 14.823 (TOP OF WELL)



MONITORING WELL
NORTH
x: 10126.882
y: 9667.598
z: 12.938 (TOP OF WELL)



MONITORING WELL
WEST
x: 10042.954
y: 9679.215
z: 16.846 (TOP OF WELL)

GENERAL NOTES :

1) PIPE OVER GROUND : MIN 500 MM
2) BENTONITE IN CASE : MIN 300 MM
3) FILTER SAND IN CASE : MIN 200 MM
4) GROUT : MIN 800 MM, MAX 1000 MM

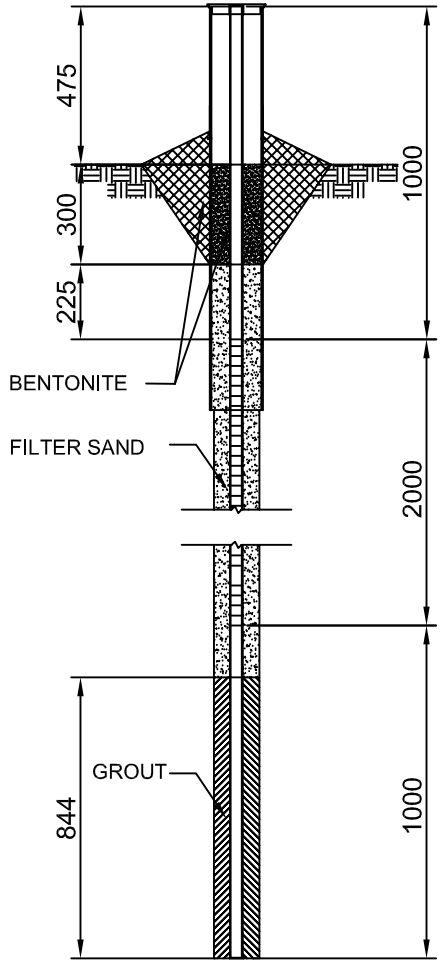
#	DESCRIPTION	BY	DATE
	REVISIONS		

CAPE CHRISTIAN
CLYDE RIVER

MONITORING WELLS

SCALE	DRAWER	DATE
NTS	JR	13/08/2008
REF DWG	CHECK	DATE
C10		
CONTRAT	DWG NUM	
E02II-060073	M-I	00

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MONITORING WELL

SOUTH

x: 9 603.535

y: 9 982.29

z: 16.975 (TOP OF WELL)

GENERAL NOTES :

1) PIPE OVER GROUND : MIN 500 MM

2) BENTONITE IN CASE : MIN 300 MM

3) FILTER SAND IN CASE : MIN 200 MM

4) GROUT : MIN 800 MM, MAX 1000 MM

#	DESCRIPTION	By	DATE
-			

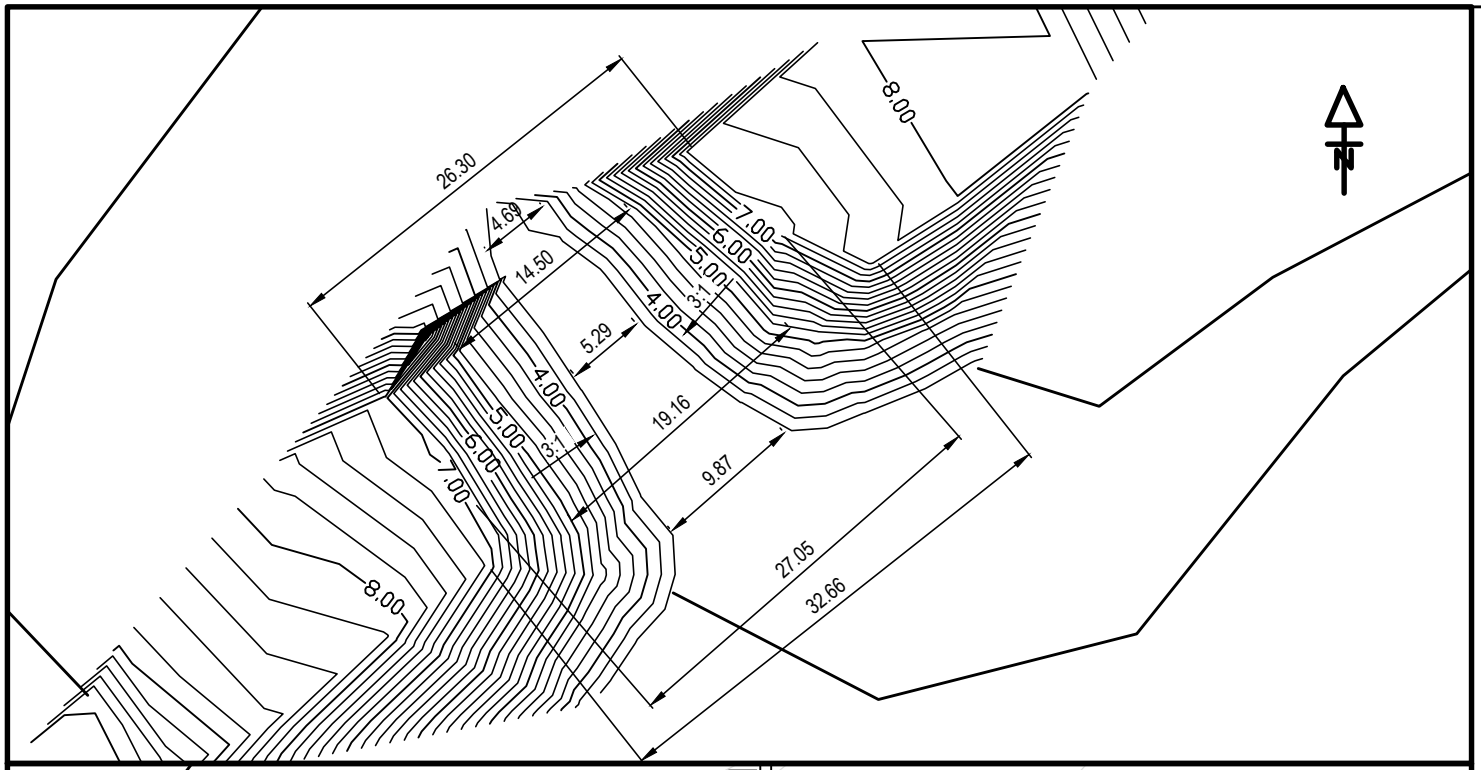
REVISIONS

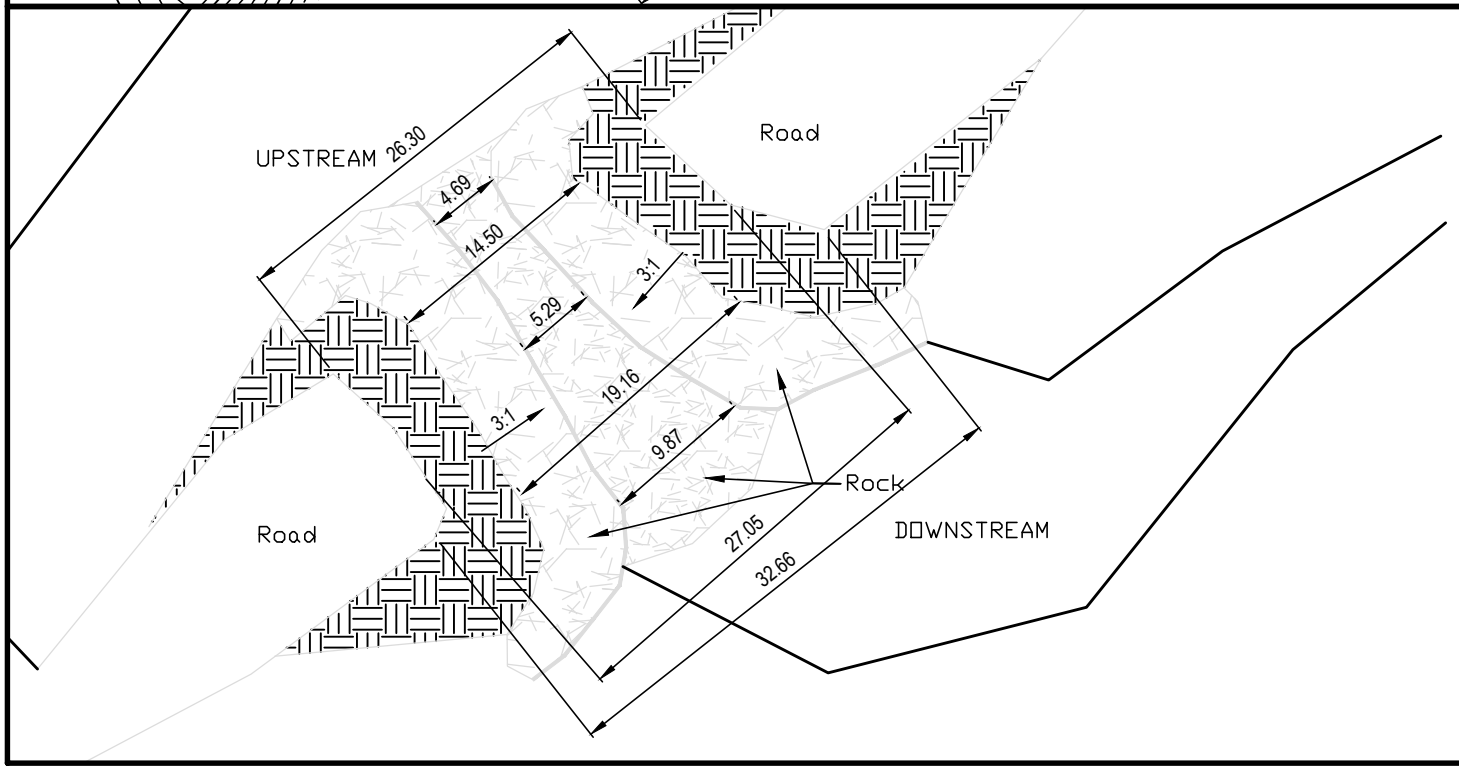
Cape Christian

Clyde River

Monitoring Wells

SCALE	DRAWER	DATE
NTS	J-P G	31/07/2010
REF DWG	CHECK	DATE
C10		
CONTRAT	DWG NUM	
E0211-060073	M-1	00





GENERAL NOTES :

1) Reservoire breach

#	DESCRIPTION	BY	DATE
	REVISIONS		

CAPE CHRISTIAN
CLYDE RIVER

RESERVOIRE - BREACH

SCALE	DRAWN JPG	DATE 7/02/2011
REF DGN	CHECK	DATE
EDITION	DGN FILE	00

APPENDIX E

APPENDIX E EBA ANALYTICAL SAMPLING PLAN

Public Works and Government Services Canada

ISSUED FOR USE

ANALYTICAL SAMPLING PLAN
CAPE CHRISTIAN, NT

E22101581

June 2009

EBA Engineering Consultants Ltd.
p. 780.451.2121 • f. 780.454.5688
14940 - 123 Avenue • Edmonton, Alberta T5V 1B4 • CANADA

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1.0 SUMMARY OF ANALYTICAL TESTING

EBA Engineering Consultants Ltd. (the Engineer), and the contractor have specific responsibilities for the analytical testing for the Cape Christian Environmental Site Remediation.

The testing requirements for the Engineer and Contractor are summarized below. A detailed sampling program for EBA's testing is presented in the subsequent sections.

1.1 ENGINEER'S TESTING

1.1.1 Confirmatory or Delineation Soil Testing

Testing will be done according to the contaminant of concern. Three possible suites will be analyzed.

- Hydrocarbons (PHC): F1 to F4
- Metals: arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, zinc
- PCBs

1.1.1 Classification of Hazardous Contaminated Soil for Licensed Soil Disposal Facility Acceptance Requirements

The contractor is responsible for the testing for all testing of hazardous waste materials in accordance for packaging, transport and off-site disposal. It is assumed that engineer will only sample for confirmatory testing. Duplicate samples will be collected on 50% of the samples. It is proposed to test 25% of the duplicate samples. Testing will be done for the contaminant of concern.

1.1.2 Barrel Contents – For Characterization of Barrel Contents for Incineration Requirements

- DEW Line Barrel Protocol: flashpoint (conducted first), glycols, alcohols, PCBs, chlorine cadmium, chromium and lead.

1.1.3 Leachate Extraction of Solid Residual Material from Barrel Contents Extraction

- Leachable metals: arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, zinc
- Leachable BTEX and PAHs

1.1.4 Identification of Hazardous Material

- Hazmat testing will be done per the contaminant of concern i.e. Asbestos Containing Material (ACM), lead paint, and PCB in paint.

1.1.5 Testing for Quality Assurance

- Testing for quality assurance includes both quality assurance of the engineers testing, and testing to confirm contractor testing.
- Quality assurance for the Engineer's sampling will include duplicate sampling and testing of every 10th sample.
- Quality assurance of Contractor's sampling: The Contractor's sampling is to include testing for QA/QC purposes. The Engineer's role will be to verify that that the samples and QA samples are being taken. The engineer will duplicate sample at their discretion. The engineer will also duplicate sample the soils for off site disposal as described above.

1.2 CONTRACTOR'S TESTING

1. Testing of Potable Water.
2. Testing of hazardous waste materials for packaging transport and off-site disposal.
3. Testing solvent rinse used for barrel processing.
4. Testing for disposal of absorbent and filters, etc., used for decontamination, cleaning, cleaning and barrel processing.
5. Testing water from all dewatering operations.
6. Testing of vapour associated with degassing of tanks.
7. Leachate testing of solid residual from incineration of clean wood.
8. Sewage Effluent Testing.
9. Wash water from cleaning activities including barrel washing and equipment decontamination.
10. Testing required as per permits issued for the work.
11. Testing for dewatering and sewage effluent should be carried out as per the water licence as listed Tables 1 and 2.

TABLE 1 WATER LICENCE DISCHARGE WATER CRITERIA	
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
PCB (total)	1000
Phenols	20
Zinc (total)	500

TABLE 2 WATER LICENCE SEWAGE DISPOSAL DISCHARGE CRITERIA	
Parameter	**Maximum Average Concentration**
BOD	120 mg/L
Total Suspended Solids	180 mg/L
Faecal Coliforms	10,000 CFU/1000 ml
pH	6 to 9 (pH units)
Oil and Grease	No visible sheen

2.0 SOIL CONFIRMATORY TESTING

2.1 AREAS REQUIRING REMEDIATION

The following areas of concern require remediation according to the remediation action plan.

AEC No.	Location Description	Comments on Delineation	Contaminants of Concern	Confirmatory Samples Required
1	Main Station Area ASTs	381 m^3 exceeds INAC PHC	PHC (F2 12,100 mg/kg)	6x6 m grid (40% tested) + perimeter (50% tested) 30 to 50 tested
2	Main Station Building North of West Wing	10 m^3 exceeds DCC II	Metals (Pb 723 mg/kg)	3x3 m grid (all tested) + perimeter (all tested) 4 to 5 tested
3	Main Station Building East of East Wing	287 m^3 exceeds INAC PHC	PHC (F2 9,370 mg/kg)	6x6 m grid (40% tested) + perimeter (50% tested) 25 to 40 tested

AEC No.	Location Description	Comments on Delineation	Contaminants of Concern	Confirmatory Samples Required
4	Main Station Building East of East Wing	18 m^3 exceeds DCC I	PCB (18 mg/kg)	3x3 m grid (all tested) + perimeter (all tested) 5 to 6 tested
5	Main Station Building East of East Wing	2 m^3 exceeds DCC II	Metals (Cd 6.9 mg/kg, Zn 1,200 mg/kg)	3x3 m grid (all tested) + perimeter (all tested 4 to 5 tested
6	Main Station Building East of East Wing	1 m^3 exceeds DCC II	Metals (Pb 290 mg/kg, Zn 4,500 mg/kg)	3x3 m grid (all tested) + perimeter (all tested) 4 to 5 tested
7	Main Station Building East of East Wing	41 m^3 exceeds DCC I	Metals (Cd 7.4 mg/kg, Zn 7,350 mg/kg)	3x3 m grid (all tested) + perimeter (all tested) 6 to 10 tested
8	Main Station Area Maintenance Garage	126 m^3 exceeds DCC II	Metals (Cd 5.9 mg/kg)	6x6 m grid (40% tested) + perimeter (50% tested) 8 to 12 tested
9	Main Station Area Maintenance Garage	160 m^3 exceeds INAC PHC	PHC F3 41,100 mg/kg)	6x6 m grid (40% tested) + perimeter (50% tested) 15 to 20 tested
10	Main Station Area Disaster Hut	1 m^3 exceeds DCC II	Metals (Cd 5.9 mg/kg)	3x3 m grid (all tested) + perimeter (all tested 4 to 5 tested
11	Beach Area Outfall	207 m^3 exceeds DCC II	Metals (Cu 273 mg/kg)	6x6 m grid (40% tested) + perimeter (50% tested) 8 to 12 tested
12	Beach Area, Worked Area	871 m^3 exceeds INAC PHC	PHC (F2 8,450 mg/kg)	6x6 m grid (40% tested) + perimeter (50% tested) 60 to 100 tested
13	Landfarm	Treating 1,700 m^3 of soil that exceeds INAC PHC	PHC	100 to 150 tests

2.2 ESTIMATED SAMPLE NUMBERS FOR CONFIRMATORY TESTING

- PHCs: 230 to 360 samples
- Metals: 38 to 54 samples
- PCBs: 5 to 6 samples
- Duplicates: 10%

2.3 SAMPLE CODING

- Prefix by AEC and Suffix by northing, easting, and depth (i.e., AEC 1-6-6-1.5)

2.4 FIELD SCREENING

- PID for PHC impacted areas

2.5 EQUIPMENT

- Sample jars supplied by laboratory
- Hand auger, scoop or similar device
- Latex gloves
- Alconox and water or similar for decontamination of samples
- Cooler and ice packs, chain of custody
- Notebook, pen or pencil
- PID
- Sample bags for vapour testing
- Munsell colour chart
- Measuring wheel or tape and pins
- Camera

2.6 METHODOLOGY – CONFIRMATORY SOIL TESTING

For each area requiring sampling, when approximate boundaries are reached, inspect first to determine whether there is evidence that further excavation is required (i.e., signs of odours, staining, etc.). Sample the soil on grid using scoop or similar device, decontaminating between sample points. Place soil in both jars and bags. Describe soil using Unified Soil Classification system and Munsell Colour Charts and other descriptors and record. Place soil in cooler and if air temperatures are greater than 5ºC ensure ice packs are used for PHC soils. Measure the headspace of the soil in the bag after 15 minutes using PID and record. Take pictures of excavation area. Fill out chain of custody and ship to laboratory as soon as possible. Follow up with laboratory within two days of shipping to ensure the shipment has been received.

3.0 BASELINE SAMPLING

3.1 AREAS REQUIRING BASELINE TESTING

Areas requiring baseline testing will include:

Baseline No.	Location Description	Tests Required – Soil	Tests Required – Water
1	Landfill	6-12 + 4-8 wells PHC: F1 to F4, metals, PCBs	4 to 8 wells, PHC F1 to F2, total and dissolved metals, routine water, PCBs
2	Landfarm	12-24 PHC: F1 to F4	
3	Barrel Processing Area	6-12 F1 to F4, metals, PCBs	Liquids 10-15 F1 to F4, metals, PCBs
4	Metal Processing Area	6-12 F1 to F4, metals, PCBs	
5	Site Roads	10-15 F1 to F4, metals, PCBs	
6	Temp Waste Storage Area	3-5 metals, PCBs	
7	Camp	3-5 F1 to F4, metals	
8	Borrow Sources	10-15 metals	

3.2 ESTIMATED SAMPLE NUMBERS FOR BASELINE TESTING

- PHCs: 43 to 80 samples soil; 14 to 23 water/liquid
- Metals: 44 to 76 samples soil; 14 to 23 water/liquid
- PCBs: 31 to 56 samples soil; 14 to 23 water/liquid
- Routine Water: 4 to 8 samples water
- Duplicates: 10%

3.3 SAMPLE CODING

- Prefix by AEC and Suffix by northing and easting if applicable (i.e., for landfill: BL-1-10-20) or suffix sequentially or appropriately if grid is not appropriate

3.4 EQUIPMENT

- Sample jars supplied by laboratory
- Hand auger, scoop or similar device
- Latex gloves
- Alconox and water or similar for decontamination of samples
- Cooler and ice packs, chain of custody
- Notebook, pen or pencil
- PID
- Sample bags for vapour testing

- Munsell colour chart
- Measuring wheel or tape and pins
- Camera
- Water level meter, pH and conductivity meter, metal filters, preservatives, bailers and rope for groundwater sampling.

3.5 METHODOLOGY

Soils

For each area requiring baseline sampling, sample the soil on grid (if applicable) using scoop or similar device, decontaminating between sample points. Place soil in both jars and bags. Label jars using proper coding. Describe soil using Unified Soil Classification system and Munsell Colour Charts and other descriptors and record. Place soil in cooler and if air temperatures are greater than 5ºC ensure ice packs are used for PHC soils. Measure the headspace of the soil in the bag after 15 minutes using PID and record. Take pictures of excavation area. Fill out chain of custody and ship to laboratory as soon as possible. Follow up with laboratory within two days of shipping to ensure the shipment has been received.

Groundwater

Install wells as per specification and log soil (include depth and description of permafrost and soil moisture conditions) and well construction details (screen and solid length, stickup, depth, bentonite and screen sand intervals, etc.) to ensure proper placement of well. Record soil stratigraphy and construction details in notebook. Take soil samples at regular intervals and treat as per soil section methodology. Survey wells as per location and elevation and record. Measure the depth to groundwater as well as total depth and record. Purge of minimum three well volumes or until dry. When recharged conduct field tests and record and then sample groundwater and preserve appropriately as per laboratory instructions. Label jars and place in cooler with ice for shipping. Fill out chain of custody and ship to laboratory. Follow up with laboratory within two days of shipping to ensure the shipment has been received.

4.0 WORKED AREAS WITH BARRELS (NOT INCLUDING WORKED AREA 1)

4.1 AREAS REQUIRING INVESTIGATION

The following areas of concern require remediation and should be investigated as early as possible to allow for further remedial planning.

Worked Area No.	Location Description	Comments on Delineation	Contaminants of Potential Concern	Minimum Test Pits Recommended
2	Southeast of Air Terminal Building	No sampling conducted previously	PHC, metals, PCBs, barrels with unknown contents	6 to 10
3	East of Air Terminal Building	No sampling conducted previously	PHC, metals, PCBs, barrels with unknown contents	4 to 8
4	Southeast of Air Terminal Building	No sampling conducted previously	PHC, metals, PCBs, barrels with unknown contents	4 to 6
5	Beach Area North	No sampling conducted previously	PHC, metals, PCBs, barrels with unknown contents	4 to 6
6	Beach Area North	No sampling conducted previously	PHC, metals, PCBs, barrels with unknown contents	10 to 20
7	Beach Area South	No sampling conducted previously	PHC, metals, PCBs, barrels with unknown contents	10 to 20
8	Beach Area South	No sampling conducted previously	PHC, metals, PCBs, barrels with unknown contents	4 to 8

4.2 ESTIMATED NUMBER OF TESTPITS AND SAMPLES FOR WORKED AREAS

- PHCs: 42 to 78
- Metals: 42 to 78
- PCBs: 42 to 78
- Testpits: 42 to 78
- Duplicates 10%

4.3 SAMPLE CODING

- Prefix by WA and suffix by northing, easting and depth. (i.e., WA-2-10-20)

4.4 EQUIPMENT

- Sample jars supplied by laboratory
- Latex gloves
- Hand auger, scoop or similar device
- Alconox and water or similar for decontamination of samples

- Cooler and ice packs, chain of custody
- Notebook, pen or pencil
- PID
- Sample bags for vapour testing
- Munsell colour chart
- Measuring wheel or tape and pins
- Camera
- Water level meter, pH and conductivity meter, metal filters, preservatives, bailers, and rope for groundwater sampling
- Barrel thieves, if encountered
- Emergency spill kit if barrels accidentally punctured

4.5 METHODOLOGY

For each worked area requiring sampling, sample the soil with backhoe and using scoop or similar device for sampling soil, decontaminating between sample points. Place soil in both jars and bags. Label jars using proper coding. Describe soil using Unified Soil Classification system and Munsell Colour Charts and other descriptors and record in testpit log. Describe debris encountered and estimate the proportion of debris to soil. If barrels are encountered determine contents, and if safe to do so, recover barrel and sample. Take photograph of testpit. Place soil (and barrel sample if found) in cooler and if air temperatures are greater than 5ºC ensure ice packs are used for PHC soils. Measure the headspace of the soil in the bag after 15 minutes using PID and record. Take pictures of excavation area. Fill out chain of custody and ship to laboratory as soon as possible. Follow up with laboratory within two days of shipping to ensure the shipment has been received.

5.0 BARRELS, POTENTIAL DISCHARGES, ETC.

5.1 SPECIALIZED TESTING FOR BARRELS AND DISCHARGES

The following specialized testing may be required.

Item of Environmental Concern	Description	Testing Requirements	Comments
1	Barrels (partial of full) discovered in worked areas or at other parts of the site	30 (estimated) DEW Line Barrel Protocol (flashpoint, glycols, alcohols, PCBs, chlorine cadmium, chromium and lead)	Follow Barrel Protocol and Waste Tracking Protocol-Cape Christian
2	Miscellaneous Water	20 (estimated) Discharge Criteria	

Item of Environmental Concern	Description	Testing Requirements	Comments
	Discharges to Environment	parameters (pH, phenols, PCBs, cadmium (dissolved), chromium (total), cobalt (dissolved), copper (dissolved), lead (dissolved), mercury (total), nickel (dissolved), PCBs, Zinc (total)	
4	Sewage Discharges	15 (estimated) Sewage Discharge Criteria (pH, Oil and Grease, TSS, BOD and Fecal Coliforms)	
5	Incinerator Residuals	5 (estimated) metals	
6	Hazmat	5 samples each ACM, , lead in paint, PCBs in paint	

5.2 ESTIMATED NUMBER OF TESTPITS AND ANALYTICAL SAMPLES

- DEW Line Barrel Protocol Parameters (flashpoint, glycols, alcohols, PCBs chlorine cadmium, chromium and lead): 30
  - Note that for this package flashpoint will be conducted first and then the other parameters as per the Waste Tracking Protocol-Cape Christian.
- Discharge Criteria Parameters: 20
- Sewage Discharge Criteria Parameters (pH, oil and grease, TSS, BOD and Fecal Coliforms): 15
- Metals: 5
- Hazmat (ACM, lead, and PCB in paint): 5 each
- Duplicates: 10%

5.3 SAMPLE CODING

- Prefix by IEC and Suffix sequentially (i.e., IEC-1-5)

5.4 EQUIPMENT

- Sample jars supplied by laboratory
- Latex gloves
- Bung wrench
- Drum thieves
- Alconox and water or similar for decontamination of samples
- Cooler and ice packs, chain of custody

- Notebook, pen, or pencil
- Camera
- Emergency spill kit if barrels accidentally punctured

5.5 METHODOLOGY

Follow protocol in Appendix B of INAC's abandoned military site protocol for safely sampling drums. Determine approximate contents of drums by labelling, etc. Sample drums with sieves and determine whether aqueous or oil. Place samples in jars and label jar and drum with same sample coding. Record information in notebook. Place barrel sample in cooler and if air temperatures are greater than 5ºC ensure ice packs are used. Take pictures of drum. Fill out chain of custody and ship to laboratory as soon as possible. Follow up with laboratory within two days of shipping to ensure the shipment has been received.

For discharge water and sewage water, sample water and place in laboratory supplied jars with preservatives, label, and then place in cooler with ice. Fill out chain of custody and ship to laboratory as soon as possible. Follow up with laboratory within two days of shipping to ensure the shipment has been received.

APPENDIX F

APPENDIX F ANALYTICAL REPORTS

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.
6111 - 36 STREET SE
CALGARY, AB T2C3W2

ATTENTION TO: Michel Hebert / Herb Ziervogel

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10C418424

TRACE ORGANICS REVIEWED BY: Ron Brockbank, Trace Organics Supervisor

WATER ANALYSIS REVIEWED BY: Irina Gankovsky, Analyst

DATE REPORTED: Jul 13, 2010

PAGES (INCLUDING COVER): 22

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005, or at 1-866-764-7554

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

Member of: Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)
Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.

Results relate only to the items tested

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Soil Analysis

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Soil

Parameter	Unit	G / S	RDL	IEC1-58 (Black Sand) 1867241
Chromium	mg/kg		0.05	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By: _____

Results relate only to the items tested

AGAT Laboratories

Certificate of Analysis

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Soil Analysis - TCLP Cd, Cr, Zn

DATE SAMPLED: Jul 03, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Metal

Parameter	Unit	G / S	RDL	IEC3-4 (Metal Wire Large Spool) 1867183
Cadmium - Leachate	mg/L		0.5	<0.5
Chromium - Leachate	mg/L		0.5	<0.5
Zinc - Leachate	mg/L		1	309

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1867183 Note: Non-routine analysis due to the nature of the sample (sample is solid metal)

Certified By: _____

Results relate only to the items tested

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Certificate of Analysis

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Oil and Grease in Water (FTIR)

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	IEC4-9 (Water Reservoir) 1867190	IEC4-10 (Pole Excavation Water) 1867214	IEC4-11 (Wash Water from Tanks) 1867215
Oil Content, Infrared	mg/L		0.2	0.5	51.6	187

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

Results relate only to the items tested

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AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Petroleum Hydrocarbons (F2-F4) in Soil

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Soil

Parameter	Unit	G / S	RDL	IEC1-53 (0-10cm) 1867226	IEC1-53 (10-60cm) 1867227	IEC1-54 (0-30cm) 1867228	IEC1-54 (30-90cm) 1867230	IEC1-55 (0-30cm) 1867231	IEC1-55 (30-70cm) 1867233	IEC1-56 (0-30cm) 1867234	IEC1-56 (30-50cm) 1867237
C10 - C16 (F2)	mg/kg	150	10	9490	18900	6220	2260	438	6850	4170	9850
C16 - C34 (F3)	mg/kg	1300	10	2430	1540	913	165	550	798	986	1190
C34 - C50 (F4)	mg/kg	5600	10	424	182	61	<10	128	99	70	78
Moisture Content	%		1	9	10	13	10	9	8	13	15
Surrogate	Unit	Acceptable Limits									
o-Terphenyl (F2-F4)	%	50-150		101	101	102	100	106	99	105	99

Parameter	Unit	G / S	RDL	IEC1-57 (0-40cm) 1867238	IEC1-57 (40-90cm) 1867239
C10 - C16 (F2)	mg/kg	150	10	<10	14600
C16 - C34 (F3)	mg/kg	1300	10	48	1170
C34 - C50 (F4)	mg/kg	5600	10	14	94
Moisture Content	%		1	10	13
Surrogate	Unit	Acceptable Limits			
o-Terphenyl (F2-F4)	%	50-150		100	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1867226-1867239 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certified By:



Results relate only to the items tested

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AGAT WORK ORDER: 10C418424
PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Polyaromatic Hydrocarbon Analysis - Water FWAL

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	IEC4-10 (Pole Excavation Water) 1867214
Acridine	mg/L		0.0001	<0.0001
Quinoline	mg/L		0.0001	2.12
2-Methylnaphthalene	mg/L		0.00001	0.831
Naphthalene	mg/L		0.00001	1.25
Acenaphthylene	mg/L		0.00001	0.019
Acenaphthene	mg/L		0.00001	0.404
Fluorene	mg/L		0.00001	0.377
Phenanthrene	mg/L		0.00001	1.01
Anthracene	mg/L		0.00001	0.122
Fluoranthene	mg/L		0.00001	0.294
Pyrene	mg/L		0.00001	0.526
Benzo[a]anthracene	mg/L		0.00001	0.0448
Chrysene	mg/L		0.00001	0.0432
Benzo[b+j]fluoranthene	mg/L		0.00001	0.0455
Benzo[k]fluoranthene	mg/L		0.00001	0.0118
Benzo[a]pyrene	mg/L		0.00001	0.0188
Indeno[1,2,3-cd]pyrene	mg/L		0.00001	0.00578
Benzo[ghi]perylene	mg/L		0.00001	0.00502
Dibenzo[ah]anthracene	mg/L		0.00001	<0.00001
Surrogate	Unit	Acceptable Limits		
2-Fluorobiphenyl (PAH)	%	50-150		90
p-Terphenyl-d14 (PAH)	%	50-150		80

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1867214 Based on GC/MS target ion analysis.
Isomers Benzo(b)fluoranthene and Benzo(j)fluoranthene have the same GC retention time and are reported as the sum based on the Benzo(b)fluoranthene response.

Certified By:

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PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Polychlorinated Biphenyls Analysis - Water

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	IEC4-9 (Water Reservoir) 1867190	IEC4-10 (Pole Excavation Water) 1867214	IEC4-11 (Wash Water from Tanks) 1867215
Aroclor 1242	µg/L		0.01	<0.01	<0.01	<0.01
Aroclor 1254	µg/L		0.01	<0.01	<0.01	<0.01
Aroclor 1260	µg/L		0.01	<0.01	<0.01	<0.01
Polychlorinated Biphenyls	µg/L		0.01	<0.01	<0.01	<0.01

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

Results relate only to the items tested

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AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Trichloroethylene and Tetrachloroethylene in Soil

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Soil

Parameter	Unit	G / S	RDL	IEC1-54 (0-30cm) 1867228	IEC1-54 (30-90cm) 1867230	IEC1-55 (0-30cm) 1867231	IEC1-55 (30-70cm) 1867233	IEC1-56 (0-30cm) 1867234	IEC1-56 (30-50cm) 1867237	IEC1-57 (0-40cm) 1867238	IEC1-57 (40-90cm) 1867239
Trichloroethylene	mg/kg		0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.120
Tetrachloroethene	mg/kg		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05
Surrogate	Unit	Acceptable Limits									
Toluene-d8 (BTEX)	%	50-150		100	97	101	102	104	98	102	99

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1867228-1867239 Results were obtained based on the dry weight of the sample.

Certified By:

Results relate only to the items tested

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AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Volatile Organic Compounds in Soil

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Soil

Parameter	Unit	G / S	RDL	IEC1-53 (0-10cm) 1867226	IEC1-53 (10-60cm) 1867227
Chloromethane	mg/kg		0.01	<0.01	<0.01
Vinyl Chloride	mg/kg		0.0002	<0.0002	<0.0002
Bromomethane	mg/kg		0.01	<0.01	<0.01
Chloroethane	mg/kg		0.01	<0.01	<0.01
Trichlorofluoromethane	mg/kg		0.01	<0.01	<0.01
Acetone	mg/kg		0.1	<0.1	<0.1
1,1-Dichloroethylene	mg/kg		0.01	<0.01	<0.01
Methylene Chloride	mg/kg		0.01	0.12	0.14
Methyl tert-butyl ether	mg/kg		0.01	<0.01	<0.01
Methyl Ethyl Ketone	mg/kg		0.1	<0.1	<0.1
trans- 1,2-dichloroethylene	mg/kg		0.01	<0.01	<0.01
1,1-Dichloroethane	mg/kg		0.01	<0.01	<0.01
cis- 1,2-Dichloroethylene	mg/kg		0.01	<0.01	<0.01
Chloroform	mg/kg		0.001	<0.001	<0.001
1,2-Dichloroethane	mg/kg		0.002	<0.002	<0.002
1,1,1-Trichloroethane	mg/kg		0.01	<0.01	0.50
Carbon Tetrachloride	mg/kg		0.0005	<0.0005	<0.0005
Benzene	mg/kg		0.005	<0.005	0.046
1,2-Dichloropropane	mg/kg		0.01	<0.01	<0.01
Trichloroethylene	mg/kg		0.005	0.026	0.593
Bromodichloromethane	mg/kg		0.01	<0.01	<0.01
trans-1,3-Dichloropropene	mg/kg		0.01	<0.01	<0.01
Methyl Isobutyl Ketone	mg/kg		0.1	<0.1	0.3
cis-1,3-Dichloropropene	mg/kg		0.01	<0.01	<0.01
1,1,2-Trichloroethane	mg/kg		0.01	<0.01	<0.01
Toluene	mg/kg		0.01	0.01	1.71
2-Hexanone	mg/kg		0.1	<0.1	<0.1
Dibromochloromethane	mg/kg		0.01	<0.01	<0.01
Ethylene Dibromide	mg/kg		0.01	<0.01	<0.01
Tetrachloroethene	mg/kg		0.01	<0.01	0.03
1,1,1,2-Tetrachloroethane	mg/kg		0.01	<0.01	<0.01
Chlorobenzene	mg/kg		0.01	<0.01	0.01

Certified By:

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AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Volatile Organic Compounds in Soil

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Soil

Parameter	Unit	G / S	RDL	IEC1-53 (0-10cm) 1867226	IEC1-53 (10-60cm) 1867227
Ethylbenzene	mg/kg		0.01	0.03	2.98
m & p-Xylene	mg/kg		0.01	0.11	14.06
Bromoform	mg/kg		0.01	<0.01	<0.01
Styrene	mg/kg		0.01	0.02	0.43
1,1,2,2-Tetrachloroethane	mg/kg		0.01	<0.01	<0.01
o-Xylene	mg/kg		0.01	0.51	13.57
1,3-Dichlorobenzene	mg/kg		0.01	<0.01	<0.01
1,4-Dichlorobenzene	mg/kg		0.01	<0.01	<0.01
1,2-Dichlorobenzene	mg/kg		0.01	<0.01	<0.01
1,2,4-Trichlorobenzene	mg/kg		0.01	<0.01	<0.01
Total Xylenes	mg/kg		0.01	0.62	27.63
Surrogate	Unit	Acceptable Limits			
Toluene-d8 (BTEX)	%	50-150		105	101

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1867226-1867227 Results were obtained based on the dry weight of the sample.

Certified By:

Results relate only to the items tested

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AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Dissolved Metals in Water

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	IEC4-9 (Water Reservoir) 1867190	IEC4-10 (Pole Excavation Water) 1867214	IEC4-11 (Wash Water from Tanks) 1867215
Dissolved Cadmium	mg/L		0.000025	<0.000025	0.00121	<0.000025
Dissolved Chromium	mg/L		0.001	<0.001	0.005	0.001
Dissolved Cobalt	mg/L		0.001	<0.001	0.016	<0.001
Dissolved Copper	mg/L		0.002	<0.002	0.014	0.013
Dissolved Lead	mg/L		0.001	<0.001	0.004	0.001
Dissolved Nickel	mg/L		0.003	<0.003	0.008	0.005

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1867190-1867215 < - Values refer to Method Detection Limit.

Certified By:

Results relate only to the items tested

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PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Total Metals in Water

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	IEC4-9 (Water Reservoir) 1867190	IEC4-10 (Pole Excavation Water) 1867214	IEC4-11 (Wash Water from Tanks) 1867215
Total Copper	mg/L		0.002	<0.002	0.053	0.050
Total Zinc	mg/L		0.003	0.004	0.387	0.012
Total Mercury	mg/L		0.000025	0.000037	0.000499	0.000057

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME FWAL

1867190-1867215 < - Values refer to Method Detection Limit.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

ATTENTION TO: Michel Hebert / Herb Ziervogel

Water Analysis

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	IEC4-9 (Water Reservoir) 1867190	RDL	IEC4-10 (Pole Excavation Water) 1867214	RDL	IEC4-11 (Wash Water from Tanks) 1867215
Phenols	mg/L		0.002	0.005	0.200	4.41	0.002	0.101
pH			NA	7.1	NA	6.8	NA	6.7

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

Results relate only to the items tested

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ATTENTION TO: Michel Hebert / Herb Ziervogel

Water Analysis - As

DATE SAMPLED: Jul 05, 2010 | DATE RECEIVED: Jul 12, 2010 | DATE REPORTED: Jul 13, 2010 | SAMPLE TYPE: Water

Parameter	Unit	G / S	RDL	IEC4-9 (Water Reservoir) 1867190	IEC4-10 (Pole Excavation Water) 1867214	IEC4-11 (Wash Water from Tanks) 1867215
Total Arsenic	mg/L		0.001	<0.001	0.007	<0.001

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

Results relate only to the items tested

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

ATTENTION TO: Michel Hebert / Herb Ziervogel

Soil Analysis

RPT Date: Jul 13, 2010			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Soil Analysis - TCLP Cd, Cr, Zn															
Cadmium - Leachate	1238	804	<0.5	<0.5	0.0%	< 0.5	107%	90%	110%		0%	0%	95%	75%	125%
Chromium - Leachate	1238	804	<0.5	<0.5	0.0%	< 0.5	103%	90%	110%		0%	0%	99%	75%	125%
Zinc - Leachate	1238	804	<1	<1	0.0%	< 1	104%	90%	110%		0%	0%	97%	75%	125%

Certified By: _____

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.

Results relate only to the items tested

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

ATTENTION TO: Michel Hebert / Herb Ziervogel

Trace Organics Analysis

RPT Date: Jul 13, 2010			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Polyaromatic Hydrocarbon Analysis - Water FWAL															
Acridine	106	1865107	<0.0001	<0.0001	NA	< 0.0001	80%	70%	130%	106%	70%	130%	90%	70%	130%
Quinoline	106	1865107	<0.0001	<0.0001	NA	< 0.0001	97%	70%	130%	120%	70%	130%	106%	70%	130%
2-Methylnaphthalene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	102%	70%	130%	120%	70%	130%	115%	70%	130%
Naphthalene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	111%	70%	130%	126%	70%	130%	124%	70%	130%
Acenaphthylene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	99%	70%	130%	113%	70%	130%	108%	70%	130%
Acenaphthene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	103%	70%	130%	124%	70%	130%	119%	70%	130%
Fluorene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	92%	70%	130%	110%	70%	130%	105%	70%	130%
Phenanthrene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	99%	70%	130%	123%	70%	130%	118%	70%	130%
Anthracene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	107%	70%	130%	84%	70%	130%	82%	70%	130%
Fluoranthene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	84%	70%	130%	98%	70%	130%	96%	70%	130%
Pyrene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	111%	70%	130%	130%	70%	130%	125%	70%	130%
Benzo[a]anthracene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	93%	70%	130%	98%	70%	130%	93%	70%	130%
Chrysene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	91%	70%	130%	109%	70%	130%	105%	70%	130%
Benzo[b+j]fluoranthene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	118%	70%	130%	127%	70%	130%	122%	70%	130%
Benzo[k]fluoranthene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	100%	70%	130%	116%	70%	130%	111%	70%	130%
Benzo[a]pyrene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	118%	70%	130%	119%	70%	130%	110%	70%	130%
Indeno[1,2,3-cd]pyrene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	109%	70%	130%	130%	70%	130%	122%	70%	130%
Benzo[ghi]perylene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	110%	70%	130%	130%	70%	130%	122%	70%	130%
Dibenzo[ah]anthracene	106	1865107	<0.00001	<0.00001	NA	< 0.00001	114%	70%	130%	130%	70%	130%	123%	70%	130%
Volatile Organic Compounds in Soil															
Chloromethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	60%	60%	140%	65%	60%	140%			
Vinyl Chloride	2451	1867227	< 0.0002	< 0.0002	NA	< 0.0002	60%	60%	140%	63%	60%	140%			
Bromomethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	63%	60%	140%	60%	60%	140%			
Chloroethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	67%	60%	140%	67%	60%	140%			
Trichlorofluoromethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	70%	60%	140%	71%	60%	140%			
Acetone	2451	1867227	< 0.1	< 0.1	NA	< 0.1	83%	60%	140%	83%	60%	140%			
1,1-Dichloroethylene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	70%	60%	140%	74%	60%	140%			
Methylene Chloride	2451	1867227	0.1323	0.141	6.4%	< 0.01	77%	60%	140%	81%	60%	140%			
Methyl tert-butyl ether	2451	1867227	< 0.01	< 0.01	NA	< 0.01	70%	60%	140%	70%	60%	140%			
Methyl Ethyl Ketone	2451	1867227	< 0.1	< 0.1	NA	< 0.1	80%	60%	140%	80%	60%	140%			
trans- 1,2-dichloroethylene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	74%	60%	140%	75%	60%	140%			
1,1-Dichloroethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	69%	60%	140%	71%	60%	140%			
cis- 1,2-Dichloroethylene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	79%	60%	140%	78%	60%	140%			
Chloroform	2451	1867227	< 0.001	< 0.001	NA	< 0.001	73%	60%	140%	84%	60%	140%			
1,2-Dichloroethane	2451	1867227	< 0.002	< 0.002	NA	< 0.002	72%	60%	140%	78%	60%	140%			
1,1,1-Trichloroethane	2451	1867227	0.3737	0.4973	28.4%	< 0.01	71%	60%	140%	77%	60%	140%			
Carbon Tetrachloride	2451	1867227	< 0.0005	< 0.0005	NA	< 0.0005	73%	60%	140%	81%	60%	140%			
Benzene	2451	1867227	0.0438	0.0455	3.8%	< 0.005	93%	60%	140%	96%	60%	140%			
1,2-Dichloropropane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	86%	60%	140%	89%	60%	140%			

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

ATTENTION TO: Michel Hebert / Herb Ziervogel

Trace Organics Analysis (Continued)

RPT Date: Jul 13, 2010

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Trichloroethylene	2451	1867227	0.4431	0.5929	28.9%	< 0.005	78%	60%	140%	81%	60%	140%			
Bromodichloromethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	90%	60%	140%	91%	60%	140%			
trans-1,3-Dichloropropene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	89%	60%	140%	90%	60%	140%			
Methyl Isobutyl Ketone	2451	1867227	0.2419	0.2995	21.3%	< 0.1	79%	60%	140%	79%	60%	140%			
cis-1,3-Dichloropropene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	85%	60%	140%	87%	60%	140%			
1,1,2-Trichloroethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	88%	60%	140%	89%	60%	140%			
Toluene	2451	1867227	1.25	1.71	31.1%	< 0.01	94%	60%	140%	97%	60%	140%			
2-Hexanone	2451	1867227	< 0.1	< 0.1	NA	< 0.1	70%	60%	140%	70%	60%	140%			
Dibromochloromethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	90%	60%	140%	92%	60%	140%			
Ethylene Dibromide	2451	1867227	< 0.01	< 0.01	NA	< 0.01	89%	60%	140%	89%	60%	140%			
Tetrachloroethene	2451	1867227	0.022	0.026	16.7%	< 0.01	84%	60%	140%	85%	60%	140%			
1,1,1,2-Tetrachloroethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	103%	60%	140%	103%	60%	140%			
Chlorobenzene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	84%	60%	140%	88%	60%	140%			
Ethylbenzene	2451	1867227	2.15	2.98	32.4%	< 0.01	96%	60%	140%	98%	60%	140%			
m & p-Xylene	2451	1867227	10.31	14.06	30.8%	< 0.01	100%	60%	140%	103%	60%	140%			
Bromoform	2451	1867227	< 0.01	< 0.01	NA	< 0.01	91%	60%	140%	93%	60%	140%			
Styrene	2451	1867227	0.33	0.43	26.3%	< 0.01	84%	60%	140%	102%	60%	140%			
1,1,2,2-Tetrachloroethane	2451	1867227	< 0.01	< 0.01	NA	< 0.01	93%	60%	140%	93%	60%	140%			
o-Xylene	2451	1867227	10.14	13.57	28.9%	< 0.01	97%	60%	140%	99%	60%	140%			
1,3-Dichlorobenzene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	89%	60%	140%	90%	60%	140%			
1,4-Dichlorobenzene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	85%	70%	130%	89%	60%	140%			
1,2-Dichlorobenzene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	86%	70%	130%	88%	60%	140%			
1,2,4-Trichlorobenzene	2451	1867227	< 0.01	< 0.01	NA	< 0.01	108%	60%	140%	97%	60%	140%			
Total Xylenes	2451	1867227	20.45	27.62	29.8%	< 0.01	98%	60%	140%	101%	60%	140%			
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	1070	1867233	6850	6780	1.0%	< 10	90%	80%	120%	96%	80%	120%	83%	60%	140%
C16 - C34 (F3)	1070	1867233	789	798	1.1%	< 10	90%	80%	120%	110%	80%	120%	103%	60%	140%
C34 - C50 (F4)	1070	1867233	99	93	6.3%	< 10	90%	80%	120%	101%	80%	120%	98%	60%	140%
Oil and Grease in Water (FTIR)															
Oil Content, Infrared	3171	1867214	51.050	51.588	1.0%	< 0.2	102%	70%	130%	107%	70%	130%	112%	70%	130%
Trichloroethylene and Tetrachloroethylene in Soil															
Trichloroethylene	2980	1867237	< 0.005	< 0.005	0.0%	< 0.005	97%	60%	140%	95%	60%	140%	90%	60%	140%
Tetrachloroethene	2980	1867237	< 0.01	< 0.01	0.0%	< 0.01	100%	60%	140%	99%	60%	140%	95%	60%	140%
Polychlorinated Biphenyls Analysis - Water															
Aroclor 1242	66	1870446	< 0.01	< 0.01	NA	< 0.01	98%	80%	120%	106%	70%	130%	75%	50%	150%
Aroclor 1254	66	1870446	< 0.01	< 0.01	NA	< 0.01	96%	80%	120%	92%	70%	130%	81%	50%	150%
Aroclor 1260	66	1870446	< 0.01	< 0.01	NA	< 0.01	100%	80%	120%	90%	70%	130%	82%	50%	150%
Polychlorinated Biphenyls	66	1870446	< 0.01	< 0.01	NA	< 0.01	98%	80%	120%	96%	70%	130%	79%	50%	150%

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

ATTENTION TO: Michel Hebert / Herb Ziervogel

Trace Organics Analysis (Continued)

RPT Date: Jul 13, 2010			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By:

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Water Analysis

RPT Date: Jul 13, 2010			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Water Analysis															
Phenols	263	497	4.70	4.82	2.5%	< 0.002	100%	90%	110%	81%	80%	120%	80%	80%	120%
pH	1839	4259	8.3	8.3	0.0%		101%	90%	110%		0%	0%		0%	0%
Dissolved Metals in Water															
Dissolved Cadmium	1350	1867190	< 0.000025	< 0.000025	0.0%	< 0.000025	96%	90%	110%				101%	75%	125%
Dissolved Chromium	1350	1867190	< 0.001	< 0.001	0.0%	< 0.001	104%	90%	110%				102%	75%	125%
Dissolved Cobalt	1350	1867190	< 0.001	< 0.001	0.0%	< 0.001	100%	90%	110%				107%	75%	125%
Dissolved Copper	1350	1867190	< 0.002	< 0.002	0.0%	< 0.002	101%	90%	110%				104%	75%	125%
Dissolved Lead	1350	1867190	< 0.001	< 0.001	0.0%	< 0.001	101%	90%	110%				110%	75%	125%
Dissolved Nickel	1350	1867190	< 0.003	< 0.003	0.0%	< 0.003	102%	90%	110%				109%	75%	125%
Total Metals in Water															
Total Copper	225	344	0.002	0.002	0.0%	< 0.002	104%	90%	110%				96%	75%	125%
Total Zinc	225	344	0.00313	0.0033	5.3%	< 0.003	99%	90%	110%				94%	75%	125%
Total Mercury	841	125	< 0.000025	< 0.000025	0.0%	< 0.000025	103%	90%	110%	104%	90%	110%	105%	75%	125%
Water Analysis - As															
Total Arsenic	225	1839344	< 0.001	< 0.001	0.0%	< 0.001	99%	75%	125%				99%	75%	125%

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD.

AGAT WORK ORDER: 10C418424

PROJECT NO: E22101581.001

ATTENTION TO: Michel Hebert / Herb Ziervogel

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Chromium	SOIL 0390; SOIL 0110; SOIL 0120; INST 0141	EPA SW 846-3050/6010; SHEPPARD	ICP/OES
Cadmium - Leachate	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Chromium - Leachate	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Zinc - Leachate	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES

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PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Oil Content, Infrared			FTIR
C10 - C16 (F2)	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)			GC/FID
Acridine	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Quinoline	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
2-Methylnaphthalene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Naphthalene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Acenaphthylene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Acenaphthene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Fluorene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Phenanthrene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Anthracene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Fluoranthene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Pyrene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Benzo[a]anthracene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Chrysene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Benzo[b+j]fluoranthene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Benzo[k]fluoranthene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Benzo[a]pyrene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Indeno[1,2,3-cd]pyrene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Benzo[ghi]perylene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Dibenzo[ah]anthracene	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
2-Fluorobiphenyl (PAH)	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
p-Terphenyl-d14 (PAH)	TO 0200	EPA SW-846 3510C & 8270D	GC/MS
Aroclor 1242	TO 0400	EPA 608, AEC A106.0	GC/ECD
Aroclor 1254	TO 0400	EPA 608, AEC A106.0	GC/ECD
Aroclor 1260	TO 0400	EPA 608, AEC A106.0	GC/ECD
Polychlorinated Biphenyls	TO 0400	EPA 608, AEC A106.0	GC/ECD
Trichloroethylene	T0 0340	EPA SW-846 8260	GC/MS
Tetrachloroethene	T0 0340	EPA SW-846 8260	GC/MS
Toluene-d8 (BTEX)	TO 0340	EPA SW-846 8260	GC/FID
Chloromethane	TO 0340	EPA SW-846 8260	GC/MS
Vinyl Chloride	TO 0340	EPA SW-846 8260	GC/MS
Bromomethane	TO 0340	EPA SW-846 8260	GC/MS
Chloroethane	TO 0340	EPA SW-846 8260	GC/MS
Trichlorofluoromethane	TO 0340	EPA SW-846 8260	GC/MS
Acetone	TO 0340	EPA SW-846 8260	GC/MS
1,1-Dichloroethylene	TO 0340	EPA SW-846 8260	GC/MS
Methylene Chloride	TO 0340	EPA SW-846 8260	GC/MS
Methyl tert-butyl ether	T0 0340	EPA SW-846 8260	GC/MS
Methyl Ethyl Ketone	T0 0340	EPA SW-846 8260	GC/MS
trans- 1,2-dichloroethylene	T0 0340	EPA SW-846 8260	GC/MS
1,1-Dichloroethane	T0 0340	EPA SW-846 8260	GC/MS
cis- 1,2-Dichloroethylene	T0 0340	EPA SW-846 8260	GC/MS
Chloroform	T0 0340	EPA SW-846 8260	GC/MS
1,2-Dichloroethane	T0 0340	EPA SW-846 8260	GC/MS

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Method Summary

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AGAT WORK ORDER: 10C418424

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ATTENTION TO: Michel Hebert / Herb Ziervogel

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
1,1,1-Trichloroethane	T0 0340	EPA SW-846 8260	GC/MS
Carbon Tetrachloride	T0 0340	EPA SW-846 8260	GC/MS
Benzene	T0 0340	EPA SW-846 8260	GC/MS
1,2-Dichloropropane	T0 0340	EPA SW-846 8260	GC/MS
Trichloroethylene	T0 0340	EPA SW-846 8260	GC/MS
Bromodichloromethane	T0 0340	EPA SW-846 8260	GC/MS
trans-1,3-Dichloropropene	T0 0340	EPA SW-846 8260	GC/MS
Methyl Isobutyl Ketone	T0 0340	EPA SW-846 8260	GC/MS
cis-1,3-Dichloropropene	T0 0340	EPA SW-846 8260	GC/MS
1,1,2-Trichloroethane	T0 0340	EPA SW-846 8260	GC/MS
Toluene	T0 0340	EPA SW-846 8260	GC/MS
2-Hexanone	T0 0340	EPA SW-846 8260	GC/MS
Dibromochloromethane	T0 0340	EPA SW-846 8260	GC/MS
Ethylene Dibromide	T0 0340	EPA SW-846 8260	GC/MS
Tetrachloroethene	T0 0340	EPA SW-846 8260	GC/MS
1,1,1,2-Tetrachloroethane	T0 0340	EPA SW-846 8260	GC/MS
Chlorobenzene	T0 0340	EPA SW-846 8260	GC/MS
Ethylbenzene	T0 0340	EPA SW-846 8260	GC/MS
m & p-Xylene	T0 0340	EPA SW-846 8260	GC/MS
Bromoform	T0 0340	EPA SW-846 8260	GC/MS
Styrene	T0 0340	EPA SW-846 8260	GC/MS
1,1,2,2-Tetrachloroethane	T0 0340	EPA SW-846 8260	GC/MS
o-Xylene	T0 0340	EPA SW-846 8260	GC/MS
1,3-Dichlorobenzene	T0 0340	EPA SW-846 8260	GC/MS
1,4-Dichlorobenzene	TO 0340	EPA SW-846 8260	GC/MS
1,2-Dichlorobenzene	TO 0340	EPA SW-846 8260	GC/MS
1,2,4-Trichlorobenzene	T0 0340	EPA SW-846 8260	GC/MS
Total Xylenes	T0 0340	EPA SW-846 8260	GC/MS
Toluene-d8 (BTEX)	TO 0340	EPA SW-846 8260	GC/FID
Water Analysis			
Dissolved Cadmium	INST 0141	SM 3125 B	ICP/MS
Dissolved Chromium	INST 0141	SM 3125 B	ICP/MS
Dissolved Cobalt	INST 0141	SM 3125 B	ICP/MS
Dissolved Copper	INST 0141	SM 3125 B	ICP/MS
Dissolved Lead	INST 0141	SM 3125 B	ICP/MS
Dissolved Nickel	INST 0141	SM 3125 B	ICP/MS
Total Copper	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP/MS
Total Zinc	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP/MS
Total Mercury	WATR 0200; INST 0160	SM 3030 E; SM 3112 B	CV/AA
Phenols	INST 0300	SM 420.2	CONTINUOUS FLOW ANALYZER
pH	INST 0101	SM 4500 H+	PH METER
Total Arsenic	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS

Results relate only to the items tested

CHAIN OF CUSTODY RECORD

2010 Shipment #1

Quote # EBA-DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA Engineering
Contact: Michel Hebert, Herb Ziervogel
Address: 14940-123Ave
Edmonton AB Postal Code: T5V 1B4
Phone: 780-451-2121 Fax: 780-454-5688
LSD:
Client Project #: E22101581.001

Bill Invoice To: SAME (Y) N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: Michel Hebert
Email: mhebert@eba.ca
2. Name: Herb Ziervogel
Email: hziervogel@eba.ca

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time: '10 JUL 12 A9:22
Arrival temperature:
AGAT Job Number: 10C418424

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	Lead	Leachable Lead	Water Discharge	CCME PAH	F2-F4	VOC's	CONTAMINATED/HAZARDOUS (Y/N)
86783	IEC3-4 (Metal Wire Large Spool)		July3/11:00		1									X	X					
84	IEC3-5 (Metal Wire Med. Spool)		July3/11:10		1									X	X					
85	IEC3-6 (Metal Wire Large Cable)		July3/11:20		1									X	X					
86	IEC3-7 (Metal Wire Med. Cable)		July3/11:30		1									X	X					
87	IEC3-8 (Metal Sheeting)		July3/15:00		1									X	X					
90	IEC4-9 (Water Reservoir)	W	July5/15:15		7											X				
72/4	IEC4-10 (Pole Excavation Water)	W	July5/15:35		8											X	X			Y
15	IEC4-11 (Wash Water from Tanks)	W	July5/15:55		7											X				Y
26	IEC1-53 (0-10 cm)	Soil	July5/	Rush	1													X	X	Y
27	IEC1-53 (10-60 cm)		July5/	Rush	1													X	X	Y
28	IEC1-54 (0-30 cm)		July5/	Rush	1													X		Y
30	IEC1-54 (30-90 cm)		July5/	Rush	1													X		Y

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Hebert	July6 7:30		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
			07-08-10 16:57
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097811

CHAIN OF CUSTODY RECORD

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Toll free: 800-661-7174
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Report To:
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
LSD:
Client Project #:

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name:
Email:
2. Name:
Email:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Report Format
- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time: '10 JUL 12 A9:22
Arrival temperature:
AGAT Job Number: 10C418424

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F2-F4					HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
31	~~IEC1-55~~ IEC1-55 (0-30cm)	Soil	July5/	Rush										x						Y
33	IEC1-55 (30-70cm)		July5/	Rush										x						Y
34	IEC1-56 (0-30cm)		July5/	Rush										x						Y
37	IEC1-56 (30-50cm)		July5/	Rush										x						Y
38	IEC1-57 (0-40cm)		July5/	Rush										x						Y
39	IEC1-57 (40-90cm)		July5/	Rush										x						Y
41	IEC1-58 (Black sand)	↓	July5/	Hold. EBA will call																

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Hebert / Michel Hebert	July6/ 7:30	[illegible] 90ly 12/10	922
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
			10 16:57 OUT
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097812

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM Work order # 10C418424

RECEIVING BASICS:
*Complete CoC as well where required
Date and Time: July 12/10 9:22 am
Courier: Purolator
Received by: Jackie
Relinquished by: _____
Company: EBA Engineering
Consultant: _____
Client left without count verified: _____

COC INFORMATION:
Received: (Yes) No Emailed to PM
Completed in full: (Yes) No If NO, why: _____
TURNAROUND TIME: Rush
COC Numbers: 00978611, 00978612

SAMPLE QUANTITIES:
Coolers: 1 Bottles/Jars: 38 Bags: 0

TIME SENSITIVE ISSUES:
Earliest Date Sampled: July 3/10
Microbiology: Test: _____
Hydrocarbons: Test: VOC (PHC) July 5/10
Samples are received >5 days after sampling: (Yes) No

ALREADY EXCEEDED? Yes (No)
Expiry: _____
Expiry: July 12/10

SPECIALTY ISSUES:
Legal Samples: Yes (No)
International Samples: Yes (No)
**Proper tape/labels applied: Yes No

Hazardous Samples:
Why hazardous:
_____
Precaution taken:

SAMPLE REQUIREMENTS:
*Complete while logging in by login staff.
Correct bottles used for testing: (Yes) No
If No, explain: _____
Correct amount of sample for analysis: (Yes) No
If No, explain: _____
Are all samples labeled correctly: (Yes) No
If No, explain: _____

NON-CONFORMANCES:
3 temperatures of samples* and average of each cooler: (record differing temperatures on the CoC next to sample ID's)
(1) 22+23+21 = 22°C (2) ___+___+___=___°C (3) ___+___+___=___°C (4) ___+___+___=___°C
*Jars used when available

Additional integrity issues (note here and on CoC next to the sample ID):
1) _____
2) _____
3) _____

Account Project Manager: _____ Have they been notified of the above issues: Yes No
Whom spoken to: _____ Date and Time: _____

ADDITIONAL NOTES:
_____
_____

AGAT Laboratories

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: MICHEL HEBERT

PROJECT NO:

AGAT WORK ORDER: 10M418985

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

WATER ANALYSIS REVIEWED BY: Sandra Lalli, chimiste

DATE REPORTED: 2010-07-21

VERSION*: 1

PAGES (INCLUDING COVER): 11

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M418985

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

PCB aroclor (water)

DATE RECEIVED: 2010-07-14

DATE REPORTED: 2010-07-21

		SAMPLE DESCRIPTION:		IEC4-12	IEC4-13
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2010-07-10	2010-07-10
Parameter	Unit	G / S	RDL	1870178	1870202
Aroclor 1242	µg/L		0.1	<0.1	<0.1
Aroclor 1248	µg/L		0.1	<0.1	<0.1
Aroclor 1254	µg/L		0.1	<0.1	<0.1
Aroclor 1260	µg/L		0.1	<0.1	<0.1
IUPAC #209	%			106	109

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

AGAT Laboratories' procedure for signatures and signatories adheres strictly to the requirements of accreditation ISO 17025:2005 as required by CALA, SCC and MDDEP where applicable. All electronic signatures on AGAT certificates are password protected and all signatories meet their regional and scope of accreditation requirements and are approved by CALA, SCC and MDDEP.

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Certificate of Analysis

AGAT WORK ORDER: 10M418985

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Total oil and grease (water)

DATE RECEIVED: 2010-07-14

DATE REPORTED: 2010-07-21

		SAMPLE DESCRIPTION:		IEC4-12	IEC4-13
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2010-07-10	2010-07-10
Parameter	Unit	G / S	RDL	1870178	1870202
Total oil and grease	mg/L		4.5	<4.5	<4.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M418985

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

12 Dissolved Metals in Water

DATE RECEIVED: 2010-07-14

DATE REPORTED: 2010-07-21

		SAMPLE DESCRIPTION:		IEC4-12	IEC4-13
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2010-07-10	2010-07-10
Parameter	Unit	G / S	RDL	1870178	1870202
Cadmium (dissolved)	µg/L		0.8	<0.8	<0.8
Chromium (dissolved)	µg/L		10	<10	<10
Cobalt (dissolved)	µg/L		20	<20	<20
Copper (dissolved)	µg/L		3.0	<3.0	<3.0
Nickel (dissolved)	µg/L		2.0	6.4	10.7
Lead (dissolved)	µg/L		1.0	1.4	<1.0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M418985

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Inorganic analysis

DATE RECEIVED: 2010-07-14

DATE REPORTED: 2010-07-21

		SAMPLE DESCRIPTION:		IEC4-12	IEC4-13
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2010-07-10	2010-07-10
Parameter	Unit	G / S	RDL	1870178	1870202
pH	pH		NA	6.04	6.52
Total phenols (colorimetry)	mg/L		0.002	0.025	<0.002
Total Mercury	mg/L		0.0001	0.0001	0.0001

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1870178-1870202 pH analysis performed past holding time

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M418985

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Total Metals Scan

DATE RECEIVED: 2010-07-14

DATE REPORTED: 2010-07-21

Parameter	Unit	G / S	RDL	SAMPLE DESCRIPTION: IEC4-12 SAMPLE TYPE: Water DATE SAMPLED: 2010-07-10 1870178	SAMPLE DESCRIPTION: IEC4-13 SAMPLE TYPE: Water DATE SAMPLED: 2010-07-10 1870202
Silver	µg/L		0.2	<0.2	<0.2
Aluminum	µg/L		30	138	<30
Arsenic	µg/L		1.0	<1.0	<1.0
Antimony	µg/L		3.0	<3.0	<3.0
Barium	µg/L		30	78	98
Bismuth	µg/L		3.0	<3.0	<3.0
Boron	µg/L		60	66	<60
Beryllium	µg/L		3.0	<3.0	<3.0
Cadmium	µg/L		0.8	<0.8	<0.8
Calcium	µg/L		2000	2430	3080
Chromium	µg/L		10	<10	<10
Cobalt	µg/L		20	<20	<20
Copper	µg/L		3.0	<3.0	92.6
Tiin	µg/L		5.0	<5.0	<5.0
Iron	µg/L		300	2660	408
Magnesium	µg/L		2000	2170	<2000
Manganese	µg/L		5.0	437	601
Molybdenum	µg/L		10	<10	<10
Nickel	µg/L		2.0	11.3	33.9
Lead	µg/L		1.0	3.2	47.3
Potassium	µg/L		1000	1410	1250
Sodium	µg/L		2000	10500	9230
Selenium	µg/L		1.0	<1.0	<1.0
Thallium	µg/L		3.0	<3.0	<3.0
Uranium	µg/L		10	<10	<10
Vanadium	µg/L		5.0	<5.0	<5.0
Zinc	µg/L		3.0	189	982

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M418985

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Total Metals Scan

DATE RECEIVED: 2010-07-14

DATE REPORTED: 2010-07-21

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:



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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M418985

PROJECT NO:

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-07-21			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
PCB aroclor (water)															
Aroclor 1242	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	MR	0.5	0.5	0.0%	< 0.1	98%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	MR	101	88	13.8%	89	101%	40%	140%	NA	40%	140%	NA	40%	140%
Total oil and grease (water)															
Total oil and grease	1	MR	25.3	22.3	12.6%	< 4.5	97%	70%	130%	NA	70%	130%	NA	70%	130%

Certified By:

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
AGAT WORK ORDER: 10M418985
PROJECT NO:
ATTENTION TO: MICHEL HEBERT
SAMPLED BY:
SAMPLING SITE:

Water Analysis

RPT Date: 2010-07-21			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
12 Dissolved Metals in Water															
Cadmium (dissolved)	1	NA	NA	NA	0.0%	< 0.8	93%	80%	120%	99%	90%	110%	NA	80%	120%
Chromium (dissolved)	1	NA	NA	NA	0.0%	< 10	94%	80%	120%	93%	80%	120%	112%	80%	120%
Cobalt (dissolved)	1	NA	NA	NA	0.0%	< 20	100%	80%	120%	100%	80%	120%	101%	80%	120%
Copper (dissolved)	1	NA	NA	NA	0.0%	< 3.0	102%	80%	120%	102%	80%	120%	113%	80%	120%
Nickel (dissolved)	1	NA	NA	NA	0.0%	< 2.0	96%	80%	120%	100%	80%	120%	105%	80%	120%
Lead (dissolved)	1	NA	NA	NA	0.0%	< 1.0	91%	80%	120%	98%	80%	120%	100%	80%	120%
Total Metals Scan															
Silver	1	NA	NA	NA	0.0%	< 0.2	NA	80%	120%	96%	80%	120%	99%	80%	120%
Aluminum	1	NA	NA	NA	0.0%	< 30	101%	80%	120%	99%	80%	120%	106%	80%	120%
Arsenic	1	NA	NA	NA	0.0%	< 1.0	94%	80%	120%	97%	80%	120%	109%	80%	120%
Antimony	1	NA	NA	NA	0.0%	< 3.0	97%	80%	120%	98%	80%	120%	106%	80%	120%
Barium	1	NA	NA	NA	0.0%	< 30	103%	80%	120%	105%	80%	120%	109%	80%	120%
Bismuth	1	NA	NA	NA	0.0%	< 3.0	NA	80%	120%	99%	80%	120%	91%	80%	120%
Boron	1	NA	NA	NA	0.0%	< 60	90%	80%	120%	97%	80%	120%	102%	80%	120%
Beryllium	1	NA	NA	NA	0.0%	< 3.0	89%	80%	120%	90%	80%	120%	96%	80%	120%
Cadmium	1	NA	NA	NA	0.0%	< 0.8	100%	80%	120%	95%	80%	120%	105%	80%	120%
Calcium	1	NA	NA	NA	0.0%	< 2000	95%	80%	120%	101%	80%	120%	108%	80%	120%
Chromium	1	NA	NA	NA	0.0%	< 10	97%	80%	120%	95%	80%	120%	102%	80%	120%
Cobalt	1	NA	NA	NA	0.0%	< 20	102%	80%	120%	98%	80%	120%	103%	80%	120%
Copper	1	NA	NA	NA	0.0%	< 3.0	98%	80%	120%	97%	80%	120%	99%	80%	120%
Tiin	1	NA	NA	NA	0.0%	< 5.0	NA	80%	120%	97%	80%	120%	105%	80%	120%
Iron	1	NA	NA	NA	0.0%	< 300	104%	80%	120%	101%	80%	120%	106%	80%	120%
Magnesium	1	NA	NA	NA	0.0%	< 2000	89%	80%	120%	98%	80%	120%	97%	80%	120%
Manganese	1	NA	NA	NA	0.0%	< 5.0	98%	80%	120%	100%	80%	120%	102%	80%	120%
Molybdenum	1	NA	NA	NA	0.0%	< 10	99%	80%	120%	97%	80%	120%	106%	80%	120%
Nickel	1	NA	NA	NA	0.0%	< 2.0	102%	80%	120%	97%	80%	120%	99%	80%	120%
Lead	1	NA	NA	NA	0.0%	< 1.0	99%	80%	120%	99%	80%	120%	96%	80%	120%
Potassium	1	NA	NA	NA	0.0%	< 1000	88%	80%	120%	97%	80%	120%	92%	80%	120%
Sodium	1	NA	NA	NA	0.0%	< 2000	91%	80%	120%	97%	80%	120%	102%	80%	120%
Selenium	1	NA	NA	NA	0.0%	< 1.0	97%	80%	120%	102%	80%	120%	103%	80%	120%
Thallium	1	NA	NA	NA	0.0%	< 3.0	98%	80%	120%	95%	80%	120%	98%	80%	120%
Uranium	1	NA	NA	NA	0.0%	< 10	NA	80%	120%	97%	80%	120%	95%	80%	120%
Vanadium	1	NA	NA	NA	0.0%	< 5.0	98%	80%	120%	95%	80%	120%	103%	80%	120%
Zinc	1	NA	NA	NA	0.0%	< 3.0	102%	80%	120%	100%	80%	120%	111%	80%	120%
Inorganic analysis															
pH	1	NA	NA	NA	0.0%	NA	96%	80%	120%	99%	90%	110%	NA	0%	0%
Total phenols (colorimetry)	1	NA	NA	NA	0.0%	< 0.002	84%	80%	120%	111%	80%	120%	112%	80%	120%
Total Mercury	1	NA	NA	NA	0.0%	< 0.0001	97%	80%	120%	98%	90%	110%	105%	80%	120%

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FAX (514)333-3046
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M418985

PROJECT NO:

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Water Analysis (Continued)

RPT Date: 2010-07-21			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By:



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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M418985

PROJECT NO:

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis					
Aroclor 1242	2010-07-19	2010-07-19	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1248	2010-07-19	2010-07-19	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1254	2010-07-19	2010-07-19	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1260	2010-07-19	2010-07-19	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
IUPAC #209	2010-07-19	2010-07-19	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Total oil and grease	2010-07-19	2010-07-19	ORG-100-5105F	MA.415-HGT 1.0	MICROBALANCE
Water Analysis					
Cadmium (dissolved)	2010-07-15	2010-07-15	MET-101-6105	EPA-SW 846 Met. 3050 et 6020	ICP/MS
Chromium (dissolved)	2010-07-15	2010-07-15	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Cobalt (dissolved)	2010-07-15	2010-07-15	MET-101-6105	EPA SW Met. 3050 et 6020	ICP/MS
Copper (dissolved)	2010-07-15	2010-07-15	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Nickel (dissolved)	2010-07-15	2010-07-15	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Lead (dissolved)	2010-07-15	2010-07-15	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
pH	2010-07-15	2010-07-15	INOR-101-6021F	SM 4500-H+ B 21éd. 2005	PC TITRATE
Total phenols (colorimetry)	2010-07-19	2010-07-19	INOR-101-6050F	SM 5530D 21éd. 2005	TECHNICON AUTO ANALYZER
Total Mercury	2010-07-16	2010-07-20	MET-101-6102F	EPA 245.5	FIMS
Silver	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Aluminum	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Arsenic	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Antimony	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Barium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	
Bismuth	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	
Boron	2010-04-16	2010-07-20	MET-101-6105F	EPA SW-846 6020	
Beryllium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Cadmium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Calcium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6010	ICP/MS
Chromium	2010-04-16	2010-07-19	MET-101-6104F	EPA SW-846 6020	ICP/MS
Cobalt	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Copper	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Tiin	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Iron	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Magnesium	2010-04-16	2010-07-19	MET-101-6150F	EPA SW-846 6020	ICP/MS
Manganese	2010-04-16	2010-07-20	MET-101-6105F	EPA SW-846 6020	ICP/MS
Molybdenum	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Nickel	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Lead	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Potassium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Sodium	2010-04-16	2010-07-20	MET-101-6105F	EPA SW-846 6020	ICP/MS
Selenium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 3050 & 6020	ICP/MS
Thallium	2010-04-16	2010-07-19	MET-101-6150F	EPA SW-846 6020	ICP/MS
Uranium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Vanadium	2010-04-16	2010-07-19	MET-101-6105F	EPA SW-846 6020	ICP/MS
Zinc	2010-04-16	2010-07-20	MET-101-6105F	EPA SW-846 6020	ICP/MS

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CHAIN OF CUSTODY RECORD

Quote # EBA-DCC

Shipment # 2

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____

PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: EBA Engineering
Contact: Michel Hebert, Herb Ziervogel
Address: 14940 - 123 Ave
Edmonton, AB Postal Code: T5V 1B4
Phone: 780-451-2121 Fax: 780-454-5688
LSD:
Client Project #: E22101581.001

Report Information - reports to be sent to:

1. Name: Michel Hebert
   Email: mhebert@eba.ca
2. Name: Herb Ziervogel
   Email: hziervogel

Report Format

- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	Water Discharge					HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	IEC4 - 12	W	July 10/7:30		7									X						
	IEC4 - 13	W	July 10/7:45		7									X						

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Hebert / Michel Hebert	July 10/8:00		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097813

AGAT Laboratories

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CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
14940 - 123 AVENUE
EDMONTON, AB T5V1B4

ATTENTION TO: Michelle Blade

PROJECT NO: E22101581,001

AGAT WORK ORDER: 10M421501

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-07-29

VERSION*: 1

PAGES (INCLUDING COVER): 7

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M421501

PROJECT NO: E22101581,001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Metals (incl. Hg)

DATE RECEIVED: 2010-07-22

DATE REPORTED: 2010-07-29

						SAMPLE DESCRIPTION:	WA8-01	WA8-02	WA8-03	WA8-04	WA8-05
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-07-19	2010-07-19	2010-07-19	2010-07-19	2010-07-19
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1885473	1885474	1885475	1885476	1885477
Arsenic	mg/kg	6	30	50	250	5	<5[<A]	<5[<A]	<5[<A]	<5[<A]	<5[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Chrome	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

						SAMPLE DESCRIPTION:	WA8-06	WA8-07
						SAMPLE TYPE:	Soil	Soil
						DATE SAMPLED:	2010-07-19	2010-07-19
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1885478	1885479
Arsenic	mg/kg	6	30	50	250	5	<5[<A]	<5[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]
Chrome	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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Certificate of Analysis

AGAT WORK ORDER: 10M421501

PROJECT NO: E22101581,001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PCB aroclor

DATE RECEIVED: 2010-07-22

DATE REPORTED: 2010-07-29

		SAMPLE DESCRIPTION:		WA8-01	WA8-02	WA8-03	WA8-04	WA8-05		WA8-06
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil		Soil
		DATE SAMPLED:		2010-07-19	2010-07-19	2010-07-19	2010-07-19	2010-07-19		2010-07-19
Parameter	Unit	G / S	RDL	1885473	1885474	1885475	1885476	1885477	RDL	1885478
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<2.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<2.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<2.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.5	<2.5
IUPAC #209	%			69	71	73	70	69		NA

		SAMPLE DESCRIPTION:		WA8-07
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-19
Parameter	Unit	G / S	RDL	1885479
Aroclor 1242	mg/kg		0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5
IUPAC #209	%			99

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1885478 The sample was diluted 50x due to a matrix intererence. The detection limit increased. The percent recoveries do not apply because the sample was diluted.

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Certificate of Analysis

AGAT WORK ORDER: 10M421501

PROJECT NO: E22101581,001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:

TCE in Soil

DATE RECEIVED: 2010-07-22

DATE REPORTED: 2010-07-29

							SAMPLE DESCRIPTION:	TEC-01
							SAMPLE TYPE:	Soil
							DATE SAMPLED:	2010-07-19
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL		1885481
Trichloroethene	mg/kg	0.2	5	50	50	0.2		<0.2[<A]
Dibromofluoromethane	%							100
Toluene-D8	%							100
4-Bromofluorobenzene	%							115
Ethylbenzene-D10	%							100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M421501

PROJECT NO: E22101581,001

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-07-29			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals (incl. Hg)															
Arsenic	726	NA	NA	NA	0.0%	< 5	101%	80%	120%	102%	80%	120%	104%	80%	120%
Cadmium	723	NA	NA	NA	0.0%	< 0.9	100%	80%	120%	107%	80%	120%	99%	80%	120%
Cobalt	723	NA	NA	NA	0.0%	< 15	100%	80%	120%	104%	80%	120%	101%	80%	120%
Chrome	723	NA	NA	NA	0.0%	< 45	104%	80%	120%	105%	80%	120%	105%	80%	120%
Copper	723	NA	NA	NA	0.0%	< 40	101%	80%	120%	98%	80%	120%	106%	80%	120%
Total Mercury	1	NA	NA	NA	0.0%	< 0.2	98%	80%	120%	103%	80%	120%	112%	80%	120%
Nickel	723	NA	NA	NA	0.0%	< 30	101%	80%	120%	110%	80%	120%	102%	80%	120%
Lead	723	NA	NA	NA	0.0%	< 30	105%	80%	120%	106%	80%	120%	104%	80%	120%
Zinc	723	NA	NA	NA	0.0%	< 100	103%	80%	120%	109%	80%	120%	104%	80%	120%

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M421501

PROJECT NO: E22101581,001

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-07-29			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
TCE in Soil															
Trichloroethene	1	NA	NA	NA	0.0%	< 0.2	96%	80%	120%	NA	80%	120%	95%	80%	120%
Dibromofluoromethane	1	NA	NA	NA	0.0%	97	103%	40%	140%	NA	40%	140%	105%	40%	140%
Toluene-D8	1	NA	NA	NA	0.0%	102	102%	40%	140%	NA	40%	140%	104%	40%	140%
4-Bromofluorobenzene	1	NA	NA	NA	0.0%	101	111%	40%	140%	NA	40%	140%	110%	40%	140%
Ethylbenzene-D10	1	NA	NA	NA	0.0%	112	114%	40%	140%	NA	40%	140%	111%	40%	140%
PCB aroclor															
Aroclor 1242	1	1885474	<0.5	<0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1885474	<0.5	<0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1885474	<0.5	<0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1885474	<0.5	<0.5	0.0%	< 0.5	79%	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1885474	71	74	4.1%	104	93%	40%	140%	NA	40%	140%	NA	40%	140%

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M421501

PROJECT NO: E22101581,001

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-07-23	2010-07-26	MET-101-6105	EPA 3050, EPA 6020	ICP/MS
Cadmium	2010-07-23	2010-07-23	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-07-23	2010-07-23	MET-101-6107	EPA 3050	ICP/OES
Chrome	2010-07-23	2010-07-23	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-07-23	2010-07-23	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-07-27	2010-07-27	MET-101-6101F	EPA 245.5	FIMS
Nickel	2010-07-23	2010-07-23	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-07-23	2010-07-23	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-07-23	2010-07-23	MET-101-6107	EPA 3050	ICP/OES
Trace Organics Analysis					
Aroclor 1242	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-07-28	2010-07-28	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Trichloroethene	2010-07-23	2010-07-23	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dibromofluoromethane	2010-07-23	2010-07-23	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Toluene-D8	2010-07-23	2010-07-23	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
4-Bromofluorobenzene	2010-07-23	2010-07-23	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Ethylbenzene-D10	2010-07-23	2010-07-23	ORG-100-5106	EPA 8270C, EPA 8141A	(P&T)GC/MS

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CHAIN OF CUSTODY RECORD

Shipment #3

Quote # EBA-DOC

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2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA Engineering
Contact: Michelle Blade, Daniela Felske
Address: 14940 - 123 Avenue
Edmonton, AB Postal Code: T5V 1B4
Phone: 780.451.2121 Fax: 7804545688
LSD:
Client Project #: E22101581.001

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: Michelle Blade
Email: mblade@eba.ca
2. Name: dfelske@eba.ca
Email: Daniela Felske

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☒ DCC

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment
	WA8-01	S	19 July 2010	
	WA8-02	S	19 July 2010	
	WA8-03	S	19 July 2010	
	WA8-04	S	19 July 2010	
	WA8-05	S	19 July 2010	
	WA8-06	S	19 July 2010	
	WA8-07	S	19 July 2010	
	WA8-08	S	19 July 2010	
	TEC-01	S	19 July 2010	Please contact EBA at 1-604-759-0910 prior to conducting analysis.

# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
		X	X							
		X	X							
		X	X							
		X	X							
		X	X							
		X	X							
		X	X							
		X	X							
		X	X							
		X	X							

F2-F4
VOC (10)
PCB
Metals
Called and charged analysis to
X
X

labs received samples July 22
results rec'd July 29

Samples Relinquished By (print name & sign): Michelle Blade
Date/Time: 8am 20 July 2010
Samples Received By (print name & sign):
Date/Time:
Samples Relinquished By (print name & sign):
Date/Time:
Samples Received By (print name & sign):
Date/Time:

Pink Copy - Client
Yellow Copy - AGAT

NO: 000791 A

AGAT Laboratories

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CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
14940 - 123 AVENUE
EDMONTON, AB T5V1B4

ATTENTION TO: Michelle Blade

PROJECT NO: E22101581,001

AGAT WORK ORDER: 10M421958

SOIL ANALYSIS REVIEWED BY: Sandra Lalli, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-09

VERSION*: 1

PAGES (INCLUDING COVER): 7

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M421958

PROJECT NO: E22101581,001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:Cape Christian

6 Metals in Soil

DATE RECEIVED: 2010-07-24

DATE REPORTED: 2010-08-09

						SAMPLE DESCRIPTION:	WA8-09	WA8-10	WA8-11	WA8-12
						SAMPLE TYPE:	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-07-21	2010-07-21	2010-07-21	2010-07-21
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1889454	1889455	1889456	1889457
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	1.0[<A]	1.1[<A]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]
Total mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M421958
PROJECT NO: E22101581,001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
SAMPLED BY:

ATTENTION TO: Michelle Blade
SAMPLING SITE:Cape Christian

PCB aroclor

DATE RECEIVED: 2010-07-24

DATE REPORTED: 2010-08-09

SAMPLE DESCRIPTION:				WA8-09	WA8-10	WA8-11	WA8-12
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2010-07-21	2010-07-21	2010-07-21	2010-07-21
Parameter	Unit	G / S	RDL	1889454	1889455	1889456	1889457
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			99	83	86	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M421958
PROJECT NO: E22101581,001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
SAMPLED BY:

ATTENTION TO: Michelle Blade
SAMPLING SITE:Cape Christian

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-07-24 DATE REPORTED: 2010-08-09

				AEC3-W. Side	AEC3-W. Side
SAMPLE DESCRIPTION:				Confirm1	Confirm2
SAMPLE TYPE:				Soil	Soil
DATE SAMPLED:				2010-07-21	2010-07-21
Parameter	Unit	G / S	RDL	1889458	1889459
C10 - C16 (F2)	mg/kg	150	10	3430	24
C16 - C34 (F3)	mg/kg	1300	10	1870	26
C34 - C50 (F4)	mg/kg	5600	10	37	<10
Moisture Content	%		1	18	15
Surrogate	Unit	Acceptable Limits			
o-Terphenyl (F2-F4)	%	50-150		117	104

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1889458-1889459 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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Quality Assurance

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AGAT WORK ORDER: 10M421958
PROJECT NO: E22101581,001
ATTENTION TO: Michelle Blade
SAMPLED BY:
SAMPLING SITE:Cape Christian

Soil Analysis

RPT Date: 2010-08-09			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
6 Metals in Soil															
Arsenic	1	1889454	< 5.0	< 5.0	0.0%	< 5.0	102%	80%	120%	103%	90%	110%	100%	80%	120%
Cadmium (ICP-OES)	726	1889454	< 0.9	< 0.9	0.0%	< 0.9	105%	80%	120%	111%	80%	120%	104%	80%	120%
Chromium (ICP-OES)	726	1889454	< 45	< 45	0.0%	< 45	100%	80%	120%	107%	80%	120%	97%	80%	120%
Copper (ICP-OES)	726	1889454	< 40	< 40	0.0%	< 40	100%	80%	120%	100%	80%	120%	97%	80%	120%
Cobalt (ICP-OES)	726	1889454	< 15	< 15	0.0%	< 15	97%	80%	120%	107%	90%	110%	100%	80%	120%
Nickel (ICP-OES)	726	1889454	< 30	< 30	0.0%	< 30	102%	80%	120%	115%	80%	120%	99%	80%	120%
Lead (ICP-OES)	726	1889454	< 30	< 30	0.0%	< 30	105%	80%	120%	110%	80%	120%	114%	80%	120%
Zinc (ICP-OES)	726	1889454	< 100	< 100	0.0%	< 100	107%	80%	120%	116%	80%	120%	120%	80%	120%
Total mercury	1	1889454	< 0.2	< 0.2	0.0%	< 0.2	98%	80%	120%	103%	90%	110%	112%	80%	120%

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Quality Assurance

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AGAT WORK ORDER: 10M421958

PROJECT NO: E22101581,001

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:Cape Christian

Trace Organics Analysis

RPT Date: 2010-08-09			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
PCB aroclor															
Aroclor 1242	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	NA	NA	NA	0.0%	< 0.5	79%	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	NA	NA	NA	0.0%	104	93%	40%	140%	NA	40%	140%	NA	40%	140%
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	1087	1906736	48	46	4.0%	< 10	96%	80%	120%	90%	80%	120%	92%	60%	140%
C16 - C34 (F3)	1087	1906736	1510	1590	5.0%	< 10	96%	80%	120%	96%	80%	120%	87%	60%	140%
C34 - C50 (F4)	1087	1906736	686	715	4.0%	< 10	96%	80%	120%	99%	80%	120%	95%	60%	140%

Certified By:



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AGAT Laboratories

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http://www.agatlabs.com

Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M421958

PROJECT NO: E22101581,001

ATTENTION TO: Michelle Blade

SAMPLED BY:

SAMPLING SITE:Cape Christian

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-07-26	2010-07-26	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-07-26	2010-07-26	MET-101-6107	EPA 3050	ICP/OES
Chromium (ICP-OES)	2010-07-26	2010-07-26	MET-101-6107	EPA 3050	ICP/OES
Copper (ICP-OES)	2010-07-26	2010-07-26	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-07-26	2010-07-26	MET-101-6107	EPA 3050	ICP/OES
Nickel (ICP-OES)	2010-07-26	2010-07-26	MET-101-6107	EPA 3050	ICP/OES
Lead (ICP-OES)	2010-07-26	2010-07-26	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-07-26	2010-07-26	MET-101-6107	EPA 3050	ICP/OES
Total mercury	2010-07-27	2010-07-27	MET-101-6101F	EPA 245.5	FIMS
Trace Organics Analysis					
Aroclor 1242	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-07-28	2010-07-28	ORG-100-5108F		GC/ECD
C10 - C16 (F2)	2010-08-08	2010-08-08	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-08	2010-08-08	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-08	2010-08-08	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-08	2010-08-08	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-08-08	2010-08-08	TO 0560	CCME Tier 1 Method	GC/FID

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CHAIN OF CUSTODY RECORD

Shipment #4

Quote # EBA - DOC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:

Company: EBA Engineering
Contact: Daniela Felske, Michelle Blade
Address: 14940 - 123 Avenue
Edmonton, AB Postal Code: T5V 1B4
Phone: 7804512121 Fax: 7804545688
LSD:
Client Project #: E22101581.001

Bill Invoice To: SAME (Y) / N) - circle

Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:

1. Name: Daniela Felske
Email: dfelske@eba.ca
2. Name: Michelle Blade
Email: mblade@eba.ca

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - # DCC

Report Format

- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature:
AGAT Job Number:

Need lab study 24

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F2-F4	PCB	Metals			HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA8-09 SP	S	21 July 2010												X	X				1
	WA8-SP10	S	21 July 2010												X	X				1
	WA8-SP11	S	21 July 2010												X	X				1
	WA8-SP12	S	21 July 2010												X	X				1
	AEC3 W. Side Confirm 1	S	21 July 2010											X						2
	AEC3 W. Side Confirm 2	S	21 July 2010											X						2

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	July 22/10 9am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE 1 of 1

NO: 0097834

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CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: DANIELA FELSKE

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10M422664

SOIL ANALYSIS REVIEWED BY: Sandra Lalli, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-07-30

VERSION*: 1

PAGES (INCLUDING COVER): 19

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M422664
PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Metals

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

					SAMPLE DESCRIPTION:		SPILL 4 WA6
					SAMPLE TYPE:		Soil
					DATE SAMPLED:		2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894837
Arsenic	mg/kg	6	30	50	250	5	<5[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	2.6[A-B]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	55[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]
Total mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]
Lead (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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Certificate of Analysis

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PCB aroclor

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

			SAMPLE DESCRIPTION:	SPILL 4 WA6
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2010-07-22
Parameter	Unit	G / S	RDL	1894837
Aroclor 1242	mg/kg		0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5
Aroclor 1254	mg/kg		0.5	1.9
Aroclor 1260	mg/kg		0.5	<0.5
IUPAC #209	%			138

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

		SAMPLE DESCRIPTION:		SPILL 4 WA6
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-22
Parameter	Unit	G / S	RDL	1894837
Benzene	mg/kg		0.005	<0.005
Toluene	mg/kg		0.05	<0.05
Ethylbenzene	mg/kg		0.01	<0.01
Xylenes	mg/kg		0.05	<0.05
C6 - C10 (F1)	mg/kg		10	<10
C6 - C10 (F1 minus BTEX)	mg/kg		10	<10
C10 - C16 (F2)	mg/kg		10	19
C16 - C34 (F3)	mg/kg		10	74
C34 - C50 (F4)	mg/kg		10	45
Gravimetric Heavy Hydrocarbons	mg/kg		1000	N/A
Moisture Content	%		1	11
Surrogate	Unit	Acceptable Limits		
Toluene-d8 (BTEX)	%	50-150		92
Ethylbenzene-d10 (BTEX)	%	50-150		92
o-Terphenyl (F2-F4)	%	50-150		112

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 (Ag,F)

1894837 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

		SAMPLE DESCRIPTION:		TCE 12 (40CM)	TCE 10 (80CM)	TCE 06 (80CM)	TCE 15 (65CM)	TCE 04 (30CM)	TCE 17 (45CM)	TCE 16 (60CM)	TCE 14 (60CM)
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22
Parameter	Unit	G / S	RDL	1894817	1894819	1894821	1894823	1894824	1894827	1894828	1894830
C10 - C16 (F2)	mg/kg	150	10	5730	5290	<10	20200	914	12	7490	12500
C16 - C34 (F3)	mg/kg	1300	10	1200	506	122	8660	390	10	1100	925
C34 - C50 (F4)	mg/kg	5600	10	186	49	43	147	74	<10	98	107
Moisture Content	%		1	8	13	8.6	8.3	11	12.1	14.2	15.2
Surrogate	Unit	Acceptable Limits									
o-Terphenyl (F2-F4)	%	50-150		81	114	104	89.9	112	107	101	109

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1894817-1894830 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

VOC

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

					SAMPLE DESCRIPTION:		SPILL 4 WA6
					SAMPLE TYPE:		Soil
					DATE SAMPLED:		2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894837
Methyl ter-butyl ether	mg/kg					0.2	<0.2
Acrylonitrile	mg/kg	-	1	5	280	0.2	<0.2[<B]
Benzene	mg/kg	0.1	0.5	5	5	0.1	<0.1[<A]
Chlorobenzene (mono)	mg/kg	0.2	1	10	10	0.2	<0.2[<A]
Dichloro-1,2 benzene	mg/kg	0.2	1	10	10	0.2	2.3[B-C]
Dichloro-1,3 benzene	mg/kg	0.2	1	10	10	0.2	<0.2[<A]
Dichloro-1,4 benzene	mg/kg	0.2	1	10	10	0.2	<0.2[<A]
Ethylbenzène	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Styrene	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Toluene	mg/kg	0.2	3	30	30	0.2	<0.2[<A]
Xylenes	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Chloroforme	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Vynil chloride	mg/kg	0.4	0.4	0.4	60	0.4	<0.4[<A]
Dichloro-1,1 ethane	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Dichloro-1,2 ethane	mg/kg	0.2	5	50	50	0.2	1.3[A-B]
Dichloro-1,1 ethene	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Dichloro-1,2 ethene (cis et trans)	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Dichloromethane	mg/kg	-	5	50	50	0.2	<0.2[<B]
Dichloro-1,2 propane	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Dichloro-1,3 propene (cis et trans)	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Tetrachloro-1,1,2,2 ethane	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Tetrachloroethene	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Carbon tetrachloride	mg/kg	0.1	5	50	50	0.1	<0.1[<A]
Trichloro-1,1,1 ethane	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Trichloro-1,1,2 ethane	mg/kg	0.2	5	50	50	0.2	<0.2[<A]
Trichloroethene	mg/kg	0.2	5	50	50	0.01	<0.01[<A]
Dibromofluoromethane	%						101
Toluene-D8	%						100

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

VOC

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

						SAMPLE DESCRIPTION:	SPILL 4 WA6
						SAMPLE TYPE:	Soil
						DATE SAMPLED:	2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894837
4-Bromofluorobenzene	%						103
Ethylbenzene-D10	%						115

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

VOC - Gases

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

		SAMPLE DESCRIPTION:		SPILL 4 WA6
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-22
Parameter	Unit	G / S	RDL	1894837
Dichlorodifluoromethane	mg/kg		0.4	<0.4
Trichlorofluoromethane	mg/kg		0.4	<0.4
Bromomethane	mg/kg		0.4	<0.4
Chloromethane	mg/kg		0.4	<0.4
Chloroethane	mg/kg		0.4	<0.4
Vynil chloride	mg/kg		0.4	<0.4

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

VOC - Ketones

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

			SAMPLE DESCRIPTION:	SPILL 4 WA6
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2010-07-22
Parameter	Unit	G / S	RDL	1894837
Acetone	mg/kg		5.0	<5.0
MEK	mg/kg		5.0	<5.0
MIBK	mg/kg		5.0	<5.0
2-hexanone	mg/kg		5.0	<5.0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

VOC - TCE

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

SAMPLE DESCRIPTION:							TCE 11 (30CM)	TCE 12 (40CM)		TCE 13 (40CM)
SAMPLE TYPE:							Soil	Soil		Soil
DATE SAMPLED:							2010-07-22	2010-07-22		2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894808	1894817	RDL	1894818
Trichloroethene	mg/kg	0.2	5	50	50	0.05	<0.05[<A]	<0.05[<A]	0.01	<0.01[<A]
Dibromofluoromethane	%						91	88		92
Toluene-D8	%						106	107		107
4-Bromofluorobenzene	%						97	96		99
Ethylbenzene-D10	%						104	109		97

SAMPLE DESCRIPTION:							TCE 10 (80CM)		TCE 08 (80CM)	TCE 06 (80CM)
SAMPLE TYPE:							Soil		Soil	Soil
DATE SAMPLED:							2010-07-22		2010-07-22	2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894819	RDL	1894820	1894821
Trichloroethene	mg/kg	0.2	5	50	50	0.05	<0.05[<A]	0.01	<0.01[<A]	<0.01[<A]
Dibromofluoromethane	%						91		89	90
Toluene-D8	%						109		107	107
4-Bromofluorobenzene	%						101		97	99
Ethylbenzene-D10	%						95		103	98

SAMPLE DESCRIPTION:							TCE 15 (40CM)	TCE 15 (65CM)	TCE 04 (30CM)	TCE 01 (30CM)	TCE 09 (50CM)
SAMPLE TYPE:							Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:							2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894822	1894823	1894824	1894825	1894826
Trichloroethene	mg/kg	0.2	5	50	50	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]	<0.05[<A]	0.16[<A]
Dibromofluoromethane	%						91	90	88	91	89
Toluene-D8	%						104	108	106	107	111
4-Bromofluorobenzene	%						97	100	97	97	111
Ethylbenzene-D10	%						108	114	110	102	106

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AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

VOC - TCE

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

						SAMPLE DESCRIPTION:	TCE 17 (45CM)	TCE 16 (60CM)	TCE 02 (45CM)	TCE 14 (60CM)	TCE 03 (30CM)
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894827	1894828	1894829	1894830	1894831
Trichloroethene	mg/kg	0.2	5	50	50	0.05	<0.05[<A]	0.09[<A]	<0.05[<A]	<0.05[<A]	0.07[<A]
Dibromofluoromethane	%						93	89	90	92	101
Toluene-D8	%						105	108	106	109	99
4-Bromofluorobenzene	%						98	100	95	102	126
Ethylbenzene-D10	%						107	100	104	97	92

						SAMPLE DESCRIPTION:	TCE 07 (25CM)	TCE 02 (4th Landfarm Pile)	TCE 03 (Comp.Three Landfarm Piles)	TCE 05 (Second half of long landfarm Pile)	TCE 04 (First half of long landfarm Pile)
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1894832	1894833	1894834	1894835	1894836
Trichloroethene	mg/kg	0.2	5	50	50	0.05	<0.05[<A]	<0.05[<A]	<0.05[<A]	<0.05[<A]	<0.05[<A]
Dibromofluoromethane	%						101	97	97	100	101
Toluene-D8	%						98	100	97	98	98
4-Bromofluorobenzene	%						110	110	112	108	111
Ethylbenzene-D10	%						104	93	108	81	95

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

1894808-1894817 Presence of high levels of heavy hydrocarbons.

1894819 Presence of high levels of heavy hydrocarbons.

1894822-1894836 Presence of high levels of heavy hydrocarbons.

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AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

VOC- THM

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

		SAMPLE DESCRIPTION:		SPILL 4 WA6
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-22
Parameter	Unit	G / S	RDL	1894837
Bromoforme	mg/kg		0.2	<0.2
Bromodichloromethane	mg/kg		0.2	<0.2
Dibromochloromethane	mg/kg		0.2	<0.2
Chloroforme	mg/kg		0.2	<0.2

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Volatile Organic Compounds in Soil

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-07-30

		SAMPLE DESCRIPTION:		TCE 10 (80CM)	TCE 06 (80CM)	TCE 15 (65CM)	TCE 04 (30CM)	TCE 17 (45CM)	TCE 16 (60CM)	TCE 14 (60CM)
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22	2010-07-22
Parameter	Unit	G / S	RDL	1894819	1894821	1894823	1894824	1894827	1894828	1894830
Trichloroethylene	mg/kg		0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	mg/kg		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Surrogate	Unit	Acceptable Limits								
Toluene-d8 (BTEX)	%	50-150		98	105	95	103	104	100	97

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1894819-1894830 Results were obtained based on the dry weight of the sample.

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Quality Assurance

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AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-07-30			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals															
Arsenic	728	NA	NA	NA	0.0%	< 5	99%	80%	120%	101%	80%	120%	113%	80%	120%
Cadmium (ICP-OES)	728	NA	NA	NA	0.0%	< 0.9	99%	80%	120%	104%	80%	120%	NA	80%	120%
Cobalt (ICP-OES)	728	NA	NA	NA	0.0%	< 15	101%	80%	120%	102%	80%	120%	NA	80%	120%
Chromium (ICP-OES)	728	NA	NA	NA	0.0%	< 45	100%	80%	120%	102%	80%	120%	NA	80%	120%
Copper (ICP-OES)	728	NA	NA	NA	0.0%	< 40	101%	80%	120%	102%	80%	120%	NA	80%	120%
Total mercury	1	1894837	< 0.2	< 0.2	0.0%	< 0.2	103%	80%	120%	99%	80%	120%	101%	80%	120%
Nickel (ICP-OES)	728	NA	NA	NA	0.0%	< 30	103%	80%	120%	110%	80%	120%	NA	80%	120%
Lead (ICP-OES)	728	NA	NA	NA	0.0%	< 30	102%	80%	120%	104%	80%	120%	NA	80%	120%
Zinc (ICP-OES)	728	NA	NA	NA	0.0%	< 100	99%	80%	120%	99%	80%	120%	NA	80%	120%

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AGAT WORK ORDER: 10M422664
PROJECT NO: E22101581.001
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-07-30

PARAMETER	Batch	Sample Id	DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
			Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
VOC - TCE															
Trichloroethene	1	1894808	< 0.05	< 0.05	0.0%	< 0.05	97%	80%	120%	NA	80%	120%	96%	80%	120%
Dibromofluoromethane	1	1894808	91	91	0.0%	89	94%	40%	140%	NA	40%	140%	95%	40%	140%
Toluene-D8	1	1894808	106	106	0.0%	106	106%	40%	140%	NA	40%	140%	106%	40%	140%
4-Bromofluorobenzene	1	1894808	97	96	1.0%	97	101%	40%	140%	NA	40%	140%	100%	40%	140%
Ethylbenzene-D10	1	1894808	104	99	4.9%	112	112%	40%	140%	NA	40%	140%	107%	40%	140%
PCB aroclor															
Aroclor 1242	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	NA	NA	NA	0.0%	< 0.5	79%	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	NA	NA	NA	0.0%	104	93%	40%	140%	NA	40%	140%	NA	40%	140%
VOC															
Methyl ter-butyl ether	1	NA	NA	NA	0.0%	< 0.2	93%	70%	130%	NA	130%	130%	NA	70%	130%
Acrylonitrile	1	NA	NA	NA	0.0%	< 0.2	NA	70%	130%	NA	70%	130%	NA	70%	130%
Benzene	1	NA	NA	NA	0.0%	< 0.1	93%	80%	120%	NA	80%	120%	NA	80%	120%
Chlorobenzene (mono)	1	NA	NA	NA	0.0%	< 0.2	97%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,2 benzene	1	NA	NA	NA	0.0%	< 0.2	98%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,3 benzene	1	NA	NA	NA	0.0%	< 0.2	100%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,4 benzene	1	NA	NA	NA	0.0%	< 0.2	101%	80%	120%	NA	80%	120%	NA	80%	120%
Ethylbenzène	1	NA	NA	NA	0.0%	< 0.2	95%	80%	120%	NA	80%	120%	NA	80%	120%
Styrene	1	NA	NA	NA	0.0%	< 0.2	70%	70%	130%	NA	80%	120%	NA	80%	120%
Toluene	1	NA	NA	NA	0.0%	< 0.2	96%	80%	120%	NA	80%	120%	NA	80%	120%
Xylenes	1	NA	NA	NA	0.0%	< 0.2	96%	80%	120%	NA	80%	120%	NA	80%	120%
Chloroforme	1	NA	NA	NA	0.0%	< 0.2	92%	80%	120%	NA	80%	120%	NA	80%	120%
Vynil chloride	1	NA	NA	NA	0.0%	< 0.4	NA	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,1 ethane	1	NA	NA	NA	0.0%	< 0.2	97%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,2 ethane	1	NA	NA	NA	0.0%	< 0.2	94%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,1 ethene	1	NA	NA	NA	0.0%	< 0.2	89%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,2 ethene (cis et trans)	1	NA	NA	NA	0.0%	< 0.2	96%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloromethane	1	NA	NA	NA	0.0%	< 0.2	103%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,2 propane	1	NA	NA	NA	0.0%	< 0.2	93%	80%	120%	NA	80%	120%	NA	80%	120%
Dichloro-1,3 propene (cis et trans)	1	NA	NA	NA	0.0%	< 0.2	92%	80%	120%	NA	80%	120%	NA	80%	120%
Tetrachloro-1,1,2,2 ethane	1	NA	NA	NA	0.0%	< 0.2	101%	80%	120%	NA	80%	120%	NA	80%	120%
Tetrachloroethene	1	NA	NA	NA	0.0%	< 0.2	93%	80%	120%	NA	80%	120%	NA	80%	120%
Carbon tetrachloride	1	NA	NA	NA	0.0%	< 0.1	82%	80%	120%	NA	80%	120%	NA	80%	120%
Trichloro-1,1,1 ethane	1	NA	NA	NA	0.0%	< 0.2	86%	80%	120%	NA	80%	120%	NA	80%	120%
Trichloro-1,1,2 ethane	1	NA	NA	NA	0.0%	< 0.2	103%	80%	120%	NA	80%	120%	NA	80%	120%
Trichloroethene	1	NA	NA	NA	0.0%	< 0.05	90%	80%	120%	NA	80%	120%	NA	80%	120%
Dibromofluoromethane	1	NA	NA	NA	0.0%	101	103%	40%	140%	NA	40%	140%	NA	40%	140%
Toluene-D8	1	NA	NA	NA	0.0%	100	102%	40%	140%	NA	40%	140%	NA	40%	140%
4-Bromofluorobenzene	1	NA	NA	NA	0.0%	104	111%	40%	140%	NA	40%	140%	NA	40%	140%
Ethylbenzene-D10	1	NA	NA	NA	0.0%	97	103%	40%	140%	NA	40%	140%	NA	40%	140%

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
AGAT WORK ORDER: 10M422664
PROJECT NO: E22101581.001
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis (Continued)

RPT Date: 2010-07-30

PARAMETER	Batch	Sample Id	DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
			Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
VOC- THM															
Bromoforme	1	NA	NA	NA	0.0%	< 0.2	72%	70%	130%	NA	70%	130%	NA	70%	130%
Bromodichloromethane	1	NA	NA	NA	0.0%	< 0.2	83%	70%	130%	NA	70%	130%	NA	70%	130%
Dibromochloromethane	1	NA	NA	NA	0.0%	< 0.2	93%	70%	130%	NA	130%	130%	NA	70%	130%
Chloroforme	1	NA	NA	NA	0.0%	< 0.2	92%	70%	130%	NA	70%	130%	NA	70%	130%
VOC - Ketones															
Acetone	1	NA	NA	NA	0.0%	< 5.0	103%	70%	130%	NA	70%	130%	NA	70%	130%
MEK	1	NA	NA	NA	0.0%	< 5.0	42%	40%	160%	NA	70%	130%	NA	70%	130%
MIBK	1	NA	NA	NA	0.0%	< 5.0	86%	70%	130%	NA	70%	130%	NA	70%	130%
2-hexanone	1	NA	NA	NA	0.0%	< 5.0	89%	70%	130%	NA	70%	130%	NA	70%	130%
VOC - Gases															
Dichlorodifluoromethane	1	NA	NA	NA	0.0%	< 0.4	NA	70%	130%	NA	130%	130%	NA	70%	130%
Trichlorofluoromethane	1	NA	NA	NA	0.0%	< 0.4	NA	70%	130%	NA	130%	130%	NA	70%	130%
Bromomethane	1	NA	NA	NA	0.0%	< 0.4	NA	70%	130%	NA	70%	130%	NA	70%	130%
Chloromethane	1	NA	NA	NA	0.0%	< 0.4	NA	70%	130%	NA	70%	130%	NA	70%	130%
Chloroethane	1	NA	NA	NA	0.0%	< 0.4	NA	70%	130%	NA	70%	130%	NA	70%	130%
Vynil chloride	1	NA	NA	NA	0.0%	< 0.4	NA	70%	130%	NA	130%	130%	NA	70%	130%
Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)															
Benzene	785	1899233	<0.005	<0.005	NA	< 0.005	105%	80%	120%	98%	80%	120%	93%	60%	140%
Toluene	785	1899233	<0.05	<0.05	NA	< 0.05	101%	80%	120%	96%	80%	120%	93%	60%	140%
Ethylbenzene	785	1899233	<0.01	<0.01	NA	< 0.01	104%	80%	120%	103%	80%	120%	98%	60%	140%
Xylenes	785	1899233	<0.05	<0.05	NA	< 0.05	103%	80%	120%	104%	80%	120%	100%	60%	140%
C6 - C10 (F1)	785	1899233	<10	<10	NA	< 10	99%	80%	120%	98%	80%	120%	97%	60%	140%
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	490	1899233	16	12	29.0%	< 10	91%	80%	120%	100%	80%	120%	114%	60%	140%
C16 - C34 (F3)	490	1899233	42	38	10.0%	< 10	91%	80%	120%	88%	80%	120%	101%	60%	140%
C34 - C50 (F4)	490	1899233	<10	<10	NA	< 10	91%	80%	120%	91%	80%	120%	102%	60%	140%
Volatile Organic Compounds in Soil															
Trichloroethylene	2999	1894827	< 0.005	< 0.005	NA	< 0.005	84%	60%	140%	75%	60%	140%	84%	60%	140%
Tetrachloroethene	2999	1894827	< 0.01	< 0.01	NA	< 0.01	85%	60%	140%	85%	60%	140%	87%	60%	140%
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	493	1903077	<10	<10	NA	< 10	105%	80%	120%	110%	80%	120%	90%	60%	140%
C16 - C34 (F3)	493	1903077	32	47	38.0%	< 10	105%	80%	120%	94%	80%	120%	82%	60%	140%
C34 - C50 (F4)	493	1903077	28	29	4.0%	< 10	105%	80%	120%	99%	80%	120%	86%	60%	140%

Certified By:

AGAT Laboratories' procedure for signatures and signatories adheres strictly to the requirements of accreditation ISO 17025:2005 as required by CALA, SCC and MDDEP where applicable. All electronic signatures on AGAT certificates are password protected and all signatories meet their regional and scope of accreditation requirements and are approved by CALA, SCC and MDDEP.

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AGAT Laboratories
9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-07-28	2010-07-28	MET-101-6105	EPA 3050	ICP/MS
Cadmium (ICP-OES)	2010-07-28	2010-07-28	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-07-28	2010-07-28	MET-101-6107	EPA 3050	ICP/OES
Chromium (ICP-OES)	2010-07-28	2010-07-28	MET-101-6107	EPA 3050	ICP/OES
Copper (ICP-OES)	2010-07-28	2010-07-28	MET-101-6107	EPA 3050	ICP/OES
Total mercury	2010-07-29	2010-07-29	MET-101-6102F	EPA 245.5	FIMS
Nickel (ICP-OES)	2010-07-28	2010-07-28	MET-101-6107	EPA 3050	ICP/OES
Lead (ICP-OES)	2010-07-28	2010-07-28	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-07-28	2010-07-28	MET-101-6107	EPA 3050	ICP/OES

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis					
Aroclor 1242	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-07-28	2010-07-28	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-07-28	2010-07-28	ORG-100-5108F		GC/ECD
Benzene	2010-07-30	2010-07-31	TO 0570	EPA SW-846 8260	GC/MS
Toluene	2010-07-30	2010-07-31	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-07-30	2010-07-31	TO 0570	EPA SW-846 8260	GC/MS
Xylenes	2010-07-30	2010-07-31	TO 0570	EPA SW-846 8260	GC/MS
C6 - C10 (F1)	2010-07-30	2010-07-31	TO 0570	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-07-30	2010-07-31	TO 0570	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-07-30	2010-07-31	TO-0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-07-30	2010-07-31	TO-0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
Toluene-d8 (BTEX)	2010-07-30	2010-07-31	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene-d10 (BTEX)	2010-07-30	2010-07-31	TO 0570	EPA SW-846 8260	GC/MS
o-Terphenyl (F2-F4)	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-07-30	2010-08-05	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-07-30	2010-08-05	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-07-30	2010-08-05	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-07-30	2010-08-05	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-07-30	2010-07-31			GC/FID
o-Terphenyl (F2-F4)	2010-08-04	2010-08-05	TO 0560	CCME Tier 1 Method	GC/FID
Methyl ter-butyl ether	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	(P&T)GC/MS
Acrylonitrile	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Benzene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Chlorobenzene (mono)	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,2 benzene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,3 benzene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,4 benzene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Ethylbenzène	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Styrene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Toluene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Xylenes	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Chloroforme	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Vynil chloride	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,1 ethane	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,2 ethane	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,1 ethene	2010-07-28	2010-07-28	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,2 ethene (cis et trans)	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloromethane	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,2 propane	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dichloro-1,3 propene (cis et trans)	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Tetrachloro-1,1,2,2 ethane	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS

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http://www.agatlabs.com

Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M422664

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Tetrachloroethene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Carbon tetrachloride	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Trichloro-1,1,1 ethane	2010-07-28	2010-07-28	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Trichloro-1,1,2 ethane	2010-07-28	2010-07-28	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Trichloroethene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dibromofluoromethane	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Toluene-D8	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
4-Bromofluorobenzene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Ethylbenzene-D10	2010-07-28	2010-07-28	ORG-100-5106	EPA 8270C, EPA 8141A	(P&T)GC/MS
Dichlorodifluoromethane	2010-07-28	2010-07-28	ORG-100-5101	EPA SW-846 5230B & 8260/ EPA 624	GC/MS
Trichlorofluoromethane	2010-07-28	2010-07-28	ORG-100-5101	EPA SW-846 5230B & 8260/ EPA 624	GC/MS
Bromomethane	2010-07-28	2010-07-28	ORG-100-5101	EPA SW-846 5230B & 8260/ EPA 624	GC/MS
Chloromethane	2010-07-28	2010-07-28	ORG-100-5101	EPA SW-846 5230B & 8260/ EPA 624	GC/MS
Chloroethane	2010-07-28	2010-07-28	ORG-100-5101	EPA SW-846 5230B & 8260/ EPA 624	GC/MS
Vynil chloride	2010-07-28	2010-07-28	ORG-100-5101	EPA SW-846 5230B & 8260/ EPA 624	GC/MS
Acetone	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	GC/MS
MEK	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	GC/MS
MIBK	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	GC/MS
2-hexanone	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	GC/MS
Trichloroethene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Dibromofluoromethane	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Toluene-D8	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
4-Bromofluorobenzene	2010-07-28	2010-07-28	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Ethylbenzene-D10	2010-07-28	2010-07-28	ORG-100-5106	EPA 8270C, EPA 8141A	(P&T)GC/MS
Bromoforme	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	GC/MS
Bromodichloromethane	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	GC/MS
Dibromochloromethane	2010-07-28	2010-07-28	ORG-100-5101		GC/MS
Chloroforme	2010-07-28	2010-07-28	ORG-100-5101	EPA 8260B r2	GC/MS
Trichloroethylene	2010-08-05	2010-08-05	T0 0340	EPA SW-846 8260	GC/MS
Tetrachloroethene	2010-08-05	2010-08-05	T0 0340	EPA SW-846 8260	GC/MS
Toluene-d8 (BTEX)	2010-08-05	2010-08-05	TO 0340	EPA SW-846 8260	GC/FID

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CHAIN OF CUSTODY RECORD

Shipment #5
Quote # EBA-DOC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: EBA Engineering
Contact: Daniela Felske / Michelle Blade
Address: 14940 - 123 Avenue
Edmonton, AB Postal Code: T5V 1B4
Phone: 7804512121 Fax: 7804545688
LSD: _____
Client Project #: EBA 10158 1.001

Report Information - reports to be sent to:

1. Name: Daniela Felske
Email: dfelske@eba.ca
2. Name: Michelle Blade
Email: mblade@eba.ca

Report Format

- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

Bill Invoice To: SAME (Y) / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☒ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

X DOC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	TCE	F2-F4				HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	TCE11 (30cm)	S	22July2010											X	X					
	TCE 12 (40cm)	S	22July2010											X	X					
	TCE 13 (40cm)	S	22July2010											X						
	TCE 10 (80cm)	S	22July2010											X	X					
	TCE08 (80cm)	S	22July2010											X						
	TCE06 (80cm)	S	22July2010											X	X					
	TCE 15 (40cm)	S	22July2010											X						
	TCE 15 (65cm)	S	22July2010											X	X					
	TCE04 (30cm)	S	22July2010											X						
	TCE01 (30cm)	S	22July2010											X						
	TCE09 (50cm)	S	22July2010											X						
	TCE17 (45cm)	S	22July2010											X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michelle Blade	22July2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097836

CHAIN OF CUSTODY RECORD

Shipment #5
Quote # EBA-DOC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
LSD:
Client Project #:
SAME

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name:
Email:
2. Name: SAME
Email:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☒ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

As, Cd, Cr, Co, Cu, Pb, Hg, Ni, Zn + DCC

Report Format
- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F1-F4	TCE	Metals DCC	RBB	PB-F4			HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	TCE16 (60cm)	S	22July2010											X	X			X				1
	TCE02 (45cm)	S	22July2010											X	X							
	TCE 14 (60cm)	S	22July2010											X	X			X				
	TCE 03 (30cm)	S	22July2010											X	X							
	TCE 07 (25cm)	S	22July2010											X	X							
	TCE02 (4th Landfarm Pile)	S	22July2010											X	X							
	TCE03 (Comp. Three Landfarm Pile)	S	22July2010											X	X							
	TCE05 (Second half of log landfarm Pile)	S	22July2010											X	X							
	TCE04 (First half of log landfarm Pile)	S	22July2010											X	X							
	Spill 4 WA6	S	22July2010										X			X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michelle Blade	22 July 2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

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NO: 0097835

Need to talk to 2837

AGAT Laboratories

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CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: DANIELA FELSKE

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10M422704

SOIL ANALYSIS REVIEWED BY: Sandra Lalli, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

WATER ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-13

VERSION*: 1

PAGES (INCLUDING COVER): 17

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Asbestos (Bulk)

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

				SAMPLE DESCRIPTION:	IEC 3-9
				SAMPLE TYPE:	Solid
				DATE SAMPLED:	2010-07-23
Parameter	Unit	G / S	RDL	1895118	
Asbestos (Bulk)	%		0.5	>75	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1895118 Condition of sample was satisfactory at time of arrival in laboratory.
Asbestos present - Chysotile

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Certificate of Analysis

AGAT WORK ORDER: 10M422704
PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Chromium

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	BEACH SAND-01 (30CM) Soil 2010-07-23 1895055	BEACH SAND-02 (50CM) Soil 2010-07-23 1895064	BEACH SAND-03 (SURFACE) Soil 2010-07-23 1895065	BEACH SAND-04 (10CM-CREEK BANK) Soil 2010-07-23 1895066	BEACH SAND-05 (10CM) Soil 2010-07-23 1895068
SAMPLE DESCRIPTION:											
SAMPLE TYPE:											
DATE SAMPLED:											
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	188	189[A-B]	<45[<A]
Chrome hexevalent	mg/kg					0.2			1.2		

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	BEACH SAND-06 (CREEK BED SURFACE) Soil 2010-07-23 1895070
SAMPLE DESCRIPTION:							
SAMPLE TYPE:							
DATE SAMPLED:							
Chromium	mg/kg	85	250	800	4000	45	125[A-B]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:



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AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Ethanolamines in Water

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		IEC 1-59	IEC 1-60
		SAMPLE TYPE:		Water	Gr. Water
		DATE SAMPLED:		2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL	1895102	1895106
Ethanolamine (MEA)	mg/L		1	<1	<1
Monoisopropanolamine (MIPA)	mg/L		1	<1	<1
Diethylethanolamine (DEEA)	mg/L		1	<1	<1
Methyldiethanolamine (MDEA)	mg/L		1	<1	<1
Diethanolamine (DEA)	mg/L		1	<1	<1
Diisopropanolamine (DIPA)	mg/L		1	<1	<1
Dimethylethanolamine (DMEA)	mg/L		1		

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Flash point Analysis

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

				SAMPLE DESCRIPTION:	IEC 1-59	IEC 1-60
				SAMPLE TYPE:	Water	Gr. Water
				DATE SAMPLED:	2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL		1895102	1895106
Methane	Deg C				65	54

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PCB aroclor (water)

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		TREAT AST 03	TREAT AST 02
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL	1895078	1895098
Aroclor 1242	µg/L		0.1	<0.1	<0.1
Aroclor 1248	µg/L		0.1	<0.1	<0.1
Aroclor 1254	µg/L		0.1	<0.1	<0.1
Aroclor 1260	µg/L		0.1	<0.1	<0.1
IUPAC #209	%			120	107

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

				SPILL 5 MAIN STATION
SAMPLE DESCRIPTION:				SURFACE
SAMPLE TYPE:				Solid
DATE SAMPLED:				2010-07-23
Parameter	Unit	G / S	RDL	1895120
C10 - C16 (F2)	mg/kg	150	10	<10
C16 - C34 (F3)	mg/kg	1300	10	<10
C34 - C50 (F4)	mg/kg	5600	10	<10
Moisture Content	%		1	11
Surrogate	Unit	Acceptable Limits		
o-Terphenyl (F2-F4)	%	50-150		108

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1895120 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Polychlorinated Biphenyls Analysis - Wastewater/Oil

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		IEC 1-59	IEC 1-60
		SAMPLE TYPE:		Water	Gr. Water
		DATE SAMPLED:		2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL	1895102	1895106
Aroclor 1242	ug/g		0.02	<0.02	<0.02
Aroclor 1254	ug/g		0.02	<0.02	<0.02
Aroclor 1260	ug/g		0.02	<0.02	<0.02
Total Polychlorinated Biphenyls	µg/g		0.02	<0.02	<0.02
Surrogate	Unit	Acceptable Limits			
Decachlorobiphenyl	%	70-130		64	97

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1895102 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: % 64
Arochlor Type:

1895106 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: % 97
Arochlor Type:

Certified By:

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AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total oil and grease (water)

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

SAMPLE DESCRIPTION:				TREAT AST 03	TREAT AST 02
SAMPLE TYPE:				Water	Water
DATE SAMPLED:				2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL	1895078	1895098
Total oil and grease	mg/L		4.5	<4.5	<4.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Dissolved Metals

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		TREAT AST 03	TREAT AST 02
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL	1895078	1895098
Cadmium (dissolved)	µg/L		0.8	<0.8	<0.8
Chromium (dissolved)	µg/L		10	<10	<10
Copper (dissolved)	µg/L		3.0	<3.0	<3.0
Cobalt (dissolved)	µg/L		20	<20	<20
Nickel (dissolved)	µg/L		2.0	6.8	7.2
Lead (dissolved)	µg/L		1.0	<1.0	<1.0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Inorganic analysis

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

				SAMPLE DESCRIPTION:	TREAT AST 03	TREAT AST 02
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL		1895078	1895098
pH	pH		NA		8.05	7.19
Total Mercury	mg/L		0.0001		0.0001	<0.0001
Total phenols (colorimetry)	mg/L		0.002		<0.002	<0.002

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1895078-1895098 Délai d'analyse dépassée pour le paramètre pH.

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AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total Metals Scan

DATE RECEIVED: 2010-07-28

DATE REPORTED: 2010-08-13

				SAMPLE DESCRIPTION:	TREAT AST 03	TREAT AST 02
				SAMPLE TYPE:	Water	Water
				DATE SAMPLED:	2010-07-23	2010-07-23
Parameter	Unit	G / S	RDL		1895078	1895098
Arsenic	µg/L		1.0		<1.0	<1.0
Zinc	µg/L		3.0		226	133

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:



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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
AGAT WORK ORDER: 10M422704
PROJECT NO: E22101581.001
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-13			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Chromium															
Chromium	1	NA	NA	NA	0.0%	< 45	97%	80%	120%	102%	90%	110%	100%	80%	120%
Chrome hexevalent	1	1895065	1.2	1.3	8.0%	< 0.02	85%	80%	120%	100%	90%	110%	NA	80%	120%
Chromium															
Chromium	802	NA	NA	NA	0.0%	< 45	98%	80%	120%	102%	80%	120%	113%	80%	120%

Certified By:



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Quality Assurance

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AGAT WORK ORDER: 10M422704
PROJECT NO: E22101581.001
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-13

PARAMETER	Batch	Sample Id	DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
			Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total oil and grease (water)															
Total oil and grease	1	MR	26.0	26.3	1.1%	< 4.5	100%	70%	130%	NA	70%	130%	NA	70%	130%
PCB aroclor (water)															
Aroclor 1242	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	MR	0.5	0.5	0.0%	105	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	MR	99	97	2.0%	99	NA	40%	140%	NA	40%	140%	NA	40%	140%
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	640	1901824	<10	10	0.0%	< 10	99%	80%	120%	98%	80%	120%	106%	60%	140%
C16 - C34 (F3)	640	1901824	<10	<10	0.0%	< 10	99%	80%	120%	100%	80%	120%	111%	60%	140%
C34 - C50 (F4)	640	1901824	<10	<10	0.0%	< 10	99%	80%	120%	107%	80%	120%	118%	60%	140%
Ethanolamines in Water															
Ethanolamine (MEA)	71	1889674	< 1	< 1	NA	< 1	85%	70%	130%	82%	70%	130%	101%	70%	130%
Monoisopropanolamine (MIPA)	71	1889674	< 1	< 1	NA	< 1	94%	70%	130%	91%	70%	130%	110%	70%	130%
Diethylethanolamine (DEEA)	71	1889674	< 1	< 1	NA	< 1	88%	70%	130%	98%	70%	130%	92%	70%	130%
Methyldiethanolamine (MDEA)	71	1889674	< 1	< 1	NA	< 1	100%	70%	130%	108%	70%	130%	95%	70%	130%
Diethanolamine (DEA)	71	1889674	< 1	< 1	NA	< 1	96%	70%	130%	125%	70%	130%	107%	70%	130%
Diisopropanolamine (DIPA)	71	1889674	< 1	< 1	NA	< 1	102%	70%	130%	102%	70%	130%	101%	70%	130%
Polychlorinated Biphenyls Analysis - Wastewater/Oil															
Total Polychlorinated Biphenyls	71	1895102	<0.02	<0.02	0.0%	< 0.02	94%	70%	130%	115%	70%	130%	83%	60%	140%
Flash point Analysis															
Methane	147					<	100%	85%	115%						

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Water Analysis

RPT Date: 2010-08-13			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Inorganic analysis															
pH	1	NA	NA	NA	0.0%	NA	100%	80%	120%	99%	90%	110%	NA	0%	0%
Total Mercury	1	NA	NA	NA	0.0%	< 0.0001	97%	80%	120%	100%	90%	110%	103%	80%	120%
Total phenols (colorimetry)	1	1895078	< 0.002	< 0.002	0.0%	< 0.002	87%	80%	120%	91%	90%	110%	114%	80%	120%
Dissolved Metals															
Cadmium (dissolved)	1	NA	NA	NA	0.0%	< 0.8	99%	80%	120%	99%	90%	110%	107%	80%	120%
Chromium (dissolved)	1	NA	NA	NA	0.0%	< 10	110%	80%	120%	115%	80%	120%	NA	80%	120%
Copper (dissolved)	1	NA	NA	NA	0.0%	< 3.0	110%	80%	120%	116%	80%	120%	112%	80%	120%
Cobalt (dissolved)	1	NA	NA	NA	0.0%	< 20	109%	80%	120%	106%	80%	120%	114%	80%	120%
Nickel (dissolved)	1	NA	NA	NA	0.0%	< 2.0	100%	80%	120%	98%	80%	120%	99%	80%	120%
Lead (dissolved)	1	NA	NA	NA	0.0%	< 1.0	99%	80%	120%	104%	80%	120%	106%	80%	120%
Total Metals Scan															
Arsenic	1	1895078	< 1.0	< 1.0	0.0%	< 1.0	87%	80%	120%	93%	80%	120%	86%	80%	120%
Zinc	1	1895078	226	211	6.9%	< 3.0	97%	80%	120%	100%	80%	120%	98%	80%	120%

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AGAT Laboratories

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FAX (514)333-3046
http://www.agatlabs.com

Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Occupational Hygiene Analysis					
Asbestos (Bulk)	2010-07-30	2010-07-30	INORG 93-6010	EPA 600/R-93/116 & NIOSH 9002	PLM
Soil Analysis					
Chromium	2010-07-29	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Chrome hexevalent	2010-07-29	2010-07-29	INOR-101-6034F	SM 3500-Cr B 21éd. 2005	SPECTROPHOTOMETER
Trace Organics Analysis					
Ethanolamine (MEA)	2010-07-31	2010-07-31	TO 1400	EPA SW-846 8015A with direct injection	GC/FID
Monoisopropanolamine (MIPA)	2010-07-31	2010-07-31	TO 1400	EPA SW - 846 8015A	GC/FID
Diethylethanolamine (DEEA)	2010-07-31	2010-07-31	TO 1400	EPA SW-846 8015A with direct injection	GC/FID
Methyldiethanolamine (MDEA)	2010-07-31	2010-07-31	TO 1400	EPA SW-846 8015A with direct injection	GC/FID
Diethanolamine (DEA)	2010-07-31	2010-07-31	TO 1400	EPA SW-846 8015A with direct injection	GC/FID
Diisopropanolamine (DIPA)	2010-07-31	2010-07-31	TO 1400	EPA SW-846 8015A with direct injection	GC/FID
Dimethylethanolamine (DMEA)	2010-07-31	2010-07-31	TO 1400	EPA SW-846 8015A with direct injection	GC/FID
Methane	2010-08-03	2010-08-03	TO 2200	ASTM D93-02A	
Aroclor 1242	2010-07-28	2010-07-28	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1248	2010-07-28	2010-07-28	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1254	2010-07-28	2010-07-28	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1260	2010-07-28	2010-07-28	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
IUPAC #209	2010-07-28	2010-07-28	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
C10 - C16 (F2)	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-07-30	2010-07-31	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-07-30	2010-07-31			GC/FID
Aroclor 1242	2010-07-31	2010-07-31	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1254	2010-07-31	2010-07-31	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1260	2010-07-31	2010-07-31	TO 0100	EPA SW-846 3550 & 8081	ECD
Total Polychlorinated Biphenyls	2010-07-31	2010-07-31	TO 0100	EPA SW-846 3550 & 8081	ECD
Decachlorobiphenyl	2010-07-31	2010-07-31	TO 0400		GC/ECD
Total oil and grease	2010-07-28	2010-07-29	ORG-100-5105F	MA.415-HGT 1.0	MICROBALANCE

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M422704

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis					
Cadmium (dissolved)	2010-07-27	2010-07-29	MET-101-6105	EPA-SW 846 Met. 3050 et 6020	ICP/MS
Chromium (dissolved)	2010-07-27	2010-07-29	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Copper (dissolved)	2010-07-27	2010-07-29	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Cobalt (dissolved)	2010-07-27	2010-07-29	MET-101-6105	EPA SW Met. 3050 et 6020	ICP-MS
Nickel (dissolved)	2010-07-27	2010-07-29	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Lead (dissolved)	2010-07-27	2010-07-29	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
pH	2010-07-28	2010-07-28	INOR-101-6021F	SM 4500-H+ B 21éd. 2005	PC TITRATE
Total Mercury	2010-07-28	2010-07-28	MET-101-6102F	EPA 245.5	FIMS
Total phenols (colorimetry)	2010-07-29	2010-07-29	INOR-101-6050F	SM 5530D 21éd. 2005	TECHNICON AUTO ANALYZER
Arsenic	2010-07-28	2010-07-29	MET-101-6105F	EPA SW-846 6020	ICP/MS
Zinc	2010-07-28	2010-07-29	MET-101-6105F	EPA SW-846 6020	ICP/MS

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CHAIN OF CUSTODY RECORD

Shipment #6
Quote# EBA - DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA Engineering
Contact: Daniela Felske, Michelle Blade
Address: 14940 - 123 Avenue
Edmonton, AB Postal Code: T5V 1B4
Phone: 7804512121 Fax: 7804545688
LSD:
Client Project #: E22101581.001

Bill Invoice To: SAME (Y) N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: Daniela Felske
Email: dfelske@eba.ca
2. Name: Michelle Blade
Email: mblade@eba.ca

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☒ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - X DCC

Report Format
- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4 F2-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill ASBESTOS	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	~~Hierotox~~ RUSH	Water Discharge	Hexavalent chromium	Trivalent chromium	D.E.W. protocol	DMAE	~~HOLD FOR 1 WEEK~~ EBA	CONTAMINATED/HAZARDOUS (Y/N)
	Beach Sand-01 (30cm)	S	23July2010		1								X		X	X				N
	Beach Sand-02 (50cm)	S	23July2010		1								X		X	X				N
	Beach Sand-03 (surface)	S	23July2010		1								X		X	X				N
	Beach Sand-04 (10cm-creek bank)	S	23July2010		1								X		X	X				N
	Beach Sand-05 (10cm)	S	23July2010		1								X		X	X				N
	Beach Sand-06 (creek bed surface)	S	23July2010		1								X		X	X				N
IEC4-14	Treat AST 01 note AST03	W	23July2010		7								X	X						N
IEC4-15	Treat AST 02	W	23July2010		7								X	X						N
	IEC1-59	W	23July2010		3												X			N
	IEC1-60	W	23July2010	W/C hold - EBA call.	1												X	X	X	Y
	IEC3-9	Solid	"		1					X			X							N
	SPILL 5 MAIN STATION SURFACE	Spill	23July2010		1		X													N

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michelle Blade	04July2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097838

Picked up July 27 afternoon - biggerin on 2014

AGAT Laboratories

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FAX (514)333-3046
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CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
14940 - 123 AVENUE
EDMONTON, AB T5V1B4

ATTENTION TO: Daniela Felske, Michelle Blade

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10M423281

SOIL ANALYSIS REVIEWED BY: Sandra Lalli, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

WATER ANALYSIS REVIEWED BY: Sandra Lalli, chimiste

DATE REPORTED: 2010-08-09

VERSION*: 1

PAGES (INCLUDING COVER): 12

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

14 Metals in Soil

DATE RECEIVED: 2010-07-29

DATE REPORTED: 2010-08-09

							IEC1-61 Yellow	IEC1-62 orange			Ash wood burn
						SAMPLE DESCRIPTION:	Paint WA-7	paint WA-7		IEC1-63 WA-7	test
						SAMPLE TYPE:	Soil	Soil		Soil	Solid
						DATE SAMPLED:	2010-07-25	2010-07-25		2010-07-25	2010-07-27
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1899235	1899253	RDL	1899266	1899267
Arsenic	mg/kg	6	30	50	250	15.0	<15.0[<B]	<15.0[<B]	5.0	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	2.3[A-B]	<0.9[<A]	0.9	3.1[A-B]	2.0[A-B]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	25[A-B]	15	<15[<A]	<15[<A]
Chromium	mg/kg	85	250	800	4000	45	10100[>D]	<45[<A]	45	49[<A]	<45[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	40	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	502[C-D]	<30[<A]	30	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	38500[>D]	77700[>D]	30	100[A-B]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	4540[C-D]	<100[<A]	100	<100[<A]	4630[C-D]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

1899235 Due to matrix interferences the samples were diluted. The RDLs have been increased for As.

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Certificate of Analysis

AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Mercury

DATE RECEIVED: 2010-07-29

DATE REPORTED: 2010-08-09

SAMPLE DESCRIPTION:				IEC1-61 Yellow Paint WA-7	IEC1-62 orange paint WA-7	IEC1-63 WA-7	Ash wood burn test
SAMPLE TYPE:				Soil	Soil	Soil	Solid
DATE SAMPLED:				2010-07-25	2010-07-25	2010-07-25	2010-07-27
Parameter	Unit	G / S	RDL	1899235	1899253	1899266	1899267
Total Mercury	mg/kg		0.2	0.3	<0.2	<0.2	<0.2

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PCB Aroclors

DATE RECEIVED: 2010-07-29

DATE REPORTED: 2010-08-09

				IEC1-61 Yellow	IEC1-62 orange		
SAMPLE DESCRIPTION:				Paint WA-7	paint WA-7		IEC1-63 WA-7
SAMPLE TYPE:				Soil	Soil		Soil
DATE SAMPLED:				2010-07-25	2010-07-25		2010-07-25
Parameter	Unit	G / S	RDL	1899235	1899253	RDL	1899266
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	5.0	<5.0
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	5.0	<5.0
Aroclor 1254	mg/kg		0.5	2.4	<0.5	5.0	<5.0
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	5.0	<5.0
IUPAC #209	%			172	153		NA

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1899235 The % recoveries are outside of acceptable limits due to sample matrix interferences. For this reason, the sample was diluted by a factor of 100. The detection limit has been increased.

1899253-1899266 The % recoveries are outside of acceptable limits due to sample matrix interferences.

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AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-07-29

DATE REPORTED: 2010-08-09

				SPILL5 Main	
		SAMPLE DESCRIPTION:		Station	IEC1-63 WA-7
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2010-07-24	2010-07-25
Parameter	Unit	G / S	RDL	1899251	1899266
C10 - C16 (F2)	mg/kg	150	10	<10	205
C16 - C34 (F3)	mg/kg	1300	10	15	10341
C34 - C50 (F4)	mg/kg	5600	10	<10	15173
Moisture Content	%		1	11	6
Surrogate	Unit	Acceptable Limits			
o-Terphenyl (F2-F4)	%	50-150		118	106

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1899251-1899266 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

TCE

DATE RECEIVED: 2010-07-29

DATE REPORTED: 2010-08-09

					SAMPLE DESCRIPTION:		TCE 5
					SAMPLE TYPE:		Soil
					DATE SAMPLED:		2010-07-22
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1899245
Trichloroethene	mg/kg	0.2	5	50	50	0.01	<0.01[<A]
Dibromofluoromethane	%						104
Toluene-D8	%						98
4-Bromofluorobenzene	%						108
Ethylbenzene-D10	%						93

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:

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AGAT Laboratories

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CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Leachable Lead

DATE RECEIVED: 2010-07-29

DATE REPORTED: 2010-08-09

				IEC1-61 Yellow	IEC1-62 orange
		SAMPLE DESCRIPTION:		Paint WA-7	paint WA-7
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2010-07-25	2010-07-25
Parameter	Unit	G / S	RDL	1899235	1899253
Lead	mg/L		0.05	12.1	1160

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M423281
PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Leachate Metals

DATE RECEIVED: 2010-07-29

DATE REPORTED: 2010-08-09

SAMPLE DESCRIPTION:				Ash wood burn test
SAMPLE TYPE:				Solid
DATE SAMPLED:				2010-07-27
Parameter	Unit	G / S	RDL	1899267
Silver	mg/L		0.02	<0.02
Arsenic	mg/L		0.002	0.003
Barium	mg/L		1	1
Cadmium	mg/L		0.01	0.02
Chromium	mg/L		0.01	<0.01
Total Mercury	mg/L		0.0002	0.0004
Lead	mg/L		0.05	0.08
Selenium	mg/L		0.5	<0.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:



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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-09			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
14 Metals in Soil															
Arsenic	730	NA	NA	NA	0.0%	< 5.0	102%	80%	120%	91%	80%	120%	94%	80%	120%
Cadmium	730	NA	NA	NA	0.0%	< 0.9	108%	80%	120%	100%	80%	120%	94%	80%	120%
Cobalt	730	NA	NA	NA	0.0%	< 15	109%	80%	120%	99%	80%	120%	96%	80%	120%
Chromium	730	NA	NA	NA	0.0%	< 45	112%	80%	120%	101%	80%	120%	97%	80%	120%
Copper	730	NA	NA	NA	0.0%	< 40	116%	80%	120%	100%	80%	120%	104%	80%	120%
Nickel	730	NA	NA	NA	0.0%	< 30	116%	80%	120%	107%	80%	120%	101%	80%	120%
Lead	730	NA	NA	NA	0.0%	< 30	108%	80%	120%	101%	80%	120%	96%	80%	120%
Zinc	730	NA	NA	NA	0.0%	< 100	111%	80%	120%	105%	80%	120%	99%	80%	120%
14 Metals in Soil															
Arsenic	806	NA	NA	NA	0.0%	< 5.0	99%	80%	120%	99%	80%	120%	104%	80%	120%
Cadmium	806	NA	NA	NA	0.0%	< 0.9	106%	80%	120%	108%	80%	120%	103%	80%	120%
Cobalt	806	NA	NA	NA	0.0%	< 15	100%	80%	120%	103%	80%	120%	98%	80%	120%
Chromium	806	NA	NA	NA	0.0%	< 45	102%	80%	120%	105%	80%	120%	NA	80%	120%
Copper	806	NA	NA	NA	0.0%	< 40	101%	80%	120%	99%	80%	120%	102%	80%	120%
Nickel	806	NA	NA	NA	0.0%	< 30	103%	80%	120%	111%	80%	120%	83%	80%	120%
Lead	806	NA	NA	NA	0.0%	< 30	109%	80%	120%	107%	80%	120%	101%	80%	120%
Zinc	806	NA	NA	NA	0.0%	< 100	112%	80%	120%	114%	80%	120%	114%	80%	120%
Mercury															
Total Mercury	1	NA	NA	NA	0.0%	< 0.2	103%	80%	120%	101%	80%	120%	96%	80%	120%

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
AGAT WORK ORDER: 10M423281
PROJECT NO: E22101581.001
ATTENTION TO: Daniela Felske, Michelle Blade
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-09			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
TCE															
Trichloroethene	1	NA	NA	NA	0.0%	< 0.05	102%	80%	120%	NA	80%	120%	NA	80%	120%
Dibromofluoromethane	1	NA	NA	NA	0.0%	103	99%	40%	140%	NA	40%	140%	NA	40%	140%
Toluene-D8	1	NA	NA	NA	0.0%	102	102%	40%	140%	NA	40%	140%	NA	40%	140%
4-Bromofluorobenzene	1	NA	NA	NA	0.0%	102	108%	40%	140%	NA	40%	140%	NA	40%	140%
Ethylbenzene-D10	1	NA	NA	NA	0.0%	92	116%	40%	140%	NA	40%	140%	NA	40%	140%
PCB Aroclors															
Aroclor 1242	1	1899266	<5.0	<5.0	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1899266	<5.0	<5.0	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1899266	<5.0	<5.0	0.0%	< 0.5	73%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1899266	<5.0	<5.0	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1899266	NA	NA	0.0%	81	105%	40%	140%	NA	40%	140%	NA	40%	140%

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
AGAT WORK ORDER: 10M423281
PROJECT NO: E22101581.001
ATTENTION TO: Daniela Felske, Michelle Blade
SAMPLED BY:
SAMPLING SITE:

Water Analysis

RPT Date: 2010-08-09			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Leachable Lead															
Lead	1	NA	NA	NA	0.0%	< 0.05	NA	80%	120%	100%	80%	120%	100%	80%	120%
Leachate Metals															
Silver	1	NA	NA	NA	0.0%	< 0.02	NA	80%	120%	103%	90%	110%	98%	80%	120%
Arsenic	1	NA	NA	NA	0.0%	< 0.002	98%	80%	120%	89%	80%	120%	93%	80%	120%
Barium	1	NA	NA	NA	0.0%	< 1	102%	80%	120%	98%	80%	120%	100%	80%	120%
Cadmium	1	NA	NA	NA	0.0%	< 0.01	104%	80%	120%	99%	80%	120%	100%	80%	120%
Chromium	1	NA	NA	NA	0.0%	< 0.01	109%	80%	120%	100%	80%	120%	102%	80%	120%
Total Mercury	1	NA	NA	NA	0.0%	< 0.0002	NA	80%	120%	111%	80%	120%	114%	80%	120%
Lead	1	NA	NA	NA	0.0%	< 0.05	NA	80%	120%	100%	80%	120%	100%	80%	120%
Selenium	1	NA	NA	NA	0.0%	< 0.5	108%	80%	120%	102%	80%	120%	99%	80%	120%

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M423281

PROJECT NO: E22101581.001

ATTENTION TO: Daniela Felske, Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-07-30	2010-08-06	MET-101-6105	EPA 3050, EPA 6020	ICP/MS
Cadmium	2010-07-30	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-07-30	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-07-30	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-07-30	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Nickel	2010-07-30	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-07-30	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-07-30	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-08-05	2010-08-05	MET-101-6101F	EPA 245.5	FIMS
Trace Organics Analysis					
Aroclor 1242	2010-07-30	2010-07-30	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-07-30	2010-07-30	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-07-30	2010-07-30	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-07-30	2010-07-30	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-07-30	2010-07-30	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
C10 - C16 (F2)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
Trichloroethene	2010-07-29	2010-07-29	ORG-100-5101	EPA 5030B, EPA 8260B	GC/MS
Dibromofluoromethane	2010-07-29	2010-07-29	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Toluene-D8	2010-07-29	2010-07-29	ORG-100-5101	EPA 8260B r2	(P&T)GC/MS
4-Bromofluorobenzene	2010-07-29	2010-07-29	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Ethylbenzene-D10	2010-07-29	2010-07-29	ORG-100-5106	EPA 8270C, EPA 8141A	GC/MS
Water Analysis					
Lead	2010-08-02	2010-08-03	MET-101-6107	EPA 6010	ICP/OES
Silver	2010-08-02	2010-08-03	MET-101-6107	EPA 6010	ICP/OES
Arsenic	2010-08-02	2010-08-03	MET-101-6105F	EPA SW-846 6020	ICP/MS
Barium	2010-08-02	2010-08-03	MET-101-6107	EPA 6010	ICP/OES
Cadmium	2010-08-02	2010-08-03	MET-101-6107	EPA 6010	ICP/OES
Chromium	2010-08-02	2010-08-03	MET-101-6107	EPA 6010	ICP/OES
Total Mercury	2010-08-03	2010-08-03	MET-101-6102F	EPA 245.5	FIMS
Lead	2010-08-02	2010-08-03	MET-101-6107	EPA 6010	ICP/OES
Selenium	2010-08-02	2010-08-03	MET-101-6105F	EPA SW-846 3050 & 6020	ICP/MS

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CHAIN OF CUSTODY RECORD

Shipment #7 revised

Quote # EBA - DCC

WB- 245-27993103

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Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ **Less than 24 hours (200%)**
- ☒ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED: _____

PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: EBA Engineering
Contact: Daniela Fehlke / Michelle Blade
Address: 14940 - 123 Avenue
Edmonton AB Postal Code: T5V 1B4
Phone: 7804512121 Fax: 7804545688
LSD:
Client Project #: E22101581.001

Report Information - reports to be sent to:

1. Name: Daniela Fehlke
Email: dfehlke@eba.ca
2. Name: Michelle Blade
Email: mblade@eba.ca

Report Format

- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

Bill Invoice To: SAME (Y) / N) - circle

Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):

- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☒ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☒ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	DCC METALS	D50 Detailed Soil Salinity (Sat. Paste)	Microtox PCB	RUSH	TCE	F3-F4	TCLP LEACHABILITY	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	IEC1-61 Yellow Paint WA-7	S	25July							X	X	X	PCB						--
	TCE 5	S	25July											X	X				--
	SPILL 5 Main Station	S	24July													X			--
	IEC1-62 Orange Point WA-7	S	25July							X	X	X							--
	IEC1-63 WA-7	S	25July								X		X			X			--
	ASH WOOD BURN TEST	S	27July								X						X		--

Samples Relinquished By (print name & sign): Michelle Blade — Date/Time: 27 July 2010

Samples Received By (print name & sign) — Date/Time

Samples Relinquished By (print name & sign) — Date/Time

Samples Received By (print name & sign) — Date/Time

Samples Relinquished By (print name & sign) — Date/Time

Samples Received By (print name & sign) — Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE 1 of 1

NO: 0097815

need July 29

AGAT Laboratories

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CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: Daniela Felske / Michelle Blade

PROJECT NO:

AGAT WORK ORDER: 10M423617

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-10

VERSION*: 1

PAGES (INCLUDING COVER): 11

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M423617

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Chromium (re-test)

DATE RECEIVED: 2010-07-30

DATE REPORTED: 2010-08-10

						SAMPLE DESCRIPTION:	WA7-SP7	WA7-SP16
						SAMPLE TYPE:	Soil	Soil
						DATE SAMPLED:	2010-07-27	2010-07-27
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1902226	1902241
Chrome	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M423617

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Mercury

DATE RECEIVED: 2010-07-30

DATE REPORTED: 2010-08-10

		SAMPLE DESCRIPTION:		WA7-SP1	WA7-SP2	WA7-SP3	WA7-SP4	WA7-SP5	WA7-SP6	WA7-SP7	WA7-SP8
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27
Parameter	Unit	G / S	RDL	1902208	1902215	1902217	1902219	1902221	1902224	1902226	1902228
Total Mercury	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

		SAMPLE DESCRIPTION:		WA7-SP9	WA7-SP10	WA7-SP11	WA7-SP12	WA7-SP13	WA7-SP14	WA7-SP15	WA7-SP16
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27
Parameter	Unit	G / S	RDL	1902231	1902233	1902235	1902237	1902238	1902239	1902240	1902241
Total Mercury	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

		SAMPLE DESCRIPTION:		WA7-SP17	WA7-SP18	WA7-SP19	WA7-SP20	WA7-SP21	WA7-SP22
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27
Parameter	Unit	G / S	RDL	1902242	1902243	1902244	1902245	1902246	1902247
Total Mercury	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M423617

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Metals

DATE RECEIVED: 2010-07-30

DATE REPORTED: 2010-08-10

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA7-SP1 SAMPLE TYPE: Soil DATE SAMPLED: 2010-07-27 1902208	WA7-SP2 Soil 2010-07-27 1902215	WA7-SP3 Soil 2010-07-27 1902217	WA7-SP4 Soil 2010-07-27 1902219	WA7-SP5 Soil 2010-07-27 1902221
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	1.3[<A]	<0.9[<A]	<0.9[<A]	1.0[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	69[A-B]	33[<A]	58[A-B]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA7-SP6 SAMPLE TYPE: Soil DATE SAMPLED: 2010-07-27 1902224	WA7-SP7 Soil 2010-07-27 1902226	WA7-SP8 Soil 2010-07-27 1902228	WA7-SP9 Soil 2010-07-27 1902231	WA7-SP10 Soil 2010-07-27 1902233
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	1.1[<A]	1.3[<A]	1.1[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	31[<A]	1440[C-D]	65[A-B]	83[A-B]	50[A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

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ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Metals

DATE RECEIVED: 2010-07-30

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Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA7-SP11 SAMPLE TYPE: Soil DATE SAMPLED: 2010-07-27 1902235	WA7-SP12 Soil 2010-07-27 1902237	WA7-SP13 Soil 2010-07-27 1902238	WA7-SP14 Soil 2010-07-27 1902239	WA7-SP15 Soil 2010-07-27 1902240
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	1.2[<A]	1.2[<A]	<0.9[<A]	1.3[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	75[A-B]	68[A-B]	<30[<A]	38[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA7-SP16 SAMPLE TYPE: Soil DATE SAMPLED: 2010-07-27 1902241	WA7-SP17 Soil 2010-07-27 1902242	WA7-SP18 Soil 2010-07-27 1902243	WA7-SP19 Soil 2010-07-27 1902244	WA7-SP20 Soil 2010-07-27 1902245
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	1.2[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	796[B-C]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

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Certificate of Analysis

AGAT WORK ORDER: 10M423617

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Metals

DATE RECEIVED: 2010-07-30

DATE REPORTED: 2010-08-10

						SAMPLE DESCRIPTION:	WA7-SP21	WA7-SP22
						SAMPLE TYPE:	Soil	Soil
						DATE SAMPLED:	2010-07-27	2010-07-27
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1902246	1902247
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	31[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

1902241 For Lead three different results were obtained (98, 342, and 796 mg/kg). The sample is not homogeneous.

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ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PCB Aroclors

DATE RECEIVED: 2010-07-30

DATE REPORTED: 2010-08-10

		SAMPLE DESCRIPTION:		WA7-SP1	WA7-SP2	WA7-SP3	WA7-SP4	WA7-SP5	WA7-SP6	WA7-SP7	WA7-SP8
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27
Parameter	Unit	G / S	RDL	1902208	1902215	1902217	1902219	1902221	1902224	1902226	1902228
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.7
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			93	76	106	102	76	79	81	90

		SAMPLE DESCRIPTION:		WA7-SP9	WA7-SP10	WA7-SP11	WA7-SP12	WA7-SP13	WA7-SP14	WA7-SP15	WA7-SP16
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27
Parameter	Unit	G / S	RDL	1902231	1902233	1902235	1902237	1902238	1902239	1902240	1902241
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	2.0	0.7	0.6	0.8	<0.5	<0.5	<0.5	1.4
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			94	78	99	97	92	85	68	131

		SAMPLE DESCRIPTION:		WA7-SP17	WA7-SP18	WA7-SP19	WA7-SP20	WA7-SP21	WA7-SP22	Spill6-air terminal
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27	2010-07-27
Parameter	Unit	G / S	RDL	1902242	1902243	1902244	1902245	1902246	1902247	1902306
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			110	108	114	93	103	109	105

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M423617

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4)

DATE RECEIVED: 2010-07-30

DATE REPORTED: 2010-08-10

				SAMPLE DESCRIPTION:	WA7-SP16	Spill6-air terminal
				SAMPLE TYPE:	Soil	Soil
				DATE SAMPLED:	2010-07-27	2010-07-27
Parameter	Unit	G / S	RDL		1902241	1902306
C10 - C16 (F2)	mg/kg	150	10		31	68
C16 - C34 (F3)	mg/kg	1300	10		352	16800
C34 - C50 (F4)	mg/kg	5600	10		219	1950
Moisture Content	%		1		8	3
Surrogate	Unit	Acceptable Limits				
o-Terphenyl (F2-F4)	%	50-150			114	110

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1902241-1902306 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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Quality Assurance

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PROJECT NO:

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-10

PARAMETER	Batch	Sample Id	DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
			Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals															
Arsenic	802	1902208	< 5.0	< 5.0	0.0%	< 5.0	105%	80%	120%	91%	80%	120%	102%	80%	120%
Cadmium	802	1902208	1.3	1.2	8.0%	< 0.9	108%	80%	120%	104%	80%	120%	100%	80%	120%
Chromium	802	1902208	<45	<45	0.0%	< 45	103%	80%	120%	103%	80%	120%	97%	80%	120%
Cobalt	802	1902208	<15	<15	0.0%	< 15	109%	80%	120%	102%	80%	120%	101%	80%	120%
Copper	802	1902208	<40	<40	0.0%	< 40	105%	80%	120%	100%	80%	120%	99%	80%	120%
Nickel	802	1902208	<30	<30	0.0%	< 30	113%	80%	120%	109%	80%	120%	100%	80%	120%
Lead	802	1902208	69	58	17.3%	< 30	101%	80%	120%	103%	80%	120%	94%	80%	120%
Zinc	802	1902208	<100	<100	0.0%	< 100	104%	80%	120%	106%	80%	120%	113%	80%	120%
Metals															
Arsenic	802	1902241	< 5.0	< 5.0	0.0%	< 5.0	102%	80%	120%	93%	80%	120%	104%	80%	120%
Cadmium	802	1902241	1.2	1.5	18.7%	< 0.9	100%	80%	120%	104%	80%	120%	109%	80%	120%
Chromium	802	1902241	<45	<45	0.0%	< 45	98%	80%	120%	102%	80%	120%	113%	80%	120%
Cobalt	802	1902241	<15	<15	0.0%	< 15	102%	80%	120%	104%	80%	120%	106%	80%	120%
Copper	802	1902241	<40	<40	0.0%	< 40	97%	80%	120%	99%	80%	120%	109%	80%	120%
Nickel	802	1902241	<30	<30	0.0%	< 30	96%	80%	120%	110%	80%	120%	110%	80%	120%
Lead	802	1902241	NA	NA	0.0%	< 30	103%	80%	120%	105%	80%	120%	NA	70%	130%
Zinc	802	1902241	<100	<100	0.0%	< 100	102%	80%	120%	108%	80%	120%	NA	80%	120%
Mercury															
Total Mercury	1	1902208	<0.2	<0.2	0.0%	< 0.2	89%	80%	120%	101%	80%	120%	105%	80%	120%
Mercury															
Total Mercury	1	1902241	<0.2	<0.2	0.0%	< 0.2	103%	80%	120%	101%	80%	120%	96%	80%	120%
Chromium (re-test)															
Chrome	1	NA	NA	NA	0.0%	< 45	99%	80%	120%	105%	80%	120%	104%	80%	120%

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AGAT WORK ORDER: 10M423617

PROJECT NO:

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-10			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
PCB Aroclors															
Aroclor 1242	1	1902215	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1902215	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1902215	< 0.5	< 0.5	0.0%	< 0.5	70%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1902215	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1902215	76	90	16.9%	88	102%	40%	140%	NA	40%	140%	NA	40%	140%
Petroleum Hydrocarbons (F2-F4)															
C10 - C16 (F2)	1086	1907501	<10	<10	0.0%	< 10	93%	80%	120%	91%	80%	120%	99%	60%	140%
C16 - C34 (F3)	1086	1907501	15	12	22.0%	< 10	93%	80%	120%	95%	80%	120%	102%	60%	140%
C34 - C50 (F4)	1086	1907501	<10	<10	0.0%	< 10	93%	80%	120%	88%	80%	120%	94%	60%	140%

Certified By:



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TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M423617

PROJECT NO:

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Chrome	2010-08-10	2010-08-10	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-08-05	2010-08-05	MET-101-6101F	EPA 245.5	FIMS
Arsenic	2010-08-02	2010-08-02	MET-101-6105	EPA 3050, EPA 6020	ICP/MS
Cadmium	2010-08-02	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-08-02	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-08-02	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-08-02	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Nickel	2010-08-02	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-08-02	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-08-02	2010-08-02	MET-101-6107	EPA 3050	ICP/OES
Trace Organics Analysis					
Aroclor 1242	2010-08-02	2010-08-02	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-02	2010-08-02	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-02	2010-08-02	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-02	2010-08-02	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-02	2010-08-02	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
C10 - C16 (F2)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-08-04	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID

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CHAIN OF CUSTODY RECORD

245-27993136
SHIPMENT #8
QUOTE: EBA-DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

received Friday July 30 mailbox on Aug 2

Report To:
Company: EBA ENGINEERING
Contact: BILL HORNE
Address: 14940-123 AVE
EDM, AB Postal Code: T5V-1B4
Phone: 780-451-2130 Fax: 780-454-5688
LSD:
Client Project #: E22101581

Report Information - reports to be sent to:
1. Name: dfelske@eba.ca
Email: Daniela Felske
2. Name: mblack@eba.ca
Email: Michelle Black

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ **Less than 24 hours (200%)**
- ☐ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Bill Invoice To: SAME (Y) / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):
- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	DCC METALS	PCB				HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA7-SP1	Soil	July/27		2									X	X					
	WA7-SP2													X	X					
	WA7-SP3													X	X					
	WA7-SP4													X	X					
	WA7-SP5													X	X					
	WA7-SP6													X	X					
	WA7-SP7													X	X					
	WA7-SP8													X	X					
	WA7-SP9													X	X					
	WA7-SP10													X	X					
	WA7-SP11													X	X					
	WA7-SP12													X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	July 28/2022 7pm		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097840

CHAIN OF CUSTODY RECORD

SHIPMENT #8

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
LSD:
Client Project #:

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name:
Email:
2. Name:
Email:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Report Format
- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	DGC METALS	PCB	F2-F4	PCB	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA7-SP13	Soil	July 27		2									X					
	WA7-SP14													X					
	WA7-SP15													X					
	WA7-SP16													X		X			
	WA7-SP17													X					
	WA7-SP18													X					
	WA7-SP19													X					
	WA7-SP20													X					
	WA7-SP21													X					
	WA7-SP22													X					
	SPILL6-Airterminal	S	July 27		2									X		X			

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DRISCOLL	July 28 7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097841

AGAT Laboratories

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FAX (514)333-3046
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: DANIELA FELSKE

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10M424141

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-13

VERSION*: 1

PAGES (INCLUDING COVER): 13

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Metals (Soil)

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-13

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA6-PCB1 / SAMPLE TYPE: Soil / DATE SAMPLED: 2010-07-30 / 1905006	WA6-PCB5 / Soil / 2010-07-30 / 1905011	WA6-PCB9 / Soil / 2010-07-30 / 1905018	WA6-PCB11 / Soil / 2010-07-30 / 1905021	WA7-SP23 / Soil / 2010-07-30 / 1905051
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	160[A-B]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA7-SP24 / SAMPLE TYPE: Soil / DATE SAMPLED: 2010-07-30 / 1905057	WA7-SP25 / Soil / 2010-07-30 / 1905062	WA7-SP26 / Soil / 2010-07-30 / 1905063	IECI-64 ZINC SLUDGE / Soil / 2010-07-28 / 1905065	IECI-66 / Soil / 2010-07-30 / 1905081
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	34.2[B-C]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	1.3[<A]	1.1[<A]	1.5[A]	20.2[C-D]	0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	168[A-B]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	45[A-B]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	1710[C-D]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	614[C-D]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	108[A-B]	109[A-B]	269[A-B]	161[A-B]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	108[<A]	<100[<A]	131[A-B]	486[A-B]	251[A-B]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Soil Analysis - Phenols

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-13

			SAMPLE DESCRIPTION:	IECI-65
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2010-07-28
Parameter	Unit	G / S	RDL	1905067
Phenols	mg/kg		0.01	0.36

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905067 Note: Atypical moisture analysis.

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

T.C.L.P. Leachate 20 Metals

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		IECI-65
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-28
Parameter	Unit	G / S	RDL	1905067
Antimony - Leachate	mg/L	500	0.5	<0.5
Arsenic - Leachate	mg/L	5.00	0.5	<0.5
Barium - Leachate	mg/L	100	0.5	<0.5
Beryllium - Leachate	mg/L	5.0	0.5	<0.5
Boron - Leachate	mg/L	500	0.5	<0.5
Cadmium - Leachate	mg/L	1.00	0.5	<0.5
Chromium - Leachate	mg/L	5.00	0.5	<0.5
Cobalt - Leachate	mg/L	100	0.5	<0.5
Copper - Leachate	mg/L	100	0.5	<0.5
Iron - Leachate	mg/L	1000	0.5	0.8
Lead - Leachate	mg/L	5.00	0.5	<0.5
Mercury - Leachate	mg/L	0.200	0.1	<0.1
Nickel - Leachate	mg/L	5.00	0.5	<0.5
Selenium - Leachate	mg/L	1.00	0.5	<0.5
Silver - Leachate	mg/L	5.00	0.5	<0.5
Thallium - Leachate	mg/L	5.00	0.5	<0.5
Uranium - Leachate	mg/L	2.00	0.5	<0.5
Vanadium - Leachate	mg/L	100	0.5	<0.5
Zinc - Leachate	mg/L	500	1	<1
Zirconium - Leachate	mg/L		0.5	<0.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Class 2 Landfill

1905067 Analysis based on "as received"

Certified By:

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Leachate Cresols in Soil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		IECI-65
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-28
Parameter	Unit	G / S	RDL	1905067
Meta et Para-Cresol	mgéL		0.005	0.021
Ortho-cresol	mgéL		0.005	0.008

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905067 Results relate only to the items tested.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PCB Aroclor

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		WA6-PCB1	WA6-PCB2	WA6-PCB3	WA6-PCB4	WA6-PCB5	WA6-PCB6	WA6-PCB7	WA6-PCB8
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30
Parameter	Unit	G / S	RDL	1905006	1905007	1905008	1905010	1905011	1905012	1905015	1905017
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			107	107	106	105	98	91	112	105

		SAMPLE DESCRIPTION:		WA6-PCB9	WA6-PCB10	WA6-PCB11	WA6-PCB12	WA6-PCB13	WA7-PCB1	WA7-PCB2	WA7-PCB3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30
Parameter	Unit	G / S	RDL	1905018	1905020	1905021	1905023	1905024	1905039	1905041	1905043
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			95	124	94	125	114	104	71	115

		SAMPLE DESCRIPTION:		WA7-PCB4	WA7-PCB5	WA7-SP23	WA7-SP24	WA7-SP25	WA7-SP26	IECI-66
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30	2010-07-30
Parameter	Unit	G / S	RDL	1905045	1905048	1905051	1905057	1905062	1905063	1905081
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	3.4	<0.5	<0.5	0.9	1.0	1.4	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			93	108	113	114	120	127	130

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-13

		SAMPLE DESCRIPTION:		IECI-66
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-30
Parameter	Unit	G / S	RDL	1905081
C10 - C16 (F2)	mg/kg	150	10	21
C16 - C34 (F3)	mg/kg	1300	10	76
C34 - C50 (F4)	mg/kg	5600	10	37
Moisture Content	%		1	3.8
Surrogate	Unit	Acceptable Limits		
o-Terphenyl (F2-F4)	%	50-150		103

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1905081 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

TCE

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-13

						SAMPLE DESCRIPTION:	TCE 17	TCE 18	TCE 19	TCE 20
						SAMPLE TYPE:	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-07-30	2010-07-30	2010-07-30	2010-07-30
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1905088	1905089	1905090	1905091
Trichloroethene	mg/kg	0.2	5	50	50	0.05	2.57[A-B]	0.77[A-B]	0.21[A-B]	<0.05[<A]
Dibromofluoromethane	%						95	94	95	98
Toluene-D8	%						105	103	104	101
4-Bromofluorobenzene	%						113	122	110	119
Ethylbenzene-D10	%						120	108	112	118

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
AGAT WORK ORDER: 10M424141
PROJECT NO: E22101581.001
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-13

PARAMETER	Batch	Sample Id	DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
			Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
T.C.L.P. Leachate 20 Metals															
Antimony - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	94%	90%	110%				98%	75%	125%
Arsenic - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	100%	90%	110%				120%	75%	125%
Barium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	105%	90%	110%				106%	75%	125%
Beryllium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	104%	90%	110%				118%	75%	125%
Boron - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	105%	90%	110%				113%	75%	125%
Cadmium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	108%	90%	110%				114%	75%	125%
Chromium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	102%	90%	110%				112%	75%	125%
Cobalt - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	103%	90%	110%				109%	75%	125%
Copper - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	103%	90%	110%				120%	75%	125%
Iron - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	103%	90%	110%				101%	75%	125%
Lead - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	104%	90%	110%				107%	75%	125%
Mercury - Leachate	1244	518	<0.1	<0.1	0.0%	< 0.1	90%	90%	110%		90%	110%	103%	75%	125%
Nickel - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	103%	90%	110%				112%	75%	125%
Selenium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	105%	90%	110%				111%	75%	125%
Silver - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	94%	90%	110%				107%	75%	125%
Thallium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	104%	90%	110%				103%	75%	125%
Uranium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	106%	90%	110%				100%	75%	125%
Vanadium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	103%	90%	110%				117%	75%	125%
Zinc - Leachate	1244	518	<1	<1	0.0%	< 1	101%	90%	110%				114%	75%	125%
Zirconium - Leachate	1244	518	<0.5	<0.5	0.0%	< 0.5	109%	90%	110%				100%	75%	125%
Soil Analysis - Phenols															
Phenols	272	431	3.19	2.79	13.4%	< 0.01	95%	90%	110%	113%	80%	120%	87%	80%	120%
Metals (Soil)															
Arsenic	806	NA	NA	NA	0.0%	< 5.0	102%	80%	120%	97%	80%	120%	104%	80%	120%
Cadmium	806	NA	NA	NA	0.0%	< 0.9	105%	80%	120%	108%	80%	120%	101%	80%	120%
Chromium	806	NA	NA	NA	0.0%	< 45	100%	80%	120%	105%	80%	120%	104%	80%	120%
Cobalt	806	NA	NA	NA	0.0%	< 15	99%	80%	120%	103%	80%	120%	95%	80%	120%
Copper	806	NA	NA	NA	0.0%	< 40	100%	80%	120%	100%	80%	120%	102%	80%	120%
Total Mercury	1	NA	NA	NA	0.0%	< 0.2	103%	80%	120%	104%	80%	110%	110%	80%	120%
Nickel	806	NA	NA	NA	0.0%	< 30	101%	80%	120%	111%	80%	120%	99%	80%	120%
Lead	806	NA	NA	NA	0.0%	< 30	102%	80%	120%	106%	80%	120%	107%	80%	120%
Zinc	806	NA	NA	NA	0.0%	< 100	110%	80%	120%	117%	80%	120%	112%	80%	120%
Metals (Soil)															
Arsenic	804	NA	NA	NA	0.0%	< 5.0	98%	80%	120%	90%	90%	110%	94%	80%	120%
Cadmium	804	NA	NA	NA	0.0%	< 0.9	99%	80%	120%	106%	80%	120%	96%	80%	120%
Chromium	804	NA	NA	NA	0.0%	< 45	101%	80%	120%	103%	80%	120%	103%	80%	120%
Cobalt	804	NA	NA	NA	0.0%	< 15	97%	80%	120%	101%	80%	120%	98%	80%	120%
Copper	804	NA	NA	NA	0.0%	< 40	98%	80%	120%	99%	80%	120%	102%	80%	120%
Total Mercury	1	1905051	<0.2	<0.2	0.0%	< 0.2	107%	80%	120%	103%	90%	110%	99%	80%	120%
Nickel	804	NA	NA	NA	0.0%	< 30	98%	80%	120%	108%	80%	120%	100%	80%	120%
Lead	804	NA	NA	NA	0.0%	< 30	100%	80%	120%	104%	80%	120%	100%	80%	120%

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Soil Analysis (Continued)

RPT Date: 2010-08-13			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Zinc	804	NA	NA	NA	0.0%	< 100	105%	80%	120%	110%	80%	120%	104%	80%	120%

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AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-13			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
TCE															
Trichloroethene	1	NA	NA	NA	0.0%	< 0.05	112%	80%	120%	NA	80%	120%	NA	80%	120%
Dibromofluoromethane	1	NA	NA	NA	0.0%	100	97%	40%	140%	NA	40%	140%	NA	40%	140%
Toluene-D8	1	NA	NA	NA	0.0%	103	103%	40%	140%	NA	40%	140%	NA	40%	140%
4-Bromofluorobenzene	1	NA	NA	NA	0.0%	104	108%	40%	140%	NA	40%	140%	NA	40%	140%
Ethylbenzene-D10	1	NA	NA	NA	0.0%	132	127%	40%	140%	NA	40%	140%	NA	40%	140%
PCB Aroclor															
Aroclor 1242	1	1905018	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1905018	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1905018	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1905018	< 0.5	< 0.5	0.0%	< 0.5	80%	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1905018	95	122	24.9%	84	86%	40%	140%	NA	40%	140%	NA	40%	140%
PCB Aroclor															
Aroclor 1242	1	1905045	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1905045	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1905045	3.4	2.4	34.5%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1905045	< 0.5	< 0.5	0.0%	< 0.5	81%	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1905045	93	122	27.0%	81	90%	40%	140%	NA	40%	140%	NA	40%	140%
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	645	1914547	106	125	16.0%	< 10	97%	80%	120%	91%	80%	120%	104%	60%	140%
C16 - C34 (F3)	645	1914547	96	118	21.0%	< 10	97%	80%	120%	91%	80%	120%	102%	60%	140%
C34 - C50 (F4)	645	1914547	35	46	27.0%	< 10	97%	80%	120%	95%	80%	120%	105%	60%	140%
Leachate Cresols in Soil															
Meta et Para-Cresol	30					< 0.005	94%	60%	140%						
Ortho-cresol	30					< 0.005	101%	60%	140%						

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-08-04	2010-08-06	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium	2010-08-04	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-08-04	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-08-04	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-08-04	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-08-05	2010-08-06	MET-101-6101F	EPA 245.5	FIMS
Nickel	2010-08-04	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-08-04	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-08-04	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Phenols	2010-08-11	2010-08-11	INST-0300	Prpich, G.P et al.	COLORIMETER
Antimony - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Arsenic - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Barium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Beryllium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Boron - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Cadmium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Chromium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Cobalt - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Copper - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Iron - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Lead - Leachate	2010-08-07	2010-08-07	SOIL 0420; INS 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Mercury - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Nickel - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Selenium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Silver - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Thallium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Uranium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Vanadium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Zinc - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES
Zirconium - Leachate	2010-08-07	2010-08-07	SOIL 0420; INST 0140	EPA SW 846-1311; EATON 2005	ICP/OES

This version replaces and cancels all previous versions, if applicable. Reproduction of this document is prohibited, in whole or part, unless authorised in writing by the laboratory. The results relate only to the samples analyzed

AGAT Laboratories
9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424141

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis					
Meta et Para-Cresol	2010-08-12	2010-08-13			
Ortho-cresol	2010-08-12	2010-08-13			
Aroclor 1242	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-04	2010-08-04	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
C10 - C16 (F2)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
Trichloroethene	2010-08-03	2010-08-03	ORG-100-5101	EPA 5030B, EPA 8260B	GC/MS
Dibromofluoromethane	2010-08-03	2010-08-03	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Toluene-D8	2010-08-03	2010-08-03	ORG-100-5101	EPA 8260B r2	(P&T)GC/MS
4-Bromofluorobenzene	2010-08-03	2010-08-03	ORG-100-5101	EPA 5030B, EPA 8260B	(P&T)GC/MS
Ethylbenzene-D10	2010-08-03	2010-08-03	ORG-100-5106	EPA 8270C, EPA 8141A	GC/MS

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CHAIN OF CUSTODY RECORD

SHIPMENT #9
#EBA-OCC
WB 245-279 206

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %) SEE WHICH SAMPLES BELOW
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: EBA ENGINEERING
Contact: DANIELA FELSKE / BILL HORNE
Address: 14940-123 AVE
EDMONTON AB Postal Code: T6V 1B4
Phone: 780-451-2121 Fax: 780-451-5682
LSD:
Client Project #: E22101581.001

Report Information - reports to be sent to:

1. Name: DANIELA FELSKE
Email: dlfelske@eba.ca
2. Name: BILL HORNE
Email: bhorne@eba.ca

Report Format

- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

for METALS OCC LIST

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	PCB	RUSH	METALS (add'l)		HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA6-PCB1	S	July 30											X	X	X			
	WA6-PCB2													X	X				
	WA6-PCB3													X	X				
	WA6-PCB4													X	X				
	WA6-PCB5													X	X	X			
	WA6-PCB6													X	X				
	WA6-PCB7													X	X				
	WA6-PCB8													X	X				
	WA6-PCB9													X	X	X			
	WA6-PCB10													X	X				
	WA6-PCB11													X	X	X			
	WA6-PCB12													X	X				

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	JULY 30 7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE 1 of 1

NO: 0097842

CHAIN OF CUSTODY RECORD

SHIPMENT #9

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
LSD:
Client Project #:

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name:
Email:
2. Name:
Email:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Report Format
- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	PCB	METALS (DCC)	RUSH	LEACHABLE METALS USEPA LIST	LEACHABLE-to-m-pCRESOL	HOLD FOR 1 YEAR LEACHABLE CRESOL	CONTAMINATED/HAZARDOUS (Y/N)
	WA6-PCB13	SOIL	JULY30		1									X		X				
	WA7-PCB1				1									X		X				
	WA7-PCB2				1									X		X				
	WA7-PCB3				1									X		X				
	WA7-PCB4				1									X		X				
	WA7-PCB5				1									X		X				
	WA7-SP23				1									X	X					
	WA7-SP24				2									X	X					
	WA7-SP25				2									X	X					
	WA7-SP26				2									X	X					
	IEC1-64 ZINC SLUDGE		July28		2										X					
	IEC1-65	WASTE	July28		1												X	X	X	

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	JULY30 7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
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NO: 0037843

CHAIN OF CUSTODY RECORD

SHIPMENT #9
#EBA-DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ **Less than 24 hours (200%)**
- ☐ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED: _____

PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Same as PO!

Report Format

- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

Regulatory requirements (Check One):

- ☑ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	TCE	RUSH	PCB	DCC METALS	F2-F4	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	TEC1-66	Soil	July 30		3											X	X	X		
	TCE 17	↓	↓	CO-CONTAMINATION	1									X	X					
	TCE 18			WITH HYDROCAR-	1									X	X					
	TCE 19			BON. (F2)	1									X	X					
	TCE 20				1									X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	July 30 7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097844

Your Project #: E22101581.001
Site: CAPE CHRISTIAN
Your C.O.C. #: 0097816

Attention: Daniela Felske
EBA Engineering Consultants Ltd
14940-123 Ave
Edmonton, AB
CANADA T5V1B4

Report Date: 2010/08/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0A4038
Received: 2010/08/04, 08:59

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
MOISTURE	4	N/A	2010/08/05	CAM SOP-00445	McKeague 2nd ed 1978
Customized VOC Scan in Soil	4	N/A	2010/08/06	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.

JULIE CLEMENT, Ottawa Customer Service
Email: Julie.Clement@maxxamanalytics.com
Phone# (905) 817-5700

==========

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 #: B0A4038
Report Date: 2010/08/06

EBA Engineering Consultants Ltd
Client Project #: E22101581.001
Project name: CAPE CHRISTIAN

RESULTS OF ANALYSES OF SOIL

Maxxam ID		GS3108	GS3109	GS3110	GS3111		
Sampling Date		2010/07/30	2010/07/30	2010/07/30	2010/07/30		
	Units	**TCE 17**	**TCE 18**	**TCE 19**	**TCE 20**	**RDL**	**QC Batch**
Inorganics							
Moisture	%	12	23	12	10	1	2227309

VOLATILE ORGANICS BY GC/MS (SOIL)

Maxxam ID		GS3108	GS3109	GS3110	GS3111		
Sampling Date		2010/07/30	2010/07/30	2010/07/30	2010/07/30		
	Units	**TCE 17**	**TCE 18**	**TCE 19**	**TCE 20**	**RDL**	**QC Batch**
Volatile Organics							
Trichloroethylene	ug/g	1.4	0.46	0.20	ND	0.05	2228263
Surrogate Recovery (%)							
D4-1,2-Dichloroethane	%	90	67	67	66		2228263
D8-Toluene	%	84	88	87	88		2228263

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0A4038
Report Date: 2010/08/06

EBA Engineering Consultants Ltd
Client Project #: E22101581.001
Project name: CAPE CHRISTIAN

GENERAL COMMENTS

VOC Analysis: Due to a level of petroleum hydrocarbon compounds beyond the appropriate range, the samples could not be analysed by the low level direct purge method. These samples were preextracted in methanol and the extracts 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.In order to obtain lower reporting limit for selected compound for which regulatory criteria could not be met by the above method, analysis was also performed by headspace GC/MS SIM. Results for select compound are included in the report.

Maxxam Job #: B0A4038
Report Date: 2010/08/06

EBA Engineering Consultants Ltd
Client Project #: E22101581.001
Project name: CAPE CHRISTIAN

QUALITY ASSURANCE REPORT

			Spiked Blank		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2227309	Moisture	2010/08/05					5.7	50
2228263	D4-1,2-Dichloroethane	2010/08/06	102	60 - 140	122	%		
2228263	D8-Toluene	2010/08/06	110	60 - 140	90	%		
2228263	Trichloroethylene	2010/08/06	107	60 - 140	ND, RDL=0.002	ug/g		

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.
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.

Validation Signature Page

Maxxam Job #: B0A4038

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

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.

RUSH

CAUTION
Reason: High Contaminated

SHIPMENT #10 (TO MAXXAM)

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:
Company: EBA ENGINEERING
Contact: DANIELA FELSKE / BILL HORNE
Address: 14940 123 AVE
EDMONTON Postal Code: AB
Phone: 780-451-2121 Fax: 780-454-5688
LSD:
Client Project #: E22101581.001

Report Information - reports to be sent to:
1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: BILL HORNE
Email: bhorne@eba.ca

Report Format
- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

Bill Invoice To: SAME (Y) N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):
- ☒ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

CCME FOR TCE IS 0.01 mg/kg

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	TCE	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	TCE 17	SOIL	JULY 30	HYDROCARBON	1									X		
	TCE 18	↓	↓	(F2) CO-	1									X		
	TCE 19			CONTAMINATION	1									X		
	TCE 20			↓	1									X		

4-Aug-10 08:59
MARIE (MCNAIR) MUI
B0A4038
J_L SRFumeHood

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	JULY 31 7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
		H20 HIRSCH	10/08/10 08:59

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT
7/8/7 C

PAGE _____ of _____
NO: 0097816

The DATA Group of Companies (403) 272-7440 S6025812.QXP

AGAT Laboratories

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: Daniela Felske / Michelle Blade

PROJECT NO:

AGAT WORK ORDER: 10M424148

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

WATER ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-11

VERSION*: 1

PAGES (INCLUDING COVER): 21

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

This version replaces and cancels all previous versions, if applicable. Reproduction of this document is prohibited, in whole or part, unless authorised in writing by the laboratory. The results relate only to the samples analyzed

AGAT Laboratories
9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Metals in Soil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA5-base 1 SAMPLE TYPE: Soil DATE SAMPLED: 2010-07-31 1905025	WA5-base 2 Soil 2010-07-31 1905026	WA5-base 3 Soil 2010-07-31 1905027	WA5-base 4 Soil 2010-07-31 1905028	WA5-base 5 Soil 2010-07-31 1905029
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Mercure total	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA5-base 6 SAMPLE TYPE: Soil DATE SAMPLED: 2010-07-31 1905030	WA5-base 7 Soil 2010-07-31 1905031	WA5-base 8 Soil 2010-07-31 1905032	WA5-base 9 Soil 2010-07-31 1905033	SPILL 7 Soil 2010-07-31 1905035
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	2.8[A-B]	<0.9[<A]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	59[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Mercure total	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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Certificate of Analysis

AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Alcohol Analysis in Oil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

			SAMPLE DESCRIPTION:	IECI-67
			SAMPLE TYPE:	Liquid
			DATE SAMPLED:	2010-07-31
Parameter	Unit	G / S	RDL	1905040
Methanol	mg/kg		10	<10
Ethanol	mg/kg		10	<10
Propanol	mg/kg		10	<10
Isopropanol	mg/kg		10	<10
Butanol	mg/kg		10	<10
Pentanol	mg/kg		10	<10
Surrogate	Unit	Acceptable Limits		
4-Methyl-2-pentanone	%	50-150		116

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 Analysis by GC/FID.

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Certificate of Analysis

AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Alcohol Analysis in Water

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

			SAMPLE DESCRIPTION:	IECI-67
			SAMPLE TYPE:	Liquid
			DATE SAMPLED:	2010-07-31
Parameter	Unit	G / S	RDL	1905040
Methanol	mg/L		10	542
Ethanol	mg/L		10	<10
Propanol	mg/L		10	<10
Isopropanol	mg/L		10	<10
Butanol	mg/L		10	<10
Pentanol	mg/L		10	<10
Surrogate	Unit	Acceptable Limits		
4-Methyl-2-pentanone	%	50-150		97

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 Analysis by GC/FID.

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Certificate of Analysis

AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Flash point Analysis*

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

				SAMPLE DESCRIPTION:	IECI-67
				SAMPLE TYPE:	Liquid
				DATE SAMPLED:	2010-07-31
Parameter	Unit	G / S	RDL	1905040	
Flash point (Pensky Martin Closed Cup)	Deg C			>100	
pH			NA	6.43	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Glycols Analysis in Oil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		IECI-67
		SAMPLE TYPE:		Liquid
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905040
Propylene glycol	mg/kg		10	<10
Monoethylene glycol	mg/kg		10	<10
Diethylene glycol	mg/kg		10	<10
Triethylene glycol	mg/kg		10	<10
Tetraethylene glycol	mg/kg		10	<10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 Analysis by GC/FID.

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AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Glycols Analysis in Water

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		IECI-67
		SAMPLE TYPE:		Liquid
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905040
Propylene Glycol	mg/L		10	<10
Monoethylene Glycol	mg/L		10	<10
Diethylene Glycol	mg/L		10	<10
Triethylene Glycol	mg/L		10	<10
Tetraethylene Glycol	mg/L		10	<10
Surrogate	Unit	Acceptable Limits		
Heptanol	%	50-150		100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 Identification based on retention time relative to standards.

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AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PBC aroclor

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		WA5-base 2	WA5-base 4	WA5-base 9	SPILL 7
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-07-31	2010-07-31	2010-07-31	2010-07-31
Parameter	Unit	G / S	RDL	1905026	1905028	1905033	1905035
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	0.9
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			129	123	111	102

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Oil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		IECI-67
		SAMPLE TYPE:		Liquid
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905040
Benzene	mg/kg		0.05	2.16
Toluene	mg/kg		0.05	156
Ethylbenzene	mg/kg		0.05	200
Xylenes	mg/kg		0.05	2760
C6 - C10 (F1)	mg/kg		10	20400
C6 - C10 (F1 minus BTEX)	mg/kg		10	17300
C10 - C16 (F2)	mg/kg		10	495062
C16 - C34 (F3)	mg/kg		10	213841
C34 - C50 (F4)	mg/kg		10	106700
Surrogate	Unit	Acceptable Limits		
Toluene-d8 (BTEX)	%	50-150		101
o-Terphenyl (F2-F4)	%	50-150		117

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 (Ag,F)

1905040 The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Water

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		IECI-67
		SAMPLE TYPE:		Liquid
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905040
Benzene	mg/L		0.005	0.030
Toluene	mg/L		0.005	3.85
Ethylbenzene	mg/L		0.005	6.43
Xylenes	mg/L		0.005	79.5
C6 - C10 (F1)	mg/L		1	873
C6 - C10 (F1 minus BTEX)	mg/L		1	783
C10 - C16 (F2)	mg/L		0.1	130
C16 - C34 (F3)	mg/L		0.1	56
C34 - C50 (F4)	mg/L		0.1	23
Surrogate	Unit	Acceptable Limits		
Toluene-d8 (BTEX)	%	50-150		97
o-Terphenyl (F2-F4)	%	50-150		113

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

Certified By:



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AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		SPILL 7
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905035
C10 - C16 (F2)	mg/kg	150	10	3730
C16 - C34 (F3)	mg/kg	1300	10	3380
C34 - C50 (F4)	mg/kg	5600	10	1650
Moisture Content	%		1	7.4
Surrogate	Unit	Acceptable Limits		
o-Terphenyl (F2-F4)	%	50-150		100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1905035 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Polychlorinated Biphenyls Analysis - Oil

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		IECI-67
		SAMPLE TYPE:		Liquid
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905040
Aroclor 1242	ug/g		0.02	<0.02
Aroclor 1254	ug/g		0.02	<0.02
Aroclor 1260	ug/g		0.02	<0.02
Total Polychlorinated Biphenyls	µg/g		0.02	<0.02

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 92%

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Certificate of Analysis

AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Polychlorinated Biphenyls Analysis - Water

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		IECI-67
		SAMPLE TYPE:		Liquid
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905040
Aroclor 1242	µg/L		0.01	<0.01
Aroclor 1254	µg/L		0.01	<0.01
Aroclor 1260	µg/L		0.01	<0.01
Polychlorinated Biphenyls	µg/L		0.01	<0.01
Surrogate	Unit	Acceptable Limits		
Decachlorobiphenyl	%	70-130		102

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 102%

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Certificate of Analysis

AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Total Extractable Organic Halides - Oil*

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

		SAMPLE DESCRIPTION:		IECI-67
		SAMPLE TYPE:		Liquid
		DATE SAMPLED:		2010-07-31
Parameter	Unit	G / S	RDL	1905040
Extractable Organic Halides	µg/g		1	3020

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1905040 * Total extractable organic halides reported as chloride

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M424148

PROJECT NO:

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Flash point Analysis*

DATE RECEIVED: 2010-08-03

DATE REPORTED: 2010-08-11

				SAMPLE DESCRIPTION:	IECI-67
				SAMPLE TYPE:	Liquid
				DATE SAMPLED:	2010-07-31
Parameter	Unit	G / S	RDL	1905040	
Flash point (Pensky Martin Closed Cup)	Deg C			>100	
pH			NA	6.43	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424148

PROJECT NO:

ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-11			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals in Soil															
Arsenic	804	NA	NA	NA	0.0%	< 5.0	98%	80%	120%	90%	90%	110%	94%	80%	120%
Cadmium (ICP-OES)	804	NA	NA	NA	0.0%	< 0.9	99%	80%	120%	106%	80%	120%	96%	80%	120%
Chromium (ICP-OES)	804	NA	NA	NA	0.0%	< 45	101%	80%	120%	103%	80%	120%	103%	80%	120%
Cobalt (ICP-OES)	804	NA	NA	NA	0.0%	< 15	97%	80%	120%	101%	90%	110%	98%	80%	120%
Copper (ICP-OES)	804	NA	NA	NA	0.0%	< 40	98%	80%	120%	99%	80%	120%	102%	80%	120%
Mercure total	1	1905026	<0.2	<0.2	0.0%	< 0.2	90%	80%	120%	102%	90%	110%	107%	80%	120%
Nickel (ICP-OES)	804	NA	NA	NA	0.0%	< 30	98%	80%	120%	108%	80%	120%	100%	80%	120%
Plomb (ICP-OES)	804	NA	NA	NA	0.0%	< 30	100%	80%	120%	104%	80%	120%	100%	80%	120%
Zinc (ICP-OES)	804	NA	NA	NA	0.0%	< 100	105%	80%	120%	110%	80%	120%	104%	80%	120%

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ATTENTION TO: Daniela Felske / Michelle Blade
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Trace Organics Analysis

RPT Date: 2010-08-11			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	645	1914547	106	125	16.0%	< 10	97%	80%	120%	91%	80%	120%	104%	60%	140%
C16 - C34 (F3)	645	1914547	96	118	21.0%	< 10	97%	80%	120%	91%	80%	120%	102%	60%	140%
C34 - C50 (F4)	645	1914547	35	46	27.0%	< 10	97%	80%	120%	95%	80%	120%	105%	60%	140%
Alcohol Analysis in Oil															
Methanol	2999	1900540	< 10	< 10	NA	< 10	115%	80%	120%	117%	70%	130%	117%	50%	150%
Ethanol	2999	1900540	< 10	< 10	NA	< 10	102%	80%	120%	114%	70%	130%	114%	50%	150%
Propanol	2999	1900540	< 10	< 10	NA	< 10	103%	80%	120%	111%	70%	130%	111%	50%	150%
Isopropanol	2999	1900540	< 10	< 10	NA	< 10	102%	80%	120%	108%	70%	130%	108%	50%	150%
Butanol	2999	1900540	< 10	< 10	NA	< 10	105%	80%	120%	112%	70%	130%	112%	50%	150%
Pentanol	2999	1900540	< 10	< 10	NA	< 10	101%	80%	120%	106%	70%	130%	106%	50%	150%
Glycols Analysis in Oil															
Propylene glycol	107				0.0%	< 10	105%	70%	130%	106%	70%	130%	65%	60%	140%
Monoethylene glycol	107				0.0%	< 10	103%	70%	130%	104%	70%	130%	102%	60%	140%
Diethylene glycol	107				0.0%	< 10	100%	70%	130%	98%	70%	130%	100%	60%	140%
Triethylene glycol	107				0.0%	< 10	104%	70%	130%	96%	70%	130%	104%	60%	140%
Tetraethylene glycol	107				0.0%	< 10	72%	70%	130%	70%	70%	130%	75%	60%	140%
Polychlorinated Biphenyls Analysis - Oil															
Aroclor 1242	72	1911903	< 0.02	< 0.02	NA	< 0.02	112%	70%	130%	90%	70%	130%	84%	60%	140%
Aroclor 1254	72	1911903	< 0.02	< 0.02	NA	< 0.02	92%	70%	130%	93%	70%	130%	70%	60%	140%
Aroclor 1260	72	1911903	< 0.02	< 0.02	NA	< 0.02	88%	70%	130%	98%	70%	130%	97%	60%	140%
Total Polychlorinated Biphenyls	72	1911903	< 0.02	< 0.02	NA	< 0.02	97%	70%	130%	94%	70%	130%	84%	60%	140%
Petroleum Hydrocarbons (BTEX/F1-F4) in Oil															
C10 - C16 (F2)	133	1909556	<0.1	<0.1	0.0%	< 10	113%	80%	120%	107%	80%	120%	124%	60%	140%
C16 - C34 (F3)	133	1909556	<0.1	<0.1	0.0%	< 10	113%	80%	120%	120%	80%	120%	128%	60%	140%
C34 - C50 (F4)	133	1909556	<0.1	<0.1	0.0%	< 10	113%	80%	120%	114%	80%	120%	125%	60%	140%
Petroleum Hydrocarbons (BTEX/F1-F4) in Water															
Benzene	2999	1908613	<0.0005	<0.0005	0.0%	< 0.0005	93%	80%	120%	98%	80%	120%	93%	70%	130%
Toluene	2999	1908613	<0.0005	<0.0005	0.0%	< 0.0005	93%	80%	120%	91%	80%	120%	92%	70%	130%
Ethylbenzene	2999	1908613	<0.0005	<0.0005	0.0%	< 0.0005	89%	80%	120%	82%	80%	120%	87%	70%	130%
Xylenes	2999	1908613	<0.0005	<0.0005	0.0%	< 0.0005	86%	80%	120%	83%	80%	120%	87%	70%	130%
C6 - C10 (F1)	2999	1908613	<0.1	<0.1	0.0%	< 0.1	108%	80%	120%	96%	80%	120%	101%	70%	130%
C10 - C16 (F2)	133	1909579	<0.1	<0.1	0.0%	< 0.1	113%	80%	120%	107%	80%	120%	124%	70%	130%
C16 - C34 (F3)	133	1909579	<0.1	<0.1	0.0%	< 0.1	113%	80%	120%	120%	80%	120%	128%	70%	130%
C34 - C50 (F4)	133	1909579	<0.1	<0.1	0.0%	< 0.1	113%	80%	120%	114%	80%	120%	125%	70%	130%
Glycols Analysis in Water															
Propylene Glycol	107				0.0%	< 10	105%	80%	120%	106%	70%	130%	65%	60%	140%
Monoethylene Glycol	107				0.0%	< 10	103%	80%	120%	104%	70%	130%	91%	50%	150%
Diethylene Glycol	107				0.0%	< 10	100%	80%	120%	98%	70%	130%	100%	50%	150%
Triethylene Glycol	107				0.0%	< 10	104%	80%	120%	96%	70%	130%	104%	50%	150%

Comments: Detection limits elevated due to matrix interferences

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
AGAT WORK ORDER: 10M424148
PROJECT NO:
ATTENTION TO: Daniela Felske / Michelle Blade
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis (Continued)

RPT Date: 2010-08-11			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Tetraethylene Glycol	107				0.0%	< 10	72%	80%	120%	65%	70%	130%	75%	50%	150%
PBC aroclor															
Aroclor 1242	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	NA	NA	NA	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	NA	NA	NA	0.0%	< 0.5	81%	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	NA	NA	NA	0.0%	81	90%	40%	140%	NA	40%	140%	NA	40%	140%
Total Extractable Organic Halides - Oil*															
Extractable Organic Halides	633	1905040	3020	2580	15.7%	< 1	111%	70%	130%	103%	90%	110%			

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Method Summary

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PROJECT NO:

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SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-08-04	2010-08-04	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-08-04	2010-08-04	MET-101-6107	EPA 3050	ICP/OES
Chromium (ICP-OES)	2010-08-04	2010-08-04	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-08-04	2010-08-04	MET-101-6107	EPA 3050	ICP/OES
Copper (ICP-OES)	2010-08-04	2010-08-04	MET-101-6107	EPA 3050	ICP/OES
Mercure total	2010-08-05	2010-08-05	MET-101-6101F	EPA 245.5	FIMS
Nickel (ICP-OES)	2010-08-04	2010-08-04	MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)	2010-08-04	2010-08-04	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-08-04	2010-08-04	MET-101-6107	EPA 3050	ICP/OES

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Method Summary

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PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis					
Methanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Ethanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Propanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Isopropanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Butanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Pentanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
4-Methyl-2-pentanone	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Methanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Ethanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Propanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Isopropanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Butanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Pentanol	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
4-Methyl-2-pentanone	2010-08-05	2010-08-06	TO 1420	EPA SW-846 3500 & 8015	GC/FID
Flash point (Pensky Martin Closed Cup)			TO 2200	ASTM D93-02A	
pH			INST 0101	SM 4500 H+	PH METER
Propylene glycol	2010-09-08	2010-09-08	TO 1410	EPA SW - 846 3500A & 8015A	GC/FID
Monoethylene glycol	2010-09-08	2010-09-08	TO 1410	EPA SW - 846 3500A & 8015A	GC/FID
Diethylene glycol	2010-09-08	2010-09-08	TO 1410	EPA SW - 846 3500A & 8015A	GC/FID
Triethylene glycol	2010-09-08	2010-09-08	TO 1410	EPA SW - 846 3500A & 8015A	GC/FID
Tetraethylene glycol	2010-09-08	2010-09-08	TO 1410	EPA SW - 846 3500A & 8015A	GC/FID
Propylene Glycol	2010-09-08	2010-09-08	TO 1410	EPA SW-846 3500 & 8015	GC/FID
Monoethylene Glycol	2010-09-08	2010-09-08	TO 1410	EPA SW-846 3500 & 8015	GC/FID
Diethylene Glycol	2010-09-08	2010-09-08	TO 1410	EPA SW-846 3500 & 8015	GC/FID
Triethylene Glycol	2010-09-08	2010-09-08	TO 1410	EPA SW-846 3500 & 8015	GC/FID
Tetraethylene Glycol	2010-09-08	2010-09-08	TO 1410	EPA SW-846 3500 & 8015	GC/FID
Heptanol			TO 1410	EPA SW-846 3500 & 8015	GC/FID
Aroclor 1242	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-04	2010-08-04	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-04	2010-08-04	ORG-100-5108F		GC/ECD
Benzene	2010-08-05	2010-08-06	TO 0570	EPA SW-846 8260	GC/MS
Toluene	2010-08-05	2010-08-06	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-08-05	2010-08-06	TO 0570	EPA SW-846 8260	GC/MS
Xylenes	2010-08-05	2010-08-06	TO 0570	EPA SW-846 8260	GC/MS
C6 - C10 (F1)	2010-08-05	2010-08-06	TO 0570	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-08-05	2010-08-06	TO 0570	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-05	2010-08-06	TO-0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-05	2010-08-06	TO-0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-05	2010-08-06	TO 0560	CCME Tier 1 Method	GC/FID
Toluene-d8 (BTEX)	2010-08-05	2010-08-06	TO 0570	EPA SW-846 8260	GC/MS
o-Terphenyl (F2-F4)	2010-08-05	2010-08-06	TO 0560	CCME Tier 1 Method	GC/FID

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Method Summary

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AGAT WORK ORDER: 10M424148

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ATTENTION TO: Daniela Felske / Michelle Blade

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Benzene	2010-08-05	2010-08-06	TO 0540	EPA SW846 8260	GC/MS
Toluene	2010-08-05	2010-08-06	TO 0540	EPA SW846 8260	GC/MS
Ethylbenzene	2010-08-05	2010-08-06	TO 0540	EPA SW846 8260	GC/MS
Xylenes	2010-08-05	2010-08-06	TO 0540	EPA SW846 8260	GC/MS
C6 - C10 (F1)	2010-08-05	2010-08-06	TO 0540	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-08-05	2010-08-06	TO 0540	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-05	2010-08-06	TO 0511	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-05	2010-08-06	TO-0511	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-05	2010-08-06	TO-0511	CCME Tier 1 Method	GC/FID
Toluene-d8 (BTEX)	2010-08-05	2010-08-06	TO 0340	EPA SW846 8260	GC/FID
o-Terphenyl (F2-F4)	2010-08-05	2010-08-06	TO 0511	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-08-09	2010-08-09	TO 0560	CCME Tier 1 Method	GC/FID
Aroclor 1242	2010-08-06	2010-08-07	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1254	2010-08-06	2010-08-07	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1260	2010-08-06	2010-08-07	TO 0100	EPA SW-846 3550 & 8081	ECD
Total Polychlorinated Biphenyls	2010-08-06	2010-08-07	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1242	2010-08-06	2010-08-07	TO 0400	EPA 608, AEC A106.0	GC/ECD
Aroclor 1254	2010-08-06	2010-08-07	TO 0400	EPA 608, AEC A106.0	GC/ECD
Aroclor 1260	2010-08-06	2010-08-07	TO 0400	EPA 608, AEC A106.0	GC/ECD
Polychlorinated Biphenyls	2010-08-06	2010-08-07	TO 0400	EPA 608, AEC A106.0	GC/ECD
Decachlorobiphenyl	2010-08-06	2010-08-07	TO 0400		GC/ECD
Extractable Organic Halides	2010-08-10	2010-08-10	TO 0810	ASTM D4929-99	IC
Water Analysis					
Flash point (Pensky Martin Closed Cup)			TO 2200	ASTM D93-02A	
pH			INST 0101	SM 4500 H+	PH METER

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CHAIN OF CUSTODY RECORD

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Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:
Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14940-123 AVE
EDMONTON AB Postal Code: T5V 1B4
Phone: 780 451-5853 Fax: 780-451-5188
LSD:
Client Project #: 52210581.001

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: MICHELLE BLADE
Email: mblade@eba.ca

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☒ Excel Format Included

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☐ DCC metals

Airport Avg 3 wells of lab Avg 4

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	PCB	METALS (DCC)	BARREL PROTOCOL F2-F4			HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA5-base1	Soil	July 31		1										X					N
	WA5-base2				1									X	X					N
	WA5-base3				1										X					N
	WA5-base4				1									X	X					N
	WA5-base5				1										X					N
	WA5-base6				1										X					N
	WA5-base7				1										X					N
	WA5-base8				1										X					N
	WA5-base9				1									X	X					N
	SPILL 7				2									X	X		X			N
	IEC1-67	LIQUID WASTE			3											X				Y

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	July 31/200		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE 1 of 1

NO: 0097817

AGAT Laboratories

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FAX (514)333-3046
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: DANIELA FELSKE

PROJECT NO: E2211581.001

AGAT WORK ORDER: 10M424810

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-10

VERSION*: 1

PAGES (INCLUDING COVER): 11

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Class II Landfill

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-10

				SAMPLE DESCRIPTION:	IECI-68
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2010-08-02
Parameter	Unit	G / S	RDL		1910337
pH 1:1 Water:Soil Extraction		2.0-12.5			10.0

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Class 2 Landfill

1910337 Analysis based on "as received"

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M424810
PROJECT NO: E2211581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Metals (incl. Hg)

DATE RECEIVED: 2010-08-05
DATE REPORTED: 2010-08-10

						SAMPLE DESCRIPTION:	WA7 SP27	WA7 SP28	WA7 SP29	WA7 SP30	WA7 SP31
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-08-02	2010-08-02	2010-08-02	2010-08-02	2010-08-02
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1910311	1910324	1910325	1910326	1910327
Arsenic	mg/kg	6	30	50	250	5	<5[<A]	<5[<A]	<5[<A]	<5[<A]	<5[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	1.2[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	38[<A]	43[<A]	128[A-B]	40[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

						SAMPLE DESCRIPTION:	WA7 BASE 1	WA7 BASE 2	WA7 BASE 3	WA7 BASE 4	WA7 BASE 5
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-08-02	2010-08-02	2010-08-02	2010-08-02	2010-08-02
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1910328	1910329	1910330	1910331	1910333
Arsenic	mg/kg	6	30	50	250	5	<5[<A]	<5[<A]	<5[<A]	<5[<A]	<5[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	3.8[A-B]	<0.9[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	124[A-B]	<100[<A]	<100[<A]

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Metals (incl. Hg)

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-10

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA2 SE CORNER BASE SAMPLE TYPE: Soil DATE SAMPLED: 2010-08-02 1910334	IECI-68 Soil 2010-08-02 1910337	WA2 SE CORNER BLACK SAND Soil 2010-08-02 1910338
Arsenic	mg/kg	6	30	50	250	5	<5[<A]	<5[<A]	<5[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	1.3[<A]	11.8[B-C]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	245[A-B]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	57[A-B]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

1910331 Three different result were obtained for Cd: 3.8 mg/Kg, 1.5 mg/Kg, and 1.1 mg/Kg.
The sample is not homogeneous.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Flash point Analysis

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-10

				SAMPLE DESCRIPTION:	IECI-68
				SAMPLE TYPE:	Soil
				DATE SAMPLED:	2010-08-02
Parameter	Unit	G / S	RDL	1910337	
Methane	Deg C			>100	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PBC aroclor

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-10

		SAMPLE DESCRIPTION:		WA7 SP27	WA7 SP28	WA7 SP29	WA7 SP30	WA7 SP31	WA7 BASE 1	WA7 BASE 2	WA7 BASE 3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-08-02	2010-08-02	2010-08-02	2010-08-02	2010-08-02	2010-08-02	2010-08-02	2010-08-02
Parameter	Unit	G / S	RDL	1910311	1910324	1910325	1910326	1910327	1910328	1910329	1910330
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			103	109	137	104	124	99	119	119

		SAMPLE DESCRIPTION:		WA7 BASE 4	WA7 BASE 5	WA2 SE CORNER BASE		IECI-68
		SAMPLE TYPE:		Soil	Soil	Soil		Soil
		DATE SAMPLED:		2010-08-02	2010-08-02	2010-08-02		2010-08-02
Parameter	Unit	G / S	RDL	1910331	1910333	1910334	RDL	1910337
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	25	<25
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	25	<25
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	25	<25
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	25	<25
IUPAC #209	%			117	116	115		48

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1910337 The sample was diluted 500x due to a matrix interference. The detection limit increased.

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Certificate of Analysis

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-10

SAMPLE DESCRIPTION:				WA7 BASE 4	WA7 BASE 5	WA2 SE CORNER BASE	IECI-68
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2010-08-02	2010-08-02	2010-08-02	2010-08-02
Parameter	Unit	G / S	RDL	1910331	1910333	1910334	1910337
Benzene	mg/kg		0.005	<0.005	<0.005	<0.005	0.009
Toluene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg		0.01	<0.01	<0.01	<0.01	0.02
Xylenes	mg/kg		0.05	<0.05	<0.05	<0.05	0.14
C6 - C10 (F1)	mg/kg		10	<10	<10	<10	<10
C6 - C10 (F1 minus BTEX)	mg/kg		10	<10	<10	<10	<10
C10 - C16 (F2)	mg/kg		10	<10	<10	346	1430
C16 - C34 (F3)	mg/kg		10	<10	501	101	34900
C34 - C50 (F4)	mg/kg		10	<10	59	<10	91800
Gravimetric Heavy Hydrocarbons	mg/kg		1000	N/A	N/A	N/A	N/A
Moisture Content	%		1	16	16	14	12
Surrogate	Unit	Acceptable Limits					
Toluene-d8 (BTEX)	%	50-150		105	102	103	98
Ethylbenzene-d10 (BTEX)	%	50-150		101	90	93	71
o-Terphenyl (F2-F4)	%	50-150		97.3	99.4	96.8	95.9

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 (Ag,F)

1910331-1910337 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certified By:

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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-10

PARAMETER	Batch	Sample Id	DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
			Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals (incl. Hg)															
Arsenic	806	1910331	< 5	< 5	0.0%	< 5	99%	80%	120%	99%	80%	120%	104%	80%	120%
Cadmium	806	1910331	NA	NA	0.0%	< 0.9	106%	80%	120%	108%	80%	120%	103%	80%	120%
Cobalt	806	1910331	<15	<15	0.0%	< 15	100%	80%	120%	103%	80%	120%	98%	80%	120%
Chromium	806	1910331	<45	<45	0.0%	< 45	102%	80%	120%	105%	80%	120%	NA	80%	120%
Copper	806	1910331	<40	<40	0.0%	< 40	101%	80%	120%	99%	80%	120%	102%	80%	120%
Total Mercury	1	1910311	<0.2	<0.2	0.0%	< 0.2	107%	80%	120%	105%	80%	120%	108%	80%	120%
Nickel	806	1910331	<30	<30	0.0%	< 30	103%	80%	120%	111%	80%	120%	83%	80%	120%
Lead	806	1910331	<30	<30	0.0%	< 30	109%	80%	120%	107%	80%	120%	101%	80%	120%
Zinc	806	1910331	<100	<100	0.0%	< 100	112%	80%	120%	114%	80%	120%	114%	80%	120%
Metals (incl. Hg)															
Arsenic	806	NA	NA	NA	0.0%	< 5	102%	80%	120%	97%	80%	120%	104%	80%	120%
Cadmium	806	NA	NA	NA	0.0%	< 0.9	105%	80%	120%	108%	80%	120%	101%	80%	120%
Cobalt	806	NA	NA	NA	0.0%	< 15	99%	80%	120%	103%	80%	120%	95%	80%	120%
Chromium	806	NA	NA	NA	0.0%	< 45	100%	80%	120%	105%	80%	120%	104%	80%	120%
Copper	806	NA	NA	NA	0.0%	< 40	100%	80%	120%	100%	80%	120%	102%	80%	120%
Nickel	806	NA	NA	NA	0.0%	< 30	101%	80%	120%	111%	80%	120%	99%	80%	120%
Lead	806	NA	NA	NA	0.0%	< 30	102%	80%	120%	106%	80%	120%	107%	80%	120%
Zinc	806	NA	NA	NA	0.0%	< 100	110%	80%	120%	117%	80%	120%	112%	80%	120%
Class II Landfill															
pH 1:1 Water:Soil Extraction	2006	9433	12.3	12.3	0.0%		100%	90%	110%						

Certified By:



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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-10			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)															
Benzene	443	1904788	< 0.005	< 0.005	NA	< 0.005	101%	80%	120%	103%	80%	120%	104%	60%	140%
Toluene	443	1904788	< 0.05	< 0.05	NA	< 0.05	105%	80%	120%	106%	80%	120%	101%	60%	140%
Ethylbenzene	443	1904788	< 0.01	< 0.01	NA	< 0.01	109%	80%	120%	109%	80%	120%	91%	60%	140%
Xylenes	443	1904788	< 0.05	< 0.05	NA	< 0.05	106%	80%	120%	102%	80%	120%	85%	60%	140%
C6 - C10 (F1)	443	1904788	< 10	< 10	NA	< 10	107%	80%	120%	82%	80%	120%	73%	60%	140%
C6 - C10 (F1 minus BTEX)	443	1904788	< 10	< 10	NA	< 10	107%	80%	120%	82%	80%	120%	73%	60%	140%
C10 - C16 (F2)	646	1916142	<10	<10	0.0%	< 10	109%	80%	120%	98%	80%	120%	96%	60%	140%
C16 - C34 (F3)	646	1916142	<10	<10	0.0%	< 10	109%	80%	120%	95%	80%	120%	97%	60%	140%
C34 - C50 (F4)	646	1916142	<10	<10	0.0%	< 10	109%	80%	120%	93%	80%	120%	96%	60%	140%
Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)															
C10 - C16 (F2)	646	1917369	14	22	44.0%	< 10	102%	80%	120%	91%	80%	120%	93%	60%	140%
C16 - C34 (F3)	646	1917369	28	36	25.0%	< 10	102%	80%	120%	91%	80%	120%	97%	60%	140%
C34 - C50 (F4)	646	1917369	<10	<10	0.0%	< 10	102%	80%	120%	95%	80%	120%	100%	60%	140%
PBC aroclor															
Aroclor 1242	1	1910311	< 0.5	< 0.5	0.0%	< 0.5	93%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1910311	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1910311	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1910311	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1910311	103	100	3.0%	83	87%	40%	140%	NA	40%	140%	NA	40%	140%
Flash point Analysis															
Methane	154					<	100%	85%	115%						

Certified By:



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http://www.agatlabs.com

Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424810

PROJECT NO: E2211581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
pH 1:1 Water:Soil Extraction	2010-08-12	2010-08-12	INST 0111	HENDERSHOT 2007	pH METER
Arsenic	2010-08-05	2010-08-06	MET-101-6105	EPA 3050, EPA 6020	ICP/MS
Cadmium	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-08-06	2010-08-06	MET-101-6101F	EPA 245.5	FIMS
Nickel	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Trace Organics Analysis					
Methane	2010-08-13	2010-08-13	TO 2200	ASTM D93-02A	
Aroclor 1242	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-06	2010-08-06	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Benzene	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Toluene	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Xylenes	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
C6 - C10 (F1)	2010-08-06	2010-08-07	TO 0570	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-08-06	2010-08-07	TO 0570	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-06	2010-08-10	TO-0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-06	2010-08-10	TO-0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-06	2010-08-10	TO 0560	CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	2010-08-06	2010-08-10	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-06	2010-08-10	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
Toluene-d8 (BTEX)	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene-d10 (BTEX)	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
o-Terphenyl (F2-F4)	2010-08-06	2010-08-10	TO 0560	CCME Tier 1 Method	GC/FID

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CHAIN OF CUSTODY RECORD

SHIPMENT #12
EBA-DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14940-123 AVE
EDMONTON, AB Postal Code: T5V-1B4
Phone: 780-451-2121 Fax: 780-454-5698
LSD:
Client Project #: E22158I.001

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: BILL HORNE
Email: bhorne@eba.ca

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☑ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

FLASHPOINT ADD'L
PH ADD'L

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F1	F2-F4	DCC METALS	PCB	FLASHPOINT ADD'L	PH ADD'L	CONTAMINATED/HAZARDOUS (Y/N)
	WA7## SP27	soil	AUG2		2											X	X			
	WA7## SP28				2											X	X			
	WA7## SP29				2											X	X			
	WA7## SP30				2											X	X			
	WA7## SP31				2											X	X			
	WA7## base1				2											X	X			
	WA7## base2				2											X	X			
	WA7## base3				2											X	X			
	WA7## base4				2										X	X	X			
	WA7## base5				2										X	X	X			
	WA2 SE CORNER base				2										X	X	X			
	IEC1-68	WASTE	AUG2		2									X	X	X	X	XX		

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE	Aug 3/10 8 am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097819

CHAIN OF CUSTODY RECORD

SHIPMENT #12
EBA-DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ **Less than 24 hours (200%)**
- ☑ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:
Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Report Information - reports to be sent to:
1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle
Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):
- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

@ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	DCC METALS					HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2 SE CORNER BLACK SAND													X						

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DEA SICOTTE	AUG 3/10		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097818

AGAT Laboratories

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CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: Daniela Felske

PROJECT NO: E22101581 001

AGAT WORK ORDER: 10M424790

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Alina-Nicoleta Sofinet, chimiste

DATE REPORTED: 2010-08-09

VERSION*: 1

PAGES (INCLUDING COVER): 14

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M424790

PROJECT NO: E22101581 001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

8 Metals in Soil

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

						SAMPLE DESCRIPTION:	WA7-SP32	WA7-SP33	WA7-SP34	WA7-SP35	WA7-SP36
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-08-03	2010-08-03	2010-08-03	2010-08-03	2010-08-03
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1910291	1910295	1910296	1910297	1910299
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	37[<A]	59[A-B]	<30[<A]	<30[<A]	41[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

						SAMPLE DESCRIPTION:	WA7-SP37	WA7-SP7a	WA7-SP7b	WA7-SP7c	WA7-SP16a
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-08-03	2010-08-03	2010-08-03	2010-08-03	2010-08-03
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1910300	1910301	1910302	1910303	1910304
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	1.0[<A]	<0.9[<A]	0.9[<A]	<0.9[<A]	1.4[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	40[<A]	<30[<A]	60[A-B]	46[<A]	113[A-B]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	102[<A]

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M424790

PROJECT NO: E22101581 001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

8 Metals in Soil

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA7-SP16b SAMPLE TYPE: Soil DATE SAMPLED: 2010-08-03 1910305	WA7-SP16c Soil 2010-08-03 1910306	WA2-CR1 @10cm Soil 2010-08-03 1910310	WA2-CR1 @50cm Soil 2010-08-03 1910313	WA2-CR2 @40cm Soil 2010-08-03 1910315
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	1.2[<A]	1.1[<A]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]			
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	75[A-B]	66[A-B]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	399[A-B]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	SAMPLE DESCRIPTION: WA2-CR3 @75cm SAMPLE TYPE: Soil DATE SAMPLED: 2010-08-03 1910318	WA2-CR3 @50cm Soil 2010-08-03 1910336	WA2-CR5 @40cm Soil 2010-08-03 1910345	WA2-CR5 @60cm Soil 2010-08-03 1910346	WA2-CR6 @60cm Soil 2010-08-03 1910349
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

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Certificate of Analysis

AGAT WORK ORDER: 10M424790

PROJECT NO: E22101581 001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

8 Metals in Soil

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR7 @30cm Soil 2010-08-03 1910351	WA2-CR7 @50cm Soil 2010-08-03 1910352	WA2-CR7 @70cm Soil 2010-08-03 1910373	WA2-CR8 @40cm Soil 2010-08-03 1910379	WA2-CR8 @70cm Soil 2010-08-03 1910381
SAMPLE DESCRIPTION:											
SAMPLE TYPE:											
DATE SAMPLED:											
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	2.4[A-B]	<0.9[<A]	1.3[<A]	1.1[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	53[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR9 @40cm Soil 2010-08-03 1910392	WA2-CR10 @40cm Soil 2010-08-03 1910395	WA2-CR11 @30cm Soil 2010-08-03 1910396	WA2-CR11 @70cm Soil 2010-08-03 1910398	WA2-CR12 @40cm Soil 2010-08-03 1910400
SAMPLE DESCRIPTION:											
SAMPLE TYPE:											
DATE SAMPLED:											
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	2.3[A-B]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	51[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

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Certificate of Analysis

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PROJECT NO: E22101581 001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

8 Metals in Soil

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR13 @10cm Soil 2010-08-03 1910443	WA2-CR13 @30cm Soil 2010-08-03 1910454	WA2-CR13 @50cm Soil 2010-08-03 1910455	WA2-CR13 @70cm Soil 2010-08-03 1910456	WA2-CR14 @60cm Soil 2010-08-03 1910458
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	1.1[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	1.0[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR15 @40cm Soil 2010-08-03 1910461	WA2-CR16 @30cm Soil 2010-08-03 1910464	WA2-CR17 @50cm Soil 2010-08-03 1910468	WA2-CR18 @50cm Soil 2010-08-03 1910471	WA2-CR19 @30cm Soil 2010-08-03 1910472
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	3.4[A-B]	<0.9[<A]	4.9[A-B]	<0.9[<A]	5.4[B-C]
Chromium	mg/kg	85	250	800	4000	45	73[<A]	<45[<A]	108[A-B]	<45[<A]	114[A-B]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	32[<A]	<30[<A]	36[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

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SAMPLED BY:

SAMPLING SITE:

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DATE REPORTED: 2010-08-09

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR20 @45cm Soil 2010-08-03 1910475	WA2-CR21 @50cm Soil 2010-08-03 1910478	WA2-CR21 @70cm Soil 2010-08-03 1910482	WA2-CR22 @40cm Soil 2010-08-03 1910486	WA2-CR23 @50cm Soil 2010-08-03 1910488
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR24 @10cm Soil 2010-08-03 1910489	WA2-CR25 @50cm Soil 2010-08-03 1910492	WA2-CR26 @50cm Soil 2010-08-03 1910494	WA2-CR26 @70cm Soil 2010-08-03 1910495	WA2-CR27 @30cm Soil 2010-08-03 1910497
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	1.6[A-B]	3.8[A-B]	1.4[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	87[A-B]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

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ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

8 Metals in Soil

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

							WA2-CR27
					SAMPLE DESCRIPTION:		@50cm
					SAMPLE TYPE:		Soil
					DATE SAMPLED:		2010-08-03
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1910498
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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SAMPLED BY:

SAMPLING SITE:

Chromium (re-test)

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR1 @10cm Soil 2010-08-03 1910310	WA2-CR2 @40cm Soil 2010-08-03 1910315	WA2-CR16 @30cm Soil 2010-08-03 1910464	WA2-CR20 @45cm Soil 2010-08-03 1910475	WA2-CR21 @50cm Soil 2010-08-03 1910478
SAMPLE DESCRIPTION:											
SAMPLE TYPE:											
DATE SAMPLED:											
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR25 @50cm Soil 2010-08-03 1910492	WA2-CR26 @70cm Soil 2010-08-03 1910495	WA2-CR27 @50cm Soil 2010-08-03 1910498
SAMPLE DESCRIPTION:									
SAMPLE TYPE:									
DATE SAMPLED:									
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	71[<A]	<45[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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SAMPLED BY:

SAMPLING SITE:

BPC aroclor

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

		SAMPLE DESCRIPTION:		WA7-SP32	WA7-SP33	WA7-SP34	WA7-SP35	WA7-SP36	WA7-SP37
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-08-03	2010-08-03	2010-08-03	2010-08-03	2010-08-03	2010-08-03
Parameter	Unit	G / S	RDL	1910291	1910295	1910296	1910297	1910299	1910300
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			126	118	121	124	118	115

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

CHIMISTE Alina Nicoleta Dumitru 2008-131 QUÉBEC

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SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

				WA2-CR7	WA2-CR10	WA2-CR15	WA2-CR21
		SAMPLE DESCRIPTION:		@70cm	@40cm	@40cm	@70cm
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-08-03	2010-08-03	2010-08-03	2010-08-03
Parameter	Unit	G / S	RDL	1910373	1910395	1910461	1910482
Benzene	mg/kg		0.005	<0.005	<0.005	<0.005	<0.005
Toluene	mg/kg		0.05	<0.05	<0.05	<0.05	0.11
Ethylbenzene	mg/kg		0.01	0.02	<0.01	<0.01	0.69
Xylenes	mg/kg		0.05	0.66	0.12	<0.05	6.91
C6 - C10 (F1)	mg/kg		10	10	120	80	180
C6 - C10 (F1 minus BTEX)	mg/kg		10	10	120	80	170
C10 - C16 (F2)	mg/kg		10	1640	6750	3830	4130
C16 - C34 (F3)	mg/kg		10	220	490	227	209
C34 - C50 (F4)	mg/kg		10	147	27	15	<10
Gravimetric Heavy Hydrocarbons	mg/kg		1000	N/A	N/A	N/A	N/A
Moisture Content	%		1	16	4.3	10	14
Surrogate	Unit	Acceptable Limits					
Toluene-d8 (BTEX)	%	50-150		104	98	102	101
Ethylbenzene-d10 (BTEX)	%	50-150		97	94	99	114
o-Terphenyl (F2-F4)	%	50-150		122	106	103	104

Certified By:



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AGAT Laboratories

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ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M424790

PROJECT NO: E22101581 001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE RECEIVED: 2010-08-05

DATE REPORTED: 2010-08-09

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 (Ag,F)

1910373-1910482 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certified By:



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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424790

PROJECT NO: E22101581 001

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-09			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
8 Metals in Soil															
Arsenic	1	1910291	< 5.0	< 5.0	0.0%	< 5.0	92%	80%	120%	97%	90%	110%	91%	80%	120%
Cadmium	806	1910291	< 0.9	< 0.9	0.0%	< 0.9	105%	80%	120%	107%	80%	120%	109%	80%	120%
Chromium	806	1910291	< 45	< 45	0.0%	< 45	103%	80%	120%	104%	80%	120%	112%	80%	120%
Cobalt	806	1910291	< 15	< 15	0.0%	< 15	101%	80%	120%	103%	80%	120%	104%	80%	120%
Copper	806	1910291	< 40	< 40	0.0%	< 40	104%	80%	120%	99%	80%	120%	104%	80%	120%
Total Mercury	1	1910291	< 0.2	< 0.2	0.0%	< 0.2	103%	80%	120%	104%	90%	110%	110%	80%	120%
Nickel	806	1910291	< 30	< 30	0.0%	< 30	101%	80%	120%	110%	80%	120%	106%	80%	120%
Lead	806	1910291	37	42	13.7%	< 30	110%	80%	120%	106%	80%	120%	108%	80%	120%
Zinc	806	1910291	< 100	< 100	0.0%	< 100	110%	80%	120%	111%	80%	120%	112%	80%	120%
8 Metals in Soil															
Arsenic	1	1910345	< 5.0	< 5.0	0.0%	< 5.0	89%	80%	120%	92%	80%	110%	88%	80%	120%
Cadmium	806	1910345	<0.9	<0.9	0.0%	< 0.9	101%	80%	120%	106%	80%	120%	111%	80%	120%
Chromium	806	1910345	<45	<45	0.0%	< 45	99%	80%	120%	103%	80%	120%	104%	80%	120%
Cobalt	806	1910345	<15	<15	0.0%	< 15	99%	80%	120%	102%	80%	120%	104%	80%	120%
Copper	806	1910345	<40	<40	0.0%	< 40	97%	80%	120%	98%	80%	120%	98%	80%	120%
Nickel	806	1910345	<30	<30	0.0%	< 30	99%	80%	120%	110%	80%	120%	106%	80%	120%
Lead	806	1910345	<30	<30	0.0%	< 30	105%	80%	120%	104%	80%	120%	106%	80%	120%
Zinc	806	1910345	<100	<100	0.0%	< 100	104%	80%	120%	111%	80%	120%	117%	80%	120%
8 Metals in Soil															
Arsenic	806	1910458	< 5.0	< 5.0	0.0%	< 5.0	99%	80%	120%	94%	90%	110%	95%	80%	120%
Cadmium	806	1910458	1.0	1.1	6.3%	< 0.9	99%	80%	120%	107%	80%	120%	107%	80%	120%
Chromium	806	1910458	<45	<45	0.0%	< 45	97%	80%	120%	104%	80%	120%	105%	80%	120%
Cobalt	806	1910458	<15	<15	0.0%	< 15	96%	80%	120%	104%	90%	110%	104%	80%	120%
Copper	806	1910458	<40	<40	0.0%	< 40	99%	80%	120%	99%	80%	120%	101%	80%	120%
Nickel	806	1910458	<30	<30	0.0%	< 30	97%	80%	120%	110%	80%	120%	106%	80%	120%
Lead	806	1910458	<30	<30	0.0%	< 30	98%	80%	120%	106%	80%	120%	107%	80%	120%
Zinc	806	1910458	<100	<100	0.0%	< 100	113%	80%	120%	111%	80%	120%	108%	80%	120%
Chromium (re-test)															
Chromium	1	NA	NA	NA	0.0%	< 45	99%	80%	120%	105%	80%	120%	104%	80%	120%

Certified By:



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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
AGAT WORK ORDER: 10M424790
PROJECT NO: E22101581 001
ATTENTION TO: Daniela Felske
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-09			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)															
Benzene	443	1904788	< 0.005	< 0.005	NA	< 0.005	101%	80%	120%	103%	80%	120%	104%	60%	140%
Toluene	443	1904788	< 0.05	< 0.05	NA	< 0.05	105%	80%	120%	106%	80%	120%	101%	60%	140%
Ethylbenzene	443	1904788	< 0.01	< 0.01	NA	< 0.01	109%	80%	120%	109%	80%	120%	91%	60%	140%
Xylenes	443	1904788	< 0.05	< 0.05	NA	< 0.05	106%	80%	120%	102%	80%	120%	85%	60%	140%
C6 - C10 (F1)	443	1904788	< 10	< 10	NA	< 10	107%	80%	120%	82%	80%	120%	73%	60%	140%
C6 - C10 (F1 minus BTEX)	443	1904788	< 10	< 10	NA	< 10	107%	80%	120%	82%	80%	120%	73%	60%	140%
C10 - C16 (F2)	131	1909109	23	21	9.0%	< 10	111%	80%	120%	108%	80%	120%	91%	60%	140%
C16 - C34 (F3)	131	1909109	79	59	29.0%	< 10	111%	80%	120%	107%	80%	120%	93%	60%	140%
C34 - C50 (F4)	131	1909109	23	14	49.0%	< 10	111%	80%	120%	94%	80%	120%	79%	60%	140%
BPC aroclor															
Aroclor 1242	1	1910297	< 0.5	< 0.5	0.0%	< 0.5	96%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1910297	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1910297	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1910297	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1910297	124	109	12.9%	95	89%	40%	140%	NA	40%	140%	NA	40%	140%

Certified By:

CHIMISTE Alina Nicoleta Dumitru 2008-131 QUÉBEC

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M424790

PROJECT NO: E22101581 001

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-08-05	2010-08-06	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-08-06	2010-08-06	MET-101-6101F	EPA 245.5	FIMS
Nickel	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-08-05	2010-08-06	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-08-10	2010-08-10	MET-101-6107	EPA 3050	ICP/OES
Trace Organics Analysis					
Aroclor 1242	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-06	2010-08-06	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-06	2010-08-06	ORG-100-5108F		GC/ECD
Benzene	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Toluene	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Xylenes	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
C6 - C10 (F1)	2010-08-06	2010-08-07	TO 0570	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-08-06	2010-08-07	TO 0570	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-06	2010-08-07	TO-0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-06	2010-08-07	TO-0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-06	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	2010-08-06	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-06	2010-08-07	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
Toluene-d8 (BTEX)	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene-d10 (BTEX)	2010-08-06	2010-08-07	TO 0570	EPA SW-846 8260	GC/MS
o-Terphenyl (F2-F4)	2010-08-06	2010-08-07	TO 0560	CCME Tier 1 Method	GC/FID

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CHAIN OF CUSTODY RECORD

SHIPMENT 13
EBA-DCC
245-
WB 27993254

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14940-123 AVE
EDMONTON AB Postal Code: T5V 1B4
Phone: 780-439-5853 Fax: 780-454-5688
LSD: _____
Client Project #: E22101582.001

Report Information - reports to be sent to:

1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: BILL HORNE
Email: bhorne@eba.ca

Report Format

- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☑ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - D DC & METALS

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	METALS DCC LIST WITH Hg	PCB HOLD				HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA7-SP32	SOIL	Aug 3/10		2									X	X					
	WA7-SP33													X	X					
	WA7-SP34													X	X					
	WA7-SP35													X	X					
	WA7-SP36													X	X					
	WA7-SP37													X	X					
	WA7-SP7a													X						
	WA7-SP7b													X						
	WA7-SP7c													X						
	WA7-SP16a													X						
	WA7-SP16b													X						
	WA7-SP16c													X						

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE	AUG 4/10		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097820

CHAIN OF CUSTODY RECORD

SHIPMENT #13

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:
Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Bill Invoice To: SAME (Y / N) - circle
Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Report Information - reports to be sent to:
1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format
- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	METALS DCC NO HG	HOLD	DCC METALS NO HG ADD	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-CR1@10cm	Soil	Aug 3/10		2									X				
	WA2-CR1@30cm														X	X		
	WA2-CR1@50cm													X	X			
	WA2-CR2@10cm														X	X		
	WA2-CR2@40cm													X	X			
	WA2-CR2@60cm														X	X		
	WA2-CR2@75cm													X	X			
	WA2-CR3@30cm														X	X		
	WA2-CR3@50cm													X	X			

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO:0097822

CHAIN OF CUSTODY RECORD

SHIPMENT 13

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
LSD:
Client Project #:

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name:
Email:
2. Name:
Email:

Regulatory requirements (Check One):
- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Report Format
- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ **Less than 24 hours (200%)**
- ☒ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature: 10 ± 2
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	DCC METALS	F2-F4	F1	H2O	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-CR5@20cm	SOIL	Aug 3		2												X		
	WA2-CR5@40cm												X						
	WA2-CR5@60cm												X						
	WA2-CR6@40cm																X		
	WA2-CR6@60cm												X						
	WA2-CR6@75cm																X		
	WA2-CR7@30cm												X						
	WA2-CR7@50cm				1								X						
	WA2-CR7@70cm				3								X		X	X			
	WA2-CR8@40cm				2								X						
	WA2-CR8@60cm																X		
	WA2-CR8@70cm	↓	↓		↓								X						

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DECISION DESK	AUG 4/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097823

CHAIN OF CUSTODY RECORD

SHIPMENT #13

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____

PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format

- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	METALS (OCC NOHG)	F1	F2-F4	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-CR9@30 cm	SOIL	Aug3		2											X		
	WA2-CR9@40 cm													X				
	WA2-CR9@55 cm															X		
	WA2-CR10@30 cm															X		
	WA2-CR10@40 cm				3									X	X	X		
	WA2-CR11@30 cm				2									X				
	WA2-CR11@60 cm															X		
	WA2-CR11@70 cm													X				
	WA2-CR12@30 cm															X		
	WA2-CR12@40 cm													X				
	WA2-CR12@50 cm															X		
	WA2-CR12@70 cm															X		

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
[illegible]	Aug4/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097824

CHAIN OF CUSTODY RECORD

SHIPMENT #13

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Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

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Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____

PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format

- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	DCC METALS NO HG ADD'L	F1	F2-F4	HOLD	DCC METALS NO HG ADD'L	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-CR13@10 cm	SOIL	Apr 3/2010		2								X	X				X		
	WA2-CR13@30 cm												X							
	WA2-CR13@50 cm												X							
	WA2-CR13@70 cm												X							
	WA2-CR14@30 cm															X				
	WA2-CR14@60 cm												X							
	WA2-CR14@80 cm															X				
	WA2-CR15@10 cm															X		X		
	WA2-CR15@40 cm				3								X		X	X				
	WA2-CR15@60 cm				2											X				
	WA2-CR16@10 cm				1											X				
	WA2-CR16@30 cm												X							

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DEBBIE [illegible]	Apr 4/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097325

CHAIN OF CUSTODY RECORD

SHIPMENT #13

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2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
LSD:
Client Project #:

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name:
Email:
2. Name:
Email:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Report Format
- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox					HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-CR1@50cm	SOIL	AUG 3/10		2									X	X	X			
	WA2-CR1@30 cm														X				
	WA2-CR1@50 cm													X	X				
	WA2-CR1@100 cm														X				
	WA2-CR2@30 cm														X				
	WA2-CR2@50cm													X					
	WA2-RR19@30cm														X				
	WA2-CR19@50cm														X				
	WA2-CR20@30cm														X	X			
	WA2-CR20@45cm														X				
	WA2-CR21@30cm														X	X			
	WA2-CR21@50cm													X					

METALS REQ HOLD
DCC METALS NO HG ADD'L

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE	AUG 4/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097826

CHAIN OF CUSTODY RECORD

SHIPMENT #13

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ **Less than 24 hours (200%)**
- ☐ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format

- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F1	F2-F4	DCC METALS NOHG	HOLD	DCC METALS ADDL NOHG	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-CR21@70cm	SOIL	AUG 3		3									X	X	X				
	WA2-CR22@30cm				2												X	X		
	WA-CR22@40cm															X				
	WA-CR23@30cm															X	X			
	WA-CR23@50cm															X				
	WA-CR24@10cm															X				
	WA-CR24@40cm																X	X		
	WA-CR25@30cm																X	X		
	WA-CR25@50cm															X				
	WA-CR25@75cm																X	X		
	WA-CR26@50cm															X				
	WA-CR26@70cm															X				

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DELETED	AUG 4/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097827

CHAIN OF CUSTODY RECORD

SHIPMENT #13

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

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- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format

- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F1	F2-F4	DCC METALS NO Hg			HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-CR27@30cm	SOIL	Aug 3		2											X				
	WA2-CR27@50cm	↓	↓		2											X				

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DENISE [illegible]	Aug 4/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097828

AGAT Laboratories

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: DANIELA FELSKE

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10M425492

TRACE ORGANICS REVIEWED BY: Alina-Nicoleta Sofinet, chimiste

WATER ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-10

VERSION*: 1

PAGES (INCLUDING COVER): 10

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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AGAT Laboratories

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ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PCB aroclor (water)

DATE RECEIVED: 2010-08-09

DATE REPORTED: 2010-08-10

		SAMPLE DESCRIPTION:		AST3-TREATD
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2010-08-04
Parameter	Unit	G / S	RDL	1915203
Aroclor 1242	µg/L		0.1	<0.1
Aroclor 1248	µg/L		0.1	<0.1
Aroclor 1254	µg/L		0.1	<0.1
Aroclor 1260	µg/L		0.1	<0.1
IUPAC #209	%			105

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1915203 Dilution factor:
Reason for dilution:

Certified By:



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CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total oil and grease (water)

DATE RECEIVED: 2010-08-09

DATE REPORTED: 2010-08-10

		SAMPLE DESCRIPTION:		AST3-TREATD
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2010-08-04
Parameter	Unit	G / S	RDL	1915203
Total oil and grease	mg/L		4.5	<4.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:



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AGAT Laboratories

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ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Inorganics

DATE RECEIVED: 2010-08-09

DATE REPORTED: 2010-08-10

		SAMPLE DESCRIPTION:		AST3-TREATD
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2010-08-04
Parameter	Unit	G / S	RDL	1915203
pH	pH		NA	6.83
Total phenols (colorimetry)	mg/L		0.002	<0.002
Total Mercury	mg/L		0.0001	0.0003
Cadmium (dissolved)	µg/L		0.8	<0.8
Chromium (dissolved)	µg/L		10	<10
Cobalt (dissolved)	µg/L		20	<20
Copper (dissolved)	µg/L		3	<3
Lead (dissolved)	µg/L		1	<1
Nickel (dissolved)	µg/L		3.0	11.9

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total Metals Scan

DATE RECEIVED: 2010-08-09

DATE REPORTED: 2010-08-10

		SAMPLE DESCRIPTION:		AST3-TREATD
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2010-08-04
Parameter	Unit	G / S	RDL	1915203
Silver	µg/L		0.2	<0.2
Aluminum	µg/L		30	95
Arsenic	µg/L		1.0	<1.0
Antimony	µg/L		3.0	<3.0
Barium	µg/L		30	45
Bismuth	µg/L		3.0	<3.0
Boron	µg/L		60	544
Beryllium	µg/L		3.0	<3.0
Cadmium	µg/L		0.8	<0.8
Calcium	µg/L		2000	4400
Chrome	µg/L		10	<10
Cobalt	µg/L		20	<20
Copper	µg/L		3.0	<3.0
Tiin	µg/L		5.0	<5.0
Iron	µg/L		300	3310
Magnesium	µg/L		2000	2970
Manganese	µg/L		5.0	467
Molybdenum	µg/L		10	<10
Nickel	µg/L		2.0	16.3
Lead	µg/L		1.0	2.3
Potassium	µg/L		1000	3170
Sodium	µg/L		2000	26200
Selenium	µg/L		1.0	<1.0
Thallium	µg/L		3.0	<3.0
Uranium	µg/L		10	<10
Vanadium	µg/L		5.0	<5.0
Zinc	µg/L		3.0	171

Certified By:

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AGAT Laboratories

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total Metals Scan

DATE RECEIVED: 2010-08-09

DATE REPORTED: 2010-08-10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
AGAT WORK ORDER: 10M425492
PROJECT NO: E22101581.001
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-10			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
PCB aroclor (water)															
Aroclor 1242	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	MR	0.6	0.7	15.4%	< 0.1	119%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	MR	NA	NA	0.0%	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	MR	97	97	0.0%	87	97%	40%	140%	NA	40%	140%	NA	40%	140%
Total oil and grease (water)															
Total oil and grease	1	MR	22.6	26.6	16.3%	< 4.5	87%	70%	130%	NA	70%	130%	NA	70%	130%

Certified By:



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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Water Analysis

RPT Date: 2010-08-10			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Inorganics															
pH	1	1915203	6.83	6.84	0.1%	NA	100%	80%	120%	99%	90%	110%	NA	0%	0%
Total phenols (colorimetry)	1	1915203	<0.002	<0.002	0.0%	< 0.002	84%	80%	120%	118%	80%	120%	108%	80%	120%
Total Mercury	1	NA	NA	NA	0.0%	< 0.0001	99%	80%	120%	102%	90%	110%	108%	80%	120%
Cadmium (dissolved)	809	1915203	< 0.8	< 0.8	0.0%	< 0.8	98%	80%	120%	99%	90%	110%	103%	80%	120%
Chromium (dissolved)	809	1915203	< 10	< 10	0.0%	< 10	96%	80%	120%	99%	80%	120%	95%	80%	120%
Cobalt (dissolved)	809	1915203	< 20	< 20	0.0%	< 20	100%	80%	120%	97%	80%	120%	101%	80%	120%
Copper (dissolved)	809	1915203	< 3	< 3	0.0%	< 3	100%	80%	120%	97%	80%	120%	102%	80%	120%
Lead (dissolved)	809	1915203	< 1	< 1	0.0%	< 1	96%	80%	120%	98%	80%	120%	100%	80%	120%
Nickel (dissolved)	809	1915203	11.9	11.7	1.7%	< 3.0	97%	80%	120%	99%	80%	120%	96%	80%	120%
Total Metals Scan															
Silver	809	1915203	< 0.2	< 0.2	0.0%	< 0.2	NA	80%	120%	100%	80%	120%	102%	80%	120%
Aluminum	809	1915203	95	100	5.1%	< 30	89%	80%	120%	94%	80%	120%	93%	80%	120%
Arsenic	809	1915203	< 1.0	< 1.0	0.0%	< 1.0	94%	80%	120%	94%	80%	120%	99%	80%	120%
Antimony	809	1915203	< 3.0	< 3.0	0.0%	< 3.0	98%	80%	120%	99%	80%	120%	100%	80%	120%
Barium	809	1915203	44.8	43.4	3.2%	< 30	102%	80%	120%	102%	80%	120%	104%	80%	120%
Bismuth	809	1915203	< 3.0	< 3.0	0.0%	< 3.0	100%	80%	120%	99%	80%	120%	106%	80%	120%
Boron	809	1915203	544	553	1.6%	< 60	83%	80%	120%	86%	80%	120%	93%	80%	120%
Beryllium	809	1915203	< 3.0	< 3.0	0.0%	< 3.0	94%	80%	120%	109%	80%	120%	104%	80%	120%
Cadmium	809	1915203	< 0.8	< 0.8	0.0%	< 0.8	100%	80%	120%	99%	80%	120%	103%	80%	120%
Calcium	809	1915203	4400	4730	7.2%	< 2000	99%	80%	120%	95%	80%	120%	106%	80%	120%
Chrome	809	1915203	< 10	< 10	0.0%	< 10	103%	80%	120%	94%	80%	120%	102%	80%	120%
Cobalt	809	1915203	< 20	< 20	0.0%	< 20	101%	80%	120%	99%	80%	120%	104%	80%	120%
Copper	809	1915203	< 3.0	< 3.0	0.0%	< 3.0	97%	80%	120%	95%	80%	120%	102%	80%	120%
Tiin	809	1915203	< 5.0	< 5.0	0.0%	< 5.0	NA	80%	120%	111%	80%	120%	100%	80%	120%
Iron	809	1915203	3310	3370	1.8%	< 300	107%	80%	120%	98%	80%	120%	104%	80%	120%
Magnesium	809	1915203	2970	2950	0.7%	< 2000	90%	80%	120%	107%	80%	120%	NA	80%	120%
Manganese	809	1915203	467	462	1.1%	< 5.0	99%	80%	120%	90%	80%	120%	96%	80%	120%
Molybdenum	809	1915203	< 10	< 10	0.0%	< 10	103%	80%	120%	103%	80%	120%	106%	80%	120%
Nickel	809	1915203	16.3	15.3	6.3%	< 2.0	98%	80%	120%	95%	80%	120%	101%	80%	120%
Lead	809	1915203	2.3	2.4	4.3%	< 1.0	100%	80%	120%	99%	80%	120%	106%	80%	120%
Potassium	809	1915203	3170	3040	4.2%	< 1000	94%	80%	120%	91%	80%	120%	93%	80%	120%
Sodium	809	1915203	26200	28200	7.4%	< 2000	93%	80%	120%	97%	80%	120%	116%	80%	120%
Selenium	809	1915203	< 1.0	< 1.0	0.0%	< 1.0	98%	80%	120%	94%	80%	120%	94%	80%	120%
Thallium	809	1915203	< 3.0	< 3.0	0.0%	< 3.0	100%	80%	120%	97%	80%	120%	103%	80%	120%
Uranium	809	1915203	< 10	< 10	0.0%	< 10	NA	80%	120%	96%	80%	120%	102%	80%	120%
Vanadium	809	1915203	< 5.0	< 5.0	0.0%	< 5.0	101%	80%	120%	94%	80%	120%	106%	80%	120%
Zinc	809	1915203	171	157	8.5%	< 3.0	106%	80%	120%	92%	80%	120%	107%	80%	120%

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Water Analysis (Continued)

RPT Date: 2010-08-10			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By:

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M425492

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis					
Aroclor 1242	2010-08-09	2010-08-09	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1248	2010-08-09	2010-08-09	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1254	2010-08-09	2010-08-09	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1260	2010-08-09	2010-08-09	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
IUPAC #209	2010-08-09	2010-08-09	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Total oil and grease	2010-08-09	2010-08-10	ORG-100-5105F	MA.415-HGT 1.0	MICROBALANCE
Water Analysis					
pH	2010-08-09	2010-08-09	INOR-101-6021F	SM 4500-H+ B 21éd. 2005	PC TITRATE
Total phenols (colorimetry)	2010-08-10	2010-08-10	INOR-101-6050F	SM 5530D 21éd. 2005	TECHNICON AUTO ANALYZER
Total Mercury	2010-08-09	2010-08-09	MET-101-6102F	EPA 245.5	FIMS
Cadmium (dissolved)	2010-08-09	2010-08-09	MET-101-6105	EPA-SW 846 Met. 3050 et 6020	ICP-MS
Chromium (dissolved)	2010-08-09	2010-08-09	MEt-101-6105	EPA SW 846 Met. 3050 et 6020	ICP-MS
Cobalt (dissolved)	2010-08-09	2010-08-09	MET-101-6105	EPA SW Met. 3050 et 6020	ICP-MS
Copper (dissolved)	2010-08-09	2010-08-09	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP-MS
Lead (dissolved)	2010-08-09	2010-08-09	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP-MS
Nickel (dissolved)	2010-08-09	2010-08-09	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP-MS
Silver	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Aluminum	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Arsenic	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Antimony	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Barium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	
Bismuth	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	
Boron	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	
Beryllium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Cadmium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Calcium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6010	ICP/MS
Chrome	2010-08-09	2010-08-09	MET-101-6104F	EPA SW-846 6020	ICP/MS
Cobalt	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Copper	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Tiin	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Iron	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Magnesium	2010-08-09	2010-08-09	MET-101-6150F	EPA SW-846 6020	ICP/MS
Manganese	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Molybdenum	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Nickel	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Lead	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Potassium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Sodium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Selenium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 3050 & 6020	ICP/MS
Thallium	2010-08-09	2010-08-09	MET-101-6150F	EPA SW-846 6020	ICP/MS
Uranium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Vanadium	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS
Zinc	2010-08-09	2010-08-09	MET-101-6105F	EPA SW-846 6020	ICP/MS

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CHAIN OF CUSTODY RECORD

SHIPMENT #14

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2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14940-123 AVE
EDMONTON Postal Code: AB T5V1B4
Phone: 780-451-2121 Fax: 780-454-5689
LSD:
Client Project #: E22101581001

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: MICHELLE BLADE
Email: mblade@eba.ca

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☑ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	WATER DISCHARGE				HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	AST 3-TREATED TECH-16	W	AUG4											X					

need Aug 9

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE	AUG5/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE 1 of 1

NO: 0097830

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NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

À L'ATTENTION DE: DANIELA FELSKE

N° DE PROJET: E22101581.001

N° BON DE TRAVAIL: 10M425473

ANALYSE DES SOLS VÉRIFIÉ PAR: Philippe Morneau, chimiste

ORGANIQUE DE TRACE VÉRIFIÉ PAR: Philippe Morneau, chimiste

DATE DU RAPPORT: 2010-08-11

VERSION*: 1

NOMBRE DE PAGES: 8

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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Certificat d'analyse

N° BON DE TRAVAIL: 10M425473

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

8 métaux ICP-OES (TC, sol)

DATE DE RÉCEPTION: 2010-08-09

DATE DU RAPPORT: 2010-08-11

					DESCRIPTION D'ÉCHANTILLON:		WA7-SP38	WA7-SP39	WA7-SP40	WA7-SP41	WA7-SP42
					MATRICE:		Sol	Sol	Sol	Sol	Sol
					DATE D'ÉCHANTILLONNAGE:		2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1915121	1915148	1915149	1915150	1915151
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	1.3[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	0.9[<A]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	280[B-C]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	93[A-B]	39[<A]	42[<A]	43[<A]	71[A-B]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	109[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

					DESCRIPTION D'ÉCHANTILLON:		WA7-SP43	WA7-SP44	WA7-SP46	WA7-SP47	WA7-SP48
					MATRICE:		Sol	Sol	Sol	Sol	Sol
					DATE D'ÉCHANTILLONNAGE:		2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1915152	1915153	1915155	1915156	1915157
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	1.6[A-B]	<0.9[<A]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	93[A-B]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Certifié par:

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AGAT Laboratoires

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificat d'analyse

N° BON DE TRAVAIL: 10M425473

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

8 métaux ICP-OES (TC, sol)

DATE DE RÉCEPTION: 2010-08-09

DATE DU RAPPORT: 2010-08-11

					DESCRIPTION D'ÉCHANTILLON:		WA7-SP49	WA7-SP50	WA7-SP51
					MATRICE:		Sol	Sol	Sol
					DATE D'ÉCHANTILLONNAGE:		2010-08-05	2010-08-05	2010-08-05
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1915159	1915160	1915161
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	0.9[<A]	1.5[A]	1.6[A-B]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	46[<A]	45[<A]	64[A-B]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: A se réfère QC PTC (Critère A), B se réfère QC PTC (Critère B), C se réfère QC PTC (Critère C), D se réfère QC RESC (Annexe 1)

Certifié par:

La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDEP. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDEP.

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AGAT Laboratoires

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ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificat d'analyse

N° BON DE TRAVAIL: 10M425473

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Mercure (TC, sol)

DATE DE RÉCEPTION: 2010-08-09

DATE DU RAPPORT: 2010-08-11

	DESCRIPTION D'ÉCHANTILLON:			WA7-SP38	WA7-SP39	WA7-SP40	WA7-SP41	WA7-SP42	WA7-SP43	WA7-SP44	WA7-SP46
	MATRICE:			Sol	Sol	Sol	Sol	Sol	Sol	Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05
Paramètre	Unités	C / N	LDR	1915121	1915148	1915149	1915150	1915151	1915152	1915153	1915155
Mercure total	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

	DESCRIPTION D'ÉCHANTILLON:			WA7-SP47	WA7-SP48	WA7-SP49	WA7-SP50	WA7-SP51			
	MATRICE:			Sol	Sol	Sol	Sol	Sol			
	DATE D'ÉCHANTILLONNAGE:			2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05			
Paramètre	Unités	C / N	LDR	1915156	1915157	1915159	1915160	1915161			
Mercure total	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2			

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:

La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDEP. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDEP.

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Certificat d'analyse

N° BON DE TRAVAIL: 10M425473

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

BPC aroclor (sol)

DATE DE RÉCEPTION: 2010-08-09

DATE DU RAPPORT: 2010-08-11

	DESCRIPTION D'ÉCHANTILLON:			WA7-SP38	WA7-SP39	WA7-SP40	WA7-SP41	WA7-SP42	WA7-SP43	WA7-SP44	WA7-SP46
	MATRICE:			Sol	Sol	Sol	Sol	Sol	Sol	Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05
Paramètre	Unités	C / N	LDR	1915121	1915148	1915149	1915150	1915151	1915152	1915153	1915155
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	0.9	<0.5	1.0	<0.5	0.6	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			129	129	129	120	128	102	135	120

	DESCRIPTION D'ÉCHANTILLON:			WA7-SP47	WA7-SP48	WA7-SP49	WA7-SP50	WA7-SP51
	MATRICE:			Sol	Sol	Sol	Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-08-05	2010-08-05	2010-08-05	2010-08-05	2010-08-05
Paramètre	Unités	C / N	LDR	1915156	1915157	1915159	1915160	1915161
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			104	123	132	130	129

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M425473

N° DE PROJET: E22101581.001

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse des Sols

Date du rapport: 2010-08-11			DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
8 métaux ICP-OES (TC, sol)															
Arsenic	809	1915121	< 5.0	< 5.0	0.0	< 5.0	103%	80%	120%	97%	90%	110%	101%	80%	120%
Cadmium (ICP-OES)	809	1915121	1.3	1.3	0.0	< 0.9	97%	80%	120%	101%	80%	120%	101%	80%	120%
Chrome (ICP-OES)	809	1915121	< 45	< 45	0.0	< 45	94%	80%	120%	101%	80%	120%	98%	80%	120%
Cobalt (ICP-OES)	809	1915121	< 15	< 15	0.0	< 15	95%	80%	120%	99%	90%	110%	98%	80%	120%
Cuivre (ICP-OES)	809	1915121	< 40	< 40	0.0	< 40	92%	80%	120%	95%	80%	120%	96%	80%	120%
Nickel (ICP-OES)	809	1915121	< 30	< 30	0.0	< 30	93%	80%	120%	105%	80%	120%	97%	80%	120%
Plomb (ICP-OES)	809	1915121	93	82	12.6	< 30	95%	80%	120%	100%	80%	120%	90%	80%	120%
Zinc (ICP-OES)	809	1915121	109	<100	8.6	< 100	103%	80%	120%	105%	80%	120%	NA	80%	120%
Mercure (TC, sol)															
Mercure total	1	1915121	< 0.2	< 0.2	0.0	< 0.2	107%	80%	120%	88%	80%	120%	109%	80%	120%

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M425473

N° DE PROJET: E22101581.001

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse organique de trace

Date du rapport: 2010-08-11

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
BPC aroclor (sol)															
Aroclor 1242	1	1915148	< 0.5	< 0.5	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1915148	< 0.5	< 0.5	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1915148	< 0.5	< 0.5	0.0	< 0.5	70%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1915148	< 0.5	< 0.5	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1915148	129	133	3.1	83	94%	40%	140%	NA	40%	140%	NA	40%	140%

Certifié par:

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Sommaire de méthode

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M425473

N° DE PROJET: E22101581.001

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse des Sols					
Arsenic	2010-08-09	2010-08-09	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-08-09	2010-08-09	MET-101-6107	EPA 3050	ICP/OES
Chrome (ICP-OES)	2010-08-09	2010-08-09	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-08-09	2010-08-09	MET-101-6107	EPA 3050	ICP/OES
Cuivre (ICP-OES)	2010-08-09	2010-08-09	MET-101-6107	EPA 3050	ICP/OES
Nickel (ICP-OES)	2010-08-09	2010-08-09	MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)	2010-08-09	2010-08-09	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-08-09	2010-08-09	MET-101-6107	EPA 3050	ICP/OES
Mercure total	2010-08-09	2010-08-10	MET-101-6101F	EPA 245.5	FIMS
Analyse organique de trace					
Aroclor 1242	2010-08-10	2010-08-10	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-10	2010-08-10	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-10	2010-08-10	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-10	2010-08-10	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-10	2010-08-10	ORG-100-5108F		GC/ECD

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CHAIN OF CUSTODY RECORD

SHIPMENT #15
@ EBA-OCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:
Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14940-123 Ave
EDMONTON, AB Postal Code: T5V-1B4
Phone: 780-451-2130 Fax: 780-452-3639
LSD:
Client Project #: E22101581.001

Report Information - reports to be sent to:
1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: BILL HORNE
Email: bhorne@eba.ca

Report Format
- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

Bill Invoice To: SAME (Y) / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☒ OCC METALS

rec'd Aug 9

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	PCB	METALS				HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA7-SP38	SOIL	Aug 5											↓	↓					
	WA7-SP39																			
	WA7-SP40																			
	WA7-SP41																			
	WA7-SP42																			
	WA7-SP43																			
	WA7-SP44																			
	WA7-SP45																			
	WA7-SP46																			
	WA7-SP47																			
	WA7-SP48																			
	WA7-SP49	↓	↓											↓	↓					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	Aug 9/10		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097831

CHAIN OF CUSTODY RECORD

SHIPMENT #15

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address:
Postal Code:
Phone: Fax:
LSD:
Client Project #:

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name:
Email:
2. Name:
Email:

Regulatory requirements (Check One):
- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☒ OCC

Report Format
- ☐ Single Sample per page
- ☒ Multiple Samples per page
- ☒ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ **Less than 24 hours (200%)**
- ☒ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox						HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA7-SP5D	SOIL	AUG5											X	X					
	WA7-SP5I	↓	↓											X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DANIELA FELSKE	AUG5/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097832

AGAT Laboratories

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http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
14940 - 123 AVENUE
EDMONTON, AB T5V1B4

ATTENTION TO: Daniela Felske

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10M426053

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-12

VERSION*: 1

PAGES (INCLUDING COVER): 10

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

Metals in Soil

DATE RECEIVED: 2010-08-10

DATE REPORTED: 2010-08-12

						SAMPLE DESCRIPTION:	WA6-SP1	WA6-SP2	WA6-SP3	WA6-SP4	WA6-SP5
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1920157	1920158	1920159	1920160	1920161
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

						SAMPLE DESCRIPTION:	WA6-SP6	WA2-CR28 @ 20cm	WA2-CR29 @ 20cm	WA2-CR30 @ 50cm	WA2-CR31 @ 50cm
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1920162	1920163	1920164	1920165	1920166
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	2.0[A-B]	1.3[<A]	4.1[A-B]	2.2[A-B]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	91[A-B]	50[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

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Certificate of Analysis

AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

Metals in Soil

DATE RECEIVED: 2010-08-10

DATE REPORTED: 2010-08-12

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-CR32 @ surface Soil 2010-08-07 1920167	WA2-CR33 @ 20cm Soil 2010-08-07 1920168	WA2-SP1 Soil 2010-08-07 1920169	WA2-CR33 @ 50cm Soil 2010-08-07 1920173	WA2-CR30 @ 40cm Soil 2010-08-07 1920174
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	2.7[A-B]	5.7[B-C]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	58[<A]	113[A-B]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	33[<A]	<30[<A]	<30[<A]	<30[<A]
Lead (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	WA2-SP2 Soil 2010-08-07 1920175	WA2-SP3 Soil 2010-08-07 1920176	WA2-SP4 Soil 2010-08-07 1920178
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	1.6[A-B]	<0.9[<A]	1.0[<A]
Chromium (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]
Copper (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]
Lead (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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Certificate of Analysis

AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

Total mercury

DATE RECEIVED: 2010-08-10

DATE REPORTED: 2010-08-12

		SAMPLE DESCRIPTION:		WA6-SP1	WA6-SP2	WA6-SP3	WA6-SP4	WA6-SP5	WA6-SP6	WA2-CR28 @ 20cm	WA2-CR29 @ 20cm
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07
Parameter	Unit	G / S	RDL	1920157	1920158	1920159	1920160	1920161	1920162	1920163	1920164
Total Mercury	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

		SAMPLE DESCRIPTION:		WA2-CR30 @ 50cm	WA2-CR31 @ 50cm	WA2-CR32 @ surface	WA2-CR33 @ 20cm	WA2-SP1	WA2-CR33 @ 50cm	WA2-CR30 @ 40cm	WA2-SP2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07
Parameter	Unit	G / S	RDL	1920165	1920166	1920167	1920168	1920169	1920173	1920174	1920175
Total Mercury	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

		SAMPLE DESCRIPTION:		WA2-SP3	WA2-SP4
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2010-08-07	2010-08-07
Parameter	Unit	G / S	RDL	1920176	1920178
Total Mercury	mg/kg		0.2	<0.2	<0.2

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

PCB aroclor

DATE RECEIVED: 2010-08-10

DATE REPORTED: 2010-08-12

		SAMPLE DESCRIPTION:		WA6-SP1	WA6-SP2	WA6-SP3	WA6-SP4	WA6-SP5	WA6-SP6	WA2-SP3
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07	2010-08-07
Parameter	Unit	G / S	RDL	1920157	1920158	1920159	1920160	1920161	1920162	1920176
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			106	105	100	109	106	111	100

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1920157-1920176 The results were corrected according to percent recovery.

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AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-08-10

DATE REPORTED: 2010-08-12

				Main station F2			
SAMPLE DESCRIPTION:				@ 40cm	WA2-SP2	WA2-SP3	WA2-SP4
SAMPLE TYPE:				Soil	Soil	Soil	Soil
DATE SAMPLED:				2010-08-07	2010-08-07	2010-08-07	2010-08-07
Parameter	Unit	G / S	RDL	1920172	1920175	1920176	1920178
C10 - C16 (F2)	mg/kg	150	10	7360	61	491	398
C16 - C34 (F3)	mg/kg	1300	10	500	36	196	184
C34 - C50 (F4)	mg/kg	5600	10	84	14	10	37
Moisture Content	%		1	12	4.7	4.9	4
Surrogate	Unit	Acceptable Limits					
o-Terphenyl (F2-F4)	%	50-150		105	99.6	105	104

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1920172-1920178 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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Certificate of Analysis

AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

VOCs in Soil

DATE RECEIVED: 2010-08-10

DATE REPORTED: 2010-08-12

						SAMPLE DESCRIPTION:	TCE-21 @ 40cm
						SAMPLE TYPE:	Soil
						DATE SAMPLED:	2010-08-07
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1920170
Trichloroethene	mg/kg	0.2	5	50	50	0.05	<0.05[<A]
Dibromofluoromethane	%						102
Toluène-D8	%						96
4-Bromofluorobenzene	%						104
Ethylbenzene-D10	%						102

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-12			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals in Soil															
Arsenic	811	1920160	< 5.0	< 5.0	0.0%	< 5.0	92%	80%	120%	96%	90%	110%	97%	80%	120%
Cadmium (ICP-OES)	811	1920160	< 0.9	< 0.9	0.0%	< 0.9	99%	80%	120%	101%	80%	120%	102%	80%	120%
Chromium (ICP-OES)	811	1920160	< 45	< 45	0.0%	< 45	98%	80%	120%	101%	80%	120%	98%	80%	120%
Cobalt (ICP-OES)	811	1920160	< 15	< 15	0.0%	< 15	95%	80%	120%	98%	80%	120%	96%	80%	120%
Copper (ICP-OES)	811	1920160	< 40	< 40	0.0%	< 40	94%	80%	120%	98%	80%	120%	93%	80%	120%
Nickel (ICP-OES)	811	1920160	< 30	< 30	0.0%	< 30	97%	80%	120%	107%	80%	120%	97%	80%	120%
Lead (ICP-OES)	811	1920160	< 30	< 30	0.0%	< 30	105%	80%	120%	101%	80%	120%	111%	80%	120%
Zinc (ICP-OES)	811	1920160	< 100	< 100	0.0%	< 100	103%	80%	120%	106%	80%	120%	110%	80%	120%
Metals in Soil															
Arsenic	811	NA	NA	NA	0.0%	< 5.0	96%	80%	120%	92%	90%	110%	95%	80%	120%
Cadmium (ICP-OES)	811	NA	NA	NA	0.0%	< 0.9	95%	80%	120%	100%	80%	120%	96%	80%	120%
Chromium (ICP-OES)	811	NA	NA	NA	0.0%	< 45	94%	80%	120%	100%	80%	120%	95%	80%	120%
Cobalt (ICP-OES)	811	NA	NA	NA	0.0%	< 15	93%	80%	120%	96%	90%	110%	95%	80%	120%
Copper (ICP-OES)	811	NA	NA	NA	0.0%	< 40	92%	80%	120%	97%	80%	120%	95%	80%	120%
Nickel (ICP-OES)	811	NA	NA	NA	0.0%	< 30	94%	80%	120%	106%	80%	120%	96%	80%	120%
Lead (ICP-OES)	811	NA	NA	NA	0.0%	< 30	97%	80%	120%	99%	80%	120%	95%	80%	120%
Zinc (ICP-OES)	811	NA	NA	NA	0.0%	< 100	100%	80%	120%	104%	80%	120%	102%	80%	120%
Total mercury															
Total Mercury	1	1920157	< 0.2	< 0.2	0.0%	< 0.2	111%	80%	120%	104%	80%	120%	110%	80%	120%
Total mercury															
Total Mercury	1	NA	NA	NA	0.0%	< 0.2	98%	80%	120%	107%	80%	120%	109%	80%	120%

Certified By:



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AGAT Laboratories
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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD
AGAT WORK ORDER: 10M426053
PROJECT NO: E22101581.001
ATTENTION TO: Daniela Felske
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-12			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
VOCs in Soil															
Trichloroethene	1	NA	NA	NA	0.0%	< 0.05	113%	70%	130%	NA	70%	130%	110%	70%	130%
Dibromofluoromethane	1	NA	NA	NA	0.0%	102	103%	40%	140%	NA	40%	140%	103%	40%	140%
Toluène-D8	1	NA	NA	NA	0.0%	96	97%	40%	140%	NA	40%	140%	96%	40%	140%
4-Bromofluorobenzene	1	NA	NA	NA	0.0%	100	109%	40%	140%	NA	40%	140%	103%	40%	140%
Ethylbenzene-D10	1	NA	NA	NA	0.0%	114	112%	40%	140%	NA	40%	140%	105%	40%	140%
PCB aroclor															
Aroclor 1242	1	1920176	< 0.5	< 0.5	0.0%	<0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1920176	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1920176	< 0.5	< 0.5	0.0%	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1920176	< 0.5	< 0.5	0.0%	< 0.5	88%	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1920176	100	102	2.0%	74	75%	40%	140%	NA	40%	140%	NA	40%	140%

Certified By:

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTANTS LTD

AGAT WORK ORDER: 10M426053

PROJECT NO: E22101581.001

ATTENTION TO: Daniela Felske

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Arsenic	2010-08-11	2010-08-11	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-08-11	2010-08-11	MET-101-6107	EPA 3050	ICP/OES
Chromium (ICP-OES)	2010-08-11	2010-08-11	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-08-11	2010-08-11	MET-101-6107	EPA 3050	ICP/OES
Copper (ICP-OES)	2010-08-11	2010-08-11	MET-101-6107	EPA 3050	ICP/OES
Nickel (ICP-OES)	2010-08-11	2010-08-11	MET-101-6107	EPA 3050	ICP/OES
Lead (ICP-OES)	2010-08-11	2010-08-11	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-08-11	2010-08-11	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-08-12	2010-08-12	MET-101-6101F	EPA 245.5	FIMS
Trace Organics Analysis					
Aroclor 1242	2010-08-11	2010-08-11	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-11	2010-08-11	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-11	2010-08-11	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-11	2010-08-11	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-11	2010-08-11	ORG-100-5108F		GC/ECD
C10 - C16 (F2)	2010-08-12	2010-08-12	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-12	2010-08-12	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-12	2010-08-12	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-12	2010-08-12	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-08-12	2010-08-12	TO 0560	CCME Tier 1 Method	GC/FID
Trichloroethene	2010-08-10	2010-08-10	ORG-100-5101		GC/MS
Dibromofluoromethane	2010-08-10	2010-08-10	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Toluène-D8	2010-08-10	2010-08-10	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
4-Bromofluorobenzene	2010-08-10	2010-08-10	ORG-100-5101F	EPA 5030B, EPA 8260B	(P&T)GC/MS
Ethylbenzene-D10	2010-08-10	2010-08-10	ORG-100-5106	EPA 8270C, EPA 8141A	(P&T)GC/MS

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CHAIN OF CUSTODY RECORD

SHIPMENT #16
EBA-DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☒ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14940-123 AVE
EDMONTON, AB Postal Code: T5V-1B4
Phone: 780-451-2121 Fax: 780-451-5622
LSD:
Client Project #: E22101581.001

Report Information - reports to be sent to:

1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: MICHELLE BLADE
Email: mblade@eba.ca

Report Format

- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):

- ☑ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

AB DCC METALS

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	DCC METALS	PCBs					HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA6-SP1	SOIL	Aug 7											X	X						
	WA6-SP2													X	X						
	WA6-SP3													X	X						
	WA6-SP4													X	X						
	WA6-SP5													X	X						
	WA6-SP6													X	X						
	WA2-CR28@20cm													X							
	WA2-CR29@20cm													X							
	WA2-CR30@50cm													X							
	WA2-CR31@50cm													X							
	WA2-CR32@surface													X							
	WA2-CR33@20cm													X							

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE	Aug 9		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

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Yellow Copy - AGAT
White Copy - AGAT

NO: 0097833

CHAIN OF CUSTODY RECORD

SHIPMENT 16
EBA - DCC

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2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

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- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☒ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format

- ☐ Single Sample per page
- ☐ Multiple Samples per page
- ☐ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☐ DCC METALS

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F2-F4	TCE (detect to 0.005 mg/kg)	DCC METALS	PCB	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA2-SP1	SOIL	AUG7												X	X			
	TCE-21@40cm			FICO-CONTAM.										X					
	MAIN STATION F2@40cm																		
	WA2-CR33@50cm																		
	CWA2-CR30@40cm																		
	WA2-SP2		AUG8											X					
	WA2-SP3													X					
	WA2-SP4													X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
D FELSKE	AUG9		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

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Yellow Copy - AGAT
White Copy - AGAT

NO: 0097821

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http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: DANIELA FELSKE

PROJECT NO: E22101581.001

AGAT WORK ORDER: 10M426644

SOIL ANALYSIS REVIEWED BY: Sandra Lalli, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

WATER ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-08-18

VERSION*: 1

PAGES (INCLUDING COVER): 30

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Asbestos (Bulk)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

			SAMPLE DESCRIPTION:	IECI-71
			SAMPLE TYPE:	Solid
			DATE SAMPLED:	2010-08-10
Parameter	Unit	G / S	RDL	1924914
Asbestos (Bulk)	%		0.5	ND

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924914 Condition of sample was satisfactory at time of arrival in laboratory.
"ND" - Not Detected

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M426644
PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Metals (Soil)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

					SAMPLE DESCRIPTION:		SPILL 5A	ASH WOODBURN #2
					SAMPLE TYPE:		Soil	Solid
					DATE SAMPLED:		2010-08-10	2010-08-10
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	1924934	1924963
Arsenic	mg/kg	6	30	50	250	5	<5[<A]	<5[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	3.3[A-B]	<0.9[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]
Chromium	mg/kg	85	250	800	4000	45	72[<A]	<45[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]
Total Mercury	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	102[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Flash point Analysis

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-59	IECI-73	IECI-72	IECI-69	IECI-60 (#165)	IECI-70
		SAMPLE TYPE:		Gr. Water	Gr. Water	Gr. Water	Gr. Water	Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10	2010-08-10	2010-08-10	2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924893	1924911	1924912	1924922	1924927	1924980
Flash point (Pensky Martin Closed Cup)	Deg C			67	>100	>100	>100	>100	63

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Oil (bottom layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-72	IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924912	1924927
Benzene	mg/kg		0.0005	<0.0005	0.0080
Toluene	mg/kg		0.0005	0.0120	0.0190
Ethylbenzene	mg/kg		0.0005	<0.0005	0.0030
Xylenes	mg/kg		0.0005	<0.0005	0.0240
C6 - C10 (F1)	mg/kg		0.1	10.5	621
C6 - C10 (F1 minus BTEX)	mg/kg		0.1	10.5	621
C10 - C16 (F2)	mg/kg		0.1	5875	4669
C16 - C34 (F3)	mg/kg		0.1	2079	88.8
C34 - C50 (F4)	mg/kg		0.1	20	7.0
Surrogate	Unit	Acceptable Limits			
Toluene-d8 (BTEX)	%	50-150		115	72
o-Terphenyl (F2-F4)	%	50-150		106	99

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924912-1924927 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

Certified By:



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PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Oil (top layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-72	IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924912	1924927
Benzene	mg/kg		0.0005	0.430	0.630
Toluene	mg/kg		0.0005	2.66	1.33
Ethylbenzene	mg/kg		0.0005	0.660	0.280
Xylenes	mg/kg		0.0005	1.56	1.38
C6 - C10 (F1)	mg/kg		0.1	516	22600
C6 - C10 (F1 minus BTEX)	mg/kg		0.1	510	22600
C10 - C16 (F2)	mg/kg		0.1	620000	434557
C16 - C34 (F3)	mg/kg		0.1	231618	6207
C34 - C50 (F4)	mg/kg		0.1	3518	862.6
Surrogate	Unit	Acceptable Limits			
Toluene-d8 (BTEX)	%	50-150		86	104
o-Terphenyl (F2-F4)	%	50-150		114	95

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924912-1924927 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Water

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-59	IECI-73	IECI-69	IECI-70
		SAMPLE TYPE:		Gr. Water	Gr. Water	Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10	2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924893	1924911	1924922	1924980
Benzene	mg/kg		0.0005	1.60	0.50	<0.0005	35.4
Toluene	mg/kg		0.0005	67.1	17.7	0.002	328.7
Ethylbenzene	mg/kg		0.0005	88.7	2.90	<0.0005	123.0
Xylenes	mg/kg		0.0005	617.8	15.8	<0.0005	708.8
C6 - C10 (F1)	mg/kg		0.1	15408	534.6	2.9	11764
C6 - C10 (F1 minus BTEX)	mg/kg		0.1	14632	497.7	2.9	10566
C10 - C16 (F2)	mg/kg		0.1	398025	160397	<0.1	225
C16 - C34 (F3)	mg/kg		0.1	418611	773278	0.8	431
C34 - C50 (F4)	mg/kg		0.1	153024	86155	<0.1	65.9
Surrogate	Unit	Acceptable Limits					
Toluene-d8 (BTEX)	%	50-150		116	108	116	96
o-Terphenyl (F2-F4)	%	50-150		92	96	98	106

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924893-1924980 The C>6 - C10 fraction is calculated using the toluene response factor.
The C10 - C16 fraction is calculated using the average response factor for nC10, nC16 and nC34.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		SPILL 5A	SPILL 5B
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924934	1924960
C10 - C16 (F2)	mg/kg	150	10	14	463
C16 - C34 (F3)	mg/kg	1300	10	4120	12100
C34 - C50 (F4)	mg/kg	5600	10	402	1150
Moisture Content	%		1	2.8	3.5
Surrogate	Unit	Acceptable Limits			
o-Terphenyl (F2-F4)	%	50-150		108	116

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to CCME (Ag,F)

1924934-1924960 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

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PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Polychlorinated Biphenyls Analysis - Oil

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

				SAMPLE DESCRIPTION:	IECI-59	IECI-73	IECI-69	IECI-70
				SAMPLE TYPE:	Gr. Water	Gr. Water	Gr. Water	Gr. Water
				DATE SAMPLED:	2010-08-10	2010-08-10	2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL		1924893	1924911	1924922	1924980
Aroclor 1242	mg/kg		0.02		<0.02	<0.02	<0.02	<0.02
Aroclor 1254	mg/kg		0.02		<0.02	<0.02	<0.02	<0.02
Aroclor 1260	mg/kg		0.02		<0.02	<0.02	<0.02	<0.02
Total Polychlorinated Biphenyls	mg/kg		0.02		<0.02	<0.02	<0.02	<0.02

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924893 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 70%

1924911 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 85%

1924922 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 93%

1924980 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 87%

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Polychlorinated Biphenyls Analysis - Oil (bottom layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-72	IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924912	1924927
Aroclor 1242	mg/kg		0.02	<0.02	<0.02
Aroclor 1254	mg/kg		0.02	<0.02	<0.02
Aroclor 1260	mg/kg		0.02	<0.02	<0.02
Total Polychlorinated Biphenyls	mg/kg		0.02	<0.02	<0.02

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924912 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 104%

1924927 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 94%

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Polychlorinated Biphenyls Analysis - Oil (top layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-72	IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924912	1924927
Aroclor 1242	mg/kg		0.02	<0.02	<0.02
Aroclor 1254	mg/kg		0.02	<0.02	<0.02
Aroclor 1260	mg/kg		0.02	<0.02	<0.02
Total Polychlorinated Biphenyls	mg/kg		0.02	<0.02	<0.02

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924912 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 91%

1924927 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 101%

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PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total Extractable Organic Halides - Oil*

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-59	IECI-73	IECI-69	IECI-70
		SAMPLE TYPE:		Gr. Water	Gr. Water	Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10	2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924893	1924911	1924922	1924980
Extractable Organic Halides	mg/kg		1	10	7250	<1	3

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924893-1924980 * Total extractable organic halides reported as chloride

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total Extractable Organic Halides - Oil* (bottom layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

			SAMPLE DESCRIPTION:	IECI-60 (#165)
			SAMPLE TYPE:	Gr. Water
			DATE SAMPLED:	2010-08-10
Parameter	Unit	G / S	RDL	1924927
Extractable Organic Halides	mg/kg		1	739

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924927 * Total extractable organic halides reported as chloride

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PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Total Extractable Organic Halides - Oil* (top layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-72	IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water	Gr. Water
		DATE SAMPLED:		2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924912	1924927
Extractable Organic Halides	mg/kg		1	<1	34300

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924912-1924927 * Total extractable organic halides reported as chloride

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PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Volatile Organic Compounds in Waste (bottom layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water
		DATE SAMPLED:		2010-08-10
Parameter	Unit	G / S	RDL	1924927
	mg/kg		0.001	
Vinyl Chloride	mg/kg		0.001	0.146
Bromomethane	mg/kg		0.001	<0.001
Chloroethane	mg/kg		0.001	<0.001
Trichlorofluoromethane	mg/kg		0.001	<0.001
Acetone	mg/kg		0.01	0.11
1,1-Dichloroethylene	mg/kg		0.001	0.002
Methylene Chloride	mg/kg		0.001	0.020
Methyl tert-butyl ether	mg/kg		0.001	<0.001
Methyl Ethyl Ketone	mg/kg		0.01	<0.01
trans- 1,2-dichloroethylene	mg/kg		0.001	<0.001
1,1-Dichloroethane	mg/kg		0.001	<0.001
cis- 1,2-Dichloroethylene	mg/kg		0.001	<0.001
Chloroform	mg/kg		0.001	1010
1,2-Dichloroethane	mg/kg		0.001	133000
1,1,1-Trichloroethane	mg/kg		0.001	<0.001
Carbon Tetrachloride	mg/kg		0.0005	<0.0005
Benzene	mg/kg		0.0005	0.351
1,2-Dichloropropane	mg/kg		0.001	0.551
Trichloroethylene	mg/kg		0.001	8.46
Bromodichloromethane	mg/kg		0.001	59.4
trans-1,3-Dichloropropene	mg/kg		0.001	<0.001
Methyl Isobutyl Ketone	mg/kg		0.01	<0.01
cis-1,3-Dichloropropene	mg/kg		0.001	<0.001
1,1,2-Trichloroethane	mg/kg		0.001	3.55
Toluene	mg/kg		0.0005	0.492
2-Hexanone	mg/kg		0.01	<0.01
Dibromochloromethane	mg/kg		0.001	<0.001

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Volatile Organic Compounds in Waste (bottom layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water
		DATE SAMPLED:		2010-08-10
Parameter	Unit	G / S	RDL	1924927
Ethylene Dibromide	mg/kg		0.001	19.3
Tetrachloroethene	mg/kg		0.001	1.17
1,1,1,2-Tetrachloroethane	mg/kg		0.001	<0.001
Chlorobenzene	mg/kg		0.001	0.941
Ethylbenzene	mg/kg		0.0005	0.142
m & p-Xylene	mg/kg		0.0005	0.550
Bromoform	mg/kg		0.001	<0.001
Styrene	mg/kg		0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/kg		0.001	<0.001
o-Xylene	mg/kg		0.0005	0.253
1,3-Dichlorobenzene	mg/kg		0.0005	508
1,4-Dichlorobenzene	mg/kg		0.0005	7010
1,2-Dichlorobenzene	mg/kg		0.0005	368000
1,2,4-Trichlorobenzene	mg/kg		0.001	4530
	mg/kg		0.001	
Surrogate	Unit	Acceptable Limits		
Toluene-d8 (BTEX)	%	50-150		101

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924927 Dilution factor =
The sample was diluted to keep the target compounds in the calibration range of the instrument and to avoid contaminating the purge and trap system. The method detection limit has been corrected for the dilution factor used.

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CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Volatile Organic Compounds in Waste (top layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water
		DATE SAMPLED:		2010-08-10
Parameter	Unit	G / S	RDL	1924927
	mg/kg		0.001	
Vinyl Chloride	mg/kg		0.001	0.009
Bromomethane	mg/kg		0.001	<0.001
Chloroethane	mg/kg		0.001	<0.001
Trichlorofluoromethane	mg/kg		0.001	<0.001
Acetone	mg/kg		0.01	0.03
1,1-Dichloroethylene	mg/kg		0.001	<0.001
Methylene Chloride	mg/kg		0.001	0.002
Methyl tert-butyl ether	mg/kg		0.001	<0.001
Methyl Ethyl Ketone	mg/kg		0.01	<0.01
trans- 1,2-dichloroethylene	mg/kg		0.001	<0.001
1,1-Dichloroethane	mg/kg		0.001	<0.001
cis- 1,2-Dichloroethylene	mg/kg		0.001	<0.001
Chloroform	mg/kg		0.001	8.79
1,2-Dichloroethane	mg/kg		0.001	1570
1,1,1-Trichloroethane	mg/kg		0.001	<0.001
Carbon Tetrachloride	mg/kg		0.0005	<0.0005
Benzene	mg/kg		0.0005	<0.0005
1,2-Dichloropropane	mg/kg		0.001	<0.001
Trichloroethylene	mg/kg		0.001	0.023
Bromodichloromethane	mg/kg		0.001	0.379
trans-1,3-Dichloropropene	mg/kg		0.001	<0.001
Methyl Isobutyl Ketone	mg/kg		0.01	<0.01
cis-1,3-Dichloropropene	mg/kg		0.001	<0.001
1,1,2-Trichloroethane	mg/kg		0.001	<0.001
Toluene	mg/kg		0.0005	0.0091
2-Hexanone	mg/kg		0.01	<0.01
Dibromochloromethane	mg/kg		0.001	<0.001

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Volatile Organic Compounds in Waste (top layer)

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

		SAMPLE DESCRIPTION:		IECI-60 (#165)
		SAMPLE TYPE:		Gr. Water
		DATE SAMPLED:		2010-08-10
Parameter	Unit	G / S	RDL	1924927
Ethylene Dibromide	mg/kg		0.001	<0.001
Tetrachloroethene	mg/kg		0.001	<0.001
1,1,1,2-Tetrachloroethane	mg/kg		0.001	<0.001
Chlorobenzene	mg/kg		0.001	<0.001
Ethylbenzene	mg/kg		0.0005	<0.0005
m & p-Xylene	mg/kg		0.0005	<0.0005
Bromoform	mg/kg		0.001	<0.001
Styrene	mg/kg		0.001	<0.001
1,1,2,2-Tetrachloroethane	mg/kg		0.001	<0.001
o-Xylene	mg/kg		0.0005	<0.0005
1,3-Dichlorobenzene	mg/kg		0.0005	<0.0005
1,4-Dichlorobenzene	mg/kg		0.0005	11.5
1,2-Dichlorobenzene	mg/kg		0.0005	497
1,2,4-Trichlorobenzene	mg/kg		0.001	6.47
	mg/kg		0.001	
Surrogate	Unit	Acceptable Limits		
Toluene-d8 (BTEX)	%	50-150		102

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924927 Dilution factor =
The sample was diluted to keep the target compounds in the calibration range of the instrument and to avoid contaminating the purge and trap system. The method detection limit has been corrected for the dilution factor used.

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Certificate of Analysis

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Dissolved Metals Scan in Water + Hg

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

				SAMPLE DESCRIPTION:	IECI-69
				SAMPLE TYPE:	Gr. Water
				DATE SAMPLED:	2010-08-10
Parameter	Unit	G / S	RDL	1924922	
Dissolved Arsenic	mg/L		0.001		
Dissolved Cadmium	mg/L		0.000025		
Dissolved Chromium	mg/L		0.001		
Dissolved Cobalt	mg/L		0.001		
Dissolved Copper	mg/L		0.002		
Dissolved Lead	mg/L		0.001		
Dissolved Mercury	mg/L		0.000025		
Dissolved Nickel	mg/L		0.003		
Dissolved Zinc	mg/L		0.003		

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924922 < - Values refer to Method Detection Limit.

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Certificate of Analysis

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

TCLP

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

Parameter	Unit	G / S	RDL	SAMPLE DESCRIPTION: ASH WOODBURN #2 SAMPLE TYPE: Solid DATE SAMPLED: 2010-08-10 1924963
Silver	mg/L		0.02	<0.02
Arsenic	mg/L		0.002	0.005
Barium	mg/L		1	<1
Cadmium	mg/L		0.01	<0.01
Chromium	mg/L		0.01	<0.01
Total Mercury	mg/L		0.0004	0.0155
Lead	mg/L		0.05	<0.05
Selenium	mg/L		0.5	<0.5

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

pH

DATE RECEIVED: 2010-08-12

DATE REPORTED: 2010-08-18

SAMPLE DESCRIPTION:				IECI-59	IECI-73	IECI-72	IECI-69	IECI-60 (#165)	IECI-70
SAMPLE TYPE:				Gr. Water	Gr. Water	Gr. Water	Gr. Water	Gr. Water	Gr. Water
DATE SAMPLED:				2010-08-10	2010-08-10	2010-08-10	2010-08-10	2010-08-10	2010-08-10
Parameter	Unit	G / S	RDL	1924893	1924911	1924912	1924922	1924927	1924980
pH	pH		NA	7.33	5.19	6.58	6.14	9.55	6.86

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1924893-1924980 Analysis performed by Tribology divison of AGAT, Calgary

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-08-18			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals (Soil)															
Arsenic	813	NA	NA	NA	0.0%	< 5	96%	80%	120%	103%	80%	120%	94%	80%	120%
Cadmium	813	NA	NA	NA	0.0%	< 0.9	94%	80%	120%	98%	80%	120%	96%	80%	120%
Cobalt	813	NA	NA	NA	0.0%	< 15	93%	80%	120%	97%	80%	120%	94%	80%	120%
Chromium	813	NA	NA	NA	0.0%	< 45	93%	80%	120%	99%	80%	120%	95%	80%	120%
Copper	813	NA	NA	NA	0.0%	< 40	90%	80%	120%	95%	80%	120%	95%	80%	120%
Total Mercury	1	NA	NA	NA	0.0%	< 0.2	106%	80%	120%	98%	80%	120%	NA	80%	120%
Nickel	813	NA	NA	NA	0.0%	< 30	92%	80%	120%	104%	80%	120%	93%	80%	120%
Lead	813	NA	NA	NA	0.0%	< 30	94%	80%	120%	98%	80%	120%	94%	80%	120%
Zinc	813	NA	NA	NA	0.0%	< 100	97%	80%	120%	102%	80%	120%	100%	80%	120%

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PROJECT NO: E22101581.001
ATTENTION TO: DANIELA FELSKE
SAMPLED BY:
SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-08-18			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Polychlorinated Biphenyls Analysis - Oil															
Aroclor 1242	75	1925662	< 0.02	< 0.02	NA	< 0.02	108%	70%	130%	112%	70%	130%	105%	60%	140%
Aroclor 1254	75	1925662	0.07	0.06	15.4%	< 0.02	98%	70%	130%	117%	70%	130%	139%	60%	140%
Aroclor 1260	75	1925662	< 0.02	< 0.02	NA	< 0.02	98%	70%	130%	115%	70%	130%	100%	60%	140%
Total Polychlorinated Biphenyls	75	1925662	0.07	0.06	15.4%	< 0.02	101%	70%	130%	115%	70%	130%	115%	60%	140%
Total Extractable Organic Halides - Oil*															
Extractable Organic Halides	726	893	9	10	10.5%	< 1	99%	70%	130%	84%	80%	120%	100%	90%	110%
Flash point Analysis															
Flash point (Pensky Martin Closed Cup)	155					<	97%	85%	115%						
Petroleum Hydrocarbons (BTEX/F1-F4) in Water															
Benzene	569	1925409	< 0.0005	< 0.0005	0.0%	< 0.0005	94%	80%	120%	100%	80%	120%	94%	70%	130%
Toluene	569	1925409	< 0.0005	< 0.0005	0.0%	< 0.0005	96%	80%	120%	90%	80%	120%	100%	70%	130%
Ethylbenzene	569	1925409	< 0.0005	< 0.0005	0.0%	< 0.0005	100%	80%	120%	80%	80%	120%	98%	70%	130%
Xylenes	569	1925409	< 0.0005	< 0.0005	0.0%	< 0.0005	96%	80%	120%	93%	80%	120%	102%	70%	130%
C6 - C10 (F1)	569	1925409	< 0.1	< 0.1	0.0%	< 0.1	112%	80%	120%	83%	80%	120%	104%	70%	130%
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	1093	1925646	<10	<10	NA	< 10	100%	80%	120%	97%	80%	120%	108%	60%	140%
C16 - C34 (F3)	1093	1925646	24	22	9.0%	< 10	100%	80%	120%	104%	80%	120%	115%	60%	140%
C34 - C50 (F4)	1093	1925646	<10	<10	NA	< 10	100%	80%	120%	100%	80%	120%	111%	60%	140%
Flash point Analysis															
Flash point (Pensky Martin Closed Cup)	156					<	97%	85%	115%						
Petroleum Hydrocarbons (BTEX/F1-F4) in Water															
C10 - C16 (F2)	139	1925680	<0.1	<0.1	0.0%	< 0.1	101%	80%	120%	109%	80%	120%	105%	70%	130%
C16 - C34 (F3)	139	1925680	<0.1	<0.1	0.0%	< 0.1	101%	80%	120%	106%	80%	120%	102%	70%	130%
C34 - C50 (F4)	139	1925680	<0.1	<0.1	0.0%	< 0.1	101%	80%	120%	106%	80%	120%	102%	70%	130%
Volatile Organic Compounds in Waste (top layer)															
	3010					< 0.001	129%	60%	140%	119%	60%	140%			
Vinyl Chloride	3010					< 0.001	117%	60%	140%	110%	60%	140%			
Bromomethane	3010					< 0.001	109%	60%	140%	99%	60%	140%			
Chloroethane	3010					< 0.001	87%	60%	140%	85%	60%	140%			
Trichlorofluoromethane	3010					< 0.001	90%	60%	140%	83%	60%	140%			
Acetone	3010					< 0.01	88%	60%	140%	88%	60%	140%			
1,1-Dichloroethylene	3010					< 0.001	100%	60%	140%	88%	60%	140%			
Methylene Chloride	3010					< 0.001	97%	60%	140%	92%	60%	140%			
Methyl tert-butyl ether	3010					< 0.001	97%	60%	140%	97%	60%	140%			
Methyl Ethyl Ketone	3010					< 0.01	87%	60%	140%	87%	60%	140%			
trans- 1,2-dichloroethylene	3010					< 0.001	98%	60%	140%	81%	60%	140%			
1,1-Dichloroethane	3010					< 0.001	95%	60%	140%	87%	60%	140%			
cis- 1,2-Dichloroethylene	3010					< 0.001	101%	60%	140%	85%	60%	140%			

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Trace Organics Analysis (Continued)

RPT Date: 2010-08-18			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Chloroform	3010					< 0.001	99%	60%	140%	84%	60%	140%			
1,2-Dichloroethane	3010					< 0.001	92%	60%	140%	88%	60%	140%			
1,1,1-Trichloroethane	3010					< 0.001	94%	60%	140%	80%	60%	140%			
Carbon Tetrachloride	3010					< 0.0005	100%	60%	140%	89%	60%	140%			
Benzene	3010					< 0.0005	92%	60%	140%	94%	60%	140%			
1,2-Dichloropropane	3010					< 0.001	84%	60%	140%	80%	60%	140%			
Trichloroethylene	3010					< 0.001	90%	60%	140%	69%	60%	140%			
Bromodichloromethane	3010					< 0.001	95%	60%	140%	82%	60%	140%			
trans-1,3-Dichloropropene	3010					< 0.001	98%	60%	140%	81%	60%	140%			
Methyl Isobutyl Ketone	3010					< 0.01	77%	60%	140%	77%	60%	140%			
cis-1,3-Dichloropropene	3010					< 0.001	99%	60%	140%	102%	60%	140%			
1,1,2-Trichloroethane	3010					< 0.001	94%	60%	140%	78%	60%	140%			
Toluene	3010					< 0.0005	92%	60%	140%	78%	60%	140%			
2-Hexanone	3010					< 0.01	80%	60%	140%	80%	60%	140%			
Dibromochloromethane	3010					< 0.001	108%	60%	140%	86%	60%	140%			
Ethylene Dibromide	3010					< 0.001	103%	60%	140%	89%	60%	140%			
Tetrachloroethene	3010					< 0.001	98%	60%	140%	85%	60%	140%			
1,1,1,2-Tetrachloroethane	3010					< 0.001	109%	60%	140%	109%	60%	140%			
Chlorobenzene	3010					< 0.001	104%	60%	140%	89%	60%	140%			
Ethylbenzene	3010					< 0.0005	93%	60%	140%	83%	60%	140%			
m & p-Xylene	3010					< 0.0005	90%	60%	140%	81%	60%	140%			
Bromoform	3010					< 0.001	110%	60%	140%	88%	60%	140%			
Styrene	3010					< 0.001	108%	60%	140%	91%	60%	140%			
o-Xylene	3010					< 0.0005	93%	60%	140%	83%	60%	140%			
1,3-Dichlorobenzene	3010					< 0.0005	104%	60%	140%	84%	60%	140%			
1,4-Dichlorobenzene	3010					< 0.0005	96%	60%	140%	86%	60%	140%			
1,2-Dichlorobenzene	3010					< 0.0005	99%	60%	140%	87%	60%	140%			
1,2,4-Trichlorobenzene	3010					< 0.001	104%	60%	140%	92%	60%	140%			
	3010					< 0.001	91%	60%	140%	82%	60%	140%			

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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

Water Analysis

RPT Date: 2010-08-18			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
TCLP															
Silver	1	NA	NA	NA	0.0%	< 0.02	118%	80%	120%	99%	90%	110%	109%	80%	120%
Arsenic	817	NA	NA	NA	0.0%	< 0.02	93%	80%	120%	94%	80%	120%	102%	80%	120%
Barium	817	NA	NA	NA	0.0%	< 1	97%	80%	120%	99%	80%	120%	102%	80%	120%
Cadmium	817	NA	NA	NA	0.0%	< 0.01	101%	80%	120%	100%	80%	120%	101%	80%	120%
Chromium	817	NA	NA	NA	0.0%	< 0.01	99%	80%	120%	98%	80%	120%	99%	80%	120%
Total Mercury	1	NA	NA	NA	0.0%	< 0.0004	NA	80%	120%	111%	80%	120%	NA	80%	120%
Lead	817	NA	NA	NA	0.0%	< 0.05	95%	80%	120%	100%	80%	120%	100%	80%	120%
Selenium	817	NA	NA	NA	0.0%	< 0.5	111%	80%	120%	96%	80%	120%	105%	80%	120%

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Occupational Hygiene Analysis					
Asbestos (Bulk)	2010-08-17	2010-08-17	INORG 93-6010	EPA 600/R-93/116 & NIOSH 9002	PLM
Soil Analysis					
Arsenic	2010-08-13	2010-08-13	MET-101-6105	EPA 3050	ICP/MS
Cadmium	2010-08-13	2010-08-13	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-08-13	2010-08-13	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-08-13	2010-08-13	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-08-13	2010-08-13	MET-101-6107	EPA 3050	ICP/OES
Total Mercury	2010-08-13	2010-08-13	MET-101-6102F	EPA 245.5	FIMS
Nickel	2010-08-13	2010-08-13	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-08-13	2010-08-13	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-08-13	2010-08-13	MET-101-6107	EPA 3050	ICP/OES

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PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis					
Flash point (Pensky Martin Closed Cup)	2010-08-14	2010-08-16	TO 2200	ASTM D93-02A	
Benzene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Toluene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Ethylbenzene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Xylenes	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
C6 - C10 (F1)	2010-08-14	2010-08-16	TO 0540	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-08-14	2010-08-16	TO 0540	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-14	2010-08-16	TO 0511	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-14	2010-08-16	TO-0511	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-14	2010-08-16	TO-0511	CCME Tier 1 Method	GC/FID
Toluene-d8 (BTEX)	2010-08-14	2010-08-16	TO 0340	EPA SW846 8260	GC/FID
o-Terphenyl (F2-F4)	2010-08-14	2010-08-16	TO 0511	CCME Tier 1 Method	GC/FID
Benzene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Toluene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Ethylbenzene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Xylenes	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
C6 - C10 (F1)	2010-08-14	2010-08-16	TO 0540	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-08-14	2010-08-16	TO 0540	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-14	2010-08-16	TO 0511	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-14	2010-08-16	TO-0511	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-14	2010-08-16	TO-0511	CCME Tier 1 Method	GC/FID
Toluene-d8 (BTEX)	2010-08-14	2010-08-16	TO 0340	EPA SW846 8260	GC/FID
o-Terphenyl (F2-F4)	2010-08-14	2010-08-16	TO 0511	CCME Tier 1 Method	GC/FID
Benzene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Toluene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Ethylbenzene	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
Xylenes	2010-08-14	2010-08-16	TO 0540	EPA SW846 8260	GC/MS
C6 - C10 (F1)	2010-08-14	2010-08-16	TO 0540	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-08-14	2010-08-16	TO 0540	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-14	2010-08-17	TO 0511	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-14	2010-08-17	TO-0511	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-14	2010-08-17	TO-0511	CCME Tier 1 Method	GC/FID
Toluene-d8 (BTEX)	2010-08-14	2010-08-16	TO 0340	EPA SW846 8260	GC/FID
o-Terphenyl (F2-F4)	2010-08-14	2010-08-17	TO 0511	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-08-15	2010-08-16	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-08-15	2010-08-16	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-08-15	2010-08-16	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-08-15	2010-08-16	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-08-15	2010-08-16	TO 0560	CCME Tier 1 Method	GC/FID
Aroclor 1242	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1254	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1260	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Total Polychlorinated Biphenyls	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1242	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1254	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1260	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Total Polychlorinated Biphenyls	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1242	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Aroclor 1254	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Aroclor 1260	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Total Polychlorinated Biphenyls	2010-08-14	2010-08-16	TO 0100	EPA SW-846 3550 & 8081	ECD
Extractable Organic Halides	2010-08-17	2010-08-17	TO 0810	ASTM D4929-99	IC
Extractable Organic Halides	2010-08-17	2010-08-17	TO 0810	ASTM D4929-99	IC
Extractable Organic Halides	2010-08-17	2010-08-17	TO 0810	ASTM D4929-99	IC
	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Vinyl Chloride	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Bromomethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Chloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Trichlorofluoromethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Acetone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1-Dichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methylene Chloride	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methyl tert-butyl ether	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methyl Ethyl Ketone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
trans- 1,2-dichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1-Dichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
cis- 1,2-Dichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Chloroform	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,1-Trichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Carbon Tetrachloride	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Benzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichloropropane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Trichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Bromodichloromethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
trans-1,3-Dichloropropene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methyl Isobutyl Ketone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
cis-1,3-Dichloropropene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,2-Trichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Toluene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
2-Hexanone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Dibromochloromethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Ethylene Dibromide	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Tetrachloroethene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,1,2-Tetrachloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Chlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
m & p-Xylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Bromoform	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Styrene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,2,2-Tetrachloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
o-Xylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,3-Dichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,4-Dichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2,4-Trichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Toluene-d8 (BTEX)	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/FID
	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Vinyl Chloride	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Bromomethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Chloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Trichlorofluoromethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Acetone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1-Dichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methylene Chloride	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methyl tert-butyl ether	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methyl Ethyl Ketone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
trans- 1,2-dichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1-Dichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
cis- 1,2-Dichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Chloroform	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,1-Trichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Carbon Tetrachloride	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Benzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichloropropane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Trichloroethylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Bromodichloromethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
trans-1,3-Dichloropropene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Methyl Isobutyl Ketone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
cis-1,3-Dichloropropene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,2-Trichloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Toluene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
2-Hexanone	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Dibromochloromethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Ethylene Dibromide	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Tetrachloroethene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,1,2-Tetrachloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Chlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
m & p-Xylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Bromoform	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Styrene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,1,2,2-Tetrachloroethane	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
o-Xylene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,3-Dichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,4-Dichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2-Dichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
1,2,4-Trichlorobenzene	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/MS
Toluene-d8 (BTEX)	2010-08-17	2010-08-17	TO 0330	EPA SW-846 8260	GC/FID

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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M426644

PROJECT NO: E22101581.001

ATTENTION TO: DANIELA FELSKE

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis					
Dissolved Arsenic			INST 0141	SM 3125 B	ICP/MS
Dissolved Cadmium			INST 0141	SM 3125 B	ICP/MS
Dissolved Chromium			INST 0141	SM 3125 B	ICP/MS
Dissolved Cobalt			INST 0141	SM 3125 B	ICP/MS
Dissolved Copper			INST 0141	SM 3125 B	ICP/MS
Dissolved Lead			INST 0141	SM 3125 B	ICP/MS
Dissolved Mercury			INST 0160	SM 3112 B	CV/AA
Dissolved Nickel			INST 0141	SM 3125 B	ICP/MS
Dissolved Zinc			INST 0141	SM 3125 B	ICP/MS
Silver	2010-08-16	2010-08-17	MET-101-6107	EPA 6010	ICP/OES
Arsenic	2010-08-16	2010-08-17	MET-101-6105F	EPA SW-846 6020	ICP/MS
Barium	2010-08-16	2010-08-17	MET-101-6107	EPA 6010	ICP/OES
Cadmium	2010-08-16	2010-08-17	MET-101-6107	EPA 6010	ICP/OES
Chromium	2010-08-16	2010-08-17	MET-101-6107	EPA 6010	ICP/OES
Total Mercury	2010-08-17	2010-08-17	MET-101-6102F	EPA 245.5	FIMS
Lead	2010-08-16	2010-08-17	MET-101-6107	EPA 6010	ICP/OES
Selenium	2010-08-16	2010-08-17	MET-101-6105F	EPA SW-846 3050 & 6020	ICP/MS
pH		2010-08-17	INOR-101-6021F	SM 4500-H+ B 21éd. 2005	PC TITRATE

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CHAIN OF CUSTODY RECORD

SHIPMENT #17

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%) SEE BELOW

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Report To:
Company: EBA ENGINEERING
Contact: PAMELA FELSKE
Address: 14940-123 AVE
EDMONTON Postal Code: AB T5V 1B4
Phone: 780-451-2121 Fax: 780 454 5689
LSD:
Client Project #: E22101581.001

Report Information - reports to be sent to:
1. Name: D FELSKE
Email: dfelske@eba.ca
2. Name: B. HORNE
Email: bhorne@eba.ca

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☐ DCC METALS

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify: DCC METALS)	D50 Detailed Soil Salinity (As received)	Microtox	RUSH	BARIUM Modified F2-F4	RUSH	LEACHABILITY TCLP METALS	VOCS (CAN)	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	IEC1-59	WASTE	AUG 10	Sending more sample									X	X						
	IEC1-73												X	X						
	IEC1-72												X	X						
	IEC1-71												X	X						
	IEC1-69												X	X						
	~~IEC1-70~~ IEC1-60 (#165)			Sending more sample									X	X		#		X	X	
	SPILL 5 A	SOIL		} Note these were incorrectly labelled							X		X		X					
	SPILL 5 B	SOIL											X		X					
	ASH WOODBURN #2	SOLID									X		X				X			
	IEC1-70 liquid	SOLID										X	X							

Off the way round

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE AUG 12 7am			
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE _____ of _____

NO: 0097837

AUG 12 am

AGAT Laboratoires

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NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

À L'ATTENTION DE: DANIELA FELSKE

N° DE PROJET: E22101581.001

N° BON DE TRAVAIL: 10M427747

DATE DU RAPPORT: 2010-08-18

VERSION*: 1

NOMBRE DE PAGES: 6

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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Certificat d'analyse

N° BON DE TRAVAIL: 10M427747

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

9 métaux (incl. Hg) (TC, sol)

DATE DE RÉCEPTION: 2010-08-17

DATE DU RAPPORT: 2010-08-18

							DESCRIPTION D'ÉCHANTILLON:	IECI-76	IECI-77	IECI-78
							MATRICE:	Solide	Solide	Solide
							DATE D'ÉCHANTILLONNAGE:	2010-08-12	2010-08-12	2010-08-12
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR		1933820	1933822	1933825
Arsenic	mg/kg	6	30	50	250	5				
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9				
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15				
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45				
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40				
Mercure total	mg/kg	0.2	2	10	50	0.2				
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30				
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30				
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100				

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: A se réfère QC PTC (Critère A), B se réfère QC PTC (Critère B), C se réfère QC PTC (Critère C), D se réfère QC RESC (Annexe 1)

Certifié par:

La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDEP. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDEP.

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AGAT Laboratoires

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificat d'analyse

N° BON DE TRAVAIL: 10M427747

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

BPC aroclor (sol)

DATE DE RÉCEPTION: 2010-08-17

DATE DU RAPPORT: 2010-08-18

	DESCRIPTION D'ÉCHANTILLON:			IECI-75	IECI-76	IECI-77	IECI-78	WAS7-SP52	SPILL 7A-WA5	SPILL 7B-WA5
	MATRICE:			Solide	Solide	Solide	Solide	Sol	Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-08-12	2010-08-12	2010-08-12	2010-08-12	2010-08-12	2010-08-12	2010-08-12
Paramètre	Unités	C / N	LDR	1933815	1933820	1933822	1933825	1933826	1933831	1933839
Aroclor 1242	mg/kg		0.5					<0.5		
Aroclor 1248	mg/kg		0.5					<0.5		
Aroclor 1254	mg/kg		0.5					<0.5		
Aroclor 1260	mg/kg		0.5					<0.5		
IUPAC #209	%							159		

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

1933826 Le pourcentage de récupération est non-conforme en raison d'une interférence de matrice.

Certifié par:

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Certificat d'analyse

N° BON DE TRAVAIL: 10M427747

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

TCLP

DATE DE RÉCEPTION: 2010-08-17

DATE DU RAPPORT: 2010-08-18

			DESCRIPTION D'ÉCHANTILLON:	IECI-75	IECI-76	IECI-77	IECI-78
			MATRICE:	Solide	Solide	Solide	Solide
			DATE D'ÉCHANTILLONNAGE:	2010-08-12	2010-08-12	2010-08-12	2010-08-12
Paramètre	Unités	C / N	LDR	1933815	1933820	1933822	1933825
Argent	mg/L		0.02				
Arsenic	mg/L		0.002				
Baryum	mg/L		1				
Cadmium	mg/L		0.01				
Chrome	mg/L		0.01				
Mercure total	mg/L		0.0002				
Plomb	mg/L		0.05				
Sélénium	mg/L		0.5				

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M427747

N° DE PROJET: E22101581.001

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse organique de trace

Date du rapport: 2010-08-18

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
BPC aroclor (sol)															
Aroclor 1242	1	NA	NA	NA	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	NA	NA	NA	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	NA	NA	NA	0.0	< 0.5	72%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	NA	NA	NA	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	NA	NA	NA	0.0	83	75%	40%	140%	NA	40%	140%	NA	40%	140%

Certifié par:

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Sommaire de méthode

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M427747

N° DE PROJET: E22101581.001

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse des Sols					
Arsenic			MET-101-6105	EPA 3050	ICP/MS
Cadmium (ICP-OES)			MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)			MET-101-6107	EPA 3050	ICP/OES
Chrome (ICP-OES)			MET-101-6107	EPA 3050	ICP/OES
Cuivre (ICP-OES)			MET-101-6107	EPA 3050	ICP/OES
Mercure total			MET-101-6102F	EPA 245.5	FIMS
Nickel (ICP-OES)			MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)			MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)			MET-101-6107	EPA 3050	ICP/OES
Analyse organique de trace					
Aroclor 1242	2010-08-13	2010-08-13	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-08-13	2010-08-13	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-08-13	2010-08-13	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-08-13	2010-08-13	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-08-13	2010-08-13	ORG-100-5108F		GC/ECD
Analyse de l'eau					
Argent			MET-101-6107	EPA 6010	ICP/OES
Arsenic			MET-101-6105F	EPA SW-846 6020	ICP/MS
Baryum			MET-101-6107	EPA 6010	ICP/OES
Cadmium			MET-101-6107	EPA 6010	ICP/OES
Chrome			MET-101-6107	EPA 6010	ICP/OES
Mercure total			MET-101-6102F	EPA 245.5	FIMS
Plomb			MET-101-6107	EPA 6010	ICP/OES
Sélénium			MET-101-6105F	EPA SW-846 3050 & 6020	ICP/MS

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CHAIN OF CUSTODY RECORD

SHIPMENT #18
EBA DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☑ 24 to 48 hours (100 %)
- ☑ 48 to 72 hours (50%)

(SEE BELOW)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:
Company: EBA ENGINEERING
Contact: 4910-123 AVE
Address: EDMONTON AB
DANIELA FELSKE Postal Code: T5V1B4
Phone: 780-451-2121 Fax: 780-454-9688
LSD:
Client Project #: E2210159.001

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: D FELSKE
Email: dfelske@eba.ca
2. Name: B HORNE
Email: bhorne@eba.ca

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	PCB	RUSH 24-48h	RUSH 48-72h	LEACHABLE METALS-TCLP LIST	REGULAR TAT	TOTAL METALS (DCC) IF PCB < 50ppm	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	IEC1-75	SOLID	Aug 12											X		X	X		X		
	IEC1-76	↓	↓											X		X	X		X		
	IEC1-77													X		X	X		X		
	IEC1-78													X		X	X		X		
	WA7-SP52	SOIL												X	X	X	X		X		
	SPILL 7A-WA5													X		X	X		X		
	SPILL 7B-WA5	↓	↓											X		X	X		X		

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE	Aug 13/10		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE 1 of 1

NO: 0097829

AGAT Laboratoires

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CANADA H4S 1V9
TEL (514)337-1000
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http://www.agatlabs.com

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

À L'ATTENTION DE: DANIELA FELSKE

N° DE PROJET: E2211581.001

N° BON DE TRAVAIL: 10M428677

ANALYSE DES SOLS VÉRIFIÉ PAR: Sandra Lalli, chimiste

DATE DU RAPPORT: 2010-08-23

VERSION*: 1

NOMBRE DE PAGES: 6

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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Certificat d'analyse

N° BON DE TRAVAIL: 10M428677

N° DE PROJET: E2211581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

8 métaux + Hg (TC, sol)

DATE DE RÉCEPTION: 2010-08-19

DATE DU RAPPORT: 2010-08-23

						DESCRIPTION D'ÉCHANTILLON:	WA2-SP7	WA2-SP8	WA2-SP9	WA2-BASE4	WA9-BASE1
						MATRICE:	Sol	Sol	Sol	Sol	Sol
						DATE D'ÉCHANTILLONNAGE:	2010-08-17	2010-08-17	2010-08-17	2010-08-17	2010-08-17
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1940674	1940676	1940677	1940682	1940683
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Mercure total	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

						DESCRIPTION D'ÉCHANTILLON:	WA9-BASE2	WA9-BASE3	WA9-BASE4	WA6-SP7	WA6-SP8
						MATRICE:	Sol	Sol	Sol	Sol	Sol
						DATE D'ÉCHANTILLONNAGE:	2010-08-17	2010-08-17	2010-08-17	2010-08-17	2010-08-17
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1940686	1940691	1940694	1940695	1940709
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Mercure total	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Certifié par:



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Certificat d'analyse

N° BON DE TRAVAIL: 10M428677

N° DE PROJET: E2211581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

8 métaux + Hg (TC, sol)

DATE DE RÉCEPTION: 2010-08-19

DATE DU RAPPORT: 2010-08-23

					DESCRIPTION D'ÉCHANTILLON:		WA6-SP9	WA6-SP10	IECI-79
					MATRICE:		Sol	Sol	Waste
					DATE D'ÉCHANTILLONNAGE:		2010-08-17	2010-08-17	2010-08-14
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1940710	1940711	1940713
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	16.2[A-B]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	3.2[A-B]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	465[B-C]
Mercure total	mg/kg	0.2	2	10	50	0.2	<0.2[<A]	<0.2[<A]	<0.2[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	154[A-B]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	19700[>D]

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: A se réfère QC PTC (Critère A), B se réfère QC PTC (Critère B), C se réfère QC PTC (Critère C), D se réfère QC RESC (Annexe 1)

Certifié par:



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AGAT Laboratoires

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificat d'analyse

N° BON DE TRAVAIL: 10M428677

N° DE PROJET: E2211581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

BPC aroclor (sol)

DATE DE RÉCEPTION: 2010-08-19

DATE DU RAPPORT: 2010-08-23

	DESCRIPTION D'ÉCHANTILLON:			WA2-BASE4	WA9-BASE2	WA6-SP7	WA6-SP8	WA6-SP9	WA6-SP10	IECI-79
	MATRICE:			Sol	Sol	Sol	Sol	Sol	Sol	Waste
	DATE D'ÉCHANTILLONNAGE:			2010-08-17	2010-08-17	2010-08-17	2010-08-17	2010-08-17	2010-08-17	2010-08-14
Paramètre	Unités	C / N	LDR	1940682	1940686	1940695	1940709	1940710	1940711	1940713
Aroclor 1242	mg/kg		0.5							
Aroclor 1248	mg/kg		0.5							
Aroclor 1254	mg/kg		0.5							
Aroclor 1260	mg/kg		0.5							
IUPAC #209	%									

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M428677

N° DE PROJET: E2211581.001

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse des Sols

Date du rapport: 2010-08-23

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
8 métaux + Hg (TC, sol)															
Arsenic	820	1940674	< 5.0	< 5.0	0.0	< 5.0	90%	80%	120%	87%	80%	120%	91%	80%	120%
Mercure total	1	1940674	< 0.2	< 0.2	0.0	< 0.2	99%	80%	120%	109%	80%	110%	118%	80%	120%
8 métaux + Hg (TC, sol)															
Cadmium (ICP-OES)	820	1940674	< 0.9	< 0.9	0.0	< 0.9	99%	80%	120%	104%	80%	120%	100%	80%	120%
Chrome (ICP-OES)	820	1940674	< 45	< 45	0.0	< 45	99%	80%	120%	105%	80%	120%	82%	80%	120%
Cobalt (ICP-OES)	820	1940674	< 15	< 15	0.0	< 15	99%	80%	120%	102%	80%	120%	99%	80%	120%
Cuivre (ICP-OES)	820	1940674	< 40	< 40	0.0	< 40	99%	80%	120%	100%	80%	120%	100%	80%	120%
Nickel (ICP-OES)	820	1940674	< 30	< 30	0.0	< 30	95%	80%	120%	106%	80%	120%	91%	80%	120%
Plomb (ICP-OES)	820	1940674	< 30	< 30	0.0	< 30	106%	80%	120%	102%	80%	120%	NA	80%	120%
Zinc (ICP-OES)	820	1940674	< 100	< 100	0.0	< 100	111%	80%	120%	107%	80%	120%	101%	80%	120%

Certifié par:



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Sommaire de méthode

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M428677

N° DE PROJET: E2211581.001

À L'ATTENTION DE: DANIELA FELSKE

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse des Sols					
Arsenic	2010-08-20	2010-08-20	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-08-20	2010-08-23	MET-101-6107	EPA 3050	ICP/OES
Chrome (ICP-OES)	2010-08-20	2010-08-23	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-08-20	2010-08-23	MET-101-6107	EPA 3050	ICP/OES
Cuivre (ICP-OES)	2010-08-20	2010-08-23	MET-101-6107	EPA 3050	ICP/OES
Mercure total	2010-08-23	2010-08-23	MET-101-6101F	EPA 245.5	FIMS
Nickel (ICP-OES)	2010-08-20	2010-08-23	MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)	2010-08-20	2010-08-23	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-08-20	2010-08-23	MET-101-6107	EPA 3050	ICP/OES
Analyse organique de trace					
Aroclor 1242			ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248			ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254			ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260			ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209			ORG-100-5108F		GC/ECD

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SHIPMENT #19

AGAT Laboratories

CHAIN OF CUSTODY RECORD

5835 Coopers Avenue
Mississauga, Ontario; L4Z 1Y2
Phone: 905-712-5100; Fax: 905-712-5122
Toll free: 800-856-6261
www.agatlabs.com
http://webearth.agatlabs.com

LABORATORY USE ONLY
Arrival Condition: ☐ Good ☐ Poor (complete "notes")
Arrival Temperature: _____ AGAT WO #: _____
Notes: _____

Client Information
Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14940-123 AVE
EDMONTON, AB
Phone: 780-451-2121 Fax: 780-454-5688
Project: E22415810 PO: _____
AGAT Quotation #: EBA-DCC
Please note, if quotation number is not provided, client will be billed full price for analysis.

Invoice To Same as Above? Yes/No (circle)
Company: _____
Contact: _____
Address: _____
Phone: _____ Fax: _____

Report Information - reports to be sent to:
1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: BILL HORNE
Email: bhorne@eba.ca

Regulatory Requirements
☐ Regulation 153 Table _____ (Indicate one) ☐ Ind/Com ☐ Res/Park ☐ Agriculture
Soil Texture (check one) ☐ Coarse ☐ Med/Fine
☐ Sewer Use Region _____ (Indicate one) ☐ Sanitary ☐ Storm
☐ Regulation 558 ☑ CCME ☐ Other (indicate) _____ ☑ DCC METALS
☐ Prov. Water Quality Objectives (PWQO)
☐ Nutrient Management Act (NMA)

Is this a drinking water sample (potable water intended for human consumption)? ☐ Yes ☐ No (If "Yes" please use the Drinking Water Chain of Custody Record)

Report Format
☐ Single Sample per page
☑ Multiple Samples per page
☐ Results by fax

Turnaround Time (TAT) Required*
Regular TAT:
☐ 5 to 7 Working Days
Rush TAT: (please provide prior notification)
Rush Surcharges Apply
☒ ~~3 to 5 Working Days~~ 48-72 hr
☐ 2 Working Days
☐ 1 Working Day
OR
DATE REQUIRED (Rush surcharges may apply): _____
*TAT is exclusive of weekends and statutory holidays

Sample Identification	Date Sampled	Time Sampled	Sample Matrix	# of Containers	Comments Site/ Sample Information	Metals and Inorganics	Metal Scan (excl. Hg, B, Cr6)	CCME Fractions 1 to 4	VOCs	PAHs	PCBs	TCLP Metals/Inorganics	TCLP	Storm Sewer Use	Sanitary Sewer Use	F2-F4	DCC METALS					LABORATORY USE ONLY LAB SAMPLE ID
BL2A-POST	Aug 17		SOIL	2												X						
BL2C-POST																X						
BL2E-POST																X						
BL2K-POST																X						
BL2L-POST																X						
BL2M-POST																X						
BL2N-POST																X						
BL2O-POST																X						
BL2P-POST																X						
WA2-SP7																X	X					
WA2-SP8																X	X					
WA2-SP9																X	X					
WA2-base1																X						
WA2-base2																X						

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
D FELSKE	Aug 18/10 7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy – Client
Yellow + Golden Copy - AGAT
White Copy - AGAT

NO:

Document ID: DIV-78-1511.004 Date Issued: September 22, 2009

SHIPMENT #19

AGAT Laboratories

CHAIN OF CUSTODY RECORD

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Phone: 905-712-5100; Fax: 905-712-5122
Toll free: 800-856-6261
www.agatlabs.com
http://webearth.agatlabs.com

LABORATORY USE ONLY
Arrival Condition: ☐ Good ☐ Poor (complete "notes")
Arrival Temperature: _____ AGAT WO #: _____
Notes: _____

Client Information

Company: _____
Contact: _____
Address: _____
_____
Phone: _____ Fax: _____
Project: _____ PO: _____
AGAT Quotation #: _____
Please note, if quotation number is not provided, client will be billed full price for analysis.

Invoice To Same as Above? Yes/No (circle)
Company: _____
Contact: _____
Address: _____
_____
Phone: _____ Fax: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Regulatory Requirements

☐ Regulation 153 Table _____ (Indicate one)
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture (check one)
☐ Coarse ☐ Med/Fine
☐ Sewer Use
Region _____ (Indicate one)
☐ Sanitary
☐ Storm
☐ Regulation 558
☑ CCME
☐ Other (indicate) _____
☐ Prov. Water Quality Objectives (PWQO)
☐ Nutrient Management Act (NMA)

Is this a drinking water sample (potable water intended for human consumption)?
☐ Yes ☐ No (If "Yes" please use the Drinking Water Chain of Custody Record)

Report Format

☐ Single Sample per page
☐ Multiple Samples per page
☐ Results by fax

Turnaround Time (TAT) Required*

Regular TAT:
☐ 5 to 7 Working Days
Rush TAT: (please provide prior notification)
Rush Surcharges Apply
☒ ~~3 to 5 Working Days~~ A8-72
☐ 2 Working Days
☐ 1 Working Day
OR
DATE REQUIRED (Rush surcharges may apply): _____

*TAT is exclusive of weekends and statutory holidays

Sample Identification	Date Sampled	Time Sampled	Sample Matrix	# of Containers	Comments Site/ Sample Information	Metals and Inorganics	Metal Scan (excl. Hg, B, Cr6)	CCME Fractions 1 to 4	VOCs	PAHs	PCBs	TCLP Metals/Inorganics	TCLP	Storm Sewer Use	Sanitary Sewer Use	METALS (DCC)	PCB	F2-F4				LABORATORY USE ONLY LAB SAMPLE ID
WA2-base3	Aug 17		SOIL	2														X				
WA2-base4				2												X	X	X				
WA9-base1				1												X						
WA9-base2				1												X	X					
WA9-base3				1												X						
WA9-base4				1												X						
WA6-SP7				1	WATCH FOR PIECES OF METAL											X	X					
WA6-SP8				1												X	X					
WA6-SP9				1												X	X					
WA6-SP10				1												X	X					
IEC1-79	Aug 14		WASTE	1												X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
D FELSKE Aug 18/10	7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy – Client
Yellow + Golden Copy - AGAT
White Copy - AGAT

PAGE 2 of 2
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http://www.agatlabs.com

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

À L'ATTENTION DE: Daniela Felske

N° DE PROJET: E22101581.001

N° BON DE TRAVAIL: 10M430462

ORGANIQUE DE TRACE VÉRIFIÉ PAR: Philippe Morneau, chimiste

ANALYSE DE L'EAU VÉRIFIÉ PAR: Sandra Lalli, chimiste

DATE DU RAPPORT: 2010-09-03

VERSION*: 3

NOMBRE DE PAGES: 9

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES
VERSION 3: Nouvelle version, 2010-11-10.

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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Certificat d'analyse

N° BON DE TRAVAIL: 10M430462

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

BPC aroclor (eau)

DATE DE RÉCEPTION: 2010-08-25

DATE DU RAPPORT: 2010-09-03

				DESCRIPTION D'ÉCHANTILLON:	N. WELL	S. WELL	W. WELL
				MATRICE:	Eau	Eau	Eau
				DATE D'ÉCHANTILLONNAGE:	2010-08-21	2010-08-21	2010-08-21
Paramètre	Unités	C / N	LDR		1957176	1957192	1957198
Aroclor 1242	µg/L		0.2		<0.2	<0.2	<0.2
Aroclor 1248	µg/L		0.2		<0.2	<0.2	<0.2
Aroclor 1254	µg/L		0.2		<0.2	<0.2	<0.2
Aroclor 1260	µg/L		0.2		<0.2	<0.2	<0.2
IUPAC #209	%				84	86	93

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

1957176 La limite de détection a été augmentée car le volume est de 265 mL et la limite de détection est établie sur un volume de 800 mL.

1957192 La limite de détection a été augmentée car le volume est de 260 mL et la limite de détection est établie sur un volume de 800 mL.

1957198 La limite de détection a été augmentée car le volume est de 240 mL et la limite de détection est établie sur un volume de 800 mL.

Certifié par:

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Certificat d'analyse

N° BON DE TRAVAIL: 10M430462

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (BTEX/F1) in Water

DATE DE RÉCEPTION: 2010-08-25

DATE DU RAPPORT: 2010-09-03

	DESCRIPTION D'ÉCHANTILLON:			N. WELL	S. WELL	W. WELL
	MATRICE:			Eau	Eau	Eau
	DATE D'ÉCHANTILLONNAGE:			2010-08-21	2010-08-21	2010-08-21
Paramètre	Unités	C / N	LDR	1957176	1957192	1957198
Benzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Toluene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	mg/L		0.0005	<0.0005	<0.0005	<0.0005
Xylenes	mg/L		0.0005	<0.0005	<0.0005	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1	<0.1	<0.1
Surrogate	Unités	Limites				
Toluene-d8 (BTEX)	%	50-150		98	94	98

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

1957176-1957198 The F1 (C6 - C10) fraction is determined by integrating the FID chromatogram from the beginning of the n-C6 peak to the apex of the last n-C10 peak.
The C6 - C10 fraction is calculated from the FID toluene response factor.
Quality control for the calibration follows the guidelines set out in the CCME Contaminated Sites Method for Soils.
The (F1 minus BTEX) has been calculated by subtracting the BTEX concentration from Fraction 1.

Certifié par:

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NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyses inorganiques

DATE DE RÉCEPTION: 2010-08-25

DATE DU RAPPORT: 2010-09-03

Paramètre	Unités	C / N	LDR	DESCRIPTION D'ÉCHANTILLON: N. WELL MATRICE: Eau DATE D'ÉCHANTILLONNAGE: 2010-08-21 1957176	S. WELL Eau 2010-08-21 1957192	W. WELL Eau 2010-08-21 1957198
pH	pH		NA	0.77	7.89	8.16
Calcium	µg/L		2000	103000	15600	43400
Chlorures	mg/L		1	439	25	678
Conductivité	umhos/cm		10	44230	230	2820
Dureté	mg/L		10	669	58	286
Fer	µg/L		300	31800	<300	412
Magnésium	µg/L		2000	62300	4500	40900
Manganèse	µg/L		5	5630	12	82
Nitrates	mg/L		0.035	1380	0.133	<0.035
Nitrites (ES et EP)	mg/L		0.02	<0.02	<0.02	<0.02
Potassium	µg/L		1000	16200	2460	31600
Sodium	µg/L		2000	123000	19000	436000
Sulfates (ES et EP)	mg/L		2	19	20	211
Fluorures	mg/L		0.1	<0.1	<0.1	0.1

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

1957198 On obtient deux valeurs différentes pour Mn: 52 ug/L et 82 ug/L. L'échantillon contient des particules ce qui le rend non-homogène.

Certifié par:



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Certificat d'analyse

N° BON DE TRAVAIL: 10M430462

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Métaux dissous

DATE DE RÉCEPTION: 2010-08-25

DATE DU RAPPORT: 2010-09-03

Paramètre	Unités	C / N	LDR	DESCRIPTION D'ÉCHANTILLON: N. WELL MATRICE: Eau DATE D'ÉCHANTILLONNAGE: 2010-08-21 1957176	S. WELL Eau 2010-08-21 1957192	W. WELL Eau 2010-08-21 1957198
Arsenic dissous	µg/L		1.0	3.5	<1.0	5.6
Cadmium dissous	µg/L		0.8	<0.8	<0.8	<0.8
Chrome dissous	µg/L		10	<10	<10	<10
Cobalt dissous	µg/L		20	34	<20	<20
Cuivre dissous	µg/L		3	12	<3	3
Nickel dissous	µg/L		2.0	44.0	<2.0	3.8
Plomb dissous	µg/L		1.0	<1.0	<1.0	<1.0
Zinc dissous	µg/L		3.0	338	<3.0	<3.0

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:



La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDEP. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDEP.

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AGAT Laboratoires

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificat d'analyse

N° BON DE TRAVAIL: 10M430462

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Métaux totaux

DATE DE RÉCEPTION: 2010-08-25

DATE DU RAPPORT: 2010-09-03

Paramètre	Unités	C / N	LDR	DESCRIPTION D'ÉCHANTILLON: N. WELL MATRICE: Eau DATE D'ÉCHANTILLONNAGE: 2010-08-21 1957176	S. WELL Eau 2010-08-21 1957192	W. WELL Eau 2010-08-21 1957198
Arsenic	µg/L		1.0	10.2	1.4	8.9
Cadmium	µg/L		0.8	3.8	<0.8	<0.8
Chrome	µg/L		10	71	71	226
Cobalt	µg/L		20	41	<20	<20
Cuivre	µg/L		3.0	33.8	16.0	20.1
Nickel	µg/L		2.0	106	222	197
Plomb	µg/L		1.0	10.9	3.0	19.2
Zinc	µg/L		3.0	855	28.2	50.6

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:



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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M430462

N° DE PROJET: E22101581.001

À L'ATTENTION DE: Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse organique de trace

Date du rapport: 2010-09-03			DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
Petroleum Hydrocarbons (BTEX/F1) in Water															
Benzene	3035	1968318	<0.0005	<0.0005	0.0	< 0.0005	111%	80%	120%	106%	80%	120%	106%	70%	130%
Toluene	3035	1968318	<0.0005	<0.0005	0.0	< 0.0005	114%	80%	120%	106%	80%	120%	106%	70%	130%
Ethylbenzene	3035	1968318	<0.0005	<0.0005	0.0	< 0.0005	108%	80%	120%	105%	80%	120%	105%	70%	130%
Xylenes	3035	1968318	<0.0005	<0.0005	0.0	< 0.0005	102%	80%	120%	100%	80%	120%	100%	70%	130%
C6 - C10 (F1)	3035	1968318	<0.1	<0.1	0.0	< 0.1	112%	80%	120%	119%	80%	120%	123%	70%	130%
BPC aroclor (eau)															
Aroclor 1242	1	MR	NA	NA	0.0	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	MR	NA	NA	0.0	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	MR	0.5	0.6	18.2	< 0.1	110%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	MR	NA	NA	0.0	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	MR	70	84	18.2	71	70%	40%	140%	NA	40%	140%	NA	40%	140%

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M430462

N° DE PROJET: E22101581.001

À L'ATTENTION DE: Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse de l'eau

Date du rapport: 2010-09-03

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
Métaux totaux															
Arsenic	1	NA	NA	NA	0.0	< 1.0	97%	80%	120%	98%	90%	110%	103%	80%	120%
Cadmium	1	NA	NA	NA	0.0	< 0.8	103%	80%	120%	97%	80%	120%	108%	80%	120%
Chrome	1	NA	NA	NA	0.0	< 10	103%	80%	120%	95%	80%	120%	110%	80%	120%
Cobalt	1	NA	NA	NA	0.0	< 20	109%	80%	120%	100%	80%	120%	108%	80%	120%
Cuivre	1	NA	NA	NA	0.0	< 3.0	108%	80%	120%	107%	80%	120%	110%	80%	120%
Nickel	1	NA	NA	NA	0.0	< 2.0	115%	80%	120%	101%	80%	120%	110%	80%	120%
Plomb	1	NA	NA	NA	0.0	< 1.0	101%	80%	120%	100%	80%	120%	103%	80%	120%
Zinc	1	NA	NA	NA	0.0	< 3.0	106%	80%	120%	101%	90%	110%	116%	80%	120%
Métaux dissous															
Arsenic dissous	1	NA	NA	NA	0.0	< 1.0	97%	80%	120%	116%	80%	120%	90%	80%	120%
Cadmium dissous	830	NA	NA	NA	0.0	< 0.8	93%	80%	120%	92%	80%	120%	98%	80%	120%
Chrome dissous	830	NA	NA	NA	0.0	< 10	95%	80%	120%	96%	80%	120%	93%	80%	120%
Cobalt dissous	830	NA	NA	NA	0.0	< 20	102%	80%	120%	97%	80%	120%	98%	80%	120%
Cuivre dissous	830	NA	NA	NA	0.0	< 3	102%	80%	120%	102%	80%	120%	92%	80%	120%
Nickel dissous	830	NA	NA	NA	0.0	< 2.0	102%	80%	120%	100%	80%	120%	95%	80%	120%
Plomb dissous	830	NA	NA	NA	0.0	< 1.0	97%	80%	120%	96%	80%	120%	93%	80%	120%
Zinc dissous	1	NA	NA	NA	0.0	< 3.0	104%	80%	120%	102%	90%	110%	99%	80%	120%
Analyses inorganiques															
pH	1	1957176	0.77	0.77	0.0	NA	97%	80%	120%	100%	90%	110%	NA	0%	0%
Calcium	1108	1957198	43400	43500	0.2	< 2000	104%	80%	120%	97%	80%	120%	101%	80%	120%
Chlorures	1	NA	NA	NA	0.0	< 1	103%	80%	120%	97%	90%	110%	99%	80%	120%
Conductivité	1	NA	NA	NA	0.0	< 10	99%	90%	110%	99%	90%	110%	NA	0%	0%
Fer	1108	1957198	<300	< 300	0.0	< 300	96%	80%	120%	99%	80%	120%	NA	80%	120%
Magnésium	1108	1957198	40900	41200	0.7	< 2000	101%	80%	120%	96%	80%	120%	101%	80%	120%
Manganèse	1108	NA	NA	NA	0.0	< 5	101%	80%	120%	102%	80%	120%	84%	80%	120%
Nitrates	1	NA	NA	NA	0.0	< 0.035	98%	80%	120%	100%	80%	120%	99%	80%	120%
Nitrites (ES et EP)	1	NA	NA	NA	0.0	< 0.02	NA	80%	120%	97%	80%	120%	96%	80%	120%
Potassium	1108	1957198	31600	32300	2.2	< 1000	101%	80%	120%	97%	80%	120%	102%	80%	120%
Sodium	1108	1957198	436000	439000	0.7	< 2000	99%	80%	120%	94%	90%	110%	101%	80%	120%
Sulfates (ES et EP)	1	NA	NA	NA	0.0	< 2	100%	80%	120%	103%	90%	110%	101%	80%	120%
Fluorures	1	NA	NA	NA	0.0	< 0.1	99%	80%	120%	100%	90%	110%	99%	80%	120%

Certifié par:



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Sommaire de méthode

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD
N° BON DE TRAVAIL: 10M430462
N° DE PROJET: E22101581.001
À L'ATTENTION DE: Daniela Felske
PRÉLEVÉ PAR:
LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse organique de trace					
Aroclor 1242	2010-08-31	2010-08-31	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1248	2010-08-31	2010-08-31	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1254	2010-08-31	2010-08-31	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1260	2010-08-31	2010-08-31	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
IUPAC #209	2010-08-31	2010-08-31	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Benzene	2010-09-02	2010-09-03	TO 0540	EPA SW-846 8260	GC/MS
Toluene	2010-09-02	2010-09-03	TO 0540	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-09-02	2010-09-03	TO 0540	EPA SW-846 8260	GC/MS
Xylenes	2010-09-02	2010-09-03	TO 0540	EPA SW-846 8260	GC/MS
C6 - C10 (F1)	2010-09-02	2010-09-03	TO 0540	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-09-02	2010-09-03	TO 0540	CCME Tier 1 Method	GC/FID
Toluene-d8 (BTEX)	2010-09-02	2010-09-03	TO 0540	EPA SW-846 8260	GC/MS
Analyse de l'eau					
pH	2010-08-30	2010-08-30	INOR-101-6021F	SM 4500-H+ B 21éd. 2005	PC TITRATE
Calcium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6010	ICP-OES
Conductivité	2010-11-05	2010-11-05	INOR-101-6016F	MA.115-Cond. 1.0 r3	EC METER
Dureté	2010-11-08	2010-11-08	MET-101-6107F	EPA 6010	ICP-OES
Chlorures	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Fer	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Magnésium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Fluorures	2010-11-05	2010-11-08	INOR-101-6004	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Manganèse	2010-11-08	2010-11-08	MET-101-6105F	EPA SW-846 6020	ICP-MS
Nitrates	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Nitrites (ES et EP)	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Potassium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Sodium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Sulfates (ES et EP)	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Arsenic dissous	2010-08-30	2010-08-30	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP-MS
Cadmium dissous	2010-08-30	2010-08-30	MET-101-6105	EPA-SW 846 Met. 3050 et 6020	ICP/MS
Chrome dissous	2010-08-30	2010-08-30	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Cobalt dissous	2010-08-30	2010-08-30	MET-101-6105	EPA SW Met. 3050 et 6020	ICP-MS
Cuivre dissous	2010-08-30	2010-08-30	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP-MS
Nickel dissous	2010-08-30	2010-08-30	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Plomb dissous	2010-08-30	2010-08-30	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Zinc dissous	2010-08-30	2010-08-30	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP-MS
Arsenic	2010-08-31	2010-08-31	MET-101-6105F	EPA SW-846 6020	ICP-MS
Cadmium	2010-08-31	2010-08-31	MET-101-6105F	EPA SW-846 6020	ICP/MS
Chrome	2010-08-31	2010-09-01	MET-101-6104F	EPA SW-846 6020	ICP/MS
Cobalt	2010-08-31	2010-08-31	MET-101-6105F	EPA SW-846 6020	ICP-MS
Cuivre	2010-08-31	2010-08-31	MET-101-6105F	EPA SW-846 6020	ICP/MS
Nickel	2010-08-31	2010-09-01	MET-101-6105F	EPA SW-846 6020	ICP/MS
Plomb	2010-08-31	2010-08-31	MET-101-6105F	EPA SW-846 6020	ICP/MS
Zinc	2010-08-31	2010-08-31	MET-101-6105F	EPA SW-846 6020	ICP-MS

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CHAIN OF CUSTODY RECORD

SHIPMENT 20

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- [x] **Less than 24 hours (200%)** SEE BELOW
- [ ] **24 to 48 hours (100 %)**
- [ ] **48 to 72 hours (50%)**

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 14911-123 AVE
EDMONTON Postal Code: AB T5L 1B4
Phone: 780-451-2721 Fax: 780-454-5689
LSD:
Client Project #: E22101SB1.001

Report Information - reports to be sent to:

1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: BILL HORNE
Email: bhorne@eba.ca

Report Format

- [ ] Single Sample per page
- [x] Multiple Samples per page
- [x] Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):

- ❑ **CCME**
  - ❑ Agricultural
  - ❑ Residential/Park
  - ❑ Commercial
  - ❑ Industrial
  - ❑ Drinking Water
  - ❑ FWAL
- ❑ **AB Tier 1**
  - ❑ Natural Area
  - ❑ Agricultural
  - ❑ Residential/Park
  - ❑ Commercial
  - ❑ Industrial
- ❑ **Other**
  - ❑ BC CSR
  - ❑ D50 (Drilling)
  - ❑ SPIGEC

BC Metals

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	BTX, F1	PCB	METALS DCC (TOTAL + DISSOLVED)	ROUTINE < 24 HR RUSH	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	N. WELL	W	AUG 21		6									X	X	X	X		
	S. WELL	W			6									X	X	X	X		
	W. WELL	W			6									X	X	X	X		
	WA6-SP11	S	AUG 16		1											X	X		
	WA6-SP12				1											X	X		
	WA6-SP13				1										X	X	X		
	WA6-SP14				1											X	X		
	WA6-SP15				1										X	X	X		
	WA6-SP16				1											X	X		
	WA6-SP17				1											X	X		
	WA6-SP18				1										X	X	X		

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
DFELSKE	AUG 22 2010 7am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

PAGE 1 of 1

NO: 0097846

AGAT Laboratoires

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NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD
14940 - 123 AVENUE
EDMONTON, AB T5V1B4

À L'ATTENTION DE: Michel Hebert / Daniela Felske

N° DE PROJET: E22101581.001

N° BON DE TRAVAIL: 10M431960

ANALYSE DES SOLS VÉRIFIÉ PAR: Corina Miron, Chimiste

ORGANIQUE DE TRACE VÉRIFIÉ PAR: Philippe Morneau, chimiste

DATE DU RAPPORT: 2010-09-08

VERSION*: 1

NOMBRE DE PAGES: 8

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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Certificat d'analyse

N° BON DE TRAVAIL: 10M431960

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert / Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Métaux

DATE DE RÉCEPTION: 2010-08-31

DATE DU RAPPORT: 2010-09-08

						DESCRIPTION D'ÉCHANTILLON:	BL6-1 POST	BL6-2 POST	BL6-3 POST	BL6-4 POST	BL6-5 POST
						MATRICE:	Sol	Sol	Sol	Sol	Sol
						DATE D'ÉCHANTILLONNAGE:	2010-08-28	2010-08-28	2010-08-28	2010-08-28	2010-08-28
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1967515	1967516	1967517	1967519	1967520
Arsenic	mg/kg	6	30	50	250	5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9	<0.9	<0.9	<0.9	<0.9
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45	<45	<45	<45	<45
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15	<15	<15	<15	<15
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40	<40	<40	<40	<40
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30	<30	<30	<30	<30
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30	<30	<30	<30	<30
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100	<100	<100	<100	<100
Mercure total	mg/kg	0.2	2	10	50	0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: A se réfère QC PTC (Critère A), B se réfère QC PTC (Critère B), C se réfère QC PTC (Critère C), D se réfère QC RESC (Annexe 1)

Certifié par:

La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDEP. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDEP.

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AGAT Laboratoires

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificat d'analyse

N° BON DE TRAVAIL: 10M431960

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert / Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

BPC aroclor (sol)

DATE DE RÉCEPTION: 2010-08-31

DATE DU RAPPORT: 2010-09-08

				DESCRIPTION D'ÉCHANTILLON:	BL6-1 POST	BL6-2 POST	BL6-3 POST	BL6-4 POST	BL6-5 POST
				MATRICE:	Sol	Sol	Sol	Sol	Sol
				DATE D'ÉCHANTILLONNAGE:	2010-08-28	2010-08-28	2010-08-28	2010-08-28	2010-08-28
Paramètre	Unités	C / N	LDR		1967515	1967516	1967517	1967519	1967520
Aroclor 1242	mg/kg		0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5		<0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%				105	124	90	NA	119

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

1967519 Le pourcentage de récupération est non-applicable en raison d'une forte interférence de matrice.

Certifié par:

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Certificat d'analyse

N° BON DE TRAVAIL: 10M431960

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert / Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE DE RÉCEPTION: 2010-08-31

DATE DU RAPPORT: 2010-09-08

DESCRIPTION D'ÉCHANTILLON:				BL3-1 POST	BL3-2 POST	BL3-3 POST	BL3-4 POST	BL3-5 POST	BL6-1 POST	BL6-2 POST	BL6-3 POST
MATRICE:				Sol	Sol	Sol	Sol	Sol	Sol	Sol	Sol
DATE D'ÉCHANTILLONNAGE:				2010-08-28	2010-08-28	2010-08-28	2010-08-28	2010-08-28	2010-08-28	2010-08-28	2010-08-28
Paramètre	Unités	C / N	LDR	1967510	1967511	1967512	1967513	1967514	1967515	1967516	1967517
C10 - C16 (F2)	mg/kg	150	10	37	32	27	26	26	86	2350	27
C16 - C34 (F3)	mg/kg	1300	10	174	207	49	51	51	12600	245	47
C34 - C50 (F4)	mg/kg	5600	10	65	110	25	23	25	10400	35	22
Moisture Content	%		1	6	5	6	7	6	2	10	4
Surrogate	Unités	Limites									
o-Terphenyl (F2-F4)	%	50-150		117	112	112	117	115	110	114	112

DESCRIPTION D'ÉCHANTILLON:				BL6-4 POST	BL6-5 POST
MATRICE:				Sol	Sol
DATE D'ÉCHANTILLONNAGE:				2010-08-28	2010-08-28
Paramètre	Unités	C / N	LDR	1967519	1967520
C10 - C16 (F2)	mg/kg	150	10	67	53
C16 - C34 (F3)	mg/kg	1300	10	48	53
C34 - C50 (F4)	mg/kg	5600	10	20	20
Moisture Content	%		1	5	6
Surrogate	Unités	Limites			
o-Terphenyl (F2-F4)	%	50-150		113	115

Certifié par:

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Certificat d'analyse

N° BON DE TRAVAIL: 10M431960

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert / Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE DE RÉCEPTION: 2010-08-31

DATE DU RAPPORT: 2010-09-08

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: se réfère CCME (Ag,F)

1967510-1967520 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

N° BON DE TRAVAIL: 10M431960

N° DE PROJET: E22101581.001

À L'ATTENTION DE: Michel Hebert / Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse des Sols

Date du rapport: 2010-09-08			DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
Métaux															
Arsenic	907	NA	NA	NA	0.0	< 5.0	97%	80%	120%	92%	80%	120%	87%	80%	120%
Cadmium (ICP-OES)	907	NA	NA	NA	0.0	< 0.9	97%	80%	120%	104%	80%	120%	107%	80%	120%
Chrome (ICP-OES)	907	NA	NA	NA	0.0	< 45	98%	80%	120%	104%	80%	120%	100%	80%	120%
Cobalt (ICP-OES)	907	NA	NA	NA	0.0	< 15	95%	80%	120%	102%	80%	120%	98%	80%	120%
Cuivre (ICP-OES)	907	NA	NA	NA	0.0	< 40	97%	80%	120%	101%	80%	120%	103%	80%	120%
Nickel (ICP-OES)	907	NA	NA	NA	0.0	< 30	102%	80%	120%	110%	80%	120%	109%	80%	120%
Plomb (ICP-OES)	907	NA	NA	NA	0.0	< 30	96%	80%	120%	105%	80%	120%	97%	80%	120%
Zinc (ICP-OES)	907	NA	NA	NA	0.0	< 100	95%	80%	120%	108%	80%	120%	93%	80%	120%
Mercure total	1	NA	NA	NA	0.0	< 0.2	115%	80%	120%	101%	80%	110%	100%	80%	120%

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

N° BON DE TRAVAIL: 10M431960

N° DE PROJET: E22101581.001

À L'ATTENTION DE: Michel Hebert / Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse organique de trace

Date du rapport: 2010-09-08			DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	1107	1972396	31	22	34,0%	< 10	97%	80%	120%	107%	80%	120%	106%	60%	140%
C16 - C34 (F3)	1107	1972396	113	85	28,0%	< 10	97%	80%	120%	114%	80%	120%	112%	60%	140%
C34 - C50 (F4)	1107	1972396	64	56	13,0%	< 10	97%	80%	120%	117%	80%	120%	115%	60%	140%
BPC aroclor (sol)															
Aroclor 1242	1	NA	NA	NA	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	NA	NA	NA	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	NA	NA	NA	0.0	< 0.5	83%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	NA	NA	NA	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	NA	NA	NA	0.0	97	89%	40%	140%	NA	40%	140%	NA	40%	140%

Certifié par:

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Sommaire de méthode

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

N° BON DE TRAVAIL: 10M431960

N° DE PROJET: E22101581.001

À L'ATTENTION DE: Michel Hebert / Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse des Sols					
Arsenic	2010-09-07	2010-09-07	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-09-07	2010-09-07	MET-101-6107	EPA 3050	ICP/OES
Chrome (ICP-OES)	2010-09-07	2010-09-07	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-09-07	2010-09-07	MET-101-6107	EPA 3050	ICP/OES
Cuivre (ICP-OES)	2010-09-07	2010-09-07	MET-101-6107	EPA 3050	ICP/OES
Nickel (ICP-OES)	2010-09-07	2010-09-07	MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)	2010-09-07	2010-09-07	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-09-07	2010-09-07	MET-101-6107	EPA 3050	ICP/OES
Mercure total	2010-09-07	2010-09-07	MET-101-6101F	EPA 245.5	FIMS
Analyse organique de trace					
Aroclor 1242	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-09-07	2010-09-07	ORG-100-5108F		GC/ECD
C10 - C16 (F2)	2010-09-07	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-09-07	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-09-07	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-09-07	2010-09-09	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-09-07	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID

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CHAIN OF CUSTODY RECORD

Shipment # 21

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:
Company: EBA Engineering
Contact: Michel Hebert, Daniela Felske
Address: 14920 - 121 Ave
Edmonton, AB Postal Code: T5V 1B4
Phone: 780-451-2121 Fax: 780-454-5658
LSD:
Client Project #: F22101581.001

Report Information - reports to be sent to:
1. Name: Michel Hebert
Email: mhebert@eba.ca
2. Name: Daniela Felske
Email: dfelske@eba.ca

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	CCME VOC's	F2 to F4 Hydrocarbons	DCC Metals	PCB - Total		HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	BA4-Ext SP1A	Soil	Aug 28/14:00	RUSH	2									X	X					
	BA4-Ext SP1B		Aug 28/14:10	RUSH	2									X	X					
	BL2-E POST		Aug 28/14:20	~~Regular TAT~~ RUSH	2										X					
	BL2-K POST		Aug 28/14:30	RUSH	2										X					
	BL2-M POST		Aug 28/14:40	RUSH	2										X					
	BL3-1 POST		Aug 28/15:00	Regular TAT	2										X					
	BL3-2 POST		Aug 28/15:10		2										X					
	BL3-3 POST		Aug 28/15:20		2										X					
	BL3-4 POST		Aug 28/15:30		2										X					
	BL3-5 POST		Aug 28/15:40		2										X					
	BL6-1 POST		Aug 28/16:00		P/B										X	X	X			
	BL6-2 POST		Aug 28/16:10		P/B										X	X	X			

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Hebert	Aug 29, 2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097859

The DATA Group of Companies (403) 272-7440 S6026812 QXP

CHAIN OF CUSTODY RECORD

Shipment #21

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
LSD: _____
Client Project #: _____

Page as Same

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Report Information - reports to be sent to:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Report Format

- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F2 to F4	DCC Metals	PCB - Total			HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	BL6-3 POST	Soil	Aug28/16:20	Regular TAT	1B									X	X	X				
	BL6-4 POST	↓	Aug28/16:30	↓	1B									X	X	X				
	BL6-5 POST	✓	Aug28/16:40	↓	1B									X	X	X			.	

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Mallet	Aug 29, 2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

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NO: 0097858

The DATA Group of Companies (403) 272-7440 S6026812.QXP

AGAT Laboratoires

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

À L'ATTENTION DE: MICHEL HEBERT/D. Felske

N° DE PROJET: E22101581.001

N° BON DE TRAVAIL: 10M432985

ANALYSE DES SOLS VÉRIFIÉ PAR: Sandra Lalli, chimiste

ORGANIQUE DE TRACE VÉRIFIÉ PAR: Philippe Morneau, chimiste

DATE DU RAPPORT: 2010-09-08

VERSION*: 1

NOMBRE DE PAGES: 7

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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AGAT Laboratoires

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Certificat d'analyse

N° BON DE TRAVAIL: 10M432985

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: MICHEL HEBERT/D. Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Métaux

DATE DE RÉCEPTION: 2010-09-03

DATE DU RAPPORT: 2010-09-08

					DESCRIPTION D'ÉCHANTILLON:		WA11-1	WA11-2	WA11-3	WA11-4
						MATRICE:	Sol	Sol	Sol	Sol
						DATE D'ÉCHANTILLONNAGE:	2010-08-31	2010-08-31	2010-08-31	2010-08-31
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1973962	1973970	1973974	1973975
Arsenic	mg/kg	6	30	50	250	5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9	<0.9	<0.9	<0.9
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45	<45	<45	<45
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15	<15	<15	<15
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40	<40	<40	<40
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30	<30	<30	<30
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30	<30	<30	<30
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100	<100	<100	<100
Mercure total	mg/kg	0.2	2	10	50	0.2	<0.2	<0.2	<0.2	<0.2

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: A se réfère QC PTC (Critère A), B se réfère QC PTC (Critère B), C se réfère QC PTC (Critère C), D se réfère QC RESC (Annexe 1)

Certifié par:

CHIMISTE Sandra Lalli 1999-046 QUÉBEC

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Certificat d'analyse

N° BON DE TRAVAIL: 10M432985

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: MICHEL HEBERT/D. Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

BPC aroclor (sol)

DATE DE RÉCEPTION: 2010-09-03

DATE DU RAPPORT: 2010-09-08

DESCRIPTION D'ÉCHANTILLON:				WA11-1	WA11-2	WA11-3	WA11-4
MATRICE:				Sol	Sol	Sol	Sol
DATE D'ÉCHANTILLONNAGE:				2010-08-31	2010-08-31	2010-08-31	2010-08-31
Paramètre	Unités	C / N	LDR	1973962	1973970	1973974	1973975
Aroclor 1242	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5
IUPAC #209	%			130	94	107	101

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:

La procédure des Laboratoires AGAT concernant les signatures et les signataires se conforme strictement aux exigences d'accréditation ISO 17025:2005 comme le requiert, lorsque applicable, CALA, CCN et MDDEP. Toutes les signatures sur les certificats d'AGAT sont protégées par des mots de passe et les signataires rencontrent les exigences des domaines d'accréditation ainsi que les exigences régionales approuvées par CALA, CCN et MDDEP.

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Certificat d'analyse

N° BON DE TRAVAIL: 10M432985

N° DE PROJET: E22101581.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: MICHEL HEBERT/D. Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE DE RÉCEPTION: 2010-09-03

DATE DU RAPPORT: 2010-09-08

	DESCRIPTION D'ÉCHANTILLON:			WA11-1	WA11-2	WA11-3	WA11-4
	MATRICE:			Sol	Sol	Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-08-31	2010-08-31	2010-08-31	2010-08-31
Paramètre	Unités	C / N	LDR	1973962	1973970	1973974	1973975
C10 - C16 (F2)	mg/kg	150	10	<10	<10	<10	<10
C16 - C34 (F3)	mg/kg	1300	10	20	41	11	23
C34 - C50 (F4)	mg/kg	5600	10	<10	20	<10	<10
Moisture Content	%		1	5	5	4	8
Surrogate	Unités	Limites					
o-Terphenyl (F2-F4)	%	50-150		97	96	99	97

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: se réfère CCME (Ag,F)

1973962-1973975 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certifié par:

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M432985

N° DE PROJET: E22101581.001

À L'ATTENTION DE: MICHEL HEBERT/D. Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse des Sols

Date du rapport: 2010-09-08

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
Métaux															
Arsenic	908	1973962	< 5.0	< 5.0	0.0	< 5.0	100%	80%	120%	100%	80%	120%	99%	80%	120%
Cadmium (ICP-OES)	908	1973962	<0.9	<0.9	0.0	< 0.9	111.7	80%	120%	105.5	80%	120%	109.1	80%	120%
Chrome (ICP-OES)	908	1973962	<45	<45	0.0	< 45	106.2	80%	120%	103.1	80%	120%	93.9	80%	120%
Cobalt (ICP-OES)	908	1973962	<15	<15	0.0	< 15	101%	80%	120%	102%	80%	120%	101%	80%	120%
Cuivre (ICP-OES)	908	1973962	<40	<40	0.0	< 40	105.7	80%	120%	100.2	80%	120%	107.6	80%	120%
Nickel (ICP-OES)	908	1973962	<30	<30	0.0	< 30	115.4	80%	120%	110.6	80%	120%	108%	80%	120%
Plomb (ICP-OES)	908	1973962	<30	<30	0.0	< 30	100.6	80%	120%	105.6	80%	120%	108.1	80%	120%
Zinc (ICP-OES)	908	1973962	<100	<100	0.0	< 100	107%	80%	120%	120%	80%	120%	NA	80%	120%
Mercure total	1	NA	NA	NA	0.0	< 0.2	115%	80%	120%	101%	80%	120%	100%	80%	120%

Certifié par:



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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M432985

N° DE PROJET: E22101581.001

À L'ATTENTION DE: MICHEL HEBERT/D. Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse organique de trace

Date du rapport: 2010-09-08			DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
BPC aroclor (sol)															
Aroclor 1242	1	1973974	< 0.5	< 0.5	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	1973974	< 0.5	< 0.5	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	1973974	< 0.5	< 0.5	0.0	< 0.5	83%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	1973974	< 0.5	< 0.5	0.0	< 0.5	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	1973974	107	114	6.3	97	89%	40%	140%	NA	40%	140%	NA	40%	140%
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	1107	1974641	<10	<10	0,0%	< 10	114%	80%	120%	92%	80%	120%	97%	60%	140%
C16 - C34 (F3)	1107	1974641	89	105	16,0%	< 10	114%	80%	120%	99%	80%	120%	100%	60%	140%
C34 - C50 (F4)	1107	1974641	52	63	19,0%	< 10	114%	80%	120%	102%	80%	120%	107%	60%	140%

Certifié par:

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Sommaire de méthode

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M432985

N° DE PROJET: E22101581.001

À L'ATTENTION DE: MICHEL HEBERT/D. Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse des Sols					
Arsenic	2010-09-07	2010-09-08	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-09-07	2010-09-08	MET-101-6107	EPA 3050	ICP/OES
Chrome (ICP-OES)	2010-09-07	2010-09-08	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-09-07	2010-09-08	MET-101-6107	EPA 3050	ICP/OES
Cuivre (ICP-OES)	2010-09-07	2010-09-08	MET-101-6107	EPA 3050	ICP/OES
Nickel (ICP-OES)	2010-09-07	2010-09-08	MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)	2010-09-07	2010-09-08	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-09-07	2010-09-08	MET-101-6107	EPA 3050	ICP/OES
Mercure total	2010-09-07	2010-09-07	MET-101-6101F	EPA 245.5	FIMS
Analyse organique de trace					
Aroclor 1242	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1248	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1254	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
Aroclor 1260	2010-09-07	2010-09-07	ORG-100-5108	MA. 403-BPC 2.0, MA. 409-BPC 1.0	GC/MS
IUPAC #209	2010-09-07	2010-09-07	ORG-100-5108F		GC/ECD
C10 - C16 (F2)	2010-09-08	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-09-08	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-09-08	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-09-08	2010-09-09	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-09-08	2010-09-09	TO 0560	CCME Tier 1 Method	GC/FID

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Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA Engineering
Contact: Michel Hebert, Daniela Felske
Address: ~~14940~~ 14940- 123 Ave
Edmonton, AB Postal Code: T5V 1B4
Phone: 780-451-2121 Fax: 780-454-5688
LSD:
Client Project #: E22101581.001

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: mhebert@eba.ca
Email: Michel Hebert
2. Name: dfelske@eba.ca
Email: Daniela Felske

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:

Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F2 to F4	DCC Metals	Total PCB			HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	WA11-1	Soil	Aug 31/15:20	RUSH <24hrs	2 1B									X	X	X				
	WA11-2		Aug 31/15:30		2 1B									X	X	X				
	WA11-3		Aug 31/15:40		2 1B									X	X	X				
	WA11-4		Aug 31/15:50		2 1B									X	X	X				

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Hebert / Michel Hebert	Sept. 01/	SANDRA D	2010-09-03
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
			16h00
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

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14940 - 123 AVENUE
EDMONTON, AB T5V1B4

À L'ATTENTION DE: Michel Hebert/Daniela Felske

N° DE PROJET: E22101551.001

N° BON DE TRAVAIL: 10M435304

ANALYSE DES SOLS VÉRIFIÉ PAR: Sandra Lalli, chimiste

ORGANIQUE DE TRACE VÉRIFIÉ PAR: Luc Brouillard, chimiste

ANALYSE DE L'EAU VÉRIFIÉ PAR: Sandra Lalli, chimiste

DATE DU RAPPORT: 2010-09-23

VERSION*: 5

NOMBRE DE PAGES: 14

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES
VERSION 5: Nouvelle version, 2010-11-10.

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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AGAT Laboratoires

9770 ROUTE TRANSCANADIENNE
ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificat d'analyse

N° BON DE TRAVAIL: 10M435304

N° DE PROJET: E22101551.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

9 métaux (incl. Hg) (TC, sol)

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

						DESCRIPTION D'ÉCHANTILLON:	BL7-1	BL7-2	BL7-3	BL7-4	BL7-5
						MATRICE:	Soil	Soil	Soil	Soil	Soil
						DATE D'ÉCHANTILLONNAGE:	2010-09-12	2010-09-12	2010-09-12	2010-09-12	2010-09-10
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	1992063	1992064	1992065	1992066	1992067
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Mercure total	mg/kg	0.2	2	10	50	0.2	0.2[A]	0.2[A]	0.2[A]	0.2[A]	0.2[A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: A se réfère QC PTC (Critère A), B se réfère QC PTC (Critère B), C se réfère QC PTC (Critère C), D se réfère QC RESC (Annexe 1)

Certifié par:



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N° DE PROJET: E22101551.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

BPC aroclor (eau)

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

DESCRIPTION D'ÉCHANTILLON:				MW-1 West Well	MW-2 North Well	MW-4 South Well
MATRICE:				Ground water	Ground water	Ground water
DATE D'ÉCHANTILLONNAGE:				2010-09-12	2010-09-12	2010-09-12
Paramètre	Unités	C / N	LDR	1992069	1992070	1992071
Aroclor 1242	µg/L		0.1	<0.1	<0.1	<0.1
Aroclor 1248	µg/L		0.1	<0.1	<0.1	<0.1
Aroclor 1254	µg/L		0.1	<0.1	<0.1	<0.1
Aroclor 1260	µg/L		0.1	<0.1	<0.1	<0.1
IUPAC #209	%			98	73	99

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:



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N° DE PROJET: E22101551.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (F1-F2) in Water

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

DESCRIPTION D'ÉCHANTILLON:				MW-1 West Well	MW-2 North Well	MW-4 South Well
MATRICE:				Ground water	Ground water	Ground water
DATE D'ÉCHANTILLONNAGE:				2010-09-12	2010-09-12	2010-09-12
Paramètre	Unités	C / N	LDR	1992069	1992070	1992071
C6 - C10 (F1)	mg/L		0.1	<0.1	<0.1	<0.1
C10 - C16 (F2)	mg/L		0.1	<0.1	<0.1	<0.1
Surrogate	Unités	Limites				
Toluene-d8 (BTEX)	%	50-150		98	97	100
o-Terphenyl (F2)	%	50-150		101	102	101

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

1992069-1992071 The F1 (C6 - C10) fraction is determined by integrating the FID chromatogram from the beginning of the nC6 peak to the apex of the last nC10 peak.
The C6 - C10 fraction is calculated from the FID toluene response factor.
The F2 (C10 - C16) fraction is determined by integrating the FID chromatogram from the apex of the nC10 peak to the apex of the nC16 peak.
The F2 (C10 - C16) fraction is calculated using the average response factor for nC10, nC16, and nC34.
Quality control for the calibration follows the guidelines set out in the CCME Contaminated Sites Method for Soils.
The (F1 minus BTEX) has been calculated by subtracting the BTEX concentration from Fraction 1.

Certifié par:



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NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

DESCRIPTION D'ÉCHANTILLON:				BL6-6	BL6-7	BL6-8	BL6-9	BL6-10	BL7-1	BL7-2	BL7-3
MATRICE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE D'ÉCHANTILLONNAGE:				2010-09-10	2010-09-10	2010-09-10	2010-09-10	2010-09-10	2010-09-12	2010-09-12	2010-09-12
Paramètre	Unités	C / N	LDR	1992057	1992059	1992060	1992061	1992062	1992063	1992064	1992065
C10 - C16 (F2)	mg/kg	150	10	<10	<10	<10	<10	528	<10	<10	<10
C16 - C34 (F3)	mg/kg	1300	10	51	30	287	34	1070	38	<10	<10
C34 - C50 (F4)	mg/kg	5600	10	32	18	167	20	574	29	<10	<10
Moisture Content	%		1	11	11	14	13	13	20	14	12
Surrogate	Unités	Limites									
o-Terphenyl (F2-F4)	%	50-150		109	109	103	109	109	108	106	105

DESCRIPTION D'ÉCHANTILLON:				BL7-4	BL7-5
MATRICE:				Soil	Soil
DATE D'ÉCHANTILLONNAGE:				2010-09-12	2010-09-10
Paramètre	Unités	C / N	LDR	1992066	1992067
C10 - C16 (F2)	mg/kg	150	10	19	<10
C16 - C34 (F3)	mg/kg	1300	10	23	27
C34 - C50 (F4)	mg/kg	5600	10	12	<10
Moisture Content	%		1	15	12
Surrogate	Unités	Limites			
o-Terphenyl (F2-F4)	%	50-150		105	108

Certifié par:



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N° DE PROJET: E22101551.001

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (F2-F4) in Soil

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: se réfère CCME (Ag,F)

1992057-1992067 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certifié par:



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NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

9 métaux dissous

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

DESCRIPTION D'ÉCHANTILLON:				MW-1 West Well	MW-2 North Well	MW-4 South Well
MATRICE:				Ground water	Ground water	Ground water
DATE D'ÉCHANTILLONNAGE:				2010-09-12	2010-09-12	2010-09-12
Paramètre	Unités	C / N	LDR	1992069	1992070	1992071
Arsenic dissous	µg/L		1.0	3.1	4.6	<1.0
Cadmium dissous	µg/L		0.8	<0.8	<0.8	<0.8
Chrome dissous	µg/L		10	<10	<10	<10
Cobalt dissous	µg/L		20	<20	48	<20
Cuivre dissous	µg/L		3.0	<3.0	3.4	<3.0
Mercure dissous	mg/L		0.0001	<0.0001	<0.0001	<0.0001
Nickel dissous	µg/L		2.0	5.5	110	2.0
Plomb dissous	µg/L		1.0	<1.0	<1.0	<1.0
Zinc dissous	µg/L		3.0	3.5	315	9.4

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:



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NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

9 métaux totaux

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

Paramètre	Unités	C / N	LDR	DESCRIPTION D'ÉCHANTILLON: MW-1 West Well MATRICE: Ground water DATE D'ÉCHANTILLONNAGE: 2010-09-12 1992069	MW-2 North Well Ground water 2010-09-12 1992070	MW-4 South Well Ground water 2010-09-12 1992071
Arsenic	µg/L		1.0	3.9	5.0	<1.0
Cadmium	µg/L		0.8	<0.8	<0.8	<0.8
Chrome	µg/L		10	75	13	<10
Cobalt	µg/L		20	<20	52	<20
Cuivre	µg/L		3.0	17.8	12.5	6.9
Mercure total	mg/L		0.0001	<0.0001	<0.0001	<0.0001
Nickel	µg/L		2.0	122	459	16.3
Plomb	µg/L		1.0	44.7	262	1.1
Zinc	µg/L		3.0	29.8	395	22.5

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:



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NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyses Inorganiques

DATE DE RÉCEPTION: 2010-09-14

DATE DU RAPPORT: 2010-09-23

DESCRIPTION D'ÉCHANTILLON:				MW-1 West Well	MW-2 North Well	MW-4 South Well
MATRICE:				Ground water	Ground water	Ground water
DATE D'ÉCHANTILLONNAGE:				2010-09-12	2010-09-12	2010-09-12
Paramètre	Unités	C / N	LDR	1992069	1992070	1992071
Solides dissous	mg/L		25	906	1770	154
Solides en suspension (MES)	mg/L		2	169	194	69
Chlorures	mg/L		1	350	527	35
Conductivité	umhos/cm		10	1720	1840	260
Fluorures	mg/L		0.1	0.1	<0.1	<0.1
Nitrates	mg/L		0.035	0.135	0.603	0.396
Nitrites (ES et EP)	mg/L		0.02	<0.02	<0.02	<0.02
Sulfates (ES et EP)	mg/L		2	135	29	24
pH	pH		NA	8.21	7.96	7.58
Calcium	µg/L		2000	40700	108000	11700
Fer	µg/L		300	<300	35300	479
Magnésium	µg/L		2000	40800	69600	5260
Manganèse	µg/L		5	5	6570	55
Potassium	µg/L		1000	20600	14700	2220
Sodium	µg/L		2000	210000	108000	25700
Dureté	mg/L		10	271	668	56

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

1992069-1992071 Délai d'analyse dépassée pour le paramètre pH.

Certifié par:



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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

N° BON DE TRAVAIL: 10M435304

N° DE PROJET: E22101551.001

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse des Sols

Date du rapport: 2010-09-23			DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
9 métaux (incl. Hg) (TC, sol)															
Arsenic	915	1992063	< 5.0	< 5.0	0.0	< 5.0	97%	80%	120%	98%	80%	120%	NA	80%	120%
Cadmium (ICP-OES)	915	1992063	< 0.9	< 0.9	0.0	< 0.9	97%	80%	120%	102%	80%	120%	86%	80%	120%
Cobalt (ICP-OES)	915	1992063	< 15	< 15	0.0	< 15	95%	80%	120%	100%	80%	120%	84%	80%	120%
Chrome (ICP-OES)	915	1992063	< 45	< 45	0.0	< 45	98%	80%	120%	101%	80%	120%	83%	80%	120%
Cuivre (ICP-OES)	915	1992063	< 40	< 40	0.0	< 40	98%	80%	120%	98%	80%	120%	84%	80%	120%
Mercure total	1	1992063	< 0.2	< 0.2	0.0	< 0.2	88%	80%	120%	94%	80%	120%	97%	80%	120%
Nickel (ICP-OES)	915	1992063	< 30	< 30	0.0	< 30	100%	80%	120%	106%	80%	120%	86%	80%	120%
Plomb (ICP-OES)	915	1992063	< 30	< 30	0.0	< 30	96%	80%	120%	101%	80%	120%	82%	80%	120%
Zinc (ICP-OES)	915	1992063	< 100	< 100	0.0	< 100	109%	80%	120%	105%	80%	120%	84%	80%	120%

Certifié par:



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AGAT Laboratoires

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ST. LAURENT, QUEBEC
CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

N° BON DE TRAVAIL: 10M435304

N° DE PROJET: E22101551.001

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse organique de trace

Date du rapport: 2010-09-23

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
Petroleum Hydrocarbons (F2-F4) in Soil															
C10 - C16 (F2)	1112	1992060	<10	<10	NA	< 10	91%	80%	120%	100%	80%	120%	103%	60%	140%
C16 - C34 (F3)	1112	1992060	287	305	6.0	< 10	91%	80%	120%	106%	80%	120%	114%	60%	140%
C34 - C50 (F4)	1112	1992060	167	189	12.0	< 10	91%	80%	120%	113%	80%	120%	120%	60%	140%
Petroleum Hydrocarbons (F1-F2) in Water															
C6 - C10 (F1)	3046	1993366	<0.1	<0.1	0.0	< 0.1	112%	80%	120%	111%	80%	120%	113%	70%	130%
C10 - C16 (F2)	164	1993366	<0.1	<0.1	0,0%	< 0.1	109%	80%	120%	94%	80%	120%	91%	70%	130%
BPC aroclor (eau)															
Aroclor 1242	1	NA	NA	NA	0.0	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1248	1	NA	NA	NA	0.0	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1254	1	NA	NA	NA	0.0	< 0.1	103%	70%	130%	NA	70%	130%	NA	70%	130%
Aroclor 1260	1	NA	NA	NA	0.0	< 0.1	NA	70%	130%	NA	70%	130%	NA	70%	130%
IUPAC #209	1	NA	NA	NA	0.0	64	45%	40%	140%	NA	40%	140%	NA	40%	140%

Certifié par:



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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

N° BON DE TRAVAIL: 10M435304

N° DE PROJET: E22101551.001

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse de l'eau

Date du rapport: 2010-09-23

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
9 métaux dissous															
Arsenic dissous	920	NA	NA	NA	0.0	< 1.0	101%	80%	120%	101%	80%	120%	107%	80%	120%
Cadmium dissous	920	NA	NA	NA	0.0	< 0.8	104%	80%	120%	102%	80%	120%	110%	80%	120%
Chrome dissous	920	NA	NA	NA	0.0	< 10	104%	80%	120%	104%	80%	120%	98%	80%	120%
Cobalt dissous	920	NA	NA	NA	0.0	< 20	106%	80%	120%	103%	80%	120%	105%	80%	120%
Cuivre dissous	920	NA	NA	NA	0.0	< 3.0	107%	80%	120%	111%	80%	120%	105%	80%	120%
Mercure dissous	1	NA	NA	NA	0.0	< 0.0001	93%	80%	120%	93%	90%	110%	97%	80%	120%
Nickel dissous	920	NA	NA	NA	0.0	< 2.0	100%	80%	120%	104%	80%	120%	103%	80%	120%
Plomb dissous	920	NA	NA	NA	0.0	< 1.0	99%	80%	120%	105%	80%	120%	97%	80%	120%
Zinc dissous	920	NA	NA	NA	0.0	< 3.0	102%	80%	120%	109%	80%	120%	116%	80%	120%
Analyses Inorganiques															
Solides dissous	1	NA	NA	NA	0.0	< 25	101%	80%	120%	NA	80%	120%	96%	90%	110%
Solides en suspension (MES)	1	NA	NA	NA	0.0	< 2	102%	80%	120%	NA	0%	0%	111%	80%	120%
Chlorures	1	NA	NA	NA	0.0	< 1	103%	80%	120%	97%	90%	110%	99%	80%	120%
Conductivité	1	NA	NA	NA	0.0	< 10	99%	90%	110%	99%	90%	110%	NA	0%	0%
Fluorures	1	NA	NA	NA	0.0	< 0.1	99%	80%	120%	100%	90%	110%	99%	80%	120%
Nitrates	1	NA	NA	NA	0.0	< 0.035	98%	80%	120%	100%	80%	120%	99%	80%	120%
Nitrites (ES et EP)	1	NA	NA	NA	0.0	< 0.02	NA	80%	120%	97%	80%	120%	96%	80%	120%
Sulfates (ES et EP)	1	NA	NA	NA	0.0	< 2	100%	80%	120%	103%	90%	110%	101%	80%	120%
pH	1	NA	NA	NA	0.0	NA	102%	80%	120%	101%	90%	110%	NA	0%	0%
Calcium	1108	NA	NA	NA	0.0	< 2000	104%	80%	120%	97%	80%	120%	101%	80%	120%
Fer	1108	NA	NA	NA	0.0	< 300	96%	80%	120%	99%	80%	120%	NA	80%	120%
Magnésium	1108	NA	NA	NA	0.0	< 2000	101%	80%	120%	96%	80%	120%	101%	80%	120%
Manganèse	1108	NA	NA	NA	0.0	< 5	101%	80%	120%	102%	80%	120%	84%	80%	120%
Potassium	1108	NA	NA	NA	0.0	< 1000	101%	80%	120%	97%	80%	120%	102%	80%	120%
Sodium	1108	NA	NA	NA	0.0	< 2000	99%	80%	120%	94%	90%	110%	101%	80%	120%
9 métaux totaux															
Arsenic	917	NA	NA	NA	0.0	< 1.0	87%	80%	120%	100%	80%	120%	93%	80%	120%
Cadmium	917	NA	NA	NA	0.0	< 0.8	97%	80%	120%	103%	80%	120%	100%	80%	120%
Chrome	917	NA	NA	NA	0.0	< 10	95%	80%	120%	99%	80%	120%	98%	80%	120%
Cobalt	917	NA	NA	NA	0.0	< 20	97%	80%	120%	100%	80%	120%	101%	80%	120%
Cuivre	917	NA	NA	NA	0.0	< 3.0	95%	80%	120%	101%	80%	120%	98%	80%	120%
Mercure total	1	NA	NA	NA	0.0	< 0.0001	99%	80%	120%	93%	90%	110%	95%	80%	120%
Nickel	917	NA	NA	NA	0.0	< 2.0	102%	80%	120%	102%	80%	120%	101%	80%	120%
Plomb	917	NA	NA	NA	0.0	< 1.0	93%	80%	120%	101%	80%	120%	99%	80%	120%
Zinc	917	NA	NA	NA	0.0	< 3.0	96%	80%	120%	114%	80%	120%	100%	80%	120%

Certifié par:

CHIMISTE Sandra Lalli 1999-046 QUÉBEC

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Sommaire de méthode

NOM DU CLIENT: EBA ENGINEERING CONSULTANTS LTD

N° BON DE TRAVAIL: 10M435304

N° DE PROJET: E22101551.001

À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse des Sols					
Arsenic	2010-09-15	2010-09-15	MET-101-6105	EPA 3050	ICP/MS
Cadmium (ICP-OES)	2010-09-15	2010-09-15	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-09-15	2010-09-15	MET-101-6107	EPA 3050	ICP/OES
Chrome (ICP-OES)	2010-09-15	2010-09-15	MET-101-6107	EPA 3050	ICP/OES
Cuivre (ICP-OES)	2010-09-15	2010-09-15	MET-101-6107	EPA 3050	ICP/OES
Mercure total	2010-09-15	2010-09-16	MET-101-6102F	EPA 245.5	FIMS
Nickel (ICP-OES)	2010-09-15	2010-09-15	MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)	2010-09-15	2010-09-15	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-09-15	2010-09-15	MET-101-6107	EPA 3050	ICP/OES
Analyse organique de trace					
Aroclor 1242	2010-09-20	2010-09-20	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1248	2010-09-20	2010-09-20	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1254	2010-09-20	2010-09-20	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
Aroclor 1260	2010-09-20	2010-09-20	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
IUPAC #209	2010-09-20	2010-09-20	ORG-100-5108F	MA.403-BPC 2.0	GC/ECD
C6 - C10 (F1)	2010-09-16	2010-09-17	TO 0540	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-09-16	2010-09-17	TO 0511	CCME Tier 1 Method	GC/FID
Toluene-d8 (BTEX)	2010-09-16	2010-09-17	TO 0540	EPA 624 & SW-846 5030	GC/MS
o-Terphenyl (F2)	2010-09-16	2010-09-17	TO 0511	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-09-16	2010-09-17	TO 0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-09-16	2010-09-17	TO 0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-09-16	2010-09-17	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-09-16	2010-09-17	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
o-Terphenyl (F2-F4)	2010-09-16	2010-09-17	TO 0560	CCME Tier 1 Method	GC/FID

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À L'ATTENTION DE: Michel Hebert/Daniela Felske

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse de l'eau					
Arsenic dissous	2010-09-20	2010-09-20	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Cadmium dissous	2010-09-20	2010-09-20	MET-101-6105	EPA-SW 846 Met. 3050 et 6020	ICP/MS
Chrome dissous	2010-09-20	2010-09-20	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Cobalt dissous	2010-09-20	2010-09-20	MET-101-6105	EPA SW Met. 3050 et 6020	ICP/MS
Cuivre dissous	2010-09-20	2010-09-20	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Mercure dissous	2010-09-17	2010-09-20	MET-101-6102F	EPA 245.5	FIMS
Nickel dissous	2010-09-20	2010-09-20	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Plomb dissous	2010-09-20	2010-09-20	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Zinc dissous	2010-09-20	2010-09-20	MET-101-6105	EPA SW 846 Met. 3050 et 6020	ICP/MS
Arsenic	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Cadmium	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Chrome	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Cobalt	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Cuivre	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Mercure total	2010-09-17	2010-09-20	MET-101-6102F	EPA 245.5	FIMS
Nickel	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Plomb	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Zinc	2010-09-16	2010-09-17	MET-101-6105F	EPA SW 846 Met. 3050 et 6020	ICP-MS
Solides dissous	2010-09-14	2010-09-15	INOR-101-6054	MA.115-S.D. 1.0 r2	OVEN
Solides en suspension (MES)	2010-09-21	2010-09-22	INOR-101-6028F	MA.104-S.S. 1.0 r4	OVEN
Conductivité	2010-11-05	2010-11-05	INOR-101-6016F	MA.115-Cond. 1.0 r3	EC METER
Chlorures	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Fluorures	2010-11-05	2010-11-08	INOR-101-6004	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Nitrates	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Nitrites (ES et EP)	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
Sulfates (ES et EP)	2010-11-05	2010-11-08	INOR-101-6004F	SM 4110B 21éd. 2005	ION CHROMATOGRAPH
pH	2010-11-05	2010-11-05	INOR-101-6021F	SM 4500-H+ B 21éd. 2005	PC TITRATE
Calcium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6010	ICP-OES
Fer	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Magnésium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Potassium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Manganèse	2010-11-08	2010-11-08	MET-101-6105F	EPA SW-846 6020	ICP-MS
Sodium	2010-11-08	2010-11-08	MET-101-6107F	EPA SW-846 6020	ICP-OES
Dureté	2010-11-08	2010-11-08	MET-101-6107F	EPA 6010	ICP-OES

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CHAIN OF CUSTODY RECORD

Shipment #23

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA Engineering
Contact: Michel Hebert, Daniela Felske
Address: 14940-123 Ave
Edmonton, AB Postal Code: T5V 1B4
Phone: 780-451-2121 Fax: 780-454-5688
LSD:
Client Project #: E2210551.001

Bill Invoice To: SAME (Y) / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: Michel Hebert
Email: mhebert@eba.ca
2. Name: Daniela Felske
Email: dfelske@eba.ca

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☐ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F2 to F4	DCC Metals				HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	BL6-6	Soil	Sept 10/14:40	Rush	2									X						
	BL6-7		Sept 10/14:50	Rush	2									X						
	BL6-8		Sept 10/15:00	Rush	2									X						
	BL6-9		Sept 10/15:10	Rush	2									X						
	BL6-10		Sept 10/15:20	Rush	2									X						
	BL7-1		Sept 10/13:00	Rush	2 3 1B									X	X					
	BL7-2		Sept 10/13:10	Rush	2 3 1B									X	X					
	BL7-3		Sept 10/13:20	Rush	2 3 1B									X	X					
	BL7-4		Sept 10/13:30	Rush	2 3 1B									X	X					
	BL7-5		Sept 10/13:40	Rush	2 3 1B									X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Hebert Michel Hebert	Sept 13/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097849

CHAIN OF CUSTODY RECORD

Shipment # 23

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ **Less than 24 hours (200%)**
- ☐ **24 to 48 hours (100 %)**
- ☐ **48 to 72 hours (50%)**

DATE REQUIRED: _____

PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____

AGAT Job Number: _____

Report To:

Company: EBA
Contact: Michel Hebert Daniela Felske
Address: 14440-123 Ave
Edmonton, AB Postal Code: T5V 1B4
Phone: 780-451-2121 Fax: 780-454-5688
LSD:
Client Project #: E2210551001

Report Information - reports to be sent to:

1. Name: Michel Hebert
Email: mhebert@eba.ca
2. Name: Daniela Felske
Email: dfelske@eba.ca

Report Format

- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Regulatory requirements (Check One):

- ☐ **CCME**
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ **AB Tier 1**
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ **Other**
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☑ DCC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	Routine + TSS + TDS	DCC Total Metals	PCB Total	Hydrocarbons F1 and F2	DCC Dissolved Metals	HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	MW-1 West Well	Water	Sept 13/14:20	Regular TAT	10									X	X	X	X	X		
	MW-2 North Well	Water	Sept 13/14:40	Regular TAT	10									X	X	X	X	X		
	MW-4 South Well	Water	Sept 13/15:00	Regular TAT	10									X	X	X	X	X		

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Michel Hebert / Michel Hebert	Sept 13/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097848

AGAT Laboratories

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CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

ATTENTION TO: MICHEL HEBERT

PROJECT NO: E2210158001

AGAT WORK ORDER: 10M436981

SOIL ANALYSIS REVIEWED BY: Philippe Morneau, chimiste

TRACE ORGANICS REVIEWED BY: Philippe Morneau, chimiste

DATE REPORTED: 2010-09-24

VERSION*: 1

PAGES (INCLUDING COVER): 7

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000, or at 1-866-417-5227

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 10M436981

PROJECT NO: E2210158001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Mercury

DATE RECEIVED: 2010-09-21

DATE REPORTED: 2010-09-24

		SAMPLE DESCRIPTION:		BL5-1	BL5-2	BL5-3	BL5-4	BL5-5	BL5-6	BL5-7	BL5-8
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19
Parameter	Unit	G / S	RDL	2004465	2004469	2004470	2004471	2004473	2004474	2004475	2004476
Total Mercury	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 10M436981
PROJECT NO: E2210158001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD
ATTENTION TO: MICHEL HEBERT
SAMPLED BY:
SAMPLING SITE:

Metals in Soil

DATE RECEIVED: 2010-09-21
DATE REPORTED: 2010-09-24

						SAMPLE DESCRIPTION:	BL5-1	BL5-2	BL5-3	BL5-4	BL5-5
						SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
						DATE SAMPLED:	2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	2004465	2004469	2004470	2004471	2004473
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	1.3[<A]	2.2[A-B]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	130[A-B]	<100[<A]	<100[<A]

					SAMPLE DESCRIPTION:	BL5-6	BL5-7	BL5-8
					SAMPLE TYPE:	Soil	Soil	Soil
					DATE SAMPLED:	2010-09-19	2010-09-19	2010-09-19
Parameter	Unit	G / S: A	G / S: B	G / S: C	G / S: D	RDL	2004474	2004475	2004476
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium	mg/kg	1.5	5	20	100	0.9	1.3[<A]	<0.9[<A]	<0.9[<A]
Chromium	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]
Cobalt	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]
Copper	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]
Nickel	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]
Lead	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]
Zinc	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: A Refers to QC PTC (Criteria A), B Refers to QC PTC (Criteria B), C Refers to QC PTC (Criteria C), D Refers to QC RESC (Annexe 1)

Certified By:



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CANADA H4S 1V9
TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 10M436981

PROJECT NO: E2210158001

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE RECEIVED: 2010-09-21

DATE REPORTED: 2010-09-24

		SAMPLE DESCRIPTION:		BL5-1	BL5-2	BL5-3	BL5-4	BL5-5	BL5-6	BL5-7	BL5-8
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19	2010-09-19
Parameter	Unit	G / S	RDL	2004465	2004469	2004470	2004471	2004473	2004474	2004475	2004476
Benzene	mg/kg		0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylenes	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C6 - C10 (F1)	mg/kg		10	<10	<10	<10	<10	<10	<10	<10	<10
C6 - C10 (F1 minus BTEX)	mg/kg		10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C16 (F2)	mg/kg		10	<10	<10	<10	15	12	13	<10	10
C16 - C34 (F3)	mg/kg		10	<10	231	62	59	50	22	71	28
C34 - C50 (F4)	mg/kg		10	<10	95	39	16	13	11	44	<10
Gravimetric Heavy Hydrocarbons	mg/kg		1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Moisture Content	%		1	16	4	15	9	12	4	12	8
Surrogate	Unit	Acceptable Limits									
Toluene-d8 (BTEX)	%	50-150		104	100	103	103	104	100	99	100
Ethylbenzene-d10 (BTEX)	%	50-150		100	85	99	89	100	93	90	92
o-Terphenyl (F2-F4)	%	50-150		108	109	96.8	93.2	94.6	104	105	103

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ABTier1 (Ag,F)

2004465-2004476 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certified By:

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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M436981

PROJECT NO: E2210158001

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Soil Analysis

RPT Date: 2010-09-24			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals in Soil															
Arsenic	922	2004465	< 5.0	< 5.0	0.0%	< 5.0	101%	80%	120%	105%	90%	110%	102%	80%	120%
Cadmium	922	2004465	<0.9	<0.9	0.0%	< 0.9	102%	80%	120%	107%	80%	120%	98%	80%	120%
Chromium	922	2004465	<45	<45	0.0%	< 45	102%	80%	120%	107%	80%	120%	108%	80%	120%
Cobalt	922	2004465	<15	<15	0.0%	< 15	102%	80%	120%	105%	90%	110%	102%	80%	120%
Copper	922	2004465	<40	<40	0.0%	< 40	105%	80%	120%	104%	80%	120%	103%	80%	120%
Nickel	922	2004465	<30	<30	0.0%	< 30	105%	80%	120%	111%	80%	120%	101%	80%	120%
Lead	922	2004465	<30	<30	0.0%	< 30	98%	80%	120%	106%	80%	120%	105%	80%	120%
Zinc	922	2004465	<100	<100	0.0%	< 100	101%	80%	120%	107%	80%	120%	105%	80%	120%
Mercury															
Total Mercury	1	2004465	< 0.2	< 0.2	0.0%	< 0.2	103%	80%	120%	90%	80%	120%	96%	80%	120%

Certified By:



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Quality Assurance

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M436981

PROJECT NO: E2210158001

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

Trace Organics Analysis

RPT Date: 2010-09-24			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)															
Benzene	607	2007165	0.024	0.032	28.6%	< 0.005	99%	80%	120%	85%	80%	120%	109%	60%	140%
Toluene	607	2007165	< 0.05	< 0.05	NA	< 0.05	98%	80%	120%	83%	80%	120%	102%	60%	140%
Ethylbenzene	607	2007165	< 0.01	< 0.01	NA	< 0.01	101%	80%	120%	83%	80%	120%	98%	60%	140%
Xylenes	607	2007165	< 0.05	< 0.05	NA	< 0.05	100%	80%	120%	83%	80%	120%	96%	60%	140%
C6 - C10 (F1)	607	2007165	< 10	< 10	NA	< 10	91%	80%	120%	91%	80%	120%	94%	60%	140%
C6 - C10 (F1 minus BTEX)	607	2007165	< 10	< 10	NA	< 10	91%	80%	120%	91%	80%	120%	94%	60%	140%
C10 - C16 (F2)	1116	2005988	<10	<10	NA	< 10	96%	80%	120%	105%	80%	120%	106%	60%	140%
C16 - C34 (F3)	1116	2005988	<10	<10	NA	< 10	96%	80%	120%	111%	80%	120%	114%	60%	140%
C34 - C50 (F4)	1116	2005988	<10	<10	NA	< 10	96%	80%	120%	117%	80%	120%	122%	60%	140%

Certified By:



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Method Summary

CLIENT NAME: EBA ENGINEERING CONSULTING LTD

AGAT WORK ORDER: 10M436981

PROJECT NO: E2210158001

ATTENTION TO: MICHEL HEBERT

SAMPLED BY:

SAMPLING SITE:

PARAMETER	DATE PREPARED	DATE ANALYZED	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis					
Total Mercury	2010-09-22	2010-09-22	MET-101-6101F	EPA 245.5	FIMS
Arsenic	2010-09-21	2010-09-22	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium	2010-09-21	2010-09-22	MET-101-6107	EPA 3050	ICP/OES
Chromium	2010-09-21	2010-09-22	MET-101-6107	EPA 3050	ICP/OES
Cobalt	2010-09-21	2010-09-22	MET-101-6107	EPA 3050	ICP/OES
Copper	2010-09-21	2010-09-22	MET-101-6107	EPA 3050	ICP/OES
Nickel	2010-09-21	2010-09-22	MET-101-6107	EPA 3050	ICP/OES
Lead	2010-09-21	2010-09-22	MET-101-6107	EPA 3050	ICP/OES
Zinc	2010-09-21	2010-09-22	MET-101-6107	EPA 3050	ICP/OES
Trace Organics Analysis					
Benzene	2010-09-22	2010-09-22	TO 0570	EPA SW-846 8260	GC/MS
Toluene	2010-09-22	2010-09-22	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-09-22	2010-09-22	TO 0570	EPA SW-846 8260	GC/MS
Xylenes	2010-09-22	2010-09-22	TO 0570	EPA SW-846 8260	GC/MS
C6 - C10 (F1)	2010-09-22	2010-09-22	TO 0570	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-09-22	2010-09-22	TO 0570	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-09-22	2010-09-23	TO-0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-09-22	2010-09-23	TO-0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-09-22	2010-09-23	TO 0560	CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	2010-09-22	2010-09-23	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-09-22	2010-09-23	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
Toluene-d8 (BTEX)	2010-09-22	2010-09-22	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene-d10 (BTEX)	2010-09-22	2010-09-22	TO 0570	EPA SW-846 8260	GC/MS
o-Terphenyl (F2-F4)	2010-09-22	2010-09-23	TO 0560	CCME Tier 1 Method	GC/FID

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CHAIN OF CUSTODY RECORD

SHIPMENT #24

QUOTE EBA-DCC

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

Report To:
Company: EBA
Contact: D FELSKE / M. HEBERT / B. HORNE
Address: 14940 - 123 AVE
EDMONTON Postal Code: AB T5V 1B4
Phone: 780-451-2121 Fax:
LSD:
Client Project #: E22101581.001

Bill Invoice To: SAME (Y / N) - circle
Company:
Contact:
Address:
Postal Code:
Phone: Fax:
PO/AFE#:

Report Information - reports to be sent to:
1. Name: DANIELA FELSKE
Email: dfelske@eba.ca
2. Name: MICHEL HEBERT
Email: mphebert@eba.ca

Regulatory requirements (Check One):
- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☑ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC
  - ☐ DCC METALS

Report Format
- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

RUSH TURNAROUND REQUESTS
Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.
- ☐ Less than 24 hours (200%)
- ☑ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED:
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY
Date and Time:
Arrival temperature:
AGAT Job Number:

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox	F1-F4	DCC METALS				HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	BL5-1	Soil	Sept 19		2									X	X					
	BL5-2													X	X					
	BL5-3													X	X					
	BL5-4													X	X					
	BL5-5													X	X					
	BL5-6													X	X					
	BL5-7													X	X					
	BL5-8													X	X					

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
D FELSKE	SEPT 20/2010		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
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PAGE 1 of 1

NO: 0097850

AGAT Laboratoires

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TEL (514)337-1000
FAX (514)333-3046
http://www.agatlabs.com

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD
14940 123 Ave
Edmonton, AB T5V1B4

À L'ATTENTION DE: D. Felske/ B. Horne

N° DE PROJET: E2210158.001

N° BON DE TRAVAIL: 10M440491

ANALYSE DES SOLS VÉRIFIÉ PAR: Sandra Lalli, chimiste

ORGANIQUE DE TRACE VÉRIFIÉ PAR: Philippe Morneau, chimiste

DATE DU RAPPORT: 2010-10-05

VERSION*: 1

NOMBRE DE PAGES: 8

Si vous desirez de l'information concernant cette analyse, S.V.P. contacter votre chargé de projets au (514) 337-1000 ou au 1-866-417-5227

*NOTES

Nous disposerons des échantillons dans les 30 jours suivants les analyses. S.V.P. Contactez le laboratoire si vous désirez avoir un délai d'entreposage

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Certificat d'analyse

N° BON DE TRAVAIL: 10M440491

N° DE PROJET: E2210158.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: D. Felske/ B. Horne

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

8 métaux (TC, sol)

DATE DE RÉCEPTION: 2010-10-04

DATE DU RAPPORT: 2010-10-05

					DESCRIPTION D'ÉCHANTILLON:		Garage 1	Garage 2	Garage 3	Garage 4	Garage 5
					MATRICE:		Sol	Sol	Sol	Sol	Sol
					DATE D'ÉCHANTILLONNAGE:		2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	2031966	2031967	2031968	2031969	2031970
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

					DESCRIPTION D'ÉCHANTILLON:		Garage 6	Fuel Berm 1	Fuel Berm 2	Fuel Berm 3	Fuel Berm 4
					MATRICE:		Sol	Sol	Sol	Sol	Sol
					DATE D'ÉCHANTILLONNAGE:		2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27
Paramètre	Unités	C / N: A	C / N: B	C / N: C	C / N: D	LDR	2031972	2031973	2031986	2031987	2031989
Arsenic	mg/kg	6	30	50	250	5.0	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]	<5.0[<A]
Cadmium (ICP-OES)	mg/kg	1.5	5	20	100	0.9	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]	<0.9[<A]
Chrome (ICP-OES)	mg/kg	85	250	800	4000	45	<45[<A]	<45[<A]	<45[<A]	<45[<A]	<45[<A]
Cobalt (ICP-OES)	mg/kg	15	50	300	1500	15	<15[<A]	<15[<A]	<15[<A]	<15[<A]	<15[<A]
Cuivre (ICP-OES)	mg/kg	40	100	500	2500	40	<40[<A]	<40[<A]	<40[<A]	<40[<A]	<40[<A]
Nickel (ICP-OES)	mg/kg	50	100	500	2500	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Plomb (ICP-OES)	mg/kg	50	500	1000	5000	30	<30[<A]	<30[<A]	<30[<A]	<30[<A]	<30[<A]
Zinc (ICP-OES)	mg/kg	110	500	1500	7500	100	<100[<A]	<100[<A]	<100[<A]	<100[<A]	<100[<A]

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: A se réfère QC PTC (Critère A), B se réfère QC PTC (Critère B), C se réfère QC PTC (Critère C), D se réfère QC RESC (Annexe 1)

Certifié par:



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Certificat d'analyse

N° BON DE TRAVAIL: 10M440491

N° DE PROJET: E2210158.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: D. Felske/ B. Horne

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Mercure (TC, sol)

DATE DE RÉCEPTION: 2010-10-04

DATE DU RAPPORT: 2010-10-05

	DESCRIPTION D'ÉCHANTILLON:			Garage 1	Garage 2	Garage 3	Garage 4	Garage 5	Garage 6	Fuel Berm 1	Fuel Berm 2
	MATRICE:			Sol	Sol	Sol	Sol	Sol	Sol	Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27
Paramètre	Unités	C / N	LDR	2031966	2031967	2031968	2031969	2031970	2031972	2031973	2031986
Mercure total	mg/kg		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

	DESCRIPTION D'ÉCHANTILLON:			Fuel Berm 3	Fuel Berm 4
	MATRICE:			Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-10-27	2010-10-27
Paramètre	Unités	C / N	LDR	2031987	2031989
Mercure total	mg/kg		0.2	<0.2	<0.2

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes

Certifié par:



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N° DE PROJET: E2210158.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: D. Felske/ B. Horne

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE DE RÉCEPTION: 2010-10-04

DATE DU RAPPORT: 2010-10-05

	DESCRIPTION D'ÉCHANTILLON:			Garage 1	Garage 2	Garage 3	Garage 4	Garage 5	Garage 6	Fuel Berm 1	Fuel Berm 2
	MATRICE:			Sol	Sol	Sol	Sol	Sol	Sol	Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27	2010-10-27
Paramètre	Unités	C / N	LDR	2031966	2031967	2031968	2031969	2031970	2031972	2031973	2031986
Benzene	mg/kg		0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylenes	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C6 - C10 (F1)	mg/kg		10	<10	<10	<10	<10	<10	<10	<10	<10
C6 - C10 (F1 minus BTEX)	mg/kg		10	<10	<10	<10	<10	<10	<10	<10	<10
C10 - C16 (F2)	mg/kg		10	<10	<10	<10	<10	<10	<10	39	<10
C16 - C34 (F3)	mg/kg		10	32	36	123	<10	159	72	53	<10
C34 - C50 (F4)	mg/kg		10	<10	17	27	<10	26	15	15	<10
Gravimetric Heavy Hydrocarbons	mg/kg		1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Moisture Content	%		1	11	16	13	13	13	13	20	11
Surrogate	Unités		Limites								
Toluene-d8 (BTEX)	%		50-150	104	104	100	103	103	104	104	104
Ethylbenzene-d10 (BTEX)	%		50-150	102	103	94	100	103	101	107	100
o-Terphenyl (F2-F4)	%		50-150	98	91	99	97	94	100	97	99

Certifié par:



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Certificat d'analyse

N° BON DE TRAVAIL: 10M440491

N° DE PROJET: E2210158.001

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

À L'ATTENTION DE: D. Felske/ B. Horne

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)

DATE DE RÉCEPTION: 2010-10-04

DATE DU RAPPORT: 2010-10-05

	DESCRIPTION D'ÉCHANTILLON:			Fuel Berm 3	Fuel Berm 4
	MATRICE:			Sol	Sol
	DATE D'ÉCHANTILLONNAGE:			2010-10-27	2010-10-27
Paramètre	Unités	C / N	LDR	2031987	2031989
Benzene	mg/kg		0.005	<0.005	<0.005
Toluene	mg/kg		0.05	<0.05	<0.05
Ethylbenzene	mg/kg		0.01	<0.01	<0.01
Xylenes	mg/kg		0.05	<0.05	<0.05
C6 - C10 (F1)	mg/kg		10	<10	<10
C6 - C10 (F1 minus BTEX)	mg/kg		10	<10	<10
C10 - C16 (F2)	mg/kg		10	<10	<10
C16 - C34 (F3)	mg/kg		10	25	16
C34 - C50 (F4)	mg/kg		10	<10	<10
Gravimetric Heavy Hydrocarbons	mg/kg		1000	N/A	N/A
Moisture Content	%		1	12	16
Surrogate	Unités		Limites		
Toluene-d8 (BTEX)	%		50-150	104	105
Ethylbenzene-d10 (BTEX)	%		50-150	100	101
o-Terphenyl (F2-F4)	%		50-150	93	98

Commentaires: LDR - Limite de détection rapportée; C / N - Critères Normes: se réfère ABTier1 (Ag,F)

2031966-2031989 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
Quality control data is available upon request.
Assistance in the interpretation of data is available upon request.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.

Certifié par:



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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M440491

N° DE PROJET: E2210158.001

À L'ATTENTION DE: D. Felske/ B. Horne

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse des Sols

Date du rapport: 2010-10-05			DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
PARAMÈTRE	Lot	N° éch.	Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
8 métaux (TC, sol)															
Arsenic	1005	2031966	< 5.0	< 5.0	0.0	< 5.0	111%	80%	120%	94%	90%	110%	95%	80%	120%
Cadmium (ICP-OES)	1005	2031966	<0.9	<0.9	0.0	< 0.9	102.4	80%	120%	104.8	80%	120%	94.9	80%	120%
Chrome (ICP-OES)	1005	2031966	<45	<45	0.0	< 45	105.1	80%	120%	103.6	80%	120%	97.4	80%	120%
Cobalt (ICP-OES)	1005	2031966	<15	<15	0.0	< 15	102.9	80%	120%	104.3	90%	110%	96%	80%	120%
Cuivre (ICP-OES)	1005	2031966	<40	<40	0.0	< 40	107.2	80%	120%	100.7	80%	120%	96.4	80%	120%
Nickel (ICP-OES)	1005	2031966	<30	<30	0.0	< 30	108%	80%	120%	110.3	80%	120%	96.5	80%	120%
Plomb (ICP-OES)	1005	2031966	<30	<30	0.0	< 30	98.5	80%	120%	103.7	80%	120%	96.2	80%	120%
Zinc (ICP-OES)	1005	2031966	<100	<100	0.0	< 100	102.1	80%	120%	105.1	80%	120%	101.2	80%	120%
Mercure (TC, sol)															
Mercure total	1	2031966	< 0.2	< 0.2	0.0	< 0.2	125%	70%	130%	93%	80%	120%	110%	80%	120%

Certifié par:

CHIMISTE
Sandra Lalli
1999-046
QUÉBEC

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Contrôle de qualité

NOM DU CLIENT: EBA ENGINEERING CONSULTING LTD

N° BON DE TRAVAIL: 10M440491

N° DE PROJET: E2210158.001

À L'ATTENTION DE: D. Felske/ B. Horne

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

Analyse organique de trace

Date du rapport: 2010-10-05

PARAMÈTRE	Lot	N° éch.	DUPLICATA			MATÉRIAU DE RÉFÉRENCE				BLANC FORTIFIÉ			ÉCH. FORTIFIÉ		
			Dup #1	Dup #2	% d'écart	Blanc de méthode	% Récup.	Limites		% Récup.	Limites		% Récup.	Limites	
								Inf.	Sup.		Inf.	Sup.		Inf.	Sup.
Petroleum Hydrocarbons (BTEX/F1-F4) in Soil (CWS)															
Benzene	863	2031968	< 0.005	< 0.005	NA	< 0.005	92%	80%	120%	99%	80%	120%	101%	60%	140%
Toluene	863	2031968	< 0.05	< 0.05	NA	< 0.05	91%	80%	120%	102%	80%	120%	99%	60%	140%
Ethylbenzene	863	2031968	< 0.01	< 0.01	NA	< 0.01	90%	80%	120%	102%	80%	120%	101%	60%	140%
Xylenes	863	2031968	< 0.05	< 0.05	NA	< 0.05	94%	80%	120%	99%	80%	120%	104%	60%	140%
C6 - C10 (F1)	863	2031968	< 10	< 10	NA	< 10	98%	80%	120%	98%	80%	120%	104%	60%	140%
C6 - C10 (F1 minus BTEX)	863	2031968	< 10	< 10	NA	< 10	98%	80%	120%	98%	80%	120%	104%	60%	140%
C10 - C16 (F2)	542	2031968	<10	<10	NA	< 10	105%	80%	120%	102%	80%	120%	90%	60%	140%
C16 - C34 (F3)	542	2031968	123	87	34.0	< 10	105%	80%	120%	103%	80%	120%	88%	60%	140%
C34 - C50 (F4)	542	2031968	27	23	16.0	< 10	105%	80%	120%	91%	80%	120%	80%	60%	140%

Certifié par:



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Sommaire de méthode

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N° BON DE TRAVAIL: 10M440491

N° DE PROJET: E2210158.001

À L'ATTENTION DE: D. Felske/ B. Horne

PRÉLEVÉ PAR:

LIEU DE PRÉLÈVEMENT:

PARAMÈTRE	PRÉPARÉ LE	ANALYSÉ LE	AGAT P.O.N.	RÉFÉRENCE DE LITTÉRATURE	TECHNIQUE ANALYTIQUE
Analyse des Sols					
Arsenic	2010-10-04	2010-10-05	MET-101-6105	EPA 3050, EPA 6020	ICP-MS
Cadmium (ICP-OES)	2010-10-04	2010-10-05	MET-101-6107	EPA 3050	ICP/OES
Chrome (ICP-OES)	2010-10-04	2010-10-05	MET-101-6107	EPA 3050	ICP/OES
Cobalt (ICP-OES)	2010-10-04	2010-10-05	MET-101-6107	EPA 3050	ICP/OES
Cuivre (ICP-OES)	2010-10-04	2010-10-05	MET-101-6107	EPA 3050	ICP/OES
Nickel (ICP-OES)	2010-10-04	2010-10-05	MET-101-6107	EPA 3050	ICP/OES
Plomb (ICP-OES)	2010-10-04	2010-10-05	MET-101-6107	EPA 3050	ICP/OES
Zinc (ICP-OES)	2010-10-04	2010-10-05	MET-101-6107	EPA 3050	ICP/OES
Mercure total	2010-10-05	2010-10-05	MET-101-6101F	EPA 245.5	FIMS
Analyse organique de trace					
Benzene	2010-10-05	2010-10-06	TO 0570	EPA SW-846 8260	GC/MS
Toluene	2010-10-05	2010-10-06	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene	2010-10-05	2010-10-06	TO 0570	EPA SW-846 8260	GC/MS
Xylenes	2010-10-05	2010-10-06	TO 0570	EPA SW-846 8260	GC/MS
C6 - C10 (F1)	2010-10-05	2010-10-06	TO 0570	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	2010-10-05	2010-10-06	TO 0570	CCME Tier 1 Method	GC/FID
C10 - C16 (F2)	2010-10-05	2010-10-05	TO-0560	CCME Tier 1 Method	GC/FID
C16 - C34 (F3)	2010-10-05	2010-10-05	TO-0560	CCME Tier 1 Method	GC/FID
C34 - C50 (F4)	2010-10-05	2010-10-05	TO 0560	CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	2010-10-05	2010-10-05	TO 0560	CCME Tier 1 Method	GC/FID
Moisture Content	2010-10-05	2010-10-05	TO 0560	CCME Tier 1 Method	GRAVIMETRIC
Toluene-d8 (BTEX)	2010-10-05	2010-10-06	TO 0570	EPA SW-846 8260	GC/MS
Ethylbenzene-d10 (BTEX)	2010-10-05	2010-10-06	TO 0570	EPA SW-846 8260	GC/MS
o-Terphenyl (F2-F4)	2010-10-05	2010-10-05	TO 0560	CCME Tier 1 Method	GC/FID

Cette version remplace et annule toute version, le cas échéant. Ce document ne doit pas être reproduit, sinon en entier, sans l'autorisation écrite du laboratoire. Les résultats ne se rapportent qu'aux échantillons soumis pour analyse

CHAIN OF CUSTODY RECORD

SHIPMENT 25

AGAT Laboratories Limited
2910-12th Street NE
Calgary, Alberta T2E 7P7
http://webearth.agatlabs.com

Phone: 403-735-2005
Fax: 403-735-2771
Toll free: 800-661-7174
environmental.agatlabs.com

RUSH TURNAROUND REQUESTS

Upon filling out this section, client accepts that surcharges will be attached to this analysis. If NOT completed, regular TAT will be default.

- ☐ Less than 24 hours (200%)
- ☒ 24 to 48 hours (100 %)
- ☐ 48 to 72 hours (50%)

DATE REQUIRED: _____
PLEASE CONTACT LABORATORY TO NOTIFY

LABORATORY USE ONLY

Date and Time:

Arrival temperature: _____
AGAT Job Number: _____

Report To:

Company: EBA ENGINEERING
Contact: DANIELA FELSKE
Address: 4940-123 AVE
EDMONTON Postal Code: T5
Phone: 780-[illegible]56 Fax: _____
LSD: _____
Client Project #: [illegible] E2210153.001

Report Information - reports to be sent to:

1. Name: D. FELSKE
Email: dfelske@eba.ca
2. Name: BHORNE
Email: bhorne@eba.ca

Report Format

- ☐ Single Sample per page
- ☑ Multiple Samples per page
- ☑ Excel Format Included

Bill Invoice To: SAME (Y / N) - circle

Company: _____
Contact: _____
Address: _____
_____ Postal Code: _____
Phone: _____ Fax: _____
PO/AFE#: _____

Regulatory requirements (Check One):

- ☐ CCME
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
  - ☐ Drinking Water
  - ☐ FWAL
- ☐ AB Tier 1
  - ☐ Natural Area
  - ☐ Agricultural
  - ☐ Residential/Park
  - ☐ Commercial
  - ☐ Industrial
- ☐ Other
  - ☐ BC CSR
  - ☐ D50 (Drilling)
  - ☐ SPIGEC

Laboratory Use (Lab ID #)	Sample Identification	Sample Matrix	Date/Time Sampled	Comments- Site/ Sample Info. Sample Containment	# OF CONTAINERS	Detailed Soil Salinity (Sat. Paste)	CCME BTEX/F1-F4	Metals (Check Guideline)	Routine Water Potability	AB Class 2 Landfill	BC Landfill (Specify:)	D50 Detailed Soil Salinity (As received)	Microtox		F1-F4	DCC METALS			HOLD FOR 1 YEAR	CONTAMINATED/HAZARDOUS (Y/N)
	Garage1	Soil	Sept 27												X	X				
	Garage 2																			
	Garage 3																			
	Garage 4																			
	Garage 5																			
	Garage 6																			
	Fuel Berm 1																			
	Fuel Berm 2																			
	Fuel berm 3																			
	Fuel berm 4																			

Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
D FELSKE	Sept 27/am		
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time
Samples Relinquished By (print name & sign)	Date/Time	Samples Received By (print name & sign)	Date/Time

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

NO: 0097852

EBA SHIP #1 iasulab@gmail.com

IASU Chain of Custody

Date : July 14, 2009
Submitted by : Herb Ziervogel
Company : EBA Engineering Consultants
Results to : EBA Engineering Contact : Herb Ziervogel
email results : hziervogel@eba.ca and dfelske@eba.ca
Phone number : 780-451-2121 or 604-759-0910 x 104
fax number : 780-454-5688

Sample ID	Media	Analysis Request [1]
IEC1-1	water	Dew Line Barrel Protocol Items
IEC1-2	water	Dew Line Barrel Protocol
IEC1-3	sludge	Dew Line Barrel Protocol
IEC1-4	diesel	Dew Line Barrel Protocol
IEC1-5	lube oil	Dew Line Barrel Protocol
IEC1-6	lube oil	Dew Line Barrel Protocol
IEC1-7	lube oil	Dew Line Barrel Protocol
IEC1-8	lube oil	Dew Line Barrel Protocol
IEC3-1	paint samples	Leachable lead, PCBs
BL3-a	soil	F1-F4, DCC Metals [2], PCBs
BL3-b	soil	F1-F4, DCC Metals, PCBs
BL3-c	soil	F1-F4, DCC Metals, PCBs
BL3-d	soil	F1-F4, DCC Metals, PCBs
BL3-e	soil	F1-F4, DCC Metals, PCBs
BL3-f	soil	F1-F4, DCC Metals, PCBs
BL7-a	soil	F1-F4, DCC Metals
BL7-b	soil	F1-F4, DCC Metals
BL7-c	soil	F1-F4, DCC Metals
BL7-d	soil	F1-F4, DCC Metals
BL7-e	soil	F1-F4, DCC Metals

Notes 1. Dew Line Barrel is flashpoint, glycols, alcohols, PCBs, chlorine, cadmium, chromium and lead 2. DCC metals is Arsenic, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel and Zinc

EBA SHIPMENT #2 * total of 2 coolers from this order

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering Consultants

ADDRESS: 14940 - 123 Ave Phone: 780-451-2121
Edmonton, AB
T5V 1B4 Fax: 780-454-5655

SAMPLER:(Signature) Michel Hebert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	Double Barrel Piston						MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
BL2 - A	July 18	9:30	2	Soil	X								
BL2 - B		9:40			X								
BL2 - C		9:50			X								
BL2 - D		10:00			X								
BL2 - E		10:10			X								
BL2 - F		10:20			X								
BL2 - G		10:30			X								
BL2 - H		10:40			X								
BL2 - I		10:50			X								
BL2 - J		11:00			X								
BL2 - K		11:10			X								
BL2 - L		11:40			X								
BL2 - M	↓	11:50	↓	↓	X								

ANTICIPATED CHEMICAL HAZARDS: None

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Bill Horne (bhorne@eba.ca), Herb Ziervogel (hziervogel@eba.ca) and Michel Hebert (mhebert@eba.ca), Dennis Fox (dfox@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hebert	July 19/2009	7:00 PM (EST)			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

EBA SHIPMENT #2

Page 2 of 2

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Mélet

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	TEST(S) REQUESTED: Dew Line Barrel Protocol	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	Comments/ Special Requests
BL2 - N	July 18	12:00	2	Soil	X							
BL2 - O	↓	11:30	↓	↓	X							
BL2 - P	↓	11:20	↓	↓	X							
IEC1 - 12			2			X						
IEC1 - 13			1			X						
IEC1 - 14			1			X						1 Jar sample
IEC1 - 9			2			X						
IEC1 - 10			1			X						
IEC1 - 11			1			X						
IEC3 - 2			1									
IEC3 - 3			1									

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: None

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Mélet	July 19/2009	7:00pm (est)			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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EBA SHIPMENT #3 & Tel'd to 2 coolers

Page 1 of 3

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering Consultants			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940 - 123 Ave Edmonton, AB T5V 1B4 Phone: (780) 451-2121 Fax: (780) 454-5688					F1 to F4								
SAMPLER:(Signature) Michel Hébert													
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
AEC1 - 1	July 22	10:00	2	Soil	X								
AEC1 - 2		10:10			X								
AEC1 - 3		10:20			X								
AEC1 - 4		10:30			X								
AEC1 - 5		10:40			X								
AEC1 - 6		10:50			X								
AEC1 - 7		11:00			X								
AEC1 - 8		11:10			X								
AEC1 - 9		11:20			X								
AEC1 - 10		11:30			X								
AEC1 - 11		11:40			X								
AEC1 - 12		11:50			X								
AEC1 - 13	↓	13:20	↓	↓	X								

ANTICIPATED CHEMICAL HAZARDS: Soil samples possibly contaminated

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Felske (dfelske@eba.ca), Michel Hebert (mhebert@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	July 22 2009				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel McLeet

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: Filter							Comments/ Special Requests
AEC1 - 14	July 22	13:30	2	Soil	X							
AEC1 - 15	"	13:40	"	"	X							
AEC1 - 16	"	13:50	"	"	X							
AEC1 - 17	"	14:00	"	"	X							
AEC1 - 18	"	14:10	"	"	X							
AEC1 - 19	"	14:20	"	"	X							
AEC1 - 20	"	14:30	"	"	X							
AEC1 - 21	"	14:40	"	"	X							
AEC1 - 22	"	14:50	"	"	X							
AEC1 - 23	"	15:00	"	"	X							
AEC1 - 24	"	15:10	"	"	X							
AEC1 - 25	"	15:20	"	"	X							
AEC1 - 26	"	15:30	"	"	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: Same as Page 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel McLeet	July 22 2009				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Tell of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Milert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	Water Discharge Criteria	Dissolved Cobalt Nickel					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC1 - 27	July 22	13:30	2	Soil	X								
AEC1 - 28		13:40			X								
AEC1 - 29		13:50			X								
AEC1 - 30		14:00			X								
Duplicate - AEC1		0:00			X								
Water Discharge 1	July 21	10:15	6	Water		X							
IEC1 - 15	July 21	10:30	2				X						
IEC1 - 16	July 21	10:55					X						
IEC1 - 17	July 21	11:15					X						
Duplicate 2 - AEC1	July 22	0:00		Soil	X								
Duplicate 3 - AEC1	July 22	0:00		Soil	X								
IEC4 - 1	July 22		6	Water		X							

ANTICIPATED CHEMICAL HAZARDS: Same as Page 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Milert	July 22 2014				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 1 cooler

EBA SHIPMENT #4

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering Consultants ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 phone (780) 451-2121 Fax (780) 454-5688 SAMPLER:(Signature) Michel Hébert			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLE NAME:	COLLECTION Date	Time			F1 to F4							Comments/ Special Requests	
AEC14-1	July 29	10:00	1	Soil	X								
AEC14-2	↓	10:10	1	↓								Hold Sample	
AEC14-3	↓	10:20	1	↓	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Fekke (dfekke@eba.ca), Michel Hebert (mhebert@eba.ca), Kyle Levac (klevac@eba.ca)

RELINQUISHED BY: (Signature) Michel Hébert	Date July 29/09	Time 12:30	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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EBA SHIPMENT #5 — Total of 1 cooler

Page 1 of 1

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #: /

COMPANY NAME: EBA Engineering Consultants	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: #101-12320 Fort Road Edmonton, AB T5B 1B9 Phone 780-451-2121 Fax 780-454-5689			Dissolved Mercury (Filtered)	Weak Dissociable CN							
SAMPLER:(Signature) Michael Hebert											
SAMPLE NAME:	COLLECTION Date	COLLECTION Time									Comments/ Special Requests
IEC 1-18	July 21	10:10	1	W	x						
IEC 1-19	July 21	10:25	1	W	x						
IEC 1-20	July 20	13:40	1	W	x						
IEC 1-21	"	13:50	1	W	x						
IEC 1-22	"	14:00	1	W	x						
EBA BW-2 (HOLDING TANK)	↓	13:20	6	W		x					

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Duncan Fetske (dfetske@ebanet.ca), Kyle Lowe (klowe@ebanet.ca), M. Hebert (mhebert@ebanet.ca)

RELINQUISHED BY: (Signature) Michael Hebert	Date July 21	Time 10:00	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

EBA SHIPMENT #6 *Total of One Cooler

Page 1 of 1

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering

ADDRESS: 14940 - 123 AVE Phone: 780-451-2121
Edmonton, AB
T5V 1B4 Fax: 780-454-5688

SAMPLER:(Signature) Michel Nibert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals	F1-F4	PCB					Comments/ Special Requests
BL8-1	July 8	9:00	1	Soil	X							
BL8-2	Aug 1	11:40	1		X							
BL8-3	July 8	9:20	1		X							
BL8-4	July 8	10:20	1		X							
BL8-5	July 8	10:30	1		X							
BL8-7	July 31	15:45	1		X							
BL8-8	July 14	14:10	1		X							
BL8-Duplicate	Aug 2	0:00	1		X							
BL1-1	Aug 2	11:00	1		X	X	X					
BL1-2	Aug 2	11:10	1		X	X	X					
BL1-3	Aug 2	11:20	1		X	X	X					
BL1-4	Aug 2	11:30	1		X	X	X					
BL8-6	July 8	11:00	1	↓	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Danielle Sabo (dsabo@eba.ca), Kyle Lenac (klenac@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Nibert	Aug 2	14:50			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

EBA SHIPMENT #7

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE. EDMONTON, AB T5V 1B4 Ph. (780) 451-2121 Fax (780) 454-5680

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: Kyle Levac	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: Phenols							Comments/ Special Requests
BWWA2-2 BWWA2-1 K.L	Aug 5/09		2	W	X							
BWWA6-1	Aug 5/09		2	W	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)
DANIELA FOLKE (dfolke@eba.ca) MICHEL HEBERT (mhebert@eba.ca) Kyle Levac (klevac@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 10th/09	5:15 PM			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

EBA SHIPMENT #8

PAGE 1 OF 1

Chain Of Custody Record

IASU #:

COMPANY NAME:			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940 - 123 Ave Edmonton AB T5V 1B4 Ph. 780.451.2121 Fax: 780.454.5685					F1 TO F4								
SAMPLER:(Signature) Kyle Levac													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
AEC 14-4	AUG 7	1:00 pm	1	SOIL	X								
AEC 14-5	AUG 7	1:15pm	1	SOIL	X								
AEC 14-6	AUG 7	1:30pm	1	SOIL	X								

ANTICIPATED CHEMICAL HAZARDS: SOIL SAMPLE POSSIBLY CONTAMINATED

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) DANIELA Felske (dfelske@eba.ca) Kyle LEVAC (klevac@eba.ca) HERB ZIECKOBEL (hzieckobel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	AUG 7	4:00 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME: CBA ENGINEERING

ADDRESS: 14940-123 AVE EDMONTON, AB T5V 1B4 ph. (780)451-2121 Fax: (780)454-5688

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: Kyle Levac	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: H2S TO FH							Comments/ Special Requests
WA1-1	Aug 6/09	2:25 pm	1	Soil								HOLD
WA1-2		2:35 pm										HOLD
WA1-3		2:45 pm			X							
WA1-4		2:55 pm			X							
WA1-5		3:05 pm			X							
WA1-6		3:15 pm										HOLD
WA1-7		3:25 pm			X							
WA1-8		3:35 pm										HOLD
WA1-9		3:45 pm										HOLD
WA1-10		3:55 pm			X							
WA1-11		4:05 pm			X							
WA1-12		4:15 pm										HOLD
WA1-13	↓	4:25 pm	↓	↓	X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SOIL SAMPLES POSSIBLE HYDROCARBON CONTAMINATION

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) DANIELA FEISKE (dfeiske@cba.ca) Kyle LEVAC (klevac@cba.ca) HERB ZIERVOGEL (hziervogel@cba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 7/09	3:30 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
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Tel: (867) 979-1282 Fax: (867) 979-1283

* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME:			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: SAME AS PAGE 1					F: To F4								
SAMPLER:(Signature) Kyle Levac													
SAMPLE NAME: Kyle Levac	COLLECTION Date	Time											Comments/ Special Requests
WAI-14	Aug 6/09	4:35pm	1	Soil									
WAI-15		4:45pm			X								
WAI-16		4:55pm			X								
WAI-17		5:05pm			[illegible]								HOLD
WAI-18		5:15pm											HOLD
WAI-19		5:25pm											HOLD
WAI-20		5:35pm			X								
WAI-22		6:55pm											HOLD
WAI-23		7:05pm			X								
WAI-24		7:15pm			X								
WAI-25		7:25pm											HOLD
WAI-26		7:35pm			X								
WAI-27	↓	7:45pm	↓	↓	X								

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 7/09	3:30pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
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* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME: / ADDRESS: SAME AS PAGE 1 / SAMPLER:(Signature) / SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: Fe TO Fe							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
WA1-21	AUG 6	5:45pm	1	SOIL									HOLD
WA1-28	AUG 6	7:55pm	1	SOIL	X								
WA1-29	AUG 6	8:05am	1	SOIL	X								
WA1-30	AUG 6	8:15am	1	SOIL									HOLD
WA1-31	AUG 7	8:30am	1	SOIL	X								SAMPLE VERY WET SUBMERGED IN PUDDLE
WA1-32	AUG 7	8:40am	1	SOIL	X								SAMPLE VERY WET SUBMERGED IN PUDDLE
WA1-33	"	8:50am	1	SOIL									HOLD
WA1-34	"	9:00am	1	SOIL									HOLD
WA1-35	"	9:10am	1	SOIL									HOLD
WA1-36	"	9:20am	1	SOIL	X								SAMPLE VERY WET SUBMERGED IN PUDDLE
WA1-37	"	9:25am	1	SOIL	X								SAMPLE WET SUBMERGED IN PUDDLE
WA1-38	"	9:35am	1	SOIL									HOLD
WA1-39	"	9:45am	1	SOIL									HOLD

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Aug 7/09	3:30 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: Kyle Levac

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: Hi To Fi	Comments/ Special Requests
WA1 - 40	Aug 7	9:50am	1	Soil	X	SAMPLE WET SUBMERGED IN PUDDLE
WA1 - 41	↓	9:55am	T	T		HOLD
WA1 - 42		10:00am			X	SAMPLE WET SUBMERGED IN PUDDLE
WA1 - 43		10:05am				HOLD
WA1 - 44		10:15am			X	[illegible]
WA1 - 45		10:20am				HOLD
WA1 - 46		10:25am			X	[illegible]
WA1 - 47		10:30am				HOLD
WA1 - 48		10:35am			X	SAMPLE WET SUBMERGED IN PUDDLE
WA1 - 49		10:40am				HOLD
WA1 - 50		10:45am				HOLD
WA1 - 51		10:50am			X	
WA1 - 52	↓	10:55am	↓	↓	X	

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 7/09	3:30pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: Kyle Levac

	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: Hg To F4							Comments/ Special Requests
WA1- 53	AUG 7	11:00AM	1	SOIL	X							
WA1- 54		11:05AM			X							
WA1- 55		11:10AM										HOLD
WA1- 56		11:15AM										HOLD
WA1- 57		11:20AM			X							
WA1- 58		11:25AM										HOLD
WA1- 59		11:30AM			X							
WA1- 60		11:35AM										HOLD
WA1- 61		11:40AM										HOLD
WA1- 62		11:45AM										HOLD
WA1- 63		11:50AM			X							
WA1- 64		11:55AM										HOLD
WA1- 65	↓	12:00PM	↓	↓	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	AUG 7/09	3:30pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
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* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: KYLE LEVAC

	COLLECTION		# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED F1 TO F4							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
	Date	Time											
66	Aug 7	1:00 pm	1	SOIL	X								
67	"	1:05 pm	"	"									Hold
68		1:10 pm											HOLD
69		1:15 pm											HOLD
70		1:20 pm			X								
71		1:25 pm											HOLD
72		1:30 pm											HOLD
WAI DUP1		—			X								
WAI DUP2		—			X								
WAI DUP3		—			X								
WAI DUP4		—			X								
WAI DUP5		—			X								
WAI DUP6	↓	—	↓	↓	X								

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature) Kyle Levac	Date Aug 7/09	Time 3:30 pm	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
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* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: KYLE LEVAC

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4							Comments/ Special Requests
WAI DUP 7	AUG 7	—	1	SOIL	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PG 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PG1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	AUG 7/09	3:30 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

EBA SHIPMENT #9
* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 123 AVE EDMONTON, AB T5V 1B4 Ph. 780.451.2121 Fax: 780.454.5686

SAMPLER:(Signature) Kyle Leval

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	PCB'S	DCC METALS					Comments/ Special Requests
WAY-1	Aug 8/09	10:20 AM	3	SOIL	X	X	X					
WAY-2		10:30 AM	T	T								HOLD
WAY-3		10:40 AM			X	X	X					
WAY-4		10:50 AM										HOLD
WAY-5		11:00 AM			X	X	X					
WAY-6		11:05 AM										HOLD
WAY-7		11:10 AM										HOLD
WAY-8		11:15 AM			X	X	X					
WAY-9		11:20 AM			X	X	X					
WAY-10		11:30 AM										HOLD
WAY-11		11:40 AM			X	X	X					
WAY-12		11:50 AM										HOLD
WAY-13	↓	1:10 PM	↓	↓	X	X	X					

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: (POSSIBLY CONTAMINATED) SAMPLE IEC1-2 HAS PRESSURIZED BROKEN 1 OF 2 VIALS CAUTION SOIL)

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Kyle Leval (kleval@eba.ca) Herb Ziervogel (HZiervogel@eba.ca) Darwin Nelson (dnelson@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Leval	Aug 9/09	3:30 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*TOTAL 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) [signature]

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	DC METALS	PCB'S	REVLINE BARREL PROTOCOL				Comments/ Special Requests
WA4 - 14	Aug 8th	1:20pm	3	SOIL	X	X	X					
WA4 - 15	"	1:30pm	"	"	X	X	X					HOLD
WA4 - 16		1:40pm			X	X	X					
WA4 - 17		1:50pm			X	X	X					
WA4 - 18		2:00pm										HOLD
WA4 - 19		2:10pm			X	X	X					
BL1 MW2@1.0m	Aug 7	10:10am			X	X	X					
BL1 MW2@2.5m		10:45am			X	X	X					
BL1 MW3@1.0m		11:10pm			X	X	X					
BL1 MW3@2.5m		11:30pm			X	X	X					
[redacted] IEC1-23	Aug 9/09	3:00pm	2	Sludge				X				
[redacted] IEC1-24	Aug 9/09	3:15pm	2	Fuel Drum				X				

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PG 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
[signature]	Aug 9/09	3:30pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
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EBA SHIPMENT #10
* TOTAL OF 2 COOLERS

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940 - 123 AVE Edmonton, AB T5V 1B4 ph. 780.451.2121 Fax: 780-454.5688					F_1 TO F_4	DCC METALS	PCB'S	DEULINE BARRELCOL BOMTOCOL					
SAMPLER:(Signature) Kyle Levac													
SAMPLE NAME:	COLLECTION Date	COLLECTION Time										Comments/ Special Requests	
WA6 - SP1	Aug 10/09	10:00 AM	3	Soil	X	X	X						
WA6 - SP2		10:10 AM	T	T	X	X	X						
WA6 - SP3		10:15 AM			X	X	X						
WA6 - SP4		10:25 AM			X	X	X						
WA6 - SP5		10:35 AM			X	X	X						
WA6 - SP6		10:40 AM			X	X	X						
WA6 - SP7		10:50 AM			X	X	X						
WA6 - SP8		11:00 AM			X	X	X						
WA6 - SP9		11:05 AM			X	X	X						
WA6 - SP10		11:10 AM			X	X	X						
WA6 - SP11		11:15 AM			X	X	X						
WA6 - SP12		11:20 AM			X	X	X						
WA6 - SP13		11:25 AM			X	X	X						

ANTICIPATED CHEMICAL HAZARDS: SOIL SAMPLES POSSIBLY CONTAMINATED

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Kyle LEVAC (KLEVAC@eba.ca) Herb ZIERVOGEL (HZIERVOGEL@eba.ca) MICHELHEBERT (MHEBERT@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 12/09	10:00 am			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

TOTAL OF 2 coolers

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyla Cleave

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	DCC METALS	PCB'S	DEWLINE BARREL PROTOCOL				Comments/ Special Requests
WA6-SP14	Aug 10/09	11:30	3	SOIL	X	X	X					
WA6-SP15	Aug 10/09	11:35	T	|	X	X	X					
WA6-SP16	Aug 10/09	11:40	|	|	X	X	X					
WA6-SP17	Aug 10/09	11:45	|	|	X	X	X					
WA6-~~SP18~~ SS1	|	11:50	|	|	X	X	X					
WA6-~~SP19~~ SS2	|	11:55	|	|	X	X	X					
WA6-SS3	|	1:25	|	|	X	X	X					
WA6-SS4	|	1:35	|	|	X	X	X					
WA6-SS5	|	1:40	|	↓	X	X	X					
IEC1-25	|	1:45	|	Sludge	X			X				JAR + BAG SAMPLES
DUP 1	|	—	↓	SOIL	X	X	X					
DUP 2	↓	—	2	SOIL		X	X					

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyla Cleave	Aug 12/09	10:00 am			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment #11

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940 - 123 AVE EDMONTON AB T5V 1B4 Ph. 780.451.2121 Fax: 780.454.5686					DISCHARGE CRITERIA	RUSH							
SAMPLER:(Signature) Kyle Levac													
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
AST 1-1	AUG 14TH	1:15	6	W	X	X							
AST 2-1	1	1:25	6	W	X	X							
VAC 1	↓	1:35	6	W	X	X							

ANTICIPATED CHEMICAL HAZARDS: [illegible] CONTAMINATED

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Kyle Levac (klevac@eba.ca) Herb Ziervogel (hziervogel@eba.ca) Michel Hebert (mhebert@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 18th/09	2:00 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #2

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE Edmonton, AB T5V 1B4 Ph: (780) 451 2121 Fax: 780 454 5688

SAMPLER:(Signature) Kyle Lewis

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	MATRIX	# OF CONTAINERS	SAMPLE MATRIX TIME	TEST(S) REQUESTED: METALS TOTAL	METALS DISSOLVED	F1 - F4	PCB'S	DEW LINE (LARGE PARCEL PROTOCOL)	PAH'S	LEACHABLE PAH'S	Comments/ Special Requests
MW 1	Aug 15		GROUND WATER	6	10:15	X	X	X	X				
MW 3	Aug 15		GROUND WATER	6	10:33	X	X	X	X				
AEC 15-1	"		SOIL	2	11:55						X	X	
AEC 15-2	"		"	"	1:00						X	X	
AEC 15-3	"		"	"	1:10						X	X	
AEC 15-4	"		"	"	1:15						X	X	
AEC 15-5	"		"	"	1:20						X	X	
AEC 15-DUP	↓		↓	↓	1:30						X	X	
JEC1-26	Aug 17		FUEL	1	1:10					X			
JEC1-27	"		LUBE OIL	1	1:20					X			
JEC1-28	"		LUBE OIL	1	1:30					X			
JEC1-29	"		ENGINE GREASE	1	1:40					X			
JEC1-30	↓		LUBE OIL	1	1:50					X			

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) MICHEL HEBERT (mhebert@eba.ca) ROB DERVAGET (rdervaget@eba.ca) KYLE LEWIS (klewis@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #12

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE EDMONTON, AB T5V 1B4 Ph. (780) 451. 2121 Fax (780) 454. 5688

SAMPLER:(Signature) K. C Lemieux

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DEW LINE BARREL PROTOCOL	WATER DISCHARGE CRITERIA	METALS					Comments/ Special Requests
IEC1-31	Aug 17	2:00	1	SOIL	X							
IEC1-32	Aug 17	2:10	1	SOIL	X							
LFC-1	Aug 13	2:00	6	WATER		X						
AEC5-1	Aug 17	3:10	1	SOIL			X					
AEC5-2	"	3:15	"	"			X					
AEC5-3	"	3:20	"	"			X					
AEC5-4	"	3:25	"	"			X					
AEC5-5	"	3:30	"	"			X					
AEC-6-1	"	3:40	"	"			X					
AEC-6-2	"	3:45	"	"			X					
AEC-6-3	"	3:50	"	"			X					
AEC-6-4	"	3:55	"	"			X					
AEC-6-5	"	4:00	"	"			X					

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 12

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Lewis

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: METALS							Comments/ Special Requests
AEC 2-1	Aug 17	4:15	1	Soil	X							
AEC 2-2	"	4:25	"	"	X							
AEC 2-3	"	4:35	"	"	X							
AEC 2-4	"	4:45	"	"	X							
AEC 2-5	"	4:55	"	"	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Lewis					
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Shipment #13
total of one cooler

Chain Of Custody Record

IASU #:

COMPANY NAME: CBA Engineering			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 Ave Edmonton AB T5V 1B4 ph. 780-451-2121 Fax. 780-454-5688					DEWLINE BARREL PROTOCOL	Hydrocarbon F1 to F4	Total and Diss Metals	Routine	DCBPs	Phenols			
SAMPLER:(Signature) Kyle Lewac / Michel Hébert													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
MW2	Aug 19	16:55	6	W		X	X	X	X			Sample not filtered and preserved	
Field Blank	Aug 10	10:00	5	|		X	X	X	X			Same as MW2	
IEC1-33	Aug 18	9:50	2	|	X					X			
IEC1-34	Aug 18	11:50	2	|	X					X			
IEC1-35	Aug 18	16:30	2	|	X					X			
IEC1-36	Aug 19	9:30	2	|	X					X			
IEC1-37	Aug 19	10:45	2	|	X					X			
IEC1-38	Aug 19	15:56	2	|	X					X			
IEC1-39	Aug 20	8:30	2	|	X					X			
IEC1-40	Aug 20	11:35	2	|	X					X			
IEC1-41	Aug 20	14:30	2	|	X					X			
IEC1-42	Aug 21	17:40	2	|	X					X			
IEC1-43	Aug 21	17:50	2	↓	X					X			

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@cba.ca), Heidi Zicrvogel (hzicrvogel@cba.ca)

RELINQUISHED BY: (Signature) Michel Hébert	Date Aug 22	Time 8:00 am	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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From: Paula Whitley [whitleyp@queensu.ca] Sent: Fri 9/4/2009 8:58 AM

To: Michel Hebert; Herb Zier-Vogel; Daniela Felske

Cc: Kyle Levac; iasulab@gmail.com; Allison Rutter

Subject: problem re shipment #13

Attachments:

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I have copied an email below from Herb to Bubby regarding samples that were originally sampled at the end of July but were missing until now as I am asking for confirmation of what is discussed in this email.

Barrels - IEC1-18-22 - please confirm that we do NOT analyse these samples as they were resampled.

Water samples MW2 and field blank - the email below talks about these samples as if they are requested for "water discharge criteria" which includes, PCB,oil & grease,metals,phenols,pH,Hg. However, the COC accompanying these samples requests F1-F2,metals,routine, and PCBs) i.e. no oil & grease or phenols. As far as I understand we are NOT to do any analysis - but if you have decided we should, please advise as to which tests we should be doing. If you want oil & grease as well as PCBs to be done on these samples then we have a bottle conflict as both tests require 1L glass bottles and we only have one of each

thanks

Paula

Hi Bubby,

I believe we have resampled for IEC1-18 to 22. Kyle had hand delivered two samples on his way out of Iqaluit with IEC1-18 to IEC1-19 and I have PCB results reported for that analysis. These were rush tested on the weekend, you may recall. IEC1-20 to IEC1-22
were likely resampled and were sent with shipment 14 dated August 25. BW-2 (Holding Tank) for discharge criteria would likley be out of date for most if not all analysis and unless it would be of value (we are very interested in oil and grease results and phenols) it is probably not worth testing. I would appreciate it if you held the samples though until I talk to Michel H. to ensure I have analyzed the situation correctly. He is currently in transit to Ottawa.

Regards,
Herb

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From: Herb Zier-Vogel Sent: Wed 9/2/2009 2:55 PM

To: Michel Hebert; Daniela Felske

Cc:

Subject: FW: Shipments 16, 17, missing cooler with samples IEC1-18 to IEC1-22

Attachments:

View As Web Page

FYI

From: Iqaluit Analytical Services Unit [mailto:iasulab@gmail.com]
Sent: Wed 02/09/2009 2:50 PM
To: Herb Zier-Vogel
Cc: Allison Rutter
Subject: Re: Shipments 16, 17, missing cooler with samples IEC1-18 to IEC1-22

Hi Herb,
It doesn't rain but pour. About 5 minutes ago we received shipment #13. I will send all of this down south along with 16 and 17. I can easily include the barrel samples IECI 18-22 in case something has been left out and you still want it. The water samples would be out of date for sure and beyond all method holding times - however we have someone returning to Kingston on Saturday so they can come down at that point if you still want something tested there.
bk

On Wed, Sep 2, 2009 at 4:36 PM, Herb Zier-Vogel <HZierVogel@eba.ca> wrote:

> Hi Bubby,
>
> I believe we have resampled for IEC1-18 to 22. Kyle had hand delivered two samples on his way out of Iqaluit with IEC1-18 to IEC1-19 and I have PCB results reported for that analysis. These were rush tested on the weekend, you may recall. IEC1-20 to IEC1-22
> were likely resampled and were sent with shipment 14 dated August 25. BW-2 (Holding Tank) for discharge criteria would likley be out of date for most if not all analysis and unless it would be of value (we are very interested in oil and grease results and phenols) it is probably not worth testing. I would appreciate it if you held the samples though until I talk to Michel H. to ensure I have analyzed the situation correctly. He is currently in transit to Ottawa.
>
> Regards,
> Herb
>
> . **From:** Iqaluit Analytical Services Unit [mailto:iasulab@gmail.com]
> **Sent:** Wed 02/09/2009 1:15 PM
> **To:** Herb Zier-Vogel; Michel Hebert
> **Cc:** Allison Rutter

Subject: Shipments 16, 17, missing cooler with samples IEC1-18 to IEC1-22

Hello,
We just received shipment #16 and # 17 at about 1:30 or so, shortly after Herb called. Also included with this shipment was a small cooler with samples IEC1-18 to IEC1-22 and BW-2. The sampling date on these was July 30th. QC told us that the cooler had been sitting at First Air for a long time and someone there had apparently just found the paperwork. I will be sending shipment 16 and 17 south for analysis - do you still wish for the IECI 18-22 series and BW-2 to be analyzed or did you re-sample??
thanks,
bk
Iqaluit Analytical Services Unit

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of one cooler

Shipment #14

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering

ADDRESS: 14940-123 Ave. Edmonton, AB T5V 1B4 ph: 780-451-2121 fax: 780-454-5686

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DRAWLINE BARREL PROTOCOL	PCB's	DCC Metals	F1 to F4	Phenol			Comments/ Special Requests
IEC 1-44 (MH)	Aug21		2	W	X				X			
~~IEC 1-44~~												
IEC 1-45	Aug21		1	W	X							
IEC 1-46	Aug22		1	W	X							
IEC 1-47	Aug~~24~~25	12:25	3	S		X	X	X				2 Jars + 1 Bag
AST 2-1	Aug23	13:40	1	W		X						Sample submitted previously broke.
IEC 1-20	Aug21		1	W	X							
IEC 1-21	Aug21		1	W	X							
IEC 1-22	Aug21		1	W	X							
IEC 1-26	Aug24	13:20	1	W	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca) and Heba Zaki (hzaki@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Mark Michaud	Aug25				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Shipment # 15
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 ph: 780-451-2121 fax: 780-454-5688					F1 to F4	BC Metals	PCB						
SAMPLER:(Signature) Michel Hebert													
SAMPLE NAME:	COLLECTION Date	COLLECTION Time											Comments/ Special Requests
WA6-CS1	Aug28	13:15	2	Soil	X								All Hydrocan test on Rush
WA6-CS2	"	13:30	3 (1B 2J)	"	X	X	X						
WA6-CS3	"	13:45	2	"	X								
WA6-CS4	"	14:00	2	"	X								
WA6-CS5	"	14:15	3 (1B 2J)	"	X	X	X						
WA6-CS6	"	14:30	2	"	X								
WA6-CS7	"	14:45	2	"	X								
WA6-CS8	"	15:00	2	"	X								
WA6-CS9	"	15:15	3 (1B 2J)	"	X	X	X						
WA6-CS10	"	15:30	2	"	X								
WA6-CS11	"	15:45	2	"	X								
WA6-CS12	"	16:00	3 (1B 2J)	"	X	X	X						
WA6-CS13	"	16:15	2	"	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca), Herb Ziervogel (hzierv ogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug29				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Shipment # 15
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	DCC Metal	PCB					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify) / Comments/ Special Requests
WA6 - CS14	Aug 28	16:30	2	So.1	X							All Hydrocarbon test on Rush
WA6 - CS15		16:45	2		X							
WA6 - CS16		17:00	2		X							
WA6 - CS17		17:15	1		X							
WA6 - CS18		17:30	2		X							
WA6 - CS19		17:45	3 (1B 2J)		X	X	X					
WA6 - CS20		18:00	2		X							
WA6 - CS21		18:15	2		X							
WA6 - CS22		18:30	3 (1B 2S)		X	X	X					
WA6 - CS23		18:45	2		X							
WA6 - CS24		19:00	2 (1B 1S)		X	X	X					
WA6 - CS25		19:15	2		X							
WA6 - CS26	↓	19:30	3 (1B 2S)	↓	X	X	X					↓

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 29				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Shipment #15
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	DCC Metals	PCB					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
WA6-CS27	Aug28	17:15	2	Soil	X								All Hydrocarbon test on a RUSH
WA6-CS28	"	20:00	2	Soil	X								
WA6-CS29	"	20:15	2	Soil	X								
WA6-CS30	"	20:30	3 (1B 2T)	Soil	X	X	X						
WA6-CS31	"	20:45	2	Soil	X								
WA6-CS32	"	21:00	3 (1B 2T)	Soil	X	X	X						
WA6-CS-Dup1	"	0:00	2	Soil	X								
WA6-CS-Dup2	"	0:00	2	Soil	X								
WA6-CS-Dup3	"	0:00	2	Soil	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 29				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment #16
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940 - 123 Ave Edmonton, AB T5V 1B4 ph: 780-451-2121 fax: 780-454-5688			DCC Metals								
SAMPLER:(Signature) Michel Hébert											
SAMPLE NAME:	COLLECTION Date	COLLECTION Time									Comments/ Special Requests
AEC11-1	Aug 30	14:45	1	Soil	X						
AEC11-2		14:55	1		X						
AEC11-3		15:05	1		X						
AEC11-4		15:15	1		X						
AEC11-5		15:25	1		X						
AEC7-1		15:35	1		X						
AEC7-2		15:45	1		X						
AEC7-3		15:55	1		X						
AEC7-4		16:05	1		X						
AEC7-5		16:15	1		X						
AEC7-6		16:25	1		X						
AEC7-7		16:35	1		X						
AEC7-8	↓	16:45	1	↓	X						

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca), Herb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment # 16
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC7-9	Aug 30	16:55	1	Soil	X								
AEC7-10	"	17:05	1	"	X								
AEC7-11	"	17:15	1	"	X								
AEC7-Dup1	"	0:00	1	"	X								
AEC9-1	Aug 31	7:00	1	"	X								
AEC9-2	"	7:10	1	"	X								
AEC9-3	"	7:20	1	"	X								
AEC9-4	"	7:30	1	"	X								
AEC9-5	"	7:40	1	"	X								
AEC9-6	"	7:50	1	"	X								
AEC9-7	"	8:00	1	"	X								
AEC9-8	"	8:10	1	"	X								
AEC9-9	"	8:20	1	"	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment # 16
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Michaud

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: Dcc's Metal							Comments/ Special Requests
AEC9-10	Aug31	5:30	1	Soil	X							
AEC9-11		8:40	1		X							
AEC9-12		5:50	1		X							
AEC9-13		9:00	1		X							
AEC9-14		9:10	1		X							
AEC9-Dup1		0:00	1		X							
AEC9-Dup2		0:01	1		X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Michaud	Aug31	10:30			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Reply Reply to all Forward | Close | Help

From: Paula Whitley [whitleyp@queensu.ca] Sent: Fri 9/4/2009 7:55 AM

To: Michel Hebert; Herb Zier-Vogel; Daniela Felske

Cc: Allison Rutter; iasulab@gmail.com; Kyle Levac

Subject: problem re shipment # 16

Attachments:

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Samples AEC9-1 through to AEC9-6 have no labels left on the bags of soils received - a lot of the other labels were wearing off too but I can identify them.

Please advise as to what to do with these 6 soils -

thanks

Paula

Reply Reply to all Forward | Close | Help

From: Paula Whitley [whitleyp@queensu.ca] Sent: Fri 9/4/2009 7:55 AM

To: Michel Hebert; Herb Zier-Vogel; Daniela Felske

Cc: Allison Rutter; iasulab@gmail.com; Kyle Levac

Subject: problem re shipment # 16

Attachments:

View As Web Page

Samples AEC9-1 through to AEC9-6 have no labels left on the bags of soils received - a lot of the other labels were wearing off too but I can identify them.

Please advise as to what to do with these 6 soils -

thanks

Paula

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment #17
total of 1 box

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering

ADDRESS: 14940 - 123 Ave ph: 780-451-2121
Edmonton AB
T5V 1B4 fax: 780-454-5688

SAMPLER:(Signature) Michel Hebert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals							Comments/ Special Requests
AEC12-1	Sept.1	13:40	1	Soil	X							
AEC12-2		13:45	1		X							
AEC12-3		13:50	1		X							
AEC12-4		13:55	1		X							
AEC12-5		14:00	1		X							
AEC12-6		14:05	1		X							
AEC12-7		14:10	1		X							
AEC12-8		14:15	1		X							
AEC12-9		14:20	1		X							
AEC12-10		14:25	1		X							
AEC12-11		14:30	1		X							
AEC12-12		14:35	1		X							
AEC12-13	↓	14:40	1	↓	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hébert (mhebert@eba.ca), Herb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hebert	Sept 1	16:00			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
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Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment #17
Total of 1 box

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: Dcc Metals							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC12-14	Sept 1	14:45	1	Soil	X								
AEC12-Dup1	Sept 1	0:00	1	Soil	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Sept 1	16:00			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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EBA SHIPMENT 18

Page 1 of 1

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering Consultants	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 Avenue p780 451-2121 Edmonton Alberta T5V 1R4 f:780-454-5893			PCBs								
SAMPLER:(Signature)											Comments/ Special Requests
SAMPLE NAME: / COLLECTION Date / Time											
AEC4-1 Sept 3 1:00	1	S	X								
AEC4-2	1	1	X								
AEC4-3	1	1	X								
AEC4-4	1	1	X								
AEC4-5	1	1	X								
AEC4-6	1	1	X								
AEC4-7	1	1	X								
AEC4-8	1	1	X								
AEC4-9	1	1	X								
AEC4-10	1	1	X								
AEC4-1 Dup.	1	1	X								

ANTICIPATED CHEMICAL HAZARDS:
Soil samples with PCBs and hydrocarbons

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)
dmella@eba.ca (dfella@eba.ca) ; hziarsand@eba.ca ; mhebert@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 3	12:00			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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EBA shipment #19

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA Engineering Consultants

ADDRESS: 14940-123 Avenue p 780-451 2121
Edmonton Alberta (f) 780 454-5688

SAMPLER:(Signature)

SAMPLE NAME: Herb Zwiegel	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals							Comments/ Special Requests
AEC9 1	Sept 6	3:30	1	S	X							replacement for previous sample
AEC9-2	Sept 6		1	S	X							
AEC9-3	Sept 6		1	S	X							
AEC9-4	Sept 6		1	S	X							
AEC9-5	Sept 6		1	S	X							
AEC9-6	Sept 6		1	S	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: Metal & Hydrocabons

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dtelike@eba.ca hziegel@eba.ca mhebert@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 6	5:00			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
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Chain Of Custody Record

EBA Shipment #20 pg 1 of 2 **IASU #:** 18 kg

COMPANY NAME: EBA Engineering Consultants			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 Ave Edmonton, Alberta					CCME F1, F2, F3, F4	DGC metals	PCBs	DEW Line Barrel Protocol					
SAMPLER:(Signature) Herb Ziervogel													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
IEC3-4	Sept 5	10:00 pm	2	Soil	✓	✓	✓						
IEC1-48	Sept 6	10:00	1	Oil				✓					
QLLF-1	Sept 6	5:00 pm	1	Soil									
QLLF-3	↓	↓	1	↓	✓								
QLLF-5			1		✓								
QLLF-7			1		✓								
AEC1-31	Sept 7	3:30 pm	2		✓								
AEC1-32	Sept 7	↓	2		✓								
AEC1-33			2		✓								
AEC1-34			2		✓								
AEC1-35			2		✓								
AEC1-36			2		✓								
AEC1-37	↓	↓	2	↓	✓								

ANTICIPATED CHEMICAL HAZARDS: Hydrocarbons, metals, PCBs

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca ; hziervogel@eba.ca mhebert@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 8	1:00 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Chain Of Custody Record

IASU #:

EBA Shipment 20 page 2 of 2

COMPANY NAME: EBA Engineering Consultants ADDRESS: 14940-122 Avenue Edmonton Alberta p 780-451-2121 f 780-454-5689			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: CCME F1 F2 F3 F4							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLER:(Signature)													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
AEC1-38	Sept 7	330	2	Soil	✓								
AEC1-39			2		✓								
AEC1-40			2		✓								
AEC1-41			2		✓								
AEC1-Dupl			2		✓								

ANTICIPATED CHEMICAL HAZARDS: Hydrocarbons, metals, PCBs

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelix@eba.ca ; hziemczyk@eba.ca ; mhebert@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 8	1:00 PM			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
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Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 2 of 1
1 COOLER

Chain Of Custody Record

IASU #:

1/1

COMPANY NAME: EBA ENGINEERING

ADDRESS: #940-123 AVE
EDMONTON, AB
T5V 1B4

SAMPLER:(Signature) D.FELSKE

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1-F4	TEST(S) REQUESTED: metals	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	Comments/ Special Requests
MS-FILL-TP1	SEPT10	10:00 am	1	Soil	X							
MS FILL-TP2					X							
MS-FILL-TP3					X							
MS-FILL-TP4					X							
MS-FILL-TP5					X							
MS-FILL-TP6					X							
MS COMPOSITE #1					X							
MS COMPOSITE#2					X							
WA2-2 black soil confirm	SEPT13	11:00 am	1	S	X	X						

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: NONE

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☑ Other (Please Specify) ☐

REPORT TO: (Project Manager) bhume@eba.ca, mhebert@eba.ca, dfelske@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept10/09	2pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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SHIPMENT #22
1 cooler

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING ADDRESS: HEAD-123 AVE EDMONTON AB T5V-1B4 780-451-2121 SAMPLER:(Signature)			# OF CONTAINERS	SAMPLE MATRIX	DISCHARGE CRITERIA	PHENOLS	TEST(S) REQUESTED					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLE NAME: DANIELLA FELSKE	COLLECTION Date	Time										Comments/ Special Requests	
AST3-1 TREATED	Sept 10	6pm	9	W	X	X							

ANTICIPATED CHEMICAL HAZARDS: NONE

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dclske@eba.ca, mcrwojeeba.ca, mabet_mpierre@eba.ca

RELINQUISHED BY: (Signature)	Date: Sept 11/09	Time: 8 am	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT# 23
8Kg

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 4340-123 AVE
EDMONTON, AB T5V 1B4
Phone: 780-451-2121

SAMPLER:(Signature)

SAMPLE NAME: DFELSKE

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: WATER DISCHARGE	TEST(S) REQUESTED: PHENOLS	Comments/ Special Requests
AST 3-TREATED-2	SEPT 13	8:am	7	W	X	X	RUSH

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: NONE

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)
dfelske@eba.ca hziemiad@eba.ca, bhome@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 13/09	9:00 am			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Tel: (867) 979-1282 Fax: (867) 979-1283

1 COOLER
SHIPMENT 24

Chain Of Custody Record

1/2

IASU #: recd ship on Wed 17 (pm)

COMPANY NAME: EBA ENGINEERING ADDRESS: 14940 123 Ave edmonton, AB 780-451-2121 Tav. 134 SAMPLER:(Signature)			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1-F4	DCC Metals	PCB					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)
SAMPLE NAME:	COLLECTION Date	Time										Comments/ Special Requests
WA2-SP1	Sept 13	10am	4	Soil	X	X	X					
WA2-SP2	"	"	4	"	X							
WA2-SP3	"	"	4	"	X	X						
WA2-SP4	"	"	4	"	X							
WA2-SPILL	Sept 12	8am	4	Soil	X	X	X					
WA3-1			3	Soil	X							
WA3-2			1	1	X	X						
WA3-3			1	1	X		X					
WA3-4			1	1	X							
WA3-5			1	1	X							
WA3-6			1	1	X	X						
WA3-7			1	1	X							
WA3-8			1	1	X	X	X					

ANTICIPATED CHEMICAL HAZARDS: WA2-Spill is highly hydrocarbon-impacte

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca mhebert@eba.ca, hzierwagel@eba.ca; bhanc@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
DFELSKE	Sept 14	1:45			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
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Tel: (867) 979-1282 Fax: (867) 979-1283

SHIP# 24

Chain Of Custody Record

2/2

IASU #:

COMPANY NAME: see pg 1			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS:					F1-F4	DCC	metals	PCBs					
SAMPLER:(Signature)													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
WA3-9	Sept 14	11am	3	Soil	X	X	X						
WA3-10					X	X							
WA3-SP1					X								
WA3-SP2					X	X							
WA3-SP3					X		X						
WA3-SP4					X	X							
AEC4-SP	Sept 12	3am	1	Soil	X		X						
DUPLICATE 1			4		X	↓	↓						
DUPLICATE 2			3		X								

ANTICIPATED CHEMICAL HAZARDS: None

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Mel

RELINQUISHED BY: (Signature)	Date Sept 14	Time 1:45	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #25

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING ADDRESS: 14940-123 AVE EDMONTON, AB T6L-5E6 780.451.2121 SAMPLER:(Signature) D. FELSKE			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED						MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLE NAME:	COLLECTION Date	Time			F1-F4	DCM METALS	PCB					Comments/ Special Requests
WA2-BASE-NEAR14	SEPT 15	3pm	2	SOIL	X	X						
WA2-1@70cm					X							
WA2-2@80cm					X							
WA2-3@					X	X						
WA2-4@80cm					X							
WA2-5@75cm					X	X	X					
WA2-6@50cm					X							
WA2-7@30cm					X							
WA2-8@30cm					X	X						
WA2-9@30cm					X		X					
WA2-10@30cm					X							
WA2-11@110cm					X							
WA2-12@60cm	↓	↓	↓	↓	X	X	↓					

ANTICIPATED CHEMICAL HAZARDS: MINOR HYDROCARBON CONTAMINATION

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca ; hziervogel@eba.ca ; bhorne@eba.ca ; bdion@stabilis.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 16, 2009	8:00am			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #25

Chain Of Custody Record

2/3

IASU #:

COMPANY NAME: / ADDRESS: SEE PG1 →			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLER:(Signature)													
SAMPLE NAME:	COLLECTION Date	Time			F1-F4	DISSOLVED METALS	PCB					Comments/ Special Requests	
WA2-13@50cm	SEPT 15	3pm	2	SOIL	X	X	X						
WA2-14@50cm					X								
WA2-15@50cm					X	X							
WA2-16@70cm					X								
WA2-17@70cm					X		X						
WA2-SP5						X							
WA2-SP6					X								
WA2-SP7					X								
WA2-SP8					X	X							
WA2-SP9					X		X						
WA2-SP10					X								
WA2-SP11					X								
WA2-SP12	↓	↓	↓	↓	X	X	↓						

ANTICIPATED CHEMICAL HAZARDS:
MINOR HYDROCARBON CONTAMINATION

METHOD OF SHIPMENT:
Courier (Air) ☒ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)
SEE PG1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 16	8:30 am			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #2 3/3

Chain Of Custody Record

IASU #:

COMPANY NAME: / ADDRESS: SEE PG 1 / SAMPLER:(Signature)			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLE NAME:	COLLECTION Date	COLLECTION Time			F1-F4	DCC METALS	PCBS					Comments/ Special Requests	
WA2-SP13	SEPT 13	SEPT 13	2	SOIL	X	X	X						
WA2-SP14	↓	↓	↓	↓	X	X	X						
WA2-SP15	↓	↓	↓	↓	~	~	~						
WA3-SP2	SEPT 13	8:00	1	SOIL		X	X						
DUPLICATE 1	SEPT 15	3 pm	1	↓	X								
DUPLICATE 2	↓	↓	1	↓	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SEE PG 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 16	9:00am			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #2

Chain Of Custody Record 1/4

IASU #:

COMPANY NAME: EBA ENGINEERING
ADDRESS: #4-10-123 AVE EDMONTON, AB T5V 1B4 780-451-2121
SAMPLER:(Signature)
SAMPLE NAME: D. FELSKE

	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: PAH	METALS						Comments/ Special Requests
AEC15-CONFIRM-1	SEPT 17	4pm	2		X							PLS REPORT AS PER TABLE 1 OF CCME PAH GUIDELINES (2008) (ie, also the BaP total potency equivalent
AEC15-CONFIRM-2			2		X							
" " -3			2		X							
" " -4			2		X							
" " -5			2		X							
" " -6			3		X	X						
" " -7			2		X							
" " -8			3		X	X						
" " -9			2		X							
" " -10			2		X							
" " -11			2		X							
" " -12			2		X							
" " -13			2		X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: CREOSOTE, (PAH)

METHOD OF SHIPMENT: Courier (Air) ☒ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca, bdion@stabilis.ca ; bhume@eba.ca; hziervogel@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 18	3:00			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26

Chain Of Custody Record 2/4

IASU #:

COMPANY NAME: see pg 1

ADDRESS:

SAMPLER:(Signature)

SAMPLE NAME: DFELSCE

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: PAH	PAH	METALS	ONTARIO REG. TCLP	FOR LANDFILL DISPOSAL TCLP	HOLD UNTIL PRICE CONFIRMED	PROVIDED	Comments/ Special Requests
AEC15-CONFIRM-14	SEPT 17	4pm	3	S	X		X					ONT. REG (TCLP)
" " -15	"	"	2	"	X							FOR LANDFIL
" " -16	"	"	2	"	X							DISPOSAL TO INCLUDE
" " -17	"	"	2	"	X							(MIN)
AEC15 CONFIRM-ARCH1	"	"	2	"	X							CHROMIUM
AEC15-CONFIRM-ARCH2	"	"	3	"	X		X					ARSENIC
IEC3-5	"	"	2	"				X		X		PENTA
IEC3-6	"	"	2	"				X		X		HCB
IEC3-7	"	"	3	"				X		X		DIOXIN/FURAN
AEC 8-1@50cm	SEPT 18	10am	1	S			X					B[a]P
AEC8-2@50cm	"	"	1	S			X					
AEC8-3@50cm	"	"	1	S			X					
AEC8-4@40cm	"	"	1	S			X					

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 19				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26

Chain Of Custody Record 3/4

IASU #:

COMPANY NAME:

ADDRESS: see pg 1

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: METALS	ROUTINE	METALS	RUSH				MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC85@40cm	SEPT 15	10:00am	1	S	X								
AEC86@50cm			1	S	X								
AEC8-7@40cm			1	S	X								
AEC8-8@90cm			1	S	X								
AEC8-9@100cm			1	S	X								
AEC8-10@110cm			1	S	X								
AEC8-DUPLICATE 1			1	S	X								
SURF WATER NEAR LF		3pm				X	X						
LF BASE-1 UNFILTERED						X	X	X					please do not re-filter the filtered samples (report dissolved metals only)
LF BASE-1 FILTERED						X	X	X					
LF BASE-2 UNFILTERED						X	X	X					
MW1-2 FILTERED						X	X	X					
MW1-2 UNFILTERED						X	X	X					

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date: SEPT 19	Time: 3pm	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26 Chain Of Custody Record 4/4

IASU #:

COMPANY NAME:

ADDRESS: see pg 1

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: ROUTINE	METALS	RUSH					Comments/ Special Requests
MW2-1 FILTERED					X	X	X					please do not re-filter the filtered samples (report dissolved metals only)
MW2-1 UNFILTERED					X	X	X					
MW3-2 FILTERED					X	X	X					
MW3-2 UNFILTERED					X	X	X					

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8 | Ph: (403) 291-3077 | Fax: (403) 735-2240 | Toll free: (800) 386-7247
Edmonton: 9331 – 48 Street, T6B 2R4 | Ph: (780) 465-1212 | Fax: (780) 450-4187 | Toll free: (877) 465-8889
www.maxxamanalytics.com

SHIPMENT #27

86826

CHAIN OF CUSTODY

Page: 1 of 2

Invoice To: Require Report? Yes ☐ No ☐	**Report To:**	
Company Name:	DEGA ENGINEERING	PO # / AFE #:
Contact Name:	14940-123 AVE	Quotation #:
Address:	EDMONTON, AB	Project #:
Prov: **PC:**	**Prov:** **PC:**	Project Name:
Contact #s: **Ph:** **Fax:**	**Ph:** 780.451.2121 **Fax:**	Location:
		Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:
Check the applicable criterion and indicate land use
☐ AT1 _____
☐ CCME _____
☐ OTHER _____

REPORT DISTRIBUTION:
EMAIL ADDRESS(S):

SERVICE REQUESTED:
☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required: _____
☐ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F2 - F4	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC10-1@30cm	S	Sept 19/10 30am								X											2
2	AEC10-2@50cm										X											2
3	AEC10-3@80cm										X											2
4	AEC10-4@40cm										X											2
5	AEC10-5@20cm										X											2
6	AEC10-6@40cm										X											2
7	AEC10-7@40cm										X											2
8	AEC10-8@40cm										X											2
9	AEC10-9-base										X											2
10	AEC10-10-base										X											2
11	AEC10-11-base										X											2
12	AEC10-12-base										X											2

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE **Date/Time:** Sept 20/8am
Sign and Print:
COMMENTS/SPECIAL INSTRUCTIONS:
* PLEASE RUSH WATER SAMPLE *

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT 27

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8
Edmonton: 9331 – 48 Street, T6B 2R4

Ph: (403) 291-3077 Fax: (403) 735-2240 Toll free: (800) 386-7247
Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-8889
www.maxxamanalytics.com

86827 **CHAIN OF CUSTODY**

Page: 2 of 2

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

Report To: + PHENOLS

Prov: PC:
Ph: Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1 _____
☐ CCME _____
☐ OTHER _____

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required: _____
☐ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F2-F4 WATER DISTILLED RUSH	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3] Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC10-13-base										X											2
2	AEC10-14-base										X											2
3	AEC10-16-base										X											2
4	AEC10-17@50m										X											2
5	DUPLICATE 1										X											2
6	DUPLICATE 2										X											2
7	* IEC4-7 AST2-1-TREATED WATER SENT 9/15pm										X											6
8																						
9																						
10																						
11																						
12																						

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: _____ **Date/Time:** _____

Sign and Print: _____

COMMENTS/SPECIAL INSTRUCTIONS:

*PLEASE RUSH WATER SAMPLE *

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT #28 2-COOLERS

86828

CHAIN OF CUSTODY

Page: 1 of 4

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Edmonton: 9331 – 48 Street, T6B 2R4 | Ph: (780) 465-1212 | Fax: (780) 450-4187 | Toll free: (877) 465-8889

www.maxxamanalytics.com

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

Report To:

EBA ENGINEERING
14940-123 AVE
EDMONTON, AB
Prov: T5V 1B4 PC:
Ph: 780-451-2121 Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1
☐ CCME
☐ OTHER

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

dfelske@eba.ca
bdion@stabilis.ca
hzierwgel@eba.ca

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required:
☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F1-F4	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[1]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC3-1 @40cm	S	Sept20/5pm								X											
2	AEC3-2 @40cm	S									X											
3	AEC3-3 @30cm	S									X											
4	AEC3-4 @40cm	S									X											
5	AEC3-5 @50cm	S									X											
6	AEC3-6 @50cm	S									X											
7	AEC3-7 @50cm	S									X											
8	AEC3-8 @40cm	S									X											
9	AEC3-9 @30cm	S									X											
10	AEC3-10 @40cm	S									X											
11	AEC3-11 @35cm	S									X											
12	AEC3-12 @50cm	S									X											

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE Date/Time: SEPT 20/8pm

Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT #28 - 2 COOLERS

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8
Edmonton: 9331 – 48 Street, T6B 2R4

Ph: (403) 291-3077 Fax: (403) 735-2240 Toll free: (800) 386-7247
Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-8889
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86830

CHAIN OF CUSTODY
Page: 2 of 4

Invoice To: Require Report? Yes ☐ No ☐	**Report To:**	
Company Name:		PO # / AFE #:
Contact Name:		Quotation #:
Address:		Project #:
Prov: **PC:**	**Prov:** **PC:**	Project Name:
Contact #s: **Ph:** **Fax:**	**Ph:** **Fax:**	Location:
		Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:
Check the applicable criterion and indicate land use
☐ AT1 _____
☐ CCME _____
☐ OTHER _____

REPORT DISTRIBUTION:
EMAIL ADDRESS(S):

SERVICE REQUESTED:
☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required: _____
☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	☐ TCLP ☐ BTEX ☐ Metals	E1 – E4	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[1]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC3-13@50cm	S	Sept 20/5pm								X											
2	AEC3-14@40cm	S									X											
3	AEC3-15@40cm	S									X											
4	AEC3-16@40cm	S									X											
5	AEC3-17@50cm	S									X											
6	AEC3-18@50cm	S									X											
7	AEC3-19@50cm	S									X											
8	AEC3-20-base	S									X											
9	AEC3-21-base	S									X											
10	AEC3-22-base	S									X											
11	AEC3-23-base	S									X											
12	AEC3-24-base	S									X											

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE **Date/Time:** Sept 20/8 am
Sign and Print:
COMMENTS/SPECIAL INSTRUCTIONS:

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT #28 – 2 COOLERS

86831

CHAIN OF CUSTODY

Page: 3 of 4

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8
Ph: (403) 291-3077 Fax: (403) 735-2240 Toll free: (800) 386-7247

Edmonton: 9331 – 48 Street, T6B 2R4
Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-8889

www.maxxamanalytics.com

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

See pg 1

Report To:

Prov: PC:
Ph: Fax:

PO # / AFE #:	
Quotation #:	
Project #:	
Project Name:	
Location:	
Sampler's Initials:	DF

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1
☐ CCME
☐ OTHER

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required:
☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)'	Assessment ICP Metals²	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F1-F4 METALS DELINE AREA PROPOSED	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)' Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC3-25-base	S	Sept 20/5pm								X											
2	AEC3-26-base	S									X											
3	AEC3-27-base	S									X											
4	AEC3-28-base	S									X											
5	AEC3-29-base	S									X											
6	AEC3-30-base	S									X											
7	AEC3-31-base	S									X											
8	AEC3-32-base	S									X											
9	AEC3-DUPLICATE 1	S									X											
10	AEC3-DUPLICATE 2	S									X											
11	AEC3-DUPLICATE 3	S									X											
12	AEC3-B	S									X											

All samples will be held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE Date/Time: Sept 20/8pm

Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT 28

86833

CHAIN OF CUSTODY

Page: 4 of 4

Maxxam Analytics

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Edmonton: 9331 – 48 Street, T6B 2R4 | Ph: (780) 465-1212 | Fax: (780) 450-4187 | Toll free: (877) 465-8889

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Invoice To: Require Report? Yes ☐ No ☐	**Report To:**	
Company Name:		PO # / AFE #:
Contact Name:		Quotation #:
Address:		Project #:
Prov: **PC:**	**Prov:** **PC:**	Project Name:
Contact #s: **Ph:** **Fax:**	**Ph:** **Fax:**	Location:
		Sampler's Initials:

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1 _____

☐ CCME _____

☐ OTHER _____

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)

Date Required: _____

☐ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	WATERS (footnotes defined on back): 1 DAY TURNAROUND (please call lab)	BTEX F1 ☐ VOCs	BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[1]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	Ammonia ☐ TKN ☐ COD	TOC ☐ DOC	OTHER TEST(S): FLASHPOINT	*HOLD for 60 Days	# of Containers Submitted
1	~~TEST~~																					
2	~~TEST-B~~										XX											
3	IEC1-49	O+W	Sept 21/5pm								X									X		1
4	IEC1-50	W	Sept 22/12pm								XX											2
5	IEC1-51	W	"								XX											2
6																						
7																						
8																						
9																						
10																						
11																						
12																						

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FISKE **Date/Time:** Sept 23

Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT # 29

86835

CHAIN OF CUSTODY

Page: ____ of ____

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8
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Edmonton: 9331 – 48 Street, T6B 2R4
Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-8889

www.maxxamanalytics.com

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

Report To:

EBA ENGINEERING
14940-123 AVE
EDMONTON, AB
T6V-1B4

Prov: PC:
Ph: 780-451-2121 Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials:

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1 _____
☐ CCME _____
☐ OTHER _____

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required: _____
☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F1-F4 Metals	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	WA2-TP3-1st black										X											
2	WA2-TP3-2nd black										X											
3	WA2-TP4-1st black										X											
4	WA2-TP4-2nd black										X											
5	WA2-TP4-br sand between										X											
6	WA2-TP5-0.6m										X											
7	WA2-TP6-0.8m										X											
8	WA2-TP6-base										X											
9	WA2-TP7-2nd black										X											
10	WA2-TP8-0.6m										X											
11																						
12																						

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: MANUELA FELSKE **Date/Time:** Sept 24/06 3pm

Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* total of 2 coolers from this order

Chain Of Custody Record

IASU #: ASU # 12090

First Cooler kept at IASU.

COMPANY NAME: EBA Engineering Consultants
ADDRESS: 14940 - 123 Ave Edmonton, AB T5V 1B4 Phone: 780-451-2121 Fax: 780-454-5688
SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	Dew Line Barrel Protocol						Comments/ Special Requests
BL2 - A ✓	July 18	9:30	2	Soil	X							
BL2 - B ✓		9:40			X							
BL2 - C ✓		9:50			X							
BL2 - D ✓		10:00			X							
BL2 - E leak ✓		10:10			X							
BL2 - F		10:20			X							
BL2 - G		10:30			X							
BL2 - H		10:40			X							
BL2 - I		10:50			X							
BL2 - J		11:00			X							
BL2 - K		11:10			X							
BL2 - L		11:40			X							
BL2 - M	↓	11:50	↓	↓	X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: None

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Bill Horne (bhorne@eba.ca), Herb Ziervogel (hziervogel@eba.ca) and Michel Hebert (mhebert@eba.ca), Daniela Felske (dfelske@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	July 19/2009	7:00pm (EST)		27 Jul 09	
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 2 coolers from this Order

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Mélant

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	Dewline Barrel Protocol						MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
BL2 - N	July 18	12:00	2	Soil	X								
sent south BL2 - O	↓	11:30	↓	↓	X								
BL2 - P	↓	11:20	↓	↓	X								
IEC1 - 12	July 19	14:55	2	Lube oil	[redacted]	X							
IEC1 - 13	July 19	14:30	1	Water		X							
IEC1 - 14	July 19	13:50	1	Grease		X							1 Jar sample
IEC1 - 9	July 18	14:05	2	Water		X							
IEC1 - 10	July 18	14:25	1	Water		X							Please Analyse water Not product
IEC1 - 11	July 18	14:45	1	Water		X							
IEC3 - 2	July 19	13:30	1	O									Asbestos Analysis
IEC3 - 3	July 19	13:35	1	O									Asbestos Analysis

ANTICIPATED CHEMICAL HAZARDS: None

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature) Michel Mélant	Date July 19/2009	Time 7:00 PM (EST)	RECEIVED BY: (Signature) B. Kettlewell	Date 21 July	Time 12:00 pm
RELINQUISHED BY: (Signature) B. Kettlewell	Date 21 July 09	Time 12:30	RECEIVED BY: (Signature) [illegible]	Date 22 Jul 09	Time 10:10am

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12090			Report ID:	CC Barrel-2	
Client:	**INAC**			Date Submitted:	27-Jul-09	
				Date Reported:	30-Jul-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					

Identity of Barrel Contents

Barrel	Identity
IEC1-9	water
IEC1-10	top: fuel oil ; bottom: water
IEC1-11	water
IEC1-12	lubricating oil & grease
IEC1-13	water
IEC1-14	lubricating oil & grease

PCB,Chlorine and Metal Results of Barrel Contents

	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-9	water	water	water	water	water	on land[c]
IEC1-10	<2.0	<1000*	<10	<100	<2	incincerate
IEC1-11	water	water	water	water	water	on land[c]
IEC1-12	<2.0*	10600	<10	<100	<2	ship south
IEC1-13	water	water	water	water	water	on land[c]
IEC1-14	<2.0	<1000	<10	<100	<2	incincerate

* average result of duplicates

a: Disposal as per DCLU Barrel Protocol

b: Top phase where there are two phases present

c: Water disposal by dumping on land at least 30 m from natural water courses

d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above

Laboratory QA/QC

	PCB	Chlorine	Chromium	Lead	Cadmium
	ug/g	ug/g	mg/L	mg/L	mg/L
Blank	<2.0	<1000	<10	<100	<2
IEC1-10 dup	-	<1000 ; <1000	-	-	-
IEC1-12 dup	<2.0 ; <2.0	-	-	-	-
Control	49.6	945	2.6	2.7	0.27
Control Target	50.0	995	3.0	3.0	0.30
Date testing initiated:	27-Jul-09	28-Jul-09	28-Jul-09	28-Jul-09	28-Jul-09

Prepared by: R. Whitley

Graham Cairns, PhD
Research Associate

Authorization:

ASU #	12090	Report ID:	CC Barrel-5		
Client:	**INAC**	Date Submitted:	27-Jul-09		
		Date Reported:	5-Aug-09		
		Matrix:	Barrel contents		
Site:	**Cape Christian**				
Barrel	**Identity**	**Flashpoint of Product °C	**pH**		
IEC1-9	water	-	4.3		
IEC1-10	top: fuel oil ; bottom: water	n.e.	-		
IEC1-11	water	-	6.0		
IEC1-12	lubricating oil & grease	>135.0	-		
IEC1-13	water	-	5.3		
IEC1-14	lubricating oil & grease	>135.0	-		
Control	Kerosene	74.5	-		
Control target	Kerosene	74.4	-		
n.e. not enough sample for analysis					
** Analysis subcontracted					

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorization: A. Rutter

OSHTECH INCORPORATED

REPORT OF ANALYSIS

Our Reference: 10A319
Client's Reference: ASU# 12090

Client:	Analytical Services Unit Queen's University School of Environmental Studies Biosciences Complex Kingston, ON K7L 3N6	**Date Reported:** **Date Analyzed:** **Date Received:**	July 28, 2009 July 28, 2009 July 28, 2009
Contact:	Paula Whitley	**Analysis:** **Procedure:**	Bulk Asbestos Polarized Light Microscopy/ Dispersion Staining, EPA 600/R-93/116

Results:

Laboratory Sample #	Client Sample Description	Asbestos Content %	Other Major Fibres [1] %
10A319-1	EBA IEC3-2	<LOD	<1% Cotton/Cellulose
10A319-2	EBA IEC3-3	<LOD	<1% Cotton/Cellulose

LOD = 0.5

Notes:
- Samples were packed according to the standard method and accepted for analysis.
- LOD – Limit of Detection
- [1] Fibres other than asbestos are quantified by visual area estimate.

Analyst: Stepan Reut, Ph.D., C.Chem.

Reviewer: Lyudmyla Gotcharenko, B.Sc.

Occupational Health, Safety & Environmental Services
400 York Street, Suite 100
London, ON N6B 3N2
www.oshtechinc.com

AIHA logo demonstrates laboratory participation in AIHA/IHLP program.
Test results pertain only to analysis of samples herein reported.
For details of accreditation visit www.aiha.org

Tel (519) 642-1122
Fax (519) 642-0331
oshtech@oshtechinc.com

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #: ASU # 12060

COMPANY NAME: IASU

ADDRESS: Iqaluit

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED	MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
BL7-e.			1	S			

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
B. Kettlewell	21 July	12:30		22.7.09	10:10 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #: 063

COMPANY NAME: IASU.

ADDRESS: Iqaluit

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED	Comments/ Special Requests
BL3 a soil jars	15 Jul 09.				Metals	
b "	"				"	
c "	"				"	
d "	"				"	
e "	"				"	
f "	"				"	
BL7 a "	"				"	
b "	"				"	
c "	"				"	
d "	"				"	
IEC 1-1 vial	"				Barrel	
2 "	"				"	
3 "	"				"	

MATRIX:
S=Soil
W=Water
T=Tubes Vials
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Iqaluit
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☑

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
B. Kettlewell	15 July 09	11:00			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
				15/7/09	8pm

White: IASU Files Yellow: IA Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Pag 2.

Chain Of Custody Record

IASU #: 063

COMPANY NAME: IqAU

ADDRESS: Iqaluit

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED	Comments/ Special Requests
IEC 1-4 Vial	11				Barrel	
-5 x 2	11		2		11	
-6	11				11	
-7 x2	11		2		11	
-8 x2	11		2		11	
IEC 3-1 x 2 paint	11				PCBs + Lead	
chip stuff	11					

MATRIX:
S=Soil
W=Water
T=Tubes weeks
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: dnelin ✓
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
E Kettlewell	15 July	11:00 am	D. Whitley	15 July	8 pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12060			Report ID:	CC Barrel-1	
Client:	**INAC**			Date Submitted:	16-Jul-09	
				Date Reported:	21-Jul-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					

Identity of Barrel Contents

Barrel	Identity
IEC1-1	water
IEC1-2	water
IEC1-3	water
IEC1-4	fuel oil
IEC1-5	top: lubricating oil & grease; bottom: water
IEC1-6	top: lubricating oil & grease; bottom: water
IEC1-7	top: fuel oil:lubricating oil & grease 1:1 ; bottom: water
IEC1-8	top: fuel oil:lubricating oil & grease 1:75; bottom: water

PCB,Chlorine and Metal Results of Barrel Contents

	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-1	water	water	water	water	water	on land[c]
IEC1-2	water	water	water	water	water	on land[c]
IEC1-3	water	water	water	water	water	on land[c]
IEC1-4	<2.0*	<1000	<10*	<100*	<2*	incinerate
IEC1-5	<2.0	<1000	<10	<100	<2	incinerate
IEC1-6	<2.0	<1000*	<10	<100	<2	incinerate
IEC1-7	<2.0	<1000	<10	316	4.2	ship south
IEC1-8	<2.0	<1000	<10	<100	<2	incinerate

* average result of duplicates

a: Disposal as per DCLU Barrel Protocol

b: Top phase where there are two phases present

c: Water disposal by dumping on land at least 30 m from natural water courses

d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above

Laboratory QA/QC

	PCB	Chlorine	Chromium	Lead	Cadmium
	ug/g	ug/g	mg/L	mg/L	mg/L
Blank	<2.0	<1000	<10	<100	<2
IEC1-4 duplicate	<2.0 ; <2.0	-	<10 ; <10	<100 ; <100	<2 ; <2
IEC1-6 duplicate	-	<1000 ; <1000	-	-	-
Control	40.0	980	2.9	3.0	0.31
Control Target	50.0	997	3.0	3.0	0.30
Date testing initiated:	17-Jul-09	20-Jul-09	20-Jul-09	20-Jul-09	20-Jul-09

Prepared by: Pamela Whitley

Allison Rutter, PhD
Director

Authorization: A. Rutter

ASU #	12060		Report ID:	CC S1					
Client:	INAC		Date Submitted:	16-Jul-09					
			Date Tested:	20-Jul-09					
Site:	Cape Christian		Date:	21-Jul-09					
			Matrix:	Soil					
Report of Analysis			All results in ug/g						
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
BL3-A	<5.0	7.5	7.7	2.9	<10	166	58	<1.0	
BL3-B	<5.0	5.8	6.0	<1.0	<10	252	44	<1.0	
BL3-C	15.0	9.0	6.2	1.2	55	249	49	<1.0	
BL3-D	<5.0	8.3	8.7	<1.0	11	143	80	<1.0	*
BL3-E	<5.0	7.7	8.2	<1.0	<10	299	72	<1.0	
BL3-F	<5.0	<5.0	<5.0	<1.0	<10	<15	26	<1.0	
BL7-A	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL7-B	<5.0	<5.0	<5.0	<1.0	<10	16	<20	1.4	
BL7-C	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL7-D	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	31.5	41.2	12.8	<1.0	19	141	41	17.3	
SS-2	180.7	51.5	13.6	2.0	108	430	42	64.1	
BL3-D	<5.0	10.3	10.7	<1.0	15	169	103	<1.0	
BL3-D	<5.0	6.2	6.7	<1.0	<10	117	58	<1.0	

Allison Rutter, PhD
Director

Prepared by: R. Whitley

Authorization: A. Rutter

ASU #	12060		Report ID:	CC Hg 1					
Client:	**INAC**		Date Submitted:	16-Jul-09					
			Date Tested:	20-Jul-09					
Site:	**Cape Christian**		Date:	21-Jul-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Mercury								
	ng/g dried soil								
BL3-A	7.0								
BL3-B	<5.0								
BL3-C	31.2	*							
BL3-D	19.0								
BL3-E	8.3								
BL3-F	<5.0								
BL7-A	<5.0								
BL7-B	<5.0								
BL7-C	<5.0								
BL7-D	8.0								
Blank	<5.0 ; <5.0								
MESS-3 Control	88.6 ; 88.5								
MESS-3 Control Target	91.0								
BL3-C	32.5								
BL3-C	29.8								
* Average result of duplicates									

Allison Rutter, PhD
Director

Prepared by: P. Whitley

CC Hg1
Page 1 of 1

Authorization: A. Rutter

ASU #	12060	**Report ID:**	CC PCB 1	
Client:	INAC	**Date Submitted:**	16-Jul-09	
		Date tested:	20-Jul-09	
Site:	Cape Christian	**Date:**	23-Jul-09	
		Matrix:	Solid	
Report of Analysis				
Sample	Description	Aroclor 1254	Aroclor 1260	
		ug/g	ug/g	
IEC3-1 A	Jar containing mostly white building material	result to follow	result to follow	
IEC3-1 B	Jar containing mostly green building material & paint	<0.5	<0.5	
IEC3-1 soil	Mix of soil from both of above jars	<0.5	<0.5	*
Blank	-	<0.5	<0.5	
Control	-	-	4.0	
Control Target	-	-	5.0	
IEC3-1 soil	Mix of soil from both of above jars	0.7	<0.5	
IEC3-1 soil	Mix of soil from both of above jars	<0.5	<0.5	
* Average result of duplicate				

Allison Rutter, B.
Director

Prepared By: P. Whitley

Authorization:

ASU #	12060	**Report ID:**	CC PCB 2	
Client:	INAC	**Date Submitted:**	16-Jul-09	
		Date tested:	23-Jul-09	
Site:	Cape Christian	**Date:**	27-Jul-09	
		Matrix:	Solid	
Report of Analysis				
Sample	Description	Aroclor 1254	Aroclor 1260	
		ug/g	ug/g	
IEC3-1 A	Jar containing mostly white building material	<0.5	<0.5	*
Blank	-	<0.5	<0.5	
Control	-	-	5.0	
Control Target	-	-	5.0	
IEC3-1 A	Jar containing mostly white building material	<0.5	<0.5	
IEC3-1 A	Jar containing mostly white building material	<0.5	<0.5	
* Average result of duplicate				

Graham Cairns, PhD
Research Associate

Prepared By: P. Whitley

Authorization: G Cairns

ASU #	12060		Report ID:	CC S2					
Client:	INAC		Date Submitted:	27-Jul-09					
			Date Tested:	28-Jul-09					
Site:	Cape Christian		Date:	29-Jul-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb
BL7-e	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	<5.0
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	<5.0
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	-
MESS-3	28.4	35.0	10.8	<1.0	15	124	36	16.1	-
SS-2	176.5	48.6	13.7	2.1	110	420	41	65.1	-
Control	-	-	-	-	-	-	-	-	95.7
Control Target	-	-	-	-	-	-	-	-	91.0

Prepared by: P. Whitley

Authorization: G. Cairns

Graham Cairns, PhD
Research Associate

ASU #	12060	Report ID:	CC Barrel-4		
Client:	**INAC**	Date Submitted:	16-Jul-09		
		Date Reported:	5-Aug-09		
		Matrix:	Barrel contents		
Site:	**Cape Christian**				
Barrel	**Identity**	**Flashpoint of Product °C	pH		
IEC1-1	water	-	5.6		
IEC1-2	water	-	5.2		
IEC1-3	water	-	5.1		
IEC1-4	fuel oil	69.5	-		
IEC1-5	top: lubricating oil & grease; bottom: water	>135.0	-		
IEC1-6	top: lubricating oil & grease; bottom: water	>135.0	-		
IEC1-7	top: fuel oil:lubricating oil & grease 1:1 ; bottom: water	95.0	-		
IEC1-8	top: fuel oil:lubricating oil & grease 1:75; bottom: water	>135.0	-		
Control	Kerosene	74.5	-		
Control Target	Kerosene	74.4	-		
** Analysis subcontracted					

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorization: A. Rutter

iasulab@gmail.com

IA Sul Chain of Custody

Date: July 14, 2009
Submitted by: Mark Brainard
Company: CBA Engineering Consultants
Results to: CBA Engineering Contact: Mark Brainard
email results: mbrainard@cbaeng.net and dlebeko@cbaeng.net
Phone number: 785-457-2121 or 609-759-0910 x 109
fax number: 785-457-5680

Sample ID	Media	Analysis Request
IBL1-1	water	Dew Line Boreal Package 1 & 2
IBL1-2	water	Dew Line Boreal Package
IBL1-3	Shadyn	Dew Line Boreal Package
IBL1-4	diesel	Dew Line Boreal Package
IBL1-5-2	lube oil	Dew Line Boreal Package
IBL1-6-2	lube oil	Dew Line Boreal Package
IBL1-7-2	lube oil	Dew Line Boreal Package
IBL1-8-2	lube oil	Dew Line Boreal Package
IBL3-1 ✓	point samples	Leadable lead, PCBs
BL3-a ✓	soil	F1-F4, Dec Metals 2 PCBs
BL3-b ✓	soil	F1-F4, Dec Metals, PCBs
BL3-c ✓	soil	F1-F4, Dec Metals, PCBs
BL3-d ✓	soil	F1-F4, Dec metals PCBs
BL3-e ✓	soil	F1-F4, Dec Metals PCBs
BL3-f ✓	soil	F1-F4, Dec Metals, PCBs
BL7-a ✓	soil	F1-F4, Dec Metals
BL7-b ✓	soil	F1-F4, Dec Metals
BL7-c ✓	soil	F1-F4, Dec Metals
BL7-d ✓	soil	F1-F4, Dec Metals
BL7-e	soil	F1-F4, Dec Metals

Notes 1. Dew Line Boreal is Shadyn, diesel, lube oils, PCBs, Chlorine, cadmium, Chromium and lead 2. Dec Metals is Arsenic, Cadmium, Chromium, Cobalt, Copper, lead, Mercury, Nickel, and Zinc

ASU #	12060	**Report ID:**	CC Leachate 1	
Client:	INAC	**Date Submitted:**	16-Jul-09	
		Date tested:	16-Jul-09	
Site:	Cape Christian	**Date:**	20-Jul-09	
		Matrix:	Leachate	
The leachate test was carried out according to the Ontario Environment protocol as given in Regulation				
558/00 to give the following results:				
Preliminary Report of Analysis				
Sample	Description	Lead		
		mg/L		
IEC3-1 A	Jar containing mostly white building material	0.2		
IEC3-1 B	Jar containing mostly green building material & paint	1.5		
IEC3-1 soil	Mix of soil from both of above jars	0.2		
Blank	-	<0.1		
Control	-	2.16		
Control Target	-	2.20		

Allison Rutter, PhD
Director

Prepared By: P. Whitley

Authorization: A. Rutter

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 2 coolers

Chain Of Custody Record

IASU #: ASU # 12103

COMPANY NAME: EBA Engineering Consultants

ADDRESS: 14940 - 123 Ave Edmonton, AB T5V 1B4 Phone: (780) 451-2121 Fax: (780) 454-5688

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC1 - 1	July 22	16:00	2	Soil	X								
AEC1 - 2		10:10			X								
AEC1 - 3		10:20			X								
AEC1 - 4		10:30			X								
AEC1 - 5		10:40			X								
AEC1 - 6		10:50			X								
AEC1 - 7		11:00			X								
AEC1 - 8		11:10			X								
AEC1 - 9		11:20			X								
AEC1 - 10		11:30			X								
AEC1 - 11		11:40			X								
AEC1 - 12		11:50			X								
AEC1 - 13	↓	13:20	↓	↓	X								

ANTICIPATED CHEMICAL HAZARDS: Soil Samples possibly Contaminated

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Felske (dfelske@eba.ca), Michel Hébert (mhebert@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	July 22, 2009			27 July 09	4:30 pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 2 Coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page1

SAMPLER:(Signature) Michel Nélect

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC1 - 14	July 22	13:30	2	Soil	X								
AEC1 - 15		13:40			X								
AEC1 - 16		13:50			X								
AEC1 - 17		14:00			X								
AEC1 - 18		14:10			X								
AEC1 - 19		14:20			X								
AEC1 - 20		14:30			X								
AEC1 - 21		14:40			X								
AEC1 - 22		14:50			X								
AEC1 - 23		15:00			X								
AEC1 - 24		15:10			X								
AEC1 - 25		15:20			X								
AEC1 - 26	↓	15:30	↓	↓	X								

ANTICIPATED CHEMICAL HAZARDS: Same as Page1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Nélect	July 22, 2009		Kelly Kettlewell	27 Jul 09	4:30 pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Total of 2 Coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Nélert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	Water Discharge Criteria	Dawson Barrel Protocol					Comments/ Special Requests
AEC1 -27	July 22	13:30	2	Soil	X							
AEC1 -28		13:40			X							
AEC1 -29		13:50			X							
AEC1 -30		14:00			X							
Duplicate - AEC1		0:00			X							
Water Discharge 1	July 21	10:15	6	Water		X						
IEC1 - 15	July 21	10:35	2				X					
IEC1 - 16	July 21	10:55					X					
IEC1 - 17	July 21	11:15					X					
Duplicate 2 - AEC1	July 22	0:00		Soil	X							
Duplicate 3 - AEC1	July 22	0:00		Soil	X							
IEC4-1	July 23	10:55	6	Water		X						

Water barrel samples sent south.

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: Same as Page 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Nélert	July 22, 2009		Bill Kettlewell	27 July 09	4:30 pm
Bill Kettlewell	28 July 09	1:45 pm			

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12103			Report ID:	ASU 12103 CC water 3			
Client:	INAC			Date Submitted:	29-Jul-09			
				Date Reported:	29-Jul-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Glycols	Phenols					
		%	ppb					
	Water Discharge 1	<2	48.1*					
	IEC4-1	<2	44.2					
	Blank	<2	<1.0					
	Control	-	10.0					
	Control Target	-	10.0					
	Date Tested:	29-Jul-09	29-Jul-09					
	Water Discharge 1	-	46.4					
	Water Discharge 1	-	49.8					
* average result of duplicates								

Prepared by

Authorized by

Graham Cairns, PhD
Research Associate

ASU #	12103			Report ID:	ASU 12103 CC water 4			
Client:	INAC			Date Submitted:	29-Jul-09			
				Date Reported:	30-Jul-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Oil & Grease						
		ppm						
	Water Discharge 1	29.0						
	IEC4-1	31.8						
	Blank	<2.0						
	Control	18.5						
	Control Target	16.1						
	Date Tested:	29-Jul-09						

Prepared by P. Whitley

Authorized by

Graham Cairns, PhD
Research Associate

ASU #	12103			Report ID:	ASU 12103 CC water 2			
Client:	INAC			Date Submitted:	29-Jul-09			
				Date Reported:	31-Jul-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
		Total	Total					
	Sample	As	Zn					
		ppm	ppm					
	Water Discharge 1	<0.003	0.17	*				
	IEC4-1	0.018	2.0					
	Blank	<0.003	<0.010					
	Control	0.83	3.1					
	Control Target	0.80	3.0					
	Water Discharge 1	<0.003	0.17					
	Water Discharge 1	<0.003	0.18					
	Date Tested:	31-Jul-09	31-Jul-09					
	Sample	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	Dissolved	
		Cu	Ni	Co	Cd	Pb	Cr	
		ppm	ppm	ppm	ppm	ppm	ppm	
	Water Discharge 1	<0.005	0.026	0.007	<0.001	<0.010	<0.005	*
	IEC4-1	<0.005	0.008	<0.003	<0.001	<0.010	<0.005	
	Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.005	
	Control	1.7	1.7	1.7	0.83	8.4	0.88	
	Control Target	1.6	1.6	1.6	0.80	8.0	0.80	
	Date Tested:	31-Jul-09	31-Jul-09	31-Jul-09	31-Jul-09	31-Jul-09	31-Jul-09	
	Water Discharge 1	<0.005	0.026	0.007	<0.001	<0.010	<0.005	
	Water Discharge 1	<0.005	0.026	0.007	<0.001	<0.010	<0.005	

Prepared by _____

Authorized by _____

Paula Whitley
Laboratory Manager

ASU #	12103			Report ID:	CC Barrel-3	
Client:	**INAC**			Date Submitted:	29-Jul-09	
				Date Reported:	31-Jul-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					

Identity of Barrel Contents

Barrel	**Identity**
IEC1-15	water
IEC1-16	fuel oil
IEC1-17	water

PCB,Chlorine and Metal Results of Barrel Contents

	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-15	water	water	water	water	water	on land[c]
IEC1-16*	<2.0	<1000	<10	<100	<2	incincerate
IEC1-17	water	water	water	water	water	on land[c]

* average result of duplicates

a: Disposal as per DCLU Barrel Protocol

b: Top phase where there are two phases present

c: Water disposal by dumping on land at least 30 m from natural water courses

d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above

Laboratory QA/QC

	PCB	Chlorine	Chromium	Lead	Cadmium
	ug/g	ug/g	mg/L	mg/L	mg/L
Blank	<2.0	<1000	<10	<100	<2
IEC1-16 dup	<2.0 ; <2.0	<1000 ; <1000	<10 ; <10	<100 ; <100	<2 ; <2
Control	42.4	1000	1.0	3.2	0.32
Control Target	50.0	885	1.0	3.0	0.30
Date testing initiated:	30-Jul-09	31-Jul-09	30-Jul-09	30-Jul-09	30-Jul-09

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorization: A. Rutter

ASU #	12103			Report ID:	ASU 12103 CC water 1			
Client:	INAC			Date Submitted:	29-Jul-09			
				Date Reported:	31-Jul-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	pH**	Mercury**	PCB				
		-	ppb	ppm				
	Water Discharge 1	5.74	<0.4	<0.003				
	IEC4-1	7.68	<0.4*	<0.003				
	Blank	-	<0.4	<0.003				
	Control	7.01	4.1	0.010				
	Control Target	7.00	4.0	0.010				
	Date Tested:	31-Jul-09	30-Jul-09	30-Jul-09				
	IEC4-1	7.68	<0.4	-				
	IEC4-1	7.68	<0.4	-				
* average result of duplicates								
**analysis subcontracted								

Prepared by _____

Authorized by _____

Allison Rutter, PhD
Director

ASU #	12103	Report ID:	CC Barrel-6		
Client:	**INAC**	Date Submitted:	29-Jul-09		
		Date Reported:	5-Aug-09		
		Matrix:	Barrel contents		
Site:	**Cape Christian**				
Barrel	**Identity**	**Flashpoint of Product °C	pH		
IEC1-15	water	-	5.0		
IEC1-16	fuel oil	64.0	-		
IEC1-17	water	-	5.0		
** Analysis subcontracted					

Prepared by: P. Whitley

CC Barrel 6
Page1 of 1

Allison Rutter, PhD
Director

Authorization: A. Rutter

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867-979-1283 (fax)

Iqaluit Analytical Services Unit

FINAL REPORT OF ANALYSIS

IASU #:	063	Report I.D.:	IAUS 063 PCB Soil
		Date Submitted:	15 July 2009
Client:	EBA	Date Analysis:	19 July 2009
		Date Reported:	20 July 2009
Method:	Gas Chromatography GC/ECD	Matrix:	Soil

Sample	Units	PCB Concentration Aroclor 1260	PCB Concentration Aroclor 1254
BL3 a	ppm	<0.5	<0.5
BL3 b	ppm	<0.5	<0.5
BL3 c	ppm	<0.5	<0.5
BL3 d	ppm	<0.5	<0.5
BL3 e	ppm	<0.5	<0.5
BL3 f	ppm	<0.5	<0.5

QUALITY CONTROL DATA

Blank	<0.5 ppm
Control	5.5 ppm
Control Target	5.0 ppm

Allison Rutter, PhD
Director

Prepared by:

Authorized by:

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Iqaluit Analytical Services Unit

FINAL REPORT OF ANALYSIS

IASU #: 063
Client: EBA

Report I.D.: IASU 063 CCME TPH in Soil
Date Submitted: 15-Jul-09
Date Analysis Started: 15-Jul-09
Date Reported: 20-Jul-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
BL3-a	7	<60	<50	<50	<50	<100
BL3-b	12	<60	<50	<50	<50	<100
BL3-c	7	<60	<50	<50	<50	<100
BL3-d	7	<60	<50	<50	<50	<100
BL3-e	8	<60	<50	<50	<50	<100
BL3-f	18	<60	<50	<50	<50	<100
BL7-a	18	<60	<50	<50	<50	<100
BL7-b	12	<60	<50	<50	<50	<100
BL7-c	15	<60	<50	<50	<50	<100
BL7-d	20	<60	<50	<50	<50	<100
BL7-e*	7	<60	<50	<50	<50	<100

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

Allison Rutter, PhD
Director

Prepared by:
IASU_063_CCME_TPH_In_Soil

Authorized by:

Results reported relate only to items tested

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Iqaluit Analytical Services Unit

FINAL REPORT OF ANALYSIS

IASU #: 063
Client: EBA

Report I.D.: IASU 063 CCME TPH in Soil
Date Submitted: 15-Jul-09
Date Analysis Started: 15-Jul-09
Date Reported: 20-Jul-09

Method: CCME TPH in Soil†

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

COMMENTS

F4G Fraction not assessed
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met
QUALITY CONTROL

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<50	<50	<50
Duplicate BL7-e	<60,<60	<50, <50	<50, <50	<50, <50
Control	127	123, 158		
Control Target	150	150		

Prepared by: IASU_063_CCME_TPH_In_Soil

Authorized by:

Results reported relate only to items tested

1asulab@gmail.com

IASU Chain of Custody

Received July 15 BK.

Date : July 14, 2009
Submitted by : Herb Ziervogel
Company : EBA Engineering Consultants
Results to : EBA Engineering Contact : Herb Ziervogel
email results : hziervogel@eba.ca and dfelske@eba.ca
Phone number : 780-451-2121 or 604-759-0910 x 104
fax number : 780-454-5688

Sample ID	Media	Analysis Request [1]
IEC1-1	water	Dew Line Barrel Protocol Item
IEC1-2	water	Dew Line Barrel Protocol
IEC1-3	sludge	Dew Line Barrel Protocol
IEC1-4	diesel	Dew Line Barrel Protocol
IEC1-5	lube oil	Dew Line Barrel Protocol
IEC1-6	lube oil	Dew Line Barrel Protocol
IEC1-7	lube oil	Dew Line Barrel Protocol
IEC1-8	Lube oil	Dew Line Barrel Protocol
send IEC3-1	paint samples	Leachable ~~lead~~, PCBs [2] sample send.
BL3-a	soil	F1-F4, DCC Metals, PCBs
X BL3-b 2 days	soil	F1-F4, DCC Metals, PCBs
BL3-c ✓	soil	F1-F4, DCC Metals, PCBs
X BL3-d	soil	F1-F4, DCC Metals, PCBs
X BL3-e	soil	F1-F4, DCC Metals PCBs
BL3-f 2 days	soil	F1-F4, DCC Metals PCBs
BL7-a ✓ 2 days	soil	F1-F4, DCC Metals
BL7-b 2 days	soil	F1-F4, DCC Metals
BL7-c	soil	F1-F4 DCC Metals
BL7-d	soil	F1-F4 DCC Metals
BL7-e	soil	F1-F4 DCC Metals

Notes 1. Dew Line Barrel is Phthalates, glycols, alcohols, PCBs chlorine, cadmium, chromium and lead 2. DCC Metals is Arsenic, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel and Zinc

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Iqaluit Analytical Services Unit

FINAL REPORT OF ANALYSIS

IASU #: 068
Client: EBA

Report I.D.: IASU 068 CCME TPH in Soil
Date Submitted: 27-Jul-09
Date Analysis: 27-Jul-09
Date Reported: 1-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
AECI-1	15	67	5800	219	<10	6090
AECI-2	16	114	10900	<10	<10	12000
AECI-5	4.4	<60	9410	<10	<10	9410
AECI-7	13	<60	<10	<10	<10	<10
AECI-9	11	186	16700	249	<10	17100
AECI-12	11	131	9720	190	<10	10000
AECI-14	16	321	13800	207	<10	14300
AECI-15	18	61	2290	88	<10	2440
AECI-18	12	162	2000	78	<10	2240
AECI-20	9	136	8420	214	<10	8770
AECI-26	11	62	1120	39	<10	1220
AECI-27*	16	136*	5120*	90*	<10*	5350*
AECI-29*	15	121	3300*	104*	<10*	3520*
AECI-dup1	11	147	10270	81	<10	10500
AECI-dup2	17	<60	4070	112	<10	4180

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC10 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: Michel Racey
IASU_068_CCME_TPH_in_Soil

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
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Iqaluit Analytical Services Unit

FINAL REPORT OF ANALYSIS

IASU #: 068
Client: EBA

Report I.D.: IASU 068 CCME TPH in Soil
Date Submitted: 27-Jul-09
Date Analysis: 27-Jul-09
Date Reported: 1-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (AECI-27)	129; 143	4870; 5360	76; 104	<10;<10
Duplicates (AECI-29)		3100; 3500	56; 151	<10; <10
Control	141	137; 149; 176		
Control Target	150	150		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: Michelle Lacey
IASU_068_CCME_TPH_in_Soil

Authorized by:

Results reported relate only to items tested

Iqaluit A[illegible]tical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of coolers

Chain Of Custody Rec[illegible]

IASU #: 068

COMPANY NAME: EBA Engineering Consultants			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 Phone: (780) 451-2121 Fax: (780) 454-5688					F1 to F4								
SAMPLER:(Signature) Michel Hébert													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
AEC1-1	July 22	10:00	2	Soil	X								
AEC1-2		10:10			X								
AEC1-3		10:20			X								
AEC1-4		10:30			X								
AEC1-5		10:40			X								
AEC1-6		10:50			X								
AEC1-7		11:00			X								
AEC1-8		11:10			X								
AEC1-9		11:20			X								
AEC1-10		11:30			X								
AEC1-11		11:40			X								
AEC1-12		11:50			X								
AEC1-13	↓	13:20	↓	↓	X								

ANTICIPATED CHEMICAL HAZARDS: Soil samples possibly contaminated

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Felske (dfelske@eba.ca), Michel Hebert (mhebert@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	July 22 2009		[illegible]	27 July 09	4:30 pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit A[illegible]tical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 1 Coolers

Chain Of Custody Record

IASU #: 068

COMPANY NAME: / ADDRESS: Same as Page 1	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: CHEM							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLER:(Signature) Michel Hébert											
SAMPLE NAME:	COLLECTION Date	COLLECTION Time									Comments/ Special Requests
AEC1 - 14	July 22	13:30	2	Soil	X						
AEC1 - 15		13:40			X						
AEC1 - 16		13:50			X						
AEC1 - 17		14:00			X						
AEC1 - 18		14:10			X						
AEC1 - 19		14:20			X						
AEC1 - 20		14:30			X						
AEC1 - 21		14:40			X						
AEC1 - 22		14:50			X						
AEC1 - 23		15:00			X						
AEC1 - 24		15:10			X						
AEC1 - 25		15:20			X						
AEC1 - 26	↓	15:30	↓	↓	X						

ANTICIPATED CHEMICAL HAZARDS: Same as Page 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	July 22 2009		Judith Kirkland	27 Jul 09	4:30pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit
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867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

FINAL REPORT OF ANALYSIS

IASU #: 069
Client: EBA

Report I.D.: IASU 069 CCME TPH in soil
Date Submitted: 31-Jul-09
Date Analysis: 31-Jul-09
Date Reported: 2-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
AECI4-1	11	74	5820	210	<10	6100
AECI4-2	11	137	9510	266	<10	9910
AECI4-3*	9.7	130	10100	200	<10	10400

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC10 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: Michele Facey
IASU_069_CCME_TPH_in_Soil

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
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867-979-1283 (fax)

Iqaluit Analytical Services Unit

FINAL REPORT OF ANALYSIS

IASU #: 069
Client: EBA

Report I.D.: IASU 069 CCME TPH in soil
Date Submitted: 31-Jul-09
Date Analysis: 31-Jul-09
Date Reported: 2-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (AECI4-3)	125; 135	9940; 10300	169; 230	<10; <10
Control	111	143		
Control Target	150	150		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: Michele Pacey
IASU_069_CCME_TPH_in_Soil

Authorized by:

Results reported relate only to items tested

Iqaluit A[illegible]rtical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 5 Coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: Same as Page 1					F1 to F4	Water Discharge Criteria	Drum/Barrel Protocol						
SAMPLER:(Signature) Michel Mélart													
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
AEC1 -27	July 22	13:30	2	Soil	X								
AEC1 -28		13:40	1		X								
AEC1 -29		13:50	1		X								
AEC1 -30		14:00	1		X								
Duplicate - AEC1	↓	0:00	↓	↓	X								
Water Discharge 1	July 21	10:15	6	Water		X							
IEC1 - 15	July 21	10:35	2				X						
IEC1 - 16	July 21	10:50	1				X						
IEC1 - 17	July 21	11:15	1	↓			X						
Duplicate 2 - AEC1	July 22	0:00	1	Soil	X								
Duplicate 3 - AEC1	July 22	0:00	↓	Soil	X								
IEC4-1	July 23	10:55	6	Water		X							

water and barrel samples sent south

ANTICIPATED CHEMICAL HAZARDS: Same as Page 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature) Michel Mélart	Date July 22 2009	Time	RECEIVED BY: (Signature) Barb Lethbridge	Date 27 July 09	Time 4:30 pm
RELINQUISHED BY: (Signature) Barb Lethbridge	Date 28 July 09	Time 1:45 pm	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of 1 coolers

Chain Of Custody Record

IASU #: 069

COMPANY NAME: EBA Engineering Consultants	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 phone (780) 451-2121 Fax (780) 454-5688			F1 to F4								
SAMPLER:(Signature) Michel Hébert											Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time									
AEC14-1	July 29	10:00	1	Soil	X						
AEC14-2	↓	10:10	1	↓							Hold Sample
AEC14-3	↓	10:20	1	↓	X						

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Felske (dfelske@eba.ca), Michel Hebert (mhebert@eba.ca), Kyle Levac (klevac@eba.ca)

RELINQUISHED BY (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	July 29/09	12:30	Michel Pacy	31 Jul 09	10:30 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit
Building 959C
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867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 070
Client: EBA

Report I.D.: IASU 070 CCME TPH
Date Submitted: 4-Aug-09
Date Analysis: 4-Aug-09
Date Reported: 7-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
BL1-1	15	<60	<10	39	<10	<100
BL1-2	16	<60	<10	29	<10	<100
BL1-3	15	<60	<10	<10	<10	<100
BL1-4*	19	<60	48	<10	<10	<100

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: Michelle Facey
IASU_070_CCME_TPH_in_Soil

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
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Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 070
Client: EBA

Report I.D.: IASU 070 CCME TPH
Date Submitted: 4-Aug-09
Date Analysis: 4-Aug-09
Date Reported: 7-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicate BL1-4		55; 41	<10	<10
Control	166	148		
Control Target	150	150		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: _____
IASU_070_CCME_TPH_in_Soil

Authorized by: _____

Results reported relate only to items tested

Iqaluit Analytical Services Unit
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Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #:	070	Report I.D.:	IASU 070 PCB Soil
		Date Submitted:	4-Aug-07
Client:	EBA	Date Analysis:	4-Aug-07
		Date Reported:	7-Aug-08
Method:	Gas Chromatography GC/ECD	Matrix:	Soil

Sample	Units	PCB Concentration Aroclor 1260
BL1-1	ppm	<0.5
BL1-2	ppm	<0.5
BL1-3*	ppm	<0.5
BL1-4	ppm	<0.5

QUALITY CONTROL DATA

Blank		ppm	<0.5
Control		ppm	4.1
Control Target		ppm	5.0
Duplicate *	BL1-3	ppm	<0.5, <0.5

Allison Rutter, PhD
Director

Prepared by: Michelle Pacey

Authorized by:

Iqaluit Al tical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Total of One Cooler

Page

Chain Of Custody Rec

IASU #: 070

COMPANY NAME: EBA Engineering

ADDRESS: 14940 - 123 Ave Phone: 780-451-212
Edmonton, AB
T5V 1B4 Fax: 780-454-5688

SAMPLER:(Signature) Michel Nicot

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals	F1-F4	PCB					Comments/ Special Requests
BL 8 - 1	July 8	9:00	1	Soil	X							
BL 8 - 2	Aug 1	11:40	1		X							
BL 8 - 3	July 8	9:30	1		X							
BL 8 - 4	July 8	10:00	1		X							
BL 8 - 5	July 8	10:30	1		X							
BL 8 - 7	July 31	15:45	1		X							
BL 8 - 8	July 14	8/9:10	1		X							
BL 8 - Duplicate	Aug 2	0:00	1		X							
BL 1 - 1	Aug 2	11:00	1		X	X	X					
BL 1 - 2	Aug 2	11:10	1		X	X	X					
BL 1 - 3	Aug 2	11:20	1		X	X	X					
BL 1 - 4	Aug 2	11:30	1		X	X	X					
BL 8 - 6	July 8	11:00	1	↓	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Felske (dfelske@eba.ca), Kyle Levac (klevac@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Nicot	Aug 2	14:30	4 Aug 2009 by Michele Pacey		11:00am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit
Building 959C
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867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 071
Client: EBA

Report I.D.: IASU 071 CCME TPH in Soil-1
Date Submitted: 10-Aug-09
Date Analysis: 10-Aug-09
Date Reported: 13-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA1-3	31.5%	<60	<10	<10	<10	<100
WA1-4	10.6%	<60	548	222	<10	770
WA1-5	15.8%	<60	<10	<10	<10	<100
WA1-7	22.0%	<60	326	595	31	952
WA1-10	19.1%	<60	<10	<10	<10	<100
WA1-11	18.8%	<60	56	53	<10	109
WA1-13	17.8%	<60	<10	<10	<10	<100
WA1-15	10.7%	<60	<10	<10	<10	<100
WA1-16*	11.3%	<60	<10	<10	<10	<100
WA1-20	3.6%	<60	1800	1460	<10	3260
WA1-23	3.1%	<60	993	604	<10	1600
WA1-24	17.6%	<60	31	<10	<10	31
WA1-26	2.0%	<60	768	607	<10	1380
WA1-27*	3.2%	<60	<10	<10	<10	<100
WA1-28	5.9%	<60	<10	<10	<10	<100
WA1-29	12.7%	<60	<10	<10	<10	<100
WA1-31	17.6%	<60	186	243	<10	429
WA1-32	18.6%	<60	280	135	<10	415

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
4) linearity of calibrations standard with 15%

Paula Whitley, BSc
Laboratory Manager

Prepared by:
IASU 071 CCME TPH in Soil-1

Authorized by

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 071
Client: EBA

Report I.D.: IASU 071 CCME TPH in Soil-1
Date Submitted: 10-Aug-09
Date Analysis: 10-Aug-09
Date Reported: 13-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (WA1-16)	<60; <60	<10; <10	<10; <10	<10; <10
Duplicates (WA1-27)	<60; <60	<10, 12	<10; <10	<10; <10
Control	220	150		
Control Target	181; 204; 198	148; 132		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: _____
IASU 071 CCME TPH in Soil-1

Authorized by: _____

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 071
Client: EBA

Report I.D.: IASU 071 CCME TPH in Soil-2
Date Submitted: 10-Aug-09
Date Analysis: 10-Aug-09
Date Reported: 15-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA1-36	19.4%	<60	15	80	<10	<100
WA1-37	22.0%	<60	<10	37	<10	44
WA1-40	20.3%	<60	1400	806	<10	2210
WA1-42	16.4%	<60	319	186	<10	505
WA1-44	16.8%	<60	<10	<10	<10	<100
WA1-46	22.5%	<60	<10	<10	<10	<100
WA1-48	20.5%	<60	<10	<10	<10	<100
WA1-51	19.5%	<60	<10	<10	<10	<100
WA1-52	17.8%	<60	130	165	<10	295
WA1-53	19.1%	<60	<10	<10	<10	<100
WA1-54	16.4%	68	5220	3530	<10	8750
WA1-57	18.1%	<60	<10	<10	<10	<100
WA1-59	19.8%	<60	<10	<10	<10	<100
WA1-63	16.6%	<60	<10	<10	<10	<100
WA1-65	18.3%	<60	<10	<10	<10	<100
WA1-66	17.2%	<60	<10	<10	<10	<100
WA1-70	13.1%	<60	<10	<10	<10	<100

†Complies with CWS PHC Tier 1 method
‡F4G gravimetric heavy hydrocarbons cannot be added to the sum
*Average of duplicate results

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: B. Kotchenmeister
IASU 071 CCME TPH in Soil-2

Authorized by: A. Rutter

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 071
Client: EBA

Report I.D.: IASU 071 CCME TPH in Soil-2
Date Submitted: 10-Aug-09
Date Analysis: 10-Aug-09
Date Reported: 15-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (WA1-70)	<60; <60	<10; <10	<10; <10	<10; <10
Control	220	150		
Control Target	187	136		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: B. Kilfoyle
IASU 071 CCME TPH in Soil-2

Authorized by: A. Walton

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
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Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 071
Client: EBA

Report I.D.: IASU 071 CCME TPH in Soil-3
Date Submitted: 10-Aug-09
Date Analysis: 12-Aug-09
Date Reported: 16-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA1 dup1	22.4%	<60	<10	<10	<10	<100
WA1 dup2	18.9%	<60	<10	<10	<10	<100
WA1 dup3	17.5%	<60	<10	<10	<10	<100
WA1 dup4	20.3%	<60	<10	<10	<10	<100
WA1 dup5	15.8%	<60	<10	<10	<10	<100
WA1 dup6	15.5%	<60	69	100	<10	169
WA1 dup7	19.9%	<60	<10	<10	<10	<100
AEC14-4	9.4%	<60	2290	73	<10	2360
AEC14-5	11.7%	94	4190	72	<10	4357
AEC14-6*	12.8%	103	3990	45	<10	4138

†Complies with CWS PHC Tier 1 method
‡F4G gravimetric heavy hydrocarbons cannot be added to the sum
*Average of duplicate results

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: B. Kilabuk
IASU 071 CCME TPH in Soil-3

Authorized by: A. Rutter

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 071
Client: EBA

Report I.D.: IASU 071 CCME TPH in Soil-3
Date Submitted: 10-Aug-09
Date Analysis: 12-Aug-09
Date Reported: 16-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (AEC14-6)	110; 95	4210; 3770	50; 40	<10, <10
Control	220	150		
Control Target	230	134		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: B. Kotterman
IASU 071 CCME TPH in Soil-3

Authorized by: A. Nutter

Results reported relate only to items tested

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 71

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE EDMONTON, AB T5V 1B4 ph. (780)451-2121 Fax:(780)454-5688

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: Kyle Levac

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 To F4	Comments/ Special Requests
WA1-1	Aug 6/09	2:25 pm	1	Soil		HOLD
WA1-2		2:35 pm				HOLD
WA1-3 ✓		2:45 pm			X	
WA1-4 ✓		2:55 pm			X	
WA1-5 ✓		3:05 pm			X	
WA1-6		3:15 pm				HOLD
WA1-7 ✓		3:25 pm			X	
WA1-8		3:35 pm				HOLD
WA1-9		3:45 pm				HOLD
WA1-10 ✓		3:55 pm			X	
WA1-11 ✓		4:05 pm			X	
WA1-12		4:15 pm				HOLD
WA1-13 ✓	↓	4:25 pm	↓	↓	X	

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SOIL SAMPLES POSSIBLE HYDROCARBON CONTAMINATION

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) DANIELA FEISKE (dfeiske@eba.ca) KYLE LEVAC (klevac@eba.ca) HERB ZIERVOGEL (hzierVogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 7/09	3:30 pm	Michel Pacey	10 Aug 2009	9:30 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 74

COMPANY NAME: / ADDRESS: SAME AS PAGE 1			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLER:(Signature) Kyle Levac					F1 To F4								
SAMPLE NAME: KYLE LEVAC	COLLECTION Date	Time											Comments/ Special Requests
WAI-14	Aug 6/09	4:35 pm	1	soil									
WAI-15 ✓		4:45 pm			X								
WAI-16 ✓		4:55 pm			X								
WAI-17 ✓		5:05 pm			X								HOLD
WAI-18 ✓		5:15 pm											HOLD
WAI-19		5:25 pm											HOLD
WAI-20 ✓ ✓		5:35 pm			X								
WAI-22		6:55 pm											HOLD
WAI-23 ✓		7:05 pm			X								
WAI-24 ✓ ✓		7:15 pm			X								
WAI-25 ✓		7:25 pm											HOLD
WAI-26 ✓		7:35 pm			X								
WAI-27 ✓ ✓		7:45 pm			X								

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 7/09	3:30 pm	Michele Pace	10 Aug 2009	9:30 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 71

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: Kyle Levac

	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	Comments/ Special Requests
WA1-21	Aug 6	5:45 pm	1	SOIL		HOLD
WA1-28 ✓	Aug 6	7:55 pm			X	
WA1-29 ✓	Aug 6	8:05 pm			X	
WA1-30	Aug 6	8:15 pm				HOLD
WA1-31 ✓	Aug 7	8:30 Am			X	SAMPLE VERY WET SUBMERGED IN PUDDLE
WA1-32 ✓	Aug 7	8:40 Am			X	SAMPLE VERY WET SUBMERGED IN PUDDLE
WA1-33		8:50 Am				HOLD
WA1-34		9:00 Am				HOLD
WA1-35		9:10 Am				HOLD
WA1-36		9:20 Am			X	SAMPLE VERY WET SUBMERGED IN PUDDLE
WA1-37		9:25 Am			X	SAMPLE WET SUBMERGED IN PUDDLE
WA1-38		9:35 Am				HOLD
WA1-39		9:45 Am				HOLD

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

	Date	Time		Date	Time
RELINQUISHED BY: (Signature) Kyle Levac	Aug 7/09	3:30 pm	RECEIVED BY: (Signature) Michele Pacey	10 Aug 2009	9:30 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 71

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: KYLE LEVAC	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4							Comments/ Special Requests
WA1 - 40	AUG 7	9:50 AM	1	SOIL	X							SAMPLE WET SUBMERGED IN PUDDLE
WA1 - 41	↓	9:55 AM	↓	↓								HOLD
WA1 - 42		10:00 AM			X							SAMPLE WET SUBMERGED IN PUDDLE
WA1 - 43		10:05 AM										HOLD
WA1 - 44		10:15 AM			X							[illegible]
WA1 - 45		10:20 AM										HOLD
WA1 - 46		10:25 AM			X							[illegible]
WA1 - 47		10:30 AM										HOLD
WA1 - 48		10:35 AM			X							SAMPLE WET SUBMERGED IN PUDDLE
WA1 - 49		10:40 AM										HOLD
WA1 - 50		10:45 AM										HOLD
WA1 - 51		10:50 AM			X							
WA1 - 52	↓	10:55 AM	↓	↓	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	AUG 7/09	3:30 PM	Michele Pacey	10 Aug 2009	9:30 AM

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Tel: (867) 979-1282 Fax: (867) 979-1283

TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 71

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Leval

SAMPLE NAME: Kyle Leval

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	Comments/ Special Requests
WA1- 53	AUG 7	11:00AM	1	SOIL	X	
WA1- 54	"	11:05AM	"	"	X	
WA1- 55		11:10AM				HOLD
WA1- 56		11:15AM				HOLD
WA1- 57		11:20AM			X	
WA1- 58		11:25AM				HOLD
WA1- 59		11:30AM			X	
WA1- 60		11:35AM				HOLD
WA1- 61		11:40AM				HOLD
WA1- 62		11:45AM				HOLD
WA1- 63		11:50AM			X	
WA1- 64		11:55AM				HOLD
WA1- 65	↓	12:00PM	↓	↓	X	

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

	Date	Time		Date	Time
RELINQUISHED BY: (Signature) Kyle Leval	AUG 7/09	3:30pm	RECEIVED BY: (Signature) Michele Facey	10 Aug 2009	9:30am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 71

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: KYLE LEVAC

	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	Comments/ Special Requests
66	Aug 7	1:00 pm	1	SOIL	X	
67	"	1:05 pm	"	"		HOLD
68		1:10 pm				HOLD
69		1:15 pm				HOLD
70		1:20 pm			X	
71		1:25 pm				HOLD
72		1:30 pm				HOLD
WAI DUP1		—			X	
WAI DUP2		—			X	
WAI DUP3		—			X	
WAI DUP4		—			X	
WAI DUP5		—			X	
WAI DUP6		—			X	

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature) Kyle Levac	Date Aug 7/09	Time 3:30 pm	RECEIVED BY: (Signature) Michele Pacey	Date 10 Aug 2009	Time 9:30 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
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Tel: (867) 979-1282 Fax: (867) 979-1283

* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 71

COMPANY NAME: / ADDRESS: SAME AS PAGE 1			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 To F4							MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)	
SAMPLER:(Signature) Kyle Leval													
SAMPLE NAME: Kyle Leval	COLLECTION Date	Time											Comments/ Special Requests
TRIAL DUP 7	Aug 7	—	1	SOIL	X								

ANTICIPATED CHEMICAL HAZARDS: SAME AS PG 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PG1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Leval	AUG 7/09	3:30 pm	Michelle Pace	10 Aug 2009	7 30 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Chain Of Custody Record

IASU #: 71

COMPANY NAME: LBA ENGINEERING			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 AVE EDMONTON, AB T5V 1B4 Ph. 780.451.2121 Fax: 780.454.5685					Fl To Fu								
SAMPLER:(Signature) Kyle Levac													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
AEC 14-4	AUG 7	1:00 pm	1	SOIL	X								
AEC 14-5	AUG 7	1:15pm	1	SOIL	X								
AEC 14-6	AUG 7	1:30pm	1	SOIL	X								
	"												

ANTICIPATED CHEMICAL HAZARDS: SOIL SAMPLE POSSIBLY CONTAMINATED

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) MANUELA FELSKE (mfelske@eba.ca) Kyle LEVAC (klevac@eba.ca) HERB ZIEL (hziel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	AUG 7	4:00 pm	Michele Facey	10 Aug 2007	9:30am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 074
Client: EBA

Report I.D.: IASU 074 CCME TPH in Soil
Date Submitted: 11-Aug-09
Date Analysis Initiated: 12-Aug-09
Date Reported: 21-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA4-1	20%	<60	<10	<10	<10	<100
WA4-3	11%	<60	18	<10	<10	<100
WA4-5	5%	<60	18	<10	<10	<100
WA4-8	2%	<60	<10	<10	<10	<100
WA4-9	3%	<60	16	<10	<10	<100
WA4-11	7%	<60	15	<10	<10	<100
WA4-13	4%	<60	<10	<10	<10	<100
WA4-14	10%	<60	<10	<10	<10	<100
WA4-16	13%	<60*	<10	<10	<10	<100
WA4-17‡	3%	<60*	<10*	3110*	1700*	4810
WA4-19	5%	<60	<10*	13*	<10*	<100
BL1 MW2@1	14%	<60	<10	<10	<10	<100
BL1 MW2@2.5	14%	<60	<10	19	<10	<100
BL1 MW3@1	5%	<60	<10	19	<10	<100
BL1 MW3@2.5	5%	<60	<10	10	<10	<100

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: B. Kellewell
IASU 074 CCME TPH in Soil

Authorized by: A. Rutter

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
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Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 074
Client: EBA

Report I.D.: IASU 074 CCME TPH in Soil
Date Submitted: 11-Aug-09
Date Analysis Initiated: 12-Aug-09
Date Reported: 21-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (WA4 16)	<60, <60			
Duplicates (WA4-17)	<60, <60	<10, <10	3568, 2644	1903, 1491
Duplicates (WA4-19)		<10, <10	12, 13	<10, <10
Control	209, 186	149, 154		
Control Target	220, 180	150		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: Bobby Kettlewell
IASU 074 CCME TPH in Soil

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #:	074	Report I.D.:	IASU 074 PCB in Soil
		Date Submitted:	11-Aug-09
Client:	EBA	Date Analysis:	12-Aug-10
		Date Reported:	14-Aug-09
Method:	Gas Chromatography GC/ECD	Matrix:	Soil

Sample	Units	PCB Concentration Aroclor 1260
WA4-1	ppm	<0.5
WA4-3	ppm	<0.5
WA4-5	ppm	<0.5
WA4-8	ppm	<0.5
WA4-9	ppm	<0.5
WA4-11	ppm	<0.5

QUALITY CONTROL DATA

Blank	ppm	<0.5
Control	ppm	4.5
Control Target	ppm	5.0

Paula Whitley, BSc
Laboratory Manager

Prepared by: B. Kellwell

Authorized by: P. Whitley

Iqaluit Arctic Technical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

EBA SHIPMENT #1
* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: 074

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 123 AVE Edmonton, AB T5V 1B4 Ph. 780.451.2121 Fax. 780.454.5688

SAMPLER:(Signature) Kyle Leval

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	PCB'S	DCC METALS
WA4 - 1	Aug 8/09	10:20 AM	3	SOIL	X	X	X
WA4- 2		10:30 AM	T	T			
WA4- 3		10:40 AM			X	X	X
WA4- 4		10:50 AM					
WA4- 5		11:00 AM			X	X	X
WA4- 6		11:05 AM					
WA4- 7		11:10 AM					
WA4- 8		11:15 AM			X	X	X
WA4- 9		11:20 AM			X	X	X
WA4-10		11:30 AM					
WA4-11		11:40 AM			X	X	X
WA4-12		11:50 AM					
WA4-13	↓	1:10 PM	↓	↓	X	X	X

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

Comments/ Special Requests

HOLD
HOLD
HOLD
HOLD
HOLD

ANTICIPATED CHEMICAL HAZARDS: SAMPLE IEC1-2 HAS PRESSURIZED POSSIBLY CONTAMINATED + BROKEN 1 OF 3 VIALS CAUTION SOIL)

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Kyle Leval (kleval@eba.ca) Herb Ziervogel (HZiervogel@eba.ca) Daniela Felske (dfelske@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Leval	Aug 9/09	3:30 pm	A. Nuttle	11 Aug 09	2:30
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

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Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*TOTAL 2 COOLERS

Chain Of Custody Rec[illegible]

IASU #: 074

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Lever

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	DCC METALS	PCB'S	BOWLING BARREL PROTOCOL				Comments/ Special Requests
WA4 - 14	Aug 8th	1:20pm	3	SOIL	X	X	X					
WA4 - 15	↓	1:30pm	T	T								HOLD
WA4 - 16		1:40pm			X	X	X					
WA4 - 17		1:50pm			X	X	X					
WA4 - 18		2:00pm										HOLD
WA4 - 19	↓	2:10pm			X	X	X					
BL1 MW2 @ 1.0m	Aug 7	10:10pm			X	X	X					
BL1 MW2 @ 2.5m		10:45pm			X	X	X	Sent South				
BL1 MW3 @ 1.0m		11:10pm			X	X	X					
BL1 MW3 @ 2.5m	↓	11:30pm	↓	↓	X	X	X					
[redacted] IEC1-23	Aug 9/09	3:00pm	2	Sludge				X				
[redacted] IEC1-24	Aug 9/09	3:15pm	2	Fuel & Oil				X				

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PG 1

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Lever	Aug 9/09	3:30pm	[illegible]	11 Aug 09	2:30
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 077
Client: EBA

Report I.D.: IASU 077 CCME TPH in Soil
Date Submitted: 19-Aug-09
Date Analysis Initiated: 20-Aug-09
Date Reported: 27-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA6-SP1	6%	<60	<10	<10	<10	<100
WA6-SP2	5%	<60	15	10	<10	<100
WA6-SP3	4%	<60	<10	<10	<10	<100
WA6-SP4	4%	<60	12	<10	<10	<100
WA6-SP5	4%	<60	<10	<10	<10	<100
WA6-SP6	5%	<60	12*	22*	<10*	<100
WA6-SP7	4%	<60	<10	<10	<10	<100
WA6-SP8	3%	<60	<10	<10	<10	<100
WA6-SP9	2%	<60	<10	<10	<10	<100
WA6-SP10	3%	<60	<10	<10	<10	<100
WA6-SP11	3%	<60	<10	27	<10	<100
WA6-SP12	2%	<60	<10	71	<10	<100
WA6-SP13	3%	<60	<10*	24*	<10*	<100
WA6-SP14	6%	<60	30	17	<10	<100
WA6-SP15	5%	<60	<10	<10	<10	<100
WA6-SP16	7%	<60	13	<10	<10	<100
WA6-SP17	5%	<60	25	<10	<10	<100
WA6-SS1	3%	<60	16	<10	<10	<100
WA6-SS2	16%	<60	31	<10	<10	<100
WA6-SS3	3%	<60	10	<10	<10	<100
WA6-SS4	18%	<60	29	42	<10	<100
WA6-SS5	5%	<60	11*	<10*	<10*	<100
DUP-1	3%	<60	<10	<10	<10	<100
IEC1-25	19%	374	9820	1232	173	11599

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;

Allison Rutter, PhD
Director

Prepared by: Buddy Kettlewell

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 077
Client: EBA

Report I.D.: IASU 077 CCME TPH in Soil
Date Submitted: 19-Aug-09
Date Analysis Initiated: 20-Aug-09
Date Reported: 27-Aug-09

Method: CCME TPH in Soil†

2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Prepared by: Bubby Kotokewell
IASU 077 CCME TPH in Soil

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 077
Client: EBA

Report I.D.: IASU 077 CCME TPH in Soil
Date Submitted: 19-Aug-09
Date Analysis Initiated: 20-Aug-09
Date Reported: 27-Aug-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicate (WA6-SP9)	<60, <60			
Duplicate (WA6-SS2)	<60, <60			
Duplicate (WA6-SP6)		<10, 18	28, 15	<10, <10
Duplicate (WA6-SP13)		<10, <10	24, 24	<10, <10
Duplicate (WA6-SS5)		12, <10	<10, <10	<10, <10
Control	198, 233	131, 135		
Control Target	220	150		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: B. Kilfoil
IASU 077 CCME TPH in Soil

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
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Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 077
Client: EBA
Method: Gas Chromatography GC/ECD

Report I.D.: IASU 077 PCB in So
Date Submitted: 19-Aug-09
Date Analysis: 22-Aug-09 through
Date Reported: 25-Aug-09
Matrix: Soil

Sample	Units	PCB Concentration Aroclor 1254	PCB Concentration Aroclor 1260
WA6-SP1	ppm	<0.5	<0.5
WA6-SP2	ppm	<0.5	<0.5
WA6-SP3	ppm	<0.5	<0.5
WA6-SP4	ppm	<0.5	<0.5
WA6-SP5	ppm	<0.5	<0.5
WA6-SP6	ppm	<0.5	<0.5
WA6-SP7*	ppm	<0.5	<0.5
WA6-SP8	ppm	<0.5	<0.5
WA6-SP9*	ppm	<0.5	<0.5
WA6-SP10	ppm	<0.5	<0.5
WA6-SP11	ppm	<0.5	<0.5
WA6-SP12	ppm	<0.5	<0.5
WA6-SP13	ppm	<0.5	<0.5
WA6-SP14	ppm	<0.5	<0.5
WA6-SP15	ppm	<0.5	<0.5
WA6-SP16	ppm	<0.5	<0.5
WA6-SP17	ppm	<0.5	<0.5
WA6-SS1	ppm	<0.5	<0.5
WA6-SS2	ppm	<0.5	<0.5
WA6-SS3	ppm	<0.5	<0.5
WA6-SS4	ppm	<0.5	<0.5
WA6-SS5*	ppm	<0.5	<0.5
DUP-1	ppm	<0.5	<0.5
DUP-2	ppm	<0.5	<0.5

*Averaged result of duplicates

QUALITY CONTROL DATA

Blank	ppm	<0.5	<0.5
Control	ppm	4.4	-
Control Target	ppm	5.0	-
Duplicates	ppm		
WA6-SP7	ppm	<0.5, <0.5	<0.5, <0.5
WA6-SP9	ppm	<0.5, <0.5	<0.5, <0.5
WA6-SS5	ppm	<0.5, <0.5	<0.5, <0.5

Allison Rutter, PhD
Director

Prepared by: B. Kotlewski

Authorized by:

Iqaluit A[illegible]tical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #10
* TOTAL OF 2 COOLERS

Chain Of Custody Rec[illegible]

IASU #: 077

COMPANY NAME: EBA ENGINEERING	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)
ADDRESS: 14940 - 123 AVE Edmonton, AB T5V 1B4 ph. 780.451.2121 Fax: 780-454-5688			F1 To F4	Dec. METALS	PCB'S	DEW LINE BARREL BTEX/TCL				
SAMPLER:(Signature) Kyle Levac										Comments/ Special Requests
SAMPLE NAME: / COLLECTION Date / Time										
WA6 - SP1 — Aug 10/09 — 10:00 AM	3	Soil	X	X	X					
WA6 - SP2 — 10:10 AM	1	1	X	X	X					
WA6 - SP3 — 10:15 AM			X	X	X					
WA6 - SP4 — 10:25 AM			X	X	X					
WA6 - SP5 — 10:35 AM			X	X	X					
WA6 - SP6 — 10:40 AM			X	X	X					
WA6 - SP7 — 10:50 AM			X	X	X					
WA6 - SP8 — 11:00 AM			X	X	X					
WA6 - SP9 — 11:05 AM			X	X	X					
WA6 - SP10 — 11:10 AM			X	X	X					
WA6 - SP11 — 11:15 AM			X	X	X					
WA6 - SP12 — 11:20 AM			X	X	X					
WA6 - SP13 — 11:25 AM	↓	↓	X	X	X					

ANTICIPATED CHEMICAL HAZARDS: SOIL SAMPLES POSSIBLY CONTAMINATED

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) KYLE LEVAC (KLEVAC@eba.ca) Herb ZIELVOGEL (HZIELVOGEL@eba.ca) MICHEL HEBERT (MHEBERT@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 12/09	10:00 am	Barb Kettlewell	19 Aug 09	4:00 pm
RELINQUISHED BY: (Signature) Barb Kettlewell	20 Aug/09	10:00 am	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Rec

* TOTAL OF 2 COOLERS

IASU #: 077

COMPANY NAME: / ADDRESS: SAME AS PAGE 1 / SAMPLER:(Signature) Kyle Cesare			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLE NAME:	COLLECTION Date	Time			F1 TO F4	DLC METALS	PCB'S	DRILLING BARREL PROTOCOL				Comments/ Special Requests	
WA6-SP14	Aug 10/09	11:30	3	SOIL	X	X	X						
WA6-SP15	Aug 10/09	11:35	T		X	X	X						
WA6-SP16	Aug 10/09	11:40			X	X	X						
WA6-SP17	Aug 10/09	11:45			X	X	X						
WA6-~~SP18~~ SS1		11:50			X	X	X						
WA6-~~SP19~~ SS2		11:55			X	X	X						
WA6-SS3		1:25			X	X	X						
WA6-SS4		1:35			X	X	X						
WA6-SS5		1:40			X	X	X						
IEC1-25		1:45		sludge	X			X				JAR + BAG SAMPLES	
DUP 1		—		SOIL	X	X	X						
DUP 2		—	2	SOIL		X	X						

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Cesare	Aug 12/09	10:00 am	Bubba Kittlewell	19 Aug 09	4:00 pm
RELINQUISHED BY: (Signature) Bubba Kittlewell	20 Aug/09		RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit
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867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #:	078	Report I.D.:	IASU 078 PCB in Oil
		Date Submitted:	21-Aug-09
Client:	EBA	Date Analysis:	22-Aug-09
		Date Reported:	22-Aug-09
Method:	Gas Chromatography GC/ECD	Matrix:	Oil

Sample	Units	PCB Concentration Aroclor 1254	PCB Concentration Aroclor 1254
IECI -18	ppm	43.4	<2.0
IECI -19*	ppm	<2.0	<2.0

QUALITY CONTROL DATA

Blank	ppm	<2.0	<2.0
Control	ppm	-	41.3
Control Target	ppm	-	50.0
Duplicate IEC1-19	ppm	<2.0, <2.0	<2.0, <2.0

Allison Rutter, PhD
Director

Allison Rutter, PhD

Prepared by: B. Kirkland

Authorized by: A. Rutter

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #: 078

COMPANY NAME: EBA ENGINEERING			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 AVE EDMONTON, AB	PH: 780-451-2121 FAX: 780-454-2659												
SAMPLER:(Signature)													
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
TEC1-18			1	W									
TEC1-19			1	W									

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☑ SHIPPED VIA

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature) B. Kittlewell	Date 21 Aug 09	Time 3:00 pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 079

Client: EBA

Method: Gas Chromatography GC/ECD

Report I.D.: IASU 079 PCB in S
Date Submitted: 26-Aug-09
Date Analysis: 28-Aug-09
Date Reported: 30-Aug-09
Matrix: Soil

Sample	Units	PCB Concentration Aroclor 1254	PCB Concentration Aroclor 1260
IEC1-47*	ppm	<0.5	<0.5

QUALITY CONTROL DATA

Blank	ppm	<0.5
Control	ppm	4.5
Control Target	ppm	5.0
Duplicate *	ppm	<0.5, <0.5

Allison Rutter, PhD
Director

Prepared by: E. K. Hinds

Authorized by:

Iqaluit Analytical Services Unit
Building 959C
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867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 079
Client: EBA

Report I.D.: IASU 079 CCME TPH in Soil
Date Submitted: 26-Aug-09
Date Analysis Initiated: 26-Aug-09
Date Reported: 31-Aug-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
IECI-47	43%	696	31600	6020	<10	38320

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC10 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank		<10	<10	<10
Duplicates (IECI-47)	736, 657	35945, 27230	6878 5161	<10
Control	146	112		
Control Target	180	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Allison Rutter, PhD
Director

Prepared by: B. Kellwell
IASU 079 CCME TPH In Soil

Authorized by: A. Rutter

Results reported relate only to items tested

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of one cooler
Shipment # 14

Chain Of Custody Record

Duplicate

IASU #: 079

COMPANY NAME: Ekati Engineering
ADDRESS: [illegible] Ave ph: 780-451-2121
[illegible] AB fax: 780-454-5688
T5K 1B4
SAMPLER:(Signature) Michel Hebert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DILUTE TO BARREN PROTOCOL	PCBs	DCC Metals	F1 to F4	Phenol			Comments/ Special Requests
IEC 1-44	Aug 21		2	W	X				X			
IEC 1-44												
IEC 1-45	Aug 21		1	W	X							
IEC 1-46	Aug 22		1	W	X							
IEC 1-47	Aug [illegible]	17:25	3	S		(X)	X	(X)				2 bags, 1 bag
AST 2-1	Aug 23	13:40	1	W		X						Sample submitted previously broke.
IEC 1-20	Aug 21		1	W	X							
IEC 1-21	Aug 21		1	W	X							
IEC 1-22	Aug 21		1	W	X							
IEC 1-24	Aug 24	13:20	1	W	X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@ekati.com) Herb Zimmerly (hzimmerly@ekati.com)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hebert	Aug 25		B. K. Hewitt	26-Aug-09	1:30 pm
B. K. Hewitt	26 Aug 09				

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 081
Client: EBA

Report I.D.: IASU 081 CCME TPH in Soil
Date Submitted: 1-Sep-09
Date Analysis Initiated: 1-Sep-09
Date Reported: 6-Sep-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Dry Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA6-CS1	30%	<60	23	<10	<10	<100
WA6-CS2	21%	<60	13	<10	<10	<100
WA6-CS3	28%	<60	19	<10	<10	<100
WA6-CS4	29%	<60	<10	<10	<10	<100
WA6-CS5	24%	<60	20	<10	<10	<100
WA6-CS6	26%	<60	30	<10	<10	<100
WA6-CS7	26%	<60	11	<10	<10	<100
WA6-CS8	20%	<60	13	<10	<10	<100
WA6-CS9*	28%	<60	23	<10	<10	<100
WA6-CS10	24%	<60	29	<10	<10	<100
WA6-CS11	23%	<60	<10	93	<10	<100
WA6-CS12	28%	<60	16	<10	<10	<100
WA6-CS13	25%	<60	<10	<10	<10	<100
WA6-CS14	28%	<60	<10	<10	<10	<100
WA6-CS15	24%	<60	<10	20	<10	<100
WA6-CS16	25%	<60	77	144	48	269
WA6-CS17	27%	<60	61	34	<10	<100
WA6-CS18	22%	<60	12	<10	<10	<100
WA6-CS19	21%	<60	17	<10	<10	<100
WA6-CS20*	27%	<60	<10	<10	<10	<100

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: B. Kellewell
IASU_081_CCME_TPH_in_Soil(1)

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 081
Client: EBA

Report I.D.: IASU 081 CCME TPH in Soil
Date Submitted: 1-Sep-09
Date Analysis Initiated: 1-Sep-09
Date Reported: 6-Sep-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (WA6-CS9)	<60, <60	25, 21	<10, <10	<10, <10
Duplicates (WA6-CS20)	<60, <60	<10, <10	<10, <10	<10, <10
Control	156, 179	142		
Control Target	180	150		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: B. Kelly
IASU_081_CCME_TPH_in_Soil(1)

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 081
Client: EBA

Report I.D.: IASU 081 CCME TPH in Soil -2
Date Submitted: 31-Aug-09
Date Analysis Initiated: 31-Aug-09
Date Reported: 7-Sep-09

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Dry Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA6-CS21	23%	<60	103	<10	<10	103
WA6-CS22	26%	<60	75	<10	<10	<100
WA6-CS23	28%	<60	<10	<10	<10	<100
WA6-CS24	30%	<60	1891	<10	<10	1891
WA6-CS25	32%	<60	1097	<10	<10	1097
WA6-CS26	29%	<60	363	<10	<10	363
WA6-CS27	28%	<60	36	<10	<10	<100
WA6-CS28	33%	<60	19	20	<10	<100
WA6-CS29*	29%	<60	109	<10	<10	109
WA6-CS30	27%	<60	<10	<10	<10	<100
WA6-CS31	28%	<60	18	190	<10	208
WA6-CS32*	27%	<60	18	<10	<10	<100
WA6-CS Dup 1	27%	<60	<10	<10	<10	<100
WA6-CS Dup 2	18%	<60	72	<10	<10	<101
WA6-CS Dup 3	21%	<60	17	253	<10	270

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC10+nC16+nC34 average
4) linearity of calibrations standard with 15%

Allison Rutter, PhD
Director

Prepared by: B. Kobluk
IASU_081_CCME_TPH_in_Soil_-2(1)

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit
Building 959C
Iqaluit, Nunavut X0A OHO
867-979-1282
867-979-1283 (fax)

Iqaluit Analytical Services Unit

REPORT OF ANALYSIS

IASU #: 081
Client: EBA

Report I.D.: IASU 081 CCME TPH in Soil -2
Date Submitted: 31-Aug-09
Date Analysis Initiated: 31-Aug-09
Date Reported: 7-Sep-09

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Duplicates (WA6-CS29)	<60, <60	128, 89	<10, <10	<10, <10
Duplicates (WA6-CS32)	<60, <60	<10, 30	<10, <10	<10, <10
Control	172	135		
Control Target	180	150		

COMMENTS
F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by: B. Kilfoil
IASU_081_CCME_TPH_in_Soil_-2(1)

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Shipment #15
Total of 2 coolers

Chain Of Custody Record

IASU #: 081

COMPANY NAME: EBA Engineering			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 Ph: 780-451-2121 Fax: 780-454-5688					F1 to F4	Dcc Metals	PCB						
SAMPLER:(Signature) Michel Hebert													
SAMPLE NAME:	COLLECTION Date	COLLECTION Time											Comments/ Special Requests
WA6 - CS1	Aug 28	13:15	2	Soil	X								All Hydrocarbon test on Rush
WA6 - CS2		13:30	3 (18/25)		X	X	X						
WA6 - CS3		13:45	2		X								
WA6 - CS4		14:00	2		X								
WA6 - CS5		14:15	3 (18/25)		X	X	X						
WA6 - CS6		14:30	2		X								
WA6 - CS7		14:45	2		X								
WA6 - CS8		15:00	2		X								
WA6 - CS9		15:15	3 (18/25)		X	X	X						
WA6 - CS10		15:30	2		X								
WA6 - CS11		15:45	2		X								
WA6 - CS12		16:00	3 (10/25)		X	X	X						
WA6 - CS13	↓	16:15	2	↓	X								↓

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca), Herb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hebert	Aug 29				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
				Sept 07	

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Shipment # 15
Total of 2 coolers

Chain Of Custody Record

IASU #: 08

COMPANY NAME: / ADDRESS: Same as Page 1	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	DCC Metal	PCB					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLER:(Signature) Michel Nébert											
SAMPLE NAME:	COLLECTION Date	Time									Comments/ Special Requests
WA6 - CS14	Aug 28	16:30	2	So.1	X						All Hydrocarbon test on Rush
WA6 - CS15		16:45	2		X						
WA6 - CS16		17:00	2		X						
WA6 - CS17		17:15	1		X						
WA6 - CS18		17:30	2		X						
WA6 - CS19		17:45	3 (1B 2T)		X	X	X				
WA6 - CS20		18:00	2		X						
WA6 - CS21		18:15	2		X						
WA6 - CS22		18:30	3 (1B 2T)		X	X	X				
WA6 - CS23		18:45	2		X						
WA6 - CS24		19:00	2 (1B 1T)		X	X	X				
WA6 - CS25		19:15	2		X						
WA6 - CS26	↓	19:30	3 (1B 2T)	↓	X	X	X				↓

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Nébert	Aug 29		B. Kettlewell	01 Sept 09	9:30
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

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Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Shipment #15
Total of 2 coolers

Chain Of Custody Record

IASU #: 081

COMPANY NAME: / ADDRESS: Same as Page 1			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLER:(Signature) Michel Hébert													
SAMPLE NAME:	COLLECTION Date	COLLECTION Time			F1 to F4	ICP Metals	PCB					Comments/ Special Requests	
WA6-CS27	Aug 28	17:45	2	Soil	X							All Hydrocarbon test on a Ku	
WA6-CS28		20:00	2	Soil	X								
WA6-CS29		20:15	2	Soil	X								
WA6-CS30		20:30	3 (1 B 2 S)	Soil	X	X	X						
WA6-CS31		20:45	2	Soil	X								
WA6-CS32		21:00	3 (1 B 2 S)	Soil	X	X	X						
WA6-CS-Dup1		0:00	2	Soil	X								
WA6-CS-Dup2		0:00	2	Soil	X								
WA6-CS-Dup3	↓	0:00	2	Soil	X							↓	

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 2

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 29				
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

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Client : **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
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Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm6	AEC15 Confirm7	AEC15 Confirm8	AEC15 Confirm9	AEC15 Confirm10
		TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.3580	0.0290	0.0240	0.0050	0.0500
Chrysene	2	0.0230	0.0017	0.0012	0.0006	0.0051
Benzo(b)fluoranthene	3	0.6770	0.0160	0.0090	N/A	0.0590
Benzo(k)fluoranthene	4	0.2180	0.0060	N/A	N/A	0.0310
Benzo(a)pyrene	5	4.3000	N/A	N/A	N/A	0.2800
Indeno(1,2,3-cd)pyrene	6	0.1370	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	7	0.4100	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	0.0066	N/A	N/A	N/A	N/A
Total		**6.1296**	**0.0527**	**0.0342**	**0.0056**	**0.4251**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo(a)pyrene Potency Equivalence Factor (PEF).

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r2-3.xls

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm1*	AEC15 Confirm2	AEC15 Confirm3	AEC15 Confirm4	AEC15 Confirm5
		TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.0090	0.0060	0.0300	N/A	0.2650
Chrysene	2	0.0007	N/A	0.0020	N/A	0.0110
Benzo(b)fluoranthene	3	0.0050	0.0050	0.0360	N/A	0.1590
Benzo(k)fluoranthene	4	N/A	N/A	0.0050	N/A	0.0660
Benzo(a)pyrene	5	N/A	N/A	0.1200	N/A	0.8400
Indeno(1,2,3-cd)pyrene	6	N/A	N/A	N/A	N/A	0.0180
Dibenz(a,h)anthracene	7	N/A	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	N/A	N/A	N/A	N/A	0.0015
Total		**0.0147**	**0.0110**	**0.1930**	**N/A**	**1.3605**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo{a}pyrene Potency Equivalence Factor (PEF).

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r2-2.xls

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ASG Login No: 19915
Site: Cape Chris
Client No: 21-Sep-33
Samples Received: 25-Sep-09
Date of analysis: 19-Nov-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID			
		AEC15 Confirm16	AEC15 Confirm17	AEC15 Confirm Arch1	AEC15 Confirm Arch2
		ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.07
Acenaphthene	3	0.08	< 0.05	< 0.05	< 0.05
Fluorene	4	< 0.05	< 0.05	< 0.05	0.06
Phenanthrene	5	< 0.05	< 0.05	0.06	0.25
Anthracene	6	< 0.05	< 0.05	< 0.05	0.19
Fluoranthene	7	< 0.05	0.05	0.10	5.3
Pyrene	8	< 0.05	< 0.05	0.07	4.5
Benzo(a)anthracene	9	< 0.05	< 0.05	< 0.05	0.84
Chrysene	10	< 0.05	< 0.05	< 0.05	1.3
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	1.5
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.63
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.62
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.15
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	0.12
Total		< 0.6	< 0.6	< 0.6	16

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 19-Nov-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm11	AEC15 Confirm12	AEC15 Confirm13	AEC15 Confirm14	AEC15 Confirm15
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	0.25	2.2	0.29	0.07	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	3	0.58	0.20	0.06	< 0.05	< 0.05
Fluorene	4	0.19	0.07	< 0.05	< 0.05	< 0.05
Phenanthrene	5	0.39	0.43	0.12	0.06	0.06
Anthracene	6	< 0.05	0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	7	0.33	0.30	0.15	0.05	0.05
Pyrene	8	0.24	0.19	0.10	< 0.05	< 0.05
Benzo(a)anthracene	9	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	10	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total		**2.2**	**3.5**	**0.84**	**< 0.6**	**< 0.6**

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-42.xls

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 19-Nov-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm6	AEC15 Confirm7	AEC15 Confirm8	AEC15 Confirm9	AEC15 Confirm10
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	27	2.5	1.1	0.18	1.1
Acenaphthylene	2	0.40	< 0.05	< 0.05	< 0.05	0.08
Acenaphthene	3	19	0.57	2.1	0.18	2.7
Fluorene	4	13	0.33	1.3	0.14	2.2
Phenanthrene	5	43	1.0	2.5	0.85	9.3
Anthracene	6	2.6	0.10	0.22	0.94	0.68
Fluoranthene	7	34	1.3	1.1	0.40	6.7
Pyrene	8	21	0.80	0.72	0.22	4.2
Benzo(a)anthracene	9	3.6	0.29	0.24	0.05	0.45
Chrysene	10	2.3	0.17	0.12	0.06	0.51
Benzo(b)fluoranthene	11	6.8	0.16	0.09	< 0.05	0.59
Benzo(k)fluoranthene	12	2.2	0.06	< 0.05	< 0.05	0.31
Benzo(a)pyrene	13	4.3	< 0.1	< 0.1	< 0.1	0.28
Indeno(1,2,3-cd)pyrene	14	1.4	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	0.41	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	0.66	< 0.1	< 0.1	< 0.1	< 0.1
Total		180	7.5	9.7	3.1	29

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-32.xls

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 19-Nov-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm1*	AEC15 Confirm2	AEC15 Confirm3	AEC15 Confirm4	AEC15 Confirm5
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	0.10	< 0.06	< 0.06	0.40
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	0.14
Acenaphthene	3	< 0.05	0.08	< 0.05	< 0.05	5.9
Fluorene	4	< 0.05	0.10	0.08	< 0.05	3.6
Phenanthrene	5	0.20	0.54	0.39	< 0.05	14
Anthracene	6	0.09	0.07	0.15	< 0.05	1.0
Fluoranthene	7	0.26	0.27	0.99	< 0.05	13
Pyrene	8	0.20	0.17	0.83	< 0.05	9.2
Benzo(a)anthracene	9	0.09	0.06	0.30	< 0.05	2.7
Chrysene	10	0.07	< 0.05	0.20	< 0.05	1.1
Benzo(b)fluoranthene	11	0.05	0.05	0.36	< 0.05	1.6
Benzo(k)fluoranthene	12	< 0.05	< 0.05	0.05	< 0.05	0.66
Benzo(a)pyrene	13	< 0.1	< 0.1	0.12	< 0.1	0.84
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	0.18
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	0.15
Total		**1.1**	**1.5**	**3.5**	**< 0.6**	**54**

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-22.xls

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ASG Login No: 19915
Site: Cape Christian
Client No: 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 19-Nov-09

RESULTS OF PAH ANALYSIS

PAH	#	Blank	AEC15 Confirm1*	AEC15 Confirm1*dup	Control Sample	Control Target
		µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	0.18	0.22
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.15	0.21
Acenaphthene	3	< 0.05	< 0.05	< 0.05	0.15	0.21
Fluorene	4	< 0.05	< 0.05	< 0.05	0.19	0.20
Phenanthrene	5	< 0.05	0.18	0.21	0.14	0.20
Anthracene	6	< 0.05	0.12	0.06	0.14	0.20
Fluoranthene	7	< 0.05	0.26	0.26	0.15	0.20
Pyrene	8	< 0.05	0.19	0.21	0.18	0.21
Benzo(a)anthracene	9	< 0.05	0.07	0.10	0.19	0.21
Chrysene	10	< 0.05	0.05	0.08	0.17	0.21
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	0.16	0.21
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.15	0.21
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.22	0.20
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.18	0.19
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	0.17	0.21
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	0.19	0.20
Total		< 0.6	1.0	1.1	2.7	3.3

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By
Shawn Hunter ; Analyst

Authorization: Steve White;
Acting Laboratory Manager

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ASG Login No: 19731
Site: Cape Christian
Client No. 12198
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 10-Nov-09
Page: 1 of 1

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID					
		AEC15-DUP*	AEC15-1	AEC15-2	AEC15-3	AEC15-4	AEC15-5
		TPE	TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.3200	0.0060	0.2500	0.0290	N/A	4.4000
Chrysene	2	0.0850	0.0010	0.0220	0.0096	N/A	0.2800
Benzo(b)fluoranthene	3	0.6900	0.0060	0.1800	0.0570	N/A	3.8000
Benzo(k)fluoranthene	4	0.2000	N/A	0.0610	0.0230	N/A	0.9100
Benzo(a)pyrene	5	1.3000	N/A	0.6500	0.1300	N/A	16.0000
Indeno(1,2,3-cd)pyrene	6	0.1200	N/A	0.0360	N/A	N/A	0.6400
Dibenz(a,h)anthracene	7	0.2700	N/A	0.0600	N/A	N/A	1.4000
Benzo(ghi)perylene	8	0.0086	N/A	0.0026	N/A	N/A	0.0420
Total		**2.9936**	**0.0130**	**1.2616**	**0.2486**	**N/A**	**27.4720**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo[a]pyrene Potency Equivalence Factor (PEF).
All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene.

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19731r1-3.xls

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ASG Login No: 19915
Site: Cape Christian
Client No: 21-Sep-33
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID			
		AEC15 Confirm16	AEC15 Confirm17	AEC15 Confirm Arch1	AEC15 Confirm Arch2
		TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	N/A	N/A	N/A	0.0840
Chrysene	2	N/A	N/A	N/A	0.0130
Benzo(b)fluoranthene	3	N/A	N/A	0.0050	0.1500
Benzo(k)fluoranthene	4	N/A	N/A	N/A	0.0630
Benzo(a)pyrene	5	N/A	N/A	N/A	0.6200
Indeno(1,2,3-cd)pyrene	6	N/A	N/A	N/A	0.0150
Dibenz(a,h)anthracene	7	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	N/A	N/A	N/A	0.0012
Total		**N/A**	**N/A**	**0.0050**	**0.9462**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo{a}pyrene Potency Equivalence Factor (PEF).
All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene.

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r2-5.xls

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm11	AEC15 Confirm12	AEC15 Confirm13	AEC15 Confirm14	AEC15 Confirm15
		TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.0060	N/A	N/A	N/A	N/A
Chrysene	2	0.0005	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	3	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	4	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	5	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	6	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	7	N/A	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	N/A	N/A	N/A	N/A	N/A
Total		**0.0065**	**N/A**	**N/A**	**N/A**	**N/A**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo{a}pyrene Potency Equivalence Factor (PEF).

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
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PAHs19915r2-4.xls

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ASG Login No: 19731
Site: Cape Christian
Client No: 12198
Samples Received: 24-Aug-09
Date of analysis: 28-Aug-09
Method No: ASG 002
Date Reported: 4-Sep-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID					
		AEC15-DUP*	AEC15-1	AEC15-2	AEC15-3	AEC15-4	AEC15-5
		µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	6.4	< 0.06	0.13	0.77	< 0.06	8.4
Acenaphthylene	2	1.1	< 0.05	0.49	0.11	< 0.05	4.2
Acenaphthene	3	8.4	0.48	23	0.81	< 0.05	120
Fluorene	4	17	0.25	15	1.4	< 0.05	80
Phenanthrene	5	120	0.43	12	11.00	0.13	270
Anthracene	6	1.4	0.15	1.4	0.09	< 0.05	15
Fluoranthene	7	72	0.96	25	7.1	0.19	340
Pyrene	8	41	0.51	15	3.9	0.13	230
Benzo(a)anthracene	9	3.2	0.06	2.5	0.29	< 0.05	44
Chrysene	10	8.5	0.10	2.2	0.96	< 0.05	28
Benzo(b)fluoranthene	11	6.9	0.06	1.8	0.57	< 0.05	38
Benzo(k)fluoranthene	12	2.0	< 0.05	0.61	0.23	< 0.05	9.1
Benzo(a)pyrene	13	1.3	< 0.1	0.65	0.13	< 0.1	16
Indeno(1,2,3-cd)pyrene	14	1.2	< 0.1	0.36	< 0.1	< 0.1	6.4
Dibenz(a,h)anthracene	15	0.27	< 0.05	0.06	< 0.05	< 0.05	1.4
Benzo(ghi)perylene	16	0.86	< 0.1	0.26	< 0.1	< 0.1	4.2
Total		290	3.1	100	28	< 1.0	1200

*Average result of duplicates.
All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
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ASU 12198 PAH-1.xls

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ASG Login No: 19731
Site: Cape Christian
Client No: 12198
Samples Received: 24-Aug-09
Date of analysis: 28-Aug-09
Method No: ASG 002
Date Reported: 4-Sep-09

RESULTS OF PAH ANALYSIS

PAH	#	Blank	AEC15-DUP*	AEC15-DUP*D	Control Sample	Control Target
		µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	< 0.06	6.6	6.2	0.22	0.22
Acenaphthylene	2	< 0.05	1.0	1.1	0.16	0.21
Acenaphthene	3	< 0.05	8.4	8.4	0.17	0.21
Fluorene	4	< 0.05	17	17	0.20	0.20
Phenanthrene	5	< 0.05	120	120	0.17	0.20
Anthracene	6	< 0.05	1.2	1.6	0.17	0.20
Fluoranthene	7	< 0.05	71	74	0.19	0.20
Pyrene	8	< 0.05	40	42	0.18	0.21
Benzo(a)anthracene	9	< 0.05	3.0	3.5	0.15	0.21
Chrysene	10	< 0.05	8.2	8.8	0.21	0.21
Benzo(b)fluoranthene	11	< 0.05	6.7	7.0	0.21	0.21
Benzo(k)fluoranthene	12	< 0.05	1.9	2.2	0.16	0.21
Benzo(a)pyrene	13	< 0.1	0.99	1.5	0.17	0.20
Indeno(1,2,3-cd)pyrene	14	< 0.1	1.1	1.3	0.18	0.19
Dibenz(a,h)anthracene	15	< 0.05	0.24	0.29	0.17	0.21
Benzo(ghi)perylene	16	< 0.1	0.83	0.89	0.19	0.20
Total		< 1.0	280	290	2.9	3.3

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By:

Shawn Hunter ; Analyst

Authorization: _____
Steve White , Acting Labortaory Manager

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ASG Login No: 19731
Site: Cape Christian
Client No. 12198
Samples Received: 24-Aug-09
Date of analysis: 31-Aug-09
Method No: ASG 020
Date Reported: 4-Sep-09

RESULTS OF PAH IN WATER ANALYSIS

PAH	#	Sample ID							
		AEC15-Blank*	AEC15-1	AEC15-Dup	AEC15-2	AEC15-3	AEC15-3 Dup	AEC15-4	AEC15-5
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Naphthalene	1	0.55	1.7	990	22	890	560	36	2300
Acenaphthylene	2	0.050	6.3	57	26	65	37	4.3	74
Acenaphthene	3	0.21	89	210	670	280	180	31	1200
Fluorene	4	0.17	25	310	330	320	240	17	590
Phenanthrene	5	0.25	0.85	560	30	450	350	13	700
Anthracene	6	0.033	12	530	48	440	330	15	53
Fluoranthene	7	0.44	0.91	29	1.5	20	20	14	40
Pyrene	8	0.30	0.44	14	0.74	9.9	9.6	7.2	25
Benzo(a)anthracene	9	0.023	0.014	0.13	0.023	0.086	0.13	0.33	0.74
Chrysene	10	0.023	0.017	0.25	0.016	0.21	0.33	0.37	0.57
Benzo(b)fluoranthene	11	< 0.010	< 0.010	0.048	< 0.010	0.027	0.036	0.061	0.16
Benzo(k)fluoranthene	12	< 0.010	< 0.010	0.014	< 0.010	< 0.010	0.010	0.016	0.060
Benzo(a)pyrene	13	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.019	0.065
Indeno(1,2,3-cd)pyrene	14	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.017
Dibenz(a,h)anthracene	15	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(ghi)perylene	16	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total		2.0	140	2700	1100	2500	1700	140	5000

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

PAH	#	Blank	Duplicate ; AEC15-Blank	Control	Control Target
		µg/L	µg/L	µg/L	µg/L
Naphthalene	1	< 0.010	0.53 ; 0.56	0.054	0.043
Acenaphthylene	2	< 0.010	0.054 ; 0.046	0.034	0.042
Acenaphthene	3	< 0.010	0.19 ; 0.23	0.044	0.042
Fluorene	4	< 0.010	0.17 ; 0.17	0.051	0.040
Phenanthrene	5	< 0.010	0.24 ; 0.27	0.045	0.040
Anthracene	6	< 0.010	0.039 ; 0.027	0.046	0.040
Fluoranthene	7	< 0.010	0.42 ; 0.45	0.040	0.040
Pyrene	8	< 0.010	0.29 ; 0.31	0.042	0.041
Benzo(a)anthracene	9	< 0.010	0.022 ; 0.024	0.039	0.042
Chrysene	10	< 0.010	0.023 ; 0.024	0.053	0.043
Benzo(b)fluoranthene	11	< 0.010	< 0.010 ; < 0.010	0.034	0.042
Benzo(k)fluoranthene	12	< 0.010	< 0.010 ; < 0.010	0.044	0.042
Benzo(a)pyrene	13	< 0.010	< 0.010 ; < 0.010	0.035	0.040
Indeno(1,2,3-cd)pyrene	14	< 0.010	< 0.010 ; < 0.010	0.031	0.038
Dibenz(a,h)anthracene	15	< 0.010	< 0.010 ; < 0.010	0.042	0.041
Benzo(ghi)perylene	16	< 0.010	< 0.010 ; < 0.010	0.032	0.041
Total		< 0.10	2.0 ; 2.1	0.67	0.66

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Lab Manager

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ASG Login No: 19731
Site: Cape Christian
Client No: 12198
Samples Received: 24-Aug-09
Date of analysis: 28-Aug-09
Method No: ASG 002
Date Reported: 04-Sep-09

AEC15-3

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID					
		AEC15-DUP*	AEC15-1	AEC15-2	AEC15-3	AEC15-4	AEC15-5
		µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	6.4	< 0.06	0.13	0.77	< 0.06	8.4
Acenaphthylene	2	1.1	< 0.05	0.49	0.11	< 0.05	4.2
Acenaphthene	3	8.4	0.48	23	0.81	< 0.05	120
Fluorene	4	17	0.25	15	1.4	< 0.05	80
Phenanthrene	5	120	0.43	12	11.00	0.13	270
Anthracene	6	1.4	0.15	1.4	0.09	< 0.05	15
Fluoranthene	7	72	0.96	25	7.1	0.19	340
Pyrene	8	41	0.51	15	3.9	0.13	230
Benzo(a)anthracene	9	3.2	0.06	2.5	0.29	< 0.05	44
Chrysene	10	8.5	0.10	2.2	0.96	< 0.05	28
Benzo(b)fluoranthene	11	6.9	0.06	1.8	0.57	< 0.05	38
Benzo(k)fluoranthene	12	2.0	< 0.05	0.61	0.23	< 0.05	9.1
Benzo(a)pyrene	13	1.3	< 0.1	0.65	0.13	< 0.1	16
Indeno(1,2,3-cd)pyrene	14	1.2	< 0.1	0.36	< 0.1	< 0.1	6.4
Dibenz(a,h)anthracene	15	0.27	< 0.05	0.06	< 0.05	< 0.05	1.4
Benzo(ghi)perylene	16	0.86	< 0.1	0.26	< 0.1	< 0.1	4.2
Total		290	3.1	100	28	< 1.0	1200

*Average result of duplicates.
All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
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Site: Cape Christian
Client No: 12198
Samples Received: 24-Aug-09
Date of analysis: 28-Aug-09
Method No: ASG 002
Date Reported: 04-Sep-09
Page: 1 of 2

RESULTS OF PAH ANALYSIS

PAH	#	Blank	AEC15-DUP*	AEC15-DUP*D	Control Sample	Control Target
		µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	< 0.05	6.6	6.2	0.22	0.22
Acenaphthylene	2	< 0.05	1.0	1.1	0.16	0.21
Acenaphthene	3	< 0.05	8.4	8.4	0.17	0.21
Fluorene	4	< 0.05	17	17	0.20	0.20
Phenanthrene	5	< 0.05	120	120	0.17	0.20
Anthracene	6	< 0.05	1.2	1.6	0.17	0.20
Fluoranthene	7	< 0.05	71	74	0.19	0.20
Pyrene	8	< 0.05	40	42	0.18	0.21
Benzo(a)anthracene	9	< 0.05	3.0	3.5	0.15	0.21
Chrysene	10	< 0.05	8.2	8.8	0.21	0.21
Benzo(b)fluoranthene	11	< 0.05	6.7	7.0	0.21	0.21
Benzo(k)fluoranthene	12	< 0.05	1.9	2.2	0.16	0.21
Benzo(a)pyrene	13	< 0.1	0.99	1.5	0.17	0.20
Indeno(1,2,3-cd)pyrene	14	< 0.1	1.1	1.3	0.18	0.19
Dibenz(a,h)anthracene	15	< 0.05	0.24	0.29	0.17	0.21
Benzo(ghi)perylene	16	< 0.1	0.83	0.89	0.19	0.20
Total		< 1.0	280	290	2.9	3.3

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By:

Shawn Hunter ; Analyst

Authorization: _____
Steve White , Acting Labortaory Manager

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ASG Login No: 19731
Site: Cape Christian
Client No. 12198
Samples Received: 24-Aug-09
Date of analysis: 31-Aug-09
Method No: ASG 020
Date Reported: 04-Sep-09

RESULTS OF PAH IN WATER ANALYSIS

PAH	#	Sample ID: AEC15-Blank*	AEC15-1	AEC15-Dup	AEC15-2	AEC15-3	AEC15-3 Dup	AEC15-4	AEC15-5
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Naphthalene	1	0.55	1.7	990	22	890	560	36	2300
Acenaphthylene	2	0.050	6.3	57	26	65	37	4.3	74
Acenaphthene	3	0.21	89	210	670	280	180	31	1200
Fluorene	4	0.17	25	310	330	320	240	17	590
Phenanthrene	5	0.25	0.85	560	30	450	350	13	700
Anthracene	6	0.033	12	530	48	440	330	15	53
Fluoranthene	7	0.44	0.91	29	1.5	20	20	14	40
Pyrene	8	0.30	0.44	14	0.74	9.9	9.6	7.2	25
Benzo(a)anthracene	9	0.023	0.014	0.13	0.023	0.086	0.13	0.33	0.74
Chrysene	10	0.023	0.017	0.25	0.016	0.21	0.33	0.37	0.57
Benzo(b)fluoranthene	11	< 0.010	< 0.010	0.048	< 0.010	0.027	0.038	0.061	0.16
Benzo(k)fluoranthene	12	< 0.010	< 0.010	0.014	< 0.010	< 0.010	0.010	0.016	0.060
Benzo(a)pyrene	13	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.019	0.065
Indeno(1,2,3-cd)pyrene	14	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.017
Dibenz(a,h)anthracene	15	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(ghi)perylene	16	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total		2.0	140	2700	1100	2500	1700	140	5000

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

PAH	#	Blank	Duplicate ; AEC15 Blank	Control	Control Target
		µg/L	µg/L	µg/L	µg/L
Naphthalene	1	< 0.010	0.53 ; 0.56	0.054	0.043
Acenaphthylene	2	< 0.010	0.054 ; 0.046	0.034	0.042
Acenaphthene	3	< 0.010	0.19 ; 0.23	0.044	0.042
Fluorene	4	< 0.010	0.17 ; 0.17	0.051	0.040
Phenanthrene	5	< 0.010	0.24 ; 0.27	0.045	0.040
Anthracene	6	< 0.010	0.039 ; 0.027	0.046	0.040
Fluoranthene	7	< 0.010	0.42 ; 0.45	0.040	0.040
Pyrene	8	< 0.010	0.29 ; 0.31	0.042	0.041
Benzo(a)anthracene	9	< 0.010	0.022 ; 0.024	0.039	0.042
Chrysene	10	< 0.010	0.023 ; 0.024	0.053	0.043
Benzo(b)fluoranthene	11	< 0.010	< 0.010 ; < 0.010	0.034	0.042
Benzo(k)fluoranthene	12	< 0.010	< 0.010 ; < 0.010	0.044	0.042
Benzo(a)pyrene	13	< 0.010	< 0.010 ; < 0.010	0.035	0.040
Indeno(1,2,3-cd)pyrene	14	< 0.010	< 0.010 ; < 0.010	0.031	0.038
Dibenz(a,h)anthracene	15	< 0.010	< 0.010 ; < 0.010	0.042	0.041
Benzo(ghi)perylene	16	< 0.010	< 0.010 ; < 0.010	0.032	0.041
Total		< 0.10	2.0 ; 2.1	0.67	0.66

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Lab Manager

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Total of One Cooler

Chain Of Custody Record

IASU #: ASU # 12132

COMPANY NAME: EBA Engineering

ADDRESS: 14940 - 123 Ave. Edmonton, AB T5V 1B4 Phone: 780-451-2121 Fax: 780-454-5688

SAMPLER:(Signature) Michel Nelcat

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals	F1-F4	PCB					Comments/ Special Requests
BL8-1	July 8	9:00	1	Soil	X							
BL8-2	Aug 1	11:40	1		X							
BL8-3	July 8	9:30	1		X							
BL8-4	July 8	10:00	1		X							
BL8-5	July 8	10:30	1		X							
BL8-7	July 31	15:45	1		X							
BL8-8	July 14	14:10	1		X							
BL8-Duplicate	Aug 2	0:00	1		X							
BL1-1	Aug 2	11:00	1		X	X	X					
BL1-2	Aug 2	11:10	1		X	X	X					
BL1-3	Aug 2	11:20	1		X	X	X					
BL1-4	Aug 2	11:30	1		X	X	X					
BL8-6	July 8	11:00	1	↓	X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Felske (dfelske@eba.ca), Kyle Levac (klevac@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Nelcat	Aug 2	14:50	Michel Nelcat	4 Aug 2009	11:00 am
Michel Nelcat	4 Aug 2009			Aug 09	

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12132		Report ID:	CC S3					
Client:	INAC		Date Submitted:	6-Aug-09					
			Date Tested:	9-Aug-09					
Site:	Cape Christian		Date:	11-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
BL1-1	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL1-2	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	*
BL1-3	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL1-4	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL8-1	<5.0	15.6	16.1	<1.0	<10	21	173	<1.0	
BL8-2	<5.0	<5.0	<5.0	<1.0	<10	16	<20	<1.0	
BL8-3	<5.0	17.7	18.7	<1.0	<10	23	197	<1.0	
BL8-4	<5.0	5.1	<5.0	<1.0	<10	<15	41	<1.0	*
BL8-5	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL8-6	6.6	8.4	7.9	<1.0	<10	32	<20	1.1	
BL8-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL8-8	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL8-8 Duplicate	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.9	37.8	12.3	<1.0	17	131	41	17.9	
SS-2	186.1	50.7	13.8	2.0	111	426	42	82.9	
BL8-4	<5.0	6.0	5.6	<1.0	<10	<15	48	<1.0	
BL8-4	<5.0	<5.0	<5.0	<1.0	<10	<15	34	<1.0	
BL1-2	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BL1-2	<5.0	<5.0	5.4	. <1.0	<10	17	<20	<1.0	

Graham Cairns, PhD
Research Associate

Prepared by: P. Whidey

Authorization:

ASU #	12132		Report ID:	CC S4					
Client:	**INAC**		Date Submitted:	6-Aug-09					
			Date Tested:	13-Aug-09					
Site:	**Cape Christian**		Date:	13-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
BL1-1	<0.1								
BL1-2	<0.1								
BL1-3	<0.1								
BL1-4	<0.1								
BL8-1	<0.1								
BL8-2	<0.1								
BL8-3	<0.1								
BL8-4	<0.1								
BL8-5	<0.1								
BL8-6	<0.1								
BL8-7	<0.1								
BL8-8	<0.1								
BL8-8 Duplicate	<0.1	*							
Blank	<0.1								
Control	0.35								
Control Target	0.44								
BL8-8 Duplicate	<0.1								
BL8-8 Duplicate	<0.1								
* Average result of duplicate analysis									
** Analysis subcontracted									

Prepared by: P. Whalley

Authorization:

Graham Cairns, PhD
Research Associate

ASU#12152

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE Ph. (780) 451 - 2121
EDMONTON, AB Fax (780) 454 - 5688
T5V 1B4

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME: Kyle Levac

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: PHENOLS							Comments/ Special Requests
BWWA2-1	Aug 5/09		2	W	X							
BWWA6-1	Aug 5/09		2	W	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)
DANIELA FELSKE (dfelske@eba.ca) MICHEL HEBERT (mhebert@eba.ca) KyleLEVAC (klevac@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 16th/09	5:15 pm	Michele Parey	10 Aug 2009	9:15 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12152			Report ID:	ASU 12152 CC water 1			
Client:	INAC			Date Submitted:	11-Aug-09			
				Date Reported:	12-Aug-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Phenols						
		ppb						
	BWWA6-1	<1.0						
	BWWA2-1	36.0	*					
	Blank	<1.0						
	Control	10.3						
	Control Target	10.0						
	Date Tested:	12-Aug-09						
	BWW42-1	36.0						
	BWW42-1	36.0						
* average result of duplicates								

Prepared by

Authorized by

Graham Cairns, PhD
Research Associate

Iqaluit An[illegible]cal Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

EBA SHIPMENT #8
* TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: IASU 12166

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 123 AVE Edmonton, AB T5V 1B4 Ph. 780.451.2121 Fax. 780.454.5688

SAMPLER:(Signature) Kyle Leval

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	PCB'S	DCC METALS					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
WA4 - 1	Aug 8/09	1020 AM	3	SOIL	X	X	X						
WA4 - 2		1030 AM											HOLD
WA4 - 3		10:10 AM			X	X	X						
WA4 - 4		10:50 AM											HOLD
WA4 - 5		11:00 AM			X	X	X						
WA4 - 6		11:05 AM											HOLD
WA4 - 7		11:10 AM											HOLD
WA4 - 8		11:15 AM			X	X	X						
WA4 - 9		11:20 AM			X	X	X						
WA4 - 10		11:30 AM											HOLD
WA4 - 11		11:40 AM			X	X	X						
WA4 - 12		11:50 AM											HOLD
WA4 - 13 MISSING		1:10 PM			X	X	X						

ANTICIPATED CHEMICAL HAZARDS: (POSSIBLY CONTAMINATED) SAMPLE IEC1-2 HAS PRESSURIZED + BROKEN 1 OF 3 VIALS (CAUTION SOIL)

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Kyle Leval (kleval@eba.ca) Herb Ziervogel (HZiervogel@eba.ca) Daniela Felske (dFelske@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Leval	Aug 9/09	3:30 pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: [illegible]SU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*TOTAL 2 COOLERS

Chain Of Custody Record

IASU #: A-U 12166

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	DOC METALS	PCB'S	BEWLING BARREL PROTOCOL				Comments/ Special Requests
WA4 - 14	Aug 8th	1:20pm	3	SOIL	X	X	X					
WA4 - 15		1:30pm	"	"								HOLD
WA4 - 16		1:40pm			X	X	X					
WA4 - 17		1:50pm			X	X	X					
WA4 - 18		2:00pm										HOLD
WA4 - 19		2:10pm			X	X	X					
BL1 MW2 @ 1.0m ✓	Aug 7	10:10pm			X	X	X					
BL1 MW2 @ 2.5m 3m.		10:45pm			X	X	X					
BL1 MW3 @ 1.0m ✓		11:10pm			X	X	X					
BL1 MW3 @ 2.5m ✓		11:30pm	↓	↓	X	X	X					
[redacted] IEC1-23	Aug 9/09	3:00pm	2	Sludge				X				
[redacted] IEC1-24	Aug 9/09	3:15pm	2	FUEL OIL				X				

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: SAME AS PG 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 9/09	3:30pm	R Whitley	13 Aug 09	
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ADDRESS: From Iqaluit Lab.	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLER:(Signature)			Metals								
SAMPLE NAME: / COLLECTION Date / Time											Comments/ Special Requests
WA4-13 8 Aug.	1	S	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
B-Kettlewell	19 Aug 09	12:00 pm	P. Whalley	20 Aug 09	8.22 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12166	Report ID:	CC PCB 3	
Client:	INAC	Date Submitted:	13-Aug-09	
		Date tested:	14-Aug-09	
Site:	Cape Christian	Date:	17-Aug-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
WA4-14	<0.5	<0.5		
WA4-16	<0.5	<0.5		
WA4-17	<0.5	<0.5		
WA4-19	<0.5	<0.5	*	
MW2 @ 1M	<0.5	<0.5		
MW2 @ 3M	<0.5	<0.5		
MW3 @ 1M	<0.5	<0.5		
MW3 @ 2.5M	<0.5	<0.5		
Blank	<0.5	<0.5		
WA4-19 duplicate	<0.5 ,<0.5	<0.5 ,<0.5		
Control	-	5.5		
Control Target	-	5.0		
* Average result of duplicate				

Allison Rutter, PhD
Director

Prepared By: P. Whitley

Authorization: A. Rutter

ASU #	12166		Report ID:	CC S5					
Client:	INAC		Date Submitted:	13-Aug-09					
			Date Tested:	16-Aug-09					
Site:	Cape Christian		Date:	17-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
BL1 MW2 AT 3 M	5.9	8.4	5.2	<1.0	<10	22	34	<1.0	
BL1MW2 AT 1M	<5.0	<5.0	<5.0	<1.0	<10	16	<20	<1.0	*
BL1MW3 AT 1M	8.8	8.9	6.1	<1.0	<10	22	<20	<1.0	
BL1MW3 AT 2.5M	13.1	9.1	7.3	<1.0	<10	28	<20	<1.0	
WA4-1	<5.0	<5.0	5.2	<1.0	<10	<15	46	<1.0	
WA4-3	<5.0	<5.0	<5.0	<1.0	<10	<15	25	<1.0	
WA4-5	<5.0	5.1	5.7	<1.0	<10	<15	48	<1.0	
WA4-8	<5.0	5.7	6.4	<1.0	<10	<15	54	<1.0	*
WA4-9	<5.0	7.2	7.5	<1.0	<10	<15	73	<1.0	
WA4-11	<5.0	5.0	5.4	<1.0	<10	<15	46	<1.0	
WA4-14	<5.0	11.1	11.6	<1.0	<10	16	118	<1.0	
WA4-16	<5.0	9.0	9.2	<1.0	<10	<15	84	<1.0	
WA4-17	<5.0	<5.0	5.3	<1.0	<10	<15	43	<1.0	
WA4-19	<5.0	7.2	7.5	<1.0	<10	<15	71	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.2	37.9	12.0	<1.0	17	133	43	16.5	
SS-2	183.4	52.0	13.9	2.0	111	425	48	79.5	
BL1MW2 AT 1M	<5.0	<5.0	<5.0	<1.0	<10	16	<20	<1.0	
BL1MW2 AT 1M	<5.0	<5.0	<5.0	<1.0	<10	16	<20	<1.0	
WA4-8	<5.0	5.4	5.9	<1.0	<10	<15	51	<1.0	
WA4-8	<5.0	6.0	6.9	<1.0	<10	<15	57	<1.0	

Prepared by:

Authorization:
Allison Rutter, PhD
Director

ASU #	12166		Report ID:	CC S6					
Client:	**INAC**		Date Submitted:	13-Aug-09					
			Date Tested:	17-Aug-09					
Site:	**Cape Christian**		Date:	18-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
BL1 MW2 AT 3 M	<0.1								
BL1MW2 AT 1M	<0.1								
BL1MW3 AT 1M	<0.1								
BL1MW3 AT 2.5M	<0.1								
WA4-1	<0.1	*							
WA4-3	<0.1								
WA4-5	<0.1								
WA4-8	<0.1								
WA4-9	<0.1								
WA4-11	<0.1								
WA4-14	<0.1								
WA4-16	<0.1								
WA4-17	<0.1								
WA4-19	<0.1								
Blank	<0.1								
Control	0.38								
Control Target	0.44								
WA4-1	<0.1								
WA4-1	<0.1								
* Average result of duplicate analysis									
** Analysis subcontracted									

Prepared by: _____

Authorization: _____

Paula Whitley, BSc
Laboratory Manager

ASU #	12166			Report ID:	CC Barrel-7	
Client:	**INAC**			Date Submitted:	13-Aug-09	
				Date Reported:	18-Aug-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					
Identity of Barrel Contents						
Barrel	**Identity and **flashpoint**					
IEC1-23	fuel oil & lubricating oil & grease 17:1, flashpoint 99.5 °C					
IEC1-24	fuel oil, flashpoint 63.5 °C					
PCB,Chlorine and Metal Results of Barrel Contents						
	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-23	<2.0	31900*	<10	<100	<2	ship south
IEC1-24*	<2.0	<1000	<10	<100	<2	incincerate
** Flashpoint analysis subcontracted						
* average result of duplicates						
a: Disposal as per DCLU Barrel Protocol						
b: Top phase where there are two phases present						
c: Water disposal by dumping on land at least 30 m from natural water courses						
d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above						
Laboratory QA/QC						
	PCB	Chlorine	Chromium	Lead	Cadmium	
	ug/g	ug/g	mg/L	mg/L	mg/L	
Blank	<2.0	<1000	<10	<100	<2	
IEC1-23 dup	-	31900 ; 31900	-	-	-	
IEC1-24 dup	<2.0 ; <2.0	<1000 ; <1000	<10 ; <10	<100 ; <100	<2 ; <2	
Control	56.9	945	2.9	3.0	0.32	
Control Target	50.0	984	3.0	3.0	0.30	
Date testing initiated:	14-Aug-09	17-Aug-09	18-Aug-09	18-Aug-09	18-Aug-09	

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorization: A. Rutter

ASU #	12166		Report ID:	CC S7					
Client:	**INAC**		Date Submitted:	20-Aug-09					
			Date Tested:	21-Aug-09					
Site:	**Cape Christian**		Date:	25-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA4-13	<5.0	<5.0	<5.0	<1.0	<10	<15	34	<1.0	*
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.3	37.8	12.0	<1.0	18	130	42	18.4	
SS-2	199.4	55.1	14.6	2.0	123	474	47	85.9	
WA4-13	<5.0	<5.0	5.0	<1.0	<10	<15	40	<1.0	
WA4-13	<5.0	<5.0	<5.0	<1.0	<10	15	28	<1.0	

Prepared by:

Authorization:

Allison Rutter, PhD
Director

ASU #	12166		Report ID:	CC S8
Client:	**INAC**		Date Submitted:	20-Aug-09
			Date Tested:	21-Aug-09
Site:	**Cape Christian**		Date:	26-Aug-09
			Matrix:	Soil

Report of Analysis

Sample	Hg**
	ppm
WA4-13	<0.1
Blank	<0.1
Control	0.43
Control Target	0.44

** Analysis subcontracted

Prepared by: P. Whitley

Authorization: C. Rutter

Allison Rutter, PhD
Director

Iqaluit A[illegible]tical Services Unit,
Building [illegible]C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

EBA SHIPMENT #10

1 OF 2

Chain Of Custody Re[illegible]rd

* TOTAL OF 2 COOLERS

IASU #: ASU # 12200

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 -123 AVE Edmonton, AB T5V 1B4 ph. 780.451.2121 Fax: 780-454.5688

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 To F4	DCC METALS	PCB'S	DEWLINE BARREL PROTOCOL				MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
WA6-SP1	Aug 10/09	10:00 AM	3	Soil	X	X	X						
WA6-SP2		10:10 AM	"	"	X	X	X						
WA6-SP3		10:15 AM			X	X	X						
WA6-SP4		10:25AM			X	X	X						
WA6-SP5		10:35AM			X	X	X						
WA6-SP6		10:40AM			X	X	X						
WA6-SP7		10:50AM			X	X	X						
WA6-SP8		11:00 AM			X	X	X						
WA6-SP9		11:05AM			X	X	X						
WA6-SP10		11:10AM			X	X	X						
WA6-SP11		11:15AM			X	X	X						
WA6-SP12		11:20AM			X	X	X						
WA6-SP13	▽	11:25AM	↓	↓	X	X	X						

ANTICIPATED CHEMICAL HAZARDS: SOIL SAMPLES POSSIBLY CONTAMINATED

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Kyle Levac (klevac@eba.ca) Herb Ziervogel (hziervogel@eba.ca) Michel Hebert (mhebert@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 12/09	10:00 AM	Bobby Kettlewell	19 Aug 09	4:00 pm
Bobby Kettlewell	20 Aug/09	10:00 am.	[illegible]	[illegible]	

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit [illegible]tical Services Unit,
Building [illegible]9C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

* TOTAL OF 2 COOLERS

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Cevac

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 TO F4	DCC METALS	PCB'S	DEWLINE BARREL PROTOCOL				Comments/ Special Requests
WA6-SP14	Aug 10/09	11:30	3	SOIL	X	X	X					
WA6-SP15	Aug 10/09	11:35	↓	↓	X	X	X					
WA6-SP16	Aug 10/09	11:40			X	X	X					
WA6-SP17	Aug 10/09	11:45			X	X	X					
WA6-~~SP18~~ SS1		11:50			X	X	X					
WA6-~~SP19~~ SS2		11:55			X	X	X					
WA6-SS3		1:25			X	X	X					
WA6-SS4		1:35			X	X	X					
WA6-SS5		1:40		↓	X	X	X					
IEC1-25		1:45		Sludge	X			X				JAR + BAG SAMPLES
DUP 1		—	↓	SOIL	X	X	X					
DUP 2	↓	—	2	SOIL		X	X					

no vial? BF only bag + kept jar for CCME

ANTICIPATED CHEMICAL HAZARDS: SAME AS PAGE 1

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Cevac	Aug 12/09	10:00 am	Bobby Kettlewell	19 Aug 09	4:00 pm
Bobby Kettlewell	20 Aug/09			24 Aug 09	

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12200		Report ID:	CC S10					
Client:	**INAC**		Date Submitted:	24-Aug-09					
			Date Tested:	25-Aug-09					
Site:	**Cape Christian**		Date:	26-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA6-SP1	<5.0	5.8	6.2	<1.0	<10	<15	58	<1.0	
WA6-SP2	<5.0	5.5	5.6	<1.0	<10	<15	53	<1.0	*
WA6-SP3	<5.0	6.5	6.8	<1.0	<10	<15	63	<1.0	
WA6-SP4	<5.0	8.1	7.9	<1.0	<10	<15	84	<1.0	
WA6-SP5	<5.0	6.8	6.4	<1.0	<10	<15	60	<1.0	
IEC1-25	57.0	27.0	10.8	<1.0	19	71	40	3.1	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	32.5	37.9	12.3	<1.0	18	135	44	17.5	
SS-2	199.5	55.2	14.0	1.8	115	453	46	86.4	
WA6-SP2	<5.0	7.0	7.1	<1.0	<10	<15	70	<1.0	
WA6-SP2	<5.0	<5.0	<5.0	<1.0	<10	<15	36	<1.0	

Allison Rutter, PhD
Director

Prepared by: _____

Authorization: _____

ASU #	12200		Report ID:	CC S11					
Client:	INAC		Date Submitted:	24-Aug-09					
			Date Tested:	25-Aug-09					
Site:	Cape Christian		Date:	26-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
DUP 1	<5.0	9.9	8.1	<1.0	<10	<15	80	<1.0	*
DUP 2	<5.0	7.5	6.3	<1.0	<10	<15	61	<1.0	
WA6-SP10	<5.0	<5.0	<5.0	<1.0	<10	<15	35	<1.0	
WA6-SP11	<5.0	<5.0	<5.0	<1.0	<10	<15	43	<1.0	
WA6-SP12	<5.0	7.2	6.1	<1.0	<10	<15	61	<1.0	
WA6-SP13	<5.0	8.3	7.8	<1.0	<10	<15	76	<1.0	
WA6-SP14	<5.0	12.0	10.8	<1.0	<10	<15	117	<1.0	
WA6-SP15	<5.0	6.7	6.3	<1.0	<10	25	62	<1.0	
WA6-SP16	<5.0	6.1	5.2	<1.0	<10	<15	50	<1.0	*
WA6-SP17	<5.0	5.6	5.5	<1.0	<10	<15	54	<1.0	
WA6-SP6	<5.0	10.1	9.1	<1.0	52	23	97	<1.0	
WA6-SP7	<5.0	10.9	9.4	<1.0	<10	24	99	<1.0	
WA6-SP8	<5.0	12.3	8.3	<1.0	<10	<15	97	<1.0	
WA6-SP9	<5.0	7.0	6.2	<1.0	<10	<15	59	<1.0	*
WA6-SS1	<5.0	10.7	9.6	<1.0	<10	<15	102	<1.0	
WA6-SS2	<5.0	8.5	6.7	<1.0	<10	<15	70	<1.0	
WA6-SS3	<5.0	13.7	10.9	<1.0	<10	<15	124	<1.0	
WA6-SS4	<5.0	7.7	5.8	<1.0	<10	18	59	<1.0	
WA6-SS5	<5.0	8.2	6.8	<1.0	<10	<15	72	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	33.0	40.5	12.3	<1.0	18	131	45	17.5	
SS-2	201.2	53.2	13.8	1.8	115	433	44	61.4	
WA6-SP9	<5.0	6.6	6.2	<1.0	<10	<15	60	<1.0	
WA6-SP9	<5.0	7.3	6.1	<1.0	<10	<15	59	<1.0	
WA6-SP16	<5.0	5.6	5.3	<1.0	<10	<15	49	<1.0	
WA6-SP16	<5.0	6.6	5.0	<1.0	<10	<15	50	<1.0	
DUP 1	<5.0	9.9	5.8	<1.0	<10	<15	62	<1.0	
DUP 1	<5.0	10.0	10.3	<1.0	<10	<15	99	<1.0	

Prepared by: P. Whalley

Authorization: A. Rutter

Allison Rutter, PhD
Director

ASU #	12200		Report ID:	CC S12					
Client:	**INAC**		Date Submitted:	24-Aug-09					
			Date Tested:	27-Aug-09					
Site:	**Cape Christian**		Date:	28-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
WA6-SP1	<0.1								
WA6-SP2	<0.1								
WA6-SP3	<0.1								
WA6-SP4	<0.1								
WA6-SP5	<0.1								
WA6-SP6	<0.1	*							
WA6-SP7	<0.1								
WA6-SP8	<0.1								
WA6-SP9	<0.1								
IEC1-25	<0.1								
DUP 1	<0.1								
DUP 2	<0.1								
WA6-SP10	<0.1								
WA6-SP11	<0.1								
WA6-SP12	<0.1								
WA6-SP13	<0.1								
WA6-SP14	<0.1								
WA6-SP15	<0.1								
WA6-SP16	<0.1								
WA6-SP17	<0.1	*							
WA6-SS1	<0.1								
WA6-SS2	<0.1								
WA6-SS3	<0.1								
WA6-SS4	<0.1								
WA6-SS5	<0.1								
Blank	<0.1 ; <0.1								
Control	0.35 ; 0.32								
Control Target	0.44								
WA6-SP6	<0.1								
WA6-SP6	<0.1								
WA6-SP17	<0.1								
WA6-SP17	<0.1								
* Average result of duplicate analysis									
** Analysis subcontracted									

Prepared by: P. Whiteley

Authorization: A. Rutter

Allison Rutter, PhD
Director

ASU #	12200	**Report ID:**	CC PCB 5	
Client:	INAC	**Date Submitted:**	24-Aug-09	
		Date tested:	27-Aug-09	
Site:	Cape Christian	**Date:**	31-Aug-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
IEC1-25	<0.5	<0.5	*	
Blank	<0.5	<0.5		
Control	-	4.1		
Control Target	-	5.0		
IEC1-25	<0.5	<0.5		
IEC1-25	<0.5	<0.5		
* average result of duplicates				

Research Technician

Prepared By: _____

Authorization: _____

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* SHIPMENT #2

Chain Of Custody Record

IASU #: ASU # 12198

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE Edmonton, AB T5V 1B4 Ph (780) 451. 2121 Fax (780) 454-5688

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME:	COLLECTION Date	COLLECTION ~~Time~~ MATRIX	# OF CONTAINERS	SAMPLE MATRIX ~~TIME~~	TEST(S) REQUESTED: METALS TOTAL	METALS DISSOLVED	F_1 TO F_2	PCB'S	DEW LINE BARREL PROTOCOL	PAH'S	LEACHABLE PAH'S	Comments/ Special Requests
MW 1	Aug 15	GROUND WATER	6	10:15	X	X	X	X				
MW 3	Aug 15	GROUND WATER	6	10:35	X	X	X	X				
AEC 15-1		SOIL	2	11:55						X	X	All samples sent South.
AEC 15-2				1:00						X	X	
AEC 15-3				1:10						X	X	
AEC 15-4				1:15						X	X	
AEC 15-5				1:20						X	X	
AEC 15-DUP				1:30						X	X	
IEC 1-26	Aug 17	FUEL	1	1:10					X			1 cooler still missing
IEC 1-27		LUBE OIL	1	1:20					X			
IEC 1-28		LUBE OIL	1	1:30					X			
IEC 1-29		KITCHEN GREASE	1	1:40					X			
IEC 1-30		LUBE OIL	1	1:50					X			

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) MICHEL hebert (mhebert@eba.ca) HERB ZIERVOGEL (HZiervogel@eba.ca) Kyle Levac (klevac@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac			Bill Kotkewell	19 Aug 09	4:00 pm
Bill Kotkewell	20 Aug 09	8:00 am			
			RECEIVED BY: (Signature)	Date	Time
				24 Aug 09	

White: IASU Files Yellow: SU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #12

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE Ph. (780) 451. 2121
Edmonton, AB Fax (780) 454. 5688
T5V 1B4

SAMPLER:(Signature) Kyle Lecuyer

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DEW LINE BARREL PROTOCOL	WATER DISCHARGE CRITERIA	METALS					Comments/ Special Requests
IEC1-31	Aug 17	2:00	1	SOIL	X							
IEC1-32	Aug 17	2:10	1	SLUDGE	X							
LFC-1	Aug 13	2:00	6	WATER		X						
AEC5-1	Aug 17	3:10	1	SOIL			X					
AEC5-2	"	3:15	"	"			X					
AEC5-3		3:20					X					
AEC5-4		3:25					X					
AEC5-5		3:30					X					
AEC-6-1		3:40					X					
AEC-6-2		3:45					X					
AEC-6-3		3:50					X					
AEC-6-4		3:55					X					
AEC-6-5		4:00					X					

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Lecuyer			Bobby Kettlewell	19-Aug 09	4:00 pm
Bobby Kettlewell	20-Aug 09	8:00 am			

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

X SHIPMENT 12

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: SAME AS PAGE 1

SAMPLER:(Signature) Kyle Lewis

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: METALS							Comments/ Special Requests
AEC2-1	Aug 17	4:15	1	Soil	X							
AEC2-2	↓	4:25	↓	↓	X							
AEC2-3		4:35			X							
AEC2-4		4:45			X							
AEC2-5	↓	4:55	↓	↓	X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) SAME AS PAGE 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Lewis			Bukki Kolawole	19 Aug 09	4:00
Bukki Kolawole	20 Aug 09	8:00 am		20 Aug 09	

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #1

Chain Of Custody Record

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940 - 123 AVE Ph. 780.451.2121
EDMONTON, AB Fax: 780.454.5688
T5V 1B4

SAMPLER:(Signature) Kyle Levac

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DISCHARGE CRITERIA	TEST(S) REQUESTED: RUSH	Comments/ Special Requests
AST 1-1	AUG 14TH	1:15	6	W	X	X	
AST 2-1	↓	1:25	6	W	X	X	
VAC 1	↓	1:35	6	W	X	X	

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: WATER CONTAMINATED

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Kyle Levac (klevac@eba.ca) Herb Zicrvogel (Hziervogel@eba.ca) Michel Hébert (mhebert@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Kyle Levac	Aug 18th/09	2:00 pm	B Fetherwell	19 Aug 09	4:00 pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: SU Lab Pink: Retained by Sampler

ASU #	12198		Report ID:	CC S9					
Client:	INAC		Date Submitted:	24-Aug-09					
			Date Tested:	25-Aug-09					
Site:	Cape Christian		Date:	26-Aug-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
AEC2-1	<5.0	<5.0	<5.0	<1.0	75	16	33	<1.0	*
AEC2-2	<5.0	7.2	7.2	<1.0	<10	15	68	<1.0	
AEC2-3	<5.0	<5.0	<5.0	<1.0	<10	17	<20	<1.0	
AEC2-4	<5.0	6.0	6.0	<1.0	16	22	56	<1.0	
AEC2-5	<5.0	<5.0	<5.0	<1.0	43	<15	<20	<1.0	
IEC1-31	18.1	6.1	<5.0	<1.0	<10	33	<20	<1.0	
AEC5-1	<5.0	7.0	7.6	<1.0	<10	47	71	<1.0	
AEC5-2	<5.0	12.2	11.6	<1.0	<10	51	147	<1.0	
AEC5-3	<5.0	5.6	5.6	<1.0	<10	18	52	<1.0	
AEC5-4	<5.0	6.1	6.5	1.6	19	24	96	<1.0	*
AEC5-5	<5.0	<5.0	<5.0	<1.0	<10	22	45	<1.0	
AEC-6-1	<5.0	6.8	7.6	<1.0	<10	25	74	<1.0	
AEC-6-2	<5.0	7.0	6.8	<1.0	<10	37	67	<1.0	
AEC-6-3	<5.0	<5.0	<5.0	<1.0	<10	19	36	<1.0	
AEC-6-4	<5.0	5.9	6.0	<1.0	<10	<15	56	1.3	
AEC-6-5	<5.0	5.8	5.6	<1.0	<10	<15	52	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	32.5	37.9	12.3	<1.0	18	135	44	17.5	
SS-2	199.5	55.2	14.0	1.8	115	453	46	86.4	
AEC5-4	<5.0	6.1	6.5	1.6	18	24	93	<1.0	
AEC5-4	<5.0	6.0	6.5	1.7	20	24	99	<1.0	
AEC2-1	<5.0	<5.0	<5.0	<1.0	25	15	33	<1.0	
AEC2-1	<5.0	<5.0	<5.0	<1.0	125	17	33	<1.0	

Prepared by: P. Whitley

Allison Rutter, PhD
Director

Authorization: A. Rutter

ASU #	12198			Report ID:	CC Barrel-8	
Client:	**INAC**			Date Submitted:	24-Aug-09	
				Date Reported:	28-Aug-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					

Identity of Barrel Contents

Barrel	Identity and **flashpoint
IEC1-27	top: fuel oil: lubricating oil & grease 1:13 ; bottom: water, flashpoint >135.0 °C
IEC1-28	top: fuel oil: lubricating oil & grease 2:1 ; bottom: water, flashpoint 83.0 °C
IEC1-29	grease with approximately 5% hydrocarbons in the diesel range, flashpoint 131.0 °C
IEC1-30	fuel oil: lubricating oil & grease 1:2, flashpoint 91.0 °C
IEC1-32	top: fuel oil ; bottom: water, not enough top layer for flashpoint

PCB,Chlorine and Metal Results of Barrel Contents

	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-27	<2.0	<1000	<10*	<100*	<2*	incincerate
IEC1-28	<2.0	<1000*	<10	<100	<2	incincerate
IEC1-29	<2.0	<1000	<10	<100	<2	incincerate
IEC1-30	<2.0*	6800	<10	<100	4.9	ship south
IEC1-32	<2.0	n.e.	<10	<100	<2	incincerate

** analysis subcontracted
* average result of duplicates
a: Disposal as per DCLU Barrel Protocol
b: Top phase where there are two phases present
c: Water disposal by dumping on land at least 30 m from natural water courses
d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above
n.e. not enough sample for analysis

Laboratory QA/QC

	PCB	Chlorine**	Chromium	Lead	Cadmium
	ug/g	ug/g	mg/L	mg/L	mg/L
Blank	<2.0	<1000	<10	<100	<2
IEC1-27 duplicate	-	-	<10 ; <10	<100 ; <100	<2 ; <2
IEC1-28 duplicate	-	<1000 ; <1000	-	-	-
IEC1-30 duplicate	<2.0 ; <2.0	-	-	-	-
Control	40.8	990	3.1	2.9	0.30
Control Target	50.0	1003	3.0	3.0	0.30
Date testing initiated:	26-Aug-09	25-Aug-09	28-Aug-09	27-Aug-09	28-Aug-09

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorization: A. Rutter

ASU #	12198		Report ID:	CC S13
Client:	**INAC**		Date Submitted:	24-Aug-09
			Date Tested:	27-Aug-09
Site:	**Cape Christian**		Date:	28-Aug-09
			Matrix:	Soil
Report of Analysis				
Sample	Hg**			
	ppm			
AEC2-1	<0.1			
AEC2-2	<0.1			
AEC2-3	<0.1			
AEC2-4	<0.1			
AEC2-5	<0.1	*		
IEC1-31	<0.1			
AEC5-1	<0.1			
AEC5-2	<0.1			
AEC5-3	<0.1			
AEC5-4	<0.1			
AEC5-5	<0.1			
AEC-6-1	<0.1			
AEC-6-2	<0.1			
AEC-6-3	<0.1			
AEC-6-4	<0.1			
AEC-6-5	<0.1			
Blank	<0.1			
Control	0.33			
Control Target	0.44			
AEC2-5	<0.1			
AEC2-5	<0.1			
* Average result of duplicate analysis				
** Analysis subcontracted				

Allison Rutter, PhD
Director

Prepared by: _____

Authorization: _____

ASU #	12198	**Report ID:**	CC PCB 4	
Client:	INAC	**Date Submitted:**	24-Aug-09	
		Date tested:	27-Aug-09	
Site:	Cape Christian	**Date:**	31-Aug-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
IEC1-31	<0.5	<0.5		
Blank	<0.5	<0.5		
Control	-	4.1		
Control Target	-	5.0		

Prepared By: P. Whitley

Research Technician

Authorization: Justin Dee

ASU #	12198			Report ID:	ASU 12198 CC water 7			
Client:	INAC			Date Submitted:	24-Aug-09			
				Date Reported:	3-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample							
	Preliminary report of Analysis							
	Sample		MW1	MW3				
	Sodium	mg/L	464	75.2*				
	Potassium	mg/L	36.2	0.31*				
	Magnesium	mg/L	6.6	3.0*				
	Calcium	mg/L	10.3	7.0*				
	Hardness	mg/L	53	30*				
	Iron	mg/L	<0.05	4.2*				
	Manganese	mg/L	<0.05	0.07*				
	Chloride	mg/L	704	44.5*				
	Nitrate(N)	mg/L	0.26	0.38*				
	Nitrite(N)	mg/L	<0.05	<0.05*				
	Sulphate	mg/L	93.4	38.2*				
	pH	-	9.44*	9.55				
	Conductivity	us/cm	2670*	427				
	*average result of duplicates							
	Sample		MW3	MW3	Blank	QC	QC Target	Date of Analysis
	Sodium	mg/L	75.9	74.5	<1.0	505	500	31-Aug-09
	Potassium	mg/L	0.20	0.41	<0.20	15.0	15.0	31-Aug-09
	Magnesium	mg/L	3.0	3.0	<0.05	5.9	6.0	31-Aug-09
	Calcium	mg/L	7.2	6.9	<0.05	5.3	6.0	31-Aug-09
	Hardness	mg/L	30	30	-	-	-	31-Aug-09
	Iron	mg/L	4.2	4.3	<0.05	15.5	16.0	31-Aug-09
	Manganese	mg/L	0.07	0.07	<0.05	15.5	16.0	31-Aug-09
	Chloride	mg/L	44.5	44.5	<0.05	2.9	3.0	2-Sep-09
	Nitrate(N)	mg/L	0.36	0.39	<0.05	1.7	1.6	2-Sep-09
	Nitrite(N)	mg/L	<0.05	<0.05	<0.05	1.5	1.6	2-Sep-09
	Sulphate	mg/L	38.2	38.1	<0.10	2.5	3.0	2-Sep-09
	Sample		MW1	MW1	Blank	QC	QC Target	Date of Analysis
	pH	-	9.44	9.44	-	7.00	7.00	2-Sep-09
	Conductivity	us/cm	2670	2670	-	147	147	2-Sep-09

Prepared by P. Whitley

Authorized by

Graham Cairns, PhD
Research Associate

ASU #	12198			Report ID:	ASU 12198 CC Water 1			
Client:	INAC			Date Submitted:	24-Aug-09			
				Date Reported:	25-Aug-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Oil & Grease	Phenols	Mercury**	pH**	Glycols		
		ppm	ppb	ppb	-	%		
	Vac-1	827	218	<0.4	6.29	<2		
	LFC-1	6.5	6.2	<0.4	6.68	<2		
	AST1-1	33.2	87.7	<0.4	6.22	<2		
	AST2-1	77.5	164*	<0.4	6.88*	<2		
	Blank	<2.0	<1.0	<0.4	-	<2		
	Control	15.6	9.9	4.4	7.00	-		
	Control Target	16.1	10.0	4.0	7.00	-		
	Date Tested:	24-Aug-09	24-Aug-09	25-Aug-09	25-Aug-09	24-Aug-09		
	AST2-1	-	155	-	6.88	-		
	AST2-1	-	172	-	6.88	-		
	* Average result of duplicates							
	** Analysis subcontracted							

Prepared by

Authorized by

Allison Rutter, PhD
Director

ASU #	12198			Report ID:	ASU 12198 CC water 3			
Client:	INAC			Date Submitted:	24-Aug-09			
				Date Reported:	26-Aug-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	PCB						
		ppm						
	MW1	<0.003						
	MW3	<0.003						
	LFC-1	<0.003						
	VAC1	<0.003						
	AST1-1	<0.003						
	AST2-1	**						
	Blank	<0.003						
	Control	0.013						
	Control Target	0.010						
	Date Tested:	25-Aug-09						
** PCB sample bottle received broken								

Prepared by

Authorized by

Allison Rutter, PhD
Director

ASU #	12198			Report ID:	ASU 12198 CC water 2		
Client:	INAC			Date Submitted:	24-Aug-09		
				Date Reported:	26-Aug-09		
Site:	Cape Christian			Matrix:	Water		

Laboratory Report of Analysis

Sample	Total As	Total Zn
	ppm	ppm
LFC-1	<0.003	0.786
AST1 -1	<0.003	0.040
AST2-1	<0.003	0.147
VAC1	<0.003	0.300
Blank	<0.003	<0.010
Control	0.83	3.1
Control Target	0.80	3.0
Date Tested:	25-Aug-09	25-Aug-09

Sample	Dissolved Cu	Dissolved Ni	Dissolved Co	Dissolved Cd	Dissolved Pb	Dissolved Cr
	ppm	ppm	ppm	ppm	ppm	ppm
LFC-1	0.013	0.006	0.003	0.007	<0.010	<0.005
AST1 -1	<0.005	0.028	0.004	<0.001	<0.010	<0.005
AST2-1	<0.005	0.010	<0.003	<0.001	<0.010	<0.005
VAC1	<0.005	<0.005	<0.003	<0.001	<0.010	<0.005
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.005
Control	1.7	1.7	1.7	0.82	8.3	0.91
Control Target	1.6	1.6	1.6	0.80	8.0	0.80
Date Tested:	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09

Prepared by Mary Andrews

Authorized by P. Whitley

Paula Whitley, BSc
Laboratory Manager

ASU #	12198			Report ID:	ASU 12198 CC water 4					
Client:	INAC			Date Submitted:	24-Aug-09					
				Date Reported:	26-Aug-09					
Site:	Cape Christian			Matrix:	Water					

Laboratory Report of Analysis

Sample	Total Cu	Total Ni	Total Co	Total Cd	Total Pb	Total Zn	Total Cr	Total As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
MW1	0.055	0.482	0.008	<0.001	<0.010	0.049	0.718	<0.003	*
MW3	0.046	0.146	0.009	<0.001	<0.010	0.069	0.187	0.005	
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	
Control	1.7	1.7	1.7	0.82	8.3	3.1	0.91	0.83	
Control Target	1.6	1.6	1.6	0.80	8.0	3.0	0.80	0.80	
MW1	0.055	0.456	0.008	<0.001	<0.010	0.050	0.686	<0.003	
MW1	0.054	0.508	0.008	<0.001	<0.010	0.048	0.750	<0.003	
Date Tested:	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	

Sample	Dissolved Cu	Dissolved Ni	Dissolved Co	Dissolved Cd	Dissolved Pb	Dissolved Zn	Dissolved Cr	Dissolved As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
MW1	0.009	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	*
MW3	0.013	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	0.003	
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	
Control	1.7	1.7	1.7	0.82	8.3	3.1	0.91	0.83	
Control Target	1.6	1.6	1.6	0.80	8.0	3.0	0.80	0.80	
MW1	0.008	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	
MW1	0.009	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	
Date Tested:	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	25-Aug-09	

Prepared by Mary Andrews

Authorized by P. Whitley

Paula Whitley, BSc
Laboratory Manager

Analytical Services Unit
School of Environmental Studies
Biosciences Complex
Queen's University, Kingston, Ontario, Canada K7L 3N6
Tel 613 533-2642 Fax 613 533-2897

Client	INAC – EBA Engineering
ASU Login Number	12198
Site	Cape Christian
Analysis Requested	6 x leachable PAHs
Date Requested	24-Aug-09

Sub-Contracted Laboratory	Analytical Services Group
	Royal Military College
	Kingston, ON K7K 7H4
Laboratory Project Identification Number	ASG 19731
Comments	The leachate test was carried out according to the Ontario Environment protocol as given in Regulation 558/00 to give the following results:

The attached report is hereby authorized by ASU as a Final Report

Paula Whitley, BSc
Laboratory Manager

Authorization P. Whitley
Date 8 Sep 09

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : ASU
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19731
Site: Cape Christian
Client No. 12198
Samples Received: 24-Aug-09
Date of analysis: 31-Aug-09
Method No: ASG 020
Date Reported: 4-Sep-09

RESULTS OF PAH IN WATER ANALYSIS

PAH	#	Sample ID							
		AEC15-Blank*	AEC15-1	AEC15-Dup	AEC15-2	AEC15-3	AEC15-3 Dup	AEC15-4	AEC15-5
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Naphthalene	1	0.55	1.7	990	22	890	560	36	2300
Acenaphthylene	2	0.050	6.3	57	26	65	37	4.3	74
Acenaphthene	3	0.21	89	210	670	280	180	31	1200
Fluorene	4	0.17	25	310	330	320	240	17	590
Phenanthrene	5	0.25	0.85	560	30	450	350	13	700
Anthracene	6	0.033	12	530	48	440	330	15	53
Fluoranthene	7	0.44	0.91	29	1.5	20	20	14	40
Pyrene	8	0.30	0.44	14	0.74	9.9	9.6	7.2	25
Benzo(a)anthracene	9	0.023	0.014	0.13	0.023	0.086	0.13	0.33	0.74
Chrysene	10	0.023	0.017	0.25	0.016	0.21	0.33	0.37	0.57
Benzo(b)fluoranthene	11	< 0.010	< 0.010	0.048	< 0.010	0.027	0.036	0.061	0.16
Benzo(k)fluoranthene	12	< 0.010	< 0.010	0.014	< 0.010	< 0.010	0.010	0.016	0.060
Benzo(a)pyrene	13	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.019	0.065
Indeno(1,2,3-cd)pyrene	14	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.017
Dibenz(a,h)anthracene	15	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(ghi)perylene	16	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total		2.0	140	2700	1100	2500	1700	140	5000

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

PAH	#	Blank	Duplicate ; AEC15-Blank	Control	Control Target
		µg/L	µg/L	µg/L	µg/L
Naphthalene	1	< 0.010	0.53 ; 0.56	0.054	0.043
Acenaphthylene	2	< 0.010	0.054 ; 0.046	0.034	0.042
Acenaphthene	3	< 0.010	0.19 ; 0.23	0.044	0.042
Fluorene	4	< 0.010	0.17 ; 0.17	0.051	0.040
Phenanthrene	5	< 0.010	0.24 ; 0.27	0.045	0.040
Anthracene	6	< 0.010	0.039 ; 0.027	0.046	0.040
Fluoranthene	7	< 0.010	0.42 ; 0.45	0.040	0.040
Pyrene	8	< 0.010	0.29 ; 0.31	0.042	0.041
Benzo(a)anthracene	9	< 0.010	0.022 ; 0.024	0.039	0.042
Chrysene	10	< 0.010	0.023 ; 0.024	0.053	0.043
Benzo(b)fluoranthene	11	< 0.010	< 0.010 ; < 0.010	0.034	0.042
Benzo(k)fluoranthene	12	< 0.010	< 0.010 ; < 0.010	0.044	0.042
Benzo(a)pyrene	13	< 0.010	< 0.010 ; < 0.010	0.035	0.040
Indeno(1,2,3-cd)pyrene	14	< 0.010	< 0.010 ; < 0.010	0.031	0.038
Dibenz(a,h)anthracene	15	< 0.010	< 0.010 ; < 0.010	0.042	0.041
Benzo(ghi)perylene	16	< 0.010	< 0.010 ; < 0.010	0.032	0.041
Total		< 0.10	2.0 ; 2.1	0.67	0.66

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Lab Manager
ASU 12198 PAH leachates

Analytical Services Unit
School of Environmental Studies
Biosciences Complex
Queen's University, Kingston, Ontario, Canada K7L 3N6
Tel 613 533-2642 Fax 613 533-2897

Client	INAC-Cape Christian
ASU Login Number	12198
Site	
Analysis Requested	2 x CCME TPH water, 1 x CCME TPH soil
	6 x PAH
Date Requested	24 Aug 09

Sub-Contracted Laboratory	Analytical Services Group
	Royal Military College
	Kingston, ON K7K 7H4
Laboratory Project Identification Number	ASG 19731
Comments	

The attached report is hereby authorized by ASU as a Final Report

Authorization
Date 31 Aug 09

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
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Client : ESG
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Dept. of Chem. / Chem. Eng., RMC
P.O. Box 17000, Stn. Forces
Kingston, Ontario K7K 7B4
(613) 541-6000 ext 6567
Fax: (613) 541-6596

ASG Login No: 19731
Site: Cape Christian
Client Login No: 12198
Date Sampled: N/A
Samples Received: 24-Aug-09
Date of analysis: 24-Aug-09
Method No: ASG 055 ~
Date Reported: 31-Aug-09
Sheet: 1 of 1

RESULTS OF PHC IN WATER ANALYSIS - F1 FRACTION^

Sample I.D.	Unit	F1 Fraction (ppm)
MW1*	mg/L	< 0.05
MW3	mg/L	< 0.05

LABORATORY QA/QC SECTION

Blank	mg/L	< 0.05
Duplicate ; MW1*	mg/L	< 0.05 ; < 0.05
Gasoline Control Sample	mg/L	0.14
Gasoline Control Target	mg/L	0.16

^ BTEX contribution to F1 fraction not subtracted from reported values
* Averaged result of duplicates

Average response factors for hexane and decane were not within 30% of the toluene response factor. Actual value: 30 %
Linearity of calibration standards is within 15%.

The results reported here relate only to the items tested

Prepared by:_____
Chad Hind ; Analyst

Authorization:_____
Steve White, Laboratory Manager

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Client ASU
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19731
Site: Cape Christian
Client Login No: 12198
Samples Received: 24-Aug-09
Date of analysis: 25-Aug-09
Date Sampled: N/A
Method No: ASG 055
Date Reported: 31-Aug-09
Sheet: 1 of 1

RESULTS OF PHC IN WATER ANALYSIS^

Sample I.D.	Unit	F2 Fraction (ppm)
MW1	mg/L	< 0.5
MW3	mg/L	< 0.5

LABORATORY QA/QC FOR F2-F4 FRACTIONS

Sample I.D.	Unit	F2 Fraction (ppm)
Blank	mg/L	< 0.5

Diesel Spike	mg/L	8.5
Diesel Spike Target	mg/L	10
Control Standard	mg/L	2700
Control Standard Target	mg/L	2500

^PAH contributions to F2-F4 not subtracted from reported values.
~The method used complies with the Reference Method for the CWS PHC.
*Averaged result of duplicate

Gravimetric heavy hydrocarbons cannot be added to the C6-C50 hydrocarbons.
The chromatogram descended to baseline by the C50 retention time.
Average response factors for C10, C16, C34 were within 10% of each other.
C50 response factor was within 70% of the C10, C16, C34 average response factor.
Linearity of calibration standards was within 15%.
Extraction and analysis holding times for samples were met.

The results reported here relate only to the items tested.

Prepared By: _____
Kate Bishop, Analyst

Authorization: _____
Steve White, Laboratory Manager
Test Report I.D: ASU 12198 CC water 6

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
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ASG Login No: 19731
Site: Cape Christian
Client Login No: 12198
Date Sampled: n/a
Samples Received: 24-Aug-09
Date of analysis: 26-Aug-09
Method No: ASG 053 ~
Date Reported: 31-Aug-09
Sheet: 1 of 1

RESULTS OF PHC IN SOIL ANALYSIS - F1 FRACTION^

Sample I.D.	Unit	F1 Fraction (ppm)
WA2-A	mg/kg	80

LABORATORY QA/QC SECTION

Blank	mg/kg	< 10
Gasoline Control Sample	mg/kg	26
Gasoline Control Target	mg/kg	29

^ BTEX contribution to F1 fraction not subtracted from reported values

~ This method complies with the reference method for the CWS PHC and is validated for use in the laboratory.
Average response factors for hexane and decane were within 30% of the toluene response factor.
Linearity of calibration standards is within 15%.
Extraction and analysis holding times for samples were met.

The results reported here relate only to the items tested

Prepared by:_____
Chad Hind ; Analyst

Authorization:_____
Steve White, Laboratory Manager

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Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19731
Site: Cape Christian
Client Login No: 12198
Samples Received: 24-Aug-09
Date of analysis: 26-Aug-09
Date Sampled: N/A
Method No: ASG 053
Date Reported: 1-Sep-09
Sheet: 1 of 1

RESULTS OF PHC IN SOIL ANALYSIS^

Sample I.D.	Unit	F2 Fraction (ppm)	F3 Fraction (ppm)	F4 Fraction (ppm)	F4G (ppm)
WA2-A	mg/kg	1500	290	220	N/A

LABORATORY QA/QC FOR F2-F4 FRACTIONS

Sample I.D.	Unit	F2 Fraction (ppm)	F3 Fraction (ppm)	F4 Fraction (ppm)	F4G (ppm)
Blank	mg/kg	< 4.0	< 9.0	< 8.0	N/A

Diesel Spike	mg/kg	44
Diesel Spike Target	mg/kg	50
Control Standard	mg/kg	2600
Control Standard Target	mg/kg	2500

^PAH contributions to F2-F4 not subtracted from reported values.
~The method used complies with the Reference Method for the CWS PHC.
*Averaged result of duplicate

Gravimetric heavy hydrocarbons cannot be added to the C6-C50 hydrocarbons.
The chromatogram descended to baseline by the C50 retention time.
Average response factors for C10, C16, C34 were within 10% of each other.
C50 response factor was within 70% of the C10, C16, C34 average response factor.
Linearity of calibration standards was within 15%.
Extraction and analysis holding times for samples were met.

The results reported here relate only to the items tested.

Prepared By: _____
Kate Bishop, Analyst

Authorization: _____
Steve White, Laboratory Manager
Test Report I.D: PHCs19731r1(F2-F4)

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19731
Site: Cape Christian
Client No: 12198
Samples Received: 24-Aug-09
Date of analysis: 28-Aug-09
Method No: ASG 002
Date Reported: 4-Sep-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID					
		AEC15-DUP*	AEC15-1	AEC15-2	AEC15-3	AEC15-4	AEC15-5
		µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	6.4	< 0.06	0.13	0.77	< 0.06	8.4
Acenaphthylene	2	1.1	< 0.05	0.49	0.11	< 0.05	4.2
Acenaphthene	3	8.4	0.48	23	0.81	< 0.05	120
Fluorene	4	17	0.25	15	1.4	< 0.05	80
Phenanthrene	5	120	0.43	12	11.00	0.13	270
Anthracene	6	1.4	0.15	1.4	0.09	< 0.05	15
Fluoranthene	7	72	0.96	25	7.1	0.19	340
Pyrene	8	41	0.51	15	3.9	0.13	230
Benzo(a)anthracene	9	3.2	0.06	2.5	0.29	< 0.05	44
Chrysene	10	8.5	0.10	2.2	0.96	< 0.05	28
Benzo(b)fluoranthene	11	6.9	0.06	1.8	0.57	< 0.05	38
Benzo(k)fluoranthene	12	2.0	< 0.05	0.61	0.23	< 0.05	9.1
Benzo(a)pyrene	13	1.3	< 0.1	0.65	0.13	< 0.1	16
Indeno(1,2,3-cd)pyrene	14	1.2	< 0.1	0.36	< 0.1	< 0.1	6.4
Dibenz(a,h)anthracene	15	0.27	< 0.05	0.06	< 0.05	< 0.05	1.4
Benzo(ghi)perylene	16	0.86	< 0.1	0.26	< 0.1	< 0.1	4.2
Total		290	3.1	100	28	< 1.0	1200

*Average result of duplicates.
All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19731r1-2

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19731
Site: Cape Christian
Client No: 12198
Samples Received: 24-Aug-09
Date of analysis: 28-Aug-09
Method No: ASG 002
Date Reported: 4-Sep-09

RESULTS OF PAH ANALYSIS

PAH	#	Blank	AEC15-DUP*	AEC15-DUP*D	Control Sample	Control Target
		µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	< 0.06	6.6	6.2	0.22	0.22
Acenaphthylene	2	< 0.05	1.0	1.1	0.16	0.21
Acenaphthene	3	< 0.05	8.4	8.4	0.17	0.21
Fluorene	4	< 0.05	17	17	0.20	0.20
Phenanthrene	5	< 0.05	120	120	0.17	0.20
Anthracene	6	< 0.05	1.2	1.6	0.17	0.20
Fluoranthene	7	< 0.05	71	74	0.19	0.20
Pyrene	8	< 0.05	40	42	0.18	0.21
Benzo(a)anthracene	9	< 0.05	3.0	3.5	0.15	0.21
Chrysene	10	< 0.05	8.2	8.8	0.21	0.21
Benzo(b)fluoranthene	11	< 0.05	6.7	7.0	0.21	0.21
Benzo(k)fluoranthene	12	< 0.05	1.9	2.2	0.16	0.21
Benzo(a)pyrene	13	< 0.1	0.99	1.5	0.17	0.20
Indeno(1,2,3-cd)pyrene	14	< 0.1	1.1	1.3	0.18	0.19
Dibenz(a,h)anthracene	15	< 0.05	0.24	0.29	0.17	0.21
Benzo(ghi)perylene	16	< 0.1	0.83	0.89	0.19	0.20
Total		< 1.0	280	290	2.9	3.3

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By:

Shawn Hunter ; Analyst

Authorization: _____
Steve White , Acting Labortaory Manager

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : ASU
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19731
Site: Cape Christian
Client No. 12198
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 10-Nov-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID					
		AEC15-DUP*	AEC15-1	AEC15-2	AEC15-3	AEC15-4	AEC15-5
		TPE	TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.3200	0.0060	0.2500	0.0290	N/A	4.4000
Chrysene	2	0.0850	0.0010	0.0220	0.0096	N/A	0.2800
Benzo(b)fluoranthene	3	0.6900	0.0060	0.1800	0.0570	N/A	3.8000
Benzo(k)fluoranthene	4	0.2000	N/A	0.0610	0.0230	N/A	0.9100
Benzo(a)pyrene	5	1.3000	N/A	0.6500	0.1300	N/A	16.0000
Indeno(1,2,3-cd)pyrene	6	0.1200	N/A	0.0360	N/A	N/A	0.6400
Dibenz(a,h)anthracene	7	0.2700	N/A	0.0600	N/A	N/A	1.4000
Benzo(ghi)perylene	8	0.0086	N/A	0.0026	N/A	N/A	0.0420
Total		**2.9936**	**0.0130**	**1.2616**	**0.2486**	**N/A**	**27.4720**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo[a]pyrene Potency Equivalence Factor (PEF).
All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene.

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19731r1-3

*Shipment #13 total of one cooler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #: ASU# 12259

COMPANY NAME: EBA Engineering

ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 ph. 780-451-2121 fax. 780-454-5688

SAMPLER:(Signature) Kyle Levac / Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DEWLINE BARREL PROTOCOL	Hydrocarbon F1 to F2	Total and Diss Metals	Routine	PCB's	Phenols		Comments/ Special Requests
MW2	Aug 19	16:55	6	W		X	X	X	X			Sample not filtered and preserved
Field Blank	Aug 10	10:00	5			X	X	X	X			Same as MW2
IEC1-33	Aug 18	9:50	2		X					X		
IEC1-34	Aug 18	11:50	2		X					X		
IEC1-35	Aug 18	16:30	2		X					X		
IEC1-36	Aug 19	9:30	2		X					X		
IEC1-37	Aug 19	10:45	2		X					X		
IEC1-38	Aug 19	15:55	2		X					X		
IEC1-39	Aug 20	8:30	2		X					X		
IEC1-40	Aug 20	11:35	2		X					X		
IEC1-41	Aug 20	14:30	2		X					X		
IEC1-42	Aug 21	17:40	2		X					X		
IEC1-43	Aug 21	17:50	2		X					X		

MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca), Herb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 22	8:00 am	B Kettlewell	02 Sept 09	4:30
B. Kettlewell	02 Sept 09			4 Sep 09	9 am

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

Page 1 of 1

4 Total of 1 cooler

IASU #:

COMPANY NAME: EBA Engineering Consultants	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: 14940-123Ave Edmonton, AB T5V 1B4 Phone 780-451-2121 Fax 780-454-5658			Dewline Barrel Protocol	Water Discharge							
SAMPLER:(Signature) Michel Hebert											
SAMPLE NAME: / COLLECTION Date / Time											Comments/ Special Requests
IEC1-18 July 29 15:10	1	W	X								
IEC1-19 July 29 15:20	1	W	X								
IEC1-20 July 30 13:40	1	W	X								
IEC1-21 13:50	1	W	X								
IEC1-22 14:00	1	W	X								
~~BH~~ BW-2 13:20	6	W		X							
not sent Sept 02/09 BK.											

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Daniela Felske (dfelske@eba.ca), Kyle Levac (klevac@eba.ca), Michel Hebert (mhebert@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hebert	July 31	10:00	B Kettlewell	02 Sept 09	1:30
B Kettlewell	02 Sept 09	1:30		4 Sep 09	9 am.

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12259			Report ID:	CC Barrel-11	
Client:	**INAC**			Date Submitted:	4-Sep-09	
				Date Reported:	8-Sep-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					

Identity of Barrel Contents

Barrel	Identity and pH
IEC1-33	water, pH 5.93*
IEC1-34	water, pH 6.30
IEC1-35	water, pH 5.96
IEC1-36	water, pH 6.16
IEC1-37	water, pH 6.15*
IEC1-38	water, pH 6.06
IEC1-39	water, pH 6.12
IEC1-40	water, pH 6.27
IEC1-41	water, pH 6.42
IEC1-42	water, pH 6.18
IEC1-43	water, pH 6.32
IEC1-33 duplicate	pH 5.81 ; 6.04
IEC1-37 duplicate	pH 6.14 ; 6.16
pH control	7.84
pH control target	8.02

PCB,Chlorine and Metal Results of Barrel Contents

	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-33	water	water	water	water	water	on land[c]
IEC1-34	water	water	water	water	water	on land[c]
IEC1-35	water	water	water	water	water	on land[c]
IEC1-36	water	water	water	water	water	on land[c]
IEC1-37	water	water	water	water	water	on land[c]
IEC1-38	water	water	water	water	water	on land[c]
IEC1-39	water	water	water	water	water	on land[c]
IEC1-40	water	water	water	water	water	on land[c]
IEC1-41	water	water	water	water	water	on land[c]
IEC1-42	water	water	water	water	water	on land[c]
IEC1-43	water	water	water	water	water	on land[c]

* average result of duplicates

a: Disposal as per DCLU Barrel Protocol

b: Top phase where there are two phases present

c: Water disposal by dumping on land at least 30 m from natural water courses

Prepared by

Authorization

Allison Rutter, PhD
Director

ASU #	12259			Report ID:	ASU 12259 CC water 1			
Client:	INAC			Date Submitted:	4-Sep-09			
				Date Reported:	8-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Phenols						
		ppb						
	IEC1-33	159						
	IEC1-34	193						
	IEC1-35	584	*					
	IEC1-36	125						
	IEC1-37	109						
	IEC1-38	106						
	IEC1-39	109						
	IEC1-40	226						
	IEC1-41	22.0	*					
	IEC1-42	53.5						
	IEC1-43	50.6						
	Blank	<1.0						
	Control	10.1						
	Control Target	10.0						
	Date Tested:	8-Sep-09						
	IEC1-35	579						
	IEC1-35	589						
	IEC1-41	22.0						
	IEC1-41	22.0						
* average result of duplicates								

Prepared by _____

Authorized by _____

Allison Rutter, PhD
Director

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Total of one cooler

Shipment #14

Chain Of Custody Record

IASU #: ASU# 12223

COMPANY NAME: EBA Engineering

ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 ph: 780-451-2121 fax: 780-454-5688

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DEWLINE BARREL PROTOCOL	PCBs	DCC Metals	F1 to F4	Phenol			Comments/ Special Requests
IEC1-44 1	Aug 21		2	W	X				X			
~~IEC1-44~~												
IEC1-45 2	Aug 21		1	W	X							
IEC1-46 2	Aug 22		1	W	X							
IEC1-47	Aug 24	17:25	3	S		(X)	X	(X)				2 Jars + 1 bag kept at IASU
AST2-1	Aug 23	13:40	1	W		X						Sample submitted previously broke.
IEC1-20 1	Aug 21		1	W	X							
IEC1-21 1	Aug 21		1	W	X							
IEC1-22 2	Aug 21		1	W	X							
IEC1-26	Aug 24	13:20	1	W	X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca) and Herb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 25		B. Kettlewell	26-Aug-09	1:30 pm
B. Kettlewell	26 Aug			28 Aug 09	

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12223			Report ID:	ASU 12223 CC water 1			
Client:	INAC			Date Submitted:	28-Aug-09			
				Date Reported:	1-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Phenols						
		ppb						
	IEC1-44	53.3	*					
	Blank	<1.0						
	Control	9.2						
	Control Target	10.0						
	Date Tested:	1-Sep-09						
	IEC1-44	52.0						
	IEC1-44	54.5						
* average result of duplicates								

Prepared by Mary Andrews

Authorized by P. Whitley

Paula Whitley, BSc
Laboratory Manager

ASU #	12223			Report ID:	ASU 12223CC water 2			
Client:	INAC			Date Submitted:	28-Aug-09			
				Date Reported:	2-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	PCB						
		ppm						
	AST2-1	<0.003						
	Blank	<0.003						
	Control	0.016						
	Control Target	0.020						
	Date Tested:	1-Sep-09						

Prepared by P. Whitley

Authorized by

Graham Cairns, PhD
Research Associate

ASU #	12223			Report ID:	CC Barrel-9	
Client:	**INAC**			Date Submitted:	28-Aug-09	
				Date Reported:	2-Sep-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					

Identity of Barrel Contents

Barrel	Identity
IEC1-20	fuel oil ; lubricating oil & grease 1:1
IEC1-21	fuel oil
IEC1-22	top: fuel oil ; lubricating oil & grease 1:2; bottom: water
IEC1-26	fuel oil ; lubricating oil & grease 2:1
IEC1-44	water
IEC1-45	top: fuel oil ; lubricating oil & grease 1:4 ; bottom: 2-20% ethylene glycol
IEC1-46	fuel oil ; lubricating oil & grease 1:2 with a very small bottom layer

PCB,Chlorine and Metal Results of Barrel Contents

	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-20	<2.0	<1000	<10	<100	<2	incinerate
IEC1-21	<2.0	<1000*	<10	<100	<2	incinerate
IEC1-22	<2.0	<1000	<10	<100	<2	incinerate
IEC1-26	<2.0	<1000	<10	<100	<2	incinerate
IEC1-44	water	water	water	water	water	on land[c]
IEC1-45	<2.0	<1000	<10	331	62.4	ship south
IEC1-46	<2.0*	<1000	<10*	<100*	13.2*	ship south

** analysis subcontracted
* average result of duplicates
a: Disposal as per DCLU Barrel Protocol
b: Top phase where there are two phases present
c: Water disposal by dumping on land at least 30 m from natural water courses
d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above
n.e. not enough sample for analysis

Laboratory QA/QC

	PCB	Chlorine**	Chromium	Lead	Cadmium
	ug/g	ug/g	mg/L	mg/L	mg/L
Blank	<2.0	<1000	<10	<100	<2
IEC1-21 duplicate	-	<1000 ; <1000	-	-	-
IEC1-46 duplicate	<2.0 ; <2.0	-	<10 ; <10	<100 ; <100	12.9 ; 13.5
Control	42.0	950	2.9	2.8	0.30
Control Target	50.0	1003	3.0	3.0	0.30
Date testing initiated:	31-Aug-09	1-Sep-09	2-Sep-09	2-Sep-09	2-Sep-09

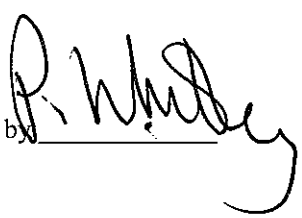
Prepared by: P. Whitley

Allison Rutter, PhD
Director

Authorization: A. Rutter

ASU #	12223		Report ID:	CC S15					
Client:	**INAC**		Date Submitted:	28-Aug-09					
			Date Tested:	3-Sep-09					
Site:	**Cape Christian**		Date:	3-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
IEC1-47	<0.1	*							
Blank	<0.1								
Control	0.37								
Control target	0.44								
IEC1-47	<0.1								
IEC1-47	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Allison Rutter, PhD
Director

Prepared by: 

Authorization: 

ASU #	12223	Report ID:	CC Barrel-10
Client:	**INAC**	Date Submitted:	28-Aug-09
		Date Reported:	4-Sep-09
		Matrix:	Barrel contents
Site:	**Cape Christian**		
Barrel	**Flashpoint of Product ^{oC}		
IEC1-20	76.5		
IEC1-21	64.0*		
IEC1-22	82.0		
IEC1-26	69.5		
IEC1-45	77.5		
IEC1-46	74.5		
IEC1-21 duplicate	64.0 ; 64.0		
kersosene Control	74.5		
kerosene Control Target	74.4		
* Average resul of duplicates			
** Analysis subcontracted			

Allison Rutter, PhD
Director

Prepared by: P. Whalley

Authorization: A. Rutter

ASU #	12223		Report ID:	CC S14					
Client:	INAC		Date Submitted:	28-Aug-09					
			Date Tested:	31-Aug-09					
Site:	Cape Christian		Date:	1-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
IEC1-47	70.6	36.5	15.1	1.3	67	240	58	2.7	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.0	36.1	11.7	<1.0	17	125	33	16.6	
SS-2	206.8	54.6	15.0	1.7	124	474	42	82.5	

Allison Rutter, PhD
Director

Prepared by: P. Whidley

Authorization: A. Rutter

Iqaluit [illegible]ytical Services Unit,
Building [illegible]9C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Shipment #15

Total of 2 coolers

Chain Of Custody Re[illegible]rd

IASU #: ASU 12256

COMPANY NAME: EBA Engineering

ADDRESS: 14940-123Ave Edmonton, AB T5V 1B4 ph: 780-451-2121 fax: 780-454-5688

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	Dcc Metals	PCB					Comments/ Special Requests
WA6 - CS1	Aug28	13:15	2	Soil	X							All Hydrocan test on Rush
WA6 - CS2		13:30	3 1B 2J		X	X	X					
WA6 - CS3		13:45	2		X							
WA6 - CS4		14:00	2		X							
WA6 - CS5		14:15	3 1B 2J		X	X	X					
WA6 - CS6		14:30	2		X							
WA6 - CS7		14:45	2		X							
WA6 - CS8		15:00	2		X							
WA6 - CS9		15:15	3 1B 2J		X	X	X					
WA6 - CS10		15:30	2		X							
WA6 - CS11		15:45	2		X							
WA6 - CS12		16:00	3 1B 2J		X	X	X					
WA6 - CS13	↓	16:15	2	↓	X							↓

MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca), Heb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug29		B Kellegrell	~~31 Aug 09~~ 01 Sept 09	9:30
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
			P Whitley	2Sep09	9am

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit / /tical Services Unit,
Building 969C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

* Shipment # 15
Total of 2 coolers

Chain Of Custody Re rd

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Nébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	DCC Metal	PCB					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify) / Comments/ Special Requests
WA6 - CS14	Aug 28	16:30	2	Soil	X							All Hydrocarbon test on Rush
WA6 - CS15		16:45	2		X							
WA6 - CS16		17:00	2		X							
WA6 - CS17		17:15	1		X							
WA6 - CS18		17:30	2		X							
WA6 - CS19		17:45	3 (1B 2S)		X	X	X					
WA6 - CS20		18:00	2		X							
WA6 - CS21		18:15	2		X							
WA6 - CS22		18:30	3 (1B 2S)		X	X	X					
WA6 - CS23		18:45	2		X							
WA6 - CS24		19:00	2 (1B 1S)		X	X	X					
WA6 - CS25		19:15	2		X							
WA6 - CS26	↓	19:30	3 (1B 2S)	↓	X	X	X					↓

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Nébert	Aug 29		B. Whalen	01 Sept 09.	930
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
			P. Whaley	2 Sep 09	9 am

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit A tical Services Unit,
Building 969C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

*Shipment #15

Total of 2 coolers

Chain Of Custody Re(rd

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1 to F4	DCC Metals	PCB					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
WA6-CS27	Aug 28	19:45	2	Soil	X								All Hydrocarbon test on a RUSH
WA6 -CS28		20:00	2	Soil	X								
WA6 -CS29		20:15	2	Soil	X								
WA6 -CS30		20:30	3 (1B 2T)	Soil	X	X	X						
WA6 -CS31		20:45	2	Soil	X								
WA6 -CS32		21:00	3 (1B 2T)	Soil	X	X	X						
WA6 -CS-Dup1		0:00	2	Soil	X								
WA6 -CS-Dup2		0:00	2	Soil	X								
WA6 -CS-Dup3	↓	0:00	2	Soil	X								↓

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 29		B. Kettlewell	1 Sept 09	9:30
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12256		Report ID:	CC S16					
Client:	**INAC**		Date Submitted:	4-Sep-09					
			Date Tested:	7-Sep-09					
Site:	**Cape Christian**		Date:	8-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA6-CS22	<5.0	9.3	8.7	<1.0	<10	<15	82	<1.0	
WA6-CS24	<5.0	6.7	<5.0	<1.0	25	57	42	<1.0	
WA6-CS26	<5.0	5.5	<5.0	<1.0	<10	<15	34	<1.0	
WA6-CS30	<5.0	8.4	7.6	<1.0	<10	<15	72	<1.0	*
WA6-CS32	<5.0	13.4	12.0	<1.0	<10	17	122	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.9	43.2	12.9	<1.0	18	143	50	17.1	
SS-2	179.5	53.3	14.2	1.6	116	446	41	76.6	
WA6-CS30	<5.0	10.5	8.8	<1.0	<10	<15	87	<1.0	
WA6-CS30	<5.0	6.3	6.3	<1.0	<10	<15	56	<1.0	

Graham Cairns, PhD
Research Associate

Prepared by: P. Whitley

Authorization:

ASU #	12256		Report ID:	CC S19					
Client:	INAC		Date Submitted:	4-Sep-09					
			Date Tested:	7-Sep-09					
Site:	Cape Christian		Date:	8-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA6-CS2	<5.0	<5.0	<5.0	<1.0	<10	<15	42	<1.0	
WA6-CS5	<5.0	<5.0	<5.0	<1.0	<10	<15	33	<1.0	*
WA6-CS9	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
WA6-CS12	<5.0	<5.0	<5.0	<1.0	<10	<15	29	<1.0	
WA6-CS19	<5.0	11.0	11.4	<1.0	<10	16	121	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.9	38.1	12.1	<1.0	17	129	42	16.8	
SS-2	195.9	55.2	14.1	1.6	116	444	45	61.9	
WA6-CS5	<5.0	<5.0	<5.0	<1.0	<10	<15	38	<1.0	
WA6-CS5	<5.0	<5.0	<5.0	<1.0	<10	<15	29	<1.0	

Prepared by: _____

Authorization: _____

Graham Cairns, PhD
Research Associate

ASU #	12256	**Report ID:**	CC PCB 8	
Client:	INAC	**Date Submitted:**	4-Sep-09	
		Date tested:	6-Sep-09	
Site:	Cape Christian	**Date:**	13-Sep-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
WA6-CS2	<0.5	<0.5		
WA6-CS5	<0.5	<0.5		
WA6-CS9	<0.5	<0.5		
WA6-CS12	<0.5	<0.5		
WA6-CS19	<0.5	<0.5		
WA6-CS22	<0.5	<0.5		
WA6-CS24	<0.5	<0.5		
WA6-CS26	<0.5	<0.5		
WA6-CS30	<0.5	<0.5		
WA6-CS32	<0.5	<0.5	*	
Blank	<0.5	<0.5		
Control	-	3.7		
Control Target	-	5.0		
WA6-CS32	<0.5	<0.5		
WA6-CS32	<0.5	<0.5		
* average result of duplicates				

Allison Rutter, PhD
Director

Prepared By: P. Whitley

Authorization: A. Rutter

ASU #	12256		Report ID:	CC S22
Client:	INAC		Date Submitted:	4-Sep-09
			Date Tested:	9-Sep-09
Site:	Cape Christian		Date:	17-Sep-09
			Matrix:	Soil
Report of Analysis				
Sample	Hg**			
	ppm			
WA6-CS2	<0.1	*		
WA6-CS5	<0.1			
WA6-CS9	<0.1			
WA6-CS12	<0.1			
WA6-CS19	<0.1			
WA6-CS22	<0.1			
WA6-CS24	<0.1			
WA6-CS26	<0.1			
WA6-CS30	<0.1			
WA6-CS32	<0.1			
Blank	<0.1			
Control	0.32			
Control target	0.44			
WA6-CS2	<0.1			
WA6-CS2	<0.1			
* Average result of duplicates				
** Analysis subcontracted				

Allison Rutter, PhD
Director

Prepared by: _____

Authorization: _____

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment #16
Total of 2 coolers

Chain Of Custody Record

IASU #: ASU12258

COMPANY NAME: EBA Engineering
ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 ph: 780-451-2121 fax: 780-454-5688
SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals							Comments/ Special Requests
AEC11-1 ✓	Aug 30	14:45	1	Soil	X							
AEC11-2 ✓		14:55	1		X							
AEC11-3 ✓		15:05	1		X							
AEC11-4 ✓		15:15	1		X							
AEC11-5 ✓		15:25	1		X							
AEC7-1 ✓		15:35	1		X							
AEC7-2 ✓		15:45	1		X							
AEC7-3 ✓		15:55	1		X							
AEC7-4 ✓		16:05	1		X							
AEC7-5 ✓		16:15	1		X							
AEC7-6 ✓		16:25	1		X							
AEC7-7 ✓		16:35	1		X							
AEC7-8 ✓	↓	16:45	1	↓	X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca), Herb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30	R. Kettlewell	02 Sept 09	1:30
R. Kettlewell	02 Sept 09			4 Sep 09	9 am

White: IASU Files Yellow: U Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment # 16
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals							Comments/ Special Requests
AEC7-9	Aug 30	16:55	1	Soil	X							
AEC7-10		17:05	1		X							
AEC7-11		17:15	1		X							
AEC7-Dup1	↓	0:00	1		X							
AEC9-1	Aug 31	7:00	1		X							
AEC9-2		7:10	1		X							
AEC9-3		7:20	1		X							
AEC9-4		7:30	1		X							
AEC9-5		7:40	1		X							
AEC9-6		7:50	1		X							
AEC9-7		8:00	1		X							
AEC9-8		8:10	1		X							
AEC9-9	↓	8:20	1	↓	X							

Canceled Unlabelled.

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30	B. Rothwell	02 Sept 09	1:30
B. Rothwell	02 Sept 09			02 Sep 09	

White: IASU Files Yellow: U Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment # 16
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC* Metal							Comments/ Special Requests
AEC9-10	Aug 31	8:30	1	Soil	X							
AEC9-11		8:40	1		X							
AEC9-12		8:50	1		X							
AEC9-13		9:00	1		X							
AEC9-14		9:10	1		X							
AEC9-Dup1		0:00	1		X							
AEC9-Dup2		0:01	1		X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30			
R. Kothenwell	02 Sept 09			02 Sept 09	1:30
				02 Sep 09	9am

White: IASU Files Yellow: U Lab Pink: Retained by Sampler

ASU #	12258		Report ID:	CC S18					
Client:	**INAC**		Date Submitted:	4-Sep-09					
			Date Tested:	7-Sep-09					
Site:	**Cape Christian**		Date:	8-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
AEC11-1	<5.0	8.6	8.3	<1.0	<10	<15	68	<1.0	
AEC11-2	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC11-3	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC11-4	<5.0	7.7	7.0	<1.0	<10	<15	64	<1.0	
AEC11-5	<5.0	<5.0	<5.0	<1.0	<10	<15	20	<1.0	*
AEC7-1	<5.0	5.6	<5.0	<1.0	<10	<15	26	<1.0	
AEC7-2	<5.0	7.9	7.2	<1.0	<10	<15	67	<1.0	
AEC7-3	<5.0	5.7	5.7	<1.0	<10	<15	48	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.9	43.2	12.9	<1.0	18	143	50	17.1	
SS-2	179.5	53.3	14.2	1.6	116	446	41	76.6	
AEC11-5	<5.0	<5.0	<5.0	<1.0	<10	<15	21	<1.0	
AEC11-5	<5.0	5.1	<5.0	<1.0	<10	<15	<20	<1.0	

Graham Cairns, PhD
Research Associate

Prepared by: _____

Authorization: _____

ASU #	12258		Report ID:	CC S20					
Client:	INAC		Date Submitted:	4-Sep-09					
			Date Tested:	8-Sep-09					
Site:	Cape Christian		Date:	9-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
AEC7-4	<5.0	10.0	10.1	<1.0	<10	17	106	<1.0	
AEC7-5	<5.0	8.9	9.6	<1.0	<10	18	90	<1.0	
AEC7-6	<5.0	9.9	9.7	<1.0	12	17	100	<1.0	
AEC7-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	*
AEC7-8	<5.0	<5.0	<5.0	<1.0	<10	<15	40	<1.0	
AEC7-9	<5.0	<5.0	<5.0	<1.0	<10	<15	33	<1.0	
AEC7-10	<5.0	7.6	7.9	<1.0	<10	<15	71	<1.0	
AEC7-11	<5.0	5.0	5.4	<1.0	<10	<15	49	<1.0	
AEC7-DUP1	<5.0	8.2	8.5	<1.0	<10	<15	84	<1.0	
AEC9-7	<5.0	<5.0	<5.0	<1.0	<10	22	27	<1.0	
AEC9-8	<5.0	<5.0	<5.0	<1.0	<10	<15	26	<1.0	*
AEC9-9	<5.0	5.2	5.6	<1.0	<10	16	36	<1.0	
AEC9-10	<5.0	9.9	9.6	<1.0	<10	21	91	<1.0	
AEC9-11	<5.0	5.8	6.1	<1.0	<10	15	51	<1.0	
AEC9-12	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-13	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-14	<5.0	6.1	5.0	<1.0	<10	22	<20	<1.0	
AEC9-DUP1	<5.0	6.7	6.9	<1.0	13	28	57	<1.0	*
AEC9-DUP2	<5.0	<5.0	<5.0	<1.0	<10	<15	22	<1.0	
BLANK	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BLANK	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	29.4	39.2	12.1	<1.0	17	138	42	16.6	
SS-2	184.6	54.1	14.0	1.6	112	424	44	75.1	
AEC7-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC7-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-8	<5.0	<5.0	<5.0	<1.0	<10	<15	31	<1.0	
AEC9-8	<5.0	<5.0	<5.0	<1.0	<10	<15	21	<1.0	
AEC9-DUP1	<5.0	6.7	7.0	<1.0	13	25	58	<1.0	
AEC9-DUP1	<5.0	6.8	6.9	<1.0	12	30	56	<1.0	

Prepared by: P. Whitley

Authorization: A. Rutter

Allison Rutter, PhD
Director

ASU #	12258		Report ID:	CC S24					
Client:	INAC		Date Submitted:	4-Sep-09					
			Date Tested:	11-Sep-09					
Site:	Cape Christian		Date:	17-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
AEC11-1	<0.1								
AEC11-2	<0.1								
AEC11-3	<0.1								
AEC11-4	<0.1								
AEC11-5	<0.1								
AEC7-1	<0.1	*							
AEC7-2	<0.1								
AEC7-3	<0.1								
AEC7-4	<0.1								
AEC7-5	<0.1								
AEC7-6	<0.1								
AEC7-7	<0.1								
AEC7-8	<0.1								
AEC7-9	<0.1								
AEC7-10	<0.1								
AEC7-11	<0.1								
AEC7-DUP1	<0.1								
AEC9-7	<0.1								
AEC9-8	<0.1								
AEC9-9	<0.1								
AEC9-10	<0.1								
AEC9-11	<0.1								
AEC9-12	<0.1								
AEC9-13	<0.1								
AEC9-14	<0.1								
AEC9-DUP1	<0.1								
AEC9-DUP2	<0.1								
Blank	<0.1								
Control	0.40								
Control target	0.44								
AEC7-1	<0.1								
AEC7-1	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Prepared by: P. Whitley

CC S24

Allison Rutter, PhD
Director
Authorization: A. Rutter

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment #16
Total of 2 coolers

Chain Of Custody Record

IASU #: ASU12258

COMPANY NAME: EBA Engineering
ADDRESS: 14940-123 Ave Edmonton, AB T5V 1B4 ph: 780-451-2121 fax: 780-454-5688
SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals							Comments/ Special Requests
AEC11-1 ✓	Aug 30	14:45	1	Soil	X							
AEC11-2 ✓		14:55	1		X							
AEC11-3 ✓		15:05	1		X							
AEC11-4 ✓		15:15	1		X							
AEC11-5 ✓		15:25	1		X							
AEC7-1 ✓		15:35	1		X							
AEC7-2 ✓		15:45	1		X							
AEC7-3 ✓		15:55	1		X							
AEC7-4 ✓		16:05	1		X							
AEC7-5 ✓		16:15	1		X							
AEC7-6 ✓		16:25	1		X							
AEC7-7 ✓		16:35	1		X							
AEC7-8 ✓	↓	16:45	1	↓	X							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Michel Hebert (mhebert@eba.ca), Herb Ziervogel (hziervogel@eba.ca)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30	R. Kettlewell	02 Sept 09	1:30
R. Kettlewell	02 Sept 09			4 Sep 09	9 am

White: IASU Files Yellow: U Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment # 16
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals							Comments/ Special Requests
AEC7-9	Aug 30	16:55	1	Soil	X							
AEC7-10		17:05	1		X							
AEC7-11		17:15	1		X							
AEC7-Dup1	↓	0:00	1		X							
AEC9-1	Aug 31	7:00	1		X							
AEC9-2		7:10	1		X							
AEC9-3		7:20	1		X							
AEC9-4		7:30	1		X							
AEC9-5		7:40	1		X							
AEC9-6		7:50	1		X							
AEC9-7		8:00	1		X							
AEC9-8		8:10	1		X							
AEC9-9	↓	8:20	1	↓	X							

Canceled Unlabelled.

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30	B. Rothwell	02 Sept 09	1:30
B. Rothwell	02 Sept 09			02 Sep 09	

White: IASU Files Yellow: U Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Shipment # 16
Total of 2 coolers

Chain Of Custody Record

IASU #:

COMPANY NAME:

ADDRESS: Same as Page 1

SAMPLER:(Signature) Michel Hébert

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC* Metal							Comments/ Special Requests
AEC9-10	Aug 31	8:30	1	Soil	X							
AEC9-11		8:40	1		X							
AEC9-12		8:50	1		X							
AEC9-13		9:00	1		X							
AEC9-14		9:10	1		X							
AEC9-Dup1		0:00	1		X							
AEC9-Dup2		0:01	1		X							

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) Same as Page 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Michel Hébert	Aug 31	10:30			
R. Kothenwell	02 Sept 09			02 Sept 09	1:30
				02 Sep 09	9am

White: IASU Files Yellow: U Lab Pink: Retained by Sampler

ASU #	12258		Report ID:	CC S18					
Client:	**INAC**		Date Submitted:	4-Sep-09					
			Date Tested:	7-Sep-09					
Site:	**Cape Christian**		Date:	8-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
AEC11-1	<5.0	8.6	8.3	<1.0	<10	<15	68	<1.0	
AEC11-2	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC11-3	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC11-4	<5.0	7.7	7.0	<1.0	<10	<15	64	<1.0	
AEC11-5	<5.0	<5.0	<5.0	<1.0	<10	<15	20	<1.0	*
AEC7-1	<5.0	5.6	<5.0	<1.0	<10	<15	26	<1.0	
AEC7-2	<5.0	7.9	7.2	<1.0	<10	<15	67	<1.0	
AEC7-3	<5.0	5.7	5.7	<1.0	<10	<15	48	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.9	43.2	12.9	<1.0	18	143	50	17.1	
SS-2	179.5	53.3	14.2	1.6	116	446	41	76.6	
AEC11-5	<5.0	<5.0	<5.0	<1.0	<10	<15	21	<1.0	
AEC11-5	<5.0	5.1	<5.0	<1.0	<10	<15	<20	<1.0	

Graham Cairns, PhD
Research Associate

Prepared by: _____

Authorization: _____

ASU #	12258		Report ID:	CC S20					
Client:	INAC		Date Submitted:	4-Sep-09					
			Date Tested:	8-Sep-09					
Site:	Cape Christian		Date:	9-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
AEC7-4	<5.0	10.0	10.1	<1.0	<10	17	106	<1.0	
AEC7-5	<5.0	8.9	9.6	<1.0	<10	18	90	<1.0	
AEC7-6	<5.0	9.9	9.7	<1.0	12	17	100	<1.0	
AEC7-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	*
AEC7-8	<5.0	<5.0	<5.0	<1.0	<10	<15	40	<1.0	
AEC7-9	<5.0	<5.0	<5.0	<1.0	<10	<15	33	<1.0	
AEC7-10	<5.0	7.6	7.9	<1.0	<10	<15	71	<1.0	
AEC7-11	<5.0	5.0	5.4	<1.0	<10	<15	49	<1.0	
AEC7-DUP1	<5.0	8.2	8.5	<1.0	<10	<15	84	<1.0	
AEC9-7	<5.0	<5.0	<5.0	<1.0	<10	22	27	<1.0	
AEC9-8	<5.0	<5.0	<5.0	<1.0	<10	<15	26	<1.0	*
AEC9-9	<5.0	5.2	5.6	<1.0	<10	16	36	<1.0	
AEC9-10	<5.0	9.9	9.6	<1.0	<10	21	91	<1.0	
AEC9-11	<5.0	5.8	6.1	<1.0	<10	15	51	<1.0	
AEC9-12	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-13	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-14	<5.0	6.1	5.0	<1.0	<10	22	<20	<1.0	
AEC9-DUP1	<5.0	6.7	6.9	<1.0	13	28	57	<1.0	*
AEC9-DUP2	<5.0	<5.0	<5.0	<1.0	<10	<15	22	<1.0	
BLANK	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
BLANK	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	29.4	39.2	12.1	<1.0	17	138	42	16.6	
SS-2	184.6	54.1	14.0	1.6	112	424	44	75.1	
AEC7-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC7-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-8	<5.0	<5.0	<5.0	<1.0	<10	<15	31	<1.0	
AEC9-8	<5.0	<5.0	<5.0	<1.0	<10	<15	21	<1.0	
AEC9-DUP1	<5.0	6.7	7.0	<1.0	13	25	58	<1.0	
AEC9-DUP1	<5.0	6.8	6.9	<1.0	12	30	56	<1.0	

Prepared by: P. Whitley

Authorization: A. Rutter

Allison Rutter, PhD
Director

ASU #	12258		Report ID:	CC S24					
Client:	INAC		Date Submitted:	4-Sep-09					
			Date Tested:	11-Sep-09					
Site:	Cape Christian		Date:	17-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
AEC11-1	<0.1								
AEC11-2	<0.1								
AEC11-3	<0.1								
AEC11-4	<0.1								
AEC11-5	<0.1								
AEC7-1	<0.1	*							
AEC7-2	<0.1								
AEC7-3	<0.1								
AEC7-4	<0.1								
AEC7-5	<0.1								
AEC7-6	<0.1								
AEC7-7	<0.1								
AEC7-8	<0.1								
AEC7-9	<0.1								
AEC7-10	<0.1								
AEC7-11	<0.1								
AEC7-DUP1	<0.1								
AEC9-7	<0.1								
AEC9-8	<0.1								
AEC9-9	<0.1								
AEC9-10	<0.1								
AEC9-11	<0.1								
AEC9-12	<0.1								
AEC9-13	<0.1								
AEC9-14	<0.1								
AEC9-DUP1	<0.1								
AEC9-DUP2	<0.1								
Blank	<0.1								
Control	0.40								
Control target	0.44								
AEC7-1	<0.1								
AEC7-1	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Prepared by: P. Whitley

CC S24

Allison Rutter, PhD
Director
Authorization: A. Rutter

EBA Shipment 19

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #: ASU# 12278

COMPANY NAME: EBA Engineering Consultants

ADDRESS: 14940-123 Avenue p 780-451 2121
Edmonton Alberta (f) 780 454-5688

SAMPLER:(Signature)

SAMPLE NAME: Herb Zwiegel

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DCC Metals	Comments/ Special Requests
AEC9 1	Sept 6	3:30	1	S	X	Replacement for previous sample
AEC9-2	Sept 6		1	S	X	
AEC9-3	Sept 6		1	S	X	
AEC9-4	Sept 6		1	S	X	
AEC9-5	Sept 6		1	S	X	
AEC9-6	Sept 6		1	S	X	

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: Metal & Hydrocabon

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dteske@eba.ca hziegel@eba.ca mhebert@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
Barb Kostenuik	Sept 6	5:00		Sept 7/09	
RELINQUISHED BY: (Signature) RK	Sept 7		RECEIVED BY: (Signature)	10:36 pm 09	

Sorry didn't have my glasses on

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12278		Report ID:	CC S21					
Client:	INAC		Date Submitted:	10-Sep-09					
			Date Tested:	10-Sep-09					
Site:	Cape Christian		Date:	11-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
AEC9-1	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-2	<5.0	<5.0	<5.0	<1.0	<10	15	<20	<1.0	
AEC9-3	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	*
AEC9-4	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-5	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-6	<5.0	<5.0	<5.0	<1.0	<10	22	<20	<1.0	
IEC3-4	<5.0	<5.0	<5.0	<1.0	<10	40	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	30.2	38.8	11.6	<1.0	17	138	39	18.2	
SS-2	200.2	58.4	14.6	1.8	126	478	47	86.2	
AEC9-3	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC9-3	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	

Allison Rutter, PhD
Director

Prepared by: P. Whalley

Authorization: A. Rutter

ASU #	12278	**Report ID:**	CC PCB 6	
Client:	INAC	**Date Submitted:**	10-Sep-09	
		Date tested:	11-Sep-09	
Site:	Cape Christian	**Date:**	13-Sep-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
IEC3-4	<0.5	<0.5		
Blank	<0.5	<0.5		
Control	-	3.9		
Control Target	-	5.0		

Allison Rutter, PhD
Director

Prepared By:

Authorization:

ASU #	12278		Report ID:	CC S25					
Client:	**INAC**		Date Submitted:	10-Sep-09					
			Date Tested:	17-Sep-09					
Site:	**Cape Christian**		Date:	18-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
IEC3-4	<0.1	*							
AEC9-1	<0.1								
AEC9-2	<0.1								
AEC9-3	<0.1								
AEC9-4	<0.1								
AEC9-5	<0.1								
AEC9-6	<0.1								
Blank	<0.1								
Control	0.39								
Control target	0.44								
IEC3-4	<0.1								
IEC3-4	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorization: A. Rutter

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

EBA Shipment #20 pg 1 of 2

IASU #: IASU#12279

COMPANY NAME: EBA Engineering Consultants

ADDRESS: 14940-123 Avenue Edmonton, Alberta

P 780-451-2121
f 780-454-5688

SAMPLER:(Signature) Herb Zerbogt

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: CCME F1,F2,F3,F4	DGC metals	PCBs	DEW Line Barrel Protocol				Comments/ Special Requests
IEC3-4 → IASU#12278	Sept 3	10:00 pm	2	Soil	✓	✓	✓					
IEC1-48	Sept 6	10:00	1	Oil				✓				
QLLF-1 no F1	Sept 6	5:00 PM	1	Soil								
QLLF-3	↓	↓	1	↓	✓							
QLLF-5			1		✓							
QLLF-7			1		✓							
AEC1-31	Sept 7	3:30 PM	2		✓							
AEC1-32	Sept 7	↓	2		✓							
AEC1-33	↓		2		✓							
AEC1-34			2		✓							
AEC1-35			2		✓							
AEC1-36			2		✓							
AEC1-37	↓	↓	2	↓	✓							

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: Hydrocarbons, metals, PCBs

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca ; hzerbogt@eba.ca mbebout@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 8	1:00 PM	B. Kotkewich	Sept 9/09	
B. Kotkewich	Sept 9			19 Sep 09	

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

EBA Shipment 20 page 2 of 2

COMPANY NAME: EBA Engineering Consultants

ADDRESS: 14940-122 Avenue Edmonton Alberta p 780-451-2121 f 780-454 5688

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: CCME F1 F2 F3 F4	MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AECI-38	Sept 7	330	2	Soil	✓		
AECI-39			2		✓		
AECI-40			2		✓		
AECI-41			2		✓		
AECI - Dupl - NOTE-F4			2		✓		

ANTICIPATED CHEMICAL HAZARDS: Hydrocarbons, metals, PCBs

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelix@eba.ca ; hziemioch@eba.ca ; mhibert@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 8	1:00 PM		10 Sep 09	
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

ASU #	12279			Report ID:	CC Barrel-12	
Client:	**INAC**			Date Submitted:	10-Sep-09	
				Date Reported:	11-Sep-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					

Identity of Barrel Contents

Barrel	**Identity and flashpoint****
IEC1-48	lubricating oil & grease, flashpoint >135.0 ^{oC}

PCB,Chlorine and Metal Results of Barrel Contents

	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-48*	<2.0	12700	<10	<100	<2	ship south

** analysis subcontracted
* average result of duplicates
a: Disposal as per DCLU Barrel Protocol
b: Top phase where there are two phases present
c: Water disposal by dumping on land at least 30 m from natural water courses
d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above
n.e. not enough sample for analysis

Laboratory QA/QC

	PCB	Chlorine**	Chromium	Lead	Cadmium
	ug/g	ug/g	mg/L	mg/L	mg/L
Blank	<2.0	<1000	<10	<100	<2
IEC1-48 duplicate	<2.0 ; <2.0	12790 ; 12590	<10 ; <10	<100 ; <100	<2 ; <2
Control	40.6	940	3.0	2.9	0.31
Control Target	50.0	985	3.0	3.0	0.30
Date testing initiated:	10-Sep-09	11-Sep-09	11-Sep-09	11-Sep-09	11-Sep-09

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorization: A. Rutter

ASU #	**12279**	Report ID:	ASU 12279 CCME CC2
Client:	**INAC**	Date Submitted:	10-Sep-08
		Date testing init	11-Sep-08
Site:	Cape Christian	Date Reported:	17-Sep-08
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
AEC1-31	11.8%	116	5160*	118*	<50*	5280
AEC1-32	6.6%	43	3090	<50	<50	3130
AEC1-33	10.3%	60	4330	<50	<50	4390
AEC1-34	9.4%	67	4130	<50	<50	4100
AEC1-35	11.2%	<60	7670	<50	<50	7670
AEC1-36	6.2%	136	8230	<50	<50	8370
AEC1-37	7.8%	148	7810	<50	<50	7960
AEC1-38	15.6%	<60	534	<50	<50	534
AEC1-39	13.4%	<60	2320	<50	<50	2320
AEC1-40	24.6%	<60	2440	<50	<50	2440
AEC1-41*	11.6%	116	3120	<50	<50	3240

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) C50 response factors within 70% of nC110 + nC16 + nC34 average;

Paula Whitley, BSc
Laboratory Manager

Prepared by: _____
ASU 12279 CCME CC2

Authorized by: _____

Results reported relate only to items tested

ASU #	**12279**	Report ID:	ASU 12279 CCME CC2
Client:	**INAC**	Date Submitted:	10-Sep-08
		Date testing init	11-Sep-08
Site:	Cape Christian	Date Reported:	17-Sep-08
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate AEC1-31	-	4471; 5841	<50; 236	<50; <50
Duplicate AEC1-41	115; 116	2887; 3360	<50; <50	<50; <50
Control	124	151		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed

Chromatogram descended to baseline by the C50 retention time

Fractions include BTEX, Napthalene and PAHs

Analysis holding times for samples were met

Prepared by: _____

ASU 12279 CCME CC2

Authorized by: _____

Results reported relate only to items tested

ASU #	**12279**	Report ID:	ASU 12279 CCME CC3
Client:	**INAC**	Date Submitted:	10-Sep-08
		Date testing init	11-Sep-08
Site:	Cape Christian	Date Reported:	18-Sep-08
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
QLLF-3	11.5%	<60	2410	1980	<50	4390
QLLF-5	9.3%	<60	1120	1220	<50	2340
QLLF-7	10.9%	<60	1310	1210	<50	2520
IEC3-4	9.5%	<60	8810	3050	<50	11900

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) C50 response factors within 70% of nC110 + nC16 + nC34 average;

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<50	<50	<50
Control	127	151		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by:_____
ASU 12279 CCME CC3

Authorized by:_____

Results reported relate only to items tested

ASU #	**12279**	Report ID:	ASU 12279 CCME CC4-AEC1-Dup
Client:	**INAC**	Date Submitted:	10-Sep-09
		Date testing init	11-Sep-09
Site:	Cape Christian	Date Reported:	30-Sep-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
AEC1- Dup	11%	94	4740	175	14	5020

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Blank	<60	<10	<10	<10
Control	127	132, 118		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by: _____
ASU 12279 CCME CC4-AEC1 dup

Authorized by: _____

Results reported relate only to items tested

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 2 | 1 COOLER

Chain Of Custody Record

IASU #: IASU #12302

COMPANY NAME: EBA ENGINEERING
ADDRESS: #940-123 AVE EDMONTON, AB T5V 1B4
SAMPLER:(Signature) D FELSKE

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED F1-F4	MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
MS-FILL-TP1	SEPT 10	1008am	1	SOIL	X		
MS FILL-TP2					X		
MS-FILL-TP3					X		
MS-FILL-TP4					X		
MS-FILL-TP5					X		
MS-FILL-TP6					X		
MS COMPOSITE #1					X		
MS COMPOSITE #2					X		
WA2-2 black soil confirm	SEPT 13	1109am	1	S	X		

ANTICIPATED CHEMICAL HAZARDS: NONE

METHOD OF SHIPMENT: Courier (Air) ☐ Courier (Land) ☑ Other (Please Specify) ☐

REPORT TO: (Project Manager) bhume@eba.ca, mhebert@eba.ca, dfelske@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 10/09	2pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12302		Report ID:	CC S28					
Client:	**INAC**		Date Submitted:	17-Sep-09					
			Date Tested:	23-Sep-09					
Site:	**Cape Christian**		Date:	25-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA2-2black soil confirm	<5.0	16.3	10.4	<1.0	<10	26	129	<1.0	*
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	29.3	36.3	10.9	<1.0	16	128	43	16.8	
SS-2	189.4	52.1	13.1	1.6	112	433	45	69.6	
WA2-2black soil confirm	<5.0	17.6	11.2	<1.0	<10	27	142	<1.0	
WA2-2black soil confirm	<5.0	15.0	9.6	<1.0	<10	24	115	<1.0	
* Average result of duplicate analysis									

Prepared by:

Authorization:

Allison Rutter, PhD
Director

ASU #	**12302**	Report ID:	ASU 12302 CCME CC6
Client:	**INAC**	Date Submitted:	17-Sep-09
		Date testing initiated:	22-Sep-09
Site:	Cape Christian	Date Reported:	9-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA2	15%	146	2360	323	15	2840
MS-TP1	19%	<60	85	25	10	120
MS-TP2	22%	<60	13	36	14	<100
MS-TP3	18%	<60	<10	22	<10	<100
MS-TP4	27%	<60	<10	24	<10	<100
MS-TP5	12%	<60	<10	28	<10	<100
MS-TP6	19%	<60*	<10*	23*	<10*	<100
Comp 1	10%	<60	42	75	14	131
Comp 2	7%	<60	64	33	<10	<100

†Complies with CWS PHC Tier 1 method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate MS-TP6	< 60, <60	<10, <10	19, 26	<10, <10
Blank	<60	<10	<10	<10
Control	134	169		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by:_____
ASU 12302 CCME CC6

Authorized by: P Whitley

Results reported relate only to items tested

ASU #	12302		Report ID:	CC S31					
Client:	**INAC**		Date Submitted:	17-Sep-09					
			Date Tested:	30-Sep-09					
Site:	**Cape Christian**		Date:	5-Oct-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
WA2-2 black soil confirm	<0.1	*							
Blank	<0.1								
Control	0.35								
Control target	0.44								
WA2-2 black soil confirm	<0.1								
WA2-2 black soil confirm	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Prepared by: P. Whitley

Authorization: A. Rutter

Allison Rutter, PhD
Director

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 2 | 1 COOLER

Chain Of Custody Record

IASU #: IASU #12302

COMPANY NAME: EBA ENGINEERING
ADDRESS: #940-123 AVE EDMONTON, AB T5V 1B4
SAMPLER:(Signature) D FELSKE

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED F1-F4	MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
MS-FILL-TP1	SEPT 10	1008am	1	SOIL	X		
MS FILL-TP2					X		
MS-FILL-TP3					X		
MS-FILL-TP4					X		
MS-FILL-TP5					X		
MS-FILL-TP6					X		
MS COMPOSITE #1					X		
MS COMPOSITE #2					X		
WA2-2 black soil confirm	SEPT 13	1109am	1	S	X		

ANTICIPATED CHEMICAL HAZARDS: NONE

METHOD OF SHIPMENT: Courier (Air) ☐ Courier (Land) ☑ Other (Please Specify) ☐

REPORT TO: (Project Manager) bhume@eba.ca, mhebert@eba.ca, dfelske@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 10/09	2pm			
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12302		Report ID:	CC S28					
Client:	**INAC**		Date Submitted:	17-Sep-09					
			Date Tested:	23-Sep-09					
Site:	**Cape Christian**		Date:	25-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA2-2black soil confirm	<5.0	16.3	10.4	<1.0	<10	26	129	<1.0	*
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	29.3	36.3	10.9	<1.0	16	128	43	16.8	
SS-2	189.4	52.1	13.1	1.6	112	433	45	69.6	
WA2-2black soil confirm	<5.0	17.6	11.2	<1.0	<10	27	142	<1.0	
WA2-2black soil confirm	<5.0	15.0	9.6	<1.0	<10	24	115	<1.0	
* Average result of duplicate analysis									

Prepared by:

Authorization:

Allison Rutter, PhD
Director

ASU #	**12302**	Report ID:	ASU 12302 CCME CC6
Client:	**INAC**	Date Submitted:	17-Sep-09
		Date testing initiated:	22-Sep-09
Site:	Cape Christian	Date Reported:	9-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA2	15%	146	2360	323	15	2840
MS-TP1	19%	<60	85	25	10	120
MS-TP2	22%	<60	13	36	14	<100
MS-TP3	18%	<60	<10	22	<10	<100
MS-TP4	27%	<60	<10	24	<10	<100
MS-TP5	12%	<60	<10	28	<10	<100
MS-TP6	19%	<60*	<10*	23*	<10*	<100
Comp 1	10%	<60	42	75	14	131
Comp 2	7%	<60	64	33	<10	<100

†Complies with CWS PHC Tier 1 method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate MS-TP6	< 60, <60	<10, <10	19, 26	<10, <10
Blank	<60	<10	<10	<10
Control	134	169		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by:_____
ASU 12302 CCME CC6

Authorized by: P Whitley

Results reported relate only to items tested

ASU #	12302		Report ID:	CC S31					
Client:	**INAC**		Date Submitted:	17-Sep-09					
			Date Tested:	30-Sep-09					
Site:	**Cape Christian**		Date:	5-Oct-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
WA2-2 black soil confirm	<0.1	*							
Blank	<0.1								
Control	0.35								
Control target	0.44								
WA2-2 black soil confirm	<0.1								
WA2-2 black soil confirm	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Prepared by: P. Whitley

Authorization: A. Rutter

Allison Rutter, PhD
Director

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #22
1 cooler

Chain Of Custody Record

1/1

IASU #: ASU 12297

COMPANY NAME: EBA ENGINEERING

ADDRESS: 14940-123 AVE EDMONTON AB T5V-1B4 780-451-2121

SAMPLER:(Signature)

SAMPLE NAME: DANIELA FELSKE

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: DISCHARGE CRITERIA	TEST(S) REQUESTED: PHENOLS	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	Comments/ Special Requests
AST 3-1 TREATED	Sept 10	6pm	67	water	X	X						

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS: NONE

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca, hziervogel@eba.ca, ~~michel~~ mphebert@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Aug 11/09	8am		Sept	
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: SU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

SHIPMENT# 23 Bkg

IASU #:

COMPANY NAME: EBA ENGINEERING

ADDRESS: 4360-12 3 AVE
EDMONTON, AB T5V 1B4
Fax: 780-451-2121

SAMPLER:(Signature)

SAMPLE NAME: DEESKE

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: WATER DISCHARGE	TEST(S) REQUESTED: PHENOLS	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED	TEST(S) REQUESTED
AST 3-TREATED-2	SEP 13	8:am	7	W	X	X					

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

Comments/ Special Requests: RUSH

ANTICIPATED CHEMICAL HAZARDS: NONE

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) cdeske@eba.ca, nziemyd@eba.ca, bhowe@eba.ca

RELINQUISHED BY: (Signature)	Date: Sept 13/09	Time: 9:00 am	RECEIVED BY: (Signature)	Date: 15 Sept 09	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

ASU #	12297			Report ID:	ASU 12297 CC water -1			
Client:	INAC			Date Submitted:	17-Sep-09			
				Date Reported:	17-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Phenols						
		ppb						
	AST3-1	8.1						
	AST3-2	11.9	*					
	Blank	<1.0						
	Control	9.5						
	Control Target	10.0						
	Date Tested:	17-Sep-09						
	AST3-2	11.7						
	AST3-2	12.2						

Prepared by P. Whitley

Authorized by A. Rutter

Allison Rutter, PhD
Director

ASU #	12297			Report ID:	ASU 12297 CC water -2			
Client:	INAC			Date Submitted:	17-Sep-09			
				Date Reported:	18-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Oil & Grease						
		ppm						
	AST3-1	2.2						
	AST3-2	4.1						
	Blank	<2.0						
	Control	14.2						
	Control Target	16.1						
	Date Tested:	17-Sep-09						

Prepared by R Whatley

Research Technician

Authorized by Mary Andrews

ASU #	12297			Report ID:	ASU 12297 CC water 3					
Client:	INAC			Date Submitted:	17-Sep-09					
				Date Reported:	18-Sep-09					
Site:	Cape Christian			Matrix:	Water					

Laboratory Report of Analysis

Sample	Total Zn ppm	Total As ppm
AST3-1	0.158	0.004
AST3-2	0.146	0.003
Blank	<0.010	<0.003
Control	2.8	0.79
Control Target	3.0	0.80
Date Tested:	18-Sep-09	18-Sep-09

Sample	Dissolved Cu ppm	Dissolved Ni ppm	Dissolved Co ppm	Dissolved Cd ppm	Dissolved Pb ppm	Dissolved Cr ppm
AST3-1	<0.005	0.025	0.004	<0.001	<0.010	<0.005
AST3-2	<0.005	0.029	0.005	<0.001	<0.010	<0.005
Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.005
Control	1.5	1.5	1.5	0.74	7.5	0.80
Control Target	1.6	1.6	1.6	0.80	8.0	0.80
Date Tested:	18-Sep-09	18-Sep-09	18-Sep-09	18-Sep-09	18-Sep-09	18-Sep-09

Prepared by: P. Windley

Authorized by: A. Rutter

Allison Rutter, PhD
Director

ASU #	12297			Report ID:	ASU 12297 CC water 4			
Client:	INAC			Date Submitted:	17-Sep-09			
				Date Reported:	21-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	PCB						
		ppm						
	AST3-1	<0.003						
	AST3-2	<0.003						
	Blank	<0.003						
	Control	0.009						
	Control Target	0.010						
	Date Tested:	18-Sep-09						

Prepared by _____

Authorized by _____

Graham Cairns, PhD
Research Associate

ASU #	12297			Report ID:	ASU 12297 CC water 5			
Client:	INAC			Date Submitted:	17-Sep-09			
				Date Reported:	22-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	pH**	Mercury**					
		-	ppb					
	AST3-1	7.15	<0.4	*				
	AST3-2	6.97	<0.4					
	Blank	-	<0.4					
	Control	7.00	4.4					
	Control Target	7.00	4.0					
	Date Tested:	22-Sep-09	21-Sep-09					
	AST3-I	7.15	<0.4					
	AST3-1	7.15	<0.4					
* average result of duplicates								
**analysis subcontracted								

Prepared by P. Whalley

Authorized by

Graham Cairns, PhD
Research Associate

Iqaluit Analytical Services Ltd.
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain of Custody Record

Shipment 24

IASU #: ASU 12298

1/2

COMPANY NAME:			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS:					F1-F4	DAC METALS	PCB						
SAMPLER:(Signature)													
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
WA2-SP1 ✓	2 jars				X	X	X						
WA2-SP2 ✓	2 jars				X	X							
WA2-SP3 ✓	2 jars				X								
WA2-SP4 ✓	2 jars				X	X	X						
WA2-SPILL ✓	2 jars				X	X	X						
WA3-1 ✓					X	X							
WA3-2 ✓					X	X	X						
WA3-3 ✓					X								
WA3-4 ✓					X								
WA3-5 ✓					X								
WA3-6 ✓					X	X							
WA3-7 ✓					X								
WA3-8 ✓					X	X	X						

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
(867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME:						TEST(S) REQUESTED							MATRIX S=Soil W=Water T=Tubes F=Filters O=Other (Specify)	
ADDRESS:						F1-F4	BTEX	Metals	PCBs					
SAMPLER (Signature)														
SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX									Comments/ Special Requests	
WA3-9	Sept 14	10am	2	SO		X								
WA3-10						X								
WA3-SP1						X								
WA3-SP2						X								
WA3-SP3						X	X							
WA3-SP4						X	X							
AEC4-SP	Sept 13	3pm	4			X	X	✓						
DUPLICATE 1			3			X	✓	✓						
DUPLICATE 2														

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: L ab Pink: Retained by Sampler

ASU #	12298		Report ID:	CC S26					
Client:	INAC		Date Submitted:	17-Sep-09					
			Date Tested:	20-Sep-09					
Site:	Cape Christian		Date:	21-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA2-SP1	<5.0	7.0	<5.0	<1.0	<10	18	72	<1.0	*
WA2-SP3	<5.0	8.8	<5.0	<1.0	11	19	73	<1.0	
WA2-spill	<5.0	25.9	18.1	<1.0	14	31	319	<1.0	
WA3-10	<5.0	<5.0	<5.0	<1.0	<10	<15	25	<1.0	
WA3-2	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
WA3-6	<5.0	<5.0	<5.0	<1.0	<10	<15	24	<1.0	
WA3-8	<5.0	<5.0	<5.0	<1.0	<10	<15	28	<1.0	
WA3-SP2	<5.0	<5.0	<5.0	<1.0	<10	<15	41	<1.0	*
WA3-SP4	<5.0	<5.0	<5.0	<1.0	15	<15	39	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	29.8	35.3	11.0	<1.0	16	124	33	17.4	
SS-2	183.6	53.6	14.0	1.7	113	452	42	77.3	
WA2-SP1	<5.0	5.7	<5.0	<1.0	<10	16	59	<1.0	
WA2-SP1	<5.0	8.4	5.6	<1.0	<10	20	85	<1.0	
WA3-SP2	<5.0	<5.0	<5.0	<1.0	<10	<15	37	<1.0	
WA3-SP2	<5.0	<5.0	<5.0	<1.0	<10	<15	44	<1.0	

Allison Rutter, PhD
Director

Prepared by: _____

Authorization: _____

ASU #	12298	**Report ID:**	CC PCB 9	
Client:	INAC	**Date Submitted:**	17-Sep-09	
		Date tested:	21-Sep-09	
Site:	Cape Christian	**Date:**	22-Sep-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
AEC-4	<0.5	<0.5		
WA2-SP1	<0.5	<0.5		
WA2-base spill	<0.5	<0.5		
WA3-SP3	<0.5	<0.5		
WA3-3	<0.5	<0.5		
WA3-8	<0.5	<0.5	*	
Blank	<0.5	<0.5		
Control	-	4.2		
Control Target	-	5.0		
WA3-8	<0.5	<0.5		
WA3-8	<0.5	<0.5		
* average result of duplicates				

Allison Rutter, PhD
Director

Prepared By: P. Whitley

Authorization: A. Rutter

ASU #	12298		Report ID:	CC S27
Client:	**INAC**		Date Submitted:	17-Sep-09
			Date Tested:	23-Sep-09
Site:	**Cape Christian**		Date:	23-Sep-09
			Matrix:	Soil
Report of Analysis				
Sample	Hg**			
	ppm			
WA2-SP1	<0.1	*		
WA2-SP3	<0.1			
WA2-spill	<0.1			
WA3-10	<0.1			
WA3-2	<0.1			
WA3-6	<0.1			
WA3-8	<0.1			
WA3-SP2	<0.1			
WA3-SP4	<0.1			
Blank	<0.1			
Control	0.44			
Control target	0.46			
WA2-SP1	<0.1			
WA2-SP1	<0.1			
* Average result of duplicates				
** Analysis subcontracted				

Prepared by: P. Whitley

Research Technician

CC S27
Page 1 of 1

Authorization: Mary Andrews

Research Technician

ASU #	**12298**	Report ID:	ASU 12298 CCME CC5
Client:	**INAC**	Date Submitted:	17-Sep-09
		Date testing init	18-Sep-09
Site:	Cape Christian	Date Reported:	8-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA3-5	16%	<60	<10	24	14	<100
WA3-6	14%	<60	<10	<10	<10	<100
WA3-7	14%	<60	<10	<10	<10	<100
WA3-8	7%	<60	122	704	58	884
WA3-9	7%	<60	2520	1410	71	4000
WA3-10	6%	<60*	<10*	18*	<10*	<100
WA3-SP1	5%	<60	51	243	18	312
WA3-SP2	7%	<60*	70*	206*	13*	289
WA3-SP3	7%	<60	<10	37	<10	<100
WA3-SP4	6%	<60	1010	854	66	1930
Dup-1	5%	<60	908	56	<10	964
‡ Dup-2	8%	<60	<10	27	<10	<100
AEC-4	8%	<60	3640	818	48	4510

†Complies with CWS PHC Tier 1 method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate WA3-10	< 60, <60	<10, <10	17, 18	<10, <10
Duplicate WA3-SP2	< 60, <60	51, 88	169, 243	10, 16
Blank	<60	<10	<10	<10
Control	126	132, 118		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by: Z. Kotlewski

Authorized by: P. Whitley

Results reported relate only to items tested

ASU #	**12298**	Report ID:	ASU 12298 CCME CC4
Client:	**INAC**	Date Submitted:	17-Sep-08
		Date testing init	18-Sep-08
Site:	Cape Christian	Date Reported:	24-Sep-08
		Matrix	Soil

Preliminary Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA2-SP-1	4.7%	<60	215	68	<10	283
WA2-SP-2	5.1%	<60	1040	103	<10	1140
WA2-SP-3	4.0%	<60	375	120	<10	495
WA2-SP-4	0.6%	<60	80	132	<10	212
WA2-spill	30.0%	<60	1220	92	<10	1310
WA3-1	5.3%	<60	41	19	<10	<100
WA3-2	19.9%	<60	28	11	<10	<100
WA3-3	7.1%	<60	25	43	<10	<100
WA3-4	11.8%	<60	26*	<10*	<10*	<100

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate WA3-4	-	25; 27	<10; <10	<10; <10
Blank	<60	<50	<50	<50
Control	-	172		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by: _____ Authorized by: _____

Results reported relate only to items tested

Iqaluit Analytical Services Ltd.
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

Chain of Custody Record

Shipment 24

IASU #: ASU 12298

1/2

COMPANY NAME:			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS:					F1-F4	DAC METALS	PCB						
SAMPLER:(Signature)													
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
WA2-SP1 ✓	2 jars				X	X	X						
WA2-SP2 ✓	2 jars				X	X							
WA2-SP3 ✓	2 jars				X								
WA2-SP4 ✓	2 jars				X	X	X						
WA2-SPILL ✓	2 jars				X	X	X						
WA3-1 ✓					X	X							
WA3-2 ✓					X	X	X						
WA3-3 ✓					X								
WA3-4 ✓					X								
WA3-5 ✓					X								
WA3-6 ✓					X	X							
WA3-7 ✓					X								
WA3-8 ✓					X	X	X						

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
(867) 979-1282 Fax: (867) 979-1283

Chain Of Custody Record

IASU #:

COMPANY NAME:						TEST(S) REQUESTED							MATRIX S=Soil W=Water T=Tubes F=Filters O=Other (Specify)	
ADDRESS:						F1-F4	BTEX	Metals	PCBs					
SAMPLER (Signature)														
SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX									Comments/ Special Requests	
WA3-9	Sept 14	10am	2	SO		X								
WA3-10						X								
WA3-SP1						X								
WA3-SP2						X								
WA3-SP3						X	X							
WA3-SP4						X	X							
AEC4-SP	Sept 13	3pm	4			X	X	✓						
DUPLICATE 1			3			X	✓	✓						
DUPLICATE 2														

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: L ab Pink: Retained by Sampler

ASU #	12298		Report ID:	CC S26					
Client:	INAC		Date Submitted:	17-Sep-09					
			Date Tested:	20-Sep-09					
Site:	Cape Christian		Date:	21-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA2-SP1	<5.0	7.0	<5.0	<1.0	<10	18	72	<1.0	*
WA2-SP3	<5.0	8.8	<5.0	<1.0	11	19	73	<1.0	
WA2-spill	<5.0	25.9	18.1	<1.0	14	31	319	<1.0	
WA3-10	<5.0	<5.0	<5.0	<1.0	<10	<15	25	<1.0	
WA3-2	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
WA3-6	<5.0	<5.0	<5.0	<1.0	<10	<15	24	<1.0	
WA3-8	<5.0	<5.0	<5.0	<1.0	<10	<15	28	<1.0	
WA3-SP2	<5.0	<5.0	<5.0	<1.0	<10	<15	41	<1.0	*
WA3-SP4	<5.0	<5.0	<5.0	<1.0	15	<15	39	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	29.8	35.3	11.0	<1.0	16	124	33	17.4	
SS-2	183.6	53.6	14.0	1.7	113	452	42	77.3	
WA2-SP1	<5.0	5.7	<5.0	<1.0	<10	16	59	<1.0	
WA2-SP1	<5.0	8.4	5.6	<1.0	<10	20	85	<1.0	
WA3-SP2	<5.0	<5.0	<5.0	<1.0	<10	<15	37	<1.0	
WA3-SP2	<5.0	<5.0	<5.0	<1.0	<10	<15	44	<1.0	

Allison Rutter, PhD
Director

Prepared by: _____

Authorization: _____

ASU #	12298	**Report ID:**	CC PCB 9	
Client:	INAC	**Date Submitted:**	17-Sep-09	
		Date tested:	21-Sep-09	
Site:	Cape Christian	**Date:**	22-Sep-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
AEC-4	<0.5	<0.5		
WA2-SP1	<0.5	<0.5		
WA2-base spill	<0.5	<0.5		
WA3-SP3	<0.5	<0.5		
WA3-3	<0.5	<0.5		
WA3-8	<0.5	<0.5	*	
Blank	<0.5	<0.5		
Control	-	4.2		
Control Target	-	5.0		
WA3-8	<0.5	<0.5		
WA3-8	<0.5	<0.5		
* average result of duplicates				

Allison Rutter, PhD
Director

Prepared By: P. Whitley

Authorization: A. Rutter

ASU #	12298		Report ID:	CC S27
Client:	**INAC**		Date Submitted:	17-Sep-09
			Date Tested:	23-Sep-09
Site:	**Cape Christian**		Date:	23-Sep-09
			Matrix:	Soil
Report of Analysis				
Sample	Hg**			
	ppm			
WA2-SP1	<0.1	*		
WA2-SP3	<0.1			
WA2-spill	<0.1			
WA3-10	<0.1			
WA3-2	<0.1			
WA3-6	<0.1			
WA3-8	<0.1			
WA3-SP2	<0.1			
WA3-SP4	<0.1			
Blank	<0.1			
Control	0.44			
Control target	0.46			
WA2-SP1	<0.1			
WA2-SP1	<0.1			
* Average result of duplicates				
** Analysis subcontracted				

Prepared by: P. Whitley

Research Technician

CC S27
Page 1 of 1

Authorization: Mary Andrews

Research Technician

ASU #	**12298**	Report ID:	ASU 12298 CCME CC5
Client:	**INAC**	Date Submitted:	17-Sep-09
		Date testing init	18-Sep-09
Site:	Cape Christian	Date Reported:	8-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA3-5	16%	<60	<10	24	14	<100
WA3-6	14%	<60	<10	<10	<10	<100
WA3-7	14%	<60	<10	<10	<10	<100
WA3-8	7%	<60	122	704	58	884
WA3-9	7%	<60	2520	1410	71	4000
WA3-10	6%	<60*	<10*	18*	<10*	<100
WA3-SP1	5%	<60	51	243	18	312
WA3-SP2	7%	<60*	70*	206*	13*	289
WA3-SP3	7%	<60	<10	37	<10	<100
WA3-SP4	6%	<60	1010	854	66	1930
Dup-1	5%	<60	908	56	<10	964
‡ Dup-2	8%	<60	<10	27	<10	<100
AEC-4	8%	<60	3640	818	48	4510

†Complies with CWS PHC Tier 1 method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate WA3-10	< 60, <60	<10, <10	17, 18	<10, <10
Duplicate WA3-SP2	< 60, <60	51, 88	169, 243	10, 16
Blank	<60	<10	<10	<10
Control	126	132, 118		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by: Z. Kotlewski

Authorized by: P. Whitley

Results reported relate only to items tested

ASU #	**12298**	Report ID:	ASU 12298 CCME CC4
Client:	**INAC**	Date Submitted:	17-Sep-08
		Date testing init	18-Sep-08
Site:	Cape Christian	Date Reported:	24-Sep-08
		Matrix	Soil

Preliminary Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA2-SP-1	4.7%	<60	215	68	<10	283
WA2-SP-2	5.1%	<60	1040	103	<10	1140
WA2-SP-3	4.0%	<60	375	120	<10	495
WA2-SP-4	0.6%	<60	80	132	<10	212
WA2-spill	30.0%	<60	1220	92	<10	1310
WA3-1	5.3%	<60	41	19	<10	<100
WA3-2	19.9%	<60	28	11	<10	<100
WA3-3	7.1%	<60	25	43	<10	<100
WA3-4	11.8%	<60	26*	<10*	<10*	<100

†Complies with CWS PHC Tier 1 method

‡F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria: 1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate WA3-4	-	25; 27	<10; <10	<10; <10
Blank	<60	<50	<50	<50
Control	-	172		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by: _____ Authorized by: _____

Results reported relate only to items tested

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #25

Chain Of Custody Record

IASU #: ASU # 12319

COMPANY NAME: EBA ENGINEERING ADDRESS: 14940-123 AVE EDMONTON, AB T6L-5E6. 780.451.2121 SAMPLER:(Signature) D. FELSKE			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1-F4	DCC METALS	PCB					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
WA2-BASE-NEAR 14	SEPT 15	3pm	2	SOIL	X								
WA2-1 @ @ 70cm													
WA2-2 @ @ 80cm													
WA2-3 @													
WA2-4 @ @ 80cm													
WA2-5 @ @ 75cm													
WA2-6 @ @ 50cm													
WA2-7 @ @ 30cm													
WA2-8 @ @ 30cm													
WA2-9 @ 30cm													
WA2-10 @ 30cm													
WA2-11 @ 110 cm													
WA2-12 @ 60cm													

ANTICIPATED CHEMICAL HAZARDS: MINOR HYDROCARBON CONTAMINATION

METHOD OF SHIPMENT: Courier (Air) ☐ Courier (Land) ☒ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca ; hziervogel@eba.ca ; bhorne@eba.ca ; bdion@stabilis.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 16, 2009	8:00am		23/9/09	1pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: SU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #25

Chain Of Custody Record

2/3

IASU #:

COMPANY NAME:

ADDRESS: SEE PG1 →

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1-F4	DCC METALS	PCB					Comments/ Special Requests
WA2-13@0.50cm	SEPT 15	3pm	2	SOIL	X	X	X					
WA2-14@0.50cm												
WA2-15@0.50cm												
WA2-16@0.70cm												
WA2-17@0.70cm												
WA2-18 SP5												
WA2-SP6												
WA2-SP7												
WA2-SP8												
WA2-SP9												
WA2-SP10												
WA2-SP11												
WA2-SP12	↓	↓	↓	↓	↓	↓	↓					

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:
MINOR HYDROCARBON CONTAMINATION

METHOD OF SHIPMENT:
Courier (Air) ☒ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)
SEE PG1

RELINQUISHED BY: (Signature)	Date: SEPT 16	Time: 8:00 am	RECEIVED BY: (Signature)	Date: 23/9/08	Time: 1 pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #25

Chain Of Custody Record 3/3

IASU #:

COMPANY NAME:

ADDRESS: SEE PG 1

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: F1-F4	DCC METALS	PCBs					MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
WA2-SP13	~~SEPT~~ 13	~~SEPT~~ 13	2	SOIL	X	X	X						
WA2-SP14	↓	↓	↓	↓	X	X	X						
~~WA2-SP15~~	↓	↓	↓	↓									
WA3-SP2	SEPT 13	8:00	1	SOIL		X	X						
DUPLICATE 1	SEPT 15	3pm	1	↓	X								
DUPLICATE 2	↓	↓	1	↓	X								

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☐ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) see pg 1

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 16,	8:00am	P. Whitley	23 Sep 09	
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: 'U Lab Pink: Retained by Sampler

ASU #	12319		Report ID:	CC S30					
Client:	INAC		Date Submitted:	23-Sep-09					
			Date Tested:	28-Sep-09					
Site:	Cape Christian		Date:	29-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
WA2-3	<5.0	21.9	13.5	2.5	18	23	223	<1.0	
WA2-5	<5.0	5.1	<5.0	<1.0	<10	<15	51	<1.0	
WA2-8	<5.0	6.3	<5.0	<1.0	<10	<15	62	<1.0	
WA2-12	<5.0	7.1	<5.0	<1.0	<10	<15	70	<1.0	
WA2-13	<5.0	7.0	<5.0	<1.0	<10	<15	64	<1.0	
WA2-15	<5.0	6.5	<5.0	<1.0	<10	<15	60	<1.0	
WA2-BASE-14	<5.0	9.5	6.1	1.1	33	25	99	<1.0	*
WA2-SP5	<5.0	9.5	6.3	1.0	15	15	102	<1.0	
WA2-SP8	<5.0	37.8	5.4	<1.0	<10	28	168	<1.0	
WA2-SP12	<5.0	16.5	8.1	1.3	<10	18	126	<1.0	*
WA2-SP13	<5.0	14.0	6.6	1.0	<10	15	111	<1.0	
WA3-SP2	<5.0	6.5	<5.0	<1.0	<10	<15	59	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	32.5	38.7	11.4	<1.0	18	135	43	17.4	
SS-2	194.4	55.1	12.8	1.7	112	422	51	76.1	
WA2-BASE-14	<5.0	9.5	6.2	1.0	29	25	99	<1.0	
WA2-BASE-14	<5.0	9.5	6.0	1.1	37	25	100	<1.0	
WA2-SP12	<5.0	20.6	8.2	1.3	<10	19	130	<1.0	
WA2-SP12	<5.0	12.5	8.0	1.3	<10	18	122	<1.0	
* average result of duplicates									

Prepared by: P. Whalley

Allison Rutter, PhD
Director

Authorization: A. Rutter

ASU #	**12319**		Report ID:	CC S33					
Client:	**INAC**		Date Submitted:	23-Sep-09					
			Date Tested:	30-Sep-09					
Site:	**Cape Christian**		Date:	5-Oct-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
WA2-3	<0.1	*							
WA2-5	<0.1								
WA2-8	<0.1								
WA2-12	<0.1								
WA2-13	<0.1								
WA2-15	<0.1								
WA2-BASE-14	<0.1								
WA2-SP5	<0.1								
WA2-SP8	<0.1								
WA2-SP12	<0.1								
WA2-SP13	<0.1								
WA3-SP2	<0.1								
Blank	<0.1								
Control	0.35								
Control target	0.44								
WA2-3	<0.1								
WA2-3	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Prepared by:

Authorization:

Allison Rutter, PhD
Director

ASU #	12319	**Report ID:**	CC PCB 10	
Client:	INAC	**Date Submitted:**	23-Sep-09	
		Date tested:	1-Oct-09	
Site:	Cape Christian	**Date:**	6-Oct-09	
		Matrix:	Soil	
Report of Analysis				
Sample	Aroclor 1254	Aroclor 1260		
	ug/g	ug/g		
WA3-SP2	<0.5	<0.5		
WA2-5	<0.5	<0.5		
WA2-9	<0.5	<0.5		
WA2-13	<0.5	<0.5	*	
WA2-17	<0.5	<0.5		
WA2-SP9	<0.5	<0.5		
Blank	<0.5	<0.5		
Control	-	3.8		
Control Target	-	5.0		
WA2-13	<0.5	<0.5		
WA2-13	<0.5	<0.5		
* average result of duplicates				

Allison Rutter, PhD
Director

Prepared By: P. Whitley

Authorization: A. Rutter

ASU #	**12319**	Report ID:	ASU 12319 CCME CC7
Client:	**INAC**	Date Submitted:	23-Sep-09
		Date testing initiated:	25-Sep-09
Site:	Cape Christian	Date Reported:	16-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA2-1	16%	<60	639	138	<10	777
WA2-2	16%	91	1660	135	<10	1890
WA2-3	13%	81	1920	125	19	2140
WA2-4	6%	<60	1030	80	<10	1110
WA2-5	4%	<60	909	91	<10	1000
WA2-6	3%	<60	872	283	<10	1150
WA2-7	3%	<60	152	72	<10	224
WA2-8	4%	<60	600	230	<10	830
WA2-9	5%	<60*	1880	299	<10	2180
WA2-10	5%	<60	796	127	<10	922
WA2-11	18%	<60	461	130	<10	591
WA2-12	11%	<60	567	117	15	700
WA2-13	5%	<60	239	58	<10	297
WA2-14	4%	<60	<40	<20	<10	<100
WA2-15	8%	<60	734	222	14	970
WA2-16	17%	<60	584	134	24	742
WA2-17	5%	<60	1370	101	31	1500
WA2-base	20%	<60	515	108	<10	623
WA2-SP6	7%	<60	891	133	<10	1020
WA2-SP7	6%	<60	1010	183	<10	1190
WA2-SP8	4%	<60	1330*	169*	<10*	1500
WA2-SP9	5%	<60	912	164	<10	1080
WA2-SP10	4%	<60	534	132	<10	667
WA2-SP11	4%	<60	339	92	<10	431
WA2-SP12	4%	<60	58*	44*	<10*	<100
WA2-SP13	5%	<60	<40	28	<10	<100
WA2-SP14	4%	<60	480	151	<10	631
Dup-1	5%	<60	451	77	<10	528
Dup-2	4%	<60	<40	24	<10	<100

†Complies with CWS PHC Tier 1 method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

Allison Rutter, PhD
Director

Prepared by:
ASU 12319 CCME CC7

Authorized by:

Results reported relate only to items tested

ASU #	**12319**	Report ID:	ASU 12319 CCME CC7
Client:	**INAC**	Date Submitted:	23-Sep-09
		Date testing initiated:	25-Sep-09
Site:	Cape Christian	Date Reported:	16-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate WA2-9	<60, <60	-	-	-
Duplicate WA2-SP8	-	1610, 1070	191, 147	<10, <10
Duplicate WA2-SP12	<60, <60	54,. 62	45,42	<10, <10
Blank	<60	<40	<20	<10
Control	124, 138	148, 149		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Prepared by:
ASU 12319 CCME CC7

Authorized by:

Results reported relate only to items tested

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT #2

Chain Of Custody Record 1/4

IASU #: IASU # 12318

COMPANY NAME: EBA ENGINEERING
ADDRESS: 14940-123 AVE EDMONTON, AB T5V 1B4 780-451-2121
SAMPLER:(Signature)
SAMPLE NAME: D. FELSKE

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: PAH	METALS	MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC15-CONFIRM-1	SEPT 17	4pm	2		X			PLS REPORT AS PER TABLE 1 OF CCME PAH GUIDELINES (2008) (ie also the B[a]P total potency equivilent
AEC15-CONFIRM-2			2		X			
" " -3			2		X			
" " -4			2		X			
" " -5			2		X			
" " -6			3		X	X		
" " -7			2		X			
" " -8			3		X	X		
" " -9			2		X			
" " -10			2		X			
" " -11			2		X			
" " -12			2		X			
" " -13			2		X			

ANTICIPATED CHEMICAL HAZARDS: CREOSOTE, (PAH)

METHOD OF SHIPMENT: Courier (Air) ☒ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager) dfelske@eba.ca; bdion@stabilis.ca; bhorne@eba.ca; hziervogel@eba.ca

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 18	8:00am		23/9/09	1pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: ! U Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26

Chain Of Custody Record

2/4

IASU #: 3

COMPANY NAME: See pg 1

ADDRESS:

SAMPLER:(Signature)

SAMPLE NAME: DEELSLE

SAMPLE NAME	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	PAH	PCB/PBA	METALS	ONT REG TCLP / FOR LANDFILL DISPOSAL	Comments/ Special Requests
AEC15-CONFIRM-14	SEPT 17	4pm	3	S	X		X		ONT. REG (TCLP)
" " -15			2		X				FOR LANDFILL
" " -16			2		X				DISPOSAL TO INCLUDE
" " -17			2		X				(AT LEAST)
AEC15-CONFIRM-ARCH 1			2		X				CHROMIUM
AEC15-CONFIRM-ARCH 2			3		X		X		ARSENIC
IEC3-5			3					X	PENTA
IEC3-6			3					X	HCB
IEC3-7	↓	↓	3	↓				X	DIOXIN/FURAN
AEC8-1@50cm	SEPT 18	10am	1	S			X		BCLP
AEC8-2@50cm			1	S			X		
AEC8-3@50cm			1	S			X		
AEC8-4@40cm	↓	↓	1	S			X		

TEST(S) REQUESTED

MATRIX:
S=Soil
W=Water
T= Tubes
F=Filters
O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date: SEPT 19	Time: 8am	RECEIVED BY: (Signature)	Date: 23/9/09	Time: 1pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26

Chain Of Custody Record 3/4

IASU #:

COMPANY NAME:

ADDRESS: see pg 1

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: METALS	ROUTINE	METALS	RUSH				Comments/ Special Requests
AEC8-5 @40cm	SEPT 18	10:00am	1	S	X							
AEC8-6 @50cm			1	S	X							
AEC8-7 @40cm			1	S	X							
AEC8-8 @90cm			1	S	X							
AEC8-9 @100cm			1	S	X							
AEC8-10 @110cm			1	S	X							
AEC8-DUPLICATE			1	S	X							
SURF WATER NEAR LF		3pm				X	X					
LF BASE-1 UNFILTERED						X	X	X				please do not
LF BASE-1 FILTERED						X	X	X				re-filter the
LF BASE-2 UNFILTERED						X	X	X				filtered samples
MW1-2 FILTERED						X	X	X				
MW1-2 UNFILTERED						X	X	X				

MATRIX: S=Soil, W=Water, T= Tubes, F=Filters, O=Other (Specify)

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT: Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 19	8am		23/9/09	1pm
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: IASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26

Chain Of Custody Record 4/4

IASU #:

COMPANY NAME:			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: see pg 1					ROUTINE	METALS	RUSH						
SAMPLER:(Signature)													
SAMPLE NAME:	COLLECTION Date	Time											Comments/ Special Requests
MW2-1 FILTERED	Sept 18	3 pm			X	X	X						please do not refilter the filtered samples! (report dissolved metals only)
MW2-1 UNFILTERED					X	X	X						
MW3-2 FILTERED					X	X	X						
MW3-2 UNFILTERED					X	X	X						

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	Sept 19	8 am	R. Whalley	23/9/09	1 pm.
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yellow: 1 J Lab Pink: Retained by Sampler

ASU #	12318		Report ID:	CC S29					
Client:	**INAC**		Date Submitted:	23-Sep-09					
			Date Tested:	28-Sep-09					
Site:	**Cape Christian**		Date:	29-Sep-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
AEC15 confirm-6	<5.0	6.2	<5.0	<1.0	<10	73	<20	1.3	
AEC15 confirm-8	5.4	6.1	<5.0	<1.0	<10	46	<20	1.5	
AEC15 confirm-14	11.5	5.2	<5.0	<1.0	<10	30	<20	1.4	
AEC15 confirm-arch 2	<5.0	11.2	7.3	1.2	<10	47	93	<1.0	*
AEC8-1	<5.0	9.0	6.0	1.1	<10	23	90	<1.0	
AEC8-2	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC8-3	<5.0	6.4	<5.0	<1.0	<10	17	44	<1.0	
AEC8-4	<5.0	11.1	7.7	1.4	<10	156	111	<1.0	
AEC8-5	<5.0	13.0	8.1	1.5	10	142	109	<1.0	
AEC8-6	<5.0	8.1	5.5	<1.0	<10	17	67	<1.0	
AEC8-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	*
AEC8-8	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC8-9	<5.0	6.5	<5.0	<1.0	<10	19	46	<1.0	
AEC8-10	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC8-DUP	<5.0	10.2	6.9	1.2	<10	15	103	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	32.5	38.7	11.4	<1.0	18	135	43	17.4	
SS-2	194.4	55.1	12.8	1.7	112	422	51	76.1	
AEC15 confirm-arch 2	<5.0	10.5	7.0	1.2	<10	47	93	<1.0	
AEC15 confirm-arch 2	<5.0	11.9	7.6	1.2	<10	48	93	<1.0	
AEC8-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
AEC8-7	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
* average result of duplicates									

Allison Rutter, PhD
Director

Prepared by: P. Whalley

CC S29
Page 1 of 1

Authorization: A. Rutter

ASU #	12318		Report ID:	CC S32					
Client:	**INAC**		Date Submitted:	23-Sep-09					
			Date Tested:	1-Oct-09					
Site:	**Cape Christian**		Date:	5-Oct-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg**								
	ppm								
AEC15 confirm-6	<0.1								
AEC15 confirm-8	<0.1								
AEC15 confirm-14	<0.1								
AEC15 confirm-arch 2	<0.1								
AEC8-1	<0.1								
AEC8-2	<0.1								
AEC8-3	<0.1								
AEC8-4	<0.1								
AEC8-5	<0.1								
AEC8-6	<0.1								
AEC8-7	<0.1								
AEC8-8	<0.1								
AEC8-9	<0.1								
AEC8-10	<0.1								
AEC8-DUP	<0.1	*							
Blank	<0.1								
Control	0.39								
Control target	0.44								
AEC8-DUP	<0.1								
AEC8-DUP	<0.1								
* Average result of duplicates									
** Analysis subcontracted									

Prepared by

Authorization:

Allison Rutter, PhD
Director

Analytical Services Unit
School of Environmental Studies
Biosciences Complex
Queen's University, Kingston, Ontario, Canada K7L 3N6
Tel 613 533-2642 Fax 613 533-2897

Client	INAC-Cape Christian
ASU Login Number	12318
Site	
Analysis Requested	19 x PAH
	3 x ABN
Date Requested	23 Sep 09

Sub-Contracted Laboratory	Analytical Services Group
	Royal Military College
	Kingston, ON K7K 7H4
Laboratory Project Identification Number	ASG 19915
Comments	

The attached report is hereby authorized by ASU as a Final Report

Authorization P. Whitley
Date 30 Oct 09

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No: 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Blank	AEC15 Confirm1*	AEC15 Confirm1*dup	Control Sample	Control Target
		µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	0.18	0.22
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.15	0.21
Acenaphthene	3	< 0.05	< 0.05	< 0.05	0.15	0.21
Fluorene	4	< 0.05	< 0.05	< 0.05	0.19	0.20
Phenanthrene	5	< 0.05	0.18	0.21	0.14	0.20
Anthracene	6	< 0.05	0.12	0.06	0.14	0.20
Fluoranthene	7	< 0.05	0.26	0.26	0.15	0.20
Pyrene	8	< 0.05	0.19	0.21	0.18	0.21
Benzo(a)anthracene	9	< 0.05	0.07	0.10	0.19	0.21
Chrysene	10	< 0.05	0.05	0.08	0.17	0.21
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	0.16	0.21
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.15	0.21
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.22	0.20
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.18	0.19
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	0.17	0.21
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	0.19	0.20
Total		< 1.0	1.0	1.1	2.7	3.3

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By
Shawn Hunter ; Analyst

Authorization: Steve White;
Acting Laboratory Manager

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm1*	AEC15 Confirm2	AEC15 Confirm3	AEC15 Confirm4	AEC15 Confirm5
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	0.10	< 0.06	< 0.06	0.40
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	0.14
Acenaphthene	3	< 0.05	0.08	< 0.05	< 0.05	5.9
Fluorene	4	< 0.05	0.10	0.08	< 0.05	3.6
Phenanthrene	5	0.20	0.54	0.39	< 0.05	14
Anthracene	6	0.09	0.07	0.15	< 0.05	1.0
Fluoranthene	7	0.26	0.27	0.99	< 0.05	13
Pyrene	8	0.20	0.17	0.83	< 0.05	9.2
Benzo(a)anthracene	9	0.09	0.06	0.30	< 0.05	2.7
Chrysene	10	0.07	< 0.05	0.20	< 0.05	1.1
Benzo(b)fluoranthene	11	0.05	0.05	0.36	< 0.05	1.6
Benzo(k)fluoranthene	12	< 0.05	< 0.05	0.05	< 0.05	0.66
Benzo(a)pyrene	13	< 0.1	< 0.1	0.12	< 0.1	0.84
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	0.18
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	0.15
Total		**1.1**	**1.5**	**3.5**	**< 1.0**	**54**

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-2

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm6	AEC15 Confirm7	AEC15 Confirm8	AEC15 Confirm9	AEC15 Confirm10
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	27	2.5	1.1	0.18	1.1
Acenaphthylene	2	0.40	< 0.05	< 0.05	< 0.05	0.08
Acenaphthene	3	19	0.57	2.1	0.18	2.7
Fluorene	4	13	0.33	1.3	0.14	2.2
Phenanthrene	5	43	1.0	2.5	0.85	9.3
Anthracene	6	2.6	0.10	0.22	0.94	0.68
Fluoranthene	7	34	1.3	1.1	0.40	6.7
Pyrene	8	21	0.80	0.72	0.22	4.2
Benzo(a)anthracene	9	3.6	0.29	0.24	0.05	0.45
Chrysene	10	2.3	0.17	0.12	0.06	0.51
Benzo(b)fluoranthene	11	6.8	0.16	0.09	< 0.05	0.59
Benzo(k)fluoranthene	12	2.2	0.06	< 0.05	< 0.05	0.31
Benzo(a)pyrene	13	4.3	< 0.1	< 0.1	< 0.1	0.28
Indeno(1,2,3-cd)pyrene	14	1.4	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	0.41	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	0.66	< 0.1	< 0.1	< 0.1	< 0.1
Total		180	7.5	9.7	3.1	29

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
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PAHs19915r1-3

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm11	AEC15 Confirm12	AEC15 Confirm13	AEC15 Confirm14	AEC15 Confirm15
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	0.25	2.2	0.29	0.07	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	3	0.58	0.20	0.06	< 0.05	< 0.05
Fluorene	4	0.19	0.07	< 0.05	< 0.05	< 0.05
Phenanthrene	5	0.39	0.43	0.12	0.06	0.06
Anthracene	6	< 0.05	0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	7	0.33	0.30	0.15	0.05	0.05
Pyrene	8	0.24	0.19	0.10	< 0.05	< 0.05
Benzo(a)anthracene	9	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	10	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total		2.2	3.5	< 1.0	< 1.0	< 1.0

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
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ASG Login No: 19915
Site: Cape Chris
Client No: 21-Sep-33
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID			
		AEC15 Confirm16	AEC15 Confirm17	AEC15 Confirm Arch1	AEC15 Confirm Arch2
		ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.07
Acenaphthene	3	0.08	< 0.05	< 0.05	< 0.05
Fluorene	4	< 0.05	< 0.05	< 0.05	0.06
Phenanthrene	5	< 0.05	< 0.05	0.06	0.25
Anthracene	6	< 0.05	< 0.05	< 0.05	0.19
Fluoranthene	7	< 0.05	0.05	0.10	5.3
Pyrene	8	< 0.05	< 0.05	0.07	4.5
Benzo(a)anthracene	9	< 0.05	< 0.05	< 0.05	0.84
Chrysene	10	< 0.05	< 0.05	< 0.05	1.3
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	1.5
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.63
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.62
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.15
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	0.12
Total		< 1.0	< 1.0	< 1.0	16

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By: _____
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Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm1*	AEC15 Confirm2	AEC15 Confirm3	AEC15 Confirm4	AEC15 Confirm5
		TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.0090	0.0060	0.0300	N/A	0.2650
Chrysene	2	0.0007	N/A	0.0020	N/A	0.0110
Benzo(b)fluoranthene	3	0.0050	0.0050	0.0360	N/A	0.1590
Benzo(k)fluoranthene	4	N/A	N/A	0.0050	N/A	0.0660
Benzo(a)pyrene	5	N/A	N/A	0.1200	N/A	0.8400
Indeno(1,2,3-cd)pyrene	6	N/A	N/A	N/A	N/A	0.0180
Dibenz(a,h)anthracene	7	N/A	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	N/A	N/A	N/A	N/A	0.0015
Total		**0.0147**	**0.0110**	**0.1930**	**N/A**	**1.3605**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo{a}pyrene Potency Equivalence Factor (PEF).

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

20.4

The results reported here relate only to the items tested.

Prepared By: _____
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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm6	AEC15 Confirm7	AEC15 Confirm8	AEC15 Confirm9	AEC15 Confirm10
		TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.3580	0.0290	0.0240	0.0050	0.0500
Chrysene	2	0.0230	0.0017	0.0012	0.0006	0.0051
Benzo(b)fluoranthene	3	0.6770	0.0160	0.0090	N/A	0.0590
Benzo(k)fluoranthene	4	0.2180	0.0060	N/A	N/A	0.0310
Benzo(a)pyrene	5	4.3000	N/A	N/A	N/A	0.2800
Indeno(1,2,3-cd)pyrene	6	0.1370	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	7	0.4100	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	0.0066	N/A	N/A	N/A	N/A
Total		**6.1296**	**0.0527**	**0.0342**	**0.0056**	**0.4251**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo{a}pyrene Potency Equivalence Factor (PEF).

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm11	AEC15 Confirm12	AEC15 Confirm13	AEC15 Confirm14	AEC15 Confirm15
		TPE	TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	0.0060	N/A	N/A	N/A	N/A
Chrysene	2	0.0005	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	3	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	4	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	5	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	6	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	7	N/A	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	N/A	N/A	N/A	N/A	N/A
Total		**0.0065**	**N/A**	**N/A**	**N/A**	**N/A**

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo(a)pyrene Potency Equivalence Factor (PEF).

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
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ASG Login No: 19915
Site: Cape Christian
Client No: 21-Sep-33
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID			
		AEC15 Confirm16	AEC15 Confirm17	AEC15 Confirm Arch1	AEC15 Confirm Arch2
		TPE	TPE	TPE	TPE
Benzo(a)anthracene	1	N/A	N/A	N/A	0.0840
Chrysene	2	N/A	N/A	N/A	0.0130
Benzo(b)fluoranthene	3	N/A	N/A	0.0050	0.1500
Benzo(k)fluoranthene	4	N/A	N/A	N/A	0.0630
Benzo(a)pyrene	5	N/A	N/A	N/A	0.6200
Indeno(1,2,3-cd)pyrene	6	N/A	N/A	N/A	0.0150
Dibenz(a,h)anthracene	7	N/A	N/A	N/A	N/A
Benzo(ghi)perylene	8	N/A	N/A	N/A	0.0012
Total		N/A	N/A	0.0050	0.9462

*TPE: Total Potency Equivalents. Calculated by multiplying the soil concentraion of individual carcinogenic PAH's by a standardized Benzo(a)pyrene Potency Equivalence Factor (PEF).
All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

PAH Compound	PEF
Benzo(a)anthracene	0.1
Chrysene	0.01
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	0.1
Dibenz(a,h)anthracene	1
Benzo(ghi)perylene	0.01

The results reported here relate only to the items tested.

Prepared By: _____
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PAHs19915r2-5

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 19-Nov-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm1*	AEC15 Confirm2	AEC15 Confirm3	AEC15 Confirm4	AEC15 Confirm5
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	0.10	< 0.06	< 0.06	0.40
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	0.14
Acenaphthene	3	< 0.05	0.08	< 0.05	< 0.05	5.9
Fluorene	4	< 0.05	0.10	0.08	< 0.05	3.6
Phenanthrene	5	0.20	0.54	0.39	< 0.05	14
Anthracene	6	0.09	0.07	0.15	< 0.05	1.0
Fluoranthene	7	0.26	0.27	0.99	< 0.05	13
Pyrene	8	0.20	0.17	0.83	< 0.05	9.2
Benzo(a)anthracene	9	0.09	0.06	0.30	< 0.05	2.7
Chrysene	10	0.07	< 0.05	0.20	< 0.05	1.1
Benzo(b)fluoranthene	11	0.05	0.05	0.36	< 0.05	1.6
Benzo(k)fluoranthene	12	< 0.05	< 0.05	0.05	< 0.05	0.66
Benzo(a)pyrene	13	< 0.1	< 0.1	0.12	< 0.1	0.84
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	0.18
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	0.15
Total		**1.1**	**1.5**	**3.5**	**< 0.6**	**54**

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

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Steve White ;
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PAHs19915r1-22

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 19-Nov-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm6	AEC15 Confirm7	AEC15 Confirm8	AEC15 Confirm9	AEC15 Confirm10
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	27	2.5	1.1	0.18	1.1
Acenaphthylene	2	0.40	< 0.05	< 0.05	< 0.05	0.08
Acenaphthene	3	19	0.57	2.1	0.18	2.7
Fluorene	4	13	0.33	1.3	0.14	2.2
Phenanthrene	5	43	1.0	2.5	0.85	9.3
Anthracene	6	2.6	0.10	0.22	0.94	0.68
Fluoranthene	7	34	1.3	1.1	0.40	6.7
Pyrene	8	21	0.80	0.72	0.22	4.2
Benzo(a)anthracene	9	3.6	0.29	0.24	0.05	0.45
Chrysene	10	2.3	0.17	0.12	0.06	0.51
Benzo(b)fluoranthene	11	6.8	0.16	0.09	< 0.05	0.59
Benzo(k)fluoranthene	12	2.2	0.06	< 0.05	< 0.05	0.31
Benzo(a)pyrene	13	4.3	< 0.1	< 0.1	< 0.1	0.28
Indeno(1,2,3-cd)pyrene	14	1.4	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	0.41	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	0.66	< 0.1	< 0.1	< 0.1	< 0.1
Total		**180**	**7.5**	**9.7**	**3.1**	**29**

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-32

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Client : **ASU**
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Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 19-Nov-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm11	AEC15 Confirm12	AEC15 Confirm13	AEC15 Confirm14	AEC15 Confirm15
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	0.25	2.2	0.29	0.07	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	3	0.58	0.20	0.06	< 0.05	< 0.05
Fluorene	4	0.19	0.07	< 0.05	< 0.05	< 0.05
Phenanthrene	5	0.39	0.43	0.12	0.06	0.06
Anthracene	6	< 0.05	0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	7	0.33	0.30	0.15	0.05	0.05
Pyrene	8	0.24	0.19	0.10	< 0.05	< 0.05
Benzo(a)anthracene	9	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	10	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total		2.2	3.5	0.84	< 0.6	< 0.6

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-42

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
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Client : **ASU**
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Queen's University
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ASG Login No: 19915
Site: Cape Chris
Client No: 21-Sep-33
Samples Received: 25-Sep-09
Date of analysis: 19-Nov-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID			
		AEC15 Confirm16	AEC15 Confirm17	AEC15 Confirm Arch1	AEC15 Confirm Arch2
		ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.07
Acenaphthene	3	0.08	< 0.05	< 0.05	< 0.05
Fluorene	4	< 0.05	< 0.05	< 0.05	0.06
Phenanthrene	5	< 0.05	< 0.05	0.06	0.25
Anthracene	6	< 0.05	< 0.05	< 0.05	0.19
Fluoranthene	7	< 0.05	0.05	0.10	5.3
Pyrene	8	< 0.05	< 0.05	0.07	4.5
Benzo(a)anthracene	9	< 0.05	< 0.05	< 0.05	0.84
Chrysene	10	< 0.05	< 0.05	< 0.05	1.3
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	1.5
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.63
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.62
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.15
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	0.12
Total		< 0.6	< 0.6	< 0.6	16

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-52

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 28-Sep-09
Method No: ASG 017
Date Reported: 2-Dec-09

RESULTS OF ABN ANALYSIS - BASE/NEUTRAL EXTRACTABLE FRACTION

Sample Identification: Blank

CAS #	ABN	µg/g
111-44-4	Bis(2-chloroethyl)ether	< 0.2
541-73-1	1,3 Dichlorobenzene	< 0.2
106-46-7	1,4 Dichlorobenzene	< 0.2
95-50-1	1,2 Dichlorobenzene	< 0.2
108-60-1	Bis(2-chloroisopropyl)ether	< 0.2
621-64-7	N-nitrosodi-n-propylamine	< 0.2
67-72-1	Hexachloroethane	< 0.2
98-95-3	Nitrobenzene	< 0.2
78-59-1	Isophorone	< 0.2
111-91-1	Bis(2-chloroethoxy)methane	< 0.2
120-82-1	1,2,4 Trichlorobenzene	< 0.2
91-20-3	Naphthalene	< 0.2
87-68-3	Hexachlorobutadiene	< 0.2
77-47-4	Hexachlorocyclopentadiene	< 0.2
91-58-7	2-Chloronaphthalene	< 0.2
131-11-3	Dimethylphthalate	< 0.2
208-96-8	Acenaphthylene	< 0.2
606-20-2	2,6 Dinitrotoluene	< 0.2
83-32-9	Acenapthene	< 0.2
121-14-2	2,4 Dinitrotoluene	< 0.2
7005-72-3	4-Chlorophenylphenylether	< 0.2
84-66-2	Diethylphthalate	< 0.2

CAS #	ABN	µg/g
86-73-7	Fluorene	< 0.2
86-30-6	N-nitrosodiphenylamine	< 0.2
101-55-3	4-Bromophenylphenylether	< 0.2
118-74-1	Hexachlorobenzene	< 0.2
85-01-8	Phenanthrene	< 0.2
120-12-7	Anthracene	< 0.2
84-74-2	Dibutylphthalate	< 5.0
206-44-0	Fluoranthene	< 0.2
129-00-0	Pyrene	< 0.2
85-68-7	Butylbenzylphthalate	< 0.2
56-55-3	Benzo(a)anthracene	< 0.2
218-01-9	Chrysene	< 0.2
91-94-1	3,3'-Dichlorobenzidine	< 0.2
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0
117-84-0	Di-n-octylphthalate	< 0.2
205-99-2	Benzo(b)fluoranthene	< 0.2
207-08-9	Benzo(k)fluoranthene	< 0.2
50-32-8	Benzo(a)pyrene	< 0.2
193-39-5	Indeno(1,2,3-cd)pyrene	< 0.2
53-70-3	Dibenzo(a,h)anthracene	< 0.2
191-24-2	Benzo(ghi)perylene	< 0.2

RESULTS OF ABN ANALYSIS - ACID EXTRACTABLE FRACTION

CAS #	ABN	µg/g
108-95-2	Phenol	< 0.5
95-57-8	2-Chlorophenol	< 0.5
95-48-7	2-Methylphenol	< 0.5
108-39-4 106-44-5	3-Methylphenol + 4-Methylphenol	< 0.5
88-75-5	2-Nitrophenol	< 0.5
105-67-9	2,4-Dimethylphenol	< 0.5
120-83-2	2,4-Dichlorophenol	< 0.5
87-65-0	2,6-Dichlorophenol	< 0.5

CAS #	ABN	µg/g
59-50-7	4-Chloro-3-methylphenol	< 0.5
88-06-2	2,4,6-Trichlorophenol	< 0.5
95-95-4	2,4,5-Trichlorophenol	< 0.5
50-28-5	2,4-Dinitrophenol	< 2.0
100-02-7	4-Nitrophenol	< 2.0
58-90-2	2,3,4,6-Tetrachlorophenol	< 1.0
534-52-1	2-Methyl-4,6-dinitrophenol	< 2.0
87-86-5	Pentachlorophenol	< 1.0

All results are analyzed with reference to the recovery of internal standards

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Laboratory Manager

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Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christi
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 28-Sep-09
Method No: ASG 017
Date Reported: 2-Dec-09

RESULTS OF ABN ANALYSIS - BASE/NEUTRAL EXTRACTABLE FRACTION

Sample Identification: Control

CAS #	ABN	Exp. µg/g	Act. µg/g
111-44-4	Bis(2-chloroethyl)ether	2.0	1.6
541-73-1	1,3 Dichlorobenzene	2.0	1.6
106-46-7	1,4 Dichlorobenzene	2.0	1.5
95-50-1	1,2 Dichlorobenzene	2.0	1.6
108-60-1	Bis(2-chloroisopropyl)ether	2.0	1.6
621-64-7	N-nitrosodi-n-propylamine	2.0	1.0
67-72-1	Hexachloroethane	2.0	1.6
98-95-3	Nitrobenzene	2.0	1.3
78-59-1	Isophorone	2.0	1.6
111-91-1	Bis(2-chloroethoxy)methane	2.0	1.7
120-82-1	1,2,4 Trichlorobenzene	2.0	1.9
91-20-3	Naphthalene	2.0	1.8
87-68-3	Hexachlorobutadiene	2.0	2.0
77-47-4	Hexachlorocyclopentadiene	2.0	1.5
91-58-7	2-Chloronaphthalene	2.0	1.8
131-11-3	Dimethylphthalate	2.0	1.7
208-96-8	Acenaphthylene	2.0	1.8
606-20-2	2,6 Dinitrotoluene	2.0	1.6
83-32-9	Acenapthene	2.0	1.8
121-14-2	2,4 Dinitrotoluene	2.0	1.5
7005-72-3	4-Chlorophenylphenylether	2.0	1.9
84-66-2	Diethylphthalate	2.0	1.6

CAS #	ABN	Exp. µg/g	Act. µg/g
86-73-7	Fluorene	2.0	1.8
86-30-6	N-nitrosodiphenylamine	2.0	1.8
101-55-3	4-Bromophenylphenylether	2.0	1.8
118-74-1	Hexachlorobenzene	2.0	1.9
85-01-8	Phenanthrene	2.0	1.6
120-12-7	Anthracene	2.0	1.7
84-74-2	Dibutylphthalate	< 5.0	< 5.0
206-44-0	Fluoranthene	2.0	1.6
129-00-0	Pyrene	2.0	1.5
85-68-7	Butylbenzylphthalate	2.0	1.3
56-55-3	Benzo(a)anthracene	2.0	1.5
218-01-9	Chrysene	2.0	1.4
91-94-1	3,3'-Dichlorobenzidine	2.0	1.5
117-81-7	Bis(2-ethylhexyl)phthalate	< 5.0	< 5.0
117-84-0	Di-n-octylphthalate	2.0	1.3
205-99-2	Benzo(b)fluoranthene	2.0	1.8
207-08-9	Benzo(k)fluoranthene	2.0	1.8
50-32-8	Benzo(a)pyrene	2.0	1.8
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	1.4
53-70-3	Dibenzo(a,h)anthracene	2.0	1.8
191-24-2	Benzo(ghi)perylene	2.0	1.7

RESULTS OF ABN ANALYSIS - ACID EXTRACTABLE FRACTION

CAS #	ABN	Exp. µg/g	Act. µg/g
108-95-2	Phenol	2.0	0.7
95-57-8	2-Chlorophenol	2.0	1.7
95-48-7	2-Methylphenol	< 0.5	< 0.5
108-39-4 106-44-5	3-Methylphenol + 4-Methylphenol	< 0.5	< 0.5
88-75-5	2-Nitrophenol	2.0	1.5
105-67-9	2,4-Dimethylphenol	< 0.5	< 0.5
120-83-2	2,4-Dichlorophenol	2.0	1.9
87-65-0	2,6-Dichlorophenol	< 0.5	< 0.5

CAS #	ABN	Exp. µg/g	Act. µg/g
59-50-7	4-Chloro-3-methylphenol	2.0	1.6
88-06-2	2,4,6-Trichlorophenol	2.0	1.8
95-95-4	2,4,5-Trichlorophenol	< 0.5	< 0.5
50-28-5	2,4-Dinitrophenol	< 2.0	< 2.0
100-02-7	4-Nitrophenol	< 2.0	< 2.0
58-90-2	2,3,4,6-Tetrachlorophenol	< 1.0	< 1.0
534-52-1	2-Methyl-4,6-dinitrophenol	< 2.0	< 2.0
87-86-5	Pentachlorophenol	2.0	1.4

All results are analyzed with reference to the recovery of internal standards

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Laboratory Manager

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ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 28-Sep-09
Method No: ASG 017
Date Reported: 2-Dec-09

RESULTS OF ABN ANALYSIS - BASE/NEUTRAL EXTRACTABLE FRACTION

Sample Identification: IEC3-5

CAS #	ABN	µg/g
111-44-4	Bis(2-chloroethyl)ether	< 0.2
541-73-1	1,3 Dichlorobenzene	< 0.2
106-46-7	1,4 Dichlorobenzene	< 0.2
95-50-1	1,2 Dichlorobenzene	< 0.2
108-60-1	Bis(2-chloroisopropyl)ether	< 0.2
621-64-7	N-nitrosodi-n-propylamine	< 0.2
67-72-1	Hexachloroethane	< 0.2
98-95-3	Nitrobenzene	< 0.2
78-59-1	Isophorone	< 0.2
111-91-1	Bis(2-chloroethoxy)methane	1.4
120-82-1	1,2,4 Trichlorobenzene	< 0.2
91-20-3	Naphthalene	420
87-68-3	Hexachlorobutadiene	< 0.2
77-47-4	Hexachlorocyclopentadiene	< 0.2
91-58-7	2-Chloronaphthalene	< 0.2
131-11-3	Dimethylphthalate	< 0.2
208-96-8	Acenaphthylene	6.7
606-20-2	2,6 Dinitrotoluene	3.2
83-32-9	Acenapthene	260
121-14-2	2,4 Dinitrotoluene	< 0.2
7005-72-3	4-Chlorophenylphenylether	< 0.2
84-66-2	Diethylphthalate	< 0.2

CAS #	ABN	µg/g
86-73-7	Fluorene	180
86-30-6	N-nitrosodiphenylamine	< 0.2
101-55-3	4-Bromophenylphenylether	< 0.2
118-74-1	Hexachlorobenzene	< 0.2
85-01-8	Phenanthrene	580
120-12-7	Anthracene	56
84-74-2	Dibutylphthalate	1.3
206-44-0	Fluoranthene	370
129-00-0	Pyrene	170
85-68-7	Butylbenzylphthalate	< 0.2
56-55-3	Benzo(a)anthracene	53
218-01-9	Chrysene	27
91-94-1	3,3'-Dichlorobenzidine	12
117-81-7	Bis(2-ethylhexyl)phthalate	0.9
117-84-0	Di-n-octylphthalate	< 0.2
205-99-2	Benzo(b)fluoranthene	33
207-08-9	Benzo(k)fluoranthene	12
50-32-8	Benzo(a)pyrene	19
193-39-5	Indeno(1,2,3-cd)pyrene	11
53-70-3	Dibenzo(a,h)anthracene	3.2
191-24-2	Benzo(ghi)perylene	8.8

RESULTS OF ABN ANALYSIS - ACID EXTRACTABLE FRACTION

CAS #	ABN	µg/g
108-95-2	Phenol	< 0.5
95-57-8	2-Chlorophenol	< 0.5
95-48-7	2-Methylphenol	< 0.5
108-39-4 106-44-5	3-Methylphenol + 4-Methylphenol	< 0.5
88-75-5	2-Nitrophenol	< 0.5
105-67-9	2,4-Dimethylphenol	1.7
120-83-2	2,4-Dichlorophenol	< 0.5
87-65-0	2,6-Dichlorophenol	< 0.5

CAS #	ABN	µg/g
59-50-7	4-Chloro-3-methylphenol	< 0.5
88-06-2	2,4,6-Trichlorophenol	< 0.5
95-95-4	2,4,5-Trichlorophenol	< 0.5
50-28-5	2,4-Dinitrophenol	< 2.0
100-02-7	4-Nitrophenol	< 2.0
58-90-2	2,3,4,6-Tetrachlorophenol	< 1.0
534-52-1	2-Methyl-4,6-dinitrophenol	< 2.0
87-86-5	Pentachlorophenol	< 1.0

All results are analyzed with reference to the recovery of internal standards

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Laboratory Manager
ABNs19915r1-3

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(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 28-Sep-09
Method No: ASG 017
Date Reported: 2-Dec-09

RESULTS OF ABN ANALYSIS - BASE/NEUTRAL EXTRACTABLE FRACTION

Sample Identification: IEC3-6

CAS #	ABN	µg/g
111-44-4	Bis(2-chloroethyl)ether	< 0.2
541-73-1	1,3 Dichlorobenzene	< 0.2
106-46-7	1,4 Dichlorobenzene	< 0.2
95-50-1	1,2 Dichlorobenzene	< 0.2
108-60-1	Bis(2-chloroisopropyl)ether	< 0.2
621-64-7	N-nitrosodi-n-propylamine	< 0.2
67-72-1	Hexachloroethane	< 0.2
98-95-3	Nitrobenzene	< 0.2
78-59-1	Isophorone	< 0.2
111-91-1	Bis(2-chloroethoxy)methane	1.8
120-82-1	1,2,4 Trichlorobenzene	< 0.2
91-20-3	Naphthalene	700
87-68-3	Hexachlorobutadiene	< 0.2
77-47-4	Hexachlorocyclopentadiene	< 0.2
91-58-7	2-Chloronaphthalene	< 0.2
131-11-3	Dimethylphthalate	< 0.2
208-96-8	Acenaphthylene	8.5
606-20-2	2,6 Dinitrotoluene	1.9
83-32-9	Acenapthene	420
121-14-2	2,4 Dinitrotoluene	< 0.2
7005-72-3	4-Chlorophenylphenylether	< 0.2
84-66-2	Diethylphthalate	< 0.2

CAS #	ABN	µg/g
86-73-7	Fluorene	220
86-30-6	N-nitrosodiphenylamine	< 0.2
101-55-3	4-Bromophenylphenylether	< 0.2
118-74-1	Hexachlorobenzene	< 0.2
85-01-8	Phenanthrene	1400
120-12-7	Anthracene	110
84-74-2	Dibutylphthalate	1.6
206-44-0	Fluoranthene	800
129-00-0	Pyrene	250
85-68-7	Butylbenzylphthalate	< 0.2
56-55-3	Benzo(a)anthracene	61
218-01-9	Chrysene	35
91-94-1	3,3'-Dichlorobenzidine	15
117-81-7	Bis(2-ethylhexyl)phthalate	2.0
117-84-0	Di-n-octylphthalate	< 0.2
205-99-2	Benzo(b)fluoranthene	27
207-08-9	Benzo(k)fluoranthene	12
50-32-8	Benzo(a)pyrene	15
193-39-5	Indeno(1,2,3-cd)pyrene	13
53-70-3	Dibenzo(a,h)anthracene	3.6
191-24-2	Benzo(ghi)perylene	7.0

RESULTS OF ABN ANALYSIS - ACID EXTRACTABLE FRACTION

CAS #	ABN	µg/g
108-95-2	Phenol	< 0.5
95-57-8	2-Chlorophenol	< 0.5
95-48-7	2-Methylphenol	0.71
108-39-4 106-44-5	3-Methylphenol + 4-Methylphenol	0.68
88-75-5	2-Nitrophenol	< 0.5
105-67-9	2,4-Dimethylphenol	1.2
120-83-2	2,4-Dichlorophenol	< 0.5
87-65-0	2,6-Dichlorophenol	< 0.5

CAS #	ABN	µg/g
59-50-7	4-Chloro-3-methylphenol	< 0.5
88-06-2	2,4,6-Trichlorophenol	< 0.5
95-95-4	2,4,5-Trichlorophenol	< 0.5
50-28-5	2,4-Dinitrophenol	< 2.0
100-02-7	4-Nitrophenol	< 2.0
58-90-2	2,3,4,6-Tetrachlorophenol	< 1.0
534-52-1	2-Methyl-4,6-dinitrophenol	< 2.0
87-86-5	Pentachlorophenol	< 1.0

All results are analyzed with reference to the recovery of internal standards

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Laboratory Manager
ABNs19915r1-4

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(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 28-Sep-09
Method No: ASG 017
Date Reported: 2-Dec-09

RESULTS OF ABN ANALYSIS - BASE/NEUTRAL EXTRACTABLE FRACTION

Sample Identification: IEC3-7

CAS #	ABN	µg/g
111-44-4	Bis(2-chloroethyl)ether	< 0.2
541-73-1	1,3 Dichlorobenzene	< 0.2
106-46-7	1,4 Dichlorobenzene	< 0.2
95-50-1	1,2 Dichlorobenzene	< 0.2
108-60-1	Bis(2-chloroisopropyl)ether	< 0.2
621-64-7	N-nitrosodi-n-propylamine	< 0.2
67-72-1	Hexachloroethane	< 0.2
98-95-3	Nitrobenzene	1.1
78-59-1	Isophorone	< 0.2
111-91-1	Bis(2-chloroethoxy)methane	1.4
120-82-1	1,2,4 Trichlorobenzene	< 0.2
91-20-3	Naphthalene	220
87-68-3	Hexachlorobutadiene	< 0.2
77-47-4	Hexachlorocyclopentadiene	< 0.2
91-58-7	2-Chloronaphthalene	0.69
131-11-3	Dimethylphthalate	< 0.2
208-96-8	Acenaphthylene	7.9
606-20-2	2,6 Dinitrotoluene	1.4
83-32-9	Acenapthene	230
121-14-2	2,4 Dinitrotoluene	< 0.2
7005-72-3	4-Chlorophenylphenylether	< 0.2
84-66-2	Diethylphthalate	< 0.2

CAS #	ABN	µg/g
86-73-7	Fluorene	170
86-30-6	N-nitrosodiphenylamine	< 0.2
101-55-3	4-Bromophenylphenylether	< 0.2
118-74-1	Hexachlorobenzene	< 0.2
85-01-8	Phenanthrene	1600
120-12-7	Anthracene	180
84-74-2	Dibutylphthalate	2.7
206-44-0	Fluoranthene	600
129-00-0	Pyrene	130
85-68-7	Butylbenzylphthalate	< 0.2
56-55-3	Benzo(a)anthracene	40
218-01-9	Chrysene	30
91-94-1	3,3'-Dichlorobenzidine	13
117-81-7	Bis(2-ethylhexyl)phthalate	0.9
117-84-0	Di-n-octylphthalate	< 0.2
205-99-2	Benzo(b)fluoranthene	31
207-08-9	Benzo(k)fluoranthene	13
50-32-8	Benzo(a)pyrene	18
193-39-5	Indeno(1,2,3-cd)pyrene	15
53-70-3	Dibenzo(a,h)anthracene	5.3
191-24-2	Benzo(ghi)perylene	12.0

RESULTS OF ABN ANALYSIS - ACID EXTRACTABLE FRACTION

CAS #	ABN	µg/g
108-95-2	Phenol	< 0.5
95-57-8	2-Chlorophenol	< 0.5
95-48-7	2-Methylphenol	< 0.5
108-39-4 106-44-5	3-Methylphenol + 4-Methylphenol	< 0.5
88-75-5	2-Nitrophenol	< 0.5
105-67-9	2,4-Dimethylphenol	< 0.5
120-83-2	2,4-Dichlorophenol	< 0.5
87-65-0	2,6-Dichlorophenol	< 0.5

CAS #	ABN	µg/g
59-50-7	4-Chloro-3-methylphenol	< 0.5
88-06-2	2,4,6-Trichlorophenol	< 0.5
95-95-4	2,4,5-Trichlorophenol	< 0.5
50-28-5	2,4-Dinitrophenol	< 2.0
100-02-7	4-Nitrophenol	< 2.0
58-90-2	2,3,4,6-Tetrachlorophenol	< 1.0
534-52-1	2-Methyl-4,6-dinitrophenol	< 2.0
87-86-5	Pentachlorophenol	< 1.0

All results are analyzed with reference to the recovery of internal standards

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Laboratory Manager

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Client : ASU
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ASG Login No: 19915
Site: Cape Christian
Client No: 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 19-Nov-09

RESULTS OF PAH ANALYSIS

PAH	#	Blank	AEC15 Confirm1*	AEC15 Confirm1*dup	Control Sample	Control Target
		µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	0.18	0.22
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.15	0.21
Acenaphthene	3	< 0.05	< 0.05	< 0.05	0.15	0.21
Fluorene	4	< 0.05	< 0.05	< 0.05	0.19	0.20
Phenanthrene	5	< 0.05	0.18	0.21	0.14	0.20
Anthracene	6	< 0.05	0.12	0.06	0.14	0.20
Fluoranthene	7	< 0.05	0.26	0.26	0.15	0.20
Pyrene	8	< 0.05	0.19	0.21	0.18	0.21
Benzo(a)anthracene	9	< 0.05	0.07	0.10	0.19	0.21
Chrysene	10	< 0.05	0.05	0.08	0.17	0.21
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	0.16	0.21
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.15	0.21
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.22	0.20
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.18	0.19
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	0.17	0.21
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	0.19	0.20
Total		< 0.6	1.0	1.1	2.7	3.3

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By
Shawn Hunter ; Analyst

Authorization: Steve White;
Acting Laboratory Manager

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ASG Login No: 19915
Site: Cape Chris
Client No: 21-Sep-33
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID			
		AEC15 Confirm16	AEC15 Confirm17	AEC15 Confirm Arch1	AEC15 Confirm Arch2
		ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.07
Acenaphthene	3	0.08	< 0.05	< 0.05	< 0.05
Fluorene	4	< 0.05	< 0.05	< 0.05	0.06
Phenanthrene	5	< 0.05	< 0.05	0.06	0.25
Anthracene	6	< 0.05	< 0.05	< 0.05	0.19
Fluoranthene	7	< 0.05	0.05	0.10	5.3
Pyrene	8	< 0.05	< 0.05	0.07	4.5
Benzo(a)anthracene	9	< 0.05	< 0.05	< 0.05	0.84
Chrysene	10	< 0.05	< 0.05	< 0.05	1.3
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	1.5
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.63
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.62
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.15
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	0.12
Total		< 0.6	< 0.6	< 0.6	16

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-52

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
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Client : **ASU**
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Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No: 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Blank	AEC15 Confirm1*	AEC15 Confirm1*dup	Control Sample	Control Target
		µg/g	µg/g	µg/g	µg/g	µg/g
Naphthalene	1	< 0.06	< 0.06	< 0.06	0.18	0.22
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	0.15	0.21
Acenaphthene	3	< 0.05	< 0.05	< 0.05	0.15	0.21
Fluorene	4	< 0.05	< 0.05	< 0.05	0.19	0.20
Phenanthrene	5	< 0.05	0.18	0.21	0.14	0.20
Anthracene	6	< 0.05	0.12	0.06	0.14	0.20
Fluoranthene	7	< 0.05	0.26	0.26	0.15	0.20
Pyrene	8	< 0.05	0.19	0.21	0.18	0.21
Benzo(a)anthracene	9	< 0.05	0.07	0.10	0.19	0.21
Chrysene	10	< 0.05	0.05	0.08	0.17	0.21
Benzo(b)fluoranthene	11	< 0.05	< 0.05	0.05	0.16	0.21
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	0.15	0.21
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	0.22	0.20
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	0.18	0.19
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	0.17	0.21
Benzo(ghi)peryiene	16	< 0.1	< 0.1	< 0.1	0.19	0.20
Total		< 0.6	1.0	1.1	2.7	3.3

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

The results reported here relate only to the items tested.

Prepared By
Shawn Hunter ; Analyst

Authorization: Steve White;
Acting Laboratory Manager

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Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm1*	AEC15 Confirm2	AEC15 Confirm3	AEC15 Confirm4	AEC15 Confirm5
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	< 0.06	0.10	< 0.06	< 0.06	0.40
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	0.14
Acenaphthene	3	< 0.05	0.08	< 0.05	< 0.05	5.9
Fluorene	4	< 0.05	0.10	0.08	< 0.05	3.6
Phenanthrene	5	0.20	0.54	0.39	< 0.05	14
Anthracene	6	0.09	0.07	0.15	< 0.05	1.0
Fluoranthene	7	0.26	0.27	0.99	< 0.05	13
Pyrene	8	0.20	0.17	0.83	< 0.05	9.2
Benzo(a)anthracene	9	0.09	0.06	0.30	< 0.05	2.7
Chrysene	10	0.07	< 0.05	0.20	< 0.05	1.1
Benzo(b)fluoranthene	11	0.05	0.05	0.36	< 0.05	1.6
Benzo(k)fluoranthene	12	< 0.05	< 0.05	0.05	< 0.05	0.66
Benzo(a)pyrene	13	< 0.1	< 0.1	0.12	< 0.1	0.84
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	0.18
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	0.15
Total		**1.1**	**1.5**	**3.5**	**< 0.6**	**54**

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-22

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Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 30-Oct-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm6	AEC15 Confirm7	AEC15 Confirm8	AEC15 Confirm9	AEC15 Confirm10
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	27	2.5	1.1	0.18	1.1
Acenaphthylene	2	0.40	< 0.05	< 0.05	< 0.05	0.08
Acenaphthene	3	19	0.57	2.1	0.18	2.7
Fluorene	4	13	0.33	1.3	0.14	2.2
Phenanthrene	5	43	1.0	2.5	0.85	9.3
Anthracene	6	2.6	0.10	0.22	0.94	0.68
Fluoranthene	7	34	1.3	1.1	0.40	6.7
Pyrene	8	21	0.80	0.72	0.22	4.2
Benzo(a)anthracene	9	3.6	0.29	0.24	0.05	0.45
Chrysene	10	2.3	0.17	0.12	0.06	0.51
Benzo(b)fluoranthene	11	6.8	0.16	0.09	< 0.05	0.59
Benzo(k)fluoranthene	12	2.2	0.06	< 0.05	< 0.05	0.31
Benzo(a)pyrene	13	4.3	< 0.1	< 0.1	< 0.1	0.28
Indeno(1,2,3-cd)pyrene	14	1.4	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	0.41	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	0.66	< 0.1	< 0.1	< 0.1	< 0.1
Total		180	7.5	9.7	3.1	29

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-32

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
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Client : ASU
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Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19915
Site: Cape Christian
Client No. 12318
Samples Received: 25-Sep-09
Date of analysis: 16-Oct-09
Method No: ASG 002
Date Reported: 18-Nov-09

RESULTS OF PAH ANALYSIS

PAH	#	Sample ID				
		AEC15 Confirm11	AEC15 Confirm12	AEC15 Confirm13	AEC15 Confirm14	AEC15 Confirm15
		ug/g	ug/g	ug/g	ug/g	ug/g
Naphthalene	1	0.25	2.2	0.29	0.07	< 0.06
Acenaphthylene	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	3	0.58	0.20	0.06	< 0.05	< 0.05
Fluorene	4	0.19	0.07	< 0.05	< 0.05	< 0.05
Phenanthrene	5	0.39	0.43	0.12	0.06	0.06
Anthracene	6	< 0.05	0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	7	0.33	0.30	0.15	0.05	0.05
Pyrene	8	0.24	0.19	0.10	< 0.05	< 0.05
Benzo(a)anthracene	9	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	10	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	11	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	12	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	14	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	16	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total		2.2	3.5	0.84	< 0.6	< 0.6

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene

* Averaged result of duplicates

The results reported here relate only to the items tested.

Prepared By: _____
Shawn Hunter ; Analyst

Authorization: _____
Steve White ;
Acting Laboratory Manager
PAHs19915r1-42

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26 **Chain Of Custody Record** 4/4

ASU# 12316 **IASU #:**

COMPANY NAME:			# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED							MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	
ADDRESS: see pg 1					ROUTINE	METALS	RUSH						
SAMPLER:(Signature)													Comments/ Special Requests
SAMPLE NAME:	COLLECTION Date	Time											
MW2-1 FILTERED					X	X	X						please do not re-filter the filtered samples (report dissolved metals only)
MW2-1 UNFILTERED					X	X	X						
MW3-2 FILTERED					X	X	X						
MW3-2 UNFILTERED					X	X	X						

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:
Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
				23 Sept 09	10:30 am
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yello ASU Lab Pink: Retained by Sampler

Iqaluit Analytical Services Unit,
Building 959C, Iqaluit, Nunavut X0A 0H0
Tel: (867) 979-1282 Fax: (867) 979-1283

SHIPMENT 26

Chain Of Custody Record 3/4

IASU #:

COMPANY NAME:

ADDRESS: see pg 1

SAMPLER:(Signature)

SAMPLE NAME:	COLLECTION Date	COLLECTION Time	# OF CONTAINERS	SAMPLE MATRIX	TEST(S) REQUESTED: METALS	ROUTINE	METALS	RUSH				MATRIX: S=Soil W=Water T= Tubes F=Filters O=Other (Specify)	Comments/ Special Requests
AEC85@40cm	SEPT 10	10:00am	1	S	X								
AEC86@50cm			1	S	X								
AEC8-7@40cm			1	S	X								
AEC8-8@90cm			1	S	X								
AEC8-9@100cm			1	S	X								
AEC8-10@110cm			1	S	X								
AEC8-DUPLICATE 1	↓	↓	1	S	X								
SURF WATER NEAR LF		3pm				X	X						
LFBASE-1 UNFILTERED						X	X	X					please do not re-filter the filtered samples (report dissolved metals only)
LFBASE-1 FILTERED						X	X	X					
LFBASE-2 UNFILTERED						X	X	X					
MW1-2 FILTERED						X	X	X					
MW1-2 UNFILTERED	↓	↓				X	X	X					

ANTICIPATED CHEMICAL HAZARDS:

METHOD OF SHIPMENT:

Courier (Air) ☑ Courier (Land) ☐ Other (Please Specify) ☐

REPORT TO: (Project Manager)

RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time
	SEPT 10			12 Sept 09	
RELINQUISHED BY: (Signature)	Date	Time	RECEIVED BY: (Signature)	Date	Time

White: IASU Files Yello ASU Lab Pink: Retained by Sampler

Maxxam Analytics
Edmonton: 9331 – 46 Street, T6B 2R4
Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-3889
www.maxxamanalytics.com

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

Report To:

Prov: PC:
Ph: Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:
Check the applicable criterion and indicate land use
☐ AT1 _____
☐ CCME _____
☐ OTHER _____

REPORT DISTRIBUTION:
EMAIL ADDRESS(S):

SERVICE REQUESTED:
☐ RUSH (Please ensure you contact the lab to reserve)
Date Required: _____
☐ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	WATERS (footnotes defined on back): BTEX F1 ☐ VOCs	BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[1] Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	Ammonia ☐ TKN ☐ COD	TOC ☐ DOC	OTHER TEST(S)
1	AEC8-13																		
2	AEC8-14																		
3	AEC8-15																		
4	AEC8-17																		
5	DUPLICATE 1																		
6	DUPLICATE 2																		
7	*IEC4-7 AST2-1-TREATED*		WATER SEPT 9/5pm																
8																			
9																			
10																			
11																			
12																			

WATER DISCHARGE + PHENOLS
F2-F4
RUSH

All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: _____ Date/Time: _____
Sign and Print: _____

COMMENTS/SPECIAL INSTRUCTIONS:
PLEASE RUSH WATER SAMPLE

JARS USED & NOT SUBMITTED

Received By

CUSTODY SEAL YES / NO

Temperature

Maxxam Analytics International Corporation o/a Maxxam Analytics GAL FCD-00057 Rev6 08/12

ASU #	12316			Report ID:	ASU 12316 CC water -1			
Client:	INAC			Date Submitted:	23-Sep-09			
				Date Reported:	23-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Phenols	Oil & grease					
		ppb	ppm					
	AST2-1 treated	2.0*	<2.0					
	Blank	<1.0	<2.0					
	Control	10.1	16.3					
	Control Target	10.0	16.5					
	Date Tested:	23-Sep-09	23-Sep-09					
	AST2-1 treated	2.0	-					
	AST2-1 treated	2.0	-					
	* Average result of duplicates							

Prepared by P. Whidley

Authorized by Mary Andrews

Research Technician

ASU #	12316			Report ID:	ASU 12316 CC water -2			
Client:	INAC			Date Submitted:	23-Sep-09			
				Date Reported:	24-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample							
	Preliminary report of Analysis							
	Sample		MW1-2	MW2-1	MW3-2	LF Base-1	LF Base-2	Surface Water
			Unfiltered	Unfiltered	Unfiltered	Unfiltered	Unfiltered	Near LF
	Sodium	mg/L	782	159	77.6	185	178	124*
	Potassium	mg/L	41.8	15.0	15.8	18.0	16.3	7.3*
	Magnesium	mg/L	2.5	45.5	6.4	25.9	24.4	26.3*
	Calcium	mg/L	41.9	82.5	7.6	86.3	80.7	21.2*
	Hardness	mg/L	115	393	45.4	322	302	161*
	Iron	mg/L	<0.05	10.0	4.7	2.4	2.2	1.6*
	Manganese	mg/L	<0.05	3.4	0.07	0.79	0.74	<0.05*
	Chloride	mg/L	1050	440*	53.3	266	279	251
	Nitrate(N)**	mg/L	<5.0	<1.0*	<0.2	<1.0	<1.0	<0.5
	Nitrite(N)**	mg/L	<5.0	<1.0*	<0.2	<1.0	<1.0	<0.5
	Sulphate	mg/L	189	24.6*	49.1	201	214	40.5
	Sample		MW1-2	MW2-1	MW3-2	LF Base-1		
			Filtered	Filtered	Filtered	Filtered		
	Sodium	mg/L	813	156	78.9	184		
	Potassium	mg/L	42.7	16.0	7.8	17.6		
	Magnesium	mg/L	0.60	45.5	4.9	26.3		
	Calcium	mg/L	46.9	80.0	6.7	87.2		
	Hardness	mg/L	120	387	37	326		
	Iron	mg/L	<0.05	5.9	0.27	0.05		
	Manganese	mg/L	<0.05	3.1	<0.05	0.75		
	Chloride	mg/L	1070	427	53.6*	280		
	Nitrate(N)**	mg/L	<5.0	<1.0	0.28*	<1.0		
	Nitrite(N)**	mg/L	<5.0	<1.0	<0.2*	<1.0		
	Sulphate	mg/L	178	25.9	48.9*	216		
	*average result of duplicates.							
	**Detection limits of some analytes increased due to high conductivity.							

Prepared by Mary Andrews

Authorized by

Paula Whitley, BSc
Laboratory Manager

	Sample		Surface Water Near LF	Surface Water Near LF	Blank	QC	QC Target	Date of Analysis
	Sodium	mg/L	120	128	<1.0	486	500	23-Sep-09
	Potassium	mg/L	7.1	7.5	<0.20	14.1	15.0	23-Sep-09
	Magnesium	mg/L	25.0	27.5	<0.05	5.6	6.0	23-Sep-09
	Calcium	mg/L	20.0	22.4	<0.05	5.7	6.0	23-Sep-09
	Hardness	mg/L	153	169	-	-	-	23-Sep-09
	Iron	mg/L	1.6	1.7	<0.05	14.9	16.0	23-Sep-09
	Manganese	mg/L	<0.05	<0.05	<0.05	14.8	16.0	23-Sep-09
	Chloride	mg/L	-	-	<0.05	2.8	3.0	23-Sep-09
	Nitrate(N)**	mg/L	-	-	<0.05	1.7	1.6	23-Sep-09
	Nitrite(N)**	mg/L	-	-	<0.05	1.4	1.6	23-Sep-09
	Sulphate	mg/L	-	-	<0.10	2.5	3.0	23-Sep-09
			MW2-1	MW2-1	MW3-2	MW3-2		Date of
			Unfiltered	Unfiltered	Filtered	Filtered		Analysis
	Chloride	mg/L	439	440	53.1	54.1		23-Sep-09
	Nitrate(N)**	mg/L	<1.0	<1.0	0.28	0.27		23-Sep-09
	Nitrite(N)**	mg/L	<1.0	<1.0	<0.2	<0.2		23-Sep-09
	Sulphate	mg/L	24.7	24.4	48.4	49.4		23-Sep-09

Prepared by Mary Andrews

Authorized by

ASU #	12316			Report ID:	ASU 12316 CC water -3				
nt:	INAC			Date Submitted:	23-Sep-09				
				Date Reported:	24-Sep-09				
Site:	Cape Christian			Matrix:	Water				
	Laboratory Report of Analysis								
	Sample								
	Sample	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**	**Total**
		Cu	Ni	Co	Cd	Pb	Zn	Cr	As
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	AST2-1	<0.005	0.023	0.004	<0.001	<0.010	0.103	<0.005	<0.003
	MW1-2 Unfiltered	0.041	0.291	0.004	<0.001	<0.010	0.013	0.399	0.003
	MW2-1 Unfiltered	0.019	0.226	0.036	0.002	<0.010	1.74	0.044	<0.003
	MW3-2 Unfiltered	0.111	0.898	0.022	0.001	0.034	0.375	0.938	0.013
	LF Base-1 Unfiltered	0.021	0.008	0.008	0.021	<0.010	3.61	0.007	<0.003
	LF Base-2 Unfiltered	0.023	0.008	0.009	0.023	0.010	3.67	0.007	<0.003
	Surface Water Near LF	0.012	<0.005	<0.003	<0.001	<0.010	0.041	<0.005	<0.003
	Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003
	Control	1.62	1.60	1.62	0.80	7.97	3.03	0.79	0.81
	Control Target	1.60	1.60	1.60	0.80	8.00	3.00	0.80	0.80
	Date Tested:	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09
	Sample	**Dissolved**	**Dissolved**	**Dissolved**	**Dissolved**	**Dissolved**	**Dissolved**	**Dissolved**	**Dissolved**
		Cu	Ni	Co	Cd	Pb	Zn	Cr	As
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	AST2-1	<0.005	0.018	<0.003	<0.001	<0.010	0.090	<0.005	<0.003
	MW1-2 Filtered	0.017	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003
	MW2-1 Filtered	0.012	0.117	0.024	0.001	<0.010	0.903	<0.005	<0.003
	MW3-2 Filtered	0.009	0.005	<0.003	<0.001	<0.010	<0.010	<0.005	0.004
	LF Base-1 Filtered	0.020	0.007	0.007	0.017	<0.010	2.94	<0.005	<0.003
	Surface Water Near LF	0.013	<0.005	<0.003	<0.001	<0.010	0.034	<0.005	<0.003
	Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003
	Control	1.62	1.60	1.62	0.80	7.97	3.03	0.79	0.81
	Control Target	1.60	1.60	1.60	0.80	8.00	3.00	0.80	0.80
	Date Tested:	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09

Allison Rutter, PhD
Director

Prepared by: P. Whitley

Authorized by: A. Rutter

ASU #	12316			Report ID:	ASU 12316 CC water 4			
Client:	INAC			Date Submitted:	23-Sep-09			
				Date Reported:	25-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	PCB						
		ppm						
	AST2-1	<0.003						
	Blank	<0.003						
	Control	0.007						
	Control Target	0.010						
	Date Tested:	25-Sep-09						

Allison Rutter, PhD
Director

Prepared by _____

Authorized by _____

ASU #	12316			Report ID:	ASU 12316 CC water -5				
Client:	INAC			Date Submitted:	23-Sep-09				
				Date tested:	25-Sep-09				
Site:	Cape Christian			Date Reported:	25-Sep-09				
				Matrix:	Water				
	Laboratory Report of Analysis								
	Sample								
	Sample	pH**	Conductivity** us/cm						
	AST2-1	6.91	-						
	MW1-2 Unfiltered	10.79	3880						
	MW2-1 Unfiltered	7.26	1600						
	MW3-2 Unfiltered	8.10	453						
	LF Base-1 Unfiltered	7.08	1440						
	LF Base-2 Unfiltered	7.39	1480						
	Surface Water Near LF	7.09	748	*					
	MW1-2 Filtered	10.88	3810						
	MW2-1 Filtered	7.38	1540						
	MW3-2 Filtered	8.18	430						
	LF Base-1 Filtered	7.48	1460						
	Control	7.01	146						
	Control Target	7.00	147						
	Surface Water Near LF	7.09	748						
	Surface Water Near LF	7.09	748						
* Average result of duplicate									
** Analysis subcontracted									

Research Technician

Prepared by

Authorized by

ASU #	12316			Report ID:	ASU 12316 CC water 6			
Client:	INAC			Date Submitted:	23-Sep-09			
				Date Reported:	28-Sep-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Hg**						
		ppb						
	AST2-1	<0.4	*					
	Blank	<0.4						
	Control	12.6						
	Control Target	10.0						
	Date Tested:	28-Sep-09						
	AST2-1	<0.4						
	AST2-1	<0.4						
* average result of duplicates								
** analysis subcontracted								

Prepared by P. Whitley

Authorized by

Allison Rutter, PhD
Director

ASU #	12316			Report ID:	ASU 12316 CC water -7				
Client:	INAC			Date Submitted:	23-Sep-09				
				Date Reported:	9-Dec-09				
Site:	Cape Christian			Matrix:	Water				
	Laboratory Report of Analysis								
	Sample	**Dissolved** Cu ppm	**Dissolved** Ni ppm	**Dissolved** Co ppm	**Dissolved** Cd ppm	**Dissolved** Pb ppm	**Dissolved** Zn ppm	**Dissolved** Cr ppm	**Dissolved** As ppm	
	MW1-2 Unfiltered	0.009	<0.005	<0.003	<0.001	<0.010	0.029	<0.005	<0.003	
	MW2-1 Unfiltered	0.010	0.126	0.028	0.002	<0.010	0.73	<0.005	<0.003	
	MW3-2 Unfiltered	0.006	<0.005	<0.003	<0.001	<0.010	0.061	<0.005	<0.003	
	LF Base-1 Unfiltered	0.015	0.006	0.006	0.017	<0.010	2.73	<0.005	<0.003	*
	Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	
	Control	1.63	1.65	1.64	0.82	8.16	3.06	0.85	0.79	
	Control Target	1.60	1.60	1.60	0.80	8.00	3.00	0.80	0.80	
	Date Tested:	8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09	
	LF Base-1 Unfiltered	0.014	0.006	0.006	0.017	<0.010	2.77	<0.005	<0.003	
	LF Base-1 Unfiltered	0.015	0.006	0.006	0.017	<0.010	2.68	<0.005	<0.003	
	Results below previously reported in report I.D. ASU 12316 CC water-3									
	Sample	**Dissolved** Cu ppm	**Dissolved** Ni ppm	**Dissolved** Co ppm	**Dissolved** Cd ppm	**Dissolved** Pb ppm	**Dissolved** Zn ppm	**Dissolved** Cr ppm	**Dissolved** As ppm	
	MW1-2 Filtered	0.017	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	
	MW2-1 Filtered	0.012	0.117	0.024	0.001	<0.010	0.90	<0.005	<0.003	
	MW3-2 Filtered	0.009	0.005	<0.003	<0.001	<0.010	<0.010	<0.005	0.004	
	LF Base-1 Filtered	0.020	0.007	0.007	0.017	<0.010	2.94	<0.005	<0.003	
	Blank	<0.005	<0.005	<0.003	<0.001	<0.010	<0.010	<0.005	<0.003	
	Control	1.62	1.60	1.62	0.80	7.97	3.03	0.79	0.81	
	Control Target	1.60	1.60	1.60	0.80	8.00	3.00	0.80	0.80	
	Date Tested:	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	24-Sep-09	
	* average result of duplicates									

Allison Rutter, PhD
Director

Prepared by

Authorized by

SHIPMENT #27

86826

ASU# 12317

CHAIN OF CUSTODY

Page: 1 of 2

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8 | Ph: (403) 291-3077 | Fax: (403) 735-2240 | Toll free: (800) 386-7247

Edmonton: 9331 – 48 Street, T6B 2R4 | Ph: (780) 465-1212 | Fax: (780) 450-4187 | Toll free: (877) 465-8889

www.maxxamanalytics.com

Invoice To: Require Report? Yes ☐ No ☐

Company Name:

Contact Name:

Address:

Prov: PC:

Contact #s: Ph: Fax:

Report To:
DEBA ENGINEERING
14940 - 123 AVE
EDMONTON, AB

Prov: PC:

Ph: 780.451.2121 Fax:

PO # / AFE #:

Quotation #:

Project #:

Project Name:

Location:

Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1

☐ CCME

☐ OTHER

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)

Date Required:

☐ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS: BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F2-F4	WATERS: ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3] Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC8-1 @ 30cm	S	Sept 19/10 30 am								X											2
2	AEC8-2 @ 50 cm										X											2
3	AEC8-3 @ 80 cm										X											2
4	AEC8-4 @ 40 cm										X											2
5	AEC8-5 @ 20 cm										X											2
6	AEC8-6 @ 40 cm										X											2
7	AEC8-7 @ 40 cm										X											2
8	AEC8-8 @ 40 cm										X											2
9	AEC8-9 - base										X											2
10	AEC8-10 - base										X											2
11	AEC8-11 - base										X											2
12	AEC8-12 - base										X											2

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE **Date/Time:** SEPT 20/8am

Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:

* PLEASE RUSH WATER SAMPLE *

# JARS USED & NOT SUBMITTED	Received By:	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT 27

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8
Edmonton: 9331 – 48 Street, T6B 2R4

Ph: (403) 291-3077 Fax: (403) 735-2240 Toll free: (800) 386-7247
Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-8889
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86827 **CHAIN OF CUSTODY**

Page: 2 of 2

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

Report To:

Prov: PC:
Ph: Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1 _____
☐ CCME _____
☐ OTHER _____

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required: _____
☐ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity [4]	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3] Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC8-13-base																			2
2	AEC8-14-base																			2
3	AEC8-15-base																			2
4	AEC8-17@50cm																			2
5	DUPLICATE 1																			2
6	DUPLICATE 2																			2
7	*(1) EC4-7/AS2-1-TREATED WATER SEPT 19/5pm																			6
8																				
9																				
10																				
11																				
12																				

F2-F4 WATER DISCHARGE + PHENOLS
XXXXXX
XX
RUSH

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: _____ **Date/Time:** _____

Sign and Print: _____

COMMENTS/SPECIAL INSTRUCTIONS:

*PLEASE RUSH WATER SAMPLE *

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

ASU #	**12317**	Report ID:	ASU 12317 CCME CC8
Client:	**INAC**	Date Submitted:	23-Sep-09
		Date testing initia	7-Oct-09
Site:	Cape Christian	Date Reported:	19-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
AEC10-1	3%	<40	21	<10	<100
AEC10-2	9%	<40	89	<10	<100
AEC10-3	14%	<40	78	41	119
AEC10-4	17%	<40	62	26	<100
AEC10-5	16%	<40	20	<10	<100
AEC10-6	15%	<40	37	<10	<100
AEC10-7*	13%	436	62	13	511
AEC10-8	8%	4960	277	24	5260
AEC10-9	18%	<40	781	14	794
AEC10-10	17%	<40	44	14	<100
AEC10-11	19%	585	280	25	890
AEC10-12	17%	<40	111	26	137
AEC10-13	3%	384	11000	2350	13700
AEC10-14	9%	66	593	76	735
AEC10-16	4%	3640	9330	3560	16500
AEC10-17*	4%	2170	1180	51	3400
Dup-1	14%	<40	88	36	124
Dup-2	17%	2390	1110	75	3580

†Complies with CWS PHC Tier I method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

Paula Whitley, BSc
Laboratory Manager

Authorized by: P. Whitley

Prepared by: Rhenda Kustwan

ASU 12317 CCME CC8

Results reported relate only to items tested

ASU #	**12317**	Report ID:	ASU 12317 CCME CC8
Client:	**INAC**	Date Submitted:	23-Sep-09
		Date testing initia	7-Oct-09
Site:	Cape Christian	Date Reported:	19-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate AEC10-7	604, 268	82, 41	16, 10
Duplicate AEC10-17	2140, 2200	1220, 1140	77, 25
Blank	<40	<20	<10
Control	149, 122		
Control Target	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by: Rhonda Kristinson
ASU 12317 CCME CC8

Authorized by: P. Whitley

Results reported relate only to items tested

SHIPMENT #28 2-COOLERS

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8
Edmonton: 9331 – 48 Street, T6B 2R4
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86828

ASU#12349

CHAIN OF CUSTODY

Page: 1 of 1

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

Report To:
EBA ENGINEERING
14940-123 AVE
EDMONTON AB
Prov: T5V 1B4 PC:
Ph: 780-451-2121 Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:
Check the applicable criterion and indicate land use
☐ AT1
☐ CCME
☐ OTHER

REPORT DISTRIBUTION:
EMAIL ADDRESS(S):
dfelske@eba.ca
bdion@stabilis.ca
lzierogel@eba.ca

SERVICE REQUESTED:
☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required:
☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS: BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)	Assessment ICP Metals[2]	Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F1-F4	WATERS: ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC3-1@40cm	S	Sept20/5pm								X											
2	AEC3-2@40cm	S									X											
3	AEC3-3@30cm	S									X											
4	AEC3-4@40cm	S									X											
5	AEC3-5@50cm	S									X											
6	AEC3-6@50cm	S									X											
7	AEC3-7@50cm	S									X											
8	AEC3-8@40cm	S									X											
9	AEC3-9@30cm	S									X											
10	AEC3-10@40cm	S									X											
11	AEC3-11@35cm	S									X											
12	AEC3-12@50cm	S									X											

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE Date/Time: SEPT 20/8pm
Sign and Print:
COMMENTS/SPE INSTRUCTIONS:

JARS USED & NOT SUBMITTED

Received By:

CUSTODY SEAL YES / NO

Temperature | Ice

SHIPMENT #28 - 2 COOLERS

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8
Edmonton: 9331 – 48 Street, T6B 2R4

Ph: (403) 291-3077 Fax: (403) 735-2240 Toll free: (800) 386-7247
Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-8889
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86830

CHAIN OF CUSTODY

Page: 2 of 4

Invoice To: Require Report? Yes ☐ No ☐

Company Name:
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

see pg 1

Report To:

Prov: PC:
Ph: Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:
Check the applicable criterion and indicate land use
☐ AT1
☐ CCME
☐ OTHER

REPORT DISTRIBUTION:
EMAIL ADDRESS(S):

SERVICE REQUESTED:
☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required:
☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC3-13@50cm	S	Sept 20/5pm							X											
2	AEC3-14@40cm	S								X											
3	AEC3-15@40cm	S								X											
4	AEC3-16@40cm	S								X											
5	AEC3-17@50cm	S								X											
6	AEC3-18@50cm	S								X											
7	AEC3-19@50cm	S								X											
8	AEC3-20-base	S								X											
9	AEC3-21-base	S								X											
10	AEC3-22-base	S								X											
11	AEC3-23-base	S								X											
12	AEC3-24-base	S								X											

F1-F4

All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE **Date/Time:** Sept 23/8 am
Sign and Print:
COMMENTS/SPE INSTRUCTIONS:

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	CUSTODY SEAL YES / NO		

SHIPMENT #28 – 2 COOLERS

86831

CHAIN OF CUSTODY

Page: 3 of 4

Maxxam Analytics

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Edmonton: 9331 – 48 Street, T6B 2R4 | Ph: (780) 465-1212 | Fax: (780) 450-4187 | Toll free: (877) 465-8889

www.maxxamanalytics.com

Invoice To: Require Report? Yes ☐ No ☐

Company Name:

Contact Name:

Address:

Prov: PC:

Contact #s: Ph: Fax:

See pg 1

Report To:

Prov: PC:

Ph: Fax:

PO # / AFE #:

Quotation #:

Project #:

Project Name:

Location:

Sampler's Initials: DF

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1

☐ CCME

☐ OTHER

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)

Date Required:

☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3] Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	AEC3-25-base	S	Sept 20/5pm							X				X							
2	AEC3-26-base	S								X				X							
3	AEC3-27-base	S								X				X							
4	AEC3-28-base	S								X				X							
5	AEC3-29-base	S								X				X							
6	AEC3-30-base	S								X				X							
7	AEC3-31-base	S								X				X							
8	AEC3-32-base	S								X				X							
9	AEC3-DUPLICATE1	S								X				X							
10	AEC3-DUPLICATE 2	S								X				X							
11	AEC3-DUPLICATE3	S								X				X							
12	EC3-8	S								X				X							

F1-F4 METALS

DECLINE SAMPLE PROTOCOL

*Samples may be held for beyond 60 days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE Date/Time: Sept 23/8am

Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:

JARS USED & NOT SUBMITTED

Received By:

CUSTODY SEAL YES / NO

Temperature | Ice

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8 | Ph: (403) 291-3077 | Fax: (403) 735-2240 | Toll free: (800) 386-7247
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86833

CHAIN OF CUSTODY

Page: 4 of 4

Invoice To: Require Report? Yes ☐ No ☐

Company Name: See pg 1
Contact Name:
Address:
Prov: PC:
Contact #s: Ph: Fax:

Report To:

Prov: PC:
Ph: Fax:

PO # / AFE #:
Quotation #:
Project #:
Project Name:
Location:
Sampler's Initials:

DETECTION LIMIT REQUIREMENTS:
Check the applicable criterion and indicate land use
☐ AT1
☐ CCME
☐ OTHER

REPORT DISTRIBUTION:
EMAIL ADDRESS(S):

SERVICE REQUESTED:
☐ **RUSH** (Please ensure you contact the lab to reserve)
Date Required:
☐ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS: BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	Paint Filter / Flashpoint / pH (1:1)	TCLP / BTEX / Metals	PAH	PHENOLS	DEWLINE BARREL PROTOCOL	WATERS: BTEX F1 / VOCs	BTEX F1-F2 / BTEX F1-F4	Routine Water Package / Turb / F	REGULATED METALS (CCME / AT1)[3] Total / Dissolved: Preserved / Not Preserved / Filtered / Not Filtered	Mercury: Total / Dissolved	Ammonia / TKN / COD	TOC / DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	~~IEC1-3~~																						
2	IEC1-8										XX												
3	IEC1-49	O+W	Sept 21/5pm										X										1
4	IEC1-50	W	Sept 22/12pm								XX												2
5	IEC1-51	W	"								XX												2
6																							
7																							
8																							
9																							
10																							
11																							
12																							

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE **Date/Time:** Sept 23
Sign and Print:
COMMENTS/SPECIAL INSTRUCTIONS:

# JARS USED & NOT SUBMITTED	Received By	Temperature	Ice
	P. Whitley		
	CUSTODY SEAL YES / NO		

ASU #	12349			Report ID:	ASU 12349 CC water -1			
Client:	INAC			Date Submitted:	5-Oct-09			
				Date Reported:	8-Oct-09			
Site:	Cape Christian			Matrix:	Water			
	Laboratory Report of Analysis							
	Sample	Phenols						
		ppb						
	IEC1-50	4550						
	IEC1-51	3560	*					
	Blank	<1.0						
	Control	9.5						
	Control Target	10.0						
	Date Tested:	7-Oct-09						
	IEC1-51	3560						
	IEC1-51	3560						
	* Average result of duplicates							

Prepared by

Graham Cairns, PhD
Research Associate

Authorized by

ASU #	12349			Report ID:	CC Barrel-13	
Client:	**INAC**			Date Submitted:	5-Oct-09	
				Date Reported:	8-Oct-09	
				Matrix:	Barrel contents	
Site:	**Cape Christian**					
Identity of Barrel Contents						
Barrel	**Identity and flashpoint****					
IEC1-49	fuel oil : lubricating oil & grease 1:1 , flashpoint 75.0 ^{oC}					
PCB,Chlorine and Metal Results of Barrel Contents						
	PCB	Chlorine	Chromium	Lead	Cadmium	Disposal Option[a]
	ppm[b]					
IEC1-49	<2.0	<1000*	<10	<100	<2	incinerate
** analysis subcontracted						
* average result of duplicates						
a: Disposal as per DCLU Barrel Protocol						
b: Top phase where there are two phases present						
c: Water disposal by dumping on land at least 30 m from natural water courses						
d: Thin layer of petroleum product to be removed by oil adsorbent material prior to disposal as above						
n.e. not enough sample for analysis						
Laboratory QA/QC						
	PCB	Chlorine**	Chromium	Lead	Cadmium	
	ug/g	ug/g	mg/L	mg/L	mg/L	
Blank	<2.0	<1000	<10	<100	<2	
IEC1-49 duplicate	-	<1000 ; <1000	-	-	-	
Control	40.0	970	3.3	3.0	0.30	
Control Target	50.0	999	3.0	3.0	0.30	
Date testing initiated:	6-Oct-09	6-Oct-09	8-Oct-09	8-Oct-09	8-Oct-09	

Allison Rutter, PhD
Director

Prepared by: P. Whalley

Authorization: A. Rutter

ASU #	12349		Report ID:	CC S32					
Client:	**INAC**		Date Submitted:	5-Oct-09					
			Date Tested:	9-Oct-09					
Site:	**Cape Christian**		Date:	13-Oct-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
IEC3-8	<5.0	5.4	5.3	<1.0	<10	21	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	32.6	38.2	11.5	<1.0	18	136	45	18.2	
SS-2	193.5	48.3	12.8	1.6	110	408	41	77.2	

Prepared by: P. Whitley

Authorization: A. Rutter

Allison Rutter, PhD
Director

ASU #	**12349**		Report ID:	CC S34					
Client:	**INAC**		Date Submitted:	5-Oct-09					
			Date Tested:	14-Oct-09					
Site:	**Cape Christian**		Date:	14-Oct-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Hg								
	ppm								
IEC3-8	<0.1	*							
Blank	<0.1								
Control	0.21								
Control target	0.20								
IEC3-8	<0.1								
IEC3-8	<0.1								
* average result of duplicates									

Prepared by:

Authorization:

Graham Cairns, PhD
Research Associate

ASU #	**12349**	Report ID:	ASU 12349 CCME CC10
Client:	**INAC**	Date Submitted:	5-Oct-09
		Date testing initiate	20-Oct-09
Site:	Cape Christian	Date Reported:	29-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
AEC3-1	6%	<60	3320	273	<10	3590
AEC3-2	6%	<60	47	<10	<10	<100
AEC3-3	5%	<60*	1910	67	<10	1980
AEC3-4	4%	<60	1090	<10	<10	1090
AEC3-5	7%	<60	8460	523	<10	8980
AEC3-6	15%	<60	4380	118	<10	4500
AEC3-7	14%	<60	238	<10	<10	238
AEC3-8	16%	<60	90	<10	<10	<100
AEC3-9	17%	<60	36	<10	<10	<100
AEC3-10	12%	<60	13	<10	<10	<100
AEC3-11	6%	60	2350	71	<10	2480
AEC3-12	7%	<60	2700	422	<10	3120
AEC3-13	8%	95	4330	77	<10	4500
AEC3-14	10%	124	6050	258	<10	6430
AEC3-15	14%	60	3060	422	<10	3540
AEC3-16	10%	249	19600	739	<10	20600
AEC3-17	8%	243	17500	954	<10	18700
AEC3-18	12%	72	1120	144	<10	1340
AEC3-19	11%	<60	946	146	68	1160
AEC3-20	13%	128	8160	551	<10	8840
AEC3-21	16%	<60*	1140	131	<10	1270
AEC3-22	15%	77	3310*	597*	<10*	3980
AEC3-23	23%	<60	3170	257	<10	3430
AEC3-24	8%	<60	1596	59	<10	1655
AEC3-25	8%	<60	3840	134	<10	3970
AEC3-26	7%	<60	3760	377	<10	4140
AEC3-27	6%	<60	1940	363	<10	2300
AEC3-28	14%	<60	13	<10	<10	<100
AEC3-29	13%	<60*	562	12	<10	574
AEC3-30	21%	<60	478*	330*	38*	846
AEC3-31	16%	<60	461	23	<10	484
AEC3-32	36%	<60	51*	<10*	<10*	<100
AEC3-Dup 1	14%	<60	1400	62	<10	1460
AEC3-Dup 2	7%	<60	1810	44	<10	1850
AEC3-Dup 3	16%	<60	203	<10	<10	203
IEC3-8	8%	232	18900	967	<10	20100

†Complies with CWS PHC Tier 1 method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

Paula Whitley, BSc
Laboratory Manager

Prepared by:
ASU 12349 CCME CC10

Authorized by:

Results reported relate only to items tested

ASU #	**12349**	Report ID:	ASU 12349 CCME CC10
Client:	**INAC**	Date Submitted:	5-Oct-09
		Date testing initiate	20-Oct-09
Site:	Cape Christian	Date Reported:	29-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

QUALITY CONTROL

Quality Criteria:
1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate AEC3-3	<60; <60	-	-	-
Duplicate AEC3-12	<60; <60	-	-	-
Duplicate AEC3-21	<60; <60	-	-	-
Duplicate AEC3-29	<60; <60	-	-	-
Duplicate AEC3-22	-	3360 ; 3260	590; 604	<10; <10
Duplicate AEC3-30	-	598; 357	338; 322	14; 62
Duplicate AEC3-32	-	51; 50	<10; <10	<10; <10
Blank		<10; <10	<10; <10	<10; <10
Control	137; 153;151;120	122; 182; 147		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs

Prepared by:
ASU 12349 CCME CC10

Authorized by:

Results reported relate only to items tested

Analytical Services Unit
School of Environmental Studies
Biosciences Complex
Queen's University, Kingston, Ontario, Canada K7L 3N6
Tel 613 533-2642 Fax 613 533-2897

Client	INAC-Cape Christian
ASU Login Number	12349
Site	
Analysis Requested	2 x PAH in water
Date Requested	5 Oct 09

Sub-Contracted Laboratory	Analytical Services Group
	Royal Military College
	Kingston, ON K7K 7H4
Laboratory Project Identification Number	ASG 19965
Comments	

The attached report is hereby authorized by ASU as a Final Report

Authorization
Date 5 Nov 09

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19965
Site: INAC-CC
Client No. 12349
Samples Received: 5-Oct-09
Date of analysis: 2-Nov-09
Method No: ASG 020
Date Reported: 1-Dec-09

RESULTS OF PAH IN WATER ANALYSIS

PAH	#	Sample ID	
		IECI-50	IECI-51
		µg/L	µg/L
Naphthalene	1	NR	NR
Acenaphthylene	2	NR	NR
Acenaphthene	3	NR	NR
Fluorene	4	NR	NR
Phenanthrene	5	NR	NR
Anthracene	6	NR	NR
Fluoranthene	7	0.58	0.064
Pyrene	8	0.22	NR
Benzo(a)anthracene	9	NR	0.14
Chrysene	10	NR	0.14
Benzo(b)fluoranthene	11	NR	0.077
Benzo(k)fluoranthene	12	0.41	0.031
Benzo(a)pyrene	13	0.60	0.041
Indeno(1,2,3-cd)pyrene	14	0.18	0.014
Dibenz(a,h)anthracene	15	0.031	< 0.010
Benzo(ghi)perylene	16	0.10	< 0.010
Total		2.1	0.51

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene
NR - Not Reported, analysis repeated using diluted samples due to hight analyte concentration

PAH	#	Blank	Control	Control Target
		µg/L	µg/L	µg/L
Naphthalene	1	< 0.010	0.087	0.086
Acenaphthylene	2	< 0.010	0.091	0.084
Acenaphthene	3	< 0.010	0.099	0.083
Fluorene	4	< 0.010	0.097	0.080
Phenanthrene	5	< 0.010	0.087	0.080
Anthracene	6	< 0.010	0.083	0.080
Fluoranthene	7	< 0.010	0.088	0.080
Pyrene	8	< 0.010	0.101	0.082
Benzo(a)anthracene	9	< 0.010	0.081	0.084
Chrysene	10	< 0.010	0.080	0.086
Benzo(b)fluoranthene	11	< 0.010	0.086	0.083
Benzo(k)fluoranthene	12	< 0.010	0.077	0.084
Benzo(a)pyrene	13	< 0.010	0.070	0.080
Indeno(1,2,3-cd)pyrene	14	< 0.010	0.077	0.077
Dibenz(a,h)anthracene	15	< 0.010	0.087	0.082
Benzo(ghi)perylene	16	< 0.010	0.070	0.082
Total		< 0.10	1.36	1.31

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Lab Manager
PAHw19965r1

RMC ANALYTICAL SCIENCES GROUP - GROUP DES SCIENCES ANALYTIQUES CMR
Royal Military College, PO Box 17000 Stn. Forces, Kingston, ON, K7K 7B4
(613) 541-6000 ext 6684 / Fax (613) 545-8341

Client : **ASU**
School of Environmental Studies
Queen's University
Kingston, Ontario K7L 3N6
(613) 533-2656
Fax: (613) 533-2897

ASG Login No: 19965
Site: INAC-CC
Client No. 12349
Samples Received: 5-Oct-09
Date of analysis: 27-Nov-09
Method No: ASG 020
Date Reported: 1-Dec-09

RESULTS OF PAH IN WATER ANALYSIS

PAH	#	Sample ID	
		IECI-50*~	IECI-51~
		µg/L	µg/L
Naphthalene	1	480	1700
Acenaphthylene	2	26	19
Acenaphthene	3	76	54
Fluorene	4	120	100
Phenanthrene	5	370	230
Anthracene	6	77	87
Fluoranthene	7	NR	NR
Pyrene	8	NR	38
Benzo(a)anthracene	9	15	NR
Chrysene	10	14	NR
Benzo(b)fluoranthene	11	6.8	NR
Benzo(k)fluoranthene	12	NR	NR
Benzo(a)pyrene	13	NR	NR
Indeno(1,2,3-cd)pyrene	14	NR	NR
Dibenz(a,h)anthracene	15	NR	NR
Benzo(ghi)perylene	16	NR	NR
Total		1200	2200

All results corrected for the recoveries of the deuterated surrogates naphthalene, phenanthrene, anthracene and benzo(a)anthracene
NR - Not Reported, sample previously extracted undiluted and reported on PAHw19965r1
* Average result of duplicate
~ Sample diluted 1/100 prior to extraction

PAH	#	Blank	Duplicate ; IECI-50* ~	Control	Control Target
		µg/L	µg/L	µg/L	µg/L
Naphthalene	1	< 0.010	440 ; 520	0.086	0.086
Acenaphthylene	2	< 0.010	27 ; 25	0.063	0.084
Acenaphthene	3	< 0.010	70 ; 81	0.069	0.083
Fluorene	4	< 0.010	120 ; 120	0.075	0.080
Phenanthrene	5	< 0.010	330 ; 410	0.077	0.080
Anthracene	6	< 0.010	75 ; 79	0.065	0.080
Fluoranthene	7	< 0.010	NR	0.067	0.080
Pyrene	8	< 0.010	NR	0.068	0.082
Benzo(a)anthracene	9	< 0.010	14 ; 17	0.085	0.084
Chrysene	10	< 0.010	12 ; 15	0.083	0.086
Benzo(b)fluoranthene	11	< 0.010	6.8 ; 6.7	0.066	0.083
Benzo(k)fluoranthene	12	< 0.010	NR	0.071	0.084
Benzo(a)pyrene	13	< 0.010	NR	0.061	0.080
Indeno(1,2,3-cd)pyrene	14	< 0.010	NR	0.061	0.077
Dibenz(a,h)anthracene	15	< 0.010	NR	0.075	0.082
Benzo(ghi)perylene	16	< 0.010	NR	0.077	0.082
Total		< 0.10	1100 ; 1300	1.15	1.31

The results reported here relate only to the items tested.

Prepared By: _____
Chad Hind, Analyst

Authorization: _____
Steve White, Lab Manager
PAHw19965r2

SHIPMENT # [redacted] 29

86835 **CHAIN CUSTODY**

Page: 1 of 1

ASU# 12350

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8 Ph: (403) 291-3077 F)3) 735-2240 Toll free: (800) 386-7247

Edmonton: 9331 – 48 Street, T6B 2R4 Ph: (780) 465-1212 Fax: (780) 450-4187 Toll free: (877) 465-8889

www.maxxamanalytics.com

Invoice To: Require Report? Yes ☐ No ☐

Company Name:

Contact Name:

Address:

Prov: PC:

Contact #s: Ph: Fax:

Report To:

EBA ENGINEERING
14940 - 123 AVE
EDMONTON, AB

Prov: PC: T6V 1Z4

Ph: 780-451-2121 Fax:

PO # / AFE #:

Quotation #:

Project #:

Project Name:

Location:

Sampler's Initials:

DETECTION LIMIT REQUIREMENTS:

Check the applicable criterion and indicate land use

☐ AT1 _____

☐ CCME _____

☐ OTHER _____

REPORT DISTRIBUTION:

EMAIL ADDRESS(S):

SERVICE REQUESTED:

☐ **RUSH** (Please ensure you contact the lab to reserve)

Date Required: _____

☒ REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS (footnotes defined on back): BTEX F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (CCME / AT1)[1]	Assessment ICP Metals[2]	☐ Paint Filter ☐ Flashpoint ☐ pH (1:1)	TCLP ☐ BTEX ☐ Metals	F1-F4 Metals	WATERS (footnotes defined on back): ☐ BTEX F1 ☐ VOCs	☐ BTEX F1-F2 ☐ BTEX F1-F4	Routine Water Package ☐ Turb ☐ F	REGULATED METALS (CCME / AT1)[3]: Total ☐ Preserved ☐ Not Preserved	Dissolved ☐ Preserved ☐ Not Preserved ☐ Filtered ☐ Not Filtered	Mercury ☐ Total ☐ Dissolved	☐ Ammonia ☐ TKN ☐ COD	☐ TOC ☐ DOC	OTHER TEST(S)	*HOLD for 60 Days	# of Containers Submitted
1	WA2-TP3-1st black										X											X
2	WA2-TP3-2nd black										X											X
3	WA2-TP4-1st black										X											X
4	WA2-TP4-2nd black										X											X
5	WA2-TP4-br. sand between																					X
6	WA2-TP5-0.6m										X											X
7	WA2-TP6-0.3m										X											X
8	WA2-TP6-base										X											X
9	WA2-TP7-2nd black										X											X
10	WA2-TP8-0.6m										X											X
11																						
12																						

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: DANIELA FELSKE **Date/Time:** SEPT 24/06 3pm

Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:

JARS USED & NOT SUBMITTED

Received By

CUSTODY SEAL YES / NO

Temperature			Ice

ASU #	12350		Report ID:	CC S31					
Client:	INAC		Date Submitted:	5-Oct-09					
			Date Tested:	9-Oct-09					
Site:	Cape Christian		Date:	13-Oct-09					
			Matrix:	Soil					
Report of Analysis									
Sample	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
WA2-TP3 1ST BLACK	<5.0	30.9	23.2	<1.0	25	33	384	<1.0	*
WA2-TP3 2ND BLACK	<5.0	28.2	20.3	<1.0	22	31	355	<1.0	
WA2-TP4 1ST BLACK	<5.0	30.4	22.1	<1.0	23	34	369	<1.0	
WA2-TP4 2ND BLACK	<5.0	10.8	9.0	<1.0	<10	21	105	<1.0	
WA2-TP4-BR.SAND	<5.0	27.2	20.1	<1.0	22	29	367	<1.0	
WA2-TP5-0.6M	<5.0	10.2	7.3	<1.0	<10	<15	114	<1.0	
WA2-TP6-0.8M	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
WA2-TP7 2ND BLACK	<5.0	26.7	20.2	<1.0	21	31	357	<1.0	*
WA2-TP8 0.6M	<5.0	8.3	6.3	<1.0	<10	<15	88	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
Blank	<5.0	<5.0	<5.0	<1.0	<10	<15	<20	<1.0	
MESS-3	32.6	38.2	11.5	<1.0	18	136	45	18.2	
SS-2	193.5	48.3	12.8	1.6	110	408	41	77.2	
WA2-TP3 1ST BLACK	<5.0	31.9	23.8	<1.0	26	34	386	<1.0	
WA2-TP3 1ST BLACK	<5.0	29.9	22.6	<1.0	25	33	381	<1.0	
WA2-TP7 2ND BLACK	<5.0	27.7	21.3	<1.0	23	32	379	<1.0	
WA2-TP7 2ND BLACK	<5.0	25.7	19.0	<1.0	20	30	335	<1.0	

Prepared by: P. Whitley

Authorization: C. Rutter
Allison Rutter, PhD
Director

ASU #	12350		Report ID:	CC S33
Client:	INAC		Date Submitted:	5-Oct-09
			Date Tested:	14-Oct-09
Site:	Cape Christian		Date:	14-Oct-09
			Matrix:	Soil
Report of Analysis				
Sample	Hg			
	ppm			
WA2-TP3 1ST BLACK	<0.1			
WA2-TP3 2ND BLACK	<0.1			
WA2-TP4 1ST BLACK	<0.1			
WA2-TP4 2ND BLACK	<0.1			
WA2-TP4-BR.SAND	<0.1			
WA2-TP5-0.6M	<0.1	*		
WA2-TP6-0.8M	<0.1			
WA2-TP7 2ND BLACK	<0.1			
WA2-TP8 0.6M	<0.1			
Blank	<0.1			
Control	0.21			
Control target	0.20			
WA2-TP5-0.6M	<0.1			
WA2-TP5-0.6M	<0.1			
* average result of duplicates				

Prepared by:

CC S33
Page 1 of 1

Authorization:

Graham Cairns, PhD
Research Associate

ASU #	**12350**	Report ID:	ASU 12350 CCME CC9
Client:	**INAC**	Date Submitted:	5-Oct-09
		Date testing initiatec	8-Oct-09
Site:	Cape Christian	Date Reported:	21-Oct-09
		Matrix	Soil

Report of analysis

Method: CCME TPH in Soil†

RESULTS

Sample ID	% H_2O of Wet Soil	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg	TPH SUM
WA2-TP3 1st black	5%	64	1173	34	<10	1270
WA2-TP3 2nd black	12%	<60	38	<10	<10	<100
WA2-TP4 2nd black	11%	<60	<10	<10	<10	<100
WA2-TP5 0.6m	4%	101	2370	116	<10	2590
WA2-TP6 base	4%	<60	2130	63	<10	2190
WA2-TP7 2nd black	24%	<60	<10	<10	<10	<100
WA2-TP8* 0.6m	21%	<60	36	10	<10	<100

†Complies with CWS PHC Tier 1 method

‡ F4G gravimetric heavy hydrocarbons cannot be added to the sum

*Average of duplicate results

QUALITY CONTROL

Quality Criteria:

1) nC6 and nC10 response factors within 30% of response for toluene;
2) nC10, nC16 and nC34 response factors within 10% of average;
3) C50 response factors within 70% of nC110 + nC16 + nC34 average;
4) linearity of calibrations standard with 15%

	F1 C6-C10 mg/kg	F2 C10-C16 mg/kg	F3 C16-C34 mg/kg	F4 C34-C50 mg/kg
Duplicate WA2-TP8 0.6m	<60, <60	49, 23	<10, 12	<10, <10
Blank	<60	<10	<10	<10
Control	128	131		
Control Target	150	150		

COMMENTS

F4G Fraction not assessed
Chromatogram descended to baseline by the C50 retention time
Fractions include BTEX, Napthalene and PAHs
Analysis holding times for samples were met

Paula Whitley, BSc
Laboratory Manager

Prepared by: B. Kettlewell
ASU 12350 CCME CC9

Authorized by: P. Whitley

Results reported relate only to items tested

APPENDIX G

APPENDIX G SITE DEBRIS SUMMARY

Summary of Site Debris – 2009 and 2010

Area	Debris
Area No. 1 North of Main Site	- Barrels and wood, hut left intact
Area No. 2 - Antenna Platform	- Metal cabinets - Wooden platform - Cables, wires
Area No. 3 - Disaster hut and area	- Scrap debris (tank, shelving, piping)
Area No. 4 - Garage building and area	- Abandoned vehicles - Scrap metal and debris
Area No. 5 - Main station building and area	- Debris piles - Remains of centre wing (north and south) - Oil barrels - Paint cans - Gas cylinders
Area No. 6 -Domestic dump site	- Barrels, tin, stove
Area No. 7 - Fallen antenna site	- Antenna, cables, wires - Grounding wires
Area No. 8 - Campsite debris	- Tin, barrels
Area No. 9 - Beach fuel tank and air terminal building	- Building roof - Sheeting - Cribs, walls, frames, timber
Area No. 10 – Former HAZMAT building (Storm Shelter Building)	- Barrels - Scrap metal and debris - Wood debris - Building insulation
Area No. 11 - Equipment dump	- Bulldozer, snowplow, truck - Blades, push bar, engines - Spools of cable - Steel channels - Spare electrical cabinets, parts - Scrap metal pipes - Wooden spools, crates - Lead sheathed electrical wire - Batteries
Area No. 12 - South beach barrel site	- Barrels
Area No. 13 - Worked Areas 2 to 8	- Construction debris, domestic debris

APPENDIX H

APPENDIX H PCB MATERIALS SUMMARY

PCB Waste Removed from the Site

Container Number	Description	Quantity	Volume in Cubic Metres
3	(PCB) asbestos from garage main building	One Quatrex	0.76
4	(PCB) paint chips from kitchen and Transformer @ 45 ppm PCBs	One Quatrex	0.76
6	(PCB) asbestos from kitchen	One Quatrex	0.76
7	(PCB) paint chips from kitchen	One Quatrex	0.76
8	(PCB) asbestos from kitchen	One Quatrex	0.76
9	(PCB) paint chips from kitchen	One Quatrex	0.76
10	(PCB) asbestos from kitchen	One Quatrex	0.76
11	(PCB) asbestos from kitchen	One Quatrex	0.76
12	(PCB) asbestos from kitchen	One Quatrex	0.76
13	(PCB) asbestos from kitchen	One Quatrex	0.76
23	(PCB) Metal sheet from garage	One Sea can	0.76
24	(PCB) Metal sheet from garage	One Sea can	0.341
26	(PCB) asbestos from garage main building	One Quatrex	0.341
29	(PCB) paint chips from kitchen	One Quatrex	2.3
58	Quatrex PCB Paint Chips Scrapping of Engine & from floor	One Quatrex	0.76
184, 188, 193, 198	Transformers and capacitors from WA-7	Four barrels	1.1

APPENDIX I

APPENDIX I BARREL PROTOCOL RESULTS

Characterization of Known and Unknown Potentially-Hazardous Liquid and Solid Wastes

EBA Sample ID[1]	QL Container Number[2]	Date Sampled by EBA	Identity	Barrel Characterization (ppm)							Hydrocarbon Fractions (ppm)				Metals (mg/kg)									Phenols (mg/L)	Potential Disposal Option[3]
				Flash Point (°C)	pH	PCB	Cl	Cr	Pb	Cd	F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn		
IEC1-1	NC	14-Jul-09	Water	-	5.6	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Treated on-site
IEC1-2	NC	14-Jul-09	Water	-	5.2	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Treated on-site
IEC1-3	NC	14-Jul-09	Water	-	5.1	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Treated on-site
IEC1-4	49 to 55	14-Jul-09	Fuel Oil	69.5	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
IEC1-5	17 to 22	14-Jul-09	Top Phase: Lubricating Oil and Grease	>135.0	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
			Bottom Phase: Water	-	-	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-6	14	14-Jul-09	Top Phase: Lubricating Oil and Grease	>135.0	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
			Bottom Phase: Water	-	-	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-7	16	14-Jul-09	Top Phase: Fuel Oil & Lubricating Oil and Grease 1:1	95	-	<2.0	<1000	<10	**316**	**4.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
			Bottom Phase: Water	-	-	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-8	15	14-Jul-09	Top Phase: Fuel Oil & Lubricating Oil and Grease 1:75	>135.0	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
			Bottom Phase: Water	-	-	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-9	30	19-Jul-09	Water	-	4.3	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-10	31	19-Jul-09	Top Phase: Fuel Oil	n.e.	-	< 2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
			Bottom Phase: Water	-	-	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-11	32	19-Jul-09	Water	-	6	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-12	33 and 34	19-Jul-09	Lubricating Oil and Grease	>135.0	-	<2.0	**10,600**	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-13	35	19-Jul-09	Water	-	5.3	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-14	36	19-Jul-09	Lubricating Oil and Grease	>135.0	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
IEC1-15	NC	21-Jul-09	Water	-	5	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-16	46 and 47	21-Jul-09	Fuel Oil	64	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
IEC1-17	42, 43 and 45	21-Jul-09	Water	-	5	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-18	NC	20-Aug-09	Transformer oil	-	-	**43.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
IEC1-19	NC	20-Aug-09	Water with possible transformer oil	-	-	<2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	On-land
IEC1-20	38 to 41 and 44	30-Jul-09	Oily sludge	76.5	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-21	48	30-Jul-09	Waste fuel and slude	64	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-22	57	30-Jul-09	Water and black oil	82	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-23	28	09-Aug-09	fuel oil & lubricating oil & grease 17:1	99.5	-	<2.0	**31,900**	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-24	59	09-Aug-09	fuel oil	63.5	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
IEC1-25	56	10-Aug-09	Oily sludge from vac truck (Work Area 1)	-	-	-	-	-	-	-	374	**9,820**	173	11,599	3.1	<1.0	40	10.8	57.0	19	<0.1	27.0	71		Landfarm
IEC1-26	66	17-Aug-09	Fuel from pipeline	69.5	-																				Ship South
IEC1-27	65	17-Aug-09	Top Phase: Fuel Oil & Lubricating Oil and Grease 1:13	>135	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
			Bottom Phase: Water								-	-	-	-	-	-	-	-	-	-	-	-	-	-	
IEC1-28	57	17-Aug-09	Top Phase: Fuel Oil & Lubricating Oil and Grease 2:1	83.0	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
			Bottom Phase: Water								-	-	-	-	-	-	-	-	-	-	-	-	-	-	
IEC1-29	37	17-Aug-09	Grease with approximately 5% hydrocarbons in the diesel range	131	-	<2.0	<1000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
IEC1-30	67	17-Aug-09	Top Phase: Fuel Oil & Lubricating Oil and Grease 1:2	91	-	<2.0*	6800	<10	<100	**4.9**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship south
			Bottom Phase: Water								-	-	-	-	-	-	-	-	-	-	-	-	-	-	
IEC1-31	88	17-Aug-09	Oily sludge from vac truck (Work Area 6)	-	-	-	-	-	-	-	-	-	-	-	<1.0	<1.0	<10	<5.0	18.1	<10	<0.1	6.1	33	-	Landfarm
IEC1-32	68 to 87 90 to 109 111 to114	17-Aug-09	Water Treatment (Grey Tank)Top Phase: Fuel Oil	n.e.	-	<2.0	n.e.	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Treated on-site
			Grey Tank Bottom Phase: Water								-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Characterization of Known and Unknown Potentially-Hazardous Liquid and Solid Wastes

EBA Sample ID[1]	QL Container Number[2]	Date Sampled by EBA	Identity	Barrel Characterization (ppm)							Hydrocarbon Fractions (ppm)				Metals (mg/kg)									Phenols (mg/L)	Potential Disposal Option[3]
				Flash Point (°C)	pH	PCB	Cl	Cr	Pb	Cd	F1 (C6-C10)	F2 (>C10-C16)	F3 (>C16-C34)	F4 (>C34-C50)	As	Cd	Cr	Co	Cu	Pb	Hg	Ni	Zn		
IEC1-33	NC	18-Aug-09	Water from vac truck (worked areas)	-	5.93	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	159	Treat on-site
IEC1-34	NC	18-Aug-09	Water from vac truck (worked areas)	-	6.30	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	193	Treat on-site
IEC1-35	NC	18-Aug-09	Water from vac truck (worked areas)	-	5.96	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	584	Treat on-site
IEC1-36	NC	19-Aug-09	Water from vac truck (worked areas)	-	6.16	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	125	Treat on-site
IEC1-37	NC	19-Aug-09	Water from vac truck (worked areas)	-	6.15	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	109	Treat on-site
IEC1-38	NC	19-Aug-09	Water from vac truck (worked areas)	-	6.06	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	106	Treat on-site
IEC1-39	NC	20-Aug-09	Water from vac truck (worked areas)	-	6.12	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	109	Treat on-site
IEC1-40	NC	20-Aug-09	Water from vac truck (worked areas)	-	6.27	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	226	Treat on-site
IEC1-41	NC	20-Aug-09	Water from vac truck (worked areas)	-	6.42	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	22	Treat on-site
IEC1-42	NC	21-Aug-09	Water from vac truck (worked areas)	-	6.18	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	53.3	Treat on-site
IEC1-43	NC	21-Aug-09	Water from vac truck (worked areas)	-	6.32	Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	50.6	Treat on-site
IEC1-44	NC	21-Aug-09	Water from vac truck (worked areas)			Water	Water	Water	Water	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	53.3	Treat on-site
IEC1-45	95	21-Aug-09	Waste oil	77.5	-	<2.0	<1,000	<10	**331**	**62.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-46	96	22-Aug-09	Oil	74.5	-	<2.0	<1,000	<10	<100	**13.2**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-47	89	24-Aug-09	Oily sludge from vac truck (Work Area 6)	-	-	-	-	-	-	-	696	**31,600**	6,020	<10	2.7	1.3	58	15.1	70.6	67	<0.1	36.5	240	-	Landfarm
IEC1-48		08-Sep-09	Oily material collected at WA-6			<2.0	**12,700**	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship south
IEC1-49		21-Sep-09	Waste oil			<2.0	<1,000	<10	<100	<2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Incinerate/Ship South
IEC1-50	139	22-Sep-09	Water collected from pole excavations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,550	Ship South
IEC1-51	140	22-Sep-09	Water collected from pole excavations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,560	Ship South
IEC1-59		10-Aug-10	Grey Water	67	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-60		10-Aug-10	Grey Water	>100	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-64		30-Jul-10	Sludge	-	-	-	-	-	-	-	-	-	-	-	**34.2**	**20.2**	**168**	45	**1710**	161	<0.2	**614**	**486**	-	Ship South
IEC1-67		31-Jul-10	Liquid Waste	>100	6.43	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-69		10-Aug-10	Grey Water	>100	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-70		10-Aug-10	Grey Water	63	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-72		10-Aug-10	Grey Water	>100	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
IEC1-73		10-Aug-10	Grey Water	>100	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ship South
				Criteria for On-land, Incineration or Ship South							**Far Shore Site-Specific Hydrocarbon Fraction Criteria**				**DCC**									**As Specified by Disposal Facility**	
				< 60°C	**pH ≤ 3 or ≥ 10**	**> 2 ppm**	**> 1000 ppm**	**> 10 ppm**	**> 100 ppm**	**> 2 ppm**	**15,000**	**8,000**	**18,000**	**25,000**	**30**	**5**	**250**	**50**	**100**	**200/ 500**	**2**	**100**	**200**	**n/a**	

Notes:
QL Container Numbers 1 to 13, 23 to 27, 29, 56, 64 and, 88, 89 contain solid waste
n.e. denotes not enough sample for analysis
NC denotes samples not stored in containers. Samples collected are being processed through the water treatment system.
1. Sample identification was identified by EBA.
2. Barrel container number was identified by the contractor (QL).
3. Contractor decided that all hazardous materials that passes incineration criteria to be shipped south.

APPENDIX J

APPENDIX J GEOTECHNICAL TESTING

EBA Engineering

AGGREGATE ANALYSIS REPORT

Project: Cape Christian Loran Site–Residential Engineering
Address: Northern Contaminated Sites Program

Project Number: E22101581
Date Sampled: 13/07/09 By:
Client: Public Works and Governments Service
Ph: 780–497–3520 Fax: 780–497–3842
Email: marc.poot@pwgsc.gc.ca

Attention: Marc Poot

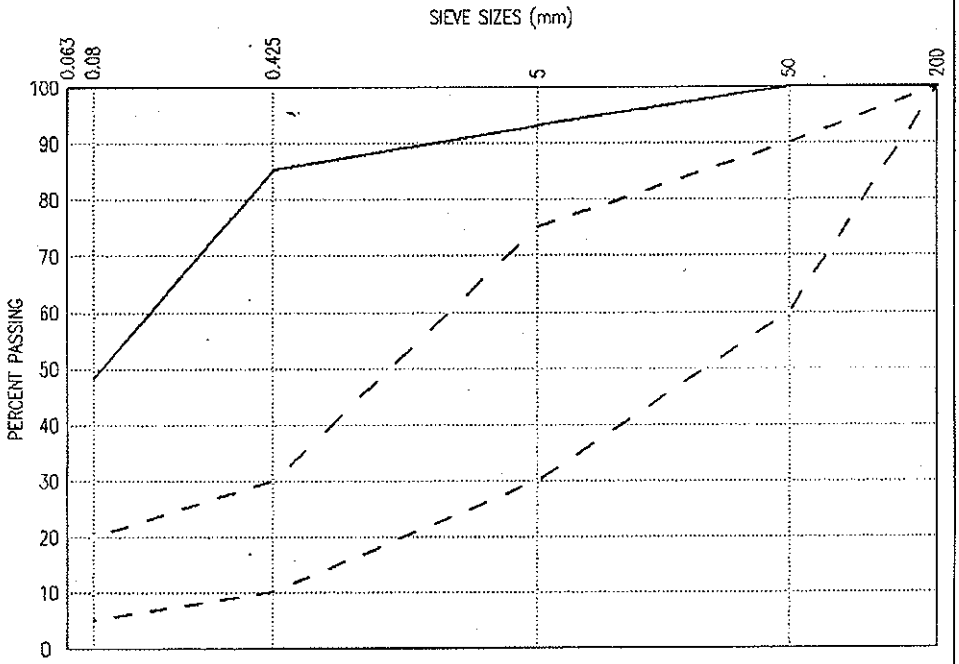
Sample Number: TP–09–09
Sample Location: Cape Christian, NU "Borrow 2"

Time: Temp:
Date Tested: 13/07/09 By: LA
Natural Moisture Content: 8.0 %
Crushed Faces: Faces:

Soil Description: Sand and Silt, Tr. Gravel – Grey

Remarks: Cape Christion specification band.

Sieve	% Passing
200	100.0
50	100.0
5	93.0
0.425	85.0
0.08	48.3



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 12-Jul-09

Sample Number 1

Depth:

Soil Description: 0

Cu: N/A

Cc: N/A

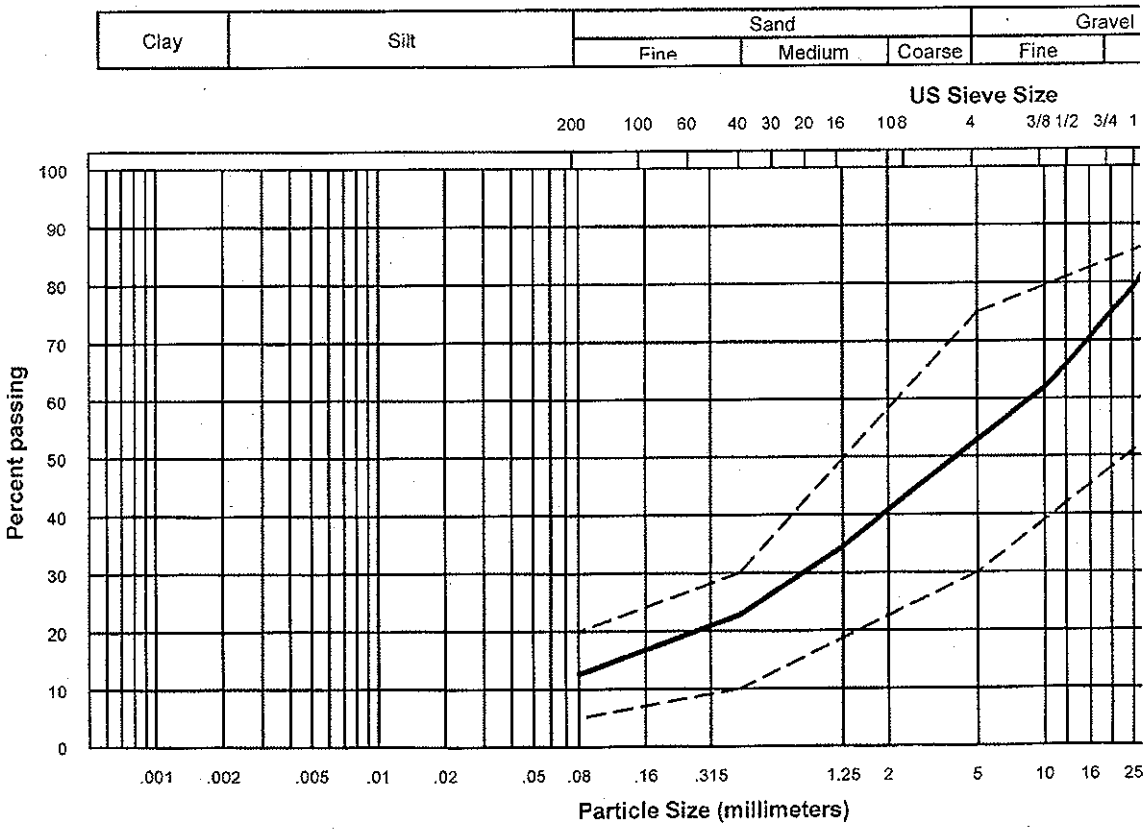
Natural Moisture Content: 4.7%

Remarks: Sampled from Borrow Area 2

Material sampled from numerous test pits, dug using backhoe.

CapeChristian Type 2 gradation limits shown

Sieve Size
200
150
75
50
25
12.5
10
5
2
1.25
0.425
0.08



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EBA Engin

DENSITY TEST RESULTS - TYPE 3 GRANULAR FILL

Cape Christian Remediation Project - Cape Christian, NU

Location: **Non-Harzardous Landfill**
Address: **Cape Christian, NU**
Project Number: **E22101581**
Owner: **PWGSC**

Date Tested: Jul. 24, 2009 By: MH

D.S.....
M.S.....

Test Apparatus: Troxler - Machine No.
Soil Description: Type 3 Granular Fill
Taken from Borrow Source 2
Temperature: Air: 14°C Soil: > 0°C
Specified Compaction: 95%
Compaction Standard: Standard Proctor
Specific Gravity: 2.70
Maximum Dry Density: 2030 kg/m^3
Optimum Moisture: 9.1%

Test # / Probe Depth	001 / 250	002 / 250	3 / 250	4 / 250	5 / 250	6 / 250		
Location	West Berm, 0+015, CL	West Berm, 0+017, CL	West Berm, 0+019, CL	West Berm, 0+065, CL	West Berm, 0+067, CL	West Berm, 0+070, CL		
Elevation	n/a	n/a	n/a	n/a	n/a	n/a		
Wet Density - kg/m^3	2068	2016	2011	2015	2047	2004		
Moisture - %	6.5%	5.4%	7.1%	7.8%	6.8%	7.9%		
Moisture - kg/m^3								
Dry Density - kg/m^3	1941	1912	1877	1869	1917	1858		
Compaction - %	95.6%	94.2%	92.4%	92.1%	94.4%	91.5%		

Comments: "DG" - design grade

EBA Engineering Consultants Ltd.

PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 002

Depth:

Soil Description: SAND, gravely

Cu: N/A

Cc: N/A

Natural Moisture Content: 1.9%

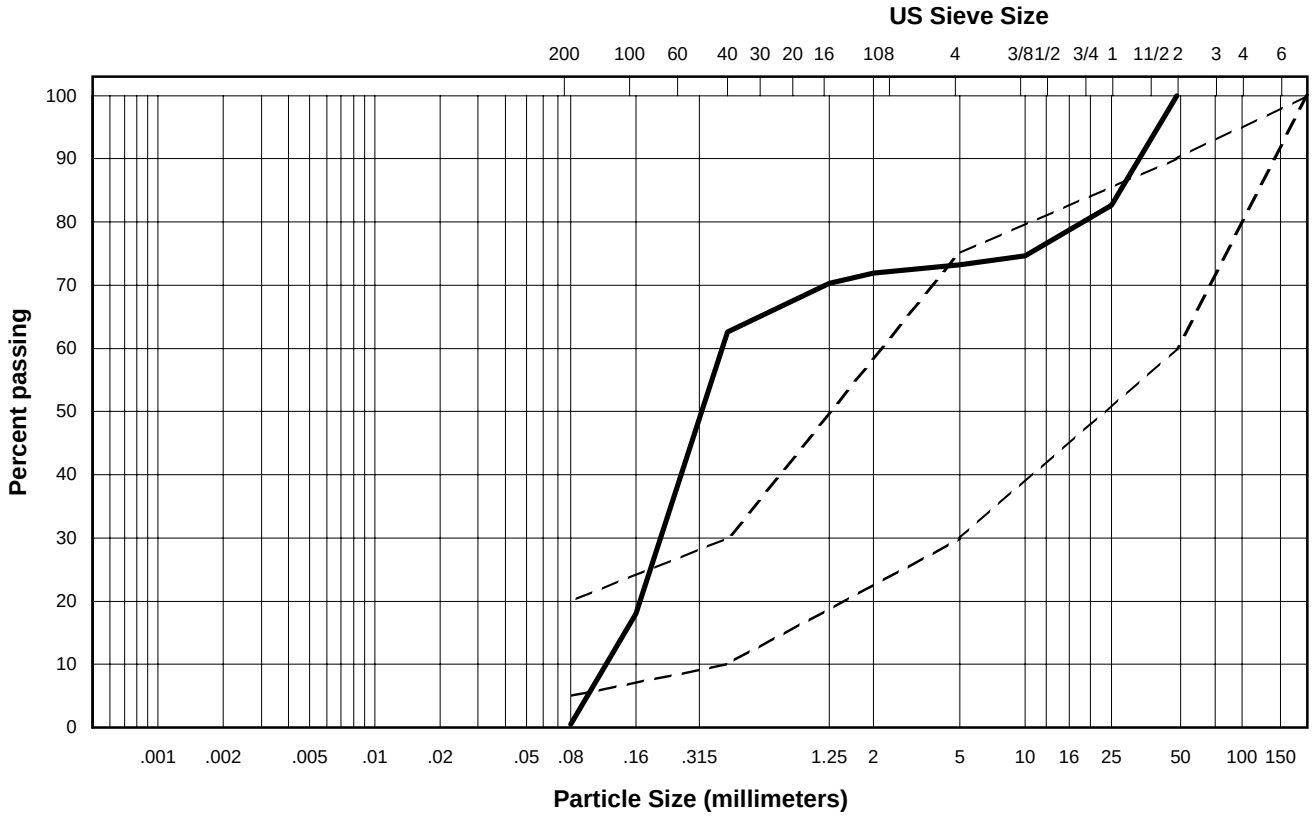
Remarks: Sampled from BA03

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	83
12.5	#N/A
10	75
5	73
2	72
1.25	70
0.425	63
0.08	0

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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EBA Engineering Consultants Ltd.

PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 006

Depth:

Soil Description: SAND, gravely, silty

Cu: N/A

Cc: N/A

Natural Moisture Content: 14.8%

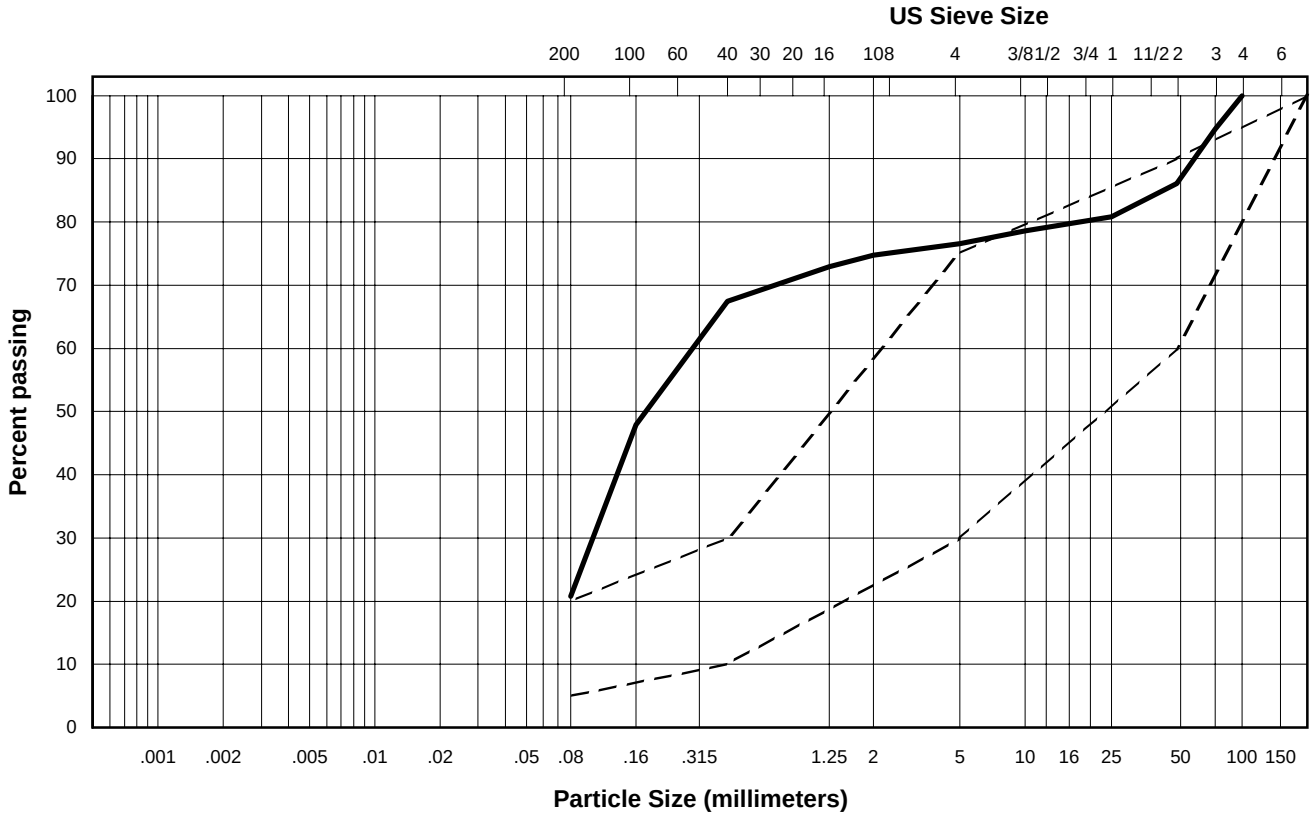
Remarks: Sampled from Borrow Area 08

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	95
50	86
25	81
12.5	#N/A
10	79
5	77
2	75
1.25	73
0.425	67
0.08	21

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

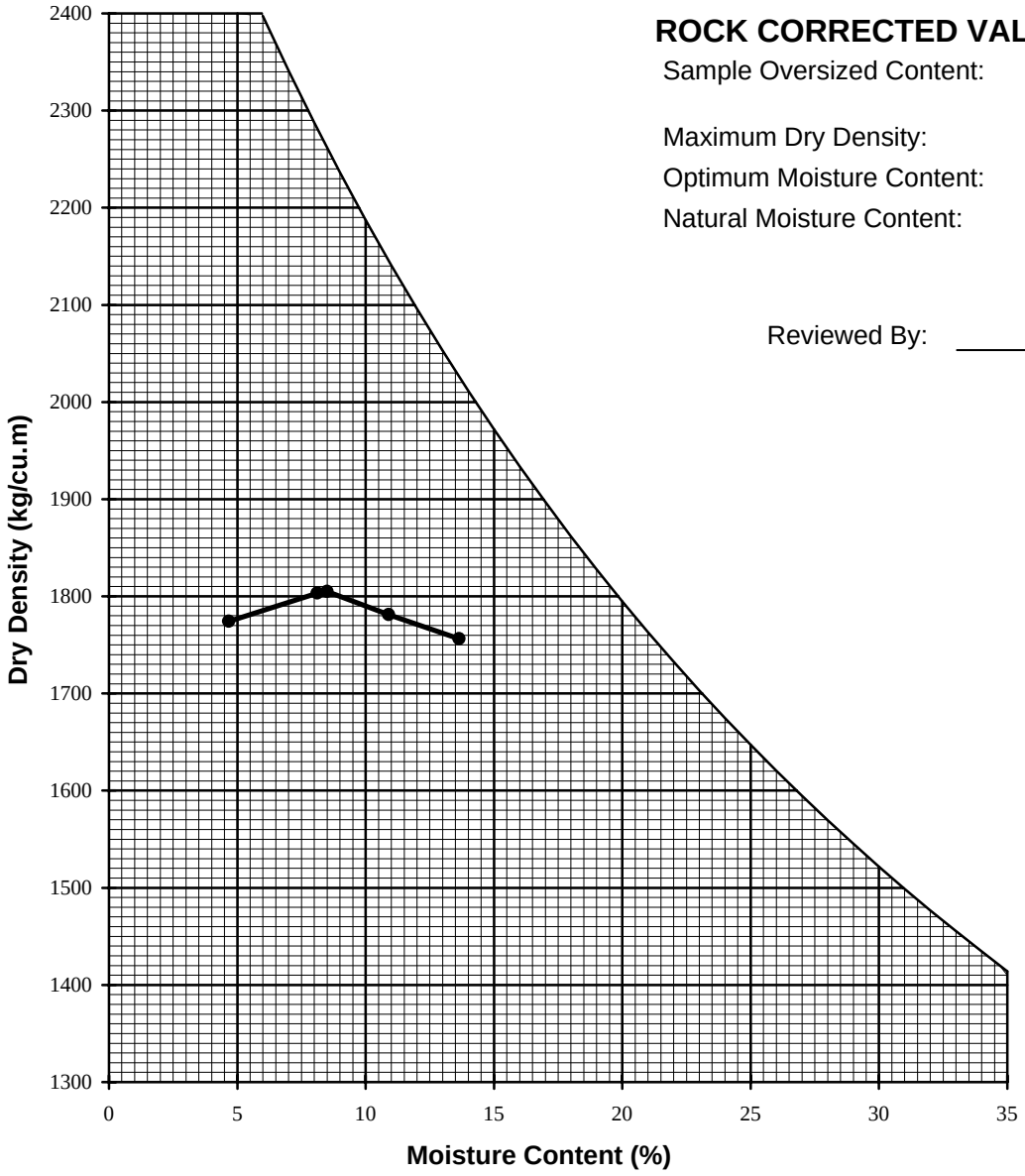
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EBA Engineering Consultants Ltd.

MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGSC
Project No.:	E22101581
Description:	SAND, gravely, silty
Source:	BA-08
Test Date:	July 8, 2009
Sample No.:	029



ROCK CORRECTED VALUES

Sample Oversized Content:	20 %
Maximum Dry Density:	2000 kg/cu.m
Optimum Moisture Content:	6.8%
Natural Moisture Content:	14.7%

Reviewed By: _____

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EBA Engineering Consultants Ltd.

PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 014

Depth:

Soil Description: SAND and GRAVEL, silty

Cu: N/A

Cc: N/A

Natural Moisture Content: 8.8%

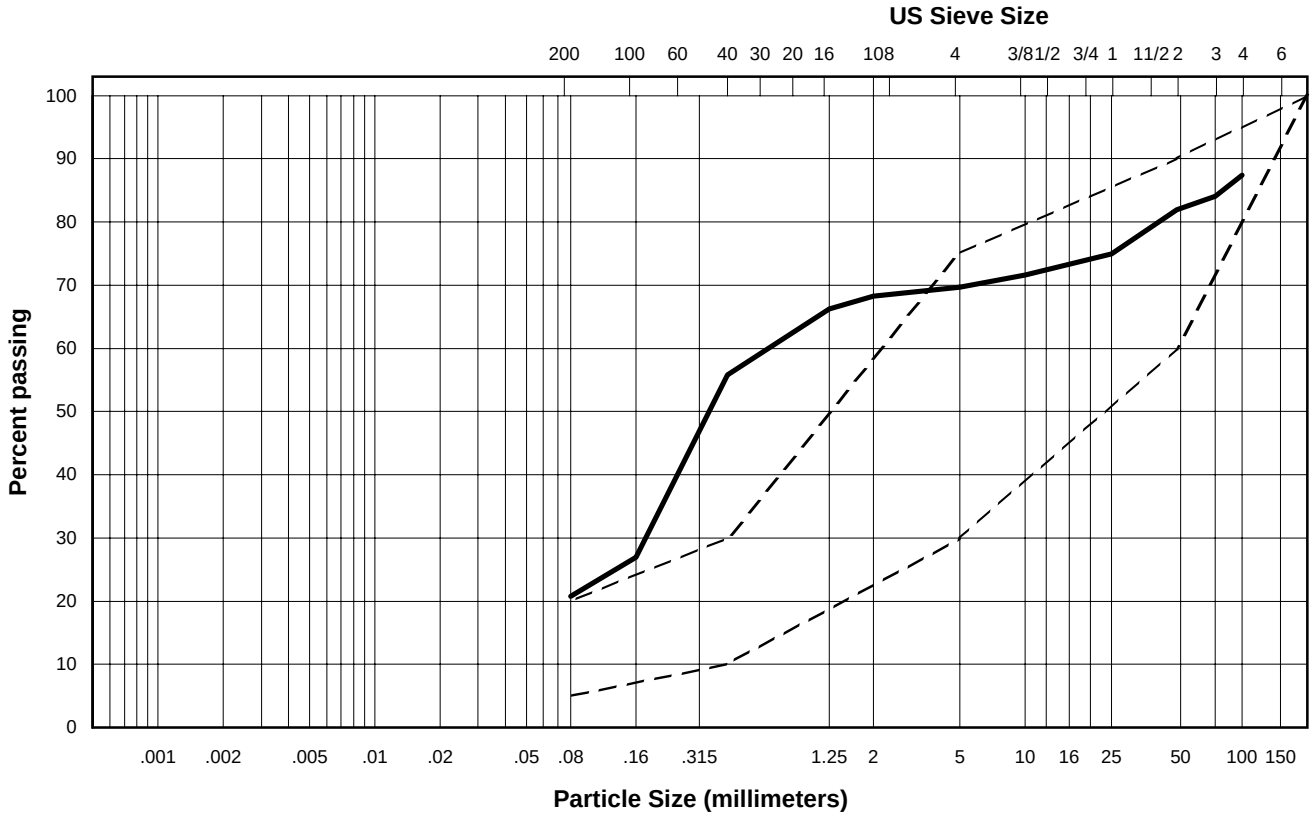
Remarks: Samplef from BA14

Washed on 160 µm sieve

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	84
50	82
25	75
12.5	#N/A
10	72
5	70
2	68
1.25	66
0.425	56
0.08	21

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

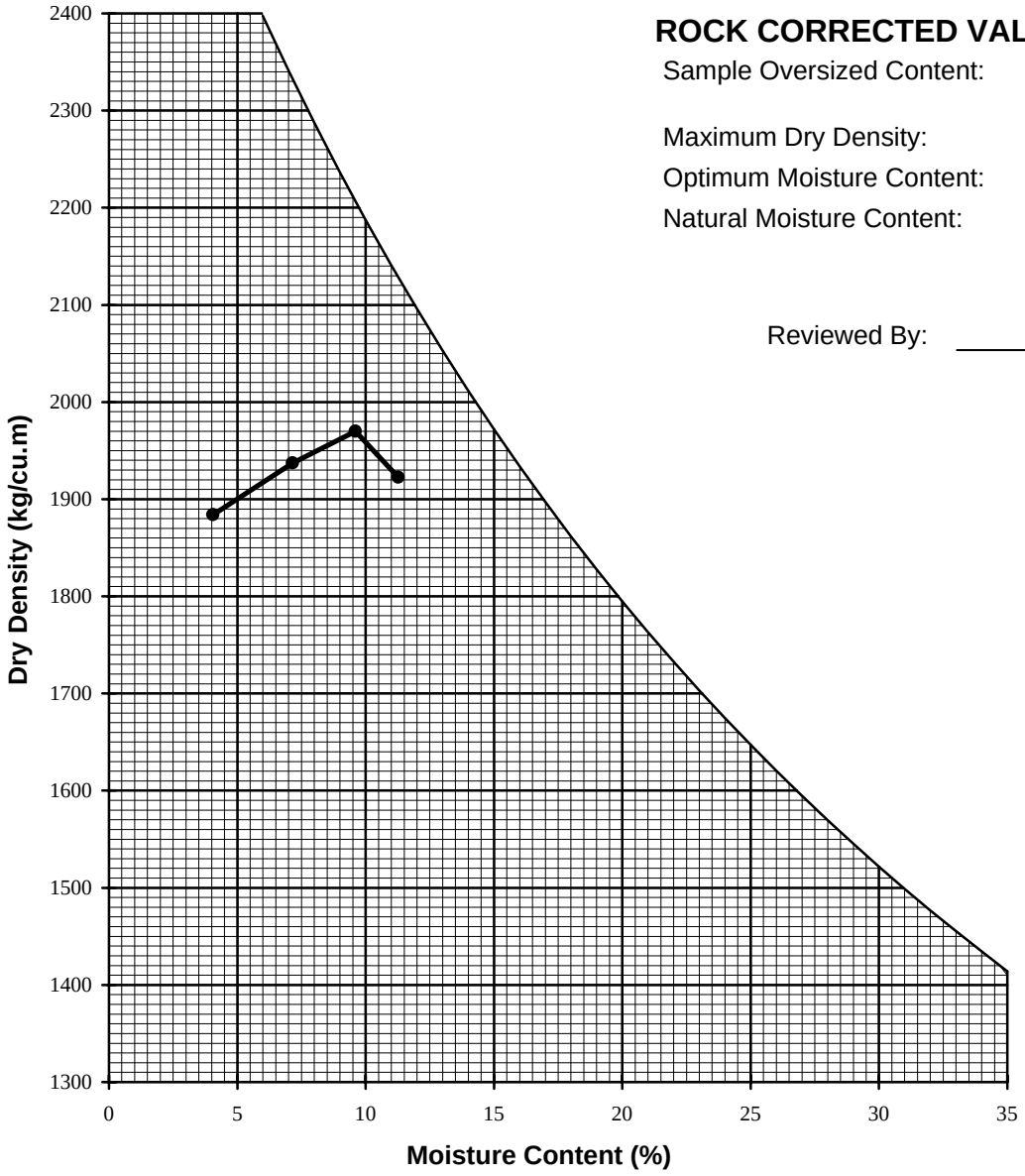
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EBA Engineering Consultants Ltd.

MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGCS
Project No.:	E22101581
Description:	Type 2
Source:	Borrow Area 14
Test Date:	July 14, 2009
Sample No.:	010



ROCK CORRECTED VALUES

Sample Oversized Content:	30 %	
Maximum Dry Density:	2220	kg/cu.m
Optimum Moisture Content:	6.8%	
Natural Moisture Content:	7.9%	

Reviewed By: _____

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 011

Depth:

Soil Description: GRAVEL and SAND

Cu: N/A

Cc: N/A

Natural Moisture Content: 3.1%

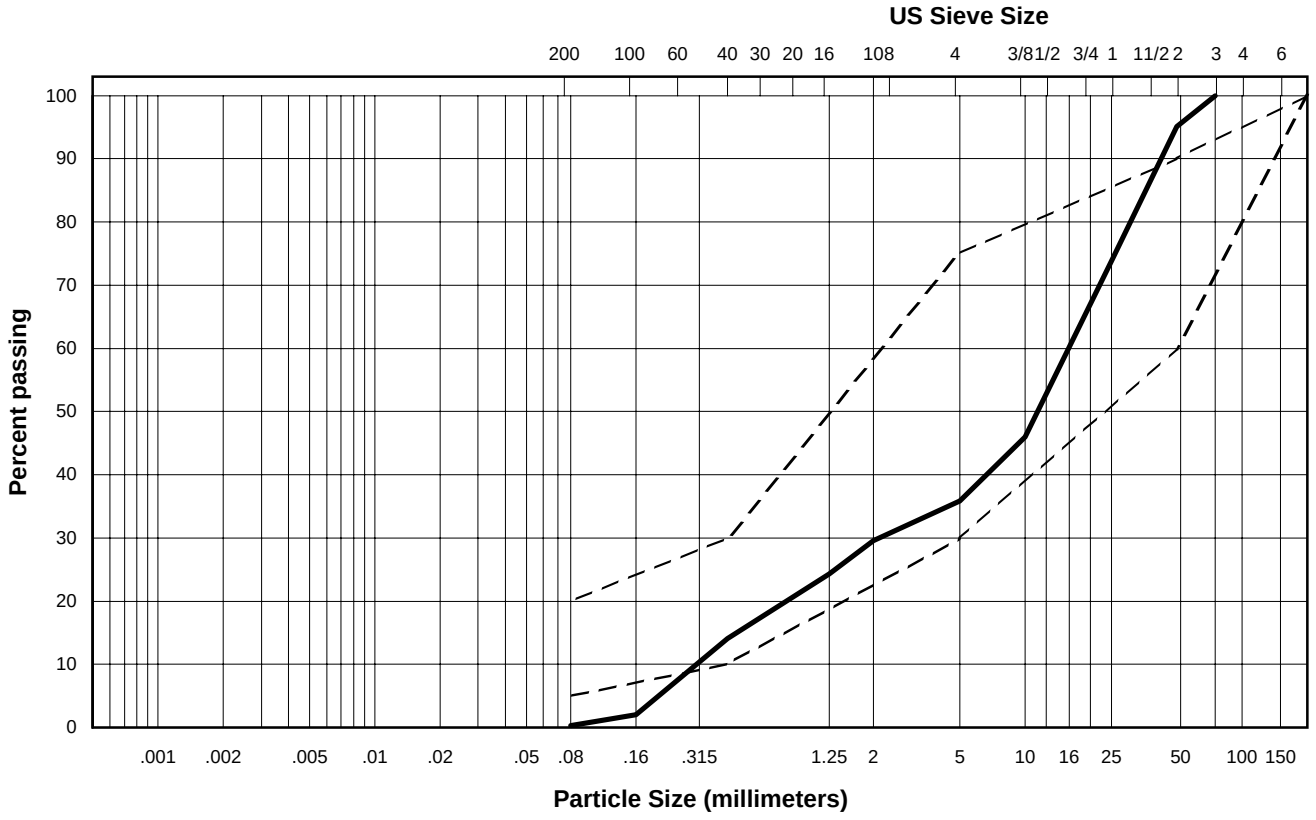
Remarks: Sampled from Borrow Area 7

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	95
25	74
12.5	#N/A
10	46
5	36
2	30
1.25	24
0.425	14
0.08	0

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 012

Depth:

Soil Description: GRAVEL and SAND, silty

Cu: N/A

Cc: N/A

Natural Moisture Content: 6.8%

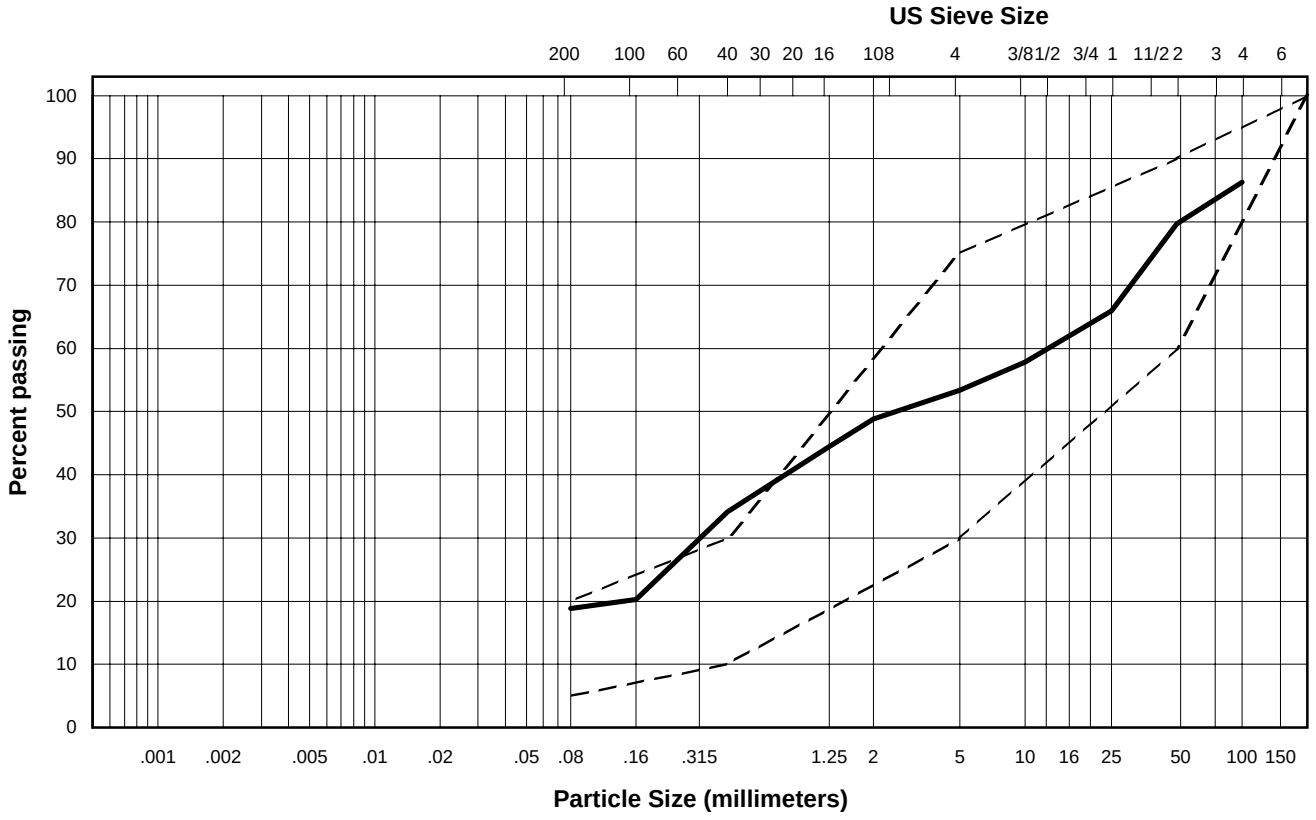
Remarks: Sampled from BA16

Washed on 160 µm sieve

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	80
25	66
12.5	#N/A
10	58
5	53
2	49
1.25	44
0.425	34
0.08	19

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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EBA Engineering Consultants Ltd.

PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 013

Depth:

Soil Description: GRAVEL and SAND, trace fines

Cu: N/A

Cc: N/A

Natural Moisture Content: 3.5%

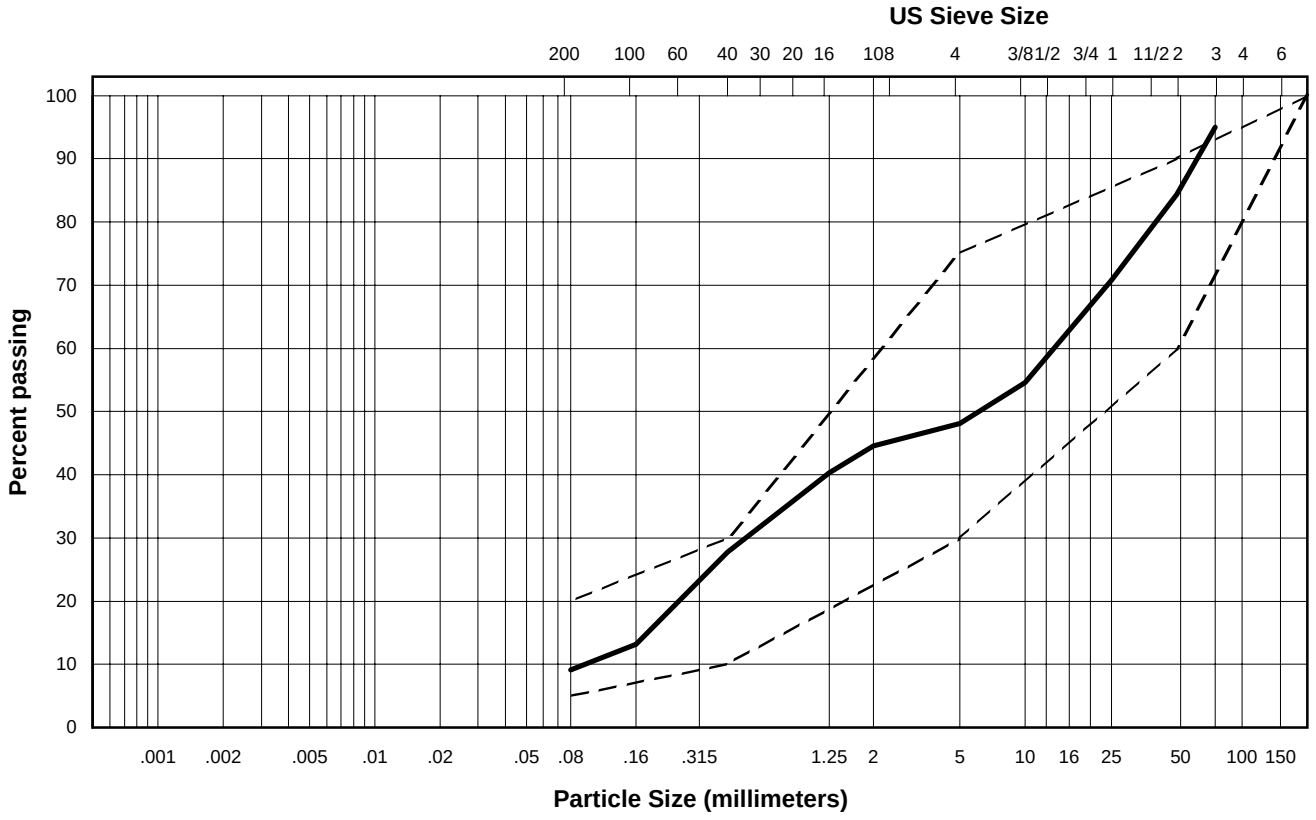
Remarks: Sampled from BA17

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	95
50	84
25	71
12.5	#N/A
10	55
5	48
2	45
1.25	40
0.425	28
0.08	9

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 014

Depth:

Soil Description: SAND, some gravel, trace fines

Cu: N/A

Cc: N/A

Natural Moisture Content: 5.4%

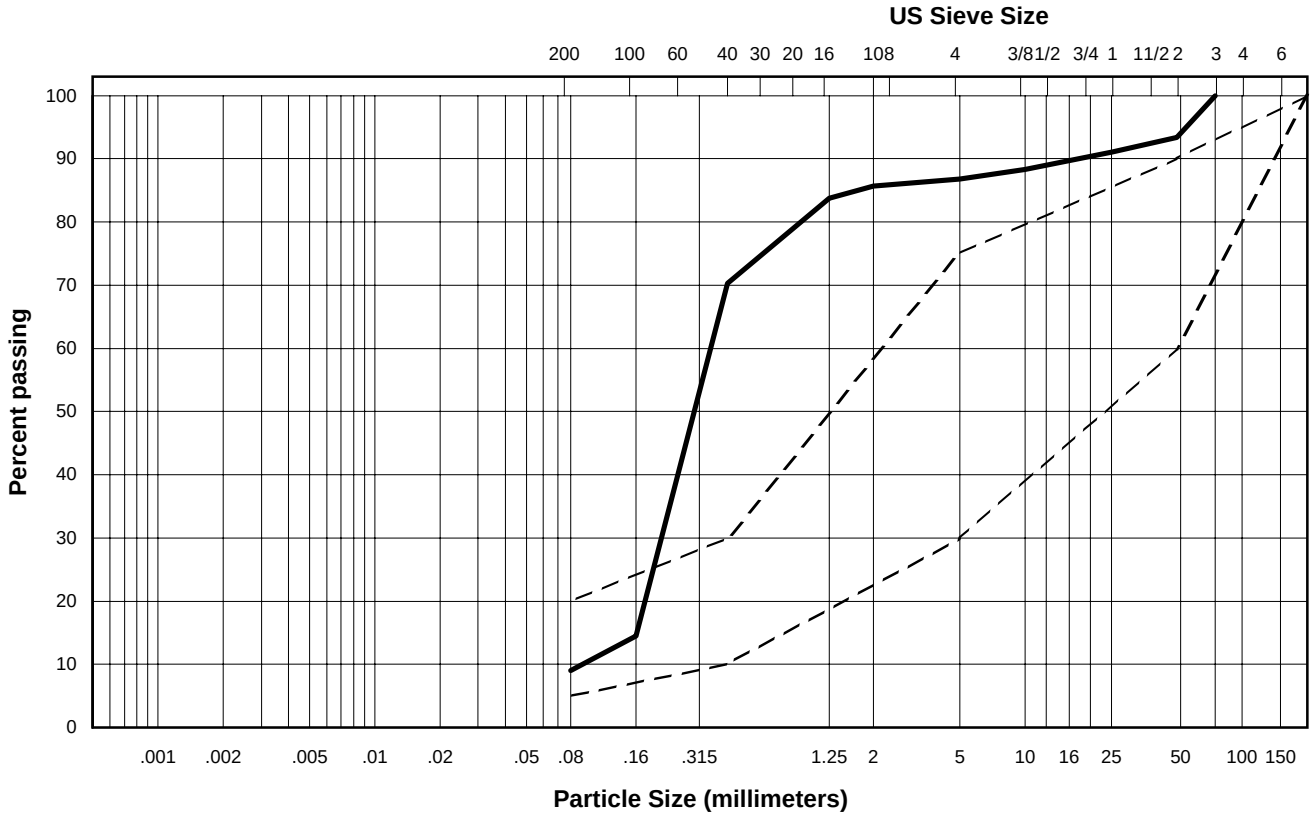
Remarks: Sampled from BA18

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	93
25	91
12.5	#N/A
10	88
5	87
2	86
1.25	84
0.425	70
0.08	9

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 20-Jul-09

Sample Number 23

Depth:

Soil Description: 0

Cu: N/A

Cc: N/A

Natural Moisture Content: 13.0%

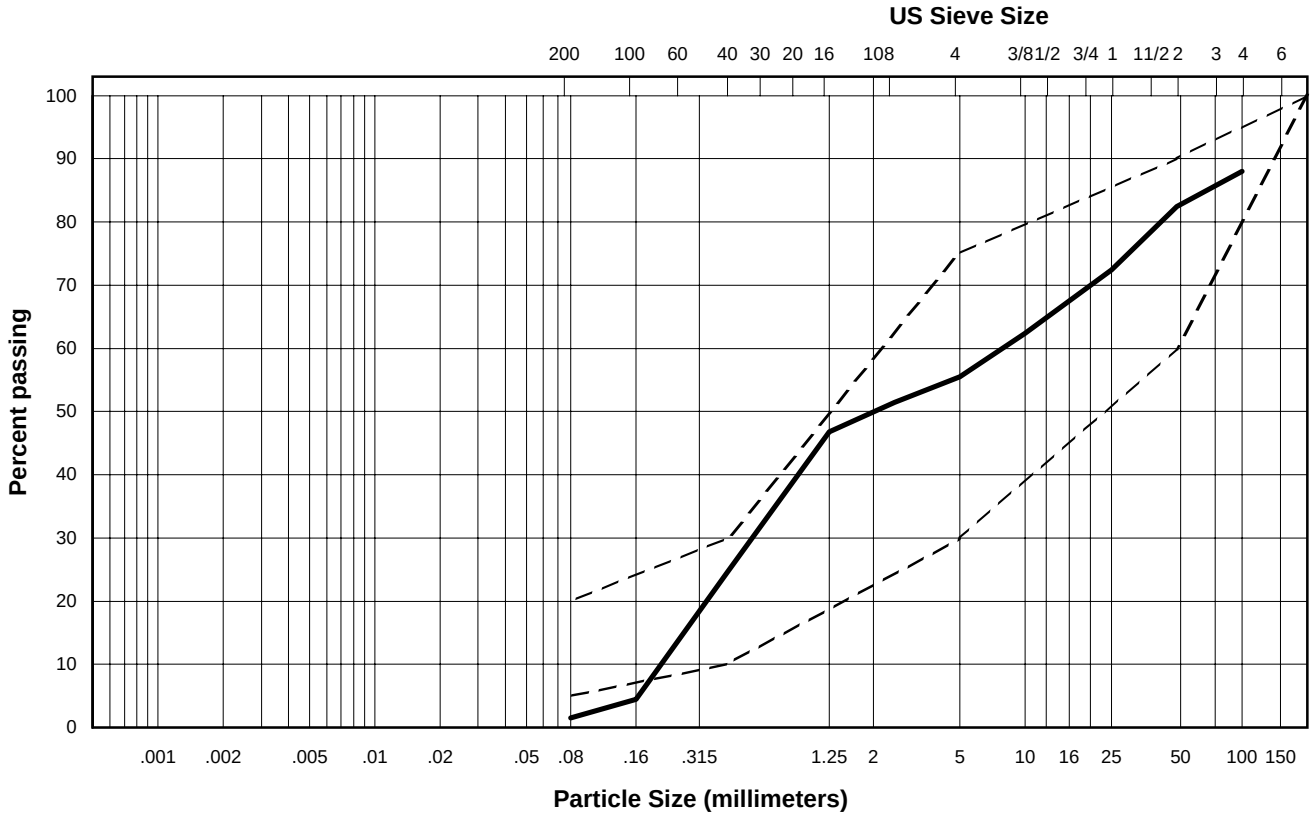
Remarks: Sampled from Borrow Area 27

Material is near surface sample, obtained from hand dug test pit.

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
100	88
75	#N/A
50	82
25	72
12.5	#N/A
10	62
5	55
2	51
1.25	47
0.425	25
0.08	2

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 13-Aug-09

Sample Number 026

Depth:

Soil Description: SAND, trace gravel, trace silt

Cu: N/A

Cc: N/A

Natural Moisture Content: 5.2%

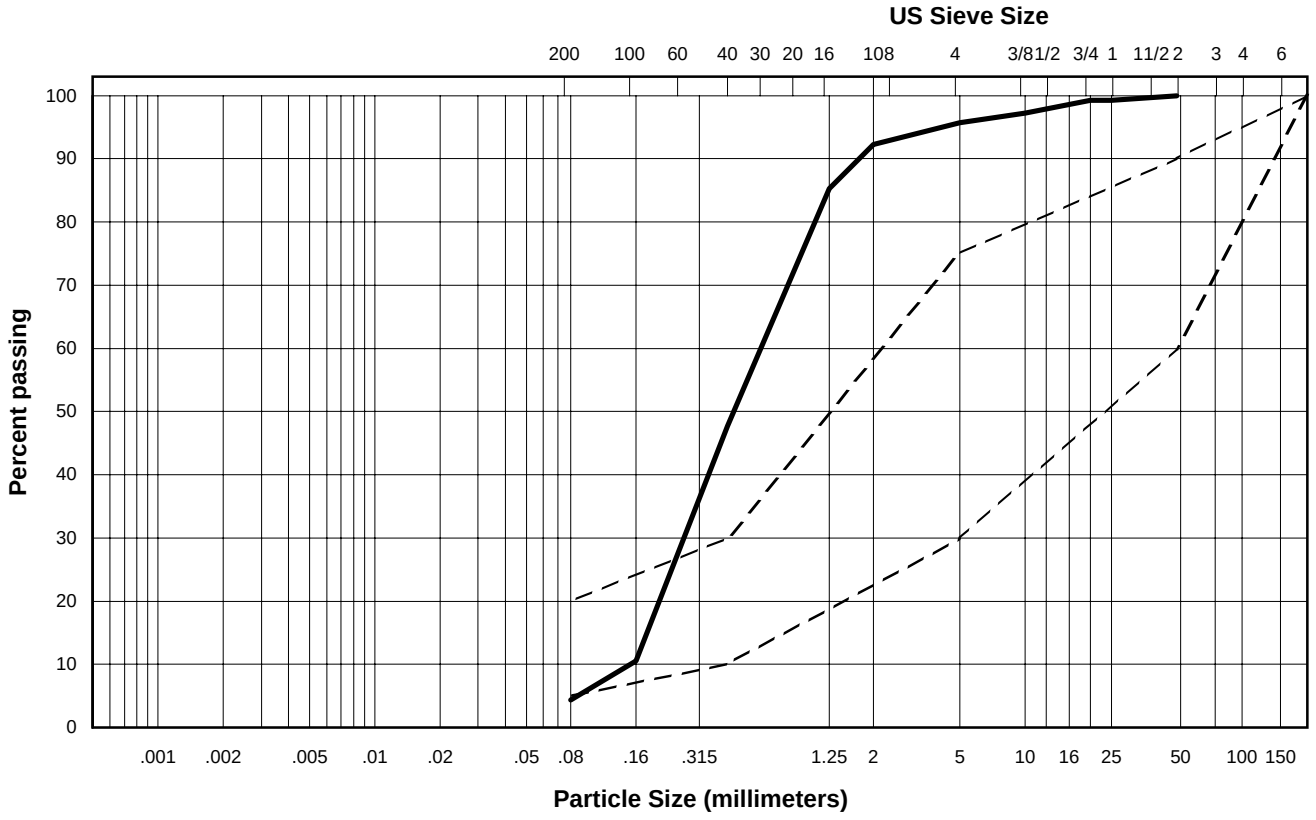
Remarks: Sampled from BA12

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	99
12.5	#N/A
10	97
5	96
2	92
1.25	85
0.425	48
0.08	4

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 13-Aug-09

Sample Number 027

Depth:

Soil Description: SAND and GRAVEL, some silt

Cu: N/A

Cc: N/A

Natural Moisture Content: 13.3%

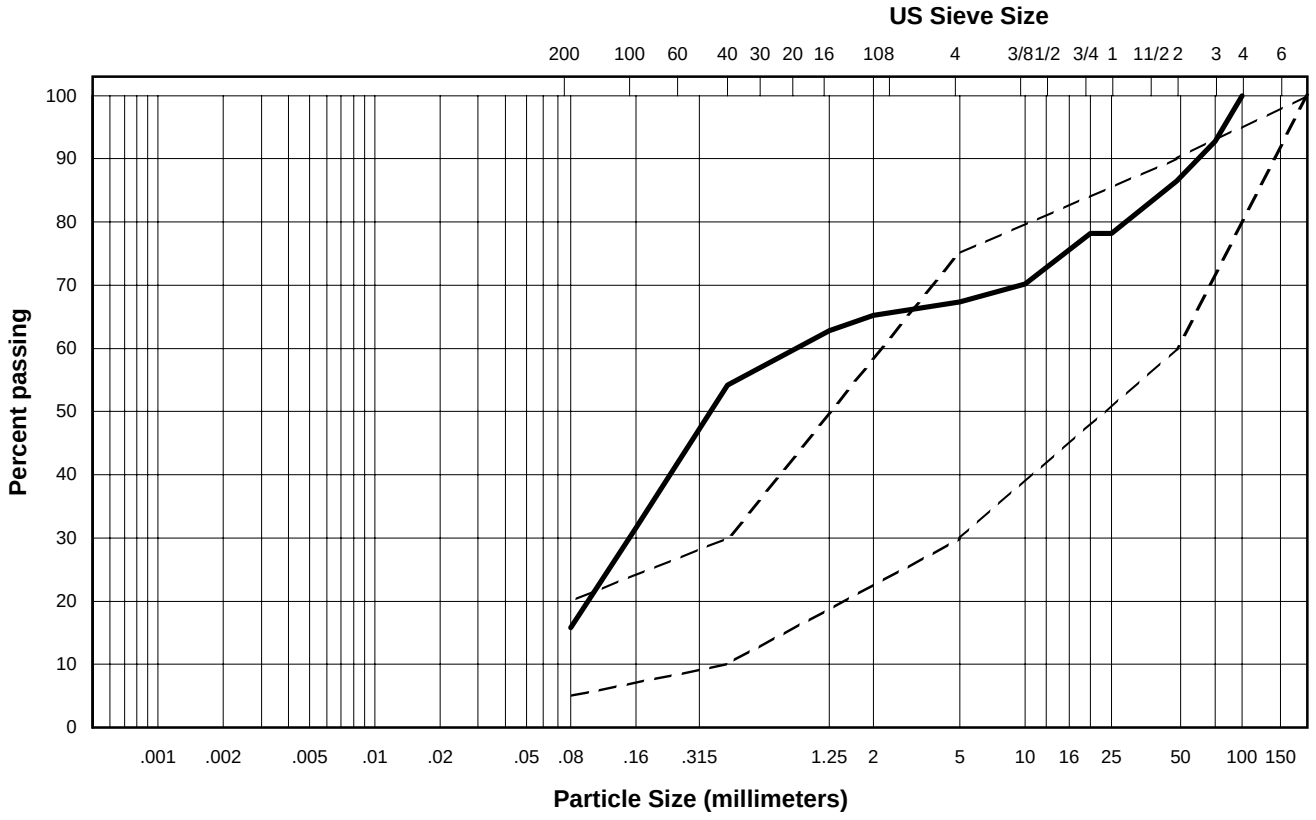
Remarks: Sampled from BA15

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	93
50	86
25	78
12.5	#N/A
10	70
5	67
2	65
1.25	63
0.425	54
0.08	16

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 09-Aug-09

Sample Number 29

Depth:

Soil Description: SILT, sandy, trace gravel

Cu: N/A

Cc: N/A

Natural Moisture Content: 9.2%

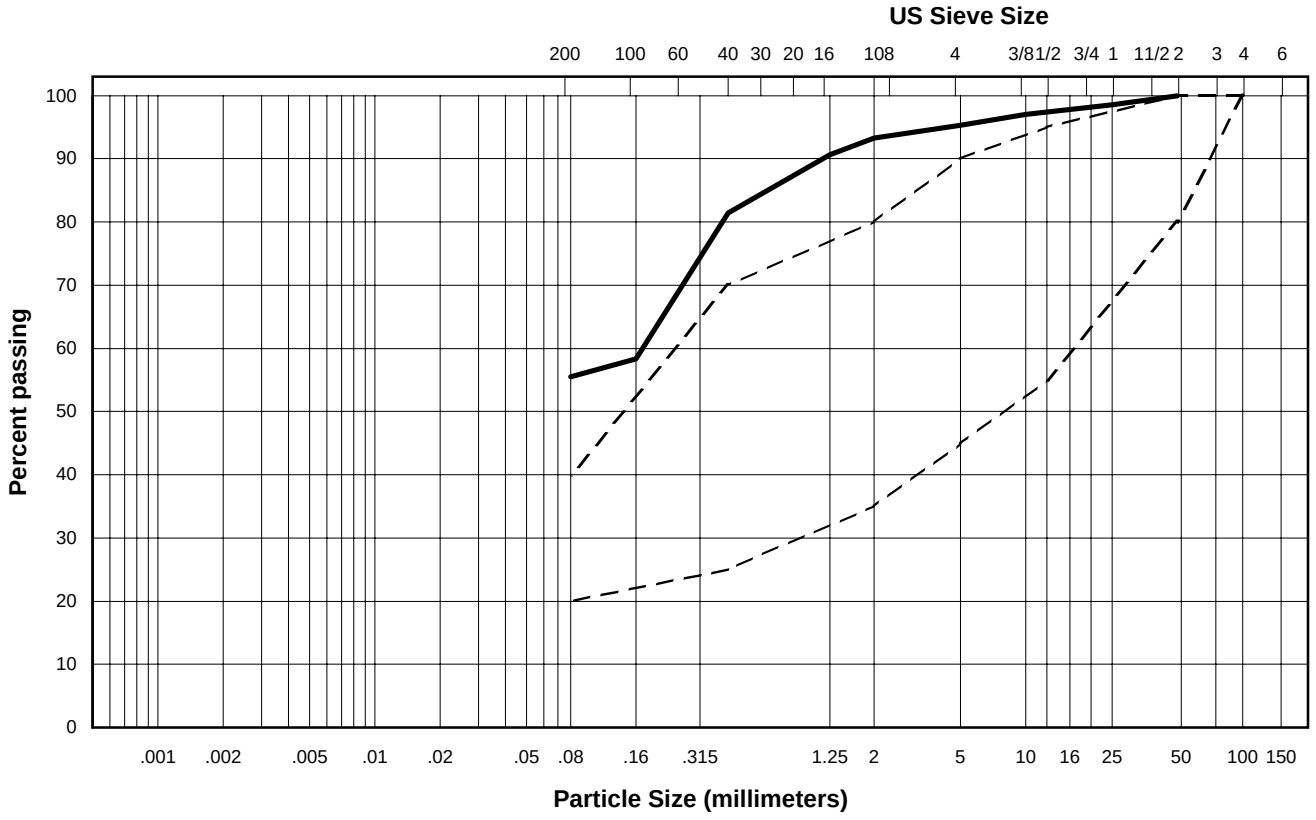
Remarks: Sample from Borrow Area 8 - from the berm

Washed on 160 µm sieve

Cape Christian Type 4 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	99
12.5	#N/A
10	97
5	95
2	93
1.25	91
0.425	81
0.08	55

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

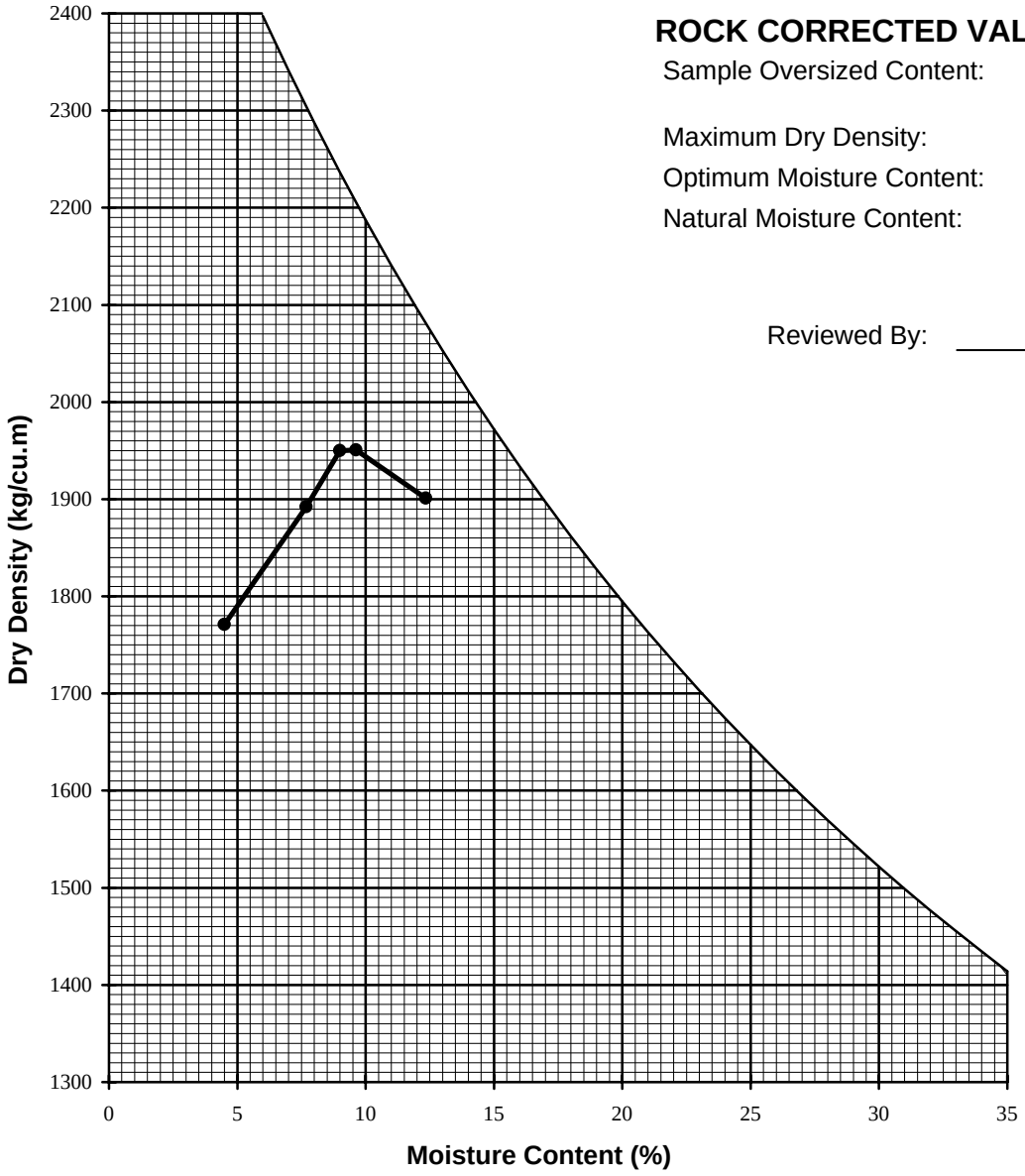
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MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGSC
Project No.:	E22101581
Description:	SILT, sandy, trace gravel
Source:	BA-08, from the berm
Test Date:	August 9, 2009
Sample No.:	029



ROCK CORRECTED VALUES

Sample Oversized Content:	1.3	%
Maximum Dry Density:	1960	kg/cu.m
Optimum Moisture Content:	8.9%	
Natural Moisture Content:	9.5%	

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 031

Depth:

Soil Description: SAND and GRAVEL, trace fines

Cu: N/A

Cc: N/A

Natural Moisture Content: 3.6%

Remarks: Sampled from stockpile at landfill

Washed on 160 µm sieve

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	96
25	89
12.5	#N/A
10	75
5	69
2	65
1.25	61
0.425	46
0.08	8

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 09-Aug-09

Sample Number 032

Depth:

Soil Description: SILT, sandy, trace gravel

Cu: N/A

Cc: N/A

Natural Moisture Content: 11.5%

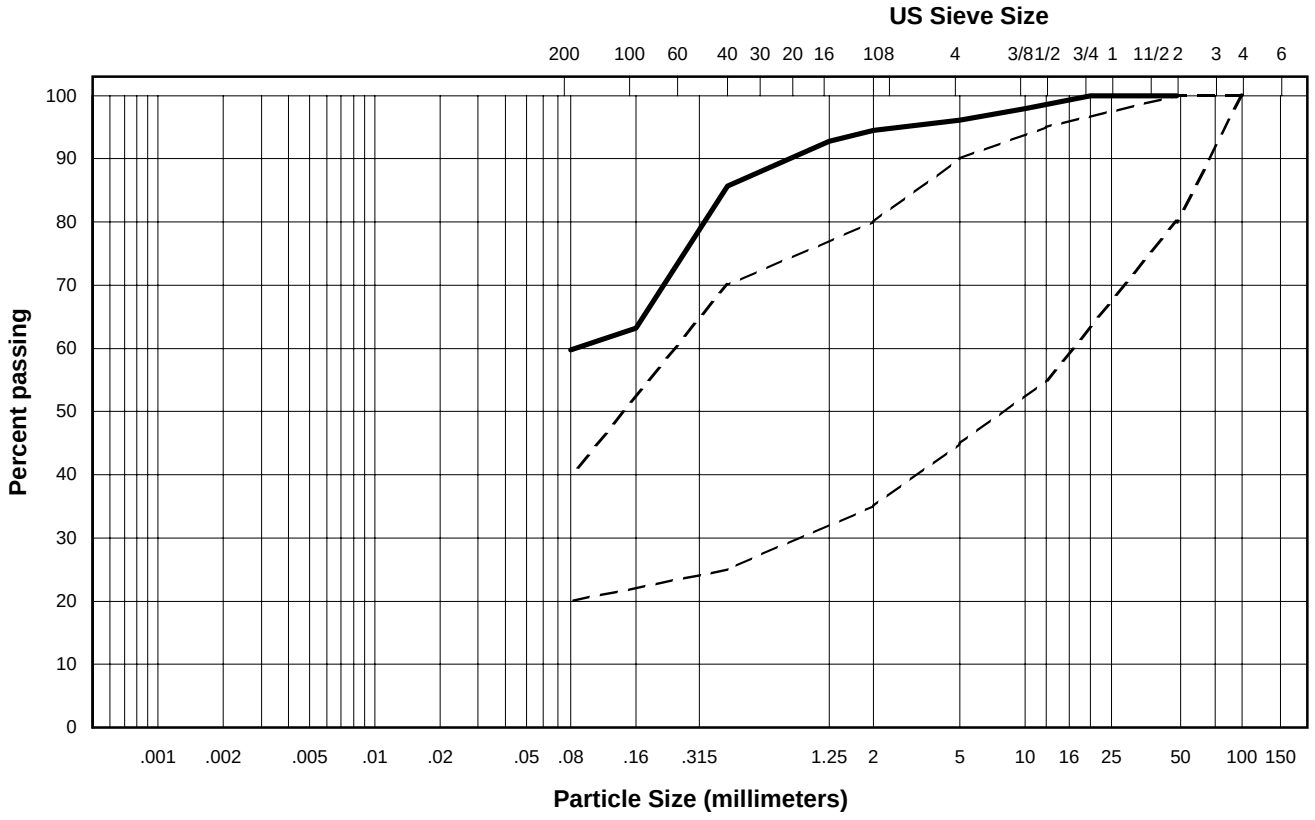
Remarks: Sampled from the Landfill North Berm

Cape Christian Type 4 gradation limits shown

Washed on 160 µm sieve

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	#N/A
12.5	#N/A
10	98
5	96
2	94
1.25	93
0.425	86
0.08	60

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 033

Depth:

Soil Description: SAND, silty, trace gravel

Cu: N/A

Cc: N/A

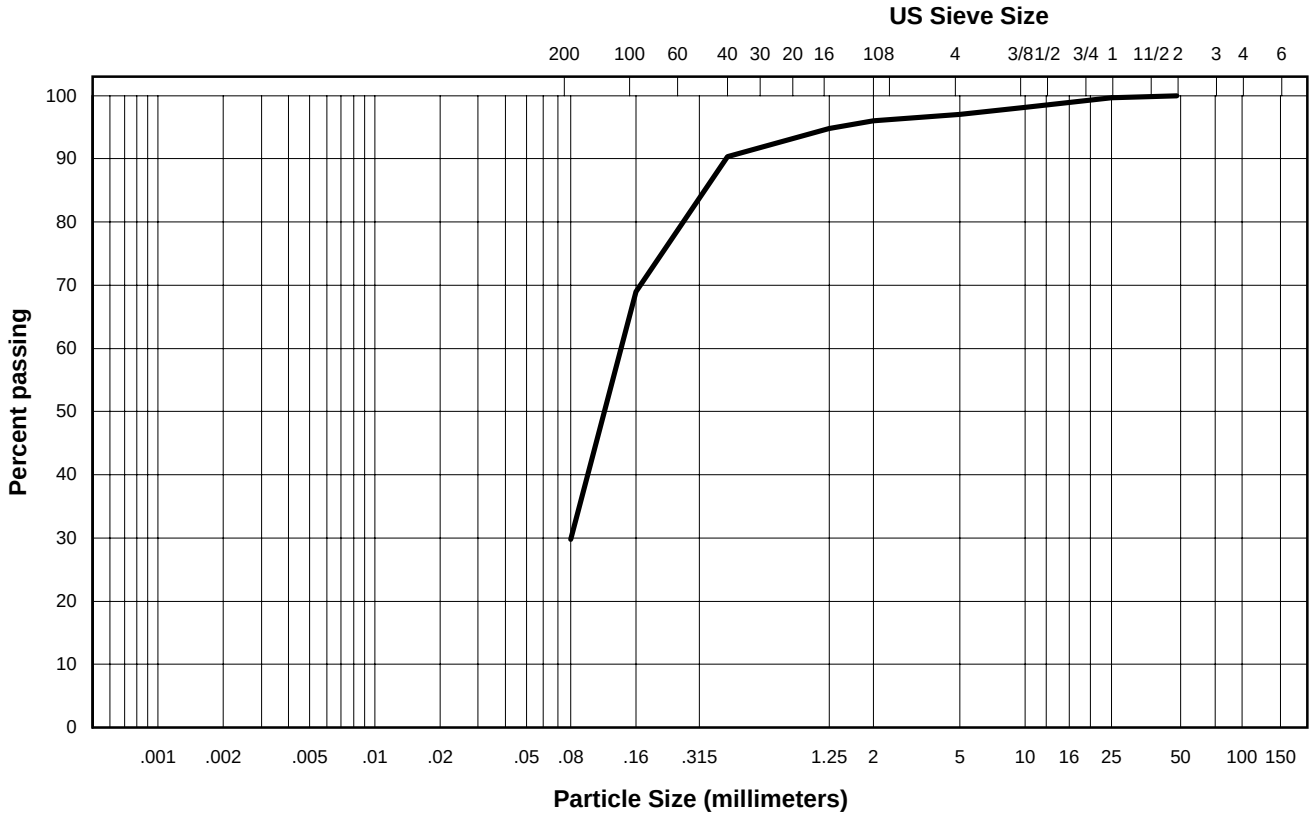
Natural Moisture Content: 8.6%

Remarks: Sampled from Landfarm

Material sampled from numerous test pits, dug by hand

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	100
12.5	#N/A
10	98
5	97
2	96
1.25	95
0.425	90
0.08	30

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 15-Aug-09

Sample Number 034

Depth:

Soil Description: GRAVEL and SAND, trace fines

Cu: N/A

Cc: N/A

Natural Moisture Content: 3.0%

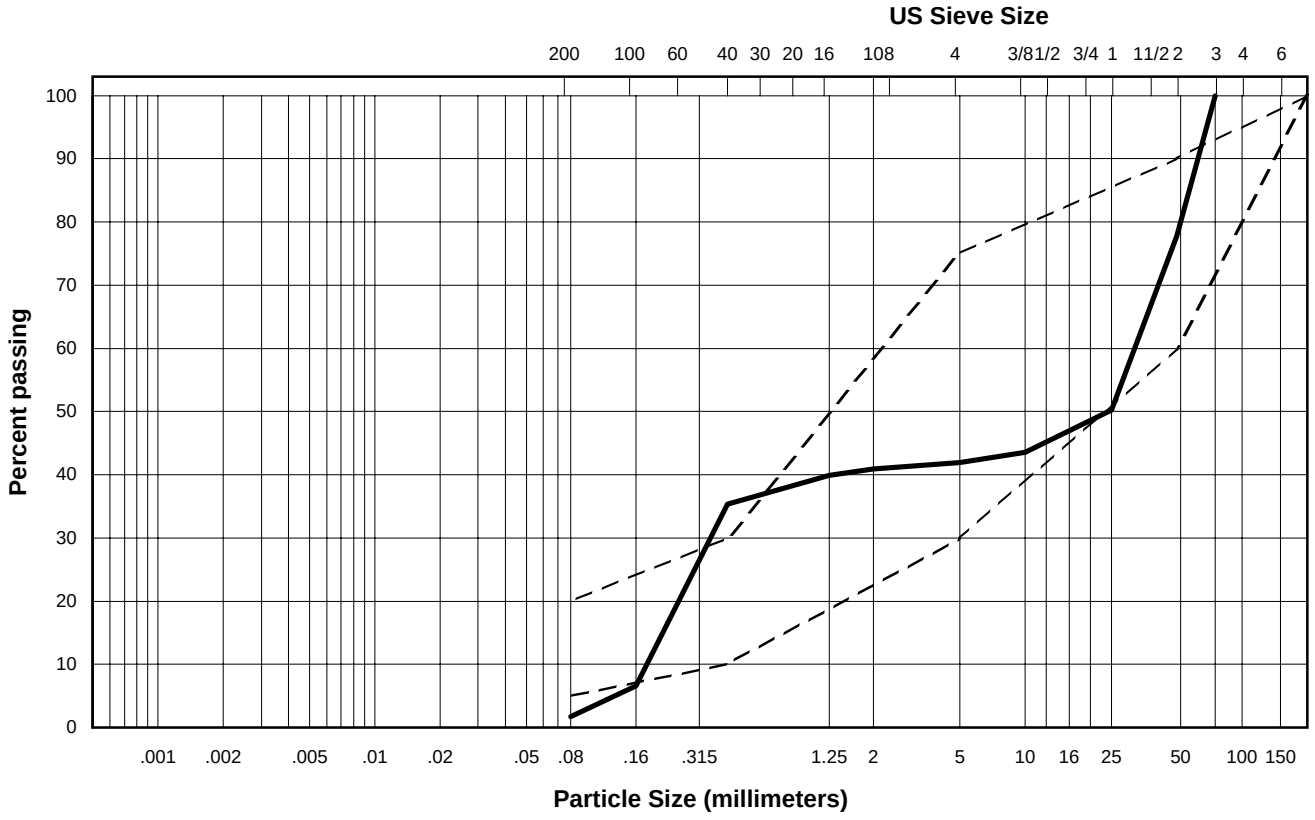
Remarks: Sampled from foundation fill

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	78
25	50
12.5	#N/A
10	44
5	42
2	41
1.25	40
0.425	35
0.08	2

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

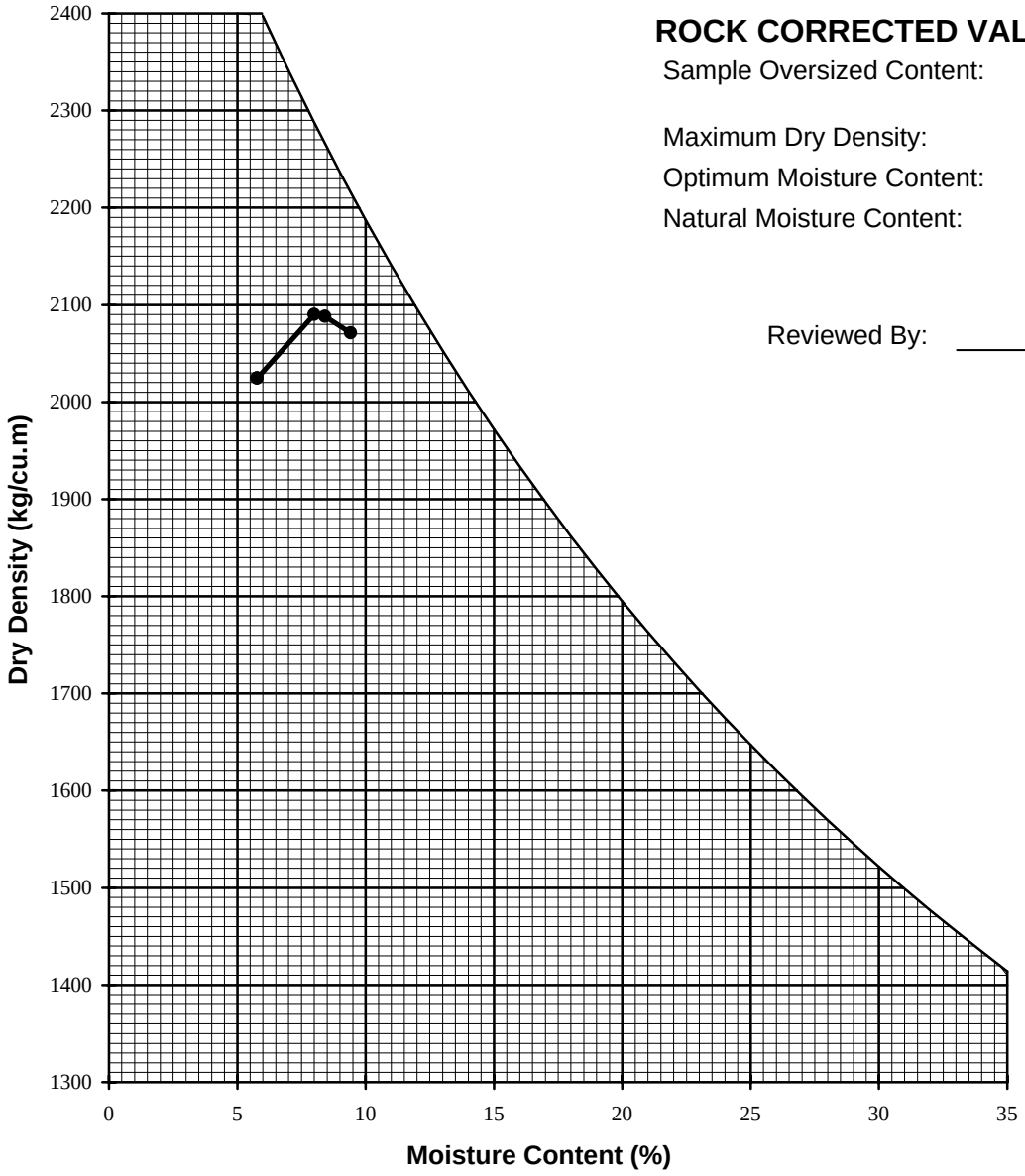
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MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGSC
Project No.:	E22101581
Description:	GRAVEL and SAND, trace fines
Source:	Foundation Fill
Test Date:	August 14, 2009
Sample No.:	029



ROCK CORRECTED VALUES

Sample Oversized Content:	40 %	
Maximum Dry Density:	2370	kg/cu.m
Optimum Moisture Content:	4.9%	
Natural Moisture Content:	3.7%	

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 12-Jul-09

Sample Number 1

Depth:

Soil Description: 0

Cu: N/A

Cc: N/A

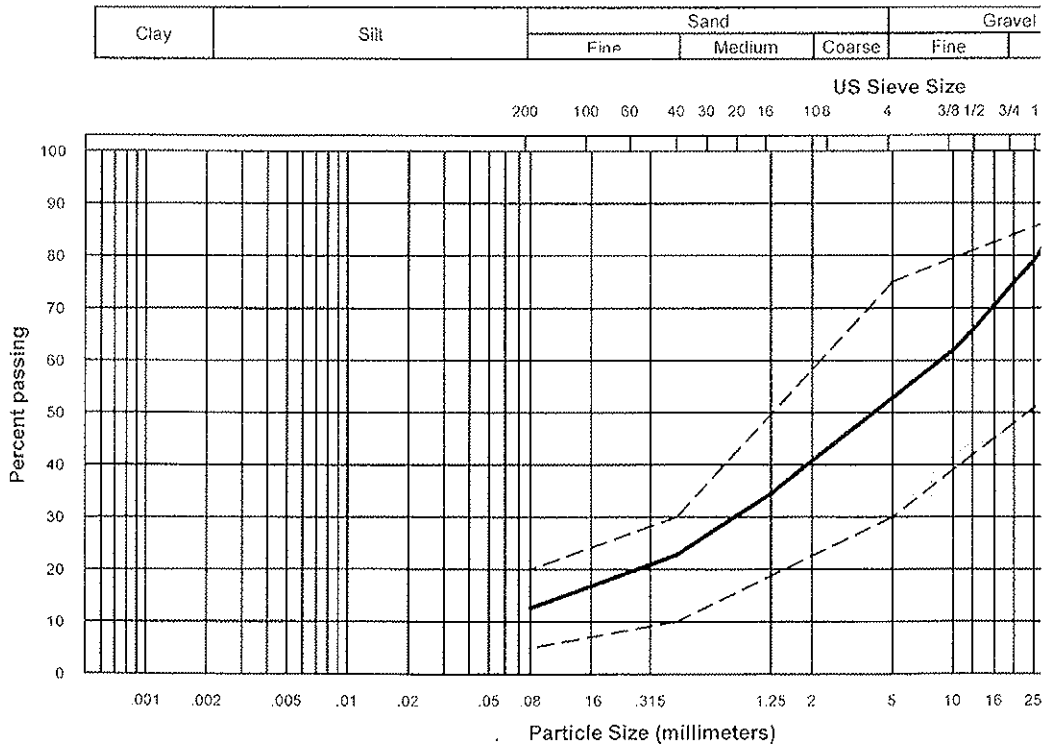
Natural Moisture Content: 4.7%

Remarks: Sampled from Borrow Area 2

Material sampled from numerous test pits, dug using backhoe.

CapeChristian Type 2 gradation limits shown

Sieve Size
200
150
75
50
25
12.5
10
5
2
1.25
0.425
0.08



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AGGREGATE ANALYSIS REPORT

Project: Cape Christian Loran Site-Residential Engineering
Address: Northern Contaminated Sites Program

Project Number: E22101581
Date Sampled: 13/07/09 By:
Client: Public Works and Governments Service
Ph: 780-497-3520 Fax: 780-497-3842
Email: marc.poot@pwgsc.gc.ca

Attention: Marc Poot

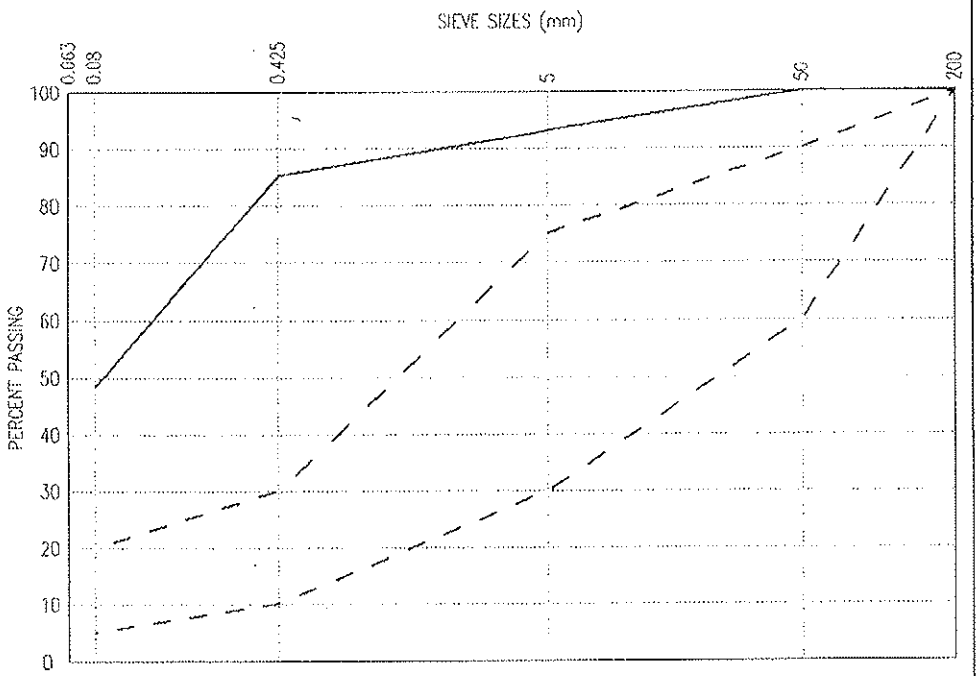
Sample Number: TP-09-09
Sample Location: Cape Christian, NU "Borrow 2"

Time: Temp:
Date Tested: 13/07/09 By: LA
Natural Moisture Content: 8.0 %
Crushed Faces: Faces:

Soil Description: Sand and Silt, Tr. Gravel - Grey

Remarks: Cape Christion specification band.

Sieve	% Passing
200	100.0
50	100.0
5	93.0
0.425	85.0
0.08	48.3



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 12-Jul-09

Sample Number 1

Depth:

Soil Description: 0

Cu: N/A

Cc: N/A

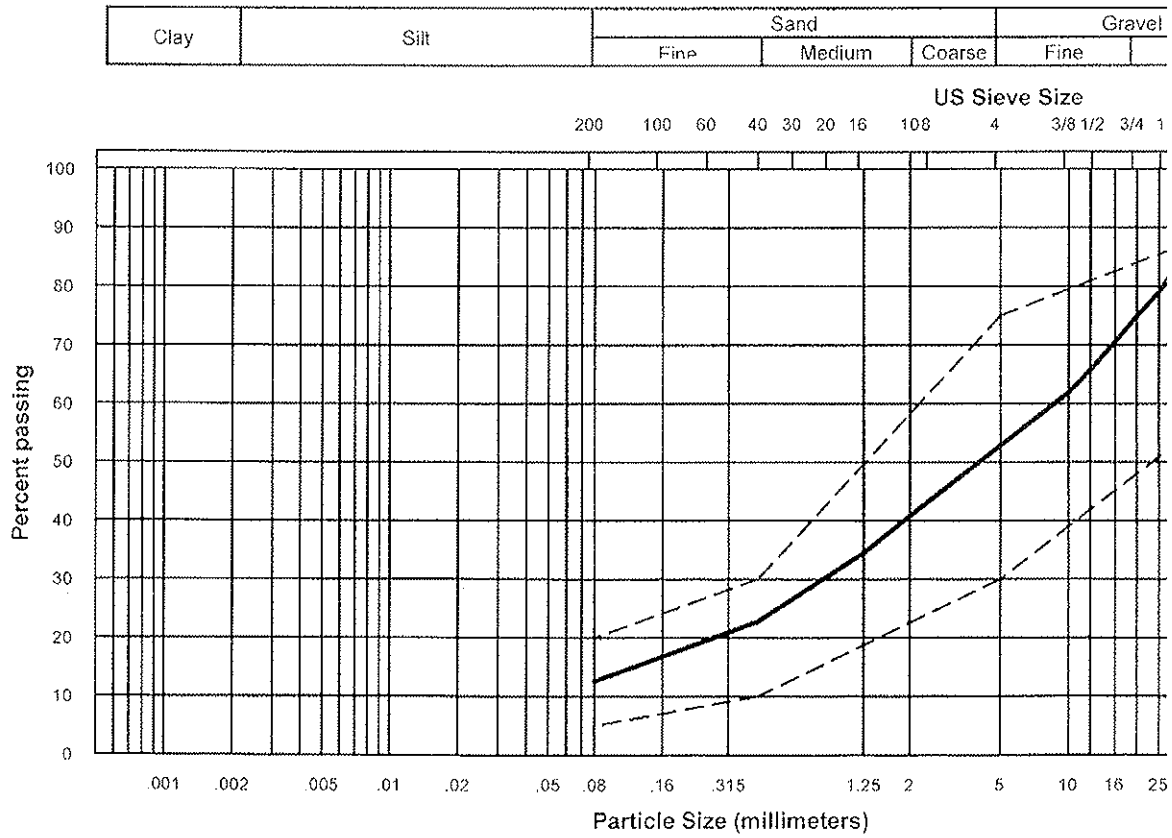
Natural Moisture Content: 4.7%

Remarks: Sampled from Borrow Area 2

Material sampled from numerous test pits, dug using backhoe.

CapeChristian Type 2 gradation limits shown

Sieve Size
200
150
75
50
25
12.5
10
5
2
1.25
0.425
0.08



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AGGREGATE ANALYSIS REPORT

Project: Cape Christian Loran Site--Residential Engineering
Address: Northern Contaminated Sites Program

Sample Number: TP--09--09
Sample Location: Cape Christian, NU "Borrow 2"

Project Number: E22101581

Date Sampled: 13/07/09 By:

Time: Temp:

Client: Public Works and Governments Service
Ph: 780--497--3520 Fax: 780--497--3842
Email: marc.poot@pwgsc.gc.ca

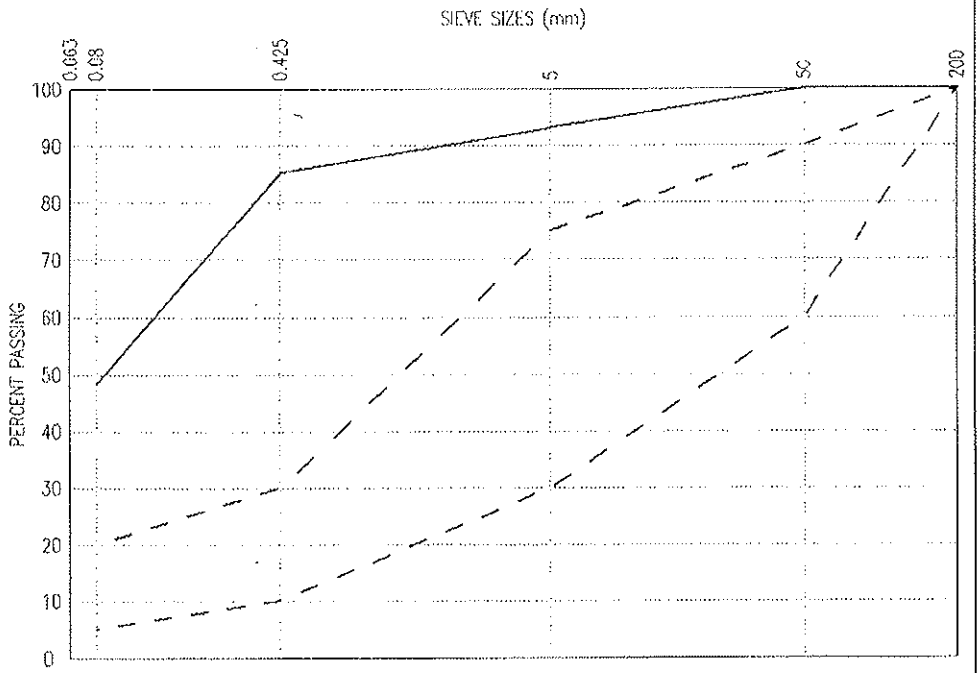
Date Tested: 13/07/09 By: LA
Natural Moisture Content: 8.0 %
Crushed Faces: Faces:

Attention: Marc Poot

Soil Description: Sand and Silt, Tr. Gravel -- Grey

Remarks: Cape Christion specification band.

Sieve	% Passing
200	100.0
50	100.0
5	93.0
0.425	85.0
0.08	48.3



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 002

Depth:

Soil Description: SAND, gravely

Cu: N/A

Cc: N/A

Natural Moisture Content: 1.9%

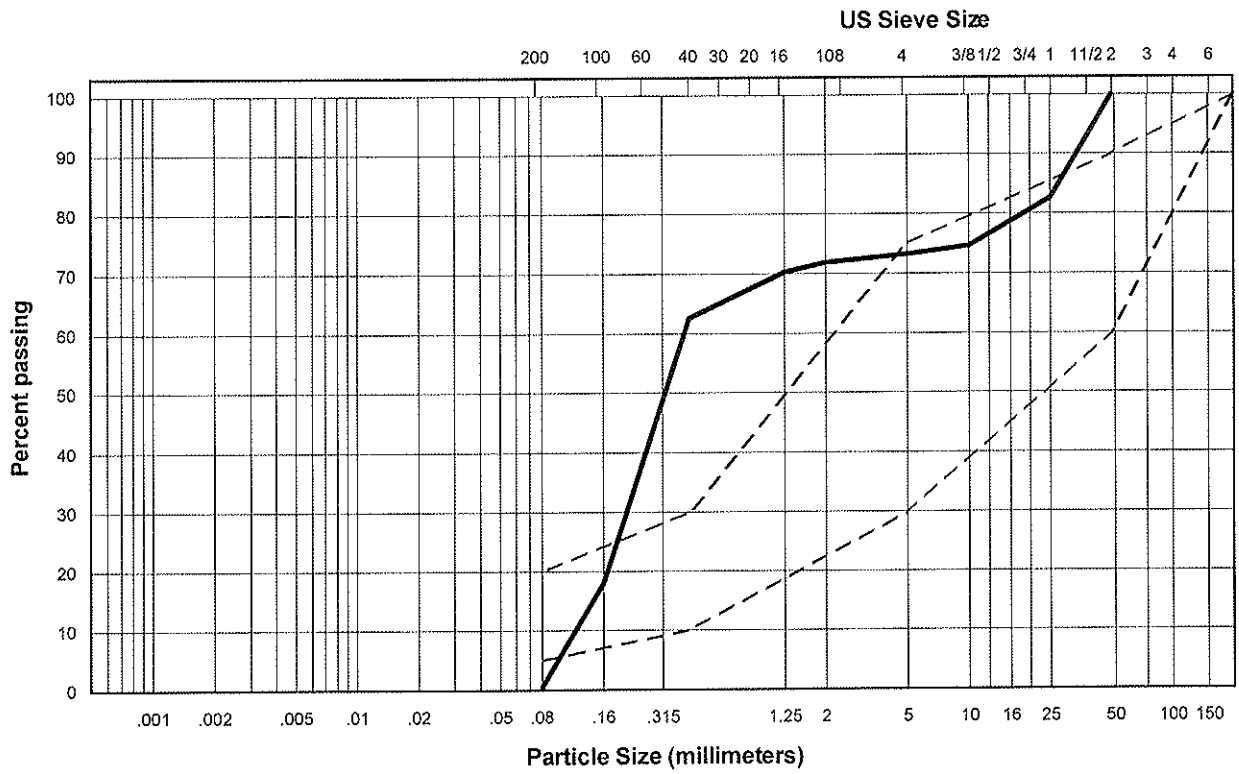
Remarks: Sampled from BA03

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	83
12.5	#N/A
10	75
5	73
2	72
1.25	70
0.425	63
0.08	0

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 006

Depth:

Soil Description: SAND, gravely, silty

Cu: N/A

Cc: N/A

Natural Moisture Content: 14.8%

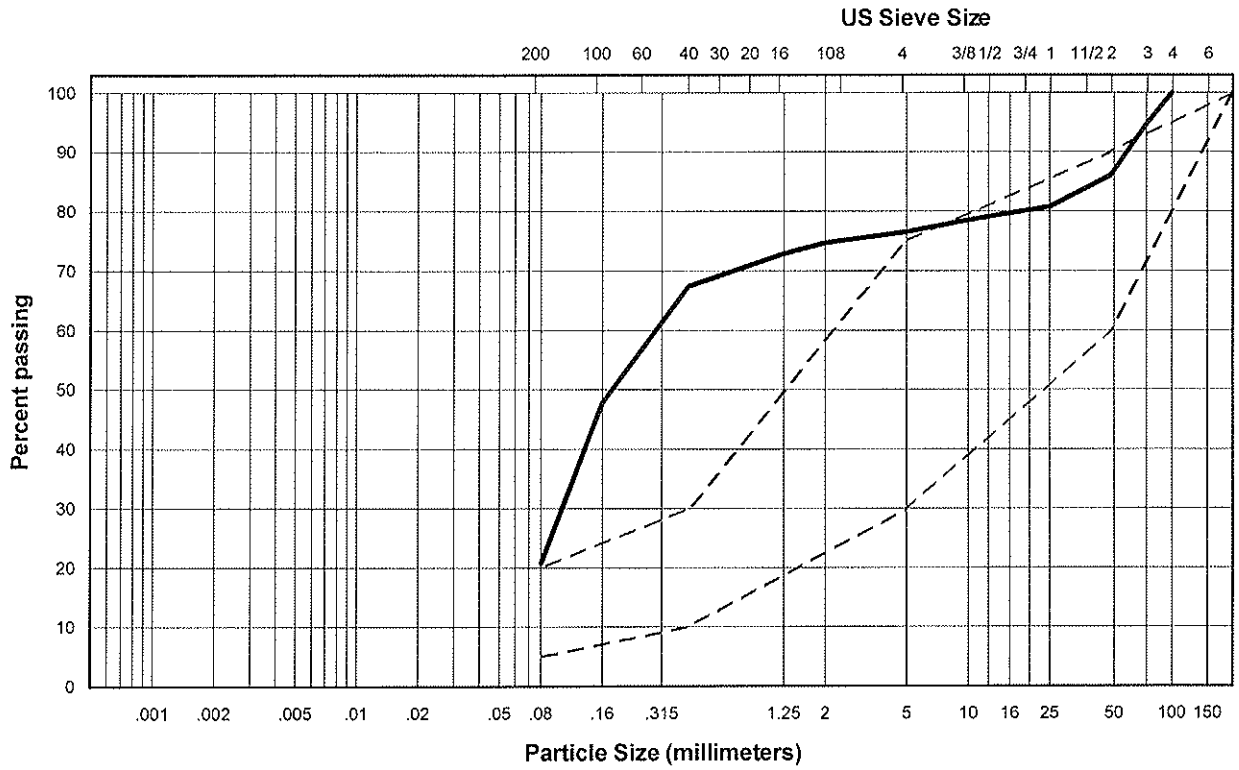
Remarks: Sampled from Borrow Area 08

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	95
50	86
25	81
12.5	#N/A
10	79
5	77
2	75
1.25	73
0.425	67
0.08	21

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

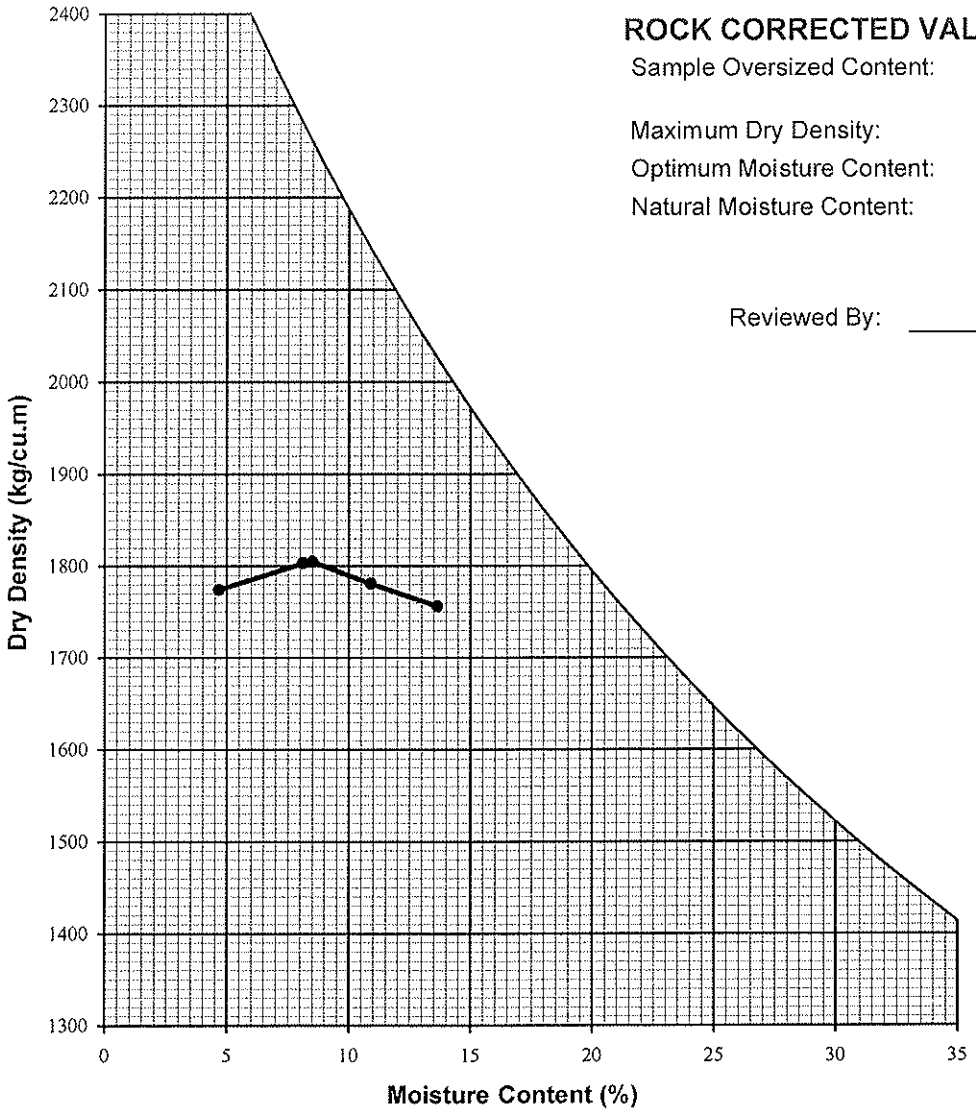
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MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGSC
Project No.:	E22101581
Description:	SAND, gravely, silty
Source:	BA-08
Test Date:	July 8, 2009
Sample No.:	029



ROCK CORRECTED VALUES

Sample Oversized Content:	20 %	
Maximum Dry Density:	2000	kg/cu.m
Optimum Moisture Content:	6.8%	
Natural Moisture Content:	14.7%	

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 014

Depth:

Soil Description: SAND and GRAVEL, silty

Cu: N/A

Cc: N/A

Natural Moisture Content: 8.8%

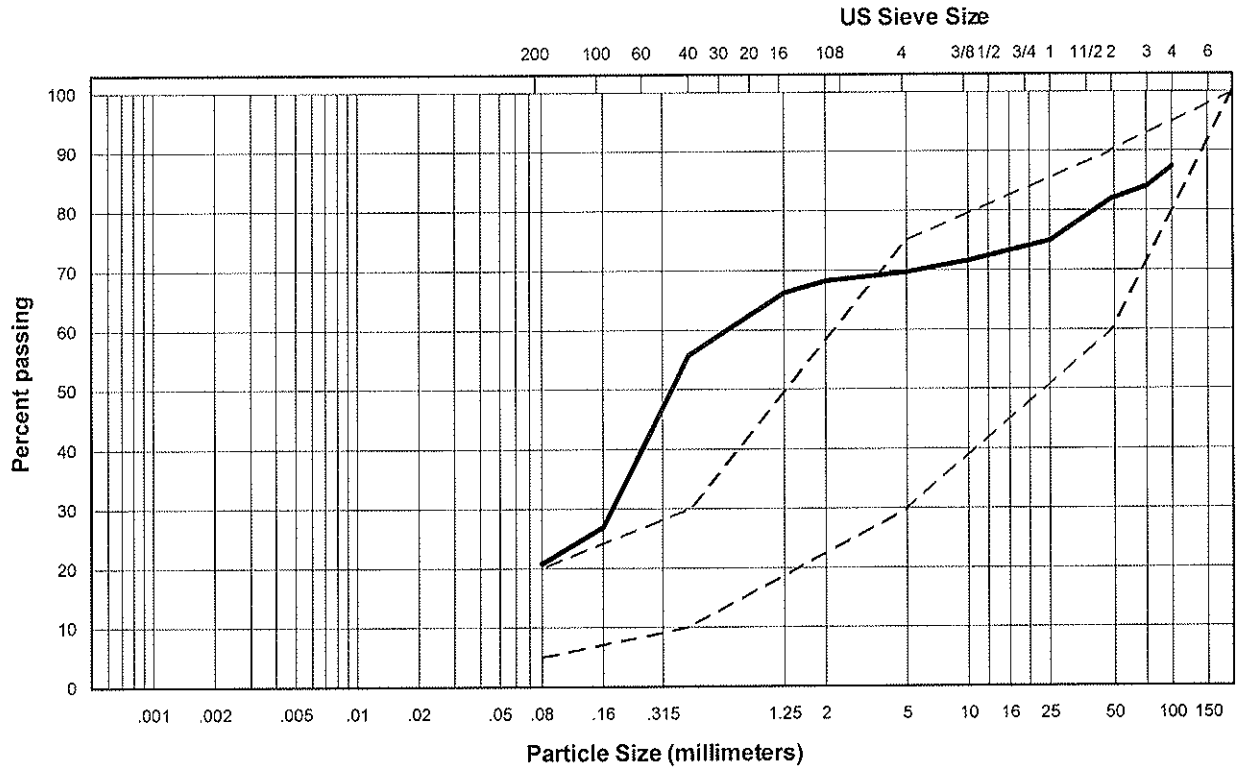
Remarks: Samplef from BA14

Washed on 160 µm sieve

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	84
50	82
25	75
12.5	#N/A
10	72
5	70
2	68
1.25	66
0.425	56
0.08	21

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

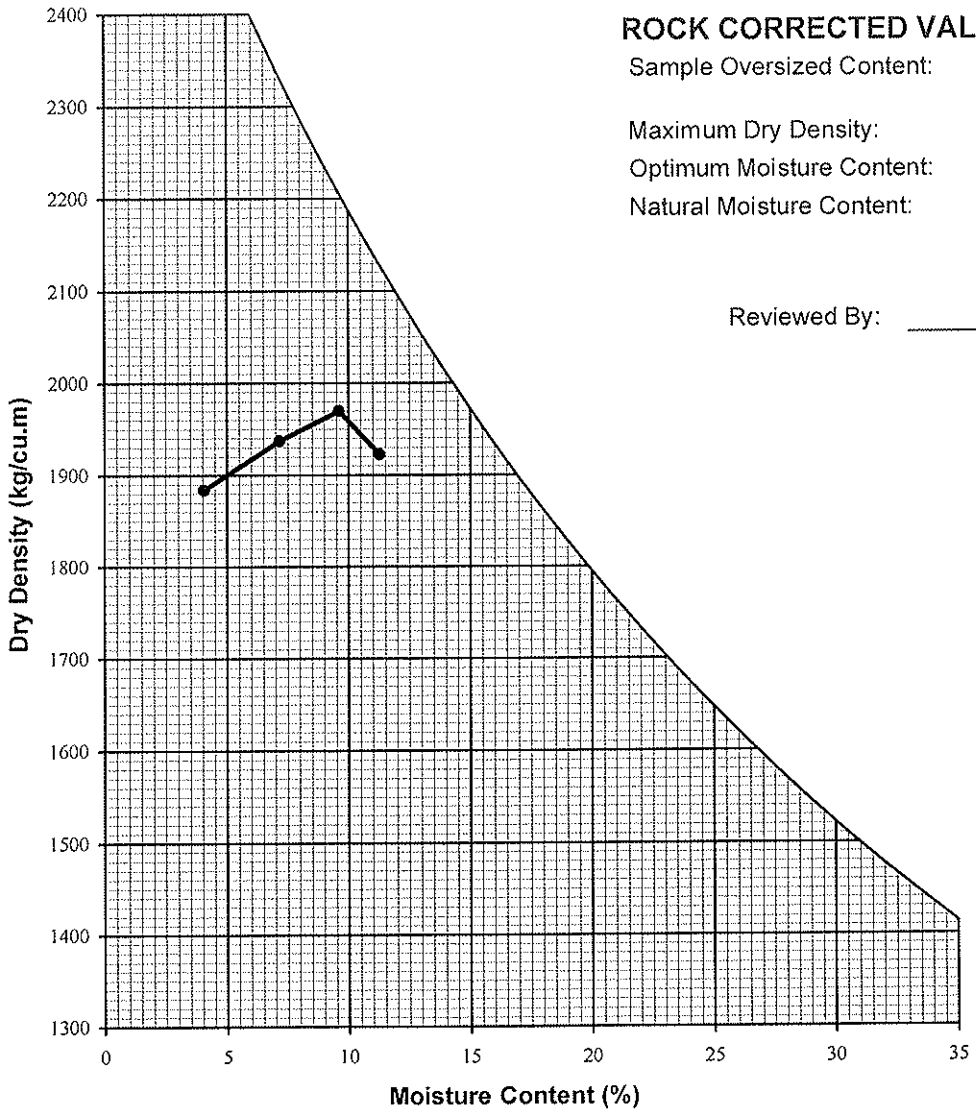
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MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGCS
Project No.:	E22101581
Description:	Type 2
Source:	Borrow Area 14
Test Date:	July 14, 2009
Sample No.:	010



ROCK CORRECTED VALUES

Sample Oversized Content:	30 %	
Maximum Dry Density:	2220	kg/cu.m
Optimum Moisture Content:	6.8%	
Natural Moisture Content:	7.9%	

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 011

Depth:

Soil Description: GRAVEL and SAND

Cu: N/A

Cc: N/A

Natural Moisture Content: 3.1%

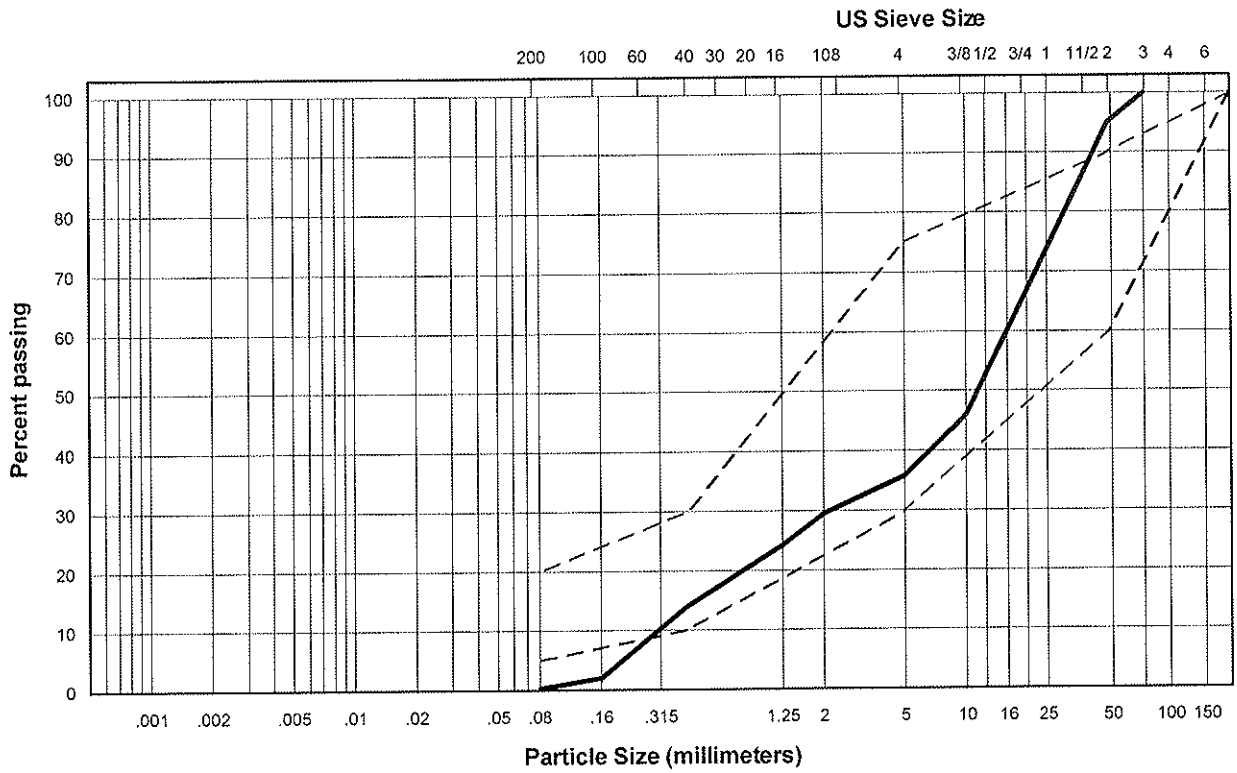
Remarks: Sampled from Borrow Area 7

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	95
25	74
12.5	#N/A
10	46
5	36
2	30
1.25	24
0.425	14
0.08	0

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 012

Depth:

Soil Description: GRAVEL and SAND, silty

Cu: N/A

Cc: N/A

Natural Moisture Content: 6.8%

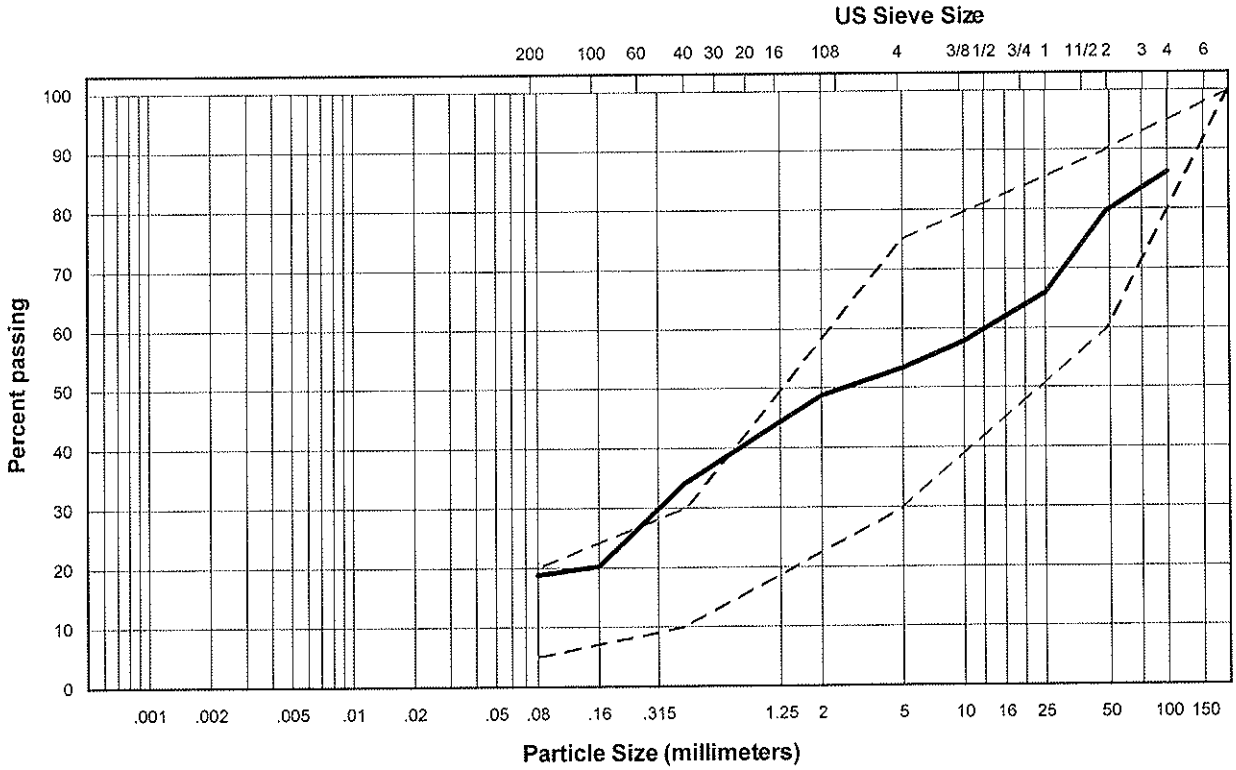
Remarks: Sampled from BA16

Washed on 160 µm sieve

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	80
25	66
12.5	#N/A
10	58
5	53
2	49
1.25	44
0.425	34
0.08	19

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 013

Depth:

Soil Description: GRAVEL and SAND, trace fines

Cu: N/A

Cc: N/A

Natural Moisture Content: 3.5%

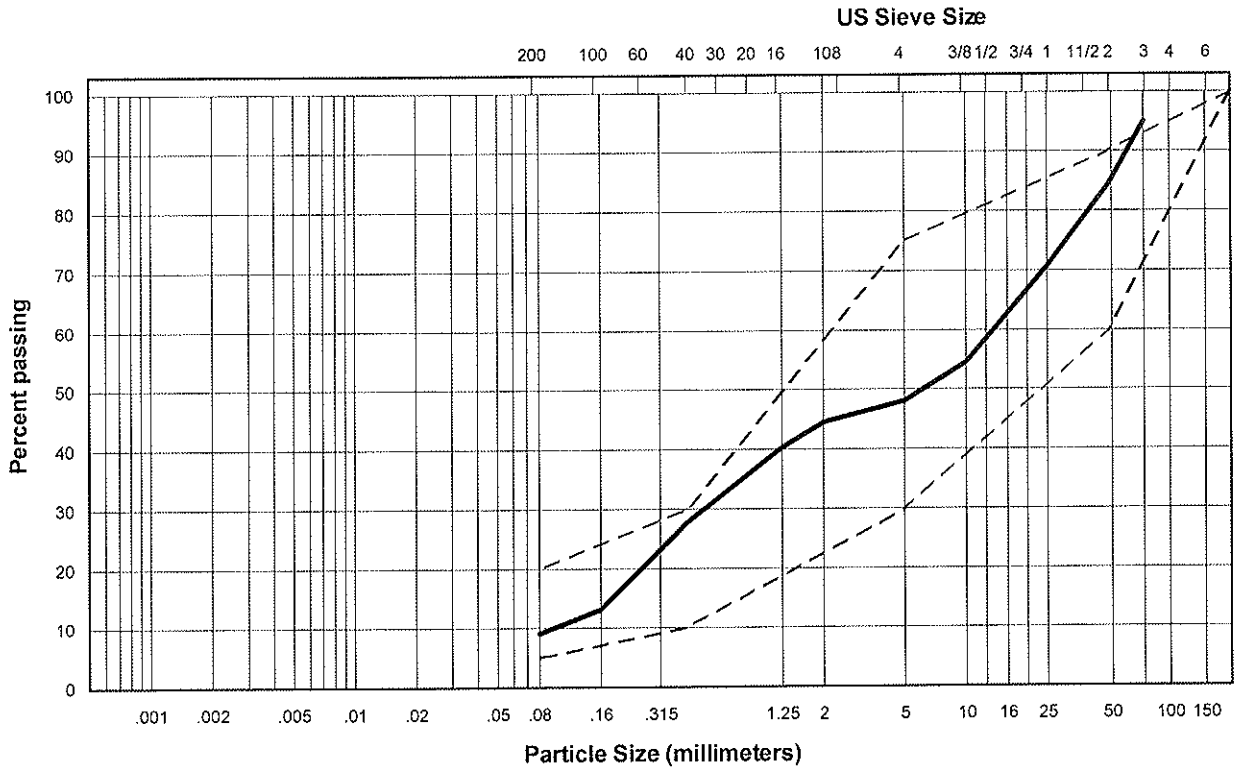
Remarks: Sampled from BA17

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	95
50	84
25	71
12.5	#N/A
10	55
5	48
2	45
1.25	40
0.425	28
0.08	9

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 014

Depth:

Soil Description: SAND, some gravel, trace fines

Cu: N/A

Cc: N/A

Natural Moisture Content: 5.4%

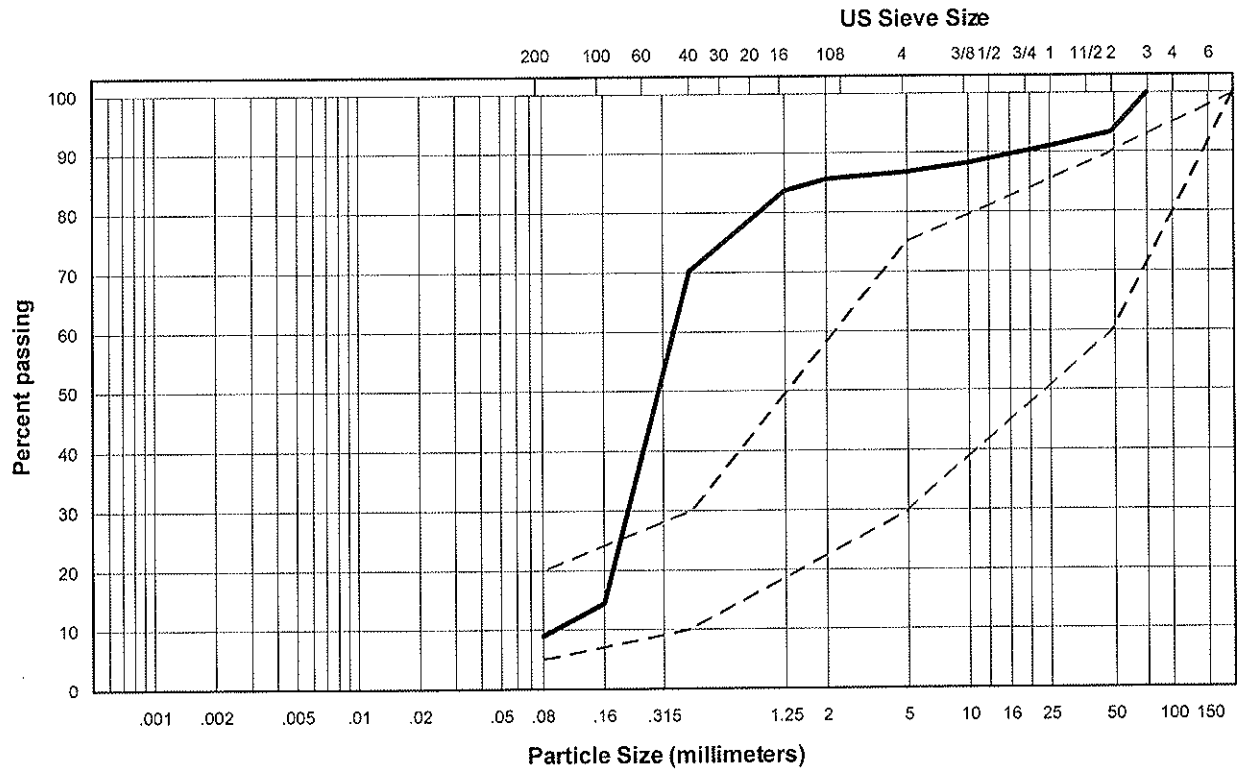
Remarks: Sampled from BA18

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	93
25	91
12.5	#N/A
10	88
5	87
2	86
1.25	84
0.425	70
0.08	9

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 20-Jul-09

Sample Number 23

Depth:

Soil Description: 0

Cu: N/A

Cc: N/A

Natural Moisture Content: 13.0%

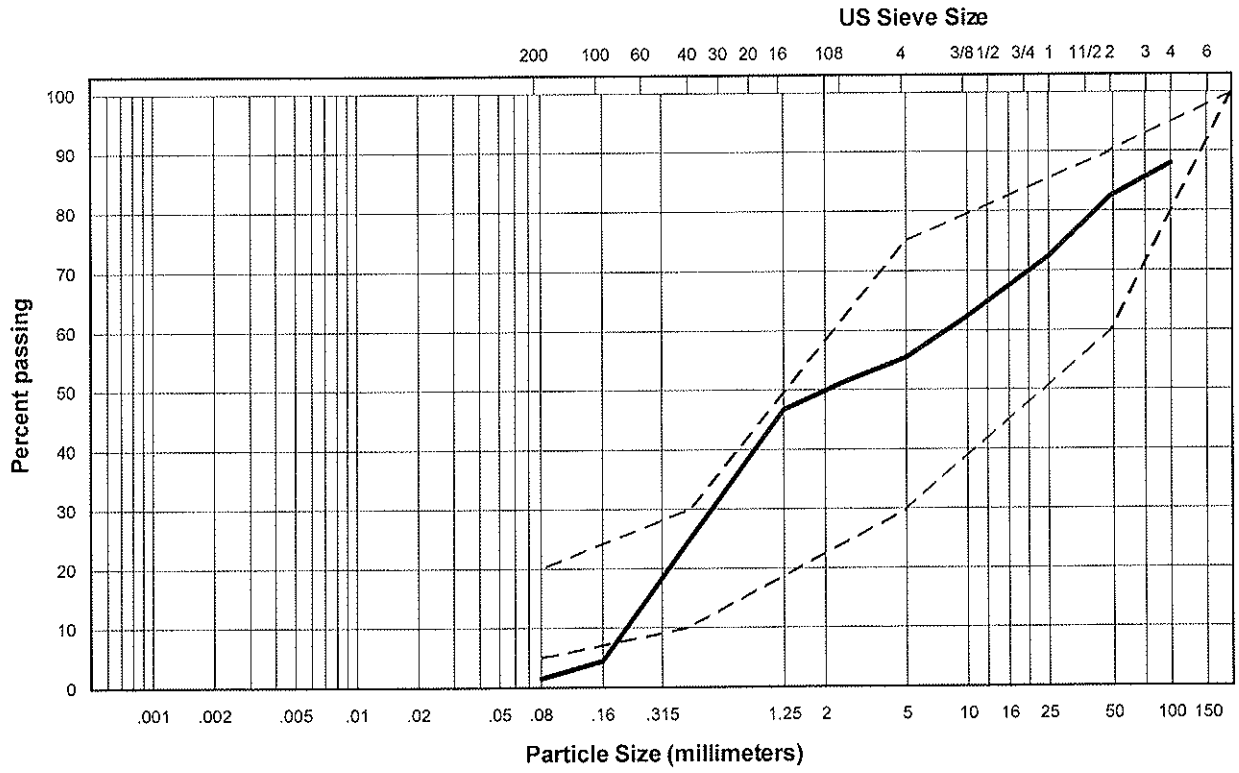
Remarks: Sampled from Borrow Area 27

Material is near surface sample, obtained from hand dug test pit.

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
100	88
75	#N/A
50	82
25	72
12.5	#N/A
10	62
5	55
2	51
1.25	47
0.425	25
0.08	2

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 20-Jul-09

Sample Number 23

Depth:

Soil Description: 0

Cu: N/A

Cc: N/A

Natural Moisture Content: 13.0%

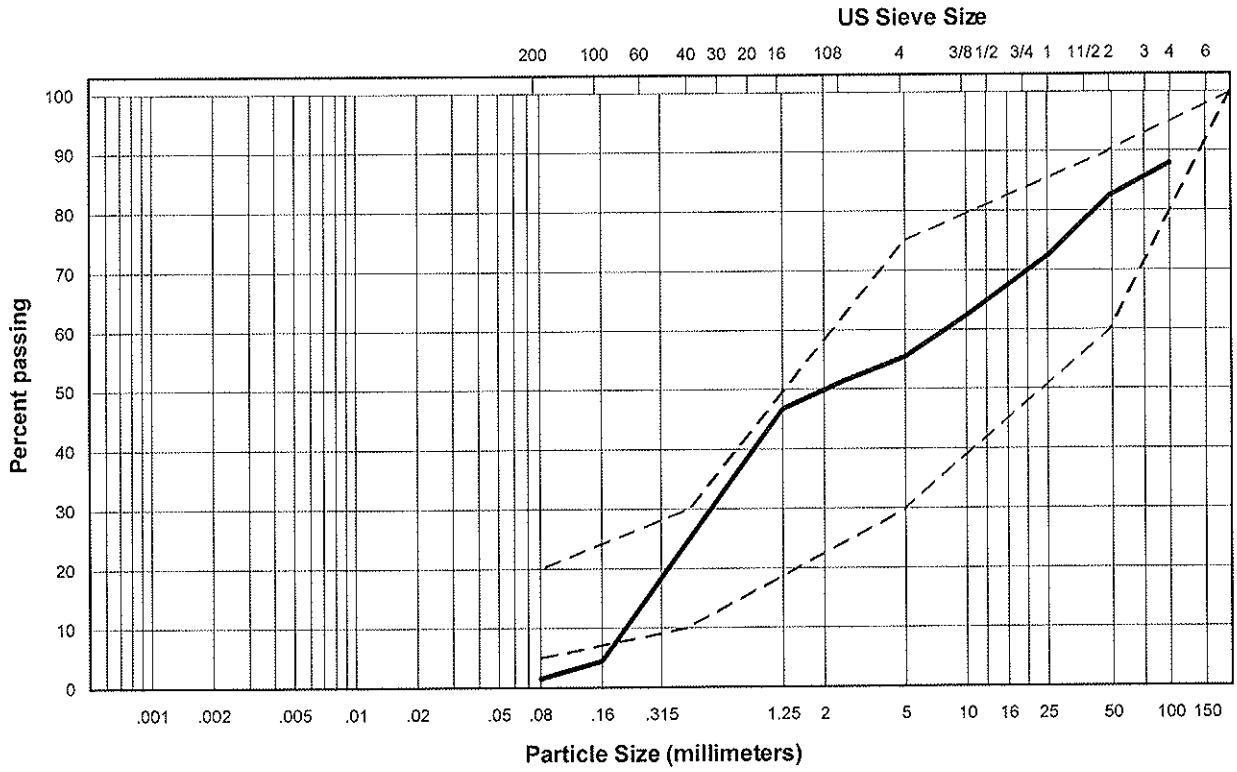
Remarks: Sampled from Borrow Area 27

Material is near surface sample, obtained from hand dug test pit.

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
100	88
75	#N/A
50	82
25	72
12.5	#N/A
10	62
5	55
2	51
1.25	47
0.425	25
0.08	2

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 13-Aug-09

Sample Number 026

Depth:

Soil Description: SAND, trace gravel, trace silt

Cu: N/A

Cc: N/A

Natural Moisture Content: 5.2%

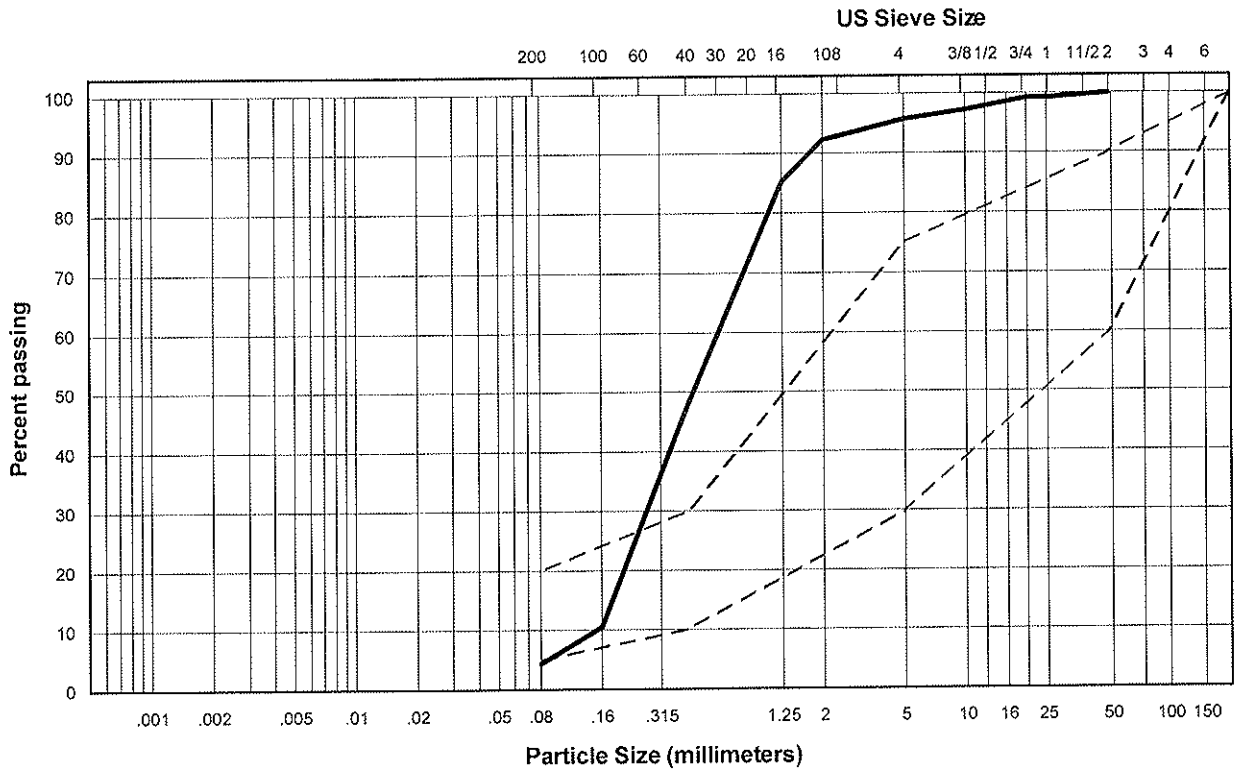
Remarks: Sampled from BA12

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	99
12.5	#N/A
10	97
5	96
2	92
1.25	85
0.425	48
0.08	4

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 13-Aug-09

Sample Number 027

Depth:

Soil Description: SAND and GRAVEL, some silt

Cu: N/A

Cc: N/A

Natural Moisture Content: 13.3%

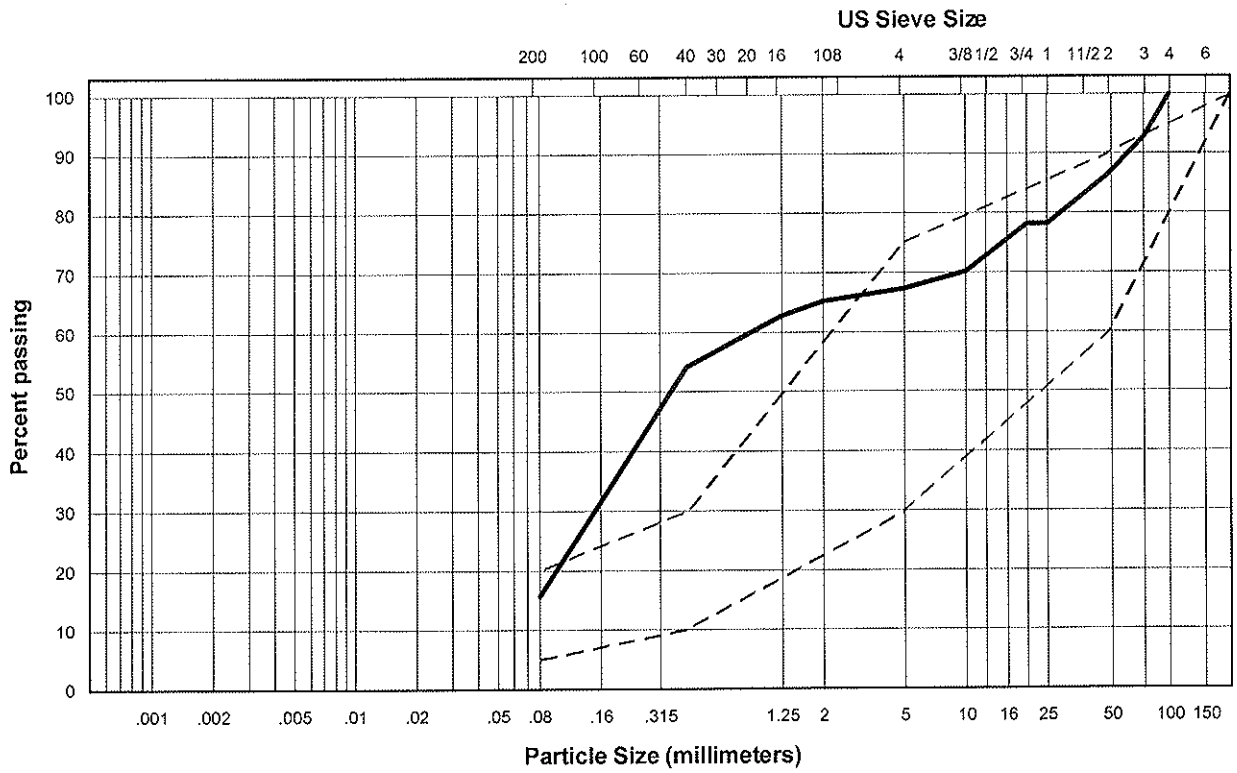
Remarks: Sampled from BA15

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	93
50	86
25	78
12.5	#N/A
10	70
5	67
2	65
1.25	63
0.425	54
0.08	16

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 09-Aug-09

Sample Number 29

Depth:

Soil Description: SILT, sandy, trace gravel

Cu: N/A

Cc: N/A

Natural Moisture Content: 9.2%

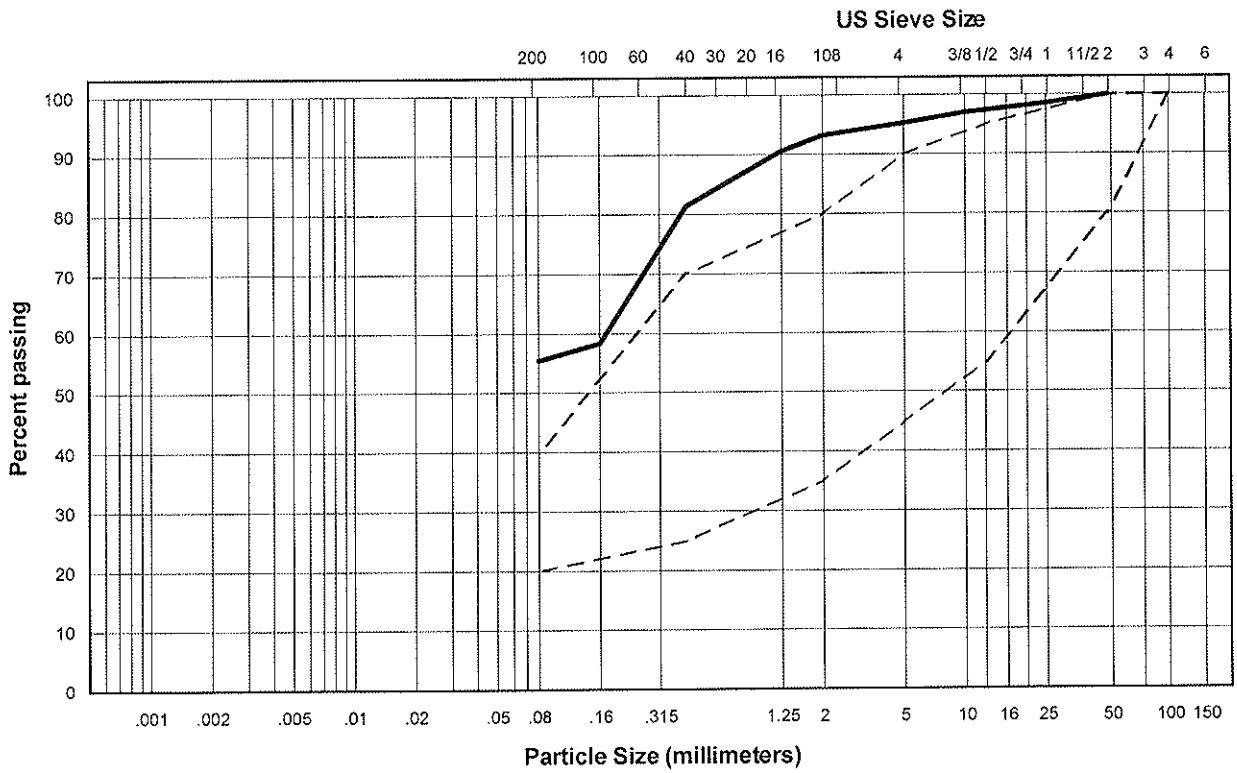
Remarks: Sample from Borrow Area 8 - from the berm

Washed on 160 µm sieve

Cape Christian Type 4 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	99
12.5	#N/A
10	97
5	95
2	93
1.25	91
0.425	81
0.08	55

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

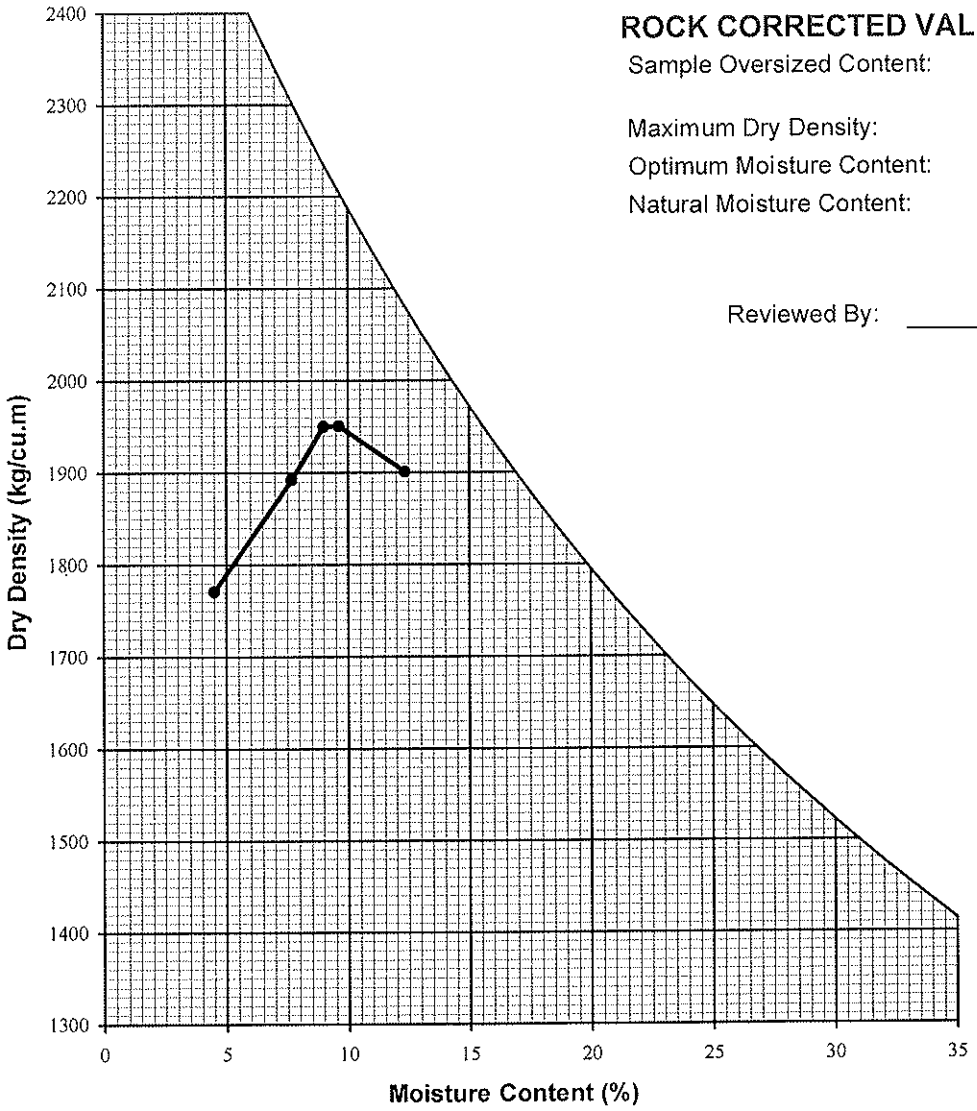
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MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGSC
Project No.:	E22101581
Description:	SILT, sandy, trace gravel
Source:	BA-08, from the berm
Test Date:	August 9, 2009
Sample No.:	029



ROCK CORRECTED VALUES

Sample Oversized Content:	1.3 %	
Maximum Dry Density:	1960	kg/cu.m
Optimum Moisture Content:	8.9%	
Natural Moisture Content:	9.5%	

Reviewed By: _____

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 10-Aug-09

Sample Number 031

Depth:

Soil Description: SAND and GRAVEL, trace fines

Cu: N/A

Cc: N/A

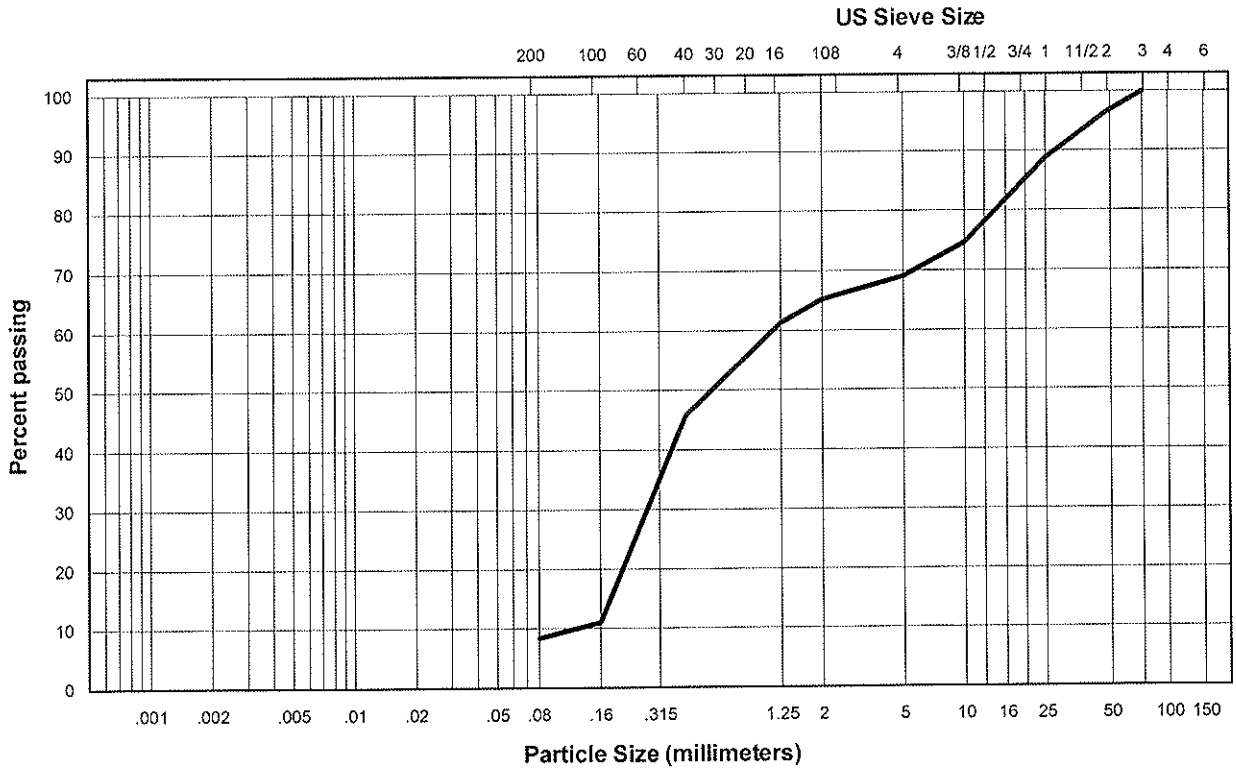
Natural Moisture Content: 3.6%

Remarks: Sampled from stockpile at landfill

Washed on 160 µm sieve

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	96
25	89
12.5	#N/A
10	75
5	69
2	65
1.25	61
0.425	46
0.08	8

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 09-Aug-09

Sample Number 032

Depth:

Soil Description: SILT, sandy, trace gravel

Cu: N/A

Cc: N/A

Natural Moisture Content: 11.5%

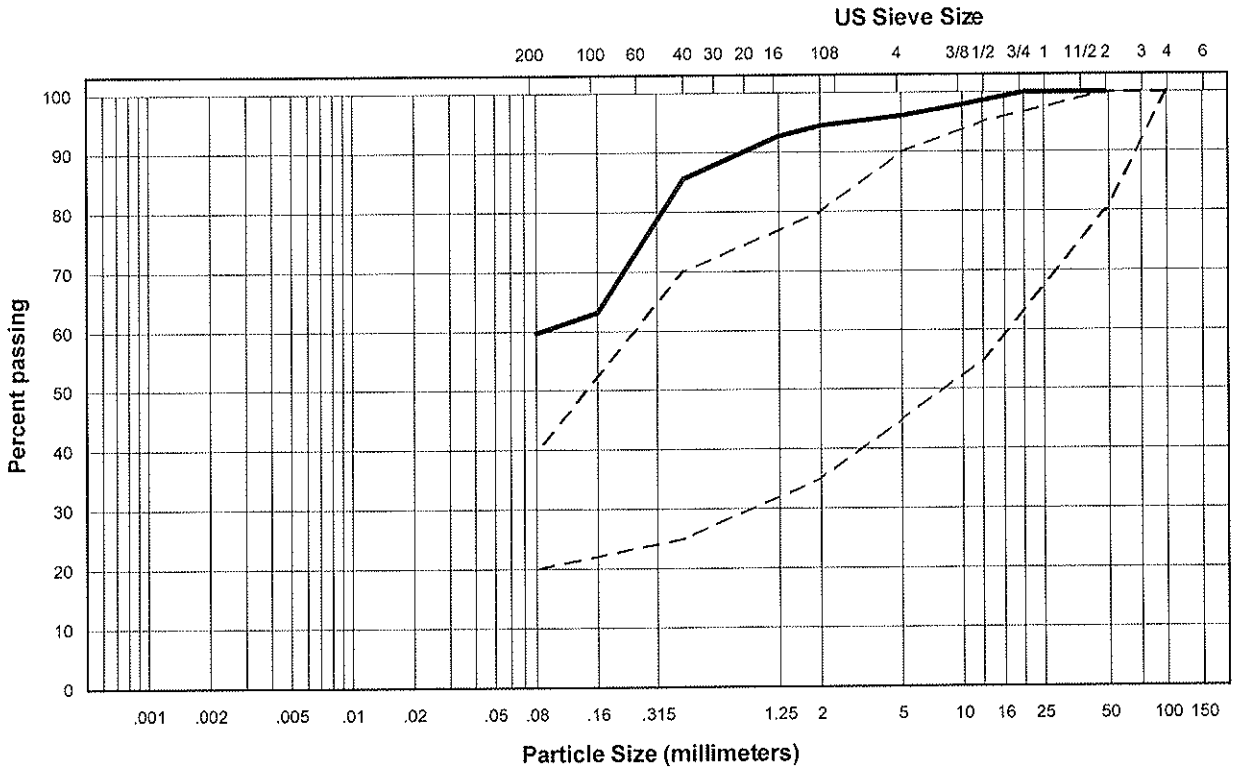
Remarks: Sampled from the Landfill North Berm

Cape Christian Type 4 gradation limits shown

Washed on 160 µm sieve

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	#N/A
12.5	#N/A
10	98
5	96
2	94
1.25	93
0.425	86
0.08	60

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 14-Aug-09

Sample Number 033

Depth:

Soil Description: SAND, silty, trace gravel

Cu: N/A

Cc: N/A

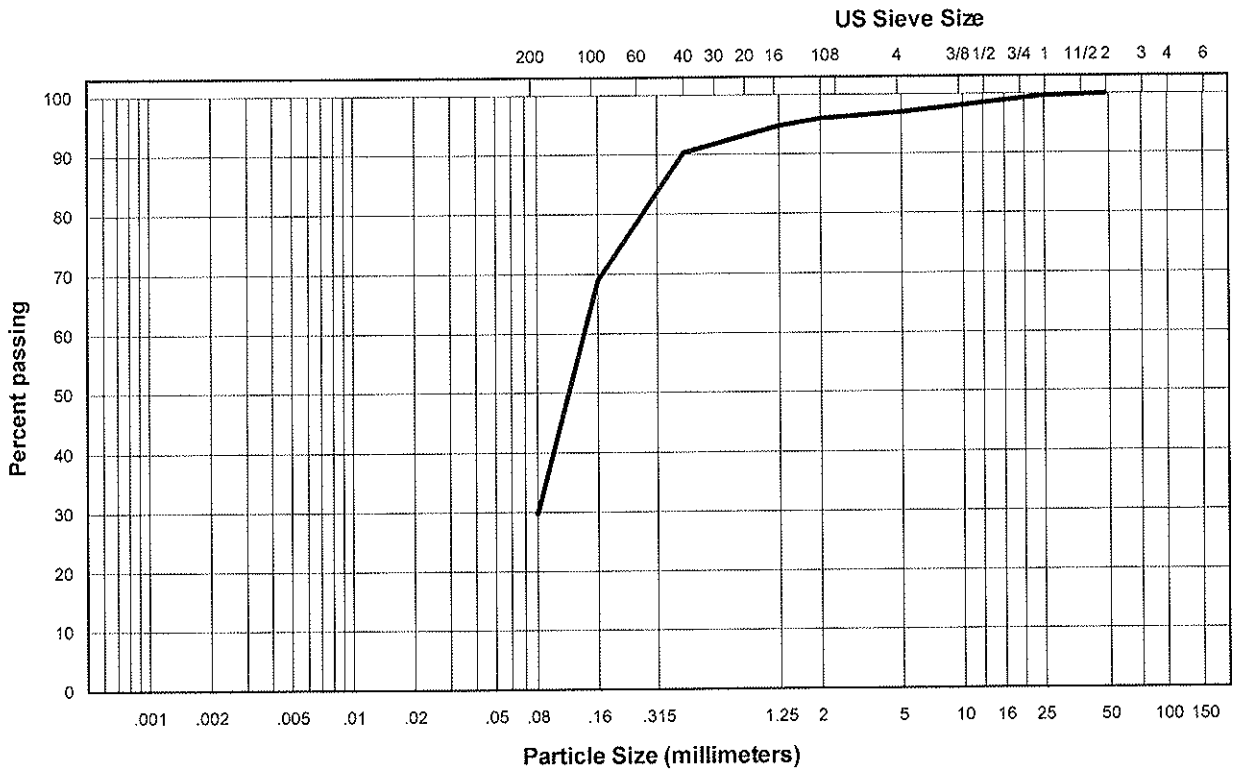
Natural Moisture Content: 8.6%

Remarks: Sampled from Landfarm

Material sampled from numerous test pits, dug by hand

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	#N/A
50	100
25	100
12.5	#N/A
10	98
5	97
2	96
1.25	95
0.425	90
0.08	30

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

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PARTICLE SIZE DISTRIBUTION

ASTM C136 & D422

Project: Cape Christian Remediation Project

Project Number: E22101581

Date Tested: 15-Aug-09

Sample Number 034

Depth:

Soil Description: GRAVEL and SAND, trace fines

Cu: N/A

Cc: N/A

Natural Moisture Content: 3.0%

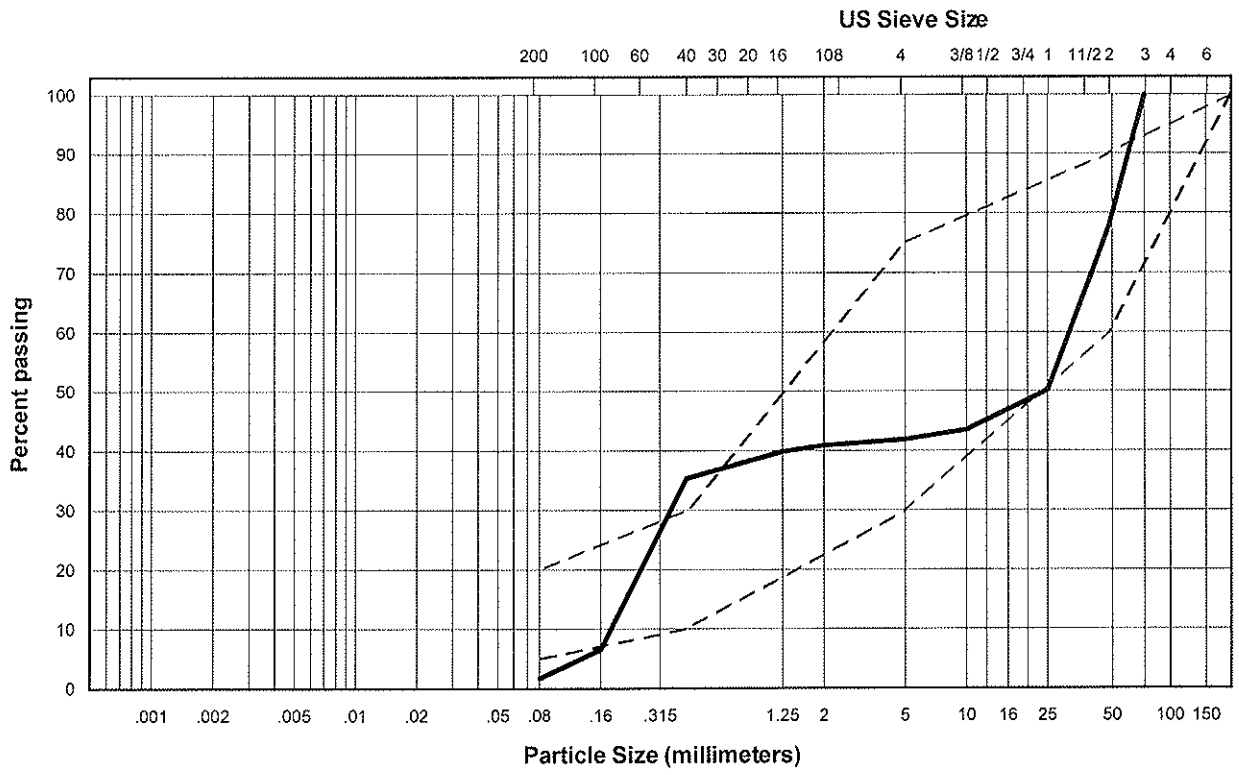
Remarks: Sampled from foundation fill

Material sampled from numerous test pits, dug by hand

CapeChristian Type 2 gradation limits shown

Sieve Size	Percent Passing
200	#N/A
150	#N/A
75	100
50	78
25	50
12.5	#N/A
10	44
5	42
2	41
1.25	40
0.425	35
0.08	2

Clay	Silt	Sand			Gravel		Cobbles
		Fine	Medium	Coarse	Fine	Coarse	



Reviewed By: _____

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AGGREGATE ANALYSIS REPORT

CSA A23.2 - 2a

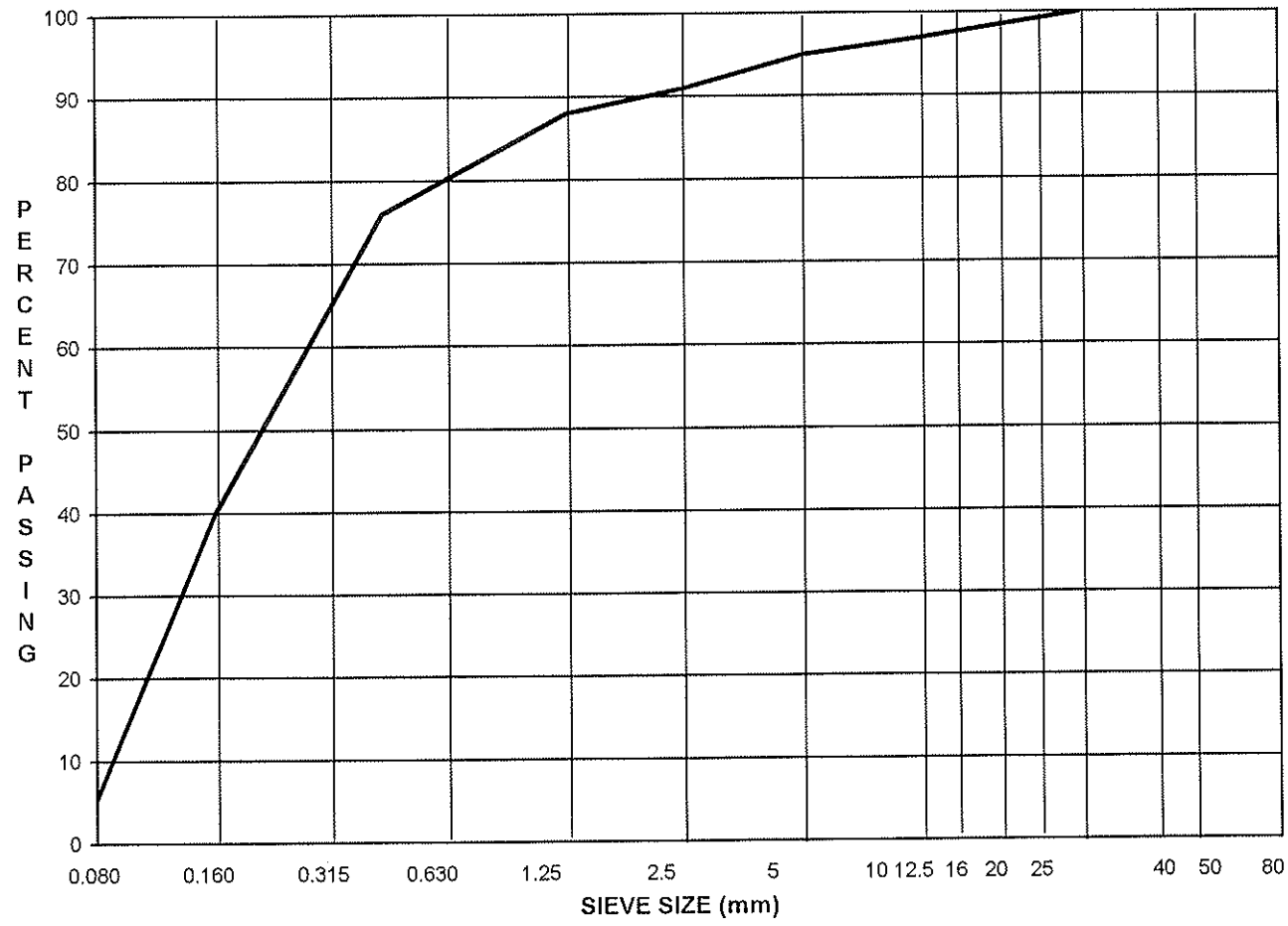
Project:	Cape Christian - LORAN Site	Sample Number:	**S01**
Project No.:	E22101581.001	Date Sampled:	August 17, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, organics, dark brown.		
Location:	Borrow Area #8. Middle, CL of Berm #2.	Moisture Content:	8.0%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**97**	**95**	**91**	**88**	**76**		**40.0**	**5.5**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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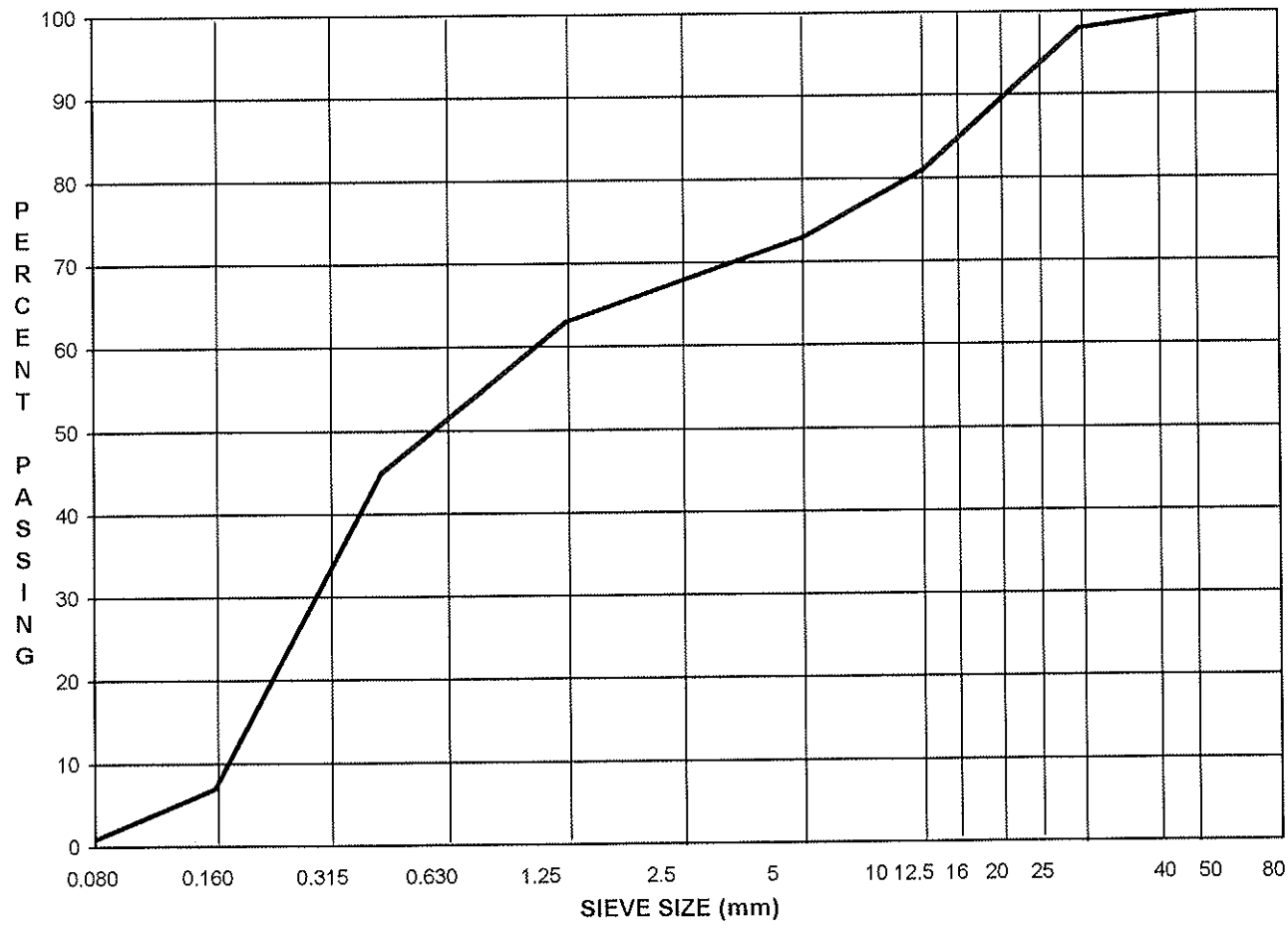
Project:	Cape Christian - LORAN Site	Sample Number:	**S02**
Project No.:	E22101581.001	Date Sampled:	August 17, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, light brown.		
Location:	Borrow Area #7, stockpiles.	Moisture Content:	1.6%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**98**				**81**	**73**	**68**	**63**	**45**		**7.0**	**0.9**

Remarks: Only specified sieves have been plotted

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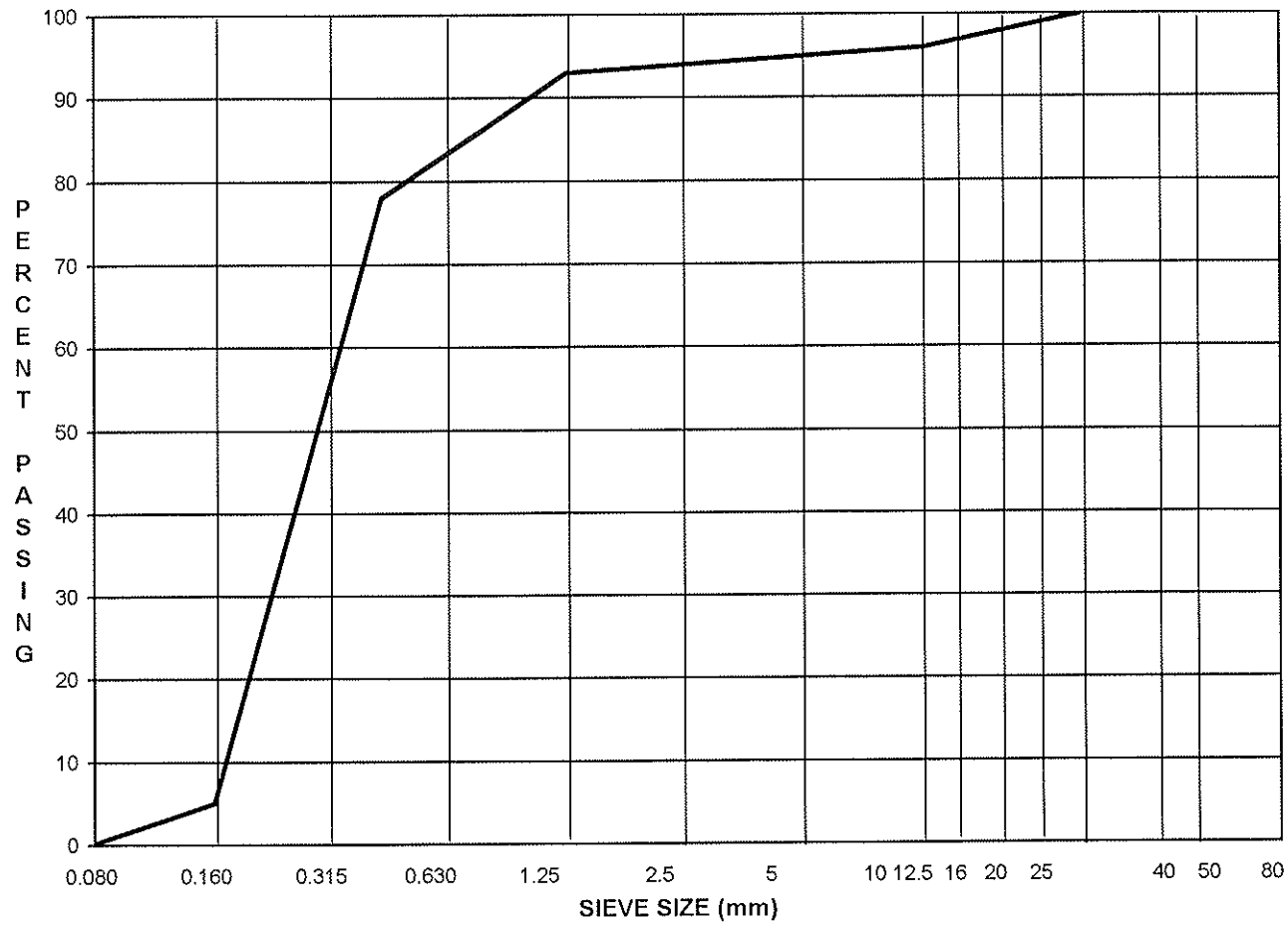
Project:	Cape Christian - LORAN Site	Sample Number:	**S03**
Project No.:	E22101581.001	Date Sampled:	August 18, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, light brown.		
Location:	Landfill. 10m South, 5m East of NW corne	Moisture Content:	10.4%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**96**	**95**	**94**	**93**	**78**		**5.0**	**0.2**

Remarks: Only specified sieves have been plotted

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CSA A23.2 - 2a

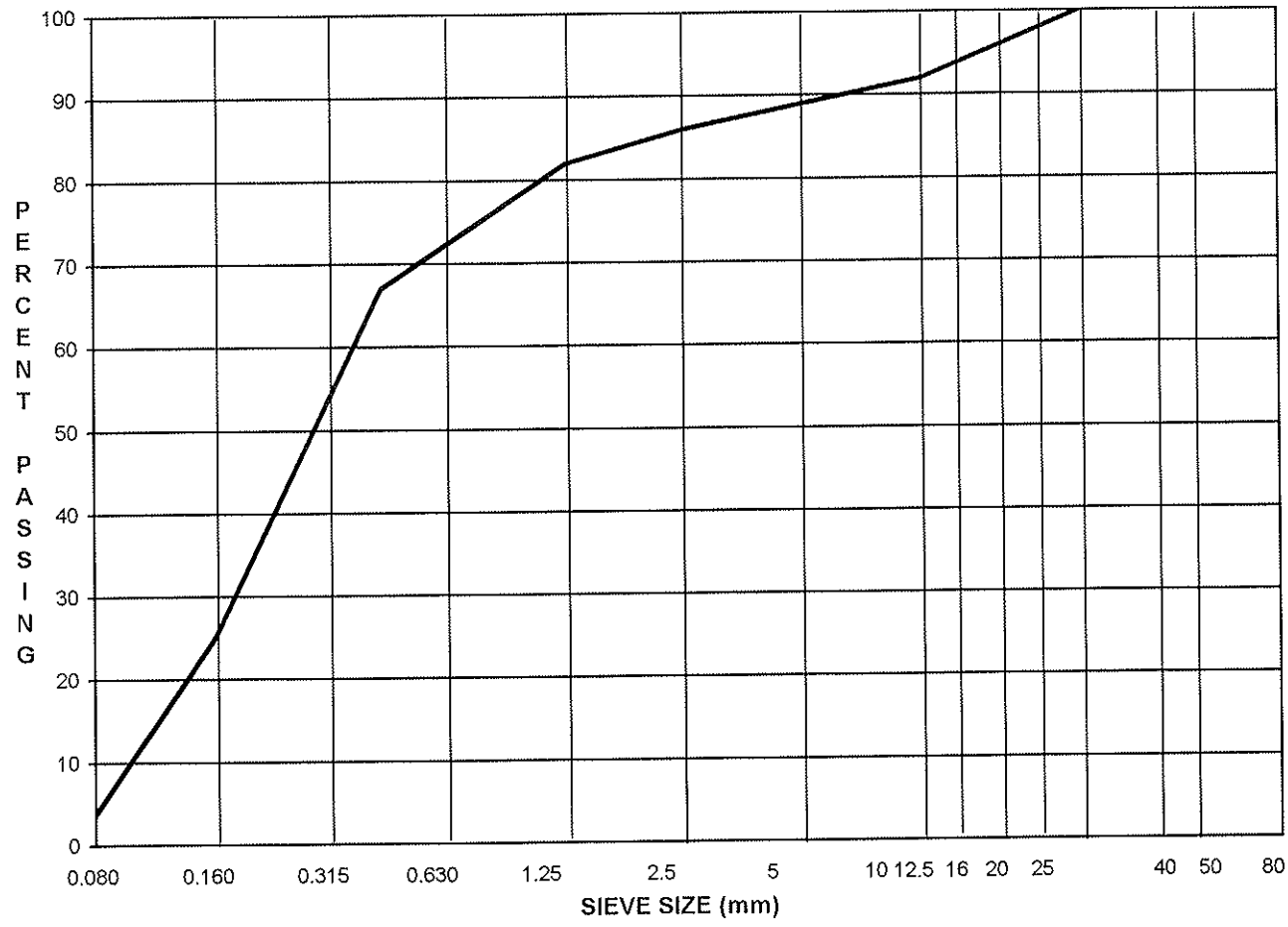
Project:	Cape Christian - LORAN Site	Sample Number:	**S04**
Project No.:	E22101581.001	Date Sampled:	August 18, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, dark brown.		
Location:	Borrow Area #14. Stockpile, East side of t	Moisture Content:	8.5%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**92**	**89**	**86**	**82**	**67**		**25.0**	**3.8**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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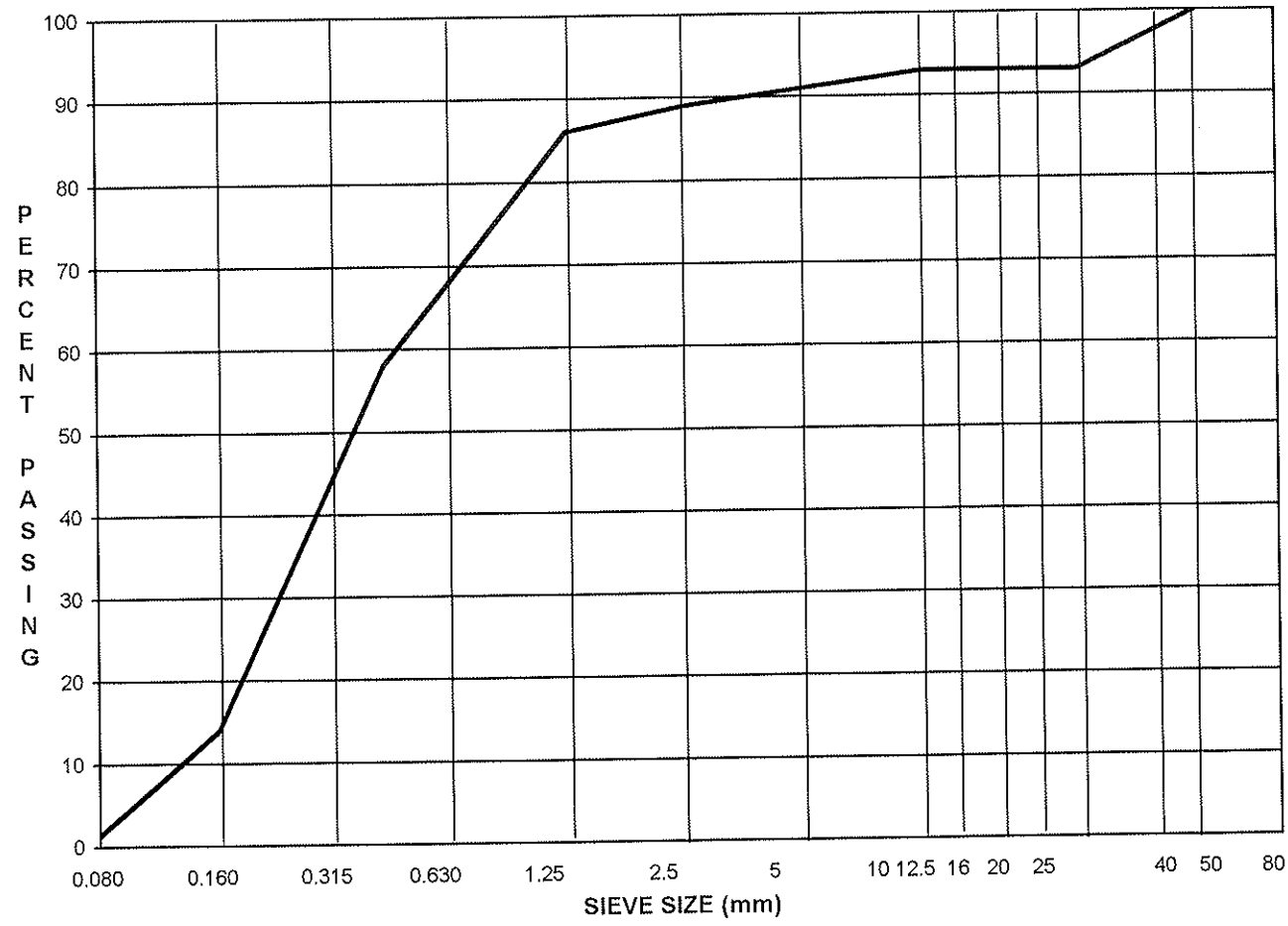
Project:	Cape Christian - LORAN Site	Sample Number:	**S05**
Project No.:	E22101581.001	Date Sampled:	August 18, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, dark brown.		
Location:	Borrow Area #14. Stockpile, West side of	Moisture Content:	6.8%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**93**				**93**	**91**	**89**	**86**	**58**		**14.0**	**1.4**

Remarks: Only specified sieves have been plotted

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CSA A23.2 - 2a

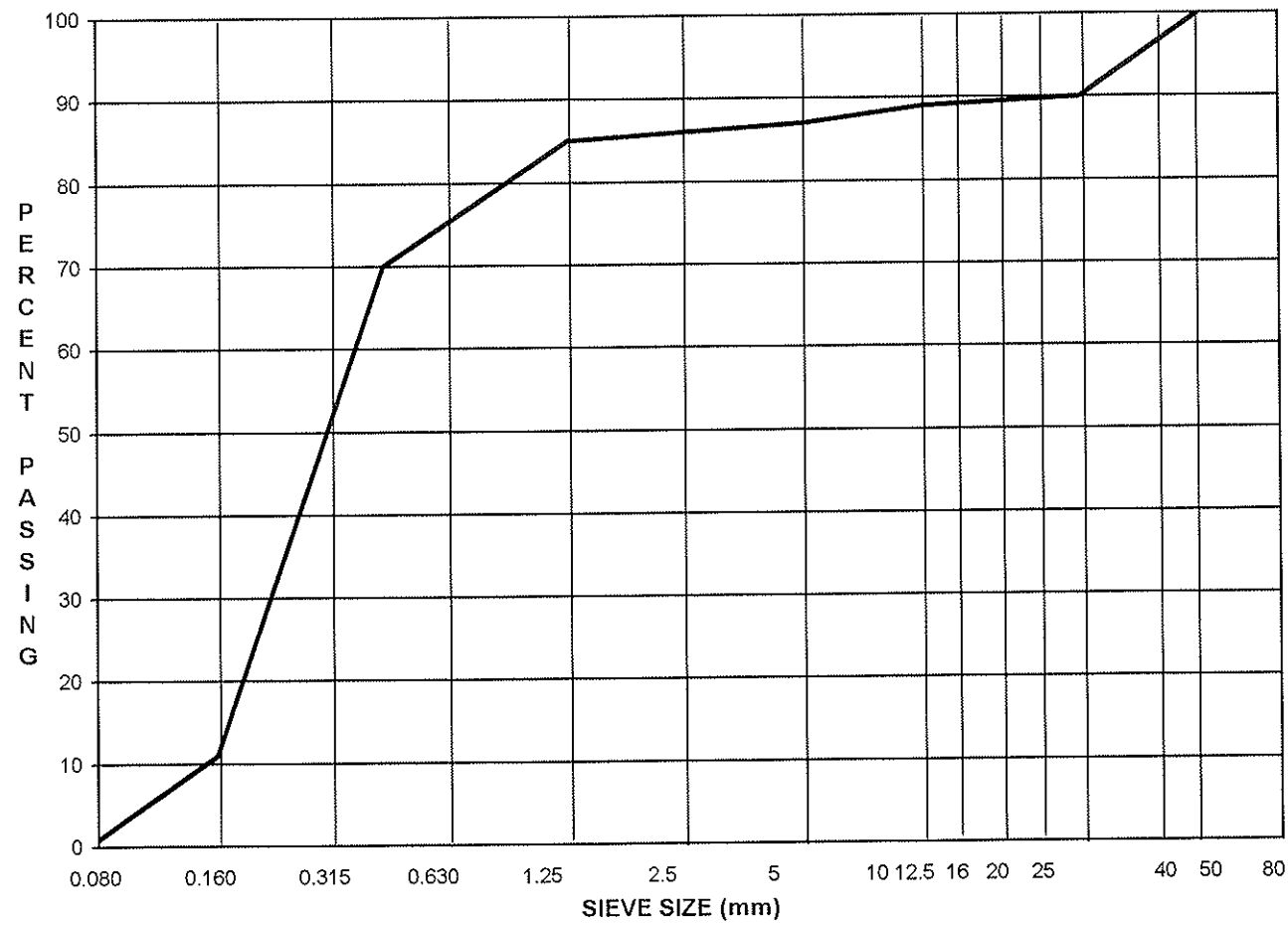
Project:	Cape Christian - LORAN Site	Sample Number:	**S06**
Project No.:	E22101581.001	Date Sampled:	August 19, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, brown.		
Location:	Borrow Area #4. "Ramped" stockpile, East	Moisture Content:	5.5%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**90**				**89**	**87**	**86**	**85**	**70**		**11.0**	**0.9**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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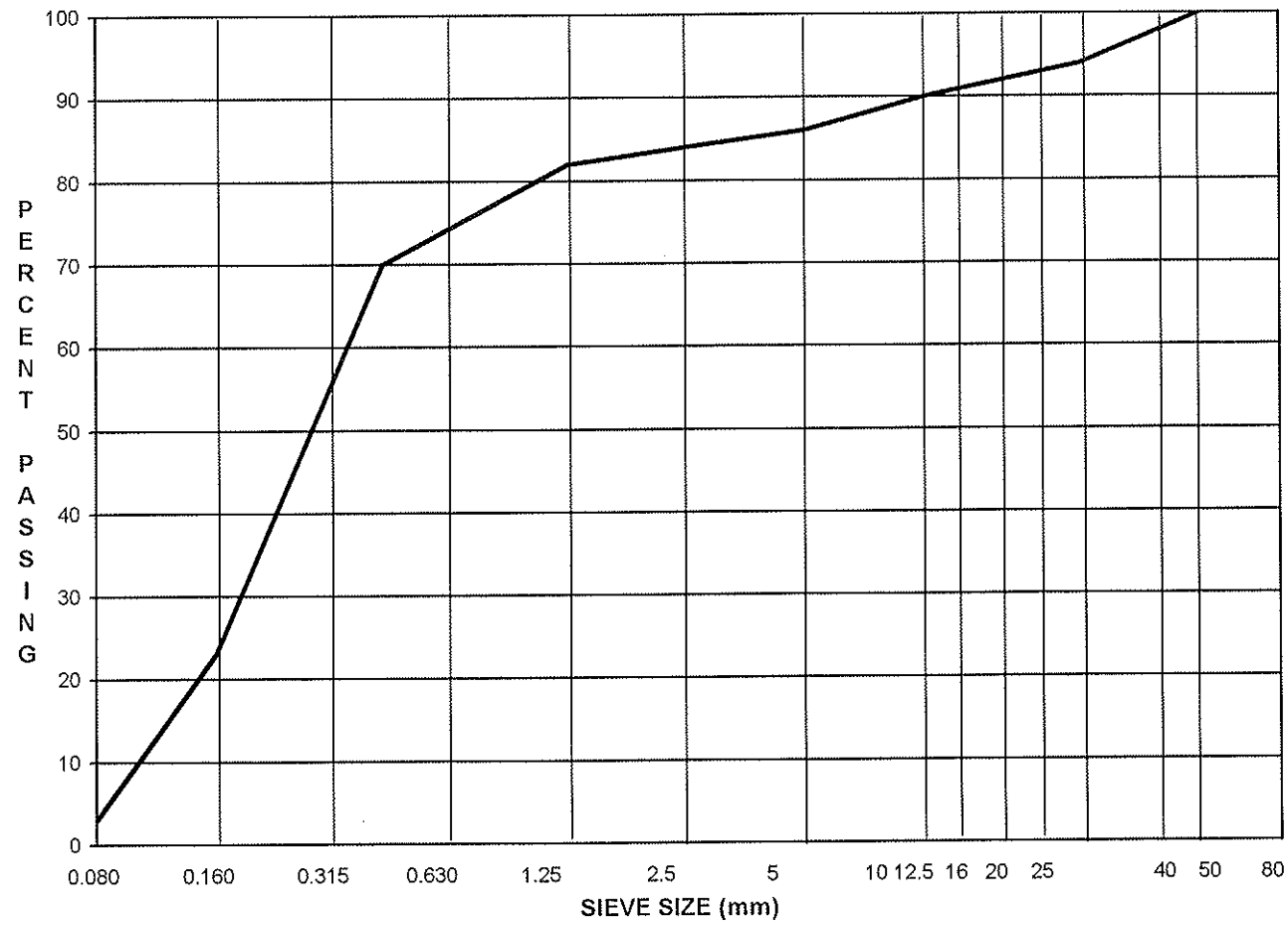
Project:	Cape Christian - LORAN Site	Sample Number:	**S07**
Project No.:	E22101581.001	Date Sampled:	August 21, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, brown.		
Location:	First lift of Type 3 BTW intermediate fill ar	Moisture Content:	6.3%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**94**				**90**	**86**	**84**	**82**	**70**		**23.0**	**3.0**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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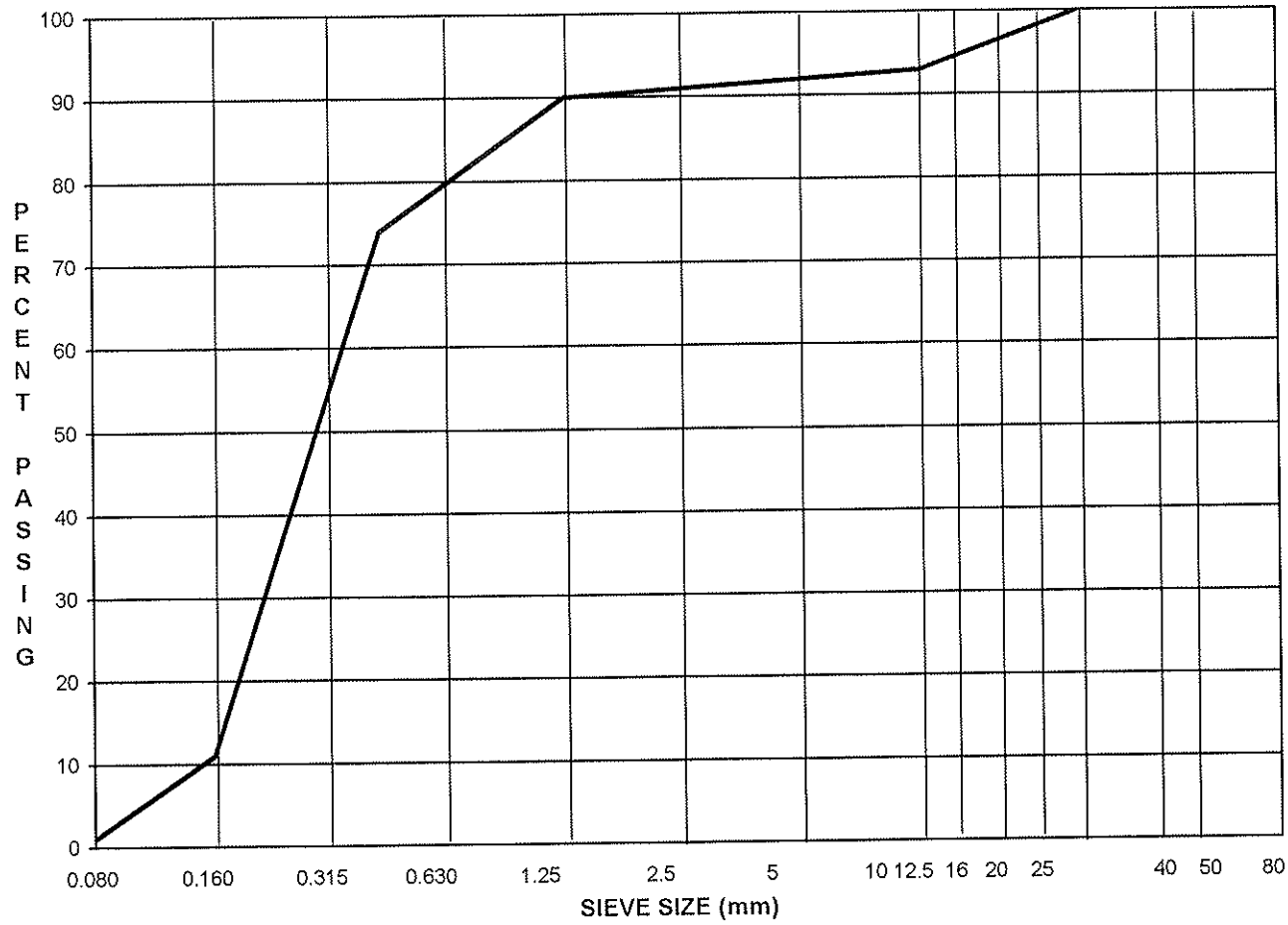
Project:	Cape Christian - LORAN Site	Sample Number:	**S08**
Project No.:	E22101581.001	Date Sampled:	August 22, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, silty, trace gravel, damp, brown.		
Location:	First lift between intermediate fill and geo-	Moisture Content:	4.8%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**93**	**92**	**91**	**90**	**74**		**11.0**	**1.0**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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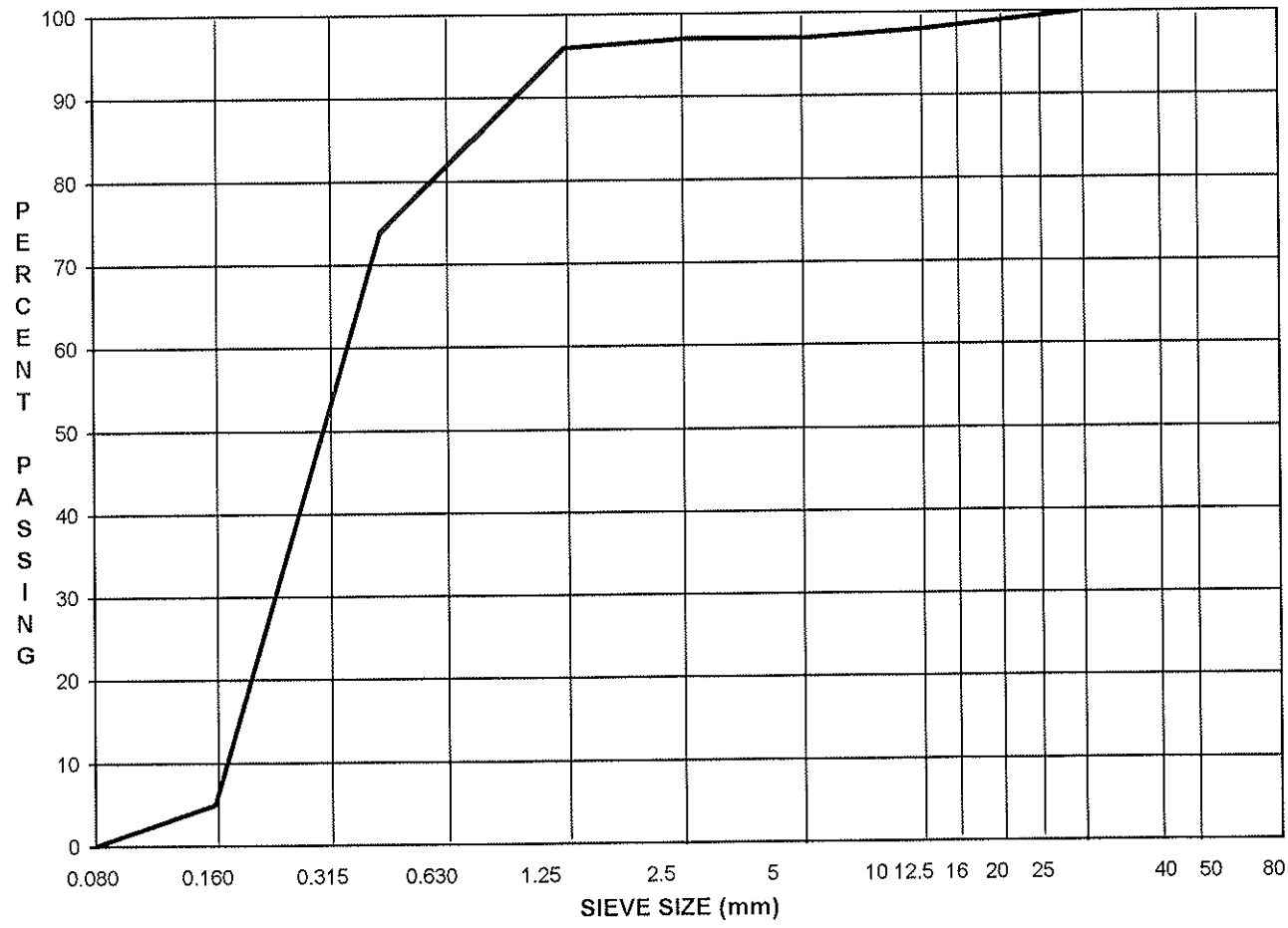
Project:	Cape Christian - LORAN Site	Sample Number:	**S09**
Project No.:	E22101581.001	Date Sampled:	August 24, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, light brown/ white.		
Location:	Landfill; BTW intermediate fill and geo-fat	Moisture Content:	2.4%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**98**	**97**	**97**	**96**	**74**		**5.0**	**0.1**

Remarks: Only specified sieves have been plotted

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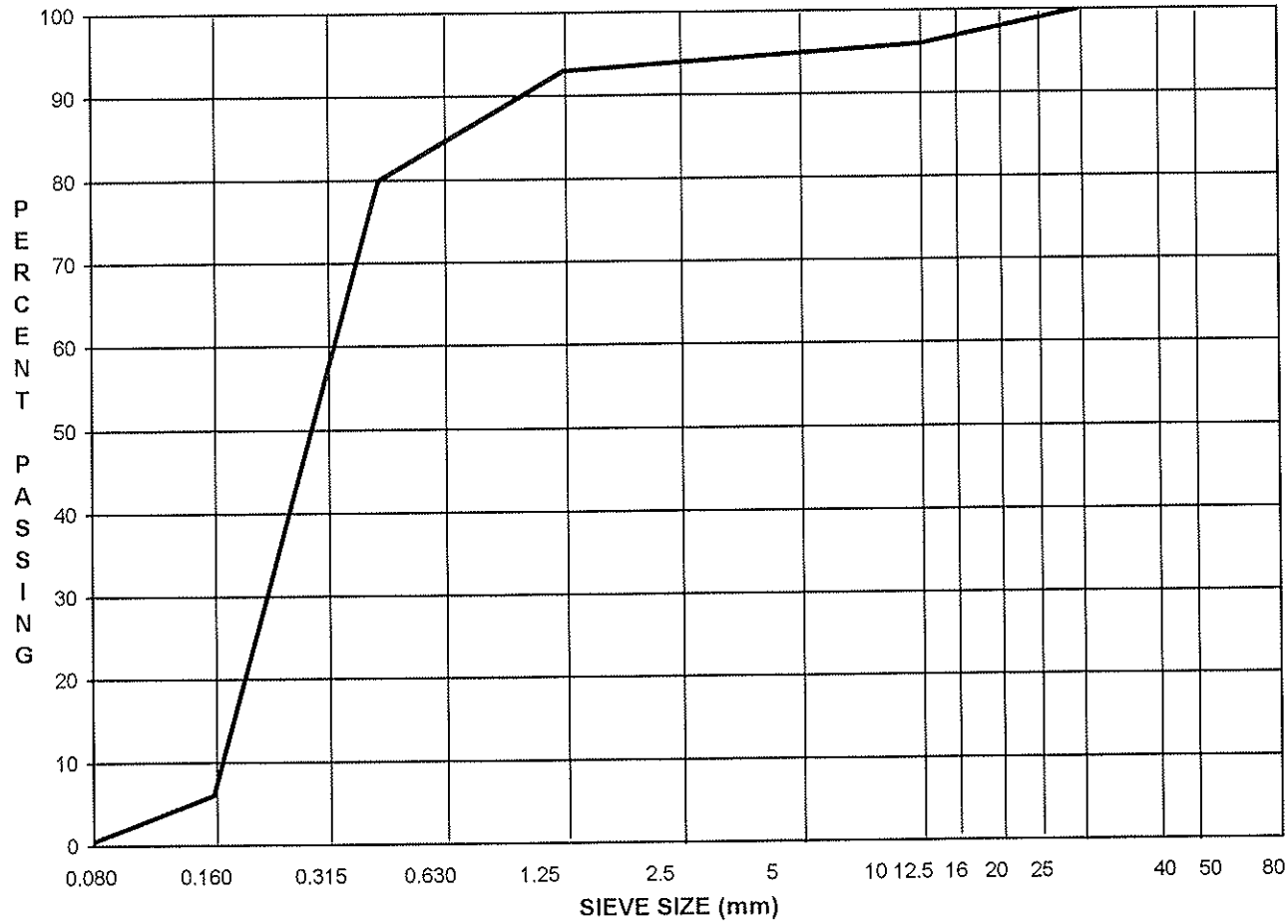
Project:	Cape Christian - LORAN Site	Sample Number:	**S10**
Project No.:	E22101581.001	Date Sampled:	August 25, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, brown.		
Location:	Landfill. Between intermediate fill and geo	Moisture Content:	6.2%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**96**	**95**	**94**	**93**	**80**		**6.1**	**0.5**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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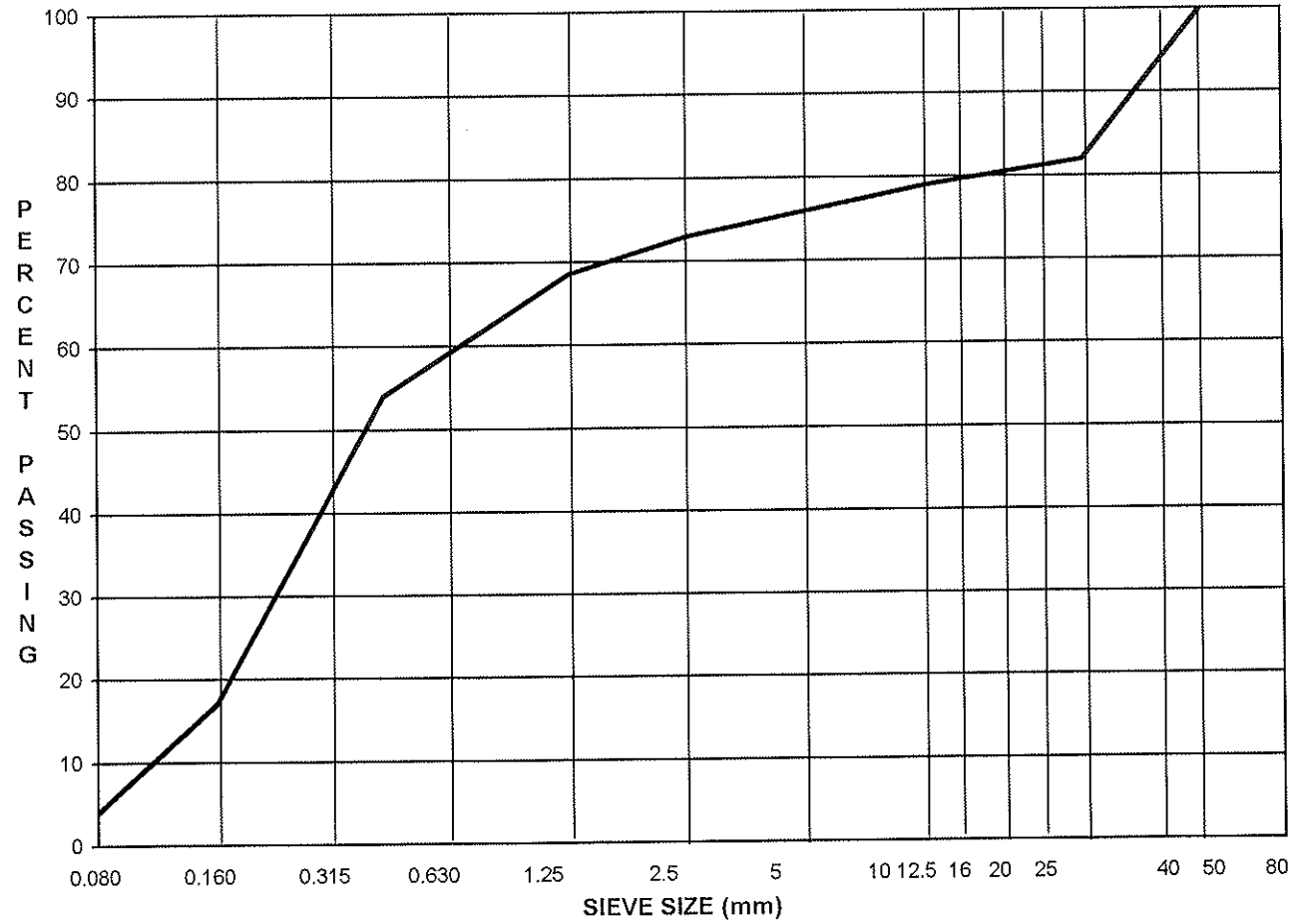
Project:	Cape Christian - LORAN Site	Sample Number:	**S11**
Project No.:	E22101581.001	Date Sampled:	August 26, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, brown.		
Location:	South berm, stockpile 10m West of SE CF	Moisture Content:	6.6%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**82**				**79**	**76**	**73**	**69**	**54**		**17.0**	**4.0**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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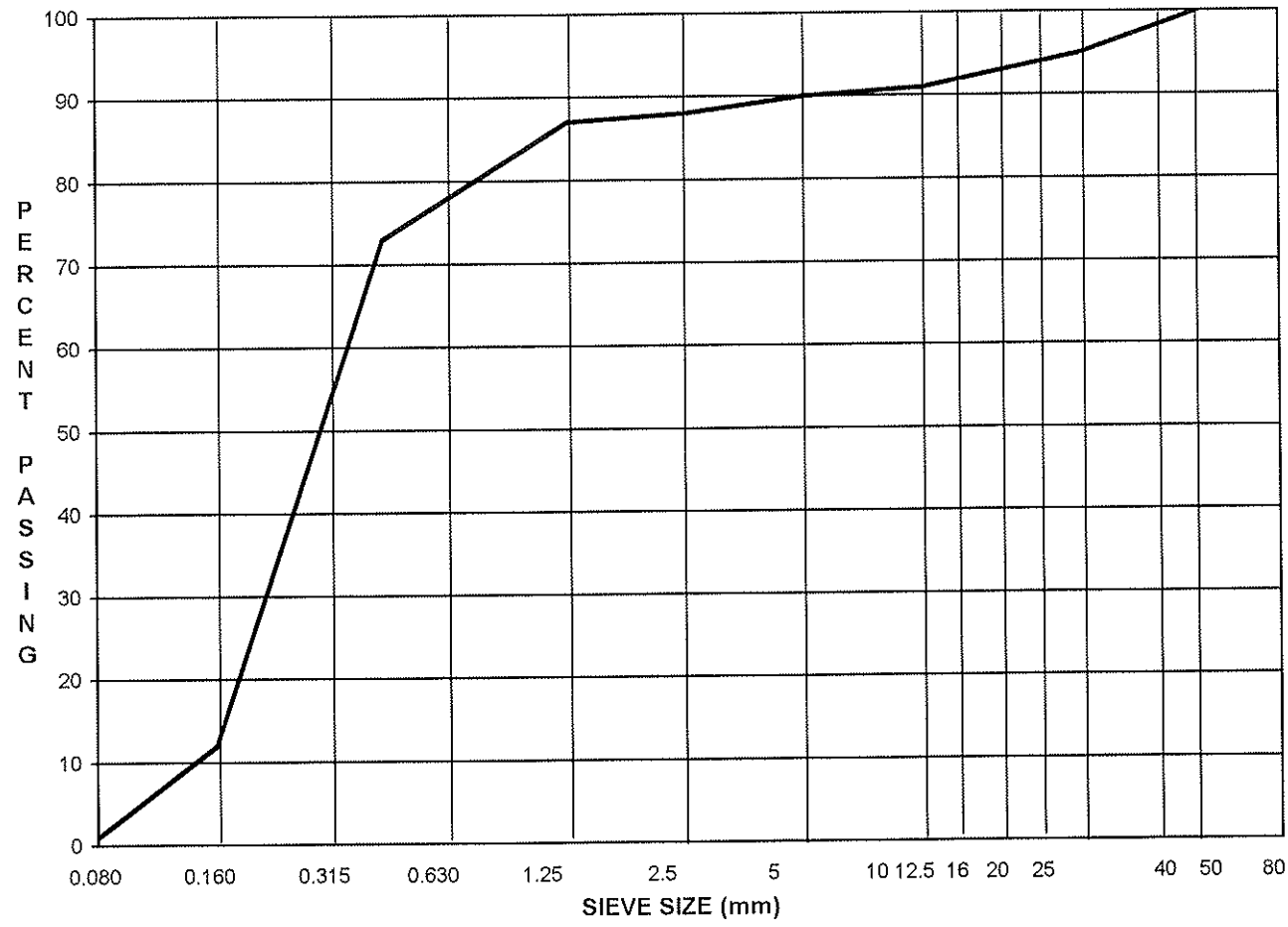
Project:	Cape Christian - LORAN Site	Sample Number:	**S12**
Project No.:	E22101581.001	Date Sampled:	August 26, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, brown.		
Location:	Landfill; South-Central area for use betwe	Moisture Content:	7.2%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**95**				**91**	**90**	**88**	**87**	**73**		**12.0**	**1.0**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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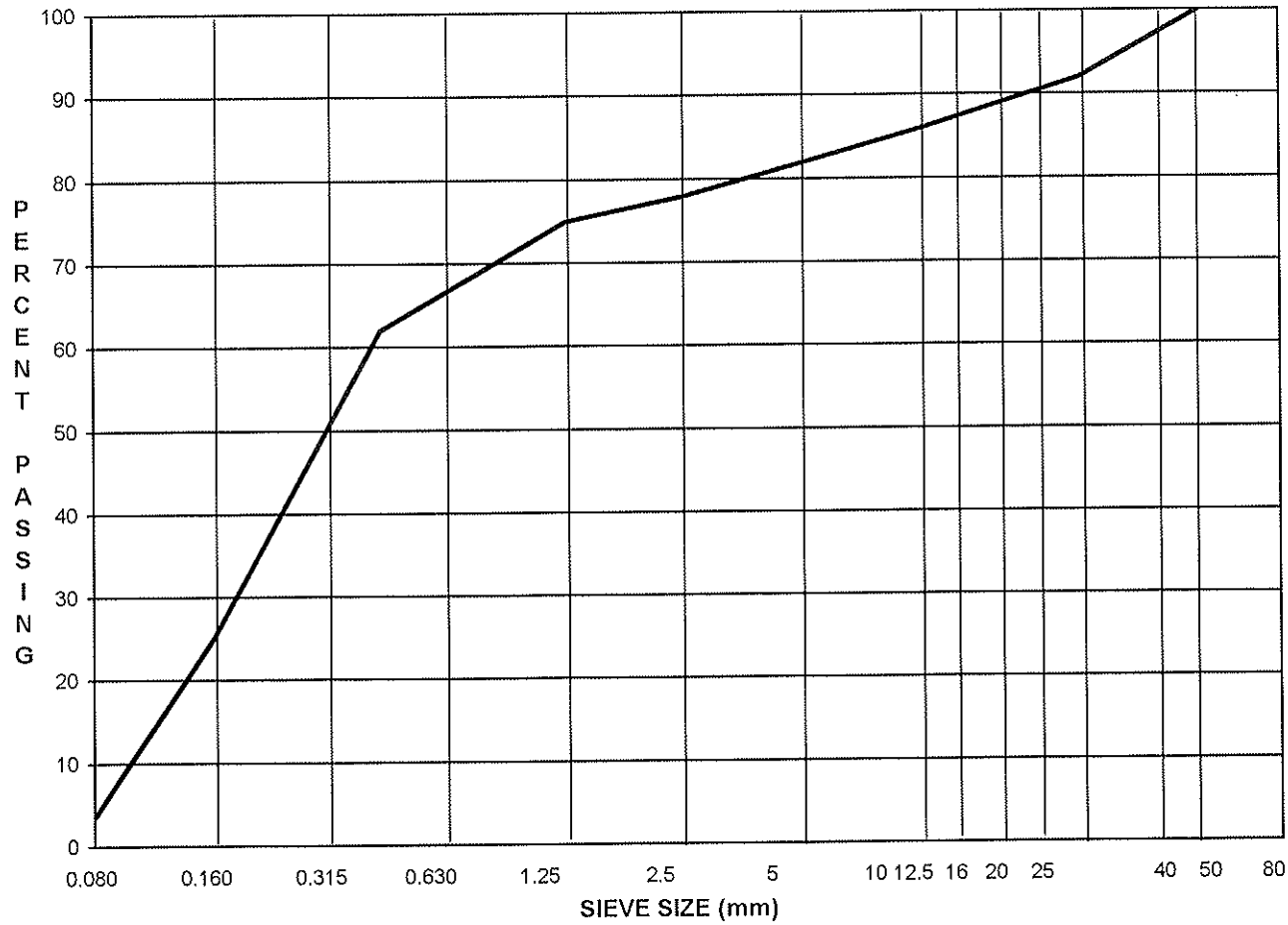
Project:	Cape Christian - LORAN Site	Sample Number:	**S13**
Project No.:	E22101581.001	Date Sampled:	August 26, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, light & dark brown mix.		
Location:	20m East of SE CRN of Landfill berm.	Moisture Content:	7.4%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**92**				**86**	**82**	**78**	**75**	**62**		**25.0**	**3.5**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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AGGREGATE ANALYSIS REPORT

CSA A23.2 - 2a

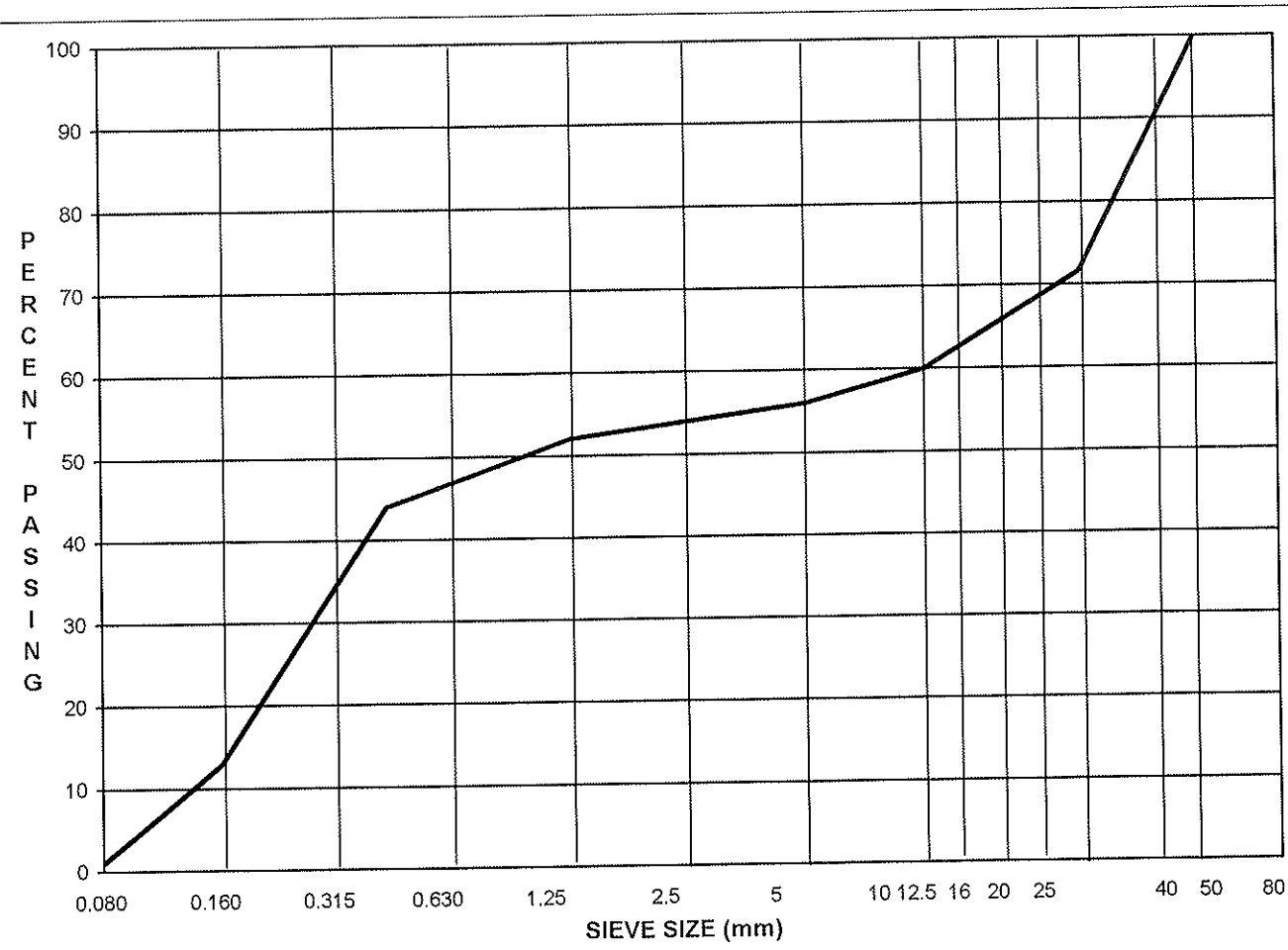
Project:	Cape Christian - LORAN Site	Sample Number:	**S14**
Project No.:	E22101581.001	Date Sampled:	August 27, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, brown.		
Location:	Stockpile in SE area of landfill, first layer (	Moisture Content:	4.7%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**72**				**60**	**56**	**54**	**52**	**44**		**13.0**	**1.0**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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CSA A23.2 - 2a

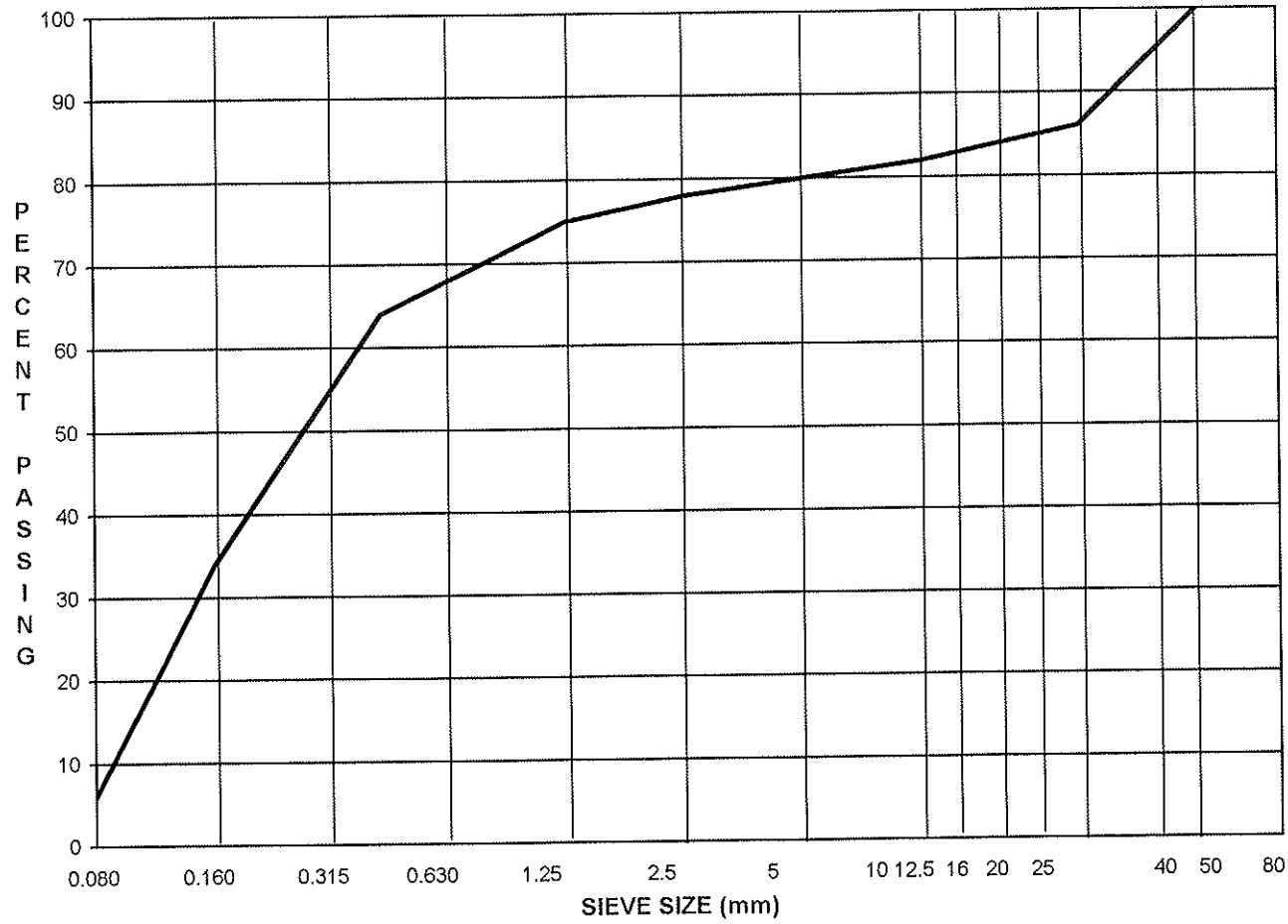
Project:	Cape Christian - LORAN Site	Sample Number:	**S15**
Project No.:	E22101581.001	Date Sampled:	August 30, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert	Specification:	Type 3
Description:	SAND, silty, trace clay, organics, gravel, damp, dark brown.		
Location:	Stockpile on South berm, SE CRN of land	Moisture Content:	8.8%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**86**				**82**	**80**	**78**	**75**	**64**		**34.0**	**6.0**

Remarks: Only specified sieves have been plotted

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CSA A23.2 - 2a

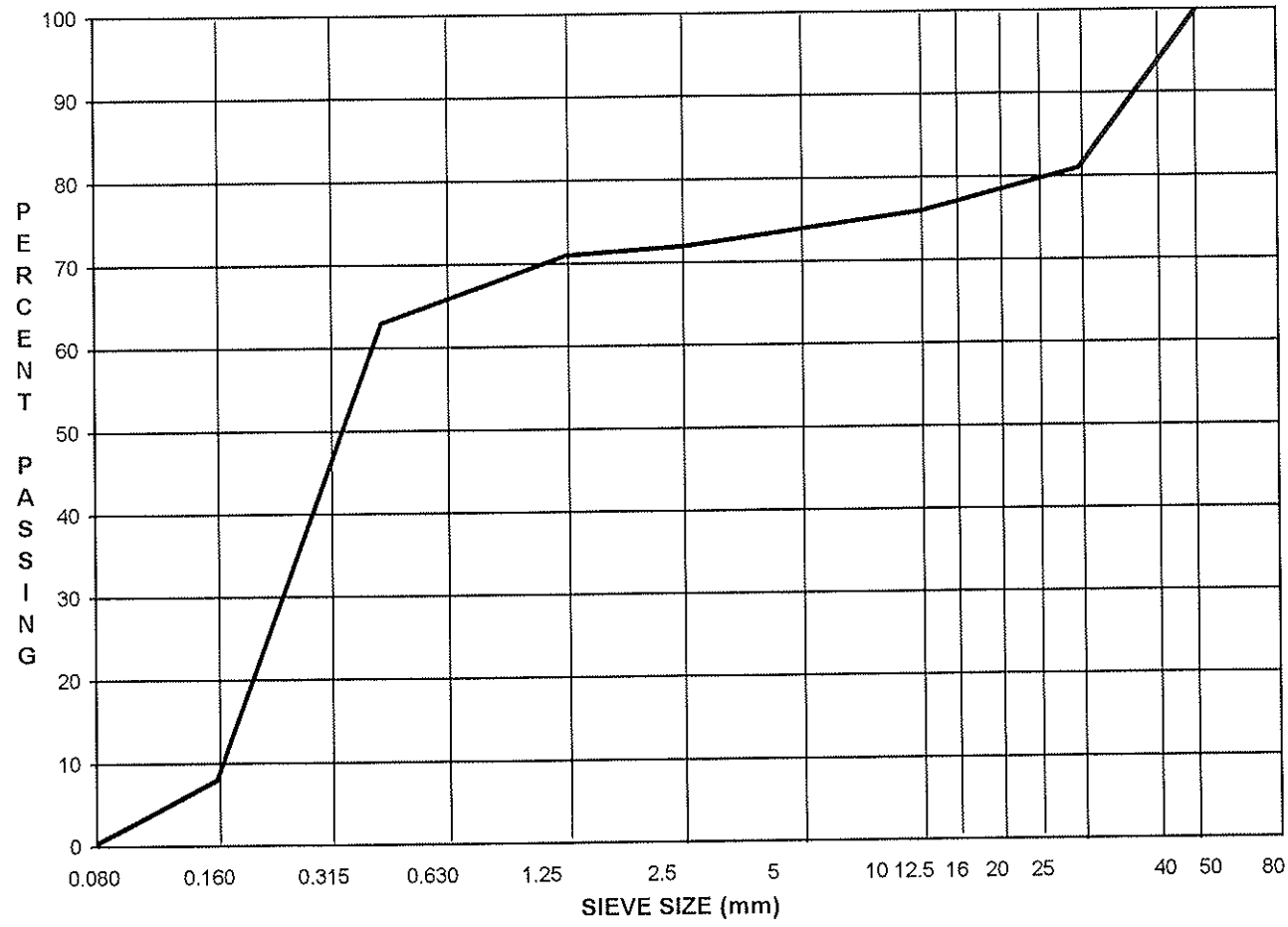
Project:	Cape Christian - LORAN Site	Sample Number:	**S16**
Project No.:	E22101581.001	Date Sampled:	August 30, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, dark brown.		
Location:	Stockpile in SE area of landfill for first lift	Moisture Content:	3.5%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**81**				**76**	**74**	**72**	**71**	**63**		**8.0**	**0.4**

Remarks: Only specified sieves have been plotted

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CSA A23.2 - 2a

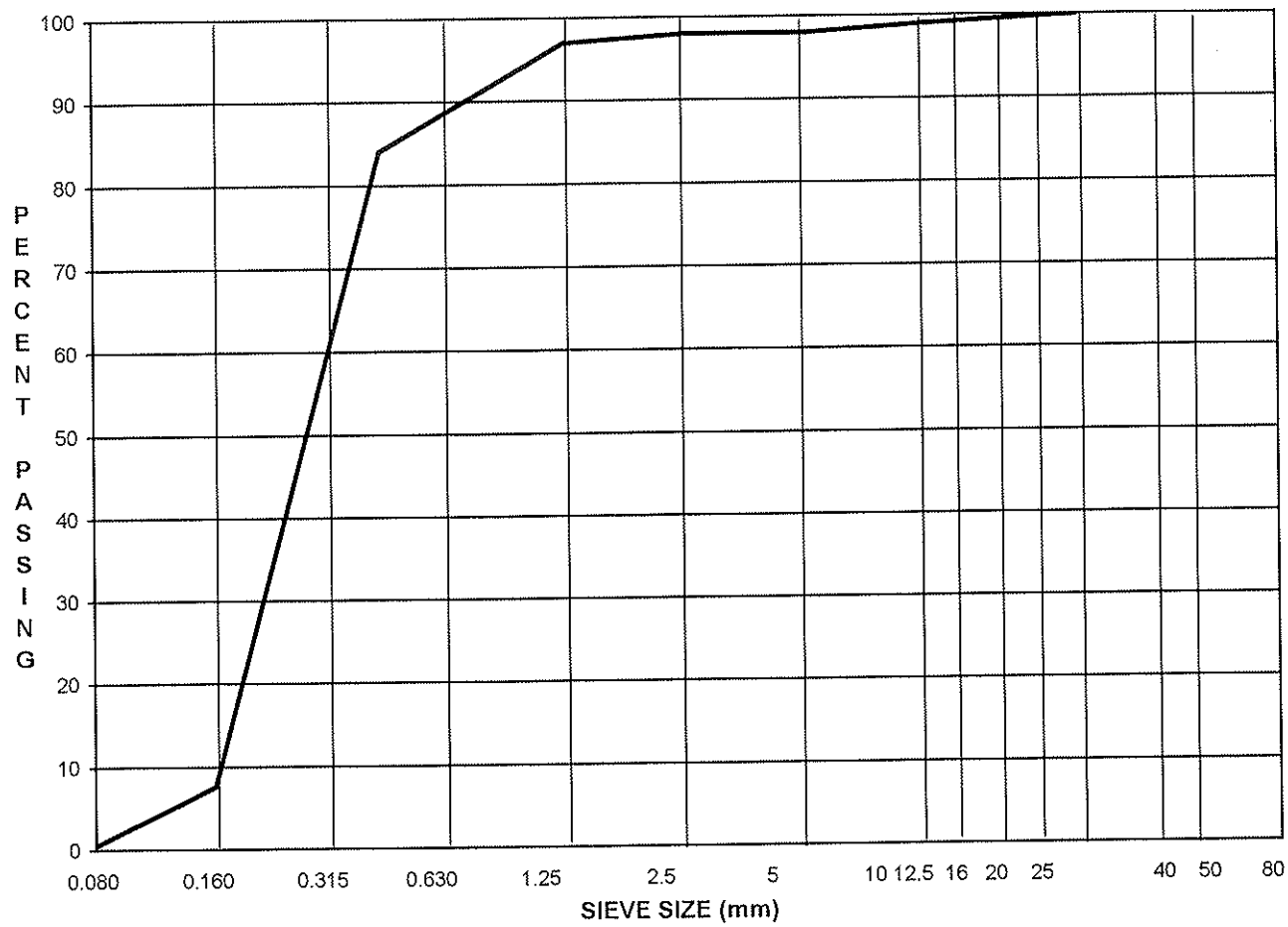
Project:	Cape Christian - LORAN Site	Sample Number:	**S17**
Project No.:	E22101581.001	Date Sampled:	August 31, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert	Specification:	Type 3
Description:	SAND, some silt, trace gravel, damp, dark brown.		
Location:	Stockpile on South half of landfill for first l	Moisture Content:	6.1%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**99**	**98**	**98**	**97**	**84**		**7.6**	**0.5**

Remarks: Only specified sieves have been plotted

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CSA A23.2 - 2a

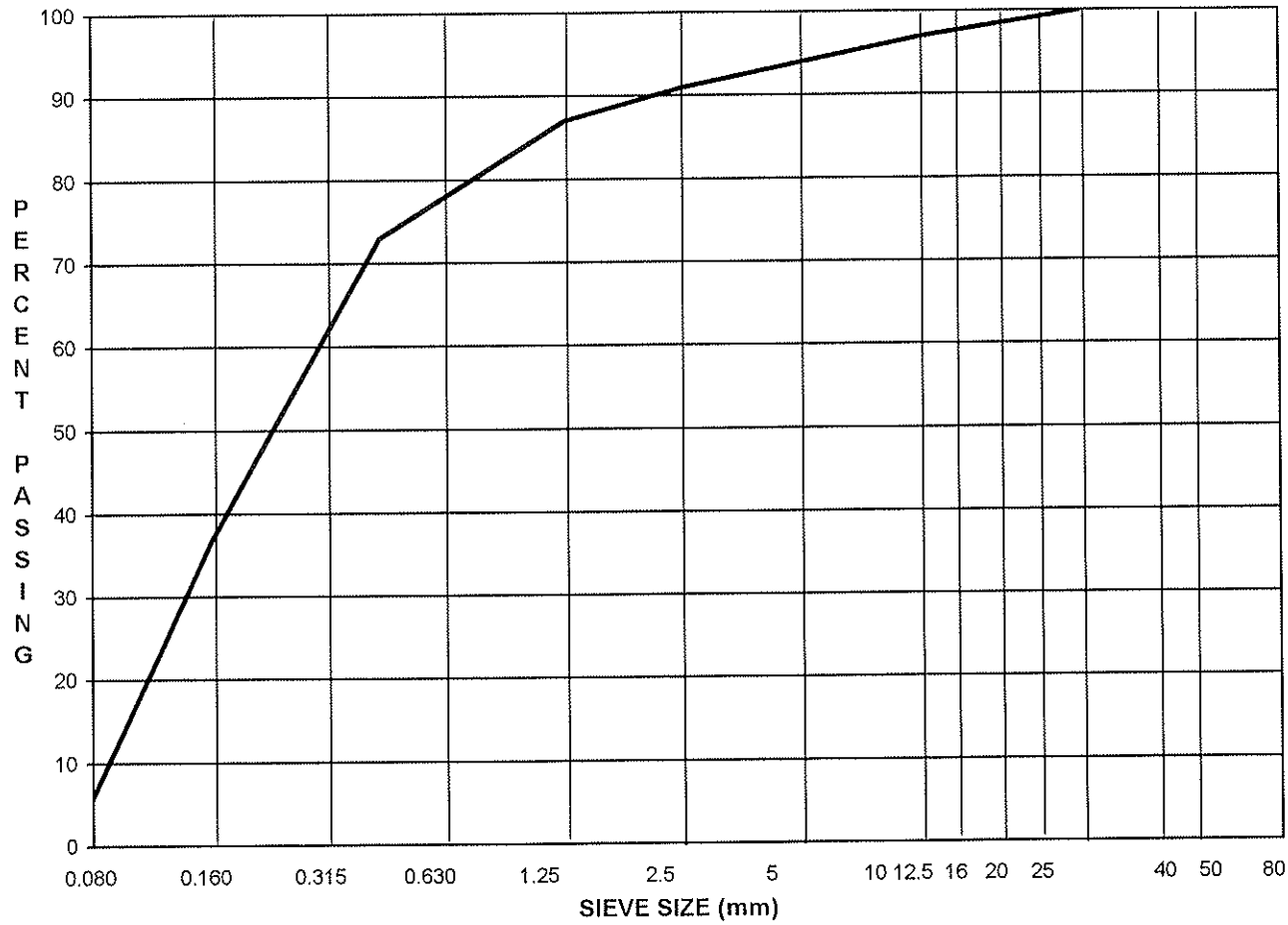
Project:	Cape Christian - LORAN Site	Sample Number:	**S18**
Project No.:	E22101581.001	Date Sampled:	August 31, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert	Specification:	Type 3
Description:	SAND, some silt, trace organics, gravel, damp, dark brown.		
Location:	Stockpile on South berm 27m West of SE	Moisture Content:	13.1%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**97**	**94**	**91**	**87**	**73**		**37.0**	**6.0**

Remarks: Only specified sieves have been plotted

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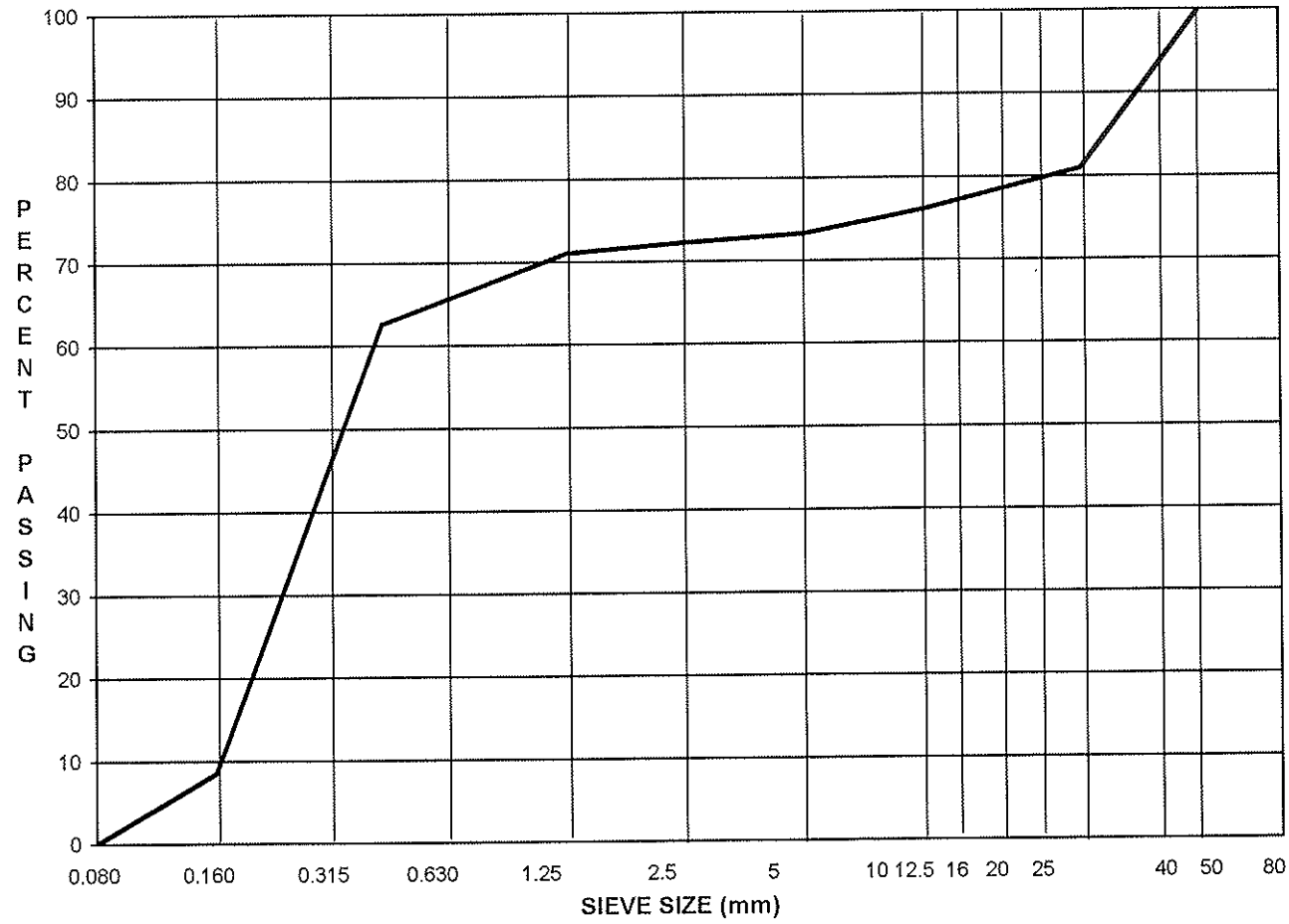
Project:	Cape Christian - LORAN Site	Sample Number:	**S20**
Project No.:	E22101581.001	Date Sampled:	September 2, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert	Specification:	Type 3
Description:	SAND, silty, trace gravel, damp, dark brown.		
Location:	First lift of Type 3 above South berm: 1m	Moisture Content:	4.4%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**81**				**76**	**73**	**72**	**71**	**63**		**8.5**	**0.1**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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CSA A23.2 - 2a

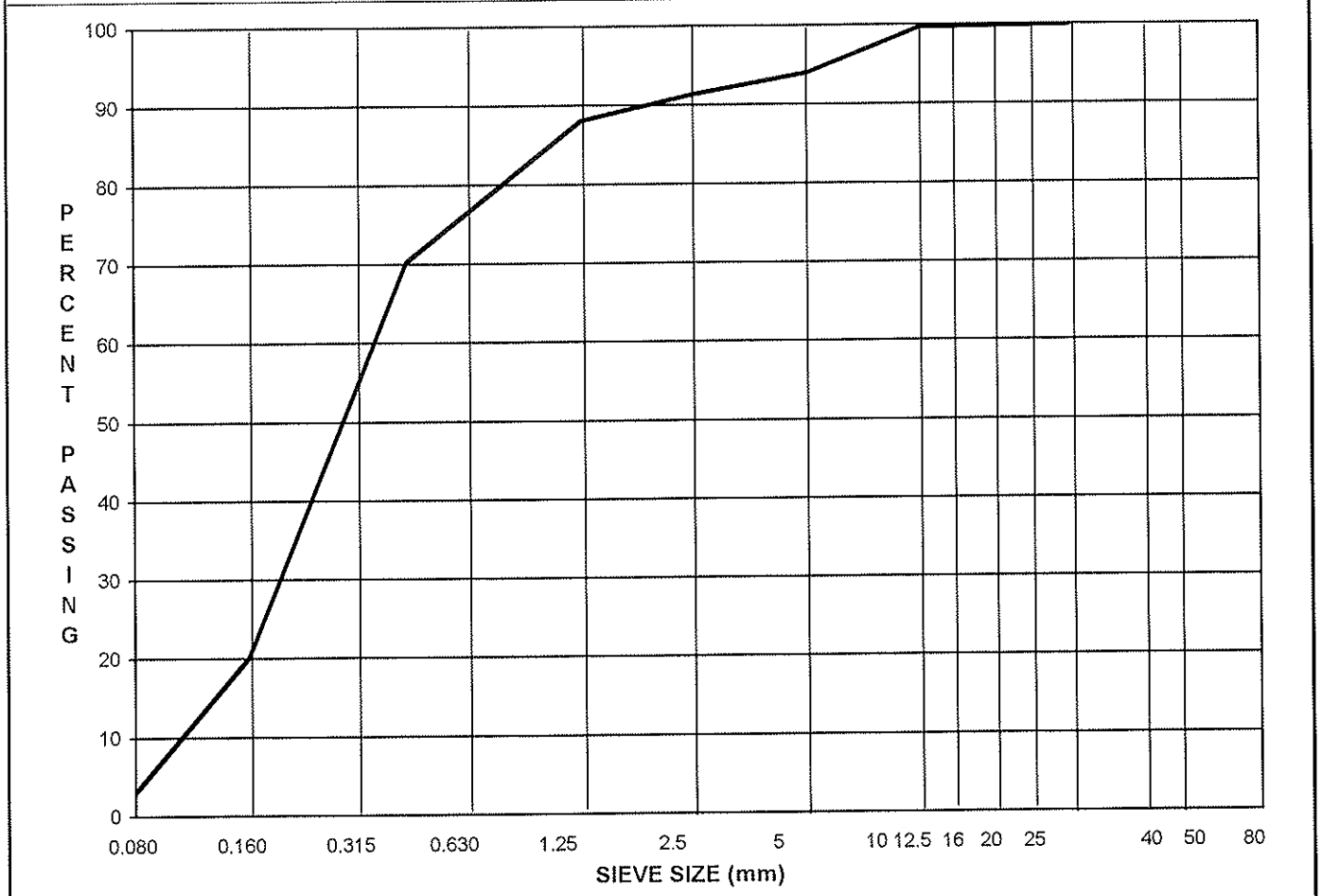
Project:	Cape Christian - LORAN Site	Sample Number:	**S21**
Project No.:	E22101581.001	Date Sampled:	September 8, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert	Specification:	Type 3
Description:	SAND, silty, trace gravel, wet, brown.		
Location:	Landfill. Stockpile in NE Area for Type 3 a	Moisture Content:	14.6%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**100**	**94**	**91**	**88**	**70**		**20.1**	**3.1**

Remarks: Only specified sieves have been plotted

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CSA A23.2 - 2a

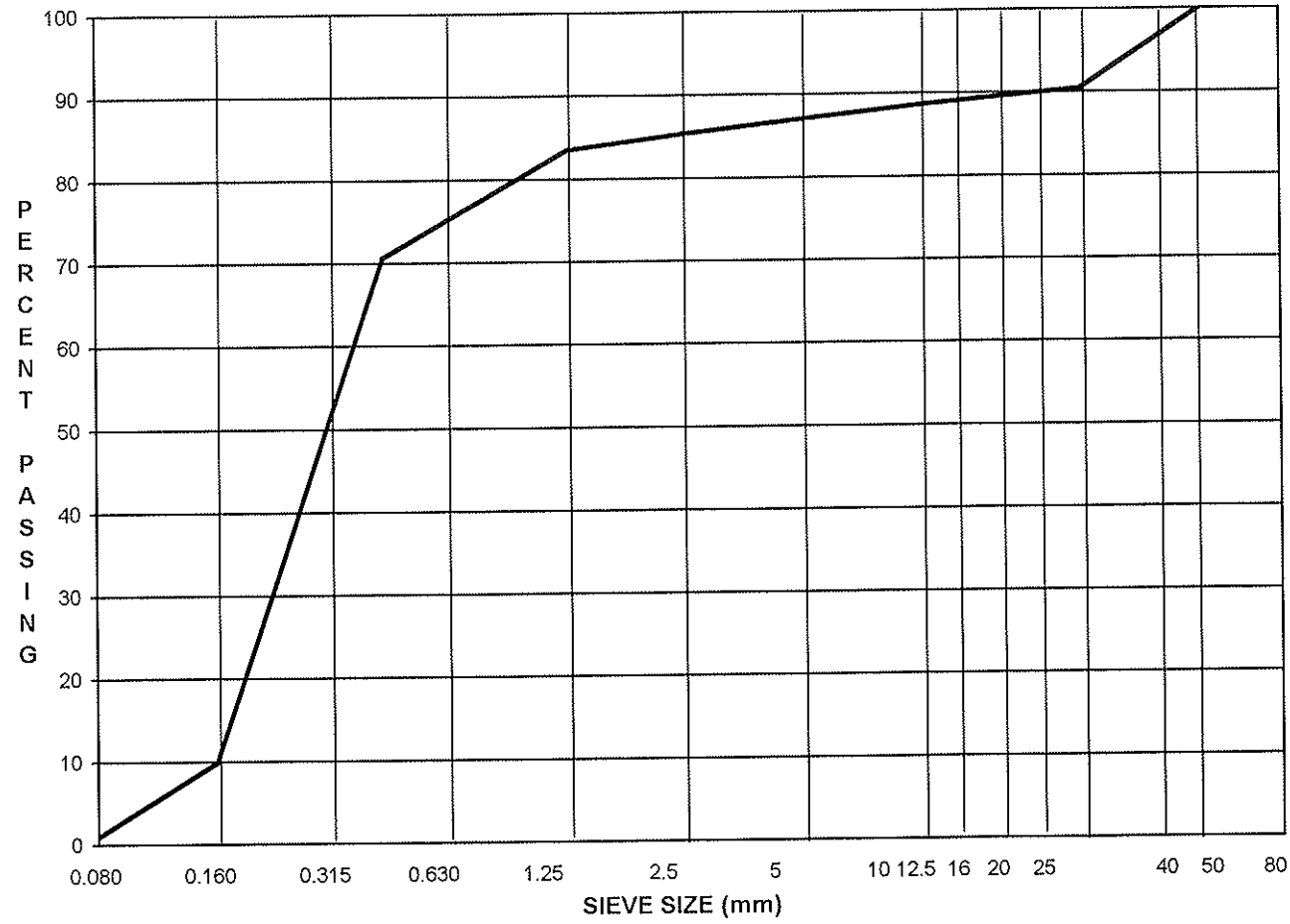
Project:	Cape Christian - LORAN Site	Sample Number:	**S22**
Project No.:	E22101581.001	Date Sampled:	September 9, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert; Daniela Felske	Specification:	Type 3
Description:	SAND, trace gravel, silt, damp, brown.		
Location:	B.A. #5, native across from temporary haz	Moisture Content:	Not Completed

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**91**				**89**	**87**	**85**	**84**	**71**		**9.9**	**1.0**

Remarks: Only specified sieves have been plotted

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CSA A23.2 - 2a

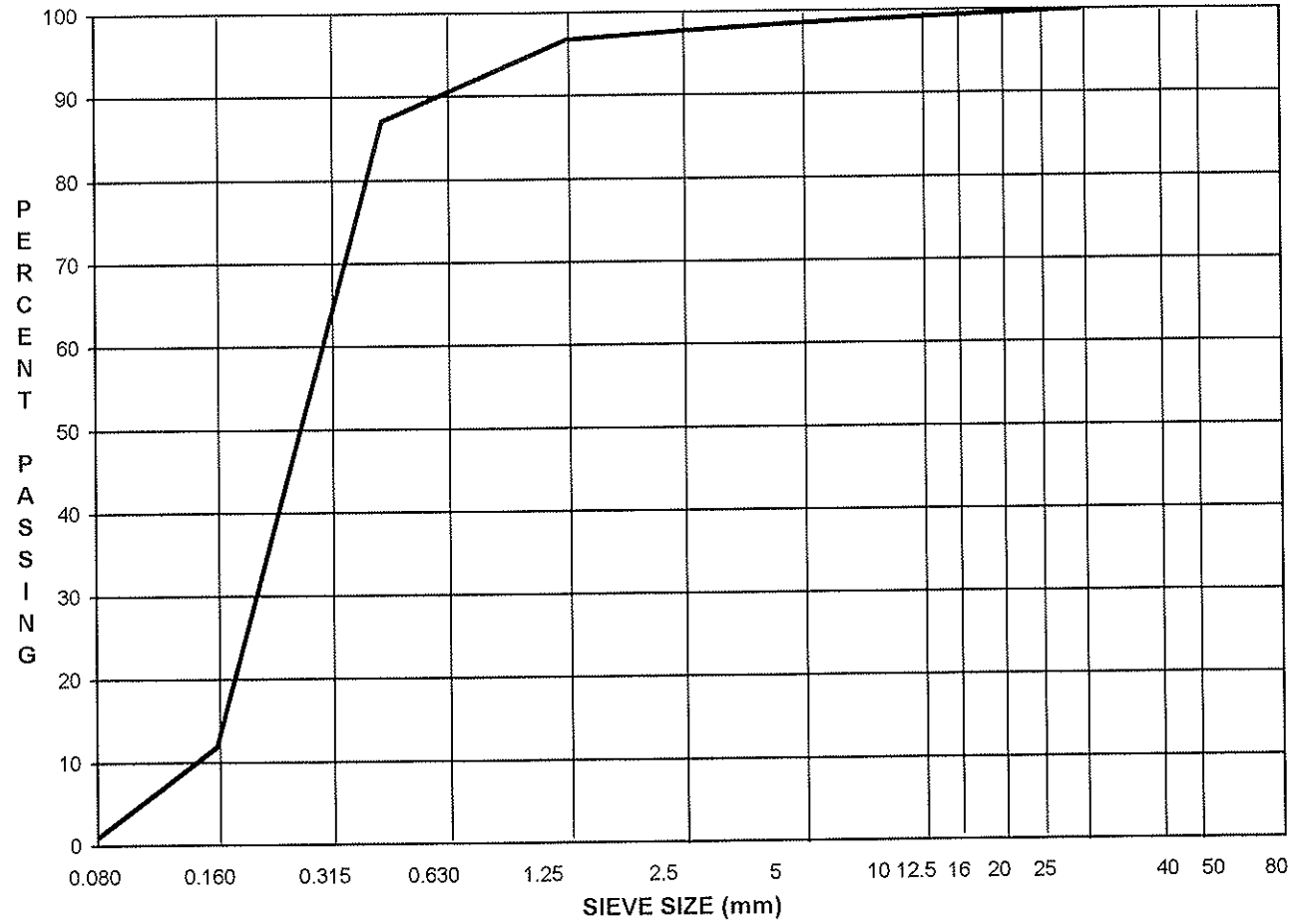
Project:	Cape Christian - LORAN Site	Sample Number:	**S23**
Project No.:	E22101581.001	Date Sampled:	September 9, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert; Daniela Felske	Specification:	Type 3
Description:	SAND, trace gravel, silt, damp, dark brown.		
Location:	B.A. #1, Small stockpile on berm near We	Moisture Content:	Not Completed

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**99**	**99**	**98**	**97**	**87**		**11.9**	**1.0**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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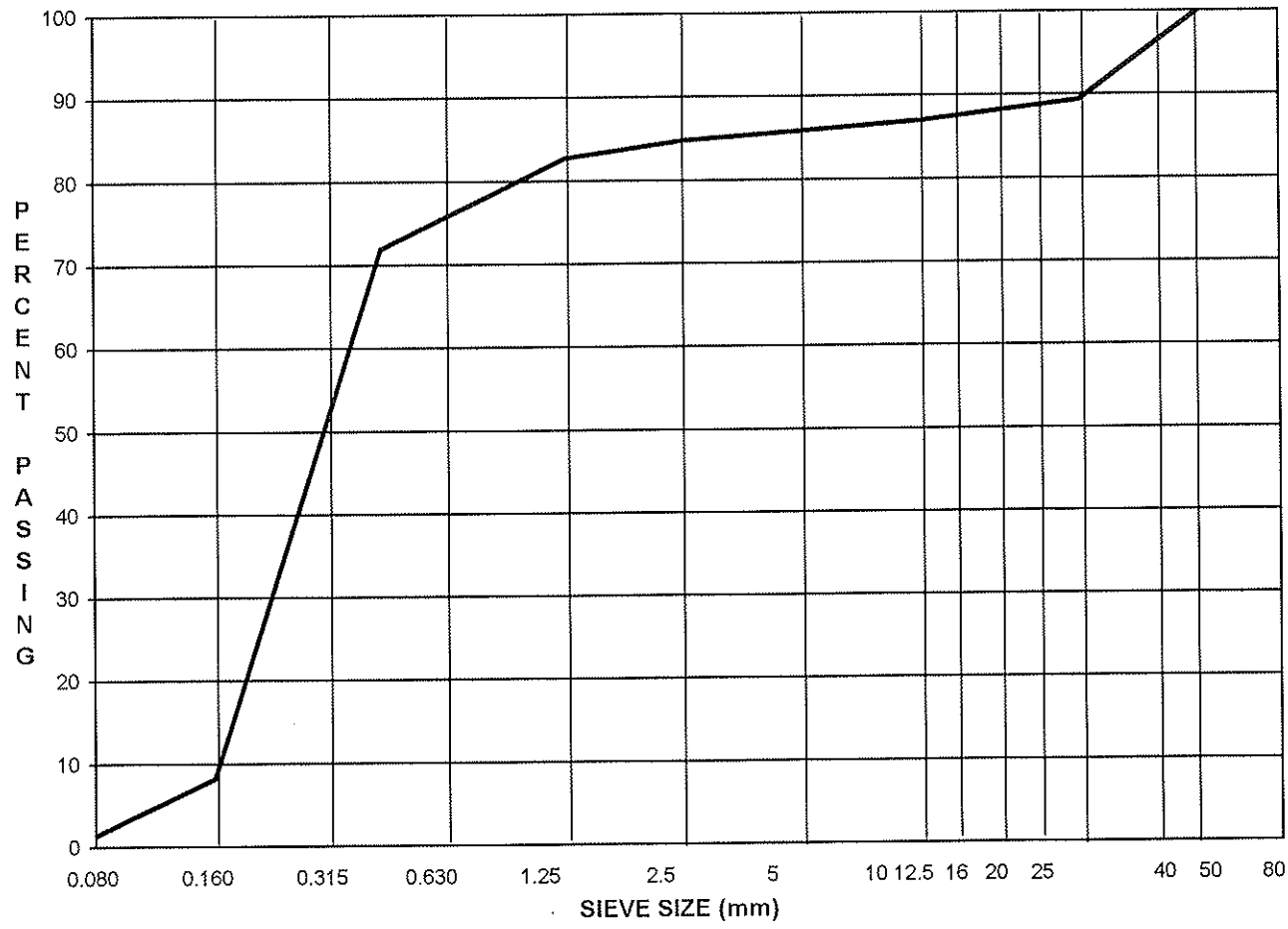
Project:	Cape Christian - LORAN Site	Sample Number:	**S24**
Project No.:	E22101581.001	Date Sampled:	September 9, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert; Daniela Felske	Specification:	Type 3
Description:	SAND, trace gravel, silt, damp, brown.		
Location:	Stockpile NW Area of landfill for Type 3 al	Moisture Content:	7.6%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**89**				**87**	**86**	**85**	**83**	**72**		**8.2**	**1.4**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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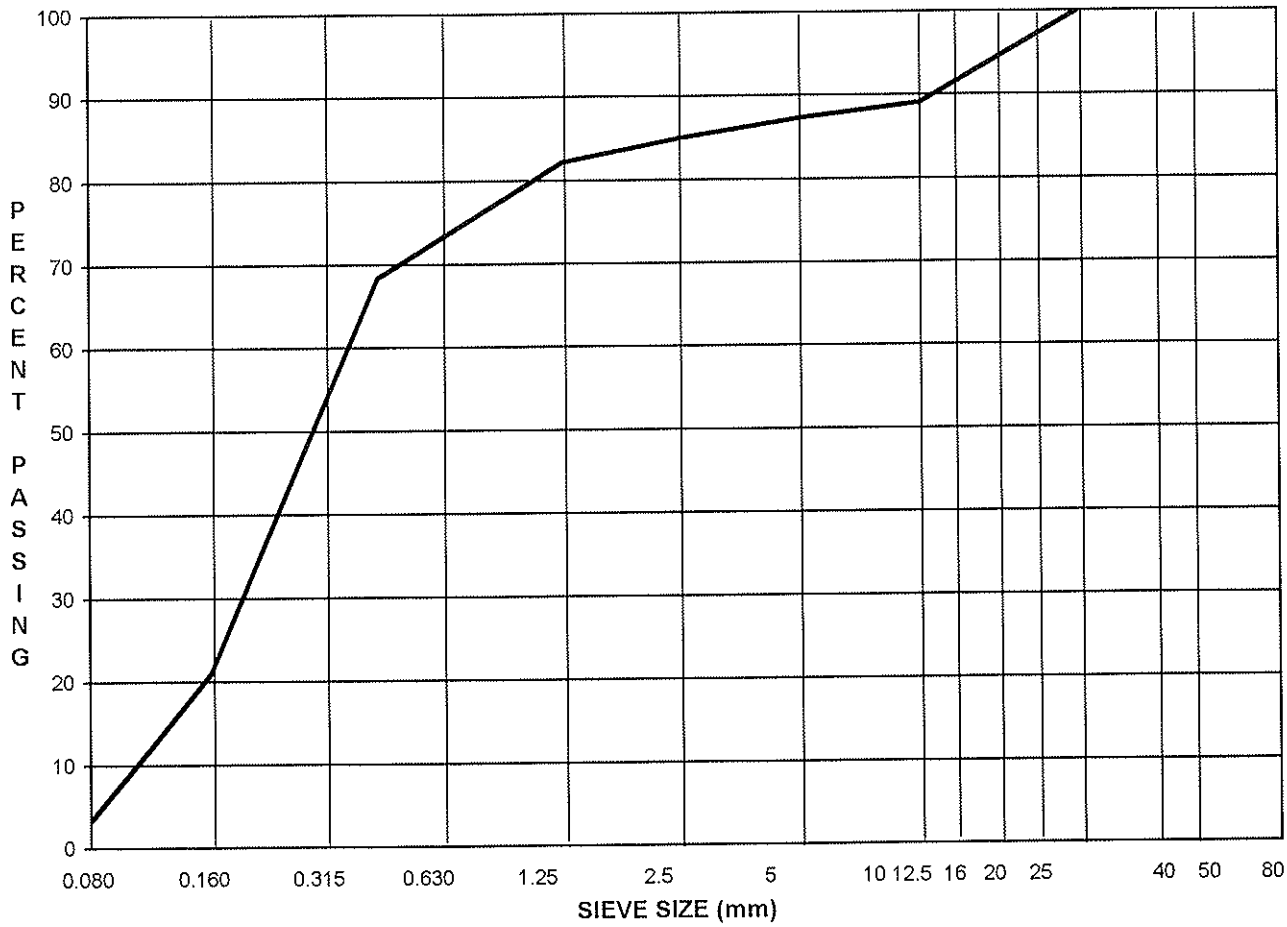
Project:	Cape Christian - LORAN Site	Sample Number:	**S25**
Project No.:	E22101581.001	Date Sampled:	September 11, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert; Daniela Felske	Specification:	Type 3
Description:	SAND, trace gravel, silt, moist, brown.		
Location:	Mixed stockpiles on SE area of landfill for	Moisture Content:	9.2%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**89**	**87**	**85**	**82**	**68**		**21.0**	**3.3**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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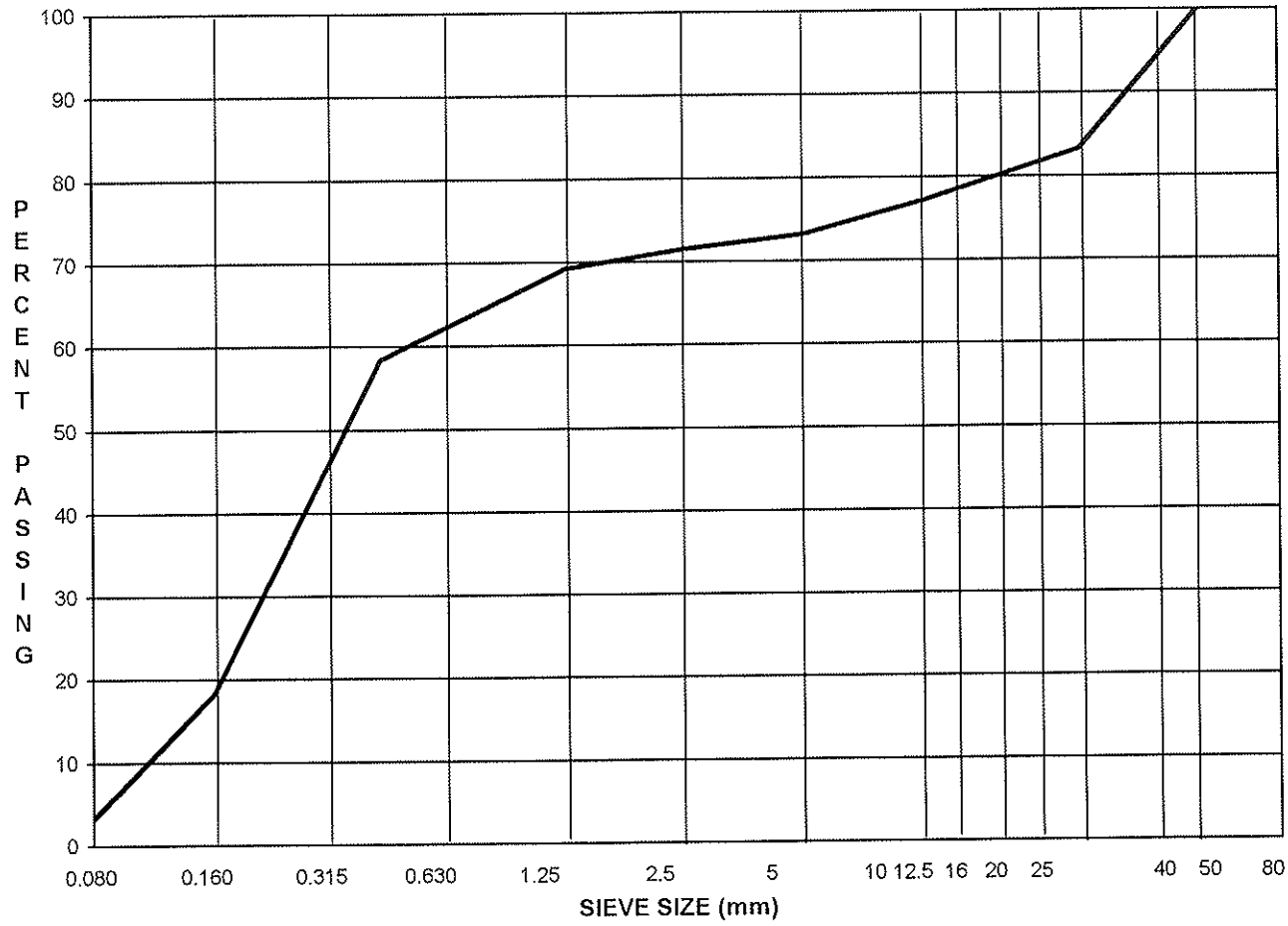
Project:	Cape Christian - LORAN Site	Sample Number:	**S26**
Project No.:	E22101581.001	Date Sampled:	September 11, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert; Daniela Felske	Specification:	Type 3
Description:	SAND, trace gravel, silt, moist, brown.		
Location:	Mixed stockpiles on South-Central area of	Moisture Content:	8.6%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result	**100**		**83**				**77**	**73**	**72**	**69**	**58**		**18.3**	**3.3**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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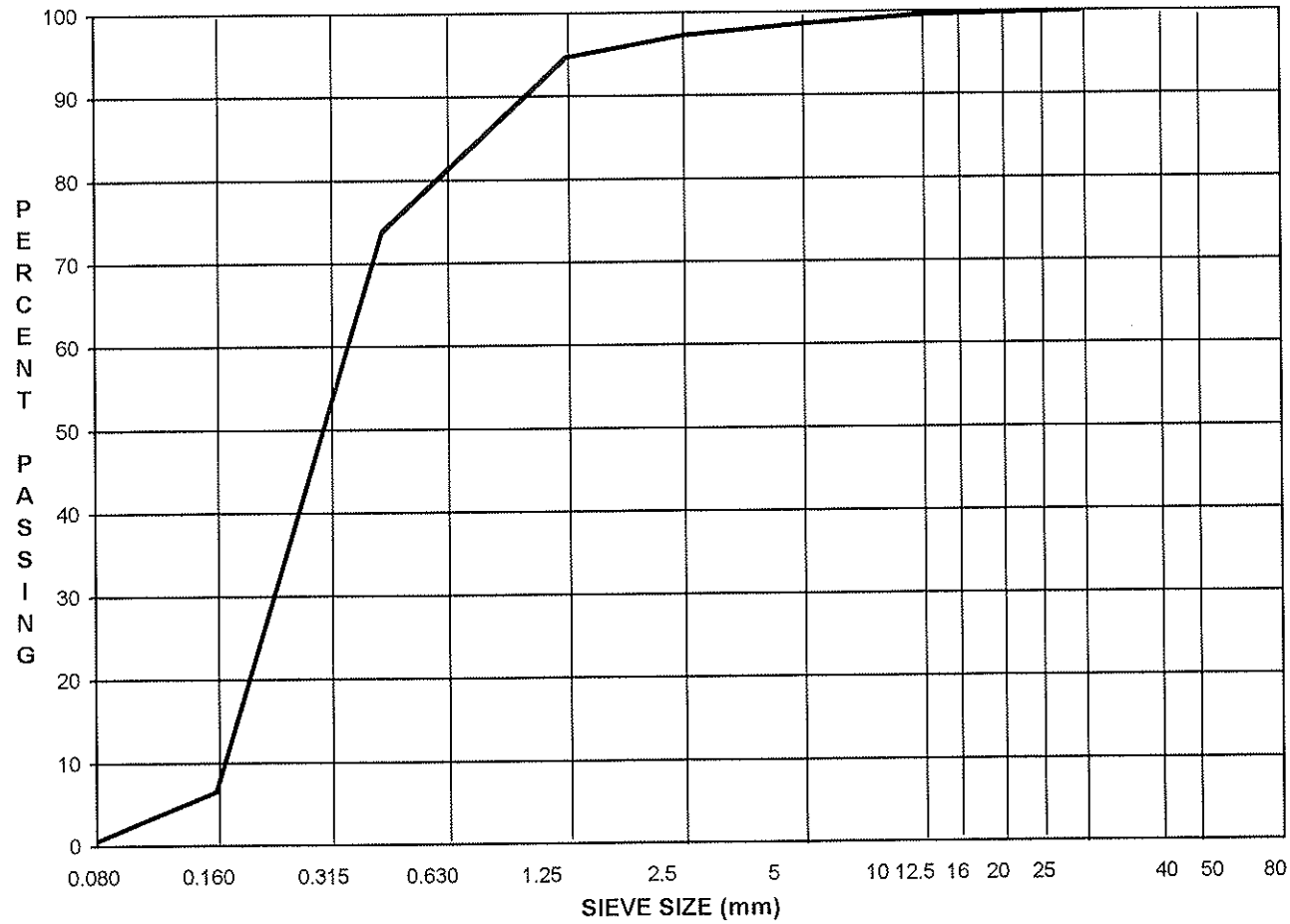
Project:	Cape Christian - LORAN Site	Sample Number:	**S27**
Project No.:	E22101581.001	Date Sampled:	September 12, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert; Daniela Felske	Specification:	Type 3
Description:	SAND, trace gravel, silt, moist, brown.		
Location:	Mixed stockpiles on SW area of landfill for	Moisture Content:	7.4%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**100**	**99**	**97**	**95**	**74**		**6.5**	**0.6**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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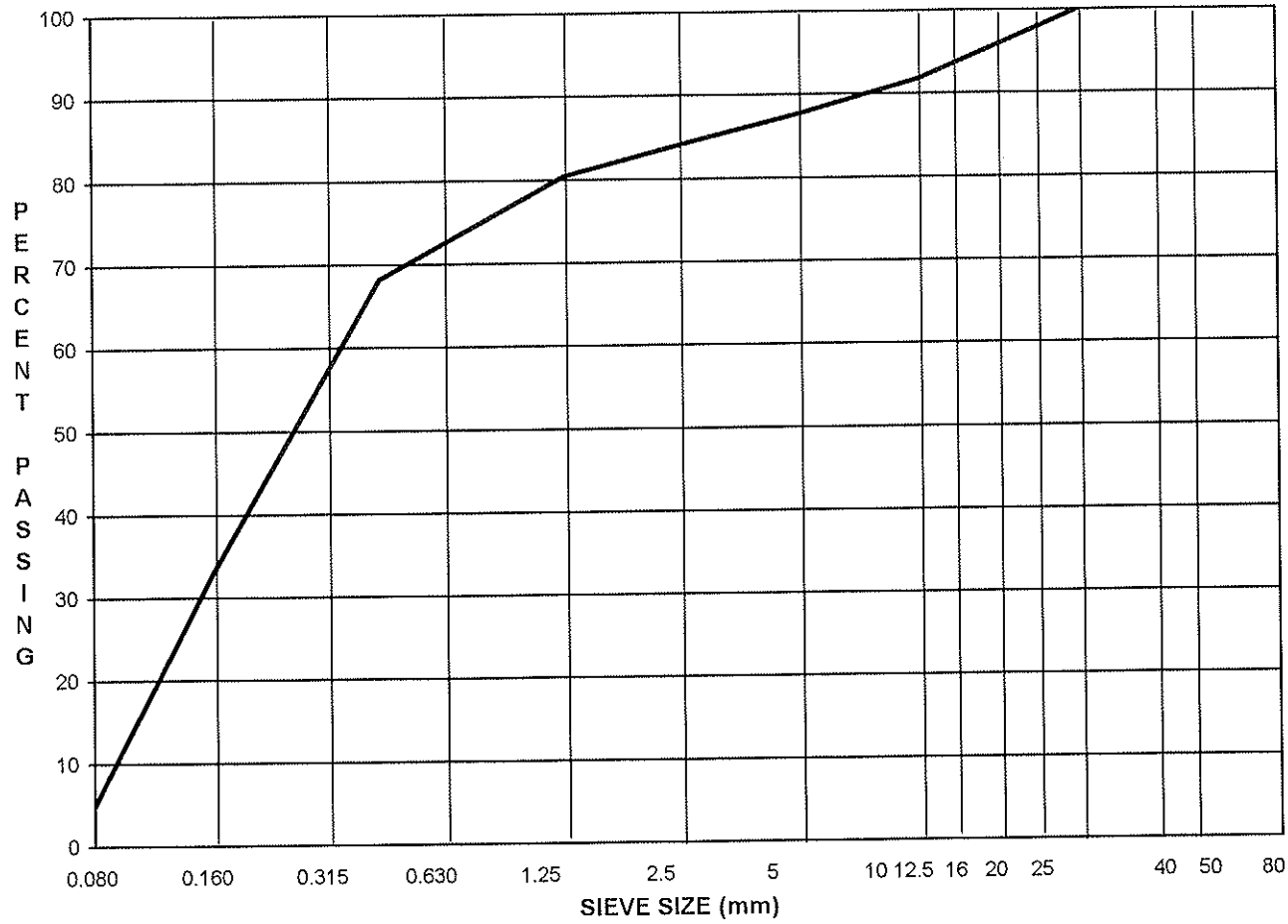
Project:	Cape Christian - LORAN Site	Sample Number:	**S28**
Project No.:	E22101581.001	Date Sampled:	September 12, 2010
Client:	Indian & Northern Affairs Canada	Sampled By:	**GDV**
Attention:	Bill Horne; Michel Hebert; Daniela Felske	Specification:	Type 3
Description:	SAND, some silt, saturated, brown.		
Location:	Stockpile SW area of landfill for Type 3 us	Moisture Content:	14.4%

Aggregate Gradation (% Passing)

Sieve Size (*um*)	50000	40000	25000	20000	16000	12500	10000	5000	2500	1250	425	315	160	80
Upper Limit														
Lower Limit														
Test Result			**100**				**92**	**88**	**84**	**80**	**68**		**33.1**	**5.0**

Remarks: Only specified sieves have been plotted

Reviewed By: _____ C.E.T.



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MOISTURE / DENSITY RELATIONSHIP (PROCTOR) TEST FORM

ASTM D698, D1557

Project: Cape Christian LORAN site

Address: Cape Christian, Nunavut

Project No.: E22101581.001

Client: Indian and Nothern Affairs Canada

Project Manager: Bill Horne

Date Tested: 8-Sep-10 By: GDV

Sample Number: M1, M2

Sample Location: Stockpile on landfill. NE Area.

Standard Proctor (ASTM D698): ☐ Method A, B & C

Modified Proctor (ASTM D1557): ☐ Method A, B & C

Mold Number:

Mold Diameter: 150 mm 100 mm

Visual Description: SAND, silty, trace gravel, wet, brown.

☐ Native ☒ Import Fill Source: Borrow Area #14

☐ Base Course ☐ Base Gravel Supplier: N/A Pit:

Compaction Trial Number	1	2	3	4	5	6
Mass of Mold & Wet Soil (g) **W2**						
Mass of Mold (g) **W1**						
Volume of Mold						
Mass of Wet Soil (g) **W2 - W1**						
Density of Wet Soil (kg/m^3)						

Moisture Condition / Tare No.	6	5				
Mass of Wet Soil & Tare (g) **Ww**	1045.1	1067.9				
Mass of Dry Soil & Tare (g) **Wd**	936.0	953.9				
Mass of Tare (g) **Wc**	248.3	250.7				
Mass of Dry Soil (g) **Wd - Wc**	687.7	703.2				
Mass of Moisture (g) **Ww - Wd**	109.1	114.0				

Moisture Content %	15.9	16.2				
Dry Density kg/m^3						

Oversize Fraction: _____ % Specific Gravity: _____ Manual Rammer: ☐

Remarks: Moisture contents - as requested from QL Surveyor for reasons unknown. Light rain occurred during sampling. These results reflect current moisture at 1900 hrs on September 8, 2010. Two samples taken from the same stockpile.

EBA Engineering Consultants Ltd.

MOISTURE / DENSITY RELATIONSHIP (PROCTOR) TEST FORM

ASTM D698, D1557

Project: Cape Christian LORAN site

Address: Cape Christian, Nunavut

Project No.: E22101581.001

Client: Indian and Nothern Affairs Canada

Project Manager: Bill Horne

Date Tested: 8-Sep-10 By: GDV

Sample Number: M1, M2

Sample Location: Stockpile on landfill. NE Area.

Standard Proctor (ASTM D698): ☐ Method A, B & C

Modified Proctor (ASTM D1557): ☐ Method A, B & C

Mold Number:

Mold Diameter: 150 mm 100 mm

Visual Description: SAND, silty, trace gravel, wet, brown.

☐ Native ☒ Import Fill Source: Borrow Area #14

☐ Base Course ☐ Base Gravel Supplier: N/A Pit:

Compaction Trial Number	1	2	3	4	5	6
Mass of Mold & Wet Soil (g) **W2**						
Mass of Mold (g) **W1**						
Volume of Mold						
Mass of Wet Soil (g) **W2 - W1**						
Density of Wet Soil (kg/m^3)						

Moisture Condition / Tare No.	6	5				
Mass of Wet Soil & Tare (g) **Ww**	1045.1	1067.9				
Mass of Dry Soil & Tare (g) **Wd**	936.0	953.9				
Mass of Tare (g) **Wc**	248.3	250.7				
Mass of Dry Soil (g) **Wd - Wc**	687.7	703.2				
Mass of Moisture (g) **Ww - Wd**	109.1	114.0				

Moisture Content %	15.9	16.2				
Dry Density kg/m^3						

Oversize Fraction: _____ % Specific Gravity: _____ Manual Rammer: ☐

Remarks: Moisture contents - as requested from QL Surveyor for reasons unknown. Light rain occurred during sampling. These results reflect current moisture at 1900 hrs on September 8, 2010. Two samples taken from the same stockpile.

EBA Engineering Consultants Ltd.

MOISTURE / DENSITY RELATIONSHIP (PROCTOR) TEST FORM

ASTM D698, D1557

Project: Cape Christian LORAN site

Address: Cape Christian, Nunavut

Project No.: E22101581.001

Client: Indian and Nothern Affairs Canada

Project Manager: Bill Horne

Date Tested: 8-Sep-10 By: GDV

Sample Number: M1, M2

Sample Location: Stockpile on landfill. NE Area.

Standard Proctor (ASTM D698): ☐ Method A, B & C

Modified Proctor (ASTM D1557): ☐ Method A, B & C

Mold Number:

Mold Diameter: 150 mm 100 mm

Visual Description: SAND, silty, trace gravel, wet, brown.

☐ Native ☒ Import Fill Source: Borrow Area #14

☐ Base Course ☐ Base Gravel Supplier: N/A Pit:

Compaction Trial Number	1	2	3	4	5	6
Mass of Mold & Wet Soil (g) **W2**						
Mass of Mold (g) **W1**						
Volume of Mold						
Mass of Wet Soil (g) **W2 - W1**						
Density of Wet Soil (kg/m^3)						

Moisture Condition / Tare No.	6	5				
Mass of Wet Soil & Tare (g) **Ww**	1045.1	1067.9				
Mass of Dry Soil & Tare (g) **Wd**	936.0	953.9				
Mass of Tare (g) **Wc**	248.3	250.7				
Mass of Dry Soil (g) **Wd - Wc**	687.7	703.2				
Mass of Moisture (g) **Ww - Wd**	109.1	114.0				

Moisture Content %	15.9	16.2				
Dry Density kg/m^3						

Oversize Fraction: _____ % Specific Gravity: _____ Manual Rammer: ☐

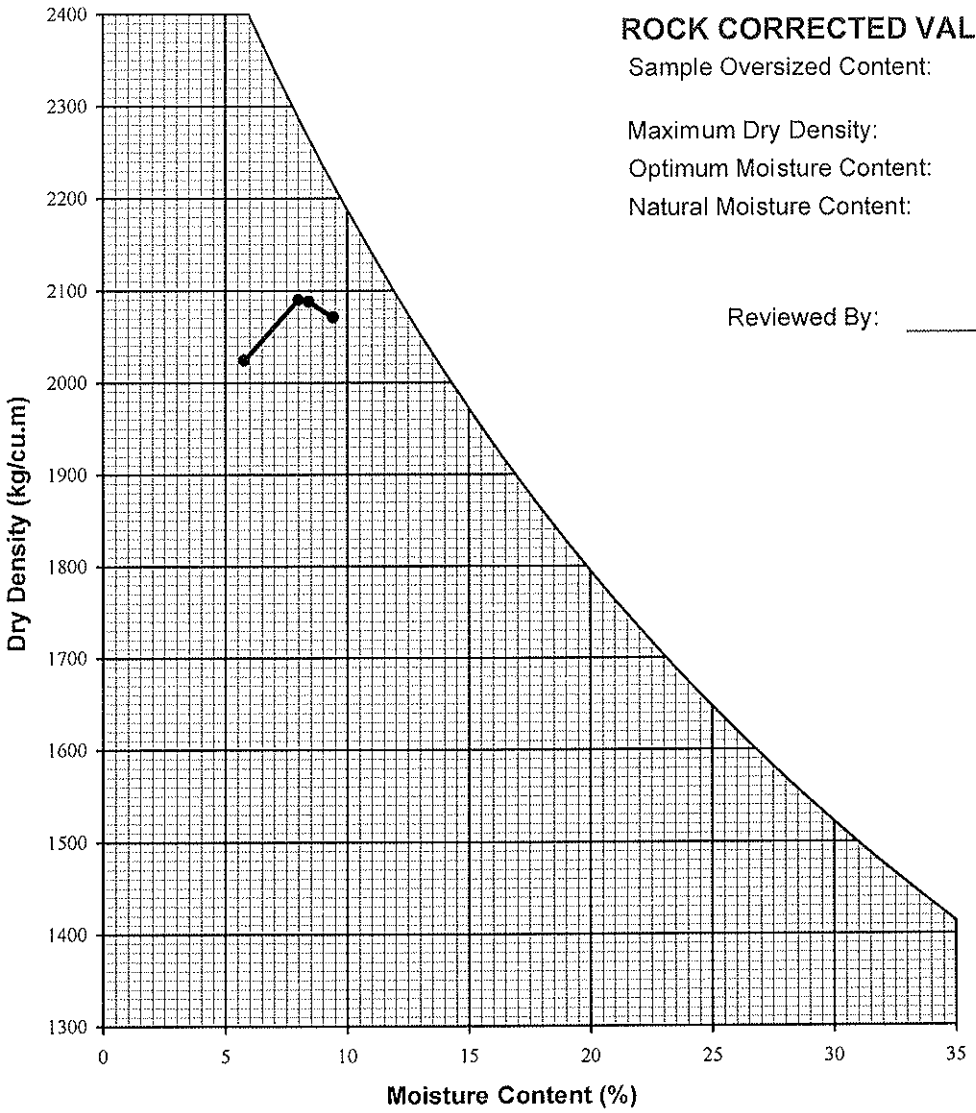
Remarks: Moisture contents - as requested from QL Surveyor for reasons unknown. Light rain occurred during sampling. These results reflect current moisture at 1900 hrs on September 8, 2010. Two samples taken from the same stockpile.

EBA Engineering Consultants Ltd.

MOISTURE-DENSITY RELATIONSHIP REPORT

ASTM D698
Method C

Project:	**Cape Christian Remediation Project**
Client:	PWGSC
Project No.:	E22101581
Description:	GRAVEL and SAND, trace fines
Source:	Foundation Fill
Test Date:	August 14, 2009
Sample No.:	029



ROCK CORRECTED VALUES

Sample Oversized Content:	40 %	
Maximum Dry Density:	2370	kg/cu.m
Optimum Moisture Content:	4.9%	
Natural Moisture Content:	3.7%	

Reviewed By: _____

Data presented hereon is for the sole use of the stipulated client. EBA is not responsible, nor can be held liable, for use made of this report by any other party, with or without the knowledge of EBA. The testing services reported herein have been performed by an EBA technician to recognized industry standards, unless otherwise noted. No other warranty is made. These data do not include or represent any interpretation or opinion of specification compliance or material suitability. Should engineering interpretation be required, EBA will provide it upon written request.

EBA Engineering Consultants Ltd.

MOISTURE / DENSITY RELATIONSHIP (PROCTOR) TEST FORM

ASTM D698, D1557

Project: Cape Christian - LORAN site

Address: Cape Christian, Nunavut

Project No.: E22101581.001

Client: Indian and Nothern Affairs Canada (INAC)

Project Manager: Bill Horne

Date Tested: 23-Aug-10 By: GDV

Sample Number: Proctor 1 (P1)

Sample Location: Landfill, first lift. NW area.

Standard Proctor (ASTM D698): ☒ Method A, B & C

Modified Proctor (ASTM D1557): ☐ Method A, B & C

Mold Number:

Mold Diameter: ☒ 150 mm ☐ 100 mm

Visual Description: SAND, silty, trace gravel, damp, brown.

☐ Native ☒ Import Fill Source: Borrow Area #4.

☐ Base Course ☐ Base Gravel Supplier: N/A Pit:

Compaction Trial Number	1	2	3	4	5	
Mass of Mold & Wet Soil (g) **W2**	10633.4	10808.8	10935.4	10783.2	10736.9	
Mass of Mold (g) **W1**	6264.3	6264.3	6264.3	6264.3	6264.3	
Volume of Mold	0.00212	0.00212	0.00212	0.00212	0.00212	
Mass of Wet Soil (g) **W2 - W1**	4369.1	4544.0	4671.0	4518.9	4472.0	
Density of Wet Soil (kg/m^3)	2061	2144	2203	2132	2109	

Moisture Condition / Tare No.						
Mass of Wet Soil & Tare (g) **Ww**	2061.9	1652.1	1089.2	1387.1	1606.2	
Mass of Dry Soil & Tare (g) **Wd**	1945.7	1550.7	1019.7	1275.8	1462.5	
Mass of Tare (g) **Wc**	224.5	298.7	221.3	298.2	224.4	
Mass of Dry Soil (g) **Wd - Wc**	1721.2	1252.0	798.4	977.6	1238.1	
Mass of Moisture (g) **Ww - Wd**	116.2	101.4	69.5	111.3	143.7	

Moisture Content %	6.8	8.1	8.7	11.4	11.6	
Dry Density kg/m^3	1930	1983	2027	1914	1890	

Oversize Fraction: _____ % Specific Gravity: _____ Manual Rammer: ☐

Remarks: Performed proctor on concrete floor of HAZMAT building.

Suggested value = 2030 @ 8.7%

EBA Engineering Consultants Ltd.

MOISTURE / DENSITY RELATIONSHIP (PROCTOR) TEST FORM

ASTM D698, D1557

Project: Cape Christian - LORAN site

Address: Cape Christian, Nunavut

Project No.: E22101581.001

Client: Indian and Nothern Affairs Canada (INAC)

Project Manager: Bill Horne

Date Tested: 29-Aug-10 By: GDV

Sample Number: Proctor 2 (P2)

Sample Location: Stockpile on South half of landfill

Standard Proctor (ASTM D698): ☒ Method A, B & C

Modified Proctor (ASTM D1557): ☐ Method A, B & C

Mold Number:

Mold Diameter: ☒ 150 mm ☐ 100 mm

Visual Description: SAND, some silt, trace gravel, damp, dark brown.

☐ Native ☒ Import Fill Source: Water Reservoir berm

☐ Base Course ☐ Base Gravel Supplier: N/A Pit:

Compaction Trial Number	1	2	3	4	5	
Mass of Mold & Wet Soil (g) **W2**	10184.3	10399.3	10775.0	10701.8	10491.6	
Mass of Mold (g) **W1**	6264.3	6264.3	6264.3	6264.3	6264.3	
Volume of Mold	0.00212	0.00212	0.00212	0.00212	0.00212	
Mass of Wet Soil (g) **W2 - W1**	3920	4135.0	4510.7	4437.5	4227.3	
Density of Wet Soil (kg/m^3)	1849	1950	2128	2093	1994	

Moisture Condition / Tare No.						
Mass of Wet Soil & Tare (g) **Ww**	914	749.8	749.0	958.0	871.1	
Mass of Dry Soil & Tare (g) **Wd**	888.6	723.6	707.9	889.6	798.1	
Mass of Tare (g) **Wc**	298,4	250.8	224.2	221.7	298.3	
Mass of Dry Soil (g) **Wd - Wc**	590.2	472.8	483.7	667.9	499.8	
Mass of Moisture (g) **Ww - Wd**	25.4	26.2	41.1	68.4	73.0	

Moisture Content %	4.3	5.5	8.5	10.2	14.6	
Dry Density kg/m^3	1773	1848	1961	1899	1740	

Oversize Fraction: _____ % Specific Gravity: _____ Manual Rammer: ☐

Remarks: Performed proctor on concrete floor of HAZMAT building.

Suggested value = 1965 @ 8.5%

EBA Engineering Consultants Ltd.

MOISTURE / DENSITY RELATIONSHIP (PROCTOR) TEST FORM

ASTM D698, D1557

Project: Cape Christian - LORAN site

Address: Cape Christian, Nunavut

Project No.: E22101581.001

Client: Indian and Nothern Affairs Canada (INAC)

Project Manager: Bill Horne

Date Tested: 11-Sep-10 By: GDV

Sample Number: Proctor 3 (P3)

Sample Location: Stockpile on South Central area

Standard Proctor (ASTM D698): ☒ Method A, B & C

Modified Proctor (ASTM D1557): ☐ Method A, B & C

Mold Number:

Mold Diameter: ☒ 150 mm ☐ 100 mm

Visual Description: SAND, some silt, trace gravel, moist to wet, light and dark brown.

☐ Native ☒ Import Fill Source: Mix of borrow area's #5, #7, #14

☐ Base Course ☐ Base Gravel Supplier: N/A Pit:

Compaction Trial Number	1	2	3			
Mass of Mold & Wet Soil (g) **W2**	10712.0	10818.6	10697.8			
Mass of Mold (g) **W1**	6264.2	6264.2	6264.2			
Volume of Mold	0.00212	0.00212	0.00212			
Mass of Wet Soil (g) **W2 - W1**	4447.8	4554.4	4433.6			
Density of Wet Soil (kg/m^3)	2098	2148	2091			

Moisture Condition / Tare No.						
Mass of Wet Soil & Tare (g) **Ww**	865.6	881.5	689.3			
Mass of Dry Soil & Tare (g) **Wd**	803.1	829.8	657.4			
Mass of Tare (g) **Wc**	250.4	221.7	248.6			
Mass of Dry Soil (g) **Wd - Wc**	552.7	608.1	408.8			
Mass of Moisture (g) **Ww - Wd**	62.5	51.7	31.9			

Moisture Content %	11.3	8.5	7.8			
Dry Density kg/m^3	1885	1980	1940			

Oversize Fraction: _____ % Specific Gravity: _____ Manual Rammer: ☐

Remarks: Performed proctor on concrete floor of HAZMAT building.

Suggested value = 1980 @ 8.5%

3 points only, the piles on landfill are not consistent.

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