CAM - F DEW Line Site
Phase III Environmental Site Assessment and Waste Audit

CAM - F DEW Line Site
Phase III Environmental Site Assessment and Waste Audit

INTERNAL
PC
MA
FO
LA
BS
ST
TA1
RC
ED
CH
BRD
EXT.

Prepared for:

Public Works & Government Services Canada
Environmental Services, Western Region
1000-9700 Jasper Avenue
Edmonton, Alberta, T5J 4E2

Prepared by:

Earth Tech Canada Inc.
17203-103rd Ave.,
Edmonton, Alberta, T5S 1J4
(780) 488-6800

January 2005

78848

Nunavut Water Board
MAY 09 2005
Public Registry

Earth Tech Canada Inc

Avenue, Edmonton, Alberta T5S 1J4 Can

January 4, 2005

Refer to File: 78848

L:\work\78000\78848\03-Report\Final Report\lot.doc

Public Works and Government Services Canada
Environmental Services
1000-9700 Jasper Avenue
Edmonton, AB
T5J 4E2

Attention: Mr. Chris Doupe
Senior Environmental Biologist

Dear Sir:

780.488.6800

Re: CAM – F DEW Line Site, Phase III ESA and Waste Audit
Final Report

Please find enclosed eight copies of the Earth Tech Canada final report summarizing the Phase III ESA and Waste Audit that was completed at the CAM – F DEW Line Site.

It has been Earth Tech's pleasure to complete this project. If you have any questions, please do not hesitate to contact the undersigned at (780) 488-6800.

Very truly yours,

EARTH TECH (CANADA) INC.
Per:

Written by:
Greg Wright, M.Sc.
Environmental Scientist

for Reviewed by:
Don Roy, RET
Senior Environmental Technologist

Encl.

CAM-F DEW LINE SITE
PHASE III INVESTIGATION AND WASTE AUDIT

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

CAM-F is a former DEW Line site located at 68°33' N, 83°19' W on the Melville Peninsula between Foxe Basin and Committee Bay, 85 km west of Hall Beach and 100 km southwest of Igloolik. Constructed in 1957, the site was used as an Intermediate DEW Line station until it was abandoned in 1963. In 1977 the site was converted to a scientific research station under the support of the Science Institute of the Northwest Territories and DIAND. The site consists of a Main Station Area, two Dump Sites and a former Construction Camp. Elevation at the main site is 260 m above sea level and the shoreline of Sarcpa Lake is approximately 165 m above sea level. The Main Station Area houses the majority of the infrastructure located on CAM-F, as well as two large tanks used for fuel storage. The Dump Sites are also located on the North portion of the Main Station Area. The former Construction Camp, located on the shore of Sarcpa Lake, was used while CAM-F was being constructed.

In order to assist in the development of a remedial plan for the CAM-F site, PWGSC is required to complete further assessments at the site. The assessments include the completion of a Phase III ESA and Waste Audit in order to delineate areas of environmental concern as well as to determine volumes of hazardous and non hazardous waste materials. The fieldwork for this program was completed between August 10 and 18, 2004.

The Phase III investigation included the assessment of 15 areas of the site in order to delineate previously identified contaminated areas and to confirm the presence of contaminants in areas that had not been previously identified.

Based on the findings of the Phase III Assessment, the following table presents a summary of the areas requiring remedial action at the CAM-F DEW Line site.

Table 1.1 Summary of Areas Requiring Additional Remedial Action

Location	Contaminant Exceeding CCME and/or DCC Criteria	Volume m^3	Comments
Module Station	**PCBs**	83	PCB contamination restricted to surface soils
	PHCs	322	Hydrocarbon contamination is at depth only
	PAHs	278	PAH contamination is at depth only
	Metals	61.8	Heavy metals within PCB plume
Stain NW of Module Station	**PCBs**	8	
	PHCs	5	
Sewage Outfall	**PCBs**	17	Complete delineation of impacted area not achieved
	Metals	17	
Warehouse	**PCBs**	4	
	PHCs	21	Complete delineation of hydrocarbon impacted area not
	Metals	1	achieved in southeast corner of warehouse
Garage	**PCBs**	15	
	PHCs	8	Hydrocarbon plumes within PCB and Metals plumes
Vehicle Pile	**Metals**	50	PCB contained within Metals plume
	PCBs	8	
	PHCs	42	
Buried Debris at West Barrel Cache	**PHCs**	374	Complete delineation of impacted area not achieved
	PAHs	374	
POL Tanks	**PHCs**	707	Complete delineation of hydrocarbons not achieved
	PAHs	502	
	Metals	21	

Table 1 cont. Summary of Areas Requiring Remedial Action

Location	Contaminant Exceeding CCME and/or DCC Criteria	Volume m^3	Comments
DUMP A	**PCB**	36	Not including estimated 433.6 m^3 (estimated volume of DCC Tier I and II) remaining within grid area.
	Metals	16	Heavy Metals within buried debris area identified by geophysical testing
DUMP B	**PCBs**	62	
	Metals	11	
	PHCs	36	Complete delineation of hydrocarbons not achieved
Construction Camp Generator Site	**Metals**	10	
	PHCs	4	
Construction Camp Machine Shop Site	**PHCs**	35	Complete delineation of hydrocarbons not achieved
	PAHs	7	
	Total Estimated Volume	3133	The majority of the total estimated volume is co-contaminated, with more than one contaminant exceeding the applied criteria.

A detailed Waste Audit was also completed in order to determine the volumes of non-hazardous and hazardous materials. The following table briefly summarizes the quantities of the major categories for each waste type.

Table 1.2 Summary of Waste Volumes

Waste Type	Items	Estimated Volume	Unit
Non Hazardous	Wood, steel, domestic waste, vehicles, equipment parts building materials and contents, scattered debris and 9160 empty barrels.	**3619**	m^3
Hazardous	Miscellaneous materials, needles, asbestos materials, oil filters	42.8	m^3
	21 Full to partially full barrels	4200	L
	Lubricants and paint (liquid)	224	L
	Batteries (50)	1.35	m^3
	Drums of Sewage	300	L
	PCB painted building materials (1544 m^2)	89	m^3
	Total	**138**	m^3

Based on the scope of work of the Phase III Environmental Assessment and Waste Audit that was completed at the CAM-F DEW Line site the following conclusions are made.

Phase III ESA

- The Phase III investigation included the assessment of 15 locations in three main areas of the site in order to delineate previously identified contaminated areas and to confirm the presence of contaminants in areas that had not been previously identified.
- The total volume of hydrocarbon, metal and PCB contaminated material found to be contaminated was estimated at 3133 m^3. Due to site conditions, full delineation was not achieved in some locations. Also, co-contaminated soil exists in most impacted areas.

- Some study areas located at the POL Tank area and Dumps A and B had uncertain (limited) amounts of soil media within bedrock outcrops and may be difficult to access.
- Background soil and groundwater samples were all below the applied CCME Residential Parkland Criteria.
- Surface waters sampled on site were all below the applied CCME Residential Parkland Criteria.
- There are minor exceedances of PCBs and metals in groundwater samples retrieved from impacted areas when compared to CCME Residential Criteria.
- Three of four sediment samples retrieved from Sarcpa Lake had minor exceedances of Chromium and Copper believed to be attributed to elevated background levels naturally present within the lake.

Waste Audit

- A Waste Audit was completed on site and yielded approximately 3,619 m^3 of non hazardous waste and approximately 138 m^3 hazardous materials. The vast majority of this material is located in accessible areas.
- A total of 9,160 empty barrels were identified at the site. It is recommended that subsurface soil conditions below the barrels be determined following their removal.
- A total of 21 full to partially full barrels were identified on the site.
- Approximately 1,544 m^2 of material was observed to be painted with PCB containing paint. The majority of the paint products on metal substrates were in poor condition (peeling) and may require some form of abatement prior to removal of the painted components. Wood materials painted with PCB containing paint were typically weathered and non peeling. It is recommended that the painted materials be removed by a contractor following a waste reduction process.

2.0 INTRODUCTION

Canada's north contains several federal contaminated sites originating from the mining, oil and gas activities, as well as government military activity. The Department of Indian and Northern Development (DIAND) is responsible for the care and management of these sites and has made it a priority to assess, prioritize and mitigate/remediate the environmental impacts. CAM-F (Figure 1, Appendix 1) is an Intermediate Distant Early Warning (DEW) Line site that is currently listed as a high priority site as part of the Federal Contaminated Sites Accelerated Action Plan (FCSAAP). A consort of Federal departments including the Treasury Board Secretariat and Environment Canada developed the FCSAP and the associated Accelerated Action Fund. The Accelerated Action Fund will fund the CAM-F remediation.

Earth Tech Canada Inc., on behalf of DIAND and at the request of Public Works and Government Services Canada (PWGSC) – Environmental Services Western Region, has been requested to complete a Phase III Site Assessment and Waste Audit at the CAM-F intermediate DEW Line site. The following is the Earth Tech Phase III Site Assessment and Waste Audit Report based on the field work conducted from August 10th to 19th of this year.

2.1 Background Information

CAM-F is a former DEW Line site located at 68°33' N, 83°19' W on the Melville Peninsula between Foxe Basin and Committee Bay, 85 km west of Hall Beach and 100 km southwest of Igloolik. Constructed in 1957, the site was used as an Intermediate DEW Line station until it was abandoned in 1963. In 1977 the site was converted to a scientific research station under the support of the Science Institute of the Northwest Territories and DIAND. The site consists of a Main Station Area, two Dump Sites and a former Construction Camp. Elevation at the main site is 260 m above sea level and the shoreline of Sarcpa Lake is approximately 165 m above sea level. The Main Station Area houses the majority of the infrastructure located on CAM-F, as well as two large tanks used for fuel storage. The Dump Sites are also located on the North portion of the Main Station Area. The former Construction Camp, located on the shore of Sarcpa Lake, was used while CAM-F was being constructed.

Terrain at CAM-F is characterized by rolling tundra highland with gravely till deposits, several lakes and numerous rivers. Permafrost is present at approximately 1 to 1.5 m below ground surface. Sedges, willows and moss, along with rocky or disturbed areas containing no vegetation, characterize the vegetation at the site. Fauna in the area includes caribou, Arctic Hare, Arctic Fox and several species of birds.

2.2 Previous Site Investigations

2.2.1 General

The following is a brief summary of the background reports that were available for review. The scope of work for the 2004 investigation completed at the CAM-F DEW Line site was based on the findings and conclusions of these background reports.

2.2.2 *PCB Sampling Program at Sarcpa Lake (CAM-F) Abandoned DEW Line Station, 1988*

In July 1988, two resource officers representing INAC conducted soil and swab sampling at CAM-F DEW Line Station. The sampling program was initiated by PCB sampling conducted the previous year, which lead to the discovery of possible PCB contaminated soils around the module train and dump (what is now referred to as Dump A), and PCB contaminated paint in the module train. The scientific research station was closed until a more detailed PCB sampling program was completed. Soil samples were obtained from the vicinity of staircases around the module train, along transects down the valley from the dump, and at a point near the freshwater source. Results above non-detect values were found to range between 1.0 and 13 ppm. All results with measurable PCB levels were from the sampling conducted around the module station staircases. PCB results from swab sampling ranged from 3.7 to 1000 µg total Aroclor 1254. As a result of the PCB levels, the research station remained closed.

2.2.3 *Royal Roads Military College, 1994*

The Royal Roads Military College (RRMC) conducted an Environmental Assessment of six abandoned DEW Line sites in 1993. The RRMC Environmental Sciences group conducted the group assessments, which included the CAM-F assessment. CAM-F and FOX-C were noted as being most affected by chemical contamination out of the six sites assessed. The RRMC assessment of CAM-F included visual observations/inspections of landfills, barrel dumps and station facilities, and sampling of soil, water and plant specimens for laboratory analysis. Over 5000 barrels were estimated to be onsite and several stained areas were noted. Sixty-four soil samples were analyzed for PCBs, and seventeen exceeded DCC criteria. In fact, a sample from Dump A was found to contain a total PCB concentration of 220 ppm, a level that exceeds the 50 ppm standard set by the Canadian Environmental Protection Act. Sixty-three metals in soil samples were taken with seven samples exceeding the DCC metal criteria. Metals found to exceed criteria include cadmium, lead, and zinc, and were all from samples retrieved from stained areas. Swab samples taken from the Module Station exceeded the USEPA PCB criteria. It was concluded that there was a high possibility of contaminants at CAM-F migrating off site.

2.2.4 *PCB Cleanup and Engineering Design – Queen's University, 1996*

In July and August of 1996, a team of engineers and scientists from Queen's University and UMA Engineering (survey), conducted extensive investigations, as well as remedial work on Dump A, at CAM-F. Specific work completed during the site visit involved: debris removal from Dump A and excavation of contaminated soils; delineation of all other contaminated areas; a topographic survey of the work areas; sampling and analysis of paint chips from building and of barrel contents; and the development of site cleanup specifications, drawings, and preparations of cost estimates. The remediation of Dump A was addressed by: first, sorting and stockpiling of readily available debris; next, the dump was divided into a 3 x 3 m grid; quadrants with PCB concentrations >5 ppm were excavated to approximately 30 cm, at which point they were sampled again; 13.9 m^3 of soil with PCB concentrations >50 ppm was placed in 205 L plastic barrels while 39.4 m^3 of soil with PCB concentrations between 5 and 50 ppm was placed in fabricated boxes.

Delineatory investigations of contaminated areas, which include the module station, stains north of the station, warehouse, garage, vehicle pile, Dump A, Dump B and the construction camp, was conducted and estimates of contaminated soil volumes were calculated. Investigation of hazardous and non-hazardous materials was also conducted. Preliminary design and recommendations for the cleanup of CAM-F was also discussed.

2.2.5 UMA Specifications for the Cleanup of CAM-F, 1996

In 1996 UMA Engineering Ltd. developed specifications for the environmental cleanup and demolition of facilities at the CAM-F Site. The specs were designed based on the investigations conducted by Queen's University earlier the same year. The specification package included 90% design drawings, handling procedures for PCB and heavy metal contaminated soils, and abatement/demolition procedures for hazardous and non-hazardous building materials.

2.2.6 Construction Cost Estimates - 90% Design Submission, 1997

Based on the RMC investigation, a 90% design and cost submission was prepared by UMA Engineering for the remediation of CAM-F. It contains financial, commercial, scientific and technical information related to the cleanup of CAM-F.

2.2.7 PCB Cleanup and Asbestos Abatement – Queen's University, 1997

In continuation of work conducted in 1996, a team was onsite in July and August of 1997 to complete the cleanup of CAM-F so that it meets legal compliance with regards to PCB and asbestos, soils and building materials. More specifically, the excavation of soils with PCB concentrations >50 ppm and storage in 205 L barrels, abatement of asbestos materials, and consolidation of all waste petroleum products and storage in a bermed and lined area. Sampling of the concrete floors in the module station was also conducted and found to be PCB containing. 76.1 m^3 of CEPA soils and 52.4 m^3 of Tier II soils were excavated from Dump A, and it is estimated that 301.2 m^3 of Tier II and 132.4 m^3 of Tier I PCB contaminated soils remain at the dump. 163 barrels containing CEPA soils were stored in the warehouse. Tier II soils were excavated and stored in Wrangler waste boxes near Dump A. Approximately 161 bags of asbestos containing material were generated from the cleanup of Dump A and the abatement of the module station and warehouse. These bags of asbestos waste are stored in the Quonset hut.

2.2.8 Sarcpa Lake – Queen's University, 1999

Representatives from Queen's University, Environment Canada and the Igloolik Research Centre visited the site in August, 1999. The site visit was to inspect the waste oil storage area, inspect the Wrangler bags containing Tier II PCB soils, complete minor repairs of the warehouse roof, and to conduct limited sampling of Dump A to ensure all soils are below CEPA levels. The waste oil storage was found to be in good condition, the Wrangler boxes were undamaged, and the warehouse roof was successfully repaired by 3 community members. Results from soil sampling at Dump A showed PCB levels ranging between 5.7 and 27 ppm Aroclor 1254. Although the levels are elevated, the site was still in legal compliance as no concentrations are above the CEPA criteria.

2.3 Scope of Work and Objectives

Earth Tech was retained by PWGSC-Environmental Services, Western Regions to conduct a Phase III Site Assessment and Waste Audit for CAM-F DEW Line site in Nunavut, as outlined in the Terms of Reference (Appendix B). The scope of work for this project includes the following:

- Develop and implement a site-specific Health and Safety Plan (HASP) to be used at CAM-F (Earth Tech CAM-F HASP, Appendix C);
- Finalize lateral and vertical delineation of known contaminated areas, as well as potential contaminated areas identified during geophysical investigations;
- Conduct biological sampling from Sarcpa lake for tissue analysis;
- Conduct a Hazardous and Non-Hazardous materials inventory, including sampling of suspected hazardous building materials;
- Coordination of activities and information with other consultants involved in the project;

The fieldwork for this project was completed between August 10th and August 19th, 2004. The reporting was completed following the receipt of the analytical data.

3.0 EARTH TECH WORK COMPLETED

In total Earth Tech took 131 soil samples to a maximum depth of up to 1.2 m where permitted. The soil samples were field screened using the Chlor-n-Soils kit for total PCBs and Petroflag for total hydrocarbons. 131 soil samples were sent to the lab for analysis for various contaminants including Heavy Metals, Polychlorinated Biphenyl (PCBs), Petroleum Hydrocarbons (PHCs), Polycyclic Aromatic Hydrocarbons (PAHs) and Pesticides.

4 sediment samples were retrieved from Sarcpa Lake, all of which were sent to the lab for Heavy Metals and PCBs analysis.

Surface water and groundwater samples were also taken at various locations around the site. A total of 15 water samples were taken and submitted to the laboratory for analysis.

As per the TOR requirements, living tissue samples were also taken. Five fish of varying sizes were obtained from Sarcpa Lake in the vicinity of the Former Construction Camp area. The samples were frozen, kept on ice and submitted to Norwest Labs for heavy metals and PCB analysis.

Suspect hazardous building materials were sampled in the Module Station, Warehouse, Garage and Inuit house. In total, 21 samples were taken and submitted to the lab for Asbestos, PCBs and/or lead analysis.

3.1 Methodology

3.1.1 Soil Sampling

In preparation for the field sampling, information from past investigations was reviewed as to identify areas where further lateral and vertical delineation was required. Proposed testpit locations were plotted on old site plans to visualize the location of the proposed testpits, number of samples, and the contaminant(s) of concern. Once onsite, the first step was to map out the location of past sample points by conducting a reconnaissance walk over the site. Although this was found to be challenging in some cases due to marker pins and stakes either missing or found dislodged from their original locations, most locations had a satisfactory amount of markers to properly map out the area of concern. The proposed testpit locations were then reviewed to determine whether site influences such as topography and geology would suggest moving the testpits to a more suitable location. Once the testpit location was finalized, an Earth Tech survey pin equipped with a numbered tag was placed in the ground at the sample location.

In areas of potential contamination identified by geophysical investigations being conducted simultaneously, locations for Earth Tech testpits were determined based on the extent of potential contamination mapped out by the geophysicists pin flags. In such cases, one or more testpits were advanced inside the mapped area and delineatory testpits were advanced outside the pin flag boundary as to identify the extent of contaminated soils.

Soil sampling conducted on site involved delineation of heavy metals, hydrocarbons and PCB contamination. Although heavy metals cannot easily be identified in soils by visual

observations, they are often associated with hydrocarbon staining. Surface staining was used to aid in identifying the outer limits of impacted soils where suitable locations for delineatory samples should be retrieved.

In most cases, a small shovel and/or hand auger was used to retrieve the soil samples. In areas where a significant backfill layer was present, a Kubota tractor equipped with a small backhoe was used to advance testpits to the point of backhoe refusal. The sampling instruments were cleaned with a wire brush between sampling points to prevent cross contamination between sample locations.

Samples collected for heavy metals analysis were placed in sealable plastic bags and labeled accordingly. Samples collected for PCBs, PHCs and PAHs were placed in glass jars with Teflon-line lids immediately after retrieval to prevent volatilization of the contaminants. Also, the jars were filled such that no head-space was present, to eliminate oxidation and subsequent volatilization of contaminants prior to laboratory analysis. Samples selected for Chlor-n-soil or Petroflag field screenings were set aside for field analysis. Methodology of field screening techniques is described further in this section. Upon returning to camp, samples were placed in ice chilled coolers and left outside to keep cool. Prior to sealing the coolers for transportation from the site to Norwest Laboratories in Edmonton, Alberta, fresh ice packs, bubble wrap and completed chain of custody forms were packed in the coolers.

3.1.2 Sediment Sampling

The field sampling program also included the collection of four sediment samples from Sarcpa Lake. The samples were obtained from locations where drainage from the Station area of CAM-F discharges into the lake. All sediment samples were collected with an Eckman Sediment dredge. Access to areas of the Lake was provided with the outfitter supplied boat. Samples were placed in sealable plastic bags and glass jars, and prepared for transport in the same manner as the soil samples. Analysis conducted on the sediment samples included PCBs and heavy metals

3.1.3 Water Sampling

Surface water and groundwater samples were also taken from various locations around the site. A total of 15 water samples were taken, all of which were submitted to the lab for analysis.

Four surface water samples were obtained from areas potentially impacted from on-site activities and contaminated areas at CAM-F. Locations of surface water samples are shown in Figure 3 located in Appendix A. Samples were obtained by submerging clean laboratory supplied plastic and glass bottles in the water source, then immediately packed into coolers to limit sample degradation. For shipment from the site to the laboratory, the coolers were treated in manner similar to that for the soil/sediment samples. Samples were analyzed for routine parameters, heavy metals and PCBs.

Seven groundwater samples were collected from groundwater monitoring wells installed by Earth Tech during the 2004 site investigation. Locations of the monitoring wells are shown in Figure 3. Once the well was installed and allowed to stabilize, the well was

surveyed to provide information on groundwater elevation, depth of well and total height of well casing. Using a syringe and rubber tubing, the wells were then purged to remove any disturbed and turbid waters resulting from installation. The wells were then allowed to recover and stabilize, at which point samples were obtained using the syringe /tubing combination. The water samples were collected and stored in laboratory supplied bottles and coolers until delivery to the laboratory. Groundwater samples were analyzed for routine parameters, heavy metals, PCBs, PHCs, and/or PAHs.

3.1.4 Biological Sampling

As per the TOR requirements, living tissue samples were also taken. Using traditional line and tackle angling methods, five fish of varying sizes were obtained from Sarcpa Lake near the construction camp area. The fish were identified, tagged, weighed, measured, then wrapped in plastic bags and stored in a freezer and ice-packed coolers until delivery to the laboratory. The samples were submitted to Norwest labs for PCB and metal analysis.

3.1.5 Asbestos Sampling

Building materials thought to contain asbestos were sampled from facilities located at CAM-F. Samples were obtained using "adequately wet" procedures, to prevent the release of fibers during sampling. Also, half-mask respirators were worn when friable Asbestos Containing Materials (ACM) was sampled. Samples were placed in sealable plastic bags, labeled accordingly. Photographs of the sample and its location were taken to easily identify the suspect material.

3.1.6 Paint and Concrete Sampling

Previous investigations identified PCBs in concrete and paint, as well as lead in paint, in the facilities at CAM-F. Paint and concrete samples were obtained during the 2004 investigation to fill in information gaps left from past investigations. Paint samples were collected with a utility knife or putty knife. Paint on concrete was scraped off utilizing wire brushes and industrial grade abrasive scraper. Concrete samples were collected using cold chisel and hammer or a pickaxe. Substrate materials were also recorded. Samples were retrieved, then placed in sealable plastic bags and labeled accordingly. Concrete samples were analyzed for PCBs, and paint samples were analyzed for lead and PCBs.

3.1.7 Field Screening Tests

Selected soils samples were field screened on site for PCBs using CLOR-N-SOIL® test kits, and for total petroleum hydrocarbons using Petroflag® test kits. Methods for the test kit analysis followed the stepwise procedures included with each test kit.

4.0 RESULTS OF SITE INVESTIGATION

4.1 Summary of Investigated Areas

Investigative efforts of the Earth Tech team were focused on achieving lateral and vertical delineation of the previously identified contaminated areas, as well as areas of potential concern determined by geophysical investigations. The CAM-F DEW Line site consists of three separate areas; the Station Proximity area, Dumps A and B, and the Former Construction Camp.

4.2 Background Conditions

Tables 1 and 2 (Appendix D) presents a summary of the background metal and PCB concentrations determined in both the 2004 investigation as well as the from the 1999 investigation completed by Queens University Analytical Services Unit. The background values determined in the 1999 investigation were based on the analysis of three samples (plus one field duplicate). Samples were collected from sites located between 1 and 4 km from CAM-F (Figure 3). Background conditions were found to be comparable between the two investigations.

A background groundwater monitoring well was also installed to provide insight to natural groundwater conditions present in the area. ETMW06, a 1" PVC well, was installed in close proximity to the background soil sample testpit ET91. Samples obtained from the well were submitted for routine water, dissolved heavy metals, and PCB analysis. Results from the groundwater investigations, including the background well, are shown in Tables 3 to 8 (Appendix D). Routine water parameters were found to be within criteria. Copper and zinc concentrations were found to exceed CCME Water Quality Guidelines for the Protection of Aquatic Life. As MW06 is a background well, located in undisturbed soils and a considerable distance from impacted areas, it is concluded that elevated levels of heavy metals are naturally occurring in the groundwater in the area. Also, the background well has extremely slow recovery which meant the PCB analysis was not possible due to the sample volume not meeting minimum requirements for analysis.

4.3 Station Proximity Area

The Station Proximity area is located on a hill approximately 100 m above and 3 km northeast of Sarcpa Lake (Figure 2). Facilities in the area include; a module building train, warehouse, garage, Inuit house, Quonset hut, POL (Petroleum, Oil, Lubricants) Tanks, drum storage pads, sewage outfall and a downed antenna tower. The facilities are all situated on flat gravel pads with little to no vegetation. Outside the gravel pads, soils consist of sand and gravel, with clays and organic matter present in low, wet areas. Environmental concerns in this station proximity area include the soils and water in the vicinity of the facilities, large stains located around the area and the hazardous building materials contained within the facilities.

4.3.1 Module Station

The module station, shown in Photo 1, was used as the living and working quarters while CAM-F was in operation, and was later converted to a scientific research laboratory. The

building is a wood structure with aluminum siding, built on raised lumber cribbing. The interior of the station consists of sleeping quarters, washroom, water/sewage room, kitchen and eating area, laboratory (which was likely the operations room while the site was used as an intermediate station), electrical room, and a diesel storage and boiler room.

Previous work at the Module Station identified significant metals and PCB contamination in the soils, with highest concentrations measured in the vicinity of the exterior staircases to the building. Preceding soils investigations were restricted to surface soils and therefore vertical delineation, as well as complete lateral delineation, is required for volumes of impacted soils to be estimated accurately.

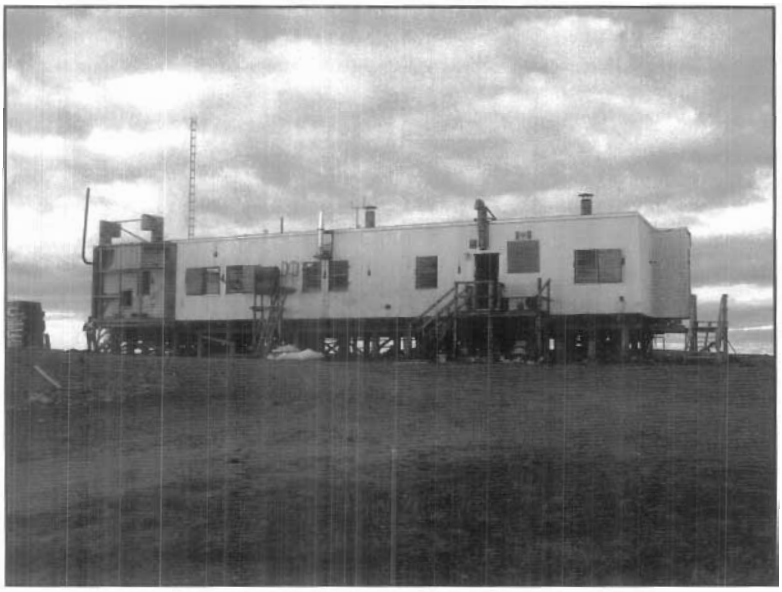


Photo 1 Module Station, looking north

Soil Investigation

A total of eighteen testpits were advanced in the soils surrounding the module station, as illustrated in Figure 4. Nine testpits (ET16 to ET24) were advanced to the point of backhoe refusal in close proximity to the station for vertical delineation, while eight testpits (ET25 to ET32) were surface samples in areas where lateral delineation was inadequate. Samples obtained from the testpits were analyzed for Metals, Polycyclic Chlorinated Biphenyls (PCBs), Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs). Also, testpit ET90, located northeast of the station at a buried debris area identified by geophysical studies, was advanced to determine if contamination was present in this area. A single sample was sent to the lab to be analyzed for Metals and PCB's. The results from the laboratory analysis are shown in Tables 9 to 12. Results from the Earth Tech sampling were then compiled with previous investigations to produce contamination plumes for heavy metals, PCBs and hydrocarbons, as shown in Figures 4 and 5.

Results for heavy metals in the soils are shown in Table 9. Two exceedances of the applied criteria were measured in the samples obtained from the station site. Samples

from STA-ET19 at 0.5 to 0.6 m below ground surface (bgs) and STA-ET24 at 0.4 to 0.5 m bgs, which are located on the east end and southwest corner of the module station, respectively, had exceedances of the CCME Residential guideline for boron of 2 ppm. Contamination plumes were constructed to include all metal-contaminated surface soils, as illustrated in Figure 4. The approximate plumes can be combined to produce a contaminated area of 88 m^2. It should be noted that the plumes are comprised of two localized areas where heavy metals concentrations exceed the applied criteria. In addition, the impacted soils also include the metal contaminated soils at depths in testpits where Earth Tech found metals to exceed criteria. Figure 4 shows surface impacted soil from 0 to 0.1 m and Figure 5 shows the heavy metal impacted plumes extending to approximately 0.7 m bgs. The area of impacted soils at depth is 88 m^2, as shown in the two metals plumes in Figure 5. The total volume of metal contaminated soils at the Module Station is 61.8 m^3, which includes 8.8 m^3 in the surface soils and 53 m^3 in areas where the metal contamination is present at depth.

Table 10 provides the results from the PCB in soils analysis. No exceedances of the DCC Tier I (1 ppm) or Tier II (5 ppm) criteria for total PCBs were measured in any of the samples obtained from the Earth Tech testpits. This suggests that the PCB contaminated soils are limited to the surface soils. The extent of contamination is illustrated by the contaminant plume sketched in Figure 4. Based on an estimated depth of 0 to 0.1 m for impacted soils and an area of 830 m^2, the volume of PCB impacted soils at the Module Station is 83 m^3.

A strong hydrocarbon odour was noted during the advancement of the testpits located along the north and west sides of the module station. For this reason, several samples were submitted to the laboratory for hydrocarbon analysis. Results from the PHC and PAH analysis are located in Table 11 and 12, respectively. Several exceedances of the CCME Residential Criteria and Canada Wide Standards (CWS) were measured in testpits STA-ET19 to STA-ET23. It is believed that the source of the hydrocarbon contamination is a fuel line that runs along the outside of the building, which possibly supplied heating fuel to each of the rooms in the module station (Photo 2). Extensive rust at all flex-pipe joints and valves is perhaps indicative of where the leakage occurred. Figures 4 & 5 show the estimated hydrocarbon plume. Based on the Figure 4, an estimated 150 m^2 of PHC and PAH impacted soils are located in surface soils (0 - 0.1 m) at the module station. Below the surface, the contamination was found to be localized at the permafrost boundary, which ranged from 0.4 to 1.0 m bgs. The area of PHC and PAH impacted soils at depth are 511 m^2 and 438 m^2, respectively, as shown in Figure 5. The total volume of Petroleum Hydrocarbons contaminated soils is approximately 322 m^3 and volume of PAHs is approximately 278 m^3, which includes both the surface contamination and contamination at depth below the Module Station.

Photo 2 Testpit STA-ET20 and fuel line along the north side of the Module Train

Groundwater Investigation

Water samples were obtained from three testpits, STA-ET16, ET17 and ET21, in the vicinity of the module station. The testpits were not immediately backfilled to allow the permafrost to partially thaw and produce a slight accumulation of water to be collected for analysis. The results for PCB and PHC analyses of the samples are provided in Table 13 and 14, respectively.

Total PCB concentrations in water samples from testpits around the Module Station ranged from 0.2 to 7.3 µg/L. Currently there is no guideline for PCBs in water due to research indicating that environmental exposure to PCBs is predominantly via contaminated sediment, soil and/or tissue. As shown in Table 13, when the results are compared to the previous guideline of 0.1 µg/L, a guideline which is no longer recommended, all water samples are in exceedance of the PCB criteria. Despite that the guideline is no longer in use, it is concluded that elevated levels of PCBs are present in the water/groundwater around the Module Station.

There was a single exceedance of the Toluene guideline of 0.002 mg/L, as shown in Table 14. A sample from testpit STA-ET21 was the only water sample from the Module Station found to contain petroleum hydrocarbons in Exceedance of CCME guidelines.

4.3.2 North Upper Stain

Approximately 15 m northwest of the Module Station is a stained area, referred to as the North Upper Stain (Photo 3). Black surface staining is located on the edge of the fill layer that covers the station area and partly on a small bedrock outcrop that leads into a drainage meadow. Contamination identified from past investigations in this area was heavy metals and PCB contaminated soils.

Photo 3 Stain NW of Module Station, looking north

Soil Investigation

A total of five testpits were advanced in the soils at the north upper stain area, as illustrated in Figure 6. Stratigraphy at this location consists of either a thin layer of gravel fill or a thin layer of mossy sandy, clay underlain by bedrock. Due to lack of access for the Kubota and the nature of soils in this area, testpits ET34 to ET38 were advanced using a hand auger and shovel to a depth of 0.15 - 0.20 m bgs. Samples obtained from the testpits were analyzed for Heavy Metals, PCBs, PHCs and PAHs, and the results from the laboratory analyses are shown in Tables 15 to 18, respectively. Results from the Earth Tech sampling was then compiled with previous investigations to produce contamination plumes for Metals, PCBs and hydrocarbons, as shown in Figure 6.

Results for heavy metals concentrations in the soils at the upper stain area are shown in Table 15. There were no heavy metal exceedances of the applied criteria in 2004 samples obtained from the upper stain area. Also, past investigations have shown values below the applied criteria. Therefore, no heavy metal contamination plume is shown on Figure 6.

No exceedances of the DCC Tier I (1 ppm) or Tier II (5 ppm) for total PCBs were measured in any of the samples taken from the Earth Tech testpits (Table 16). Therefore the extent of contamination is limited to the samples obtained from the previous investigation completed at surface. The Earth Tech sample locations are used to determine the contaminated/non-contaminated boundary, as illustrated in the contaminant plumes sketched in Figure 6. The two PCB plumes combine to cover 42 m^2 of PCB impacted soils. Considering 0.2 m of impacted soils in this area, the volume of PCB contaminated soils at the upper stain area is 8.4 m^3.

As was found in the soils at the upper stained area, a slight hydrocarbon odour was noted during advancement of the testpits. For this reason, samples obtained from all testpits were analyzed for PHCs and PAHs. Results for PHCs indicate hydrocarbon

contamination in testpit ET35 (Table 17). There were no exceedances of PAHs in soils as shown in Table 18. Considering the fact that ET35 is located close to the centre of the stained area, the remaining testpits can be used as delineatory locations when determining the hydrocarbon contamination plume (Figure 6). Based on a calculated area of 26 m^2, and the same assumption of soil depth as was made for metals and PCB contamination, the volume of hydrocarbon impacted soils at the upper stain is 5.2 m^3.

4.3.3 Sewage Outfall

Located further northwest of the station and upper stained area, is the sewage outfall (Photo 4). The outfall is a 4" diameter steel pipe extending 20 m north from the module station, then 100 m west to a localized low meadow area where it drains. The pipe is raised on wood cribbing to limit contact with the ground and ensure proper drainage. PCB and metals contaminated soils are often associated with sewage outfalls on DEW Line sites, and are therefore the contaminants of concern in this area.

Photo 4 Sewage Outfall, looking west

Soil Investigation

Past investigations at the sewage outfall, retrieved from locations along the pipe where the pipe was detached, broken or showed signs of leakage, did not lead to the discovery of any heavy metals or PCB concentrations exceeding DCC criteria. For this reason, only three testpits were advanced at the sewage outfall, which are ET60 to ET62. Analysis for heavy metals and PCB concentrations in soil are shown in Tables 19 and 20, respectively.

Exceedance of applied criteria for heavy metals was measured in two of the three testpits advanced at the sewage outfall (Table 19). ET60 was found to exceed the CCME residential guideline for boron and tin, and exceed DCC criteria for copper. The sample from ET62 was found to exceed the CCME residential guideline for boron. Of greatest concern is the copper level in ET60, which was measured to be more than ten times the guideline level. Investigations of other DEW Line sites has shown that copper, lead and

zinc are typically found in soils in the vicinity of sewage outfalls (1996, ASU Queen's University). This being said, full delineation of the sewage outfall was not obtained. The contamination plume shown in Figure 7 is an estimate of the contaminated area, which was calculated to be approximately 84 m^2. Soils in this area consist of a thin layer of mossy soil underlain by rocks and bedrock. Therefore the depth of impacted soil is assumed to be from surface to approximately 0.2 m bgs, which corresponds to a volume of 16.8 m^3 of impacted soils.

Samples from Earth Tech testpits ET60 and ET62 were also found to exceed the DCC Tier II (5ppm) and Tier I (1 ppm) criteria for total PCBs, respectively (Table 20). As was the case with the heavy metals results, concentrations were much higher in ET60 than in ET62. This is likely due to the close proximity of ET60 to the pipe discharge point. Again, the extent full delineation of PCBs at the sewage outfall was not obtained. The contamination plume shown in Figure 7 is an estimate of the contaminated area, which was calculated to be approximately 84 m^2. An approximate volume of 16.8 m^3 is estimated to be impacted by PCB contamination.

No metals or PCB exceedances were previously identified at the sewage outfall, however the 2004 investigation identified significant copper, zinc and PCB exceedances in Earth Tech testpit ET60 at 0-0.15 m. It is recommended that further investigations be conducted in this area during remediation of contaminated soils identified by the 2004 investigation.

Groundwater Investigation

Earth Tech Monitoring Well #2 (ETMW-02) was installed approximately 15 m northwest of Earth Tech testpit ET60. As shown in Photo 5, ETMW02 is a stainless steel drive-point well, with a total depth of approximately 0.6 m (Table 3). Groundwater elevation in the monitoring well was found to be 0.02 m bgs. A slight ponding of water was noted in the area while the well survey was conducted, which explains the groundwater elevation being present at surface. Water samples were obtained from the monitoring well and analyzed for Routine Water analysis (pH, EC, alkalinity, hardness and dissolved solids), Total Dissolved Metals, PCBs, PHCs and PAHs. Results are shown in Tables 4 to 8 (Appendix D).

Photo 5 Earth Tech Monitoring Well #2, located at the Sewage Outfall

Results for routine analysis of groundwater obtained from ETMW02 are shown in Table 4 (Appendix D). All parameters tested are within CCME Water Quality Guidelines for the Protection of Aquatic Life (CCME-WQGPAL).

A single exceedance of the CCME-WQGPAL for metals was measured in groundwater from ETMW02 (Table 5). Copper was found to be approximately three times the criteria, with a value of 0.01 ppm. When the results are compared to the background well, ETMW06, the exceedance of the copper criteria is much less. This being said, the copper exceedance at ETMW02 is likely associated with the high copper concentration measured in the soils in this area.

Results for PCBs in groundwater from ETMW02 are shown in Table 6 (Appendix D). Total PCB concentrations were found to be in slight exceedance of the former PCB guideline. Despite having no guideline in effect for PCBs in water, the fact that PCBs were measured in the groundwater indicates that some level of PCB contamination probably in the soils is affecting the groundwater in the area.

Results for PHCs and PAHs are shown in Tables 7 and 8 (Appendix D). No exceedances for hydrocarbons in water were noted for any parameters in the groundwater sample obtained from ETMW02.

4.3.4 Warehouse

The warehouse, shown in Photo 6, was used as a storage facility for operational supplies and materials at CAM-F. More recently it was used to store 205 L barrels containing PCB-contaminated soils excavated from 1997 PCB clean-up of the CAM-F Dump A site. The building is a wood structure with aluminum siding, built on raised concrete foundation.

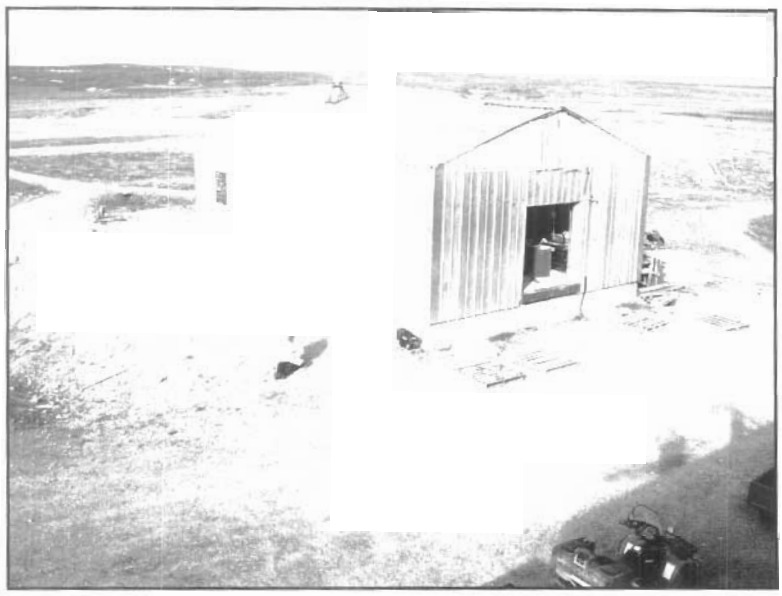


Photo 6 Warehouse, looking west

Previous work at the Warehouse identified significant metals, in particular lead and zinc, and PCB contamination in the soils located on the Northwest corner of the building. Preceding soils investigations were restricted to surface soils and therefore vertical delineation, as well as complete lateral delineation, was required for volumes of impacted soils to be estimated accurately.

Soil Investigation

Five testpits (ET11 to ET15) were advanced as vertical and lateral delineatory testpits on the Northwest corner of the building, while ET33 was advanced to the point of backhoe refusal in close proximity to fuel tanks located on the Southeast corner of the building (Photo 7). Testpits ET11 and ET12 were advanced to backhoe refusal in locations of known surficial contamination to obtain vertical delineation, whereas ET13 – ET15 were lateral delineatory testpits in locations where information was inadequate. Samples obtained from the testpits were analyzed for Metals, PCBs, PHCs and/or PAHs. The results from the laboratory analysis are shown in Tables 21 to 24. Results from the Earth Tech sampling was then compiled with previous investigations to produce contamination plumes for Heavy Metals, PCBs and hydrocarbons, as shown in Figure 8.

Heavy metals analysis was completed on all samples from the warehouse and the results are shown in Table 21. There were no exceedances of the applied criteria for heavy metals in soils at depth. Therefore the extent of contamination is limited to the information obtained from previous investigations. Earth Tech sample locations were used to aid in determining the extent of contamination, as illustrated in the contaminant plume sketched in Figure 8. The plume area is calculated to be approximately 9 m^2. Past investigations identified contamination to 0.1 m bgs at the warehouse. Assuming the depth is consistent throughout the impacted area, the volume of impacted soils at the Warehouse is approximately 0.9 m^3.

Results from Earth Tech soil survey for PCBs at the Warehouse is shown in Table 22 (Appendix D). No exceedances of the DCC criteria for total PCBs were measured in any of the samples. Figure 8 illustrates the estimated plume of soils contaminated with PCBs. The plume area calculated is approximately 40 m^2. Past investigations identified PCB contamination to extend to 0.1 m below ground surface. Based on this soil depth, the volume of PCB contaminated soils at the warehouse area is 4.0 m^3.

Photo 7 Earth Tech testpit ET33, southeast corner of Warehouse

A slight hydrocarbon odour was noted as testpits ET11 and 12 were advanced at the warehouse. For this reason, PHC and PAH analysis was completed on these samples (Results shown in Table 23 and 24). It was found that ET11 at 0.8-0.9 m bgs contains PHC F2 fraction in exceedance of the Canada Wide Standard for PHCs in soil (Table 23). The lateral extent of the hydrocarbon contamination at the north end of the warehouse is not known, but the contamination appears to be present only at the permafrost interface. The same holds true for the southeast corner of the warehouse, where the fuel tanks are located. Results from ET33 indicate an exceedance of the F2 fraction PHC criteria at depth but not at the surface, as shown in Table 24. This is likely attributable to volatilization of hydrocarbons located at or near the surface and limited oxidation present at depths. Estimated plumes of hydrocarbon contamination at the warehouse are shown in Figure 8, and cover areas of 7 m^2 for the plume at the north end and 33 m^2 for the plume in the southeast corner. PHC contamination is assumed to be contained at surface (0 - 0.1 m) for the contaminated soils at the north end of the warehouse and estimated to impact 0.5 m of soils in the southeast corner below the fuel tanks. This relates to 20.5 m^3 of PHC impacted soils at the Warehouse.

4.3.5 Garage

The garage, shown in Photo 8, has been dismantled to the point where only the structural steel members, a partial wall and the concrete foundation remain from the original

structure. A small shed was built on the foundation in the Southwest corner of the former garage to house tools and machinery required for past investigations on site. The shed is a wood structure with plywood walls and a tar paper covered roof.

Photo 8 Garage, looking southeast

Previous work at the Garage identified heavy metals and PCB contamination in the soils located on the Northwest corner and East side of the foundation. Preceding soils investigations were restricted to surface soils and therefore vertical delineation, as well as complete lateral delineation, is required for volumes of impacted soils to be estimated accurately.

Soil Investigation

Ten testpits were advanced at the Garage, as shown in Figure 9. Five testpits, ET01 to ET05, were advanced in soils northwest of the building and five testpits, ET06 to ET10, were advanced in soils on the East side on the building. Testpits ET01 and ET02 were advanced to point of auger refusal to achieve vertical delineation in areas of known contamination, whereas ET03 to ET05 were placed in areas where information was inadequate. The same was done for the testpits on the East side of the building, with ET06 and ET07 advanced to point of refusal and ET08 to ET10 used a lateral delineatory testpits. Samples retrieved from the testpits were analyzed for Metals, PCBs, PAHs and PHCs, as shown in Tables 25 to 28 (Appendix D).

Results for Heavy Metals analysis completed on the samples retrieved from the Garage testpits are provided in Table 25. There were no exceedances of the applied heavy metal criteria in samples obtained during the Earth Tech 2004 investigation. Therefore no heavy metal plume is shown on Figure 9.

PCB contamination measured in past investigations was restricted to soils northwest of the building. For this reason, only testpits located in that area, ET01 to ET05, were sampled for PCBs in soils. Results from laboratory analysis are shown in Table 26

(Appendix D). The sample from ET01 at 0-0.1 m bgs was found to contain PCBs in excess of the DCC Tier I (1 ppm) criteria. A sample from the same testpit at a depth of 0.5-0.6 m bgs was non-detect for PCBs. This information combined with information from investigations completed by Queen's University ASU, in which contamination was measured at a depth of 0.2-0.3 m, leads to the conclusion that PCB contamination is located at depths of 0 to 0.3 m bgs. Figure 9 illustrates the estimated extent of PCB contamination at the garage. Approximately 49 m^2, to a depth of 0.3 m, is impacted by PCB contamination, which relates to a volume of 14.7 m^3 of PCB contaminated soils.

Results for PHC and PAH analysis on samples retrieved from the garage area are located in Tables 27 and 28 (Appendix D). There were no exceedances of PAH guidelines, whereas two exceedances of the PHC guidelines were measured. A sample from ET01 at 0-0.1 m bgs was found to contain a significant amount of F2 and F3 fraction PHCs, and ET07 at 0-0.1 m bgs was found to contain a high concentration of F3 fraction PHCs. The full extent of hydrocarbon contamination in the northwest area is unknown, as well as the southeast to a certain extent, but estimated areas are sketched in Figure 9. The plume area related to ET01 is 9 m^2 and 18 m^2 for ET07. In both cases, the contamination was found only in surface samples, therefore the depth to which soils are impacted is assumed to be of 0.3 m, which corresponds to a volume of PHC contaminated soils of 2.7 m^3 and 5.4 m^3 for ET01 and ET07, respectively.

4.3.6 Vehicle Pile

A pile of derelict vehicles, heavy machinery and miscellaneous equipment is located southeast of the Warehouse at an area referred to as the Vehicle Pile (Photo 9). The pile is located over the edge of a small bedrock outcropping and extensive dark stains are present in the area. Previous investigations identified significant zinc contamination in this area.

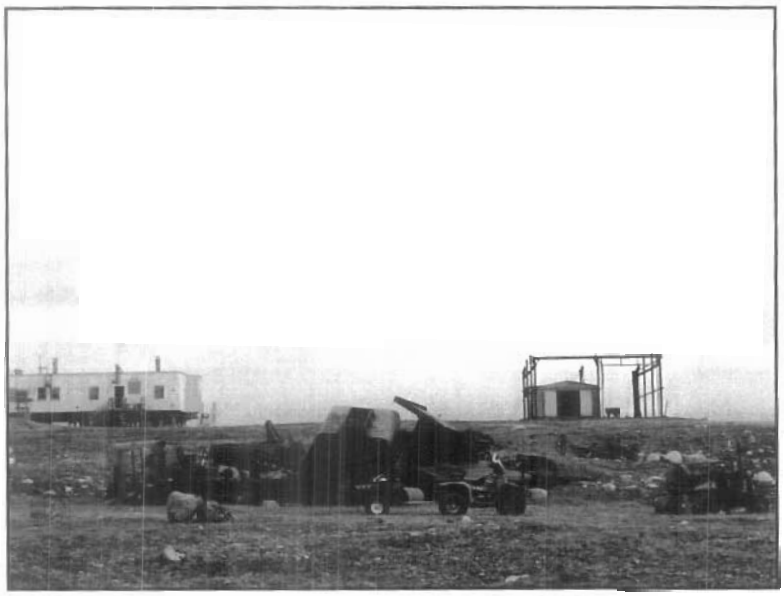


Photo 9 Vehicle Pile, looking northeast

Soil Investigation

Soil investigation at the Vehicle Pile was conducted in two areas known to have heavy metal contaminated soils, which are a stained area slightly northeast of the pile, and within and around the actual pile. Three testpits, ET63 to ET65, are located at the stain northeast of the pile and five testpits, ET66 to ET70, are within the vehicle pile. Testpits were located to achieve vertical delineation in areas of known contamination and lateral delineation in areas with inadequate information, in order for volumes of impacted soils to be estimated more accurately. ET63 was advanced to approximately 1.3 m bgs, with a series of samples taken at various depths to achieve vertical delineation of the impacted area, and ET64 and ET65 are located slightly down gradient to achieve lateral delineation. Testpits were only required south-southeast of ET63 due to a bedrock outcrop and previous testpits providing delineation to the west, and a steep gradient and outcrop north and east of ET63 providing delineation in those directions. Stratigraphy at the stain area north of the vehicle pile consists of either a 1 m or more layer of gravelly fill or a thin layer of native soils, underlain by bedrock. ET68 and ET70 were advanced to 0.6 m and 0.45 m, respectively, with samples taken in 0.15 cm increments. ET66, ET67 and ET69 were located at the south and south east extremities of the vehicle pile stain, in order to achieve later delineation. It was assumed that the bedrock outcrop that is located along the north and northeast perimeter of the vehicle pile serves as a barrier to the soil contamination and hence a limit to the potential contamination plume associated with the heavy metals. For this reason, no testpits were advanced north of the vehicle pile. Samples were submitted for heavy metals, PCB, PHC and/or PAH analysis. Results are shown in Tables 29 to 32.

Results for heavy metals concentrations in the soils at the vehicle pile area are shown in Table 29 (Appendix D). As was found in the past investigations, the heavy metal contaminant of concern at the vehicle pile was zinc. From 16 samples submitted for metals analysis, one sample was found to exceed the DCC criteria for zinc, which was the sample ET70 at 0-0.15 m. Elevated zinc levels were also measure in ET68. It was expected that surface samples from these locations would be in exceedance of criteria as they were located in areas where known zinc contamination existed and the vertical delineation of the contamination was required. As indicated in the results, the contamination is restricted to the upper soils, since there were no exceedances at depth in either ET68 or ET70. Therefore, when approximating the volume of impacted soils located at the vehicle pile a depth of 0.2 m of contaminated soils is assumed. A plume of the metals contamination at the vehicle pile is shown in Figure 10. A calculated area of 242.5 m^2 is potentially contaminated with heavy metals, relating to a volume of 48.5 m^3 of heavy metal contaminated soils at the vehicle pile. There were no exceedances of heavy metals in Earth Tech test pits located at the stain north of the vehicle pile. Samples retrieved from ET63, located in the centre of the known contamination, did not indicate metals contamination at depths below 0.2 m. Therefore, when estimating the volume of soil impacted at the stain north of the vehicle pile, a depth of 0.2 m should be assumed. Based on a depth of 0.2 m and a calculated area of 5.0 m^2, as shown in the plume on Figure 10, the volume of impacted soil at the stain north of the vehicle pile is 1.0 m^3.

Results from PCB analysis of samples obtained from the vehicle pile area are shown in Table 30 (Appendix D). There were no exceedances of the PCB criteria in Earth Tech testpits. Also to note is that no contamination was found at depth below the RMC sampling point, which had a total PCB concentration of 2.3 ppm. Therefore the assumption made for the metals contamination at the stained area, where the contamination is restricted to the upper soils, holds true for the PCB contamination. No delineatory samples at the vehicle pile, both vertical and lateral, were found to contain total PCBs in excess of 1.3 ppm. Therefore, the only location within the vehicle pile known to be PCB contaminated is the original RMC location, and the contamination is assumed to be restricted to 0-0.15 m bgs. PCB contamination plumes at the vehicle pile area are shown in Figure 10. The extent of contamination is somewhat unknown due to the sparse soils east of ET63, but the area impacted by PCB contamination is approximately 33 m^2. On the other hand, the PCB plume in the vehicle pile is quite localized and has estimated area of 7 m^2. Based on the depth of impacted soils assumed and area of impacted soils calculated from Figure 10, the estimated volume of PCB contaminated soils at the vehicle pile area is 6.6 m^3 for the stain area north of the pile and 1.4 m^3 for the area within the vehicle pile.

During advancement of vertical delineation testpits at the vehicle pile area, a slight hydrocarbon odour was noted. For this reason, three samples from ET63 and two from ET70 were submitted for PHC analysis (Table 31). A sample from both ET63 and ET70 was also submitted for PAH analysis (Table 32). Two samples, ET70 at 0.15-0.3 m and ET70 at 0.3-0.45 m, were found to exceed the PHC criteria for hydrocarbons. The sample from 0.15-0.3 m was found to exceed the F2 and F3 fractions for PHC, whereas the sample from 0.3-0.45 m was found to exceed the F3 fraction only. ET70 was the only testpit from the vehicle pile itself submitted for hydrocarbon analysis; therefore the extent of contamination is somewhat unknown. The estimated area is 83 m^2, as shown by the plume in Figure 10. It was found that the concentration decreased by a third with depth, with the sample from 0.15-0.3 m being three times that of 0.3-0.45 m. Assuming that the concentration decreases linearly with depth, the total depth of hydrocarbon impacted soils is estimated to be 0.5 m. This corresponds to approximately 41.5 m^3 of hydrocarbon impacted soils at the vehicle pile.

Groundwater Investigation

Earth Tech monitoring well ETMW05 was installed in testpit ET68 at the vehicle pile (Photo 10). ETMW05 is a stainless steel drive-point well, with a total depth of approximately 0.65 m below ground surface (Table 3). Groundwater elevation in the monitoring well was found to be approximately 0.02 m bgs. A slight ponding of water was noted in the area while the well survey was conducted, which explains the groundwater elevation being present at surface. Water samples were obtained from the monitoring well and analyzed for Routine Water analysis (pH, EC, alkalinity, hardness and dissolved solids), Dissolved Metals, PCBs, PHCs and PAHs. Results are shown in Tables 4 to 8 (Appendix D).

Photo 10 Earth Tech monitoring well ETMW05, Vehicle Pile

Results for Routine analysis of the groundwater obtained from ETMW02 are shown in Table 4 (Appendix D). All parameters tested are within CCME Water Quality Guidelines for the Protection of Aquatic Life (CCME-WQGPAL).

Three exceedances of the CCME-WQGPAL for metals were measured in groundwater from ETMW02 (Table 5). Aluminum, copper and zinc were found to be approximately one and a half to three times the criteria. When the results for copper are compared to the background well, ETMW06, the copper level is equal to the criteria. The metals exceedances in the groundwater are likely attributable to the heavily contaminated soils in the area.

Results for PCBs in groundwater from ETMW02 are shown in Table 6 (Appendix D). Total PCB concentrations were found to be seven times the former PCB guideline. Despite having no guideline in effect for PCBs in water, the fact that PCBs were measured in the groundwater indicates that some level of PCB contamination is affecting the groundwater in the area.

Results for PHCs and PAHs are shown in Tables 7 and 8 (Appendix D). There was one PAH parameter, Benzo(a)anthracene, which exceeded the CCME Water Quality Guidelines in the groundwater sample from ETMW05. The full extent of groundwater contamination is not known.

4.3.7 Barrel Cache

Located approximately 300 m west of the station and warehouse is the West Barrel Cache (Photo 11). Estimates have put the number of barrels stockpiled in this area to be approximately 5000. Contaminant investigation in this area was at an extensive surface stain, located slightly east of the barrel pile and shown in Photo 12, where geophysical surveys indicated a small to mid-sized amount of buried debris. Using pin flags as markers, the extent of buried debris was mapped out as to provide an idea of appropriate locations for Earth Tech testpits. Past investigations at the barrel cache were

concentrated on PCBs and heavy metal contaminated soils in drainage catchments and in the large stained area.

Photo 11 West Barrel Cache, looking west

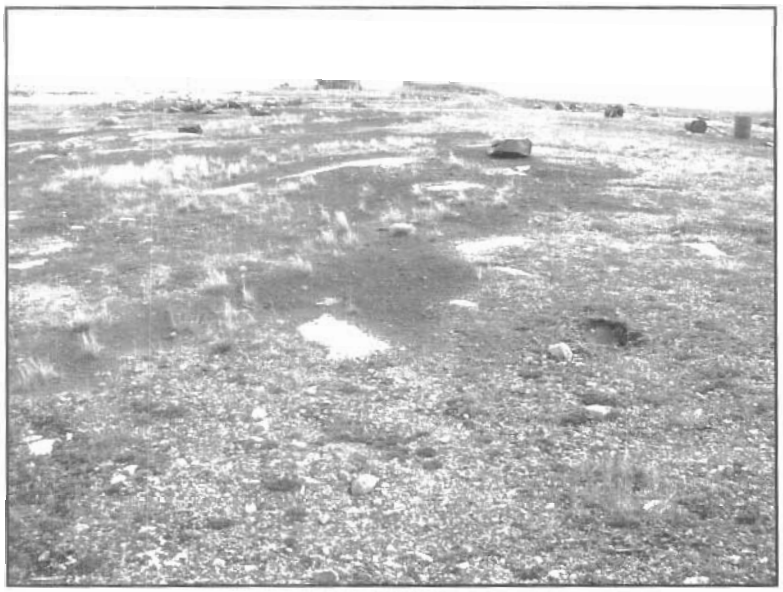


Photo 12 Extensive Surface Staining near Barrel Cache, looking east

Soil Investigation

A total of six testpits were advanced through the buried debris at the barrel cache stain. Location of the testpits is shown on Figure 11. ET71 to ET76 were advance to the point of backhoe refusal. Samples obtained from the testpits were analyzed for Heavy Metals, PCBs, PHCs, PAHs and Pesticides, and the results from the laboratory analyses are shown in Tables 33 to 37, respectively. Results from the Earth Tech sampling was then

used to generate contamination plumes for Metals and hydrocarbons, as shown in Figure 11.

Results for heavy metals concentrations in the soils at the buried debris area are shown in Table 33 (Appendix D). A slight exceedance of the CCME residential guideline for antimony was measured in the composite sample retrieved from testpit ET71. There were no other heavy metal exceedances in samples obtained from the buried debris area. No metals plume is drawn in Figure 11 due to the nature of the exceedance and the lack of delineation. Additional investigation during remediation of the site is recommended to determine delineation of heavy metals contamination at the buried debris area at the west barrel cache.

No exceedances of the DCC criteria for total PCBs was measured in any of the samples taken from the Earth Tech testpits (Table 34). Therefore, no contamination plume for PCBs is present at the buried debris area.

Strong hydrocarbon odours were noted during the advancement of testpits at the buried debris area. Samples obtained from all testpits were analyzed for PHCs and PAHs, and results for PHCs confirm hydrocarbon contamination in testpits ET71, ET72, ET73 and ET74 (Table 35). Due to the extensive staining on the surface and the depth to which contamination was found, the total depth of impacted soil at the buried debris area is estimated to be approximately 1.0 m or to the permafrost interface. Based on a calculated area of 374 m^2, the volume of hydrocarbon impacted soils at the upper stain is 374 m^3. Samples from ET71 to ET74 were also found to exceed the PAH criteria for Naphthalene (Table 36). Considering the fact that the samples were from the same depths and locations as those with PHC exceedances, the volume of PAH impacted soil is 129 m^3, which is the same as the PHC contamination. These volumes are rough estimates and additional testing is required to accurately quantify the volume of PHC and PAH impacted soils at the buried debris at the west barrel cache.

Laboratory testing was also conducted on a single sample for pesticides (Table 37). No exceedances of the CCME Residential Guideline were measured in a composite sample from ET71.

Groundwater Investigation

Earth Tech monitoring well #01 was installed at the buried debris area in testpit ET75 (Photo 13). ET75 was further advanced using the hand auger to maximize the depth of ETMW01. 1" diameter PVC environmental monitoring well was used and the depth to the bottom of the well is 1.11 m bgs (Table 3). Groundwater elevation in the monitoring well was found to be 0.6 m bgs. Water samples were obtained from the monitoring well and analyzed for Routine Water analysis (pH, EC, alkalinity, hardness and dissolved solids), Dissolved Metals, PCBs, PHCs and PAHs. Results are shown in Tables 4 to 8 (Appendix D).

Photo 13 Groundwater well ETMW01, Buried Debris at Barrel Cache

Results for Routine analysis of the groundwater obtained from ETMW02 are shown in Table 4 (Appendix D). All parameters tested are within CCME Water Quality Guidelines for the Protection of Aquatic Life (CCME-WQGPAL).

Table 5 shows the results for dissolved metals in groundwater from ETMW01 (Appendix D). Cadmium, copper and iron levels were found to be in exceedance of the CCME WQGPAL. The metals dissolved in groundwater are likely attributable to the barrels and miscellaneous debris buried in the area.

Results for PCBs in groundwater from ETMW01 are shown in Table 6 (Appendix D). Total PCB concentrations were found to be below the detection limit, well below the former criteria, therefore PCBs do not appear to be affecting the groundwater in the area.

Results for PHCs and PAHs are shown in Tables 7 and 8 (Appendix D). There were no exceedances for PAHs and PHCs in groundwater from ETMW01 at the Buried Debris area.

4.3.8 POL Tanks

Located at the north perimeter of the Station Proximity Area are two 75,700 litre POL (petroleum, oil, lubricants) bulk storage tanks and a small pump house, fabricated with metal siding (Photo 14). The upper area at the POL Tanks, covering an approximate 20 m radius around the POL Tanks, is relatively flat and the soils consist of an approximate 1 m thick layer of fill, underlain by bedrock. The fill consists of a sandy, gravel used to level the area. At the borders of the filled area, the grade drops and the native soil or bedrock is exposed. Approximately 22 m north of the POL Tanks, slightly beyond the fill border, the grade drops approximately 5 m to a lower shelf. No previous soil or water investigations have been conducted in this area.

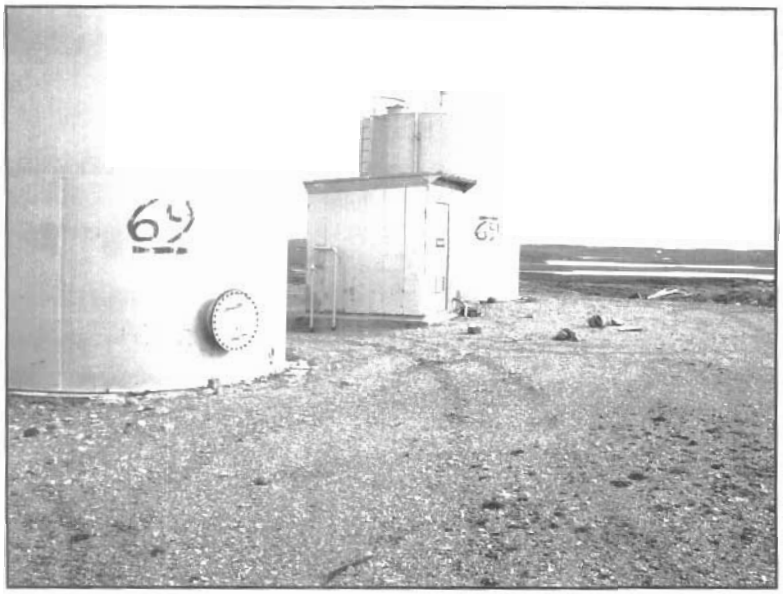


Photo 14 POL Tanks, looking northeast

Soil Investigation

A total of ten testpits were advanced in the vicinity of the POL tanks, as illustrated in Figure 12. One testpit, ET84, was advanced between the west POL tank and the pump shed to obtain samples from the location of the potential contamination source. Five testpits (ET85-ET88) were located in an array out from the tanks, and the remaining four (ET97-ET100 shown in Photo 15) were located along the bottom edge of a bluff north of the tanks. The eight testpits away from the tanks were used for lateral delineation of t potential contamination. The five in the vicinity of the tanks were advanced using the backhoe to the point of refusal, whereas the four along the base of the bluff were advanced with a shovel and hand auger. Samples obtained from the testpits were analyzed for Metals, PHCs and PAHs. The results from the laboratory analysis are shown in Tables 38 to 40.

Results for heavy metals in the soils are shown in Table 38. There was a single exceedance of the applied criteria, which was an exceedance of the CCME Residential Guideline for boron measured in the sample retrieved from testpit ET98 at 0-0.1 m. No other exceedances were measured in samples obtained from testpits at the POL Tank area. Based on the results a contamination plume can be constructed to include all potentially metal-contaminated soils, as illustrated in Figure 12. Based on the nature of soils and the presence of a shallow bedrock, contamination is assumed to be contained at the surface to a maximum depth of 0.3 m. The plume is found to cover a contaminated area of 69 m^2. Based on the plume area and the depth to which contamination was found to be present, the volume of impacted soils at the POL Tanks is calculated to be approximately 20.7 m^3.

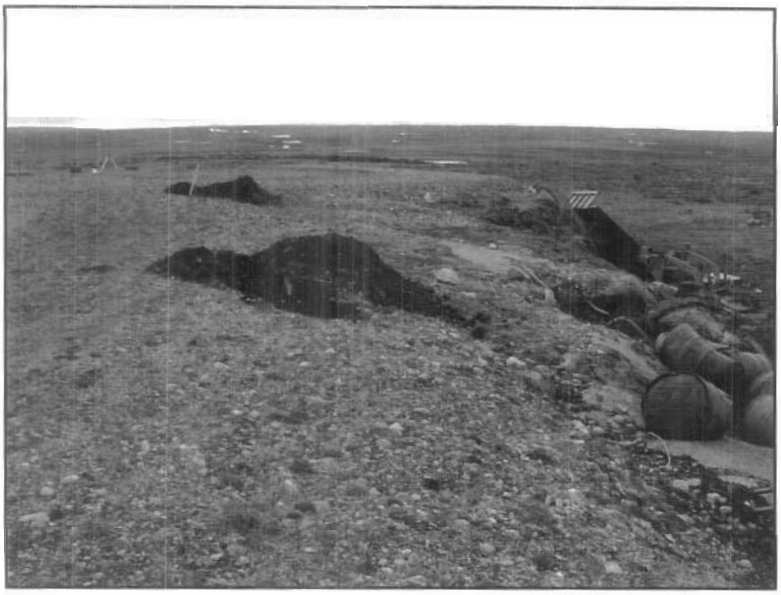


Photo 15 Escarpment north of POL Tank Testpits ET86 and ET87, looking west

Strong hydrocarbon odours were noted during the advancement of all testpits at the POL Tanks area. Also, in testpits ET84 and ET87 a hydrocarbon-like sheen was present on the liquid in the testpits. Based on the observations, samples from all testpits were submitted to the laboratory for hydrocarbon analysis. Results from the PHC and PAH analysis are located in Table 39 and 40, respectively. Several exceedances of the CCME Residential Criteria and Canada Wide Standards for PHCs in soil were measured in samples retrieved from testpits ET84, ET87, ET89, ET97, ET98, ET99 and ET100. The results show that highest concentrations were measured in testpit ET87, which would suggests that if the POL Tanks are the source for the contamination, the contamination plume has migrated slightly to the north. The full extent of hydrocarbon contamination is somewhat unknown and heavily influenced by bedrock topography and stratigraphy. It is likely the hydrocarbon contamination plume is contained in the lower reaches of the fill layer, and is migrating down gradient along the bedrock fill interface to the north. Figure 12 illustrates the approximate hydrocarbon contamination plume located at the POL Tanks area. The estimated area of hydrocarbon impacted soil is 1,110 m^2 for the gravel pad area and 505 m^2 for the area below the escarpment. The depth of impacted soil is not easily estimated, due to the various stratigraphy present at the POL site. As a result it is assumed that 0.5 m of soil is impacted in the gravel pad portion and 0.3 m of soil is impacted in the escarpment area. Based on these assumptions, a total of 706.5 m^3 of PHC impacted soils are present at the POL Tanks. and as a result the volume of impacted soil is unknown. Results for PAHs indicated contamination in ET84, ET89 and ET97. The approximate PAH plume is shown on Figure 12, which has an area of 502 m^3. It is assumed that this area is, for the most part, restricted to the gravel pad area and therefore relates to a volume of 502 m^3 of PAH impacted soils at the POL Tanks.

Groundwater Investigation

Earth Tech monitoring well ETMW04 was installed in testpit ET87 at the POL Tanks. The PVC well casing of ETMW04 can be seen in testpit ET87, located in the background

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-169	328344-170	328344-171	
	Sample Description	Sarcpa #2	Sarcpa #3	Sarcpa #4	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.6	2.9	2.4	0.4
Arsenic	Strong Acid Extractable	ug/g	1.4	2.4	2.3	0.5
Barium	Strong Acid Extractable	ug/g	63.3	133	137	0.05
Beryllium	Strong Acid Extractable	ug/g	0.31	0.40	0.44	0.03
Cadmium	Strong Acid Extractable	ug/g	0.09	0.12	0.10	0.03
Chromium	Strong Acid Extractable	ug/g	36.2	79.5	62.2	0.05
Cobalt	Strong Acid Extractable	ug/g	6.94	15.1	12.7	0.04
Copper	Strong Acid Extractable	ug/g	19.6	48.1	56.7	0.05
Lead	Strong Acid Extractable	ug/g	8.2	11.2	11.4	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.2	0.5	0.8	0.1
Nickel	Strong Acid Extractable	ug/g	22.7	47.9	44.2	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.8	1.7	2.0	0.3
Vanadium	Strong Acid Extractable	ug/g	31.5	66.6	51.8	0.05
Zinc	Strong Acid Extractable	ug/g	52.6	86.9	83.3	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-170	328344-171		
		Sample Description	Sarcpa #3	Sarcpa #4		
		Matrix	Soil - general	Soil - general		
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.2	0.2		0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1		0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1		0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1		0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1		0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	94	116		50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-172	328344-173		
		Sample Description	Lake Trout	Lemming		
		Matrix	Tissue	Tissue		
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Total						
Aluminum	Total	ug/g	1.8	8.59		2.5
Antimony	Total	ug/g	<1	<1		0.1
Arsenic	Total	ug/g	<2	<2		0.1
Barium	Total	ug/g	0.10	1.47		0.5
Beryllium	Total	ug/g	<0.02	<0.03		0.05
Bismuth	Total	ug/g	<1	<1		0.25
Cadmium	Total	ug/g	<0.02	0.088		0.005
Calcium	Total	ug/g	341	5120		100
Chromium	Total	ug/g	0.12	0.18		0.25
Cobalt	Total	ug/g	<0.05	0.14		0.05
Copper	Total	ug/g	0.530	2.55		0.5
Iron	Total	ug/g	6.57	61.9		5
Lead	Total	ug/g	<0.5	<0.5		0.05
Lithium	Total	ug/g	<0.3	<0.3		0.5
Magnesium	Total	ug/g	190	257		100
Manganese	Total	ug/g	0.498	23.9		2.5
Molybdenum	Total	ug/g	<0.5	<0.5		0.5
Nickel	Total	ug/g	<0.1	0.19		0.25
Phosphorus	Total	ug/g	2400	4540		15
Potassium	Total	ug/g	3670	3270		200
Selenium	Total	ug/g	<5	<5		0.1
Silicon	Total	ug/g	9.8	32.3		25
Silver	Total	ug/g	<0.1	<0.1		0.05
Sodium	Total	ug/g	701	978		200
Strontium	Total	ug/g	<0.2	3.00		0.5
Tin	Total	ug/g	2.4	2.7		0.5
Titanium	Total	ug/g	0.86	0.90		0.25
Uranium	Total	ug/g	<3	<3		0.25
Vanadium	Total	ug/g	<0.05	<0.05		0.05
Zinc	Total	ug/g	6.57	36.6		0.5
Zirconium	Total	ug/g	<0.2	<0.3		0.5
Mercury	Total	ug/g	0.41	<0.005		0.01

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

Approved by:

Anthony Neumann, MSc
Laboratory Operations Manager

Methodology and Notes

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project
ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: **328344**
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

Method of Analysis:

MethodName	Reference		Method	Date Analysis Started	Location
1:5 Water Soluble Extraction	APHA	*	Colorimetric Method, 3500-Cr B	16-Sep-04	Norwest Labs Edmonton
1:5 Water Soluble Extraction	APHA	*	Colorimetric Method, 3500-Cr B	17-Sep-04	Norwest Labs Edmonton
Alkalinity, pH, and EC in water	APHA	*	Conductivity - Laboratory Method, 2510	30-Aug-04	Norwest Labs Edmonton
Alkalinity, pH, and EC in water	APHA	*	Electrometric Method, 4500-H+ B	30-Aug-04	Norwest Labs Edmonton
Alkalinity, pH, and EC in water	APHA	*	Titration Method, 2320 B	30-Aug-04	Norwest Labs Edmonton
Anions (Routine) by Ion Chromatography	APHA		Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	30-Aug-04	Norwest Labs Edmonton
Boron in general soil	McKeague	*	Hot Water Soluble Boron - Azomethine-H Method, 4.61	30-Aug-04	Norwest Labs Edmonton
Boron in general soil	McKeague	*	Hot Water Soluble Boron - Azomethine-H Method, 4.61	31-Aug-04	Norwest Labs Edmonton
Boron in general soil	McKeague	*	Hot Water Soluble Boron - Azomethine-H Method, 4.61	31-Aug-04	Norwest Labs Edmonton
BTEX-CCME - Soil	CCME		Reference Method - Canada-Wide Standard for PHC in Soil, CWS PHC	2-Sep-04	Norwest Labs Calgary
BTEX-CCME - Soil	CCME		Reference Method - Canada-Wide Standard for PHC in Soil, CWS PHC	3-Sep-04	Norwest Labs Calgary
BTEX-CCME - Water	US EPA	*	US EPA method, 8021B/5035B	2-Sep-04	Norwest Labs Calgary
BTEX-TPH - Water	US EPA	*	US EPA method, 8021B/5035B	1-Sep-04	Norwest Labs Calgary
Chloride in Water	APHA	*	Automated Ferricyanide Method, 4500-Cl- E	30-Aug-04	Norwest Labs Edmonton
Mercury (Hot Block) in Soil	US EPA	*	Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	30-Aug-04	Norwest Labs Edmonton
Mercury (Hot Block) in Soil	US EPA	*	Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	31-Aug-04	Norwest Labs Edmonton
Mercury (Hot Block) in Soil	US EPA	*	Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	31-Aug-04	Norwest Labs Edmonton
Mercury (Hot Block) in Soil	US EPA	*	Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	31-Aug-04	Norwest Labs Edmonton
Mercury (Hot Block) in Soil	US EPA	*	Determination of Hg in Sediment by Cold Vapor Atomic Absorption Spec, 245.5	31-Aug-04	Norwest Labs Edmonton
Mercury (Total) in water	MDMES	*	Determination of Mercury in Water by Cold Vapor Atomic Absor, 245.1	1-Sep-04	Norwest Labs Edmonton

The test report shall not be reproduced except in full, without the written approval of the laboratory

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Methodology and Notes

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

Mercury in Tissue (Surrey)	APHA	*	Cold Vapour Atomic Absorption Spectrometric Method, 3112 B	2-Sep-04	Norwest Labs Surrey
Metals ICP-MS (Dissolved) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	10-Sep-04	Norwest Labs Edmonton
Metals ICP-MS (Dissolved) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	10-Sep-04	Norwest Labs Edmonton
Metals ICP-MS (Dissolved) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	13-Sep-04	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	27-Aug-04	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	29-Aug-04	Norwest Labs Edmonton
Metals ICP-MS (Total) in water	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	31-Aug-04	Norwest Labs Edmonton
Metals SemiTrace (Total) in tissue (Surrey)	US EPA		Metals & Trace Elements by Ultrasonic Nebulization ICP-AES, 200.15	30-Aug-04	Norwest Labs Surrey
Metals Trace (Dissolved) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	31-Aug-04	Norwest Labs Edmonton
Metals Trace (Dissolved) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	31-Aug-04	Norwest Labs Edmonton
Metals Trace (Hot Block) in soil	SW-846 Ch3.2	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	27-Aug-04	Norwest Labs Edmonton
Metals Trace (Hot Block) in soil	SW-846	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	30-Aug-04	Norwest Labs Edmonton
Metals Trace (Hot Block) in soil	SW-846	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	31-Aug-04	Norwest Labs Edmonton
Metals Trace (Hot Block) in soil	SW-846	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	27-Aug-04	Norwest Labs Edmonton
Metals Trace (Hot Block) in soil	SW-846	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	31-Aug-04	Norwest Labs Edmonton
Metals Trace (Hot Block) in soil	SW-846	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	1-Sep-04	Norwest Labs Edmonton
Metals Trace (Hot Block) in soil	SW-846	*	Acid Digestion of Sediments, Sludges, and Soils, EPA 3050B	3-Sep-04	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	29-Aug-04	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	29-Aug-04	Norwest Labs Edmonton

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Methodology and Notes

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	31-Aug-04	Norwest Labs Edmonton
Metals Trace (Total) in water	APHA	*	Inductively Coupled Plasma (ICP) Method, 3120 B	29-Aug-04	Norwest Labs Edmonton
Organochlorine Pesticides - Soil	US EPA	*	OC Pesticides by Gas Chromatography, 8081A	2-Sep-04	Norwest Labs Calgary
PAH - Soil	US EPA	*	US EPA method, 8270	1-Sep-04	Norwest Labs Calgary
PAH - Soil	US EPA	*	US EPA method, 8270	1-Sep-04	Norwest Labs Calgary
PAH - Soil	US EPA	*	US EPA method, 8270	3-Sep-04	Norwest Labs Calgary
PAH - Water	US EPA	*	US EPA method, 8270	31-Aug-04	Norwest Labs Calgary
PCB - Oil	US EPA	*	US EPA method, 8082	13-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	1-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	1-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	7-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	7-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	9-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	7-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	9-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	15-Sep-04	Norwest Labs Calgary
PCB - Soil	US EPA	*	US EPA method, 8082	16-Sep-04	Norwest Labs Calgary
PCB - Water	US EPA	*	US EPA method, 8082	16-Sep-04	Norwest Labs Calgary
PCB - Water	US EPA	*	US EPA method, 8082	17-Sep-04	Norwest Labs Calgary
PCB - Water	US EPA	*	US EPA method, 8082	16-Sep-04	Norwest Labs Calgary
TEH-CCME - Water	Alta. Env. Method		Hydrocarbon Soil and Water Quality Guidelines, C51260500	2-Sep-04	Norwest Labs Calgary
TEH-CCME-Soil (Soxhlet)	CCME		Reference Method - Canada-Wide Standard for PHC in Soil, CWS PHC	3-Sep-04	Norwest Labs Calgary
TEH-CCME-Soil (Soxhlet)	CCME		Reference Method - Canada-Wide Standard for PHC in Soil, CWS PHC	4-Sep-04	Norwest Labs Calgary

* Norwest method(s) is based on reference method

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted

The test report shall not be reproduced except in full, without the written approval of the laboratory

Phone:
(780) 438-5522
1-800-661-7645
Fax:
(780) 438-0396

NORWEST LABS

7217Roper Road
Edmonton, AB T6B 3J4

W O (Winnipeg) 328344
P. O. No.
Date Sampled
Date Received : Aug 27, 2004
Date Completed : Sept 2, 2004

ANALYSIS REPORT

Analysis Requested: ASBESTOS IDENTIFICATION

Client:		**Date received:**	Aug 27, 2004
		Sample Type:	Bulk
		No. of Samples:	1
		Project/Worksite	

ANALYSIS RESULTS

File No.	W.O.No.	Description	Asbestos Type and Percent	Other Fibres Detected
04AI2552	1/1264171	Warehouse, floor tile	CHRYSOTILE 3%	None

COMMENTS:

ANALYTICAL PARAMETERS:
Method Used: NIOSH Method 9002 (4th Edition)
Methodology: Polarized Microscope

Analysis Performed by: *Irene Z. Walewski*, B. Sc. Chem. of

WALTECH ASSOCIATES INC
Safety Management and Analytical Services
603, Burgess Close, Edmonton, AB T6R 1Z7
Phone: (780) 434-9784 Fax: (780) 439-4434

Waltech Associates Inc
SAFETY MANAGEMENT AND ANALYTICAL SERVICES

603, Burgess Close, Edmonton, AB T6R 1Z7
Phone: (780) 434-9784 Fax: (780) 439-4434
email:waltech@shaw.ca

ANALYSIS REPORT

Analysis Requested: ASBESTOS IDENTIFICATION

Requested by: : Earth Tech Canada Inc **17203-103 Ave** **Edmonton, AB T5S 1J4** **Attn: Greg Wright /Don Roy**	**Date received:** Aug 27, 2004 **Sample Type:** Bulk **No. of samples: 7** **Worksite/ Job #: Sarepa Lake – CAM –F DEW Line Site** **Date completed:** Aug 31, 2003

ANALYSIS RESULTS

Our File #	Ref #	Description	Asbestos type and percent	Other fibres detected
04AI2553	STA-HAZ3	9x9 FT light & dark brown	**CHRYSOTILE 2%***	Cellulose
04AI2554	STA-HAZ4	12x12FT cream	NONE DETECTED	None
04AI2555	STA-HAZ6	12x12FT grey	NONE DETECTED	None
04AI2556	STA-HAZ11	12x12FT beige	**CHRYSOTILE 2%**	Cellulose
04AI2557	STA-HAZ12	Black rubber floor thread	NONE DETECTED	Cellulose
04AI2558	STA-HAZ13	12x12 FT mustard	**CHRYSOTILE 2%**	None
04AI2559	STA-HAZ14	Grey elbow pipe insulation	**CHRYSOTILE 80%**	Glass fibres

COMMENTS: * Found in tile and adhesive

ANALYTICAL PARAMETERS:

Method used: NIOSH Method 9002 (4th Edition)
Methodology: Polarized Microscope

Analysis Performed by: Irene Z. Walewski, B. Sc. Chem.

Phone:
(780) 438-5522
1-800-661-7645
Fax:
(780) 438-0396

NORWEST LABS

7217Roper Road
Edmonton, AB T6B 3J4

W O (Winnipeg) 328344
P. O. No.
Date Sampled
Date Received : Aug 27, 2004
Date Completed : Sept 2, 2004

ANALYSIS REPORT

Analysis Requested: ASBESTOS IDENTIFICATION

Client:		**Date received:**	Aug 27, 2004
		Sample Type:	Bulk
		No. of Samples:	1
		Project/Worksite	

ANALYSIS RESULTS

File No.	W.O.No.	Description	Asbestos Type and Percent	Other Fibres Detected
04AI2552	1/1264171	Warehouse, floor tile	**CHRYSOTILE 3%**	None

COMMENTS:

ANALYTICAL PARAMETERS:
Method Used: NIOSH Method 9002 (4th Edition)
Methodology: Polarized Microscope

Analysis Performed by: *Irene Z. Walewski*, B. Sc. Chem. of

WALTECH ASSOCIATES INC
Safety Management and Analytical Services
603, Burgess Close, Edmonton, AB T6R 1Z7
Phone: (780) 434-9784 Fax: (780) 439-4434

SAMPLE RECEIPT FORM / CHEMICAL ANALYSIS FORM

FILE #: PR40264

CLIENT: Norwest Labs
7217 Roper Road
Edmonton, Alberta
Canada T6B 3J4

Phone – 780-438-5522
Fax – 780-438-0396

RECEIVED BY: P. Aceveda **DATE/TIME:** August 30, 2004 (8:30 a.m.)
CONDITION: okay

# of Containers	Sample Type	Sample (Client Codes)	Lab Codes	Test Requested
1	tissue	328344-172 (Lake Trout)	PR40264	PCB
1	tissue	328344-173 (Lemming)	PR40265	PCB

STORAGE: Stored at 4 °C
ANALYTES: HRGC/HRMS analysis for PCB

SPECIAL INSTRUCTIONS: none

METHODOLOGY
Reference Method: PCB: SOP LAB02; EPA Method 1668a
Data summarized in Data Report Attached

Report sent to: Darlene Lintott Date: September 9, 2004

Comments: Surrogate recoveries, the lab blank and all other QA/QC data associated with this analysis were acceptable according to the reference method.

Acronyms used in reporting Polychlorinated Biphenyls (PCBs)

MoCB = Monochlorobiphenyl
DiCB = Dichlorobiphenyl
TrCB = Trichlorobiphenyl
TeCB = Tetrachlorobiphenyl
PeCB = Pentachlorobiphenyl
HxCB = Hexachlorobiphenyl
HpCB = Heptachlorobiphenyl
OcCB = Octachlorobiphenyl
NoCB = Nonachlorobiphenyl
DeCB = Decachlorobiphenyl

Acceptable recoveries for PCB Surrogates - EPA 1668a

Min (%)	Max (%)
25%	150%

DATA REPORT

Client:	Norwest Labs - Edmonton	Contact:	Darlene Lintott
Client ID:	328344-173 (Lemming)	Date Extracted:	30-Aug-04
PRL ID:	PR40265	Date Analysed:	08-Sep-04

Polychlorinated Biphenyls

Homolog Totals	ng/g	DL ng/g
Trichlorobiphenyls	ND	0.00005
Tetrachlorobiphenyls	0.96	0.0001
Pentachlorobiphenyls	0.12	0.0002
Hexachlorobiphenyls	0.052	0.0002
Heptachlorobiphenyls	0.028	0.0001
Octachlorobiphenyls	0.012	0.00005
Nonachlorobiphenyls	ND	0.00005
Decachlorobiphenyl	ND	0.00005
Total PCB	**1.2**	**ng/g**

Internal Standard Recovery

Chemical Name	IUPAC #	%
$^{13}C_{12}$-2,2',6'-TrCB	19L	28.4
$^{13}C_{12}$-3,4,4'-TrCB	37L	INT
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	62.5
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	71.4
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	121.3
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	121.4
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	47.4
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpC	188L	136.1
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpC	189L	122.4
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-O	202L	129.5
$^{13}C_{12}$-2,3,3',4,4',5,5',6-O	205L	66.2
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-	206L	122.8
$^{13}C_{12}$-DeCB	209L	108.4

ND - none detected

INT - Matrix Interference. Not used for calculation

Authorization

ND - none detected NDR - none detected based on peak ratio

INT - Matrix Interference. Not used for calculation

Pacific Rim Laboratories Inc. #103, 19575-55A Avenue, Surrey, BC V3S 8P8
Tel: + 604.532.8711 Fax: + 604.532.8712 Email: info@pacificrimlabs.com
www.pacificrimlabs.com

DATA REPORT

Client:	Norwest Labs - Edmonton	Contact:	Darlene Lintott
Client ID:	Blank	Date Extracted:	30-Aug-04
PRL ID:	PC04393B	Date Analysed:	08-Sep-04

Polychlorinated Biphenyls

Homolog Totals	ng/g	DL ng/g
Trichlorobiphenyls	ND	0.00005
Tetrachlorobiphenyls	ND	0.0001
Pentachlorobiphenyls	0.40	0.0002
Hexachlorobiphenyls	0.29	0.0002
Heptachlorobiphenyls	ND	0.0001
Octachlorobiphenyls	0.010	0.00005
Nonachlorobiphenyls	0.0058	0.00005
Decachlorobiphenyl	ND	0.00005
Total PCB	**0.71**	**ng/g**

Internal Standard Recovery

Chemical Name	IUPAC #	%
$^{13}C_{12}$-2,2',6'-TrCB	19L	45.6
$^{13}C_{12}$-3,4,4'-TrCB	37L	105.8
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	124.5
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	107.9
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	119.2
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	102.3
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	93.7
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpC	188L	66.3
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpC	189L	62.9
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-O	202L	94.3
$^{13}C_{12}$-2,3,3',4,4',5,5',6-O	205L	63.1
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-	206L	65.8
$^{13}C_{12}$-DeCB	209L	78.0

ND - none detected

Authorization

ND - none detected NDR - none detected based on peak ratio

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
Patrick Pond
CHEMIST

Pacific Rim Laboratories Inc.
Pacific Rim Laboratories Inc. #103, 19575-55A Avenue, Surrey, BC V3S 8P8
Tel: + 604.532.8711 Fax: + 604.532.8712 Email: info@pacificrimlabs.com
www.pacificrimlabs.com

SAMPLE RECEIPT FORM / CHEMICAL ANALYSIS FORM

FILE #: PR40297

CLIENT: Norwest Labs
7217 Roper Road
Edmonton, Alberta
Canada T6B 3J4

Phone – 780-438-5522
Fax – 780-438-0396

RECEIVED BY: P. Aceveda **DATE/TIME:** October 12, 2004 (10:00 a.m.)
CONDITION: okay

# of Containers	Sample Type	Sample (Client Codes)	Lab Codes	Test Requested
1	tissue	328344-174 (Lake Trout / Yellow)	PR40297	PCB
1	tissue	328344-175 (Lake Trout / Pink)	PR40298	PCB

STORAGE: Stored at <-10 °C
ANALYTES: HRGC/HRMS analysis for PCB

SPECIAL INSTRUCTIONS: none

METHODOLOGY
Reference Method: PCB: SOP LAB02; EPA Method 1668a
Data summarized in Data Report Attached

Report sent to: Darlene Lintott Date: October 26, 2004

Comments: Surrogate recoveries, the lab blank and all other QA/QC data associated with this analysis were acceptable according to the reference method.

Acronyms used in reporting Polychlorinated Biphenyls (PCBs)

MoCB = Monochlorobiphenyl	HxCB = Hexachlorobiphenyl
DiCB = Dichlorobiphenyl	HpCB = Heptachlorobiphenyl
TrCB = Trichlorobiphenyl	OcCB = Octachlorobiphenyl
TeCB = Tetrachlorobiphenyl	NoCB = Nonachlorobiphenyl
PeCB = Pentachlorobiphenyl	DeCB = Decachlorobiphenyl

Acceptable recoveries for PCB Surrogates - EPA 1668a

Min (%)	Max (%)
25%	150%

DATA REPORT

Client:	Norwest Labs - Edmonton	Contact:	Darlene Lintott
Client ID:	328344-174 (Lake Trout / Yellow)	Date Extracted:	13-Oct-04
PRL ID:	PR40297	Date Analysed:	25-Oct-04

Polychlorinated Biphenyls

Homolog Totals	ng/g	DL ng/g
Trichlorobiphenyls	ND	0.05
Tetrachlorobiphenyls	0.23	0.1
Pentachlorobiphenyls	1.73	0.2
Hexachlorobiphenyls	3.78	0.2
Heptachlorobiphenyls	1.36	0.1
Octachlorobiphenyls	0.15	0.05
Nonachlorobiphenyls	0.05	0.05
Decachlorobiphenyl	ND	0.05

Total PCB **7.3** **ng/g**

Lipid **0.9%**

Internal Standard Recovery

Chemical Name	IUPAC #	%
$^{13}C_{12}$-2,2',6'-TrCB	19L	28.2
$^{13}C_{12}$-3,4,4'-TrCB	37L	68.0
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	51.3
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	55.9
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	52.3
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	59.1
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	54.6
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	39.3
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpCB	189L	47.2
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	46.2
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	43.8
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	43.3
$^{13}C_{12}$-DeCB	209L	55.7

ND - none detected

INT - Matrix Interference. Not used for calculation

Patrick Pond 26/10/04

Authorization

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
Patrick Pond
CHEMIST

ND - none detected NDR - none detected based on peak ratio

INT - Matrix Interference. Not used for calculation

Pacific Rim Laboratories Inc.

Pacific Rim Laboratories Inc. #103, 19575-55A Avenue, Surrey, BC V3S 8P8
Tel: + 604.532.8711 Fax: + 604.532.8712 Email: info@pacificrimlabs.com
www.pacificrimlabs.com

DATA REPORT

Client:	Norwest Labs - Edmonton	Contact:	Darlene Lintott
Client ID:	328344-175 (Lake Trout / Pink)	Date Extracted:	13-Oct-04
PRL ID:	PR40298	Date Analysed:	25-Oct-04

Polychlorinated Biphenyls

Homolog Totals	ng/g	DL ng/g
Trichlorobiphenyls	ND	0.05
Tetrachlorobiphenyls	0.23	0.1
Pentachlorobiphenyls	1.38	0.2
Hexachlorobiphenyls	2.22	0.2
Heptachlorobiphenyls	0.83	0.1
Octachlorobiphenyls	0.06	0.05
Nonachlorobiphenyls	ND	0.05
Decachlorobiphenyl	ND	0.05

Total PCB **4.7 ng/g**

Lipid **1.0%**

Internal Standard Recovery

Chemical Name	IUPAC #	%
$^{13}C_{12}$-2,2',6'-TrCB	19L	45.2
$^{13}C_{12}$-3,4,4'-TrCB	37L	72.1
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	52.3
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	55.0
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	50.2
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	57.5
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	50.2
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	42.1
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpCB	189L	53.5
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	50.0
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	47.7
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	45.2
$^{13}C_{12}$-DeCB	209L	61.5

ND - none detected
INT - Matrix Interference. Not used for calculation

26/10/04
Authorization

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
Patrick Pond
CHEMIST

ND - none detected NDR - none detected based on peak ratio
INT - Matrix Interference. Not used for calculation

Pacific Rim Laboratories Inc. #103, 19575-55A Avenue, Surrey, BC V3S 8P8
Tel: + 604.532.8711 Fax: + 604.532.8712 Email: info@pacificrimlabs.com
www.pacificrimlabs.com

DATA REPORT

Client:	Norwest Labs - Edmonton	Contact:	Darlene Lintott
Client ID:	Blank	Date Extracted:	13-Oct-04
PRL ID:	PC04468B	Date Analysed:	25-Oct-04

Polychlorinated Biphenyls

Homolog Totals	ng/g	DL ng/g
Trichlorobiphenyls	ND	0.05
Tetrachlorobiphenyls	ND	0.1
Pentachlorobiphenyls	ND	0.2
Hexachlorobiphenyls	ND	0.2
Heptachlorobiphenyls	ND	0.1
Octachlorobiphenyls	ND	0.05
Nonachlorobiphenyls	ND	0.05
Decachlorobiphenyl	ND	0.05

Total PCB **0.00 ng/g**

Lipid **<0.5%**

Internal Standard Recovery

Chemical Name	IUPAC #	%
$^{13}C_{12}$-2,2',6'-TrCB	19L	47.0
$^{13}C_{12}$-3,4,4'-TrCB	37L	65.9
$^{13}C_{12}$-3,3',4,4'-TeCB	77L	70.6
$^{13}C_{12}$-2',3,4,4',5-PeCB	123L	72.9
$^{13}C_{12}$-3,3',4,4',5-PeCB	126L	83.5
$^{13}C_{12}$-2,3,3',4,4',5-HxCB	156L	83.1
$^{13}C_{12}$-3,3',4,4',5,5'-HxCB	169L	80.8
$^{13}C_{12}$-2,2',3,4',5,6,6'-HpCB	188L	59.6
$^{13}C_{12}$-2,3,3',4,4',5,5'-HpCB	189L	72.4
$^{13}C_{12}$-2,2',3,3',5,5',6,6'-OcCB	202L	71.4
$^{13}C_{12}$-2,3,3',4,4',5,5',6-OcCB	205L	73.1
$^{13}C_{12}$-2,2',3,3',4,4',5,5',6-NoCB	206L	69.8
$^{13}C_{12}$-DeCB	209L	77.0

ND - none detected

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
Patrick Pond
CHEMIST

Patrick Pond 26/10/04
Authorization

ND - none detected NDR - none detected based on peak ratio

Pacific Rim Laboratories Inc.
Pacific Rim Laboratories Inc. #103, 19575-55A Avenue, Surrey, BC V3S 8P8
Tel: + 604.532.8711 Fax: + 604.532.8712 Email: info@pacificrimlabs.com
www.pacificrimlabs.com

of Photo 15. The well was installed to a depth of 1.1 m below ground surface (Table 3). Groundwater elevation in the monitoring well was found to be approximately 0.47 m bgs. Water samples were obtained from the monitoring well and analyzed for Routine Water analysis (pH, EC, alkalinity, hardness and dissolved solids), Dissolved Metals, PHCs and PAHs. Results are shown in Tables 4, 5, 7 and 8 (Appendix D).

Results for Routine analysis of the groundwater obtained from ETMW02 are shown in Table 4 (Appendix D). All parameters tested are within CCME Water Quality Guidelines for the Protection of Aquatic Life (CCME-WQGPAL).

Table 5 shows the results for dissolved metals in groundwater from ETMW01 (Appendix D). Copper levels were found to be in exceedance of the CCME WQGPAL.

Results for PHCs and PAHs are shown in Tables 7 and 8 (Appendix D). There were single exceedances for both PHCs and PAHs in groundwater from ETMW04 at the POL Tanks. Toluene was 1.5 times the PHC criteria and Naphthalene was nearly 2 times the PAH criteria. These exceedances are likely associated with the hydrocarbon contaminated soils in the area.

4.4 Dump A and B

There are two dumps located at the North perimeter of the Station Proximity Area, and east of the POL Tanks (Figure 2). Dump A, the easternmost of the two, contains partially buried debris within a gulley between bedrock outcroppings, and Dump B consists of material piled at the surface and some pushed over the escarpment along the north perimeter of the site.

4.4.1 Dump A

Dump A, shown in Photo 16 and 17, is located in the Northeast corner of the Station Proximity Area. There have been numerous investigations and remedial work conducted at Dump A. Significant PCB contamination, including two locations having concentrations exceeding the 200 ppm CEPA criteria, was previously identified and partially excavated. In an attempt to assess Dump A adequately and completely, past investigations used a grid network for identification of contaminated and excavated soils. The grid used in the past is still present at Dump A as shown in Photos 16 and 17. Information within the grid is extensive, however there are still areas outside the grid that require final assessment. As a result of the extensive investigations and partial clean-up completed in this area, 2004 delineation of the contamination was focused obtaining complete lateral delineation of the PCB contamination within the main drainage course where previous soils exceeding CEPA had been identified and removed. More specifically, efforts were concentrated on contaminant migration pathways that lead down gradient from the areas of known contamination.

Photo 16 Dump A and excavated CEPA soils in foreground, looking south

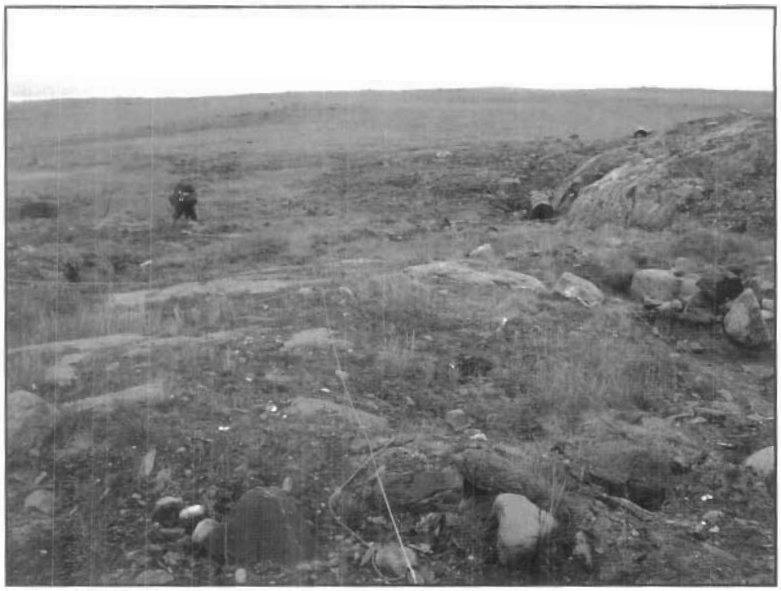


Photo 17 Dump A and Earth Tech Testpit locations, looking east

Soil Investigation

A total of fourteen testpits were completed at Dump A, as shown in Figure 13. Testpits ET48 to ET57, shown in Photo 17, were advanced in soils down gradient from previously excavated CEPA soils, testpits ET58 and ET59 were located down gradient from the southern extent of Dump A, and ET95 and ET96 were located in a suspect area identified by geophysical investigations. Samples from all testpits were submitted for PCB analysis, and a sample from both ET95 and ET96 was submitted for metals analysis. Soils at Dump A consisted of silty sand, with trace gravels and trace organics extending to a depth of 1.0 m (maximum depth of hand augered testpit at Dump A). The soils are

similar to most other areas at the CAM-F site, where the soils described above are essentially a matrix encompassing large boulders and bedrock outcroppings.

Results for PCB analysis of samples retrieved from Dump A are provided in Table 41 (Appendix D). There were two exceedances of the DCC criteria for total PCBs. Total PCB concentrations measured in a sample from ET50 was 25.2, which was in exceedance of the Tier II criteria, and a sample from ET51 was 2.3 ppm, which is in exceedance of the DCC Tier I criteria. Both samples are located approximately 10 metres down gradient of the excavated CEPA soils. All other samples located in this area were found to be non-PCB contaminated however there was a relatively high concentration of total PCBs measured in ET54, with a value of 0.9 ppm. This would suggest that the PCB contamination plume extends from the grid area to the east and forms a tail like plume nearly reaching ET54. The estimated contamination plume is shown in Figure 13 and encompasses an estimated area of 180 m^2, in addition to that contained in the grid network. Testpit ET54 can be used to provide insight to the depth of PCB contamination, where the concentration was 0.9 ppm at 0-0.1 m and <0.1 ppm at 0.9-1.0 m, which would correspond to an approximate depth of 0.2 m. Based on this assumption, approximately 36.0 m^3 of PCB contaminated soils are located at Dump A. Also, 433.6 m^3 of previously unexcavated DCC Tier I and II soils are estimated to remain within the grid area of Dump A (Queens University ASU, 1998).

Results for heavy metals in soils at Dump A are shown in Table 42 (Appendix D). Exceedances of the CCME residential guidelines for barium and boron were measured in ET96. The testpit is located within a suspect buried debris area identified by geophysical investigations. The full extent of contaminated soils was not obtained due to time restraints for additional testpit advancement. Assuming the metals contamination is directly related to the suspect area identified by the geophysicist, the area of metals impacted soils is approximately 78 m^2. Based on the nature of the soils in this area a depth of 0.2 m is assumed, which relates to an estimated volume of 15.6 m^3 of metals contaminated soils. It is recommended that additional soils investigations during remediation efforts are conducted to assess the heavy metal contamination in the area.

Groundwater Investigation

During the 2004 site assessment, extensive surface water drainage and pooling was observed east of the CEPA soils, passing through many of the Earth Tech testpit locations. In fact, significant ponding was observed to cover many of the testpit locations. Earth Tech monitoring well ETMW03 was installed in testpit ET54. A stainless steel drive point well was used and driven to a depth of 1.68 m (Table 3). Water level was found to be located at grade, which corresponds to the ponding observed along the drainage channel. Groundwater samples from ETMW03 were submitted for Routine Analysis, Dissolved Heavy Metals analysis and PCB analysis. Results are shown in Tables 4 to 6 (Appendix D). A second monitoring well, ETMW07, was installed at Dump A in the buried debris area identified by the geophysical survey.

Results for Routine analysis of the groundwater obtained from ETMW03 and ETMW07 are shown in Table 4 (Appendix D). All parameters tested are within CCME Water Quality Guidelines for the Protection of Aquatic Life (CCME-WQGPAL).

Elevated aluminum and copper levels, and elevated aluminum and cadmium concentrations, were measured in groundwater from ETMW03 and ETMW07, respectively (Table 5, Appendix D). Also, a near exceedances of zinc, with a concentration of 0.029 ppm for ETMW03 and 0.025 for ETMW07, compared to the criteria of 0.03 ppm. It appears that heavy metals, potentially associated with Dump A and the buried debris, have slightly impacted groundwater quality in the area.

Results for PCBs in groundwater from ETMW03 are shown in Table 6 (Appendix D). Total PCB concentration was found to be below the detection limit. PCBs do not appear to be affecting groundwater in the area.

4.4.2 Dump B

Dump B, shown in Photo 18, is located along a bedrock escarpment northeast of the POL Tanks. The debris at Dump B consists mostly of scrap building materials, from recent renovations of the garage and module station. Approximately half of the debris is located on the top plateau and the other half is located over the edge of the cliff. There are two areas at Dump B that have significant staining on the ground. These include a stain south of the main debris piles on the upper plateau, and the other within the debris and along the edge of the escarpment. Past investigations have identified PCB contamination within the stained areas. The stained area south of the debris is essentially fully delineated, with a lack of information at the northeast extremity only, whereas the stain within the debris and along the escarpment requires assessment and delineation.

Photo 18 Dump B, looking east

Soil Investigation

Nine testpits were advanced at the Dump B area. Locations of the testpits at Dump B are shown on Figure 14. A single testpit (ET47) was dug on the Northeast perimeter of the stain on the upper plateau to obtain lateral delineation, five testpits (ET39 to ET43) were located within the stained area to assess the potential contamination, and the remaining

three testpits (ET44 to ET46) were advanced in locations to provide lateral delineation of the stain near the escarpment. Of the delineatory testpits ET44 to ET46, one was placed on the plateau and two were located on the shelf below the escarpment, to obtain lateral delineation on the plateau and below the escarpment. Samples retrieved from the testpits were analyzed for Metals, PCBs, PHCs and PAHs. Results are located in Tables 43 to 46 in Appendix D.

Results for heavy metal concentrations in soils at the Dump B area are shown in Table 43 (Appendix D). Two testpits, ET39 and ET43, were found to contain metal concentrations in exceedance of applied criteria. ET39 exceeded the CCME residential guideline for boron, and ET43 exceeded the CCME residential guideline for boron and the DCC criteria for copper. The boron exceedances are much less critical than the copper exceedance. Delineation of the metals contamination is achieved in all directions, however there is the possibility that metal contaminated soils are located under the debris northeast of the stain, which was inaccessible for sampling due to heavy debris. A more accurate assessment of the surface stain and associated contamination could be obtained if the debris were cleared from the area. The estimated metals contamination plume located at the Dump B area is shown in Figure 14 and covers an approximate area of 57 m^2. Soils are found to be restricted to 0.2 m in depth due to the shallow bedrock interface in the area. The soils depth and contaminant area correspond to 11.4 m^3 of metals contaminated soils at Dump B.

Five exceedances of the PCB criteria were measured in samples retrieved from Dump B testpits (Table 44, Appendix D). All exceedances were located in testpits used to assess the contamination. Samples from ET39, ET41 and ET42 were in exceedance of the DCC Tier I (1 ppm) criteria and samples from ET42 and ET43 were in exceedance of the DCC Tier II (5 ppm) criteria. The extent of contamination within the debris pile on the top plateau was not assessed due to lack of accessibility, but is assumed to be present since PCBs were measured in all directions of the debris pile. The estimated area impacted by PCB contaminated soils is 290 m^2 as shown in Figure 14. The depth of contaminated soil is estimated to be 0.2 m, which corresponds to a volume of 58.0 m^3 impacted by PCB contamination. PCB contamination is also known to exist south of the debris pile, within a stained area that lacks vegetation. The plume, which covers approximately 20 m^2, is illustrated in Figure 14. Assuming a depth of 0.2 m of impacted soils, the volume of PCB impacted soil within the stain south of the Dump B debris pile is 4.0 m^3. Therefore, the total volume of PCB impacted soil at Dump B is 62.0 m^3.

The dark black stain, characteristic of hydrocarbon contamination, located at Dump B is cause for concern for hydrocarbon contaminated soils. Results from petroleum hydrocarbon analysis are provided in Table 45 and from polycyclic aromatic hydrocarbons are shown in Table 46 (Appendix D). There were four exceedances of the PHC guidelines and no exceedances for PAHs. Samples from testpits ET39, ET40, ET41 and ET42 were found to be significantly contaminated with PHCs. All samples from these testpits were found to exceed F3 and F4 criteria for PHCs in soils. F3 concentrations were measured to be 7 to 22 times the criteria value, and F4 was found to be 35 to 85 times the criteria. The estimated plume area is 180 m^2, as shown on Figure 14, and relates to an approximate plume volume of 36 m^3.

4.5 Former Construction Camp

The construction camp is located on the shore of Sarcpa Lake and was used while the CAM-F facilities and airstrip were being built. Numerous small debris piles, previous construction camp facilities (generator site, former machine shop, etc.), gravel storage pile and barrel piles are located in this area. Also a domestic barrel dump is located approximately 1 km north of the road to the upper station. The facilities in this camp area were burnt some time ago.

4.5.1 Former Generator Site

The generator site, shown in Photo 19, is located south and west of the road to the upper Station area. All that remains at this site is the generator set that was used to supply electricity to the construction camp, a concrete pad and miscellaneous debris. Previous investigations have identified cadmium, copper, lead and zinc contamination in the area.

Photo 19 Construction Camp – Generator Site, looking northeast

Soil Investigation

The 2004 investigation involved the advancement of 6 testpits at the Generator Site. Figure 15 shows the locations of Earth Tech testpit ET77 to ET82, as well as the sampling locations from past investigations. Testpit ET77 was located in close proximity to locations identified by past investigations to have the highest metals concentrations, to provide vertical delineation in the most impacted area. All other testpits were located to provide lateral delineation and fill in gaps from past assessments. Samples from all testpits and all depths, as well as a field duplicate, were submitted for heavy metals analysis. In addition, a single sample from each testpit was submitted for PCB analysis and a single sample from testpit ET77 was submitted for PHC analysis.

Results from metals analysis are shown in Table 47 (Appendix D). There were no metals exceedances at depth for samples submitted from the 2004 investigation. Past

investigations found metal contamination to a depth of 0.3 m and a sample from 0.3 to 0.4 m did not contain metal concentrations in exceedance of the criteria. Therefore it is assumed that heavy metal contamination at the generator site is contained in the upper 0.3 m of soils. Figure 15 illustrates the heavy metal contamination plume present at the construction camp generator site. The plume area is calculated to cover 38 m^2. Although no samples were retrieved East of ET77 and UMA#1720, or West of UMA#1723, results from past sampling events, as well as a lack of signs of impacted soil, indicates that metals contamination does not extend in either direction. Also, there was debris in those areas making soil investigations impractical. The calculated plume area of 38 m^2 and a depth of 0.25 m, corresponds to 9.5 m^3 of metal contaminated soils at the generator site.

PCB results for soils at the generator site are shown in Table 48. There were no exceedances of the DCC criteria. Therefore, there is no PCB contamination plume sketched in Figure 15.

Results from a single PHC sample submitted from the generator site is shown in Table 49. The sample from ET77 at 0.3-0.4 m was found to contain F2 and F3 fractions of PHCs in exceedance of the criteria. Surface signs indicate that PHC contamination is localized and therefore estimated area associated with the PHC contamination is calculated to be 8.0 m^2 (Figure 15). It is estimated that 0.5 m of soil is impacted by PHCs, which relates to 4.0 m^3 of PHC contaminated soils at the Generator Site.

4.5.2 Former Machine Shop Site

The Machine Shop is located east of the road, in the vicinity of the debris piles present in the construction camp area. The structure is gone, however the site is recognizable by the large quantities of nails around the concrete pad and several sheet metal and heavy gauge metal bending and forming equipment. An environmental concern identified at this site is a small but dark and heavy looking hydrocarbon stain on the site. No previous investigations have been conducted at the machine shop site.

Photo 20 Construction Camp – Machine Shop Site, looking East

Soil Investigation

A total of four testpits were advanced in the vicinity of the machine shop site, as shown on Figure 16. ET101 was advanced in the centre of the stained area, and ET102 to ET104 were located around the perimeter of the site. Samples were retrieved from all testpits and submitted for heavy metals, PCB, PHC and PAH analysis.

Results for heavy metals in soils at the Machine Shop site are located in Table 50 (Appendix D). There were no exceedances of the applied criteria measured in any of the samples, and therefore there is no metals contamination plume illustrated in Figure 16.

Results for PCBs are shown in Table 51 (Appendix D). No exceedance of the criteria was measured and as a result there is no PCB contamination plume at the Machine Shop site (Figure 16).

Three testpits at the machine shop site were found to contain PHCs in exceedance of criteria (Table 52, Appendix D). ET101, ET103 and ET104 contain F3 fraction PHCs in exceedance of the PHC in soils guidelines. Also, ET104 contained exceedances for Toluene, Xylenes and F1 fraction, in addition to the F3 exceedance. Complete delineation, both vertically and horizontally, of the hydrocarbon contamination at the machine shop was not achieved due to time restraints limiting additional test pitting. The estimated contamination plume is shown in Figure 16 and covers approximately 173 m^2. With an estimated depth of 0.2 m of impacted soils, 34.6 m^3 are estimated to be PHC contaminated at the Machine Shop Site.

Earth Tech testpit ET103 was also found to contain PAH concentrations in excess of CCME residential criteria (Table 53, Appendix D). Naphthalene was measured to be nearly 10 times the guideline. Again, due to time restraints the PAH contamination was not fully delineated. The estimated PAH plume is shown on Figure 16 and covers approximately 36 m^2. This relates to a volume of 7.2 m^3 when 0.2 m is assumed as the depth to which contamination is present.

4.5.3 Domestic Barrel Dump

The domestic barrel dump is located approximately 1 km north of the construction camp and on the northeast side of the road to the upper site. The site consists of approximately 700 open end barrels that contain domestic waste. No previous investigations have been conducted in the area.

Environmental concerns at the domestic barrel dump were limited to several dry cell vehicle batteries, and oil and air filters. No testpits were advanced in the area due to lack of stressed vegetation and surface stains suggesting contamination.

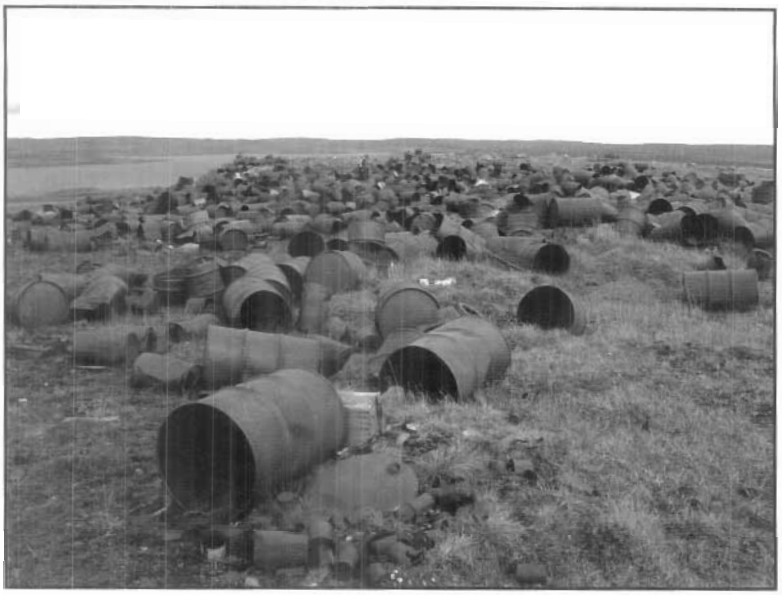


Photo 21 Domestic Barrel Dump, looking Southeast

4.6 Sarcpa Lake

Sarcpa Lake is a relatively long and narrow lake, characterized by a rock bottom and very little vegetation. Fine grained sediments are limited, but can be found near drainage courses coming in contact with the lake. Fish species found to be present in the lake include Arctic Char and Lake Trout.

4.6.1 Sediment Sampling

A total of four sediment samples were obtained from Sarcpa Lake. Locations suitable for sampling were based on drainage pathways from all locations on the CAM-F site. Two sediment samples were obtained from a bay located approximately 1.5 km north of the construction camp to obtain samples in the vicinity of the surface water discharge from the upper site. A single sediment sample was obtained near the discharge point from a drainage channel down gradient from the domestic barrel dump. The fourth sediment sample was obtained in the bay on the north side of the construction camp, in the vicinity of a gulley that drains the construction camp area. Sediment samples were submitted for PCB and heavy metals analysis and the results are provided in Tables 54 and 55 (Appendix D). From the 2004 investigation, three of the sediment samples contained chromium and copper concentrations in slight exceedance of CCME Sediment Quality Guidelines. The sediment sample that did not contain heavy metals concentrations in exceedance of criteria was Sarcpa Sediment #2, which was obtained from the south end of the bay into which the upper site is thought to drain. It should be noted however, that the heavy metals concentrations are elevated to near exceedance levels and these trace amounts of heavy metals within the sediments of Sarcpa Lake are thought to be the result of elevated background levels within the area.

For the sake of comparison, results from the 1994 RRMC sediment sampling are shown in Tables 54 and 55. Two samples, one of which was obtained near the location of the 2004 Sarcpa #4 sample, were retrieved during the 1994 investigation and analyzed for

target DCC metals and PCBs. Results from the 1994 are significantly lower than the results from sediments obtained in 2004. The most likely reason for this is the accuracy and precision of the analytical instruments used to measure the metal and PCB concentrations has improved slightly over the past decade.

Perhaps advances in technology have improved the performance of analytical instruments to the point, where metals that were typically below detection limit are now measurable and higher than originally measured. Another possibility to explain the differences is that the methods and procedures used to analyze the target contaminants were different between the two investigations. The likelihood of a sample obtained in 2004 from the same location as one retrieved in 1994 to have such increases in heavy metals concentrations as were measured, is very improbable.

4.6.2 Biological Sampling

Five fish samples were obtained from Sarcpa Lake and submitted for laboratory analysis for PCBs and heavy metals in tissue. Between delivery to Norwest Labs in Edmonton, AB and fish tissue analysis in Surrey, BC, the fish were allowed to thaw and as a result began to decompose. Despite having 5 separate tags to identify each fish, the group was agglomerated into a single sample, by obtaining a composite sample of all five fish. It is assumed that the composite was comprised of equal amounts of meat from all fish in the bag and therefore the analytical results would provide an average for the five. To eliminate uncertainties in the data, an additional 2 Lake Trout, obtained from Sarcpa Lake during the site investigation, were delivered to the laboratory for analysis. Results from biological sampling are shown in Tables 56 and 57.

In addition to fish samples, a lemming was trapped in the construction camp area of the CAM-F site and delivered to Norwest Labs for PCBs and heavy metals in tissue analysis. Results are shown in Tables 56 and 57.

4.7 Surface Water Sampling

A total of four surface water samples were obtained from various locations on the CAM-F Site (Figure 3). Surface water sample 1 (ETSW01) was retrieved from a small creek that was concluded to be downgradient from Dump A, Dump B and the POL tanks. Surface water sample 2 (ETSW02) was obtained from a pond located along the north side of the airstrip. Surface water sample 3 (ETSW03) was obtained from a small lake south of the airstrip. The final surface water sample, ETSW04, was obtained from a freshwater lake east of the Inuit house. Results for heavy metals PCBs and routine analysis are shown in Tables 58 to 60. No exceedances of the CCME Water Quality Guidelines for the Protection of Aquatic Life were measured in any of the surface water samples.

4.8 QA/QC

To determine the precision of the reported laboratory analytical results, Duplicate sample results were evaluated using the USEPA Relative Percent Difference Method.

$$\text{Relative percent Difference (RPD)} = \frac{(X_1 - X_2) \times 100}{(X_1 + X_2)/2}$$

Tables 61 to 64 in Appendix D presents the QA/QC calculations for the 4 different parameters analyzed for (Metals, Hydrocarbons, PCBs and PAHs).

Three parameters from STA-ET23 exceeded the recommended RPD value of 20 % for metals (arsenic, boron and molybdenum). The RPD exceedances may be attributed to non-homogeneous contaminant dispersion within the soil that was sampled twice for duplication.

One parameter from DA-ET54 exceeded the recommended RPD value of 40 % for PCBs (Aroclor 1254). The RPD exceedance for Aroclor 1254 may be attributed to non-homogeneous contaminant dispersion within the soil that was sampled twice for duplication.

Duplicate samples from STA-ET23 and BC-ET76 had parameters that exceeded the recommended RPD value of 40 % for hydrocarbons. The RPD exceedance for the F2 fraction of STA-ET23 may be attributed to non-homogeneous contaminant dispersion within the soil that was sampled twice for duplication, whereas the RPD exceedance for F4 fraction of BC-ET76 may be due to the numerical results being relatively close to the detection limit of 10 ppm.

No parameters exceeded the recommended RPD value of 40 % for PAHs.

The laboratory QA/QC, which included duplicates and surrogate spike recoveries, were all within acceptable limits for all parameters analyzed.

5.0 MATERIALS INVENTORY

Previous reports, as identified in Section 2.0, completed for the Sarcpa Lake site discussed partial inventories for both hazardous and non-hazardous materials. Non-hazardous materials were generally described as inert or dry material that could be left or disposed of on site that would not have a negative impact on the environment. Hazardous materials were generally described as wet or leachable materials that if left on site or not properly contained may pose a threat to the environment.

The reports discussed location of the material, whether it was hazardous or not, type of material, and estimated quantities. For continuity purposes, the format for the 2004 site visit and materials inventory follows a similar format and has increased detail. Keeping with the format of the report, there are three main areas, The Station Proximity Area (which has many sub-areas), the Dump Sites (Dumps A and B), and the Former Construction Camp Area (with several sub-areas). Occasional materials located outside of these three main areas will be incorporated into the area closest to where it was encountered.

Non Hazardous Material is reported in crushed volumes and is assumed that simple demolition procedures will be used to obtain these volumes (e.g. crushing with excavator bucket or crushing in landfill with bull dozer). Discussion as to the estimated method of remediation for hazardous material has not been made due to the many possible methods of accomplishing this. (i.e. stripping hazardous paint or leaving it to be shipped off site or placed in hazardous materials landfill). This will be addressed further in the future during the site remediation planning.

The following paragraphs present a brief description of each area followed by a comprehensive table of estimated materials inventory.

5.1 Station Proximity Area

The main site is located on a hill approximately 100 m above and 3 km northeast of Sarcpa Lake (Figure 2). Facilities include; a module building train, warehouse, garage, Inuit house, POL (Petroleum, Oil, Lubricants) Tanks, drum storage area, sewage outfall, vehicle pile, and a downed antenna tower. Aside from general inventory, environmental concerns in this area include asbestos containing materials (ACM), substances with lead and/or PCB paint, PCB contaminated concrete, radionuclides in smoke detectors, and general hazardous wastes such as aerosols, paints, lubricants and fuels. Estimated quantities of hazardous and non-hazardous materials at the Station Proximity Area are listed in the waste audit summary table (Table 65) located in Appendix D.

5.1.1 Module Station

The module station was used as the living and working quarters while CAM-F was in operation, and was later converted to a scientific research laboratory. The building is a wood structure with partially painted aluminum siding, built on raised lumber cribbing. The interior of the station consists of sleeping quarters, washroom, water/sewage room, kitchen and eating area, laboratory (which was likely the operations room while the site was used as an intermediate station), electrical room, and a diesel storage and boiler

room. Plans recovered on site during the 2004 site visit indicated the present dormitory area located at the south end of the building, was once the water tank and ice melting room which, also housed an emergency hot water boiler and fuel oil day tank.

Previous work at the Module Station identified significant metals, PCB, and asbestos containing material (ACM) both inside and outside the building, including high concentrations of PCB's in paint and concrete. Prior to converting the station in 1989 into a scientific research station, most of the walls and ceilings were solvent washed and painted. These renovations allowed the research staff to inhabit the building and not contaminate themselves or their equipment with PCB's.

Hazardous Material

Tables 66 to 69 indicate a summary of the hazardous material identified at the module station. A site plan showing points for paint and ACMs from the current and previous investigation programs are presented in Figure 17. The 2004 sampling points and a legend indicating the associated levels of contamination is presented in Figure 17.

Hazardous material at the module station includes the following: Exterior of the module station had compressed gas cylinders containing propane, acetylene, and nitrogen. Portions of the exterior had paint over top to the aluminum cladding, which was previously found to have high levels of PCB's in the paint. Other areas of concern were the wooden cribbing, wooden supports, and wooden staircases and handrails; all of which appear to be at one time, painted with PCB containing paint which has since deteriorated. PCB concentrations on these painted exterior surfaces were previously recorded as 330- to 820 ppm. Also on the exterior of the building located near the north end beneath the former compressor and pump rooms, were several asbestos-insulated boiler components. Gaskets of these units are also suspected to have asbestos containing materials (ACM).

The interior of the module station had several substances considered hazardous building materials including:

- Concrete soaked (or mixed with cement during construction) with PCB's.
- PCB and lead paint coated substances.
- ACM in fire doors. Friable if exposed.
- ACM remaining around piping and on roof penetrations for ventilation pipes. Friable.
- Floor tiles with ACM. Non-Friable.
- Sharps (glassware, needles, etc) left over from the research group that occupied the building.
- Waste inside the gravity toilet and septic tank (biological hazard).
- Several smoke detectors that may contain radioactive material.
- Paint cans.
- Starting fluid,
- Battery Acid.
- Acetylene and Nitrogen cylinders.
- Possible residual hydrocarbons left over in the heating oil, diesel fuel tanks and supply lines.

- Used oil (4 litres)
- Turpentine.

Most of the painted substances contained lead in the paint and nearly all painted substances contained PCB's in the paint. Previously sampled areas had laboratory values for PCB's in interior paints from 4000 to 28,000 ppm and the 2004 site visit yielded values of PCB's in interior paints of 0.8 to 11,265 ppm.

Non-Hazardous Material

Non-Hazardous materials were comprised of mostly lumber, some glass (in windows) soft metals (aluminum, copper, bronze etc.), steel, and fiberglass insulation. Classifying these non-hazardous substances depended heavily on if the substance has been painted or not. In some instances, the plywood substrate or cloth wrapping around the asbestos insulation was painted with PCB containing paint. The question of how to rid the substance of the paint to be only left with the raw material is one that has plagued all DEW Line sites.

Quantities of barrels, lumber, steel, wire, etc. are presented in Tables 65.

5.1.2 Warehouse

The warehouse was used to hold equipment for the Queens, DIAND, and NWT scientific Research Centre in 1989. Later, in 1997 during the PCB clean up, it was realized that the barrels of PCB impacted soils were not going to be removed from site that season and the only building suitable to hold the barrels was the warehouse. The warehouse was emptied and cleaned out of all contents not related to the storage of PCBs. The roof was repaired and the barrels of used oil and waste petroleum products were stored in a lined bermed area west of the warehouse. For presentation and discussion purposes, the lined drum storage area located to the west of the warehouse is also part of the warehouse area.

Previous investigations at the warehouse identified significant lead and PCB paint contamination both inside and outside the building. Currently the warehouse has no PCB soils stored inside, has been cleaned, and is being used to store plywood, wrangler bags, and PWGSC camp supplies.

Hazardous Material

Not all the interior of the warehouse is painted, with some panels of galvanized and/or aluminum metal being exposed without paint. Painted surfaces both inside the warehouse and in the wooden vestibule on the southwest side contain PCB paint. The concrete floor has minor amounts of PCBs with level below CEPA but above CCME Residential criteria of 1.3 ppm. Levels of PCBs in the structural concrete (footings) are unknown at this time. The two fuel tanks located on the south side of the warehouse also contain PCB paint at concentrations of 150 ppm. The vestibule has ACM on the water and heating components. Results for hazardous materials sampled at the warehouse are provided in Tables 70 and 71.

Barrels containing waste product were previously moved to a lined and bermed area west of the warehouse. This area was not protected from the elements. The barrels holding

product are beginning to rust and leak. The bermed area remains full of water nearly all the time; and product leaks outside the bermed area whenever there is additional moisture added in the form of rain or snow melt.

Non-Hazardous Material

Non-hazardous materials are listed in detail within the table and are mostly wood, concrete and structural steel.

5.1.3 Garage

The garage has been dismantled except for the structural steel frame, a partial wall and the concrete foundation. A small shed was built on the foundation in the southwest corner of the former garage to house tools and machinery required for past investigations on site. The shed is a wood structure with plywood walls and a tarpaper-covered roof.

Hazardous Material

Previous investigations on site identified PCB's in the painted substances on site, primarily the aluminum sheet cladding. Also, PCB's were identified in low quantities on the concrete pad but the locations were not identified on any site plan. Earth Tech reconfirmed the PCB content in the concrete by scraping and chipping away the surface concrete (and paint in some areas) and retrieving concrete samples. Results from concrete sampling at the Garage are shown in Table 72. Two samples retrieved from within the INAC shed were below 1 ppm and two samples retrieved on the generator room pad were 12.6 and 189 ppm respectively. Other hazardous materials were primarily located in the INAC shed and consisted of equipment lubricants, and marker paint used during past investigations.

Non-Hazardous Material

Non-hazardous material consisted of unstained (uncontaminated concrete), wood, structural steel, and empty drums scattered around the site.

5.1.4 Inuit House

The Inuit House or dormitory is a metal-clad, wood frame structure mounted on wood beams fixed to concrete footings. The house was used as a dormitory and has since been repaired several times to accommodate locals traveling for hunting and fishing purposes.

The Inuit House was heated with a heating oil furnace at one time and now utilizes propane heaters when in use. The inside of the house is finished in painted plywood and sheet metal behind the furnace.

Hazardous Material

The primary hazardous substance in the house is the painted surfaces within. Two paint samples were retrieved and results for PCB and lead in paint analysis is provided in Tables 73 and 74. Elevated PCB in paint concentrations of 4320 ppm have been recorded as well as levels of lead in paint at 1330 ppm.

Non-Hazardous Material

Non-hazardous materials are primarily in the form of structural building material debris including broken appliances and furniture with scattered metal and wood around the site.

5.1.5 POL Tank Area

Located at the north perimeter of the Station area are two 20,000 gallon POL (petroleum, oil, lubricants) bulk storage tanks. Also at the POL tank area is a small pump house, fabricated with metal siding and many barrels scattered over the northern bedrock outcrop onto the plateau below.

Hazardous Material

A single drum of oil was located east of the tanks and was intact with original seals around the openings. Other hazardous materials were the form of paint on the shed and tank as well as vehicle batteries. The tanks were empty with the exception of some sludge at the base of each tank.

Non-Hazardous Material

The non-hazardous material at the site was the steel tanks, concrete and debris strewn about, in particular a number of barrels and abandoned vehicle pushed over the edge of the northern bedrock outcrop to approximate lower elevation of 5 m.

5.1.6 West Barrel Cache (Drum Storage Area)

Located approximately 300 m west of the station and warehouse is a large barrel cache. Estimates have put the number of barrels stockpiled in this area to be approximately 5,000. Previous investigations indicated that nearly all of the barrels are empty with the occasional barrel having water or product inside.

Hazardous Material

No hazardous materials were encountered during the site investigation although this does not preclude the possibility that some barrels still may contain residual product.

Non-Hazardous Material

Non-hazardous materials are in the form of empty barrels.

5.1.7 Sewage Outfall Area

Located further northwest of the station and upper stained area is the sewage outfall. The outfall is a 100 mm diameter steel pipe extending 20 m north from the module station, then 100 m west to a localized low meadow area where it drains.

Hazardous Material

There were no hazardous materials identified in this area.

Non-Hazardous Material

Non-Hazardous material consisted of the sewage pipe itself and occasional piles of garbage.

5.1.8 Downed Antenna Area

The downed antenna is area is comprised of the antenna itself and its associated support cables and concrete anchor bases.

Non-Hazardous Material

The non-hazardous material primarily comprised of the tower metal itself (galvanized), support cables, scattered wood and metal debris and the concrete within the anchors.

5.1.9 Vehicle Pile Area

A pile of derelict vehicles, heavy machinery and miscellaneous equipment is located southeast of the warehouse at an area referred to as the Vehicle Pile. The pile is located over the edge of a small bedrock outcrop.

Hazardous Material

There were no hazardous materials identified in this area.

Non-Hazardous Material

Materials located here were nearly all metal, rubber and wood.

5.1.10 Debris Near Runway, Downed Aircraft and Beach Burrow Area.

These sites are minimal in size and volume of materials. The debris near the runway is located west of the warehouse and north of the runway between the west barrel cache and runway. The downed aircraft site is located some 200 m south of the runway, and the small borrow site/beach area is some 3 kms west southwest of the site on the west arm of Sarcpa Lake. Approximately 5 m northwest of the Module Station is a stained area, referred to as the North Upper Stain. Here, black staining is located on the edge of the fill layer that covers the station area and partly on a small bedrock outcrop that leads into a drainage meadow.

Hazardous Material

There were no hazardous materials previously identified and none identified during the 2004 site visit.

Non-Hazardous Material

The non-hazardous material primarily comprised of the metal debris near the runway, the aluminum and drums neat the downed aircraft, and the drums near the beach area.

5.1.11 Quonset Building and Sewage Outfall Area

The Quonset Building is located some 200 m north of the module train and is the last remaining of what is believed to have been four identical structures. The Quonset is currently being used to house and store the removed asbestos waste taken out of the module train.

Hazardous Material

There are approximately 12 m^3 of bagged asbestos waste currently being stored in the Quonset hut.

Non-Hazardous Material

The non-hazardous material primarily comprised of scattered debris, lumber, barrels and the building materials for the Quonset hut.

5.2 Dump A and B Areas

Dumps A and B are located to the east of the POL storage tanks and are comprised of two separate dumps. From west to east Dump B is the first dump encountered and is comprised of mostly waste that was used during the operation of the site and subsequent renovations since its closure as a DEW line site. The waste in this dump is mostly non hazardous with the exception of painted items which may contain PCB and heavy metals within the paint. There is significant (heavily concentrated) hydrocarbon staining at the top and down the cracks in the bedrock at Dump B.

Dump is A is believed to have been used during the construction of the site as it has older vintage items in it and has been subject to freeze back over the years. Dump A has been the site for extensive labour intensive clean up of CEPA level, PCB contaminated soil over the years. The site has under gone segregation efforts in order to access contaminated soils and possibly find the source. As a result there are a significant number of barrels and a large debris pile at the top of the Dump A area.

Both dumps are situated on the edge of a moderate, at times steep bedrock escarpment where the debris has been pushed and or deposited over the edge. The distance to the small plateau beneath at the toe of the escarpment is approximately 4 to 8 m. The plateau is somewhat flat with gentle slope to the east. Beyond this plateau to the north, is another steep escarpment that drops 6 to 20 m down to the main drainage course eventually leading to the east arm of Sarcpa Lake. Here, approximately half way between the two dumpsites is additional debris in the form or heavy equipment, barrels, and abandoned vehicles.

Table 75 provides a summary of the quantities of hazardous and non-hazardous material at Dumps A and B, as well as the debris within these areas (Appendix D).

5.2.1 Dump A

As mentioned earlier, Dump A has been the focus of an intensive remediation effort to find the source and remove PCB impacted soils. Much of the work was accomplished by hand and hence the debris pile are somewhat organized.

Hazardous Material

Materials located in Dump A are mostly barrels and debris sorted during the excavation. Some barrels with PCB contamination in the water have previously been removed and stored in secured over pack drums on site. There are approximately 53 wrangler bags south the main dump area that contains DCC level II soils. Apart from items that may contain PCB or lead in the paint, no hazardous materials were identified at Dump A.

Non-Hazardous Material

Non-hazardous materials are primarily in the form of scrap metal, drums, and lumber.

5.2.2 Dump B

Dump B has approximately half of its material stockpiled on the edge of the escarpment (but not over the edge) and half of it pushed over the edge. There is significant hydrocarbon staining on the ground around the Dump area.

Hazardous Material

There are several dry cell batteries (~15 in number) that are in poor shape around the dumpsite. Traces of asbestos containing material both friable and non-friable can be seen in the debris as well. There are many painted pieces of metal, all potentially containing elevated levels of PCB paint and/or lead.

Non-Hazardous Material

Non-hazardous materials are primarily in the form of scrap metal, drums, and lumber. There is a significant amount of domestic waste in the form of old clothes, boots, and furniture.

5.2.3 Vehicle Dump North of, and In-Between Dumps A and B

As described above, this area is over the second escarpment is very difficult to see when standing on top of the escarpment facing north.

Hazardous Material

There are several dry cell batteries near the equipment and some of the debris may contain PCB and lead in the paint.

Non-Hazardous Material

Non-hazardous materials consist of mostly abandoned heavy equipment, vehicles and barrels.

5.3 Former Construction Camp

The construction camp is located near the shore of Sarcpa Lake and was used while the CAM-F facilities and airstrip were being built. Any facilities in this area were burnt some time ago. Previous reports have described the area as having approximately ten smaller debris piles and/or previous construction camp support facilities (i.e. generator

site, former machine shop, etc). The camp also has a barrel dump approximately 1 km north of the camp on the east side of the road to the upper site.

A summary of hazardous and non-hazardous materials at the construction camp area is shown in Table 76 (Appendix D).

5.3.1 Former Generator Site Area

This site is located on the west side of the road to the upper site. All that remains is the former generator set used to supply electricity to the camp and a concrete pad.

Hazardous Material

Hazardous materials are in the form of melted wires (possibly a source of heavy metal leachate) and spent batteries. The batteries are in poor condition with their plates scattered around the site.

Non-Hazardous Material

Non-hazardous material is in the form of wood debris, scrap metal, and empty barrels.

5.3.2 Former Machine Shop Site

This site is located on the east side of the road to the upper site and is closer to approximately ten smaller debris piles in the area. It is recognizable by thousands of spilled nails around a concrete pad that has several sheet metal and heavier gauge metal bending and forming equipment. There is a small but concentrated hydrocarbon stain on the site.

Hazardous Material

Hazardous materials are in the form of spent batteries. The batteries are in poor condition with their plates scattered around the site.

Non-Hazardous Material

Non-hazardous material is in the form of wood debris, scrap metal, nails, shop equipment and empty barrels.

5.3.3 Domestic Garbage Dump

This site is located on the east side of the road to the upper site approximately 1 km north of the Construction Camp Site. The site is comprised of approximately 700 open-top barrels that contain domestic debris.

Hazardous Material

The only hazardous materials identified on the site were several dry cell vehicle batteries.

Non-Hazardous Material

Non-hazardous material is in the form of wood debris, scrap metal, and barrels full of tin cans, broken plates and glassware, and day-to-day living items used by the occupants.

5.3.4 Construction (Road) Equipment Pile

This area consists of heavy equipment that has been pushed up with a bulldozer into a pile. The site is located on the east side of the road to the upper site within the remains of the former construction camp.

Hazardous Material

Hazardous materials are in the form of spent batteries, possibly fluids remaining in the equipment, and possible PCB or lead containing paints.

Non-Hazardous Material

Non-hazardous material is in the form of wood debris, scrap metal, empty barrels, heavy equipment pieces and rubber tires.

5.3.5 Beach Area, Sarcpa Lake

This site is located on the north shore of the east arm of Sarcpa Lake, due south of the construction camp. A grader-like piece of heavy equipment was observed partially submerged in the lake.

Hazardous Material

Hazardous materials include a single lead acid battery.

Non-Hazardous Material

Non-hazardous material is in the form of wood debris, scrap metal, heavy equipment, and empty barrels.

5.3.6 Drum Stockpile and Scattered Debris/Drums

This site is located on the east side of the road to the upper site, in the construction camp area. Here, there is a large barrel stockpile and scattered metal debris.

Hazardous Material

With the exception of the possibility of some of the drums having residual liquid product, there were no signs of hazardous substances at the site.

Non-Hazardous Material

Non-hazardous material is in the form of wood debris, scrap metal, and many empty barrels.

6.0 REGULATORY CRITERIA

The following presents a summary of the media specific criteria that had been selected to be used for comparison purposes.

- Soil – The results of the laboratory analyses for metals and PCBs were compared to the criteria that was developed for the Department of National Defence to support their DEW Line clean up projects (DCC Tier I and Tier II criteria). For metals that were not included in the DCC criteria, the most recent edition of the *CCME Canadian Environmental Quality Guidelines* - Residential/Parkland Criteria was used for comparison. Hydrocarbon analysis was compared to the *CCME Canadian Wide Standards* for Hydrocarbons.
- Water – *CCME Canadian Environmental Quality Guidelines* Freshwater Aquatic Life Criteria
- Sediments – *CCME Canadian Environmental Quality Guidelines* Freshwater
- Tissues – *CCME Canadian Environmental Quality Guidelines*

7.0 NCS SITE CLASSIFICATION SUMMARY

The national Classification System for Contaminated Sites (NCS) was developed by the CCME for the review and classification of contaminated sites in Canada. The NCS is a standardized method that uses site characteristics, site location and contaminant information to prioritize and classify the potential for adverse impacts. All relevant site information is stored in a national database in an effort to ensure funding for contaminated site clean up is allocated to sites with respectively higher potentials for adverse effects and impacts.

A previous assessment had calculated a NCS value of 76.7 for the CAM-F DEW Line Site. This value ranks the site as a Class 1 site.

As requested in the Terms of Reference for this project, an updated NCS Classification was determined based on the findings of the investigation. In summary the NCS score determined by Earth Tech is 75.5, indicating a Class 2 site. A copy of the NSC score is included as Appendix F.

8.0 SUMMARY OF INVESTIGATION ACTIVITIES

8.1 Phase III Site Investigation

During the time period of August 10 to 18, 2004, Earth Tech completed a detailed Phase III ESA of the CAM-F DEW Line Site. The purpose of this assessment was to help determine the extent and volumes of contaminated materials in order to support the development of a remedial plan for the site.

Based on the findings of the 2004 Phase III Assessment, coupled with previous site investigations, the following table presents a summary of the areas requiring remedial action at the CAM-F DEW Line Site.

Table 8.1 Summary of Areas Requiring Remedial Action

Location	Contaminant Exceeding CCME Criteria (Max Concentration ppm)	Media	Volume m^3	Comments
Module Station	**PCBs** (RRMC: 36)	Soil	83.0	PCB contamination restricted to surface soils
	PHCs (Toluene, 1.61; Total Xylenes, 25; F1,342; F2, 5420; F3, 1070)	Soil	322.0	Hydrocarbon contamination is at depth only
	PAHs (Naphthalene, 27.5)	Soil	278.0	PAH contamination is at depth only
	Metals (B, 3.2)	Soil	61.8	Heavy metals within PCB plume
Stain NW of Module Station	**PCBs** (RRMC: 20)	Soil	8.4	
	PHCs (F3, 5880; F4, 11600)	Soil	5.2	
Sewage Outfall	**PCBs** (17.2)	Soil	16.8	Complete delineation of impacted area not achieved
	Metals (B, 3.8; Cu, 842; Sn, 53; Zn, 432)	Soil	16.8	
Warehouse	**PCBs** (RRMC: 8.5)	Soil	4.0	
	PHCs(F2, 2760)	Soil	20.5	Complete delineation of hydrocarbon impacted area
	Metals (RRMC: Pb, 268; Zn, 363)	Soil	0.9	not achieved in southeast corner of warehouse
Garage	**PCBs** (1.6; RRMC: 25)	Soil	14.7	
	PHCs (F2, 9760; F3, 7050)	Soil	8.1	Hydrocarbon plumes within PCB and Metals plumes
Vehicle Pile	**Metals** (Zn, 1280; RRMC: Zn, 22600)	Soil	49.5	PCB contained within Metals plume
	PCBs (RRMC: 2.8)	Soil	8.0	
	PHCs (F2, 2400; F3, 4860)	Soil	41.5	
Buried Debris at West Barrel Cache	**PHCs** (Toluene, 6.01; Ethylbenzene, 3.61; Xylenes, 51.3; F1, 559; F2, 6760)	Soil	374	Complete delineation of impacted area not achieved
	PAHs (Naphthalene, 43.1)	Soil	374	
POL Tanks	**PHCs** (Benzene, 15.4; Toluene, 30.2; Ethylbenzene, 23; Xylenes, 76.8; F1, 1570; F2, 13300; F3, 2770)	Soil	706.5	Complete delineation of hydrocarbons not achieved
	PAHs (Naphthalene, 4.6)		502.0	
	Metals (B, 2.4)		20.7	
DUMP A	**PCB** (25.2)	Soil	36.0	Not including 433.6 m^3 (estimated volume of DCC Tier I and II) within grid area
	Metals (Ba, 735, B, 3.3; Cu, 79.6)	Soil	15.6	Heavy Metals within buried debris area
DUMP B	**PCBs** (11.8)	Soil	62.0	Complete delineation of hydrocarbons not achieved
	Metals (B, 2.3; Cu, 437; Zn, 315)	Soil	11.4	
	PHCs (F3, 17300; F4, 68000	Soil	36.0	

Table 8.1 cont. Summary of Areas Requiring Remedial Action

Location	Contaminant Exceeding CCME Criteria (Max Concentration ppm)	Media	Volume m^3	Comments
Construction Camp Generator Site	**Metals** (RRMC & Queens: Cu, 4020; Cd, 720; Pb, 1020; Zn, 2340)	Soil	9.5	
	PHCs (F2, 5220; F3, 1300)	Soil	4.0	
Construction Camp Machine Shop Site	**PHCs** (Toluene, 3.63; Xylenes, 47.7; F1, 1440; F3, 18300)	Soil	34.6	Complete delineation of hydrocarbons not achieved
	PAHs (Naphthalene, 5.1)	Soil	7.2	
Total Estimated Volume			3132.7	The majority of the total estimated volume is co-contaminated
PCB			232.9	
Metals			186.2	
PHCs			1552.4	
PAHs			1161.2	

8.2 Waste Audit

A detailed Waste Audit was completed to in order to determine the volumes of non-hazardous and hazardous materials. The following table briefly summarizes the quantities of the major categories for each waste type.

It should be noted that the volume of materials containing PCB painted should be considered as a rough estimate as this volume is dependant on the amount of volume reduction completed by a contractor. In some locations the paint had substantially peeled away. It is envisioned that some amount of abatement will be required in the field prior to the removal of the substrate materials.

Approximately 3,619 m^3 of non hazardous material is located on the site and approximately 138 m^3 of hazardous material. Based on the location and nature of these materials, all of the materials could be removed from the site.

Table 8.2 Summary of Waste Volumes

Waste Type	Items	Estimated Volume (m^3)
Non Hazardous		
	Wood, steel, domestic waste, vehicles, equipment parts building materials and contents, scattered debris	2245
	9160 Empty Barrels	1374
	Total	**3619 m^3**
Hazardous		
	Miscellaneous materials, needles, asbestos materials, oil filters	42.8 m^3
	21 Full to partially full barrels	4200 L
	Lubricants and paint (liquid)	224L
	Batteries (50)	1.35 m^3
	Drums of Sewage	300 L
	PCB painted building materials (1544 m2)	89 m^3
	Total	**138 m^3**

9.0 CONCLUSIONS

Based on the scope of work of the Phase III Environmental Assessment and Waste Audit that was completed at the CAM-F DEW Line site the following conclusions are made.

Phase III ESA

- The Phase III investigation included the assessment of 15 locations within three main areas of the site in order to delineate previously identified contaminated areas and to confirm the presence of contaminants in areas that had not been previously identified.
- The total volume of hydrocarbon, metal and PCB contaminated material found to be contaminated was estimated at 3132.9 m^3. Due to site conditions, full delineation was not achieved in some locations. Also, co-contaminated soil exists in most impacted areas.
- Some study areas located at the POL Tank area and Dumps A and B had uncertain (minor) amounts of soil media within bedrock outcrops and may be difficult to access.
- Background soil and groundwater samples were all below the applied CCME Residential Parkland Criteria.
- Surface waters sampled on site were all below the applied CCME Residential Parkland Criteria.
- There are minor exceedances of PCB's and metals in groundwater samples retrieved from impacted areas when compared to CCME Residential Parkland Criteria.
- Three of four sediment samples retrieved from Sarcpa Lake had minor exceedances of Chromium and Copper and believed to be attributed to elevated background levels within the lake.

Waste Audit

- A Waste Audit was completed on site and yielded approximately 3,619 m^3 of non hazardous waste and approximately 138 m^3 hazardous materials. The vast majority of this material is located in accessible areas.
- A total of 9,160 empty barrels were identified at the site, it is recommended that subsurface soil conditions below the barrels be determined following their removal.
- A total of 21 full to partially full barrels were identified on the site.
- Approximately 1,544 m^2 of material was observed to be painted with PCB containing paint. The majority of the paint products on a metal substrate was in poor condition (peeling) and may require some form of abatement prior to removal of the painted components. Wood materials painted with PCB containing paint was typically weathered and non peeling. It is recommended that the painted materials be removed by a contractor following a waste reduction process.

10.0CLOSURE

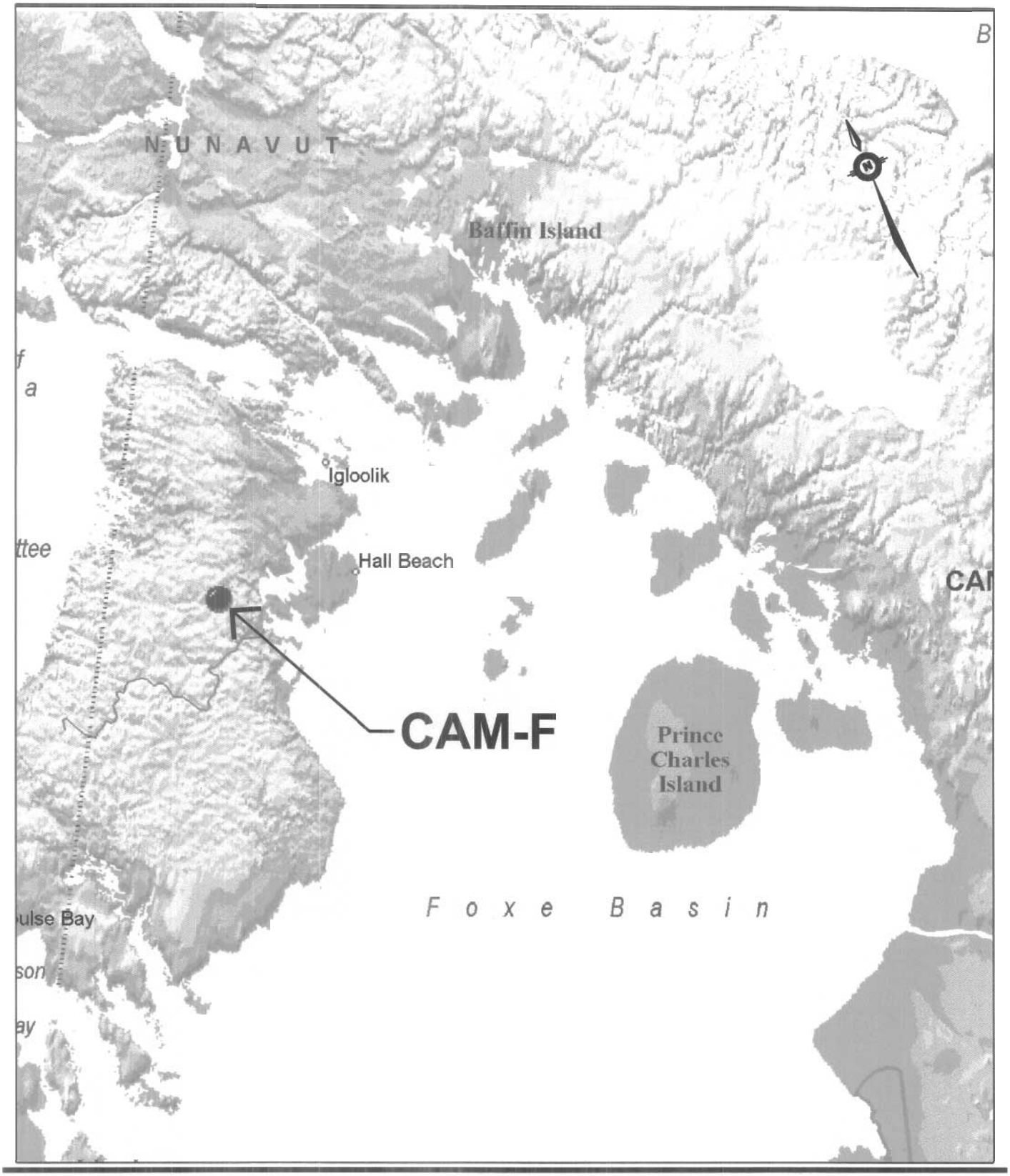
The usage of this report is limited by the standard Earth Tech Special Provisions – Environmental Site Services, which are included in Appendix G of this report.

11.0REFERENCES

1. PCB Sampling Program at Sarcpa Lake (CAM-F) Abandoned DEW Line Station. D.Jessiman, Water Resources Officer, Baffin District, INAC/NAP, Iqaluit, NWT, July 1988.
2. Environmental Study of Abandoned DEW Line Sites, II. Six Intermediate Sites in the Eastern Arctic. Environmental Sciences Group, Royal Roads Military College, March 1994.
3. Specifications for the Cleanup of the CAM-F, Sarcpa Lake DEW Line Site. Department of Indian and Northern Affairs, UMA Engineering Ltd., November 1996.
4. Sarcpa Lake 1996, PCB Cleanup and Engineering Design. Analytical Services Unit, Queens University, March 1997.
5. Abandoned Military Site Clean Up Sarcpa Lake – CAM-F Intermediate DEW Line Site, Construction Cost Estimates 90% Design Submission. SGE Group Inc. in association with UMA Engineering Ltd., March 1997.
6. Sarcpa Lake 1997, PCB Cleanup and Asbestos Abatement. Analytical Services Unit, Queens University, March 1998.
7. Sarcpa Lake 1999. Analytical Services Unit, Queens University, March 2000.

APPENDIX A

FIGURES



Date: JANUARY 04, 2005

0 50 100 150km

Scale

EarthTech

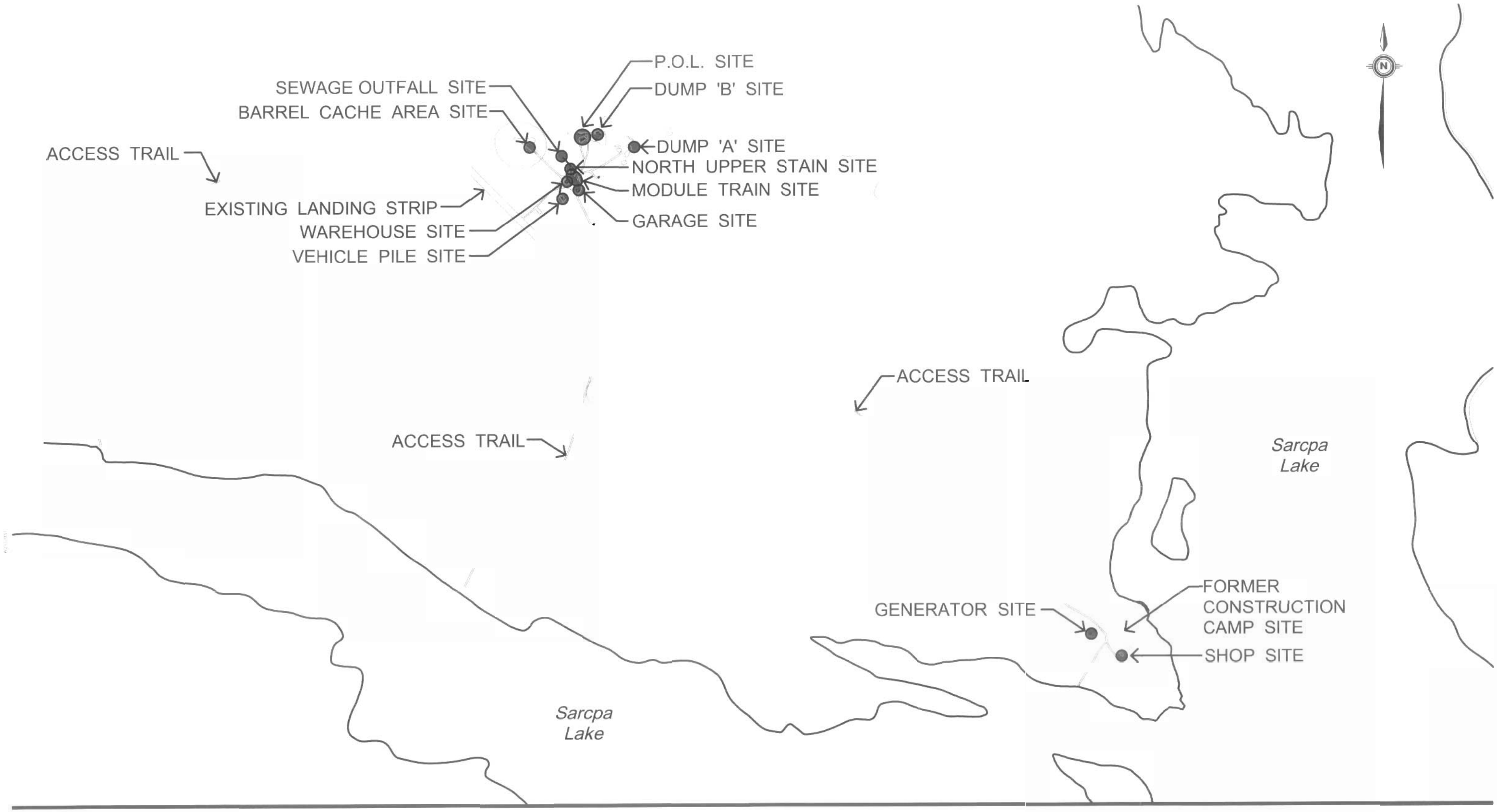
A Tyco International Ltd. Company

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

CAM-F LOCATION

Figure 1



Date: JANUARY 04, 2005

0 100 200 300 400 500 750m

Scale 1:15000

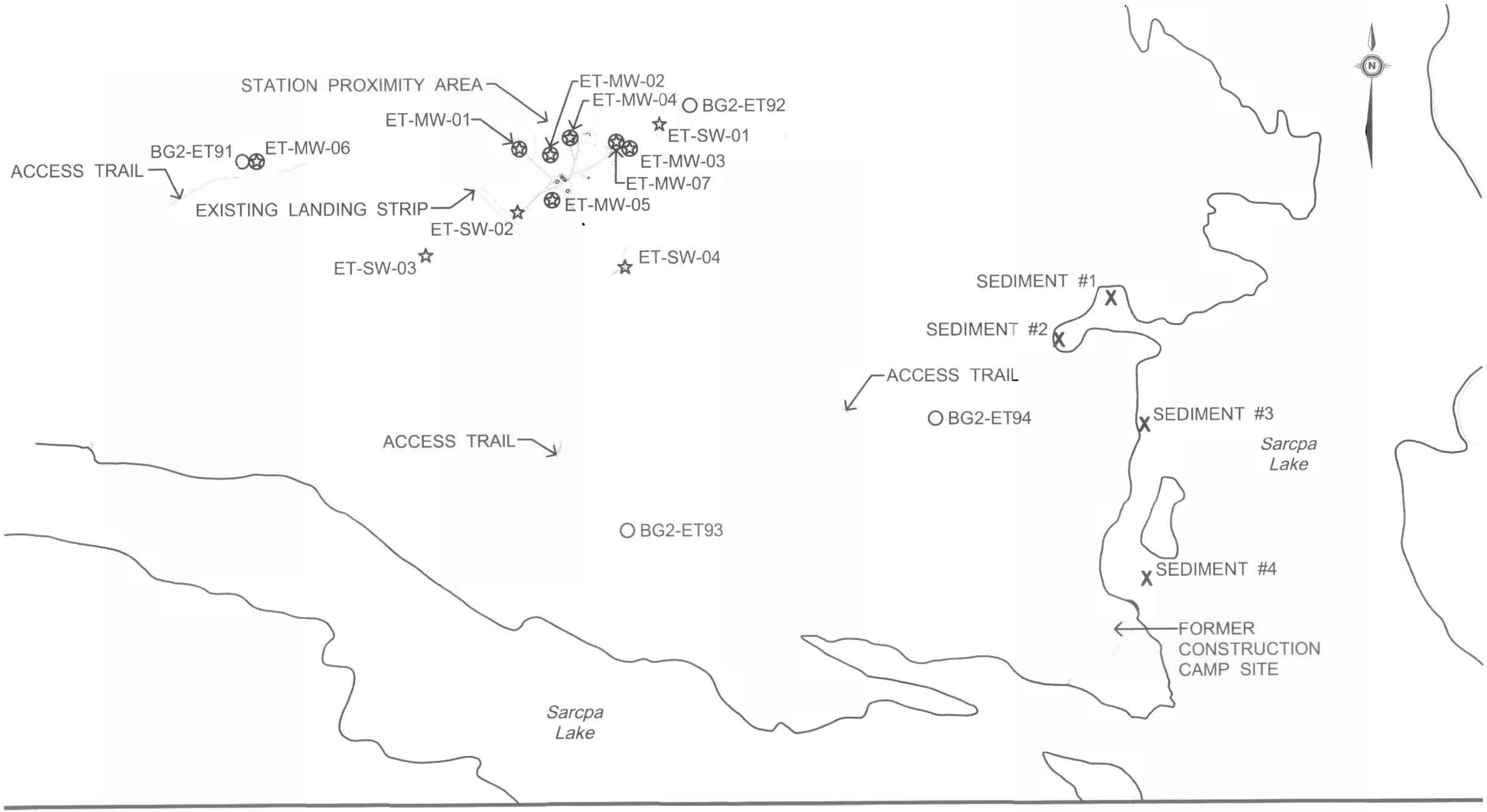
EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

SITE LOCATIONS

Figure 2



Date: JANUARY 04, 2005

0 100 200 300 400 500 750m

Scale 1:15000

EarthTech
A Tyco International Ltd. Company

Legend

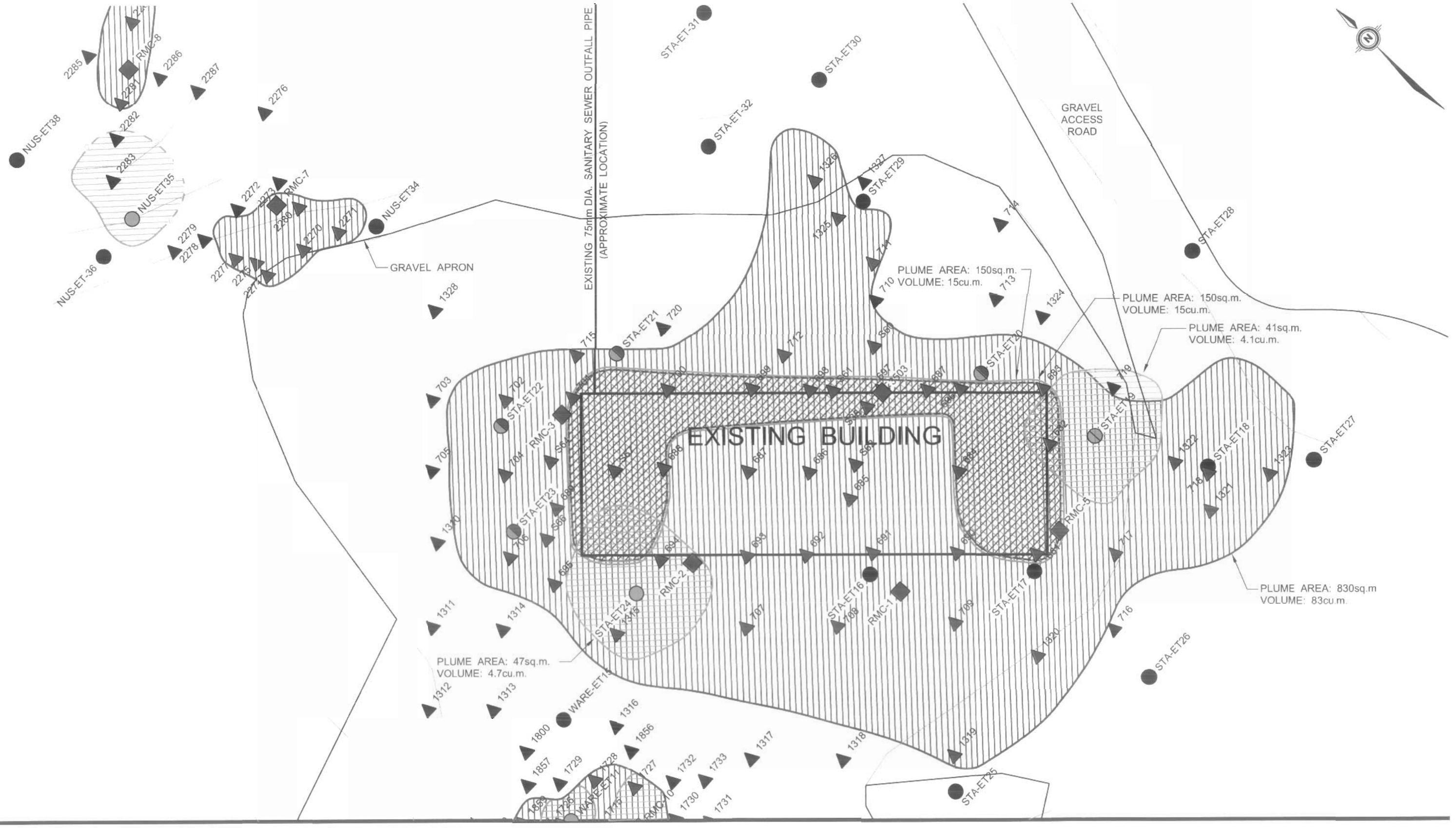
- SOIL SAMPLE
- SEDIMENT SAMPLE
- SURFACE WATER SAMPLE
- GROUNDWATER WELL

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

SEDIMENT SAMPLE LOCATIONS

Figure 3



Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

Legend

- SOIL SAMPLE
- RMC SAMPLE
- UMA SAMPLE
- SURFACE WATER SAMPLE
- GROUNDWATER WELL

- PCBs EXCEEDANCE
- METALs EXCEEDANCE
- PHCs EXCEEDANCE
- PAHs EXCEEDANCE
- NONE

- PCBs CONTAMINATION PLUME
- METALs CONTAMINATION PLUME
- PHCs CONTAMINATION PLUME
- PAHs CONTAMINATION PLUME

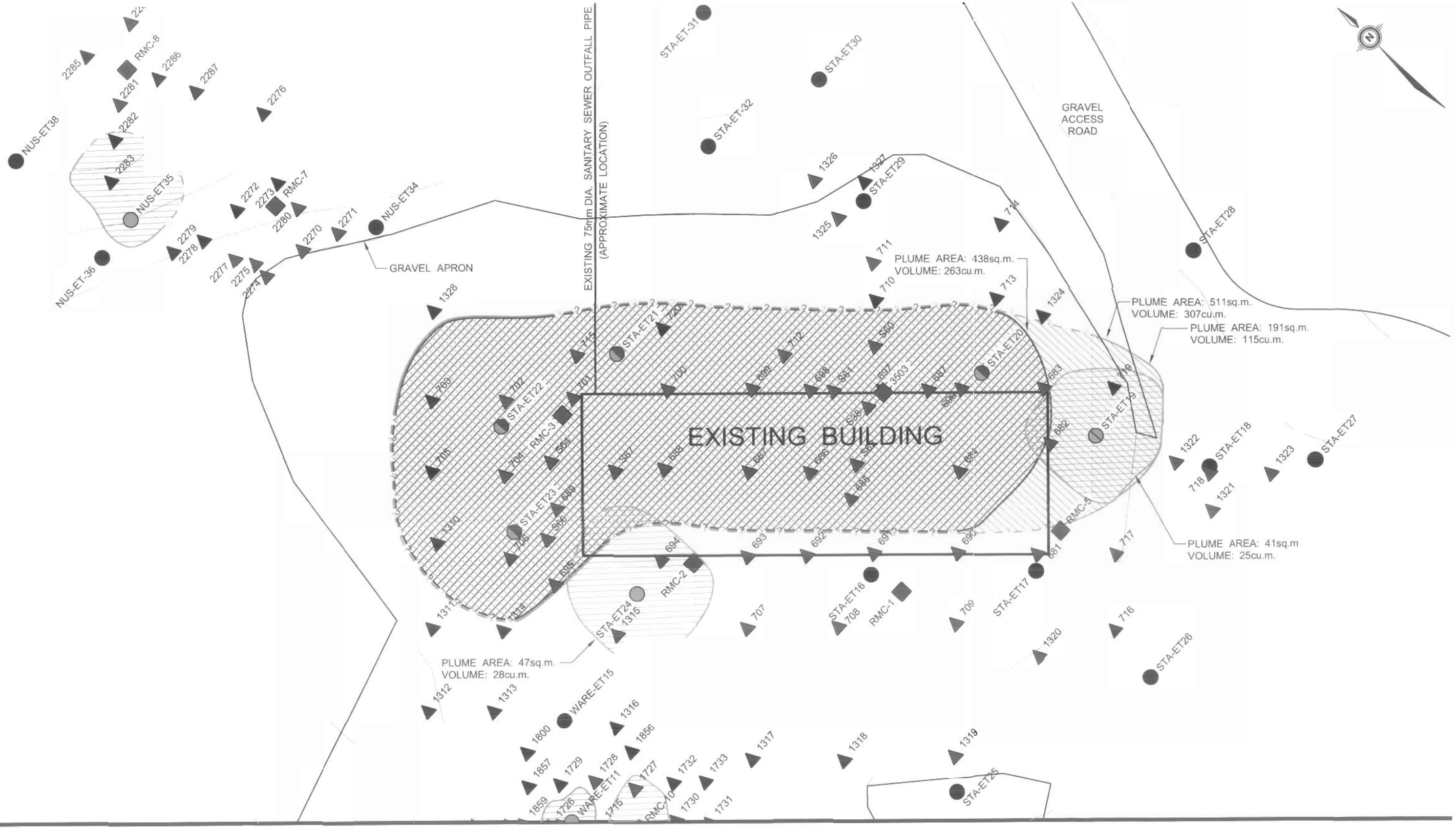
P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

MODULE TRAIN AREA SITE PLAN

SURFACE CONTAMINATION 0 - 10cm

Figure 4



Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

Legend

- SOIL SAMPLE
- RMC SAMPLE
- UMA SAMPLE
- SURFACE WATER SAMPLE
- GROUNDWATER WELL

- PCBs EXCEEDANCE
- METALs EXCEEDANCE
- PHCs EXCEEDANCE
- PAHs EXCEEDANCE
- NONE

- PCBs CONTAMINATION PLUME
- METALs CONTAMINATION PLUME
- PHCs CONTAMINATION PLUME
- PAHs CONTAMINATION PLUME

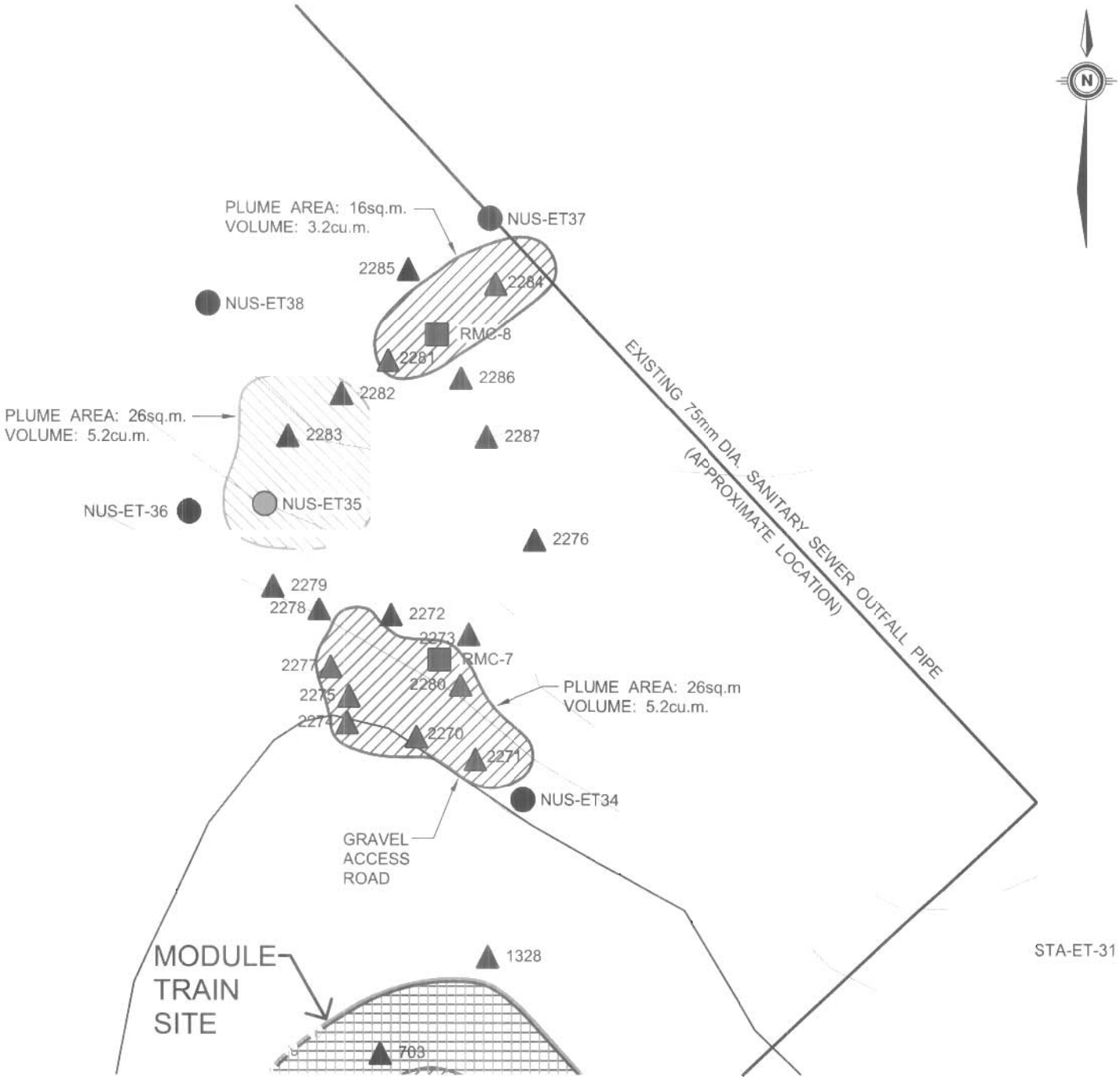
P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

MODULE TRAIN AREA SITE PLAN

CONTAMINATION AT DEPTH 40 - 100cm

Figure 5



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

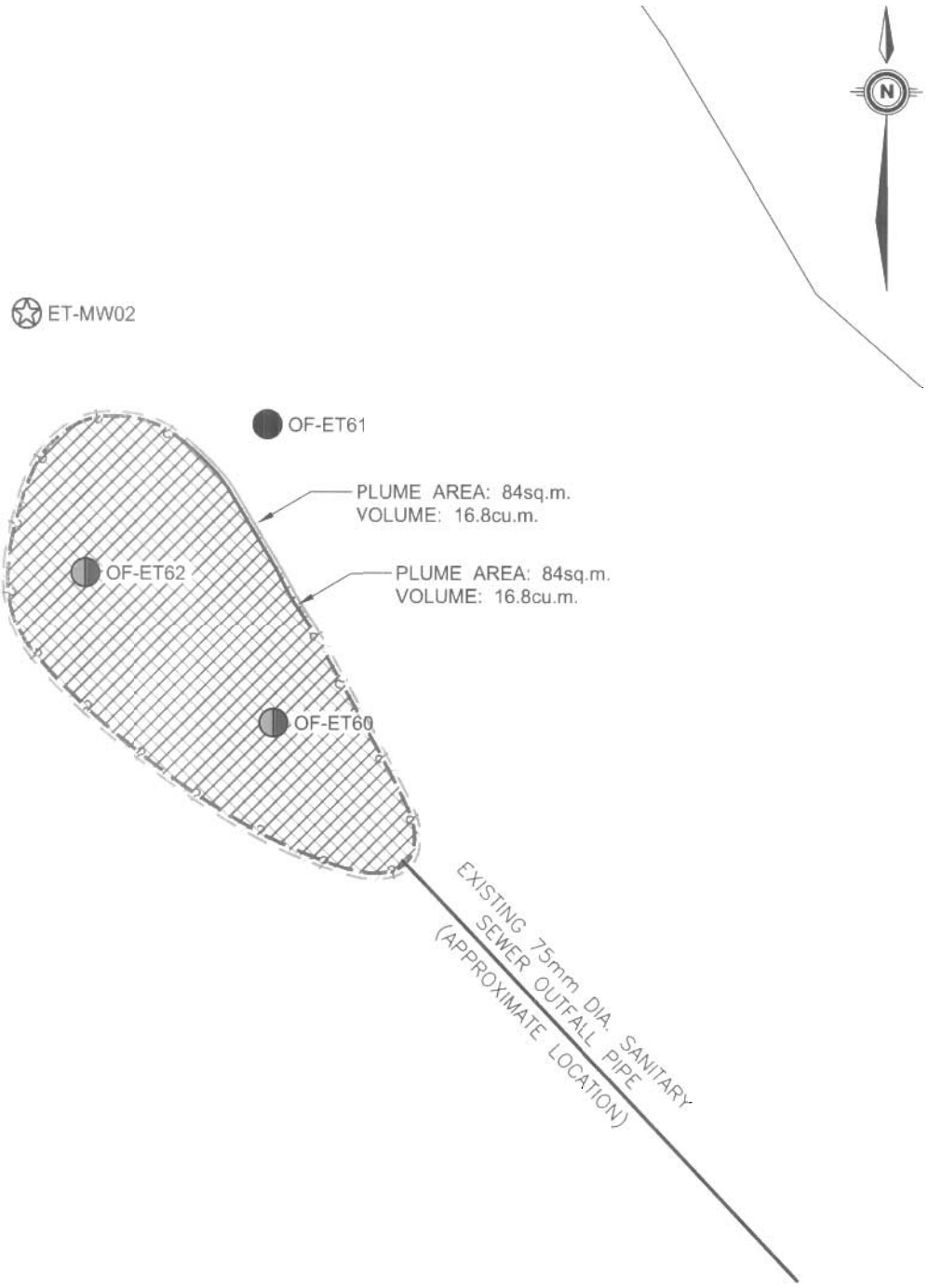
Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.
SARCPA LAKE - DEW LINE SITE
NORTH UPPER STAIN SITE PLAN
Figure 6



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
GROUNDWATER WELL	NONE	

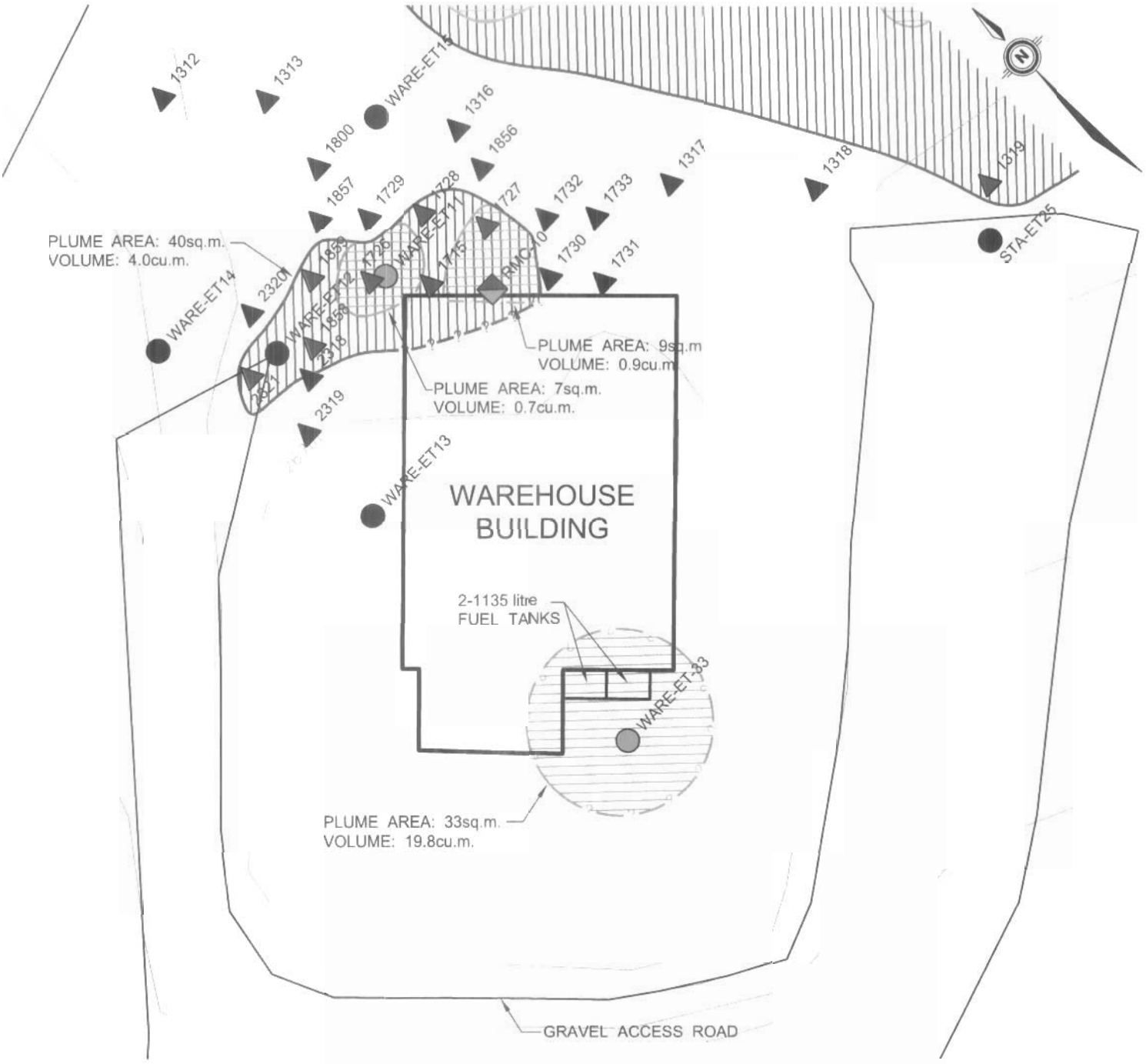
Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.
SARCPA LAKE - DEW LINE SITE
SEWAGE OUTFALL SITE PLAN
Figure 7



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

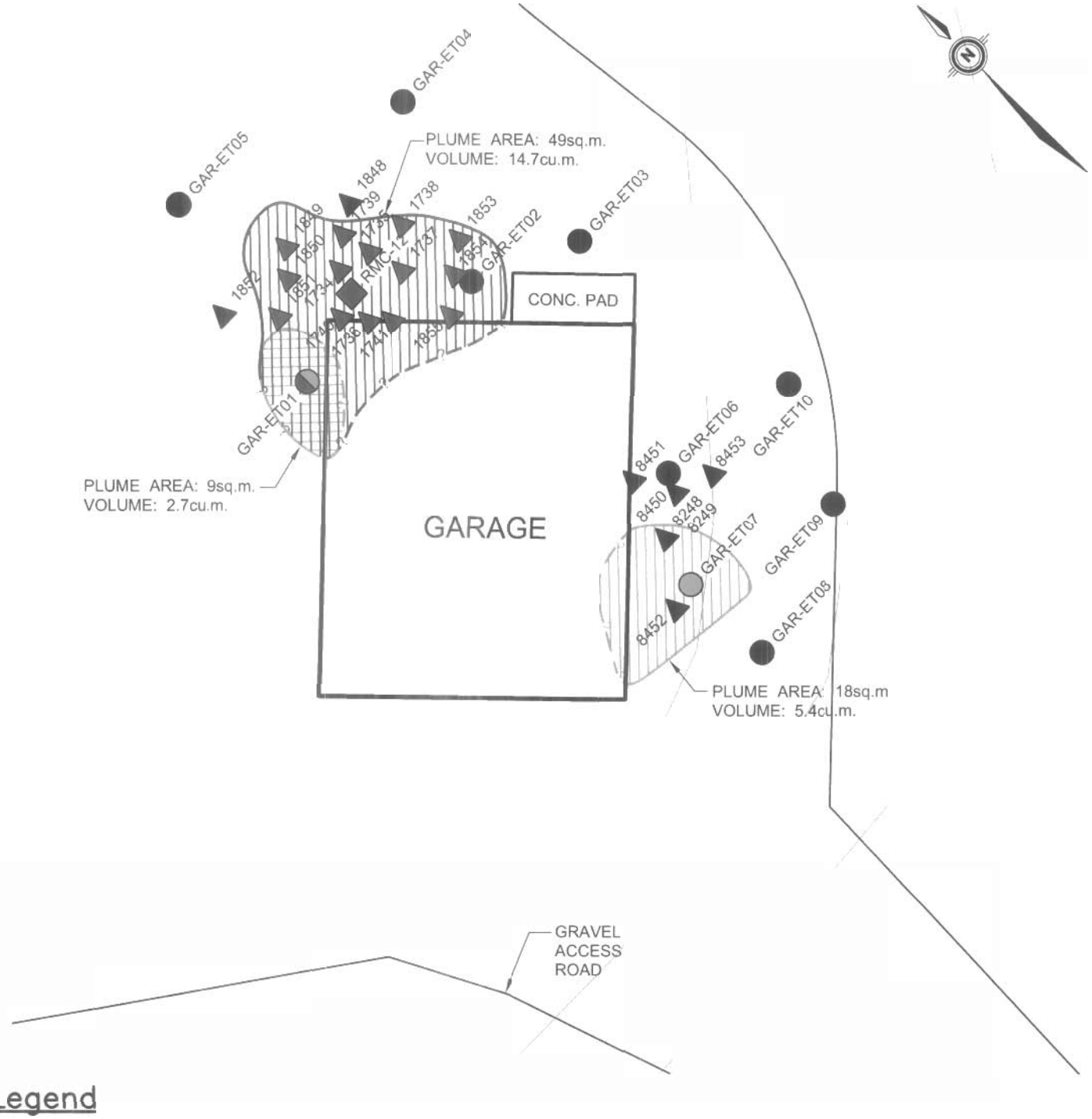
EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

WAREHOUSE SITE PLAN

Figure 8



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

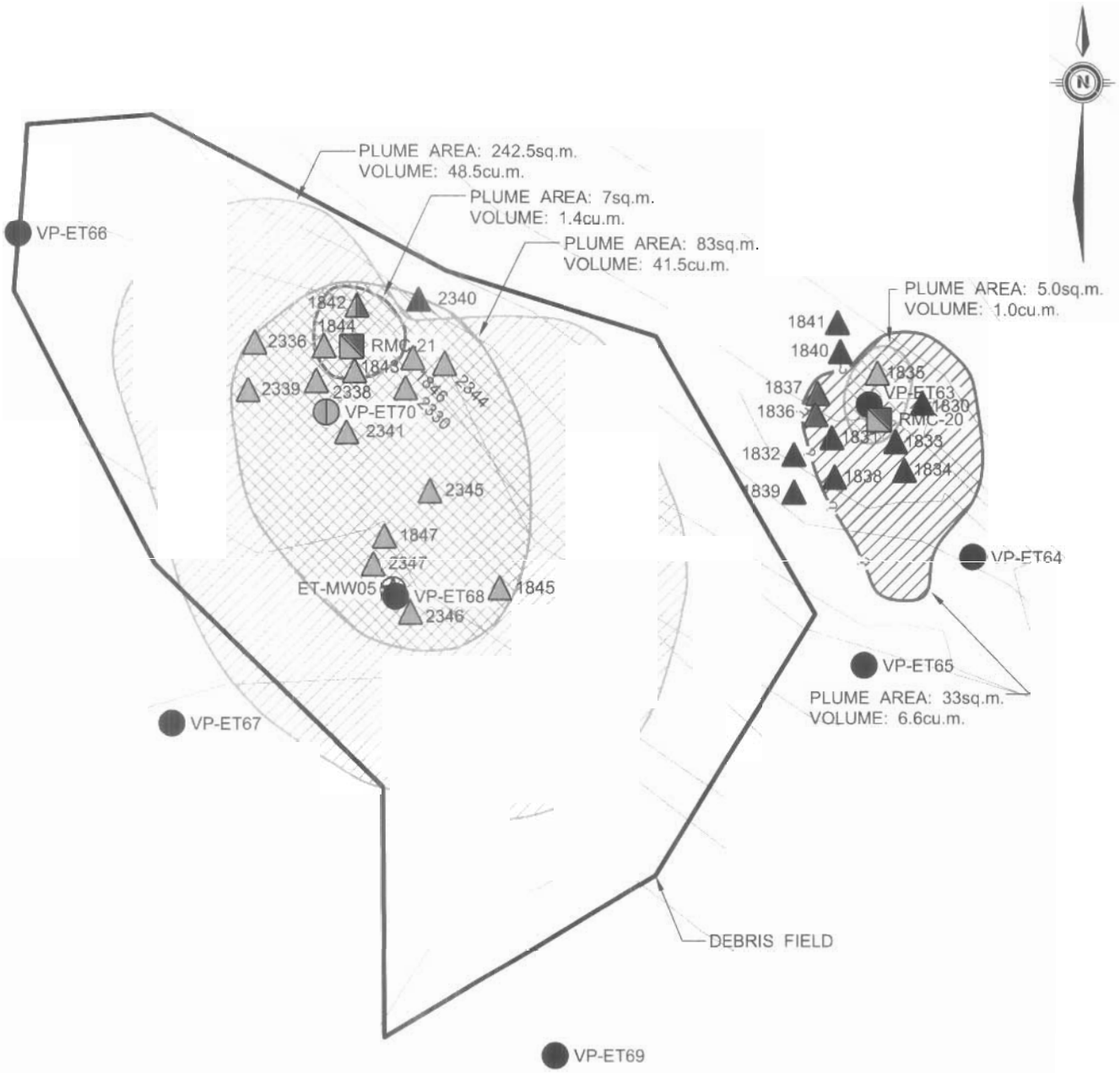
Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.
SARCPA LAKE - DEW LINE SITE
GARAGE SITE PLAN
Figure 9



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

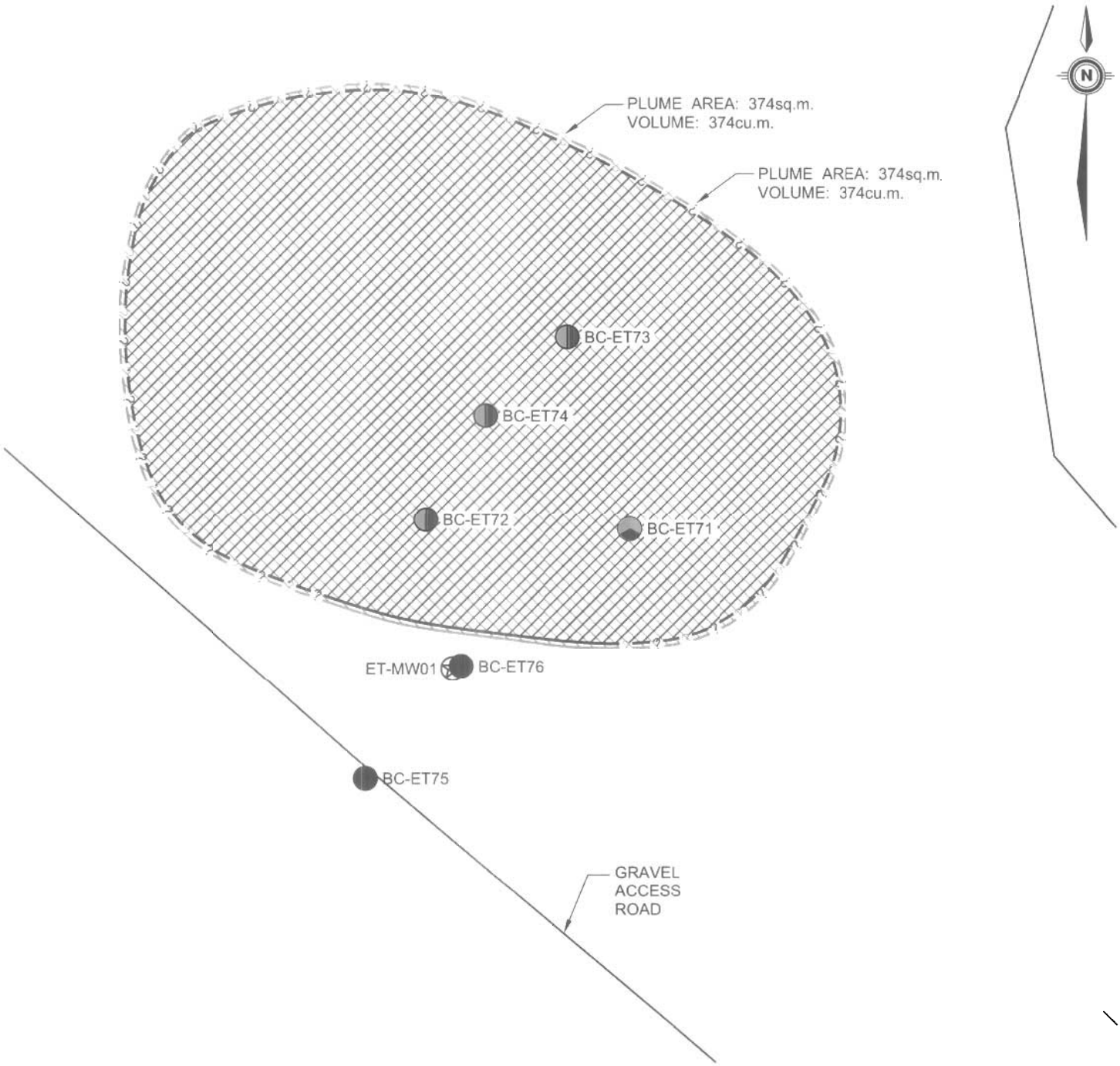
Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.
SARCPA LAKE - DEW LINE SITE
VEHICLE PILE SITE PLAN
Figure 10



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

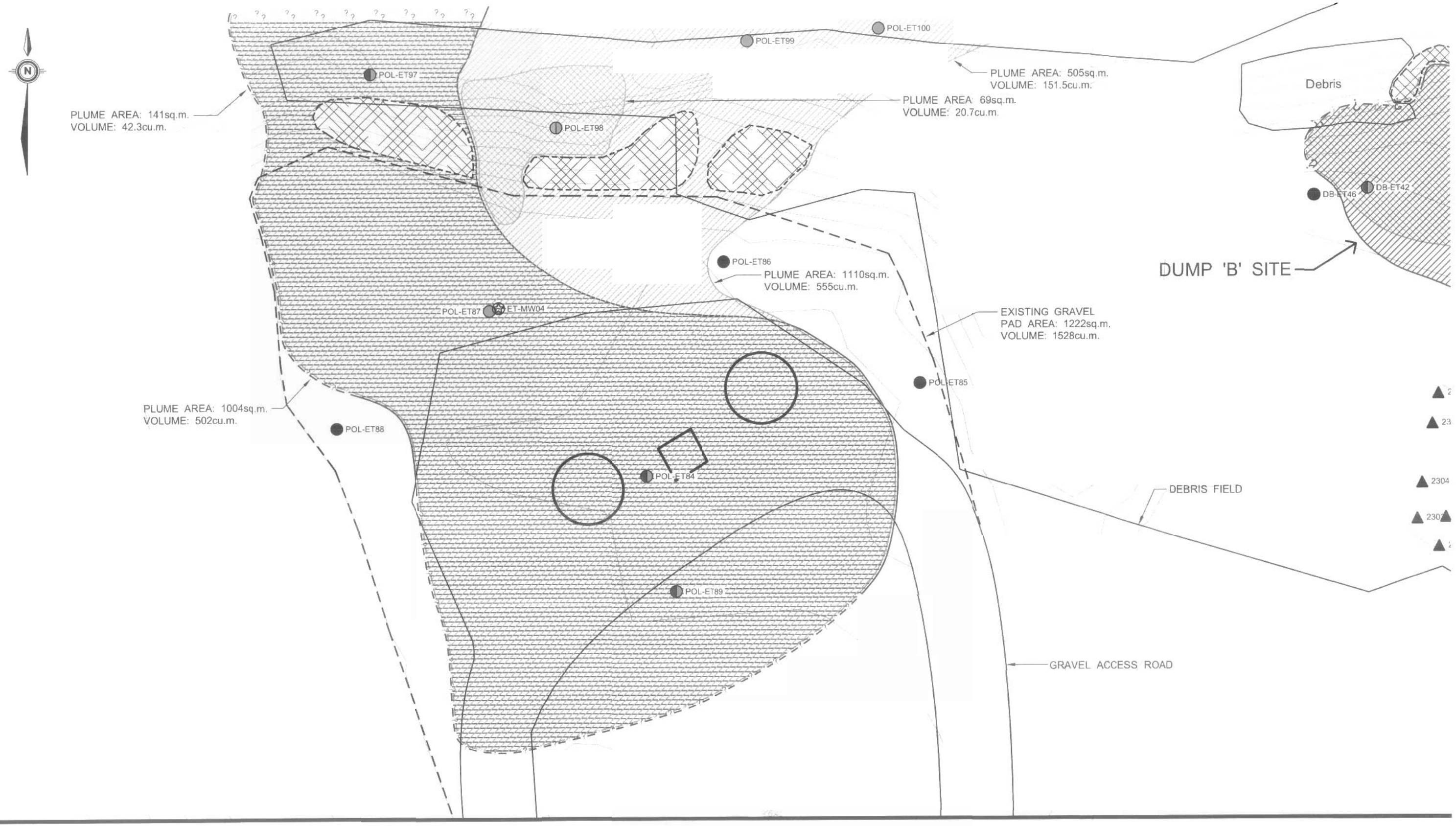
Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.
SARCPA LAKE - DEW LINE SITE
BARREL CACHE AREA PLAN
Figure 11



Date: JANUARY 04, 2005

0 5 10 15m

Scale 1:250

EarthTech
A Tyco International Ltd. Company

Legend

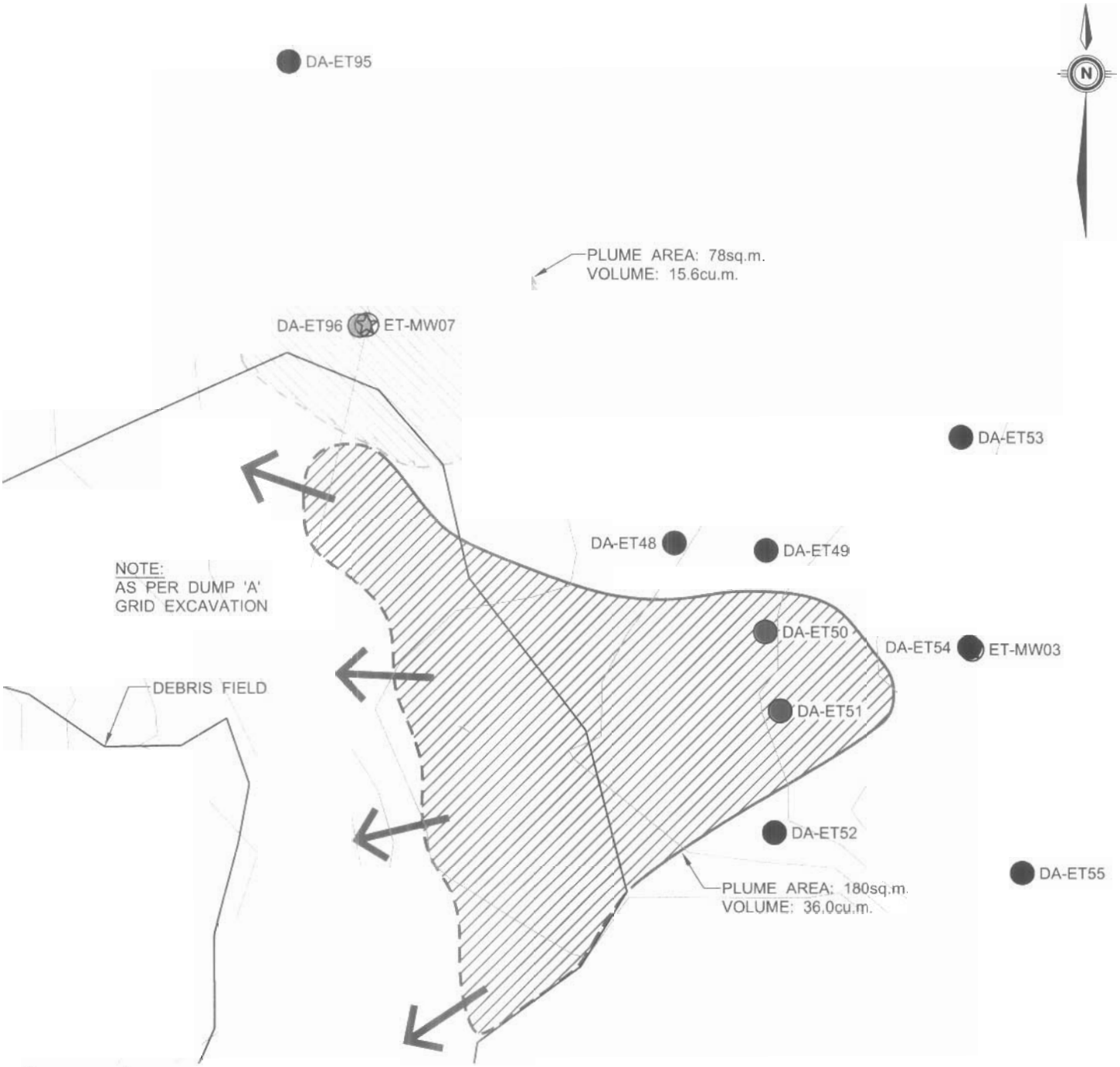
- SOIL SAMPLE
- RMC SAMPLE
- UMA SAMPLE
- SURFACE WATER SAMPLE
- GROUNDWATER WELL
- PCBs EXCEEDANCE
- METALs EXCEEDANCE
- PHCs EXCEEDANCE
- PAHs EXCEEDANCE
- NONE
- PCBs CONTAMINATION PLUME
- METALs CONTAMINATION PLUME
- PHCs CONTAMINATION PLUME
- PAHs CONTAMINATION PLUME

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

P.O.L. SITE PLAN

Figure 12



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
GROUNDWATER WELL	NONE	

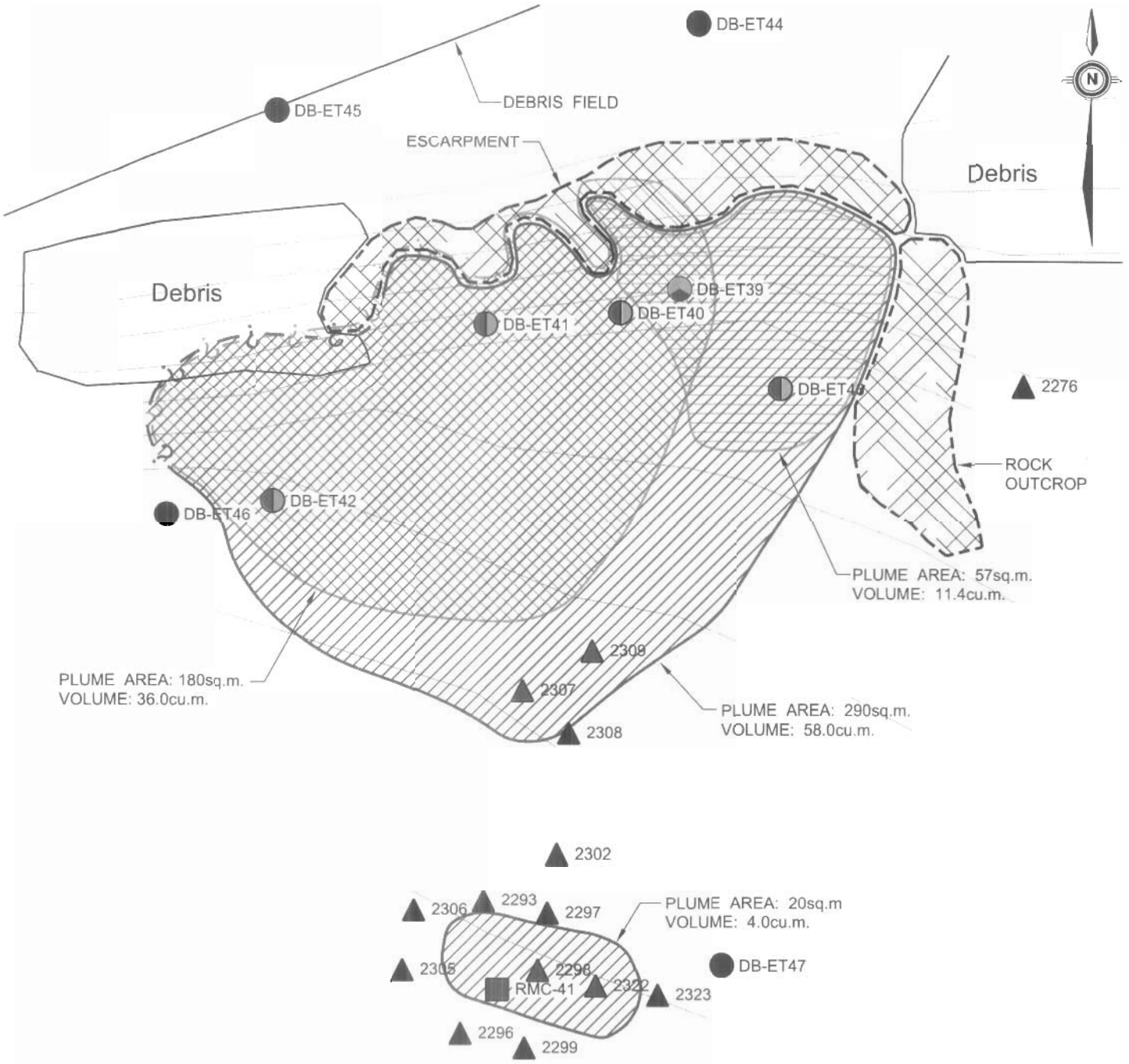
Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.
SARCPA LAKE - DEW LINE SITE
DUMP 'A' SITE PLAN
Figure 13



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

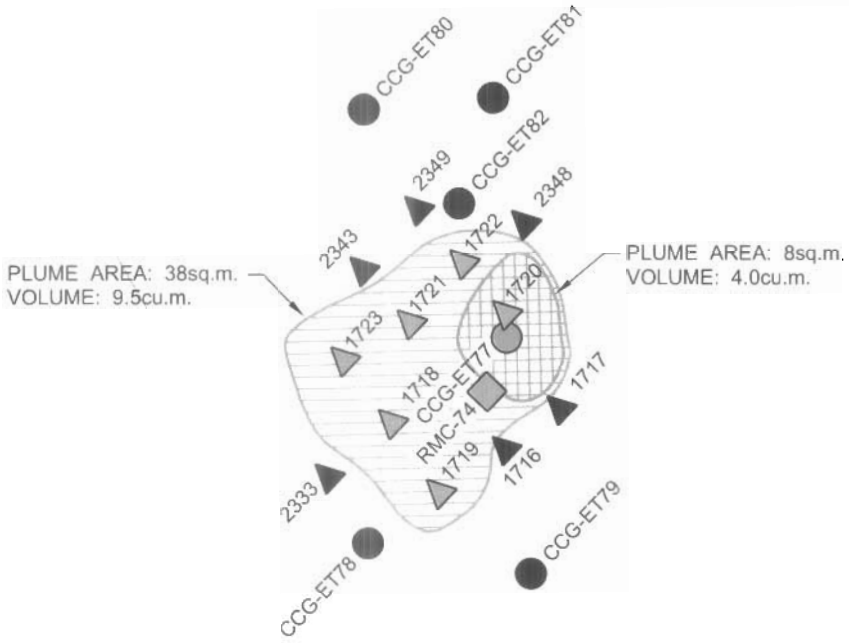
Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.
SARCPA LAKE - DEW LINE SITE
DUMP 'B' SITE PLAN
Figure 14



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

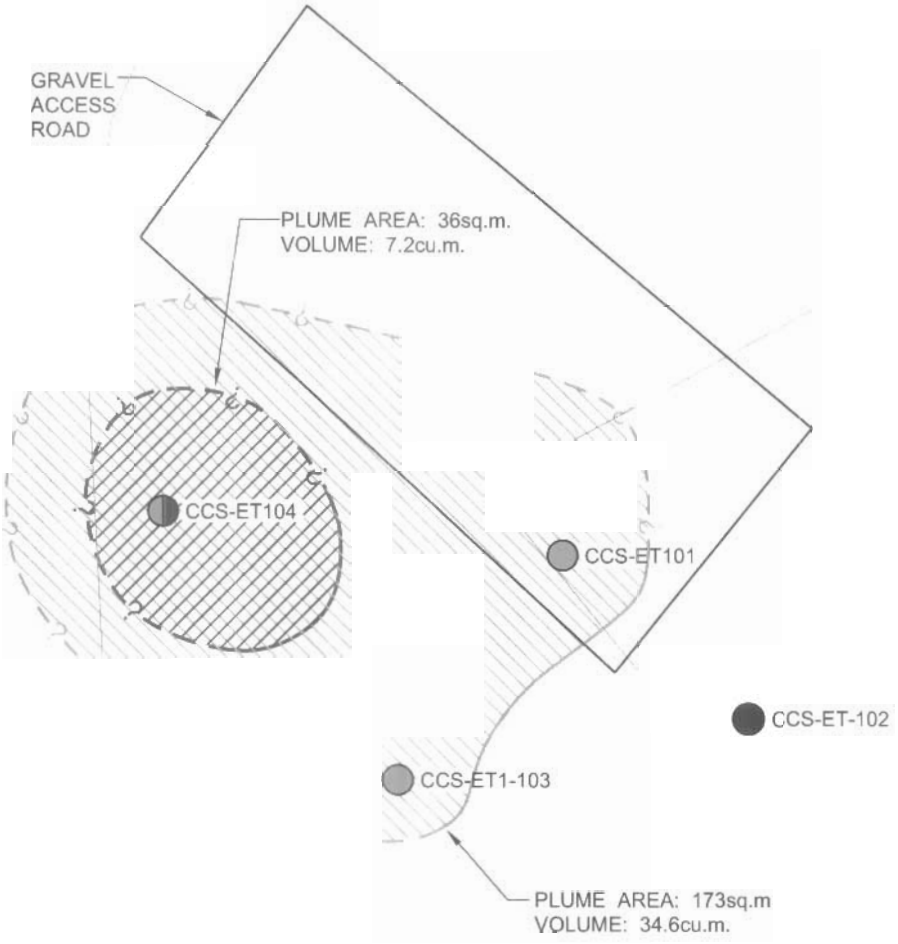
EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

OLD CONSTRUCTION SITE PLAN

Figure 15



Legend

○ SOIL SAMPLE	PCBs EXCEEDANCE	PCBs CONTAMINATION PLUME
□ RMC SAMPLE	METALs EXCEEDANCE	METALs CONTAMINATION PLUME
△ UMA SAMPLE	PHCs EXCEEDANCE	PHCs CONTAMINATION PLUME
☆ SURFACE WATER SAMPLE	PAHs EXCEEDANCE	PAHs CONTAMINATION PLUME
⛤ GROUNDWATER WELL	NONE	

Date: JANUARY 04, 2005

0 2 4 6 8 10m

Scale 1:200

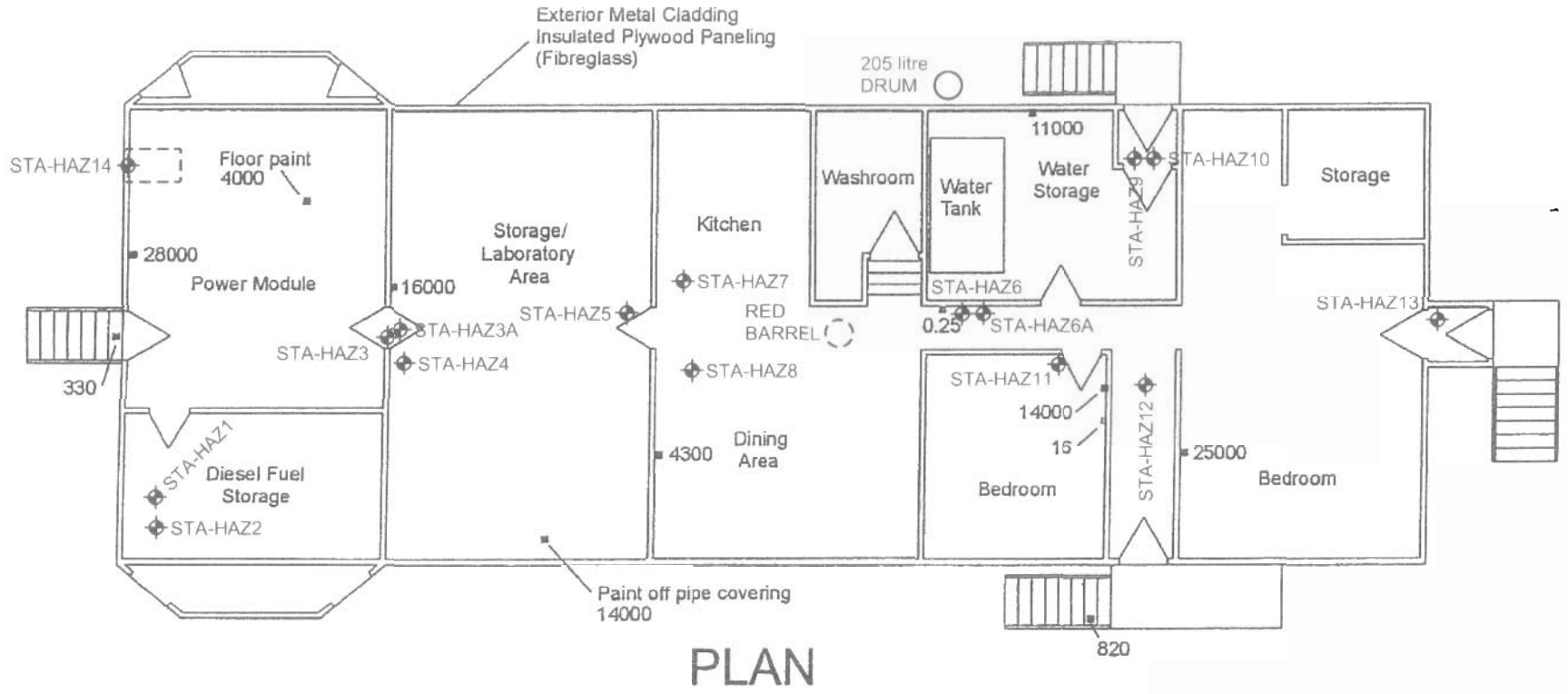
EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

CONSTRUCTION CAMP SHOP SITE PLAN

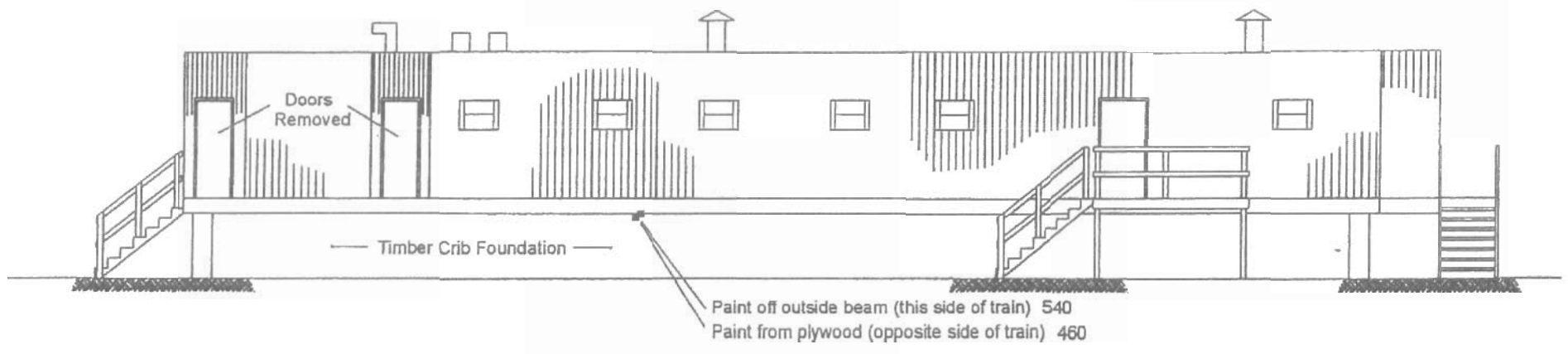
Figure 16



PLAN

- Paint sample location
- Swab sample location

Red PCB Concentrations (swab samples: ug/100cm^2; paint samples: ppm) by GC/ECD



ELEVATION

HAZ - MAT SAMPLES					
Sample I.D.	Material	Analysis	PCB	Pb	AsB
STA-HAZ1	Concrete Floor	PCB	167	-	-
STA-HAZ2	Floor Paint	PCB, Pb	9910.4	3100	-
STA-HAZ3	Floor Tile, 9x9, Dk. Brown	ASB (Layers)	-	-	2
STA-HAZ3A	Wood Substrate	PCB	7.6	-	-
STA-HAZ4	Floor Tile, 12x12, Lt. Brown	ASB (Layers)	-	-	0
STA-HAZ5	Paint, Blue	PCB, Pb	-	1980	-
STA-HAZ6	Floor Tile, 12x12, Cream\Grey	ASB	-	-	0
STA-HAZ6A	Wood Substrate	PCB	0.8	-	-
STA-HAZ7	Paint, Cabinet Green	PCB, Pb	54.2	523	-
STA-HAZ8	Paint, Black Trim	PCB, Pb	596.1	1060	-
STA-HAZ9	Floor Paint	PCB, Pb	11,265	1240	-
STA-HAZ10	Concrete Floor	PCB	Misplaced By Lab.		
STA-HAZ11	Floor Tile, Beige	ASB	-	-	2
STA-HAZ12	Floor Tread	ASB	-	-	0
STA-HAZ13	Floor Tile, Mustard	ASB	-	-	2
STA-HAZ14	Boiler Jacket	ASB	-	-	80
STA-DRUM on N.SIDE of Bldg.		PCB	0.5	-	-
STA-RED BARREL Under Bldg.		PCB	0.4	-	-
		Criteria	1.0 ppm	500 ppm	1.0%

Date: JANUARY 04, 2005

0 1 2 3 4 5 6m

Scale 1:125

EarthTech
A Tyco International Ltd. Company

P.W.G.S.C.

SARCPA LAKE - DEW LINE SITE

SAMPLING LOCATIONS FROM MODULE TRAIN

Figure 17

APPENDIX B

TERMS OF REFERENCE

TERMS OF REFERENCE

FOR A
PHASE III SITE ASSESSMENT
AND WASTE AUDIT
FOR

CAM-F DEW LINE SITE

IN NUNAVUT

Prepared by: Environmental Services, Western Region
Public Works and Government Services Canada
June 15, 2004

1. Introduction

As the custodian of most federal lands in the North, Department of Indian Affairs and Northern Development (DIAND) has responsibility, through the Northern Contaminated Sites Program (CSP), to manage a number of contaminated properties that are no longer maintained by the original occupant. DIAND's portfolio of contaminated sites in the North originated from private sector mining, oil and gas activities and government military activity dating back over half a century, from a time long before the environmental impacts of such activities were adequately understood. CAM-F DEW Line is one of these sites.

CAM-F is located on Melville Peninsula between Foxe Basin and Committee Bay (68°33' N, 83 °19' W); 85km west of Hall Beach and 100km southwest of Igloolik. CAM-F (at Sarcpa Lake) was reserved for use as an Intermediate DEW Line site from 1956 to 1963. The station was constructed in 1957 and the site was closed and abandoned in 1963. The site was converted to a scientific research station in 1977 under the auspices of the Science Institute of the Northwest Territories and DIAND.

The Treasury Board Secretariat, Environment Canada and other departments have developed the *Federal Contaminated Sites Accelerated Action Plan* (FCSAAP). FCSAAP is designed to accelerate the remediation of federal contaminated sites and reduce the government's associated financial liability. Treasury Board policies related to the management of federal contaminated sites will be adhered to under FCSAAP. The Secretariate will implement the *Accelerated Action Fund*, a fund created to help departments administer the FCSAAP. Remediation of CAM-F is being funded through this program.

2. Background

The main station is situated on a hill 2km north of the west arm of Sarcpa Lake and 260m above sea level. Terrain around the site consists of rolling tundra highland with gravel deposits, several lakes and numerous rivers. Facilities constructed at the site include a main building train, warehouse, garage, Inuit house, POL (Petroleum, Oil, Lubricants) and drum storage pads, two dumpsites, radar tower, land airstrip (1100m), and a lake ice airstrip (1800m). The airstrips run in an east-west direction. All electrical equipment was cleared from the building and deposited in a dump at the north end of the site. Relevant site plans and photographs are attached.

In 1985, a hazardous materials removal program was implemented with the removal of hazardous materials stored on site, found in equipment and found as surface contaminants. This was followed by a clean-up of PCB materials in 1989 and remediation of a dump in 1996.

In 1996 and 1997, scientists from the Queen's University Analytical Services Unit (ASU) visited the CAM-F site. In addition to surveying and sampling across the site, cleanup activities were initiated in 1996, the largest component of which was the excavation of Dump A. The work in 1997 included containerization of highly contaminated soils, removal of asbestos materials, and consolidation of barrelled petroleum products. In

1999, ASU had the warehouse roof repaired, and again sampled and analyzed the soils and barrier materials. As of 1999, the previously excavated dump area was showing some signs of erosion and settling.

Minor sampling of potentially asbestos-containing materials and PCB and lead-containing paints were also carried out by PWGSC on an opportunistic basis earlier this year.

To effectively utilize newly available funding under the FCSAAP, DIAND required that their contaminated sites be effectively prioritized for actioning. In September 2003, SENES Consultants Limited was retained by the DIAND to undertake Screening Level Risk Assessments (SLRAs) of the potential impacts on human health from exposure to hazards at eleven mine sites and thirteen former military sites in northern Canada to provide INAC with a basis of ranking the relative risks presented by the sites for input to a process for prioritizing reclamation funding in future years.

One of the subject sites of these SLRAs was a former DEW Line site, CAM-F. The dominant vegetation types at the site were characterized as sedges, willows and moss, although there were also some rocky (or disturbed) areas containing no vegetation. Caribou and Arctic Hare have been observed at the site frequently, and several species of birds (up to 40) have been reported.

To characterize the human health risks associated with the sites, standard approaches were developed for application to mine sites and former military sites, respectively. In both cases, the risk assessments were based on maximum likely exposures to chemical, radiological (where applicable) and physical hazards. In all cases, it was assumed that people would be on the sites for some portion of the year, even though some of the sites are at remote locations. It should be noted that risk assessment does not provide a precise measure of risk due to the fact that many assumptions must typically be made.

A SLRA for human health was carried out for existing conditions at the CAM-F site for the purpose of determining whether there were contaminant levels present in the aquatic and soil environments that may have an adverse effect on humans that either use, or may potentially use the site. The assessment included the following elements, which were proposed and readily accepted by regulatory agencies such as Environment Canada and the U.S. Environmental Protection Agency:

- receptor characterization;
- exposure assessment;
- hazard assessment; and
- risk characterization.

Measured concentrations of contaminants in soil were used in the assessment. A statistical assessment of 1993, 1997, 1998 and 1999 soil data was carried out to determine the appropriate concentrations to use in the assessment.

A Screening Level Ecological Risk Evaluation was also undertaken at this site, and the findings thereof included potentially unacceptable ecological risks associated with PCBs and lead levels in soils at the site. This indicates that the subject site is indeed contaminated and requires further investigation. On this basis, CAM-F was prioritized high on the list of sites to be actioned.

Public Works and Government Services Canada (PWGSC) is inviting proposals from consultants to complete a Phase III Site Investigation & Waste Audit as identified in the Scope of Work that follows.

3. Scope of Work

The scope of work for the project has been separated into individual tasks required at the site. The work will be carried out at a "remote camp". Camp services including food, accommodation, transportation, water and wastewater infrastructure, power and telecommunications (satellite phones) will be provided. Heavy equipment (small rubber-tired backhoe) will be operated by a general contractor under the direction of the consultant. Wildlife monitors, with separate monitors for each remote crew, will also be provided by a general contractor. PWGSC will provide copies of the permits that the consultants must comply with.

PWGSC will also provide copies of all relevant permits to the consultant outlining all requirements that must be complied with.

In addition to the site investigation and waste audit, other activities will be carried out at the site either concurrently or after completion of this work including barrel consolidation and crushing; geotechnical/geophysical investigations; and ecological and human health risk assessment

Task 1: Site Logistics

Equipment to be provided by consultant includes: personal sampling equipment (hand auger, shovel, barrel thiefs and barrel wrenches); sampling containers; monitoring well supplies; personal protective equipment (Tyvek suits, respirators equipped with organic gas cartridges, nitrile gloves, etc.); and personal equipment.

The following supplies will be required for the monitoring well installations:

- three wells to be 3/4" steel construction, 2 meters deep (max) with 24" drive points, 1 meter stick up without casing;
- three wells to be 1" PVC construction, 2 meters deep (max), ½ screened, ½ solid, 1 meter stick up without casing; and
- sand, bentonite and any other materials required for well installations.

The consultant will be responsible for their own transportation to Hall Beach using regular commercial aircraft. The consultant should include this cost in their proposal.

PWGSC will be providing charter aircraft from Hall Beach to the site at a previously determined set time.

A Health and Safety Plan for the site will be produced by the general contractor and will be signed by all personnel at the site. The consultant shall have a Health and Safety Plan to cover their specific activities that will be submitted to the contractor for approval.

For purposes of developing the project budget, the consultant should determine laboratory analytical costs and include these in a separate section of the cost part of the proposal. However, PWGSC will be paying these invoices directly using our own laboratory standing offers. The names of laboratories that are on PWGSC standing offer will be provided to the consultant upon award of contract.

Task 2: Delineation of Contaminated & Potentially Contaminated Areas

Previous studies by ASU identified a number of areas impacted by heavy metals and Petroleum Hydrocarbons (PHC's). Although no concerns were identified for other parameters, a limited number of samples will also be analyzed for PAH's. In general, during the previous programs, impacted areas were delineated laterally but not vertically.

Note that the DEW Line Protocol was used previously to laterally delineate the impacted areas, however, INAC has not determined to date what clean up criteria will be used at this site. Therefore, the consultant will be expected to delineate all impacted areas both laterally and vertically using the most stringent applicable criteria (see Table 1 below).

Table 1: Sarcpa Lake Assessment Criteria

Assessment Comparison Criteria Inorganic and Organic Compounds in Soil			
Parameter	**Tier I DCC DEW Line Cleanup Criteria (ppm)**	**Tier II DCC DEW Line Cleanup Criteria (ppm)**	**CCME CEQG for Residential/Parkland Land Use (ppm)**
Inorganic Parameters			
Arsenic	N.G.	30	12
Cadmium	N.G.	5.0	10
Chromium	N.G.	250	64
Cobalt	N.G.	50	50
Copper	N.G.	100	63
Lead	200	500	140
Mercury	N.G.	2.0	6.6
Nickel	N.G.	100	50
Zinc	N.G.	500	200
Organic Parameters			
Benzene	N.G.	N.G.	0.5
Ethylbenzene	N.G.	N.G.	1.2
Toluene	N.G.	N.G.	0.8
Xylenes	N.G.	N.G.	1.0
PHC Fraction F1	N.G.	N.G.	N.A.
PHC Fraction F2	N.G.	N.G.	N.A.
PHC Fraction F3	N.G.	N.G.	N.A.
PHC Fraction F4	N.G.	N.G.	N.A.

PCBs	1.0	5.0	1.3

Notes:
N.G. – No guideline limit established
N.A. – Specific guideline concentration will be based on the type of soil and depth of the sample.

Specific areas that must be delineated include:
Sediments in Sarcpa Lake at point nearest to the construction camp;
Station proximity soils in nine discrete areas (areas adjacent to four module train exterior staircases, a drainage area northwest of the module train, stained area at the station pad, stained area at the warehouse bay door, below transformer casing at north end of garage, stained area on south side of garage);
Soils beneath the sewage outfall;
Soils at a stained area and vehicle pile south of the Station;
Soils at Dumps A & B;
Soils at two locations adjacent to drum storage area; and
Soils at one location in construction camp area.

This list of sites is not exhaustive and allowances should also be made to sample other locations not previously sampled. For the purposes of evaulating proposals, it should be assumed that 50 test pits will be advanced; 30 soil samples will be submitted to the laboratory for analysis of PCB's; 60 for target heavy metals; 10 for PAH's; and 30 PHC's (BTEX & TPH in accordance with CCME CWS for PHC's). Suitable field screening techniques that will allow fewer samples to be transported to the laboratory will be considered and evaluated.

With the exception of very small (less than 2 m^2) surface stains, areas where PHC's are suspected are to be delineated. PHC's are to be delineated to the extent possible using a suitable screening methodology followed by an adequate number of samples to be submitted to a CAEAL accredited laboratory for analysis. The Canadian Council of Ministers of the Environment's (CCME's) Canada Wide Standards (CWS) for PHC will be used as the applicable criteria.

The consultant will maintain a photographic record of all contaminated soil areas and sample locations. Photos of the interior and exterior of the buildings and any debris area shall also be obtained.

Task 3: Biological Sampling

Approximately five adult sportfish are to be collected by the consultant from Sarcpa Lake and five collected from Hall Lake near the effluent of Kingora River. Tissue samples are to be taken and submitted to the laboratory and analyzed for the presence of PCB's and target metals.

Task 4: Sampling of Building Materials

Some building materials have been sampled and analyzed for potentially hazardous components. Principle contaminants of concern are asbestos and PCB's and lead in paint. Much of the asbestos has been removed and is currently stored in bags in the quonset hut. Sampling has been carried out in specific areas of the facility, however,

additional sampling will be required. For the purposes of proposal submission, consultants should assume that 15 separate samples will be submitted and analyzed for asbestos, 20 for PCB's in paint and 20 for lead in paint. Note that 5 of the PCB's in paint analyses will be required on concrete samples removed from the building floors.

Task 5: Quantification of Non-Hazardous & Hazardous Materials (Waste Audit)

Non-hazardous materials at the site are predominantly associated with building materials and debris including equipment and barrels. Hazardous materials are predominantly associated with building materials including asbestos, both packaged and remaining in use, and lead and PCB's in paint. Small volumes of hazardous materials remain in storage, particularly in the storage shed.

The consultant shall inventory the buildings and site debris in order to calculate volumes and weights of materials. Wastes types must be identified. These include concrete, corrugated cardboard, unpainted drywall, steel and wood. The consultant will use this information to prepare a detailed waste summary. For each type of material, the summary must include: % of total, volume and weight of waste, method used to estimate the volume and weights, and any relevant comments.

Task 6: Barrel Sampling

An unknown number of unopened barrels remain at site, potentially containing some product. The consultant will attempt to sample a representative number of barrels (assume 10 for purposes of completing this proposal) and characterize this waste through submission of samples to the laboratory.

Partially burned debris has been placed in approximately 50 barrels. Wastes in a representative number of these barrels will be qualitatively characterized. Unknown, potentially hazardous wastes may be submitted for sampling, however, this cost should not be included in the consultant's budget.

Two bulk fuel tanks at the site were recently dipped. Both are empty.

Task 7: Co-ordination with Other Consultants

In order to successfully complete this project, there will be some requirement to liase with the risk assessment group, geophysical/geotechnical and remedial design consultants as follows:

Geotechnical requirements:

- sample points and other site features identified during the investigation are to be surveyed by the geotechnical consultant.
- geotechnical consultant will be provided with an estimated required granular volume in order for them to identify the necessary borrow areas.
- geotechnical consultant will be testpitting at the landfill areas and any anomalies noted during the geophysical work may be meshed in with this work.

Geophysical requirements:

- the dump sites (landfills) and potentially other areas with surface disturbances will be covered by geophysical surveys prior to the site investigation. This

information is to be effectively communicated to the site investigation consultant prior to initiating any intrusive work in these areas.

Design requirements:

- results of the site investigation including findings and conclusions need to be effectively communicated to the design consultant, possibly verbally prior to completion of the draft report.

Risk assessment requirements:

- results of the site investigation including findings and conclusions need to be effectively communicated to the risk assessment consultant, possibly verbally prior to completion of the draft report.

Task 8: Reporting

Report will be prepared in a standard format utilizing the following sections:
Executive Summary
Table of Contents
Introduction
Background
Findings or Discussion (including waste audit information)
Conclusions
Drawings (base drawings to be provided)
Appendices including photos and detailed NCS scoring worksheets

Note: Recommendations and remedial options sections are not required.

Deliverables

Preliminary draft	One electronic copy in Adobe Acrobat
Draft report	Eight hard copies & one electronic copy in Adobe Acrobat (with draft clearly stated on every page)
Final report	Eight hard copies & one electronic copy in Adobe Acrobat (with AutoCAD drawings)

4. Scheduling

The following scheduled milestones must be met in order to coincide with camp operations and aircraft charter dates and to fulfill PWGSC commitments to INAC:

Field Investigation	August 9, 2004
Completion of Field Investigation	August 24, 2004
Completion of Draft Reports	fourth week of September 2004
Completion of Final Reports	two weeks after receipt of client comments

The consultant must include their intended schedule in the proposal.

5. Proposal Evaluation Criteria

Consultant proposals will be evaluated using the following criteria:

Criteria	Points Awarded
Northern Experience on Similar Projects	15
Project Team Experience on Similar Projects	15
Technical Approach to Project	30
Cost	40

6. Project Management

Chris Doupe
Manager, Environmental Assessment
Environmental Services
Public Works and Government Services Canada
Phone: (780) 497-3868
Fax: (780) 497-3842

7. Reference Documents

Relevant reports will be provided to the successful consultant as follows:

Title: Human Heath Risk Assessment for CAM-F Sarcpa Lake Former Military Site
Date: November 2003
Author: Senes Consultants

Title: Ecological Risk Evaluation for CAM-F Sarcpa Lake Former Military Site
Date: November 2003
Author: Senes Consultants

Title: Sarcpa Lake 1999
Date: March 2000
Author: Analytical Services Unit – Queen's University

Title: Sarcpa Lake 1997, PCB Cleanup and Asbestos Abatement
Date: March 1998
Author: Analytical Services Unit – Queen's University

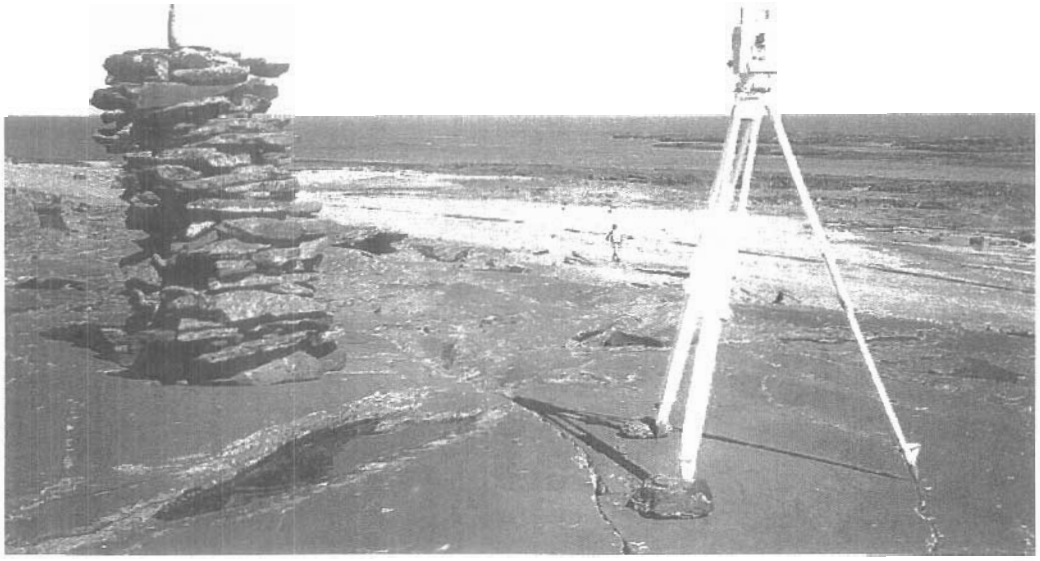
Title: Abandoned Military Site Clean Up Sarcpa Lake – CAM-F Intermediate DEW Line Site, Construction Cost Estimates 90% Design Submission
Date: March 1997
Author: SGE Group Inc. in association with UMA Engineering Ltd.

Title:	Sarcpa Lake 1996, PCB Cleanup and Engineering Design
Date:	March 1997
Author:	Analytical Services Unit – Queen's University
Title:	Specifications for the Cleanup of the CAM-F, Sarcpa Lake DEW Line Site, Department of Indian and Northern Affairs
Date:	November 1996
Author:	UMA Engineering Ltd.
Title:	Environmental Study of Abandoned DEW Line Sites, II. Six Intermediate Sites in the Eastern Arctic, Volume Two: Site Analysis
Date:	March 1994
Author:	Environmental Sciences Group, Royal Roads Military College
Title:	P.C.B. Sampling Program at Sarcpa Lake (CAM-F) Abandoned DEW Line Station, July 1, 1988
Date:	July 27, 1988
Author:	D. Jessiman, Water Resources Officer, Baffin District, INAC/NAP, Iqaluit, NWT

APPENDIX C

EARTH TECH SITE SPECIFIC HEALTH AND SAFETY PLAN

SITE SPECIFIC
HEALTH AND SAFETY PLAN
FOR EARTH TECH OPERATIONS
(Supplemental to Contractors General H/S Plan)
CAM-F DEW LINE SITE, ENVIRONMENTAL SITE INVESTIGATION
SARCPA LAKE, NUNAVUT
AUGUST 9TH TO AUGUST 17TH, 2004



Prepared For: Public Works and Government Services Canada
Environmental Services Western Region
1000 - 9700 Jasper Avenue, 9th Floor
Edmonton, Alberta
T5J 4E2

Attention: Mr. Jared Buchko, P.Eng.
Senior Environmental Engineer

Submitted By: Earth Tech Canada Inc.
17203-103 Ave.
Edmonton Alberta
T5S 1J4

TABLE OF CONTENTS

1.0 INTRODUCTION AND BACKGROUND

Public Works and Government Services Canada (PWGSC), Environmental Services division has been retained by INAC to continue site additional site investigations and clean up activities located at the former CAM-F DEW Line site located on the shore of Sarcpa Lake, Nunavut.

In order to develop a remedial plan for the CAMF site, PWGSC is required to complete further assessments at the site. The assessments include the following components:

- Geotechnical Assessment/Site Survey – assessment of volumes of types of local available borrow materials, and topographic surveys.
- Geophysical Assessment – geophysical assessment of dump sites and other disturbances.
- Phase III ESA and Waste Audit - completion of environmental investigation order to delineate areas of environmental concern as well as to determine volumes of hazardous and non hazardous waste materials.
- Risk Assessment – completion of ecological human health risk assessment based on the contaminated levels determined in the Phase III ESA program.
- Remedial Design – based on the results of all the above programs a remedial design will be completed.

The objectives of the Phase III ESA and Waste Audit portion of the project include the following:

- Quantify the volume of contaminated soil through at the site both horizontal and vertical delineation (Contaminants of concern included PCBs, petroleum hydrocarbons and metals).
- Quantify the volume of hazardous materials at the site (i.e. asbestos, paint with PCBs/lead).
- Quantify the volume of non-hazardous materials at the site.
- Quantify and identify the volume of liquid waste located in barrels and tanks.

1.1 Technical Approach

One of the main goals of the Phase III ESA is to complete the delineation of subsurface contamination horizontally, as well as vertically, in all areas of environmental concern. It is understood that previous studies have identified areas with heavy metals and hydrocarbons and that in general the delineation was achieved horizontally but not vertically. Therefore the intent of this investigation is to fill in the data gaps. The delineation work will be completed comparing the analytical data to the most stringent applicable remediation criteria for each parameter in question (Tier I and Tier II DCC Clean up Criteria and CCME Residential/Parkland).

Due to the remote nature of the site, the proposed work plan and sampling program is designed to try to accomplish full contaminant delineation during one site visit. In addition to meeting the technical requirements of this assignment, it is recognized that

detailed logistical planning and preparation are required to carrying out the work in an efficient and cost effective manner while up keeping the highest level of safety and awareness.

1.2 Site Logistics/Health and Safety

It is understood that the work base will be a General Contractor operated camp. Camp services will include food, accommodations, transportation, water, wastewater, and power. PWGSC will provide all necessary charter flights to/from Hall Beach. A small rubber tired backhoe will also be onsite and available for subsurface investigation work.

It is understood that the General Contractor will be producing a Health and Safety Plan. This plan will need to be signed by all personnel at the site.

The Earth Tech team will travel to Hall Beach via regularly scheduled aircraft in order to meet the previously determined PWGSC schedule time for the charter flight to the CAM F site. The Earth Tech field equipment and sampling supplies will be sent to Hall Beach via air cargo prior to the field team leaving Edmonton. It is understood that Earth Tech will supply all field equipment and supplies for this project. Earth Tech employees are fully trained in all operations their field equipment including workplace ergonomics, and awareness of repetitive stress injuries.

Upon arrival at the site, Earth Tech will complete the following items prior to commencing with the items listed in the Phase III ESA/ Waste Audit work plan:

- Meet with the General Contractor and get site and safety orientations; discuss Health and Safety Plan, Earth Tech work plan, equipment usage schedule.
- During the completion of the field activities, Earth Tech will inspect all study areas of the site to identify all potential risks/hazards to human health (structurally unsafe buildings, open excavations, tripping hazards, broken glass, rebar, chemical hazards, explosive hazards etc).
- Mark, sign and label all hazards upon identification.
- Locate previously investigated areas of environmental concern.

2.0 BACKGROUND DATA

2.1 Location

CAM-F is located on Melville Peninsula between Foxe Basin and Committee Bay (68°33' N, 83 °19' W); 85km west of Hall Beach and 100km southwest of Igloolik. CAM-F (at Sarcpa Lake) was reserved for use as an Intermediate DEW Line site from 1956 to 1963. The station was constructed in 1957 and the site was closed and abandoned in 1963. The site was converted to a scientific research station in 1977 under the auspices of the Science Institute of the Northwest Territories and DIAND.

2.2 Scope of Work

The scope of work for the project has been separated into individual tasks required at the site. The work will be carried out at a "remote camp". In addition to the site

investigation and waste audit, other activities will be carried out at the site either concurrently or after completion of this work including barrel consolidation and crushing; geotechnical/geophysical investigations; and ecological and human health risk assessment. Specific Standard Operating Procedures (SOP), for tasks that may undertaken during the course of site activities, are included in the appendices of this plan.

Task 1: Site Logistics

PWGSC will be providing charter aircraft from Hall Beach to the site at a previously determined set time. From Hall Beach, personnel are to be transported via fixed wing aircraft to the site. All aircraft safety precautions will be adhered to as per the carrier's guidelines and Transport Canada Regulations.

Task 2: Delineation of Contaminated & Potentially Contaminated Areas

In general, during the previous programs, impacted areas were delineated laterally but not vertically. Therefore, Earth Tech will be expected to delineate all impacted areas. Specific areas that must be delineated include:

- Sediments in Sarcpa Lake at point nearest to the construction camp;
- Station proximity soils in nine discrete areas (areas adjacent to four module train exterior staircases, a drainage area northwest of the module train, stained area at the station pad, stained area at the warehouse bay door, below transformer casing at north end of garage, stained area on south side of garage);
- Soils beneath the sewage outfall;
- Soils at a stained area and vehicle pile south of the Station;
- Soils at Dumps A & B;
- Soils at two locations adjacent to drum storage area; and
- Soils at one location in construction camp area.

This list of sites is not exhaustive and allowances will also be made to sample other locations not previously sampled. The estimated number of test pits is assumed to be approximately 50. Earth Tech will sample these locations with the means available (i.e. sediment sampler, hand auger, backhoe, etc.) and a specific safety review will be carried with the operator and/or other team members prior to commencing the work.

Task 3: Biological Sampling

Approximately five adult sportfish are to be collected by Earth Tech from Sarcpa Lake and five collected from Hall Lake near the effluent of Kingora River. Tissue samples are to be taken and submitted to the laboratory and analyzed for the presence of PCB's and target metals. This will be completed by gill nets, rod and tackle, and the assistance of the local labours familiar with the area. Earth Tech will complete this by following the necessary precautions required when working near water (i.e. life preservers, land lines, hypothermia awareness, boat safety, etc.)

Task 4: Sampling of Building Materials

Some building materials have been sampled and analyzed for potentially hazardous components. Principle contaminants of concern are asbestos and PCB's and lead in paint. Much of the asbestos has been removed and is currently stored in bags in the quonset hut. Sampling has been carried out in specific areas of the facility, however, additional sampling will be required. It is assumed that 15 separate samples will be submitted and analyzed for asbestos, 20 for PCB's in paint and 20 for lead in paint. These hazardous material samples will be retrieved under OSHA, NIOSH, and EPA sampling protocol and guidelines (e.g. Adequately-wet NIOSH guideline for sampling asbestos.) Level C PPE will be dawned where and when required.

Task 5: Quantification of Non-Hazardous & Hazardous Materials (Waste Audit)

Non-hazardous materials at the site are predominantly associated with building materials and debris including equipment and barrels. Hazardous materials are predominantly associated with building materials including asbestos, both packaged and remaining in use, and lead and PCB's in paint. Small volumes of hazardous materials remain in storage, particularly in the storage shed. Earth Tech will inventory the buildings and site debris in order to calculate volumes and weights of materials. Personnel will be cognizant of sharp objects, slippery and unstable surfaces. At no time will personnel climb, or place themselves beneath waste piles for investigation purposes

Task 6: Barrel Sampling

An unknown number of unopened barrels remain at site, potentially containing some product. Earth Tech will attempt to sample a representative number of barrels (assume 10) and characterize this waste through submission of samples to the laboratory. (In particular, the barrels located near the airstrip that contain debris and waste.) These barrels contain partially burned debris. Earth Tech will utilize drum sampler, syringes, and laceration proof gloves to conduct this task. At least one member of the Earth Tech team will have been trained and certified to package and ship I.A.T.A. and T.D.G. regulated (Class 3 only) substances via air.

Task 7: Co-ordination with Other Consultants

All though not a physical safety item, this task is important to be aware of site operations and necessary rescue planning if needed. In general, there will be some requirement to liase with the risk assessment group, geophysical/geotechnical, and remedial design consultants. Communications with these parties will be established at the start of each working day. Earth Tech personnel will be equipped for communications on site with two-way radios, safety whistle, and emergency flares.

2.3 Training Requirements

As indicated in the TOR, only personnel having received the OSHA 40 Hour HAZWOPER training course will be allowed to handle any contaminated material.

All personal on site shall be responsible for attending a pre-job safety meeting held on site the morning of each workday. The meeting will be conducted as a daily tailgate safety meeting and an understating of each days scope of work will be established prior to commencing any activities on site. Other mid-day safety awareness and planning meeting will be held at the discretion of the onsite Earth Tech Engineer(s).

2.5 Project Personnel

Name	Position	Company	Phone
Chris Doupe Jared Buchko	Client Representative and Project Manager	P.W.G.S.C.	(780) 497-3868
Gordon Woollett	Project Manager	Earth Tech Canada	(780) 453-0710
Don Roy	Onsite Safety Officer and Team Leader	Earth Tech Canada	(780) 453-0709 Cell (780) 717-2755
Greg Wright	Project Field Scientist	Earth Tech Canada	(780) 488-6800

2.6 Work Schedule

The proposed work outlined in this health and safety plan is scheduled for August 8, 2004 to August 18th, 2004 and will be completed during daylight hours.

2.7 Project Roles

Projects of this nature often require the input and participation of several different types of professionals. The paragraph below briefly outlines the roles of each participant for the investigation and closure of each site.

Indian and Northern Affairs Canada (INAC)

Client.

Public Works and Government Services Canada (PWGSC)

Clients project managing body responsible for contracts with consultant and other parties involved with project. Liaison for project staff and client.

Earth Tech Canada Inc.

Project environmental investigation consultant. Responsible for project design, sampling, laboratory analyses, liaison with PWGSC.

3.0 SITE CHARACTERISTICS

3.1 General

(See Section 2.1)

3.2 Access

Plans to access the site with the least amount of damage and disturbance will be implemented. Site access will be via fixed wing aircraft.

3.3 Topography

The sit is situated on the Canadian Shield with sandy gravel deposits throughout. The main site is approximately 220 m above mean sea level and is comprised of gently slopes and drainage valleys.

3.4 Site Plans

A site plan is included with the appendices.

4.0 GENERAL HAZARDS

General site hazards have been identified as:

- Tripping, slipping, or stumbling on uneven or slippery/frozen terrain.
- Cold stress and weather conditions that may cause dehydration or wind burn.
- Loss of traction under wet driving/walking conditions.
- Lifting hazards during any site clearing activities.
- Noise and vibration hazards.
- Eye irritants or projectiles caused by wind.
- Working near wildlife.
- Contact with sharp or jagged objects while soil sampling off augers.
- Destructive sampling hazardous material assessment.

5.0 PROJECT SPECIFIC HAZARDS

5.1 Level of Safety

The investigation of possible subsurface contaminants presents specific safety precautions that must be adhered to.

Potential exposure pathways of chemical exposure these contaminants on site are primarily through dermal exposure and inhalation, and secondly through ingestion exposure.

All personal working are handling potentially hazardous substances shall be required to dawn a minimal of OSHA/NIOSH Level C Personal Protective Equipment (PPE). Level C PPE consists of:

- **Hard Hat**
- **Hearing protection where appropriate (e.g. concrete breaking with hydraulic hammer)**
- **Safety Glasses**
- **Steel Toed Boots**

5.2 Potential Contaminant Identification

The site has been previously used a DEW Line defence/communications center. As a result of operating the site during the early stages of the electronics era, the site is heavily contaminated with PCB's and Heavy Metals.

At no time will on site investigation personnel use olfactory odour or taste identification techniques to identify possible chemical contamination. All identification and quantification shall be done with the use of visual, field instrument, and laboratory techniques.

5.3 Preventing Cross Contamination and Tracking

Cross contamination and tracking of chemicals can pose a safety hazard as well add to project schedule and budget to decontaminate equipment and personnel. All sampling, and excavation equipment shall have precautions taken to minimize exposure to potentially contaminated soil and ground water. Minimization may be in the form of:

- Inspecting PPE to ensure it is in proper condition before each use.
- Closing zippers, buttons, and snaps fully.
- Not wearing leather boots.
- Tucking inner gloves under the sleeves and outer gloves over sleeves.
- Tucking boots under the legs of outer clothing.
- Wearing hoods, if not attached, outside the collar.
- Taping all junctures to help prevent contaminants from running inside gloves, boots, and jackets.
- Follow standard operating procedures (SOP's) regarding decontamination and sampling.
- Minimize the use of porous substances such as wooden tools, leather, foam covered handles, etc. These items are difficult to decontaminate.
- Do not walk through puddles or stockpiled waste material.
- Properly disposing of equipment and solvents used for decontamination.
- Do not directly touch potential hazardous substances.
- Use remote sampling equipment when practical.
- Wear disposable outer garments and use disposable equipment when possible.
- Contain source of hazardous substance.

5.4 Decontamination Procedures

Decontamination of equipment, tools, and personnel will be necessary to prevent cross contaminant of samples, contaminant tracking, and personal hygiene and safety. Decontamination can be accomplished by:

- Physically removing contaminants.

- Chemically removing containments.
- Rinsing off containments.
- Disinfecting and Sterilizing.
- Combining the above methods.

The decontamination at the subject site will utilize a single surfactant/soap wash to clean any necessary sampling equipment. The following generalized decontaminating procedures will be followed during the course of the investigation.

- Personnel shall change gloves regularly during the investigation.
- Heavy equipment shall conduct site work in such a manner that prevents equipment from traveling through, or resting on any drill cuttings. This may include tarping of soils if reentry to investigation area is required.

5.4 Preservation of Site Conditions

The site is situated gravel pad areas built up on the arctic tundra. Travel on the tundra will b on a strictly need to access basis. All site monuments and survey markers will be left in place.

5.5 Working Near Wildlife

A variety of wildlife may be encountered while working within the limits of the site. In particular, polar bears. Since polar bears are extremely unpredictable, all personnel must work within the designated zone where a polar bear monitor (provided by general contractor) is situated. **Under no exceptions are personnel to be out of eye site and protection of polar bear monitor.**

A brief description of polar bear habits is provided within the appendices. At no time are animals encountered on site to be feed.

5.6 Decontamination of Personnel and Equipment

Hands must be washed prior to lunch and nutrition breaks. Equipment used on site shall be decontaminated prior to leaving the premises.

5.7 Record Keeping

The consultant shall keep a record of all health and safety procedures and decontamination practices. All incidents, near misses, and hazard identification shall be recorded. Copies of records will be included in consultants report to the client.

5.8 Insects

All personnel shall take precautions against being bit by flying insects. Bug net jackets and hoods shall be provided as will mosquito repellant with a minimum of 20% DEET. The use of repellent shall be completed under the manufactures instructions.

5.9 Aircraft

All personnel shall conform to Transport Canada rules and regulation for embarking and traveling on aircraft. Detailed guides to both helicopter safety and fixed wing aircraft are included with the appendices of this plan.

5.10 ATV's

All personnel shall conform to the ATV safety manual located in the appendices of this plan. Approved CSA helmets shall be worn while operating or passengering on an ATV.

6.0 EMERGENCY CONTINGENCY PLAN

6.1 Responsibilities

Each member involved in onsite activities shall be responsible for identification of onsite hazards and safety of themselves and others. Each member engaged in onsite work for this project will be responsible for initiating the emergency response plan on an as identified basis.

The General Contractor shall provide emergency plan and mustering point.

6.2 Emergency Response Steps

Should and emergency arise, the following steps are to be taken:

1. Ensure your own safety.
2. Notify other team members of emergency.
3. Call for help.
4. If possible without further endangerment, attempt to assess/address situation and bring under control. Perform First Aid if required.
5. Inform consultant and/or team leader.
6. Inform Client(s).

APPENDIX D

ANALYTICAL RESULTS

CAM-F DEW Line Site
Summary of Analytical Data
Background Samples

Table 1 Metals Concentrations in Soils from Background Locations

		2004 Earth Tech Background Samples					1999 ASU Queen's U Background Samples				
PARAMETER	CRITERIA	BG1-ET91	BG2-ET92	BG3-ET93	BG4-ET94	Mean	G3555	G3556A	G3556B	G3757	Mean
	ppm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	2004					1999
Antimony	20	1.3	1.1	1.7	1.4	1.4	-	-	-	-	-
Arsenic	30*	1.6	1.5	1.1	1.3	1.4	<0.2	0.9	0.9	0.7	0.8
Barium	500	50.8	41.4	36.4	43.8	43.1	-	-	-	-	-
Beryllium	4	0.3	0.3	0.2	0.3	0.3	-	-	-	-	-
Boron	2	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-
Cadmium	10	0.1	0.1	0.1	0.1	0.1	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	250*	27.0	21.7	27.5	22.0	24.6	40	52	48	41	45.3
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-
Cobalt	50*	5.7	4.6	6.7	5.2	5.5	7.5	10.7	9.0	8.8	9.0
Copper	100*	13.4	12.8	12.6	13.9	13.2	13.8	17.4	18.6	21	17.7
Lead	200/500	5.7	6.2	6.4	6.1	6.1	<10	<10	<10	<10	<10
Mercury	6.6	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-
Molybdenum	10	<0.1	<0.1	<0.1	0.2	0.2	-	-	-	-	-
Nickel	100*	17.4	13.3	16.8	14.3	15.5	12.2	17.0	17.3	13.7	15.1
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-
Tin	50	1.7	1.6	1.9	1.7	1.7	-	-	-	-	-
Vanadium	130	25.0	20.7	26.5	22.4	23.7	-	-	-	-	-
Zinc	500*	35.6	32.8	36.9	34.7	35.0	40	48	47	55	47.5

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 2 PCB Concentrations in Soils from Background Locations

		2004 Earth Tech Background Samples				1999 ASU
PARAMETER	CRITERIA	BG1-ET91	BG2-ET92	BG3-ET93	BG4-ET94	Mean
	ppm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1254		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	-
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	-
Total PCBs	1/5	<0.1	<0.1	<0.1	<0.1	0.6

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Groundwater Results

Table 3 Groundwater Well Survey Data

Well ID	Height of Stick-up	Depth to Bottom	Depth to Water	Water Elevation
	(m)	(m)	(m)	(m bgs)
ETMW01	0.82	1.93	1.415	0.595
ETMW02	1.111	1.713	1.129	0.018
ETMW03	0.92	1.68	0.925	0.005
ETMW04	0.885	1.985	1.355	0.47
ETMW05	1.17	1.52	1.148	-0.022
ETMW06	1.35	1.186	1.107	-0.243
ETMW07	-	-	-	-

Table 4 Water Parameters in Groundwater from the Earth Tech Monitoring Wells

PARAMETER	CRITERIA ug/L	ETMW01	ETMW02	ETMW03	ETMW04	ETMW05	ETMW06	ETMW07
pH	6.5-9.0	7.46	7.63	7.7	7.07	7.83	7.87	7.24
Electrical Conductivity		526	257	367	828	436	590	327
Nitrate - N		<0.1	<0.1	<0.1	<0.1	<0.1	1.9	0.1
Nitrite - N	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate and Nitrite - N		<0.2	<0.2	<0.2	<0.2	<0.2	1.9	<0.2
Hydroxide		<5	<5	<5	<5	<5	<5	<5
Carbonate		<6	<6	<6	<6	<6	<6	<6
Bicarbonate		387	175	228	596	283	360	217
P-Alkalinity		<5	<5	<5	<5	<5	<5	<5
T-Alkalinity		317	143	187	489	232	295	178
Total dissolved solids		354	143	200	490	241	330	185
Hardness		283	138	178	479	225	302	174
Ionic Balance		105	98	102	98	96	93	100

NOTES:
Guidelines based on CCME Water Quality Guidelines for the Protection of Aquatic Life

CAM-F DEW Line Site
Summary of Analytical Data
Groundwater Results

Table 5 Dissolved Metals Concentrations in Groundwater from the Earth Tech Monitoring Wells

PARAMETER	CRITERIA (mg/L)	ETMW01	ETMW02	ETMW03	ETMW04	ETMW05	ETMW06	ETMW07
Aluminum	0.005-0.1[a]	0.084	0.093	0.187	0.088	0.151	0.034	0.162
Antimony		0.025	<0.0002	0.0055	0.0028	0.0489	0.0006	0.0049
Arsenic	0.005	0.0011	0.0002	0.0003	0.0007	0.0004	0.0004	0.0006
Barium		0.052	0.017	0.042	0.081	0.026	0.025	0.997
Beryllium		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Boron		0.021	0.009	0.353	0.041	0.165	0.005	0.318
Cadmium	0.017[b]	0.0001	0.00003	0.00006	0.00006	0.00005	0.00003	0.00009
Calcium		93	44.4	54.6	165	65.7	74.4	52.5
Chloride		0.9	0.9	0.9	4.4	1	5.8	0.8
Chromium	0.001[c]	0.0014	0.0009	0.0014	0.0022	0.0009	0.0008	0.0017
Cobalt		0.0009	<0.0001	0.0002	0.0013	0.0003	<0.0001	0.0008
Copper	0.002-0004[d]	0.025	0.01	0.021	0.008	0.01	0.006	0.016
Iron	0.3	2.32	0.12	0.22	0.16	0.19	0.05	0.19
Lead	0.001-0.007[e]	0.004	0.0001	0.0003	0.0005	0.0003	<0.0001	0.0024
Lithium		0.011	0.002	0.004	0.001	0.009	0.014	0.003
Magnesium		12.4	6.5	10.1	16.4	14.7	28.1	10.5
Manganese		0.159	<0.005	0.033	0.928	0.053	0.041	0.167
Molybdenum	0.073	0.003	<0.001	0.008	<0.001	0.005	0.001	0.014
Nickel	0.025-0.150[f]	<0.0005	<0.0005	0.0017	<0.0005	<0.0005	<0.0005	<0.0005
Potassium		23.7	1.6	2.4	3.3	3.2	3	3.6
Selenium	0.001	0.0003	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002
Silicon		4.56	2.33	0	4.82	3.37	2.89	3.3
Silver	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium		15.5	1.7	9.4	2.5	3.8	7.4	3.1
Strontium		0.459	0.039	0.058	0.164	0.083	0.096	0.067
Sulphate		18.2	2	10.3	5	13.6	34.4	7.5
Sulphur		6.06	0.67	0	1.67	4.53	11.5	2.5
Thallium	0.0008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Tin		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Titanium		0.0076	0.005	0.0114	0.005	0.0094	0.0029	0.0097
Uranium		0.0093	0.0018	0.002	0.007	0.0054	0.0436	0.0007
Vanadium		0.0016	0.0007	0.001	0.0023	0.0008	0.0008	0.0011
Zinc	0.03	0.021	0.023	0.029	0.002	0.04	0.074	0.025

NOTES:

Criteria based on CCME Water Quality Guidelines for the Protection of Aquatic Life; exceedance of guideline indicated by shading

a - Aluminium Guideline: 0.005 mg/L at pH < 6.5,[Ca^{2+}] < 4 mg/L,and DOC < 2 mg/L; 0.1 mg/L at pH > 6.5, [Ca^{2+}] > 4 mg/L, and DOC > 2 mg/L

b - Cadmium Guideline = $10^{\{0.86[\log(\text{hardness})]-3.2\}}$

c - Chromium Guideline: 0.001 mg/L for Hexavalent chromium (Cr(VI))

d - Copper Guideline: 0.002 mg/L at [$CaCO_3$] < 120 mg/L; 0.003 mg/L at [$CaCO_3$] = 120-180 mg/L; 0.004 mg/L at [$CaCO_3$] > 180 mg/L

e - Lead Guideline: 0.001 mg/L at [$CaCO_3$] < 60 mg/L; 0.002 mg/L at [$CaCO_3$] = 60-120 mg/L; 0.004 mg/L at [$CaCO_3$] = 120-180 mg/L; 0.007 mg/L at [$CaCO_3$] > 180 mg/L

f - Nickel Guideline: 0.025 mg/L at [$CaCO_3$] < 60 mg/L; 0.065 mg/L at [$CaCO_3$] = 60-120 mg/L;0.110 mg/L at [$CaCO_3$] = 120-180 mg/L; 0.150 mg/L at [$CaCO_3$] > 180 mg/L

CAM-F DEW Line Site
Summary of Analytical Data
Groundwater Results

Table 6 PCB Concentration in Groundwater from the Earth Tech Monitoring Wells

PARAMETER	CRITERIA ug/L	ETMW01	ETMW02	ETMW03	ETMW05
Aroclor 1016		<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	0.2	<0.1	0.7
Aroclor 1260		<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1
Total PCBs	0.1	<0.1	0.2	<0.1	0.7
Decachlorobiphenyl		60	52	85	51

NOTES:
PCB Guideline no longer recommended. Exceedance of old criteria indicated by shading

Table 7 PHC Concentrations in Groundwater from the Earth Tech Monitoring Wells

PARAMETER	CRITERIA mg/L	ETMW01	ETMW02	ETMW04	ETMW05
Benzene	0.37	<0.001	<0.001	<0.001	<0.001
Toluene	0.002	<0.001	<0.001	0.003	<0.001
Ethylbenzene	0.09	<0.001	<0.001	<0.001	<0.001
Total Xylenes (m,p,o)		<0.001	<0.001	0.003	<0.001
F1 C6-C10		<0.01	<0.01	0.25	0.01
F1 -BTEX		<0.01	<0.01	0.24	0.01
F2 C10-C16		0.6	<0.1	4.3	0.2
F3 C16-C34		0.7	0.2	0.2	7.4
F3+ C34+		0.3	<0.1	<0.1	9.6

NOTES:
PHC Guidelines based on CCME Water Quality Guidelines for the Protection of Aquatic Life; exceedances are indicated by shading

Table 8 PAH Concentrations in Groundwater from the Earth Tech Monitoring Wells

PARAMETER	CRITERIA ug/L	ETMW01	ETMW02	ETMW04	ETMW05
Naphthalene	1.1	0.37	0.01	1.97	0.1
Acenaphthylene	0	0.05	<0.01	<0.01	<0.01
Acenaphthene	5.8	<0.01	<0.01	0.42	<0.01
Fluorene	3	<0.01	<0.01	0.37	<0.01
Phenanthrene	0.4	<0.01	<0.01	<0.01	0.11
Anthracene	0.012	<0.01	<0.01	<0.01	<0.01
Fluoranthene	0.04	<0.01	<0.01	<0.01	<0.01
Pyrene	0.025	<0.02	<0.02	<0.02	0.05
Benzo(a)anthracene	0.018	0.12	<0.02	<0.02	0.25
Chrysene		<0.01	<0.01	<0.01	0.03
Benzo(b)fluoranthene		<0.01	<0.01	<0.01	0.17
Benzo(j)fluoranthene		<0.01	<0.01	<0.01	<0.01
Benzo(k)fluoranthene		<0.01	<0.01	<0.01	<0.01
Benzo(a)pyrene	0.015	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-c,d)pyrene		<0.01	<0.01	<0.01	0.04
Dibenzo(a,h)anthracene		<0.01	<0.01	<0.01	<0.01
Benzo(g,h,i)perylene		<0.01	<0.01	<0.01	0.06
CB(a)P		<0.01	<0.01	<0.01	0.01

NOTES:
PAH Guidelines based on CCME Water Quality Guidelines for the Protection of Aquatic Life; exceedances are indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Module Station

Table 9 Metals Concentrations in Soils at the Module Station Site

PARAMETER	CRITERIA ppm	STA-ET16 100-110 cm	STA-ET17 90-100 cm	STA-ET18 50-60 cm	STA-ET19 50-60 cm	STA-ET20 50-60 cm	STA-ET21 60-70 cm	STA-ET22 40-50 cm	STA-ET23 40-50 cm	Duplicate of STA-ET23	STA-ET24 40-50 cm
Antimony	20	1.2	1.0	0.8	1.3	1.2	1.5	1.3	1.2	1.0	1.9
Arsenic	30*	0.9	<0.5	<0.5	0.8	0.7	0.9	1.2	1.0	0.9	1.2
Barium	500	22.5	19.2	35.1	33.2	45.6	46.7	43.5	41.0	39.6	50.3
Beryllium	4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Boron	2	0.6	0.5	0.5	3.2	1.3	0.9	0.4	0.7	0.8	3.0
Cadmium	10	0.2	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.2
Chromium	250*	12.2	11.2	14.0	18.7	20.3	20.4	21.5	23.3	23.7	30.6
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	4.7	5.3	6.3	6.2	4.7	4.8	5.0	5.7	6.0	7.5
Copper	100*	14.1	9.8	9.7	12.1	14.3	14.3	14.6	15.2	13.9	15.8
Lead	200/500	7.2	4.4	10.3	8.0	6.3	6.2	5.9	5.7	5.3	6.0
Mercury	6.6	0.0	0.0	<0.01	0.0	<0.01	0.0	<0.01	<0.01	<0.01	0.0
Molybdenum	10	0.2	0.1	0.1	0.2	<0.1	<0.1	<0.1	0.1	0.1	0.1
Nickel	100*	8.7	8.0	10.6	12.3	12.9	13.1	13.7	14.4	14.7	18.7
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.4	<0.3	<0.3	<0.3
Tin	50	1.6	1.4	1.4	1.6	1.4	1.4	1.4	1.6	1.6	1.6
Vanadium	130	14.1	13.0	15.9	17.0	21.0	20.4	20.8	20.6	20.3	29.7
Zinc	500*	38.8	24.2	31.0	41.7	34.6	41.0	31.0	35.4	35.4	61.4

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 10 PCB Concentrations in Soils at the Module Station Site

PARAMETER	CRITERIA ppm	STA-ET16 100-110 cm	STA-ET17 90-100 cm	STA-ET18 50-60 cm	STA-ET19 50-60 cm	STA-ET20 50-60 cm	STA-ET21 60-70 cm	STA-ET22 40-50 cm	STA-ET23 40-50 cm	Duplicate of STA-ET23	STA-ET24 40-50 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	<0.1	0.2	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Module Station

Table 9 cont. Metals Concentrations in Soils at the Module Station Site

PARAMETER	CRITERIA	STA-ET25	STA-ET26	STA-ET27	STA-ET28	STA-ET29	STA-ET30	STA-ET31	STA-ET32	Buried Debris ES-ET90
	ppm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	40-50 cm	0-10 cm	0-10 cm	0-40 cm
Antimony	20	1.0	0.9	1.1	0.7	0.6	1.4	1.1	0.7	1.2
Arsenic	30*	<0.5	0.5	0.5	0.7	<0.5	1.0	0.8	<0.5	1.6
Barium	500	19.6	18.3	21.2	21.8	20.6	30.3	41.0	17.4	45.3
Beryllium	4	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.3
Boron	2	0.3	0.2	0.6	0.4	0.2	0.8	0.6	0.1	0.3
Cadmium	10	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.6	0.1
Chromium	250*	8.2	8.5	12.1	7.7	13.1	17.3	17.7	5.5	25.3
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	2.4	2.8	3.4	2.1	4.1	4.7	4.7	2.5	5.5
Copper	100*	6.4	6.2	8.0	7.1	8.1	17.0	14.9	7.3	16.5
Lead	200/500	8.2	5.6	10.3	7.8	4.5	10.3	6.3	2.3	6.8
Mercury	6.6	<0.01	<0.01	<0.01	<0.01	<0.01	0.0	<0.01	<0.01	<0.01
Molybdenum	10	<0.1	<0.1	0.2	0.1	<0.1	0.7	<0.1	<0.1	<0.1
Nickel	100*	6.2	6.0	7.5	5.3	8.6	10.9	11.5	5.5	16.1
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.6	1.4	1.4	1.5	1.4	1.6	1.7	1.6	2.0
Vanadium	130	10.0	11.9	10.3	9.0	12.9	14.7	18.7	9.3	23.9
Zinc	500*	21.4	22.6	26.1	20.1	28.2	107.0	45.4	27.9	37.2

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 10 cont. PCB Concentrations in Soils at the Module Station Site

PARAMETER	CRITERIA	STA-ET25	STA-ET26	STA-ET27	STA-ET28	STA-ET29	STA-ET30	STA-ET31	STA-ET32	Buried Debris ES, ET90
	ppm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	0-10 cm	40-50 cm	0-10 cm	0-10 cm	0-40 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	<0.1	0.2	0.1	<0.1	<0.1	0.3	0.1	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	<0.1	<0.1	0.2	0.1	<0.1	<0.1	0.3	0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Module Station

Table 11 PHC Concentrations in Soils at the Module Station Site

PARAMETER	CRITERIA ppm	STA-ET19 50-60 cm	STA-ET20 50-60 cm	STA-ET21 60-70 cm	STA-ET22 40-50 cm	STA-ET23 40-50 cm	Duplicate of STA-ET23	STA-ET24 40-50 cm
Benzene	0.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	0.8	<0.02	<0.02	1.61	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	1.2	<0.02	0.08	<0.02	0.95	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	<0.02	1.95	25	16.3	0.04	<0.02	<0.02
F1 C6-C10	260	16	111	329	342	68	87	64
F1 -BTEX		16	109	302	325	68	87	64
F2 C10-C16	900	1210	5180	5420	1900	816	1380	476
F3 C16-C34	800	443	662	1070	440	340	392	132
F4 C34-C50	5600	15	14	<10	68	130	134	28
F4HTGC C34-C50+		36	15	<10	88	150	137	54
% C50+		1.3	0	0	0.8	1.5	0	3.9

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

Table 12 PAH Concentrations in Soils at the Module Station Site

PARAMETER	CRITERIA ppm	STA-ET19 50-60 cm	STA-ET20 50-60 cm	STA-ET21 60-70 cm	STA-ET22 40-50 cm	STA-ET23 40-50 cm	Duplicate of STA-ET23	STA-ET24 40-50 cm
Naphthalene	0.6	<0.05	10.7	25.4	27.5	4.0	7.15	0.09
Acenaphthylene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene		<0.05	0.42	0.4	0.29	0.1	0.13	0.59
Fluorene		<0.05	0.81	1.04	0.54	0.14	0.18	0.42
Phenanthrene	5	<0.05	0.6	0.81	0.43	0.05	0.06	0.79
Anthracene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22
Fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2.53
Pyrene	10	0.05	<0.05	<0.05	0.05	<0.05	<0.05	2.34
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.64
Chrysene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.67
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.54
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.36
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.37
Indeno(1,2,3-c,d)pyren	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.27
Dibenzo(a,h)anthracen	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22
CB(a)P		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.68

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Module Station Water Results

Table 13 PCB Concentration in Groundwater from the Station Site

PARAMETER	CRITERIA ug/L	STA 16	STA 17	STA 21
Aroclor 1016		<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1
Aroclor 1254		0.2	7.3	5.1
Aroclor 1260		<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1
Total PCBs	0.1[a]	0.2	7.3	1

NOTES:
a: PCB Guideline no longer recommended - no guideline available. Exceedance of old criteria indicated by shading

Table 14 PHC Concentrations in Groundwater from the Station Site

PARAMETER	CRITERIA mg/L	STA 16	STA 17	STA 21
Benzene	0.37	<0.001	<0.001	<0.001
Toluene	0.002	<0.001	<0.001	0.005
Ethylbenzene	0.09	<0.001	<0.001	<0.001
Total Xylenes (m,p,o)		0.14	0.002	0.118
F1 C6-C10		1.07	0.59	0.71
F1 -BTEX		0.93	0.59	0.59
F2 C10-C16		10.9	10.4	256
F3 C16-C34		0.5	0.4	28.9
F3+ C34+		<0.1	<0.1	<0.1

NOTES:
PHC Guidelines based on CCME Water Quality Guidelines for the Protection of Aquatic Life; exceedances are indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Stain NW of Module Station

Table 15 Metals Concentrations in Soils at the Stain NW of the Module Station

PARAMETER	CRITERIA	NUS-ET34	NUS-ET35	NUS-ET36	NUS-ET37	NUS-ET38
	ppm	0-15 cm	0-15 cm	0-20 cm	0-15 cm	0-15 cm
Antimony	20	1.2	5.6	1.3	0.6	1.2
Arsenic	30*	1.3	0.7	1.0	0.6	0.7
Barium	500	40.4	356.0	56.3	135.0	83.4
Beryllium	4	0.2	0.2	0.2	0.2	0.1
Boron	2	0.3	1.6	0.8	1.7	1.8
Cadmium	10	0.1	0.8	0.3	0.1	1.1
Chromium	250*	27.4	19.8	23.8	15.4	18.6
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	6.7	5.0	5.8	3.9	5.1
Copper	100*	15.5	14.3	15.6	14.1	14.8
Lead	200/500	7.7	18.4	8.9	5.3	29.7
Mercury	6.6	0.0	0.1	0.2	0.0	0.2
Molybdenum	10	0.2	0.2	0.2	0.1	0.2
Nickel	100*	16.1	11.3	14.5	10.2	10.0
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.6	2.2	1.7	1.7	1.6
Vanadium	130	25.3	14.7	20.4	14.1	12.7
Zinc	500*	55.7	126.0	48.0	44.7	99.7

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Critera

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 16 PCB Concentrations in Soils at the Stain NW of the Module Station

PARAMETER	CRITERIA	NUS-ET34	NUS-ET35	NUS-ET36	NUS-ET37	NUS-ET38
	ppm	0-15 cm	0-15 cm	0-20 cm	0-15 cm	0-15 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		0.3	0.4	<0.1	<0.1	0.2
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	0.3	0.4	<0.1	<0.1	0.2

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Stain NW of Module Station

Table 17 PHC Concentrations in Soils at the Stain NW of the Module Station

PARAMETER	CRITERIA ppm	NUS-ET34 0-15 cm	NUS-ET35 0-15 cm	NUS-ET36 0-20 cm	NUS-ET37 0-15 cm	NUS-ET38 0-15 cm
Benzene	0.5	<0.02	<0.02	<0.02	0.1	<0.02
Toluene	0.8	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	1.2	<0.02	<0.02	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	<0.02	<0.02	<0.02	<0.02	<0.02
F1 C6-C10	260	4	3	<1	<1	<1
F1 -BTEX		4	3	<1	<1	<1
F2 C10-C16	900	<10	10	<10	95	12
F3 C16-C34	800	58	5880	180	223	715
F4 C34-C50	5600	21	11600	82	110	658
F4HTGC C34-C50+		24	12200	103	131	726
% C50+		0	3.2	7.3	4.7	4.7

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

Table 18 PAH Concentrations in Soils at the Stain NW of the Module Station

PARAMETER	CRITERIA ppm	NUS-ET34 0-15 cm	NUS-ET35 0-15 cm	NUS-ET36 0-20 cm	NUS-ET37 0-15 cm	NUS-ET38 0-15 cm
Naphthalene	0.6	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene		<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene		<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene		<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	5	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene		<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	10	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene		<0.05	0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyre	1	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthrace	1	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05	<0.05
CB(a)P		<0.05	<0.05	<0.05	<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Sewage Outfall

Table 19 Metals Concentrations in Soils at the Sewage Outfall Site

PARAMETER	CRITERIA ppm	OUTFALL ET60 0-15 cm	OUTFALL ET61 0-30 cm	OUTFALL ET62 0-20 cm
Antimony	20	2.3	0.9	0.8
Arsenic	30*	1.1	0.9	1.4
Barium	500	58.1	45.0	63.6
Beryllium	4	0.2	0.2	0.2
Boron	2	2.8	0.2	3.8
Cadmium	10	1.9	0.1	0.5
Chromium	250*	37.4	30.6	30.3
Chromium 6+	0.4	<0.1	<0.1	<0.1
Cobalt	50*	4.7	5.7	5.6
Copper	100*	842.0	17.9	59.6
Lead	200/500	130.0	5.2	10.7
Mercury	6.6	0.7	<0.01	0.2
Molybdenum	10	0.3	<0.1	0.1
Nickel	100*	17.1	18.4	20.2
Selenium	1	0.5	<0.2	0.3
Silver	20	0.5	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3
Tin	50	53.0	1.8	10.5
Vanadium	130	17.6	22.9	22.2
Zinc	500*	432.0	38.7	91.3

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 20 PCB Concentrations in Soils at the Sewage Outfall Site

PARAMETER	CRITERIA ppm	OUTFALL ET60 0-15 cm	OUTFALL ET61 0-30 cm	OUTFALL ET62 0-20 cm
Aroclor 1016		<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1
Aroclor 1254		17.2	<0.1	1.4
Aroclor 1260		<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1
Total PCBs	1/5	17.2	<0.1	1.4

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Warehouse Site

Table 21 Metals Concentrations in Soils at the Warehouse Site

PARAMETER	CRITERIA	WARE-ET11	WARE-ET11	WARE-ET12	WARE-ET13	WARE-ET14	WARE-ET15	WARE-ET33
	ppm	0-10 cm	80-90 cm	90-100 cm	0-10 cm	0-10 cm	0-10 cm	110-120 cm
Antimony	20	0.5	0.8	0.6	0.6	0.7	0.8	0.7
Arsenic	30*	<0.5	0.9	0.7	<0.5	<0.5	<0.5	<0.5
Barium	500	21.7	15.2	20.9	12.0	12.3	15.9	15.2
Beryllium	4	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Boron	2	0.3	0.5	0.3	0.1	<0.1	0.2	0.4
Cadmium	10	0.2	0.1	0.1	0.1	0.0	0.1	0.0
Chromium	250*	13.5	10.6	12.5	8.6	8.3	6.5	11.9
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	4.0	4.9	4.1	1.9	1.9	1.9	4.0
Copper	100*	7.5	5.4	8.9	5.2	4.6	5.0	5.6
Lead	200/500	7.2	4.2	5.8	4.5	3.1	4.3	3.6
Mercury	6.6	0.0	<0.01	<0.01	0.0	<0.01	<0.01	<0.01
Molybdenum	10	0.2	0.1	0.2	<0.1	<0.1	<0.1	0.2
Nickel	100*	7.8	6.7	7.6	5.3	5.0	4.6	7.3
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.5	1.5	1.6	1.6	1.4	1.4	1.5
Vanadium	130	10.9	8.3	10.2	7.3	7.7	7.8	8.9
Zinc	500*	28.0	17.3	22.5	17.9	16.4	17.6	17.4

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 22 PCB Concentrations in Soils at the Warehouse Site

PARAMETER	CRITERIA	WARE-ET11	WARE-ET11	WARE-ET12	WARE-ET13	WARE-ET14	WARE-ET15	WARE-ET33
	ppm	0-10 cm	80-90 cm	90-100 cm	0-10 cm	0-10 cm	0-10 cm	110-120 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	0.1	0.4	<0.1	<0.1	<0.1	0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Warehouse Site

Table 23 PHC Concentrations in Soils at the Warehouse Site

PARAMETER	CRITERIA ppm	WARE-ET11 0-10 cm	WARE-ET11 80-90 cm	WARE-ET12 90-100 cm	WARE-ET33 20-30 cm	WARE-ET33 110-120 cm
Benzene	0.5	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	0.8	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	1.2	<0.02	<0.02	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	<0.02	<0.02	<0.02	<0.02	<0.02
F1 C6-C10	260	2	63	24	3	92
F1 -BTEX		2	63	24	3	92
F2 C10-C16	900	<10	1170	444	63	2760
F3 C16-C34	800	34	116	141	44	259
F4 C34-C50	5600	<10	<10	16	<10	<10
F4HTGC C34-C50+		<10	<10	16	<10	<10
% C50+		0	0	0	0	0

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

Table 24 PAH Concentrations in Soils at the Warehouse Site

PARAMETER	CRITERIA ppm	WARE-ET11 0-10 cm	WARE-ET11 80-90 cm	WARE-ET12 90-100 cm	WARE-ET33 20-30 cm	WARE-ET33 110-120 cm
Naphthalene	0.6	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene		<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene		<0.05	0.11	<0.05	<0.05	0.33
Fluorene		<0.05	0.11	<0.05	<0.05	0.49
Phenanthrene	5	<0.05	<0.05	<0.05	<0.05	0.1
Anthracene		<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	10	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	1	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05	<0.05
CB(a)P		<0.05	<0.05	<0.05	<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Garage Site

Table 25 Metals Concentrations in Soils at the Garage Site

PARAMETER	CRITERIA	GAR-ET01	GAR-ET01	GAR-ET02	GAR-ET02	GAR-ET03	GAR-ET04	GAR-ET05
	ppm	0-10 cm	50-60 cm	0-10 cm	50-60 cm	0-10 cm	0-10 cm	0-10 cm
Antimony	20	4.8	1.1	1.6	1.2	1.5	1.4	0.8
Arsenic	30*	0.6	0.8	1.0	0.9	2.3	0.7	<0.5
Barium	500	29.3	42.0	60.1	29.1	89.1	24.8	15.7
Beryllium	4	0.2	0.2	0.2	0.1	0.2	0.2	0.1
Boron	2	1.3	1.6	0.8	0.8	1.3	0.6	0.4
Cadmium	10	0.3	0.1	1.2	0.2	1.1	0.2	0.1
Chromium	250*	13.9	24.4	17.4	13.2	26.7	10.4	6.6
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	3.8	5.1	4.2	4.4	4.8	2.9	1.8
Copper	100*	11.0	15.6	24.9	9.2	56.4	8.4	5.2
Lead	200/500	12.1	5.9	41.2	9.2	105.0	13.9	7.0
Mercury	6.6	0.1	<0.01	0.4	0.0	0.6	0.0	0.0
Molybdenum	10	<0.1	<0.1	0.4	0.2	0.6	0.1	<0.1
Nickel	100*	9.6	15.1	11.8	8.6	15.2	6.5	4.5
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	0.5	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.3	1.6	3.7	1.6	3.0	1.6	1.6
Vanadium	130	13.6	20.0	15.8	11.8	14.8	9.4	8.1
Zinc	500*	75.7	34.4	51.6	57.9	87.1	25.0	18.7

Table 25 cont. Metals Concentrations in Soils at the Garage Site

PARAMETER	CRITERIA	GAR-ET06	GAR-ET06	GAR-ET07	GAR-ET07	GAR-ET08	GAR-ET09	GAR-ET10
	ppm	0-10 cm	30-40 cm	0-10 cm	50-60 cm	0-10 cm	0-10 cm	0-10 cm
Antimony	20	1.0	1.2	0.7	1.0	1.6	1.3	1.3
Arsenic	30*	<0.5	0.8	0.7	0.8	0.9	1.1	1.0
Barium	500	18.4	23.8	33.2	16.6	53.6	77.1	37.4
Beryllium	4	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Boron	2	0.4	1.0	0.5	0.8	0.5	0.5	0.3
Cadmium	10	0.1	0.1	0.3	0.1	0.6	1.3	0.2
Chromium	250*	9.9	14.1	16.9	10.7	14.1	15.4	13.3
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	2.9	3.9	4.6	5.0	3.9	3.8	4.3
Copper	100*	7.1	9.6	86.3	7.7	17.8	18.4	11.7
Lead	200/500	13.6	20.9	91.4	7.5	49.9	62.6	29.0
Mercury	6.6	<0.01	<0.01	0.0	<0.01	0.1	0.1	0.1
Molybdenum	10	0.2	0.1	0.5	0.2	0.6	0.3	0.2
Nickel	100*	6.0	6.7	9.0	6.6	7.7	9.1	8.2
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.3	1.4	4.2	1.6	4.7	2.0	1.8
Vanadium	130	9.1	9.3	10.7	9.0	10.0	12.0	10.7
Zinc	500*	25.9	35.5	61.0	22.6	49.8	61.9	37.8

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading
2) * Indicates criteria based on DCC Tier 2 Criteria
3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

CAM-F DEW Line Site
Summary of Analytical Data
Garage Site

Table 26 PCB Concentrations in Soils at the Garage Site

PARAMETER	CRITERIA ppm	GAR-ET01 0-10 cm	GAR-ET01 50-60 cm	Duplicate GAR-ET01 (50-60cm)	GAR-ET02 50-60 cm	GAR-ET03 0-10 cm	GAR-ET04 0-10 cm	GAR-ET05 0-10 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		1.6	<0.1	<0.1	<0.1	0.4	<0.1	0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	1.6	<0.1	<0.1	<0.1	0.4	<0.1	0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

Table 27 PHC Concentrations in Soils at the Garage Site

PARAMETER	CRITERIA ppm	GAR-ET01 0-10 cm	GAR-ET06 30-40 cm	GAR-ET07 0-10 cm	GAR-ET07 50-60 cm
Benzene	0.5	<0.02	<0.02	<0.02	<0.02
Toluene	0.8	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	1.2	<0.02	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	<0.02	<0.02	<0.02	0.05
F1 C6-C10	260	110	4	3	70
F1 -BTEX		110	4	3	70
F2 C10-C16	900	9760	156	78	714
F3 C16-C34	800	1580	769	7050	492
F4 C34-C50	5600	60	211	2060	166
F4HTGC C34-C50+		104	252	2750	216
% C50+		0.4	3.5	7	3.5

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

CAM-F DEW Line Site
Summary of Analytical Data
Garage Site

Table 28 PAH Concentrations in Soils at the Garage Site

PARAMETER	CRITERIA ppm	GAR-ET01 0-10 cm	GAR-ET06 30-40 cm	GAR-ET07 0-10 cm	GAR-ET07 50-60 cm
Naphthalene	0.6	<0.05	<0.05	<0.05	<0.05
Acenaphthylene		<0.05	<0.05	<0.05	<0.05
Acenaphthene		<0.05	<0.05	<0.05	0.06
Fluorene		0.11	<0.05	<0.05	<0.05
Phenanthrene	5	<0.05	<0.05	<0.05	<0.05
Anthracene		<0.05	<0.05	<0.05	<0.05
Fluoranthene		<0.05	<0.05	<0.05	<0.05
Pyrene	10	0.08	<0.05	<0.05	<0.05
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05
Chrysene		<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	1	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	1	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05
CB(a)P		<0.05	<0.05	<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Vehicle Pile Site

Table 29 Metals Concentrations in Soils at the Vehicle Pile Site

PARAMETER	CRITERIA	VP-ET63	VP-ET63	VP-ET63	VP-ET63	VP-ET64	VP-ET65	VP-ET66	VP-ET67	VP-ET68	VP-ET68	VP-ET68	VP-ET68	VP-ET69	VP-ET70	VP-ET70	VP-ET70
	ppm	20-30 cm	50-60 cm	100-110 cm	120-130 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	0-15 cm	15-30 cm	30-45 cm	45-60 cm	0-30 cm	0-15 cm	15-30 cm	30-45 cm
Antimony	20	1.2	1.2	0.9	0.9	1.0	10.3	1.0	1.5	2.4	1.4	1.6	1.9	1.7	2.0	1.5	2.1
Arsenic	30*	1.4	1.3	1.1	0.9	1.0	0.9	0.9	1.6	0.9	0.9	1.2	1.2	1.2	1.5	1.2	1.6
Barium	500	48.5	47.5	37.8	38.1	85.2	41.6	40.9	49.8	51.8	41.2	44.6	40.0	51.2	51.1	46.3	55.0
Beryllium	4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Boron	2	0.5	0.3	0.1	0.2	1.4	0.6	0.4	0.3	0.9	0.5	0.6	0.5	0.3	1.4	0.7	0.8
Cadmium	10	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.3	0.1	0.1
Chromium	250*	26.7	29.1	23.6	21.0	24.3	25.5	24.2	31.9	28.8	21.4	22.8	20.9	30.8	27.2	29.0	34.4
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	6.4	6.1	5.3	4.8	5.5	5.7	5.4	6.3	5.1	4.4	4.7	4.4	5.9	5.4	5.8	6.3
Copper	100*	14.1	18.2	15.2	14.2	17.0	12.4	14.7	18.5	18.0	13.0	15.2	13.6	22.9	17.9	16.8	18.8
Lead	200/500	6.0	5.4	5.6	7.4	32.8	7.8	6.8	6.6	51.0	21.8	11.2	7.7	6.4	28.7	7.4	7.8
Mercury	6.6	<0.01	<0.01	<0.01	<0.01	0.0	<0.01	<0.01	<0.01	0.0	<0.01	<0.01	<0.01	<0.01	0.0	<0.01	<0.01
Molybdenum	10	0.1	0.1	<0.1	0.1	0.2	0.2	<0.1	0.1	0.2	0.2	0.2	0.1	<0.1	0.2	<0.1	0.4
Nickel	100*	16.4	17.3	14.0	12.5	14.6	17.3	14.2	19.6	14.8	12.0	13.9	13.0	19.4	15.1	17.4	19.8
Selenium	1	<0.2	<0.2	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.5	1.7	1.6	1.7	1.8	1.5	1.7	1.9	2.3	1.6	2.2	2.1	2.0	2.4	2.2	5.6
Vanadium	130	23.7	22.2	20.1	19.6	18.7	18.4	22.2	26.2	18.4	18.2	21.3	20.7	25.5	21.6	23.4	27.8
Zinc	500*	37.0	34.5	33.2	33.9	128.0	38.2	38.3	42.6	340.0	70.0	56.6	41.7	35.6	1280	115.0	64.7

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 30 PCB Concentrations in Soils at the Vehicle Pile Site

PARAMETER	CRITERIA	VP-ET63	VP-ET63	VP-ET64	VP-ET65	VP-ET66	VP-ET67	VP-ET68	VP-ET68	VP-ET68	VP-ET69	VP-ET70	VP-ET70	VP-ET70
	ppm	20-30 cm	100-110 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	15-30 cm	30-45 cm	45-60 cm	0-30 cm	0-15 cm	15-30 cm	30-45 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1
Aroclor 1260		0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	0.2	<0.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Vehicle Pile Site

Table 31 PHC Concentrations in Soils at the Vehicle Pile Site

PARAMETER	CRITERIA	VP-ET63	VP-ET63	VP-ET63	VP-ET70	VP-ET70
	ppm	20-30 cm	50-60 cm	100-110 cm	15-30 cm	30-45 cm
Benzene	0.5	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	0.8	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	1.2	<0.02	<0.02	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	<0.02	<0.02	<0.02	0.4	0.17
F1 C6-C10	260	<1	<1	<1	72	49
F1 -BTEX		<1	<1	<1	72	49
F2 C10-C16	900	<10	<10	47	2400	757
F3 C16-C34	800	113	19	36	4860	1600
F4 C34-C50	5600	27	16	<10	347	131
F4HTGC C34-C50+		44	34	<10	506	182
% C50+		10.5	33.5	0	2	2

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

Table 32 PAH Concentrations in Soils at the Vehicle Pile Site

PARAMETER	CRITERIA	VP-ET63	VP-ET70
	ppm	50-60 cm	15-30 cm
Naphthalene	0.6	<0.05	<0.05
Acenaphthylene		<0.05	<0.05
Acenaphthene		<0.05	0.19
Fluorene		<0.05	0.32
Phenanthrene	5	<0.05	1.05
Anthracene		<0.05	<0.05
Fluoranthene		<0.05	<0.05
Pyrene	10	<0.05	0.08
Benzo(a)anthracene	1	<0.05	<0.05
Chrysene		<0.05	0.09
Benzo(b)fluoranthene	1	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	1	<0.05	<0.05
Dibenzo(a,h)anthracene	1	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05
CB(a)P		<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Buried Debris at West Barrel Cache

Table 33 Metals Concentrations in Soils at the Buried Barrel Cache Site

PARAMETER	CRITERIA ppm	BC ET71 COMP	BC-ET76 80-90 cm
Antimony	20	20.3	2.5
Arsenic	30*	1.6	0.9
Barium	500	55.1	55.9
Beryllium	4	0.2	0.2
Boron	2	0.5	0.3
Cadmium	10	0.2	0.1
Chromium	250*	24.5	31.6
Chromium 6+	0.4	<0.1	<0.1
Cobalt	50*	6.3	5.8
Copper	100*	19.0	15.7
Lead	200/500	18.4	6.2
Mercury	6.6	<0.01	<0.01
Molybdenum	10	0.3	0.2
Nickel	100*	13.9	20.3
Selenium	1	<0.2	<0.2
Silver	20	<0.05	<0.05
Thallium	1	0.5	<0.3
Tin	50	2.0	1.8
Vanadium	130	18.5	22.6
Zinc	500*	61.1	34.0

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 34 PCB Concentrations in Soils at the Burried Barrel Cache Site

PARAMETER	CRITERIA ppm	BC ET71 COMP	BC-ET75 50-60 cm
Aroclor 1016		<0.1	<0.1
Aroclor 1221		<0.1	<0.1
Aroclor 1232		<0.1	<0.1
Aroclor 1242		<0.1	<0.1
Aroclor 1248		<0.1	<0.1
Aroclor 1254		<0.1	<0.1
Aroclor 1260		<0.1	<0.1
Aroclor 1262		<0.1	<0.1
Aroclor 1268		<0.1	<0.1
Total PCBs	1/5	<0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

Table 35 PHC Concentrations in Soils at the Burried Barrel Cache Site

PARAMETER	CRITERIA ppm	BC ET71 COMP	BC ET72 90-100 cm	BC ET73 70-80 cm	BC ET74 60-70 cm	BC-ET75 50-60 cm	BC-ET76 80-90 cm	Duplicate of BC-ET76
Benzene	0.5	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	0.8	0.07	6.01	0.17	0.2	<0.02	<0.02	<0.02
Ethylbenzene	1.2	1.01	3.61	0.86	2.36	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	8.09	51.3	15.4	45.6	0.05	<0.02	<0.02
F1 C6-C10	260	101	559	397	468	7	3	3
F1 -BTEX		92	498	380	420	7	3	3
F2 C10-C16	900	2070	5680	6760	3820	<10	10	<10
F3 C16-C34	800	183	550	613	305	167	50	50
F4 C34-C50	5600	34	<10	<10	12	77	65	26
F4HTGC C34-C50+		46	<10	<10	19	119	93	32
% C50+		0.5	0	0	0	14.7	18.7	0

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

CAM-F DEW Line Site
Summary of Analytical Data
Buried Debris at West Barrel Cache

Table 36 PAH Concentrations in Soils at the Burried Barrel Cache Site

PARAMETER	CRITERIA ppm	BC ET71 COMP	BC ET72 90-100 cm	BC ET73 70-80 cm	BC ET74 60-70 cm
Naphthalene	0.6	1.79	43.1	20.1	26.4
Acenaphthylene		<0.05	<0.05	<0.05	<0.05
Acenaphthene		<0.05	<0.05	<0.05	<0.05
Fluorene		0.1	2.95	1.46	1.03
Phenanthrene	5	0.06	1.13	0.76	0.46
Anthracene		<0.05	<0.05	<0.05	<0.05
Fluoranthene		<0.05	<0.05	<0.05	<0.05
Pyrene	10	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05
Chrysene		<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyre	1	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthrace	1	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05
CB(a)P		<0.05	<0.05	<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

Table 37 Pesticide Concentrations in Soils at the Burried Barrel Cache Site

PARAMETER	CRITERIA ppm	BC ET71 COMP
Aldrin		<0.05
BHC (alpha isomer)		<0.05
BHC (beta isomer)		<0.05
BHC (delta isomer)		<0.05
Captan		<0.5
Chlorbenside		<0.05
Chlordane-cis		<0.05
Chlordane-trans		<0.05
Chlorfenson		<0.05
Chlorothalonil		<0.5
Chlorthal-dimethyl		<0.05
DDD-o,p'		<0.05
DDD-p,p'		<0.05
DDE-o,p'		<0.05
DDE-p,p'		<0.05
DDT-o,p'		<0.05
DDT-p,p'	0.7	<0.05
Dichlofluanid		<0.05
Dicofol		<0.5
Dieldrin		<0.05
Endosulfan I		<0.05
Endosulfan II		<0.05
Endosulfan sulfate		<0.05
Endrin		<0.05
Folpet		<0.5
Heptachlor		<0.05
Heptachlor Epoxide		<0.05
Hexachlorobenzene	2	<0.05
Lindane		<0.05
Methoxychlor		<0.05
Mirex		<0.05
Nitrofen		<0.05
Permethrin-cis		<0.05
Permethrin-trans		<0.05
Procymidone		<0.05
Propachlor		<0.05
Quintozene		<0.05
Tecnazene		<0.05
Tetradifon		<0.05
Tolyfluanid		<0.05
Triadimefon		<0.05
Vinclozolin		<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
POL Tanks

Table 38 Metals Concentrations in Soils at the POL Tanks Site

PARAMETER	CRITERIA	POL ET84	POL ET85	POL ET86	POL ET87	POL ET88	POL ET89	POL-ET97	POL-ET98	POL-ET99	POL-ET100
	ppm	70-80 cm	100-110 cm	80-90 cm	100-120 cm	80-90 cm	90-100 cm	0-30 cm	0-10 cm	0-20 cm	0-20 cm
Antimony	20	1.6	1.6	1.4	1.0	1.1	1.7	1.4	1.1	1.2	3.0
Arsenic	30*	1.2	1.9	1.4	1.0	1.5	1.2	1.6	2.7	1.6	2.2
Barium	500	74.9	65.0	33.2	53.4	43.8	76.2	44.1	51.2	36.1	38.9
Beryllium	4	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.4	0.6
Boron	2	0.8	0.5	0.3	0.1	0.2	0.2	0.2	2.4	0.5	0.3
Cadmium	10	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1
Chromium	250*	35.4	31.0	28.4	32.2	25.2	33.8	34.9	26.9	27.9	41.8
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	7.3	9.8	6.2	5.6	6.6	6.6	5.3	5.7	6.2	10.5
Copper	100*	15.9	23.6	14.3	13.6	16.7	13.7	17.7	42.6	27.1	41.0
Lead	200/500	6.1	5.6	8.2	4.1	7.2	5.4	12.6	22.8	6.5	6.0
Mercury	6.6	0.0	0.0	0.0	<0.01	<0.01	0.0	<0.01	0.0	<0.01	<0.01
Molybdenum	10	0.1	0.2	0.2	<0.1	<0.1	0.2	0.1	0.5	0.1	0.1
Nickel	100*	22.9	21.9	16.7	20.6	16.2	17.6	13.5	16.2	16.8	25.3
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.9	1.8	1.5	1.8	1.7	2.0	1.9	1.8	2.1	2.3
Vanadium	130	29.0	34.6	25.2	23.2	21.4	28.9	23.0	24.6	29.0	50.4
Zinc	500*	41.4	54.4	40.5	32.8	38.5	43.5	106.0	68.4	50.2	65.5

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 39 PHC Concentrations in Soils at the POL Tanks Site

PARAMETER	CRITERIA	POL ET84	POL ET85	POL ET86	POL ET87	POL ET88	POL ET89	POL-ET97	POL-ET98	POL-ET99	POL-ET100
	ppm	70-80 cm	100-110 cm	80-90 cm	100-120 cm	80-90 cm	90-100 cm	0-30 cm	0-10 cm	0-20 cm	0-20 cm
Benzene	0.5	<0.02	<0.02	<0.02	15.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	0.8	<0.02	<0.02	<0.02	30.2	<0.02	0.04	0.05	<0.02	<0.02	0.13
Ethylbenzene	1.2	<0.02	<0.02	<0.02	23	<0.02	0.06	0.03	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	0.26	<0.02	<0.02	76.8	<0.02	2.87	1.42	0.09	1.25	8.07
F1 C6-C10	260	123	8	3	1570	4	222	190	30	118	71
F1 -BTEX		123	8	3	1420	4	219	188	30	117	63
F2 C10-C16	900	1070	<10	<10	6930	<10	5310	9780	2020	13300	4770
F3 C16-C34	800	156	165	30	442	30	954	2770	890	696	451
F4 C34-C50	5600	<10	180	33	<10	18	127	398	285	26	36
F4HTGC C34-C50+		<10	272	44	<10	21	185	484	482	30	51
% C50+		0	20.9	15.2	0	0	0.9	0.7	5.8	0	0.3

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

CAM-F DEW Line Site
Summary of Analytical Data
POL Tanks

Table 40 PAH Concentrations in Soils at the POL Tanks Site

PARAMETER	CRITERIA ppm	POL ET84 70-80 cm	POL ET89 90-100 cm	POL-ET97 0-30 cm	POL-ET98 0-10 cm
Naphthalene	0.6	0.96	4.6	3.01	<0.05
Acenaphthylene		<0.05	<0.05	<0.05	<0.05
Acenaphthene		0.11	<0.05	0.97	<0.05
Fluorene		0.19	0.69	0.84	<0.05
Phenanthrene	5	0.09	0.4	0.58	<0.05
Anthracene		<0.05	<0.05	<0.05	<0.05
Fluoranthene		<0.05	<0.05	<0.05	<0.05
Pyrene	10	<0.05	<0.05	0.05	<0.05
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05
Chrysene		<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	1	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	1	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05
CB(a)P		<0.05	<0.05	<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
DUMP A

Table 41 Metals Concentrations in Soils at the Dump A Site

PARAMETER	CRITERIA ppm	DA-ET95 0-30 cm	DA-ET96 0-30 cm
Antimony	20	1.1	1.4
Arsenic	30*	0.8	1.2
Barium	500	48.6	735
Beryllium	4	0.24	0.2
Boron	2	0.3	3.3
Cadmium	10	0.04	0.18
Chromium	250*	26.3	27.6
Chromium 6+	0.4	<0.1	<0.1
Cobalt	50*	6.02	6.37
Copper	100*	79.6	22.3
Lead	200/500	7.6	55.4
Mercury	6.6	<0.01	0.04
Molybdenum	10	0.1	0.5
Nickel	100*	17	14.5
Selenium	1	<0.2	1
Silver	20	<0.05	<0.05
Thallium	1	<0.3	<0.3
Tin	50	1.4	2.9
Vanadium	130	23.2	21.9
Zinc	500*	38.4	158

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 42 PCB Concentrations in Soils at the Dump A Site

PARAMETER	CRITERIA ppm	DA-ET48 0-15 cm	DA-ET49 0-15 cm	DA-ET50 0-10 cm	DA-ET51 0-15 cm	DA-ET52 0-20 cm	DA-ET53 0-15 cm	DA-ET54 0-10 cm	Duplicate of DA-ET54 (0-10cm)	DA-ET54 90-100 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	0.1	25.2	2.3	<0.1	0.2	0.9	0.6	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	<0.1	0.1	25.2	2.3	<0.1	0.2	0.9	0.6	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

Table 42 cont. PCB Concentrations in Soils at the Dump A Site

PARAMETER	CRITERIA ppm	DA-ET55 0-10 cm	DA-ET56 0-20 cm	DA-ET57 0-10 cm	DA-ET57 30-40 cm	DA-ET58 0-10 cm	DA-ET58 60-70 cm	DA-ET59 0-10 cm	DA-ET59 30-40 cm	DA-ET95 0-30 cm	DA-ET96 0-30 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
DUMP B

Table 43 Metals Concentrations in Soils at the Dump B Site

PARAMETER	CRITERIA	DB-ET39	DB-ET40	DB-ET41	DB-ET42	DB-ET43	DB-ET44	DB-ET45	DB-ET46	DB-ET47
	ppm	0-15 cm	0-15 cm	0-15 cm	0-15 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm
Antimony	20	1.1	13.2	19.5	1.3	3.2	1.1	1.2	1.1	1.1
Arsenic	30*	0.8	1.3	0.5	0.8	0.8	1.4	1.3	1.2	0.7
Barium	500	46.1	68.2	32.1	32.9	32.9	36.2	31.4	43.0	30.7
Beryllium	4	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2
Boron	2	2.0	1.9	1.2	0.7	2.30	0.8	<0.1	0.2	0.7
Cadmium	10	1.0	1.5	0.8	0.2	9.96	0.9	0.1	0.1	0.1
Chromium	250*	20.6	22.3	20.6	20.0	21.3	27.4	22.8	30.9	19.5
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	4.8	6.1	4.3	4.5	5.0	6.6	5.6	6.7	6.0
Copper	100*	12.3	16.4	12.2	29.4	437.0	24.6	18.5	13.0	14.6
Lead	200/500	7.5	10.2	9.9	13.8	41.4	7.3	6.3	7.6	10.3
Mercury	6.6	0.0	0.2	0.0	0.0	0.1	0.0	<0.01	0.0	0.0
Molybdenum	10	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2
Nickel	100*	12.6	15.4	12.4	11.2	16.5	16.2	12.7	18.2	12.2
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	1.6	1.4	1.7	3.8	6.9	1.8	1.9	1.5	1.8
Vanadium	130	16.6	16.0	15.8	16.4	16.2	25.9	24.0	24.3	16.3
Zinc	500*	315.0	136.0	99.8	119.0	131.0	55.4	37.2	42.5	44.5

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 44 PCB Concentrations in Soils at the Dump B Site

PARAMETER	CRITERIA	DB-ET39	DB-ET40	DB-ET41	DB-ET42	DB-ET43	DB-ET44	DB-ET45	DB-ET46	DB-ET47
	ppm	0-15 cm	0-15 cm	0-15 cm	0-15 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		2	9.2	1	1.8	11.8	<0.1	<0.1	0.3	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	2	9.2	1	1.8	11.8	<0.1	<0.1	0.3	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
DUMP B

Table 45 PHC Concentrations in Soils at the Dump B Site

PARAMETER	CRITERIA	DB-ET39	DB-ET40	DB-ET41	DB-ET42	DB-ET43	DB-ET44	DB-ET45	DB-ET46	DB-ET47
	ppm	0-15 cm	0-15 cm	0-15 cm	0-15 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm
Benzene	0.5	0.02	<0.02	<0.02	0.02	<0.02	0.05	<0.02	<0.02	<0.02
Toluene	0.8	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	1.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
F1 C6-C10	260	<1	2	<1	1	<1	<1	<1	<1	<1
F1 -BTEX		<1	2	<1	<1	<1	<1	<1	<1	<1
F2 C10-C16	900	<10	35	<10	<10	<10	<10	<10	<10	69
F3 C16-C34	800	8720	17300	7800	6090	644	73	<10	24	166
F4 C34-C50	5600	27800	41100	24700	17900	498	84	<10	24	207
F4HTGC C34-C50+		50400	68000	40000	28200	751	109	<10	49	451
% C50+		38.3	31.5	32.1	30	18.1	13.7	0	33.8	35.6

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

Table 46 PAH Concentrations in Soils at the Dump B Site

PARAMETER	CRITERIA	DB-ET39	DB-ET40	DB-ET41	DB-ET42	DB-ET43	DB-ET44	DB-ET45	DB-ET46	DB-ET47
	ppm	0-15 cm	0-15 cm	0-15 cm	0-15 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm
Naphthalene	0.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	10	0.07	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene		0.15	0.12	0.09	0.09	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
CB(a)P		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Construction Camp Generator Site

Table 47 Metals Concentrations in Soils at the Old Construction Camp Generator Site

PARAMETER	CRITERIA	CCGEN-ET77	Duplicate of	CCGEN-ET77	CCGEN-ET78	CCGEN-ET79	CCGEN-ET80	CCGEN-ET81	CCGEN-ET82
	ppm	30-40 cm	CCGEN-ET77 (30-40cm)	40-60 cm	0-20 cm	0-20 cm	0-20 cm	0-20 cm	20-30 cm
Antimony	20	1.5	1.7	1.5	2.1	1.2	1.2	1.2	1.2
Arsenic	30*	1.6	1.1	1.6	1.6	1.9	1.2	1.3	1.5
Barium	500	53.0	50.4	51.9	58.1	46.2	93.6	89.3	49.3
Beryllium	4	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2
Boron	2	0.5	0.3	0.5	0.1	0.4	0.5	0.5	0.3
Cadmium	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chromium	250*	30.3	29.4	33.8	35.1	31.7	33.6	28.8	30.2
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	5.8	5.9	6.1	7.1	5.9	6.1	5.7	6.3
Copper	100*	18.2	19.7	17.3	17.8	18.1	18.2	13.1	16.1
Lead	200/500	5.5	6.2	6.3	7.7	6.6	6.7	6.4	6.0
Mercury	6.6	<0.01	<0.01	<0.01	<0.01	0.0	0.0	0.0	<0.01
Molybdenum	10	0.1	0.3	<0.1	0.1	0.2	<0.1	<0.1	<0.1
Nickel	100*	19.9	19.0	20.6	21.7	18.2	18.3	14.9	19.0
Selenium	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin	50	2.1	1.8	1.9	2.6	1.7	2.0	2.1	1.8
Vanadium	130	23.6	23.4	25.4	29.8	25.0	25.1	23.1	24.2
Zinc	500*	32.3	36.7	38.1	43.5	35.4	45.0	46.1	37.4

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 48 PCB Concentrations in Soils at the Old Construction Camp Generator Site

PARAMETER	CRITERIA	CCGEN-ET77	CCGEN-ET78	CCGEN-ET79	CCGEN-ET80	Duplicate of	CCGEN-ET81	CCGEN-ET82
	ppm	30-40 cm	0-20 cm	0-20 cm	0-20 cm	CCGEN-ET80 (0-20cm)	0-20 cm	20-30 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Construction Camp Generator Site

Table 49 PHC Concentrations in Soils at the Old Construction Camp Generator Site

PARAMETER	CRITERIA ppm	CCGEN-ET77 30-40 cm
Benzene	0.5	0.02
Toluene	0.8	<0.02
Ethylbenzene	1.2	<0.02
Total Xylenes (m,p,o)	1	0.39
F1 C6-C10	260	210
F1 -BTEX		210
F2 C10-C16	900	5220
F3 C16-C34	800	1300
F4 C34-C50	5600	191
F4HTGC C34-C50+		229
% C50+		0.6

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

CAM-F DEW Line Site
Summary of Analytical Data
Construction Camp Machine Shop Site

Table 50 Metals Concentrations in Soils at the Old Construction Camp Shop Site

PARAMETER	CRITERIA	CCSHOP-ET101	CCSHOP-ET102	CCSHOP-ET103	CCSHOP-ET104
	ppm	0-20 cm	0-20 cm	0-20 cm	0-20 cm
Antimony	20	1.4	1.4	1.3	1.1
Arsenic	30*	1.6	1.1	0.9	1.1
Barium	500	283.0	61.5	67.6	50.8
Beryllium	4	0.2	0.2	0.2	0.2
Boron	2	0.8	0.5	0.3	0.7
Cadmium	10	0.3	0.2	0.1	0.1
Chromium	250*	28.6	21.7	22.0	24.0
Chromium 6+	0.4	<0.1	<0.1	<0.1	<0.1
Cobalt	50*	5.0	4.4	5.2	5.0
Copper	100*	22.2	13.2	14.4	12.3
Lead	200/500	45.6	41.8	9.1	14.1
Mercury	6.6	<0.01	<0.01	<0.01	<0.01
Molybdenum	10	0.3	0.2	0.1	<0.1
Nickel	100*	14.2	11.2	14.5	14.9
Selenium	1	<0.2	<0.2	<0.2	<0.2
Silver	20	<0.05	<0.05	<0.05	<0.05
Thallium	1	<0.3	<0.3	<0.3	<0.3
Tin	50	2.2	6.7	2.0	1.7
Vanadium	130	18.6	14.1	18.4	20.3
Zinc	500*	61.6	36.7	32.8	35.0

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use except as noted below; exceedance indicated by shading

2) * Indicates criteria based on DCC Tier 2 Criteria

3) Lead criteria based on DCC Tier 1 (200 ppm) and DCC Tier 2 (500 ppm)

Table 51 PCB Concentrations in Soils at the Old Construction Camp Shop Site

PARAMETER	CRITERIA	CCSHOP-ET101	CCSHOP-ET102	CCSHOP-ET103	CCSHOP-ET104
	ppm	0-20 cm	0-20 cm	0-20 cm	0-20 cm
Aroclor 1016		<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	<0.1	<0.1	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	<0.1	<0.1	<0.1	<0.1

NOTES:

1) Criteria based on DCC Tier 1 (1 ppm) and DCC Tier 2 (5 ppm) for PCBs; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Construction Camp Machine Shop Site

Table 52 PHC Concentrations in Soils at the Old Construction Camp Shop Site

PARAMETER	CRITERIA ppm	CCSHOP-ET101 0-20 cm	Duplicate of CCSHOP-ET101	CCSHOP-ET102 0-20 cm	CCSHOP-ET103 0-20 cm	CCSHOP-ET104 0-20 cm
Benzene	0.5	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	0.8	<0.02	0.02	<0.02	<0.02	3.63
Ethylbenzene	1.2	<0.02	<0.02	<0.02	<0.02	<0.02
Total Xylenes (m,p,o)	1	<0.02	0.02	<0.02	<0.02	47.7
F1 C6-C10	260	28	23	4	3	1440
F1 -BTEX		28	23	4	3	1390
F2 C10-C16	900	646	514	12	26	367
F3 C16-C34	800	18300	16200	654	1390	1410
F4 C34-C50	5600	1050	981	183	464	129
F4HTGC C34-C50+		1140	1110	212	609	145
% C50+		0.4	0.7	3.4	7.1	0.8

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

2) F1-F4 Criteria based on Canada Wide Standards for PHCs in Soil

Table 53 PAH Concentrations in Soils at the Old Construction Camp Shop Site

PARAMETER	CRITERIA ppm	CCSHOP-ET101 0-20 cm	CCSHOP-ET102 0-20 cm	CCSHOP-ET103 0-20 cm	CCSHOP-ET104 0-20 cm
Naphthalene	0.6	<0.05	<0.05	<0.05	5.1
Acenaphthylene		<0.05	<0.05	<0.05	<0.05
Acenaphthene		<0.05	<0.05	<0.05	<0.05
Fluorene		<0.05	<0.05	<0.05	0.07
Phenanthrene	5	<0.05	<0.05	<0.05	0.14
Anthracene		<0.05	<0.05	<0.05	<0.05
Fluoranthene		<0.05	<0.05	<0.05	<0.05
Pyrene	10	0.06	<0.05	<0.05	<0.05
Benzo(a)anthracene	1	<0.05	<0.05	<0.05	<0.05
Chrysene		0.06	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(j)fluoranthene		<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	1	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	0.7	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-c,d)pyrene	1	<0.05	<0.05	<0.05	<0.05
Dibenzo(a,h)anthracene	1	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene		<0.05	<0.05	<0.05	<0.05
CB(a)P		<0.05	<0.05	<0.05	<0.05

NOTES:

1) Criteria based on CCME Soil Quality Guidelines for Residential Land-Use; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Sarcpa Lake Sediment Sampling

Table 54 Metals Concentrations in Sediments from Sarcpa Lake

PARAMETER	CRITERIA	ETC, 2004				RRMC, 1994	
	ppm	Sarcpa #1	Sarcpa #2	Sarcpa #3	Sarcpa #4	BF3500	BF3501
Antimony		2.8	1.6	2.9	2.4	-	-
Arsenic	5.9	2.5	1.4	2.4	2.3	<0.2	<0.2
Barium		128.0	63.3	133.0	137.0	-	-
Beryllium		0.4	0.3	0.4	0.4	-	-
Boron		0.1	0.3	0.2	0.2	-	-
Cadmium	0.6	0.1	0.1	0.1	0.1	<1.0	<1.0
Chromium	37.3	77.8	36.2	79.5	62.2	<20	<20
Cobalt		15.2	6.9	15.1	12.7	<5.0	<5.0
Copper	35.7	43.9	19.6	48.1	56.7	6.9	<3.0
Lead	35	9.9	8.2	11.2	11.4	<10	<10
Mercury	0.17	<0.01	<0.01	<0.01	<0.01	-	-
Molybdenum		0.3	0.2	0.5	0.8	-	-
Nickel		46.6	22.7	47.9	44.2	<5.0	<5.0
Selenium		<0.2	<0.2	<0.2	<0.2	-	-
Silver		<0.05	<0.05	<0.05	<0.05	-	-
Thallium		<0.3	<0.3	<0.3	<0.3	-	-
Tin		1.7	1.8	1.7	2.0	-	-
Vanadium		65.6	31.5	66.6	51.8	-	-
Zinc	123	86.3	52.6	86.9	83.3	7	13

NOTES:

1) criteria based on CCME Sediment Quality Guidelines for the Protection of Aquatic Life; exceedance of guideline indicated by shading

Table 55 PCB Concentrations in Sediments from Sarcpa Lake

PARAMETER	CRITERIA	ETC, 2004				RRMC, 1994	
	ppm	Sarcpa #1	Sarcpa #2	Sarcpa #3	Sarcpa #4	BF3500	BF3501
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	-	-
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	-	-
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	-	-
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	0.00005	<0.0001
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	-	-
Aroclor 1254		<0.1	<0.1	<0.1	<0.1	0.000044	<0.0001
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	0.000062	<0.0001
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	-	-
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	-	-
Total PCBs	0.034	<0.1	<0.1	<0.1	<0.1	0.00012	-

NOTES:

1) criteria based on CCME Sediment Quality Guidelines for the Protection of Aquatic Life; exceedance of guideline indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Biological Sampling

Table 56 Heavy Metals Concentrations in Biological Samples

PARAMETER	CRITERIA	Trout	Arctic Char	Lemming
Aluminum		<2	<2	8.59
Antimony		<0.1	<0.1	<1
Arsenic		0.24	0.11	<2
Barium		<0.5	<0.5	1.47
Beryllium		<0.05	<0.05	<0.03
Bismuth		<0.2	<0.2	<1
Cadmium		<0.005	<0.005	0.088
Calcium		180	<100	5120
Chromium		<0.2	<0.2	0.18
Cobalt		<0.05	<0.05	0.14
Copper		3	<0.5	2.55
Iron		<5	<5	61.9
Lead		0.16	<0.05	<0.5
Lithium		<0.5	<0.5	<0.3
Magnesium		200	220	257
Manganese		<2	<2	23.9
Mercury	33.0 µg/kg	0.337	0.14	<0.005
Molybdenum		<0.5	<0.5	<0.5
Nickel		<0.2	<0.2	0.19
Phosphorus		2400	2390	4540
Potassium		4250	4500	3270
Selenium		0.53	0.7	<5
Silicon		<20	<20	32.3
Silver		<0.05	<0.05	<0.1
Sodium		650	540	978
Strontium		<0.5	<0.5	3
Tin		0.86	0.79	2.7
Titanium		<0.2	<0.2	0.9
Uranium		<0.2	<0.2	<3
Vanadium		0.2	0.21	<0.05
Zinc		8.04	5.19	36.6
Zirconium		<0.5	<0.5	<0.3

Notes:
Criteria based on CCME Environmental Quality Guidelines for Tissue Residue

Table 57 PCB Concentrations in Biological Samples

PARAMETER	CRITERIA ng/g	Trout	Arctic Char	Lemming
Total PCBs		7.3	4.7	0.13
Lipid %		0.9	1.0	2.8

Notes:
Criteria based on CCME Environmental Quality Guidelines for Tissue Residue

CAM-F DEW Line Site
Summary of Analytical Data
Surface Water Results

Table 58 Total Metals Concentrations in the Surface Water Samples

PARAMETER	CRITERIA mg/L	ETSW01	ETSW02	ETSW03	ETSW04	Blank
Aluminum	0.005-0.1[a]	0.014	0.076	0.011	<0.005	0.023
Antimony		<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Arsenic	0.005	<0.0002	0.0003	<0.0002	<0.0002	<0.0002
Barium		0.004	0.01	0.002	0.006	0.002
Beryllium		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Boron		0.006	0.011	0.002	0.003	<0.002
Cadmium	0.017[b]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Chromium	0.001[c]	<0.0005	0.0005	<0.0005	<0.0005	<0.0005
Cobalt		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	0.002-0004[d]	<0.001	0.002	<0.001	<0.001	<0.001
Iron	0.3	<0.1	<0.1	<0.1	<0.1	<0.1
Lead	0.001-0.007[e]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Lithium		<0.001	0.007	<0.001	0.001	<0.001
Manganese		<0.005	<0.005	<0.005	<0.005	<0.005
Mercury		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.073	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel	0.025-0.150[f]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Selenium	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silicon		0.45	0.21	0.16	0.1	0.16
Silver	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Strontium		0.013	0.051	0.008	0.02	0.003
Sulphur		0.18	4.59	0.22	0.21	0.15
Thallium	0.0008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Tin		<0.001	<0.001	<0.001	<0.001	<0.001
Titanium		0.0008	0.004	0.0005	<0.0005	0.0011
Uranium		<0.0005	0.0084	0.0005	0.0007	<0.0005
Vanadium		0.0005	0.0001	<0.0001	<0.0001	<0.0001
Zinc	0.03	0.001	0.004	0.001	<0.001	0.005

NOTES:

Criteria based on CCME Water Quality Guidelines for the Protection of Aquatic Life; exceedance of guideline indicated by shading

a - Aluminium Guideline: 0.005 mg/L at pH < 6.5, $[Ca^{2+}]$ < 4 mg/L,and DOC < 2 mg/L; 0.1 mg/L at pH > 6.5, $[Ca^{2+}]$ > 4 mg/L, and DOC > 2 mg/L

b - Cadmium Guideline = $10^{(0.86[\log(\text{hardness})]-3.2)}$

c - Chromium Guideline: 0.001 mg/L for Hexavalent chromium (Cr(VI))

d - Copper Guideline: 0.002 mg/L at $[CaCO_3]$ < 120 mg/L; 0.003 mg/L at $[CaCO_3]$ = 120-180 mg/L; 0.004 mg/L at $[CaCO_3]$ > 180 mg/L

e - Lead Guideline: 0.001 mg/L at $[CaCO_3]$ < 60 mg/L; 0.002 mg/L at $[CaCO_3]$ = 60-120 mg/L; 0.004 mg/L at $[CaCO_3]$ = 120-180 mg/L; 0.007 mg/L at $[CaCO_3]$ > 180 mg/

f - Nickel Guideline: 0.025 mg/L at $[CaCO_3]$ < 60 mg/L; 0.065 mg/L at $[CaCO_3]$ = 60-120 mg/L; 0.110 mg/L at $[CaCO_3]$ = 120-180 mg/L; 0.150 mg/L at $[CaCO_3]$ > 180 mg

CAM-F DEW Line Site
Summary of Analytical Data
Surface Water Results

Table 59 PCB Concentration in the Surface Water Samples

PARAMETER	CRITERIA ug/L	ETSW01	ETSW02	ETSW03	ETSW04	Blank
Aroclor 1016		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1254		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1260		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1	<0.1
Total PCBs	0.1	<0.1	<0.1	<0.1	<0.1	<0.1

NOTES:
PCB Guideline: guideline no longer recommended - no guideline available. Exceedance of old criteria indicated by shading

Table 60 Water Parameters in the Surface Water Samples

PARAMETER	CRITERIA ug/L	ETSW01	ETSW02	ETSW03	ETSW04	Blank
pH	6.5-9.0	7.8	8.25	7.68	8.13	7.01
Electrical Conductivity		85	257	52	134	15
Nitrate - N		<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite - N	0.06	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrate and Nitrite - N		<0.2	<0.2	<0.2	<0.2	<0.2
Hydroxide		<5	<5	<5	<5	<5
Carbonate		<6	<6	<6	<6	8
Bicarbonate		57	153	32	83	<5
P-Alkalinity		<5	<5	<5	<5	<5
T-Alkalinity		47	126	26	68	7
Total dissolved solids		45	144	26	69	6
Hardness		41.5	131	24.8	67.6	4
Ionic Balance		90	100	95	101	37

NOTES:
Guidelines based on CCME Water Quality Guidelines for the Protection of Aquatic Life

CAM-F DEW Line Site
Summary of Analytical Results
Relative Percent Difference for Field Duplicates

Table 61 Relative Percent Different for Duplicate Heavy Metals in Soil Results

Parameter	Sample ID		RPD	Sample ID		RPD
	STA-ET23 (40-50cm)	STA-ET23A (40-50cm)		CCGEN-ET77 (30-40 cm)	CCGEN-ET77A (30-40 cm)	
Antimony	1.2	1	18	1.5	1.7	13
Arsenic	1	0.9	11	1.6	1.1	37
Barium	41	39.6	3	53	50.4	5
Beryllium	0.22	0.2	10	0.22	0.23	4
Boron	0.7	0.8	13	0.5	0.3	50
Cadmium	0.06	0.06	0	0.07	0.07	0
Chromium	23.3	23.7	2	30.3	29.4	3
Chromium 6+	<0.1	<0.1	0	<0.1	<0.1	0
Cobalt	5.68	6.02	6	5.75	5.92	3
Copper	15.2	13.9	9	18.2	19.7	8
Lead	5.7	5.3	7	5.5	6.2	12
Mercury	<0.01	<0.01	0	<0.01	<0.01	0
Molybdenum	0.1	0.1	0	0.1	0.3	100
Nickel	14.4	14.7	2	19.9	19	5
Selenium	<0.2	<0.2	0	<0.2	<0.2	0
Silver	<0.05	<0.05	0	<0.05	<0.05	0
Thallium	<0.3	<0.3	0	<0.3	<0.3	0
Tin	1.6	1.6	0	2.1	1.8	15
Vanadium	20.6	20.3	1	23.6	23.4	1
Zinc	35.4	35.4	0	32.3	36.7	13

Table 62 Relative Percent Different for Duplicate PCBs in Soil Results

Parameter	Sample ID		RPD	Sample ID		RPD	Sample ID		RPD	Sample ID		RPD
	STA-ET23 (40-50cm)	STA-ET23A (40-50cm)		GAR-ET01 (50-60cm)	GAR-ET01A (50-60cm)		DA-ET54 (0-10cm)	DA-ET54A (0-10cm)		CCGEN-ET80 (0-20 cm)	CCGEN-ET80A (0-20 cm)	
Aroclor 1016	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aroclor 1221	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aroclor 1232	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aroclor 1242	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aroclor 1248	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aroclor 1254	<0.1	0.1	0	<0.1	<0.1	0	0.9	0.6	40	<0.1	<0.1	0
Aroclor 1260	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aroclor 1262	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Aroclor 1268	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
Total PCBs	<0.1	0.1	0	<0.1	<0.1	0	0.9	0.6	40	<0.1	<0.1	0

CAM-F DEW Line Site
Summary of Analytical Results
Relative Percent Difference for Field Duplicates

Table 63 Relative Percent Different for Duplicate PHCs in Soil Results

Parameter	Sample ID		RPD	Sample ID		RPD	Sample ID		RPD
	STA-ET23 (40-50cm)	STA-ET23A (40-50cm)		BC-ET76 (80-90 cm)	BC-ET76A (80-90 cm)		CCSHOP- (0-20 cm)	CCSHOP- (0-20 cm)	
Benzene	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Toluene	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	0.02	0
Ethylbenzene	<0.02	<0.02	0	<0.02	<0.02	0	<0.02	<0.02	0
Total Xylenes (m,p,o)	0.04	<0.02	0	<0.02	<0.02	0	<0.02	0.02	0
F1 C6-C10	68	87	25	3	3	0	28	23	20
F1 -BTEX	68	87	25	3	3	0	28	23	20
F2 C10-C16	816	1380	51	10	<10	0	646	514	23
F3 C16-C34	340	392	14	50	50	0	18300	16200	12
F4 C34-C50	130	134	3	65	26	86	1050	981	7
F4HTGC C34-C50+	150	137	9	93	32	98	1140	1110	3

Table 64 Relative Percent Different for Duplicate PAHs in Soil Results

Parameter	Sample ID		RPD
	STA-ET23 (40-50cm)	STA-ET23A (40-50cm)	
Naphthalene	4	7.15	0
Acenaphthylene	<0.05	<0.05	0
Acenaphthene	0.1	0.13	0
Fluorene	0.14	0.18	0
Phenanthrene	0.05	0.06	18
Anthracene	<0.05	<0.05	0
Fluoranthene	<0.05	<0.05	0
Pyrene	<0.05	<0.05	0
Benzo(a)anthracene	<0.05	<0.05	0
Chrysene	<0.05	<0.05	0
Benzo(b)fluoranthene	<0.05	<0.05	0
Benzo(j)fluoranthene	<0.05	<0.05	0
Benzo(k)fluoranthene	<0.05	<0.05	0
Benzo(a)pyrene	<0.05	<0.05	0
Indeno(1,2,3-c,d)pyrene	<0.05	<0.05	0
Dibenzo(a,h)anthracene	<0.05	<0.05	0
Benzo(g,h,i)perylene	<0.05	<0.05	0
CB(a)P	<0.05	<0.05	0

CAM-F DEW Line Site
Summary of Waste Materials
Station Proximity Area

Table 65 Summary of Hazardous and Non-hazardous Materials in the Station Proximity Area

Location	Waste Items	Comments	Non Hazardous Volume (m^3)	Hazardous Volume (m^3)	Asbestos Pipe Insulation (m)	Asbestos Insulation (m^2)	Asbestos Floor Tile (m^2)	PCB Paint (m^2)
Garage Area (Exterior)	**NON-HAZARDOUS**							
	Aluminum Cladding		2					
	Structural Steel		2.5					
	Scrap Wood		1					
	Scrap Steel		2					
	Cement Mixer		2					
	Barrels (15)		2.25					
	HAZARDOUS		2					
	Aluminum Cladding Paint	PCBs (710 ppm), paint on scrap aluminum cladding that is scattered around the garage area						70
Garage Area (Interior)	**NON-HAZARDOUS**							
	Foundation Concrete (Clean)		12					
	Structural Steel		3					
	Scrap Steel		2					
	Scrap Wood		2					
	HAZARDOUS							
	PCB paint	PCB paint on interior metal cladding walls.						40
	Lubricants and Paint	Inside INAC shed within garage structure		0.004				
	Waste Oil	Inside INAC shed within garage structure		0.02				
	Stained Concrete	PCBs (189 ppm)		12				

CAM-F DEW Line Site
Summary of Waste Materials
Station Proximity Area

Location	Waste Items	Comments	Non Hazardous Volume (m^3)	Hazardous Volume (m^3)	Asbestos Pipe Insulation (m)	Asbestos Insulation (m^2)	Asbestos Floor Tile (m^2)	PCB Paint (m^2)
Warehouse Area (Exterior)	**NON-HAZARDOUS**							
	Electrical Cables	Buried around structure	1					
	Wooden Stairs	Weathered with no paint	0.5					
	AST Day Tanks- 1080 L		0.2					
	HAZARDOUS							
	AST Day Tanks- 1080 L ASTs PCB paint	PCBs (150 ppm)						4
Warehouse Area (Interior) Including Building Materials	**NON-HAZARDOUS**							
	Concrete footings	poured in place	35					
	Support beams (Steel)		4.2					
	Aluminum Cladding		3.8					
	Scrap Steel		2.1					
	Barrels of sewage (2 barrels)		0.42					
	HAZARDOUS							
	PCB Contaminated Floor Slab	PCBs (2.3 and 2.5 ppm)		22.7				
	PCB Paint	PCB paint is on Interior plywood						90
	Asbestos Insulation-Non Piping					8		
	Asbestos Piping Insulation				6			
	Asbestos Floor Tile						25	
Modular Train Exterior	**NON-HAZARDOUS**							
	Aluminum Cladding		1					
	Structural Steel		3					
	Scrap Steel		2					
	Scrap Wood		2					
	scattered wood debris		3					
	Propane Tanks (13 x 100 pounds)	Potentially hazardous if not vented prior to disposal	3					
	Red compressed Gas Tanks (3)	Potentially hazardous if not vented prior to disposal	1					
	Black Compressed Gas Tank (2)	Potentially hazardous if not vented prior to disposal	1					
	HAZARDOUS							
	Asbestos Wrapped Boiler Jacket	Boiler is outside of module train				2		
	Drums of Sewage			1.5				

CAM-F DEW Line Site
Summary of Waste Materials
Station Proximity Area

Location	Waste Items	Comments	Non Hazardous Volume (m^3)	Hazardous Volume (m^3)	Asbestos Pipe Insulation (m)	Asbestos Insulation (m^2)	Asbestos Floor Tile (m^2)	PCB Paint (m^2)
Modular Train (Interior), Includes Building Materials	**NON-HAZARDOUS**							
	Glass Wool Insulation	Assumed insulation is flattened	8.6					
	Plywood (Interior Plywood coated with PCB Paint)		20					
	Wood Studs, widow/door top and bottom plates		30					
	Aluminum Cladding (Some PCB paint on west end)		10					
	Wood Support Structure		82.6					
	Glass		1					
	Expanded metal window grating		1					
	HVAC Metal		4					
	Fiber Glass Water Tank		1					
	Sewage holding tank	Has PCB paint on it	2					
	Bathroom Fixtures		2					
	Lab supplies and gear		2					
	Metal Cabinets	Converted from Electrical units	6					
	Furniture		2					
	Day Tanks		2					
	Red Compressed Gas Tanks	Potentially hazardous if not vented prior to disposal	1					
	HAZARDOUS							
	PCB Paint	Paint is on the interior plywood layer						940
	Concrete	In pump and generator rooms		5				
	Asbestos Piping Insulation				10			
	Asbestos Insulation (Non Piping)					12		
	Smoke Detectors	3 detectors, may contain radioactive material		0.001				
	Asbestos Floor Tile						129	
	Sharpie needles and lab glassware			0.5				
	Battery acid (in container)			0.2				
	Used oil and turpentine			0.2				
	Antifreeze			0.004				
	Aerosol, paint cans and starting Fluid			0.2				
	Fuel Within Day Tanks	Fuel in day tanks 40 L in total		0.04				

CAM-F DEW Line Site
Summary of Waste Materials
Station Proximity Area

Location	Waste Items	Comments	Non Hazardous Volume (m^3)	Hazardous Volume (m^3)	Asbestos Pipe Insulation (m)	Asbestos Insulation (m^2)	Asbestos Floor Tile (m^2)	PCB Paint (m^2)
Outfall Area	**NON-HAZARDOUS**							
	4" aluminum pipe		1.5					
	wire cable		1					
	occasional piles of domestic waste/tin cans		1					
Quonset Building	**NON-HAZARDOUS**							
	Wooden remains of Quonsets		10					
	weathered canvas		1					
	heating oil tank (1400 L) empty		0.5					
	HAZARDOUS							
	Bags of Asbestos	Removed from Module Train		12				
Antenna Base Area	**NON-HAZARDOUS**							
	135 m antenna structure		50					
	6 concrete supports		300					
	50 mm support cables (1,800 m)		10					
	misc. electrical equipment on antenna		10					
	scattered metal debris		10					
	scattered wood debris		3					
	remains of small 10 m antenna		1					
	support cables		2					
Inuit House Area	**NON-HAZARDOUS**							
	Former Outfitter camp	Wood	2					
	Wooden house	wood structure	10					
	stoves	2	2					
	Misc. house contents	Furniture	6					
	Timbers	Approx 50 m of 150 mm x 150 mm	2					
	Concrete Footings		1.54					
	Scattered wood debris around site		5					
	Scattered metal debris around site		1					
	HAZARDOUS							
	20 barrels of Fuel/POL Waste	Fuel/POL Waste must be disposed of as required		3				
	Paint inside Inuit house	PCBs (4320 ppm), paint is on wood used to construct inuit house						100

CAM-F DEW Line Site
Summary of Waste Materials
Station Proximity Area

Location	Waste Items	Comments	Non Hazardous Volume (m^3)	Hazardous Volume (m^3)	Asbestos Pipe Insulation (m)	Asbestos Insulation (m^2)	Asbestos Floor Tile (m^2)	PCB Paint (m^2)
Fuel Storage Area (Including dump area below)	**NON-HAZARDOUS**							
	2- 75,700 L ASTs and fittings		10					
	Concrete tank pads		8					
	AG/UG piping to warehouse/mod. train	approx. 200 m of 75 mm dia. steel piping	4					
	remains of metal pump house	Intact	3					
	piping		1.5					
	pump		0.5					
	Bombardier Track Unit	upside down at toe of bedrock outcrop	7					
	250 scattered barrels		37.5					
	scattered wood debris		3					
	Caterpillar Flat Bed trailer and various components	4	12					
	HAZARDOUS							
	barrel of oil	still sealed	0.15	0.25				
	Batteries	Located at toe of bedrock out crop.		0.09				
	Paint on Sides of ASTs	Paint is on the tank steel						300
Upper Stained Area northwest of Module Train	**NON-HAZARDOUS**							
	scattered wood debris		3					
	scattered metal debris		2					
	steel cable (various sizes)		1					
	15 scattered barrels		2.25					
		Total	796.61	57.709	16	22	154	1544

PCB Paint Area	1544
Total barrels	300
Total Estimated NON HAZARDOUS Volume (m^3)	796.61
Total Estimated HAZARDOUS Volume including Asbestos (m^3)	80

CAM-F DEW Line Site
Summary of Waste Materials
Station Proximity Area

Site Name	Location	Waste Items	Comments	Non Hazardous Volume m^3	Hazardous Volume m^3
Vehicle Pile South of Warehouse	Approximately 100 m south of warehouse.	**NON-HAZARDOUS**			
		30 empty barrels	diesel, gas, fuel oil, lube oil, aircraft fuel	4.5	
		Heavy equipment	Dump trucks, blades, water tank,	30	
		scrap steel	miscellaneous cables, metal parts	2	
		scrap wood		1	
		Cat Tracks		2	
West Barrel Cache	Approximately 300 m west of warehouse and module train.	**NON-HAZARDOUS**			
		5000 empty barrels	labeled as diesel	750	
Debris near runway	Located sporadically between runway and west barrel cache.	**NON-HAZARDOUS**			
		100 empty barrels		15	
		Wood		1	
		Culvert couplers		1	
		Cable		0.5	
		Corrugated egg basket reinforcing mesh		1	
		culverts		2	
		Steel antenna towers		3	
Aircraft Crash site	Approximatley 200 m south of runway	**NON-HAZARDOUS**			
		Remains of D8/Aircraft.		20	
		15 drums		2.25	
Beach Area Burrow Site	Located approximately 2.5 kms west of warehouse on shore of Sarcpa	**NON-HAZARDOUS**			
		40 barrels		6	

Total Barrel Count	**5185**
Total Estimated NON HAZARDOUS Volume (m^3)	**841**
Total Estimated HAZARDOUS Volume (m^3)	**0**

CAM-F DEW Line Site
Summary of Analytical Data
Module Station Hazardous Materials

Table 66 Lead Concentrations in Paint from the Module Station

PARAMETER	CRITERIA ppm	STA-HAZ2	STA-HAZ5	STA-HAZ7	STA-HAZ8	STA-HAZ9
Lead	500	3100	1980	523	1060	1240

NOTES:
1) Criteria based on Guideline for the Management for Waste Lead and Lead Paint, NWT; exceedances indicated by shading

Table 67 PCB Concentrations in Building Materials from the Module Station

PARAMETER	CRITERIA ppm	STA-HAZ1	STA-HAZ2	STA-HAZ3A	STA-HAZ5	STA-HAZ6A	STA-HAZ7	STA-HAZ8	STA-HAZ9
Aroclor 1016		<0.1	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5
Aroclor 1221		<0.1	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5
Aroclor 1232		<0.1	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5
Aroclor 1242		<0.1	40.4	<0.1	13.7	<0.1	2.6	6.1	565
Aroclor 1248		<0.1	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5
Aroclor 1254		167	9870	7.6	6040	0.8	51.6	590	10700
Aroclor 1260		<0.1	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5
Aroclor 1262		<0.1	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5
Aroclor 1268		<0.1	<0.5	<0.1	<0.5	<0.1	<0.5	<0.5	<0.5
Total PCBs	50	167	9910.4	7.6	6053.7	0.8	54.2	596.1	11265

NOTES:
1) Criteria based on CEPA Guideline; exceedance indicated by shading

Table 68 Asbestos Concentrations in Building Materials from the Module Station

PARAMETER	CRITERIA %	STA-HAZ3	STA-HAZ4	STA-HAZ6	STA-HAZ11	STA-HAZ12	STA-HAZ13	STA-HAZ14
Chrysotile	1	2	0	0	2	0	2	80

NOTES:
1) Criteria based on Alberta Asbestos Abatement Guidelines; exceedance indicated by shading

Table 69 PCB Concentrations in Barrels at the Module Station Area

PARAMETER	CRITERIA ppm	STA-Red Barrel Under Building	STA-Drum on on N. Side
Aroclor 1016		<0.1	<0.1
Aroclor 1221		<0.1	<0.1
Aroclor 1232		<0.1	<0.1
Aroclor 1242		<0.1	<0.1
Aroclor 1248		<0.1	<0.1
Aroclor 1254		0.4	0.1
Aroclor 1260		<0.1	<0.1
Aroclor 1262		<0.1	<0.1
Aroclor 1268		<0.1	<0.1
Total PCBs	1/5	0.4	0.5

NOTES:
1) Criteria based on CCME Residential Guideline; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Warehouse Hazardous Materials

Table 70 PCB Concentrations in Building Materials from the Warehouse

PARAMETER	CRITERIA ppm	Warehouse Concrete	Warehouse Floor Paint
Aroclor 1016		-	-
Aroclor 1221		-	-
Aroclor 1232		-	-
Aroclor 1242		-	-
Aroclor 1248		-	-
Aroclor 1254		-	-
Aroclor 1260		-	-
Aroclor 1262		-	-
Aroclor 1268		-	-
Total PCBs	50	0.78	3300

NOTES:
1) Criteria based on CEPA Guideline; exceedance indicated in shading

Table 71 Asbestos Concentrations in Building Materials from the Warehouse

PARAMETER	CRITERIA %	Warehouse floor tile
Chrysotile	1	3

NOTES:
1) Criteria based on Alberta Asbestos Abatement Guidelines; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Garage Concrete Sampling

Table 72 PCB Concentrations in Concrete Samples from the Garage Foundation

PARAMETER	CRITERIA ppm	GAR PAD 01	GAR PAD 02	GAR PAD 03	GAR PAD 04
Aroclor 1016		<0.1	<0.1	<0.1	<0.1
Aroclor 1221		<0.1	<0.1	<0.1	<0.1
Aroclor 1232		<0.1	<0.1	<0.1	<0.1
Aroclor 1242		<0.1	<0.1	<0.1	<0.1
Aroclor 1248		<0.1	<0.1	<0.1	<0.1
Aroclor 1254		12.6	189	0.2	0.2
Aroclor 1260		<0.1	<0.1	<0.1	<0.1
Aroclor 1262		<0.1	<0.1	<0.1	<0.1
Aroclor 1268		<0.1	<0.1	<0.1	<0.1
Total PCBs	1/5	12.6	189	0.2	0.2

NOTES:

1) Criteria based on CCME Residential Guideline; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Analytical Data
Inuit House Hazardous Materials

Table 73 Lead Concentrations in Paint Samples from the Inuit House

PARAMETER	CRITERIA ppm	Behind Furnace	Walls and Ceiling
Lead	500	889	1330

NOTES:

1) Criteria based on Guideline for the Management for Waste Lead and Lead Paint, NWT; exceedances indicated by shading

Table 74 PCB Concentrations in Paint Samples from the Inuit House

PARAMETER	CRITERIA ppm	Behind Furnace	Walls and Ceiling
Aroclor 1016		<0.5	<0.5
Aroclor 1221		<0.5	<0.5
Aroclor 1232		<0.5	<0.5
Aroclor 1242		<0.5	<0.5
Aroclor 1248		<0.5	<0.5
Aroclor 1254		1230	4230
Aroclor 1260		<0.5	<0.5
Aroclor 1262		<0.5	<0.5
Aroclor 1268		<0.5	<0.5
Total PCBs	50	1230	4230

NOTES:

1) Criteria based on CEPA Guideline; exceedance indicated by shading

CAM-F DEW Line Site
Summary of Waste Materials
Dumps A and B

Table 75 Summary of Hazardous and Non-hazardous Materials at Dumps A and B

Site Name	Location	Non-Hazardous Waste Items	Comments	Non Hazardous Volume m3	Hazardous Volume m3
Dump A		**NON-HAZARDOUS**			
		Cat Gears and Engine Parts		8	
		Sheet Steel		2	
		Debris removed from CEPA excavation	90 % steel and 10% wood	1000	
		Barrels stacked west of Dump A (250)	250 Barrels	37.5	
		Barrels stacked east of recovered debris (300)	300 Barrels	45	
		Metal north of Wrangler Bags		40	
		Cabinets and Cat Parts		6	
		Wood debris east of Wrangler Contaminated Soil bags area		10	
		35 empty barrels		5.25	
		HAZARDOUS			
		Wrangle Bags of DC II Contaminted Soils	53 bags		53
Dump B		**NON-HAZARDOUS**			
		spoolled cable		8	
		spool of 50 mm cable (rubber coated)		3	
		scattered wood debris		20	
		scattered metal debris		20	
		fire extinguishers		0.5	
		Cat tracks		6	
		Misc. vehicle parts, axles, rims, tires		6	
		200 barrels (scattered over area)		30	
		wire (various sizes)		1	
		angle iron		1	
		Steel pipes		3	
		20 mm dia. Cable		0.5	
		HVAC metal components and fans		20	
		rubber hose and tires		2	
		misc. domestic waste (rusted cans, wood)		10	
		metal strapping (various sizes)		5	
		weathered canvas		2	
		partially burned wood		2	

CAM-F DEW Line Site
Summary of Waste Materials
Dumps A and B

Site Name	Location	Non-Hazardous Waste Items	Comments	Non Hazardous Volume m3	Hazardous Volume m3
Dump B		**HAZARDOUS**			
		12 V Industrial Batteries (15)	Lead Acid Batteries		0.5
		Traces asbestos in torn out building components			0.5
		Metal possibly painted with PCB Paint.			2
Vehicle Dump north of and in between Dump A and Dump B	Approximately 100 m north of Dump sites A and B; located on lower plateau near drainage course.	**NON-HAZARDOUS**			
		Grader		8	
		Pick up Truck		4	
		Cement Truck		8	
		metal cladding		1	
		scattered wood debris		1	
		scattered metal debris		1	
		150 drums scattered all over site		15	
		HAZARDOUS			
		12 V Vehicle Batteries (8)	Lead Acid Batteries		0.24

Total Barrel Count	**935**
Total Estimated NON HAZARDOUS Volume (m^3)	**1331.75**
Total Estimated HAZARDOUS Volume (m^3)	**56.24**

CAM-F DEW Line Site
Summary of Waste Materials
Former Construction Camp Area

Table 76 Summary of Hazardous and Non-hazardous Materials in the Construction Camp Area

Site Name	Location	Waste Items	Comments	Non Hazardous Volume m^3	Hazardous Volume m^3
Generator Site	West of road to upper site	**NON-HAZARDOUS**			
		Burned out Generator Set	Fluids in generator (glycol, fuel, oil etc.) must be disposed of as	1	
		scattered wood debris		3	
		Empty Drums (20)		3	
		scattered metal debris		3	
		HAZARDOUS			
		Batteries (15)	Lead Acid Batteries		0.45
Former Shop Site	East of road to upper site	**NON-HAZARDOUS**			
		Empty Drums (40)		6	
		Scrap steel, nails, wire		3	
		scattered wood debris		5	1
		HAZARDOUS			
		Batteries (1)	Lead Acid Battery		0.03
Domestic Garbage Dump	1km north of Construction Camp on east side of road to upper site.	**NON-HAZARDOUS**			
		Approx. 700 barrels visible		105	
		glass		3	
		wire		1	
		domestic waste		70	
		wood debris		70	
		misc. filters		10	
		vehicle parts		10	
		HAZARDOUS			
		12 V vehicle Batteries (3)	Lead Acid Batteries		0.08

CAM-F DEW Line Site
Summary of Waste Materials
Former Construction Camp Area

Site Name	Location	Waste Items	Comments	Non Hazardous Volume m^3	Hazardous Volume m^3
Road-Construction Equipment Pile	Centre of Construction Camp	**NON-HAZARDOUS**			
		approx 50 barrels in a pile		7.5	
		Rubber tires	On Steel Rims	6	
		Wheeled Packer		8	
		Cargo Box		4	
		Crain Boom		3	
		Crane Truck		8	
		Winches		1	
		Axels and Transmissions		6	
		Scattered Wood debris		3	
		Scattered metal debris		4	
		HAZARDOUS			
		Batteries (4)	Lead Acid Batteries		0.12
Beach Area, Sarcpa Lake	Beach Area	**NON-HAZARDOUS**			
		Grader		5	
		Barrels (40)		6	
		scattered steel debris		1	
		cat tracks (2)		2	
		scattered wood debris		1	
		HAZARDOUS			
		Battery (1)	Lead Acid Battery		0.03
Drum Stockpile and Scatterd Drums not counted in previous sections	Various Locations	**NON-HAZARDOUS**			
		1440 empty barrels (stacked)		216	
		scattered barrels throughout area (450)	450	67.5	
		scattered wood debris in general		5	
		electrical wire		1	
		metal piping		1	

Total Barrel Count	**2740**
Total Estimated NON HAZARDOUS Volume (m3)	**649**
Total Estimated HAZARDOUS Volume (m3)	**1.71**

APPENDIX E

LABORATORY REPORTS

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-1	328344-2	328344-3	
	Sample Description	STA 16	STA 17	STA 21	
	Matrix	Water - General	Water - General	Water - General	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Water					
Benzene	mg/L	<0.001	<0.001	<0.001	0.001
Toluene	mg/L	<0.001	<0.001	0.005	0.001
Ethylbenzene	mg/L	<0.001	<0.001	<0.001	0.001
Total Xylenes (m,p,o)	mg/L	0.140	0.002	0.118	0.001
Volatile Petroleum Hydrocarbons - Water					
F1 C6-C10	mg/L	1.07	0.59	0.71	0.01
F1 -BTEX	mg/L	0.93	0.59	0.59	0.01
Extractable Petroleum Hydrocarbons - Water					
F2 C10-C16	mg/L	10.9	10.4	256	0.1
F3 C16-C34	mg/L	0.5	0.4	28.9	0.1
F3+ C34+	mg/L	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Water					
Aroclor 1016	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1221	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1232	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1242	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1248	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1254	ug/L	0.2	7.3	5.1	0.1
Aroclor 1260	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1262	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1268	ug/L	<0.1	<0.1	<0.1	0.1
Total PCBs	ug/L	0.2	7.3	1.0	<0.1
Polychlorinated Biphenyls - Water - Surrogate					
Decachlorobiphenyl Surrogate	%	68	87	130	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-4	328344-5	328344-6	
	Sample Description	STA-ET16 / 100-110 / cm	STA-ET17 / 90-100 / cm	STA-ET18 / 50-60 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.6	0.5	0.5	0.1
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.04	0.01	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.2	1.0	0.8	0.4
Arsenic Strong Acid Extractable	ug/g	0.9	<0.5	<0.5	0.5
Barium Strong Acid Extractable	ug/g	22.5	19.2	35.1	0.05
Beryllium Strong Acid Extractable	ug/g	0.15	0.15	0.16	0.03
Cadmium Strong Acid Extractable	ug/g	0.15	0.07	0.05	0.03
Chromium Strong Acid Extractable	ug/g	12.2	11.2	14.0	0.05
Cobalt Strong Acid Extractable	ug/g	4.72	5.31	6.27	0.04
Copper Strong Acid Extractable	ug/g	14.1	9.81	9.69	0.05
Lead Strong Acid Extractable	ug/g	7.2	4.4	10.3	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	0.1	0.1	0.1
Nickel Strong Acid Extractable	ug/g	8.72	7.95	10.6	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.6	1.4	1.4	0.3
Vanadium Strong Acid Extractable	ug/g	14.1	13.0	15.9	0.05
Zinc Strong Acid Extractable	ug/g	38.8	24.2	31.0	0.05
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	<0.1	0.2	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	<0.1	0.2	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	103	104	100	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-7	328344-8	328344-9	
	Sample Description	STA-ET19 / 50-60 / cm	STA-ET20 / 50-60 / cm	STA-ET21 / 60-70 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	3.2	1.3	0.9	0.1
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.02	<0.01	0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.3	1.2	1.5	0.4
Arsenic Strong Acid Extractable	ug/g	0.8	0.7	0.9	0.5
Barium Strong Acid Extractable	ug/g	33.2	45.6	46.7	0.05
Beryllium Strong Acid Extractable	ug/g	0.18	0.23	0.22	0.03
Cadmium Strong Acid Extractable	ug/g	0.09	0.10	0.27	0.03
Chromium Strong Acid Extractable	ug/g	18.7	20.3	20.4	0.05
Cobalt Strong Acid Extractable	ug/g	6.18	4.74	4.79	0.04
Copper Strong Acid Extractable	ug/g	12.1	14.3	14.3	0.05
Lead Strong Acid Extractable	ug/g	8.0	6.3	6.2	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	<0.1	<0.1	0.1
Nickel Strong Acid Extractable	ug/g	12.3	12.9	13.1	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.6	1.4	1.4	0.3
Vanadium Strong Acid Extractable	ug/g	17.0	21.0	20.4	0.05
Zinc Strong Acid Extractable	ug/g	41.7	34.6	41.0	0.05
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Mono-Aromatic Hydrocarbons - Soil					
Extraction Date		30-Aug-04	30-Aug-04	30-Aug-04	
Benzene Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Toluene Dry Weight	mg/kg	<0.02	<0.02	1.61	0.02
Ethylbenzene Dry Weight	mg/kg	<0.02	0.08	<0.02	0.02
Total Xylenes (m,p,o) Dry Weight	mg/kg	<0.02	1.95	25.0	0.02
Volatile Petroleum Hydrocarbons - Soil					
Extraction Date		30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10 Dry Weight	mg/kg	16	111	329	1
F1 -BTEX Dry Weight	mg/kg	16	109	302	1
Extractable Petroleum Hydrocarbons - Soxhlet					
Extraction Date		1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16 Dry Weight	mg/kg	1210	5180	5420	10
F3 C16-C34 Dry Weight	mg/kg	443	662	1070	10
F4 C34-C50 Dry Weight	mg/kg	15	14	<10	10

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-7	328344-8	328344-9	
	Sample Description	STA-ET19 / 50-60 / cm	STA-ET20 / 50-60 / cm	STA-ET21 / 60-70 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Extractable Petroleum Hydrocarbons - Soxhlet - C					
F4HTGC C34-C50+ Dry Weight	mg/kg	36	15	<10	10
% C50+	%	1.3	0.0	0.0	
Silica Gel Cleanup					
Silica Gel Cleanup		Done	Done	Done	
Soil % Moisture					
Moisture Soil % Moisture	%	14.80	13.10	8.64	
Polynuclear Aromatic Hydrocarbons - Soil					
Naphthalene Dry Weight	mg/kg	<0.05	10.7	25.4	0.05
Acenaphthylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Acenaphthene Dry Weight	mg/kg	<0.05	0.42	0.40	0.05
Fluorene Dry Weight	mg/kg	<0.05	0.81	1.04	0.05
Phenanthrene Dry Weight	mg/kg	<0.05	0.60	0.81	0.05
Anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Pyrene Dry Weight	mg/kg	0.05	<0.05	<0.05	0.05
Benzo(a)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Chrysene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	>130	>130	>130	23-130
2-Fluorobiphenyl PAH - Surrogate	%	79	84	94	30-130
p-Terphenyl-d14 PAH - Surrogate	%	43	47	42	18-137
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	0.2	<0.1	<0.1	0.1

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-7	328344-8	328344-9	
	Sample Description	STA-ET19 / 50-60 / cm	STA-ET20 / 50-60 / cm	STA-ET21 / 60-70 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil - Continued					
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	0.2	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	108	112	114	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-10	328344-11	328344-13
			Sample Description	STA-ET22 / 40-50 / cm	STA-ET23 / 50-60 / cm	STA-ET23A / 40-50 / cm
			Matrix	Soil - general	Soil - general	Soil - general
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		0.95	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		16.3	0.04	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		342	68	87	1
F1 -BTEX	Dry Weight	mg/kg		325	68	87	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		1900	816	1380	10
F3 C16-C34	Dry Weight	mg/kg		440	340	392	10
F4 C34-C50	Dry Weight	mg/kg		68	130	134	10
F4HTGC C34-C50+	Dry Weight	mg/kg		88	150	137	10
% C50+		%		0.8	1.5	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		8.24	6.74	6.39	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		27.5	4.00	7.15	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		0.29	0.10	0.13	0.05
Fluorene	Dry Weight	mg/kg		0.54	0.14	0.18	0.05
Phenanthrene	Dry Weight	mg/kg		0.43	0.05	0.06	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-10	328344-11	328344-13	
	Sample Description	STA-ET22 / 40-50 / cm	STA-ET23 / 50-60 / cm	STA-ET23A / 40-50 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti					
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	>130	82	>130	23-130
2-Fluorobiphenyl PAH - Surrogate	%	107	62	62	30-130
p-Terphenyl-d14 PAH - Surrogate	%	69	69	64	18-137

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-10	328344-12	328344-13	
	Sample Description	STA-ET22 / 40-50 / cm	STA-ET23 / 40-50 / cm	STA-ET23A / 40-50 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.4	0.7	0.8	0.1
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.3	1.2	1.0	0.4
Arsenic	Strong Acid Extractable	ug/g	1.2	1.0	0.9	0.5
Barium	Strong Acid Extractable	ug/g	43.5	41.0	39.6	0.05
Beryllium	Strong Acid Extractable	ug/g	0.23	0.22	0.20	0.03
Cadmium	Strong Acid Extractable	ug/g	0.05	0.06	0.06	0.03
Chromium	Strong Acid Extractable	ug/g	21.5	23.3	23.7	0.05
Cobalt	Strong Acid Extractable	ug/g	5.01	5.68	6.02	0.04
Copper	Strong Acid Extractable	ug/g	14.6	15.2	13.9	0.05
Lead	Strong Acid Extractable	ug/g	5.9	5.7	5.3	0.1
Molybdenum	Strong Acid Extractable	ug/g	<0.1	0.1	0.1	0.1
Nickel	Strong Acid Extractable	ug/g	13.7	14.4	14.7	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.4	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.4	1.6	1.6	0.3
Vanadium	Strong Acid Extractable	ug/g	20.8	20.6	20.3	0.05
Zinc	Strong Acid Extractable	ug/g	31.0	35.4	35.4	0.05
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	114	68	118	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-14	328344-15	328344-16	
		Sample Description	STA-ET24 / 40-50 / cm	STA-ET25 / 0-10 / cm	STA-ET26 / 0-10 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	3.0	0.3	0.2	0.1
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	0.03	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.9	1.0	0.9	0.4
Arsenic	Strong Acid Extractable	ug/g	1.2	<0.5	0.5	0.5
Barium	Strong Acid Extractable	ug/g	50.3	19.6	18.3	0.05
Beryllium	Strong Acid Extractable	ug/g	0.17	0.12	0.15	0.03
Cadmium	Strong Acid Extractable	ug/g	0.16	0.06	0.07	0.03
Chromium	Strong Acid Extractable	ug/g	30.6	8.18	8.50	0.05
Cobalt	Strong Acid Extractable	ug/g	7.51	2.43	2.75	0.04
Copper	Strong Acid Extractable	ug/g	15.8	6.35	6.17	0.05
Lead	Strong Acid Extractable	ug/g	6.0	8.2	5.6	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.1	<0.1	<0.1	0.1
Nickel	Strong Acid Extractable	ug/g	18.7	6.16	5.99	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.6	1.6	1.4	0.3
Vanadium	Strong Acid Extractable	ug/g	29.7	10.0	11.9	0.05
Zinc	Strong Acid Extractable	ug/g	61.4	21.4	22.6	0.05
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	112	99	117	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-14	328344-34	328344-43	
			Sample Description	STA-ET24 / 40-50 / cm	GAR-ET01 / 0-10 / cm	GAR-ET06 / 30-40 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		64	110	4	1
F1 -BTEX	Dry Weight	mg/kg		64	110	4	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		476	9760	156	10
F3 C16-C34	Dry Weight	mg/kg		132	1580	769	10
F4 C34-C50	Dry Weight	mg/kg		28	60	211	10
F4HTGC C34-C50+	Dry Weight	mg/kg		54	104	252	10
% C50+		%		3.9	0.4	3.5	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		18.10	10.60	4.28	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		0.09	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		0.59	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		0.42	0.11	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		0.79	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		0.22	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		2.53	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		2.34	0.08	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		0.64	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		0.67	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		0.54	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		0.36	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		0.37	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		0.27	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene	Dry Weight	mg/kg		0.09	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-14	328344-34	328344-43	
	Sample Description	STA-ET24 / 40-50 / cm	GAR-ET01 / 0-10 / cm	GAR-ET06 / 30-40 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti						
Benzo(g,h,i)perylene	Dry Weight	mg/kg	0.22	<0.05	<0.05	0.05
CB(a)P	Carcinogenic Potency Equivalent	mg/kg	0.68	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery						
Nitrobenzene-d5	PAH - Surrogate	%	>130	>130	76	23-130
2-Fluorobiphenyl	PAH - Surrogate	%	58	118	54	30-130
p-Terphenyl-d14	PAH - Surrogate	%	48	46	54	18-137

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-17	328344-18	328344-19	
	Sample Description	STA-ET27 / 0-10 / cm	STA-ET28 / 0-10 / cm	STA-ET29 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.6	0.4	0.2	0.1
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.1	0.7	0.6	0.4
Arsenic Strong Acid Extractable	ug/g	0.5	0.7	<0.5	0.5
Barium Strong Acid Extractable	ug/g	21.2	21.8	20.6	0.05
Beryllium Strong Acid Extractable	ug/g	0.12	0.16	0.15	0.03
Cadmium Strong Acid Extractable	ug/g	0.10	0.05	0.06	0.03
Chromium Strong Acid Extractable	ug/g	12.1	7.66	13.1	0.05
Cobalt Strong Acid Extractable	ug/g	3.38	2.11	4.07	0.04
Copper Strong Acid Extractable	ug/g	8.04	7.05	8.14	0.05
Lead Strong Acid Extractable	ug/g	10.3	7.8	4.5	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	0.1	<0.1	0.1
Nickel Strong Acid Extractable	ug/g	7.51	5.26	8.62	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.4	1.5	1.4	0.3
Vanadium Strong Acid Extractable	ug/g	10.3	8.99	12.9	0.05
Zinc Strong Acid Extractable	ug/g	26.1	20.1	28.2	0.05
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	0.2	0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	0.2	0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	106	125	128	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-20	328344-21	328344-22	
		Sample Description	STA-ET30 / 40-50 / cm	STA-ET31 / 0-10 / cm	STA-ET32 / 0-10 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.8	0.6	0.1	0.1
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	0.01	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.4	1.1	0.7	0.4
Arsenic	Strong Acid Extractable	ug/g	1.0	0.8	<0.5	0.5
Barium	Strong Acid Extractable	ug/g	30.3	41.0	17.4	0.05
Beryllium	Strong Acid Extractable	ug/g	0.16	0.17	0.10	0.03
Cadmium	Strong Acid Extractable	ug/g	0.09	0.16	0.60	0.03
Chromium	Strong Acid Extractable	ug/g	17.3	17.7	5.51	0.05
Cobalt	Strong Acid Extractable	ug/g	4.65	4.71	2.52	0.04
Copper	Strong Acid Extractable	ug/g	17.0	14.9	7.25	0.05
Lead	Strong Acid Extractable	ug/g	10.3	6.3	2.3	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.7	<0.1	<0.1	0.1
Nickel	Strong Acid Extractable	ug/g	10.9	11.5	5.47	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.6	1.7	1.6	0.3
Vanadium	Strong Acid Extractable	ug/g	14.7	18.7	9.31	0.05
Zinc	Strong Acid Extractable	ug/g	107	45.4	27.9	0.05
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	0.3	0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	0.3	0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	123	117	127	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-23	328344-25	328344-27	
	Sample Description	STA-HAZ1 / Media Concrete	STA-HAZ3A / Wood	STA-HAZ6A / Wood	
	Matrix	Miscellaneous	Miscellaneous	Miscellaneous	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	167	7.6	0.8	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	167.0	7.6	0.8	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	113	132	126	50-150

	NWL Number	328344-24	328344-26	328344-28	
	Sample Description	STA-HAZ2 / Paint	STA-HAZ5 / Paint	STA-HAZ7 / Paint	
	Matrix	Paint	Paint	Paint	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Lead Strong Acid Extractable	ug/g	3100	1980	523	0.1
Polychlorinated Biphenyls - Oil					
Aroclor 1016	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1221	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1232	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1242	mg/kg	40.4	13.7	2.6	0.5
Aroclor 1248	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1254	mg/kg	9870	6040	51.6	0.5
Aroclor 1260	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1262	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1268	mg/kg	<0.5	<0.5	<0.5	0.5
Total PCBs	mg/kg	9910.4	6053.7	54.2	0.5
Polychlorinated Biphenyls - Oil - Surrogate					
Decachlorobiphenyl Surrogate	%	77	53	98	50-150

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-29	328344-30	328344-118	
	Sample Description	STA-HAZ8 / Paint	STA-HAZ9 / Paint	INUIT HOUSE, Paint behind Furnace	
	Matrix	Paint	Paint	Paint	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Oil					
Aroclor 1016	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1221	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1232	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1242	mg/kg	6.1	565	<0.5	0.5
Aroclor 1248	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1254	mg/kg	590	10700	1230	0.5
Aroclor 1260	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1262	mg/kg	<0.5	<0.5	<0.5	0.5
Aroclor 1268	mg/kg	<0.5	<0.5	<0.5	0.5
Total PCBs	mg/kg	596.1	11265.0	1230.0	0.5
Polychlorinated Biphenyls - Oil - Surrogate					
Decachlorobiphenyl Surrogate	%	94	91	91	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-29	328344-30	328344-34	
	Sample Description	STA-HAZ8 / Paint	STA-HAZ9 / Paint	GAR-ET01 / 0-10 / cm	
	Matrix	Paint	Paint	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	-		0.06	0.01
Antimony Strong Acid Extractable	ug/g	-		4.8	0.4
Arsenic Strong Acid Extractable	ug/g	-		0.6	0.5
Barium Strong Acid Extractable	ug/g	-		29.3	0.05
Beryllium Strong Acid Extractable	ug/g	-		0.16	0.03
Cadmium Strong Acid Extractable	ug/g	-		0.30	0.03
Chromium Strong Acid Extractable	ug/g	-		13.9	0.05
Cobalt Strong Acid Extractable	ug/g	-		3.75	0.04
Copper Strong Acid Extractable	ug/g	-		11.0	0.05
Lead Strong Acid Extractable	ug/g	1060	1240	12.1	0.1
Molybdenum Strong Acid Extractable	ug/g	-		<0.1	0.1
Nickel Strong Acid Extractable	ug/g	-		9.57	0.05
Selenium Strong Acid Extractable	ug/g	-		<0.2	0.3
Silver Strong Acid Extractable	ug/g	-		<0.05	0.05
Thallium Strong Acid Extractable	ug/g	-		<0.3	0.4
Tin Strong Acid Extractable	ug/g	-		1.3	0.3
Vanadium Strong Acid Extractable	ug/g	-		13.6	0.05
Zinc Strong Acid Extractable	ug/g	-		75.7	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-32	328344-33	328344-155	
	Sample Description	STA Red Barrel Under Building	STA-Dromon on N. Side	Travel Blank	
	Matrix	Water - General	Water - General	Water - General	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Water					
Aroclor 1016	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1221	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1232	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1242	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1248	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1254	ug/L	0.4	0.1	<0.1	0.1
Aroclor 1260	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1262	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1268	ug/L	<0.1	<0.1	<0.1	0.1
Total PCBs	ug/L	0.4	0.5	<0.1	<0.1
Polychlorinated Biphenyls - Water - Surrogate					
Decachlorobiphenyl Surrogate	%	90	110	72	50-150

	NWL Number	328344-34	328344-35	328344-36	
	Sample Description	GAR-ET01 / 0-10 / cm	GAR-ET01 / 50-60 / cm	GAR-ET01A / 50-60 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	1.6	<0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	1.6	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	112	117	77	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-34	328344-35	328344-37	
	Sample Description	GAR-ET01 / 0-10 / cm	GAR-ET01 / 50-60 / cm	GAR-ET02 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	1.3	1	0.8	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

	NWL Number	328344-35	328344-37	328344-38	
	Sample Description	GAR-ET01 / 50-60 / cm	GAR-ET02 / 0-10 / cm	GAR-ET02 / 50-60 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	0.40	0.04	0.01
Antimony Strong Acid Extractable	ug/g	1.1	1.6	1.2	0.4
Arsenic Strong Acid Extractable	ug/g	0.8	1.0	0.9	0.5
Barium Strong Acid Extractable	ug/g	42.0	60.1	29.1	0.05
Beryllium Strong Acid Extractable	ug/g	0.20	0.20	0.14	0.03
Cadmium Strong Acid Extractable	ug/g	0.07	1.21	0.16	0.03
Chromium Strong Acid Extractable	ug/g	24.4	17.4	13.2	0.05
Cobalt Strong Acid Extractable	ug/g	5.10	4.24	4.44	0.04
Copper Strong Acid Extractable	ug/g	15.6	24.9	9.23	0.05
Lead Strong Acid Extractable	ug/g	5.9	41.2	9.2	0.1
Molybdenum Strong Acid Extractable	ug/g	<0.1	0.4	0.2	0.1
Nickel Strong Acid Extractable	ug/g	15.1	11.8	8.55	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.6	3.7	1.6	0.3
Vanadium Strong Acid Extractable	ug/g	20.0	15.8	11.8	0.05
Zinc Strong Acid Extractable	ug/g	34.4	51.6	57.9	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-38	328344-39	328344-40	
		Sample Description	GAR-ET02 / 50-60 / cm	GAR-ET03 / 0-10 / cm	GAR-ET04 / 0-10 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.8	1.3	0.6	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	0.4	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	0.4	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	126	123	120	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-39	328344-40	328344-41	
		Sample Description	GAR-ET03 / 0-10 / cm	GAR-ET04 / 0-10 / cm	GAR-ET05 / 0-10 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	0.61	0.01	0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.5	1.4	0.8	0.4
Arsenic	Strong Acid Extractable	ug/g	2.3	0.7	<0.5	0.5
Barium	Strong Acid Extractable	ug/g	89.1	24.8	15.7	0.05
Beryllium	Strong Acid Extractable	ug/g	0.24	0.15	0.11	0.03
Cadmium	Strong Acid Extractable	ug/g	1.12	0.16	0.07	0.03
Chromium	Strong Acid Extractable	ug/g	26.7	10.4	6.61	0.05
Cobalt	Strong Acid Extractable	ug/g	4.81	2.92	1.83	0.04
Copper	Strong Acid Extractable	ug/g	56.4	8.39	5.19	0.05
Lead	Strong Acid Extractable	ug/g	105	13.9	7.0	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.6	0.1	<0.1	0.1
Nickel	Strong Acid Extractable	ug/g	15.2	6.47	4.48	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	0.45	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	3.0	1.6	1.6	0.3
Vanadium	Strong Acid Extractable	ug/g	14.8	9.43	8.05	0.05
Zinc	Strong Acid Extractable	ug/g	87.1	25.0	18.7	0.05

		NWL Number	328344-41	328344-42	328344-43	
		Sample Description	GAR-ET05 / 0-10 / cm	GAR-ET06 / 0-10 / cm	GAR-ET06 / 30-40 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.4	0.4	1.0	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-41	328344-49	328344-50	
		Sample Description	GAR-ET05 / 0-10 / cm	GAR PAD 01 / Concrete	GAR PAD 02 / Concrete	
		Matrix	Soil - general	Miscellaneous	Miscellaneous	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	0.1	12.6	189	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	0.1	12.6	189.0	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	121	104	63	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-42	328344-43	328344-44	
	Sample Description	GAR-ET06 / 0-10 / cm	GAR-ET06 / 30-40 / cm	GAR-ET07 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	0.02	0.01
Antimony	Strong Acid Extractable	ug/g	1.0	1.2	0.7	0.4
Arsenic	Strong Acid Extractable	ug/g	<0.5	0.8	0.7	0.5
Barium	Strong Acid Extractable	ug/g	18.4	23.8	33.2	0.05
Beryllium	Strong Acid Extractable	ug/g	0.13	0.12	0.14	0.03
Cadmium	Strong Acid Extractable	ug/g	0.12	0.10	0.33	0.03
Chromium	Strong Acid Extractable	ug/g	9.88	14.1	16.9	0.05
Cobalt	Strong Acid Extractable	ug/g	2.89	3.90	4.56	0.04
Copper	Strong Acid Extractable	ug/g	7.05	9.62	86.3	0.05
Lead	Strong Acid Extractable	ug/g	13.6	20.9	91.4	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.2	0.1	0.5	0.1
Nickel	Strong Acid Extractable	ug/g	6.00	6.73	9.01	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.3	1.4	4.2	0.3
Vanadium	Strong Acid Extractable	ug/g	9.10	9.33	10.7	0.05
Zinc	Strong Acid Extractable	ug/g	25.9	35.5	61.0	0.05

	NWL Number	328344-44	328344-45	328344-46	
	Sample Description	GAR-ET07 / 0-10 / cm	GAR-ET07 / 50-60 / cm	GAR-ET08 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.5	0.8	0.5	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-44	328344-45	328344-53	
			Sample Description	GAR-ET07 / 0-10 / cm	GAR-ET07 / 50-60 / cm	WARE-ET11 / 0-10 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	0.05	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		3	70	2	1
F1 -BTEX	Dry Weight	mg/kg		3	70	2	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		78	714	<10	10
F3 C16-C34	Dry Weight	mg/kg		7050	492	34	10
F4 C34-C50	Dry Weight	mg/kg		2060	166	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg		2750	216	<10	10
% C50+		%		7.0	3.5	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		3.90	6.01	4.60	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		<0.05	0.06	<0.05	0.05
Fluorene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-44	328344-45	328344-53	
	Sample Description	GAR-ET07 / 0-10 / cm	GAR-ET07 / 50-60 / cm	WARE-ET11 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti					
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	86	>130	74	23-130
2-Fluorobiphenyl PAH - Surrogate	%	54	72	55	30-130
p-Terphenyl-d14 PAH - Surrogate	%	66	52	61	18-137

	NWL Number	328344-45	328344-46	328344-47	
	Sample Description	GAR-ET07 / 50-60 / cm	GAR-ET08 / 0-10 / cm	GAR-ET09 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	0.09	0.11	0.01
Antimony Strong Acid Extractable	ug/g	1.0	1.6	1.3	0.4
Arsenic Strong Acid Extractable	ug/g	0.8	0.9	1.1	0.5
Barium Strong Acid Extractable	ug/g	16.6	53.6	77.1	0.05
Beryllium Strong Acid Extractable	ug/g	0.13	0.15	0.17	0.03
Cadmium Strong Acid Extractable	ug/g	0.06	0.57	1.34	0.03
Chromium Strong Acid Extractable	ug/g	10.7	14.1	15.4	0.05
Cobalt Strong Acid Extractable	ug/g	5.01	3.87	3.78	0.04
Copper Strong Acid Extractable	ug/g	7.69	17.8	18.4	0.05
Lead Strong Acid Extractable	ug/g	7.5	49.9	62.6	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	0.6	0.3	0.1
Nickel Strong Acid Extractable	ug/g	6.58	7.67	9.14	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.6	4.7	2.0	0.3
Vanadium Strong Acid Extractable	ug/g	9.01	10.0	12.0	0.05
Zinc Strong Acid Extractable	ug/g	22.6	49.8	61.9	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-47	328344-48	328344-53	
	Sample Description	GAR-ET09 / 0-10 / cm	GAR-ET10 / 0-10 / cm	WARE-ET11 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.5	0.3	0.3	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

	NWL Number	328344-48	328344-53	328344-54	
	Sample Description	GAR-ET10 / 0-10 / cm	WARE-ET11 / 0-10 / cm	WARE-ET11 / 80-90 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.11	0.02	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.3	0.5	0.8	0.4
Arsenic Strong Acid Extractable	ug/g	1.0	<0.5	0.9	0.5
Barium Strong Acid Extractable	ug/g	37.4	21.7	15.2	0.05
Beryllium Strong Acid Extractable	ug/g	0.14	0.13	0.12	0.03
Cadmium Strong Acid Extractable	ug/g	0.21	0.20	0.05	0.03
Chromium Strong Acid Extractable	ug/g	13.3	13.5	10.6	0.05
Cobalt Strong Acid Extractable	ug/g	4.28	4.03	4.86	0.04
Copper Strong Acid Extractable	ug/g	11.7	7.54	5.37	0.05
Lead Strong Acid Extractable	ug/g	29.0	7.2	4.2	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	0.2	0.1	0.1
Nickel Strong Acid Extractable	ug/g	8.21	7.80	6.68	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.8	1.5	1.5	0.3
Vanadium Strong Acid Extractable	ug/g	10.7	10.9	8.29	0.05
Zinc Strong Acid Extractable	ug/g	37.8	28.0	17.3	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-51	328344-52	328344-53	
	Sample Description	GAR PAD 03 / Concrete	GAR PAD 04 / Concrete	WARE-ET11 / 0-10 / cm	
	Matrix	Miscellaneous	Miscellaneous	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	0.2	0.2	0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	0.2	0.2	0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	102	108	112	50-150

	NWL Number	328344-54	328344-55	328344-56	
	Sample Description	WARE-ET11 / 80-90 / cm	WARE-ET12 / 90-100 / cm	WARE-ET13 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.5	0.3	0.1	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	0.4	<0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	0.4	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	78	122	108	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-54	328344-55	328344-60	
			Sample Description	WARE-ET11 / 80-90 / cm	WARE-ET12 / 90-100 / cm	WARE-ET33 / 10-20 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		63	24	3	1
F1 -BTEX	Dry Weight	mg/kg		63	24	3	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		1170	444	63	10
F3 C16-C34	Dry Weight	mg/kg		116	141	44	10
F4 C34-C50	Dry Weight	mg/kg		<10	16	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg		<10	16	<10	10
% C50+		%		0.0	0.0	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		4.33	5.52	3.49	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		0.11	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		0.11	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-54	328344-55	328344-60	
	Sample Description	WARE-ET11 / 80-90 / cm	WARE-ET12 / 90-100 / cm	WARE-ET33 / 10-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti					
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	>130	>130	107	23-130
2-Fluorobiphenyl PAH - Surrogate	%	78	70	51	30-130
p-Terphenyl-d14 PAH - Surrogate	%	56	58	77	18-137

	NWL Number	328344-55	328344-56	328344-57	
	Sample Description	WARE-ET12 / 90-100 / cm	WARE-ET13 / 0-10 / cm	WARE-ET14 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	0.01	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	0.6	0.6	0.7	0.4
Arsenic Strong Acid Extractable	ug/g	0.7	<0.5	<0.5	0.5
Barium Strong Acid Extractable	ug/g	20.9	12.0	12.3	0.05
Beryllium Strong Acid Extractable	ug/g	0.15	0.13	0.13	0.03
Cadmium Strong Acid Extractable	ug/g	0.05	0.10	0.04	0.03
Chromium Strong Acid Extractable	ug/g	12.5	8.55	8.34	0.05
Cobalt Strong Acid Extractable	ug/g	4.10	1.85	1.89	0.04
Copper Strong Acid Extractable	ug/g	8.86	5.21	4.58	0.05
Lead Strong Acid Extractable	ug/g	5.8	4.5	3.1	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	<0.1	<0.1	0.1
Nickel Strong Acid Extractable	ug/g	7.58	5.34	5.04	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.6	1.6	1.4	0.3
Vanadium Strong Acid Extractable	ug/g	10.2	7.34	7.74	0.05
Zinc Strong Acid Extractable	ug/g	22.5	17.9	16.4	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-57	328344-58	328344-61	
	Sample Description	WARE-ET14 / 0-10 / cm	WARE-ET15 / 0-10 / cm	WARE-ET33 / 110-120 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	<0.1	0.2	0.4	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	<0.1	0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	110	75	117	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-58	328344-61	328344-62	
	Sample Description	WARE-ET15 / 0-10 / cm	WARE-ET33 / 110-120 / cm	N-UPPERSTAIN-ET34 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	0.02	0.01
Antimony	Strong Acid Extractable	ug/g	0.8	0.7	1.2	0.4
Arsenic	Strong Acid Extractable	ug/g	<0.5	<0.5	1.3	0.5
Barium	Strong Acid Extractable	ug/g	15.9	15.2	40.4	0.05
Beryllium	Strong Acid Extractable	ug/g	0.13	0.13	0.24	0.03
Cadmium	Strong Acid Extractable	ug/g	0.06	0.04	0.10	0.03
Chromium	Strong Acid Extractable	ug/g	6.50	11.9	27.4	0.05
Cobalt	Strong Acid Extractable	ug/g	1.92	4.02	6.73	0.04
Copper	Strong Acid Extractable	ug/g	5.03	5.61	15.5	0.05
Lead	Strong Acid Extractable	ug/g	4.3	3.6	7.7	0.1
Molybdenum	Strong Acid Extractable	ug/g	<0.1	0.2	0.2	0.1
Nickel	Strong Acid Extractable	ug/g	4.64	7.25	16.1	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.4	1.5	1.6	0.3
Vanadium	Strong Acid Extractable	ug/g	7.78	8.91	25.3	0.05
Zinc	Strong Acid Extractable	ug/g	17.6	17.1	55.7	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-61	328344-62	328344-63	
			Sample Description	WARE-ET33 / 110-120 / cm	N-UPPERSTAIN-ET34 / 0-15 / cm	N-UPPERSTAIN-ET35 / 0-15 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		92	4	3	1
F1 -BTEX	Dry Weight	mg/kg		92	4	3	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		2760	<10	10	10
F3 C16-C34	Dry Weight	mg/kg		259	58	5880	10
F4 C34-C50	Dry Weight	mg/kg		<10	21	11600	10
F4HTGC C34-C50+	Dry Weight	mg/kg		<10	24	12200	10
% C50+		%		0.0	0.0	3.2	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		4.96	11.40	9.94	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		0.33	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		0.49	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		0.10	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		<0.05	<0.05	0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-61	328344-62	328344-63	
		Sample Description	WARE-ET33 / 110-120 / cm	N-UPPERSTAIN-ET34 / 0-15 / cm	N-UPPERSTAIN-ET35 / 0-15 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti						
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P	Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery						
Nitrobenzene-d5	PAH - Surrogate	%	>130	65	124	23-130
2-Fluorobiphenyl	PAH - Surrogate	%	84	60	57	30-130
p-Terphenyl-d14	PAH - Surrogate	%	53	54	60	18-137

		NWL Number	328344-62	328344-63	328344-64	
		Sample Description	N-UPPERSTAIN-ET34 / 0-15 / cm	N-UPPERSTAIN-ET35 / 0-15 / cm	N-UPPERTAIN-ET36 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.3	1.6	0.8	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	0.3	0.4	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	0.3	0.4	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	123	121	96	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-63	328344-64	328344-65	
	Sample Description	N-UPPERSTAIN-ET35 / 0-15 / cm	N-UPPERTAIN-ET36 / 0-20 / cm	N-UPPERSTAIN-ET37 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.12	0.20	0.03	0.01
Antimony Strong Acid Extractable	ug/g	5.6	1.3	0.6	0.4
Arsenic Strong Acid Extractable	ug/g	0.7	1.0	0.6	0.5
Barium Strong Acid Extractable	ug/g	356	56.3	135	0.05
Beryllium Strong Acid Extractable	ug/g	0.16	0.21	0.15	0.03
Cadmium Strong Acid Extractable	ug/g	0.81	0.33	0.14	0.03
Chromium Strong Acid Extractable	ug/g	19.8	23.8	15.4	0.05
Cobalt Strong Acid Extractable	ug/g	5.01	5.82	3.86	0.04
Copper Strong Acid Extractable	ug/g	14.3	15.6	14.1	0.05
Lead Strong Acid Extractable	ug/g	18.4	8.9	5.3	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	0.2	0.1	0.1
Nickel Strong Acid Extractable	ug/g	11.3	14.5	10.2	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	2.2	1.7	1.7	0.3
Vanadium Strong Acid Extractable	ug/g	14.7	20.4	14.1	0.05
Zinc Strong Acid Extractable	ug/g	126	48.0	44.7	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-64	328344-65	328344-66	
		Sample Description	N-UPPERTAIN-ET36 / 0-20 / cm	N-UPPERSTAIN-ET37 / 0-15 / cm	N-UPPERSTAIN-ET38 / 0-15 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg	<0.02	0.10	<0.02	0.02
Toluene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg	<1	<1	<1	1
F1 -BTEX	Dry Weight	mg/kg	<1	<1	<1	1
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg	<10	95	12	10
F3 C16-C34	Dry Weight	mg/kg	180	223	715	10
F4 C34-C50	Dry Weight	mg/kg	82	110	658	10
F4HTGC C34-C50+	Dry Weight	mg/kg	103	131	726	10
% C50+		%	7.3	4.	4.7	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	12.60	41.10	10.10	
Polynuclear Aromatic Hydrocarbons - Soil						
Naphthalene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-64	328344-65	328344-66	
	Sample Description	N-UPPERTAIN-ET36 / 0-20 / cm	N-UPPERSTAIN-ET37 / 0-15 / cm	N-UPPERSTAIN-ET38 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti					
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	76	96	81	23-130
2-Fluorobiphenyl PAH - Surrogate	%	58	57	58	30-130
p-Terphenyl-d14 PAH - Surrogate	%	55	72	60	18-137

	NWL Number	328344-65	328344-66	328344-67	
	Sample Description	N-UPPERSTAIN-ET37 / 0-15 / cm	N-UPPERSTAIN-ET38 / 0-15 / cm	Upper Dump B-ET39 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	1.7	1.8	2.0	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	<0.1	0.2	2.0	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	<0.1	0.2	2.0	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	100	99	132	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-66	328344-67	328344-68	
	Sample Description	N-UPPERSTAIN-ET38 / 0-15 / cm	Upper Dump B-ET39 / 0-15 / cm	Upper Dump B-ET40 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.22	0.04	0.23	0.01
Antimony Strong Acid Extractable	ug/g	1.2	1.1	13.2	0.4
Arsenic Strong Acid Extractable	ug/g	0.7	0.8	1.3	0.5
Barium Strong Acid Extractable	ug/g	83.4	46.1	68.2	0.05
Beryllium Strong Acid Extractable	ug/g	0.14	0.16	0.15	0.03
Cadmium Strong Acid Extractable	ug/g	1.09	1.02	1.54	0.03
Chromium Strong Acid Extractable	ug/g	18.6	20.6	22.3	0.05
Cobalt Strong Acid Extractable	ug/g	5.14	4.83	6.11	0.04
Copper Strong Acid Extractable	ug/g	14.8	12.3	16.4	0.05
Lead Strong Acid Extractable	ug/g	29.7	7.5	10.2	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	0.1	0.1	0.1
Nickel Strong Acid Extractable	ug/g	9.96	12.6	15.4	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.6	1.6	1.4	0.3
Vanadium Strong Acid Extractable	ug/g	12.7	16.6	16.0	0.05
Zinc Strong Acid Extractable	ug/g	99.7	315	136	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-67	328344-68	328344-69	
			Sample Description	Upper Dump B-ET39 / 0-15 / cm	Upper Dump B-ET40 / 0-15 / cm	Upper Dump B-ET41 / 0-15 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		<1	2	<1	1
F1 -BTEX	Dry Weight	mg/kg		<1	2	<1	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		<10	35	<10	10
F3 C16-C34	Dry Weight	mg/kg		8720	17300	7800	10
F4 C34-C50	Dry Weight	mg/kg		27800	41100	24700	10
F4HTGC C34-C50+	Dry Weight	mg/kg		50400	68000	40000	10
% C50+		%		38.3	31.5	32.1	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		10.80	8.95	5.98	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		0.07	0.06	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		0.15	0.12	0.09	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-67	328344-68	328344-69	
		Sample Description	Upper Dump B-ET39 / 0-15 / cm	Upper Dump B-ET40 / 0-15 / cm	Upper Dump B-ET41 / 0-15 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti						
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P	Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery						
Nitrobenzene-d5	PAH - Surrogate	%	123	119	104	23-130
2-Fluorobiphenyl	PAH - Surrogate	%	53	50	58	30-130
p-Terphenyl-d14	PAH - Surrogate	%	58	36	73	18-137

		NWL Number	328344-68	328344-69	328344-70	
		Sample Description	Upper Dump B-ET40 / 0-15 / cm	Upper Dump B-ET41 / 0-15 / cm	Upper Dump B-ET42 / 0-15 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	1.9	1.2	0.7	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	9.2	1.0	1.8	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	9.2	1.0	1.8	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	103	85	83	50-150

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-69	328344-70	328344-71	
	Sample Description	Upper Dump B-ET41 / 0-15 / cm	Upper Dump B-ET42 / 0-15 / cm	Upper Dump B-ET43 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	0.04	0.03	0.09	0.01
Antimony	Strong Acid Extractable	ug/g	19.5	1.3	3.2	0.4
Arsenic	Strong Acid Extractable	ug/g	0.5	0.8	0.8	0.5
Barium	Strong Acid Extractable	ug/g	32.1	32.9	32.9	0.05
Beryllium	Strong Acid Extractable	ug/g	0.15	0.18	0.18	0.03
Cadmium	Strong Acid Extractable	ug/g	0.75	0.24	9.96	0.03
Chromium	Strong Acid Extractable	ug/g	20.6	20.0	21.3	0.05
Cobalt	Strong Acid Extractable	ug/g	4.32	4.48	4.99	0.04
Copper	Strong Acid Extractable	ug/g	12.2	29.4	437	0.05
Lead	Strong Acid Extractable	ug/g	9.9	13.8	41.4	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.1	0.2	0.2	0.1
Nickel	Strong Acid Extractable	ug/g	12.4	11.2	16.5	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	0.09	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.7	3.8	6.9	0.3
Vanadium	Strong Acid Extractable	ug/g	15.8	16.4	16.2	0.05
Zinc	Strong Acid Extractable	ug/g	99.8	119	131	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-70	328344-71	328344-72	
			Sample Description	Upper Dump B-ET42 / 0-15 / cm	Upper Dump B-ET43 / 0-20 / cm	Upper Dump B-ET44 / 0-20 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		0.02	<0.02	0.05	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		1	<1	<1	1
F1 -BTEX	Dry Weight	mg/kg		<1	<1	<1	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		<10	<10	<10	10
F3 C16-C34	Dry Weight	mg/kg		6090	644	73	10
F4 C34-C50	Dry Weight	mg/kg		17900	498	84	10
F4HTGC C34-C50+	Dry Weight	mg/kg		28200	751	109	10
% C50+		%		30.0	18.1	13.7	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		6.78	55.70	15.20	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		0.09	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-70	328344-71	328344-72	
		Sample Description	Upper Dump B-ET42 / 0-15 / cm	Upper Dump B-ET43 / 0-20 / cm	Upper Dump B-ET44 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti						
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P	Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery						
Nitrobenzene-d5	PAH - Surrogate	%	126	96	106	23-130
2-Fluorobiphenyl	PAH - Surrogate	%	50	55	70	30-130
p-Terphenyl-d14	PAH - Surrogate	%	77	53	56	18-137

		NWL Number	328344-71	328344-72	328344-73	
		Sample Description	Upper Dump B-ET43 / 0-20 / cm	Upper Dump B-ET44 / 0-20 / cm	Upper Dump B-ET45 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	2.3	0.8	<0.1	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	11.8	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	11.8	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	96	62	103	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-72	328344-73	328344-74	
	Sample Description	Upper Dump B-ET44 / 0-20 / cm	Upper Dump B-ET45 / 0-20 / cm	Upper Dump B-ET46 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.02	<0.01	0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.1	1.2	1.1	0.4
Arsenic Strong Acid Extractable	ug/g	1.4	1.3	1.2	0.5
Barium Strong Acid Extractable	ug/g	36.2	31.4	43.0	0.05
Beryllium Strong Acid Extractable	ug/g	0.28	0.26	0.28	0.03
Cadmium Strong Acid Extractable	ug/g	0.86	0.06	0.06	0.03
Chromium Strong Acid Extractable	ug/g	27.4	22.8	30.9	0.05
Cobalt Strong Acid Extractable	ug/g	6.56	5.61	6.71	0.04
Copper Strong Acid Extractable	ug/g	24.6	18.5	13.0	0.05
Lead Strong Acid Extractable	ug/g	7.3	6.3	7.6	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	0.2	0.1	0.1
Nickel Strong Acid Extractable	ug/g	16.2	12.7	18.2	0.05
Selenium Strong Acid Extractable	ug/g	0.6	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.8	1.9	1.5	0.3
Vanadium Strong Acid Extractable	ug/g	25.9	24.0	24.3	0.05
Zinc Strong Acid Extractable	ug/g	55.4	37.2	42.5	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-73	328344-74	328344-75	
			Sample Description	Upper Dump B-ET45 / 0-20 / cm	Upper Dump B-ET46 / 0-20 / cm	Upper Dump B-ET47 / 0-20 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		<1	<1	<1	1
F1 -BTEX	Dry Weight	mg/kg		<1	<1	<1	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		<10	<10	69	10
F3 C16-C34	Dry Weight	mg/kg		<10	24	166	10
F4 C34-C50	Dry Weight	mg/kg		<10	24	207	10
F4HTGC C34-C50+	Dry Weight	mg/kg		<10	49	451	10
% C50+		%		0.0	33.8	35.6	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		9.36	11.60	14.60	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-73	328344-74	328344-75	
	Sample Description	Upper Dump B-ET45 / 0-20 / cm	Upper Dump B-ET46 / 0-20 / cm	Upper Dump B-ET47 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti					
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	76	115	79	23-130
2-Fluorobiphenyl PAH - Surrogate	%	58	58	59	30-130
p-Terphenyl-d14 PAH - Surrogate	%	56	56	63	18-137

	NWL Number	328344-74	328344-75	328344-76	
	Sample Description	Upper Dump B-ET46 / 0-20 / cm	Upper Dump B-ET47 / 0-20 / cm	DUMPA-ET48 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	0.3	<0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	0.3	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	78	97	54	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-74	328344-75	328344-93	
		Sample Description	Upper Dump B-ET46 / 0-20 / cm	Upper Dump B-ET47 / 0-20 / cm	DUMPA-ET95 / 0-30 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.2	0.7	0.3	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

		NWL Number	328344-75	328344-93	328344-94	
		Sample Description	Upper Dump B-ET47 / 0-20 / cm	DUMPA-ET95 / 0-30 / cm	DUMPA-ET96 / 0-30 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	0.02	<0.01	0.04	0.01
Antimony	Strong Acid Extractable	ug/g	1.1	1.1	1.4	0.4
Arsenic	Strong Acid Extractable	ug/g	0.7	0.8	1.2	0.5
Barium	Strong Acid Extractable	ug/g	30.7	48.6	735	0.05
Beryllium	Strong Acid Extractable	ug/g	0.17	0.24	0.20	0.03
Cadmium	Strong Acid Extractable	ug/g	0.12	0.04	0.18	0.03
Chromium	Strong Acid Extractable	ug/g	19.5	26.3	27.6	0.05
Cobalt	Strong Acid Extractable	ug/g	5.99	6.02	6.37	0.04
Copper	Strong Acid Extractable	ug/g	14.6	79.6	22.3	0.05
Lead	Strong Acid Extractable	ug/g	10.3	7.6	55.4	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.2	0.1	0.5	0.1
Nickel	Strong Acid Extractable	ug/g	12.2	17.0	14.5	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	1.0	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.8	1.4	2.9	0.3
Vanadium	Strong Acid Extractable	ug/g	16.3	23.2	21.9	0.05
Zinc	Strong Acid Extractable	ug/g	44.5	38.4	158	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-77	328344-78	328344-79	
		Sample Description	DUMPA-ET49 / 0-15 / cm	DUMPA-ET50 / 0-10 / cm	DUMPA-ET51 / 0-15 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	0.1	25.2	2.3	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	0.1	25.2	2.3	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	93	86	93	50-150

		NWL Number	328344-80	328344-81	328344-82	
		Sample Description	DUMPA-ET52 / 0-20 / cm	DUMPA-ET53 / 0-15 / cm	DUMPA-ET54 / 0-10 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	0.2	0.9	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	0.2	0.9	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	99	110	129	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-83	328344-84	328344-85	
	Sample Description	DUMPA-ET54A / 0-10 / cm	DUMPA-ET54 / 90-100 / cm	DUMPA-ET55 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	0.6	<0.1	0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	0.6	<0.1	0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	116	110	111	50-150

	NWL Number	328344-86	328344-87	328344-88	
	Sample Description	DUMPA-ET56 / 0-20 / cm	DUMPA-ET57 / 0-10 / cm	DUMPA-ET57 / 30-40 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	0.2	0.2	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	0.2	0.2	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	117	114	121	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-89	328344-90	328344-91	
	Sample Description	DUMPA-ET58 / 0-10 / cm	DUMPA-ET58 / 60-70 / cm	DUMPA-ET59 / 0-10 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	110	117	118	50-150

	NWL Number	328344-92	328344-93	328344-94	
	Sample Description	DUMPA-ET59 / 30-40 / cm	DUMPA-ET95 / 0-30 / cm	DUMPA-ET96 / 0-30 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	102	87	110	50-150

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-94	328344-95	328344-96	
		Sample Description	DUMPA-ET96 / 0-30 / cm	OUTFALL ET60 / 0-15 / cm	OUTFALL ET61 / 0-30 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	3.3	2.8	0.2	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-95	328344-96	328344-97	
		Sample Description	OUTFALL ET60 / 0-15 / cm	OUTFALL ET61 / 0-30 / cm	OUTFALL ET62 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	0.71	<0.01	0.15	0.01
Antimony	Strong Acid Extractable	ug/g	2.3	0.9	0.8	0.4
Arsenic	Strong Acid Extractable	ug/g	1.1	0.9	1.4	0.5
Barium	Strong Acid Extractable	ug/g	58.1	45.0	63.6	0.05
Beryllium	Strong Acid Extractable	ug/g	0.20	0.20	0.24	0.03
Cadmium	Strong Acid Extractable	ug/g	1.88	0.09	0.54	0.03
Chromium	Strong Acid Extractable	ug/g	37.4	30.6	30.3	0.05
Cobalt	Strong Acid Extractable	ug/g	4.74	5.72	5.58	0.04
Copper	Strong Acid Extractable	ug/g	842	17.9	59.6	0.05
Lead	Strong Acid Extractable	ug/g	130	5.2	10.7	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.3	<0.1	0.1	0.1
Nickel	Strong Acid Extractable	ug/g	17.1	18.4	20.2	0.05
Selenium	Strong Acid Extractable	ug/g	0.5	<0.2	0.3	0.3
Silver	Strong Acid Extractable	ug/g	0.45	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	53.0	1.8	10.5	0.3
Vanadium	Strong Acid Extractable	ug/g	17.6	22.9	22.2	0.05
Zinc	Strong Acid Extractable	ug/g	432	38.7	91.3	0.05
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	17.2	<0.1	1.4	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	17.2	<0.1	1.4	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	119	101	116	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-97	328344-98	328344-99	
		Sample Description	OUTFALL ET62 / 0-20 / cm	VEHICLE PILE ET63 / 20-30 / cm	VEHICLE PILE ET63 / 50-60 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	3.8	0.5	0.3	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

		NWL Number	328344-98	328344-100	328344-102	
		Sample Description	VEHICLE PILE ET63 / 20-30 / cm	VEHICLE PILE ET63 / 100-110 / cm	VEHICLE PILE ET64 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	1.2	0.1
Aroclor 1260	Dry Weight	mg/kg	0.2	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	0.2	<0.1	1.2	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	84	96	82	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-98	328344-99	328344-100	
			Sample Description	VEHICLE PILE ET63 / 20-30 / cm	VEHICLE PILE ET63 / 50-60 / cm	VEHICLE PILE ET63 / 100-110 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable							
Mercury	Strong Acid Extractable	ug/g		<0.01	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g		1.2	1.2	0.9	0.4
Arsenic	Strong Acid Extractable	ug/g		1.4	1.3	1.1	0.5
Barium	Strong Acid Extractable	ug/g		48.5	47.5	37.8	0.05
Beryllium	Strong Acid Extractable	ug/g		0.20	0.21	0.19	0.03
Cadmium	Strong Acid Extractable	ug/g		0.06	0.05	0.05	0.03
Chromium	Strong Acid Extractable	ug/g		26.7	29.1	23.6	0.05
Cobalt	Strong Acid Extractable	ug/g		6.42	6.14	5.32	0.04
Copper	Strong Acid Extractable	ug/g		14.1	18.2	15.2	0.05
Lead	Strong Acid Extractable	ug/g		6.0	5.4	5.6	0.1
Molybdenum	Strong Acid Extractable	ug/g		0.1	0.1	<0.1	0.1
Nickel	Strong Acid Extractable	ug/g		16.4	17.3	14.0	0.05
Selenium	Strong Acid Extractable	ug/g		<0.2	<0.2	0.5	0.3
Silver	Strong Acid Extractable	ug/g		<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g		<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g		1.5	1.7	1.6	0.3
Vanadium	Strong Acid Extractable	ug/g		23.7	22.2	20.1	0.05
Zinc	Strong Acid Extractable	ug/g		37.0	34.5	33.2	0.05
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		<1	<1	<1	1
F1 -BTEX	Dry Weight	mg/kg		<1	<1	<1	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		<10	<10	47	10
F3 C16-C34	Dry Weight	mg/kg		113	19	36	10
F4 C34-C50	Dry Weight	mg/kg		27	16	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg		44	34	<10	10
% C50+		%		10.5	33.5	0.0	
Silica Gel Cleanup							

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-98	328344-99	328344-100	
	Sample Description	VEHICLE PILE ET63 / 20-30 / cm	VEHICLE PILE ET63 / 50-60 / cm	VEHICLE PILE ET63 / 100-110 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Silica Gel Cleanup - Continued					
Silica Gel Cleanup		Done	Done	Done	
Soil % Moisture					
Moisture Soil % Moisture	%	13.40	8.63	9.16	

	NWL Number	328344-99	328344-112	328344-114	
	Sample Description	VEHICLE PILE ET63 / 50-60 / cm	VEHICLE PILE ET70 / 15-30 / cm	BARREL CACHE (BC) ET71 / COMP / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil					
Naphthalene Dry Weight	mg/kg	<0.05	<0.05	1.79	0.05
Acenaphthylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Acenaphthene Dry Weight	mg/kg	<0.05	0.19	<0.05	0.05
Fluorene Dry Weight	mg/kg	<0.05	0.32	0.10	0.05
Phenanthrene Dry Weight	mg/kg	<0.05	1.05	0.06	0.05
Anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Pyrene Dry Weight	mg/kg	<0.05	0.08	<0.05	0.05
Benzo(a)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Chrysene Dry Weight	mg/kg	<0.05	0.09	<0.05	0.05
Benzo(b)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	77	>130	56	23-130
2-Fluorobiphenyl PAH - Surrogate	%	56	52	58	30-130
p-Terphenyl-d14 PAH - Surrogate	%	49	101	54	18-137

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-100	328344-101	328344-102	
		Sample Description	VEHICLE PILE ET63 / 100-110 / cm	VEHICLE PILE ET63 / 120-130 / cm	VEHICLE PILE ET64 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.1	0.2	1.4	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

		NWL Number	328344-101	328344-102	328344-103	
		Sample Description	VEHICLE PILE ET63 / 120-130 / cm	VEHICLE PILE ET64 / 0-20 / cm	VEHICLE PILE ET65 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	0.03	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	0.9	1.0	10.3	0.4
Arsenic	Strong Acid Extractable	ug/g	0.9	1.0	0.9	0.5
Barium	Strong Acid Extractable	ug/g	38.1	85.2	41.6	0.05
Beryllium	Strong Acid Extractable	ug/g	0.18	0.19	0.17	0.03
Cadmium	Strong Acid Extractable	ug/g	0.04	0.18	0.06	0.03
Chromium	Strong Acid Extractable	ug/g	21.0	24.3	25.5	0.05
Cobalt	Strong Acid Extractable	ug/g	4.77	5.54	5.74	0.04
Copper	Strong Acid Extractable	ug/g	14.2	17.0	12.4	0.05
Lead	Strong Acid Extractable	ug/g	7.4	32.8	7.8	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.1	0.2	0.2	0.1
Nickel	Strong Acid Extractable	ug/g	12.5	14.6	17.3	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.7	1.8	1.5	0.3
Vanadium	Strong Acid Extractable	ug/g	19.6	18.7	18.4	0.05
Zinc	Strong Acid Extractable	ug/g	33.9	128	38.2	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-103	328344-104	328344-105	
			Sample Description	VEHICLE PILE ET65 / 0-20 / cm	VEHICLE PILE ET66 / 0-20 / cm	VEHICLE PILE ET67 / 0-20 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble							
Boron	Water Soluble	mg/kg		0.6	0.4	0.3	0.1
Water Soluble Parameters							
Hexavalent Chromium	Water Soluble	mg/kg		<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil							
Aroclor 1016	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate							
Decachlorobiphenyl	Surrogate	%		92	88	80	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-104	328344-105	328344-106	
	Sample Description	VEHICLE PILE ET66 / 0-20 / cm	VEHICLE PILE ET67 / 0-20 / cm	VEHICLE PILE ET68 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	<0.01	0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.0	1.5	2.4	0.4
Arsenic Strong Acid Extractable	ug/g	0.9	1.6	0.9	0.5
Barium Strong Acid Extractable	ug/g	40.9	49.8	51.8	0.05
Beryllium Strong Acid Extractable	ug/g	0.25	0.24	0.21	0.03
Cadmium Strong Acid Extractable	ug/g	0.06	0.06	0.14	0.03
Chromium Strong Acid Extractable	ug/g	24.2	31.9	28.8	0.05
Cobalt Strong Acid Extractable	ug/g	5.42	6.27	5.14	0.04
Copper Strong Acid Extractable	ug/g	14.7	18.5	18.0	0.05
Lead Strong Acid Extractable	ug/g	6.8	6.6	51.0	0.1
Molybdenum Strong Acid Extractable	ug/g	<0.1	0.1	0.2	0.1
Nickel Strong Acid Extractable	ug/g	14.2	19.6	14.8	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.7	1.9	2.3	0.3
Vanadium Strong Acid Extractable	ug/g	22.2	26.2	18.4	0.05
Zinc Strong Acid Extractable	ug/g	38.3	42.6	340	0.05

	NWL Number	328344-106	328344-107	328344-108	
	Sample Description	VEHICLE PILE ET68 / 0-15 / cm	VEHICLE PILE ET68 / 15-30 / cm	VEHICLE PILE ET68 / 30-45 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.9	0.5	0.6	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-107	328344-108	328344-109	
		Sample Description	VEHICLE PILE ET68 / 15-30 / cm	VEHICLE PILE ET68 / 30-45 / cm	VEHICLE PILE ET68 / 45-60 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.4	1.6	1.9	0.4
Arsenic	Strong Acid Extractable	ug/g	0.9	1.2	1.2	0.5
Barium	Strong Acid Extractable	ug/g	41.2	44.6	40.0	0.05
Beryllium	Strong Acid Extractable	ug/g	0.22	0.24	0.22	0.03
Cadmium	Strong Acid Extractable	ug/g	0.07	0.08	0.04	0.03
Chromium	Strong Acid Extractable	ug/g	21.4	22.8	20.9	0.05
Cobalt	Strong Acid Extractable	ug/g	4.40	4.66	4.43	0.04
Copper	Strong Acid Extractable	ug/g	13.0	15.2	13.6	0.05
Lead	Strong Acid Extractable	ug/g	21.8	11.2	7.7	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.2	0.2	0.1	0.1
Nickel	Strong Acid Extractable	ug/g	12.0	13.9	13.0	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	0.4	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.6	2.2	2.1	0.3
Vanadium	Strong Acid Extractable	ug/g	18.2	21.3	20.7	0.05
Zinc	Strong Acid Extractable	ug/g	70.0	56.6	41.7	0.05
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	90	90	92	50-150

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-109	328344-110	328344-111	
	Sample Description	VEHICLE PILE ET68 / 45-60 / cm	VEHICLE PILE ET69 / 0-30 / cm	VEHICLE PILE ET70 / 0-15 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.5	0.3	1.4	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-110	328344-111	328344-112	
	Sample Description	VEHICLE PILE ET69 / 0-30 / cm	VEHICLE PILE ET70 / 0-15 / cm	VEHICLE PILE ET70 / 15-30 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.7	2.0	1.5	0.4
Arsenic	Strong Acid Extractable	ug/g	1.2	1.5	1.2	0.5
Barium	Strong Acid Extractable	ug/g	51.2	51.1	46.3	0.05
Beryllium	Strong Acid Extractable	ug/g	0.24	0.22	0.24	0.03
Cadmium	Strong Acid Extractable	ug/g	0.08	0.30	0.11	0.03
Chromium	Strong Acid Extractable	ug/g	30.8	27.2	29.0	0.05
Cobalt	Strong Acid Extractable	ug/g	5.91	5.35	5.77	0.04
Copper	Strong Acid Extractable	ug/g	22.9	17.9	16.8	0.05
Lead	Strong Acid Extractable	ug/g	6.4	28.7	7.4	0.1
Molybdenum	Strong Acid Extractable	ug/g	<0.1	0.2	<0.1	0.1
Nickel	Strong Acid Extractable	ug/g	19.4	15.1	17.4	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	2.0	2.4	2.2	0.3
Vanadium	Strong Acid Extractable	ug/g	25.5	21.6	23.4	0.05
Zinc	Strong Acid Extractable	ug/g	35.6	1280	115	0.05
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	0.5	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	0.5	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	98	89	100	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-112	328344-113	328344-114	
		Sample Description	VEHICLE PILE ET70 / 15-30 / cm	VEHICLE PILE ET70 / 30-45 / cm	BARREL CACHE (BC) ET71 / COMP / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg	<0.02	<0.02	0.07	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.02	<0.02	1.01	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg	0.40	0.17	8.09	0.02
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg	72	49	101	1
F1 -BTEX	Dry Weight	mg/kg	72	49	92	1
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg	2400	757	2070	10
F3 C16-C34	Dry Weight	mg/kg	4860	1600	183	10
F4 C34-C50	Dry Weight	mg/kg	347	131	34	10
F4HTGC C34-C50+	Dry Weight	mg/kg	506	182	46	10
% C50+		%	2.0	2.0	0.5	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	11.80	11.80	9.82	

		NWL Number	328344-112	328344-113	328344-121	
		Sample Description	VEHICLE PILE ET70 / 15-30 / cm	VEHICLE PILE ET70 / 30-45 / cm	BC-ET71 / Composite	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.7	0.8	0.5	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-113	328344-118	328344-119	
		Sample Description	VEHICLE PILE ET70 / 30-45 / cm	INUIT HOUSE, Paint behind Furnace	INUIT HOUSE, Wall & Ceiling	
		Matrix	Soil - general	Paint	Paint	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	-	-	0.01
Antimony	Strong Acid Extractable	ug/g	2.1	-	-	0.4
Arsenic	Strong Acid Extractable	ug/g	1.6	-	-	0.5
Barium	Strong Acid Extractable	ug/g	55.0	-	-	0.05
Beryllium	Strong Acid Extractable	ug/g	0.27	-	-	0.03
Cadmium	Strong Acid Extractable	ug/g	0.09	-	-	0.03
Chromium	Strong Acid Extractable	ug/g	34.4	-	-	0.05
Cobalt	Strong Acid Extractable	ug/g	6.32	-	-	0.04
Copper	Strong Acid Extractable	ug/g	18.8	-	-	0.05
Lead	Strong Acid Extractable	ug/g	7.8	889	1330	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.4	-	-	0.1
Nickel	Strong Acid Extractable	ug/g	19.8	-	-	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	-	-	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	-	-	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	-	-	0.4
Tin	Strong Acid Extractable	ug/g	5.6	-	-	0.3
Vanadium	Strong Acid Extractable	ug/g	27.8	-	-	0.05
Zinc	Strong Acid Extractable	ug/g	64.7	-	-	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-113	328344-121	328344-122	
			Sample Description	VEHICLE PILE ET70 / 30-45 / cm	BC-ET71 / Composite	BC-ET75 / 50-60 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil							
Aroclor 1016	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg		<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate							
Decachlorobiphenyl	Surrogate	%		85	90	89	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

NWL Number 328344-114
Sample Description BARREL CACHE (BC) ET71 / COMP / cm
Matrix Soil - general

Analyte		Units	Results	Results	Results	Detection Limit
Organochlorine Pesticides in Soil						
Aldrin	Dry Weight	mg/kg	<0.05			0.05
BHC (alpha isomer)	Dry Weight	mg/kg	<0.05			0.05
BHC (beta isomer)	Dry Weight	mg/kg	<0.05			0.05
BHC (delta isomer)	Dry Weight	mg/kg	<0.05			0.05
Captan	Dry Weight	mg/kg	<0.5			0.5
Chlorbenside	Dry Weight	mg/kg	<0.05			0.05
Chlordane-cis	Dry Weight	mg/kg	<0.05			0.05
Chlordane-trans	Dry Weight	mg/kg	<0.05			0.05
Chlorfenson	Dry Weight	mg/kg	<0.05			0.05
Chlorothalonil	Dry Weight	mg/kg	<0.5			0.5
Chlorthal-dimethyl	Dry Weight	mg/kg	<0.05			0.05
DDD-o,p'	Dry Weight	mg/kg	<0.05			0.05
DDD-p,p'	Dry Weight	mg/kg	<0.05			0.05
DDE-o,p'	Dry Weight	mg/kg	<0.05			0.05
DDE-p,p'	Dry Weight	mg/kg	<0.05			0.05
DDT-o,p'	Dry Weight	mg/kg	<0.05			0.05
DDT-p,p'	Dry Weight	mg/kg	<0.05			0.05
Dichlofluanid	Dry Weight	mg/kg	<0.05			0.05
Dicofol	Dry Weight	mg/kg	<0.5			0.5
Dieldrin	Dry Weight	mg/kg	<0.05			0.05
Endosulfan I	Dry Weight	mg/kg	<0.05			0.05
Endosulfan II	Dry Weight	mg/kg	<0.05			0.05
Endosulfan sulfate	Dry Weight	mg/kg	<0.05			0.05
Endrin	Dry Weight	mg/kg	<0.05			0.05
Folpet	Dry Weight	mg/kg	<0.5			0.5
Heptachlor	Dry Weight	mg/kg	<0.05			0.05
Heptachlor Epoxide	Dry Weight	mg/kg	<0.05			0.05
Hexachlorobenzene	Dry Weight	mg/kg	<0.05			0.05
Lindane	Dry Weight	mg/kg	<0.05			0.05
Methoxychlor	Dry Weight	mg/kg	<0.05			0.05
Mirex	Dry Weight	mg/kg	<0.05			0.05
Nitrofen	Dry Weight	mg/kg	<0.05			0.05
Permethrin-cis	Dry Weight	mg/kg	<0.05			0.05
Permethrin-trans	Dry Weight	mg/kg	<0.05			0.05
Procymidone	Dry Weight	mg/kg	<0.05			0.05
Propachlor	Dry Weight	mg/kg	<0.05			0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

NWL Number	328344-114
Sample Description	BARREL CACHE (BC) ET71 / COMP / cm
Matrix	Soil - general

Analyte		Units	Results	Results	Results	Detection Limit
Organochlorine Pesticides in Soil - Continued						
Quintozene	Dry Weight	mg/kg	<0.05			0.05
Tecnazene	Dry Weight	mg/kg	<0.05			0.05
Tetradifon	Dry Weight	mg/kg	<0.05			0.05
Tolyfluanid	Dry Weight	mg/kg	<0.05			0.05
Triadimefon	Dry Weight	mg/kg	<0.05			0.05
Vinclozolin	Dry Weight	mg/kg	<0.05			0.05
Organochlorine Pesticides -Soil- Surrogate Rec.						
TPP	Surrogate	%	NA			60-140

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-115	328344-116	328344-117	
			Sample Description	BARREL CACHE (BC) ET72 / 90-100 / cm	BARREL CACHE (BC) ET73 / 70-80 / cm	BARREL CACHE (BC) ET74 / 60-70 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		0.03	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		6.01	0.17	0.20	0.02
Ethylbenzene	Dry Weight	mg/kg		3.61	0.86	2.36	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		51.3	15.4	45.6	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		559	397	468	1
F1 -BTEX	Dry Weight	mg/kg		498	380	420	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				1-Sep-04	1-Sep-04	1-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		5680	6760	3820	10
F3 C16-C34	Dry Weight	mg/kg		550	613	305	10
F4 C34-C50	Dry Weight	mg/kg		<10	<10	12	10
F4HTGC C34-C50+	Dry Weight	mg/kg		<10	<10	19	10
% C50+		%		0.0	0.0	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		8.91	9.92	11.10	
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		43.1	20.1	26.4	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		2.95	1.46	1.03	0.05
Phenanthrene	Dry Weight	mg/kg		1.13	0.76	0.46	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-115	328344-116	328344-117	
		Sample Description	BARREL CACHE (BC) ET72 / 90-100 / cm	BARREL CACHE (BC) ET73 / 70-80 / cm	BARREL CACHE (BC) ET74 / 60-70 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil - Conti						
Dibenzo(a,h)anthracene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P	Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery						
Nitrobenzene-d5	PAH - Surrogate	%	>130	>130	>130	23-130
2-Fluorobiphenyl	PAH - Surrogate	%	124	113	122	30-130
p-Terphenyl-d14	PAH - Surrogate	%	53	54	60	18-137

		NWL Number	328344-119			
		Sample Description	INUIT HOUSE, Wall & Ceiling Paint			
		Matrix				
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Oil						
Aroclor 1016		mg/kg	<0.5			0.5
Aroclor 1221		mg/kg	<0.5			0.5
Aroclor 1232		mg/kg	<0.5			0.5
Aroclor 1242		mg/kg	<0.5			0.5
Aroclor 1248		mg/kg	<0.5			0.5
Aroclor 1254		mg/kg	4230			0.5
Aroclor 1260		mg/kg	<0.5			0.5
Aroclor 1262		mg/kg	<0.5			0.5
Aroclor 1268		mg/kg	<0.5			0.5
Total PCBs		mg/kg	4230.0			0.5
Polychlorinated Biphenyls - Oil - Surrogate						
Decachlorobiphenyl	Surrogate	%	95			50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-121	328344-123	328344-125	
	Sample Description	BC-ET71 / Composite	BC-ET76 / 80-90 / cm	OLD CC ET77 / 30-40 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	20.3	2.5	1.5	0.4
Arsenic Strong Acid Extractable	ug/g	1.6	0.9	1.6	0.5
Barium Strong Acid Extractable	ug/g	55.1	55.9	53.0	0.05
Beryllium Strong Acid Extractable	ug/g	0.19	0.19	0.22	0.03
Cadmium Strong Acid Extractable	ug/g	0.16	0.06	0.07	0.03
Chromium Strong Acid Extractable	ug/g	24.5	31.6	30.3	0.05
Cobalt Strong Acid Extractable	ug/g	6.30	5.75	5.75	0.04
Copper Strong Acid Extractable	ug/g	19.0	15.7	18.2	0.05
Lead Strong Acid Extractable	ug/g	18.4	6.2	5.5	0.1
Molybdenum Strong Acid Extractable	ug/g	0.3	0.2	0.1	0.1
Nickel Strong Acid Extractable	ug/g	13.9	20.3	19.9	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	0.5	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	2.0	1.8	2.1	0.3
Vanadium Strong Acid Extractable	ug/g	18.5	22.6	23.6	0.05
Zinc Strong Acid Extractable	ug/g	61.1	34.0	32.3	0.05

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-122	328344-123	328344-124	
			Sample Description	BC-ET75 / 50-60 / cm	BC-ET76 / 80-90 / cm	BC-ET76A / 80-90 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		0.05	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		7	3	3	1
F1 -BTEX	Dry Weight	mg/kg		7	3	3	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				2-Sep-04	2-Sep-04	2-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		<10	10	<10	10
F3 C16-C34	Dry Weight	mg/kg		167	50	50	10
F4 C34-C50	Dry Weight	mg/kg		77	65	26	10
F4HTGC C34-C50+	Dry Weight	mg/kg		119	93	32	10
% C50+		%		14.7	18.7	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		9.03	11.10	9.99	

			NWL Number	328344-123	328344-125	328344-126	
			Sample Description	BC-ET76 / 80-90 / cm	OLD CC ET77 / 30-40 / cm	OLD CC ET77A / 30-40 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble							
Boron	Water Soluble	mg/kg		0.3	0	0.3	0.1
Water Soluble Parameters							
Hexavalent Chromium	Water Soluble	mg/kg		<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-125	328344-128	328344-129	
	Sample Description	OLD CC ET77 / 30-40 / cm	OLD CC ET78 / 0-20 / cm	OLD CC ET79 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil					
Aroclor 1016 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268 Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate					
Decachlorobiphenyl Surrogate	%	90	81	98	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-125	328344-134	328344-135	
	Sample Description	OLD CC ET77 / 30-40 / cm	OLD CC SHOP-ET101 / 0-20 / cm	OLD CC SHOP-ET101A / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil					
Extraction Date		30-Aug-04	30-Aug-04	30-Aug-04	
Benzene Dry Weight	mg/kg	0.02	<0.02	<0.02	0.02
Toluene Dry Weight	mg/kg	<0.02	<0.02	0.02	0.02
Ethylbenzene Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o) Dry Weight	mg/kg	0.39	<0.02	0.02	0.02
Volatile Petroleum Hydrocarbons - Soil					
Extraction Date		30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10 Dry Weight	mg/kg	210	28	23	1
F1 -BTEX Dry Weight	mg/kg	210	28	23	1
Extractable Petroleum Hydrocarbons - Soxhlet					
Extraction Date		2-Sep-04	2-Sep-04	2-Sep-04	
F2 C10-C16 Dry Weight	mg/kg	5220	646	514	10
F3 C16-C34 Dry Weight	mg/kg	1300	18300	16200	10
F4 C34-C50 Dry Weight	mg/kg	191	1050	981	10
F4HTGC C34-C50+ Dry Weight	mg/kg	229	1140	1110	10
% C50+	%	0.6	0.4	0.7	
Silica Gel Cleanup					
Silica Gel Cleanup		Done	Done	Done	
Soil % Moisture					
Moisture Soil % Moisture	%	8.87	8.98	9.27	

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-126	328344-127	328344-128	
	Sample Description	OLD CC ET77A / 30-40 / cm	OLD CC ET77 / 40-60 / cm	OLD CC ET78 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.7	1.5	2.1	0.4
Arsenic Strong Acid Extractable	ug/g	1.1	1.6	1.6	0.5
Barium Strong Acid Extractable	ug/g	50.4	51.9	58.1	0.05
Beryllium Strong Acid Extractable	ug/g	0.23	0.22	0.29	0.03
Cadmium Strong Acid Extractable	ug/g	0.07	0.06	0.09	0.03
Chromium Strong Acid Extractable	ug/g	29.4	33.8	35.1	0.05
Cobalt Strong Acid Extractable	ug/g	5.92	6.10	7.08	0.04
Copper Strong Acid Extractable	ug/g	19.7	17.3	17.8	0.05
Lead Strong Acid Extractable	ug/g	6.2	6.3	7.7	0.1
Molybdenum Strong Acid Extractable	ug/g	0.3	<0.1	0.1	0.1
Nickel Strong Acid Extractable	ug/g	19.0	20.6	21.7	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.8	1.9	2.6	0.3
Vanadium Strong Acid Extractable	ug/g	23.4	25.4	29.8	0.05
Zinc Strong Acid Extractable	ug/g	36.7	38.1	43.5	0.05

	NWL Number	328344-127	328344-128	328344-129	
	Sample Description	OLD CC ET77 / 40-60 / cm	OLD CC ET78 / 0-20 / cm	OLD CC ET79 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.5	0.1	0.4	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-129	328344-130	328344-132	
	Sample Description	OLD CC ET79 / 0-20 / cm	OLD CC ET80 / 0-20 / cm	OLD CC ET81 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.01	0.02	0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.2	1.2	1.2	0.4
Arsenic Strong Acid Extractable	ug/g	1.9	1.2	1.3	0.5
Barium Strong Acid Extractable	ug/g	46.2	93.6	89.3	0.05
Beryllium Strong Acid Extractable	ug/g	0.26	0.27	0.22	0.03
Cadmium Strong Acid Extractable	ug/g	0.07	0.08	0.09	0.03
Chromium Strong Acid Extractable	ug/g	31.7	33.6	28.8	0.05
Cobalt Strong Acid Extractable	ug/g	5.89	6.07	5.65	0.04
Copper Strong Acid Extractable	ug/g	18.1	18.2	13.1	0.05
Lead Strong Acid Extractable	ug/g	6.6	6.7	6.4	0.1
Molybdenum Strong Acid Extractable	ug/g	0.2	<0.1	<0.1	0.1
Nickel Strong Acid Extractable	ug/g	18.2	18.3	14.9	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.7	2.0	2.1	0.3
Vanadium Strong Acid Extractable	ug/g	25.0	25.1	23.1	0.05
Zinc Strong Acid Extractable	ug/g	35.4	45.0	46.1	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-130	328344-131	328344-132	
		Sample Description	OLD CC ET80 / 0-20 / cm	OLD CC ET80A / 0-20 / cm	OLD CC ET81 / 0-20 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	95	86	87	50-150

		NWL Number	328344-130	328344-132	328344-133	
		Sample Description	OLD CC ET80 / 0-20 / cm	OLD CC ET81 / 0-20 / cm	OLD CC ET82 / 20-30 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.5	0.5	0.3	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-133	328344-134	328344-136	
	Sample Description	OLD CC ET82 / 20-30 / cm	OLD CC SHOP-ET101 / 0-20 / cm	OLD CC SHOP-ET102 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.2	1.4	1.4	0.4
Arsenic	Strong Acid Extractable	ug/g	1.5	1.6	1.1	0.5
Barium	Strong Acid Extractable	ug/g	49.3	283	61.5	0.05
Beryllium	Strong Acid Extractable	ug/g	0.23	0.21	0.17	0.03
Cadmium	Strong Acid Extractable	ug/g	0.06	0.25	0.15	0.03
Chromium	Strong Acid Extractable	ug/g	30.2	28.6	21.7	0.05
Cobalt	Strong Acid Extractable	ug/g	6.29	5.04	4.36	0.04
Copper	Strong Acid Extractable	ug/g	16.1	22.2	13.2	0.05
Lead	Strong Acid Extractable	ug/g	6.0	45.6	41.8	0.1
Molybdenum	Strong Acid Extractable	ug/g	<0.1	0.3	0.2	0.1
Nickel	Strong Acid Extractable	ug/g	19.0	14.2	11.2	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.8	2.2	6.7	0.3
Vanadium	Strong Acid Extractable	ug/g	24.2	18.6	14.1	0.05
Zinc	Strong Acid Extractable	ug/g	37.4	61.6	36.7	0.05
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	80	85	73	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-134	328344-136	328344-137	
			Sample Description	OLD CC SHOP-ET101 / 0-20 / cm	OLD CC SHOP-ET102 / 0-20 / cm	OLD CC SHOP-ET103 / 0-20 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble							
Boron	Water Soluble	mg/kg		0.8	0.5	0.3	0.1
Water Soluble Parameters							
Hexavalent Chromium	Water Soluble	mg/kg		<0.1	<0.1	<0.1	0.1
Polynuclear Aromatic Hydrocarbons - Soil							
Naphthalene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Acenaphthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluorene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Phenanthrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Pyrene	Dry Weight	mg/kg		0.06	<0.05	<0.05	0.05
Benzo(a)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Chrysene	Dry Weight	mg/kg		0.06	<0.05	<0.05	0.05
Benzo(b)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene	Dry Weight	mg/kg		<0.05	<0.05	<0.05	0.05
CB(a)P	Carcinogenic Potency Equivalent	mg/kg		<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery							
Nitrobenzene-d5	PAH - Surrogate	%		114	90	92	23-130
2-Fluorobiphenyl	PAH - Surrogate	%		46	66	64	30-130
p-Terphenyl-d14	PAH - Surrogate	%		42	81	64	18-137

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-136	328344-137	328344-138	
	Sample Description	OLD CC SHOP-ET102 / 0-20 / cm	OLD CC SHOP-ET103 / 0-20 / cm	OLD CC SHOP-ET104 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg	<0.02	<0.02	3.63	0.02
Ethylbenzene	Dry Weight	mg/kg	<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.02	<0.02	47.7	0.02
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg	4	3	1440	1
F1 -BTEX	Dry Weight	mg/kg	4	3	1390	1
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			2-Sep-04	2-Sep-04	2-Sep-04	
F2 C10-C16	Dry Weight	mg/kg	12	26	367	10
F3 C16-C34	Dry Weight	mg/kg	654	1390	1410	10
F4 C34-C50	Dry Weight	mg/kg	183	464	129	10
F4HTGC C34-C50+	Dry Weight	mg/kg	212	609	145	10
% C50+		%	3.4	7.1	0.8	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	10.30	15.50	15.80	

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-137	328344-138	328344-139	
	Sample Description	OLD CC SHOP-ET103 / 0-20 / cm	OLD CC SHOP-ET104 / 0-20 / cm	POL ET84 / 70-80 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	0.02	0.01
Antimony	Strong Acid Extractable	ug/g	1.3	1.1	1.6	0.4
Arsenic	Strong Acid Extractable	ug/g	0.9	1.1	1.2	0.5
Barium	Strong Acid Extractable	ug/g	67.6	50.8	74.9	0.05
Beryllium	Strong Acid Extractable	ug/g	0.19	0.22	0.23	0.03
Cadmium	Strong Acid Extractable	ug/g	0.11	0.09	0.08	0.03
Chromium	Strong Acid Extractable	ug/g	22.0	24.0	35.4	0.05
Cobalt	Strong Acid Extractable	ug/g	5.17	5.03	7.34	0.04
Copper	Strong Acid Extractable	ug/g	14.4	12.3	15.9	0.05
Lead	Strong Acid Extractable	ug/g	9.1	14.1	6.1	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.1	<0.1	0.1	0.1
Nickel	Strong Acid Extractable	ug/g	14.5	14.9	22.9	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	2.0	1.7	1.9	0.3
Vanadium	Strong Acid Extractable	ug/g	18.4	20.3	29.0	0.05
Zinc	Strong Acid Extractable	ug/g	32.8	35.0	41.4	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-137	328344-138	328344-150	
		Sample Description	OLD CC SHOP-ET103 / 0-20 / cm	OLD CC SHOP-ET104 / 0-20 / cm	Buried Debris East of Station, ET90 / 0-40 / cm	
		Matrix	Soil - general	Soil - general	Miscellaneous	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	85	93	82	50-150

		NWL Number	328344-138	328344-139	328344-140	
		Sample Description	OLD CC SHOP-ET104 / 0-20 / cm	POL ET84 / 70-80 / cm	POL ET85 / 100-110 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.7	[illegible]	0.5	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	[illegible]	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-138	328344-139	328344-144	
	Sample Description	OLD CC SHOP-ET104 / 0-20 / cm	POL ET84 / 70-80 / cm	POL ET89 / 90-100 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil					
Naphthalene Dry Weight	mg/kg	5.10	0.96	4.60	0.05
Acenaphthylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Acenaphthene Dry Weight	mg/kg	<0.05	0.11	<0.05	0.05
Fluorene Dry Weight	mg/kg	0.07	0.19	0.69	0.05
Phenanthrene Dry Weight	mg/kg	0.14	0.09	0.40	0.05
Anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Pyrene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(a)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Chrysene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(b)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(j)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(k)fluoranthene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(a)pyrene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Indeno(1,2,3-c,d)pyrene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05	<0.05	0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05	<0.05	0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	114	>130	>130	23-130
2-Fluorobiphenyl PAH - Surrogate	%	56	64	84	30-130
p-Terphenyl-d14 PAH - Surrogate	%	58	52	44	18-137

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-139	328344-140	328344-141	
			Sample Description	POL ET84 / 70-80 / cm	POL ET85 / 100-110 / cm	POL ET86 / 80-90 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		0.26	<0.02	<0.02	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		123	8	3	1
F1 -BTEX	Dry Weight	mg/kg		123	8	3	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				2-Sep-04	2-Sep-04	2-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		1070	<10	<10	10
F3 C16-C34	Dry Weight	mg/kg		156	165	30	10
F4 C34-C50	Dry Weight	mg/kg		<10	180	33	10
F4HTGC C34-C50+	Dry Weight	mg/kg		<10	272	44	10
% C50+		%		0.0	20.9	15.2	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		12.10	43.50	13.30	

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-140	328344-141	328344-142	
		Sample Description	POL ET85 / 100-110 / cm	POL ET86 / 80-90 / cm	POL ET87 / 100-120 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	0.03	0.02	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.6	1.4	1.0	0.4
Arsenic	Strong Acid Extractable	ug/g	1.9	1.4	1.0	0.5
Barium	Strong Acid Extractable	ug/g	65.0	33.2	53.4	0.05
Beryllium	Strong Acid Extractable	ug/g	0.23	0.29	0.20	0.03
Cadmium	Strong Acid Extractable	ug/g	0.09	0.09	0.05	0.03
Chromium	Strong Acid Extractable	ug/g	31.0	28.4	32.2	0.05
Cobalt	Strong Acid Extractable	ug/g	9.79	6.18	5.60	0.04
Copper	Strong Acid Extractable	ug/g	23.6	14.3	13.6	0.05
Lead	Strong Acid Extractable	ug/g	5.6	8.2	4.1	0.1
Molybdenum	Strong Acid Extractable	ug/g	0.2	0.2	<0.1	0.1
Nickel	Strong Acid Extractable	ug/g	21.9	16.7	20.6	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.8	1.5	1.8	0.3
Vanadium	Strong Acid Extractable	ug/g	34.6	25.2	23.2	0.05
Zinc	Strong Acid Extractable	ug/g	54.4	40.5	32.8	0.05

		NWL Number	328344-141	328344-142	328344-143	
		Sample Description	POL ET86 / 80-90 / cm	POL ET87 / 100-120 / cm	POL ET88 / 80-90 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.3	0.1	0.2	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-142	328344-143	328344-144	
			Sample Description	POL ET87 / 100-120 / cm	POL ET88 / 80-90 / cm	POL ET89 / 90-100 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		15.4	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		30.2	<0.02	0.04	0.02
Ethylbenzene	Dry Weight	mg/kg		23.0	<0.02	0.06	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		76.8	<0.02	2.87	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		1570	4	222	1
F1 -BTEX	Dry Weight	mg/kg		1420	4	219	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				2-Sep-04	2-Sep-04	2-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		6930	<10	5310	10
F3 C16-C34	Dry Weight	mg/kg		442	30	954	10
F4 C34-C50	Dry Weight	mg/kg		<10	18	127	10
F4HTGC C34-C50+	Dry Weight	mg/kg		<10	21	185	10
% C50+		%		0.0	0.0	0.9	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		10.40	18.30	24.60	

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-143	328344-144	328344-145	
		Sample Description	POL ET88 / 80-90 / cm	POL ET89 / 90-100 / cm	POL-ET97 / 0-30 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.1	1.7	1.4	0.4
Arsenic	Strong Acid Extractable	ug/g	1.5	1.2	1.6	0.5
Barium	Strong Acid Extractable	ug/g	43.8	76.2	44.1	0.05
Beryllium	Strong Acid Extractable	ug/g	0.20	0.15	0.26	0.03
Cadmium	Strong Acid Extractable	ug/g	0.06	0.06	0.24	0.03
Chromium	Strong Acid Extractable	ug/g	25.2	33.8	34.9	0.05
Cobalt	Strong Acid Extractable	ug/g	6.57	6.63	5.28	0.04
Copper	Strong Acid Extractable	ug/g	16.7	13.7	17.7	0.05
Lead	Strong Acid Extractable	ug/g	7.2	5.4	12.6	0.1
Molybdenum	Strong Acid Extractable	ug/g	<0.1	0.2	0.1	0.1
Nickel	Strong Acid Extractable	ug/g	16.2	17.6	13.5	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.7	2.0	1.9	0.3
Vanadium	Strong Acid Extractable	ug/g	21.4	28.9	23.0	0.05
Zinc	Strong Acid Extractable	ug/g	38.5	43.5	106	0.05

		NWL Number	328344-144	328344-145	328344-146	
		Sample Description	POL ET89 / 90-100 / cm	POL-ET97 / 0-30 / cm	POL ET99 / 0-10 / cm	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	0.2	0.2	2.4	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-145	328344-146		
	Sample Description	POL-ET97 / 0-30 / cm	POL-ET98 / 0-10 / cm		
	Matrix	Soil - general	Soil - general		
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polynuclear Aromatic Hydrocarbons - Soil					
Naphthalene Dry Weight	mg/kg	3.01	<0.05		0.05
Acenaphthylene Dry Weight	mg/kg	<0.05	<0.05		0.05
Acenaphthene Dry Weight	mg/kg	0.97	<0.05		0.05
Fluorene Dry Weight	mg/kg	0.84	<0.05		0.05
Phenanthrene Dry Weight	mg/kg	0.58	<0.05		0.05
Anthracene Dry Weight	mg/kg	<0.05	<0.05		0.05
Fluoranthene Dry Weight	mg/kg	<0.05	<0.05		0.05
Pyrene Dry Weight	mg/kg	0.05	<0.05		0.05
Benzo(a)anthracene Dry Weight	mg/kg	<0.05	<0.05		0.05
Chrysene Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(b)fluoranthene Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(j)fluoranthene Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(k)fluoranthene Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(a)pyrene Dry Weight	mg/kg	<0.05	<0.05		0.05
Indeno(1,2,3-c,d)pyrene Dry Weight	mg/kg	<0.05	<0.05		0.05
Dibenzo(a,h)anthracene Dry Weight	mg/kg	<0.05	<0.05		0.05
Benzo(g,h,i)perylene Dry Weight	mg/kg	<0.05	<0.05		0.05
CB(a)P Carcinogenic Potency Equivalent	mg/kg	<0.05	<0.05		0.05
PAH - Soil - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	>130	121		23-130
2-Fluorobiphenyl PAH - Surrogate	%	99	31		30-130
p-Terphenyl-d14 PAH - Surrogate	%	66	53		18-137

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-145	328344-146	328344-147	
			Sample Description	POL-ET97 / 0-30 / cm	POL-ET98 / 0-10 / cm	POL-ET99 / 0-20 / cm	
			Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
Benzene	Dry Weight	mg/kg		<0.02	<0.02	<0.02	0.02
Toluene	Dry Weight	mg/kg		0.05	<0.02	<0.02	0.02
Ethylbenzene	Dry Weight	mg/kg		0.03	<0.02	<0.02	0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg		1.42	0.09	1.25	0.02
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				30-Aug-04	30-Aug-04	30-Aug-04	
F1 C6-C10	Dry Weight	mg/kg		190	30	118	1
F1 -BTEX	Dry Weight	mg/kg		188	30	117	1
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				2-Sep-04	2-Sep-04	2-Sep-04	
F2 C10-C16	Dry Weight	mg/kg		9780	2020	13300	10
F3 C16-C34	Dry Weight	mg/kg		2770	890	696	10
F4 C34-C50	Dry Weight	mg/kg		398	285	26	10
F4HTGC C34-C50+	Dry Weight	mg/kg		484	482	30	10
% C50+		%		0.7	5.8	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		14.90	52.60	17.10	

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-146	328344-147	328344-149	
	Sample Description	POL-ET98 / 0-10 / cm	POL-ET99 / 0-20 / cm	POL-ET100 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	0.02	<0.01	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.1	1.2	3.0	0.4
Arsenic Strong Acid Extractable	ug/g	2.7	1.6	2.2	0.5
Barium Strong Acid Extractable	ug/g	51.2	36.1	38.9	0.05
Beryllium Strong Acid Extractable	ug/g	0.30	0.38	0.55	0.03
Cadmium Strong Acid Extractable	ug/g	0.16	0.07	0.06	0.03
Chromium Strong Acid Extractable	ug/g	26.9	27.9	41.8	0.05
Cobalt Strong Acid Extractable	ug/g	5.67	6.16	10.5	0.04
Copper Strong Acid Extractable	ug/g	42.6	27.1	41.0	0.05
Lead Strong Acid Extractable	ug/g	22.8	6.5	6.0	0.1
Molybdenum Strong Acid Extractable	ug/g	0.5	0.1	0.1	0.1
Nickel Strong Acid Extractable	ug/g	16.2	16.8	25.3	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	1.8	2.1	2.3	0.3
Vanadium Strong Acid Extractable	ug/g	24.6	29.0	50.4	0.05
Zinc Strong Acid Extractable	ug/g	68.4	50.2	65.5	0.05

	NWL Number	328344-147	328344-149	328344-150	
	Sample Description	POL-ET99 / 0-20 / cm	POL-ET100 / 0-20 / cm	Buried Debris East of Station, ET90 / 0-40 / cm	
	Matrix	Soil - general	Soil - general	Miscellaneous	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble					
Boron Water Soluble	mg/kg	0.5	0.3	0.3	0.1
Water Soluble Parameters					
Hexavalent Chromium Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

NWL Number 328344-149
Sample Description POL-ET100 / 0-20 / cm
Matrix Soil - general

Analyte		Units	Results	Results	Results	Detection Limit
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			30-Aug-04			
Benzene	Dry Weight	mg/kg	<0.02			0.02
Toluene	Dry Weight	mg/kg	0.13			0.02
Ethylbenzene	Dry Weight	mg/kg	<0.02			0.02
Total Xylenes (m,p,o)	Dry Weight	mg/kg	8.07			0.02
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			30-Aug-04			
F1 C6-C10	Dry Weight	mg/kg	71			1
F1 -BTEX	Dry Weight	mg/kg	63			1
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			2-Sep-04			
F2 C10-C16	Dry Weight	mg/kg	4770			10
F3 C16-C34	Dry Weight	mg/kg	451			10
F4 C34-C50	Dry Weight	mg/kg	36			10
F4HTGC C34-C50+	Dry Weight	mg/kg	51			10
% C50+		%	0.3			
Silica Gel Cleanup						
Silica Gel Cleanup			Done			
Soil % Moisture						
Moisture	Soil % Moisture	%	14.00			

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-150	328344-151	328344-152	
	Sample Description	Buried Debris East of Station, ET90 / 0-40 / cm	BG1-ET91 / 0-20 / cm	BG2-ET92 / 0-20 / cm	
	Matrix	Miscellaneous	Soil - general	Soil - general	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable					
Mercury Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony Strong Acid Extractable	ug/g	1.2	1.3	1.1	0.4
Arsenic Strong Acid Extractable	ug/g	1.6	1.6	1.5	0.5
Barium Strong Acid Extractable	ug/g	45.3	50.8	41.4	0.05
Beryllium Strong Acid Extractable	ug/g	0.27	0.27	0.27	0.03
Cadmium Strong Acid Extractable	ug/g	0.07	0.08	0.08	0.03
Chromium Strong Acid Extractable	ug/g	25.3	27.0	21.7	0.05
Cobalt Strong Acid Extractable	ug/g	5.52	5.71	4.55	0.04
Copper Strong Acid Extractable	ug/g	16.5	13.4	12.8	0.05
Lead Strong Acid Extractable	ug/g	6.8	5.7	6.2	0.1
Molybdenum Strong Acid Extractable	ug/g	<0.1	<0.1	<0.1	0.1
Nickel Strong Acid Extractable	ug/g	16.1	17.4	13.3	0.05
Selenium Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin Strong Acid Extractable	ug/g	2.0	1.7	1.6	0.3
Vanadium Strong Acid Extractable	ug/g	23.9	25.0	20.7	0.05
Zinc Strong Acid Extractable	ug/g	37.2	35.6	32.8	0.05

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-151	328344-152	328344-153	
	Sample Description	BG1-ET91 / 0-20 / cm	BG2-ET92 / 0-20 / cm	BG3-ET93 / 0-20 / cm	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	104	93	95	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-153	328344-154	328344-168	
	Sample Description	BG3-ET93 / 0-20 / cm	BG4-ET94 / 0-20 / cm	Sarcpa #1	
	Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Strong Acid Extractable						
Mercury	Strong Acid Extractable	ug/g	<0.01	<0.01	<0.01	0.01
Antimony	Strong Acid Extractable	ug/g	1.7	1.4	2.8	0.4
Arsenic	Strong Acid Extractable	ug/g	1.1	1.3	2.5	0.5
Barium	Strong Acid Extractable	ug/g	36.4	43.8	128	0.05
Beryllium	Strong Acid Extractable	ug/g	0.23	0.28	0.36	0.03
Cadmium	Strong Acid Extractable	ug/g	0.06	0.05	0.11	0.03
Chromium	Strong Acid Extractable	ug/g	27.5	22.0	77.8	0.05
Cobalt	Strong Acid Extractable	ug/g	6.70	5.23	15.2	0.04
Copper	Strong Acid Extractable	ug/g	12.6	13.9	43.9	0.05
Lead	Strong Acid Extractable	ug/g	6.4	6.1	9.9	0.1
Molybdenum	Strong Acid Extractable	ug/g	<0.1	0.2	0.3	0.1
Nickel	Strong Acid Extractable	ug/g	16.8	14.3	46.6	0.05
Selenium	Strong Acid Extractable	ug/g	<0.2	<0.2	<0.2	0.3
Silver	Strong Acid Extractable	ug/g	<0.05	<0.05	<0.05	0.05
Thallium	Strong Acid Extractable	ug/g	<0.3	<0.3	<0.3	0.4
Tin	Strong Acid Extractable	ug/g	1.9	1.7	1.7	0.3
Vanadium	Strong Acid Extractable	ug/g	26.5	22.4	65.6	0.05
Zinc	Strong Acid Extractable	ug/g	36.9	34.7	86.3	0.05

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-154	328344-168	328344-169	
		Sample Description	BG4-ET94 / 0-20 / cm	Sarcpa #1	Sarcpa #2	
		Matrix	Soil - general	Soil - general	Soil - general	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Hot Water Soluble						
Boron	Water Soluble	mg/kg	<0.1	0.1	0.3	0.1
Water Soluble Parameters						
Hexavalent Chromium	Water Soluble	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil						
Aroclor 1016	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1221	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1232	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1242	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1248	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1254	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1260	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1262	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Aroclor 1268	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Total PCBs	Dry Weight	mg/kg	<0.1	<0.1	<0.1	0.1
Polychlorinated Biphenyls - Soil - Surrogate						
Decachlorobiphenyl	Surrogate	%	99	104	93	50-150

		NWL Number	328344-155			
		Sample Description	Travel Blank			
		Matrix	Water - General			
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Non-Halogenated Aromatics - Water						
Benzene		mg/L	<0.001			0.001
Toluene		mg/L	<0.001			0.001
Ethylbenzene		mg/L	<0.001			0.001
Total Xylenes (m,p,o)		mg/L	<0.001			0.001

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-156	328344-157	328344-158	
		Sample Description	ETMW01	ETMW02	ETMW03	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Dissolved						
Silicon	Dissolved	mg/L	4.56	2.33	-	0.05
Sulphur	Dissolved	mg/L	6.06	0.67	-	0.05
Aluminum	Dissolved	mg/L	0.084	0.093	0.187	0.005
Antimony	Dissolved	mg/L	0.0250	<0.0002	0.0055	0.0002
Arsenic	Dissolved	mg/L	0.0011	0.0002	0.0003	0.0002
Barium	Dissolved	mg/L	0.052	0.017	0.042	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.021	0.009	0.353	0.002
Cadmium	Dissolved	mg/L	0.00010	0.00003	0.00006	0.00001
Chromium	Dissolved	mg/L	0.0014	0.0009	0.0014	0.0005
Cobalt	Dissolved	mg/L	0.0009	<0.0001	0.0002	0.0001
Copper	Dissolved	mg/L	0.025	0.010	0.021	0.001
Lead	Dissolved	mg/L	0.0040	0.0001	0.0003	0.0001
Lithium	Dissolved	mg/L	0.011	0.002	0.004	0.001
Molybdenum	Dissolved	mg/L	0.003	<0.001	0.008	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	0.0017	0.0005
Selenium	Dissolved	mg/L	0.0003	<0.0002	<0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.459	0.039	0.058	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0076	0.0050	0.0114	0.0005
Uranium	Dissolved	mg/L	0.0093	0.0018	0.0020	0.0005
Vanadium	Dissolved	mg/L	0.0016	0.0007	0.0010	0.0001
Zinc	Dissolved	mg/L	0.021	0.023	0.029	0.001
Metals Total						
Iron	Total	mg/L	358	37.6	2390	0.1
Manganese	Total	mg/L	5.01	0.674	27.2	0.005
Silicon	Total	mg/L	43.5	41.6	88.8	0.05
Sulphur	Total	mg/L	7.78	2.97	18.3	0.05
Mercury	Total	mg/L	<0.0002	<0.0002	0.0011	0.0002
Aluminum	Total	mg/L	813	45.8	473	0.005
Antimony	Total	mg/L	0.0518	<0.004	0.0063	0.0002
Arsenic	Total	mg/L	0.020	<0.004	0.0928	0.0002
Barium	Total	mg/L	1.66	0.19	3.5	0.001

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-156	328344-157	328344-158	
		Sample Description	ETMW01	ETMW02	ETMW03	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Total - Continued						
Beryllium	Total	mg/L	0.0071	<0.002	<0.04	0.0001
Bismuth	Total	mg/L	0.014	<0.01	0.023	0.0005
Boron	Total	mg/L	0.21	0.11	<0.8	0.002
Cadmium	Total	mg/L	0.0014	0.00072	0.00936	0.00001
Chromium	Total	mg/L	0.646	0.098	1.4	0.0005
Cobalt	Total	mg/L	0.140	0.017	0.30	0.0001
Copper	Total	mg/L	0.378	0.084	0.92	0.001
Lead	Total	mg/L	0.146	0.017	1.16	0.0001
Lithium	Total	mg/L	0.400	0.038	0.76	0.001
Molybdenum	Total	mg/L	<0.02	<0.02	0.041	0.001
Nickel	Total	mg/L	0.416	0.084	0.87	0.0005
Selenium	Total	mg/L	<0.004	<0.004	<0.0040	0.0002
Silver	Total	mg/L	0.0073	0.0028	0.0272	0.0001
Strontium	Total	mg/L	1.45	0.10	1.63	0.001
Thallium	Total	mg/L	0.0043	<0.001	0.0306	0.00005
Tin	Total	mg/L	<0.02	<0.02	0.044	0.001
Titanium	Total	mg/L	58.2	1.81	35.1	0.0005
Uranium	Total	mg/L	0.033	0.013	0.137	0.0005
Vanadium	Total	mg/L	0.506	0.0614	1.05	0.0001
Zinc	Total	mg/L	0.915	0.391	2.2	0.001
Physical and Aggregate Properties						
Temp. of observed pH and EC		°C	19.5	18.7	19.1	
Routine Water						
pH			7.46	7.63	7.70	
Electrical Conductivity		µS/cm at 25 C	526	257	367	1
Calcium	Dissolved	mg/L	93.0	44.4	54.6	0.2
Magnesium	Dissolved	mg/L	12.4	6.5	10.1	0.1
Sodium	Dissolved	mg/L	15.5	1.7	9.4	0.4
Potassium	Dissolved	mg/L	23.7	1.6	2.4	0.4
Iron	Dissolved	mg/L	2.32	0.12	0.22	0.01
Manganese	Dissolved	mg/L	0.159	<0.005	0.033	0.005
Chloride	Dissolved	mg/L	0.9	0.9	0.9	0.5
Nitrate - N		mg/L	<0.1	<0.1	<0.1	0.1
Nitrite - N		mg/L	<0.05	<0.05	<0.05	0.05
Nitrate and Nitrite - N		mg/L	<0.2	<0.2	<0.2	0.2
Sulphate (SO4)	Dissolved	mg/L	18.2	2.0	10.3	0.2

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-156	328344-157	328344-158	
		Sample Description	ETMW01	ETMW02	ETMW03	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Routine Water - Continued						
Hydroxide		mg/L	<5	<5	<5	5
Carbonate		mg/L	<6	<6	<6	6
Bicarbonate		mg/L	387	175	228	5
P-Alkalinity	as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	317	143	187	5
Total dissolved solids	Calculated	mg/L	354	143	200	1
Hardness	Dissolved as CaCO3	mg/L	283	138	178	
Ionic Balance	Dissolved	%	105	98	102	
Polychlorinated Biphenyls - Water						
Aroclor 1016		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1221		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1232		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1242		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1248		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1254		ug/L	<0.1	0.2	<0.1	0.1
Aroclor 1260		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1262		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1268		ug/L	<0.1	<0.1	<0.1	0.1
Total PCBs		ug/L	<0.1	0.2	<0.1	<0.1
Polychlorinated Biphenyls - Water - Surrogate						
Decachlorobiphenyl	Surrogate	%	60	52	85	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-156	328344-157	328344-159	
	Sample Description	ETMW01	ETMW02	ETMW04	
	Matrix	Water - General	Water - General	Water - General	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Water					
Benzene	mg/L	<0.001	<0.001	<0.001	0.001
Toluene	mg/L	<0.001	<0.001	0.003	0.001
Ethylbenzene	mg/L	<0.001	<0.001	<0.001	0.001
Total Xylenes (m,p,o)	mg/L	<0.001	<0.001	0.003	0.001
Volatile Petroleum Hydrocarbons - Water					
F1 C6-C10	mg/L	<0.01	<0.01	0.25	0.01
F1 -BTEX	mg/L	<0.01	<0.01	0.24	0.01
Extractable Petroleum Hydrocarbons - Water					
F2 C10-C16	mg/L	0.6	<0.1	4.3	0.1
F3 C16-C34	mg/L	0.7	0.2	0.2	0.1
F3+ C34+	mg/L	0.3	<0.1	<0.1	0.1
Polynuclear Aromatic Hydrocarbons - Water					
Naphthalene	ug/L	0.37	0.01	1.97	0.01
Acenaphthylene	ug/L	0.05	<0.01	<0.01	0.01
Acenaphthene	ug/L	<0.01	<0.01	0.42	0.01
Fluorene	ug/L	<0.01	<0.01	0.37	0.01
Phenanthrene	ug/L	<0.01	<0.01	<0.01	0.01
Anthracene	ug/L	<0.01	<0.01	<0.01	0.01
Acridine	ug/L	<0.01	<0.01	<0.01	0.01
Fluoranthene	ug/L	<0.02	<0.02	<0.02	0.02
Pyrene	ug/L	0.12	<0.02	<0.02	0.02
Benzo(a)anthracene	ug/L	<0.01	<0.01	<0.01	0.01
Chrysene	ug/L	<0.01	<0.01	<0.01	0.01
Benzo(b)fluoranthene	ug/L	<0.01	<0.01	<0.01	0.01
Benzo(k)fluoranthene	ug/L	<0.01	<0.01	<0.01	0.01
Benzo(a)pyrene	ug/L	<0.01	<0.01	<0.01	0.01
Indeno(1,2,3-c,d)pyrene	ug/L	<0.01	<0.01	<0.01	0.01
Dibenzo(a,h)anthracene	ug/L	<0.01	<0.01	<0.01	0.01
Benzo(g,h,i)perylene	ug/L	<0.01	<0.01	<0.01	0.01
CB(a)P Carcinogenic Potency Equivalent	ug/L	<0.01	<0.01	<0.01	.01
PAH - Water - Surrogate Recovery					
Nitrobenzene-d5 PAH - Surrogate	%	41	44	37	23-130
2-Fluorobiphenyl PAH - Surrogate	%	31	30	92	30-130
p-Terphenyl-d14 PAH - Surrogate	%	60	52	49	18-137

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-159	328344-160	328344-161	
		Sample Description	ETMW04	ETMW05	ETMW06	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Dissolved						
Silicon	Dissolved	mg/L	4.82	3.37	2.89	0.05
Sulphur	Dissolved	mg/L	1.67	4.53	11.5	0.05
Aluminum	Dissolved	mg/L	0.088	0.151	0.034	0.005
Antimony	Dissolved	mg/L	0.0028	0.0489	0.0006	0.0002
Arsenic	Dissolved	mg/L	0.0007	0.0004	0.0004	0.0002
Barium	Dissolved	mg/L	0.081	0.026	0.025	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.041	0.165	0.005	0.002
Cadmium	Dissolved	mg/L	0.00006	0.00005	0.00003	0.00001
Chromium	Dissolved	mg/L	0.0022	0.0009	0.0008	0.0005
Cobalt	Dissolved	mg/L	0.0013	0.0003	<0.0001	0.0001
Copper	Dissolved	mg/L	0.008	0.010	0.006	0.001
Lead	Dissolved	mg/L	0.0005	0.0003	<0.0001	0.0001
Lithium	Dissolved	mg/L	0.001	0.009	0.014	0.001
Molybdenum	Dissolved	mg/L	<0.001	0.005	0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Dissolved	mg/L	0.0002	<0.0002	<0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.164	0.083	0.096	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0050	0.0094	0.0029	0.0005
Uranium	Dissolved	mg/L	0.0070	0.0054	0.0436	0.0005
Vanadium	Dissolved	mg/L	0.0023	0.0008	0.0008	0.0001
Zinc	Dissolved	mg/L	0.002	0.040	0.074	0.001
Metals Total						
Iron	Total	mg/L	1.4	1070	30.2	0.1
Manganese	Total	mg/L	0.961	15.3	0.543	0.005
Silicon	Total	mg/L	6.66	67.2	25.7	0.05
Sulphur	Total	mg/L	1.55	12.0	11.2	0.05
Mercury	Total	mg/L	<0.0002	0.0002	<0.0002	0.0002
Aluminum	Total	mg/L	1.29	636	23.0	0.005
Antimony	Total	mg/L	0.0028	0.046	<0.002	0.0002
Arsenic	Total	mg/L	<0.002	0.046	<0.002	0.0002
Barium	Total	mg/L	0.091	3.84	0.159	0.001

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-159	328344-160	328344-161	
		Sample Description	ETMW04	ETMW05	ETMW06	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Total - Continued						
Beryllium	Total	mg/L	<0.001	0.020	<0.001	0.0001
Bismuth	Total	mg/L	<0.005	<0.02	<0.005	0.0005
Boron	Total	mg/L	0.050	0.67	<0.02	0.002
Cadmium	Total	mg/L	<0.0001	0.00575	0.00013	0.00001
Chromium	Total	mg/L	<0.005	1.75	0.0544	0.0005
Cobalt	Total	mg/L	0.0020	0.377	0.0115	0.0001
Copper	Total	mg/L	0.012	1.09	0.036	0.001
Lead	Total	mg/L	0.0021	1.41	0.0117	0.0001
Lithium	Total	mg/L	<0.01	1.09	0.047	0.001
Molybdenum	Total	mg/L	<0.01	<0.05	<0.01	0.001
Nickel	Total	mg/L	<0.005	1.07	0.032	0.0005
Selenium	Total	mg/L	<0.0020	<0.01	<0.002	0.0002
Silver	Total	mg/L	<0.001	<0.005	<0.001	0.0001
Strontium	Total	mg/L	0.158	2.16	0.151	0.001
Thallium	Total	mg/L	<0.0005	0.0099	<0.0005	0.00005
Tin	Total	mg/L	<0.01	<0.05	<0.01	0.001
Titanium	Total	mg/L	0.0826	52.4	1.37	0.0005
Uranium	Total	mg/L	0.0071	0.066	0.0518	0.0005
Vanadium	Total	mg/L	0.0032	1.39	0.0443	0.0001
Zinc	Total	mg/L	0.011	12.5	0.463	0.001
Physical and Aggregate Properties						
Temp. of observed pH and EC		°C	19.6	20.2	20.4	
Routine Water						
pH			7.07	7.83	7.87	
Electrical Conductivity		µS/cm at 25 C	828	436	590	1
Calcium	Dissolved	mg/L	165	65.7	74.4	0.2
Magnesium	Dissolved	mg/L	16.4	14.7	28.1	0.1
Sodium	Dissolved	mg/L	2.5	3.8	7.4	0.4
Potassium	Dissolved	mg/L	3.3	3.2	3.0	0.4
Iron	Dissolved	mg/L	0.16	0.19	0.05	0.01
Manganese	Dissolved	mg/L	0.928	0.053	0.041	0.005
Chloride	Dissolved	mg/L	4.4	1.0	5.8	0.5
Nitrate - N		mg/L	<0.1	<0.1	1.9	0.1
Nitrite - N		mg/L	<0.05	<0.05	<0.05	0.05
Nitrate and Nitrite - N		mg/L	<0.2	<0.2	1.9	0.2
Sulphate (SO4)	Dissolved	mg/L	5.0	13.6	34.4	0.2

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-159	328344-160	328344-161	
	Sample Description	ETMW04	ETMW05	ETMW06	
	Matrix	Water - General	Water - General	Water - General	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Routine Water - Continued					
Hydroxide	mg/L	<5	<5	<5	5
Carbonate	mg/L	<6	<6	<6	6
Bicarbonate	mg/L	596	283	360	5
P-Alkalinity as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity as CaCO3	mg/L	489	232	295	5
Total dissolved solids Calculated	mg/L	490	241	330	1
Hardness Dissolved as CaCO3	mg/L	479	225	302	
Ionic Balance Dissolved	%	98	96	93	

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

NWL Number	328344-160
Sample Description	ETMW05
Matrix	Water - General

Analyte		Units	Results	Results	Results	Detection Limit
Mono-Aromatic Hydrocarbons - Water						
Benzene		mg/L	<0.001			0.001
Toluene		mg/L	<0.001			0.001
Ethylbenzene		mg/L	<0.001			0.001
Total Xylenes (m,p,o)		mg/L	<0.001			0.001
Volatile Petroleum Hydrocarbons - Water						
F1 C6-C10		mg/L	0.01			0.01
F1 -BTEX		mg/L	0.01			0.01
Extractable Petroleum Hydrocarbons - Water						
F2 C10-C16		mg/L	0.2			0.1
F3 C16-C34		mg/L	7.4			0.1
F3+ C34+		mg/L	9.6			0.1
Polynuclear Aromatic Hydrocarbons - Water						
Naphthalene		ug/L	0.10			0.01
Acenaphthylene		ug/L	<0.01			0.01
Acenaphthene		ug/L	<0.01			0.01
Fluorene		ug/L	<0.01			0.01
Phenanthrene		ug/L	0.11			0.01
Anthracene		ug/L	<0.01			0.01
Acridine		ug/L	<0.01			0.01
Fluoranthene		ug/L	0.05			0.02
Pyrene		ug/L	0.25			0.02
Benzo(a)anthracene		ug/L	0.03			0.01
Chrysene		ug/L	0.17			0.01
Benzo(b)fluoranthene		ug/L	<0.01			0.01
Benzo(k)fluoranthene		ug/L	<0.01			0.01
Benzo(a)pyrene		ug/L	<0.01			0.01
Indeno(1,2,3-c,d)pyrene		ug/L	0.04			0.01
Dibenzo(a,h)anthracene		ug/L	<0.01			0.01
Benzo(g,h,i)perylene		ug/L	0.06			0.01
CB(a)P	Carcinogenic Potency Equivalent	ug/L	0.01			.01
PAH - Water - Surrogate Recovery						
Nitrobenzene-d5	PAH - Surrogate	%	55			23-130
2-Fluorobiphenyl	PAH - Surrogate	%	45			30-130
p-Terphenyl-d14	PAH - Surrogate	%	51			18-137

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-160	328344-163	328344-164	
	Sample Description	ETMW05	ETSW01	ETSW02	
	Matrix	Water - General	Water - General	Water - General	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Polychlorinated Biphenyls - Water					
Aroclor 1016	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1221	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1232	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1242	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1248	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1254	ug/L	0.7	<0.1	<0.1	0.1
Aroclor 1260	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1262	ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1268	ug/L	<0.1	<0.1	<0.1	0.1
Total PCBs	ug/L	0.7	<0.1	<0.1	<0.1
Polychlorinated Biphenyls - Water - Surrogate					
Decachlorobiphenyl Surrogate	%	51	82	75	50-150

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-162	328344-163	328344-164	
		Sample Description	ETMW07	ETSW01	ETSW02	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Dissolved						
Silicon	Dissolved	mg/L	3.30	-	0.10	0.05
Sulphur	Dissolved	mg/L	2.50	-	4.96	0.05
Aluminum	Dissolved	mg/L	0.162	<0.005	0.016	0.005
Antimony	Dissolved	mg/L	0.0049	<0.0002	<0.0002	0.0002
Arsenic	Dissolved	mg/L	0.0006	<0.0002	0.0003	0.0002
Barium	Dissolved	mg/L	0.997	0.003	0.010	0.001
Beryllium	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Dissolved	mg/L	0.318	0.005	0.011	0.002
Cadmium	Dissolved	mg/L	0.00009	<0.00001	<0.00001	0.00001
Chromium	Dissolved	mg/L	0.0017	<0.0005	<0.0005	0.0005
Cobalt	Dissolved	mg/L	0.0008	<0.0001	<0.0001	0.0001
Copper	Dissolved	mg/L	0.016	<0.001	0.002	0.001
Lead	Dissolved	mg/L	0.0024	<0.0001	<0.0001	0.0001
Lithium	Dissolved	mg/L	0.003	<0.001	0.007	0.001
Molybdenum	Dissolved	mg/L	0.014	<0.001	<0.001	0.001
Nickel	Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Silver	Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Dissolved	mg/L	0.067	0.013	0.053	0.001
Thallium	Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Dissolved	mg/L	0.0097	0.0007	0.0008	0.0005
Uranium	Dissolved	mg/L	0.0007	<0.0005	0.0081	0.0005
Vanadium	Dissolved	mg/L	0.0011	0.0004	0.0001	0.0001
Zinc	Dissolved	mg/L	0.025	<0.001	<0.001	0.001
Metals Total						
Iron	Total	mg/L	2810	<0.1	<0.1	0.1
Manganese	Total	mg/L	44.8	<0.005	<0.005	0.005
Silicon	Total	mg/L	84.0	0.45	0.21	0.05
Sulphur	Total	mg/L	150	0.18	4.59	0.05
Mercury	Total	mg/L	0.0010	<0.0002	<0.0002	0.0002
Aluminum	Total	mg/L	1740	0.014	0.076	0.005
Antimony	Total	mg/L	<0.05	<0.0002	<0.0002	0.0002
Arsenic	Total	mg/L	0.11	<0.0002	0.0003	0.0002
Barium	Total	mg/L	103	0.004	0.010	0.001

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-162	328344-163	328344-164	
		Sample Description	ETMW07	ETSW01	ETSW02	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Total - Continued						
Beryllium	Total	mg/L	0.055	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.1	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	2.2	0.006	0.011	0.002
Cadmium	Total	mg/L	0.0285	<0.00001	<0.00001	0.00001
Chromium	Total	mg/L	4.78	<0.0005	0.0005	0.0005
Cobalt	Total	mg/L	1.08	<0.0001	<0.0001	0.0001
Copper	Total	mg/L	4.16	<0.001	0.002	0.001
Lead	Total	mg/L	7.01	<0.0001	<0.0001	0.0001
Lithium	Total	mg/L	2.76	<0.001	0.007	0.001
Molybdenum	Total	mg/L	<0.2	<0.001	<0.001	0.001
Nickel	Total	mg/L	2.98	<0.0005	<0.0005	0.0005
Selenium	Total	mg/L	<0.05	<0.0002	<0.0002	0.0002
Silver	Total	mg/L	<0.02	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	2.56	0.013	0.051	0.001
Thallium	Total	mg/L	0.028	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.2	<0.001	<0.001	0.001
Titanium	Total	mg/L	109	0.0008	0.0040	0.0005
Uranium	Total	mg/L	0.35	<0.0005	0.0084	0.0005
Vanadium	Total	mg/L	3.76	0.0005	0.0001	0.0001
Zinc	Total	mg/L	25.8	0.001	0.004	0.001
Physical and Aggregate Properties						
Temp. of observed pH and EC		°C	19.9	19.6	19.1	
Routine Water						
pH			7.24	7.80	8.25	
Electrical Conductivity		µS/cm at 25 C	327	85	257	1
Calcium	Dissolved	mg/L	52.5	12.5	32.1	0.2
Magnesium	Dissolved	mg/L	10.5	2.5	12.3	0.1
Sodium	Dissolved	mg/L	3.1	0.7	4.6	0.4
Potassium	Dissolved	mg/L	3.6	<0.4	2.4	0.4
Iron	Dissolved	mg/L	0.19	0.02	0.02	0.01
Manganese	Dissolved	mg/L	0.167	<0.005	<0.005	0.005
Chloride	Dissolved	mg/L	0.8	0.6	2.8	0.5
Nitrate - N		mg/L	0.1	<0.1	<0.1	0.1
Nitrite - N		mg/L	<0.05	<0.05	<0.05	0.05
Nitrate and Nitrite - N		mg/L	<0.2	<0.2	<0.2	0.2
Sulphate (SO4)	Dissolved	mg/L	7.5	0.5	14.9	0.2

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

			NWL Number	328344-162	328344-163	328344-164	
			Sample Description	ETMW07	ETSW01	ETSW02	
			Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Routine Water - Continued							
Hydroxide		mg/L		<5	<5	<5	5
Carbonate		mg/L		<6	<6	<6	6
Bicarbonate		mg/L		217	57	153	5
P-Alkalinity	as CaCO3	mg/L		<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L		178	47	126	5
Total dissolved solids	Calculated	mg/L		185	45	144	1
Hardness	Dissolved as CaCO3	mg/L		174	41.5	131	
Ionic Balance	Dissolved	%		100	90	100	

NORWEST LABS

Analytical Report

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

	NWL Number	328344-165	328344-166	328344-167	
	Sample Description	ETSW03	ETSW04	ETSW05	
	Matrix	Water - General	Water - General	Water - General	
Analyte	**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Dissolved					
Silicon Dissolved	mg/L	0.15	0.10	0.13	0.05
Sulphur Dissolved	mg/L	0.22	0.18	0.13	0.05
Aluminum Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Antimony Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Arsenic Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Barium Dissolved	mg/L	0.002	0.006	0.002	0.001
Beryllium Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron Dissolved	mg/L	<0.002	0.002	<0.002	0.002
Cadmium Dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Chromium Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Lead Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium Dissolved	mg/L	<0.001	0.001	<0.001	0.001
Molybdenum Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Nickel Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium Dissolved	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Silver Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium Dissolved	mg/L	0.008	0.020	0.003	0.001
Thallium Dissolved	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin Dissolved	mg/L	<0.001	<0.001	<0.001	0.001
Titanium Dissolved	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Uranium Dissolved	mg/L	<0.0005	0.0006	<0.0005	0.0005
Vanadium Dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Zinc Dissolved	mg/L	<0.001	<0.001	0.004	0.001
Metals Total					
Iron Total	mg/L	<0.1	<0.1	<0.1	0.1
Manganese Total	mg/L	<0.005	<0.005	<0.005	0.005
Silicon Total	mg/L	0.16	0.10	0.16	0.05
Sulphur Total	mg/L	0.22	0.21	0.15	0.05
Mercury Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Aluminum Total	mg/L	0.011	<0.005	0.023	0.005
Antimony Total	mg/L	<0.0002	<0.0002	0.0003	0.0002
Arsenic Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Barium Total	mg/L	0.002	0.006	0.002	0.001

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-165	328344-166	328344-167	
		Sample Description	ETSW03	ETSW04	ETSW05	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Metals Total - Continued						
Beryllium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Bismuth	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Boron	Total	mg/L	0.002	0.003	<0.002	0.002
Cadmium	Total	mg/L	<0.00001	<0.00001	<0.00001	0.00001
Chromium	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Cobalt	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Copper	Total	mg/L	<0.001	<0.001	<0.001	0.001
Lead	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Lithium	Total	mg/L	<0.001	0.001	<0.001	0.001
Molybdenum	Total	mg/L	<0.001	<0.001	<0.001	0.001
Nickel	Total	mg/L	<0.0005	<0.0005	<0.0005	0.0005
Selenium	Total	mg/L	<0.0002	<0.0002	<0.0002	0.0002
Silver	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Strontium	Total	mg/L	0.008	0.020	0.003	0.001
Thallium	Total	mg/L	<0.00005	<0.00005	<0.00005	0.00005
Tin	Total	mg/L	<0.001	<0.001	<0.001	0.001
Titanium	Total	mg/L	0.0005	<0.0005	0.0011	0.0005
Uranium	Total	mg/L	0.0005	0.0007	<0.0005	0.0005
Vanadium	Total	mg/L	<0.0001	<0.0001	<0.0001	0.0001
Zinc	Total	mg/L	0.001	<0.001	0.005	0.001
Physical and Aggregate Properties						
Temp. of observed pH and EC		°C	19.2	19.4	20.0	
Routine Water						
pH			7.68	8.13	7.01	
Electrical Conductivity		µS/cm at 25 C	52	134	15	1
Calcium	Dissolved	mg/L	7.4	20.8	1.2	0.2
Magnesium	Dissolved	mg/L	1.6	3.8	0.2	0.1
Sodium	Dissolved	mg/L	0.5	1.0	0.5	0.4
Potassium	Dissolved	mg/L	<0.4	0.8	<0.4	0.4
Iron	Dissolved	mg/L	0.01	<0.01	<0.01	0.01
Manganese	Dissolved	mg/L	<0.005	<0.005	<0.005	0.005
Chloride	Dissolved	mg/L	0.6	1.0	<0.5	0.5
Nitrate - N		mg/L	<0.1	<0.1	<0.1	0.1
Nitrite - N		mg/L	<0.05	<0.05	<0.05	0.05
Nitrate and Nitrite - N		mg/L	<0.2	<0.2	<0.2	0.2
Sulphate (SO4)	Dissolved	mg/L	0.7	0.6	0.4	0.2

NORWEST LABS

Norwest Labs
7217 Roper Road
Edmonton, AB. T6B 3J4
Phone: (780) 438-5522
Fax: (780) 438-0396

Analytical Report

Bill to: Earth Tech Canada Inc.
Report to: Earth Tech Canada Inc.
17203-103 Ave
Edmonton, AB, Canada
T5S 1J4
Attn: Greg Wright
Sampled By:
Company:

Project ID: 78848
Name: Dew Point Samples 2004
Location:
LSD:
P.O.:
Acct. Code:

NWL Lot ID: 328344
Control Number:
Date Received: Aug 25, 2004
Date Reported: Sep 20, 2004
Report Number: 594048

		NWL Number	328344-165	328344-166	328344-167	
		Sample Description	ETSW03	ETSW04	ETSW05	
		Matrix	Water - General	Water - General	Water - General	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Routine Water - Continued						
Hydroxide		mg/L	<5	<5	<5	5
Carbonate		mg/L	<6	<6	8	6
Bicarbonate		mg/L	32	83	<5	5
P-Alkalinity	as CaCO3	mg/L	<5	<5	<5	5
T-Alkalinity	as CaCO3	mg/L	26	68	7	5
Total dissolved solids	Calculated	mg/L	26	69	6	1
Hardness	Dissolved as CaCO3	mg/L	24.8	67.6	4.0	
Ionic Balance	Dissolved	%	95	101	37	
Polychlorinated Biphenyls - Water						
Aroclor 1016		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1221		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1232		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1242		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1248		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1254		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1260		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1262		ug/L	<0.1	<0.1	<0.1	0.1
Aroclor 1268		ug/L	<0.1	<0.1	<0.1	0.1
Total PCBs		ug/L	<0.1	<0.1	<0.1	<0.1
Polychlorinated Biphenyls - Water - Surrogate						
Decachlorobiphenyl	Surrogate	%	76	84	84	50-150

APPENDIX F

NCS CLASSIFICATION

Site Information: CAM - F DEW Line Site

Site No.: Not Entered
Site Name: CAM - F DEW Line Site
Province/Territory: N.W. Territories
Custodian Dept.: INAC
Facility Name: CAM - F DEW Line Site
Site Operator/Mngr.: Not Entered
Type of Site: Abandoned Radar Site
Site Owner: Not Entered
Zone:
UTM Coordinates: Easting
Northing
Latitude: 68 deg. 33 min. sec.
Longitude: 83 deg. 19 min. sec.
Location: East of Hall Beach, Nunavut
Legal Land Desc.: Not Entered
Address: Not Entered
Provincial Parcel No.: Not Entered
Brief Description of Site: Not Entered

Site Land Use: **Current:** Not Entered **Proposed:** Not Entered
Comments: Not Entered

Evaluation Results

	Known	Estimated	Combined
I. Contaminants Characteristics			
A. Degree of Hazard	11		
B. Contaminant Quantity	6		
C. Physical State of Contaminants	3		
Special Considerations	0		
Section I Totals:	20		20
II. Exposure Pathways			
A. Groundwater			
⊙ 1. Known Contamination of groundwater at or beyond the property boundary	6		
○ 2. Potential for Groundwater Contamination			
a) Engineered subsurface containment	4		
b) Thickness of confining layer over aquifer	1		
c) Hydraulic conductivity of the confining layer	0.5		
d) Annual Rainfall	0.2		
e) Hydraulic conductivity of aquifer(s) of concern	0.5		
3. Special Considerations	0		

Next Page | Go to Totals | Back to Questions

Evaluation Results

II. Exposure Pathways	Known	Estimated	Combined
B. Surface Water			
○ 1. Observed or measured contamination of water/effluent discharged from site	6		
⊙ 2. Potential for surface water contamination			
a) Surface containment	5		
b) Distance to perennial surface water	3		
c) Topography	1.2		
d) Run-off potential	0.2		
e) Flood potential	0.1		
3. Special Considerations	0		
C. Direct Contact			
⊙ 1. Known contamination of media off-site	6		
○ 2. Potential for direct human and/or animal contact			
a) Airborne emissions	0		
b) Accessibility to site	4		
c) Hazardous soil gas migration from site	0		
3. Special Considerations	0		
Section II Totals:	21.5	0	21.5

Previous Page | Next Page | Go to Totals | Back to Questions

Evaluation Results

III. Receptors	Known	Estimated	Combined
A. Human and Animal Uses			
○ 1. Known impact on humans or animals	0		
◉ 2. Potential for impact on humans or animals			
a) Drinking water supply			
○ i) Known impact on drinking water	7		
◉ ii) Potential for impact on drinking water			
- Proximity to drinking water supply	6		
- 'Availability' of alternate drinking water supply	0.5		
b) Other water resources			
◉ i) Known impact on water resources	3		
○ ii) Potential for impact on water resources			
- Proximity to water resources	2		
- Use of water resources	1		

Previous Page | Next Page | Go to Totals | Back to Questions

Evaluation Results

III. Receptors	Known	Estimated	Combined
c) Direct human exposure			
(●) i) Known contamination of land used by humans	2.5		
( ) ii) Potential human exposure through land use			
- Use of land at and surrounding site	5		
Special Considerations	0		
B. Environmental Receptors			
(●) 1. Known adverse impact on sensitive environments	14		
( ) 2. Potential for impact on sensitive environments			
a) Distance from site to the nearest sensitive environment	10		
b) Groundwater	0		
3. Special Considerations	0		
Section III Totals:	26	0	26

Previous Page | Next Page | Go to Totals | Back to Questions

Evaluation Totals

	Known	Estimated	Combined
I. Contaminant Characteristics	20	0	20
II. Exposure Pathways			
A. Ground Water	*6*	*0*	*6*
B. Surface Water	*9.5*	*0*	*9.5*
C. Direct Contact	*6*	*0*	*6*
Section II Totals:	21.5	0	21.5
III. Receptors			
A. Human and Animal Uses	*12*	*0*	*12*
B. Environment	*14*	*0*	*14*
Section III Totals:	26	0	26
TOTAL SCORES FOR THIS SIT	**67.5**	**0**	**67.5**

CLASSIFICATION: **Class 2**

Risk Potential: **Medium**

Action Required: **Likely**

Last Update: Oct-19-2004

Previous Page

Back to Questions

Detailed Evaluation: CAM - F DEW Line Site

I. Contaminants Characteristics

A Degree of Hazard

List possible contaminants and estimated concentrations:

None

Scoring Rationale & Information Source:

None

Score: 11

B Contaminant Quantity

Estimated or measured area/volume of contaminated zone:

None

Scoring Rationale & Information Source:

None

Score: 6

C Physical State of Contaminants

Does the site contain a) Predominantly liquids/gases, b) Primarily sludges, c) Primarily solids:

None

Scoring Rationale & Information Source:

None

Score: 3

Special Considerations

Document any other important contaminant characteristics not addressed above:

None

Scoring Rationale & Information Source:

None

Score: 0

II. Exposure Pathways

A Groundwater

1. Known Contamination of Groundwater at or beyond the Property Boundary

Document information on known groundwater contamination:

None

Scoring Rationale & Information Source:

None

Score: 6

2. Potential for Groundwater Contamination
   a) Engineered subsurface containment

Document engineered systems protecting groundwater:

None

Scoring Rationale & Information Source:

None

Score: 4

2. Potential for Groundwater Contamination
   b) Thickness of confining layer over aquifer

Document local geological conditions and identify water-bearing zones used for water supply:

None

Scoring Rationale & Information Source:

None

Score: 1

2. Potential for Groundwater Contamination
c) Hydraulic conductivity of the confining layer

Estimate hydraulic conductivity of any confining layer:

None

Scoring Rationale & Information Source:

None

Score: 0.5

2. Potential for Groundwater Contamination
d) Annual rainfall

Document rainfall data:

None

Scoring Rationale & Information Source:

None

Score: 0.2

2. Potential for Groundwater Contamination
e) Hydraulic conductivity of aquifer(s) of concern

Estimate hydraulic conductivity of relevant aquifer(s):

None

Scoring Rationale & Information Source:

None

Score: 0.5

3. Special Considerations

Document any other important groundwater issues not addressed above:

None

Scoring Rationale & Information Source:

None

Score: 0

II. Exposure Pathways
B Surface Water

1. Observed or Measured Contamination of Water/Effluent Discharged from Site

Document information on surface water contamination:

None

Scoring Rationale & Information Source:

None

Score: 6

2. Potential for Surface Water Contamination
a) Surface containment

Review and document engineered or natural systems protecting surface water:

None

Scoring Rationale & Information Source:

None

Score: 5

2. Potential for Surface Water Contamination
b) Distance to perennial surface water

Estimate distance from site to nearest stream or other water body:

None

Scoring Rationale & Information Source:

None

Score: 3

2. Potential for Surface Water Contamination
c) Topography

Document terrain conditions and document positions of contaminants (are they above ground or buried?):

None

Scoring Rationale & Information Source:

None

Score: 1.2

2. Potential for Surface Water Contamination
d) Run-off potential

Document geological and rainfall conditions:

None

Scoring Rationale & Information Source:

None

Score: 0.2

2. Potential for Surface Water Contamination
e) Flood potential

Estimate flood frequency of nearby water courses or water bodies:

None

Scoring Rationale & Information Source:

None

Score: 0.1

3. Special Considerations

Document any other important surface water conditions not addressed above:

None

Scoring Rationale & Information Source:

None

Score: 0

II. Exposure Pathways
C Direct Contact

1. Known Contamination of Media Off-site

Document reports of off-site contamination due to contact with contaminated soil, dust, air, etc.:

None

Scoring Rationale & Information Source:

None

Score: 6

2. Potential for Direct Human and/or Animal Contact
a) Airborne Emissions (gases, vapours, contaminated dust, etc.)

Document incidents or complaints about fumes, gases, dust, odours, etc.:

None

Scoring Rationale & Information Source:

None

Score: 0

2. Potential for Direct Human and/or Animal Contact
b) Accessibility of Site (Ability to Contact Materials)

Review and document avenues of site access by humans and animals:

None

Scoring Rationale & Information Source:

None

Score: 4

2. Potential for Direct Human and/or Animal Contact
c) Hazardous soil gas migration from the site

Review potential for hazardous soil gas production and migration from site:

None

Scoring Rationale & Information Source:

None

Score: 0

3. Special Considerations

Document any other conditions whereby humans/animals could contact contamination:

None

Scoring Rationale & Information Source:

None

Score: 0

III. Receptors

A Human and Animal Uses

1. Known Impact on Humans or Animals

Record known or suspected adverse effects on humans or domestic animals:

None

Scoring Rationale & Information Source:

None

Score: 0

2. Potential for Impact on Humans or Animals
a) Drinking Water Supply
i) Known impact on drinking water supply

Record known or suspected incidents of contamination of drinking water:

None

Scoring Rationale & Information Source:

None

Score: 7

2. Potential for Impact on Humans or Animals
a) Drinking Water Supply
ii) Potential for impact on drinking water supply
- Proximity to drinking water supply

Identify nearest drinking water well and measure distance to site:

None

Scoring Rationale & Information Source:

None

Score: 6

2. Potential for Impact on Humans or Animals
a) Drinking Water Supply

ii) Potential for impact on drinking water supply
- "Availability" of alternate drinking water supply

Document availability of alternate sources of drinking water and ease of implementation:

None

Scoring Rationale & Information Source:

None

Score: 0.5

2. Potential for Impact on Humans or Animals
b) Other Water Resources
i) Known impact on water resources

Record information on water resource that is or is potentially affected by site contamination:

None

Scoring Rationale & Information Source:

None

Score: 3

2 Potential for Impact on Humans or Animals
b) Other Water Resources
ii) Potential for impact on water resources
- Proximity to water resources used for activities (specified below)

Locate and measure nearest water resource areas to site:

None

Scoring Rationale & Information Source:

None

Score: 2

2 Potential for Impact on Humans or Animals
b) Other Water Resources
ii) Potential for impact on water resources
- Use of water resources

Record uses of nearby water resources:

None

Scoring Rationale & Information Source:

None

Score: 1

2. Potential for Impact on Humans or Animals
c) Direct Human Exposure
i) Known contamination of land used by humans

Record land use type (current or proposed) and level of contamination for land known to be contaminated due to site:

None

Scoring Rationale & Information Source:

None

Score: 2.5

2. Potential for Impact on Humans or Animals
c) Direct Human Exposure
ii) Potential human exposure through land use
- Use of land at and around site

Document land uses (current and proposed) for up to five kilometers from the site:

None

Scoring Rationale & Information Source:

None

Score: 5

3. Special Considerations

Document any other important human or animal use information, including details of air contamination if known:

None

Scoring Rationale & Information Source:

None

Score: 0

III. Receptors

B Environmental Receptors

1. Known Adverse Impact on the Environment as a Result of the Contaminated Site

Record known impact(s) on any sensitive biological environment at and/or around the site:

None

Scoring Rationale & Information Source:

None

Score: 14

2. Potential for Impact on Sensitive Environments
   a) Distance from the site to the nearest sensitive environment

Document location, distance, type and details of any nearby sensitive environments or habitats:

None

Scoring Rationale & Information Source:

None

Score: 10

2. Potential for Impact on Sensitive Environments
   b) Groundwater

Measure distance to major recharge or discharge area:

None

Scoring Rationale & Information Source:

None

Score: 0

3. Special Considerations

Document any other important impacts on the environment not addressed above:

None

Scoring Rationale & Information Source:

None

Score: 0

Evaluation Totals

	Known:	Estimated:	Combined:
I. Contaminant Characteristics	20	0	20
II. Exposure Pathways			
A. Ground Water	6	0	6
B. Surface Water	9.5	0	9.5
C. Direct Contact	6	0	6
Section II Totals:	21.5	0	21.5
III. Receptors			
A. Human and Animal Uses	12	0	12
B. Environment	14	0	14
Section III Totals:	26	0	26
TOTAL SCORES FOR THIS SITE	**67.5**	**0**	**67.5**

CLASSIFICATION:	**Class 2**
Risk Potential:	**Medium**
Action Required:	**Likely**
Evaluation Last Updated:	**Oct-19-2004**

APPENDIX G

GENERAL TERMS AND CONDITIONS

The production and use of this Report is conditional upon the following agreement by the Client and Others who may use or rely upon it.

1. ***MANDATE OF EARTH TECH***

This Report has been prepared pursuant to the instructions of the Client, and is subject to the constraints imposed by those instructions. Earth Tech & Partners Ltd. ("Earth Tech") and the Client are aware of these instructions and constraints. Others, who wish to rely upon this Report in any manner, should inquire of the Client for the terms of Earth Tech's mandate in preparing this Report.

2. ***BASIS OF REPORT***

2.1 Representations to Earth Tech by Client

This Report has been prepared for the specific site, development, design objective, and purpose described to Earth Tech by the Client and is specifically based on all of the aforesaid.

Inaccuracies or alterations, of any of the matters upon which this Report is based, will affect the reliability and applicability of this Report.

2.2 Representations to Earth Tech by Other Persons

Earth Tech may have relied upon the representations or opinions of persons other than the Client in the course of preparing this Report. Earth Tech may not have checked the accuracy of such representations or opinions except where directed to do so by the Client. The accuracy of these representations and opinions will affect the accuracy of this Report.

2.3 Time Sensitivity of Report

The findings expressed in this Report by Earth Tech were valid, in accordance with generally accepted engineering practice and procedures, at the time that they were made. The Client and Others are advised that the conditions upon which such findings were based, and the findings themselves may be subject to change as a result of the passage of time.

3. ***USE OF REPORT BY THE CLIENT***

The Client recognizes that projects involving pollutants and hazardous waste, as defined below, create extraordinary risks. In consideration of the said extraordinary risks and in consideration of Earth Tech providing the services to the Client in connection with the project on which pollutants and hazardous wastes are involved, the Client agrees that Earth Tech's liability to the Client, including liability resulting from claims by Third Parties upon the Client, with respect to any matter in any way arising out of Earth Tech's involvement with pollutants and hazardous wastes associated shall be limited to or otherwise protected as provided in paragraphs (a) and (b) below.

(a) Earth Tech's liability to the Client in connection with pollutants and hazardous waste is absolutely limited, both in contract and in tort for any and all claims arising out of or in connection with the project to a total maximum aggregate amount not to exceed the cost of reperformance of the services at the sole cost of Earth Tech for that portion of the services proven to be in error.

It is further agreed that such limitation shall be exclusive of the liability of Earth Tech to the Client which may otherwise be provided for in this Agreement for claims unrelated to pollutants and hazardous wastes.

In further consideration of Earth Tech providing the services to the Client in connection with the project in which pollutants and hazardous wastes are involved, the Client agrees that in connection with incidents and claims initiated by Third Parties involving pollutants and hazardous wastes, the Client shall indemnify, defend and hold harmless Earth Tech of and from any and all suits, actions, legal and administrative or arbitration proceedings, claims, demands, damages, penalties, fines, losses, costs and expenses of whatsoever kind or character, arising or alleged to arise out of the services of Earth Tech or any claim against Earth Tech arising or alleged to arise from the acts, omissions or work of others. Such indemnification shall apply to the fullest extent permitted by law, regardless of fault or breach of contract by Earth Tech and shall include the fees and charges of lawyers in defending or advising Earth Tech as to such claims under the Agreement.

Without limiting the generality of the foregoing, such indemnity extends to claims which arise out of the actual or threatened dispersal, discharge, escape, release or saturation (whether sudden or gradual) of any pollutant to hazardous waste in or into the atmosphere, or on, on to, upon, in or into the surface or subsurface, soils, water or water courses, persons, objects or any other tangible matter.

(b) Nothing herein shall relieve Earth Tech from their obligations to provide the services required by this Agreement and generally as required by standard engineering practice current as of the date of the performance of the services.

(c) For all purposes of this statement of limitations, "pollutants and hazardous wastes" shall mean any solid, liquid, gaseous or thermal irritant or contaminant, including without limitation smoke, vapour, soot, fumes, acids, alkalis, chemicals and wastes, including without limitation, pollutants, hazardous or special waste as defined in any federal, provincial or municipal laws.

4. ***SUBCONSULTANTS AND SUBCONTRACTORS***

As a result of its mandate, Earth Tech may hire companies or individuals with special expertise or services not available within Earth Tech. These services are for the Client's benefit. The Client agrees to pay for the services of subconsultants and subcontractors. The Client also agrees to indemnify Earth Tech for any damage in any way resulting from the error, omission or negligent act of such subconsultants or subcontractors, including, without limiting the generality of the foregoing, the laboratory testing by subconsultants.

5. ***JOB SITE SAFETY***

Earth Tech is only responsible for the activities of its employees on the job site and is not responsible for the supervision of any other persons whatsoever. The presence of Earth Tech personnel on the site shall not be construed in any way to relieve the Client or any other persons on site from their responsibilities for job site safety.

6. ***HAZARDOUS CONDITIONS AND EMERGENCY PROCEDURE***

The Client undertakes to inform Earth Tech of all hazardous conditions, or possible hazardous conditions which are known to it. The Client recognizes that the activities of Earth Tech may uncover previously unknown hazardous materials or conditions and that such a discovery may result in the necessity to undertake emergency procedures to protect Earth Tech employees as well as other persons and the environment. These procedures may involve additional costs outside of any budgets previously agreed to. The Client agrees to pay Earth Tech for any expenses incurred as a result of such discoveries and to compensate Earth Tech through payment of additional fees and expenses for time spent by Earth Tech to deal with the consequences of such discoveries.

7. ***NOTIFICATION OF AUTHORITIES***

The Client acknowledges that in certain instances the discovery of hazardous substances or conditions and materials may require that government bodies, and other persons, be informed and the client agrees that notification to such bodies or persons as required may be done by Earth Tech in its reasonably exercised discretion.

8. ***USE OF REPORT BY OTHERS***

Others wishing to rely upon this Report in any manner may do so only upon condition that such use, and the consequences of such use, are entirely at their own risk and that they understand fully the terms of the Mandate and Basis of this Report.

It is further agreed by such Others that Earth Tech will not be liable to them in any manner including any liability in contract or in tort for any damages whatsoever arising from such use.