DEFENCE CONSTRUCTION CANADA

COLLECTION OF LANDFILL MONITORING DATA YEAR 2006

FOX-4 CAPE HOOPER, NU DRAFT REPORT

DCC PROJECT NO. KN28434 DLCMON FOX4
NUNATTA PROJECT NO. 06715

NOVEMBER 2006

Nunatta Environmental Services Inc.

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1.0 INTRODUCTION

1.1 Context and Mandate

Defence Construction Canada (DCC) is managing the cleanup and monitoring programs at Distant Early Warning (DEW) Line sites in Canada, on behalf of Department of National Defence (DND), Nunatta Environmental Services Inc. (Nunatta) was mandated by DCC to carry out the collection of monitoring data from landfill sites located on the former DEW Line site of FOX-4, Cape Hooper, Nunavut for the years 2005 to 2008. For this purpose, Nunatta has teamed up with Franz Environmental Inc. (FRANZ), who provided expert technical support for the fieldwork, collection of monitoring data and reporting for the year 2006. The present report documents the findings of the field program for the 2006 monitoring year.

1.2 Location and Site Features

Cape Hooper is located on the east coast of Baffin Island, at 68°26' north latitude and 66°44' west longitude, approximately midway between the communities of Qikiqtarjuaq and Clyde River. The FOX-4 Cape Hooper Site was a former auxiliary site on the DEW Line. A North Warning System Short Range Radar (SRR) has been constructed in the vicinity of the former DEW Line facilities. As part of the contract for the construction of the SRR, some demolition and landfilling of waste materials was carried out due to the limited area available for the new development.

The former DEW Line site was comprised of communications, accommodations and maintenance facilities located at the summit, with an airstrip, fuel storage and maintenance facilities located near the coast. These areas are referred to as the Upper and Lower Sites, respectively. The environmental cleanup and demolition of other facilities not required for the operation of the SRR site was initiated in 1996 and was completed in mid-1999. The cleanup included the excavation of one dump site, closure and remediation of six existing landfills, the construction of two new landfills for the disposal of non-hazardous wastes generated from demolition and collection of site debris, and construction of a DCC Tier II soil disposal facility. These landfills, as shown on the overall site plan, Figure 1 FOX-4 Cape Hooper – Overall Site Plan, include:

- Upper Site Dump (excavated during the cleanup, no monitoring required);
- Station Area Landfill (new landfill);
- Helipad Landfills - East and West;
- Barrel Dump Landfill;
- Lower Site Landfill (new landfill);
- DCC Tier II Soil Disposal Facility (new landfill);
- Airstrip Landfill; and
- Tanner Bay Landfill.

1.3 Objectives and Scope of Work

The objective of the DCC Landfill Monitoring Program is to collect sufficient information to assess the landfills' performance, from a geotechnical and environmental perspective.

DCC has specified the requirements for the Landfill Monitoring Program in the document *Terms of Reference – Consulting Services for the Collection of Landfill Monitoring Data – FOX-4 Cape Hooper*, DEW Line Site Nunavut Settlement Region, Qikiqtaaluk Region, DCC Project # DLCUMONFOX-4, 21 April 2005 (ToR, reference B).

The scope of work for the Landfill Monitoring Program is defined in the ToR (reference B) and in Nunatta's accepted proposal dated 2005 (reference C) that was submitted to DCC. The scope of work generally includes the following activities:

- Landfill Monitoring for each of the FOX-4 Landfills:
    - Visual inspection;
    - Soil sampling;
    - Groundwater sampling (selected landfill areas);
    - Thermal monitoring (DCC tier II Soil Disposal Facility only);
    - Create photographic record; and
- Draft and Final reports.

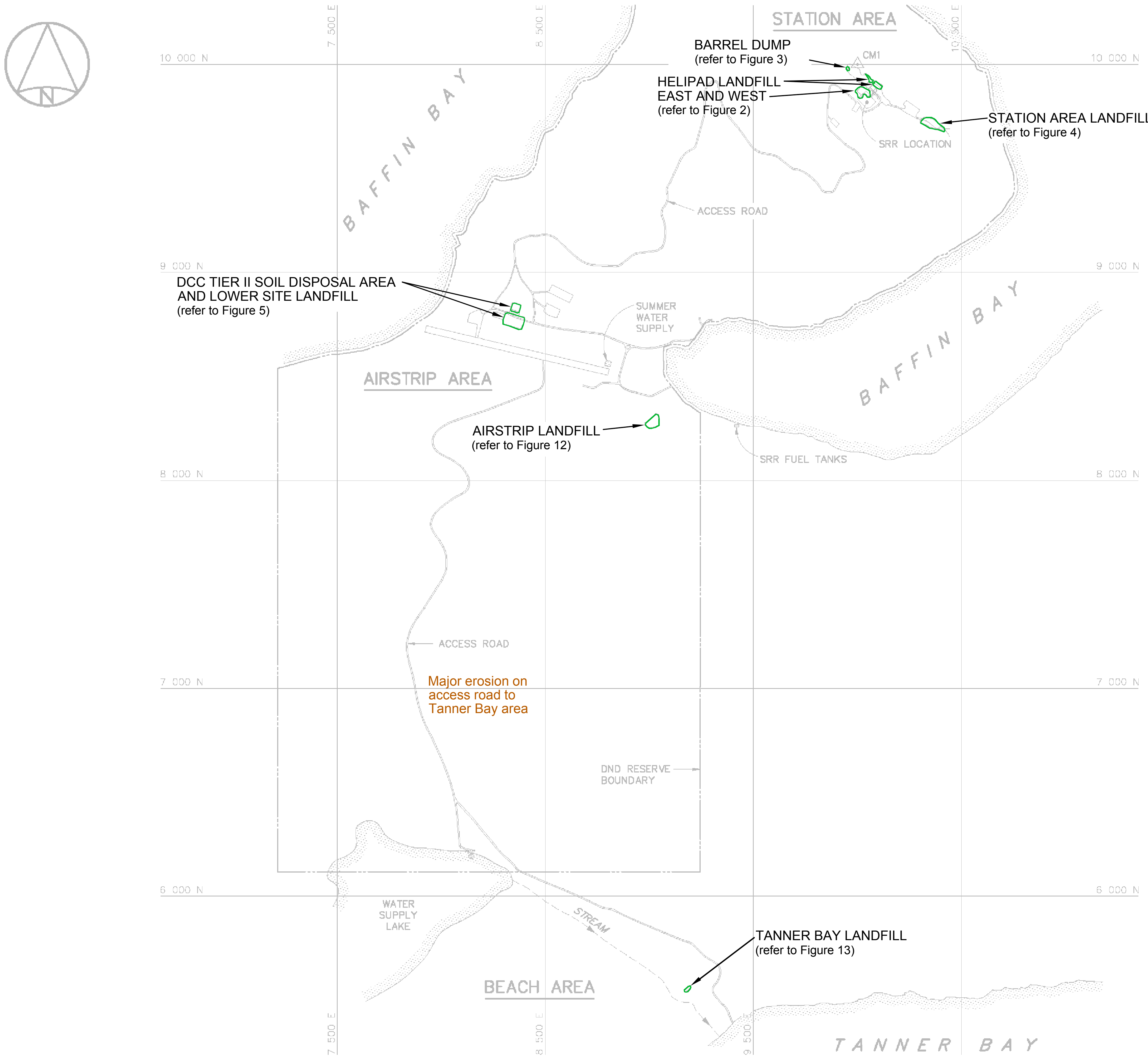
1.4 Report Format

This report describes the work carried out in August 2006 at eight landfill sites at FOX-4 Cape Hooper. Results from soil and groundwater sampling, thermal monitoring, and visual inspection of the sites are also presented in the formats described in the ToR (reference B).

An electronic version of the report and its component tables, figures and data files is included in an Addendum CD-ROM, which is appended to the report.

The report is organized with a separate chapter for each of the landfill areas. Each chapter contains all relevant information for that landfill area, for the 2006 Landfill Monitoring Program. For the photographic record, the printed copy of the report only includes an index of photos for each of the landfill areas. The actual photos are included in electronic format in the Addendum CD-ROM to the report.

Certificates of Analysis, QA/QC analytical results and field notes are attached in appendices.



LEGEND: NOTE: FEATURES IN GREY PREDATE THE 2005 FIELD SEASON

CM1 SURVEY CONTROL MONUMENT

LANDFILL BOUNDARIES (APPROXIMATE)

SURVEY CONTROL MONUMENTS

NO.	COORDINATES		ELEV. (m)	DESCRIPTION
	NORTHING	EASTING		
CM1	10 000.000	10 000.000	397.575	FOX-4 BASELINE STA. 0+00
				(LEAD PLUG IN ROCK)

Title: FOX-4 CAPE HOOPER - OVERALL SITE PLAN

Project: FOX-4 CAPE HOOPER
DEW LINE CLEAN UP
LANDFILL MONITORING PLAN

Date: JANUARY 2007

Client: DEFENCE CONSTRUCTION CANADA

SCALE 1:20,000
500 400 300 200 100 0 500
metres

FIGURE 1

Projects\2006\1213-0601 Fox 4 Cape Hooper DEW Line\Figures 2006\Fox4-0-OverallSite.dwg

2.0 OUTLINE AND METHODOLOGY

2.1 Field Program Staff

On-site 2006 field program at FOX-4 Cape Hooper took place from August 21st to the 26th 2006. The Nunatta field program was executed by Mr. Richard Wells, Dr. Tanmay Praharaj, and two (2) Inuit.

2.2 Visual Inspection

The sites were inspected as per the ToR (reference B) for evidence of settlement, erosion, or frost action. All sites were visually inspected for potential seepage, water pooling and resurgence, staining, vegetation stress, odour and presence of hydrocarbon sheen. Photos with a measure of scale were taken to show the actual general state of the landfills as well as features of interest. Annotated sketches/diagrams are included in the present report for each landfill (Figures 2, 3, 4, 5, 12, and 13).

For the photographic record, the printed copy of the report only includes an index of photos for each of the landfill areas. The actual photos are included in electronic format in the Addendum CD-ROM to the report.

2.3 Soil Sampling

The soil sampling methodology conformed to guidance provided in the following Canadian Council of Ministers of the Environment (CCME) documents:

- CCME Guidance Document on the Management of Contaminated Sites In Canada, April 1997, CCME PN 1279. (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf);
- CCME EPC-NCS62E Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites - Volume I: Main Report, Dec 93 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf);
- CCME EPC-NCS66E Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites - Volume II: Analytical Method Summaries, Dec 93 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf);
- Reference method for the Determination of Petroleum Hydrocarbons in Soil – Tier I Method, 2001; and
- CCME Subsurface Assessment Handbook for Contaminated Sites, March 1994, EPC-NCSRP-48E (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).

For the 2006 monitoring event, 36 soil-sampling stations were visited. One surface sample (0-15 cm depth below surface) and one subsurface sample (40-50 cm depth below surface) were taken at each sampling station. For some sub-surface sampling stations, gravels/boulders limited the sampling depth to 30-40 cm. In one case, the subsurface soil sample could not be collected from station F4-25 due to excessive water at the bottom of the hole. This station is located at the sea level; near flowing runoff and is closest to the adjacent bay. Due to the above reasons, water filled in the soil hole rapidly, thereby preventing proper collection of sample.

No frozen ground or frost (as observed and reported during the August 2005 sampling round) was encountered at the soil stations during the August 2006 sampling. However, boulders and gravels were encountered at depths ranging from 30 to 40 cm, which limited the depth of the subsurface samples at few locations.

The soil samples consisted mainly of fine to coarse sand, with traces of gravel and silt coloured brown to beige. The soils were generally well sorted.

As specified in the ToR (reference B, the soil sampling procedures were adhered to:

- Where required, the soil samples were collected from locations between two to four meter radius of the monitoring wells;
- Blind field duplicates (10 %) were collected for Quality Assurance and Quality Control purposes;
- Duplicate samples (10 %) were also taken and sent to a second laboratory for quality control purposes; and
- An additional ten percent of soil samples taken were sent to the owner’s representative (ESG OPS CENTRE) in Kingston for archiving as specified by DCC.

The soil samples were analyzed for requested parameters (TPH, Total metals and PCBs) as specified by DCC. Table 2-1 below summarizes the soil sampling at FOX-4 during the August, 2006 field program.

Table 2-1: Summary of Soil Sampling at FOX-4, August 2006

Landfill Site	Soil Sampling Stations							
Helipad Landfill West	F4-17	F4-18	F4-19	F4-20	MW-1	MW-2	MW-6	
Helipad Landfill East	F4-1	MW-3	MW-4	MW-5				
Barrel Dump Landfill	F4-2	F4-3	F4-4	F4-5	F4-21	F4-22	F4-23	F4-24
Station Area Landfill	MW-7	MW-8	MW-9					
DCC Tier II Landfill	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15		
Lower Site Landfill	MW-16							
Airstrip Landfill	F4-6	F4-7	F4-8	F4-25				
Tanner Bay Landfill	F4-11	F4-12	F4-13					

Notes:
Soil samples annotated as “MW” were collected as per the ToR (reference X) between 2-4 metres from monitoring wells. Samples annotated as “F” were collected in the designated locations.
All soil samples (except F4-25) were collected from two depths (0-15 cm and 40-50 cm generally)
For 2006 sampling, total no. of soil samples = 71 samples (36 samples X 2 depths except for 1 depth at F4-25) + 8 QA/QC + 8 (Inter-laboratory comparison) + 8 for Owner’s Representative (ESG OPS Archives) = 95 samples (total)

2.4 Groundwater Sampling

The soil sampling methodology conformed to guidance provided in the following Canadian Council of Ministers of the Environment (CCME) documents:

- CCME EPC-NCS62E Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites - Volume I: Main Report, Dec 93 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf); and
- CCME EPC-NCS66E Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites - Volume II: Analytical Method Summaries, Dec 93 (CCME catalogue - http://www.ccme.ca/pdfs/cat_eng.pdf).

Wells were purged as specified and measurements of *in situ* temperature, conductivity and pH were taken. Sampling took place when these parameters were stabilized. The samples were not acidified and were not filtered (as directed in ToR).

There are 16 monitoring wells at FOX-4. In the 2006 field program, it was possible to sample 12 out of 16 monitoring wells. Four monitoring wells (MW-4, MW-6, MW-9 and MW-11) could not be sampled due to some problems encountered on site (stuck bailers or dry wells).

A summary of the status of the monitoring wells and the attempts made are summarized in Tables 2-2 and 2-3.

It is noted that none of the wells were found to have a slip cap in place. In almost every well, bentonite covered the top of the well pipe to varying degrees. The bentonite well-seals had expanded to partially or completely fill the in-ground cavity surrounding the well top (flush mount of “road box”). Major bentonite blockage issues are recorded in Table 2-3. It is suspected that due to temperature fluctuations and soil conditions in this extreme environment, the bentonite has expanded, risen, and then subsequently fallen into the PVC well pipe. In several cases, sampling bailers were also observed to be obstructing the monitoring wells. Partially successful attempts were made to retrieve the stuck bailers. The results of this attempted recovery action are described in Table 2-2. The attempts made by the field personnel to retrieve the stuck bailers were recorded by video tape and included in the Addendum CD-ROM to the report. Many wells had standing water on top of the stuck bailers, which still allowed for groundwater purging and sampling.

In sampled wells, no signs of free phase hydrocarbon product were detected. Monitoring Well Development and Sampling Record forms are included in appropriate sections in this report.

Table 2-2 – Summary of Groundwater Sampling at FOX-4, August 2006

Landfill Site	**Monitoring Well Stations**				
Helipad Landfill West	**MW-1**	**MW-2**	**MW-3**	**MW-5**	MW-6
Helipad Landfill East	MW-4				
Barrel Dump Landfill	None				
Station Area Landfill	**MW-7**	**MW-8**	MW-9		
DCC Tier II Landfill	**MW-10**	MW-11	**MW-12**	**MW-13**	**MW-15**
Lower Site Landfill	**MW-14**	**MW-16**			
Airstrip Landfill	None				
Tanner Bay Landfill	None				

Notes:

1 **BOLD**: Monitoring wells sampled during the August 2006 sampling event. Other wells could not be sampled due to blockage and/or dry wells.

2 Total number of groundwater samples = 12 samples + 2 QA/QC (blind field duplicates) + 1 field/trip blank = 15.

Table 2-3: Summary of Monitoring Well Conditions at FOX-4, August 2006

Monitoring Well No.	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
	Status of the Well							
Genivar, 2005	Good	Good	Frozen	Bailer stuck. Top of bailer at 1.37 m from Top-of-Pipe (t-o-p). Well filled with bentonite	Obstructed by bailer, Well full of bentonite	Obstructed by bailer, Well full of bentonite	Bailer stuck. Top of bailer at 1.73 m from Top-of-Pipe (t-o-p). Bailer could not be removed, Well dry	Good
Hazco, 2005	No bailer, ice at 4-5 ft., no obstruction	Bailer cap floating but no strings to pull out, could not remove bailer and cap	Bailer successfully removed, string still attached, no obstruction	No bailer, ice at 4-5 ft., no obstruction	No string attached to bailer, bailer sank to bottom of well and could not be removed. Suspect top of bailer has been ripped off, nothing to grab on base of bailer to pull it out.	No bailer, ice at 4-5 ft., no obstruction	No obstructions. Seemed to hit ice 4-5 ft below surface.	No obstructions. Seemed to hit ice 4-5 ft below surface.
Franz, 2006	Good	Good (Bailer stuck in the well and it was removed)	Bailer stuck in the well. Could not be removed. However, the well had enough water for monitoring and sampling	Bailer stuck in the well at 1.44 m. Could not remove. Not possible to sample.	Bailer obstructing well. Could not remove. However, there was enough water for monitoring and sampling.	Bailer stuck at 0.37 m. Succeeded in clearing the bailer to 0.6 m. Clearance to at least 0.75 m is required for sampling. Not possible to sample.	Top of well plugged with bentonite. Cleared bentonite. Condition now good.	Good

Monitoring Well No.	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16
				Status of the Well				
Genivar, 2005	Good	Good	Bailer stuck, could not be retrieved, Well filled with bentonite	Filled with bentonite	Filled with bentonite	Filled with bentonite	Frozen bentonite	Bailer stuck, could not be retrieved, Well filled with bentonite
Hazco, 2005	Obstruction at 1 m depth – either top of bailer with bentonite on it or a bentonite plug was encountered. Could not be removed	No bailers or obstructions in wells	No bailers or obstructions in wells	No bailers or obstructions in wells	No bailers or obstructions in wells	No bailers or obstructions in wells	No bailers or obstructions in wells	No bailers or obstructions in wells
Franz, 2006	Bailer stuck at 0.8 m. No water on top of bailer to sample. Could not remove bailer. Not possible to sample. Top of well plugged with bentonite. Cleared bentonite	Good (Top of well plugged with bentonite; it was cleared)	Top of well plugged with bentonite, which was cleared. Bailer stuck at 0.48 m. Could not remove bailer. No water on top of bailer to sample. Not possible to sample.	Top of well plugged with bentonite, which was cleared. Bailer stuck at 0.60 m. Cleared through the top of bailer up to 1.36 m and sampled.	Top of well plugged with bentonite, which was cleared. Some bentonite still in the bottom. Bailer stuck at 1.315 m. Could not remove bailer. However, there was enough water to monitor and sample	Good (Top of well plugged with bentonite; it was cleared)	Top of well plugged with bentonite, which was cleared. Bailer broken and stuck in the well. Cleared through the top of bailer up to 1.83 m and sampled.	Top of well plugged with bentonite, which was cleared. Ice at 0.59 m; which was broken. Bailer stuck in the well at 1.35 m. Managed to pull out the cap and string of the bailer. Could not remove the rest. However, there was enough water to monitor and sample

It was noted that the use of bentonite to seal the monitoring wells may be causing the additional complications of the plugged wells. Bentonite is not suitable as a material to seal the wells in an arctic environment. The bentonite used is un-hydrated so that any moisture that infiltrates the well-seal will cause expansion due to hydration of the bentonite. It was further noted that bentonite is a fine grained clay and can expand due to “frost heave”. Frost heave is the process where water diffuses to ice crystals in a fine grained soil matrix to accumulate in zones of pure ice. This process also causes expansion as the pure ice crystals grow in size. The first mechanism would be active in the summer and the frost heave would be active in the winter period. To reduce the possibility of bentonite expanding and plugging the well in the future, J-plugs were installed on 12 of the wells (all wells except 10, 11, 12 and 15) to cap/seal the well. This type of plug is inserted into top of well casing and held in place by an expanding seal – this arrangement is less likely than a slip cap to be displaced by expanding bentonite or other well packing material.

2.5 Thermal monitoring

The repaired datalogger for thermistor station T1 was brought on site and installed/re-connected. An attempt was made to repair the damaged cable coming from the ground and its connector at station T-1, and attempts were made to retrieve and analyze data from all the data loggers (T-1 to T-6).

The damaged cable coming from the ground and its connector at station T-1 could only be repaired partially. Some analogues/thermocouples in station T1 were observed to be not functioning properly. Two data points (12 hours apart) were downloaded from the datalogger at station T-1.

Data from T-2, T-3, T-5, and T-6 was successfully retrieved. Data downloaded from T-5 did not contain any information subsequent to April 2006.

The cable coming from the ground and its connector at station T-4 was found to be broken. The station T-4 cable was re-connected and the station T-4 datalogger was set to the correct parameters; it was not possible to obtain an instantaneous reading from T-4; thermistor malfunction/damage is suspected.

Specific detailed information regarding temperature data is contained in the report section on the Lower Site landfill and DCC Tier II Soil Disposal Area.

Table 2-4: Summary of Thermistor Conditions at FOX-4, August 2006

Data Logger	Problem encountered	Attempt Made to solve the problem	Outcome of the attempt
T-1	Cable coming from the ground and its connector to the datalogger was broken. The casing and cap of the thermistor were not in place.	Repaired the cable with soldering device. Installed a new casing and cap. Connected the repaired cable to the datalogger and downloaded data. Re-programmed/reset the datalogger	Partially functioning (3 of the 5 analogs working). Two data points (12 hours apart) were downloaded from the datalogger at station T-1.
T-2	Error values were observed in the downloaded data. Upon verification, it was observed that the datalogger was possibly not programmed properly	Re-programmed/reset the datalogger	Datalogger appeared to be functioning properly. Data from August 2005 to August 2006 successfully downloaded.
T-3	The outer casing of the thermistor was loose and found moving with wind. Datalogger was possibly not programmed properly.	Duck tape was wrapped around the casing and adjacent supports to steady the casing. Re-programmed/reset the datalogger	The casing was left in a more secure fashion; however it was not possible in the time available to secure the base of the casing. It is possible that winter conditions will cause the casing to come loose again.. Datalogger appeared to be functioning properly. Data from August 2005 to August 2006 successfully downloaded.

Data Logger	Problem encountered	Attempt Made to solve the problem	Outcome of the attempt
T-4	Cable coming from the ground and its connector to the datalogger was found to be broken. The cable connector was found to be missing pins. The cable was observed to be detached from the datalogger.	Re-connected the connector to the datalogger and downloaded data but error values observed. Datalogger software indicated that analogs 1 to 5 were working (green). Datalogger was possibly not programmed properly. Clock showed wrong time.	The downloaded data contained no analogue/thermocouple readings subsequent to 2 November 2005. This lack of data is likely due to the disconnected cables. Re-programmed and reset datalogger The serviceability of this datalogger is not clear – missing pins may prevent collection of data from one or more analogues/thermocouples, however Datalogger software indicated that analogs 1 to 5 were working (green). Insufficient time on site to confirm serviceability by waiting 12 hours to download a data point from the datalogger. It is suspected that the re-programmed and reset datalogger should be working properly for analogues/thermocouples with intact connecting pins.
T-5	Clock showing wrong date and time. The datalogger was possibly not programmed properly.	Re-programmed/reset the datalogger.	The downloaded data contained no analogue/thermocouple readings subsequent to 3 April 2006. Thermistor malfunction/damage is suspected. Re-programmed and reset datalogger – no indication of malfunction or non-serviceability. Insufficient time on site to confirm serviceability by waiting 12 hours to download a data point from the datalogger. It is suspected that the re-programmed and reset datalogger should be working properly.
T-6	Clock showing wrong time. The datalogger was possibly not programmed properly.	Re-programmed/reset the datalogger	Data from August 2005 to August 2006 successfully downloaded. The datalogger seems to be functioning properly.

2.6 Project References

The following references are specifically relevant to the 2006 Landfill Monitoring activities:

A. *Request for Abbreviated Proposal- Consultant Services – Collection of Landfill Monitoring Data – FOX-4 Cape Hooper, DEW Line Site Nunavut Settlement Region, Qikiqtaaluk Region, DCC Project # DLCUMONFOX-4*, 21 April 2005.

B. *Terms of Reference – Consulting Services for the Collection of Landfill Monitoring Data – FOX-4 Cape Hooper, DEW Line Site Nunavut Settlement Region, Qikiqtaaluk Region, DCC Project # DLCUMONFOX-4*, 2 May 2005.

C. Nunatta Proposal, 2005.

D. *Collection of landfill Monitoring data – Year 2005, FOX-4 Cape Hooper, DCC Project #KN28434, Nunatta Project # M103208*, Nunatta Environmental Services, January 2006

E. *Post-Field Progress Report, FOX-4 Landfill Monitoring 2006*, Nunatta Project # 06715, September 8, 2006.

3.0 HELIPAD LANDFILLS – EAST AND WEST

3.1 Summary

The Helipad Landfills are located at the Upper Site, west of the current Short Range Radar (SRR) facilities. These landfills were built during the construction of the SRR site, prior to the clean up of the DEW Line FOX-4 site. The waste material disposed in those landfills include the building module train, garage, communication dishes and other miscellaneous waste. The east and west landfills have an approximate surface area of 1600 m^2 and 2800 m^2, respectively.

The monitoring of these landfills included visual inspection to monitor evidence of settlement or erosion, and collection of soil and groundwater samples to monitor for the presence of leachate. Groundwater monitoring well locations, as well as soil sample locations, are identified in Figure 2 FOX-4 Cape Hooper – Helipad Landfills – East and West.

Four new sampling locations were established in 2005 order to monitor existing seepage and hydrocarbons impacts noted in 2003. The new stations were identified F4-17 to F4-20.

The soil and groundwater analytical data are presented in Tables 3-6 and 3-7 respectively. Soil at all stations was sampled as specified in the Terms of Reference. Only four of six groundwater wells (MW-1, MW-2, MW-3 and MW-5) were sampled, since two wells (MW-4 and MW-6) had bailers stuck in the wells.

The visual inspection report, including supporting photos and drawing, is presented in the following pages.

3.2 Visual Inspection Report

3.2.1 Helipad- West Landfill

The visual inspection of the Helipad West Landfill was conducted on August 22, 2006. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material containing boulders and cobbles. The boulder and cobble material is generally angular, and the gravel and sand particles are generally well rounded. The Visual Inspection Checklist/Report has been completed as per the Terms of Reference and is included as Table 3-1 of this report.

<u>Settlement</u>

Based on anecdotal information, only consolidation settlement has occurred on the southwest portion of the landfill. This information was provided by Adamie Onalik who has attended the site for the previous five years. Mr. Onalik noted that the surface of the landfill was originally fairly flat and now slopes to the southwest. The cause of the increase in slope to the southwest was thought to be the result of consolidation settlement increasing with material thickness. The material is at a minimum thickness on the north east side of the landfill and maximum thickness is on the south west side of the landfill. Since the material becomes progressively thicker to the southwest, the overall magnitude of settlement becomes larger creating a slope of the capping layer. Indications of differential settlement were not noted. Photos 1Q and 1R were taken to capture a record of the sloping landfill surface to allow for comparison to the photos of the original grade of the capping material.

Erosion

Three areas of active erosion were noted, these areas are designated E1-1, E1-2 and E1-3; and, are presented on Figure 2 FOX-4 Cape Hooper – Helipad Landfills – East and West. Area E1-1 and E1-2 are located on the south west slope of the landfill and E1-3 is located in close proximity to the north west slope. Erosion appears to be caused by overland drainage originating from the area up gradient of the landfill as well as the catchment area of the landfill. It appears that erosion along the southwest slope has increased since the 2005 landfill and inspection. The maximum thickness of eroded material was observed at the area designated E1-1. The observed thickness of eroded material was approximately 0.5 m at the top a slope and decreased to 0.2 m near the bottom of the slope. The erosion at E1-3 is an active erosion process that was observed within close proximity of the landfill. Field observations could not verify if this area is located within the boundaries of the landfill and therefore the erosion at E1-3 was documented as a conservative measure. After the field work program, E1-3 was plotted on the available plans and it is likely that E1-3 is not occurring within the boundary of the landfill. Photos 1A and 1B record the erosion at E1-1, photos 1C and 1D record the erosion at E1-2 and photo 1E provides a record of the observed erosion at E1-3.

Frost Action

No frost action was observed at the surface (0-15 cm depth) or subsurface (40-50 cm depth) near the wells MW-1 to MW-6 of this area (see Figure 2 FOX-4 Cape Hooper – Helipad Landfills – East and West). It was noted that the soil present was generally low in silt and clay fractions. It is generally considered that materials less than 7% silt or clay are not frost susceptible. Based on a visual assessment of the soil type the capping material does not appear to have more than 7% silt or clay and therefore should not be susceptible to frost action.

Evidence of Burrowing Animals

Indications of burrowing animals were not noted.

Re-establishment of Vegetation

Based on the regional setting of this landfill reestablishment of vegetation is not likely.

Staining

The stained areas, designated ST1-1 to ST1-10, are presented in Figure 2 FOX-4 Cape Hooper – Helipad Landfills – East and West. Areas of staining appeared to have increased since the 2005 landfill visual inspection, with the exception of the staining at ST1-6, which was not noted during the 2006 site inspection. Staining appears to have increased both in terms of total number of stained areas as well as the extent of the stained areas. The staining appears reddish and is sometimes associated with a noticeable iridescent sheen, in addition there may be areas of dark grey and black staining.

Seepage Points

The number of seepage points also appears to have increased since the previous landfill visual inspection.

Debris

Exposed debris was not noted.

Discussion

Based on the erosion observed, the performance of the landfill with respect to containment was rated as marginal. Visual inspection report, including supporting photos and drawing, is presented in the following pages. With respect to the Helipad West Landfill the area of staining and erosion has increased since the previous 2005 visual inspection. It was noted that surface runoff or overland drainage is directed overtop of the landfill and either continues flowing over the capping material or infiltrates the landfill. The surface water run off is causing erosion along the south west and northwest slopes. The infiltrated water may be a contributor to the increase in seepage and staining evident on the south west and northwest perimeter of the landfill. No frost action was observed at the surface (0-15 cm depth) or subsurface (40-50 cm depth) near the wells MW-1 to MW-6 of this area (see Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West).

3.2.2 Helipad- East Landfill

The visual inspection of the Helipad East Landfill was conducted on August 22, 2006. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material containing boulders and cobbles. The boulder and cobble material is generally angular, and the gravel and sand particles are generally well rounded. The Visual Inspection Checklist/Report has been completed as per the Terms of Reference and is included as Table 3-2 of this report.

Settlement

Indications of consolidation or differential settlement were not noted.

Erosion

An area of active erosion is occurring on the slope just above the landfill and material is being deposited on top of the landfill.

Frost Action

No frost action was observed at the surface (0-15 cm depth) or subsurface (40-50 cm depth) near the wells MW-1 to MW-6 of this area (see Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West). The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low.

Evidence of Burrowing Animals

Indications of burrowing animals were not noted

Re-establishment of Vegetation

Based on the regional setting of this landfill reestablishment of vegetation is not likely.

Staining

The stained areas, designated ST2-1 and ST2-2 are presented on Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West. These areas of staining were not noted during the 2005 landfill assessment.

Seepage Points

The seepage areas are coincident with the areas of staining ST2-1 and ST2-2 are presented in Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West. These areas of seepage were not noted during the 2005 landfill assessment.

Debris

Exposed debris was not noted.

Discussion

Other than the appearance of two areas of staining and seepage at the landfill, there appeared to be no active process that is reducing cover or containment of the material present in the landfill. The performance of the landfill containment was rated as acceptable.

Table 3-1: Visual Inspection Checklist – Inspection Report – Helipad West Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **HELIPAD WEST LANDFILL**
LANDFILL DESIGNATION: Landfill, Upper Site, West of SRR
DATE OF INSPECTION: August 22, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	Present Yes/No	Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)	Length	Width	Depth	Extent relative to Area of Landfill (%)	Description	Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale	Additional Comments
Settlement	YES	The south west portion of the landfill. For locations, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	40 m	16 m		23 %	Based on anecdotal observations general settlement appears to have occurred along the south west portion of the landfill. This is consistent with consolidation of the landfill material. Indicators of differential settlement were not noted.		Consolidation settlement was observed over large portions of the landfill; it is generally not practicable to use hand-held photographs to document consolidation settlement.
Erosion	YES	Erosion appears to be active along the south west and north west slopes. For locations, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West. E1-1 E1-2 E1-3	 15 m 15 m 12 m	 5 m 3 m 8 m	 0.3 to 0.5 m 0.2 m 0.2 m	 3% 2% 3%	Surface run off is directed from behind the landfill across the capping layer to southwest slopes of the landfill.	Photographs: 1A, 1B, 1C, 1D, 1E, 1F For locations and directions of photographs, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	
Frost Action	NO	Frost action was not noted. The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low.							
Sloughing and Cracking	NO								
Animal Burrows	NO								
Vegetation	NO	No vegetation was observed at the upper site. It was noted that the lack of vegetation is consistent with the natural setting.							
Staining	YES	ST1-1A ST1-1B ST1-2 ST1-3 ST1-4 ST1-5 ST1-6 ST1-7 ST1-8 ST1-9 ST1-10 For locations, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	90 m 40 m 7 m 10 m 11 m 16 m N/A 10 m 22 m 6 m 10 m	3 m 3 m 4m 3 m 8 m 4 m N/A 3 m 10 m 4 m 2 m		10% 4% 1% 1% 3% 2% N/A 1% 8% 1% 1%	Staining from seepage was noted and the affected area appears to have increased significantly from the previous year (2005).	Photographs: 1G, 1H, 1I, 1J, 1M, 1N, 1O,1P For locations and directions of photographs, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	
Vegetation Stress	NO	No vegetation was observed at the upper site.							
Seepage Points	YES	Seepage points coincide with staining locations.	See staining observations.	See staining observations.			Where there was staining there was an associated seepage point.	See staining observations.	
Debris Exposed	NO								
Presence/Condition – Monitoring Instruments	YES	Refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.						Refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West and associated photographic log.	
Features of Note.	YES	South West Slope					The south western slope appears to have been constructed by end dumping and pushing material over the edge the slope therefore the material is at its angle of repose, making the material more susceptible to erosion.		

Table 3-2: Visual Inspection Checklist – Inspection Report – Helipad West Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **HELIPAD EAST LANDFILL**
LANDFILL DESIGNATION: Landfill, Upper Site, West of SRR
DATE OF INSPECTION: August 22, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	**Present Yes/No**	**Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)**	**Length**	**Width**	**Depth**	**Extent relative to Area of Landfill (%)**	**Description**	**Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale**	**Additional Comments**
Settlement	NO								
Erosion	YES	Erosion appears to be active on the slope located southwest and upgradient of the landfill with deposition of the material occurring on the top of the landfill. E2-1	5 m	5 m	0.2 to 0.4 m	2%		Photographs: 2G, 2H For locations and directions of photographs, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	
Frost Action	NO	Frost action was not noted. The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low.							
Sloughing and Cracking	NO								
Animal Burrows	NO								
Vegetation	NO	No vegetation was observed at the upper site. It was noted that the lack of vegetation is consistent with the natural setting.							
Staining	YES	ST2-1 ST2-2 For locations, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	1 m 1 m	0.5 m 0.5 m		1% 1%	Staining was noted in 2006 and not noted in 2005.	Photographs: 2A, 2B, 2C, 2D, 2E For locations and directions of photographs, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	
Vegetation Stress	NO	No vegetation was observed at the upper site.							
Seepage Points	YES	Seepage points coincide with staining locations.	See staining observations.	See staining observations.			Where there was staining there was an associated seepage point.	Photographs: 2A, 2B, 2C, 2D, 2E For locations and directions of photographs, refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.	
Debris Exposed	NO								
Presence/Condition – Monitoring Instruments	YES	Refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.						Refer to Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West and associated photographic log.	
Features of Note.	NO								

3.3 Preliminary Stability Assessment

The Preliminary Stability Assessment for Helipad Landfills West and East have been completed as per the Terms of Reference and are included as Tables 3-3 and 3-4 respectively of this report.

Table 3-3: Preliminary Stability Assessment – Helipad West Landfill

Feature	Severity Rating	Extent
Settlement	Acceptable	None (No Differential Settlement)
Erosion	Marginal	Occasional
Frost Action	Not Observed	None
Staining	Acceptable	Numerous
Vegetation Stress	Not Observed	None
Seepage / Ponded Water	Acceptable	Numerous
Debris Exposure	Not Observed	
Overall Landfill Performance	**Marginal**	

Performance / Severity Rating	**Description**
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

Extent	**Description**
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

Table 3-4: Preliminary Stability Assessment – Helipad East Landfill

Feature	Severity Rating	Extent
Settlement	Not Observed	None
Erosion	Acceptable	Occasional
Frost Action	Not Observed	None
Staining	Acceptable	Occasional
Vegetation Stress	Not Observed	None
Seepage / Ponded Water	Acceptable	Occasional
Debris Exposure	Not Observed	None
Overall Landfill Performance	**Acceptable**	

Performance / Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

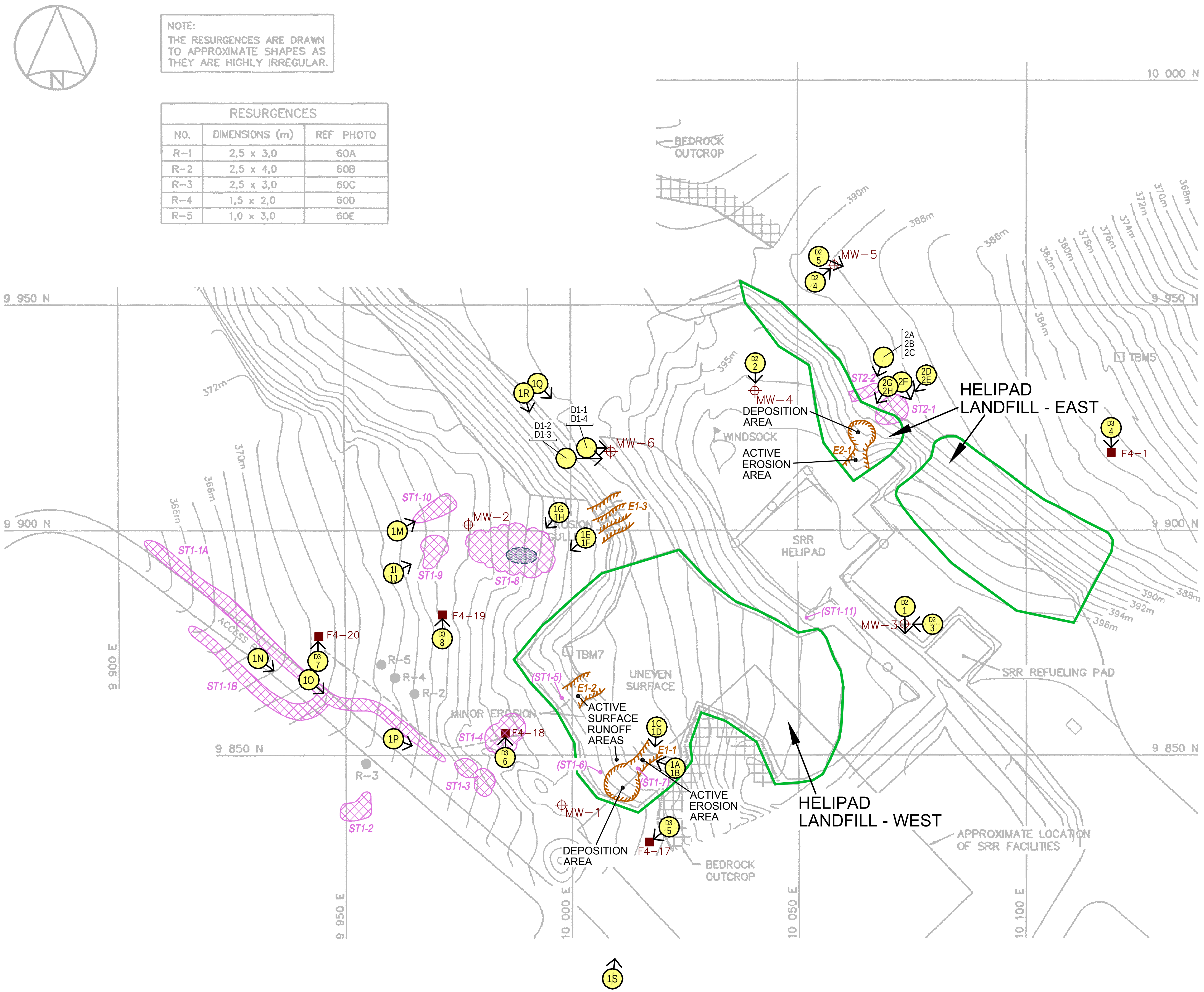
Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

3.4 Location Plan

The Location Plan for Helipad Landfills West and East has been completed as per the Terms of Reference and are included in the following page as Figure 2 FOX-4 Cape Hooper – Helipad landfills – East and West.

NOTE:
THE RESURGENCES ARE DRAWN TO APPROXIMATE SHAPES AS THEY ARE HIGHLY IRREGULAR.

RESURGENCES		
NO.	DIMENSIONS (m)	REF PHOTO
R-1	2,5 x 3,0	60A
R-2	2,5 x 4,0	60B
R-3	2,5 x 3,0	60C
R-4	1,5 x 2,0	60D
R-5	1,0 x 3,0	60E



LEGEND:

NOTE: FEATURES IN GREY PREDATE THE 2005 FIELD SEASON

- CM1 SURVEY CONTROL MONUMENT
- TBM5 TEMPORARY BENCHMARK
- MONITORING WELL LOCATION
- SOIL SAMPLE
- LANDFILL BOUNDARY (APPROXIMATE)

2006 OBSERVATIONS:

- ST1-2 STAINS
- (ST1-6) (STAIN ID LABELS IN BRACKETS ARE 2005 OBSERVATIONS REFERRED TO IN THE 2006 TEXT)
- D DEBRIS
- E1-2 EROSION
- POOLING
- SINKHOLE
- PHOTOGRAPH LOCATION (INDICATING PHOTO NUMBER, LOCATION, VIEWING DIRECTION)

TEMPORARY BENCHMARKS				
NO.	COORDINATES		ELEV. (m)	DESCRIPTION
	NORTHING	EASTING		
5	9 938.442	10 120.491	388:170	CROSS CUT IN ROCK
7	9 873.107	9 999.103	388.170	NAIL

SURVEY CONTROL MONUMENTS				
NO.	COORDINATES		ELEV. (m)	DESCRIPTION
	NORTHING	EASTING		
CM1	10 000.000	10 000.000	397.575	FOX-4 BASELINE STA. 0+00

MONITORING WELLS		
NO.	COORDINATES	
	NORTHING	EASTING
MW-1	9 839.1	9 997.6
MW-2	9 901.6	9 977.5
MW-3	9 878..9	10 074.0
MW-4	9 930.8	10 040.0
MW-5	9 958.9	10 058.0
MW-6	9 917.3	10 008.5

Title: FOX-4 CAPE HOOPER - HELIPAD LANDFILLS - EAST AND WEST

Project: FOX-4 CAPE HOOPER DEW LINE CLEAN UP LANDFILL MONITORING PLAN

Date: JANUARY 2007

Client: DEFENCE CONSTRUCTION CANADA

SCALE 1:935
25 20 15 9 3 0 25
metres

FIGURE 2

Projects\2006\1213-0601 Fox 4 Cape Hooper DEW Line\Figures 2006\Fox4-1-HelipadLandfills.dwg

3.5 Photographic Records

The Photographic Record for Helipad Landfills West and East has been completed as per the Terms of Reference and are included in the following page as Table 3-5. The Photographic Record only contains an index and "thumbnail" photographs; full sized photographs are contained in the Addendum CD-ROM.

Table 3-5 Photographic Record - Helipad Landfills East and West

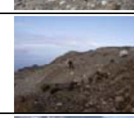
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D1-1	Pic D1-1.jpg 2006-08-21	Monitoring well MW-6 from top facing East.		Figure 2
D1-2	Pic D1-2.jpg 2006-08-21	Showing hole down to 50 cm at monitoring well MW-6 (approximately 2.5 metres from the well).		Figure 2
D1-3	Pic D1-3.jpg 2006-08-21	Showing the hole for soil sampling at monitoring well MW-6 (closer picture). Facing East		Figure 2
D1-4	Pic D1-4.jpg 2006-08-21	Filling out boiler from monitoring well MW-6 – unsuccessful. Facing East.		Figure 2
D3-5	Pic D3-5.jpg 2006-08-23	Soil hole at F4-17 facing south-west. Depth = 40 cm. Possibly gravely / rocky surface.		Figure 2
D3-6	Pic D3-6.jpg 2006-08-23	Soil hole at F4-18. Picture taken facing north. Depth of hole = 45 cm.		Figure 2
D3-7	Pic D3-7.jpg 2006-08-23	Soil hole at F4-20. Picture taken facing north. Soil Hole Depth = 37 cm.		Figure 2
D3-8	Pic D3-8.jpg 2006-08-23	Soil hole at F4-19. Picture taken facing North. Soil hole depth = 42 cm.		Figure 2
1A	1A.jpg 2006-08-22	Slope erosion observed at 10,020E 9,850N. Top of slope erosion is inferred based on comparison to potentially undisturbed slope. Camera facing North.		Figure 2
1B	1B.jpg 2006-08-22	Slope erosion observed at 10,020E 9,850N. Wide angle view, facing North.		Figure 2
1C	1C.jpg 2006-08-22	Slope erosion observed at 10,020E 9,860N. White card is 20cm by 28cm. Camera facing West.		Figure 2
1D	1D.jpg 2006-08-22	Slope erosion observed at 10,020E 9,860N. White Card is 20cm by 28cm. Camera facing West.		Figure 2
1E	1E.jpg 2006-08-22	Slope erosion observed at 10,010E 9,910N. White card is 20cm by 28cm. Camera facing West.		Figure 2
1F	1F.jpg 2006-08-22	In photo center, view of well MW 2 and nearby soil staining and seepage. Camera facing West.		Figure 2

Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
1G	1G.jpg 2006-08-22	Seepage, soil staining and sheen on water observed at 9,990E 9,890N. Card in foreground is 20cm by 28cm. Camera facing West.		Figure 2
1H	1H.jpg 2006-08-22	Close up view of seepage, soil staining and sheen on water observed at 9,990E 9,890N. Camera facing West.		Figure 2
1I	1I.jpg 2006-08-22	Reddish soil staining from seepage observed at 9,980E 9,890N. White card is 20cm by 28cm. Camera facing East.		Figure 2
1J	1J.jpg 2006-08-22	Close up view of reddish soil staining from seepage observed at 9,980E 9,890N. White card is 20cm by 28cm. Camera facing East.		Figure 2
1M	1M.jpg 2006-08-22	Soil staining and seepage observed at 9,970E 9,905N. White card is 20cm by 28cm.		Figure 2
1N	1N.jpg 2006-08-22	Soil staining and seepage observed at 9,940E 9,875N. White card is 20cm by 28cm. Camera facing East.		Figure 2
1O	1D.jpg 2006-08-22	Wide angle view of soil staining and seepage observed starting upgradient at 9,940E 9,875N. Camera facing East.		Figure 2
1P	1P.jpg 2006-08-22	Soil staining and seepage observed at 9,970E 9,860N. Reddish staining and sheen associated with staining.		Figure 2
1Q	1Q.jpg 2006-08-22	Panorama view (left) of Helipad west landfill at 9,990E 9,930N. Camera facing South East.		Figure 2
1R	1R.jpg 2006-08-22	Panorama view (right) of Helipad west landfill at 9,990E 9,930N. Camera facing South East.		Figure 2
1S	1S.jpg 2006-08-22	Slope erosion observed at 10,010E, 9790N. White card is 20cm by 28cm. Camera facing North.		Figure 2
D2-1	Pic D2-1.jpg 2006-08-22	Soil hole 45 dm deep, facing South.		Figure 2
D2-2	Pic D2-2.jpg 2006-08-22	Soil hole 50 cm deep, facing South.		Figure 2
D2-3	Pic D2-3.jpg 2006-08-22	Monitoring well MW-3, facing West.		Figure 2
D2-4	Pic D2-4.jpg 2006-08-22	Monitoring well MW-5, showing bentonite inside the well casing, facing North-East.		Figure 2
D2-5	Pic D2-5.jpg 2006-08-22	Soil hole at Monitoring Well MW-5, facing East of well.		Figure 2

Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D3-4	Pic D3-4.jpg 2006-08-23	Soil Hole at F4-1 facing East. Soil depth = 45 cm.		Figure 2
2A	2A.jpg 2006-08-22	Seepage and sheen emerging from slope at 10,060E 9,930N. White Card is 20cm by 28cm. Camera is facing South-West.		Figure 2
2B	2B.jpg 2006-08-22	Close up view of seepage and sheen emerging from slope at 10,060E 9,930N. Camera is facing South-West.		Figure 2
2C	2C.jpg 2006-08-22	Close up view of information card as well as seepage from slope at 10,060E, 9930N. White card is 20cm by 28cm. Camera is facing South-West.		Figure 2
2D	2D.jpg 2006-08-22	Seepage and sheen emerging from slope at 10,060E 9,930N. White Card is 20cm by 28cm. Camera is facing South-West.		Figure 2
2E	2E.jpg 2006-08-22	Close up view of seepage and sheen emerging from slope at 10,060E 9,930N. White card is 20cm by 28cm. Camera is facing West.		Figure 2
2F	2F.jpg 2006-08-22	View of slope above Helipad East Landfill. White card is 20cm by 28cm and is located at 10,060E 9,920N. Camera is facing South		Figure 2
2G	2G.jpg 2006-08-22	Erosion of slope at 10,060E 9,920N. White card is 20cm by 28cm. Camera is facing South.		Figure 2
2H	2H.jpg 2006-08-22	Close up view of information card as well as seepage from slope at 10,060E 9,930N. White card is 20cm by 28cm. Camera is facing South-West.		Figure 2

3.6 Thermal Monitoring Data

Not applicable to this landfill area.

3.7 Soil Sample Analytical Data

The surface (0-15 cm) soil sample collected near MW-6 showed high concentration of Cu (219 mg/kg) compared to the other soil samples, which ranged from 11 to 26 mg/kg. The surface (0-15 cm) and subsurface (40-50 cm) soil samples collected near MW-4 (upgradient at Helipad Landfill East) showed relatively high concentrations of Zn (51 mg/kg), which is more than two orders of magnitude compared to the downgradient soil samples as well as those collected from Helipad Landfill West. The surface soil samples collected near MW-1 and MW-4 showed significant concentration of arsenic (81.4 and 37.2 mg/kg respectively) compared to the other soil samples. The concentrations of Hg were below detection limit in all soil samples except for station MW-4, where the concentration was significantly high (0.14 mg/kg) in the soil collected from 40-50 cm and little over the detection limit (0.05 mg/kg) in the soil sample collected from 0-15 cm. The concentrations of other metal are either low or below detection limit in the soil samples collected from the Helipad East and West landfills.

The chemical analyses for the soil samples for the stations located downgradient at Helipad Landfill West (F4-19, F4-20, MW-2, MW-6) showed fairly high concentration of TPH, more specifically for the fraction F2 (>1000 to 7456 mg/kg). The TPH concentrations in the subsurface soil samples were observed to be higher than the surface soil. The soil collected from MW-3, MW-5, MW-1 and F4-17 were either relatively low or below detection limit.

No PCBs were detected in the soil samples with the exception of the surface and subsurface soil samples collected near MW-4, where the concentrations were 1.0 and 0.9 mg/kg respectively.

The soil sample analytical data is included in the following page as Table 3-6.

Table 3-6: Summary of 2006 Soil Analytical Data - Helipad Landfills East and West

Sample #	Location	Depth (cm)	Cu [mg/kg]	Ni [mg/kg]	Co [mg/kg]	Cd [mg/kg]	Pb [mg/kg]	Zn [mg/kg]	Cr [mg/kg]	As [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1 C_6-C_{10} [mg/kg]	F2 C_{10}-C_{16} [mg/kg]	F3 C_{16}-C_{34} [mg/kg]	TPH C_6-C_{34} [mg/kg]
HELIPAD LANDFILL - EAST UPGRADIENT																
MW-3(Soil)0-15cm	MW-3	0-15	18	7	2	<1	<10	16	16	8.4	<0.04	<0.1	<12	20	40	60
MW-3(Soil)40-50cm	MW-3	40-50	11	8	3	<1	<10	14	14	10.9	<0.04	<0.1	<12	<10	30	30
MW-4(Soil)0-15cm	MW-4	0-15	23	15	4	<1	15	**51**	33	**37.2**	0.05	**1.0**	<12	100	210	310
MW-4(Soil)40-50cm	MW-4	40-50	26	15	4	<1	11	**51**	35	18	**0.14**	**0.9**	<12	220	210	430
HELIPAD LANDFILL - EAST DOWNGRADIENT																
MW-5 (Soil) 0-15cm	MW-5	0-15	16	15	5	<1	<10	23	23	9	<0.04	<0.1	<12	<10	<10	ND
MW-5 (soil) 40-50cm	MW-5	40-50	12	11	4	<1	<10	17	17	6	<0.04	<0.1	<12	<10	<10	ND
F4-1 (Soil) 0-15cm	F4-1	0-15	20	18	5	<1	12	36	32	16.8	<0.04	<0.1	<12	20	30	50
F4-1 (Soil) 40-50cm	F4-1	40-50	16	15	4	<1	<10	28	25	14.2	<0.04	<0.1	<12	130	40	170
HELIPAD LANDFILL - WEST DOWNGRADIENT																
MW-1(Soil)0-15cm	MW-1	0-15	15	13	4	<1	<10	33	26	**81.4**	<0.04	<0.1	<12	<10	20	20
MW-1(Soil) 40-50cm	MW-1	40-50	20	18	5	<1	<10	30	31	9.3	<0.04	<0.1	<12	20	50	70
MW-2(Soil)0-15cm	MW-2	0-15	12	13	4	<1	<10	24	26	12.8	<0.04	<0.1	<12	90	70	160
MW-2(Soil)40-50cm	MW-2	40-50	21	21	6	<1	<10	32	33	11.5	<0.04	<0.1	60	920	60	1040
F4-17(Soil) 0-15cm	F4-17	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	<12	10	10	20
F4-17(Soil) 40-45cm	F4-17	40-45	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	<12	10	<10	10
F4-18(Soil) 0-15cm	F4-18	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	<12	140	420	560
F4-18(Soil) 40-50cm	F4-18	40-50	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	97	420	50	567
F4-19(Soil)0-15cm	F4-19	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	<12	1670	430	2100
F4- 19(Soil)40-45cm	F4-19	40-45	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	66	2560	650	3276
F4-20(Soil) 0-15cm	F4-20	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	<12	360	390	750
F4-20(Soil)30-40cm	F4-20	30-40	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	96	6940	420	7456
HELIPAD LANDFILL - WEST UPGRADIENT																
MW-6(Soil)0-15 cm	MW-6	0-15	**21**	17	5	<1	<10	30	34	13	<0.04	ND	<12	310	200	510
MW-6(Soil)40-50cm	MW-6	40-50	13	12	3	<1	<10	23	21	9.6	<0.04	ND	<12	60	70	130

Notes

NV = No Value

ND = Non Detectable

<0.1 = Detection limit higher than that set in the TOR Annex B.

3.8 Groundwater Sample Analytical Data

The groundwater sample results for the Helipad landfill showed significant concentration of Zn (1.39 mg/L) for MW-5 located downgradient at Helipad landfill East. The Cr concentration in the same groundwater sample was 1.5 fold higher compared to the upgradient samples collected from the same landfill and 4-fold higher compared to the groundwater collected from Helipad Landfill West. The concentration of Cu in the groundwater from MW-2 located downgradient at Helipad landfill West was relatively higher (8 to 10-fold higher) than the other groundwater samples collected from the Helipad landfills. The concentrations of other metals and mercury were either low or non-detect in the groundwater samples. The concentration of PCB was non-detect in all the groundwater samples. The concentration of TPH was non-detect in all groundwater with the exception of MW-2, where the TPH concentration was measured to be 0.959 mg/L.

The groundwater sample analytical data is included in the following page as Table 3-7.

Table 3-7: Summary of 2006 Groundwater Analytical - Helipad Lanfills East and West

Sample #	Location	Groundwater Elevation (masl)	Cu [mg/L]	Ni [mg/L]	Co [mg/L]	Cd [mg/L]	Pb [mg/L]	Zn [mg/L]	Cr [mg/L]	As [mg/L]	Hg [mg/L]	PCBs [ug/L]	F1 C_6-C_{10} [ug/L]	F2 C_{10}-C_{16} [mg/L]	F3 C_{16}-C_{34} [mg/L]	TPH C_6-C_{34} [mg/L]
HELIPAD LANDFILL - EAST UPGRADIENT																
MW-3	MW-3	-	0.013	0.04	0.002	<0.001	0.02	0.99	0.028	0.001	<0.0002	<0.1	<25	<0.1	<0.1	<0.1
MW-4	MW-4	-	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
HELIPAD LANDFILL - EAST DOWNGRADIENT																
MW-5	MW-5	-	0.012	0.05	0.003	<0.001	0.03	**1.39**	**0.043**	0.002	<0.0002	<0.1	<25	<0.1	<0.1	<0.1
HELIPAD LANDFILL - WEST DOWNGRADIENT																
MW-1	MW-1	-	0.009	0.03	0.007	<0.001	0.01	0.47	0.009	0.002	<0.0002	<0.1	<25	<0.1	<0.1	<0.1
MW-2	MW-2	-	**0.098**	0.01	0.01	<0.001	0.01	0.58	0.009	0.014	<0.0002	<0.1	**159**	0.8	<0.1	**0.959**
HELIPAD LANDFILL - WEST UPGRADIENT																
MW-6	MW-6	-	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV

Notes

NV = No Value

ND = Non - Detectable

3.9 Monitoring Well Sampling Logs

The groundwater monitoring well sampling logs are included in the following pages as Table 3-8 to 3-13.

Table 3-8: Monitoring Well Sampling Log MW 1 - Helipad Landfills East and West

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	21/08/2006	Time:	6:37
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Helipad Landfill West		
Monitoring Well ID:	MW-1		
Well Sampling Event:	2006	Sample Number:	MW-1
Condition of Well:	Good	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	11000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	8		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	31.2	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	23.2	from ground surface	
Depth to bottom (cm):	149	Evidence of sludge etc:	No
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.51		
Conductivity (mS/cm) :	24.9		
Temperature (^{o}C):	2.1		
Depth of water (cm):	118.2		
Well volume of water (mL):	2320		
Length screen collecting water:			
Shape factor:			

Table 3-9: Monitoring Well Sampling Log MW 2 - Helipad Landfills East and West

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	21/08/2006	Time:	5:20
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Helipad Landfill West		
Monitoring Well ID:	MW-2		
Well Sampling Event:	2006	Sample Number:	MW-2
Condition of Well:	Good	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	8000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	6		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	59.2	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	53.2	from ground surface	
Depth to bottom (cm):	174	Evidence of sludge etc:	No
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	5.93		
Conductivity (mS/cm) :	49.7	Remarks:	Bailer was stuck in the well It was removed before monitoring.
Temperature (^{O}C):	1.7		
Depth of water (cm):	115.2		
Well volume of water (mL):	2260		
Length screen collecting water:			
Shape factor:			

Table 3-10: Monitoring Well Sampling Log MW 3 - Helipad Landfills East and West

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	22/08/2006	Time:	12:40
Names of Samplers:	T.P. + R. W.		
Landfill Name:	Helipad East		
Monitoring Well ID:	MW-3		
Well Sampling Event:	2006	Sample Number:	MW-3
Condition of Well:	Bailer was stuck in the well at 1.25 m below top of pipe. Tried to pull it out but failed. However there was enough water to do the water quality parameters and sample for groundwater analysis.	Procedure/Equipment:	
Volume Purged Water (mL):	1500	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	No
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	8*		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	104	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	99	from ground surface	
Depth to top of bailer (cm):	125	Evidence of sludge etc:	
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.53		
Conductivity (mS/cm) :	25.2		
Temperature (^{o}C):	2		
Depth of water (cm):	21		
Well volume of water (mL):	412		
Length screen collecting water:			
Shape factor:			

Note:

* The well height above ground is higher than that provided in the TOR. This is due to the reason that the well casing was possibly lifted up to remove bentonite and make room for the casing by the field personnel during the previous monitoring in 2005.

Table 3-11: Monitoring Well Sampling Log MW 4 - Helipad Landfills East and West

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	22-08-2006	Time:	
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Helipad East		
Monitoring Well ID:	MW-4		
Well Sampling Event:	2006	Sample Number:	-
Condition of Well:	Bailer stuck in the well. Top of bailer at 1.44 m from top of pipe, Water level estimated at 1.37 m. Not able to remove bailer, bentonite has filled the well	Procedure/Equipment:	-
Volume Purged Water (mL):	-	Purging (Y/N):	-
Sampling Equipment:	-		
Filtration (Y/N):	-	Acidification (Y/N):	-
Decontamination required (Y/N):	-	Number washes and rinses:	-

Measured Data

Well height above ground (cm):	10		
Diameter of well (cm):	5		
Depth of installation (cm):	-	from ground surface	
Length screened section (cm):	-		
Depth to top of screen (cm):	-	from ground surface	
Depth to water surface (cm):	-	Method (electric meter, steel tape, etc):	
(from top of pipe)	-		
Static water level (cm):	-	from ground surface	
Depth to bottom (cm):	-	Evidence of sludge etc:	
		Evidence of freezing/siltation:	Freezing prob.
		(compare to installation record)	
Free product thickness (mm):	-	Method (electric meter, steel tape, etc):	
pH:	-		
Conductivity (µS/cm) :	-		
Temperature (^{o}C):	-		
Depth of water (cm):	-		
Well volume of water (mL):	-		
Length screen collecting water:	-		
Shape factor:	-		

Table 3-12: Monitoring Well Sampling Log MW 5 - Helipad Landfills East and West

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	22/08/2006	Time:	2:06
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Helipad Landfill west		
Monitoring Well ID:	MW-5		
Well Sampling Event:	2006	Sample Number:	MW-5
Condition of Well:	Obstructed by bailer, but managed to purge and sample the well water.	Procedure/Equipment:	
Volume Purged Water (mL):	1500	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	8		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	95.5	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	87.5	from ground surface	
Depth to top of bailer (cm):	121	Evidence of sludge etc:	
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.48		
Conductivity (mS/cm) :	24.4		
Temperature (^{o}C):	2.5		
Depth of water (cm):	25.5		
Well volume of water (mL):	127		
Length screen collecting water:			
Shape factor:			

Table 3-13: Monitoring Well Sampling Log MW 6 - Helipad Landfills East and West

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	21/08/2006 + 22/08/2006	Time:	
Names of Samplers:	D.L		
Landfill Name:	Helipad Landfill west		
Monitoring Well ID:	MW-6		
Well Sampling Event:	2006	Sample Number:	
Condition of Well:	Bailer is stuck in the well at 0.37 m below top of the pipe. Succeeded in pushing the bailer down to 0.6 m below top of the pipe. Retrived half a bailer in pieces.	Procedure/Equipment:	
Volume Purged Water (mL):	0	Purging (Y/N):	
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	
Decontamination required (Y/N):	N	Number washes and rinses:	

Measured Data

Well height above ground (cm):	7		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):		Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	93	from ground surface	
Depth to bottom (cm):	163	Evidence of sludge etc:	
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):		Method (electric meter, steel tape, etc):	Interface Probe
pH:			
Conductivity (µS/cm) :			
Temperature (^{o}C):			
Depth of water (cm):			
Well volume of water (mL):			
Length screen collecting water:			
Shape factor:			

Note:

* The well height above ground is higher than that provided in the TOR. This is due to the reason that the well casing was possibly lifted up to remove bentonite and make room for the casing by the field personnel during the previous monitoring in 2005.

4.0 BARREL DUMP LANDFILL

4.1 Summary

The Barrel Dump Landfill is a small landfill located at the Upper Site, north-west of SRR facilities and Helipad Landfills East and West. It covers an area of approximately 200 m^2.

The monitoring of the Barrel Dump Landfill included visual inspection to monitor evidence of settlement or erosion, and collection of soil samples to monitor for the presence of leachate. Surface and subsurface samples were analyzed for all parameters (total metals, PCBs and TPH) or TPH only as specified by DCC. Soil sample locations are identified in Figure 3 FOX-4 Cape Hooper – Barrel Dump Landfill. There are no monitoring wells in this area.

The soil analytical data is presented in Tables 4-4. Soil at all stations was sampled as specified in the Terms of Reference.

The visual inspection report, including supporting photos and drawing, is presented in the following pages.

4.2 Visual Inspection Report

The visual inspection of the Barrel Dump landfill was conducted on August 25, 2006. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material containing boulders and cobbles. The boulder and cobble material is generally angular, and the gravel and sand particles are generally well rounded.

<u>Settlement</u>

Indications of consolidation or differential settlement were not noted.

<u>Erosion</u>

Erosion along the slope of the west edge of the landfill appears to be active. The material present at the surface of the west slope is intermixed colluvium and gravel. The slope may be more susceptible to erosion as these materials appear to be at their maximum angle of repose. The erosion has exposed debris along the west slope.

<u>Frost Action</u>

No frost action was observed in the surface or subsurface soil at the Barrel Dump Landfill during the 2006 sampling program.

<u>Evidence of Burrowing Animals</u>

Indications of burrowing animals were not noted.

Re-establishment of Vegetation

Based on the regional setting of this landfill, re-establishment of vegetation is not likely.

Staining

The stained areas, designated ST3-1 and ST3-2 are presented in Figure 3 FOX-4 Cape Hooper – Barrel Dump Landfill. There is staining occurring at the top of the landfill, ST3-1 and on the west slope of the landfill. The staining is associated with seepage and ponding of water. Area ST3-2 was not noted during the 2005 landfill assessment.

Seepage Points

Ponding of water is occurring at the top of the landfill and seepage from the landfill occurring on the west slope of the landfill. The seepage and ponding are coincident with the observed staining.

Debris

Debris is visible on the top of the landfill and on the west slope of the landfill.

Discussion

The west slope of the landfill appears to be at its maximum angle of repose and erosion of these materials appears to be occurring. Debris is visible on the west slope and at the top of the landfill. Re-contouring or retaining the slope is one method that can be used to help reduce erosion and debris exposure. Based on the erosion of the west slope and the fact that the west slope is at its maximum angle of repose, the performance of the landfill with respect to containment was rated as marginal. Visual inspection report, including supporting photos and drawing, is presented in the following pages.

Table 4-1: Visual Inspection Checklist – Inspection Report – Barrel Dump Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST

INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **BARREL DUMP LANDFILL**
LANDFILL DESIGNATION: Landfill, Upper Site, North of SRR
DATE OF INSPECTION: August 25, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	Present Yes/No	Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)	Length	Width	Depth	Extent relative to Area of Landfill (%)	Description	Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale	Additional Comments
Settlement	NO								
Erosion	YES	Erosion appears to be active on the slope located west side of the landfill. E3-1 For locations, refer to Figure 3 FOX-4 Cape Hooper-Barrel Dump.	15 m	15 m	0.2 m		The slope is likely at the maximum angle of repose for a colluvium like material present on the slope.	Photograph: 3J For location and direction of photograph refer to Figure 3 Fox -4 Cape Hooper-Barrel Dump.	Much of erosion is outside the boundaries of the landfill, but the erosion directly impacts the integrity of the landfill.
Frost Action	NO	Frost action was not noted. The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low.							
Sloughing and Cracking									
Animal Burrows	NO								
Vegetation	NO	No vegetation was observed at the upper site. It was noted that the lack of vegetation is consistent with the natural setting.							
Staining	YES	ST3-1 ST3-2 For locations, refer to Figure 3 FOX-4 Cape Hooper-Barrel Dump.	1 m 1 m	0.5 m 0.5 m		<1% <1%	Staining was noted	Photographs:3A, 3B, 3C, 3D, 3F, 3J, 3M, 3N For locations and directions of photograph refer to Figure 3 Fox -4 Cape Hooper-Barrel Dump.	This staining was not noted in the previous 2005 visual inspection report figure.
Vegetation Stress	NO	No vegetation was observed at the upper site.							
Seepage Points	YES	Seepage points coincide with staining locations.					Where there was staining there was an associated seepage point.	Photographs: 3M, 3F For locations and directions of photograph refer to Figure 3 Fox -4 Cape Hooper-Barrel Dump.	
Debris Exposed	YES	Debris is visible at the top of the landfill and on the west slope of the landfill						Photographs: 3A, 3C, 3D, 3E, 3H, 3I, 3J, 3F For locations and directions of photograph refer to Figure 3 Fox -4 Cape Hooper-Barrel Dump Landfill.	
Presence/Condition – Monitoring Instruments	YES	Refer to Figure 3 FOX-4 Cape Hooper-Barrel Dump						For locations and directions of photograph refer to Figure 3 Fox -4 Cape Hooper-Barrel Dump.	
Features of Note.	NO								

4.3 Preliminary Stability Assessment

The Preliminary Stability Assessment for the Barrel Dump Landfill has been completed as per the Terms of Reference and is included as Tables 4-2 of this report.

Table 4-2: Preliminary Stability Assessment – Barrel Dump Landfill

Feature	Severity Rating	Extent
Settlement	Not Observed	None
Erosion	Acceptable	Occasional
Frost Action	Not Observed	None
Staining	Acceptable	Occasional
Vegetation Stress	Acceptable	Occasional
Seepage / Ponded Water	Acceptable	Occasional
Debris Exposure	Marginal	Numerous
Overall Landfill Performance	**Marginal**	

Performance / Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

4.4 Location Plan

The Location Plan for the Barrel Dump Landfill has been completed as per the Terms of Reference and is included in the following page as Figure 3 FOX-4 Cape Hooper – Barrel Dump Landfill.

LEGEND: NOTE: FEATURES IN GREY PREDATE THE 2005 FIELD SEASON

CM1 SURVEY CONTROL MONUMENT
TBM5 TEMPORARY BENCHMARK
MONITORING WELL LOCATION
SOIL SAMPLE
LANDFILL BOUNDARY (APPROXIMATE)

2006 OBSERVATIONS:

ST3-1 STAINS
D DEBRIS
E3-1 EROSION
POOLING
SINKHOLE
D5 5 PHOTOGRAPH LOCATION (INDICATING PHOTO NUMBER, LOCATION, VIEWING DIRECTION)

TEMPORARY BENCHMARKS				
NO.	COORDINATES		ELEV. (m)	DESCRIPTION
	NORTHING	EASTING		
5	9 938.442	10 120.491	388:170	CROSS CUT IN ROCK
7	9 873.107	9 999.103	388.170	NAIL

SURVEY CONTROL MONUMENTS				
NO.	COORDINATES		ELEV. (m)	DESCRIPTION
	NORTHING	EASTING		
CM1	10 000.000	10 000.000	397.575	FOX-4 BASELINE STA. 0+00

MONITORING WELLS		
NO.	COORDINATES	
	NORTHING	EASTING
MW-1	9 839.1	9 997.6
MW-2	9 901.6	9 977.5
MW-3	9 878..9	10 074.0
MW-4	9 930.8	10 040.0
MW-5	9 958.9	10 058.0
MW-6	9 917.3	10 008.5

NOTE:
THE RESURGENCES ARE DRAWN TO APPROXIMATE SHAPES AS THEY ARE HIGHLY IRREGULAR.

RESURGENCES		
NO.	DIMENSIONS (m)	REF PHOTO
R-1	2,5 x 3,0	60A
R-2	2,5 x 4,0	60B
R-3	2,5 x 3,0	60C
R-4	1,5 x 2,0	60D
R-5	1,0 x 3,0	60E

Title:
FOX-4 CAPE HOOPER - BARREL DUMP LANDFILL

Project:
FOX-4 CAPE HOOPER
DEW LINE CLEAN UP
LANDFILL MONITORING PLAN

Date: JANUARY 2007

Client: DEFENCE CONSTRUCTION CANADA

SCALE 1:600
10 5 0 10 20 30
metres

FIGURE 3

Projects\2006\1213-0601 Fox 4 Cape Hooper DEW Line\Figures 2006\Fox4-2-BarrelDumpLandfill.dwg

4.5 Photographic Records

The Photographic Record for the Barrel Dump Landfill has been completed as per the Terms of Reference and is included in the following page as Table 4-3. The Photographic Record only contains an index and “thumbnail” photographs; full sized photographs are contained in the Addendum CD-ROM.

Table 4-3 Photographic Record - Barrel Dump Landfill

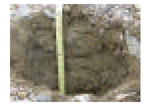
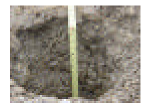
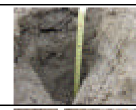
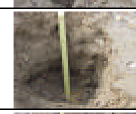
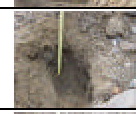
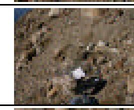
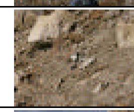
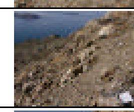
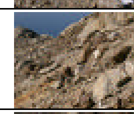
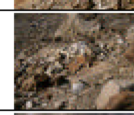
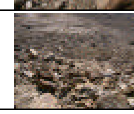
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D3-12	Pic D3-12.jpg 2006-08-23	Soil hole at F4-4. Picture taken facing North. Soil hole depth = 45cm		Figure 3
D3-14	Pic D3-14.jpg 2006-08-23	Soil hole at F4-2. Camera facing North. Depth of hole = 40 cm		Figure 3
D3-15	Pic D3-15.jpg 2006-08-23	Soil hole at F-21. Camera facing East. Depth of hole = 46 cm.		Figure 3
D3-16	Pic D3-16.jpg 2006-08-23	Soil hole at F-4-22. Camera facing North. Depth of hole = 42 cm		Figure 3
D3-17	Pic D3-17.jpg 2006-08-23	Soil hole at F4-3. Camera facing South. Depth of hole = 40 cm		Figure 3
D3-20	Pic D3-20.jpg 2006-08-23	Soil hole at F4-5. Picture facing West. Depth of hole = 40 cm		Figure 3
D3-21	Pic D3-21.jpg 2006-08-23	Soil hole at F4-24. Picture facing North. Depth of hole = 35 cm.		Figure 3
D3-22	Pic D3-22.jpg 2006-08-23	Soil hole at F4-23. Camera facing South. Depth of hole = 42 cm		Figure 3
3A	3A.jpg 2006-08-25	Staining and pooling at South-West side of Barrel Dump at 9,950E 9,975N. Camera facing East.		Figure 3
3B	3B.jpg 2006-08-25	Standing water. The water is staining the soil red. Crushed barrels are visible just North of the standing water. The white card in the right of picture is located at 9,950E 9,975N. Camera facing East.		Figure 3
3C	3C.jpg 2006-08-25	Close up of crushed barrels. Note the adjacent rock staining. The white card located in the bottom right of the picture is located at 9,950E 9,975N. Camera facing East.		Figure 3
3D	3D.jpg 2006-08-25	Standing water and crushed barrels. The water is staining the soil red. The white card located on the left side of the picture is located at 9,955E 9,980N. Camera facing West.		Figure 3
3E	3E.jpg 2006-08-25	Close up of barrel debris at 9,955E 9,975N. Camera facing West.		Figure 3

Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
3F	3F.jpg 2006-08-25	View of standing water. The water is staining the soil red. The white card located right on the picture is located at 9,955E 9,975N. Camera facing West.		Figure 3
3G	3G.jpg 2006-08-25	Overview of same standing water. The water is staining the soil red. The white card in the right of the picture is located at 9,955E 9,980N. Camera facing North.		Figure 3
3H	3H.jpg 2006-08-25	Slope erosion, barrel and metal debris observed at 9,944E 9,980N. Camera facing North.		Figure 3
3I	3I.jpg 2006-08-25	Barrel and metal debris observed at 9,945E 9,975N. Camera facing North.		Figure 3
3J	3J.jpg 2006-08-25	Slope erosion, barrel and metal debris on very steep Western slope at 9,945E 9,975N Camera facing North.		Figure 3
3M	3M.jpg 2006-08-25	Slope erosion and staining on South-West face at 9,945E 9,975N. Camera facing North.		Figure 3
3N	3N.jpg 2006-08-25	Slope erosion and staining on South-West face at 9,945E 9,975N. Camera facing East.		Figure 3
3O	3O.jpg 2006-08-25	Facing down very steep South West slope at 9,940E 9,970N. Camera facing West.		Figure 3

4.6 Thermal Monitoring Data

Not applicable to this landfill area.

4.7 Soil Sample Analytical Data

The concentrations of Cd, Pb and Hg were non-detect in the four soil samples analyzed for total metals. The surface (0-15 cm depth) soil collected downgradient at F4-5 showed nearly 1.5 to 2- fold higher concentrations for Zn compared to the upgradient and other downgradient soil samples. The upgradient surface and subsurface soil samples collected from F4-2 showed relatively high concentrations of As (23.5 to over 24 mg/kg) compared to the other soil samples (10 to <15 mg/kg). The concentrations of other metals were observed to be low in the soil samples.

The PCB concentrations were non-detect in the four soil samples.

TPH concentration for the soil samples collected from four new locations both upstream and downstream were very high, ranging from 1750 mg/kg (F4-22 and F4-23) to 6656 mg/kg (F4-24). Among the other soil samples, F4-2 surface soil sample showed very high TPH concentrations (9513 mg/kg). Among the three hydrocarbon fractions, F2 showed the highest concentrations in the soil samples, followed by F3 and F1. In the downgradient soil samples, the subsurface soil showed consistently higher TPH concentration than the surface soil. The TPH concentration in sample F4-4 was below detection limit at both depths.

The soil sample analytical data is included in the following page as Table 4-4.

Table 4-4: Summary of 2006 Soil Analytical Data - Barrel Dump Landfill

Sample #	Location	Depth (cm)	Cu [mg/kg]	Ni [mg/kg]	Co [mg/kg]	Cd [mg/kg]	Pb [mg/kg]	Zn [mg/kg]	Cr [mg/kg]	As [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1 C_6-C_{10} [mg/kg]	F2 C_{10}-C_{16} [mg/kg]	F3 C_{16}-C_{34} [mg/kg]	TPH C_6-C_{34} [mg/kg]
BARREL DUMP UPGRADIENT																
F4-2 (Soil)0-15cm	F4-2	0-15	20	21	6	<1	<10	30	32	**23.5**	<0.04	<0.1	153	8740	620	9513
F4-2 (Soil)40-50cm	F4-2	40-50	20	23	7	<1	<10	33	37	**24.2**	<0.04	<0.1	436	4880	270	5586
F4-21(Soil)0-15cm	F4-21	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	23	4170	860	5053
F4-21(Soil)40-50cm	F4-21	40-45	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	185	2670	220	3075
BARREL DUMP DOWNGRADIENT																
F4-3 (Soil)0-15cm	F4-3	0-15	29	21	6	<1	<10	31	34	12.6	<0.04	<0.1	<12	1990	670	2660
F4-3 (Soil)40-45cm	F4-3	40-45	25	20	5	<1	<10	26	32	12.2	<0.04	<0.1	139	5220	1100	6320
F4-4 (Soil)0-15cm	F4-4	0-15	24	23	7	<1	<10	32	32	14.8	<0.04	<0.1	<12	<10	<10	<10
F4-4 (Soil)40-45cm	F4-4	40-45	24	23	7	<1	<10	35	34	14.4	<0.04	<0.1	<12	<10	<10	<10
F4-5 (Soil)0-15cm	F4-5	0-15	25	23	8	<1	<10	**73**	33	12.6	<0.04	<0.1	<12	50	160	210
F4-5 (Soil)40-45cm	F4-5	40-45	21	19	5	<1	<10	**48**	27	10	<0.04	<0.1	32	3120	450	3602
F4-22(Soil)0-15cm	F4-22	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	<12	830	920	1750
F4-22(Soil)40-45cm	F4-22	40-45	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	22	1510	520	2052
F4-23(Soil)0-15cm	F4-23	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	<12	1500	250	1750
F4-23(Soil)40-50cm	F4-23	40-50	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	29	2950	270	3249
F4-24(Soil)0-15cm	F4-24	0-15	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	19	2930	1740	4670
F4-24(Soil)30-40cm	F4-24	30-40	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	66	5160	1430	6656

Notes

NV = No Value

ND = Non Detectable

<0.1 = Detection limit higher than that set in the TOR Annex B.

4.8 Groundwater Sample Analytical Data

There are no monitoring wells in the Barrel Dump Landfill area.

4.9 Monitoring Well Sampling Logs

There are no monitoring wells in the Barrel Dump Landfill area.

5.0 STATION AREA LANDFILL

5.1 Summary

The Station Area Landfill is a new landfill constructed for the disposal of demolition and site waste generated during the site clean-up. It is located at the Upper Site, east of the SRR facilities. Its surface area is approximately 1400 m^2.

The monitoring of this landfill includes visual inspection to verify for evidence of settlement or erosion and collection of soil and groundwater samples to monitor for the presence of leachate. Groundwater monitoring well locations, as well as soil sample locations, are identified on Figure 4 FOX-4 Cape Hooper – Station Area Landfill.

The soil and groundwater analytical data are presented in Tables 5-4 and 5-5 respectively. Soil at all stations was sampled as specified. Groundwater from monitoring wells MW-7 and MW-8 were sampled for all parameters, while MW-9 could not be sampled due to the obstruction of a bailer in the well and the lack of water on the top of bailer. Bentonite was observed to have covered the space within the well casings on the top in wells MW-7 and MW-9.

The visual inspection report, including supporting photos and drawings, is presented in the following pages.

5.2 Visual Inspection Report

The visual inspection of the Station Area landfill was conducted on August 22, 2006. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material with trace cobbles.

Settlement

Sinkholes were observed on the top of the landfill and to the west of the landfill. It is believed that these sinkholes are a combination of settlement and piping. The material at the surface is being washed into voids beneath the surface. The location of these sinkholes is presented in Figure 4 FOX-4 Cape Hooper – Station Area Landfill.

Erosion

Erosion of the capping material was not noted.

Frost Action

The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low.

Evidence of Burrowing Animals

Indications of burrowing animals were not noted.

Re-establishment of Vegetation

Based on the regional setting of this landfill reestablishment of vegetation is not likely.

Staining

The stained areas, designated ST1-1 to ST1-6, are presented on Figure 4 FOX-4 Cape Hooper – Station Area Landfill. Areas of staining appeared to have increased significantly since the 2005 landfill visual inspection. Staining appears to have increased both in terms of total number of stained areas as well as the extent of the stained areas. The staining appears reddish in color and is sometimes associated with a noticeable iridescent sheen.

Seepage Points

The number of seepage points also appears to have increased since the previous landfill visual inspection.

Debris

Exposed debris was not noted.

Discussion

The Station Area Landfill performance with respect to containment of the debris within the landfill is rated as acceptable. Visual inspection report, including supporting photos and drawing, is presented in the following pages.

Table 5-1: Visual Inspection Checklist – Inspection Report – Station Area Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST

INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **STATION AREA LANDFILL**
LANDFILL DESIGNATION: Landfill, Upper Site, South of SRR
DATE OF INSPECTION: August 22, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	Present Yes/No	Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)	Length	Width	Depth	Extent relative to Area of Landfill (%)	Description	Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale	Additional Comments
Settlement	YES	Sinkholes and settlement were noted in fill material and material down gradient of the landfill on the west portion of the landfill. For locations refer to Figure 4 Fox -4 Cape Hooper-Station Area.	2m .75m	0.5 m .5m	1% <1%			Photographs: 4A, 4B, 4M, 4N. For locations and directions of photograph refer to Figure 4 Fox -4 Cape Hooper-Station Area.	
Erosion	NO								
Frost Action	NO	Frost action was not noted. The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low.							
Sloughing and Cracking	NO								
Animal Burrows	NO								
Vegetation	NO	No vegetation was observed at the upper site. It was noted that the lack of vegetation is consistent with the natural setting.							
Staining	YES	ST4-1 ST4-2 ST4-3 ST4-4 ST4-5 ST4-6 For locations refer to Figure 4 Fox -4 Cape Hooper-Station Area.	50 m 18 m 30 m 25 m 20 m 55 m	12 m 8 m 12 m 8 m 12 m 1 m	43% 9% 26% 14% 17% 4%		Staining from seepage was noted and the affected area appears to have increased significantly from the previous year (2005).	Photographs: 4C, 4D, 4E, 4G, 4H, 4I, 4J For locations and directions of photograph refer to Figure 4 Fox -4 Cape Hooper-Station Area.	
Vegetation Stress	NO	No vegetation was observed at the upper site.							
Seepage Points	YES	Seepage points coincide with staining locations.					Where there was staining there was an associated seepage point.	Photographs: 4C, 4D, 4E, 4G, 4H, 4I, 4J For locations and directions of photograph refer to Figure 4 Fox -4 Cape Hooper-Station Area.	
Debris Exposed	NO								
Presence/Condition – Monitoring Instruments	YES	Refer to Figure 4 Fox-4Cape Hooper – Station Area							
Features of Note.	YES	In the pond north of the landfill							Debris is visible in the pond area north of the landfill

5.3 Preliminary Stability Assessment

The Preliminary Stability Assessment for the Station Area Landfill has been completed as per the Terms of Reference and is included as Tables 5-2 of this report.

Table 5-2: Preliminary Stability Assessment – Station Area Landfill

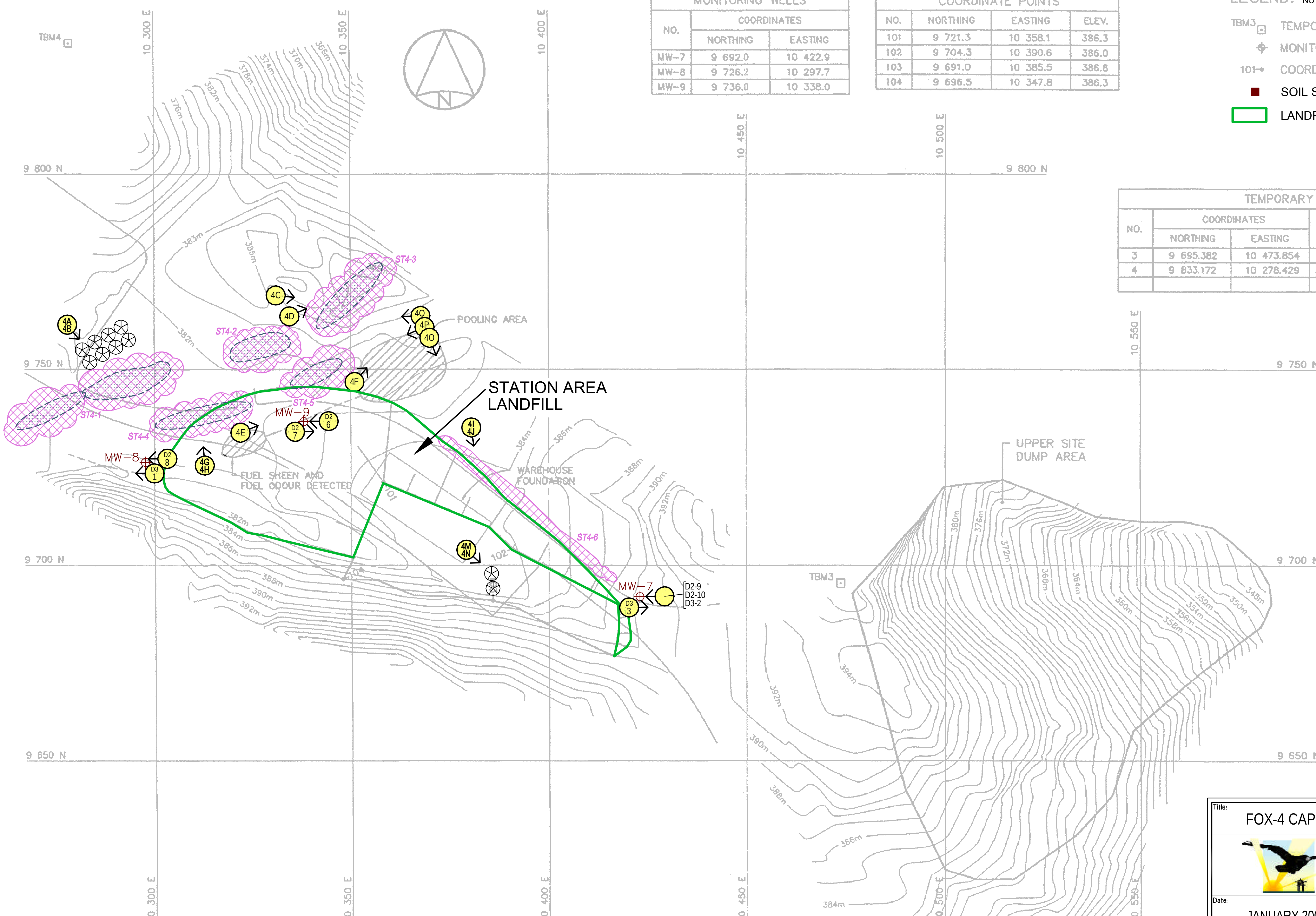
Feature	**Severity Rating**	**Extent**
Settlement	Acceptable	Isolated
Erosion	Acceptable	Isolated
Frost Action	Not Observed	None
Staining	Acceptable	Numerous
Vegetation Stress	Not Observed	None
Seepage / Ponded Water	Acceptable	Numerous
Debris Exposure	Acceptable	Isolated
Overall Landfill Performance	**Acceptable**	

Performance / Severity Rating	**Description**
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

Extent	**Description**
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

5.4 Location Plan

The Location Plan for the Station Area Landfill has been completed as per the Terms of Reference and is included in the following page as Figure 4 FOX-4 Cape Hooper – Station Area Landfill.



MONITORING WELLS

NO.	COORDINATES	
	NORTHING	EASTING
MW-7	9 692.0	10 422.9
MW-8	9 726.2	10 297.7
MW-9	9 736.0	10 338.0

COORDINATE POINTS

NO.	NORTHING	EASTING	ELEV.
101	9 721.3	10 358.1	386.3
102	9 704.3	10 390.6	386.0
103	9 691.0	10 385.5	386.8
104	9 696.5	10 347.8	386.3

LEGEND:

NOTE: FEATURES IN GREY PREDATE THE 2005 FIELD SEASON

- TBM3 TEMPORARY BENCHMARK
- MONITORING WELL LOCATION
- 101 COORDINATE POINT
- SOIL SAMPLE
- LANDFILL BOUNDARY (APPROXIMATE)

TEMPORARY BENCHMARKS

NO.	COORDINATES		ELEV. (m)	DESCRIPTION
	NORTHING	EASTING		
3	9 695.382	10 473.854	398.519	CROSS CUT IN ROCK
4	9 833.172	10 278.429	394.655	CROSS CUT IN ROCK

2006 OBSERVATIONS:

- ST4-1 STAINS
- D DEBRIS
- EROSION
- POOLING
- SINKHOLE
- PHOTOGRAPH LOCATION (INDICATING PHOTO NUMBER, LOCATION, VIEWING DIRECTION)

Title: FOX-4 CAPE HOOPER - STATION AREA LANDFILL	
	Project: FOX-4 CAPE HOOPER DEW LINE CLEAN UP LANDFILL MONITORING PLAN
Date: JANUARY 2007	Client: DEFENCE CONSTRUCTION CANADA
SCALE 1:1000 (metres)	FIGURE 4

Projects\2006\1213-0601 Fox 4 Cape Hooper DEW Line\Figures 2006\Fox4-3-StationAreaLandfill.dwg

5.5 Photographic Records

The Photographic Record for the Station Area Landfill has been completed as per the Terms of Reference and is included in the following page as Table 5-3. The Photographic Record only contains an index and "thumbnail" photographs; full sized photographs are contained in the Addendum CD-ROM.

Table 5-3 Photographic Record - Station Area Landfill

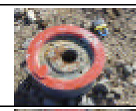
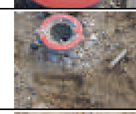
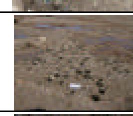
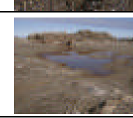
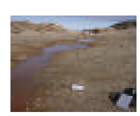
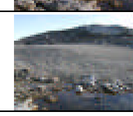
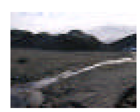
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D2-6	Pic D2-6.jpg 2006-08-22	Boiler in well stuck at 0.8 m. Some obstruction (ice) at 0.8m likely. No water on top. Picture taken facing west.		Figure 4
D2-7	Pic D2-7.jpg 2006-08-22	Soil sample from a hole 3.5 m from MW-9, SE of well. Depth = 50 cm. Picture facing east. Soil samples collected.		Figure 4
D2-8	Pic D2-8.jpg 2006-08-22	Showing monitoring well MW-8. Facing west.		Figure 4
D2-9	Pic D2-9.jpg 2006-08-22	Monitoring well MW-7, facing west. Bentonite on top.		Figure 4
D2-10	Pic D2-10.jpg 2006-08-22	After cleaning Bentonite, J-Plug and lock installed.		Figure 4
D3-1	Pic D3-1.jpg 2006-08-23	Soil hole 50 cm deep, about 2 m west of monitoring well MW-8. Camera facing west.		Figure 4
D3-2	Pic D3-2.jpg 2006-08-23	Monitoring well MW-7 after Bentonite has been removed and a J-Plug and lock have been installed in the well.		Figure 4
D3-3	Pic D3-3.jpg 2006-08-23	Soil hole 35 cm deep at monitoring well MW-7, approximately 2.5 m away (SW). Camera facing west.		Figure 4
4A	4A.jpg 2006-08-22	Subsidence at 10,290E 9,750N. White card is 21cm by 20cm. Camera facing South.		Figure 4
4B	4B.jpg 2006-08-22	Close up of information card at 10,290E 9,750N. White card is 21cm by 28cm. Camera facing North.		Figure 4
4C	4C.jpg 2006-08-22	Standing water. The water is staining soil red and sheens are visible in the water. White card in the left of the picture is located at 10,325E 9,750N. Camera facing South-East.		Figure 4
4D	4D.jpg 2006-08-22	Close up view of standing water. The water is staining soil red and sheens are visible in the standing water. White card in the left of the picture is 21cm by 28cm and is located at 10,330E 9,750N, facing South-East.		Figure 4
4E	4E.jpg 2006-08-22	View of same standing water but white card is located at 10,290E 9,740N. the water is staining soil red and sheens are visible in the water. White card is 21cm by 28cm. Camera facing East.		Figure 4

Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
4F	4F.jpg 2006-08-22	View of same standing water but further upstream, white card is located at 10,360E 9,740N. The water is staining soil red and sheens are visible in the water. White card is 21cm by 28cm. Camera facing East.		Figure 4
4G	4G.jpg 2006-08-22	Seepage, soil staining and sheen on water at 10,325E 9,720N. White card in center is 21cm by 28cm. Camera facing North.		Figure 4
4H	4H.jpg 2006-08-22	Close up view of seepage, soil staining and sheen on water at 10,325E 9,720N. White card is 21cm by 28cm. Camera is facing North.		Figure 4
4I	4I.jpg 2006-08-22	Water runoff and overland drainage feature at 10,380E 9,725N. White card right of center is 21cm by 28cm. Camera facing South.		Figure 4
4J	4J.jpg 2006-08-22	Close up view of reddish soil staining, water runoff and overland drainage feature at 10,380E 9,725N. White card is 21cm by 28cm. Camera facing South.		Figure 4
4M	4M.jpg 2006-08-22	View of subsidence at 10,380E 9,690N. Camera facing South.		Figure 4
4N	4N.jpg 2006-08-22	Close up view of subsidence at 10,380E 9,690N. Camera facing South.		Figure 4
4O	4O.jpg 2006-08-22	Wide angle view of the landfill soil capping layer, eastern portion. Camera facing South.		Figure 4
4P	4P.jpg 2006-08-22	Wide angle view of the landfill capping layer, North Western portion. Camera facing South-West.		Figure 4
4Q	4Q.jpg 2006-08-22	Wide angle view of the landfill down gradient portion. Standing water is located on the downgradient portion of the landfill. Reddish staining and sheens were visible in photos 3C to3H. Camera facing East.		Figure 4

5.6 Thermal Monitoring Data

Not applicable for this landfill area.

5.7 Soil Sample Analytical Data

The concentrations of Cd, Pb and Hg in the soil samples collected in the vicinity of the existing monitoring wells were under the detection limit. Arsenic concentration in the downgradient surface soil collected near MW-9 was measured to be 6-fold higher than the concentrations in the upgradient soil samples. The concentrations of other metals were measured to be low in the upgradient and downgradient soil samples.

The concentration of PCBs were non-detect in all soil samples.

The TPH concentrations in the soil samples ranged from non-detect to 230 mg/kg. The fraction F1 was non-detect, while F2 was either non-detect or very low in all soil samples. The F3 fraction was detected in all soil samples with the exception of MW-9. Due to the small number of soil samples, no systematic trend could be observed at this landfill.

The soil sample analytical data is included in the following page as Table 5-4.

Table 5-4: Summary of 2006 Soil Analytical Data - Station Area Landfill

Sample #	Location	Depth (cm)	Cu [mg/kg]	Ni [mg/kg]	Co [mg/kg]	Cd [mg/kg]	Pb [mg/kg]	Zn [mg/kg]	Cr [mg/kg]	As [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1 C_6-C_{10} [mg/kg]	F2 C_{10}-C_{16} [mg/kg]	F3 C_{16}-C_{34} [mg/kg]	TPH C_6-C_{34} [mg/kg]
UPGRADIENT																
MW-7 (Soil) 0-15 cm	MW-7	0-15	11	10	3	<1	< 10	20	20	11.2	< 0.04	<0.1	<12	<10	30	30
MW- 7 (Soil) 40-50 cm	MW-7	40-50	18	14	4	<1	< 10	24	28	13.2	< 0.04	<0.1	<12	<10	230	230
DOWNGRADIENT																
MW-8 (Soil) 0-15 cm	MW-8	0-15	13	10	3	<1	< 10	20	19	10.4	< 0.04	<0.1	<12	10	150	160
MW-8 (Soil) 40-50 cm	MW-8	40-50	15	12	3	<1	< 10	20	21	11.4	< 0.04	<0.1	<12	<10	30	30
MW-9 (Soil) 0-15 cm	MW-9	0-15	11	10	3	<1	< 10	20	22	**61.1**	< 0.04	<0.1	<12	10	<10	10
MW-9 (Soil) 40-45 cm	MW-9	40-45	10	10	3	<1	< 10	18	22	25.2	< 0.04	<0.1	<12	<10	<10	<10

Notes

NV = No value

ND = Non - Detectable

<0.1 = Detection limit higher than that set in the TOR Annex B.

5.8 Groundwater Sample Analytical Data

As reported previously, groundwater could not be sampled from monitoring well MW-9. The monitoring wells MW-7 and MW-8 were sampled for total metals, PCBs and TPH. Total Hg concentrations were below detection limit in the two groundwater samples. The downgradient groundwater sample collected from MW-8 showed high concentration of zinc compared to the upgradient groundwater (MW-7). The concentrations of Cu, Ni, Co and Pb were higher in the upgradient groundwater sample collected from MW-7 by a factor of 2 or more compared to the downgradient groundwater.

The concentrations of PCBs and TPH were non-detect in the groundwater samples.

The groundwater sample analytical data is included in the following page as Table 5-5.

Table 5-5: Summary of 2006 Groundwater Analytical - Station Area Landfill

Sample #	Location	Groundwater Elevation (masl)	Cu [mg/L]	Ni [mg/L]	Co [mg/L]	Cd [mg/L]	Pb [mg/L]	Zn [mg/L]	Cr [mg/L]	As [mg/L]	Hg [mg/L]	PCBs [mg/L]	F1	F2	F3	TPH
													C_6-C_{10} [ug/L]	C_{10}-C_{16} [mg/L]	C_{16}-C_{34} [mg/L]	C_6-C_{34} [mg/L]
Station Area Landfill Upgradient																
MW-7	MW-7	-	0.019	0.100	0.022	0.001	0.020	**1.12**	0.014	0.002	<0.0002	<0.1	<25	<0.1	<0.1	<0.1
Station Area Landfill Downgradient																
MW-8	MW-8	-	0.008	0.030	0.009	0.001	0.010	**2.49**	0.015	0.003	<0.0002	<0.1	<25	<0.1	<0.1	<0.1
MW-9	MW-9	-	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV

Notes

NV = No Value

ND = Non - Detectable

5.9 Monitoring Well Sampling Logs

The groundwater monitoring well sampling logs are included in the following pages as Table 5-6 to 5-8.

Table 5-6: Monitoring Well Sampling Log MW 7 - Station Area Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	22-08-2006	Time:	5:28
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Station Area Landfill		
Monitoring Well ID:	MW-7		
Well Sampling Event:	2006	Sample Number:	MW-7
Condition of Well:	MW-7's flush mount metal casing was cleared of bentonite.	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	5000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	NA
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	1		
Diameter of well (cm):	5		
Depth of installation (cm):	-	from ground surface	
Length screened section (cm):	-		
Depth to top of screen (cm):	-	from ground surface	
Depth to water surface (cm):	109	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)	-		
Static water level (cm):	108	from ground surface	
Depth to bottom (cm):	187	Evidence of sludge etc:	Bentonite in metal well casing.
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.42		
Conductivity (mS/cm) :	9.4		
Temperature (^{O}C):	2.7		
Depth of water (cm):	78		
Well volume of water (mL):	1530		
Length screen collecting water:	-		
Shape factor:	-		

Table 5-7: Monitoring Well Sampling Log MW 8 - Station Area Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	22/08/2006	Time:	4:40
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Station Area Landfil		
Monitoring Well ID:	MW-8		
Well Sampling Event:	2006	Sample Number:	MW-8
Condition of Well:	Good	Procedure/Equipment:	
Volume Purged Water (mL):	4000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	3		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	107	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	104	from ground surface	
Depth to bottom (cm):	127	Evidence of sludge etc:	
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.51		
Conductivity (mS/cm) :	13.8		
Temperature (^{o}C):	1.1		
Depth of water (cm):	20		
Well volume of water (mL):	400		
Length screen collecting water:			
Shape factor:			

Table 5-8: Monitoring Well Sampling Log MW 9 - Station Area Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	22/08/2006	Time:	
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Station Area Landfil		
Monitoring Well ID:	MW-9		
Well Sampling Event:	2006	Sample Number:	-
Condition of Well:	Bailer stuck in well, bentonite has filled the bailer and could not be removed from the well.	Procedure/Equipment:	-
Volume Purged Water (mL):		Purging (Y/N):	-
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	-
Decontamination required (Y/N):	N	Number washes and rinses:	-

Measured Data

Well height above ground (cm):	3		
Diameter of well (cm):	5		
Depth of installation (cm):	-	from ground surface	-
Length screened section (cm):	-		
Depth to top of screen (cm):	-	from ground surface	-
Depth to water surface (cm):	91	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)	-		
Static water level (cm):	104	from ground surface	-
Depth to bottom (cm):	128	Evidence of sludge etc:	Bentonite in well
		Evidence of freezing/siltation:	-
		(compare to installation record)	-
Free product thickness (mm):	-	Method (electric meter, steel tape, etc):	Interface Probe
pH:	-		
Conductivity (µS/cm) :	-		
Temperature (^{O}C):	-		
Depth of water (cm):	-		
Well volume of water (mL):	-		
Length screen collecting water:	-		
Shape factor:	-		

Note:

* The well height above ground is lower than that provided in the TOR. This is possibly due to the re-adjustment of the well-casing by the field personnel during the previous monitoring in 2005.

6.0 LOWER SITE LANDFILL AND DCC TIER II SOIL DISPOSAL AREA

6.1 Summary

The Lower Site Landfill and DCC Tier II Soil Disposal Area are located near the west end of Cape Hooper and north of the airstrip, in relatively close proximity to one another.

The Lower Site Landfill was constructed for the disposal of non-hazardous demolition and site waste and Tier I soil. It covers an area of approximately 1200 m^2.

The monitoring of this landfill site includes visual inspection to verify for evidence of settlement or erosion and collection of soil and groundwater samples to monitor for the presence of leachate. Groundwater monitoring well and soil sampling locations are identified in Figure 5 FOX-4 Cape Hooper – DCC Tier II Soil Disposal and Lower Site Landfill.

The DCC Tier II Soil Disposal facility was constructed for the disposal of DCC Tier II soil excavated from the FOX-4 site. The disposal facility has a surface area of approximately 3600 m^2.

The monitoring of this disposal area includes visual inspection to verify for evidence of settlement or erosion, collection of soil and groundwater samples to monitor for the presence of leachate. Monitoring of sub-surface ground temperatures in the disposal facility's main body (thermal monitoring) was also included in the 2006 field program. Groundwater monitoring well locations, as well as soil sample locations and thermistor locations are identified on Figure 5 FOX-4 Cape Hooper – DCC Tier II Soil Disposal and Lower Site Landfill.

The soil and groundwater analytical data are presented in Tables 6-18 and 6-19 respectively. Surface and subsurface soil samples were collected at all stations. Groundwater was collected from all the monitoring wells (MW-10 to MW-16) except MW-11 and analyzed for all parameters. All the wells in these landfills were either filled by bentonite and/or had bailers stuck in the well. However there was sufficient groundwater on top of the stuck bailers to purge and sample the wells, with the exception of MW-11.

The visual inspection report, including supporting photos and drawings, is presented in the following pages.

6.2 Visual Inspection Report

6.2.1 Lower Site Landfill

The visual inspection of the Lower Site Landfill was conducted on August 24, 2006. The landfill surface is at the same elevation as the surrounding ground elevation. The groundwater levels in this area were noted to be 0.3 m to 0.4 m below ground surface. It was inferred that the debris contained within the Lower Site Landfill may be saturated during the period of maximum ground thaw. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material with trace cobbles.

Settlement

Sinkholes and surface ground cracks were observed on the north portion of the landfill. It is believed that these sinkholes are a combination of settlement and piping. The material at the surface is being washed into voids beneath the surface. The location of these sinkholes is presented in Figure 5 FOX-4 Cape Hooper – DCC Tier II Soil Disposal and Lower Site Landfill.

Erosion

Erosion of the capping material was not noted.

Frost Action

The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low, however the presence of near surface groundwater may indicate that there is sufficient containment of the water due to a lower confining layer and that free draining materials may be frost susceptible.

Evidence of Burrowing Animals

Indications of burrowing animals were not noted in the landfill however arctic hares and foxes were observed in the area.

Re-establishment of Vegetation

Re-establishment of vegetation was not noted.

Staining

The stained areas, designated ST5-1 to ST5-3, are presented on Figure 5 FOX-4 Cape Hooper – DCC Tier II Soil Disposal and Lower Site Landfill. Areas of staining appeared to have increased since the 2005 landfill visual inspection. The special extent of the staining appears to have increased. The staining appears reddish in color and is sometimes associated with a noticeable iridescent sheen.

Seepage Points

The number of seepage points also appears to have increased since the previous landfill visual inspection and are coincident with the areas of staining.

Debris

Exposed debris was not noted.

Discussion

The Lower Site Landfill performance with respect to containment of the debris within the landfill is rated as acceptable.

6.2.2 DCC Tier II Landfill

The visual inspection of the DCC Tier II landfill was conducted on August 24, 2006. The landfill surface is elevated above the surrounding ground elevation. The groundwater levels in this area were noted to be 0.3 m to 0.4 m below ground surface. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material with trace cobbles.

Settlement

Consolidation settlement of the landfill is somewhat variable and a record of the magnitude of the settlement is visible based on the elevations of the thermistor monitoring stations. It was assumed that the thermistor bases were originally installed flush with the ground surface. Photographs were taken and the relevant settlement photos are referenced in the Visual Inspection Checklist Report.

It is believed that the thermistor stations were originally installed with a flange that was flush with the original grade of the landfill. By comparing the flange height above the existing grade the magnitude of total settlement can be estimated. The record of the flange height above the landfill grade is presented on photos 6Y, 6Z, 6AA, and 6AB. A white card 21cm by 28cm was placed next to the thermistor station to provide a scale. The flange is hard to see in the photos but there is a slight difference in grey color between the steel in ground support base and the PVC protective cover for the thermistor stations. The flange is located where the steel base meets the PVC pipe.

Erosion

Erosion of the capping material was not noted. However based on an anecdotal observation by Adamie Onalik, the round rocks placed on the slopes of the landfill have been displaced down the landfill slope.

Frost Action

The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low, however the presence of near surface groundwater may indicate that there is sufficient containment of the water due to a lower confining layer and that free draining materials may be frost susceptible.

Evidence of Burrowing Animals

Indications of burrowing animals were not noted in the landfill however arctic hares and foxes were observed in the area.

Re-establishment of Vegetation

Re-establishment of vegetation was not noted.

Staining

The stained areas, designated ST6-1 to ST6-6, are presented in Figure 5 FOX-4 Cape Hooper – DCC Tier II Soil Disposal and Lower Site Landfill. Areas of staining appeared to have increased since the 2005 landfill visual inspection. Staining appears to have increased in terms area. The staining appears reddish in color and is sometimes associated with a noticeable iridescent sheen.

Seepage Points

The number of seepage points also appears to have increased since the previous 2005 landfill visual inspection and are coincident with the areas of staining.

Debris

Exposed debris was not noted.

Discussion

The Lower Site Landfill performance with respect to containment of the debris within the landfill is rated as acceptable.

The slopes of the landfill were covered with round rock for erosion protection. This round rock is sliding down the slope. Nearby colluvium (angular rock) is available on site, which would be more effective at minimizing erosion and preventing debris exposure or loss of the insulative soil layer.

Table 6-1: Visual Inspection Checklist – Inspection Report – Lower Site Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **LOWER SITE LANDFILL**
LANDFILL DESIGNATION: Landfill, Lower Site North of Airstrip
DATE OF INSPECTION: August 24, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	Present Yes/No	Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)	Length	Width	Depth	Extent relative to Area of Landfill (%)	Description	Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale	Additional Comments
Settlement	YES	North Portion of the landfill For location refer to Figure 5 Fox -4 Cape Hooper-Lower Site	1 m	0.5 m	0.2m	<1%		Photographs: 5I, 5J For locations and directions of photographs refer to Figure 5 Fox -4 Cape Hooper-Lower Site	
Erosion	NO								
Frost Action	NO	Frost action was not noted.							
Sloughing and Cracking	YES	North mid portion of the landfill. For location refer to Figure 5 Fox -4 Cape Hooper-Lower Site	8m	0.1m		<1%	Settlement Cracks	Photograph: 5J (top of picture) For location and direction of photograph refer to Figure 5 Fox -4 Cape Hooper-Station Area.	
Animal Burrows	NO								
Vegetation	NO								
Staining	YES	ST5-1 ST5-2 ST5-3 For location refer to Figure 5 Fox -4 Cape Hooper-Lower Site	65 m 12 m 11 m	2 m 5 m 8m		11% 5% 7%	Staining from seepage was noted and the affected area appears to have increased significantly from the previous year.	Photographs: 5D, 5E, 5F, 5H,5I, 5J, 5M 5N, 5O, 5P For locations and directions of photographs refer to Figure 5 Fox -4 Cape Hooper-Lower Site	
Vegetation Stress	NO	No vegetation was observed							
Seepage Points	YES	Seepage points coincide with staining locations					Where there was staining there was an associated seepage point.	Photographs: 5D, 5E, 5I, 5J, 5M 5N, 5O, 5P For locations and directions of photographs refer to Figure 5 Fox -4 Cape Hooper-Lower Site	
Debris Exposed	NO								
Presence/Condition – Monitoring Instruments	YES	For location refer to Figure 5 Fox -4 Cape Hooper-Lower Site							
Features of Note.	NO								

Table 6-2: Visual Inspection Checklist – Inspection Report – DCC Tier II Soil Disposal Area

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **DCC TIER II LANDFILL**
LANDFILL DESIGNATION: Landfill, Lower Site, North of Airstrip
DATE OF INSPECTION: August 24, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	Present Yes/No	Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)	Length	Width	Depth	Extent relative to Area of Landfill (%)	Description	Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale	Additional Comments
Settlement	YES	Consolidation settlement was noted throughout the landfill. For locations, refer to Figure 5 FOX-4 Cape Hooper – DCC Tier II and Lower Site Landfills.				100 %	This was based on observations of settlement in comparison to the thermistor stations.	Photographs: 6X, 6Y, 6Z, 6AA, 6AB For locations and directions of photographs, refer to Figure 5 FOX-4 Cape Hooper –DCC Tier II and Lower Site landfills.	
Erosion	NO								
Frost Action	NO	Frost action was not noted.							
Sloughing and Cracking	NO								
Animal Burrows	NO								
Vegetation	NO							No vegetation was observed on the capping cover.	
Staining	YES	ST6-1 ST6-2 ST6-3A ST6-3B ST6-4 ST6-5 ST6-6 For locations, refer to Figure 5 FOX-4 Cape Hooper – Helipad landfills – East and West.	50 m 28 m 55 m 50 m 25 m 70 m 18 m	15 m 5 m 0.5 m 0.5 m 5 m 4 m 12 m		63% 12% 2% 2% 10% 23% 18%	Staining from seepage was noted and the affected area appears to have increased significantly from the previous year (2005).	Photographs: 6D, 6E, 6F, 6G, 6H, 6I, 6J, 6M, 6N, 6O, 6P, 6Q, 6R, 6S, 6T, 6U,6V, 6W For locations and directions of photographs, refer to Figure 5 FOX-4 Cape Hooper –DCC Tier II and Lower Site landfills.	
Vegetation Stress	NO							No vegetation was observed on the capping cover.	
Seepage Points	YES	Seepage points coincide with staining locations.	See staining observations.	See staining observations.			Staining	See staining observations.	
Debris Exposed	NO								
Presence/Condition – Monitoring Instruments	YES	Refer to Figure 5 FOX-4 Cape Hooper –DCC Tier II and Lower Site landfills.						Refer to Figure 5 FOX-4 Cape Hooper –DCC Tier II and Lower Site landfills.	
Features of Note.	YES	The slopes of the landfill.						Photographs: 6A, 6B, 6D	The slopes of the landfill were covered with round rock for erosion protection. This round rock is sliding down the slope. If long term erosion protection is required the nearby colluvium (angular rock) should be used to minimize erosion and prevent debris exposure or loss of the insulative soil layer.

6.3 Preliminary Stability Assessment

The Preliminary Stability Assessment for the Lower Site Landfill and DCC Tier II Soil Disposal Area have been completed as per the Terms of Reference and are included as Tables 6-3 and 6-4 respectively of this report.

Table 6-3: Preliminary Stability Assessment – Lower Site Landfill

Feature	Severity Rating	Extent
Settlement	Acceptable	Isolated
Erosion	Acceptable	Isolated
Frost Action	Not Observed	None
Staining	Acceptable	Numerous
Vegetation Stress	Not Observed	None
Seepage / Ponded Water	Acceptable	Numerous
Debris Exposure	Acceptable	Isolated
Overall Landfill Performance	**Acceptable**	

Performance / Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

Table 6-4: Preliminary Stability Assessment – DCC Tier II Soil Disposal Area

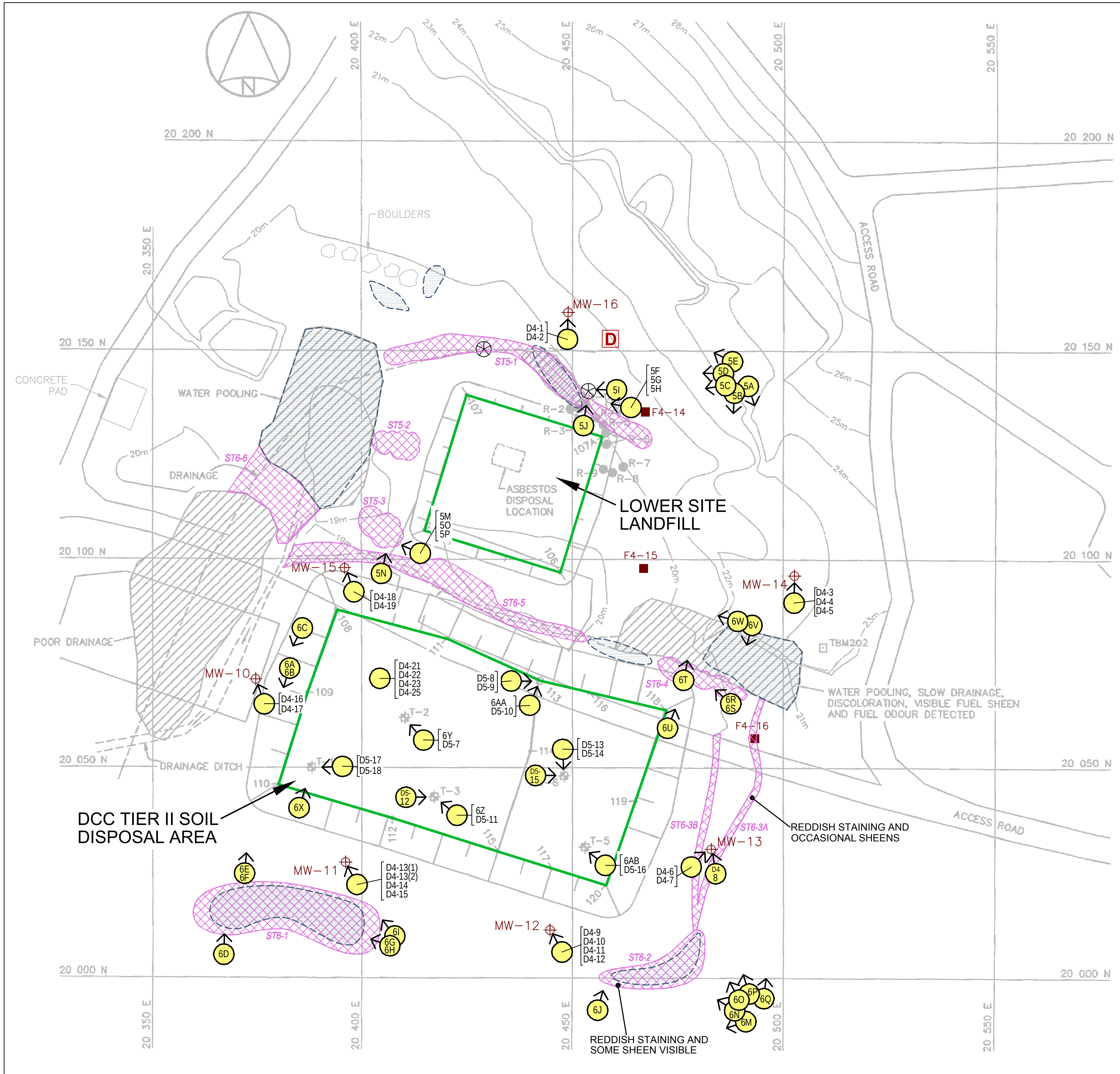
Feature	Severity Rating	Extent
Settlement	Acceptable	None (No Differential Settlement)
Erosion	Acceptable	None
Frost Action	Not Observed	None
Staining	Acceptable	Numerous
Vegetation Stress	Not Observed	None
Seepage / Ponded Water	Acceptable	Numerous
Debris Exposure	Not Observed	
Overall Landfill Performance	**Acceptable**	

Performance / Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

6.4 Location Plan

The Location Plan for the Lower Site Landfill and DCC Tier II Soil Disposal Area has been completed as per the Terms of Reference and is included in the following page as Figure 5 FOX-4 Cape Hooper – DCC Tier II Soil Disposal and Lower Site Landfill.



LEGEND: NOTE: FEATURES IN GREY PREDATE THE 2005 FIELD SEASON

TBM202 TEMPORARY BENCHMARK
MONITORING WELL LOCATION
105 COORDINATE POINT
VERTICAL THERMISTOR
SOIL SAMPLE
LANDFILL BOUNDARY (APPROXIMATE)

2006 OBSERVATIONS:

ST5-1 STAINS
D DEBRIS
EROSION
POOLING
SINKHOLE
PHOTOGRAPH LOCATION (INDICATING PHOTO NUMBER, LOCATION, VIEWING DIRECTION)

TEMPORARY BENCHMARKS

NO.	COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
202	20 079.007	20 509.423	24.110	19mm DIA. PIPE

MONITORING WELLS

NO.	COORDINATES	
	NORTHING	EASTING
MW-10	20 071.0	20 374.8
MW-11	20 027.3	20 396.2
MW-12	20 011.5	20 444.4
MW-13	20 030.8	20 483.1
MW-14	20 096.0	20 503.0
MW-15	20 098.0	20 396.0
MW-16	20 159.4	20 449.0

VERTICAL THERMISTORS

NO.	COORDINATES	
	NORTHING	EASTING
T-1	20 050.0	20 388.0
T-2	20 062.0	20 410.0
T-3	20 043.0	20 417.0
T-4	20 071.0	20 442.0
T-5	20 031.0	20 453.0
T-6	20 048.0	20 448.0

COORDINATE POINTS

NO.	NORTHING	EASTING	ELEV.	NO.	NORTHING	EASTING	ELEV.
108	20 088.0	20 394.0	22.10	115	20 030.0	20 432.0	22.04
109	20 068.0	20 387.0	22.65	116	20 068.0	20 454.0	22.34
110	20 046.0	20 380.0	21.89	117	20 026.0	20 445.0	22.34
111	20 081.0	20 420.0	22.30	118	20 064.0	20 472.0	22.31
112	20 038.0	20 407.0	22.00	119	20 042.0	20 465.0	22.60
113	20 071.0	20 442.0	22.28	120	20 022.0	20 458.0	22.01
114	20 054.0	20 440.0	22.75				

COORDINATE POINTS

NO.	NORTHING	EASTING	ELEV.
105	20 107	20 415	21.0
106	20 097	20 447	21.3
107	20 139	20 425	21.1
107A	20 129	20 457	21.6

Title: FOX-4 CAPE HOOPER - DCC TIER II SOIL DISPOSAL AND LOWER SITE LANDFILL

Project: FOX-4 CAPE HOOPER DEW LINE CLEAN UP LANDFILL MONITORING PLAN

Date: JANUARY 2007

Client: DEFENCE CONSTRUCTION CANADA

SCALE 1:1000

20 15 10 5 0 25 50 metres

FIGURE 5

Projects\2006\1213-0601 Fox 4 Cape Hooper DEW Line\Figures 2006\Fox4-4-DCCsoil.dwg

6.5 Photographic Records

The Photographic Record for the Lower Site Landfill and DCC Tier II Soil Disposal Area has been completed as per the Terms of Reference and are included in the following page as Table 6-5. The Photographic Record only contains an index and “thumbnail” photographs; full sized photographs are contained in the Addendum CD-ROM.

Table 6-5 Photographic Record - DCC Tier II Soil Disposal and Lower Site Landfill

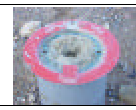
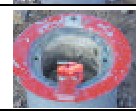
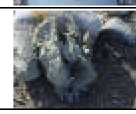
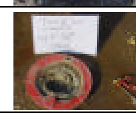
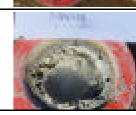
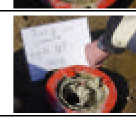
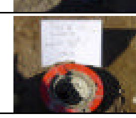
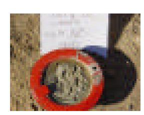
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D4-1	Pic D4-1.jpg 2006-08-24	Cleaning Bentonite in the well pipe at monitoring well MW-16. Picture facing North.		Figure 5
D4-2	Pic D4-2.jpg 2006-08-24	Monitoring well MW-16 after J-Plug and lock installed, and Bentonite removed. Diameter of casing is 54 cm.		Figure 5
D4-3	Pic D4-3.jpg 2006-08-24	Bentonite on top of casing in monitoring well MW-14. Camera facing North.		Figure 5
D4-4	Pic D4-4.jpg 2006-08-24	Monitoring well MW-14 after bentonite is cleaned. J-Plug and lock installed. Diameter of casing is 54 cm. Picture facing North.		Figure 5
D4-5	Pic D4-5.jpg 2006-08-24	Amount of Bentonite removed from top pf monitoring well MW-14		Figure 5
D4-6	Pic D4-6.jpg 2006-08-24	Monitoring well MW-13, showing water right to the top of the casing and bentonite on top. Laminated paper shown on picture. Facing North-East.		Figure 5
D4-7	Pic D4-7.jpg 2006-08-24	Closer view of the water filled pipe up to the top pf casing. Camera facing North-East.		Figure 5
D4-8	Pic D4-8.jpg 2006-08-24	Bentonite cleaned from monitoring well MW13, J-Plug and lock installed. Diameter of casing is 54 cm. Camera facing North.		Figure 5
D4-9	Pic D4-9.jpg 2006-08-24	Monitoring well MW-12 full of bentonite, completely covering the top of casing. Laminated paper shown on picture with direction of North.		Figure 5
D4-10	Pic D4-10.jpg 2006-08-24	Polluci trying to retrieve boiler from monitoring well MW45 with a fish hook metal rod. Laminated paper shown.		Figure 5
D4-11	Pic D4-11.jpg 2006-08-24	Tanmay trying to remove stuck boiler in the well with 2 angle iron bars. Laminated paper shown.		Figure 5
D4-12	Pic D4-12.jpg 2006-08-24	Monitoring well MW-12 after bentonite cleaned from top of casing. Laminated paper shown. No J-Plug or lock.		Figure 5
D4-13 (1)	Pic D4-13(1).jpg 2006-08-24	Monitoring well MW-11 after opening the casing. Full of bentonite. Laminated paper with North direction shown. When measuring water level, encountered obstruction (bentonite plugging the well) at 0.44 m. Below bentonite approximately 4 cm, there was a stuck boiler in the well		Figure 5
D4-14	Pic D4-14.jpg 2006-08-24	Polluci trying to retrieve the boiler with a fish hook. Laminated paper shown.		Figure 5

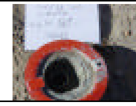
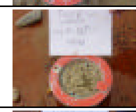
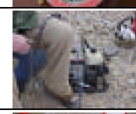
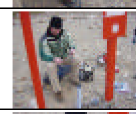
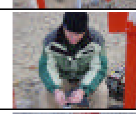
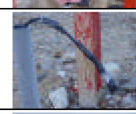
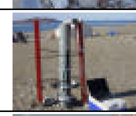
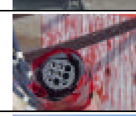
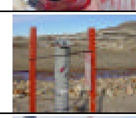
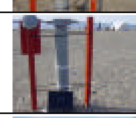
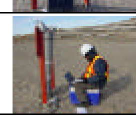
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D4-15	Pic D4-15.jpg 2006-08-24	Monitoring well MW-11 after bentonite cleaned from well.		Figure 5
D4-16	Pic D4-16.jpg 2006-08-24	Monitoring well MW41 showing some bentonite in the casing. Laminated paper showing north shown in the picture.		Figure 5
D4-17	Pic D4-17.jpg 2006-08-24	After bentonite is cleared from the monitoring well MW41. Laminated paper shown.		Figure 5
D4-18	Pic D4-18.jpg 2006-08-24	Monitoring well MW48 full of bentonite in the casing. Laminated paper shown.		Figure 5
D4-19	Pic D4-19.jpg 2006-08-24	Monitoring well MW-15 after bentonite.		Figure 5
D4-21	Pic D4-21.jpg 2006-08-24	Franz personnel repairing the damaged cable at T-1.		Figure 5
D4-22	Pic D4-22.jpg 2006-08-24	Franz personnel repairing the damaged cable at T-1.		Figure 5
D4-23	Pic D4-23.jpg 2006-08-24	Close-up view of the damaged cable at T-1.		Figure 5
D4-25	Pic D4-25.jpg 2006-08-24	Equipments used to repair the damaged cable at T-1.		Figure 5
D5-7	Pic D5-7.jpg 2006-08-25	Full view of thermistor station T-2.		Figure 5
D5-8	Pic D5-8.jpg 2006-08-25	Broken datalogger connector at T-4.		Figure 5
D5-9	Pic D5-9.jpg 2006-08-25	Damaged ground cable connector at T-4.		Figure 5
D5-10	Pic D5-10.jpg 2006-08-25	Full view of thermistor station T-4.		Figure 5
D5-11	Pic D5-11.jpg 2006-08-25	Full view of thermistor station T-3.		Figure 5
D5-12	Pic D5-12.jpg 2006-08-25	Franz personnel downloading data at T-3.		Figure 5

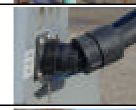
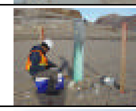
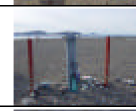
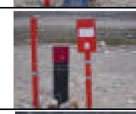
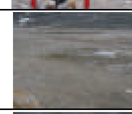
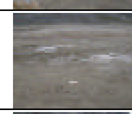
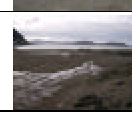
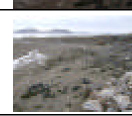
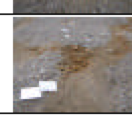
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D5-13	Pic D5-13.jpg 2006-08-25	Full view of thermistor station T-6.		Figure 5
D5-14	Pic D5-14.jpg 2006-08-25	Close-up view of the ground cable (cover sticking out) connector at T-6.		Figure 5
D5-15	Pic D5-15.jpg 2006-08-25	Franz personnel downloading data at T-6.		Figure 5
D5-16	Pic D5-16.jpg 2006-08-25	Full view of the thermistor station T-5.		Figure 5
D5-17	Pic D5-17.jpg 2006-08-25	Full view (post-repair and datalogger installation) of the thermistor station T-1.		Figure 5
D5-18	Pic D5-18.jpg 2006-08-25	Full view of the thermistor station T-1 (Note the newly installed black metal casing, red metal cap and lock).		Figure 5
5A	5A.jpg 2006-08-24	Monitoring Well 14 20,490E 20,140N. Camera facing South.		Figure 5
5B	5B.jpg 2006-08-24	South facing view at 20,490E, 20,140N. Pooling visible in photo center.		Figure 5
5C	5C.jpg 2006-08-24	Pooling observed at 20,490E 20,140N. Lower Site Landfill in background. Camera facing South-West.		Figure 5
5D	5D.jpg 2006-08-24	View of pooling, channels, and soil staining at 20,490E 20,140N. Camera facing West.		Figure 5
5E	5E.jpg 2006-08-24	Wide angle view of Monitoring Well 16 (photo center) and debris (photo right) at 20,490E 20, 140N. Camera facing West.		Figure 5
5F	5F.jpg 2006-08-24	Soil staining observed at 20,460E, 20,130N. Wide angle view, facing West.		Figure 5
5G	5G.jpg 2006-08-24	Close up of soil staining at 20,460E 20,130N. White card is 20cm by 28cm. Camera facing West.		Figure 5
5H	5H.jpg 2006-08-24	Sinkhole and metal debris observed at 20,455E 20,135N. Wide angle view facing West. White card is 20cm by 28cm.		Figure 5
5I	5I.jpg 2006-08-24	Close up view of information card and sinkhole observed at 20,455E 20,135N. Camera facing West.		Figure 5

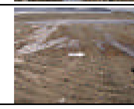
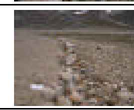
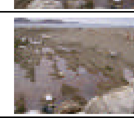
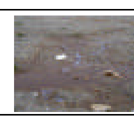
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
5J	5J.jpg 2006-08-24	Close up view of information card and sinkhole observed at 20,455E 20,130N. White card is 20cm by 28cm. Camera facing North.		Figure 5
5K	5M.jpg 2006-08-24	Wide angle view with pooling and soil staining observed at 20,410E 20,120N. Camera facing West.		Figure 5
5N	5N.jpg 2006-08-24	Close up of information card and soil staining observed at 20,410E, 20,120N. White card is 20cm by 28cm. Camera facing North.		Figure 5
5O	5O.jpg 2006-08-24	Soil staining and seepage observed at 20,410E 20,120N. Wide angle view with pooling in the background. Camera facing West.		Figure 5
5P	5P.jpg 2006-08-24	Close up of soil staining and seepage observed at 20,410E 20,120N. White card is 20cm by 28cm. Camera facing West.		Figure 5
6A	6A.jpg 2006-08-24	Wide angle view of southern slope of disposal area observed at 20,375E 20,075N. White card is 21cm by 28cm. Camera facing South.		Figure 5
6B	6B.jpg 2006-08-24	Wide angle view of southern slope of disposal area observed at 20,375E 20,075N. White card is 21cm by 28cm. Camera facing South.		Figure 5
6C	6C.jpg 2006-08-24	Wide angle view of southern slope of disposal area observed at 20,375E 20,085N. Monitoring Well 10 is visible at the right of photo. Camera facing South.		Figure 5
6D	6D.jpg 2006-08-24	View of pooling observed at 20,375E 20,010N. Water has noticeable sheen and the water is turning the soil red. Camera facing North.		Figure 5
6E	6E.jpg 2006-08-24	View of pooling observed at 20,375E 20,020N. Water has noticeable sheen and the water is turning the soil red. Camera facing North.		Figure 5
6F	6F.jpg 2006-08-24	Close up view of sheen on water and information card at 20,375E 20,025N. Water is turning the soil red. Camera facing North.		Figure 5
6G	6G.jpg 2006-08-24	View of pooling observed at 20,410E 20,005N. Water has noticeable sheen. White card is 21cm by 28cm. Camera facing West.		Figure 5
6H	6H.jpg 2006-08-24	View of pooling observed at 20,410E 20,005N. Water has noticeable sheen. Monitoring Well 11 is visible at the right of the photo. Camera facing West.		Figure 5
6I	6I.jpg 2006-08-24	Close up view of pooling and information card observed at 20,405E 20,010N. Southern slope of disposal area and Monitoring Well 11 is in background. White card in foreground is 20cm by 28cm. Camera is facing North.		Figure 5
6J	6J.jpg 2006-08-24	Standing water observed at 20,455E 20,000N. Noticeable sheen on water. Water is staining the soil red. Camera facing North.		Figure 5

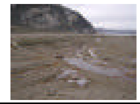
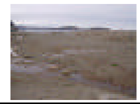
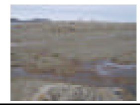
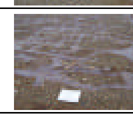
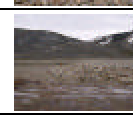
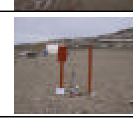
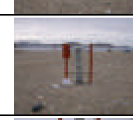
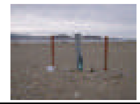
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
6M	6M.jpg 2006-08-24	Standing water observed at 20,490E 20,000N. Wide angle view. The water is staining the soil red. Camera facing North-West.		Figure 5
6N	6N.jpg 2006-08-24	Standing water observed at 20,490E 20,000N. Wide angle view. The water is staining the soil red. Camera facing West.		Figure 5
6O	6O.jpg 2006-08-24	Staining on soil and sheen on water observed at 20,490E 20,000N. Wide angle view shows channels and southeast corner of disposal area. Camera facing North-West.		Figure 5
6P	6P.jpg 2006-08-24	Standing water located southeast of disposal area observed at 20,490E 20,000N. Noticeable sheen on water and soil staining. Camera facing North.		Figure 5
6Q	6Q.jpg 2006-08-24	Standing water located southeast of disposal area observed at 20,490E 20,000N. Noticeable sheen on water and soil staining. Camera facing North.		Figure 5
6R	6R.jpg 2006-08-24	Standing water and soil staining observed at 20,480E 20,060N. Noticeable sheen on water. White card is 21cm by 28cm. Camera facing North.		Figure 5
6S	6S.jpg 2006-08-24	Close up view of standing water, sheen on water and soil staining water observed at 20,480E 20,060N. White card is 21cm by 28cm. Camera facing West.		Figure 5
6T	6T.jpg 2006-08-24	Close up view of standing water, sheen on water and soil staining observed at 20,465E 20,085N. White card is 21cm by 28cm. Camera facing North.		Figure 5
6U	6U.jpg 2006-08-24	Water pooling, soil staining, and visible sheen observed at 20,475E 20,060N. Monitoring Well 14 is visible at photo right. Camera facing North.		Figure 5
6V	6V.jpg 2006-08-24	Standing water, soil staining , and visible sheen observed at 20,485E 20,085N.Monitoring Well 13 is visible at photo center. Camera facing South.		Figure 5
6W	6W.jpg 2006-08-24	Water pooling, soil staining, and visible sheen observed at 20,485E 20,085N. Camera facing West.		Figure 5
6X	6X.jpg 2006-08-24	Vertical Termistor T-1 at southwest corner of disposal area. Observed at 20,390E 20,050N. Camera facing North.		Figure 5
6Y	6Y.jpg 2006-08-24	Vertical Termistor T-2 observed at 20,415E 20,060N. Camera facing North-West.		Figure 5
6Z	6Z.jpg 2006-08-24	Vertical Termistor T-3 observed at 20,420E 20,040N. Camera facing West.		Figure 5
6AA	6AA.jpg 2006-08-24	Vertical Termistor T-4 at north end of disposal area. Observed at 20,440E 20,075N. Camera facing North.		Figure 5

Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
6AB	6AB.jpg 2006-08-24	Vertical Termistor T-5 observed at southeast corner of disposal area. Located at 20,455E 20,035N. Camera facing West.		Figure 5

6.6 Thermal Monitoring Data

The repaired datalogger for thermistor station T1 was brought on site and installed/re-connected. An attempt was made to repair the damaged cable coming from the ground and its connector at station T-1, and attempts were made to retrieve and analyze data from all the data loggers (T-1 to T-6).

The damaged cable coming from the ground and its connector at station T-1 could only be repaired partially. Some analogues/thermocouples in station T1 were observed to be not functioning properly. Two data points (12 hours apart) were downloaded from the datalogger at station T-1.

Data from T-2, T-3, T-5, and T-6 was successfully retrieved. Data downloaded from T-5 did not contain any information subsequent to April 2006.

The cable coming from the ground and its connector at station T-4 was found to be broken. The station T-4 cable was re-connected and the station T-4 datalogger was set to the correct parameters; it was not possible to obtain an instantaneous reading from T-4; thermistor malfunction/damage is suspected.

Specific detailed information regarding temperature data is contained in the report section on the Lower Site landfill and DCC Tier II Soil Disposal Area.

Datalogger for station T1 (which was brought on site and installed/re-connected.) has new batteries that should be functional for two years (summer 2008). No datalogger batteries were replaced; all other dataloggers had batteries that should be functional until summer 2007.

6.6.1 Landfill Temperature Data from Dataloggers

The tables and corresponding figures in the following pages summarize temperature data obtained from the dataloggers. This data is a representative sampling of 2005-2006 data points downloaded from thermistor dataloggers. The dataloggers actually recorded data points (temperatures) every 12 hours, however for these tables and corresponding figures, one data point per month (end of month) is tabulated and graphically depicted in this report (as per DCC Terms of Reference). A complete datalogger data set for 2005-2006 is available in the Addendum CD-ROM to this report (3 formats as per the DCC Terms of Reference: CSV, MS Excel, RAW data).

Table 6-6: 2005-2006 Thermal Data - FOX-4 Cape Hooper - Thermistor Station T1

2006

	DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5
	MM/DD/YY	HH:MM:SS					
DEPTH (m)			0	0.5	1	1.5	2
	08/31/2005	12:00:00	---	---	---	---	---
	09/30/2005	12:00:00	---	---	---	---	---
	10/31/2005	12:00:00	---	---	---	---	---
	11/30/2005	12:00:00	---	---	---	---	---
	12/31/2005	12:00:00	---	---	---	---	---
	01/31/2006	12:00:00	---	---	---	---	---
	02/28/2006	12:00:00	---	---	---	---	---
	03/31/2006	12:00:00	---	---	---	---	---
	04/30/2006	12:00:00	---	---	---	---	---
	05/31/2006	12:00:00	---	---	---	---	---
	06/30/2006	12:00:00	---	---	---	---	---
	07/31/2006	12:00:00	---	---	---	---	---
	08/25/2006	Instant Reading	1.5835	0	0	1.4090	1.3855
	08/25/2006	12:00:00	1.5563	0	0	1.4084	1.3855

Notes:

1 Datalogger for thermistor station T1 was brought on site during the 2006 field program. Since no datalogger was in place since the 2005 field season, no temperature data was recorded during the period 2005-2006.

2 During the 2006 field program, two downloads of datalogger data from the station T1 were completed (12 hours between the two data points) subsequent to datalogger installation.

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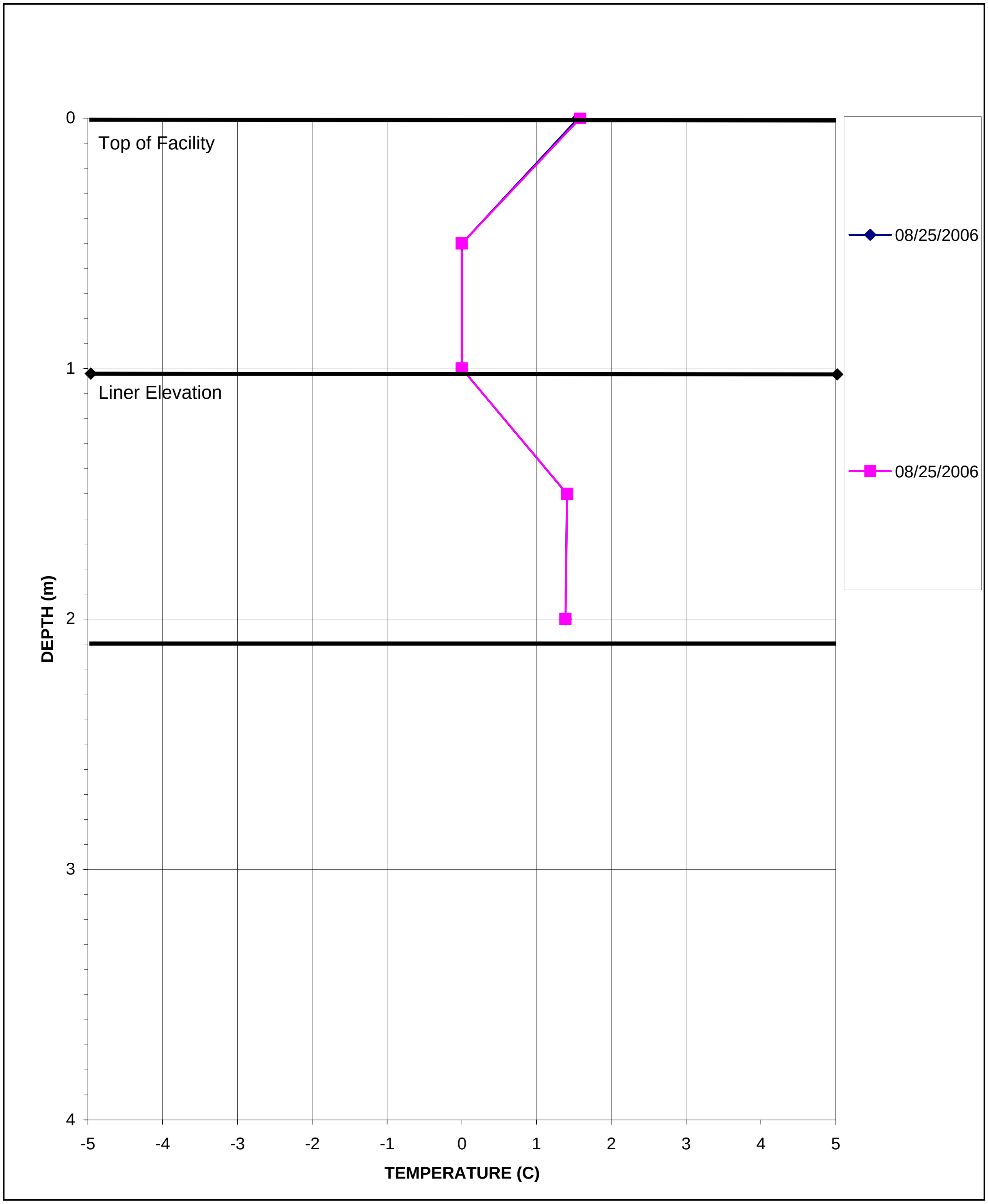

Figure 6 FOX-4 Cape Hooper – Thermal Data Graphs – Thermistor Station T1

Table 6-7: 2005-2006 Thermal Data - FOX-4 Cape Hooper - Thermistor Station T2

DATA T2 2005-2006

	DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5
	MM/DD/YY	HH:MM:SS					
DEPTH (m)			0	0.5	1	1.5	2
	08/31/2005	12:00:00	1.5583	1.4962	1.4364	1.3912	1.4109
	09/30/2005	12:00:00	1.4347	1.4364	1.4347	1.4014	1.4164
	10/31/2005	12:00:00	1.4029	1.4339	1.4321	1.4045	1.4164
	11/30/2005	12:00:00	1.2285	1.2992	1.3309	1.3509	1.3372
	12/31/2005	12:00:00	0.9952	1.1153	1.1832	1.2456	1.2183
	01/31/2006	12:00:00	0.7782	0.9137	1.0005	1.1003	1.0514
	02/28/2006	12:00:00	0.8742	0.9098	0.9494	1.0213	0.9854
	03/31/2006	12:00:00	0.9175	0.9391	0.9633	1.0108	0.9835
	04/30/2006	12:00:00	1.1150	1.0573	1.0440	1.0529	1.0451
	05/31/2006	12:00:00	1.3601	1.2723	1.2174	1.1708	1.0875
	06/30/2006	12:00:00	1.5249	1.4299	1.3753	1.3010	1.3285
	07/31/2006	12:00:00	1.5862	1.5030	1.4280	1.3718	1.3924
	08/25/2006	12:00:00	1.5615	1.5041	1.4475	1.3961	1.4104

Notes:

1 This data is a representative sampling of 2005-2006 data points downloaded from thermistor datalogger at station T2. The datalogger actually recorded data points (temperatures) every 12 hours. In this table, one data point per month (end of month) is tabulated and graphically depicted in this report (as per DCC Terms of Reference). A complete datalogger data set for 2005-2006 is available in the Addendum CD-ROM to this report (3 formats as per the DCC Terms of Reference: CSV, MS Excel, RAW data).

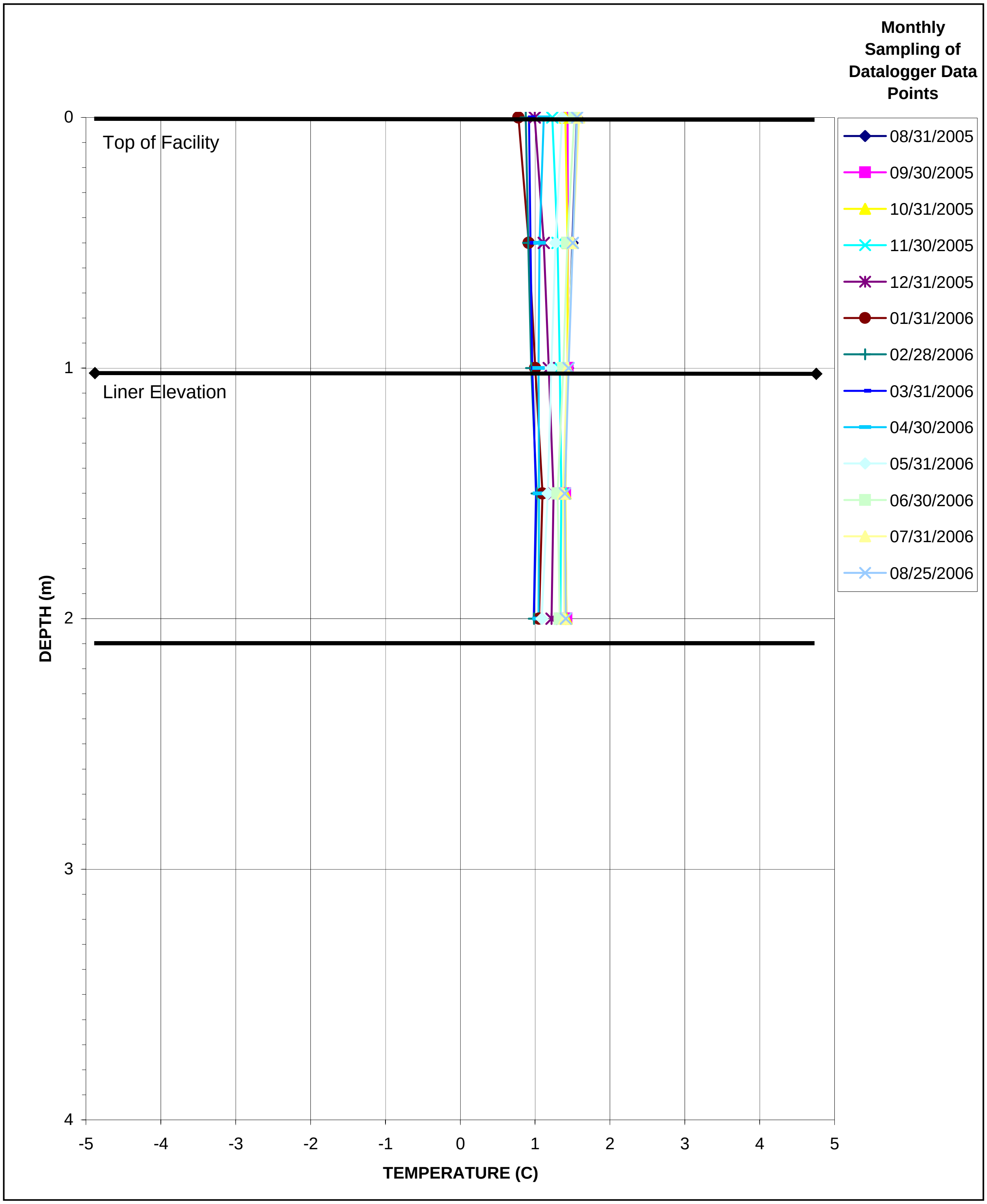

Figure 7 FOX-4 Cape Hooper – Thermal Data Graphs – Thermistor Station T2

Table 6-8: 2005-2006 Thermal Data - FOX-4 Cape Hooper - Thermistor Station T3

DATA T3 2005-2006

	DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5
	MM/DD/YY	HH:MM:SS					
DEPTH (m)			**0**	**0.5**	**1**	**1.5**	**2**
	08/31/2005	12:00:00	1.5677	1.5084	1.4444	1.4164	1.3912
	09/30/2005	12:00:00	1.4347	1.4347	1.4339	1.4223	1.4014
	10/31/2005	12:00:00	1.4002	1.4321	1.4327	1.4211	1.4045
	11/30/2005	12:00:00	1.334	1.3802	1.3953	1.402	1.3947
	12/31/2005	12:00:00	1.127	1.2194	1.2644	1.2981	1.3108
	01/31/2006	12:00:00	0.9084	1.0343	1.1055	1.1579	1.1878
	02/28/2006	12:00:00	0.9754	1.0018	1.0384	1.0791	1.1068
	03/31/2006	12:00:00	0.9908	1.0071	1.0291	1.0567	1.0755
	04/30/2006	12:00:00	1.131	1.0791	1.075	1.0878	1.0927
	05/31/2006	12:00:00	1.3625	1.2754	1.2238	1.2001	1.1812
	06/30/2006	12:00:00	1.5595	1.4353	1.3912	1.3527	1.3161
	07/31/2006	12:00:00	1.6153	1.5255	1.4344	1.4061	1.3778
	08/25/2006	12:00:00	1.6007	1.5249	1.4686	1.4249	1.401

Notes:

1 This data is a representative sampling of 2005-2006 data points downloaded from thermistor datalogger at station T3. The datalogger actually recorded data points (temperatures) every 12 hours. In this table, one data point per month (end of month) is tabulated and graphically depicted in this report (as per DCC Terms of Reference). A complete datalogger data set for 2005-2006 is available in the Addendum CD-ROM to this report (3 formats as per the DCC Terms of Reference: CSV, MS Excel, RAW data).

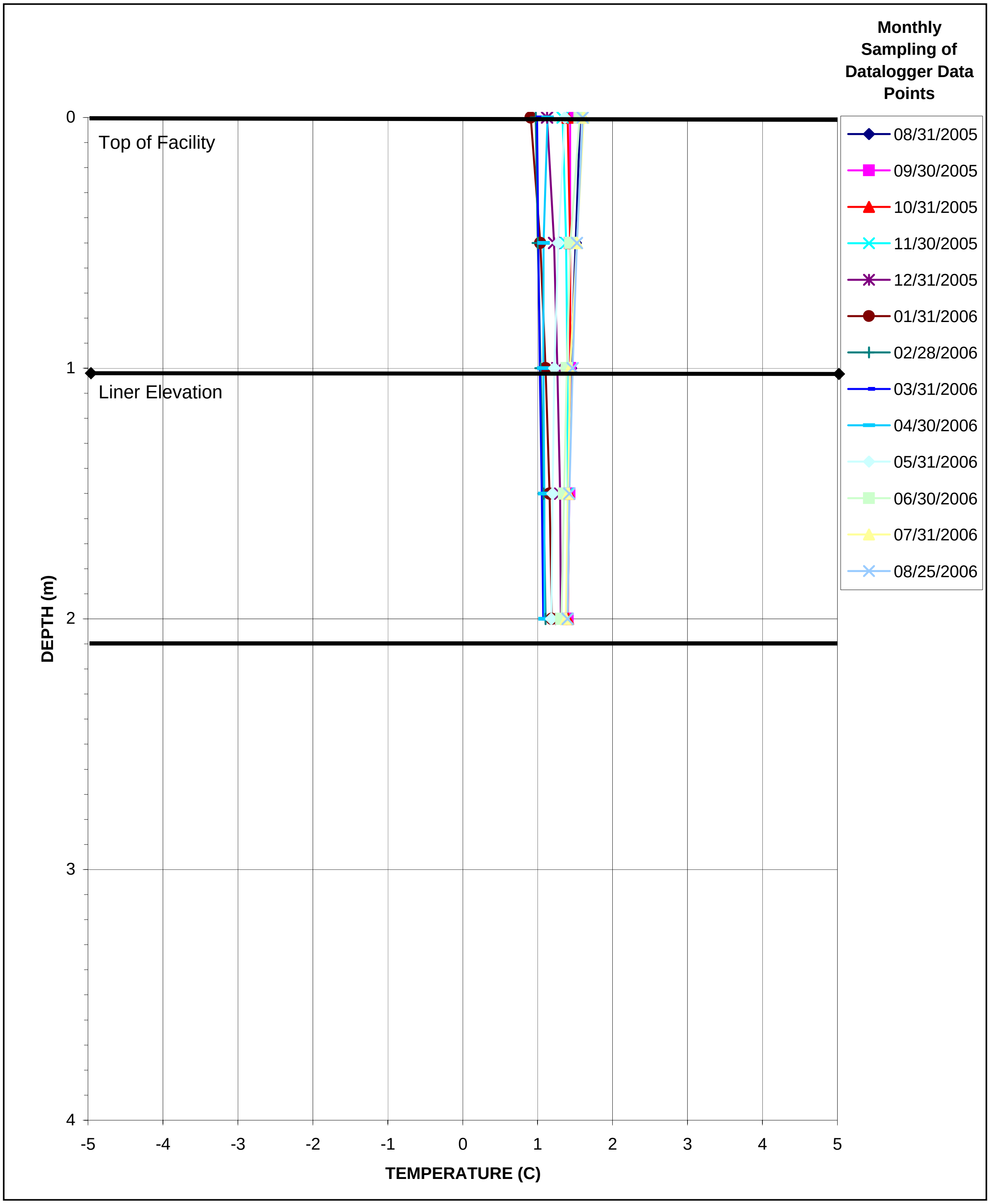

Figure 8 FOX-4 Cape Hooper – Thermal Data Graphs – Thermistor Station T3

Table 6-9: 2005-2006 Thermal Data - FOX-4 Cape Hooper - Thermistor Station T4

DATA T4 2005-2006

	DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5
	MM/DD/YY	HH:MM:SS					
DEPTH (m)			0	0.5	1	1.5	2
	08/31/2005	12:00:00	1.5304	1.4637	1.4182	1.3465	1.3723
	09/30/2005	12:00:00	1.4357	1.4344	1.4241	1.3562	1.3875
	10/31/2005	12:00:00	1.4249	1.4344	1.4223	1.4052	1.3929
	11/30/2005	12:00:00	0	0	0	0	0
	12/31/2005	12:00:00	0	0	0	0	0
	01/31/2006	12:00:00	0	0	0	0	0
	02/28/2006	12:00:00	0	0	0	0	0
	03/31/2006	12:00:00	0	0	0	0	0
	04/30/2006	12:00:00	0	0	0	0	0
	05/31/2006	12:00:00	0	0	0	0	0
	06/30/2006	12:00:00	0	0	0	0	0
	07/31/2006	12:00:00	0	0	0	0	0
	08/25/2006	12:00:00	0	0	0	0	0

Notes:

1 This data is a representative sampling of 2005-2006 data points downloaded from thermistor datalogger at station T4. The datalogger actually recorded data points (temperatures) every 12 hours. In this table, one data point per month (end of month) is tabulated and graphically depicted in this report (as per DCC Terms of Reference). A complete datalogger data set for 2005-2006 is available in the Addendum CD-ROM to this report (3 formats as per the DCC Terms of Reference: CSV, MS Excel, RAW data).

2 No data was collected by the datalogger after 12:00:00 on November 2, 2005. During the 2006 field program, the cable coming from the ground and its connector to the datalogger was found to be broken. The cable connector was found to be missing pins. It is concluded that this is the reason for no data collection subsequent to November 2, 2005.

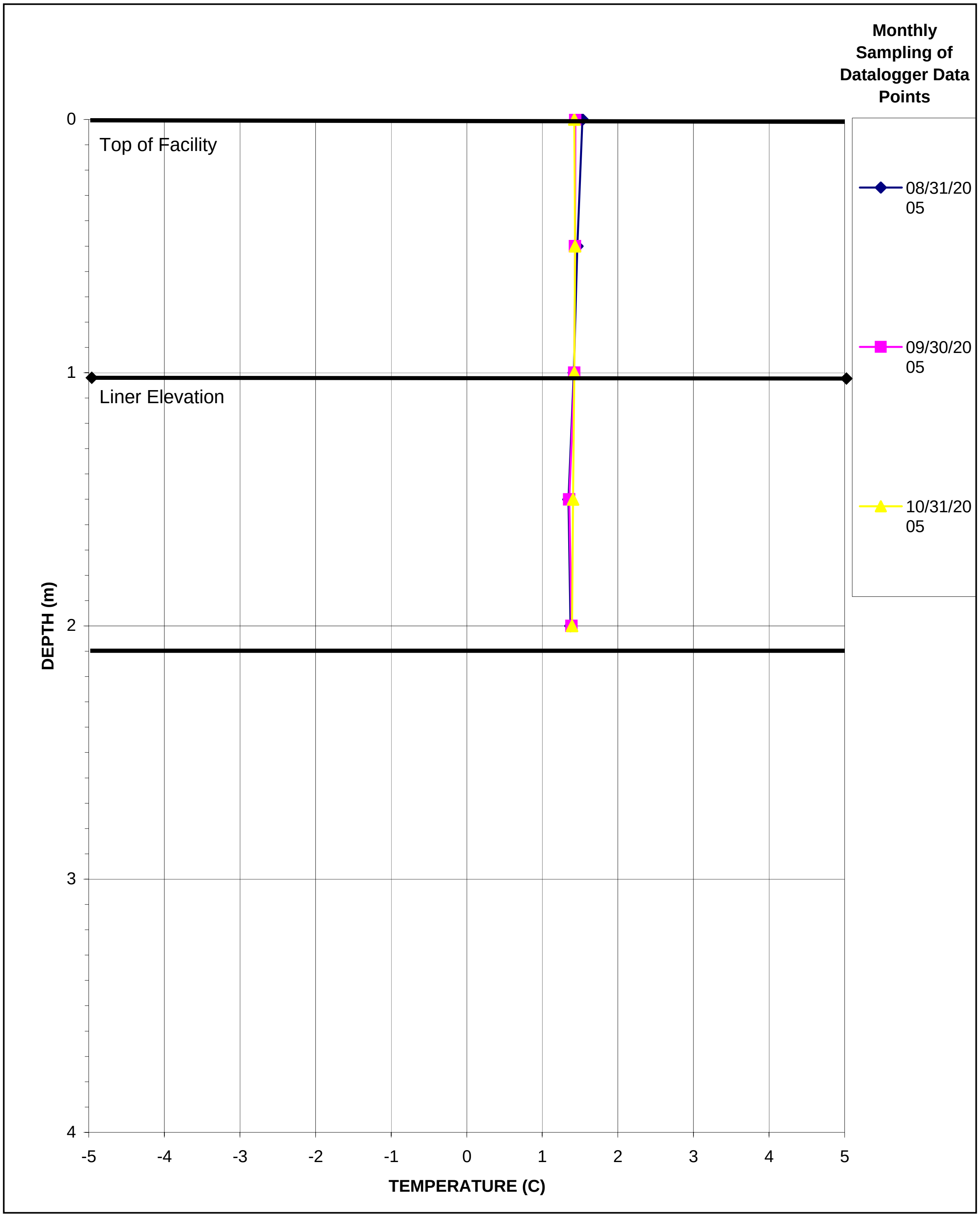

Figure 9 FOX-4 Cape Hooper – Thermal Data Graphs – Thermistor Station T4

Table 6-10: 2005-2006 Thermal Data - FOX-4 Cape Hooper - Thermistor Station T5

DATA T5 2005-2006

	DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5
	MM/DD/YY	HH:MM:SS					
DEPTH (m)			0	0.5	1	1.5	2
	08/31/2005	12:00:00	0.6326	0.8217	0.9670	1.0584	1.1190
	09/30/2005	12:00:00	0.6668	0.8235	0.9046	0.9627	1.0089
	10/31/2005	12:00:00	0.7735	0.8425	0.8982	0.9416	0.9792
	11/30/2005	12:00:00	0.9700	0.9975	1.0213	1.0291	1.0372
	12/31/2005	12:00:00	1.4425	1.3021	1.2262	1.1872	1.1628
	01/31/2006	12:00:00	1.4834	1.4400	1.4052	1.3636	1.3221
	02/28/2006	12:00:00	1.7684	1.5667	1.4699	1.4174	1.3865
	03/31/2006	12:00:00	1.5809	1.5534	1.4986	1.4344	1.4096
	04/30/2006	12:00:00	---	---	---	---	---
	05/31/2006	12:00:00	---	---	---	---	---
	06/30/2006	12:00:00	---	---	---	---	---
	07/31/2006	12:00:00	---	---	---	---	---
	08/25/2006	12:00:00	---	---	---	---	---

--- No data recorded after

Notes:

[1] This data is a representative sampling of 2005-2006 data points downloaded from thermistor datalogger at station T5. The datalogger actually recorded data points (temperatures) every 12 hours. In this table, one data point per month (end of month) is tabulated and graphically depicted in this report (as per DCC Terms of Reference). A complete datalogger data set for 2005-2006 is available in the Addendum CD-ROM to this report (3 formats as per the DCC Terms of Reference: CSV, MS Excel, RAW data).

[2] No data was collected by the datalogger after 3 April, 2006 at 12:00:00. The reason for this is not clear. All cables and connectors were found intact.

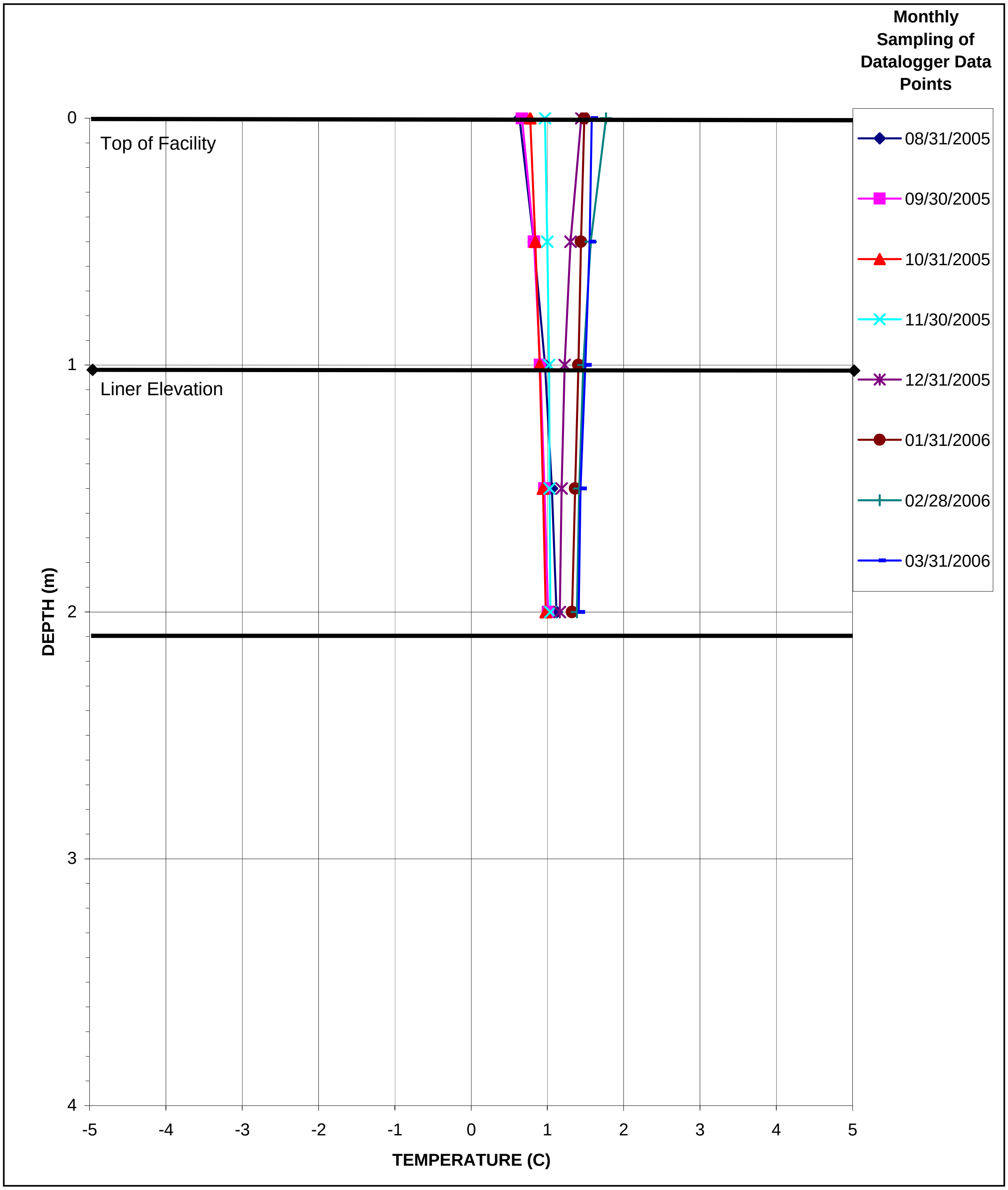

Figure 10 FOX-4 Cape Hooper – Thermal Data Graphs – Thermistor Station T5

Table 6-11: 2005-2006 Thermal Data - FOX-4 Cape Hooper - Thermistor Station T6

DATA T6 2005-2006

	DATE	TIME	ANALOG 1	ANALOG 2	ANALOG 3	ANALOG 4	ANALOG 5
	MM/DD/YY	HH:MM:SS					
DEPTH (m)			**0**	**0.5**	**1**	**1.5**	**2**
	08/31/2005	12:00:00	1.5847	1.5406	1.4631	1.4229	1.3967
	09/30/2005	12:00:00	1.4327	1.4347	1.4353	1.4249	1.4052
	10/31/2005	12:00:00	1.3303	1.3761	1.4272	1.4246	1.4084
	11/30/2005	12:00:00	1.1408	1.2194	1.2929	1.3192	1.3320
	12/31/2005	12:00:00	0.7521	1.0030	1.1336	1.1922	1.2300
	01/31/2006	12:00:00	0.6085	0.8194	0.9603	1.0298	1.0836
	02/28/2006	12:00:00	0.9775	0.8803	0.9333	0.9737	1.0146
	03/31/2006	12:00:00	0.9694	0.9345	0.9627	0.9854	1.0114
	04/30/2006	12:00:00	1.2511	1.1013	1.0598	1.0561	1.0620
	05/31/2006	12:00:00	1.4553	1.3831	1.2741	1.2189	1.1866
	06/30/2006	12:00:00	1.6111	1.5027	1.4078	1.3675	1.3285
	07/31/2006	12:00:00	1.6805	1.5726	1.4748	1.4206	1.3894
	08/25/2006	12:00:00	1.6457	1.5426	1.4791	1.4304	1.4052

Notes:

1 This data is a representative sampling of 2005-2006 data points downloaded from thermistor datalogger at station T6. The datalogger actually recorded data points (temperatures) every 12 hours. In this table, one data point per month (end of month) is tabulated and graphically depicted in this report (as per DCC Terms of Reference). A complete datalogger data set for 2005-2006 is available in the Addendum CD-ROM to this report (3 formats as per the DCC Terms of Reference: CSV, MS Excel, RAW data).

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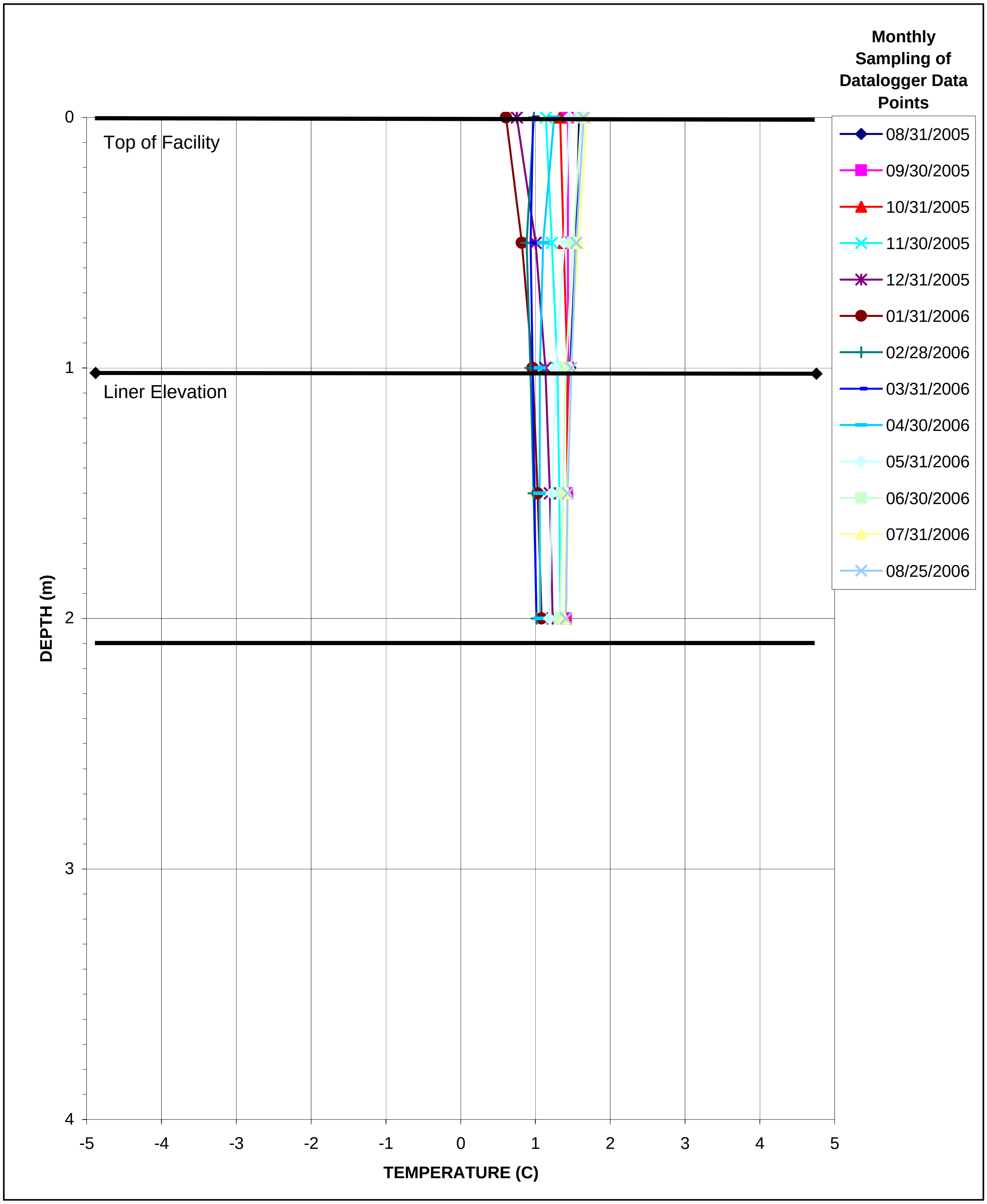


Figure 11 FOX-4 Cape Hooper – Thermal Data Graphs – Thermistor Station T6

6.6.2 Thermistor Maintenance Report Templates

The 2006 Thermistor Maintenance Report Templates are included in the following tables.

Table 6-12: 2006 Thermistor Maintenance Report - Thermistor Station T1

Thermal Monitoring
Ground Temperature Annual Maintenance Report

Contractor Name:	**FRANZ - Nunatta**	Inspection Date:	**25-Aug-06**
Prepared By:	**Tanmay Praharaj**		

Thermistor Information

Site Name:	**FOX-4**	Thermistor Location:	**Tier II Disposal Facility**		
Thermistor Number:	**T1**	Inclination:	**Vertical**		
Install Date:	**15-Aug-98**	First Date Event	**05-Jul-99**	Last Date Event	**15-Aug-05**
Coordinates and Elevation	**N20050**	**E20388**		Elevation:	**?**
Length of Cable	**4.27**	Cable Lead Above Ground	**1.9**	Nodal Points	**5**
Datalogger Serial #	**705043**	Cable Serial #	**String#4**		

Thermistor Inspection

	Good	Needs Maintenance	
Casing	☑	☐	**Secured with gravel at the base**
Cover	☑	☐	
Data Logger	☑	☐	
Cable	☑	☐	
Beads	☐	☑	**Check Connectors**

Battery Installation Date ____________________

Battery Levels Main **11.34V (BEST)** Aux **12.17V (GOOD)**

Observations

- 3 analogs (1, 4 & 5) are green bars. Other analogs (6-16) were found disabled. All anologues were enabled and reset, as per manufacturer instructions. Saved existing data to computer (site_003_FOX-4cble1_Aug_25_2006.xls)
- Memory usage 25%, date correct but time incorrect.
- 2 analogs not working (2 &3)
- Enabled multiplexor as it was disabled.
- Setting/Programming checked and reset.
- Clock Set to local Time
- Installed repaired data logger
- Fixed the setup with casing

Proposed Maintenance

Check working conditions of non-functional analogues/beads in summer 2007.
New battery installed: no new batteries required until August 2008.

Table 6-13: 2006 Thermistor Maintenance Report - Thermistor Station T2

Thermal Monitoring
Ground Temperature Annual Maintenance Report

Contractor Name:	**FRANZ - Nunatta**	Inspection Date:	**25-Aug-06**
Prepared By:	**Tanmay Praharaj**		

Thermistor Information

Site Name:	**FOX-4**	Thermistor Location:	**Tier II Disposal Facility**
Thermistor Number:	**T2**	Inclination:	**Vertical**
Install Date:		First Date Event	Last Date Event
Coordinates and Elevation		Elevation:	
Length of Cable	**1.59**	Cable Lead Above Ground	Nodal Points **5**
Datalogger Serial #	**67755**	Cable Serial #	

Thermistor Inspection

	Good	Needs Maintenance	
Casing	☑	☐	
Cover	☑	☐	
Data Logger	☑	☐	
Cable	☑	☐	
Beads	☐	☑	

Battery Installation Date **Battery label: battery expiry date Aug 07**

Battery Levels Main **11.34V** All green/full Aux **13.75V** 90% green/full

Observations

- Saved existing data to computer (site_055_FOX-4cble3_Aug_25_2006.xls)
- FOX-4 Cble3 Site: 55
- Site Number: 55
- Description FOX-4 Cble 3
- Analog 1 to 5 working (green)
- Last Recording 25-Aug-2006 @ 12:00 PM
- Multiplexor not enabled
- Enabled multiplexor as it was disabled.
- First Recording: 17-Jun-05
- Last Recording: 25-Aug-06
- Memory Used: 25%
- Fixed the setup with casing
- Setting/Programming checked and reset. Clock Set to local Time

Proposed Maintenance

Although battery strength is good, the contract stipulates that the battery be replaced every two years, so battery replacement in 2007 is planned.

Check connections/cables from the ground, check beads/analogues for serviceability, check/reset datalogger in summer 2007.

Table 6-14: 2006 Thermistor Maintenance Report - Thermistor Station T3

Thermal Monitoring
Ground Temperature Annual Maintenance Report

Contractor Name:	**FRANZ - Nunatta**	Inspection Date:	**25-Aug-06**
Prepared By:	**Tanmay Praharaj**		

Thermistor Information

Site Name:	**FOX-4**	Thermistor Location:		**Tier II Disposal Facility**	
Thermistor Number:	**T3**	Inclination:		**Vertical**	
Install Date:		First Date Event		Last Date Event	
Coordinates and Elevation				Elevation:	
Length of Cable	**1.56**	Cable Lead Above Ground		Nodal Points	**5**
Datalogger Serial #	**67725**	Cable Serial #			

Thermistor Inspection

	Good	Needs Maintenance	
Casing	☐	☑	**Duct tape at base, weak, needs to be replaced, the casing is moving in the wind.**
Cover	☑	☐	
Data Logger	☑	☐	
Cable	☑	☐	
Beads	☑	☐	

Battery Installation Date **Battery label: battery expiry date Aug 07**

Battery Levels	Main	**11.34V** All green/full	Aux	**13.63V** 90% green/full

Observations

- **Saved existing data to computer (site_025_FOX-4cable2_Aug_25_2006.xls)**
- **FOX-4 Cable 2 Site: 25**
- **Site Number: 25**
- **Description FOX-4 Cable 2**
- **Analog 1 to 5 working (green)**
- **Memory Used: 23%**
- **Warm up time was 0.310, changed to 0.210**
- **Multiplexor was disabled, changed it to enabled.**

Proposed Maintenance

Improve installation of protective casing by digging in the base of the casing.
Although battery strength is good, the contract stipulates that the battery be replaced every two years, so battery replacement in 2007 is planned.
Check connections/cables from the ground, check beads/analogues for serviceability, check/reset datalogger in summer 2007.

Table 6-15: 2006 Thermistor Maintenance Report - Thermistor Station T4

Thermal Monitoring
Ground Temperature Annual Maintenance Report

Contractor Name:	**FRANZ - Nunatta**	Inspection Date:	**25-Aug-06**
Prepared By:	**Tanmay Praharaj**		

Thermistor Information

Site Name:	**FOX-4**	Thermistor Location:	**Tier II Disposal Facility**
Thermistor Number:	**T4**	Inclination:	**Vertical**
Install Date:		First Date Event	Last Date Event
Coordinates and Elevation			Elevation:
Length of Cable	**1.67**	Cable Lead Above Ground	Nodal Points **5**
Datalogger Serial #		Cable Serial #	

Thermistor Inspection

	Good	Needs Maintenance	
Casing	☑	☐	
Cover	☑	☐	
Data Logger	☐	☑	**Damaged connector (broken)**
Cable	☐	☑	**Damaged connector (missing pins)**
Beads	☐	☑	**Not working properly**

Battery Installation Date **Not indicated on datalogger/battery label.**

Battery Levels Main **11.34V** Aux **13.02V**

Observations

- Saved existing data to computer (site_043_FOX-4cble4_Aug_25_2006.xls)
- FOX-4 Cable 4 Site: 43
- Site Number: 43
- Description FOX-4 Cable 4
- Analog 1 to 5 working (green)
- Memory Used: 25%
-The downloaded data contained no analogue/thermocouple readings subsequent to 2 November 2005. This lack of data is likely due to the disconnected cables. Re-programmed and reset datalogger The serviceability of this datalogger is not clear – missing pins may prevent collection of data from one or more analogues/thermocouples, however Datalogger software indicated that analogs 1 to 5 were working (green). Insufficient time on site to confirm serviceability by waiting 12 hours to download a data point from the datalogger. It is suspected that the re-programmed and reset datalogger should be working properly for analogues/thermocouples with intact connecting pins.
- Multiplexor was disabled, changed it to enabled.
- Clock was 30 minutes behind, and was reset to correct local time.
- Warm up time was 0.310, changed to 0.210

Proposed Maintenance

Replace damaged connector/cable.

Although battery strength is good, the contract stipulates that the battery be replaced every two years, so battery replacement in 2007 is planned.
Check connections/cables from the ground, check beads/anologues for serviceability, check/reset datalogger in summer 2007.

Table 6-16: 2006 Thermistor Maintenance Report - Thermistor Station T5

Thermal Monitoring
Ground Temperature Annual Maintenance Report

Contractor Name:	**FRANZ - Nunatta**	Inspection Date:	**25-Aug-06**
Prepared By:	**Tanmay Praharaj**		

Thermistor Information

Site Name:	**FOX-4**	Thermistor Location:	**Tier II Disposal Facility**		
Thermistor Number:	**T5**	Inclination:	**Vertical**		
Install Date:		First Date Event		Last Date Event	
Coordinates and Elevation				Elevation:	
Length of Cable	**1.39**	Cable Lead Above Ground		Nodal Points	**5**
Datalogger Serial #		Cable Serial #			

Thermistor Inspection

	Good	Needs Maintenance	
Casing	☑	☐	
Cover	☑	☐	
Data Logger	☐	☑	**No data recorded subsequent to 3 April 2006.**
Cable	☑	☐	
Beads	☐	☑	**No data recorded subsequent to 3 April 2006.**

Battery Installation Date: **Label indicates: Lithium Battery (datalogger expiration 09/2001, however this battery was reported as changed in 2005.**

Battery Levels	Main	**11.34V**	Aux	**13.75V**
		full green		90% green

Observations

- Saved existing data to computer (site_009_cable6_Aug_25_2006.xls)
- FOX-4 Cable 6 Site: 9
- Site Number: 9
- Description FOX-4 Cable 6
- Analog 1 to 5 working (green)
- Memory Used: 13%
- The downloaded data contained no analogue/thermocouple readings subsequent to 3 April 2006. Thermistor malfunction/damage is suspected. Re-programmed and reset datalogger – no indication of malfunction or non-serviceability. Insufficient time on site to confirm serviceability by waiting 12 hours to download a data point from the datalogger. It is suspected that the re-programmed and reset datalogger should be working properly.

- wrong clock time and date, changed to proper time and date.
- Stop when memory full was unchecked or it was checked before.
- Multiplexor enabled as it was disabled before.
- Standard inputs for 6, 7 & 8 enabled as they were disabled before.
- Warm up time was 0.160, changed to 0.210
- Multiplexor was disabled, changed it to enabled.

Proposed Maintenance

Although battery strength is good, the contract stipulates that the battery be replaced every two years, so battery replacement in 2007 is planned.
Check connections/cables from the ground, check beads/analogues for serviceability, check/reset datalogger in
Replace datalogger if similar loss of data occurs in 2006-2007.

Table 6-17: 2006 Thermistor Maintenance Report - Thermistor Station T6

Thermal Monitoring
Ground Temperature Annual Maintenance Report

Contractor Name:	**FRANZ - Nunatta**	Inspection Date:	**25-Aug-06**
Prepared By:	**Tanmay Praharaj**		

Thermistor Information

Site Name:	**FOX-4**	Thermistor Location:	**Tier II Disposal Facility**		
Thermistor Number:	**T6**	Inclination:	**Vertical**		
Install Date:		First Date Event		Last Date Event	
Coordinates and Elevation				Elevation:	
Length of Cable	**1.49**	Cable Lead Above Ground		Nodal Points	**5**
Datalogger Serial #	**806104**	Cable Serial #			

Thermistor Inspection

	Good	Needs Maintenance	
Casing	☑	☐	
Cover	☑	☐	
Data Logger	☐	☑	
Cable	☐	☑	
Beads	☐	☑	

Battery Installation Date: **Label indicates: Lithium Battery (datalogger expiration 09/2001, however this battery was reported as changed in 2005.**

Battery Levels: Main **11.34V** full green; Aux **13.02V** 90% green

Observations

- **Saved existing data to computer (site_004_cable5_Aug_25_2006.xls)**
- **FOX-4 Cable 5 Site: 4**
- **Site Number: 4**
- **Description FOX-4 Cable 5**
- **Analog 1 to 5 working (green)**
- **Memory Used: 13%**
- **Clock 3 hours behind, time reset.**
- **Unchecked stop when memory full as it was before.**
- **Multiplexor was disabled, changed it to enabled.**
- **Standard inputs for 6, 7 & 8 enabled as they were disabled before.**
- **Warm up time was 0.185, changed to 0.210**
- **Data from August 2005 to August 2006 successfully downloaded. The datalogger seems to be functioning properly.**

Proposed Maintenance

Although battery strength is good, the contract stipulates that the battery be replaced every two years, so battery replacement in 2007 is planned.

Check connections/cables from the ground, check beads/analogues for serviceability, check/reset datalogger in summer 2007.

6.7 Soil Sample Analytical Data

The concentrations of total Cd, Pb and Hg were below detection limit, while the concentrations of Ni and Co were low in all soil samples (surface and subsurface). The concentration of As was observed to be very high (162 mg/kg) in the subsurface soil sample collected at MW-14. In case of the Lower Site landfill, the metal concentrations were generally higher in the downgradient soil samples as compared to the upgradient soil samples. In case of Tier II landfill, the metal concentrations in the upgradient and downgradient soil samples were nearly comparable with the exception of As, which showed higher concentrations in few upgradient subsurface soil samples.

The concentrations of PCBs were not-detect in all the soil samples.

The results for TPH analysis in soil samples showed that the concentrations were either non-detectable or fairly low in the upgradient and downgradient samples with the exception of the subsurface soil collected in the vicinity of MW-14, where a very high F2 concentration resulted in high TPH concentration (3532 mg/kg). The surface soil collected at the same location showed significantly lower TPH concentration (140 mg/kg).

The soil sample analytical data is included in the following page as Table 6-18.

Table 6-18: Summary of 2006 Soil Analytical Data - DCC Tier II Soil Disposal and Lower Site Landfill

Sample #	Location	Depth (cm)	Cu [mg/kg]	Ni [mg/kg]	Co [mg/kg]	Cd [mg/kg]	Pb [mg/kg]	Zn [mg/kg]	Cr [mg/kg]	As [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1 C_6-C_{10} [mg/kg]	F2 C_{10}-C_{16} [mg/kg]	F3 C_{16}-C_{34} [mg/kg]	TPH C_6-C_{34} [mg/kg]
LOWER SITE LANDFILL - UPGRADIENT																
MW-16 (Soil) 0-15 cm	MW-16	0-15	5	5	2	< 1	<10	9	12	5	< 0.04	<0.1	<12	<10	<10	<12
MW-16 (Soil) 40-50 cm	MW-16	40-50	21	5	3	< 1	<10	16	22	7.4	< 0.04	<0.1	<12	<10	10	10
TIER II FACILITY - UPGRADIENT / LOWER SITE LANDFILL - DOWNGRADIENT																
MW-14 (Soil) 0-15 cm	MW-14	0-15	10	7	3	< 1	<10	17	19	5.5	< 0.04	<0.1	<12	20	120	140
MW-14 (Soil) 40-50 cm	MW-14	40-50	26	10	3	< 1	<10	19	22	**162**	<0.04	<0.1	92	2620	820	3532
MW-15 (Soil) 0-15 cm	MW-15	0-15	10	7	3	< 1	<10	14	19	7.2	< 0.04	<0.1	<12	<10	20	20
MW-15 (Soil) 40-50 cm	MW-15	40-50	13	10	3	<1	<10	18	22	**24.1**	< 0.04	<0.1	<12	<10	30	30
TIER II FACILITY - DOWNGRADIENT																
MW-10 (Soil) 0-15cm	MW-10	0-15	10	9	3	< 1	<10	20	20	5.8	< 0.04	<0.1	<12	<10	20	20
MW-10 (Soil) 40-50 cm	MW-10	40-50	11	10	3	< 1	<10	20	19	7.2	<0.04	<0.1	<12	<10	<10	<12
MW-11 (Soil) 0-15 cm	MW-11	0-15	14	13	4	< 1	<10	23	26	7.6	< 0.04	<0.1	<12	10	40	50
MW-11 (Soil) 40-50 cm	MW-11	40-50	5	6	2	< 1	<10	14	16	4.7	< 0.04	<0.1	<12	<10	20	20
MW-12 (Soil) 0-15 cm	MW-12	0-15	7	7	2	< 1	<10	15	19	18.1	< 0.04	<0.1	<12	10	50	60
MW-12 (Soil)40-50 cm	MW-12	40-50	12	10	3	< 1	<10	18	20	8.6	< 0.04	<0.1	<12	<10	30	30
MW-13 (Soil) 0-15 cm	MW-13	0-15	8	8	2	< 1	<10	16	20	8.5	< 0.04	<0.1	<12	<10	20	20
MW-13 (Soil) 40-50 cm	MW-13	40-50	8	8	3	< 1	<10	17	20	5.3	< 0.04	<0.1	<12	<10	10	10

Notes

NV = No Value

ND = Non - Detectable

6.8 Groundwater Sample Analytical Data

The concentrations of total Cd and Hg were below detection limit, while the concentrations of Ni, Co, Pb and As were generally low in the groundwater samples. In case of the Tier II disposal site, the concentrations of Cu, Zn and Cr showed fairly high values (0.121, 2.440 and 0.273 mg/L respectively) in the downgradient groundwater samples as compared to the upgradient groundwater samples.

The concentrations of PCBs, TPH were non-detect for all groundwater samples with the exception of MW-14, which showed a high TPH concentration of 0.675 mg/L.

The groundwater sample analytical data is included in the following page as Table 6-19.

Table 6-19: Summary of 2006 Groundwater Analytical - DCC Tier II Soil Disposal and Lower SiteLandfill

Sample #	Location	Groundwater Elevation (masl)	Cu [mg/L]	Ni [mg/L]	Co [mg/L]	Cd [mg/L]	Pb [mg/L]	Zn [mg/L]	Cr [mg/L]	As [mg/L]	Hg [mg/L]	PCBs [ug/L]	F1 C_6-C_{10} [ug/L]	F2 C_{10}-C_{16} [mg/L]	F3 C_{16}-C_{34} [mg/L]	TPH C_6-C_{34} [mg/L]
LOWER SITE LANDFILL - UPGRADIENT WELL																
MW-16	MW-16	-	0.006	0.020	0.003	<0.001	0.030	0.410	0.051	0.001	<0.0002	<0.1	< 25	<0.1	<0.1	<0.1
TIER II FACILITY - UPGRADIENT																
MW-14	MW-14	-	0.005	0.040	0.011	<0.001	0.010	0.300	0.009	0.001	<0.0002	<0.1	**275**	**0.400**	<0.1	**0.675**
MW-15	MW-15	-	0.005	0.010	0.002	<0.001	<0.01	0.070	0.006	0.001	<0.0002	<0.1	< 25	<0.1	<0.1	<0.1
TIER II FACILITY - DOWNGRADIENT WELLS																
MW-10	MW-10	-	0.010	0.050	0.002	<0.001	0.010	0.600	**0.273**	0.004	<0.0002	<0.1	< 25	<0.1	<0.1	<0.1
MW-11	MW-11	-	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
MW-12	MW-12	-	**0.121**	0.020	0.007	<0.001	0.010	**2.44**	0.013	0.008	<0.0002	<0.1	< 25	<0.1	<0.1	<0.1
MW-13	MW-13	-	0.032	0.020	0.007	<0.001	0.010	**1.60**	0.006	0.004	<0.0002	<0.1	< 25	<0.1	<0.1	<0.1

Notes

NV = No Value

ND = Non - Detectable

6.9 Monitoring Well Sampling Logs

The monitoring well sampling logs for MW-10 to MW-16 are included in the following pages as Table 6-20 to 6-26.

Table 6-20: Monitoring Well Sampling Log MW 10 - DCC Tier II Soil Disposal and Lower Site Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	24/08/2006	Time:	3:03
Names of Samplers:	T.P. + R. W.		
Landfill Name:	DCC Tier II		
Monitoring Well ID:	MW-10		
Well Sampling Event:	2006	Sample Number:	MW-10
Condition of Well:	Good, some bentonite in metal casing.	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	6000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	7		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	70	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	63	from ground surface	
Depth to bottom (cm):	150	Evidence of sludge etc:	Some bentonite in metal casing
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.82		
Conductivity (mS/cm) :	54.9		
Temperature (^{o}C):	1.4		
Depth of water (cm):	80		
Well volume of water (mL):	1600		
Length screen collecting water:			
Shape factor:			

Table 6-21: Monitoring Well Sampling Log MW 11 - DCC Tier II Soil Disposal and Lower Site Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	24-08-2006	Time:	
Names of Samplers:	T.P. + R. W.		
Landfill Name:	DCC Tier II		
Monitoring Well ID:	MW-11		
Well Sampling Event:	2006	Sample Number:	MW-11
Condition of Well:	Bailer stuck in the well at 0.48 m below top of pipe, not able to remove bailer.	Procedure/Equipment:	-
Volume Purged Water (mL):	4000	Purging (Y/N):	-
Sampling Equipment:	-		
Filtration (Y/N):	-	Acidification (Y/N):	-
Decontamination required (Y/N):	-	Number washes and rinses:	-

Measured Data

Well height above ground (cm):	7		
Diameter of well (cm):	5		
Depth of installation (cm):	-	from ground surface	
Length screened section (cm):	-		
Depth to top of screen (cm):	-	from ground surface	
Depth to water surface (cm):	-	Method (electric meter, steel tape, etc):	
(from top of pipe)	-		
Static water level (cm):	-	from ground surface	
Depth to bottom (cm):	-	Evidence of sludge etc:	Some bentonite in metal casing
	-	Evidence of freezing/siltation:	
	-	(compare to installation record)	
Free product thickness (mm):	-	Method (electric meter, steel tape, etc):	
pH:	-		
Conductivity (µS/cm) :	-		
Temperature (^{o}C):	-		
Depth of water (cm):	-		
Well volume of water (mL):	-		
Length screen collecting water:	-		
Shape factor:	-		

Table 6-22: Monitoring Well Sampling Log MW 12 - DCC Tier II Soil Disposal and Lower Site Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	24/8/2006	Time:	1:49
Names of Samplers:	D.L		
Landfill Name:	DCC Tier II		
Monitoring Well ID:	MW-12		
Well Sampling Event:	2005	Sample Number:	MW-12
Condition of Well:	Bailer stuck in the well at 1.36 m below top of pipe, not able to remove bailer, but had enough water in the well above the bailer to sample.	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	4000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	2		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	2	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	0	from ground surface	
Depth to top of bailer (cm):	132	Evidence of sludge etc:	Some bentonite in metal casing
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.41		
Conductivity (mS/cm) :	42.4		
Temperature (^{o}C):	4		
Depth of water (cm):	134		
Well volume of water (mL):	2700		
Length screen collecting water:			
Shape factor:			

Table 6-23: Monitoring Well Sampling Log MW 13 - DCC Tier II Soil Disposal and Lower Site Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	24/08/2006	Time:	11:32
Names of Samplers:	T.P. + R.W.		
Landfill Name:	DCC Tier II		
Monitoring Well ID:	MW-13		
Well Sampling Event:	2006	Sample Number:	MW-13
Condition of Well:	Bailer stuck in the well at 1.32 m below top of pipe, not able to remove bailer, but had enough water in the well above the bailer to sample. Bentonite was removed from well casing prior to sampling.	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	8000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	-2		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	-2	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):		from ground surface	
Depth to top of bailer (cm):	131.5	Evidence of sludge etc:	Some bentonite in metal casing and well casing.
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	6.14		
Conductivity (mS/cm) :	28.4		
Temperature (°C):	2.9		
Depth of water (cm):	133.5		
Well volume of water (mL):	2600		
Length screen collecting water:			
Shape factor:			

Table 6-24: Monitoring Well Sampling Log MW 14 - DCC Tier II Soil Disposal and Lower Site Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	24/08/2006	Time:	10:31
Names of Samplers:	T.P. + D.W.		
Landfill Name:	Lower Site		
Monitoring Well ID:	MW-14		
Well Sampling Event:	2006	Sample Number:	MW-14
Condition of Well:	Good	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	8000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	N
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	17		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	40	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)			
Static water level (cm):	23	from ground surface	
Depth to bottom (cm):	179.5	Evidence of sludge etc:	Some bentonite in metal casing.
		Evidence of freezing/siltation:	
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface Probe
pH:	5.9		
Conductivity (mS/cm) :	19.7		
Temperature (^oC):	2.4		
Depth of water (cm):	139.5		
Well volume of water (mL):	2800		
Length screen collecting water:			
Shape factor:			

Table 6-25: Monitoring Well Sampling Log MW 15 - DCC Tier II Soil Disposal and Lower Site Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	24/08/2006	Time:	4:31
Names of Samplers:	T.P. + D.W.		
Landfill Name:	DCC Tier II		
Monitoring Well ID:	MW-15		
Well Sampling Event:	2006	Sample Number:	MW-15
Condition of Well:	Broken bailer stuck in well, however water can still be sampled.	Procedure/Equipment:	Bailer
Volume Purged Water (mL):	10000	Purging (Y/N):	Y
Sampling Equipment:	Bailer		
Filtration (Y/N):	N	Acidification (Y/N):	NA
Decontamination required (Y/N):	N	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	7		
Diameter of well (cm):	5		
Depth of installation (cm):		from ground surface	
Length screened section (cm):			
Depth to top of screen (cm):		from ground surface	
Depth to water surface (cm):	10	Method (electric meter, steel tape, etc):	
(from top of pipe)			
Static water level (cm):	3	from ground surface	
Depth to bottom (cm):	183	Evidence of sludge etc:	Some bentonite in metal casing.
	6.87	Evidence of freezing/siltation:	
	34.5	(compare to installation record)	
Free product thickness (mm):	2.8	Method (electric meter, steel tape, etc):	
pH:	173		
Conductivity (mS/cm) :	3400		
Temperature (^oC):			
Depth of water (cm):			
Well volume of water (mL):			
Length screen collecting water:			
Shape factor:			

Table 6-26: Monitoring Well Sampling Log MW 16 - DCC Tier II Soil Disposal and Lower Site Landfill

Development of Monitoring Wells

Site Name:	Fox-4		
Date of Sampling Event:	24-08-2006	Time:	9:20
Names of Samplers:	T.P. + R.W.		
Landfill Name:	Lower Site Landfill		
Monitoring Well ID:	MW-16		
Well Sampling Event:	2006	Sample Number:	MW-16
Condition of Well:	Bailer stuck in the well at 1.35 m below top of pipe, not able to remove bailer, but had enough water in the well above the bailer to sample. Bentonite was removed from well casing prior to sampling.	Procedure/Equipment:	-
Volume Purged Water (mL):	-	Purging (Y/N):	Y
Sampling Equipment:	-		
Filtration (Y/N):	-	Acidification (Y/N):	NA
Decontamination required (Y/N):	-	Number washes and rinses:	NA

Measured Data

Well height above ground (cm):	12		
Diameter of well (cm):	5		
Depth of installation (cm):	-	from ground surface	
Length screened section (cm):	-		
Depth to top of screen (cm):	-	from ground surface	
Depth to water surface (cm):	37	Method (electric meter, steel tape, etc):	Electric Meter
(from top of pipe)	-		
Static water level (cm):	25	from ground surface	
Depth to top of bailer (cm):	135	Evidence of sludge etc:	Some bentonite in metal casing.
		Evidence of freezing/siltation:	Some ice had to be cleared prior to opening the well.
		(compare to installation record)	
Free product thickness (mm):	0	Method (electric meter, steel tape, etc):	Interface probe
pH:	6.21		
Conductivity (mS/cm) :	9		
Temperature (^{o}C):	1.5		
Depth of water (cm):	98		
Well volume of water (mL):	1920		
Length screen collecting water:	-		
Shape factor:	-		

7.0 AIRSTRIP LANDFILL

7.1 Summary

The Airstrip Landfill is located at the lower site on high ground, south of the east end of the airstrip. Its surface area is approximately 2600 m^2.

The monitoring of this landfill includes visual inspection to verify for evidence of settlement or erosion and collection of soil samples to monitor for the presence of leachate. One new soil sample location, F4-25 was established and the soil samples were analyzed for all the parameters. Soil sample locations are identified in Figure 12 FOX-4 Cape Hooper – Airstrip Landfill. The soil analytical data is presented in Table 7-6. Soils at all stations were sampled from surface and subsurface as specified. There are no monitoring wells in this area.

The visual inspection report, including supporting photos and drawing, is presented in the following pages.

7.2 Visual Inspection Report

The visual inspection of the Airstrip Landfill was conducted on August 25, 2006. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material with trace cobbles. There are some areas that comprised of cobbles and boulders.

<u>Settlement</u>

Indications of settlement were not observed.

<u>Erosion</u>

Based on the supplied topographical map it appears that the landfill was placed over a former natural drainage feature or gully. Erosion channels coincident with the former gullies are present and appeared larger than noted in the previous (2005) year. Round rock was noted in the erosion channels and may have been placed in the channels to reduce erosion. However the water flow velocity and slope of the top of the landfill is causing loss or displacement of the round rock.

The photo of the active surface erosion area taken in July 2005 (photo 7U) was compared to photos 7F, 7G and 7H which represent the upland area of erosion and photos 7I, and 7J which present the observed seepage just upgradient from the erosion area, depicted in 7F. The images were contrast enhanced and presented again as photos 7P, 7Q, and 7R for the erosion area and photos 7I and 7J for the seepage area. The photos were then compared to a photo taken in July 2005 and provided by DCC (photo 7U). It is assumed that photo 7U (taken in July 2005 and provided by DCC in January 2007) was taken at the head of the erosion channel, however this is not known for certain. The most comparable view of the 2005 area (photo 7U) is from photos 7H and 7R, photographed in 2006. Both photos display the erosion area however the features in 7U (2005) display a difference in soil type. The soil in photo 7U (2005) has a higher fraction of sand then the soil displayed in 7H and 7R. When viewing the 2006 photos it was noted that an area 1.5m downslope may correspond with the channel area photographed in 2005 (photo 7U). Also the channel area viewed in 7R was taken at an angle that prevents the viewer from judging the depth but based on field observations the channel depths appear to be similar. The notable differences are the head scarp area in 2006 appears to be a shallower slope with gravel and cobbles, and a corresponding decrease on sand.

Based on the comparison the channel area may have moved upland by 1.5m during the period from 2005 to 2006. It is also possible that the change in soil type maybe only be the result of erosion of the finer sand fraction. Either way active erosion is being observed. The cause of the erosion is evidenced by a seepage occurring just above the land fill area and seepage emerging from a point down gradient of the landfill indicating that both surface and sub surface flows of water are active in this area. This can cause erosion of the surface and piping in the subsurface both of which result in material loss of the capping layer. Piping occurring in the subsurface soil appears to be confirmed by the cavity visible in the 2005 photo (photo 7U) and by field observations of water flowing just beneath the coarse gravel material in the erosion channel as well as the water emerging from the underneath the gravel at the bottom of the erosion channel, photo 7M.

Frost Action

No frost action was observed in this area.

Evidence of Burrowing Animals

Indications of burrowing animals were not noted in the landfill however arctic hares and foxes were observed in the area.

Re-establishment of Vegetation

Re-establishment of vegetation was not noted.

Staining

The stained areas noted in the 2005 inspection report were not noted in the 2006 visual inspection.

Seepage Points

Seepage is emerging just above the southern portion of the landfill and is emerging from the northern down-slope portion of the landfill. The seepage was noted to be limited at the time of the inspection but is likely to be quite high during the spring freshet.

Debris

Exposed debris was not noted.

Discussion

Based on the presence of significant and active erosion occurring on the capping layer the landfill performance is rated as marginal.

The erosion channels have been in-filled with round rock for erosion protection. This round rock is being displaced down the slope and is likely to be ineffective as means to control erosion in the long term. Nearby colluvium (angular rock) is available on site, which would be more effective at minimizing erosion and preventing debris exposure or loss of the insulative soil layer.

Table 7-1: Visual Inspection Checklist – Inspection Report – Airstrip Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **AIRSTRIP LANDFILL**
LANDFILL DESIGNATION: Landfill, Lower Site, South of East end of Airstrip
DATE OF INSPECTION: August 25, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	Present Yes/No	Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)	Length	Width	Depth	Extent relative to Area of Landfill (%)	Description	Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale	Additional Comments
Settlement	NO								
Erosion	YES	For locations, refer to Figure 12 FOX-4 Cape Hooper – Airstrip Landfill. E7-1 E7-2	80 m 25 m	7 m 5 m	0.5 m -1 m 0.5 m	22% 5%	Erosion is occurring along channels within the capping cover material. The erosion channels likely were filled in with round rock in some areas to reduce erosion however the slope and flow gradient are too high and movement of the round rock is occurring.	Photographs: 7F, 7G, 7H7K, 7L, 7M, 7N, 7O For locations and directions of photographs, refer to Figure 12 FOX-4 Cape Hooper – Airstrip landfills.	The landfill may have been sited in a natural watercourse or drainage feature. The water flow is occurring along these infilled drainage features causing excessive erosion. If future work is conducted to reduce the erosion of the capping material the nearby colluvium (angular rock) should be used to minimize erosion. The colluvium (rocks) of the correct size should be used based on the water flow rate to minimize displacement of the armouring angular rock.
Frost Action	NO	Frost action was not noted.							
Sloughing and Cracking	NO								
Animal Burrows	NO								
Vegetation	NO							No vegetation was observed on the capping cover.	
Staining	NO							Staining noted in previous year was not noted during the 2006 landfill assessment.	
Vegetation Stress	NO							No vegetation was observed on the capping cover.	
Seepage Points	YES	One seepage point is present on the south landfill boundary and one point is present emerging from the landfill on the northwest boundary. Refer to Figure 12 FOX-4 Cape Hooper –Airstrip landfills.						Photographs: 7I, 7J, 7M, 7N, 7O For locations and directions of photographs, refer to Figure 12 FOX-4 Cape Hooper – Airstrip landfills.	
Debris Exposed	NO								
Presence/Condition – Monitoring Instruments	YES	Refer to Figure 12 FOX-4 Cape Hooper –Airstrip landfills.						Refer to Figure 12 FOX-4 Cape Hooper – Airstrip landfills.	
Features of Note.	NO								

7.3 Preliminary Stability Assessment

The Preliminary Stability Assessment for the Airstrip Landfill has been completed as per the Terms of Reference and is included as Tables 7-2 of this report.

Table 7-2: Preliminary Stability Assessment – Airstrip Landfill

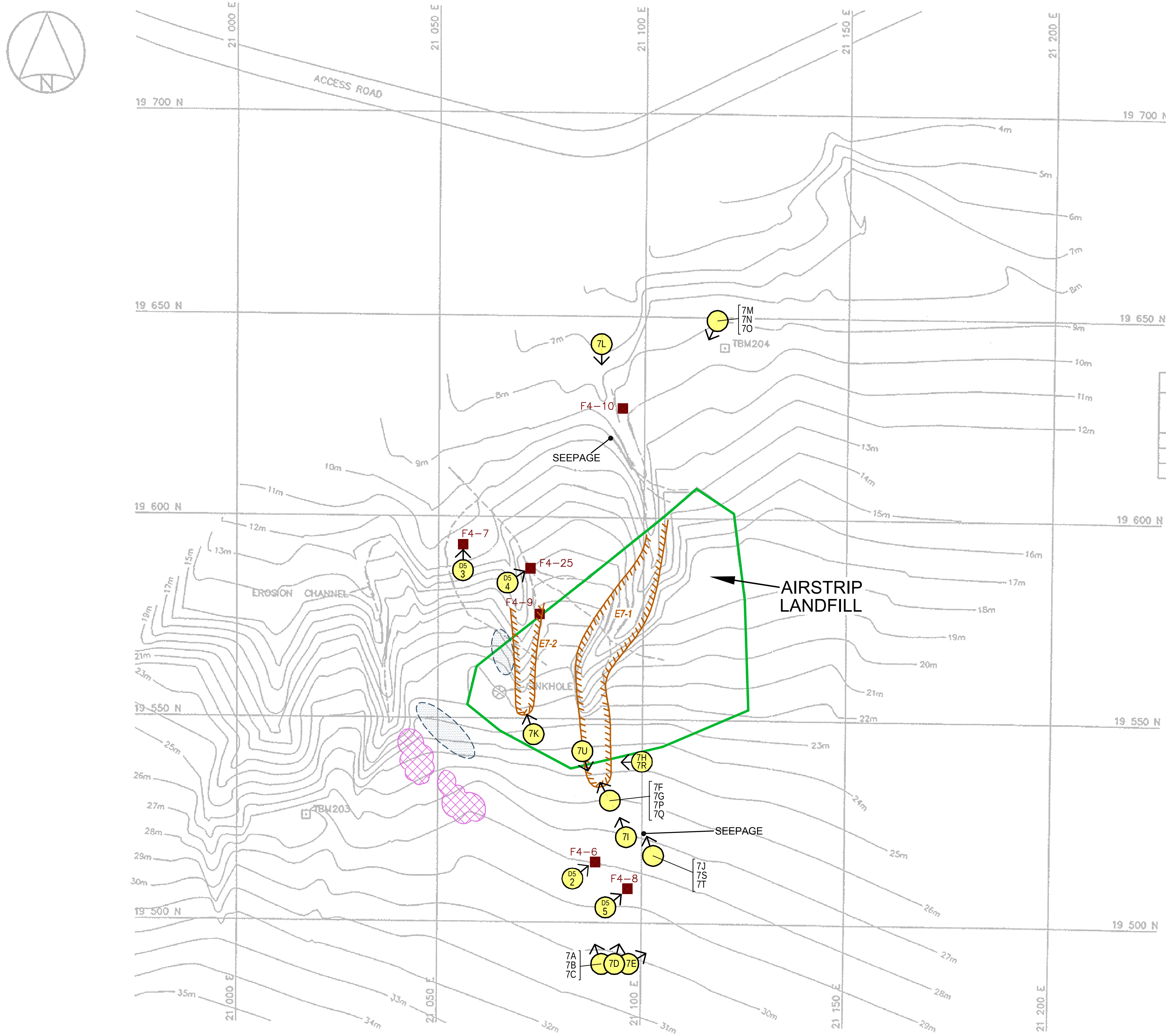
Feature	Severity Rating	Extent
Settlement	Acceptable	None
Erosion	Significant	Occasional
Frost Action	Not Observed	None
Staining	Not Observed	None
Vegetation Stress	Not Observed	None
Seepage / Ponded Water	Acceptable	Occasional
Debris Exposure	Not Observed	None
Overall Landfill Performance	**Marginal**	

Performance / Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

7.4 Location Plan

The Location Plan for the Airstrip Landfill has been completed as per the Terms of Reference and is included in the following page as Figure 12 FOX-4 Cape Hooper – Airstrip Landfill.



LEGEND:

NOTE: FEATURES IN GREY PREDATE THE 2005 FIELD SEASON

TBM203 TEMPORARY BENCHMARK

SOIL SAMPLE

LANDFILL BOUNDARY (APPROXIMATE)

2006 OBSERVATIONS:

STAINS

DEBRIS

EROSION

POOLING

SINKHOLE

PHOTOGRAPH LOCATION (INDICATING PHOTO NUMBER, LOCATION, VIEWING DIRECTION)

TEMPORARY BENCHMARKS

NO.	COORDINATES		ELEV. (m)	DESCRIPTION
	NORTHING	EASTING		
203	19 525.545	21 017.155	28.241	19mm DIA. PIPE/STONE CAIRN
204	19 642.453	21 119.708	10.019	19mm DIA. PIPE/STONE CAIRN

Title: FOX-4 CAPE HOOPER - AIRSTRIP LANDFILL

Project: FOX-4 CAPE HOOPER DEW LINE CLEAN UP LANDFILL MONITORING PLAN

Date: JANUARY 2007

Client: DEFENCE CONSTRUCTION CANADA

SCALE 1:1000

metres

FIGURE 12

Projects\2006\1213-0601 Fox 4 Cape Hooper DEW Line\Figures 2006\Fox4-5-AirstripLandfill.dwg

7.5 Photographic Records

The Photographic Record for the Airstrip Landfill has been completed as per the Terms of Reference and is included in the following page as Table 7-3. The Photographic Record only contains an index and "thumbnail" photographs; full sized photographs are contained in the Addendum CD-ROM.

Figure 7-3 Photographic Record - Airstrip Landfill

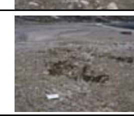
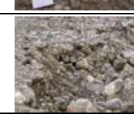
Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
D5-2	Pic D5-2.jpg 2006-08-25	Soil sample hole at F4-6. Depth of hole = 45 cm. Lots of water at the bottom. Camera facing north.		Figure 6
D5-3	Pic D5-3.jpg 2006-08-25	Soil hole at F4-7. Soil hole depth = 46 cm. Camera facing north.		Figure 6
D5-4	Pic D5-4.jpg 2006-08-25	Soil hole at F4-25. Depth of hole = 46 cm. Camera facing north-east		Figure 6
D5-5	Pic D5-5.jpg 2006-08-25	Soil hole at F4-8. Depth of hole = 47 cm. Picture facing north east. Grey coloured soil approximately 35 cm – 47 cm.		Figure 6
7A	7A.jpg 2006-08-24	Airstrip Landfill viewed overlooking landfill at 21,090E 19,490N. White card is 21cm by 28cm. Camera facing North.		Figure 6
7B	7B.jpg 2006-08-24	A close up view of the information card at 21,090E 19,490N. White card is 21cm by 28cm. Camera facing North.		Figure 6
7C	7C.jpg 2006-08-24	Airstrip Landfill viewed overlooking landfill at 21,090E 19,490N. Camera facing North-East.		Figure 6
7D	7D.jpg 2006-08-24	Airstrip Landfill viewed overlooking landfill at 21,090E 19,490N. Camera facing North-East.		Figure 6
7E	7E.jpg 2006-08-24	Airstrip Landfill viewed overlooking landfill at 21,095E 19,490N. Camera facing North-East.		Figure 6
7F	7F.jpg 2006-08-24	Seepage and erosion area observed at 21,090E 19,540N. White card is 21cm by 28cm. Camera facing North.		Figure 6
7G	7G.jpg 2006-08-24	Close up of seepage and erosion area observed at 21,095E 19,540N. White card is 21cm by 28cm. Camera facing North.		Figure 6
7H	7H.jpg 2006-08-24	Close up view of seepage and erosion area observed at 21,100E 19,540N. Camera facing North.		Figure 6
7I	7I.jpg 2006-08-24	Close up view of emerging spring observed at 21,090E 19,540N. White card is 21cm by 28cm. Camera facing East.		Figure 6
7J	7J.jpg 2006-08-24	Wide view of emerging spring and overlooking airstrip landfill at 21,090E 19,540N. White card is 21cm by 28cm. Camera facing West.		Figure 6

Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
7K	7K.jpg 2006-08-24	Slope Erosion observed at 21,095E 19,540N. Overlooking airstrip landfill. White card is 21cm by 28cm. Camera facing North.		Figure 6
7L	7L.jpg 2006-08-24	Facing upgradient at slope erosion at 21,090E 19,640N. White card is 21cm by 28cm. Camera facing South.		Figure 6
7M	7M.jpg 2006-08-24	Seepage exiting boulder area at 21,120E 19,650N. White card is 21cm by 28cm. Camera facing South.		Figure 6
7N	7N.jpg 2006-08-24	Close up of seepage exiting boulder area at 21,120E 19,650N. White card is 21cm by 28cm. Camera facing South.		Figure 6
7O	7O.jpg 2006-08-24	Small stream exiting boulder area at 21,120E 19,650N. White card is 21cm by 28cm. Camera facing South.		Figure 6
7P	7P.jpg 2006-08-24	Slope erosion at 21,090E 19,530N. White Card is 21cm by 28cm. Camera facing North.		Figure 6
7Q	7Q.jpg 2006-08-24	Closer view of slope erosion and information card at 21, 090E 19,530N. White Card is 21cm by 28cm. Camera facing North.		Figure 6
7R	7R.jpg 2006-08-24	Close up view of slope erosion at 21,100E 19,540N. Camera facing North.		Figure 6
7S	7S.jpg 2006-08-24	Close up view of emerging spring and information card at 21,105E 19,520N. White Card is 21cm by 28cm. Camera facing East.		Figure 6
7T	7T.jpg 2006-08-24	Wide view of emerging spring and overlooking airstrip landfill at 21,105E 19,520N. White Card is 21cm by 28cm. Camera facing West.		Figure 6
7U	7U.jpg August 2005	Photo taken in July 2005 and provided by DCC in January 2007. Assumed location is at the head of the erosion channel observed in photos 7P, 7Q, 7R, 7S and 7T, however this is not known for certain.		Figure 6

7.6 Thermal Monitoring Data

Not applicable to this landfill area.

7.7 Soil Sample Analytical Data

The concentrations of total Cd, Pb and Hg were below detection limit, while the concentrations of Cu, Ni, Co, Zn, Cr and As were generally low and comparable in the upgradient and downgradient soil samples at the Airstrip landfill (with the exception of relatively high concentrations of As in the subsurface soil at F4-6 and F4-7).

The concentrations of PCBs were non-detect in all soil samples.

The TPH chemical analyses results for the four soil samples presented non-detectable or low concentrations 910-40 mg/kg) both in upgradient and downgradient stations. The results for hydrocarbons F1 and F3 were under detection limit in all soil samples except for the surface soil at F4-25.

The soil sample analytical data is included in the following page as Table 7-4.

Table 7-4: Summary of 2006 Soil Analytical Data - Airstrip Landfill

Sample #	Location	Depth (cm)	Cu [mg/kg]	Ni [mg/kg]	Co [mg/kg]	Cd [mg/kg]	Pb [mg/kg]	Zn [mg/kg]	Cr [mg/kg]	As [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1 C_6-C_{10} [mg/kg]	F2 C_{10}-C_{16} [mg/kg]	F3 C_{16}-C_{34} [mg/kg]	TPH C_6-C_{34} [mg/kg]
AIRSTRIP LANDFILL UPGRADIENT																
F4-8(Soil)0-15cm	F4-8	0-15	7	5	2	< 1	< 10	11	17	9.4	<0.04	<0.1	<12	20	<10	20
F4-8(Soil)40-50cm	F4-8	40-50	4	5	2	< 1	< 10	10	18	5.4	<0.04	<0.1	<12	20	<10	20
F4-6(Soil) 0-15cm	F4-6	0-15	6	3	1	<1	<10	7	12	8.3	<0.04	<0.1	<12	10	<10	10
F4-6(Soil)40-50cm	F4-6	40-50	8	6	2	<1	<10	12	18	28.6	<0.04	<0.1	<12	<10	<10	<12
AIRSTRIP LANDFILL DOWNGRADIENT																
F4-7(Soil)0-15cm	F4-7	0-15	6	7	2	<1	<10	16	24	13.3	<0.04	<0.1	<12	40	<10	40
F4-7(Soil)40-50cm	F4-7	40-50	12	7	3	<1	<10	17	30	18.6	<0.04	<0.1	<12	30	<10	30
F4-25(Soil)0-15cm	F4-25	0-15	4	4	1	< 1	< 10	12	16	5.8	<0.04	<0.1	<12	<10	10	10
F4-25(Soil)40-50cm	F4-25	40-50	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV

Notes

NV = No Value

ND = Non- Detectable

F4-25(Soil)40-50cm: The subsurface soil sample could not be collected from station F4-25 due to excessive water at the bottom of the hole. This station is located at the sea level; near flowing runoff and is closest to the adjacent bay. Due to these reasons, water filled in the soil hole rapidly, thereby preventing proper collection of soil sample.

F4-6, F4-7, F4-8(Soil): The Terms of Reference (Terms of Reference, Annex A, Table 3) called for sampling at locations F4-9 and F4-10. These locations did not match the sample locations illustrated in the Terms of Reference Annex A, Figure 4.5 - Airstrip Landfill. Samples were gathered in locations as described in the Terms of Reference Annex A, Figure 4.5 - Airstrip Landfill (F4 6, F4-7, F4-8, F4-25).

<0.1 = Detection limit higher than that set in the TOR Annex B.

7.8 Groundwater Sample Analytical Data

There are no monitoring wells in the Airstrip Landfill Area.

7.9 Monitoring Well Sampling Logs

There are no monitoring wells in the Airstrip Landfill Area.

8.0 TANNER BAY LANDFILL

8.1 Summary

The Tanner Bay Landfill is located at the original beach landing area for the site, along Tanner Bay. It has a surface area of approximately 400 m^2.

The monitoring of this landfill includes visual inspection to verify for evidence of settlement or erosion and collection of soil samples to monitor for the presence of leachate. Soil sample locations are identified in Figure 13 FOX-4 Cape Hooper – Tanner Bay Landfill. The soil analytical data is presented in Table 8-6. Soil samples were collected from surface and subsurface at all stations. There are no monitoring wells in this area.

The visual inspection report is presented in the following pages.

8.2 Visual Inspection Report

The visual inspection of the Tanner Bay Landfill was conducted on August 25, 2006. The observed capping material over the landfill grades from a sandy gravel to a gravelly sand material with trace cobbles.

Settlement

Indications of settlement were not observed.

Erosion

Minor erosion of the capping layer surface was noted.

Frost Action

No frost action was observed in this area.

Evidence of Burrowing Animals

Indications of burrowing animals were not noted in the landfill however arctic hares and foxes were observed in the area.

Re-establishment of Vegetation

Re-establishment of vegetation was not noted.

Staining

The stained areas are visible adjacent to the northwest of the landfill and appear to have increased in number and area since the 2005 visual inspection. The staining is reddish and grey with an associated sheen.

Seepage Points

Seepage is emerging from the North West portion of the landfill and is discharging to an area of mature vegetation. Discoloration of the vegetation is occurring. Seepage is associated with reddish and grey brown staining.

Debris

Exposed debris was noted at one location.

Discussion

The Tanner Bay Landfill performance with respect to containment of the debris within the landfill is rated as acceptable.

Table 8-1: Visual Inspection Checklist – Inspection Report – Tanner Bay Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING

VISUAL INSPECTION CHECKLIST

INSPECTION REPORT – PAGE 1 OF 2

SITE NAME: **TANNER BAY LANDFILL**
LANDFILL DESIGNATION:
DATE OF INSPECTION: August 25, 2006
DATE OF PREVIOUS INSPECTION: Aug 25-28, 2005
INSPECTED BY: Richard Wells, Adamie Onalik
REPORT PREPARED BY: Richard Wells, Tanmay Praharaj, Dave Whitley
The inspector/reporter represents to the best of the their knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

VISUAL INSPECTION CHECKLIST - INSPECTION REPORT – PAGE 2 OF 2

Checklist Item	Present Yes/No	Location (Describe relative to existing monuments/features and relative to landfill design i.e. surface, berms, toe)	Length	Width	Depth	Extent relative to Area of Landfill (%)	Description	Photographic Records Focal length, location, view point & direction (relative to magnetic north) Feature of note Scale	Additional Comments
Settlement	NO								
Erosion	YES	Minor Surface erosion is starting to expose the top of a barrel. This is a singular case of minor debris exposure. For locations refer to Figure Fox -13 Cape Hooper-Tanner Bay	0.1 m	0.1 m	0.1 m	<1%		Photographs: 8I, 8J For locations and directions of photographs refer to Figure 13 Fox -4 Cape Hooper-Tanner Bay	
Frost Action	NO	Frost action was not noted. The visible materials appeared to be coarse grained or granular materials and frost susceptibility was assumed to be low.							
Sloughing and Cracking									
Animal Burrows	NO								
Vegetation	NO	No vegetation was observed on top of the landfill however vegetation in close proximity to landfill appears to be well developed.					Lichen and Moss		
Staining	YES	ST8-1 ST8-2 For locations refer to Figure 13 Fox -4 Cape Hooper-Tanner Bay	15 m 15 m	4 m 3 m		15% 11%	Staining was noted	Photographs: 8E, 8F, 8G, 8H For locations and directions of photographs refer to Figure 13 Fox -4 Cape Hooper-Tanner Bay	
Vegetation Stress	NO	No vegetation stress was observed in the vegetation adjacent to the landfill.					Slight Discoloration	Photographs: 8E, 8F, 8G, 8H For locations and directions of photographs refer to Figure 13 Fox -4 Cape Hooper-Tanner Bay	
Seepage Points	YES	Seepage points coincide with staining locations ST8-1 and ST8-2					Where there was staining there was an associated seepage point.	Photographs: 8E, 8F, 8G, 8H For locations and directions of photographs refer to Figure 13 Fox -4 Cape Hooper-Tanner Bay	
Debris Exposed	NO								
Presence/Condition – Monitoring Instruments	YES	For locations refer to Figure 13 Fox -4 Cape Hooper-Tanner Bay					No groundwater wells at the Tanner Bay landfill		
Features of Note.	NO	Access road to the Tanner Bay landfill					Cross ditching has not been installed at locations where natural watercourses intersect the access road.		Progressive wash out of the road is occurring and may limit access to foot traffic only.

8.3 Preliminary Stability Assessment

The Preliminary Stability Assessment for the Tanner Bay Landfill has been completed as per the Terms of Reference and is included as Tables 8-2 of this report.

Table 8-2: Preliminary Stability Assessment – Tanner Bay Landfill

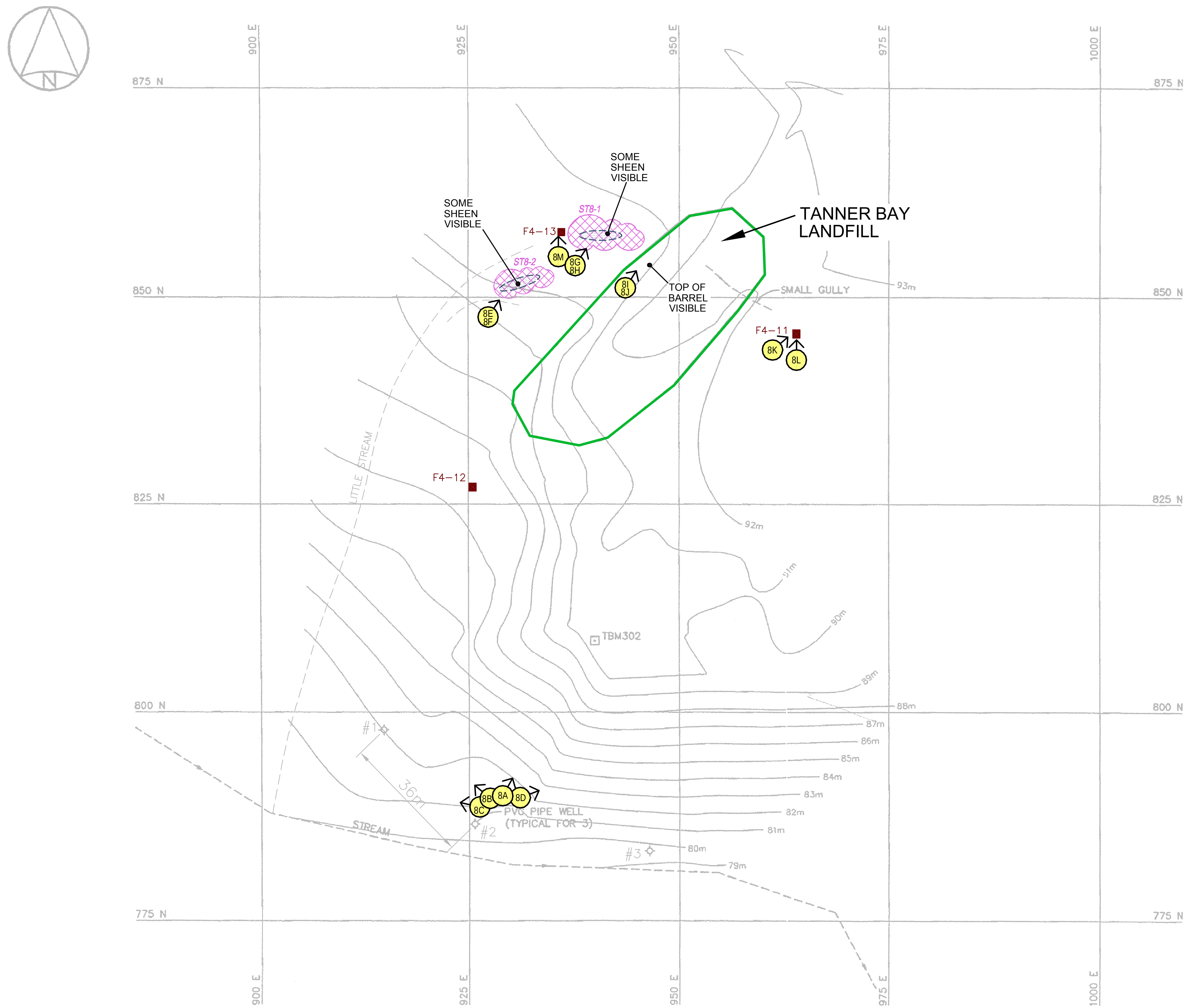
Feature	Severity Rating	Extent
Settlement	Not Observed	None
Erosion	Acceptable	Occasional
Frost Action	Not Observed	None
Staining	Acceptable	Occasional
Vegetation Stress	Acceptable	Occasional
Seepage / Ponded Water	Acceptable	Occasional
Debris Exposure	Acceptable	Isolated
Overall Landfill Performance	**Acceptable**	

Performance / Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears to be deteriorating with time. Observations may include an increase in size or number of features of note, such as differential settlement, erosion or cracking. No significant impact on landfill stability to date, but potential for failure is assessed as low or moderate.
Significant	Significant or potentially significant changes affecting landfill stability, such as significant changes in slope geometry, significant erosion or differential settlement; scarp development. The potential for failure is assessed as imminent.
Unacceptable	Stability of landfill is compromised to the extent that ability to contain waste materials is compromised. Examples may include: • Debris exposed in erosion channels or areas of differential settlement. • Liner exposed. • Slope failure.

Extent	Description
Isolated	Singular feature
Occasional	Features of note occurring at irregular intervals/locations
Numerous	Many features of note, impacted less than 50% of the surface area of the landfill
Extensive	Impacting greater than 50% of the surface area of the landfill

8.4 Location Plan

The Location Plan for the Tanner Bay Landfill has been completed as per the Terms of Reference and is included in the following page as Figure 13 FOX-4 Cape Hooper – Tanner Bay Landfill.



LEGEND: NOTE: FEATURES IN GREY PREDATE THE 2005 FIELD SEASON

- TBM302 TEMPORARY BENCHMARK
- SOIL SAMPLE
- LANDFILL BOUNDARY (APPROXIMATE)

2006 OBSERVATIONS:

- ST8-1 STAINS
- D DEBRIS
- EROSION
- POOLING
- SINKHOLE
- D5 5 PHOTOGRAPH LOCATION (INDICATING PHOTO NUMBER, LOCATION, VIEWING DIRECTION)

TEMPORARY BENCHMARKS

NO.	COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
302	808.603	939.857	90.944	19mm DIA. PIPE/STONE CAIRN

Title: FOX-4 CAPE HOOPER - TANNER BAY LANDFILL

Project: FOX-4 CAPE HOOPER DEW LINE CLEAN UP LANDFILL MONITORING PLAN

Date: JANUARY 2007

Client: DEFENCE CONSTRUCTION CANADA

SCALE 1:1000

20 15 10 5 0 25 50 metres

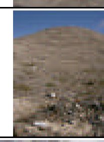
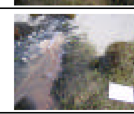
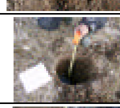
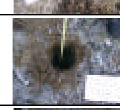
FIGURE 13

Projects\2006\1213-0601 Fox 4 Cape Hooper DEW Line\Figures 2006\Fox4-6-TannerBayLandfill.dwg

8.5 Photographic Records

The Photographic Record for the Tanner Bay Landfill has been completed as per the Terms of Reference and is included in the following page as Table 8-3. The Photographic Record only contains an index and "thumbnail" photographs; full sized photographs are contained in the Addendum CD-ROM.

Table 8-3 Photographic Record - Tanner Bay Landfill

Photo	Electronic File Name Date	Photo Description	Thumbnail	Reference Figure Number
8A	8A.jpg 2006-08-25	Slope erosion observed at 930E 785N. The white card at the bottom of the picture is 21cm by 28cm. Camera facing North.		Figure 13
8B	8A.jpg 2006-08-25	Same view, but slightly to the west. This is observed at 930E 785N. PVC Pipe Well #1 at photo left. Camera facing North.		Figure 13
8C	8A.jpg 2006-08-25	Facing up gradient at 930E 785N. PVC Pipe Well #1 at photo right. Camera facing West.		Figure 13
8D	8A.jpg 2006-08-25	Facing up gradient at 930E 785N. The white card at the bottom of the picture is 21cm by 28cm. Camera facing East.		Figure 13
8E	8A.jpg 2006-08-25	Pooling, soil staining, and seepage observed at 935E 850N. Camera facing East.		Figure 13
8F	8A.jpg 2006-08-25	Close up of pooling and seepage observed at 935E 850N. Camera facing East.		Figure 13
8G	8A.jpg 2006-08-25	Pooling and soil seepage observed at 935E 855N. Some sheen on water and sand visible. The card is 21cm by 28cm. Camera facing East.		Figure 13
8H	8A.jpg 2006-08-25	Close up of seepage, soil staining and sheen on water observed at 935E 855N. Some sheen visible. Camera facing East.		Figure 13
8I	8A.jpg 2006-08-25	North West slope of Tanner Bay Landfill at 940E 858N. Camera facing East.		Figure 13
8J	8A.jpg 2006-08-25	North West corner of Tanner Bay Landfill at 940E 858N. Close up view showing top of barrel. Camera facing East.		Figure 13
8K	HPIM1062	Soil sampling at station F4-11 (depth sample)		Figure 13
8L	HPIM1064	Soil sampling at station F4-11 (depth sample)		Figure 13
8M	HPIM1060	Soil sampling at station F4-13 (depth sample)		Figure 13

8.6 Thermal Monitoring Data

Not applicable to this landfill area.

8.7 Soil Sample Analytical Data

The concentrations of Cd, Pb and Hg were below detection limit, while the concentrations of the other metals were generally low. In general, the concentrations Cu, Ni, Co, Zn, Cr and As were higher in the downgradient soil samples compared to the upgradient soil samples for both depths.

The concentrations of PCBs were below detection limit in the soil samples (both depths) collected from all the three locations.

The subsurface soil at F4-11 reported non-detectable concentrations for TPH. The TPH concentrations in the other soil samples ranged from 10 mg/kg to 140 mg/kg. No noticeable difference was observed between the upgradient and downgradient stations with respect to the TPH concentration. The relatively high TPH concentrations at F4-12 and F4-13 is attributed to higher concentrations of the F3 fraction.

The soil sample analytical data is included in the following page as Table 8-4.

Table 8-4: Summary of 2006 Soil Analytical Data - Tanner Bay Landfill

Sample #	Location	Depth (cm)	Cu [mg/kg]	Ni [mg/kg]	Co [mg/kg]	Cd [mg/kg]	Pb [mg/kg]	Zn [mg/kg]	Cr [mg/kg]	As [mg/kg]	Hg [mg/kg]	PCBs [mg/kg]	F1 C_6-C_{10} [mg/kg]	F2 C_{10}-C_{16} [mg/kg]	F3 C_{16}-C_{34} [mg/kg]	TPH C_6-C_{34} [mg/kg]
UPGRADIENT																
F4-12(Soil)0-15cm	F4-12	0-15	3	3	1	< 1	<10	7	12	0.7	<0.04	<0.1	<12	<10	130	130
F4-12(Soil)40-50cm	F4-12	40-50	14	9	2	< 1	<10	13	13	0.9	<0.04	<0.1	<12	20	<10	20
DOWNGRADIENT																
F4-11(Soil)0-15cm	F4-11	0-15	10	10	3	< 1	<10	17	18	1.1	<0.04	<0.1	<12	10	<10	10
F4-11(Soil)40-50cm	F4-11	40-50	9	8	3	< 1	<10	14	18	0.7	<0.04	<0.1	<12	<10	<10	<10
F4-13(Soil)0-15cm	F4-13	0-15	7	5	2	<1	<10	9	13	0.9	<0.04	<0.1	<12	10	130	140
F4-13(Soil)40-50cm	F4-13	40-50	5	4	1	<1	<10	6	10	0.8	<0.04	<0.1	<12	20	<10	20

Notes

NV = No Value

ND = Non-Dectectable

<0.1 = Detection limit higher than that set in the TOR Annex B.

8.8 Groundwater Sample Analytical Data

There are no monitoring wells in the Tanner Bay Landfill area.

8.9 Monitoring Well Sampling Logs

There are no monitoring wells in the Tanner Bay Landfill area.

ANNEX 1

CERTIFICATES OF ANALYSIS

ANNEX 1-A SOIL AND GROUNDWATER RESULTS - BODYCOTE

Certificate of Analysis

Request number: **06-252402**

Date Received: 2006-08-29

Date Certificate Issued: 2006-09-08

Certificate Version: 1

☑ Official Certificate of Analysis

☐ Preliminary Certificate of Analysis

Client

NUNATTA ENVIRONMENTAL SERVICES

PO BOX 267
IQALUIT, Nunavut, Canada
X0A 0H0

P.O. Number	Your project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Comments

The criteria from the "Politique de protection des sols et de réhabilitation des terrains contaminés" included in this certificate are for information only.
The A criteria for all metals correspond to those of the "Basses-Terres du St-Laurent" region.
The D criteria correspond to the "Règlement sur l'enfouissement des sols contaminés". These criteria are included in this certificate for information only.

This version replaces and cancels all earlier version.

NA : Information not available ND : Not detected

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197279**	**1197280**	**1197281**	**1197282**
	Your Reference	MW-1	MW-2	MW-3	MW-5
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-21	2006-08-21	2006-08-22	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Arsenic	mg/L	0.002	0.014	0.001	0.002
Cadmium (Cd)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Cadmium	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chromium (Cr)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Chromium	mg/L	0.009	0.009	0.028	0.043
Cobalt (Co)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Cobalt	mg/L	0.007	0.010	0.002	0.003
Copper (Cu)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Copper	mg/L	0.009	0.098	0.013	0.012
Lead (Pb)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Lead	mg/L	0.01	0.01	0.02	0.03
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour) 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111998	111998	111998	111998
Mercury	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002

Request Number: 06-252402

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NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197279**	**1197280**	**1197281**	**1197282**
	Your Reference	MW-1	MW-2	MW-3	MW-5
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-21	2006-08-21	2006-08-22	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Nickel (Ni)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Nickel	mg/L	0.03	0.01	0.04	0.05
Zinc (Zn)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Zinc	mg/L	0.47	0.58	0.99	1.39

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197283**	**1197284**	**1197285**	**1197286**
	Your Reference	MW-7	MW-8	MW-10	MW-12
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Arsenic	mg/L	0.002	0.003	0.004	0.008
Cadmium (Cd)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Cadmium	mg/L	0.001	0.001	< 0.001	< 0.001
Chromium (Cr)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Chromium	mg/L	0.014	0.015	0.273	0.013
Cobalt (Co)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Cobalt	mg/L	0.022	0.009	0.002	0.007
Copper (Cu)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Copper	mg/L	0.019	0.008	0.010	0.121
Lead (Pb)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Lead	mg/L	0.02	0.01	0.01	0.01
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour) 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111998	111998	111998	111998
Mercury	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197283**	**1197284**	**1197285**	**1197286**
	Your Reference	MW-7	MW-8	MW-10	MW-12
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Nickel (Ni)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Nickel	mg/L	0.10	0.03	0.05	0.02
Zinc (Zn)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Zinc	mg/L	1.12	2.49	0.60	2.44

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NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197287**	**1197288**	**1197289**	**1197290**
	Your Reference	MW-13	MW-14	MW-15	MW-16
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Arsenic	mg/L	0.004	0.001	0.001	0.001
Cadmium (Cd)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Cadmium	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chromium (Cr)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Chromium	mg/L	0.006	0.009	0.006	0.051
Cobalt (Co)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Cobalt	mg/L	0.007	0.011	0.002	0.003
Copper (Cu)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Copper	mg/L	0.032	0.005	0.005	0.006
Lead (Pb)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Lead	mg/L	0.01	0.01	< 0.01	0.03
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour) 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111998	111998	111998	111998
Mercury	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197287**	**1197288**	**1197289**	**1197290**
	Your Reference	MW-13	MW-14	MW-15	MW-16
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Nickel (Ni)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Nickel	mg/L	0.02	0.04	0.01	0.02
Zinc (Zn)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937	111937
Zinc	mg/L	1.60	0.30	0.07	0.41

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)		
	Lab. No.	**1197291**	**1197292**	**1197296**
	Your Reference	QAQC-5	QAQC-6	TRIP BLANK
	Matrix	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-29
	Date received	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference				
Arsenic (As)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Arsenic	mg/L	< 0.001	0.002	< 0.001
Cadmium (Cd)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Cadmium	mg/L	< 0.001	< 0.001	< 0.001
Chromium (Cr)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Chromium	mg/L	0.008	0.141	0.001
Cobalt (Co)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Cobalt	mg/L	0.002	0.001	< 0.001
Copper (Cu)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Copper	mg/L	0.003	0.007	< 0.001
Lead (Pb)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Lead	mg/L	0.01	0.01	< 0.01
Mercury (cold vapor)	Preparation	2006-09-01	2006-09-01	-
Mercury (cold vapour) 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-05	2006-09-05	-
	Sequential No.	112149	112149	-
Mercury	mg/L	< 0.0002	< 0.0002	-

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)		
	Lab. No.	**1197291**	**1197292**	**1197296**
	Your Reference	QAQC-5	QAQC-6	TRIP BLANK
	Matrix	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-29
	Date received	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference				
Nickel (Ni)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP PON-12-072-98 (REF: MA. 203 - Mét 3.2, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Nickel	mg/L	0.01	0.03	< 0.01
Zinc (Zn)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS PON-12-072-98 (REF: MA. 200 - Mét 1.1, CEAEQ)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111937	111937	111937
Zinc	mg/L	0.40	0.37	0.01

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197312**	**1197313**	**1197314**	**1197315**
	Your Reference	MW-1(SOIL) 0-15CM	MW-2(SOIL) 40-50CM	MW-1(SOIL) 40-50CM	MW-2(SOIL) 0-15CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-21	2006-08-21	2006-08-21	2006-08-21
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Arsenic	mg/kg	81.4 (C-D)	11.5 (A-B)	9.3 (A-B)	12.8 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Chromium	mg/kg	26 (<A)	33 (<A)	31 (<A)	26 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Cobalt	mg/kg	4 (<A)	6 (<A)	5 (<A)	4 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Copper	mg/kg	15 (<A)	21 (<A)	20 (<A)	12 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111986	111986	111986	111986
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197312**	**1197313**	**1197314**	**1197315**
	Your Reference	MW-1(SOIL) 0-15CM	MW-2(SOIL) 40-50CM	MW-1(SOIL) 40-50CM	MW-2(SOIL) 0-15CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-21	2006-08-21	2006-08-21	2006-08-21
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111973	111973	111973
Moisture	%	8.4	7.7	8.2	10.2
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Nickel	mg/kg	13 (<A)	21 (<A)	18 (<A)	13 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Zinc	mg/kg	33 (<A)	32 (<A)	30 (<A)	24 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197316**	**1197317**	**1197318**	**1197319**
	Your Reference	MW-3(SOIL) 0-15CM	MW-3(SOIL) 40-50CM	MW-4(SOIL) 0-15CM	MW-4(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-22	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Arsenic	mg/kg	8.4 (A-B)	10.9 (A-B)	37.2 (B-C)	18.0 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Chromium	mg/kg	16 (<A)	14 (<A)	33 (<A)	35 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Cobalt	mg/kg	2 (<A)	3 (<A)	4 (<A)	4 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Copper	mg/kg	18 (<A)	11 (<A)	23 (<A)	26 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Lead	mg/kg	< 10 (<A)	< 10 (<A)	15 (<A)	11 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111986	111986	111986	111986
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	0.05 (<A)	0.14 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197316**	**1197317**	**1197318**	**1197319**
	Your Reference	MW-3(SOIL) 0-15CM	MW-3(SOIL) 40-50CM	MW-4(SOIL) 0-15CM	MW-4(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-22	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111973	111973	111973
Moisture	%	4.6	5.4	7.2	9.6
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Nickel	mg/kg	7 (<A)	8 (<A)	15 (<A)	15 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Zinc	mg/kg	16 (<A)	14 (<A)	51 (<A)	51 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197320**	**1197321**	**1197322**	**1197323**
	Your Reference	MW-5(SOIL) 0-15CM	MW-5(SOIL) 40-50CM	MW-6(SOIL) 0-15CM	MW-6(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-21	2006-08-21
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Arsenic	mg/kg	9.0 (A-B)	6.0 (A)	13.0 (A-B)	9.6 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Chromium	mg/kg	23 (<A)	17 (<A)	34 (<A)	21 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Cobalt	mg/kg	5 (<A)	4 (<A)	5 (<A)	3 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Copper	mg/kg	16 (<A)	12 (<A)	21 (<A)	13 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111986	111986	111986	111986
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197320**	**1197321**	**1197322**	**1197323**
	Your Reference	MW-5(SOIL) 0-15CM	MW-5(SOIL) 40-50CM	MW-6(SOIL) 0-15CM	MW-6(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-21	2006-08-21
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111973	111973	111973
Moisture	%	6.4	5.5	9.1	7.1
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Nickel	mg/kg	15 (<A)	11 (<A)	17 (<A)	12 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111976
Zinc	mg/kg	23 (<A)	17 (<A)	30 (<A)	23 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Sample(s)

Parameter(s) / Method / Reference		1197324	1197325	1197326	1197327
	Lab. No.	**1197324**	**1197325**	**1197326**	**1197327**
	Your Reference	MW-7(SOIL) 0-15CM	MW-7(SOIL) 40-50CM	MW-8(SOIL) 0-15CM	MW-8(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-09-06
	Sequential No.	111976	111976	111976	111997
Arsenic	mg/kg	11.2 (A-B)	13.2 (A-B)	10.4 (A-B)	11.4 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111997
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111997
Chromium	mg/kg	20 (<A)	28 (<A)	19 (<A)	21 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111997
Cobalt	mg/kg	3 (<A)	4 (<A)	3 (<A)	3 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111997
Copper	mg/kg	11 (<A)	18 (<A)	13 (<A)	15 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111997
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111986	111986	111986	111987
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197324**	**1197325**	**1197326**	**1197327**
	Your Reference	MW-7(SOIL) 0-15CM	MW-7(SOIL) 40-50CM	MW-8(SOIL) 0-15CM	MW-8(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111973	111973	111973
Moisture	%	9.8	10.4	6.2	7.3
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111997
Nickel	mg/kg	10 (<A)	14 (<A)	10 (<A)	12 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111976	111976	111976	111997
Zinc	mg/kg	20 (<A)	24 (<A)	20 (<A)	20 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197328**	**1197329**	**1197330**	**1197331**
	Your Reference	MW-9(SOIL) 0-15CM	MW-9(SOIL) 40-45CM	MW-10(SOIL) 0-15CM	MW-10(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Arsenic	mg/kg	61.1 (C-D)	25.2 (A-B)	5.8 (<A)	7.2 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Chromium	mg/kg	22 (<A)	22 (<A)	20 (<A)	19 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Cobalt	mg/kg	3 (<A)	3 (<A)	3 (<A)	3 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Copper	mg/kg	11 (<A)	10 (<A)	10 (<A)	11 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111987	111987	111987	111987
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197328**	**1197329**	**1197330**	**1197331**
	Your Reference	MW-9(SOIL) 0-15CM	MW-9(SOIL) 40-45CM	MW-10(SOIL) 0-15CM	MW-10(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111973	111973	111973
Moisture	%	7.5	12.2	7.5	8.3
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Nickel	mg/kg	10 (<A)	10 (<A)	9 (<A)	10 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Zinc	mg/kg	20 (<A)	18 (<A)	20 (<A)	20 (<A)

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197332**	**1197333**	**1197334**	**1197335**
	Your Reference	MW-11(SOIL) 0-15CM	MW-11(SOIL) 40-45CM	MW-12(SOIL) 0-15CM	MW-12(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Arsenic	mg/kg	7.6 (A-B)	4.7 (<A)	18.1 (A-B)	8.6 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Chromium	mg/kg	26 (<A)	16 (<A)	19 (<A)	20 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Cobalt	mg/kg	4 (<A)	2 (<A)	2 (<A)	3 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Copper	mg/kg	14 (<A)	5 (<A)	7 (<A)	12 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111987	111987	111987	111987
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197332**	**1197333**	**1197334**	**1197335**
	Your Reference	MW-11(SOIL) 0-15CM	MW-11(SOIL) 40-45CM	MW-12(SOIL) 0-15CM	MW-12(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111973	111973	111973
Moisture	%	9.1	13.3	11.2	12.4
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Nickel	mg/kg	13 (<A)	6 (<A)	7 (<A)	10 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Zinc	mg/kg	23 (<A)	14 (<A)	15 (<A)	18 (<A)

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197336**	**1197337**	**1197338**	**1197339**
	Your Reference	MW-13(SOIL) 0-15CM	MW-13(SOIL) 40-50CM	MW-14(SOIL) 0-15CM	MW-14(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Arsenic	mg/kg	8.5 (A-B)	5.3 (<A)	5.5 (<A)	162 (C-D)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Chromium	mg/kg	20 (<A)	20 (<A)	19 (<A)	19 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Cobalt	mg/kg	2 (<A)	3 (<A)	3 (<A)	3 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Copper	mg/kg	8 (<A)	8 (<A)	10 (<A)	26 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111987	111987	111987	111987
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197336**	**1197337**	**1197338**	**1197339**
	Your Reference	MW-13(SOIL) 0-15CM	MW-13(SOIL) 40-50CM	MW-14(SOIL) 0-15CM	MW-14(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111973	111973	111973
Moisture	%	15.6	13.9	12.7	17.2
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Nickel	mg/kg	8 (<A)	8 (<A)	7 (<A)	10 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	111997	111997
Zinc	mg/kg	16 (<A)	17 (<A)	17 (<A)	19 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197340**	**1197341**	**1197342**	**1197343**
	Your Reference	MW-15(SOIL) 0-15CM	MW-15(SOIL) 40-50CM	MW-16(SOIL) 0-15CM	MW-16(SOIL) 0-15CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Arsenic	mg/kg	7.2 (A-B)	24.1 (A-B)	5.0 (<A)	7.4 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Chromium	mg/kg	19 (<A)	22 (<A)	12 (<A)	22 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Cobalt	mg/kg	3 (<A)	3 (<A)	2 (<A)	3 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Copper	mg/kg	10 (<A)	13 (<A)	5 (<A)	21 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111987	111987	111988	111988
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197340**	**1197341**	**1197342**	**1197343**
	Your Reference	MW-15(SOIL) 0-15CM	MW-15(SOIL) 40-50CM	MW-16(SOIL) 0-15CM	MW-16(SOIL) 0-15CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111973	111973	111973	111973
Moisture	%	14.0	13.7	11.2	12.5
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Nickel	mg/kg	7 (<A)	10 (<A)	5 (<A)	8 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111997	111997	112002	112002
Zinc	mg/kg	14 (<A)	18 (<A)	9 (<A)	16 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197344**	**1197345**	**1197346**	**1197347**
	Your Reference	F4-1(SOIL) 0-15CM	F4-1(SOIL) 40-50CM	F4-2(SOIL) 0-15CM	F4-2(SOIL) 40-45CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Arsenic	mg/kg	16.8 (A-B)	14.2 (A-B)	23.5 (A-B)	24.2 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Chromium	mg/kg	32 (<A)	25 (<A)	32 (<A)	37 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Cobalt	mg/kg	5 (<A)	4 (<A)	6 (<A)	7 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Copper	mg/kg	20 (<A)	16 (<A)	20 (<A)	20 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Lead	mg/kg	12 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111988	111988	111988	111988
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197344**	**1197345**	**1197346**	**1197347**
	Your Reference	F4-1(SOIL) 0-15CM	F4-1(SOIL) 40-50CM	F4-2(SOIL) 0-15CM	F4-2(SOIL) 40-45CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111973	111973	111973	111973
Moisture	%	10.6	11.4	10.6	9.4
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Nickel	mg/kg	18 (<A)	15 (<A)	21 (<A)	23 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Zinc	mg/kg	36 (<A)	28 (<A)	30 (<A)	33 (<A)

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197348**	**1197349**	**1197350**	**1197351**
	Your Reference	F4-3(SOIL) 0-15CM	F4-3(SOIL) 40-45CM	F4-4(SOIL) 0-15CM	F4-4(SOIL) 40-45CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Arsenic	mg/kg	12.6 (A-B)	12.2 (A-B)	14.8 (A-B)	14.4 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Chromium	mg/kg	34 (<A)	32 (<A)	32 (<A)	34 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Cobalt	mg/kg	6 (<A)	5 (<A)	7 (<A)	7 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Copper	mg/kg	29 (<A)	25 (<A)	24 (<A)	24 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111988	111988	111988	111988
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197348**	**1197349**	**1197350**	**1197351**
	Your Reference	F4-3(SOIL) 0-15CM	F4-3(SOIL) 40-45CM	F4-4(SOIL) 0-15CM	F4-4(SOIL) 40-45CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111973	111973	111973	111973
Moisture	%	10.8	12.5	7.8	7.9
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Nickel	mg/kg	21 (<A)	20 (<A)	23 (<A)	23 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Zinc	mg/kg	31 (<A)	36 (<A)	32 (<A)	35 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197352**	**1197353**	**1197354**	**1197355**
	Your Reference	F4-5(SOIL) 0-15CM	F4-5(SOIL) 40-45CM	F4-6(SOIL) 0-15CM	F4-6(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Arsenic	mg/kg	12.6 (A-B)	10.0 (A-B)	8.3 (A-B)	28.6 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Chromium	mg/kg	33 (<A)	27 (<A)	12 (<A)	18 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Cobalt	mg/kg	8 (<A)	5 (<A)	1 (<A)	2 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Copper	mg/kg	25 (<A)	21 (<A)	6 (<A)	8 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	111988	111988	111988	111988
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: **06-252402**

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197352**	**1197353**	**1197354**	**1197355**
	Your Reference	F4-5(SOIL) 0-15CM	F4-5(SOIL) 40-45CM	F4-6(SOIL) 0-15CM	F4-6(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111973	111973	111973	111973
Moisture	%	17.1	11.7	14.6	13.2
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Nickel	mg/kg	23 (<A)	19 (<A)	3 (<A)	6 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	112002	112002	112002
Zinc	mg/kg	73 (<A)	48 (<A)	7 (<A)	12 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197356**	**1197357**	**1197358**	**1197359**
	Your Reference	F4-7(SOIL) 0-15CM	F4-7(SOIL) 40-50CM	F4-8(SOIL) 0-15CM	F4-8(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-09-07	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Arsenic	mg/kg	13.3 (A-B)	18.6 (A-B)	9.4 (A-B)	5.4 (<A)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Chromium	mg/kg	24 (<A)	30 (<A)	17 (<A)	18 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Cobalt	mg/kg	2 (<A)	3 (<A)	2 (<A)	2 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Copper	mg/kg	6 (<A)	12 (<A)	7 (<A)	4 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-08-31	2006-09-01	2006-09-01	2006-09-01
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-01	2006-09-05	2006-09-05	2006-09-05
	Sequential No.	111988	112154	112154	112154
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197356**	**1197357**	**1197358**	**1197359**
	Your Reference	F4-7(SOIL) 0-15CM	F4-7(SOIL) 40-50CM	F4-8(SOIL) 0-15CM	F4-8(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111973	111973	111973	111973
Moisture	%	8.7	19.9	16.8	12.9
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Nickel	mg/kg	7 (<A)	7 (<A)	5 (<A)	5 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	112002	111990	111990	111990
Zinc	mg/kg	16 (<A)	17 (<A)	11 (<A)	10 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197360**	**1197361**	**1197362**	**1197363**
	Your Reference	F4-11(SOIL) 0-15CM	F4-11(SOIL) 40-50CM	F4-12(SOIL) 0-15CM	F4-12(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Arsenic	mg/kg	1.1 (<A)	0.7 (<A)	< 0.7 (<A)	0.9 (<A)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Chromium	mg/kg	18 (<A)	18 (<A)	12 (<A)	13 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Cobalt	mg/kg	3 (<A)	3 (<A)	1 (<A)	2 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Copper	mg/kg	10 (<A)	9 (<A)	3 (<A)	14 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-05	2006-09-05	2006-09-05	2006-09-05
	Sequential No.	112154	112154	112154	112154
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197360**	**1197361**	**1197362**	**1197363**
	Your Reference	F4-11(SOIL) 0-15CM	F4-11(SOIL) 40-50CM	F4-12(SOIL) 0-15CM	F4-12(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-31	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111973	111975	111975	111975
Moisture	%	9.4	3.8	16.7	15.3
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Nickel	mg/kg	10 (<A)	8 (<A)	3 (<A)	9 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Zinc	mg/kg	17 (<A)	14 (<A)	7 (<A)	13 (<A)

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Parameter(s) / Method / Reference		Sample(s)			
	Lab. No.	**1197364**	**1197365**	**1197408**	**1197409**
	Your Reference	F4-13(SOIL) 0-15CM	F4-13(SOIL) 40-50CM	F4-25(SOIL) 0-15CM	QAQC-1
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Arsenic	mg/kg	0.9 (<A)	0.8 (<A)	5.8 (<A)	17.2 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Chromium	mg/kg	13 (<A)	10 (<A)	16 (<A)	28 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Cobalt	mg/kg	2 (<A)	1 (<A)	1 (<A)	3 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Copper	mg/kg	7 (<A)	5 (<A)	4 (<A)	17 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-05	2006-09-05	2006-09-05	2006-09-05
	Sequential No.	112154	112154	112154	112154
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197364**	**1197365**	**1197408**	**1197409**
	Your Reference	F4-13(SOIL) 0-15CM	F4-13(SOIL) 40-50CM	F4-25(SOIL) 0-15CM	QAQC-1
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-30	2006-08-30	2006-08-31	2006-08-31
	Sequential No.	111975	111975	111975	111975
Moisture	%	18.6	12.5	15.3	7.2
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Nickel	mg/kg	5 (<A)	4 (<A)	4 (<A)	12 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Zinc	mg/kg	9 (<A)	6 (<A)	12 (<A)	39 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197410**	**1197411**	**1197412**	**1197413**
	Your Reference	QAQC-2	QAQC-3	QAQC-4	QAQC-7
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Arsenic (As)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Arsenic	mg/kg	12.4 (A-B)	13.5 (A-B)	12.8 (A-B)	7.7 (A-B)
Cadmium (Cd)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Chromium	mg/kg	22 (<A)	30 (<A)	31 (<A)	17 (<A)
Cobalt (Co)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Cobalt	mg/kg	4 (<A)	7 (<A)	6 (<A)	2 (<A)
Copper (Cu)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Copper	mg/kg	14 (<A)	21 (<A)	21 (<A)	8 (<A)
Lead (Pb)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-05	2006-09-05	2006-09-05	2006-09-05
	Sequential No.	112155	112155	112155	112155
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197410**	**1197411**	**1197412**	**1197413**
	Your Reference	QAQC-2	QAQC-3	QAQC-4	QAQC-7
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111975	111975	111975	111975
Moisture	%	9.1	7.7	18.5	14.0
Nickel (Ni)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Nickel	mg/kg	12 (<A)	22 (<A)	19 (<A)	8 (<A)
Zinc (Zn)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111990	111990	111990	111990
Zinc	mg/kg	26 (<A)	30 (<A)	54 (<A)	16 (<A)

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)		
	Lab. No.	**1197414**	**1197415**	**1197416**
	Your Reference	QAQC-8	QAQC-9	QAQC-10
	Matrix	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference				
Arsenic (As)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP-MS. Results on dry weight. 12-072-98 (REF: MA. 200 - Mét. 1.1)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Arsenic	mg/kg	12.2 (A-B)	12.3 (A-B)	14.3 (A-B)
Cadmium (Cd)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Cadmium	mg/kg	< 1 (<A)	< 1 (<A)	< 1 (<A)
Chromium (Cr)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Chromium	mg/kg	21 (<A)	11 (<A)	22 (<A)
Cobalt (Co)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Cobalt	mg/kg	3 (<A)	1 (<A)	2 (<A)
Copper (Cu)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Copper	mg/kg	13 (<A)	7 (<A)	6 (<A)
Lead (Pb)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Lead	mg/kg	< 10 (<A)	< 10 (<A)	< 10 (<A)
Mercury (cold vapor)	Preparation	2006-09-01	2006-09-01	2006-09-01
Mercury (cold vapour). Result on dry weight. 12-41-99 (REF: S.M. 3500-Hg, B)	Analysis	2006-09-05	2006-09-05	2006-09-05
	Sequential No.	112155	112155	112155
Mercury	mg/kg	< 0.04 (<A)	< 0.04 (<A)	< 0.04 (<A)

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)		
	Lab. No.	**1197414**	**1197415**	**1197416**
	Your Reference	QAQC-8	QAQC-9	QAQC-10
	Matrix	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference				
Moisture (for calculation)	Preparation	2006-08-30	2006-08-30	2006-08-30
Moisture (gravimetry) PON-89-01-05, section 5	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111975	111975	111975
Moisture	%	12.0	14.7	9.2
Nickel (Ni)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Nickel	mg/kg	10 (<A)	4 (<A)	7 (<A)
Zinc (Zn)	Preparation	2006-08-30	2006-08-30	2006-08-30
Metals by ICP. Results on dry weight. 12-031-02 (REF: MA. 203 - Mét. 3.0)	Analysis	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111981	111981	111981
Zinc	mg/kg	19 (<A)	6 (<A)	15 (<A)

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197279**	**1197280**	**1197281**	**1197282**
	Your Reference	MW-1	MW-2	MW-3	MW-5
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-21	2006-08-21	2006-08-22	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
BTEX	Preparation	2006-09-03	2006-09-03	2006-09-03	2006-09-03
Volatile organic compounds (GC-MS) PON-13-12-97 (REF:MA. 400 - COV 1.1, CEAEQ)	Analysis	2006-09-03	2006-09-03	2006-09-03	2006-09-03
	Sequential No.	112188	112188	112188	112188
Benzene	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	µg/L	0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes	µg/L	0.1	3.1	< 0.1	0.2
Recuperation %					
Dibromofluoromethane	%	80%	90%	89%	87%
D8-Toluene	%	103%	104%	109%	109%
1-Bromo-4-fluorobenzene	%	102%	111%	103%	105%
Petroleum Hydrocarbons (C6-C10)	Preparation	2006-08-12	2006-09-03	2006-09-03	2006-09-03
Petroleum hydrocarbons by GC-MS	Analysis	2006-08-12	2006-09-03	2006-09-03	2006-09-03
	Sequential No.	112188	112188	112188	112188
Petroleum Hydrocarbons (C6-C10)	µg/L	< 25	159	< 25	< 25
Petroleum Hydrocarons C10@C50 by fraction	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
C10-C50 petroleum hydrocarbons. PON-13-03-97 (MA.400-C10C50 1.0, CEAEQ)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112036	112036	112036	112036
Petroleum Hydrocarbons C10-C16	mg/L	< 0.1	0.8	< 0.1	< 0.1
Petroleum Hydrocarbons C16-C34	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Petroleum Hydrocarbons C34-C50	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Total Petroleum hydrocarbons C10@C50	mg/L	ND	0.8	ND	ND
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
PCB by Aroclors par GC-ECD 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111895	111895	111895	111895
Aroclor 1242	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	µg/L	< 0.1	< 0.1	< 0.1	< 0.1

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197279**	**1197280**	**1197281**	**1197282**
	Your Reference	MW-1	MW-2	MW-3	MW-5
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-21	2006-08-21	2006-08-22	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
PCB Total	µg/L	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	83 %	83 %	80 %	NA

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197283**	**1197284**	**1197285**	**1197286**
	Your Reference	MW-7	MW-8	MW-10	MW-12
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
BTEX	Preparation	2006-09-03	2006-09-03	2006-09-03	2006-09-03
Volatile organic compounds (GC-MS) PON-13-12-97 (REF:MA. 400 - COV 1.1, CEAEQ)	Analysis	2006-09-03	2006-09-03	2006-09-03	2006-09-03
	Sequential No.	112188	112188	112188	112188
Benzene	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	µg/L	< 0.1	0.2	< 0.1	< 0.1
Ethylbenzene	µg/L	< 0.1	0.1	< 0.1	< 0.1
Xylenes	µg/L	< 0.1	0.8	< 0.1	< 0.1
Recuperation %					
Dibromofluoromethane	%	87%	84%	86%	85%
D8-Toluene	%	111%	105%	107%	110%
1-Bromo-4-fluorobenzene	%	106%	101%	102%	103%
Petroleum Hydrocarbons (C6-C10)	Preparation	2006-09-03	2006-09-03	2006-09-03	2006-09-03
Petroleum hydrocarbons by GC-MS	Analysis	2006-09-03	2006-09-03	2006-09-03	2006-09-03
	Sequential No.	112188	112188	112188	112188
Petroleum Hydrocarbons (C6-C10)	µg/L	< 25	< 25	< 25	< 25
Petroleum Hydrocarons C10@C50 by fraction	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
C10-C50 petroleum hydrocarbons. PON-13-03-97 (MA.400-C10C50 1.0, CEAEQ)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112036	112036	112036	112036
Petroleum Hydrocarbons C10-C16	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Petroleum Hydrocarbons C16-C34	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Petroleum Hydrocarbons C34-C50	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Total Petroleum hydrocarbons C10@C50	mg/L	ND	ND	ND	ND
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
PCB by Aroclors par GC-ECD 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111895	111895	111895	111895
Aroclor 1242	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	µg/L	< 0.1	< 0.1	< 0.1	< 0.1

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197283**	**1197284**	**1197285**	**1197286**
	Your Reference	MW-7	MW-8	MW-10	MW-12
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
PCB Total	µg/L	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	78 %	78 %	75 %	89 %

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197287**	**1197288**	**1197289**	**1197290**
	Your Reference	MW-13	MW-14	MW-15	MW-16
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
BTEX	Preparation	2006-09-03	2006-09-03	2006-09-03	2006-09-03
Volatile organic compounds (GC-MS) PON-13-12-97 (REF:MA. 400 - COV 1.1, CEAEQ)	Analysis	2006-09-03	2006-09-03	2006-09-03	2006-09-03
	Sequential No.	112188	112188	112188	112188
Benzene	µg/L	< 0.1	0.1	< 0.1	< 0.1
Toluene	µg/L	< 0.1	0.3	< 0.1	< 0.1
Ethylbenzene	µg/L	< 0.1	0.1	< 0.1	< 0.1
Xylenes	µg/L	< 0.1	10.4	< 0.1	< 0.1
Recuperation %					
Dibromofluoromethane	%	85%	86%	87%	87%
D8-Toluene	%	109%	105%	110%	109%
1-Bromo-4-fluorobenzene	%	102%	103%	105%	104%
Petroleum Hydrocarbons (C6-C10)	Preparation	2006-09-03	2006-09-03	2006-09-03	2006-09-03
Petroleum hydrocarbons by GC-MS	Analysis	2006-09-03	2006-09-03	2006-09-03	2006-09-03
	Sequential No.	112188	112188	112188	112188
Petroleum Hydrocarbons (C6-C10)	µg/L	< 25	275	< 25	< 25
Petroleum Hydrocarons C10@C50 by fraction	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
C10-C50 petroleum hydrocarbons. PON-13-03-97 (MA.400-C10C50 1.0, CEAEQ)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112036	112036	112036	112036
Petroleum Hydrocarbons C10-C16	mg/L	< 0.1	0.4	< 0.1	< 0.1
Petroleum Hydrocarbons C16-C34	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Petroleum Hydrocarbons C34-C50	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Total Petroleum hydrocarbons C10@C50	mg/L	ND	0.4	ND	ND
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-30	2006-08-30	2006-08-30	2006-08-30
PCB by Aroclors par GC-ECD 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-30	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111895	111895	111895	111895
Aroclor 1242	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	µg/L	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	µg/L	< 0.1	< 0.1	< 0.1	< 0.1

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197287**	**1197288**	**1197289**	**1197290**
	Your Reference	MW-13	MW-14	MW-15	MW-16
	Matrix	Groundwater	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
PCB Total	µg/L	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	87 %	76 %	92 %	95 %

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)		
	Lab. No.	**1197291**	**1197292**	**1197296**
	Your Reference	QAQC-5	QAQC-6	TRIP BLANK
	Matrix	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-29
	Date received	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference				
BTEX	Preparation	2006-09-03	2006-09-03	-
Volatile organic compounds (GC-MS) PON-13-12-97 (REF:MA. 400 - COV 1.1, CEAEQ)	Analysis	2006-09-03	2006-09-03	-
	Sequential No.	112188	112188	-
Benzene	µg/L	< 0.1	< 0.1	-
Toluene	µg/L	< 0.1	< 0.1	-
Ethylbenzene	µg/L	< 0.1	< 0.1	-
Xylenes	µg/L	< 0.1	< 0.1	-
Recuperation %				
Dibromofluoromethane	%	83%	87%	-
D8-Toluene	%	108%	113%	-
1-Bromo-4-fluorobenzene	%	103%	108%	-
Petroleum Hydrocarbons (C6-C10)	Preparation	2006-09-03	2006-09-03	2006-09-03
Petroleum hydrocarbons by GC-MS	Analysis	2006-09-03	2006-09-03	2006-09-03
	Sequential No.	112188	112188	112188
Petroleum Hydrocarbons (C6-C10)	µg/L	< 25	< 25	< 25
Petroleum Hydrocarons C10@C50 by fraction	Preparation	2006-08-31	2006-08-31	2006-08-31
C10-C50 petroleum hydrocarbons. PON-13-03-97 (MA.400-C10C50 1.0, CEAEQ)	Analysis	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112036	112036	112036
Petroleum Hydrocarbons C10-C16	mg/L	< 0.1	< 0.1	< 0.1
Petroleum Hydrocarbons C16-C34	mg/L	< 0.1	< 0.1	< 0.1
Petroleum Hydrocarbons C34-C50	mg/L	< 0.1	< 0.1	< 0.1
Total Petroleum hydrocarbons C10@C50	mg/L	ND	ND	ND
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-30	2006-08-30	2006-08-30
PCB by Aroclors par GC-ECD 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-30	2006-08-30	2006-08-30
	Sequential No.	111895	111895	111895
Aroclor 1242	µg/L	< 0.1	< 0.1	< 0.1
Aroclor 1248	µg/L	< 0.1	< 0.1	< 0.1
Aroclor 1254	µg/L	< 0.1	< 0.1	< 0.1
Aroclor 1260	µg/L	< 0.1	< 0.1	< 0.1

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)		
	Lab. No.	**1197291**	**1197292**	**1197296**
	Your Reference	QAQC-5	QAQC-6	TRIP BLANK
	Matrix	Groundwater	Groundwater	Groundwater
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-29
	Date received	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference				
PCB Total	µg/L	ND	ND	ND
Recuperation %				
Decachlorobiphenyl	%	94 %	94 %	95 %

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197312**	**1197313**	**1197314**	**1197315**
	Your Reference	MW-1(SOIL) 0-15CM	MW-2(SOIL) 40-50CM	MW-1(SOIL) 40-50CM	MW-2(SOIL) 0-15CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-21	2006-08-21	2006-08-21	2006-08-21
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111897	111897	111897	111897
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	100 %	104 %	102 %	105 %

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197316**	**1197317**	**1197318**	**1197319**
	Your Reference	MW-3(SOIL) 0-15CM	MW-3(SOIL) 40-50CM	MW-4(SOIL) 0-15CM	MW-4(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-22	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111897	111897	111897	111897
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	1.0	0.9
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	1.0	0.9
Recuperation %					
Decachlorobiphenyl	%	101 %	100 %	105 %	101 %

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197320**	**1197321**	**1197322**	**1197323**
	Your Reference	MW-5(SOIL) 0-15CM	MW-5(SOIL) 40-50CM	MW-6(SOIL) 0-15CM	MW-6(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-21	2006-08-21
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-31	2006-08-31	2006-08-31	2006-08-31
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111897	111897	111897	111897
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	106 %	107 %	102 %	103 %

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197324**	**1197325**	**1197326**	**1197327**
	Your Reference	MW-7(SOIL) 0-15CM	MW-7(SOIL) 40-50CM	MW-8(SOIL) 0-15CM	MW-8(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-08-31	2006-08-31	2006-08-31	2003-08-31
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111897	111897	111897	111958
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	99 %	102 %	100 %	90 %

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197328**	**1197329**	**1197330**	**1197331**
	Your Reference	MW-9(SOIL) 0-15CM	MW-9(SOIL) 40-45CM	MW-10(SOIL) 0-15CM	MW-10(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-22	2006-08-22	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2003-08-31	2003-08-31	2003-08-31	2003-08-31
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111958	111958	111958	111958
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	98 %	100 %	96 %	98 %

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197332**	**1197333**	**1197334**	**1197335**
	Your Reference	MW-11(SOIL) 0-15CM	MW-11(SOIL) 40-45CM	MW-12(SOIL) 0-15CM	MW-12(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2003-08-31	2003-08-31	2003-08-31	2003-08-31
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111958	111958	111958	111958
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	99 %	87 %	88 %	88 %

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197336**	**1197337**	**1197338**	**1197339**
	Your Reference	MW-13(SOIL) 0-15CM	MW-13(SOIL) 40-50CM	MW-14(SOIL) 0-15CM	MW-14(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2003-08-31	2003-08-31	2003-08-31	2003-08-31
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-08-31
	Sequential No.	111958	111958	111958	111958
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	87 %	83 %	84 %	95 %

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P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197340**	**1197341**	**1197342**	**1197343**
	Your Reference	MW-15(SOIL) 0-15CM	MW-15(SOIL) 40-50CM	MW-16(SOIL) 0-15CM	MW-16(SOIL) 0-15CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2003-08-31	2003-08-31	2003-08-31	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight.	Analysis	2006-08-31	2006-08-31	2006-08-31	2006-09-01
13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Sequential No.	111958	111958	111958	112023
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	107 %	81 %	98 %	50 %

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197344**	**1197345**	**1197346**	**1197347**
	Your Reference	F4-1(SOIL) 0-15CM	F4-1(SOIL) 40-50CM	F4-2(SOIL) 0-15CM	F4-2(SOIL) 40-45CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112023	112023	112023	112023
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	88 %	88 %	91 %	91 %

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197348**	**1197349**	**1197350**	**1197351**
	Your Reference	F4-3(SOIL) 0-15CM	F4-3(SOIL) 40-45CM	F4-4(SOIL) 0-15CM	F4-4(SOIL) 40-45CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-23
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112023	112023	112023	112023
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	91 %	89 %	81 %	89 %

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197352**	**1197353**	**1197354**	**1197355**
	Your Reference	F4-5(SOIL) 0-15CM	F4-5(SOIL) 40-45CM	F4-6(SOIL) 0-15CM	F4-6(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112023	112023	112023	112023
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	93 %	94 %	85 %	79 %

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197356**	**1197357**	**1197358**	**1197359**
	Your Reference	F4-7(SOIL) 0-15CM	F4-7(SOIL) 40-50CM	F4-8(SOIL) 0-15CM	F4-8(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112023	112023	112023	112024
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	88 %	79 %	70 %	104 %

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197360**	**1197361**	**1197362**	**1197363**
	Your Reference	F4-11(SOIL) 0-15CM	F4-11(SOIL) 40-50CM	F4-12(SOIL) 0-15CM	F4-12(SOIL) 40-50CM
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-24	2006-08-24	2006-08-24	2006-08-24
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112024	112024	112024	112024
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	101 %	105 %	92 %	103 %

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197364**	**1197365**	**1197408**	**1197409**
	Your Reference	F4-13(SOIL) 0-15CM	F4-13(SOIL) 40-50CM	F4-25(SOIL) 0-15CM	QAQC-1
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-22
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112024	112024	112024	112024
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	0.4
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	0.4
Recuperation %					
Decachlorobiphenyl	%	89 %	93 %	103 %	94 %

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)			
	Lab. No.	**1197410**	**1197411**	**1197412**	**1197413**
	Your Reference	QAQC-2	QAQC-3	QAQC-4	QAQC-7
	Matrix	Soil	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-23	2006-08-23	2006-08-23	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference					
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112024	112024	112024	112024
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND	ND
Recuperation %					
Decachlorobiphenyl	%	95 %	102 %	108 %	102 %

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Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

		Sample(s)		
	Lab. No.	**1197414**	**1197415**	**1197416**
	Your Reference	QAQC-8	QAQC-9	QAQC-10
	Matrix	Soil	Soil	Soil
	Sampled by	TANMAY / RICHARD	TANMAY / RICHARD	TANMAY / RICHARD
	Site sampled	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU	FOX-4 CAPE HOOPER, NU
	Date sampled	2006-08-25	2006-08-25	2006-08-25
	Date received	2006-08-29	2006-08-29	2006-08-29
Parameter(s) Method Reference				
Polychlorinated Biphenyls (Aroclors)	Preparation	2006-09-01	2006-09-01	2006-09-01
PCB by Aroclors par GC-ECD. Result on dry weight. 13-02-96 (REF: MEF 1995-05-11 / 408-BPC 2.0)	Analysis	2006-09-01	2006-09-01	2006-09-01
	Sequential No.	112024	112024	112024
Aroclor 1242	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor 1248	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor 1254	mg/kg	< 0.1	< 0.1	< 0.1
Aroclor 1260	mg/kg	< 0.1	< 0.1	< 0.1
PCB Total	mg/kg	ND	ND	ND
Recuperation %				
Decachlorobiphenyl	%	101 %	108 %	108 %

Comments:

1197280	MW-2	BTEX : Presence of others volatile compounds.
1197282	MW-5	PCB's : The surrogate was not added during the analysis of this sample. No sample left for a re-test.
1197284	MW-8	BTEX : Presence of others volatile compounds.
1197288	MW-14	BTEX : Presence of others volatile compounds.

Note: Results pertain only to the samples submitted for analysis.

CHIMISTE Caroline Schiltz 1998-046 QUÉBEC

Chemist

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Polychlorinated Biphenyls (Aroclors) Sequential ID No.: 111895					
Aroclor 1242	µg/L	< 0.1	< 0.1	NA	NA
Aroclor 1248	µg/L	< 0.1	< 0.1	NA	NA
Aroclor 1254	µg/L	< 0.1	< 0.1	1.1	0.87 - 1.63
				1.1	0.87 - 1.63
Aroclor 1260	µg/L	< 0.1	< 0.1	NA	NA
Polychlorinated Biphenyls (Aroclors) Sequential ID No.: 111897					
Aroclor 1242	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1248	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1254	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1260	mg/kg	< 0.1	< 0.1	33.4	20.8 - 38.6
Polychlorinated Biphenyls (Aroclors) Sequential ID No.: 111958					
Aroclor 1242	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1248	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1254	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1260	mg/kg	< 0.1	< 0.1	29.0	20.8 - 38.6
Polychlorinated Biphenyls (Aroclors) Sequential ID No.: 112023					
Aroclor 1242	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1248	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1254	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1260	mg/kg	< 0.1	< 0.1	28.9	20.8 - 38.6
Polychlorinated Biphenyls (Aroclors) Sequential ID No.: 112024					
Aroclor 1242	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1248	mg/kg	< 0.1	< 0.1	NA	NA
Aroclor 1254	mg/kg	< 0.1	< 0.1	NA	NA

Comments

RDL : Reported Detection Limit

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Certificate of Analysis

Request Number: **06-252402**

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Aroclor 1260	mg/kg	< 0.1	< 0.1	38.2	20.8 - 38.6
BTEX					
Sequential ID No.: 112188					
Benzene	µg/L	< 0.1	< 0.1	18.2	13 - 25
Toluene	µg/L	< 0.1	< 0.1	64.3	51 - 94
Ethylbenzene	µg/L	< 0.1	< 0.1	42.3	31 - 57
Xylenes	µg/L	< 0.1	< 0.1	193	145 - 269
Mercury (cold vapor)					
Sequential ID No.: 111998					
Mercury	mg/L	< 0.0002	< 0.0002	0.0323	0.024 - 0.036
Mercury (cold vapor)					
Sequential ID No.: 112149					
Mercury	mg/L	< 0.0002	< 0.0002	0.0306	0.024 - 0.036
Mercury (cold vapor)					
Sequential ID No.: 111986					
Mercury	mg/kg	< 0.04	< 0.04	2.34	1.98 - 2.98
Mercury (cold vapor)					
Sequential ID No.: 111987					
Mercury	mg/kg	< 0.04	< 0.04	2.32	1.98 - 2.98
Mercury (cold vapor)					
Sequential ID No.: 111988					
Mercury	mg/kg	< 0.04	< 0.04	2.16	1.98 - 2.98
Mercury (cold vapor)					
Sequential ID No.: 112154					
Mercury	mg/kg	< 0.04	< 0.04	2.54	1.98 - 2.98
Mercury (cold vapor)					
Sequential ID No.: 112155					

Comments

RDL : Reported Detection Limit

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Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Mercury	mg/kg	< 0.04	< 0.04	2.55	1.98 - 2.98
Moisture (for calculation)					
Sequential ID No.: 111973					
Moisture	%	< 0.1	< 0.1	52.6	45 - 55
Moisture (for calculation)					
Sequential ID No.: 111975					
Moisture	%	< 0.1	< 0.1	52.5	45 - 55
Petroleum Hydrocarons C10@C50 by fraction					
Sequential ID No.: 112036					
Petroleum Hydrocarbons C10-C16	mg/L	< 0.1	< 0.1	NA	NA
Petroleum Hydrocarbons C16-C34	mg/L	< 0.1	< 0.1	NA	NA
Petroleum Hydrocarbons C34-C50	mg/L	< 0.1	< 0.1	NA	NA
Total Petroleum hydrocarbons C10@C50		NA	NA	2.0	1.5 - 2.9
				1.9	1.5 - 2.9
Petroleum Hydrocarbons (C6-C10)					
Sequential ID No.: 112188					
Petroleum Hydrocarbons (C6-C10)	µg/L	< 25	< 25	273	175 - 325
Arsenic (As)					
Sequential ID No.: 111937					
Arsenic	mg/L	< 0.001	< 0.001	0.990	0.8 - 1.2
Arsenic (As)					
Sequential ID No.: 111976					
Arsenic	mg/kg	< 0.7	< 0.7	96.9	80 - 120
Arsenic (As)					
Sequential ID No.: 111981					
Arsenic	mg/kg	< 0.7	< 0.7	102	80 - 120

Comments

RDL : Reported Detection Limit

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Arsenic (As) Sequential ID No.: 111990					
Arsenic	mg/kg	< 0.7	< 0.7	97.0	80 - 120
Arsenic (As) Sequential ID No.: 111997					
Arsenic	mg/kg	< 0.7	< 0.7	93.3	80 - 120
Arsenic (As) Sequential ID No.: 112002					
Arsenic	mg/kg	< 0.7	< 0.7	96.6	80 - 120
Cadmium (Cd) Sequential ID No.: 111937					
Cadmium	mg/L	< 0.001	< 0.001	0.951	0.8 - 1.2
Cadmium (Cd) Sequential ID No.: 111976					
Cadmium	mg/kg	< 1	< 1	100	80 - 120
Cadmium (Cd) Sequential ID No.: 111981					
Cadmium	mg/kg	< 1	< 1	105	80 - 120
Cadmium (Cd) Sequential ID No.: 111990					
Cadmium	mg/kg	< 1	< 1	100	80 - 120
Cadmium (Cd) Sequential ID No.: 111997					
Cadmium	mg/kg	< 1	< 1	99	80 - 120
Cadmium (Cd) Sequential ID No.: 112002					
Cadmium	mg/kg	< 1	< 1	101	80 - 120

Comments

RDL : Reported Detection Limit

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Cobalt (Co) Sequential ID No.: 111937					
Cobalt	mg/L	< 0.001	< 0.001	0.904	0.8 - 1.2
Cobalt (Co) Sequential ID No.: 111976					
Cobalt	mg/kg	< 1	< 1	91	80 - 120
Cobalt (Co) Sequential ID No.: 111981					
Cobalt	mg/kg	< 1	< 1	96	80 - 120
Cobalt (Co) Sequential ID No.: 111990					
Cobalt	mg/kg	< 1	< 1	92	80 - 120
Cobalt (Co) Sequential ID No.: 111997					
Cobalt	mg/kg	< 1	< 1	89	80 - 120
Cobalt (Co) Sequential ID No.: 112002					
Cobalt	mg/kg	< 1	< 1	93	80 - 120
Chromium (Cr) Sequential ID No.: 111937					
Chromium	mg/L	< 0.001	0.001	0.882	0.8 - 1.2
Chromium (Cr) Sequential ID No.: 111976					
Chromium	mg/kg	< 2	< 2	91	80 - 120
Chromium (Cr) Sequential ID No.: 111981					
Chromium	mg/kg	< 2	< 2	96	80 - 120

Comments

RDL : Reported Detection Limit

Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Chromium (Cr) Sequential ID No.: 111990					
Chromium	mg/kg	< 2	< 2	93	80 - 120
Chromium (Cr) Sequential ID No.: 111997					
Chromium	mg/kg	< 2	< 2	90	80 - 120
Chromium (Cr) Sequential ID No.: 112002					
Chromium	mg/kg	< 2	< 2	93	80 - 120
Copper (Cu) Sequential ID No.: 111937					
Copper	mg/L	< 0.001	< 0.001	0.951	0.8 - 1.2
Copper (Cu) Sequential ID No.: 111976					
Copper	mg/kg	< 1	< 1	94	80 - 120
Copper (Cu) Sequential ID No.: 111981					
Copper	mg/kg	< 1	< 1	99	80 - 120
Copper (Cu) Sequential ID No.: 111990					
Copper	mg/kg	< 1	< 1	95	80 - 120
Copper (Cu) Sequential ID No.: 111997					
Copper	mg/kg	< 1	< 1	92	80 - 120
Copper (Cu) Sequential ID No.: 112002					
Copper	mg/kg	< 1	< 1	94	80 - 120

Comments

RDL : Reported Detection Limit

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Certificate of Analysis

Request Number: **06-252402**

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Nickel (Ni) Sequential ID No.: 111937					
Nickel	mg/L	< 0.01	< 0.01	0.96	0.8 - 1.2
Nickel (Ni) Sequential ID No.: 111976					
Nickel	mg/kg	< 2	< 2	95	80 - 120
Nickel (Ni) Sequential ID No.: 111981					
Nickel	mg/kg	< 2	< 2	100	80 - 120
Nickel (Ni) Sequential ID No.: 111990					
Nickel	mg/kg	< 2	< 2	96	80 - 120
Nickel (Ni) Sequential ID No.: 111997					
Nickel	mg/kg	< 2	< 2	92	80 - 120
Nickel (Ni) Sequential ID No.: 112002					
Nickel	mg/kg	< 2	< 2	95	80 - 120
Lead (Pb) Sequential ID No.: 111937					
Lead	mg/L	< 0.01	< 0.01	0.89	0.8 - 1.2
Lead (Pb) Sequential ID No.: 111976					
Lead	mg/kg	< 10	< 10	94	80 - 120
Lead (Pb) Sequential ID No.: 111981					
Lead	mg/kg	< 10	< 10	99	80 - 120

Comments

RDL : Reported Detection Limit

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results (CQ)

Parameters (Sequential ID No.)	Units	RDL	Blank	Certified Control Result	Certified Control Expected Range
Lead (Pb) Sequential ID No.: 111990					
Lead	mg/kg	< 10	< 10	94	80 - 120
Lead (Pb) Sequential ID No.: 111997					
Lead	mg/kg	< 10	< 10	95	80 - 120
Lead (Pb) Sequential ID No.: 112002					
Lead	mg/kg	< 10	< 10	98	80 - 120
Zinc (Zn) Sequential ID No.: 111937					
Zinc	mg/L	< 0.01	< 0.01	0.93	0.8 - 1.2
Zinc (Zn) Sequential ID No.: 111976					
Zinc	mg/kg	< 4	< 4	95	80 - 120
Zinc (Zn) Sequential ID No.: 111981					
Zinc	mg/kg	< 4	< 4	97	80 - 120
Zinc (Zn) Sequential ID No.: 111990					
Zinc	mg/kg	< 4	< 4	96	80 - 120
Zinc (Zn) Sequential ID No.: 111997					
Zinc	mg/kg	< 4	< 4	93	80 - 120
Zinc (Zn) Sequential ID No.: 112002					
Zinc	mg/kg	< 4	< 4	96	80 - 120

Comments

RDL : Reported Detection Limit

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results - Part 2

Parameters (Sequential ID No.)	Units	Duplicate Value 1	Duplicate Value 2	Duplicate Difference (%)
Arsenic (As)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Arsenic	mg/L	0.002	0.002	0.0
Arsenic (As)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Arsenic	mg/kg	81.4	71.4	13.1
Arsenic (As)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Arsenic	mg/kg	18.6	22.5	19.0
Arsenic (As)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Arsenic	mg/kg	11.4	10.4	9.2
Arsenic (As)				
Sequential ID No: 112002	(Sample no)		(1197342)	
Arsenic	mg/kg	5.0	5.5	9.5
BTEX				
Sequential ID No: 112188	(Sample no)		(1197279)	
Benzene	µg/L	< 0.1	< 0.1	-
Toluene	µg/L	0.1	< 0.1	-
Ethylbenzene	µg/L	< 0.1	< 0.1	-
Xylenes	µg/L	0.1	< 0.1	-
Cadmium (Cd)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Cadmium	mg/L	< 0.001	< 0.001	-
Cadmium (Cd)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Cadmium	mg/kg	< 1	< 1	-

Comments

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results - Part 2

Parameters (Sequential ID No.)	Units	Duplicate Value 1	Value 2	Difference (%)
Cadmium (Cd)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Cadmium	mg/kg	< 1	< 1	-
Cadmium (Cd)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Cadmium	mg/kg	< 1	< 1	-
Cadmium (Cd)				
Sequential ID No: 112002	(Sample no)		(1197342)	
Cadmium	mg/kg	< 1	< 1	-
Chromium (Cr)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Chromium	mg/L	0.009	0.010	10.5
Chromium (Cr)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Chromium	mg/kg	26	30	14.3
Chromium (Cr)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Chromium	mg/kg	30	29	3.4
Chromium (Cr)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Chromium	mg/kg	21	20	4.9
Chromium (Cr)				
Sequential ID No: 112002	(Sample no)		(1197342)	
Chromium	mg/kg	12	12	0.0
Cobalt (Co)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Cobalt	mg/L	0.007	0.007	0.0

Comments

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Certificate of Analysis

Request Number: **06-252402**

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results - Part 2

Parameters (Sequential ID No.)	Units	Duplicate Value 1	Duplicate Value 2	Difference (%)
Cobalt (Co)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Cobalt	mg/kg	4	5	22.2
Cobalt (Co)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Cobalt	mg/kg	3	3	0.0
Cobalt (Co)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Cobalt	mg/kg	3	3	0.0
Cobalt (Co)				
Sequential ID No: 112002	(Sample no)		(1197342)	
Cobalt	mg/kg	2	2	0.0
Copper (Cu)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Copper	mg/L	0.009	0.008	11.8
Copper (Cu)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Copper	mg/kg	15	17	12.5
Copper (Cu)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Copper	mg/kg	12	11	8.7
Copper (Cu)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Copper	mg/kg	15	13	14.3
Copper (Cu)				
Sequential ID No: 112002	(Sample no)		(1197342)	
Copper	mg/kg	5	6	18.2

Comments

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results - Part 2

Parameters (Sequential ID No.)	Units	Duplicate Value 1	Duplicate Value 2	Duplicate Difference (%)
Lead (Pb)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Lead	mg/L	0.01	0.01	0.0
Lead (Pb)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Lead	mg/kg	< 10	< 10	-
Lead (Pb)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Lead	mg/kg	< 10	< 10	-
Lead (Pb)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Lead	mg/kg	< 10	< 10	-
Lead (Pb)				
Sequential ID No: 112002	(Sample no)		(1197342)	
Lead	mg/kg	< 10	< 10	-
Mercury (cold vapor)				
Sequential ID No: 111986	(Sample no)		(1197312)	
Mercury	mg/kg	< 0.04	< 0.04	-
Mercury (cold vapor)				
Sequential ID No: 112149	(Sample no)		(1197291)	
Mercury	mg/L	< 0.0002	< 0.0002	-
Mercury (cold vapor)				
Sequential ID No: 112154	(Sample no)		(1197357)	
Mercury	mg/kg	< 0.04	< 0.04	-
Mercury (cold vapor)				
Sequential ID No: 112155	(Sample no)		(1197410)	
Mercury	mg/kg	< 0.04	< 0.04	-

Comments

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results - Part 2

Parameters (Sequential ID No.)	Units	Duplicate Value 1	Duplicate Value 2	Duplicate Difference (%)
Moisture (for calculation)				
Sequential ID No: 111973	(Sample no)		(1197320)	
			(1197330)	
			(1197340)	
			(1197350)	
			(1197360)	
Moisture	%	6.4	6.3	1.6
Moisture	%	7.5	7.6	1.3
Moisture	%	14.0	14.2	1.4
Moisture	%	7.8	8.1	3.8
Moisture	%	9.4	10.0	6.2
Moisture (for calculation)				
Sequential ID No: 111975	(Sample no)		(1197361)	
			(1197414)	
Moisture	%	3.8	3.7	2.7
Moisture	%	12.0	11.1	7.8
Nickel (Ni)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Nickel	mg/L	0.03	0.03	0.0
Nickel (Ni)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Nickel	mg/kg	13	16	20.7
Nickel (Ni)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Nickel	mg/kg	7	7	0.0
Nickel (Ni)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Nickel	mg/kg	12	11	8.7
Nickel (Ni)				
Sequential ID No: 112002	(Sample no)		(1197342)	

Comments

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Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results - Part 2

Parameters (Sequential ID No.)	Units	Duplicate Value 1	Value 2	Difference (%)
Nickel	mg/kg	5	5	0.0
Petroleum Hydrocarbons (C6-C10)				
Sequential ID No: 112188	(Sample no)		(1197279)	
Petroleum Hydrocarbons (C6-C10)	µg/L	< 25	< 25	-
Polychlorinated Biphenyls (Aroclors)				
Sequential ID No: 111897	(Sample no)		(1197320)	
Aroclor 1242	mg/kg	< 0.1	< 0.1	-
Aroclor 1248	mg/kg	< 0.1	< 0.1	-
Aroclor 1254	mg/kg	< 0.1	< 0.1	-
Aroclor 1260	mg/kg	< 0.1	< 0.1	-
PCB Total	mg/kg	ND	ND	-
Polychlorinated Biphenyls (Aroclors)				
Sequential ID No: 111958	(Sample no)		(1197330)	
Aroclor 1242	mg/kg	< 0.1	< 0.1	-
Aroclor 1248	mg/kg	< 0.1	< 0.1	-
Aroclor 1254	mg/kg	< 0.1	< 0.1	-
Aroclor 1260	mg/kg	< 0.1	< 0.1	-
PCB Total	mg/kg	ND	ND	-
Polychlorinated Biphenyls (Aroclors)				
Sequential ID No: 112023	(Sample no)		(1197350)	
Aroclor 1242	mg/kg	< 0.1	< 0.1	-
Aroclor 1248	mg/kg	< 0.1	< 0.1	-
Aroclor 1254	mg/kg	< 0.1	< 0.1	-
Aroclor 1260	mg/kg	< 0.1	< 0.1	-
PCB Total	mg/kg	ND	ND	-
Polychlorinated Biphenyls (Aroclors)				
Sequential ID No: 112024	(Sample no)		(1197361)	
Aroclor 1242	mg/kg	< 0.1	< 0.1	-
Aroclor 1248	mg/kg	< 0.1	< 0.1	-
Aroclor 1254	mg/kg	< 0.1	< 0.1	-
Aroclor 1260	mg/kg	< 0.1	< 0.1	-

Comments

Certificate of Analysis

Request Number: 06-252402

Client: **NUNATTA ENVIRONMENTAL SERVICES**

P.O. Number	Your Project ID.	Project Manager
NA	FOX-4 CAPE HOOPER	Alain Carrière

Quality Control Results - Part 2

Parameters (Sequential ID No.)	Units	Duplicate Value 1	Value 2	Difference (%)
PCB Total	mg/kg	ND	ND	-
Zinc (Zn)				
Sequential ID No: 111937	(Sample no)		(1197279)	
Zinc	mg/L	0.47	0.45	4.3
Zinc (Zn)				
Sequential ID No: 111976	(Sample no)		(1197312)	
Zinc	mg/kg	33	43	26.3
Zinc (Zn)				
Sequential ID No: 111990	(Sample no)		(1197357)	
Zinc	mg/kg	17	16	6.1
Zinc (Zn)				
Sequential ID No: 111997	(Sample no)		(1197327)	
Zinc	mg/kg	20	20	0.0
Zinc (Zn)				
Sequential ID No: 112002	(Sample no)		(1197342)	
Zinc	mg/kg	9	9	0.0

Comments

BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001883

Company	Nunatta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tammy / Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	** Petroleum Hydr. C_{10}-C_{50}	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)				
MW-1	GW	21-Aug-06			✓			✓			✓			✓						✓								
MW-2	GW	21-Aug-06			✓			✓			✓			✓						✓								
MW-3	GW	22-Aug-06			✓			✓			✓			✓						✓								
MW-5	GW	22-Aug-06			✓			✓			✓			✓						✓								
MW-7	GW	22-Aug-06			✓			✓			✓			✓						✓								
MW-8	GW	22-Aug-06			✓			✓			✓			✓						✓								
MW-10	GW	24-Aug-06			✓			✓			✓			✓						✓								
MW-12	GW	24-Aug-06			✓			✓			✓			✓						✓								
MW-13	GW	24-Aug-06			✓			✓			✓			✓						✓								
MW-14	GW	24-Aug-06			✓			✓			✓			✓						✓								
MW-15	GW	24-Aug-06			✓			✓			✓			✓						✓								

Sampling site Fox-4 Cape Hooper, NU	Comments:	In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) Carbon Range C_6 to C_{32}

Seq. number	Relinquished: Tammy Prichard	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

*** = Metals specification**

Communicated previously by e-mail
Total As, Cd, Cr, Co, Cu, Pb, Ni, Zn
and Hg.

BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001884

Company	Nunatta		
Contact	Alain Corriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tanmoy / Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water
WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	Petroleum Hydr. C_{10}-C_{50} **	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (Total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)
MW-16	GW	24-Aug-06			✓			✓			✓			✓						✓				
QAQC-5 NU	GW	24-Aug-06			✓			✓			✓			✓						✓				
QAQC-6	GW	24-Aug-06			✓			✓			✓			✓						✓				
MW-1 (soil) 0-15 cm	S	21-Aug-06			✓			✓			✓			✓						✓				
MW-2 (soil) 40-50 cm	S	21-Aug-06			✓			✓			✓			✓						✓				
MW-1 (soil) 40-50 cm	S	21-Aug-06			✓			✓			✓			✓						✓				
MW-2 (soil) 0-15 cm	S	21-Aug-06			✓			✓			✓			✓						✓				
MW-3 (soil) 0-15 cm	S	22-Aug-06			✓			✓			✓			✓						✓				
MW-3 (soil) 40-50 cm	S	22-Aug-06			✓			✓			✓			✓						✓				
MW-4 (soil) 0-15 cm	S	22-Aug-06			✓			✓			✓			✓						✓				
MW-4 (soil) 40-50 cm	S	22-Aug-06			✓			✓			✓			✓						✓				

Sampling site
Fox-4 Cape Hooper, NU

Comments:

In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) Carbon Range C_6 to C_{32}

* = Metals specification

Communicated previously by e-mail. Total As, Cd, Cr, Co, Cu, Pb, Ni, Zn and Hg.

Seq. number	Relinquished: Tanmoy Pradani	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001885

Company	Numattta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tannay / Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	** Petroleum Hydr. C_{10}-C_{50}	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)				
MW-5 (soil) 0-15 cm	S	22-Aug-06			✓			✓			✓			✓						✓								
MW-5 (soil) 40-50 cm	S	22-Aug-06			✓			✓			✓			✓						✓								
MW-6 (soil) 0-15 cm	S	21-Aug-06			✓			✓			✓			✓						✓								
MW-6 (soil) 40-50 cm	S	21-Aug-06			✓			✓			✓			✓						✓								
MW-7 (soil) 0-15 cm	S	23-Aug-06			✓			✓			✓			✓						✓								
MW-7 (soil) 40-50 cm	S	23-Aug-06			✓			✓			✓			✓						✓								
MW-8 (soil) 0-15cm	S	23-Aug-06			✓			✓			✓			✓						✓								
MW-8 (soil) 40-50cm	S	23-Aug-06			✓			✓			✓			✓						✓								
MW-9 (soil) 0-15cm	S	22-Aug-06			✓			✓			✓			✓						✓								
MW-9 (soil) 40-45cm	S	22-Aug-06			✓			✓			✓			✓						✓								
MW-10 (soil) 0-15cm	S	25-Aug-06			✓			✓			✓			✓						✓								

Sampling site	Comments:	
Fox-4 Cape Hooper, NU		In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) Carbon Range C_6 to C_{32}

*** = Metals specification**

Total As, Cd, Cr, Co, Cu, Pb, Ni,
Zn ~~and Hg~~

Seq. number			
	Relinquished: Tannay Prakash	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001886

Company	Nunatta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tanmoy / Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	Petroleum Hydr. C_{10}-C_{50} *	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (Total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)				
MW-10 (soil) 40-50 cm					✓			✓			✓			✓						✓								
MW-11 (soil) 0-15 cm					✓			✓			✓			✓						✓								
MW-11 (soil) 40-45 cm					✓			✓			✓			✓						✓								
MW-12 (soil) 0-15 cm					✓			✓			✓			✓						✓								
MW-12 (soil) 40-50 cm					✓			✓			✓			✓						✓								
MW-13 (soil) 0-15 cm					✓			✓			✓			✓						✓								
MW-13 (soil) 40-50 cm					✓			✓			✓			✓						✓								
MW-14 (soil) 0-15 cm					✓			✓			✓			✓						✓								
MW-14 soil 40-50 cm					✓			✓			✓			✓						✓								
MW-15 (soil) 0-15 cm					✓			✓			✓			✓						✓								
MW-15 (soil) 40-50 cm					✓			✓			✓			✓						✓								

Sampling site Fox-4 Cape Hooper, NU	Comments:	In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

* TPH (Total Petroleum Hydrocarbons) C_6 to C_{34} as F1, F2 and F3

*** = Metals specification**

Total As, Cd, Cr, Co, Cu, Pb
Ni, Zn

Seq. number	Relinquished: Tanmoy Pradani	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

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BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001887

Company	Numatta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tammy / Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	Petroleum Hydr. C_{10}-C_{50} **	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)
MW-16 (soil) 0-15 cm	S	25-Aug-06			✓			✓			✓			✓						✓				
MW-16 (soil) 40-50 cm	S	25-Aug-06			✓			✓			✓			✓						✓				
F4-1 (soil) 0-15 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-1 (soil) 40-50 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-2 (soil) 0-15 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-2 (soil) 40-45 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-3 (soil) 0-15 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-3 (soil) 40-45 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-4 (soil) 0-15 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-4 (soil) 40-45 cm	S	23-Aug-06			✓			✓			✓			✓						✓				
F4-5 (soil) 0-15 cm	S	23-Aug-06			✓			✓			✓			✓						✓				

Sampling site	Comments:	
Fox-4 Cape Hooper, NU		In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) C6-C34 as F1, F2 and F3

*** = Metals specification**

Total As, Cd, Cr, Co, Cu, Pb, Ni and Zn

Seq. number	Relinquished: Tammy Prakash	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

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BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001888

Company	Nunatta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tanmoy/Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	Petroleum Hydr. C_{10}-C_{50} **	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (Total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)				
F4-5 (soil) 40-45 cm	S	23-Aug-06			✓			✓			✓			✓						✓								
F4-6 (soil) 0-15 cm	S	25-Aug-06			✓			✓			✓			✓						✓								
F4-6 (soil) 40-50 cm	S	25-Aug-06			✓			✓			✓			✓						✓								
F4-7 (soil) 0-15 cm	S	25-Aug-06			✓			✓			✓			✓						✓								
F4-7 (soil) 40-50 cm	S	25-Aug-06			✓			✓			✓			✓						✓								
F4-8 (soil) 0-15 cm	S	25-Aug-06			✓			✓			✓			✓						✓								
F4-8 (soil) 40-50 cm	S	25-Aug-06			✓			✓			✓			✓						✓								
F4-11 (soil) 0-15 cm	S	24-Aug-06			✓			✓			✓			✓						✓								
F4-11 (soil) 40-50 cm	S	24-Aug-06			✓			✓			✓			✓						✓								
F4-12 (soil) 0-15 cm	S	24-Aug-06			✓			✓			✓			✓						✓								
F4-12 (soil) 40-50	S	24-Aug-06			✓			✓			✓			✓						✓								

Sampling site	Comments:	
Fox-4 Cape Hooper, NU		In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) C_6-C_{50} as F1, F2 and F3

*** = Metals specification**

Total As, Cd, Cr, Co, Cu, Pb, Ni and Zn

Seq. number	Relinquished: Tanmoy Pradhan	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

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BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001889

Company	Nunatta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tanmoy / Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	Petroleum Hydr. C_{10}-C_{50} **	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (Total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)				
F4-13 (soil) 0-15 cm	S	23-Aug-06			✓			✓			✓			✓						✓								
F4-13 (soil) 40-50 cm	S	23-Aug-06			✓			✓			✓			✓						✓								
F4-14 (soil) 0-15 cm	S	23-Aug-06			✓			✓																				
F4-14 (soil) 40-45 cm	S	23-Aug-06			✓			✓																				
F4-18 (soil) 0-15 cm	S	23-Aug-06			✓			✓																				
F4-18 (soil) 40-50 cm	S	23-Aug-06			✓			✓																				
F4-19 (soil) 0-15 cm	S	23-Aug-06			✓			✓																				
F4-19 (soil) 40-45 cm	S	23-Aug-06			✓			✓																				
F4-20 (soil) 0-15 cm	S	23-Aug-06			✓			✓																				
F4-20 (soil) 30-40 cm	S	23-Aug-06			✓			✓																				
F4-21 (soil) 0-15 cm	S	23-Aug-06			✓			✓																				

Sampling site	Comments:	
Fox-4 Cape Hooper, NU		In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) C_6-C_{34} as F1, F2 and F3

*** = Metals specification**

Total As, Cd, Cr, Co, Cu, Pb, Ni, and Zn

Seq. number	Relinquished: Tanmoy Pradhan	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

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BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001890

Company	Nunatta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number		Quotation	
Collected by	Tammy / Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	Petroleum Hydr. C_{10}-C_{50} **	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)
F4-21 (soil) 40-50 cm	S	23-Aug-06			✓			✓																
F4-22 (soil) 0-15 cm	S	23-Aug-06			✓			✓																
F4-22 (soil) 40-45 cm	S	23-Aug-06			✓			✓																
F4-24 (soil) 0-15 cm	S	23-Aug-06			✓			✓																
F4-24 (soil) 30-40 cm	S	23-Aug-06			✓			✓																
F4-23 (soil) 0-15 cm	S	23-Aug-06			✓			✓																
F4-23 (soil) 40-45 cm	S	23-Aug-06			✓			✓																
F4-25 (soil) 0-15 cm	S	25-Aug-06			✓			✓			✓			✓						✓				
F4-25 (soil) 40-50 cm	S	25-Aug-06																						
QAQC1	S	23-Aug-06			✓			✓			✓			✓						✓				
QAQC2	S	23-Aug-06			✓			✓			✓			✓						✓				

Sampling site	Comments:	
Fox-4 Cape Hooper, NU		In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) C6-C34 as F1, F2 and F3

*** = Metals specification**

Total As, Cd, Cr, Co, Cu, Pb, Ni and Zn

Seq. number	Relinquished: Tammy Prusheno	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

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BODYCOTE Materials Testing Canada Inc. / Work Order

121 Boul. Hymus, Pointe-Claire, Qc, H9R 1E6
Tél: (514) 697-3273, Fax: (514) 697-2090

001891

Company	Nunatta		
Contact	Alain Carriere		
Address			
City	Iqaluit	Postal code	
P.O. Number	/	Quotation	
Collected by	Tammy/Richard		
Phone		Fax	

Tests required by:

Project name : Fox-4 Cape Hooper

Type (A=absorbant, S=soil, W=water, PW=potable water, GW=groundwater, SW=surface water WW =waste water, O=oil, L=leachate, SE=sediment, SG=sludge, SB=Swab)

Sample identification	Type	Date sampled	Total O & G (Gravimetric)	Mineral O & G (Gravimetric)	Petroleum Hydr. C_{10}-C_{50} **	MAH	THH	BTEX	PAH	Phenols GC-MS	PCB Aroclor	PCB Congeners	Metals (Cd, Cr, Cu, Ni, Pb, Zn)	Metals (Specify) *	Phenols Colorimetry	Phenols pulp and paper	BOD5	COD	SS	Mercury (Total)	TPH Ontario	C.U.M. Reg. 87 Art. 10	Alberta MUST	Others (specify)				
QAQC-3	S	23-Aug-06			✓			✓			✓			✓						✓								
QAQC-4	S	23-Aug-06			✓			✓			✓			✓						✓								
QAQC-7	S	25-Aug-06			✓			✓			✓			✓						✓								
QAQC-8	S	25-Aug-06			✓			✓			✓			✓						✓								
QAQC-9	S	25-Aug-06			✓			✓			✓			✓						✓								
QAQC-10	S	25-Aug-06			✓			✓			✓			✓						✓								

Sampling site	Comments:	
Fox-4 Cape Hooper		In order to improve our service and avoid potential analytical problems, please provide all information relevant to the samples & analyses requested.

** Total Petroleum Hydrocarbons (TPH) C_6-C_{34} F1, F2, F3

*** = Metals specification**

Total As, Cd, Cr, Co, Cu, Pb, Ni and Zn.

Seq. number	Relinquished: Tammy Pradaris	Accepted by:	Date:
	Relinquished:	Accepted by:	Date:

ACLAE

CAEAL

Canadian Association for Environmental Analytical Laboratories Inc.

Certificate of Accreditation

Bodycote Materials Testing Canada Inc.
121 Hymus Boulevard
Pointe Claire, Quebec

having met the requirements of ISO/IEC 17025 - 1999 (*General Requirements for the Competence of Testing and Calibration Laboratories*) and any additional program requirements, is deemed competent and hereby accredited for specific tests listed in the scope of accreditation approved by CAEAL.

Accreditation No.	*A3482*	Accreditation Date	*July 25, 2006*
Issued on	*July 25, 2006*	Expiry Date	*July 25, 2009*

Chief Executive Officer

N° 577

CERTIFICAT D'ACCRÉDITATION
DE LABORATOIRE D'ANALYSE ENVIRONNEMENTALE

COPIE

BODYCOTE ESSAIS DE MATÉRIAUX CANADA INC.
121, boulevard Hymus
Pointe-Claire (Québec) H9R 1E6

Numéro de laboratoire : **307** **Service à la clientèle externe :** **Oui** [x] **Non** [ ]

Champ d'accréditation : **Chimie de l'eau**

Selon les dispositions de l'article 118.6 de la Loi sur la qualité de l'environnement (L.R.Q., chap. Q-2) et conformément aux normes et exigences d'accréditation incluant le Guide ISO/CEI 25, le détenteur de ce certificat est habilité à réaliser les analyses déterminées dans le domaine ci-dessous :

Domaine	Date d'entrée en vigueur	Date d'échéance
- 120 -	2004-04-21	2006-04-20

Le présent certificat, valide pour la période indiquée, est soumis aux règles et procédures établies et demeure la propriété du ministère de l'Environnement.

Le ministre de l'Environnement

Environnement Québec

N° 493

CERTIFICAT D'ACCRÉDITATION DE LABORATOIRE D'ANALYSE ENVIRONNEMENTALE

COPIE

BODYCOTE ESSAIS DE MATÉRIAUX CANADA INC.

121, boulevard Hymus
Pointe-Claire (Québec) H9R 1E6

Numéro de laboratoire : **307** **Service à la clientèle externe :** **Oui** [x] **Non** [ ]

Champ d'accréditation : **Chimie de l'eau**
Chimie des boues, des déchets et des sols

Selon les dispositions de l'article 118.6 de la Loi sur la qualité de l'environnement (L.R.Q., chap. Q-2) et conformément aux normes et exigences d'accréditation incluant celles du Guide ISO/CEI 25, le détenteur de ce certificat est habilité à réaliser les analyses déterminées dans les domaines ci-dessous :

Domaine	Date d'entrée en vigueur	Date d'échéance
104 - 304	2003-06-27	2008-06-26

Le présent certificat, valide pour la période indiquée, est soumis aux règles et procédures établies et demeure la propriété du ministère de l'Environnement.

Le ministre de l'Environnement

Environnement Québec

N° 680

CERTIFICAT D'ACCRÉDITATION DE LABORATOIRE D'ANALYSE ENVIRONNEMENTALE

COPIE

BODYCOTE ESSAIS DE MATÉRIAUX CANADA INC.

121, boulevard Hymus
Pointe-Claire (Québec) H9R 1E6

Numéro de laboratoire : 307 **Service à la clientèle externe :** Oui [x] Non [ ]

Champ d'accréditation : **Chimie de l'eau**

Selon les dispositions de l'article 118.6 de la Loi sur la qualité de l'environnement (L.R.Q., chap. Q-2) et conformément aux normes et exigences d'accréditation incluant la norme internationale ISO/CEI 17025, le détenteur de ce certificat est habilité à réaliser les analyses déterminées dans les domaines ci-dessous :

Domaines	Date d'entrée en vigueur	Date d'échéance
23 - 26 - 28	2005-08-31	2007-08-30

Le présent certificat, valide pour la période indiquée, est soumis aux règles et procédures établies et demeure la propriété du ministère du Développement durable, de l'Environnement et des Parcs.

Le ministre

Ministère du Développement durable, de l'Environnement et des Parcs
Québec

N° 602

CERTIFICAT D'ACCRÉDITATION DE LABORATOIRE D'ANALYSE ENVIRONNEMENTALE

COPIE

BODYCOTE ESSAIS DE MATÉRIAUX CANADA INC.

121, boulevard Hymus
Pointe-Claire (Québec) H9R 1E6

Numéro de laboratoire : **307**

Service à la clientèle externe : **Oui** [x] **Non** [ ]

Champ d'accréditation : **Chimie de l'eau**
Chimie des boues des déchets et des sols

Selon les dispositions de l'article 118.6 de la Loi sur la qualité de l'environnement (L.R.Q., chap. Q-2) et conformément aux normes et exigences d'accréditation incluant la norme internationale ISO/CEI 17025, le détenteur de ce certificat est habilité à réaliser les analyses déterminées dans les domaines ci-dessous :

Domaines	Date d'entrée en vigueur	Date d'échéance
20 - 43 - 69 - 70 - 103 124 - 150 - 202	2004-09-25	2009-09-24

Le présent certificat, valide pour la période indiquée, est soumis aux règles et procédures établies et demeure la propriété du ministère de l'Environnement.

Le ministre de l'Environnement

Environnement Québec

N° 659

CERTIFICAT D'ACCRÉDITATION DE LABORATOIRE D'ANALYSE ENVIRONNEMENTALE

COPIE

BODYCOTE ESSAIS DE MATÉRIAUX CANADA INC.

121, boulevard Hymus
Pointe-Claire (Québec) H9R 1E6

Numéro de laboratoire : 307 **Service à la clientèle externe :** Oui [x] Non [ ]

Champ d'accréditation : **Chimie de l'eau**
Chimie des boues, des déchets et des sols

Selon les dispositions de l'article 118.6 de la Loi sur la qualité de l'environnement (L.R.Q., chap. Q-2) et conformément aux normes et exigences d'accréditation incluant la norme internationale ISO/CEI 17025, le détenteur de ce certificat est habilité à réaliser les analyses déterminées dans les domaines ci-dessous :

Domaines	Date d'entrée en vigueur	Date d'échéance
11 - 12 - 13 - 14 - 15 - 16 - 17 40 - 41 - 42 - 49 - 60 - 61 - 62 - 63 64 - 67 - 68 - 100 - 109 - 130 - 140 160 - 206 - 207 - 208 - 209 - 210 213 - 214 - 215 - 216 - 217 - 218 221 - 301 - 302 - 320 - 330 - 340	2005-07-12	2010-07-11

Le présent certificat, valide pour la période indiquée, est soumis aux règles et procédures établies et demeure la propriété du ministère du développement durable, de l'Environnement et des Parcs.

Le ministre

Ministère du Développement durable, de l'Environnement et des Parcs
Québec

ANNEX 1-B   SOIL HYDROCARBON DATA - NORWEST

NORWEST LABS

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-1	489038-2	489038-3	
		Sample Date	Aug 21, 2006	Aug 21, 2006	Aug 21, 2006	
		Sample Description	MW - 1 / 0-15 / Centimeters / 252402-1197312	MW - 2 / 40-50 / Centimeters / 252402-1197313	MW - 1 / 40-50 / Centimeters / 252402-1197314	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	60	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	60	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	920	20	10
F3 C16-C34	Dry Weight	mg/kg	20	60	50	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	20	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	9.03	7.88	12.80	

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Analytical Report

Bill to:	Bodycote Material Testing Canada Inc.	**Project**		**NWL Lot ID:**	**489038**
Report to:	Bodycote Material Testing Canada Inc. 121, Boulevarde Hymus Pointe-Claire, QC, Canada H9R 1E6	**ID:**	Fox-4 Cape Hooper	Control Number:	
		Name:		Date Received:	Aug 31, 2006
		Location:		Date Reported:	Sep 07, 2006
Attn:	David Cajolet	**LSD:**		Report Number:	897803
Sampled By:		**P.O.:**	CT-018645		
Company:		**Acct. Code:**			

		NWL Number	489038-4	489038-5	489038-6	
		Sample Date	Aug 21, 2006	Aug 22, 2006	Aug 22, 2006	
		Sample Description	MW - 2 / 0-15 / Centimeters / 252402-1197315	MW - 3 / 0-15 / Centimeters / 252402-1197316	MW - 3 / 40-50 / Centimeters / 252402-1197317	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	90	20	<10	10
F3 C16-C34	Dry Weight	mg/kg	70	40	30	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	<10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	10.10	5.69	5.71	

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
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Fax: (403) 291-2021

Analytical Report

Bill to:	Bodycote Material Testing Canada Inc.	Project		NWL Lot ID:	489038
Report to:	Bodycote Material Testing Canada Inc.	ID:	Fox-4 Cape Hooper	Control Number:	
	121, Boulevarde Hymus	Name:		Date Received:	Aug 31, 2006
	Pointe-Claire, QC, Canada	Location:		Date Reported:	Sep 07, 2006
	H9R 1E6	LSD:		Report Number:	897803
Attn:	David Cajolet	P.O.:	CT-018645		
Sampled By:		Acct. Code:			
Company:					

		NWL Number	489038-7	489038-8	489038-9	
		Sample Date	Aug 22, 2006	Aug 22, 2006	Aug 22, 2006	
		Sample Description	MW - 4 / 0-15 / Centimeters / 252402-1197318	MW - 4 / 40-50 / Centimeters / 252402-1197319	MW - 5 / 0-15 / Centimeters / 252402-1197320	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	100	220	<10	10
F3 C16-C34	Dry Weight	mg/kg	210	210	<10	10
F4 C34-C50	Dry Weight	mg/kg	110	100	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	160	140	<10	10
% C50+		%	10.2	6.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	7.29	9.53	7.70	

NORWEST LABS

Analytical Report

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Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: **489038**
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-10	489038-11	489038-12	
		Sample Date	Aug 22, 2006	Aug 21, 2006	Aug 21, 2006	
		Sample Description	MW - 5 / 40-50 / Centimeters / 252402-1197321	MW - 6 / 0-15 / Centimeters / 252402-1197322	MW - 6 / 40-50 / Centimeters / 252402-1197323	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	310	60	10
F3 C16-C34	Dry Weight	mg/kg	<10	200	70	10
F4 C34-C50	Dry Weight	mg/kg	<10	40	20	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	50	30	10
% C50+		%	0.0	1.7	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	16.00	9.25	6.96	

Norwest Labs

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-13	489038-14	489038-15	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	MW - 7 / 0-15 / Centimeters / 252402-1197324	MW - 7 / 40-50 / Centimeters / 252402-1197325	MW - 8 / 0-15 / Centimeters / 252402-1197326	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	0.020	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	<10	10	10
F3 C16-C34	Dry Weight	mg/kg	30	230	150	10
F4 C34-C50	Dry Weight	mg/kg	10	60	40	10
F4HTGC C34-C50+	Dry Weight	mg/kg	20	80	60	10
% C50+		%	0.0	7.4	7.8	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	6.68	10.40	9.50	

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
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Analytical Report

Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-16	489038-17	489038-18	
		Sample Date	Aug 23, 2006	Aug 22, 2006	Aug 22, 2006	
		Sample Description	MW - 8 / 40-50 / Centimeters / 252402-1197327	MW - 9 / 0-15 / Centimeters / 252402-1197328	MW - 9 / 40-45 / Centimeters / 252402-1197329	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	10	<10	10
F3 C16-C34	Dry Weight	mg/kg	30	<10	<10	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	<10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	5.84	7.28	11.10	

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Analytical Report

Bill to: Bodycote Material Testing Canada Inc.	Project		NWL Lot ID: 489038
Report to: Bodycote Material Testing Canada Inc.	ID:	Fox-4 Cape Hooper	Control Number:
121, Boulevarde Hymus	Name:		Date Received: Aug 31, 2006
Pointe-Claire, QC, Canada	Location:		Date Reported: Sep 07, 2006
H9R 1E6			Report Number: 897803
Attn: David Cajolet	LSD:		
Sampled By:	P.O.:	CT-018645	
Company:	Acct. Code:		

		NWL Number	489038-19	489038-20	489038-21	
		Sample Date	Aug 25, 2006	Aug 25, 2006	Aug 25, 2006	
		Sample Description	MW - 10 / 0-15 / Centimeters / 252402-1197330	MW - 10 / 40-50 / Centimeters /. 252402-1197331	MW - 11 / 0-15 / Centimeters / 252402-1197332	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	<10	10	10
F3 C16-C34	Dry Weight	mg/kg	20	<10	40	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	20	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	8.29	7.25	9.35	

NORWEST LABS

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-22	489038-23	489038-24	
		Sample Date	Aug 25, 2006	Aug 25, 2006	Aug 25, 2006	
		Sample Description	MW - 11 / 40-50 / Centimeters / 252402-1197333	MW - 12 / 0-15 / Centimeters / 252402-1197334	MW - 12 / 40-50 / Centimeters / 252402-1197335	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	10	<10	10
F3 C16-C34	Dry Weight	mg/kg	20	50	30	10
F4 C34-C50	Dry Weight	mg/kg	<10	20	10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	30	20	10
% C50+		%	0.0	11.3	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	11.20	10.90	11.70	

Norwest Labs

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-25	489038-26	489038-27	
		Sample Date	Aug 25, 2006	Aug 26, 2006	Aug 25, 2006	
		Sample Description	MW - 13 / 0-15 / Centimeters / 252402-1197336	MW - 13 / 40-50 / Centimeters / 252402-1197337	MW - 14 / 0-15 / Centimeters / 252402-1197338	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	0.050	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	<10	20	10
F3 C16-C34	Dry Weight	mg/kg	20	10	120	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	20	10
F4HTGC C34-C50+	Dry Weight	mg/kg	10	<10	20	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	12.60	13.60	7.03	

NORWEST LABS

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Bill to:	Bodycote Material Testing Canada Inc.	**Project**		**NWL Lot ID:**	**489038**
Report to:	Bodycote Material Testing Canada Inc.	**ID:**	Fox-4 Cape Hooper	Control Number:	
	121, Boulevarde Hymus	**Name:**		Date Received:	Aug 31, 2006
	Pointe-Claire, QC, Canada	**Location:**		Date Reported:	Sep 07, 2006
	H9R 1E6				
Attn:	David Cajolet	**LSD:**		Report Number:	897803
Sampled By:		**P.O.:**	CT-018645		
Company:		**Acct. Code:**			

		NWL Number	489038-28	489038-29	489038-30	
		Sample Date	Aug 25, 2006	Aug 25, 2006	Aug 25, 2006	
		Sample Description	MW - 14 / 40-50 / Centimeters / 252402-1197339	MW - 15 / 0-15 / Centimeters / 252402-1197340	MW - 15 / 40-50 / Centimeters / 252402-1197341	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	0.19	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	92	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	92	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	2620	<10	<10	10
F3 C16-C34	Dry Weight	mg/kg	820	20	30	10
F4 C34-C50	Dry Weight	mg/kg	10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	10	<10	<10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	16.90	13.80	8.93	

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

			NWL Number	489038-31	489038-32	489038-33	
			Sample Date	Aug 25, 2006	Aug 25, 2006	Aug 23, 2006	
			Sample Description	MW - 16 / 0-15 / Centimeters / 252402-1197342	MW - 16 / 40-50 / Centimeters / 252402-1197343	F4 - 1 / 0-15 / Centimeters / 252402-1197344	
			Matrix	Soil	Soil	Soil	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg		<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg		<0.005	0.040	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg		<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg		<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg		<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg		<10	<10	20	10
F3 C16-C34	Dry Weight	mg/kg		<10	10	30	10
F4 C34-C50	Dry Weight	mg/kg		<10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg		<10	<10	<10	10
% C50+		%		0.0	0.0	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		11.00	13.70	9.09	

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

			NWL Number	489038-34	489038-35	489038-36	
			Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
			Sample Description	F4 - 1 / 40-50 / Centimeters / 252402-1197345	F4 - 2 / 0-15 / Centimeters / 252402-1197346	F4 - 2 / 40-50 / Centimeters / 252402-1197347	
			Matrix	Soil	Soil	Soil	
Analyte		**Units**		**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil							
Extraction Date				31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg		<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg		<0.005	0.110	1.07	0.005
Ethylbenzene	Dry Weight	mg/kg		<0.010	0.430	1.63	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg		<0.010	2.86	13.7	0.010
Volatile Petroleum Hydrocarbons - Soil							
Extraction Date				31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg		<12	153	436	12
F1 -BTEX	Dry Weight	mg/kg		<12	150	420	12
Extractable Petroleum Hydrocarbons - Soxhlet							
Extraction Date				31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg		130	8740	4880	10
F3 C16-C34	Dry Weight	mg/kg		40	620	270	10
F4 C34-C50	Dry Weight	mg/kg		10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg		20	<10	<10	10
% C50+		%		0.0	0.0	0.0	
Silica Gel Cleanup							
Silica Gel Cleanup				Done	Done	Done	
Soil % Moisture							
Moisture	Soil % Moisture	%		9.07	11.00	8.08	

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Analytical Report

Norwest Labs
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Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-37	489038-38	489038-39	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 3 / 0-15 / Centimeters / 252402-1197348	F4 - 3 / 40-45 / Centimeters / 252402-1197349	F4 - 4 / 0-15 / Centimeters / 252402-1197350	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	0.45	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	139	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	138	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	1990	5220	<10	10
F3 C16-C34	Dry Weight	mg/kg	670	1100	<10	10
F4 C34-C50	Dry Weight	mg/kg	80	80	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	80	80	<10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	4.46	7.17	18.00	

NORWEST LABS

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-40	489038-41	489038-42	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 4 / 40-45 / Centimeters / 252402-1197351	F4 - 5 / 0-15 / Centimeters / 252402-1197352	F4 - 5 / 40-45 / Centimeters / 252402-1197353	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	32	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	32	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	<10	50	3120	10
F3 C16-C34	Dry Weight	mg/kg	<10	160	450	10
F4 C34-C50	Dry Weight	mg/kg	<10	40	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	60	<10	10
% C50+		%	0.0	8.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	15.80	17.30	12.20	

Analytical Report

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-43	489038-44	489038-45	
		Sample Date	Aug 25, 2006	Aug 25, 2006	Aug 25, 2006	
		Sample Description	F4 - 6 / 0-15 / Centimeters / 252402-1197354	F4 - 6 / 40-45 / Centimeters / 252402-1197355	F4 - 7 / 0-15 / Centimeters / 252402-1197356	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	10	<10	40	10
F3 C16-C34	Dry Weight	mg/kg	<10	<10	<10	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	<10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	13.90	11.00	11.60	

NORWEST LABS

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-46	489038-47	489038-48	
		Sample Date	Aug 25, 2006	Aug 25, 2006	Aug 25, 2006	
		Sample Description	F4 - 7 / 40-50 / Centimeters / 252402-1197357	F4 - 8 / 0-15 / Centimeters / 252402-1197358	F4 - 8 / 40-50 / Centimeters / 252402-1197359	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	0.015	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	30	20	20	10
F3 C16-C34	Dry Weight	mg/kg	<10	<10	<10	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	<10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	18.80	17.20	16.70	

Analytical Report

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
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Bill to:	Bodycote Material Testing Canada Inc.	Project		NWL Lot ID:	489038
Report to:	Bodycote Material Testing Canada Inc. 121, Boulevarde Hymus Pointe-Claire, QC, Canada H9R 1E6	ID:	Fox-4 Cape Hooper	Control Number:	
		Name:		Date Received:	Aug 31, 2006
		Location:		Date Reported:	Sep 07, 2006
Attn:	David Cajolet	LSD:		Report Number:	897803
Sampled By:		P.O.:	CT-018645		
Company:		Acct. Code:			

		NWL Number	489038-49	489038-50	489038-51	
		Sample Date	Aug 24, 2006	Aug 24, 2006	Aug 24, 2006	
		Sample Description	F4 - 11 / 0-15 / Centimeters / 252402-1197360	F4 - 11 / 40-50 / Centimeters / 252402-1197361	F4 - 12 / 0-15 / Centimeters / 252402-1197362	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	10	<10	<10	10
F3 C16-C34	Dry Weight	mg/kg	<10	<10	130	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	60	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	140	10
% C50+		%	0.0	0.0	28.3	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	4.74	9.15	14.20	

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
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Analytical Report

Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-52	489038-53	489038-54	
		Sample Date	Aug 24, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 12 / 40-50 / Centimeters / 252402-1197363	F4 - 13 / 0-15 / Centimeters / 252402-1197364	F4 - 13 / 40-50 / Centimeters / 252402-1197365	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	20	10	20	10
F3 C16-C34	Dry Weight	mg/kg	<10	130	<10	10
F4 C34-C50	Dry Weight	mg/kg	<10	80	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	170	<10	10
% C50+		%	0.0	26.8	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	21.60	21.10	15.10	

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Analytical Report

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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-55	489038-56	489038-57	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 17 / 0-15 / Centimeters / 252402-1197383	F4 - 17 / 40-45 / Centimeters / 252402-1197384	F4 - 18 / 0-15 / Centimeters / 252402-1197385	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	10	10	140	10
F3 C16-C34	Dry Weight	mg/kg	10	<10	420	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	40	10
F4HTGC C34-C50+	Dry Weight	mg/kg	<10	<10	50	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	9.38	8.05	10.20	

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Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-58	489038-59	489038-60	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 18 / 40-50 / Centimeters / 252402-1197386	F4 - 19 / 0-15 / Centimeters / 252402-1197387	F4 - 19 / 40-45 / Centimeters / 252402-1197388	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	0.58	<0.010	0.07	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	97	<12	66	12
F1 -BTEX	Dry Weight	mg/kg	97	<12	66	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	420	1670	2560	10
F3 C16-C34	Dry Weight	mg/kg	50	430	650	10
F4 C34-C50	Dry Weight	mg/kg	<10	<10	10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	70	70	100	10
% C50+		%	11.5	2.9	2.8	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	9.11	8.22	9.30	

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Analytical Report

Norwest Labs
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Bill to:	Bodycote Material Testing Canada Inc.	Project		NWL Lot ID:	489038
Report to:	Bodycote Material Testing Canada Inc.	ID:	Fox-4 Cape Hooper	Control Number:	
	121, Boulevarde Hymus	Name:		Date Received:	Aug 31, 2006
	Pointe-Claire, QC, Canada	Location:		Date Reported:	Sep 07, 2006
	H9R 1E6	LSD:		Report Number:	897803
Attn:	David Cajolet	P.O.:	CT-018645		
Sampled By:		Acct. Code:			
Company:					

Analyte		Units	Results	Results	Results	Detection Limit
		NWL Number	489038-61	489038-62	489038-63	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 20 / 0-15 / Centimeters / 252402-1197389	F4 - 20 / 30-40 / Centimeters / 252402-1197390	F4 - 21 / 0-15 / Centimeters / 252402-1197391	
		Matrix	Soil	Soil	Soil	
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	0.015	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	0.06	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	96	23	12
F1 -BTEX	Dry Weight	mg/kg	<12	96	22	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	360	6940	4170	10
F3 C16-C34	Dry Weight	mg/kg	390	420	860	10
F4 C34-C50	Dry Weight	mg/kg	60	10	120	10
F4HTGC C34-C50+	Dry Weight	mg/kg	80	10	130	10
% C50+		%	2.0	0.0	0.2	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	21.20	12.90	11.70	

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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

			489038-64	489038-65	489038-66	
		NWL Number	489038-64	489038-65	489038-66	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 21 / 40-50 / Centimeters / 252402-1197392	F4 - 22 / 0-15 / Centimeters / 252402-1197393	F4 - 22 / 40-45 / Centimeters / 252402-1197394	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	0.784	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	6.01	<0.010	0.18	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	185	<12	22	12
F1 -BTEX	Dry Weight	mg/kg	178	<12	22	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	2670	830	1510	10
F3 C16-C34	Dry Weight	mg/kg	220	920	520	10
F4 C34-C50	Dry Weight	mg/kg	20	160	90	10
F4HTGC C34-C50+	Dry Weight	mg/kg	20	190	100	10
% C50+		%	0.0	1.3	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	8.25	10.50	7.90	

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Analytical Report

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Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-67	489038-68	489038-69	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 24 / 0-15 / Centimeters / 252402-1197395	F4 - 24 / 30-40 / Centimeters / 252402-1197396	F4 - 23 / 0-15 / Centimeters / 252402-1197397	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	0.02	0.17	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	19	66	<12	12
F1 -BTEX	Dry Weight	mg/kg	19	66	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	2930	5160	1500	10
F3 C16-C34	Dry Weight	mg/kg	1740	1430	250	10
F4 C34-C50	Dry Weight	mg/kg	370	260	20	10
F4HTGC C34-C50+	Dry Weight	mg/kg	430	400	20	10
% C50+		%	1.3	2.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	9.78	14.70	13.90	

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Analytical Report

Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R IE6
Attn: David Cajolet
Sampled By:
Company:

Project ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-70	489038-71	489038-72	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	F4 - 23 / 40-50 / Centimeters / 252402-1197398	F4 - 25 / 0-15 / Centimeters / 252402-1197408	QAQC - 1 / 0-15 / Centimeters / 252402-1197409	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	29	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	29	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	2950	<10	70	10
F3 C16-C34	Dry Weight	mg/kg	270	10	210	10
F4 C34-C50	Dry Weight	mg/kg	10	<10	110	10
F4HTGC C34-C50+	Dry Weight	mg/kg	10	<10	140	10
% C50+		%	0.0	0.0	8.6	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	11.00	11.70	8.27	

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Analytical Report

Bill to:	Bodycote Material Testing Canada Inc.	Project		NWL Lot ID:	489038
Report to:	Bodycote Material Testing Canada Inc.	ID:	Fox-4 Cape Hooper	Control Number:	
	121, Boulevarde Hymus	Name:		Date Received:	Aug 31, 2006
	Pointe-Claire, QC, Canada	Location:		Date Reported:	Sep 07, 2006
	H9R 1E6	LSD:		Report Number:	897803
Attn:	David Cajolet	P.O.:	CT-018645		
Sampled By:		Acct. Code:			
Company:					

		NWL Number	489038-73	489038-74	489038-75	
		Sample Date	Aug 23, 2006	Aug 23, 2006	Aug 23, 2006	
		Sample Description	QAQC - 2 / 40-50 / Centimeters / 252402-1197410	QAQC - 3 / 0-15 / Centimeters / 252402-1197411	QAQC - 7 / 0-15 / Centimeters / 252402-1197413	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	110	10	<10	10
F3 C16-C34	Dry Weight	mg/kg	60	10	30	10
F4 C34-C50	Dry Weight	mg/kg	10	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	20	<10	10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	9.28	8.18	12.30	

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Analytical Report

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Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-76	489038-77	489038-78	
		Sample Date	Aug 25, 2006	Aug 25, 2006	Aug 25, 2006	
		Sample Description	QAQC - 8 / 30-40 / Centimeters / 252402-1197414	QAQC - 9 / 0-15 / Centimeters / 252402-1197415	QAQC - 10 / 40-50 / Centimeters / 252402-1197416	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	**Detection Limit**
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
Benzene	Dry Weight	mg/kg	<0.004	<0.004	<0.004	0.004
Toluene	Dry Weight	mg/kg	<0.005	<0.005	<0.005	0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010	<0.010	<0.010	0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F1 C6-C10	Dry Weight	mg/kg	<12	<12	<12	12
F1 -BTEX	Dry Weight	mg/kg	<12	<12	<12	12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06	31-Aug-06	31-Aug-06	
F2 C10-C16	Dry Weight	mg/kg	30	<10	<10	10
F3 C16-C34	Dry Weight	mg/kg	100	10	10	10
F4 C34-C50	Dry Weight	mg/kg	20	<10	<10	10
F4HTGC C34-C50+	Dry Weight	mg/kg	20	<10	<10	10
% C50+		%	0.0	0.0	0.0	
Silica Gel Cleanup						
Silica Gel Cleanup			Done	Done	Done	
Soil % Moisture						
Moisture	Soil % Moisture	%	10.70	11.30	9.49	

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Analytical Report

Bill to: Bodycote Material Testing Canada Inc.
Report to: Bodycote Material Testing Canada Inc.
121, Boulevarde Hymus
Pointe-Claire, QC, Canada
H9R 1E6
Attn: David Cajolet
Sampled By:
Company:

Project
ID: Fox-4 Cape Hooper
Name:
Location:
LSD:
P.O.: CT-018645
Acct. Code:

NWL Lot ID: 489038
Control Number:
Date Received: Aug 31, 2006
Date Reported: Sep 07, 2006
Report Number: 897803

		NWL Number	489038-79		
		Sample Date	Aug 25, 2006		
		Sample Description	QAQC - 4 / 252402-1197412		
		Matrix	Soil		

Analyte		Units	Results	Results	Results	Detection Limit
Mono-Aromatic Hydrocarbons - Soil						
Extraction Date			31-Aug-06			
Benzene	Dry Weight	mg/kg	<0.004			0.004
Toluene	Dry Weight	mg/kg	<0.005			0.005
Ethylbenzene	Dry Weight	mg/kg	<0.010			0.010
Total Xylenes (m,p,o)	Dry Weight	mg/kg	<0.010			0.010
Volatile Petroleum Hydrocarbons - Soil						
Extraction Date			31-Aug-06			
F1 C6-C10	Dry Weight	mg/kg	<12			12
F1 -BTEX	Dry Weight	mg/kg	<12			12
Extractable Petroleum Hydrocarbons - Soxhlet						
Extraction Date			31-Aug-06			
F2 C10-C16	Dry Weight	mg/kg	40			10
F3 C16-C34	Dry Weight	mg/kg	280			10
F4 C34-C50	Dry Weight	mg/kg	100			10
F4HTGC C34-C50+	Dry Weight	mg/kg	190			10
% C50+		%	17.1			
Silica Gel Cleanup						
Silica Gel Cleanup			Done			
Soil % Moisture						
Moisture	Soil % Moisture	%	17.80			

Approved by: C. Swyngedouw

Chris Swyngedouw, PhD, PChem
Consulting Scientist

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Methodology and Notes

Bill to:	Bodycote Material Testing Canada Inc.	Project		NWL Lot ID:	489038
Report to:	Bodycote Material Testing Canada Inc.	ID:	Fox-4 Cape Hooper	Control Number:	
	121, Boulevarde Hymus Pointe-Claire, QC, Canada H9R 1E6	Name:		Date Received:	Aug 31, 2006
		Location:		Date Reported:	Sep 07, 2006
Attn:	David Cajolet	LSD:		Report Number:	897803
Sampled By:		P.O.:	CT-018645		
Company:		Acct. Code:			

Method of Analysis:

MethodName	Reference		Method	Date Analysis Started	Location
BTEX-CCME - Soil	CCME	*	Reference Method - Canada-Wide Standard for PHC in Soil, CWS PHC	1-Sep-06	Norwest Labs Calgary
BTEX-CCME - Soil	CCME	*	Reference Method - Canada-Wide Standard for PHC in Soil, CWS PHC	1-Sep-06	Norwest Labs Calgary
BTEX-CCME - Soil	US EPA	*	US EPA method, 8260B/5035	1-Sep-06	Norwest Labs Calgary
BTEX-CCME - Soil	US EPA	*	US EPA method, 8260B/5035	1-Sep-06	Norwest Labs Calgary
TEH-CCME-Soil (Soxhlet)	CCME	*	Reference Method - Canada-Wide Standard for PHC in Soil, CWS PHC	1-Sep-06	Norwest Labs Calgary

* Norwest method(s) is based on reference method

References:

CCME	Canadian Council of Ministers of the Environment
US EPA	US Environmental Protection Agency Test Methods

Comments:

Upon receipt, many of the samples had exceeded recommended holding time for CCMES analysis. David Cajolet was aware of this issue when the samples were sent.

NORWEST LABS

Norwest Labs
Bay 9, 2712-37 Avenue N.E.
Calgary, AB. T1Y-5L3
Phone: (403) 291-2022
Fax: (403) 291-2021

Bill to:	Bodycote Material Testing Canada Inc.	Project		NWL Lot ID:	489038
Report to:	Bodycote Material Testing Canada Inc. 121, Boulevarde Hymus Pointe-Claire, QC, Canada H9R 1E6	ID:	Fox-4 Cape Hooper	Control Number:	
		Name:		Date Received:	Aug 31, 2006
		Location:		Date Reported:	Sep 07, 2006
Attn:	David Cajolet	LSD:		Report Number:	897803
Sampled By:		P.O.:	CT-018645		
Company:		Acct. Code:			

Petroleum Hydrocarbons in Soil

Batch Notes

1. The method used complies with the Reference Method for the Canada Wide Standards for Petroleum Hydrocarbons in Soil - Tier 1, April 2001 and is accredited for use in Norwest laboratories.
2. Modifications of the method: See Notes and Methodology for Non-conformances (if Applicable).
3. Qualifications on results: See Notes and Methodology for Non-conformances (if applicable).
4. Silica gel treatment is done for fractions F2, F3, F4.
5. F1-BTEX: BTEX has been subtracted from the F1 fraction.
6. F2-naphth and F3-PAH: selected PAHs have been subtracted from the appropriate fractions.
7. F4HTGC is reported when more than 5% of the total carbon envelope elutes past C50.
8. Norwest Labs does not report Gravimetric Heavy Hydrocarbons (F4G or F4G-sg), F4HTGC through extended range high temperature GC is reported instead.
9. When both F4(C34-C50) and FHTGC are reported, F4HTGC is the F4 that is to be used for interpreting the CWS.
10. Quality criteria met for the batch: Data is reported in Quality Control Section of report (if requested).
    -nC6 and nC10 response factors (RF) are within 30% of RF for toluene
    -nC10,nC16 and nC34 RFs are within 10% of each other
    -nC50 RF is within 70% of the average RF for NC10+nC16+nC16+nC34
    -linearity is within 15%
11. Batch data for QC samples is available on request.
12. Extraction and analysis holding times were met: See Notes and Methodology for Non-conformances (if applicable).

Approved by: C. Swyngedouw

Chris Swyngedouw, PhD, PChem
Consulting Scientist

ANNEX 1C - INDEPENDENT LAB ANALYSIS - MAXXAM

Your Project #: 1213-0601
Site: FOX-4 CAPE HOOPER, NU
Your C.O.C. #: 00399012

Attention: David Whitley
Franz Environmental Inc
329 Churchill Ave N
Suite 200
Ottawa, ON
K1Z 5B8

Report Date: 2006/09/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A690484
Received: 2006/08/29, 09:20

Sample Matrix: Soil
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME FI & BTEX in Soil	8	2006/08/31	2006/09/01	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil	8	2006/08/31	2006/08/31	CAM SOP-00316	CCME CWS
Mercury in Soil by CVAA	8	2006/09/05	2006/09/05	Ont SOP 0112	EPA 7470
Total Metals in Soil by Axial ICP-AES	8	2006/09/05	2006/09/05	Ont SOP-0072	EPA SW-846-6010C
MOISTURE	8	N/A	2006/08/31	Ont SOP-0114	MOE HANDBOOK(1983)
Polychlorinated Biphenyl in Soil	1	2006/08/31	2006/08/31	Ont SOP 0127	SW 846 3rd Edition
Polychlorinated Biphenyl in Soil	7	2006/08/31	2006/09/01	Ont SOP 0127	SW 846 3rd Edition

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key Tasha Sutherland
06 Sep 2006 05:06:50 -04:00

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

TASHA SUTHERLAND, Project Manager
Email: Tasha.Sutherland@maxxamanalytics.com
Phone# (905) 817-5700 Ext:5760

==
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

RESULTS OF ANALYSES OF SOIL

Maxxam ID		N94572	N94573	N94574	N94574	N94575		
Sampling Date		2006/08/23	2006/08/22	2006/08/23	2006/08/23	2006/08/24		
COC Number		00399012	00399012	00399012	00399012	00399012		
	Units	**F4-1 (SOIL) 0-15CM**	**MW-4 (SOIL) 0-15CM**	**F4-5 (SOIL) 0-15CM**	**F4-5 (SOIL) 0-15CM Lab-Dup**	**MW-13 (SOIL) 0-15CM**	**RDL**	**QC Batch**
INORGANICS								
Moisture	%	11	8.3	19	21	24	0.2	1044257

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		N94576	N94577	N94578	N94579		
Sampling Date		2006/08/24	2006/08/25	2006/08/23	2006/08/25		
COC Number		00399012	00399012	00399012	00399012		
	Units	**MW-14 (SOIL) 0-15CM**	**F4-6 (SOIL) 0-15CM**	**F4-4 (SOIL) 0-15CM**	**F4-7 (SOIL) 0-15CM**	**RDL**	**QC Batch**
INORGANICS							
Moisture	%	12	15	8.9	9.9	0.2	1044257

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		N94572		N94573	N94574		
Sampling Date		2006/08/23		2006/08/22	2006/08/23		
COC Number		00399012		00399012	00399012		
	Units	**F4-1 (SOIL) 0-15CM**	**QC Batch**	**MW-4 (SOIL) 0-15CM**	**F4-5 (SOIL) 0-15CM**	**RDL**	**QC Batch**
METALS							
Acid Extractable Arsenic (As)	ug/g	30	1045802	18	16	1	1045797
Acid Extractable Cadmium (Cd)	ug/g	ND	1045802	ND	ND	0.3	1045797
Acid Extractable Chromium (Cr)	ug/g	47	1045802	41	38	0.5	1045797
Acid Extractable Cobalt (Co)	ug/g	7.2	1045802	5.8	8.2	0.5	1045797
Acid Extractable Copper (Cu)	ug/g	29	1045802	26	31	0.5	1045797
Acid Extractable Lead (Pb)	ug/g	13	1045802	14	8	1	1045797
Acid Extractable Mercury (Hg)	ug/g	ND	1045739	0.05	ND	0.05	1045739
Acid Extractable Nickel (Ni)	ug/g	25	1045802	18	27	0.5	1045797
Acid Extractable Zinc (Zn)	ug/g	51	1045802	53	74	3	1045797

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		N94575	N94576	N94577	N94578		
Sampling Date		2006/08/24	2006/08/24	2006/08/25	2006/08/23		
COC Number		00399012	00399012	00399012	00399012		
	Units	**MW-13 (SOIL) 0-15CM**	**MW-14 (SOIL) 0-15CM**	**F4-6 (SOIL) 0-15CM**	**F4-4 (SOIL) 0-15CM**	**RDL**	**QC Batch**
METALS							
Acid Extractable Arsenic (As)	ug/g	10	30	8	24	1	1045797
Acid Extractable Cadmium (Cd)	ug/g	ND	ND	ND	ND	0.3	1045797
Acid Extractable Chromium (Cr)	ug/g	29	25	14	46	0.5	1045797
Acid Extractable Cobalt (Co)	ug/g	4.0	4.0	1.8	11	0.5	1045797
Acid Extractable Copper (Cu)	ug/g	14	13	5.6	35	0.5	1045797
Acid Extractable Lead (Pb)	ug/g	6	9	2	7	1	1045797
Acid Extractable Mercury (Hg)	ug/g	ND	ND	ND	ND	0.05	1045739
Acid Extractable Nickel (Ni)	ug/g	13	11	4.6	34	0.5	1045797
Acid Extractable Zinc (Zn)	ug/g	28	25	10	46	3	1045797

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		N94579		
Sampling Date		2006/08/25		
COC Number		00399012		
	Units	**F4-7 (SOIL) 0-15CM**	**RDL**	**QC Batch**
METALS				
Acid Extractable Arsenic (As)	ug/g	17	1	1045797
Acid Extractable Cadmium (Cd)	ug/g	ND	0.3	1045797
Acid Extractable Chromium (Cr)	ug/g	26	0.5	1045797
Acid Extractable Cobalt (Co)	ug/g	2.7	0.5	1045797
Acid Extractable Copper (Cu)	ug/g	6.9	0.5	1045797
Acid Extractable Lead (Pb)	ug/g	2	1	1045797
Acid Extractable Mercury (Hg)	ug/g	ND	0.05	1045838
Acid Extractable Nickel (Ni)	ug/g	7.9	0.5	1045797
Acid Extractable Zinc (Zn)	ug/g	19	3	1045797

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		N94572	N94573	N94574	N94575		
Sampling Date		2006/08/23	2006/08/22	2006/08/23	2006/08/24		
COC Number		00399012	00399012	00399012	00399012		
	Units	**F4-1 (SOIL) 0-15CM**	**MW-4 (SOIL) 0-15CM**	**F4-5 (SOIL) 0-15CM**	**MW-13 (SOIL) 0-15CM**	**RDL**	**QC Batch**
F1 PHC and BTEX							
Benzene	ug/g	ND	ND	ND	ND	0.02	1044310
Toluene	ug/g	ND	ND	ND	ND	0.02	1044310
Ethylbenzene	ug/g	ND	ND	ND	ND	0.02	1044310
o-Xylene	ug/g	ND	ND	ND	ND	0.02	1044310
p+m-Xylene	ug/g	ND	ND	ND	ND	0.04	1044310
Total Xylenes	ug/g	ND	ND	ND	ND	0.04	1044310
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	1044310
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	1044310
F2-F4 PHC							
F2 (C10-C16 Hydrocarbons)	ug/g	93	73	60	ND	10	1044198
F3 (C16-C34 Hydrocarbons)	ug/g	71	180	310	30	10	1044198
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	101	99	101	98		1044310
4-Bromofluorobenzene	%	101	97	96	99		1044310
D10-Ethylbenzene	%	102	96	97	109		1044310
D4-1,2-Dichloroethane	%	101	101	104	99		1044310
o-Terphenyl	%	91	90	85	80		1044198

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		N94576	N94577	N94578	N94579		
Sampling Date		2006/08/24	2006/08/25	2006/08/23	2006/08/25		
COC Number		00399012	00399012	00399012	00399012		
	Units	**MW-14 (SOIL) 0-15CM**	**F4-6 (SOIL) 0-15CM**	**F4-4 (SOIL) 0-15CM**	**F4-7 (SOIL) 0-15CM**	**RDL**	**QC Batch**
F1 PHC and BTEX							
Benzene	ug/g	ND	ND	ND	ND	0.02	1044310
Toluene	ug/g	ND	ND	ND	ND	0.02	1044310
Ethylbenzene	ug/g	ND	ND	ND	ND	0.02	1044310
o-Xylene	ug/g	ND	ND	ND	ND	0.02	1044310
p+m-Xylene	ug/g	ND	ND	ND	ND	0.04	1044310
Total Xylenes	ug/g	ND	ND	ND	ND	0.04	1044310
F1 (C6-C10)	ug/g	ND	ND	ND	ND	10	1044310
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	ND	10	1044310
F2-F4 PHC							
F2 (C10-C16 Hydrocarbons)	ug/g	27	ND	ND	ND	10	1044198
F3 (C16-C34 Hydrocarbons)	ug/g	99	ND	ND	ND	10	1044198
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	100	99	100	101		1044310
4-Bromofluorobenzene	%	99	99	98	100		1044310
D10-Ethylbenzene	%	92	93	92	92		1044310
D4-1,2-Dichloroethane	%	101	101	100	102		1044310
o-Terphenyl	%	91	95	99	86		1044198

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		N94572	N94573	N94574	N94575		
Sampling Date		2006/08/23	2006/08/22	2006/08/23	2006/08/24		
COC Number		00399012	00399012	00399012	00399012		
	Units	**F4-1 (SOIL) 0-15CM**	**MW-4 (SOIL) 0-15CM**	**F4-5 (SOIL) 0-15CM**	**MW-13 (SOIL) 0-15CM**	**RDL**	**QC Batch**
PCBs							
Aroclor 1262	ug/g	ND	ND	ND	ND	0.01	1044297
Aroclor 1016	ug/g	ND	ND	ND	ND	0.01	1044297
Aroclor 1221	ug/g	ND	ND	ND	ND	0.01	1044297
Aroclor 1232	ug/g	ND	ND	ND	ND	0.01	1044297
Aroclor 1242	ug/g	ND	ND	ND	ND	0.01	1044297
Aroclor 1248	ug/g	ND	ND	ND	ND	0.01	1044297
Aroclor 1254	ug/g	0.07	0.37	0.02	0.01	0.01	1044297
Aroclor 1260	ug/g	ND	ND	ND	ND	0.01	1044297
Aroclor 1268	ug/g	ND	ND	ND	ND	0.01	1044297
Total PCB	ug/g	0.07	0.37	0.02	0.01	0.01	1044297
Surrogate Recovery (%)							
2,4,5,6-Tetrachloro-m-xylene	%	67	62	60	77		1044297
Decachlorobiphenyl	%	48	43	52	51		1044297

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		N94576	N94577		N94578		
Sampling Date		2006/08/24	2006/08/25		2006/08/23		
COC Number		00399012	00399012		00399012		
	Units	**MW-14 (SOIL) 0-15CM**	**F4-6 (SOIL) 0-15CM**	**QC Batch**	**F4-4 (SOIL) 0-15CM**	**RDL**	**QC Batch**
PCBs							
Aroclor 1262	ug/g	ND	ND	1044297	ND	0.01	1043970
Aroclor 1016	ug/g	ND	ND	1044297	ND	0.01	1043970
Aroclor 1221	ug/g	ND	ND	1044297	ND	0.01	1043970
Aroclor 1232	ug/g	ND	ND	1044297	ND	0.01	1043970
Aroclor 1242	ug/g	ND	ND	1044297	ND	0.01	1043970
Aroclor 1248	ug/g	ND	ND	1044297	ND	0.01	1043970
Aroclor 1254	ug/g	0.02	ND	1044297	ND	0.01	1043970
Aroclor 1260	ug/g	ND	ND	1044297	ND	0.01	1043970
Aroclor 1268	ug/g	ND	ND	1044297	ND	0.01	1043970
Total PCB	ug/g	0.02	ND	1044297	ND	0.01	1043970
Surrogate Recovery (%)							
2,4,5,6-Tetrachloro-m-xylene	%	66	65	1044297	78		1043970
Decachlorobiphenyl	%	48	55	1044297	98		1043970

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

Maxxam Job #: A690484
Report Date: 2006/09/06

Franz Environmental Inc
Client Project #: 1213-0601
Project name: FOX-4 CAPE HOOPER, NU
Sampler Initials:

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		N94579		
Sampling Date		2006/08/25		
COC Number		00399012		
	Units	**F4-7 (SOIL) 0-15CM**	**RDL**	**QC Batch**
PCBs				
Aroclor 1262	ug/g	ND	0.01	1044297
Aroclor 1016	ug/g	ND	0.01	1044297
Aroclor 1221	ug/g	ND	0.01	1044297
Aroclor 1232	ug/g	ND	0.01	1044297
Aroclor 1242	ug/g	ND	0.01	1044297
Aroclor 1248	ug/g	ND	0.01	1044297
Aroclor 1254	ug/g	ND	0.01	1044297
Aroclor 1260	ug/g	ND	0.01	1044297
Aroclor 1268	ug/g	ND	0.01	1044297
Total PCB	ug/g	ND	0.01	1044297
Surrogate Recovery (%)				
2,4,5,6-Tetrachloro-m-xylene	%	68		1044297
Decachlorobiphenyl	%	54		1044297

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

GENERAL COMMENTS

Results relate only to the items tested.

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Maxxam Analytics Inc
Driven by service and Science
www.maxxamanalytics.com

Franz Environmental Inc
Attention: David Whitley
Client Project #: 1213-0601
P.O. #:
Project name: FOX-4 CAPE HOOPER, NU

Quality Assurance Report

Maxxam Job Number: MA690484

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1043970 JZ	MATRIX SPIKE	2,4,5,6-Tetrachloro-m-xylene	2006/08/31		59	%	40 - 130
		Decachlorobiphenyl	2006/08/31		76	%	40 - 130
		Aroclor 1262	2006/08/31		NA	%	42 - 109
		Aroclor 1016	2006/08/31		NA	%	50 - 114
		Aroclor 1221	2006/08/31		NA	%	15 - 178
		Aroclor 1232	2006/08/31		NA	%	10 - 215
		Aroclor 1242	2006/08/31		NA	%	39 - 150
		Aroclor 1248	2006/08/31		NA	%	38 - 158
		Aroclor 1254	2006/08/31		NA	%	29 - 131
		Aroclor 1260	2006/08/31		NC	%	8 - 127
		Aroclor 1268	2006/08/31		NA	%	21 - 142
		Total PCB	2006/08/31		NC	%	N/A
	Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2006/08/31		105	%	40 - 130
		Decachlorobiphenyl	2006/08/31		91	%	40 - 130
		Aroclor 1262	2006/08/31		NA	%	61 - 121
		Aroclor 1016	2006/08/31		NA	%	13 - 139
		Aroclor 1221	2006/08/31		NA	%	11 - 160
		Aroclor 1232	2006/08/31		NA	%	25 - 123
		Aroclor 1242	2006/08/31		NA	%	53 - 139
		Aroclor 1248	2006/08/31		NA	%	34 - 137
		Aroclor 1254	2006/08/31		NA	%	39 - 118
		Aroclor 1260	2006/08/31		88	%	53 - 135
		Aroclor 1268	2006/08/31		NA	%	39 - 121
		Total PCB	2006/08/31		88	%	N/A
	Method Blank	2,4,5,6-Tetrachloro-m-xylene	2006/08/31		99	%	40 - 130
		Decachlorobiphenyl	2006/08/31		76	%	40 - 130
		Aroclor 1262	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1016	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1221	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1232	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1242	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1248	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1254	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1260	2006/08/31	ND, RDL=0.01		ug/g	
		Aroclor 1268	2006/08/31	ND, RDL=0.01		ug/g	
		Total PCB	2006/08/31	ND, RDL=0.01		ug/g	
	RPD	Aroclor 1262	2006/08/31	NC		%	50
		Decachlorobiphenyl	2006/08/31	10.0		%	N/A
		Aroclor 1016	2006/08/31	NC		%	50
		Aroclor 1221	2006/08/31	NC		%	50
		Aroclor 1232	2006/08/31	NC		%	50
		Aroclor 1242	2006/08/31	NC		%	50
		Aroclor 1248	2006/08/31	NC		%	50
		Aroclor 1254	2006/08/31	NC		%	50
		Aroclor 1260	2006/08/31	4.8		%	50
		Aroclor 1268	2006/08/31	NC		%	50
		Total PCB	2006/08/31	4.8		%	50
1044198 ZZ	MATRIX SPIKE	o-Terphenyl	2006/08/31		86	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/08/31		101	%	60 - 130
		F3 (C16-C34 Hydrocarbons)	2006/08/31		101	%	60 - 130
	Spiked Blank	o-Terphenyl	2006/08/31		92	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/08/31		81	%	60 - 130
		F3 (C16-C34 Hydrocarbons)	2006/08/31		81	%	60 - 130
	Method Blank	o-Terphenyl	2006/08/31		95	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/08/31	ND, RDL=10		ug/g	
		F3 (C16-C34 Hydrocarbons)	2006/08/31	ND, RDL=10		ug/g	

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Client Project #: 1213-0601
P.O. #:
Project name: FOX-4 CAPE HOOPER, NU

Quality Assurance Report (Continued)

Maxxam Job Number: MA690484

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1044198 ZZ	RPD	F2 (C10-C16 Hydrocarbons)	2006/08/31	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/08/31	NC		%	50
1044257 WW	RPD [N94574-02]	Moisture	2006/08/31	8.4		%	50
1044297 JZ	MATRIX SPIKE	2,4,5,6-Tetrachloro-m-xylene	2006/09/01		100	%	40 - 130
		Decachlorobiphenyl	2006/09/01		94	%	40 - 130
		Aroclor 1262	2006/09/01		NA	%	42 - 109
		Aroclor 1016	2006/09/01		NA	%	50 - 114
		Aroclor 1221	2006/09/01		NA	%	15 - 178
		Aroclor 1232	2006/09/01		NA	%	10 - 215
		Aroclor 1242	2006/09/01		NA	%	39 - 150
		Aroclor 1248	2006/09/01		NA	%	38 - 158
		Aroclor 1254	2006/09/01		NA	%	29 - 131
		Aroclor 1260	2006/09/01		94	%	8 - 127
		Aroclor 1268	2006/09/01		NA	%	21 - 142
		Total PCB	2006/09/01		94	%	N/A
	Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2006/09/01		116	%	40 - 130
		Decachlorobiphenyl	2006/09/01		104	%	40 - 130
		Aroclor 1262	2006/09/01		NA	%	61 - 121
		Aroclor 1016	2006/09/01		NA	%	13 - 139
		Aroclor 1221	2006/09/01		NA	%	11 - 160
		Aroclor 1232	2006/09/01		NA	%	25 - 123
		Aroclor 1242	2006/09/01		NA	%	53 - 139
		Aroclor 1248	2006/09/01		NA	%	34 - 137
		Aroclor 1254	2006/09/01		NA	%	39 - 118
		Aroclor 1260	2006/09/01		96	%	53 - 135
		Aroclor 1268	2006/09/01		NA	%	39 - 121
		Total PCB	2006/09/01		96	%	N/A
	Method Blank	2,4,5,6-Tetrachloro-m-xylene	2006/09/01		97	%	40 - 130
		Decachlorobiphenyl	2006/09/01		90	%	40 - 130
		Aroclor 1262	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1016	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1221	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1232	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1242	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1248	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1254	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1260	2006/09/01	ND, RDL=0.01		ug/g	
		Aroclor 1268	2006/09/01	ND, RDL=0.01		ug/g	
		Total PCB	2006/09/01	ND, RDL=0.01		ug/g	
	RPD	Aroclor 1262	2006/09/01	NC		%	50
		Decachlorobiphenyl	2006/09/01	5.5		%	N/A
		Aroclor 1016	2006/09/01	NC		%	50
		Aroclor 1221	2006/09/01	NC		%	50
		Aroclor 1232	2006/09/01	NC		%	50
		Aroclor 1242	2006/09/01	NC		%	50
		Aroclor 1248	2006/09/01	NC		%	50
		Aroclor 1254	2006/09/01	NC		%	50
		Aroclor 1260	2006/09/01	NC		%	50
		Aroclor 1268	2006/09/01	NC		%	50
		Total PCB	2006/09/01	NC		%	50
1044310 GBA	MATRIX SPIKE	1,4-Difluorobenzene	2006/09/01		99	%	60 - 140
		4-Bromofluorobenzene	2006/09/01		100	%	60 - 140
		D10-Ethylbenzene	2006/09/01		95	%	30 - 130
		D4-1,2-Dichloroethane	2006/09/01		101	%	60 - 140
		Benzene	2006/09/01		93	%	60 - 140
		Toluene	2006/09/01		97	%	60 - 140

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Franz Environmental Inc
Attention: David Whitley
Client Project #: 1213-0601
P.O. #:
Project name: FOX-4 CAPE HOOPER, NU

Quality Assurance Report (Continued)

Maxxam Job Number: MA690484

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1044310 GBA	MATRIX SPIKE	Ethylbenzene	2006/09/01		93	%	60 - 140
		o-Xylene	2006/09/01		95	%	60 - 140
		p+m-Xylene	2006/09/01		98	%	60 - 140
		F1 (C6-C10)	2006/09/01		93	%	60 - 140
	Spiked Blank	1,4-Difluorobenzene	2006/09/01		99	%	60 - 140
		4-Bromofluorobenzene	2006/09/01		100	%	60 - 140
		D10-Ethylbenzene	2006/09/01		97	%	30 - 130
		D4-1,2-Dichloroethane	2006/09/01		101	%	60 - 140
		Benzene	2006/09/01		96	%	60 - 140
		Toluene	2006/09/01		101	%	60 - 140
		Ethylbenzene	2006/09/01		96	%	60 - 140
		o-Xylene	2006/09/01		99	%	60 - 140
		p+m-Xylene	2006/09/01		103	%	60 - 140
		F1 (C6-C10)	2006/09/01		100	%	60 - 140
	Method Blank	1,4-Difluorobenzene	2006/09/01		100	%	60 - 140
		4-Bromofluorobenzene	2006/09/01		99	%	60 - 140
		D10-Ethylbenzene	2006/09/01		97	%	30 - 130
		D4-1,2-Dichloroethane	2006/09/01		102	%	60 - 140
		Benzene	2006/09/01	ND, RDL=0.02		ug/g	
		Toluene	2006/09/01	ND, RDL=0.02		ug/g	
		Ethylbenzene	2006/09/01	ND, RDL=0.02		ug/g	
		o-Xylene	2006/09/01	ND, RDL=0.02		ug/g	
		p+m-Xylene	2006/09/01	ND, RDL=0.04		ug/g	
		Total Xylenes	2006/09/01	ND, RDL=0.04		ug/g	
		F1 (C6-C10)	2006/09/01	ND, RDL=10		ug/g	
		F1 (C6-C10) - BTEX	2006/09/01	ND, RDL=10		ug/g	
	RPD	Benzene	2006/09/01	NC		%	50
		Toluene	2006/09/01	NC		%	50
		Ethylbenzene	2006/09/01	NC		%	50
		o-Xylene	2006/09/01	NC		%	50
		p+m-Xylene	2006/09/01	NC		%	50
		Total Xylenes	2006/09/01	NC		%	50
		F1 (C6-C10)	2006/09/01	NC		%	50
		F1 (C6-C10) - BTEX	2006/09/01	NC		%	50
1045739 MC	MATRIX SPIKE	Acid Extractable Mercury (Hg)	2006/09/05		104	%	75 - 125
	QC STANDARD	Acid Extractable Mercury (Hg)	2006/09/05		107	%	75 - 125
	Method Blank	Acid Extractable Mercury (Hg)	2006/09/05	ND, RDL=0.05		ug/g	
	RPD	Acid Extractable Mercury (Hg)	2006/09/05	NC		%	35
1045797 GBU	MATRIX SPIKE	Acid Extractable Arsenic (As)	2006/09/05		102	%	75 - 125
		Acid Extractable Cadmium (Cd)	2006/09/05		97	%	75 - 125
		Acid Extractable Chromium (Cr)	2006/09/05		106	%	75 - 125
		Acid Extractable Cobalt (Co)	2006/09/05		100	%	75 - 125
		Acid Extractable Copper (Cu)	2006/09/05		101	%	75 - 125
		Acid Extractable Lead (Pb)	2006/09/05		98	%	75 - 125
		Acid Extractable Nickel (Ni)	2006/09/05		96	%	75 - 125
		Acid Extractable Zinc (Zn)	2006/09/05		92	%	75 - 125
	QC STANDARD	Acid Extractable Arsenic (As)	2006/09/05		115	%	30 - 170
		Acid Extractable Chromium (Cr)	2006/09/05		95	%	40 - 160
		Acid Extractable Cobalt (Co)	2006/09/05		107	%	75 - 125
		Acid Extractable Copper (Cu)	2006/09/05		111	%	73 - 127
		Acid Extractable Lead (Pb)	2006/09/05		105	%	54 - 146
		Acid Extractable Nickel (Ni)	2006/09/05		109	%	61 - 139
		Acid Extractable Zinc (Zn)	2006/09/05		109	%	72 - 128
	Method Blank	Acid Extractable Arsenic (As)	2006/09/05	ND, RDL=1		ug/g	
		Acid Extractable Cadmium (Cd)	2006/09/05	ND, RDL=0.3		ug/g	
		Acid Extractable Chromium (Cr)	2006/09/05	ND, RDL=0.5		ug/g	

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Franz Environmental Inc
Attention: David Whitley
Client Project #: 1213-0601
P.O. #:
Project name: FOX-4 CAPE HOOPER, NU

Quality Assurance Report (Continued)

Maxxam Job Number: MA690484

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1045797 GBU	Method Blank	Acid Extractable Cobalt (Co)	2006/09/05	ND, RDL=0.5		ug/g	
		Acid Extractable Copper (Cu)	2006/09/05	0.7, RDL=0.5		ug/g	
		Acid Extractable Lead (Pb)	2006/09/05	ND, RDL=1		ug/g	
		Acid Extractable Nickel (Ni)	2006/09/05	ND, RDL=0.5		ug/g	
		Acid Extractable Zinc (Zn)	2006/09/05	ND, RDL=3		ug/g	
	RPD	Acid Extractable Arsenic (As)	2006/09/05	7.0		%	20
		Acid Extractable Cadmium (Cd)	2006/09/05	NC		%	20
		Acid Extractable Chromium (Cr)	2006/09/05	2.8		%	20
		Acid Extractable Cobalt (Co)	2006/09/05	3.2		%	20
		Acid Extractable Copper (Cu)	2006/09/05	2.6		%	20
		Acid Extractable Lead (Pb)	2006/09/05	0.6		%	20
		Acid Extractable Nickel (Ni)	2006/09/05	2.9		%	20
		Acid Extractable Zinc (Zn)	2006/09/05	6.1		%	20
1045802 GBU	MATRIX SPIKE	Acid Extractable Arsenic (As)	2006/09/05		100	%	75 - 125
		Acid Extractable Cadmium (Cd)	2006/09/05		94	%	75 - 125
		Acid Extractable Chromium (Cr)	2006/09/05		98	%	75 - 125
		Acid Extractable Cobalt (Co)	2006/09/05		97	%	75 - 125
		Acid Extractable Copper (Cu)	2006/09/05		99	%	75 - 125
		Acid Extractable Lead (Pb)	2006/09/05		95	%	75 - 125
		Acid Extractable Nickel (Ni)	2006/09/05		95	%	75 - 125
		Acid Extractable Zinc (Zn)	2006/09/05		91	%	75 - 125
	QC STANDARD	Acid Extractable Arsenic (As)	2006/09/05		110	%	30 - 170
		Acid Extractable Chromium (Cr)	2006/09/05		83	%	40 - 160
		Acid Extractable Cobalt (Co)	2006/09/05		98	%	75 - 125
		Acid Extractable Copper (Cu)	2006/09/05		102	%	73 - 127
		Acid Extractable Lead (Pb)	2006/09/05		97	%	54 - 146
		Acid Extractable Nickel (Ni)	2006/09/05		100	%	61 - 139
		Acid Extractable Zinc (Zn)	2006/09/05		99	%	72 - 128
	Method Blank	Acid Extractable Arsenic (As)	2006/09/05	ND, RDL=1		ug/g	
		Acid Extractable Cadmium (Cd)	2006/09/05	ND, RDL=0.3		ug/g	
		Acid Extractable Chromium (Cr)	2006/09/05	ND, RDL=0.5		ug/g	
		Acid Extractable Cobalt (Co)	2006/09/05	ND, RDL=0.5		ug/g	
		Acid Extractable Copper (Cu)	2006/09/05	ND, RDL=0.5		ug/g	
		Acid Extractable Lead (Pb)	2006/09/05	ND, RDL=1		ug/g	
		Acid Extractable Nickel (Ni)	2006/09/05	ND, RDL=0.5		ug/g	
		Acid Extractable Zinc (Zn)	2006/09/05	ND, RDL=3		ug/g	
	RPD	Acid Extractable Arsenic (As)	2006/09/05	0.4		%	20
		Acid Extractable Cadmium (Cd)	2006/09/05	NC		%	20
		Acid Extractable Chromium (Cr)	2006/09/05	4.3		%	20
		Acid Extractable Cobalt (Co)	2006/09/05	5.1		%	20
		Acid Extractable Copper (Cu)	2006/09/05	4.3		%	20
		Acid Extractable Lead (Pb)	2006/09/05	4.8		%	20
		Acid Extractable Nickel (Ni)	2006/09/05	5.1		%	20
		Acid Extractable Zinc (Zn)	2006/09/05	2.4		%	20
1045838 MC	MATRIX SPIKE	Acid Extractable Mercury (Hg)	2006/09/05		111	%	75 - 125
	QC STANDARD	Acid Extractable Mercury (Hg)	2006/09/05		106	%	80 - 120
	Method Blank	Acid Extractable Mercury (Hg)	2006/09/05	ND, RDL=0.05		ug/g	
	RPD	Acid Extractable Mercury (Hg)	2006/09/05	NC		%	35

ND = Not detected
N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference
QC Standard = Quality Control Standard
SPIKE = Fortified sample

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: 905-817-5700 Toll free:800-563-6266 Fax: 905-817-5777

Validation Signature Page

Maxxam Job #: A690484

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anita Cheema

ANITA CHEEMA, Pre-Processing

C. Ancker

CHARLES ANCKER, B.Sc., M.Sc., C.Chem, Senior Analyst

Cristina Nervo

CHRISTINA NERVO, Scientific Services

ALINA SEGAL, Instrumentation Supervisor

Suzana Popovic

SUZANA POPOVIC, Supervisor, Hydrocarbons

==

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

Maxxam Analytics Inc 6740 Campobello Road, Mississauga, ON L5N 2L8 Phone: 905-817-5700 Fax: 905-817-5777 Toll Free: (800) 563-6266

IMMEDIATE TEST

525

29-Aug-06 09:20
TASHA SUTHERLAND
A690484
CU ENV-525

INVOICE INFORMATION	
Company Name:	Franz Environmental Inc
Contact Name:	Dave Whitley
Address:	329 Churchill AV. N Ottawa
Phone:	(613) 721-0555
Fax:	
Email:	dwhitley@franzenvironmental.com

REPORT INFORMATION (if differs from invoice)	
Company Name:	Nunatta Environmental Serv.
Contact Name:	Alain Carriere
Address:	Iqaluit, Nu
Phone:	
Fax:	
Email:	

PROJECT INFORMATION	
Quotation #:	
P.O. #:	
Project #:	1213-0601
Project Name:	Fox-4 Cape Hooper
Location:	Cape Hooper, NU
Sampled By:	Tanmay / Richard

CHAIN OF CUSTODY #
00399012

REGULATORY CRITERIA

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form.

- [ ] MISA
- [ ] PWQO
- [ ] Reg. 558
- Reg. 153: [ ] Table 1 [ ] Table 2 [ ] Table 3
- Sewer Use: [ ] Sanitary [ ] Storm
- Region:
- [ ] Other ______ specify
- Report Criteria on C of A? [ ]

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

TURNAROUND TIME (TAT) REQUIRED

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.

Regular (Standard) TAT:
- [x] 5 to 7 Working Days

Rush TAT: Rush Confirmation #: ______ (call Lab for #)
- [ ] 1 day [ ] 2 days [ ] 3 days

DATE Required:

TIME Required:

Please note that TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

#	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, Soil, etc.)	Regulated Drinking Water? (Y / N)	Metals Field Filtered? (Y / N)	TPH (C6-C34)	BTEX	PCBs (Total Aroclor)	Metals * (As, Cd, Cr, Co, Cu, Pb, Ni, Zn)	Total Mercury	# of Cont.	COMMENTS / TAT COMMENTS
1	MW-10	24-Aug-06		GW	N	N	✓	✓	✓	✓	✓	7	* As, Cd, Cr, Co, Cu, Pb, Ni, Zn
2	MW-16	24-Aug-06		GW	N	N	✓	✓	✓	✓	✓	7	
3	F4-1 (Soil) 0-15 cm	23-Aug-06		Soil			✓	✓	✓	✓	✓	2	
4	MW-4 (Soil) 0-15 cm	22-Aug-06		Soil			✓	✓	✓	✓	✓	2	
5	F4-5 (Soil) 0-15 cm	23-Aug-06		Soil			✓	✓	✓	✓	✓	2	
6	MW-13 (Soil) 0-15 cm	25-Aug-06		Soil			✓	✓	✓	✓	✓	2	
7	MW-14 (Soil) 0-15 cm	25-Aug-06		Soil			✓	✓	✓	✓	✓	2	
8	F4-6 (Soil) 0-15 cm	25-Aug-06		Soil			✓	✓	✓	✓	✓	2	
9	F4-4 (Soil) 0-15 cm	23-Aug-06		Soil			✓	✓	✓	✓	✓	2	
10	F4-7 (Soil) 0-15 cm	25-Aug-06		Soil			✓	✓	✓	✓	✓	2	'06 AUG 29 9:20
11				~~Soil~~									
12				~~Soil~~									

6
6
108
164
77
45
82

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time	Laboratory Use Only: Temperature (°C) on Receipt	Condition of Sample on Receipt
Tanmay Prakeraj 26-Aug-06	[signature]	08/29/06	9:20	8/9/9 °C	[ ] OK [ ] SIF

***MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.**

ENVCOC-ONT-09/05 White: Maxxam Yellow: Mail Pink: Client

ANNEX 2

QA/QC ANALYTICAL RESULTS

QUALITY ASSURANCE/QUALITY CONTROL

A Quality Assurance/Quality Control (QA/QC) program was implemented to monitor the quality of the analytical results. The main objective of this QA/QC program is to insure that sampling data and analysis results are complete, precise, exact, representative and comparable.

All samples were given sequential alphanumerical coding before submitting to the analytical laboratories; these coding masked any information concerning site location, sample type or possible concentrations in the samples.

All soil and groundwater samples were sent for analysis to Bodycote, Montreal Canada, a division of Nunasi Environmental Corporation. In order to insure the quality of analytical results, 10 % of duplicate samples were sent to a second laboratory (Maxxam Analytics Inc.) and analyzed for inter-laboratory comparison purposes. All results are presented in the table to this Annex (Annex 2 Table 1).

<u>Soil Samples</u>

In case of soil samples, some minor differences were noted within the Bodycote metals results when duplicates were compared, although all differences are considered to be within acceptable limits.

For the soil sample F4-1, F4-5 and F4-7, the results for TPH presented sizable discrepancies between the sample and its QA/QC duplicate (i.e. 50 vs. 170 ppm; 210 vs. 320 ppm; 40 vs. 10 ppm respectively). A likely explanation for these discrepancies could be explained due to the heterogeneous nature of the soil samples.

In case of PCBs, a small range of variation was observed between the Bodycote and Maxxam results for F4-1, F4-5, MW-13 and MW-14, where the Maxxam results showed sparingly detectable concentrations as compared to non-detectable Bodycote results. This range of variation is considered acceptable.

<u>Groundwater</u>

Only groundwater samples were subject to inter-laboratory comparison (as per Terms of Reference). In case of groundwater, the TPH and the PCB results were similar between the sample and the duplicate (within generally accepted limits). The results for the total metals in the samples and the duplicates were generally similar except for Cr:

- 0.051 mg/L in sample vs. 0.008 mg/L in duplicate (MW-16); and
- 0.273 mg/L in sample vs. 0.141 mg/L in duplicate (MW-10).

Overall, the soil and groundwater sample results are broadly coherent and within the same range of results for both laboratories. In general, the reliability of the analytical results is considered as good.

Annex 2 to QA/QC Discussion
Table 1 - SUMMARY OF 2006 SOIL AND GROUNDWATER DATA
QA/QC DATA

Sample #	Location	Laboratory	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	PCBs	F1	F2	F3	TPH
													C_6-C_{10}	C_{10}-C_{16}	C_{16}-C_{34}	C_6-C_{34}
Soil			[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]	[mg/kg]
MW-4(soil) 0-15cm	MW-4	Bodycote	23	15	4	<1	15	51	33	37.2	0.05	1.0	<12	100	210	310
QAQC-1	MW-4	Bodycote	17	12	3	< 1	< 10	39	28	17.2	< 0.04	0.4	<12	70	210	280
MW-4(soil) 0-15cm	MW-4	Maxxam	26	18	5.8	<0.3	14	53	41	18	0.05	0.37	<10	73	180	253
F4-1(soil) 0-15cm	F4-1	Bodycote	20	18	5	< 1	12	36	32	16.8	< 0.04	<0.1	<12	20	30	50
QAQC-2	F4-1	Bodycote	14	12	4	< 1	< 10	26	22	12.4	<0.04	<0.1	<12	110	60	170
F4-1(soil) 0-15cm	F4-1	Maxxam	29	25	7.2	<0.3	13	51	47	30	<0.05	0.07	<10	93	71	164
F4-4(soil) 0-15cm	F4-4	Bodycote	24	23	7	<1	<10	32	32	14.8	<0.04	<0.1	<12	<10	<10	<10
QAQC-3	F4-4	Bodycote	21	22	7	< 1	< 10	30	30	13.5	< 0.04	<0.1	<12	10	10	20
F4-4(soil) 0-15cm	F4-4	Maxxam	35	34	11	<0.3	7	46	46	24	<0.05	<0.01	<10	<10	<10	<10
F4-5(soil) 0-15cm	F4-5	Bodycote	25	23	8	<1	<10	73	33	12.6	<0.04	<0.1	<12	50	160	210
QAQC-4	F4-5	Bodycote	21	19	6	<1	<10	54	31	12.8	< 0.04	<0.1	<12	40	280	320
F4-5(soil) 0-15cm	F4-5	Maxxam	31	27	8.2	<0.3	8	74	38	16	<0.05	0.02	<10	60	310	370
MW-13(soil) 0-15cm	MW-13	Bodycote	8	8	2	< 1	<10	16	20	8.5	< 0.04	<0.1	<12	<10	20	20
QAQC-7	MW-13	Bodycote	8	8	2	< 1	<10	16	17	7.7	<0.04	<0.1	<12	<10	30	30
MW-13(soil) 0-15cm	MW-13	Maxxam	14	13	4	<0.3	6	28	29	10	<0.05	0.01	<10	<10	30	30
MW-14(soil) 0-15cm	MW-14	Bodycote	10	7	3	< 1	<10	17	19	5.5	< 0.04	<0.1	<12	20	120	140
QAQC-8	MW-14	Bodycote	13	10	3	< 1	< 10	19	21	12.2	< 0.04	<0.1	<12	30	100	130
MW-14(soil) 0-15cm	MW-14	Maxxam	13	11	4	<0.3	9	25	25	30	<0.05	0.02	<10	27	99	126
F4-6(soil) 0-15cm	F4-6	Bodycote	6	3	1	<1	<10	7	12	8.3	<0.04	<0.1	<12	10	<10	10
QAQC-9	F4-6	Bodycote	7	4	1	< 1	< 10	6	11	12.3	< 0.04	<0.1	<12	<10	10	10
F4-6(soil) 0-15cm	F4-6	Maxxam	5.6	4.6	1.8	0.3	2	10	14	8	<0.05	<0.01	<10	<10	<10	<10
F4-7(soil) 0-15cm	F4-7	Bodycote	6	7	2	<1	<10	16	24	13.3	<0.04	<0.1	<12	40	<10	40
QAQC-10	F4-7	Bodycote	6	7	2	< 1	< 10	15	22	14.3	< 0.04	<0.1	<12	<10	10	10
F4-7(soil) 0-15cm	F4-7	Maxxam	6.9	7.9	2.7	<0.3	2	19	26	17	<0.05	<0.01	<10	<10	<10	<10
Water			[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[mg/L]	[ug/L]	[ug/L]	[mg/L]	[mg/L]	[mg/L]
MW-16	MW-16	Bodycote	0.006	0.02	0.003	<0.001	0.03	0.41	0.051	0.001	<0.0002	<0.1	< 25	<0.1	<0.1	<0.1
QAQC-5	MW-16	Bodycote	0.003	0.01	0.002	< 0.001	0.01	0.40	0.008	< 0.001	<0.0002	<0.1	<25	<0.1	<0.1	<0.1
MW-10	MW-10	Bodycote	0.01	0.05	0.002	<0.001	0.01	0.60	0.273	0.004	<0.0002	<0.1	< 25	<0.1	<0.1	<0.1
QAQC-6	MW-10	Bodycote	0.007	0.03	0.001	<0.001	0.01	0.37	0.141	0.002	<0.0002	<0.1	<25	<0.1	<0.1	<0.1

ANNEX 3

FIELD NOTES

Tanmay
Fox-4
Cape Hooper, Nunavut
2006
Aug 21-27

DUKSBAK

WATERPROOF
WL7
LEVEL
R.D. PENHALL LTD.
MADE IN CANADA

Friday 7:30 AM -> Left home for Ottawa Airport

Friday 9:05 AM -> Left Ottawa for Iqaluit.

Friday 12:30 PM -> Reached Iqaluit

Friday after 1 PM -> Arranged for fieldwork.

Saturday 9 AM - 10 PM

-> checked field equipments samples/jars

-> Prepared materials for fieldwork

LEVEL

Sunday 8 A.M -> Went to Iqaluit airport. Left for Fox-4 Cape Hooper. Could not land due to bad weather. Came back to Iqaluit after refuelling at Pang.

Day 1 Tanmoy, Richard, Adami & Pollucci
Monday Aug 21, 2006 cloudy/rainy ~4-5°C.

Safely landed at Cape Hooper at 9.30 AM. Weather is cloudy with intermittent showers. Temp ≅ 4-5 °C. Foggy at the upper site.

-> Set up the tent, had lunch.

=> Richard & Adami set out for the upper site to have a look.

-> Got sample equipments & jars/bottles ready

2:30 PM -> Fieldwork/sampling started.

$\boxed{\text{MW-6}}$ N 68° 28' 24.5" W 66° 48' 2.5" Elev 1248 ft. 381 m

Bailer stuck in the well. Tried to fish out.

DTP 1 Picture 1 : MW-6 from top Facing East

Soil sample collected from:
top 0-15 cm
Bottom 40-50 cm

DTP 2 Picture 2 : Showing hole down to 50 cm at MW-6 (~2.5 m from the well)

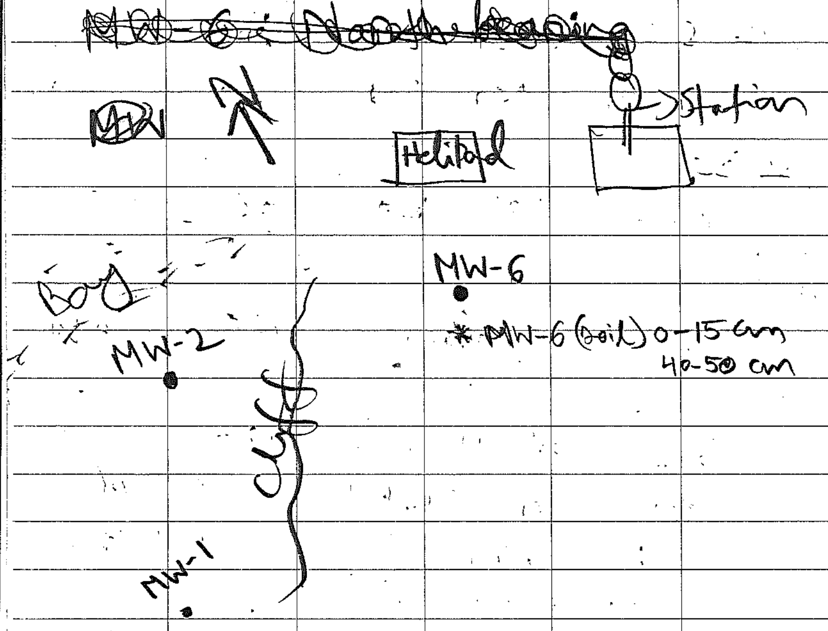
R. D. ... HALL ... MADE ... VANCOUVER, CAN

LEVEL

D1-3 Picture 3: Showing the hole for soil sampling at MW-6 (More closer picture)
Both Picture 2 & 3 are facing E

D1-4 Picture 4: fishing out bailer from well MW-6. Unsuccessful

~~MW-6: North heading~~



Soil sampled for TPH, Metals, PCBs
Coarse gravelly sand

MW-2
Depth to bottom = 1.74 m from TOP
Water Level -> 0.592 m from TOP
Bailer removed from well
Volume of water Purged = 8 L

	pH	Cond	Temp	Turb	DO
Bailer 1					
5.05	6.05	0.497 S/M	3.0	292 NTU	5.61 g/L
5.08	6.24	0.464	3.1	275.0	4.06
5.11	6.23	0.760	3.1	269.0	4.04
Bailer 2					
5.14	6.09	0.0905/M	2.0	306.0	5.59
Bailer 3					
5.17	5.95	49.1 ms/m	1.9	194.0	9.39
Bailer 4					
5.20	5.93	49.7 ms/m	1.7	184.0	8.04

Parameters stabilized
GW Sampled for TPH, BTEX, Metals, PCB
J-plug installed

Soil samples collected 2.5 m from well (MW-2) Coarse gravelly sand
MW-2 (soil) 0-15 cm
40-50 cm -> TPH odour
West of well

LEVEL

1213-0601

Aug 21/06

T.P

P.P

$\boxed{\text{MW 1}}$

DTW 0.312m from TOC

Ø ~~Ø~~ 1.49m from TOC

TOC to GL Purged 11L

	pH	Cond	Turb	Temp
6.25	6.87	56.13 ms/m	83.2	2.7
6.33	6.79	35.5	136.0	2.2
6.36	6.65	28.6	93.1	2.1
6.37	6.51	24.9	95.3	2.1
~~6.40~~	~~6.35~~	~~0.0905/m~~	~~101.0~~	~~2.2~~

Stabilized parameters BTEX, TPH, PCB, Metals

Soil samples collected ~ 2m from well West ~~south~~ of the well

MW-1 (soil) 0-15 cm

Coarse gravelly sand 40-50 cm → 250 ml jar half-filled due to rocky base

Installed new J-plug

End of Day @ 8 PM

$\boxed{\text{MW-4}}$

MW-4 (soil) 40-50 [TPH odour 250 ml jar half filled

Day 2 Tanmay/Richard

Aug 22, 2006

Safety briefing/meeting @ 9.30 AM at upper site

Left for upper site @ 9 AM

Field work/sampling started @ 9.45 AM

$\boxed{\text{MW-3}}$

Depth to water table - 1.04 m from TOC

Depth to bailer in well - 1.25 m See next page

Bailer in the well @ 1.25 m

Soil samples collected 4 m away (SE) from MW-3

MW-3 (soil) 0-15 cm Soil type Coarse sand with gravels

40-50 cm

D2-1 Picture 1: soil hole 45 cm deep facing South

$\boxed{\text{MW-4}}$

Depth to water table - 1.37 m from TOC

Depth to bailer in well - 1.44 m

Soil samples collected at 2.5 m SE of well MW-4

D2-2 Picture 2: soil hole 50 cm deep facing South

Soil samples collected:

MW-4 (soil) 0-15 cm & QAQC1

MW-4 (soil) 0-15 cm MaxXam Lab

MW-4 (soil) 0-15 cm ESG OPS

LEVEL

1043-0601

Aug 22/06

MW-6 Tried for 45 mins to remove stuck bailer. used orange steel angle iron as tongs to remove pieces of stuck bailer. can not gain enough clearance to insert regular bailer for sampling. cleared well from 0.37 m to 0.6 m need approx at least clearance to 0.75 m for sampling. No ice at bottom of well. Retrieved half a bailer (in pieces).

MW-3

Little water in the well. Fills 1/4th of the bailer at a time. Purged 1.5 litres of water. Then did WQ parameters

D2-3 Picture 3: Monitoring well MW-3 facing West

Time	pH	Cond.	Turb	Temp
12:37	6.58	25.9 mS/m	203.0	2.1
12:40	6.53	25.2	196.0	2.0

Parameters stabilized

GW sampled for TPH, PCBs, Metals

J-plug & lock installed

MW-5 N 68°28' 25.6" W 66° 47' 57.9" Elev. 387 m

D2-4 Picture 4: Monitoring well MW-5 facing NE. Bentonite on top

Depth to the W.T 0.955 m TOC

Depth to bottom of well 1.210 m TOC

(obstruction in well likely bailer/ ~~frozen ground~~)

Purged 1.5 L due to

Time	pH	Cond	Turb.	Temp	
2:00 PM	6.53	23.8 mS/m	309.0	3.6	3 bailers
2:03 PM	6.49	24.2	260	2.5	250 ml
2:06 PM	6.48	24.4	238	2.5	each time

Parameters stabilized

Samples taken for TPH, Metals, PCB

~~and 1 L bottle for TPH hot~~

J-plug installed w/ key/lock

LEVEL

MW-5 (Contd.)

Soil samples collected @ 3m SE of well MW-5.

Soil type sandy/gravelly soil

Depth of soil hole = 42 cm

D2-5 Picture 5: Soil hole at MW-5 facing E of well MW-5

MW-5 (soil) 0-15 cm
40-50 cm

MW-9 N 68°28'18.5" Elev. 371 m
W 066°47'33.5'

D2-6 Picture 6: Bailer in well stuck at 0.8 m. Some obstruction (ice) at 0.8 m likely. No water on top. Picture taken facing West.

No water in well. dry - Bentonite removed J-plug & lock put

D2-7 Picture 7: Soil sample from a hole 3.5 m from MW-9 SE of well. Depth = 50 cm

Picture facing East

Soil samples collected

MW-9 (soil) 0-15 cm
40-50 cm

MW-8 N 68°28'18.2" Elev. 371 m
W 066°47'37"

D2-8 Picture 8: Showing well MW-8 facing West.

Depth to W.T = @ 1.07 m

Depth to bottom of well = 1.27 m

Purged Vol. = 4 litres

Water quality parameter

Time	pH	Cond.	Turb.	Temp.
4.34	6.60	0.090 S/m	158	4.1
4.37	6.55	14.2	240	1.5
4.40	6.51	13.8	242	1.1

Parameters stabilized

GW sampled for TPH, Metals, PCBs

J-plug & lock installed

R.D. [illegible] HALL LTD. MADE IN VANCOUVER, CAN. [illegible] WATERPROOF

LEVEL

MW-7 N 68° 25' 17.2" W 066° 44' 26.0" Elev. 347 m

D2-9 Picture 9: Monitoring well MW-7 facing West. Bentonite on top.

Depth to WL = 1.09 m
Depth to bottom of well = 1.87 m
Vol. purged = 5-litres
Water Quality parameter

Time	pH	Cond.	Turb.	Temp
5.22	6.58	9.4 ms/m	236	3.7
5.25	6.47	9.3 ms/m	211	3.0
5.28	6.42	9.4 ms/m	203	2.7

Parameters stabilized. 3 bailers used
GW sampled for TPH, Metals, PCBs
D2-10 Picture 10: After cleaning bentonite J-plug & lock installed

Going back to Camp @ 6.15 PM

End of Day 2 @ 7 PM

Day 3 Cloudy ~3-4 °C
August 23, 2006
Left Camp @ 8 A.M.
Reached upper site at 8.20 A.M

MW-8 Soil Sampling

D3-1 Picture 1: Soil hole 50 cm deep about 2m West of MW-8 Camera facing West.

Coarse silty sand w̄ gravels
Soil samples collected
⑥ MW-8 (Soil) 0-15 cm
40-50 cm

MW-7 Soil Sampling

D3-2 Picture 2: MW-7 well after bentonite has been removed and a j-plug w̄ lock has been installed in the well.

Soil sampling
Soil samples collected:
⑧ MW-7 (Soil) 0-15 cm
30-40 cm Refusal @ 35 cm

D3-3 Picture 3: Soil hole 35 cm deep at MW-7 ~2.5 m away (SW). Camera facing West

F4-1

Located in Helipad East Landfill

D3-4
Picture 4: Soil hole at F4-1 facing East. soil depth = 45 cm

Silty & gravelly sand; wet

Soil samples taken

F4-1 (soil) 0-15 cm & QA/QC-2

F4-1 (soil) 0-15 cm Maxxam lab

F4-1 (soil) 40-50 cm (TPH odour)
Water at the bottom of hole

F4-17

D3-5
Picture-5: Soil hole at F4-17
facing SW. Depth = 40 cm
Shovel refusal @ 40 cm possibly
gravelly/rocky surface

Soil samples taken

F4-17 (soil) 0-15 cm
40-45 cm (refusal)

Sandy soil until 40-45 cm, wet

F4-18

Picture 6: Soil hole at F4-18
D3-6
picture taken facing North
Depth of hole = 45 cm

Sandy soil w/ gravels, wet

Soil samples collected

F4-18 (soil) 0-15 cm
40-50 cm => Strong TPH odour - L. water at bottom

F4-20

D3-7
Picture 7. Soil hole at F4-20
picture taken facing North
Soil hole depth = 37 cm

Sandy soil w/ gravels, wet

Soil samples collected

F4-20 (soil) 0-15 cm → light diesel odour
30-40 cm => Diesel odour (Strong)

Spoon refusal @ 40 cm (gravel)

6

LEVEL

F4-19

Picture 8: Soil hole at F4-19.
D3-8
Picture taken facing North
Soil hole depth = 42 cm

silty sand, wet
Soil samples collected

F4-19 (soil) 0 - 15 cm → TPH odour
40 - 45 cm → TPH odour

Picture 9, 10, 11 → Scenic pictures taken
D3-9
D3-10
D3-11
from MW-2 / F4-19
location facing NW

F4-4

Picture 12: Soil hole at F4-4
D3-12
Camera facing North
Soil hole depth 45 cm

Coarse gravelly sand, moist
Soil samples collected
F4-4 (soil) 0-15 cm, QAQC-3
F4-4 (soil) 0-15 cm Maxxam Lab
F4-4 (soil) 40-45 cm
refusal @ 45 cm

R. D. [illegible] HALL L[illegible] MADE [illegible] VANCO[illegible]R, CAN D[illegible]AK W[illegible] PRO[illegible]

D3-13
Picture 13: Picture of base camp from F4-4

F4-2

Picture 14: Soil hole at F4-2
D3-14
Camera facing North
Depth of hole = 40 cm

Gravelly sand, wet (lots of water at bottom). Strong TPH odour

Soil samples collected.

F4-2 (soil) 0-15 cm → TPH odour
40-45 cm → water filled & TPH odour

F4-21

Picture 15: soil hole at F4-21
D3-15
Camera facing East
Depth to hole = 46 cm

Silty sand, wet, Strong TPH odour
Soil samples collected

F4-21 (soil) 0-15 cm
40-50 cm

LEVEL

F4-22

Picture 16: Soil hole at F4-22
D3-16
Camera facing North.
Depth to hole = 42 cm

Silty sand, wet, water at bottom
Soil samples collected.

F4-22 (soil) 0-15 cm } TPH
40-45 cm } odour

F4-3

Picture 17: Soil hole at F4-3.
D3-17
Camera facing South.
Depth to hole = 40 cm

Silty gravelly sand, wet.
Soil samples collected:

F4-3 (soil) 0-15 cm
40-45 cm → TPH odour

D3-18 & D3-19
Picture 18 & 19: Showing fog at upper site

F4-5

Weather gets bad. Foggy, low visibility

Picture 20: Soil hole at F4-5
D3-20
Picture facing West
Depth to hole = 40 cm

Gravelly sand, wet
Soil samples collected:

F4-5 (soil) 0-15 cm, CAB C-4,
40-45 cm

refusal @ 42 cm
F4-5 (soil) 0-15 cm Maxxam Lab
Strong TPH odour at both depths

0-15 cm → brownish (chocolate) coloured soil w/ plant roots, TPH odour

F4-24

Picture 21: Soil hole at F4-24
D3-21
Picture facing North
Depth to hole = 35 cm
Spoon/shovel refusal at 35 cm due to rock/gravel

F4-24 cont.
Gravelly sand, moist
Soil samples collected
F4-24 (soil) 0-15 cm
30-40 cm → TPH odour
Chocolate coloured soil at 30-40 cm

F4-23

Picture 22: Soil hole at F4-23
D3-22
Camera facing South
Depth to soil hole = 42 cm

Silty, gravelly sand, moist
Soil samples collected
F4-23 (soil) 0-15 cm
40-45 cm TPH odour

Water seeped at bottom of hole

D3-23
Picture 23: View of mountains
Picture 24: Iceberg Fog clearing up
Picture 25: clouds on mountain
End of day 3 @ 6.30 PM

Day 4 Tanmay 24-Aug-2006
Cloudy ~7-8°C

Left Camp for Lower Site Landfill at 8AM. Richard & Adam went to the Tanner Bay Landfill.

MW-16 N68°27'49.4" W066°50'24.6" Elev. 17 m

Picture 1: Clearing bentonite in the well pipe at MW-16.
D4-1
Picture facing North.

Lot of bentonite on top and in the well pipe.
Depth to water table = 0.33 m
Depth to bottom of well = 0.59 m

Video Recording
{ obstruction @ 0.59 m (ice) (Video Camera recording)
Broke the ice in the well. There was another obstruction at ~1.35 m. It is a bailer. Tried hard to remove the top cap and the thread (attached) of the bailer out of the well. Could not get the remaining bailer out. But there is ~1 m of water on top of the bailer and is good for gw. sampling.

LEVEL

Post bailer recovery measurement:

Depth to W.T = 0.37 m TOC
Depth to bailer = 1.35 m TOC

Purged Volume = 4L

G.W. Quality Parameters:

Time	pH	Cond	Turb	Temp
9.11	6.81	10.7 ms/m	815	2.8
9.14	6.63	9.4 mS/m	585	1.8
9.17	6.28	9.3	474	1.6
9.20	6.21	9.0	463	1.5

Parameters stabilized
GW sampled for TPH, PCBs & Metals

Set 1 (Regular)
TPH (one 1L)
BTEX (3)
Metals (2)
PCB (1)

Set 2 (QA/QC-5)
TPH (one 1L bottle)
BTEX (3)
Metals (2)
PCB (1)

Set 3 (Maxxam)
TPH (one 1L)
BTEX (3)
Metals (2)
PCB (1)

Less water so TPH bottles (1) are filled one per each set.

MW16 continued
Bentonite removed from top of casing. J-plug & lock installed
D4-2 Picture 2: MW-16 after J-plug & lock installed and bentonite removed. Dia of casing = 54 cm

ok MW-14 N 68°24'47.5" W 066°50'20.1" Elev 19m

D4-3 Picture 3: Bentonite on top of casing in well MW-14. Camera facing North

Depth to W.T → 0.40m TOC
Depth to bottom → 1.495m TOC
No obstruction in well
Water purged = 8L
Water Quality parameters

Time	pH	Cond	Turb	Temp
10.22	6.32	14.0 ms/m	514	3.5
10.25	6.04	13.7	166	2.7
10.28	5.93	23.3	104	2.6
10.31	5.90	19.7	124	2.4

Parameters stabilized
GW sampled for TPH, BTEX, PCB, metals

D4-5 Picture 5: Amount of bentonite removed from top of well MW-14

D4-4 Picture 4: MW-14 after bentonite cleaned & J-plug & Keys installed. Dia of casing → 54 cm LEVEL facing N obs MW-13 N 68°27' 45.3" W 066°50' 21.3" Elev. 5m

Picture 6 : MW-13 showing water right to the top of casing and bentonite at top. Laminated paper shown on picture. Facing NE
D4-6

Picture 7: More closer view of the water filled pipe upto TOC. Laminated paper shown on picture. Camera facing NE.
D4-7

Depth to WT → at TOC

Depth to bottom → 1.315 m

obstruction/bailer in the well. Tried to remove. Could not succeed. some bentonite at bottom too.
Vol. of water purged = 8 L

Water Quality parameters

Time	pH	Cond	Turb	Temp
11.29	6.14	29.1 mS/m	274	3.7
11.32	6.14	28.4	280	2.9

parameters stabilized

GW sampled for TPH, BTEX, PCB, Metals

Picture 8: Bentonite cleared from Well MW-13, J-plug & lock installed. Camera facing North. Dia of Casing = 54 cm
D4-8

MW-12 N 68°27' 44.7" W066°50' 25.2" | Elev. = 21 metres

Picture 9: Well MW-12 full of bentonite completely covering the TOC. Laminated paper shown on picture in direction of N
D4-9

Depth to W.T = at TOC

Depth to bottom (bailer stuck) = 0.60 m

Picture 10: Polluca trying to retrieve bailer from well MW-12 with a fish hook metal (rod). Laminated paper shown
D4-10

Picture 11 : Tanmay trying to remove stuck bailer in the well with 2 angle iron bars. Laminated paper shown.
D4-11

After puncturing through bailer,
Depth to bottom (obstruction) = 1.36 m

Vol. of g.w. purged = 4 L

W.Q. Parameters

Time	pH	Cond	Turb	Temp
1.43	6.34	39.7 mS/m	721.0	5.3
1.46	6.42	40.9	464.0	4.1
1.49	6.41	42.4	432	4.0

Parameters stabilized

LEVEL

MW-12 Continued

GW samples collected for TPH, BTEX, Metals & PCBs.

D4-12 Picture 12: MW-12 after bentonite cleared from TOC. Laminated paper shown. No J-plug on lock

old [MW-11] N 68° 27' 45.1" W 066° 50' 29.3" | Elev. 17m

D4-13 Picture 13: MW11 after opening the casing. Full of bentonite. Laminated picture w North direction shown.

Bentonite cleared from surface

When measuring W.L. encountered obstruction (bentonite plugging the well) at 0.44 m. Below bentonite ~4cm, there is a stuck bailer in the well

Picture 14: Pollution trying to retrieve the bailer with a fish hook. Laminated paper shown
D4-14

D4-15 Picture 15: Well MW-11 after bentonite cleared from well.

Also Video recorded (not sure whether worked or not)

MW-11 Continued

~~No water on top of stuck Bailer.~~

~~Dry well upto the bailer (0.44m)~~

Could not sample g.w

[MW-10] N 68° 27' 46.7" W 066° 50' 31.4" Elev 13 m

Picture 16: MW-10 showing some bentonite in the Casing. Laminated paper showing north shown in the picture.
D4-16

D4-17 Cleared bentonite from Casing. Picture 17: After bentonite cleared from MW-10 Laminated paper shown

Depth to W.T = 0.70 m

Depth to bottom = 1.5 m

Vol. of water purged = 6L

W.Q. Parameters done:

Time	pH	Cond.	Turb.	Temp
2.54	6.61	51.0 ms/m	-5.0	4.2
2.57	6.73	50.9	632	2.0
3.00	6.82	51.0	496	1.6
3.03	6.82	54.9	425	1.4

GW Parameters stabilized

GW samples taken for TPH, BTEX, Metals, PCB

LEVEL

Set 1
TPH 2 (1L bottle)
BTEX (3)
Metals (2)
PCB (1)

Set 2 (QAQC-6)
TPH 1 1L bottle
BTEX (3)
Metals (2)
PCB (1)

Set 3 Maxxam
TPH 1 (1L bottle)
BTEX (3)
Metals (2)
PCB (1)

MW-15 N 68° 27' 47.6" Elev. 13 m
W 066° 50' 29.4"

D4-18
Picture 18: MW-15 full of bentonite in the casing. Laminated paper shown
Bentonite removed from the casing

Picture 19: Well MW-15 after bentonite removed/cleaned from casing
D4-19
Laminated paper shown

Depth to water table = 0.1 m TOC
Depth to bottom = 1.83 m TOC
Bailer in the well, but it is broken so that a WL meter or bailer can't be

MW-15 continued
lowered upto the bottom of the well.
Volume of water purged = 10 L
Water Quality Parameter Done;

Time	pH	Cond	Turb (NTU)	Temp (°C)
~~4.22~~	~~6.92~~	~~0.1 mS/m~~	~~203~~	~~11.8~~
4.25	6.90	41.2 mS/m	46.4	4.3
4.28	6.90	33.3	40.7	3.2
4.31	6.87	34.5	40.9	2.8

Parameters stabilized
GW sampled for TPH, BTEX, Metals and PCBs
End of GW sampling @ 4.45 PM
Weather getting bad, wind chill, some rain, fog coming along.

T4 Datalogger
Picture 20, 21, 22, 23 → Datalogger
D4-20, D4-21, D4-22, D4-23
of T-4 repair work. Fixed the ground cable (picture 23)
D4-24
Picture 24 → Paul packing bubble wrap in the thermistor T4
D4-25
Picture 25 → Duck-tape around pipe

Site No: 3
Fox-4 Cble 1 Site: 3
Description: Fox-4 Cble 1
Battery

Recommendation:- Additional equipment required to repair the datalogger connection to the thermistor
→ New connector head
Multimeter
D4-26 D4-27
Picture 26 & 27: Scenic pictures from Camp

Sunny ~10°C Tanmoy @ Airstrip Landfill
Day 5 25-Aug-2006 $\boxed{F4-6}$ N68°27'33.1" W066°49'32.2" Elev. 0m
Picture 1: Scenic view of the iceberg from camp
D5-1
~~Started~~ Work @ 8 A.M. Left for Airstrip Landfill
Picture 2: Soil sample hole at F4-6 Depth to hole = 45 cm
D5-2
Lots of water at the bottom
Camera facing North

Sandy/silty soil (alluvial)

Soil samples taken
F4-6 (soil) 0-15 cm, QAQC-9, Maxxam, ESG
40-50 cm

Set 1	Set 2	Set 3	Set 4
Regular	QAQC-9	Maxxam	ESGOPS
2 250 ml	1 250 ml	1 250 ml	1 250 ml
~~[illegible]~~ 2 100 ml	1 100 ml	1 100 ml	

QAQC-9 @ Maxxam & ESGOPS
samples were collected from 0-15 cm
$\boxed{F4-7}$
Picture 3: Soil hole at F4-7. Soil hole depth = 46 cm. Camera facing North
D5-3

Sandy/silty soil (alluvial)
Soil samples taken:
F4-7 (soil) 0-15 cm, QAQC-10, Maxxam, ESG
40-50 cm Greyish coloured

LEVEL

Set 1	Set 2	Set 3	Set 4
Regular	QAQC-10	Maxxam	ESG OPS
2 250 ml	1 250 ml	1 250 ml	1 250 ml
2 100 ml	1 100 ml	1 100 ml	

QAQC-10, Maxxam and ESG OPS samples were collected from 0-15 cm

N 68°27'34.5"
W 066°49'39.7" Elev. 3m

F4-25

Picture 4: Soil hole at F4-25
D5-4
Depth to hole = 46 cm
Camera facing NE

Sandy/silty soil, Lot of water at bottom of hole

Soil samples taken

F4-25 (soil) 0-15 cm ~~QAQC-11~~, Maxxam, ESG
40-50 cm unachievable due to excessive water

Set 1	~~Set 2~~	Set 3	Set 4
Regular	QAQC-11	Maxxam	ESG OPS
2 250 ml	~~1 250 ml~~	1 250 ml	1 250 ml.
2 100 ml	~~1/100 ml~~	1 100 ml	

N 68°27'35.1"
W 066°49'38.1" Elev. 2m

F4-8

Picture 5: Soil hole at F4-8. Depth of hole = 47 cm. Picture facing NE. Lots of water in the hole. Grey coloured soil ~ 35 cm - 47 cm.
D5-5

Sandy soil.

Soil samples taken

F4-8 (soil) 0-15 cm, ESG OPS
40-45 cm

Picture 6: Picture of Bay & Cape from station F4-8
D5-6

N 68°27'39.0"
W 066°49'34.5" Elev. -6 m

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DURABAK WATERPROOF

LEVEL

Day 5 Continued 1PM

Data Logger Work

T-2

Picture 7: Datalogger picture
D5-7 Camera facing North.
Looks ok from outside.
Picture shows Datalogger & computer connected.

No real temp data

T-4

Picture 8: Picture of broken
D5-8 datalogger connector
Camera facing East

Picture 9: Picture of broken
D5-9 ground cable connector. Camera facing East

Picture 10: Full view of
D5-10 thermistor station T-4.

Re-Connected ground cable to datalogger & downloaded data. No temp. data. Changed settings as required and reset datalogger. Should work from now on.

T-3

D5-11
Picture 11: Full view of ~~datal~~ Thermistor station T-3. Camera facing north.

Picture 12: Tanmay downloading data
D5-12 from datalogger at T-3
Camera facing East.

Completed all procedures. Data reasonable working properly.

T-6

D5-13
Picture 13: Full view of Thermistor station T-6. Camera facing South.

D5-14
Picture 14: Close-up view of the connector (ground) with the cover coming out. Picture facing south.

Picture 15. Tanmay taking observations
D5-15 from computer at thermistor T-6. Camera facing east.

LEVEL

T-5

Length of cable from ground surface
= 1.39 m

Picture 16 : Full view of the
D5-16 thermistor location.
camera facing North.

Casing, cap, Datalogger & connections
look ok.

T-1

Picture 17 : Full view of T-1
D5-17 Camera facing West.

Connected datalogger to computer &
downloaded data instantly. Saved
the excel file
Picture 18 : Full view of T-1
D5-18 Camera facing West. Note
the black casing, red cap and lock
newly installed

End of day @ 7.30 PM

Saturday, 26th August, 2006 Rainy
Day 6 ~ 3-4°C.

Started packing samples in coolers
Left Cape Hooper at 12 noon
Reached Iqaluit at 4 PM.
continued packing samples until
night.

Sunday 27th August 2006.
Left Iqaluit for Ottawa
at 12:30 PM. Reached Ottawa
at 4:30 PM.

Aug 22/06 1213-069

RJW P 1/

mw-4

Checked well unable to lower bailer past 1.45 m suspect sand intrusion may have reduced well depth or ~~bailer is~~ previously used bailer is stuck in well

Cleared bentonite from top of well

MW-3

Used orange tongs to verify well condition approx 0.3 m of saturated thickness @ well bottom could not recover gravel @ bottom of well but it felt like gravel or sand @ well bottom

LEVEL

Aug 24/06 P.11
RJW 1216-0601

Objective to collect soil samples within 2-4m of MW-13, 12, 11 sample 0-15cm, 40-50cm

MW-1? collected sample 3.1m NE of MW-13
0-50cm
Sand, grey wet, compact trace silt, samples 0-15, 40-50cm

Collected QA/QC #7

MW-12 collected sample 3.2m South of MW-12 0-15, 40-50
MW-11 collected sample 3.3m S.
0-50 cm Sand, trace gravel grey moist to wet compact strong sulfur swamp-like smell

sampled 0-15cm
40-50cm

Aug 25, 2006 P.1
RJW 1213-0601

MW-10 2.9m W. of MW-10
0-50cm Sand, some gravel, trace cobbles, brown, compact moist
sampled 0-15cm
40-50 cm
ESG OPS sample

MW-15 2.6m NW of MW-15

0-50cm Sand, some gravel trace cobbles, wet compact
sampled 0-15cm
40-50cm
ESG OPS sample

MW-16 3.4m NNW of

0-50cm Sand, gravelly brown, moist to wet, compact
sampled 0-15cm
40-50cm
ESG OPS sample

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LEVEL

RJW
Aug. 26, 2006

123-0601
P 21

MW-14 3.0 m W,
QA/QC #8 Maxxam ESG OPS
0-50 cm
sand, brown, moist (wet below 20 cm), compact
some gravel, trace cobbles

Strong HCO 30-50 cm
sampled 0-15 cm
collected sample for ESG OPS, Maxxam, QA/QC #8 @ 0-15 cm

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