THE COLLECTION OF LANDFILL MONITORING DATA AT THE FORMER FOX-M DEW LINE SITE

Hall Beach, Nunavut

FINAL REPORT – 2009 SEASON

(O/Ref.: CD8177) (Y/Ref.: DLC MON (Qikiq 08))

DEFENCE CONSTRUCTION CANADA

March 2010

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Presented to: Nahed Farah
Defence Construction Canada

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1 INTRODUCTION

1.1 LOCATION AND SITE FEATURES

The FOX-M Hall Beach DEW Line site is located on the Melville Peninsula's east coast at 68º 46' N and 81º 12' W. The community of Hall Beach is approximately 2 km north of the site.

FOX-M was originally a main site within the original DEW Line system and was decommissioned in 1989 to become a North Warning System (NWS) Long Range Radar (LRR) station and Logistical Support Site (LSS). The environmental cleanup and demolition of facilities not required for the LRR site operations commenced in 2003 and were completed in 2007.

The clean-up included the closure and remediation of 6 existing landfills, the construction of new landfills for the disposal of non-hazardous wastes generated from demolition and collection of site debris as well as a second facility to contain Tier II contaminated soils. Monitoring activities were carried out at the following landfill areas as shown on Figure FOX-M.1:

- Non-Hazardous Waste Landfill (NHWLF)
- G217 – West Landfill
- Billboards Landfill
- Hazmat Storage – East Landfill
- Communications North Landfill
- Communications Northwest Landfill
- Tier II Soil Disposal Facility
- East Beach Landfill

In accordance with the NTI-DND Cooperation Agreement, landfill monitoring is carried out following the site clean-up. Table I hereafter provides a synopsis of field activities performed during the 2009 Landfill Monitoring Program at FOX-M.

Table I: 2009 Monitoring Requirements for FOX-M Landfills

Landfill	Visual Inspection	Soil Sampling	Groundwater Sampling	Thermal Monitoring
Non-Hazardous Waste Landfill	✓			
G217 – West Landfill	✓			
Billboards Landfill	✓			
Hazmat Storage – East Landfill	✓			
Communications North Landfill	✓			
Communications Northwest Landfill	✓			
Tier II Disposal Facility	✓	✓	✓	✓
East Beach Landfill	✓	✓	✓	✓

1.2 OBJECTIVES AND SCOPE OF WORK

The objective of the Defence Construction Canada (DCC) Landfill Monitoring Program is to collect sufficient information to assess landfills performances from geotechnical and environmental perspectives. 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-5 Broughton Island and FOX-M Hall Beach DEW Line Sites, Nunavut Territory, Qikiqtaaluk Region, DCC Project # DLC MON*, December 14, 2007. (ToR, reference B).

The scope of work for the Landfill Monitoring Program is defined in the ToR and in Biogenie's accepted proposal dated February 2008 (reference C) that was submitted to DCC. The scope of work generally includes the following activities:

- Landfill Monitoring for each of the FOX-M Landfills
- Visual inspection
- Soil and groundwater sampling
- Thermal monitoring (DCC Tier II Disposal Facility and East Beach Landfill)
- Create photographic record
- Draft and Final reports

1.3 REPORT FORMAT

This report describes the work carried out in September 2009 at eight landfill sites at FOX-M. Results from soil and groundwater sampling, thermal monitoring, and visual inspection of the sites are also presented in the formats described in the ToR. 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 during the 2009 Landfill Monitoring Program. The following information is provided for each landfill:

- Visual inspection check-list
- Visual inspection drawing mark-up
- A selection of visual inspection photos
- Thermal monitoring summary (where applicable)
- Summary of 2009 soil analytical data (where applicable)
- Evaluation of 2009 soil analytical data, as compared to baseline conditions
- Summary of 2009 groundwater analytical data (where applicable)
- Monitoring well development/sampling reports (where applicable)

The printed copy of the report's photographic record includes only an index and thumbnail image 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 included in appendices.

1.4 PROJECT REFERENCES

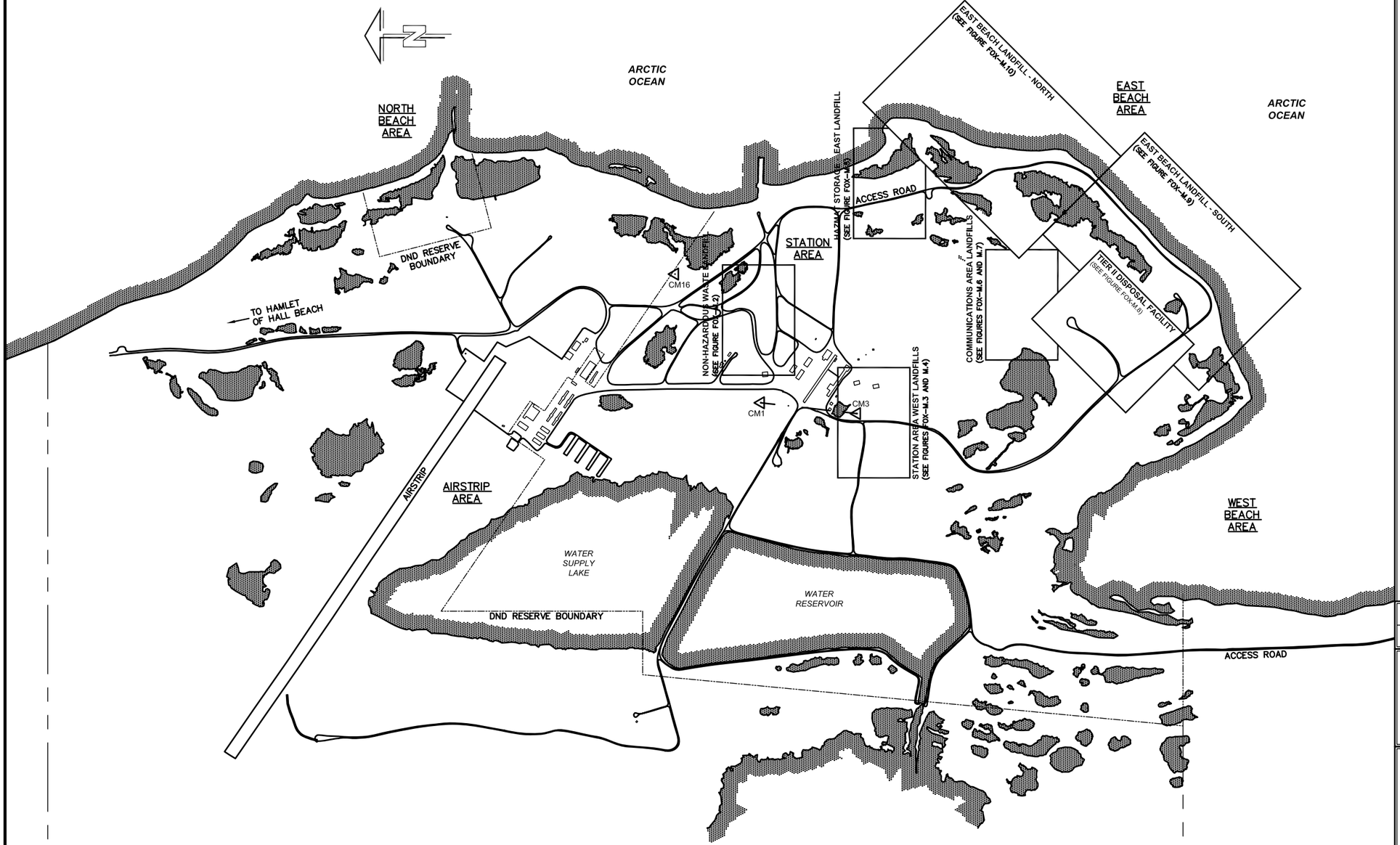
The following references are specifically relevant to the 2009 Landfill Monitoring activities:

A. *Request for Abbreviated Proposal – Consultant Services – Collection of Landfill Monitoring Data for the DEW Line Sites: FOX-M Hall Beach and FOX-5 Broughton Island, Nunavut Territory - Qikiqtaaluk Region, Nunavut. DCC Project # DLC MON (Qikiq 08)*, January 14 2008.

B. Terms of Reference – Consulting Services for the Collection of Landfill Monitoring Data – FOX-5 Broughton Island and FOX-M Hall Beach DEW Line Sites, Nunavut Territory, Qikiqtaaluk Region, DCC Project # DLC MON, December 14, 2007.

C. Technical Proposal – The Collection of Landfill Monitoring Data for the DEW Line Sites: *FOX-M Hall Beach and FOX-5 Broughton Island, Nunavut Territory - Qikiqtaaluk Region, Nunavut. Project Ref. 06121-045,* February 2008.

D. *Post-Field Progress Report, FOX-5 Landfill Monitoring 2008*, September 5, 2008.



SURVEY CONTROL MONUMENTS				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
CM1	7 628 008.274	490 743.723	3.577	FOX–M BASELINE STA. 36+00
CM3	7 627 675.453	490 706.281	5.291	FOX–M BASELINE STA. 47+00
CM16	7 628 305.218	491 189.319	1.190	C.L.S. MONUMENT

NOTE: BASELINE STATIONS SHOWN ARE IN IMPERIAL UNITS.

LEGEND

△ SURVEY CONTROL MONUMENT

0 150m 300m 450m 600m 750m

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10–03–08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

OVERALL SITE PLAN

SITE REMEDIATION SOLUTIONS

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MEASUREMENT UNIT	SCALE:	DATE (month–year):
Metre	1 : 15,000	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.–P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_A	PAGE LS

FIGURE FOX-M.1

G:\CD8177\002\2009\FOX-M\FINAL\CD8177_005_101-FOX-M_A.dwg, LS, 2010-03-11 15:04:25

2 OUTLINE AND METHODOLOGY

2.1 FIELD PROGRAM STAFF

The 2009 on-site field program at FOX-M took place from September 4 to 8, 2009. Biogenie sub-contracted Sila Remediation Inc. from Igloolik, Nunavut to perform the field work. The Sila field program was executed by Mr. Andrew Passalis and four local Inuit representatives.

The team was made up of the following individuals:

- Andrew Passalis, Project Engineer
- Jayco Qanatsiaq, Field Technician
- Philomen Nattuk, Field Technician
- Jaypetee Audlakiak, Field Technician/Wildlife Monitor
- Peter Siakuluk, Wildlife Monitor

2.2 WEATHER CONDITIONS

Seasonal weather conditions were observed during the FOX-M monitoring event, consisting of daily temperatures between 0-4ºC (early morning lows) and 1-10ºC (daytime highs) during the five days on-site. Skies were mostly cloudy throughout the monitoring period with light rain and snow encountered on September 5 and 6, respectively. Winds were generally from the northeast, moderate, ranging between 20 to 35 km/h on September 4, 5 and 8, whereas high winds between 40 to 70 km/h were observed on September 6 and 7.

2.3 VISUAL INSPECTION

Data and information collected during the visual inspection of the FOX-M landfills are included in the visual inspection datasheets. These data sheets include such inspection data as the location of settlement, erosion, frost action, sloughing and cracking, animal burrows, vegetation cover and stress, staining, seepage points, exposed debris, and any other features of note.

Each feature was identified with an alphabetical tag to be used consistently each year in an effort to track changes in condition for each specific feature. New features are added to the checklist and are noted as new observations. This letter is shown on the figures for each landfill along with the symbol for the particular feature.

Digital 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.

The photos were taken with a Canon PowerShot A590 8.0 megapixel (MP) digital camera. Full resolution digital jpg copies are furnished on a CD-ROM appended with the final report. The photo log, including the local coordinates from where the photo was taken, orientation (relative to map north), feature of note and picture numbers are included with each landfill report.

2.4 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
- CCME Subsurface Assessment Handbook for Contaminated Sites, March 1994, EPC-NCSRP-48E (http://www.ccme.ca/publications/ceqg_rcqe.html)

For the 2009 monitoring event, 17 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. No frozen ground or frost was encountered at the soil stations during the September 2009 sampling survey.

As specified in the ToR, the following 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
- 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 (F1-F3), total metals and PCBs) as specified by DCC. Table II below summarizes the soil sampling at FOX-M during the September, 2009 field program.

Table II: Summary of Soil Sampling at FOX-M, September 2009

Landfill Site	**Soil Sample Locations**					
Tier II Disposal Facility	MW-1	MW-2	MW-3	MW-4	MW-5	
East Beach Landfill	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25
	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31

Notes:
Soil samples annotated as "MW" were collected as per the ToR between 2-4 metres from monitoring wells.
All soil samples were collected from two depths (0-15 cm and 40-50 cm). For 2009 sampling, total no. of soil samples = 46 samples (17 samples x 2 depths + 4 QA/QC + 4 (Inter-laboratory comparison) + 4 for Owner's Representative (ESG Archives)

2.5 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)
- 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. Turbidity readings were also collected at each station. The samples were not acidified and were not filtered (as directed in ToR).

The 2009 field program included sampling only 17 of the 31 monitoring wells at FOX-M. Nine well locations were dry at the time of monitoring and consequently could not be sampled. A summary of the status of the monitoring wells is summarized in Table III.

Free phase hydrocarbon product was not detected at any of the monitoring well locations. Monitoring wells situated along the east (downgradient) side of the East Beach Landfill were dry or contained insufficient sample volume to complete the specified analysis. Monitoring Well Development and Sampling Record forms are included in appropriate sections in this report.

Table III: Summary of Groundwater Sampling at FOX-M, September 2009

Landfill Site	**Groundwater Sample Locations**				
Tier II Disposal Facility	MW-1	MW-2	MW-3	MW-4	MW-5
East Beach Landfill	MW-29	MW-30	MW-31		

Notes:
All monitoring wells were inspected and found to be in good condition with no significant concerns identified.
For 2009 sampling, total no. of water samples = 10 samples (8 monitoring well samples + 1 blind duplicate + 1 inter-laboratory duplicate + 1 field blank) + 1 travel blank.

2.6 THERMAL MONITORING

All thermistors at the Tier II Disposal Facility and East Beach Landfill were inspected and found to be in good condition with no significant concerns identified. All analogues/thermocouples were observed to be functioning properly. Data from all functioning thermistors was successfully retrieved and battery levels were noted to be in good condition. Internal memories were reset and clocks were synchronized using the Prolog software.

Specific detailed information regarding temperature data is contained in the report section on the Tier II Disposal Facility and East Beach Landfill.

2.7 FIELD NOTES AND DATA

Field notes from the 2009 landfill monitoring program, including soil and water sampling are included in Appendix B for reference. Notes were written on waterproof field sheets and in field books and the notes scanned to an Adobe pdf document for future reference and back up. Locations of all observations and features for the visual inspection were recorded using a hand-held Garmin Oregon 300 GPS device which included a combination of continuous tracks and discrete waypoints. Data packages collected from the individual vertical thermistors was downloaded directly to a field laptop computer.

2.8 QUALITY CONTROL

Sila implemented standard sample collection techniques to decrease the likelihood of compromising collected samples. The methods used for sample collection are summarized in Sections 2.4 and 2.5 of this report. The following measures were taken to minimize sample cross-contamination:

- All samples were placed directly into the appropriate laboratory-supplied containers (for the particular analysis)
- Soil samples were collected with the use of decontaminated sampling equipment and/or single-use nitrile gloves
- Water samples were collected through the use of dedicated Waterra foot valves and tubing
- All samples were stored in chilled coolers/refrigerators throughout the field program and chilled coolers during subsequent transfer to the commercial airlines and respective laboratories.

Chain of Custody (COC) forms were completed by the Project Engineer after sample collection. The samples were refrigerated prior to off-site shipment by First Air Cargo to Exova and Maxxam in Ottawa and ESG, via Ottawa to Kingston, Ontario where they were checked-in by laboratory representatives. All analysis was completed as specified on COC forms.

Delays by commercial airlines (First Air) in transferring the sample coolers to Exova's Ottawa laboratory resulted in the recommended sample hold times being exceeded for TPH analysis.

2.9 QA/QC PROCEDURES

Sila used standard QA/QC procedures as specified in the ToR and CCME Guidance Documents for this project. The following is a summary table of the analytical QA/QC samples collected:

- 10% Blind Duplicate Samples of soil and water were sent to Exova
- 10% Interlab Duplicate Samples were sent to Maxxam (looking for variation in procedures causing significant difference in analytical result). Results for both the blind duplicates and the interlab duplicates can be found in Appendix C as actual values and relative percent differences
- 10% Archival Samples of soil to ESG.

Exova has QA/QC measures for sample analysis. Exova QC samples will typically be introduced into the analytical stream on a batch basis, normally comprising 20% – 30% of the total sample throughput. A batch size of 15 – 20 typically includes one of each control standard, reference standard, surrogate spike, duplicate sample, and method blank. A control sample is a blank matrix fortified with analyte of interest and carried through all analytical steps to monitor lab performance (recovery & basis) on clean matrix. A reference sample is a sample with predetermined certified characteristics that undergoes the same processing as samples used to evaluate accuracy of procedure. A surrogate spike is an organic compound with similar chemical composition and behaviour in the analytical process used to monitor recovery in each sample. A duplicate sample occurs when client samples are analyzed in duplicate to monitor reproducibility in analysis and preparation. Finally, a method blank is a blank sample matrix carried through the same procedure as the samples and is used to monitor for process contamination.

Maxxam follows similar in-house QA/QC procedures. Exova and Maxxam QA/QC reports can be found in Appendix C.

3 NON-HAZARDOUS WASTE LANDFILL

3.1 BACKGROUND AND MONITORING PROGRAM

The NHWLF is located immediately north of the main station area, approximately 200 m north of the Station POL and 250 m northeast of the module train. The landfill, including granular cover, encompasses a footprint of approximately 17,800 m^2 with the final cover extending between 2.75 to 3.0 m above the surrounding grade. This landfill was constructed for the disposal of non-hazardous wastes derived during site clean-up. Landfill materials are contained by a granular perimeter berm and cover. Four groundwater monitoring wells are installed at the landfill perimeter.

The long term monitoring plan consists of visual monitoring and periodic collection of soil and groundwater samples. The 2009 monitoring of this landfill includes visual inspection to assess landfill performance. Groundwater monitoring well and soil sample locations are identified on Figure FOX-M.2.

3.2 VISUAL INSPECTION REPORT

The visual inspection of the NHWLF was conducted on September 6, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table IV of this report.

Settlement
Evidence of settlement was not noted.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not noted.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Evidence of vegetation was not noted.

Staining
Evidence of staining was not noted on the landfill.

Seepage Points
Evidence of seepage was not noted.

Debris
Evidence of surface debris was not noted on the landfill.

Presence/Condition of Monitoring Instruments
All monitoring well installations appeared to be in good condition at the landfill.

Other Features of Note

Numerous vehicle tracks were observed on the surface and side slopes of the landfill cover, including several deeper ruts noted along the northwest, north and east side slopes and on the northwest corner of the landfill cover (Feature A). The vehicle tracks/ruts typically extended between 0.1 to 0.3 m in depth and covered approximately 2% of the landfill surface. Minor debris (plywood) was also noted in proximity to the landfill's north side.

Discussion

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

Table IV: Visual Inspection Checklist / Report – NHWLF

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: NON-HAZARDOUS WASTE LANDFILL
DATE OF INSPECTION: SEPTEMBER 6, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 21, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION

Site Name: Fox-M, Hall Beach
Landfill: Non-Hazardous Waste (New Landfill)
Designation:
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.
Sila Remediation Inc.

Signature: 

TABLE IV: FOX-M NON-HAZARDOUS WASTE LANDFILL
Page 2/2

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Staining	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Presence/Condition of Monitoring Instruments	Yes	See Figure FOX-M.2 and Photographic Record	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Features of Note	Yes	FEATURE A See Figure FOX-M.2 (numerous locations)	1 - 50 m	0.2-0.4 m	10 - 30 cm	Occassional (2%)	Vehicle tracks / ruts	NHWLF-1, 3, 4, 5, 10, 11, 12	Acceptable	Random tire track marks on surface and side slopes of landfill.
		See Figure FOX-M.2 (north side)	N/A	N/A	N/A	Isolated (1 location)	Plywood surface debris	NHWLF-10	N/A	Single piece of plywood debris located north of landfill.
Additional Photos	Yes	See Figure FOX-M.2 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**									

3.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for NHWLF has been completed as per the ToR and is included as Table V hereafter.

Table V: Preliminary Stability Assessment – NHWLF

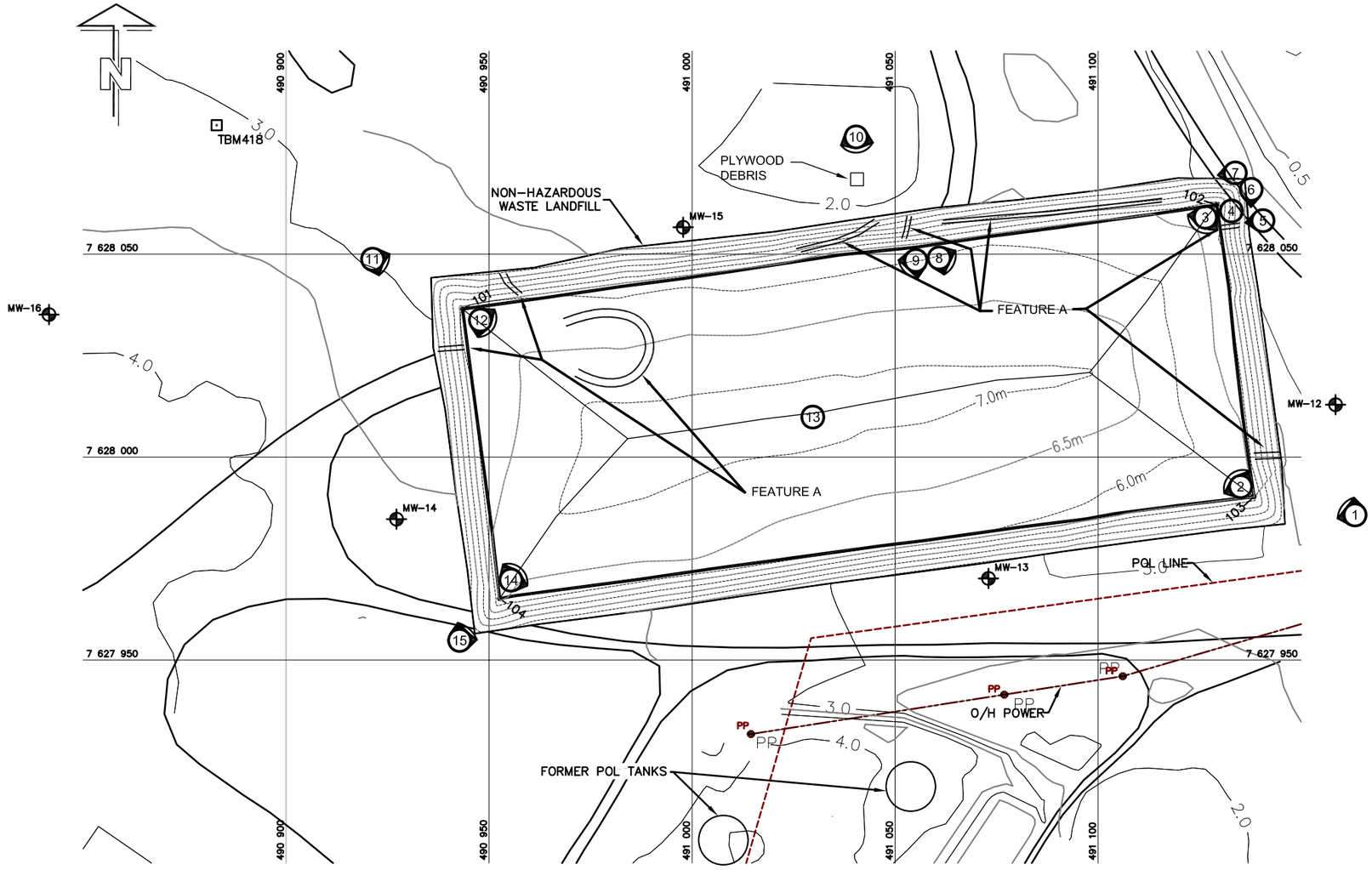
Feature	Severity Rating	Extent
Settlement	Not observed	None
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	**Acceptable**	

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 the NHWLF has been completed as per the ToR and is included as Figure FOX-M.2.



LEGEND

- TEMPORARY BENCHMARK
- 101 — COORDINATE POINT
- MONITORING WELL LOCATION
- 1 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- VEHICLE TRACKS/RUTS (NTS)

TEMPORARY BENCHMARKS			
NO.	UTM COORDINATES		ELEV.
	NORTHING	EASTING	
TBM418	7 628 081.738	490 882.902	3.277

COORDINATE POINTS (AS BUILT) MONITORING WELLS			
NO.	NORTHING	EASTING	ELEV.
MW-12	7 628 012.9	491 158.5	2.41
MW-13	7 627 970.1	491 073.0	3.12
MW-14	7 627 984.7	790 927.2	4.39
MW-15	7 628 056.6	490 997.8	2.72
MW-16	7 628 035.1	490 841.6	4.65

0 12.5m 25m 37.5m 50m 62.5m

NO.	VERSION	DATE	BY	VERIF.	APPR.
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Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

NON-HAZARDOUS WASTE LANDFILL

SITE REMEDIATION SOLUTIONS

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MEASUREMENT UNIT	SCALE:	DATE (month-year):
Metre	1 : 1,250	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.-P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_B	PAGE PL

FIGURE FOX-M.2

3.5 PHOTOGRAPHIC RECORDS

The Photographic Record for NHWLF has been completed as per the ToR and is presented on the following page. The Photographic Record contains only an index and "thumbnail" photographs. Full size photographs are contained in the Addendum DVD-ROM.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Non-Hazardous Waste Landfill
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (NHWLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
1		FM09_4848	2,379 KB	2009-06-09	491163	7627986	Panoramic view W to N from southeast of landfill. MW-12 visible on right.
		FM09_4849	2,609 KB	2009-06-09			
		FM09_4850	2,666 KB	2009-06-09			
		FM09_4851	2,459 KB	2009-06-09			
2		FM09_4852	2,495 KB	2009-06-09	491135	7627993	Panoramic view WSW to NNE from southeast corner of landfill. MW-13 and MW-12 visible on left and right.
		FM09_4853	2,646 KB	2009-06-09			
		FM09_4854	2,708 KB	2009-06-09			
		FM09_4855	2,741 KB	2009-06-09			
		FM09_4856	2,609 KB	2009-06-09			
3		FM09_4857	2,303 KB	2009-06-09	491127	7628059	Panoramic view WSW to SSE from northeast corner of landfill. MW-12 visible on left.
		FM09_4858	2,299 KB	2009-06-09			
		FM09_4859	2,491 KB	2009-06-09			
		FM09_4860	2,480 KB	2009-06-09			
		FM09_4861	2,437 KB	2009-06-09			
4		FM09_4862	3,546 KB	2009-06-09	491133	7628057	Sets of quad tracks/ruts on northeast corner of landfill cover
5		FM09_4864	2,692 KB	2009-06-09	491141	7628058	View W at quad tracks/ruts on northeast corner of landfill cover.
6		FM09_4865	2,309 KB	2009-06-09	491138	7628066	View S along east toe from northeast corner of landfill.
7		FM09_4866	2,818 KB	2009-06-09	491134	7628070	View W along north toe from northeast corner of landfill.
8		FM09_4867	2,802 KB	2009-06-09	491058	7628048	Panoramic view ENE to SSE from mid-north side of landfill.
		FM09_4868	2,708 KB	2009-06-09			
		FM09_4869	2,772 KB	2009-06-09			
		FM09_4870	2,614 KB	2009-06-09			
9		FM09_4871	2,440 KB	2009-06-09	491058	7628048	Panoramic view SSE to WSW from mid-north side of landfill. MW-15 visible on far right.
		FM09_4872	2,718 KB	2009-06-09			
		FM09_4873	2,706 KB	2009-06-09			
		FM09_4874	2,707 KB	2009-06-09			
10		FM09_4875	2,141 KB	2009-06-09	491040	7628079	Panoramic view SE to SW at north side of landfill. MW-15 visible on right.
		FM09_4876	2,455 KB	2009-06-09			
		FM09_4877	2,648 KB	2009-06-09			
		FM09_4878	2,499 KB	2009-06-09			
		FM09_4879	2,209 KB	2009-06-09			
		FM09_4880	2,048 KB	2009-06-09			
11		FM09_4881	2,444 KB	2009-06-09	491022	7628048	Panoramic view E to SSE from northwest of landfill. MW-14 visible on right.
		FM09_4882	2,588 KB	2009-06-09			
		FM09_4883	2,594 KB	2009-06-09			
		FM09_4884	2,513 KB	2009-06-09			
12		FM09_4885	2,824 KB	2009-06-09	490948	7628034	Panoramic view ENE to S from northeast corner of landfill. MW-15 and MW-14 visible on far left and right.
		FM09_4886	2,906 KB	2009-06-09			
		FM09_4887	2,886 KB	2009-06-09			
		FM09_4888	2,836 KB	2009-06-09			
		FM09_4889	2,892 KB	2009-06-09			
13		FM09_4890	2,626 KB	2009-06-09	491030	7628010	Commemorative plaque on boulder on surface of landfill.
14		FM09_4891	2,917 KB	2009-06-09	490955	7627970	Panoramic view NNW to E from southwest corner of landfill. MW-13 visible on far right.
		FM09_4892	2,801 KB	2009-06-09			
		FM09_4893	2,743 KB	2009-06-09			
		FM09_4894	2,803 KB	2009-06-09			
		FM09_4895	2,975 KB	2009-06-09			
15		FM09_4896	2,754 KB	2009-06-09	490943	7627955	Panoramic view N to ENE from southwest toe of landfill. MW-13 visible on right.
		FM09_4897	2,949 KB	2009-06-09			
		FM09_4898	3,050 KB	2009-06-09			
		FM09_4899	2,759 KB	2009-06-09			

4 G217 – WEST LANDFILL

4.1 BACKGROUND AND MONITORING PROGRAM

The G217 – West Landfill is located immediately west of the main access road, approximately 150 m west of the communication billboards and 200 m southwest of the main station area. The landfill, including granular cover, encompasses a footprint of approximately 5,700 m^2 with the final cover extending between 0.75 m to 1.5 m above the surrounding grade. Based on existing information regarding this landfill as a source of contamination, its potential migration pathways and receptors, the G217 – West Landfill was classified as low potential environmental risk. The remediation consisted of removal of surface debris and regrading with the placement of additional granular fill.

The long term monitoring plan consists of visual monitoring and periodic collection of soil samples. The 2009 monitoring of this landfill includes a visual inspection to assess landfill performance. There is no instrumentation installed at this landfill.

4.2 VISUAL INSPECTION REPORT

The visual inspection of the G217 – West Landfill was conducted on September 6, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table VI of this report.

Settlement
Evidence of settlement was not noted.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not noted.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Evidence of vegetation was not noted.

Staining
Evidence of staining was not noted on the landfill.

Seepage Points
Evidence of seepage was not noted.

Debris
Evidence of surface debris was not noted on the landfill.

Presence/Condition of Monitoring Instruments
There are no monitoring instruments installed at this landfill.

Other Features of Note

Several vehicle tracks/ruts were observed on the northeast and southeast corners of the landfill cover (Feature A). The vehicle tracks/ruts extended between 0.2 to 0.3 m in depth and covered approximately 2% of the landfill surface. Ponded water was also noted in proximity to the northeast and southwest sides of the landfill.

Discussion

The G217 - West Landfill performance with respect to containment of the debris within the landfill is rated as acceptable. A visual inspection report, including supporting photos and drawing, is presented in the following pages.

Table VI: Visual Inspection Checklist / Report – G217 - West Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: G217 - WEST LANDFILL
DATE OF INSPECTION: SEPTEMBER 6, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 21, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION

Site Name: Fox-M, Hall Beach
Landfill: G217 - West Landfill
Designation:
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.
Sila Remediation Inc.

Signature: 

TABLE VI: FOX-M G217 WEST LANDFILL
Page 2/2

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Staining	ill	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Presence/Condition of Monitoring Instruments	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Features of Note	Yes	FEATURE A See Figure FOX-M.3 (northeast and southeast corners of landfill)	4 - 20 m	0.2-0.3 m	5 - 10 cm	Occasional	Vehicle tracks / ruts	BGLF-7, 212, 13, 14	Acceptable	Vehicle tracks / ruts on surface and sides of landfill.
	Yes	See Figure FOX-M.3 (northwest and southwest sides of landfill)	N/A	N/A	N/A	Occasional	Ponded water along north and south sides of landfill	BGLF-8, 10	Acceptable	Ponded water along northwest and southwest sides of landfill.
Additional Photos	Yes	See Figure FOX-M.3 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**									

4.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for G217 – West Landfill has been completed as per the ToR and is included as Table VII hereafter.

Table VII: Preliminary Stability Assessment – G217 - West Landfill

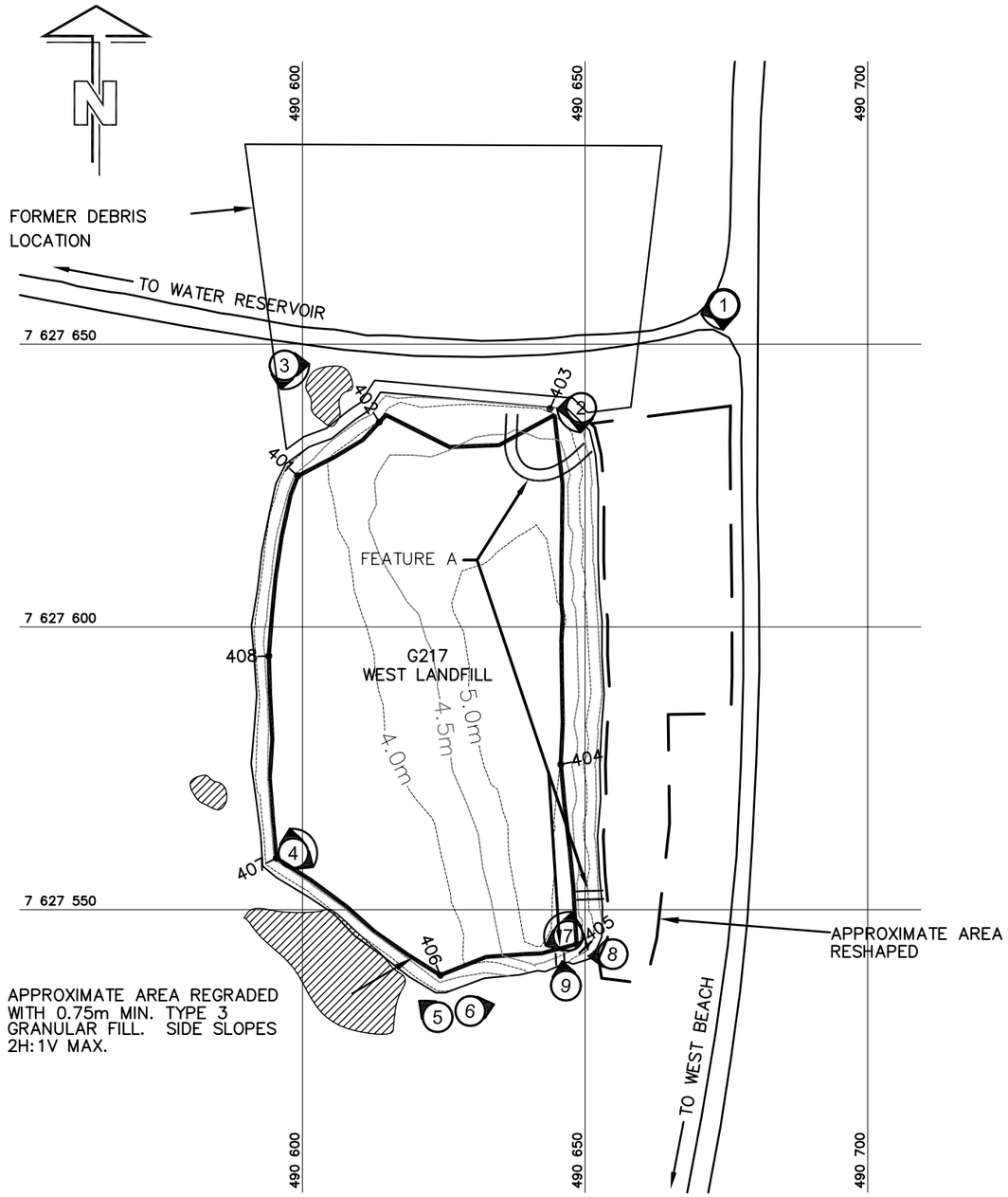
Feature	Severity Rating	Extent
Settlement	Not observed	None
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	**Acceptable**	

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

4.4 LOCATION PLAN

The Location Plan for the G217 – West Landfill has been completed as per the ToR and is presented as Figure FOX-M.3.



LEGEND

- SURVEY CONTROL MONUMENT
- TEMPORARY BENCHMARK
- 410 — COORDINATE POINT
- 1 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- PONDED WATER
- VEHICLE TRACKS/RUTS (NTS)

TEMPORARY BENCHMARKS			
NO.	UTM COORDINATES		ELEV.
	NORTHING	EASTING	
TBM202	7 627 536.239	490 688.266	4.032
TBM420	7 627 562.060	490 830.450	6.578

0 10m 20m 30m 40m 50m

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10-03-08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

G217 WEST LANDFILL

SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
4495 Wilfrid-Hamel Blvd., Suite 200
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MEASUREMENT UNIT	SCALE:	DATE (month-year):
Metre	1 : 1,000	MARCH 2010
DRAWN BY:	VERIFIED BY:	APPROVED BY:
P. LÉGARÉ	A. PASSALIS	J.-P. PELLETIER
PROJECT NO:	DRAWING NO:	PAGE
CD8177_005_101	CD8177_005_101-FOX-M_C	PL

FIGURE FOX-M.3

4.5 PHOTOGRAPHIC RECORDS

The Photographic Record for G217 – West Landfill has been completed as per the ToR and is presented in the following page. The Photographic Record contains only an index and “thumbnail” photographs. Full size photographs are contained in the Addendum DVD-ROM

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: G217 West Landfill
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (BGLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
1		FM09_4920	2,493 KB	2009-06-09	490675	7627657	Panoramic view S to SW from roadway northeast of landfill.
		FM09_4921	2,322 KB	2009-06-09			
		FM09_4922	2,374 KB	2009-06-09			
2		FM09_4923	2,959 KB	2009-06-09	490649	7627639	Panoramic view S to W from northeast corner of landfill.
		FM09_4924	2,947 KB	2009-06-09			
		FM09_4925	2,873 KB	2009-06-09			
		FM09_4926	2,876 KB	2009-06-09			
3		FM09_4927	2,691 KB	2009-06-09	490597	7627646	Panoramic view S to E from northwest of landfill.
		FM09_4928	2,421 KB	2009-06-09			
		FM09_4929	2,417 KB	2009-06-09			
		FM09_4930	2,339 KB	2009-06-09			
4		FM09_4931	2,399 KB	2009-06-09	490598	7627559	Panoramic view N to SE from southwest corner of landfill.
		FM09_4932	2,504 KB	2009-06-09			
		FM09_4933	2,595 KB	2009-06-09			
		FM09_4934	2,585 KB	2009-06-09			
		FM09_4935	2,493 KB	2009-06-09			
		FM09_4936	2,687 KB	2009-06-09			
5		FM09_4937	2,938 KB	2009-06-09	490624	7627531	View NW along southwest toe of landfill.
6		FM09_4938	2,822 KB	2009-06-09	490630	7627532	View ENE along south toe of landfill.
7		FM09_4939	2,592 KB	2009-06-09	490647	7627545	Panoramic view WSW to N from southeast corner of landfill.
		FM09_4940	2,726 KB	2009-06-09			
		FM09_4941	2,725 KB	2009-06-09			
		FM09_4942	2,655 KB	2009-06-09			
		FM09_4943	2,827 KB	2009-06-09			
8		FM09_4944	3,783 KB	2009-06-09	490653	7627543	View W at tire tracks/ruts on southeast corner of landfill.
9		FM09_4945	2,908 KB	2009-06-09	490647	7627537	View N at tire tracks/ruts on southeast corner of landfill.

5 BILLBOARDS LANDFILL

5.1 BACKGROUND AND MONITORING PROGRAM

The Billboards Landfill is located immediately west of the communication billboards on the east side of the main station area. The landfill, including granular cover, encompasses a footprint of approximately 2,500 m^2 with the final cover extending between 0.75 m to 1.0 m above the surrounding grade. Based on existing information regarding this landfill as a source of contamination, its potential migration pathways and receptors, the Billboards Landfill was classified as low potential environmental risk. The remediation consisted of removal of surface debris and regrading with the placement of additional granular fill.

The long term monitoring plan consists of visual monitoring and periodic collection of soil samples. The 2009 monitoring of this landfill includes a visual inspection to assess landfill performance. There is no instrumentation installed at this landfill.

5.2 VISUAL INSPECTION REPORT

The visual inspection of the Billboards Landfill was conducted on September 6, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table VIII of this report.

Settlement
Evidence of settlement was not noted.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not noted.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Evidence of vegetation was not noted.

Staining
Evidence of staining was not noted on the landfill.

Seepage Points
Evidence of seepage was not noted.

Debris
Evidence of surface debris was not noted on the landfill.

Presence/Condition of Monitoring Instruments
There are no monitoring instruments installed at this landfill.

Other Features of Note

The landfill is located within a low lying area bordered by the station access road to the west and communication pads to the north and east. Ponded water was observed in proximity along the north and south sides of the landfill. Evidence of seasonal flooding up to 0.7 m deep was also observed on the north side of the landfill.

Discussion

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

Table VIII: Visual Inspection Checklist / Report – Billboards Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: BILLBOARDS LANDFILL
DATE OF INSPECTION: SEPTEMBER 6, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 21, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION

Site Name: Fox-M, Hall Beach
Landfill: Billboards Landfill (Station Area West Landfills)
Designation:
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.
Sila Remediation Inc.

Signature: 

TABLE VIII: FOX-M BILLBOARDS LANDFILL
Page 2/2

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Staining	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Presence/Condition of Monitoring Instruments	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Other Features of Note	Yes	See Figure FOX-M.3 (north and south sides of landfill)	N/A	N/A	0.1 - 0.2 m	Occasional	Ponded water along north and south sides of landfill	BGLF-1, 2, 3, 4	Acceptable	Ponded water along north and south sides of landfill. Evidence of seasonal flooding in area up to 0.7 m deep.
Additional Photos	Yes	See Figure FOX-M.3 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**									

5.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Billboards Landfill has been completed as per the ToR and is included as Table IX of this report.

Table IX: Preliminary Stability Assessment – Billboards Landfill

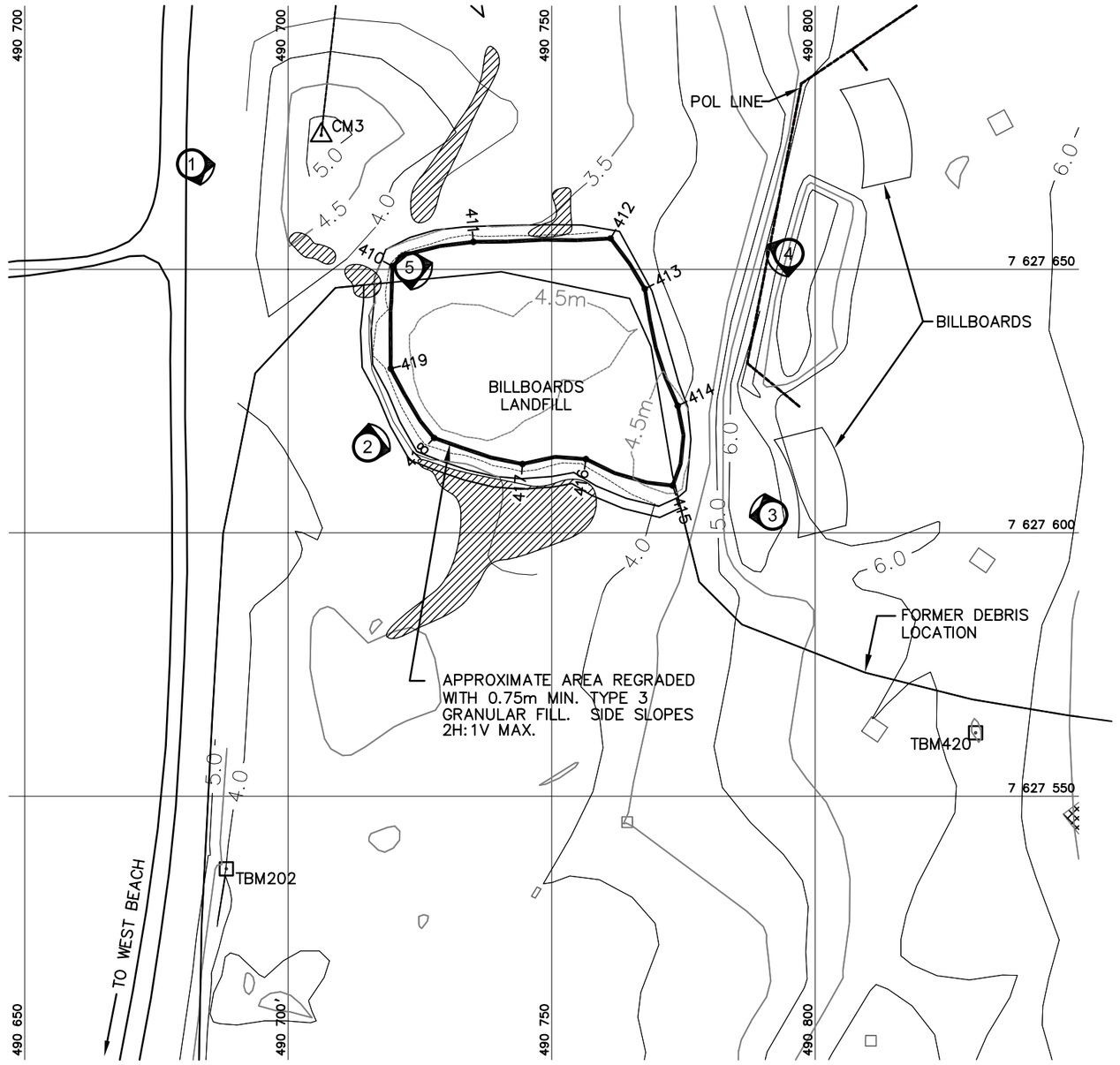
Feature	Severity Rating	Extent
Settlement	Not observed	None
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	**Acceptable**	

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

5.4 LOCATION PLAN

The Location Plan for the Billboards Landfill has been completed as per the ToR and is presented as Figure FOX-M.4.



LEGEND

- SURVEY CONTROL MONUMENT
- TEMPORARY BENCHMARK
- 410 — COORDINATE POINT
- 1 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- PONDED WATER

0 10m 20m 30m 40m 50m

TEMPORARY BENCHMARKS			
NO.	UTM COORDINATES		ELEV.
	NORTHING	EASTING	
TBM202	7 627 536.239	490 688.266	4.032
TBM420	7 627 562.060	490 830.450	6.578

SURVEY CONTROL MONUMENTS				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
CM3	7 627 675.453	490 706.281	5.291	FOX–M BASELINE STA. 47+00

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10–03–08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

BILLBOARDS LANDFILL

SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
4495 Wilfrid-Hamel Blvd., Suite 200
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Phone: (418) 653-4422 Fax.: (418) 653-3583

MEASUREMENT UNIT	SCALE:	DATE (month–year):
Metre	1 : 1,000	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.–P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_D	PAGE PL

FIGURE FOX-M.4

5.5 PHOTOGRAPHIC RECORDS

The Photographic Record for the Billboards Landfill has been completed as per the ToR and is presented in the following page. The Photographic Record contains only an index and “thumbnail” photographs. Full size photographs are contained in the Addendum DVD-ROM.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Billboards Landfill
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (BGLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
1		FM09_4900	2,221 KB	2009-06-09	490682	7627670	View E to SE at landfill from roadway.
		FM09_4901	2,227 KB	2009-06-09			
2		FM09_4903	2,698 KB	2009-06-09	490715	7627616	Panoramic view N to E from southwest of landfill.
		FM09_4904	2,840 KB	2009-06-09			
		FM09_4905	2,937 KB	2009-06-09			
		FM09_4906	2,868 KB	2009-06-09			
		FM09_4907	2,666 KB	2009-06-09			
3		FM09_4908	2,624 KB	2009-06-09	490792	7627603	Panoramic view WNW to NW from southeast of landfill.
		FM09_4909	2,567 KB	2009-06-09			
		FM09_4910	2,541 KB	2009-06-09			
4		FM09_4911	2,577 KB	2009-06-09	490795	7627654	Panoramic view W to S from northeast of landfill.
		FM09_4912	2,751 KB	2009-06-09			
		FM09_4913	2,624 KB	2009-06-09			
		FM09_4914	2,560 KB	2009-06-09			
5		FM09_4915	3,320 KB	2009-06-09	490721	7627652	Panoramic view E to S from northwest corner of landfill.
		FM09_4916	3,022 KB	2009-06-09			
		FM09_4917	3,042 KB	2009-06-09			
		FM09_4918	3,052 KB	2009-06-09			
		FM09_4919	2,928 KB	2009-06-09			

6 HAZMAT STORAGE – EAST LANDFILL

6.1 BACKGROUND AND MONITORING PROGRAM

The Hazmat Storage – East Landfill is located on the east side of the East Beach area access road approximately 550 m east of the main station area and 100 m southeast of the intersection with the east-west station connection road. The landfill, including granular cover, encompasses a footprint of approximately 2,300 m^2 with the final cover extending approximately 0.75 m above the surrounding grade. Based on existing information regarding this landfill as a source of contamination, its potential migration pathways and receptors, the Hazmat Storage – East Landfill was classified as low potential environmental risk. The remediation consisted of removal of surface debris and regrading with the placement of additional granular fill.

The long term monitoring plan consists of visual monitoring and periodic collection of soil samples. The 2009 monitoring of this landfill includes a visual inspection to assess landfill performance. There is no instrumentation installed at this landfill.

6.2 VISUAL INSPECTION REPORT

The visual inspection of the Hazmat Storage – East Landfill was conducted on September 6, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table X of this report.

Settlement
Evidence of settlement was not noted.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not noted.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Evidence of vegetation was not noted.

Staining
Evidence of staining was not noted on the landfill.

Seepage Points
Evidence of seepage was not noted.

Debris
Evidence of debris was noted adjacent to the northeast corner of the landfill (Feature A). The debris consisted primarily of surface and partially buried metal debris, including corrugated sheet metal, rebar, wire and plywood.

Presence/Condition of Monitoring Instruments
There are no monitoring instruments installed at this landfill.

Other Features of Note
One set of vehicle tracks/ruts were observed on the southeast side of the landfill (Feature B). The vehicle tracks/ruts extended 0.15 m in depth and covered less than 1% of the landfill surface.

The landfill is located within a low lying area bordered by the East Beach access road to the west and the beach ridge to the east. At the time of the inspection, ponded water surrounded approximately 80% of the landfill perimeter, including the northwest, west, south and east sides of the landfill. There was no evidence of erosion or staining associated with the ponded water.

Discussion
The Hazmat Storage - East Landfill performance with respect to containment of the debris within the landfill is rated as acceptable. A visual inspection report, including supporting photos and drawing, is presented in the following pages.

Table X: Visual Inspection Checklist / Report – Hazmat Storage – East Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: HAZMAT STORAGE - EAST LANDFILL
DATE OF INSPECTION: SEPTEMBER 6, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 22, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION

Site Name: Fox-M, Hall Beach
Landfill: Hazmat Storage- East Landfill
Designation:
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.
Sila Remediation Inc.

Signature: 

TABLE X: FOX-M HAZMAT STORAGE- EAST LANDFILL

Page 2/2

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Staining	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Debris Exposed	Yes	FEATURE A See to Figure FOX-M.4 (northeast side)	various	various	Majority at surface or partially buried	N/A (northeast of landfill)	Corrugated sheet metal, rebar, wire, plywood	HELF-8 to 12	Acceptable	Localized surface and shallow buried debris not removed during site cleanup.
Presence/Condition of Monitoring Instruments	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Features of Note	Yes	FEATURE B See Figure FOX-M.4 (southeast corner of landfill)	1.5 m	0.2-0.3 m	0.15 m	Isolated	Vehicle tracks / ruts	HELF-6, 7	Acceptable	Vehicle tracks / ruts on side of landfill.
		See to Figure FOX-M.4 (east, west and south sides of landdfill)	Irregular 75-100 m	Irregular 4-25 m	0.2-0.4 m	Extensive	Ponded water along east, west and south sides of the landfill	HELF- all photos except -10	Acceptable	N/A
Additional Photos	Yes	See Figure FOX-M.4 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**									

6.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Hazmat Storage - East Landfill has been completed as per the ToR and is included as Table XI hereafter.

Table XI: Preliminary Stability Assessment – Hazmat Storage - East Landfill

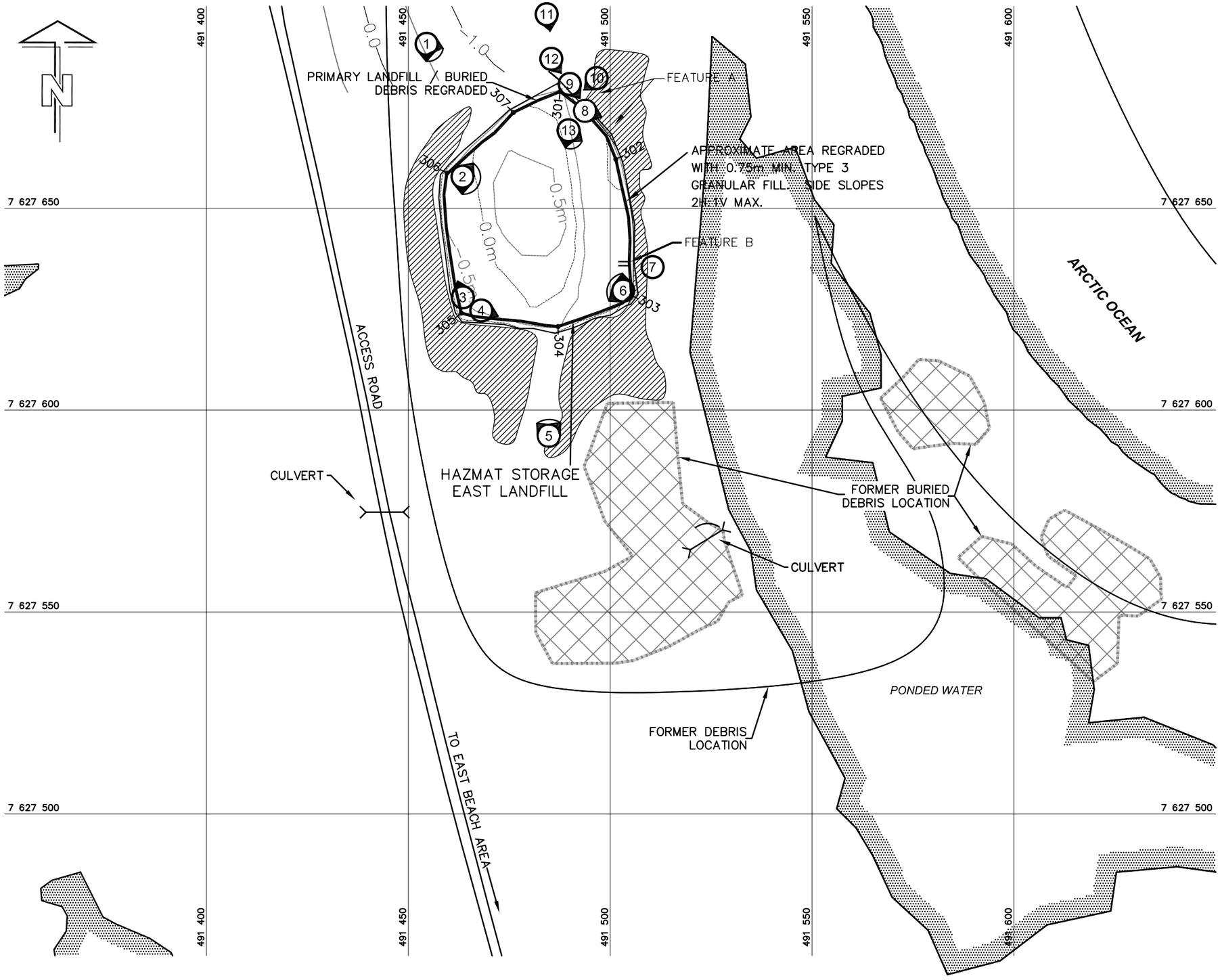
Feature	Severity Rating	Extent
Settlement	Not observed	None
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Acceptable	Extensive
Debris exposure	Not observed	None
Overall Landfill Performance	**Acceptable**	

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

6.4 LOCATION PLAN

The Location Plan for the Hazmat Storage - East Landfill has been completed as per the ToR and is included in Figure FOX-M.5.



LEGEND

- 2002 — COORDINATE POINT
- BURIED DEBRIS EXCAVATION AREA
- 1 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- PONDED WATER
- VEHICLE TRACKS / RUTS (NTS)

COORDINATE POINTS (AS–BUILT)
STATION AREA EAST REGRADE AREAS

NO.	NORTHING	EASTING	ELEV.
301	7 627 678.9	491 487.6	–0.4
302	7 627 662.1	491 501.4	–1.1
303	7 627 628.4	491 505.3	–0.9
304	7 627 620.7	491 487.1	–0.4
305	7 627 624.0	491 463.1	–0.6
306	7 627 658.4	491 459.5	–0.4
307	7 627 673.7	491 476.0	0.2

0 10m 20m 30m 40m 50m

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10–03–08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

HAZMAT STORAGE - EAST LANDFILL

SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
4495 Wilfrid-Hamel Blvd., Suite 200
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MEASUREMENT UNIT	SCALE:	DATE (month–year):
Metre	1 : 1,000	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.–P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_E	PAGE PL

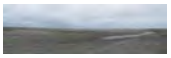
FIGURE FOX-M.5

6.5 PHOTOGRAPHIC RECORDS

The Photographic Record for Hazmat Storage - East Landfill has been completed as per the ToR and is presented in the following page. The Photographic Record contains only an index and “thumbnail” photographs. Full- size photographs are contained in the Addendum DVD-ROM.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Hazmat Storage - East Landfill
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (HELF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
1		FM09_4988	2,365 KB	2009-06-09	491453	7627691	Panoramic view S to SE from north of landfill
		FM09_4989	2,345 KB	2009-06-09			
		FM09_4990	2,274 KB	2009-06-09			
2		FM09_4991	2,970 KB	2009-06-09	491464	7627658	Panoramic view NE to S from northwest corner of landfill
		FM09_4992	3,033 KB	2009-06-09			
		FM09_4993	3,177 KB	2009-06-09			
		FM09_4994	3,111 KB	2009-06-09			
		FM09_4995	2,975 KB	2009-06-09			
3		FM09_4996	2,610 KB	2009-06-09	491464	7627628	View N from southwest corner of landfill.
4		FM09_4997	2,937 KB	2009-06-09	491468	7627625	View E from southwest corner of landfill.
5		FM09_5000	2,454 KB	2009-06-09	491484	7627596	Panoramic view NW to NE from south of landfill
		FM09_5001	2,472 KB	2009-06-09			
		FM09_5002	2,102 KB	2009-06-09			
6		FM09_5003	2,665 KB	2009-06-09	491503	7627630	Panoramic view SW to N from southeast corner of landfill.
		FM09_5004	2,748 KB	2009-06-09			
		FM09_5005	2,720 KB	2009-06-09			
		FM09_5006	2,710 KB	2009-06-09			
		FM09_5007	2,579 KB	2009-06-09			
7		FM09_5008	3,460 KB	2009-06-09	491506	7627635	View of quad tracks/ruts on southeast corner of landfill cover.
8		FM09_5009	2,881 KB	2009-06-09	491494	7627674	View SE at metal sheeting in ponded water at northeast edge of landfill.
9		FM09_5010	2,876 KB	2009-06-09	491490	7627681	View SE at pieces of sheet metal and plastic debris at edge of landfill cover.
10		FM09_5011	3,358 KB	2009-06-09	491497	7627682	View SW at piece of plywood on surface near northeast toe of landfill.
11		FM09_5012	2,875 KB	2009-06-09	491484	7627697	View S at long piece of rebar at north end of landfill.
12		FM09_5013	2,910 KB	2009-06-09	491485	7627686	View SE at surface debris (plywood and sheet metal) at northeast corner of landfill.
13		FM09_5014	2,732 KB	2009-06-09	491489	7627671	View S to SE across lower bench on northeast side of landfill cover.
		FM09_5015	2,575 KB	2009-06-09			
		FM09_5016	2,323 KB	2009-06-09			

7 COMMUNICATIONS NORTH LANDFILL

7.1 BACKGROUND AND MONITORING PROGRAM

The Communications North Landfill extends north-easterly off the north edge of the tropospheric communications infrastructure pad, approximately 650 m southeast of the main station area. The landfill, including granular cover, encompasses a footprint of approximately 7,000 m^2 with the final cover extending between 0.0 m (level with the communications infrastructure pad) to 0.75 m above the surrounding grade (north of the pad). Based on existing information regarding this landfill as a source of contamination, its potential migration pathways and receptors, the Communications North Landfill was classified as low potential environmental risk. The remediation consisted of removal of surface debris and regrading with the placement of additional granular fill.

The long term monitoring plan consists of visual monitoring and periodic collection of soil samples. The 2009 monitoring of this landfill includes a visual inspection to assess landfill performance. There is no instrumentation installed at this landfill.

7.2 VISUAL INSPECTION REPORT

The visual inspection of the Communications North Landfill was conducted on September 6, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table XII of this report.

Settlement
Evidence of settlement was not noted.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not noted.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Evidence of vegetation was not noted.

Staining
Evidence of staining was not noted on the landfill.

Seepage Points
Evidence of seepage was not noted.

Debris
Evidence of surface debris was not noted on the landfill.

Presence/Condition of Monitoring Instruments
There are no monitoring instruments installed at this landfill.

Other Features of Note

Several vehicle tracks/ruts were observed on the southeast, east and southwest sides of the landfill (Feature A). The vehicle tracks/ruts extended between 0.1-0.2 m in depth and covered approximately 1% of the landfill surface.

In addition, an isolated area of ponded water was also noted along the southeast toe of the landfill. Evidence of erosion or staining was not observed within the ponded area.

Discussion

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

Table XII: Visual Inspection Checklist / Report – Communications North Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: COMMUNICATIONS NORTH LANDFILL
DATE OF INSPECTION: SEPTEMBER 6, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 22, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION

Site Name: Fox-M, Hall Beach
Landfill: Communications North Landfill
Designation:
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.
Sila Remediation Inc.

Signature: 

TABLE XII: FOX-M Communications North Landfill
Page 2/2

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Staining	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Presence/Condition of Monitoring Instruments	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Features of Note	Yes	FEATURE A See Figure FOX-M.5 (southeast, east and southwest sides of landfill)	2-5 m	0.2-0.3 m	0.1-0.2 m	Isolated	Vehicle tracks / ruts along southeast, east and southwest sides of landfill	CLF-3, 4, 5, 8, 13, 14	Acceptable	Vehicle tracks / ruts on side of landfill.
		See Figure FOX-M.5 (southeast)	7 m	4 m	0.1 m	Isolated	Ponded water along southeast toe	CLF-1, 2, 3	Acceptable	N/A
Additional Photos	Yes	See Figure FOX-M.5 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**									

7.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Communications North Landfill has been completed as per the ToR and is included as Table XIII hereafter.

Table XIII: Preliminary Stability Assessment – Communications North Landfill

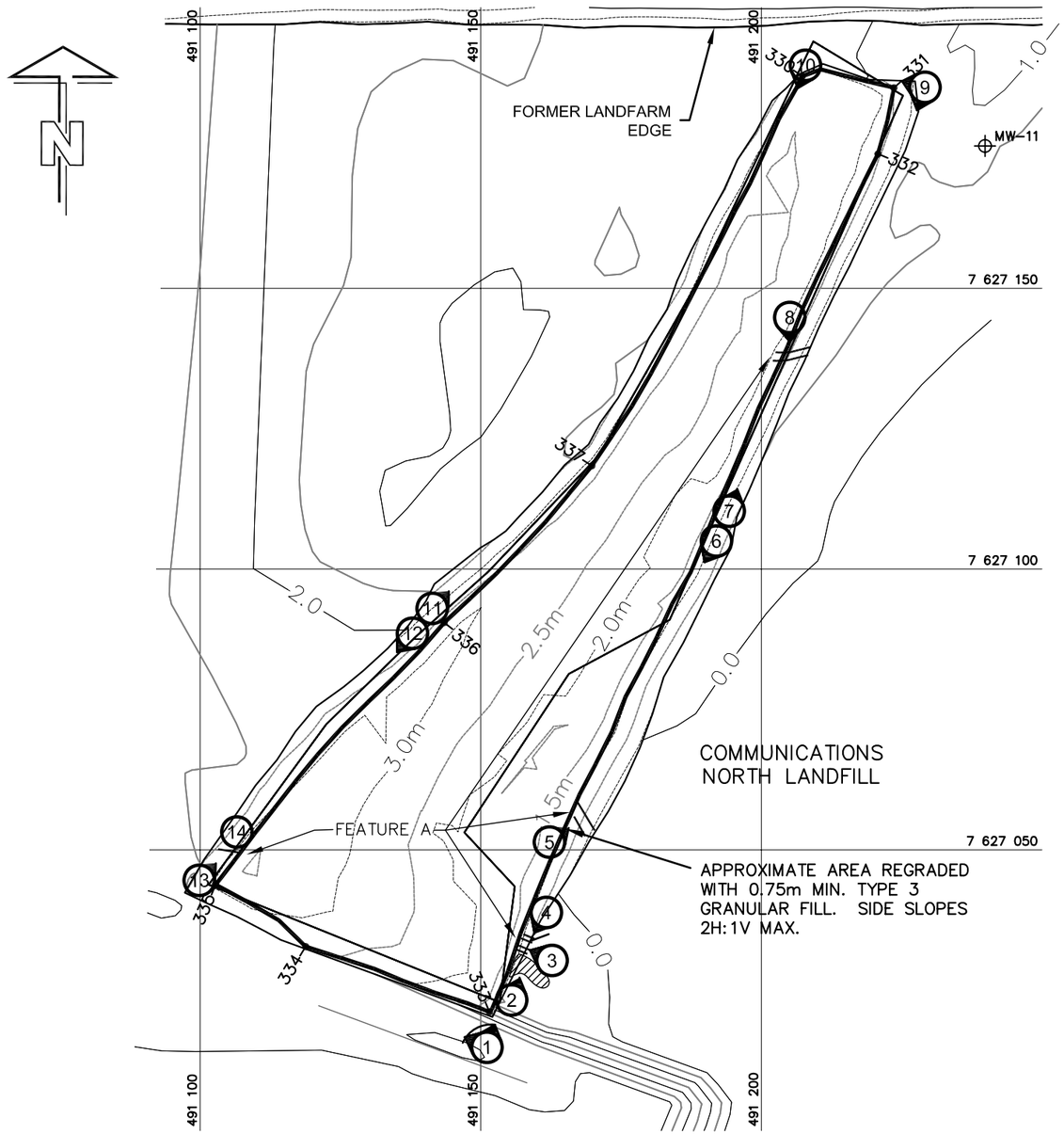
Feature	Severity Rating	Extent
Settlement	Not observed	None
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Not observed	None
Overall Landfill Performance	**Acceptable**	

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

7.4 LOCATION PLAN

The Location Plan for the Communications North Landfill has been completed as per the ToR and is included in Figure FOX-M.6.



PERMANENT BENCHMARK				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
BM-3	7 627 040.589	491 004.505	2.949	25mm DIA. STEEL PIPE

LEGEND

- PERMANENT BENCHMARK
- 342 — COORDINATE POINT
- 1 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- PONDED WATER
- VEHICLE TRACKS/RUTS (NTS)

0 10m 20m 30m 40m 50m

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10-03-08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

COMMUNICATIONS NORTH LANDFILL

SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
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Phone: (418) 653-4422 Fax.: (418) 653-3583

MEASUREMENT UNIT	SCALE:	DATE (month-year):
Metre	1 : 1,000	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.-P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_F	PAGE PL

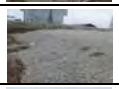
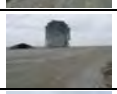
FIGURE FOX-M.6

7.5 PHOTOGRAPHIC RECORDS

The Photographic Record for Communications North Landfill has been completed as per the ToR and is presented in the following page. The Photographic Record contains only an index and “thumbnail” photographs. Full- size photographs are contained in the Addendum DVD-ROM.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Communications North Landfill
Date Inspected: September 4, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (CLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
1		FM09_4946	3,042 KB	2009-06-09	491151	7627015	Panoramic view NNE to NW from southeast of landfill.
		FM09_4947	2,952 KB	2009-06-09			
		FM09_4948	2,955 KB	2009-06-09			
		FM09_4949	2,834 KB	2009-06-09			
2		FM09_4952	3,487 KB	2009-06-09	491156	7627023	View NNE at minor ponding along southeast toe of landfill cover.
3		FM09_4953	3,739 KB	2009-06-09	491163	7627030	View NW at tire ruts perpendicular to slope on southeast corner of landfill.
4		FM09_4954	3,342 KB	2009-06-09	491161	7627038	View SW at tire ruts perpendicular to slope on southeast corner of landfill.
5		FM09_4955	3,340 KB	2009-06-09	491164	7627052	View NE at tire ruts on east slope of landfill.
6		FM09_4956	2,878 KB	2009-06-09	491192	7627105	View SW along east side of landfill.
7		FM09_4957	2,750 KB	2009-06-09	491194	7627110	View NE along east side of landfill.
8		FM09_4958	3,503 KB	2009-06-09	491206	7627143	View S at tire ruts on east side of landfill.
9		FM09_4959	2,875 KB	2009-06-09	491227	7627186	Panoramic view SW to WNW from northeast corner of landfill.
		FM09_4960	2,595 KB	2009-06-09			
		FM09_4961	2,547 KB	2009-06-09			
		FM09_4962	2,641 KB	2009-06-09			
10		FM09_4963	2,986 KB	2009-06-09	491207	7627188	View SW along west side from northwest corner of landfill.
11		FM09_4964	2,576 KB	2009-06-09	491141	7627093	View NE along west side of landfill.
12		FM09_4965	2,405 KB	2009-06-09	491138	7627089	View SW along west side of landfill.
13		FM09_4966	2,684 KB	2009-06-09	491100	7627045	View NE from southwest corner of landfill.
14		FM09_4967	3,948 KB	2009-06-09	491106	7627052	Vehicle ruts on southwest corner of landfill.

8 COMMUNICATIONS NORTHWEST LANDFILL

8.1 BACKGROUND AND MONITORING PROGRAM

The Communications Northwest Landfill is located off the northwest corner of the tropospheric communications infrastructure pad, approximately 600 m south of the main station area. The landfill, including granular cover, encompasses a footprint of approximately 3,200 m^2 with the final cover extending between 0.5 m to 0.75 m above the surrounding grade. Based on existing information regarding this landfill as a source of contamination, its potential migration pathways and receptors, the Communications Northwest Landfill was classified as low potential environmental risk. The remediation consisted of removal of surface debris and regrading with the placement of additional granular fill.

The long term monitoring plan consists of visual monitoring and periodic collection of soil samples. The 2009 monitoring of this landfill includes a visual inspection to assess landfill performance. There is no instrumentation installed at this landfill.

8.2 VISUAL INSPECTION REPORT

The visual inspection of the Communications Northwest Landfill was conducted on September 6, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table XIV of this report.

Settlement
Evidence of settlement was not noted.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not noted.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Evidence of vegetation was not noted.

Staining
Evidence of staining was not noted on the landfill.

Seepage Points
Evidence of seepage was not noted.

Debris
Evidence of surface debris was not noted on the landfill.

Presence/Condition of Monitoring Instruments
There are no monitoring instruments installed at this landfill.

Other Features of Note

Several vehicle tracks/ruts were observed on the east and southwest sides of the landfill (Feature B). The vehicle tracks/ruts extended between 0.1 to 0.15 m in depth and covered approximately 1% of the landfill surface.

Discussion

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

Table XIV: Visual Inspection Checklist / Report – Communications Northwest Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: COMMUNICATIONS NORTHWEST LANDFILL
DATE OF INSPECTION: SEPTEMBER 6, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 22, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION

Site Name: Fox-M, Hall Beach
Landfill: Communications Northwest Landfill
Designation:
Date Inspected: September 6, 2009
Inspected by: Andrew Passalis, P.Eng.
Sila Remediation Inc.

Signature: 

TABLE XIV: FOX-M COMMUNICATIONS NORTHWEST LANDFILL

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Staining	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Presence/Condition of Monitoring Instruments	No	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Features of Note	Yes	FEATURE B See Figure FOX-M.5 (east and southwest sides of landfill)	3-4 m	0.2-0.4 m	0.1-0.15 m	Isolated	Vehicle tracks / ruts along east and southwest sides of landfill	CLF-15, 18, 19, 21	Acceptable	Vehicle tracks / ruts on side of landfill.
Additional Photos	Yes	See Figure FOX-M.5 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**									

8.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Communications Northwest Landfill has been completed as per the ToR and is included as Table XV hereafter.

Table XV: Preliminary Stability Assessment – Communications Northwest Landfill

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

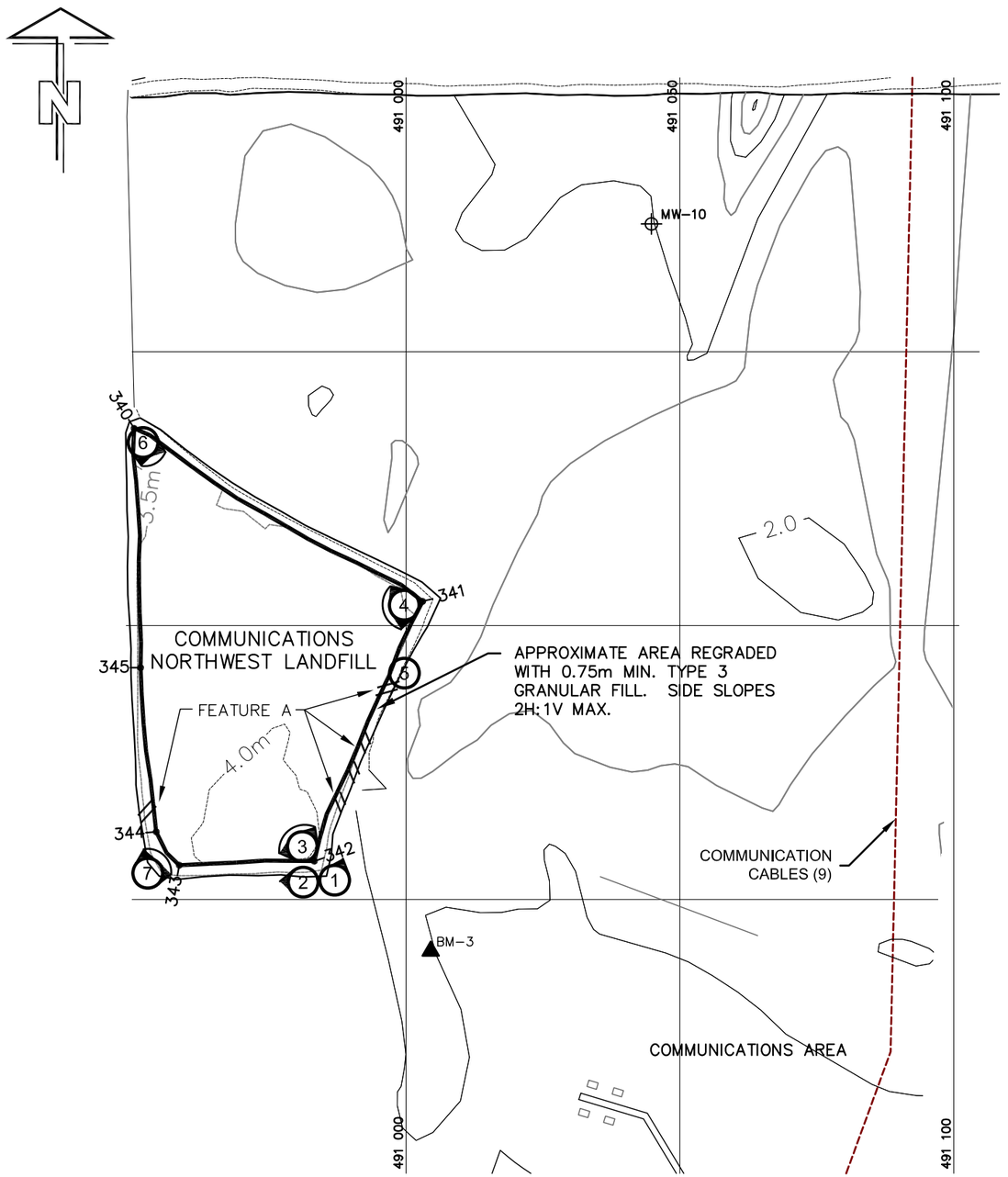
Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears 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

8.4 LOCATION PLAN

The Location Plan for the Communications Northwest Landfill has been completed as per the ToR and is included in Figure FOX-M.7

Figure 7 : FOX-M.7 Communications Northwest Landfill Location Plan



PERMANENT BENCHMARK				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
BM–3	7 627 040.589	491 004.505	2.949	25mm DIA. STEEL PIPE

LEGEND

- ▲ PERMANENT BENCHMARK
- 342 COORDINATE POINT
- 1 PHOTOGRAPH VIEWPOINT LOCATION
- 10 PANORAMIC VIEW
- PONDED WATER
- VEHICLE TRACKS/RUTS (NTS)

0 10m 20m 30m 40m 50m

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10–03–08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

COMMUNICATIONS NORTHWEST LANDFILL

SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
4495 Wilfrid-Hamel Blvd., Suite 200
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MEASUREMENT UNIT	SCALE:	DATE (month–year):
Metre	1 : 1,000	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.–P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_G	PAGE PL

FIGURE FOX-M.7

8.5 PHOTOGRAPHIC RECORDS

The Photographic Record for Communications Northwest Landfill has been completed as per the ToR and is presented in the following page. The Photographic Record contains only an index and “thumbnail” photographs. Full- size photographs are contained in the Addendum DVD-ROM.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Communications Northeast Landfill
Date Inspected: September 4, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (CLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
1		FM09_4968	2,830 KB	2009-06-09	490986,9	7627053,5	View NE along east side of landfill.
2		FM09_4969	2,747 KB	2009-06-09	490981,2	7627053,1	View W along south side of landfill.
3		FM09_4970	2,908 KB	2009-06-09	490981	7627059,6	Panoramic view NE to W from southeast corner of landfill.
		FM09_4971	2,956 KB	2009-06-09			
		FM09_4972	3,147 KB	2009-06-09			
		FM09_4973	3,113 KB	2009-06-09			
		FM09_4974	3,134 KB	2009-06-09			
4		FM09_4975	3,052 KB	2009-06-09	490999,6	7627103,6	Panoramic view NW to SW from northeast corner of landfill.
		FM09_4976	2,964 KB	2009-06-09			
		FM09_4977	2,853 KB	2009-06-09			
		FM09_4978	2,710 KB	2009-06-09			
		FM09_4979	2,755 KB	2009-06-09			
5		FM09_4980	3,876 KB	2009-06-09	490998,3	7627091,3	Typical quad tracks/ruts on east side of landfill cover.
6		FM09_4981	2,930 KB	2009-06-09	490952,2	7627133,1	View SE to S from northwest corner of landfill.
		FM09_4982	2,980 KB	2009-06-09			
		FM09_4983	2,678 KB	2009-06-09			
7		FM09_4984	2,655 KB	2009-06-09	490956,3	7627058,4	Panoramic view N to E from southwest corner of landfill.
		FM09_4985	2,537 KB	2009-06-09			
		FM09_4986	2,654 KB	2009-06-09			
		FM09_4987	2,771 KB	2009-06-09			

9 TIER II DISPOSAL FACILITY

9.1 BACKGROUND AND MONITORING PROGRAM

The Tier II Disposal Facility is situated south of the tropospheric communications infrastructure pad and west of the East Beach Landfill, approximately 800 m south of the main station area. The landfill was constructed with two separate cells, each cell comprised of a double containment system consisting of a low permeable saturated clay and geomembrane liner system and the placement of sufficient surface fill to promote freezing of the landfill contents.

The facility encompasses a footprint of approximately 29,000 m^2 with the final cover extending between 3.5-4.0 m above the surrounding grade. Five groundwater monitoring wells are installed at the landfill perimeter, and five thermistors are installed within the landfill footprint to monitor freeze back conditions.

The long term monitoring plan consists of visual monitoring, collection of soil and groundwater samples and monitoring of subsurface ground temperatures.

The 2009 monitoring of this landfill includes visual inspection to verify for evidence of settlement or erosion, collection of soil and groundwater samples to monitor for the presence of leachate and retrieval of data from the thermistors. Locations of groundwater monitoring wells, soil samples and thermistor installations are identified on Figure FOX-M.8.

Soil at all stations was sampled as specified. Groundwater from each of the monitoring wells was sampled as per the ToR.

9.2 VISUAL INSPECTION REPORT

The visual inspection of the Tier II Disposal Facility was conducted between September 4 and 6, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table XVI of this report.

Settlement
Evidence of minor settlement was noted at one location on the northwest side of the facility (Feature A). Feature A consisted of a small isolated surface depression near the crest approximately mid-point along the northwest side of the facility.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not observed.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Indications of vegetation were not noted.

Staining
Evidence of staining was not observed.

Seepage Points
Indications of seepage were not noted.

Debris
One piece of exposed non-woven black geotextile was noted on the northwest side slope of the facility (Feature B). The geotextile material was used in construction of the facility liner system. In addition, one piece of miscellaneous surface metal debris (steel bar and attached metal bracket) was also noted in proximity to Feature B on the northwest side of the facility.

Presence/Condition of Monitoring Instruments
All monitoring well and thermistor installations were found to be in good condition at the facility.

Other Features of Note
Numerous vehicle tracks/ruts were observed on the north and south sides and surface of the facility around VT-04 (Feature C). The vehicle tracks/ruts extended between 0.1 to 0.25 m in depth and covered less than 1% of the landfill surface.

Discontinuous areas of ponded water were present along the northeast, east, southeast and southwest sides of the facility. Ponded areas along the southwest side of the facility were associated with active surface runoff and drainage channel extending from the area to the northwest of the access road, whereas the ponded areas along the east and northeast sides appeared to be more localized, resulting from possible borrow activities that occurred in the area.

Discussion
The Tier II Disposal Facility performance with respect to containment of the debris within the landfill is rated as acceptable. A visual inspection report, including supporting photos and drawing, is presented in the following pages.

Table XVI: Visual Inspection Checklist / Report – Tier II Disposal Facility

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: TIER II DISPOSAL FACILITY
DATE OF INSPECTION: SEPTEMBER 4-6, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 21, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION
Site Name: FOX-M, Hall Beach
Landfill Designation: Tier II Disposal Facility
Date Inspected: September 4-6, 2009
Inspected by: Andrew Passalis, P.Eng.

Signature: 

TABLE XVI: FOX-M TIER II SOIL DISPOSAL FACILITY (page 2 of 2)

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	Yes	FEATURE A See Figure FOX-M.8 (mid-west side)	1.2 m	1 m	0.1 m	Isolated (<<1%)	Minor surface depression	Tier II - 33, 34	Acceptable	Minor depression near crest at mid-point along west side of landfill cover.
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Staining	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	N/A	N/A
Debris Exposed	Yes	FEATURE B See Figure FOX-M.8 (mid-west side)	0.25 m 0.8 m	0.05 m 0.03 m	Unknown Surface	Isolated (<<1%)	Exposed piece of black geotextile. Metal surface debris.	Tier II-35 Tier II-37	Acceptable	Geotextile material used in construction of containment liner system. Surface debris consists of steel bar and attached bracket.
Presence/Condition of Monitoring Instruments	Yes	See Figure FOX-M.8 and Photographic Record	N/A	N/A	N/A	N/A	VT-01, VT-02, VT-03,VT-04,VT-05 MW-1, MW-2, MW-3, MW-4, MW-5	Tier II-15, 11, 8, 2, 5 Tier II-1, 4, 7, 10, 13, 14	Acceptable	Ground temperature cables and data loggers were in good condition and all data was downloaded. The protective casings for thermistors cables and monitoring wells were also in acceptable condition.
Other Features of Note	Yes	FEATURE C See Figure FOX-M.8 (southeast and north sides, around VT-04)	10-25 m	0.2-0.4 m	0.1-0.25 m	Occasional (<1%)	Vehicle tracks / ruts on sides and surface of facility.	Tier II-21, 30, 31, 36	Acceptable	Vehicle tire tracks / ruts on side slopes and around VT-04.
		See Figure FOX-M.8 (southwest, south, east and northeast of facility)	Irregular	Irregular	0.1-0.4 m	N/A	Ponded water in low lying area around perimeter of facility.	Tier II-4, 14, 15, 18, 23, 27, 29, 40	Acceptable	Ponded water in low lying area around perimeter of facility and in vicinity of MWs-2. 3, 5
Additional Photos	Yes	See Figure FOX-M.8 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**									

9.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for Tier II Disposal Facility has been completed as per the ToR and is included as Table XVII hereafter.

Table XVII: Preliminary Stability Assessment – Tier II Disposal Facility

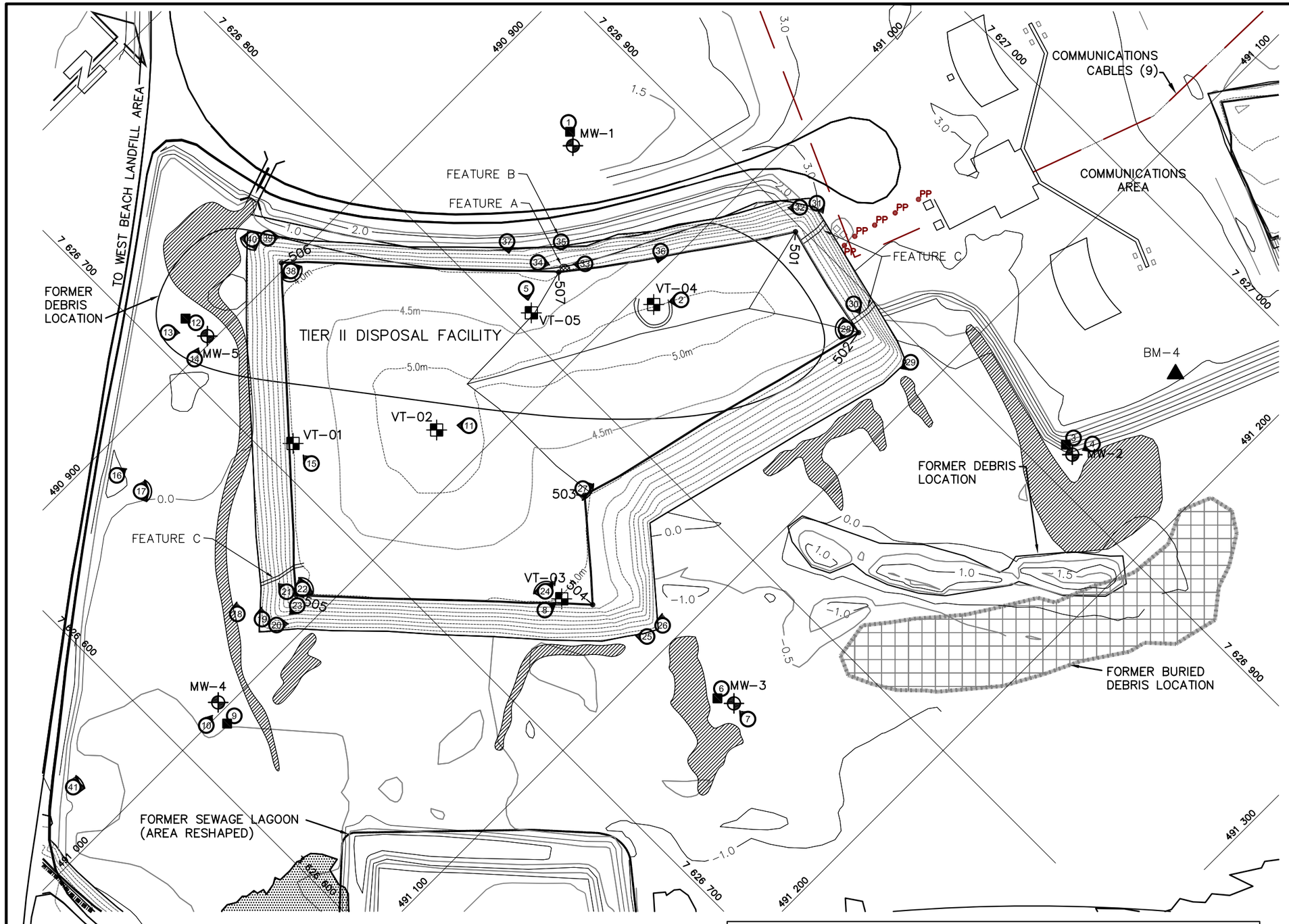
Feature	Severity Rating	Extent
Settlement	Acceptable	Isolated
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Not observed	None
Debris exposure	Acceptable	Isolated
Overall Landfill Performance	**Acceptable**	

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

9.4 LOCATION PLAN

The Location Plan for the Tier II Disposal Facility has been completed as per the ToR and is included in Figure FOX-M.8.



LEGEND

- PERMANENT BENCHMARK
- 507 — COORDINATE POINT
- SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- VERTICAL THERMISTOR LOCATION
- 29 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- VEHICLE TRACKS / RUTS (NTS)
- SETTLEMENT (NTS)
- PONDED WATER

0 15m 30m 45m 60m 75m

PERMANENT BENCHMARK				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
BM-4	7 626 960.190	491 162.103	3.265	25mm DIA. STEEL PIPE

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10-03-08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

TIER II DISPOSAL FACILITY

SITE REMEDIATION SOLUTIONS

Biogenie, a division of EnGlobe Corp.
4495 Wilfrid-Hamel Blvd., Suite 200
Quebec (Quebec) CANADA G1P 2J7
Phone: (418) 653-4422 Fax.: (418) 653-3583

MEASUREMENT UNIT	SCALE:	DATE (month-year):
Metre	1 : 1,500	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.-P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_H	PAGE PL

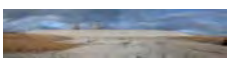
FIGURE FOX-M.8

9.5 PHOTOGRAPHIC RECORDS

The Photographic Record for Tier II Disposal Facility has been completed as per the ToR and is included in the following pages. The Photographic Record contains only an index and “thumbnail” photographs. Full-size photographs are contained in the Addendum DVD-ROM.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Tier II Disposal Facility
Date Inspected: September 4 & 6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (TierII-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
1		FM09_4603	3,365 KB	2009-04-09	490936	7626867	FM09-1WA/B
2		FM09_4605	2,572 KB	2009-04-09	491013	7626850	View SSW at VT-4, VT-5 in background.
3		FM09_4606	3,822 KB	2009-04-09	491152	7626917	FM09-2WA/B
4		FM09_4607	3,039 KB	2009-04-09	491159	7626920	View SSW at MW-2. VT-3 in far background.
5		FM09_4609	2,574 KB	2009-04-09	490969	7626812	View SE at VT-5, VT-3 in backgrouind.
6		FM09_4611	3,066 KB	2009-04-09	491125	7626758	FM09-3WA/B
7		FM09_4612	2,281 KB	2009-04-09	491140	7626757	View W at MW-3
8		FM09_4613	2,590 KB	2009-04-09	491058	7626732	View N at VT-3. Communication billboards in background.
9		FM09_4615	3,573 KB	2009-04-09	491004	7626623	FM09-4WA/B
10		FM09_4616	2,555 KB	2009-04-09	491000	7626613	View N at MW-4. VT-1 visible on far left.
11		FM09_4618	2,479 KB	2009-04-09	490990	7626761	View SSW at VT-2. VT-1 in background.
12		FM09_4619	3,956 KB	2009-04-09	490891	7626716	FM09-5WA/B
13		FM09_4620	2,381 KB	2009-04-09	490886	7626706	View NE at MW-5
14		FM09_4621	2,031 KB	2009-04-09	490900	7626706	View NW at MW-5. Note significant ponding along southwest toe of facility.
15		FM09_4623	2,830 KB	2009-04-09	490958	7626709	View W at VT-1, MW-5 located in background on the southwest corner of facility.
16		FM09_4626	3,522 KB	2009-04-09	490910	7626655	View N at HB-1 located south of Tier II Disposal Facility
17		FM09_4627	2,991 KB	2009-04-09	490921	7626657	Panoramic view NW to E at south end of facility.
		FM09_4628	3,020 KB	2009-04-09			
		FM09_4629	2,655 KB	2009-04-09			
		FM09_4630	2,718 KB	2009-04-09			
18		FM09_4631	2,452 KB	2009-04-09	490977	7626649	View NW along drainage channel extending parallel to south toe. VT-1 visible on top right.
19		FM09_4632	2,761 KB	2009-04-09	490986	7626655	View NW along south toe of facility

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Tier II Disposal Facility
Date Inspected: September 4 & 6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (TierII-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
20		FM09_4633	2,880 KB	2009-04-09	490992	7626658	View NE along east toe of facility.
21		FM09_4634	3,771 KB	2009-04-09	490986	7626669	View W at quad tracks/ruts near southeast corner of facility.
22		FM09_4635	2,737 KB	2009-04-09	490989	7626674	Panoramic view NW to NE from southeast corner of facility. VT-1 and VT-3 visible on far left and right.
		FM09_4636	2,906 KB	2009-04-09			
		FM09_4637	2,740 KB	2009-04-09			
		FM09_4638	2,579 KB	2009-04-09			
23		FM09_4639	2,440 KB	2009-04-09	490992	7626668	View S at MW-4 from southeast corner of facility.
24		FM09_4640	2,344 KB	2009-04-09	491053	7626737	Panoramic view SW to W to N from VT-3.
		FM09_4641	2,021 KB	2009-04-09			
		FM09_4642	2,252 KB	2009-04-09			
		FM09_4643	2,391 KB	2009-04-09			
		FM09_4644	2,446 KB	2009-04-09			
		FM09_4645	2,473 KB	2009-04-09			
		FM09_4646	2,358 KB	2009-04-09			
25		FM09_4649	2,174 KB	2009-04-09	491091	7626753	View SW along east side of facility.
26		FM09_4650	2,482 KB	2009-04-09	491092	7626759	View NW along northeast side of facility.
27		FM09_4651	3,036 KB	2009-04-09	491036	7626774	Panoramic view N to SE from mid-east side of facility. VT-3 on far right.
		FM09_4652	2,576 KB	2009-04-09			
		FM09_4653	2,390 KB	2009-04-09			
		FM09_4654	2,507 KB	2009-04-09			
		FM09_4655	2,640 KB	2009-04-09			
28		FM09_4656	2,680 KB	2009-04-09	491025	7626909	Panoramic view SW to N from northeast corner of facility.
		FM09_4657	2,579 KB	2009-04-09			
		FM09_4658	2,514 KB	2009-04-09			
		FM09_4659	2,202 KB	2009-04-09			
		FM09_4660	2,312 KB	2009-04-09			
		FM09_4661	2,530 KB	2009-04-09			
29		FM09_4662	2,848 KB	2009-04-09	491019	7626906	View S along east toe of facility.
30		FM09_4663	3,361 KB	2009-04-09	490978	7626835	View ESE at quad tracks/shallow rutting on north side of cover.
31		FM09_4664	3,294 KB	2009-04-09	490965	7626822	View ESE along north toe of facility.
32		FM09_4665	3,340 KB	2009-04-09	490969	7626831	View SW along west toe of facility.
33		FM09_4666	3,325 KB	2009-04-09	490995	7626856	View SW at minor settlement on west side of facility.
34		FM09_4667	2,743 KB	2009-04-09	490959	7626813	View NE at minor settlement on west side of facility. VT-4 visible on right.
35		FM09_4668	3,791 KB	2009-04-09	490951	7626819	Small piece of geotextile exposed on west side slope of facility.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: Tier II Disposal Facility
Date Inspected: September 4 & 6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (TierII-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
36		FM09_4669	2,533 KB	2009-04-09	490902	7626754	View SE at quad tracks/minor rutting around VT-4. VT-3 in background.
37		FM09_4671	2,355 KB	2009-04-09	490884	7626753	View SE at surface metal debris near VT-5.
38		FM09_4672	2,587 KB	2009-04-09	490981	7626562	Panoramic view NE to S from southwest corner of facility. MW-5 visible on far right.
		FM09_4673	2,464 KB	2009-04-09			
		FM09_4674	2,504 KB	2009-04-09			
		FM09_4675	2,694 KB	2009-04-09			
		FM09_4676	2,715 KB	2009-04-09			
		FM09_4677	2,655 KB	2009-04-09			
39		FM09_4678	2,452 KB	2009-04-09	491064	7626885	View NE along west toe of facility.
40		FM09_4679	2,706 KB	2009-04-09	491089	7626894	Panoramic view SE to SW at ponded water near southwest toe of facility.
		FM09_4680	2,455 KB	2009-04-09			
		FM09_4681	2,229 KB	2009-04-09			
		FM09_4682	2,148 KB	2009-04-09			
41		FM09_5027	2,416 KB	2009-08-09	491059	7626894	View NW to NE at facility from south end of East Beach Landfill.
		FM09_5028	2,265 KB	2009-08-09			

9.6 THERMAL MONITORING DATA

All thermistors at the Tier II Disposal Facility were inspected and found to be in good condition with no significant concerns identified. Data from all thermistors was successfully retrieved and all analogues/thermocouples were observed to be functioning properly at the time of inspection. Further review of the downloaded data identified no anomalous temperature readings from any of the thermistor sensors. All clocks exhibited slight drift and were synchronized using the Prolog software.

Battery levels at all thermistor locations were noted as being good to best and consequently no batteries were replaced during the 2009 monitoring event. Internal memories were reset and clocks were synchronized using the Prolog software.

9.7 LANDFILL TEMPERATURE DATA FROM DATALOGGERS

Manual resistive and temperature data readings were collected from the thermistor strings as per the ToR. Manual readings and inspection results for each thermistor are presented on the Thermistor Annual Maintenance Reports included in section 9.10. A complete datalogger RAW data set for 2008-2009 period has been forwarded to DCC as per the ToR.

9.8 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results and evaluation of analytical data for the 2009 Tier II Disposal Facility samples are presented in Tables XVIII and XIX below. Certificates of Analysis and Field and inter-laboratory duplicates collected as part of the QA/QC program are presented in Appendix C.

Table XVIII: Soil Chemical Analysis Results – Tier II Disposal Facility

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_8-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]
FM09-1WA	MW-1	0-15	9	17	12	<0.5	8	21	24	2	<0.1	<0.02	<20	<20	<20	ND
FM09-1WB		40-50	8	14	8	<0.5	4	10	22	2	<0.1	<0.02	<20	<20	<20	ND
FM09-2WA	MW-2	0-15	6	14	7	<0.5	8	25	23	2	<0.1	<0.02	<20	<20	<20	ND
FM09-2WB		40-50	9	16	10	<0.5	7	14	26	3	<0.1	<0.02	<20	<20	<20	ND
FM09-3WA	MW-3	0-15	7	17	7	<0.5	6	165	29	2	<0.1	<0.02	<20	<20	<20	ND
FM09-3WB		40-50	6	14	5	<0.5	3	12	19	2	<0.1	<0.02	<20	<20	<20	ND
FM09-4WA	MW-4	0-15	4	10	5	<0.5	3	10	15	1	<0.1	<0.02	<20	<20	60	60
FM09-4WB		40-50	4	11	4	<0.5	2	10	18	2	<0.1	<0.02	<20	<20	32	32
FM09-5WA	MW-5	0-15	4	14	6	<0.5	3	13	22	<1	<0.1	<0.02	<20	<20	20	20
FM09-5WB		40-50	6	19	9	<0.5	4	15	25	2	<0.1	<0.02	<20	<20	42	42
FM09-BD1	FM09-5WA	0-15	4	11	3	<0.5	6	11	14	2	<0.1	<0.02	<20	<20	<20	ND

TPH: Sum of the concentrations of F1, F2 and F3. Concentrations below method detection limits are excluded from the total.
ND: Not Detected

S/P/CD/8177/T/09-Soil and GW-results FOX-M(Soil-Tier II).xls

Table XIX: Evaluation of 2009 Soil Analytical Data – Tier II Disposal Facility

Parameter	2009
Copper	Concentrations ranged between 4-9 mg/kg with a mean concentration of 6.4 mg/kg. The highest concentrations were observed at surface at MW-1 and depth at MW-2, whereas the lowest concentrations were observed in surface and depth samples at MW-4 and in the surface sample from MW-5.
Nickel	Concentrations ranged between 10-19 mg/kg with detectable concentrations at all sample locations and a mean concentration of 14.6 mg/kg. The most elevated concentrations were observed at depth at MW-5 (19 mg/kg) and at surface at MW-1 and MW-3 (17 mg/kg). The lowest concentration was observed at surface at MW-4.
Cobalt	Concentrations ranged between 4-12 mg/kg with a mean of 7.3 with detectable concentrations noted at all locations. The highest concentration was observed at MW-1 (surface), whereas the lowest concentration was noted at MW-4 (depth). Slightly elevated concentrations were also noted at depth at MW-2 (10 mg/kg) and MW-5 (9 mg/kg).
Cadmium	All reported concentrations were less than the method detection limit (0.5 mg/kg).
Lead	Concentrations ranged between 2-8 mg/kg with a mean of 4.8. Trace concentrations were observed at all locations with the highest concentrations noted at surface at MW-1 and MW-2, and depth at MW-2 (7 mg/kg). The lowest concentration was noted at depth at MW-4.
Zinc	Concentrations ranged between 10-165 mg/kg with a mean of 29.5 mg/kg. The most elevated concentration (165 mg/kg) was noted at surface at MW-3 with the next highest concentrations of 25 mg/kg and 21 mg/kg noted at surface at MW-2 and MW-1, respectively. The lowest concentrations were noted at MW-4 (surface and depth) and MW-1 (depth).
Chromium	Concentrations ranged between 15-29 mg/kg with a mean of 22.3 mg/kg. The highest concentrations were observed at MW-3 (29 mg/kg – surface) and MW-5 (25 mg/kg – depth). The lowest concentration were noted at MW-4 (surface).
Arsenic	Concentrations ranged between <1-3 mg/kg with detectable concentrations noted at all locations with the exception of the surface sample at MW-5. The highest concentration was noted at depth at MW-2.
Mercury	All reported concentrations were less than the method detection limit (0.1 mg/kg).
PCBs	All reported concentrations were less than the method detection limit (0.02 mg/kg).
TPH	Concentrations ranged between <20-60 mg/kg with detectable Fraction F3 concentrations noted at four sample locations, including both surface and depth samples at MW-4 and MW-5. The highest TPH concentrations were noted in the surface sample at MW-4 (60 mg/kg) and depth sample at MW-5 (42 mg/kg).

9.9 GROUNDWATER SAMPLE ANALYTICAL DATA

The groundwater chemical analysis results and evaluation of analytical data for the 2009 Tier II Disposal Facility samples are presented in Tables XX and XXI. Certificates of Analysis and groundwater samples collected as part of the QA/QC program are presented in Appendix C.

Table XX: Groundwater Chemical Analysis Results – Tier II Disposal Facility

Groundwater Chemical Analysis Results

Sample #	Location	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 [µg/L]	F1 C_6-C_{10} [mg/L]	F2 C_{10}-C_{16} [mg/L]	F3 C_{16}-C_{34} [mg/L]	TPH C_6-C_{34} [mg/L]
FM09-1W	MW-1	<0.001	<0.005	<0.0002	<0.0001	<0.001	<0.01	0.003	0.001	<0.0002	<0.1	<0.2	<0.2	<0.2	ND
FM09-2W	MW-2	0.001	<0.005	0.0003	0.0001	<0.001	0.09	0.002	<0.001	<0.0002	<0.1	<0.2	<0.2	<0.2	ND
FM09-3W	MW-3	0.001	<0.005	<0.0002	<0.0001	<0.001	<0.01	0.005	0.001	<0.0002	<0.1	<0.2	<0.2	<0.2	ND
FM09-4W	MW-4	0.002	<0.005	<0.0002	<0.0001	<0.001	<0.01	0.006	<0.001	<0.0002	<0.1	<0.2	<0.2	<0.2	ND
FM09-5W	MW-5	0.003	0.021	0.0004	<0.0001	<0.001	<0.01	<0.005	0.002	0.0002	<0.1	<0.2	<0.2	<0.2	ND

TPH: Sum of the concentrations of F1, F2 and F3. Concentrations below method detection limits are excluded from the total.
ND: Not Detected

S/P/CD/8177/T/09-Soil and GW-results FOX-M(GW-Tier II).xls

Table XXI: Evaluation of 2009 Groundwater Analytical Data – Tier II Disposal Facility

Parameter	2009
Copper	Concentrations ranged between <0.001-0.003 mg/L, with the highest concentrations noted at MW-5 (0.003 mg/L) and MW-4 (0.002 mg/L) and lowest concentrations at MW-1 (<0.001 mg/L).
Nickel	Concentrations ranged between <0.005-0.021 mg/L, with detectable concentrations noted at only one well location, MW-5.
Cobalt	Concentrations ranged between <0.0002-0.0004 mg/L, with detectable concentrations noted at two well locations, MW2 (0.003 mg/L) and MW-5 (0.004 mg/L).
Cadmium	Concentrations ranged between <0.0001-0.0001 mg/L, with detectable concentrations noted at only one well location, MW-2.
Lead	All reported concentrations were less than the method detection limit (0.001 mg/L).
Zinc	Concentrations ranged between <0.01-0.09 mg/L, with detectable concentrations noted at only one well location, MW-2.
Chromium	Concentrations ranged between <0.002-0.006 mg/L, with detectable concentrations noted at all locations with the exception of MW-5 which reported concentrations less that the method detection limit. The highest concentrations were noted at MW-4 (0.006 mg/L) and MW-3 (0.005 mg/L).
Arsenic	Concentrations ranged between <0.001-0.002 mg/L, with detectable concentrations noted at all but two locations, MW-2 and MW-4. The highest concentration was noted at MW-5.
Mercury	Concentrations ranged between <0.0002-0.0002 mg/L, with detectable concentrations equal to the method detection limit observed at one location, MW-5.
PCBs	All reported concentrations were less than the method detection limit (0.0001 mg/L).
TPH	All reported concentrations were less than the method detection limit (0.2 mg/L).

9.10 THERMISTOR ANNUAL MAINTENANCE REPORTS

The thermistor annual maintenance reports for VT-1 to VT-5 are presented in this section.

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**4-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M Hall Beach**	Thermistor Location		**Tier II Disposal Facility**			
Thermistor Number:	**VT-1**	Inclination		**Vertical**			
Install Date:	**23-Aug-07**	First Date Event		**25-Aug-07**	Last Date Event		**20-Aug-08**
Coordinates and Elevation	N	**7626709**	E	**490947**	Elev		**0**
Length of Cable (m)	**9.23**	Cable Lead Above Ground (m)	**4.20**	Nodal Points			**11**
Datalogger Serial #	**07050014**			Cable Serial Number			**TS07050014 B-9.2**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jul-07**	
Battery Levels	Main	**11.34**	Aux **12.77**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	11.355	7.4423
2	12.467	5.5282
3	14.249	2.8768
4	15.676	0.8059
5	16.928	-0.3759
6	17.696	-1.3689
7	18.541	-2.2735
8	19.498	-3.2275

Bead	ohms	Degrees C
9	20.23	-3.9914
10	21.03	-4.7356
11	21.87	-5.5271

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**4-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**Tier II Disposal Facility**		
Thermistor Number:	**VT-2**		Inclination		**Vertical**		
Install Date:	**23-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation	N	**7626747**	E	**490982**	Elev		**0**
Length of Cable (m)	**7.32**		Cable Lead Above Ground (m)	**4.32**	Nodal Points		**7**
Datalogger Serial #	**07060009**				Cable Serial Number		**TS07060009 B-7.2**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **13.02**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	12.707	5.1540
2	14.508	2.5163
3	16.168	0.3607
4	17.382	-1.0264
5	18.525	-2.2735
6	20.04	-3.8260
7	21.03	-4.7780

Bead	ohms	Degrees C

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**4-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**Tier II Disposal Facility**		
Thermistor Number:	**VT-3**		Inclination		**Vertical**		
Install Date:	**23-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation	N	**7626738**	E	**491057**	Elev		**0**
Length of Cable (m)	**9.21**		Cable Lead Above Ground (m)	**4.20**	Nodal Points		**11**
Datalogger Serial #	**06030090**				Cable Serial Number		**TS06030090 B-9.2**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **12.53**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	12.778	5.0143
2	14.408	2.6365
3	15.990	0.5654
4	17.055	-0.7000
5	18.027	1.7998
6	18.879	-2.6561
7	19.640	-3.4936
8	20.33	-4.1650

Bead	ohms	Degrees C
9	21.21	-4.9506
10	22.00	-5.6209
11	22.54	-6.0892

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**4-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**Tier II Disposal Facility**		
Thermistor Number:	**VT-4**		Inclination		**Vertical**		
Install Date:	**23-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation	N	**7626841**	E	**491005**	Elev		**0**
Length of Cable (m)	**7.32**		Cable Lead Above Ground (m)	**4.32**	Nodal Points		**7**
Datalogger Serial #	**07060020**				Cable Serial Number		**TS07060020**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **12.65**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	12.840	4.9319
2	14.103	3.0568
3	15.920	0.6462
4	16.783	-0.3337
5	17.779	-1.4867
6	18.692	-2.4362
7	19.529	-3.2692

Bead	ohms	Degrees C

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**4-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**Tier II Disposal Facility**		
Thermistor Number:	**VT-5**		Inclination		**Vertical**		
Install Date:	**23-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation		N	**7626809**	E	**490979**	Elev	**0**
Length of Cable (m)	**7.33**		Cable Lead Above Ground (m)	**4.33**	Nodal Points		**7**
Datalogger Serial #	**07060023**				Cable Serial Number		**TS07060023 B-7.2**

Thermistor Inspection

	Good	Needs Maintenance		
Casing	**Yes**	**No**		
Cover	**Yes**	**No**		
Data Logger	**Yes**	**No**		
Cable	**Yes**	**No**		
Beads	**Yes**	**No**		
Battery Installation Date		**1-Jun-07**		
Battery Levels	Main	**11.34**	Aux	**13.14**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	12.284	5.7903
2	14.283	2.7967
3	16.008	0.5250
4	17.125	-0.7790
5	18.496	-2.2322
6	19.397	-3.1598
7	20.13	-3.9362

Bead	ohms	Degrees C

Observations and Proposed Maintenance

9.11 MONITORING WELL SAMPLING/INSPECTION LOGS

The monitoring well sampling and inspection logs for MW's 1, 2, 3, 4 and 5 are included in this section.

2009 Monitoring Well Sampling Log (MW-01)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-01
Facility:	Tier II Disposal Facility

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.54

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	0.96
Well height above ground (m):	0.46	Depth to bottom (m):	1.89
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	0.93	Evidence of sludge:	no
Well volume of water (L):	1.44	Evidence of freezing/siltation:	no
Static water level* (m):	0.50		
Length of screen collecting water (m):	0.89		

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Description of Water
8-Sep-09	1.2	1.6	5.8	0.84	18	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	4-Sep-09
Sample Number - Water:	FM09-1W	Sample Number - Soil:	FM09-1WA
			FM09-1WB
Sample Containers:	1x250 mL plastic	Sample Containers:	3x125mL glass
	2x1L amber		3x125mL glass
	3x40 mL vials		
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Brown gravel, some coarse sand, wet at 0.45 m
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
SS=Stainless Steel
C&C = Clear & Colourless

2009 Monitoring Well Sampling Log (MW-02)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-02
Facility:	Tier II Disposal Facility

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.50

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	0.81
Well height above ground (m):	0.48	Depth to bottom (m):	2.15
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	1.34	Evidence of sludge:	no
Well volume of water (L):	2.08	Evidence of freezing/siltation:	no
Static water level* (m):	0.33		
Length of screen collecting water (m):	1.17		

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Description of Water
8-Sep-09	2.0	1.4	5.8	1.06	4.4	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	4-Sep-09
Sample Number - Water:	FM09-2W	Sample Number - Soil:	FM09-2WA
			FM09-2WB
Sample Containers:	1x250 mL plastic	Sample Containers:	3x125mL glass
	2x1L amber		3x125mL glass
	3x40 mL vials		
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Lt. brown gravel, some coarse sand, wet at 0.4 m
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
SS=Stainless Steel
C&C = Clear & Colourless

2009 Monitoring Well Sampling Log (MW-03)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-03
Facility:	Tier II Disposal Facility

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.50

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	0.93
Well height above ground (m):	0.50	Depth to bottom (m):	2.01
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations	
Depth of water (m):	1.08
Well volume of water (L):	1.67
Static water level* (m):	0.43
Length of screen collecting water (m):	1.01

Notes	
Evidence of sludge:	no
Evidence of freezing/siltation:	no

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Description of Water
8-Sep-09	1.8	1.8	7.4	3.38	104	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	4-Sep-09
Sample Number - Water:	FM09-3W	Sample Number - Soil:	FM09-3WA
			FM09-3WB
Sample Containers:	1x250 mL plastic	Sample Containers:	3x125mL glass
	2x1L amber		3x125mL glass
	3x40 mL vials		
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Lt. brown gravel, trace to some coarse sand, wet at 0.3 m - grey
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
SS=Stainless Steel
C&C = Clear & Colourless

2009 Monitoring Well Sampling Log (MW-04)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-04
Facility:	Tier II Disposal Facility

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.47

Measured Data			
Condition of well:	Good, well is jacking out of ground	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	0.91
Well height above ground (m):	0.68	Depth to bottom (m):	2.39
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	1.48	Evidence of sludge:	no
Well volume of water (L):	2.29	Evidence of freezing/siltation:	no
Static water level* (m):	0.23		
Length of screen collecting water (m):	1.24		

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Description of Water
8-Sep-09	2.3	1.9	5.8	1.18	4.1	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	4-Sep-09
Sample Number - Water:	FM09-4W	Sample Number - Soil:	FM09-4WA
	FM09-4W (interlab dup)		FM09-4WB
Sample Containers:	2x250 mL plastic	Sample Containers:	3x125mL glass
	2x250mL, 3x1L amber		3x125mL glass
	6x40 mL vials		
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Grey gravel, with sand, trave silt, wet at 0.2 m
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
SS=Stainless Steel
C&C = Clear & Colourless

2009 Monitoring Well Sampling Log (MW-05)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-05
Facility:	Tier II Disposal Facility

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.54

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	0.78
Well height above ground (m):	0.60	Depth to bottom (m):	2.65
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	1.88	Evidence of sludge:	no
Well volume of water (L):	2.90	Evidence of freezing/siltation:	no
Static water level* (m):	0.18		
Length of screen collecting water (m):	1.51		

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Description of Water
8-Sep-09	3.0	2.4	5.9	1.95	21	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	4-Sep-09
Sample Number - Water:	FM09-5W	Sample Number - Soil:	FM09-5WA & BD1
			FM09-5WA (interlab dup)
			FM09-5WB
Sample Containers:	1x250 mL plastic	Sample Containers:	6x125mL glass
	2x1L amber		3x125mL glass
	3x40 mL vials		3x125mL glass
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Lt. brown/grey gravel, some coarse sand, wet at 0.2 m
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
SS=Stainless Steel
C&C = Clear & Colourless

10 EAST BEACH LANDFILL

10.1 BACKGROUND AND MONITORING PROGRAM

The East Beach Landfill is located southeast of the main station and extends approximately 1.2 km parallel to the ocean shoreline between the Hazardous Materials Storage Area and south end of the site. The landfill consists of two lobes: a main lobe (south) with engineered containment cover encompassing a footprint of approximately 65,500 m^2 and final cover extending approximately 1.25 to 2.0 m above the surrounding grade; and a north lobe with engineered containment cover encompassing a footprint of approximately 6,100 m^2 and final cover extending between 1.5 to 2.0 m above the surrounding grade.

Based on existing information regarding this landfill as a source of contamination, its potential migration pathways and receptors, the landfill was classified as a moderate potential environmental risk. The remediation consisted of partial excavation of the debris within 30 m of the shoreline. The containment system design consisted of the installation of a synthetic liner system anchored into the saturated permafrost around the toe of the landfill and regraded with sufficient granular fill at surface to cause aggradation of permafrost through the landfill contents.

Twelve groundwater monitoring wells are installed at the landfill perimeter, and six thermistors are installed within the landfill footprint to monitor freeze-back conditions.

The long term monitoring plan consists of visual monitoring, collection of soil and groundwater samples and monitoring of subsurface ground temperatures. The 2009 monitoring of this landfill includes visual inspection to verify for evidence of settlement or erosion, collection of soil and groundwater samples to monitor for the presence of leachate and collection of ground temperature data from the thermistors. Locations of groundwater monitoring wells, soil sample and thermistor installations are identified on Figures FOX-M.9 and FOX-M.10.

Soil at all stations was sampled as specified. Where encountered, groundwater from each of the monitoring wells was sampled for all parameters as per the ToR. Insufficient groundwater volumes (dry conditions) were noted at all but three monitoring well locations, including MWs 29, 30 and 31.

10.2 VISUAL INSPECTION REPORT

The visual inspection of the East Beach Landfill was conducted on September 5, 2009. The Visual Inspection Checklist/Report has been completed as per the ToR and is included as Table XXII of this report.

Settlement
Indications of settlement were not noted.

Erosion
Evidence of erosion was not noted.

Frost Action
Evidence of frost action was not observed.

Evidence of Burrowing Animals
Indications of burrowing animals were not noted.

Re-establishment of Vegetation
Indications of vegetation were not noted.

Staining
Evidence of staining was not observed.

Seepage Points
Indications of seepage were not noted.

Debris
Partially buried or exposed debris were not observed within the immediate landfill area. Numerous pieces of debris were, however, noted along the shoreline east of the landfill (see Other Features of Note below).

Presence/Condition of Monitoring Instruments
All monitoring well and thermistor installations were found to be in good condition at the facility.

Other Features of Note
Localized vehicle tracks were observed on the surface and side slopes of the landfill, including several deeper ruts noted along the southeast side of the south lobe (Feature A) and west side of the north lobe (Feature B). The vehicle ruts typically extended between 0.1 to 0.25 m in depth and are isolated in nature.

Various pieces of partially exposed metal and wire debris were noted within 15 m of the landfill along the beach ridge east of MW-20 and MW-24. The debris included an engine block, cable, pipe, wire, rubber tubing, radiator, drum lid and miscellaneous metal pieces.

Relatively continuous and extensive areas of ponded water were present along the west side of the landfill. Ponded areas appear consistent with previous observations. There were no points of seepage or staining noted to be associated with any of the ponded areas.

Discussion
The East Beach 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 XXII: Visual Inspection Checklist / Report – East Beach Landfill

DEW LINE CLEANUP: POST-CONSTRUCTION - LANDFILL MONITORING
VISUAL INSPECTION CHECKLIST
INSPECTION REPORT – PAGE 1 of 2

SITE NAME: FOX-M HALL BEACH
LANDFILL DESIGNATION: EAST BEACH LANDFILL (North & South)
DATE OF INSPECTION: SEPTEMBER 5, 2009
DATE OF PREVIOUS INSPECTION: AUGUST 22 & 23, 2008
INSPECTED BY: A. PASSALIS
REPORT PREPARED BY: A. PASSALIS
The inspector/reporter represents to the best of his/her knowledge that 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.

LANDFILL VISUAL INSPECTION
Site Name: FOX-M, Hall Beach
Landfill Designation: East Beach Landfill
Date Inspected: September 5, 2009
Inspected by: Andrew Passalis, P.Eng.

Signature: 

TABLE XXII: FOX-M EAST BEACH LANDFILL (page 2 of 2)

Checklist Item	Present (Yes/No)	Location	Length	Width	Depth	Extent	Description	Photographic Record	Severity Rating	Additional Comments
Settlement	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Erosion	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Frost Action	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Animal Burrows	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Vegetation	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Staining	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Vegetation Stress	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Seepage Points	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Debris Exposed	No	N/A	N/A	N/A	N/A	None	N/A	N/A	Not Observed	N/A
Presence/Condition of Monitoring Instruments	Yes	See Figure FOX-M.9 & FOX-M.10	N/A	N/A	N/A	N/A	VT-06, 07, 08, 09, 10, 11 MW-20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	EBLF- 1, 20, 32, 45, 60 EBLF-58, 59, 51, 52, 48, 40, 20, 19, 14, 3, 27, 31, 66	Acceptable	Ground temperature cables and data loggers were in good condition and all data was downloaded. The protective casings for thermistors cables and monitoring wells were also in acceptable condition.
Other Features of Note	Yes	See Figure FOX-M.9 and FOX-M.10	4-10 m	0.4-1 m	0.1-0.25 m	Isolated	Vehicle tracks / ruts on side of landfill	EBLF-5, 6, 11, 12, 61, 62	Acceptable	Vehicle tracks / ruts at various locations on side slopes. No significant rutting noted on surface.
		See Figure FOX-M,9 (northeast of MW-24) See Figure FOX-M.10 (east of MW-20)	0.1-1 m 1 m	0.05-0.75 0.025 m	Surface and partially buried	N/A	Surface and partially buried debris. Outside landfill.	EBLF-36, 37, 38 EBLF-59	Acceptable	491524E, 7626851N: Various pieces of metal and wire debris on east side of beach ridge, east of landfill. Debris includes engine block, cable, pipe, wire, rubber tubing, radiator, miscellaneous metal pieces, drum lid. 491673E. 7627347N: Partially exposed 1" diameter braided steel cable in beach ridge.
		See Figure FOX-M,9 and FOX-M.10	Irregular	Irregular	0.2-0.4	N/A	Ponded water along west side of landfill	EBLF-23, 27, 31, 32, 55, 60, 62, 63, 64, 66	Acceptable	Extensive water ponding along the west side of south landfill and west and north sides of north landfill.
Additional Photos	Yes	See Figure FOX-M.9 and FOX-M.10 and Photographic Record	N/A	N/A	N/A	N/A	General Photographic Record	N/A	N/A	General photos for documentation, no features of note.
Overall Landfill Performance:	**Acceptable**	.								

10.3 PRELIMINARY STABILITY ASSESSMENT

The Preliminary Stability Assessment for East Beach Landfill has been completed as per the ToR and is included as Table XXIII hereafter.

Table XXIII: Preliminary Stability Assessment – East Beach Landfill

Feature	Severity Rating	Extent
Settlement	Not observed	None
Erosion	Not observed	None
Frost Action	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage/Ponded Water	Acceptable	Extensive
Debris exposure	Not observed	None
Overall Landfill Performance	**Acceptable**	

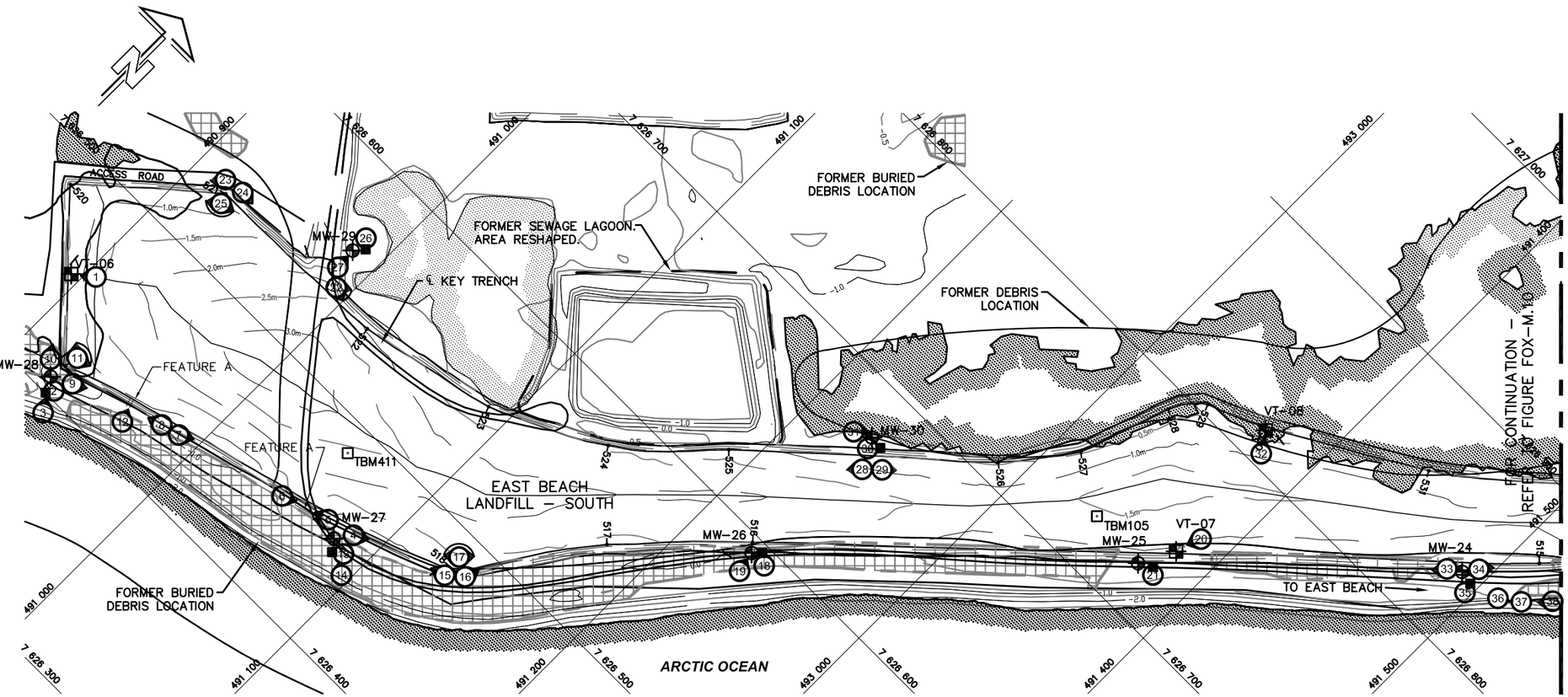
Performance/ Severity Rating	Description
Acceptable	Noted features are of little consequence. The landfill is performing as designed. Minor deviations in environmental or physical performance may be observed, such as isolated areas of erosion, settlement.
Marginal	Physical/environmental performance appears 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

10.4 LOCATION PLAN

The Location Plan for the East Beach Landfill has been completed as per the ToR and is included in Figures FOX-M.9 and FOX-M.10.

TEMPORARY BENCHMARKS			
NO.	UTM COORDINATES		ELEV.
	NORTHING	EASTING	
TBM106	7 627 001.134	491 547.332	−1.054
TBM411	7 626 485.282	491 055.174	−0.112



LEGEND

- TEMPORARY BENCHMARK
- 525 — COORDINATE POINT
- MONITORING SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- VERTICAL THERMISTOR LOCATION
- 1 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- VEHICLE TRACKS / RUTS (NTS)

0 25m 50m 75m 100m 125m

COORDINATE POINTS (AS BUILT) MONITORING WELLS			
NO.	NORTHING	EASTING	ELEV.
MW24	7 626 835.4	491 488.8	0.01
MW25	7 626 724.5	491 371.8	0.24
MW26	7 626 592.2	491 232.3	0.57
MW27	7 626 450.3	491 080.3	−0.10
MW28	7 626 407.7	490 923.9	−0.42
MW29	7 626 558.2	490 985.7	−0.03
MW30	7 626 675.1	491 234.0	−1.03

COORDINATE POINTS (AS−BUILT) VERTICAL THERMISTORS		
NO.	NORTHING	EASTING
VT−06	7 626 451.0	490 895.0
VT−07	7 626 742.0	491 381.0
VT−08	7 626 816.0	491 370.0

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10−03−08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
Defence Construction Canada

FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-5, HALL BEACH, NUNAVUT

EAST BEACH LANDFILL SOUTH

SITE REMEDIATION SOLUTIONS

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MEASUREMENT UNIT	SCALE:	DATE (month−year):
Metre	1 : 2,500	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.−P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_I	PAGE PL

FIGURE FOX-M.9

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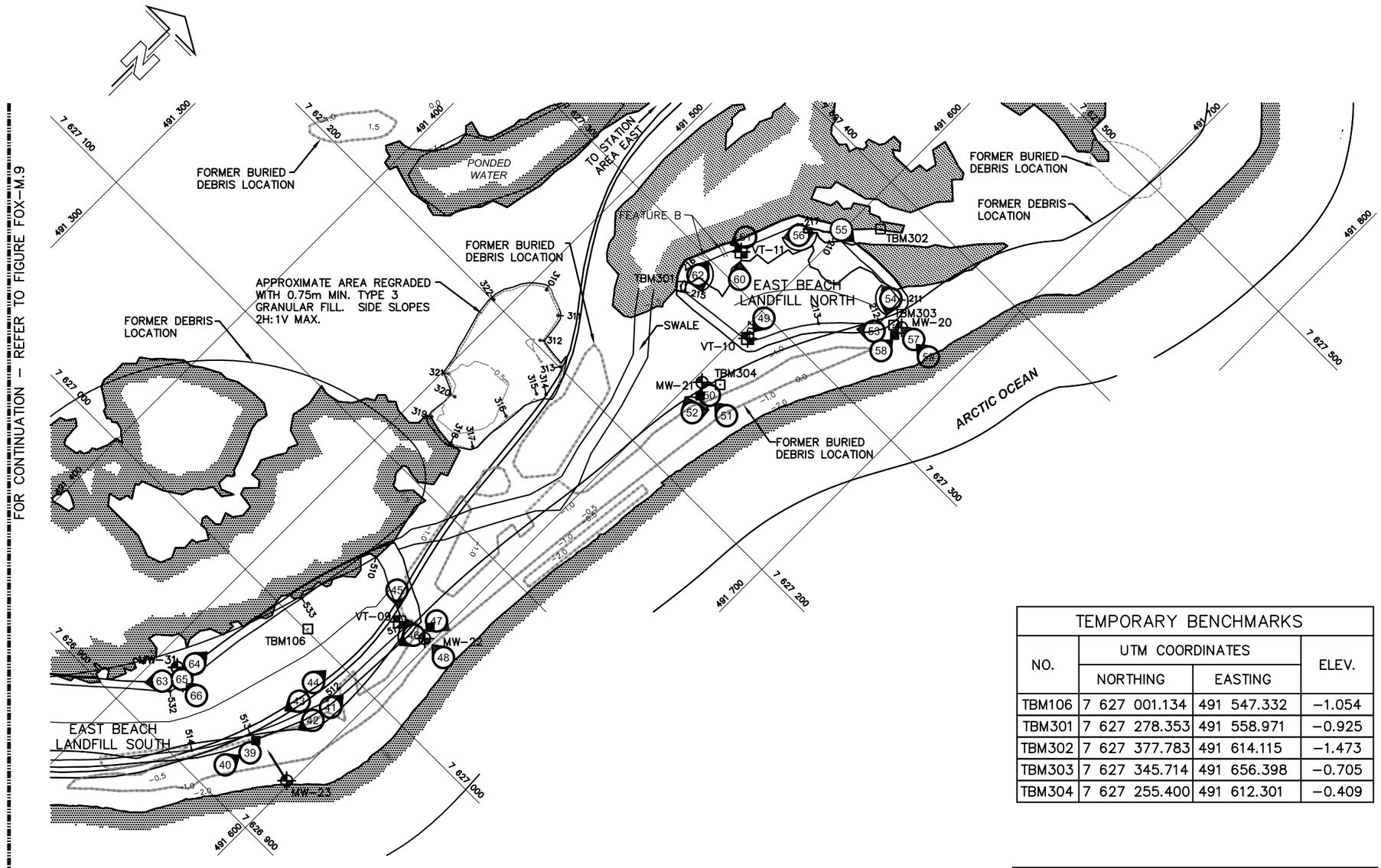

LEGEND

- TEMPORARY BENCHMARK
- 218 — COORDINATE POINT
- SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- VERTICAL THERMISTOR LOCATION
- 1 — PHOTOGRAPH VIEWPOINT LOCATION
- 10 — PANORAMIC VIEW
- VEHICLE TRACKS / RUTS (NTS)

0 25m 50m 75m 100m 125m

TEMPORARY BENCHMARKS

NO.	UTM COORDINATES		ELEV.
	NORTHING	EASTING	
TBM106	7 627 001.134	491 547.332	–1.054
TBM301	7 627 278.353	491 558.971	–0.925
TBM302	7 627 377.783	491 614.115	–1.473
TBM303	7 627 345.714	491 656.398	–0.705
TBM304	7 627 255.400	491 612.301	–0.409

COORDINATE POINTS (AS–BUILT) VERTICAL THERMISTORS

NO.	NORTHING	EASTING
VT–09	7 627 039.0	491 580.0
VT–10	7 627 284.0	491 605.0
VT–11	7 627 315.0	491 569.0

COORDINATE POINTS (AS BUILT) MONITORING WELLS

NO.	NORTHING	EASTING	ELEV.
MW–20	7 627 347.8	491 660.5	–0.03
MW–21	7 627 249.3	491 604.4	–0.60
MW–22	7 627 041.6	491 596.1	–0.48
MW–23	TBD	TBD	–
MW–31	7 626 935.6	491 511.6	–0.21

NO.	VERSION	DATE	BY	VERIF.	APPR.
A	FINAL VERSION	10–03–08	P.L.	A.P.	J.P.P.

Construction de Défense Canada
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FINAL REPORT
COLLECTION OF LANDFILL MONITORING DATA
FOX-M, HALL BEACH, NUNAVUT

EAST BEACH LANDFILL NORTH

SITE REMEDIATION SOLUTIONS
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MEASUREMENT UNIT	SCALE:	DATE (month–year):
Metre	1 : 2,500	MARCH 2010
DRAWN BY: P. LÉGARÉ	VERIFIED BY: A. PASSALIS	APPROVED BY: J.–P. PELLETIER
PROJECT NO: CD8177_005_101	DRAWING NO: CD8177_005_101-FOX-M_J	PAGE PL

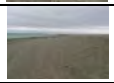
FIGURE FOX-M.10

10.5 PHOTOGRAPHIC RECORDS

The Photographic Record for East Beach Landfill has been completed as per the ToR and is included in the following pages. The Photographic Record contains only an index and “thumbnail” photographs. Full size photographs are contained in the Addendum DVD-ROM.

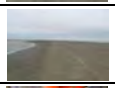
LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: East Beach Landfill
Date Inspected: September 5-6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (EBLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point Easting	Vantage Point Northing	Caption
East Beach Landfill - South							
1		FM09_4691	2,592 KB	2009-05-09	490886	7626460	View SW at VT-6 at south end of landfill.
2		FM09_4692	3,544 KB	2009-05-09	490927	7626402	FM09-28WA/B
3		FM09_4693	3,791 KB	2009-05-09	490934	7626392	View NW at MW-28 at south end of landfill.
4		FM09_4694	2,494 KB	2009-05-09	491086	7626458	View NE along southeast toe of landfill adjacent to MW-27
5		FM09_4695	2,383 KB	2009-05-09	491072	7626455	View SW along southeast toe of landfill adjacent to MW-27
6		FM09_4697	3,751 KB	2009-05-09	490960	7626426	Vehicle/equipment tracks along east toe of landfill, east of MW-27.
7		FM09_4698	2,506 KB	2009-05-09	490989	7626432	View NE along southeast toe of landfill. MW-27 visible in background.
8		FM09_4699	2,663 KB	2009-05-09	490980	7626430	View SW along southeast toe of landfill. MW-28 in background.
9		FM09_4700	2,777 KB	2009-05-09	490931	7626413	View NW along south end of landfill. VT-6 visible on right.
10		FM09_4701	2,617 KB	2009-05-09	490918	7626414	View NE along east side of landfill. MW-27 visible in background.
11		FM09_4702 FM09_4703 FM09_4704 FM09_4705 FM09_4706	2,390 KB 2,492 KB 2,415 KB 2,493 KB 2,291 KB	2009-05-09 2009-05-09 2009-05-09 2009-05-09 2009-05-09	490927	7626424	Panoramic view NW to NE from southeast corner of landfill. VT-6 visible on left.
12		FM09_4707	3,029 KB	2009-05-09	490964	7626419	View NNW at quad tracks/ruts on side of landfill cover.
13		FM09_4708	3,478 KB	2009-05-09	491089	7626448	FM09-27WA/B
14		FM09_4709	3,277 KB	2009-05-09	491096	7626440	View NW at MW-27
15		FM09_4710	2,658 KB	2009-05-09	491132	7626476	View SW along east side of landfill from node 518.
16		FM09_4711	2,560 KB	2009-05-09	491140	7626483	View NE along east side of landfill from node 518.
17		FM09_4712 FM09_4713 FM09_4714 FM09_4715 FM09_4716 FM09_4717	2,590 KB 2,689 KB 2,768 KB 2,804 KB 2,752 KB 2,478 KB	2009-05-09 2009-05-09 2009-05-09 2009-05-09 2009-05-09 2009-05-09	491131	7626488	Panoramic view SW to NE from note 518 on east side of landfill.
18		FM09_4720	3,344 KB	2009-05-09	491236	7626589	FM09-26WA/B
19		FM09_4721	3,341 KB	2009-05-09	491235	7626582	View N at MW-26
20		FM09_4722	2,662 KB	2009-05-09	491385	7626755	View SSW at VT-7. MW-25 in background.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: East Beach Landfill
Date Inspected: September 5-6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (EBLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
21		FM09_4725	3,358 KB	2009-05-09	491380	7626727	FM09-25WA/B
22		FM09_4727	2,491 KB	2009-05-09	490993	7626540	View E to NE at east side of landfill. MW-29 in foreground.
		FM09_4728	2,111 KB	2009-05-09			
		FM09_4729	1,752 KB	2009-05-09			
23		FM09_4730	2,842 KB	2009-05-09	490916	7626538	View SW along south end of landfill from node 521.
24		FM09_4731	2,813 KB	2009-05-09	490927	7626540	View E along south end of landfill from node 521.
25		FM09_4732	2,731 KB	2009-05-09	490923	7626528	Panoramic view SW to E from node 521 near south end of landfill.
		FM09_4733	2,643 KB	2009-05-09			
		FM09_4734	2,752 KB	2009-05-09			
		FM09_4735	2,814 KB	2009-05-09			
		FM09_4736	2,804 KB	2009-05-09			
		FM09_4737	2,557 KB	2009-05-09			
26		FM09_4738	2,978 KB	2009-05-09	490986	7626567	FM09-29WA/B
27		FM09_4739	3,323 KB	2009-05-09	490986	7626547	View N at MW-29. Tier II Disposal Facility in background.
28		FM09_4744	2,579 KB	2009-05-09	491242	7626660	View SW along landfill crest east of MW-30.
29		FM09_4745	2,150 KB	2009-05-09	491249	7626667	View NE along landfill crest east of MW-30.
30		FM09_4746	3,230 KB	2009-05-09	491239	7626672	FM09-30WA/B
31		FM09_4747	2,358 KB	2009-05-09	491226	7626671	View NE at MW-30
32		FM09_4748	2,794 KB	2009-05-09	491377	7626806	View NW at VT-8
33		FM09_4751	2,616 KB	2009-05-09	491482	7626831	View SW along east toe of landfil at MW-24.
34		FM09_4752	2,658 KB	2009-05-09	491494	7626842	View NE along east toe of landfil at MW-24.
35		FM09_4753	3,436 KB	2009-05-09	491497	7626829	FM09-24WA/B
36		FM09_4755	4,025 KB	2009-05-09	491519	7626845	Exposed metal debris (engine block, tubing) in beach ridge east of landfill.
37		FM09_4757	3,715 KB	2009-05-09	491524	7626851	Exposed metal debris (radiator, steel bars, pipe, tubing) in beach ridge east of landfill.
38		FM09_4758	3,780 KB	2009-05-09	491531	7626859	View SW at exposed debris along shoreline east of landfill.
East Beach Landfill - North							
39		FM09_4760	3,566 KB	2009-05-09	491573	7626931	FM09-23WA/B
40		FM09_4761	2,884 KB	2009-05-09	491570	7626926	View NNE at MW-23
41		FM09_4762	2,376 KB	2009-05-09	491582	7626974	View N along east toe of landfill. MW-22 in background.

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: East Beach Landfill
Date Inspected: September 5-6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (EBLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point Easting	Vantage Point Northing	Caption
42		FM09_4763	2,269 KB	2009-05-09	491584	7626974	View SSW along east toe of landfill. MW-23 in background.
43		FM09_4764	2,461 KB	2009-05-09	491575	7626976	View SSW along east cover of landfill. MW-23 in background.
44		FM09_4765	2,510 KB	2009-05-09	491576	7626975	View N along east cover of landfill. MW-22 in background.
45		FM09_4766	2,992 KB	2009-05-09	491576	7627043	View SE at VT-09 on east side of landfill.
46		FM09_4768	2,522 KB	2009-05-09	491590	7627039	Panoramic view S to NW from northeast corner of landfill cover. VT-09 in foreground.
		FM09_4769	2,640 KB	2009-05-09			
		FM09_4770	2,526 KB	2009-05-09			
		FM09_4771	2,430 KB	2009-05-09			
		FM09_4772	2,651 KB	2009-05-09			
47		FM09_4773	3,005 KB	2009-05-09	491594	7627049	FM09-22WA/B
48		FM09_4774	2,444 KB	2009-05-09	491611	7627043	View W at MW-22
63		FM09_4842	2,636 KB	2009-05-09	491514	7626927	View SW along west toe of landfill from east of MW-31.
64		FM09_4843	2,151 KB	2009-05-09	491517	7626940	View N along west toe of landfill from east of MW-31.
65		FM09_4846	3,017 KB	2009-05-09	491518	7626935	FM09-31WA/B
66		FM09_4847	2,820 KB	2009-05-09	491528	7626932	View W at MW-31.
North Lobe							
49		FM09_4776	2,739 KB	2009-05-09	491604	7627298	View S at VT-10. MW-21 in background.
50		FM09_4778	3,337 KB	2009-05-09	491611	7627249	FM09-21WA/B
51		FM09_4779	2,708 KB	2009-05-09	491627	7627246	View W at MW-21
52		FM09_4780	2,546 KB	2009-05-09	491613	7627234	Panoramic view NW to NE at north lobe of landfill. MW-21 in immediate foreground and VT-10 in background.
		FM09_4781	2,481 KB	2009-05-09			
		FM09_4782	2,571 KB	2009-05-09			
53		FM09_4783	2,532 KB	2009-05-09	491651	7627336	View SW along southeast side of north lobe.
54		FM09_4785	3,053 KB	2009-05-09	491645	7627355	Panoramic view SSE to W from northeast corner of north lobe. VT-10 visible in centre background.
		FM09_4786	2,999 KB	2009-05-09			
		FM09_4787	3,009 KB	2009-05-09			
		FM09_4788	2,951 KB	2009-05-09			
		FM09_4789	2,763 KB	2009-05-09			
55		FM09_4791	2,661 KB	2009-05-09	491599	7627362	View E along north toe of north lobe.
56		FM09_4793	2,497 KB	2009-05-09	491585	7627344	Panoramic view SW to E to NE from west side of north lobe.
		FM09_4794	2,775 KB	2009-05-09			
		FM09_4795	2,771 KB	2009-05-09			
		FM09_4796	2,708 KB	2009-05-09			
		FM09_4797	2,514 KB	2009-05-09			
		FM09_4798	2,507 KB	2009-05-09			
		FM09_4799	2,580 KB	2009-05-09			

LANDFILL VISUAL INSPECTION PHOTO LOG

Site Name: FOX-M, Hall Beach
Landfill: East Beach Landfill
Date Inspected: September 5-6, 2009
Inspected by: Andrew Passalis, P.Eng.

Photo (EBLF-)	Thumbnail	Filename	Size (KB)	Date	Vantage Point		Caption
					Easting	Northing	
57		FM09_4800	3,326 KB	2009-05-09	491670	7627348	FM09-20WA/B
58		FM09_4801	2,930 KB	2009-05-09	491673	7627347	View N at MW-20
59		FM09_4803	3,326 KB	2009-05-09	491673	7627347	View E at partially exposed 1" cable wire in beach ridge east of MW-20.
60		FM09_4805	2,413 KB	2009-05-09	491579	7627304	View NW at VT-11 on east side of north lobe.
61		FM09_4806	3,686 KB	2009-05-09	491563	7627319	View SSW at tire ruts perpendicular to slope southwest of VT-11.
62		FM09_4808	2,834 KB	2009-05-09	491561	7627289	Panoramic view N to SE from southwest corner of north lobe. VT-11 and VT-10 are visible on left and right. MW-21 is also visible on far right background.
		FM09_4809	2,927 KB	2009-05-09			
		FM09_4810	3,045 KB	2009-05-09			
		FM09_4811	2,776 KB	2009-05-09			
		FM09_4812	2,775 KB	2009-05-09			

10.6 THERMAL MONITORING DATA

All thermistors at the East Beach Landfill were inspected and found to be in good condition with no significant concerns identified. Data from all thermistors was successfully retrieved and all analogues/thermocouples were observed to be functioning properly at the time of the inspection. Further review of the downloaded data identified no anomalous temperature readings. All clocks exhibited slight drift and were synchronized using the Prolog software.

No batteries were replaced in 2009 as battery levels at all thermistor locations were noted as being "good" to "best".

10.7 LANDFILL TEMPERATURE DATA FROM DATALOGGERS

Manual resistive and temperature data readings were collected from the thermistor strings as per the ToR. Manual readings and inspection results for each thermistor are presented on the Thermistor Annual Maintenance Reports included in section 10.10. A complete datalogger RAW data set for the 2008-2009 period has been forwarded to DCC as per the ToR.

10.8 SOIL SAMPLE ANALYTICAL DATA

The soil chemical analysis results and evaluation of analytical data for the 2009 East Beach Landfill samples are presented in Tables XXIV and XXV below. Certificates of Analysis and Field and inter-laboratory duplicates collected as part of the QA/QC program are presented in Appendix C.

Table XXIV: Soil Chemical Analysis Results – East Beach 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_8-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]
FM09-20WA	MW-20	0-15	14	14	5	<0.5	10	13	25	2	<0.1	<0.02	<20	<20	137	137
FM09-20WB		40-50	7	15	6	<0.5	7	16	25	3	<0.1	<0.02	<20	<20	114	114
FM09-21WA	MW-21	0-15	10	11	6	<0.5	13	21	16	2	<0.1	<0.02	<20	<20	<20	ND
FM09-21WB		40-50	4	12	6	<0.5	4	10	18	2	<0.1	<0.02	<20	<20	<20	ND
FM09-22WA	MW-22	0-15	4	15	4	<0.5	5	9	24	2	<0.1	<0.02	<20	<20	<20	ND
FM09-22WB		40-50	4	12	4	<0.5	4	10	15	3	<0.1	<0.02	<20	<20	<20	ND
FM09-23WA	MW-23	0-15	14	12	5	<0.5	22	26	15	3	<0.1	<0.02	<20	<20	<20	ND
FM09-23WB		40-50	5	13	5	<0.5	6	14	16	3	<0.1	<0.02	<20	<20	<20	ND
FM09-24WA	MW-24	0-15	5	14	4	<0.5	10	16	19	3	<0.1	<0.02	<20	<20	<20	ND
FM09-24WB		40-50	5	15	4	<0.5	5	12	23	2	<0.1	<0.02	<20	<20	<20	ND
FM09-25WA	MW-25	0-15	4	16	4	<0.5	4	9	22	2	<0.1	<0.02	<20	<20	<20	ND
FM09-25WB		40-50	4	13	5	<0.5	6	10	16	1	<0.1	<0.02	<20	<20	<20	ND
FM09-26WA	MW-26	0-15	4	13	5	<0.5	4	7	19	2	<0.1	<0.02	<20	<20	<20	ND
FM09-26WB		40-50	3	11	3	<0.5	4	8	13	2	<0.1	<0.02	<20	<20	<20	ND
FM09-27WA	MW-27	0-15	3	13	3	<0.5	5	8	18	2	<0.1	<0.02	<20	<20	<20	ND
FM09-27WB		40-50	7	13	4	<0.5	6	11	15	3	<0.1	<0.02	<20	<20	<20	ND
FM09-28WA	MW-28	0-15	13	11	4	<0.5	13	13	12	2	<0.1	<0.02	<20	<20	<20	ND
FM09-28WB		40-50	20	14	4	<0.5	47	21	20	3	<0.1	<0.02	<20	<20	<20	ND
FM09-29WA	MW-29	0-15	6	12	3	<0.5	7	11	15	2	<0.1	<0.02	<20	<20	<20	ND
FM09-29WB		40-50	4	11	3	<0.5	5	9	15	2	<0.1	<0.02	<20	<20	<20	ND
FM09-30WA	MW-30	0-15	5	13	4	<0.5	8	12	19	3	<0.1	<0.02	<20	<20	<20	ND
FM09-30WB		40-50	5	12	4	<0.5	6	10	16	3	<0.1	<0.02	<20	<20	<20	ND
FM09-31WA	MW-31	0-15	4	12	3	<0.5	6	9	14	3	<0.1	<0.02	<20	<20	<20	ND
FM09-31WB		40-50	4	14	3	<0.5	8	11	19	3	<0.1	<0.02	<20	<20	<20	ND
FM09-BD2	FM09-25WA	0-15	4	14	3	<0.5	6	9	16	2	<0.1	<0.02	<20	<20	<20	ND
FM09-BD3	FM09-30WB	40-50	5	14	3	<0.5	7	11	20	2	<0.1	<0.02	<20	<20	<20	ND

TPH: Sum of the concentrations of F1, F2 and F3. Concentrations below method detection limits are excluded from the total.
ND: Not Detected

S/P/CD/8177/T/09-Soil and GW-results FOX-M(Soil-East Beach Landfill).xls

Table XXV: Evaluation of 2009 Soil Analytical Data – East Beach Landfill

Parameter	2009
Copper	Concentrations ranged between 3-20 mg/kg with a mean concentration of 6.6 mg/kg. Elevated concentrations were observed at downgradient locations MW-28 (13 mg/kg – surface and 20 mg/kg - depth), MW-20 (14 mg/kg – surface) and MW-23 (14 mg/kg – surface). Concentrations at all upgradient locations were between 4-6 mg/kg.
Nickel	Concentrations ranged between 11-16 mg/kg with detectable concentrations at all sample locations and a mean concentration of 13.0 mg/kg. The most elevated concentrations were observed at downgradient locations MW-20 (15 mg/kg - depth), MW-22 (15 mg/kg – surface) and MW-25 (16 mg/kg – surface). Concentrations at upgradient locations ranged between 11–14 mg/kg.
Cobalt	Concentrations ranged between 3-6 mg/kg with a mean of 4.2 with detectable concentrations noted at all locations. The highest concentrations were observed at downgradient locations MW-20 (depth) and MW-21 (surface and depth), whereas concentrations at downgradient locations ranged between 3-4 mg/kg.
Cadmium	All reported concentrations were less than the method detection limit (0.5 mg/kg).
Lead	Concentrations ranged between 4-47 mg/kg with a mean of 9.0 with detectable concentrations noted at all locations. The most elevated concentrations were noted at downgradient locations MW-23 (22 mg/kg – surface) and MW-28 (47 mg/kg – depth). Concentrations at upgradient locations ranged between 5-8 mg/kg.
Zinc	Concentrations ranged between 7-26 mg/kg with a mean of 12.3 with detectable concentrations noted at all locations. The most elevated concentrations were noted at downgradient surface locations MW-21 (21 mg/kg e) and MW-23 (26 mg/kg). Concentrations at upgradient locations ranged between 9-12 mg/kg.
Chromium	Concentrations ranged between 13-25 mg/kg with a mean of 17.9 mg/kg. Slightly elevated concentrations were observed at downgradient locations MW-20 (25 mg/kg – surface and depth) and MW-22 (24 mg/kg – surface). Concentrations at upgradient locations ranged between 15-19 mg/kg.
Arsenic	Concentrations ranged between 1-3 mg/kg with a mean concentration of 2.4 mg/kg.
Mercury	All reported concentrations were less than the method detection limit (0.1 mg/kg).
PCBs	All reported concentrations were less than the method detection limit (0.02 mg/kg).
TPH	All reported concentrations were less than the method detection limit (20 mg/kg) with the exception of samples collected at downgradient location MW-20. Detectable F3 concentrations of 137 mg/kg and 114 mg/kg were noted at surface and depth, respectively.

10.9 GROUNDWATER SAMPLE ANALYTICAL DATA

The groundwater chemical analysis results and evaluation of analytical data for the 2009 East Beach Landfill samples are presented in Tables XXVI and XXVII hereafter. As noted above, all of the downgradient wells contained insufficient sample volumes (dry conditions) to complete the specified analysis. Certificates of Analysis and groundwater samples collected as part of the QA/QC program are presented in Appendix C.

Table XXVI: Groundwater Chemical Analysis Results – East Beach Landfill

Sample #	Location	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 [µg/L]	F1 C_6-C_{10} [mg/L]	F2 C_{10}-C_{16} [mg/L]	F3 C_{16}-C_{34} [mg/L]	TPH C_6-C_{34} [mg/L]
FM09-29W	MW-29	0,003	0,008	0,0005	<0.0001	<0.001	0,02	<0.005	0,003	<0.0002	<0.1	<0.2	<0.2	<0.2	ND
FM09-30W	MW-30	0,002	0,037	<0.0002	<0.0001	<0.001	<0.01	0,002	0,008	<0.0002	<0.1	<0.2	<0.2	<0.2	ND
FM09-BDW1	FM09-30W	<0.001	0,021	<0,0002	<0.0001	<0.001	<0.01	0,005	0,007	<0.0002	<0.1	<0.2	<0.2	<0.2	ND
FM09-31W	MW-31	0,008	<0.005	0.0002	0,0002	<0.001	<0.01	0,008	<0.001	<0.0002	<0.1	<0.2	<0.2	<0.2	ND

TPH: Sum of the concentrations of F1, F2 and F3. Concentrations below method detection limits are excluded from the total.
ND: Not Detected

S/P/CD/8177/T/09-Soil and GW-results FOX-M(GW-East Beach Landfill).xls

Table XXVII: Evaluation of 2009 Groundwater Analytical Data – East Beach Landfill

Parameter	2009
Copper	Concentrations ranged between 0.002-0.008 mg/L, with the highest and lowest concentrations noted at MW-31 and MW-30, respectively.
Nickel	Concentrations ranged between <0.005-0.037 mg/L, with the most elevated concentration noted at MW-30.
Cobalt	Concentrations ranged between <0.0002-0.0005 mg/L, with the highest concentration noted at MW-29.
Cadmium	Concentrations ranged between <0.0001-0.0002 mg/L with detectable concentrations noted at only one location, MW-31.
Lead	All reported concentrations were less than the method detection limit (0.001 mg/L).
Zinc	Concentrations ranged between <0.01-0.02 mg/L with detectable concentrations noted at only one location, MW-29.
Chromium	Concentrations ranged between 0.002-0.008 mg/L, with the highest concentration noted at MW-31.
Arsenic	Concentrations ranged between <0.001-0.008 mg/L, with detectable concentrations noted at MW-29 and MW-30 and the highest concentration at MW-30.
Mercury	All reported concentrations were less than the method detection limit (0.0002 mg/L).
PCBs	All reported concentrations were less than the method detection limit (0.00001 mg/L).
TPH	All reported concentrations were less than the method detection limit (0.2 mg/L).

10.10 THERMISTOR ANNUAL MAINTENANCE REPORTS

The thermistor annual maintenance reports for VT-6 to VT-11 are presented in this section.

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**5-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**East Beach Landfill South Lobe**		
Thermistor Number:	**VT-6**		Inclination		**Vertical**		
Install Date:	**24-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation	N	**7626449**	E	**490895**	Elev		**0**
Length of Cable (m)	**8.23**	Cable Lead Above Ground (m)		**4.23**	Nodal Points		**9**
Datalogger Serial #	**07060018**				Cable Serial Number		**TS07060018**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **12.65**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	13.845	3.4343
2	14.356	2.6916
3	14.922	1.9147
4	16.444	0.0214
5	17.101	-0.7382
6	17.89	-1.6175
7	18.699	-2.4931
8	19.656	-3.4533

Bead	ohms	Degrees C
9	20.43	-4.1755

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**5-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**East Beach Landfill South Lobe**		
Thermistor Number:	**VT-7**		Inclination		**Vertical**		
Install Date:	**24-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation	N	**7626740**	E	**491378**	Elev		**0**
Length of Cable (m)	**8.22**	Cable Lead Above Ground (m)		**4.22**	Nodal Points		**9**
Datalogger Serial #	**07019996**				Cable Serial Number		**TS07010006 B 8.2**

Thermistor Inspection

	Good	Needs Maintenance		
Casing	**Yes**	**No**		
Cover	**Yes**	**No**		
Data Logger	**Yes**	**No**		
Cable	**Yes**	**No**		
Beads	**Yes**	**No**		
Battery Installation Date		**1-Jun-07**		
Battery Levels	Main	**11.34**	Aux	**13.02**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	13.606	3.7565
2	13.986	3.2344
3	14.43	2.5965
4	15.982	0.6033
5	16.865	-0.4557
6	17.695	-1.3894
7	18.693	-2.4569
8	19.618	-3.3735

Bead	ohms	Degrees C
9	20.56	-4.3310

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**5-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**East Beach Landfill South Lobe**		
Thermistor Number:	**VT-8**		Inclination		**Vertical**		
Install Date:	**24-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation	N	**7626818**	E	**491372**	Elev		**0**
Length of Cable (m)	**8.32**	Cable Lead Above Ground (m)		**4.32**	Nodal Points		**9**
Datalogger Serial #	**07040022**				Cable Serial Number		**TS070400022 B 8.2**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **12.90**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	13.176	4.3531
2	13.873	3.3993
3	14.725	2.1530
4	16.186	0.2898
5	17.110	-0.7688
6	18.035	-1.7998
7	18.954	-2.7364
8	19.890	-3.6871

Bead	ohms	Degrees C
9	20.58	-4.3811

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**5-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**East Beach Landfill South Lobe**		
Thermistor Number:	**VT-9**		Inclination		**Vertical**		
Install Date:	**22-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation		N	**7627038**	E	**491574**	Elev	**0**
Length of Cable (m)	**8.22**		Cable Lead Above Ground (m)	**4.22**	Nodal Points		**9**
Datalogger Serial #	**RDHM 070609**				Cable Serial Number		**TS07060017**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **13.14**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	11.341	7.3646
2	12.111	6.0698
3	13.680	3.6291
4	14.767	2.1304
5	16.197	0.2898
6	16.946	-0.5396
7	17.809	-1.5200
8	18.523	-2.2942

Bead	ohms	Degrees C
9	19.344	-3.1234

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**5-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**East Beach Landfill North Lobe**		
Thermistor Number:	**VT-10**		Inclination		**Vertical**		
Install Date:	**24-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation	N	**7627282**	E	**491605**	Elev		**0**
Length of Cable (m)	**8.22**	Cable Lead Above Ground (m)		**4.22**	Nodal Points		**9**
Datalogger Serial #	**07060003**				Cable Serial Number		**TS07060003 B-8.2**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **12.77**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	11.681	6.8043
2	13.070	4.5103
3	14.542	2.3760
4	15.964	0.5866
5	16.901	-0.5295
6	17.778	-1.5098
7	18.733	-2.5034
8	19.577	-3.3735

Bead	ohms	Degrees C
9	20.32	-4.1413

Observations and Proposed Maintenance

Thermistor Annual Maintenance Report

Contractor Name:	**Sila Remediation Inc.**	Inspection Date:	**5-Sep-09**
Prepared By:	**A.Passalis**		

Thermistor Information

Site Name:	**FOX-M**		Thermistor Location		**East Beach Landfill North Lobe**		
Thermistor Number:	**VT-11**		Inclination		**Vertical**		
Install Date:	**24-Aug-07**		First Date Event		**25-Aug-07**	Last Date Event	**20-Aug-08**
Coordinates and Elevation		N	**7627318**	E	**491566**	Elev	**0**
Length of Cable (m)	**8.22**		Cable Lead Above Ground (m)	**4.22**	Nodal Points		**9**
Datalogger Serial #	**07060002**				Cable Serial Number		**TS07060002**

Thermistor Inspection

	Good	Needs Maintenance	
Casing	**Yes**	**No**	
Cover	**Yes**	**No**	
Data Logger	**Yes**	**No**	
Cable	**Yes**	**No**	
Beads	**Yes**	**No**	
Battery Installation Date		**1-Jun-07**	
Battery Levels	Main	**11.34**	Aux **13.38**

Manual Ground Temperature Readings

Bead	ohms	Degrees C
1	11.481	7.1894
2	12.435	5.5657
3	14.539	2.4186
4	15.832	0.7623
5	16.909	-0.4939
6	17.788	-1.4867
7	18.757	-2.5034
8	19.722	-3.4936

Bead	ohms	Degrees C
9	20.53	-4.2572

Observations and Proposed Maintenance

10.11 MONITORING WELL SAMPLING/INSPECTION LOGS

The monitoring well sampling and inspection logs for MW-20 through MW-31 are presented in this section

2009 Monitoring Well Sampling Log (MW-20)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-20
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.50
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.46

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	1.09 (dry)
Well height above ground (m):	0.41	Depth to bottom (m):	1.10
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	0.01	Evidence of sludge:	no
Well volume of water (L):	0.02	Evidence of freezing/siltation:	no
Static water level* (m):	0.68		
Length of screen collecting water (m):	0.01		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-09
Sample Number - Water:	Insufficient volume to	Sample Number - Soil:	FM09-20WA
	sample		FM09-20WB
Sample Containers:		Sample Containers:	3x125mL glass
			3x125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown sand and gravel, damp, no fines
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-21)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-21
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	1.28 (dry)
Well height above ground (m):	0.43	Depth to bottom (m):	1.32
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	0.04	Evidence of sludge:	no
Well volume of water (L):	0.06	Evidence of freezing/siltation:	no
Static water level* (m):	0.85		
Length of screen collecting water (m):	0.04		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-09
Sample Number - Water:	Insufficient volume to	Sample Number - Soil:	FM09-21WA
	sample		FM09-21WB
Sample Containers:		Sample Containers:	3x125mL glass
			3x125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown gravel, some coarse sand, wet at 0.15 m
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-22)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-22
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Well collar cracked, rivets rusted	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	- (dry)
Well height above ground (m):	0.54	Depth to bottom (m):	0.67
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	-	Evidence of sludge:	no
Well volume of water (L):	-	Evidence of freezing/siltation:	yes, gravel in well
Static water level* (m):	-		
Length of screen collecting water (m):	-		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-09
Sample Number - Water:	No sample collected	Sample Number - Soil:	FM09-22A
			FM09-22B
Sample Containers:		Sample Containers:	3 x 125mL glass
			3 x 125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown sand and gravel, well graded, damp
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
** Based on site specifications. Not recorded on original installation log.
n/a=not applicable
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-23)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-23
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	- (dry)
Well height above ground (m):	0.42	Depth to bottom (m):	1.26
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	-	Evidence of sludge:	no
Well volume of water (L):	-	Evidence of freezing/siltation:	no
Static water level* (m):	-		
Length of screen collecting water (m):	-		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-09
Sample Number - Water:	No sample collected	Sample Number - Soil:	FM09-23A
			FM09-23B
Sample Containers:		Sample Containers:	3 x 125mL glass
			3 x 125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown sand and gravel, well graded, damp
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
** Based on site specifications. Not recorded on original installation log.
n/a=not applicable
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-24)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-24
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	- (dry)
Well height above ground (m):	0.51	Depth to bottom (m):	1.29
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	-	Evidence of sludge:	no
Well volume of water (L):	-	Evidence of freezing/siltation:	no
Static water level* (m):	-		
Length of screen collecting water (m):	-		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-09
Sample Number - Water:	No sample collected	Sample Number - Soil:	FM09-24A
			FM09-24B
Sample Containers:		Sample Containers:	3 x 125mL glass
			3 x 125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown gravel, trace to some coarse sand damp
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
** Based on site specifications. Not recorded on original installation log.
n/a=not applicable
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-25)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-25
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	- (dry)
Well height above ground (m):	0.45	Depth to bottom (m):	1.41
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	-	Evidence of sludge:	no
Well volume of water (L):	-	Evidence of freezing/siltation:	no
Static water level* (m):	-		
Length of screen collecting water (m):	-		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-09
Sample Number - Water:	No sample collected	Sample Number - Soil:	FM09-25WA & BD2
			FM09-25WA (interlab dup)
			FM09-25WB
Sample Containers:		Sample Containers:	6x125mL glass
			3x125mL glass
			3x125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown sand and gravel, well graded, damp
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
** Based on site specifications. Not recorded on original installation log.
n/a=not applicable
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-26)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-26
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	- (dry)
Well height above ground (m):	0.35	Depth to bottom (m):	1.24
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	-	Evidence of sludge:	no
Well volume of water (L):	-	Evidence of freezing/siltation:	no
Static water level* (m):	-		
Length of screen collecting water (m):	-		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-08
Sample Number - Water:	No sample collected	Sample Number - Soil:	FM09-26A
			FM09-26B
Sample Containers:		Sample Containers:	3 x 125mL glass
			3 x 125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown gravel, with coarse sand
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
** Based on site specifications. Not recorded on original installation log.
n/a=not applicable
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-27)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-27
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	- (dry)
Well height above ground (m):	0.44	Depth to bottom (m):	1.30
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	-	Evidence of sludge:	no
Well volume of water (L):	-	Evidence of freezing/siltation:	no
Static water level* (m):	-		
Length of screen collecting water (m):	-		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-08
Sample Number - Water:	No sample collected	Sample Number - Soil:	FM09-27A
			FM09-27B
Sample Containers:		Sample Containers:	3 x 125mL glass
			3 x 125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown sand, with gravel, poorly graded damp, kelp at 0.2-0.22
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
** Based on site specifications. Not recorded on original installation log.
n/a=not applicable
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-28)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-28
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	- (dry)
Well height above ground (m):	0.48	Depth to bottom (m):	1.27
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	-	Evidence of sludge:	no
Well volume of water (L):	-	Evidence of freezing/siltation:	no
Static water level* (m):	-		
Length of screen collecting water (m):	-		

Development/Purging Information

Equipment:

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water

Water Sampling		Soil Sampling	
Date & Time Collected:		Date and Time Collected:	5-Sep-08
Sample Number - Water:	No sample collected	Sample Number - Soil:	FM09-28A
			FM09-28B
Sample Containers:		Sample Containers:	3 x 125mL glass
			3 x 125mL glass
Procedure/Equipment:		Procedure/Equipment:	Steel & Plastic Trowels
Water Description:		Soil Description:	Lt.brown/grey gravel, some coarse sand, damp
Sampling Equipment Decontamination (Y/N):	n/a	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	-	Number Washes:	1
Number Rinses:	-	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
** Based on site specifications. Not recorded on original installation log.
n/a=not applicable
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-29)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-29
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	0.76
Well height above ground (m):	0.43	Depth to bottom (m):	1.21
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	0.45	Evidence of sludge:	no
Well volume of water (L):	0.70	Evidence of freezing/siltation:	no
Static water level* (m):	0.33		
Length of screen collecting water (m):	0.18		

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
8-Sep-08	0.8	0.9	6.5	3.42	8.8	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	5-Sep-09
Sample Number - Water:	FM09-29W	Sample Number - Soil:	FM09-29WA
			FM09-29WB
Sample Containers:	1x250 mL plastic	Sample Containers:	3x125mL glass
	2x1L amber		3x125mL glass
	3x40 mL vials		
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Lt.brown gravel, some coarse sand, wet at 0.15 m
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-30)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-30
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	0.45
Well height above ground (m):	0.30	Depth to bottom (m):	1.21
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	0.76	Evidence of sludge:	no
Well volume of water (L):	1.18	Evidence of freezing/siltation:	no
Static water level* (m):	0.15		
Length of screen collecting water (m):	0.31		

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
8-Sep-08	1.2	0.6	7.5	3.11	6.8	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	5-Sep-09
Sample Number - Water:	FM09-30W & BDW1	Sample Number - Soil:	FM09-30WA
			FM09-30WB & BD3
			FM09-30WB (interlab dup)
Sample Containers:	2x250 mL plastic	Sample Containers:	3x125mL glass
	2x250mL, 3x1L amber		6x125mL glass
	6x40 mL vials		3x125mL glass
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Lt.brown gravel, some coarse sand, wet at 0.2 m, no fines
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2009 Monitoring Well Sampling Log (MW-31)

Site name:	FOX-M
Date of sampling event:	8-Sep-09
Names of samplers:	Andrew Passalis
Monitoring well ID:	MW-31
Facility:	East Beach Landfill

Known Data	
Depth of installation* (m):	3.00
Length of screened section (m):	1.50
Depth to top of screen* (m):	0.60

Measured Data			
Condition of well:	Good	Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Tape Measure	Depth to water surface (m):	1.18
Well height above ground (m):	0.40	Depth to bottom (m):	1.25
Diameter of well (m):	0.044	Free product thickness (mm):	-

Calculations		Notes	
Depth of water (m):	0.07	Evidence of sludge:	no
Well volume of water (L):	0.10	Evidence of freezing/siltation:	no
Static water level* (m):	0.78		
Length of screen collecting water (m):	0.07		

Development/Purging Information

Equipment: Dedicated waterra tubing and foot valve

Date & Time	Volume Removed (L)	Temperature (^{o}C)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Description of Water
8-Sep-08	0.2	0.9	6.1	1.2	5.4	C&C, N/O

Water Sampling		Soil Sampling	
Date & Time Collected:	8-Sep-09	Date and Time Collected:	5-Sep-09
Sample Number - Water:	FM09-31W	Sample Number - Soil:	FM09-31WA
			FM09-31WB
Sample Containers:	1x250 mL plastic	Sample Containers:	3x125mL glass
	2x1L amber		3x125mL glass
	3x40 mL vials		
Procedure/Equipment:	Waterra tubing & foot valve YSI Mulitmeter, Hach Turbidimeter	Procedure/Equipment:	Steel & Plastic Trowels
Water Description:	C&C, N/O	Soil Description:	Lt.brown gravel, some coarse sand, wet at 0.5 m
Sampling Equipment Decontamination (Y/N):	N, dedicated	Sampling Equipment Decontamination (Y/N):	Y
Number Washes:	0	Number Washes:	1
Number Rinses:	0	Number Rinses:	1

*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

APPENDIX A

Range of the Report and Limitation of Responsibilities

RANGE OF THE REPORT AND LIMITATION OF RESPONSIBILITIES

A – Recipient and Use

This report ("Report") was prepared by Biogenie, a division of EnGlobe Corp., ("Biogenie") at the request and for the sole benefit of the Client ("Client"), and is intended to be used exclusively by the Client.

B –Site Conditions

Any description of the target site ("Site"), soil and/or groundwater included in the Report is only provided as an indication to the Client, and unless otherwise specifically mentioned in the Report such description shall not at any time and under any circumstances be used for purposes other than to gain a better understanding of the Site and to fulfil the requirements of the mandate assigned to Biogenie by the Client ("Mandate").

All information, including but not limiting the comprehensiveness of the data, charts, descriptions, drawings, tables, analysis results, compilations, and any conclusion and recommendation included in the Report, shall arise from the direct observation of the Site during a specific period, namely the fulfilment of the Mandate, and from the interpretation of such information and data available during the same period.

The content of the Report shall not apply in any way or to any part of the Site or to any parameter, material or analysis excluded from the Mandate.

Biogenie shall not be held responsible for the presence of any substance or material of a different nature, or of a similar nature but with different concentrations, as those indicated in the Report, and this in any part or parts of the Site excluded from the Mandate.

The content of the Report, including its conclusions and recommendations, shall not apply to any period preceding or following the Mandate. The physiochemical conditions of the Site, and the type and degree of contamination identified on the Site, may vary within a given period depending on a number of factors, especially the current activities taking place on the Site and/or on lands adjacent to the Site.

A review of the Report and/or changes in the parameters, conclusions and/or recommendations may prove to be necessary in the event of a change in the Site conditions or the discovery of pertinent information subsequent to the production of the Report.

C - Legislation, Regulations, Guidelines and Policies

The interpretation of the data and observations concerning the Site, as well as the conclusions and recommendations resulting from these, shall take into account the laws, regulations, standards, policies and/or guidelines applicable to the Project and that are in effect at the time of the fulfilment of the Mandate. In the event no current law, regulation, policy, guideline or standard applies to the project, Biogenie shall take into account proven environmental and professional rules and practices when drawing up the Report.

Any change in the legislation, regulations, standards, policies and/or guidelines applicable to the project may result in the need to review the Report and/or modify its parameters, conclusions and/or recommendations.

D – Use of Report

The Report is intended for the exclusive use of the Client and shall only be used for the purpose it was meant for.

The content of the Report and its conclusions and recommendations only apply to the Site and may not, at any time and under any circumstances, apply to any land adjacent to the Site or to any other land located in the vicinity of the Site.

Any reproduction in any form whatsoever and any distribution or use of the Report, in whole or in part, by a person other that the Client, is strictly forbidden without the prior written consent of Biogenie. Biogenie makes no declaration and pledges no responsibility towards any person other than the Client with regard to the content of the Report and the conclusions and recommendations expressed therein.

Biogenie is in no way responsible for any loss, fine or penalty, or for any expense, damage or other prejudice of any type whatsoever, sustained by a person other than the Client as a result of the unauthorized use of the Report.

No provision of the Report shall be construed as or considered to be a legal opinion of Biogenie’s.

APPENDIX B

Field Notes

- SOIL JARS
- WRENCHES
- READOUT BOX
- OHM METER

JAMES, PHILLIPS, PETER

FOX-M SEPT 4/09 (1)

8°C, OVERCAST, 30km/h NW

TIER II D.F.

MW-1 WEST SIDE. 1½"φ
28 m N of MW

Slop 0.46 R 0.961
F = 1.89 F1P→φ

BROWN GRAVEL, ANGULAR, SOME CS SAND, DAMP, WET @ 0.45 m

FM09-1WA 0-15
B 40-50

T 1.4/1.2/1.6
Cond 1.23/0.91/0.84
pH 6.0/5.9/5.8
TDS 0.80/0.59/0.55
DO 3.9/3.6/
TURB 14.7/16.4/18.1

COLLECT
1x 250mL PL
2x 1L AM
3,40 mL.

LEVEL

VT-4 WP 604 V- E/S
VT-5 WP 605 V- E/SSE
VT-3 WP 608 V- NW/S
VT-2 WP 610 V NW/SE
VT-1 WP 612. V NW/SW
HB-1 WP 613 - NO DATALOGGER

EBA #942, 10m, 1.5 LOAD.

MW-2 WP 605. 1½"Ø
Slug 0.48 V 0.807
F- 2.15 F/P = Ø

2.5m NW & MW.
Lt brown gravel, some CS sand, wet @ 0.4m.

FM09-2WA 0-15
B 40-50

		COLLECT
T	1.6/1.4	1x250mL
pH	5.8/5.8	2x1L AM
Cond	1.07/1.06	3x40mL
TDS	0.69/0.69	
DO	3.7/2.9.	
TURB	62.4	

MW-3 WP 607
2.1m SSW & MW

Slug 0.50 V 0.931
F= 2.01. F/P = Ø

0-30 Lt brown gravel, some tr. CS sand,
30- wet, black/dk grey some CS sand

FM09-3WA 0-15
B 40-50

		COLLECT
T	1.2/1.8	
pH	7.7/7.4	1x250
Cond	3.33/3.38	2x 1L.
TDS	2.17/2.19	3x40mL.
DO	9.3/-	
TURB	86.2/104.	

MW-4 WP 609
2.1m N & MW
Slug 0.68 V 0.908
F= 2.39 F/P = Ø

Grey gravel, with sand, some v.f.s + silt, wet @ 0.2m

FM09-4WA 0-15
B 40-50

COLLECT + MAXXAM

T	3.1/2.0/1.9	2x250
pH	5.7/5.7/5.8	3x1L AM
cond	1.24/1.19/1.18	2x250 AM
TDS	0.81/0.78/0.77	6x40 ML
DO	5.3/4.8/4.7	
TURB	5.7/4.8/4.1	

MW-5 WP 611
25 m S of MW

Slup = 0.66 ▽ 0.775
F = 2.65 F/P=0

Lt. brown/grey gravel, some cs. sand
wet @ 0.2 m, tr. fines.
EMO9-SWA +30 1' 0-15
B 40-50

T	2.6/2.2/2.4	COLLECT
pH	5.8/5.8/5.9	1x250
cond	7.26/3.22/1.95	2x1L AM
TDS	4.72/2.09/1.27	3x40 mL
DO	5.1/7.4/8.1	
TURB	25/21	

TIER II DF

615 PAN NW-NE
617 CL-drainage along S side of DF.
V. WNW
616 V NW/NE ALONG SIDE SL. @ TOE.
618 QUAD RUT MARKS ON SLOPE 0.5 ø x 25D
619 PAN NW-NE @ TOP. SE.
V SE MW-4
620 PAN SW-N. , V-E @ MW-3 @ TOP
621 V. SW / NW @ TOE
622 PAN SE - NE @ TOP.
623 PAN S-W-NW @ NE TOP.
QUAD TRACKS ON N FACE
624 V. SW ALONG TOE.
625 V. SE @ QUAD RUTS
626 V SE + SW ALONG TOE - NW CORNER
~~[illegible]~~
627 MINOR SETTLEMENT 1 x 1.2 m x 0.1 m.
ON SIDE SLOPE
628 SM PIECE OF EXP TEXTILE 25x5cm
EXP @ SURFACE.
V. SE @ QUAD RUTS AROUND WT 4
629 IRON BAR. METAL DEBRIS @ SURFACE.
0.8 x 0.03 m. W/ STEEL PLATE @ END
630 SW TOP. PAN N-SE , V. S @ MW-5

LEVEL

TOE.

631 V- NE / PAN SE - SW @ PONDED AREA ON SW TOE / FLOW FROM ADJ. CULVERT

SEPT 5, 2009

EAST BENCH LF. - SOUTH

635 V- NE, SW ALONG TOE.

636 MINOR FROST? ON SLOPE / POSS. FROM HEAVY EQUIP TRACKS 10m x 1m.

637 V. NE / SW ALONG TOE.

638 V. NE / NW ALONG TOE SE CORNER

639 PAN E / - W TOP SE CORN.

640 QUAD TRACKS 2.5 x 1 x 0.25 D.

641 V- SW / NE TOE

642 PAN. SW NE TOP.

646. V. W / PAN E - NE

648 V- SW / NE ALONG TOE

649 PAN. SW - E - NE. TOP.

NO TIER II / NE "

648 - N - NE @ TIER II

650 V- SW / NE TOE @ MW 30

651 V - SW - / NE TOP "

653 V- NE / SW.

SEPT 5, 2009 LT RAIN.

3°C COLD, 30-40 Km SOUTH WIND

VT-6	WP 632	V- E/S.
VT 7	WP 644	V - SW/E
VT-8	WP 652	V- NW/SW/NE.
VT-9	WP 659	V- S/E
VT-10	WP 662	V- S/W.
VT-11	WP 672	V - S/W

MW-28 633 WP

2.6m S of MW.

Slop 0.48 V dry

F: 1.27 F/P: 0

LT Brown/grey gravel, some cs sand, damp. FM 09-28WA 0-15

28WB 40-50

MW-27 634 WP

2.8m E of MW.

Slop = 0.44 V dry

F. 1.30 F/P = 0

10:30 NWS ADVISE OF SMALL P. BEAR UP BEACH AREA TOWARDS TOWN (8)

LT BROWN SAND, WITH GRAVEL. CS GR
P.G. 20-22 - LAYER OF KELP?, DAMP

FM09-27wA 0-15
B 40-50

MW-26 WP 633
2.2 m NE of MW.
Slug 0.35 ▽ dry
F = 1.24 FIP = ∅

Lt brown gravel, with cs sand.

FM09-26wA 0-15
B 40-50

MW-25 WP. 645.
2.6 m NE of MW
Sup 0.45 ▽ dry
F = 1.41 FIP = ∅

Lt. brown sand + gravel, med.-cs gr.
wg. damp
FM09-25wA 0-15 + dup BD2 + MAX tech
-25wB 40-50

11:05 BEAR 1km TO SW ALONG SHORE MOVING S. (9)

MW-29 WP 647
3.2 m N of MW
Slug 0.43 ▽ 0.761
F = 1.21 FIP = ∅

Lt brown gravel, some cs. sand, wet e 0.15 m.
FM09-29wA 0-15
B 40-50

		COLLECT
T	1.4/0.9/0.9	1x 250 pl
DH	6.2/6.4/6.5	2x 1L AM
Cond	2.57/3.33/3.42	3x 40 mL
TDS	1.67/2.17/2.21	
Do	5.9/4.6/4.4	
TURB	8.5/8.7/8.8	

MW-30 WP 650
3.1 m S of MW.
Slug 0.30 ▽ 0.447
F = 1.21 FIP = ∅

LT BROWN GRAVEL, SOME CS SAND
WETE 20 NO FINES
FM-09-30wA 0-15
B 40-50 + BD3

LEVEL

+ BDWI

T = 1.2/0.6/0.6 — COLLECT
pH = 7.23/7.51/7.54 — 2x250mL
Cond 5.04/3.96/3.71 — 4x 1L AM
TDS 3.27/2.57/2.46 — 6x 40mL
Turb 77/59/6.8
DO 7.2/4.3/4.1

MW-24 WP 653
27m E of MW.
Slup: 0.51 — ∇ dry
F= 1.29 — F/P=∅

Lt brown gravel, tr some cs gr. sand, damp.

FM09-24WA G-15
B 40-50

MW-23 WP 656
2.6m SW of MW.
Slup = 0.42 — ∇ dry
F= 1.255 — F/P=∅
Lt brown sand + gravel, v-g, med-cs gr, damp.
FM09-23WA G-15
B 40-50

WP 654 Pieces of metal debris on E side of ridge, engine block, misc. tubing, rebar, ~0.5m³
655 Radiator, steel bars, cable, pipe, shackles, drum lid.
657 V-N / SW. Along toe.
658 V- WSW top / N top
658 PAN S-NW top
663 PAN W-N @ LF lobe from MW21
666 V- SW / N. near MW-20
667 PAN S-W @ NE top.
668 V-W along toe
669 V- SE / W. along toe
670 PAN SSW-E along top, water ponded same as in 2008 - W side along toe.
671 Elect piece debris / 1"∅ cable exp in ridge E of MW20.
673 Tire ruts ⊥ slope 8m L x 0.15 D
674 " " 45 to slope. 1x3m AREA x 0.25D
675 PAN. N-E @ top
676 V. N / SE @ toe
678 PAN N-SW across regrade
680 PAN E-N-NW

LEVEL

MW-22 WP. 660

Slump = 0.54 ⧗ dry

F = (Rocks) 0.67 FIP = 0

Collar cracked, rivits rusted.

Lt brown sand + gravel, cs gr damp.

MW-21 WP 664

Slump 0.43 ⧗ 1.279

F: 1.32 FIP ∅ → INSUFF ⧗ TO SAMPLE

3.2m E of MW

Lt brown sand + gravel, w.g. Cs. gr, damp.

FM09-21WA 0-15

B 40-50

MW-20 WP 665

Slump 0.41 ⧗ 1.085.

FI = 1.10. FIP = ∅.

2.4m SW of MW

Lt brown sand + gravel, cs. gr. damp, no fines (little to no).

FM09-20WA 0-15

20WB 40-50

FM-23 EAST LANDFILL NORTH REGRADE

WP 677, NOT EXACTLY AS SHOWN ON MAP, ~10m N.

NEAR TAG 10803-6.

0-5 BANDING, GRASS MAT.

5- Lt brown sand + gravel, w.g, rootlets to 15, cs. gr. damp.

FM09-23A 5-15

B 40-50

LEVEL

- RAIN. 5°C IN PM.

(14)

FM-24 WP 679 SW CORNER OF REZNADE

0-5 BLK/ ORG MAT, MOSS.

5- Lt ~~BRN~~/GREY GRAVEL, SOME CS-SAND, DAMP TO WET @ 20.

PONDED WATER TO S + W.

FM09-24A 5-15

B 40-50

FM-25 WP 681 W SIDE OF REZNADE

0-8 BLK ORG MAT, FIBROUS,

8- Lt grey gravel, some cs sand, cag. wet @ 0.15

FM09-25A 8-15

B 40-50

FM-26 WP 683 NW CORNER OF REZNADE

0-5 BLK ORG MAT, FIBROUS

5- LT GREY GRAVEL, SOME CS SAND, WET @ 0.10.

FM09-26A 5-15

B 40-50

(15)

682 PAN NE-SE ALONG WEST SIDE OF REZNADE FM-25 IN CENT.

683 PAN S-NE FROM FM-26.

684 PAN. SW-SE FROM ROAD. FM-26 ON RIGHT

685 V. SW / N ALONG TOE.

686 " " TOP

MW-31 WP 685

Slug 0.40 ⧖ 1.183

F= 1.25. F/P=Ø

2.8m NE of MW

JAYPITEE AUDLAKIAK
PHILOMEN NATTUK
PETER SIAKULUK
JAYCO QANATSIAQ.

lt brown gravel, some cs gr sand, damp, wet @ 50.

FM09-31WA 0-15

B 40-50

COLLECT

T 10/0.9/0.9 1x250pL

pH 5.4/5.9/6.1 2x1L AM

Cond 1.24/1.22/1.20 3x40mL

TDS 0.81/0.79/0.78

TURB 6.9/5.2/5.4

LEVEL

SEPTEMBER 6, 2009

0°C, LT SNOW OVERNIGHT, OVERCAST, 30-45 KM/H NW.

NHWLF. - INSPECTION.

687 PAN W-N.
688 PAN W-N FROM SE TOP.
689 PAN S-W FROM NE TOP
QUAD RUTS ON NE TOP/EDGE (2)
EACH 40 x 40 x (20-30 deep)
690 V-S/W ALONG TOE - NE CORNER
691 PAN E-S-W (S) TOP-MID
692 PAN SE-SW & N-FACE - NUMEROUS TIRE TRACKS (6)
694 PAN E-S
695 PAN E-S TOP NW CORNER
696 PAN. N-E TOP SW CORNER
QUAD TRACKS ON TOP - MOST IN NW CORNER
DONUTS ~0.05 DEEP.
697 PAN N-E @ TOE

BILLBOARDS LANDFILL

698 VIEW E-SE FROM ROAD.
699 PAN N-E
~~SEE PHOTOS~~ PAN. N-N FROM BILLBOARD RAD
700 PAN N-S " "
701 WATER LINE ~0.8m UP ON SIDE OF REGRADE & PAN E-S.
702 CM-3

S217 REGRADE

703 PAN S-SE FROM ROAD
704 " " NE TOE.
705 PAN. E-S. FROM ROAD
706 PAN NW-E-SE TOP.
707 V NW/NE ALONG TOE
~~SEE~~ SE CORNER PAN W-N
~~SEE PHOTOS~~ TIRE RUTS ON SE CORNER 0.1 Deep.
// to slope

COMMUNICATION N. LANDFILL

708 PAN N-W.
709 V NE PUNDMC TOE (8m) x 15°
710 TIRE RUTS // TO SLOPE 2 x 0.8 x 0.2 D. 4 QUAD
711 RUTS TRUCK ANGLE 45° TO SLOPE MINOR 0.05 D
712 V S/N ALONG TOE

LEVEL

713 TIRE RUTS 45° TO SLOPE 0.1 DEEP
714 PAN S-W.
715 V. S. WEST SIDE + NW TOE
716 V. N/S.
717 V. N. ALONG TOE, RUN 15m N.
718 RUT. 3m x 0.5 x 0.2 D.

COMMUNICATIONS NORTHWEST LANDFILL

719. V NE/W ALONG TOE
720 PAN NE-W TOP SE CORNER.
721 PAN. SW-NW TOP NE CORNER
TIRE RUTS ALONG E SIDE UP TO 0.15 D
722 PAN SE-S (3)
723 PAN N-E / SW CORNER) TOP

HAZMAT STORAGE - EAST LANDFILL

724 PAN S-SE
725 PAN. NE-S @ NW TOP
726 V. N/E ALONG SIDE SLOPES
727 V E/W.
728 PAN NW-NE
729 PAN N-N. RUTS OF CORNR 0.15 D QUAY
730 SHEET METAL IN V 27m L x 06 W.
731 V SE @ DIESES OF DEBRIS (3 TOTAL)
SHEET CORR. METAL + PLASTIC

732 PLYWOOD 4x8x1" @ TOE
733 PIECE OF 20m REBAR 7+m LONG
734 V SE ALONG TOE
735 PAN S-SE ACROSS LOWER BENCH.

SEPTEMBER 7, 2009

LUCAS SLOT P. BEARD COMM.
BILLBOARD BUILDING N. OF TIER II
D.F. SEE PHOTOS. 8/9/09.

LEVEL

SEPTEMBER 8, 2009. 19°C, CLEAR (20) 20km/h NW.

WATER SAMPLING.

PHILEMON, PETER (QUAD), JAYPETEE.

MW-21 NU ✓

MW-31

MW-30 BDW1

MW-29

MW-1

MW-2

MW-3

MW-4 + DUP FOR EY (MAXXAM)

MW-5

APPENDIX C

Maxxam and Exova QA/QC Reports and Certificates of Analysis

1 QUALITY ASSURANCE / QUALITY CONTROL

The 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, representative and comparable. The review consisted of evaluating sample collection/handling methodology, general laboratory comments, field (blind) duplicate samples, and inter-laboratory duplicate samples. Samples collected during the monitoring program were submitted to laboratories accredited by the Canadian Association for Environmental Analytical Laboratories (CAEAL).

All samples were collected following strict Biogenie sampling procedures. Samples were uniquely labelled and control was maintained through the use of chain of custody forms. All samples were collected in laboratory supplied containers and preserved in insulated coolers. Appropriate QA/QC procedures were adhered to at all times.

Primary and QA/QC samples were shipped via commercial air freight to the receiving labs within four days of sample collection. Delays by commercial airlines (First Air) in transferring the sample coolers to Exova's Ottawa laboratory resulted in the recommended sample hold times being exceeded for TPH analysis.

Blind duplicate samples were submitted to Exova for intra-laboratory analysis, with additional duplicate samples were sent to Maxxam for interlaboratory comparison purposes. Both laboratories are located in Ottawa, Ontario.

The relative percent difference (RPD) is used to evaluate the sample result variability. Average RPD values of less than 100% for soil samples and 30% for groundwater samples are considered an indication of acceptable duplicate sample variability. For groundwater samples, an RPD of greater than 30% may reflect difference in sample turbidity or variance in the sample procedures. Individual RPD values greater than 50% are not considered to reflect acceptable variability. RPD values are not used to evaluate those compounds that are present at concentrations less than five times the method detection limit (MDL).

Results are presented in Appendix C.

1.1 SOIL SAMPLES

In case of soil samples, three blind duplicate samples were submitted for intra- and inter-laboratory comparison. Some minor differences were noted within the Exova and Maxxam metals results when duplicates were compared, although all differences are considered to be well within acceptable limits. In case of PCBs and TPH, all reported concentrations were below the MDL.

1.2 GROUNDWATER

In the case of groundwater samples, one blind duplicate sample was submitted for intra-laboratory comparison and a second sample for inter-laboratory comparison. The reported TPH and PCB results for both intra- and interlaboratory duplicates were below the MDL.

Comparison of intra-laboratory total metal results for BDW1 indicates RPDs within acceptable limits for the majority of parameters, the exception being chromium with an RPD of 85.7%. Comparison of the inter-laboratory sample collected from MW-30 indicates all RPDs within acceptable limits. It should be noted that the majority of individual parameter concentrations were less than five times the MDL.

Results from one field blank indicated all concentrations below the MDL for total metals, PCBs and hydrocarbons.

Overall, the soil sample results for metals, TPH and PCBs are coherent and within the same range of results for both laboratories and the reliability of the soil and groundwater analytical results are considered as good.

Your Project #: FOX-M
Site: HALLBEACH NU
Your C.O.C. #: 83415

Attention: Jean-Pierre Pelletier
Sila Remediation
4495 boul Wilfred Hamel bureau
Ville de Quebec, QC
CANADA J1P 2G7

Report Date: 2009/09/22

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9C0533
Received: 2009/09/14, 16:30

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	3	2009/09/15	2009/09/17	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Soil (1)	3	2009/09/15	2009/09/17	CAM SOP-00316	CCME CWS
Acid Extr. Metals (aqua regia) by ICPMS	3	2009/09/21	2009/09/21	CAM SOP-00447	EPA 6020
MOISTURE (1)	3	N/A	2009/09/17	CAM SOP-00445	MOE HANDBOOK(1983)
MOISTURE	3	N/A	2009/09/17	CAM SOP-00445	McKeague 2nd ed 1978
Polychlorinated Biphenyl in Soil	3	2009/09/18	2009/09/20	CAM SOP-00309	SW846 8082

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Petroleum Hydro. CCME F1 & BTEX in Water (1)	1	N/A	2009/09/17	CAM SOP-00315	CCME CWS
Petroleum Hydrocarbons F2-F4 in Water (1)	1	2009/09/15	2009/09/16	CAM SOP-00316	CCME Hydrocarbons
Mercury in Water by CVAA	1	2009/09/21	2009/09/21	CAM SOP-00453	EPA 7470
Total Metals Analysis by ICPMS	1	N/A	2009/09/21	CAM SOP-00447	EPA 6020
Polychlorinated Biphenyl in Water	1	2009/09/17	2009/09/18	CAM SOP-00309	SW846 8082

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Ottawa

../2

Your Project #: FOX-M
Site: HALLBEACH NU
Your C.O.C. #: 83415

Attention: Jean-Pierre Pelletier
Sila Remediation
4495 boul Wilfred Hamel bureau
Ville de Quebec, QC
CANADA J1P 2G7

Report Date: 2009/09/22

CERTIFICATE OF ANALYSIS

Encryption Key

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

MELISSA MORRISON, Project Manager
Email: Melissa.Morrison@maxxamanalytics.com
Phone# (613) 274-0573

==========

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 CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A9C0533
Report Date: 2009/09/22

Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

RESULTS OF ANALYSES OF SOIL

Maxxam ID		DR7345	DR7346	DR7347		
Sampling Date		2009/09/04	2009/09/05	2009/09/05		
COC Number		83415	83415	83415		
	Units	**FM09-5WA**	**FM09-25WA**	**FM09-30WB**	**RDL**	**QC Batch**
Inorganics						
Moisture	%	16	9.3	10	0.2	1941844

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9C0533
Report Date: 2009/09/22

Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		DR7345	DR7346		DR7347		
Sampling Date		2009/09/04	2009/09/05		2009/09/05		
COC Number		83415	83415		83415		
	Units	**FM09-5WA**	**FM09-25WA**	**RDL**	**FM09-30WB**	**RDL**	**QC Batch**
Metals							
Acid Extractable Arsenic (As)	ug/g	1	3	1	3	1	1944860
Acid Extractable Cadmium (Cd)	ug/g	ND	ND	0.1	ND	0.1	1944860
Acid Extractable Chromium (Cr)	ug/g	11	7	1	8	1	1944860
Acid Extractable Cobalt (Co)	ug/g	1.9	1.6	0.1	1.5	0.1	1944860
Acid Extractable Copper (Cu)	ug/g	3.7	5.3	0.5	11	0.5	1944860
Acid Extractable Lead (Pb)	ug/g	2	3	1	4	1	1944860
Acid Extractable Nickel (Ni)	ug/g	7.6	7.6	2.5	6.7	0.5	1944860
Acid Extractable Zinc (Zn)	ug/g	13	10	5	11	5	1944860
Acid Extractable Mercury (Hg)	ug/g	ND	ND	0.05	ND	0.05	1944860

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9C0533
Report Date: 2009/09/22

Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		DR7345	DR7346	DR7347		
Sampling Date		2009/09/04	2009/09/05	2009/09/05		
COC Number		83415	83415	83415		
	Units	**FM09-5WA**	**FM09-25WA**	**FM09-30WB**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons						
F1 (C6-C10)	ug/g	ND	ND	ND	10	1938780
F1 (C6-C10) - BTEX	ug/g	ND	ND	ND	10	1938780
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	ND	ND	ND	10	1938766
F3 (C16-C34 Hydrocarbons)	ug/g	ND	ND	ND	10	1938766
F4 (C34-C50 Hydrocarbons)	ug/g	ND	ND	ND	10	1938766
Reached Baseline at C50	ug/g	Yes	Yes	Yes		1938766
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	100	107	114		1938780
4-Bromofluorobenzene	%	104	105	104		1938780
D10-Ethylbenzene	%	82	81	85		1938780
D4-1,2-Dichloroethane	%	105	93	102		1938780
o-Terphenyl	%	95	81	90		1938766

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9C0533
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Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		DR7345	DR7346	DR7347		
Sampling Date		2009/09/04	2009/09/05	2009/09/05		
COC Number		83415	83415	83415		
	Units	**FM09-5WA**	**FM09-25WA**	**FM09-30WB**	**RDL**	**QC Batch**
PCBs						
Aroclor 1262	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1016	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1221	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1232	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1242	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1248	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1254	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1260	ug/g	ND	ND	ND	0.01	1943983
Aroclor 1268	ug/g	ND	ND	ND	0.01	1943983
Total PCB	ug/g	ND	ND	ND	0.01	1943983
Surrogate Recovery (%)						
2,4,5,6-Tetrachloro-m-xylene	%	51	43	45		1943983
Decachlorobiphenyl	%	97	87	91		1943983

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9C0533
Report Date: 2009/09/22

Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DR7349		
Sampling Date		2009/09/08		
COC Number		83415		
	Units	**FM09-4W**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	1943511
Total Arsenic (As)	ug/L	ND	1	1943459
Total Cadmium (Cd)	ug/L	ND	0.1	1943459
Total Chromium (Cr)	ug/L	8	5	1943459
Total Cobalt (Co)	ug/L	0.7	0.5	1943459
Total Copper (Cu)	ug/L	2	1	1943459
Total Lead (Pb)	ug/L	ND	0.5	1943459
Total Nickel (Ni)	ug/L	5	1	1943459
Total Zinc (Zn)	ug/L	ND	5	1943459

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9C0533
Report Date: 2009/09/22

Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		DR7349		
Sampling Date		2009/09/08		
COC Number		83415		
	Units	**FM09-4W**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons				
F1 (C6-C10)	ug/L	ND	100	1939548
F1 (C6-C10) - BTEX	ug/L	ND	100	1939548
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/L	ND	100	1939360
F3 (C16-C34 Hydrocarbons)	ug/L	ND	100	1939360
F4 (C34-C50 Hydrocarbons)	ug/L	ND	100	1939360
Reached Baseline at C50	ug/L	Yes		1939360
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	106		1939548
4-Bromofluorobenzene	%	108		1939548
D10-Ethylbenzene	%	86		1939548
D4-1,2-Dichloroethane	%	97		1939548
o-Terphenyl	%	86		1939360

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2009/09/22

Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

POLYCHLORINATED BIPHENYLS BY GC-ECD (WATER)

Maxxam ID		DR7349		
Sampling Date		2009/09/08		
COC Number		83415		
	Units	**FM09-4W**	**RDL**	**QC Batch**
PCBs				
Aroclor 1016	ug/L	ND	0.05	1941843
Aroclor 1221	ug/L	ND	0.05	1941843
Aroclor 1232	ug/L	ND	0.05	1941843
Aroclor 1242	ug/L	ND	0.05	1941843
Aroclor 1248	ug/L	ND	0.05	1941843
Aroclor 1254	ug/L	ND	0.05	1941843
Aroclor 1260	ug/L	ND	0.05	1941843
Aroclor 1262	ug/L	ND	0.05	1941843
Aroclor 1268	ug/L	ND	0.05	1941843
Total PCB	ug/L	ND	0.05	1941843
Surrogate Recovery (%)				
2,4,5,6-Tetrachloro-m-xylene	%	54		1941843
Decachlorobiphenyl	%	84		1941843

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9C0533
Report Date: 2009/09/22

Sila Remediation
Client Project #: FOX-M
Project name: HALLBEACH NU
Sampler Initials: AP

Package 1	7.3°C

Each temperature is the average of up to three cooler temperatures taken at receipt

GENERAL COMMENTS

Sample DR7345-01: F1/BTEX & F2-F4:

Due to the volatility of the analysed compounds, results from a sample containing headspace are likely biased. Analysis performed on the submitted samples will only accurately represent the values within the container at the time of testing. These values will not represent the actual concentrations within the sample source at the time of collection.

Sample DR7346-01: F1/BTEX & F2-F4:

Due to the volatility of the analysed compounds, results from a sample containing headspace are likely biased. Analysis performed on the submitted samples will only accurately represent the values within the container at the time of testing. These values will not represent the actual concentrations within the sample source at the time of collection.

Sample DR7347-01: F1/BTEX & F2-F4:

Due to the volatility of the analysed compounds, results from a sample containing headspace are likely biased. Analysis performed on the submitted samples will only accurately represent the values within the container at the time of testing. These values will not represent the actual concentrations within the sample source at the time of collection.

Results relate only to the items tested.

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Sila Remediation
Attention: Jean-Pierre Pelletier
Client Project #: FOX-M
P.O. #:
Project name: HALLBEACH NU

Quality Assurance Report

Maxxam Job Number: TA9C0533

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1938757	LHR	RPD	Moisture	2009/09/17	3.1		%	50
1938766	PRB	Matrix Spike	o-Terphenyl	2009/09/17		84	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2009/09/17		96	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2009/09/17		96	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2009/09/17		96	%	60 - 130
		Spiked Blank	o-Terphenyl	2009/09/17		82	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2009/09/17		86	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2009/09/17		86	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2009/09/17		86	%	60 - 130
		Method Blank	o-Terphenyl	2009/09/17		86	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2009/09/17	ND, RDL=10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2009/09/17	ND, RDL=10		ug/g	
			F4 (C34-C50 Hydrocarbons)	2009/09/17	ND, RDL=10		ug/g	
		RPD	F2 (C10-C16 Hydrocarbons)	2009/09/17	NC		%	50
			F3 (C16-C34 Hydrocarbons)	2009/09/17	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2009/09/17	NC		%	50
1938780	STE	Matrix Spike	1,4-Difluorobenzene	2009/09/17		114	%	60 - 140
			4-Bromofluorobenzene	2009/09/17		104	%	60 - 140
			D10-Ethylbenzene	2009/09/17		91	%	30 - 130
			D4-1,2-Dichloroethane	2009/09/17		103	%	60 - 140
			F1 (C6-C10)	2009/09/17		93	%	60 - 140
		Spiked Blank	1,4-Difluorobenzene	2009/09/17		109	%	60 - 140
			4-Bromofluorobenzene	2009/09/17		104	%	60 - 140
			D10-Ethylbenzene	2009/09/17		96	%	30 - 130
			D4-1,2-Dichloroethane	2009/09/17		103	%	60 - 140
			F1 (C6-C10)	2009/09/17		88	%	60 - 140
		Method Blank	1,4-Difluorobenzene	2009/09/17		104	%	60 - 140
			4-Bromofluorobenzene	2009/09/17		104	%	60 - 140
			D10-Ethylbenzene	2009/09/17		90	%	30 - 130
			D4-1,2-Dichloroethane	2009/09/17		103	%	60 - 140
			F1 (C6-C10)	2009/09/17	ND, RDL=10		ug/g	
			F1 (C6-C10) - BTEX	2009/09/17	ND, RDL=10		ug/g	
		RPD	F1 (C6-C10)	2009/09/17	NC		%	50
			F1 (C6-C10) - BTEX	2009/09/17	NC		%	50
1939360	PRB	Matrix Spike	o-Terphenyl	2009/09/16		93	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2009/09/16		82	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2009/09/16		82	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2009/09/16		82	%	60 - 130
		Spiked Blank	o-Terphenyl	2009/09/16		86	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2009/09/16		84	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2009/09/16		84	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2009/09/16		84	%	60 - 130
		Method Blank	o-Terphenyl	2009/09/16		85	%	30 - 130
			F2 (C10-C16 Hydrocarbons)	2009/09/16	ND, RDL=100		ug/L	
			F3 (C16-C34 Hydrocarbons)	2009/09/16	ND, RDL=100		ug/L	
			F4 (C34-C50 Hydrocarbons)	2009/09/16	ND, RDL=100		ug/L	
		RPD	F2 (C10-C16 Hydrocarbons)	2009/09/16	34.2		%	50
			F3 (C16-C34 Hydrocarbons)	2009/09/16	NC		%	50
			F4 (C34-C50 Hydrocarbons)	2009/09/16	NC		%	50
1939548	STE	Matrix Spike	1,4-Difluorobenzene	2009/09/17		117	%	70 - 130
			4-Bromofluorobenzene	2009/09/17		107	%	70 - 130
			D10-Ethylbenzene	2009/09/17		87	%	70 - 130
			D4-1,2-Dichloroethane	2009/09/17		95	%	70 - 130
			F1 (C6-C10)	2009/09/17		93	%	70 - 130
		Spiked Blank	1,4-Difluorobenzene	2009/09/17		94	%	70 - 130

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Sila Remediation
Attention: Jean-Pierre Pelletier
Client Project #: FOX-M
P.O. #:
Project name: HALLBEACH NU

Quality Assurance Report (Continued)

Maxxam Job Number: TA9C0533

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1939548	STE	Spiked Blank	4-Bromofluorobenzene	2009/09/17		109	%	70 - 130
			D10-Ethylbenzene	2009/09/17		85	%	70 - 130
			D4-1,2-Dichloroethane	2009/09/17		97	%	70 - 130
			F1 (C6-C10)	2009/09/17		90	%	70 - 130
		Method Blank	1,4-Difluorobenzene	2009/09/17		104	%	70 - 130
			4-Bromofluorobenzene	2009/09/17		109	%	70 - 130
			D10-Ethylbenzene	2009/09/17		84	%	70 - 130
			D4-1,2-Dichloroethane	2009/09/17		96	%	70 - 130
			F1 (C6-C10)	2009/09/17	ND, RDL=100		ug/L	
			F1 (C6-C10) - BTEX	2009/09/17	ND, RDL=100		ug/L	
		RPD	F1 (C6-C10)	2009/09/17	NC		%	40
			F1 (C6-C10) - BTEX	2009/09/17	NC		%	40
1941843	LPG	Matrix Spike	2,4,5,6-Tetrachloro-m-xylene	2009/09/18		52	%	40 - 130
			Decachlorobiphenyl	2009/09/18		76	%	40 - 130
			Aroclor 1260	2009/09/18		66	%	30 - 130
			Total PCB	2009/09/18		66	%	30 - 130
		Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2009/09/18		61	%	40 - 130
			Decachlorobiphenyl	2009/09/18		93	%	40 - 130
			Aroclor 1260	2009/09/18		86	%	30 - 130
			Total PCB	2009/09/18		86	%	30 - 130
		Method Blank	2,4,5,6-Tetrachloro-m-xylene	2009/09/18		59	%	40 - 130
			Decachlorobiphenyl	2009/09/18		82	%	40 - 130
			Aroclor 1016	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1221	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1232	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1242	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1248	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1254	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1260	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1262	2009/09/18	ND, RDL=0.05		ug/L	
			Aroclor 1268	2009/09/18	ND, RDL=0.05		ug/L	
			Total PCB	2009/09/18	ND, RDL=0.05		ug/L	
		RPD	Total PCB	2009/09/18	NC		%	40
1941844	MYG	RPD	Moisture	2009/09/17	1.6		%	50
1943459	JBW	Matrix Spike	Total Arsenic (As)	2009/09/21		104	%	80 - 120
			Total Cadmium (Cd)	2009/09/21		103	%	80 - 120
			Total Chromium (Cr)	2009/09/21		105	%	80 - 120
			Total Cobalt (Co)	2009/09/21		104	%	80 - 120
			Total Copper (Cu)	2009/09/21		99	%	80 - 120
			Total Lead (Pb)	2009/09/21		98	%	80 - 120
			Total Nickel (Ni)	2009/09/21		102	%	80 - 120
			Total Zinc (Zn)	2009/09/21		100	%	80 - 120
		Spiked Blank	Total Arsenic (As)	2009/09/21		107	%	86 - 119
			Total Cadmium (Cd)	2009/09/21		107	%	85 - 116
			Total Chromium (Cr)	2009/09/21		109	%	80 - 120
			Total Cobalt (Co)	2009/09/21		109	%	82 - 117
			Total Copper (Cu)	2009/09/21		105	%	80 - 117
			Total Lead (Pb)	2009/09/21		101	%	80 - 120
			Total Nickel (Ni)	2009/09/21		106	%	81 - 117
			Total Zinc (Zn)	2009/09/21		106	%	80 - 120
		Method Blank	Total Arsenic (As)	2009/09/21	ND, RDL=1		ug/L	
			Total Cadmium (Cd)	2009/09/21	ND, RDL=0.1		ug/L	
			Total Chromium (Cr)	2009/09/21	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/09/21	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/09/21	ND, RDL=1		ug/L	

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Sila Remediation
Attention: Jean-Pierre Pelletier
Client Project #: FOX-M
P.O. #:
Project name: HALLBEACH NU

Quality Assurance Report (Continued)

Maxxam Job Number: TA9C0533

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1943459	JBW	Method Blank	Total Lead (Pb)	2009/09/21	ND, RDL=0.5		ug/L	
			Total Nickel (Ni)	2009/09/21	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/09/21	ND, RDL=5		ug/L	
		RPD	Total Lead (Pb)	2009/09/21	NC		%	25
1943511	MC	Matrix Spike	Mercury (Hg)	2009/09/21		110	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/09/21		107	%	84 - 113
		Method Blank	Mercury (Hg)	2009/09/21	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/09/21	NC		%	25
1943983	LGA	Matrix Spike	2,4,5,6-Tetrachloro-m-xylene	2009/09/20		57	%	40 - 130
			Decachlorobiphenyl	2009/09/20		96	%	40 - 130
			Aroclor 1260	2009/09/20		89	%	30 - 130
			Total PCB	2009/09/20		89	%	30 - 130
		Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2009/09/20		60	%	40 - 130
			Decachlorobiphenyl	2009/09/20		88	%	40 - 130
			Aroclor 1260	2009/09/20		81	%	30 - 130
			Total PCB	2009/09/20		81	%	30 - 130
		Method Blank	2,4,5,6-Tetrachloro-m-xylene	2009/09/20		60	%	40 - 130
			Decachlorobiphenyl	2009/09/20		82	%	40 - 130
			Aroclor 1262	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1016	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1221	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1232	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1242	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1248	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1254	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1260	2009/09/20	ND, RDL=0.01		ug/g	
			Aroclor 1268	2009/09/20	ND, RDL=0.01		ug/g	
			Total PCB	2009/09/20	ND, RDL=0.01		ug/g	
		RPD	Aroclor 1262	2009/09/20	NC		%	50
			Aroclor 1016	2009/09/20	NC		%	50
			Aroclor 1221	2009/09/20	NC		%	50
			Aroclor 1232	2009/09/20	NC		%	50
			Aroclor 1242	2009/09/20	NC		%	50
			Aroclor 1248	2009/09/20	NC		%	50
			Aroclor 1254	2009/09/20	NC		%	50
			Aroclor 1260	2009/09/20	NC		%	50
			Aroclor 1268	2009/09/20	NC		%	50
			Total PCB	2009/09/20	NC		%	50
1944860	VIV	Matrix Spike	Acid Extractable Arsenic (As)	2009/09/21		97	%	75 - 125
			Acid Extractable Cadmium (Cd)	2009/09/21		96	%	75 - 125
			Acid Extractable Chromium (Cr)	2009/09/21		96	%	75 - 125
			Acid Extractable Cobalt (Co)	2009/09/21		95	%	75 - 125
			Acid Extractable Copper (Cu)	2009/09/21		92	%	75 - 125
			Acid Extractable Lead (Pb)	2009/09/21		96	%	75 - 125
			Acid Extractable Nickel (Ni)	2009/09/21		95	%	75 - 125
			Acid Extractable Zinc (Zn)	2009/09/21		93	%	75 - 125
			Acid Extractable Mercury (Hg)	2009/09/21		103	%	75 - 125
		QC Standard	Acid Extractable Arsenic (As)	2009/09/21		94	%	75 - 125
			Acid Extractable Cadmium (Cd)	2009/09/21		91	%	75 - 125
			Acid Extractable Chromium (Cr)	2009/09/21		87	%	75 - 125
			Acid Extractable Cobalt (Co)	2009/09/21		90	%	75 - 125
			Acid Extractable Copper (Cu)	2009/09/21		101	%	75 - 125
			Acid Extractable Lead (Pb)	2009/09/21		100	%	75 - 125
			Acid Extractable Nickel (Ni)	2009/09/21		92	%	75 - 125
			Acid Extractable Zinc (Zn)	2009/09/21		93	%	75 - 125

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Sila Remediation
Attention: Jean-Pierre Pelletier
Client Project #: FOX-M
P.O. #:
Project name: HALLBEACH NU

Quality Assurance Report (Continued)

Maxxam Job Number: TA9C0533

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1944860	VIV	QC Standard	Acid Extractable Mercury (Hg)	2009/09/21		92	%	75 - 125
		Method Blank	Acid Extractable Arsenic (As)	2009/09/21	ND, RDL=1		ug/g	
			Acid Extractable Cadmium (Cd)	2009/09/21	ND, RDL=0.1		ug/g	
			Acid Extractable Chromium (Cr)	2009/09/21	ND, RDL=1		ug/g	
			Acid Extractable Cobalt (Co)	2009/09/21	ND, RDL=0.1		ug/g	
			Acid Extractable Copper (Cu)	2009/09/21	ND, RDL=0.5		ug/g	
			Acid Extractable Lead (Pb)	2009/09/21	ND, RDL=1		ug/g	
			Acid Extractable Nickel (Ni)	2009/09/21	ND, RDL=0.5		ug/g	
			Acid Extractable Zinc (Zn)	2009/09/21	ND, RDL=5		ug/g	
			Acid Extractable Mercury (Hg)	2009/09/21	ND, RDL=0.05		ug/g	
		RPD	Acid Extractable Arsenic (As)	2009/09/21	NC		%	35
			Acid Extractable Cadmium (Cd)	2009/09/21	NC		%	35
			Acid Extractable Chromium (Cr)	2009/09/21	2.4		%	35
			Acid Extractable Cobalt (Co)	2009/09/21	1.1		%	35
			Acid Extractable Copper (Cu)	2009/09/21	1.7		%	35
			Acid Extractable Lead (Pb)	2009/09/21	NC		%	35
			Acid Extractable Nickel (Ni)	2009/09/21	1.3		%	35
			Acid Extractable Zinc (Zn)	2009/09/21	NC		%	35
			Acid Extractable Mercury (Hg)	2009/09/21	NC		%	35

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: A9C0533

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CHARLES ANCKER, B.Sc., M.Sc., C.Chem, Senior Analyst

CRISTINA CARRIERE, Scientific Services

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PAUL RUBINATO, Analyst, Maxxam Analytics

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924333
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112516**

			LAB ID:	748382	748383	748384	748385	748386	GUIDELINE		
			Sample Date:	2009-09-04	2009-09-04	2009-09-04	2009-09-04	2009-09-04			
			Sample ID:	FM09-1WA	FM09-1WB	FM09-2WA	FM09-2WB	FM09-3WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		2.2	4.2	5.1	3.4	3.4			
Arsenic	ug/g	1		2	2	2	3	2			
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1		24	22	23	26	29			
Cobalt	ug/g	1		12	8	7	10	7			
Copper	ug/g	1		9	8	6	9	7			
Lead	ug/g	1		8	4	8	7	6			
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1	<0.1			
Nickel	ug/g	1		17	14	14	16	17			
Zinc	ug/g	1		21	10	25	14	165			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: _____
Lorna Wilson
Agriculture Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924333
Date: 2009-10-14
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Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112516**

			LAB ID:	748387	748388	748389	748390	748391	GUIDELINE		
			Sample Date:	2009-09-04	2009-09-04	2009-09-04	2009-09-04	2009-09-04			
			Sample ID:	FM09-3WB	FM09-4WA	FM09-4WB	FM09-5WA	FM09-5WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		11.0	16.2	18.5	6.2	5.7			
Arsenic	ug/g	1		2	1	2	<1	2			
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1		19	15	18	22	25			
Cobalt	ug/g	1		5	5	4	6	9			
Copper	ug/g	1		6	4	4	4	6			
Lead	ug/g	1		3	3	2	3	4			
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1	<0.1			
Nickel	ug/g	1		14	10	11	14	19			
Zinc	ug/g	1		12	10	10	13	15			

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Comment:

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Lorna Wilson
Agriculture Lab Supervisor

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Project: FOX-M

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Chain of Custody Number: **112516**

Matrix: Soil

			LAB ID:	748382	748383	748384	748385	748386	GUIDELINE		
			Sample Date:	2009-09-04	2009-09-04	2009-09-04	2009-09-04	2009-09-04			
			Sample ID:	FM09-1WA	FM09-1WB	FM09-2WA	FM09-2WB	FM09-3WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1		2.2	4.2	5.1	3.4	3.4			
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20		<20	<20	<20	<20	<20			
F2 (C10-C16)	ug/g	20		<20	<20	<20	<20	<20			
F3 (C16-C34)	ug/g	20		<20	<20	<20	<20	<20			

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Comment:

APPROVAL:

Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

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P.O. Number:

Chain of Custody Number: **112516**

Matrix: Soil

			LAB ID:	748387	748388	748389	748390	748391	GUIDELINE		
			Sample Date:	2009-09-04	2009-09-04	2009-09-04	2009-09-04	2009-09-04			
			Sample ID:	FM09-3WB	FM09-4WA	FM09-4WB	FM09-5WA	FM09-5WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1		11.0	16.2	18.5	6.2	5.7			
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20		<20	<20	<20	<20	<20			
F2 (C10-C16)	ug/g	20		<20	<20	<20	<20	<20			
F3 (C16-C34)	ug/g	20		<20	60	32	20	42			

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Comment:

APPROVAL:

Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924333
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112516**

			LAB ID:	748382	748383	748384	748385	748386	**GUIDELINE**		
			Sample Date:	2009-09-04	2009-09-04	2009-09-04	2009-09-04	2009-09-04			
			Sample ID:	FM09-1WA	FM09-1WB	FM09-2WA	FM09-2WB	FM09-3WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02		<0.02	<0.02	<0.02	<0.02	<0.02			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

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P.O. Number:
Matrix: Soil

Chain of Custody Number: **112516**

			LAB ID:	748387	748388	748389	748390	748391	**GUIDELINE**		
			Sample Date:	2009-09-04	2009-09-04	2009-09-04	2009-09-04	2009-09-04			
			Sample ID:	FM09-3WB	FM09-4WA	FM09-4WB	FM09-5WA	FM09-5WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
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Report Number: 2924334
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112517**

			LAB ID:	748392	748393	748394	748395	748396	**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-20WA	FM09-20WB	FM09-21WA	FM09-21WB	FM09-22WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		3.5	2.6	3.0	2.9	1.5			
Arsenic	ug/g	1		2	3	2	2	2			
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1		25	25	16	18	24			
Cobalt	ug/g	1		5	6	6	6	4			
Copper	ug/g	1		14	7	10	4	4			
Lead	ug/g	1		10	7	13	4	5			
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1	<0.1			
Nickel	ug/g	1		14	15	11	12	15			
Zinc	ug/g	1		13	16	21	10	9			

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Comment:

APPROVAL:

Lorna Wilson
Agriculture Lab Supervisor

REPORT OF ANALYSIS

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Report Number: 2924334
Date: 2009-10-14
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Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112517**

			LAB ID:	748397	748398	748399	748400	748401	GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-22WB	FM09-23WA	FM09-23WB	FM09-24WA	FM09-24WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		4.1	3.3	3.7	2.0	2.1			
Arsenic	ug/g	1		3	3	3	3	2			
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1		15	15	16	19	23			
Cobalt	ug/g	1		4	5	5	4	4			
Copper	ug/g	1		4	14	5	5	5			
Lead	ug/g	1		4	22	6	10	5			
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1	<0.1			
Nickel	ug/g	1		12	12	13	14	15			
Zinc	ug/g	1		10	26	14	16	12			

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Comment:

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Lorna Wilson
Agriculture Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924334
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:

Chain of Custody Number: **112517**

Matrix: Soil

			LAB ID:	748392	748393	748394	748395	748396	GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-20WA	FM09-20WB	FM09-21WA	FM09-21WB	FM09-22WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1		3.5	2.6	3.0	2.9	1.5			
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20		<20	<20	<20	<20	<20			
F2 (C10-C16)	ug/g	20		<20	<20	<20	<20	<20			
F3 (C16-C34)	ug/g	20		137	114	<20	<20	<20			

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Comment:

APPROVAL:

Charlie Qu
Organic Lab Team Leader

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924334
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112517**

			LAB ID:	748397	748398	748399	748400	748401	GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-22WB	FM09-23WA	FM09-23WB	FM09-24WA	FM09-24WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1		4.1	3.3	3.7	2.0	2.1			
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20		<20	<20	<20	<20	<20			
F2 (C10-C16)	ug/g	20		<20	<20	<20	<20	<20			
F3 (C16-C34)	ug/g	20		<20	<20	<20	<20	<20			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Charlie Qu
Organic Lab Team Leader

REPORT OF ANALYSIS

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Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112517**

			LAB ID:	748392	748393	748394	748395	748396	**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-20WA	FM09-20WB	FM09-21WA	FM09-21WB	FM09-22WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02		<0.02	<0.02	<0.02	<0.02	<0.02			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Charlie Qu
Organic Lab Team Leader

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924334
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112517**

			LAB ID:	748397	748398	748399	748400	748401	**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-22WB	FM09-23WA	FM09-23WB	FM09-24WA	FM09-24WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02		<0.02	<0.02	<0.02	<0.02	<0.02			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Charlie Qu
Organic Lab Team Leader

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924335
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112518**

			LAB ID:	748402	748403	748404	748405	748406	**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-25WA	FM09-25WB	FM09-26WA	FM09-26WB	FM09-27WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		8.5	5.2	2.7	2.6	3.3			
Arsenic	ug/g	1		2	1	2	2	2			
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1		22	16	19	13	18			
Cobalt	ug/g	1		4	5	5	3	3			
Copper	ug/g	1		4	4	4	3	3			
Lead	ug/g	1		4	6	4	4	5			
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1	<0.1			
Nickel	ug/g	1		16	13	13	11	13			
Zinc	ug/g	1		9	10	7	8	8			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: _____
Lorna Wilson
Agriculture Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924335
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:

Chain of Custody Number: **112518**

Matrix: Soil

			LAB ID:	748407	748408	748409	748410	748411	GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-27WB	FM09-28WA	FM09-28WB	FM09-29WA	FM09-29WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		3.1	4.9	3.2	4.0	10.3			
Arsenic	ug/g	1		3	2	3	2	2			
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5	<0.5			
Chromium	ug/g	1		15	12	20	15	15			
Cobalt	ug/g	1		4	4	4	3	3			
Copper	ug/g	1		7	13	20	6	4			
Lead	ug/g	1		6	13	47	7	5			
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1	<0.1			
Nickel	ug/g	1		13	11	14	12	11			
Zinc	ug/g	1		11	13	21	11	9			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: _____

Lorna Wilson
Agriculture Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924335
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:

Chain of Custody Number: **112518**

Matrix: Soil

			LAB ID:	748402	748403	748404	748405	748406	GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-25WA	FM09-25WB	FM09-26WA	FM09-26WB	FM09-27WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1	8.5	5.2	2.7	2.6	3.3			
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20	<20	<20	<20	<20	<20			
F2 (C10-C16)	ug/g	20	<20	<20	<20	<20	<20			
F3 (C16-C34)	ug/g	20	<20	<20	<20	<20	<20			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924335
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:

Chain of Custody Number: **112518**

Matrix: Soil

			LAB ID:	748407	748408	748409	748410	748411	GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-27WB	FM09-28WA	FM09-28WB	FM09-29WA	FM09-29WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1	3.1	4.9	3.2	4.0	10.3			
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20	<20	<20	<20	<20	<20			
F2 (C10-C16)	ug/g	20	<20	<20	<20	<20	<20			
F3 (C16-C34)	ug/g	20	<20	<20	<20	<20	<20			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924335
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112518**

			LAB ID:	748402	748403	748404	748405	748406	**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-25WA	FM09-25WB	FM09-26WA	FM09-26WB	FM09-27WA			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924335
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112518**

			LAB ID:	748407	748408	748409	748410	748411	**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-27WB	FM09-28WA	FM09-28WB	FM09-29WA	FM09-29WB			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02		<0.02	<0.02	<0.02	<0.02	<0.02			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924336
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112519**

			LAB ID:	748412	748413	748414	748415		**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05				
			Sample ID:	FM09-30WA	FM09-30WB	FM09-31WA	FM09-31WB				
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		3.8	7.6	3.2	2.2				
Arsenic	ug/g	1		3	3	3	3				
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5				
Chromium	ug/g	1		19	16	14	19				
Cobalt	ug/g	1		4	4	3	3				
Copper	ug/g	1		5	5	4	4				
Lead	ug/g	1		8	6	6	8				
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1				
Nickel	ug/g	1		13	12	12	14				
Zinc	ug/g	1		12	10	9	11				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Lorna Wilson
Agriculture Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924336
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112519**

			LAB ID:	748412	748413	748414	748415		GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05				
			Sample ID:	FM09-30WA	FM09-30WB	FM09-31WA	FM09-31WB				
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1		3.8	7.6	3.2	2.2				
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20		<20	<20	<20	<20				
F2 (C10-C16)	ug/g	20		<20	<20	<20	<20				
F3 (C16-C34)	ug/g	20		<20	<20	<20	<20				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924336
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112519**

			LAB ID:	748412	748413	748414	748415		**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05				
			Sample ID:	FM09-30WA	FM09-30WB	FM09-31WA	FM09-31WB				
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02	<0.02	<0.02	<0.02	<0.02					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924338
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112520**

			LAB ID:	748424	748425	748426	748427		**GUIDELINE**		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05				
			Sample ID:	FM09-BD1	FM09-BD2	FM09-BD3	FM09-BD4				
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Moisture	%	0.1		11.5	8.6	2.9	8.6				
Arsenic	ug/g	1		2	2	2	2				
Cadmium	ug/g	0.5		<0.5	<0.5	<0.5	<0.5				
Chromium	ug/g	1		14	16	20	13				
Cobalt	ug/g	1		3	3	3	2				
Copper	ug/g	1		4	4	5	4				
Lead	ug/g	1		6	6	7	3				
Mercury	ug/g	0.1		<0.1	<0.1	<0.1	<0.1				
Nickel	ug/g	1		11	14	14	11				
Zinc	ug/g	1		11	9	11	9				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Lorna Wilson
Agriculture Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924338
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112520**

			LAB ID:	748424	748425	748426	748427		GUIDELINE		
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05				
			Sample ID:	FM09-BD1	FM09-BD2	FM09-BD3	FM09-BD4				
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
PERCENT MOISTURE											
Moisture	%	0.1	11.5	8.6	2.9	8.6					
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	ug/g	20	<20	<20	<20	<20					
F2 (C10-C16)	ug/g	20	<20	<20	<20	<20					
F3 (C16-C34)	ug/g	20	<20	<20	<20	<20					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924338
Date: 2009-10-14
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Soil

Chain of Custody Number: **112520**

			LAB ID:	748424	748425	748426	748427		**GUIDELINE**	
			Sample Date:	2009-09-05	2009-09-05	2009-09-05	2009-09-05			
			Sample ID:	FM09-BD1	FM09-BD2	FM09-BD3	FM09-BD4			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/g	0.02	<0.02	<0.02	<0.02	<0.02					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924339
Date: 2009-10-21
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:

Chain of Custody Number: **112520**

Matrix: Water

			LAB ID:	748428	748429	748430	748431		**GUIDELINE**	
			Sample Date:	2009-09-09	2009-09-09	2009-09-09	2009-09-09			
			Sample ID:	FM09-FB	FM09-FB TRIP BLANK	FM09-1W	FM09-2W			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Arsenic	mg/L	0.001		<0.001	<0.001	0.001	<0.001				
Cadmium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	0.0001				
Chromium	mg/L	0.001		<0.001	<0.001	0.003	0.002				
Cobalt	mg/L	0.0002		<0.0002	<0.0002	<0.0002	0.0003				
Copper	mg/L	0.001		0.005	<0.001	<0.001	0.001				
Lead	mg/L	0.001		<0.001	<0.001	<0.001	<0.001				
Mercury	mg/L	0.0001		<0.0001	<0.0002	<0.0002	<0.0002				
Nickel	mg/L	0.005		<0.005	<0.005	<0.005	<0.005				
Zinc	mg/L	0.01		<0.01	<0.01	<0.01	0.09				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:
Hg was analysed at Exova Pointe Claire.

APPROVAL:

Ewan McRobbie
Inorganic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924339
Date: 2009-10-21
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:

Chain of Custody Number: **112520**

Matrix: Water

			LAB ID:	748428	748429	748430	748431		**GUIDELINE**	
			Sample Date:	2009-09-09	2009-09-09	2009-09-09	2009-09-09			
			Sample ID:	FM09-FB	FM09-FB TRIP BLANK	FM09-1W	FM09-2W			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	mg/L	0.2		<0.2	<0.2	<0.2	<0.2				
F2 (C10-C16)	mg/L	0.2		<0.2	<0.2	<0.2	<0.2				
F3 (C16-C34)	mg/L	0.2		<0.2	<0.2	<0.2	<0.2				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: _____
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924339
Date: 2009-10-21
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Chain of Custody Number: **112520**
Matrix: Water

		LAB ID:	748428	748429	748430	748431		**GUIDELINE**		
		Sample Date:	2009-09-09	2009-09-09	2009-09-09	2009-09-09				
		Sample ID:	FM09-FB	FM09-FB TRIP BLANK	FM09-1W	FM09-2W				
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs										
Polychlorinated Biphenyls (PCBs)	ug/L	0.1	<0.1	<0.1	<0.1	<0.1				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924340
Date: 2009-10-19
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Water

Chain of Custody Number: **112521**

			LAB ID:	748432	748433	748434	748435	748436	**GUIDELINE**		
			Sample Date:	2009-09-08	2009-09-08	2009-09-08	2009-09-08	2009-09-08			
			Sample ID:	FM09-3W	FM09-4W	FM09-5W	FM09-29W	FM09-30W			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Arsenic	mg/L	0.001		0.001	<0.001	0.002	0.003	0.008			
Cadmium	mg/L	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001			
Chromium	mg/L	0.001		0.005	0.006	<0.005	<0.005	0.002			
Cobalt	mg/L	0.0002		<0.0002	<0.0002	0.0004	0.0005	<0.0002			
Copper	mg/L	0.001		0.001	0.002	0.003	0.003	0.002			
Lead	mg/L	0.001		<0.001	<0.001	<0.001	<0.001	<0.001			
Mercury	mg/L	0.0002		<0.0002	<0.0002	0.0002	<0.0002	<0.0002			
Nickel	mg/L	0.005		<0.005	<0.005	0.021	0.008	0.037			
Zinc	mg/L	0.01		<0.01	<0.01	<0.01	0.02	<0.01			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:
Hg was analysed at Exova Pointe Claire.

APPROVAL:
Ewan McRobbie
Inorganic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924340
Date: 2009-10-19
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Water

Chain of Custody Number: **112521**

			LAB ID:	748437	748438				**GUIDELINE**		
			Sample Date:	2009-09-08	2009-09-08						
			Sample ID:	FM09-31W	FM09-BDW1						
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Arsenic	mg/L	0.001		<0.001	0.007						
Cadmium	mg/L	0.0001		0.0002	<0.0001						
Chromium	mg/L	0.001		0.008	0.005						
Cobalt	mg/L	0.0002		0.0002	<0.0002						
Copper	mg/L	0.001		0.008	<0.001						
Lead	mg/L	0.001		<0.001	<0.001						
Mercury	mg/L	0.0002		<0.0002	<0.0002						
Nickel	mg/L	0.005		<0.005	0.021						
Zinc	mg/L	0.01		<0.01	<0.01						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Ewan McRobbie
Inorganic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924340
Date: 2009-10-20
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Water

Chain of Custody Number: **112521**

			LAB ID:	748432	748433	748434	748435	748436	**GUIDELINE**		
			Sample Date:	2009-09-08	2009-09-08	2009-09-08	2009-09-08	2009-09-08			
			Sample ID:	FM09-3W	FM09-4W	FM09-5W	FM09-29W	FM09-30W			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
CCME Total Petroleum Hydrocarbons											
F1 (C6-C10)	mg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2			
F2 (C10-C16)	mg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2			
F3 (C16-C34)	mg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924340
Date: 2009-10-20
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Chain of Custody Number: **112521**
Matrix: Water

								GUIDELINE		
		LAB ID:	748437	748438						
		Sample Date:	2009-09-08	2009-09-08						
		Sample ID:	FM09-31W	FM09-BDW1						
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
CCME Total Petroleum Hydrocarbons										
F1 (C6-C10)	mg/L	0.2	<0.2	<0.2						
F2 (C10-C16)	mg/L	0.2	<0.2	<0.2						
F3 (C16-C34)	mg/L	0.2	<0.2	<0.2						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924340
Date: 2009-10-20
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Water

Chain of Custody Number: **112521**

			LAB ID:	748432	748433	748434	748435	748436	**GUIDELINE**		
			Sample Date:	2009-09-08	2009-09-08	2009-09-08	2009-09-08	2009-09-08			
			Sample ID:	FM09-3W	FM09-4W	FM09-5W	FM09-29W	FM09-30W			
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: _____
Mina Nasirai
Organic Lab Supervisor

REPORT OF ANALYSIS

Client: **Sila Remediation Inc.**
200-4495 Boul. Wilfrid-Hamel
Québec, QC
G1P 2J7
Attention: **Mr. Jean-Pierre Pelletier**

Report Number: 2924340
Date: 2009-10-20
Date Submitted: 2009-10-02

Project: FOX-M

P.O. Number:
Matrix: Water

Chain of Custody Number: **112521**

			LAB ID:	748437	748438				**GUIDELINE**	
			Sample Date:	2009-09-08	2009-09-08					
			Sample ID:	FM09-31W	FM09-BDW1					
PARAMETER	**UNITS**	**MRL**							**TYPE**	**LIMIT**	**UNITS**
Polychlorinated Biphenyls - PCBs											
Polychlorinated Biphenyls (PCBs)	ug/L	0.1	<0.1	<0.1							

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Mina Nasirai
Organic Lab Supervisor

Maxxam Analytics

Calgary: 4000 19st St. NE, T2E 6P8 | Ph: (403) 291-3077 | Fax: (403) 735-2240 | Toll free: (800) 386-7247
Edmonton: 9331 – 48 Street, T6B 2R4 | Ph: (780) 465-1212 | Fax: (780) 450-4187 | Toll free: (877) 465-8889
www.maxxamanalytics.com

83415 **CHAIN OF CUSTODY**

Page: 1 of 1

Invoice To: Require Report? Yes [X] No [ ]

Company Name: SILA REMEDIATION INC
Contact Name: A. PASSALIS / J.P. PELLETIER
Address: 4995 WILFRID-HAMEL BLVD, SUITE 200
Prov: QUEBEC City: QC Postal Code: G1P 2T7
Contact #s: Ph: 204 791-4938 / 418 653-4422 Fax: 418-653-3583

Report To:
Prov: PC:
Ph: Fax:

PO # / AFE #:
Quotation #: A90192
Project #:
Project Name: FOX-M
Location: HALL BEACH, NU
Sampler's Initials: A.P.

DETECTION LIMIT REQUIREMENTS:
Check the applicable criterion and indicate land use
[ ] AT1 _____
[ ] CCME _____
[ ] OTHER _____

REPORT DISTRIBUTION:
EMAIL ADDRESS(S):

SERVICE REQUESTED:
[ ] **RUSH** (Please ensure you contact the lab to reserve)
Date Required: _____
[X] REGULAR Turnaround (5 to 7 Days)

	Sample Identification	Matrix S/W	Date & Time Sampled Year/Month/Day	SOILS: ~~BTEX~~ F1-F4	Sieve (75 micron)	Salinity 4	Regulated Metals (~~CCME / AT1~~)[1] See List	Assessment ICP Metals[2]	Paint Filter / Flashpoint / pH (1:1)	TCLP / BTEX / Metals	T. PCB's	WATERS: BTEX F1 / VOCs	BTEX F1-F2 / BTEX F1-F4	Routine Water Package / Turb / F	REGULATED METALS (~~CCME / AT1~~)[3] Total / Preserved / Not Preserved	Dissolved / Preserved / Not Preserved / Filtered / Not Filtered	Mercury / Total / Dissolved	Ammonia / TKN / COD	TOC / DOC	OTHER TEST(S): TPH (C6-C34)	T. Metals (see List)	T. PCB's	*HOLD for 60 Days	# of Containers Submitted
1	FM09-5WA	S	4/9/09	X			X				X													3
2	PM09 25WA	S	5/9/09	X			X				X													3
3	FM09-30WB	S	5/9/09	X			X				X													3
4	FM09-25B	S	5/9/09	X			X				X				HOLD ANALYSIS.								X	3
5																								
6	FM09-4W	W	8/9/09																	X	X	X		
7																								7
8																								
9																								
10																								
11																								
12																								

SIF : Sample Inspection
Resolved [ ] By: _____
Date: _____

14-Sep-09 16:30
MELISSA MORRISON
A9C0533
JOE OTT-014

REC'D IN OTTAWA

*All samples are held for 60 calendar days after sample receipt. For long term storage please contact your project manager.

Maxxam Job #:

Relinquished By: A. PASSALIS Date/Time: 8/9/09.
Sign and Print:

COMMENTS/SPECIAL INSTRUCTIONS:
Metals - As, Cd, Cr, Cu, Co, Ni, Zn, Pb, Hg.

# JARS USED & NOT SUBMITTED	Received By	Temperature			Ice
	J. Kish 10:30 ~~14:30~~ 14 Sept 2009 CUSTODY SEAL YES / NO	6	7	9	Y

CHAIN OF CUSTODY

112516

Exova Accutest

☒ 146 Colonnade Rd., Unit 8, Ottawa, ON K2E 7Y1, Ph: (613) 727-5692 Fax: (613) 727-5222

☐ 608 Norris Court, Kingston, ON K7P 2R9, Ph: (613) 634-9307 Fax: (613) 634-9308

☐ 380 Vansickle Rd., Unit 630, St. Catharines, ON L2R 6P7, Ph: (905) 680-8887 Fax: (905) 680-4256

LABORATORY USE ONLY
Report #:

Company Name: SILA REMEDIATION INC.	Address: 4495 WILFRID-HAMEL BLVD, SUITE 200	☐ Fax Results to:
Report Attention: A. PASSALIS / J.P. PELLETIER	City/Prov: QUEBEC CITY, QC Postal Code: G1P 2T7	☒ E-mail Results to: apassalis@mts.net jppelletier@biogenie-env.com
Phone: 204-791-4936 / 418-653-4422 Ext:	Project # FOX-M * Quotation #	☐ Copy of Results to:
* Waterworks Name:	* Waterworks Number:	*Note that for drinking water samples, all exceedances will be reported where (and how) the applicable legislation requires.*

Invoice to:
(if different from above)

SAMPLE ANALYSIS REQUIRED

⇦ Indicate: F=Filtered or P=Preserved

Sample ID	* Date/Time Collected	Sample Matrix (i.e. Water, Soil, Paint)	* Sample Type (see Codes below)	* MOE Reportable? Y = Yes N = No	# of Containers	** Service Required R=Rush S=Standard	PHC CWS - F1-F4	Metals (see List)	T-PCB's	Criteria Required (i.e. Reg. 170, Reg. 153, CCME, PWQO etc.) Include sub-categories if appropriate	Laboratory Identification
FM09-1WA	4/9/09	S		Y	3	S	X	X	X	Metals - As, Cr, Cd, Co, Pb, Zn, Hg, Cu, Ni	
FM09-1WB							X	X	X		
FM09-2WA							X	X	X		
FM09-2WB							X	X	X		
FM09-3WA							X	X	X		
FM09-3WB							X	X	X		
FM09-4WA							X	X	X		
FM09-4WB							X	X	X		
FM09-5WA							X	X	X		
FM09-5WB							X	X	X		

Sample Type Codes for Drinking Water Systems: **RW** = Raw Water, **RWFC** = Raw Water For Consumption, **TW** = Treated Water at point of entry to distribution, **DW** = Distribution/Plumbing Water
"MOE Reportable" refers to the requirements under the SDWA for immediate reporting of results, which are indicators of adverse water quality, to the Owner/Operator, MOE, and MOH Medical Officer.

Sampled By: A. PASSALIS	Date/Time: 8/9/09	Relinquished By:	Date/Time:	Comments	Cooler Temp (°C) on Receipt
Work Authorized By (signature):	Date/Time:	Received By Lab:	Date/Time:		

*** Indicates a required field.** If not complete, analysis will proceed only on verification of missing information. A quotation number is required, if one was provided.
**** There may be surcharges applied to "Rush" service.** Please check with lab prior to submission of samples for rush analysis to confirm availability and pricing.

AFCOCR.2

Copies: White - Laboratory, Yellow - With Report, Pink - Sampler

CHAIN OF CUSTODY

112517

Exova Accutest

☐ 146 Colonnade Rd., Unit 8
Ottawa, ON K2E 7Y1
Ph: (613) 727-5692 Fax: (613) 727-5222

☐ 608 Norris Court
Kingston, ON K7P 2R9
Ph: (613) 634-9307 Fax: (613) 634-9308

☐ 380 Vansickle Rd., Unit 630
St. Catharines, ON L2R 6P7
Ph: (905) 680-8887 Fax: (905) 680-4256

LABORATORY USE ONLY
Report #: _____

Company Name: SILA REMEDIATION INC.	Address:	☐ Fax Results to:
Report Attention:	City/Prov: Postal Code:	☐ E-mail Results to:
Phone: Ext:	Project # * Quotation #	☐ Copy of Results to:
* Waterworks Name:	* Waterworks Number:	*Note that for drinking water samples, all exceedances will be reported where (and how) the applicable legislation requires.*

Invoice to:
(if different from above)

_____

_____

SAMPLE ANALYSIS REQUIRED

⇦ Indicate: F=Filtered or P=Preserved

Sample ID	* Date/Time Collected	Sample Matrix i.e. Water, Soil, Paint	* Sample Type (see Codes below)	* MOE Reportable? Y = Yes N = No	# of Containers	** Service Required R=Rush S=Standard	PHC-CWS F1-F4	Metals (see List)	T.PCBs						Criteria Required (i.e. Reg. 170, Reg. 153, CCME, PWQO etc.) Include sub-categories if appropriate	Laboratory Identification
FMU9-20WA	5/9/09	S		N	3	S	X	X	X						Metals - As, Cr, Cd, Cu, Ni, Pb, Zn, Hg	
FMU9-20WB							X	X	X							
FMU9-21WA							X	X	X							
FMU9-21WB							X	X	X							
FMU9-22WA							X	X	X							
FMU9-22WB							X	X	X							
FMU9-23WA							X	X	X							
FMU9-23WB							X	X	X							
FMU9-24WA							X	X	X							
FMU9-24WB							X	X	X							

Sample Type Codes for Drinking Water Systems: **RW** = Raw Water, **RWFC** = Raw Water For Consumption, **TW** = Treated Water at point of entry to distribution, **DW** = Distribution/Plumbing Water
"MOE Reportable" refers to the requirements under the SDWA for immediate reporting of results, which are indicators of adverse water quality, to the Owner/Operator, MOE, and MOH Medical Officer.

Sampled By:	Date/Time:	Relinquished By:	Date/Time:	Comments	Cooler Temp (°C) on Receipt
A. PASSALIS	8/9/09				
Work Authorized By (signature):	Date/Time:	Received By Lab:	Date/Time:		

*** Indicates a required field.** If not complete, analysis will proceed only on verification of missing information. A quotation number is required, if one was provided.
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CHAIN OF CUSTODY

112518

Exova Accutest

☐ 146 Colonnade Rd., Unit 8
Ottawa, ON K2E 7Y1
Ph: (613) 727-5692 Fax: (613) 727-5222

☐ 608 Norris Court
Kingston, ON K7P 2R9
Ph: (613) 634-9307 Fax: (613) 634-9308

☐ 380 Vansickle Rd., Unit 630
St. Catharines, ON L2R 6P7
Ph: (905) 680-8887 Fax: (905) 680-4256

LABORATORY USE ONLY
Report #: _____

Company Name: SILA REMEDIATION INC.	Address:	☐ Fax Results to:
Report Attention:	City/Prov: Postal Code:	☐ E-mail Results to:
Phone: Ext:	Project # * Quotation #	☐ Copy of Results to:
* Waterworks Name:	* Waterworks Number:	*Note that for drinking water samples, all exceedances will be reported where (and how) the applicable legislation requires.*

Invoice to:
(if different from above)

SAMPLE ANALYSIS REQUIRED

⇦ Indicate: F=Filtered or P=Preserved

Sample ID	* Date/Time Collected	Sample Matrix i.e. Water, Soil, Paint	* Sample Type (see Codes below)	* MOE Reportable? Y = Yes N = No	# of Containers	** Service Required R=Rush S=Standard	PHC-CCME F1-F4	Metals (see LIST)	T.PCB's	Criteria Required (i.e. Reg. 170, Reg. 153, CCME, PWQO etc.) Include sub-categories if appropriate	Laboratory Identification
FMW9-25WA	5/9/09	S		N	3	S	X	X	X	Metals - As, Cu, Cr, Pb, Hg, Zn, Cd, Ni	
FMW9-25WB							X	X	X		
FMW9-26WA							X	X	X		
FMW9-26WB							X	X	X		
FMW9-27WA							X	X	X		
FMW9-27WB							X	X	X		
FMW9-28WA							X	X	X		
FMW9-28WB							X	X	X		
FMW9-29WA							X	X	X		
FMW9-29WB							X	X	X		

Sample Type Codes for Drinking Water Systems: **RW** = Raw Water, **RWFC** = Raw Water For Consumption, **TW** = Treated Water at point of entry to distribution, **DW** = Distribution/Plumbing Water
"MOE Reportable" refers to the requirements under the SDWA for immediate reporting of results, which are indicators of adverse water quality, to the Owner/Operator, MOE, and MOH Medical Officer.

Sampled By:	Date/Time:	Relinquished By:	Date/Time:	Comments	Cooler Temp (°C) on Receipt
A. PASCALI	8/9/09				
Work Authorized By (signature):	Date/Time:	Received By Lab:	Date/Time:		

*** Indicates a required field.** If not complete, analysis will proceed only on verification of missing information. A quotation number is required, if one was provided.
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CHAIN OF CUSTODY

112519

Exova Accutest

☐ 146 Colonnade Rd., Unit 8, Ottawa, ON K2E 7Y1, Ph: (613) 727-5692 Fax: (613) 727-5222

☐ 608 Norris Court, Kingston, ON K7P 2R9, Ph: (613) 634-9307 Fax: (613) 634-9308

☐ 380 Vansickle Rd., Unit 630, St. Catharines, ON L2R 6P7, Ph: (905) 680-8887 Fax: (905) 680-4256

LABORATORY USE ONLY
Report #: _____

Company Name: SILA REMEDIATION INC.	Address:	☐ Fax Results to:
Report Attention:	City/Prov: Postal Code:	☐ E-mail Results to:
Phone: Ext:	Project # * Quotation #	☐ Copy of Results to:
* Waterworks Name:	* Waterworks Number:	*Note that for drinking water samples, all exceedances will be reported where (and how) the applicable legislation requires.*

Invoice to:
(if different from above)

_____

_____

SAMPLE ANALYSIS REQUIRED

⇦ Indicate: F=Filtered or P=Preserved

Sample ID	* Date/Time Collected	Sample Matrix (i.e. Water, Soil, Paint)	* Sample Type (see Codes below)	* MOE Reportable? Y = Yes N = No	# of Containers	** Service Required R=Rush S=Standard	PHC-CCME F1-F4	Metals (see List)	T-PCB's						Criteria Required (i.e. Reg. 170, Reg. 153, CCME, PWQO etc.) Include sub-categories if appropriate	Laboratory Identification
FMU9-30WA	5/9/09	S		N	3	S	X	X	X						Metals - As, Cd, Cr, Co, Cu, Pb, Zn, Hg	
FMU9-30WB					3		X	X	X							
FMU9-31WA					3		X	X	X							
FMU9-31WB					3		X	X	X							
FMU9-23A					2		X	X	X							
FMU9-23B					2		X	X	X							
FMU9-24A					2		X	X	X	← HOLD						
FMU9-24B					2		X	X	X							
FMU9-25A					2		X	X	X							
FMU9-25B					2		X	X	X							

Sample Type Codes for Drinking Water Systems: **RW** = Raw Water, **RWFC** = Raw Water For Consumption, **TW** = Treated Water at point of entry to distribution, **DW** = Distribution/Plumbing Water
"MOE Reportable" refers to the requirements under the SDWA for immediate reporting of results, which are indicators of adverse water quality, to the Owner/Operator, MOE, and MOH Medical Officer.

Sampled By:	Date/Time:	Relinquished By:	Date/Time:	Comments	Cooler Temp (°C) on Receipt
A. PASSALIS	8/9/09				
Work Authorized By (signature):	Date/Time:	Received By Lab:	Date/Time:		

*** Indicates a required field.** If not complete, analysis will proceed only on verification of missing information. A quotation number is required, if one was provided.
**** There may be surcharges applied to "Rush" service.** Please check with lab prior to submission of samples for rush analysis to confirm availability and pricing.

AFCOCR.2

Copies: White - Laboratory, Yellow - With Report, Pink - Sampler

CHAIN OF CUSTODY

112520

Exova Accutest

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☐ 608 Norris Court, Kingston, ON K7P 2R9, Ph: (613) 634-9307 Fax: (613) 634-9308

☐ 380 Vansickle Rd., Unit 630, St. Catharines, ON L2R 6P7, Ph: (905) 680-8887 Fax: (905) 680-4256

LABORATORY USE ONLY
Report #: _____

Company Name: SILA REMEDIATION INC	Address:	☐ Fax Results to:
Report Attention:	City/Prov: Postal Code:	☐ E-mail Results to:
Phone: Ext:	Project # * Quotation #	☐ Copy of Results to:
* Waterworks Name:	* Waterworks Number:	*Note that for drinking water samples, all exceedances will be reported where (and how) the applicable legislation requires.*

Invoice to:
(if different from above)

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SAMPLE ANALYSIS REQUIRED

⇦ Indicate: F=Filtered or P=Preserved

Sample ID	* Date/Time Collected	Sample Matrix i.e. Water, Soil, Paint	* Sample Type (see Codes below)	* MOE Reportable? Y = Yes N = No	# of Containers	** Service Required R=Rush S=Standard	PHC-CWS F1-F4	Metals (see LIST)	T.PCBs		TPH (C6-C34)	T.Metals (See LIST)	T.PCB's		Criteria Required (i.e. Reg. 170, Reg. 153, CCME, PWQO etc.) Include sub-categories if appropriate	Laboratory Identification
FM09-26A	5/9/09	S		2	2	S	X	X	X							
FM09-26B					2		X	X	X	HOLD						
FM09-BD1					3		X	X	X							
FM09-BD2					3		X	X	X							
FM09-BD3					3		X	X	X							
FM09-BD4					2		X	X	X							
FM09-FB	8/9/09	W			6						X	X	X		Metals - As, Cu, Co, Cd, Cr, Ni, Pb, Zn, Hg	
- TRIP BLANK					5						X	X	X			
FM09-1W					6						X	X	X			
FM09-2W					6						X	X	X			

Sample Type Codes for Drinking Water Systems: **RW** = Raw Water, **RWFC** = Raw Water For Consumption, **TW** = Treated Water at point of entry to distribution, **DW** = Distribution/Plumbing Water
"MOE Reportable" refers to the requirements under the SDWA for immediate reporting of results, which are indicators of adverse water quality, to the Owner/Operator, MOE, and MOH Medical Officer.

Sampled By:	Date/Time:	Relinquished By:	Date/Time:	Comments	Cooler Temp (°C) on Receipt
A. PASSALIS	8/9/09				
Work Authorized By (signature):	Date/Time:	Received By Lab:	Date/Time:		

*** Indicates a required field.** If not complete, analysis will proceed only on verification of missing information. A quotation number is required, if one was provided.
**** There may be surcharges applied to "Rush" service.** Please check with lab prior to submission of samples for rush analysis to confirm availability and pricing.

AFCOCR.2

Copies: White - Laboratory, Yellow - With Report, Pink - Sampler

CHAIN OF CUSTODY

112521

Exova Accutest

☒ 146 Colonnade Rd., Unit 8
Ottawa, ON K2E 7Y1
Ph: (613) 727-5692 Fax: (613) 727-5222

☐ 608 Norris Court
Kingston, ON K7P 2R9
Ph: (613) 634-9307 Fax: (613) 634-9308

☐ 380 Vansickle Rd., Unit 630
St. Catharines, ON L2R 6P7
Ph: (905) 680-8887 Fax: (905) 680-4256

LABORATORY USE ONLY
Report #: _____

Company Name: SILA REMEDIATION INC	Address:	☐ Fax Results to:
Report Attention:	City/Prov: Postal Code:	☐ E-mail Results to:
Phone: Ext:	Project # * Quotation #	☐ Copy of Results to:
* Waterworks Name:	* Waterworks Number:	*Note that for drinking water samples, all exceedances will be reported where (and how) the applicable legislation requires.*

Invoice to:
(if different from above)

SAMPLE ANALYSIS REQUIRED

⇦ Indicate: F=Filtered or P=Preserved

Sample ID	* Date/Time Collected	Sample Matrix i.e. Water, Soil, Paint	* Sample Type (see Codes below)	* MOE Reportable? Y = Yes N = No	# of Containers	** Service Required R=Rush S=Standard	TPH (C_6-C_{34})	T. Metals (see LIST)	T. PCBs	Criteria Required (i.e. Reg. 170, Reg. 153, CCME, PWQO etc.) Include sub-categories if appropriate	Laboratory Identification
FM09-3W	8/9/09	W		2	6	S	X	X	X	Metals - As, Cr, Cd, Co, Cu, Ni, Pb, Zn, Hg	
FM09-4W					6		X	X	X		
FM09-5W					6		X	X	X		
FM09-29W					6		X	X	X		
FM09-30W					6		X	X	X		
FM09-31W					6		X	X	X		
FM09-BDW1					6		X	X	X		

Sample Type Codes for Drinking Water Systems: **RW** = Raw Water, **RWFC** = Raw Water For Consumption, **TW** = Treated Water at point of entry to distribution, **DW** = Distribution/Plumbing Water
"MOE Reportable" refers to the requirements under the SDWA for immediate reporting of results, which are indicators of adverse water quality, to the Owner/Operator, MOE, and MOH Medical Officer.

Sampled By: A. PASSALIS	Date/Time: 8/9/09	Relinquished By:	Date/Time:	Comments	Cooler Temp (°C) on Receipt
Work Authorized By (signature):	Date/Time:	Received By Lab:	Date/Time:		

*** Indicates a required field.** If not complete, analysis will proceed only on verification of missing information. A quotation number is required, if one was provided.
**** There may be surcharges applied to "Rush" service.** Please check with lab prior to submission of samples for rush analysis to confirm availability and pricing.