Nunavut Water Board

Standard Form for Annual Reporting Requirements of NWB2 Exploration Water Licenses

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Under the terms of your water licence issued by the Nunavut Water Board ("NWB") for the use of water and the disposal of waste into water associated with mineral exploration (NWB2 Licenses), Licensees are required to submit to the NWB an Annual Report no later than March 31st of the year following the calendar year being reported.

In order to aid the Licensee with the preparation of the Annual Report and facilitate its review by the NWB, Licensees are **required** to use the following form.

Recommendation and Helpful tips for use:

Metric units shall be used to report any relevant data.

How to Add additional space within Text boxes - Right click mouse on the row number (directly to the left of your screen) which falls within the text box range and click insert. **Do not drag or drop text box to modify size of the text box because formatting will not be maintained and data will be lost.** If you have large amounts of data recommend adding additional worksheets. Go to the help menu for assistance.

Electronic versions should be submitted in Adobe to ensure protection of your information. If you do not have shortcut keys to save as a PDF. Go to print menu . Choose to print "Entire Worksheet" then select printer option Adobe PDF and you will be prompted to save the document as a PDF document. Reminder ensure you have saved your document in Excel so that future changes can be made.

Modify the Header - Select "View" then "Header" from the main menu. Select "Custom Header" and change to reflect the valid Water Licence No.

Textboxes denoted with ***** are optional.

Annual Reports shall be submitted by either fax, mail or email in adobe acrobat or Excel format to:

Nunavut Water Board
c/o Manager of Licensing
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Tel: 867-360-6338
Fax:867-360-6369
Email: licensing@nunavutwaterboard.org

NWB Annual Report **Year being reported:** 2010

License No: NWB4NUN0511 - Type "B" **Issued Date:** September 13, 2005
Expiry Date: December 13, 2011

Project Name: Nunatta Environmental Services "Landfarm"

Licensee: Nunatta Environmental Services

Mailing Address:
Box 267,
Iqaluit, Nunavut
X0A 0H0

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

General Background Information on the Project (*optional):

Nunatta Environmental Services Inc. (Nunatta) owns and operates a Hydrocarbon-Impacted Soil Landfarm Facility in the City of Iqaluit, Nunavut. This treatment facility is commonly referred to as a 'landfarm'. Nunatta operations consist in accepting soils impacted with petroleum products at various concentrations at the landfarm's geosynthetic lined cells and allow indigenous soil microorganisms with the assistance of fertilizers and aeration to degrade petroleum products into compounds such as water, carbon dioxide and hydrogen sulfide. Soils accepted at the landfarm are contaminated with diesel fuel, gasoline and other known automotive oils.

License Requirements: the licensee must provide the following information in accordance with

Part B Item 1

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and grey water management; drill waste management; solid and hazardous waste management.

Water Source(s): Run-off water, contaminated water from clean-up site

Water Quantity:

	Quantity Allowable Domestic (cu.m)
	Actual Quantity Used Domestic (cu.m)
	Quantity Allowable Drilling (cu.m)
	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- ☐ Solid Waste Disposal
- ☐ Sewage
- ☐ Drill Waste
- ☐ grey water
- ☐ Hazardous

☐ Hazardous
☑ Other: Hydrocarbon Contaminated Soils

Additional Details:

86.38 cubic meters of contaminated water was received at the land farm from clean up sites, where fuel/water mixes had to be removed to allow clean up to continue These waters were emptied into one of our cells and used to maintain moisture in the remediated soils or allowed to evaporate off. Only waters from Spring run off were discharged, all other waters were contained on site.

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: (as reported to the Spill Hot-line)
Date of Spill: May 31 2010
Date of Notification to an Inspector: May 31 2010
Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

On one occasion during spring thaw, waters were discharged prior to testing and without a decanting permit. Waters were passed through a carbon filter before being released into the environment. This was reported to inspection agencies and Nunatta General Manager was approached. The new General Manager was not aware of the procedure for discharging water at a Land Farm operated under a Water Board License.

Fisheries and Oceans, INAC and Ministry of Environment inspectors visited Nunatta's Land Farm that day and clarified the procedure and regulatory requirements that must be followed when discharging water. Pre and Post filtered water was sent for Laboratory testing. The Laboratory results showed the post filtered water was far below the limit to discharge. Test results are attached to this report.

Balance of the contained water was sampled and sent to Paracel Laboratories for testing and an application was made for a decanting permit. Approval was granted to discharge the water in accordance to regulatory guideline. Waters were discharged from land farm into the environment (after passing through a carbon filter) . These waters were spring melt waters not waters collected from work sites. Balance of waters through out the year were pumped onto the soil piles.

This error will not be repeated as the General Manager will ensure all procedures are in accordance to Regulatory requirements.

Revisions to the Spill Contingency Plan

SCP submitted and approved - no revision required or proposed

Additional Details:

Revisions to the Abandonment and Restoration Plan

AR plan submitted and approved - no revision required or proposed

Additional Details:

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

There was a total of 1877 Meters of soil received at landfarm in 2010 giving us a grand total of 9616.4 meters in stock.
Soils taken in are placed in cell #1. Large rocks removed with a shaker set to 2 inch, then soils are put through second rotary screening plant to further reduce lumps and stone size to approx 3/4 inch. Fertilizer is added and Soil placed in windrows in cell #2. Weekly sampling was performed and samples sent to University of Saskatchewan Lab and next summer intense management and testing of soil and soil amendments will begin with assistance from Steve Siciliano, Associate Professor of Soil and Environmental Toxicology, University of Saskatchewan. Testing of new amendments such as Biochar and Compost. The idea is to speed up the remediation of the soils as our degradation rate can be improved reducing time in our land farm. The removal of rocks and stones will further reduce the overall volume of our cells by approx 30% exact figure not yet calculated. Putting soils through screening plant 2-3 times a year will aerate it and allow more precise application of fertilizers and other amendments as recommended by Steve Scicilano of University of Saskatchewan, contaminated soils department

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;

Not Applicable (N/A)

Additional Details:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the license are deposited;

Details described below

Additional Details:

Cell#1 N 63-45-816
W 068-32-667 These coordinates are to centre of cell
Cell#2 N 63-45-825 Corner coordinates are in attachment
W 068-32-708 with detailed Map
Cell #3 N 63-45-828
W 068-32-738

Cell #4 N 63-45-781 Cell #4 completed fall 2010

Results of any additional sampling and/or analysis that was requested by an Inspector

No additional sampling requested by an Inspector or the Board

Additional Details: (date of request, analysis of results, data attached, etc)

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board

Additional Details: (Attached or provided below)

Any responses or follow-up actions on inspection/compliance reports

No inspection and/or compliance report issued by INAC

Additional Details: (Dates of Report, Follow-up by the Licensee)

Any additional comments or information for the Board to consider

During the summer of 2009 we began construction of a new over flow cell referred to as cell #4. The walls were completed and liner installed but due to limits on sand removal by city of Iqaluit we did not have the materials to finish the job inside the liner. This September we were able to get possession of 59 tandem loads of sand which we screen out and used to put on top of new liner, this will put 30-40 cm of overburden on top of new liner, allowing heavy equipment to move within the cell.

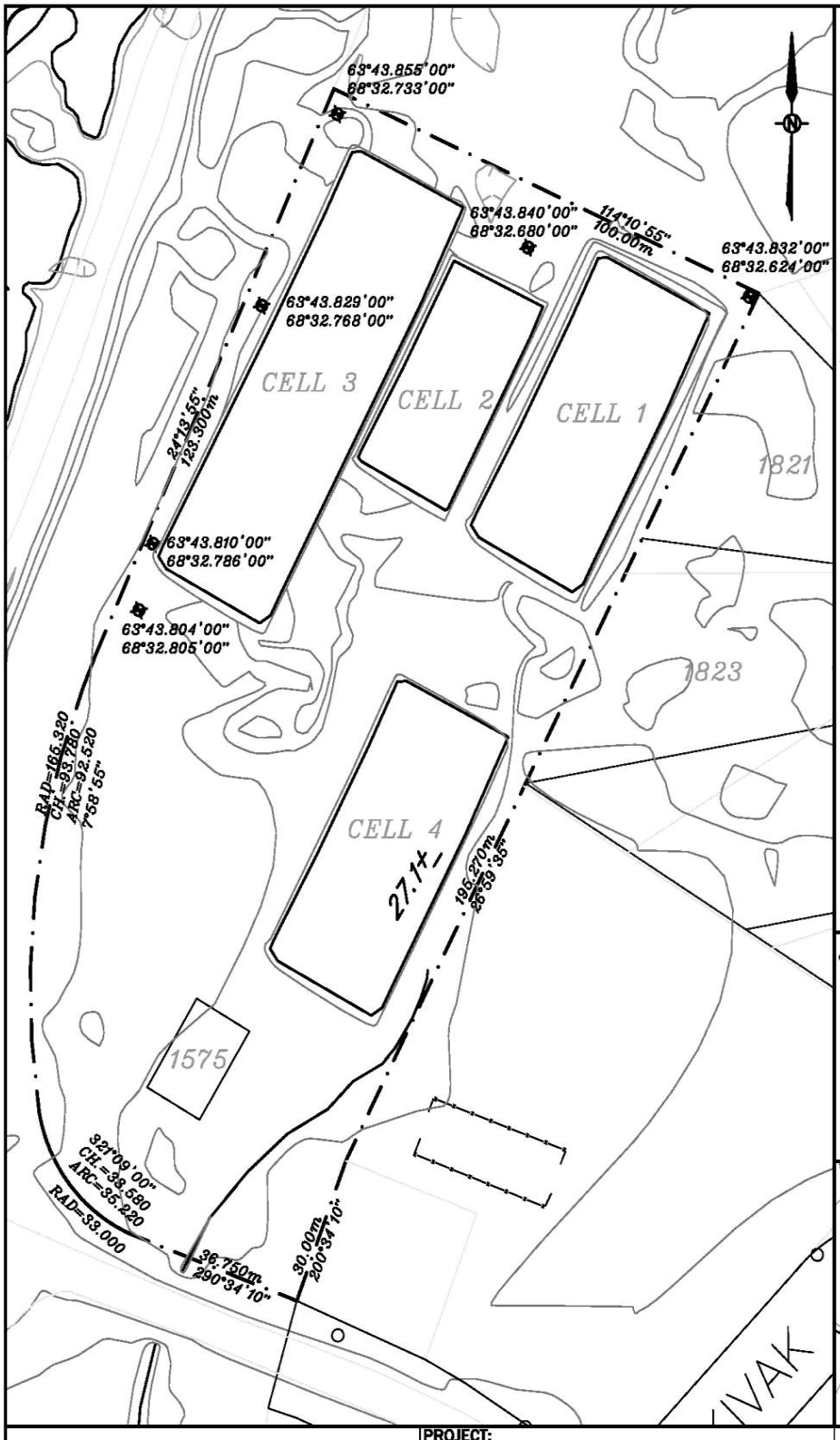
Date Submitted:	January 28, 2010	
Submitted/Prepared by:	Nunatta Environmental Services Inc, Iqaluit, Nu	
Contact Information:	**Tel:**	867-979-1488
	Fax:	867-979-1478
	email:	nunatta@northwestel.net

GPS Coordinates for water sources utilized

Source Description	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "

GPS Locations of areas of waste disposal

Location Description (type)	Latitude			Longitude		
	Deg °	Min '	Sec "	Deg °	Min '	Sec "



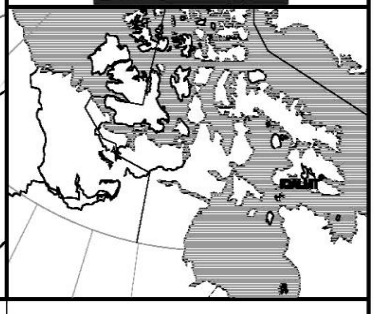
GENERAL NOTES:

1 ALL PROPERTY LINE BEARINGS AND DIMENSIONS HAVE BEEN PROVIDED BY THE CITY OF IQALUIT
2 CONTRACTOR IS TO REPORT IMMMEDIATELY ANY DISCREPANCIES ON THE DRAWINGS TO THE ENGINEER.

LEGEND:

PROPERTY LINE
9.85 EXISTING GRADE ELEVATION
ELP EXISTING LIGHT POLE
ENTRANCE/EXIT
EPP EXISTING POWER POLE
10.00 PROPOSED GRADE ELEVATION
NPP NEW LIGHT POLE
WATER TEST WELLS

ALL SITE INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY OF:
LOT 1, BLOCK 229
SOURCE: CITY OF IQALUIT
LOT AREA = 20,233.27m²



1 / G3 AV PLAN
SCALE: 1:1200

PROJECT:
SITE SURVEY AND ELEVATIONS

LOT 1, BLOCK 229

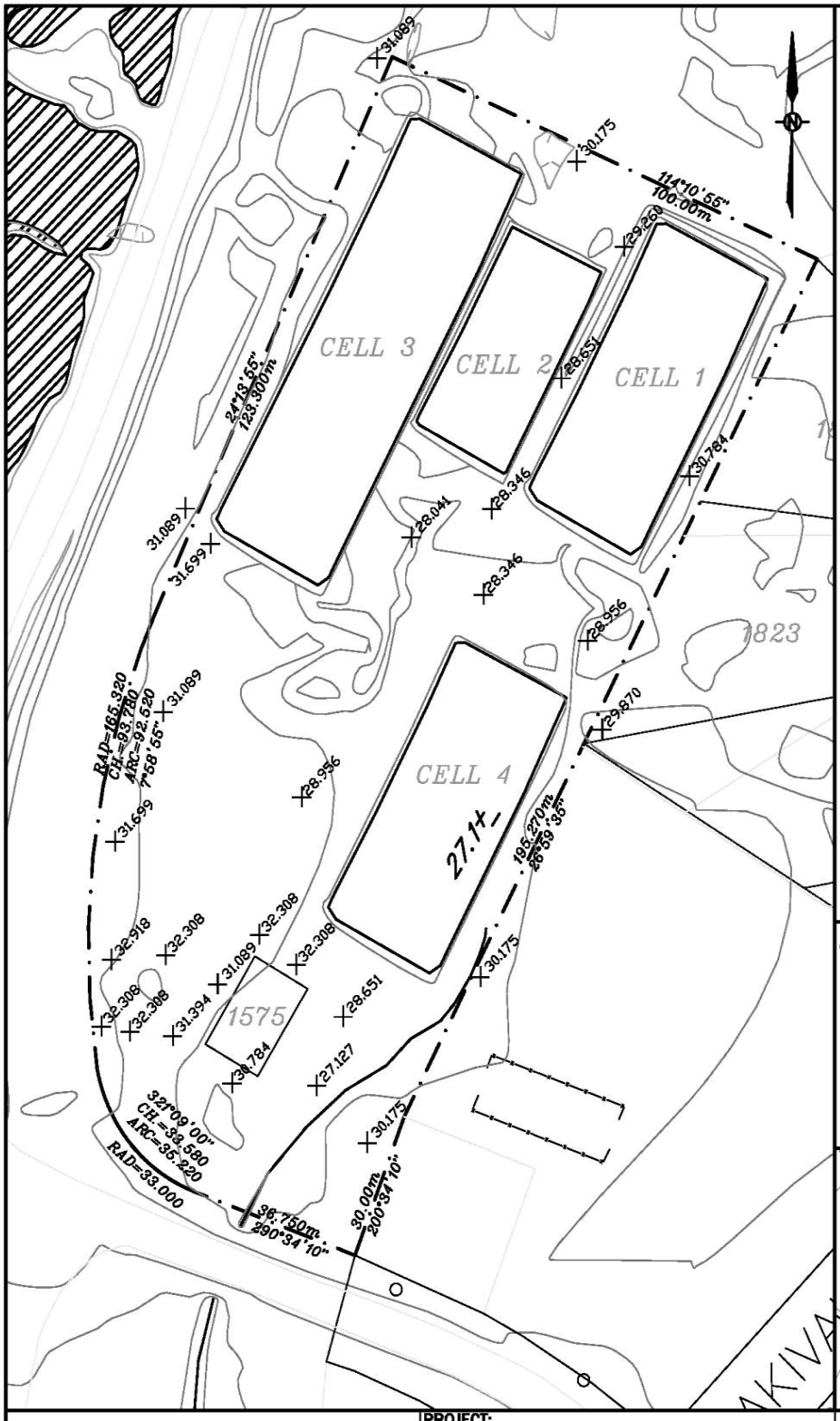
CLIENT DEPARTMENT:
NUNATTA ENVIRONMENTAL INC.

DATE:
OCTOBER 2009

COMMUNITY:
IQALUIT, NU

DRAWN BY:
T.STOKES

SPG.3



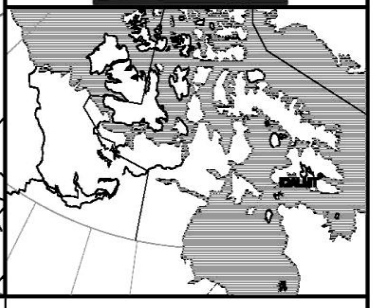
GENERAL NOTES:

1 ALL PROPERTY LINE BEARINGS AND DIMENSIONS HAVE BEEN PROVIDED BY THE CITY OF IQALUIT
2 CONTRACTOR IS TO REPORT IMMEDIATELY ANY DISCREPANCIES ON THE DRAWINGS TO THE ENGINEER.

LEGEND:

- PROPERTY LINE
- 9.85 EXISTING GRADE ELEVATION
- ELP EXISTING LIGHT POLE
- ENTRANCE/EXIT
- EPP EXISTING POWER POLE
- 100 PROPOSED GRADE ELEVATION
- NPP NEW LIGHT POLE
- WATER TEST WELLS
- PROXIMITY OF BODIES OF WATER

ALL SITE INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY OF:
LOT 1, BLOCK 229
SOURCE: CITY OF IQALUIT
LOT AREA = 20,233.27m²



1/G4 ELEV. PLAN
SCALE: 1:1200

PROJECT: SITE SURVEY AND ELEVATIONS

LOT 1, BLOCK 229

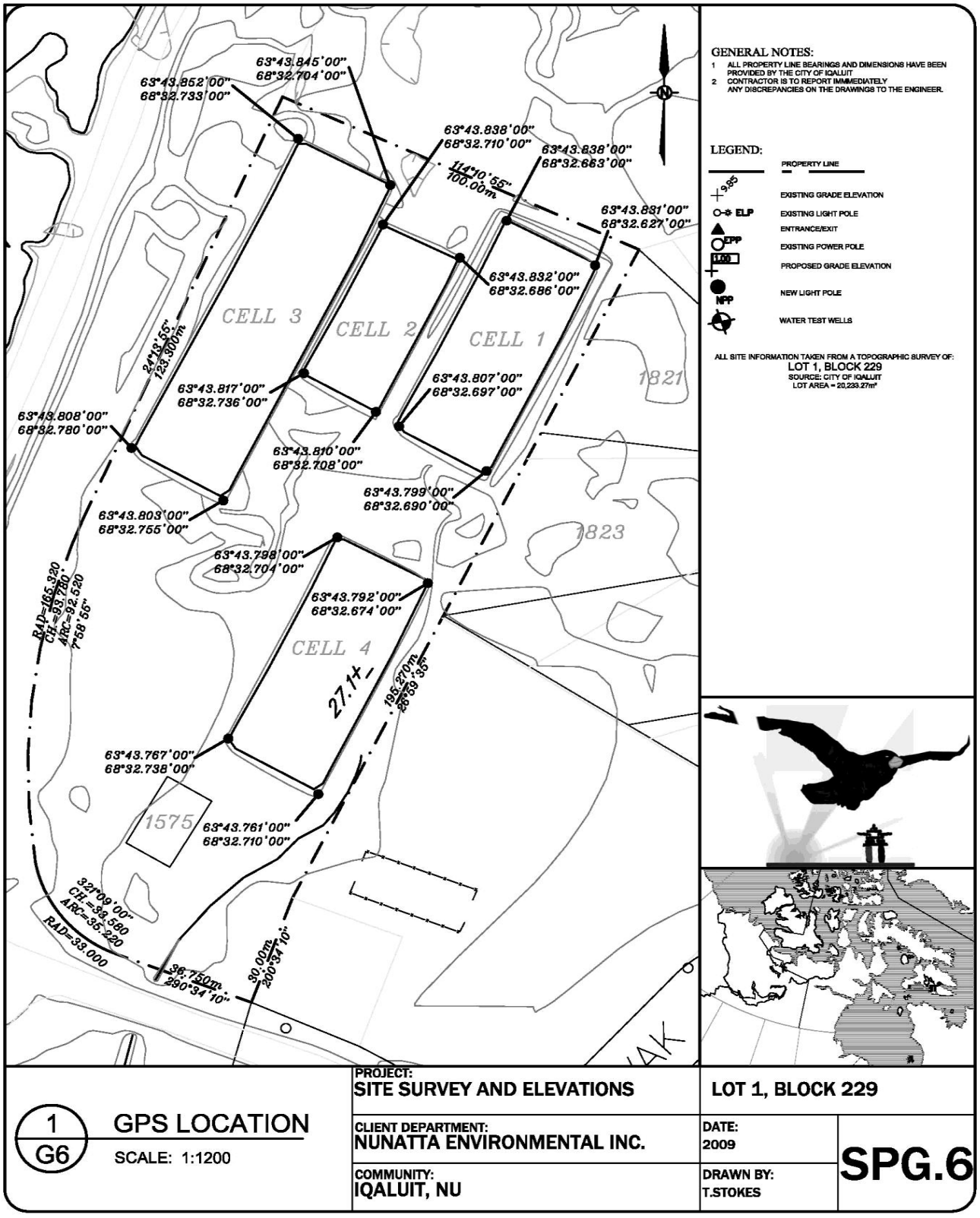
CLIENT DEPARTMENT: NUNATTA ENVIRONMENTAL INC.

DATE: 2009

COMMUNITY: IQALUIT, NU

DRAWN BY: T.STOKES

SPG.4



1/G6 GPS LOCATION
SCALE: 1:1200

PROJECT: SITE SURVEY AND ELEVATIONS

LOT 1, BLOCK 229

CLIENT DEPARTMENT: NUNATTA ENVIRONMENTAL INC.

DATE: 2009

COMMUNITY: IQALUIT, NU

DRAWN BY: T.STOKES

SPG.6

GPS coordinates for cell corners

TABLE 1
PARACEL LABORATORIES LTD.
WORKORDER: 1035089
REPORT DATE: **08/27/2010**

CLIENT: Nunatta Environmental Services Inc.
ATTENTION: Jason Taylor
PROJECT: Land Farm

Parameter	Units	MRL	Regulation	Sample					
				Pile 1 East	Pile 1 West	Pile 2	Pile 3	Cell 3 North	Cell 3 South
Sample Date (d/m/y)			**Select Reg**	**08/23/2010**	**08/23/2010**	**08/23/2010**	**08/23/2010**	**08/23/2010**	**08/23/2010**
Physical Characteristics									
% Solids	% by Wt.	0.1	REGS	89.6	91.1	89.1	86.6	89.2	87.3
Volatiles									
Benzene	ug/g dry	0.03	REGS	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)
Ethylbenzene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
m/p-Xylene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	ug/g dry	0.1	REGS	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Toluene-d8	%		REGS	9.19	9.00	9.13	9.37	9.05	9.33
Hydrocarbons									
F1 PHCs (C6-C10)	ug/g dry	10	REGS	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
F2 PHCs (C10-C16)	ug/g dry	10	REGS	155	163	243	826	945	1330
F3 PHCs (C16-C34)	ug/g dry	10	REGS	384	353	487	658	1060	1480
F4 PHCs (C34-C50)	ug/g dry	10	REGS	74	57	81	150	195	268

Soil sample testing during thaw period of contained soils at land farm

TABLE 1 **CLIENT:** Nunatta Environmental Services Inc.
PARACEL LABORATORIES LTD. **ATTENTION:** Jason Taylor
WORKORDER: 1023109 **PROJECT:** Land Farm
REPORT DATE: 08/25/2010

Parameter	Units	MRL	Regulation	Sample					
				Pile 1 East	Pile 1 West	Pile 2	Pile 3	Cell 3 North	Cell 3 South
Sample Date (d/m/y)			**Select Reg**	**08/23/2010**	**08/23/2010**	**08/23/2010**	**08/23/2010**	**08/23/2010**	**08/23/2010**
Physical Characteristics									
% Solids	% by Wt.	0.1	REGS	89.6	91.1	89.1	86.6	89.2	87.3
Volatiles									
Benzene	ug/g dry	0.03	REGS	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)
Ethylbenzene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
m/p-Xylene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	ug/g dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	ug/g dry	0.1	REGS	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Toluene-d8	%		REGS	9.19	9.00	9.13	9.37	9.05	9.33
Hydrocarbons									
F1 PHCs (C6-C10)	ug/g dry	10	REGS	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
F2 PHCs (C10-C16)	ug/g dry	10	REGS	155	163	243	826	945	1330
F3 PHCs (C16-C34)	ug/g dry	10	REGS	384	353	487	658	1060	1480
F4 PHCs (C34-C50)	ug/g dry	10	REGS	74	57	81	150	195	268

Soil test results taken at height of summer temperatures

TABLE 1
PARACEL LABORATORIES LTD.
WORKORDER: 1035041
REPORT DATE: 08/25/2010

CLIENT: Nunatta Environmental Services Inc.
ATTENTION: Jason Taylor
PROJECT: Land Farm

Parameter	Units	MRL	Regulation	Sample
				Cell 3 Screened
Sample Date (d/m/y)			Select Reg	08/20/2010
Physical Characteristics				
% Solids	% by Wt.	0.1	REGS	89.9
Volatiles				
Benzene	ug/g dry	0.03	REGS	ND (0.03)
Ethylbenzene	ug/g dry	0.05	REGS	ND (0.05)
Toluene	ug/g dry	0.05	REGS	ND (0.05)
m/p-Xylene	ug/g dry	0.05	REGS	ND (0.05)
o-Xylene	ug/g dry	0.05	REGS	ND (0.05)
Xylenes, total	ug/g dry	0.1	REGS	ND (0.10)
Toluene-d8	%		REGS	9.02
Hydrocarbons				
F1 PHCs (C6-C10)	ug/g dry	10	REGS	ND (10)
F2 PHCs (C10-C16)	ug/g dry	10	REGS	1090
F3 PHCs (C16-C34)	ug/g dry	10	REGS	825
F4 PHCs (C34-C50)	ug/g dry	10	REGS	147

Soil testing of cell three after removal or rocks and screened to 3/4 inch

TABLE 1 **CLIENT:** Nunatta Environmental Services Inc.
PARACEL LABORATORIES LTD. **ATTENTION:** Jason Taylor
WORKORDER: 1023110 **PROJECT:** Land Farm
REPORT DATE: 08/25/2010

Parameter	Units	MRL	Regulation	Sample		
				Cell 4	1 Berm	post Pumped Water
Sample Date (d/m/y)			Select Reg	05/31/2010	05/31/2010	05/31/2010
Volatiles						
Benzene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	REGS	0.7	ND (0.5)	ND (0.5)
Toluene	ug/L	0.5	REGS	1.5	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	0.5	REGS	2.1	ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5	REGS	1.4	ND (0.5)	ND (0.5)
Xylenes, total	ug/L	1	REGS	3.5	ND (1.0)	ND (1.0)
Toluene-d8	%		REGS	87.8	83.8	88.4
Hydrocarbons						
F1 PHCs (C6-C10)	ug/L	200	REGS	ND (200)	ND (200)	ND (200)
F1 + F2 PHCs	ug/L		REGS	ND (300)	ND (300)	ND (300)
F3 + F4 PHCs	ug/L		REGS	ND (200)	ND (200)	ND (200)
F2 PHCs (C10-C16)	ug/L	100	REGS	ND (100)	ND (100)	ND (100)
F3 PHCs (C16-C34)	ug/L	100	REGS	ND (100)	ND (100)	ND (100)
F4 PHCs (C34-C50)	ug/L	100	REGS	ND (100)	ND (100)	ND (100)

Test result of spring thaw waters from Cells #4 and #1
Post pumped waters from Carbon filter used when waters

TABLE 1
PARACEL LABORATORIES LTD.
WORKORDER: 1026067
REPORT DATE: 08/25/2010

CLIENT: Nunatta Environmental Services Inc.
ATTENTION: Jason Taylor
PROJECT: Land Farm

Parameter	Units	MRL	Regulation	Sample	
				Cell 4	Post WTR Cell 4 (48hrs)
Sample Date (d/m/y)			**Select Reg**	**06/21/2010**	**06/21/2010**
Volatiles					
Benzene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)
Toluene	ug/L	0.5	REGS	99.1	ND (0.5)
m/p-Xylene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5	REGS	0.8	ND (0.5)
Xylenes, total	ug/L	1	REGS	1.0	ND (1.0)
Toluene-d8	%		REGS	80.0	80.3
Hydrocarbons					
F1 PHCs (C6-C10)	ug/L	200	REGS	ND (200)	ND (200)

This are results of water testing in June of 2010, cell #4

TABLE 1 **CLIENT:** Nunatta Environmental Services Inc.
PARACEL LABORATORIES LTD. **ATTENTION:** Jason Taylor
WORKORDER: 109084 **PROJECT:** Land Farm
REPORT DATE: 08/25/2010

Parameter	Units	MRL	Regulation	Sample			
				Tank-1	Tank-3	Cell-4	Well #1
Sample Date (d/m/y)			**Select Reg**	**09/20/2010**	**09/20/2010**	**09/20/2010**	**09/20/2010**
Volatiles							
Benzene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Ethylbenzene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Toluene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
m/p-Xylene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
o-Xylene	ug/L	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Xylenes, total	ug/L	1	REGS	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Toluene-d8	%		REGS	78.9	77.8	78.5	78.6
Hydrocarbons							
F1 PHCs (C6-C10)	ug/L	200	REGS	ND (200)	ND (200)	ND (200)	ND (200)

These samples were sent off and tank 2 sample was broken we re tested. (next page)

TABLE 1
PARACEL LABORATORIES LTD.
WORKORDER: 1039084
REPORT DATE: 08/25/2010

CLIENT: Nunatta Environmental Services Inc.
ATTENTION: Jason Taylor
PROJECT: Land Farm

Parameter	Units	MRL	Regulation	Sample			
				Tank 1	Tank 2	Tank 3	Cell 4
ple Date (d/m/y)			Select Reg	09/21/2010	09/21/2010	09/21/2010	09/21/2010
Hydrocarbons							
F2 PHCs (C1	ug/L	100	REGS	ND (100)	ND (100)	ND (100)	ND (100)
F3 PHCs (C1	ug/L	100	REGS	ND (100)	ND (100)	ND (100)	ND (100)
F4 PHCs (C3	ug/L	100	REGS	ND (100)	ND (100)	ND (100)	ND (100)

Test results prior to pumping out water storage tanks
filled with spring runoff, prior to freezing temperatures
Cell #4 was used to contain waters we could not tank.
Decanting permission granted we put these waters

TABLE 1
PARACEL LABORATORIES LTD.
WORKORDER: 1049097
REPORT DATE: 12/08/2010

CLIENT: Nunatta Environmental Services Inc.
ATTENTION: Jason Taylor
PROJECT: Within LTF Cells

Parameter	Units	MRL	Regulation	Sample							
			Reg 558 Schedule 4	ell 3 North Flo	ll 3 North T	l 3 South Fl	ll 3 South T	Cell 2	Cell 1	Cell 1 HM	Cell 1 B
ple Date (d/m/y)			Reg558	11/24/2010	11/24/2010	11/24/2010	11/24/2010	11/24/2010	11/24/2010	11/24/2010	11/24/2010
Physical Characteristics											
% Solids	% by Wt.	0.1		90.7	90.3	91.2	90.7	92.6	92.6	92.0	89.8
Microbiological Parameters in Water											
Standard Pl	CFU/g	1000		8000	8000	9000	1000	12000	17000	N/A	50000
General Inorganics											
Nitrogen, T	ug/g			410	523	567	472	639	343	N/A	681
Phosphorus	ug/g dry	1		866	1050	1280	950	1230	864	N/A	980
Total Kjelda	ug/g dry	10		410	523	567	472	639	343	N/A	681
Anions											
Nitrate as N	ug/g dry	1		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	N/A	ND (1)
Metals											
Antimony	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	ND (1)	ND (1)
Arsenic	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	ND (1)	ND (1)
Barium	ug/g dry	10		N/A	N/A	N/A	N/A	N/A	N/A	34	30
Beryllium	ug/g dry	0.5		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.5)	ND (0.5)
Boron, avai	ug/g dry	0.5		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.5)	ND (0.5)
Cadmium	ug/g dry	0.5		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.5)	ND (0.5)
Chromium	ug/g dry	5		N/A	N/A	N/A	N/A	N/A	N/A	25	18
Chromium	ug/g dry	0.4		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.4)	ND (0.4)
Cobalt	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	6	5
Copper	ug/g dry	5		N/A	N/A	N/A	N/A	N/A	N/A	10	10
Iron	ug/g dry	200		N/A	N/A	N/A	N/A	N/A	N/A	25000	17800
Lead	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	10	14
Mercury	ug/g dry	0.1		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.1)	ND (0.1)
Molybdenu	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	ND (1)	ND (1)
Nickel	ug/g dry	5		N/A	N/A	N/A	N/A	N/A	N/A	8	7
Potassium	ug/g dry	200		581	594	509	498	478	519	N/A	468
Selenium	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	ND (1)	ND (1)
Silver	ug/g dry	0.3		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.3)	ND (0.3)
Thallium	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	ND (1)	ND (1)
Tin	ug/g dry	5		N/A	N/A	N/A	N/A	N/A	N/A	ND (5)	ND (5)
Uranium	ug/g dry	1		N/A	N/A	N/A	N/A	N/A	N/A	ND (1)	ND (1)
Vanadium	ug/g dry	10		N/A	N/A	N/A	N/A	N/A	N/A	57	38
Zinc	ug/g dry	20		N/A	N/A	N/A	N/A	N/A	N/A	47	49
Hydrocarbons											
TPH (C10-C	ug/g dry	10		650	727	611	644	1310	1600	958	806
Semi-Volatiles											
Acenaphthe	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	ND (0.02)
Acenaphthy	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	ND (0.02)
Anthracene	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	ND (0.02)
Benzo[a]an	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.05
Benzo[a]py	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.04
Benzo[b]flu	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.05
Benzo[g,h,i	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.03
Benzo[k]flu	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.02
1,1-Biphen	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	0.14	0.07
Chrysene	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.06
Dibenzo[a,h	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	ND (0.02)
Fluoranthe	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.13
Fluorene	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.04
Indeno[1,2,	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.03
1-Methylna	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.05
2-Methylna	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.03
Methylnapl	ug/g dry	0.04		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.04)	0.08
Naphthaler	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.03
Phenanthre	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	ND (0.02)
Pyrene	ug/g dry	0.02		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.02)	0.11
2-Flurobiph	%	0.01		N/A	N/A	N/A	N/A	N/A	N/A	1.46	1.50
Terphenyl-d	%	0.01		N/A	N/A	N/A	N/A	N/A	N/A	0.915	0.941
PCBs											
PCBs, total	ug/g dry	0.05		N/A	N/A	N/A	N/A	N/A	N/A	ND (0.05)	ND (0.05)
Decachloro	%			N/A	N/A	N/A	N/A	N/A	N/A	0.0895	0.107


JOHN DEERE

This is the formula used in calculations
when we asked for a decanting permit
to pump out the spring thaw waters
and again to pump out holding tanks
at summers end

To: Melissa.Joy@inac-ainc.gc.ca

Hi Melissa,

We would like to discharge water into the Environment from our cells and tanks.

The water sample results indicate that there is no contaminants in the water.

To safe guard our process we will use our carbon vessels as a double precaution.

Again here is my formula:

For 145,000 gallons of water with 99.1 ug/l of Toluene and 0.8 ug/l of Xylene

I will use 675kg of granular activated carbon (GAC) with a pump rate of 10 gallons/minute

Where the threshold will be every 48 hours (15,552 gallons) adding new GAC

The results provided show that all contaminants are under the criteria for safe discharging of water into the Environment.

If you can go over these and let us know that would be appreciated.

Thank you

Jason Taylor

Nunatta Environmental Services

Hi Jason,
I have received your email -we will review the results and get back to you tomorrow.
Does Nunatta have their own water licence for this activity? or are they operating under the municipal water licence? Please con

Thx Melissa Melissa Joy Water Resource Officer Indian & Northern Affairs Canada PO Box 100, Iqaluit, NU, X0A 0H0
PH: (867) 975-4548
**NEW FAX: (867) 979-6445
email: melissa.joy@inac.gc.ca
Office location has changed as of Dec 14/09 ***please update your address book***This transmission is confidential. Any unauthoriz
If you have received this message in error, please contact sender immediately and delete this transmission and any attachments

>>> Nunatta Enviromental Services <nunatta@northwestel.net> 24/06/2010 1:46 pm >>> In one of our cells we have 145,000 ga
permanent habitat loss due to the amount of oil in it which is less than one micron (ppm). The sheen in this case (Refined produc
over a period of time into our cell 4, with the contribution of rain and melt water you can imagine the scale.
As you are aware sheen will evaporate gradually which is a major source of loss of oil volume to the atmosphere.
The greater area to volume ratio of sheen increases the rate of evaporation, which primarily affects the lighter ends of the oil (di
Diesel and Gasoline have a limited number of fractions and will evaporate completely with little or no residue.
With the help of carbon vessels I will eliminate any threat of contaminents during discharging into the environment.
Here is my formula: For 145,000 gallons of water with 99.1 ug/l of Toluene and 0.8 ug/l of Xylene I will use 675kg of granular acti
Where the threshold will be every 48 hours (15,552 gallons) adding new GAC I've tried this within our own facility using a tempor
Samples were collected and sent to Paracel Labs in Ottawa for chemical analysis. The results are included, where Cell 4 represent
collected that was passed through the GAC vessel after a 48 hour period. As you will see the activated carbon did in fact eliminat
. I would like to have your approval to discharge this water into the environment where it would not leach into aqautic marine life
where if it does reach the water table, according to the results I've sent you, would be safe. If you can aknowledge this it would b
Thank you Jason Taylor
Environmental Technician Nunatta Environmental Services.

Hi Jason, Provided the water in Cell 4 continues to meet the CWS criteria (as there is no specific discharge criteria cited in the wat
As a precaution, sample at the beginning, middle and toward the end of the release to ensure your treatment (and calculations)
In regards to your construction question -refer to Part G of your licence; ensure you give yourself enough time to submit any upc
If you have any questions, please let me know.
Melissa

Melissa

Melissa Joy Water Resource Officer Indian & Northern Affairs Canada PO Box 100, Iqaluit, NU, X0A 0H0 PH: (867) 975-4548

ıfirm.

:ed disclosure, distribution, or other use i
.

ıllons of water with sheen in it (Cell 4). Sh
:ts such as diesel), came from sites we ha

esel). After a short time, there will be fe

vated carbon (GAC) with a pump rate of
ary berm.
ts the 145, 000 gallons of water and Post
:e any potential threat once passed throu
e and would be placed in a industrial are
e much appreciated.

:er licence), go ahead and discharge.
remain effective and provide those resul
:oming plans/projects to the NWB for re

Date	Customer	Project #	Details Gallons	Type of contamination
	House 2532	10-1003	90	Fuel contaminated Water
	building 1057	10-1007	2205	Fuel contaminated Water
	house 4002	10-1008	1440	Fuel contaminated Water
	building 1074	10-1011	2925	Fuel contaminated Water
	House 409	10-1016	300	Fuel contaminated Water
	House 975	10-1017	9945	Fuel contaminated Water
	NRI	10-1012	2000	Fuel contaminated Water
	Building 1057	10-1007	97.4	

Total for 2010 19002.4

Total cubic meters 86.38

Nunatta Environmental Services Inc.
P.O. Box 267
Iqaluit, NU X0A 0H0

Tel: (867) 979-1488
Fax: (867) 979-1478

RECEPT OF OIL - IMPACTED SOILS
BY CLIENT & JOB
AS AT 31/12/10
YEAR TO DATE - NOV 27/10

Date of Invoice	Customer	Job #	Details (Cu. Mtrs. Received)
Mar 5/10	Tufts, Anne	09-904	1.5
June 15/10	Madeline Redfern	09-911	94.7
Jan 25/10	Uqsuq Corp.	09-922	107.5
Mar 5/10	Qikitaaluk Corp.	09-925	13.5
Jan 27/10	Obed, Leetia	09-929	6.0
June 30/10	Northwest Co.	09-932	73.5
Apr 22/10	Arctic West (City)	09-937	94.4
Apr 22/10	NP REIT (City)	09-937	65.0
Jan 14/10	Ken Landa	09-941	53.0
Mar 9/10	City of Iqaluit	10-1002	135.5
Oct 8/09	City of Iqaluit	10-1002-2	199.0
June 11/10	Qaumariaq, L&L	10-1003	25.5
July 2/10	R.L. Hanson	10-1004	11.5
June 29/10	Narwhal Plumbing	10-1005	47.5
June 29/10	Arctic West (Aoudla)	10-1006	43.5
Sept 9/10	Bldg 1057 Ltd.	10-1007	97.5
Sept 3/10	Nunavut Hsng Corp	10-1008	60.5
June 22/10	Fisheries & Oceans	10-1011	46.0
Sept 23/10	Nunavut Excavating	10-1012	264.5
Oct 25/09	Thompson, J&D	10-1016	88.0
Sept 2/10	NCC Properties	10-1017	44.0
Sept 23/10	Iq Housing Auth	10-1023	19.5
Sept 23/10	City of Iqaluit	10-1024	96.0
Oct 19/09	NCC (1999) Ltd.	10-1025	0.8
Oct 8/09	NCC (1999) Ltd.	10-1030	483.5
Oct 19/09	Kudlik Construction	10-1031	95.0
Oct 27/10	Quilliq Energy	10-1033	58.5
Total Cubic Meters of Oil-impacted Soil Received:			**2,325.3**

 PREPARED: 2/14/2011

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Nunatta Environmental Services Inc.
Soil Remediation - Deferred Revenue Calculations
Annual Reconcilaition

Year Soil Rec'd	Details (Cu. Mtrs. Received)	Average Price	Extended Price Per Invoice	Remediation Period: 2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Liability at Y/E
2003	3919.6	$174.46	#######	#######	#######	#######	#######	#######	$ -	$ -	$ -	$ -	$ -	$ -	$ -	#######
2004	708	$289.27	#######	$ -	$40,960	$40,960	$40,960	$40,960	$40,960	$ -	$ -	$ -	$ -	$ -	$ -	#######
2005	377.8	$198.01	$74,800	$ -	$ -	$14,960	$14,960	$14,960	$14,960	$14,960	$ -	$ -	$ -	$ -	$ -	#######
2006	164.0	$212.47	$34,845	$ -	$ -	$ -	$ 6,969	$ 6,969	$ 6,969	$ 6,969	$ 6,969	$ -	$ -	$ -	$ -	#######
2007	525.1	$248.86	#######	$ -	$ -	$ -	$ -	$26,132	$26,132	$26,132	$26,132	$26,132	$ -	$ -	$ -	#######
2008	1077.3	$250.19	#######	$ -	$ -	$ -	$ -	$ -	$53,903	$53,903	$53,903	$53,903	$53,903	$ -	$ -	#######
2009	1021.3	$250.00	#######	$ -	$ -	$ -	$ -	$ -	$ -	$51,065	$51,065	$51,065	$51,065	$51,065	$ -	#######
2010	2325.31	$292.46	#######							$ -	#######	#######	#######	#######	#######	#######
Totals	**10118.3**	**#######**	**########**	**$136,765**	**$177,725**	**$192,685**	**$199,654**	**$225,787**	**$142,924**	**$153,029**	**$274,080**	**$267,111**	**$240,979**	**$187,077**	**$136,012**	

Year-end Balances:

2003:

Total Revenue for Year:	#######	
Revenue Applicabale to 2003:	########	Yr 1
Deferred Revenue at Year-end - 2003:	**#######**	**Agreed to Balance Sheet**

2004:

Opening Balance from Previous Year:	#######	
Less Revenue Applicable to Year 2003	########	Yr 2
Plus Revenue for 2004	#######	
Less Revenue Applicable to Year 2004	-$40,960	Yr 1
Deferred Revenue at Year-end - 2004:	**#######**	**Agreed to Balance Sheet**

2005:

Opening Balance from Previous Year:	#######	
Less Revenue Applicable to Year 2003	########	Yr 3
Less Revenue Applicable to Year 2004	-$40,960	Yr 2
Plus Revenue for 2005	$74,800	
Less Revenue Applicable to Year 2005	-$14,960	Yr 1
Deferred Revenue at Year-end - 2005:	**#######**	**Agreed to Balance Sheet**