

Certificate of Analysis

Nunatta Environmental Services Inc.

P.O. Box 267
Iqaluit, NU X0A 0H0
Attn: Jason Taylor

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

Client PO:
Project: Landfarm
Custody: 61137

Report Date: 7-Jun-2010
Order Date: 1-Jun-2010

Order #: 1023109

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1023109-01	Cell 1 NE
1023109-02	Cell 1 NW
1023109-03	Cell 1 SE
1023109-04	Cell 1 SW
1023109-05	Cell 2 North
1023109-06	Cell 2 South

Approved By:



Mark Foto, M.Sc. For Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis

Report Date: 07-Jun-2010

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Client: **Nunatta Environmental Services Inc.**

Client PO:

Project Description: Landfarm

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX	EPA 8260 - P&T GC-MS	5-Jun-10	7-Jun-10
CCME PHC F1	CWS Tier 1 - P&T GC-FID	5-Jun-10	7-Jun-10
CCME PHC F2 - F4	CWS Tier 1 - GC-FID, extraction	2-Jun-10	3-Jun-10
Solids, %	Gravimetric, calculation	3-Jun-10	3-Jun-10

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Client ID:	Cell 1 NE	Cell 1 NW	Cell 1 SE	Cell 1 SW
Sample Date:	31-May-10	31-May-10	31-May-10	31-May-10
Sample ID:	1023109-01	1023109-02	1023109-03	1023109-04
MDL/Units	Soil	Soil	Soil	Soil

Physical Characteristics

% Solids	0.1 % by Wt.	91.3	91.4	92.5	91.1
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Volatiles

Benzene	0.03 ug/g dry	<0.03	<0.03	<0.03	<0.03
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
Toluene	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	<0.05	<0.05
o-Xylene	0.05 ug/g dry	<0.05	0.06	<0.05	<0.05
Xylenes, total	0.10 ug/g dry	<0.10	<0.10	<0.10	<0.10
Toluene-d8	Surrogate	102%	102%	103%	107%

Hydrocarbons

F1 PHCs (C6-C10)	10 ug/g dry	<10	<10	20	40
F2 PHCs (C10-C16)	10 ug/g dry	771	1430	1900	2130
F3 PHCs (C16-C34)	10 ug/g dry	1150	1790	666	714
F4 PHCs (C34-C50)	10 ug/g dry	140	370	154	162

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	Client ID:	Cell 2 North	Cell 2 South	-	-
	Sample Date:	31-May-10	31-May-10	-	-
	Sample ID:	1023109-05	1023109-06	-	-
	MDL/Units	Soil	Soil	-	-

Physical Characteristics

% Solids	0.1 % by Wt.	91.7	90.3	-	-
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Volatiles

Benzene	0.03 ug/g dry	<0.03	<0.03	-	-
Ethylbenzene	0.05 ug/g dry	<0.05	<0.05	-	-
Toluene	0.05 ug/g dry	<0.05	<0.05	-	-
m,p-Xylenes	0.05 ug/g dry	<0.05	<0.05	-	-
o-Xylene	0.05 ug/g dry	<0.05	<0.05	-	-
Xylenes, total	0.10 ug/g dry	<0.10	<0.10	-	-
Toluene-d8	Surrogate	106%	103%	-	-

Hydrocarbons

F1 PHCs (C6-C10)	10 ug/g dry	<10	<10	-	-
F2 PHCs (C10-C16)	10 ug/g dry	739	177	-	-
F3 PHCs (C16-C34)	10 ug/g dry	362	339	-	-
F4 PHCs (C34-C50)	10 ug/g dry	92	80	-	-

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Project Description: Landfarm

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g						
F2 PHCs (C10-C16)	ND	10	ug/g						
F3 PHCs (C16-C34)	ND	10	ug/g						
F4 PHCs (C34-C50)	ND	10	ug/g						
Volatiles									
Benzene	ND	0.03	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.10	ug/g						
Surrogate: Toluene-d8	8.28		ug/g		103	76-118			

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Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	10	ug/g dry	ND				32	
F2 PHCs (C10-C16)	171	10	ug/g dry	177			3.8	50	
F3 PHCs (C16-C34)	377	10	ug/g dry	339			10.5	50	
F4 PHCs (C34-C50)	86	10	ug/g dry	80			8.0	50	
Physical Characteristics									
% Solids	100	0.1	% by Wt.	80.0			22.2	25	
Volatiles									
Benzene	ND	0.03	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				34	
Toluene	ND	0.05	ug/g dry	ND				32	
m,p-Xylenes	ND	0.05	ug/g dry	ND				35	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: Toluene-d8	8.46		ug/g dry	ND	99.7	76-118			

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Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	98	10	ug/g	ND	97.5	80-120			
F2 PHCs (C10-C16)	50	10	ug/g	ND	62.5	61-129			
F3 PHCs (C16-C34)	146	10	ug/g	ND	72.9	61-129			
F4 PHCs (C34-C50)	124	10	ug/g	ND	103	61-129			
Volatiles									
Benzene	0.856	0.03	ug/g	ND	91.7	55-141			
Ethylbenzene	2.48	0.05	ug/g	ND	112	61-139			
Toluene	9.48	0.05	ug/g	ND	87.8	54-136			
m,p-Xylenes	7.29	0.05	ug/g	ND	108	61-139			
o-Xylene	3.42	0.05	ug/g	ND	127	60-142			
Surrogate: Toluene-d8	7.88		ug/g		98.5	76-118			

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Sample and QC Qualifiers Notes

None

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.



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TRUSTED,
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Ottawa, Ontario K1G 4J8

p: 1-800-749-1947

e: paracel@paracellabs.com

www.paracellabs.com

Chain of Custody Record

Nº 61137

Pg. ___ of ___

Company Name: Munitha ENV. Services
Contact Name: Jason Taylor
Address: P.O. Box 267 Iqaluit NU X0A 0H0
Tel: (867) 979-1488 Cell: _____
Email: munitha@northwestel.netProject Ref: Leam. Farm
PO# _____
Quote # _____ ☐ Not Quoted
Preservative to be added by Paracel? ☐ Yes ☐ No

Date Required: _____

Turn Around Time: ☐ 1-day ☐ 2-day ☐ Regular

Regulatory/Guideline Requirements

Matrix Types: S-Soil/Sed GW-Ground Water SW-Surface Water SS-Storm/Sanitary Sewer A-Air O-Other RDW-Regulated Drinking Water

Sample Information

Analysis Required

Paracel Order #

1023109-Soil
1023110-water

Sample Identification

Paracel Order #	Matrix	Air Volume	# Containers	Date Sampled dd/mm/yy	FI-FL	BTX (normal)	4 day											Hazardous? (Y/N)
1	cell 1 NE	S	1	31/05/10	X	X	X											N
2	cell 1 NW	S	1	31/05/10														N
3	cell 1 SE	S	1	31/05/10														N
4	cell 1 SW	S	1	31/05/10														N
5	cell 2 North	S	1	31/05/10														N
6	cell 2 South	S	1	31/05/10														N
7	cell 4	SW	1	31/05/10														N
8	1 Beam	SW	1	31/05/10														N
9	Post pumped water	SW	1	31/05/10	X	X	X											N
10																		

Comments: No VOC vials submitted
4 day turn around

Relinquished By:

Date:

Time:

Received at Depot:

Date:

Time:

Received at Lab:

Date:

Time:

Verified By:

Date:

Time:

Please refer to the back page for Locations and Sample Preservation, Container and Hold Time Requirements.

WHITE - Lab Copy, PINK - Client Copy