ᓄᓇᑦᑕ ᐊᕐᕌᒍᓕᒫᖅᑕ ᑎᒥᖅᑎᑦ
NUNATTA ENVIRONMENTAL SERVICES
ᖃᓄᐃᓕᓐᓂ ᐅᑭᐅᖅᑕᕐᔪᐊᑦ ᐊᕐᕌᒍᐊᓂ *Protecting our Arctic Environment*

1575 Sivumugiaq Street Iqaluit, NU, X0A 3H0
(867) 979-1488
nunatta@northwestel.net

2024 Annual Reporting
Water License NWB-1BR-NUN1828

Prepared for:
Nunavut Water Board
PO Box 119, Gjoa Haven, NU X0B 1J0

Attention:
licensing@nwb-oen.ca

Prepared by:
Nunatta Environmental Services
Pitseolak Shoo, James Wilson, Jennifer Denis

Submission Date:
February 28, 2025

NWB Annual Report **Year being reported:** 2024

License No: NWB 1BR-NUN1828 **Issued Date:** April 11, 2018
Expiry Date: April 10, 2028

Project Name: Nunatta Environmental Services Inc. "Landfarm"

Licensee: Nunatta Environmental Services Inc. "NESI"

Mailing Address:
1575 Sivumugiaq St.
Iqaluit,
Nunavut
X0A 3H0

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):

NESI owns and operates a Hydrocarbon Impacted Soil Landfarm on the outskirts of Iqaluit, Nu. Operations consists of accepting soils impacted with petroleum products at various concentrations at the geosynthetic lined platform and using indigenous soil microorganisms and unique soil farming practices break down compounds into, water, carbon and hydrogen sulphide.

Licence Requirements: the licensee must provide the following information in accodance with

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

Water Source(s): Rain and melt water. Hydrocarbon contaminated.
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

No water was released into the environment 2024

Additional Details:

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:
Date of Notification to an Inspector:
Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Revisions to the Spill Contingency Plan

Additional Details: No revisions to the Spill Contingency plan

Revisions to the Abandonment and Restoration Plan

Additional Details: Abandonment and Restoration plan updated

Progressive Reclamation Work Undertaken

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

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;

Additional Details: No water was drawn from source

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

Additional Details:

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

Additional Details: No requests by Inspector

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

Additional Details: No request by NWB

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

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

Any additional comments or information for the Board to consider

Date Submitted: February 28, 2025
Submitted/Prepared by: James H. Wilson for Nunatta Environmental Services Inc.
Contact Information:
Tel: 867-979-1488
Fax: n/a
email: jim@nunatta.ca

GPS Coordinates

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 ″
Treated water discharge point	68	32	46.47	63	45	49.9

Soils accepted at Landfarm in 2024

Project #	Customer	Cubic Metres	Date	Contaminant
24-42	Northview Property Building 1099	5.00	6/28/2024	diesel fuel
24-50	Northview Property building #2719-A	10.0	8/1/2024	diesel fuel
24-73	Iqaluit housing building 2240	209.0	9/4/2024	diesel fuel
	Total Soils 2024	**224.00**		

Soils removed from Landfarm 2024

Project #	Customer	Cu/M
24-00	City of Iqaluit	340
	Dump cover material	
24-00	Hansen Construction	660
	used on industrial lot	
	Cubic meters	
	Total removed	**1000**

See attached lab results for soil analysis

City of Iqaluit used the soil for dump cover
Hansens used it to level out their storage lot in the west 40

Water/Snow received at Landfarm 2024

SNOW

Project #	Customer	Cu/m	Date	Contaminant
24-94	Quilliq Energy (QEC)	8	Dec 7 2024	Fire extinguisher powder. Employee discharged 60 fire extinguishers on City of Iqaluit property. City demaned it be cleaned cleaned up. scraped up snow to get powder Powder is non toxic but City of Iqaluit did not want it blowing around close to water plant.
	Total cu/M snow received in	**8**		

WATER

Project #	Customer	Litres	Date	Contaminant
24-50	Northview	1,500	Aug 1	Hydrocarbons from tank leak
24-29	Northview	36,000		water pumped out of building basement after fire
	Total litres received 2023	**37,500**		

Water from both projects were put into soil on Nunatta landfarm.
Nunatta digs hole in our soil piles and empty totes of water into these holes.
Soil strips out contaminates and water evaporates off or soaks into soil over time
Contaminates can be detected in soil samples

Cell Volumes

Soils contained in Landfarm cells freezeup 2024

Cell #	Dimension	Cell reference	Soil in progress	Rocks	Protective layer	Total soil contained	Soil remediated and ready to remove.
	Meters		**Cu/M**	**Cu/M**	**Cu/M**	**Cu/M**	
1	60X30	tipping point cell #1	400	40	687	1127	
2	50X25	QEC cell #2	0	10	290	300	0
3	90X30	final cell cell#3	0	6	900	900	0
4	60X30	fertilized soil Cell #4	0	60	800	800	
		Totals	**400**	**116**	**2677**	**3193**	0

With the decline of fuel spills in Iqaluit this year, we managed to remediate more soil than we could get done in the past few years
Testing of soil indicated it was clean enough for use as sand for the roads, dump cover or use in an industrial location
The city of Iqaluit removed soil from cell #1 to be used as dump cover. This soil was in the back of our Cell #1 and was soil from a job we did few years ago. this soil was not accessable due to the large amount of contaminated soil in the front of the cell. This summer we managed to clear enough away to allow us to get to the back and remove the soil
Lab results have shown for past couple years this soil met industrial standards.

The soil in Cell #4 was old soil which had been screened out and fertilizer added on 2 occasions.
Nunatta has found adding fretilizers to the soil when received speeds up the process of breaking down the hydrocarbons by more than 1 year. Stirring the soil with the excavator or running it throught the screening plant aerates the soil and breaks up lumps which still contain hydrocarbons. The soil in cell #1 was delivered in 2021 and fertilizer added then in 2022 it was put through the shaker and all roaks and cobbles down to 3 inches removed. Later moved to cell #4.
The soil was left in as loose condition as possible and not driven on or packed. In the spring of the following year the pile was stripped of all thawed soil exposing the frozen soil in the middle. This blends the soils and speeds up remediation. Any hot spot is broken up and blended with other soil allowing bacteria to reach hydrocarbons again speeding the breakdown into harmless components.
This soil was removed late season and used to fill in depressions in an industrial lot to allow easy placement of sea cans and crates

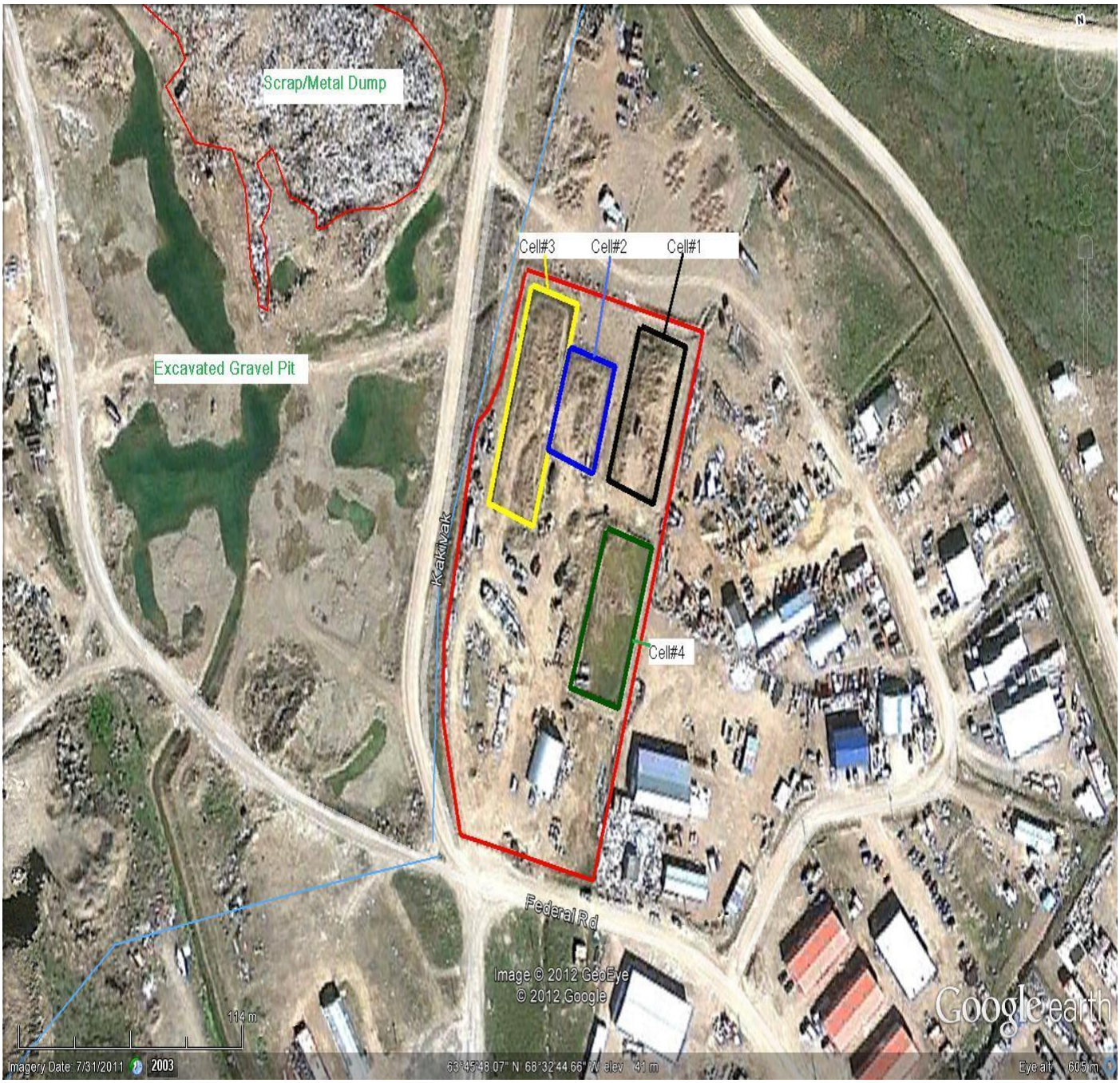
Cell #2 which was to be rebuilt and made bigger. Instead it has been repourposed to contain all the consumables from the Quilliq Energy Plant
We store the oil, solvents and Antifreeze to be deliver them to the plant as required. The watse from there is brought back and stored in that cell until the following summer when it is shipped south for disposal. the following year. Moving and storage is done by Nunatta

Map Overview

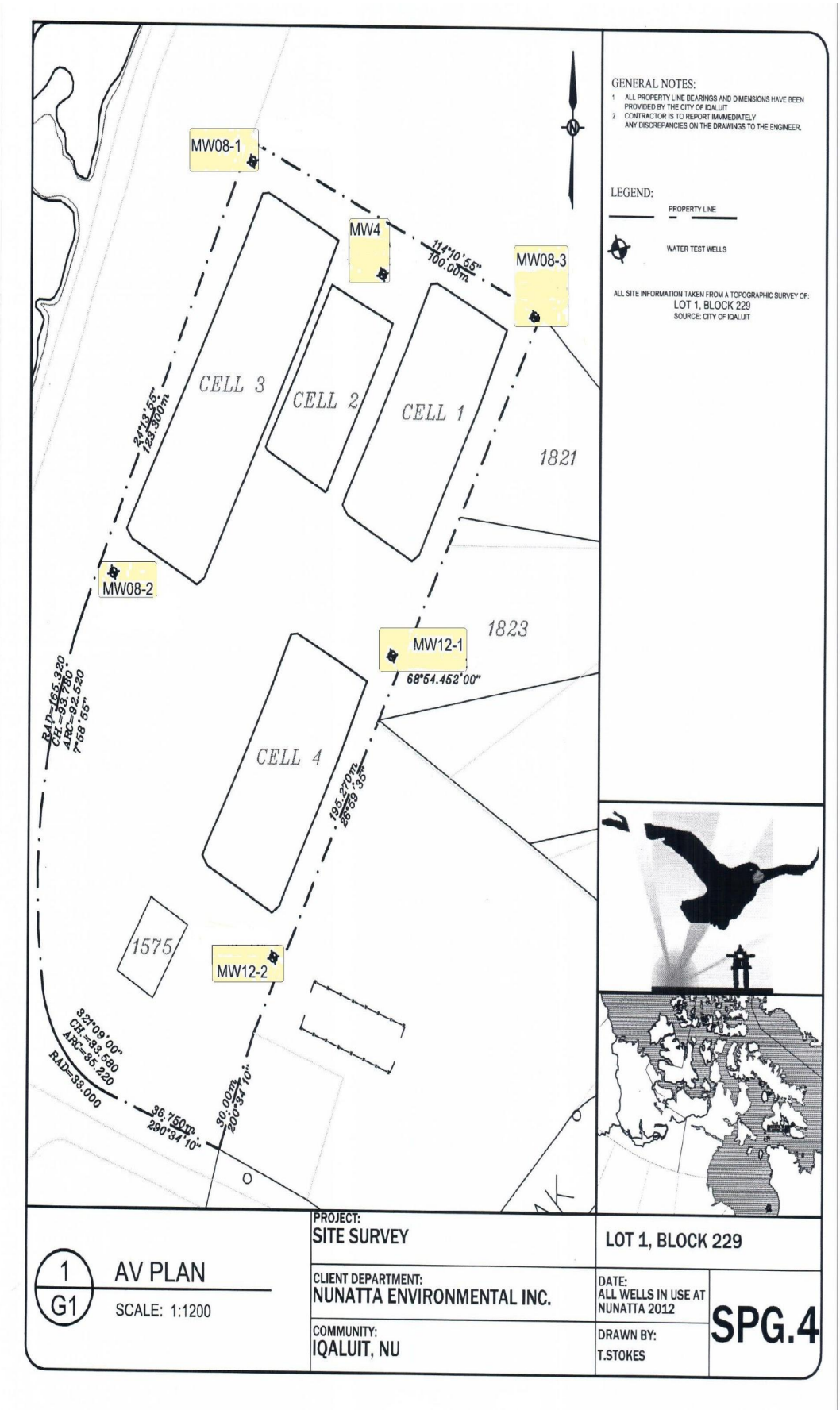
Landfarm


Blue: Gravel pits
Red: metal Dump
Nunatta Landfarm
Kakivak
Federal Rd
Industrial Park
Image © 2012 GeoEye
© 2012 Google
Google earth
408 m
Imagery Date 7/31/2011
2003
63°45'59.24" N 68°32'48.98" W elev 52 m
Eye alt 1.82 km

Landfarm Details



Monitoring Well Locations



2024 Monitoring Summary

The summer of 2024 was dark and windy we did not see much sunshine and we did not get a lot of heavy rains
Cool temeratures and windy did assist in drying up a lot of the water in our cells and around the town.
Damp cool days did not allow the ground to that and for this reason we did not get any water samples.
With the construction of the new Garbage sorting plant down grade from our landfarm we have seen them build the ground level of our lot. This has caused shadows on our wells which are located close to the property line.
The other issue is the city has allowed airport and any construction work being done in the city to pile ashpault along our fence and now it is 3 meters above our ground level. Tall enough it is above our 8 foot fence.
This was our discharge point for water discharged after it was tested and confirmed good enough to release

Water pumped within landfarm cells 2024

Date	Action	From	Destination	Litre
June 22/24	pump	cell #4	dirt in cell #4	30,000
July off and on	pump	Cell #1	dirt in cell #1	20,000
total about 8 hours @10,000 L per hour				50,000

Water is pumped into pond hole dug into the soil in our cell. this strips the water of hydrocarbons
and thaws out the soil faster. It aids in the evaporation of the water in the cell, reducing the amount to be treated
on a windy, sunny day we estimate we can evaporate off more than 2000 liters.
Water is pumped as required. If melt is fast we pump more oftenor if it rains
requirements. This also helps us reduce or eliminate the need for pumping out at seasons end.

No water released in to the environment in 2024

Total pumped	**63**
Total Cu/M	

Consruction of cell #2

In 2013 Nunatta Environmental applied for and was approved for an extension and replacement of liner for cell #2. The cell was used for rocks and cobbles removed from the screening process. The liner used in cell #2 was only 20 mm and Nunatta felt this liner should be brought up to the 30 mm minimum standard & at the same time the cell could be made longer to accommodate our equipment. Nunatta purchased 40 mil liner and #16 cloth to make it better than code. Liner is on site in Iqaluit. Permission was granted for the summer of 2014 construction season but due to cold weather and no place to put all the rocks stored in that cell delayed the work.

Since 2018 Nunatta Staff has been busy dealing with large projects in all parts of Nunavut. To do this work we have to we waway during the summer months. When Covid hit we thought this would be a good time to work on the landfarm bringing cell #2 up to code with a new thicker liner.
The lockdown of southern travelers made extra work for Nunatta who were on the road all summer doing work in Grise Fiord, Umingmaktok, Bathurst Inlet, Cape Dorset and the landfarm got missed.
This trend has continued to 2022 with our staff working remotly most of the summer months.
In fall of 2022 Quilliq Energy approached Nunatta to see if they could have all their consumables stored at Nunatta inside a lined cell. This was due in part to the water crisis that happened in Iqaluit over the summer when diesel fuel was found in drinking water samples. It was suggested it might have coming from items stored at the Quilliq energy power plant located next to the water treatment plant.
So everything was removed from site and oils, glycols, and waste were moved to Nunatta Landfarm cell #2. Since then it has been decided Quillic energy was not the cause of the contamination contamination.
In the mean time Quilliq energy has concluded it is much easier to have consumables delivered and watse removed when required rather than try to store it all on site.
Nunatta has cell #2 full of drums and totes but still has plans to replace the liner should a warm summer with less remote work come into play in the near future.
There has been no change in our plans to replace the liner at some point.

Spring Soil Sample Results - Cell 1

TABLE 1 **CLIENT: Nunatta Environmental Services Inc.**
PARACEL LABORATORIES **ATTENTION: Jim Wilson**
WORKORDER: 2424377 **PROJECT: Spring Landfarm Samples**
REPORT DATE: 06/18/2024 **REFERENCE: Standing Offer**

Parameter	Units	MDL	Regulation	Sample			
				Cell #1 Front Left	#1 Front Right	#1 Middle Hole	#1 Very Back
Sample Date (m/d/y)			**Select Reg**	**06/11/2024 07:45**	**06/11/2024 07:45**	**06/11/2024 07:45**	**06/11/2024 07:45**
Physical Characteristics							
% Solids	% by Wt.	0.1	REGS	93.2	92.1	87.7	95.1
Microbiological							
Heterotrophic Plate Count	CFU/g	1000	REGS	N/A	N/A	N/A	N/A
Volatiles							
Benzene	mg/kg dry	0.02	REGS	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Ethylbenzene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
m/p-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hydrocarbons							
F1 PHCs (C6-C10)	mg/kg dry	7	REGS	ND (7)	ND (7)	9	ND (7)
F2 PHCs (C10-C16)	mg/kg dry	4	REGS	201	24	518	20
F3 PHCs (C16-C34)	mg/kg dry	8	REGS	171	87	178	213
F4 PHCs (C34-C50)	mg/kg dry	6	REGS	105	60	90	197
F4G PHCs (gravimetric)	ug/g dry	50	REGS	N/A	N/A	N/A	305

Spring Soil Sample Results - Cell 3

NOTE - Cell #3 is empty except for the cover layer (liner) and is being used for storage of waste.

Spring Soil Sample Results - Cell 4

TABLE 1 **CLIENT: Nunatta Environmental Services Inc.**
PARACEL LABORATORIES **ATTENTION: Jim Wilson**
WORKORDER: 2424377 **PROJECT: Spring Landfarm Samples *before***
REPORT DATE: 06/18/2024 **REFERENCE: Standing Offer**

Parameter	Units	MDL	Regulation	Sample			
				#4 Front Right 242477-06	#4 Front Left 2424377-07	#4 Middle hole 2424377-08	#4 Back 2424377-09
Sample Date (m/d/y)			**Select Reg**	**06/11/2024 07:45 AM**	**06/11/2024 07:45 AM**	**06/11/2024 07:45 AM**	**06/11/2024 07:45 AM**
Physical Characteristics							
% Solids	% by Wt.	0.1	REGS	93.1	92.8	93.5	93.6
Microbiological Parameters							
Heterotrophic Plate Count	CFU/g	1000	REGS	53000	45000	31000	>2000
Volatiles							
Benzene	mg/kg dry	0.02	REGS	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Ethylbenzene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
m/p-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hydrocarbons							
F1 PHCs (C6-C10)	mg/kg dry	7	REGS	ND (7)	ND (7)	ND (7)	ND (7)
F2 PHCs (C10-C16)	mg/kg dry	4	REGS	116	77	100	126
F3 PHCs (C16-C34)	mg/kg dry	8	REGS	175	133	154	139
F4 PHCs (C34-C50)	mg/kg dry	6	REGS	102	107	131	113
F4G PHCs (gravimetric)	ug/g dry	50	REGS	N/A	N/A	86	192

TABLE 1 **CLIENT: Nunatta Environmental Services Inc.**
PARACEL LABORATORIES LTD. **ATTENTION: Jim Wilson**
WORKORDER: 2424383 **PROJECT: Spring Landfarm Samples *after***
REPORT DATE: 06/18/2024 **REFERENCE: Standing Offer**

Parameter	Units	MDL	Regulation	Sample			
				#Cell#4 Left front 2424383-02	Cell #4 Right front 2424383-03	middle 2424383-04	Cell#4 Back 2424383-05
Sample Date (m/d/y)			**Select Reg**	**06/11/2024 07:45 AM**	**06/11/2024 07:45 AM**	**06/11/2024 07:45 AM**	**06/11/2024 07:45 AM**
Physical Characteristics							
% Solids	% by Wt.	0.1	REGS	93.4	93.8	94.2	92.6
Microbiological Parameters							
Heterotrophic Plate Count	CFU/g	1000	REGS	33000	27000	35000	N/A
Volatiles							
Benzene	mg/kg dry	0.02	REGS	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Ethylbenzene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
m/p-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hydrocarbons							
F1 PHCs (C6-C10)	mg/kg dry	7	REGS	ND (7)	ND (7)	ND (7)	ND (7)
F2 PHCs (C10-C16)	mg/kg dry	4	REGS	63	120	69	78
F3 PHCs (C16-C34)	mg/kg dry	8	REGS	148	159	141	154
F4 PHCs (C34-C50)	mg/kg dry	6	REGS	116	96	120	116
F4G PHCs (gravimetric)	ug/g dry	50	REGS	225	N/A	181	291

Fall Soil Sample Results - Cell 1

TABLE 1 **CLIENT: Nunatta Environmental Services Inc.**
PARACEL LABORATORIES LTD. **ATTENTION: Jim Wilson**
WORKORDER: 2443154 **PROJECT: Nunatta Landfarm Fall 2024**
REPORT DATE: 10/28/2024 **REFERENCE: Standing Offer**

Parameter	Units	MDL	Regulation	Sample		
				Cell #1 R	Cell #1 Top	Cell #1 F
Sample Date (m/d/y)			**Select Reg**	**10/19/2024 02:45**	**10/19/2024 02:45**	**10/19/2024 03:05**
Physical Characteristics						
% Solids	% by Wt.	0.1	REGS	91.5	92.8	92.8
Microbiological Parameters						
Heterotrophic Plate Count	CFU/g	1000	REGS	>200000	>200000	>200000
Organic Nitrogen	ug/g dry dry	10.0	REGS	N/A	N/A	N/A
General Inorganics						
Nitrogen, Total	ug/g dry	11.0	REGS	N/A	N/A	N/A
Ammonia as N	ug/g dry	1	REGS	N/A	N/A	N/A
Total Kjeldahl Nitrogen	ug/g dry	10	REGS	N/A	N/A	N/A
Anions						
Nitrate as N	ug/g dry	1	REGS	N/A	N/A	N/A
Metals						
Antimony	ug/g dry	1.0	REGS	ND (1.0)	ND (1.0)	ND (1.0)
Arsenic	ug/g dry	1.0	REGS	2.5	2.5	2.6
Barium	ug/g dry	1.0	REGS	53.8	50.9	49.1
Beryllium	ug/g dry	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)
Boron	ug/g dry	1.0	REGS	2.6	2.0	2.8
Cadmium	ug/g dry	0.5	REGS	ND (0.5)	ND (0.5)	ND (0.5)
Chromium	ug/g dry	5.0	REGS	27.8	27.2	29.3
Cobalt	ug/g dry	5.0	REGS	7.2	7.1	6.8
Copper	ug/g dry	5.0	REGS	20.4	15.8	20.1
Lead	ug/g dry	1.0	REGS	6.0	6.0	6.9
Mercury	ug/g dry	0.1	REGS	ND (0.1)	ND (0.1)	ND (0.1)
Molybdenum	ug/g dry	1.0	REGS	1.1	ND (1.0)	1.0
Nickel	ug/g dry	5.0	REGS	10.6	10.3	10.4
Selenium	ug/g dry	1.0	REGS	ND (1.0)	ND (1.0)	ND (1.0)
Silver	ug/g dry	0.3	REGS	ND (0.3)	ND (0.3)	ND (0.3)
Thallium	ug/g dry	1.0	REGS	ND (1.0)	ND (1.0)	ND (1.0)
Tin	ug/g dry	5.0	REGS	ND (5.0)	ND (5.0)	ND (5.0)
Uranium	ug/g dry	1.0	REGS	ND (1.0)	ND (1.0)	ND (1.0)
Vanadium	ug/g dry	10.0	REGS	52.7	53.1	57.3
Zinc	ug/g dry	20.0	REGS	45.8	40.7	56.2
Volatiles						
Benzene	mg/kg dry	0.02	REGS	ND (0.02)	ND (0.02)	ND (0.02)
Ethylbenzene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)
m/p-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)
Hydrocarbons						
F1 PHCs (C6-C10)	mg/kg dry	7	REGS	ND (7)	36	29
F2 PHCs (C10-C16)	mg/kg dry	4	REGS	203	672	374
F3 PHCs (C16-C34)	mg/kg dry	8	REGS	81	113	2050
F4 PHCs (C34-C50)	mg/kg dry	6	REGS	31	ND (6)	120
F4G PHCs (gravimetric)	ug/g dry	50	REGS	N/A	N/A	172

Fall Soil Sample Results - Cell 3

NOTE - Cell #3 is empty except for the cover layer (liner) and is being used for storage of waste.

Fall Soil Sample Results - Cell 4

TABLE 1 **CLIENT: Nunatta Environmental Services Inc.**
PARACEL LABORATORIES LTD. **ATTENTION: Jim Wilson**
WORKORDER: 2443154 **PROJECT: Nunatta Landfarm Fall 2024**
REPORT DATE: 10/28/2024 **REFERENCE: Standing Offer**

Parameter	Units	MDL	Regulation	Sample			
				Cell 4 R 2443154-01	Cell 4 Top 2443154-02	Cell 4 L 2443154-03	Cell 4 Dup 2443154-04
Sample Date (m/d/y)			**Select Reg**	**10/19/2024 02:45**	**10/19/2024 02:45 AM**	**10/19/2024 02:45 AM**	**10/19/2024 02:45 AM**
Physical Characteristics							
% Solids	% by Wt.	0.1	REGS	92.2	93.6	94.3	94.5
Microbiological Parameters							
Heterotrophic Plate Count	CFU/g	1000	REGS	66000	31000	14000	12000
Organic Nitrogen	ug/g dry dry	10.0	REGS	347	336	303	301
General Inorganics							
Nitrogen, Total	ug/g dry	11.0	REGS	350	340	307	305
Ammonia as N	ug/g dry	1	REGS	4	4	4	3
Total Kjeldahl Nitrogen	ug/g dry	10	REGS	350	340	307	305
Anions							
Nitrate as N	ug/g dry	1	REGS	ND (1)	ND (1)	ND (1)	ND (1)
Metals							
Antimony	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Arsenic	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Barium	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Beryllium	ug/g dry	0.5	REGS	N/A	N/A	N/A	N/A
Boron	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Cadmium	ug/g dry	0.5	REGS	N/A	N/A	N/A	N/A
Chromium	ug/g dry	5.0	REGS	N/A	N/A	N/A	N/A
Cobalt	ug/g dry	5.0	REGS	N/A	N/A	N/A	N/A
Copper	ug/g dry	5.0	REGS	N/A	N/A	N/A	N/A
Lead	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Mercury	ug/g dry	0.1	REGS	N/A	N/A	N/A	N/A
Molybdenum	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Nickel	ug/g dry	5.0	REGS	N/A	N/A	N/A	N/A
Selenium	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Silver	ug/g dry	0.3	REGS	N/A	N/A	N/A	N/A
Thallium	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Tin	ug/g dry	5.0	REGS	N/A	N/A	N/A	N/A
Uranium	ug/g dry	1.0	REGS	N/A	N/A	N/A	N/A
Vanadium	ug/g dry	10.0	REGS	N/A	N/A	N/A	N/A
Zinc	ug/g dry	20.0	REGS	N/A	N/A	N/A	N/A
Volatiles							
Benzene	mg/kg dry	0.02	REGS	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Ethylbenzene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Toluene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
m/p-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
o-Xylene	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Xylenes, total	mg/kg dry	0.05	REGS	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hydrocarbons							
F1 PHCs (C6-C10)	mg/kg dry	7	REGS	ND (7)	ND (7)	ND (7)	ND (7)
F2 PHCs (C10-C16)	mg/kg dry	4	REGS	14	11	7	ND (4)
F3 PHCs (C16-C34)	mg/kg dry	8	REGS	113	93	101	100
F4 PHCs (C34-C50)	mg/kg dry	6	REGS	66	71	61	56
F4G PHCs (gravimetric)	ug/g dry	50	REGS	N/A	N/A	N/A	N/A

2024 Water Wells -Sample Results

During the summer of 2024 no water samples were collected by Nunatta
All wells were either dry or frozen. See explanation below

In the summer of 2023 the City of Iqaluit started construction of a new garbage sorting facility behind and beside Nunatta Environmental
The new building has a very large foot print and includes storage for sea cans, bulk bins, a large inground scale and scale house
In order to drain the property they added to the grade and elevated their land by more than 1 meter. In soing so they left Nunatta Environmental sitting in a hole. The pile snow up against the fence which will melt and run into Nunatta property and might disturb our old cell which has been built with a low berm wall. Now that the city has built up the land it might cause our cells #1 to overtop during the spring freshet
Nunatta will attempt to remove as much snow around the berm to keep this from happening.
We do not understand how the city can regrade this lot without consulting Nunatta or understanding they have blocked off the natural drainage of the lands above this facility.
Nunatta was in Baker Lake doing work for the GN when the regrading and changing of the fence happened.
Now our water test wells have been burried even deeper and are shadowed so there is no thawing of the soil at all
On another note the airport had the apron ripped up and fixed then repaved. All of the old pavement has been removed and piled beside out fence on the water discharge side of our lot. The pile of asphault is now almost 3 meters taller than ground level and it above our fence.
This is causing a lot of drifting snow to collect on and around our cell #3. Since this has been an area we store things it will be difficult to clear **all the snow out and we run the risk of overtopping during the spring melt.**

2024

Summary of Activities at Nunatta Environmental Services Inc. (NESI)

NWB licence 1BR-NUN-1828 Type "B"

Landfarm in Iqaluit for 2024 season

Water/ Snow

Snow was brought in from job at 4086 contaminated with diesel fuel this snow was put into a small sub berm inside cell #1 so when it melted the fuel could not run off into the water ditch around the cell berm/ When the water leached through the soil it was stripped of the hydrocarbons and they remained in the soil

Water from job at 2600"E"was delivered and again put into holes in the soil we dug with excavator. this water was allowed to seep through the soil and again stripping any hydrocarbons out and leaving them in the soil

Soils

Soil brought into landfarm this year were treated as we put them into the pile. Treatment was with a fertilizer and it remained there until we ran the soil through the screening plant in September. This screening removes all big rocks and stones over 3 inches then the soil is put into Cell #3 in smaller piles. this aloows the soil to breath and allows water and sun to help in remediating the soil.

This year the city of Iqaluit wanted soil for dump cover. Nunatta samples cell #3 separatly so the results could be forward3ed to the city for their environmental check. All the soil met their standards and was removed and put taken to the landfill site. In total 800 cubic meters removed from cell #3.

Soil in back of cell #1 has tested clean for last couple years but we have not been able to get to it due to so much soil in front. The plan for 2024 is to clean up the soil in front and remove the soil in back of the cell. It was put here due to cell #3 being over full and we needed to store soil and cell 31 had least amount at the time

Plans for 2024 is to clean up and remove more soil from within the landfarm. Cell #4 is very close and screening it during summer should make it pass and the city can use it in the fall as dump cover

Test Wells

Monitoring wells did not thaw out on the south east end or the south side of the property. Ones on north side are always dry due to excavation practices of the pit next door. The level of the pit floor ranges from 3 to 5 meters below the level of Nunatta landfarm. We test often to see if we can get water in the wells. sometimes we get mud but mostly frozen or no water

Remediation practices

Nunatta Environmental Services has been improving soil remediation practices and each year find ways of reducing the time the soil spends in our landfarm. With these practices of careful monitoring and proper additions to the soil including innoculation of bacteria and enzymes from remediated soil into the new soils, Nunatta has been able to reduce the remediation time to less than 1/2 of what it was 6 years ago.

Information gathered from soil sampling and testing in association with the University of Saskatchewan's Soil Toxicology Department, Nunatta has been able to put them into practice at its landfarm.

We cannot thank Dr. Stephen Sciciliano enough for his assistance and for taking my phone calls and answering my emails over the past few years.