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

NWB licence 1BR-NUN-1217 Type "B"

Landfarm in Iqaluit for 2021 season

Water/ Snow

63 cubic meters of snow was brought into Nunatta Land farm and melted into soil pile
32,000 Liters of water was delivered to landfarm. 22,000 came in late November and froze immediatly will deal with 2022
This is added to our soil piles in a manner to assure there is no run off in the spring.
No water was released into the environment during 2021.

Soils

The total soil for the year of 2021 was 17 cubic meters all contained P50 heating oil
This soil was placed into cell #1 to be screened and blended with older soil under remediation already
This is the first year we have not had a large amount of soil come into the landfarm

Test Wells

Monitoring Wells did not produce water this year.
Nunatta attempted water sampling late in the season, but test wells remained dry close to the edge and frozen opposite side.
of the property

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.
Nunatta constructed 2 temporary cells in Baker Lake this summer and will be constructing a large one on the Petrolium Products site in the summer of 2022 to remediate the soil recovered from the gasoline spill of 2021
We plan to do work on our own cell #2 if the summer allows us time to complete this project

Soil: Spring and Fall soil samples were taken and samples sent to Paracell Labs in Ottawa for analysis.
The results indicate hydrocarbon remediaton is progressing at a very generous rate compared to the last few years.
Nunatta believes this is due to much higher microbial activity.
Lab reports show microbial count exceeds the normal found in Baffin Island soils.
Soils not innoculated with old soil show plate counts of 2,000-4,000 .
Soils contained in cells 3 and 4 which have been screened, fertilizer added, and innoculated with remediated soil show bacteria counts as high as TNTC (Too Numberous To Count).
These microbes are responsible for the breakdown of hydrocarbons into harmless components.
Managing and feeding microbes is the most important step in operating the Nunatta landfarm.
Previous management was storing soil and in doing so created a large healthy colony of the otherwise very sparcle populated bacteria responsible for making the enzyme that breaks down fuel in Arctic conditions