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- NWB informed of plans to provide interim storage of contaminated soil at solid waste disposal site. Storage area was to be prepared by scrapping it flat and compacting with heavy equipment. Soil was to be placed in windrows to a depth of 1 m, and graded to positive drainage. Stored soil was to be tested and assed for future use. If the soil was determined to be contaminated to a significantly greater extent than previously understood and/or there was a significantly greater volume, then the design of a lined treatment unit for further treatment would be considered.



June 16, 2005 – Letter from Bryan Purdy, CGS, to Phyllis Beaulieu, NWB, re: Application for the Amendment to the Repulse Bay Water Board License

- Drawings of the Contaminated Soil Storage Area submitted to the NWB, along with photographs of selected site. Drawings indicate the existing ground will be scraped flat in an 18 m by 18 m area and a 0.3 m berm will be constructed. There is no indication of a liner.

July 12, 2005 – Water Licence Application, Repulse Bay, NWB3REP0409, Supplementary Information Requirements for Hydrocarbon-Impacted Soil Storage and Landfarm Treatment Facilities submitted to NWB by Baljinder Brar, CGS, on behalf of the Hamlet.

- The Supplementary Information questionnaire indicated that no geo-synthetic liner would be used in the contaminated soil storage. The soil would be stored in a pile 17 m by 17 m by 1 m. CGS coordinates for two proposed monitoring wells were given, and located in drawing CSK-3. In consideration of alternative methods of soil storage or remediation, the questionnaire states that if soil remains contaminated above CCME industrial levels, NWB approval will be sought to construct an appropriate lined treatment unit. The intention was that this soil would be used as cover material at the solid waste site once desired remediation levels were reached.

October 9, 2005 – Final Report on the Repulse Bay, Nunavut Fuel Storage Facility Site Remediation completed by FSC.

- Contaminated soil was removed from the fuel storage facility between June 22 and July 6, 2005. More contaminated material was discovered than originally anticipated. A total of 1890 m³ was removed from the fuel storage facility and placed in the temporary storage area for remediation. As seen in drawing CSK-3, the actual area of contaminated soil containment was an irregular shape much larger than the previously submitted drawings. Confirmation samples were sent to Enviro Test Laboratories several weeks after the material was placed at the storage area. Natural remediation had taken place and soil was confirmed to meet CCME guidelines for soil in an industrial site. The report states that the soil is now suitable for re-use, including cover material at the solid waste site.



April 24, 2007 – Email chain between Ron Kent, FSC, and Zhong Lui, NWB, re: 3BM-REP amendment application for the landfarming.

- NWB requests additional information on the “landfarm”. FSC confirms that the soil in the storage area is not contaminated and is stored for use as cover material at the solid waste site. FSC also confirms that no as-built drawings exist for this temporary storage site.

May 28, 2007 – Letter from Dionne Filiatrault, NWB, to Jim Rogers, INAC (AANDC), re: Water License Application: 1BR-TAL, 3BM-REP0409 and 3BM.

- In this letter from the NWB to INAC (AANDC) regarding facilities constructed prior to obtaining required water licences, the NWB acknowledges receiving application for amendment to the water licence on June 23, 2005 for a contaminated soil storage facility (**not a landfarm**). It is evident by this statement that the NWB was aware at this point that there was a soil storage facility, not a landfarm, in Repulse Bay.

September 27, 2007 – Amendment #1 to the NWB Licence No. 3BM-REP0409 is issued.

- Despite previous correspondence that states there is a temporary soil storage area in Repulse Bay and that contaminated soil was remediated as of August 2005, the NWB issues Amendment #1 for a landfarm with the following conditions:
 - Part F, Item 6: O&M Plan for the Hamlet of Repulse Bay Landfarm Facility is requested within ninety (90) days of issuance of the Amendment.
 - Part F, Item 10: As-built plans/drawings of the Landfarm Facility are requested within ninety (90) days of issuance of the Amendment.
 - Part H, Item 1: Three monitoring stations were added to the Licence:
 - REP-5: Effluent discharge from the Landfarm Facility at the controlled point of release.
 - REP-6: Monitoring well located up-gradient of the Landfarm Facility.
 - REP-7: Monitoring well located down-gradient of the Landfarm Facility.
 - Part H, Item 2: The Licensee shall install groundwater monitoring wells at the Landfarm Facility.
- No O&M Plan or as-built plans/drawings were submitted for the temporary storage area. Monitoring wells were not installed and as such no monitoring at REP-6 or REP-7 ever took place. Effluent was not discharged from the “Landfarm Facility” and as such no monitoring took place at REP-5 either. The “landfarm” has remained an area of non-compliance with the Water Licence since Amendment #1 was issued.



In an effort to fulfill Monitoring Program obligations, samples were collected from a small pond down-gradient of the soil storage area August 2014 and June 2012. Analysis indicated that Total Petroleum Hydrocarbons (TPH), Polycyclic Aromatic Hydrocarbons (PAH), and Benzene, Toluene, Ethylbenzene, Xylene (BTEX) were below detectable limits both years. Other parameters analyzed as per Part H, Item 13 of the Water Licence are below the CCME Water Quality Guidelines for the Protection of Aquatic Life (freshwater). Please see the attached *Summary of Effluent Sampling Down-Gradient of Soil Storage Area* for sample results. These results indicate that the surface water in the proximity of the soil storage area is not hydrocarbon contaminated. This is in agreement with the 2005 Final Report that states the soil is no longer contaminated. If the soil in the storage area was still contaminated, there is a good chance that during/after spring melt the nearby surface water would show hydrocarbon contamination.

The Licensee ultimately wishes to have conditions referencing the "landfarm" removed from the Licence, as there is no engineered landfarm facility in Repulse Bay. If conditions related to the "landfarm" remain on the new Water Licence, the Hamlet of Repulse Bay will not be able to achieve full compliance of their Licence because of a facility that does not exist within the community.

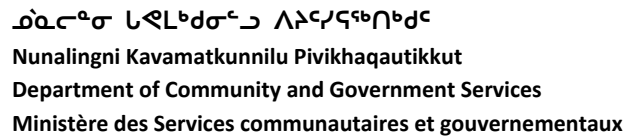
The Licensee acknowledges that the proper procedures were not followed in constructing the soil storage area, but we believe this incident should not hinder the issuing of a new Water Licence. If the Hamlet of Repulse Bay determines that an engineered landfarm is needed in the community in the future, the appropriate measures will be taken to ensure an amendment application is filed with the NWB and approved prior to construction of the landfarm. The Licensee will also ensure that all required documents (as-built drawings, O&M Manual, etc.) are submitted and that monitoring takes place (with the installation of groundwater monitoring wells).

During summer 2015 the temporary soil storage site will be visited. Soil samples will be taken to confirm that the soil in this area is not contaminated and sent to the NWB and AANDC for confirmation. The soil will then be transported to the Solid Waste Site for use as cover material and the area will be re-graded to match natural gradient. If the NWB is in agreement with this course of action for the removal of the "landfarm" from the Water Licence, an A&R Plan will be submitted six (6) months prior to abandonment and reclamation of the storage site taking place.

Please contact the undersigned with any questions or concerns.

Sincerely,

Megan Lusty, EIT
Municipal Planning Engineer-In-Training
Community and Government Services
Kivalliq Region, Government of Nunavut



Email: mlusty@gov.nu.ca

- Letter from Ron Kent, FSC, to Jim Wall, NWB, re: Repulse Bay Contaminated Soil Clean-up
- Letter from Bryan Purdy, CGS, to Phyllis Beaulieu, NWB, re: Application for the Amendment to the Repulse Bay Water Board License
- Water Licence Application, Repulse Bay, NWB3REP0409, Supplementary Information Requirements for Hydrocarbon-Impacted Soil Storage and Landfarm Treatment Facilities
- Final Report on the Repulse Bay, Nunavut Fuel Storage Facility Site Remediation
- Email chain between Ron Kent, FSC, and Zhong Lui, NWB, re: 3BM-REP amendment application for the landfarming
- Letter from Dionne Filiatrault, NWB, to Jim Rogers, INAC (AANDC), re: Water License Application: 1BR-TAL, 3BM-REP0409 and 3BM
- Summary of Effluent Sampling Down-Gradient of Soil Storage Area