



Our File 2001-0580
August 22, 2001

Sent by email

Nunavut Water Board
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Water Licence NWB3PON9904

On behalf on my client, the Government of Nunavut, and the Hamlet of Pond Inlet, I am writing to advise you that the waste oil cell located at the Hamlet's waste management site will be decommissioned before the end of September. Although the waste oil cell is not mentioned as part of the licence *per se*, it is part of the waste management site.

The waste oil cell no longer meets the needs of the community and has become a source of controversy. The plan is to decommission the cell and collect waste oil for heat recovery. The cell will be decommissioned and the site incorporated into the waste management area for other needs which are undefined at this time.

Following is a discussion of the condition of the cell and the decommissioning plans.

The Cell Does Not Appear to be Leaking

It was not apparent during my inspection of July 23 to July 26 that the waste oil cell was leaking into the sewage lagoon. By July 26 the liquid level in the sewage lagoon was significantly lower than in the waste oil cell, however, the waste oil cell appeared to be maintaining its level, based on my visual observations.

There was very little waste oil in the waste oil cell. Waste oil, oily water mixtures, and probably other products were stored in barrels randomly placed round the outside of the cell. Volumes are unknown. The cell, itself, was almost full to the top with water. There was a "rainbow" on the surface of the cell, however, such a rainbow is a result of petroleum product only a few molecules thick, rather than a significant quantity.

There was no visible sheen on the surface of the lagoon. A weathered oil type substance was noted in the wind-blown into northwest corner of the lagoon on July 25 and July 26, however, it represented a very small quantity and it was not immediately clear that it was petroleum based. Further, if it was petroleum based, it could have come from another source, such as the raw sewage itself.

Finally, preliminary laboratory results for oil and grease (hexane extractible) are shown for the sample taken July 26:

Location	Result (mg/l)
Lagoon Discharge	13.6
Catchment Area	6.1
At the Shoreline	2.5

These results are typical of a sewage lagoon treating domestic sewage (which contains quantities of animal fat, fish and vegetable oil, and other natural oil type substances). Standard Methods (5520) 19th Edition advises that the oil and grease test is non-specific and will also recover materials including sulphur compounds, certain organic dyes, and chlorophyll.

The results show further that the land is removing some (80%) of these materials.

The Hamlet of Pond Inlet possesses a Reznor RA140 waste oil burner. Once installed, the waste oil cell could become redundant.

Recommended Decommissioning Procedure

1. It is understood that many of the barrels at the facility contain water. The water should be drained from these barrels as much as possible, and barrels of identical product combined.
2. The water should be drained from the barrels to the sewage lagoon where any residual product will be treated by bacterial action and/or evaporation.
3. Completely drained barrels should be crushed and buried in the metals area of the landfill.
4. All barrels should be removed from the cell area.
5. All oil should be removed from the liquid surface of the cell using absorbent materials.
6. Pump the water from the waste oil cell to the sewage lagoon.
7. Depending on the needs of the community, the decommissioned cell could be used as a landfarm area for treating contaminated oil. If so, a management program should be initiated to deal with any retained water. If it is not to be used in this manner, the liner should be removed to prevent further retention of water and to allow the area to be used for another purpose. The liner may have a future use elsewhere in the community and could be saved. Otherwise, it could be disposed in the landfill.

8. If decommissioned for alternate use, the soil in the cell and surrounding area should be landfarmed with the soil presently undergoing treatment at the waste management site, prior to its use as cover material for the MSW cells.

Waste Oil Collection and Management

Through consultation with all generators, and following the manufacturers operational requirements, the Hamlet must set up a written procedure to collect and store waste petroleum product for the burner. All associated Hamlet personnel should receive orientation and/or training on the procedure.

All product types considered for burning must be inventoried and recorded. Only products compatible with the burner and which each other should be used in the burner.

Incompatible products generated by the Hamlet must segregated and stored for future disposal at the Hamlet's hazardous waste container.

The Hamlet should not accept hazardous wastes at any facility from private generators.

In Closing

Please call at your convenience if you have questions.

Yours truly,
Ferguson Simek Clark

Ron Kent, P. Eng.,
Head, Environment Department