

The Town of Hay River
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June 14, 2004

Mackenzie Valley Land & Water Board
P. O. Box 2130
Yellowknife, NT X1A 2P6

Dear Ms. McLeod:

**Re: N1L4-0053 Water Licence Amendment Application Town of Hay River
Biotreatment Pad, Hay River Landfill/Environment Canada
Correspondence dated June 1, 2004**

With respect to the issues outlined in the above noted correspondence, please note as follows:

- **Protection of Migratory Birds:**

The design of the Treatment Pad is such that all run-off will be channeled to the containment pond. As part of the operation of the pad the collection pond will be managed to minimize collected leachate and run-off. To further ensure that adequate protection is afforded to migratory birds the recommendation by Environment Canada to screen the top of the pond will be implemented, the sides are currently fenced.

- **Prohibition of Landfarming (Bylaw #1812)**

The amendment to Bylaw #1812 is intended to restrict future landfarming operations. As this bylaw was not established when the existing landfarms were constructed, we have no power to have the present operators move this soil to the Biotreatment Facility. However no new soil will be permitted into these areas.

- **Geomembrane Liner**

According to the manufacturer the life span of the geomembrane liner is expected to be 25 years, we can amend the operation plan to read as follows:

"Geomembrane Liner to be inspected for leaks tears and other signs of deterioration at each pump-out and at a minimum monthly. The geomembrane liner shall be removed and replaced at any sign of damage/deterioration or within 10 years after the date install."

This would ensure the geomembrane liner is not in service beyond its expected life expectancy.

The treatment pad low conductivity clay on the treatment pad will be overlaid with a layer of buffer material prior to operation to protect the integrity of the clay liner. The treatment pond was overlaid with a geomembrane for the following reasons:

- 1) To allow for the efficient removal of accumulated runoff/leachate.
- 2) To eliminate the chance of the clay liner being breached with material being removed by frequent pumpouts.

- **Treatment Procedures**

With respect to treatment procedure to be included operation plan, it would be difficult to include information on tillage frequency or treatment augmentation materials to be used during treatment as this will be dependent on the type of material and extent and nature of contamination. What can be included is as follows:

"A treatment plan will be prepared for each lot of soil permitted for treatment at the Biotreatment Pad, this plan will include as follows:

1. Location of material on the Biotreatment Pad.
2. Copy of analytical data describing the type and extent of contamination.
3. Frequency and mode of tillage.
4. Frequency and extent of additives for treatment augmentation.
5. Frequency of testing to determine progress of treatment."

- **Closure Plan**

Operations plan will be reworded as follows:

"Following release or removal of all soil from the treatment facility, an environmental site assessment will be performed on the site. If analysis proves the material utilized for the construction of the treatment pad is suitable, the material will be used a low permeability final capping for the landfill cells, if not the material will be properly disposed of as contaminated soil."

- **Discharge Water**

Discharge water will be removed and taken to a treatment facility for processing. Prior to release the into the Hay River Sewage Treatment Lagoons the treated

discharge water will be tested to ensure it meets CCME criteria for discharge water quality.

- **Groundwater Monitoring**

At present there are three monitoring wells down the hydraulic gradient from the Treatment Pad, there are two (2) more proposed directly adjacent to the treatment pad. These wells can be tested at intervals as determined by the Board and included in the revised surveillance program for the landfill site.

- **Surface Run-off**

It is recommended that testing for Total Petroleum Hydrocarbons (TPH) be included in the monthly testing as outlined in the present surveillance program at Station #0053-5.

- **Spill contingency Plan**

The existing spill contingency plan can be amended to include the Treatment Pad and any special measures proposed associated with this facility as per Environment Canada's recommendation.

I hope the above addresses the concerns raised by Environment Canada in the above referenced correspondence dated June 1, 2004.

If you have any further questions please feel free to contact me at (867) 874-6522.

Regards,
Town of Hay River



Todd Pittman
Director of Public Works & Planning