



Environmental Protection Operations Directorate  
Prairie and Northern Region (PNR)  
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April 5, 2013

EC file: 4782 022  
SLWB file: S12L3-006

Tony Morris, Regulatory Specialist  
Sahtu Land and Water Board  
Box 1  
Fort Good Hope NT X0E 0H0

Via online submission

Attention: Mr. Morris

**RE: S12L3-006 - Closure and Reclamation Plan – Deline Solid Waste Facility**

Please find attached Environment Canada's (EC's) comments to the Sahtu Land and Water Board regarding the Closure and Reclamation Plan for Deline's Solid Waste Facility.

EC's contribution to your request for specialist advice is based primarily on the mandated responsibilities of the pollution prevention provisions of the *Fisheries Act*, the *Species at Risk Act*, the *Canadian Environmental Protection Act, 1999* and the *Migratory Birds Convention Act*.

Should you require further information, please do not hesitate to contact me at 867-669-4746 or [jane.fitzgerald@ec.gc.ca](mailto:jane.fitzgerald@ec.gc.ca).

Sincerely,

Jane Fitzgerald  
Environmental Assessment Coordinator

Attachment - S12L3-006 - Closure and Reclamation Plan Deline Solid Waste Facility -  
EC comments.xlsx

cc: Susanne Forbrich, Manager, Environmental Assessment and Marine Programs  
(EAMP)-PNR, EC  
Loretta Ransom, Senior EA Coordinator, EAMP-PNR, EC

**GENERAL INSTRUCTIONS FOR EXCEL TEMPLATE:**

**TOPIC**

*Be as specific as you think is appropriate; for example a section or page of the document, a recommendation #, general comment, etc.*

**COMMENT**

*Comments should contain all the information needed for the proponent and the Board to understand the rationale for the accompanying recommendation.*

**RECOMMENDATION**

*Recommendations can be for the proponent or for the Board. Recommendations should be as specific as possible, relating the issues raised in the "comment" column to an action that you believe is necessary.*

<p>Requirements of the Fisheries Act</p>	<p>Subsection 36(3) of the Fisheries Act specifies that, unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. The definition of a deleterious substance (Subsection 34(1) of the Fisheries Act) includes "any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water." Subsection 36(3) makes no allowance for a mixing or dilution zone at the point of deposit.</p>	<p>Comment for the proponent's information.</p>
<p>Section 3.1</p>	<p>Within Section 3.1 it is stated that public access will be restricted to the hazardous waste storage area until it is confirmed the site has been decontaminated to meet residential uses. However, it is not specified what is considered "decontaminated". Will sampling be done? And if so, will the result be compared to guidelines in order to draw a conclusion?</p>	<p>EC recommends that criteria be established that specify when an area is considered remediated. Sampling should be done and the results compared to the criteria. This should be done for all areas of the solids waste site that are being closed. Furthermore, EC recommends that all sampling results and progress of remediation activities be reported to the Board for review.</p>

	<p>More detail is required in order to determine the effectiveness of the proposed cover system to be used to cover the household waste area, including both the material to be used, the grade of the cover, and the drainage pathways to be constructed. Additionally, it is unclear why a cover depth of 0.6m has been selected; further rationale is needed to support this decision.</p>	<p>EC recommends that the proponent provide further detail and rationale on the proposed cover design in order to assess effectiveness.</p>
<p>Cover Design</p>	<p>In Section 2.1, it is specified that the Municipal Solid Waste (MSW) Area consists of various areas, including several decommissioned pits and a honeybag pit. However, the closure of the previously decommissioned pits is not specifically addressed within the Plan. Also, while the method of closure to be used for the honey bag pit is identified in Appendix A, it is not described in detail in the text of the Plan.</p>	<p>EC recommends that the plan be updated to include a description of the methods of closure to be used for the decommissioned cells of household waste and the honeybag pit.</p>
<p>Decommissioned Cells &amp; Honeybag Pit</p>	<p>It is assumed in the plan that the MSW Area was designed as a natural attenuation landfill and was reliant on permafrost below the landfill to help contain leachate (Section 3.3.1). However, in the Site Description (Section 1.2) it is stated that permafrost, while extensive, is discontinuous in this area. Has it been confirmed that there is actually permafrost present under the landfill?</p> <p>As well, a reduction in permafrost is identified as one of the potential effects of climate change (Section 3.1.1.1). Has this been consideration in relation to the assumed infiltration of permafrost into the MSW Area as a means of helping to deter leachate migration following closure (Section 3.5)?</p>	<p>EC recommends that further study of the permafrost conditions of the area and their implication on closure and remediation be undertaken. As well, EC recommends that long-term monitoring of leachate generation be undertaken as part of follow-up monitoring; this should include sampling of both surface and groundwater.</p>
<p>Leachate</p>		