

## GROUNDWATER MONITORING AND POST- CLOSURE PLAN

**NUNATTA ENVIRONMENTAL SERVICES INC.**

## LANDFARMING OPERATIONS

## EXECUTIVE SUMMARY



**Nunatta Environmental Services Inc.**

[illegible]

## **EXECUTIVE SUMMARY**

### **Spill & General Contingency, Groundwater and Post-Closure Plans**

As requested by the Indian and Northern Affairs Canada, Nunatta Environmental Services Inc. provided the Nunavut Water Board a water license application related to its landfarming operations. The water license application includes a general information questionnaire, a spill & general, groundwater and post-closure plans. The landfarm operations consist in using soil microorganisms to undertake the biodegradation of petroleum products mixed with soils. The process requires moistening, fertilizer addition and aeration of the soil. The contaminated soil is placed on a bermed platform lined with a 20 mil waterproof geomembrane, preventing potentially contaminated water from infiltrating into subsoil. Once biologically treated, soils are removed from the landfarm and are used for other construction purposes.

The spill plan describes in details landfarm operations, measures taken to prevent spills and action taken if a spill occurs, including reporting to competent authorities. Training and exercises related to spills are planned and scheduled. All potential and hazardous waste present on the landfarm's property are listed and details on their handling and storage are given. The general contingency plan explains what is done on a scheduled basis to prevent incidents such as spills from occurring. Potential malfunctioning events related to landfarming operations are described and what is done to ensure that such activities do not occur. Training and exercises, response team and response equipment is detailed in the general contingency plan. A Material Safety Data Sheet of all potentially and hazardous products present at the landfarm is included in the spill plan.

The groundwater monitoring plan was designed specifically for the landfarm property and consists of the installation of 6 groundwater monitoring wells located along the landfarm's perimeter. Their strategic location will ensure that potential contamination migration from or into the landfarm property is detected. The groundwater sampling frequency and type of contaminants analyzed are detailed.

The post closure plan explains what will happen with the landfarm property in case of a sale, bankruptcy or simply as a result of a permanent shutdown. A fund is created during the active lifetime of the operations to ensure that sufficient money remains available to address environmental issues following permanent closure or a sale. The funds can only be used for monitoring and restoration purposes. The funds, converted into a trust, will be totally managed by Nunatta Environmental Services Inc. and withdrawals will only be permitted by the Board of Nunatta Environmental Services inc. in consultation and approval of an appointed representative from Indian and Northern Affairs Canada. Finally, the plan explains the closure procedures. It includes removal of all potentially and hazardous chemicals regularly handled and stored within the landfarm's property limits.

Due to the nature of landfarming operations, these plans are dynamic and can be amended from time to time as a result of, historic data, expansion of platform shutdown.

ፊልጶፍ ልዎቶፍጋ ጋልፋዊጋርቢኒስ፣ ሙሉኛ ንግሥት ልግቢኒስ ልጋ  
ጋንጋኒፍጋፍጋጋጋ ርፍጋጋጋ

[illegible]

መደረግ የሚችል ልዩነት ሲኖር የጥያቄውን አጠቃላይ ማጠቃለያ በሚደረግበት ጊዜ ለጥያቄው ማስፈጸም የሚያስፈልጉትን ሁኔታዎች ለማሟላት የሚችል መሆኑን ማረጋገጥ ይገባል፡፡ ለዚህም ምሳሌ ለጥያቄው የሚያስፈልጉትን ሁኔታዎች ለማሟላት የሚችል መሆኑን ማረጋገጥ ይገባል፡፡ ለዚህም ምሳሌ ለጥያቄው የሚያስፈልጉትን ሁኔታዎች ለማሟላት የሚችል መሆኑን ማረጋገጥ ይገባል፡፡

[illegible]

[illegible]