

## **Appendix N**

### **Progressive and Final Reclamation Work Undertaken**

**Year:** 2010 (As of issuance of licence: Aug. 4, 2010.)

**Reference:** 3BC-ALT1015, Part B, Item 1e.

### **Progressive Reclamation Work Undertaken in 2010:**

#### **A. Contaminated Sites Characterization and Delineation Work:**

Description: To determine the nature, extent and concentration of contaminants. To examine the microbiological, geological, hydrogeological, and chemical characteristics of the identified contaminated sites:

- 1) Supply Spill (Oct '95) Site;
- 2) Fuel Supply Spill (1996) Site;
- 3) Old Runway Fuel Transfer Tanks Site;
- 4) Runway De-Icing Area Site.

Status: Continuing

#### **B. Contaminated Sites In-Situ Bioremediation Work:**

Description: To continue the pilot scale in-situ bioremediation study for petroleum hydrocarbon biodegradation at the following sites:

- 1) Oxidator Building Site;
- 2) Baker's Dozen Site.

Status: Continuing

#### **C. Photographic Records:**

As the requirements for photographic records were established in **3BC-ALT1015**, issued on August 4, 2010, the Department of National Defence (DND) was unable to obtain photographic records for before and current site conditions. DND will make effort to ensure that photographic records of the site conditions are taken in 2011, and in subsequent years, to ensure commitment to maintaining the licence.

### **Future works proposed for 2011:**

#### **A. Contaminated Sites Characterization/Delineation/Monitoring Work:**

- 1) Continuing Delineation of Contaminated Sites at CFS Alert

Description: To determine the nature, extent and concentration of contaminants. To examine the microbiological, geological, hydrogeological, and chemical characteristics of the identified contaminated sites:

- i) Supply Spill (Oct '95) Site;
- ii) Fuel Supply Spill (1996) Site;
- iii) Old Runway Fuel Transfer Tanks Site.

2) Glycol Monitoring of Runway De-Icing Area:

Description: To examine the effects of de-icing activities on the areas immediately adjacent to, and down gradient of, the runway de-icing area. Samples will be collected and analysed for glycol to determine subsurface migration.

3) Landfarm (Biopile) Monitoring Work:

Description: The monitoring program will examine the total viable bacterial population in the Landfarm (biopile) required for the degradation of hydrocarbons. Soil samples are collected to determine bacterial count and the concentration of residual hydrocarbons.

**B. Contaminated Sites In-Situ Bioremediation Work:**

Description: To continue the pilot scale in-situ bioremediation study for petroleum hydrocarbon biodegradation at the following sites:

- 1) Oxidator Building;
- 2) Baker's Dozen.

Soil samples will be collected for chemical and microbiological analyses including laboratory studies involving microcosm mineralization assays.

**C. Contaminated Sites Excavation and Ex-Situ Landfarm (Biopile) Treatment:**

Description: To begin excavation and *ex-situ* bioremediation in the Landfarm (Biopile) of sites that have been completely delineated:

- 1) B-145 Cat House Site;
- 2) Airstrip Diesel Pipeline (Area 1) Site;
- 3) Airstrip Met Shack Site.

Confirmatory soil sampling at the sites including soil samples to be collected for chemical analyses.

**D. Photographic Records:**

DND will make effort to ensure that photographic records of the site conditions are taken in 2011, and in subsequent years, to ensure commitment to maintaining the licence.