

Appendix M

Progressive and Final Reclamation Work Undertaken

Year: 2013

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

Progressive Reclamation Work Undertaken in 2013:

Reference: Appendix H in the 2013 Annual Report.

A. Contaminated Sites In-Situ Bioremediation Work:

Soil samples were collected for chemical and microbiological analyses. This work included laboratory studies involving microcosm mineralization assays for the in-situ bioremediation study on petroleum hydrocarbon biodegradation at the following sites:

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

B. Rotation of Soils in the ALT-11 Landfarm (Biopile) Treatment Facility:

Soils contained at ALT-11 were aerated to increase oxygen content in the contaminated soil. This continues to promote microbial and bacterial activities that biologically remediate contaminated soils within the landfarm.

C. Glycol Monitoring of Runway De-Icing Area:

The sampling team collected four (4) water runoff samples down gradient of the runway de-icing area in June 2013. The samples were sent to the CALA accredited laboratory for analysis. The results indicated that glycol was not detected at all four (4) sampling points.

D. Main Station Day Tank (ALT-10) Area

As reported to the NWB on 28 October 2013, DND had completed a modification project at the ALT-10 Fuel Day Tank Facility, which consisted on new fuel piping for the station, a new day tank, and the construction of a new landfarm treatment facility. As required by the NWB letter dated 10 July 2013 (Motion No. 2013-B1-022), a revised Operation & Maintenance (O&M) Plan is included, which contains revised Quality Assurance/Quality Control and Spill Contingency Plans.

DND is also submitting a Licence Amendment Application to include the newly constructed landfarm at ALT-10 within the Surveillance Network Program (SNP), as "ALT-10 Landfarm". Currently, ALT-10 refers to the secondary containment waters of the Day Tank, however, DND would like to add "ALT-10 Landfarm" as a second surveillance site within "ALT-10". The criteria for "ALT-10 Landfarm" will be adopted from the criteria applied at ALT-11 Landfarm. For clarification, DND will be proposing a total of 12 SNP sites with ALT-10 containing two locations, the secondary containment waters for the landfarm and day tank. The details of the "ALT-10 Landfarm" are provided in the O&M Plan and in the Licence Amendment Application.

The purpose of the “ALT-10 Landfarm” is to conduct remediation work of fuel contaminated soils at the area excavated to the footprint of the Day Tank Facility. Five soil samples were taken from the soils entering the “ALT-10 Landfarm” (volume: approx. 500 cubic meters) to determine fuel contamination; the results are provided within Appendix (M).

Future works proposed for 2014:

A. Contaminated Sites In-Situ Bioremediation Work:

Description: Continuation of 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.

B. Rotation of Soils in the Landfarm (ALT-10-11) Treatment Facilities:

Description: Continuation of the aeration process in summer 2014 to increase oxygen content in the contaminated soil to promote microbial and bacterial activity within the landfarms. This will be conducted at the ALT-10 and ALT-11 Landfarms.

C. Glycol Monitoring of Runway De-Icing Area:

Description: To monitor 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.