

MONTHLY UPDATE REPORT - PRIMROSE SOUTH 09-21-067-04 W4M

JANUARY 1 TO JANUARY 19, 2015

1 Introduction

The Canadian Natural Resources Limited Primrose South in situ oil sands project is located in the Cold Lake Air Weapons Range approximately 65 km north-northeast of Bonnyville, Alberta. Canadian Natural operations staff discovered a bitumen emulsion flow to surface (FTS) area at 09-21-067-04 W4M on June 24, 2013. The bitumen emulsion FTS area is beneath an unnamed water body within the Canadian Natural Primrose South production area.

On September 24, 2013, Alberta Environment and Sustainable Resource Development (ESRD) issued an Environmental Protection Order (EPO No. EPO-2013-33/NR), requesting the preparation of a Comprehensive Remedial Plan (CRP), as well as the preparation of a monthly progress report. This report addresses the requirement of the progress report and summarizes the progress towards the realization of the CRP and includes data collected and reported between January 1 and January 19, 2015.

2 Summary of Activities to Date

2.1 Individual Plan Submissions

As required by the EPO, the CRP includes the development, submission, and implementation of several specific plans. As of January 19, 2015, the status of these plans has not changed.

2.2 Water Management for Dewatering and Refilling

Activities related to dewatering and refilling were completed on June 22, 2014. There is no new information to report.

3 Water Body Monitoring

In accordance with the Water Body Restoration Plan, an extensive water quality and water quantity monitoring program was implemented on March 19, 2014. This program complements the ongoing water quality and quantity monitoring implemented in June 2013.

Details of the monitoring program are provided in the following subsections.

3.1 Water Quantity Monitoring

3.1.1 Basins 1, 3, and 4, Borrow Pit, and Downstream Fen

No new staff gauge readings were taken during this reporting period due to winter conditions.

3.1.2 Within Containment Structure

No water was pumped from within the containment structure into Basin 1 during this reporting period.

3.2 Water Quality Monitoring

3.2.1 Basins 1, 3, and 4 and Downstream Fen

The next scheduled sampling event is May 2015, after spring freshet.

3.2.2 Containment Area

No water samples were taken during this reporting period. The final water quality sampling event for 2014 was completed on December 14, 2014.

3.3 Aquatic Surveillance

Daily monitoring for bitumen emulsion and sheen within the water body was discontinued on November 8, 2014, due to freezing conditions. No bitumen emulsion was observed in the water collection trench recovery sumps during the reporting period.

3.4 Erosion and Sedimentation Prevention

No erosion or sediment prevention monitoring activities were completed during this reporting period.

3.5 Bitumen Emulsion Containment

3.5.1 Containment of Bitumen Emulsion Seepage from Fissure

In early May 2014, the fissure containment structure (FCS) was approved. A Canadian Natural construction crew built the FCS between May 4 and June 30, 2014. Following discussion with the Alberta Energy Regulator (AER) and ESRD, a revised design of the access pad was prepared and submitted to AER and ESRD for review and approval. Verbal approval to start construction was received and construction of the access pad over the FCS started on September 10, 2014. Construction of the pad was completed on October 26, 2014. As part of the design, bitumen emulsion recovery pipes were installed into the FCS.

3.6 Wildlife Management

No injured, distressed, or deceased wildlife were observed within or around the water body during this reporting period.

3.7 Waste Management

The recovery of fluids from the FCSs began on December 19, 2014. There was no fluid recovered from the FCSs during this reporting period.

4 Conclusions

The work conducted at the 9-21 FTS site from January 1 to 19, 2015, included:

- completing monthly monitoring of the site
- completing line locates in preparation for the quaternary drilling program