

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

MARCH 24 TO APRIL 20, 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 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, summarizes the progress towards the realization of the CRP, and includes data collected and reported between March 24 and April 20, 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 April 20, 2015, the status of these plans has not changed.

## 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

Monitoring will be conducted in May, July, and October 2015.

#### 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.

### 3.2 Water Quality Monitoring

Monitoring will be conducted in May, July, and October 2015.

#### 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 Within Containment Structure

Water sampling within the containment structure was discontinued once pumping stopped on December 18, 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. Monthly monitoring for bitumen emulsion will restart after spring freshet.

### **3.4 Erosion and Sedimentation Prevention**

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

### **3.5 Bitumen Emulsion Containment**

Construction of the fissure containment structure (FCS) is complete and regular monitoring of the bitumen emulsion recovery pipes is ongoing. No bitumen emulsion was recovered during this reporting period. No bitumen emulsion was observed in the recovery sumps of the water collection trench that is located at the base of the access pad or in the shallow monitoring wells screened in the clay soils beneath the access pad during this reporting period.

### **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 Summary**

Monthly monitoring was completed at the 9-21 FTS site from March 24 to April 20, 2015.

The work completed at the 9-21 site over this reporting period was routine and scheduled. The findings were as anticipated and were consistent with those for the previous reporting period.