MONTHLY UPDATE
PRIMROSE OIL SANDS FLOW TO SURFACE

January 10, 2014

1 Introduction

Canadian Natural Resources Limited Primrose/Wolf Lake Oil Sands Project is a thermal in situ operation located primarily on the Cold Lake Air Weapons Range approximately 65 km north-northeast of Bonnyville, Alberta. Bitumen production from this project employs cyclic steam stimulation (CSS) technology whereby steam is injected into the oil sands formation (at approx. 450 metres depth) through wells to reduce the viscosity of the bitumen. After steaming, bitumen then flows through the same wells and is processed at project facilities.

In May and June of 2013, Canadian Natural discovered four sites in the Primrose project area where bitumen emulsion had flowed to surface (FTS). Measures were immediately taken to address the incidents in order to clean up, investigate, remediate and address the causes of the events.

The legal descriptions of the four FTS sites are:

- 02-22-067-03 W4M (2-22)
- 10-01-067-03 W4M (10-1)
- 10-02-067-03 W4M (10-2)
- 09-21-067-04 W4M (9-21)

Canadian Natural has made good progress in cleaning up the sites, is continuing to investigate the causes, and will increasingly focus on sub-surface monitoring and remediation and eventual surface reclamation. We have worked closely with regulators and stakeholders throughout this process. In response to the incident, Alberta Environment and Sustainable Resource Development (ESRD) formalized their direction to Canadian Natural as follows:

- On Oct 21, 2013, Canadian Natural was served by ESRD with an Environmental Enforcement Order (EO) which required that:
  As a result of the FTS situation and pursuant to section 12 of the Alberta Environmental Protection and Enhancement Act, Canadian Natural will take all reasonable measures to:
  - Repair, remedy, and confine the effects of the substance
  - Remediate, manage, remove or otherwise dispose of the substance in such a manner as to prevent an adverse effect or further adverse effect
  - Restore the environment to a condition satisfactory to AESRD Director

- On September 24, 2013, ESRD issued an Environmental Protection Order (EPO-2013-33/NR) specific to the (9-21) site as the FTS incident at this site was beneath a water body and required a unique and more diverse response that was enabled by the EPO

Canadian Natural's response to the four FTS sites is by way of a Comprehensive Plan. The plan consists of eight separate plans requiring ESRD and Alberta Energy Regulator (AER) approval prior to any earthworks or drilling activity. Canadian Natural is working diligently with ESRD and AER. Investigative drilling has commenced and will continue throughout the winter season.

2 Summary of Activities to Date

2.1. Surface Site Containment, Delineation and Remediation Plan

This plan covers site containment, delineation and remediation plans for each site. Status at each site:

2.1.1 2-22 (Terrestrial Site)

- Discovered June 8, 2013.
- Clean up is complete and 7,384 tonnes of impacted material were removed for disposal at the Tervita Class II landfill in Bonnyville, Alberta.
- Impacted area is 0.31 hectares.
- Bitumen Emulsion recovered to date: 99m3 as of January 10, 2014.
- There were no excavation activities during the reporting period.
- We are inspecting all wildlife deterrents, wildlife fences and silt fences weekly.
- Drill pad construction is scheduled for the winter of 2014.
- Bitumen emulsion seepage from the fissure has slowed to less than 5 L per day.
- Site is fully contained within berms, and has a double layer of wildlife fence in place
- Reclamation will be initiated on a portion of the 2-22 site this winter

2.1.2 10-1 (Terrestrial Site)

- Discovered May 20, 2013.
- Clean up is complete and 25,367 tonnes of impacted material were removed for disposal at the Tervita Class II landfill in Bonnyville, Alberta.
- Impacted area is 0.55 hectares.
- Bitumen emulsion recovered to-date: 350m3 as of January 10, 2014
- There were no excavation activities at this site during the reporting period.
- We are inspecting all wildlife deterrents, wildlife fences and silt fences weekly.
- Bitumen emulsion seepage from the fissures has slowed to an almost imperceptible rate and is contained within clay berms.
- A containment structure will be built over the fissures in the winter of 2014 as part of a drilling pad used for bitumen delineation purposes in the bedrock.

2.1.3 10-2 (Terrestrial Site)

- Discovered May 20, 2013.
- Clean up is complete and 17,390 tonnes of impacted material were removed for disposal at the Tervita Class II landfill in Bonnyville, Alberta.
- Impacted area is 0.57 hectares.
- Bitumen emulsion recovered to-date: 558m3 as of January 10, 2014
- There were no excavation activities during the reporting period.
- We are inspecting all wildlife deterrents, wildlife fences and silt fences weekly
- The rate of bitumen flow has slowed to an almost imperceptible rate and the fissures are contained within clay berms.
- A containment structure will be built over the fissures in the winter of 2014 as part of a drilling pad used for bitumen delineation purposes in the bedrock.

2.1.4 9-21 (Water Body Site)

- Discovered June 24, 2013.
- The impacted area has been reduced from over 20 hectares to less than 6 hectares and cleanup is over 80% completed as of January 4, 2014.
- Bitumen emulsion recovered to date: 170m3 as of January 10, 2014
- On September 24, 2013 we received an Environmental Protection Order for the 9-21 site to allow us to isolate, excavate and contain the fissure below the water body.
- To facilitate this work, the water from the area was removed and stored in two near-by, temporary storage areas.
- Work is currently underway to remove impacted soil from beneath the water body.
- The flow to surface will be contained within berms and a retaining wall.
- The water will be returned to the water body in spring of 2014 as per Alberta Environment and Sustainable Resource Development's requirements.

From November 23 to December 31, 2013, the following activities were carried out as part of the plan to identify and characterize the bitumen emulsion release point:

- A combination of ARGOs, snowmobiles and Sno-Cat® vehicles were used around Basins 1, 2 and 3 of the water body to compact the snow cover and drive frost deeper to increase ice thickness to allow access for larger equipment. Testing of ice thickness was undertaken daily in November and early December to confirm safe access for heavy equipment onto the excavation area.
- Excavation at the western shore of the water body, in the area of the suspected fissures, continued to December 20, 2013, when activities were halted for approximately 2 weeks over the Holiday Season.

2.2. Geology and Regional Ground Water Delineation, Monitoring and Remediation Plan

This plan covers ground water delineation, monitoring and remediation in and around the FTS sites.

- The plan was approved by AESRD December 9th, 2013.
- A multi stage groundwater drilling investigation is planned for all 4 sites.
- No hydrogeology field work was completed in December.
- Construction of site access, pad surfaces and structures over fissures has been initiated.
- Once the locations are prepared, monitoring wells will be installed in accordance with the Ground Water Investigation Plan.

2.3. Source/Flow Pathways Investigation Plan

This plan outlines the investigation activities that will be undertaken at and around the four FTS sites and may be adapted depending on the outcome of the investigation activities.

The objectives of the plan are to locate and delineate the FTS flow path from its source in the Clearwater, and identifying the root cause(s) of FTS.

- The plan approved by AESRD December 9, 2013.
- 7 Cretaceous investigation wells were drilled during the reporting period at the following locations:
  10-21-067-04W4
  9-21-067-04W4
  10-21-067-04W4
  1-28-067-04W4
  10-21-067-04W4
  9-21-067-04W4
  10-21-067-04W4

- Two quaternary wells were drilled during the reporting period both at the 10-21-67-4 W4 location.
- Drilling licenses for all the wells within the plan requiring license have now been obtained from AER.
- Approval has been obtained from AESRD to drill 2 additional vertical Cretaceous wells, 9-21 OB6 Moore 10-21-67- W4 and 10-1 OB10 Moore 10-1-67-3 W4 that were not included in the Source/Flow Pathways Investigation Plan.
- We are working with AER to license these 2 wells.
- Approval has also been obtained from AESRD to drill 1 additional quaternary well, at 9-21-67-4 W4 that was not included in the Source/Flow Pathways Investigation Plan.
- Construction activities are well underway preparing all FTS sites for further drilling activity.

2.4. Surface Water Management and Monitoring Plan

This plan covers site surface water management and monitoring plans for the FTS sites.

In general, surface water was managed and monitored at the FTS sites through the following measures:

- Precipitation between November 23 and December 31, 2013 was in the form of snow rather than rain; therefore, no surface water quality sampling was undertaken.
- Water management in terms of surface water diversion and collection during excavation at the 10-1, 10-2 and 2-22 sites did not occur during the December reporting period. This was mainly due to freezing conditions stopping the flow of surface water from entering the terrestrial FTS excavation.
- Water was encountered during excavation activities at the 9-21 site between November 23 and December 31, 2013.
- The water was collected, tested for quality and transported and disposed of at Tervita's Lindbergh, Alberta, plant.
- Between November 23 and December 20, 2013, approximately 334 m3 of water was collected from the 9-21 site and transported to the Lindbergh plant for disposal.

2.5. Wildlife Management Plan

This plan addresses wildlife deterrents, capture and treatment of impacted wildlife and rehabilitation/release options.

- Wildlife fencing, effigies and scare cannons will continue to be used as a means to deter wildlife from entering the areas. Exposed fissure areas will be covered by means of tarping and the areas will be surrounded by wildlife fences.
- Perimeter fences are visited daily to ensure intactness.
- Wildlife Activity in the vicinity of the FTS sites continues to be minimal due to the onset of freezing conditions and snow. Additionally, frozen conditions at each location have helped to minimize the risk of wildlife exposure to possible contamination.
- Canadian Natural will comply with all federal and provincial legislation that apply to the conservation and management of wildlife.
- During the month of December, there were no wildlife sightings, captures or impacts at the 3 terrestrial sites.
- During the month of December, 3 birds, 1 squirrel and 1 coyote were sighted in vicinity of the 9-21 site but there were no captures or impacts.

2.6. Waste Management Plan

This plan outlines the waste management activities that will be undertaken by Canadian Natural at the 4 FTS sites. The Waste Management activities may be adapted as the needs of the investigation and clean-up change, which will be shared with AESRD and AER.

It is Canadian Natural's goal to manage the waste resulting from this bitumen release in a manner that will mitigate environmental impact, minimize waste volumes and utilize recycling opportunities where possible.

Drilling waste from investigation drilling is being managed using remote sumps in accordance with Directive 50.

2.7. Reclamation Plan

While the final reclamation plan will not be submitted to AESRD/AER until June 2014 (in accordance with Enforcement Order EO-2013/05-NR), the initial plan covers Pre-Disturbance Assessments (PDA) and Conservation and Reclamation plan.
The purpose of the PDA and C & R plan is to identify:

- Annual reclamation procedures and progress reporting will begin November 1, 2014 and continue annually until advised otherwise by AESRD.
- No Update for this reporting period.

2.8. Communications Plan

This plan summarizes our planned weekly and monthly communication with stakeholders, regulators, Government officials and the general public.

- Canadian Natural's website information on the incident will be updated on a regular basis.
- We will continue to address government and media and public inquiries through our Investor Relations or Public Affairs Departments.
- We will provide written summaries and meet with affected stakeholders as needed to provide updates.

3 Summary

Significant progress on the surface clean-up has been made at all four sites. While the surface clean-up can mitigate the environmental impact of these events, there are also issues that need to be investigated in the subsurface.

Canadian Natural's efforts to investigate and mitigate these events in the subsurface require access to suitable surface locations. To minimize the environmental impact associated with the investigation, Canadian Natural intends to complete activities on existing leases and previously disturbed lands wherever possible.

4 Future Action

1. Locate and delineate the FTS event subsurface flow paths
2. Identifying the root cause(s) of these events
3. Continue to monitor the surface and subsurface for effects of the FTS events and remediate if any effects as necessary
4. Review the integrity of legacy wells in the Primrose area to identify potential issues and repair any wells that pose a risk of future events
5. Reclaim all surface areas affected by the FTS events including any new disturbances required for investigative activities according to a Conservation and Reclamation Plan.