

## Oil Sands Monitoring (OSM)

### 2016-2017 PROJECT PLAN SUMMARY

<b>Project Name:</b>	<b>S1-2-1 Certified Standard and Reference Materials for Quantitative Analysis of Naphthenic Acids (Previously: Development of Naphthenic Acid Standard)</b>
<b>Type of Project:</b>	Focused Study
<b>Delivery Agent:</b>	ECCC (Environment and Climate Change Canada)
<b>Project Contact:</b>	Richard Strub (ECCC) – richard.strub@canada.gov.ab
<b>Budget:</b>	\$250,000

#### Project Description:

The general consensus of the Naphthenic Acid (NA) Methodology Workshop, held on March 14<sup>th</sup>, 2016 in Edmonton, was the recommendation to develop a SOP, synthetic standard and reference materials (RM) needed for quantification of bitumen-specific NA and other acid-extractable organics. A sample bulk tailings water requested from COSIA will be used in the preparation of concentrated standard reference sample for analytical method development, toxicity testing and effect directed analysis. ECCC will process the tailings water sample, generate concentrated extracts of water soluble organics (Bauer et al. 2016), certify and characterize it. ECCC is a certified developer of reference materials (A2LA). The sample will be made nationally available by NRC for the benefit of NPRI and international oil spill research efforts. The project aims to develop reference material for OSPW. Future projects will focus on surface and ground water derived bitumen organics.

#### Project Objectives:

To develop SOP, the synthetic standard and appropriate certified RM for OSPW needed for method development and toxicity tests including quantification of bitumen-specific naphthenic acids and other relevant acid-extractable organics.

#### Key Outcomes:

- Prepare, characterize and certify Bitumen Relevant Standard RM for water soluble organic chemicals from OSPW, including NA and other organic substances, for analytical method development and toxicity testing.
- Synthesize a mono-aromatic NA primary standard which is prevalent in OSPW and natural bitumen-influenced groundwater as required for CALA accredited analytical methods for NAs.

#### Geographic Scope:

Applicable Oil sands area

#### Associated Data and Reports:

Analysis and reporting will be done in the fourth quarter (Q4).