

2016-2017 PROJECT PLAN SUMMARY

Project Name:	A3-1-2 Studying OS Air Pollution Emissions, Transformation and Fate
Type of Project:	Focused Study
Delivery Agent:	ECCC
Project Contact:	Shao-Meng Li (ECCC) - shao-meng.li@canada.ca
Budget:	\$ 990,000

Project Description:

In this project, a five-year investigation (2016-2021) is proposed that will focus on understanding and characterizing the emission, transformation, transport and fate of oil sands air pollution. The project includes the measurement of surface flux observations at several tailings pond locations over three years of the proposal; aircraft and ground-based mobile measurements in a monitoring intensive campaign scheduled for the spring of 2018; laboratory investigations to study transformation processes; improved satellite data retrieval methodologies; and improvements to and simulations using an advanced air quality numerical prediction model. The aircraft monitoring intensive campaign will be focused on the spring and early summer period of 2018 in order to capture a different season in comparison to the 2013 monitoring campaign. In addition, emission characterization measurements associated with the upgrading and refining activities in Edmonton East/Fort Saskatchewan region are also proposed.

Project Objectives:

- Improving the knowledge of emissions, transformation and deposition of oil sands pollutants using comprehensive aircraft and ground-based measurements as well as remote sensing
- Integrating knowledge gained, both from JOSM and from the proposed measurements, into a comprehensive numerical air quality prediction model, to improve the model simulation and prediction capability to assess downwind impacts on ecosystems and human health.

Key Outcomes:

The work in this project will support improved monitoring, regulatory development and understanding of the cumulative environmental impact of oil sands activities through a comprehensive set of activities designed to close several information gaps.

Geographic Scope:

Athabasca oil sands region, in situ facility region south of Fort McMurray, Cold Lake oil sands in situ facility region including nearby CHOPs operations, Fort Saskatchewan, Fort McKay, north-western Saskatchewan

Associated Data and Reports:

Final quality controlled data are submitted to the oil sands data portal in order to be made publicly accessible. Analysis of the data will be made available through publications in peer-reviewed literature. A short interim report (1-2 pages) will document project progress including implementation of new activities, sample collection, sample and data analysis and submissions to the data portal.

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