Environmental Management of the Alberta Oil Sands:
Introduction to the Special Set of Articles

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Environmental Management of the Alberta Oil Sands: Introduction to the Special Set of Articles

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The surface and subsurface extraction of bitumen from the oil sands (otherwise known as tar sands) of northern Alberta have created what is probably the largest single set of environmental issues to arise in recent Canadian history. While there has been much media attention to these issues, there has been very little available in the way of informed opinion regarding the seriousness of the environmental impact and what should be done about it. Detailed technical studies buried in government grey literature and specialized journals are not widely accessible to the general public, whereas reports, news releases and websites maintained by environmental NGOs, which are designed to capture attention, are not subject to the normal rigors of peer-review, and have not, with a few exceptions, advanced real public understanding of the environmental issues.

Three technical articles in this set then deal with the specifics of air and water pollution. As demonstrated by the two key papers in 2009 and 2010 (Kelly et al. 2009, 2010) pollution enters the environment of the Lower Athabasca System by aerial transmission from the industrial plant in the vicinity of Fort McMurray. The first of the three articles documents in detail the work being carried out to document air pollution. The article was written by Kevin Percy (2013), the chief scientist with the Wood Buffalo Environmental Association, the multi-stakeholder organization charged with the responsibility for assessing air quality issues in the Fort McMurray region. This article is then followed by a summary of surface-water issues by David Schindler (2013), and the set is completed by a review of the environmental hydrogeology of the groundwater systems by A. D. Miall (2013b).
Figure 1. Map of Northeast Alberta showing the major oil sands areas. The set of papers in Issue 3 of *Geoscience Canada* deal with the Athabasca deposit, focusing in particular on the area of high bitumen pay-thickness north and south of Fort McMurray. SMA= surface minable area. The Nisku and Grosmont deposits are Devonian in age, underlaying the McMurray Formation and are not discussed in this issue. Map adapted from Rahnama et al. (2013), AAPG © 2013. Reprinted by permission of the AAPG whose permission is required for further use.

REFERENCES