

An Assessment of the Basal McMurray Watersand as a Source of Brackish Water

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ABSTRACT

The recovery of bitumen using in-situ thermal methods requires the injection of steam into the reservoir. In the past, the water source for steam generation for almost all thermal bitumen operations has been either surface water or “fresh” groundwater. Several operators in the Cold Lake region are now investigating the development of brackish groundwater as a steam source. One potentially viable brackish water source for meeting the long-term requirements of these operators is the basal watersand of the McMurray Formation. This presentation describes the geologic and hydrogeologic characteristics of the basal McMurray watersand in east-central Alberta and west-central Saskatchewan. This is followed by a description of a numerical groundwater flow model developed to assess the long-term production effects of brackish water from the basal McMurray watersand, and the results of a simulation undertaken with the model.