Bituminous sands currently represent a real energy source that could temporarily replace already consumed part conventional sources of crude oil, which decrease. Acquisition of such strategic minerals is much more difficult both economically and technologically and represents a considerable negative impact on the environment. This paper first introduces general characteristics and problems of the crude oil extraction. Briefly describes different types of mining technologies that are used or are under development. Then focuses on an overall assessment of production in terms of economic and environmental aspects. The work focuses on the assessment of positive and negative impacts both on the economy of Canada and the environment, especially in the area of mining in Alberta. Key words: oil sands, economy of mining, environmental impacts, Canada, Alberta