# Handbook on Theory and Practice of Bitumen Recovery from Athabasca Oil Sands

Volume I: Theoretical Basis



Jacob H. Masliyah Jan Czarnecki and Zhenghe Xu "Securing Canada's Energy Future"—that is the promise of the oil sands. The magnitude of the oil sands resource, largely found in Alberta, is vast. The proven crude oil reserves from Canada's oil sands are 177 billion barrels—second only to Saudi Arabia. This is enough resource to provide Canada with a secure supply of crude oil for over 200 years. The true potential of Canada's oil sands resource is actually much greater. It has been estimated that approximately 320 billion barrels is recoverable using current technology, and the total oil in place (1.7 trillion barrels) is roughly equivalent to the total for the entire Middle East.

The oil sands are a resource of global strategic value. History has shown how oil sands development has progressed by building on existing technology platforms. As such, this Handbook is a consolidation of the current technological foundation. It is meant to engage the minds of professors, students, researchers, engineers, and technical operating staff. It will provide them with the technology foundation that will serve as the springboard for the future enhancements required for the sustainable development of our vast oil sands resource. It is their bright ideas and innovations that will be so vitally important if we, as Canadians, are to realize the huge socioeconomic potential of this strategic global resource.

> From the Foreword by Dr. Eric P. Newell, O.C., AOE, FCAE, P.Eng



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