

In this 2nd Volume of 'Handbook on Theory and Practice of Bitumen Recovery from Athabasca Oil Sands', the industrial practice of the recovery of bitumen has been presented from mining to bitumen separation and the production of initial commercial products. The review of past work is extensive. The authors provide a detailed description of slurry preparation and conditioning from the perspective of the individual particles in the oil sand, trace the life cycle of the mineral particles and bitumen droplets, and define the role of air bubbles. Parallel to this mechanistic examination of oil sands processes, the description of the process equipment involved is exhaustive and will provide a firm foundation for future work. For new engineers entering this industry, the work described in this Volume will be enormously valuable, will prevent the retracement of unproductive areas, and allow for rapid technological advancements.

During early commercial development, water and air were essentially 'free', and the cost of their use was not an important part of the economic equation. Few had linked global warming to man-made carbon dioxide emissions – and water seemed to be in plentiful supply. In this current Volume, pathways are described that will reduce the impact of oil sands development on regional air and water resources, and on the land involved in the recovery operation. The focus of research on land reclamation and environmental protection should certainly help to establish a useful level of communication between the industry and those who are vigorously against the oil sands development.

Volume II clearly identifies the huge impact of the oil sands industry on the economies of Alberta, Canada, and the U.S.

from the Foreword by
C. W. (Clem) Bowman

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

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

Volume II: Industrial Practice



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