

Tentative plans of Japex are reported to involve production of 170,000 b/d from Athabasca. The partly refined crude would be taken some 700 miles by pipeline to the west coast to the Prince Rupert area to be shipped to Japan. Japan would also take the by-products, sulfur and coke. This crude would have the advantage of having a low sulfur content, an important consideration to Japanese refiners.

Manning highlighted possible future developments at a recent meeting of the London Institute of Petroleum, addressing an audience which included the U.K. minister of power, leading industrialists, bankers and civil servants. The institute sponsored a presentation of the GCOS project.

Manning expressed his conviction that markets for Alberta crude will grow. He noted that government policy must plan ahead in view of the four to five year minimum period required to start up an oil sands operation.

Both Manning and R. H. Winters, federal minister of trade and commerce, suggested that future British investment in Alberta's oil sands would be welcomed to develop further the area's enormous synthetic oil potential.

Recoverable reserves, 90% of which are at Athabasca, are estimated at between 300 billion and 350 billion barrels of oil as compared with total proved world reserves of some 390 billion barrels of conventional crude.

Manning stressed, however, that government policy would continue to insist that synthetic crude from Alberta's oil sands must be used to supplement rather than to supplant the province's conventional crude production, as about half of Alberta's conventional production is currently shut in.

The rapid growth in world energy consumption, the advent of giant tankers and improved unit production costs could swing the balance in favor of Canadian oil becoming more competitive, both in North America's east coast markets and overseas, by the time that any new oil sands projects could go into production. The British government's 1967 white paper on fuel policy states that ways of improving the security of U. K. oil supplies are being re-examined, "including the possible development, necessarily long-term, of the vast reserves of oil locked in non-conventional sources, such as the Western Hemisphere oil sands and shales."

Both Shell Canada and the Syncrude Consortium (Imperial Oil, Cities Service and Atlantic Richfield—30% each—and Royalite/British American—10%) whose 1962-63 applications for separate 100,000 b/d oil sands projects were not approved by the Alberta Oil & Gas Conservation Board, have been given permission to reapply by the end of this year.

Senator HANSEN. In brief, the Alberta government increased production capacity from 45,000 barrels a day of synthetic crude from the sands to 150,000 barrels a day.

Last year Fred Hartley, chief executive for the Union Oil Co. of California, indicated to this committee that his company was building a new refinery in Chicago. The thrust of his testimony was that this refinery was being constructed in such a way as to make it capable of handling crude oil from either the Canadian tar sands or Rocky Mountain oil shale.

Mr. Hartley said to the committee:

If anybody had asked me 10 years ago, that synthetic crude oil from tar sands would have gone on the market commercially ahead of oil shale—took that bet and I lost.

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Further, * * * I would not be surprised if we keep on treating oil shale the way we have in the past, that coal may even win out, too, because you are aware of the fact that there is depletion on coal.

It seems to me, Dr. Hibbard, from everything I can learn, that Canada is moving ahead full bore with its program for increasing synthetic fuel production while we in this country are sitting on dead center. Would you care to comment on the need for synthetic fuel production in this country?

Dr. HIBBARD. Yes, this is covered in the outlook section of our study. We have projections for production in 1980 and the year 2000 at