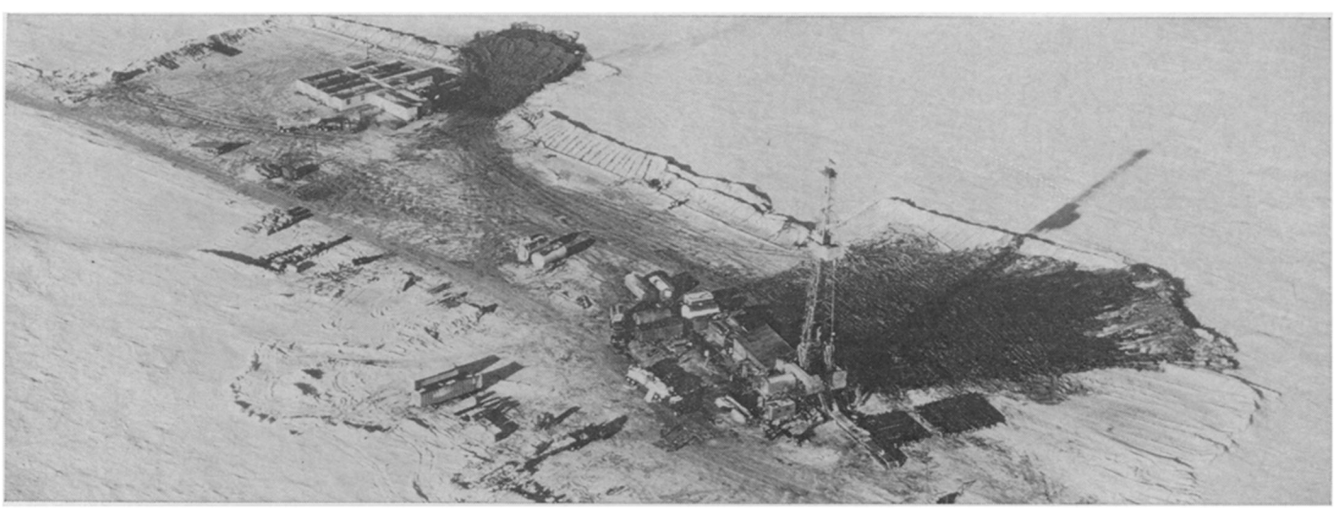
Canada makes her play

Canada's rich oil possibilities in the Beaufort Sea area put her one up in the continental energy policy game with the United States

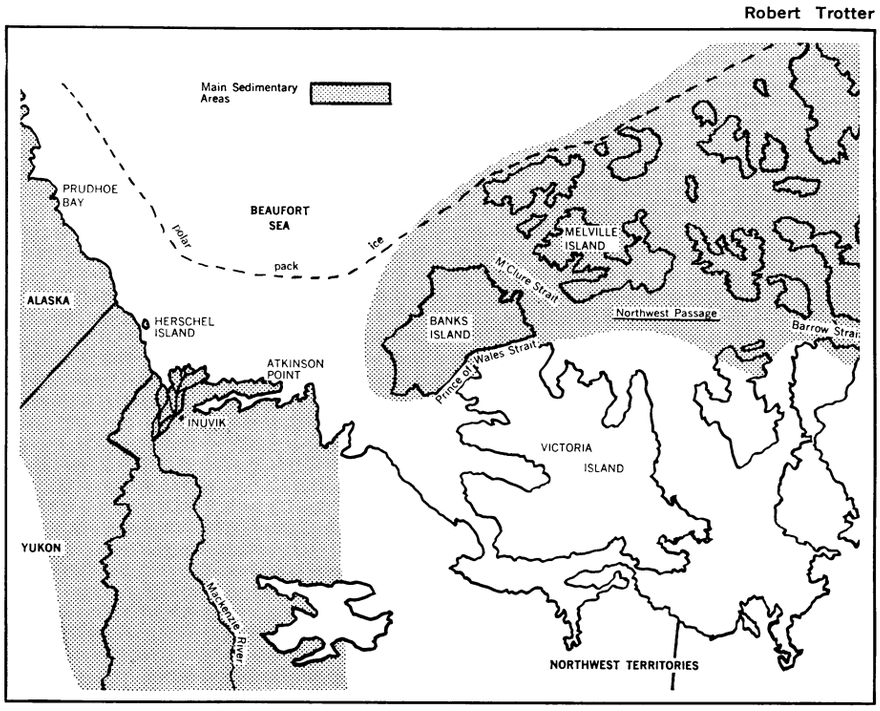
by Warren Kornberg



Gene Brush

Imperial Oil Ltd. brought in the first oil at Atkinson Point, and pointed the way for enthusiastic geologists.

Robert Trotter



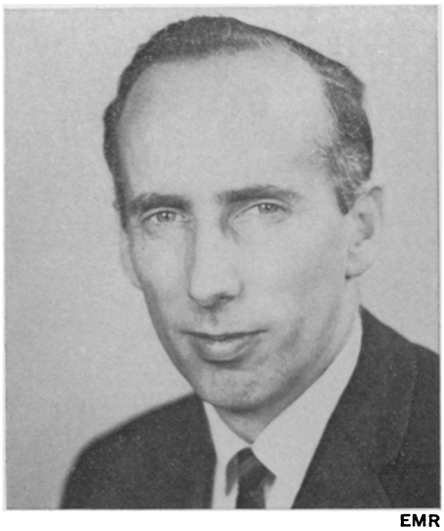
Canada appears to be on the verge of having more oil than she knows what to do with—perhaps a major portion of all the world's known oil reserves.

This, more than anything, appears to explain the teasing game of carrot-and-stick she seems to be playing with the United States in and around the continental energy policy negotiations now going on between the two nations.

It explains the recent Canadian claim to sovereignty over the Northwest Passages and all the passages among and around Canada's Arctic islands (SN: 4/25, p. 420).

It explains the eagerness with which the Canadians propose to build, and bargain with, both or either an oil terminal on Canada's Herschel Island or a massive pipeline down Canada's Mackenzie Valley (SN: 5/2, p. 442), even if they require a change in United States law to make them available to United States oil from Alaska's North Slope fields.

The key seems to lie deep in the



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MacNabb: Surveys show sediments.

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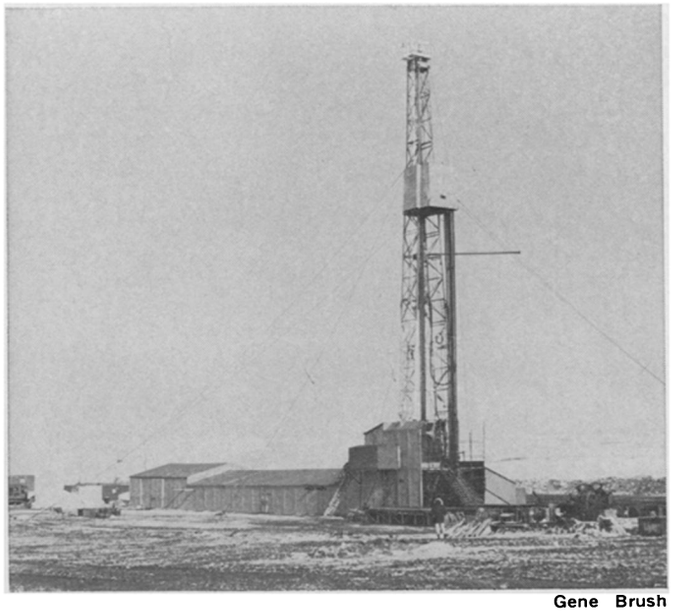
Toombs: "Like the Gulf of Mexico."



Gene Brush

The first good sign was a low-sulfur-content natural gas well at Melville Island.

tertiary and cretaceous sedimentary deposits that underlie the Mackenzie Delta on the Beaufort Sea in the Canadian Arctic.

The sands under the Mackenzie Delta are part of a massive belt of sedimentary deposits that begins almost at the North Pole and sweeps down beneath Canada's Arctic islands, along the top of Alaska and the Yukon, through the valley of the Mackenzie River and oil-rich Alberta in Canada, and includes the oil and gas development areas of Oklahoma and Texas.

The strata in which oil was discovered on the Alaskan North Slope are of the early and middle Paleozoic era. Alberta oil was laid down in the upper Palezoic.

"But around the world," says Ralph Toombs, oil and gas consultant to Gordon MacNabb, Canada's assistant deputy minister for energy, "the big fields have been found in more recent sediments."

"Our surveys (of the Canadian Arctic)," says MacNabb, "show thick sediments, down to 20,000 feet, of a geological age that are oil bearing in other parts of the world: upper cretaceous and thick tertiary sections, with domes and the possibility of stratographic traps."

"They are very much," says Toombs, "like the Gulf of Mexico and Maracaibo, which are also thick tertiary."

The geologically older petroleum bearing strata tapped at Prudhoe Bay appear to dip deep under the Beaufort Sea and reappear in the Queen Elizabeth Islands, the northern tier of Canada's Arctic Archipelago. The more recent tertiary and cretaceous strata dominate the remainder of the archipelago and underlie the Mackenzie Delta.

Oil exploration in the islands and along the delta has been going on since 1958. It intensified following the April 1968 oil strike at Prudhoe, and by the end of February virtually every major company was represented by one or more of seven drilling rigs and 16 geophysical crews crisscrossing the delta with seismic lines and, by now, some 70 test holes.

The first teaser was a good, low-sulfur-content natural gas well at Melville Island in the older sands.

Then, in January, Imperial Oil Ltd. brought in the first oil, from 5,700 feet down in cretaceous sands at Atkinson Point northeast of Inuvik on the Tuktoyaktuk Peninsula.

The Imperial oil strike at Atkinson Point was the third well the Canadian corporation had sunk on the point. The first two, some 60 miles west and south of the successful well, were sunk in geologically less promising deposits, but the feasibility of drilling was greater.

The first dry well, says R. A. Hemstock, exploration manager for Imperial, was abandoned; the second was suspended. "We left it so we could go back to it."

But following the strike, Imperial ignored the westerly tries and moved east and south, to a stepout well six miles from the strike and another new one 35 miles away, in an effort to determine the extent of the oil field that had been tapped.

"We think we're sitting on more oil than there is at Prudhoe Bay," says Hemstock. He estimates that the oil deposits under the Arctic islands and the Arctic northwest could run between 50 billion and 100 billion barrels.

"Our geologists that know that area are enthused," says MacNabb, "not only about the possibilities on land, but offshore as well . . . on the basis of the geophysical evidence."

Exploratory activity in the Canadian Arctic is intensifying almost day by day. As of the most recent accounting, there are 49 million acres of land under exploratory lease along the Arctic coast (triple the area of a few years ago), 30 million more in the Yukon and 43 million more elsewhere on the Northwest Territorial mainland. In addition, there are 265 million acres under lease in the Arctic islands.

"And that," says L. A. C. O. Hunt, chief of the northern coordination division of the Canadian Department of Indian Affairs and Northern Development, "is why Canada is so interested in the voyages of the Manhattan."

It is also why Canada is so interested in the question of sovereignty over the waters among the Arctic islands, the possibilities of a massive pipeline down the valley of the Mackenzie River and in the oil terminal potentials in the shelter of Herschel Island east of the delta and Franklin Bay to the west. □

(*NEXT: The environmental question*)