

Uranium: Northern Saskatchewan R

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A uranium exploration and mining boom centered in Northern Saskatchewan, is currently taking place in Canada. A first boom came in the early 1950's as a result of the nuclear arms race, and the second began in the early 1970's when uranium prices were inflated by a price-fixing cartel.

At present, six new mines are under construction, and the whole of Northern Saskatchewan is experiencing intensive exploration.

Uranium mining in Northern Saskatchewan takes the form of open pit and underground mines. Once the uranium ore (or rock containing uranium) is taken out of the ground the uranium is extracted by processing the ore in a mill, where it is crushed, ground down to a fine sand, and reacted with chemicals.

Uranium ore in Northern Saskatchewan generally contains only a few tenths of a percent uranium. All the rest of the rock is unwanted, and therefore considered to be waste. In addition, huge quantities of unusable liquid by-products are produced in the milling process. Up to 2000 pounds of waste water for example are created to produce 1 pound of "yellowcake" — the final product from a uranium mill.

In recent years there has been increasing concern over the health and environment effects of these wastes.

It is now realized that while milling removes about 90% of the uranium, few of the other radioactive materials are removed. In fact, 85% of the total radioactivity remains in the wastes, including almost all the radium and thorium.

Concern has arisen because radiation, even in low doses, may well be harmful to life forms. Critics of uranium mining argue that our actions today are creating environmental dangers that will last "forever".

Radionuclides are not the only hazardous component of mill wastes, however. Also of concern are heavy metals such as iron, copper and arsenic, which do not decay but are always toxic.

To date, precautions taken with solid mill wastes have been so minimal that these wastes have even been used as construction fill material, while liquid wastes have been directly dumped into lakes and streams.

At Uranium City in Northern Saskatchewan, city streets, homes, and the local High School, Candu High, have been built on radioactive mill wastes.

In April, 1977, radiation levels in the school were 60 times higher than the "acceptable" limit set by the Atomic Energy Control Board (AECB). In an attempt to solve the problem, a venting system was installed in the building. Ironically, the vents designed to decontaminate the school now release contaminants into a school ground used by the students.

Native people — re

Uranium mining in Northern Saskatchewan is a controversial issue. While the government is actively supporting the rapid expansion of existing mines and the construction of several new mines, native land claims have not been settled and a group of people known as "uranium refugees" has emerged.

To further express their concerns, community and environmental groups throughout Saskatchewan have boycotted the recent environmental inquiry into the Key Lake mine.

The Saskatchewan government strongly influences the uranium industry in its province: as of March 1, 1975 a revision in the Saskatchewan Mineral Resources Act requires all new exploration and mining projects to offer up to 50 per cent participation to the provincial government-owned corporation, Saskatchewan Mining Development Corporation (SMAC).

By 1978, SMAC was one of ten corporations accounting for 60 per cent of total Canadian exploration.

In 1979, according to their most recent annual report, SMAC was involved in about 240 exploration and development projects, only seven of which they own 100 per cent. SMAC owns a percentage of five of the six mines under construction in Saskatchewan and one of the producing mines.

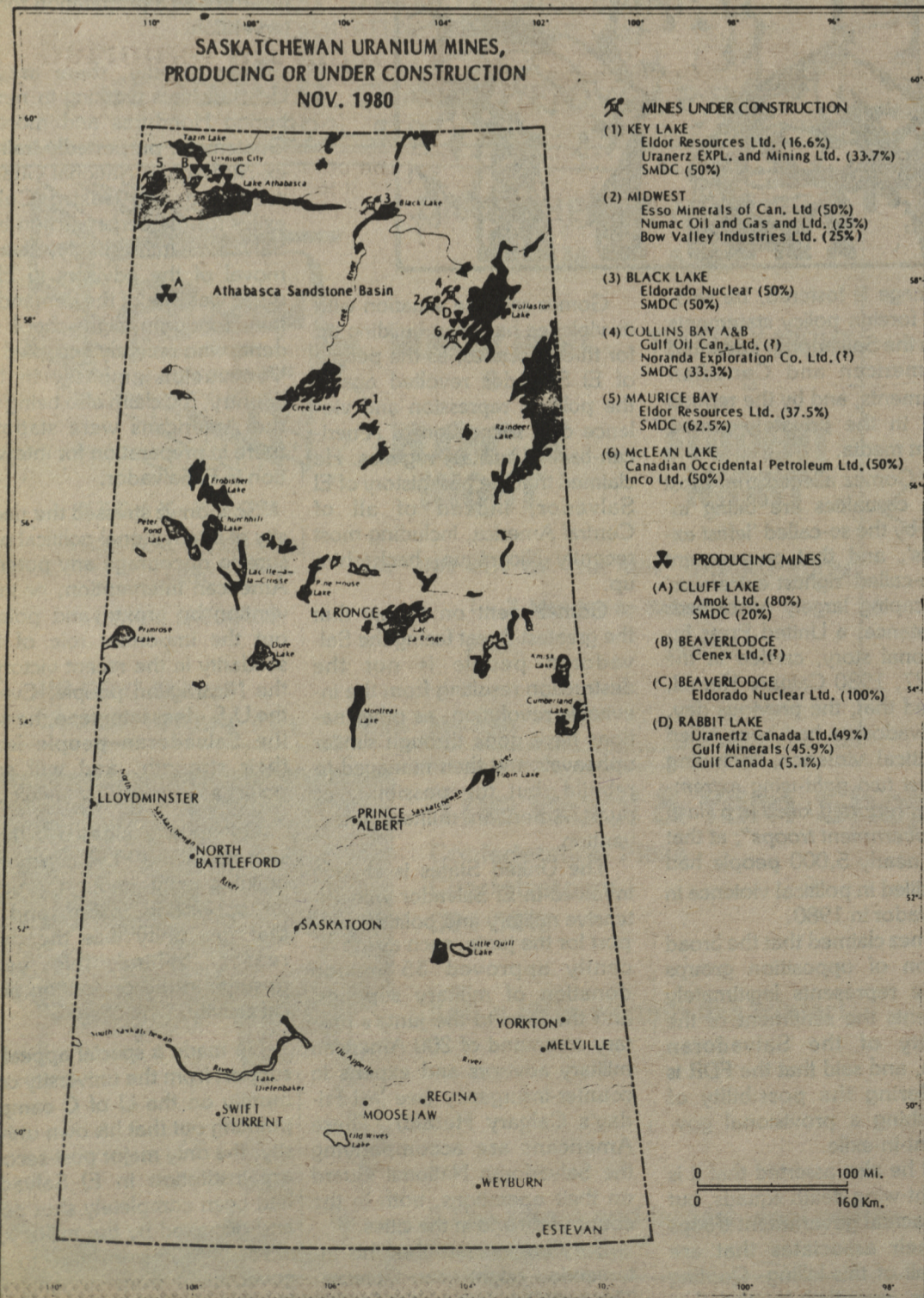
People questioning the present form of northern development in Saskatchewan,

and the uranium have been given voice their concerns. The construction of the Saskatchewan government in the 1970's granted Uranium Compensation the Cliff Lake area. Indians became trees were being cut and in some cases beside camps.

When they contacted the North Committee, the report told they were forced to move homes without warning. These have become known as

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To deal with the problem of radiation in buildings constructed on mill wastes, the AECB established a clean up and decontamination program late in 1976. The program, according to a *Globe and Mail* article of March 19, 1980, has a budget of \$4 million per year, and total costs are estimated to be in the range of \$20 million.

Of yet more concern than solid contaminants are the liquid wastes which have a greater impact on the surrounding environment. The reason for this is that liquid wastes are easily carried to locations far from the mine site.

In Northern Saskatchewan, contaminated water from the Beaverlodge mines flows into Lake Athabasca. From there, contaminants are able to flow down the Slave River, and into the MacKenzie river which flows into the Arctic Ocean. (In the late 1950's and early 1960's Eldorado Nuclear reports that wastes from the Gunner Beaverlodge mill were dumped directly into Lake Athabasca.)

Streams and lakes have long been used to absorb pollutants. However, experience with pollution of the Great Lakes has taught us that a water system is not infinite and can only deal with a finite quantity of pollutants. The risk of overloading a natural system is always present.

To avoid this overload, surface water quality standards and regulations for radioactive and non-radioactive substances have been established. As with many industries, research by the B.C. Survival Alliance has shown that it is a tradition within the uranium industry to grossly exceed water quality standards. In addition, the fact that the recent Dubyna Lake, and Key Lake mine proposals in Saskatchewan have included effluent releases which exceed water quality regulations for a variety of radioactive and non-radioactive substances further indicates that compliance with regulations is not taken seriously.

Government data on uranium, radium, iron, and streams down Beaverlodge mines all for either, or both, drinking water and aqu stated by Meneh Saskatchewan that at levels of arsenic are high serious hazard.

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Copper levels in Fook level necessary to kill parts per million — a Canadian Department d

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