

### Exploration research program for Alberta tar sands

Premier Peter Lougheed of Alberta announced on January 14 the creation of the Alberta Oil Sands Technology and Research Authority, which will be funded with \$100 million for new research in the extraction of oil from the tar sands in the northern part of the province. Although the sands are said to contain some 900 billion barrels of crude bitumen the present methods of surface mining will produce only 26.5 million barrels of oil.

An extract from Mr. Lougheed's statement follows:

I have charged this project with the important and major responsibility to achieve as rapidly as possible the breakthrough in research and technology that is essential to guarantee production of that part of Alberta's oil sands that cannot be recovered through a surface-mining process. It is essential that these deep-seated oil sands become an accepted, reliable and a proven part of the Alberta, Canadian and world energy supply, since mining

operations such as Great Canadian Oil Sands and Syncrude will only be able to develop approximately 10 per cent of the synthetic crude potentially recoverable from the oil sands.

As an initial step in our energy breakthrough project, we have today created the Alberta Oil Sands Technology and Research Authority. It will be through this Authority that the knowledge to harness our full Alberta oil sands potential can be accumulated....

In recognition of the magnitude and importance of its task, we are also today committing to the Authority a \$100-million dollar "breakthrough fund" to be available for research and technology over the next five years in meeting the challenge we have given the Authority.

A little background at this time may allow a better appreciation of the significance of today's announcement.

The Alberta Oil Sands form the largest known reserves of petroleum compounds in the world. The deposits are found in four areas of Northern Alberta and together contain 900 billion barrels of crude bitumen. If even one third of this crude bitumen could be recovered and processed it would yield approximately 225 to 250 billion barrels of "synthetic" crude oil, which is equal to nearly half of the world's known reserves of conventional crude oil....

### Labour force occupations

Information collected on the labour force in the 1971 census shows that 7,889,700 workers indicated their occupation and 737,300 did not.

The labour force included persons 15 years of age and over who, during the week preceding the census, worked for pay or profit, did unpaid family work, looked for work, were on temporary layoff or had jobs from which they were temporarily absent.

Inmates were excluded from the labour force as were, for the purposes of occupation data, persons looking for work who had never worked or who had not worked since January 1, 1970.

Categories for clerical and related occupations and service were the most numerous, accounting respectively for 17 per cent (1,373,600) and 12 per cent (969,900) of the force.

Three occupational categories contained 31 per cent of the male labour force — sales, service and construction trades including, respectively, 11 per cent (568,000), 10 per cent (521,900) and 10 per cent (563,400) of the male labour force.

The female labour force represented 34 per cent of the total labour force. The clerical and related occupations contained 36 per cent (940,200) of the female labour force.

Labour force\* 15 years and over, by occupation major groups and sex for Canada, 1971

Occupation group	Total	Male	Female
All occupations	8,626,900	5,665,700	2,961,200
Managerial and administrative	372,200	313,900	58,300
Natural sciences, engineering and mathematics	234,100	217,000	17,100
Social sciences	79,100	49,500	29,500
Religion	23,600	19,900	3,700
Teaching	349,300	138,200	211,100
Medicine and health	326,600	83,900	242,700
Artistic, literary and recreational	80,500	58,600	21,900
Clerical	1,373,600	433,400	940,200
Sales	815,700	568,000	247,800
Service	969,900	521,900	448,000
Farming and animal husbandry	512,200	405,300	106,800
Fishing, hunting and trapping	27,200	26,700	500
Forestry and logging	67,300	65,800	1,400
Mining and quarrying, including oil and gas	59,200	58,800	400
Processing occupations	334,700	275,200	59,600
Machining	240,900	227,300	13,700
Product, fabricating, assembling and repairing	634,400	484,100	150,200
Construction trades	568,600	563,400	5,100
Transport equipment operation	338,400	330,200	8,200
Materials handling	205,800	165,400	40,500
Other crafts and equipment operating	108,800	95,300	13,500
Occupations not elsewhere classified	167,600	145,900	21,700
Occupations not stated	737,300	418,000	319,300

\* Excludes persons looking for work, who last worked prior to January 1, 1970 or who never worked.