

## New gas field possibility

Just-released seismic studies of a sandbar area in the shallows on the eastern tip of Sable Island, off Nova Scotia's coast, could mean the presence of another gas field linking the large Venture field to the smaller Olympia field, says William Mason, president of Mobil Oil Canada Ltd. of Calgary, Alberta.

Mobil has to do more exploratory drilling in the area, but the seismic tests are "extremely positive", he told the Atlantic Outlook conference held by the Conference Board of Canada. If drilling yields gas, it will extend the Venture field and connect it with Olympia.

Seismic tests involve transmitting sound waves into the earth and reading their echoes to get an idea of possible geological structures before drilling.

## Multiple uses for artificial cells

Canadian biotechnology researchers are taking a new look at artificial cells — tiny sphere-shaped membranes that were first developed at Montreal's McGill University in 1957 and may one day be widely used in artificial kidneys, livers, blood and pancreases, and for making Interferon.

"We've been trying to encourage Canadian development of this for the last 20 years," said Dr. Thomas Chang, the discoverer of artificial cells and director of McGill's Artificial Cells and Organs Research Centre.

The earlier indifference of Canadian scientists toward synthetic cells has begun to break, largely because of the general interest in biotechnology that has materialized during the past two years.

Artificial cells, which have a diameter similar to that of a human hair, were first developed to remove toxins from the blood stream of patients who had suffered kidney or liver failure.

They consist of a filtering material, such as charcoal, surrounded by a thin membrane. The membrane can be made from cellulose or about 50 other materials, and its permeability can be adjusted to permit certain materials to pass through.

In 1972, Dr. Chang used the cells to make the first successful artificial liver. It has since been used in clinical trials to treat 300 victims of acute liver failure in more than ten countries.

The device, which is not implanted in

the body, uses about 200 grams of artificial cells contained in a fist-sized column, and a blood pump that is the size of a briefcase.

In a process called hemoperfusion, the blood of the patient is filtered through the column of artificial cells. The cell membranes allow small toxic molecules in the blood plasma to enter, but exclude the blood cells, which would be killed if they came in contact with the filtering charcoal inside.

## Severe liver failures

The process can be used only in severe liver failures in which the organ function will eventually be restored. But Dr. Chang and his associates are now trying to develop a more complex system that could be used to treat long-term liver problems, such as cirrhosis.

One application of artificial cells that has gained wide acceptance is in treating patients who have taken an overdose of

certain prescribed drugs, such as aspirin.

"This is now the accepted method of treatment for people who have attempted suicide by overdosing on sleeping pills," Dr. Chang said. He is also doing research on whether artificial cells can be used to remove cholesterol from the blood.

Another possibility is in the development of an artificial kidney. With available dialysis equipment, patients are usually required to make three hospital visits weekly of four to six hours each.

Using artificial cells, the McGill researchers have developed equipment that filters all impurities normally removed by the kidney, except urea.

Dr. Chang said he expects the urea problem will eventually be solved, but his equipment is proving useful already. In clinical trials in which artificial cells were used in conjunction with conventional dialysis units, patients could reduce their hospital visits to only two or two-and-a-half hours.

## Canada participates in Foodex '84 in Japan



*Foodex '84, the largest food-related exhibition in Japan held March 12 to 16, was considered an unprecedented success. Some 114 000 people attended the fair, where 40 companies and associations represented the Canadian food industry. Among organizations participating were the Canadian Wine Institute, the Canadian Food Processors Association, the Fisheries Council of Canada, the Canadian Meat Council and the National Dairy Council of Canada. The British Columbia fish display, which was changed daily, was the subject of a news item on national Japanese television. Harvey Wright (left), manager, British Columbia Seafood Exporters' Association briefs Canadian embassy staff on his association's offerings to the Japanese market. Shown with him are (from left to right): Barry Steers, ambassador; Robert Fairweather, commercial counsellor; Louis Boisvert, first secretary (Commercial, Agriculture and Fisheries); and Arman Blum, minister (Economic/Commercial).*