

Oil squeezed from rock could be lucrative business

A British Columbia scientist thinks he has unlocked the secret of squeezing oil out of shale, reports the *Canadian Press*.

North America's oil shales contain more oil than the Middle East, but the problem has always been how to get the oil out of the shale.

Dr. Joseph Sanda has spent years researching various processes for getting oil out of oil sands, oil shales, and even coal and now thinks he has the answer.

He operates a demonstration plant with two other scientists, Barry Ryan and Beverley Ford, that takes shale from all over the world and produces varying oil quantities.

The process involves crushing the shale and then pulverizing it to a talcum-powder consistency. It is then mixed with a special reagent and a petroleum-based solvent like naphtha.

The reagent breaks down the shale and

separates a material called kerogen from the rock. Kerogen contains the oil. The mixture is put into a centrifuge that spins the mixture and separates the shale from the kerogen.

The kerogen is then dissolved in a mixture of Dr. Sanda's reagent and a petroleum-based solvent. The solvent and the reagent are extracted, and what remains is a high grade crude oil that can be sent to a refinery for conversion into gasolines and other products.

Dr. Sanda, a Czechoslovakian who received his doctorate in chemistry from Martin Luther University in West Germany, said the process gets 97 per cent of the oil present in the shale. A commercial-scale pilot plant is needed to determine precise costs, but Dr. Sanda is confident his process can produce oil at half the cost of current imports.

The process is viable when others have

not been because "the whole process is done at ambient temperatures. We don't need to apply heat to the process to make it work", said Dr. Sanda.

Most other processes require that the shale be heated to extreme temperatures — 482 degrees Celsius. But these processes use almost as much energy to create the high temperatures as they produce in oil from the shale.

No heat needed

The heat-free process relies entirely on the reagent that is mixed with the shale. Dr. Sanda has applied for patents on the reagent in Canada and the U.S.

He has formed a company, Kohle Energy Research Consultants Incorporated to research and develop his process. Vancouver businessman R.S. Cox also has established a company, Sandoil Resources Incorporated, to co-ordinate the construction of the pilot plant — probably in Colorado — and find investors.

Sports library provides information internationally

A Canadian sports library is at the centre of a United Nations program that provides information to countries around the world.

The Sport Information Resource Centre is a branch of the Coaching Association of Canada in Ottawa. The library, funded by the federal government, is devoted exclusively to sport and is staffed by the librarians, two library technicians, four clerks and typists.

More than 20 000 books and reports have been carefully studied and their contents recorded in a computer bank at the library for quick retrieval by a researcher.

The centre was recently selected by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as the hub for a sports information network spanning the globe.

Started as national service

"We began as strictly a national organization aimed at assembling data relating to sport in Canada," said manager Gilles Chiasson. "But interest in sport throughout the world continues to grow and many countries are into the same data gathering process as we are. Through UNESCO we've now established a computerized interaction system where we supply information to other countries and draw on their collection of know-

ledge. Naturally, it would be impossible for us to store in our computer every item written on sport so we have set up a reference system so people can find whatever has been written on their particular subject of interest and where it can be found."

The key to the entire operation, which functions through a data base in Santa Monica, California, is a bibliography containing almost 100 000 references to the

more than 115 000 items stored in the data base.

Although computerization and accessibility are what put Canada in the forefront in this area, it is the printed bibliography which makes the system work.

"Even those countries, without access to the data base can still acquire the bibliography," said Chiasson. "When they want to know something they can telephone, write or telex us and we can either supply the information or lend them the material from our library."



The library is the centre for a United Nations' information network.