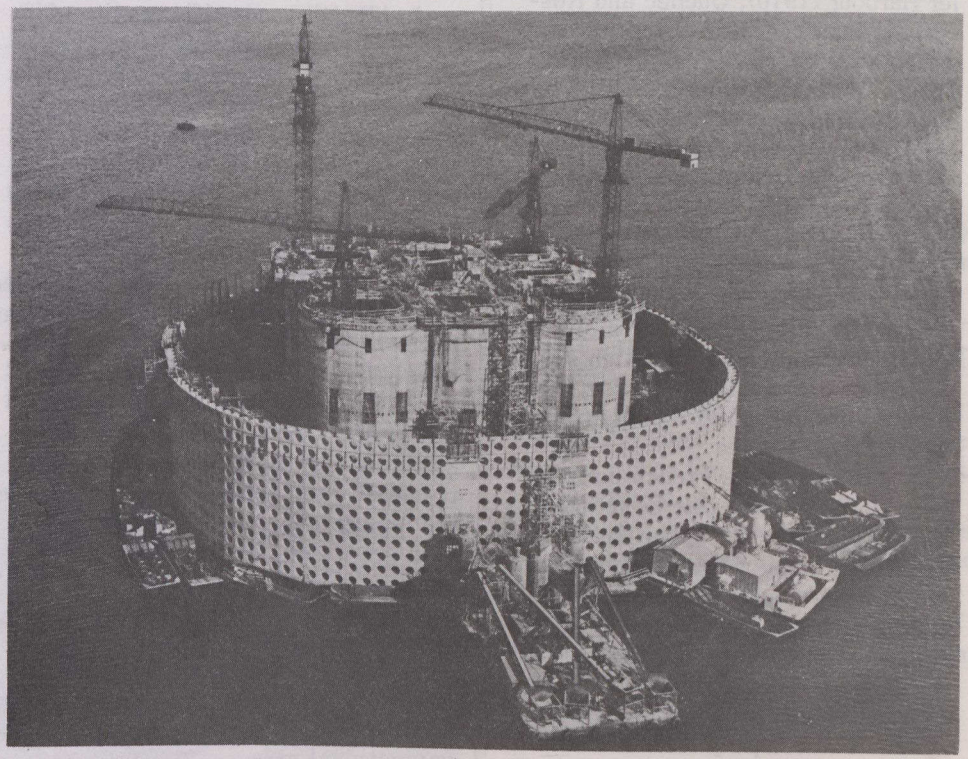
Canada Weekly

Volume 1, No. 19 May 16, 1973

External Affairs Canada Affaires extérieures Canada

Canadian designed oil storage island in the North Sea



One of the world's largest artificial oil-storage islands is being installed in the oil-rich Ekofisk area in the Norwegian sector of the North Sea, about 200 miles southwest of Stavanger. The construction of this unique $25-million storage unit resulted from an unusual combination of international contributions. The island is owned and financed by a group of oil companies representing five countries; Phillips Petroleum Company of Bartlesville, Oklahoma, U.S.A., is operator for the group. The island was designed and built in Norway by a French company under sub-licence from a Canadian company and it is based on a National Research Council of Canada invention – the Jarlan perforated breakwater.

Million-barrel tank

The tank, which has a storage capacity of one million barrels of crude oil, was towed this spring to the Ekofisk area, where it will be linked to production wells in this vast offshore oil field. Partly immersed in 230 feet of water, the structure consists of a concrete breakwater of the perforated caisson type which encompasses internal concrete tanks. Its outer shape is that of a "round square" with a section base of 302 feet by 302 feet. The perforated breakwater is 269 feet high, the storage tank 295 feet. The tank, partitioned into nine compartiments, rests on the bottom of the North Sea and extends 65 feet above sea-level. Decks on top of the tank provide additional space for oil and gas separating and handling equipment.

The design of the storage tank was based on that of a perforated breakwater developed by G.L.E. Jarlan, a former research physicist with the Hydraulics Laboratory of the Division of Mechanical Engineering of the National Research Council of Canada. It has been patented by Canadian Patents and Development Limited, a