Scientific tests identify presence of oil in Great South Basin

12 March 2007 - The Ministry of Economic Development today announced that recent testing undertaken in advance of tendering of exploration permits in the Great South Basin had identified the presence of natural oil seeps.

The oil seeps are believed to relate to a magnitude 4.8 earthquake, 160 km west of Oban, Stewart Island which occurred on the 19th February 2007 and appear to have reactivated earlier oil seeps near Stewart Island which were noted by scientists in the 1980's.

"The seep has considerable significance for the exploration of the Great South Basin (east and south-east of Stewart Island). It means that oil, and not just gas, is being generated in the basin."

The Ministry added that the location of the seep means that, although much of the basin is in deep water, the migration path of the oil seeps increases the potential of oil being found in shallower water areas.

"We are encouraged that the latest information strengthens the case for exploration in the area, particularly given the worldwide increase in oil prices. While there are numerous factors that will influence exploration companies' decision to bid for the Great South Basin, we believe that this information will give these companies added impetus to explore the Basin."

The location of the seep is associated within an area of interpreted faulting in the basement granite in Thule Bay. Mr Connor who originally noted the seepages in the 1980's was working with a mechanical backhoe in the area and sampled the seep. The samples were submitted for independent analysis and mass spectroscopic review has clearly indicated that the oil is natural and not a refined product. Further analyses is being undertaken to ensure the oil is not sourced from used oil.

The GCMS analysis shows a clear sequence of straight chain hydrocarbons and isoprenoids from C15 to C30+. There is no odd over even preference which would indicate an immature organic source and a high pristine to phytane ratio as was indicated in the oil recovered during testing of Kawau-1A out in the central part of the basin. (Cook 1982).

This high ratio also indicates that the oil is sourced from coaly rather than marine sediments and is consistent with the source rock evaluations from Great South Basin. The water sample had a higher ratio of isoprenoids and the straight chain oils were degraded indicating some biodegradation but this was not the case with the sediment samples.

The samples have been submitted for XRF analysis to ensure that no minerals such as molybdenum, lead, or tungsten are present as they would indicate the oil had been through an engine or had additives.

Cook R.A. 1982 "An oil seep at Leask Bay, Stewart Island, New Zealand (note) NZ Journal of Geology and Geophysics v 25 115-119"