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Volcanic vents off B.C. coast

Undersea volcanic vents, where heat and minerals well up from inside the earth's crust, have been discovered about two-thirds of the way up Vancouver Island. /4

Vents found *Geol. Toronto Edition* *June 5, 1984 p. 4* are first off Canada

By WALLACE IMMEN

Undersea volcanic vents, where heat and minerals well up from inside the earth's crust, have been discovered in Canadian waters.

The hot vents, beneath 1,700 metres of water, are the first ever discovered entirely in Canadian waters. The vent zone, called the Southern Explorer Ridge, is about 150 kilometres west of Nootka, about two-thirds of the way up Vancouver Island.

"We were very lucky to find it," said Stephen Scott, a University of Toronto professor of geology who was one of 12 scientists on a cruise of the CSS Parizeau, a Department of Fisheries and Oceans research ship.

Dangling a sensitive heat gauge and a camera at the end of 1,700 metres of cable "was like fishing with a lure and trying to avoid snagging the bottom," Prof. Scott said yesterday in a phone interview from the Parizeau's base at Sydney, B.C.

The equipment was encased in a steel cage that slammed into features along a trough in the ocean floor where two plates of the earth's crust are moving away from each other. But the equipment identified several places where heat and sulphur-rich minerals are moving through weak spots in the ocean floor.

Biologists and geologists are preparing to return to the area later this month and plan to use a two-man deep ocean submarine called Pisces to take a close look at the vents. Worms that live on a diet of sulphur, as well as clams and crabs, are generally found living in total darkness around such deep-ocean vents.

On the Parizeau's week-long cruise, the instruments were also trolled over a vent zone found last year south of Vancouver Island and west of the coast of Washington. The camera took photographs of a vent the scientists named Parizeau.

"There are tube worms and crabs with long legs around the vent," Prof. Scott said. This zone, called the Endeavour Seamount, is within water claimed by Canada but also by the United States.

Southern Explorer is definitely part of Canadian territory, he said. "If the Southern Explorer is like other undersea vents we expect to find deposits rich in zinc and silver."