

Oil and Gas Potential of Yukon

Riona Freeman

Oil and Gas Management Branch, Department of Energy, Mines and Resources,
Government of Yukon, 209 212 Main Street, Whitehorse, YT, Y1A 3R6
Riona.Freeman@gov.yk.ca

ABSTRACT

Seven of the eight oil and gas regions of Yukon occur in that portion of the territory lying northeast of the Tintina Fault. They are the North Coast, the Old Crow Basin, the Kandik Basin, the Eagle Plain, the Bonnet Plume Basin, the Peel Plateau and the Liard Plateau. In this area, Paleozoic deposition of thick platformal and basinal sediments occurred on the relatively stable North American margin. The remaining oil and gas region, the Whitehorse Trough, is an intermontane basin south of the Tintina Fault.

Assessments of Yukon's conventional oil and gas resources have been completed with the Geological Survey of Canada, Calgary (GSCC), using the PETRIMES methodology. Generally, the territory is gas prone with some oil potential. Recent updates of assessments for the Eagle Plain, Peel Plateau, Whitehorse Trough and Liard Plateau have resulted in significant increases in the estimated natural gas. Working in partnership with industry and using recently acquired seismic, a potential of over six trillion cubic feet (Tcf) was calculated for the Eagle Plain, over three times the original estimate. The northern Yukon has a potential for approximately 19 Tcf of natural gas and 900 million barrels (MMBbls) of oil.

Coal-bed methane is another important potential resource in the Yukon, especially within the Bonnet Plume Basin. A resource assessment and coal database for the territory was recently completed in partnership with the GSCC. The Oil and Gas Management Branch has entered and seeks new partnerships and collaborations to collect additional petroleum geoscientific data and to help further define and delineate the petroleum resources of the Yukon.