

Exploration Potential in the Area Surrounding White Rose Oil and Gas Field, East Jeanne d'Arc Basin

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The White Rose Oil and Gas Field located on the eastern side of the Jeanne d'Arc Basin, contains hydrocarbons in four distinct reservoirs (South Mara, Avalon, Eastern Shoal, and Hibernia Formations). The primary reservoir at White Rose is the late Aptian age Avalon Formation sandstones. To date three distinctive hydrocarbons pools have been discovered, North Avalon, South Avalon and West Avalon. The present White Rose Field development refers to production of oil from the South Avalon pool, with gas re-injection into the North Avalon Pool. In the past, drilling has been concentrated first on the White Rose dome and lately on delineating the South and North Avalon Pools, leaving much of the surrounding structural and stratigraphic traps untested. Good potential for new oil and gas discoveries within the Significant Discovery Area (SDA) exists on the northeastern and southeastern flank of the White Rose Diapir and also on the Amethyst Ridge and Grand Bruit prospect.

There are several large mapped prospects on Exploration Licenses in the vicinity of the White Rose Field. The best oil prospect outside of the SDA is the large stratigraphic trap known as Trepassey, which has been interpreted on a modern 3D seismic survey. The Trepassey sub-basin reservoir is the same Avalon Formation encountered in the South Avalon Pool. Another oil prospect Gros Morne, is a combination trap, where Avalon and Hibernia Formations are trapped in the down-thrown side of the Voyager Fault Zone. The Grand Bank gas prospect is a Tertiary aged basin floor mound with reservoirs being fed from several paleo-valleys. All these prospects are scheduled to be drilled in the next few years and will test some known or some novel play concepts, which can significantly increase the reserve endowment of the Jeanne d'Arc Basin.