Over 400 oil and gas wells have penetrated the Winnipeg Group across North Dakota. To date, 18 wells have been completed and produced from the Black Island Formation (Figs. 1-3, Table 1). Eight of those wells penetrated intervals in the underlying Upper Deadwood Formation. The primary production targets were cross-bedded or massive quartzarenites of the Black Island Formation, with oil and gas shows. While there have been Winnipeg oil and gas shows reported in Manitoba, Saskatchewan, and Montana, Saskatchewan is the only state/province with Winnipeg production (Fig. 5). All Winnipeg production has come from successively older wells. There have been no reported horizontal wells completed in the Winnipeg to date. The total cumulative oil production from these eighteen wells is little more than 200,000 barrels. The cumulative gas production is over 137 BCF of dry gas (Table 1). Converting the gas in billions of cubic feet (Bcf) at current prices of $4.00 per MMBtu of gas (market) equals 1 barrel of oil. Over 17 million Bcf have been produced from these wells that have been completed and produced from the Black Island Formation (Table 2). Overall, the average Black Island well has cumulatively produced 15,400 Bbl of oil with only 2,000 Bbl of gas. Even after 15+ years of operation, Black Island completions produce very little water (2% barrels of water).

Production information from the Newport Field (Table 1) was not included within this study for several reasons. 1) The structure of the Newport Field has been speculated to be a multiple domal structure (Forsman et al., 1996). 2) It is uncertain whether the formation has been completed in the Newport Field, and if so, which portion of the formation is the subject of production. 3) All of the Newport Field wells were completed in a cored interval located at the base of the Deadwood Formation. Overall, the Newport Field likely represents a localized hydrocarbon accumulation which does not extend into the basin-wide Winnipeg hydrocarbon exploration potential.

Oil vs. Gas Production

The Black Island Formation (further described below) has been impacted by hydrocarbon shows from the Deadwood Formation. While there have been Winnipeg oil and gas shows reported in Manitoba, Saskatchewan, and Montana, Saskatchewan is the only state/province with Winnipeg production (Figs. 1-3, Table 1). Eight of these wells perforated the same productive interval in the Black Island Formation (Figs. 2, 3, and Table 1). Nine of the wells completed and produced from the Black Island Formation (Figs. 1-3, Table 1). Converting the gas in billions of cubic feet (Bcf) at current prices of $4.00 per MMBtu of gas (market) equals 1 barrel of oil. Over 17 million Bcf has been produced from these wells that have been completed and produced from the Black Island Formation (Table 2). Overall, the average Black Island well has cumulatively produced 41,850 Bbl of oil with only 8,600 Bbl of gas. Even after 15+ years of operation, Black Island completions produce very little water (2% barrels of water).

Production information from the Newport Field (Table 1) was not included within this study for several reasons. 1) The structure of the Newport Field has been speculated to be a multiple domal structure (Forsman et al., 1996). 2) It is uncertain whether the formation has been completed in the Newport Field, and if so, which portion of the formation is the subject of production. 3) All of the Newport Field wells were completed in a cored interval located at the base of the Deadwood Formation. Overall, the Newport Field likely represents a localized hydrocarbon accumulation which does not extend into the basin-wide Winnipeg hydrocarbon exploration potential.

**References**


