

9-16-36-5w5 (Elkton Member) Recompletion

The Mississippian Turner Valley (Elkton Member) consists of dolomite and to a lesser extent limestone which is typically fine to coarse crystalline. The zone is at a depth of 2631.5-2652 m in the 100/09-16-36-5w5 well. Above, the Turner Valley (Elkton Member) is unconformably overlain by the sands, silts and limestone units of the Jurassic.

The Elkton dolomites are the uppermost units within the Mississippian in the immediate area. Pre-Jurassic and pre-Cretaceous erosion has occurred creating Paleovalleys which have removed the Elkton cutting down into the Mississippian Formation. When present the Elkton thickness ranges between 7.5 to 16 meters. All units within the Mississippian dip to the southwest regionally. The Jurassic sands silts and limestones have been deposited on this paleosurface. Oil and gas is trapped within erosional "salients" where migration of hydrocarbon has occurred updip through the formation until the migration was terminated by the removal of the porous carbonates and lateral replacement by tight silts, shales and limestones within the Jurassic. The pool which exists adjacent to, and underlying, Taylor Hill's lease is the overlying the Garrington Commingled Pool 008. This pool is commingled Elkton and Jurassic sandstones which appear to be in both Rock Creek and Nordegg Member sands within the Fernie Formation.

The porosity cut off for sands in the Turner Valley (Elkton Mbr) is typically 3% on the Density log which has been indicated in red on the Cross Section. Pay zones in the Elkton has porosity over between 6.0 to 15.0% and resistivity of 40 to 2000 ohms. A gas/water contact is not apparent in the Elkton pool in the immediate area.

Several wells produce, or have produced, from the Elkton interval adjacent to, or on, the Taylor Hill lease. The nearest well currently producing is 346.1 meters south of section 16 at 100/16-9-36-05w5/00. The well is producing approximately 9-16-36-5w5/003.0 10 M3 per day and has produced 868.7 e6m3 since October 1986. The initial rate was between 111 to 315 e3m3/d and initial reservoir pressure of 24,530 kpa. Other adjacent wells in the Garrington Commingled Pool 008 are located at 100/14-10-36-5w5/00 which produced 647,220 e3m3 and in April 2017 was producing at a rate 1.7 e3m3, 100/16-9-36-5w5/00 which produced 868,683 e3m3 and in April 2017 was producing at a rate 3.0 e3m3 and 100/7-15-36-5w5/100 which produced 271,880 e3m3 and in April 2017 was producing at a rate 7.4 e3m3. All wells are immediately adjacent to Taylor Hill's lease.

The well on Taylor Hill's lease (100/9-16-36-5w5/00) has a clean 20.0 meter thick dolomite lithology with an average 10% density porosity in the 17.5 meters of gas pay. Overlying the Elkton pay zone a Jurassic sands exist. The rate when recompleted uphole into a very thick (8.0 Meter) Cretaceous Ellerslie sand was 30.7 e3m3. The well was simply completed in order to produce a sand which not present in other wellbores not because the well had depleted. Land records indicate that the operator was faced with an offset obligation in the zone. In fact pressure plots indicate that between 203.8 e3m3 (7.2 Bcf) "worst" case and 764.6 e3m3 (27 Bcf) "optimistic" case remains in the reservoir. (see Pressure Listing exhibit)

Date	Well	Pressure (kpa)	Zone	Shut In Time (Hrs)	Cum Production (Bcf)
	Initial pressure	24,530	Elkton		0
	Initial pressure	23,550	Nordegg		0
22-Aug-84	6-8-36-5w5	19,198	Nordegg	?	0.07
18-May-84	7-15-36-5w5	24,315	Elkton	72	0.07
6-Sep-84	6-8-36-5w5	22,048	Nordegg	272	0.07
4-Mar-85	16-9-36-5w5	24,712	Elkton	230	0.07
19-Oct-85	14-10-36-5w5	24,278	Elkton	263	0.08
19-Jun-88	7-15-36-5w5	22,730	Elkton	?	6.41
9-Feb-89	9-16-36-5w5	20,721	Nordegg DST		8.99
8-Mar-89	14-10-36-5w5	20,799	Elkton	?	9.53
29-May-89	16-9-36-5w5	20,174	Elkton	234	10.54
2-Nov-89	9-16-36-5w5	19,044	Elkton/ Nordegg	?	15.05
9-Jun-90	7-15-36-5w5	15,941	Elkton	251	23.09
6-Jun-91	9-16-36-5w5	11,835	Elkton/ Nordegg	?	36.3
28-Jul-92	9-16-36-5w5	8,297	Elkton/ Nordegg	49	44.09
28-Jul-92	16-9-36-5w5	8,307	Elkton	52	45.58
30-Jun-94	16-9-36-5w5	4,608	Elkton	146	57.54
31-May-17	Current Cumulative				75.65

