

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 432.81
Ground Elevation: 426.80

Casing Flange Elevation:*All Depths Measured from Kelly Bushing Elevation*

Group:
Formation: Muskwa
Member:
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: upper
Period: Devonian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	2,862.00	2,856.60	-2,423.69	35.24
Log Top				

Evaluation:

Muskwa is SHALE dark gray, dark gray to black, fissile, platy to blocky, slickenside in part, common nodular and disseminated pyrite

Conclusion:

No reservoir potential.

Group:
Formation: Slave Point
Member:
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: middle
Period: Devonian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	2,896.60	2,891.84	-2,458.93	
Log Top				

Evaluation:

The upper Slave Point was drilled underbalanced and as such a dramatic gas increase was recorded by the gas detector upon penetration. The high levels of background gas make it difficult to determine what is a significant gas response. It does indicate however, that the upper 40m MD of the Slave Point is highly charged with gas. The upper Slave Point has interbeds of LIMESTONE but is predominately DOLOMITE mottled light to dark gray, cryptocrystalline to finely crystalline, mudstone to packstone, slightly argillaceous, intercrystalline bitumen infilling, trace of intercrystalline porosity 3-4%, DOLOMITE sparry, clean, white to translucent, pearly, lithographic to cryptocrystalline, tight, minor coarse dolomite crystals, clear, drusy, vuggy porosity 6-8%, very low permeability. The intercrystalline porosity occurs in the upper 10 meters. The predominant porosity is vuggy and appears to be associated almost entirely with the very low permeability recrystallized spar. The lower Slave point is predominantly tight LIMESTONE with a little vuggy porosity in recrystallized dolomites between 3025 and 3045m and a possible porous fracture zone from 3088.4 to 3088.6m MD.

Conclusion:

Good gas potential but not much for permeability. Probably the best horizon for a horizontal program.

Formation Evaluations**Storage Units:****Metric**

Kelly Bushing Elevation: 432.91
Ground Elevation: 426.80

Casing Flange Elevation:*All Depths Measured from Kelly Bushing Elevation*

Group:
Formation: Watt Mountain
Member:
Boundary Type: disconformable
Fault Type:

Era: Paleozoic
Series: middle
Period: Devonian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top				
Log Top				

Evaluation:

Not identified in sample.

Conclusion:

Group:
Formation: Sulphur Point
Member:
Boundary Type: conformable
Fault Type:

Era: Paleozoic
Series: middle
Period: Devonian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	3,105.00	3,017.30	-2,584.39	
Log Top				

Evaluation:

Had a drilling break at 3105.2 to 3106m and from 3107.8 to 3108.5m. 60 minutes later we took a gas kick and shut the well in. SICP was 800 kpa. No sample, washed away by the increased flow. Indications are that there are two porous fracture zones in the LIMESTONE country rock. The upper fracture zone appears to be dominated by dolomite and the lower by a vitreous crystalline chert lining. There is disseminated pyrite associated with both. There is probably a third healed fracture zone at 3111m but it doesn't seem to be porous. There is a probable fracture at 3148.2m in LIMESTONE with associated CHERT. There was a little liberated gas in vuggy recrystallized DOLOMITE from 3154 to 3157m but no apparent permeability. The SULPHUR POINT above 3168m is predominantly tight LIMESTONE whereas below this point it is almost exclusively DOLOMITE mottled medium to dark gray brown, light gray brown in part, cryptocrystalline to microcrystalline, mudstone to wackestone, no apparent intercrystalline porosity, common sparry recrystallized dolomite, white to translucent, pearly, scattered vugs, occasional CHERT. Possible healed fractures in DOLOMITE at 3221.5 and 3231.5m. No effective porosity or permeability. Possible fracture at 3277.4 to 3277.6m in DOLOMITE. Slight gas effect. Probable fracture porosity from 3364.4 to 3364.8m MD. Minor gas effect. Had a little liberated gas from 3402 to 3409m. Probable scattered vuggy porosity. Probable fracture porosity in DOLOMITE from 3406.6 to 3407.4m and 3423.6 to 3424.0m MD. Minor gas effect from both zones. Called TD in a LIMESTONE at 3464m (3077.5 TVD) when Pulsur sub washed out.

Conclusion:

Reservoir potential in fractures throughout section.