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NATIONAL ENERGY BOARD  
Exploration and Production

APR 08 2011

# Geological Report

For

**Para et al Cameron 2H-03**

**Surface Location: Unit 2H Section 03**

**Grid 60° 10' 117° 30'**

**UWI: 302H036010117300**

**NEB ADW WID #: 2073**



**Well Reached Total Depth on  
March 2011**

**Report For:**

**Jason Galbraith  
Geologist  
Paramount Resources Ltd.  
Calgary, Alberta**

**Reported By:**

**Mashhood A Chaudhry**

**Moh & Associates Oilfield Consultants Ltd.  
Calgary, Alberta.**

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## WELL ABSTRACT

The well Para et al Cameron 2H-03 is located in Cameron Hills field Of NWT Mainland. The main objective of drilling this well is to investigate the Lower Sulphur Point Dolomite porosity horizontally for the production of hydrocarbons and to confirm the structure.

The drilling contractor engaged to drill this well was Nabors *Drilling Rig # 24*. Services of Phoenix Technology services LP were retained for directional drilling and to run real time gamma ray. The well was spudded on January 20, 2011 at 2345 hrs. A surface hole of the size of 349mm was drilled to 361m, and a surface casing of 244.5mm was run to 360m. The size of the intermediate hole is 222mm. The well was kicked off from 1266m MD. The rig sank few times and was to be jacked and skidded during this time. Finally the drilling was suspended @ 1333m MD to reconstruct the lease. The rig was moved out to E-52 on Feb. 05, 2011 and pilings were put into the ground to stabilize the rig site. The rig was moved back on Feb. 16, 2011 and drilling resumed on Fe. 21, 2011.

The bit and mud motor were lost in the hole at 1424m MD. The fishing efforts were unsuccessful and well was plugged and side tracked from 1333m MD.

The well was landed just on top of the Lower Sulphur Point Dolomite at 1534m MD, TVD 1422.09m (SS –644.87m). Intermediate casing of 177.8mm ran to 1531m MD; and 156 mm horizontal hole was drilled to a TD of 2534m MD. The well got drilled to 2537m MD during reaming. During steering of the well, in the horizontal section, the objective was to follow Lower Sulphur Point porosity.

The geological formations were identified after detailed examination of drill cuttings, correlation of offset logs and the gamma ray tool response. The formation tops were close to the prognosis.

The Compact memory logging tool package was run from surface to 2511m MD by DataLog LWT, after TD of the horizontal section.

The production casing of OD 114.3mm (ID 98.4mm) was run to frac and test the well and obtain production.

## FORMATION EVALUATION

### SLAVE POINT FORMATION

*Middle or Upper Devonian*

*397.5-385.3 Million Years*

**Slave point Formation** in this well was picked in samples at 1346m TVD. Electrical logs indicate its top at 1345.5mTVD (SS -568.25 m). Slave Point is a 41m thick limestone. It is brown, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-very fine crystalline. It is slightly argillaceous and bituminous and contains pyrite nodules at places. It becomes slightly dolomitic and anhydritic towards lower part. The Slave point is mostly tight with 0-3% porosity. It has a local 6-9% pin point and earthy porosity. Slave point has hydrocarbon shows and gives milky white good-fair streaming cut with petriliferous odour. A formation gas show of 250 units against a background of 17 units was registered by gas detector at 1358.5mTVD.

The Slave Point formation in this well does not seem to have commercially producable hydrocarbons.

### SULPHUR POINT FORMATION

*Middle Devonian*

*397.5 Million Years*

**Sulphur Point Limestone** is 18m thick, from 1397m TVD (SS- 619.78m) to 1415 m TVD SS -637.78m), as seen on the logs. It is brown-buff, mudstone-wakestone, micritic, cryptocrystalline-trace very fine crystalline, argillaceous and locally slightly dolomitic. It also has some hydrocarbon shows. It has up to 3-6% porosity. It had 300/100 and 300/50 units of gas show at 1307 and 1314m TVD.

Sulphur Point Limestone does not seem to be promising in this well.

**Upper Sulphur Point Dolomite** is 7m thick from 1415 – 1422m TVD. It is brown-dark brown, grainstone, very fine-fine crystalline, with some free crystals and minor bitumin partings. It has intercrystalline, rare to minor vuggy, porosity streaks in the range of 3-6%. It has yellow white good streaming cut.

**Lower Sulphur Point Dolomite** The well is landed above Lower Sulphur Point at 1534m MD, 1422.26m TVD (SS -645.04). The Lower Sulphur Point top at the heel of horizontal section was encountered at 1543.8m MD, TVD 1423.02 (SS -645.8m) and at the Toe at 2530m MD, 1421.22m TVD (SS -644m).

**The dolomite in the horizontal section** is medium to dark brown, light brown at places, grainstone-packstone, very fine-minor fine crystalline, with free crystals at the top, and local traces of bitumin partings. It has an estimated intercrystalline, vuggy and occasional fracture porosity ranging mostly from 3-9% throughout the horizontal section. The dolomite mostly has yellow white good streaming cut. On induction log it shows 20-90 ohms deep and medium induction.

In the intervals where the well path is in the zone, the formation has gas shows in the range of 350 to 700 units. Gas shows of 2300/50 units at 2299m MD, 1090/50 units at 1871m MD and 1300/54 units at 1815m MD, were also recorded by the gas detector.

The Dolomite in the horizontal section has a potential of oil and gas production.

Some photos of Sulphur Point Dolomite in horizontal section are included in the drill cuttings photos section.

**PHOTOS OF DRILL CUTTINGS FROM  
SLAVE POINT AND SULPHUR POINT FORMATIONS**



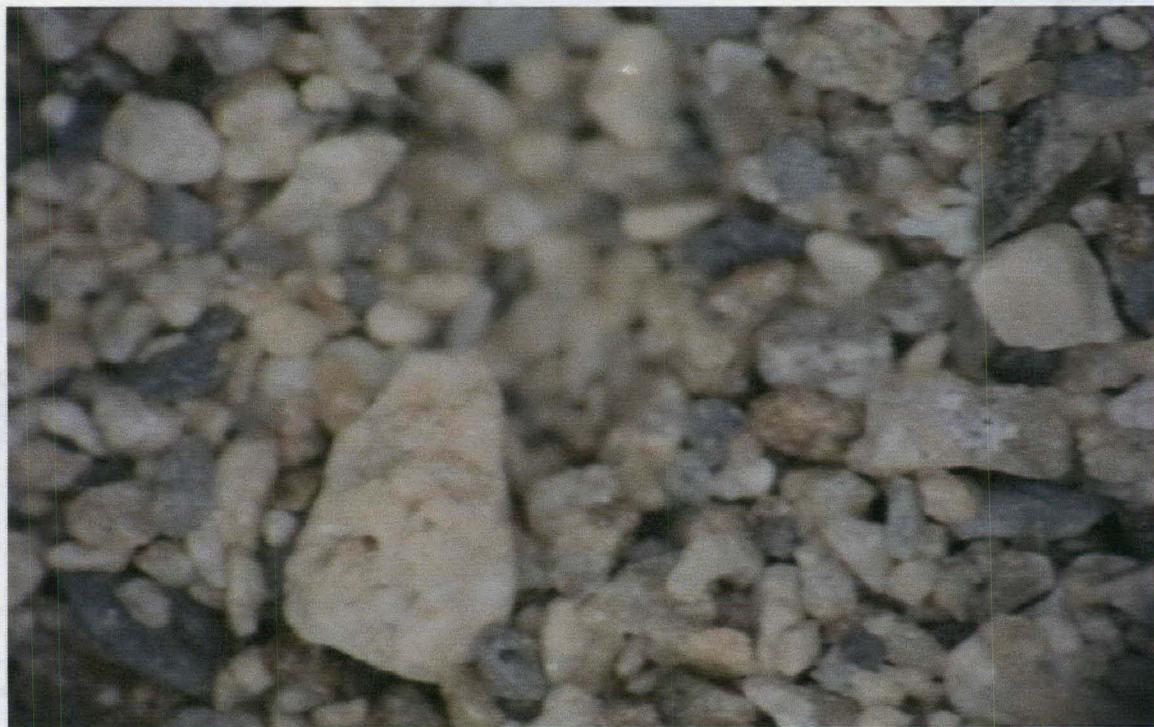
Slave Pt. Lst 1365-1370mMD- Build Section of 2H-03



Sul Pt. Lst. 1435-1440mMD- Build Sec. 2H-03



Sul Pt. Dol. 1500-1505mMD-Build Sec. 2H-03



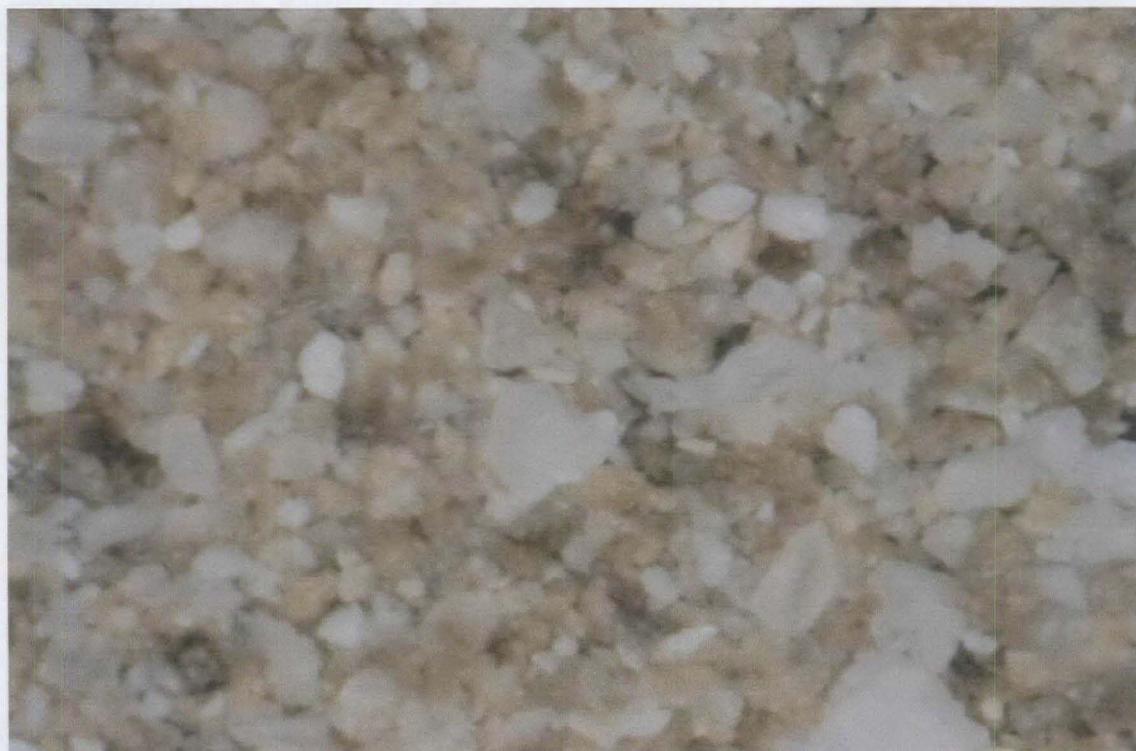
Sul Pt. Dol. 1520-1525mMD-Build Sec. 2H-03-Vuggy Porosity



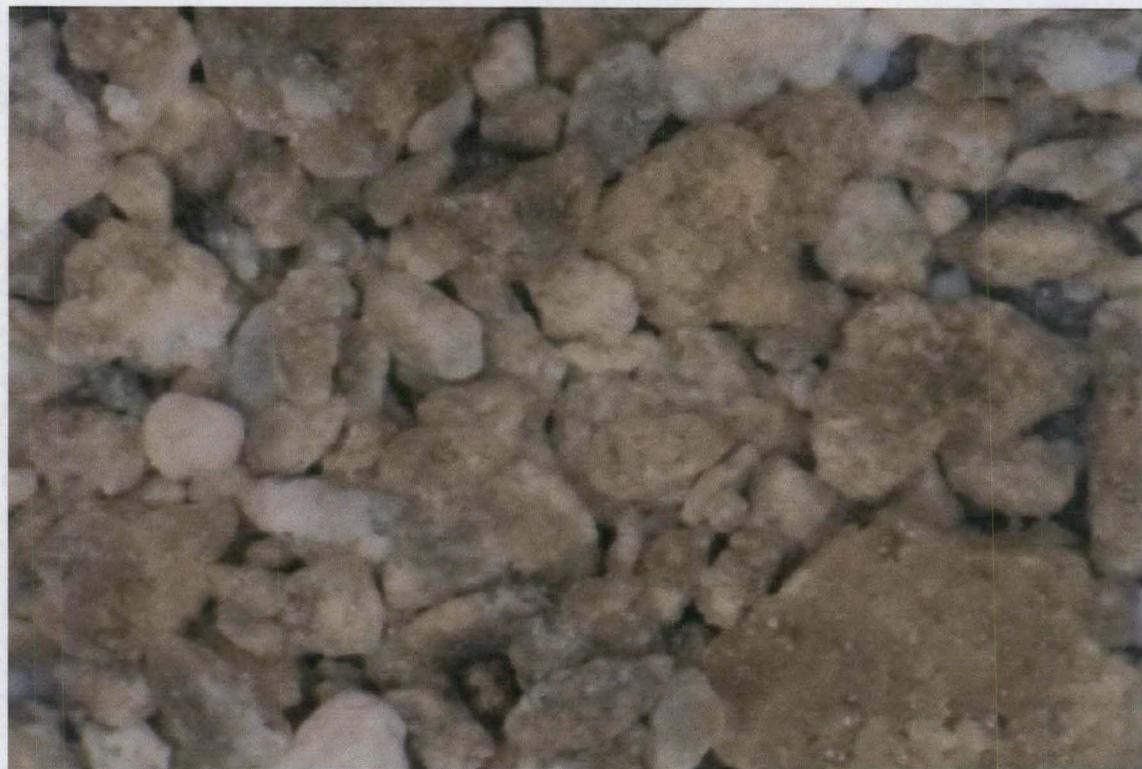
Sul Pt. Dol. 1530-1534mMD-At Landing of 2H-03



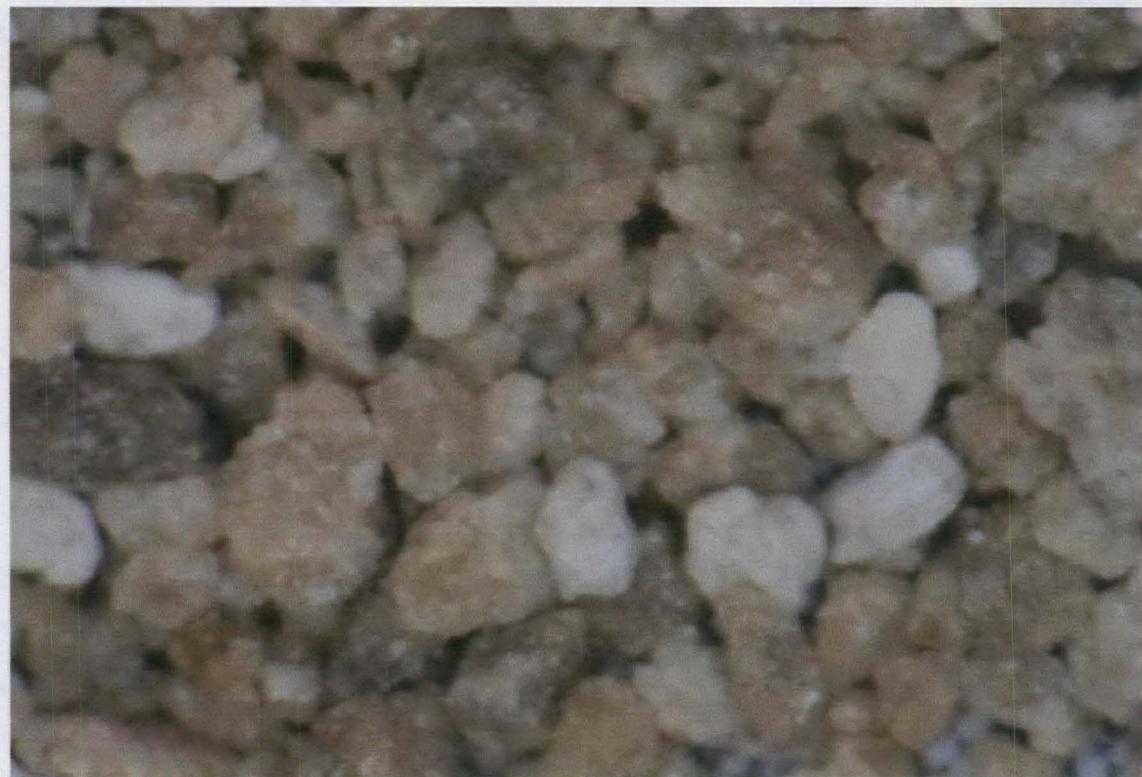
Sul Pt. Dol 1560-1565mMD-Hor Sec. 2H-03- Vuggy Porosity



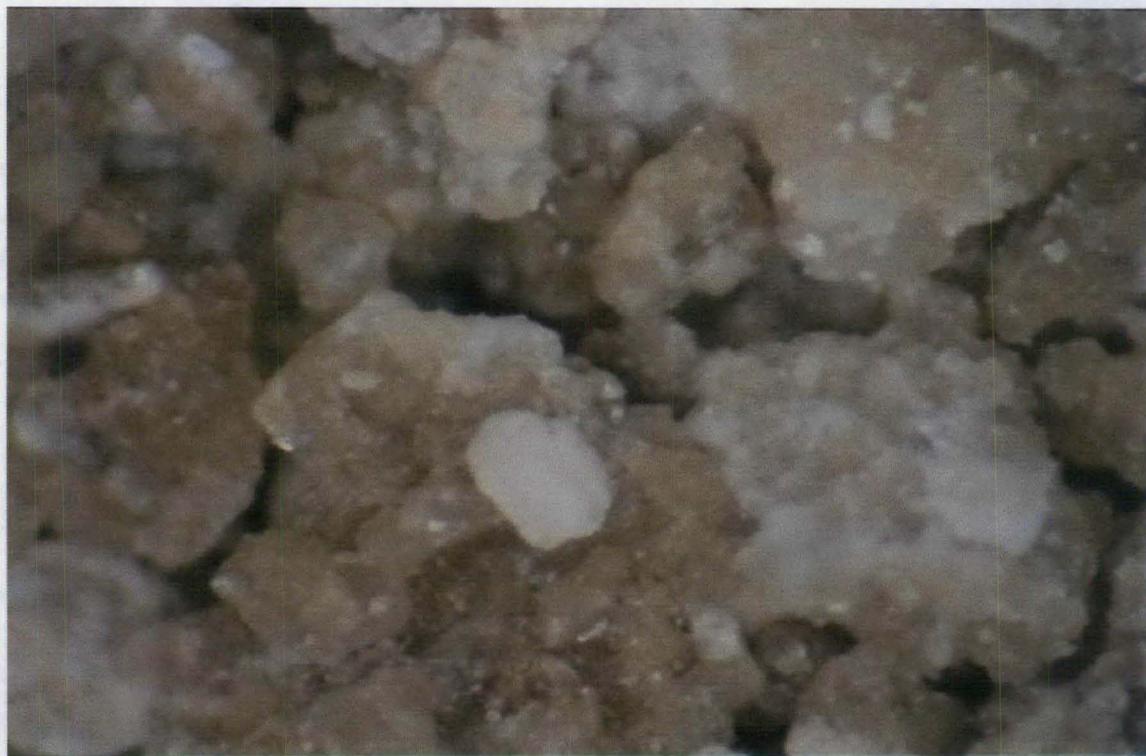
Sul Pt Dol 1830-1835mMD Hor Sec 2H-03- Abundant free Crystals



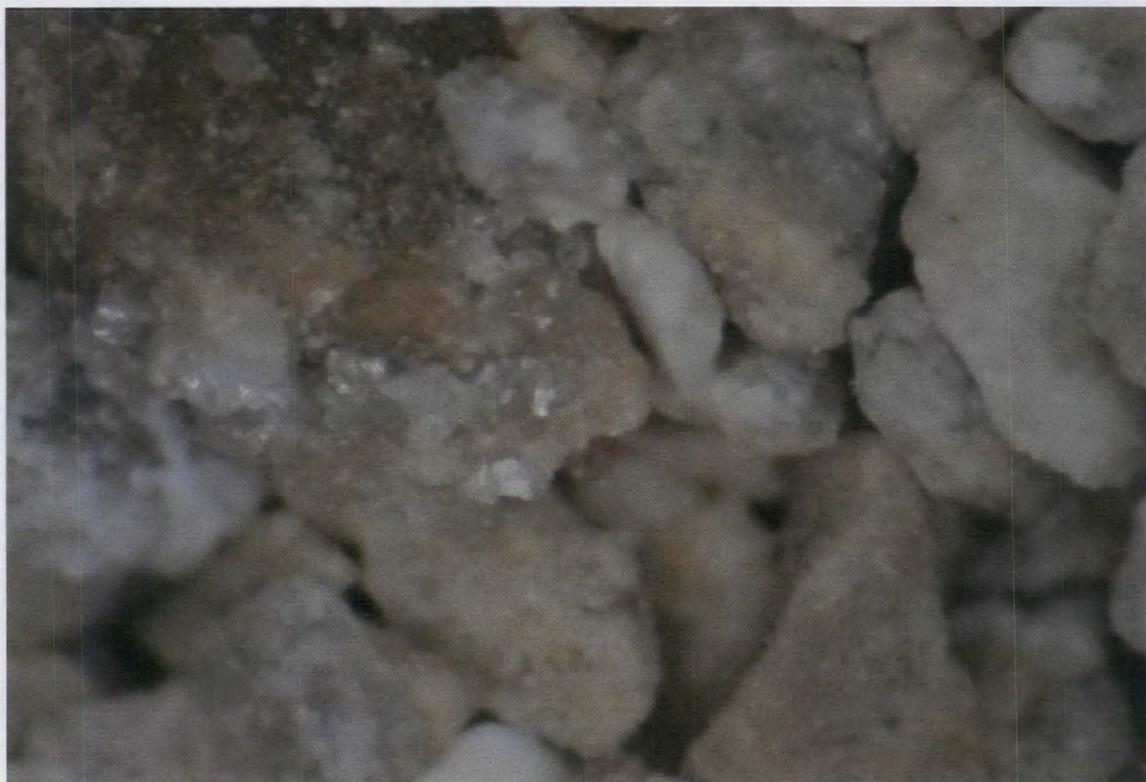
Sul Pt Dol 1955-1960mMD Hor Sec 2H-03- Vuggy Porosity



Sul Pt Dol 2270-2275mMD Hor Sec 2H-03



Sul Pt Dol 2485-2490mMD Hor Sec 2H-03-Free crystals and Vugs



Sul Pt Dol 2530-2534mMD Hor Sec 2H-03

**SUMMARY OF WELL DATA**

OPERATOR	Paramount Resources Ltd.
WELL NAME	Para et al 2H-03
SURFACE LOCATION	Unit 2H Section 03 Grid 60° 10' 117° 30'
SURFACE COORDINATES	Lat. 60° 02' 20.4" Long. 117° 30' 6.3"
BOTTOM HOLE COORDINATES	--
UWI	302H036010117300
FIELD	Cameron Hills
PROVINCE/REGION	NWT Mainland
WELL LICENCE NUMBER	2073
WELL TYPE	Horizontal Development Well.
A.F.E. NUMBER	10N110009
GROUND ELEVATION	770.20m
K.B. ELEVATION	777.22m
DRILLING CONTRACTOR	Nabors Drilling Rig # 24
SPUD DATE	January 20, 2011 @ 2345Hrs.
COMPLETED DRILLING	March 16, 2011 @ 0215 Hrs.
TOTAL DEPTH DRILLER	2537MD m.
TOTAL DEPTH LOGGERS	
SURFACE HOLE SIZE	349 mm.
INTERMEDIATE HOLE SIZE	222 mm.
MAIN/HORIZONTAL HOLE SIZE	156 mm.

SAMPLES For PARAMOUNT  
RESOURCES LTD.

None.

SAMPLES FOR NEB

1275m MD to TD, 2 sets of vial and  
one set of unwashed bags.

#### SURFACE CASING RECORD

Size OD (mm)	Size ID (mm)	Weight Kg/m	Make	Type	Grade	Shoe at (m)	No Of Joints	Remarks
244.5	228.6	48.1	Evraz	ST&C	J-55	360	27	New

#### INTERMEDIATE CASING RECORD

Size OD (mm)	Size ID (mm)	Weight Kg/m	Make	Type	Grade	Shoe at (m)	No Of Joints	Remarks
177.8	158.5	34.3	Evraz	LT&C	L-80	1531	115	New

#### LOG RECORD

Company	Log Type	Interval ( m )
DataLog LWT	1. Compensated Neutron Density Gamma Ray Log. + Density Porosity Log 2. Dual Induction Gamma Ray	2511-5.05m MD 1532- 2511m MD 2511-1532m MD

STATUS: POTENTIAL LOWER SULPHUR POINT OIL WELL.

**SUMMARY OF GEOLOGICAL MARKERS, TESTS & CORES****GEOLOGICAL MARKERS**

K.B: 777.22m

FORMATION MARKER	SAMPLE TOP		LOGS TOP		
	TMD (m)	TVD(m)	TMD (m)	TVD(m)	Subsea (m)
WABAMUN	-	-	551.5	551.5	225.72
	-	-			
JEAN MARIE	-	-	712.0	712.0	065.22
FORT SIMPSON	-	-	720.0	720.0	057.22
TWIN FALLS	-	-	832.0	832.0	054.78
HAY RIVER	-	-	1065.0	1065.0	-287.78
BEAVERHILL LAKE	1325.0	1322.0	1325.0	1322.0	-544.78
SLAVE POINT	1353.0	1346.0	1352.0	1345.5	-568.28
F 4	1412.0	1387.0	1411.5	1386.5	-609.28
WATT MOUNTAIN	1425.5	1394.0	1424.0	1393.5	-616.28
SULPHUR POINT LST	1433.0	1397.5	1431.5	1397.0	-619.78
SULPHUR POINT DOL.	1483.5	1415.0	1486.0	1415.0	-638.56
ICP/LANDING	1534.0	1422.26	-	-	-645.04
LR. SULPHUR PT. DOL AT HEEL			1544.0	1423.02	-645.80
LR. SULPHUR PT. DOL AT TOE			2530.0	1421.22	-644.00
TOTAL DEPTH DRILLER	2537.0	421.20	2537.0	1421.20	-643.98
TOTAL DEPTH LOGGERS			2535.1	1421.20	-643.98

**CORES**

DATE:

Formation	Interval (m )	Recovered.	Recovery %	Coring Equip.

**SIDE WALL CORING SUMMARY**

CORING DATE:

Plug #	Time	Depth(m)	Recovery	Plug #	Time	Depth(m)	Recovery

## DIRECTIONAL SURVEYS

Measured Depth Meters	Incl Angle Deg	Drift Direction	True Vertical Depth	Subsea TVD Meters	N-S Meters	Vertical E-W Meters	CLOSURE Section Meters	CLOSURE Distance Meters	Direction Deg	Dogleg Severity Deg/30
.00	.00	.00	.00	777.22	.00	.00	.00	.00	.00	.00
396.60	.90	303.30	396.58	380.64	1.71	-2.60	-1.73	3.11	303.30	.07
532.47	1.90	250.90	532.42	244.80	1.56	-5.62	-1.60	5.84	285.49	.34
666.78	2.90	242.90	666.61	110.61	.72	-10.75	.63	10.78	266.18	.24
798.94	.20	171.70	798.71	-21.49	-2.47	-13.70	2.36	13.92	259.78	.65
933.16	.50	146.10	932.93	-155.71	-3.19	-13.34	3.08	13.71	256.56	.07
1066.81	.50	135.40	1066.57	-289.35	-4.09	-12.60	3.99	13.25	252.03	.02
1200.43	.80	52.00	1200.18	-422.96	-3.93	-11.46	3.84	12.11	251.08	.20
1223.05	1.10	29.20	1222.80	-445.58	-3.64	-11.23	3.55	11.80	252.03	.63
1232.45	1.20	21.50	1232.20	-454.98	-3.47	-11.15	3.38	11.67	252.71	.59
1242.03	1.10	11.20	1241.78	-464.56	-3.29	-11.09	3.20	11.57	253.50	.72
1251.05	.90	357.50	1250.80	-473.58	-3.13	-11.08	3.04	11.51	254.22	1.03
1261.27	.30	241.10	1261.02	-483.80	-3.06	-11.10	2.98	11.52	254.58	3.13
1270.88	3.10	184.80	1270.62	-493.40	-3.33	-11.15	3.25	11.64	253.35	9.19
1280.49	8.10	174.60	1280.18	-502.96	-4.27	-11.11	4.18	11.90	248.98	15.85
1308.50	22.50	169.10	1307.13	-529.91	-11.53	-9.90	11.46	15.20	220.64	15.48
1318.11	26.40	169.20	1315.88	-538.66	-15.44	-9.15	15.37	17.95	210.66	12.18
1326.35	27.90	169.90	1323.21	-545.99	-19.14	-8.47	19.07	20.93	203.88	5.58
1335.37	29.00	167.80	1331.14	-553.92	-23.35	-7.64	23.29	24.57	198.11	4.94
1344.56	31.80	165.90	1339.06	-561.85	-27.88	-6.58	27.83	28.64	193.28	9.66
1354.16	35.50	165.20	1347.06	-569.84	-33.03	-5.25	32.99	33.44	189.03	11.63
1364.77	39.30	165.70	1355.48	-578.26	-39.27	-3.63	39.24	39.43	185.28	10.78
1373.38	43.20	165.30	1361.95	-584.73	-44.76	-2.21	44.74	44.82	182.83	13.62
1382.48	46.50	166.70	1368.41	-591.19	-50.99	-.66	50.98	50.99	180.74	11.36
1392.09	50.00	167.90	1374.80	-597.58	-57.98	.91	57.99	57.99	179.10	11.28
1401.71	52.90	168.90	1380.80	-603.58	-65.35	2.43	65.37	65.39	177.87	9.37
1411.33	55.30	171.60	1386.44	-609.22	-73.03	3.74	73.06	73.12	177.07	10.13
1420.94	58.30	172.80	1391.70	-614.48	-80.99	4.83	81.03	81.14	176.59	9.88
1430.55	60.90	173.80	1396.56	-619.34	-89.23	5.80	89.27	89.41	176.28	8.55
1439.72	63.90	175.70	1400.81	-623.59	-97.32	6.54	97.37	97.54	176.16	11.25
1449.11	67.10	175.70	1404.71	-627.49	-105.84	7.18	105.89	106.08	176.12	10.22
1458.27	70.20	175.60	1408.04	-630.82	-114.34	7.83	114.40	114.61	176.08	10.16
1467.89	73.10	175.50	1411.07	-633.85	-123.44	8.54	123.51	123.74	176.04	9.05
1477.50	75.30	176.60	1413.68	-636.46	-132.67	9.17	132.74	132.99	176.05	7.62
1486.90	77.50	178.80	1415.89	-638.67	-141.80	9.54	141.87	142.12	176.15	9.79
1496.52	78.00	179.90	1417.94	-640.72	-151.20	9.64	151.27	151.50	176.35	3.70
1506.12	80.20	180.70	1419.75	-642.53	-160.62	9.59	160.69	160.91	176.58	7.30
1519.00	84.80	181.20	1421.43	-644.21	-173.39	9.38	173.46	173.64	176.90	10.78
1543.85	87.90	182.00	1423.01	-645.79	-198.17	8.69	198.24	198.36	177.49	3.86
1553.49	87.70	182.20	1423.38	-646.16	-207.80	8.34	207.86	207.97	177.70	.88
1562.66	89.70	181.40	1423.59	-646.37	-216.96	8.05	217.02	217.11	177.88	7.05

1572.22	91.60	181.20	1423.48	-646.26	-226.52	7.83	226.58	226.66	178.02	5.99
1581.39	92.30	180.50	1423.17	-645.95	-235.68	7.70	235.74	235.81	178.13	3.24
1591.02	92.30	180.40	1422.78	-645.57	-245.31	7.62	245.36	245.42	178.22	.31
1600.66	90.50	180.60	1422.55	-645.33	-254.94	7.54	254.99	255.05	178.31	5.64
1609.80	90.50	180.70	1422.47	-645.25	-264.08	7.43	264.13	264.19	178.39	.33
1619.43	90.50	180.70	1422.39	-645.17	-273.71	7.32	273.76	273.81	178.47	.00
1629.13	89.80	181.50	1422.36	-645.14	-283.41	7.13	283.45	283.50	178.56	3.29
1638.51	89.10	181.00	1422.45	-645.23	-292.78	6.92	292.83	292.87	178.65	2.75
1648.13	89.00	181.40	1422.61	-645.39	-302.40	6.72	302.44	302.48	178.73	1.29
1657.74	88.40	181.40	1422.83	-645.61	-312.01	6.49	312.05	312.07	178.81	1.87
1667.34	88.80	180.00	1423.06	-645.84	-321.60	6.37	321.64	321.67	178.87	4.55
1676.69	88.40	180.60	1423.29	-646.07	-330.95	6.32	330.99	331.01	178.91	2.31
1686.30	89.20	180.00	1423.49	-646.27	-340.56	6.27	340.60	340.61	178.94	3.12
1695.95	88.80	179.90	1423.66	-646.44	-350.21	6.28	350.24	350.26	178.97	1.28
1705.54	89.80	179.90	1423.78	-646.56	-359.79	6.30	359.83	359.85	179.00	3.13
1715.15	89.00	179.50	1423.88	-646.66	-369.40	6.35	369.44	369.46	179.02	2.79
1724.79	91.00	179.20	1423.88	-646.66	-379.04	6.46	379.08	379.10	179.02	6.29
1734.41	93.00	179.30	1423.54	-646.32	-388.66	6.58	388.69	388.71	179.03	6.24
1744.02	93.80	178.70	1422.97	-645.75	-398.25	6.75	398.29	398.30	179.03	3.12
1753.64	92.90	179.30	1422.41	-645.19	-407.85	6.92	407.89	407.91	179.03	3.37
1763.29	92.00	179.90	1422.00	-644.78	-417.49	6.98	417.53	417.55	179.04	3.36
1772.91	91.60	179.80	1421.70	-644.48	-427.10	7.01	427.15	427.16	179.06	1.29
1782.52	91.90	179.40	1421.40	-644.18	-436.71	7.08	436.75	436.77	179.07	1.56
1792.12	91.90	180.00	1421.08	-643.86	-446.30	7.13	446.35	446.36	179.09	1.87
1801.74	90.90	179.60	1420.85	-643.63	-455.92	7.16	455.96	455.98	179.10	3.36
1811.39	90.20	179.90	1420.76	-643.54	-465.57	7.20	465.61	465.63	179.11	2.37
1820.67	89.80	180.90	1420.76	-643.54	-474.85	7.14	474.89	474.90	179.14	3.48
1830.31	90.20	180.90	1420.76	-643.54	-484.49	6.99	484.53	484.54	179.17	1.24
1839.94	91.60	181.30	1420.61	-643.39	-494.12	6.80	494.15	494.16	179.21	4.54
1849.11	91.30	180.70	1420.37	-643.15	-503.28	6.64	503.32	503.33	179.24	2.19
1858.74	89.90	181.10	1420.27	-643.05	-512.91	6.49	512.94	512.95	179.27	4.54
1868.15	89.20	181.10	1420.35	-643.13	-522.32	6.31	522.35	522.36	179.31	2.23
1877.78	89.10	180.00	1420.49	-643.27	-531.95	6.22	531.98	531.98	179.33	3.44
1887.42	88.40	180.60	1420.70	-643.48	-541.58	6.17	541.62	541.62	179.35	2.87
1897.02	88.30	180.90	1420.98	-643.76	-551.18	6.04	551.21	551.21	179.37	.99
1906.68	88.30	180.90	1421.26	-644.04	-560.83	5.89	560.86	560.86	179.40	.00
1915.87	88.80	180.30	1421.49	-644.27	-570.02	5.79	570.05	570.05	179.42	2.55
1925.50	89.40	179.40	1421.65	-644.43	-579.65	5.82	579.68	579.68	179.42	3.37
1935.14	88.70	179.10	1421.81	-644.59	-589.29	5.95	589.31	589.32	179.42	2.37
1944.77	88.30	179.10	1422.06	-644.84	-598.91	6.10	598.94	598.94	179.42	1.25
1954.40	88.90	178.90	1422.29	-645.07	-608.54	6.26	608.57	608.57	179.41	1.97
1964.03	88.90	179.00	1422.48	-645.26	-618.16	6.44	618.20	618.20	179.40	.31
1973.50	89.90	178.50	1422.58	-645.36	-627.63	6.65	627.66	627.67	179.39	3.54
1982.91	90.60	178.20	1422.54	-645.32	-637.04	6.92	637.07	637.07	179.38	2.43
1992.27	90.40	178.40	1422.45	-645.23	-646.39	7.20	646.43	646.43	179.36	.91
2001.45	89.90	177.70	1422.43	-645.21	-655.57	7.51	655.61	655.61	179.34	2.81
2011.07	89.70	177.70	1422.46	-645.24	-665.18	7.89	665.22	665.23	179.32	.62
2020.29	90.70	177.90	1422.43	-645.21	-674.39	8.25	674.44	674.44	179.30	3.32
2029.52	90.30	177.10	1422.35	-645.13	-683.61	8.65	683.66	683.67	179.27	2.91
2039.12	90.20	177.60	1422.31	-645.09	-693.20	9.09	693.25	693.26	179.25	1.59

2048.74	89.40	176.50	1422.34	-645.12	-702.81	9.59	702.86	702.87	179.22	4.24
2057.97	89.20	177.00	1422.46	-645.24	-712.02	10.11	712.08	712.10	179.19	1.75
2067.55	89.60	176.90	1422.56	-645.34	-721.59	10.62	721.65	721.67	179.16	1.29
2076.91	89.30	176.90	1422.65	-645.43	-730.94	11.13	731.00	731.02	179.13	.96
2086.54	90.00	176.90	1422.70	-645.48	-740.55	11.65	740.62	740.64	179.10	2.18
2096.17	90.60	177.50	1422.65	-645.43	-750.17	12.12	750.24	750.27	179.07	2.64
2105.79	90.60	178.20	1422.55	-645.33	-759.78	12.48	759.86	759.88	179.06	2.18
2115.40	90.70	177.90	1422.44	-645.22	-769.39	12.81	769.46	769.49	179.05	.99
2125.05	91.10	178.10	1422.29	-645.07	-779.03	13.14	779.11	779.14	179.03	1.39
2134.41	91.40	178.70	1422.09	-644.87	-788.38	13.41	788.46	788.50	179.03	2.15
2144.02	91.70	178.60	1421.83	-644.61	-797.99	13.63	798.07	798.10	179.02	.99
2153.21	92.00	178.80	1421.53	-644.31	-807.17	13.84	807.25	807.29	179.02	1.18
2162.85	92.30	178.10	1421.17	-643.95	-816.80	14.10	816.88	816.92	179.01	2.37
2172.48	92.30	177.70	1420.78	-643.56	-826.41	14.45	826.50	826.54	179.00	1.25
2182.11	92.70	178.80	1420.36	-643.14	-836.03	14.75	836.12	836.16	178.99	3.64
2191.53	92.60	178.40	1419.93	-642.71	-845.44	14.98	845.53	845.57	178.99	1.31
2201.12	92.30	179.10	1419.52	-642.30	-855.02	15.19	855.11	855.15	178.98	2.38
2210.74	91.70	179.70	1419.18	-641.96	-864.63	15.29	864.72	864.77	178.99	2.65
2220.37	90.30	179.50	1419.01	-641.79	-874.26	15.35	874.35	874.39	178.99	4.41
2229.98	90.40	180.40	1418.96	-641.74	-883.87	15.36	883.96	884.00	179.00	2.83
2239.60	90.10	179.90	1418.91	-641.69	-893.49	15.34	893.58	893.62	179.02	1.82
2249.26	89.50	180.90	1418.95	-641.73	-903.15	15.27	903.24	903.28	179.03	3.62
2258.88	89.00	182.10	1419.07	-641.85	-912.76	15.02	912.85	912.89	179.06	4.05
2268.51	89.50	182.20	1419.20	-641.98	-922.39	14.66	922.47	922.50	179.09	1.59
2278.19	89.90	182.10	1419.25	-642.03	-932.06	14.29	932.14	932.17	179.12	1.28
2287.56	88.80	182.10	1419.36	-642.14	-941.42	13.95	941.50	941.53	179.15	3.52
2297.19	87.80	182.90	1419.64	-642.42	-951.04	13.53	951.12	951.13	179.18	3.99
2306.79	88.10	182.90	1419.99	-642.77	-960.62	13.05	960.69	960.71	179.22	.94
2316.43	88.80	183.50	1420.25	-643.03	-970.24	12.51	970.31	970.32	179.26	2.87
2325.56	89.20	183.60	1420.41	-643.19	-979.35	11.94	979.42	979.43	179.30	1.35
2335.04	88.00	183.90	1420.64	-643.42	-988.81	11.32	988.87	988.87	179.34	3.91
2344.64	87.30	183.50	1421.03	-643.81	-998.38	10.70	998.43	998.44	179.39	2.52
2354.26	87.30	183.30	1421.48	-644.26	-1007.97	10.13	1008.02	1008.02	179.42	.62
2363.95	87.80	183.20	1421.90	-644.68	-1017.64	9.58	1017.68	1017.68	179.46	1.58
2373.55	88.00	182.50	1422.25	-645.03	-1027.22	9.11	1027.26	1027.26	179.49	2.27
2382.95	88.80	182.10	1422.51	-645.29	-1036.61	8.73	1036.65	1036.65	179.52	2.85
2392.56	88.50	182.40	1422.74	-645.52	-1046.21	8.35	1046.24	1046.24	179.54	1.32
2402.14	89.30	181.80	1422.92	-645.70	-1055.78	8.00	1055.81	1055.81	179.57	3.13
2411.84	89.20	181.70	1423.05	-645.83	-1065.48	7.71	1065.50	1065.50	179.59	.44
2421.00	90.70	181.40	1423.06	-645.84	-1074.63	7.46	1074.66	1074.66	179.60	5.01
2430.38	90.80	181.40	1422.94	-645.72	-1084.01	7.23	1084.03	1084.03	179.62	.32
2439.97	90.50	180.90	1422.83	-645.61	-1093.60	7.04	1093.62	1093.62	179.63	1.82
2449.59	90.80	180.80	1422.72	-645.50	-1103.21	6.89	1103.23	1103.24	179.64	.99
2458.89	91.30	180.40	1422.55	-645.33	-1112.51	6.80	1112.53	1112.53	179.65	2.07
2468.55	91.90	180.40	1422.28	-645.06	-1122.17	6.73	1122.19	1122.19	179.66	1.86
2478.15	91.00	180.50	1422.03	-644.81	-1131.76	6.65	1131.78	1131.78	179.66	2.83
2487.23	91.00	180.20	1421.88	-644.66	-1140.84	6.60	1140.86	1140.86	179.67	.99
2496.85	90.60	180.60	1421.74	-644.52	-1150.46	6.53	1150.48	1150.48	179.67	1.76
2506.46	90.80	180.60	1421.62	-644.40	-1160.07	6.43	1160.08	1160.09	179.68	.62

2516.09	90.90	180.20	1421.48	-644.26	-1169.70	6.36	1169.71	1169.72	179.69	1.28
2519.00	91.00	180.50	1421.43	-644.21	-1172.61	6.35	1172.62	1172.63	179.69	3.26
PROJECTION TO TD										
2534.00	91.00	180.50	1421.17	-643.95	-1187.61	6.22	1187.62	1187.62	179.70	.00

**DAILY DRILLING OPERATIONS SUMMARY**  
**Para et al Cameron 2H-03**

**DAILY DRILLING SUMMARY**

Date	Depth m.			Daily Operations Summary
	From	To	Progress	
21-Jan-11	27	223	196	Left Calgary. Arrived in High Level. Stayed in High Level.
22-Jan-11	223	361	138	Left High Level Arrived on location. Rig drilled from 223m to surface TD of 361. Wiper trip. Worked tight spots. Start POOH.
23-Jan-11	361	361	0	Ran surface casing. Worked tight spots. Cement casing. W.O.C. Welding work etc.
24-Jan-11	361	361	0	Nipple up BOPS. Changed pipe rams. Performed pressure tests. Hook up Kelly hose etc. Pre Drill out safety rig inspection. Wait on bit sub. Slip & cut. Rig up Gas Detector.
25-Jan-11	361	531	170	Wait on bit sub. Made up drill assembly. RIH. Tag cement @ 343.6m. Drilled out cement, float and shoe. Drilled 222mm intermediate hole from 361 to 531m.
26-Jan-11	531	784	253	Drilled 222mm intermediate hole from 531-784m.
27-Jan-11	784	983	199	Drilled 222mm intermediate hole from 784-860m. Wiper trip to 350m. Drilled from 860 to 983m.
28-Jan-11	983	1107	124	Drilled 222mm intermediate hole from 983-1000m. Jacked sub with rig Jackers. Drilled from 1000 to 1022m. Jacked sub To level the rig. Drilled from 1022 to 1107m.
29-Jan-11	1107	1121	14	Drilled 222mm intermediate hole 1107 to 1114m. Circulated. POOH. Made tri cone bit. RIH. Circulated hole clean. Prepared to skid the rig. Skid & relevelled the rig. Rig up front end of rig. Pressure tested HCR line. Drilled 222mm from 1114 to 1121m.
30-Jan-11	1121	1222	101	Drilled 222mm intermediate hole from 1121-1136m. Worked tight spot. Drilled 1136-1145. Worked tight spots. Drilled 1145-1154. Worked tight spots. Drilled 1154-1222m.

31-Jan-11	1222	1240	18	Drilled 222mm intermediate hole from 1222-1240m. Circulate. POOH. Pick up directional tools. RIH with directional tools to 950m while surveying and reaming tight spots.
01-Feb-11	1240	1280	40	RIH with directional tools from 950-1240m while surveying and reaming tight spots. Drilled 222mm intermediate hole from 1240 to 1280m. Changed breaker in light plant. Pason crashed. Wait on hot shot to bring pason main computer.
02-Feb-11	1280	1333	53	Replaced pason's main computer. Drilled 222mm intermediate hole from 1280 to 1333m. Rig started sinking again. Suspended drilling. Started moving associated equipment, tanks etc and prepared to put additional mating. The operation continued.
03-Feb-11	1333	1333	0	Completed Jacking/skidding of the rig. Spotted back dog house, mud tanks, cat walk etc. Install flow line. Conditioned mud and circulated. Started POOH to lay down drill pipes. Rig out Gas detector.
04-Feb-11	1333	1333	0	Complete POOH. Ran and pressure tested bridge plugs. Start tearing down rig to move to E-52. Drilling of 2H-03 to be resumed after rebuilding of the lease.
16-Feb-11	1333	1333	0	Left Calgary & arrived on location. The rig moved back to location from E-52. Wait on Day light.
17-Feb-11	1333	1333	0	Wait on Day light. Spot mats and the rig. Moved shacks and rentals to location. Rig up steam, air and power. Rig in mud tanks and mud pumps. Raised lower section of derrick.
18-Feb-11	1333	1333	0	Worked on draw works. Warm up & Nipple up BOPS and various lines. Raised top section of derrick. Displaced diesel fuel from the well. Pressure tested manifold. Started pressure testing BOPS. Rig up and tested gas detector.
19-Feb-11	1333	1333	0	Completed pressure testing. Pick up retrieving assembly and heavy weight. RIH. Retrieved both bridge plugs one by one. Slip and cut drill line. Made up directional tools. Made up lower Kelly cock. RIH to 446m. Reamed from 363 to 446m.
20-Feb-11	1333	1333	0	RIH with directional tools from MD 446 to 1327m while reaming and cleaning the hole.
21-Feb-11	1333	1416	83	RIH from 1327 to 1333m. Drilled 222mm intermediate hole from 1333 to 1416m.

22-Feb-11	1416	1424	8	Drilled 222mm intermediate hole from 1416 to 1424m. POOH for bit. Part of the mud motor assembly and the bit fell in the well while coming out. RIH for clean out trip. Fish top @ 1416.84m. Started POOH to pick up fishing tools. POOH to 711m.
23-Feb-11	1424	1424	0	POOH from 711m to surface. Make up fishing tools. Run in the hole to 1416m. Latch on to the fish. POOH. No fish. Wait on orders and rig repair. Made up milling tool for dressing up of top of the fish. RIH to 376m.
24-Feb-11	1424	1424	0	RIH to 1376 to 1416mm. Dressed up top of the fish with mill. Circulated. POOH. Made up over shot and grapple. RIH to fish part of the mud motor string and bit. Made attempts to latch on to fish but unable to get on to it. Started POOH to change fishing assembly.
25-Feb-11	1424	1424	0	POOH from 1360 to surface to change fishing tools. Wait on different fishing tools. Made up different fishing assembly and started running in the hole. Reamed and washed from 1351 to 1398m.
26-Feb-11	1424	1424	0	Reamed and washed from 1398 to 1417m. Rotated washed over fish. Tried to latch on to fish. POOH. No fish. Slip & cut. RIH to 1296m to try catching the fish again..
27-Feb-11	1424	1424	0	RIH to 1296 to 2418m. Attempted to catch the fish. Fish could not be caught. POOH. RIH open ended to run cement plugs. Wait on cementers. Ran cement plugs. POOH.
28-Feb-11	1424	1333	0	Made up directional tools. RIH. Reamed/washed from 847 to 1290m. Drilled cement from 1290 to 1303m. Worked on Pason.
01-Mar-11	1333	1338	5	Drilled cement from 1303 to 1331m. Replaced aerated mud with fresh mud. Mixed defoamer. Drilled to 1333m. Well side tracked from 1333m. Control drilled from 1333 to 1338m. Examined samples every 0.5m for any cement content during controlled drilling.
02-Mar-11	1338	1413	75	Drilled 222mm intermediate hole from 1338-1413m. Examined 0.5m and 2.5m samples for any cement content from 1338 to 1350m.
03-Mar-11	1413	1503	90	Drilled 222mm intermediate build section hole from 1413-1503m.
04-Mar-11	1503	1534	31	Drilled 222mm intermediate build section hole from 1503 to landing point of 1534m. Circulated. Wiper trip to surface. Laid down directional tools.

05-Mar-11	1534	1534	0	Install and then remove rubber spacer from flow-T. RIH. Laid down 8 singles. Ream and clean from 1330 to 1534m. Condition mud and circulate. POOH to 1410. Worked the string free. POOH to 1328m. Reamed and washed to 1403m. Mixed one sack of gel every 2 minutes.
06-Mar-11	1534	1534	0	Reamed and washed to 1534m. Mixed one sack of gel every 2 minutes. Circulate bottoms up. POOH. Ran intermediate casing from 0.0 to 1378m. Washed casing from 1378 to 1420m. Second Geologist arrived on location.
07-Mar-11	1534	1534	0	Washed casing from 1420 to bottom. Ran , circulated and cemented intermediate casing. W.O.C. Welding work. Start pressure testing. Wait casing slips seal assembly. Cleaned mud tanks. Start nipple up BOPS.
08-Mar-11	1534	1545	11	Completed nippling up of BOPS. Performed pressure test. Made up directional tools. RIH. Drilled out intermediate casing cement. Drilled 156mm horizontal hole from 1534 to 1545m.
09-Mar-11	1545	1767	222	Drilled 156mm horizontal hole from 1545-1767m.
10-Mar-11	1767	1922	155	Drilled 156mm horizontal hole from 1767-1922m.
11-Mar-11	1922	2082	160	Drilled 156mm horizontal hole from 1922-2082m. Circulated bottoms up. Start POOH for bit and pipe swap trip. POOH from 2082 to 1794m.
12-Mar-11	2082	2088	6	POOH from 1794m to surface. Laid down directional tools. Made up directional tools and bit # 7. RIH to 1236m. RIH to bottom while reaming and washing numerous tight spots. Drilled 156mm horizontal hole 2083 to 2088m.
13-Mar-11	2088	2209	121	Drilled 156mm horizontal hole from 2088 to 2209m.
14-Mar-11	2209	2333	124	Drilled 156mm horizontal hole from 2209 to 2333m.
15-Mar-11	2333	2526	193	Drilled 156mm horizontal hole from 2333 to 2526m.
16-Mar-11	2526	2534	8	Drilled 156mm horizontal hole from 2526-2534m. TD. POOH. Laid down directional tools. Made up reaming tools. Start RIH. Ream and clean to 1635m. Drift each single as it is picked from the catwalk. Second Geologist Left wellsite for Calgary.
17-Mar-11	2534	2534	0	Ream and clean 1635 to 2228m. Drift each single as it is picked from the catwalk.
18-Mar-11	2534	2537	0	Ream and clean 2228 to 2537m. Drilled to 2537 while reaming. Pumped down logging tools. Started logging while tripping. POOH to 1150m.
19-Mar-11	2537	2537	0	Trip out of the hole 1150 to 943m. Recovered logging tools stuck in the drill pipe. RIH to bottom. Pick up logging tools. Pumped down logging tools. Rig up surface logging equipment and check shot. Logged while

				tripping from 2535m to surface. Laid down logging tools and radioactive source. Started rig up to run liner.
20-Mar-11	2537	2537	0	Rig up to run liner. Made up packer BHA. Ran liner with packer assembly from surface to 980m. Ran casing from 980 to 2528m. Pump 11m3 water in the hole. Set open hole packers and bleed off drill pipe. Pull out of the liner, circulate and displace annulus with water. POOH and laid down pipe to 435m. Rig out gas detector.
21-Mar-11	2537	2537	0	POOH and laid down pipe from 435m to 0m. Laid down tubing hanger. Nipple down BOPS. Tear down rig. Moved Rig and trailers to E-52.

**PARA ET AL CAMERON 2H-03****Unit 2H Section 03****Grid 60° 10' 117° 30'****SAMPLE RECORD**

KB: 777.22m

**HAY RIVER FORMATION**

1195-1200 SHALE 90% dark grey, black, micromicaceous, part calcareous, part marly, medium hard, fissile-subfissile, part splintery. LIMESTONE 10% grey, micritic-very fine grained, mudstone, argillaceous, dense, estimated 3% earthy porosity, no visible shows.

1200-1205 SHALE 95% dark grey, black, micromicaceous, part calcareous, part marly, medium hard, part carbonaceous, fissile-subfissile. LIMESTONE 05% grey, light brown, micritic-very fine grained, mudstone, argillaceous, dense, trace pyrite, estimated 3% earthy porosity, no visible shows.

1205-1210 SHALE 100% dark grey, black, micromicaceous, part calcareous, medium hard, part carbonaceous, fissile-subfissile. LIMESTONE MINOR grey, light brown, micritic-very fine grained, mudstone, argillaceous, dense, estimated 3% earthy porosity, no visible shows.

1210-1215 SHALE 100% dark grey, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, fissile-subfissile. LIMESTONE MINOR grey, light brown, micritic-very fine grained, mudstone, argillaceous, dense, estimated 3% earthy porosity, no visible shows.

1215-1220 SHALE 100% dark grey, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, fissile-subfissile. Minor LIMESTONE as above.

1220-1225 SHALE 100% dark grey, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, some pyrite nodules, fissile-subfissile. LIMESTONE MINOR grey, light brown, micritic-very fine grained, mudstone, argillaceous, dense, estimated 3% earthy porosity, no visible shows.

1225-1230 SHALE 100% dark grey, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, some pyrite nodules, fissile-subfissile. LIMESTONE MINOR grey, light brown, micritic-very fine grained, mudstone, argillaceous, dense, estimated 3% earthy porosity, no visible shows.

1230-1235 SHALE 100% dark grey, gray, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, trace pyrite nodules, fissile-subfissile, part splintery. Trace limestone.

1235-1240 SHALE 100% dark grey, gray, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, fissile-subfissile, part splintery.

TRIP TO PICK UP DIRECTIONAL TOOLS FROM 0315HRS ON JAN. 31 TO 0345HRS  
ON FEB. 01, 2011.

1240-1245 SHALE 100% dark grey, gray, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, fissile-subfissile, part splintery, Minor Limestone. Poor sample. Lot of cavings after the trip.

1245-1250 SHALE 100% dark grey, black, micromicaceous, part calcareous, medium hard, part carbonaceous, trace pyritic, fissile-subfissile.

1250-1255 SHALE 100% grey, dark grey, black, micromicaceous, calcareous, medium hard, part carbonaceous, trace pyritic, fissile-subfissile, part blocky, part splintery, Trace Limestone.

1255-1260 SHALE 100% grey, dark grey, black, micromicaceous, calcareous, medium hard, part carbonaceous, trace pyritic, fissile-subfissile, part blocky.

1260-1265 SHALE 100% grey, dark grey, black, micromicaceous, calcareous, medium hard, part carbonaceous, pyritic, trace pyrite nodule, fissile-subfissile, part blocky.

START OF BUILD/ KICK OFF POINT 1266m MD

1265-1270 SHALE 100% grey, dark grey, black, micromicaceous, calcareous, hard to medium hard, part carbonaceous, pyritic, fissile-subfissile, part blocky, part splintery. Trace Limestone.

1270-1275 NO SAMPLE.

1275-1280 SHALE 70% grey, dark grey, black, micromicaceous, calcareous, hard to medium hard, part carbonaceous, pyritic, fissile-subfissile, part blocky. LIMESTONE 30% grey, micritic-very fine grained, mudstone, argillaceous, dense, estimated 3% earthy porosity, no visible shows. Some mud materials in the sample.

1280-1285 SHALE 100% grey, dark grey, black, micromicaceous, calcareous, hard to medium hard, part carbonaceous, pyritic, trace pyrite nodule, trace coal, fissile-subfissile. Trace Limestone.

1285-1295 SHALE 100% grey, dark grey, black, minor gray brown, micromicaceous, calcareous, hard to medium hard, part carbonaceous, pyritic, trace pyrite nodule, fissile-subfissile.

1295-1300 SHALE 100% grey, dark grey, black, minor gray brown, micromicaceous, calcareous, hard to medium hard, minor carbonaceous, pyritic, trace pyrite nodules, fissile-subfissile.

1300-1305 SHALE 100% grey, black, dark grey, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, trace pyrite nodules, fissile-subfissile. Trace Limestone.

1305-1310 SHALE 100% grey, dark grey, black, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, trace pyrite nodules, fissile-subfissile.

1310-1315 SHALE 100% grey, dark grey, black, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, common pyrite nodules, fissile-subfissile. Trace Limestone.

1315-1320 SHALE 100% grey, dark grey, black, trace brown, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, common pyrite nodules, fissile-subfissile. TRACE LIMESTONE light grey, light brown, mudstone, micritic, microcrystalline- very fine crystalline, argillaceous, dense, tight, 0-3% earthy porosity, no shows.

1320-1325 SHALE 100% grey, dark grey, black, minor black brown, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, common pyrite nodules, fissile-subfissile, part blocky, part platy. TRACE-MINOR LIMESTONE light grey, mudstone, micritic, microcrystalline- very fine crystalline, argillaceous, dense, tight, estimated 3% earthy porosity, no shows.

#### TOP BEAVER HILL LK. MD 1325m TVD 1322m (-544.78m)

1325-1330 SHALE 95% dark grey, black, minor black brown, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, common pyrite nodules, fissile-subfissile, part blocky, part platy. LIMESTONE 5% light grey, mudstone, micritic, microcrystalline- very fine crystalline, argillaceous, pyritic, dense, tight, estimated 3% earthy porosity, no shows.

1330-1335 SHALE 90% dark grey, black, minor black brown, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, trace pyrite nodules, fissile-subfissile, part blocky, part splintery. LIMESTONE 10% light grey, light brown, mudstone, micritic, microcrystalline, rare chip fine crystalline, argillaceous, estimated 3% earthy porosity, no shows.

DRILLING SUSPENDED at 1533m MD ON FEB. 02, 2011 TO REBUILD THE LEASE.

DRILLING RESUMED ON FEB. 21, 2011 @ 0100HRS

1335-1340 SHALE 100% dark grey, black, hard to medium hard, micromicaceous, calcareous, part carbonaceous, pyritic, common pyrite nodules, fissile-subfissile. LIMESTONE MINOR TO 5% light grey, mudstone, micritic, microcrystalline, argillaceous, estimated 3% earthy porosity, no shows.

1340-1345 SHALE 95% grey, dark grey, black, hard to medium hard, micromicaceous, calcareous, minor carbonaceous, pyritic, some pyrite nodules, fissile-subfissile, part blocky. LIMESTONE 5% light grey, mudstone, micritic, microcrystalline, argillaceous, estimated 3% earthy porosity, no shows.

1345-1350 SHALE 90% grey, dark grey, black, hard to medium hard, micromicaceous, calcareous, part grading to marlstone, minor carbonaceous, pyritic, some pyrite nodules, fissile-subfissile, part blocky. LIMESTONE 10% light grey, trace brown, mudstone, micritic, microcrystalline, argillaceous, part pyritic, estimated 3% earthy porosity, no shows.

TOP SLAVE POINT MD 1353m TVD 1346m (-568.78m)

1350-1355 SHALE 60% as above. LIMESTONE 30% brown, mudstone, micritic, microcrystalline, estimated 3% earthy porosity, no visible shows. LIMESTONE 10% light grey, white, mudstone, dense, pyritic.

1355-1360 LIMESTONE 100% brown, mudstone, micritic, dense, cryptocrystalline to trace very fine crystalline, pyritic, trace pyrite nodules, tight, 3% earthy porosity, yellow white fair streaming cut.

1360-1365 LIMESTONE 100% brown, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-very fine crystalline, pyritic, trace free crystal, tight, 0-3% earthy porosity, yellow white fair streaming cut. Faint petroliferous odour.

1365-1370 LIMESTONE 100% brown, mudstone-wakestone, cryptocrystalline- very fine crystalline, traces pyritic, rare free crystal, estimated 3% pin point porosity, yellow white fair-good streaming cut. Gives petroliferous odour.

1370-1375 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, trace pyritic, trace dolomitic, estimated 3% earthy and pin point porosity, yellow white fair-good streaming cut, gives petriliferous odour.

1375-1380 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, trace pyritic, trace dolomitic, trace free crystal, estimated 3-6% earthy and pin point porosity, yellow white good streaming cut, gives petriliferous odour.

1380-1385 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, traces pyritic and dolomitic, trace pyrite nodules, rare anhydrite, estimated 3-6% earthy and pin point porosity, yellow white good streaming cut, gives petriferous odour.

1385-1390 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, traces pyritic, trace dolomitic, trace carbonaceous, rare Anhydrite, estimated 3% earthy and pin point porosity, yellow white good streaming cut. Trace Calcareous Dolomite.

1390-1395 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, traces pyritic, some pyrite nodules, carbonaceous partings, estimated 3% earthy and pin point porosity, yellow white good streaming cut. Trace Dolomite, Trace Anhydrite.

1395-1400 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, traces pyritic, some pyrite nodules, tight, estimated 3% earthy and pin point porosity, yellow white good streaming cut. Trace Dolomite.

1400-1405 LIMESTONE 100% as above.

DOLOMITE, CALCAREOUS MINOR brown, microcrystalline to very fine crystalline, calcareous, rare silty shale, estimated 3-9% intercrystalline and pin point porosity, yellow white good streaming cut. TRACE ANHYDRITE white, tan, hard, dense, calcareous.

TOP F-4 MD 1412m TVD 1387m (SS – 609.78m)

1405-1410 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, trace pyritic, estimated 3% earthy and pin point porosity, no visible to poor slow cut. Minor Dolomite, Trace Anhydrite.

1410-1415 LIMESTONE 100% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, trace pyritic, estimated 3% earthy and pin point porosity, good slow streaming cut. Trace Dolomite, Trace Anhydrite.

1415-1420 LIMESTONE 100% brown, mudstone-wakestone, lumpy, cryptocrystalline-minor very fine crystalline, traces pyritic, estimated 3% intergranular and pin point porosity, yellow white good slow streaming cut.

SHALE TRACE green, waxy-silky, medium hard-hard, micaceous, calcareous, pyritic, fissile-blocky.

1420-1424 LIMESTONE 100% brown, mudstone-wakestone, lumpy, cryptocrystalline-minor very fine crystalline, traces pyritic, estimated 3% intergranular and pin point porosity, yellow white fair slow streaming cut.

SHALE TRACE green, waxy-silky, medium hard-hard, micaceous, calcareous, pyritic, fissile-blocky. Minor Dolomite and Traces Anhydrite from above.

TOP WATT MTN. MD 1425.5m TVD 1394m (SS -616.78m)

1424-1430 LIMESTONE 60% brown, buff, mudstone-wakestone, trace grainstone, micritic, lumpy, dense, cryptocrystalline- very fine crystalline, pyritic, estimated 0-3% earthy and pin point porosity, no visible shows. SHALE 40% grey, dark grey caving. Trace Dolomite, Trace green Shale. Poor sample. Shale cavings.

TOP SULPHUR PT. LST. MD 1433m TVD 1397.5m (SS -620.28m)

1430-1435 LIMESTONE 70% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, trace pyrite nodules, estimated 3% earthy and pin point porosity, poor slow yellow white cut. SHALE 30% as above, caving, Trace green Shale.

1435-1440 LIMESTONE 70% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, trace dolomitic, trace pyrite nodules, estimated 3% earthy and pin point porosity, part fair slow yellow white cut. SHALE 30% as above, caving. Trace Green Shale.

1440-1445 LIMESTONE 80% brown, buff, mudstone-wakestone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, Trace pyrite nodules, estimated 3% earthy and pin point porosity, fair slow yellow white cut. SHALE 20% grey. MINOR GREEN SHALE medium hard to hard, calcareous, pyritic. Poor samples, cavings from above.

1445-1450 LIMESTONE 80% brown, mudstone-wakestone, occasional grainstone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, occasional dolomitic, estimated 3% earthy and pin point porosity, fair slow yellow white cut. SHALE 20% grey, dark grey. Minor green shale. Poor samples, cavings from above.

1450-1455 LIMESTONE 80% brown, buff, mudstone-wakestone, occasional grainstone, micritic, lumpy, dense, cryptocrystalline-minor very fine crystalline, occasional dolomitic, trace pyritic, estimated 3-6% earthy and pin point porosity, yellow white streaming cut. TRACE Calc Dolomite. SHALE 20% grey, dark grey. Minor green shale. Poor samples, cavings from above.

1455-1460 LIMESTONE 70% brown, buff, mudstone-wakestone, occasional grainstone, micritic, lumpy, dense, cryptocrystalline-trace very fine crystalline, occasional dolomitic, trace pyritic, estimated 3% earthy and pin point porosity, yellow white streaming cut. SHALE 30% grey and green as above cavings.

1460-1465 LIMESTONE 80% brown, buff, mudstone-wakestone, rare grainstone, micritic, lumpy, dense, cryptocrystalline-trace very fine crystalline, trace dolomitic, trace

pyritie nodule, estimated 3% earthy and pin point porosity, yellow white streaming cut. SHALE 20% grey and green as above caving.

1465-1470 LIMESTONE 80% brown, buff, mudstone-wakestone, rare grainstone, micritic, lumpy, dense, cryptocrystalline-trace very fine crystalline, traces dolomitic, estimated 3% earthy and pin point porosity, yellow white good streaming cut. SHALE 20% grey and green as above caving.

1470-1475 LIMESTONE 80% brown, buff, mudstone-wakestone, trace grainstone, micritic, lumpy, dense, cryptocrystalline-very fine crystalline, traces dolomitic, Trace Calcareous Dolomite, trace free crystals, estimated 3% pin point and intercrystalline porosity, yellow white good streaming cut. SHALE 20% grey and green as above caving.

1475-1480 LIMESTONE 80% brown, buff, mudstone-wakestone, trace grainstone, micritic, lumpy, dense, cryptocrystalline-very fine crystalline, trace dolomitic, Trace Calcareous Dolomite, estimated 3% pin point and intercrystalline porosity, yellow white good streaming cut. SHALE 20% grey and green as above caving.

1480-1485 LIMESTONE 75% as above. DOLOMITE, CALCAREOUS 05% brown, grainstone-wakestone, very fine-minor fine crystalline, calcareous, trace free crystals, estimated 3-6% fracture and intercrystalline porosity, scattered bright yellow fluorescence, yellow white fair to good streaming cut. SHALE 20% grey and green as above caving.

1485-1490 LIMESTONE 90% as above, minor grainstone and calcareous. DOLOMITE, CALCAREOUS 10% brown, grainstone-wakestone, very fine-minor fine crystalline, calcareous, trace free crystals, estimated 3-6% pin point and intercrystalline porosity, yellow white good streaming cut. Some shale caving.

1490-1495 DOLOMITE, CALCAREOUS 70% brown, grainstone-wakestone, very fine-minor fine crystalline, calcareous, trace free crystals, estimated 3-6% pin point and intercrystalline porosity, yellow white good streaming cut. LIMESTONE 30% as above, part grainstone and calcareous. Some shale caving.

1495-1500 DOLOMITE 80% brown, trace dark brown, grainstone-wakestone, very fine-minor fine crystalline, part calcareous, trace free crystals, estimated 3-6% pin point and intercrystalline porosity, yellow white good streaming cut. LIMESTONE 20% as above, part grainstone and calcareous. Some shale caving.

TOP SULP PT. DOLO MD 1483.5m TVD 1415m (SS-637.78m)

1500-1505 DOLOMITE 100% brown, dark brown, grainstone-wakestone, very fine-minor fine crystalline, traces calcareous, estimated 3-6% pin point and intercrystalline porosity, yellow white good streaming cut. Minor Limestone. Some shale caving.

1505-1510 DOLOMITE 100% brown, minor dark brown, grainstone, minor wakestone, very fine-minor fine crystalline, estimated 3-6% intercrystalline porosity, yellow white good streaming cut.

1510-1515 DOLOMITE 100% brown, dark brown, grainstone, trace wakestone, very fine-minor fine crystalline, rare recrystallization, rare free crystal, estimated 3-6% intercrystalline, rare vuggy, porosity, yellow white good streaming cut.

1515-1520 DOLOMITE 100% brown, dark brown, grainstone, very fine-minor fine crystalline, estimated 3-6% intercrystalline, trace vuggy, porosity, yellow white good streaming cut.

1520-1525 DOLOMITE 100% brown, dark brown, grainstone, very fine-minor fine crystalline, estimated 3% intercrystalline, trace vuggy, porosity, yellow white good streaming cut.

1525-1530 DOLOMITE 100% brown, dark brown, grainstone, very fine-minor fine crystalline, estimated 3% intercrystalline porosity, yellow white good streaming cut

1530-1534 DOLOMITE 100% brown, dark brown, grainstone, very fine-minor fine crystalline, estimated 3-6% intercrystalline, rare vuggy, porosity, yellow white good streaming cut.

LANDED AT 1534m MD, 1422.26mTVD (SS – 645.04m) ON MARCH 04, 2011  
@1130HRS.

#### HORIZONTAL SECTION

DRILLED OUT INTERMEDIATE CASING CEMENT AND STARTED DRILLING  
HORIZONTAL SECTION ON MARCH 08, 2011 @ 2330 HRS.

1534-1540 DOLOMITE 100% buff, light to medium brown, grainstone-packstone, very fine-minor fine crystalline, trace microcrystalline, locally re-crystallized, estimated 3-6% intercrystalline and fracture porosity, yellow white good streaming cut.

TOP LOWER SULPHUR POINT DOLOMITE MD 1544m TVD 1423.02m (SS -645.8m)

1540-1550 DOLOMITE 100% light to medium brown, grainstone-packstone, very fine-fine crystalline, locally re-crystallized, estimated 3-6% intercrystalline and fracture porosity, yellow white good streaming cut.

1550-1560 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, rare free crystal, trace black shale parting, estimated 3-6% intercrystalline and fracture porosity, yellow white good streaming cut.

1560-1570 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace black shale partings, part bituminous, fair crystal relief, trace pyrite, nodules, estimated 3-6% intercrystalline porosity, yellow white good streaming cut.

1570-1580 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, local black shale partings, minor bituminous, fair crystal relief, trace pyritie nodules, estimated 3-6% intercrystalline porosity, spotty to even oil staining, yellow white good streaming cut. Faint petroliferous odour, smokes moderately when cooked.

1580-1590 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, local black shale partings, minor bituminous, fair crystal relief, trace pyritie nodules, estimated 3-6% intercrystalline porosity, even to spotty staining, yellow white good streaming cut. Faint petroliferous odour, smokes moderately when cooked.

1590-1600 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, local recrystallization, some free crystals, fair-poor crystal relief, estimated 3-6% intercrystalline porosity, even staining, yellow white good streaming cut. Faint petroliferous odour, smokes moderately when cooked.

1600-1610 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, some free crystals, fair-poor crystal relief, estimated 3-6% intercrystalline porosity, even Oil staining, yellow white good streaming cut. Faint petroliferous odour, smokes moderately when cooked.

1610-1620 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, estimated 3-6% intercrystalline and inferred occasional vuggy porosity, even Oil staining, yellow white good streaming cut. Faint petroliferous odour.

1620-1630 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace free crystals, trace pyrite, estimated 3-6% intercrystalline and inferred occasional vuggy porosity, even Oil staining, yellow white good streaming cut. Faint petroliferous odour.

1630-1640 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace free crystals, trace pyrite, estimated 3-6% intercrystalline and inferred occasional vuggy porosity, even Oil staining, yellow white good streaming cut. Faint petroliferous odour.

1640-1650 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace free crystals, trace shale partings, trace bituminous, estimated 3-6% intercrystalline and inferred occasional vuggy porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1650-1660 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace free crystals, trace shale partings, trace bituminous, estimated 3-6%

intercrystalline and inferred occasional vuggy porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1660-1670 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace free crystals, trace shale partings, trace bituminous, estimated 3-6% intercrystalline and inferred vuggy porosity, spotty to even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1670-1680 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace shale partings, trace bituminous, estimated 3-9% intercrystalline and inferred vuggy porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1680-1690 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace shale partings, trace bituminous, estimated 3-9% intercrystalline, and inferred vuggy porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1690-1700 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace shale partings, trace bituminous, estimated 3-9% intercrystalline, and inferred vuggy porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1700-1705 NO SAMPLE.

1705-1710 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, estimated 3-6% intercrystalline, and inferred vuggy porosity, even to spotty oil staining, yellow white good streaming cut. Faint petroliferous odour.

1710-1720 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, even-spotty oil staining, yellow white good streaming cut. Faint petroliferous odour.

1720-1730 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, estimated 3-6% intercrystalline porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1730-1740 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1740-1750 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, estimated 3-6% intercrystalline porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1750-1760 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, estimated 3% intercrystalline porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1760-1770 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1770-1780 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, estimated 3% intercrystalline porosity, even oil staining, yellow white good streaming cut.

1780-1790 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, trace bituminous, estimated 3% intercrystalline porosity, even oil staining, yellow white good streaming cut.

1790-1795 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, trace bituminous, trace pyrite, occasional black shale, estimated 3% intercrystalline porosity, even oil staining, yellow white good streaming cut.

1795-1800 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, trace bituminous, trace pyrite, some recrystallization and free crystals, estimated 3-6% intercrystalline and inferred vuggy porosity, spotty to even oil staining, yellow white good streaming cut. Faint petroliferous odour.

1800-1810 DOLOMITE 100% medium to dark brown, white, grainstone-packstone, very fine-fine crystalline, trace bituminous, common recrystallization and free crystals, estimated 6-9% intercrystalline and inferred vuggy porosity, spotty oil staining, yellow white fair-good slow streaming cut. Faint petroliferous odour.

1810-1820 DOLOMITE 100% predominantly white coarse crystals, part medium to dark brown, grainstone-packstone, brown is very fine-fine crystalline, trace bituminous, abundant recrystallization and free crystals, estimated 6-9% vuggy and intercrystalline porosity, only brown is oil stained, spotty oil staining, yellow white fair-good slow streaming cut.

1820-1830 DOLOMITE 100% predominantly white coarse crystals, part medium to dark brown, grainstone-packstone, brown is very fine-fine crystalline, trace bituminous, abundant recrystallization and free crystals, estimated 6-9% vuggy and intercrystalline porosity, only brown is oil stained, spotty oil staining, yellow white fair-good slow streaming cut.

1830-1840 DOLOMITE 100% white coarse crystals 50%, light to dark brown 50%, grainstone-packstone, brown is very fine-fine crystalline, trace bituminous, abundant

recrystallization and free crystals, estimated 6-9% vuggy and intercrystalline porosity, only brown is oil stained, spotty oil staining, yellow white fair-good slow streaming cut.

1840-1850 DOLOMITE 100% abundant white fine-coarse crystals, light to dark brown grainstone-packstone, brown is very fine- fine crystalline, trace shale, rare pyritic, estimated 6-9% vuggy and intercrystalline porosity, brown is oil stained, spotty oil staining, yellow white fair slow streaming cut.

1850-1860 DOLOMITE 100% light to dark brown, grainstone-packstone, very fine-minor fine crystalline, trace bituminous, occasional shale, common clear and fine to coarse crystals, trace pyritic, estimated 3-6% intercrystalline and vuggy porosity, brown is oil stained, spotty oil staining, yellow white poor slow cut.

1860-1870 DOLOMITE 100% buff, light brown, minor dark brown, grainstone-packstone, very fine-minor microcrystalline, trace bituminous, occasional shale, trace free crystals, trace pyritic, estimated 3-6% intercrystalline and vuggy porosity, spotty oil staining, poor slow cut.

1870-1880 DOLOMITE 100% light to dark brown, grainstone-wakestone, very fine-minor microcrystalline, trace bituminous, trace shale, common medium to coarse free crystals, estimated 3-6% intercrystalline and vuggy porosity, spotty oil staining, poor slow cut.

1880-1890 DOLOMITE 100% light brown, part dark brown, grainstone-wakekstone, microcrystalline to very fine, trace bituminous, rare shale, common free crystals, estimated 3-6% intercrystalline and vuggy porosity, spotty oil staining, poor slow cut. Faint petroliferous odour.

1890-1900 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, bituminous, poor petroliferous odour estimated 3-6% intercrystalline porosity, spotty oil staining, yellow white streaming cut.

1900-1910 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, bituminous, poor-fair petroliferous odour estimated 3-6% intercrystalline porosity, spotty oil staining, yellow white streaming cut.

1910-1920 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, bituminous, poor petroliferous odour estimated 3-6% intercrystalline porosity, spotty oil staining, golden white streaming cut.

1920-1930 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, bituminous, poor-fair petroliferous odour estimated 3-6% intercrystalline porosity, spotty oil staining, yellow white streaming cut.

1930-1940 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-fine crystalline, trace bituminous, rare pyritic, rare shale, poor petroliferous odour, estimated 3-6% intercrystalline porosity, spotty oil staining, yellow white streaming cut.

1940-1950 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, minor microcrystalline, trace bituminous, rare pyritic, rare shale, estimated 3-9% intercrystalline and trace vuggy porosity, spotty oil staining, milky white good streaming cut, faint petroliferous odour.

1950-1960 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, trace bituminous, rare shale, estimated 3-9% intercrystalline and trace vuggy porosity, spotty oil staining, milky white good streaming cut, faint petroliferous odour.

1960-1970 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, trace bituminous, estimated 3-9% intercrystalline and vuggy porosity, even-spotty oil staining, yellow white good streaming cut, faint petroliferous odour.

1970-1980 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, trace bituminous, rare pyritic, estimated 3-9% intercrystalline and vuggy porosity, even-spotty oil staining, yellow white good streaming cut, faint petroliferous odour.

1980-1990 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, occasional free coarse clear crystals, trace bituminous, rare pyritic, estimated 3-9% intercrystalline and vuggy porosity, even-spotty oil staining, yellow white good streaming cut, faint petroliferous odour. Traces of oil over the shaker.

1990-2000 DOLOMITE 100% medium to dark brown, grainstone-packstone, very fine-minor fine crystalline, rare free coarse clear crystals, trace bituminous, estimated 3-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour. Traces of oil over the shaker.

2000-2010 DOLOMITE 100% medium to dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, rare free crystals, trace bituminous, rare pyritic, estimated 3-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour. Traces of oil over the shaker.

2010-2020 DOLOMITE 100% medium to dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, rare free crystals, trace bituminous, rare pyritic, estimated 3-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2020-2030 DOLOMITE 100% medium to dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, rare free crystals, trace bituminous, estimated 3-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2030-2040 DOLOMITE 100% medium to dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, minor microcrystalline, trace bituminous, estimated 3-9% intercrystalline and vuggy porosity, even, part spotty oil staining, yellow white good streaming cut, faint petroliferous odour.

2040-2050 DOLOMITE 100% medium to dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, rare shale, rare pyritic, estimated 3-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2050-2060 DOLOMITE 100% light to medium brown, minor dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, estimated 3-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2060-2070 DOLOMITE 100% medium brown, minor dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, minor microcrystalline, trace bituminous, estimated 3-6% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2070-2080 DOLOMITE 100% medium brown, trace dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, minor microcrystalline, trace bituminous, estimated 3-6% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2080-2090 DOLOMITE 100% light to medium brown, rare dark brown, grainstone-packstone, sucrosic, very fine- fine crystalline, bituminous, strong petroliferous odour, good oil flow on shaker, estimated 6-9% combined intercrystalline and vuggy porosity, even oil staining, golden white streaming cut.

2090-2100 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, bituminous, estimated 6-9% combined intercrystalline and vuggy porosity, even oil staining, golden white streaming cut, strong petroliferous sample odour, oil over the shaker.

2100-2110 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, bituminous, estimated 3-6% combined intercrystalline and vuggy porosity, even oil staining, golden white streaming cut, oil over the shaker, strong petroliferous sample odour.

2110-2120 DOLOMITE 100% medium brown, trace dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, estimated 3-6% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, oil over the shaker, moderate petroliferous sample odour.

2120-2130 DOLOMITE 100% medium brown, minor dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, estimated 6-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, oil over the shaker, moderate petroliferous sample odour.

2130-2140 DOLOMITE 100% medium brown, light brown, trace dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, rare shale, estimated 6-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, moderate petroliferous sample odour.

2140-2150 DOLOMITE 100% medium brown, light brown, minor dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, minor microcrystalline, rare bituminous, estimated 6-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, moderate petroliferous sample odour.

2150-2160 DOLOMITE 100% medium brown, light brown, minor dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, traces microcrystalline, rare bituminous, estimated 3-9% intercrystalline and vuggy porosity, even, minor spotty, oil staining, yellow white good streaming cut, moderate petroliferous sample odour.

2160-2170 DOLOMITE 100% medium brown, light brown, trace dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, rare bituminous, estimated 3-9% intercrystalline and vuggy porosity, even-spotty oil staining, yellow white good streaming cut.

2170-2180 DOLOMITE 100% medium to dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, occasional free crystals, trace pyritic, trace bituminous, rare shale, estimated 3-6% intercrystalline, occasional vuggy, porosity, even oil staining, yellow white good streaming cut.

2180-2190 DOLOMITE 100% light- medium brown, occasional dark brown, grainstone-packstone, sucrosic, very fine crystalline, rare free crystals, rare shale, slightly bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, part spotty oil staining, yellow white fair streaming cut, moderate petroliferous sample odour.

2190-2200 DOLOMITE 100% light- medium brown, occasional dark brown, grainstone-packstone, sucrosic, very fine crystalline, rare free crystals, rare shale, slightly bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, spotty to even oil staining, yellow white fair streaming cut. Moderately petroliferous sample odour.

2200-2210 DOLOMITE 100% light- medium brown, occasional dark brown, grainstone-packstone, sucrosic, very fine crystalline, rare free crystals, rare shale, slightly bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, spotty to even oil staining, yellow white fair streaming cut.

2210-2220 DOLOMITE 100% light- medium brown, occasional dark brown, grainstone-packstone, sucrosic, very fine crystalline, rare free crystals, rare shale, slightly bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, spotty to even oil staining, yellow white fair streaming cut.

2220-2230 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-traces fine crystalline, minor slightly bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, even oil staining, yellow white fair-good streaming cut.

2230-2240 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, minor slightly bituminous, estimated 3-6% intercrystalline, rare vuggy, porosity, even oil staining, yellow white good streaming cut.

2240-2250 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, traces slightly bituminous, occasional recrystallization and free crystals, estimated 3-6% intercrystalline, occasional vuggy, porosity, even oil staining, yellow white good streaming cut.

2250-2260 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, traces bituminous, rare shale, estimated 3-6% intercrystalline, and trace vuggy porosity, even oil staining, yellow white good streaming cut.

2260-2270 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, trace bituminous, trace free crystals, estimated 3-6% intercrystalline and trace vuggy porosity, even oil staining, yellow white good streaming cut.

2270-2280 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, trace bituminous, rare pyritic, estimated 3-6% intercrystalline and trace vuggy porosity, even oil staining, yellow white good streaming cut.

2280-2290 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, trace bituminous, rare pyritic, occasional free crystals, estimated 3-9% intercrystalline and minor vuggy porosity, even oil staining, yellow white good streaming cut.

2290-2300 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, minor bituminous, traces pyritic, common free crystals, rare shale, estimated 6-12% intercrystalline and vuggy, possible fracture, porosity, even to spotty oil staining, yellow white good streaming cut.

2300-2310 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, minor bituminous, abundant medium and coarse free crystals, rare shale, estimated 3-9% intercrystalline and vuggy porosity, even to spotty oil staining, yellow white good streaming cut.

2310-2320 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, minor bituminous, abundant medium and coarse free crystals, rare shale, estimated 3-9% intercrystalline and vuggy porosity, even to spotty oil staining, yellow white good streaming cut.

2320-2330 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, minor bituminous, common free crystals, rare shale, estimated 3-9% intercrystalline and minor vuggy, porosity, even to spotty oil staining, yellow white good streaming cut.

2330-2340 DOLOMITE 100% medium-dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, minor bituminous, free crystals, estimated 3-6% intercrystalline and minor vuggy, porosity, even oil staining, yellow white good streaming cut.

2340-2350 DOLOMITE 100% light-medium brown, grainstone-packstone, sucrosic, very fine-fine crystalline, bituminous, some free crystals, estimated 3-9% intercrystalline and vuggy, inferred fracture, porosity, even oil staining, yellow white good streaming cut.

2350-2360 DOLOMITE 100% light-medium brown, grainstone-packstone, sucrosic, very fine-fine crystalline, bituminous, trace free crystals, estimated 6-9% intercrystalline and vuggy, inferred fracture, porosity, even oil staining, yellow white good streaming cut.

2360-2370 DOLOMITE 100% medium brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, trace free crystals, rare shale, estimated 6-9% intercrystalline and vuggy, inferred fracture, porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2370-2380 DOLOMITE 100% medium brown, minor dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, occasionally bituminous, trace free crystals, rare shale, rare coal, estimated 6-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2380-2395 DOLOMITE 100% medium brown, trace dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, occasionally bituminous, trace free crystals, trace pyritic, rare shale, rare coal, estimated 6-9% intercrystalline and vuggy porosity, even oil staining, yellow white good streaming cut, faint petroliferous odour.

2395-2405 DOLOMITE 100% buff, light brown, part medium brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, occasionally bituminous, trace carbonaceous shale partings, trace pyritic, estimated 6-9% intercrystalline and inferred vuggy porosity, light brown even-minor spotty oil staining, milky white good fast streaming cut, faint petroliferous odour.

2405-2415 DOLOMITE 100% buff, light brown, medium brown, trace dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, occasionally bituminous, trace carbonaceous shale partings, trace pyritic, estimated 6-12% intercrystalline and

inferred vuggy porosity, light brown even-minor spotty oil staining, milky white good fast streaming cut, faint petroliferous odour.

2415-2430 DOLOMITE 100% buff, light to medium brown, trace dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, occasionally bituminous, common carbonaceous shale partings, trace pyritic, estimated 6-12% intercrystalline and inferred vuggy porosity, light brown even-minor spotty oil staining, milky white good fast streaming cut, faint petroliferous odour.

2430-2435 DOLOMITE 100% buff, light to medium brown, trace dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, occasionally bituminous, traces carbonaceous shale partings, trace pyritic, estimated 6-12% intercrystalline and inferred vuggy porosity, light brown even-part spotty oil staining, milky white good slow streaming cut, faint petroliferous odour.

2435-2445 DOLOMITE 100% light to medium brown, trace dark brown, grainstone-minor packstone, sucrosic, very fine- fine crystalline, occasionally bituminous, common carbonaceous shale partings, traces pyritic, estimated 6-12% intercrystalline and inferred vuggy porosity, light brown even-part spotty oil staining, milky white good slow streaming cut, faint petroliferous odour.

2445-2455 DOLOMITE 100% light to medium brown, grainstone-minor packstone, sucrosic, very fine-fine crystalline, trace bituminous, common carbonaceous shale partings, traces pyritic, estimated 6-12% intercrystalline and vuggy porosity, even-spotty oil staining, milky white slow streaming cut, faint petroliferous odour.

2455-2465 DOLOMITE 100% buff, light to medium brown, grainstone-minor packstone, sucrosic, very fine-fine crystalline, trace bituminous, trace carbonaceous shale partings, traces pyritic, estimated 6-9% intercrystalline and vuggy porosity, even-spotty oil staining, milky white slow streaming cut, faint petroliferous odour.

2465-2475 DOLOMITE 100% buff, light to medium brown, trace dark brown, grainstone-minor packstone, sucrosic, very fine-fine crystalline, trace bituminous, trace carbonaceous shale partings, traces pyritic, estimated 6-9% intercrystalline and vuggy porosity, even oil staining, milky white slow streaming cut, faint petroliferous odour.

2475-2485 DOLOMITE 100% medium brown, minor dark brown, grainstone- packstone, sucrosic, very fine-fine crystalline, trace bituminous, trace carbonaceous shale partings, traces pyritic, estimated 6-9% intercrystalline and vuggy porosity, even to minor spotty oil staining, yellow white good streaming cut, faint petroliferous odour.

2485-2500 DOLOMITE 100% medium brown, minor dark brown, grainstone- packstone, sucrosic, very fine-fine crystalline, trace bituminous, trace carbonaceous shale partings, traces pyritic, estimated 6-9% intercrystalline and vuggy porosity, even to minor spotty oil staining, yellow white good streaming cut, faint petroliferous odour.

2500-2505 DOLOMITE 100% medium-light brown, minor dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, trace bituminous, trace carbonaceous, shale partings, pyritic, estimated 6-9% intercrystalline and vuggy porosity, even-spotty oil staining, poor slow cut.

2505-2515 DOLOMITE 100% medium-light brown, minor dark brown, grainstone-packstone, sucrosic, very fine-fine crystalline, trace bituminous, occasional carbonaceous shale partings, pyritic, estimated 6-9% intercrystalline and vuggy porosity, even-spotty oil staining, no visible-poor slow cut.

2515-2525 DOLOMITE 100% medium-light brown, minor dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, trace carbonaceous shale partings, pyritic, estimated 6-9% intercrystalline and vuggy porosity, even-spotty oil staining, white yellow good streaming cut.

TOP LOWER SULPHUR POINT AT TOE MD 2530m TVD 1421.22m (SS -644m)

2525-2534 DOLOMITE 100% medium-light brown, minor dark brown, grainstone-packstone, sucrosic, very fine-minor fine crystalline, trace bituminous, trace carbonaceous, pyritic, estimated 6-9% intercrystalline and vuggy porosity, even-spotty oil staining, white yellow good streaming cut, faint petroliferous odour.

2534-2537 NO SAMPLE. The well was later drilled to 2537m MD, on March 18, 2011, while reaming the hole prior to running of liner.

TD: 2537m MD. ORIGINAL TD WAS 2534m MD, TVD 1421.17m (SS -643.95m)  
REACHED ON MARCH 16, 2011@ 0215HRS.

## BIT RECORD

Bit No	Size mm	Make	Type	Sr. #	Depth IN/Out (m)	Bit Mtrs	Bit Hrs	Wt Da N 100 0	RPM	Cumul. Hrs	Remarks
1	349	King Dream	HTOB G-1C	L29145	0022/ 0361	339	28.00	11	155	028.0	Surf. Hole
2	222	Reed	MSF- 513	128437	0361/ 1114	753	74.25	4-8	100- 140	102.25	Intermed Hole
3	222	Reed	Tricon e	EM 2856	1114/ 1240	126	23.25	13- 15	100- 125	125.50	
4	222	Reed	R20A MP	W30040	1240/ 1333	093	10.50	10- 12	25- 40	136.00	
4R R	222	Reed	R20A MP	W30040	1333/ 1424	091	32.50	12- 14	42- 45	162.50	Lost in the hole
5	222	Reed	R09A MP	JW5842	1333/ 1534	201	57.50	17- 19	40- 45	220.00	Side Track
6	156	Ulterra	513	5954	1534/ 2082	548	48.00	6.5- 7.5	39- 43	268.00	
7	156	Ulterra	155U D513	4563	2082/ 2534	452	59.25	7.5- 10	39- 45	237.25	

BIT HOURS TO DRILL 361m OF SURFACE HOLE:	028.00
BIT HOURS TO DRILL 1173m OF INTERMEDIATE HOLE:	192.00
BIT HOURS TO DRILL m OF MAIN HORIZONTAL HOLE:	107.25
TOTAL BIT HOURS TO DRILL 2534m OF HOLE:	237.25

## MUD RECORD

MUD COMPANY: Marquis Alliance			MUD TYPE: Gel Polymer		
MUD UP @: 1068m					
DEPTH (m)	DEN. Kg/m <sup>3</sup>	VIS. (S/L)	W.L. (ml/30 min)	pH	REMARKS
392	1050	38	-	9.0	Floc. Water 361-1068m.
592	1030	37	-	9.5	
860	1040	36	-	8.0	
1022	1040	38	-	9.5	
1032	1110	34	-	8.0	
1116	1120	43	12.0	8.5	
1148	1140	54	11.0	9.0	
1230	1130	50	7.0	8.5	
1245	1120	49	7.0	8.0	
1294	1120	49	8.0	8.0	
1349	1120	46	9.0	9.5	Drilled to 1424 & Sidetracked from 1333m.
1343	1060	42	13	12.0	Side Track
1398	1080	40	9.0	12.0	
1428	1110	48	9.0	10.5	
1460	1100	48	11.0	9.5	
1514	1110	52	8.0	10.0	
1541	1005	37	15.0	12.5	
1597	1020	38	9.5	11.0	
1695	1010	37	8.0	10.0	
1797	1010	40	7.5	10.5	
1880	1030	40	5.0	9.5	
2021	1040	38	5.5	9.5	
2116	1050	40	7.5	10.0	
2188	1030	38	7.5	9.0	
2217	1040	38	8.0	10.5	
2280	1030	41	6.0	9.0	
2374	1040	36	6.0	10.0	
2501	1030	38	7.0	10.5	

**ENCLOSURES**

The following are enclosed as part of this report:

1. Build section Measured Depth Geological Strip Log.
2. Build section TVD Geological Strip Log.
3. Lateral Section Measured Depth Horizontal Strip Log.
4. CD.

**DISTRIBUTION**

The ORIGINAL and FIVE copies of the geological report on Para et al Cameron 2H-03 have been completed. The ORIGINAL and FOUR copies of the report are being forwarded to Paramount Resources Ltd. and the remaining copy is being retained by Moh & Associates Oilfield Consultants Ltd.

Respectfully,



Moh Sahota, B.Sc. (Hons.), M.Sc. (Geology)  
President  
Moh and Associates Oilfield Consultants Ltd.