Geological Report

Of

PARA ET AL CAMERON N-07
UNIT N SECTION 06

For

PARAMOUNT RSOURCES LTD.

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WELL SUMMARY

OPERATOR	:	*PARAMOUNT RESOURCES LTD.*
WELL NAME	:	*PARA ET AL CAMERON N-06*
UWI	:	*300/N06-6010-117300*
WELL LICENSE	:	*1221*
AFE	:	*09NO10011*
FIELD	:	*Cameron Hills*
SURFACE LOCATION	:	*Unit: N Section: 06* *Grid Area: 60° 10' N 117° 30' W*
SURFACE COORDINATES	:	*Latitude: 60° 05' 49.2"N* *Longitude: 117° 31'13.5" W*
DRILLING RIG	:	*Precision Drilling Rig# 245*
DRILLING CONTRACTOR	:	*Precision Drilling.*
WELL TYPE	:	*Vertical Development Well*
RKB - MSL	:	*717.15m*
MSL - GL	:	*712.45m*
SPUD DATE	:	*February 19, 2010.*
DATE TD REACHED	:	*March 03, 2010.*
DATE RIG RELEASED	:	*March 05, 2010.*
TD DEPTH	:	*1450.0m RKB (-732.85m SS)*
LOGGERS TD		*1449.0m RKB*
TD COORDINATES	:	*Latitude: 60° 05' 49.2"N* *Longitude: 117° 31'13.5" W*
HOLE SIZE	:	*311.0mm 377.0m RKB* *200.0mm 1450.0m RKB.*
SAMPLE INTERVALS	:	*735m to 985m @ 5m Intervals 1 Set.* *1225m – TD @ 5m Intervals 2 Sets.* *1225m – TD Unwashed Spl 1 Set.*
DRILLING FLUID	:	*Surface Hole: Polymer* *Main Hole: Floc Water & Polymer.*
WELL STATUS	:	*Cased for Production Testing.*
STRIKE AREA	:	*South Great Slave Lake*
REGION	:	*NWT Mainland*

Photo 1 : Precision Rig# 245 on Para Et Al Cameron N-06 Location.

WELL ABSTRACT

The **Para Et al Cameron N-06** well is located in Unit N, Section 6 and Grid 60° 10' 00" N and 117° 30' 00" W at the surface co-ordinates of 60° 05' 49.2" N and 117° 31' 13.5" W6 of Cameron Hills in the Northwest Territory.

The proposed **Cameron N-06** development well is a part of an extensive drilling program. The well is proposed to drill vertically as a new delineation well. Paramount Resources Ltd. retained the services of **Precision Drilling** Rig# 245.

The primary objective is to penetrate the prognosticated heavy hydrocarbon bearing zones in the limestone and dolomite sections of the **Sulphur Point** formation. The Secondary target is to investigate the prospective and possibilities of commercial hydrocarbon in the **Slave Point** Formation. In addition to the above objectives, the well are to validate the 3D seismic picking of the reservoirs, to specify the time to depth conversion with the seismic data and to learn more about the complex and typical reservoir characteristics of these formations in the **Cameron Hills.**

The well is spudded at 15:30hrs on the February 19, 2010. Drilling of 311mm hole from surface to 377m is completed using two rock bits in 34.75 on bottom bit hours. The spud mud is Polymer of 1045 kg/m3 and FV: 45 sec/l. Hole problem is encountered in the surface hole. Unloading of sand and gravel from 38m to 192m RKB made a precarious condition to maintain proper mud properties. Due to fill surface 219.1mm casing could not be run in to 377.0m. The shoe is set at 371.5m RKB and cemented with Sanjel as per program. Polymer mud is used for drilling the surface hole.

200mm main hole drilling is completed using one PDC and one tri-cone rock bits in 86.25 on bottom bit hours. TD of the well to 1450m RKB (-732.85m SS) is reached at 02:30 hrs of March 03, 2010. The hole deviation got to 3.00° against 1296m RKB. Control drilling is conducted till the main target formation **Sulphur Point** where the measured inclination is 2.50° against 1344.0m RKB. A tri-cone rock bit is picked up at 1413m RKB as average ROP dropped down to below 2 m/hr. 24.5m are drilled into the **Muskeg** formation. At TD section, the hole is circulated clean before POOH. A wiper trip is performed and a Hi-vis pill being pumped before POOH to run wireline logs with Weatherford. The open hole logging is completed in two runs. STI/SPeD/CNS/GR/MRT/HBC/DAC/CAL and SPeD/CNT/GR/MRT/DAC tools are run in the first and second runs respectively. The production casings 139.7mm are run in and shoe is set at 1450.0m RKB

The Geological target tops and bases of the well, hydrocarbon bearing zones and formations are encountered differed from that of prognosis depths. After comprehensive studies of ditch cuttings, gas shows and co-relation with offset wells the formation tops are identified and left unchanged even after posting the log curves in the Striplog. The **Watt Mountain** formation is identified at 1326.0m RKB (-608.85m SS) and 36m thick which is not seen in other wells of the Cameron Hills. Top of **Muskeg** remains questionable as it differs from the ROPs and ditch samples from that of log tops. The dolomite section of the **Sulphur Point** formation is 47m thick which is also not seen in any other offset wells. The geology section in the Strip Log gives a brief representation of the individual stratigraphic formations.

The **Slave Point** Formation is anticipated at 1274.0m RKB (-556.85m SS) and is 42.0m thick. Maximum 921/39 units and 441/39 units formation gases are noticed with positive natural sample fluorescence during drilling this formation.

From ditch cuttings, gas shows and from the quick look interpretation of electrical logs the **Slave Point** formation is little tight. The **Slave Point** looks to be very prominent from the porosity, gas shows and sample florescence showing better reservoir potentialities for commercial production.

The **Sulphur Point** limestone section is identified at 1362.0m RKB (-644.85m SS) and followed by the dolomite section at 1378.0m RKB (-660.85m SS). Maximum 455/34 units and 216/54 units formation gases are recorded in the limestone section and dolomite section respectively. Strong petroleum odor with oil shows noticed in the dolomite section.

The well is for cased for production testing with viable possibilities of commercial production from the **Slave Point** and the **Sulphur Point** formations. They both possess all the properties for commercial hydrocarbon production. Further evaluation and detail studies are proposed.

FORMATION TOPS

FORMATION	PROGNOSIS TOPS		SAMPLE/LOG TOPS		COMMENTS
MSL – RKB: 717.152m	m TVD	m SubSea	m TVD	m SubSea	m Isopach
Wabamun FM	484.15	233.00	485.00	232.15	173.00
Jean Marie Mbr	657.15	60.00	658.00	59.15	6.00
Fort Simpson Fm	663.15	54.00	664.00	53.15	104.00
Twin Falls Fm	775.15	-58.00	768.00	-50.68	159.00
Hay River Fm	936.15	-219.00	923.00	-205.85	327.00
Beaverhill Lake Fm	1264.15	-547.00	1250.00	-532.85	24.00
Slave Point Fm	1287.15	-570.00	1274.00	-556.85	42.00
F4 Marker Fm	1328.15	-611.00	1316.00	-598.85	10.00
Watt Mountain Fm	1336.15	-619.00	1326.00	-608.85	36.00
Sulphur Pt Ls Fm	1344.15	-627.00	1362.00	-644.85	16.00
Sulphur Pt Dol	1355.15	-638.00	1378.00	-660.85	47.00
Muskeg Fm	1369.15	-652.00	1425.00	-707.85	25.00
Total Depth	1392.15	-675.00	1450.00	-732.85	-

FORMATION EVALUATION

Slave Point Formation
Paleozoic, Middle Devonian
Age: 370 million years
Well: Para Et Al Cameron N-06

The **Middle Devonian, Slave Point** Formation consists of cream, dark brown, light yellowish brown and oil stained limestone interbeded occasionally with lenses of finely crystalline dolomites and intercalated with dark brownish grey shale fragments which possibly occur as thin lenses.

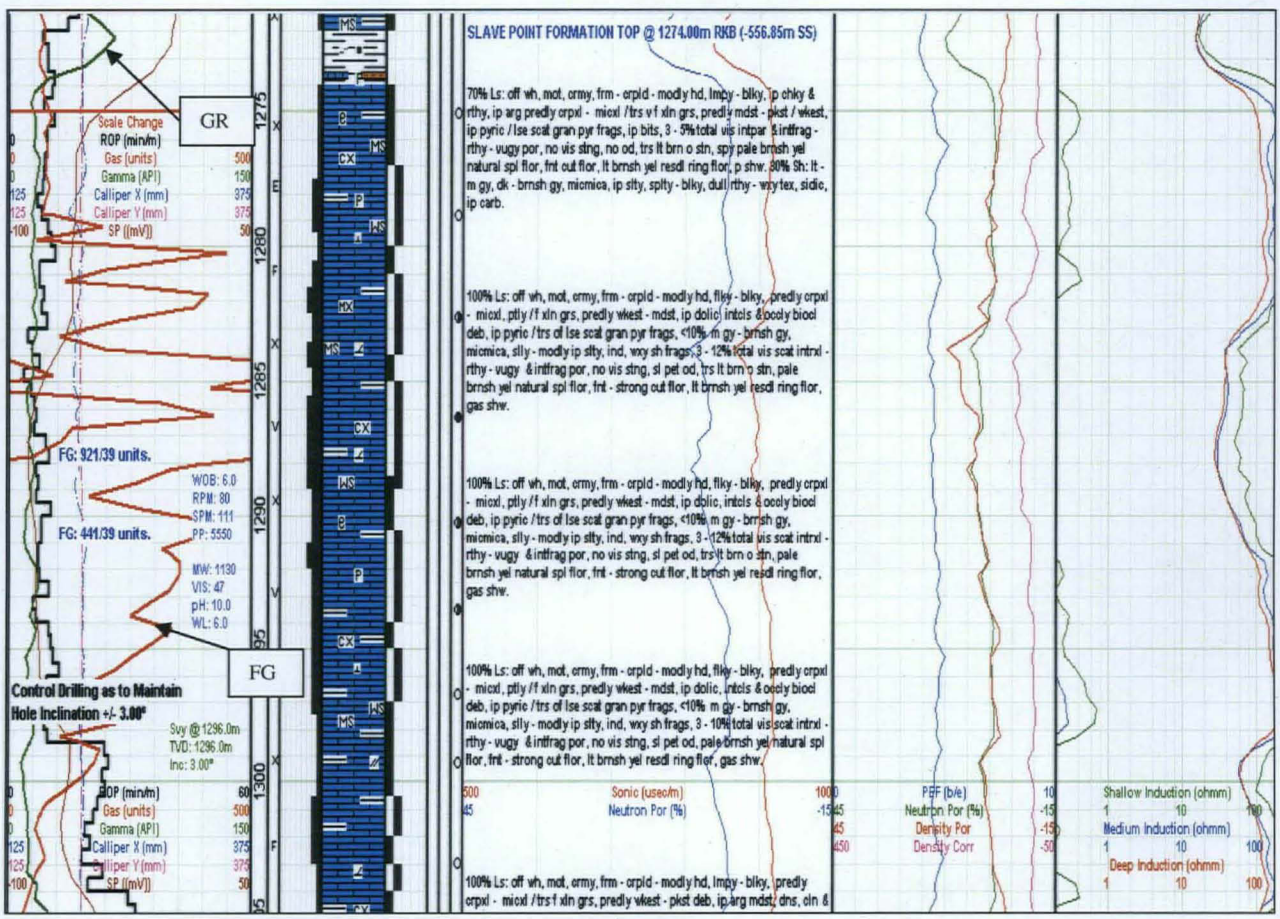

Figure 1: Striplog of the Slave Point Formation.

Photo 2: Ls in the Slave Point Fm_ 1285m RKB.

The **Slave Point** formation is picked up and identified at 1274.0m RKB (-556.85m SS). Change of ROP from 24m/hr to an average 18m/hr, from ditch cuttings typical light yellowish brown to dark brown limestone and anticipation of formation gas increase are the main criteria for identifying this formation. The Formation is overlain by the **Upper Devonian** cyclical limy shale beds argillaceous limestone and argillaceous micrities of **Beaverhill Lake** formation picked up at 1250.0m RKB (-532.85nm SS), and conformably underlain by **Fort Vermilion** formation identified at 1316.0m RKB (-598.85m SS).

The **Slave Point** anticipated is 42m thick with its typical light yellowish brown to dark brown stains limestone, interbedded with thin shale laminae and often intercalated with thin lenses of fine crystalline dolomites. The top section from 1274.0m to 1280.0m RKB is tighter varying from 3 – 5% porosities and the middle section from 1280m to 1301m RKB is more porous varying from 4 - 12% total scattered visible porosities. Vuggy porosities are predominant with partial microfracture, pin point and intercrystalline porosities. In the upper section formation gas is not noticed. 921/39 units gas are recorded against 1286.0m RKB with positive florescence carrying possibilities of heavy hydrocarbon deposition. The porosity tightens with the increases of the depth and faded to almost 3% due to increase of chalky, earthy, dense argillaceous limestone.

The limestones encountered in the **Slave Point** are off white, mottled, creamy, light yellow with dark brown stain. They are crumpled to moderately hard and predominately blocky with some sub blocky grains. Smooth to gritty very sharp texture resembles to cryptocrystalline group. Partly microcrystalline with a few fine sucrose crystalline grains are noticed. They are predominately wackestone to packstone, intraclasts & occasionally bioclastic debris and partly calcarenite. They are partly earthy & argillaceous, rarely in part dolomitic, Traces of fine crystalline dolomite are commonly noticed all through the section with traces to maximum 10% greenish brown, dark grey shale fragments and siltstone stringers. The lower section is little anhydritic with presence of traces of loose granular anhydrite nodules.

Moderate to strong petroleum odor are noticed all through the section with spotty to patchy light brown natural sample fluorescence, slow faint cut, pale yellowish brown residual ring fluorescence, oil and gas shows. From 1280.0m to 1295.0m RKB possesses good reservoir properties with maximum 14% total scattered visible vuggy, intracrystalline, pin point and micro-fracture porosities.

From the ditch cuttings properties, gas and florescence shows and quick look interpretation of electrical logs the **Slave Point** Formation in the **Cameron N-06** well looks to be very much prospective. Commercial production is possible from this zone. Further studies are recommended.

FORMATION EVALUATION

Sulphur Point Formation
Middle Paleozoic, Devonian
Age: 370 million years
Well: Para Et Al Cameron N-06

The **Paleozoic, Middle Devonian, Sulphur Point** formation conformably separates the overlying from greenish shale of the **Watt Mountain** formation identified at 1326.0m RKB (-608.85m SS) from the underlying anhydritic dolomite and massive, dense anhydrite deposit of the **Muskeg** formations encountered at 1425.5m (-708.35m SS).

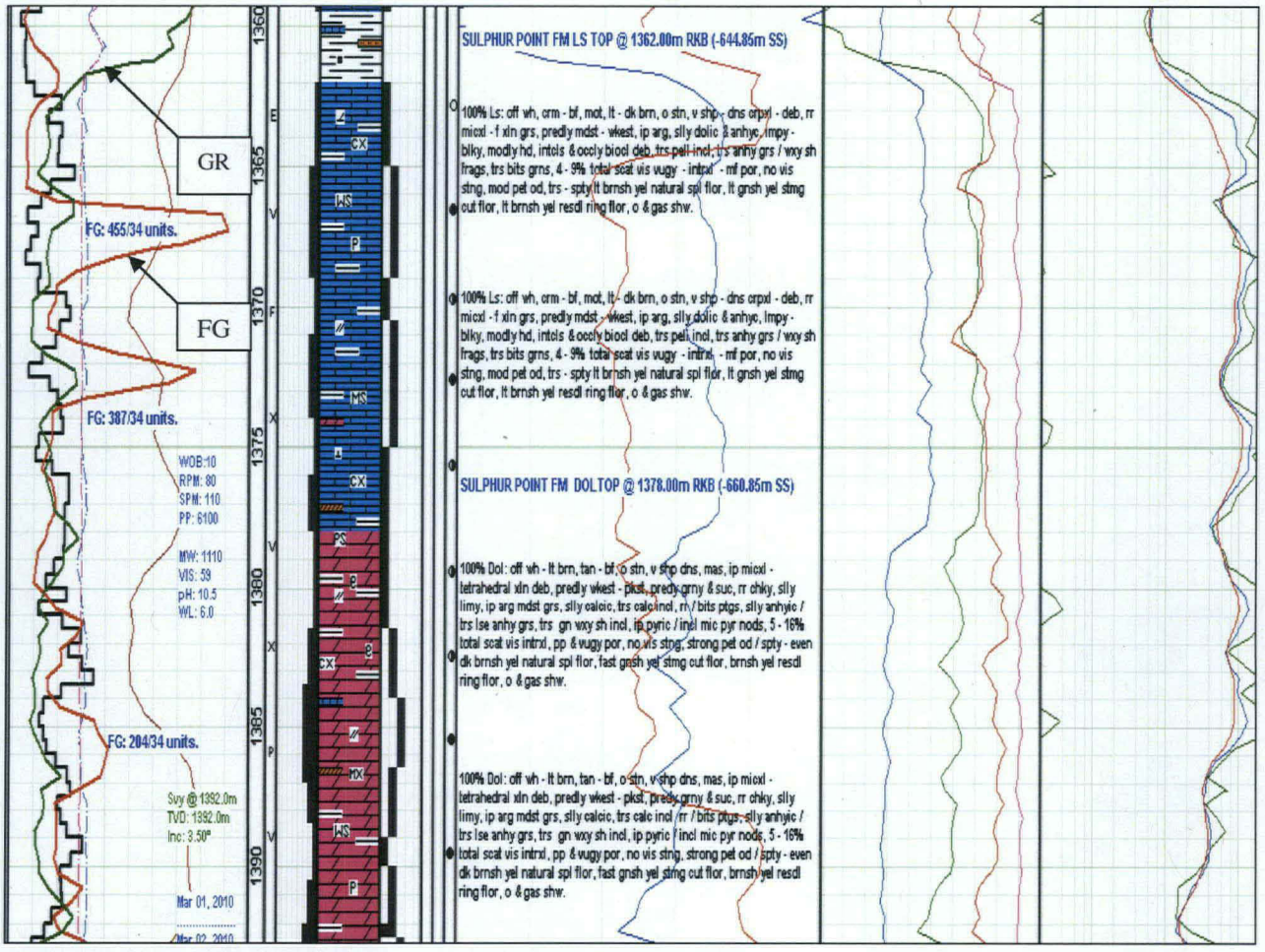

Figure 2: Striplog of the Sulphur Point Formation.

Photo 3: Ls in the Sulphur Point Fm_1367.5m RKB.

Photo 4: Dol in the Sulphur Point Fm_1385.0m RKB.

The limestone section of the **Sulphur Point** formation is picked up with the end of greenish waxy shaley deposit of the **Watt Mountain** formation. This section is identified from the ROPs, which are comparatively slower and change in drill cutting properties. The formation encountered at 1362.0m RKB (-644.85m SS). Co-relation with the offset wells is the other criteria for identifying this formation. The limestone section is 16m thick.

The limestones are off white, cream to buff, mottled, color with dark brownish stain. They are generally very sharp to dense cryptocrystalline with some microcrystalline to crystalline debris and crumple to moderately hard, lumpy to blocky. Predominately they are wackestone to packstone texture. They are slightly dolomitic, intraclasts & occasionally bioclastic debris, traces pelletoidal inclusion. They are chalky in parts, slightly earthy and slightly argillaceous. Traces to maximum 10%, greenish to greenish brown waxy shale fragments are anticipated in the limestone section. These shale grains possibly intercalated as thin laminae.

Slight to moderate petroleum odor with scattered to spotty brownish yellow oil staining natural sample fluorescence are noticed. Traces to spotty light brown oil show are noticed in the lower section, light brownish yellow natural sample fluorescence; light greenish yellow streaming cut fluorescence, light brownish yellow residual ring fluorescence, poor shows. Total scattered vuggy, intercrystalline and microfracture porosities varies between 4 – 9%. 455/34 units and 387/34 units formation gases are recorded against 1367m and 1372m RKB respectively.

The dolomitize part of the **Sulphur Point** formation is separated from the overlying of limestone section and underlying **Muskeg** formation. Presence of dolomite is the main criteria of identifying this section. While drilling the ROP are little slower and varied between 7.0 min/m to 15.0min/m than in the upper limestone section where ROP varied between 5.6min/m to 9.5min/m. A little faster ROP are noticed in the fine crystalline sucrose porous section. The Dolomite section of the **Sulphur Point** formation is encountered at 1378.0m RKB (-660.85m SS). The section is 47m thick overlying on the cyclic deposition of anhydrite and anhydritic dolomites of the **Muskeg** formation.

In the top section the dolomites are coarsely crystalline and in general they are of off white, cream to tan, buff, light brown, oil stained. They are predominately very sharp dense, massive, in part microcrystalline to tetrahedral crystalline debris, with abundant of cryptocrystalline grains, in part sucrosic Usually they are crumpled to moderately hard, lumpy to blocky, smooth to gritty, dense and massive. They are partly earthy & chalky and slightly argillaceous. They predominately wackestone & packstone texture intercalated with some ratty, earthy grains. Traces of fine crystalline limestone with anhydrite grains are also noticed in this interval which possibly intercalated as thin laminae or lenses. Thin waxy green shale grains are common. Maximum 216/54 units formation gas is

recorded in this section. Total scattered intracrystalline, pin point, micro fracture and vuggy visible porosities vary between 4 to 14%.

Very strong to strong petroleum odor with spotty to even dark brownish oil stain, natural sample fluorescence, fast greenish yellow streaming cut fluorescence, brownish yellow residual ring fluorescence, oil & gas shows lead to all possibilities and properties of a good reservoir and presence of oil & gas deposition.

The upper **Sulphur Point** limestone section is little tight. The dolomite section possesses all the potentiality and characteristics of a good commercial hydrocarbon reservoir and seems to be commercially productive. The well is cased for commercial production testing. Further detail studies and evaluations of the **Sulphur Point** formation are proposed.

DAILY DRILLING SUMMARY

(Morning Report @ 07:00 Hrs)

February 18, 2010	**Midnight Depth: 00m**
Wait on License. Drilling of Pilot, Mouse and Rat Holes. Rig up of derrick and third party equipments continued.	

February 19, 2010	**Midnight Depth: 43m**
Rig up of derrick and third party equipments continued. Weld false conductor to flange. Install diverter line and test the same. Preparatory jobs are being done prior to spud the well.	

February 20, 2010	**Midnight Depth: 302m**
Preparatory jobs are being done prior to spud the well. P/U Bit# 1, 311mm, Varel, HE04JMRSV, Sr. No. 2536358 and 14.3x4 jets on a stiff drilling assembly. Pre-spud safety meeting. Spud the well at 15:30hrs. Spud mud is Polymer of 1040 kg/m3, FV: 45 sec/l and pH; 8.5. Tag cement @ 25m. Drilling of surface hole from 27m to 102m. Conduct surveys. Continue drilling.	

February 21, 2010	**Midnight Depth: 362m**
Continue drilling of 311mm surface hole from 102m to 362m. Conduct surveys.	

February 22, 2010	**Midnight Depth: 362m**
Circulation and mud conditioning. Strap out of hole. P/U a new 311mm, Varel, tri-cone, HE04JMRSV Bit# 2A, Sr. No. 254823, 14.3x4 jets and RIH. Tight hole encountered at 41m. Reaming the tight spots through sand and gravel from 41m to 93m. Reaming continued.	

February 23, 2010	**Midnight Depth: 377m**
Reaming continued to 117m. POOH. P/U a reamer on a stiff drilling assembly. RIH. Ream down to from 82m to bottom cleaning the tight spots. Resume drilling 311mm hole drill down to 377m RKB – TD of the surface hole. Conduct a short trip of 5 DPs. Circulation and mud conditioning to 1100 kg/m3, FV: 51 sec/l, pH; 8.0. Conduct wiper trip to surface. Circulation and mud conditioning to 1080 kg/m3, FV: 53 sec/l and pH: 8.0. POOH.	

February 24, 2010	**Midnight Depth: 377m**
POOH. Encounter tight hole at 119m. P/U Kelly and reamed off tight spots. POOH. Lay down reamer and RIH with hole cleaning assembly. RIH to TD while cleaning off the tight spots. Circulation and mud conditioning to 1120 kg/m3, FV: 60 sec/l and pH: 8.0. POOH. RIH 219.1mm, 35.7 kg/m, J-55, ST & C surface casings. Mud conditioning through the casing string. Conduct cement job with Sanjel. WOC.	

February 25, 2010	**Midnight Depth: 486m**
WOC. Cut, dress and weld casing to Casing Head. Nipple up BOP stack and diverter line. Pressure test of BOPs and surface equipments continued.	

February 26, 2010	**Midnight Depth: 798m**
Pressure test of BOPs and surface equipments. Pick up a new 200mm, PDC, Varel, VT0513HX, Sr. No. 4000287, 10.3x7 jets Bit# 3 on a stiff drilling assembly. Tag cement at 352m RKB. Drill out cement, float valve and shoe. Drilling of 200mm main hole from 377m to 565m. Conduct surveys. Drilling with Floc Water of 1020 kg/m3 and FV: 29 sec/l.	

February 27, 2010	**Midnight Depth: 1050m**
Continue drilling of 200mm main hole from 565m to 875m. Conduct surveys. Drilling with Floc Water of 1010 kg/m3, FV: 29 sec/l and pH: 10.0.	

February 28, 2010	**Midnight Depth:1267m**
Continue drilling of 200mm main hole from 875m to 1050m. Circulation and mud conditioning to 1090 kg/m3 and FV: FV 42 sec/l. Conduct wiper trip to casings shoe with periodical flow check. Trip gas 163/39 units. Resume drilling and drill down to 1092m. Drilling continued.	

March 01, 2010	**Midnight Depth:1369m**
Continue drilling from 1092m to 1304m. Conduct surveys.	

March 02, 2010	**Midnight Depth:1440m**
Continue drilling from 1304m to 1413m. Conduct surveys. Circulation and mud conditioning prior to a bit trip to pick up a tri-cone bit.	

March 03, 2010	**Midnight Depth:1450m**
Circulation and mud conditioning. POOH. P/U Bit# 4RR1, 200mm, Varel, HE18MSV, Sr. No. 260656, 14.3x3 jets on the same BHA and RIH. Wash down last joint to bottom. Trip gas is 213/39 units. Resume drilling from 1413m to 1450m (732.85m SS) – TD of the well reached at 02:30 hrs. Circulation and mud conditioning to 1080 kg/m3, FV: 90 sec/l, pH: 10.5 and WL: 6.0 cm3. Wiper trip to 1100m. Mud conditioning at TD. POOH continued.	

March 04, 2010	**Midnight Depth:1450m**
POOH. Logging with Weatherford. Logging completed in two runs. Run# 1: STI/SPeD/CNT/GR/MRT/HBC/CAL/DAC and Run# 2: SPeD/CNT/GR/MRT/DAC tools are run in. RIH with hole cleaning assembly. Trip gas at TD is 188/39 units. POOH and lay down drill pipes by singles.	

March 05, 2010	**Midnight Depth:1450m**
POOH and lay down drill pipes by singles. Rig up casing tools and equipments. RIH of 139.7mm, Paragon, J-55, 20.83 kg/m, 127.30mm ID, 118 joints of 1451.26m length, ST & C production casings. Set the shoe at 1450m RKB. Circulation and mud conditioning through the casing string to 1080 kg/m3, FV: 45 sec/l, pH: 9.0 and WL: 8.0 cm3. Trip gas is 218/51 units. Conduct cement job with Sanjel. WOC. Nipple down BOP stack.	

SAMPLE DESCRIPTIONS

DRILLED SECTION FROM 27m - 1450.0m RKB

(*Sampling Depth from 730m to 980m & 1225m to TD*)

730-740

60% **Shale:** dark to blackish grey, greenish to brownish grey, micromicaceous in part, non calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part thinly laminated, indurated to well indurated, firm to moderately hard, in part hard, conchoidal to angular break, slightly sideritic, in part carbonaceous & fossiliferous.
40% **Limestone:** off white to light brown, buff, predominately cryptocrystalline with traces microcrystalline debris, predominately mudstone with packstone texture, in part chalky & ratty, traces argillaceous mudstone, calcarenite, in part slightly dolomitic argillaceous, lumpy to subblocky, crumpled to moderately hard, traces loose grains to predominately peloids, 3 to 4% total visible vuggy with intracrystalline porosity, no shows, no cut fluorescence.

740-750

80% **Shale:** dark to blackish grey, greenish to brownish grey, partly micromicaceous, non calcareous, generally slightly to moderately silty, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part thinly laminated, indurated, firm to moderately hard, in part hard, conchoidal to angular break, slightly sideritic, partly carbonaceous, traces siltstone stringers inclusion.
20% **Limestone:** off white to light brown, buff, predominately cryptocrystalline with traces microcrystalline debris, predominately mudstone with packstone texture, calcarenite, in part slightly dolomitic & argillaceous, in part chalky & ratty, lumpy to blocky, crumpled to moderately hard, traces loose grains to predominately peloids, 3 to 4% total visible vuggy with intracrystalline porosity, no shows, no cut fluorescence.

750-760

70% **Shale:** grey to blackish grey, brownish to greenish grey, partly micromicaceous, non calcareous, generally slightly to

moderately silty, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part thinly laminated, indurated, firm to moderately hard, conchoidal to angular break, partly carbonaceous with traces disseminated carbonaceous specks, traces siltstone stringers.
30% **Limestone:** off white to light brown, buff, predominately cryptocrystalline with traces microcrystalline debris, predominately mudstone with packstone texture, dense, calcarenite, in part slightly dolomitic, partly earthy & argillaceous, lumpy to blocky, firm to moderately hard, traces loose grains to predominately peloids, 3 to 4% total visible vuggy with intracrystalline & pin point porosity, no shows, no cut fluorescence.

760-768

80% **Shale:** grey to blackish grey, brownish to greenish grey, partly micromicaceous, non to slightly calcareous, generally slightly to moderately silty, subblocky to blocky, subfissile to subplaty, in part thinly laminated, indurated, firm to moderately hard, in part hard, conchoidal to angular break, partly carbonaceous with traces disseminated carbonaceous specks, traces inoceramus prism.
20% **Limestone:** off white to light brown, buff, predominately cryptocrystalline with traces microcrystalline debris, predominately mudstone with packstone texture, dense, calcarenite, in part slightly dolomitic, partly earthy & argillaceous, lumpy to blocky, firm to moderately hard, traces loose grains to predominately peloids, 3 to 4% total visible vuggy with intracrystalline & pin point porosity, no shows, no cut fluorescence.

TWIN FALLS FM TOP @ 768.00m RKB (-50.85m SS)

768-775

60% **Limestone:** off white, light brown, buff, predominately cryptocrystalline with traces of microcrystalline debris, occasionally fine crystalline grainy grains inclusion, predominately mudstone with packstone texture, traces argillaceous mudstone, dense & massive, calcarenite, clean to earthy, traces argillaceous mudstone & chalky debris, firm to friable to moderately hard, lumpy to blocky, commonly loose grains to predominately peloids, occasionally pyritic, >4% total visible interparticle & interfragmental porosity, no shows.

	40% **Shale:** grey to brownish grey, greenish grey, micromicaceous, non calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous with traces disseminated carbonaceous specks.
775-785	80% **Limestone:** off white, light brown, buff, predominately cryptocrystalline with traces of microcrystalline debris, occasionally fine crystalline grainy grains inclusion, predominately mudstone with packstone texture, traces argillaceous mudstone, dense & massive, calcarenite, clean to earthy, traces argillaceous mudstone & chalky debris, firm to friable to moderately hard, lumpy to blocky, commonly loose grains to predominately peloids, occasionally pyritic, >4% total visible interparticle & interfragmental porosity, no shows. 20% **Shale:** grey to brownish grey, greenish grey, micromicaceous, non calcareous, subblocky to blocky, subfissile to subplaty smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous with traces disseminated carbonaceous specks.
785-795	80% **Limestone:** off white to light brown, buff, predominately cryptocrystalline with traces microcrystalline debris, occasionally fine crystalline grainy grains inclusion, predominately mudstone with packstone texture, traces argillaceous mudstone, dense & massive, calcarenite, clean to earthy, traces argillaceous mudstone & chalky debris, firm to friable to moderately hard, lumpy to blocky, commonly loose grains to predominately peloids, occasionally pyritic, 3 to 5% total visible interparticle & interfragmental porosity, no shows. 20% **Shale:** grey to brownish grey, in part greenish grey, micromicaceous, non calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, subplaty to platy, conchoidal to angular break, partly carbonaceous with traces disseminated carbonaceous specks.
795-805	100% **Limestone:** off white to light brown, buff, predominately cryptocrystalline with traces of microcrystalline debris, occasionally with fine crystalline grainy grains, predominately mudstone with packstone texture, slightly calcitic, dense & massive, in part slightly dolomitic, partly earthy & argillaceous, firm to moderately hard, flaky to blocky, commonly loose grains to predominately peloids, in part pyritic with traces loose pyrite grains, 3 to 5% total visible interparticle & interfragmental porosity, trace light brown oil staining, hazy cut fluorescence. <10% brownish to greenish grey, dark grey, non to slightly

calcareous, smooth to gritty texture, moderately hard to hard, well indurated, conchoidal to angular break, in part carbonaceous.

805-815 100% **Limestone:** off white, light brown, buff, predominately cryptocrystalline with traces of microcrystalline debris, occasionally fine crystalline grainy grains inclusion, predominately mudstone with packstone texture, traces argillaceous mudstone, slightly calcitic, in part slightly dolomitic, partly clean to earthy & argillaceous, firm to moderately hard, flaky to blocky, commonly loose grains to predominately peloids, in part pyritic with traces loose pyrite grains, 3 to 4% total visible interparticle & interfragmental porosity, no shows. <10% brownish to greenish grey, dark grey, non to slightly calcareous, smooth to gritty texture, moderately hard to hard, well indurated, conchoidal to angular break, in part carbonaceous.

815-825 80% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, traces argillaceous mudstone & chalky debris, in part biostromal, calcarenite, rare slightly dolomitic, partly earthy & ratty & argillaceous, firm to crumpled to moderately hard, lumpy to blocky to subblocky, commonly loose grains to predominately peloids, 3 to 6% total visible intracrystalline porosity with vuggy & pin point porosity, no shows.
20% **Shale:** greenish grey, grey, brownish grey, in part micromicaceous, non calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, partly dull earthy texture, occur as thin laminae.

825-835 100% **Limestone:** off white, light brown, buff, predominately cryptocrystalline with traces of microcrystalline debris, occasionally fine crystalline grainy grains inclusion, predominately mudstone with packstone texture, traces argillaceous mudstone, slightly calcitic, in part slightly dolomitic, partly earthy & argillaceous, firm to moderately hard, flaky to blocky, commonly loose grains to predominately peloids, in part pyritic with traces loose pyrite grains, 3 to 4% total visible interparticle & interfragmental porosity, no shows. <10% brownish to greenish grey, dark grey, non to slightly calcareous, smooth to gritty texture, moderately hard to hard, well indurated, conchoidal to angular break, in part carbonaceous.

835-845 60% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris,

predominately mudstone with partly packstone texture, in part biostromal, calcarenite, in part slightly dolomitic, firm to crumpled to moderately hard, commonly loose grains to predominately peloids, 3 to 4% total visible interparticle & interfragmental porosity, no shows. 40% Shale: greenish grey, grey to brownish grey, in part micromicaceous, slightly calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, well indurated, in part thin laminae, partly silty, occasionally pyretic with traces of loose scattered granular pyrite fragments, in part fossiliferous.

845-855 60% **Shale:** greenish grey, grey to brownish grey, in part micromicaceous, slightly calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, well indurated, in part dull earthy texture, occur as thin laminae, partly silty, occasionally pyretic with traces of loose scattered granular pyrite fragments, in part fossiliferous.
40% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, in part biostromal, calcarenite, in part slightly dolomitic, firm to crumpled to moderately hard, commonly loose grains to predominately peloids, 3 to 4% total visible intracrystalline porosity with vuggy porosity, no shows.

855-865 80% **Shale:** greenish grey, grey, brownish grey, micromicaceous, generally slightly to moderately silty, micro laminated on darker & harder fraction, calcareous, dense, massive, amorphous to blocky, fissile to platy, smooth to gritty texture, well indurated, partly dull earthy, farm to moderately hard, in part thinly laminated, slightly sideritic, partly carbonaceous, >5% siltstone stringers inclusion, traces chert fragments, in part fossiliferous.
20% **Limestone:** off white, light brown, tan, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, in part biostromal, slightly dolomitic, traces argillaceous mudstone & chalky debris, partly earthy & argillaceous, 3% total visible interparticle & interfragmental porosity, no shows, no cut fluorescence.

865-875 60% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, traces argillaceous mudstone & chalky debris, in part biostromal,

calcarenite, in part slightly dolomitic, partly earthy & ratty & argillaceous, firm to crumpled to moderately hard, blocky to subblocky, commonly loose grains to predominately peloids, 3 to 5% total visible interparticle & interfragmental porosity, no shows, no cut fluorescence.
40% **Shale:** greenish grey, grey, brownish grey, in part micromicaceous, non calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, partly dull earthy texture, occur as thin laminae.

875-885

80% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, traces argillaceous mudstone & chalky debris, in part biostromal, calcarenite, rare slightly dolomitic, partly earthy & ratty & argillaceous, firm to crumpled to moderately hard, lumpy to blocky to subblocky, commonly loose grains to predominately peloids, 3 to 6% total visible intracrystalline porosity with vuggy & pin point porosity, no shows.
20% **Shale:** greenish grey, grey, brownish grey, in part micromicaceous, non calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, partly dull earthy texture, occur as thin laminae.

885-895

60% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, in part biostromal, slightly calcitic, partly earthy & ratty & argillaceous, in part chalky, firm to moderately hard, flaky to subblocky to blocky, commonly loose grains to predominately peloids, 3 to 5% total visible intracrystalline porosity with vuggy porosity, no shows.
40% **Shale:** greenish grey, grey, brownish grey, in part micromicaceous, non calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, partly dull earthy texture, traces siltstone stringers inclusion.

895-905

70% **Limestone:** off white, light brown, tan, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, traces argillaceous mudstone & chalky debris, in part biostromal, calcarenite, in part slightly dolomitic, partly earthy & ratty & argillaceous, firm to crumpled to moderately hard, blocky to subblocky, commonly loose grains to predominately peloids, 3 to

5% total visible interparticle & interfragmental porosity, no shows, no cut fluorescence.
30% **Shale:** greenish grey, grey to brownish grey, in part micromicaceous, slightly calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard, partly carbonaceous, partly dull earthy texture, occur as thin laminae, in part fossiliferous.

905-915

50% **Shale:** greenish grey, grey to brownish grey, in part micromicaceous, slightly calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, well indurated, occur as thin laminae, partly silty, occasionally pyretic with traces of loose scattered granular pyrite fragments, in part fossiliferous.
50% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, in part biostromal, calcarenite, in part slightly dolomitic, firm to crumpled to moderately hard, commonly loose grains to predominately peloids, 3 to 4% total visible intracrystalline porosity with vuggy porosity, no shows.

915-923

60% **Shale:** greenish grey, grey to brownish grey, in part micromicaceous, slightly calcareous, subblocky to blocky, subfissile to subplaty, smooth to gritty texture, in part laminated, moderately hard to hard, conchoidal to angular break, partly carbonaceous, well indurated, in part dull earthy texture, occur as thin laminae, partly silty, occasionally pyretic with traces of loose scattered granular pyrite fragments, in part fossiliferous.
40% **Limestone:** off white, light brown, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, in part biostromal, calcarenite, in part slightly dolomitic, firm to crumpled to moderately hard, commonly loose grains to predominately peloids, 3 to 4% total visible intracrystalline porosity with vuggy porosity, no shows.

HAY RIVER FM TOP @ 923.00m RKB (-205.85m SS)

923-935

70% **Shale:** greenish grey, grey, brownish grey, micromicaceous, generally slightly to moderately silty, micro laminated, calcareous,

dense, massive, amorphous to blocky, fissile to platy, smooth to gritty texture, well indurated, farm to moderately hard, in part thinly laminated, slightly sideritic, partly carbonaceous, >5% siltstone stringers inclusion, traces chert fragments, in part fossiliferous.
30% **Limestone:** off white, light brown, tan, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, in part biostromal, slightly dolomitic, traces argillaceous mudstone & chalky debris, partly earthy & argillaceous, 3 to 4% total visible interparticle & interfragmental porosity, no shows, no cut fluorescence.

935-945 90% **Shale:** greenish grey, grey, brownish grey, micromicaceous, generally slightly to moderately silty, micro laminated to thinly laminated, calcareous, dense, massive, amorphous to blocky, fissile to platy, smooth to gritty texture, indurated to well indurated, partly dull earthy, farm to moderately hard, slightly sideritic, partly carbonaceous, >5% siltstone stringers inclusion, in part fossiliferous.
10% **Limestone:** off white, light brown, tan, predominately cryptocrystalline with traces of microcrystalline debris, predominately mudstone with partly packstone texture, in part biostromal, slightly dolomitic, occur as thin laminae, traces argillaceous mudstone & chalky debris, partly earthy & argillaceous, 3% total visible intracrystalline porosity with vuggy porosity, no shows.

945-955 100% **Shale:** greenish grey, grey, brownish grey, partly blackish grey, micromicaceous, generally slightly to moderately silty, micro laminated on darker & harder fraction, calcareous, dense, massive, amorphous to blocky, fissile to platy, smooth to gritty texture, indurated to well indurated, partly dull earthy, farm to moderately hard, in part thinly laminated, slightly sideritic, traces loose coarse quartz grains, partly carbonaceous, >5% siltstone stringers inclusion, in part fossiliferous. <10% off white, light brown, predominately mudstone with partly packstone texture, in part biostromal limestone.

955-965 100% **Shale:** greenish grey, grey, brownish to blackish grey, micromicaceous, generally slightly to moderately silty, micro laminated on darker & harder fraction, calcareous, dense, massive, amorphous to blocky, fissile to platy, smooth to gritty texture, well indurated, in part dull earthy, farm to moderately hard, in part thinly laminated, slightly sideritic, partly carbonaceous, traces of pyrite grains, >5% siltstone stringers inclusion, in part

fossiliferous. >5% off white, light brown, predominately mudstone with packstone texture, in part biostromal limestone.

965-975 100% **Shale:** greenish grey, grey, brownish to blackish grey, micromicaceous, generally slightly to moderately silty, micro laminated on darker & harder fraction, calcareous, dense, massive, amorphous to subblocky to blocky, fissile to platy, smooth to gritty texture, well indurated, in part dull earthy, farm to moderately hard, in part thinly laminated, rare solitary & sticky, slightly sideritic, partly carbonaceous, traces of pyrite grains, >5% siltstone stringers inclusion, in part fossiliferous. >5% off white, light brown, predominately mudstone with packstone texture, in part biostromal limestone.

975-985 100% **Shale:** greenish grey, grey, brownish grey, partly blackish grey, micromicaceous, generally slightly to moderately silty, micro laminated on darker & harder fraction, calcareous, dense, massive, amorphous to blocky, fissile to platy, smooth to gritty texture, indurated to well indurated, partly dull earthy, farm to moderately hard, in part thinly laminated, slightly sideritic, traces loose coarse quartz grains, partly carbonaceous, >5% siltstone stringers inclusion, in part fossiliferous. Traces off white, light brown, predominately mudstone with partly packstone texture, in part biostromal limestone.

985 - 1225 No descriptions done

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1225-1235 100% **Shale:** medium to dark grey, greenish grey, partly dark brown to blackish grey, micromicaceous, generally slightly to moderately in part silty, micro laminated on darker & harder fraction with fine silty partings, slightly calcareous to calcareous, grading to mudstone, splintery to blocky, fissile to platy, smooth to gritty texture, partly well indurated, partly dull earthy to waxy texture, firm to friable to moderately hard, micro to thinly laminated, slightly sideritic, partly carbonaceous, randomly oriented with biotitic mica flakes, traces siltstone stringers, traces loose coarse quartz grains, <10% off white to tan argillaceous, rare pyritic, lumpy limestone grains, in part fossiliferous.

1235-1245 100% **Shale:** light grey, medium to dark grey, greenish grey, partly dark brown to blackish grey, micromicaceous, generally slightly to moderately in part silty, micro laminated on darker & harder fraction with fine silty partings, slightly calcareous to calcareous, grading to mudstone, splintery to blocky, fissile to platy, smooth to

gritty texture, partly well indurated, in part dull earthy to waxy, firm to friable to moderately hard, micro to thinly laminated, slightly sideritic, partly carbonaceous, randomly oriented with biotitic mica flakes, traces siltstone stringers, traces loose coarse quartz grains, >5% off white to tan argillaceous, rare pyritic, lumpy limestone grains, in part fossiliferous.

1245-1250 100% **Shale:** light -m grey, dark grey, greenish grey, partly dark brown to blackish grey, micromicaceous, generally slightly to moderately in part silty, micro laminated, slightly calcareous to calcareous, locally grading to mudstone, splintery to blocky, fissile to platy, smooth to gritty texture, partly well indurated, in part dull earthy to waxy texture, firm to friable to moderately hard, micro to thinly laminated, slightly sideritic, partly carbonaceous, randomly oriented with biotitic mica flakes, traces siltstone stringers, traces loose coarse quartz grains, >5% off white to tan argillaceous, rare pyritic, lumpy limestone grains, in part fossiliferous with traces of fossil fragments (?).

BEAVERHILL LAKE FM TOP @ 1250.00m (-532.85m SS)

1250-1260 100% **Shale:** medium grey to brownish grey, micromicaceous, generally silty, micro laminated on darker & harder fraction with silt partings, partly very calcareous grading to shaley limestone, dense, massive, locally grading to mudstone, splintery to blocky, subfissile to platy, smooth to gritty to waxy texture, rare earthy & well indurated, firm to moderately hard, occasionally micro to thinly laminated, slightly sideritic, in part carbonaceous with disseminated carbonaceous specks, randomly oriented with biotite mica flakes, traces siltstone stringers with loose quartz grains, traces dark argillaceous limestone with chert fragments (?), occasionally pyretic with traces of loose scattered granular pyrite fragments, traces inoceramus prism, occasionally fossiliferous.

1260-1274 100% **Shale:** medium grey to brownish grey, micromicaceous, generally silty, micro laminated on darker & harder fraction with silt partings, partly very calcareous grading to shaley limestone, dense, massive, locally grading to mudstone, splintery to blocky, subfissile to platy, smooth to gritty to waxy texture, rare earthy & well indurated, firm to moderately hard, occasionally micro to thinly laminated, slightly sideritic, in part carbonaceous with

disseminated carbonaceous specks, randomly oriented with biotite mica flakes, traces siltstone stringers with loose quartz grains,<10% off white to tan, cryptocrystalline to traces very fine crystalline, argillaceous, in part pyritic, lumpy limestone grains inclusion, traces inoceramus prism, in part fossiliferous with traces of fossil fragments.

SLAVE POINT FM TOP @ 1274.00m RKB (-556.85m SS)

1274-1280 70% **Limestone:** off white, mottled, creamy, firm to crumpled to moderately hard, lumpy to blocky, in part chalky & earthy, in part argillaceous predominately cryptocrystalline to microcrystalline with traces very fine crystalline grains, predominately mudstone to packstone with wackestone, in part pyritic with loose scattered granular pyrite fragments, in part bituminous, 3 to 5% total visible interparticle & interfragmental to earthy to vuggy porosity, no visible staining, no odor, traces light brown oil stain, spotty pale brownish yellow natural sample fluorescence, faint cut fluorescence, light brownish yellow residual ring fluorescence, poor show. 30% Shale: light to medium grey, dark to brownish grey, micromicaceous, in part silty, splintery to blocky, dull earthy to waxy texture, sideritic, in part carbonaceous.

1280-1295 100% **Limestone:** off white, mottled, creamy, firm to crumpled to moderately hard, flaky to blocky, predominately cryptocrystalline to microcrystalline, partly with fine crystalline grains, predominately wackestone to mudstone, in part dolomitic, intraclasts & occasionally bioclastic debris, in part pyritic with traces of loose scattered granular pyrite fragments, <10% medium grey to brownish grey, micromicaceous, slightly to moderately in part silty, indurated, waxy shale fragments, 3 to 12% total visible scattered intracrystalline to earthy to vuggy & interfragmental porosity, no visible staining, slight petroleum odor, traces light brown oil stain, pale brownish yellow natural sample fluorescence, faint to strong cut fluorescence, light brownish yellow residual ring fluorescence, gas show.

1295-1305 100% **Limestone:** off white, mottled, creamy, firm to crumpled to moderately hard, flaky to blocky, predominately cryptocrystalline to microcrystalline, partly with fine crystalline grains, predominately wackestone to mudstone, in part dolomitic,

intraclasts & occasionally bioclastic debris, in part pyritic with traces of loose scattered granular pyrite fragments, <10% medium grey to brownish grey, micromicaceous, slightly to moderately in part silty, indurated, waxy shale fragments, 3 to 10% total visible scattered intracrystalline to earthy to vuggy & interfragmental porosity, no visible staining, slight petroleum odor, pale brownish yellow natural sample fluorescence, faint to strong cut fluorescence, light brownish yellow residual ring fluorescence, gas show.

1305-1316 100% **Limestone:** off white, mottled, creamy, firm to crumpled to moderately hard, lumpy to blocky, predominately cryptocrystalline to microcrystalline with traces fine crystalline grains, predominately wackestone to packstone debris, in part argillaceous mudstone, dense, clean & massive, intraclasts & occasionally bioclastic debris, in part pyritic, in part dolomitic & anhydratic, traces medium grey to brownish grey, micromicaceous, indurated, waxy shale fragments, 3 to 10% total visible scattered intracrystalline to earthy to vuggy & interfragmental porosity, no visible staining, no odor, traces light brown oil stain grains, pale brownish yellow natural sample fluorescence, faint to strong cut fluorescence, very light brownish yellow residual ring fluorescence, poor show.

F4 MARKER FM TOP @ 1316.00m RKB (-598.85m SS)

1316-1326 60% **Limestone:** brown, tan, light yellow with dark brown stain, mottled, predominately cryptocrystalline with occasionally microcrystalline debris, predominately mudstone, lumpy, anhydratic & dolomitic, 3 to 5% total visible interparticle & interfragmental porosity, no odor, no visible staining, >5% light brown natural sample fluorescence, hazy cut fluorescence, no shows.
40% **Dolomite:** Dolomite: off white, stainy, creamy, predominately cryptocrystalline debris, mudstone to packstone argillaceous debris, flaky to blocky, in part argillaceous & fossiliferous, traces of shale fragments, abundant of calcite & anhydrite inclusions, 3-4% visible interparticle & interfragmental porosity, hazy cut fluorescence.

WATT MOUNTAIN FM TOP @ 1326.0m RKB (-608.85m SS)

1326-1335 70% **Shale:** green to greenish grey, micromicaceous, micro laminated, slightly calcareous, dense, massive, amorphous to subfissile, smooth to gritty texture, flaky to blocky, in part well indurated, partly dull earthy texture, moderately hard, partly carbonaceous, traces of anhydrite & chert fragments inclusion. 30% **Limestone:** brown, tan, light yellow with dark brown stain, mottled, friable to crumpled to moderately hard, lumpy to blocky, predominately cryptocrystalline with microcrystalline debris, slightly dolomitic, anhydratic, local grading to mudstone, 3 to 5% total visible in part & interfragmental porosity, hazy cut fluorescence.

1335-1345 60% **Shale:** green to greenish grey, micromicaceous, micro laminated, slightly calcareous, dense, massive, amorphous to subfissile, smooth to gritty texture, flaky to blocky, in part well indurated, partly dull earthy texture, moderately hard, partly carbonaceous, traces of anhydrite & chert fragments inclusion, traces pyritic grains with loose granular pyrite, in part fossiliferous. 40% **Limestone:** brown, tan, light yellow with dark brown stain, mottled, friable to crumpled to moderately hard, lumpy to blocky, predominately cryptocrystalline with microcrystalline debris, slightly dolomitic, anhydritic, local grading to mudstone, 3 to 5% total visible in part & interfragmental porosity, no shows, no cut fluorescence.

1345-1355 60% **Limestone:** brown, tan, light yellow with dark brown stain, mottled, friable to crumpled to moderately hard, lumpy to blocky, predominately cryptocrystalline with microcrystalline debris, in part traces argillaceous mudstone & chalky debris, calcarenite, in part grainstone to packstone, local grading to mudstone, slightly dolomitic, anhydratic, 3 to 5% total visible in part & interfragmental porosity, no shows, no cut fluorescence.
40% **Shale:** green to greenish grey, brown to brownish grey, micromicaceous, micro laminated, calcareous, greenish grey very calcareous, smooth to gritty texture, flaky to blocky, in part well indurated, brownish shale dull earthy texture, moderately hard, partly carbonaceous, traces of anhydrite & chert fragments inclusion, traces pyritic grains with loose granular pyrite, in part fossiliferous.

1355-1362 60% Limestone: brown, tan, light yellow with dark brown stain, mottled, friable to crumpled to moderately hard, lumpy to blocky,

predominately cryptocrystalline with microcrystalline debris, in part traces argillaceous mudstone & chalky debris, calcarenite, in part grainstone to packstone, local grading to mudstone, slightly dolomitic, anhydratic, 3 to 5% total visible in part & interfragmental porosity, no shows, no cut fluorescence. 40% Shale: green to greenish grey, brown to brownish grey, micromicaceous, micro laminated, calcareous, greenish grey very calcareous, smooth to gritty texture, flaky to blocky, in part well indurated, brownish shale dull earthy texture, moderately hard, partly carbonaceous, traces of anhydrite & chert fragments inclusion, traces pyritic grains with loose granular pyrite, in part fossiliferous.

SULPHUR POINT FM LS TOP @ 1362.00m (-644.85m SS)

1362-1370 100% **Limestone:** off white, cream to buff, mottled, light to dark brown, oil stain, very sharp to dense cryptocrystalline to debris, rare microcrystalline to fine crystalline grains, predominately mudstone to wackestone, in part argillaceous, slightly dolomitic & anhydratic, lumpy to blocky, moderately hard, intraclasts & occasionally bioclastic debris, traces pelletoidal inclusion, traces anhydrite grains with waxy shale fragments, traces bituminous grains, 4 to 9% total scattered visible vuggy to intracrystalline to mf porosity, no visible staining, moderate petroleum odor, traces to spotty light brownish yellow natural sample fluorescence, light greenish yellow streaming cut fluorescence, light brownish yellow residual ring fluorescence, oil & gas show.

1370-1378 100% **Limestone:** off white, cream to buff, mottled, light to dark brown, oil stain, very sharp to dense cryptocrystalline to debris, rare microcrystalline to fine crystalline grains, predominately mudstone to wackestone, in part argillaceous, slightly dolomitic & anhydratic, lumpy to blocky, moderately hard, intraclasts & occasionally bioclastic debris, traces pelletoidal inclusion, traces anhydrite grains with waxy shale fragments, traces bituminous grains, 4 to 9% total scattered visible vuggy to intracrystalline to mf porosity, no visible staining, moderate petroleum odor, traces to spotty light brownish yellow natural sample fluorescence, light greenish yellow streaming cut fluorescence, light brownish yellow residual ring fluorescence, oil & gas show.

SULPHUR POINT FM DOL TOP @ 1378.00m (-660.85m SS)

1378-1390 100% **Dolomite:** off white to light brown, tan to buff, oil stain, very sharp dense, massive, in part microcrystalline to tetrahedral crystalline debris, predominately wackestone to packstone, predominately grainy & sucrosic, rare chalky, slightly limy, in part argillaceous mudstone grains, slightly calcitic, traces calcite inclusion, rare with bituminous partings, slightly anhydritic with traces loose anhydrite grains, traces green waxy shale inclusion, in part pyritic with inclusion micro pyrite nodules, 5 to 16% total scattered visible intracrystalline, pin point & vuggy porosity, no visible staining, strong petroleum odor with spotty to even dark brownish yellow natural sample fluorescence, fast greenish yellow streaming cut fluorescence, brownish yellow residual ring fluorescence, oil & gas show.

1390-1400 100% **Dolomite:** off white to light brown, tan to buff, oil stain, very sharp dense, massive, in part microcrystalline to tetrahedral crystalline debris, predominately wackestone to packstone, predominately grainy & sucrosic, rare chalky, slightly limy, in part argillaceous mudstone grains, slightly calcitic, traces calcite inclusion, rare with bituminous partings, slightly anhydritic with traces loose anhydrite grains, in part pyritic with inclusion loose micro nodules, traces green waxy shale inclusion, 4 to 14% total scattered visible intracrystalline, pin point & vuggy porosity, no visible staining, strong petroleum odor with spotty to even dark brownish yellow natural sample fluorescence, fast greenish yellow streaming cut fluorescence, brownish yellow residual ring fluorescence, oil & gas show.

1400-1410 90% **Dolomite:** off white, cream to buff, tan, oil stain, very sharp microcrystalline to fine crystalline debris, predominately grainstone to wackestone to packstone, in part grainy & sucrosic texture, slightly limy, slightly to very anhydritic, minor argillaceous & earthy, calcarenite, 3 to 8% total scattered visible intracrystalline to vuggy to interfragmental porosity, moderate petroleum odor, traces light brownish yellow natural sample fluorescence, hazy cut fluorescence.
10% **Anhydrite:** white, off white, brown to dark brown, tan, hyaline, irregularly shaped, sharp, pearly nodules, angular cryptocrystalline with traces microcrystalline,, in part chalky, in part dolomitic, abundant of calcite inclusion.

1410-1415

90% **Dolomite:** off white, cream to buff, tan, oil stain, very sharp microcrystalline to fine crystalline debris, predominately grainstone to wackestone to packstone, in part grainy & sucrosic texture, slightly limy, slightly to very anhydritic, minor argillaceous & earthy, calcarenite, 3 to 8% total scattered visible intracrystalline to vuggy to interfragmental porosity, moderate petroleum odor, traces light brownish yellow natural sample fluorescence, hazy cut fluorescence.
10% **Anhydrite:** white, off white, brown to dark brown, tan, hyaline, irregularly shaped, sharp, pearly nodules, angular cryptocrystalline with traces microcrystalline,, in part chalky, in part dolomitic, abundant of calcite inclusion.

1415-1425.5

80% **Dolomite:** off white, cream to buff, tan, very sharp microcrystalline to fine crystalline debris, predominately grainstone to wackestone to packstone, in part grainy & sucrosic texture, slightly limy, slightly to very anhydritic, minor argillaceous & earthy, in part chalky & ratty, calcarenite, 3 to 5% total scattered visible intracrystalline to vuggy to interparticle & interfragmental porosity, slight petroleum odor, traces light brownish yellow natural sample fluorescence, hazy cut fluorescence.
20% **Anhydrite:** white, off white, brown to dark brown, tan, hyaline, irregularly shaped, sharp, pearly nodules, angular cryptocrystalline with traces microcrystalline, in part chalky, in part dolomitic, abundant of calcite inclusion.

MUSKEG FORMATION TOP @ 1425.50m KB (-708.35m SS)

1425.5-1435

70% **Anhydrite:** white, off white, brown to dark brown stain in part, hyaline, irregularly shaped, sharp, angular cryptocrystalline with traces microcrystalline, dense, abundant of calcite inclusion, in part dolomitic, traces of very fine crystalline limestone with abundant of brownish grey to tan dolomite inclusion.
30% **Dolomite:** off white, cream to buff, tan, oil stain, very sharp microcrystalline to fine crystalline debris, predominately grainstone to wackestone to packstone, in part grainy, partly chalky, slightly limy, slightly to very anhydritic, minor argillaceous & earthy, calcarenite, 3 to 7% total scattered visible intracrystalline to vuggy porosity, no odor, no shows, no cut fluorescence.

1435-1445	70% **Anhydrite:** white, off white, brown to dark brown stain in part, hyaline, irregularly shaped, sharp, angular cryptocrystalline with traces microcrystalline, dense, abundant of calcite inclusion, in part dolomitic, traces of very fine crystalline limestone with abundant of brownish grey to tan dolomite inclusion. 30% **Dolomite:** off white, cream to buff, tan, oil stain, very sharp microcrystalline to fine crystalline debris, predominately grainstone to wackestone to packstone, in part grainy, partly chalky, slightly limy, slightly to very anhydritic, minor argillaceous & earthy, calcarenite, 3 to 7% total scattered visible intracrystalline to vuggy porosity, no show, no cut fluorescence.
1445-1450	50% **Dolomite:** off white, cream to buff, tan, very sharp microcrystalline to fine crystalline debris, predominately grainstone to wackestone to packstone, in part grainy & sucrosic texture, slightly limy, slightly to very anhydritic, minor argillaceous & earthy, in part chalky & ratty, calcarenite, 3 to 5% total scattered visible intracrystalline to vuggy to interparticle & interfragmental porosity, traces light brownish yellow natural sample fluorescence, hazy cut fluorescence. 50% **Anhydrite:** white, off white, brown to dark brown, tan, hyaline, irregularly shaped, sharp, pearly nodules, angular cryptocrystalline with traces microcrystalline, in part chalky, in part dolomitic, clean, abundant of calcite inclusion.

TD OF PARA ET AL CAMERON N-06

DISTRIBUTION

The original and five (5) copies of the Geological Report on Para Et Al Cameron F-77 have been completed. The original and four (4) Copies will be forwarded to PARAMOUNT RESOURCES LTD. and "Moh & Associate Oilfield Consultants Ltd." will retain the remaining copy.

Respectfully

Moh Sahota, B. Sc. (Hons), M. Sc. Geology
President,
Moh & Association Oilfield Consultants Ltd.