

**FINAL WELL REPORT**

**PARAMOUNT RESOURCES LTD.**

**PARA ET AL CAMERON L-29**

**Grid:  $60^0 10'$ ,  $117^0 30'$**

**DATE: November 22, 2007**

**COMPANY REPRESENTATIVE:**  
**Dave Block**

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## A. INTRODUCTION

Paramount Resources Ltd. (Paramount) drilled Para et al Cameron L-29 as a 1515 meter delineation well. The well was spudded on January 28, 2007 and finished drilling on February 5, 2007. The purpose of the well was to evaluate hydrocarbon potential. The primary target was the Sulphur Point Dolomite formation which was encountered at a depth of 1407 mKB. The secondary targets were the Slave Point formation which was encountered at a depth of 1346 mKB and the Keg River formation which was not penetrated since TD was called early, based on the drilling results of the L-40 well.

The drilling contractor was Precision Drilling Ltd based out of Calgary, Alberta. Precision's Rig # 220 was used and is a land rig rated for 2400 m. The rig had a mud system capacity of 65 m<sup>3</sup> and was equipped with a boiler.

The well was drilled on Production License No PL-018 in which Paramount has an 88% working interest under Paramount's Operating License No 1159.

The exact co-ordinates of the well are as follows:

Latitude: 60<sup>0</sup> 08' 41.308"  
Longitude: 117<sup>0</sup> 35' 34.574"

Cancor Rathole Inc. drilled a 610 mm conductor hole to 12.5 meters. From surface to 0.6 meters was snow pad, from 0.6 to 1.2 meters was wet muskeg, and from 1.2 to 2.1 meters was wet silty clay, and from 2.1 to 12.5 meters was clay with boulders. A heavy walled 406 mm conductor pipe was cemented at 12.5 meters.

Precision #220 was moved onto the location starting January 27, 2007. The rig was rigged up, a diverter was nippled up and drilling commenced January 28, 2007 at 02:30 hours. A 311 mm surface hole was drilled to 435 mKB. There was gravel encountered to from 65 - 80 m and sand from 120 - 128 m. There were some minor mud ring problems noted. There were no major lost circulation problems encountered in drilling the surface hole. A string of 219.1 mm, 35.7 kg/m, J-55, ST&C surface casing was run to 435 mKB. The casing was cemented with 31 t class 'G' cement plus 1.5% CaCl<sub>2</sub>. There were 5.0 m<sup>3</sup> of cement returned to surface while cementing. The plug was bumped and the float held OK. The plug was down at 01:56 hours on January 31, 2007.

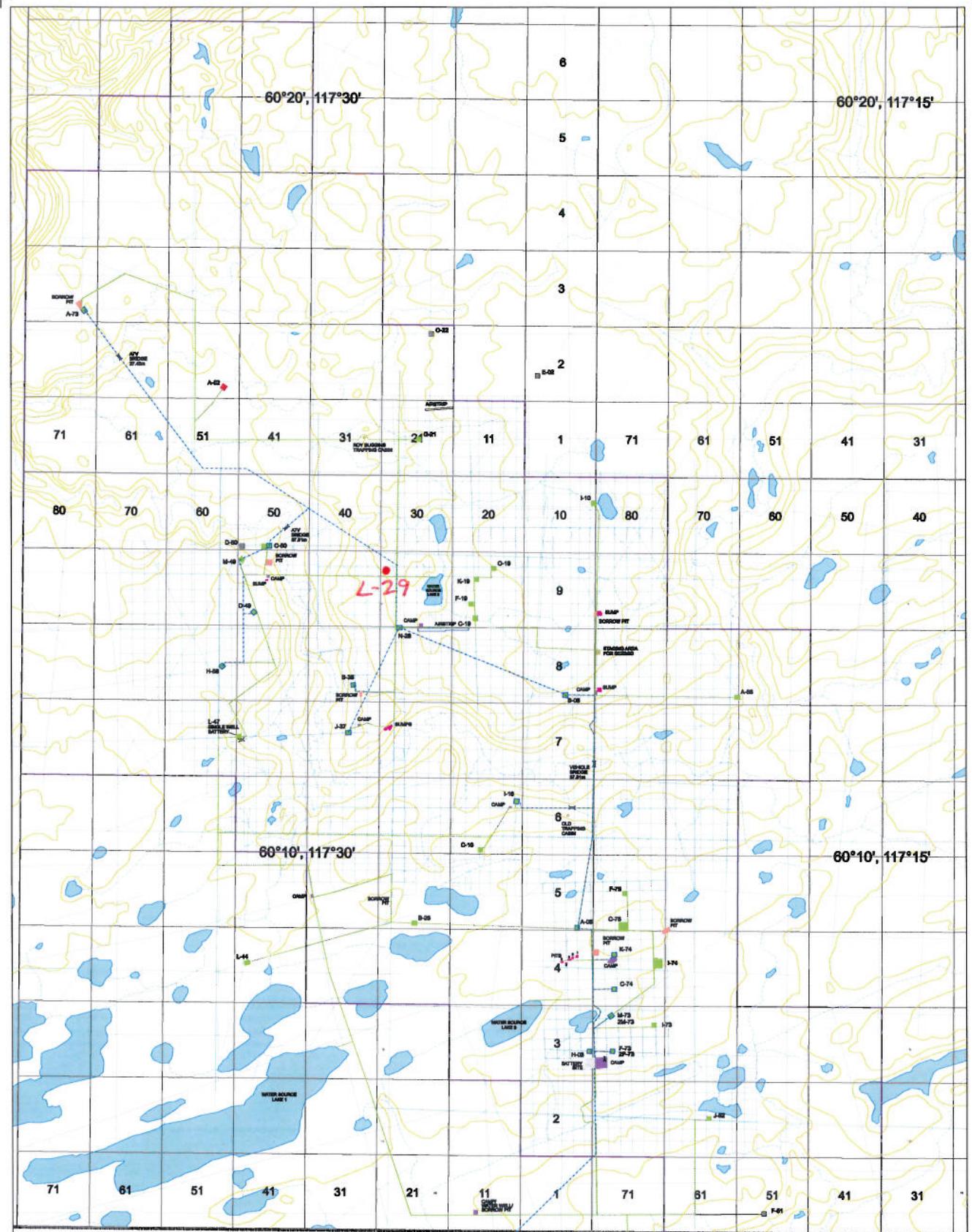
The casing and conductor were trimmed and the casing bowl was welded on. The BOP's were installed and function tested. The BOP's and manifold were pressure tested to 1500 kPa low pressure and 10,500 kPa high pressure.

The float collar and shoe were drilled out to 445 mKB on February 1, 2007. A leak off test was performed with the leak off gradient found to be 25.3 kPa/m. A 200 mm hole was drilled with a flocculated water system to approximately 1250 m. Gel was added to the drilling fluid at that point and the gel/chem mud system was then used to drill to a total depth of 1515 mKB. There were 96 m<sup>3</sup> of drilling fluid lost from 588 - 735 mKB. Two cement plugs were placed to control the losses. After drilling out the cement plugs, the hole was drilled to TD without losses. Weatherford ran induction, density, and sonic logs from bottom to surface casing and a micro-resistivity log from bottom to 1280 mKB.

139.7 mm, 23.07 kg/m, J-55, LT&C production casing was run and set at 1515 mKB. It

was cemented with 21.0 t Thixlite + 1% SMS and 12.5 t Expando LWL + 0.1% CFL-3 + 0.2% LTR + 0.2% SPC-II. There were no cement returns to surface. The plug was bumped and held.

Precision #220 was rigged out and released at 12:00 hours on January 26, 2007.



SCALE 1:40 000

Lesson



Compiled Map Showing  
**AS-BUILT JULY 2005**  
Oil & Gas Activity

**CAMERON HILLS AREA**  
Northwest Territories  
NAD83 UTM Projection

B. GENERAL DATA

1. Well Name: Para et al Cameron L-29

Authority to Drill a Well No: 2041

Exploration Agreement Number: PL-018

Location Unit: L

Section: 29

Grid Area:  $60^0 10' N, 117^0 30' W$

Classification: Delineation

2. Coordinates:

Surface:            Latitude:  $60^0 08' 41.308''$   
                          Longitude:  $117^0 35' 34.574''$

3. Unique Well Identifier: 300L296010117300

4. Operator:           Paramount Resources Ltd.

5. Contractor:        Precision Drilling

6. Drilling Unit:      Precision Rig # 220, Land Rig

7. Position Keeping: N/A

8. Support Craft (Helicopter): N/A

9. Drilling Unit Performance: Good

10. Difficulties and Delays: Lost circulation zone that was cemented off.

11. Total Well Cost: \$1,061,000

12. Bottom Hole Co-ordinates: Same as surface.

## C. SUMMARY OF DRILLING OPERATIONS

1. Elevations:  
Ground: 754.1 m above sea level  
KB: 759.5 m above sea level  
KB to Casing Flange: 5.4 m
2. Total Depth:  
FTD: 1515 mKB  
PBTD: 1508 mKB
3. Date and Hour Spudded: January 28, 2007 at 02:30
4. Date Drilling Completed: February 5, 2007
5. Date of Rig Release: February January 26, 2007
6. Well status: Cased and Suspended
7. Hole Sizes and Depths:

Conductor Hole:	610 mm to 12.5 m
Surface Hole:	311 mm to 435 mKB
Main Hole:	200 mm to 1515 mKB
8. Casing and Cementing Record:

Conductor Hole:	
Casing Size:	406 mm
Wall Thickness:	9.5 mm
Depth Set:	12.5 m
Cut Height:	At Surface
Date Set:	January 22, 2007
Cement Volume:	1.7 tonnes
Cement Type:	class 'G'
Surface Hole:	
Casing Make:	Ipsco
Casing Size:	219.1 mm
Casing Weight:	35.7 kg/m
Casing Grade:	J-55
Thread:	ST&C
Number of Joints:	33
Depth Set:	435 mKB
Cut Height:	At surface
Date Set:	January 30, 2007
Cement Volume:	31 Tonnes
Float Shoe Depth:	435 mKB
Float Collar Depth:	422 mKB
Cement Type:	Class 'G'

Additives: 1.5% CaCl<sub>2</sub>  
 Cement Top: Surface  
 Casing Bowl Size: 228 mm x 219 mm x 21 MPa  
 Casing Bowl Make: ABB Vetco

**Main Hole:**

Casing Size: 139 mm  
 Casing Weight: 23.07 kg/m  
 Casing Grade: J-55  
 Casing Make: IPSCO  
 Number of Joints: 112  
 Thread: LT&C  
 Depth Set: 1515 mKB  
 Cut Height: Surface  
 Date Set: February 6, 2007  
 Float Shoe Depth: 1515 mKB  
 Float Collar Depth: 1508 mKB  
 Cement Volume 1: 21.0 Tonnes  
 Cement Type 1: Thixlite  
 Additives 1: 1% SMS  
 Cement Volume 2: 12.5 Tonnes  
 Cement Type 2: Expando LWL  
 Additives 2: 0.1% CFL-3 & 0.2% LTR & 0.2% SPC-II  
 Cement Top: Between 125 m and surface.

9. Sidetracked Hole: N/A

10. Drilling Fluid:

Conductor Hole: Water  
 Properties: N/A

Surface Hole: Gel - Chemical  
 Properties: Viscosity: 35 - 100 sec/L  
 Weight: 1100 - 1230 kg/m<sup>3</sup>  
 PH: 9.0 - 10.0

Main (425 – 1200 m): Floc water  
 Properties: Viscosity: 40 - 45 sec/L  
 Weight: 1000 kg/m<sup>3</sup>  
 PH: 9.0

Main (1200 m – TD): Gel-chem  
 Properties: Viscosity: 30 - 85 sec/L

Weight:	1010 - 1150 kg/m <sup>3</sup>
PH:	7.0 – 11.0
Water loss:	7.0 – 11.0 cc
Solids:	Not reported
Gels:	Not reported
Filtrate:	Not reported
PV / YP:	Not reported

11. Fishing Operations: N/A
12. Well Kicks and Well Control Operations: N/A

13. Formation Leak Off Tests:

Depth:	445 m
Fluid Density:	1000 kg/m <sup>3</sup>
Applied Pressure:	6720 kPa
Hydrostatic Pressure:	4267 kPa
Mud Weight Equivalent:	2575 kg/m <sup>3</sup>
Casing setting depth:	425 mKB

The surface casing leak-off test was taken to a gradient of 25.26 kPa/m before leak off was detected.

#### 14. Time Distribution

Date	Hours	Activity
07/01/27	16.0	Move on rig, rig up
07/01/28	7.0	Rig up
	7.0	Nipple up diverter
	0.25	Safety meeting
	0.5	Rig service
	7.75	Re-drill mouse & rat hole
	0.75	Circulate and condition mud.
	0.75	Survey
07/01/29	1.0	Rig service
	15.75	Drill
	2.25	Survey
	5.0	Trip
07/01/30	7.75	Drill
	0.5	Rig service
	0.5	Safety meeting
	1.0	Survey
	6.25	Trip
	5.0	Circulate and condition mud
	3.0	Run casing
07/01/31	0.25	Safety meeting.
	0.5	Rig service.
	1.75	Cement casing
	4.0	Wait on cement
	1.0	Nipple down diverter
	1.75	Weld bowl
	11.0	Nipple up and test BOP's
	1.25	Handle tools
	2.25	Trip
	0.25	Slip and cut drill line
07/02/01	0.75	Rig service
	0.5	Slip and cut drill line
	0.75	Steam standpipe
	2.25	Circulate and condition mud
	2.75	Wait on water
	0.75	Leak off test

	1.0	Trip
	1.25	Drill out casing shoe
	13.25	Drill
	0.75	Survey
07/02/02	0.5	Safety meeting
	0.75	Rig service
	0.25	Drill
	12.0	Trip
	0.75	Run cement plugs
	2.5	Wait on cement
	3.25	Drill out cement plugs
	4.0	Circulate and condition mud
07/02/03	0.75	Rig service
	1.25	Survey
	19.5	Drill
	2.5	Drill out cement plugs
07/02/04	0.75	Rig service
	1.0	Survey
	22.25	Drill
07/02/05	0.5	Rig service
	0.5	Survey
	3.5	Drill
	6.0	Circulate and condition mud
	13.5	Trip
07/02/06	0.5	Safety meeting
	0.75	Rig service
	0.25	BOP drill
	0.75	Slip and cut drill line
	7.75	Logging
	12.5	Trip
	1.0	Circulate and condition mud
	0.5	Run casing
07/02/07	0.25	Safety meeting
	0.25	Investigate H2S alarm
	5.75	Run casing
	2.0	Circulate and condition mud
	2.0	Cement casing
	3.75	Nipple down BOP's

	10.0	Rig out rig
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### Time Break Down by Activity:

<u>Activity</u>	<u>Hours</u>
Move on, rig up:	23.0
Redrill mouse & rat hole:	7.75
Handle tools:	1.25
Drilling:	82.25
Surveying:	7.5
Tripping:	52.5
Circulate and condition mud:	21.0
Steam standpipe:	0.75
Wait on water:	2.75
Run cement plugs:	0.75
Drill out cement plugs:	5.75
Run casing:	9.25
Cementing casing:	3.75
Wait on cement	6.5
Drill out casing shoe:	1.25
Rig service:	6.75
Safety meetings:	2.25
BOP Drill:	0.25
Nipple up diverter:	7.0
Nipple down diverter:	1.0
Weld casing bowl:	1.75
Nipple up & test BOP's:	11.0
Leak off tests:	0.75
Logging:	7.75
Slip & cut drill line:	1.5
Nipple down BOP's:	3.75
Rig out:	10.0

15. Deviation Survey: See page 8 of the Geological Report in the Attachments Section.
16. Abandonment Plugs: N/A
17. Composite Well Record: See the copy of the strip log in the Geological Report in the Attachments Section.
18. Completion Record: Reported in a separate report.

D: GEOLOGY

GEOLOGICAL SUMMARY

Tops: See page 12 of the Geological Report in the Attachments Section.

Sample Descriptions: See page 13 - 17 of the Geological Report in the Attachments Section.

Total Depth: 1515 mKB MD

GAS DETECTION REPORT

A gas detector was utilized from the drill out of the conductor pipe to total depth. The gas detector readings are included on the composite geological log at the end of the Geological Report in the Attachments Section.

DRILL STEM TESTS: None.

WELL EVALUATION

The following logs were run:

Array Induction Log:	436 - 1515 mKB
Photo Density Dual Spaced Neutron Log:	0 - 1508 mKB
Compensated Sonic Log:	436 - 1512 mKB
Micro Log:	1340 - 1504 mKB

GAS, OIL, & WATER ANALYSES: N/A

FORMATION STIMULATION: N/A

FORMATION AND TEST RESULTS: N/A

DETAILED TEST PRESSURE DATA READINGS: N/A

E. ENVIRONMENTAL CONSIDERATIONS

There are no known outstanding environmental considerations on this well. The well was drilled sumpless with all drilling fluids being held in tanks on the lease. At the end of the job the water was stripped from the mud system and hauled to A-03 for re-use. The solids were hauled to a remote site at J-04 60<sup>0</sup> 10' N, 117<sup>0</sup> 30' W where they were disposed of using the mix/bury/cover technique.

# Geological Report

for

## Para et al Cameron L- 29



**Prepared for:** **Llew Williams, P. Geol**  
**Geological Manager, Northern Unit**  
**Paramount Resources Ltd.**

**Wellsite Geologist:**



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## Executive Summary

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**Para et al Cameron L-29** is a vertical development well spudded by Precision Drilling Rig #220 on January 28, 2007 @ 14:30. Surface hole 311mm was drilled to 435.5m with 219.1 mm casing landed at 435.5m. The 200mm main hole terminated in the **Muskeg** formation at 1515.0m on February 5, 2007 @ 03:45. This well may possibly be further deepened into the Keg River using a service rig.

**L-29** was drilled primarily to produce gas from the **Sulphur Point Dolomite** and secondarily to evaluate the **Keg River** and **Slave Point** for possible gas. Cutting samples were taken from 1290.0m to TD @ 1515.0m; 2 sets of vials for the NEB, and 1 set for Paramount archiving. Triple Induction, SP, Neutron / Density, Compensated Sonic, Gamma Ray, Microlog, and XY Caliper logs were run from TD to surface casing. Microlog was run from TD to 1340m. Gas Detection was run from SC to TD.

The **Sulphur Point Dolomite** is a microcrystalline to finely crystalline packstone to grainstone, with occasional medium sucrosic euhedral crystal growth. The dolomite occurred on logs at 1419.5m MD and was 8.5m thick, conformably and sharply underlain by anhydrite of the Muskeg formation. The most promising interval occurred between 1423.0 – 1428.0m. The ROP rates increase in proportion to porosity. The samples appeared quite granular in texture, showing fair sucrosic intercrystalline and vug porosity. Sample porosity was estimated at 6 - 12% over the dolomite interval. Density porosity logs (dolomite scale) confirm this, and read 16-21% from 1423.5 – 1425.5m. Cuttings were light brown to brown and saw partial dark brown oil staining. They showed bright yellow dry fluorescence with an instant streaming milky yellowish white solvent cut, and a strong petroliferous odor, as well as an oily sheen in the raw sample. Deep induction log analysis shows 22ohms at 1425.0m. (Note: this log reading was read from a “Salty Model” Induction log, with mud  $R_m = 0.6 \text{ ohm-m}$ ). Gas detector readings in this most porous interval peaked at 215 units over a baseline of 52 units, which is relatively weak. This was to be expected as the Sulphur Point Dolomite came in approximately 13.0m low to prognosis. Microlog from 1423.0 – 1427.0m indicates some mud cake build-up, also seen on caliper logs, suggesting modest permeability. **The Sulphur Point Dolomite appears to be a poor reservoir for gas production.**

## Executive Summary

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The **Sulphur Point Limestone** is predominantly a cryptocrystalline to microcrystalline wackestone to packstone, occasionally grading to a fine crystalline grainstone. It was massive, with dolomitic stringers. The limestone occurred on logs at 1407.0m MD and was 12.5m thick, conformably and sharply overlain by the waxy green calcareous shale of the Watt Mountain formation, and underlain by the Sulphur Point Dolomite. The most promising intervals occurred between 1409.5 – 1411.0m and 1413.0 – 1414.0m. The wackestone appeared as light brown inclusions in an off-white matrix, with scattered nodular and disseminated pyrite. The finely crystalline grainstone showed streaks of fair intercrystalline and moldic porosity with evidence of fair vug porosity. Sample porosity was estimated at 3-9% in these intervals. Density porosity logs (limestone scale) confirm this, and read up to 12% from 1409.5 – 1411.0m and 7% from 1413.0 – 1414.0m. Both log intervals show some cross-over. Cuttings showed dull yellowish gold dry fluorescence with a slow watery greenish cut, as well as a strong sour petroliferous odor. Deep induction log analysis shows 100-140ohms in the upper interval and 180ohms in the lower. (Note: these log readings were read from a "Salty Model" Induction log, with mud  $R_m = 0.6 \text{ ohm-m}$ ). Gas detector readings peaked at 268 units over 52 units baseline at 1411.0m and 183 units at 1414.0m. Gas readings were recorded while drilling with 1140 kg/m<sup>3</sup> mud. Microlog in both intervals indicates some mud cake build-up, also seen on caliper logs, suggesting modest permeability. Compensated sonic reads 200 us in the upper interval and 183 us in the lower. **The Sulphur Point Limestone appears to have modest potential for gas production.**

The **Slave Point** occurs on logs between 1356.5 – 1397.0m MD. It is a cream to light brown to brown mottled microcrystalline mudstone, occasionally grading to wackestone. It is predominantly tight, with assumed poor earthy porosity and occasional poor moldic and vug porosity. Gas detector response peaks at 89 units over baseline 42 units at 1365.5 – 1368.5m. This is a poor show, and density porosity reads approximately 3-4% at this point. **The Slave Point has little potential for economic production.**

The **Keg River** would be tested upon further deepening of this well, if this operation is carried out.

**Para et al Cameron L-29 was cased for production with 139.7mm casing.**

# Well Data Summary

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<b>OPERATOR</b>	Paramount Resources Ltd.
<b>WELL NAME</b>	Para et al Cameron L-29
<b>LOCATION</b>	Unit L Section 29
	Grid Area: Lat 60° 10' N Long 117° 30' W
<b>UWI</b>	300L296010117300
<b>POOL</b>	Sulphur Point Dolomite
<b>FIELD</b>	Cameron Hills
<b>PROVINCE</b>	Northwest Territories
<b>LICENCE NUMBER</b>	2041
<b>CLASSIFICATION</b>	Production
<b>A.F.E. NUMBER</b>	06N7100017

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<b>SURFACE COORDINATES</b>	Latitude: 60° 08' 41.3" North
	Longitude: 117° 35' 34.5" West

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<b>ELEVATIONS</b>	KB: 759.5m
	GL: 754.1m

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<b>TOTAL DEPTH</b>	Driller: 1515.0m MD (-755.5m SubSea)
	Logger: 1516.7m MD (-757.2m SubSea)

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<b>DRILLING CONTRACTOR</b>	Precision Drilling Rig #220
<b>ENGINEER</b>	Brian Neigum 403-997-5286 or 548-5013
<b>GEOLOGIST</b>	Brad Powell, B.Sc. 403-861-0838

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<b>SPUD DATE</b>	January 28, 2007 @ 14:30
<b>COMPLETED DRILLING</b>	February 5, 2007 @ 03:45
<b>RIG RELEASE</b>	February 7, 2007 @ 23:59

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# Well Data Summary

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**HOLE SIZE** Surface hole: 311mm  
Main hole: 200mm

**CASING** Surface: 219.1mm, 35.71 kg/m set @ 435.5m  
Production: 139.7mm, 20.83 kg/m set @ 1516.7m

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**LOGGING** STI / MRT/ SpeD / CNS / GR / XY CAL / BCS from TD to surface casing.  
Microlog from TD to top of Slave Point.

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**DSTs** none

**CORES** none

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**SAMPLES** Operator: 1 set vials (@ 5m) over interval: 1290m - TD  
NEB: 2 sets vials (@ 5m) over interval: 1290m - TD  
NEB: 1 set bags (@ 5m) over interval: 1290m - TD

**MUD RECORD** 0 – 435.5m Gelchem  
435.5 - 1200m Floc Water  
1200 - TD Gelchem

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**DIRECTIONS** From High Level, Alberta, travel north on Highway 35. 1.3km south of Indian Cabins, turn west onto main Paramount road and drive 39.0km to Paramount plant site. From the plant, drive 15.5km on main road to airstrip, then 2.5km to location, following rig signs.

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## PROBLEMS

**On Surface Hole:** Mud rings needed to be worked and cleaned out.

**On Main Hole:** Lost circulation @ 588m. Two cement plugs were run. Minor anhydrite contamination problems in mud.

# Logging Summary

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**Date:** February 6, 2007

**Logging Company:** Weatherford      **Engineer:** Matt Bonnell      **Truck:** 3415

**Mud Properties:** WT: 1135 kg/m<sup>3</sup>      Visc: 80 s/L      WL: 10 cm<sup>3</sup>/30min      pH: 10.5

Rm: 0.92ohm-m @ 25.0C      0.60ohm-m @ 49.0C  
Rmf: 0.69ohm-m @ 25.0C  
Rmc: 1.12ohm-m @ 25.0C

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**Hole Size:** 200mm

**Surface Casing:** 219.1mm, 35.7kg/m, set @ 435.5m

**Depths:** Driller: 1515.0m      Strap: 1515.5m      Logger: 1516.7m

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**Logging Times:** First Alerted: 09:40 February 4, 2007

Time Required: 22:30 February 5, 2007 (11.0 hr final notice)

Arrived: 22:30 February 5, 2007

Rig Up: 02:15 February 6, 2007

Rig Out: 08:15 February 6, 2007 (6.0 hr rig time)

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**Hole Condition:** Good

**Circulations:** 2.0hr after TD then 2.0hrs after 2 wiper trips

**Wiper Trips:** TD to surface casing

**LOGGING SEQUENCE**      **Run #1:** STI / MRT/ SpeD / CNS / Pe / GR / XY CAL / BCS

**Interval:** TD to surface casing (with MRT from TD to top of Slave Point)

**REMARKS:** Tagged bottom @ 04:00, Feb 6, 2007. Good, efficient logging job.

# Bit Record & Casing Summary

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## Bit Record

Bit #	Make	Type	Size	In (m)	Out (m)	Meters (m)	Hours	ROP (m/hr)	CONDITION
1A	Hughes	MX 1	311mm	13	222	209	14.25	16.67	4 – 4 - WT
2A	Hughes	MX 1	311mm	209	435.5	213.5	17.25	12.38	6 – 6 - WT
1	Varel	A06332	200mm	435.5	1515	1079.5	62.25	17.34	Chipped cutters

## Casing Summary

Type	Casing Size	Hole Size	Landed	Total Joints	Remarks
Surface	219.1mm	311mm	435.5m	33	33 joints of 219.1mm 35.7 kg/m, J-55, new Ipsco casing ran + collar + shoe. Cemented with Sanjel with 31.0t of 0:1:0 Class G + 1.5% CaCl2 of density 1900 kg/m3. Approximately 5.0m3 of good returns, float OK, plug down @ 02:00 January 31, 2007.
Production	139.7mm	200mm	1516.7m	114	114 joints of 139.7mm 23.07kg/m, J-55, 8RD ST&C new casing ran. Cemented with Sanjel. 21.0t Thixelite + 1% SMS lead then 12.5t Expandomix + 1% CFL-3 + 2% LTR + 2% SPCII. Plug down @ 10:15 on February 7, 2007. 2m3 returns, float OK and holding.

# Deviation Surveys

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Depth (m)	Inclination (degrees)	Azimuth (degrees)	TVD (m)	North (m)	East (m)	Section (m)	Dog Leg deg/30m	Build Rate deg/30m	Turn Rate deg/30m
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THIS WELL IS A VERTICAL WELL

0	0.00
24	1.00
53	0.40
78	0.67
106	0.69
134	1.39
162	0.78
191	1.41
238	0.73
266	1.07
294	1.26
344	0.53
372	0.65
402	0.78
426	0.52
594	0.43
692	0.52
796	0.65
897	0.33
990	0.33
1094	0.26
1201	0.48
1295	0.82
1394	1.31
1505	1.88

## Daily Drilling Summary

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- note that operations are as reported from 00:00 to 23:59 on the date shown

<u>Date</u>	<u>Depth</u>	<u>Progress</u>	<u>Operations</u>
Jan 26	0	0	Tear out. Wait on daylight to move.
Jan 27	0	0	Wait on daylight. Move rig, spot components. Rig up shacks, fire up boiler.
Jan 28	119	119	Raise derrick. Nipple up diverter, function test. Rig up rig. Run flare lines. Test accumulator and related BOP equipment. Pre-spud inspection. Spud well Jan 28, 2007 @ 14:30. Drill 311mm surface hole with Bit #1A with surveys and required rig service to 119m.
Jan 29	354	235	Drill 311mm surface hole with Bit #1A with surveys and required rig service from 119m to 222m. Circulate hole clean, work mud ring / balled bit. POOH for bit trip. RIH with Bit #2A. Drill 311mm surface hole with required surveys and rig service from 128m to 354m.
Jan 30	435.5	100.5	Circulate to bottom. Drill 311mm surface hole from 354m to 429m. Full wiper trip, wash to bottom. Work mud ring. Drill to surface casing point at 435.5m. Surface TD Jan 30, 2007 @ 14:45. Circulate hole and condition mud for running casing. POOH to run casing. Rig for and run 33 joints 219.1mm surface casing. Circulate casing. Wait on cementers.
Jan 31	435.5	0	Cement with Sanjel. Plug down Jan 31, 2007 @ 02:00. WOC. Weld on bowl, nipple up BOPs. Pressure test BOPs, manifolds, HCR, valves, rams, and other well control related equipment. Make up BHA with PDC Bit #1 and RIH. Rig service / function test.

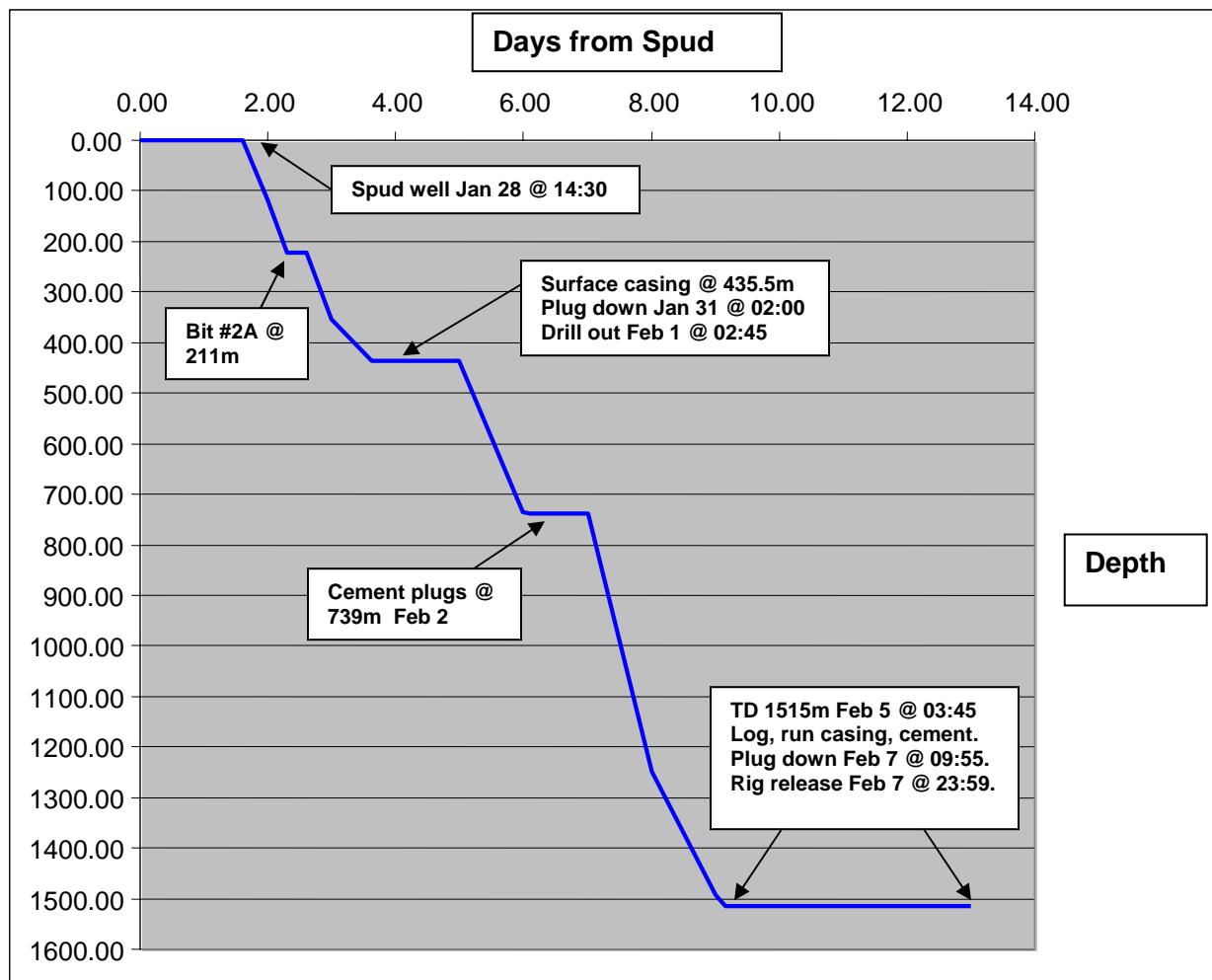
## Daily Drilling Summary

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Feb 1	735	299.5	RIH. Rig service. Drill float @ 422m and shoe @ 435.5m. Drill out @ 02:45 on Feb 1. Drill to 445m, perform leak off test, rig service and safety meeting. Circulate hole clean. Drill ahead 200mm main hole with required surveys and rig service from 435.5m to 588m. Lost circulation @ 588m. Wait on water, build volume, drill ahead with partial losses. Drill ahead to 735m. Lost 97m3 mud drilling from 588m to 735m.
Feb 2	739	4	Drill ahead 200mm main hole with required surveys and rig service from 735m to 739m. Circulate up sample. POOH, lay down bit. RIH open-ended to run cement plugs. Circulate hole and condition mud. Rig up Sanjel. Run plug #1. WOC. Tag plug #1 @ 585m. Cement with Sanjel plug #2. WOC. Tag plug #2 @ 536m. POOH. Make up BHA with Bit #1, RIH. Drill out cement plug 536m-664m.
Feb 3	1248	509	Drill out cement plug 664m-739m. Drill ahead 200mm main hole with required surveys and rig service from 739m to 1248m. Mud up @ 1200m.
Feb 4	1492	244	Drill ahead 200mm main hole with required surveys and rig service from 1248m to 1492m.
Feb 5	1515	23	Drill ahead 200mm main hole with required surveys and rig service from 1492m to 1515m Total Depth. TD reached February 5, 2007 @ 03:45. Circulate hole clean. POOH for wiper trip with flow checks. RIH. Wiper trip again to casing. Circulate on bottom, wait on loggers. POOH to log.
Feb 6	1515	0	POOH to log. Rig up Weatherford wireline @ 02:15. Logs on bottom with no problems @ 04:00. Log Run #1. Rig out tools. Rig out loggers @ 08:15. Wait on orders. RIH with flow checks to condition hole for casing. Circulate hole in preparation for running casing. POOH sideways. Rig for running casing.

# Daily Drilling Summary

Feb 7 1515 0 Run 114 joints 139.7mm production casing. Circulate casing. Rig for cementers. Cement hole with Sanjel. Plug down 09:55 February 7, 2007. WOC. Nipple down BOPs, set slips, strip mud. Tear out rig. Rig release 23:59 February 8, 2007.



## Formation Tops

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**Kelly Bushing Elevation:** 759.5m

Formation	Prognosis MD (m)	Sample MD (m)	Logger MD (m)	Log SubSea (m)
<b>Wabamun</b>	<b>529.5</b>	<b>530.5</b>	<b>532.0</b>	<b>+227.5</b>
<b>Fort Simpson</b>	<b>730.5</b>	<b>733.5</b>	<b>735.0</b>	<b>+ 24.5</b>
<b>Slave Point *</b>	<b>1345.5</b>	<b>1356.5</b>	<b>1356.5</b>	<b>- 597.0</b>
<b>F4 Marker</b>	<b>1386.1</b>	<b>1397.0</b>	<b>1397.0</b>	<b>- 937.5</b>
<b>Watt Mountain</b>	<b>1393.5</b>	<b>1408.5</b>	<b>1403.5</b>	<b>- 644.0</b>
<b>Sulphur Pt LS</b>	<b>1396.4</b>	<b>1410.0</b>	<b>1407.0</b>	<b>- 647.5</b>
<b>Sulphur Pt DOL **</b>	<b>1406.5</b>	<b>1419.5</b>	<b>1419.5</b>	<b>- 660.0</b>
<b>Muskeg</b>	<b>1418.5</b>	<b>1432.5</b>	<b>1428.0</b>	<b>- 668.5</b>
<b>M1 Dolomite Marker</b>	<b>1478.5</b>	<b>1489.0</b>	<b>1490.0</b>	<b>- 730.5</b>
<b>Keg River *</b>	<b>1509.3</b>	<b>These formations were not penetrated. TD was called for above the Keg River dolomite.</b>		
<b>PreCambrian</b>	<b>1572.0</b>			
<b>Total Depth</b>	<b>1576.5</b>	<b>1515.0</b>	<b>1516.7</b>	<b>- 757.2</b>

*\*\* Primary Zones of Interest*

*\* Secondary Zones of Interest*

## Sample Descriptions

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1285-1290 SHALE, 1) light to occasional medium gray, greenish gray to green, calcareous in part grading to argillaceous limestone, dull to micromicaceous in part, platy to blocky, fissile to firm, smooth texture, in part waxy, 2) dark gray to occasional black, rugose, blocky, calcareous in part grading to shaly microcrystalline limestone, occasional argillaceous cream to gray limestone stringers, cryptocrystalline to microcrystalline, firm, tight

1290-1300 SHALE, 1) light to occasional medium gray, greenish gray to green, calcareous in part grading to argillaceous limestone, dull to micromicaceous in part, platy to blocky, fissile to firm, smooth texture, in part waxy, 2) dark gray to occasional black, rugose, blocky, calcareous in part grading to shaly microcrystalline limestone, occasional argillaceous cream to gray limestone stringers, cryptocrystalline to microcrystalline, firm, tight

1300-1315.5 SHALE, 1) light to occasional medium gray, greenish gray to green, calcareous in part grading to argillaceous limestone, dull to micromicaceous in part, platy to blocky, fissile to firm, smooth texture, in part waxy, 2) dark gray to occasional black, rugose, blocky, calcareous in part grading to shaly microcrystalline limestone, occasional argillaceous cream to gray limestone stringers, cryptocrystalline to microcrystalline, firm, tight

1315.5-1325 SHALE, 1) light to medium gray, occasional dark gray, gray green to green, calcareous, micromicaceous in part, smooth to rugose texture, sub fissile to firm, in part waxy, scattered pyrite nods, 2) gray brown to brown, occasional black, very calcareous grading to argillaceous limestone, lumpy, rugose, firm, LIMESTONE, off white to gray, argillaceous mudstone, cryptocrystalline to microcrystalline, occasional fossil debris, scattered pyrite nods, tight, no shows

1325-1333 SHALE, 1) light to medium gray, occasional dark gray, gray green to green, calcareous, micromicaceous in part, smooth to rugose texture, sub fissile to firm, in part waxy, scattered pyrite nods, 2) gray brown to brown, occasional black, carbonaceous?, very calcareous grading to argillaceous limestone, lumpy, rugose, firm, LIMESTONE, off white to gray, argillaceous mudstone, cryptocrystalline to microcrystalline, occasional fossil debris, scattered nodular and disseminated pyrite, tight, no shows

## Sample Descriptions

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### **BEAVERHILL LAKE @ 1333.0m ( -573.5m SubSea)**

1333-1340 SHALE, light to medium gray, occasional dark gray, black, calcareous, micromicaceous in part, smooth to rugose texture, platy, sub fissile to firm, in part waxy, scattered pyrite nods, LIMESTONE, off white to gray, argillaceous mudstone, cryptocrystalline to microcrystalline, occasional fossil debris, scattered nodular and disseminated pyrite, tight, no shows

1340-1356.5 SHALE, light to medium gray, occasional dark gray, black, calcareous, micromicaceous in part, smooth to rugose texture, platy, sub fissile to firm, in part waxy, scattered pyrite nods, LIMESTONE, off white to gray, argillaceous mudstone, cryptocrystalline to microcrystalline, occasional fossil debris, scattered nodular and disseminated pyrite, tight, no shows

### **SLAVE POINT @ 1356.5m ( -597.0m SubSea)**

1356.5-1360 LIMESTONE, cream to light brown, gray brown, occasional dark brown oil stain, cryptocrystalline to predominantly microcrystalline, mudstone to occasional wackestone, in part chalky, argillaceous, flaky to blocky, scattered nodular and disseminated pyrite, dense with trace poor intercrystalline porosity, inferred poor earthy porosity, rare pale yellow fluorescence, questionable watery greenish cut, slight petroliferous odor

1360-1370 LIMESTONE, slightly darker brown, cream to light brown, gray brown, occasional dark brown oil stain, cryptocrystalline to predominantly microcrystalline, mudstone to occasional wackestone, in part chalky, argillaceous, flaky to blocky, scattered nodular and disseminated pyrite, rare bituminous partings?, dense with trace poor intercrystalline and moldic porosity, inferred poor earthy porosity, spotty whitish yellow fluorescence, weak watery to milky greenish cut, petroliferous odor

1370-1385 LIMESTONE, cream to brown, gray brown, mottled, occasional dark brown oil stain, cryptocrystalline to predominantly microcrystalline, mudstone to wackestone, in part chalky, blocky, scattered nodular and disseminated pyrite, rare bituminous partings?, dense with trace poor intercrystalline and moldic porosity, spotty dull yellow green fluorescence, weak watery to milky greenish cut, petroliferous odor

1385-1397 LIMESTONE, becoming darker, light brown to brown, dark gray brown, mottled, occasional dark brown oil stain, cryptocrystalline to predominantly microcrystalline, mudstone to wackestone, in part chalky, blocky, scattered nodular and disseminated pyrite, rare bituminous partings?, scattered pearly white ANHYDRITE stringers, dense with trace poor intercrystalline porosity, spotty dull yellowish green fluor, q weak cut, petroliferous odor

## Sample Descriptions

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### **F4 DOLOMITE MARKER @ 1397.0m ( -637.5m SubSea)**

1397-1399.5 DOLOMITE, gray to tan, microcrystalline, sandy, in part calcareous, firm, tight, no shows

1399.5-1408.5 LIMESTONE, light brown, cryptocrystalline to microcrystalline mudstone to wackestone, dolomitic in part, anhydritic in part, tight, no shows, DOLOMITE, off white to tan, cryptocrystalline to occasionally microcrystalline mudstone, calcareous in part, tight, no shows, ANHYDRITE, white to pearly, lumpy to amorphous, cryptocrystalline to microcrystalline, dense, tight, dolomitic in part

### **WATT MOUNTAIN @ 1408.5m ( -649.0m SubSea)**

1408.5-1410 SHALE, mottled gray, pale green to emerald green, waxy, blocky, calcareous in part, scattered pyrite

### **SULPHUR POINT LIMESTONE @ 1410.0m ( -650.5m SubSea)**

1410-1419.5 LIMESTONE, off white to light gray to tan, becoming slightly more brown down section, occasional gray, predominantly cryptocrystalline to microcrystalline wackestone to packstone with occasional fine crystalline grainstone, light brown inclusions in off white matrix, blocky, slightly anhydritic, dolomitic in part, scattered pyrite nodules, tight to streaks of fair intercrystalline sucrosic porosity and fine moldic porosity, evidence of fair vug porosity with free rhombs, dull yellow to yellow gold fluorescence, slow watery greenish cut, strong oily sour odor

### **SULPHUR POINT DOLOMITE @ 1419.5m ( -660.0m SubSea)**

1419.5-1425 DOLOMITE, tan to light brown, mottled, occasional dark brown, predominantly microcrystalline to fine crystalline packstone to grainstone to medium crystalline euhedral sucrosic grainstone, poor to fair intercrystalline porosity, poor to fair vug porosity with indications of larger vug porosity from free rhomb vug linings and sparry calcite, fair to good grain relief, friable, abundant bright yellow dry fluorescence, instant milky yellow white solvent cut, petroliferous odor

1425-1432.5 DOLOMITE, essentially as above, slightly darker brown, predominantly very fine crystalline to medium crystalline packstone to grainstone, poor to fair micro sucrosic to sucrosic intercrystalline porosity, poor to fair vug porosity with indications of larger vug porosity from free rhomb vug linings and sparry calcite, fair to good grain relief, friable, abundant bright yellow dry fluorescence, instant milky yellow white cut, petroliferous odor, oily sheen on sample, scattered pyrite

## Sample Descriptions

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### **MUSKEG @ 1432.5m (-673.0m SubSea)**

1432.5-1440 ANHYDRITE, off white to tan, watery to pearly lustre, occasional gray, cryptocrystalline to microcrystalline, slightly dolomitic in part, dense, tight, DOLOMITE, tan to light brown, occasional brown, microcrystalline to fine crystalline, packstone to grainstone, sandy appearance, streaky poor intercrystalline porosity, common bright yellow fluorescence, milky to watery yellow green cut

1440-1450 ANHYDRITE, off white to tan, watery to pearly lustre, occasional gray, cryptocrystalline to microcrystalline, slightly dolomitic in part, dense, tight, DOLOMITE, tan to light brown, occasional brown, microcrystalline to fine crystalline, packstone to grainstone, sandy appearance, streaky poor intercrystalline porosity, common bright yellow fluorescence, weak milky to watery yellow green cut

1450-1460 ANHYDRITE, off white to tan, watery to pearly lustre, occasional gray, cryptocrystalline to microcrystalline, slightly dolomitic in part, dense, tight, DOLOMITE, tan to light brown, occasional brown, microcrystalline to fine crystalline, packstone to grainstone, sandy appearance, anhydritic in part, streaks of poor to fair intercrystalline porosity, common bright yellow fluorescence, weak watery cut

1460-1467 ANHYDRITE, as above, DOLOMITE, tan to light brown, microcrystalline to fine crystalline packstone to grainstone, poor to fair intercrystalline porosity, poor to fine vug porosity with indications of larger vugs with sparry calcite and vug linings, bright yellow fluorescence, watery to milky yellow green cut

1467-1474 ANHYDRITE, off white to tan, watery to pearly lustre, occasional gray, cryptocrystalline to microcrystalline, slightly dolomitic in part, dense, tight, DOLOMITE stringers

1474-1477 DOLOMITE, tan to light brown, microcrystalline to fine crystalline packstone to grainstone, poor to fair intercrystalline porosity, poor to fair vug porosity with indications of larger vugs with sparry calcite and vug linings, bright yellow fluorescence, watery yellow green cut

1477-1489 ANHYDRITE, off white to tan, watery to pearly lustre, occasional gray, cryptocrystalline to microcrystalline, slightly dolomitic in part, dense, tight, DOLOMITE stringers

## Sample Descriptions

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### **M1 DOLOMITE @ 1489.0m ( -729.5m SubSea)**

1489-1494 DOLOMITE, tan to light brown to occasional dark brown, microcrystalline to very fine crystalline, occasional fine crystalline, packstone to grainstone, occasional sucrosic texture, in part anhydritic, poor intercrystalline porosity, pale yellow fluorescence, weak cut

1494-1500 ANHYDRITE, off white to tan, watery to pearly lustre, occasional gray, cryptocrystalline to microcrystalline, slightly dolomitic in part, dense, tight, DOLOMITE, tan to light brown, occasional brown, microcrystalline to very fine crystalline, packstone to grainstone, sandy appearance, anhydritic in part, streaks of poor intercrystalline porosity, scattered bright yellow fluorescence, weak watery cut

1500-1515 ANHYDRITE, off white to tan, watery to pearly lustre, occasional gray, cryptocrystalline to microcrystalline, slightly dolomitic in part, dense, tight, DOLOMITE, tan to light brown, occasional brown, microcrystalline to very fine crystalline, packstone to grainstone, sandy appearance, anhydritic in part, streaks of poor intercrystalline porosity, scattered bright yellow fluorescence, weak watery cut

### **TOTAL DEPTH @ 1515.0m ( -755.5m SubSea)**



Scale 1:240 (5"=100') Metric  
Measured Depth Log

Well Name: Para et al Cameron L-29

Location: Unit L Section 29 Grid Area: Lat 60° 10' N Long 117° 30' W

Licence Number: 2041

Region: Cameron Hills, NWT

Spud Date: Jan 28, 2007 @ 14:30

Drilling Completed: Feb 5, 2007 @ 03:45

Surface Coordinates: Latitude: 60° 08' 41.3" North

Longitude: 117° 35' 34.5" West

Bottom Hole Coordinates

Ground Elevation (m): 754.1m

K.B. Elevation (m): 759.5m

Logged Interval (m): 1290m To: 1515m Total Depth (m): 1515m

Formation: Primary = Sulphur Point DOL Secondary = Slave Pt, Keg River

Type of Drilling Fluid: Gel Chemical

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

OPERATOR

Company: Paramount Resources Ltd.

Address: 4700 Bankers Hall West

888 3rd Street S.W.

Calgary, Alberta T2P 5C5

GEOLOGIST

Name: Brad Powell, B.Sc.

Company: DeesCo Consulting

Address: #8, 914 - 20th Street S.E.

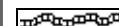
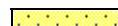
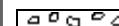
Calgary, Alberta T2G 5P5

(403) 861-0838

## Comments

This well was drilled by Precision Drilling Rig #220.  
 Paramount AFE #06N7100017  
 A Wellsite Gas Detection dual curve gas detector was run.  
 Logging data provided by Weatherford Wireline.  
 Logging Run #1: STI-SP-MRT-SPED-CNT-GR-BHS-CAL  
 Porosities displayed on a DOLOMITE scale.  
 This well was cased for potential production with 139.7mm casing.

## ROCK TYPES

	Anhy		Clyst		Igne		Salt		Sltst
	Bent		Coal		Lime mud		Shorg		Ss
	Brec		Congl		Lmst		Shale		Till
	Chtlt&dk		Dol		Meta		Mrlst		
	Cht		Gyp						

## ACCESSORIES

MINERAL	FOSSIL	TEXTURE
 Anhy	 Kaol	 Sltstrg
 Arg	 Marl	 Ssstrg
 Bent	 Minxl	
 Bit	 Nodule	
 Brecfrag	 Phos	
 Calc	 Pyr	
 Carb	 Salt	
 Chtdk	 Sandy	
 Chtlt	 Silt	
 Dol	 Sil	
 Feldspar	 Sulphur	
 Ferrpel	 Tuff	
 Ferr	 Quartz	
 Gyp	 Mmica	
 Hvymin	 Micromica	
	 Glau	
FOSSIL	STRINGER	
 Algae	 Ostra	 Boundst
 Amph	 Pelec	 Chalky
 Belm	 Pellet	 Cryxln
 Bioclist	 Pisolite	 Earthy
 Brach	 Plant	 Finexln
 Bryozoa	 Strom	 Grains
 Cephal	 Anhy	 Lithogr
 Coral	 Arg	 Microxln
 Crin	 Bent	 Mudst
 Echin	 Coal	 Packst
 Fish	 Dol	 Wackest
 Foram	 Gyp	
 Fossil	 Ls	
 Gastro	 Mrst	
 Oolite		

## OTHER SYMBOLS

## **POROSITY**

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint

**Vuggav**

Peggy	
<b>SORTING</b>	Well
<input checked="" type="checkbox"/> W	Moderate
<input type="checkbox"/> M	Poor
<input type="checkbox"/> P	

## ROUNDING

**R** Rounded  
**r** Subrnd  
**a** Subang  
**A** Angular

• **Spotted**

Ques  
 Dead

## EVENT

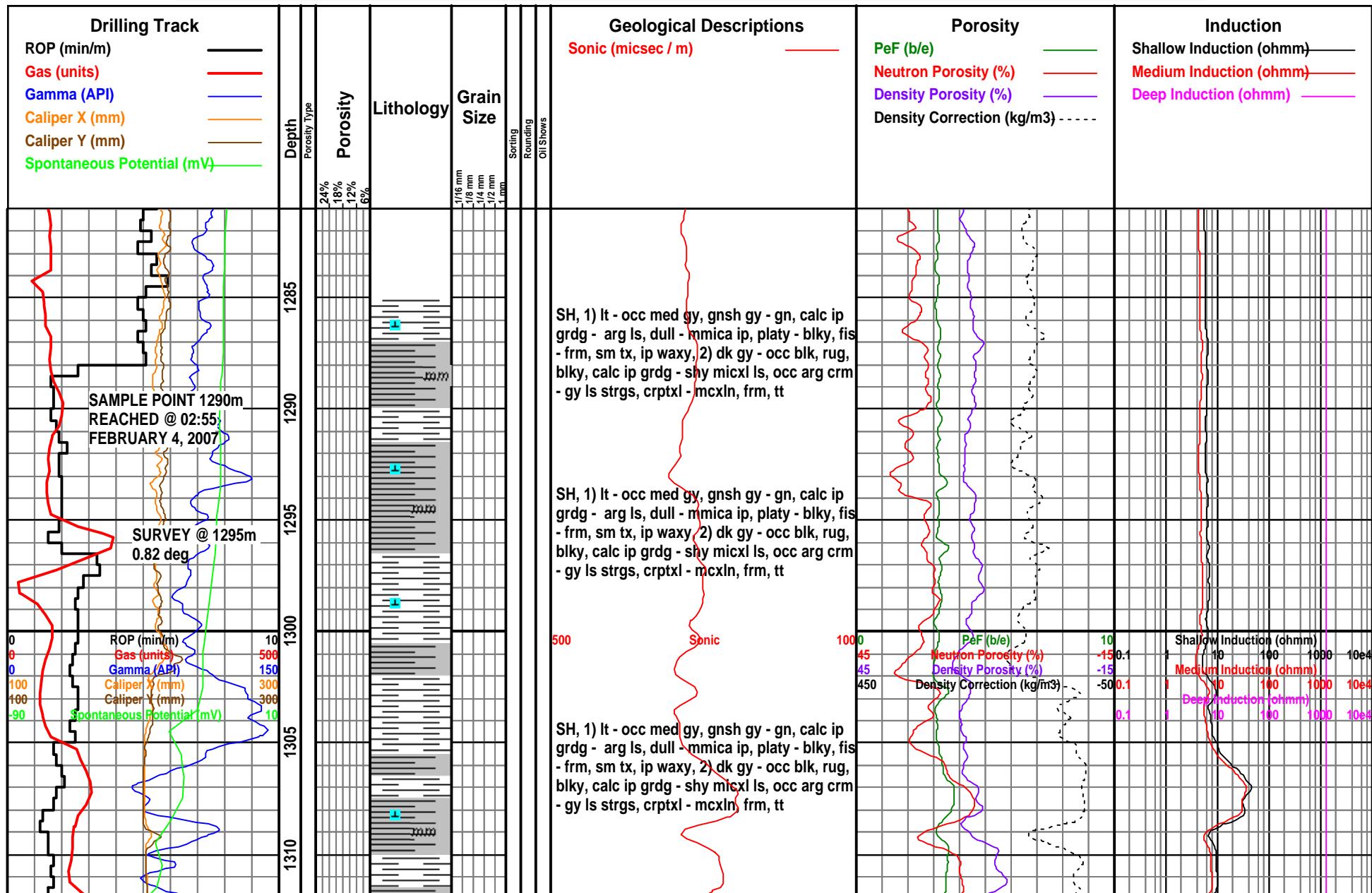
**Rft**  
**Sidewal**

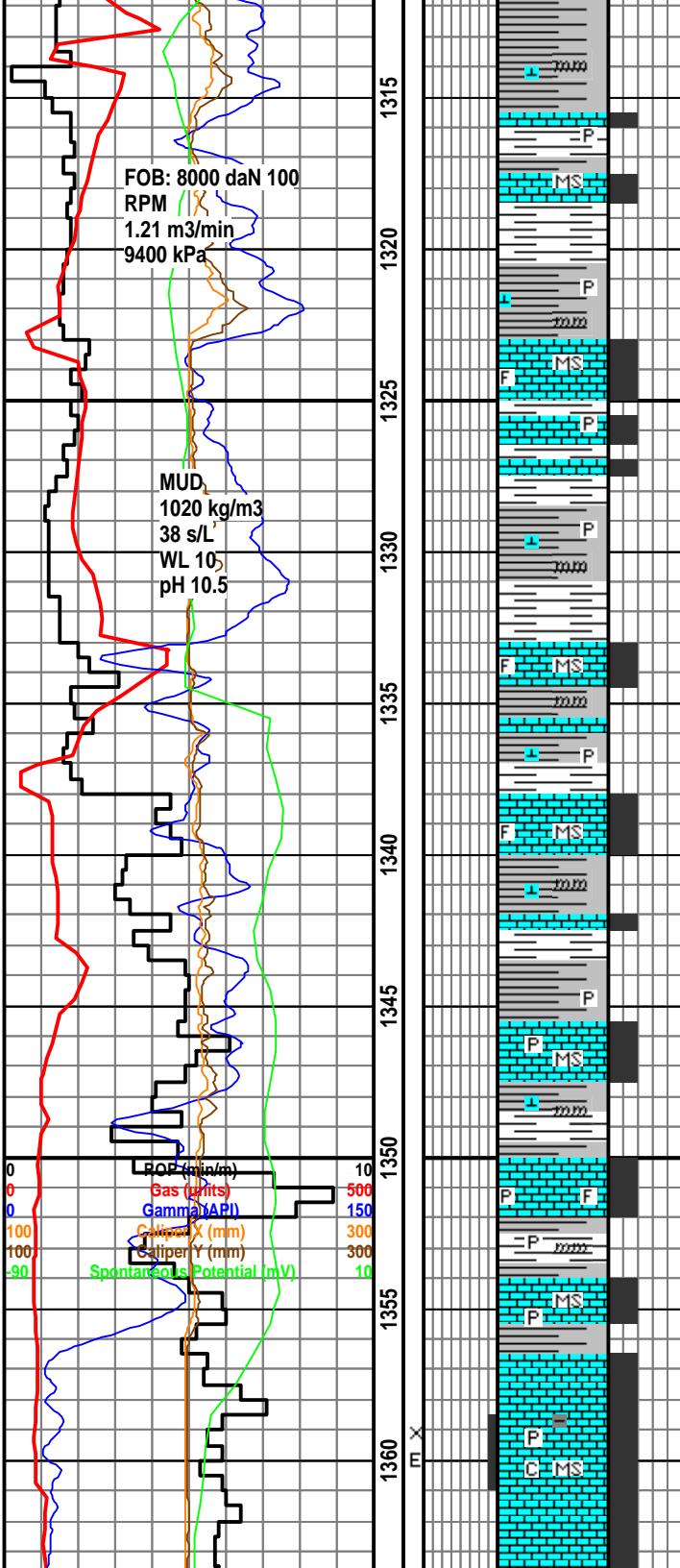
## INTERVAL

Core  
Dst

# OIL SHOW

Even





SH, 1) It - med gy, occ dk gy, gy gn - gn, calc, mmica ip, sm - rug tex, sub fis - frm, ip waxy, scat pyr nods, 2) gy brn - brn, occ blk, v calc grdg - arg ls, lumpy, rug, frm, LS, off wh - gy, arg mdst, crptx1 - mcxln, occ fos deb, scat pyr nods, tt, ns

SH, 1) It - med gy, occ dk gy, gy gn - gn,  
calc, mmica ip, sm - rug, tex, sub fis - frm, ip  
waxy, scat pyr nods, 2) gy brn - brn, occ blk,  
carb?, v calc grdg - arg ls, lumpy, rug, frm,  
LS, off wh - gy, arg mdst, crptxl - mcxln, occ  
fos deb, scat nodr and dism pyr, tt, ns

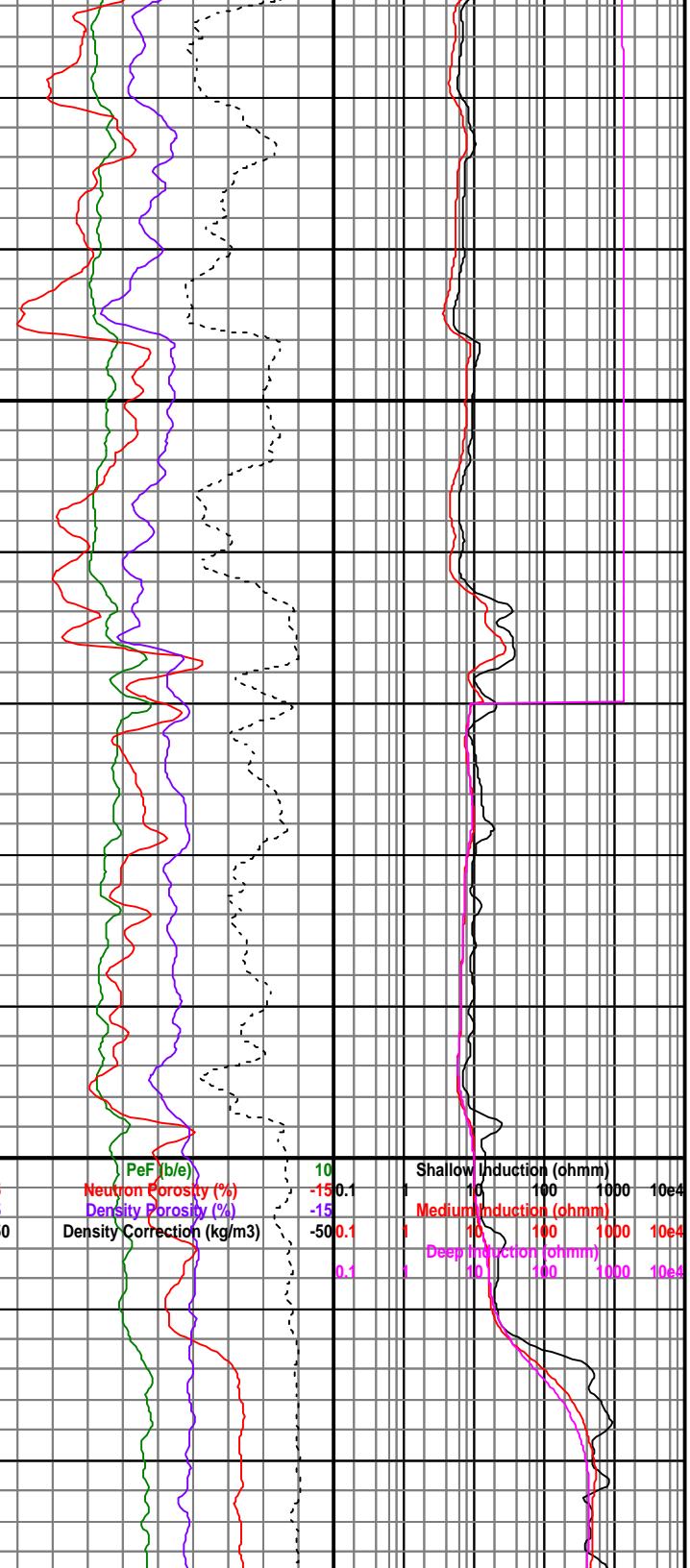
**BEAVERHILL LK @ 1333.0m  
(-573.5m SubSea)**

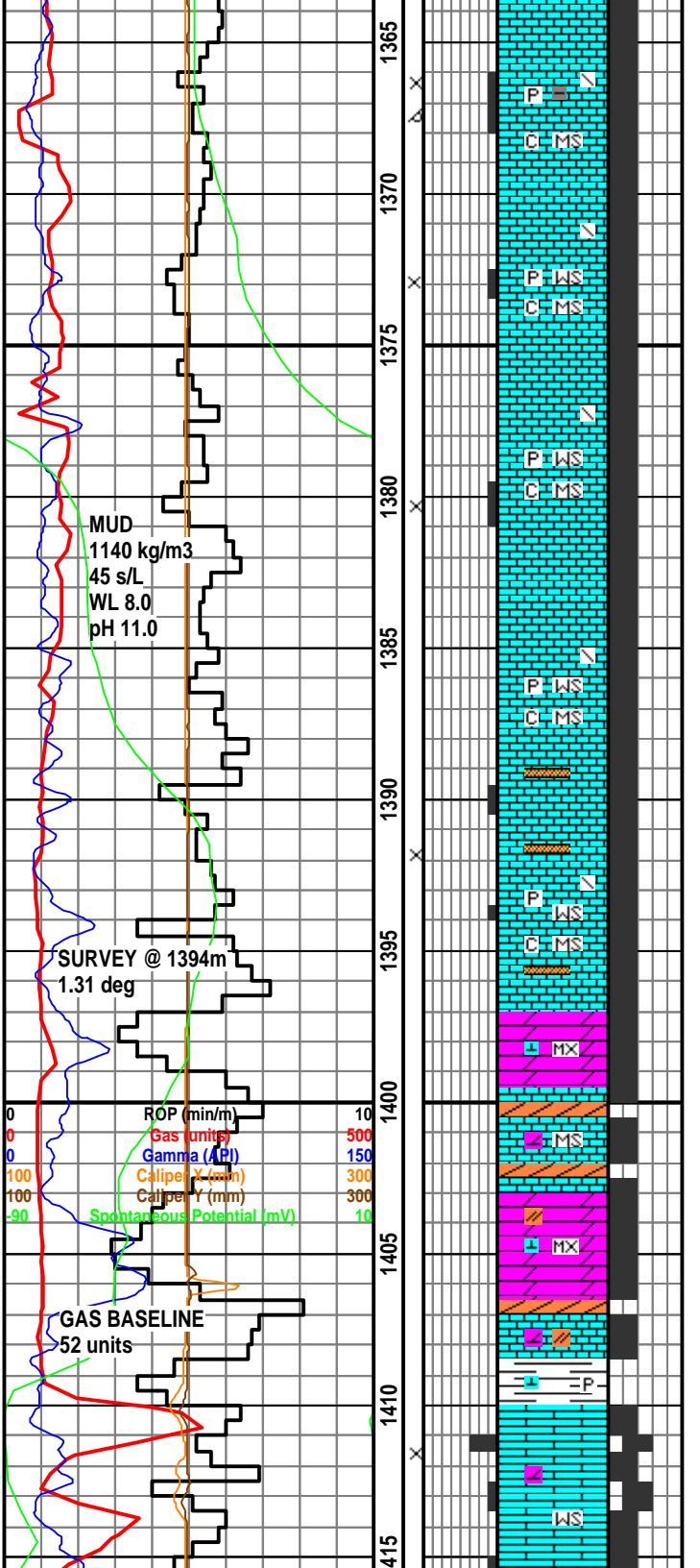
SH, It - med gy, occ dk gy, blk, calc, mmica  
ip, sm - rug tex, platy, sub lis - frm, ip waxy,  
scat pyr nods, LS, off wh - gy, arg mdst,  
crptxl - mcxln, occ fos deb, scat nodr and  
dism pyr, tt, ns

SH, It - med gy, occ dk gy, blk calc, mmica  
ip, sm - rug tex, platy, sub fis - frm, ip waxy,  
500 scat pyr nods, LS, oft wh - gy, arg mdst, 100  
Sonja  
crptxl - mcxln, occ fos deb, scat nodr and  
dism pyr, tt, ns

**SLAVE POINT @ 1356.5m  
(-597.0m SubSea)**

LS, crm - lt brn, gy brn, occ dk brn oil stn,  
cryptxl - predy mcxln, mdst - occ wkst, ip  
chalky, arg, flky - blky, scat nodr and dism  
pyr, dense with tr p intxln por, inferred p  
earthy por, rr pale yel flor, q wat greenish  
cut. sl pet odor





LS, silly darker brn, crm - lt brn, gy brn, occ  
dk brn oil stn, cryptxl - predy mcxln, mdst -  
occ wkst, ip chalky, arg, flky - blky, scat nod  
and dism pyr, rr bitns ptgs?, dense with tr p  
intxln and moldic por, inferred p earthy por,  
spotty whsh yel flor, wk wat - milky greenish  
cut, pet odor

LS, crm - brn, gy brn, mottled, occ dk brn oil  
stn, cryptxl - predy mcxln, mdst - wkst, ip  
chalky, blky, scat nodr and dism pyr, rr bitns  
ptgs?, dense with tr p intxln and moldic por,  
spotty dull yel gn flor, wk wat - milky  
greenish cut, pet odor

LS, brcmg drker, lt brn - brn, dk gy brn,  
mottled, occ dk brn oil stn, cryptxl - predy  
mcxln, mdst - wkst, ip chalky, blky, scat nod  
and dism pyr, rr bitns ptgs?, scat pearly wh  
ANHY strings, dense with tr p intxln por,  
spotty dull yel gn flor, q wk cut, pet odor

**F4 DOL MARKER @ 1397.0m  
(-637.5m SubSea)**

DOL, gy - tan, mcxln, sandy, ip calc, frm, tt, ns

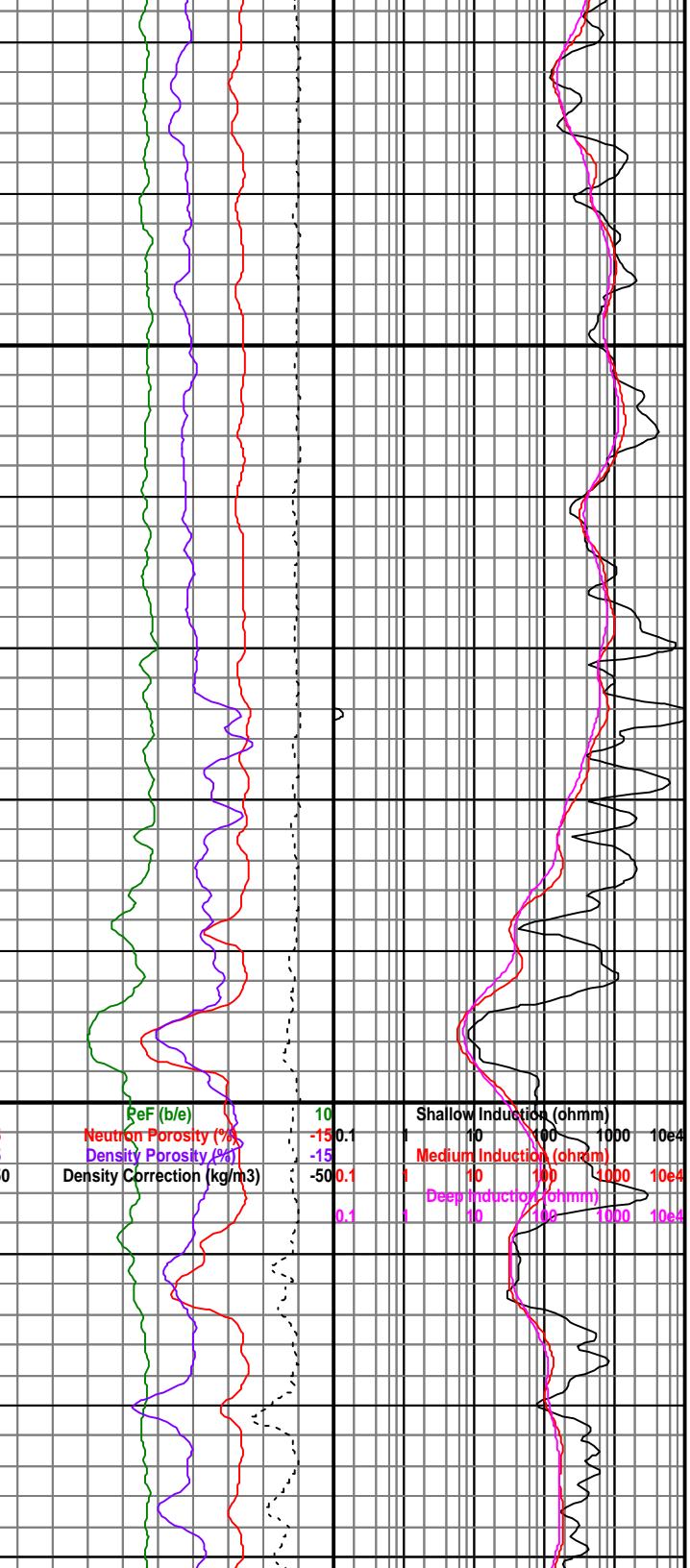
Ls, lt brn, crptxl - mcxln mdst - wkst, dolic  
500 ip, anhyd ip, tt, ns, DOL, off wh - tan, crptxl  
1000 - occ mcxln mdst, calc ip, tt, ns, ANHY, wh -  
43 pearly, lumpy - amor, crptxl - mcxln, dense  
43 tt, dolic ip  
43

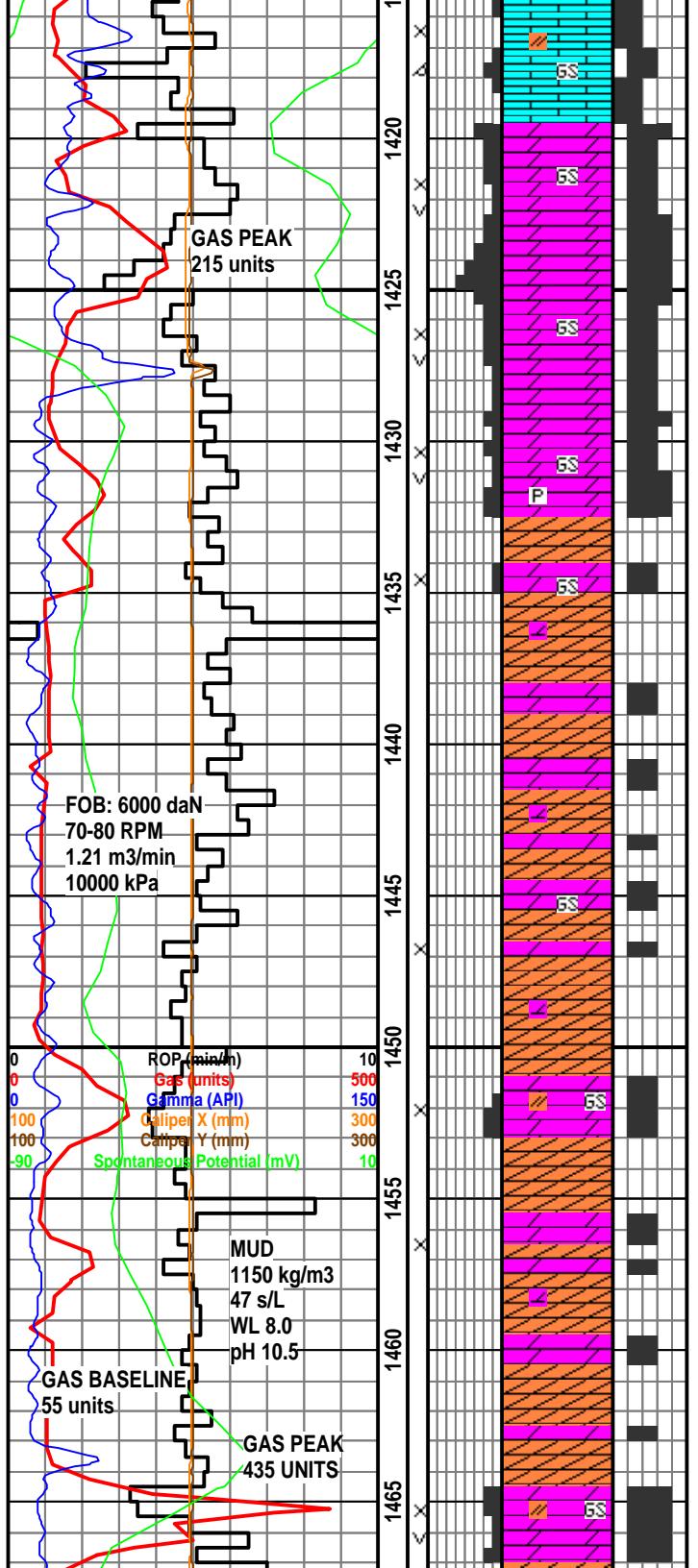
WATT MTN @ 1408.5m (-649.0m  
SubSea)

SH, mott gy, pale gn - emerald gn, waxy, blky, calc ip,  
scat pyr

**SUL PT LIMEST @ 1410.0m  
(-650.5m SubSea)**

LS, off wh - It gy - tan, bcmg sly more brn down section, occ gy, predly crpxtln - mcxln wkst - packst with occ f xln grnst, It brn inclsns in off wht mtx, blky, sly anhyc, dolic ip, scat prv nuds. tt to streaks of fr intx suc pc





and f moldic por, evidence of fr vug por with free rhombs, dull yel - yel gold flor, slow watery gnsh cut, strong oily sour odor

**SUL PT DOL @ 1419.5m  
(-660.0m SubSea)**

DOL, tan - It brn, mott, occ dk brn, predly mcxh - f xl  
packst - grnst to m xlн euhedral suc grnst, p - fr intxl  
por, p - fr vug por with indications of larger vug por from  
free rhomb vug linings and syca, fr - g gr relief, fri, abnt  
bri yel dry flor, inst milky yel wh solvent cut, petff odor

DOL, essentially aa, slightly darker brown, predly vf xin-m xin packst - grnst, p - fr micro suc - suc ~~ctxl~~ por, p - fr vug por with indications of larger vug por from free rhomb vug linings and syca, fr - g gr relief, fri, abnt bri yel dry flor, inst milky yel wh solvent cut, petr odor, oily sheen on sample, tr pyr

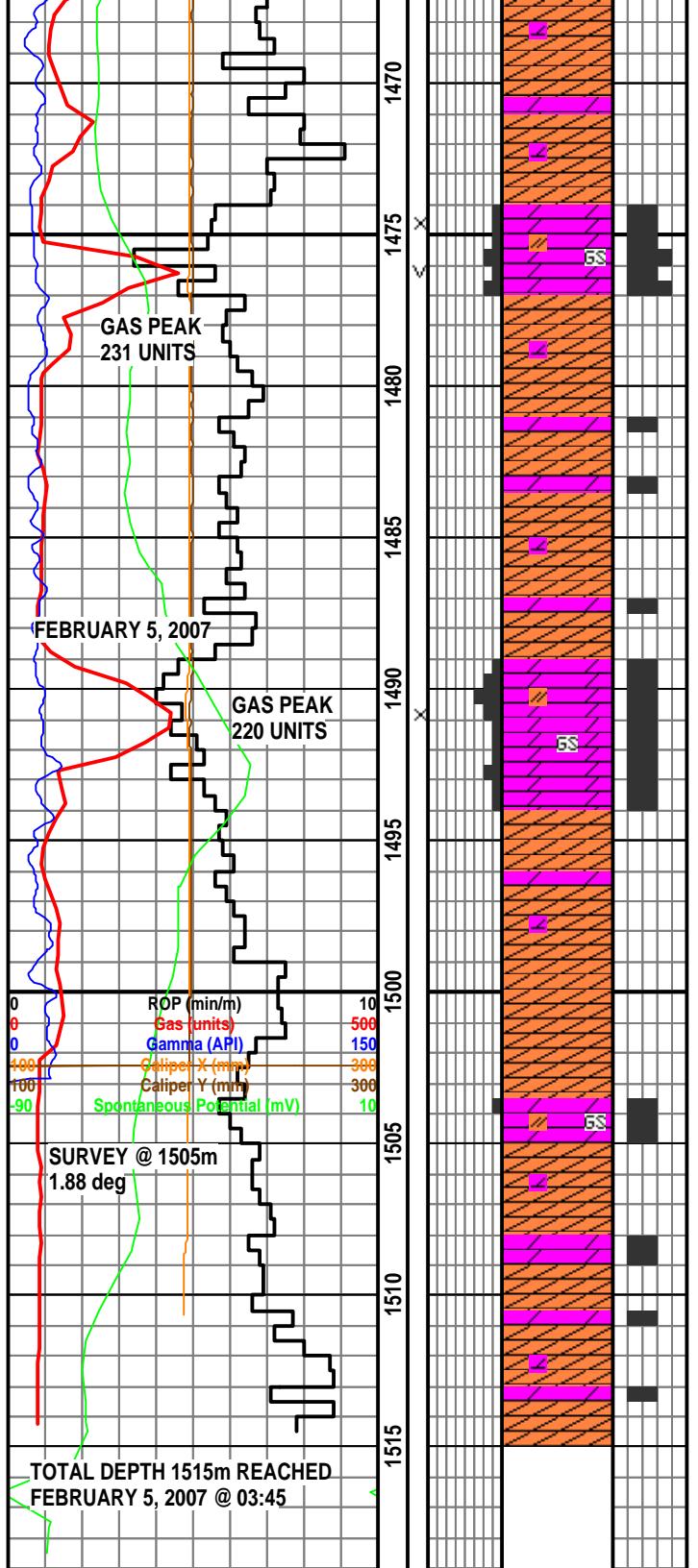
**MUSKEG @ 1432.5m (-673.0n  
SubSea)**

ANHY, off wh - tan, watery - pearly luster,  
occ gy, crptxln - mcxln, sl dolic ip, dense, tt,  
DOL, tan - lt brn, occ brn, mcxln - f xlh,  
packst - grnst, sandy appnc, streaky p intxl  
por, com bri yel flor, milky - watery yel gn  
cut

ANHY, off wh - tan, watery - pearly luster,  
occ gy, crpxtln - mcxln, sl dolic ip, dense, tt,  
DOL, tan - lt brn, occ brn, mcxln - f xln,  
packst - grnst, sandy appnc, streaky p intxl  
por, com bri yel flor, wk milky - watery yel gr  
cut

500 **Sonic** 1000  
ANHY, off wh - tan, watery - pearly luster,  
occ gy, crptxln - mcxln, sl dolic ip, dense, tt,  
DOL, tan - lt brn, occ brn, mcxln - f xlh,  
packst - grnst, sandy appnc, anhyic ip,  
streaks of p - fr intxl por, com bri yel flor, wk  
watery cut

ANHY, aa, DOL, tan - lt brn, mcxln - f xln  
packst - grnst, p - fr intxln por, p - f vug por  
with indications of larger vugs with syca and  
vug linings, bri yel flor, watery - milky yel gn  
cut



ANHY, off wh - tan, watery - pearly luster,  
occ gy, crptxln - mcxln, sl dolic ip, dense, tt,  
DOL strngrs

DOL, tan - lt brn, mxln - f xlн packst - grnst, p - fr intxlн por, p - fr vug por with indications of larger vugs with syca and vug linings. bri vel flor. waterv vel qn cut.

ANHY, off wh - tan, watery - pearly luster,  
occ gy, crptxln - mcxln, sl dolic ip, dense, tt,  
DOL strngrs

**M1 DOLOMITE @ 1489.0m  
(-729.5m SubSea)**

DOL, tan - lt brn - occ dk brn, mcxln - vf xln,  
occ f lxn, packst - grnst, occ suc tex, ip  
anhyc, p intxln por, pale yel flor, wk cut

ANHY, off wh - tan, watery - pearly luster,  
occ gy, crptxln - mxln, sl dolic ip, dense, tt,  
DOL, tan - lt brn, occ brn, mxln - vf xln,  
packst - grnst, sandy appnc, anhyc ip,  
streaks of p intxl por, scat bri yel flor, wk  
watery cut

500 Sonic

ANHY, off wh - tan, watery - pearly luster,  
occ gy, crptxln - mcxln, sl dolic ip, dense, tt,  
DOL, tan - lt brn, occ brn, mcxln - vf xln,  
packst - grnst, sandy appnc, anhyc ip,  
streaks of p intxl por, scat bri yel flor, wk  
watery cut

