

**Para et al Cameron  
K-74**



**RUNNING HORSE  
RESOURCES INC.**

# RUNNING HORSE RESOURCES INC.



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## Geological Report

on

### Para et al Cameron K-74

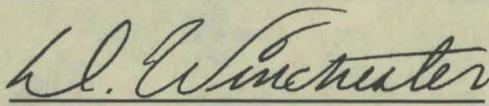
Well Reached Total Depth of 1465 metres  
on  
February 04, 2003 @ 11:40 hours.

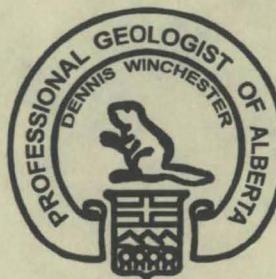
for



Prepared for: **Mr. Llew Williams**  
Paramount Resources Ltd.

Wellsite Geologist: **Brad Powell, B.Sc.**  
Running Horse Resources Inc.

Approved by:   
**Dennis Winchester, P.Geol.**  
Running Horse Resources Inc.





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## Executive Summary

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**Para et al Cameron K-74** is a vertical well spudded by Precision Drilling Rig #117 on January 24, 2003 @ 16:15. Surface hole is 311mm drilled to 430.5m with 219.1 mm casing landed at 430.5m. The 200mm main hole terminated in the **Muskeg Formation** at 1465.0m on February 4, 2003 @ 11:40.

This well was drilled primarily to produce oil from the **Sulphur Point Dolomite** and secondarily to evaluate the **Slave Point** for possible gas. Samples were taken from 1300m to TD at 1465m. An 18m core was cut of the **Sulphur Point Dolomite** from 1420.5-1438.5m. Triple Induction, SP, Neutron Density, Compensated Sonic, Gamma Ray and XY Caliper logs were run from TD to surface casing. Microlog was run from TD to 1300m.

The **Slave Point** was picked in samples at 1355m and was confirmed on logs at 1355m. It is approximately 30m thick, underlain by the Fort Vermillion formation. It can be described as cream to light brown to brown, mottled, predominantly cryptocrystalline to microcrystalline, occasional very fine crystalline, mudstone to occasionally wackestone. It was chalky in part and had scattered pellets providing some matrix support. It had argillaceous laminations and common bituminous partings. The Slave point has local poor pinpoint and vug porosity, assumed chalky/earthy porosity, and traces of poor intercrystalline porosity. Porosity increased downsection, with Density logs indicating average porosity over the section of 3-6% and porosity in the lower Slave Point 1375-1385m of 9-13%. This was co-related to drilling breaks and with gas detector responses. There were gas peaks in this lower porous interval of up to 450 units over a baseline of 50 units at 1380-1382m. Samples showed pale yellow fluorescence, with weak green watery cuts. Analysis of the induction logs showed intervals of 40-60 ohms on the deep induction, associated with the porous intervals. Curve separation suggests permeability. **The Slave Point may be of economic value at this location.**

The **Sulphur Point dolomite** is a microcrystalline to medium crystalline dolostone, occurring as breccia at the top of the formation. The dolomite was picked in core at 1424.1m and 1424.0m on logs. It was 13m thick. Observation of cores saw common euhedral dolomite crystals and rhombs growing in fractures and common good to excellent interconnected vug porosity. Good intercrystalline sucrosic porosity was also seen throughout. Density logs show average porosity of 6% with intervals of porosity up to 15% on a dolomite scale from 1431-1433m. A second interval of dolomite, occurring in what may be the Muskeg formation from 1438.5-1447m shows average porosity of 6-12%. The samples were light brown to brown and saw some good dark brown oil staining, as well as massive even oil staining in the core. The core had a slightly sour odor. The samples and core had bright yellow fluorescence with instant thick milky yellowish cuts. Induction log analysis showed an average of about 50-100ohms on the

## Executive Summary

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deep induction in the upper interval of 1424-1437m, 150 ohms in the most porous zones with good curve separation. Readings of 20-40ohms in the bottom interval of 1438.5-1447m also show good curve separation. **The Sulphur Point dolomite appears to have good potential for oil production.**

Based on sample evaluation, gas detector responses, and analysis of geophysical logs, **Para et al Cameron K-74** was cased for production.

## Well Data Summary

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OPERATOR	Paramount Resources Ltd.
WELL NAME	Para et al Cameron K-74
LOCATION	Unit K Section 74
	Grid Area: Lat 60° 10' N Long 117° 15' W
UWI	300K746010117150
POOL	
FIELD	
PROVINCE	NorthWest Territories
LICENCE NUMBER	1972
CLASSIFICATION	Production
A.F.E. NUMBER	02N31149

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SURFACE COORDINATES	Latitude: 60° 03' 40.733" North
	Longitude: 117° 29' 27.326" West

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ELEVATIONS	KB: 782.64m
	GL: 778.16m

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TOTAL DEPTH	Driller: 1465.0m (-682.36m SubSea)
	Logger: 1464.2m (-681.56m SubSea)

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DRILLING CONTRACTOR	Precision Drilling Rig #117
ENGINEER	Brian Neigum 403-997-5286
GEOLOGIST	Brad Powell 403-861-0838

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SPUD DATE	January 24, 2003 @ 16:15
COMPLETED DRILLING	February 4, 2003 @ 11:40

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## Well Data Summary

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

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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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**DST's** none

**CORE** Core #1: 1420.5 – 1438.5m **100% recovery**

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**SAMPLES** Operator: 1 set vials (@ 5m) over interval: 1300m - TD  
NEB: 2 sets vials (@ 5m) over interval: 1300m - TD  
1 set bags (@ 5m) over interval: 1300m - TD  
1 set geochem jars (@ 5m) over interval: 1300m - TD

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**DIRECTIONS** From High Level, Alberta, go north on Highway 35. 1.3km south of Indian Cabins, turn west onto main road and go 32km, staying right at all Y forks. Turn right up big hill, drive 10.5km. Turn right to location.

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### PROBLEMS

**On Surface Hole:** None.

**On Main Hole:** Lost circulation in Wabamun formation, starting at 570m. Had to drill ahead blind into Fort Simpson shale at 722m and then plug back. 5 plugs were run. The cement was drilled out and then normal drilling ahead.

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## Logging Summary

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**Date:** February 4, 2003

**Logging Company:** Computalog      **Engineer:** Dritan Kola

**Mud Properties:** WT: 1070 kg/m<sup>3</sup>    Visc: 85 s/L    WL: 10.5    pH: 9.0

**Hole Size:** 200mm

**Surface Casing:** 219.1mm, 35.7kg/m, set @ 430.5m

**Depths:** Driller: 1465.0m    Strap: 1465.0m    Logger: 1464.2m

**Logging Times:** First Alerted: 08:00 February 3, 2003

Time Required: 19:00 February 4, 2003 (8.0hr final notice)

Arrived: 18:10 February 4, 2003

**Hole Condition:** Good

**Circulations:** 1hr after TD then 1.5hr after wiper trip

**Wiper Trips:** 20 stands

### LOGGING SEQUENCE

**Run #1:** STI / MRT/ SpeD / CNS / GR / CAL / BCS

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

### REMARKS:

No problems getting logging tools to bottom for Run #1. On bottom with Run #1 @ 21:20 February 4, 2003.

# Bit Record & Casing Summary

## Bit Record

Bit #	Make	Type	Size	In (m)	Out (m)	Meters (m)	Hours	ROP (m/hr)	IADC T - B - G
1A	Smith	FTD	311mm	0	89	89	9.25	9.62	8 - 3 - IN
2A	Reed	HP-12	311mm	89	427	338	20	16.90	6 - 8 - IN
3A	Hughes	GT-1	311mm	427	430.5	3.5	0.5	70.00	1 - 2 - IN
1	Varel	665	200mm	430.5	1420.5	990	46.75	21.31	98%
2	BHC-406 coring	199 X 102	199mm	1420.5	1438.5	18	1.05	18	94%
1RR	Varel	665	200mm	1438.5	1465	26.5	3.25	8.15	97%

## Casing Summary

Type	Csg. Size	Hole Size	Landed	Total Jts	Remarks
Surf	219.1mm	311mm	430.5m	36	36 joints of 219.1mm 35.72kg/m, J-55, 8RD ST&C new casing ran. Cemented with BJ 34t of 0:1:0 Class G + 2% CaCl2. Approximately 7m3 of good returns, float OK, plug down @ 07:38 Jan 27, 2003.
Prod	139.7mm	200mm	1461.34	112	112 joints of 139.7mm 20.83 kg/m, J-55, 8RD ST&C new casing ran. Cemented with 20t of Fillite 2-125 with 0.6% R-3, 3% A-9, and 5t of G 0.4% FL-77 and 0.1% R-3. 5.0 m3 of good returns. Plug down @ 01:13 February 6, 2003.

## Deviation Surveys

#	Depth Meters	Inc Deg	Azimuth Degrees	TVD Meters	North Meters	East Meters	Section Meters	Dogleg /30m	BldRate /30m	TrnRate /30m
	30	0.50								
	60	0.50								
	90	0.50								
	124	0.50								
	152	0.75								
	177	1.00								
	206	0.25								
	234	1.00								
	274	0.50								
	292	0.75								
	320	1.00								
	351	0.50								
	379	0.75								
	408	2.00								
	430	2.00								
	529	1.00								
	644	0.75								
	760	1.00								
	856	0.25								
	948	0.75								
	1043	0.25								
	1139	0.25								
	1235	0.75								
	1330	0.25								

## Daily Drilling Summary

<u>Date</u>	<u>Depth</u>	<u>Progress</u>	<u>Operations</u>
* note that operations are as reported the previous 24hrs to 08:00 on the date shown			
Jan 24	0	0	Move rig to location. Start rigging up rig.
Jan 25	105	105	Nipple up diverter, function test. Test accumulator and related BOP equipment. Spud well January 24, 2003 @ 16:15. Drill 311mm surface hole with Bit #1A with surveys and required rig service to 90m. Raise VIS in premix mud due to pea gravel. Drill ahead to 105m. POOH trip for bit, mud pump no pressure.
Jan 26	370	265	Clean gravel from shaker tank. RIH with Bit #2. Clean out mud pump and drill ahead from 105m to 370m.
Jan 27	430.5	60.5	Circulate out mud ring. Drill 311mm surface hole with surveys and required rig service from 370m to 427m. POOH for wiper trip with strap. RIH with Bit #3A and drill to surface casing point at 430.5m. POOH. Run 36 joints 219.1mm surface casing. Circulate casing and condition mud for cementing. Rig up cementers and cement with BJ.
Jan 28	430.5	0	WOC. Nipple down diverter, weld on bowl and nipple up BOP. Wait on $\frac{1}{4}$ turn choke manifolds.
Jan 29	580	129.5	Wait on $\frac{1}{4}$ turn choke manifold. Install manifold and nipple it up to BOPs. Pressure test blind rams, kill lines, HCR, pipe rams, lower Kelly cock, annular, inside BOPs and all manifold valves. BOP drill. Drill out cement and do leak off test. Drill ahead 200mm main hole with Bit #1 with surveys and required rig service from 430.5m to 570m. At 570m, began to lose circulation with partial losses, with full losses at 575m. Drill ahead blind to 580m.

## Daily Drilling Summary

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Jan 30	722	142	Drill ahead 200mm main hole with Bit #1 with surveys and required rig service from 580m to 722m. POOH and lay down BHA. RIH open ended and wait on cementers for plug back job. Pump plug #1 7t of RAS-2. Pull out 15 stands and pump water to clean pipe. WOC.
Jan 31	722	0	Tag plug #1 @ 595.59m. Pump plug #2 3.5t of RAS-2. Pull 17 stands and WOC. RIH and tag plug #2 @ 566.77m. Pump plug #3 3.5t of RAS-2. Pull 17 stands and WOC. RIH and tag plug #3 @ 561.82m. Still circulation losses. RIH and pump plug #4 4t of RAS-2. Pull out 18.5 stands and WOC. RIH and tag plug #4 @ 550m. POOH, make up BHA and RIH, clean to top to plug.
Feb 1	722	0	RIH to start drilling out plug (top of plug is at 550m), drill to 562m, lost circulation, drill ahead with losses to 600m, POOH, RIH open ended, wait for cementers, run plug #5, WOC, POOH, RIH with BHA, tag plug #5 drill out plug to 646m
Feb 2	1182	460	Drill out plug from 646m to 722m, drill ahead 200mm main hole with Bit #1RR with required surveys and rig service from 722m to 1182m.
Feb 3	1420.5	238.5	Drill 200mm main hole from 1182m to 1420.5m core point.
Feb 4	1438.5	18	1420.5m core point, wiper trip, RIH, circulate, strap out, make up coring BHA, core 1420.5-1438.5m, POOH and recover core, RIH.
Feb 5	1465	26.5	Drill ahead 200mm main hole with required surveys and rig service from 1438.5m to TD 1465m. TD @ 11:40 January 4, 2003. Circulate 1 hour, 20 stand wiper trip, RIH, circulate 1.5 hours. POOH to log. Rig up Computalog. Log Run #1. Rig out loggers. RIH and circulate to condition hole for casing.
Feb 6	1465	0	Circulate, wait on orders. POOH to run production casing. Run 112 joints 139.7mm

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## **Daily Drilling Summary**

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production casing and cement. Plug down @ 01:13 February 6, 2003. Tear out rig. Rig release @ 08:00 February 6, 2003.

## Formation Tops

Kelly Bushing Elevation: 782.64m

Formation	Sample (m)	Logger (m)	Elevation (m)
Wabamun		558.5	+224.14
Fort Simpson		724.0	+58.64
Beaverhill Lake		1296.5	-513.86
Slave Point *	1355.0	1355.0	-572.36
F4	1397.5	1397.0	-614.36
Watt Mountain	1405.0	1405.0	-622.36
Sulphur Point LS	1411.0	1414.5	-631.86
Sulphur Point DOL **	1424.1	1424.0	-641.36
Muskeg	1438.5	1438.0	-655.36
T.D.	1465.0	1464.2	-681.56

\*\*Primary Zones of Interest

\* Secondary Zones of Interest

## Sample Descriptions

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### BEAVERHILL LAKE @ 1298m

1295-1305 SHALE 100%, 50% gray brown to medium brown, micromicaceous in part, blocky, firm, dolomitic in part, silty in part, trace calcite veining, 50% light greenish gray to light green, dull to slightly micromicaceous, platy, fissile to firm, smooth and waxy in part, calcareous, locally pyritized and pyrite nodules

1305-1310 SHALE 30% gray brown to medium brown, micromicaceous in part, blocky, firm, dolomitic in part, silty in part, trace calcite veining, SHALE 40% light greenish gray to light green, dull to slightly micromicaceous, platy, fissile to firm, smooth and waxy in part, calcareous, locally pyritized and pyrite nodules, LIMESTONE 30%, off white to light gray, micritic, mudstone, lumpy to blocky, dense, tight, locally pyritized, no shows

1310-1315 LIMESTONE 60% as above, SHALE 40%, brown and green

1315-1320 SHALE 70% light greenish gray to light green, dull to slightly micromicaceous, platy to blocky, fissile to firm, smooth waxy in part, calcareous, scattered pyrite nodules, SHALE 10% gray brown to medium brown, micromicaceous in part, blocky, firm, dolomitic in part, silty in part, trace calcite veining, LIMESTONE 20%, off white to light gray, micritic, mudstone, lumpy to blocky, dense, tight, locally pyritized, no shows

1320-1325 SHALE 80%, light greenish gray to light green, dull to slightly micromicaceous, platy to blocky, fissile to firm, smooth waxy in part, calcareous, scattered pyrite nodules, SHALE 10% gray brown to medium brown, micromicaceous in part, blocky, firm, dolomitic in part, silty in part, trace calcite veining, LIMESTONE 10%, off white to light gray, micritic, mudstone, lumpy to blocky, dense, tight, locally pyritized, no shows

### MUSKWA @ 1329m

1325-1330 SHALE 40%, dark brown to black, bituminous appearance, lumpy to blocky, firm, LIMESTONE 10%, off white to light gray, micritic, mudstone, lumpy to blocky, dense, tight, locally pyritized, no shows, SHALE 50%, brown and green, as above (cavings?)

1330-1340 LIMESTONE 40%, off white to light gray, buff to occasional light brown, micritic to occasional very fine crystalline, mudstone, lumpy to blocky, dense, tight, locally pyritized and coarse pyrite nodules, trace bioclastic debris, no shows, SHALE 40%, light greenish gray to light green, dull to slightly micromicaceous, platy to blocky, fissile to firm, smooth waxy in part, calcareous, scattered pyrite nodules, SHALE 20% dark brown to black, bituminous appearance, trace limy streaks, blocky, firm

## Sample Descriptions

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1340-1350 LIMESTONE 40%, off white to light gray, buff to occasional light brown, micritic to occasional very fine crystalline, mudstone, lumpy to blocky, dense, tight, locally pyritized and coarse pyrite nodules, trace bioclastic debris, no shows, SHALE 50%, light greenish gray to light green, dull to slightly micromicaceous, platy to blocky, fissile to firm, smooth waxy in part, calcareous, scattered pyrite nodules, SHALE 10% dark brown to black, bituminous appearance, trace limy streaks, blocky, firm

1350-1355 LIMESTONE, 50% as above, SHALE 50% light greenish gray to light green, as above, ROP falling off, becoming limier down section

### SLAVE POINT @ 1355m

1355-1360 LIMESTONE 100%, cream to light brown, brown, cryptocrystalline to very fine crystalline, mudstone to wackestone, in part chalky, argillaceous in part, lumpy to blocky, scattered pyrite nodules and locally disseminated pyrite crystals, local bitumen, trace fossil debris, dense with trace poor intercrystalline porosity, inferred earthy porosity, tight, questionable show

1360-1365 LIMESTONE 100%, cream to light brown to brown, mottled, predominantly cryptocrystalline to microcrystalline, occasional very fine crystalline, mudstone to occasionally wackestone, in part chalky, argillaceous in part, lumpy to blocky, scattered pyrite nodules and locally disseminated pyrite crystals, trace bituminous partings, dense, massive, generally tight with trace local poor pinpoint and vug porosity, assumed chalky/earthy porosity, pale yellow fluorescence, weak green watery cut, slightly gassy odor

1365-1370 LIMESTONE 100%, cream to light brown to brown, mottled, predominantly cryptocrystalline to microcrystalline, occasional very fine crystalline, mudstone to occasionally wackestone, scattered pellets, in part chalky, argillaceous laminations, lumpy to blocky, scattered pyrite nodules and locally disseminated pyrite crystals, common bituminous partings, dense, massive, generally local poor pinpoint and vug porosity, assumed chalky/earthy porosity, trace poor intercrystalline porosity, pale yellow fluorescence, very weak green watery cut

1370-1375 LIMESTONE 100%, cream to light brown to brown, mottled, predominantly cryptocrystalline to microcrystalline, occasional very fine crystalline, mudstone to occasionally wackestone, scattered pellets, in part chalky, argillaceous laminations, lumpy to blocky, scattered pyrite nodules and locally disseminated pyrite crystals, common bituminous partings, dense, massive, generally local poor pinpoint and vug porosity, assumed chalky/earthy porosity, trace poor intercrystalline porosity, pale yellow fluorescence, very weak green watery cut, oily odor and slight sheen on sample when washing

## Sample Descriptions

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1375-1385 LIMESTONE 100%, cream to light brown to brown, mottled, cryptocrystalline to coarse crystalline, mudstone to wackestone, argillaceous matrix supported grains, scattered pellets, in part chalky, argillaceous laminations, lumpy to blocky, scattered pyrite nodules and locally disseminated pyrite crystals, common bituminous partings, scattered sparry calcite crystals, massive, local good pinpoint and vug porosity, assumed chalky/earthy porosity, trace fair intercrystalline porosity, pale yellow fluorescence, watery yellow white cut

1385-1390 LIMESTONE 80%, cream to brown, very mottled, mudstone to wackestone, microcrystalline to coarse crystalline, argillaceous, lumpy to blocky, dolomitic in part, tight, yellow fluorescence, weak faint green cut, DOLOMITE 20%, medium brown, cryptocrystalline to microcrystalline, blocky, firm, tight, questionable show, minor ANHYDRITE stringers, off white to tan, cryptocrystalline, pearly lustre in part, calcareous in part, soft

1390-1395 LIMESTONE 70%, cream to brown, very mottled, mudstone to wackestone, microcrystalline to coarse crystalline, argillaceous, lumpy to blocky, dolomitic in part, tight, yellow fluorescence, weak faint green cut, DOLOMITE 20%, medium brown, cryptocrystalline to microcrystalline, blocky, firm, tight, questionable show, 10% ANHYDRITE stringers, off white to tan, cryptocrystalline, pearly lustre in part, calcareous in part, soft

### F4 MARKER @ 1397.5m

1395-1400 LIMESTONE 70%, cream to brown, very mottled, mudstone to wackestone, microcrystalline to coarse crystalline, argillaceous, lumpy to blocky, dolomitic in part, anhydritic in part, tight, yellow fluorescence, weak faint green cut, DOLOMITE 10%, medium brown, cryptocrystalline to microcrystalline, blocky, firm, tight, questionable show, 10% ANHYDRITE stringers, off white to tan, cryptocrystalline, pearly lustre in part, calcareous in part, soft, 10% SHALE, gray to green

1400-1405 LIMESTONE 70%, cream to light brown, occasional light gray tan, becoming lighter than as above, predominantly microcrystalline mudstone to finely crystalline wackestone, argillaceous in part, silty, scattered anhydrite and dolomitic streaks, lumpy to blocky, scattered fossil debris including Crinoids, Ostracods, streaks of poor pinpoint and inter crystalline porosity, no shows, 20% ANHYDRITE, pearly to opaque in part, off white to tan, firm, tight, 10% SHALE partings, gray to green, platy, fissile, trace varicoloured coarse free quartz grained

### WATT MOUNTAIN @ 1405m

1405-1411 SHALE 100%, slightly greenish gray to mint green, occasionally bright blue green, waxy, soft, slightly calcareous in part, common disseminated pyrite and very

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## Sample Descriptions

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coarse cubic pyrite crystals and crystalline clusters, scattered rounded coarse to granule sized frosted varicoloured free quartz grained

### **SULPHUR POINT LIMESTONE @ 1411m**

1411-1415 LIMESTONE 70%, predominantly off white to tan, light brown to dark brown, occasionally gray, cryptocrystalline to medium crystalline, mudstone to wackestone with argillaceous lime matrix, chalky, lumpy to blocky, tight with streaks of poor pinpoint porosity, assumed earthy porosity, slight oily odor, trace bituminous partings, trace unspecified fossil debris inclusion Crinoids, scattered dull gold fluorescence, no cut, SHALE 30%, as above (cavings)

1415-1420.5 LIMESTONE 100%, off white to tan, light to dark brown, occasionally gray, cryptocrystalline to medium crystalline, mudstone to in part bioclastic wackestone with argillaceous lime matrix, chalky in part, lumpy to blocky, tight with streaks of poor pinpoint porosity, assumed earthy porosity, scattered unspecified fossil debris, scattered dull gold fluorescence, questionable show

### **1420.5-1438.5 SEE DETAILED CORE STRIPLOG FOR DESCRIPTIONS OVER THE INTERVAL 1420.5 to 1438.5m**

1420.5-1424.1 LIMESTONE breccia, buff to tan rock fragments with light brown to brown lime mud matrix, cryptocrystalline to microcrystalline, collapse breccia?, very worked, fracturing throughout, predominantly mudstone, in part chalky, with trace dark grey shale partings, trace spotty bleeding oil and oil staining, very dense, firm, generally tight, waxy green shale partings, scattered stylolites, scattered calcite veining, trace pyrite, dolomitic streaks

### **SULPHUR POINT DOLOMITE @ 1424.1m**

1424.1-1427.4 DOLOMITE, light greyish brown to dark greyish brown, streaks of dark brown oil staining, rough texture, mottled, microcrystalline, to very fine crystalline, poor to streaks of excellent interconnected vug porosity with vugs to 2 to 3cm with 1cm clear euhedral rhombs in vug linings, with seeping oil, fair intercrystalline porosity

1427.4-1428.1 DOLOMITE, light to dark brown, with even heavy dark brown oil staining, saturated with oil with bleeding from pores, microcrystalline, to very fine crystalline, even deep yellow to gold fluorescence, excellent sucrosic intercrystalline and vuggy porosity, banded in part, good vertical fracturing

1428.1-1435 DOLOMITE, off white to dark brown oil stained, banded in part, predominantly microcrystalline to very fine crystalline, to fine lower crystalline, bleeding oil, poor to excellent vug porosity, ex sucrosic intercrystalline porosity, common

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## Sample Descriptions

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fractures throughout, fine clear euhedral rhombs lining vug and fracture surfaces, vugs to 2 to 3cm, scattered free rhombs and fragments in sample, oil soaked section with strong yellow to gold fluorescence, lower section has crumbly, rough texture, scattered dark shale partings

1435-1437 DOLOMITE, becoming lighter, tan to even oil stained, very fine to finely crystalline, good intercrystalline porosity, sucrosic, very fractured, with euhedral rhombs and calcite lining vugs and fracture surfaces, vugs to 1cm, in part interconnected, trace green waxy shale partings locally pyritized and pyrite crystals, streaks of excellent intercrystalline and vug porosity, even yellow to gold oil staining

1437-1437.4 SHALE, dark grey to dark grey green, soft, waxy, argillaceous, common slickensides

1437.4-1438.5 SHALE AND ANHYDRITE?, tan to slightly greenish grey dolomitic anhydrite fragments in a argillaceous dark greyish green mud matrix, anhydrite is very firm, dense and tight, whole section is very crumbly

### MUSKEG @ 1438.5m

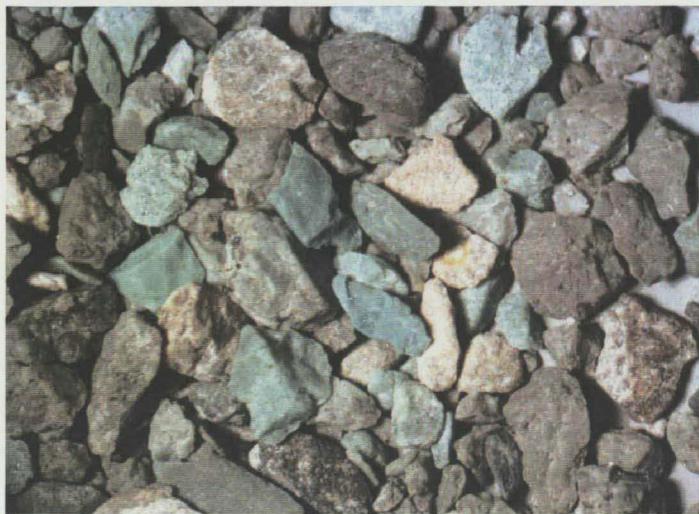
1438.5-1440 SHALE 80%, gray to green gray, light green, waxy smooth, platy, fissile, locally pyritized abundant pyrite crystals, DOLOMITE 20%, tan to light brown, cryptocrystalline to microcrystalline, mudstone, anhydritic, tight, dense, firm, no show

1440-1445 DOLOMITE 100%, light to dark brown oil stained, microcrystalline to medium crystalline, sucrosic, fair to good intercrystalline porosity, scattered free rhombs in sample suggest fracture and vug porosity, locally anhydritic, pale yellow fluorescence, weak green cut

1445-1450 DOLOMITE 70%, light to dark brown oil stained, microcrystalline to medium crystalline, sucrosic, fair to good intercrystalline porosity, scattered free rhombs in sample suggest fracture and vug porosity, locally anhydritic, local pyrite, pale yellow fluorescence, weak green cut, ANHYDRITE 30%, pearly to off white to tan, occasional gray, cryptocrystalline, dense, tight

1450-1455 ANHYDRITE 90%, pearly to off white to tan, occasional gray, cryptocrystalline, dense, tight, DOLOMITE 10%, light to dark brown oil stain, microcrystalline to very fine crystalline, fair to good intercrystalline porosity, streaks of good vug porosity, pale yellow fluorescence, weak green cut

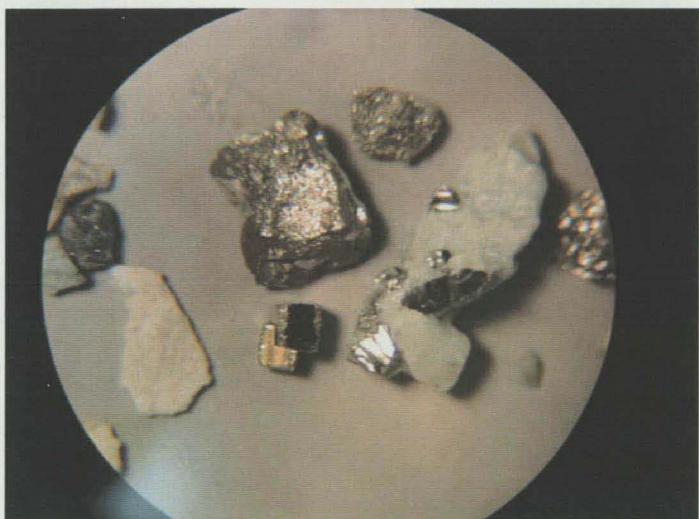
1455-1465 ANHYDRITE 100%, pearly to watery lustre in part, off white to tan to light brown, occasional gray, cryptocrystalline, dense, tight, scattered DOLOMITE stringers, scattered cubic pyrite crystals



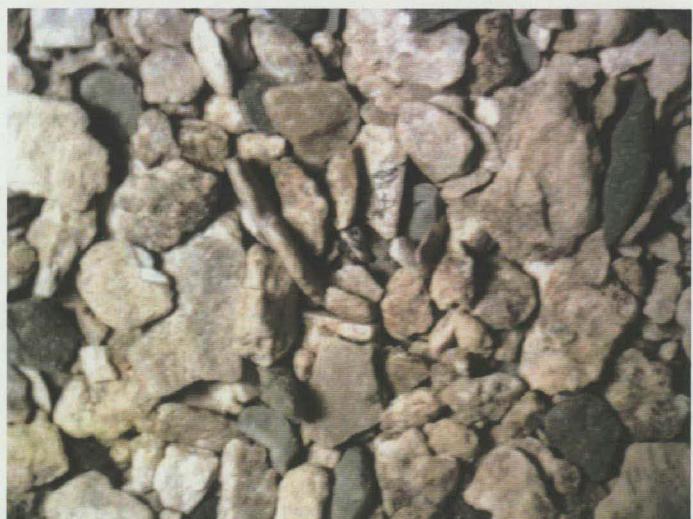
1410m, Watt Mountain apple green shale 10X



1410m, Watt Mountain apple green Shale 30X



1411m, Watt Mountain, Cubic Pyrite Rhombs



1375m, Slave Point Limestone, 10X zoom



1375m, Slave Point Limestone, 30X zoom



1433m, Sulphur Point Dolomite in Core, 30X



1435m, Sulphur Point Dolomite 10X zoom



1435m, Sulphur Point Dolomite 30X



Sulphur Point Dolomite  
Taken from the Core at  
1433m.

1460m, Muskeg  
Anhydrite + tight  
Dolomite





Muddy Core right out of Core Barrel



1420.8m, Very Tight Sulphur Point Ls.



1425m, rough mottled Sulphur Pt. Dolomite



Vugs & Dol rhombs lining fracture surface



1427m, Sulphur Point Dolomite with abundant Pin-point & Vuggy porosity

1427m, Sulphur Point Dolomite with medium brown weeping oil

