

Geological Report

on

Paramount et al Liard K-29A sidetrack K-29A intermediate hole

**Well Reached Total Depth on
Sep 20, 2005 @ 14:15**

for

Paramount Resources Ltd.

Prepared For: Paul Price
Paramount Resources

Prepared By: Ken Glover
Chalce Resources

Ken Glover

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NATIONAL ENERGY BOARD
Exploration and Production

NOV 18 2005

GEOLOGICAL WELL REPORTS FOR K-29A SIDETRACK

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Kickoff on Aug 25, 2005 at 5:00 hours. Reach 2520.62 m (MD) on Sept 1, 2005 at 2:30 hours.
Drill string stuck in hole at 2520.62 m, worked at getting unstuck until Sept 6, 2005.
Run abandonment plug from 2435 to 2290 m on Sept 7, 2005.
Begin drilling sidetrack well on Sept 8, 2005.
Successful sidetrack kickoff on Sept 13, 2005.
Reach intermediate casing point on Sept 20, 2005.
Finish logging intermediate hole on Sept 22, 2005 @ 13:45 hours.

Well Summary

Storage Units:

Metric

Well Information

Operator: Paramount Resources Ltd.
Well Name: Paramount et al Liard K-29A sidetrack
Location: K-29A
UWI: 300k296030123303
Pool: N/A
Field: Liard K-29
State / Province: Northwest Territories
Country: Canada
License Number: 1125
Well Status:

Surface Co-ordinates

Hole Type: Deviated
Latitude: 60 28 41.040

Fault Indicator:
Longitude: 123 35 4.100

N / S: 6704591.45
E / W: 467870.02

Bottom Hole Co-ordinates

Latitude:**Longitude:**

N / S:
E / W:

Elevations

Ground Elevation:	409.60	Reference:	Ground
Kelly Bushing Elevation:	416.40	Kelly Bushing to Ground:	6.80
Casing Flange Elevation:		Cut (-):	
		Fill (+):	

Total Depth

Total Depth Driller (Tally):	Measured Depth	True Vertical Depth
	2,566.00	2,465.17
Total Depth Driller (Strap or SLM):		
Total Depth Logger:	2,568.00	2,466.50

Miscellaneous Depths

Plugback Depth:	2,435.00	Water Depth Reference:
Sidetrack Depth:	2,290.00	Water Depth:

Well Summary

Drilling Contractor: Akita Drilling Rig #58
Rig Release Date:

Spud Date: Aug 25, 2005 @ 05:00
Total Depth Date: Sep 20, 2005 @ 14:15

Cores	#	Formation	Interval	Cut	Recovered	%
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Casing Summary

Casing Type	Casing Size	Landed Depth	Hole Size
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Well Summary

Storage Units:

Metric

Logging Summary

Company	Engineer	Total Depth (MD)	Logging tools
Baker Atlas	Tim Fisher	2,566.00	oil based image log; TD to casing window
			Gamma Ray, Caliper, Compensated Z-Density, Compensated Neutron, High Definition Induction, Multipole Array Acoustic; log TD to casing window for second pass with XMAC; High Res: 2000 to 2100 m; 2150 to 2200 m; 2445 to 2505 m
			Gamma Ray, Caliper, Compensated Z-Density, Compensated Neutron, High Definition Induction, Multipole Array Acoustic; log TD to casing window; problems communicating with neutron and induction tools once on bottom

Bit Record Table (IADC Grading System)

Storage Units: Metric

**** For more detailed Bit Information refer to Bit Record ****

Bit #	Make	Type	Size	Depth In	Depth Out	Made	Hours	Avg. P.R.	I.A.D.C. Bit Condition									
									I	O	MDC	Loc	B	G	ODC	RP1	RP2	
1	Hughes	MX20G	216.0	1,859.7	2,287.2	427.5	53.50	7.99	5	7	WT	A	4	2	BT	PR		
2	Hughes	MX30G	216.0	2,287.2	2,463.5	176.2	34.25	5.15	6	7	BT	A	F	8	PB			
5	Halliburt	TB26ST	215.0	2,295.0	2,298.0	3.0	8.00	0.38										
6	Hughes	MX5206D	216.0	2,297.8	2,363.0	65.3	32.25	2.02	4	5	WT	A	3	1	NO	BHA		
7	Hughes	MX-S30D	216.0	2,363.0	2,468.0	105.0	43.00	2.44	4	5	WT	A8		4	BT	HR		
8	Hughes	MX-S30G	216.0	2,468.0	2,566.0	98.0	49.00	2.00										

Total Rotating Hours: 220.00

Bit Record

Pump Data

Pump #1	Model: F-1000	Size:	Type:
Pump Rod Diameter:		Liner Size: 152.0	Stroke Length: 254
Efficiency Rating (%):			
Pump #2	Model: F-1000	Size:	Type:
Pump Rod Diameter:		Liner Size: 152.0	Stroke Length: 254
Efficiency Rating (%):			

Bit Data

Storage Units: Metric

Bit #: 1	Make: Hughes	Type: MX20G	IADC Series / Type: /
Serial #: 6038026	Size: 216.0	Jets / Nozzles: 17.50 / 17.50 / 17.50 /	T.F.A.:
Depth In: 1,859.73	Depth Out: 2,287.22	Made: 427.49	Rotating Hours: 53.50
	Average Drill Rate: 7.90	Total Rotating Hours: 53.50	
Bit Grade / Condition	I.A.D.C.: 5 / 7 / WT / A	/ 4 / 2 / BT / PR /	T / B / G: / /

Remarks:

Formations Drilled: Lower Besa River, Muskwa

Drilling Parameters

	Min	Max		Min	Max
Force on Bit:	12,000 /	17,000	R.P.M.:	24 /	31
Pump 1 S.P.M. / Volume:	95 /		Pump 2 S.P.M. / Volume:	95 /	
S.P.P.:	7,500 /	8,200	Fluid Density:	935 /	990
Drift Angle:	4.500 /	33.800	Funnel Viscosity:	42 /	53
Annular Velocity	Drill Collars: 71.0	HeavyWeight Drill Pipe: 51.0	Drill Pipe: 51.0		
Bottoms Up	Depth: 1,860.00	Theoretical: 36	Actual: 45		

Bit #: 2	Make: Hughes	Type: MX30G	IADC Series / Type: /
Serial #: 6037748	Size: 216.0	Jets / Nozzles: 17.50 / 17.50 / 17.50 /	T.F.A.:
Depth In: 2,287.22	Depth Out: 2,463.45	Made: 176.23	Rotating Hours: 34.25
	Average Drill Rate: 5.15	Total Rotating Hours: 87.75	
Bit Grade / Condition	I.A.D.C.: 6 / 7 / BT / A	/ F / 8 / PB /	T / B / G: / /

Remarks:

Formations Drilled: Muskwa

Drilling Parameters

	Min	Max		Min	Max
Force on Bit:	9,000 /	22,000	R.P.M.:	26 /	28
Pump 1 S.P.M. / Volume:	95 /		Pump 2 S.P.M. / Volume:	95 /	
S.P.P.:	8,200 /	9,000	Fluid Density:	995 /	1,000
Drift Angle:	32.900 /	43.000	Funnel Viscosity:	46 /	53
Annular Velocity	Drill Collars: 71.0	HeavyWeight Drill Pipe: 51.0	Drill Pipe: 51.0		
Bottoms Up	Depth:	Theoretical:	Actual:		

Bit Data

Storage Units:

Metric

Bit #: 5 Make: Halliburton Type: TB26ST IADC Series / Type: /
Serial #: 6034568 Size: 215.0 Jets / Nozzles: 11.90 / 11.90 / 11.90 / T.F.A.:
Depth In: 2,295.00 Depth Out: 2,298.00 Made: 3.00 Rotating Hours: 8.00
Average Drill Rate: 0.38 Total Rotating Hours: 95.75
Bit Grade / Condition I.A.D.C.: / / / / / / / / T / B / G: / /
Remarks: sidetrack bit
Formations Drilled: Muskwa
Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	1,000	/	11,000	R.P.M.:	0	/	0
Pump 1 S.P.M. / Volume:	80	/		Pump 2 S.P.M. / Volume:	80	/	
S.P.P.:	8,300	/	11,000	Fluid Density:	1,225	/	1,225
Drift Angle:	34.600	/	34.600	Funnel Viscosity:	58	/	62

Annular Velocity Drill Collars: 67.0 HeavyWeight Drill Pipe: 46.0 Drill Pipe: 43.0
Bottoms Up Depth: 2,298.00 Theoretical: 52 Actual: 52

Bit #: 6 Make: Hughes Type: MX5206DX IADC Series / Type: /
Serial #: 634418 Size: 216.0 Jets / Nozzles: 15.90 / 15.90 / 15.90 / T.F.A.:
Depth In: 2,297.75 Depth Out: 2,363.00 Made: 65.25 Rotating Hours: 32.25
Average Drill Rate: 2.02 Total Rotating Hours: 128.00
Bit Grade / Condition I.A.D.C.: 4 / 5 / WT / A / 3 / 1 / NO / BHA / T / B / G: / /
Remarks:
Formations Drilled:
Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	13	/	21	R.P.M.:	28	/	37
Pump 1 S.P.M. / Volume:	80	/		Pump 2 S.P.M. / Volume:	80	/	
S.P.P.:	8,300	/	9,300	Fluid Density:	1,230	/	1,235
Drift Angle:	27.200	/	31.000	Funnel Viscosity:	61	/	64

Annular Velocity Drill Collars: 67.0 HeavyWeight Drill Pipe: 46.0 Drill Pipe: 43.0
Bottoms Up Depth: 2,342.00 Theoretical: 53 Actual: 53

Bit #: 7 Make: Hughes Type: MX-S30DX IADC Series / Type: /
Serial #: 6034455 Size: 216.0 Jets / Nozzles: 15.90 / 15.90 / 15.90 / T.F.A.:
Depth In: 2,363.00 Depth Out: 2,468.00 Made: 105.00 Rotating Hours: 43.00
Average Drill Rate: 2.44 Total Rotating Hours: 171.00
Bit Grade / Condition I.A.D.C.: 4 / 5 / WT / A 8 / / 4 / BT / HR / T / B / G: / /
Remarks:
Formations Drilled: Muskwa
Drilling Parameters

	Min		Max		Min		Max
Force on Bit:	15	/	25	R.P.M.:	30	/	33
Pump 1 S.P.M. / Volume:	80	/		Pump 2 S.P.M. / Volume:	80	/	
S.P.P.:	7,900	/	8,600	Fluid Density:	1,235	/	1,245
Drift Angle:	27.900	/	31.500	Funnel Viscosity:	62	/	66

Annular Velocity Drill Collars: 67.0 HeavyWeight Drill Pipe: 46.0 Drill Pipe: 43.0
Bottoms Up Depth: 2,390.00 Theoretical: 54 Actual: 54

Bit Data

Storage Units:

Metric

Bit #: 8	Make: Hughes	Type: X-S30GDX	IADC Series / Type: /
Serial #: 6022912	Size: 216.0	Jets / Nozzles: 15.90 / 15.90 / 15.90 /	T.F.A.:
Depth In: 2,468.00	Depth Out: 2,566.00	Made: 98.00	Rotating Hours: 49.00
	Average Drill Rate: 2.00	Total Rotating Hours: 220.00	

Bit Grade / Condition	I.A.D.C.: / / / / / / / /	T / B / G: / /
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Remarks:**Formations Drilled:** Muskwa, Nahanni**Drilling Parameters**

	Min	Max		Min	Max
Force on Bit:	12,000 /	23,000	R.P.M.:	31 /	36
Pump 1 S.P.M. / Volume:	80 /		Pump 2 S.P.M. / Volume:	80 /	
S.P.P.:	8,700 /	9,600	Fluid Density:	1,240 /	1,245
Drift Angle:	35.600 /		Funnel Viscosity:	63 /	68

Annular Velocity	Drill Collars: 67.0	HeavyWeight Drill Pipe: 46.0	Drill Pipe: 43.0
Bottoms Up	Depth: 2,500.00	Theoretical: 56	Actual: 56

Wireline Logging Summary

Storage Units:

Metric

Logging Suite Number: 1**Wireline Logging Company:** Baker Atlas**Engineer:** Tim Fisher**District:** Grande Prairie**Unit Number:** 6558**Witness:** Ken Glover**Was Pressure Control Equipment Utilized:** No**Maximum Deviation:** 52.400 °**Was the Logging Job Mechanically Assisted:** No**Hole Size:** 216.0**Total Lost Time:** 12.75**Loggers' Total Down Time:****Total Job Time (From Rig up to Rig down):** 34.00

	Measured Depth	True Vertical Depth
Casing Depth Driller	1,853.00	1,840.00
Casing Depth Logger	1,853.00	1,840.00
Total Depth Driller (Tally)	2,566.00	2,465.17
Total Depth Driller (Strap or SLM)		

General Remarks: problems with tool string during logging run #1
lost time due to clean out trip after logging run #1 to remove tight spots and fill on bottom
new tool string was hotshot to site and arrived during clean out trip
logging run #2 was done with replacement tool string, resulting in no net logger down time
due to tool malfunction

Wireline Logging Summary

Storage Units: Metric

Logging Run #: 1
Date: Sep 21, 2005

Drilling Fluid Data

Drilling Fluid Type: Invert
Fluid Density: 1245.0 Viscosity: pH: Fluid Loss:

Mud Resistivity (Rm): @ °
Mud Resistivity (Rm) @ BHT: @ ° Maximum Temperature: 113.9 °
Mud Filtrate Resistivity (Rmf): @ ° Source (Rmf):
Mud Cake Resistivity (Rmc): @ ° Source (Rmc):

Logging Run Information

Date on Bottom: Sep 21, 2005
Total Depth Logger: 2,551.50 (MD) 2,456.03 (TVD)

Logging Tools: Gamma Ray, Caliper, Compensated Z-Density, Compensated Neutron, High Definition Induction, Multipole Array Acoustic;
log TD to casing window;
problems communicating with neutron and induction tools once on bottom

Remarks: tools on surface @ 11:00 hours; prepare for cleanout trip with bit

Hole Conditions: stuck/tight from 2241 to 2230 m, shut off calipers to get through, pulled 60%; string diameter is 12.4 cm

Wireline Logging Summary

Storage Units:

Metric

Logging Run #: 2
Date: Sep 21, 2005

Drilling Fluid Data

Drilling Fluid Type: invert

Fluid Density: 1245.0

Viscosity:

pH:

Fluid Loss:

Mud Resistivity (Rm): @ °

Mud Resistivity (Rm) @ BHT: @ °

Maximum Temperature: 114.0 °

Mud Filtrate Resistivity (Rmf): @ °

Source (Rmf):

Mud Cake Resistivity (Rmc): @ °

Source (Rmc):

Logging Run Information

Date on Bottom: Sep 22, 2005

Total Depth Logger: 2,568.00 (MD) 2,466.98 (TVD)

Logging Tools: Gamma Ray, Caliper, Compensated Z-Density, Compensated Neutron, High Definition Induction, Multipole Array Acoustic;
log TD to casing window for second pass with XMAC;
High Res: 2000 to 2100 m; 2150 to 2200 m; 2445 to 2505 m

Remarks: rig up at 23:45 hours on Sept.21, 2005; out of hole at 5:30 hours on Sept.22, 2005.

Hole Conditions: no problems after cleanout trip

Wireline Logging Summary

Storage Units:

Metric

Logging Run #: 3
Date: Sep 22, 2005

Drilling Fluid Data

Drilling Fluid Type: invert

Fluid Density: 1245.0

Viscosity:

pH:

Fluid Loss:

Mud Resistivity (Rm): @ °

Mud Resistivity (Rm) @ BHT: @ °

Maximum Temperature: °

Mud Filtrate Resistivity (Rmf): @ °

Source (Rmf):

Mud Cake Resistivity (Rmc): @ °

Source (Rmc):

Logging Run Information

Date on Bottom: Sep 22, 2005

Total Depth Logger: 2,568.00 (MD) 2,466.98 (TVD)

Logging Tools: oil based image log;
TD to casing window

Remarks: run in hole @ 5:45, out of hole @ 13:45; will process data offsite

Hole Conditions:

Directional Survey Points

Storage Units: Metric

Survey Type: /

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
1,854.00	1,847.33	4.500	69.48				
1,864.37	1,857.65	6.900	45.60				
1,874.77	1,867.95	9.300	37.30				
1,881.50	1,874.56	11.700	26.00				
1,890.96	1,883.78	14.100	31.00				
1,900.35	1,892.86	15.700	33.60				
1,909.85	1,901.96	17.400	32.30				
1,919.42	1,911.04	19.500	30.20				
1,928.93	1,919.94	21.800	27.00				
1,938.53	1,928.79	23.900	22.80				
1,948.15	1,937.49	26.400	21.70				
1,957.62	1,945.89	28.700	21.20				
1,967.14	1,954.19	29.900	20.50				
1,976.74	1,962.49	30.500	20.10				
1,986.09	1,970.59	29.400	17.80				
1,995.43	1,978.78	28.200	14.60				
2,004.94	1,987.17	27.900	13.20				
2,014.44	1,995.57	27.700	13.00				
2,023.94	2,004.01	27.000	12.00				
2,033.56	2,012.60	26.600	11.30				
2,042.92	2,020.94	27.300	10.10				
2,052.35	2,029.29	28.000	9.40				
2,061.84	2,037.66	28.300	10.20				
2,071.51	2,046.17	28.400	12.30				
2,081.06	2,054.54	29.200	14.00				
2,090.59	2,062.87	29.000	15.60				
2,099.43	2,070.62	28.400	17.80				
2,109.43	2,079.42	28.300	17.30				
2,119.14	2,087.96	28.500	17.60				
2,128.80	2,096.45	28.600	17.50				
2,138.25	2,104.75	28.400	16.60				
2,147.92	2,113.28	28.000	14.60				
2,157.55	2,121.80	27.500	13.60				
2,167.10	2,130.30	26.600	12.10				
2,176.71	2,138.90	26.600	11.00				
2,186.18	2,147.38	26.200	10.40				

Directional Survey Points

Storage Units: Metric

Survey Type: /

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
2,195.83	2,156.07	25.400	9.80				
2,205.31	2,164.64	25.100	14.00				
2,214.96	2,173.34	26.100	16.60				
2,224.47	2,181.87	26.600	19.30				
2,233.70	2,190.08	27.700	20.20				
2,243.31	2,198.52	29.500	21.80				
2,252.79	2,206.69	31.400	19.70				
2,262.33	2,214.79	32.400	18.00				
2,271.82	2,222.78	32.900	17.00				
2,281.47	2,230.84	33.800	15.40				
2,290.86	2,238.61	34.600	14.30				
2,300.20	2,246.39	32.400	13.30				
2,309.78	2,254.55	31.000	9.00				
2,319.35	2,262.80	29.900	7.50				
2,328.90	2,271.13	28.600	7.20				
2,338.32	2,279.45	27.400	3.40				
2,346.73	2,286.92	27.200	359.50				
2,356.12	2,295.25	27.800	355.20				
2,365.70	2,303.69	28.800	352.20				
2,375.27	2,312.09	28.300	347.90				
2,384.82	2,320.50	28.300	345.10				
2,394.24	2,328.78	28.600	343.60				
2,403.83	2,337.19	28.900	342.70				
2,413.35	2,345.55	28.200	341.10				
2,422.89	2,353.97	27.900	340.60				
2,432.50	2,362.45	28.200	341.80				
2,442.02	2,370.79	29.300	341.80				
2,451.41	2,378.94	30.400	340.70				
2,461.05	2,387.21	31.500	338.80				
2,470.50	2,395.18	33.300	336.50				
2,480.26	2,403.23	35.600	336.20				
2,489.72	2,410.82	37.700	336.40				
2,499.08	2,418.17	38.900	334.00				
2,508.50	2,425.44	40.100	333.20				
2,517.90	2,432.53	41.800	333.10				
2,527.39	2,439.49	43.900	333.40				

Directional Survey Points

Storage Units: Metric

Survey Type: /

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
2,536.72	2,446.07	46.400	332.40				
2,546.31	2,452.58	48.100	331.30				
2,550.00	2,455.03	48.900	331.30				

Abandonment Plug Summary

Storage Units:

Metric

Plug #: 1
From: 2,220.0 To: 2,435.0
Amount of Cement Used: 12.5 Volume:
Density: 1,876
Cement Blend: Thermal 40 Ft St John

0.5% TLF-HT
0.3% THR-100
0.5% TA-1
0.5% CFR-10

Date / Time Plug Down: Sep 6, 2005 @ 21:15

Plug Felt or Logged By: Trican
Representative:
Date / Time Plug Felt or Logged: Sep 7, 2005 @ 09:45
Depth Plug Felt: 2,180.0

Remarks: unsuccessful sidetrack kickoff in this plug;
cement remains soft after 72 hours

Plug #: 2
From: 2,220.0 To: 2,375.0
Amount of Cement Used: 11.7 Volume:
Density: 2,100
Cement Blend: 0.5% TLF-HT

0.1% TDH
0.5% TA-1
0.8% CFR-10
0.5% LTR

Date / Time Plug Down: Sep 10, 2005 @ 18:00

Plug Felt or Logged By: Trican
Representative:
Date / Time Plug Felt or Logged: Sep 11, 2005 @ 03:00
Depth Plug Felt: 2,220.0

Remarks: successful sidetrack kickoff drilled from 2295 m to 2298 m

Drilling Fluid Summary

Storage Units: Metric

Drilling Fluid Type:	Produced Water	From:	1,853	To:	1,860
Drilling Fluid Type:	Invert	From:	1,860	To:	2,520

Work Schedule

Storage Units: Metric

Company: Chalce Resources
Geologist: Ken Glover

Work Performed **From:** Aug 24, 2005 **To:** Sep 12, 2005
Depths Logged **From:** 1,855.0 **To:** 2,520.0

Remarks: abandoned stuck bottom hole assembly and drilled sidetrack well

Company: Chalce Resources
Geologist: Ken Glover

Work Performed **From:** Sep 13, 2005 **To:** Sep 22, 2005
Depths Logged **From:** 2,295.0 **To:** 2,566.0

Remarks: Fishing and cementing abandonment plugs from Sep 1 to Sep 12, 2005.

Formation Top Summary

Storage Units:

Metric

Kelly Bushing Elevation:
Ground Elevation:

416.40
409.60

Casing Flange Elevation:

**** All Depths measured from Kelly Bushing Elevation ****

Group Formation Member	Prognosis (TVD)	Sample Top (MD)	Sample Top (TVD)	Log Top (MD)	Log Top (TVD)	Subsea	Thickness
<i>Muskwa</i>	2174.00	2238.00	2193.90			-1777.50	
<i>Nahanni</i>	2454.00	2553.00	2457.02	2552.80	2456.89	-2040.49	
<i>Intermediate Casing P</i>	2455.00	2566.00	2465.17	2568.00	2466.50	-2050.10	

Sample Descriptions

Storage Units: Metric

1,855.00 to 1,860.00 (5.00)	Shale Mainly medium gray to dark gray to green gray, soft, occasional bentonitic, weakly fissile, micromicaceous, silty in places, minor calcareous; trace light gray to medium gray siltstone stringers, moderately calcareous matrix ? with quartz grains. No shows.
1,860.00 to 1,865.00 (5.00)	Shale Shale with siltstone stringers as above. Trace microcrystalline pyrite along siltstone bedding, especially at contacts with shale. Trace micro organic fragments (angular and black) in siltstone stringers.
1,865.00 to 1,870.00 (5.00)	Shale Shale with quartzose siltstone stringers as above.
1,870.00 to 1,875.00 (5.00)	Shale Medium gray to occasional green gray and bentonitic, silty in places, micromicaceous. Trace medium brown gray calcareous marlstone. Trace dark gray to black shale. Trace slickensides.
1,875.00 to 1,880.00 (5.00)	Shale Medium gray to occasional green gray and bentonitic, silty in places, micromicaceous. Trace light gray calcareous quartzose siltstone, tight, no shows.
1,880.00 to 1,885.00 (5.00)	Shale Shale as above. Trace brown gray marlstone. Trace slickensides.
1,885.00 to 1,890.00 (5.00)	Shale Shale as above. Very rare brown gray marlstone.
1,890.00 to 1,895.00 (5.00)	Shale Medium gray to green gray and bentonitic, micromicaceous, moderately indurated. Minor brown gray earthy marlstone.
1,895.00 to 1,900.00 (5.00)	Shale Shale as above.
1,900.00 to 1,905.00 (5.00)	Shale Medium gray to brown gray, micromicaceous, weak to moderately fissile. Minor light to medium gray calcareous siltstone stringers, tight, no shows. Rare dark gray to black shale, laminated, fissile.
1,905.00 to 1,910.00 (5.00)	Shale Medium gray to brown gray shale as above. Trace disseminated pyrite in medium gray shale. Trace black organic ? flecks in shale.
1,910.00 to 1,915.00 (5.00)	Shale Shale as above.
1,915.00 to 1,920.00 (5.00)	Shale Medium gray to brown gray, micromicaceous, weak to moderately fissile, common clusters of black organic ? flecks. Trace light gray to brown gray marlstone. Trace slickensides.

Sample Descriptions

Storage Units: Metric

1,920.00 to 1,925.00 (5.00)	Shale Shale as above. Trace light gray to brown gray marlstone.
1,925.00 to 1,930.00 (5.00)	Shale Medium gray to brown gray shale as above. Rare light gray to brown gray marlstone.
1,930.00 to 1,935.00 (5.00)	Shale Medium gray to brown gray, micromicaceous, moderately fissile, Rare non calcareous quartzose siltstone stringers.
1,935.00 to 1,940.00 (5.00)	Shale Shale as above with indurated non calcareous silty bituminous. Trace brown gray marlstone. Trace slickensides.
1,940.00 to 1,945.00 (5.00)	Shale Medium gray, micromicaceous, weak to moderately fissile. Minor light to medium gray calcareous siltstone stringers. Trace slickensides.
1,945.00 to 1,950.00 (5.00)	Shale Medium gray shale as above.
1,950.00 to 1,955.00 (5.00)	Shale Medium to dark gray, micromicaceous, fissile, with minor dark gray to black, fissile laminations. Weak to moderately laminated. Trace siltstone laminations with trace disseminated pyrite. Trace slickensides.
1,955.00 to 1,960.00 (5.00)	Shale Medium to dark gray with minor green gray and bentonitic, micromicaceous, fissile, slightly calcareous.
1,960.00 to 1,965.00 (5.00)	Shale Shale as above. Trace silty calcareous stringers.
1,965.00 to 1,970.00 (5.00)	Shale Dark gray to black, fissile, micromicaceous in places with trace microfractures and minor slickensides, some slickensided surfaces are curved. Trace light to medium gray very calcareous silty marlstone with occasional milky white flecks (shell fragments ?)
1,970.00 to 1,975.00 (5.00)	Shale Dark gray shale as above. Increased very silty marlstone.
1,975.00 to 1,980.00 (5.00)	Shale Dark gray shale with silty marlstone as above.
1,980.00 to 1,985.00 (5.00)	Shale Gray, laminated with black wisps along laminations, common microcrystalline pyrite nodules <0.1 mm diameter, silty in places, trace dark gray to black shale laminations. Occasional light to medium gray siltstone stringers or laminations in shale, micromicaceous, occasional calcareous. No shows.

Sample Descriptions

Storage Units: Metric

1,985.00 to 1,990.00 (5.00)	Shale Gray shale as above but with increased dark gray to black shale laminations. Trace microfractures. One visible calcite fracture fill shows some calcite mineral cleavage, 0.5 mm thickness preserved in contact with shale, has associated irregular microfractures emanating from a smooth and regular primary fracture surface.
1,990.00 to 1,995.00 (5.00)	Shale Medium gray to green gray and bentonitic with minor brown gray, micromicaceous, occasional laminated, trace black shale.
1,995.00 to 2,000.00 (5.00)	Shale Shale as above. Slightly calcareous in places.
2,000.00 to 2,005.00 (5.00)	Shale Shale as above.
2,005.00 to 2,010.00 (5.00)	Shale Medium gray to green gray and bentonitic to minor brown gray, micromicaceous, occasional laminated. Common black organic flecks. Trace very thin (<0.05 mm thick) calcite healed microfractures.
2,010.00 to 2,015.00 (5.00)	Shale Shale as above.
2,015.00 to 2,020.00 (5.00)	Shale Medium gray, dark gray in places, very thin (0.05 mm thick) light gray siltstone laminae in places, micromicaceous in places, moderately fissile
2,020.00 to 2,025.00 (5.00)	Shale As above. Increasing dark gray shale, usually laminated. Trace curvilinear slickensided surfaces.
2,025.00 to 2,030.00 (5.00)	Shale Medium to dark gray with occasional black shale. Rare calcite fracture fill up to 0.2 mm thick, translucent with a smooth undulating surface. Trace clacareous light gray siltstone.
2,030.00 to 2,035.00 (5.00)	Shale As above. Increasing finely laminated, fissile black shale. Trace dolomitic light gray siltstone.
2,035.00 to 2,040.00 (5.00)	Shale Medium gray to black, variably laminated, variably fissile, occasionally micromicaceous. Trace microcrystalline pyrite. Trace calcite fracture fill up to 0.2 mm thick.
2,040.00 to 2,045.00 (5.00)	Shale As above. Trace light gray soft marlstone.

Sample Descriptions

Storage Units: Metric

2,045.00 to 2,050.00 (5.00)	Shale Medium gray with trace dark gray shale, occasionally micromicaceous, weakly fissile. Trace water sensitive light gray non calcareous shale with wisps of black organics. Trace calcareous.
2,050.00 to 2,055.00 (5.00)	Shale As above with increasing dark gray shale.
2,055.00 to 2,060.00 (5.00)	Shale As above.
2,060.00 to 2,065.00 (5.00)	Shale Medium to dark gray, weakly fissile, micromicaceous. Trace calcite healed microfractures. trace disseminated pyrite. Trace fissile, very finely laminated black shale.
2,065.00 to 2,070.00 (5.00)	Shale As above.
2,070.00 to 2,075.00 (5.00)	Shale As above. Increasing black shale.
2,075.00 to 2,080.00 (5.00)	Shale As above.
2,080.00 to 2,085.00 (5.00)	Shale Medium gray, laminated with 0.05 to 0.1 mm thick laminations of medium gray and black and dark gray shale bands. Fissile, micromicaceous. Trace very small (<0.05 mm diameter) milky white nodules in banding.
2,085.00 to 2,090.00 (5.00)	Shale As above.
2,090.00 to 2,095.00 (5.00)	Shale Medium to dark gray to black banded shale. Banding is less common than above. Micromicaceous.
2,095.00 to 2,100.00 (5.00)	Shale medium gray to dark gray. Trace black shale. Micromicaceous.
2,100.00 to 2,105.00 (5.00)	Shale As above. Trace slickensides.
2,105.00 to 2,110.00 (5.00)	Shale Medium gray to dark gray. Trace black shale. Occasionally laminated, weakly fissile, micromicaceous.
2,110.00 to 2,115.00 (5.00)	Shale As above.
2,115.00 to 2,120.00 (5.00)	Shale Dark gray to medium gray with occasional laminated black shale. Fissile. Micromicaceous.

Sample Descriptions

Storage Units: Metric

2,120.00 to 2,125.00 (5.00)	Shale Medium gray to dark gray. Weakly fissile to fissile.
2,125.00 to 2,130.00 (5.00)	Shale As above. Poor sample.
2,130.00 to 2,135.00 (5.00)	Shale Medium gray. Trace dark gray shale. Micromicaceous.
2,135.00 to 2,140.00 (5.00)	Shale Dark gray to medium gray, variably fissile. Medium gray shale is micromicaceous, dark gray shale less show of oil. Trace disseminated pyrite in medium gray shale.
2,140.00 to 2,145.00 (5.00)	Shale As above, but more medium gray shale.
2,145.00 to 2,150.00 (5.00)	Shale As above, but increasing dark gray shale. Trace slickensides.
2,150.00 to 2,155.00 (5.00)	Shale As above.
2,155.00 to 2,160.00 (5.00)	Shale Medium to dark gray, micromicaceous, variably fissile, trace slickensides
2,160.00 to 2,165.00 (5.00)	Shale As above
2,165.00 to 2,170.00 (5.00)	Shale medium to dark gray, micromicaceous, fissile, variably laminated, occasional slickensides, trace translucent calcite fracture fill with some up to 0.4 mm thick. Some fracture mineralisation contacts are preserved, showing fractures at about 45 degrees to laminations and calcite crystal growth at about 45 degrees to fracture face. Minor light gray marly siltstone.
2,170.00 to 2,175.00 (5.00)	Shale Medium to dark gray, micromicaceous, fissile, variably laminated, trace microcrystalline pyrite in dark gray shale. Rare calcite healed micro fractures. Trace water sensitive light gray shale with black organic ? wisps.
2,175.00 to 2,180.00 (5.00)	Shale Medium to dark gray, micromicaceous, fissile, variably laminated, trace unattached translucent calcite crystals. Rare Black Shale: micromicaceous, laminated, fissile. Rare light gray marly very fine grained sand to siltstone.
2,180.00 to 2,185.00 (5.00)	Shale As above with more of the dark gray shale component. Trace calcite healed microfractures.
2,185.00 to 2,190.00 (5.00)	Shale As above.

Sample Descriptions

Storage Units: Metric

2,190.00 to 2,195.00 (5.00)	Shale Medium gray with minor dark gray, micromicaceous, fissile, occasionally laminated. Trace marly siltstone as above.
2,195.00 to 2,200.00 (5.00)	Shale Dark gray to medium gray, micromicaceous, fissile with minor laminated black shale stringers. Trace microcrystalline pyrite, especially in black shale.
2,200.00 to 2,205.00 (5.00)	Shale Medium to dark gray, fissility and moderate lamination in dark gray shale, weak fissility in medium gray shale. Hard, micromicaceous. Rare light gray marly siltstone.
2,205.00 to 2,210.00 (5.00)	Shale As above.
2,210.00 to 2,215.00 (5.00)	Shale Dark gray to medium gray, micromicaceous, variable fissility. Occasional light gray marly siltstone.
2,215.00 to 2,220.00 (5.00)	Shale Medium gray, micromicaceous, trace microcrystalline pyrite, slickensides, fissile, moderately laminated.
2,220.00 to 2,225.00 (5.00)	Shale As above. Trace fracture fill: beige, dolomitic, translucent, up to 0.4 mm thick with a rough surface.
2,225.00 to 2,230.00 (5.00)	Shale Very dark gray to black with some medium gray shale. Sub blocky to fissile, micromicaceous, common slickensides throughout, laminated. Some very dark gray to black silty marlstone, dolomitic in part.
2,230.00 to 2,235.00 (5.00)	Shale Very dark gray to black with occasional medium gray shale but less than above. Common slickensides throughout, laminated, fissile, occasional cubic pyrite crystals 0.01 to 0.03 mm across in black shale laminae. Minor dark gray silty marlstone as above but more calcareous.

Muskwa: 2,238.00 MD, 2,193.90 TVD, -1,777.50 SSL

2,235.00 to 2,240.00 (5.00)	Shale Very dark gray to black shale, micromicaceous, laminated, common slickensides throughout, common microcrystalline pyrite cubes along laminae. Trace calcite healed microfractures.
2,240.00 to 2,245.00 (5.00)	Shale Black shale, fissile, moderately indurated, occasional microcrystalline pyrite, also trace disseminated pyrite, laminated, common slickensides. Occasional black silty marlstone.

Sample Descriptions

Storage Units: Metric

2,245.00 to 2,250.00 (5.00)	Shale Black, fissile, micromicaceous, weak to moderate lamination, common isolated cubic pyrite crystals along laminations. Trace microcrystalline pyrite clusters. Occasional very hard dark gray siltstone. Trace slickensides.
2,250.00 to 2,255.00 (5.00)	Shale As above.
2,255.00 to 2,260.00 (5.00)	Shale As above.
2,260.00 to 2,265.00 (5.00)	Shale Dark gray to black, fissile, micromicaceous, occasional microcrystalline pyrite. Trace slickensides.
2,265.00 to 2,270.00 (5.00)	Shale Black with minor dark gray. Trace clusters of microcrystalline pyrite. Rare massive pyrite chunks to 2 mm across.
2,270.00 to 2,275.00 (5.00)	Shale Black to dark gray, micromicaceous, siliceous, fissile, laminated in places, occasional microcrystalline pyrite, Trace hard light to medium gray shale. Common light gray calcareous cemented Siltstone, hard, quartzose.
2,275.00 to 2,280.00 (5.00)	Shale Black to dark gray, fissile, hard, siliceous, occasional hard black grains of chert? that is silica cemented with microcrystalline calcite. Occasional microcrystalline pyrite. Variably laminated.
2,280.00 to 2,285.00 (5.00)	Shale Dark gray to black, micromicaceous, fissile, trace disseminated pyrite along laminations in black shale. Trace pyrite mineralisation along fracture surfaces. Slickensided fracture surface. Minor calcareous silty bituminous containing hard black chert? grains. Rare pyrite nodules <0.1 mm thick.
2,285.00 to 2,290.00 (5.00)	Shale Dark gray to black as above, hard. Trace calcite healed microfractures. Pyritic. Common microcrystalline pyrite nodules.
2,290.00 to 2,295.00 (5.00)	Shale Dark gray to black, very hard, siliceous, pyritic, trace calcite healed microfractures.
2,295.00 to 2,300.00 (5.00)	Shale Black to dark gray, occasional calcareous silty, blocky to laminated, moderately argillaceous, fissile, trace slickensides, bituminous, rare loose quartz crystals, common pyrite throughout with occasional very pyritic laminae. Trace calcite healed microfractures and trace loose quartz crystals. Minor medium grey shale, hard, siliceous, massive to blocky.
2,300.00 to 2,305.00 (5.00)	Shale Dark grey to black, hard, siliceous, pyritic as above. Decreasing medium grey shale. Trace black to brown, soft, earthy shale.

Sample Descriptions

Storage Units: Metric

2,305.00 to 2,310.00 (5.00)	Shale Dark grey to black, hard, siliceous. Trace colorless quartz healed microfractures up to 0.01 mm aperture, <1 mm spacing, parallel with non uniform thickness, perpendicular to fissility. Common microcrystalline pyrite. Trace black, soft carbonaceous flecks up to 0.2 mm in black shale.
2,310.00 to 2,315.00 (5.00)	Shale Dark grey to black shale as above, with increasing black shale. Rare dark grey calcareous shale.
2,315.00 to 2,320.00 (5.00)	Shale Black to dark grey as above, with increasing calcareous dark grey shale. Occasional colorless, microcrystalline, spherical, well sorted, well rounded calcite peloids (no visible nucleus), matrix supported in soft, non calcareous dark grey shale.
2,320.00 to 2,325.00 (5.00)	Shale Dark grey to black, micromicaceous, pyritic, hard, siliceous, rarely laminated to commonly platy, fissile. Minor medium to dark grey shale, calcareous, micromicaceous, pyritic. Trace calcite healed microfractures, trace slickensides. Trace peloidal shale as above.
2,325.00 to 2,330.00 (5.00)	Shale Dark grey, micromicaceous, brittle but not very hard, pyritic in places, fissile, laminated to blocky, trace slickensides. Rare loose creamy white calcite crystals up to 0.4 mm.
2,330.00 to 2,335.00 (5.00)	Shale Dark grey as above. Trace calcite healed microfractures. Slightly calcareous in places.
2,335.00 to 2,340.00 (5.00)	Shale As above. Occasional loose calcite crystals. Minor brown grey shale, calcareous, soft, rounded cuttings. Trace slickensides.
2,340.00 to 2,345.00 (5.00)	Shale As above, with decreasing brown grey shale. Rare light grey shale, micromicaceous, slightly argillaceous, pyritic, moderately hard.
2,345.00 to 2,350.00 (5.00)	Shale As above, but moderately calcareous in places. Rare loose drusy white quartz crystals to 1 mm.
2,350.00 to 2,355.00 (5.00)	Shale Dark grey, micromicaceous, occasional disseminated pyrite bands, fissile, trace slickensides, occasionally laminated, moderately calcareous in places but mostly siliceous. Minor brown grey marlstone, soft, earthy, calcareous with very weak fissility.
2,355.00 to 2,360.00 (5.00)	Shale Lithologies as above with decreasing brown grey shale. Rare white non calcareous specks.

Sample Descriptions

Storage Units: Metric

2,360.00 to 2,365.00 (5.00)	Shale Dark grey, micromicaceous, trace disseminated pyrite bands, trace brown grey marly shale, soft, earthy, calcareous. Rare light grey, siliceous, micromicaceous shale with a slaty lustre.
2,365.00 to 2,370.00 (5.00)	Shale Dark grey to black, platy, micromicaceous, microcrystalline pyrite to disseminated in lenses parallel to bedding. Trace calcite healed microfractures. Trace light grey pyritic argillaceous shale as above.
2,370.00 to 2,375.00 (5.00)	Shale Black to dark grey, platy, micromicaceous, pyritic, weakly calcareous, trace calcite healed microfractures and loose calcite crystals. Trace dark grey silty marlstone with common microcrystalline pyrite.
2,375.00 to 2,380.00 (5.00)	Shale Black to dark grey, weakly laminated to sub blocky, micromicaceous, pyritic, weakly calcareous, trace calcite healed microfractures up to 0.2 mm thick. Trace loose calcite crystals. Trace dark grey silty marlstone with common microcrystalline pyrite.
2,380.00 to 2,385.00 (5.00)	Shale Black to dark grey, platy, micromicaceous, pyritic, moderately calcareous, minor interbeds of very calcareous dark grey marlstone. Trace slickensides.
2,385.00 to 2,390.00 (5.00)	Shale black to dark grey, calcareous to very calcareous, micromicaceous. Trace loose calcite crystals.
2,390.00 to 2,395.00 (5.00)	Shale Black to dark grey, micromicaceous, pyritic in places. Minor stringers of very very calcareous dark grey marlstone.
2,395.00 to 2,400.00 (5.00)	Shale Black to dark grey, micromicaceous, pyritic in places as above, trace slickensides. Trace dark grey marlstone, occasionally silty.
2,400.00 to 2,405.00 (5.00)	Shale Black, fissile, laminated to platy, pyritic, calcareous, micromicaceous, common slickensides.
2,405.00 to 2,410.00 (5.00)	Shale Dark grey and black but mostly very dark grey, micromicaceous, pyritic, trace loose calcite crystals, trace slickensides.
2,410.00 to 2,415.00 (5.00)	Shale Dark grey and black, fissile, as above. Rare silty marlstone. Rare brownish dark grey marlstone, not fissile.
2,415.00 to 2,420.00 (5.00)	Shale Equal parts shale as above and marlstone as above.

Sample Descriptions

Storage Units: Metric

2,420.00 to 2,425.00 (5.00)	Shale Dark grey, calcareous, fissile, platy to blocky, pyritic, trace slickensides. Also brownish dark grey marlstone, softer, very calcareous, rarely silty.
2,425.00 to 2,430.00 (5.00)	Shale Dark grey to black, fissile, calcareous, hard, pyritic with occasional microcrystalline pyrite cubes. Lesser brownish grey marlstone, pyritic in places, very calcareous. Occasional silt sized calcareous rounded white specks in marlstone. Trace silty zones. Trace slickensides. Trace calcite healed microfractures in black shale, up to 0.4 mm thick.
2,430.00 to 2,435.00 (5.00)	Shale Shale as above. Minor stringers of dark grey marlstone, soft. Rare greenish medium grey shale, bentonitic lustre, waxy looking.
2,435.00 to 2,440.00 (5.00)	Shale Dark grey to black, fissile, pyritic, micromicaceous, very calcareous. Increasing stringers of very calcareous grey marlstone. Rare rounded translucent loose quartz crystals. Trace calcite healed microfractures, mainly in shale. Rare biege microcrystalline dolomitic pieces comprising <<1% of cuttings, trace interstitial porosity.
2,440.00 to 2,445.00 (5.00)	Marlstone Grey, as above. Occasional white flecks as above, also trace milky white calcareous shell fragments or fossil fragments as wisps parallel to bedding planes. Lesser dark grey shale as above, with trace calcite healed microfractures, with occasional euhedral crystalline habit.
2,445.00 to 2,450.00 (5.00)	Marlstone Grey to dark grey, micromicaceous in places, weakly fissile in places, common silt sized rounded white calcareous flecks comprising up to 10% of the rock. Trace calcite healed microfractures, but more commonly loose milky white calcite crystals.
2,450.00 to 2,455.00 (5.00)	Marlstone Medium to light grey, very calcareous, commonly with white silt sized calcareous flecks, trace pyrite flecks of similar size and distribution pattern. Trace wispy fossil fragments. Trace slickensides.
2,455.00 to 2,460.00 (5.00)	Shale Dark grey, micromicaceous, pyritic, very calcareous to marly in places. Trace medium grey marlstone as above. Trace slickensides. Trace calcite healed microfractures. Rare light grey, micromicaceous, non calcareous water sensitive shale.
2,460.00 to 2,465.00 (5.00)	Marlstone Medium grey, very calcareous, rounded to platy, calcite healed microfractures becoming more common. Lesser dark grey shale as above. Rare drusy loose quartz crystals.

Sample Descriptions

Storage Units: Metric

2,465.00 to 2,470.00 (5.00)	Shale Dark grey to black, fissile, micromicaceous, rare microcrystalline pyrite, platy to sub blocky, calcareous, occasional calcite healed microfractures up to 0.4 mm aperture. Loose calcite crystals. Trace milky white calcite laminae parallel to bedding. Common slickensides. Grey to dark grey marlstone stringers, calcareous silt sized fragments in places. Trace fossiliferous. Rare loose quartz crystals.
2,470.00 to 2,475.00 (5.00)	Shale Dark grey to black as above. Very calcareous. Decreasing marlstone stringers as above.
2,475.00 to 2,480.00 (5.00)	Marlstone Medium grey to dark grey, very calcareous, slickensides, silty in places, common calcite fracture fill and loose pieces with smeared edges. Rare euhedral calcite crystals in fractures. Minor dark grey to black calcareous shale as above.
2,480.00 to 2,485.00 (5.00)	Marlstone Lithologies as above, with increasing shale. Less calcareous silty fragments.
2,485.00 to 2,490.00 (5.00)	Shale Black to very dark grey, micromicaceous, rarely laminated to sub blocky, microcrystalline pyrite in places, slickensides, very calcareous, common fractures cemented with calcite up to 0.4 mm thick, also loose calcite crystals and crystal agglomerates. Trace brownish grey marlstone, very calcareous with calcareous fossil fragments up to 0.01 mm diameter.
2,490.00 to 2,495.00 (5.00)	Shale Dark grey to black, micromicaceous, pyritic in places, rarely laminated to sub blocky, very calcareous, common calcite mineralised fractures and occasional loose crystals. Common slickensides. Minor marlstone stringers with occasional fossiliferous fragments.
2,495.00 to 2,500.00 (5.00)	Shale As above, with less fracturing.
2,500.00 to 2,505.00 (5.00)	Shale Dark grey, very calcareous to marly, micromicaceous, hard, common calcite healed microfractures, slickensides. Minor lighter grey marly stringers, trace chalky calcareous lenses up to 2 mm wide.
2,505.00 to 2,510.00 (5.00)	Shale Dark grey to black, micromicaceous, pyritic with occasional microcrystalline pyrite, very calcareous, laminated to sub blocky, slickensides, trace calcite healed microfractures, trace loose calcite crystals up to 3 mm. Minor stringers of lighter brownish grey marlstone, very calcareous, trace calcareous white specks.
2,510.00 to 2,515.00 (5.00)	Shale As above, with trace black, shiny, carbonaceous?, angular fragments. Slightly less marlstone than above.

Sample Descriptions

Storage Units: Metric

2,515.00 to 2,520.00 (5.00)	Shale Dark grey, fissile, micromicaceous, pyritic, hard, calcareous, marly in places grading to marlstone. Trace calcite healed microfractures. Lesser marlstone, brownish grey, softer, very calcareous.
2,520.00 to 2,525.00 (5.00)	Shale As above, platy to blocky, fracture fill more common. Rare rounded loose quartz crystals. Lesser distinct dark grey marlstone, very calcareous, fossiliferous in places, calcareous white specks, trace slickensides.
2,525.00 to 2,530.00 (5.00)	Marlstone Brownish grey to dark grey, soft, trace soft chalky white calcareous wisps, trace slickensides. Minor dark grey shale as above.
2,530.00 to 2,535.00 (5.00)	Marlstone Medium to dark grey, very calcareous, soft, fossiliferous in places, common soft chalky white calcareous flecks. Minor dark brownish grey marlstone, rarely fossiliferous. Occasional calcite healed microfractures. Minor hard fissile dark grey shale as above.
2,535.00 to 2,540.00 (5.00)	Marlstone Brownish grey to dark grey, fossiliferous in places, occasional calcareous white specks. Minor soft, grey, fossiliferous marlstone with occasional soft chalky white calcareous specks. Minor hard, fissile, dark grey shale as above.
2,540.00 to 2,545.00 (5.00)	Marlstone Mixed calcareous marlstones as above. Minor hard, fissile dark grey shale as above.
2,545.00 to 2,550.00 (5.00)	Marlstone Dirty dark grey, very calcareous, occasional chalky calcareous white flecks to fossiliferous. Minor dark grey, hard, calcareous, micromicaceous, pyritic. Rare loose calcite crystals? weak acid response but stains dark red.

Nahanni: 2,553.00 MD, 2,457.02 TVD, -2,040.62 SSL

2,550.00 to 2,555.00 (5.00)	Marlstone Medium to dark sirty grey, very minor dark grey fissile shale. Minor dolomite, fine to coarse crystalline, bitumen (invert?) plugging intercrystalline porosity. Trace coarse crystalline dolomite rhombs cemented into weakly calcareous/dolomitic marl.
2,555.00 to 2,560.00 (5.00)	Marlstone/dolomite Marlstone with minor dark grey fissile shale as above. Minor dolomite, light to medium grey, microcrystalline to coarse crystalline, trace coarse crystalline loose rhombs, poor to fair intercrystalline porosity mostly bitumen filled.

Sample Descriptions

Storage Units: Metric

2,560.00 to 2,566.00
(6.00)

Dolomite

Light to medium grey, microcrystalline to coarse crystalline, medium to coarse crystalline dolomite rhombs, poor intercrystalline porosity with bitumen partially filling pore space (may be gilsonite from invert in some cases). Trace pinpoint porosity. Trace loose clear hexagonal quartz crystals. Minor cuttings of calcareous dark grey fissile shale and marlstone, presumed to be cavings.

Appendix A

Geological Report

on

Paramount et al Liard K-29A intermediate hole

Well Reached Total Depth on

for

Paramount Resources Ltd.

Prepared For: Paul Price
Paramount Resources

Prepared By: Ken Glover
Chalce Resources

Ken Glover

Kickoff on Aug 25, 2005 at 5:00 hours. Reach 2520.62 m (MD) on Sept 1, 2005 at 2:30 hours.

Drill string stuck in hole at 2520.62 m, worked at getting unstuck until Sept 6, 2005.

Run abandonment plug from 2435 to 2290 m on Sept 7, 2005.

Begin drilling sidetrack well on Sept 8, 2005.

Well Summary

Storage Units:

Metric

Well Information

Operator: Paramount Resources Ltd.
Well Name: Paramount et al Liard
Location: K-29A intermediate hole
UWI: 300K-29A-6030-123302
Pool: N/A
Field: Liard K-29
State / Province: Northwest Territories
Country: Canada
License Number: 1125
Well Status: abandoned

Surface Co-ordinates

Hole Type: Deviated
Latitude: 60 28 41.040

Fault Indicator:
Longitude: 123 35 4.100

N / S: 6704591.45
E / W: 467870.02

Bottom Hole Co-ordinates

Latitude:

Longitude:

N / S:
E / W:

Elevations

Ground Elevation: 409.60
Kelly Bushing Elevation: 416.40
Casing Flange Elevation:

Reference: Ground 6.80
Kelly Bushing to Ground:
Cut (-):
Fill (+):

Total Depth

Total Depth Driller (Tally):
Total Depth Driller (Strap or SLM):
Total Depth Logger:

Measured Depth
2,520.62

True Vertical Depth
2,418.92

Miscellaneous Depths

Plugback Depth: 2,435.00
Sidetrack Depth: 2,290.00

Water Depth Reference:
Water Depth:

Well Summary

Drilling Contractor: Akita Drilling Rig #58
Rig Release Date:

Spud Date: Aug 25, 2005 @ 05:00
Total Depth Date:

Cores	#	Formation	Interval	Cut	Recovered	%
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Casing Summary

Casing Type	Casing Size	Landed Depth	Hole Size
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Logging Summary

Company	Engineer	Total Depth (MD)	Logging tools
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Paramount Resources Ltd.
UWI 300K-29A-6030-123302

Paramount et al Liard
K-29A intermediate hole
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Bit Record Table (IADC Grading System)

Storage Units: Metric

**** For more detailed Bit Information refer to Bit Record ****

Bit #	Make	Type	Size	Depth In	Depth Out	Made	Hours	Avg. P.R.	I.A.D.C. Bit Condition									
									I	O	MDC	Loc	B	G	ODC	RP1	RP2	
1	Hughes	MX20G	216.0	1,859.7	2,287.2	427.5	53.50	7.99	5	7	WT	A	4	2	BT	PR		
2	Hughes	MX30G	216.0	2,287.2	2,463.5	176.2	34.25	5.15	6	7	BT	A	F	8	PB			
3	Hughes	MX-30G	216.0	2,463.0	2,520.0	57.0	10.50	5.43										

Total Rotating Hours: 98.25

Bit Record

Pump Data

Pump #1	Model:	Size:	Type:
	Pump Rod Diameter:	Liner Size:	Stroke Length:
	Efficiency Rating (%):		

Pump #2	Model:	Size:	Type:
	Pump Rod Diameter:	Liner Size:	Stroke Length:
	Efficiency Rating (%):		

Bit Data

Storage Units: Metric

Bit #: 1	Make: Hughes	Type: MX20G	IADC Series / Type: /
Serial #: 6038026	Size: 216.0	Jets / Nozzles: 11.90 /	T.F.A.: /
Depth In: 1,859.73	Depth Out: 2,287.22	Made: 427.49	Rotating Hours: 53.50
	Average Drill Rate: 7.90	Total Rotating Hours: 53.50	
Bit Grade / Condition	I.A.D.C.: 5 / 7 / WT / A	/ 4 / 2 / BT / PR /	T / B / G: / /

Remarks:

Formations Drilled: Lower Besa River, Muskwa

Drilling Parameters

	Min	Max		Min	Max
Force on Bit:	/		R.P.M.:	/	
Pump 1 S.P.M. / Volume:	/		Pump 2 S.P.M. / Volume:	/	
S.P.P.:	/		Fluid Density:	/	
Drift Angle:	/		Funnel Viscosity:	/	

Annular Velocity	Drill Collars:	HeavyWeight Drill Pipe:	Drill Pipe:
Bottoms Up	Depth:	Theoretical:	Actual:

Bit #: 2	Make: Hughes	Type: MX30G	IADC Series / Type: /
Serial #: 6037748	Size: 216.0	Jets / Nozzles: /	T.F.A.: /
Depth In: 2,287.22	Depth Out: 2,463.45	Made: 176.23	Rotating Hours: 34.25
	Average Drill Rate: 5.15	Total Rotating Hours: 87.75	
Bit Grade / Condition	I.A.D.C.: 6 / 7 / BT / A	/ F / 8 / PB /	T / B / G: / /

Remarks:

Formations Drilled: Muskwa

Drilling Parameters

	Min	Max		Min	Max
Force on Bit:	/		R.P.M.:	/	
Pump 1 S.P.M. / Volume:	/		Pump 2 S.P.M. / Volume:	/	
S.P.P.:	/		Fluid Density:	/	
Drift Angle:	/		Funnel Viscosity:	/	

Annular Velocity	Drill Collars:	HeavyWeight Drill Pipe:	Drill Pipe:
Bottoms Up	Depth:	Theoretical:	Actual:

Bit Data

Storage Units:

Metric

Bit #:	3	Make:	Hughes	Type:	MX-30G	IADC Series / Type:	/
Serial #:	6037749	Size:	216.0	Jets / Nozzles:	/	T.F.A.:	/
Depth In:	2,463.00	Depth Out:	2,520.00	Made:	57.00	Rotating Hours:	10.50
		Average Drill Rate:	5.43	Total Rotating Hours:	98.25		

Bit Grade / Condition	I.A.D.C.:	/	/	/	/	/	/	T / B / G:	/	/
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Remarks: abandoned

Formations Drilled:

Drilling Parameters

	Min	Max		Min	Max
Force on Bit:	/		R.P.M.:	/	
Pump 1 S.P.M. / Volume:	/		Pump 2 S.P.M. / Volume:	/	
S.P.P.:	/		Fluid Density:	/	
Drift Angle:	/		Funnel Viscosity:	/	

Annular Velocity
Bottoms UpDrill Collars:
Depth:HeavyWeight Drill Pipe:
Theoretical:Drill Pipe:
Actual:

Directional Survey Points

Storage Units: Metric

Survey Type: /

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
1,854.00	1,847.33	4.500	69.48				
1,864.37	1,857.65	6.900	45.60				
1,874.77	1,867.95	9.300	37.30				
1,881.50	1,874.56	11.700	26.00				
1,890.96	1,883.78	14.100	31.00				
1,900.35	1,892.86	15.700	33.60				
1,909.85	1,901.96	17.400	32.30				
1,919.42	1,911.04	19.500	30.20				
1,928.93	1,919.94	21.800	27.00				
1,938.53	1,928.79	23.900	22.80				
1,948.15	1,937.49	26.400	21.70				
1,957.62	1,945.89	28.700	21.20				
1,967.14	1,954.19	29.900	20.50				
1,976.74	1,962.49	30.500	20.10				
1,986.09	1,970.59	29.400	17.80				
1,995.43	1,978.78	28.200	14.60				
2,004.94	1,987.17	27.900	13.20				
2,014.44	1,995.57	27.700	13.00				
2,023.94	2,004.01	27.000	12.00				
2,033.56	2,012.60	26.600	11.30				
2,042.92	2,020.94	27.300	10.10				
2,052.35	2,029.29	28.000	9.40				
2,061.84	2,037.66	28.300	10.20				
2,071.51	2,046.17	28.400	12.30				
2,081.06	2,054.54	29.200	14.00				
2,090.59	2,062.87	29.000	15.60				
2,099.43	2,070.62	28.400	17.80				
2,109.43	2,079.42	28.300	17.30				
2,119.14	2,087.96	28.500	17.60				
2,128.80	2,096.45	28.600	17.50				
2,138.25	2,104.75	28.400	16.60				
2,147.92	2,113.28	28.000	14.60				
2,157.55	2,121.80	27.500	13.60				
2,167.10	2,130.30	26.600	12.10				
2,176.71	2,138.90	26.600	11.00				
2,186.18	2,147.38	26.200	10.40				

Directional Survey Points

Storage Units: Metric

Survey Type: /

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
2,195.83	2,156.07	25.400	9.80				
2,205.31	2,164.64	25.100	14.00				
2,214.96	2,173.34	26.100	16.60				
2,224.47	2,181.87	26.600	19.30				
2,233.70	2,190.08	27.700	20.20				
2,243.31	2,198.52	29.500	21.80				
2,252.79	2,206.69	31.400	19.70				
2,262.33	2,214.79	32.400	18.00				
2,271.82	2,222.78	32.900	17.00				
2,281.47	2,230.84	33.800	15.40				
2,290.86	2,238.61	34.600	14.30				
2,300.44	2,246.46	35.200	12.90				
2,310.01	2,254.27	35.500	12.90				
2,319.56	2,262.06	35.200	14.30				
2,328.98	2,269.78	34.600	14.40				
2,338.57	2,277.73	33.500	14.50				
2,348.09	2,285.70	32.900	13.70				
2,357.63	2,293.68	33.400	12.60				
2,367.24	2,301.66	34.300	10.60				
2,376.76	2,309.49	35.100	9.70				
2,386.15	2,317.19	34.700	9.00				
2,395.79	2,325.10	35.000	5.20				
2,405.21	2,332.76	36.400	1.40				
2,415.00	2,340.56	37.900	359.00				
2,424.46	2,347.98	38.800	357.90				
2,433.82	2,355.24	39.400	354.50				
2,443.24	2,362.44	41.000	350.20				
2,452.64	2,369.48	42.000	344.10				
2,462.13	2,376.48	43.000	341.10				
2,471.46	2,383.30	43.100	337.00				
2,481.05	2,390.31	42.900	332.60				
2,490.35	2,397.11	43.300	327.70				
2,499.93	2,404.06	43.600	325.00				

Drilling Fluid Summary

Storage Units:

Metric

Drilling Fluid Type: Produced Water

From:

1,853

To:

1,860

Drilling Fluid Type: Invert

From:

1,860

To:

2,520

Work Schedule

Storage Units:

Metric

Company: Chalce Resources
Geologist: Ken Glover

Work Performed **From:** Aug 25, 2005 **To:** Sep 01, 2005
Depths Logged **From:** 1,854.0 **To:** 2,520.0

Remarks: Arrive onsite on Aug 21, 2005. Kickoff on Aug 25, 2005. Reach TD of 2520.62 m on Sept 1, 2005. Run abandonment plug from 2435 to 2290 m on Sept 7, 2005.

Sample Descriptions

Storage Units: Metric

1,855.00 to 1,860.00 (5.00)	Shale Mainly medium gray to dark gray to green gray, soft, occasional bentonitic, weakly fissile, micromicaceous, silty in places, minor calcareous; trace light gray to medium gray siltstone stringers, moderately calcareous matrix ? with quartz grains. No shows.
1,860.00 to 1,865.00 (5.00)	Shale Shale with siltstone stringers as above. Trace microcrystalline pyrite along siltstone bedding, especially at contacts with shale. Trace micro organic fragments (angular and black) in siltstone stringers.
1,865.00 to 1,870.00 (5.00)	Shale Shale with quartzose siltstone stringers as above.
1,870.00 to 1,875.00 (5.00)	Shale Medium gray to occasional green gray and bentonitic, silty in places, micromicaceous. Trace medium brown gray calcareous marlstone. Trace dark gray to black shale. Trace slickensides.
1,875.00 to 1,880.00 (5.00)	Shale Medium gray to occasional green gray and bentonitic, silty in places, micromicaceous. Trace light gray calcareous quartzose siltstone, tight, no shows.
1,880.00 to 1,885.00 (5.00)	Shale Shale as above. Trace brown gray marlstone. Trace slickensides.
1,885.00 to 1,890.00 (5.00)	Shale Shale as above. Very rare brown gray marlstone.
1,890.00 to 1,895.00 (5.00)	Shale Medium gray to green gray and bentonitic, micromicaceous, moderately indurated. Minor brown gray earthy marlstone.
1,895.00 to 1,900.00 (5.00)	Shale Shale as above.
1,900.00 to 1,905.00 (5.00)	Shale Medium gray to brown gray, micromicaceous, weak to moderately fissile. Minor light to medium gray calcareous siltstone stringers, tight, no shows. Rare dark gray to black shale, laminated, fissile.
1,905.00 to 1,910.00 (5.00)	Shale Medium gray to brown gray shale as above. Trace disseminated pyrite in medium gray shale. Trace black organic ? flecks in shale.
1,910.00 to 1,915.00 (5.00)	Shale Shale as above.
1,915.00 to 1,920.00 (5.00)	Shale Medium gray to brown gray, micromicaceous, weak to moderately fissile, common clusters of black organic ? flecks. Trace light gray to brown gray marlstone. Trace slickensides.

Sample Descriptions

Storage Units: Metric

1,920.00 to 1,925.00 (5.00)	Shale Shale as above. Trace light gray to brown gray marlstone.
1,925.00 to 1,930.00 (5.00)	Shale Medium gray to brown gray shale as above. Rare light gray to brown gray marlstone.
1,930.00 to 1,935.00 (5.00)	Shale Medium gray to brown gray, micromicaceous, moderately fissile, Rare non calcareous quartzose siltstone stringers.
1,935.00 to 1,940.00 (5.00)	Shale Shale as above with indurated non calcareous silty bituminous. Trace brown gray marlstone. Trace slickensides.
1,940.00 to 1,945.00 (5.00)	Shale Medium gray, micromicaceous, weak to moderately fissile. Minor light to medium gray calcareous siltstone stringers. Trace slickensides.
1,945.00 to 1,950.00 (5.00)	Shale Medium gray shale as above.
1,950.00 to 1,955.00 (5.00)	Shale Medium to dark gray, micromicaceous, fissile, with minor dark gray to black, fissile laminations. Weak to moderately laminated. Trace siltstone laminations with trace disseminated pyrite. Trace slickensides.
1,955.00 to 1,960.00 (5.00)	Shale Medium to dark gray with minor green gray and bentonitic, micromicaceous, fissile, slightly calcareous.
1,960.00 to 1,965.00 (5.00)	Shale Shale as above. Trace silty calcareous stringers.
1,965.00 to 1,970.00 (5.00)	Shale Dark gray to black, fissile, micromicaceous in places with trace microfractures and minor slickensides, some slickensided surfaces are curved. Trace light to medium gray very calcareous silty marlstone with occasional milky white flecks (shell fragments ?)
1,970.00 to 1,975.00 (5.00)	Shale Dark gray shale as above. Increased very silty marlstone.
1,975.00 to 1,980.00 (5.00)	Shale Dark gray shale with silty marlstone as above.
1,980.00 to 1,985.00 (5.00)	Shale Gray, laminated with black wisps along laminations, common microcrystalline pyrite nodules <0.1 mm diameter, silty in places, trace dark gray to black shale laminations. Occasional light to medium gray siltstone stringers or laminations in shale, micromicaceous, occasional calcareous. No shows.

Sample Descriptions

Storage Units: Metric

1,985.00 to 1,990.00 (5.00)	Shale Gray shale as above but with increased dark gray to black shale laminations. Trace microfractures. One visible calcite fracture fill shows some calcite mineral cleavage, 0.5 mm thickness preserved in contact with shale, has associated irregular microfractures emanating from a smooth and regular primary fracture surface.
1,990.00 to 1,995.00 (5.00)	Shale Medium gray to green gray and bentonitic with minor brown gray, micromicaceous, occasional laminated, trace black shale.
1,995.00 to 2,000.00 (5.00)	Shale Shale as above. Slightly calcareous in places.
2,000.00 to 2,005.00 (5.00)	Shale Shale as above.
2,005.00 to 2,010.00 (5.00)	Shale Medium gray to green gray and bentonitic to minor brown gray, micromicaceous, occasional laminated. Common black organic flecks. Trace very thin (<0.05 mm thick) calcite healed microfractures.
2,010.00 to 2,015.00 (5.00)	Shale Shale as above.
2,015.00 to 2,020.00 (5.00)	Shale Medium gray, dark gray in places, very thin (0.05 mm thick) light gray siltstone laminae in places, micromicaceous in places, moderately fissile
2,020.00 to 2,025.00 (5.00)	Shale As above. Increasing dark gray shale, usually laminated. Trace curvilinear slickensided surfaces.
2,025.00 to 2,030.00 (5.00)	Shale Medium to dark gray with occasional black shale. Rare calcite fracture fill up to 0.2 mm thick, translucent with a smooth undulating surface. Trace clacareous light gray siltstone.
2,030.00 to 2,035.00 (5.00)	Shale As above. Increasing finely laminated, fissile black shale. Trace dolomitic light gray siltstone.
2,035.00 to 2,040.00 (5.00)	Shale Medium gray to black, variably laminated, variably fissile, occasionally micromicaceous. Trace microcrystalline pyrite. Trace calcite fracture fill up to 0.2 mm thick.
2,040.00 to 2,045.00 (5.00)	Shale As above. Trace light gray soft marlstone.

Sample Descriptions

Storage Units: Metric

2,045.00 to 2,050.00 (5.00)	Shale Medium gray with trace dark gray shale, occasionally micromicaceous, weakly fissile. Trace water sensitive light gray non calcareous shale with wisps of black organics. Trace calcareous.
2,050.00 to 2,055.00 (5.00)	Shale As above with increasing dark gray shale.
2,055.00 to 2,060.00 (5.00)	Shale As above.
2,060.00 to 2,065.00 (5.00)	Shale Medium to dark gray, weakly fissile, micromicaceous. Trace calcite healed microfractures. trace disseminated pyrite. Trace fissile, very finely laminated black shale.
2,065.00 to 2,070.00 (5.00)	Shale As above.
2,070.00 to 2,075.00 (5.00)	Shale As above. Increasing black shale.
2,075.00 to 2,080.00 (5.00)	Shale As above.
2,080.00 to 2,085.00 (5.00)	Shale Medium gray, laminated with 0.05 to 0.1 mm thick laminations of medium gray and black and dark gray shale bands. Fissile, micromicaceous. Trace very small (<0.05 mm diameter) milky white nodules in banding.
2,085.00 to 2,090.00 (5.00)	Shale As above.
2,090.00 to 2,095.00 (5.00)	Shale Medium to dark gray to black banded shale. Banding is less common than above. Micromicaceous.
2,095.00 to 2,100.00 (5.00)	Shale medium gray to dark gray. Trace black shale. Micromicaceous.
2,100.00 to 2,105.00 (5.00)	Shale As above. Trace slickensides.
2,105.00 to 2,110.00 (5.00)	Shale Medium gray to dark gray. Trace black shale. Occasionally laminated, weakly fissile, micromicaceous.
2,110.00 to 2,115.00 (5.00)	Shale As above.
2,115.00 to 2,120.00 (5.00)	Shale Dark gray to medium gray with occasional laminated black shale. Fissile. Micromicaceous.

Sample Descriptions

Storage Units: Metric

2,120.00 to 2,125.00 (5.00)	Shale Medium gray to dark gray. Weakly fissile to fissile.
2,125.00 to 2,130.00 (5.00)	Shale As above. Poor sample.
2,130.00 to 2,135.00 (5.00)	Shale Medium gray. Trace dark gray shale. Micromicaceous.
2,135.00 to 2,140.00 (5.00)	Shale Dark gray to medium gray, variably fissile. Medium gray shale is micromicaceous, dark gray shale less show of oil. Trace disseminated pyrite in medium gray shale.
2,140.00 to 2,145.00 (5.00)	Shale As above, but more medium gray shale.
2,145.00 to 2,150.00 (5.00)	Shale As above, but increasing dark gray shale. Trace slickensides.
2,150.00 to 2,155.00 (5.00)	Shale As above.
2,155.00 to 2,160.00 (5.00)	Shale Medium to dark gray, micromicaceous, variably fissile, trace slickensides
2,160.00 to 2,165.00 (5.00)	Shale As above
2,165.00 to 2,170.00 (5.00)	Shale medium to dark gray, micromicaceous, fissile, variably laminated, occasional slickensides, trace translucent calcite fracture fill with some up to 0.4 mm thick. Some fracture mineralisation contacts are preserved, showing fractures at about 45 degrees to laminations and calcite crystal growth at about 45 degrees to fracture face. Minor light gray marly siltstone.
2,170.00 to 2,175.00 (5.00)	Shale Medium to dark gray, micromicaceous, fissile, variably laminated, trace microcrystalline pyrite in dark gray shale. Rare calcite healed micro fractures. Trace water sensitive light gray shale with black organic ? wisps.
2,175.00 to 2,180.00 (5.00)	Shale Medium to dark gray, micromicaceous, fissile, variably laminated, trace unattached translucent calcite crystals. Rare Black Shale: micromicaceous, laminated, fissile. Rare light gray marly very fine grained sand to siltstone.
2,180.00 to 2,185.00 (5.00)	Shale As above with more of the dark gray shale component. Trace calcite healed microfractures.
2,185.00 to 2,190.00 (5.00)	Shale As above.

Sample Descriptions

Storage Units: Metric

2,190.00 to 2,195.00 (5.00)	Shale Medium gray with minor dark gray, micromicaceous, fissile, occasionally laminated. Trace marly siltstone as above.
2,195.00 to 2,200.00 (5.00)	Shale Dark gray to medium gray, micromicaceous, fissile with minor laminated black shale stringers. Trace microcrystalline pyrite, especially in black shale.
2,200.00 to 2,205.00 (5.00)	Shale Medium to dark gray, fissility and moderate lamination in dark gray shale, weak fissility in medium gray shale. Hard, micromicaceous. Rare light gray marly siltstone.
2,205.00 to 2,210.00 (5.00)	Shale As above.
2,210.00 to 2,215.00 (5.00)	Shale Dark gray to medium gray, micromicaceous, variable fissility. Occasional light gray marly siltstone.
2,215.00 to 2,220.00 (5.00)	Shale Medium gray, micromicaceous, trace microcrystalline pyrite, slickensides, fissile, moderately laminated.
2,220.00 to 2,225.00 (5.00)	Shale As above. Trace fracture fill: beige, dolomitic, translucent, up to 0.4 mm thick with a rough surface.
2,225.00 to 2,230.00 (5.00)	Shale Very dark gray to black with some medium gray shale. Sub blocky to fissile, micromicaceous, common slickensides throughout, laminated. Some very dark gray to black silty marlstone, dolomitic in part.
2,230.00 to 2,235.00 (5.00)	Shale Very dark gray to black with occasional medium gray shale but less than above. Common slickensides throughout, laminated, fissile, occasional cubic pyrite crystals 0.01 to 0.03 mm across in black shale laminae. Minor dark gray silty marlstone as above but more calcareous.

Muskwa: 2,238.00 MD, 2,193.90 TVD, -1,777.50 SSL

2,235.00 to 2,240.00 (5.00)	Shale Very dark gray to black shale, micromicaceous, laminated, common slickensides throughout, common microcrystalline pyrite cubes along laminae. Trace calcite healed microfractures.
2,240.00 to 2,245.00 (5.00)	Shale Black shale, fissile, moderately indurated, occasional microcrystalline pyrite, also trace disseminated pyrite, laminated, common slickensides. Occasional black silty marlstone.

Sample Descriptions

Storage Units: Metric

2,245.00 to 2,250.00 (5.00)	Shale Black, fissile, micromicaceous, weak to moderate lamination, common isolated cubic pyrite crystals along laminations. Trace microcrystalline pyrite clusters. Occasional very hard dark gray siltstone. Trace slickensides.
2,250.00 to 2,255.00 (5.00)	Shale As above.
2,255.00 to 2,260.00 (5.00)	Shale As above.
2,260.00 to 2,265.00 (5.00)	Shale Dark gray to black, fissile, micromicaceous, occasional microcrystalline pyrite. Trace slickensides.
2,265.00 to 2,270.00 (5.00)	Shale Black with minor dark gray. Trace clusters of microcrystalline pyrite. Rare massive pyrite chunks to 2 mm across.
2,270.00 to 2,275.00 (5.00)	Shale Black to dark gray, micromicaceous, siliceous, fissile, laminated in places, occasional microcrystalline pyrite, Trace hard light to medium gray shale. Common light gray calcareous cemented Siltstone, hard, quartzose.
2,275.00 to 2,280.00 (5.00)	Shale Black to dark gray, fissile, hard, siliceous, occasional hard black grains of chert? that is silica cemented with microcrystalline calcite. Occasional microcrystalline pyrite. Variably laminated.
2,280.00 to 2,285.00 (5.00)	Shale Dark gray to black, micromicaceous, fissile, trace disseminated pyrite along laminations in black shale. Trace pyrite mineralisation along fracture surfaces. Slickensided fracture surface. Minor calcareous silty bituminous containing hard black chert? grains. Rare pyrite nodules <0.1 mm thick.
2,285.00 to 2,290.00 (5.00)	Shale Dark gray to black as above, hard. Trace calcite healed microfractures. Pyritic. Common microcrystalline pyrite nodules. Trace Marlstone, medium grey, dolomitic
2,290.00 to 2,295.00 (5.00)	Shale Dark gray to black, very hard, siliceous, pyritic, trace calcite healed microfractures.
2,295.00 to 2,300.00 (5.00)	Shale Black to dark gray, occasional calcareous silty bituminous, rare loose quartz crystals, common pyrite throughout.
2,300.00 to 2,305.00 (5.00)	Shale Black to dark gray, micromicaceous, pyritic, siliceous and hard. Occasional dark gray siltstone stringers ? with hard black grains and calcite cement. Trace quartz healed microfractures.

Sample Descriptions

Storage Units: Metric

2,305.00 to 2,310.00 (5.00)	Shale Black with minor dark gray. Oily and very hard to clean. Hard, fissile to platy, micromicaceous, pyritic, trace quartz healed microfractures.
2,310.00 to 2,315.00 (5.00)	Shale Dark gray with lesser black shale. Micromicaceous, pyritic, fissile to platy, hard. Trace quartz healed microfractures. Trace dark gray siltstone with hard black grains and calcite cement.
2,315.00 to 2,320.00 (5.00)	Shale Dark gray with minor black shale bituminous as above. Occasional dark gray calcareous siltstone.
2,320.00 to 2,325.00 (5.00)	Shale Very dark gray, micromicaceous, micro pyritic, hard. Dark gray marlstone, silty in places, very calcareous.
2,325.00 to 2,330.00 (5.00)	Shale Very dark gray, micromicaceous, micro pyritic, fissile, hard.
2,330.00 to 2,335.00 (5.00)	Shale As above
2,335.00 to 2,340.00 (5.00)	Shale As above.
2,340.00 to 2,345.00 (5.00)	Shale Very dark gray, micromicaceous, common microcrystalline pyrite, occasional pyrite nodules, hard, fissile. Minor very dark gray calcareous marlstone, silty in places.
2,345.00 to 2,350.00 (5.00)	Shale Very dark gray, micromicaceous, pyritic, hard, fissile, oily. Minor very dark gray calcareous marlstone, silty in places.
2,350.00 to 2,355.00 (5.00)	Shale As above.
2,355.00 to 2,360.00 (5.00)	Shale Very dark gray, fissile, pyritic, hard, trace slickensides, oily. Minor dark gray silty marlstone.
2,360.00 to 2,365.00 (5.00)	Marlstone Dark gray, silty in places, pyritic, oily. Minor dark gray shale, fissile, micromicaceous, pyritic.
2,365.00 to 2,370.00 (5.00)	Shale Dark gray to black, pyritic in places, laminated to platy. Trace calcite healed microfractures, most cuttings vertically through shale laminations. Minor dark gray silty marlstone.

Sample Descriptions

Storage Units: Metric

2,370.00 to 2,375.00 (5.00)	Shale Black to very dark gray, platy, micromicaceous, pyritic, moderately calcareous, trace calcite healed microfractures and loose calcite crystals. Trace dark gray silty bituminous.
2,375.00 to 2,380.00 (5.00)	Shale Black to dark gray, laminated to sub blocky, pyritic, micromicaceous, occasional white calcite grains and silty bituminous. Trace calcite healed microfractures and loose calcite crystals up to 0.1 mm thick.
2,380.00 to 2,385.00 (5.00)	Shale Dark gray to black, calcareous to very calcareous, micromicaceous, pyritic, laminated to sub blocky, trace calcite healed microfractures up to 0.5 mm thick.
2,385.00 to 2,390.00 (5.00)	Shale Black to dark gray, traceblack loose pyrite clasts, calcareous, micromicaceous, trace slickensides, trace silty bituminous, interbedded with minor dark to medium gray marlstone, occasionally silty, very calcareous, occasional very fine laminae of opaque white calcite.
2,390.00 to 2,395.00 (5.00)	Shale As above, but only minor marlstone interbeds. Trace loose calcite crystals.
2,395.00 to 2,400.00 (5.00)	Shale Very dark gray, micromicaceous, pyritic, trace loose calcite crystals, trace slickensides, trace calcite healed microfractures, very calcareous, trace white calcareous specks.
2,400.00 to 2,405.00 (5.00)	Shale Very dark gray, micromicaceous, pyritic in places, trace loose calcite crystals, rare loose subrounded quartz crystals. Minor black shale, micromicaceous, pyritic, fissile, laminated to platy, calcareous.
2,405.00 to 2,410.00 (5.00)	Shale Black. fissile, laminated to platy, very calcareous, pyritic, micromicaceous, trace loose subrounded quartz crystals, trace slickensides, trace silty bituminous.
2,410.00 to 2,415.00 (5.00)	Shale Dark gray with black, fissile, pyritic, micromicaceous shale stringers, very calcareous, pyritic, trace calcite healed microfractures, trace loose calcite crystals, trace opaque angular quartz crystals. Occasional silty bituminous.
2,415.00 to 2,420.00 (5.00)	Shale Dark gray, laminated to platy, moderately fissile, very calcareous, micromicaceous, pyritic, trace slickensides, silty in places, rare calcite healed microfractures. Minor stringers of medium gray marlstone, silty in places.
2,420.00 to 2,425.00 (5.00)	Shale Black, sub blocky to platy, micromicaceous, pyritic, hard, trace slickensides, trace silty bituminous, calcareous to very calcareous.

Sample Descriptions

Storage Units: Metric

2,425.00 to 2,430.00 (5.00)	Shale As above but softer and less marlstone.
2,430.00 to 2,435.00 (5.00)	Shale Very dark gray to black, very calcareous, micromicaceous, pyritic, trace light to medium gray silty marlstone. Rare loose bituminous or drusy quartz fracture fill.
2,435.00 to 2,440.00 (5.00)	Shale Dark gray, platy, very calcareous, silty in places, micromicaceous, pyritic, trace light to medium gray silty marlstone.
2,440.00 to 2,445.00 (5.00)	Shale Dark with minor medium gray, micromicaceous, weakly fissile, laminated to platy, trace calcite healed microfractures, trace microcrystalline pyrite, trace milky white calcareous specks, trace slickensides. Trace light to medium gray marlstone, silty in places.
2,445.00 to 2,450.00 (5.00)	Shale Dark gray, micromicaceous, trace slickensides. Minor light to medium gray marlstone, dolomitic in places. Rare green gray bentonitic shale, dolomitic in part.
2,450.00 to 2,455.00 (5.00)	Shale Dark gray with trace medium gray stringers. Micromicaceous, hard, siliceous, very calcareous. Trace slickensides. Trace pyrite chinks <1 mm across. Common calcite healed microfractures up to 1 mm thick. Trace loose calcite crystals up to 0.8 mm across. Rare green gray bentonitic shale, weakly calcareous.
2,455.00 to 2,460.00 (5.00)	Shale Very dark gray to black, platy to sub blocky, hard, calcareous, common calcite healed microfractures up to 2 mm aperture. Trace loose calcite crystals, trace pyrite clasts. Trace light gray calcareous marlstone.
2,463.45 to 2,465.00 (1.55)	Shale Dark gray, platy to sub blocky, variably fissile, micromicaceous, calcareous, hard, pyritic in places, trace calcite healed microfractures, common loose calcite crystals, rare loose quartz crystals. Trace light to medium gray dolomitic marlstone, silty in places.
2,465.00 to 2,470.00 (5.00)	Shale Dark gray as above, but calcite fracture fill and loose crystals are common. Trace slickensides, trace calcareous specks. Trace light to medium gray, platy, marly siltstone stringers.
2,470.00 to 2,475.00 (5.00)	Shale Dark gray, micromicaceous, pyritic in places, platy to laminated, very calcareous, hard, trace calcite healed microfractures associated with thicker (up to 0.5 mm) calcite filled fractures.

Sample Descriptions

Storage Units: Metric

2,475.00 to 2,480.00 (5.00)	Shale Dark gray, micromicaceous, trace calcareous white specks, trace pyritic zones, trace calcite healed fractures to 1 mm aperture, trace slickensides. Trace light to medium gray silty marlstone.
2,480.00 to 2,485.00 (5.00)	Shale Dark gray and fractured as above with trace silty marlstone as above. Very hard, very calcareous.
2,485.00 to 2,490.00 (5.00)	Shale Dark gray, micromicaceous, platy variably fissile, calcareous, trace calcite healed microfractures and common loose calcite crystals. Occasional stringers of common (10 to 25% by volume) calcareous milky white flecks. Minor light to medium gray marly siltstone.
2,490.00 to 2,495.00 (5.00)	Shale Dark gray with trace dark brownish gray, common calcite fracture fill throughout from <0.05 mm to >1 mm. Laminated to platy with occasional very pyritic laminae. Trace gray marly siltstone that occasionally grades to very fine sandstone, calcareous cemented.
2,495.00 to 2,500.00 (5.00)	Shale Dark gray, non calcareous to calcareous, hard, calcite fracture fill from <0.05 mm to about 1 mm thick, trace slickensides.
2,500.00 to 2,505.00 (5.00)	Shale Dark gray, fissile, laminated to platy, with abundant calcite healed microfractures and common loose calcite crystals, occasionally euhedral in crystal form. Some fracture surfaces show smeared calcite veneers.
2,505.00 to 2,510.00 (5.00)	Shale Dark gray as above. Abundant fractures as above.
2,510.00 to 2,515.00 (5.00)	Shale Dark gray, micromicaceous, trace very pyritic lenses, abundant calcite healed microfractures (0.01 mm to 1 mm) with loose calcite crystals throughout.
2,515.00 to 2,519.00 (4.00)	Shale Dark gray and fractured as above, with trace slickensides.

Appendix B

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Wednesday, August 24, 2005	Well Report #	1
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 23 @ 8:00 to Aug. 24 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	N/A	Day From Kick Off:	N/A
Ground Elevation:	409.60 m	K.B. Elevation:	418.80 m
24:00 Hour Depth:	1855.63 m (MD)	Formation:	Lower Besa River

24 Hour Progress: 0.13 m
Average Drilling Rate: N/A
24:00 Hour Status: Pulling out of hole to inspect mill bit.

8:00 Hour Depth:	1859.00 (MD)	Formation:	Lower Besa River
Average Drilling Rate:	0.5 metres/hour		
8:00 Hour Status:	Milling window in casing.		

Operations Summary Last 24 Hour Period: Set whipstock @ 1853.05 m @ 10:00 hrs 8/23/05. Begin to mill through casing @ 11:00 hrs with mill bit and gyroscope assembly. Top of window milled @ 1855.5 m @ 15:00 hrs. Pull out of hole @ 1855.63 m @ 16:00 hrs due to concern over slow milling. Inspect and modify mill bit assembly, begin running in hole @ 21:00 hrs. Resume milling window @ 2:00 hrs 8/24/05. Continue window milling to 1858.00 m.

Forecast Operations Next 24 Hour Period: Continue milling window to 1862.00 m. Drill 8 metres of additional hole with mill bit and gyroscope assembly. Displace mud and changeover to invert mud system. Pull out of hole to pick up directional/MWD tools.

Mud Properties:

Density:	1055 kg/m3	Viscosity:	28 s/L
Water Loss:	cm3/30 min	pH:	6.5
Comments:	Using produced water from Nahanni Formation during the milling of the casing window.		

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Thursday, August 25, 2005	Well Report #	2
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 24 @ 8:00 to Aug. 25 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	0
Ground Elevation:	409.60 m	K.B. Elevation:	418.80 m
24:00 Hour Depth:	1859.85 m (MD)	Formation:	Lower Besa River

24 Hour Progress: 8.65 m
Average Drilling Rate: N/A
24:00 Hour Status: Pulling out of hole to inspect mill bit.

8:00 Hour Depth:	1868.50 (MD)	Formation:	Lower Besa River
Average Drilling Rate:	6 metres/hour		
8:00 Hour Status:	Begin drilling ahead from kick off point.		

Operations Summary Last 24 Hour Period: Finish window milling @ 1859.85 m @ 9:15 hrs on 8/24/05. Change mud system over to invert. Pull out of hole @ 13:30 hrs. Make up directional tools, run in hole at 23:00 hrs with tricone bit #1. Kick off point @ 1859.85 m @ 5:00 hrs on 8/25/05.

Forecast Operations Next 24 Hour Period: Drill ahead with directional and MWD tools.

Mud Properties:

Density:	940 kg/m3	Viscosity:	47 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

Started drilling this morning from kick off point with tricone bit #1.

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Friday, August 26, 2005	Well Report #	3
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 25 @ 8:00 to Aug. 26 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	1
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	1887.77 m (MD)	Formation:	Lower Besa River

24 Hour Progress: 66.24 m
Average Drilling Rate: 7 metres/hour
24:00 Hour Status: Running in hole with modified directional tools.

8:00 Hour Depth:	1934.74 (MD)	Formation:	Lower Besa River
Average Drilling Rate:	10 metres/hour		
8:00 Hour Status:	Drilling ahead and building angle.		

Operations Summary Last 24 Hour Period: Run in hole with temporary directional assembly. Drill ahead from kick off point to 1887.77 m @ 12:15 hrs on 8/25/05. Pull out of hole and make up final directional assembly. Run in hole. Drill ahead to 1934.74 m @ 8:00 hrs on 8/26/05.

Forecast Operations Next 24 Hour Period: Drill ahead. No further trips out of the hole are expected in the near future.

Deviation Surveys:

Measured Depth (m)	Deviation (degrees)	Azimuth
1873.77	9.3	37.3

Mud Properties:

Density:	940 kg/m3	Viscosity:	46 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Friday, August 27, 2005	Well Report #	4
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 26 @ 8:00 to Aug. 27 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	2
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2048.66 m (MD)	Formation:	Lower Besa River

24 Hour Progress: 160.89 m
Average Drilling Rate: 7 metres/hour
24:00 Hour Status: Drilling ahead.

8:00 Hour Depth:	2105.75 (MD)	Formation:	Lower Besa River
Average Drilling Rate:	10 metres/hour		
8:00 Hour Status:	Drilling ahead and building angle.		

Operations Summary Last 24 Hour Period: Drill ahead from 1934.74 m @ 8:00 hrs on 8/26/05, to 2105.75 m @ 8:00 hrs on 8/27/05.

Forecast Operations Next 24 Hour Period: Drill ahead.

Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2081.06	29.2	14

Mud Properties:

Density:	955 kg/m3	Viscosity:	48 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Sunday, August 28, 2005	Well Report #	5
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 27 @ 8:00 to Aug. 28 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	3
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2198.02 m (MD)	Formation:	Lower Besa River

24 Hour Progress: 149.36 m
Average Drilling Rate: 6 metres/hour
24:00 Hour Status: Drilling ahead.

8:00 Hour Depth:	2257.51 (MD)	Formation:	Muskwa
Average Drilling Rate:	6 metres/hour		
8:00 Hour Status:	Drilling ahead.		

Operations Summary Last 24 Hour Period: Drill ahead from 2105.75 m @ 8:00 hrs on 8/27/05, to 2257.51 m @ 8:00 hrs on 8/28/05. Wiper trip into casing at 2163.28 m @ 16:30 hrs on 8/27/05.

Forecast Operations Next 24 Hour Period: Drill ahead.
Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2224.47	26.6	19.3

Mud Properties:

Density:	985 kg/m3	Viscosity:	49 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

Drilled into the top of the Muskwa Formation at about 2240 m (MD).

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Monday, August 29, 2005	Well Report #	6
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 28 @ 8:00 to Aug. 29 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	4
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2287.22 m (MD)	Formation:	Muskwa

24 Hour Progress: 89.2 m
Average Drilling Rate: 6 metres/hour
24:00 Hour Status: Pulling out of hole to change bits.

8:00 Hour Depth:	2313.89 (MD)	Formation:	Muskwa
Average Drilling Rate:	6 metres/hour		
8:00 Hour Status:	Drilling ahead.		

Operations Summary Last 24 Hour Period: Drill ahead from 2257.51 m @ 8:00 hrs on 8/28/05, to 2313.89 m @ 8:00 hrs on 8/29/05. Pull out of hole at 2287.22 m (MD) @ 14:30 hrs on 8/28/05 to change bits due to concern over bit wear.

Forecast Operations Next 24 Hour Period: Drill ahead.
Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2281.47	33.8	15.4

Mud Properties:

Density:	980 kg/m3	Viscosity:	46 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

Baker Atlas alerted at 16:00 hrs on Sunday Aug. 28 for anticipated logging on Wednesday Aug. 31.

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Tuesday, August 30, 2005	Well Report #	7
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 29 @ 8:00 to Aug. 30 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	5
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2386.13 m (MD)	Formation:	Muskwa

24 Hour Progress: 98.91 m
Average Drilling Rate: 5 metres/hour
24:00 Hour Status: Drilling ahead.

8:00 Hour Depth: 2416.61 (MD)
Average Drilling Rate: 5 metres/hour
8:00 Hour Status: Drilling ahead.

Formation: Muskwa

Operations Summary Last 24 Hour Period:
to 2416.61 m @ 8:00 hrs on 8/30/05.

Drill ahead from 2313.89 m @ 8:00 hrs on 8/29/05,

Forecast Operations Next 24 Hour Period:
Latest Deviation Survey:

Drill ahead.

Measured Depth (m)
2386.15

Deviation (degrees)
34.7

Azimuth
9.0

Mud Properties:

Density: 990 kg/m3
Water Loss: cm3/30 min
Comments:

Viscosity: 47 s/L
pH:

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Wednesday, August 31, 2005	Well Report #	8
Report To:	Paul Price / Craig Chappell	Report From:	Ken Glover
Report Period:	Aug. 30 @ 8:00 to Aug. 31 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	6
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2463.45 m (MD)	Formation:	Muskwa

24 Hour Progress: 46.84 m
Average Drilling Rate: 2 metres/hour
24:00 Hour Status: Pulling out of hole to change faulty mud motor.

8:00 Hour Depth:	2463.45 (MD)	Formation:	Muskwa
Average Drilling Rate:	3 metres/hour		
8:00 Hour Status:	Running in hole with new mud motor.		

Operations Summary Last 24 Hour Period: Drill ahead from 2416.61 m @ 8:00 hrs on 8/30/05, to 2463.45 m @ 0:00 hrs on 8/31/05. Pull out of hole to change faulty mud motor.

Forecast Operations Next 24 Hour Period: Drill ahead. With bit #2.

Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2433.82	39.4	354.5

Mud Properties:

Density:	990 kg/m3	Viscosity:	44 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Thursday, September 1, 2005	Well Report #	9
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Aug. 31 @ 8:00 to Sept. 1 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	7
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2514.01 m (MD)	Formation:	Muskwa

24 Hour Progress: 50.56 m
Average Drilling Rate: 2 metres/hour
24:00 Hour Status: Drilling 5 metre intervals and circulating up samples to find the top of the Nahanni.

8:00 Hour Depth:	2520.84 (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Stuck in the hole.		

Operations Summary Last 24 Hour Period: Run in hole with new mud motor and new bit #3. Drill ahead from 2463.45 m @ 11:00 hrs on 8/31/05, to 2507.00 m @ 20:00 hrs. Begin circulating up samples to locate the top of the Nahanni. Stuck in hole without circulation at 2520.84 m @ 2:30 hrs on 9/01/05. Jarred out 8 metres to 2512 m, freed pipe and regained circulation. Worked pipe and cleaned hole to 2519.68 m. Stuck in hole again at 2519 m. Jarring out again @ 8:00 hrs on 9/01/05.

Forecast Operations Next 24 Hour Period: Clean out bottom of hole and adjust mud properties. Locate top of Nahanni. Clean out trip to prepare for logging.

Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2499.93	43.6	325.0

Mud Properties:

Density:	995 kg/m3	Viscosity:	45 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Saturday, September 3, 2005	Well Report #	10
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 2 @ 8:00 to Sept. 3 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	9
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2520.84 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Pulling pipe out of hole after backing off with stringshot, at 2429 m.

8:00 Hour Depth:	2520.84 (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Tripping in the hole with fishing tools.		

Operations Summary Last 24 Hour Period: Run in hole with backoff charge on wireline @ 9:00 hrs on 9/03/05. Determine that drill string is stuck at 2455 m. Successfully untwist drill pipe at 2429 m @ 16:45 hrs on 9/03/05, after third attempt. Circulate and condition mud. Pull twisted-off pipe out of hole. Slip and cut drill line. Trip back in hole with fishing tools.

Forecast Operations Next 24 Hour Period: Fish out remainder of drilling assembly.

Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2499.93	43.6	325.0

Mud Properties:

Density:	995 kg/m3	Viscosity:	76 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Monday, September 5, 2005	Well Report #	11
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 4 @ 8:00 to Sept. 5 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	11
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2520.84 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Running in hole with wireline stringshot.

8:00 Hour Depth:	2520.84 (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Running in hole with wireline stringshot for backoff attempt at 2457 m.		

Operations Summary Last 24 Hour Period: Trip out of hole with washover pipe. Trip in hole with fisherman's jars. Jar on fish with topdrive screwed in. Hold tight on the blocks and run in hole with wireline freepoint. Break free at 2485 m. Pull out freepoint tools and run in with wireline stringshot. Attempt to backoff at 2485.5 m, then at 2475 m, then at 2465.9 m, then at 2457 m.

Forecast Operations Next 24 Hour Period: Attempt to back off with stringshot at 2457 m. Circulate and eventually wash down to the bit. Pull out of hole to make up drilling string. Drill ahead.

Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2499.93	43.6	325.0

Mud Properties:

Density:	1100 kg/m3	Viscosity:	76 s/L
Water Loss:	10 cm3/30 min	pH:	5.7
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Tuesday, September 6, 2005	Well Report #	12
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 5 @ 8:00 to Sept. 6 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	12
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2520.84 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Washing down to 2479.2 m with washover pipe.

8:00 Hour Depth:	2520.84 (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Laying down washover pipe.		

Operations Summary Last 24 Hour Period: Run in hole with wireline stringshot and back off @ 2457 m. Trip out of hole, pick up wash pipe, and trip in hole. Wash down with washover pipe from 2467 m to 2479.2 m. Trip out of hole to lay down washover pipe.

Forecast Operations Next 24 Hour Period:

Latest Deviation Survey:

Measured Depth (m)	Deviation (degrees)	Azimuth
2499.93	43.6	325.0

Mud Properties:

Density:	1120 kg/m ³	Viscosity:	73 s/L
Water Loss:	cm ³ /30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Wednesday, September 7, 2005	Well Report #	13
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 6 @ 8:00 to Sept. 7 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	13
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2520.84 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Pulling out of hole after setting abandonment plug.

8:00 Hour Depth:	2520.84 (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Tripping in hole with bit.		

Operations Summary Last 24 Hour Period: Trip out of hole to lay down washover pipe. Trip in hole. Condition mud and circulate. Set cement abandonment plug from 2435 m to 2220 m. Finish cement job @ 21:15 hrs on 9/06/05. Pull out of hole. Trip in hole with bit.

Forecast Operations Next 24 Hour Period: Trip in hole with bit. Tag abandonment plug with bit. Trip out of hole, pick up directional tools and wait for cement to cure. Begin drilling sidetrack well.

Latest Deviation Survey Above Plug:

Measured Depth (m)	True Vertical Depth (m)	Inclination (degrees)	Azimuth (degrees)
2214.96	2173.34	26.10	16.60

Mud Properties:

Density:	1140 kg/m3	Viscosity:	63 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A2 (sidetrack)

Date:	Thursday, September 8, 2005	Well Report #	14
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 7 @ 8:00 to Sept. 8 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	14
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2290 m (MD)	Formation:	Muskwa

24 Hour Progress: 2.32 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Running in hole with directional tools.

8:00 Hour Depth:	2309.58 (MD)	Formation:	Muskwa
Average Drilling Rate:	0.7 metres/hour		
8:00 Hour Status:	Control drilling .		

Operations Summary Last 24 Hour Period: Trip in hole with bit. Tag abandonment plug and drill green cement down to 2247.61 m @ 10:30 hrs on 9/07/05. Circulate and wait for cement to cure. Drill harder cement down to 2290 m @ 16:00 hrs on 9/07/05. Pull out of hole to pick up directional tools. Trip in hole and wash down to 2307 m. Begin directional control drilling out of cement plug @ 2307.26 m @ 4:30 hrs on 9/08/05.

Forecast Operations Next 24 Hour Period: Control drill out of cement plug. Drill ahead in sidetrack well.

Latest Deviation Survey Above Plug:

Measured Depth	True Vertical Depth	Inclination	Azimuth
(m)	(m)	(degrees)	(degrees)
2300.44	2246.46	35.20	12.90

Mud Properties:

Density:	1155 kg/m3	Viscosity:	58 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Friday, September 9, 2005	Well Report #	15
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 8 @ 8:00 to Sept. 9 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	15
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2317.96 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Sidetracking out of cement plug.

8:00 Hour Depth:	2322.61 m (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Pulling out of hole after sidetracking out of cement plug.		

Operations Summary Last 24 Hour Period: Control drill with tricone bit, attempt to kickoff out of cement plug from 2307.46 m to 2317.47 m. Pull out of hole to put on sidetrack bit, run in hole with sidetrack bit. Control drill with sidetrack bit, attempt to kickoff out of cement plug from 2317.47 to 2322.64 m. Begin drilling into Muskwa @ about 2318 m.

Forecast Operations Next 24 Hour Period: Finish drilling kickoff @ 2323 m. Pull out of hole. Run in hole with tricone bit. Drill ahead from sidetrack kickoff point.

Latest Deviation Survey Above Cement Plug:

Measured Depth (m)	True Vertical Depth (m)	Inclination (degrees)	Azimuth (degrees)
2310.01	2254.27	35.50	12.90

Mud Properties:

Density:	1180 kg/m3	Viscosity:	58 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

Begin drilling new hole into Muskwa @ about 2318 m.

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Saturday, September 10, 2005	Well Report #	16
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 9 @ 8:00 to Sept. 10 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	16
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2344.6 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Drilling through cement plug, searching for hard cement.

8:00 Hour Depth:	2375.0 m (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Running in hole and waiting for cementers.		

Operations Summary Last 24 Hour Period: Finish drilling with sidetrack bit to 2322.72 m. Pull out of hole. Run in hole with tricone bit. Attempted to drill ahead from kickoff point but encountered soft cement. Drilled out cement plug to 2375.0 m @ 2:20 hrs on 9/10/05. Pull out of hole and prepare to run new cement plug.

Forecast Operations Next 24 Hour Period: Run in hole and cement new abandonment plug. Wait for cement to cure.

Latest Deviation Survey:

Measured Depth (m)	True Vertical Depth (m)	Inclination (degrees)	Azimuth (degrees)
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Mud Properties:

Density:	1200	kg/m3	Viscosity:	58	s/L
Water Loss:		cm3/30 min	pH:		
Comments:					

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Sunday, September 11, 2005	Well Report #	17
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 10 @ 8:00 to Sept. 11 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	17
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	0 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Running in hole to polish cement plug.

8:00 Hour Depth:	0 m (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Circulating and waiting on cement.		

Operations Summary Last 24 Hour Period: Run in hole. Cement plug #2 from 2375 to 2220 m.
Pull out of hole. Run in hole with bit and polish plug. Circulate and wait on cement.

Forecast Operations Next 24 Hour Period: Circulate and polish cement plug. Wait for cement to cure.

Latest Deviation Survey:

Measured Depth (m)	True Vertical Depth (m)	Inclination (degrees)	Azimuth (degrees)
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Mud Properties:

Density:	1210 kg/m3	Viscosity:	66 s/L
Water Loss:	cm3/30 min	pH:	
Comments:	Bringing up viscosity with barite.		

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Monday, September 12, 2005	Well Report #	18
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 11 @ 8:00 to Sept. 12 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	18
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	0 m (MD)	Formation:	Muskwa

24 Hour Progress: 0 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Circulating and waiting for cement.

8:00 Hour Depth:	0 m (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Circulating and waiting for cement.		

Operations Summary Last 24 Hour Period: Polish cement plug, circulate and wait on cement.

Forecast Operations Next 24 Hour Period: Circulate, polish cement plug, trip out of hole to put on sidetrack bit, run in hole and drill sidetrack kickoff hole.

Latest Deviation Survey:

Measured Depth (m)	True Vertical Depth (m)	Inclination (degrees)	Azimuth (degrees)
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Mud Properties:

Density:	1235 kg/m3	Viscosity:	60 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Tuesday, September 13, 2005	Well Report #	19
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 12 @ 8:00 to Sept. 13 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	19
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2295.63 m (MD)	Formation:	Muskwa

24 Hour Progress: 0.63 m
Average Drilling Rate: 0 metres/hour
24:00 Hour Status: Drilling sidetrack kickoff hole.

8:00 Hour Depth:	2298.12 m (MD)	Formation:	Muskwa
Average Drilling Rate:	0 metres/hour		
8:00 Hour Status:	Pulling out of hole after drilling sidetrack kickoff hole.		

Operations Summary Last 24 Hour Period: Polish cement plug, circulate and wait on cement. Pull out of hole. Run in hole with sidetrack bit. Drill sidetrack kickoff hole to 2298.12 m @ 6:00 hrs on 9/13/05. Begin pulling out of hole.

Forecast Operations Next 24 Hour Period: Pull out of hole. Run in hole with tricone bit. Drill ahead in sidetrack hole.

Latest Deviation Survey Above Sidetrack Kickoff:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2290.86 (m)	2238.61 (m)	34.60 (degrees)	14.30 (degrees)

Mud Properties:

Density:	1225 kg/m3	Viscosity:	62 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Wednesday, September 14, 2005	Well Report #	20
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 13 @ 8:00 to Sept. 14 @ 8:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	20
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2301.33 m (MD)	Formation:	Muskwa

24 Hour Progress: 5.7 m
Average Drilling Rate: 0.3 metres/hour
24:00 Hour Status: Drilling ahead in sidetrack hole.

8:00 Hour Depth:	2318.14 m (MD)	Formation:	Muskwa
Average Drilling Rate:	2 to 3 metres/hour		
8:00 Hour Status:	Pulling out of hole after drilling sidetrack kickoff hole.		

Operations Summary Last 24 Hour Period: Pull out of hole. Run in hole with tricone bit. Ease tricone bit into sidetrack kickoff hole. Drill ahead in sidetrack hole.

Forecast Operations Next 24 Hour Period: Drill ahead.

Latest Deviation Survey Above Sidetrack Kickoff:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2290.86 (m)	2238.61 (m)	34.60 (degrees)	14.30 (degrees)

Mud Properties:

Density:	1230 kg/m3	Viscosity:	65 s/L
Water Loss:	cm3/30 min	pH:	
Comments:			

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Thursday, September 15, 2005	Well Report #	21
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 14 @ 7:00 to Sept. 15 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	21
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2349.3 m (MD)	Formation:	Muskwa

24 Hour Progress: 48 m
Average Drilling Rate: 2 metres/hour
24:00 Hour Status: Drilling ahead in sidetrack hole.

7:00 Hour Depth:	2361.6 m (MD)	Formation:	Muskwa
Average Drilling Rate:	1 - 2 m/h sliding; 2 - 3 m/h rotating		
7:00 Hour Status:	Drilling ahead in sidetrack hole.		

Operations Summary Last 24 Hour Period: Drill ahead.

Forecast Operations Next 24 Hour Period: Drill ahead.

Latest Deviation Survey:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2338.32 (m)	~2275 (m)	27.4 (degrees)	3.4 (degrees)

Mud Properties:

Density:	1230 kg/m3	Viscosity:	62 s/L
Fluid Loss:	7.38 m3/100 m	Yield Point:	5.5 Pa
Comments:	Maintaining high yield point for hole stability.		

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Friday, September 16, 2005	Well Report #	22
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 15 @ 7:00 to Sept. 16 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	22
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2366.76 m (MD)	Formation:	Muskwa

24 Hour Progress: 17.5 m
Average Drilling Rate: 0.7 metres/hour
24:00 Hour Status: Drilling ahead in sidetrack hole.

7:00 Hour Depth:	2384.22 m (MD)	Formation:	Muskwa
Average Drilling Rate:	1 - 3 m/h sliding; 4 - 5 m/h rotating		
7:00 Hour Status:	Drilling ahead in sidetrack hole.		

Operations Summary Last 24 Hour Period: Pull out of hole @ 8:00 hrs on 9/15/05. Change bits, mud motor and MWD batteries. Run in hole and begin drilling ahead again @ 22:30 hrs on 9/15/05.

Forecast Operations Next 24 Hour Period: Drill ahead.

Latest Deviation Survey:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2365.7 (m)	~2290 (m)	28.8 (degrees)	352.2 (degrees)

Mud Properties:

Density:	1235 kg/m ³	Viscosity:	66 s/L
Fluid Loss:	7.40 m ³ /100 m	Yield Point:	5.5 Pa
Comments:	Maintaining high yield point for hole stability.		

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Saturday, September 17, 2005	Well Report #	23
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 15 @ 7:00 to Sept. 16 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	23
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2427.56 m (MD)	Formation:	Muskwa

24 Hour Progress: 60.78 m
Average Drilling Rate: 2.5 metres/hour
24:00 Hour Status: Drilling ahead in sidetrack hole.

7:00 Hour Depth:	2443.19 m (MD)	Formation:	Muskwa
Average Drilling Rate:	1 - 3 m/h sliding; 2 - 4 m/h rotating		
7:00 Hour Status:	Drilling ahead in sidetrack hole.		

Operations Summary Last 24 Hour Period: Drill ahead.

Forecast Operations Next 24 Hour Period: Drill ahead.

Latest Deviation Survey:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2422.89 (m)	~2348 (m)	27.9 (degrees)	340.6 (degrees)

Mud Properties:

Density:	1240 kg/m3	Viscosity:	64 s/L
Fluid Loss:	6.77 m3/100 m	Yield Point:	5.5 Pa
Comments:	Maintaining high yield point for hole stability.		

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Sunday, September 18, 2005	Well Report #	24
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 17 @ 7:00 to Sept. 18 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	24
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2468.75 m (MD)	Formation:	Muskwa

24 Hour Progress: 41.19 m
Average Drilling Rate: 1.7 metres/hour
24:00 Hour Status: Pulling out of hole to examine bit and mud motor.

7:00 Hour Depth:	2468.75 m (MD)	Formation:	Muskwa
Average Drilling Rate:	0 m/hr		
7:00 Hour Status:	Back in hole, preparing to drill ahead with new bit.		

Operations Summary Last 24 Hour Period: Drill ahead to 2468.75 mMD @ 21:10 hrs on 9/17/05. Pull out of hole to change bits. Run in hole with new bit.

Forecast Operations Next 24 Hour Period: Drill ahead.

Latest Deviation Survey:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2451.41 (m)	~2379 (m)	30.4 (degrees)	340.7 (degrees)

Mud Properties:

Density:	1240 kg/m3	Viscosity:	63 s/L
Fluid Loss:	6.77 m3/100 m	Yield Point:	6.5 Pa
Comments:	Maintaining high yield point for hole stability.		

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Monday, September 19, 2005	Well Report #	25
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 18 @ 7:00 to Sept. 19 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	25
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2502.6 m (MD)	Formation:	Muskwa

24 Hour Progress: 33.85 m
Average Drilling Rate: 2.1 metres/hour
24:00 Hour Status: Drilling ahead.

7:00 Hour Depth: 2511.00 m (MD)
Average Drilling Rate: 2 m/hr
7:00 Hour Status: Drilling ahead.

Formation: Muskwa

Operations Summary Last 24 Hour Period:
9/18/05 with new bit.

Drill ahead from 2468.75 mMD @ 8:00 hrs on

Forecast Operations Next 24 Hour Period:

Drill ahead, locate top of Nahanni.

Latest Deviation Survey:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2489.72 (m)	2410.82 (m)	37.7 (degrees)	336.4 (degrees)

Mud Properties:

Density:	1245 kg/m3	Viscosity:	65 s/L
Fluid Loss:	6.51 m3/100 m	Yield Point:	6.0 Pa
Comments:	Maintaining high yield point for hole stability.		

COMMENTS:

Baker Atlas has been alerted to be onsite by 20:00 hrs on Sept. 19.

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Tuesday, September 20, 2005	Well Report #	26
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 19 @ 7:00 to Sept. 20 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	26
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2540.0 m (MD)	Formation:	Muskwa

24 Hour Progress: 37.4 m
Average Drilling Rate: 1.6 metres/hour
24:00 Hour Status: Drilling ahead, looking for the Nahanni.

7:00 Hour Depth:	2552.7 m (MD)	Formation:	Muskwa
Average Drilling Rate:	1.5 to 2 m/hr		
7:00 Hour Status:	Drilling ahead, looking for the Nahanni.		

Operations Summary Last 24 Hour Period: Drill ahead.

Forecast Operations Next 24 Hour Period: Drill ahead, locate top of Nahanni. Drill at least 5 metres into the Nahanni. Wiper trip. Prepare for logging.

Latest Deviation Survey:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2536.72 (m)	~2443 (m)	43.9 (degrees)	333.4 (degrees)

Mud Properties:

Density:	1250 kg/m ³	Viscosity:	66 s/L
Fluid Loss:	6.23 m ³ /100 m	Yield Point:	6.0 Pa
Comments:	Maintaining high yield point for hole stability.		

COMMENTS:

Baker Atlas arrived onsite at 18:30 hrs on Sept. 19.

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Wednesday, September 21, 2005	Well Report #	27
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 20 @ 7:00 to Sept. 21 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	27
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2566.0 m (MD)	Formation:	Nahanni

24 Hour Progress: 26 m
Average Drilling Rate: 2 metres/hour
24:00 Hour Status: Pulling out of hole to lay down directional tools.

7:00 Hour Depth:	2566.0 m (MD)	Formation:	Nahanni
Average Drilling Rate:	m/hr		
7:00 Hour Status:	Logging.		

Operations Summary Last 24 Hour Period: Drill ahead into Nahanni dolomite. Reach intermediate casing point @ 2566 mMD (2465 mTVD) @ 14:15 hrs on 9/20/05. Wiper trip to clean hole and prepare for logging. Rig in loggers @ ??? hrs on 9/21/05. Loggers on bottom @ 7:00 hrs.

Forecast Operations Next 24 Hour Period: Finish logging. Run intermediate casing.

Latest Deviation Survey:

Measured Depth	True Vertical Depth	Inclination	Azimuth
2536.72 (m)	~2443 (m)	43.9 (degrees)	333.4 (degrees)
Projection to ICP:			
2566.00 (m)	2465.17 (m)	52.37	330.0

Mud Properties:

Density:	1240 kg/m3	Viscosity:	65 s/L
Fluid Loss:	6.03 m3/100 m	Yield Point:	7.0 Pa
Comments:	Added 130 kg of Gilsonite.		

COMMENTS:

DAILY GEOLOGICAL WELL REPORT

Paramount et al Liard K-29A

Date:	Thursday, September 22, 2005	Well Report #	28
Report To:	Paul Price	Report From:	Ken Glover
Report Period:	Sept. 21 @ 7:00 to Sept. 22 @ 7:00	Site Telephone #	403 451-3136
Kick Off Date:	Aug. 25, 2005	Day From Kick Off:	28
Ground Elevation:	409.60 m	K.B. Elevation:	416.60 m
24:00 Hour Depth:	2566.0 m (MD)	Formation:	Nahanni

24 Hour Progress: m
Average Drilling Rate: metres/hour
24:00 Hour Status: Rigging up loggers.

7:00 Hour Depth:	2566.0 m (MD)	Formation:	Nahanni
Average Drilling Rate:	m/hr		
7:00 Hour Status:	Logging with OBMI.		

Operations Summary Last 24 Hour Period: Logging run #1 with neutron, densilog, sonic, induction and gamma. Problems communicating with neutron and induction. Bottom depth reached was 2552 m. Tight spot around 2240. Clean out trip with rotary assembly after first log run. Begin rigging up loggers for logging run # 2 with new set of logging tools at 0:15 hrs on 9/22/05. Total depth reached on logging run #2 is 2568 m. Finish logging run #2 at 5:45 hrs on 9/22/05. Run in hole with logging run #3 – Oil Based Mud Formation Imager.

Forecast Operations Next 24 Hour Period: Finish logging. Run intermediate casing.

COMMENTS:

Well Information

Operator: Paramount Resources Ltd.
Well Name: Paramount et al Liard K-29A sidetrack
Location: K-29A
UWI: 300k296030123303
Pool: N/A
Field: Liard K-29
Province / State: Northwest Territories
Country: Canada

Elevations

Reference: _____ **Ground:** 409.6 m
Cut(-) / Fill(+): _____ **Kelly Bushing:** 416.4 m
K.B. to Ground: 6.8 m **Casing Flange:** _____ m

Total Depth

Measurement Type	Measured Depth	True Vertical Depth
Drillers TD (Tally)	2566 m	2465.17 m
Drillers TD (Strap or SLM)	m	m
Loggers TD	2568 m	2466.5 m

Surface Co - Ordinates

Well Type: Deviated **Longitude:** 123 35 4.100 **Latitude:** 60 28 41.040
N / S Co - Ordinates: 6704591.45
E / W Co - Ordinates: 467870.02

Bottom Hole Co - Ordinates

Longitude: _____ **Latitude:** _____
N / S Co - Ordinates: _____
E / W Co - Ordinates: _____

Drilling Fluid Summary

Fluid Type	From	To
Produced Water	1853 m	1860 m
Invert	1860 m	2520 m

Casing Summary

Type	Hole Size	Casing Size	Landed At
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Well Summary

Spud Date: Aug 25, 2005 @ 05:00hrs **Contractor:** Akita Drilling Rig #58
TD Date: Sep 20, 2005 @ 14:15hrs **Rig Release Date:** _____

Work Schedule

Contractor	Geologist	Log Interval	Dates Logged
Chalce Resources	Ken Glover	1855 m - 2520 m	Aug 24, 2005 - Sep 12, 2005
Chalce Resources	Ken Glover	2295 m - 2566 m	Sep 13, 2005 - Sep 22, 2005

Remarks

Legend

Rock Types and Thin Beds						Rock Type
Whole Bed	Stringer	Nodule	Breccia	Clast	Pebble	
						Anhydrite - primary
						Anhydrite - secondary
						Argillite
						Barite
						Bentonite
						Breccia
						Calcareous
						Cement
						Conglomerate - mixed
						Conglomerate - dark chert
						Conglomerate - light chert
						Conglomerate - varicolored chert
						Chert - dark
						Chert - fossiliferous
						Chert - light
						Chert - tripolitic
						Chert - varicolored
						Claystone - colored
						Claystone - gray
						Coal
						Dolomite
						Ferruginous
						Feldspar
						Gypsum
						Igneous - acidic
						Igneous - basic
						Igneous - metamorphic
						Limestone - grain supported
						Limestone - mud supported
						Manganese
						Marlstone - calcareous
						Marlstone - dolomitic
						Mudstone
						Paleosol
						Phosphate
						Pyrite
						Quartz
						Salt
						Shale - black
						Shale - dark gray
						Shale - medium gray
						Shale - light gray
						Shale - brown
						Shale - green
						Shale - red
						Siderite
						Sandstone
						Siltstone
						Till - glacial
						Volcanic (Tuff)
						Welded Volcanic (Tuff)

Textures			
C	Chalky	E	Earthy
CX	Cryptocrystalline	L	Lithographic
MS	Grainstone	GS	Bafflestone
WS	Bindstone	FS	Framestone
PS	Rudstone	RS	Siltstone

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Miscellaneous Grains			
B	Biotite	M	Mineral crystal
G	Glauconite	D	Mineral - dark
O	Orthoclase	P	Plagioclase
S	Sand grain	M	Muscovite

Porosity Type Track			
e	Earthy - low permeability - crystals / grains less than 1 / 16 mm	O	Organic - Bridged - Intrafossil
F	Fenestral - voids from gas bubbles - shrinkage cracks - birdseye texture	P	Pinpoint - voids less than 1 / 16 mm
X	Intercrystalline - Interfragmental - Intergranular	V	Vuggy - voids greater than 1 / 16 mm
F	Fracture		
I	Interolitic - Interpelletoidal		
M	Moldic		

Oil Show Track			
●	Even staining (75 - 100% of the rock is stained) - fluoresces in solvent		
○	Spotted staining (50 - 75% of the rock is stained) - fluoresces in solvent		
◐	Spotted staining (25 - 50% of the rock is stained) - fluoresces in solvent		
◑	Spotted staining (1 - 25% of the rock is stained) - fluoresces in solvent		
○	Questionable oil staining - no fluorescents in solvent		
D	Dead oil staining - asphaltic - bitumen - pyrobitumen etc.		
F	Fluoresces - no visible oil staining		

Trace Fossil Track					
An	Anonichnus	Ar	Arenicolites	At	Arthropycus
Au	Aulicnolites	Be	Bergaueria	Cg	Camborygma
Cb	Chabutolithes	Ch	Chondrites	Cl	Climactichnites
Cp	Cosmoraphe	C	Cruziana	Cy	Cylindrichnus
Dm	Dimorphichnus	D	Diplocraterion	Ea	Eatonichnus
Et	Entomichnus	Esc	Escape Traces	Ga	Gastrochaenolites
G	Gyrolithes	Gy	Gyrophyllites	H	Helminthopsis
L	Lockeia	Lo	Lorenzina	Ma	Macaronichnus
Mo	Monocraterion	Ne	Neonereites	N	Nereites
Pa	Palaeophycus	Pd	Paleodictyon	Pc	Paleohelcura
Pt	Petalichnus	Py	Phycodes	Ph	Phycosiphon
Pm	Psammichnites	Ps	Psaronichnus	Rh	Rhizocorallium
Ro	Rosselia	Ru	Rusophycus	Sb	Scalarituba
Sy	Scoyenia	Si	Siphonichnus	S	Skolithos
Su	Subphyllochora	Syn	Synaeresis Cracks	Te	Teichichnus
Td	Teredolites	Th	Thalassinoides	Tc	Trichichnus
Ty	Trypanites	Z	Zoophycos		

Sedimentary Structures					
B	Ball and pillow	B	Bioturb-churned	B	Bioturb-slightly
B	Bioturb-mod well	B	Bioturb-well	B	Boudinage
C	Clastic Dike	C	Clastic sill	C	Desiccation crack
F	Fault-Large scale	F	Fault-Small scale	F	Flame structure
G	Geopetal	G	Groove casts	G	Gutter casts
I	Inclined heterolithic strata	M	Mud chips	L	Load casts
N	Neptunian dike	P	Pit marks	P	Pull-a-part
R	Rip up clasts	R	Roots / root trace	S	Scour and Fill
S	Swash marks	S	Syneresis crack	T	Teepee structure
W	Water Escape			T	Tool marks

Sedimentary Bedding Contacts					
BIO	Bioturbated	BORED	Bored	CAL	Caliche / calcrete
EX	Exposure	FS	Flooding surface	GLOSS	Glossifungites
INCL	Inclined - sharp	IRR	Irregular - sharp	MFS	Maximum flooding surface
NOD	Nodular	PB	Parasequence boundary	RS	Ravinement surface
ROOT	Rooted	SCOR	Scour	SB	Sequence boundary
TSE	Transgressive surface of erosion	UNCON	Unconformity	WAVY	Wavy

COR	Corrosional	DC	Dessication cracks
GRAD	Gradational	HC	Hardground
RSE	Regressive surface of erosion	MG	Mud cracks
SHARP	Sharp	TRUN	Truncation

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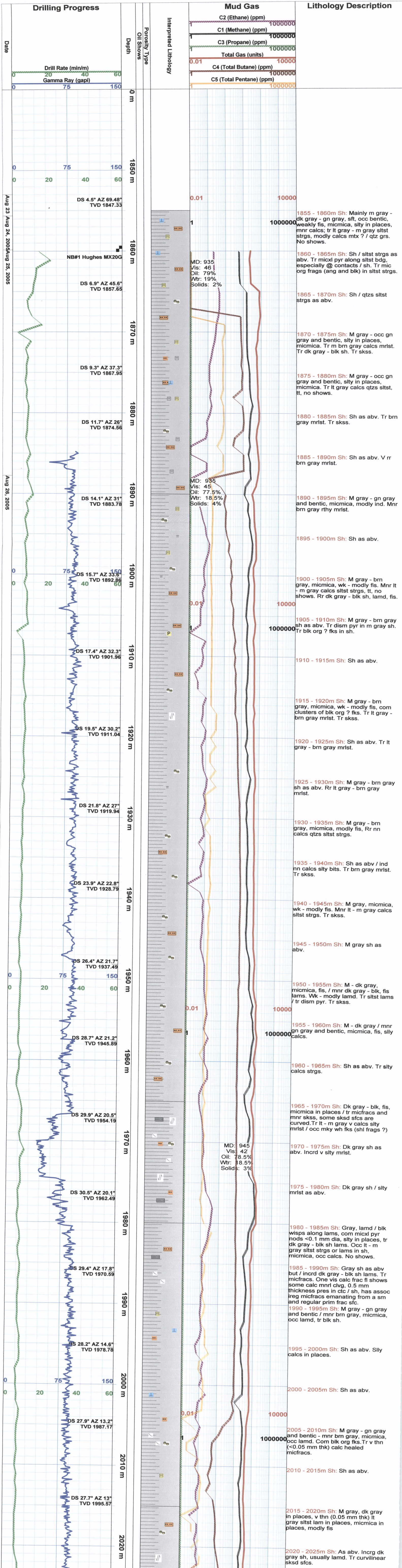
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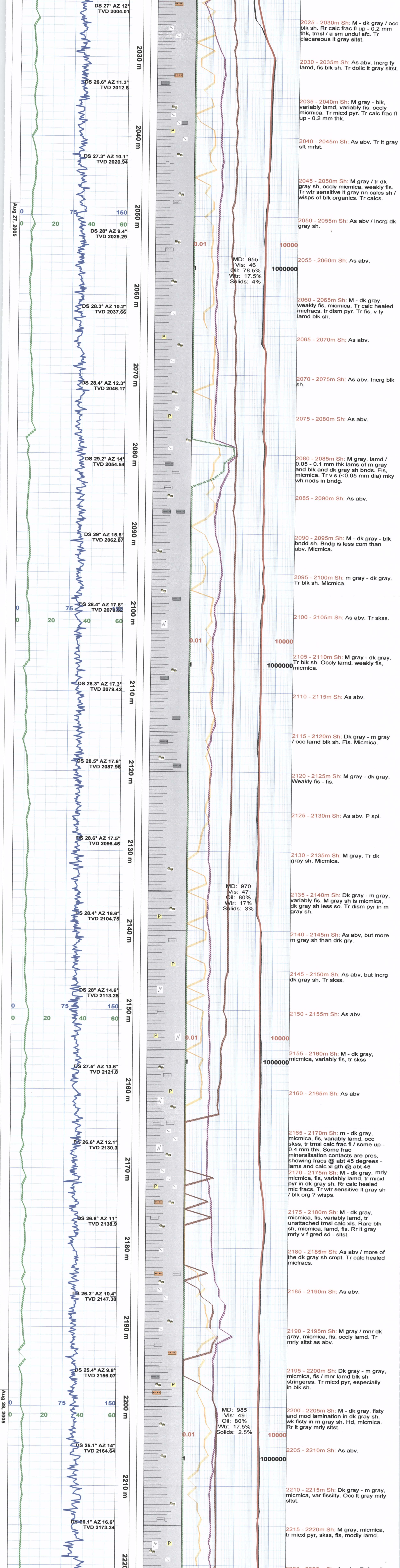
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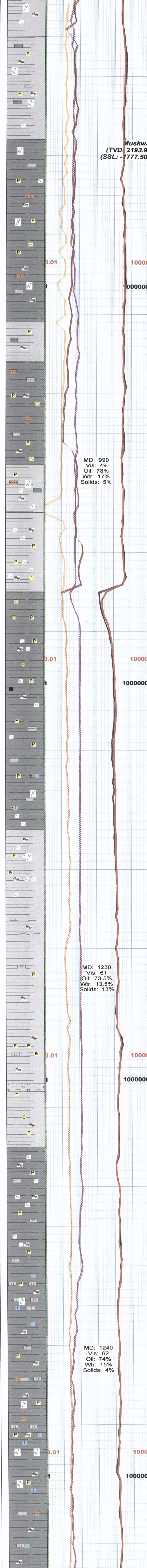
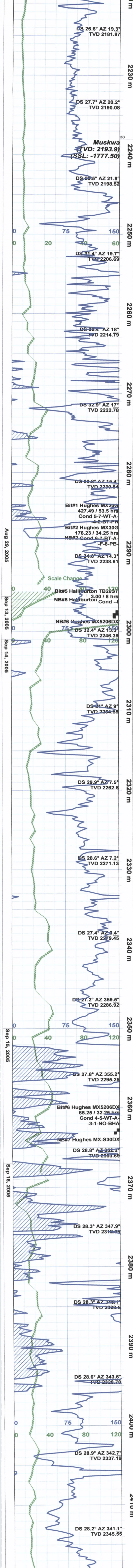
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COR	Corrosional	DC	Dessication cracks
GRAD			







2220 - 2225m Sh: As abv. Tr frac fr: beige, dolc, trnst, up - 0.4 mm thk / a rough sfc.

2225 - 2230m Sh: V dk gray - blk / some m gray sh. Sb blkly - fis, micmica, com skss thru, lamd. Some v dk gray - blk slty mrlst, dolc in pt.

2230 - 2235m Sh: V dk gray - blk / occ m gray sh but less than abv. Com skss thru, lamd, fis, occ cubic pyr xls 0.01 - 0.03 mm across in blk sh lam. Mnr dk gray slty mrlst as abv but more calcs.

2235 - 2240m Sh: V dk gray - blk sh, micmica, lamd, com skss thru, com micxl pyr cubes along lam. Tr calc healed micfracs.

2240 - 2245m Sh: Blk sh, fis, modly ind, occ micxl pyr, also tr dism pyr, lamd, com skss. Occ blk slty mrlst.

2245 - 2250m Sh: Blk, fis, micmica, wk - mod lamination, com isolated cubic pyr xls along lams. Tr micxl pyr clusters. Occ v hd dk gray sltst. Tr skss.

2250 - 2255m Sh: As abv.

2255 - 2260m Sh: As abv.

2260 - 2265m Sh: Dk gray - blk, fis, micmica, occ micxl pyr. Tr skss.

2265 - 2270m Sh: Blk / mnr dk gray. Tr clusters of micxl pyr. Rr mas pyr chunks - 2 mm across.

2270 - 2275m Sh: Blk - dk gray, micmica, sils, fis, lamd in places, occ micxl pyr, Tr hd lt - m gray sh. Com lt gray calcs cmtst sltst, hd, qtzs.

2275 - 2280m Sh: Blk - dk gray, fis, hd, sils, occ hd blk grs of cht? that is sil cmtst / micxl calc. Occ micxl pyr. Variably lamd.

2280 - 2285m Sh: Dk gray - blk, micmica, fis, tr dism pyr along lams in blk sh. Tr pyr mineralisation along frac sfc. Sksd frac sfc. Mnr calcs slty bits containing hd blk cht? grs. Rr pyr nodes <0.1 mm thk.

2285 - 2290m Sh: Dk gray - blk as abv, hd. Tr calc healed micfracs. Pyric. Com micxl pyr nodes. Tr med gry dolc mrlst.

2290 - 2295m Sh: Dk gray - blk, v hd, sils, pyric, tr calc healed micfracs.

2295 - 2300m Sh: Blk - dk gray, occ calcs slty, blkly - lamd, modly arg, fis, tr skss, bits, rr lse qtz xls, com pyr thru / occ v pyric lam. Tr calc healed micfracs and tr lse qtz xls. Mnr m gy sh, hd, sils, mas - blkly.

2300 - 2305m Sh: Dk gy - blk, hd, sils, pyric as abv. Decrg m gy sh. Tr blk - brn, sft, rthy sh.

2305 - 2310m Sh: Dk gy - blk, hd, sils. Tr colorless qtz healed micfracs up - 0.01 mm aperture, <1 mm spacing, parallel / nn uni thickness, perpendicular - fisty. Com micxl pyr. Tr blk, sft carb fks up - 0.2 mm in blk sh.

2310 - 2315m Sh: Dk gy - blk sh as abv, / incrg blk sh. Rr dk gy calcs sh.

2315 - 2320m Sh: Blk - dk gy as abv, / incrg calcs dk gy sh. Occ colorless, micxl, sphr, w srt, w rdd calc peloids (no vis nucleus), mtx supd in sft, nn calcs dk gy sh.

2320 - 2325m Sh: Dk gy - blk, micmica, pyric, hd, sils, rarely lamd - comly plty, fis. Mnr m - dk gy sh, calcs, micmica, pyric. Tr calc healed micfracs, tr skss. Tr peloidal sh as abv.

2325 - 2330m Sh: Dk gy, micmica, brit but not v hd, pyric in places, fis, lamd - blkly, tr skss. Rr lse crmy wh calc xls up - 0.4 mm.

2330 - 2335m Sh: Dk gy as abv. Tr calc healed micfracs. Silly calcs in places.

2335 - 2340m Sh: As abv. Occ lse calc xls. Mnr brn gy sh, calcs, sft, rdd ctas. Tr skss.

2335 - 2340m Mrlst: Brnsh gy - dk gy, foss in places, occ calcs wh specs. Mnr sft, gy, foss mrlst / occ sft chky wh calcs specs. Mnr hd, fis, 2340 - 2345m Sh: As abv, / decrg brn gy sh. Rr lt gy sh, micmica, sily ara, pyric, modly hd. 2340 - 2345m Mrlst: Mxd calcs marlstones as abv. Mnr hd, fis dk gy sh as abv.

2345 - 2350m Sh: As abv, but modly calcs in places. Rr lse drsy wh qtz xls - 1 mm.

2350 - 2355m Sh: Dk gy, micmica, occ dism pyr bnds, fis, tr skss, occly lamd, modly calcs in places but mostly sils. Mnr brn gy mrlst, sft, rthy, calcs / v wk fisty.

2355 - 2360m Sh: Lithologies as abv / decrg brn gy sh. Rr wh nn calcs specs.

2360 - 2365m Sh: Dk gy, micmica, tr dism pyr bnds, tr brn gy mrlly sh, sft, rthy, calcs. Rr lt gy, sils, micmica sh / a slaty lstr.

2365 - 2370m Sh: Dk gy - blk, plty, micmica, micxl pyr - dism in lns parallel - bdg. Tr calc healed micfracs. Tr lt gy pyric arg sh as abv.

2370 - 2375m Sh: Blk - dk gy, plty, micmica, pyric, weakly calcs, tr calc healed micfracs and lse calc xls. Tr dk gy slty mrlst / com micxl pyr.

2375 - 2380m Sh: Blk - dk gy, weakly lamd - sb blkly, micmica, pyric, weakly calcs, tr calc healed micfracs up - 0.2 mm thk. Tr lse calc xls. Tr dk gy slty mrlst / com micxl pyr.

2380 - 2385m Sh: Blk - dk gy, plty, micmica, pyric, modly calcs, mnr intbds of v calcs dk gy mrlst. Tr skss.

2385 - 2390m Sh: blk - dk gy, calcs - v calcs, micmica. Tr lse calc xls.

2390 - 2395m Sh: Blk - dk gy, micmica, pyric in places. Mnr strgs of v v calcs dk gy mrlst.

2395 - 2400m Sh: Blk - dk gy, micmica, pyric in places as abv, tr skss. Tr dk gy mrlst, occly slty.

2400 - 2405m Sh: Blk, fis, lamd - plty, pyric, calcs, micmica, com skss.

2405 - 2410m Sh: Dk gy and blk but mostly v dk gy, micmica, pyric, tr lse calc xls, tr skss.

2410 - 2415m Sh: Dk gy and blk, fis, as abv. Rr slty mrlst. Rr brnsh dk gy mrlst, not fis.

2415 - 2420m Sh: Eq parts sh as abv and mrlst as abv.

MD: 990
Vis: 49
Oil: 78%
Wtr: 17%
Solids: 5%

MD: 1230
Vis: 61
Oil: 73.5%
Wtr: 13.5%
Solids: 13%

MD: 1240
Vis: 62
Oil: 74%
Wtr: 15%
Solids: 4%

Sep 17, 2005

Sep 18, 2005

Sep 19, 2005

Sep 20, 2005

DS 27.9° AZ 340.6°
TVD 2353.97

DS 28.2° AZ 341.8°
TVD 2362.45

DS 29.3° AZ 341.8°
TVD 2370.79

DS 30.4° AZ 340.7°
TVD 2378.94

DS 31.5° AZ 338.8°
TVD 2387.21

Bit#7 Hughes MX-S30DX
105.00 / 43 hrs
Cond 4-5 WT-A
8-4 BT-HR

DS 33.3° AZ 336.5°
TVD 2395.18

DS 35.6° AZ 336.2°
TVD 2403.23

DS 37.7° AZ 336.4°
TVD 2410.82

DS 38.9° AZ 334°
TVD 2418.17

DS 40.3° AZ 333.2°
TVD 2425.44

DS 41.8° AZ 333.1°
TVD 2432.53

DS 43.9° AZ 333.4°
TVD 2439.49

DS 46.4° AZ 332.4°
TVD 2446.07

Likely top of
Nahanni Dolomite
2550 mMD
2455 mTVD

DS 48.1° AZ 331.3°
TVD 2452.58

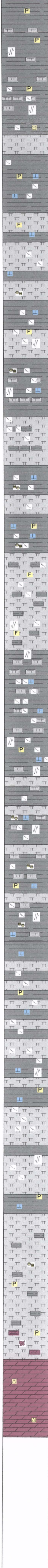
DS 48.9° AZ 331.3°
TVD 2455.03

Nahanni
(TVD: 2457.02)
(SSL: -2040.62)

Bit#8 Hughes MX-S30GDX
98.00 / 49 hrs
Cond -

Intermediate Casing Point
(TVD: 2465.17)
(SSL: -2048.77)

2420 m
2430 m
2440 m
2450 m
2460 m
2470 m
2480 m
2490 m
2500 m
2510 m
2520 m
2530 m
2540 m
2550 m
2560 m
2570 m
2580 m



0.01

Sharp increase in flowline temperature below 2480 m

0.01

0.01

MD: 1245
Vis: 63
Oil: 74%
Wtr: 11%
Solids: 15%

MD: 1245
Vis: 68
Oil: 73.5%
Wtr: 11.5%
Solids: 15%

MD: 1245
Vis: 65
Oil: 73%
Wtr: 12%
Solids: 15%

MD: 1250
Vis: 66
Oil: 72.5%
Wtr: 12%
Solids: 15.5%

2420 - 2425m Sh: Dk gy, calcs, fis, plty - blk, pyric, tr skss. Also brnsh dk gy mlrst, softer, v calcs, rarely slty.

2425 - 2430m Sh: Dk gy - blk, fis, calcs, hd, pyric / occ micxl pyr cubes. Lesser brnsh gy mlrst, pyric in places, v calcs. Occ slt sized calcs rdd wh specs in mlrst. Tr slty zns. Tr skss. Tr calc healed micfracs in blk sh, up - 0.4 mm thk.

2430 - 2435m Sh: Sh as abv. Mnr strgs of dk gy mlrst, sft. Rr gnsh m gy sh, bentic lstr, wxy looking.

2435 - 2440m Sh: Dk gy - blk, fis, pyric, micmica, v calcs. Incrg strgs of v calcs gy mlrst. Rr rdd trnsl lse qtz xls. Tr calc healed micfracs, mainly in sh. Rr biege micxl dolc pieces comprising <<1% of ctgs, tr intstl por.

2440 - 2445m Mrlst: Gy, as abv. Occ wh fks as abv, also tr mky wh calcs shl frags or fos frags as wisps parallel - bdg plns. Lesser dk gy sh as abv, / tr clacite healed micfracs, / occ euhed xln habit.

2445 - 2450m Mrlst: Gy - dk gy, micmica in places, weakly fis in places, com slt sized rdd wh calcs fks comprising up - 10% of the rk. Tr calc healed micfracs, but more comly lse mky wh calc xls.

2450 - 2455m Mrlst: M - lt gy, v calcs, comly / wh slt sized calcs fks, tr pyr fks of sim sz and distribution pattern. Tr wispy fos frags. Tr skss.

2455 - 2460m Sh: Dk gy, micmica, pyric, v calcs - mrlly in places. Tr m gy mlrst as abv. Tr skss. Tr calc healed micfracs. Rr lt gy, micmica, nn calcs wtr sensitive sh.

2460 - 2465m Mrlst: M gy, v calcs, rdd - plty, calc healed micfracs bcmng more com. Lesser dk gy sh as abv. Rr drsy lse qtz xls.

2465 - 2470m Sh: Dk gy - blk, fis, micmica, rr micxl pyr, plty - sb blk, calcs, occ calc healed micfracs up - 0.4 mm aperture. Lse cacite xls. Tr mky wh calc lam parallel - bdg. Com skss. Gy - dk gy mlrst strgs, calcs slt sized frags in places. Tr foss. Rr lse qtz xls.

2470 - 2475m Sh: Dk gy - blk as abv. V calcs. Decrg mlrst strgs as abv.

2475 - 2480m Mrlst: M gy - dk gy, v calcs, skss, slty in places, com calc frac fl and lse pieces / smeared edges. Rr euhed calc xls in fracs. Mnr dk gy - blk calcs sh as abv.

2480 - 2485m Mrlst: Lithologies as abv, / incrg sh. Less calcs slty frags.

2485 - 2490m Sh: Blk - v dk gy, micmica, rarely lamd - sb blk, micxl pyr in places, skss, v calcs, com fracs cmtd / calc up - 0.4 mm thk, also lse calc xls and xl agglomerates. Tr brnsh gy mlrst, v calcs / calcs fos frags up - 0.01 mm

2490 - 2495m Sh: Dk gy - blk, micmica, pyric in places, rarely lamd - sb blk, v calcs, com calc mineralised fracs and occ lse xls. Com skss. Mnr mlrst strgs / occ foss frags.

2495 - 2500m Sh: As abv, / less fragg.

2500 - 2505m Sh: Dk gy, v calcs - mrlly, micmica, hd, com calc healed micfracs, skss. Mnr ltr gy mrlly strgs, tr chky calcs lns up - 2 mm wide.

2505 - 2510m Sh: Dk gy - blk, micmica, pyric / occ micxl pyr, v calcs, lamd - sb blk, skss, tr calc healed micfracs, tr lse calc xls up - 3 mm. Mnr strgs of ltr brnsh gy mlrst, v calcs, tr calcs wh specs.

2510 - 2515m Sh: As abv, / tr blk, shiny, carb?, ang frags. Silly less mlrst than abv.

2515 - 2520m Sh: Dk gy, fis, micmica, pyric, hd, calcs, mrlly in places grdg - mrlst. Tr calc healed micfracs. Lesser mlrst, brnsh gy, softer, v calcs.

2520 - 2525m Sh: As abv, plty - blk, frac fl more com. Rr rdd lse qtz xls. Lesser distinct dk gy mlrst, v calcs, foss in places, calcs wh specs, tr skss.

2525 - 2530m Mrlst: Brnsh gy - dk gy, sft, tr sft chky wh calcs wisps, tr skss. Mnr dk gy sh as abv.

2530 - 2535m Mrlst: M - dk gy, v calcs, sft, foss in places, com sft chky wh calcs fks. Mnr dk brnsh gy mlrst, rarely foss. Occ calc healed micfracs. Mnr hd fis dk gy sh as abv.

2535 - 2540m Mrlst: Brnsh gy - dk gy, foss in places, occ calcs wh specs. Mnr sft, gy, foss mlrst / occ sft chky wh calcs specs. Mnr hd, fis, dk gy sh as abv.

2540 - 2545m Mrlst: Mxd calcs marlstones as abv. Mnr hd, fis dk gy sh as abv.

2545 - 2550m Mrlst: Dirty dk gy, v calcs, occ chky calcs wh fks - foss. Mnr dk gy, hd, calcs, micmica, pyric. Rr lse calc xls? wk acid response but stains dk red.

2550 - 2555m Mrlst: M - dk sirty gy, v mnr dk gy fis sh. Mnr dol, f - c xln, bit (inv?) plugging intl por. Tr c xln dol rhmbs cmtd into weakly calcareous/dolomitic mrl.

2555 - 2560m Marlstone/dolomite: Mrlst / mnr dk gy fis sh as abv. Mnr dol, lt - m gy, micxl - c xln, tr c xln lse rhmbs, p - fr intl por mostly bit fld.

2560 - 2566m Dol: Lt - m gy, micxl - c xln, m - c xln dol rhmbs, p intl por / bit partially filg pore space (may be gil from inv in some cases). Tr pinpoint por. Tr lse clr hex qtz xls. Mnr ctgs of calcs dk gy fis sh and mlrst, presumed - be cvgs.

Nahanni
(TVD: 2457.02)
(SSL: -2040.62)

Nahanni
(TVD: 2457.02)
(SSL: -2040.62)

Intermediate Casing Point
(TVD: 2465.17)
(SSL: -2048.77)

Well Information

Operator:	Paramount Resources Ltd.
Well Name:	Paramount et al Liard
Location:	K-29A
UWI:	300K-29A-6030-123302
Pool:	N/A
Field:	Liard K-29
Province / State:	Northwest Territories
Country:	Canada

Elevations

Reference:	Ground	Ground:	409.6 m
Cut(-) / Fill(+):		Kelly Bushing:	416.4 m
K.B. to Ground:	6.8 m	Casing Flange:	m

Total Depth

Measurement Type	Measured Depth	True Vertical Depth
Drillers TD (Tally)	2520.62 m	2418.92 m
Drillers TD (Strap or SLM)	m	m
Loggers TD	m	m

Surface Co - Ordinates

Well Type:	Deviated	Longitude:	123 35 4.100	Latitude:	60 28 41.040
N / S Co - Ordinates:	6704591.45				
E / W Co - Ordinates:	467870.02				

Bottom Hole Co - Ordinates

Longitude:		Latitude:	
N / S Co - Ordinates:			
E / W Co - Ordinates:			

Drilling Fluid Summary

Fluid Type	From	To
Produced Water	1853 m	1860 m
Invert	1860 m	2520 m

Casing Summary

Type	Hole Size	Casing Size	Landed At
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Well Summary

Spud Date:	Aug 25, 2005 @ 05:00hrs	Contractor:	Akita Drilling Rig #58
TD Date:		Rig Release Date:	

Work Schedule

Contractor	Geologist	Log Interval	Dates Logged
Chalce Resources	Ken Glover	1854 m - 2520 m	Aug 25, 2005 - Sep 1, 2005

Remarks

This leg of the well was abandoned.
K-29A sidetrack well drilled below 2295 m.

Legend

Rock Types and Thin Beds						Rock Type
Whole Bed	Stringer	Nodule	Breccia	Clast	Pebble	
						Anhydrite - primary
						Anhydrite - secondary
						Argillite
						Barite
						Bentonite
						Breccia
						Calcareous
						Cement
						Conglomerate - mixed
						Conglomerate - dark chert
						Conglomerate - light chert
						Conglomerate - varicolored chert
						Chert - dark
						Chert - fossiliferous
						Chert - light
						Chert - tripolitic
						Chert - varicolored
						Claystone - colored
						Claystone - gray
						Coal
						Dolomite
						Ferruginous
						Feldspar
						Gypsum
						Igneous - acidic
						Igneous - basic
						Igneous - metamorphic
						Limestone - grain supported
						Limestone - mud supported
						Manganese
						Marlstone - calcareous
						Marlstone - dolomitic
						Mudstone
						Paleosol
						Phosphate
						Pyrite
						Quartz
						Salt
						Shale - black
						Shale - dark gray
						Shale - medium gray
						Shale - light gray
						Shale - brown
						Shale - green
						Shale - red
						Siderite
						Sandstone
						Siltstone
						Till - glacial
						Volcanic (Tuff)
						Welded Volcanic (Tuff)

Textures

C	Chalky	E	Earthy	mx	Microcrystalline
CX	Cryptocrystalline	L	Lithographic		
MS	Mudstone	GS	Grainstone	BFS	Bafflestone
WS	Wackestone	FLS	Floatstone	BS	Bindstone
PS	Packstone	RS	Rudstone	FS	Framestone

Miscellaneous Grains

	Biotite		Mineral crystal		Orthoclase
	Glauconite		Mineral - dark		Plagioclase
	Mica flakes		Muscovite		Sand grain

Porosity Type Track

	Earthly - low permeability - crystals / grains less than 1 / 16 mm		Organic - Bridged - Intrafossil
	Fenestral - voids from gas bubbles - shrinkage cracks - birdseye texture		Pinpoint - voids less than 1 / 16 mm
	Intercrystalline - Interfragmental - Intergranular		Vuggy - voids greater than 1 / 16 mm
	Fracture		
	Interolitic - Interpelletoidal		
	Moldic		

Oil Show Track

	Even staining (75 - 100% of the rock is stained) - fluoresces in solvent
	Spotted staining (50 - 75% of the rock is stained) - fluoresces in solvent
	Spotted staining (25 - 50% of the rock is stained) - fluoresces in solvent
	Spotted staining (1 - 25% of the rock is stained) - fluoresces in solvent
	Questionable oil staining - No fluorescents in solvent
	Dead oil staining - asphaltic - bitumen - pyrobitumen etc.
	Fluoresces - no visible oil staining

Trace Fossil Track

An	Anconichnus	Ar	Arenicoules	At	Arthropycus	As	Asterosoma
Au	Aulichnites	Be	Bergaueria	Cg	Camborygma	Cf	Ceilliforma
Cb	Chabutolithes	Ch	Chondrites	Cl	Climactichnites	Co	Conichnus
Cp	Cosmoraphe	C	Cruziana	Cy	Cylindrichnus	Da	Dactyloidites
Dm	Dimorphichnus	D	Diplocraterion	Ea	Eatonichnus	En	Entobia
Et	Entomichnus	Esc	Escape Traces	Ga	Gastrochaenolites	Gl	Glossifungites
G	Gyrolithes	Gy	Gyrophyllites	H	Helminthopsis	K	Kouphichnium
L	Lockeia	Lo	Lorenzina	Mp	Macanopsis	Ma	Macaronichnus
Mo	Monocraterion	Ne	Neonereites	N	Nereites	O	Ophiomorpha
Pa	Palaeophycus	Pd	Paleodictyon	Pc	Paleohelcura	Pl	Paleoscolytus
Pt	Petalichnus	Py	Phycodes	Ph	Phycosiphon	P	Planolites
R	Rosmichnites	Ps	Psilonichnus	Rh	Rhizocorallium	Rg	Rogerella
Ro	Rosselia	Ru	Rusophycus	Sb	Scalarituba	Sc	Schaubcylindrichnus
Sy	Scoyenia	Si	Siphonichnus	S	Skolithos	Sp	Spirophycus
Su	Subphyllorchorda	Syn	Synaeresis Cracks	Te	Teichichnus	Tr	Terebellina
Td	Teredolites	Th	Thalassinoides	Tc	Trichichnus	Tp	Trichophycus
Ty	Trypanites	Z	Zoophycos				

Sedimentary Structures

	Ball and pillow		Bioturb-churned		Bioturb-slightly		Bioturb-moderate
	Bioturb-mod well		Bioturb-well		Boudinage		Burrows
	Clastic Dike		Clastic sill		Desiccation crack		Dish structure
	Fault-Large scale		Fault-Small scale		Flame structure		Flute mark
	Gneptal		Groove casts		Gutter casts		Load casts
	Inclined heterolithic strata		Mud chips		Mud drapes		Mud marks
	Neptunian dike		Pit marks		Pull-a-part		Rill marks
	Rip up clasts		Roots / root trace		Scour and Fill		Slump structure
	Swash marks		Syneresis crack		Teepee structure		Tool marks
	Water Escape						

Sedimentary Bedding Contacts

BIO	Bioturbated	BORED	Bored	CAL	Caliche / calcrete	COR	Corrosional	DC	Dessication cracks
EX	Exposure	FS	Flooding surface	GLOSS	Glossifungites	GRAD	Gradational	HG	Hardground
INCL	Inclined - sharp	IRR	Irregular - sharp	MFS	Maximum flooding surface			MC	Mud cracks
NOD	Nodular	PB	Parasequence boundary	RS	Ravinement surface	RSE	Regressive surface of erosion		
ROOT	Rooted	SCOUR	Scour	SB	Sequence boundary	SHARP	Sharp	TRUN	Truncation
TSE	Transgressive surface of erosion			UNCON	Unconformity	WAVY	Wavy		

Accessories

	Anhydritic		Gibbsitic
	Argillaceous		Illitic
	Baritic		Kaolinitic
	Bentonitic		Lithic Fragment
	Bituminous		Marly - calcareous
	Calcareous		Marly - dolomitic
	Carbonaceous		Micromicaceous
	Cherty - dark		Mixed layer clayey
	Cherty - fossiliferous		Montmorillonitic
	Cherty - light		Phosphate pellets
	Cherty - tripolitic		Pyritic
	Cherty - varicolored		Salt casts
	Chloritic		Sandy
	Clayey		Sideritic
	Dolomitic		Siliceous
	Ferruginous staining		Silty
	Fractures		Stylolitic
	Glauconitic		Tuffaceous
	Gypsiferous		Zeolitic

Fossils (Rock Builders)

	Aggregate grains		Euryamphipora
	Algae - laminations		Foraminifera
	Algae - non descript		Fossil
	Algae - ootoid		Fragmental
	Algae - skeletal		Gastropod
	Amphipora		Graptolite
	Belemnite		Hydrozoa
	Bioclastic		Intraclast
	Brachiopod		Mollusc
	Bryozoa		Oncolite
	Calciaphaera		Oolite
	Cephalopod		Ostracod
	Chaetetes		Pelecypod
	Coated grain		Pellet
	Conodont		Pisolite
	Coral		Plant Remains
	Coral - branching		Scaphopod
	Coral - head		Spicule
	Coral - colonial		Sponge
	Coral - solitary		Stromatoporoid
	Crinoid		Stromatoporoid - bulbous
	Diatom		Stromatoporoid - massive
	Echnoid		Stromatoporoid - tabular
	Echnoid - spine		Tentaculites
	Fish Remains		Trilobite

Matrix

	Argillaceous		Marl - dolomitic
	Bentonite		Micrite
	Bituminous		Mixed Clay
	Clay		Montmorillonite
	Chlorite		Sand
	Gibbsite		Silt
	Illite		Sperry Calcite
	Kaolinite		Zeolite
	Marl - calcareous		

Cement

	Anhydritic		Gypsiferous
	Baritic		Hematitic
	Bituminous		Limonitic
	Calcareous		Pyritic
	Chert - dark		Sideritic
	Chert - light		Siliceous
	Dolomitic		
	Ferruginous		

Sorting Track

	Very poorly sorted - > 10 phi size grade classes
	Poorly sorted - 6-10 phi size grade classes
	Moderately sorted - 3-6 phi size grade classes
	Moderately well sorted - 2-3 phi size grade classes
	Well sorted - < 2 phi size grade classes

Rounding Track

	Very Angular		Subrounded
	Angular		Rounded
	Subangular		Well Rounded

Framework Track

Framework is a ratio between clastic material greater than 1/16 mm and primary void filler less than 1/16 mm.
? indicates questionable interpretation

Core Track

	Indicates Interval
	Cored Interval
	Indicates Lost Core















Test Track

	Indicates Tested
	Tested Interval

Sedimentary Structures Bedding / Cross Bedding

	Centimeter bedding		Inverted graded bedding
	Decimeter bedding		Massive bedding
	Millimeter bedding		Normal graded bedding
	Chevron x-bedding		Herringbone x-bedding
	Sigmoidal x-bedding		Hummocky x-bedding
	Swaley x-bedding		Planar/Tabular x-bedding
	Trough x-bedding		

Sedimentary Structures Laminations / Cross Laminations

	Climbing ripple xlam		Contorted/Slumped lams
	Current ripple xlam		Flaser laminations
	High angle xlam		High angle parallel lams
	Lenticular lams		Low angle xlam
	Low angle para lam		Parallel laminations
	Trough xlam		Warped laminations
	Wave angle xlam		Vase laminations

