

Geological Report

On

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Petro - Canada Blackwater Kwijika M-59

NWT

for

Petro Canada Oil & Gas

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Well Summary

Storage Units: Metric

Well Information

Operator: Petro Canada Oil & Gas
Well Name: Petro-Canada Blackwater Kwijika M-59
Location: M-59
UWI: 300M596440122300
Pool:
Field: Wildcat
State / Province: NWT Central MacKenzie
Country: Canada
License Number: 1165
Well Status: Plugged & Abandoned

Surface Co-ordinates	Hole Type: Vertical	Fault Indicator:
	Latitude: 64 38' 45.3"	Longitude: 122 40' 56.8" W
	UTM Northing: 7168837.91	UTM Easting: 515172.73

N / S :

E / W :

Int. Casing Co-ordinates	Latitude:	Longitude:
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N / S :

E / W :

Bottom Hole Co-ordinates	Latitude:	Longitude:
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N / S :

E / W :

Elevations	Reference:	Sea Level
Ground Elevation:	245.90	Kelly Bushing to Ground: 5.70
Kelly Bushing Elevation:	252.10	Cut (-):
Casing Flange Elevation:		Fill (+):

Total Depth	Measured Depth	True Vertical Depth
Total Depth Driller (Tally) :	1,640.00	1,638.42
Total Depth Driller (Strap or SLM):	1,641.30	1,639.72
Total Depth Logger:	1,641.00	1,639.42

Miscellaneous Depths

Plugback Depth:	Water Depth Reference:
Sidetrack Depth:	Water Depth:

Well Summary

Drilling Contractor: Akita Sahtu Rig #51	Spud Date: Feb 11, 2008	@ 15:30
Rig Release Date:	Total Depth Date: Mar 4, 2008	@ 09:30

Cores	#	Formation	Interval	Cut	Recovered	%
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Well Summary

Storage Units: Metric

Casing Summary

Casing Type	Casing Size	Landed Depth	Hole Size
Surface	244.5	348.00	311.0
Intermediate	177.8	1,198.00	222.2

Logging Summary

Company	Engineer	Total Depth (MD)	Logging tools

Casing Data Summary

Storage Units: Metric

Casing Type	Casing Size	Casing Landed @	Hole Size
Surface	244.5	348.00	311.0
Intermediate	177.8	1,198.00	222.2

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
1A	Smith	GF5114B	311.0	20.0	350.0	330.0	20.25	16.30	0	8	BT	A	2	I	BT	TD	
1B	HC	HC506Z	222.0	350.0	850.0	500.0	46.25	10.81	6	6	CT	A		I	WT	PR	
2B	Smith	FH28	222.0	850.0	894.0	44.0	8.25	5.33	2	8	RO	H	F	2	BT	PP	
3B	Smith	FH30	222.0	894.0	996.0	102.0	19.50	5.23	2	8	BT	H	E	I	CT	PR	
4B	Hughes	GX-44GD	222.0	996.0	1,200.0	204.0	46.25	4.41	2	5	BT	H	E	I	JD	TD	
1C	Hughes	STR-40D	156.0	1,200.0	1,495.0	295.0	48.25	6.11	4	8	BT	A	E	I	FC	PR	
2C	Smith	XR50	156.0	1,495.0	1,518.0	23.0	6.75	3.41	4	8	BT	H	E	12	FC	PR	
3C	HC	STX-50D	156.0	1,518.0	1,540.0	22.0	8.50	2.59	4	7	BT	H	E	I	FC	PR	
4C	HC	STX-50D	156.0	1,540.0	1,572.0	32.0	12.00	2.67	3	5	FC	A	E	I	BT	PR	
5C	Smith	XR40DPS	156.0	1,571.0	1,640.0	69.0	19.75	3.49	2	2	WT	N	E	I	NO	TD	

Total Rotating Hours: 235.75



Logging Report

Page 1

Well Name			Wellsite Geologist(s)			Specialist(s) / Petrophysicist(s)			Date		
PC Blackwater Kwijika M-59			Gary Timmons/Gerald D'eon						23 Feb 2008		
Wireline Contractor	Wireline Engineer(s)			Drilling Supervisor			Conveyance Method	Maximum Deviation (°)			
SCHLUMBERGER CANADA LIMITED	J. Rollings/R. Jacobs			Rick Fisher/Ed Daechsel			Wireline	4.8			
Requested Arrival Date	Requested Arrival Time		Actual Arrival Date			Actual Arrival Time	Field Cost				
Time Rig Up Commenced (mm/dd/yy 00:00)		Time Rig Down Completed (mm/dd/yy 00:00)			Driller Depth	Logger Depth	Difference				
23 Feb 2008 @ 13:00		24 Feb 2008 @ 02:00			1200.0 m	1201.0 m	1.0 m				

Interruptions in Logging Activities (Conditioning Trips, Hole Problems, Etc.)

Explanation	Interruption Start (mm/dd/yy 00:00)	Interruption End (mm/dd/yy 00:00)

Service Summary, Failures and Log Quality

(Failures Must Be Non-Borehole Related)

Wireline Service	Run	Trip	Interval (m)		Total Logged (m)	BHT (°C)	Rig Up Time (00:00)	Rig Down Time (00:00)	Total Time (Hrs)	Lost Time (Hrs)	Calibration Failures?	Depth Control Failures?	Repeat Failures?	Logs Consistent with Offset?	Tool Specific Failures?	Presentation Failures?	Log Quality Rating [1 (poor) to 4 (excellent)]
			Bottom	Top													
FMI-EMS-DSI-GR	1	2	1200.0	247.0	953.0	27	20:00	02:00	6.00							X	
PEX-HRLA-TLD2-HNGS-SP	1	1	1200.3	7.0	1193.3	28	13:00	20:00	7.00								

Time Summary

Total Logging Time (Hrs)	Total Lost Time (Hrs)	Total Interruption Time (Hrs)	Logging Efficiency (%)
13.00			100

Problems and Lost Time Details

SP curve was erratic below 800m, but readings appeared to repeat. Caused by Borehole? FMI caliper above 640 m occasionally would give erratic readings for short intervals (spikes). - images were OK.

Remarks

FMI tool to be taken to Norman Wells with Logging crew for check of caliper problem. Departing Feb 24.
Ran GR-NEUTRON to surface



Logging Report

Page 1

Well Name PC Blackwater Kwijika M-59			Wellsite Geologist(s) Gary Timmons/Gerald D'eon	Specialist(s) / Petrophysicist(s)	Date 04 Mar 2008
Wireline Contractor SCHLUMBERGER CANADA LIMITED	Wireline Engineer(s) J. Rollings/R. Jacobs		Drilling Supervisor Rick Fisher/Ed Daechsel	Conveyance Method Wireline	Maximum Deviation (°) 4
Requested Arrival Date	Requested Arrival Time	Actual Arrival Date	Actual Arrival Time	Field Cost \$	
Time Rig Up Commenced (mm/dd/yy 00:00) 04 Mar 2008 @ 19:00	Time Rig Down Completed (mm/dd/yy 00:00) 06 Mar 2008 @ 11:30	Driller Depth 1640.0 m	Logger Depth 1641.0 m	Difference 1.0 m	

Interruptions in Logging Activities (Conditioning Trips, Hole Problems, Etc.)

Explanation	Interruption Start (mm/dd/yy 00:00)	Interruption End (mm/dd/yy 00:00)
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Service Summary, Failures and Log Quality

(Failures Must Be Non-Borehole Related)

Wireline Service	Run	Trip	Interval (m)		Total Logged (m)	BHT (°C)	Rig Up Time (00:00)	Rig Down Time (00:00)	Total Time (Hrs)	Lost Time (Hrs)	Calibration Failures?	Depth Control Failures?	Repeat Failures?	Logs Consistent with Offset?	Tool Specific Failures?	Presentation Failures?	Log Quality Rating [1 (poor) to 4 (excellent)]
			Bottom	Top													
FMI-EMS-DSI-HGNS-MLTB	2	3	1640.0	1198.0	442.0	34	09:00	17:00	8.00								4
MDT	2	4	1563.0	1454.0	109.0	30	17:00	02:45	9.75								4
VSP	2	5	1640.0	200.0	1440.0		02:45	11:30	8.75								
PEX-HRLA-CMR-TLD2-MLTB-SP	2	1	1640.0	1198.0	442.0	34	19:00	03:00	8.00						X		4
MSCT	2	2	1568.5	1493.5	75.0		03:00	09:00	6.00								4

Time Summary

Total Logging Time (Hrs)	Total Lost Time (Hrs)	Total Interruption Time (Hrs)	Logging Efficiency (%)
40.50			100

Problems and Lost Time Details

SP curve very erratic. (Also in prev runs). Microlog tool appears to have failed, will run on trip 3.

Remarks

MDT 13 stations, 6 good tests, 7 dry tests. 4 450 cc samples taken at 1503.6 m

Survey Points

Storage Units:

Metric

Measured Depth	T.V.D.	Drift Angle (°)	Azimuth (°)	+N / -S Distance	+E / -W Distance	Vertical Section	DogLeg Severity
46.00	46.00	0.150					
90.00	90.00	1.000					
123.00	122.90	0.500	73.00	0.00	0.00	0.00	0.00
190.00	189.89	1.000	92.00	0.07	0.86	0.07	0.25
237.00	236.89	0.750	145.00	-0.20	1.45	-0.20	0.52
276.00	275.88	1.750	142.00	-0.88	1.96	-0.88	0.77
341.00	340.80	3.750	143.00	-3.36	3.85	-3.36	0.92
357.00	356.76	4.100	130.20	-4.15	4.61	-4.15	1.76
401.00	400.63	4.700	126.30	-6.23	7.26	-6.23	0.46
420.00	419.57	4.700	127.40	-7.16	8.51	-7.16	0.14
430.00	429.54	4.800	127.40	-7.67	9.16	-7.67	0.30
449.00	448.47	4.800	127.20	-8.63	10.43	-8.63	0.03
459.00	458.44	4.700	128.80	-9.14	11.08	-9.14	0.50
466.00	465.41	4.700	123.70	-9.48	11.54	-9.48	1.79
477.00	476.37	4.700	124.60	-9.98	12.29	-9.98	0.20
487.00	486.34	4.700	126.00	-10.46	12.96	-10.46	0.34
507.00	506.28	4.500	121.60	-11.35	14.29	-11.35	0.61
516.00	515.25	4.100	124.90	-11.72	14.85	-11.72	1.57
546.00	545.18	3.800	125.30	-12.91	16.54	-12.91	0.30
555.00	554.16	3.300	123.70	-13.22	17.00	-13.22	1.70
564.00	563.15	3.300	125.80	-13.52	17.43	-13.52	0.40
573.00	572.13	3.000	124.20	-13.80	17.83	-13.80	1.04
583.00	582.12	3.000	125.80	-14.10	18.26	-14.10	0.25
602.00	601.10	2.600	126.80	-14.65	19.01	-14.65	0.64
611.00	610.09	3.000	127.40	-14.92	19.36	-14.92	1.34
621.00	620.08	2.500	128.10	-15.21	19.74	-15.21	1.50
640.00	639.06	2.500	126.30	-15.71	20.40	-15.71	0.12
650.00	649.05	2.200	131.10	-15.97	20.72	-15.97	1.08
660.00	659.04	1.900	128.60	-16.20	21.00	-16.20	0.94
670.00	669.04	1.700	121.90	-16.38	21.25	-16.38	0.87
679.00	678.03	1.500	126.70	-16.52	21.46	-16.52	0.80
699.00	698.03	1.100	126.70	-16.79	21.82	-16.79	0.60

719.00	718.03	1.100	142.10	-17.06	22.09	-17.06	0.44
736.00	735.02	1.200	141.80	-17.32	22.30	-17.32	0.18
746.00	745.02	1.500	137.90	-17.50	22.46	-17.50	0.94
765.00	764.01	1.200	129.00	-17.81	22.78	-17.81	0.58
775.00	774.01	1.100	128.10	-17.94	22.93	-17.94	0.30
784.00	783.01	1.100	132.60	-18.05	23.07	-18.05	0.29
804.00	803.01	1.100	128.60	-18.30	23.36	-18.30	0.12
813.00	812.00	1.000	120.90	-18.39	23.49	-18.39	0.58
823.00	822.00	1.100	130.40	-18.50	23.64	-18.50	0.60
833.00	832.00	1.100	133.50	-18.63	23.78	-18.63	0.18
843.00	842.00	1.000	124.40	-18.75	23.93	-18.75	0.58
851.00	850.00	0.900	127.40	-18.82	24.03	-18.82	0.42
862.00	861.00	1.200	117.20	-18.93	24.20	-18.93	0.96
871.00	870.00	0.900	91.70	-18.97	24.36	-18.97	1.83
882.00	880.99	1.800	121.80	-19.07	24.59	-19.07	3.05
892.00	890.99	2.500	130.20	-19.29	24.89	-19.29	2.30
902.00	900.98	2.400	125.10	-19.55	25.23	-19.55	0.72
911.00	909.97	2.000	126.70	-19.75	25.51	-19.75	1.35
921.00	919.96	1.800	117.70	-19.93	25.79	-19.93	1.08
931.00	929.96	1.200	107.90	-20.04	26.03	-20.04	1.95
941.00	939.96	1.200	107.50	-20.10	26.23	-20.10	0.03
950.00	948.96	1.300	104.70	-20.15	26.42	-20.15	0.39
959.00	957.95	1.300	103.30	-20.20	26.61	-20.20	0.11
988.00	986.95	0.600	154.10	-20.42	27.00	-20.42	1.07
998.00	996.95	0.800	150.20	-20.52	27.06	-20.52	0.62
1,008.00	1,006.95	0.500	145.30	-20.62	27.12	-20.62	0.91
1,013.00	1,011.95	0.500	145.30	-20.66	27.14	-20.66	0.00
1,017.00	1,015.95	0.500	147.80	-20.69	27.16	-20.69	0.16
1,027.00	1,025.95	0.800	144.90	-20.78	27.22	-20.78	0.91
1,036.00	1,034.95	1.000	139.70	-20.89	27.31	-20.89	0.72
1,046.00	1,044.94	1.300	158.70	-21.06	27.41	-21.06	1.44
1,056.00	1,054.94	1.300	158.30	-21.27	27.49	-21.27	0.03
1,066.00	1,064.94	1.700	164.50	-21.52	27.57	-21.52	1.29
1,076.00	1,074.93	1.700	167.10	-21.81	27.65	-21.81	0.23
1,084.00	1,082.93	1.700	166.90	-22.04	27.70	-22.04	0.02

1,094.00	1,092.93	1.700	168.70	-22.33	27.76	-22.33	0.16
1,104.00	1,102.92	1.600	168.00	-22.61	27.82	-22.61	0.31
1,114.00	1,112.92	1.700	169.60	-22.90	27.88	-22.90	0.33
1,124.00	1,122.91	1.600	172.00	-23.18	27.92	-23.18	0.36
1,134.00	1,132.91	1.600	181.90	-23.46	27.94	-23.46	0.83
1,144.00	1,142.91	1.600	184.70	-23.74	27.92	-23.74	0.23
1,154.00	1,152.90	1.600	188.00	-24.01	27.89	-24.01	0.28
1,164.00	1,162.90	1.600	190.50	-24.29	27.85	-24.29	0.21
1,173.00	1,171.89	1.500	188.20	-24.53	27.81	-24.53	0.39
1,181.00	1,179.89	1.200	192.20	-24.71	27.77	-24.71	1.18
1,203.00	1,201.89	1.100	133.20	-25.08	27.88	-25.08	1.55
1,212.00	1,210.89	1.000	112.80	-25.17	28.01	-25.17	1.28
1,222.00	1,220.89	0.900	40.90	-25.15	28.15	-25.15	3.36
1,232.00	1,230.89	0.400	83.80	-25.08	28.23	-25.08	2.00
1,241.00	1,239.89	0.400	53.20	-25.06	28.29	-25.06	0.70
1,251.00	1,249.89	0.200	151.80	-25.06	28.32	-25.06	1.42
1,270.00	1,268.89	0.500	355.60	-25.00	28.33	-25.00	1.09
1,279.00	1,277.88	0.800	261.00	-24.97	28.27	-24.97	3.26
1,317.00	1,315.88	1.600	212.50	-25.46	27.72	-25.46	0.97
1,356.00	1,354.86	2.200	205.80	-26.60	27.10	-26.60	0.49
1,394.00	1,392.82	2.600	207.00	-28.02	26.39	-28.02	0.32
1,432.00	1,430.79	2.200	224.40	-29.31	25.49	-29.31	0.65
1,471.00	1,469.76	2.500	196.30	-30.66	24.73	-30.66	0.91
1,505.00	1,503.71	3.400	201.50	-32.31	24.15	-32.31	0.83
1,519.00	1,517.69	3.000	191.20	-33.06	23.93	-33.06	1.50
1,528.00	1,526.68	3.500	179.60	-33.56	23.89	-33.56	2.75
1,538.00	1,536.66	3.700	176.00	-34.19	23.91	-34.19	0.91
1,548.00	1,546.64	3.700	176.90	-34.83	23.95	-34.83	0.17
1,558.00	1,556.62	3.500	170.60	-35.46	24.02	-35.46	1.33
1,567.00	1,565.60	3.700	175.70	-36.02	24.08	-36.02	1.26
1,577.00	1,575.58	4.000	172.60	-36.69	24.15	-36.69	1.10
1,587.00	1,585.55	3.900	168.70	-37.36	24.26	-37.36	0.86
1,596.00	1,594.53	3.900	187.70	-37.97	24.28	-37.97	4.29
1,624.00	1,622.46	4.100	188.20	-39.90	24.01	-39.90	0.22

Drilling Fluid Summary

Storage Units: Metric

Drilling Fluid Type: KCL Polymer

From:

0

To:

1,640

Work Schedule

Storage Units: Metric

Company: Timmons / DMA Geological
Geologist: G.Timmons / G. Deon, P.Geol

Work Performed From: Feb 10, 2008 To: Mar 04, 2008
Depths Logged From: 0.0 To: 1,640.0

Remarks:

Formation Top Summary

Storage Units:

Metric

Kelly Bushing Elevation:
Ground Elevation:

252.10
245.90

Casing Flange Elevation:

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

Group <i>Formation Member</i>	Prognosis (TVD)	Sample Top (MD)	Sample Top (TVD)	Log Top (MD)	Log Top (TVD)	Subsea	Thickness
Quaternary	0.00	0.00	0.00			252.10	
Slater River	58.00	46.00	45.96	38.00	37.97	214.13	
Martin House		210.00	209.89	215.50	215.39	36.71	
Arnica	211.00	215.00	214.89	220.00	219.89	32.21	
Bear Rock	230.00	236.00	235.89	236.50	236.39	15.71	
Mount Kindle	730.00	744.00	743.02	747.50	746.52	-494.42	
Franklin Mountain	931.40	925.00	923.96	933.00	931.96	-679.86	
Saline River	1215.00	1235.50	1234.39	1234.50	1233.39	-981.29	
Saline River Saline River Salt		1277.50	1276.38	1277.00	1275.88	-1023.78	
Mount Cap	1371.40	1404.00	1402.81	1403.00	1401.81	-1149.71	
Mount Clark	1536.40	1489.50	1488.23	1489.50	1488.23	-1236.13	
Tweed Lake	1581.40	1575.00	1573.58	1570.70	1569.29	-1317.19	
Total Depth		1640.00	1638.42	1641.00	1639.42	-1387.32	

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 252.10
Ground Elevation: 245.90

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Quaternary
Member:
Boundary Type: angular unconformable
Fault Type:

Era:
Series:
Period: Quaternary
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	0.00	0.00	252.10	
Log Top				

Evaluation:

The Quaternary section appears to be composed of mostly glacial drift with varying composition. Typical samples contain sandstone light gray, orange, mottled, very fine to coarse grained, occasional very coarse, subangular to subround, medium to poor sorted, quartz grains, orange feldspar, lithic shale grains, occasional chlorite, abundant unconsolidated grains, also occasional well cemented fragments with rounded quartz grains, consol grains with no visible porosity. Some soft sticky clay is present at the shale shakers but washes out during sample preparation.

Highly variable drill rates indicate harder section, (boulder zones?) which are either pushed aside or drilled up.

Mud gas values remained steady at 20 units over the interval.

Conclusion:

There are no reservoir characteristics in the Quaternary.

Group:
Formation: Slater River
Member:
Boundary Type: angular unconformable
Fault Type:

Era:
Series:
Period: Cretaceous
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	46.00	45.96	206.14	
Log Top	38.00	37.97	214.13	

Evaluation:

The Slater River Formation consists mainly of shale with rare siltstone zones. The shale is dark gray, blocky to tabular, soft, trace pyritic, trace carbonaceous flakes, with light gray brown marlstone fragments.

The thin siltstone is light gray, siliceous, argillaceous, quartz, argillite grains, dark minerals, trace pyritic, tight, no shows.

The mud gas curve averaged 60-100 units over the interval 60-90 metres, then reduced with depth to a steady background of 20 units over the remainder of the section.

Conclusion:

There are no reservoir parameters or shows in the Slater River section.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 252.10
Ground Elevation: 245.90

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Martin House
Member:
Boundary Type: conformable
Fault Type:

Era:
Series:
Period: Cretaceous
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	210.00	209.89	42.21	
Log Top	215.50	215.39	36.71	

Evaluation:

The Martin House Formation consists of a single sandstone sample at this location. This sandstone is clear, medium grained to pebbly, siliceous, poorly consolidated in part?, very pyritic in part, (argillaceous material in sand from water soluble shale?), predominately quartz, scattered lithic chert fragments, quartz overgrowths, sub rounded to sub angular, very poorly sorted, / 14-16% intergranular porosity, no shows.

The mud gas curve remained steady at 20 units background over this interval.

Note: The samples from 200-210 were poor to possibly uninterpretable due to a slug of unsheared polymer "goop" going over the shale shakers over this interval. Sample collection was very difficult and the samples, when washed, proved to be almost entirely drilling mud. The top of this Martin House sandstone could be higher than 210 metres but the very poor samples gave no evidence of it.

Conclusion:

There appears to be fair reservoir quality porosity, but no shows in the Martin House. Further wireline evaluation is necessary.

Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation:
Ground Elevation:

252.10
245.90

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Arnica
Member:
Boundary Type: unconformable
Fault Type:

Era:
Series:
Period: Devonian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	215.00	214.89	37.21	
Log Top	220.00	219.89	32.21	

Evaluation:

The Arnica Formation consists of dolomite at this location. This dolomite is generally mottled light to medium brown, cryptocrystalline to microcrystalline, occasionall with remnant fragmental texture, stylolites, rare trace small vugs, predominately dense, trace coral, trace patchy pyrobitumen.

In the 220-225 sample, two fragments were seen with 2-4% vuggy and intrafossil porosity in coral fragments.

The mud gas curve remained steady at 20 units over this interval.

Conclusion:

The Arnica contains trace amounts of pyrobitumen and very small amounts of intrafossil porosity. No mud gas anomalies are present.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation:
Ground Elevation:

252.10
245.90

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Bear Rock
Member:
Boundary Type: conformable
Fault Type:

Era:
Series:
Period: Devonian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	236.00	235.89	16.21	
Log Top	236.50	236.39	15.71	

Evaluation:

The Bear Rock Formation at this location consists mainly of an evaporitic sequence of anhydrite with interbedded dolomite and minor siltstone and shale. The section can be subdivided into 4 lithological units: 236-426 metres, 426-485 metres, 485-572 metres, and 572-744 metres.

The interval 236-426 metres consists mainly anhydrite, white, beige, cryptocrystalline to microcrystalline, firm, occasionally with dolomite stringers, also silty in part, dense, no shows. No porosity is evident and mud gas is steady at about 20 units.

The interval 420-485 metres consists mainly of dolomite with interbedded anhydrite. The dolomite is light to medium brown, microcrystalline, sucrosic, anhydritic, trace pyritic, stylolites, slightly calcareous in part, with patchy intercrystalline & minor vuggy porosity 12-14%, with occasional pytobitumen. The anhydrite is as previous. The mud gas ranged up to 50 units peak over a 25 unit background over the interval.

The interval 485-572 metres consists of anhydrite with thin dolomite intbeds. The anhydrite is white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomitic. No porosity is evident in the dolomite.

The interval 572-744 consists of anhydrite interbedded with dolomite, siltstone, minor shale, and marlstone. The anhydrite is light brown, light gray, cryptocrystalline, dense, with interspersed siltstone. The dolomite is light gray, buff, cryptocrystalline, tabular, hard, dense. The shale is green, light gray, occasionally red, platy to blocky, dolomitic, silty, occasionally grading to dolomitic marlstone.

The mud gas remained relatively steady at 25-35 units over the interval.

Conclusion:

Although there is muted mud gas response and no live oil shows, the dolomite from 425-486 metres contains significant porosity and further evaluation is necessary.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 252.10
Ground Elevation: 245.90

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Mount Kindle
Member:
Boundary Type: angular unconformable
Fault Type:

Era:
Series:
Period: Silurian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	744.00	743.02	-490.92	
Log Top	747.50	746.52	-494.42	

Evaluation:

The Mount Kindle Formation consists of mainly dolomite. This dolomite is generally light brown, light gray, microcrystalline, trace pyritic, silty lenses, stylolites, clear calcite crystals, with patchy intercrystalline porosity up to 6%, but mostly dense, with occasional bitumen in pores, no live shows. The interval 740-810 metres contains mostly of the observed porosity, although mostly in 1-3 metre thick increments. From 800-915 metres, the dolomites contain occasional remnant fragments of algal mats, crinoids, possible coral? and scattered light gray chert. The base of the section consists of contains gray dolomitic shale.

The mud gas remained steady at 35-40 units over the interval

Conclusion:

The Mount Kindle contains notable porosity, particularly in the interval 744-831 metres.

Group:
Formation: Franklin Mountain
Member:
Boundary Type: angular unconformable
Fault Type:

Era:
Series:
Period: Ordovician
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	925.00	923.96	-671.86	
Log Top	933.00	931.96	-679.86	

Evaluation:

The Franklin Mountain Formation consists of dolomite, with minor shaly interbeds near the base of the interval. The dolomite is typically light gray, trace buff, trace reddish, microcrystalline, with traces fragmental wackestone texture, oolites, silty, occasionally with minor white chert, no shows.

Several poros intervals occur in this section. The interval 1118-1154 medium contains patchy vuggy, moldic, and leached porosity in ranges of 4-8%. The porosity occurs in remnant fragmental portions of the section. Also, the interval 1167-1171 exhibited trace amounts of vuggy and intercrystalline porosity.

The mud gas curve remained steady at 25-35 units over the interval.

Conclusion:

The Franklin Mountain Formation contains local vuggy porosity but no shows. Further evaluation on wireline data is necessary.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation: 252.10
Ground Elevation: 245.90

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Saline River
Member:
Boundary Type: conformable
Fault Type:

Era:
Series:
Period: Cambrian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1235.50	1234.39	-982.29	
Log Top	1234.50	1233.39	-981.29	

Evaluation:

The Saline River Formation consists of mainly interbedded shale and siltstone, with minor dolomite. The shale is green, medium gray, also local red, platy to blocky, dolomitic, trace disseminated pyrite. The siltstone is light gray, pink, dolomitic, quartz, slightly argillaceous, shaly lenses, tight, no shows. Minor dolomite stringers are light brown to brown, gray, cryptocrystalline, silty, argillaceous, dense, no shows.

The mud gas remained steady at 20 units throughout the interval.

Conclusion:

The Saline River in this interval contains no reservoir parameters or shows.

Group:
Formation: Saline River
Member: Saline River Salt
Boundary Type: conformable
Fault Type:

Era:
Series:
Period: Cambrian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1277.50	1276.38	-1024.28	
Log Top	1277.00	1275.88	-1023.78	

Evaluation:

The Saline River Salt consists of approximately 126 metres of halite with minor shale interbeds. The shale transparent, pale red, orange, rounded fragments with eroded edges, soft, dense. The shale interbeds are light green to red, slightly dolomitic. Some of the samples in the salt section contain very little salt, even after the mud was salt saturated. This was a curiosity, but the potassium ion content of the mud system rose from 11 to 14% without any mud additives being used. It is possible that part of the section is sylvite and the mineral dissolved in the mud system before arriving at the shale shakers. However, a large gamma reaction (approx 500 units?) is expected with sylvite and this was not evident on the MWD gamma.

The mud gas remained steady at 20 units over the section.

Conclusion:

The Saline River Salt interval does not contain any porosity or shows.

Formation Evaluations

Storage Units:

Metric

Kelly Bushing Elevation:
Ground Elevation:

252.10
245.90

Casing Flange Elevation:

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Mount Cap
Member:
Boundary Type: conformable
Fault Type:

Era:
Series:
Period: Cambrian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1404.00	1402.81	-1150.71	
Log Top	1403.00	1401.81	-1149.71	

Evaluation:

The Mount Cap Formation is composed of predominantly shale with interbeds of dolomite, sandstone, and occasional siltstone. The shale is mostly light green, red, also gray, tabular to fissile, soft to firm, slightly glauconitic, with occasional silty and dolomitic laminations. The dolomite is medium brown, cryptocrystalline, marly, dense, no shows. The siltstone is light gray, reddish, trace greenish, dolomitic, slightly argillaceous, quartz, tight, no shows.

The sandstone, which is at 1450-1459 medium, is light gray, offwhite, transparent, fine grained, range very fine to occasional medium, subround to round, well to medium sorted, firm to friable, common loose grains, clean, quartz grains in siliceous cement, common glauconite, occasional dark minerals, trace pyrite, some secondary quartz overgrowths, patchy 3-7% intergranular porosity, no shows.

The mud gas curve remained steady at 20-25 units over the interval.

Conclusion:

The Mount Cap Formation contains poor intergranular porosity in a sandstone interval from 1450-1459 metres, but contains no shows and has no associated mud gas peaks. This porous sandstone should be checked again on wireline logs.

Formation Evaluations

Storage Units: Metric

Kelly Bushing Elevation: 252.10
Ground Elevation: 245.90

All Depths Measured from Kelly Bushing Elevation

Group:
Formation: Mount Clark
Member:
Boundary Type: conformable
Fault Type:

Era:
Series:
Period: Cambrian
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1489.50	1488.23	-1236.13	
Log Top	1489.50	1488.23	-1236.13	

Evaluation:

The Mount Clark consists of a massive 79.5 metre sandstone from 1489.5 to 1569m. The contact with the overlying Mount Cap shale is sharp and conformable. The contact with the underlying Proterozoic Dismal Lakes is sharp and an angular unconformity. The basal contact is also marked by altered chlorite in both the overlying Mount Clark sand and underlying Proterozoic shale.

The sandstone is clear, occasionally pink, trace yellow, quartzose, fine grading downwards to very coarse grained, siliceous, very glauconitic at the top, rare trace pyrite, quartz overgrowths, sub rounded to sub angular, well sorted near the top grading downwards to poorly sorted, patchy intergranular porosity 5-10% (1497 to 1505m), predominantly tight, no shows. There are some minor green shale stringers throughout the sand.

Mud gas shows are poor over the entire sand including the porous sections. Mud gas values range from 22 to 31 units background with no peaks.

Conclusion:

The Mount Clark has poor reservoir development, however there is some porosity in the sand. The lack of mud gas and sample shows suggest the formation is wet.

Group:
Formation: Tweed Lake
Member:
Boundary Type: angular unconformable
Fault Type:

Era:
Series:
Period: Proterozoic
Stage:
Age (Approx): Million years.

	Measured Depth	True Vertical Depth	Subsea	Thickness
Sample Top	1575.00	1573.58	-1321.48	
Log Top	1570.70	1569.29	-1317.19	

Evaluation:

The Proterozoic consists of basalt. There is a 5 metre shale overlying the basalt which may be part of the Proterozoic or some type of detrital below the base of the Mount Clark sand.

The basalt is dark gray, occasionally red, speckled, green phenocrysts (chlorite or possible olivine?), transparent elong crystals, iron oxide staining, rare trace pyrite, altered appearance.

Conclusion:

The basalt has no hydrocarbon or reservoir potential.

Sample Descriptions

Storage Units: Metric

0.00 to 20.00 (20.00)	100% Glacial Till Sandstone, varicolored, medium grained to pebbles, sub rounded, poorly sorted, unconsolidated quartz, pink feldspar, lithic granite fragments, trace pyrite, hornblende, chlorite, occasionally soft clay matrix (water soluble), no visible porosity, no shows.
20.00 to 25.00 (5.00)	100% Glacial Till Sandstone, varicolored, medium grained to pebbles, unconsolidated, medium gray soft clay matrix (water soluble), quartz, feldspar, lithic granite fragments, hornblende, pyritic, sub rounded to sub angular, poorly sorted, no visible porosity, no shows.
25.00 to 30.00 (5.00)	100% Glacial Till Sandstone, varicolored, medium grained to pebbles, poorly consolidated, clay matrix (water soluble), quartz, feldspar, lithic granite fragments, hornblende, chlorite, biotite, sub rounded to sub angular, poorly sorted, no visible porosity, no shows.
30.00 to 35.00 (5.00)	100% Glacial Till Sandstone light gray, orange, mottled, very fine to coarse grained, occasional very coarse, subangular to subround, medium to poor sorted, quartz grains, orange feldspar, lithic shale grains, occasional chlorite, abundant unconsolidated grains, also occasional well cemented fragments with rounded quartz grains, consol grains with no visible porosity.
35.00 to 40.00 (5.00)	100% Glacial Till Sandstone light gray, orange, mottled, very fine to coarse grained, subangular to subround, medium sorted, quartz grains, orange feldspar, lithic shale grains, occasional chlorite, abundant unconsolidated grains, also occasional well cemented fragments with rounded quartz grains, common sticky clay in raw sample.
40.00 to 45.00 (5.00)	80% Glacial Till Sandstone mostly unconsolidated, as above, with abundant sticky clay coating grains. 20% Shale gray, brown, soft, sticky clay, sandy in part.
45.00 to 50.00 (5.00)	80% Shale medium gray, gray, tabular to blocky, soft to firm, slightly pyritic, slightly silty in part, trace micaceous, flat luster. 20% Glacial Till Sandstone as above.
50.00 to 55.00 (5.00)	90% Shale medium gray, gray, tabular to blocky, soft to firm, slightly pyritic, slightly silty in part, trace micaceous, flat luster. 10% Glacial Till as above.

Sample Descriptions

Storage Units: Metric

55.00 to 60.00 (5.00)	95% Shale gray, tabular to platy, firm, slightly micaceous, local carbonaceous flakes, occasional pyrite, flat luster, as above.		
	5% Glacial Till as above.		
60.00 to 65.00 (5.00)	90% Shale gray, tabular to platy, firm, slightly micaceous, local carbonaceous flakes, occasional pyrite, flat luster, trace Inoceramus fragments, as above.		
	10% Sandstone light gray, transparent, rare orange, fine grained, subround, mostly unconsolidated grains, occasional orange feldspar, trace chlorite, cavings from till section.		
65.00 to 70.00 (5.00)	95% Shale gray, tabular to platy, firm, slightly micaceous, local carbonaceous flakes, occasional pyrite, flat luster.		
	5% Sandstone as above.		
70.00 to 75.00 (5.00)	98% Shale gray, tabular to platy, firm, slightly micaceous, carbonaceous, occasional disseminated pyrite, flat luster.		
	2% Sandstone as above.		
75.00 to 80.00 (5.00)	100% Shale gray, tabular to platy, firm, slightly micaceous, carbonaceous, occasional disseminated pyrite, flat luster, occasional pyritized worm burrows.		
80.00 to 85.00 (5.00)	100% Shale gray, tabular to platy, firm, slightly micaceous, carbonaceous, occasional disseminated pyrite, flat luster, occasional light brown siltstone stringers.		
85.00 to 90.00 (5.00)	100% Shale as above.		
90.00 to 95.00 (5.00)	95% Shale gray, tabular to platy, firm, slightly micaceous, carbonaceous, occasional disseminated pyrite, flat luster, occasional light brown siltstone stringers.		
95.00 to 100.00 (5.00)	100% Shale dark gray, tabular to blocky, pyritic, carbonaceous flakes, rare siltstone stringers, brown, siliceous, quartz, tight, dead oil stain?		
100.00 to 105.00 (5.00)	90% Shale dark gray, tabular to platy, pyritic, carbonaceous flakes.		
	10% Siltstone brown, siliceous, quartz, pyritic, carbonaceous flakes, tight, dead oil stain?		

Sample Descriptions

Storage Units: Metric

105.00 to 110.00 (5.00)	100% Shale dark gray, blocky, occasionally platy, pyritic, carbonaceous flakes, with brown siltstone stringers.
110.00 to 115.00 (5.00)	100% Shale dark gray, blocky, soft, pyritic, carbonaceous flakes.
115.00 to 120.00 (5.00)	100% Shale dark gray, blocky, soft, pyritic, carbonaceous flakes.
120.00 to 125.00 (5.00)	100% Shale medium to dark gray, blocky, soft, trace pyritic, carbonaceous flakes, possible siderite.
125.00 to 130.00 (5.00)	100% Shale dark gray, blocky to platy, trace disseminated pyrite, carbonaceous flakes.
130.00 to 135.00 (5.00)	100% Shale dark gray, blocky, soft, trace pyritic, trace carbonaceous flakes, trace siderite?.
135.00 to 140.00 (5.00)	100% Shale dark gray, blocky to tabular, soft, trace pyritic, trace carbonaceous flakes, with light gray brown marlstone fragments.
140.00 to 145.00 (5.00)	100% Shale dark gray, blocky, soft, pyritic, sideritic, rare carbonaceous flakes.
145.00 to 150.00 (5.00)	100% Shale dark gray, blocky, soft, trace pyritic, carbonaceous flakes.
150.00 to 155.00 (5.00)	100% Shale dark gray, blocky, soft, trace pyritic.
155.00 to 160.00 (5.00)	70% Shale dark gray, blocky to platy, soft, trace pyritic, trace carbonaceous flakes. 30% Marlstone light brown, blocky, calcareous.
160.00 to 165.00 (5.00)	80% Shale dark gray, blocky, soft, pyritic, sandy, carbonaceous flakes. 20% Siltstone light gray, siliceous, argillaceous, quartz, argillite grains, dark minerals, trace pyritic, tight, no shows.
165.00 to 170.00 (5.00)	100% Shale dark gray, blocky, soft, silty, pyritic, carbonaceous flakes.
170.00 to 175.00 (5.00)	100% Shale dark gray, blocky, soft, silty, pyritic, carbonaceous flakes.

Sample Descriptions

Storage Units: Metric

175.00 to 180.00 (5.00)	95% Sandstone light to medium gray, silty to very fine grained, siliceous, argillaceous, quartz, dark minerals, glauconitic, argillite grains, carbonaceous flakes, sub rounded, well sorted, tight, no shows.
	5% Shale dark gray, blocky, soft, disseminated pyrite, carbonaceous flakes.
180.00 to 185.00 (5.00)	95% Shale dark gray, blocky, soft, silty, pyritic, carbonaceous flakes.
	5% Sandstone light to medium gray, silty to very fine grained, siliceous, a Rogerella, quartz, dark minerals, glauconitic, trace pyritic, argillite grains, carbonaceous flakes, sub rounded, well sorted, tight, no shows.
185.00 to 190.00 (5.00)	100% Shale dark gray, blocky, soft, pyritic, carbonaceous flakes, with sandstone lenses.
190.00 to 195.00 (5.00)	70% Shale dark gray, blocky, soft, sandy, glauconitic, pyritic, carbonaceous flakes.
	30% Sandstone medium to light gray, silty to very fine grained, siliceous, argillaceous, quartz, dark minerals, glauconitic, very pyritic, argillite grains, sub rounded, well sorted, tight, no shows.
195.00 to 200.00 (5.00)	90% Shale dark gray, blocky, soft, silty, sandy, pyritic, carbonaceous flakes.
	10% Sandstone light to medium gray, silty to very fine grained, siliceous, argillaceous, quartz, dark minerals, glauconitic, pyritic, sub rounded, well sorted, tight, no shows.
200.00 to 205.00 (5.00)	100% No Sample (Polymer blinding off shakers to caught sample is muddy polymer)
205.00 to 210.00 (5.00)	100% No Sample (Polymer blinding off shaker to caught is all muddy polymer)
210.00 to 215.00 (5.00)	95% Sandstone clear, medium grained to pebbles, siliceous, poorly consolidated in part?, very pyritic in part, (argillaceous material in sand from water solitary shale?), predominately quartz, scattered lithic chert fragments, quartz overgrowths, sub rounded to sub angular, very poorly sorted, patchy intergranular porosity 14-16%, no shows.
	5% Shale dark gray, blocky, soft, disseminated pyrite, carbonaceous flakes.

Sample Descriptions

Storage Units: Metric

215.00 to 220.00 (5.00)	60% Sandstone clear, medium grained to pebbles, siliceous, very pyritic in part, predominately quartz, trace rare feldspar, quartz overgrowths, sub rounded to sub angular, very poorly sorted, no visible porosity, no shows.
	40% Dolomite medium to light brown, cryptocrystalline, common disseminated pyrite, trace calcite & pyrite veining, stylolites, trace white chert fragments, rare trace small vugs, predominately dense, no shows.
220.00 to 225.00 (5.00)	95% Dolomite mottled light to medium brown, cryptocrystalline, fragal, disseminated pyrite, trace coral?, trace intra fossil & minor leached vuggy porosity 2-4%, predominately dense, no shows.
	5% Sandstone clear, light brown, fine to medium grained, siliceous, very pyritic, quartz, sub rounded, well sorted, tight, no shows.
225.00 to 230.00 (5.00)	100% Dolomite mottled light to medium brown, cryptocrystalline to microcrystalline, fragal, stylolites, rare trace small vugs, predominately dense, trace patchy pyrobitumen.
230.00 to 235.00 (5.00)	100% Dolomite mottled light to medium brown, cryptocrystalline, fragal, stylolites, trace pyritic, rare trace small vugs, predominately dense, trace patchy pyrobitumen.
235.00 to 240.00 (5.00)	95% Anhydrite light brown, translucent, dense, no shows.
	5% Dolomite medium brown, microcrystalline to cryptocrystalline, fragal, stylolites, dense, no shows.
240.00 to 245.00 (5.00)	95% Anhydrite translucent, light brown, crystalline, rare dolomite lenses, dense.
	5% Dolomite medium brown, cryptocrystalline, dense, trace patchy pyrobitumen.
245.00 to 250.00 (5.00)	60% Anhydrite as above.
	40% Dolomite light brown, light gray, microcrystalline to cryptocrystalline, slightly silty, with anhydritic patches, rare remnant fragmental texture, dense.
250.00 to 255.00 (5.00)	60% Anhydrite light gray, transparent, microcrystalline to cryptocrystalline, hard, angular fragments, trace pyrite, dense.
	20% Dolomite light gray, gray, microcrystalline, firm to hard, slightly silty, anhydritic, dense.

Sample Descriptions

Storage Units: Metric

250.00 to 255.00 (5.00)	20% Shale gray, tabular to platy, fair, to soft, slightly micaceous, flat luster.
255.00 to 260.00 (5.00)	80% Anhydrite light brown, light gray, microcrystalline to cryptocrystalline, blocky, hard, with occasional dolomite stringers.
	15% Dolomite as above.
	5% Shale as above.
260.00 to 265.00 (5.00)	95% Anhydrite light gray, tan, transparent, microcrystalline to cryptocrystalline, hard, dense, as above.
	5% Dolomite as above.
265.00 to 270.00 (5.00)	85% Anhydrite light gray, tan, gray, microcrystalline to cryptocrystalline, tabular, hard, dense.
	15% Shale gray, tabular to platy, firm, slightly micaceous, flat luster.
270.00 to 275.00 (5.00)	90% Anhydrite light gray, tan, gray, microcrystalline to cryptocrystalline, tabular, hard, dense.
	10% Shale as above.
275.00 to 280.00 (5.00)	90% Anhydrite light gray, tan, gray, microcrystalline to cryptocrystalline, tabular, hard, dense.
	10% Shale as above.
280.00 to 285.00 (5.00)	100% Anhydrite as above.
285.00 to 290.00 (5.00)	95% Anhydrite light gray, tan, gray, microcrystalline to cryptocrystalline, tabular, hard, dense.
	5% Shale gray, minor dark gray, tabular to platy, firm, flat luster, as above.
290.00 to 295.00 (5.00)	95% Anhydrite as above.
	5% Shale as above.

Sample Descriptions

Storage Units: Metric

295.00 to 300.00 (5.00)	90% Anhydrite light gray, tan, gray, microcrystalline to cryptocrystalline, tabular, hard, dense.
	5% Dolomite light brown, microcrystalline, hard, very anhydritic, dense, no shows.
	5% Shale as above.
300.00 to 305.00 (5.00)	70% Anhydrite light gray, tan, gray, microcrystalline to cryptocrystalline, tabular, hard, dense.
	30% Dolomite gray, mottled brown, microcrystalline, hard, very anhydritic, dense, with rare remnant fragmental texture, dense, no shows.
305.00 to 310.00 (5.00)	80% Anhydrite gray, light brown, cryptocrystalline, occasional dark patches, slightly dolomitic, dense, no shows.
	15% Dolomite light brown, gray, tan microcrystalline to cryptocrystalline, hard, very anhydritic in part, with remnant fragmental texture, dense, no shows.
	5% Shale as above.
310.00 to 315.00 (5.00)	95% Anhydrite as above.
	5% Shale gray, tabular to platy, firm, flat luster.
315.00 to 320.00 (5.00)	98% Anhydrite light brown, gray, cryptocrystalline, occasional dolomitic patches, dense, no shows.
	2% Shale as above.
320.00 to 325.00 (5.00)	80% Anhydrite light brown, translucent, cryptocrystalline, dense.
	20% Shale dark gray, blocky to platy, disseminated pyrite, carbonaceous flakes.
325.00 to 330.00 (5.00)	90% Anhydrite light brown, translucent, cryptocrystalline, dense.
	10% Shale medium to dark gray, blocky, pyritic, trace glauconitic, carbonaceous flakes.
330.00 to 335.00 (5.00)	90% Anhydrite translucent, light brown, cryptocrystalline, pyritic, dense.

Sample Descriptions

Storage Units: Metric

330.00 to 335.00 (5.00)	5% Dolomite medium brown, cryptocrystalline, dense, no shows.
	5% Shale medium to dark gray, blocky, trace pyritic, trace glauconitic, trace carbonaceous flakes.
335.00 to 340.00 (5.00)	95% Anhydrite light gray, light brown, translucent, cryptocrystalline, dense.
	5% Shale dark gray, blocky, pyritic, carbonaceous flakes, trace silty, trace glauconitic.
340.00 to 345.00 (5.00)	95% Anhydrite light gray, light brown, translucent, cryptocrystalline, dense.
	5% Shale dark gray, blocky, carbonaceous flakes.
345.00 to 350.00 (5.00)	95% Anhydrite light gray, light brown, cryptocrystalline, trace dolomite lenses, dense, no shows.
	5% Shale dark gray, blocky, disseminated pyrite, carbonaceous flakes.
350.00 to 355.00 (5.00)	90% Anhydrite light gray, light brown, cryptocrystalline, tabular, firm to hard, dense, as above.
	10% Dolomite light gray, gray, cryptocrystalline blocky, hard, anhydritic, dense.
355.00 to 360.00 (5.00)	100% Anhydrite light gray, light brown, cryptocrystalline, dense, no shows.
360.00 to 365.00 (5.00)	100% Anhydrite light gray, light brown, cryptocrystalline, dense, no shows.
365.00 to 370.00 (5.00)	80% Anhydrite light gray, light brown, cryptocrystalline, occasionally slightly argillaceous, occasionally dolomitic, dense.
	20% Siltstone light gray, dolomitic, slightly argillaceous, very anhydritic, dense, no shows.
370.00 to 375.00 (5.00)	100% Anhydrite off white, light brown, light gray, microcrystalline to cryptocrystalline, dense, no shows.
375.00 to 380.00 (5.00)	100% Anhydrite light gray, light brown, cryptocrystalline, slightly argillaceous in part, silty lenses, dense, with dolomite lenses, brown, cryptocrystalline, anhydritic, dense, no shows.

Sample Descriptions

Storage Units: Metric

380.00 to 385.00 (5.00)	90% Anhydrite light gray, light brown, cryptocrystalline, dense, no shows.
	10% Siltstone light gray, dolomitic, very anhydritic, dense, no shows.
385.00 to 390.00 (5.00)	100% Anhydrite light brown, light gray, cryptocrystalline to microcrystalline, occasionally slightly argillaceous, trace pyritic, dense.
390.00 to 395.00 (5.00)	90% Anhydrite light gray, light brown, microcrystalline to cryptocrystalline, dolomitic, dense.
	10% Dolomite light brown, cryptocrystalline, anhydritic, stylolites, no visible porosity, no shows.
395.00 to 400.00 (5.00)	95% Anhydrite light gray, light brown, microcrystalline to cryptocrystalline, dolomitic, dense, with interspersed siltstone lenses, light gray, dolomitic, argillaceous, anhydritic, quartz, tight, no shows.
	5% Dolomite light brown, cryptocrystalline, anhydritic, dense, no shows.
400.00 to 405.00 (5.00)	60% Dolomite light brown, microcrystalline, anhydritic, stylolites, dense, trace patchy pyrobitumen.
	40% Anhydrite light gray, light brown, microcrystalline, dolomitic, dense, no shows, with trace siltstone lenses.
405.00 to 410.00 (5.00)	70% Anhydrite light gray, trace brown, cryptocrystalline, dense, with interspersed siltstone lenses.
	30% Siltstone light gray, dolomitic, argillaceous, anhydritic, quartz, disseminated pyrite, tight, no shows, with interspersed anhydrite.
410.00 to 415.00 (5.00)	100% Anhydrite light brown, light gray, microcrystalline, with interspersed dolomitic & siltstone lenses.
415.00 to 420.00 (5.00)	70% Anhydrite light gray, light brown, microcrystalline, dolomitic, stylolites, dense, no shows.
	30% Dolomite light to dark brown, microcrystalline, anhydritic, stylolites, dense, patchy pyrobitumen.
420.00 to 425.00 (5.00)	95% Anhydrite light gray, translucent, cryptocrystalline to microcrystalline, stylolites, dense.

Sample Descriptions

Storage Units: Metric

420.00 to 425.00 (5.00)	5% Dolomite light brown, cryptocrystalline, anhydritic, dense, no shows.
425.00 to 430.00 (5.00)	95% Dolomite light brown, microcrystalline, anhydritic, trace pyritic, laminated in part, stylolites, patchy intercrystalline porosity 3-5%, no shows. 5% Anhydrite off white, light gray, cryptocrystalline, dense.
430.00 to 435.00 (5.00)	95% Dolomite light brown, microcrystalline, trace cryptocrystalline, anhydritic, trace pyritic, laminated in part, stylolites, patchy intercrystalline porosity 3-5%, no shows. 5% Anhydrite off white, light gray, cryptocrystalline, dense.
435.00 to 440.00 (5.00)	95% Dolomite light to medium brown, microcrystalline, fragal, anhydritic, stylolites, intercrystalline porosity 8-10%, patchy interstitial pyrobitumen. 5% Anhydrite off white, cryptocrystalline, dense.
440.00 to 445.00 (5.00)	95% Dolomite light brown, microcrystalline, anhydritic, stylolites, patchy intercrystalline porosity 8-10%, rare trace patchy interstitial pyrobitumen. 5% Anhydrite off white, cryptocrystalline, dense.
445.00 to 450.00 (5.00)	60% Dolomite light to medium brown, microcrystalline, sucrosic, anhydritic, trace pyritic, stylolites, slightly calcareous in part, intercrystalline & minor vuggy porosity 12-14%, no shows. 40% Anhydrite off white, light gray, microcrystalline to cryptocrystalline, dolomitic, dense.
450.00 to 455.00 (5.00)	100% Dolomite light to medium brown, microcrystalline, sucrosic, fragmental, anhydritic, trace pyritic, Bryozoa?, Ostracods, rare trace silty lenses, also calcareous in part, patchy intercrystalline & minor vuggy porosity 12-14%, no shows.
455.00 to 460.00 (5.00)	95% Anhydrite off white, light brown, cryptocrystalline, fragal, inspd with shaly lenses, dense. 5% Dolomite medium brown, microcrystalline, anhydritic, dense, no shows.
460.00 to 465.00 (5.00)	70% Dolomite light to medium brown, microcrystalline, fragmental, anhydritic, stylolites, local calcareous, trace pyritic, no visible porosity, no shows.

Sample Descriptions

Storage Units: Metric

460.00 to 465.00 (5.00)	30% Anhydrite white, light brown, cryptocrystalline, stylolites, dense.
465.00 to 470.00 (5.00)	50% Dolomite light to medium brown, microcrystalline, fragmental, anhydritic, also local calcareous, stylolites, trace pyritic, no visible porosity, no shows.
	50% Limestone light gray, beige, lime mudstone, slightly dolomitic, occasional fragmental texture, with occasional ostracods, bioclastic rmns, common stylolites, also occasional coarse calcite rhombs, vein infill?, dense.
470.00 to 475.00 (5.00)	55% Dolomite light gray, tabular, microcrystalline to cryptocrystalline, blocky, calcareous in part, with limy stringers, trace stylolites, dense, no shows.
	45% Limestone brown, tan, minor light gray, lime mudstone, with occasional fragmental texture, rare crinoids, common stylolites, dolomitic, dense, no shows.
475.00 to 480.00 (5.00)	95% Dolomite light gray, beige, tabular, microcrystalline, blocky, firm, sucrosic texture, slightly calcareous in part, occasional remnant fragmental texture, also local anhydrite, occasional stylolites, patchy 2-5% intercrystalline porosity, trace bitumen.
	5% Limestone as above.
480.00 to 485.00 (5.00)	90% Dolomite light gray, beige, tabular, microcrystalline to very fine crystalline, blocky, firm, abundant sucrosic texture, slightly calcareous in part, also local anhydritic, patchy 3-7% intercrystalline porosity, rare bitumen.
	10% Sawdust lost circulation material.
485.00 to 490.00 (5.00)	80% Anhydrite white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomite stringers.
	15% Dolomite as above, mostly dense, no shows.
	5% Limestone brown, tan, minor light gray, lime mudstone, with rare fragmental texture, dolomitic, dense, no shows.
490.00 to 495.00 (5.00)	85% Anhydrite white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomitic.

Sample Descriptions

Storage Units: Metric

490.00 to 495.00 (5.00)	15% Dolomite light brown, tan, microcrystalline, firm, sucrosic texture, anhydritic, slightly calcareous, trace -2% intercrystalline porosity, no shows.
495.00 to 500.00 (5.00)	95% Anhydrite as above. 5% Dolomite as above.
500.00 to 505.00 (5.00)	95% Anhydrite white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomitic. 5% Dolomite light brown, gray, cryptocrystalline, tabular, hard, dense, occasional stylolites.
505.00 to 510.00 (5.00)	90% Anhydrite as above. 10% Shale light green, tabular, dolomitic, grading to argillaceous dolomite.
510.00 to 515.00 (5.00)	100% Anhydrite white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomitic, local floating rounded quartz grains, dense.
515.00 to 520.00 (5.00)	90% Anhydrite white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomitic laminations. 10% Dolomite light gray, tan, cryptocrystalline, hard, anhydritic, rare sandy, dense.
520.00 to 525.00 (5.00)	95% Anhydrite white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomitic. 5% Dolomite as above.
525.00 to 530.00 (5.00)	85% Anhydrite white, light brown, tan, cryptocrystalline, tabular, firm to hard, dense, occasional dolomitic stringers. 15% Dolomite light gray, buff, tan, cryptocrystalline, hard, tabular, anhydritic, dense.
530.00 to 535.00 (5.00)	85% Anhydrite as above.

Sample Descriptions

Storage Units: Metric

530.00 to 535.00 (5.00)	15% Dolomite light gray, buff, tan, cryptocrystalline, hard, tabular, anhydritic, occasionally sandy, silty, with siltstone stringers, dense.
535.00 to 540.00 (5.00)	90% Anhydrite white, beige, cryptocrystalline to microcrystalline, firm, occasionally with dolomite stringers, dense, no shows.
	10% Dolomite buff, light gray, cryptocrystalline, blocky, very anhydritic, dense.
540.00 to 545.00 (5.00)	90% Anhydrite white, beige, cryptocrystalline to microcrystalline, firm, occasionally with dolomite stringers, dense, no shows.
	10% Dolomite as above, very anhydritic.
545.00 to 550.00 (5.00)	95% Anhydrite as above.
	5% Dolomite as above.
550.00 to 555.00 (5.00)	100% Anhydrite as above.
555.00 to 560.00 (5.00)	60% Dolomite tan, medium brown, cryptocrystalline, anhydritic, stylolites, rare dolomite rhombs (in matrix), dense, no shows.
	35% Anhydrite light gray, white, cryptocrystalline, dense.
	5% Shale green, light gray, blocky, dolomitic.
560.00 to 565.00 (5.00)	50% Dolomite light gray cryptocrystalline, argillaceous, silty, dense, no shows.
	30% Dolomite light brown, microcrystalline, anhydritic, dense, no shows.
	20% Anhydrite light gray, off white, cryptocrystalline, dense.
565.00 to 570.00 (5.00)	60% Anhydrite off white, cryptocrystalline, occasionally inspd with green shaly lenses, dense.
	30% Shale greenish, gray, blocky, dolomitic, anhydritic.

Sample Descriptions

Storage Units: Metric

565.00 to 570.00 (5.00)	10% Dolomite tan, microcrystalline, anhydritic, dense, no shows.
570.00 to 575.00 (5.00)	70% Marlstone light gray, greenish, dolomitic, anhydritic, trace disseminated pyrite, dense. 30% Anhydrite off white, cryptocrystalline, dense.
575.00 to 580.00 (5.00)	40% Dolomite light gray, cryptocrystalline, anhydritic, slightly argillaceous, dense, no shows. 30% Anhydrite off white, light gray, cryptocrystalline, dense. 30% Marlstone light gray, greenish, dolomitic.
580.00 to 585.00 (5.00)	40% Anhydrite off white, light gray, cryptocrystalline, dense. 40% Marlstone light gray, greenish, dolomitic, trace pyritic, dense. 20% Dolomite light gray, cryptocrystalline, argillaceous, anhydritic, dense, no shows.
585.00 to 590.00 (5.00)	80% Anhydrite light gray, brownish, microcrystalline to cryptocrystalline, dolomitic, dense, no shows. 20% Marlstone greenish, gray, dolomitic, dense, with siltstone lenses, light gray, dolomitic, argillaceous, quartz, tight, no shows.
590.00 to 595.00 (5.00)	80% Anhydrite off white, light gray, cryptocrystalline, dense. 20% Shale green, platy to blocky, dolomitic, anhydritic, grading to dolomitic marlstone.
595.00 to 600.00 (5.00)	60% Anhydrite light gray, cryptocrystalline, interspersed with shale & marlstone lenses, dense. 40% Shale greenish, gray, blocky, dolomitic, anhydritic, grading to marlstone.
600.00 to 605.00 (5.00)	40% Dolomite beige, light gray, cryptocrystalline, anhydritic, argillaceous, dense, no shows. 30% Anhydrite light gray, off white, cryptocrystalline, dense.

Sample Descriptions

Storage Units: Metric

600.00 to 605.00 (5.00)	30% Marlstone greenish, light gray, blocky to platy, dolomitic, dense.
605.00 to 610.00 (5.00)	40% Marlstone light gray, greenish, dolomitic, anhydritic, silty, dense. 30% Anhydrite light gray, off white, trace dolomitic, dense.
	30% Dolomite beige, cryptocrystalline, anhydritic, dense, no shows.
610.00 to 615.00 (5.00)	40% Dolomite beige, light gray, cryptocrystalline, Crinoid stems, anhydritic, dense, no shows. 40% Marlstone light gray, greenish, dolomitic, silty.
	20% Anhydrite light gray, off white, cryptocrystalline, dense.
615.00 to 620.00 (5.00)	40% Anhydrite light gray, cryptocrystalline, interspersed with marly lenses, dense. 30% Dolomite beige, cryptocrystalline, anhydritic, argillaceous, dense, no shows. 30% Marlstone light gray, greenish, dolomitic, silty, dense, grading to green shale.
620.00 to 625.00 (5.00)	60% Shale green, light gray, platy to blocky, dolomitic, silty. 20% Anhydrite light gray, light brown, cryptocrystalline, dense, no shows. 20% Dolomite beige, light gray, cryptocrystalline, argillaceous, silty, dense, no shows.
625.00 to 630.00 (5.00)	70% Shale red, platy, dolomitic, silty, anhydritic. 30% Anhydrite light gray, brownish, cryptocrystalline, dense.
630.00 to 635.00 (5.00)	70% Shale red, platy, dolomitic, silty, anhydritic. 30% Anhydrite light gray, brownish, cryptocrystalline, dense.
635.00 to 640.00 (5.00)	80% Anhydrite light gray, brownish, cryptocrystalline, dense.

Sample Descriptions

Storage Units: Metric

635.00 to 640.00 (5.00)	20% Shale red, green, platy, dolomitic, anhydritic, silty.
640.00 to 645.00 (5.00)	60% Dolomite light brown, cryptocrystalline, very silty, anhydritic, dense, no shows.
	30% Siltstone light gray, light brown, very dolomitic, quartz, tight, no shows.
	5% Anhydrite light brown, light gray, cryptocrystalline, trace microcrystalline, dolomitic, dense.
	5% Shale red, platy, dolomitic, silty.
645.00 to 650.00 (5.00)	40% Anhydrite light brown, light gray, cryptocrystalline, dense, interspersed with shale & siltstone.
	40% Siltstone green, red, dolomitic, argillaceous, anhydritic, quartz, tight, no shows.
	20% Shale red, green, platy to blocky, dolomitic, silty.
650.00 to 655.00 (5.00)	70% Anhydrite light gray, light brown, cryptocrystalline, dense, with interspersed siltstone lenses.
	30% Siltstone light gray, greenish, dolomitic, argillaceous, quartz, tight, no shows.
655.00 to 660.00 (5.00)	95% Anhydrite off white, light gray, cryptocrystalline to microcrystalline, dense.
	5% Siltstone green, red, dolomitic, argillaceous, quartz, tight, no shows.
660.00 to 665.00 (5.00)	40% Anhydrite light brown, light gray, cryptocrystalline, dense, with interspersed siltstone.
	40% Siltstone greenish, gray, dolomitic, argillaceous, anhydritic, quartz, tight, no shows.
	20% Dolomite tan, cryptocrystalline, Crinoid stems, dense, no shows.
665.00 to 670.00 (5.00)	70% Anhydrite light brown, light gray, cryptocrystalline to microcrystalline, dolomitic, dense, with interspersed siltstone.
	30% Siltstone green, occasionally red, light gray, dolomitic, very argillaceous, anhydritic, tight, no shows.

Sample Descriptions

Storage Units: Metric

670.00 to 675.00 (5.00)	70% Anhydrite light brown, light gray, cryptocrystalline to microcrystalline, rare trace pyrite, dense, no shows.
	30% Siltstone red, green, light gray, dolomitic, argillaceous, anhydritic, tight, no shows.
675.00 to 680.00 (5.00)	75% Siltstone red, green, light gray, dolomitic, argillaceous, rare disseminated pyrite, tight, no shows.
	20% Dolomite tan, cryptocrystalline, silty, dense, no shows.
	5% Anhydrite light brown, cryptocrystalline, dense.
680.00 to 685.00 (5.00)	40% Anhydrite beige, light gray, cryptocrystalline, dolomitic, dense.
	30% Shale green, red, platy, dolomitic, silty.
	30% Siltstone red, green, light gray, dolomitic, argillaceous, quartz, tight, no shows.
685.00 to 690.00 (5.00)	40% Anhydrite as above.
	30% Dolomite light gray, buff, mottled, cryptocrystalline, slightly silty, anhydritic, trace remnant fragmental texture, dense, no shows.
	30% Siltstone light red, orange, mottled, blocky, firm to hard, sandy, anhydritic, tight, no shows.
690.00 to 695.00 (5.00)	50% Anhydrite light gray, buff, minor orange, cryptocrystalline, hard, silty lenses, dolomitic in part.
	30% Dolomite light gray, buff, mottled, cryptocrystalline, slightly silty, anhydritic, trace remnant fragmental texture, dense, no shows.
	20% Siltstone as above.
695.00 to 700.00 (5.00)	45% Siltstone light gray, green, minor red, very dolomitic, slightly pyritic, anhydrite, dense, no shows.
	35% Dolomite light gray, buff, cryptocrystalline, tabular, hard, dense.

Sample Descriptions

Storage Units: Metric

695.00 to 700.00 (5.00)	20% Anhydrite as above.	
700.00 to 705.00 (5.00)	60% Anhydrite beige, light gray, cryptocrystalline, hard, tabular, dolomitic in part, occasional silty stringers, dense, no shows.	
	20% Shale green, tabular, firm, tabular, dolomitic, trace pyritic.	
	20% Siltstone as above.	
705.00 to 710.00 (5.00)	55% Anhydrite light gray, buff, tan, cryptocrystalline, blocky, hard, dense.	
	45% Dolomite gray, buff, light brown, cryptocrystalline, hard, dense, rare 3-6% intercrystalline, moldic porosity, occasional dolomite rhombs in pores, no shows.	
710.00 to 715.00 (5.00)	50% Anhydrite white, light brown, buff, cryptocrystalline, blocky, hard, dolomitic, grading to anhydritic dolomite, dense, no shows.	
	50% Dolomite light gray, brown, buff, cryptocrystalline, blocky, firm to hard, compact, dense, slightly anhydritic.	
715.00 to 720.00 (5.00)	50% Dolomite light brown, tabular, beige, cryptocrystalline, tabular, firm to hard, slightly anhydritic, slightly pyritic, occasional remnant fragmental texture, dense.	
	35% Anhydrite as above.	
	15% Shale green, gray, tabular, dolomitic, firm, with abundant disseminated pyrite, flat luster.	
720.00 to 725.00 (5.00)	70% Dolomite gray, buff, light brown, cryptocrystalline, blocky, anhydritic, rare remnant fragmental texture, dense, no shows.	
	30% Anhydrite light brown, gray, mottled, cryptocrystalline, hard, dolomitic, with dolomite stringers, dense, no shows.	
725.00 to 730.00 (5.00)	45% Anhydrite light brown, gray, mottled, cryptocrystalline, hard, dolomitic, with dolomite stringers, also soft, chalky texture, rock flour?, dense, no shows.	
	35% Dolomite as above.	

Sample Descriptions

Storage Units: Metric

725.00 to 730.00 (5.00)	20% Siltstone light gray, minor pale red, blocky, firm to hard, dolomitic, also anhydritic, tight, no shows.
730.00 to 735.00 (5.00)	65% Dolomite gray, brown, cryptocrystalline, hard, blocky, silty, slightly anhydritic, dense. 20% Siltstone light gray, minor pale red, blocky, firm to hard, dolomitic, also anhydritic, tight, no shows.
735.00 to 740.00 (5.00)	15% Anhydrite as above. 75% Dolomite light gray, tan, cryptocrystalline, hard, slightly silty in part, trace remnant fragmental texture, dense.
740.00 to 745.00 (5.00)	15% Anhydrite as above. 10% Siltstone as above.
745.00 to 750.00 (5.00)	80% Dolomite light brown, gray, beige, cryptocrystalline, tabular, hard, dense, occasional silty stringers. 10% Shale green, gray, tabular to fissile, occasional disseminated pyrite, very dolomitic. 10% Siltstone as above.
750.00 to 755.00 (5.00)	85% Dolomite light brown, gray, beige, cryptocrystalline, tabular, hard, patchy 3-7% intercrystalline, vug porosity, with minor bitumen in pores. 15% Siltstone light gray, rare pale red, blocky, very dolomitic, grading to silty dolomite, tight.
755.00 to 760.00 (5.00)	70% Dolomite as above, mostly dense. 20% Siltstone light gray, pale orange, blocky, hard, slightly anhydritic, very dolomitic, tight. 10% Shale green, tabular, dolomitic, occasionally pyritic.

Sample Descriptions

Storage Units: Metric

755.00 to 760.00 (5.00)	10% Siltstone light gray, minor pale red, blocky, firm to hard, dolomitic, also anhydritic, tight, no shows.
760.00 to 765.00 (5.00)	95% Dolomite light gray, light brown, microcrystalline, blocky, firm to hard, silty in part, with patchy trace to 2% intercrystalline, vuggy porosity, with occasional bitumen in pores.
	5% Siltstone light gray, gray, blocky, very dolomitic, grading to silty dolomite, tight, no shows.
765.00 to 770.00 (5.00)	98% Dolomite light gray, light brown, microcrystalline, blocky, firm to hard, slightly silty in part, with patchy 4-6% intercrystalline, vuggy porosity, with common dolomite rhombs, with occasional bitumen partly plugging pores.
770.00 to 775.00 (5.00)	95% Dolomite light gray, light brown, microcrystalline to cryptocrystalline, blocky, firm to hard, slightly silty in part, with patchy 1-2% intercrystalline, with common dolomite rhombs, with occasional bitumen partly plugging pores.
	5% Anhydrite light gray, buff, cryptocrystalline, blocky, hard, dense.
775.00 to 780.00 (5.00)	100% Dolomite light gray, light brown, cryptocrystalline, blocky, firm to hard, trace stylolites, local anhydrite patches, with patchy trace intercrystalline porosity, with occasional bitumen partly plugging pores.
780.00 to 785.00 (5.00)	100% Dolomite light brown, light gray, microcrystalline, trace pyritic, silty lenses, stylolites, clear calcite crystals, trace patchy intercrystalline porosity 1-3%, predominately dense, no shows.
785.00 to 790.00 (5.00)	100% Dolomite tan, microcrystalline, trace stylolites, scattered clear calcite crystals, patchy intercrystalline porosity 4-6%, no shows.
790.00 to 795.00 (5.00)	100% Dolomite tan, cryptocrystalline to microcrystalline, rare stylolites, rare trace pyrite, trace clear calcite crystals, no visible porosity, no shows.
795.00 to 800.00 (5.00)	100% Dolomite tan, light brown, microcrystalline to cryptocrystalline, rare stylolites, trace clear calcite crystals, rare patchy vuggy porosity, predominately dense, no shows.
800.00 to 805.00 (5.00)	100% Dolomite tan, cryptocrystalline to microcrystalline, rare stylolites, rare trace pyrite, trace clear calcite crystals, dense, no shows.

Sample Descriptions

Storage Units: Metric

805.00 to 810.00 (5.00)	100% Dolomite light to medium brown, microcrystalline to cryptocrystalline, stylolites, laminated algae mats?, trace pyritic, trace clear calcite crystals, trace patchy intercrystalline 4-6%, predominately dense, rare trace patchy pyrobitumen.
810.00 to 815.00 (5.00)	100% Dolomite mottled buff, light to medium brown, microcrystalline, fragmental wackestone, bioclastic debris, Ostracods?, oolites, trace pyritic, stylolites, clear calcite crystals, patchy vuggy & intercrystalline porosity 4-6%, no shows.
815.00 to 820.00 (5.00)	100% Dolomite mottled light to medium brown, microcrystalline, fragmental wackestone, oolites, stylolites, trace clear calcite crystals, dense, no shows.
820.00 to 825.00 (5.00)	100% Dolomite medium to light brown, microcrystalline, stylolites, indistinct fossil fragments, rare pyrite, trace clear calcite crystals, dense, no shows.
825.00 to 830.00 (5.00)	100% Dolomite mottled light to medium brown, microcrystalline, bioclastic debris, algae mats, stylolites, Crinoids, vuggy & intercrystalline porosity 4-6%, trace patchy pyrobitumen.
830.00 to 835.00 (5.00)	100% Dolomite mottled light to medium brown, microcrystalline, disseminated pyrite, stylolites, calcite veining, laminated algae mats, patchy intercrystalline & trace moldic porosity 6-8%, no shows.
835.00 to 840.00 (5.00)	100% Dolomite medium brown, microcrystalline to cryptocrystalline, cherty, trace algae mats, stylolites, trace disseminated pyrite, calcite veining, trace clear calcite crystals, dense, no shows.
840.00 to 845.00 (5.00)	100% Dolomite mottled light to medium brown, microcrystalline, fragmental wackestone, trace cherty, trace pyritic, Brachiopods, Crinoids, stylolites, algae mats, dense, no shows.
845.00 to 850.00 (5.00)	100% Dolomite tan, light brown, microcrystalline, trace cherty, trace pyritic, stylolites, calcite veining, bioclastic debris, possible coral?, dense, no shows.
850.00 to 855.00 (5.00)	100% Dolomite tan, light brown, microcrystalline, trace pyritic, stylolites, calcite veining, remnant bioclastic debris, dense, no shows.
855.00 to 860.00 (5.00)	100% Dolomite tan, light brown, microcrystalline, trace pyritic, stylolites, occasional calcite veins, remnant bioclastic debris, slightly silty, dense, no shows.
860.00 to 865.00 (5.00)	100% Dolomite tan, light brown, microcrystalline, trace pyritic, stylolites, occasional calcite veins, remnant bioclastic debris, slightly silty, dense, no shows.

Sample Descriptions

Storage Units: Metric

865.00 to 870.00 (5.00)	100% Dolomite tan, light brown, microcrystalline to cryptocrystalline, trace pyritic, stylolites, occasional calcite veins, slightly silty, dense, no shows.
870.00 to 875.00 (5.00)	100% Dolomite tan, light brown, microcrystalline, occasional remnant fragmental texture, oolites?, trace pyritic, stylolites, slightly silty, dense, no shows.
875.00 to 880.00 (5.00)	100% Dolomite tan, light brown, microcrystalline to cryptocrystalline, trace pyritic, stylolites, trace cherty, clear calcite crystals, dense, no shows.
880.00 to 885.00 (5.00)	100% Dolomite light brown, cryptocrystalline, slightly argillaceous, trace pyritic, stylolites, trace cherty, dense, no shows.
885.00 to 890.00 (5.00)	100% Dolomite tan, light brown, microcrystalline to cryptocrystalline, remnant fragmental texture, indistinct fossil fragments, stylolites, trace pyritic, trace vuggy porosity, predominately dense, no shows.
890.00 to 895.00 (5.00)	100% Dolomite tan, light brown, microcrystalline to cryptocrystalline, trace remnant fragmental texture, trace pyrite veining, stylolites, trace clear calcite crystals, rare trace vuggy porosity, predominately dense, no shows.
895.00 to 900.00 (5.00)	100% Dolomite tan, brown, gray, microcrystalline to cryptocrystalline, trace remnant fragmental texture, trace pyrite veining, stylolites, trace clear calcite crystals, predominately dense, no shows.
900.00 to 905.00 (5.00)	100% Dolomite tan, brown, gray, minor mottled dark gray, microcrystalline, common remnant fragmental texture, corals?, trace pyrite veining, stylolites, trace light gray white speckled chert occasional calcite crystals, predominately dense, no shows.
905.00 to 910.00 (5.00)	100% Dolomite tan, brown, gray, microcrystalline, common remnant fragmental texture, crinoids?, trace pyrite veining, stylolites, trace light gray white speckled chert, occasional calcite crystals, predominately dense, no shows.
910.00 to 915.00 (5.00)	100% Dolomite tan, brown, microcrystalline, common remnant fragmental texture, crinoids, trace silty lenses, rare stylolites, trace light gray chert, occasional calcite crystals, predominately dense, no shows.
915.00 to 920.00 (5.00)	55% Dolomite tan, brown, microcrystalline, occasional remnant fragmental texture, trace silty, rare stylolites, trace light gray chert, occasional calcite crystals, predominately dense, no shows.

Sample Descriptions

Storage Units: Metric

915.00 to 920.00 (5.00)	25% Shale gray, minor dark gray, tabular to fissile, flat luster, with common disseminated pyrite, dolomitic.
	20% Shale light light gray, gray, tabular, firm, with abundant disseminated pyrite, dolomitic.
920.00 to 925.00 (5.00)	60% Shale gray, light gray, tabular to fissile, flat luster, with disseminated pyrite, slightly dolomitic, as above.
	40% Dolomite tan, brown, microcrystalline, mosaic texture, trace silty lenses, occasional light gray chert, occasional calcite crystals, predominately dense, no shows.
925.00 to 930.00 (5.00)	70% Dolomite light gray, tan, microcrystalline, blocky, slightly sandy, trace silty lenses, rare stylolites, trace light gray chert, common pyrite, common coarse calcite crystals, predominately dense, no shows.
	25% Shale gray, light gray, tabular to blocky, slightly dolomitic, with occasional disseminated pyrite.
	5% Sandstone white, light gray, fine grained, subround, medium to poor sorted, quartz grains in dolomitic cement, common pyrite, tight, no shows.
930.00 to 935.00 (5.00)	85% Dolomite light gray, beige, fine to rare medium crystalline, blocky, occasional stylolites, rare pyrite, trace porosity, with bitumen in pores.
	15% Shale gray, minor green, fissile, tabular, pyritic, dolomitic, as above.
935.00 to 940.00 (5.00)	90% Dolomite light gray, beige, microcrystalline to rare medium crystalline, blocky, occasional stylolites, rare pyrite, with rare bitumen.
	10% Shale gray, green, tabular, pyritic, as above.
940.00 to 945.00 (5.00)	95% Dolomite light gray, beige, fine to microcrystalline, blocky, occasional stylolites, rare pyrite, as above.
	5% Shale as above.
945.00 to 950.00 (5.00)	100% Dolomite light gray, beige, very fine crystalline to microcrystalline, silty, rare green shaly lenses, dense, no shows.

Sample Descriptions

Storage Units: Metric

950.00 to 955.00 (5.00)	100% Dolomite light gray, greenish, occasionally light brown, microcrystalline to very fine crystalline, silty, green shaly lenses, dense, no shows.	
955.00 to 960.00 (5.00)	100% Dolomite beige, light brown, light gray, microcrystalline, fragmental wackestone texture, remnant oolites?, very slightly silty, rare green shaly lenses, trace disseminated pyrite, dense, no shows.	
960.00 to 965.00 (5.00)	100% Dolomite buff, light gray, reddish, greenish, microcrystalline, silty, rare pyrite, trace stylolites, patchy shaly lenses (red & green), dense, no shows.	
965.00 to 970.00 (5.00)	100% Dolomite light gray, trace buff, trace reddish, microcrystalline, trace fragmental wackestone texture, trace oolites, trace silty, dense, no shows.	
970.00 to 975.00 (5.00)	100% Dolomite light gray, slightly reddish, slightly greenish, microcrystalline, trace remnant fragmental texture, silty, scattered white chert fragments, dense, no shows.	
975.00 to 980.00 (5.00)	100% Dolomite buff, light gray, trace reddish, microcrystalline, silty, rare stylolites, dense, no shows.	
980.00 to 985.00 (5.00)	100% Dolomite buff, light gray, trace reddish, trace greenish, microcrystalline, rare fragmental texture, trace oolites, silty, trace scattered white chert fragments, rare trace pyrite, dense, no shows.	
985.00 to 990.00 (5.00)	100% Dolomite buff, trace reddish, trace greenish, microcrystalline, very silty in part, common metasomatic white chert (oolitic), dense, no shows.	
990.00 to 995.00 (5.00)	100% Dolomite buff, light brown, trace reddish, trace greenish, microcrystalline, trace remnant fragmental texture, oolites, Crinoids, silty, very slightly argillaceous, trace stylolites, scattered white metasomatic chert, dense, no shows.	
995.00 to 1,000.00 (5.00)	100% Dolomite buff, light brown, trace reddish, trace greenish, microcrystalline, slightly silty, very slightly argillaceous, trace stylolites, scattered white chert, dense, no shows.	
1,000.00 to 1,005.00 (5.00)	100% Dolomite buff, light gray, reddish, greenish, occasionally brown, microcrystalline, trace silty, trace argillaceous, stylolites, dense, no shows.	
1,005.00 to 1,010.00 (5.00)	100% Dolomite light gray, mottled light brown, trace reddish, trace greenish, microcrystalline, trace remnant fragmental texture, oolites, trace silty, trace white chert fragments, rare pyrite, trace stylolites, dense, no shows.	

Sample Descriptions

Storage Units: Metric

1,010.00 to 1,015.00	100% Dolomite	
(5.00)	light brown, light gray, trace greenish, trace reddish, microcrystalline, silty, stylolites, trace pyritic, trace white chert fragments, dense, no shows.	
1,015.00 to 1,020.00	100% Dolomite	
(5.00)	light to medium brown, light gray, microcrystalline, stylolites, trace clear calcite crystals, trace white chert fragments, with interspersed light gray siltstone lenses.	
1,020.00 to 1,025.00	100% Dolomite	
(5.00)	light brown, light gray, microcrystalline, trace remnant fragmental texture, oolites, silty, common metasomatic oolitic chert fragments, stylolites, disseminated pyrite, dense, no shows.	
1,025.00 to 1,030.00	100% Dolomite	
(5.00)	light to medium brown, trace light gray, microcrystalline, trace remnant fragmental texture, silty, stylolites, rare trace chert, disseminated pyrite, dense, rare trace interstitial pyrobitumen.	
1,030.00 to 1,035.00	100% Dolomite	
(5.00)	light to medium brown, light gray, microcrystalline to cryptocrystalline, silty, trace pyritic, stylolites, dense, no shows, with trace siltstone lenses, light gray, dolomitic, quartz, tight, no shows.	
1,035.00 to 1,040.00	100% Dolomite	
(5.00)	light brown, light to medium gray, microcrystalline, silty, trace disseminated pyrite, stylolites, dense, no shows, with medium gray shaly lenses.	
1,040.00 to 1,045.00	100% Dolomite	
(5.00)	light to medium brown, light gray, greenish, microcrystalline, trace very fine crystalline, fragmental texture, oolites, silty, argillaceous in part, stylolites, dense, no shows, with green shaly lenses.	
1,045.00 to 1,050.00	100% Dolomite	
(5.00)	tan, light gray, trace greenish, microcrystalline to cryptocrystalline, fragmental texture, oolites, silty, trace pyritic, dense, no shows, with light to medium gray shaly lenses.	
1,050.00 to 1,055.00	98% Dolomite	
(5.00)	tan, light gray, trace greenish, microcrystalline to cryptocrystalline, trace stylolites, silty, trace pyritic, dense, no shows, with light to medium gray shaly lenses.	
2%	Siltstone	
	light gray, beige, tabular, firm to hard, slightly sandy, very dolomitic, grading to silt dolomite, tight, no shows.	
1,055.00 to 1,060.00	97% Dolomite	
(5.00)	tan, light gray, trace greenish, microcrystalline to cryptocrystalline, trace fragmental texture, occasional silty lenses, trace pyrite, dense, no shows, with light green shaly lenses.	
3%	Siltstone	
	light gray, beige, buff, tabular, firm to hard, quartz grains in dolomitic cement, slightly argillaceous, trace pyrite, tight, no shows.	

Sample Descriptions

Storage Units: Metric

1,060.00 to 1,065.00	97%	Dolomite (5.00)	tan, light gray, trace greenish, microcrystalline to cryptocrystalline, trace fragmental texture, occasional silty lenses, local white speckled chert, trace pyrite, dense, no shows, with light green shaly lenses.
	3%	Siltstone	light gray, bge, light reddish brown, tabular, firm to hard, quartz grains in dolomitic cement, slightly argillaceous, trace pyrite, tight, no shows.
1,065.00 to 1,070.00	95%	Dolomite (5.00)	tan, light gray, trace greenish, microcrystalline to cryptocrystalline, occasional silty lenses, trace pyrite, dense, no shows, with light green shaly lenses.
	3%	Siltstone as above.	
	2%	Shale	light green, tabular, dolomitic, firm.
1,070.00 to 1,075.00	95%	Dolomite (5.00)	light gray, tan, cryptocrystalline, occasional silty lenses, trace pyrite, trace fragmental texture, dense, trace stylolites.
	3%	Shale	gray, minor dark gray, green, tabular, slightly pyritic, slightly dolomitic.
	2%	Siltstone	light gray, beige, buff, tabular, firm to hard, quartz grains in dolomitic cement, slightly argillaceous, trace pyrite, tight, no shows.
1,075.00 to 1,080.00	96%	Dolomite (5.00)	tan, light gray, trace greenish, microcrystalline to cryptocrystalline, occasional silty lenses, trace pyrite, dense, no shows.
	4%	Siltstone	light brown, tan, gray, tabular, firm, very dolomitic, grading to silty dolomite, slightly pyritic, slightly argillaceous in part, tight, no shows.
1,080.00 to 1,085.00	91%	Dolomite (5.00)	tan, light gray, microcrystalline, blocky, firm to hard, sucrosic in part, occasional silty lenses, occasional remnant oolites, trace pyrite, dense, no shows.
	5%	Shale	gray, minor dark gray, firm, tabular, dolomitic, slightly pyritic.
	4%	Siltstone as above.	
1,085.00 to 1,090.00	95%	Dolomite (5.00)	white, tan, light gray, microcrystalline, blocky, firm to hard, rare silty lenses, trace pyrite, trace stylolites, dense, no shows.

Sample Descriptions

Storage Units: Metric

1,085.00 to 1,090.00	3%	Shale (5.00) gray, minor light green, tabular, firm, fissile, slightly dolomitic.
	2%	Siltstone as above.
1,090.00 to 1,095.00	98%	Dolomite (5.00) light gray, light to medium brown, microcrystalline, rare fragmental texture, silty, with occasional silty lenses, slightly argillaceous in part, stylolites, dense, no shows.
	2%	Shale gray, light green, tabular, dolomitic.
1,095.00 to 1,100.00	95%	Dolomite (5.00) light brown, buff, light gray, microcrystalline, silty, trace disseminated pyrite, trace stylolites, dense, no shows.
	3%	Shale medium gray, greenish, blocky, dolomitic.
	2%	Siltstone light gray, greenish, dolomitic, quartz, tight, no shows, grading to greenish shale.
1,100.00 to 1,105.00	95%	Dolomite (5.00) light brown, buff, light gray, microcrystalline, remnant fragmental texture, oolites, silty, stylolites, rare trace pyrite, rare trace white chert, dense, no shows.
	5%	Siltstone light gray, very slight trace greenish, very slight trace reddish, dolomitic, quartz, tight, no shows.
1,105.00 to 1,110.00	100%	Dolomite (5.00) light brown, light gray, microcrystalline, remnant fragmental texture, oolites, silty, pyritic, stylolites, dense, no shows, with silty lenses.
1,110.00 to 1,115.00	100%	Dolomite (5.00) mottled light brown, light gray, microcrystalline, fragmental texture, oolites, trace pyritic, stylolites, silty, trace cherty, dense, no shows, with silty lenses.
1,115.00 to 1,120.00	100%	Dolomite (5.00) light brown, light gray, microcrystalline, trace remnant fragmental texture, trace oolites, trace pyritic, stylolites, silty, rare chert, patchy intercrystalline porosity 6-8%, no shows, with silty lenses.
1,120.00 to 1,125.00	100%	Dolomite (5.00) light brown, buff, microcrystalline, trace cryptocrystalline, fragmental texture, Brachiopods, trace oolites, trace metasomatic chert, trace clear calcite crystals, pyritic, stylolites, trace shaly lenses, patchy intercrystalline & vuggy porosity 6-8%, no shows, with trace silty lenses.

Sample Descriptions

Storage Units: Metric

1,125.00 to 1,130.00	100% Dolomite	
(5.00)		tan, light brown, light gray, cryptocrystalline, trace microcrystalline, trace remnant fragmental texture, trace pyritic, stylolites, leached vuggy porosity 6-8%, (possible coral?), no shows.
1,130.00 to 1,135.00	100% Dolomite	
(5.00)		tan, light brown, light gray, cryptocrystalline, silty, pyritic, stylolites, trace patchy leached porosity 8-10% (corals?), predominately dense, no shows, with trace light gray silty lenses.
1,135.00 to 1,140.00	100% Dolomite	
(5.00)		light to medium brown, occasionally light gray, cryptocrystalline, occasional remnant fragmental texture, possible oolites?, silty, stylolites, trace pyritic, patchy leached vuggy porosity 8-10% (corals?), predominately dense, no shows, with trace light gray silty lenses.
1,140.00 to 1,145.00	95% Dolomite	
(5.00)		tan, light brown, microcrystalline to cryptocrystalline, trace remnant fragmental texture, oolites, silty, stylolites, trace patchy leached vuggy porosity 6-8%, predominately dense, no shows.
	5% Shale	
		medium gray, blocky to platy, slightly dolomitic, trace pyritic.
1,145.00 to 1,150.00	100% Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to microcrystalline, trace remnant fragmental texture, oolites, trace pyritic, stylolites, silty, trace patchy leached vuggy porosity 6-8%, predominately dense, no shows, with rare silty & shaly lenses.
1,150.00 to 1,155.00	100% Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to microcrystalline, trace remnant fragmental texture, oolites, trace pyrite, trace stylolites, silty in part, trace patchy leached vuggy porosity 3-6%, predominately dense, no shows, with rare silty & shaly lenses.
1,155.00 to 1,160.00	100% Dolomite	
(5.00)		buff, tan, light brown, microcrystalline, trace remnant fragmental texture, trace pyrite, occasional stylolites, silty lenses, trace patchy leached vuggy porosity 2-4%, predominately dense, no shows, with rare shaly lenses.
1,160.00 to 1,165.00	100% Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to microcrystalline, trace pyrite, occasional stylolites, mostly dense, no shows.
1,165.00 to 1,170.00	100% Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to microcrystalline, trace remnant fragmental texture, oolites, trace pyrite, occasional stylolites, sandstone, trace patchy leached vuggy porosity tr-2%, predominately dense, no shows, with rare shaly lenses.
1,170.00 to 1,175.00	100% Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to microcrystalline, trace pyrite, occasional stylolites, silty, trace patchy leached vuggy & intercrystalline porosity tr-2%, predominately dense, no shows, with rare shaly lenses.

Sample Descriptions

Storage Units: Metric

1,175.00 to 1,180.00	100%	Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to microcrystalline, trace pyrite, occasional stylolites, trace silty, predominately dense, no shows, with rare light green shaly lenses.	
1,180.00 to 1,185.00	100%	Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to microcrystalline, trace pyrite, occasional stylolites, trace silty, occasional remnant fragmental texture, predominately dense, no shows, with rare gray shaly lenses.	
1,185.00 to 1,190.00	98%	Dolomite	
(5.00)		buff, tan, light brown, cryptocrystalline to rare microcrystalline, trace pyrite, occasional stylolites, trace silty, predominately dense, no shows, with rare gray shaly lenses.	
	2%	Shale	
		gray, green, tabular, firm, very dolomitic, grading to argillaceous dolomite.	
1,190.00 to 1,195.00	98%	Dolomite	
(5.00)		buff, tan, light brown, microcrystalline, trace pyrite, remnant fragmental texture, occasional oolites, occasional stylolites, trace silty, predominately dense, no shows, with rare gray shaly lenses.	
	2%	Shale	
		gray, green, tabular, dolomitic, as above.	
1,195.00 to 1,200.00	100%	Dolomite	
(5.00)		buff, tan, light brown, microcrystalline, trace pyrite, fragmental texture, occasional oolites, occasional stylolites, trace silty, trace patchy 0-2% intercrystalline, vuggy porosity, predominately dense, no shows, with rare gray shaly lenses.	
1,200.00 to 1,205.00	100%	Dolomite	
(5.00)		buff, tan, light brown, microcrystalline, trace pyrite, fragmental texture, occasional stylolites, trace silty, local argillaceous stringers, no shows, with rare gray shaly lenses.	
1,205.00 to 1,210.00	100%	Dolomite	
(5.00)		buff, light brown, light gray, microcrystalline to cryptocrystalline, trace pyrite, occasional stylolites, trace calcareous patches, slightly silty, local argillaceous stringers, no shows, with rare gray shaly lenses.	
1,210.00 to 1,215.00	100%	Dolomite	
(5.00)		buff, brown, light gray, cryptocrystalline, argillaceous to marly in part, silty, trace disseminated pyrite, with light to medium gray shaly lenses.	
1,215.00 to 1,220.00	40%	Shale	
(5.00)		light to medium gray, greenish, blocky, dolomitic.	
	40%	Siltstone	
		light gray, dolomitic, quartz, trace calcareous, trace pyritic, tight, no shows.	
	20%	Dolomite	
		tan, cryptocrystalline, dense, no shows.	

Sample Descriptions

Storage Units: Metric

1,220.00 to 1,225.00	40%	Dolomite (5.00) light to medium brown, light gray, cryptocrystalline, stylolites, trace pyritic, argillaceous, silty, dense, no shows.
	30%	Marlstone medium to dark gray, dolomitic, disseminated pyrite.
	20%	Shale green, gray, blocky to platy, dolomitic.
	10%	Siltstone light gray, dolomitic, quartz, tight, no shows.
1,225.00 to 1,230.00	60%	Siltstone (5.00) light gray, dolomitic, quartz, disseminated pyrite, rare glauconite, tight, no shows.
	30%	Dolomite tan, light brown, cryptocrystalline, pyritic, dense, no shows.
	10%	Marlstone medium gray, dolomitic, disseminated pyrite.
1,230.00 to 1,235.00	50%	Siltstone (5.00) light gray, dolomitic, quartz, green shaly lenses, disseminated pyrite, tight, no shows, with interspersed green shale.
	30%	Shale green, platy, dolomitic, silty, disseminated pyrite, with interspersed siltstone.
	20%	Dolomite tan, light brown, cryptocrystalline, trace pyritic, dense, no shows.
1,235.00 to 1,240.00	50%	Siltstone (5.00) light gray, dolomitic, argillaceous, quartz, pyritic, tight, no shows, with interspersed shale.
	40%	Shale green, gray, blocky, dolomitic, silty, disseminated pyrite, with interspersed siltstone.
	10%	Dolomite tan, cryptocrystalline, silty lenses, dense, no shows.
1,240.00 to 1,245.00	40%	Shale (5.00) green, medium gray, trace red, platy to blocky, dolomitic, trace disseminated pyrite.
	30%	Dolomite light to medium brown, gray, cryptocrystalline, silty, argillaceous, dense, no shows.
	30%	Siltstone light gray, dolomitic, slightly argillaceous, quartz, pyritic, tight, no shows.

Sample Descriptions

Storage Units: Metric

1,245.00 to 1,250.00	70%	Siltstone (5.00) pink, light gray, dolomitic, slightly argillaceous, quartz, trace disseminated pyrite, tight, no shows.
	30%	Shale red, green, platy, dolomitic, with silty lenses.
1,250.00 to 1,255.00	60%	Siltstone (5.00) light gray, pink, dolomitic, quartz, slightly argillaceous, shaly lenses, tight, no shows.
	40%	Shale red, green, medium gray, platy, dolomitic, trace micaceous, with silty lenses.
1,255.00 to 1,260.00	55%	Shale (5.00) red, maroon, green, platy to blocky, dolomitic, occasionally micaceous.
	40%	Siltstone light gray, reddish, dolomitic, slightly argillaceous, trace shaly lenses, tight, no shows.
	5%	Dolomite buff, cryptocrystalline, silty, pyritic, dense, no shows.
1,260.00 to 1,265.00	50%	Shale (5.00) green, red, mottled in part, platy, dolomitic, occasionally micaceous, with interspersed siltstone lenses.
	50%	Siltstone light gray, reddish, dolomitic, slightly argillaceous, quartz, tight, no shows, with interspersed shale lenses.
1,265.00 to 1,270.00	60%	Siltstone (5.00) light gray, reddish, dolomitic, slightly argillaceous, quartz, rare dark specks, tight, no shows.
	40%	Shale red, green, maroon, platy, dolomitic, silty, occasionally micaceous.
1,270.00 to 1,275.00	55%	Siltstone (5.00) light gray, reddish, dolomitic, slightly argillaceous, quartz, tight, no shows.
	40%	Shale red, green, maroon, mottled in part, platy, dolomitic, occasionally micaceous.
	5%	Dolomite dark brown, cryptocrystalline, slightly argillaceous, dense, no shows.
1,275.00 to 1,280.00	25%	Shale red (5.00) red, orange, tabular, firm, slightly silty, dolomitic.

Sample Descriptions

Storage Units: Metric

1,275.00 to 1,280.00	20%	Salt (5.00) transparent, light gray, tabular fragments, microcrystalline, soft, also impure with shaly intbeds.
	20%	Shale grn light green, red patches, tabular, sft- firm, silty.
	20%	Siltstone light gray, red, tabular, firm, dolomitic, also argillaceous in part, tight, no shows.
	15%	Dolomite as above.
1,280.00 to 1,285.00	65%	Shale grn (5.00) light green, minor dark green, tabular to fissile, dolomitic, as above.
	20%	Shale pale red, orange, firm, silty in part.
	15%	Salt transparent, tabular, microcrystalline, soft, appears eroded.
1,285.00 to 1,290.00	80%	Shale grn (5.00) light green, tabular, occasional red patches, soft, as above.
	20%	Shale pale red, orange, tabular, green patches, soft, as above.
1,290.00 to 1,295.00	60%	Shale grn (5.00) as above.
	20%	Salt transparent, rounded fragments, soft, eroded edges.
	20%	Shale as above.
1,295.00 to 1,300.00	90%	Salt (5.00) transparent, pale orange, rrd fragments, eroded edges, as above.
	10%	Shale grn as above.
1,300.00 to 1,305.00	90%	Salt (5.00) transparent, pale orange, rrd fragments, eroded edges, as above.
	10%	Shale grn light grn, minor red patches, tabular, soft to firm, dolomitic.
1,305.00 to 1,310.00	65%	Shale grn (5.00) light green, firm to soft, tabular, occasional red patches, occasional silty stringers.

Sample Descriptions

Storage Units: Metric

1,305.00 to 1,310.00	15% Salt (5.00)	transparent, light brown, as above.
	10% Shale pale red, soft, stringers in green shale.	
	10% Siltstone light gray, beige, blocky, dolomitic, firm to hard, tight, no shows.	
1,310.00 to 1,315.00	80% Shale grn (5.00)	light green, tabular, soft, occasional red patches, occasional siltstone stringers.
	20% Siltstone light brown, pale red, orange, blocky, firm to soft, slightly dolomitic, tight, no shows.	
1,315.00 to 1,320.00	55% Shale grn (5.00)	light green, light gray, tabular, soft, with occasional silty stringers.
	35% Salt transparent, light brown, rrd fragments, very soft, eroded edges.	
	10% Siltstone light gray, light brown, blocky, firm, dolomitic, tight, no shows.	
1,320.00 to 1,325.00	75% Shale grn (5.00)	light green, light gray, minor red patches, soft, blky, as above.
	25% Salt transparent, light brown, rrd fragments, very soft, eroded edges.	
1,325.00 to 1,330.00	85% Salt (5.00)	light gray, transparent, minor light brown, coarse rrd fragments, eroded edges, soft, as previous.
	15% Shale grn light green, occasional red, tabular, soft, flat luster.	
1,330.00 to 1,335.00	70% Shale grn (5.00)	light green, light gray, very soft, sticky clay hydrated in sample, occasional red patches.
	20% Shale red light red, tabular, very soft, occasional green patches, also occasional reddish patches,	
	10% Siltstone light gray, light brown, very argillaceous, soft.	
1,335.00 to 1,340.00	65% Shale grn (5.00)	light green, light gray, occasional red patches, tabular, soft, sticky when wet, disaggregates in water, occasional silty stringers.

Sample Descriptions

Storage Units: Metric

1,335.00 to 1,340.00	30%	Shale red (5.00) as above.	
	5%	Salt light gray, transparent, tabular, rounded fragments, eroded edges.	
1,340.00 to 1,345.00	90%	Shale (5.00) green, mottled red, blocky to platy, dolomitic.	
	10%	Salt light gray, transparent, tabular, eroded edges.	
1,345.00 to 1,350.00	65%	Shale (5.00) mottled green, red, orange, maroon, blocky to platy, dolomitic.	
	30%	Siltstone light gray, reddish, dolomitic, slightly argillaceous, quartz, tight, no shows.	
	5%	Salt halite, clear, translucent, crystalline, partially dissolved.	
1,350.00 to 1,355.00	65%	Shale (5.00) mottled green, red, maroon, orange, platy to blocky, dolomitic.	
	35%	Salt halite, light gray, off white, translucent, crystalline, eroded edges.	
1,355.00 to 1,360.00	90%	Salt (5.00) halite, clear, translucent, crystalline, eroded edges.	
	10%	Shale green, red, platy, dolomitic.	
1,360.00 to 1,365.00	90%	Salt (5.00) halite, clear, translucent, crystalline, eroded edges.	
	10%	Shale green, red, platy.	
1,365.00 to 1,370.00	90%	Salt (5.00) halite, clear, occasionally reddish, translucent, crystalline, eroded edges.	
	10%	Shale green, red, platy, dolomitic.	
1,370.00 to 1,375.00	95%	Salt (5.00) halite, clear, occasionally reddish, translucent, crystalline, eroded edges.	
	5%	Shale green, red, platy, dolomitic.	
1,375.00 to 1,380.00	95%	Salt (5.00) halite, clear, occasionally reddish, translucent, crystalline.	

Sample Descriptions

Storage Units: Metric

1,375.00 to 1,380.00	5%	Shale (5.00) green, platy, dolomitic.
1,380.00 to 1,385.00	100%	Salt (5.00) halite, clear, light gray, translucent, crystalline, with shaly lenses.
1,385.00 to 1,390.00	100%	Salt (5.00) halite, clear, translucent, crystalline, trace red & green shaly lenses.
1,390.00 to 1,395.00	95%	Salt (5.00) halite, clear, trace reddish, translucent, crystalline.
	5%	Shale green, red, blocky, dolomitic.
1,395.00 to 1,400.00	70%	Salt (5.00) halite, clear, translucent, light gray, crystalline.
	30%	Shale medium gray, trace green & red, blocky, dolomitic.
1,400.00 to 1,405.00	45%	Shale (5.00) medium gray, trace green, trace red, platy.
	30%	Anhydrite light gray, light brown, microcrystalline, dense.
	20%	Siltstone light gray, reddish, dolomitic, slightly argillaceous, quartz, tight, no shows.
	5%	Salt halite, clear, translucent, crystalline.
1,405.00 to 1,410.00	45%	Shale (5.00) medium gray, platy, dolomitic.
	40%	Dolomite medium brown, cryptocrystalline, marly, dense, no shows.
	10%	Anhydrite light gray, light brown, cryptocrystalline, dense.
	5%	Siltstone light to medium gray, dolomitic, argillaceous, quartz, disseminated pyrite, tight, no shows.
1,410.00 to 1,415.00	50%	Shale (5.00) medium gray, green, trace red, platy, dolomitic.
	40%	Dolomite medium brown, cryptocrystalline, marly, trace pyritic, laminated, dense, no shows.

Sample Descriptions

Storage Units: Metric

1,410.00 to 1,415.00	10%	Siltstone (5.00)	light gray, greenish, trace reddish, dolomitic, slightly argillaceous, quartz, tight, no shows.
1,415.00 to 1,420.00	50%	Marlstone (5.00)	light to medium brown, dolomitic, anhydritic, silty, trace pyritic, laminated, dense.
	50%	Shale	medium gray, trace green, trace red, platy to blocky, dolomitic to marly.
1,420.00 to 1,425.00	70%	Shale (5.00)	medium gray, green, red, platy to blocky, dolomitic, pyritic.
	30%	Siltstone	light gray, reddish, trace greenish, dolomitic, slightly argillaceous, quartz, tight, no shows.
1,425.00 to 1,430.00	60%	Shale (5.00)	mottled green, red, medium gray, platy, dolomitic.
	20%	Dolomite	light to medium brown, cryptocrystalline, argillaceous, anhydrite lenses, dense, no shows.
	20%	Siltstone	light gray, reddish, dolomitic, slightly argillaceous, quartz, tight, no shows.
1,430.00 to 1,435.00	70%	Shale grn (5.00)	light green, red, minor gray patches, tabular to fissile, soft to firm.
	30%	Shale red	pale red, red, green patches, soft- firm, fissile, as above.
1,435.00 to 1,440.00	65%	Shale grn (5.00)	light green, red, minor gray patches, tabular to fissile, soft to firm.
	20%	Shale red	as above.
	15%	Siltstone	light gray, beige, blocky, firm to hard, quartz grains in dolomitic cement, slightly pyritic, tight, no shows.
1,440.00 to 1,445.00	70%	Shale grn (5.00)	light green, red, minor gray patches, tabular to fissile, soft to firm.
	20%	Shale red	as above.
	10%	Dolomite	light brown, mottled buff, microcrystalline, tabular, firm to hard, occasionally silty, rare remnant fragmental texture, dense, no shows.

Sample Descriptions

Storage Units: Metric

1,445.00 to 1,450.00	65%	Shale (5.00)	light green, red, minor gray patches, tabular to fissile, soft to firm.
	25%	Dolomite	light brown, mottled buff, tabular, microcrystalline matrix, also remnant fragmental texture, oolites?, also occasional dark micro laminations, algal?, slightly silty in part, dense, no shows.
	10%	Shale red	as above.
1,450.00 to 1,455.00	55%	Sandstone (5.00)	light gray, offwh, transparent, fine grained, range very fine to occasional medium, subround to round, well to medium sorted, firm to friable, common loose grains, clean, quartz grains in siliceous cement, common glauconite, occasional dark minerals, trace pyrite, some secondary quartz overgrowths, patchy 2-6% intergranular porosity, no shows.
	25%	Shale	medium gray, dark gray, tabular to fissile, firm.
	10%	Dolomite	as above.
	10%	Shale grn	as above.
1,455.00 to 1,460.00	70%	Shale grn (5.00)	light green, gray, tabular to fissile, firm, occasional siltstone stringers.
	30%	Sandstone	light gray, offwh, transparent, fine grained, range very fine to occasional medium, subround to round, well to medium sorted, firm to friable, common loose grains, clean, quartz grains in siliceous cement, common glauconite, occasional dark minerals, trace pyrite, some secondary quartz overgrowths, patchy 3-7% intergranular porosity, no shows.
1,460.00 to 1,465.00	96%	Shale grn (5.00)	light green, minor red patches, fissile, firm to soft, flat luster.
	4%	Sandstone	as above.
1,465.00 to 1,470.00	80%	Shale grn (5.00)	light green, minor red patches, fissile, firm to soft, flat luster.
	15%	Shale red	as above.
	5%	Dolomite	light brown, mottled buff, tabular, microcrystalline matrix, also remnant fragmental texture, slightly silty in part, dense, no shows.

Sample Descriptions

Storage Units: Metric

1,470.00 to 1,475.00	90%	Shale (5.00) gray, greenish gray, fissile, firm, slightly silty, with occasional siltstone laminations, common green & black glauconite, occasional pyrite, grading to green shale.
	10%	Shale red pale red, green patches, fissile, as above.
1,475.00 to 1,480.00	98%	Shale (5.00) gray, greenish gray, fissile, firm, slightly silty, with occasional dolomitic laminations, common green glauconite, occasional pyrite, grading to green shale.
1,480.00 to 1,485.00	70%	Shale (5.00) gray, greenish gray, tabular, firm, occasional red patches.
	20%	Sandstone light gray, beige, very fine grained, rare fine, subround to subangular, medium to well sorted, hard, clean, quartzose, quartz grains in siliceous cement, common pyrite, occasional white specks, local concentrations of glauconite, tight, no shows.
	10%	Shale red pale red, green, fissile, as above.
1,485.00 to 1,490.00	80%	Sandstone (5.00) clear, quartzose, fine to medium grained, scattered coarse greds, siliceous, very glauconite in part, trace pyritic, quartz overgrowths, sub rounded to sub angular, poorly sorted, rare trace patchy intergranular porosity 2-4%, predominately no visible porosity, no shows.
	20%	Shale green, occasionally red, platy, dolomitic.
1,490.00 to 1,495.00	80%	Sandstone (5.00) clear, quartzose, very fine to medium grained, scattered coarse grains, siliceous, very glauconitic in part, trace pyritic, quartz overgrowths, sub angular to sub rounded, moderately sorted, tight, no shows.
	20%	Shale green, trace red, platy, dolomitic.
1,495.00 to 1,500.00	80%	Sandstone (5.00) clear, quartzose, very fine to fine grained, scattered medium grains, quartzose, hard to friable, variable siliceous cement, occasional glauconite, trace pyritic, occasional quartz overgrowths, sub angular to sub rounded, medium to well sorted, patchy 2-4% intergranular porosity in zone with well rounded grains, remainder tight, no shows.
	10%	Dolomite brown, gray, cryptocrystalline to microcrystalline, hard, slightly argillaceous, tabular fragments, dense, no shows.
	10%	Shale gray, minor green, tabular, firm, slightly silty.

Sample Descriptions

Storage Units: Metric

1,500.00 to 1,505.00	90%	Sandstone (5.00) clear, white, quartzose, fine to medium grained, subangular to subround, rare well rounded, well sorted, hard to friable, mostly quartz grains in siliceous cement, occasional secondary quartz overgrowths, trace pyrite, abundant loose grains, patchy 5-10% intergranular porosity in zones with well rounded grains, some tight, very hard, no shows.
	10%	Dolomite as above.
1,505.00 to 1,510.00	90%	Sandstone (5.00) clear, white, quartzose, fine to medium grained, rare coarse, subangular to subround, rare well rounded, medium to well sorted, hard to friable, mostly quartz grains in siliceous cement, occasional secondary quartz overgrowths, trace pyrite, common loose grains, patchy trace intergranular porosity, some tight, very hard, no shows.
	5%	Dolomite brown, cryptocrystalline, hard, argillaceous, cavings?
	5%	Shale as above.
1,510.00 to 1,515.00	75%	Sandstone (5.00) clear, white, quartzose, very fine to fine grained, rare medium, subangular to subround, well sorted, hard to friable, mostly quartz grains in siliceous cement, minor white clay matrix, occasional secondary quartz overgrowths, trace pyrite, common loose grains, trace intergranular porosity, mostly tight, very hard, no shows.
	25%	Rock flour white, ground up cuttings.
1,515.00 to 1,518.00	70%	Sandstone (3.00) clear, white, quartzose, very fine to fine grained, occasional medium grains, siliceous, quartz, trace pink grains, trace pyritic, rare glauconite, quartz overgrowths, sub rounded to sub angular, moderately sorted, tight, no shows.
	20%	Rock flour
	10%	Shale green, trace red, platy, dolomitic, disseminated pyrite.
1,518.00 to 1,520.00	83%	Sandstone (2.00) clear, white, quartzose, very fine to fine grained, occasional medium grains, subround to subangular, quartzose, trace pyritic, occasional quartz overgrowths, rare minor white clay matrix, moderate siliceous cement, clean, trace porosity, mostly tight, no shows.
	10%	Rock flour white, soft, chalky texture.

Sample Descriptions

Storage Units: Metric

1,518.00 to 1,520.00	3%	Shale medium gray, minor light brown, tabular to fissile, soft.
	2%	Anhydrite light brown, buff, cryptocrystalline, tabular fragments, dense, cavings.
	2%	Dolomite light brown, cryptocrystalline silty, tabular fragments, dense, no shows.
1,520.00 to 1,525.00	92%	Sandstone clear, white, quartzose, fine to medium grained, occasional very fine grains, subround to subangular, well sorted, quartzose, firm to friable, trace pyritic, occasional quartz overgrowths, minor white clay matrix, moderate siliceous cement, clean, trace porosity, mostly tight, no shows.
	5%	Rock Flour white, soft, chalky, ground up cuttings.
	3%	Shale gray, minor dark gray, fissile to tabular, firm, as above.
1,525.00 to 1,530.00	85%	Sandstone clear, white, also light reddish brown, quartzose, fine to medium grained, subround to subangular, well to medium sorted, quartzose, trace pyritic, occasional quartz overgrowths, rare minor white clay matrix, minor amounts red tinge, moderate siliceous cement, clean, trace porosity, mostly tight, no shows.
	10%	Shale grn light green, also minor light reddish brown, tabular, firm to soft.
	5%	Dolomite gray, brownish gray, cryptocrystalline, hard, slightly argillaceous, dense.
1,530.00 to 1,535.00	90%	Sandstone clear, white, also light reddish brown, quartzose, medium to fine grained, well sorted to subround, medium sorted, quartzose, quartz overgrowths, rare minor white clay matrix, common patchy red tinge, moderate to hard siliceous cement, clean, patchy 3-6% intergranular porosity, mostly tight, no shows.
	8%	Rock flour as above.
	2%	Shale grn light grn, gray, tabular, firm, slightly dolomitic.
1,535.00 to 1,540.00	80%	Sandstone clear, reddish, quartzose, fine to medium grained, siliceous, slightly argillaceous, quartz, quartz overgrowths, sub angular to sub rounded, moderately well sorted, slight trace intergranular porosity 3-6%, predominately tight, no shows.
	20%	Rock Flour

Sample Descriptions

Storage Units: Metric

1,540.00 to 1,545.00	85%	Sandstone (5.00) clear, white, also pale orange, fine to medium grained, occasional coarse floating quartz grains, subround to subangular, well to medium sorted, quartzose, trace pyritic, occasional quartz overgrowths, rare minor white clay matrix, moderate siliceous cement, clean, trace porosity, mostly tight, no shows.
	10%	Rock Flour white, soft, chalky texture.
	3%	Shale grn light grn, gray, fissile, slightly dolomitic, as above.
	2%	Dolomite brown, cryptocrystalline, hard, dense.
1,545.00 to 1,550.00	95%	Sandstone (5.00) clear, white, fine to medium grained, occasional coarse floating quartz grains, subround to well rounded, medium to well sorted, quartz grains in moderate siliceous cement, abundant loose grains, occasional quartz overgrowths, rare minor white clay matrix, clean, trace porosity, mostly tight, no shows.
	5%	Shale grn light grn, minor dark gray, tabular, slightly dolomitic, as above., trace dolomite stringers.
1,550.00 to 1,555.00	85%	Sandstone (5.00) clear, white, medium grained, with patchy coarse to very coarse floating quartz grains, subround to rounded, medium sorted, quartz grains in hard siliceous cement, occasional quartz overgrowths, rare minor white clay matrix, mostly tight, no shows.
	10%	Rock flour white, soft, chly texture, as above.
	5%	Shale grn light green, green, fissile, firm to hard, as above.
1,555.00 to 1,560.00	94%	Sandstone (5.00) clear, white, orange, medium grained, with patchy coarse to very coarse floating quartz grains, subround to rounded, medium to well sorted, quartz grains in hard siliceous cement, occasional quartz overgrowths, common loose grains, mostly tight, no shows.
	4%	Rock flour as above.
	2%	Shale grn light green, green, fissile, firm to hard, as above.
1,560.00 to 1,565.00	95%	Sandstone (5.00) clear, slightly yellow, slightly pink, quartzose, medium to very coarse grained, siliceous, quartz, quartz overgrowths, sub rounded to sub angular, poorly sorted, tight, no shows.

Sample Descriptions

Storage Units: Metric

1,560.00 to 1,565.00	5%	Shale (5.00) green, mottled red, platy to blocky.
1,565.00 to 1,570.00	60%	Sandstone (5.00) clear, reddish, medium to very coarse grained, siliceous, argillaceous, quartz, altered chlorite, trace pyritic, sub rounded to sub angular, poorly sorted, tight, no shows.
	40%	Shale red, blocky, soft, sandy, H ₂ O sensitive, altered chlorite.
1,570.00 to 1,572.00	70%	Shale (2.00) red, blocky, soft, H ₂ O sensitive, common altered chlorite.
	30%	Sandstone as above.
1,572.00 to 1,575.00	90%	Shale (3.00) red, blocky, very soft, chlorite, H ₂ O sensitive.
	10%	Sandstone clear, quartzose, medium to coarse grained, siliceous, quartz, quartz overgrowths, sub rounded to sub angular, moderately sorted, tight, no shows.
1,575.00 to 1,580.00	60%	Basalt (5.00) (possible diabase?), dark gray, speckled, occasionally reddish, green phenocrysts (possible olivine or chlorite?), elongated transparent crystals, iron oxide staining, possible altered.
	30%	Shale red, very micaceous to schist, soft, H ₂ O sensitive.
	10%	Sandstone reddish, clear, fine to medium grained, siliceous, argillaceous, quartz, chlorite, quartz overgrowths, sub angular to sub rounded, moderately well sorted, tight, no shows.
1,580.00 to 1,585.00	100%	Basalt (5.00) (possible diabase?), dark gray, speckled, occasionally reddish, green phenocrysts (possible olivine or chlorite?), elongated transparent crystals, iron oxide staining, possible altered.
1,585.00 to 1,590.00	100%	Basalt (5.00) (possible diabase?), dark gray, speckled, occasionally reddish, green phenocrysts (possible olivine or chlorite?), elongated transparent crystals, iron oxide staining, possible altered.
1,590.00 to 1,595.00	100%	Basalt (5.00) Basalt: (possible diabase?), dark gray, speckled, occasionally reddish, green phenocrysts (chlorite?), elongated transparent crystals, iron oxide staining, possible altered, also aaps tuffaceous?

Sample Descriptions

Storage Units: Metric

1,595.00 to 1,600.00	100%	Basalt	
(5.00)		Basalt: (possible diabase?), dark gray, speckled, green phenocrysts (chlorite?, with alteration corona?), elongated transparent crystals, iron oxide staining, local white acicular crystals, actinolite?, possible altered.	
1,600.00 to 1,605.00	100%	Basalt	
(5.00)		Basalt: (possible diabase?), dark gray, speckled, green phenocrysts (chlorite?, with alteration corona?), elongated transparent crystals, iron oxide staining, local white acicular crystals, actinolite?, possible altered.	
1,605.00 to 1,610.00	100%	Basalt	
(5.00)		Basalt: (possible diabase?), dark gray, dark green, speckled, green phenocrysts (chlorite?, with alteration corona?), elongated transparent crystals, iron oxide staining, quartz, local white acicular crystals, actinolite?, local phyllite texture, possible altered.	
1,610.00 to 1,615.00	100%	Basalt	
(5.00)		Basalt: (possible diabase?), dark gray, dark green, speckled, green phenocrysts (chlorite?), elongated transparent crystals, iron oxide staining, quartz, local white acicular crystals, actinolite?, local phyllite?, schistose? texture, appears altered.	
1,615.00 to 1,620.00	80%	Basalt	
(5.00)		Basalt: (possible diabase?), dark gray, dark green, speckled, green phenocrysts (chlorite?), elongated transparent crystals, iron oxide staining, quartz, local white acicular crystals, actinolite?, local phyllite?, schistose? texture, appears altered.	
	20%	Rhyolite	
		mottled gray, speckled, blocky, firm to hard, quartz crystals in brownish gray crystalline matrix, common chlorite, accic crystals, possible welded tuff appearance, occasional altered coronas, occasional dark minerals, dense.	
1,620.00 to 1,625.00	90%	Basalt	
(5.00)		as above.	
	10%	Rhyolite	
		mottled gray, speckled, blocky, firm to hard, quartz crystals in brownish gray crystalline matrix, common chlorite, accic crystals, possible welded tuff appearance, occasional altered coronas, occasional dark minerals, dense.	
1,625.00 to 1,630.00	100%	Basalt	
(5.00)		dark gray, occasionally red, speckled, green phenocrysts (chlorite?), elongated transparent crystals, iron oxide staining, altered appearance.	
1,630.00 to 1,635.00	100%	Basalt	
(5.00)		dark gray, occasionally red, speckled, green phenocrysts (chlorite?, banded in part), scattered transparent elongated crystals, iron oxide staining, rare trace pyrite, altered appearance.	
1,635.00 to 1,640.00	40%	Rhyolite?	
(5.00)		grading to basalt?, light to dark gray, speckled, occasionally reddish, green phenocrysts (chlorite?), elong pink crystals (K-feld?), iron oxide staining, altered appearance.	

Sample Descriptions

Storage Units: Metric

1,635.00 to 1,640.00	30%	Dolomite (5.00) buff, light brown, trace reddish, cryptocrystalline, trace microcrystalline, dense, no shows.
	30%	Shale green, red, platy, dolomitic, disseminated pyrite.

Sidewall Cores

Storage Units: Metric

Date		Service Company	Schlumberger
Run No.	1	Tool Type	MSCT
Top Depth	1,493.50	Cores Requested	16
Base Depth	1,568.50	Cores Obtained	16
Geologist	Gary Timmons / Gerald Deon	Cores Lost	0

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
1	1,493.50	Sandstone
100	1,492.23	(45mm) clear, light gray, rare trace pink, quartzose, very fine to medium grained, siliceous, slightly argillaceous, trace disseminated pyrite, quartz overgrowths, sub angular to sub rounded, moderately sorted, trace patchy intergranular porosity 6-8%, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
2	1,501.00	Sandstone
100	1,499.72	(44mm) clear, quartzose, very fine to fine grained, occasional medium grains, siliceous, quartz, trace disseminated pyrite, quartz overgrowths, sub angular to rounded, moderately well sorted, patchy intergranular porosity 8-10%, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
3	1,509.00	Sandstone
100	1,507.70	(45mm) clear, light gray, quartzose, fine to medium grained, siliceous, very slightly argillaceous, quartz, quartz overgrowths, rounded to sub angular, moderately well sorted, no visible porosity, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
4	1,515.50	Sandstone
100	1,514.20	(43mm) clear, quartzose, very fine to fine grained, siliceous, quartz, quartz overgrowths, sub rounded to sub angular, well sorted, no visible porosity, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
5	1,527.00	Sandstone
100	1,525.68	(43mm) clear, pink, quartzose, very fine to fine grained, siliceous, quartz, quartz overgrowths, sub rounded to sub angular, well sorted, no visible porosity, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
6	1,541.50	Sandstone
100	1,540.15	(50mm) clear, reddish, quartzose, fine to medium grained, siliceous, quartz, quartz overgrowths, sub angular to sub rounded, moderately well sorted, trace patchy

intergranular porosity 6%, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
7	1,552.00	Sandstone
100	1,550.63	(40mm) clear, trace pink, quartzose, fine to medium grained, with floating very coarse grains, siliceous, quartz, quartz overgrowths, sub angular to sub rounded, poorly sorted, tight, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
8	1,556.50	Sandstone
100	1,555.12	(45mm) clear, quartzose, fine to medium grained, siliceous, quartz, quartz overgrowths, sub rounded to sub angular, moderately well sorted, tight, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
9	1,562.50	Conglomerate
100	1,561.11	(45mm) reddish, yellow, light gray, quartz pebble conglomerate (pebbles to 4mm), fine to coarse grained sand matrix, siliceous, slightly argillaceous, quartz overgrowths, sub rounded to rounded, very poorly sorted, patchy intergranular porosity 16-18%, (average log porosity 10%), tight in part, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
10	1,568.50	Sandstone
100	1,567.10	(48mm) mottled red, greenish, light gray, fine to very coarse grained grading to conglomeratic (pebbles to 5mm), siliceous, argillaceous, quartz, quartz overgrowths, rounded to sub angular, very poorly sorted, tight, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
11	1,497.00	Sandstone
100	1,495.72	(45mm) clear, light gray, quartzose, very fine to fine grained, trace scattered medium grains, siliceous, slightly argillaceous, disseminated pyrite, quartz overgrowths, sub angular to rounded, moderately well sorted, trace patchy intergranular porosity 6-8%, predominately tight, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
12	1,507.50	Sandstone
100	1,506.21	(40mm) clear, translucent, quartzose, fine to medium grained, siliceous, quartz, quartz overgrowths, rounded to sub rounded, well sorted, tight, no shows.

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description

Storage Units: Metric

Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
13	1,517.00	Sandstone
100	1,515.69	(44mm) clear, quartzose, fine to medium grained, siliceous, quartz, quartz overgrowths, rounded to sub angular, well sorted, intergranular porosity 10-12%, no shows.
Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
14	1,532.00	Sandstone
100	1,530.67	(46mm) red, clear, quartzose, fine grained, trace medium grained, siliceous, friable in part, argillaceous, quartz, quartz overgrowths, rounded to sub rounded, well sorted, patchy intergranular porosity 12-14%, no shows.
Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
15	1,538.00	Sandstone
100	1,536.66	(43mm) clear, reddish, quartzose, very fine to fine grained, siliceous, slightly argillaceous, quartz, quartz overgrowths, sub rounded to sub angular, well sorted, rare trace intergranular porosity 6%, predominately tight, no shows.
Core No.	Depth (MD)	Rock Type
% Recovery	Depth (TVD)	Description
16	1,546.00	Sandstone
100	1,544.64	(47mm) clear, quartzose, fine to medium grained, siliceous, slightly argillaceous, quartz, quartz overgrowths, sub angular to rounded, moderately well sorted, no visible porosity, no shows.

MDT

Storage Units:

Metric

Seq.	Depth	TVD	SSL	HP(Before)	HP(After)	Form. Prs.	EFW	Temp	MDCP	Formation	Comment
1											
1	1562.50	1561.00	-1309.00		20783.0	265.0		24.5	0.000	Mount Clark	Dry Test
2	1535.50	1534.00	-1282.00		20430.0	15261.0		26.4	0.200	Mount Clark	Good Test
3	1563.00	1562.00	-1310.00		20788.0	0.0		27.2		Mount Clark	Dry test
4	1521.30	1520.00	-1268.00		20243.0	0.0		27.9	0.000	Mount Clark	Dry test
5	1519.30	1518.00	-1266.00		20216.0			29.0		Mount Clark	Dry Test
6	1515.60	1514.00	-1262.00		20168.0			28.3		Mount Clark	Dry test
7	1515.00	1514.00	-1262.00		20160.0			28.3		Mount Clark	Dry test
8	1515.00	1514.00	-1262.00		20160.0	15015.0		29.1	0.100	Mount Clark	Good test
9	1503.60	1502.00	-1250.00		20010.0	14878.0		29.2	0.200	Mount Clark	Good Test
10	1501.20	1500.00	-1248.00		19978.0	15851.0		29.3	8.400	Mount Clark	Good Test. Took 4 450 cc spls, expect water.
11	1499.10	1498.00	-1246.00		19943.0	108.0		30.0		Mount Clark	Dry Test
12	1455.70	1454.00	-1202.00		19371.0	14366.0		29.4	1.700	Mount Cap	Good test.
13	1454.10	1453.00	-1201.00		19351.0	14357.0		29.4	0.800	Mount Cap	Good test



Oil and Gas

Wireline Formation Test Samples

Page of

Run No.	Date (mm/dd/yy)
39540	05/03/2008

Well Name		Geologist	Petrophysicist		Specialist Engineer																																																																																																																																																																																					
PC Blackwater Kwijika M-59		Gerald Deon/Gary Timmons	Brian Glover		Grant Properzi																																																																																																																																																																																					
Depths (m)		Formation	Deviation (°)	Hole Size (mm)	Log Porosity	Temperature (°C)																																																																																																																																																																																				
Bottom	1563.0	Top	1454.0	Mount Clark/Mount Cap	4.0	156	6-12	30																																																																																																																																																																																		
Formation Fluid Type					Drilling Fluid Systm																																																																																																																																																																																					
<input type="checkbox"/>	Gas	<input type="checkbox"/>	Condensate	<input type="checkbox"/>	Oil	<input checked="" type="checkbox"/>	Water	<input type="checkbox"/>	Oil Based	<input checked="" type="checkbox"/>	Water Based	215000	ppm																																																																																																																																																																													
Tool Make-Up		Survey Details																																																																																																																																																																																								
<input checked="" type="checkbox"/> MDT <input type="checkbox"/> SGTL (Gamma Ray) <input type="checkbox"/> Power <input type="checkbox"/> Pumpout <input type="checkbox"/> Sample 1 Gallon X <input type="checkbox"/> Sample 2.75 Gallon X <input type="checkbox"/> Multi-Sample 6x450 cc <input type="checkbox"/> Flow Control <input type="checkbox"/> OFA <input type="checkbox"/> Hydraulics <input type="checkbox"/> Single Probe <input type="checkbox"/> Dual Probe <input type="checkbox"/> Dual Packer <input type="checkbox"/> 6 Gallon Sample	<input type="checkbox"/> RCI Cablehead, TTRM Sub, GR, Power Section & Electronics. Single Packer Section Draw Down Section Pump Thru Section Fluid Characterization Aux Power Section Six Tank Section Tank Control Section Extraction Sub 4 Litre Tank 4 Litre Tank Sample View R/C Sensor	<table> <tr> <td colspan="2">Objectives</td> <td colspan="2">Pressure Survey:</td> <td><input type="checkbox"/></td> <td>Stratigraphic</td> <td><input checked="" type="checkbox"/></td> <td>Gradients</td> <td><input type="checkbox"/></td> <td>Fluid Contacts</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">Formation Sampling:</td> <td><input checked="" type="checkbox"/></td> <td>Regular Sampling</td> <td><input type="checkbox"/></td> <td>PVT Sampling</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2">Permeability Estimation:</td> <td><input checked="" type="checkbox"/></td> <td>Horizontal</td> <td><input type="checkbox"/></td> <td>Anisotropy</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2">Others (specify):</td> <td colspan="7"></td> </tr> </table> <table border="1"> <tr> <td colspan="7">Sample Survey</td> </tr> <tr> <td>Sample Position</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>Serial No.</td> <td>1688</td> <td>2864</td> <td>2519</td> <td>2568</td> <td></td> <td></td> </tr> <tr> <td>Sampler Type</td> <td>MPSR</td> <td>MPSR</td> <td>MPSR</td> <td>MPSR</td> <td></td> <td></td> </tr> <tr> <td>Sampler Volume (cc)</td> <td>450</td> <td>450</td> <td>450</td> <td>450</td> <td></td> <td></td> </tr> <tr> <td>Date (mm/dd/yy)</td> <td>03/05/2008</td> <td>03/05/2008</td> <td>03/06/2008</td> <td>03/06/2008</td> <td></td> <td></td> </tr> <tr> <td>Time (00:00)</td> <td>22:25</td> <td>11:31</td> <td>0:35</td> <td>0:35</td> <td></td> <td></td> </tr> <tr> <td>Formation</td> <td>Mount Clark</td> <td>Mount Clark</td> <td>Mount Clark</td> <td>Mount Clark</td> <td></td> <td></td> </tr> <tr> <td>Depth (m)</td> <td>1501.2</td> <td>1501.2</td> <td>1501.2</td> <td>1501.2</td> <td></td> <td></td> </tr> <tr> <td>Formation Pressure (kPa)</td> <td>14851</td> <td>14851</td> <td>14851</td> <td>14851</td> <td></td> <td></td> </tr> <tr> <td>Sampling Temperature (°C)</td> <td>29.7</td> <td>29.9</td> <td>30.0</td> <td>30.0</td> <td></td> <td></td> </tr> <tr> <td>Hydrostatic Pressure (kPa)</td> <td>19978</td> <td>19978</td> <td>19978</td> <td>19978</td> <td></td> <td></td> </tr> <tr> <td>Minimum Sampling Pressure (kPa)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Clean Up Time (min)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Clean Up Volume (cc)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Sample Filling Time (s)</td> <td>2</td> <td>1.8</td> <td>2</td> <td>2</td> <td></td> <td></td> </tr> <tr> <td>Mobility</td> <td>8.4</td> <td>8.4</td> <td>8.4</td> <td>8.4</td> <td></td> <td></td> </tr> <tr> <td>Expected Type</td> <td>water</td> <td>water</td> <td>water</td> <td>water</td> <td></td> <td></td> </tr> <tr> <td>Remarks</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>											Objectives		Pressure Survey:		<input type="checkbox"/>	Stratigraphic	<input checked="" type="checkbox"/>	Gradients	<input type="checkbox"/>	Fluid Contacts			Formation Sampling:		<input checked="" type="checkbox"/>	Regular Sampling	<input type="checkbox"/>	PVT Sampling					Permeability Estimation:		<input checked="" type="checkbox"/>	Horizontal	<input type="checkbox"/>	Anisotropy					Others (specify):									Sample Survey							Sample Position	1	2	3	4	5	6	Serial No.	1688	2864	2519	2568			Sampler Type	MPSR	MPSR	MPSR	MPSR			Sampler Volume (cc)	450	450	450	450			Date (mm/dd/yy)	03/05/2008	03/05/2008	03/06/2008	03/06/2008			Time (00:00)	22:25	11:31	0:35	0:35			Formation	Mount Clark	Mount Clark	Mount Clark	Mount Clark			Depth (m)	1501.2	1501.2	1501.2	1501.2			Formation Pressure (kPa)	14851	14851	14851	14851			Sampling Temperature (°C)	29.7	29.9	30.0	30.0			Hydrostatic Pressure (kPa)	19978	19978	19978	19978			Minimum Sampling Pressure (kPa)							Clean Up Time (min)							Clean Up Volume (cc)							Sample Filling Time (s)	2	1.8	2	2			Mobility	8.4	8.4	8.4	8.4			Expected Type	water	water	water	water			Remarks						
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Remarks																																																																																																																																																																																										

Pumped 56746 cc at end of collection of last sample.

Well Information

Operator: _____

Petro Canada Oil & Gas

Well Name: _____

Petro-Canada Blackwater Kwijika M-59

Location: _____

M-59

UWI: _____

300M596440122300

Pool: _____

Field: _____

Wildcat

Province / State: _____

NWT Central MacKenzie

Country: _____

Canada



Elevations

Reference: Sea Level

Ground: 245.9 m

Cut(-) / Fill(+):

Kelly Bushing: 252.1 m

K.B. to Ground: 5.7 m

Casing Flange: m

Total Depth

Measurement Type

Measured Depth

True Vertical Depth

Drillers TD (Tally)

1640 m

1638.42 m

Drillers TD (Strap or SLM)

1641.3 m

1639.72 m

Loggers TD

1641 m

1639.42 m

Well Co - Ordinates

Longitude

Latitude

Well Type: Straight

Surface Co-ordinates: 122 40' 56.8" W 64 38' 45.3"

NS:

EW:

Int. Casing Co-ordinates:

NS:

EW:

Bottom Hole Co-ordinates:

NS:

EW:

UTM Surface Co-ordinates: Northing: 7168837.91

Easting: 515172.73

Drilling Fluid Summary

Fluid Type

KCL Polymer

From

0 m

To

1640 m

Casing Summary

Type

Surface

Hole Size

311 mm

Casing Size

244.5 mm

Landed At

348 m

Intermediate

222.2 mm

177.8 mm

1198 m

Well Summary

Spud Date: Feb 11, 2008 @ 15:30hrs

Contractor: Akita Sahtu Rig #51

TD Date: Mar 4, 2008 @ 09:30hrs

Rig Release Date:

Work Schedule

Contractor

Timmons / DMA Geological

Geologist

G.Timmons / G. Deon, P.Geol

Log Interval

0 m - 1640 m

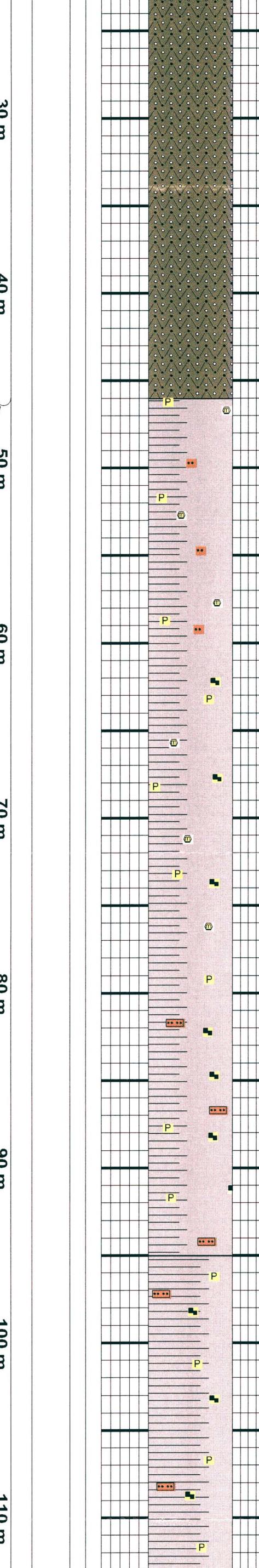
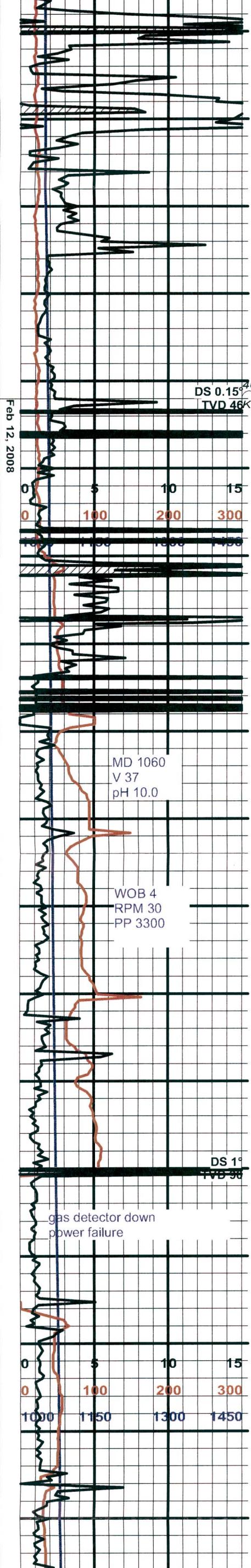
Dates Logged

Feb 10, 2008 - Mar 4, 2008

Remarks

Petro Canada Blackwater M-59

Northwest Territories



Lithology Description

Petro-Canada

Blackwater Kwijika M-59

Glac Till: Ss, vcol, m gred - pbls, uncons, m gy

mtx (water soluble), qtz, fld, lit grnt frags, tr pyr, hornbd, chlor, occly sft cly mtx (water soluble), no vis por, ns.

Glac Till: Ss, vcol, m gred - pbls, uncons, m gy

mtx (water soluble), qtz, fld, lit grnt frags, hornbd, chlor, abnt uncons grs, also occ w cmtd frags / rdd qtz grs, consol grs / no vis por, ns.

Glac Till: Ss mostly uncons, aa, / abnt sticky cly

coating grs.

Slater River 46m MD

(TVD: 46m) (SSL: 205.6m)

Sh: m gy, gy, tab - blky, sft - frm, sly pyric, sly

slyty ip, tr micas, flat luster.

Sh: m gy, gy, tab - blky, sft - frm, sly pyric, sly

slyty ip, tr micas, flat luster.

Sh: gy, tab - plty, frm, sly micas, carb, occ

dism pyr, flat luster, loc carb flks, carb, occ

Sh: dk gy, tab - blky, sly micas, carb, occ

dism pyr, flat luster, loc carb flks, carb, occ

Sh: dk gy, blky, occly plty, pyric, carb flks, / brn

stlt strgs.

Sh: dk gy, blky, sly micas, carb, occ

dism pyr, flat luster, loc carb flks, carb, occ

Sh: dk gy, blky, occly plty, pyric, carb flks, / brn

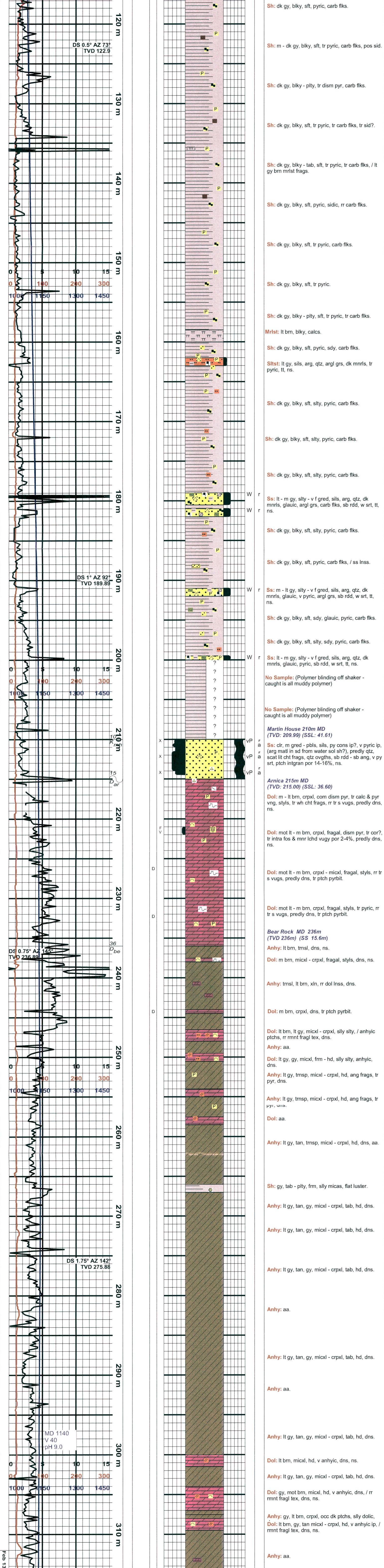
stlt strgs.

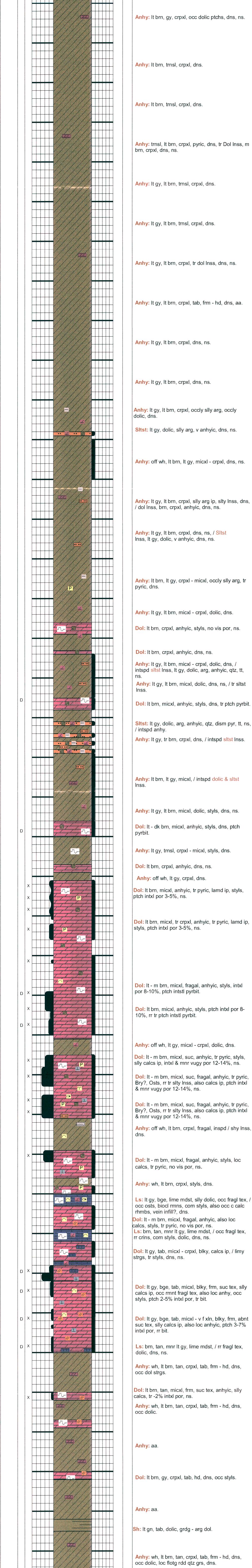
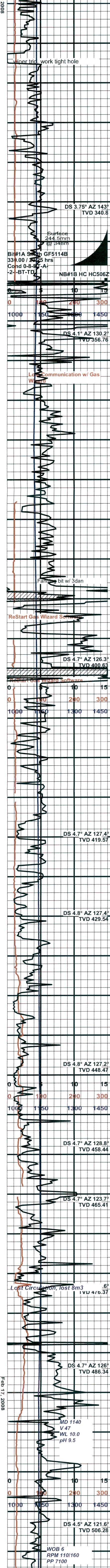
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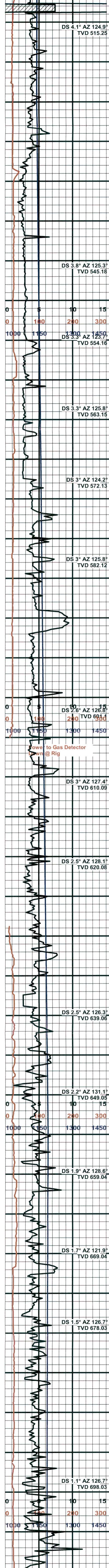
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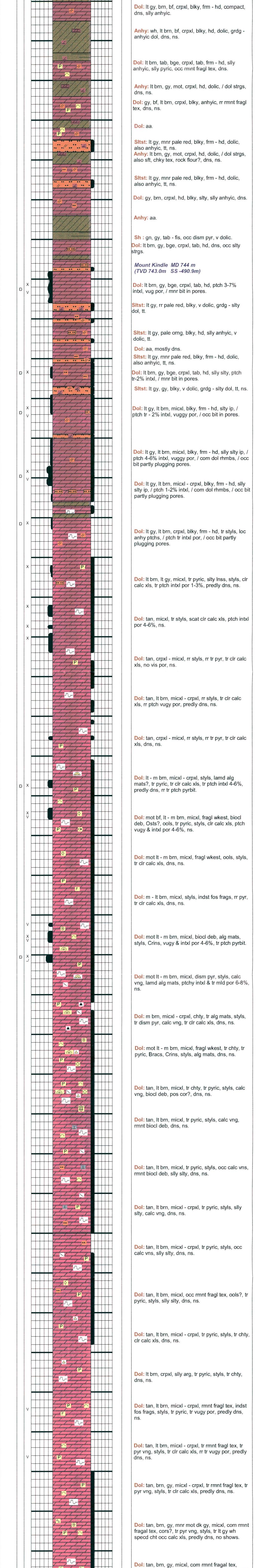
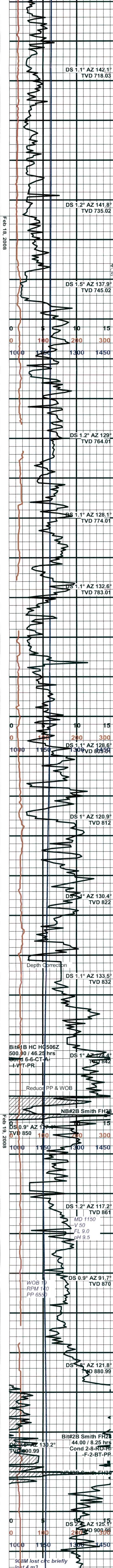
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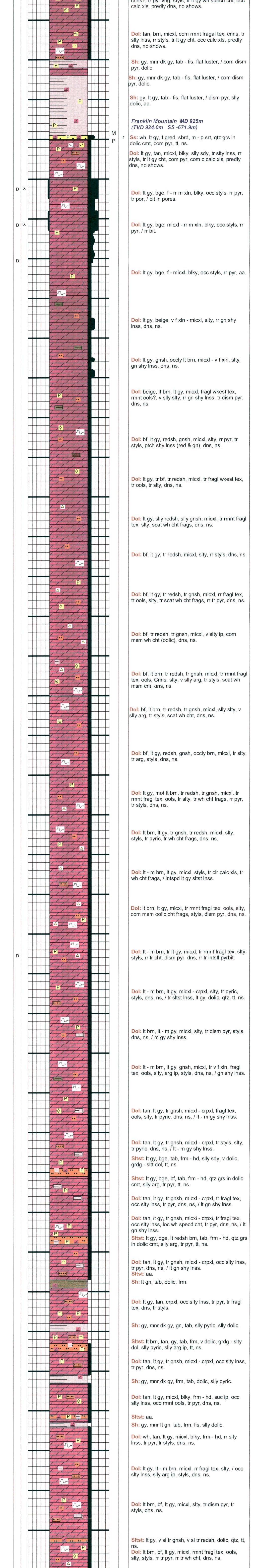
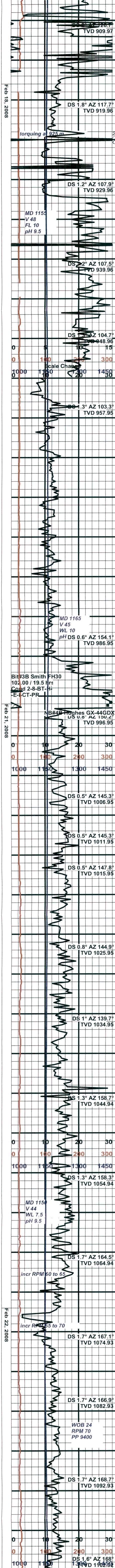
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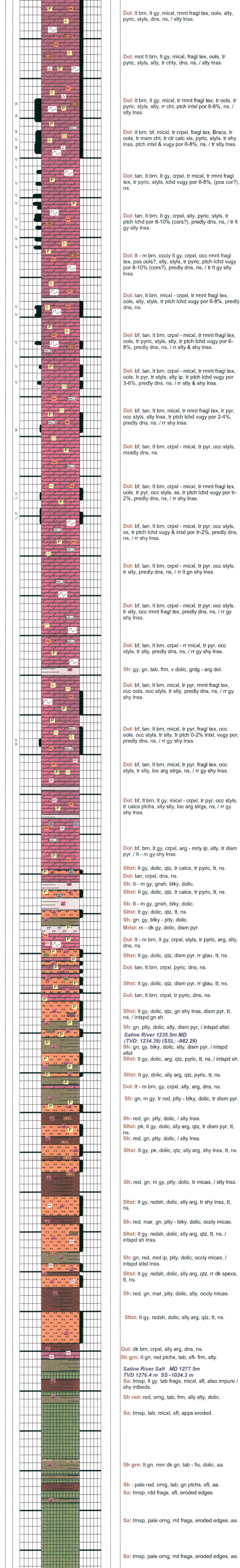
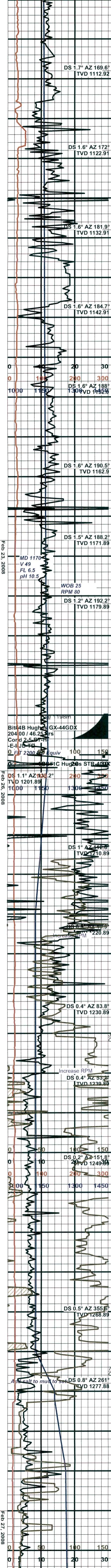


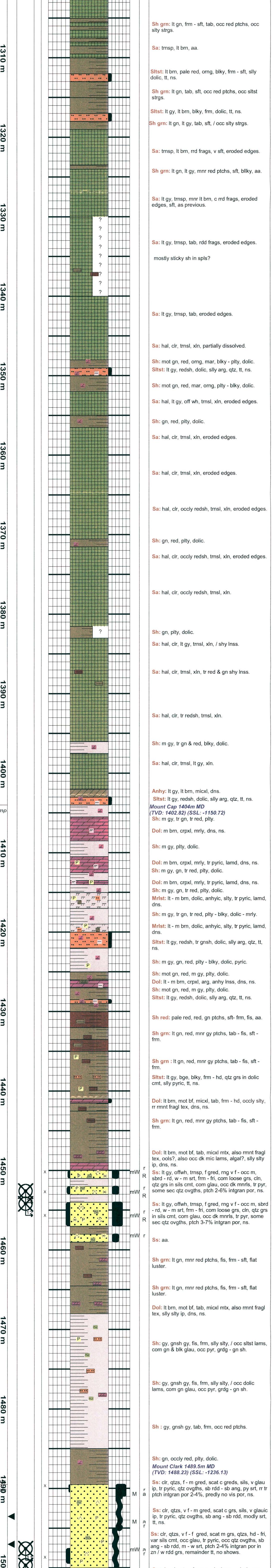
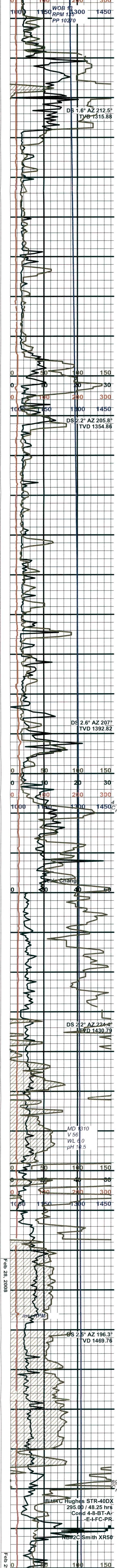


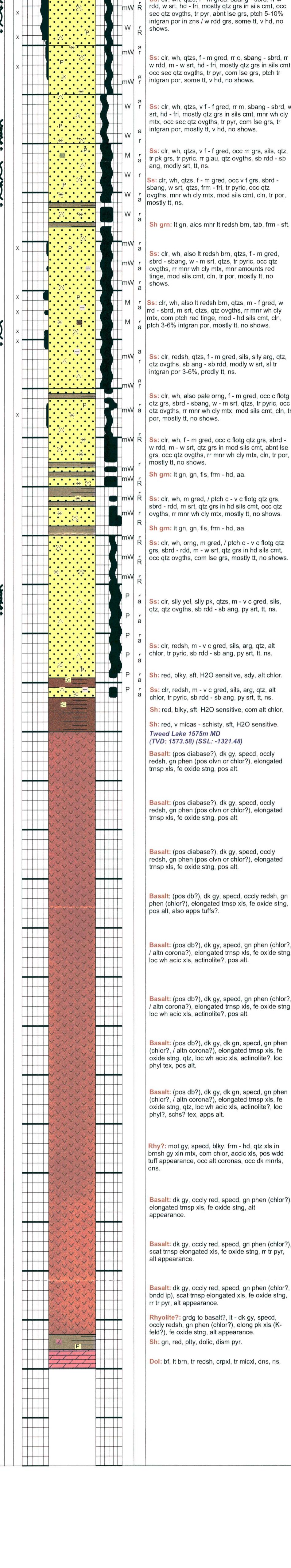
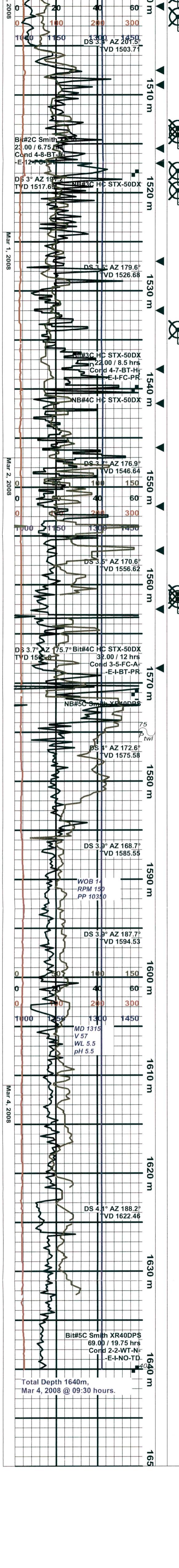












Well Information



Operator: **Petro Canada Oil & Gas**
 Well Name: **Petro-Canada Blackwater Kwijika M-59**
 Location: **M-59**
 UWI: **300M596440122300**
 Pool:
 Field:
 Province / State: **NWT Central MacKenzie**
 Country: **Canada**

Elevations

Reference: Sea Level
 Cut(-) / Fill(+):
 K.B. to Ground: 5.7 m

Ground: 245.9 m
 Kelly Bushing: 252.1 m
 Casing Flange: m

Total Depth

Measurement Type	Measured Depth	True Vertical Depth
Drillers TD (Tally)	1640 m	1638.42 m
Drillers TD (Strap or SLM)	1641.3 m	1639.72 m
Loggers TD	1641 m	1639.42 m

Well Co - Ordinates

Longitude Latitude Well Type: Straight

Surface Co-ordinates: 122 40' 56.8" W 64 38' 45.3"

Int. Casing Co-ordinates:

Bottom Hole Co-ordinates:

NS:
 EW:
 NS:
 EW:
 NS:
 EW:
 Easting: 515172.73

UTM Surface Co-ordinates: Northing: 7168837.91

Well Summary

Spud Date: Feb 11, 2008 @ 15:30hrs
 TD Date: Mar 4, 2008 @ 09:30hrs
 Rig Release Date:
 Contractor: Akita Sahtu Rig #51

Drilling Fluid Summary

Fluid Type From To
 KCL Polymer 0 m 1640 m

Casing Summary

Type	Hole Size	Casing Size	Landed
Surface	311 mm	244.5 mm	348 m
Intermediate	222.2 mm	177.8 mm	1198 m

Work Schedule

Contractor

Timmons / DMA Geological

Geologist

G.Timmons / G. Deon, P.Geo

Log Interval

0 m - 1640 m

Dates Logged

Feb 10, 2008 - Mar 4, 2008

Remarks

Petro Canada Blackwater M-59

Northwest Territories

