

NEB

GEOLOGICAL REPORT

PARAMOUNT RESOURCES LTD.PARAMOUNT ET AL WEST LIARD K29A
300/K-29-6030-123-30/03**PARAMOUNT ET AL WEST LIARD K29A**

PARAMOUNT RESOURCES LTD.

300/K-29-6030-123-30/03
NORTHWEST TERRITORIES

TABLE OF CONTENTS

Well Data Summary	1
Formation Tops	2
Deviation Surveys	3
Bit Record	4
Daily Drilling Summary	5
Logging Report	6

Well Summary &
Formation Evaluations

Lithological Descriptions

PERMIT TO PRACTICE

ECL CANADA

Signature Date Oct. 18, 2005**PERMIT NUMBER: P 4348**The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

August to October 2005

Kean Anderson, B.Sc.
Wellsite Consultant

WELL DATA SUMMARY

WELL NAME **PARAMOUNT ET AL WEST LIARD K29A**

LEGAL LOCATION **300/K-29-6030-123-30/03**

UNIQUE WELL ID **300K29503012301**

SURFACE LOCATION **300/K-29-6030-123-30/03**

FIELD/REGION **Liard**

OPERATOR **PARAMOUNT RESOURCES LTD.**

PARAMOUNT ET AL WEST LIARD K29A

300/K-29-6030-123-30/03

BOTTOMHOLE COORDINATES **Lat 60° 28' 18.7" Long 123 deg 35' 60"**

SURFACE COORDINATES **Lat 60° 29' 41.0" Long 123 deg 35' 4.1"**

WELL CLASSIFICATION **REGULATORY WELL LICENSE # 1125**

API NUMBER **PARAMOUNT RESOURCES LTD.**

DRILLING CONTRACTOR **ARTIAN**

ELEVATIONS

GROUND LEVEL

KELLY BUSHING

TABLE OF CONTENTS

DRILLING	Well Data Summary	1
SPUD DATE	23 Aug 2005	TIME 1400 hrs
TD. DATE	Formation Tops	2
RIG RELEASE DATE	Deviation Surveys	3
HOLE SIZE & MUD TYPE	Bit Record	4
SURFACE	Daily Drilling Summary	5
INTERMEDIATE	Logging Report	6
MAINS	Well Summary & Formation Evaluations	7
CASING	Lithological Descriptions	8
SAMPLE INTERVAL	2570 - 3620 metres	
GAS DETECTION INTERVAL	2570 - 3620 metres	
LOGGING SUITE	GR-XY C9-HDIL-XMAX SONIC-CNL-LDT-TEMP BTEX DIP CBL	
August to October 2005	Keith Robertson, B.Sc. Wellsite Consultant	

WELL STATUS

Cased for potential Nakano Gas production

EXPLORATION CONSULTANTS (CANADA) LTD.

WELL DATA SUMMARY

WELL NAME	PARAMOUNT et al WEST LIARD K29A
LEGAL LOCATION	300/K-29-6030-123-30/03
UNIQUE WELL I.D.	300K29603012303
SURFACE LOCATION	300/K-29-6030-123-30/03
FIELD/REGION	FT. LIARD
OPERATOR	PARAMOUNT RESOURCES

SITE DATA

BOTTOMHOLE COORDINATES	Lat 60 deg 28' 18.7" Long 123 deg 35' 60"
SURFACE COORDINATES	Lat 60 deg 29' 41.0" Long 123 deg 35' 4.1"
WELL CLASSIFICATION	RE-ENTRY
AFE NUMBER	WELL LICENSE # 1125
DRILLING CONTRACTOR	05N510203
	AKITA 58

ELEVATIONS

GROUND LEVEL	409.6 (m)
KELLY BUSHING	416.4 (m)

DRILLING DATES

SPUD DATE	22 Aug. 2005	TIME	1400 Hrs
T.D. DATE	12 Oct. 2005	TIME	2100 Hrs
RIG RELEASE DATE			

HOLE SIZE & MUD TYPE

SURFACE	314 mm hole Gel Chem
INTERMEDIATE	216 mm hole Invert
MAIN	156 mm hole gel chem

CASING DATA

SURFACE	244 mm casing
INTERMEDIATE	177.8 casing set at 2568 metres
PRODUCTION	127 mm liner

GEOLOGICAL DATA

SAMPLE INTERVAL	2570 - 3620 metres
GAS DETECTION INTERVAL	2570 - 3620 metres
LOGGING SUITE	GR-XY Cal-HDIL-XMAX SONIC-CNL-LDT-TEMP HEX DIP-CBIL

WELL STATUS

Cased for potential Nahanni Gas production
--

FORMATION TOPS

PARAMOUNT et al WEST LIARD K29A
300/K-29-6030-123-30/03

K.B.(m): 416.40 G.L.(m): 409.60

FORMATION	PROGNOSIS		SAMPLE			LOG		
	TVD(m)	SS(m)	MD(m)	TVD(m)	SS(m)	MD(m)	TVD(m)	SS(m)
Nahanni	2447.6	-2031.2				2558.0	2460.3	-2043.9

RCB: 420

Curve Name K29

G.L. or M.S.L.: 414.0

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 323.78

Vertical Section Referenced to Wellhead

Rectangular Coordinates Referenced to Wellhead

Measured Depth Meters	Incl Angle Deg	Offset Direction Deg	TRUE Vertical Depth	N-S Meters	E-W Meters	Vertical Section Meters	CLOSURE Distance Meters	CLOSURE Direction Deg	Degdeg Severity Deg/10
1854.00	6.9	69.48	1847.43	78.63	92.37	9.87	121.32	49.59	0
1854.37	6.9	45.6	1857.63	79.23	93.2	9.85	122.32	49.63	9.62
1854.77	9.3	37.3	1867.95	80.33	94.15	9.18	123.77	49.53	1.08
1861.3	11.7	26	1874.56	81.33	94.78	9.65	124.92	49.35	14.05
1869.96	14.1	31	1883.76	81.23	95.79	10.54	126.9	49.01	8.39
1889.35	15.7	33.6	1892.59	82.27	97.09	11.42	129.22	48.71	5.54
1890.75	17.4	32.3	1891.96	83.54	98.36	12.39	131.82	48.39	5.49
1897.43	19.3	36.1	1911.04	90.13	100.13	13.35	134.72	48.01	6.9
1902.73	21.8	27	1919.94	93.08	101.73	14.98	137.86	47.54	8.08
1918.57	23.9	22.8	1928.79	98.46	103.29	16.79	147.33	46.96	8.31
1926.13	26.4	21.7	1937.49	103.24	104.84	18.93	145.05	46.28	7.93
1937.62	28.7	25.2	1945.89	103.31	105.44	21.27	149.01	45.58	7.32
1945.14	29.9	20.3	1954.19	105.67	108.09	23.8	153.28	44.85	3.93
1950.24	30.5	20.1	1962.49	110.2	109.97	26.47	157.68	44.12	1.98
1960.94	29.4	17.8	1970.59	113.62	111.29	29.13	161.92	43.42	5.1
1965.21	28.2	14.6	1978.74	121.93	112.54	31.87	165.93	42.71	6.27
1966.93	27.9	13.2	1982.13	126.28	113.62	34.74	169.87	41.98	3.26
1970.44	27.2	12	1985.51	130.59	114.62	37.43	171.76	41.27	8.7
1975.94	27	12	2004.01	134.85	115.57	40.3	177.6	40.6	2.64
1983.36	26.5	11.3	2012.6	139.1	115.44	42.41	181.4	39.93	1.59

SURVEY REPORT

PARAMOUNT ET AL WEST LIARD K29A

300/K-29-6030-123-30/03

VERTICAL SECTION

Job Number: 5204-01

State/Country : NWT

Company: Paramount Resources Ltd

Declination 23.88

Lease/Well: Paramount et al Fort Liard K29A

Grid: - 0.51

Location: K-29A

File name C:\WINSERVE\K29.SVY

Rig Name: Akita #58

Date/Time: 24 Sept 2005 / 22:17

RKB: 420

Curve Name K29

G.L. or M.S.L. : 414.0

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 323.78

Vertical Section Referenced to Wellhead

Rectangular Coordinates Referenced to Wellhead

Measured Depth Meters	Incl Angle Deg	Drift Direction Deg	TRUE Vertical Depth	N-S Meters	E-W Meters	Vertical Section	CLOSURE Distance Meters	CLOSURE Direction Deg	Dogleg Severity Deg/30
1854	4.5	69.48	1847.33	78.65	92.37	8.87	121.32	49.59	0
1864.37	6.9	45.6	1857.65	79.23	93.2	8.85	122.32	49.63	9.62
1874.77	9.3	37.3	1867.95	80.33	94.15	9.18	123.77	49.53	7.68
1881.5	11.7	26	1874.56	81.38	94.78	9.65	124.92	49.35	14.05
1890.96	14.1	31	1883.78	83.23	95.79	10.54	126.9	49.01	8.39
1900.35	15.7	33.6	1892.86	85.27	97.09	11.42	129.22	48.71	5.54
1909.85	17.4	32.3	1901.96	87.54	98.56	12.39	131.82	48.39	5.49
1919.42	19.5	30.2	1911.04	90.13	100.13	13.55	134.72	48.01	6.9
1928.93	21.8	27	1919.94	93.08	101.73	14.98	137.88	47.54	8.08
1938.53	23.9	22.8	1928.79	96.46	103.29	16.79	141.33	46.96	8.31
1948.15	26.4	21.7	1937.49	100.24	104.84	18.93	145.05	46.28	7.93
1957.62	28.7	21.2	1945.89	104.32	106.44	21.27	149.03	45.58	7.32
1967.14	29.9	20.5	1954.19	108.67	108.09	23.8	153.28	44.85	3.93
1976.74	30.5	20.1	1962.49	113.2	109.77	26.47	157.68	44.12	1.98
1986.09	29.4	17.8	1970.59	117.62	111.29	29.13	161.92	43.42	5.1
1995.43	28.2	14.6	1978.78	121.93	112.54	31.87	165.93	42.71	6.27
2004.94	27.9	13.2	1987.17	126.28	113.62	34.74	169.87	41.98	2.28
2014.44	27.7	13	1995.57	130.59	114.62	37.63	173.76	41.27	0.7
2023.94	27	12	2004.01	134.85	115.57	40.5	177.6	40.6	2.64
2033.56	26.6	11.3	2012.6	139.1	116.44	43.41	181.4	39.93	1.59

Measured Depth Meters	Incl Angle Deg	Drift Direction	TRUE Vertical Depth	N-S Meters	E-W Meters	Vertical Section	CLOSURE Distance Meters	CLOSURE Direction Deg	Dogleg Severity Deg/30
2042.92	27.3	10.1	2020.94	143.27	117.23	46.31	185.12	39.29	2.84
2052.35	28	9.4	2029.29	147.58	117.97	49.35	188.94	38.64	2.46
2061.84	28.3	10.2	2037.66	151.99	118.73	52.46	192.87	38	1.52
2071.51	28.4	12.3	2046.17	156.5	119.63	55.57	196.98	37.4	3.11
2081.06	29.2	14	2054.54	160.97	120.68	58.56	201.19	36.86	3.6
2090.59	29	15.6	2062.87	165.46	121.86	61.48	205.49	36.37	2.53
2099.43	28.4	17.8	2070.62	169.52	123.08	64.04	209.49	35.98	4.12
2109.43	28.3	17.3	2079.42	174.05	124.51	66.84	214	35.58	0.77
2119.14	28.5	17.6	2087.96	178.45	125.9	69.58	218.39	35.2	0.76
2128.8	28.6	17.5	2096.45	182.86	127.29	72.31	222.8	34.84	0.34
2138.25	28.4	16.6	2104.75	187.17	128.61	75	227.1	34.49	1.5
2147.92	28	14.6	2113.28	191.57	129.84	77.83	231.42	34.13	3.18
2157.55	27.5	13.6	2121.8	195.92	130.93	80.69	235.64	33.76	2.13
2167.1	26.6	12.1	2130.3	200.15	131.9	83.53	239.7	33.38	3.55
2176.71	26.6	11	2138.9	204.37	132.76	86.43	243.7	33.01	1.54
2186.18	26.2	10.4	2147.38	208.5	133.54	89.3	247.6	32.64	1.52
2195.83	25.4	9.8	2156.07	212.64	134.28	92.2	251.49	32.27	2.62
2205.31	25.1	14	2164.64	216.59	135.11	94.9	255.28	31.96	5.75
2214.96	26.1	16.6	2173.34	220.61	136.21	97.49	259.28	31.69	4.68
2224.47	26.6	19.3	2181.87	224.63	137.51	99.96	263.38	31.47	4.1
2233.7	27.7	20.2	2190.08	228.59	138.94	102.32	267.5	31.29	3.82
2243.31	29.5	21.8	2198.52	232.88	140.59	104.81	272.03	31.12	6.11
2252.79	31.4	19.7	2206.69	237.38	142.29	107.43	276.76	30.94	6.89
2262.33	32.4	18	2214.79	242.15	143.92	110.32	281.69	30.72	4.23
2271.82	32.9	17	2222.78	247.03	145.46	113.35	286.67	30.49	2.33
2281.47	33.8	15.4	2230.84	252.13	146.93	116.58	291.82	30.23	3.91
2290.81	34.6	14.3	2238.57	257.2	148.28	119.88	296.88	29.96	3.25
2300.2	32.4	13.3	2246.39	262.23	149.52	123.21	301.86	29.69	7.25
2309.78	31	9	2254.55	267.17	150.49	126.61	306.64	29.39	8.32
2319.35	29.9	7.5	2262.8	271.97	151.19	130.07	311.17	29.07	4.19
2328.9	28.6	7.2	2271.13	276.59	151.79	133.45	315.51	28.76	4.11
2338.32	27.4	3.4	2279.45	281	152.2	136.76	319.57	28.44	6.85
2346.73	27.2	359.5	2286.92	284.85	152.3	139.81	323.01	28.13	6.42
2356.12	27.8	355.2	2295.25	289.18	152.09	143.42	326.74	27.74	6.63
2365.7	28.8	352.2	2303.69	293.69	151.59	147.36	330.51	27.3	5.44
2375.27	28.3	347.9	2312.09	298.19	150.81	151.46	334.16	26.83	6.63
2384.82	28.3	345.1	2320.5	302.59	149.75	155.63	337.62	26.33	4.17
2394.24	28.6	343.6	2328.78	306.92	148.54	159.84	340.97	25.83	2.47

Measured Depth	Incl Angle	Drift Direction	TRUE Vertical	N-S Meters	E-W Meters	Vertical Section	CLOSURE Distance	CLOSURE Direction	Dogleg Severity
Meters	Deg	Deg	Depth	Meters	Meters	Meters	Meters	Deg	Deg/30
2403.83	28.9	342.7	2337.19	311.33	147.2	164.19	344.38	25.31	1.65
2413.35	28.2	341.1	2345.55	315.65	145.79	168.51	347.7	24.79	3.27
2422.89	27.9	340.6	2353.97	319.89	144.32	172.8	350.94	24.28	1.2
2432.5	28.3	341.8	2362.45	324.18	142.86	177.12	354.26	23.78	2.16
2442.02	29.3	341.8	2370.79	328.53	141.43	181.48	357.68	23.29	3.15
2451.41	30.4	340.7	2378.94	332.96	139.92	185.94	361.16	22.79	3.93
2480.26	35.6	336.2	2403.23	347.35	134.06	201.01	372.32	21.1	7.09
2489.72	37.7	336.4	2410.82	352.52	131.79	206.52	376.35	20.5	6.67
2499.08	38.9	334	2418.17	357.78	129.36	212.21	380.45	19.88	6.12
2508.5	40.1	333.2	2425.44	363.15	126.7	218.11	384.62	19.23	4.15
2517.9	41.8	333.1	2432.53	368.65	123.91	224.19	388.91	18.58	5.43
2527.39	43.9	333.4	2439.49	374.41	121.01	230.55	393.48	17.91	6.67
2536.72	46.4	332.4	2446.07	380.3	117.99	237.08	398.18	17.24	8.36
2546.31	48.1	331.3	2452.58	386.5	114.67	244.06	403.16	16.53	5.89
2550	48.9	331.3	2455.03	388.93	113.34	246.8	405.11	16.25	6.5
2554.69	50.9	321.6	2454.41	391.36	110.55	311.03	409.93	15.8	9.89
2564.8	50.2	318.4	2467.81	390.46	108.81	321.57	416	8.93	5.36
2565.03	53.1	318.5	2509.72	437.12	65.12	330.31	461.73	8.11	11.1
2565.51	57.1	318.5	2503.13	464	59.03	339.45	467.74	7.25	11.53
2565.12	56.4	318.5	2509.14	471.04	52.84	348.79	472.99	6.4	12.26
2565.23	57.8	316.9	2507.13	472.61	46.51	358.14	480.27	5.36	6.1
2565.19	57.7	312.8	2509.17	484.52	39.98	367.27	484.17	4.72	12.84
2565.39	57.5	309.2	2511.19	490.41	33.21	376.02	491.53	3.87	11.5
2565.34	57.6	306.3	2513.21	496.04	26.02	384.81	496.72	3	7.71
2565.22	56.9	304.1	2515.3	501.41	18.48	393.59	501.75	2.11	8.91
2565.71	56.5	301.5	2517.54	506.4	10.74	402.19	506.51	1.21	8.73
2565.16	54.1	300.7	2519.99	511.31	2.93	410.67	511.12	0.33	5.91
2565.76	53.9	300.2	2522.64	515.79	45.03	419.09	515.82	395.44	1.63
2565.12	75	308	2525.15	526.71	42.83	427.33	520.47	358.59	1.33
2565.63	75.2	309.2	2527.59	534.47	40.77	435.29	525.33	357.73	0.88
2565.43	74.4	309.7	2530.08	539.52	42.86	431.02	530.29	356.91	1.83
2565.55	73.9	300.6	2532.71	544.18	43.47	432.3	535.42	356.09	0.7
2565.15	73.7	300.8	2535.38	538.89	44.4	430.98	540.71	355.29	0.87

SURVEY REPORT

PARAMOUNT ET AL WEST LIARD K29A
300/K-29-6030-123-30/03

MAIN HOLE

SURVEY'S FROM MAIN HOLE

Measured Depth Meters	Incl Angle Deg	Drift Direction Deg	TRUE Vertical Depth	N-S Meters	E-W Meters	Vertical Section Meters	CLOSURE Distance Meters	CLOSURE Direction Deg	Dogleg Severity Deg/30
2569.72	53.3	328	2467.41	402.16	105.58	262.06	415.79	14.71	7.75
2579.26	57.6	326.9	2472.82	408.78	101.35	269.9	421.16	13.93	13.82
2589.03	61.2	325.1	2477.79	415.75	96.65	278.3	426.83	13.09	12.03
2598.57	62.2	326.1	2482.31	422.68	91.91	286.69	432.55	12.27	4.19
2608.11	63	324.2	2486.7	429.63	87.07	295.16	438.36	11.46	5.87
2617.74	66	322.3	2490.85	436.59	81.86	303.85	444.2	10.62	10.76
2627.05	69	321.6	2494.41	443.36	76.56	312.44	449.92	9.8	9.89
2636.8	70.2	320.4	2497.81	450.46	70.81	321.57	456	8.93	5.06
2646.03	73.1	318.5	2500.72	457.12	65.12	330.31	461.73	8.11	11.1
2655.53	77.4	318.5	2503.13	464	59.03	339.45	467.74	7.25	13.58
2665.12	78.4	318.8	2505.14	471.04	52.84	348.79	473.99	6.4	3.26
2674.73	77.8	316.9	2507.13	478.01	46.53	358.14	480.27	5.56	6.1
2684.19	77.2	312.8	2509.17	484.52	39.98	367.27	486.17	4.72	12.84
2693.39	77.5	309.2	2511.19	490.41	33.21	376.02	491.53	3.87	11.5
2702.74	77.6	306.9	2513.21	496.04	26.02	384.81	496.72	3	7.21
2712.23	76.9	304.1	2515.3	501.41	18.48	393.59	501.75	2.11	8.91
2721.71	75.8	301.5	2517.54	506.4	10.74	402.19	506.51	1.21	8.72
2731.16	74.1	300.7	2519.99	511.11	2.93	410.61	511.12	0.33	5.93
2740.76	73.9	300.2	2522.64	515.79	-5.03	419.09	515.82	359.44	1.63
2750.12	75	300	2525.15	520.31	-12.83	427.35	520.47	358.59	3.58
2759.62	75.2	300.2	2527.59	524.92	-20.77	435.75	525.33	357.73	0.88
2769.03	74.1	300.7	2530.08	529.52	-28.6	444.09	530.29	356.91	3.83
2778.55	73.9	300.6	2532.71	534.18	-36.47	452.5	535.42	356.09	0.7
2788.15	73.7	300.8	2535.38	538.89	-44.4	460.98	540.71	355.29	0.87

Measured Depth Meters	Incl Angle Deg	Drift Direction Deg	TRUE Vertical Depth	N-S Meters	E-W Meters	Vertical Section Meters	CLOSURE Distance Meters	CLOSURE Direction Deg	Dogleg Severity Deg/30
2797.77	73.3	300.7	2538.12	543.6	-52.32	469.47	546.12	354.5	1.28
2807.33	73	301.2	2540.89	548.31	-60.17	477.9	551.6	353.74	1.77
2817.02	72.5	301.1	2543.76	553.1	-68.09	486.45	557.27	352.98	1.58
2826.57	71.7	301.7	2546.7	557.83	-75.85	494.85	562.96	352.26	3.09
2836.08	72.2	301.7	2549.64	562.58	-83.54	503.23	568.75	351.55	1.58
2845.75	73.4	302.1	2552.5	567.46	-91.38	511.8	574.77	350.85	3.91
2855.27	73.3	302.7	2555.23	572.35	-99.08	520.29	580.86	350.18	1.84
2864.61	72.9	302.2	2557.94	577.15	-106.62	528.62	586.91	349.53	2
2874.14	72.5	302.6	2560.78	582.02	-114.31	537.09	593.14	348.89	1.74
2883.64	72.5	302.3	2563.64	586.88	-121.95	545.53	599.42	348.26	0.9
2893.26	73.4	303	2566.46	591.84	-129.69	554.11	605.89	347.64	3.5
2902.71	73.3	303.4	2569.16	596.8	-137.27	562.58	612.39	347.05	1.26
2912.19	72.6	303.3	2571.94	601.78	-144.84	571.08	618.97	346.47	2.24
2921.66	73	305.1	2574.74	606.87	-152.32	579.6	625.69	345.91	5.59
2931.04	75.2	306.4	2577.31	612.14	-159.64	588.18	632.61	345.38	8.09
2940.48	77.7	306.5	2579.53	617.59	-167.02	596.94	639.78	344.87	7.95
2950.04	79.8	309.5	2581.39	623.36	-174.41	605.96	647.3	344.37	11.34
2959.55	81.5	308.5	2582.94	629.27	-181.7	615.03	654.98	343.89	6.2
2969.14	81.4	308.7	2584.36	635.19	-189.12	624.18	662.74	343.42	0.69
2978.67	80.7	308.7	2585.84	641.07	-196.46	633.27	670.5	342.96	2.2
2988.02	79.5	308.7	2587.45	646.83	-203.65	642.17	678.13	342.52	3.85
2997.57	80.3	309.4	2589.13	652.75	-210.95	651.26	685.99	342.09	3.32
3007.14	81.4	309.8	2590.65	658.78	-218.23	660.42	693.98	341.67	3.66
3016.72	81	310.2	2592.11	664.86	-225.48	669.61	702.06	341.27	1.76
3026.12	81.9	309.6	2593.51	670.82	-232.61	678.64	710.01	340.88	3.44
3035.68	81.8	311.6	2594.87	676.98	-239.8	687.85	718.2	340.49	6.22
3045.21	83.4	311.4	2596.09	683.24	-246.88	697.09	726.48	340.13	5.08
3054.77	83	312.3	2597.23	689.58	-253.95	706.37	734.85	339.78	3.07
3064.69	82.6	310.1	2598.47	696.06	-261.35	715.98	743.51	339.42	6.71
3074	83.1	310.6	2599.63	702.04	-268.39	724.96	751.6	339.08	2.27
3083.8	83.4	310.4	2600.78	708.36	-275.79	734.44	760.16	338.73	1.1
3093.59	83.6	310.3	2601.89	714.66	-283.21	743.9	768.73	338.38	0.68

Measured Depth Meters	Incl Angle Deg	Drift Direction Deg	TRUE Vertical Depth	N-S Meters	E-W Meters	Vertical Section Meters	CLOSURE Distance Meters	CLOSURE Direction Deg	Dogleg Severity Deg/30
3103.37	84.1	309	2602.94	720.86	-290.69	753.33	777.27	338.04	4.25
3113.19	84.3	308.7	2603.93	726.99	-298.3	762.77	785.81	337.69	1.1
3122.95	84.4	308.2	2604.89	733.03	-305.91	772.13	794.3	337.35	1.56
3132.68	84.6	308.4	2605.82	739.03	-313.51	781.47	802.78	337.01	0.87
3142.45	84.8	307.8	2606.72	745.04	-321.16	790.83	811.31	336.68	1.93
3152.01	84.6	307.7	2607.61	750.86	-328.69	799.98	819.66	336.36	0.7
3161.56	83.9	308.3	2608.56	756.71	-336.18	809.13	828.03	336.05	2.89
3171.17	82.4	308.3	2609.71	762.63	-343.67	818.32	836.48	335.74	4.68
3180.88	82	308.2	2611.03	768.58	-351.22	827.59	845.03	335.44	1.27
3190.19	81.8	307.5	2612.34	774.24	-358.5	836.45	853.21	335.15	2.32
3199.74	81.9	307.5	2613.69	779.99	-366	845.53	861.59	334.86	0.31
3208.99	82.6	307.4	2614.94	785.57	-373.28	854.32	869.74	334.58	2.29
3218.1	83	307.2	2616.08	791.04	-380.47	862.99	877.78	334.31	1.47
3227.82	83.2	306.9	2617.25	796.86	-388.17	872.23	886.37	334.03	1.11
3237.36	82.4	306.7	2618.45	802.53	-395.75	881.28	894.8	333.75	2.59
3247.13	82.7	307	2619.71	808.34	-403.5	890.55	903.45	333.47	1.3
3256.67	83	306.6	2620.9	814.01	-411.08	899.6	911.92	333.21	1.56
3266.21	81.2	306.3	2622.21	819.62	-418.68	908.62	920.36	332.94	5.74
3275.84	81	305.2	2623.7	825.18	-426.4	917.67	928.84	332.67	3.44
3285.37	81.3	304.5	2625.17	830.56	-434.13	926.58	937.17	332.4	2.37
3295.12	81.5	305.7	2626.63	836.1	-442.01	935.71	945.75	332.14	3.7
3304.35	81.1	307.4	2628.02	841.54	-449.34	944.42	953.99	331.9	5.61
3313.85	81.3	306.7	2629.48	847.19	-456.84	953.42	962.52	331.66	2.27
3323.44	81	308.7	2630.95	852.99	-464.33	962.52	971.18	331.44	6.25
3333.05	81	308.2	2632.45	858.89	-471.77	971.67	979.93	331.22	1.54
3342.51	81.5	308	2633.89	864.66	-479.12	980.68	988.53	331.01	1.71
3351.71	81.1	308.4	2635.29	870.28	-486.27	989.44	996.92	330.81	1.83
3361.06	81.5	308.4	2636.7	876.02	-493.51	998.35	1005.47	330.61	1.28
3370.55	81	307.6	2638.14	881.8	-500.9	1007.37	1014.14	330.4	2.96
3380.03	80.2	308.4	2639.69	887.56	-508.27	1016.37	1022.79	330.2	3.56
3389.98	80.6	307.8	2641.35	893.61	-515.99	1025.82	1031.89	330	2.15
3398.84	80.7	307.7	2642.79	898.96	-522.91	1034.22	1039.98	329.81	0.48

Measured Depth Meters	Incl Angle Deg	Drift Direction Deg	TRUE Vertical Depth	N-S Meters	E-W Meters	Vertical Section Meters	CLOSURE Distance Meters	CLOSURE Direction Deg	Dogleg Severity Deg/30
3408.44	81	307.1	2644.32	904.72	-530.44	1043.31	1048.75	329.62	2.07
3417.94	81	306.7	2645.8	910.35	-537.94	1052.29	1057.41	329.42	1.25
3427.35	81	307.4	2647.28	915.95	-545.36	1061.19	1066.01	329.23	2.2
3436.87	80.3	307.7	2648.82	921.68	-552.8	1070.21	1074.75	329.05	2.4
3451.35	80.4	306.3	2651.25	930.27	-564.21	1083.88	1087.99	328.76	2.87
3460.95	80.7	308	2652.83	935.99	-571.75	1092.95	1096.8	328.58	5.32
3470.57	80.7	308.5	2654.38	941.86	-579.21	1102.1	1105.71	328.41	1.54
3480.13	80.6	308.1	2655.93	947.71	-586.61	1111.19	1114.57	328.24	1.28
3489.82	81	308.1	2657.48	953.61	-594.14	1120.4	1123.56	328.08	1.24
3499.37	79.5	309.2	2659.1	959.49	-601.49	1129.48	1132.44	327.92	5.81
3508.88	79.4	309	2660.84	965.39	-608.74	1138.53	1141.29	327.77	0.7
3518.55	79.2	309.2	2662.64	971.38	-616.12	1147.72	1150.3	327.61	0.87
3528.07	78.9	309	2664.44	977.27	-623.37	1156.76	1159.16	327.47	1.13
3537.41	78.8	308.7	2666.25	983.02	-630.51	1165.62	1167.85	327.32	1
3546.94	79	308.4	2668.09	988.85	-637.82	1174.64	1176.71	327.18	1.12
3556.48	79.1	308.1	2670.93	994.68	-645.07	1183.58	1186.75	327.05	1.05
3559.32	79.1	308.1	2672.68	999.58	-652.32	1192.38	1204.58	326.88	0.93
3569.16	79.2	308.1	2674.43	1005.48	-660.57	1201.22	1214.42	326.75	0.82
3578.67	79.2	308.1	2676.18	1011.38	-668.82	1210.06	1224.26	326.62	0.71
3588.07	79.4	308.1	2677.93	1017.28	-677.07	1218.9	1233.16	326.49	0.61
3597.50	79.4	308.1	2679.68	1023.18	-685.32	1227.74	1242.34	326.36	0.51
3607.03	79.4	308.1	2681.43	1029.08	-693.57	1236.6	1255.86	326.23	0.41
3616.72	81	310.2	2683.18	1034.98	-701.82	1245.45	1262.06	326.1	0.31
3626.45	82.6	308.1	2684.93	1040.88	-710.07	1254.32	1270.65	325.98	0.21
3635.20	82.6	308.1	2686.68	1046.78	-718.32	1263.19	1278.56	325.85	0.11
3644.97	82.6	308.1	2688.43	1052.68	-726.57	1271.96	1286.88	325.72	0.01
3654.73	82.6	308.1	2690.18	1058.58	-734.82	1280.83	1294.76	325.59	-0.09
3664.50	82.6	308.1	2691.93	1064.48	-743.07	1289.69	1308.65	325.46	-0.16
3674.27	82.6	308.1	2693.68	1070.38	-751.32	1308.56	1323.53	325.33	-0.23
3683.04	82.6	308.1	2695.43	1076.28	-759.57	1317.43	1338.41	325.2	-0.30
3692.81	82.6	308.1	2697.18	1082.18	-767.82	1326.3	1343.3	325.07	-0.37
3702.58	82.6	308.1	2698.93	1088.08	-776.07	1335.17	1358.28	324.94	-0.44

WELLSITE BIT RECORD

PARAMOUNT et al WEST LIARD K29A
300/K-29-6030-123-30/03

SPUD DATE: 22 Aug. 2005

T.D. DATE: 12 Oct. 2005

SURFACE CASING: 244 mm casing
INTERMEDIATE CASING: 177.8 mm

BIT #	4RR	1B	2	3B	4B	5B	6B
SIZE (mm)	216	156	156	156	156	156	156
MAKE	HUGHES	HUGHES	HUGHES	HUGHES	HUGHES	HUGHES	SMITH
TYPE	MX-S20GDX	HCM404	ATJ4	HCM404Z	HCM404	HCM404	XR30T
SERIAL #	6034568	7002762	5079903	7002763	7104229	7104208	PC2628
JETS	OPEN	4X12.7	OPEN	4X12.7	4X12.7	4X12.7	OPEN
DEPTH IN	0.00	2568.00	2630.00	2630.00	3073.00	3453.00	3569.00
DEPTH OUT	1743.90	2630.00	2630.00	3073.00	3453.00	3569.00	3620.00
METRES	1743.90	62.00	0.00	443.00	380.00	116.00	51.00
HOURS		11.50	0.00	77.50	49.25	15.75	10.00
ACC. HRS.	0.00	11.50	11.50	89.00	138.25	154.00	164.00
ROP (m/hr)		5.39	0.00	5.72	7.72	7.37	5.10
FOB		8000	8000	15000	15000	40000	9000
RPM		90	90	35	30	35	80
PP		8800	8800	13800	17500	17770	10000
DEN		1040	1030	1050	1070	1080	1070
VISCOSITY		61	62	60	65	70	102
MAX DEV.°	52.000°	63.000°	63.000°	81.000°	81.000°	80.000°	80.000°
Condition:	IR/OR/DL	IR/OR/DL	IR/OR/DL	IR/OR/DL	IR/OR/DL	IR/OR/DL	IR/OR/DL
						1/2/BT/H	
	B/G/O/RP	B/G/O/RP	B/G/O/RP	B/G/O/RP	B/G/O/RP	B/G/O/RP	B/G/O/RP
						N/O/PR	
REMARKS	clean to top of liner, check cmt	drill directional hole	clean out trip shoe	drill directional hole	drill directional hole	drill directional hole	clean out trip; drill to TD

DAILY DRILLING SUMMARY

PARAMOUNT ET AL WEST LIARD K29A

300/K-29-6030-123-30/03

Date	Depth	Progress	Drilling Hours	ROP (m/hr)	Mud Properties					Operations Summary
					Density	Vis.	WL	pH		
23-Sep-05	2568.00	2568.00	0.00	0.00	N/A	N/A	N/A	N/A	run intermediate casing	
24-Sep-05	2568.00	0.00	0.00	0.00	N/A	N/A	N/A	N/A	Pressure test and pick up drill pipe	
25-Sep-05	2568.00	0.00	0.00	0.00	N/A	N/A	N/A	N/A	Pick up drill pipe; pressure test; drill out float and shoe; drill ahead; preform leak off test; Displace to Gel chem mud; Build volume and condition mud.	
26-Sep-05	2572.00	4.00	1.75	2.29	1050	83	10	10	Condition mud and attempt to ream to bottom; Drill ahead	
27-Sep-05	2630.00	58.00	9.75	5.95	1040	56	10	10.5	Drill ahead to 2630; stuck in the hole; work stuck pipe; POOH and lay down directional tools; RIH with clean out bit.	
28-Sep-05	2630.00	0.00	0.00	0.00	1030	62	10	10.5	Clean out hole of remaining float shoe; POOH and pick up directional tools.	
29-Sep-05	2630.00	0.00	0.00	0.00	1040	62	10	10.5	RIH: directional drill.	
30-Sep-05	2694.00	64.00	18.75	3.41	1035	54	10	10.5	directional drill wiper trip into casing to flow check	
01-Oct-05	2835.00	141.00	16.25	8.68	1050	55	10	10.5	directional drill; wiper trip to flow check	
02-Oct-05	2956.00	121.00	18.25	6.63	1050	59	8.7	10.5	directional drill;	
03-Oct-05	3061.00	105.00	20.50	5.12	1060	54	8.5	10.5	directioal drill: wiper trip into casing to flow check; Try to directional drill; poor ROP; trip for bit;	
04-Oct-05	3073.00	12.00	3.00	4.00	1055	57	9.2	11.0	RIH with new bit; drill ahead.	
05-Oct-05	3262.00	189.00	18.00	10.50	1070	64	8.8	11.0	directional drill; wiper trip to shoe	
06-Oct-05	3372.00	110.00	15.25	7.21	1070	98	8.2	10.5	directional drill; wiper trip to shoe	
07-Oct-05	3446.00	74.00	12.75	5.80	1070	77	9	10.5	directional drill; 4 stand wiper trip; Wiper trip to shoe; ream to bottom; POOH to change pipe and bit	
08-Oct-05	3453.00	7.00	3.25	2.15	1065	70	9.6	10.5	POOH sideways; pick up new pipe.	
09-Oct-05	3453.00	0.00	0.00	0.00	1080	95	9.2	10.5	Pick up pipe and RIH; directional drill.	
10-Oct-05	3563.00	110.00	15.50	7.10	1070	89	9	10.5	directional drill; Lost circulate; mix LCM pill; Drill 1.5 metres; stuck in the hole; Work pipe free; Pull 4 stands; Lost circulate; RIH to 3551 and spot pill; POOH;	
11-Oct-05	3568.00	5.00	0.50	10.00	1035	37	14.7	9.5	POOH: lay down directional tools; RIH for clean out trip and condition mud;	
12-Oct-05	3568.00	0.00	0.00	0.00	1055	58	10	10.0	RIH to 2540; repair pump; circulate and condition mud; drill ahead to TD.	
13-Oct-05	3620.00	52.00	10.00	5.20	1070	104	9	10.5	circulate and condition hole; 38 stand wiper trip; condition mud; 2nd wiper trip to shoe; POOH to log;	
14-Oct-05	3620.00	0.00	0.00	0.00	1070	104	9.1	10.5	RIH with tools ont drill pipe; attempt to connect PCL tool; failed 3 times, POOH to change out sinker bar. Latch on with wet contact; continue to RIH with logging tools. Log out.	
15-Oct-05	3620.00	0.00	0.00	0.00	1070	104	9.1	10.5	Continue logging out. Tools failed. Pull into casing; kink in wireline; de-spool line and re-head; POOH with tools for cooling off period. Repair tools and telemetry system.	

DAILY DRILLING SUMMARY

PARAMOUNT ET AL WEST LIARD K29A
300/K-29-6030-123-30/03

<i>Date</i>	<i>Depth</i>	<i>Progress</i>	<i>Drilling Hours</i>	<i>ROP (m/hr)</i>	<i>Mud Properties</i>				<i>Operations Summary</i>						
					<i>Density</i>	<i>Vis</i>	<i>WL</i>	<i>pH</i>	Run 1		Run 2		Run 3		
16-Oct-05	3620.00	0.00	0.00	0.00	1070	104	9.1	10.5	8.01	81	82	80.01	80.81	80.98	80.98
17-Oct-05	3620.00	0.00	0.00	0.00	1070	104	9.1	10.5	8.01	81	82	80.01	80.81	80.98	80.98
18-Oct-05	3620.00	0.00	0.00	0.00	1070	104	9.1	10.5	8.01	81	82	80.01	80.81	80.98	80.98

WELLSITE LOGGING REPORT

PARAMOUNT et al WEST LIARD K29A
300/K-29-6030-123-30/03

HOLE DATA		MUD DATA		LOGGING COMPANY				
Hole Size: 156		Type: Gel Chem		Logging Co.: Baker Atlas				
TD Driller: 3620		Density: 1070		Engineer: Fisher/Busker				
Strap:		Viscosity: 120		Truck No.: 6544				
TD Logger: 3618.2		W.L.: 9.1		Start Date: 14-Oct-05				
Casing Driller: 2568		pH: 10.5		Start Time: 1800 hrs				
Casing Logger: 2567				End Date: 17-Oct-05				
Hole Condition: fair				End Time:				
LOGGING SEQUENCE								
Run Number	Logged Interval From	To	Hours	Logs	Remarks			
1	3618	2865	15	GR-XY Cal-HDIL-XMAX SONIC	tools failed			
				CNL-LDT -TEMP LOG				
2	2930	2550	6	GR-XY Cal-HDIL-XMAX SONIC				
				CNL-LDT -TEMP LOG				
3	3577	2550	8	HEX DIP-CBIL-GR	CBIL& GR failed			
					due to high heat			
Total Hours:		29						
LOGGING OPERATIONS SUMMARY								
Date	From	To	Description of Operation					
13 Oct. 05	18:00	0:00	arrive on location and rig up to run logs.					
14 Oct 05	0:00	7:00	RIH to 2240 and run in wireline; attempt to latch on; failed;					
	7:00	11:00	POOH with wireline, Repair sinker bar and RIH again; Latch on					
	11:00	18:00	RIH to TD of 3610					
	18:00	23:59	log out first log.					
15 Oct. 05	0:01	2:00	log out first log.					
	2:00	4:00	tools failed: pull out to side entry sub;					
	4:00	6:00	pull out wireline; wireline kinked and probable cause of tool failure.					
	6:00	11:00	De-spool and re-head line, POOH with tools for cooling off period.					
	11:00	23:30	Check tools and troubleshoot. Fix tools					
	23:30	0:00	RIH with tools on drill pipe					
16 Oct. 05	0:00	5:00	RIH with tools: rig in side entry sub and wireline;					
	5:00	8:00	RIH to 2930; log in;					
	8:00	11:00	Log out;					
	11:00	16:00	unlatch and pull out wireline; POOH with tools.					
	16:00	19:30	lay down logging tools; Pick up tools for second run;					
	19:30	23:00	RIH with tools to 2500 metres.					
	23:00	0:00	fill pipe break circulation; rig in side entry sub; RIH with wireline					
17 Oct.05	0:00	1:00	fill pipe break circulation; rig in side entry sub; RIH with wireline					
	1:00	11:30	continue to run to bottom; logging on the way down;					
	11:30	21:00	log up from 3577 metres to 2550					
	21:00	0:00	pull out wire line; POOH with tools					
REMARKS & COMMENTS								
The first run in the hole with run #1 was logged on the way in as well as out. This is reflected in the logging hours.								
The second run in the hole, run #2 was logged on the way in as well as out. This is reflected in the logging hours.								
The third run in the hole, run #3 was logged on the way in as well as out. This is reflected in the logging hours.								
On the third run the GR burnt out at 3330 metres. The CBIL started to fail at 2870 and completely failed at 2725 metres due to high temps in the hole. The GR had an internal temp of 115 degrees C.								

WELL SUMMARY AND FORMATION EVALUATIONS

PARAMOUNT et al WEST LIARD K29A
300/K-29-6030-123-30/03

The K29-A well was drilled horizontally to evaluate the gas potential to the sides of the original well bore in the Nahanni formation. Gas trapped in the outer reaches away from the well bore was not producible due to watering out from the original hole. The old well bore was re-entered and deviated to 52 degrees at the point the Nahanni was encountered. In the main hole, angle was built to 80 degrees over 500 metres and held there through the prognosed target at approximately 3525 metres MD. The remaining 300 metres was to be maintained at 82 degrees.

A 156 mm PDC bit was used to drill the main hole. Samples were collected in 5 metre intervals from 2570 m to TD. They were extremely difficult to describe due to the grinding action of the bit.

At 2630 m the pipe became mechanically stuck due to the remainder of the float shoe being left in the hole. After laying down directional tools and the MWD equipment a tricone bit was used to clean out the hole. When attempting to pull out of the hole with this bit the well started to flow but no problems were encountered. At 2659 metres MD, the drill pipe became stuck again for a short period of time but was quickly freed. Drilling continued without problems to a depth of 3568 metres MD where lost circulation was encountered. After drilling another 1.5 metres the pipe became stuck in the hole again. The pipe was worked for 12 hours and finally freed. A clean out trip was run to condition the hole and mud. At the same time another 50 metres over hole was drilled for logging purposes to a TD to 3620 metres MD.

Much of the difficulty in drilling and sliding was due to mechanical problems coming from the bends and angles in the side-track from the intermediate hole. Logistics of getting the weight to the bit became a problem.

Baker Atlas logged the well with pipe conveyed tools. The first run was logged from TD up to 2865 m MD at which point the tools failed due to a kinked wireline. It took more than half a day to de-spool the kinked line and fix tools damaged during the first run. A second run with the same tools was logged from 2930 m MD up into casing. The third run was a combined dip/image log. The loggers could not get all the way to bottom and logged from 2577 metres up.

Samples consisted of two types of dolomite; a light to medium grey, very fine to fine crystalline host rock containing a white, fine to medium crystalline, fracture dolomite infill. Both types of dolomite contained intercrystalline and occasional micro vuggy porosity but the porosity was well clogged with black pyrobitumen. As the well progressed away from the original well bore the pyrobitumen decreased with the white fracture dolomite becoming predominantly more cleaner than the host rock. By 3370 metres MD the pyrobitumen was minimal in the fracture dolomite but common in the host rock and a secondary white dolomitic cement was noted cementing the crystals. At 3100 metres MD small amounts of disseminated pyrite and occasional cubic pyrite was noted in the samples. Remnant fossil fabric (corals?) was often seen through out the entire well.

Gas readings were the best indicator of the much sought after fractures. Methane and ethane were the common components of the total gas readings with ethane being intermittent from 2570 m to 2700 m MD and common to ubiquitous after this depth with the exception of a particularly dead zone from 2890 m to 2975 m MD. From 3165 m both methane and ethane readings increased with a touch of propane recorded at 3272 m MD and pentane intermittent from 3480 m to 3560 m MD.

Continental Labs recorded seven gas shows in this well ranging from 3 to 34 metres. The longest was from 3170 m to 3204 m MD. Gas peaked at 1300 units over a background of 450 units. Samples consisted of light to medium grey mottled with black, dolomite host rock (50%), very fine to fine crystalline and fair relief, with white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline. Pyrobitumen coated and clogged pore spaces in host rock and white dolomite that graded to clean in part. Traces of sparry calcite crystals and clear quartz fragments were small components. Porosity was estimated to be tight to 3% intercrystalline and micro vuggy with no visible cut fluorescence. Closely following this show was another from 3216 m to 3224 m MD. Gas peaked at 2895 units over a background of 200 units. Samples were predominantly the same with the addition of remnant fossil fabric and occasional pyrite cubes. Porosity was estimated at 3 to 6%. A third show followed closely to the previous one, from 3270 m to 3290 m MD. Gas peaked at 1374 units over a background of 400 units. There was no change in samples. The fourth zone of interest was from 3323 m to 3347 m MD. Gas peaked at 6644 units over a background of 900 units. The only difference in samples was the increase in percentage of white dolomite crystals against the host rock, indicating a higher percentage of fracturing in this area.

The remaining shows were small but contributed to the over all importance of the Nahanni.

Previous to 3100 m MD wiper trip and trip gases were very low, barely registering 1000 units. After 3100 m these gases increased to 3000 to 6000 units with one wiper trip at 3454 m MD recording 10,000 units which is 100%, and maxed out the gas detection machine.

Conclusion: The Nahanni had excellent potential for gas production in this horizontal section. Chromatograph readings were predominantly methane, with consistent but small amounts of ethane and intermittent pentane and propane gases. Four main gas shows were discussed above. Including the three smaller ones, all seven contribute to the overall importance of the hydrocarbon in this well. After the first run of logs over 500 metres of gas crossover was calculated from the data in Calgary. Much of it was over 3% porosity.

LITHOLOGICAL DESCRIPTIONS

PARAMOUNT ET AL WEST LIARD K29A

300/K-29-6030-123-30/03

2565 to 2575 m

DOLOMITE: white to light grey, mottled with black host rock, fine to medium crystalline, vitreous to waxy texture, clean packstone, white pseudo hexagonal dolomite rhombs throughout, occasional twinning of white dolomite rhombs, common pyrobitumen, good relief, trace faint white cut fluorescence, trace clear chert fragments, 6% vuggy and fracture porosity. samples ground upper.

2575 to 2585 m

DOLOMITE: white to light grey, mottled with black host rock, fine to medium crystalline, vitreous to waxy texture, clean packstone to grainstone, white pseudo hexagonal dolomite rhombs throughout, rare twinning of white dolomite rhombs, occasional pyrobitumen, good relief, no visible cut fluorescence, trace clear chert fragments, 3% vuggy and fracture porosity. samples ground upper.

2585 to 2600 m

DOLOMITE: white, occasional light grey mottled with black, vitreous to waxy texture, fine to medium crystalline with occasional coarse crystalline, common white pseudo hexagonal dolomite rhombs with common pyrobitumen (20%) throughout, earthy to vitreous and anthracite in part, good relief, estimated 6% vuggy pinpoint and crystalline porosity, no visible cut fluorescence, rare trace clear ht fragments.

2600 to 2605 m

DOLOMITE: white to light grey mottled with black, vitreous texture, fine to medium crystalline with occasional coarse crystalline, common white pseudo hexagonal dolomite rhombs, occasional well developed dolomite rhombs, increase in grey mottled host rock with decrease in white dolomite crystals, good relief, clean grainstone, common pyrobitumen with earthy to anthracitic texture, estimated 3% vuggy and intercrystalline porosity, rare clear chert fragments, pyrobitumen coating dolomite crystals, no visible cut fluorescence.

2605 to 2610 m

DOLOMITE: as above, decrease in pyrobitumen, trace pyrite and pyrite cubes, occasional partial developed quartz prisms, increase in clear quartz fragments, possible fracture??

2610 to 2615 m

DOLOMITE: light to medium grey host rock, very fine to fine crystalline, vitreous, crystalline texture, clean grainstone, 40% white pseudo hexagonal dolomite rhombs, good relief, pyrobitumen common in intercrystalline porosity and coating white dolomite rhombs, fine to coarse crystalline, 3% intercrystalline and vuggy porosity, no visible cut fluorescence.

2615 to 2620 m

DOLOMITE: light to medium grey host rock, very fine to fine crystalline, vitreous, crystalline texture, clean grainstone, increase in white pseudo hexagonal dolomite rhombs to 60%, good relief, pyrobitumen common but decreasing slightly in intercrystalline porosity and coating white dolomite rhombs, fine to coarse crystalline, 3% intercrystalline and vuggy porosity, no visible cut fluorescence, trace rosette crystal clusters, trace black shale micro laminae.

2620 to 2630 m

DOLOMITE: light to medium grey host rock, very fine to fine crystalline, vitreous, crystalline texture, clean grainstone, increase in white pseudo hexagonal dolomite rhombs to 60%, occasional well developed dolomite rhombs fine to coarse crystalline, good relief, pyrobitumen common but decreasing slightly, 3% intercrystalline and vuggy porosity, no visible cut fluorescence, rare clear quartz fragments.

2630 to 2640 m

DOLOMITE: light to medium grey host rock, vitreous, very fine to fine crystalline, occasional medium crystalline, crystalline texture, white pseudo hexagonal dolomite rhombs fine to medium crystalline, clean grainstone, pyrobitumen common but not abundant coating dolomite rhombs, tight to 3% micro vuggy and intercrystalline porosity, fair to good relief, no visible cut fluorescence.

2640 to 2645 m

DOLOMITE: light to medium grey host rock, vitreous, very fine to fine crystalline, occasional medium crystalline, crystalline texture, white pseudo hexagonal dolomite rhombs fine to medium crystalline, clean grainstone, slight increase in pyrobitumen coating dolomite rhombs, 3 to 5% micro vuggy and intercrystalline porosity, fair to good relief, trace white blooming cut fluorescence.

2645 to 2650 m

DOLOMITE: light to medium grey host rock, vitreous, very fine to fine crystalline, occasional medium crystalline, crystalline texture, white pseudo hexagonal dolomite rhombs fine to medium crystalline, clean grainstone, slight increase in pyrobitumen coating dolomite rhombs, 3 to 6% micro vuggy and intercrystalline porosity, fair to good relief, trace white blooming cut fluorescence, 1 piece with good streaming white cut fluorescence (immediate), trace remnant fossil fabric in white pseudo dolomite rhombs, trace of clear qtr overgrowths in pore space associated with pyrobitumen. calcite crystals?? fractures??

2650 to 2655 m

DOLOMITE: light to medium grey host rock, vitreous, very fine to fine crystalline, occasional medium crystalline, crystalline texture, white pseudo hexagonal dolomite rhombs fine to medium crystalline, clean grainstone, common pyrobitumen coating dolomite rhombs and clogging pore spaces, 3 to 6% micro vuggy and intercrystalline porosity, fair to good relief, no visible cut fluorescence, trace of clear calcite crystals, 5% light tan earthy soft chalky limestone? fractures?

2655 to 2660 m

DOLOMITE: as above, increase in clear to light tan/cream calcite crystals, trace drusy dolomite rhombs, white pseudo dolomite rhombs grading to drusy rhombs, increase in pyrobitumen clogging pore space, 3 to 6% intercrystalline micro vuggy and fracture porosity, 5% light tan/cream soft earthy limestone, no cut fluorescence, fractures??.

2660 to 2670 m

DOLOMITE: increase in medium grey mottled with black host rock (70%) vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, decrease in white pseudo dolomite rhombs and occasional drusy dolomite from fractures (30%), pyrobitumen clogging pore space amounts decreasing with depth, decrease in calcite crystals and tan/cream limestone (cavings?) tight to 3% intercrystalline and micro vuggy porosity, no cut fluorescence.

2670 to 2680 m

DOLOMITE: predominantly medium grey mottled with black host rock, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 20% white

pseudo dolomite rhombs, pyrobitumen coating and clogging pore spaces but only trace associated with white dolomite, tight to 3% intercrystalline porosity, no visible cut.

2680 to 2690 m

DOLOMITE: medium grey mottled with black host rock, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 20% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces , tight to 3% intercrystalline porosity, no visible cut.

2690 to 2700 m

DOLOMITE:; as above, medium grey mottled with black host rock, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces , tight to 3% intercrystalline porosity, no visible cut, trace clear quartz fragments, trace fossil fabric remnants in occasional dolomite crystals.

2700 to 2710 m

DOLOMITE: increase in medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 50% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces , tight to 3% intercrystalline porosity, no visible cut.

2710 to 2720 m

DOLOMITE: increase in medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, 50% white pseudo dolomite rhombs, occasional drusy dolomite in part, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces , 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2720 to 2730 m

DOLOMITE: increase in medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, 50% white pseudo dolomite rhombs, occasional drusy dolomite in part, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces , 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2730 to 2735 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, 50% white pseudo dolomite rhombs, occasional drusy dolomite in part, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces , trace of pyrite blebs, increase in spar calcite translucent crystals, 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2735 to 2745 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, 50% white pseudo dolomite rhombs, occasional drusy dolomite in part, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces , increase in spar calcite translucent crystals, trace clear quartz fragments, 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2745 to 2755 m

DOLOMITE: increase in medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief,

30% white pseudo dolomite rhombs, occasional drusy dolomite in part, fine to medium crystalline, pyrobitumen coating and clogging pore spaces in host rock with decrease in clogging in white dolomite, decrease in spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2755 to 2765 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, 50% white pseudo dolomite rhombs, occasional drusy dolomite in part, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock with less in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2765 to 2775 m

DOLOMITE: increase in medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 30% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock with less in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2775 to 2790 m

DOLOMITE: increase in medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 30% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock with less in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2790 to 2800 m

DOLOMITE: medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 30% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock with less in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, trace of dark grey cryptocrystalline argillaceous dolomite stringers containing very fine clear crystalline dolomite and micro veining, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2800 to 2810 m

DOLOMITE: medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 30% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock with less in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2810 to 2820 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 50% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock with less in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2820 to 2830 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 50% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock with less in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2830 to 2840 m

DOLOMITE: medium grey mottled with black host rock becoming slightly argillaceous in part (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 50% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2840 to 2850 m

DOLOMITE: medium grey mottled with black host rock becoming slightly argillaceous in part (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 50% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2850 to 2860 m

DOLOMITE: medium grey mottled with black host rock decreasing slightly to (30%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 70% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, occasional spar calcite translucent crystals, trace clear quartz fragments, 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2860 to 2870 m

DOLOMITE: medium grey mottled with black host rock decreasing slightly to (30%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 70% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, trace light tan/cream soft cryptocrystalline chalky limestone micro laminae, trace clear quartz fragments, 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2870 to 2875 m

DOLOMITE: medium grey mottled with black host rock decreasing slightly to (30%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 70% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, increase in pyrobitumen laminae possible larger fractures or pore space infilled with more pyrobitumen, trace light tan/cream soft cryptocrystalline chalky limestone micro laminae, trace clear quartz fragments, 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2875 to 2885 m **DOLOMITE:** medium grey mottled with black host rock decreasing slightly to (30%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 70% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, trace light tan/cream soft cryptocrystalline chalky limestone micro laminae possible clogging pore spaces, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

2885 to 2895 m **DOLOMITE:** medium grey mottled with black host rock decreasing slightly to (30%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 70% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, trace light tan/cream soft cryptocrystalline chalky limestone micro laminae possible clogging pore spaces, trace clear calcite crystals, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2895 to 2905 m **DOLOMITE:** medium grey mottled with black host rock decreasing slightly to (30%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 70% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock decreasing slightly in white dolomite, trace of black pyrobitumen shaly micro laminae, trace light tan/cream soft cryptocrystalline chalky limestone micro laminae possible clogging pore spaces, trace clear calcite crystals, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2905 to 2915 m **DOLOMITE:** increase in medium grey mottled with black host rock decreasing slightly to (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 50% white pseudo dolomite rhombs, fine to medium crystalline with rare coarse crystalline, pyrobitumen coating and clogging pore spaces in host rock increasing slightly in white dolomite, trace of black pyrobitumen shaly micro laminae, trace remnant fossil fabric, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2915 to 2925 m **DOLOMITE:** increase in medium grey mottled with black host rock decreasing slightly to (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 50% white pseudo dolomite rhombs, fine to medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock increasing slightly in white dolomite, trace of black pyrobitumen shaly micro laminae, trace clear calcite crystals, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2925 to 2935 m **DOLOMITE:** medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair to good relief, 50% white pseudo dolomite rhombs, rare drusy rhombs, fine to medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace of black pyrobitumen carbonaceous **SHALE:** micro laminae, trace clear calcite crystals, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2935 to 2945 m **DOLOMITE:** medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair to good relief,

50% white pseudo dolomite rhombs, rare drusy rhombs, fine to medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace clear sparry calcite crystals, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2945 to 2955 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair to good relief, 50% white pseudo dolomite rhombs, rare drusy rhombs, fine to medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace clear sparry calcite crystals, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2955 to 2970 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair to good relief, 50% white pseudo dolomite rhombs, rare drusy rhombs, fine to medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace clear sparry calcite crystals, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2970 to 2980 m

DOLOMITE: increase in medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 30% white pseudo dolomite rhombs, very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2980 to 2990 m

DOLOMITE: medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 30% white pseudo dolomite rhombs, very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2990 to 2995 m

DOLOMITE: medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, 30% white pseudo dolomite rhombs, very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2995 to 3005 m

DOLOMITE: decrease in medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, increase in white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace of disseminated pyrite and 1 pyrite cube, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3005 to 3010 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace of sparry calcite crystals, 1 clear prismatic twinned quartz crystal and quartz fragments, trace soft tan/cream chalky cryptocrystalline limestone micro laminae all

<1%, possible micro fractures?? 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3010 to 3020 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace of sparry calcite crystals, trace quartz fragments, trace disseminated pyrite in pore spaces <1%, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2885 to 2895 m

3020 to 3035 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace of sparry calcite crystals, trace clear quartz fragments, trace fossil fabric remnants Coral?, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2905 to 2915 m

3035 to 3045 m

DOLOMITE: medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , decrease in pyrobitumen coating and clogging pore spaces in host rock and white dolomite, trace of sparry calcite crystals, trace clear quartz fragments, rare black shale infill and limy/dolomitic infill in pore spaces, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3045 to 3055 m

DOLOMITE: increase in medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, decrease in white pseudo dolomite rhombs (30%), very fine to fine with rare medium crystalline with , decrease in pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, trace fossil fabric remnants Coral?, trace pyrite, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2925 to 2935 m

3055 to 3070 m

DOLOMITE: medium grey mottled with black host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (30%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

2935 to 2945 m

3070 to 3080 m

DOLOMITE: decrease in light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, trace remnant fossil fabric Coral?, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3080 to 3090 m **DOLOMITE**: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, trace remnant fossil fabric Coral?, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3090 to 3100 m **DOLOMITE**: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, trace remnant fossil fabric Coral?, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3100 to 3105 m **DOLOMITE**: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, rare trace pyrite, trace remnant fossil fabric Coral?, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3105 to 3115 m **DOLOMITE**: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with , pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3115 to 3125 m **DOLOMITE**: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, trace of light tan/pink cryptocrystalline earthy **LIMESTONE**: grading to dolomite, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3125 to 3135 m **DOLOMITE**: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part , trace of sparry calcite crystals, trace clear quartz fragments, trace of light tan/pink cryptocrystalline earthy **LIMESTONE**: grading to dolomite, trace of pyrite, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3135 to 3145 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone becoming slightly argillaceous in part, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace of sparry calcite crystals, trace clear quartz fragments, trace of light tan/pink cryptocrystalline earthy **LIMESTONE:** grading to dolomite, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3145 to 3155 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace of sparry calcite crystals, trace clear quartz fragments, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3155 to 3165 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace of sparry calcite crystals, trace clear quartz fragments, trace of pyrite cubes, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3165 to 3175 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace of sparry calcite crystals, trace clear quartz fragments, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3175 to 3185 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, increase in black shaly pyrobitumen micro laminae clogging pore spaces, trace of sparry calcite crystals, trace clear quartz fragments, trace pyrite cubes, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence

3185 to 3195 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace black shaly pyrobitumen micro laminae clogging pore spaces, trace of sparry calcite crystals, trace clear quartz fragments, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3195 to 3205 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white

pseudo dolomite rhombs (50%), very fine to fine with rare medium crystalline with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace of sparry calcite crystals, trace clear quartz fragments, tight to 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3205 to 3220 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with slight increase in medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace of sparry calcite crystals, trace clear quartz fragments, trace of pyrite cubes, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3220 to 3230 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with slight increase in medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite to clean in part, trace of sparry calcite crystals, trace clear quartz fragments, trace of black shaly pyrobitumen micro laminae from slightly larger fractures??, trace of remnant fossil fabric, trace of pyrite cubes, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3230 to 3240 m

DOLOMITE: light to medium grey mottled with black host rock (50%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, trace of sparry calcite crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3240 to 3250 m

DOLOMITE: light to medium grey mottled with black host rock (50%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, trace of sparry calcite crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3250 to 3260 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, with pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, trace of sparry calcite crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3260 to 3270 m

DOLOMITE: light to medium grey mottled with black host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, slight increase in pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, trace of sparry calcite crystals, trace clear

quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3270 to 3280 m

DOLOMITE: light to medium grey host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, slight increase in pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, increase in micro fractures??, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals, trace clear quartz fragments, trace remnant fossil fabric Coral??, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3280 to 3290 m

DOLOMITE: light to medium grey host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals, trace clear quartz fragments, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3290 to 3300 m

DOLOMITE: light to medium grey host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, increase in micro fractures due to increase in pyrobitumen micro laminae??, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals, trace clear quartz fragments, trace remnant fossil fabric Coral??, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3300 to 3310 m

DOLOMITE: light to medium grey host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, increase in micro fractures due to increase in pyrobitumen micro laminae??, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals, trace clear quartz fragments, trace remnant fossil fabric Coral??, 3 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3310 to 3320 m

DOLOMITE: light to medium grey host rock (50%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (50%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, increase in micro fractures due to increase in pyrobitumen micro laminae??, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals and drusy dolomite crystals, trace remnant fossil fabric Coral??, 3 to 6 % intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3320 to 3330 m

DOLOMITE: light to medium grey host rock (40%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen

coating and clogging pore spaces in host rock and white dolomite becoming clean in part, increase in micro fractures due to increase in pyrobitumen micro laminae??, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals trace of clear quartz fragments, 3 to 6% intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3330 to 3340 m

DOLOMITE: light to medium grey host rock (40%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, increase in micro fractures due to increase in pyrobitumen micro laminae??, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals and drusy dolomite crystals, trace of remnant fossil fabric Coral?, trace of clear quartz fragments, 3 to 6% intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3340 to 3350 m

DOLOMITE: light to medium grey host rock (40%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, increase in micro fractures due to increase in pyrobitumen micro laminae??, trace of pyrite cubes and disseminated pyrite, trace of sparry calcite crystals, trace of clear quartz fragments, 3% intercrystalline and micro vuggy porosity, no visible cut fluorescence.

3350 to 3360 m

DOLOMITE: light to medium grey host rock (40%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming slightly clean in part, trace of pyrite cubes and disseminated pyrite, trace of clear quartz fragments, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3360 to 3370 m

DOLOMITE: light to medium grey host rock (40%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, trace of pyrite cubes and disseminated pyrite, trace of cherty remnant fossil fabric Coral?, trace of clear quartz fragments, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3370 to 3380 m

DOLOMITE: light to medium grey host rock (40%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, secondary dolomite cement of white dolomite crystals, trace of pyrite cubes and disseminated pyrite, trace of cherty remnant fossil fabric Coral?, trace of clear quartz fragments, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3380 to 3390 m

DOLOMITE: light to medium grey host rock (40%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, secondary dolomite cement of white dolomite crystals, trace of pyrite cubes and disseminated pyrite, trace of cherty remnant fossil fabric Coral?, trace of clear quartz fragments, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3390 to 3400 m

DOLOMITE: light to medium grey host rock (40%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, secondary dolomite cement of white dolomite crystals, trace of pyrite cubes and disseminated pyrite, trace of remnant fossil fabric Coral?, trace of clear quartz fragments, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3400 to 3410 m

DOLOMITE: light to medium grey host rock (40%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, secondary dolomite cement of white dolomite crystals, trace of pyrite cubes and disseminated pyrite, trace of remnant fossil fabric Coral?, trace of clear quartz fragments, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3410 to 3420 m

DOLOMITE: light to medium grey host rock (40%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (60%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite becoming clean in part, trace of disseminated pyrite, trace of clear quartz fragments, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3420 to 3430 m

DOLOMITE: increase in light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, decrease in white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of disseminated pyrite, trace of cherty biocl limestone fossil fabric remnant, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3430 to 3440 m

DOLOMITE: increase in light to medium grey host rock (70%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, decrease in white pseudo dolomite rhombs (30%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3440 to 3450 m

DOLOMITE: light to medium grey host rock (70%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (30%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3450 to 3460 m

DOLOMITE: light to medium grey host rock (70%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (30%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants Coral?, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3460 to 3470 m

DOLOMITE: light to medium grey host rock (70%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (30%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants Coral?, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3470 to 3480 m

DOLOMITE: light to medium grey host rock (70%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (30%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants Coral?, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3480 to 3490 m

DOLOMITE: light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants Coral?, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3490 to 3500 m

DOLOMITE: light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white

dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants Coral?, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3500 to 3510 m

DOLOMITE: light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of cherty dark brown cryptocrystalline dolomite micro laminae, rare fossil fabric remnants Coral?, tight to 3% intercrystalline porosity, no visible cut fluorescence.

3510 to 3520 m

DOLOMITE: light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, trace of quartz prism, rare fossil fabric remnants Coral?, 3 to 6% intercrystalline porosity, increase in fractures??, no visible cut fluorescence.

3520 to 3530 m

DOLOMITE: light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, 3 to 6% intercrystalline with trace of vuggy porosity, increase in fractures??, no visible cut fluorescence

3530 to 3540 m

DOLOMITE: light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace of disseminated pyrite, 3 to 6% intercrystalline with trace of vuggy porosity, increase in fractures??, no visible cut fluorescence

3540 to 3550 m

DOLOMITE: light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, increase in disseminated pyrite and pyrite cubes, trace calcite crystals, rare frosted crystals and drusy texture, 3 to 6% intercrystalline with trace of vuggy porosity, increase in fractures??, no visible cut fluorescence

3550 to 3560 m **DOLOMITE:** light to medium grey host rock (60%), slightly argillaceous in part, vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, fair relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, less pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, increase in disseminated pyrite and pyrite cubes, trace calcite crystals, rare frosted crystals and drusy texture, 3 to 6% intercrystalline with trace of vuggy porosity, increase in fractures??, no visible cut fluorescence

3560 to 3570 m NO SAMPLES. LOST CIRCULATION.

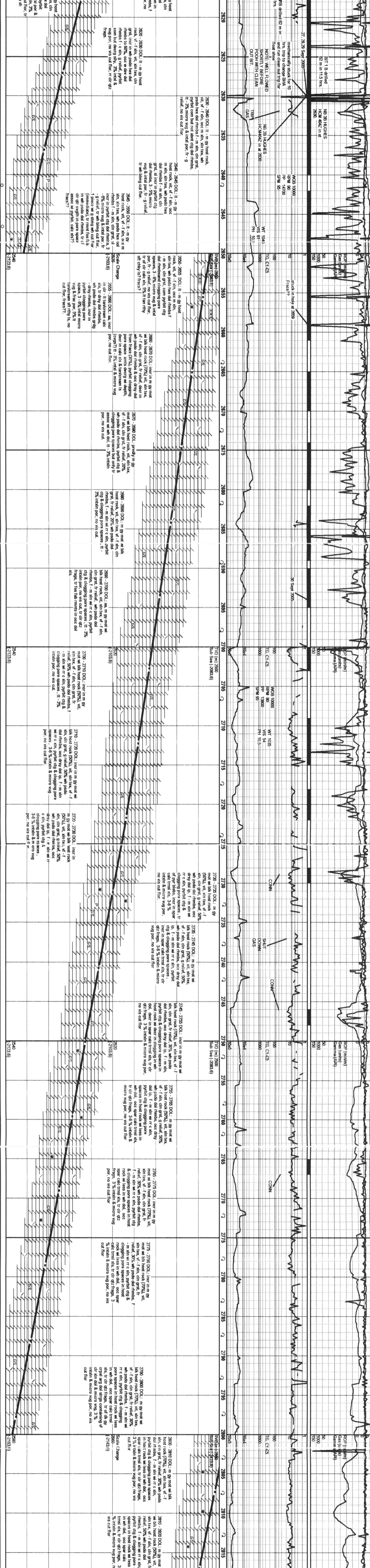
3570 to 3575 m **DOLOMITE:** inferred as above?? Abundant LCM, very poor sample,

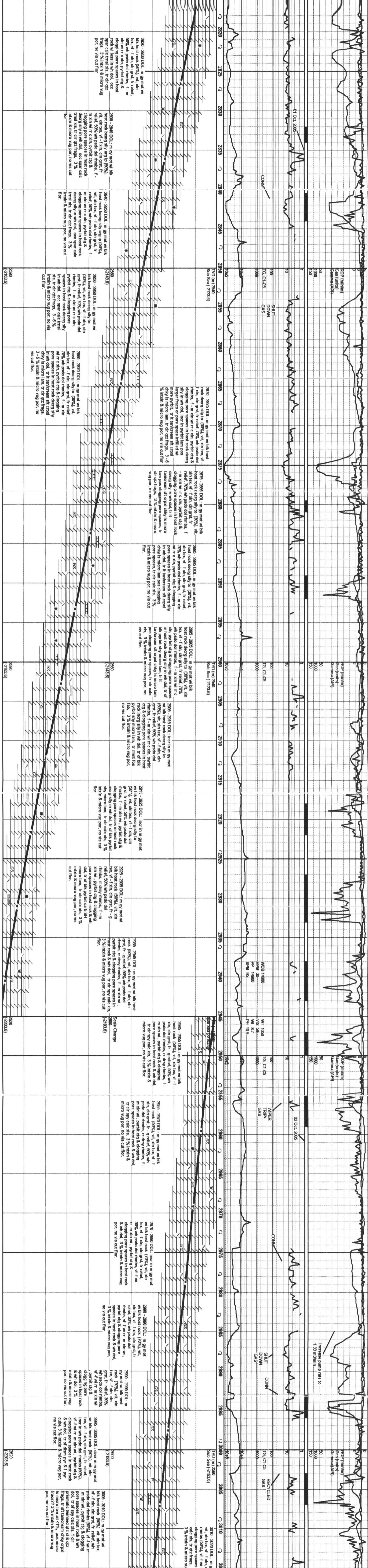
3575 to 3585 m **DOLOMITE:** light to medium grey host rock (60%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace disseminated pyrite, trace clear quartz crystals, rare frosted crystals and drusy texture, 3 to 6% intercrystalline with trace of vuggy porosity, increase in fractures??, no visible cut fluorescence. Abundant calcium carbonate mud additive.

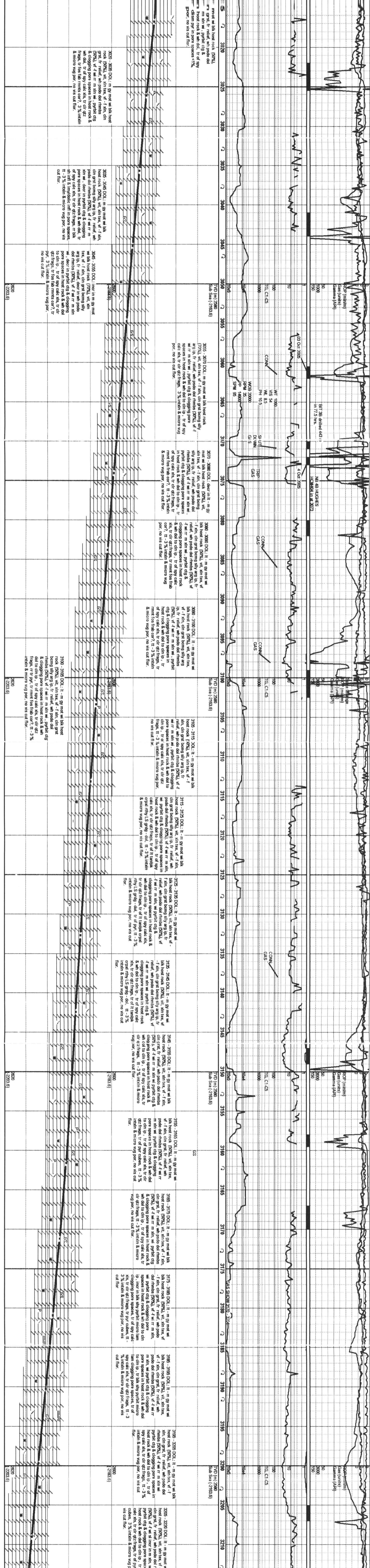
3585 to 3595 m **DOLOMITE:** light to medium grey host rock (60%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace disseminated pyrite, trace clear quartz crystals, rare frosted crystals and drusy texture, 3 to 6% intercrystalline with trace of vuggy porosity, no visible cut fluorescence. Slightly less calcium carbonate mud additive.

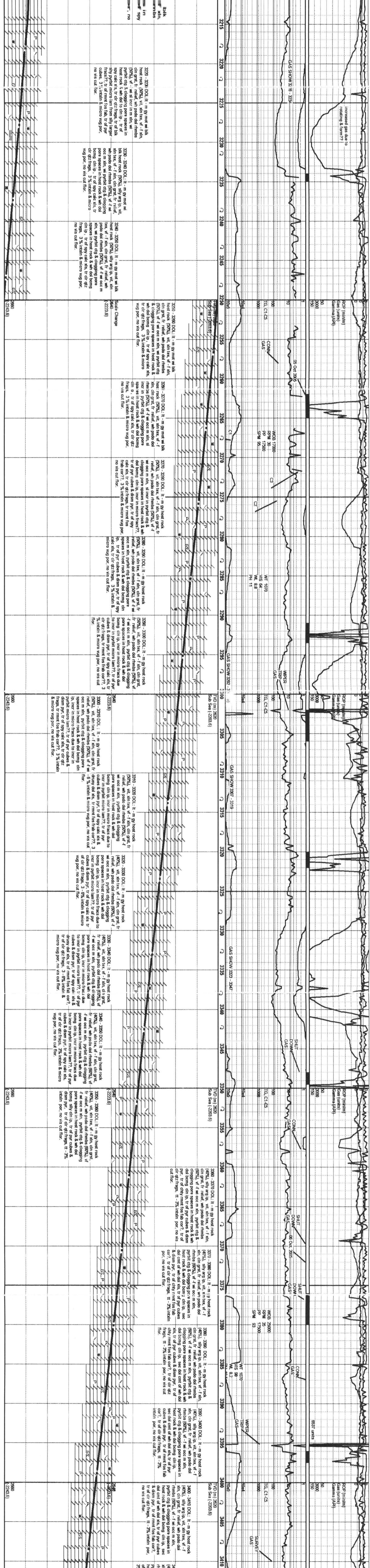
3595 to 3605 m **DOLOMITE:** light to medium grey host rock (60%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, white pseudo dolomite rhombs (40%), very fine to fine with occasional medium crystalline, pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, trace of secondary dolomitic cement in white dolomite as well as pyrobitumen, trace disseminated pyrite, trace clear quartz crystals, rare frosted crystals and drusy texture, 3 to 6% intercrystalline with trace of vuggy porosity, no visible cut fluorescence. less calcium carbonate mud additive.

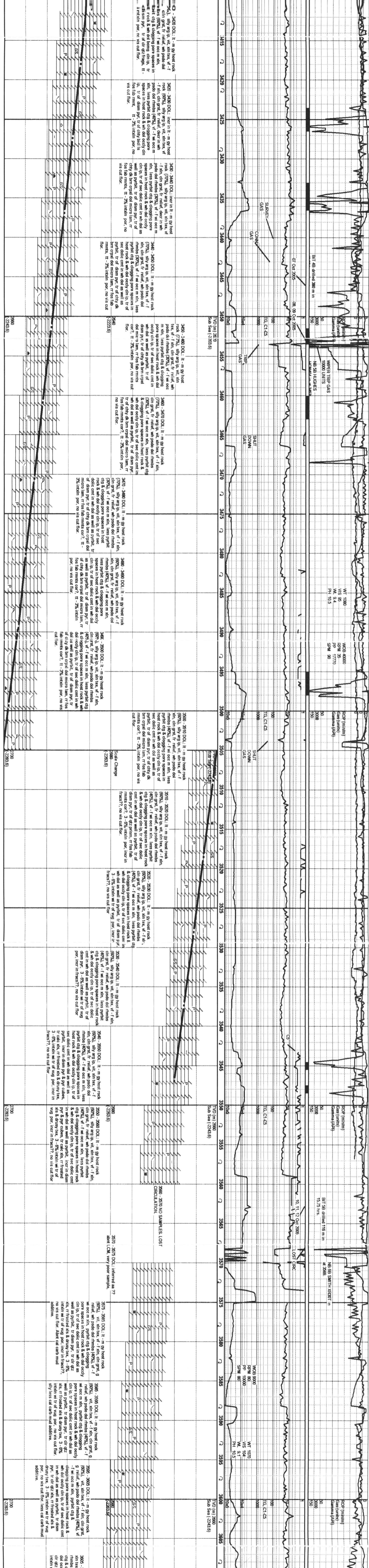
3605 to 3620 m **DOLOMITE:** light to medium grey host rock (70%), vitreous, crystalline texture, very fine to fine crystalline, clean grainstone, good relief, white pseudo dolomite rhombs (30%), very fine to fine with occasional medium crystalline, increase in pyrobitumen coating and clogging pore spaces in host rock and white dolomite occasionally clean in part, increase in fractures??, trace disseminated pyrite, trace clear quartz crystals, rare frosted crystals and drusy texture, 3 to 6% intercrystalline with trace of vuggy porosity, no visible cut fluorescence.

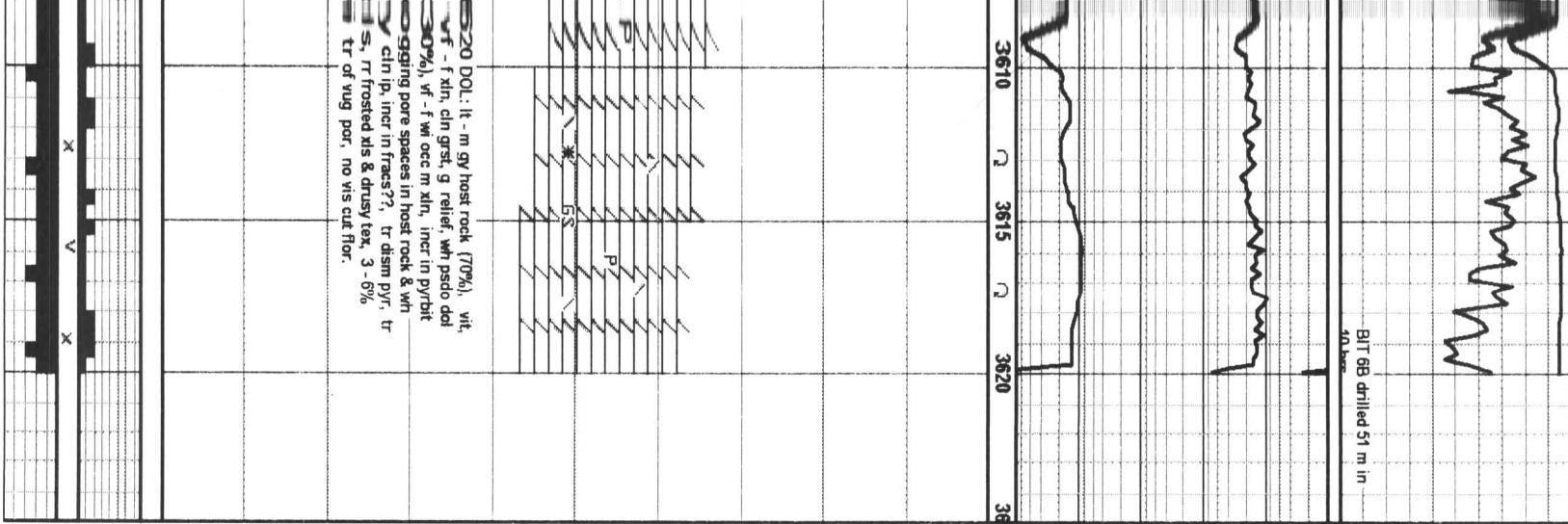












20 DOL: It - m gy host rock (70%). vit, wh - f xin, clin grst, g relief, wh psdo dol 3D%, vit - f wh occ in xin, incr in gging pore spaces in host rock & wh clin ip, incr in fract??, tr dism pyr, tr s, rr frosted xis & drusy tex, 3 - 6% tr of vug por, no vug cut flor.