

ANADARKO CANADA CORPORATION

ANADARKO EMILE LAKE A-77

UNIT A, SEC. 77, GRID AREA 60° 50', 122° 30'

60° 46' 09.6" N. LAT.

122° 43' 33.9" W. LONG

GEOLOGICAL WELLSITE REPORT

Prepared for:

Mr. Wayne Dwyer
Anadarko Canada Corporation

Prepared by:

Merlin Petroleum Services
Harold Cowan

March 18, 2004

ANADARKO ANADARKO EMILE LAKE A-77

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WELL DATA SUMMARY

Well Name:	Anadarko Emile Lake A-77	
Location:	Unit A, Sec. 77, Grid Area 60° 50', 122° 30'	
Coordinates:	60° 46' 09.6" N. Lat., 122° 43' 33.9" W. Long	
Operator:	Anadarko Canada Corporation	
Elevations:	Grd. 624.7 m	KB. 630.8 m
Total Depth:	2265.3 m Driller - Bottom in Pre-Devonian 2262.5 m Logger	
Surface Casing:	244.5 mm, set @ 648 m. Cement with good returns.	
Intermediate Casing:	177.8 mm, set @ 1969 m	
Spud Date:	02-03-2004 @ 17:15 hrs.	
Rig Release:		
Classification:	Potential Gas Well	
Well Status:	Confidential	
Primary Objective:	Slave Point - Landry	
Province:	NWT	Area: Ft. Liard, NWT
Hole Data:	Surface Hole:	311.2 mm, Surface - 648
	Intermediate Hole:	215.9 mm, 648 - 1969
	Main Hole:	155.6 mm, 1969 - 2265.3
Mud System:	Invert - Intermediate Hole Polymer - Main Hole	
Drilling Contractor:	Akita, Rig 37	
Wellsite Engineer:	Brian Preece	
Wellsite Geologist:	Harold Cowan	
Note:	Initial well name was Netla A-77	

DRILLING HISTORY

Date 2004	Depth (m)	Mud Properties				Operations Conducted
		Dens.	Vis.	WL	PH	
Mar. 1						• Rigging up.
Mar. 2						• Rigging up Akita 37.
Mar. 3	199					• Drill 311 mm hole. Spud 17:15 hrs., 02-03-2004.
Mar. 4	514					• Drilling.
Mar. 5	648					• Prep to run surface casing.
Mar. 6	648					• W.O.C. Rig in BOP's. Ran 46 jts., 244.5 mm casing, set at 648 m. Cement with good returns. Plug down @16:00 hrs., 05-03-2004
Mar. 7	648					• Complete pressure testing, pick up BHA (MWD, square motor and PDC).
Mar. 8	945	945	57			• Drilling intermediate hole at 945. Drill out of shoe @ 16:45 hrs., 07-03-2004. Mud system – Invert.
Mar. 9	1565	950	57			• Drill 215.9 mm hole.
Mar. 10	1710	940	53			• Directional drilling. Trip for bit and directional tools at 1668 m.
Mar. 11	1920	950	53			• Drill.
Mar. 12	1969	950	56			• Prep to run in with gyro. Completed logging with Precision. Reached intermediate casing point @ 13:15 hrs., 11-03-2004.
Mar. 13	1969					• Run gyro, lay down 4-1/2" drill pipe. • Run 140 jts., 177.8 mm casing, cement with good returns.
Mar. 14	1969					• Pressure test BOP's.
Mar. 15	2004	1020	48		10.5	• Drilling 155.9 mm hole with PDC and MWD. • Drill with polymer. Drilled out @ 01:00 hrs., 15-03-2004. Drilled 5 m out of shoe and ran a FIT test.
Mar. 16	2235	1025	46		10.5	• Drilling, recorded 2000 units of gas at 2212 m.
Mar. 17	2265.3					• Reached TD @ 12:30 hrs., 16-03-2004. • Logging by Precision. Run #1 HMI failed. Run #2 HMI okay. Run #3 Density Neutron and Laterolog.
Mar. 18	2265.3					• Run and cement a 4-1/2" liner over the main hole.

BIT RECORD

BIT NO.	SIZE MM	SERIAL NO.	MAKE	TYPE	HOURS	DEPTH OUT	METRES DRILLED
1	311	LR0070	Smith	FDS	11.50	199.0	199.0
2	311	2084	United	UD516	22.00	648.0	449.0
3	215	10092	Hycalog	DSX 145	35.75	1667.0	1019.0
4	215	1041	UD	UD513		1969.0	302.0
5	155	1739	UD	UD 513	29.5	2265.3	296.3

FORMATION TOPS

	SAMPLE MD (m)	SAMPLE SS (m)	LOG TOPS (m)	SUBSEA (m)
Exshaw	661.6	-30.8	662.3	-31.5
Kotcho	671.2	-40.4	673.0	-42.2
Tetcho	1020.2	-389.4	1021.0	-390.2
Trout River	1108.0	-477.2	1105.0	-474.2
Kakisa	1185.0	-554.2	1184.0	-553.2
Ft. Simpson	1199.5	-568.7	1194.5	-563.3
Ft. Simpson MKR	1730.8	-1100.0		
Muskwa	1937.2	-1306.4	1928.0	-1297.2
Slave Point	1965.0	-1334.2	1964.0	-1333.2
Watt Mtn.	2072.0	-1441.2	2072.0	-1441.2
Sulphur Point	2086.0	-1455.2	2081.0	-1450.2
Landry	2201.9	-1571.1	2204.0	-1573.2
Pre-Devonian	2263.6	-1632.8	2263.6	-1632.8
Total Depth	2265.3 TD	-1634.5	2265.3	-1634.5

SAMPLE DESCRIPTIONS

648-655	Shale, black, blocky, fissile in part.
660-665	Shale, grey, micaceous, glauconitic in part.
670	Shale, grey, micaceous, trace Shale, green, splintery. Trace Sandstone, clear, salt and pepper, apparent dead oil stain, no porosity, very dull fluorescence, no cut.
675	Shale, dark brown, bituminous. Dolomite, brown, argillaceous, possible light oil stain, dull fluorescence, slow milky cut, no permeability.
680	Siltstone, light grey, dolomitic, sandy. Shale, dark grey-brown, bituminous in part, waxy in part.
685	Siltstone, light grey, dolomitic, sandy. Trace limestone, buff, finely crystalline, fossiliferous, dense.
690	Siltstone, light grey, dolomitic, sandy.
695	Siltstone, grey-light grey, dolomitic, sandy. Trace Limestone, brown, finely crystalline, fossiliferous, chalky in part, dense.
700	Siltstone, grey, dolomitic, sandy. Trace Dolomite, buff, microcrystalline, dense.
705	Shale, greenish grey, dolomitic, blocky.
710-715	Shale, as above.
720	Shale, as above. Trace crinoidal ossicles.
725-740	Shale, as above.
745	Limestone, buff, finely crystalline, chalky in part, dense. Shale, as above (50%).
750	Limestone, buff, finely crystalline, chalky in part, dense.
755-765	Limestone, as above.
770-785	Limestone, as above (50%). Shale, grey, micro-micaceous, blocky, dolomitic.

790	No sample.
795	Shale, grey, micro-micaceous, flaky, dolomitic.
800-815	Shale, greenish grey, dolomitic, micro-micaceous.
820	Shale, greenish grey, micro-micaceous, dolomitic. Limestone, buff, finely crystalline, dense.
825	Shale, as above. Trace Limestone, buff, crinoidal, dense.
830-900	Shale, greenish grey, dolomitic, blocky.
905-920	Shale, as above.
925	Shale, dark brown, bituminous. Shale, medium grey, micaceous.
930-1000	Shale, greenish grey, micaceous, splintery, dolomitic.
1005	No sample.
1010	Shale, greenish grey, as above.
1015	Shale, medium grey, blocky, dolomitic.
1020	Shale, medium grey, blocky, dolomitic. Trace Siltstone, brown, dolomitic.
1025	Limestone, cream, chalky.
1030	Limestone, cream, silty.
1035	Shale, medium grey, micaceous, dolomitic. Limestone, as above (25%).
1040	Limestone, buff, microcrystalline, dense.
1045	Limestone, as above.
1050-1055	Limestone, buff, microcrystalline, dense.
1060-1065	Limestone, buff, microcrystalline, chalky in part, dense.
1070	Limestone, buff, finely crystalline, chalky in part, dense.
1075	Limestone, brown, microcrystalline, dense.

1080	Limestone, buff, chalky, dense.
1085	Limestone, buff, microcrystalline, dense. Limestone, cream, chalky, dense.
1090	Shale, green-grey, micro-micaceous. Limestone, buff, chalky, dense.
1095	Limestone, cream, chalky. Shale, grey, limey.
1100	Limestone, cream, chalky. Shale, grey, dolomitic, blocky.
1105	Limestone, grey, argillaceous. Shale, medium grey, dolomitic, blocky.
1110	Shale, medium grey, dolomitic, blocky.
1115	Shale, medium grey, micro-micaceous, blocky. Limestone, grey, finely crystalline, dense.
1120	Shale, as above. Limestone, as above.
1125	Shale, grey, micro-micaceous, blocky. Siltstone, grey, sandy.
1130	Shale, grey-medium grey, micro-micaceous. Siltstone, grey, sandy.
1135	Shale, as above. Pyrite common.
1140	Shale, grey-medium grey, micro-micaceous, dolomitic.
1145-1160	Shale, as above.
1165	Siltstone, grey, argillaceous, dolomitic.
1170	Shale, grey-medium grey, micro-micaceous, dolomitic. Siltstone, grey, dolomitic.
1175-1185	Shale, as above. Siltstone, as above.
1190	Limestone, grey, argillaceous. Shale, medium grey, blocky.
1195	Limestone, as above. Trace Shale, brown, bituminous.
1200	Shale, brown, bituminous, fissile. Limestone, grey, argillaceous, sandy in part.
1205-1215	Shale, as above. Limestone, as above.

1220	Shale, green-grey, dolomitic, splintery.
1225	Shale, green-grey, splintery, dolomitic. Shale, dark brown, bituminous, fissile.
1230-1240	Shale, as above.
1245	Shale, green-grey, splintery, dolomitic.
1250	Shale, medium grey, micro-micaceous, blocky, silty in part.
1255-1280	Shale, as above.
1285	Shale, as above. Siltstone, grey, sandy.
1290-1315	Shale, as above.
1320-1325	Shale, medium grey, micro-micaceous, splintery.
1330	Shale, medium grey, micro-micaceous, splintery. Siltstone, grey, sandy.
1335-1340	Shale, green-grey-medium grey, micro-micaceous, flaky.
1345-1375	Shale, as above. Siltstone, grey, sandy (10%).
1380	Shale, as above. Increase in Siltstone, grey, sandy.
1385-1400	Shale, green-grey-medium grey, micro-micaceous, flaky.
1405-1450	Shale, as above.
1455-1495	Shale, medium grey, micro-micaceous, blocky.
1500-1525	Shale, green-grey, micro-micaceous, blocky, silty in part.
1530-1545	Shale, green-grey, micro-micaceous, splintery.
1550-1570	Shale, medium grey, micro-micaceous, blocky.
1575-1595	Shale, medium grey, micro-micaceous, splintery, blocky in part.
1600	Shale, medium grey, micro-micaceous, splintery.
1605-1630	Shale, medium grey-grey, micro-micaceous, blocky.

1635-1650	Shale, medium grey, non-calcareous, micro-micaceous, blocky.
1655-1670	Shale, medium grey, micro-micaceous, blocky.
1675-1685	Shale, grey-medium grey, blocky, micro-micaceous.
1690-1715	Shale, grey-medium grey, blocky, flaky, micaceous in part.
1720	Shale, grey, blocky.
1725-1730	Shale, grey-medium grey, blocky.
1735	Shale, medium grey, blocky. Limestone, cream, chalky.
1740	Shale, medium grey, fissile in part, blocky.
1745	Shale, dark grey, flaky, blocky in part.
1750-1765	Shale, grey, blocky.
1770-1780	Shale, grey, blocky, splintery in part.
1785-1810	Shale, medium grey, blocky.
1815-1855	Shale, grey-medium grey, blocky
1860-1890	Shale, medium grey, blocky.
1895	Shale, dark grey, flaky, trace disseminated pyrite.
1900-1910	Shale, medium-dark grey, blocky, flaky, non-calcareous.
1915-1920	Shale, as above.
1925	Shale, as above.
1930	Shale, as above. Trace Shale, dark brown, blocky.
1935	Shale, black, dark brown, bituminous in part, flaky, trace disseminated pyrite, non calcareous.
1940	Shale, dark brown, bituminous, flaky, pyritic in part.
1945	Shale, as above.

1950	Shale, dark brown, bituminous, flaky.
1955	Shale, dark brown-black, bituminous, flaky.
1960	Shale, dark brown-black, bituminous, flaky. Trace Dolomite, brown, argillaceous.
1965	Shale, dark brown-black, bituminous. Trace Limestone, grey, argillaceous, dense.
1969	Dolomite, buff-black, mottled, brecciated, dolomite, fossiliferous, finely crystalline, with black Shale fragments, dense, no shows.
1975	Cement.
1980	Limestone, dark brown-black, micritic, dense.
1985	Limestone, dark brown-black, micritic. Trace Limestone, white, chalky. Limestone, buff, microcrystalline.
1990	Limestone, cream, white, chalky, stylitic, no porosity, no shows.
1995	Limestone, cream, chalky, finely crystalline in part, stylitic in part, no porosity, dense.
2000	Limestone, as above.
2005	Limestone, cream, chalky, finely sucrosic, few incipient fractures with fine-medium dolomite crystals, interspersed with scattered pyrobitumen blebs, no porosity, no shows.
2010	Limestone, cream, chalky, finely sucrosic, stylitic in part, no porosity, no shows.
2015	Limestone, cream, as above. Trace scattered clear Dolomite rhombs.
2020	Limestone, cream, chalky.
2025	Limestone, cream, chalky, finely sucrosic, trace finely crystalline, impermeable, no shows.
2030	Limestone, as above.
2035	Shale, grey-green, dolomitic (5%). Limestone, cream, as above. Trace Limestone, buff, fragmental, dense.

- 2040 Limestone, cream, chalky, finely sucrosic, impermeable, no shows.
- 2045 Limestone, cream, chalky, finely sucrosic, with Limestone, buff, fragmental, dense, no shows.
- 2050 Limestone, buff, finely fragmental, finely crystalline, pyritic, dense, no shows.
- 2055 Limestone, buff, chalky, finely crystalline in part, dense, no shows.
- 2060 Limestone, cream, chalky. Limestone, buff, finely crystalline, dense.
- 2065 Limestone, buff, finely crystalline, dense, with thin interbeds of pyrobitumen. Limestone, cream chalky.
- 2070 Limestone, cream, chalky with thin interbeds of pyrobitumen. Limestone, cream, finely crystalline, dense.
- 2075 Shale, black, fissile. Limestone, buff, finely crystalline, dense. Limestone, cream, chalky.
- 2080 Shale, black, fissile, dolomitic. Limestone, buff, finely crystalline, chalky in part, dense.
- 2085 Shale, black, brittle. Limestone, brown-dark brown, microcrystalline, dense.
- 2090 Limestone, brown, dark brown, microcrystalline. Limestone, buff, finely crystalline, dense.
- 2095 Limestone, brown, dark brown, microcrystalline. Limestone, cream, argillaceous, dense.
- 2100 Limestone, brown, dark brown, microcrystalline, dense. Limestone, buff, argillaceous, dense.
- 2105 Limestone, as above.
- 2110 Limestone, dark brown, microcrystalline, dense. Limestone, buff, finely crystalline, dense. Limestone, cream, argillaceous, dense.
- 2115 Limestone, dark brown, microcrystalline, dense. Shale, black, brittle, dolomitic.
- 2120 Limestone, as above. Limestone, buff, argillaceous, finely crystalline in part, dense.

- 2125 Limestone, brown-dark brown, microcrystalline. Limestone, cream, argillaceous, chalky, dense.
- 2130 Limestone, brown-dark brown, microcrystalline, dense.
- 2135 Limestone, brown-dark brown, microcrystalline, dense, increase in Limestone, buff, finely crystalline, dense.
- 2140 Limestone, buff, microcrystalline, dense.
- 2145 Limestone, buff, microcrystalline, dense. Limestone, dark brown, micritic.
- 2150 Limestone, buff, microcrystalline, dense.
- 2155 Limestone, dark brown, micritic. Limestone, buff, argillaceous, with thin pyrobitumen streaks, dense, no shows.
- 2160 Limestone, dark brown, micritic. Limestone, buff, argillaceous, as above.
- 2165 Limestone, buff, finely crystalline, dense. Limestone, buff, argillaceous, dense.
- 2170 Limestone, dark brown, microcrystalline, dense. Limestone, buff, argillaceous, finely crystalline in part, dense.
- 2175 Limestone, dark brown, microcrystalline, dense. Limestone, buff, argillaceous, as above.
- 2180 Limestone, buff, brown, microcrystalline, dense.
- 2185 Limestone, brown, dark brown, microcrystalline, dense. Trace Dolomite, white, coarsely crystalline, massive, no porosity, no shows.
- 2190 Limestone, dark brown, microcrystalline, dense. Trace Shale, green, blocky, pyritic, non-calcareous.
- 2195 Limestone, brown, micritic, dense.
- 2200 Limestone, brown, buff, micritic, pyritic, dense.
- 2205 Shale, grey, blocky, pyritic. Limestone, buff, micritic, becoming, cream, argillaceous.
- 2210 Limestone, buff, finely crystalline, dense. Limestone, cream, chalky.

- 2215 Dolomite, white, coarsely crystalline-massive, trace finely crystalline, vug lining, porosity probably good, no fluorescence, good gas response.
- 2220 Limestone, buff, finely crystalline, dense. Limestone, cream, chalky, dense.
- 2225 Limestone, as above.
- 2230 Limestone, cream, chalky. Limestone, buff, finely crystalline, as above.
- 2235 Limestone, cream, chalky. Dolomite, white, coarsely crystalline-massive, no apparent porosity, no shows.
- 2240 Limestone, buff, finely crystalline, dense. Dolomite, white, coarsely crystalline-massive, no apparent porosity, no shows (25%). Siltstone, grey-green, dolomitic, blocky, hard (5%).
- 2245 Siltstone, grey-green, dolomitic, hard. Trace Shale, green, waxy, pyritic.
- 2250-2255 Dolomite, buff, finely crystalline, dense.
- 2260 Dolomite, buff, finely crystalline, trace crystalline dolomite filled vugs, no porosity, no shows.
- 2265.3 Shale, black, siliceous. Trace Quartzite, greenish-grey, hard.

CD0304G_098

gyrodata

ANADARKO CANADA CORPORATION

ANADARKO NETLA LAKE A77

FORT LIARD, N.W.T.

CD0304G_098

gyrodata

A Gyrodata Directional Survey

for

ANADARKO CANADA CORPORATION

Surface Location: **AKITA #37, FORT LIARD, N.W.T.**
Well Name: **ANADARKO NETLA LAKE A77,**

Job Number: **CD0304G_098**

Run Date: **12/03/2004 3:20:51 PM**

Surveyor: **DAVE DEVLIN**

Calculation Method: **MINIMUM CURVATURE**

Survey Latitude: **60.769300 °N** Longitude: **122.726100 °W**

Azimuth Correction: **NONE**

Gyro: Bearings are Relative to True North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

CD0304G_098

D0304G_098

gyrodata

A Gyrodata Directional Survey

ANADARKO CANADA CORPORATION

Well Name: ANADARKO NETLA LAKE A77

Surface Location: AKITA #37, FORT LIARD, N.W.T.

Job Number: CD0304G_098

MEASURED DEPTH meters	I N C L deg	AZIMUTH deg	VERTICAL DEPTH meters	HORIZONTAL COORDINATES meters		CLOSURE DIST. AZIMUTH meters deg.		DOGLEG SEVERITY deg/30m
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.0	0.0	0.00
ALL MEASURED DEPTHS ARE REFERENCED TO AN R.K.B. OF 4.08 M								
70.00	0.42	171.41	70.00	0.25 S	0.04 E	0.3	171.4	0.18
100.00	0.60	208.54	100.00	0.50 S	0.02 W	0.5	182.3	0.37
130.00	0.42	200.27	130.00	0.74 S	0.13 W	0.8	190.1	0.19
160.00	0.63	232.81	160.00	0.94 S	0.30 W	1.0	197.7	0.36
190.00	0.46	250.09	189.99	1.09 S	0.55 W	1.2	206.7	0.23
220.00	0.38	244.43	219.99	1.17 S	0.75 W	1.4	212.7	0.09
250.00	0.48	258.73	249.99	1.24 S	0.96 W	1.6	217.9	0.15
280.00	0.43	236.59	279.99	1.32 S	1.18 W	1.8	221.7	0.18
310.00	0.72	229.91	309.99	1.51 S	1.42 W	2.1	223.3	0.30
340.00	0.54	241.23	339.99	1.70 S	1.69 W	2.4	224.9	0.22
370.00	0.69	257.40	369.99	1.81 S	1.99 W	2.7	227.8	0.22
400.00	0.96	244.76	399.98	1.95 S	2.39 W	3.1	230.8	0.32
430.00	0.71	249.33	429.98	2.12 S	2.79 W	3.5	232.7	0.26
460.00	0.72	250.58	459.98	2.25 S	3.14 W	3.9	234.4	0.02
490.00	1.02	250.36	489.97	2.41 S	3.58 W	4.3	236.1	0.30
520.00	0.92	259.90	519.97	2.54 S	4.06 W	4.8	238.0	0.19
550.00	0.94	262.33	549.97	2.61 S	4.54 W	5.2	240.1	0.04
580.00	0.76	252.43	579.96	2.71 S	4.97 W	5.7	241.5	0.23
610.00	0.93	266.87	609.96	2.78 S	5.41 W	6.1	242.8	0.28
640.00	1.06	263.07	639.96	2.83 S	5.93 W	6.6	244.5	0.15
670.00	0.86	261.92	669.95	2.89 S	6.43 W	7.0	245.8	0.20
700.00	0.78	271.53	699.95	2.92 S	6.86 W	7.5	247.0	0.16
730.00	0.56	293.00	729.95	2.85 S	7.20 W	7.7	248.4	0.33
760.00	0.58	300.06	759.94	2.72 S	7.46 W	7.9	250.0	0.07
790.00	0.79	298.56	789.94	2.55 S	7.78 W	8.2	251.9	0.21
820.00	0.86	311.46	819.94	2.30 S	8.13 W	8.4	254.2	0.20
850.00	0.77	312.19	849.94	2.01 S	8.45 W	8.7	256.6	0.09
880.00	0.81	316.83	879.93	1.72 S	8.74 W	8.9	258.8	0.08
910.00	0.96	318.50	909.93	1.38 S	9.05 W	9.2	261.3	0.15
940.00	1.10	323.06	939.92	0.96 S	9.39 W	9.4	264.1	0.16
970.00	1.19	328.01	969.92	0.47 S	9.73 W	9.7	267.2	0.13
1000.00	1.38	322.01	999.91	0.08 N	10.12 W	10.1	270.4	0.24
1030.00	1.24	329.13	1029.90	0.64 N	10.51 W	10.5	273.5	0.21
1060.00	1.33	333.38	1059.90	1.23 N	10.83 W	10.9	276.5	0.13
1090.00	1.77	337.59	1089.88	1.97 N	11.16 W	11.3	280.0	0.46
1120.00	1.96	333.41	1119.87	2.86 N	11.57 W	11.9	283.9	0.23

D0304G_098

gyrodata

A Gyrodata Directional Survey

ANADARKO CANADA CORPORATION

Well Name: ANADARKO NETLA LAKE A77

Surface Location: AKITA #37, FORT LIARD, N.W.T.

Log Number: D0304G_098

MEASURED DEPTH meters	I N C L deg	AZIMUTH deg	VERTICAL DEPTH meters	HORIZONTAL COORDINATES meters		CLOSURE DIST. AZIMUTH meters deg.		DOGLEG SEVERITY deg/30m
1150.00	2.00	331.82	1149.85	3.78 N	12.04 W	12.6	287.4	0.07
1180.00	1.78	328.66	1179.83	4.64 N	12.54 W	13.4	290.3	0.24
1210.00	1.58	325.20	1209.82	5.38 N	13.01 W	14.1	292.5	0.23
1240.00	1.58	323.13	1239.81	6.05 N	13.50 W	14.8	294.1	0.06
1270.00	1.51	321.01	1269.80	6.69 N	13.99 W	15.5	295.5	0.09
1300.00	1.35	317.22	1299.79	7.25 N	14.48 W	16.2	296.6	0.19
1330.00	1.36	311.96	1329.78	7.75 N	14.99 W	16.9	297.3	0.12
1360.00	1.39	304.63	1359.77	8.20 N	15.55 W	17.6	297.8	0.18
1390.00	1.56	296.37	1389.76	8.59 N	16.22 W	18.3	297.9	0.27
1420.00	0.68	263.57	1419.76	8.75 N	16.76 W	18.9	297.6	1.05
1450.00	0.68	204.11	1449.76	8.56 N	17.01 W	19.0	296.7	0.68
1480.00	1.02	168.41	1479.75	8.14 N	17.03 W	18.9	295.5	0.61
1510.00	1.67	161.07	1509.74	7.46 N	16.84 W	18.4	293.9	0.67
1540.00	2.37	156.61	1539.73	6.48 N	16.45 W	17.7	291.5	0.71
1570.00	1.09	154.54	1569.71	5.65 N	16.08 W	17.0	289.4	1.28
1600.00	0.11	338.85	1599.71	5.42 N	15.97 W	16.9	288.8	1.20
1630.00	0.95	297.08	1629.71	5.56 N	16.20 W	17.1	289.0	0.87
1660.00	1.17	297.73	1659.70	5.82 N	16.69 W	17.7	289.2	0.23
1690.00	0.72	270.28	1689.70	5.96 N	17.15 W	18.2	289.2	0.63
1720.00	0.65	169.17	1719.70	5.80 N	17.31 W	18.3	288.5	1.06
1750.00	0.92	70.26	1749.70	5.71 N	17.05 W	18.0	288.5	1.21
1780.00	1.06	173.37	1779.69	5.52 N	16.79 W	17.7	288.2	1.55
1810.00	0.59	315.95	1809.69	5.35 N	16.86 W	17.7	287.6	1.57
1840.00	0.90	215.08	1839.69	5.27 N	17.11 W	17.9	287.1	1.17
1870.00	1.09	302.09	1869.69	5.23 N	17.48 W	18.2	286.7	1.38
1900.00	0.86	185.19	1899.68	5.16 N	17.75 W	18.5	286.2	1.66
1930.00	0.40	173.84	1929.68	4.83 N	17.75 W	18.4	285.2	0.47
1960.00	0.77	332.76	1959.68	4.91 N	17.84 W	18.5	285.4	1.15

Final Station Closure: Distance: 18.50 m Az: 285.39 °

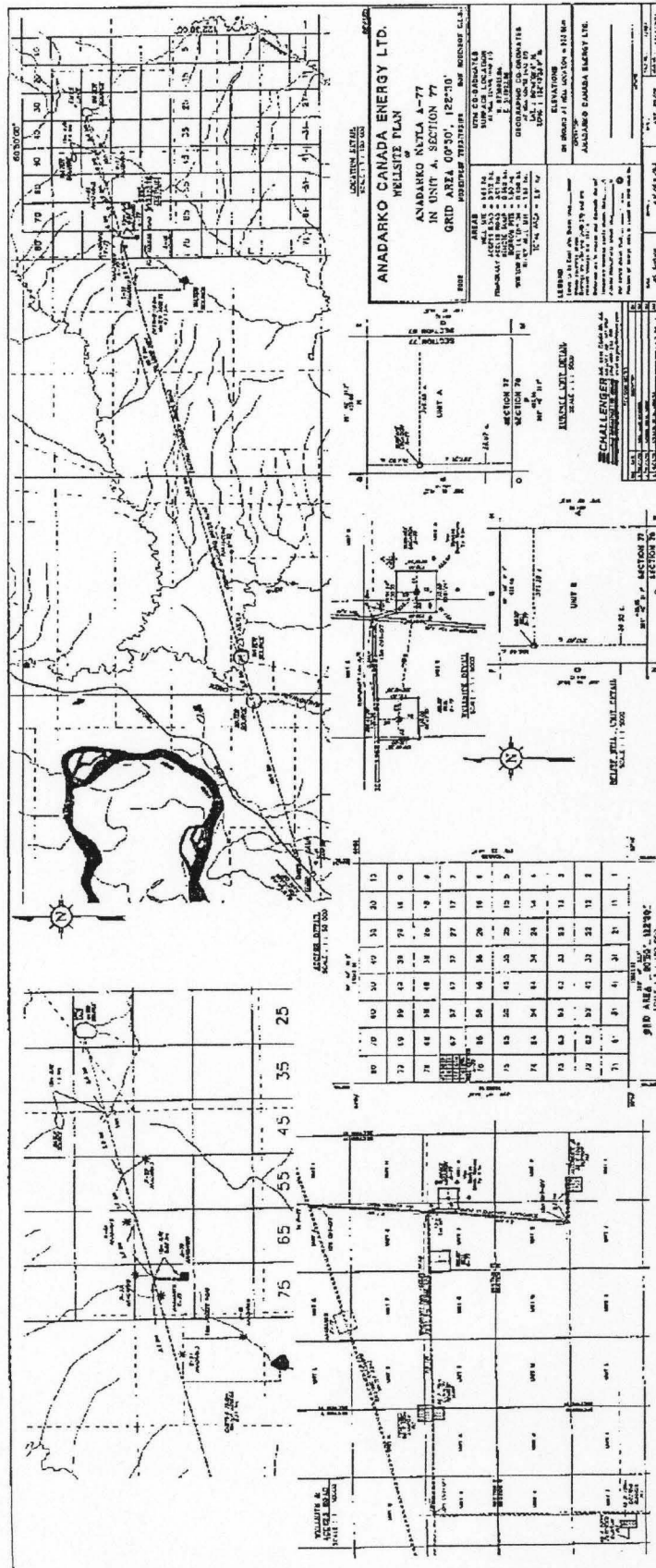
COMPANY NAME: Sperry-Sun Drilling Services
 CUSTOMER NAME: ANADARKO CANADA CORPORATION
 WELL: ANADARKO EMILE LAKE A-77
 FIELD: NETLA
 LOCATION: 60:46:09.6N 122:43:33.9W
 JOB NUMBER: CX-MW-2874459
 REFERENCE NORTH: TRUE DISTANCE UNITS: METRES
 DATE PROCESSED: 16-MAR-2004,15:41:46 VERTICAL SECTION ALONG 285.4 DEGREES
 CORRECTION APPLIED IS 24.6 DEG (DEC: 24.6)

MEASURED DEPTH	INC	AZIMUTH	TRUE VERTICAL DEPTH	NORTH	EAST	VERTICAL SECTION	DOGLEG SEVERITY /30m
* 0.00	0.00	0.00	0.00	0.00	0.00
70.00	0.42	171.41	70.00	-0.25	0.04	-0.10	0.18
100.00	0.60	208.54	100.00	-0.50	-0.02	-0.11	0.37
130.00	0.42	200.27	130.00	-0.74	-0.13	-0.07	0.19
160.00	0.63	232.81	159.99	-0.94	-0.30	0.04	0.36
190.00	0.46	250.09	189.99	-1.09	-0.55	0.24	0.23
220.00	0.38	244.43	219.99	-1.17	-0.75	0.41	0.09
250.00	0.48	258.73	249.99	-1.24	-0.96	0.60	0.15
280.00	0.43	236.59	279.99	-1.32	-1.18	0.79	0.18
310.00	0.72	229.91	309.99	-1.51	-1.42	0.97	0.30
340.00	0.54	241.23	339.99	-1.70	-1.69	1.18	0.22
370.00	0.69	257.40	369.99	-1.80	-1.99	1.44	0.23
400.00	0.96	244.76	399.98	-1.95	-2.39	1.79	0.32
430.00	0.71	249.33	429.98	-2.12	-2.79	2.13	0.26
460.00	0.72	250.58	459.98	-2.25	-3.14	2.43	0.02
490.00	1.02	250.36	489.97	-2.40	-3.57	2.81	0.30
520.00	0.92	259.90	519.97	-2.54	-4.06	3.24	0.19
550.00	0.94	262.33	549.97	-2.61	-4.54	3.69	0.04
580.00	0.76	252.43	579.96	-2.70	-4.98	4.08	0.23
610.00	0.93	266.87	609.96	-2.78	-5.41	4.48	0.27
640.00	1.06	263.07	639.95	-2.82	-5.93	4.96	0.15
670.00	0.86	261.92	669.95	-2.89	-6.43	5.43	0.20
700.00	0.78	271.53	699.95	-2.91	-6.85	5.83	0.16
730.00	0.56	293.00	729.95	-2.85	-7.19	6.18	0.33
760.00	0.58	300.06	759.94	-2.72	-7.46	6.47	0.07
790.00	0.79	298.56	789.94	-2.54	-7.77	6.82	0.21
820.00	0.86	311.46	819.94	-2.30	-8.12	7.22	0.20
850.00	0.77	312.19	849.94	-2.01	-8.44	7.60	0.09
880.00	0.81	316.83	879.93	-1.72	-8.73	7.96	0.08
910.00	0.96	318.50	909.93	-1.38	-9.05	8.36	0.15
940.00	1.10	323.06	939.92	-0.96	-9.39	8.79	0.16
970.00	1.19	328.01	969.92	-0.47	-9.72	9.25	0.13
1000.00	1.38	322.01	999.91	0.08	-10.11	9.77	0.23
1030.00	1.24	329.13	1029.90	0.65	-10.50	10.29	0.21
1060.00	1.33	333.38	1059.90	1.24	-10.82	10.76	0.13
1090.00	1.77	337.59	1089.88	1.98	-11.16	11.28	0.45
1120.00	1.96	333.41	1119.87	2.86	-11.56	11.91	0.23
1150.00	2.00	331.82	1149.85	3.78	-12.04	12.61	0.07
1180.00	1.78	328.66	1179.83	4.64	-12.53	13.31	0.24
1210.00	1.58	325.20	1209.82	5.38	-13.01	13.97	0.22
1240.00	1.58	323.13	1239.81	6.05	-13.49	14.61	0.06

1330.00	1.36	311.96	1329.78	7.75	-14.98	16.50	0.12
1360.00	1.39	304.63	1359.77	8.20	-15.54	17.16	0.18
1390.00	1.56	296.37	1389.76	8.59	-16.21	17.91	0.27
1420.00	0.68	263.57	1419.76	8.75	-16.75	18.47	1.05
1450.00	0.68	204.11	1449.75	8.56	-17.00	18.67	0.67
1480.00	1.02	168.41	1479.75	8.14	-17.02	18.57	0.61
1510.00	1.67	161.07	1509.74	7.47	-16.83	18.20	0.67
1540.00	2.37	156.61	1539.72	6.48	-16.44	17.57	0.72
1570.00	1.09	154.54	1569.71	5.66	-16.07	16.99	1.28
1600.00	0.11	338.85	1599.71	5.43	-15.96	16.82	1.20
1630.00	0.95	297.08	1629.71	5.57	-16.19	17.09	0.87
1660.00	1.17	297.73	1659.70	5.82	-16.68	17.63	0.22
1690.00	0.72	270.28	1689.70	5.96	-17.14	18.11	0.63
1720.00	0.65	169.17	1719.70	5.80	-17.30	18.22	1.06
1750.00	0.92	70.26	1749.69	5.71	-17.04	17.94	1.21
1780.00	1.06	173.37	1779.69	5.52	-16.78	17.64	1.55
1810.00	0.59	315.95	1809.69	5.35	-16.86	17.67	1.57
1840.00	0.90	215.08	1839.69	5.27	-17.10	17.88	1.17
1870.00	1.09	302.09	1869.69	5.23	-17.48	18.24	1.38
1900.00	0.86	185.19	1899.68	5.16	-17.74	18.47	1.67
1930.00	0.40	173.84	1929.68	4.83	-17.75	18.39	0.47
1960.00	0.77	332.76	1959.68	4.90	-17.83	18.49	1.15
1990.75	1.40	268.10	1990.43	5.08	-18.30	18.99	1.25
2019.27	2.90	244.10	2018.93	4.75	-19.29	19.86	1.81
2047.55	3.90	229.70	2047.16	3.81	-20.67	20.94	1.39
2076.45	6.40	214.40	2075.94	1.85	-22.33	22.02	2.94
2105.35	8.60	205.60	2104.59	-1.43	-24.18	22.93	2.57
2134.48	10.60	201.70	2133.31	-5.88	-26.11	23.61	2.16
2163.38	12.20	198.70	2161.64	-11.25	-28.07	24.08	1.77
2192.30	13.00	196.10	2189.86	-17.27	-29.95	24.29	1.02
2220.57	13.30	193.60	2217.39	-23.48	-31.60	24.23	0.68
2250.30	14.20	194.60	2246.27	-30.33	-33.32	24.07	0.94
* 2265.30	14.20	194.60	2260.81	-33.89	-34.25	24.02	0.00

Based on Minimum Curvature Calculations, the Bottom Hole Displacement is
48.19 Metres along an Azimuth of 225.30 degrees

*Last Survey is an Extrapolation to the Bit



LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name: ANADARKO EMILE LK . A - 77

Location: Unit A , Section 77 , Grid Area 60" 50" , 122 " 30"

Licence Number:

Region: Ft. Liard , NWT

Spud Date: 2 -03 -2004

Drilling Completed: 16 -03 -2004

Surface Coordinates: 60" 46' 09.6" N. Lat. : 122" 43' 33.9" W. Long

Bottom Hole Coordinates: Vertical

Ground Elevation (m): 624.7m

K.B. Elevation (m): 630.8

Logged Interval (m): 648m

To: 2265.3m Total Depth (m): 2265.3m

Formation: Kotcho / Pre Devonian

Type of Drilling Fluid: Intermediate Hole : Invert / Main Hole : Polymer

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: ANADARKO CANADA CORPORATION

Address:

GEOLOGIST

Name: Harold Cowan

Company: Merlin Petroleum Services

Address:

Cores

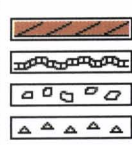
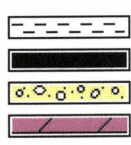
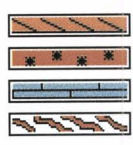
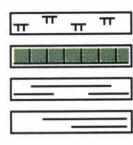
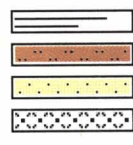
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DSTs

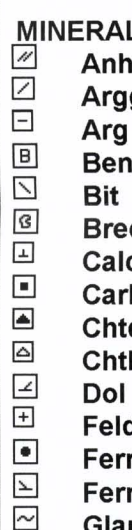
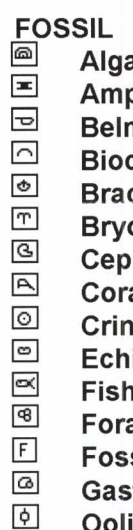
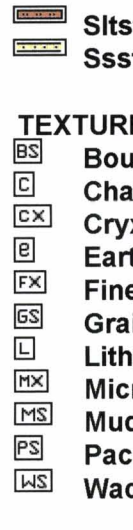
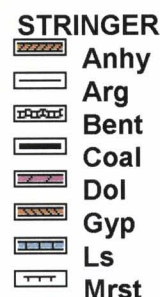
None

Comments

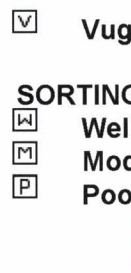
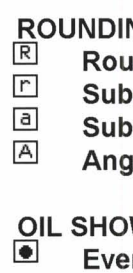
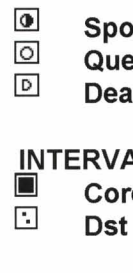
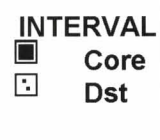
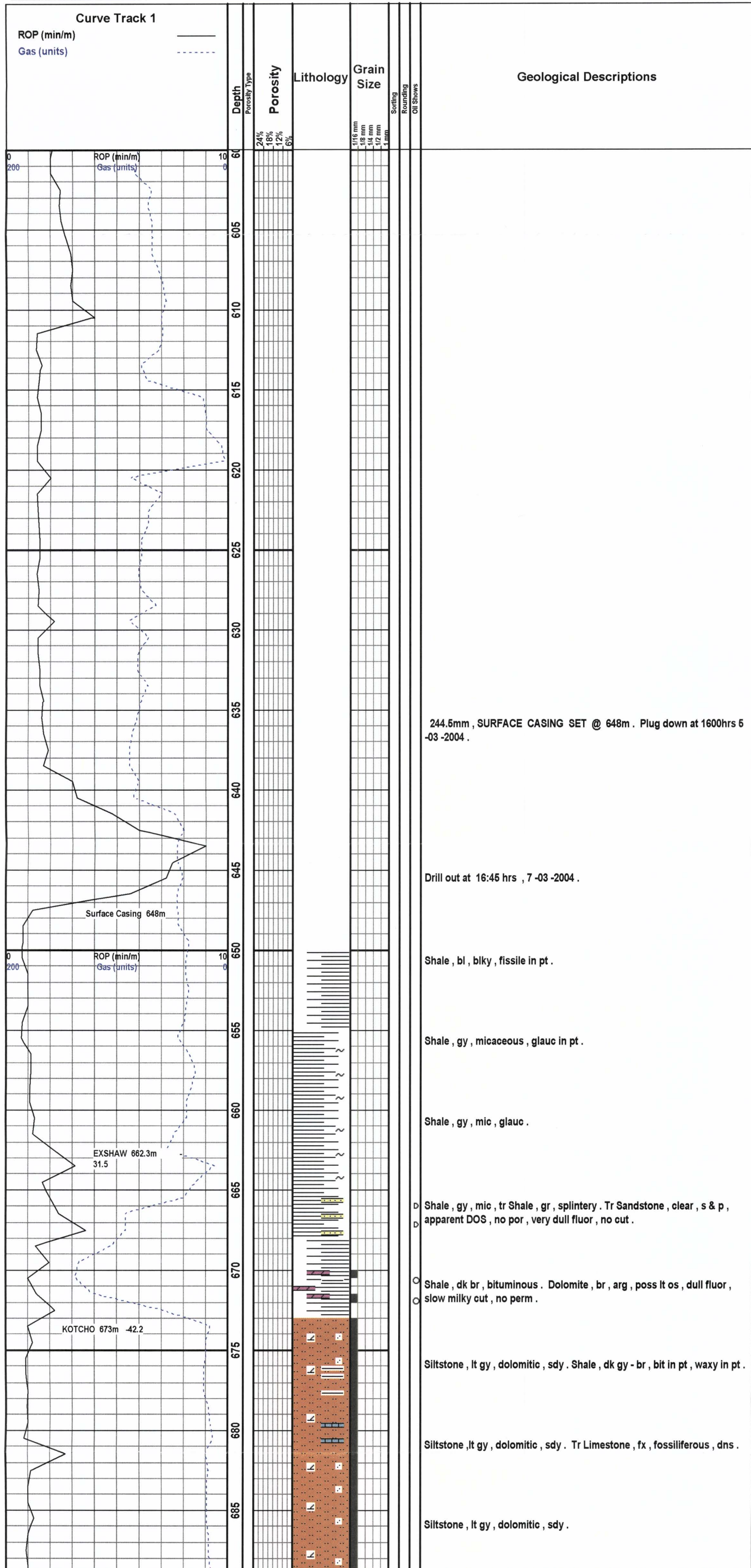
ROCK TYPES

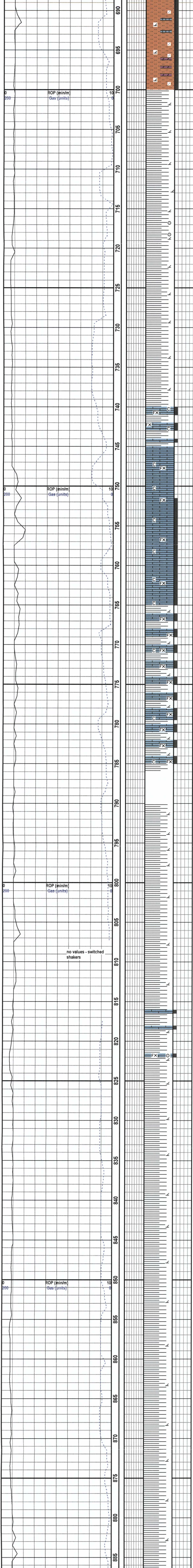
Anhy
Brec
ChtClyst
Coal
Congl
DolGyp
Igne
Lmst
MetaMrlst
Salt
Shale
ShcolShgy
Sltst
Ss
Till

ACCESSORIES

MINERAL
Anhy
Arggrn
Arg
Bent
Bit
Brecfrag
Calc
Carb
Chtdk
Chtlt
Dol
Feldspar
Ferrpel
Ferr
GlauGyp
Hvymin
Kaol
Marl
Minxl
Nodule
Phos
Pyr
Salt
Sandy
Silt
Sil
Sulphur
TuffFOSSIL
Algae
Amph
Belm
Bioclst
Brach
Bryozoa
Cephal
Coral
Crin
Echin
Fish
Foram
Fossil
Gastro
OoliteOstra
Pelec
Pellet
Pisolite
Plant
StromSiltstrg
SsstrgSTRINGER
Anhy
Arg
Bent
Coal
Dol
Gyp
Ls
MrstTEXTURE
Boundst
Chalky
Cryxln
Earthy
Finexln
Grainst
Lithogr
Microxln
Mudst
Packst
Wackest

OTHER SYMBOLS

POROSITY
Earthy
Fenest
Fracture
Inter
Moldic
Organic
PinpointVuggy
SORTING
Well
Moderate
PoorROUNDING
Rounded
Subrnd
Subang
AngularSpotted
Ques
DeadEVENT
Rft
SidewallINTERVAL
Core
DstOIL SHOW
Even



Siltstone , gy - lt gy , dolomitic , sdy . Tr Limestone , br , fx , foss , chky in pt , dns .

Siltstone , gr , dol , sdy . Tr Dolomite , bf , mx , dns .

Shale , gn gy , dolomitic , blkly .

Shale , gn gy , dolomitic , blkly . Tr Crinoid ossicles .

Shale , gn gy , dolomitic , blkly .

Shale , gn gy , dolomitic , blkly .

Limestone , bf , fx , chky in pt , dns . Shale , a / a (50%) .

Limestone , bf , fx , chky in pt , dns .

Limestone ,bf , fx , chky , dns (50%) . Shale , gy , micromic , blkly .

no spl.

Shale , gy , micromic , flaky , dolomitic .

Shale , gn gy , dolomitic , micromic .

Shale , gn gy , micromic , dolomitic . Limestone , bf , fx , dns .

Shale , a / a . Tr Limestone , crinoidal , dns .

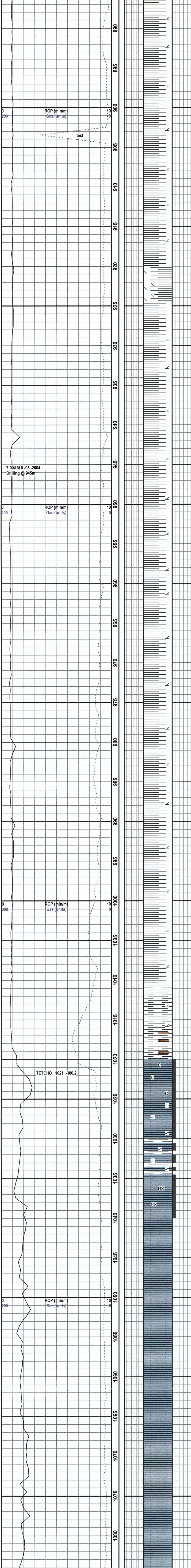
Shale , gn gy , dol , blkly .

Shale , gn gy , dolomitic , blkly .

Shale , a / a .

Shale , a / a .

Shale , gn gy , dol , blkly .



Shale , gn gy , dol , blkly .

Shale , gn gy , dol , blkly .

Shale , dk br , bituminous . Shale , md gy , micaceous .

Shale , gn gy , mic , splintery , dol .

Shale , gn gy , mic , splintery , dolomitic .

Shale , a / a .

Shale , gn gy , mic , splintery , dol .

no spl .

Shale , gn gy , a / a .

Shale , md gy , blkly , dol .

Shale , md gy , blkly , dolomitic . Tr Siltstone , br , dolomitic.

Limestone , cr , chky .

Limestone , cr , silty .

Shale , md gy , micaceous , dol . Limestone , a / a (25%).

Limestone , bf , mx , dns .

Limestone , a / a .

Limestone , bf , mx , dns .

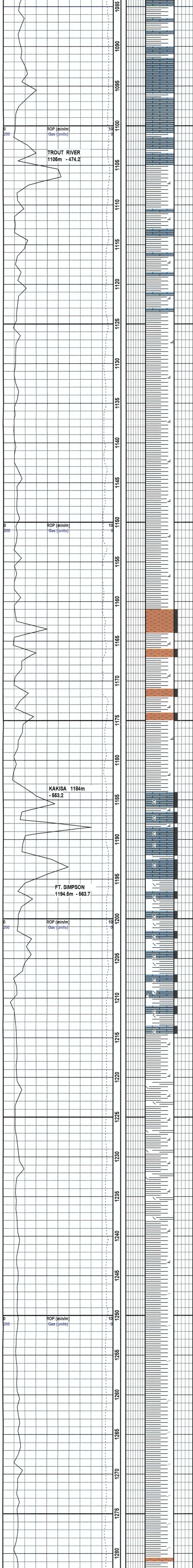
Limestone , bf , mx , chky in pt , dns .

Limestone , bf , fx , chky in pt , dns .

Limestone , br , mx , dns .

Limestone , bf , chky , dns .

Limestone , bf , mx , dns . Ls , cr , chky , dns .



Shale , gn gy , micromic . Limestone , bf , chky , dns .

Limestone , cr , chky . Shale , gy , limey .

Limestone , cr , chky . Shale , gy , dol , blkly .

Limestone , gy , arg . Shale , md gy , dol , blkly .

Shale , md gy , dol , blkly .

Shale , md gy , micromic , blkly . Limestone , gy , fx , dns .

Shale , a / a . Limestone , a / a .

Shale , gy -md gy , micromic . Siltstone , gy , sandy .

Shale , a / a . Pyrite common .

Shale , gy - md gy , micromic , dolomitic .

Shale , a / a .

Shale , a / a .

Siltstone , gy , arg , dolomitic .

Shale , gy - md gy , micromic , dolomitic . Siltstone , gy , dolomitic .

Shale , a / a . Siltstone , a / a .

Shale , a / a . Siltstone , a / a .

Limestone , gy , argillaceous . Shale , md gy , blkly .

Limestone , a / a . Tr Shale , br , bituminous.

Shale , br , bit , fissile . Limestone , gy , arg , sandy in pt .

Shale , a / a . Limestone , a / a .

Shale , gn gy , dolomitic , splintery .

Shale , gn gy , splintery , dolomitic . Shale , dk br , bit , fissile .

Shale , a / a .

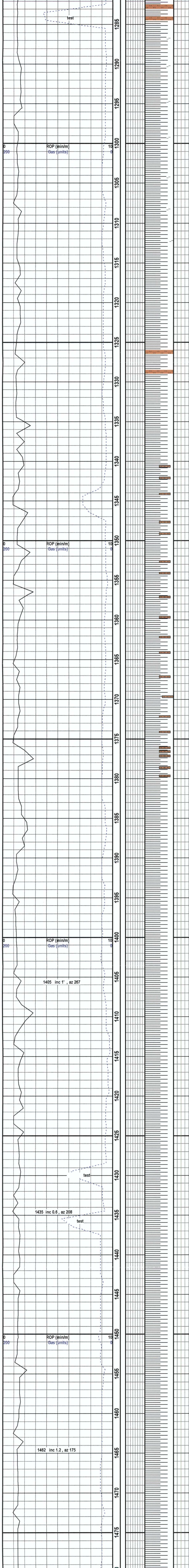
Shale , gn gy , splintery , dolomitic .

Shale , md gy , micromic , blkly , silty in pt .

Shale , a / a .

Shale , a / a .

Shale , a / a . Siltstone , gy , sandy .



Shale , md gy , micromic , blkly , silty in pt .

Shale , a / a .

Shale , a / a .

Shale , md gy , micromic , splintery .

Shale , md gy , micromic , splintery . Siltstone , gy , sandy .

Shale , gn gy - md gy , micromic , flaky .

Shale , a / a . Siltstone , gy , sandy (10%) .

Shale , a / a . . Siltstone , a / a .

Shale , a / a . Inc in Siltstone , gy , sdy .

Shale , gn gy - md gy , micromic , flaky .

Shale , a / a .

Shale , a / a .

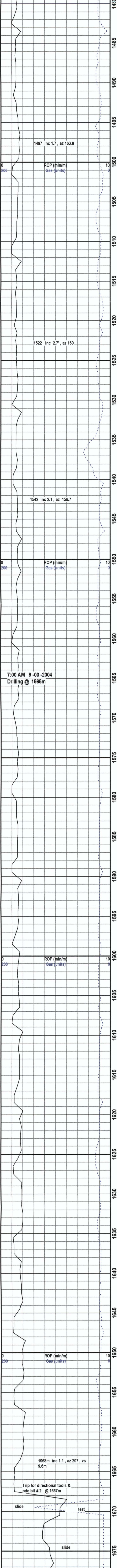
Shale , a / a .

Shale , md gy , micromic , silty in pt , blkly .

Shale , a / a .

Shale , gy -md gy , micromic , blkly , splintery in pt .

Shale , a / a .



Shale , md gy , micromic , non calc , blkly .

Shale , a / a .

Shale , md gy , micromic , splintery .

Shale , a / a .

Shale , gn gy , micromic , splintery .

Shale , a / a .

Shale , md gy , micromic , blkly .

Shale , md gy , micromic , splintery , blkly in pt .

Shale , md gy , micromic , splintery .

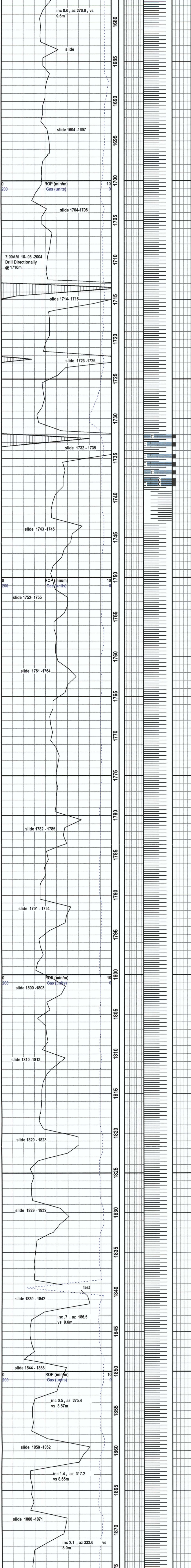
Shale , md gy - gy , micromic , blkly .

Shale , md gy , non calc , micromic , blkly .

Shale , md gy , micromic , blkly .

Shale , a / a .

Shale , gy - md gy , blkly , micromic .



Shale , gy -md gy , blkly , micromic .

Shale , a / a .

Shale , gy -md gy , blkly , flaky , mic in pt .

Shale , gy , blkly .

Shale , md gy , blkly .

Shale , md gy , blkly .

Shale , md gy , blkly . Limestone , cr , chky .

Shale , md gy , fissile in pt , blkly .

Shale , dk gy , flaky , blkly in pt .

Shale , gy , blkly .

Shale , gy , blkly .

Shale , gy , blkly , splintery in pt .

Shale , a / a .

Shale , md gy , blkly .

Shale , md gy , blkly .

Shale , md gy , blkly .

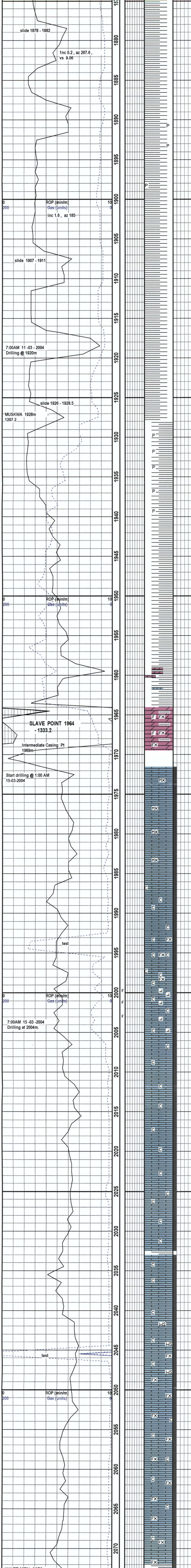
Shale , md gy , blkly .

Shale , md gy , blkly .

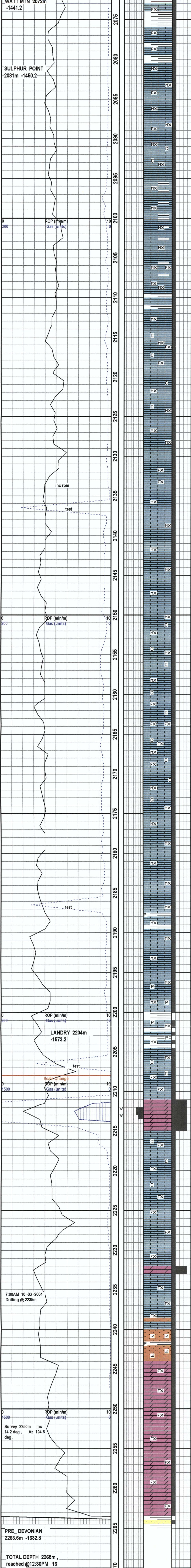
Shale , md gy , blkly .

Shale , md gy , blkly .

Shale , md gy , blkly .



Shale , md- dk gy , blkly .
S O S
Shale , dk gy , flaky , blkly , tr disseminated pyrite .
Shale , md - dk gy , blkly , flaky , non calc .
Shale , a / a .
Shale , a / a .
Shale , md - dk gy , blkly , flaky , non calc .
Shale , a / a . Tr Shale , dk br , blkly .
Shale , bl , dk br , bit in pt , flaky . Tr disseminated pyrite , non calc .
Shale , dk br , bituminous , flaky , pyritic .
Shale , dk br , bit , flaky .
Shale , dk br - bl , bit , flaky .
Shale , dk br - bl , bit , flaky , blkly . Tr Dolomite , br , arg .
Shale , dk br - bl , bit . Tr Limestone , gy , arg , dns .
Dolomite , bf -bl , mottled , brecciated , dolomite , fossiliferous , fx ,w/ black shale fragments , dns . No shows .
Cement
Limestone , dk br , bl , micritic , dns .
Limestone , dk br , tr bf , micritic . Limestone , cr , chalky .
Limestone , cr , wh , chalky , stylonitic , no porosity , no shows .
Limestone , cr , chalky , fx in pt , stylonitic in pt . dns , no shows .
Limestone , a / a .
Limestone , cr , chky , finely sucrosic , few incipient fractures w/ f- md dolomite xls interspersed w/ scattered pyrobitumen blebs . No permeability , no shows .
Limestone , cr , chky , finely sucrosic , stylonitic in pt , no permeability , no shows .
Limestone , cr , a / a , Tr scattered clear Dolomite rhombs
Limestone , cr , chky .
Limestone , cr , chky , finely sucrosic , tr fx , impermeable , no shows .
Limestone , a / a .
Shale , gy gn , dolomitic (5%) . Limestone , cr , a / a . Tr Limestone , bf , fragmental , dns .
Limestone , cr , chky , finely sucrosic , impermeable , no shows .
Limestone , cr , chky , f suc , becoming bf , frag , dns , no shows .
Limestone , bf , f frag - fx , pyritic , dns , no shows .
Limestone , bf , chky , fx in pt , dns . No shows .
Limestone , cr , chky . Limestone , bf , fx , dns .
Limestone , bf , fx , dns , w/ thin interbeds of pyrobitumen . Limestone , cr , chky .
Limestone , cr , chky , w/ thin interbeds of pyrobit . Limestone , cr , fx , dns .
Shale , bl , fissile . Limestone , bf , fx , dns . Limestone , cr , chky .



Shale,bl , fissile , dolomitic . Limestone , bf , fx , chky inpt , dns .

Shale , bl , brittle , dol . Limestone , br - dk br , mx , dns .

Limestone , br - dk br , mx . Limestone ,bf , fx , dns .

Limestone , br - dk br , mx . Limestone , cr , chky , dns .

Limestone , dk br , mx , dns . Limestone , bf , arg , dns .

Limestone , a / a .

Limestone , dk br , mx , dns . Limestone , bf , fx , dns . Limestone , cr , arg .

Limestone , dk br , mx . Shale , bl , brittle , dol .

Limestone , a / a . Limestone , bf , arg , fx in pt , dns .

Limestone , br - dk br , mx , dns . Limestone , cr , arg , chky , dns .

Limestone , br - dk br , mx , dns .

Limestone , br - dk br , mx , dns , inc in Limestone , bf , fx , dns .

Limestone , bf , mx , dns .

Limestone , bf , mx , dns . Limestone , dk br , micritic , dns .

Limestone , bf , mx , dns .

Limestone , dk br , micritic , dns . Limestone , bf , arg , w/ thin pyrobitumen streaks , dns , no shows .

Limestone , dk br , micritic , dns . Limestone , bf , arg , dns .

Limestone , bf , fx , dns . Limestone , bf , arg , dns .

Limestone , dk br , mx , dns . Limestone , bf , arg , fx in pt , dns .

Limestone , dk br , mx , dns . Limestone , bf , arg , dns .

Limestone , bf , br , mx , dns .

Limestone , br , dk br , mx , dns . Tr Dolomite , wh , orsly xln - massive , no por , dns .

Limestone , dk br , mx , dns . Tr Shale , green , blkly , pyritic , non calc .

Limestone , br , micritic , dns .

Limestone , br , bf , micritic , pyritic , dns .

Shale , green , blkly , pyritic . Limestone , bf , micritic , becoming cr , arg .

Limestone , bf , fx , dns . Limestone , cr , chky , dns , no shows .

Dolomite , wh , orsly xln - massive , tr f xln vug lining , porosity prob good , no fluor , good gas response .

Limestone , bf , fx , dns . Limestone , cr , chky , dns .

Limestone , a / a .

Limestone , cr , chky . Dolomite , wh , orsly xln - massive , no apparent porosity , no shows (40%)

Limestone , bf , fx , dns . Dolomite , wh , orsly xln - massive , no apparent porosity . no shows (25%)
Siltstone , gy gn , blkly , hard(5%)

Siltstone , gy gn , hard , dolomitic . Tr Shale , green , wxy , pyritic .

Dolomite , bf , fx , dns .

Dolomite , bf , fx , dns .

Dolomite , bf , fx , tr orsly xln , Dolomite filled vugs , no porosity , no shows .

Shale , bl , siliceous , blkly , splintery . Quartzite , gn gy , hard .

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100

2295

2290

2285

2280

2275

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