
DRILLING FLUID / SOLIDS CONTROL

TYPE	Oil Base	TIME CHK	200	ENGINEER	Jody Kereliuk	MOBILE
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BIT DATA TIME BREAKDOWN

TIME BREAKDOWN

SURVEYS **BOTTOM HOLE ASSEMBLY**

BOTTOM HOLE ASSEMBLY

REMARKS & GENERAL REPORT DETAILS

0800-1130	Drilled 156mm Underbalanced hole { Hole started making water and cotaminating oil base mud
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WEATHER/TEMP	Snowing - 16	RD/LEASE	Firm	LAST BOP DRILL DL		2-Jan
SUPERVISOR	Dave Wilson	MOBILE	1-600-700-5042	LAST BOP DRILL AN		4-Jan
RIG MANAGER	Greg Beller	MOBILE		LAST BOP DRILL MN		
CONTRACTOR	Precision 379	DAILY COST	\$40,929	CUM. COST	\$1,216,533	

**HIGHWOOD WELLSITE SERVICES INC.
DAILY GEOLOGICAL WELL REPORT
1999-01-07**

Paramount et al Netla M-23

Report To:	PAUL COLLENS	Report From:	JEFF BOULTER
		Telephone:	1600 700 5042
Spud Date:	December 17	Days from Spud:	21
Gd. Elevation:	273.1	K.B. Elevation:	278.25
Depth @ 6:00:	2080 m	Formation:	Arnica
Status @ 8:00:	Running in hole with core barrel		
24 hr Progress:	0 m	Average ROP:	0 m/hr

OPERATIONS SUMMARY - Last 24 Hours

Circulate to condition mud, pull out of hole, pick up core barrel, run in hole with core barrel

MUD PROPERTIES

Type: Invert
Density: 1040 kg/m³
Viscosity: 51 s/L
Water Loss: cm³/30 min
pH:
Filter Cake: mm

SAMPLE TOPS

Formation	Sample Depth	TVD	Subsca	Prognosis Subsca	Change
Kakisa	1030.0	1029.4	-751.1	-690.2	-60.9
Fort Simpson	1057.0	1056.3	-778.1	-770.2	-7.9
Muskwa	1790.0	1788.8	-1510.6	-1626.2	115.6
Horn River	1879.0	1877.8	-1599.6		
Nahanni	1891.0	0.0	-1612.75	-1717.2	104.45
Headless	1972.0	0.0	-1693.75	-1830.2	136.45
Landry	2002.0	0.0	-1723.75	-1854.2	130.45
Arnica	2074.0	0.0	-1795.75	-1912.2	116.45

FORECAST ACTIVITIES

Finish running in hole with core barrel, cut 18 m core from the Arnica formation, pull out of hole and recover core.

ALPINE DRILLING RECOVERY SYSTEMS

WELL NAME : PARA et al NETLA													
LOCATION : M - 23													
Note : Gas rate and cum gas include N2.													
Date/Time yy/mm/dd	AnnPrs kPa	AnnTmp °C	Static kPa	GasRate THm3/d	CumGas THm3	PmpRate LL/min.	N2Rate m3/min	NetGasRate THm3/day	Surf.Vol m3	Gain/Loss m3	Ship m3	NetFluid m3	
99/01/04													
6:10:01	804.25	12.62	116.91	58.2	84								
6:20:01	607.19	12.65	115.68	57.98	84.4								
6:30:01	595.44	12.68	115.44	58.17	84.8								
6:40:02	618.93	12.71	120.58	59.71	85.21								
6:49:00	DROP 2020 m SAMPLE.												
6:50:01	617.62	12.77	123.63	59.62	85.63								
6:59:00	STOP PUMPING N2 AND FLUID TO MAKE A CONNECTION.												
7:00:00	630.88	12.78	121.58	59.8	86.05	340	35	7.32	66.1	1.28	0	-0.72	
7:06:00	CONNECTION IS COMPLETE. START PUMPING N2 AND FLUID TO RESUME DRILLING.												
7:10:01	395.79	13.19	76.29	38.5	86.39								
7:20:01	398.73	12.44	76.78	52.31	86.68								
7:30:01	709.95	12.19	94.89	74.87	86.92								
7:40:01	586.64	12.83	111.77	55.18	87.29								
7:50:01	592.51	12.74	121.07	57.22	87.7								
8:00:01	582.39	13.78	111.64	56.16	88.09	340	35	3.6	64.8	-1.3	0	-2.02	
8:10:01	591.2	13.39	109.69	56.3	88.47								
8:20:01	607.19	13.11	116.42	58.38	88.86								
8:30:01	607.19	13.42	117.84	58.02	89.28								
8:40:01	577.83	13.55	110.06	56.28	89.68								
8:50:01	604.25	13.36	115.68	60.39	90.07								
8:54:00	DROP 2025 m SAMPLE.												
9:00:02	623.19	13.33	127.6	82.11	90.5	340	35	7.44	65.6	0.8	0	-1.22	
9:05:00	BEGIN TO TRANSFER 20 m3 OF MUD TO 400 BBL TANK FROM RIG TANK.												
9:10:01	582.07	13.36	120.95	58.21	90.92								
9:20:01	571.96	13.74	114.95	56.65	91.32								
9:25:00	BEGIN TO WORK DRILL PIPE DUE TO A PRESSURE INCREASE.												
9:30:01	449.92	13.79	90.84	46.22	91.68								
9:40:01	439.83	13.48	71.64	43.45	91.99								
9:50:01	802.33	13.81	277.57	120.02	92.39								
10:00:00	560.21	14.24	162.66	69.39	92.85	340	35	6	60.6	7.5	12.5	6.28	
10:05:00	STOP PUMPING N2 AND FLUID TO MAKE A CONNECTION.												

ALPINE DRILLING RECOVERY SYSTEMS

WELL NAME : PARA et al NETLA													
LOCATION : M - 23													
Note : Gas rate and cum gas include N2.													
Date/Time	AnnPrs	AnnTmp	Static	GasRate	CumGas	PmpRate	N2Rate	NetGasRate	Surf.Vol	Gain/Loss	Ship	NetFluid	
yy/mm/dd	kPa	°C	kPa	THm3/d	THm3	L/min.	m3/min	THm3/day	m3	m3	m3	m3	
99/01/04													
10:10:00	386.98	14.07	101	37.98	93.25								
10:12:00	CONNECTION IS COMPLETE. START PUMPING N2 AND FLUID TO RESUME DRILLING.												
10:18:00	DROP 2030 m SAMPLE												
10:20:00	295.96	13.52	64.79	38.91	93.51								
10:30:00	413.41	12.98	46.68	58.53	93.71								
10:40:00	571.96	13.33	212.33	73.07	94.32								
10:50:00	441.49	13.27	100.39	56.91	94.57								
11:00:00	433.96	12.94	91.46	48.14	94.93	340	35	5.4	48.5	-1.6	23	4.68	
11:05:00	INCREASE PUMP RATE TO 450 L/min.												
11:10:00	621.87	12.88	116.91	79.17	95.34								
11:16:00	STOP PUMPING N2.												
11:20:00	545.53	12.81	187.8	56.3	95.88								
11:21:00	INCREASE PUMP RATE TO 620 L/min.												
11:26:00	PUMP PRESSURE READS 0 kPa. STOP PUMPING FLUID TO CHECK PUMP.												
11:30:00	231.37	12.52	45.46	17.32	96.05								
11:31:00	PUMP IS O.K. START PUMPING FLUID TO RESUME DRILLING.												
11:40:00	219.62	11.55	47.17	19.27	96.28								
11:43:00	LOST CIRCULATION STOP PUMPING FLUID.												
11:49:00	ADD LCM TO DRILLING MUD AND GET IT PREPPED TO PUMP DOWN HOLE.												
11:50:00	684.86	11.07	2.99	1.18	96.29								
12:00:00	1217.9	9.14	2.15	0.93	96.31	0	0	18	45.8	-2.7	23	1.98	
12:10:00	1499.77	7.66	1.66	2.52	96.32								
12:20:00	1567.3	7.34	1.17	2.04	96.34								
12:30:00	1628.96	5.53	0.69	3.09	96.36								
12:40:00	157.96	8.48	78.98	0	96.38								
12:50:00	99.24	9.63	0.69	0	96.38								
13:00:00	102.18	8.15	1.91	0	96.38	0	0	1.68	45.8	0	23	1.98	
13:10:00	99.24	6.64	2.15	0	96.38								
13:20:00	102.18	5.88	1.91	0	96.38								
13:30:00	99.24	4.64	2.15	0	96.38								
13:40:00	99.24	4.22	2.4	0	96.38								

ALPINE DRILLING RECOVERY SYSTEMS

WELL NAME : PARA et al NETLA													
LOCATION : M - 23													
Note : Gas rate and cum gas include N2.													
Date/Time	AnnPra	AnnTmp	Static	GasRate	CumGas	PmpRate	N2Rate	NetGasRate	Surf.Vol	Gain/Loss	Ship	NetFluid	
yy/mm/dd	kPa	°C	kPa	THm3/d	THm3	Lt./min.	m3/min	THm3/day	m3	m3	m3	m3	
99/01/04													
13:50:00	99.24	4.31	2.4	0	96.38								
14:00:00	99.24	4.03	2.4	0	96.38	0	0	0	45.8	0	23	1.98	
14:10:00	99.24	4	2.84	0	96.38								
14:11:00 START PUMPING FLUID DOWN HOLE TO TRY AND REGAIN CIRCULATION.													
14:20:00	102.18	4.28	4.38	0	96.38								
14:30:00	99.24	6.22	3.87	0	96.38								
14:35:00 DRAIN FLUID FROM SEPARATOR TO RIG TANK.													
14:40:00	99.24	6.47	2.4	0	96.38								
14:50:00	102.18	7.7	4.11	0	96.38								
14:53:00 END FLUID RETURNS TO ALPINE. SHUT IN E.S.D. AND DIVERT FLOW OVER TOP OF SHAKER.													
14:59:00 CONTINUE TO CIRCULATE WELL, IN ORDER TO DRILL AHEAD CONVENTIONALLY.													
15:00:00 DISCONTINUE TO MONITOR WELL PRODUCTIVITY. STAND BY ON ORDERS TO RIG OUT TESTING EQUIPMENT.													
6:00:00													
NET GAS FLARED FOR 7 HRS = 2.06 THm3/DAY													
CUMM. GAS FLARED = 10.44 THm3/DAY													
7 HR FLUID LOSS/GAIN = 0.98m3													
HIGHEST H2S FOR 7 HRS = 0 PPM													
PROPANE = 56 %													
TRANSFERED 20m3 DRILLING MUD TO 400 BBL. TANK, FROM ACTIVE SYSTEM.													
BETWEEN 10:00 AND 12:00 LOST 4.3 m3 FLUID TO FORMATION.													

HIGHWOOD WELLSITE SERVICES INC.
DAILY GEOLOGICAL WELL REPORT
 1999-01-06

Paramount et al Netla M-23

Report To:	PAUL COLLENS	Report From:	JEFF BOULTER
Spud Date:	December 1	Telephone:	1600 700 5042
Gd. Elevation:	273.1	Days from Spud:	20
Depth @ 6:00:	2080 m	K.B. Elevation:	278.25
Status @ 8:00:	Circulating on bottom	Formation:	Arnica
24 hr Progress:	23 m	Average ROP:	2.5 m/hr

OPERATIONS SUMMARY - Last 24 Hours

Drilled ahead 156 mm hole with invert, drilled to 2070.0 m , pull out of hole to change bit, run in hole with new bit, drill ahead to 2077.5 m circulate up sample, drill ahead to 2080.0 m, circulate up sample, continue to circulate

MUD PROPERTIES

Type: Invert
 Density: 940 kg/m³
 Viscosity: 46 s/L
 Water Loss: cm³/30 min
 pH:
 Filter Cake: mm

SAMPLE TOPS

Formation	Sample Depth	TVD	Subsea	Prognosis Subsea	Change
Exshaw	487.0	0.0		-207.2	
Kotcho	502.0	0.0		-221.2	
Tetcho	867.0	866.4	-588.2	-598.2	10.0
Kakisa	1030.0	1029.4	-751.1	-690.2	-60.9
Fort Simpson	1057.0	1056.3	-778.1	-770.2	-7.9
Muskwa	1790.0	1788.8	-1510.6	-1626.2	115.6
Horn River	1879.0	1877.8	-1599.6		
Nahanni	1958.0	0.0	278.3	-1717.2	1995.4

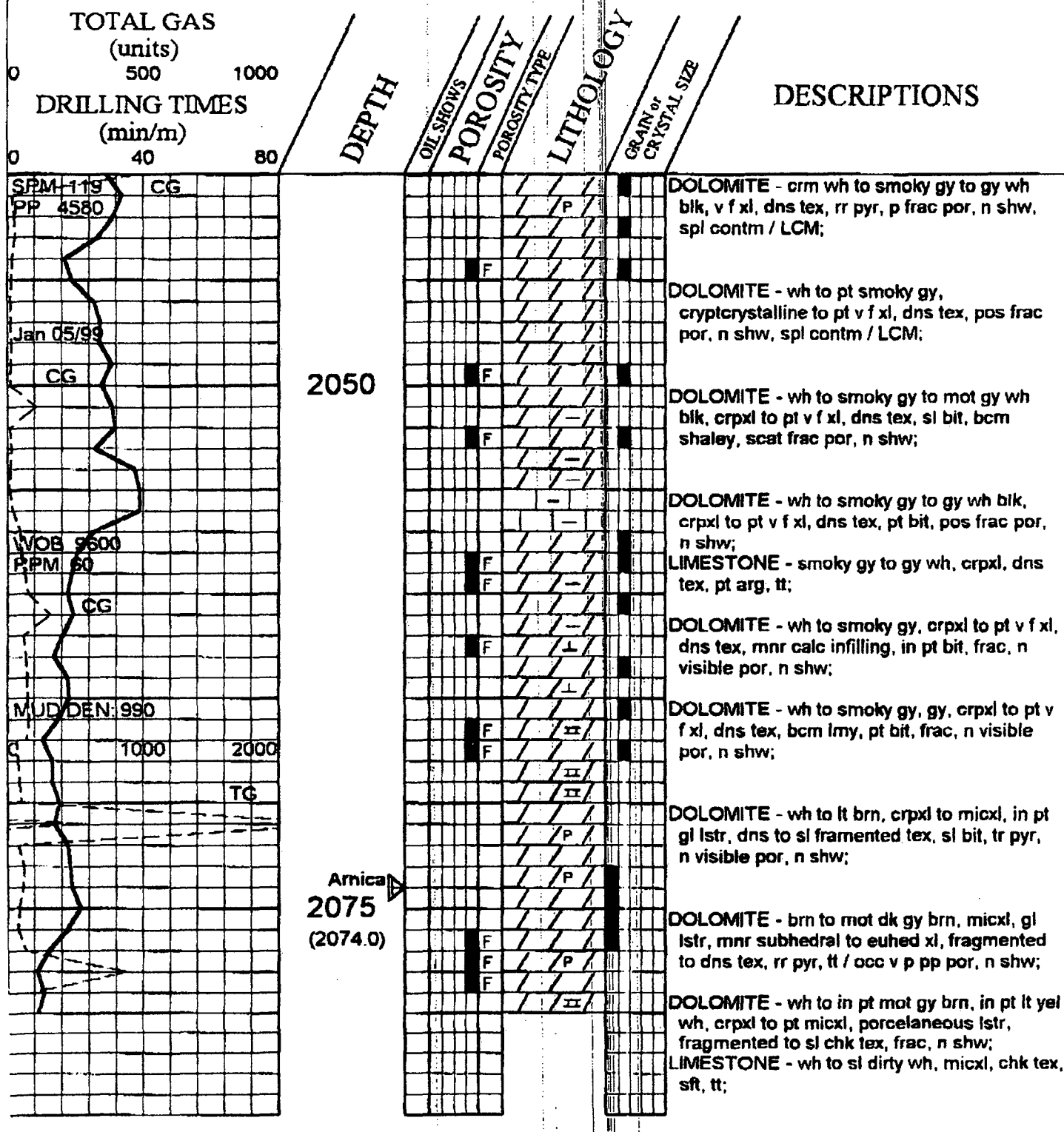
FORECAST ACTIVITIES

Circulate on bottom, pull out to core, run in hole to cut core in Arnica

HIGHWOOD WELLSITE SERVICES INC. 41 Riverview Circle COCHRANE, Alberta (403) 932-2916		COMPOSITE WELL HISTORY DRILLING TIME LITHOLOGY LOG	
COMPANY: PARAMOUNT RESOURCES LTD. WELL: Paramount et al Netla M-23 FIELD: PROVINCE: NorthWest Ter. LOCATION: M-23 60 Deg 50' 123 Deg 00'		CASING DEPTH SURFACE: 499 m INTERMEDIATE: 1840 m MAIN: m	
COORDINATES: ELEVATIONS: GD 273.1 m KB 278.25 m		CASING SIZE SURFACE: 320.42 mm INTERMEDIATE: 177 mm MAIN: mm	
WELL TYPE: Gas Exploration SPUD DATE: December 17, 1998 LICENCE No.: WID 1841		TOTAL DEPTH: T.D. DATE: AFE No.: 17168	
CONTRACTOR: Precision Drilling MUD TYPE: Invert MUD UP @: 500.0m SAMPLES: 5 meter intervals Paramount: 500.0 - Total Depth N.E.B.: 500.0 - Total Depth DSTs:		CORES: OPEN HOLE LOGS:	
SUPERVISION GEOLOGICAL: JEFF BOULTER		HOLE SIZE SURFACE: 339.73 mm INTERMEDIATE: 222 mm MAIN: mm REMARKS:	
DRILLING: AL IRONSIDE			

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

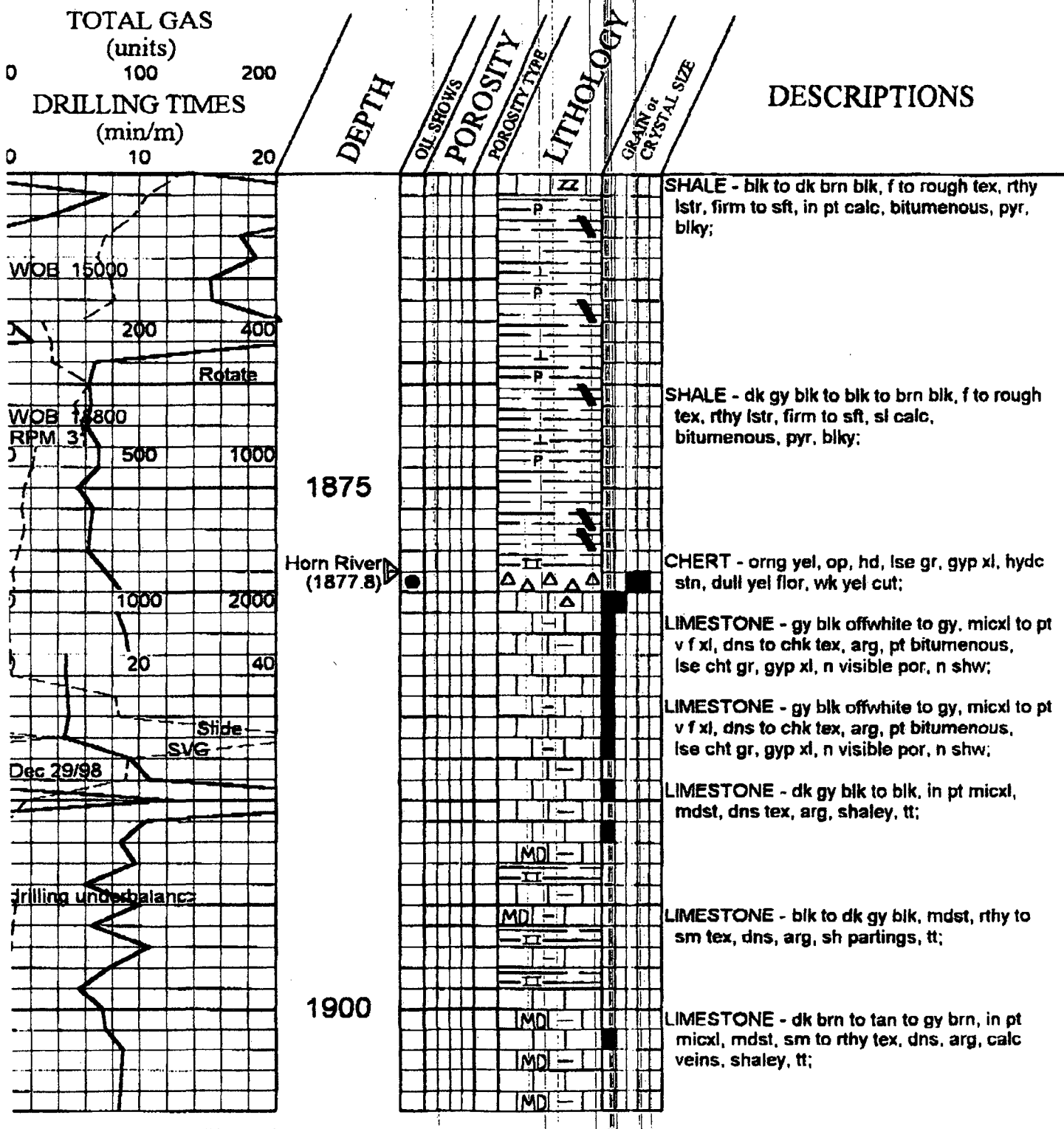
SCALE 1:240



HIGHWOOD WELLSITE SERVICES INC. 41 Riverview Circle COCHRANE, Alberta (403) 932-2916		COMPOSITE WELL HISTORY DRILLING TIME LITHOLOGY LOG	
COMPANY: PARAMOUNT RESOURCES LTD. WELL: Paramount et al Netla M-23 FIELD: PROVINCE: NorthWest Ter. LOCATION: M-23 60 Deg 50' 123 Deg 00'		CASING DEPTH SURFACE: 499 m INTERMEDIATE: 1840 m MAIN: m	
COORDINATES: ELEVATIONS: GD 273.1 m LOG MEASURED FROM KB KB 278.25 m 5.1 m ABOVE-GROUND			
WELL TYPE: Gas Exploration TOTAL DEPTH: SPUD DATE: December 17, 1998 T.D. DATE: LICENCE No.: WID 1841 AFE No.: 17168			
CONTRACTOR: Precision Drilling MUD TYPE: Invert MUD UP @: 500.0m SAMPLES: 5 meter intervals Paramount: 500.0 - Total Depth N.E.B.: 500.0 - Total Depth DSTs:		CORES: OPEN HOLE LOGS:	
SUI VISION GEOLOGICAL: JEFF BOULTER DRILLING: AL IRONSIDE		HOLE SIZE SURFACE: 339.73 mm INTERMEDIATE: 222 mm MAIN: mm REMARKS:	

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240



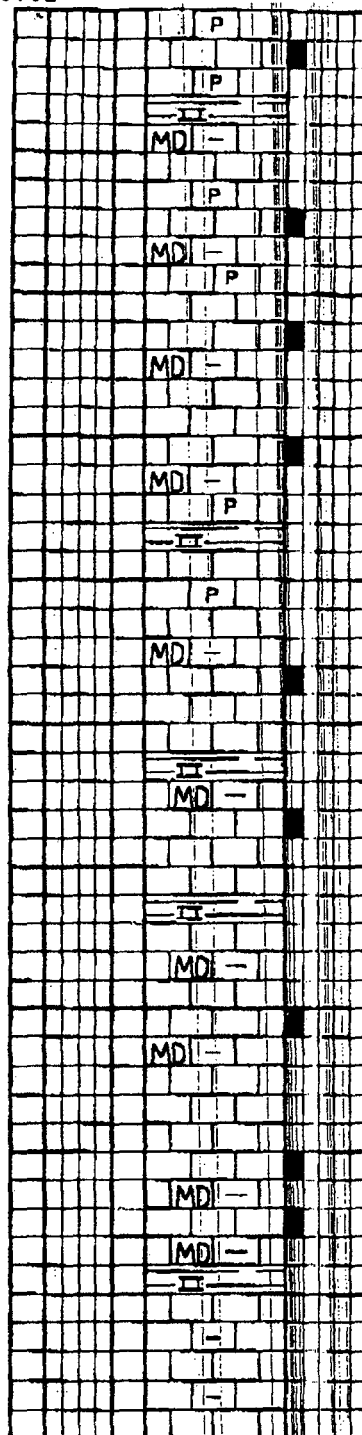
WOB 5700
RPM 60
SPM 58
PP 7

WOB 8100
RPM 63
SPM 58
PP 4200

Jan 03/99

1925

1950



LIMESTONE - m to dk brn to brn gy to gy,
mdst, in pt micxl, rthy to sm tex, dns, arg,
shaley, tr pyr, tt;

LIMESTONE - dk gy brn to m to dk brn, mot
gy, in pt micxl, mdst, rthy to sl sm tex, dns,
arg, shaley, rr calc xl, tr pyr, tt;

LIMESTONE - m to dk gy brn to dk brn, pt mot
gy, in pt micxl, pt mdst, rthy to dns tex, arg,
shaley, calc xl, tt;

LIMESTONE - mot gy brn, m to dk brn, micxl,
in pt mdst, dns to rthy tex, arg, in pt shaley,
tr pyr, tt;

LIMESTONE - dk brn to brn blk, mot gy brn,
micxl, mdst, rthy to dns tex, arg, shaley,
mnr calc xl, rr pyr, tt;

LIMESTONE - dk brn blk to m brn, in pt mot
brn gy, micxl, mdst, dns to rthy tex, pt sm
tex, arg, in pt shaley, rr calc xl, tt;

LIMESTONE - m to dk brn to brn blk, micxl,
mdst, rthy to sm tex, dns, arg, shaley, tt;

LIMESTONE - m to dk brn to brn blk to mot
brn gy, micxl, mdst, rthy to sm tex, dns, arg,
shaley, tt;

LIMESTONE - m to dk brn to brn blk to tan,
micxl, mdst, rthy to sl sm tex, dns, arg, in pt
shaley, tt;