

Company : Santos Ltd.
Well : West Mereenie 20
Field : Mereenie

Date : 01-Feb-2014
Time : 07:26



A Schlumberger Company

GAMMA-RAY
1 : 200

METERS MD

COMPANY : Santos Ltd.
WELL : West Mereenie 20
FIELD : Mereenie
COUNTY :
STATE : NT
COUNTRY : AUSTRALIA
API No. :

COMPANY : Santos Ltd.
WELL : West Mereenie 20
FIELD : Mereenie
COUNTY :
STATE : NT
COUNTRY : AUSTRALIA
API WELL No.:

WELL LOCATION

LAT:23°57'50"S LON:131°28'15"E
X: 751425.60m Y: 7347553.50m
SEC: TWP: RANGE:

OTHER SERVICES

DIRECTIONAL
ROP

DEPTH REF. : ROTARY TABLE
ELEVATION : 5.15 m (ROTARY TABLE - GROUND LEVEL)
ALTITUDE : 786.80 m (GROUND LEVEL - MEAN SEA LEVEL)

BOREHOLE RECORD

DEVIATION RECORD

HOLE SIZE in	FROM m	TO m	INCLINATION deg	FROM m	TO m
12 1/4	0	562	00-02	0	1527
8 3/4	562	1396			
8 1/2	1396	1527			

CASING RECORD

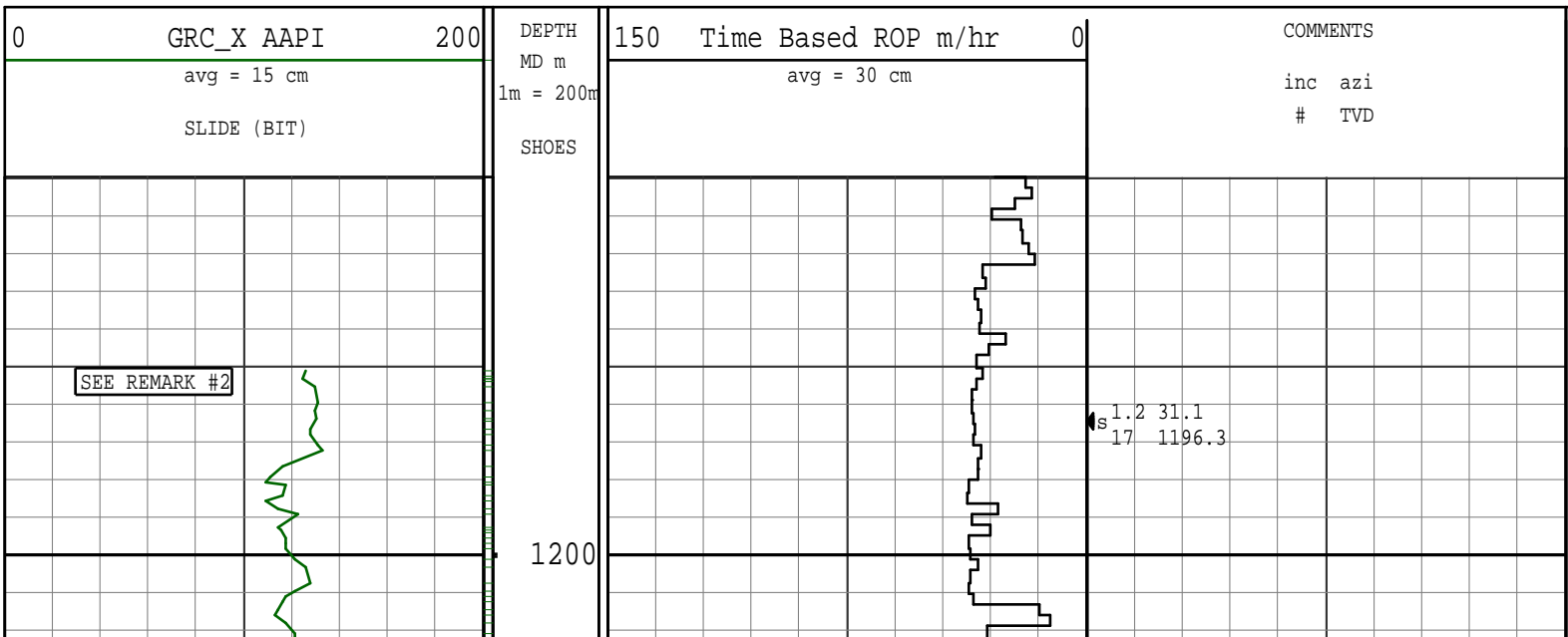
CASING SIZE in	FROM m	TO m			
9 5/8	0	547			

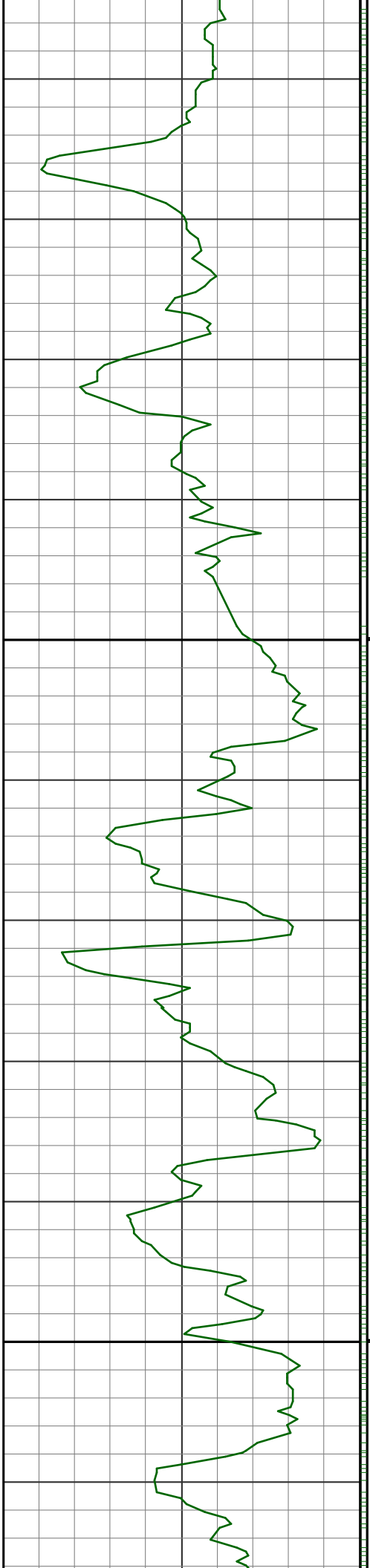
DRILLING Co.: ENSIGN
RIG : ENSIGN 918
LWD UNIT No.: 001 DISTRICT : MEREEINIE
SPUD DATE : 18-JAN-14
LWD START DATE : 22-JAN-14 DEPTH : 562 m
LWD END DATE : 01-FEB-14 DEPTH : 1527 m
TOTAL DEPTH : 1527 m

RUN DATA

RUN NUMBER	2	3				
START DATE	25-JAN-14	29-JAN-14				
START TIME	23:45	23:45				
END DATE	28-JAN-14	01-FEB-14				
END TIME	07:30	07:00				
DEPTH IN m	1422	1464				
DEPTH OUT m	1482	1527				
LOG TOP m	1195	1449				
LOG BOTTOM m	1467	1513				
HOLE SIZE in	8 1/2	8 1/2				
MUD DATA @ m	1465	1500				
MUD TYPE	WATER BASED	WATER BASED				
DENSITY lb/gal	8.80	8.80				
VISCOSITY s/qt	32	32				
pH	10.0	9.5				
FLUID LOSS cm3/30	14.6	10.6				
SALINITY ppm						
Rm ohmm @ deg C	@	@				
Rmf ohmm @ deg C	@	@				

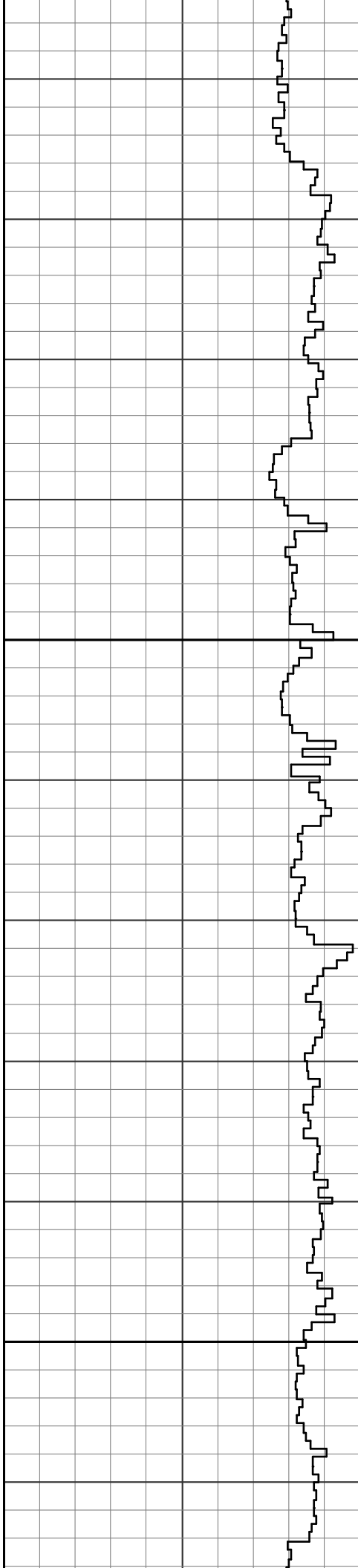
REMARKS
*** FIELD PRINT ONLY ***
SANTOS LTD.
PATHFINDER - A SCHLUMBERGER COMPANY: JOB NO. 13AUS0138
ALL DATA IS REALTIME UNLESS STATED OTHERWISE.
ALL REFERENCES TO LOG TOP, LOG BOTTOM OR LOGGING TOOL DEPTH REFER TO GAMMA-RAY SENSOR UNLESS STATED OTHERWISE. SENSOR OFFSETS FOR THE LOGGING TOOLS ARE SHOWN IN THE BHA REPORT ON THE LOG TRAILER.
ALL ANNOTATIONS IN THE DEPTH TRACK ARE REFERENCED TO BIT DEPTH.
RUN #2: 6 3/4" XEM / GAMMA-RAY LOGGING RUN.
RUN #3: 6 3/4" XEM / GAMMA-RAY LOGGING RUN.
REMARK #1: GAMMA-RAY HAS NOT BEEN ENVIRONMENTALLY CORRECTED FOR BOREHOLE.
REMARK #2: GAMMA-RAY LOGGED WHILE REAMING FROM 1195m-1380m MD (1195m-1380m TVD).
REMARK #3: GAMMA-RAY LOGGED WHILE REAMING FROM 1486m-1495m MD (1486m-1495m TVD).
NOTICE - All interpretations are opinions based on inferences from electrical or other measurements and we do not guarantee the accuracy or correctness of any interpretations. We shall not, except in the case of gross or willful negligence on our part, be liable or responsible for loss, costs, damages or expenses incurred or sustained by anyone as a result of any interpretations made by one of our officers, agents or employees. These interpretations are also subject to our General Terms and Conditions as set out in our current Price Schedule.
PATHFINDER - A Schlumberger Company
Version No : RX5 V6.05 Release 20Sep2013
Plot Time : 01-Feb-2014 07:26



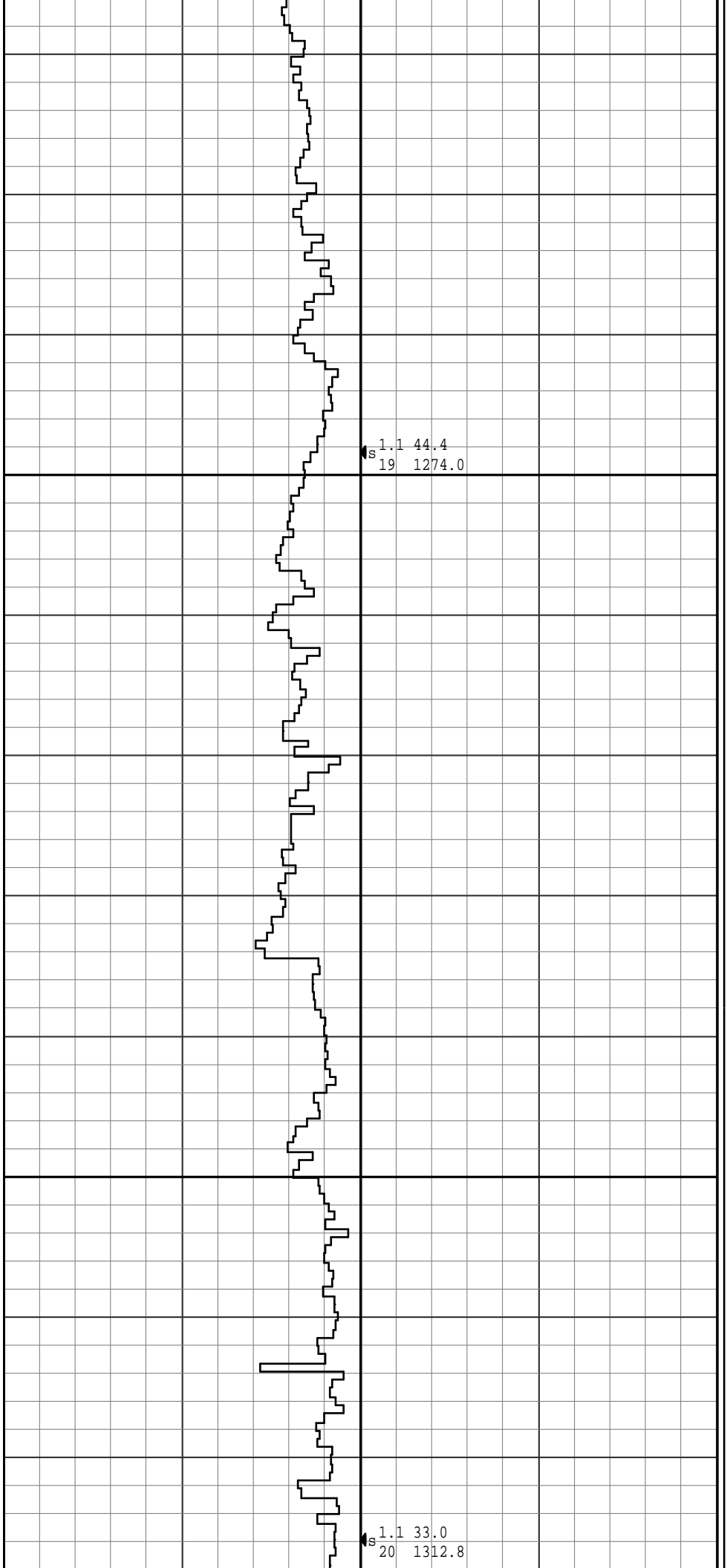
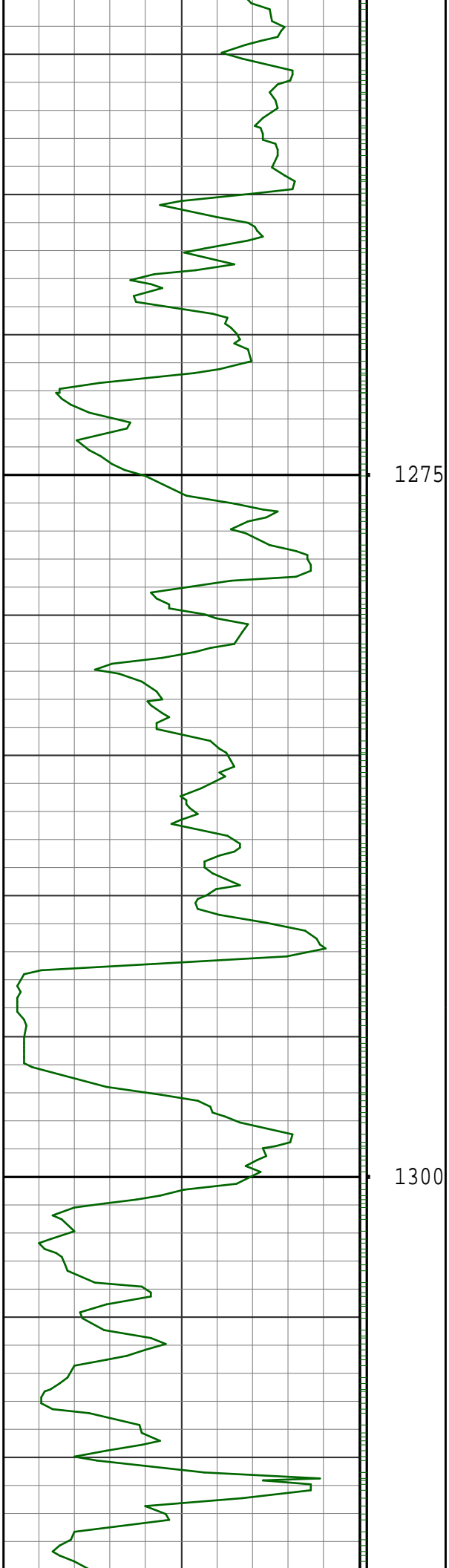


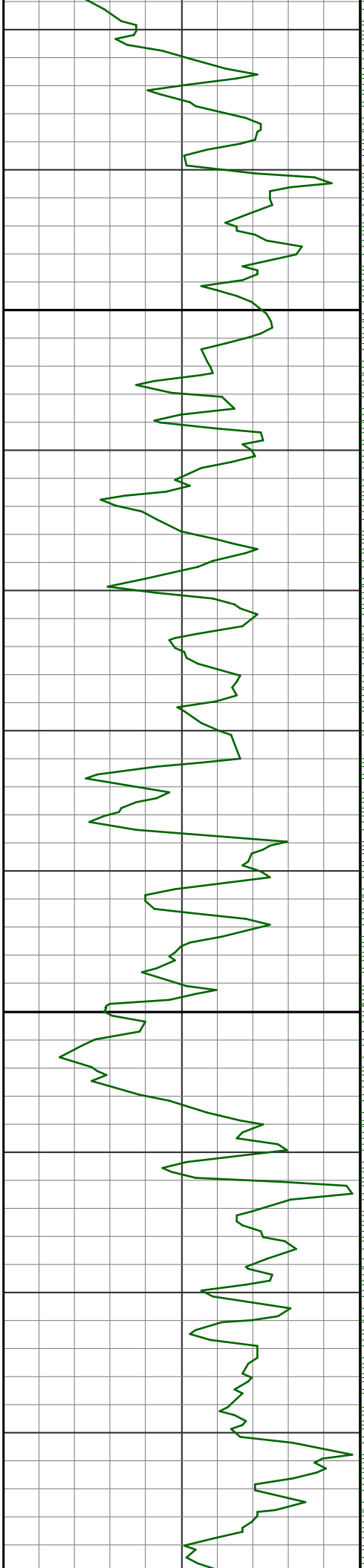
1225

1250



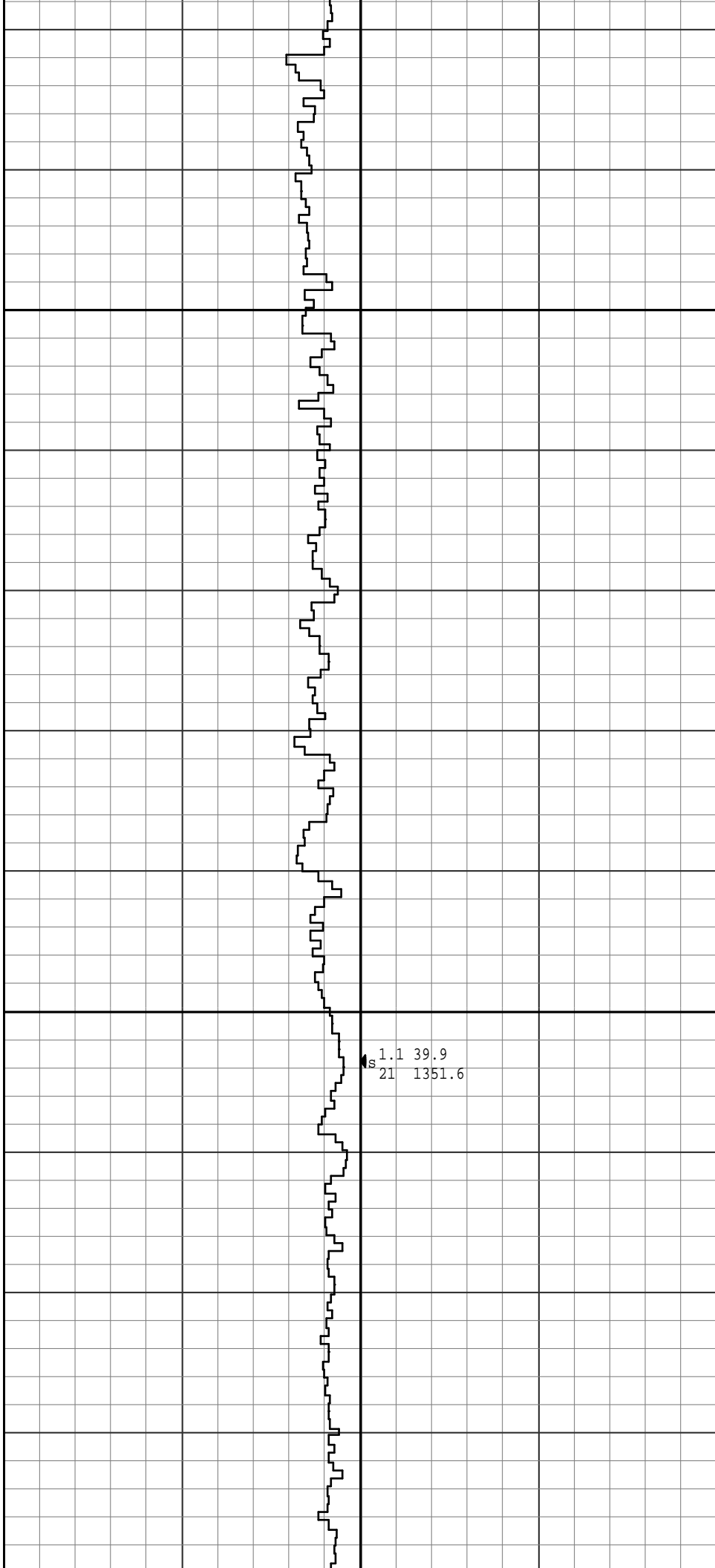
1.1 44.1
s 18 1235.2

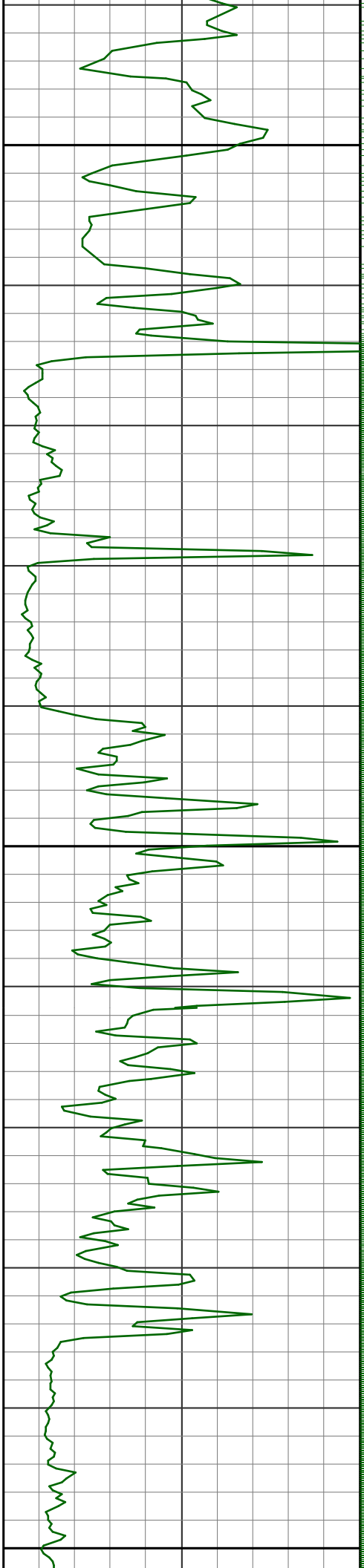




1325

1350





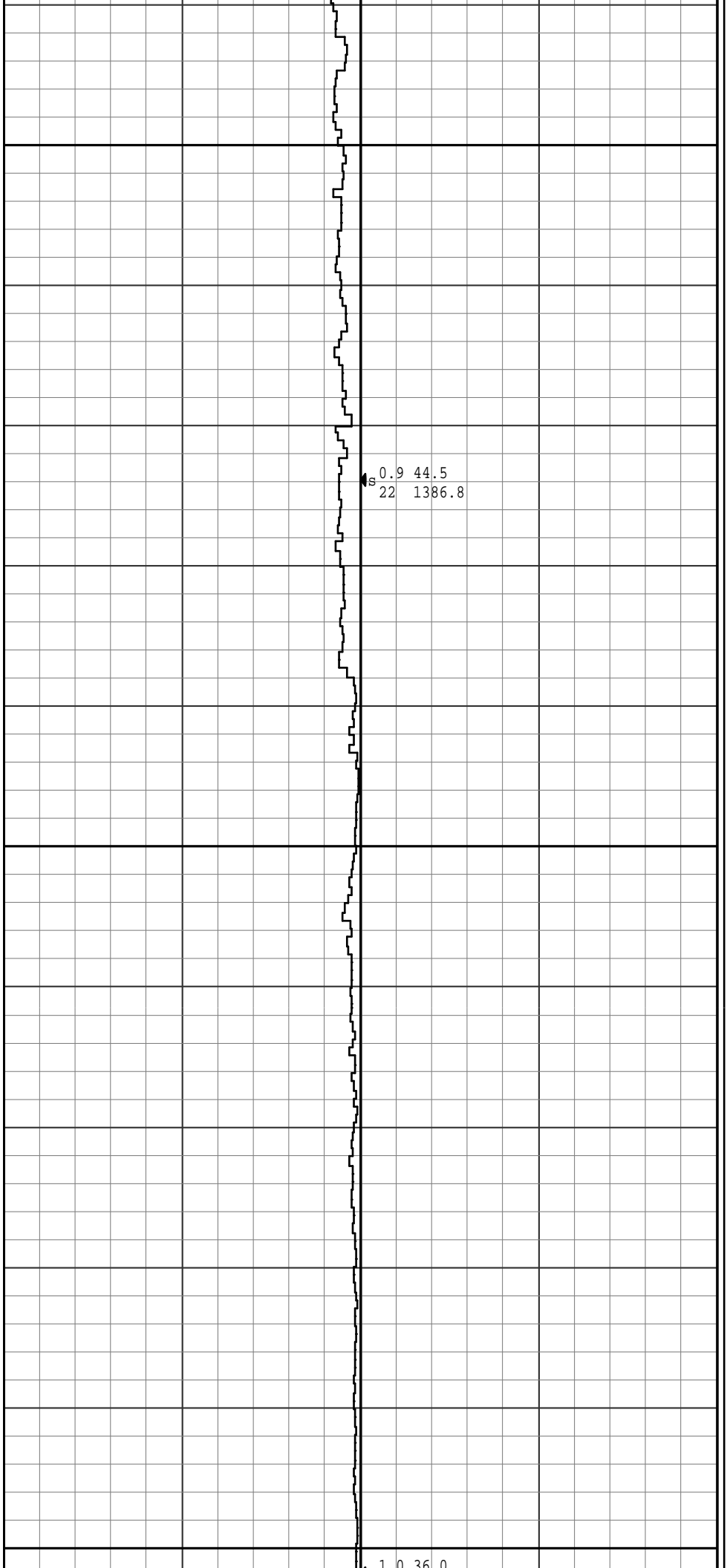
1375

1400

R
U
N

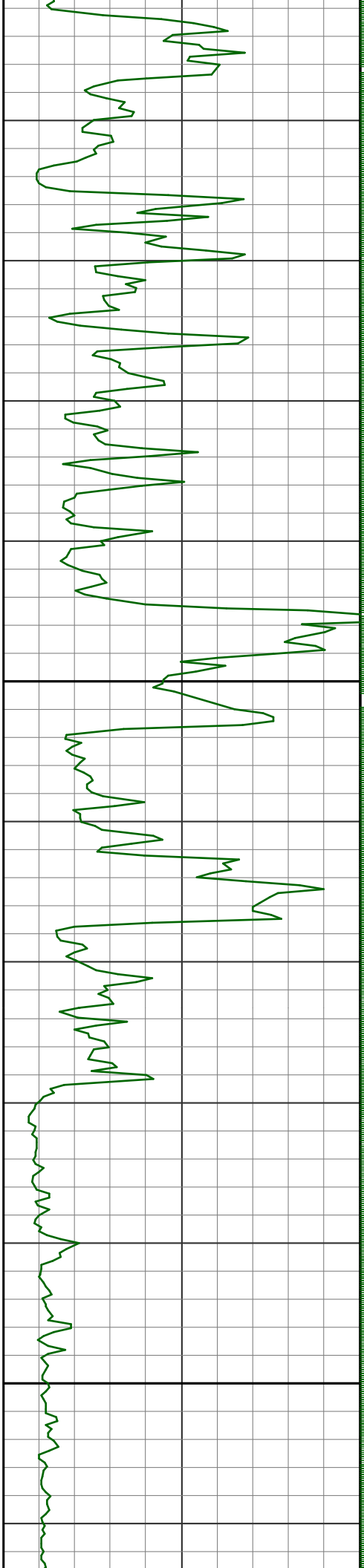
2

1425



0.9 44.5
22 1386.8

1.0 36.0



1450

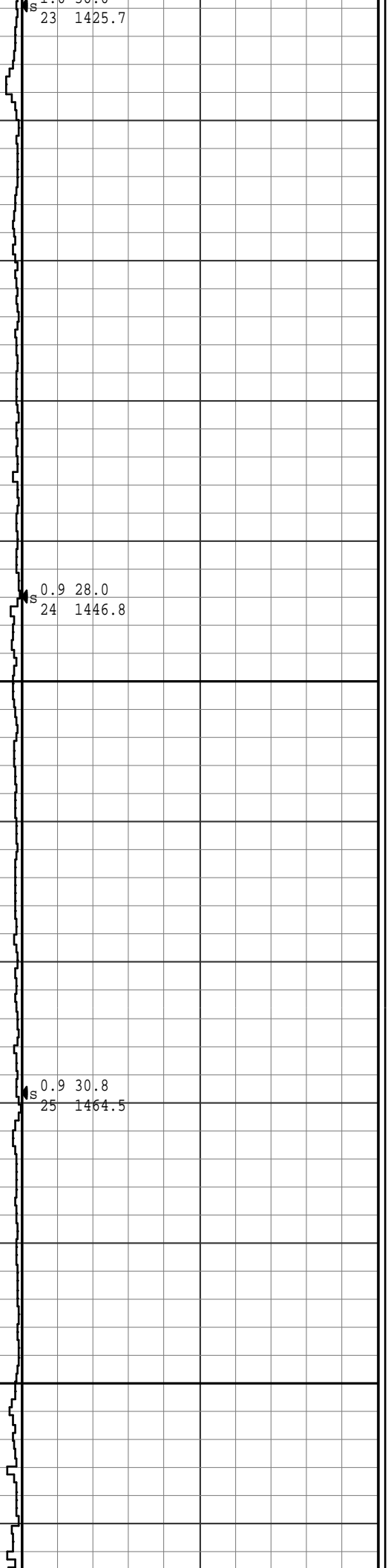
R
U
N

2

1475

R
U
N

3



1.0 30.0
23 1425.7

0.9 28.0
24 1446.8

0.9 30.8
25 1464.5

SEE REMARK #3

1500

S 0.6 30.4
26 1503.4

S 0.7 35.0
27 1509.9

R
U
N

3

1525

PROJECTION TO TD

S 0.7 35.0
28 1526.8

0 GRC_X AAPI 200

avg = 15 cm

DEPTH
MD m

1m = 200m

150 Time Based ROP m/hr

avg = 30 cm

0

COMMENTS

inc azi

SLIDE (BIT)	SHOES	#	TVD
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Survey Report

Vertical Section Plane: 0.00°						Total Correction: 5.12° East to Grid					
Calculation Method: Minimum Curvature						Survey Reference: Wellhead					
North Aligned to: Grid North						Well: West Mereenie 20					
Measured Depth (m)	Inclination (deg)	Azimuth (deg)	TVD (m)	Course Length (m)	Vertical Section (m)	Rect Co-ord North (m)	Rect Co-ord East (m)	Closure Distance (m)	Closure Direction (deg)	Dog-leg Severity (dg/30m)	Temp (deg C)
TIED INTO EXTERNAL SURVEYS AT 540m MD											
540.00	0.98	215.48	539.91		-8.09	8.09 S	3.36 W	8.76	202.55		
THE FOLLOWING ARE PATHFINDER MWD SURVEYS											
575.40	0.22	227.62	575.31	35.40	-8.38	8.38 S	3.59 W	9.12	203.16	0.65	28.60
613.00	0.22	310.81	612.91	37.60	-8.38	8.38 S	3.69 W	9.16	203.78	0.23	26.70
650.70	0.70	348.43	650.61	37.70	-8.11	8.11 S	3.79 W	8.95	205.07	0.43	26.70
689.50	1.19	5.08	689.40	38.80	-7.48	7.48 S	3.81 W	8.39	206.98	0.43	26.70
729.10	1.49	344.73	728.99	39.60	-6.57	6.57 S	3.91 W	7.64	210.73	0.42	28.60
767.90	1.41	358.44	767.78	38.80	-5.61	5.61 S	4.05 W	6.92	215.85	0.28	31.40
806.20	1.19	351.33	806.07	38.30	-4.74	4.74 S	4.12 W	6.29	221.01	0.21	32.40
845.60	0.88	351.33	845.46	39.40	-4.04	4.04 S	4.23 W	5.85	226.33	0.24	33.40
884.40	0.70	347.02	884.26	38.80	-3.51	3.51 S	4.33 W	5.58	230.94	0.15	33.40
922.70	0.62	341.31	922.56	38.30	-3.09	3.09 S	4.45 W	5.42	235.22	0.08	34.30
962.10	1.10	359.94	961.95	39.40	-2.51	2.51 S	4.52 W	5.17	240.95	0.42	33.40
1001.20	1.10	3.81	1001.04	39.10	-1.76	1.76 S	4.49 W	4.83	248.61	0.06	35.30
1040.50	0.88	25.12	1040.34	39.30	-1.11	1.11 S	4.34 W	4.48	255.65	0.32	35.30
1079.30	1.10	6.71	1079.13	38.80	-0.47	0.47 S	4.17 W	4.20	263.56	0.30	37.20
1118.20	0.79	4.90	1118.03	38.90	0.17	0.17 N	4.10 W	4.11	272.34	0.24	39.10
1156.90	1.01	19.63	1156.72	38.70	0.75	0.75 N	3.97 W	4.04	280.77	0.25	39.10
1196.50	1.19	31.14	1196.31	39.60	1.44	1.44 N	3.64 W	3.91	291.54	0.21	41.00
1235.40	1.10	44.10	1235.21	38.90	2.05	2.05 N	3.17 W	3.77	302.90	0.21	38.10
1274.20	1.10	44.41	1274.00	38.80	2.58	2.58 N	2.65 W	3.70	314.29	0.01	39.10
1313.00	1.10	33.03	1312.79	38.80	3.16	3.16 N	2.18 W	3.84	325.36	0.17	42.90
1351.80	1.10	39.93	1351.59	38.80	3.76	3.76 N	1.74 W	4.14	335.14	0.10	43.90
1387.00	0.88	44.54	1386.78	35.20	4.21	4.21 N	1.34 W	4.42	342.40	0.20	39.10
1425.90	1.01	36.02	1425.68	38.90	4.70	4.70 N	0.92 W	4.79	348.88	0.15	50.60
1447.00	0.88	28.02	1446.77	21.10	4.99	4.99 N	0.74 W	5.05	351.59	0.26	52.50
1464.70	0.88	30.83	1464.47	17.70	5.23	5.23 N	0.61 W	5.27	353.40	0.07	44.80
1503.60	0.62	30.44	1503.37	38.90	5.67	5.67 N	0.35 W	5.68	356.51	0.20	56.30
1510.10	0.70	35.01	1509.87	6.50	5.73	5.73 N	0.30 W	5.74	356.95	0.44	62.10
PROJECTION TO TD AT 1527m MD											
1527.00	0.70	35.01	1526.77	16.90	5.90	5.90 N	0.19 W	5.90	358.19	0.00	

BOTTOM HOLE ASSEMBLY RECORD

2m		3m					
8 1/2" INSERT BT	0.23	8 1/2" INSERT BT	0.23				
8 1/2" DOG SUB	0.17	8 1/2" DOG SUB	0.17				
6 3/4" G2 MOTOR	7.84	6 3/4" G2 MOTOR	7.84				
6 3/4" FLOAT SUB	0.90	6 3/4" FLOAT SUB	0.90				
8 3/8" HI TOOL	1.20	8 3/8" HI TOOL	1.20				
6 3/4" PONY NMDC	3.48	6 3/4" PONY NMDC	3.48				
6 3/4" XEM NMDC	9.23	6 3/4" XEM NMDC	9.23				
6 1/2" GAP SUB	1.13	6 1/2" GAP SUB	1.13				
8 3/8" STAB	1.46	8 3/8" STAB	1.46				
6 1/2" NMDC	9.11	6 1/2" NMDC	9.11				
6 1/2" FILTER SB	1.02	6 1/2" FILTER SB	1.02				
6 3/8" X/O	0.85	6 3/8" X/O	0.85				
=====		=====					
TOTAL BHA LENGTH	36.62	TOTAL BHA LENGTH	36.62				

SENSOR OFFSETS:		SENSOR OFFSETS:					
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DIRECTIONAL	15.98	DIRECTIONAL	15.98				
GAMMA-RAY	14.59	GAMMA-RAY	14.59				



A Schlumberger Company

GAMMA-RAY
1 : 200

METERS MD