

**Company : Santos Ltd.**

**Well : West Mereenie 24 - ST01**

**Field : Mereenie**

**Date : 11-Mar-2014**

**Time : 13:04**



A Schlumberger Company

GAMMA-RAY

1 : 500

METERS TVD

COMPANY : Santos Ltd.  
WELL : West Mereenie 24 - ST01  
FIELD : Mereenie  
COUNTY :  
STATE : NT  
COUNTRY : AUSTRALIA  
API No. :

COMPANY : Santos Ltd.  
WELL : West Mereenie 24 - ST01  
FIELD : Mereenie  
COUNTY :  
STATE : NT  
COUNTRY : AUSTRALIA  
API WELL No.:

WELL LOCATION  
LAT:23°56'37"S LON:131°25'40"E  
X: 747109.54m Y: 7349881.23m  
SEC: TWP: RANGE:

OTHER SERVICES

DIRECTIONAL  
ROP

DEPTH REF. : ROTARY TABLE  
ELEVATION : 754.20 m (ROTARY TABLE - GROUND LEVEL)  
ALTITUDE : 749.28 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	530	00-03	0	520
8 3/4	530	950	03-05	520	950
8 1/2	950	1540	05-00	950	1185
			00-45	1185	1509
			45-46	1509	1540

CASING RECORD

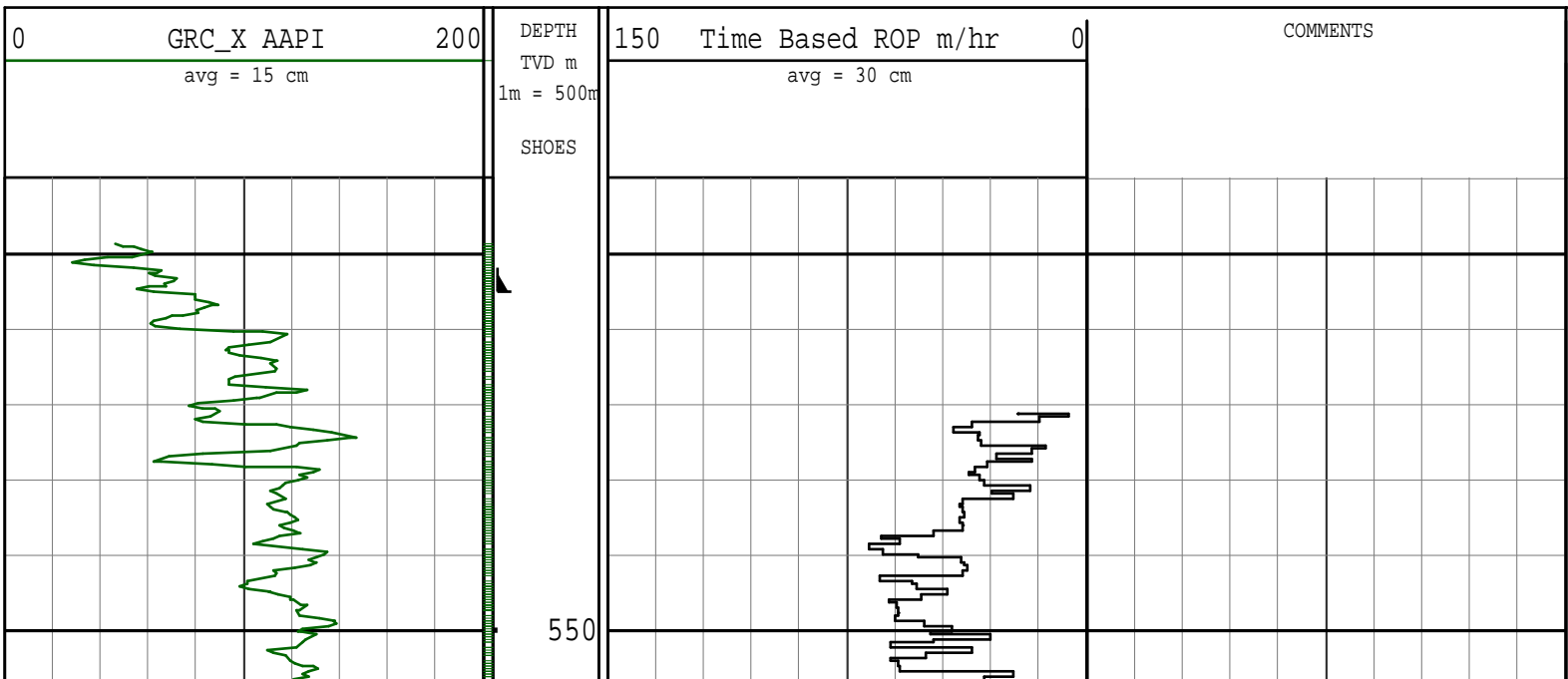
CASING SIZE in	FROM m	TO m		
9 5/8	0	527		

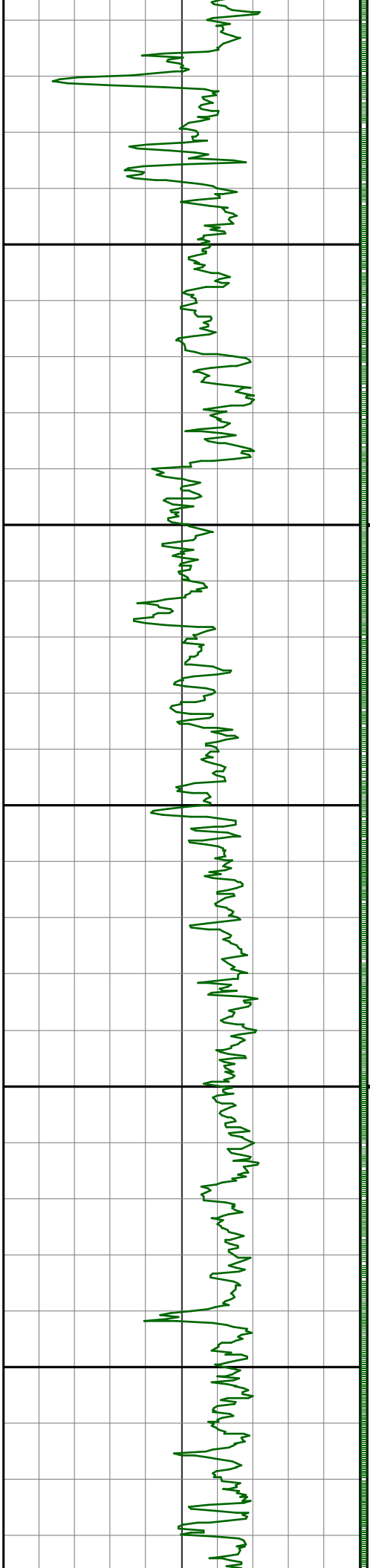
DRILLING Co.: ENSIGN  
RIG : 918  
LWD UNIT No.: 001 DISTRICT : ROMA  
SPUD DATE : 18-FEB-14  
LWD START DATE : 19-FEB-14 DEPTH : 525 m  
LWD END DATE : 11-MAR-14 DEPTH : 1540 m  
TOTAL DEPTH : 1540 m

RUN DATA

RUN NUMBER	1	2	3	4	5	
START DATE	18-FEB-14	20-FEB-14	04-MAR-14	07-MAR-14	10-MAR-14	
START TIME	20:15	19:00	23:45	08:00	13:00	
END DATE	20-FEB-14	23-FEB-14	07-MAR-14	08-MAR-14	11-MAR-14	
END TIME	17:00	01:00	06:39	16:30	08:22	
DEPTH IN m	530	950	1220	1409	1463	
DEPTH OUT m	950	1220	1409	1463	1540	
LOG TOP m	525	936	1204	1395	1449	
LOG BOTTOM m	936	1204	1395	1449	1526	
HOLE SIZE in	8 3/4	8 1/2	8 1/2	8 1/2	8 1/2	
MUD DATA @ m	600	1000	1350	1428	1490	
MUD TYPE	AIR/FOAM	AIR/FOAM	WATER BASED	WATER BASED	WATER BASED	
DENSITY lb/gal	0.01	0.01	8.80	8.90	8.90	
VISCOSITY s/qt						
pH						
FLUID LOSS cm3/30						
SALINITY ppm						
Rm ohmm @ deg C	@	@	@	@	@	
Rmf ohmm @ deg C	@	@	@	@	@	

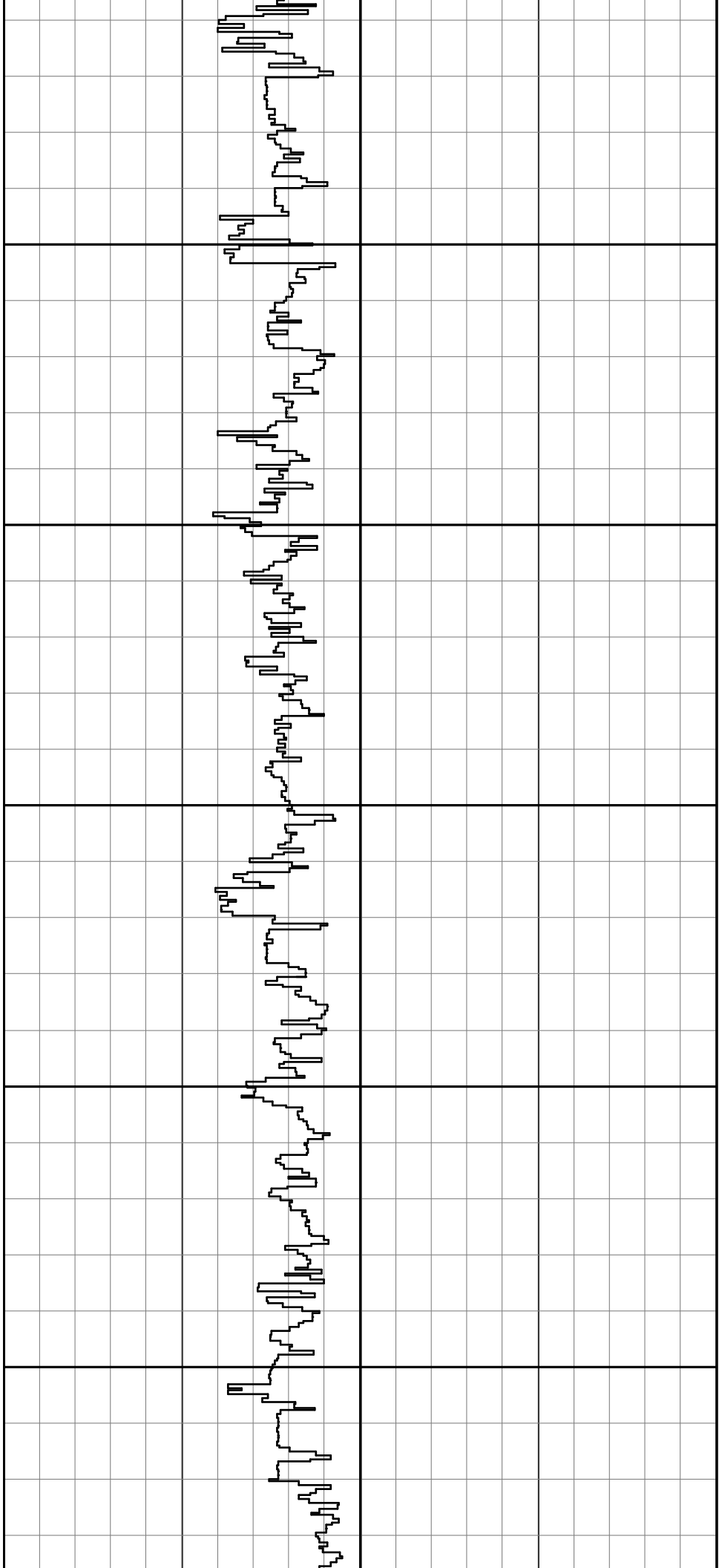
REMARKS
*** FIELD PRINT ONLY ***
SANTOS LTD.
PATHFINDER - A SCHLUMBERGER COMPANY: JOB NO. 14AUS0015
ALL DATA IS REALTIME UNLESS STATED OTHERWISE.
ALL REFERENCES TO LOG TOP, LOG BOTTOM OR LOGGING TOOL DEPTH REFER TO GAMMA-RAY SENSOR UNLESS STATED OTHERWISE. SENSOR OFFSETS FOR THE LOGGING TOOLS ARE SHOWN IN THE BHA REPORT ON THE TRAILER.
ALL ANNOTATIONS IN THE DEPTH TRACK ARE REFERENCED TO THE BIT DEPTH.
RUN #1: 6 3/4" XEM / GAMMA-RAY LOGGING RUN.
RUN #2: 6 3/4" XEM / GAMMA-RAY LOGGING RUN.
RUN #3: 6 3/4" XEM / GAMMA-RAY LOGGING RUN.
RUN #4: 6 3/4" XEM / GAMMA-RAY LOGGING RUN.
RUN #5: 6 3/4" XEM / GAMMA-RAY LOGGING RUN.
REMARK #1: GAMMA-RAY HAS NOT BEEN ENVIROMENTALLY CORRECTED FOR BOREHOLE.
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 : 11-Mar-2014 13:02

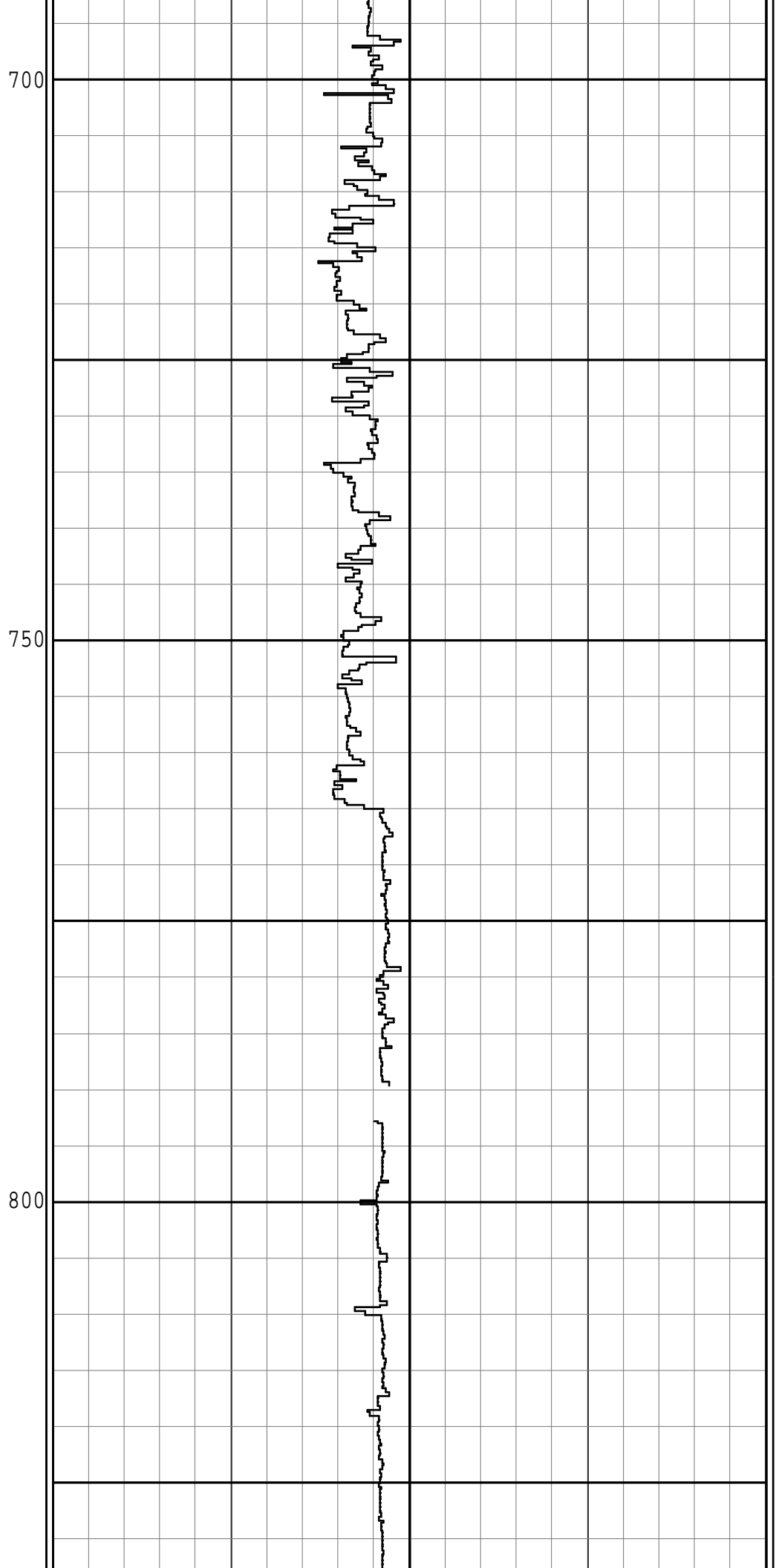
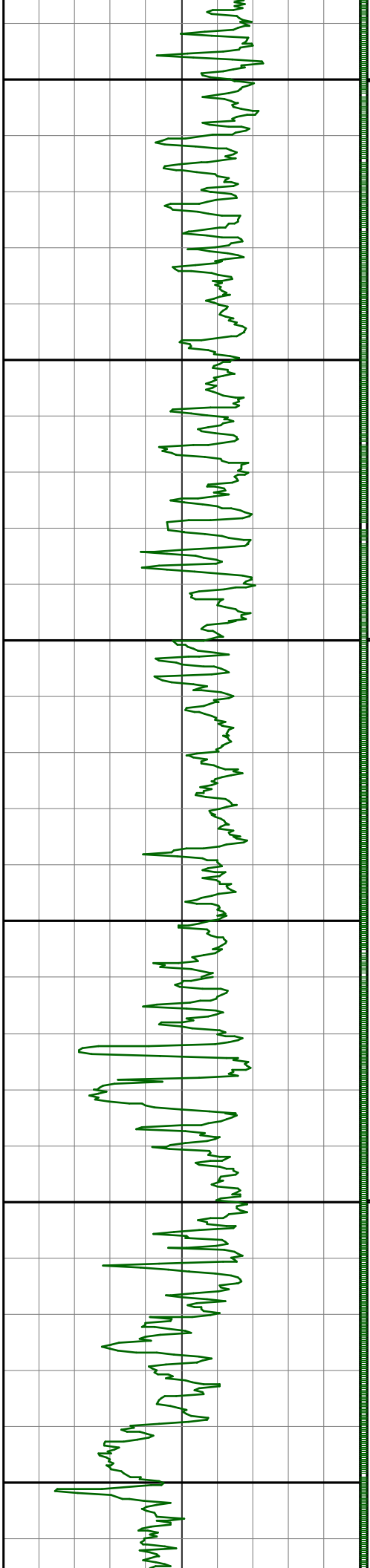


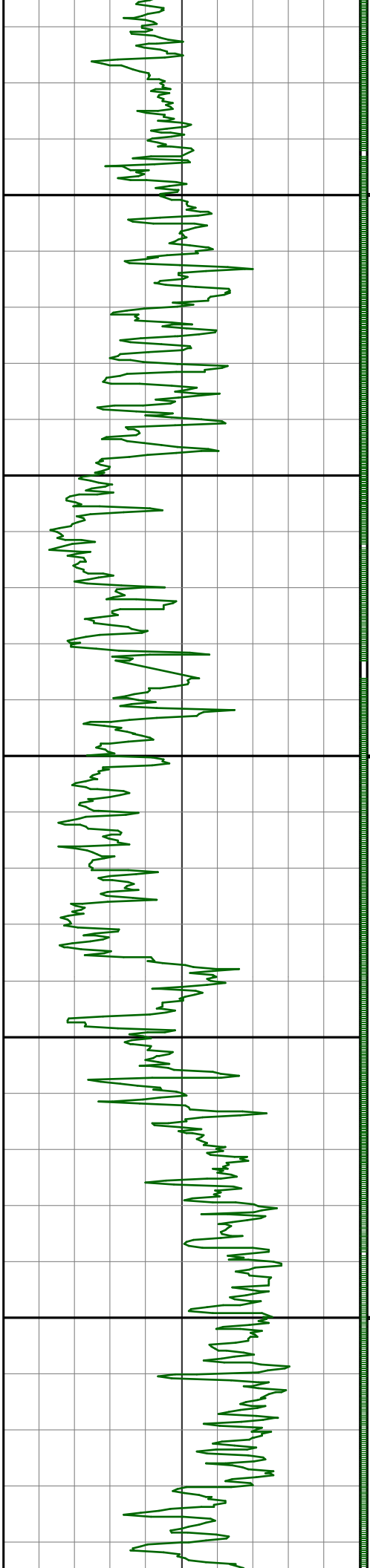


600

650



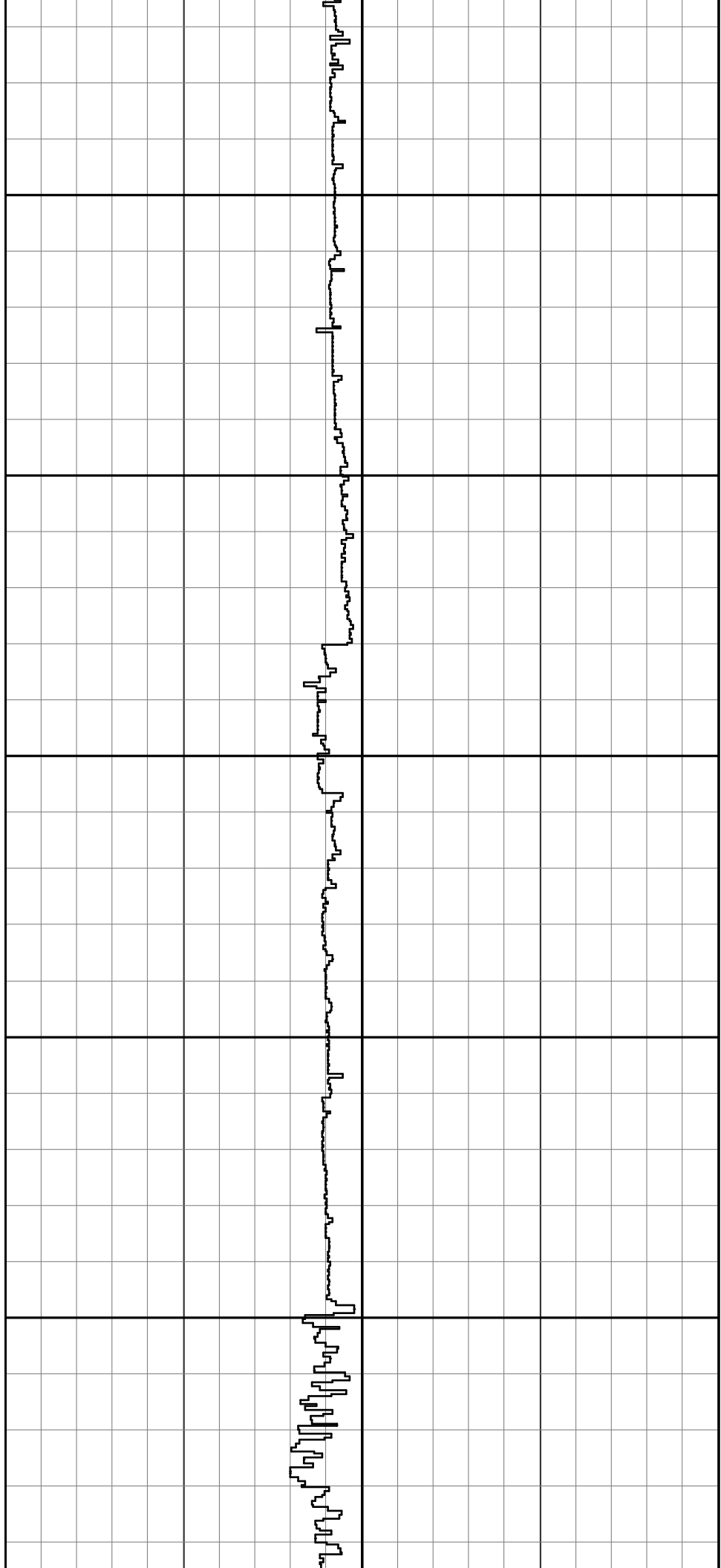


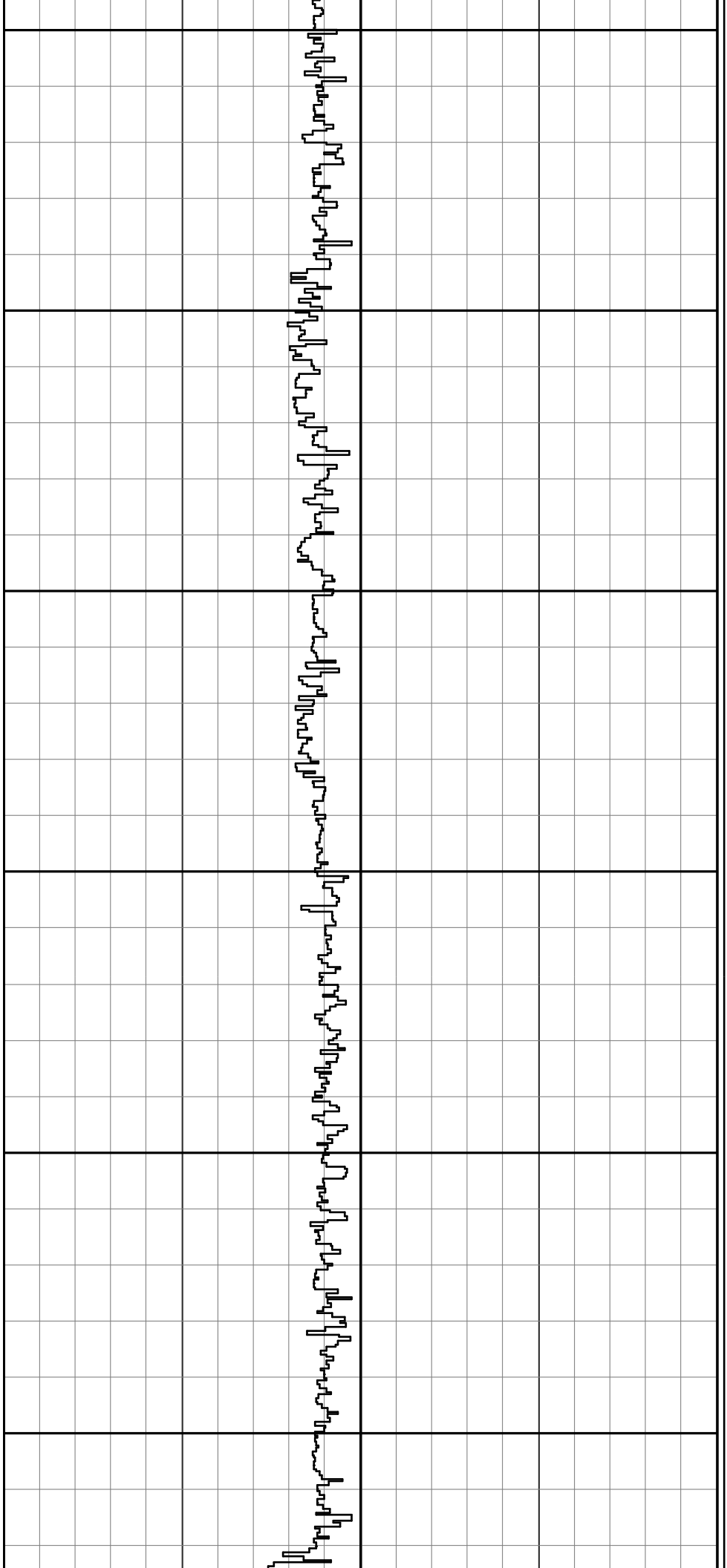
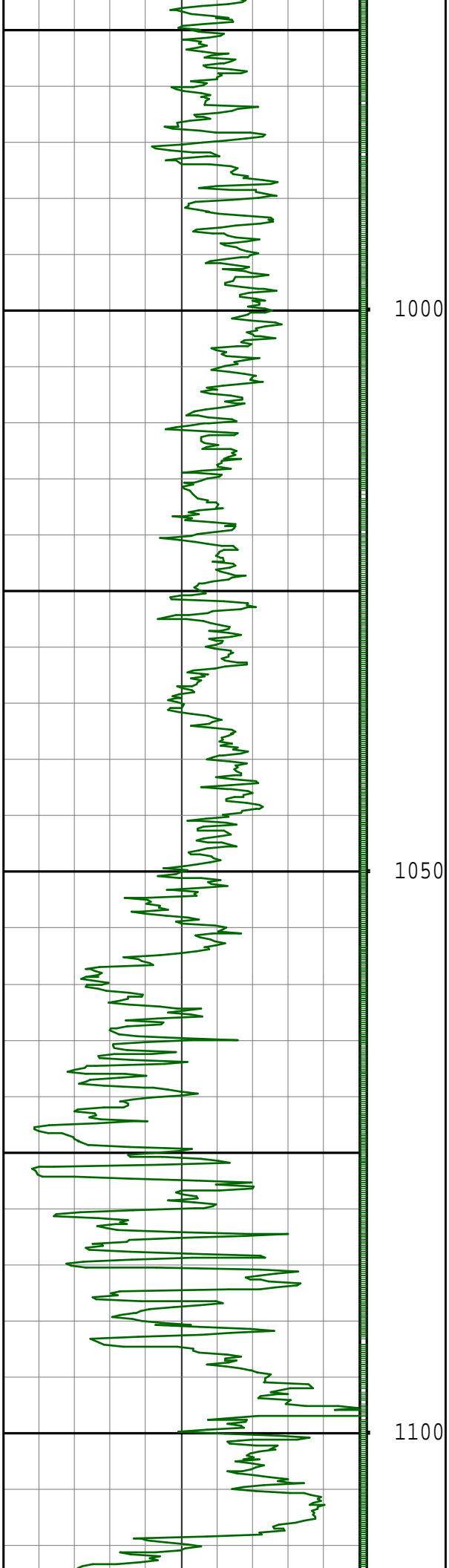


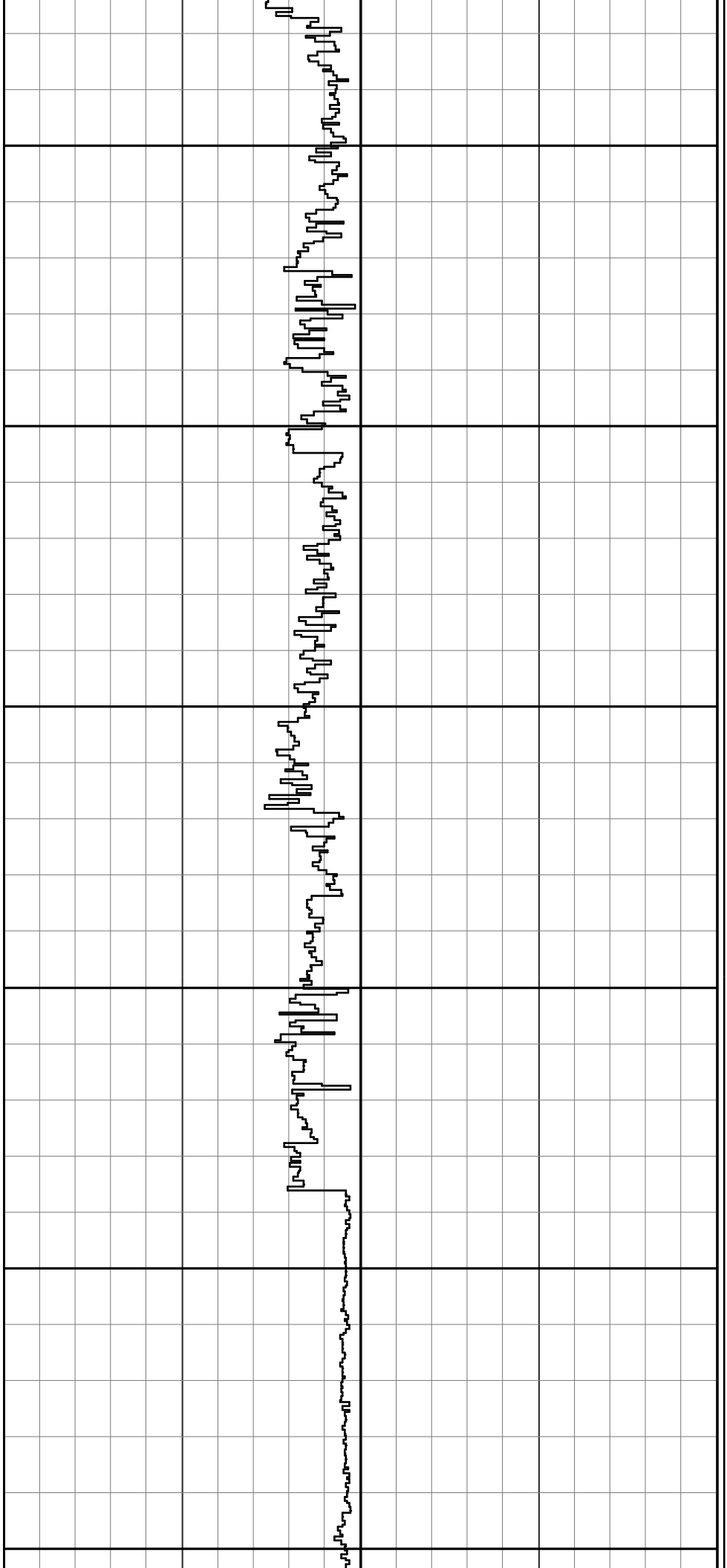
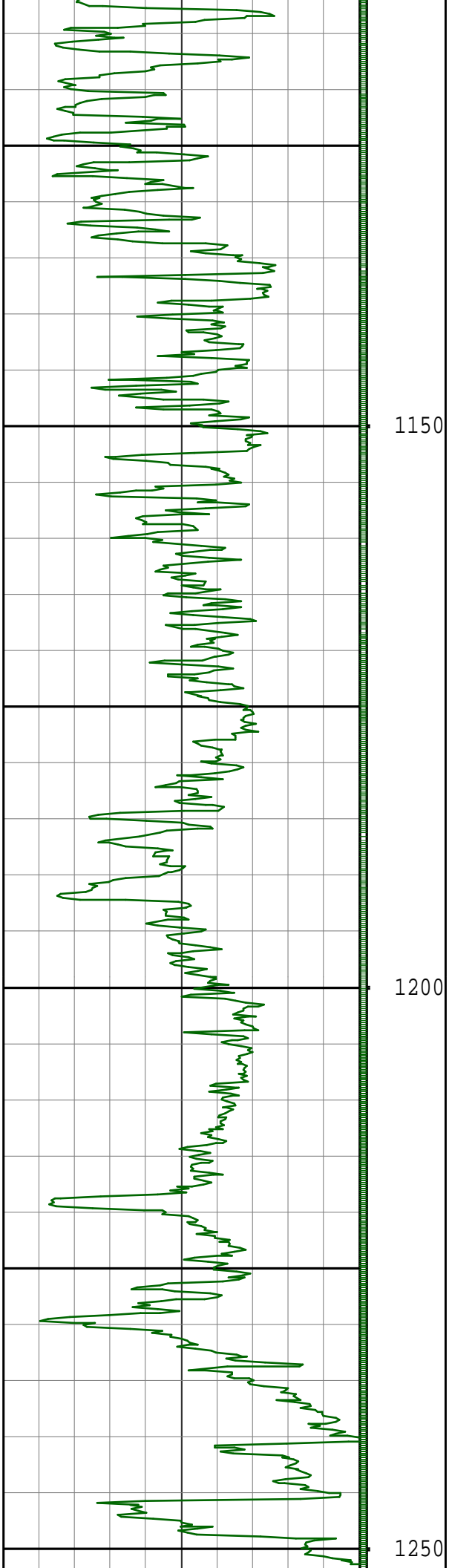
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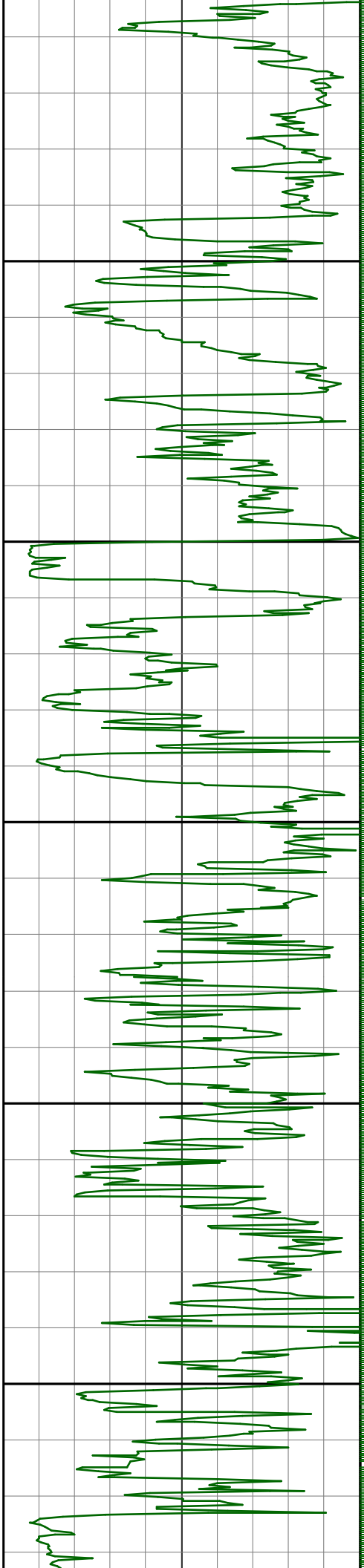
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950



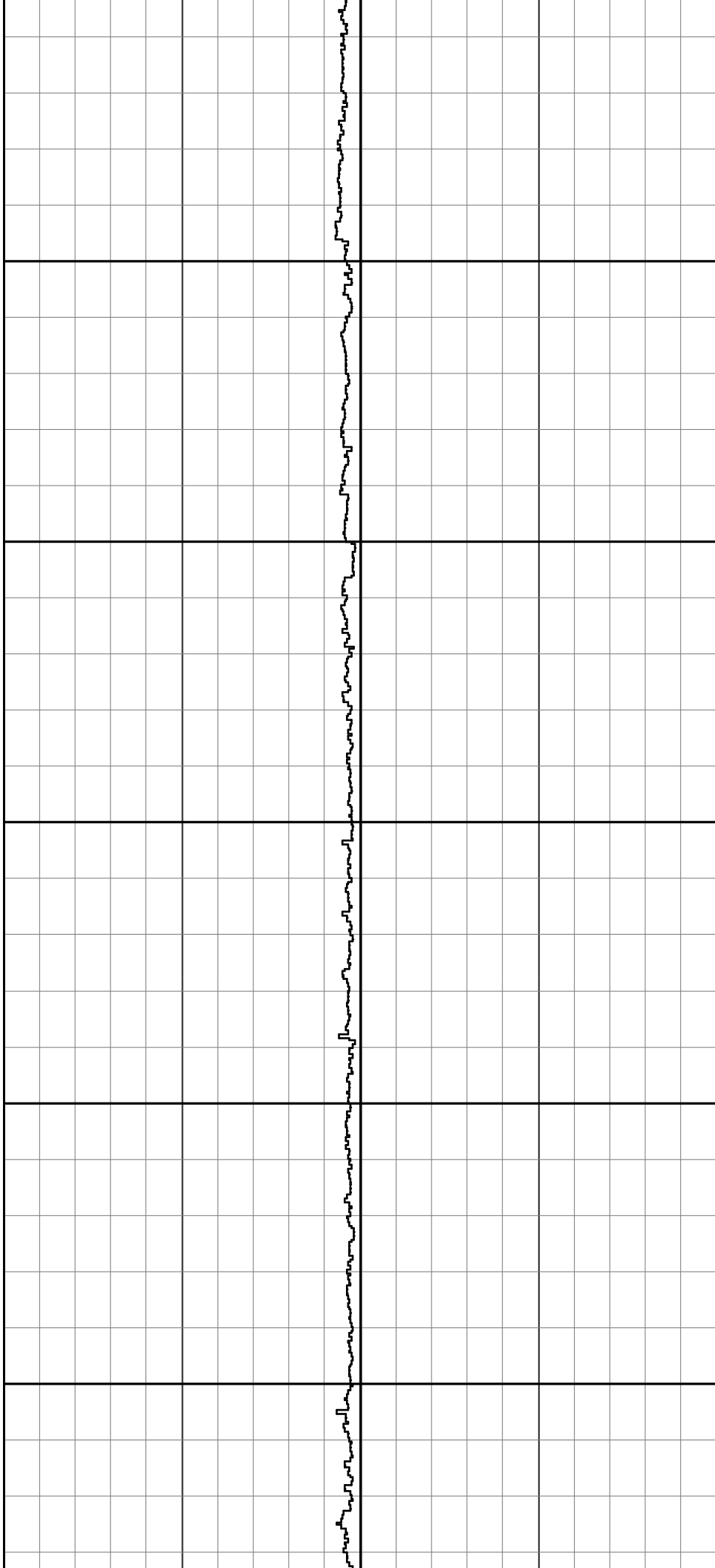


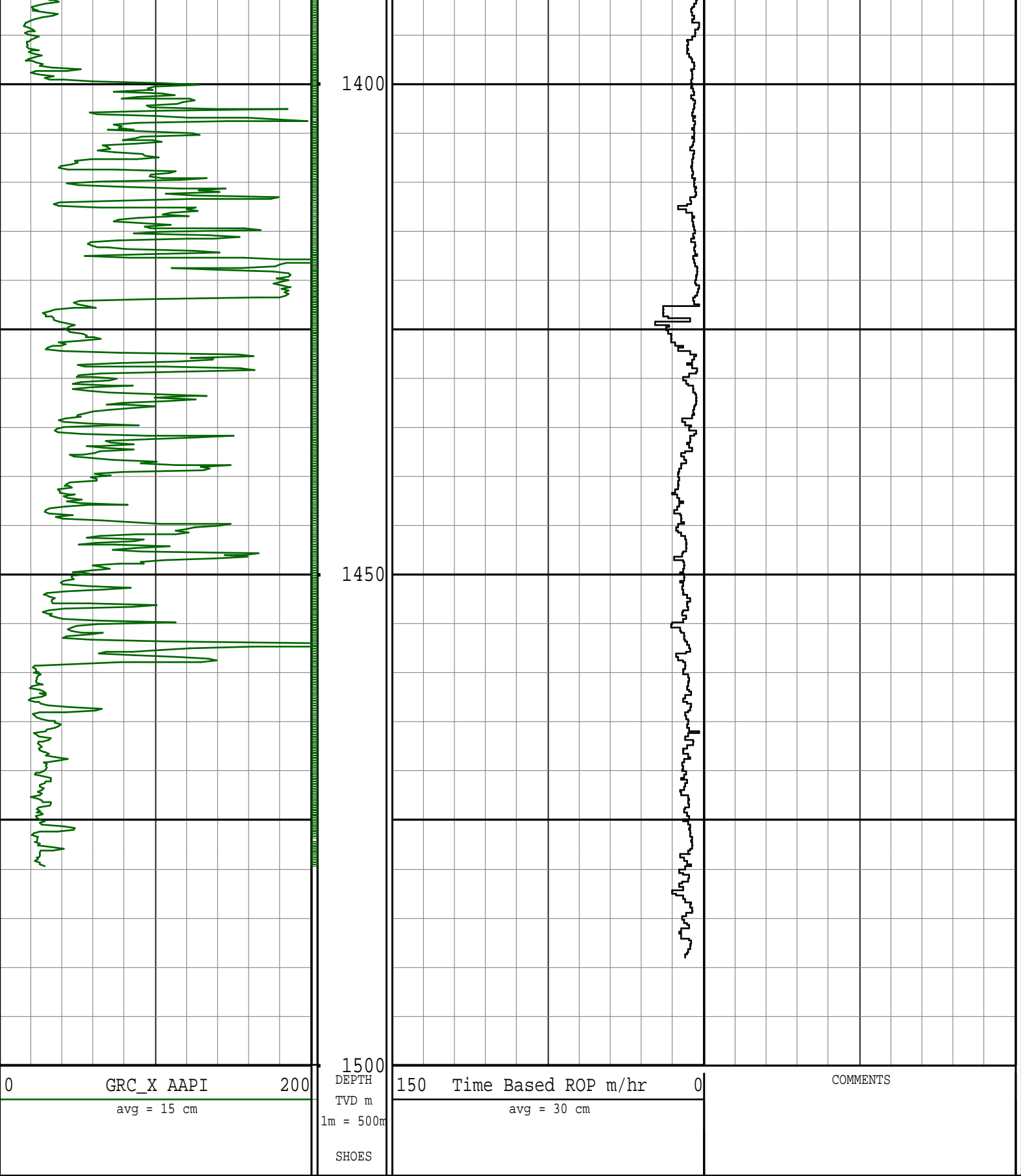




1300

1350





Survey Report											
Vertical Section Plane: 212.31°						Total Correction: 5.11° East to Grid					
Calculation Method: Minimum Curvature						Survey Reference: Wellhead					
North Aligned to: Grid North						Well: West Mereenie 24 - ST01					
Measured	Inclination	Azimuth	TVD	Course	Vertical	Rect Co-ord	Rect Co-ord	Closure	Closure	Dog-leg	Temp

Depth (m)	(deg)	(deg)	(m)	Length (m)	Section (m)	North (m)	East (m)	Distance (m)	Direction (deg)	Severity (dg/30m)	(deg C)
TIED INTO EXTERNAL SURVEYS AT 520m MD											
520.00	2.54	235.60	519.73		12.96	7.94 S	11.69 W	14.13	235.82		
THE FOLLOWING ARE PATHFINDER MWD SURVEYS											
558.60	2.81	222.20	558.29	38.60	14.68	9.12 S	13.03 W	15.91	235.00	0.53	
597.10	3.38	220.53	596.73	38.50	16.73	10.69 S	14.40 W	17.93	233.43	0.45	
634.80	3.52	216.53	634.36	37.70	18.98	12.46 S	15.81 W	20.13	231.76	0.22	
672.40	3.78	215.92	671.89	37.60	21.37	14.39 S	17.23 W	22.45	230.13	0.21	
710.10	4.22	214.82	709.50	37.70	24.00	16.54 S	18.75 W	25.00	228.59	0.36	
747.80	4.39	212.71	747.09	37.70	26.83	18.89 S	20.32 W	27.74	227.09	0.19	
785.50	4.70	213.41	784.67	37.70	29.81	21.39 S	21.95 W	30.65	225.74	0.25	
823.20	5.19	212.80	822.23	37.70	33.06	24.12 S	23.73 W	33.83	224.53	0.39	
861.50	5.32	213.01	860.37	38.30	36.57	27.06 S	25.63 W	37.27	223.45	0.10	
899.20	5.49	211.30	897.90	37.70	40.12	30.07 S	27.52 W	40.76	222.47	0.19	
937.40	5.41	212.31	935.93	38.20	43.75	33.15 S	29.43 W	44.33	221.60	0.10	
978.30	3.52	221.72	976.70	40.90	46.92	35.72 S	31.30 W	47.49	221.23	1.48	25.70
997.10	2.29	221.41	995.48	18.80	47.86	36.43 S	31.93 W	48.44	221.23	1.96	20.00
1016.00	1.32	228.31	1014.37	18.90	48.44	36.86 S	32.34 W	49.04	221.27	1.57	29.50
1034.80	0.70	256.70	1033.17	18.80	48.73	37.03 S	32.62 W	49.35	221.38	1.24	31.40
1053.60	1.19	238.20	1051.96	18.80	48.99	37.16 S	32.89 W	49.63	221.52	0.91	31.40
1072.50	1.41	234.81	1070.86	18.90	49.38	37.40 S	33.25 W	50.04	221.64	0.37	31.40
1091.30	0.31	305.30	1089.66	18.80	49.59	37.50 S	33.48 W	50.27	221.76	2.14	35.30
1110.90	0.48	25.59	1109.26	19.60	49.50	37.39 S	33.49 W	50.20	221.85	0.80	37.20
1129.80	0.22	17.50	1128.16	18.90	49.39	37.29 S	33.44 W	50.09	221.89	0.42	33.40
1148.60	0.31	251.20	1146.96	18.80	49.40	37.27 S	33.48 W	50.10	221.93	0.76	33.40
1167.40	0.79	232.92	1165.76	18.80	49.56	37.37 S	33.63 W	50.27	221.99	0.81	31.40
1186.30	1.89	231.30	1184.65	18.90	49.97	37.64 S	33.98 W	50.71	222.08	1.75	21.90
1205.10	5.71	206.12	1203.41	18.80	51.20	38.67 S	34.63 W	51.91	221.85	6.51	21.90
1223.70	8.70	215.91	1221.86	18.60	53.52	40.64 S	35.87 W	54.21	221.43	5.20	
1242.60	12.30	209.63	1240.44	18.90	56.96	43.55 S	37.70 W	57.60	220.88	5.99	
1261.40	15.21	210.82	1258.70	18.80	61.43	47.41 S	39.96 W	62.00	220.12	4.67	
1280.30	17.01	211.52	1276.85	18.90	66.67	51.90 S	42.67 W	67.19	219.43	2.87	
1299.10	18.59	216.71	1294.76	18.80	72.41	56.64 S	45.90 W	72.91	219.02	3.57	
1317.90	20.48	223.43	1312.47	18.80	78.62	61.44 S	49.95 W	79.18	219.11	4.68	
1336.70	22.81	227.69	1329.95	18.80	85.37	66.28 S	54.91 W	86.07	219.64	4.48	
1355.60	25.62	230.59	1347.18	18.90	92.78	71.34 S	60.78 W	93.72	220.43	4.84	
1374.40	28.30	233.71	1363.94	18.80	100.79	76.56 S	67.51 W	102.07	221.41	4.84	
1392.90	30.89	237.32	1380.03	18.50	109.18	81.72 S	75.05 W	110.95	222.56	5.10	
1412.70	35.60	237.32	1396.58	19.80	119.01	87.58 S	84.18 W	121.48	223.87	7.14	
1432.20	39.42	239.82	1412.05	19.50	129.65	93.76 S	94.31 W	132.99	225.17	6.33	
1451.60	42.10	240.70	1426.74	19.40	140.84	100.04 S	105.31 W	145.25	226.47	4.24	
1471.00	44.30	244.92	1440.89	19.40	152.27	106.10 S	117.12 W	158.03	227.83	5.61	
1490.40	44.60	245.40	1454.73	19.40	163.68	111.80 S	129.45 W	171.05	229.18	0.70	
1509.70	45.40	246.10	1468.38	19.30	175.07	117.41 S	141.89 W	184.17	230.39	1.46	
1524.14	45.70	246.59	1478.49	14.44	183.61	121.54 S	151.34 W	194.10	231.23	0.96	
PROJECTION TO TD AT 1540m MD											
1540.00	46.03	247.12	1489.54	15.86	192.99	126.02 S	161.80 W	205.09	232.09	0.95	

BOTTOM HOLE ASSEMBLY RECORD											
RUN #1		m	RUN #2		m	RUN #3		m	RUN #4		m
8 3/4" HAMMER BT		0.10	8 1/2" INSERT BT		0.24	8 1/2" INSERT BI		0.24	8 1/2" INSERT BT		0.24
7" HAMMER		1.37	8 1/2" DOG SUB		0.17	8 1/2" DOG SUB		0.24	8 1/2" DOG SUB		0.24
8 1/2" NB STAB		1.50	6 3/4" G2 MOTOR		9.58	6 3/4" G2 MOTOR		7.82	6 3/4" G2 MOTOR		7.83
6 1/2" X/O		0.81	6 3/4" FLOAT SUB		0.68	6 3/4" FLOAT SUB		0.91	6 3/4" FLOAT SUB		0.91
6 3/4" PONY		3.00	8 3/8" HI TOOL		1.06	8 3/8" HI TOOL		1.19	8 3/8" HI TOOL		1.19
8 5/8" HI TOOL		1.19	6 3/4 PONY NMDC		3.48	6 3/4" PONY NMDC		2.87	6 3/4" PONY NMDC		2.87
6 3/4" NM PONY		3.48	6 3/4" XEM NMDC		9.11	6 3/4" XEM NMDC		9.25	6 3/4" XEM NMDC		9.25
6 3/4" XEM NMDC		9.11	6 1/2" GAP SUB		1.12	6 1/2" GAP SUB		1.11	6 1/2" GAP SUB		1.11
6 1/2" GAP SUB		1.12	8 3/4" STAB		1.46	8 1/4" STAB		1.83	8 1/4" STAB		1.83
8 1/4" STAB		1.82	6 3/4" NMDC		9.04	6 3/4" NMDC		9.03	6 3/4" NMDC		9.03
6 3/4" NMDC		9.04	6 1/2" X-OVER		0.72	6 1/2" FILTER SB		1.02	6 1/2" FILTER SB		1.02
6 1/2" X-OVER		0.72				6 1/2" X/O		0.72	6 1/2" X/O		0.72
=====			=====			=====			=====		
TOTAL BHA LENGTH		33.26	TOTAL BHA LENGTH		36.66	TOTAL BHA LENGTH		36.23	TOTAL BHA LENGTH		36.24

SENSOR OFFSETS:		SENSOR OFFSETS:		SENSOR OFFSETS:		SENSOR OFFSETS:	
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DIRECTIONAL	13.49	DIRECTIONAL	17.25	DIRECTIONAL	15.45	DIRECTIONAL	15.46
GAMMA-RAY	12.10	GAMMA-RAY	15.86	GAMMA-RAY	14.06	GAMMA-RAY	14.07

BOTTOM HOLE ASSEMBLY RECORD							
RUN #5		m					
8 1/2" PDC BIT		0.24					
8 1/2" DOG SUB		0.24					
6 3/4" G2 MOTOR		7.83					
6 3/4" FLOAT SUB		0.91					
8 3/8" HI TOOL		1.19					
6 3/4" PONT NMDC		2.97					
6 3/4" XEM NMDC		9.25					
6 1/2" GAP SUB		1.11					
8 1/4" STAB		1.83					
6 3/4" NMDC		9.03					
6 1/2" FILTER SB		1.02					
6 1/2" X/O		0.72					
=====							
TOTAL BHA LENGTH		36.24					
SENSOR OFFSETS:							
-----							
DIRECTIONAL		15.46					
GAMMA-RAY		14.07					



A Schlumberger Company

GAMMA-RAY

1 : 500

METERS TVD