

Schlumberger

VISION Resistivity

1:500 Measured Depth

Recorded Mode Log

Company: Beach Petroleum Ltd

Well: Spikey Beach-1

Field: Exploration

County: n/a

State: Tasmania

Country: Australia

Section:

Township:

Range:

FL:

FL1:

FL2:

Custom:

Rig Name: Ocean Patriot

Rig Type: Semi Submersible

Exploration

Log Measured From - Drill Floor: 21.5 m

Permanent Datum - Mean Sea Level

Ground Level: 74.0 m

Acquisition Dates:

11 Sep 09 to 13 Sep 09

Print Interval:

803.0(m) to 2100.2(m)

Index Types:

Measured Depth

Index Scales:

1:500

Depth Source:

Driller's Depth

Depth Sensor:

DES

Conveyance:

Drill Pipe

Print Type:

Final

Spud Date:

05-Sep-2009

Other Services:

Directional Surveys

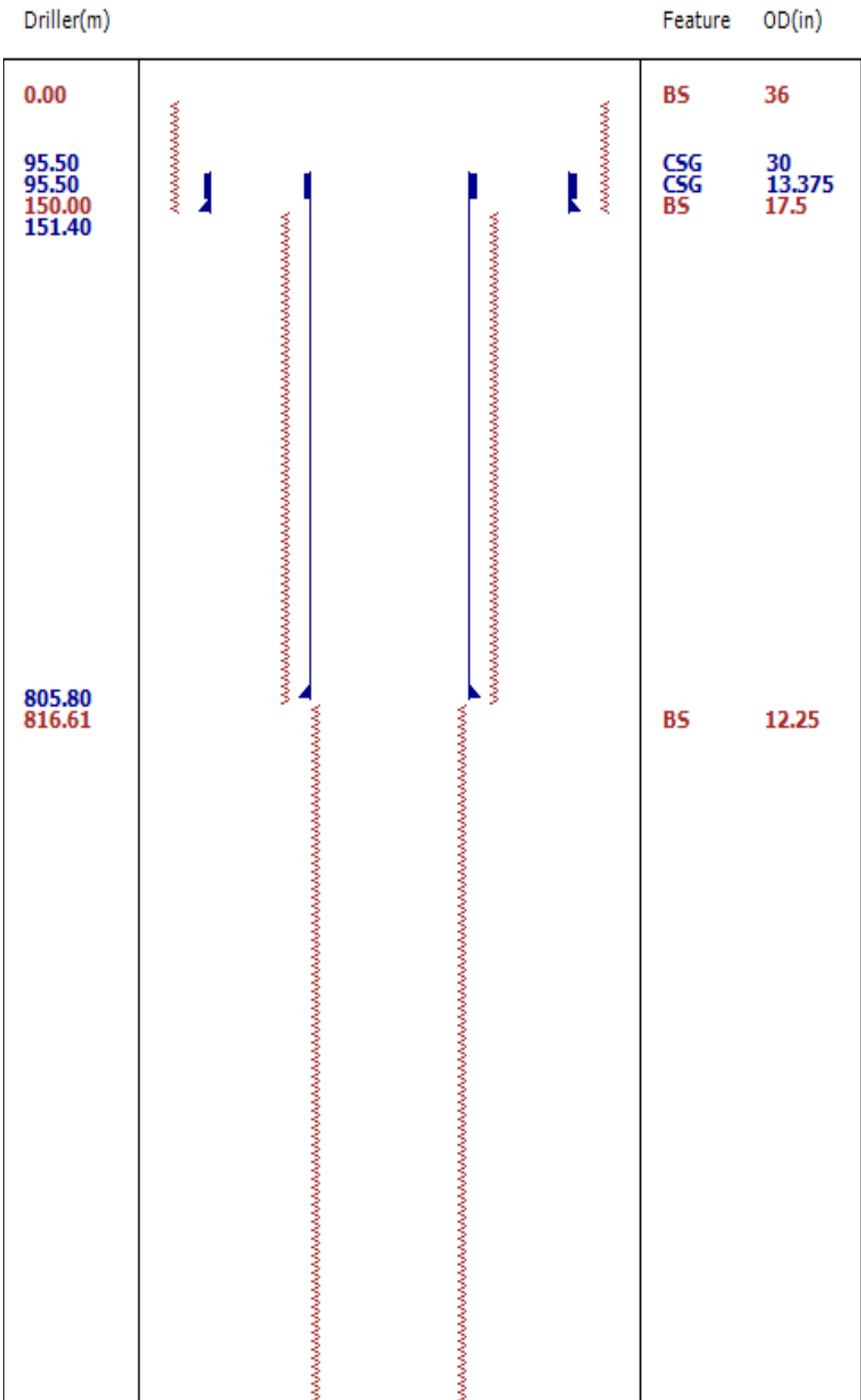
Disclaimer

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Well Sketch



2100.35

Borehole Size/Casing Record

Bit						
Bit Size (in)	36	17.5	12.25			
Bottom Driller (m)	150	816.61	2100.35			
Casing						
Size (in)	30	13.375				
Weight (kg/m)	169.65	82.59				
Inner Diameter (in)	29.296	12.592				
Grade	N/A	N80				
Top Driller (m)	95.5	95.5				
Bottom Driller (m)	151.4	805.8				

Operational Run Summary

Parameter (unit)	Run 2					
Date Log Started	10-Sep-2009					
Time Log Started	19:59:13					
Date Log Finished	13-Sep-2009					
Time Log Finished	15:53:56					
Bit Size (in)	12.250					
Bit Start Depth (m)	804.72					
Bit Stop Depth (m)	2100.35					
Top Log Interval (m)	NaN					
Bottom Log Interval (m)	NaN					
Max Hole Deviation (deg)	0.73					
Azimuth of Max Deviation (deg)	105.25					
Logging Unit Number	OLU-KC-0702					
Logging Unit Location						
Recorded By	Marganda Sihite					
Witnessed By	Fred/Peter					
Service Order Number	09ASQ0029					

Borehole Fluids

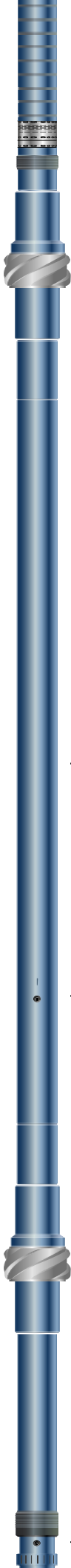
Parameter (unit)	Run 2					
Type Fluid	Water					
Max Recorded Temperature (degC)						
Source of Sample	Active Tank					
Salinity (ppm)	Zoned					
Density (lbm/gal)	Zoned					

Viscosity (s)	Zoned					
Fluid Loss (cm3)						
pH	Zoned					
Source Rmf						
Source Rmc	Pressed					
Rm @ Meas Temp (ohm.m@degC)	Zoned					
Rmf @ Meas Temp (ohm.m@degC)	Zoned					
Rmc @ Meas Temp (ohm.m@degC)	Zoned					
Rm @ BHT (ohm.m@degC)	Zoned					
Rmf @ BHT (ohm.m@degC)	Zoned					
Rmc @ BHT (ohm.m@degC)	Zoned					

Zoned Borehole Fluids

Run 2		
Parameter	Value	Start
Salinity	117818.2	9/10/2009 7:59:12 PM
Salinity	102066.1	9/11/2009 11:30:28 AM
Salinity	98242.83	9/12/2009 2:00:00 AM
Density	9	9/10/2009 7:59:12 PM
Density	9.10	9/11/2009 11:30:28 AM
Density	9.5	9/12/2009 2:00:00 AM
Viscosity	43	9/10/2009 7:59:12 PM
Viscosity	52	9/11/2009 11:30:28 AM
Viscosity	59	9/12/2009 2:00:00 AM
pH	9	9/10/2009 7:59:12 PM
pH	9.5	9/11/2009 11:30:28 AM
Meas Temp	17.9	9/10/2009 7:59:12 PM
Meas Temp	20.9	9/11/2009 7:28:28 PM
Meas Temp	22.4	9/12/2009 7:30:04 PM
Meas Temp	18.6	9/10/2009 7:59:12 PM
Meas Temp	21	9/11/2009 7:28:28 PM
Meas Temp	22.8	9/12/2009 7:30:04 PM
Meas Temp	20.1	9/10/2009 7:59:12 PM
Meas Temp	21.3	9/11/2009 7:28:28 PM
Meas Temp	22.1	9/12/2009 7:30:04 PM
Rm @ Meas Temp	0.07 @ 17.9	9/10/2009 7:59:12 PM
Rm @ Meas Temp	0.08 @ 20.9	9/11/2009 7:28:28 PM
Rm @ Meas Temp	0.07 @ 22.4	9/12/2009 7:30:04 PM
Rmf @ Meas Temp	0.07 @ 18.6	9/10/2009 7:59:12 PM
Rmf @ Meas Temp	0.07 @ 21	9/11/2009 7:28:28 PM
Rmf @ Meas Temp	0.06 @ 22.8	9/12/2009 7:30:04 PM
Rmc @ Meas Temp	0.08 @ 20.1	9/10/2009 7:59:12 PM
Rmc @ Meas Temp	0.34 @ 22.1	9/12/2009 7:30:04 PM
Rm @ BHT	0.03 @ 68	9/10/2009 7:59:12 PM
Rm @ BHT	0.05 @ 68	9/12/2009 7:30:04 PM
Rm @ BHT	0.05 @ 68	9/12/2009 10:53:04 PM
Rmf @ BHT	0.03 @ 68	9/10/2009 7:59:12 PM
Rmf @ BHT	0.04 @ 68	9/11/2009 7:28:28 PM
Rmf @ BHT	0.04 @ 68	9/12/2009 7:30:04 PM

Remarks and Equipment Summary		
Run 2: Toolstring	Run 2: Remarks	
<div><div><div>Cum. Length 45.61 SADN8: 43225</div><div><div>adhVISION (stabilized) 43225</div><div>Neutron 41.75</div><div>ROP 40.55</div><div>Density 39.77 UltraSonic 39.60</div><div>Cum. Length 36.44 SONICVISIO: 42784</div><div>Delta-T 33.83 ROP 33.43</div></div></div></div>		



sonicVISION NM-ILS

TeleScope ZH22

— D&I 24.45

— ROP 22.10

TeleScope NM-ILS

arcVISION 1216

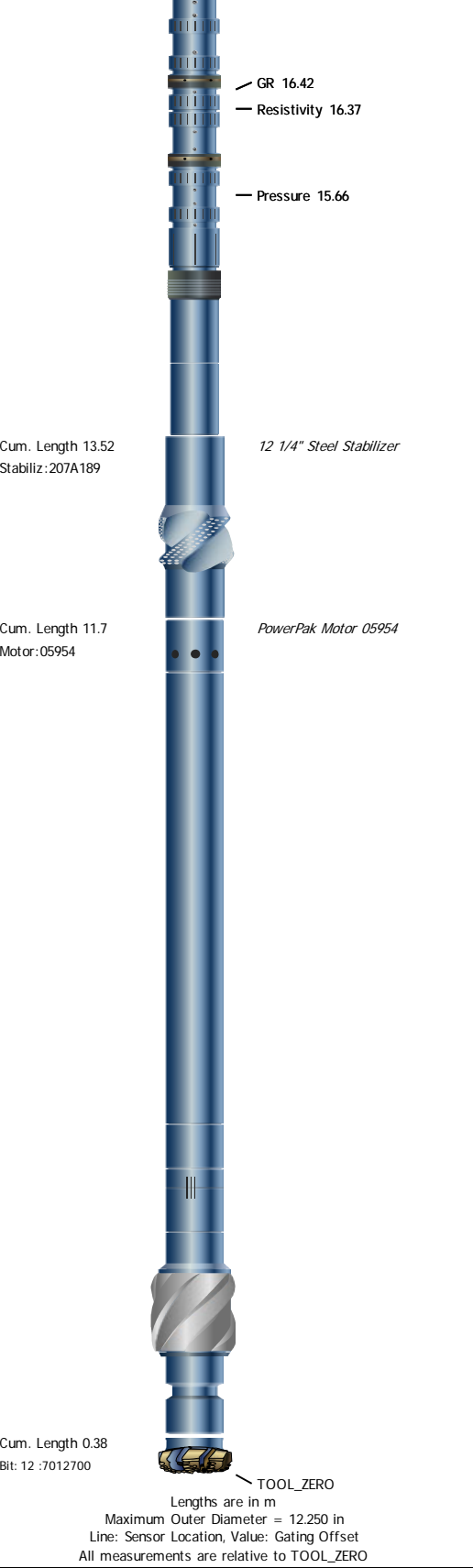
— ROP 17.49

Cum. Length 29.58
Stab: 9":AWA7261

Cum. Length 28.73
TELE825:ZH22

Cum. Length 20.67
Stab: 9":ASQ9029

Cum. Length 19.76
ARC8:1216



Survey Record

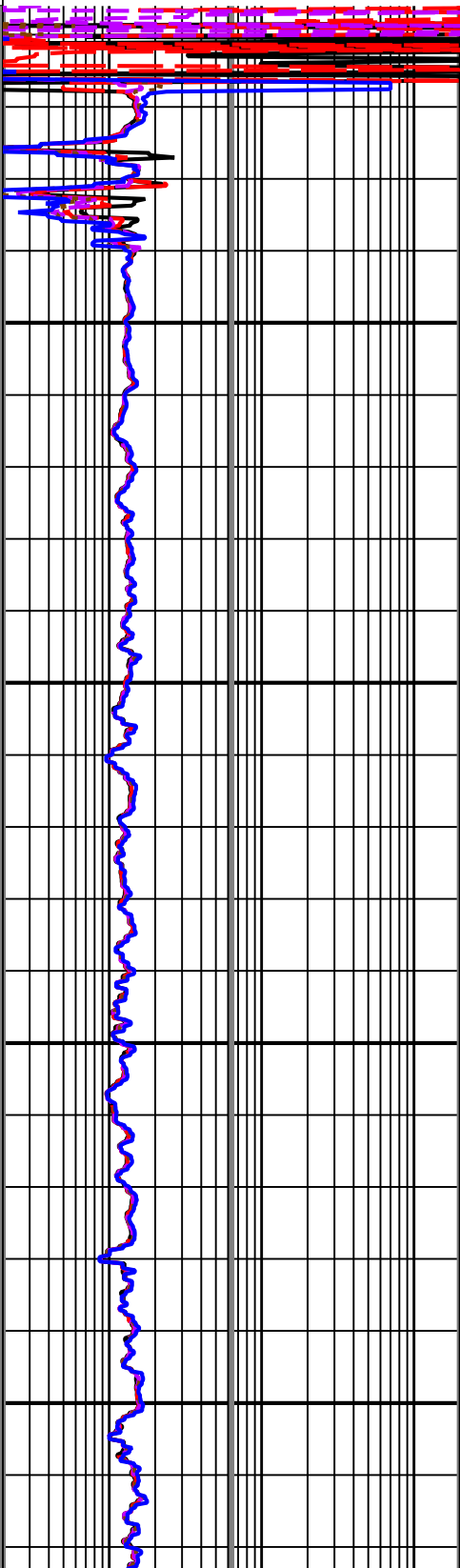
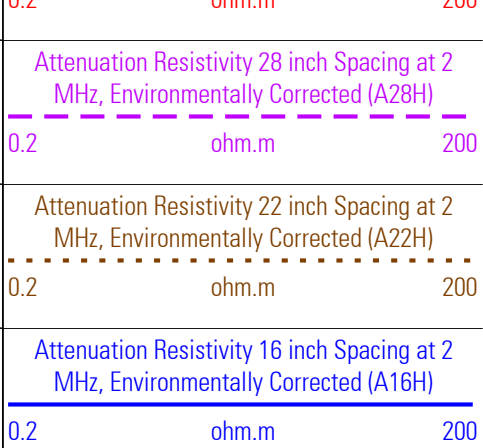
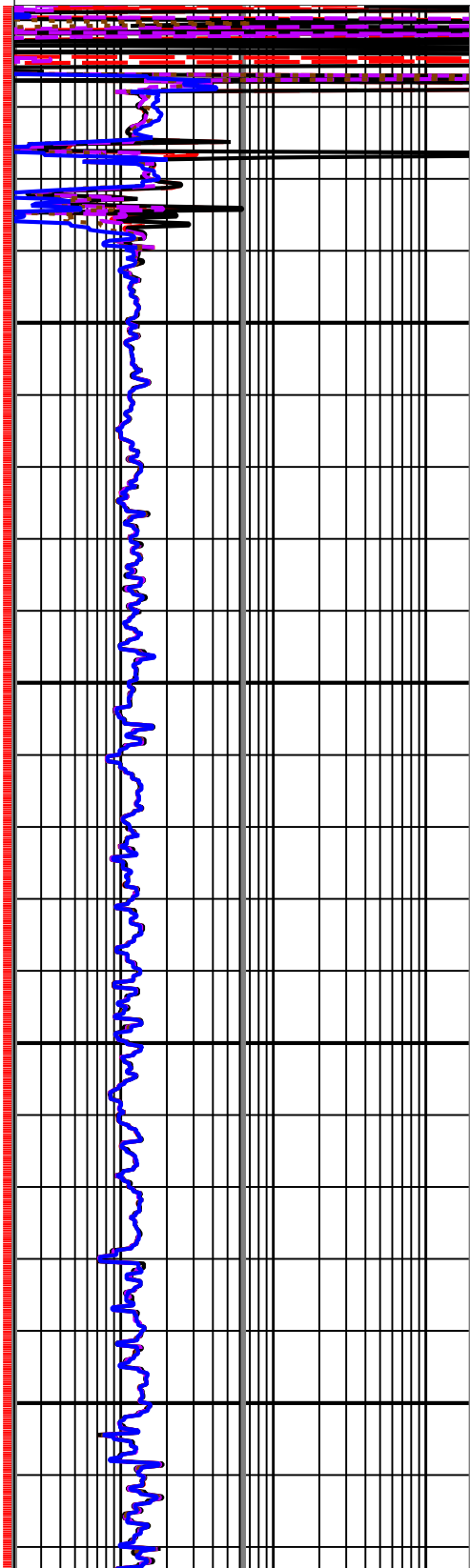
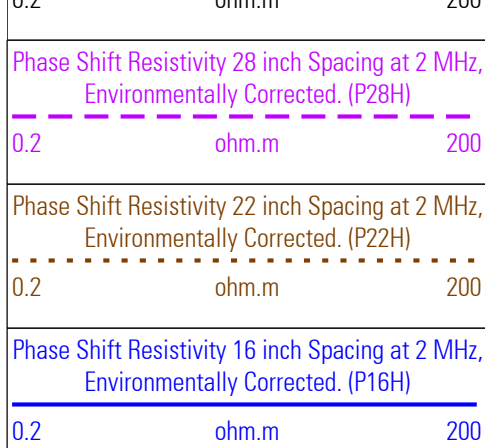
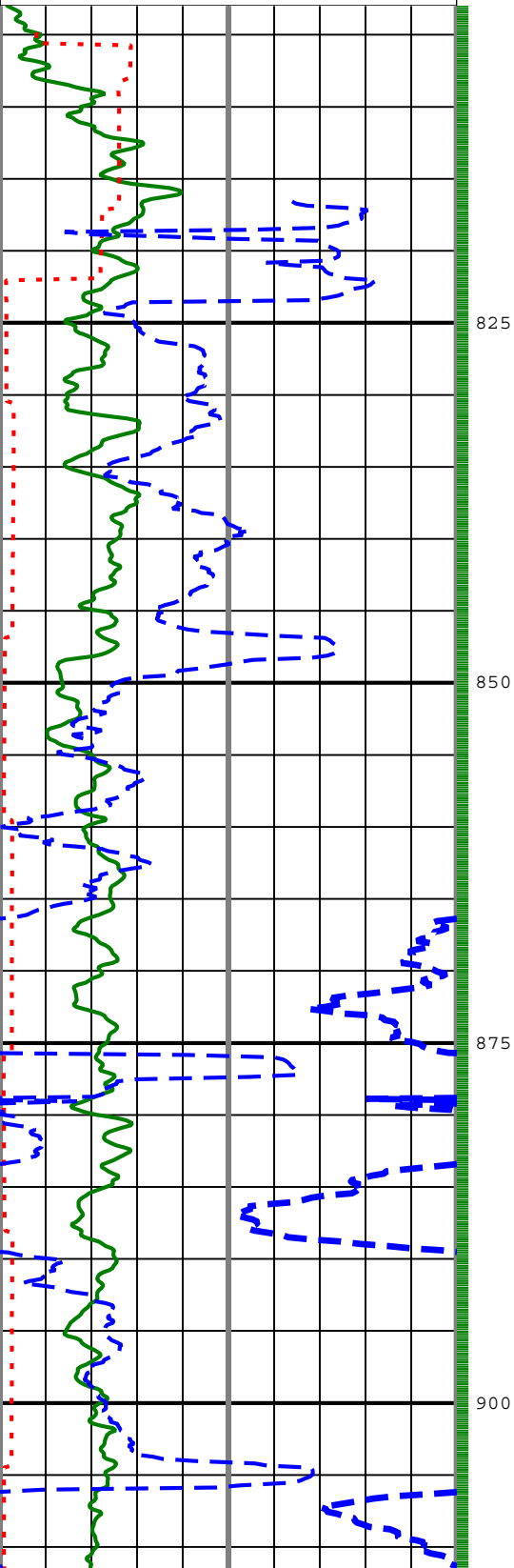
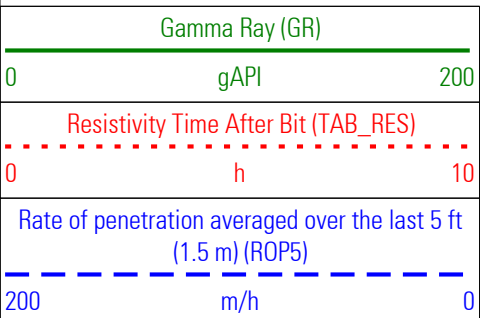
Survey Calculation			
Method :	Minimum Radius of Curvature	DLS Method :	Lubinski
North Reference :	Grid North	Total Correction Formula :	Magnetic Dec - Grid Convergence
Grid Convergence :	0.73 deg		

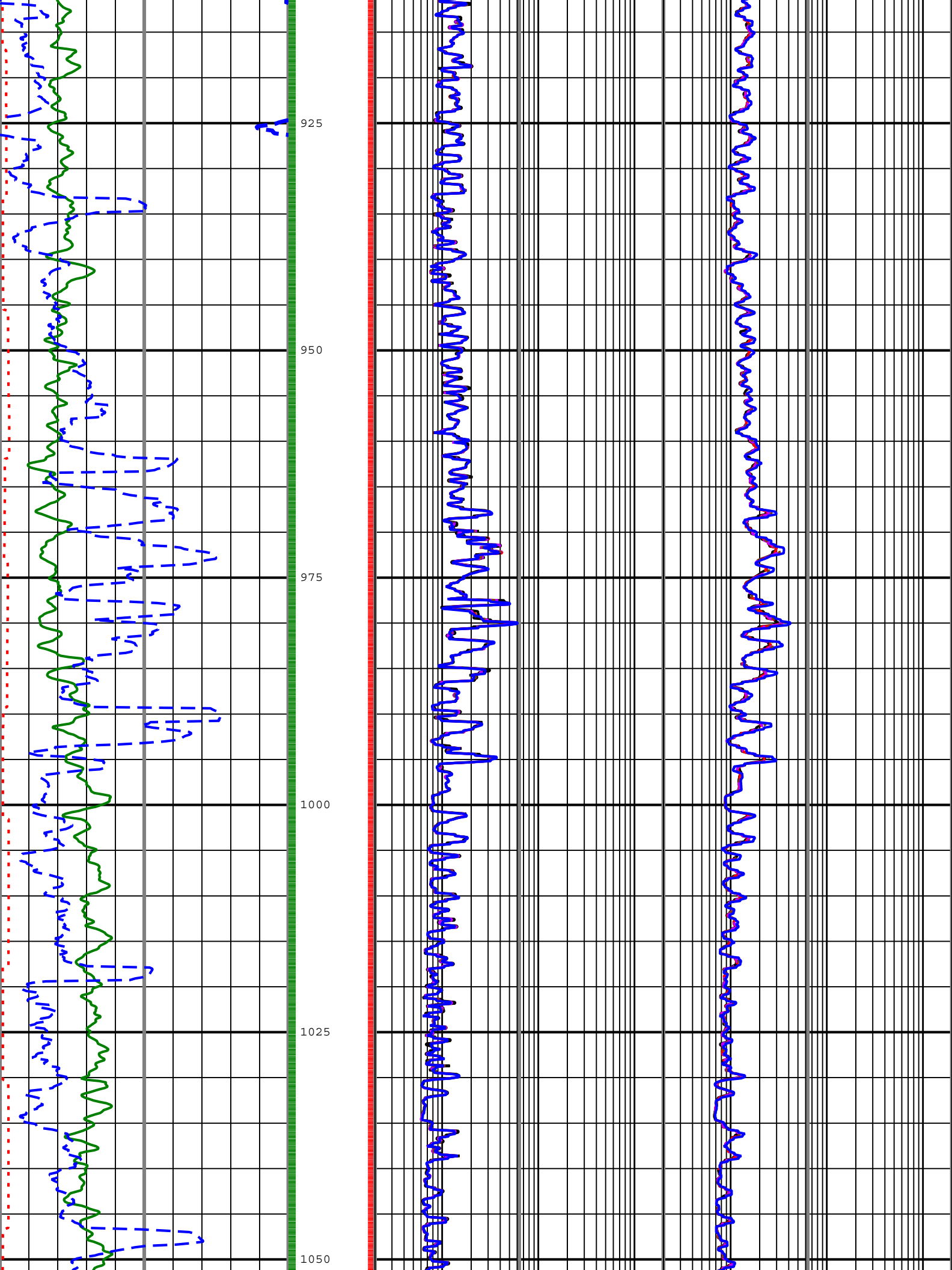
Rig Location					
Latitude :	40° 28' 53.9" S		Longitude :	145° 52' 24.71" E	

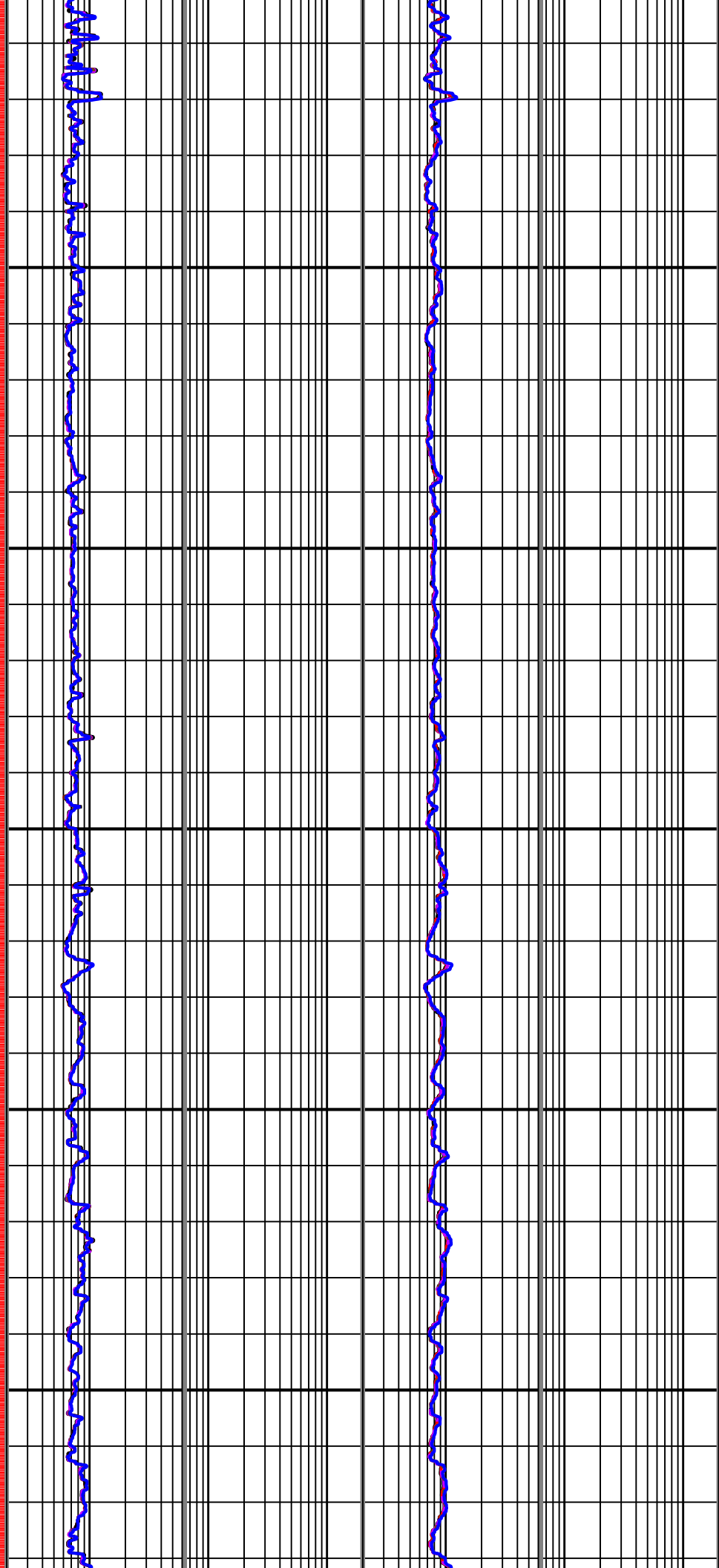
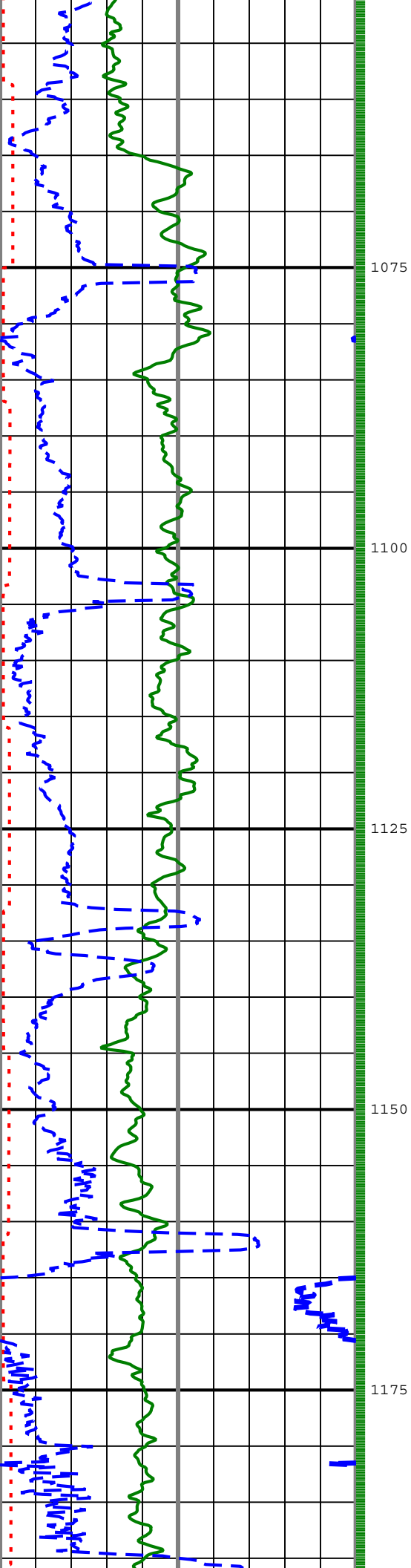
Tie In Point					
Measured Depth:	0.00 m	Inclination:	0.00 deg	Azimuth:	0.00 deg

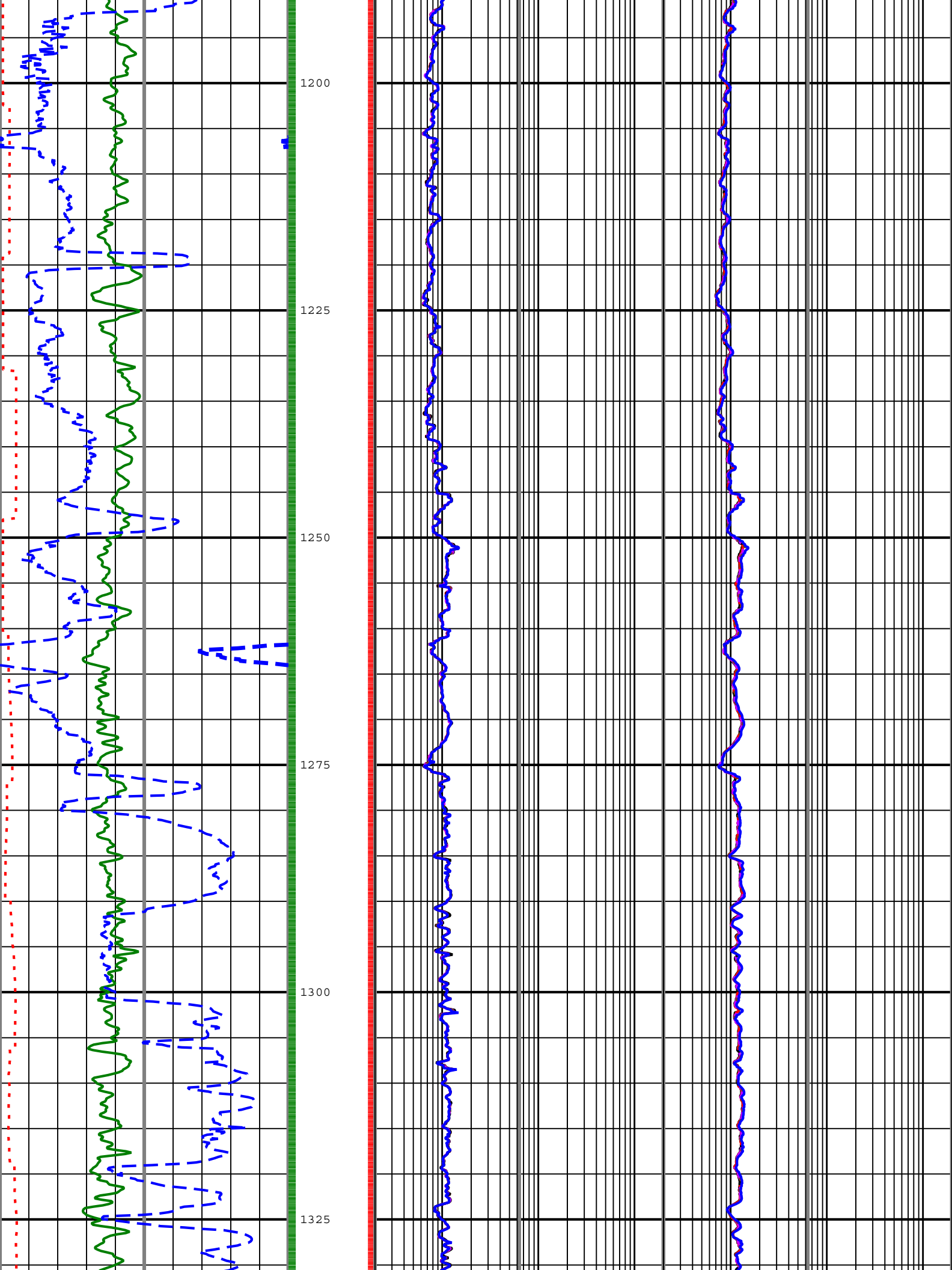
True Vertical Depth:		0.00 m		North Displacement:		0.00 m		East Displacement:		0.00 m				
N/-S VSec Origin:		0.00 m		E/-W VSec Origin:		0.00 m		Vertical Section Azimuth:		0.00 deg				
D&I Inits Computed and Values Used - Run 1														
Geomagnetic Model :		BGGM 2009				Geomagnetic Date :		07-Sep-2009						
Computed Location B :		61230.34 nT +/- 300.00nT				Used Location B :		61230.34 nT +/- 300.00nT						
Computed Location G :		999.55 mgn +/- 2.50mgn				Used Location G :		999.55 mgn +/- 2.50mgn						
Computed Magnetic Dip :		-70.91 deg +/- 0.45deg				Used Magnetic Dip :		-70.91 deg +/- 0.45deg						
Computed Magnetic Dec :		12.97 deg				Used Magnetic Dec :		12.97 deg						
Computed Total Correction :		12.24 deg				Used Total Correction :		12.24 deg						
D&I Inits Computed and Values Used - Run 2														
Geomagnetic Model :		BGGM 2009				Geomagnetic Date :		10-Sep-2009						
Computed Location B :		61230.23 nT +/- 300.00nT				Used Location B :		61230.23 nT +/- 300.00nT						
Computed Location G :		999.55 mgn +/- 2.50mgn				Used Location G :		999.55 mgn +/- 2.50mgn						
Computed Magnetic Dip :		-70.91 deg +/- 0.45deg				Used Magnetic Dip :		-70.91 deg +/- 0.45deg						
Computed Magnetic Dec :		12.97 deg				Used Magnetic Dec :		12.97 deg						
Computed Total Correction :		12.24 deg				Used Total Correction :		12.24 deg						
Survey Quality Index														
0 : Long, passed all criteria		9 : Manual				10 : DMAG-Corrected								
Survey Correction Index														
0 : No correction														
Seq	MD (m)	Incl (deg)	Azim (deg)	Course (m)	TVD (m)	V Sec (m)	N/ -S (m)	E/ -W (m)	Closure (m)	at Azi (deg)	DLS deg/30m	Tool Type	QI	CI
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	TIP		
2	179.35	0.24	83.43	179.35	179.35	0.04	0.04	0.37	0.38	83.43	0.04	Manual	10	
3	206.93	0.26	40.89	27.58	206.93	0.10	0.10	0.47	0.48	78.39	0.20	Manual	10	
4	294.67	0.37	50.63	87.74	294.67	0.43	0.43	0.82	0.93	62.51	0.04	Manual	10	
5	338.42	0.10	101.79	43.75	338.42	0.51	0.51	0.97	1.09	62.25	0.22	Manual	10	
6	352.67	0.17	96.28	14.25	352.67	0.50	0.50	1.00	1.12	63.26	0.15	Manual	10	
7	382.26	0.19	48.22	29.59	382.26	0.53	0.53	1.08	1.20	63.80	0.15	Manual	10	
8	468.33	0.04	55.57	86.07	468.33	0.64	0.64	1.21	1.37	62.02	0.05	Manual	10	
9	514.50	0.11	259.09	46.17	514.50	0.64	0.64	1.18	1.35	61.39	0.10	Manual	10	
10	556.06	0.15	276.07	41.56	556.06	0.64	0.64	1.09	1.26	59.43	0.04	Manual	10	
11	642.56	0.27	259.55	86.50	642.56	0.62	0.62	0.78	0.99	51.45	0.05	Manual	10	
12	727.80	0.25	254.10	85.24	727.80	0.53	0.53	0.40	0.66	36.95	0.01	Manual	10	
13	755.00	0.16	261.45	27.20	755.00	0.51	0.51	0.30	0.59	30.91	0.10	Manual	10	
14	786.24	0.17	245.91	31.24	786.24	0.48	0.48	0.22	0.53	24.39	0.04	Manual	10	
15	803.80	0.18	263.56	17.56	803.80	0.47	0.47	0.17	0.50	19.67	0.09	Manual	10	
16	879.04	0.43	77.12	75.24	879.04	0.52	0.52	0.33	0.61	32.23	0.24	TeleScope	0	0
17	990.83	0.34	90.11	111.78	990.82	0.61	0.61	1.08	1.24	60.31	0.03	TeleScope	0	0
18	1078.27	0.31	90.35	87.44	1078.26	0.61	0.61	1.58	1.69	68.83	0.01	TeleScope	0	0
19	1164.94	0.40	84.09	86.67	1164.93	0.64	0.64	2.12	2.21	73.16	0.03	TeleScope	0	0
20	1221.27	0.44	97.02	56.33	1221.26	0.63	0.63	2.53	2.61	75.91	0.06	TeleScope	0	0
21	1338.66	0.51	93.25	117.39	1338.64	0.55	0.55	3.50	3.55	81.09	0.02	TeleScope	0	0
22	1367.75	0.54	94.83	29.09	1367.73	0.53	0.53	3.77	3.81	81.99	0.03	TeleScope	0	0
23	1456.65	0.52	105.25	88.90	1456.63	0.39	0.39	4.57	4.59	85.12	0.03	TeleScope	0	0
24	1530.18	0.55	90.58	73.53	1530.15	0.30	0.30	5.24	5.25	86.74	0.06	TeleScope	0	0
25	1596.34	0.49	77.67	66.16	1596.31	0.36	0.36	5.84	5.85	86.51	0.06	TeleScope	0	0
26	1625.50	0.47	69.82	29.16	1625.48	0.42	0.42	6.08	6.09	86.01	0.07	TeleScope	0	0
27	1682.67	0.41	85.01	57.16	1682.63	0.52	0.52	6.50	6.52	85.40	0.07	TeleScope	0	0
28	1767.94	0.46	80.24	85.27	1767.90	0.61	0.61	7.14	7.17	85.14	0.02	TeleScope	0	0

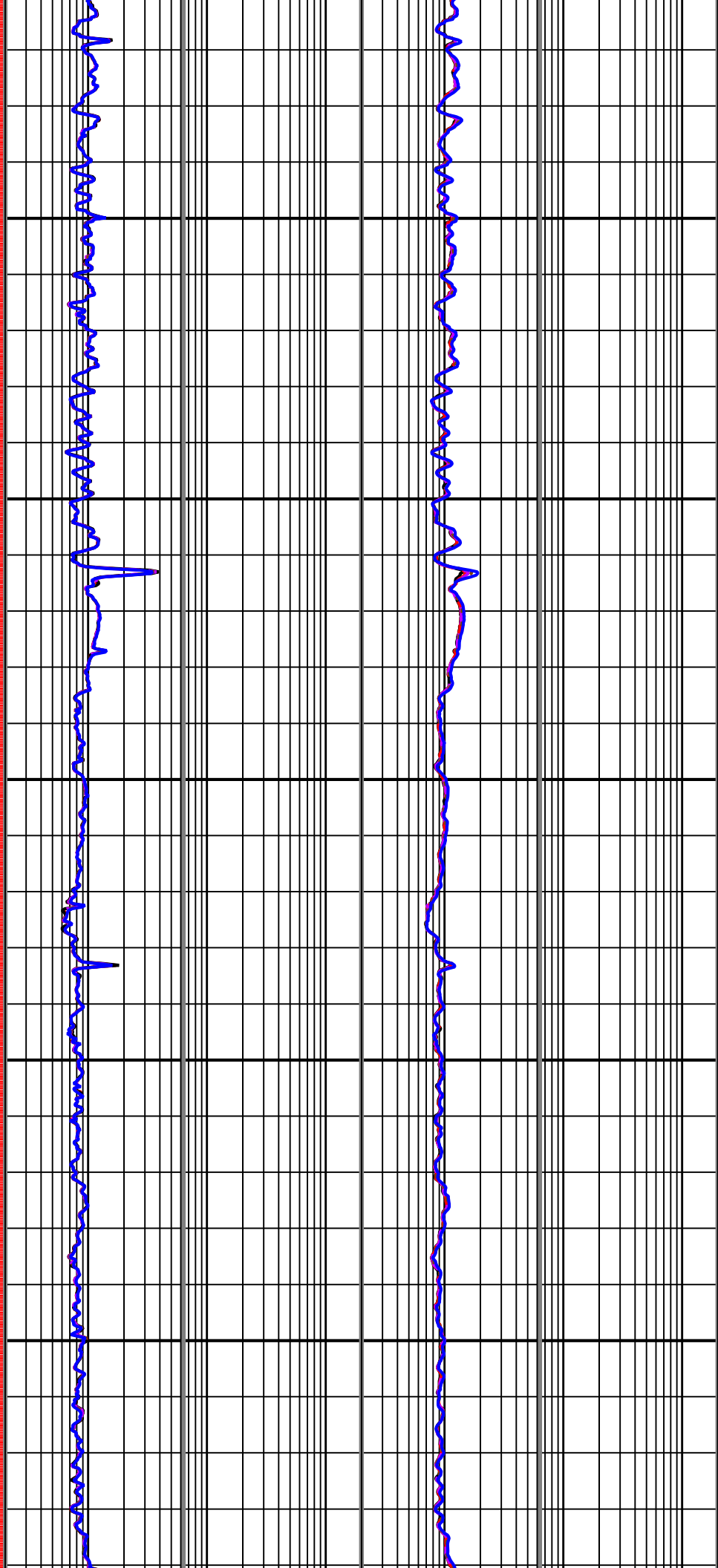
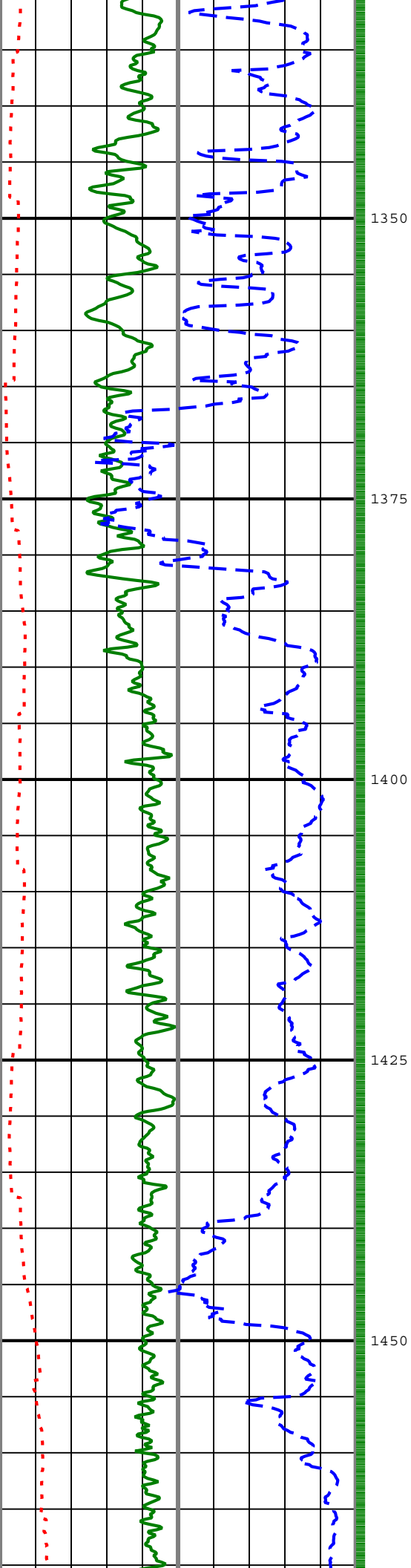
29	1858.33	0.33	65.19	90.39	1858.29	0.78	0.78	7.73	7.77	84.27	0.06	TeleScope	0	0
30	1913.35	0.48	64.16	55.02	1913.31	0.94	0.94	8.08	8.13	83.35	0.08	TeleScope	0	0
31	1941.91	0.47	69.15	28.56	1941.87	1.03	1.03	8.29	8.36	82.89	0.04	TeleScope	0	0
32	2028.47	0.60	92.17	86.56	2028.43	1.14	1.14	9.08	9.15	82.83	0.09	TeleScope	0	0
33	2076.18	0.73	87.08	47.71	2076.13	1.15	1.15	9.63	9.70	83.20	0.09	TeleScope	0	0
34	2100.00	0.73	87.08	23.82	2099.95	1.16	1.16	9.93	10.00	83.32	0.00	Manual	9	
Run 2														
Software Version														
Acquisition System									Version					
MaxWell									1.2.8706.0					
Framework Patch									FWK-BGC-20090709-1.2.8706.1016					
Application Patch									APL-BGC-DnM-1.2.8706.1021					
Computation			Description									Version		
ARC8GammaRayComputation			ARC8 Gamma Ray Computation Package for both Real-time and Recorded Mode									1.2.8706.1021		
ARCResistivity			ARC Resistivity Computation Package for ARC Tool Family									1.2.8706.1021		
Tool Elements			Description						Software Version			Firmware Version		
ARDC			ARC 8.25 Inch Tool Drilling Collar						1.2.8706.1021			V9.4B		
DRILLING_SURFACE			DRILLING_SURFACE						1.2.8706.1016					
Composite Summary														
Run Name		Pass Objective		Direction		Top		Bottom		Acquisition Start Date		Acquisition Start Time		
Run 2		Drilling		Down		804.72 m		2100.35 m		11-Sep-2009		01:32:19		
Run 2		Ream Up 1		Up		808.84 m		2091.26 m		13-Sep-2009		09:45:06		
All depths are referenced to toolstring zero														
LogComposite 2 5BE1C7A4-2DDD-4CEF-B2E5-B608FFE3E2A1														
Description: Format: Log (VISION Resitivity RM) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 17-Sep-2009 10:21:38														
A16H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
A22H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
A28H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
A34H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
A40H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
GR ARC[1]:ARC[1]:ARDC[1] 6in - RM														
P16H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
P22H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
P28H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
P34H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
P40H ARC[1]:ARC[1]:ARDC[1] 6in - RM														
ROP5 DRILLING_SURFACE 6in - RT														
TAB_RES ARC[1]:ARC[1]:ARDC[1] 6in														
GR - Gamma Ray														
P34H - Phase Shift Resistivity 34 inch Spacing at 2 MHz, Environmentally Corrected.														
Phase Shift Resistivity 34 inch Spacing at 2 MHz, Environmentally Corrected. (P34H)														
0.2 ohm.m 200														
Attenuation Resistivity 40 inch Spacing at 2 MHz, Environmentally Corrected. (A40H)														
0.2 ohm.m 200														
Phase Shift Resistivity 40 inch Spacing at 2 MHz, Environmentally Corrected. (P40H)														
0.2 ohm.m 200														
Attenuation Resistivity 34 inch Spacing at 2 MHz, Environmentally Corrected (A34H)														
0.2 ohm.m 200														

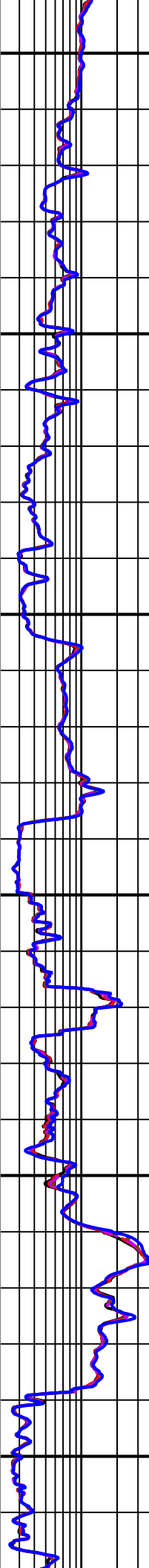
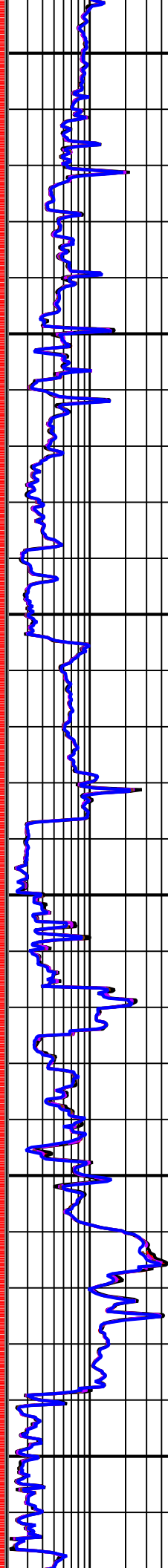
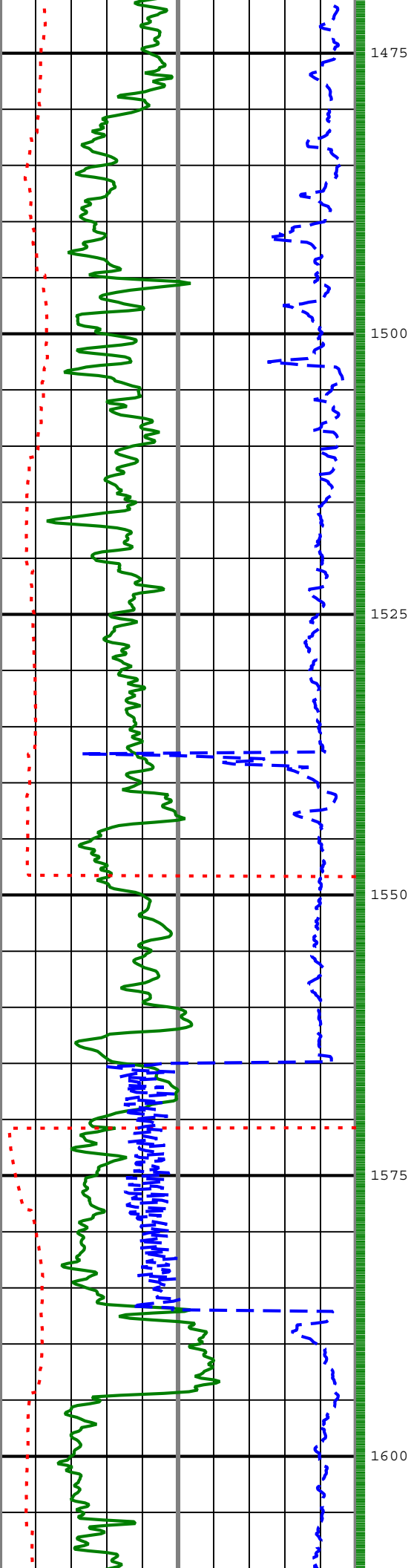


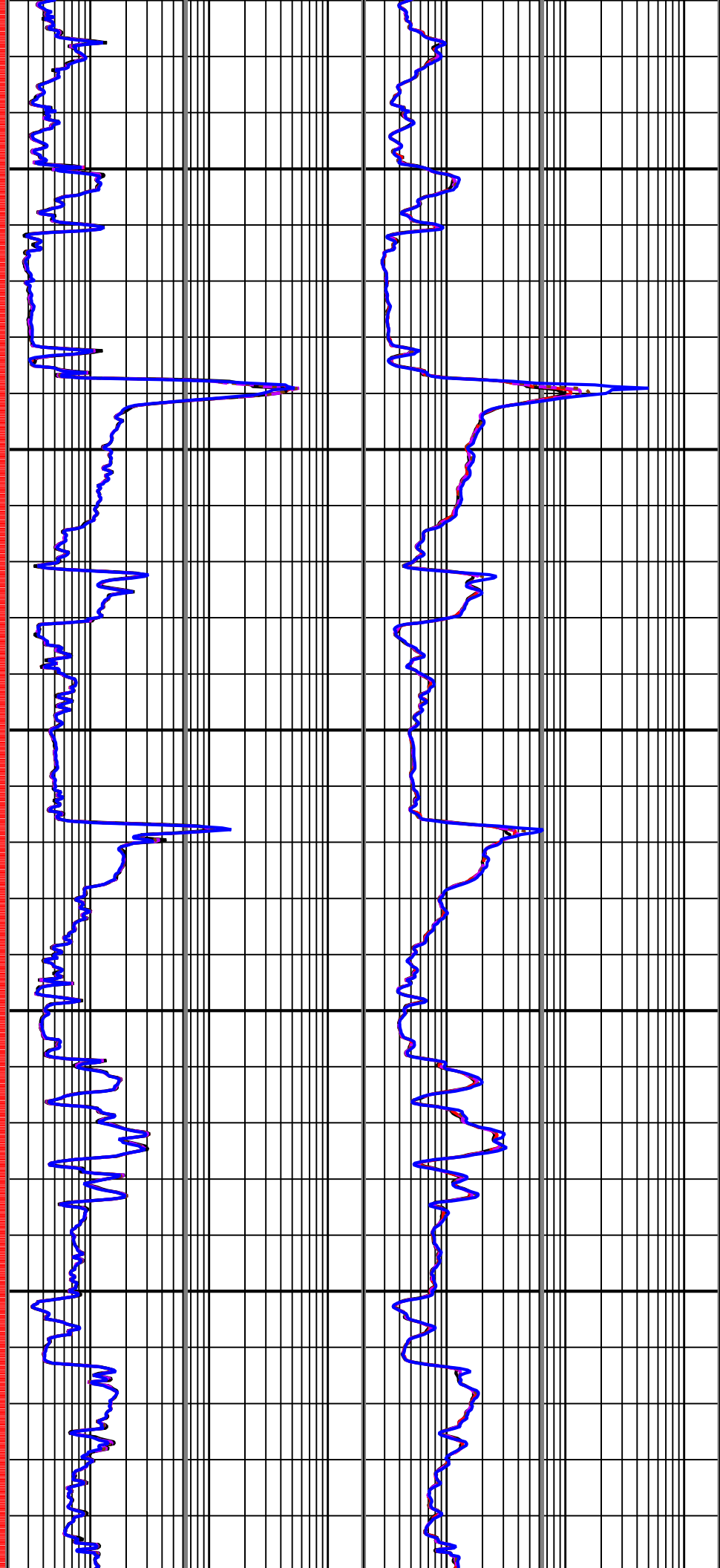
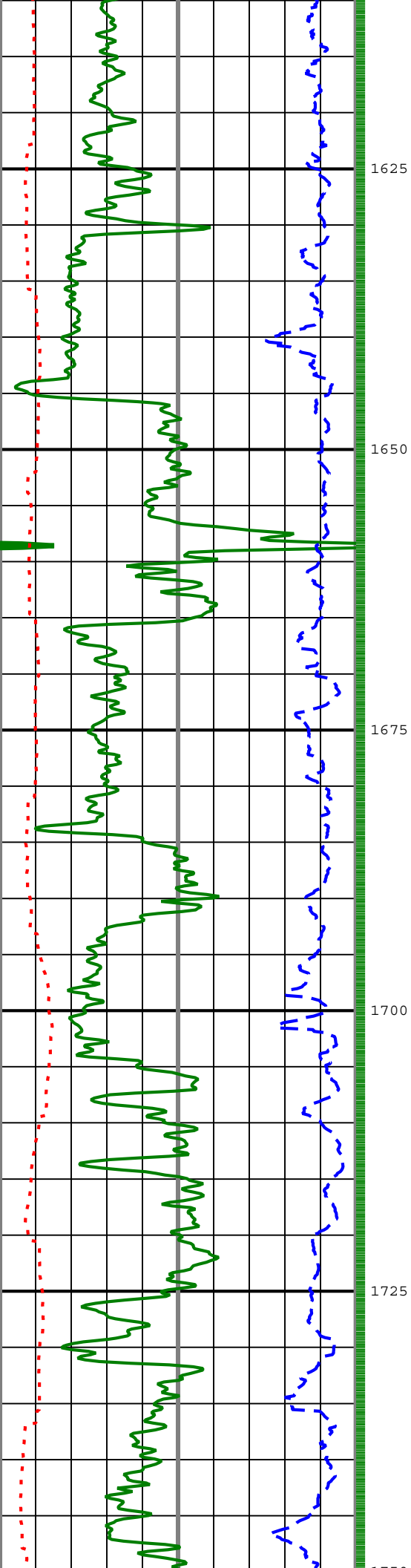


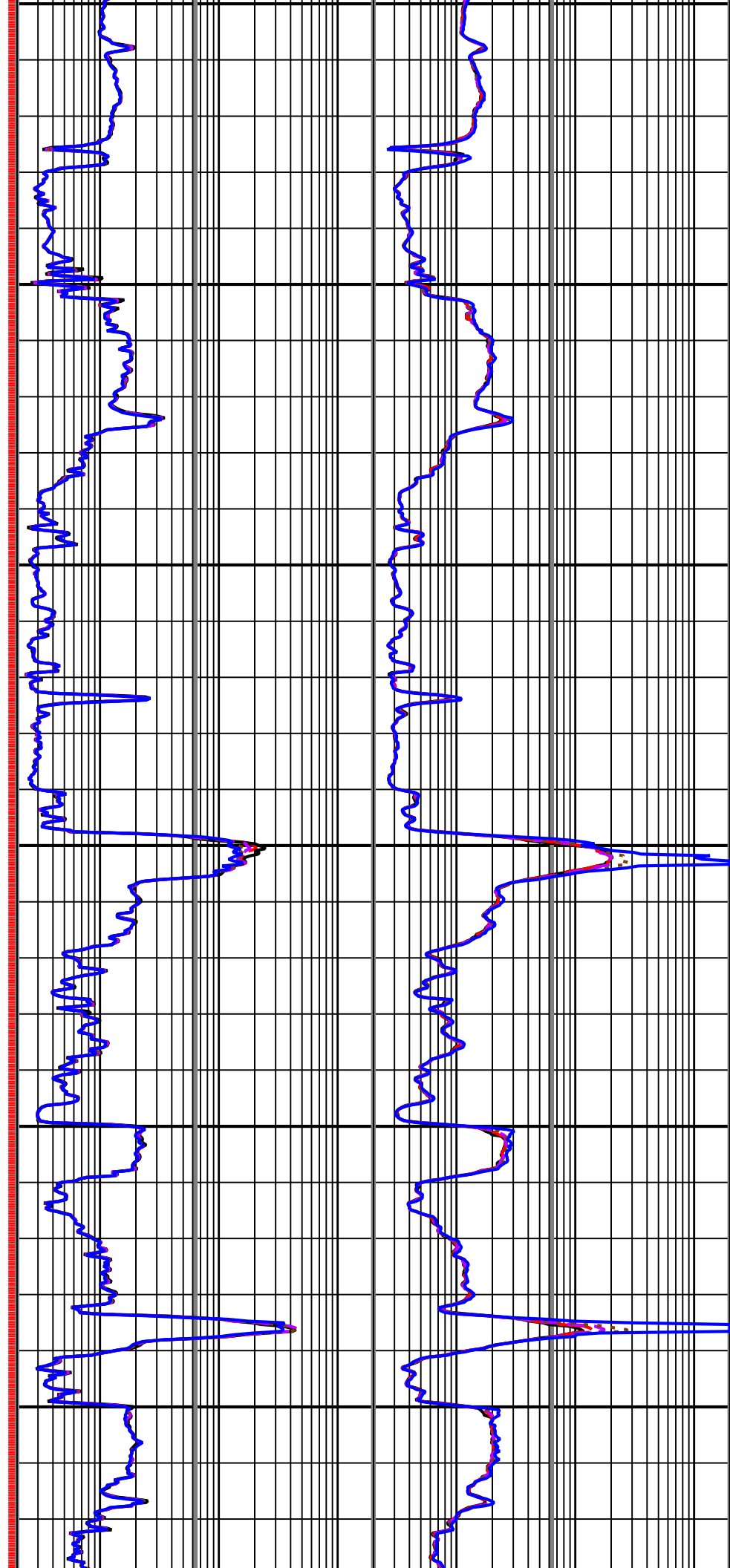
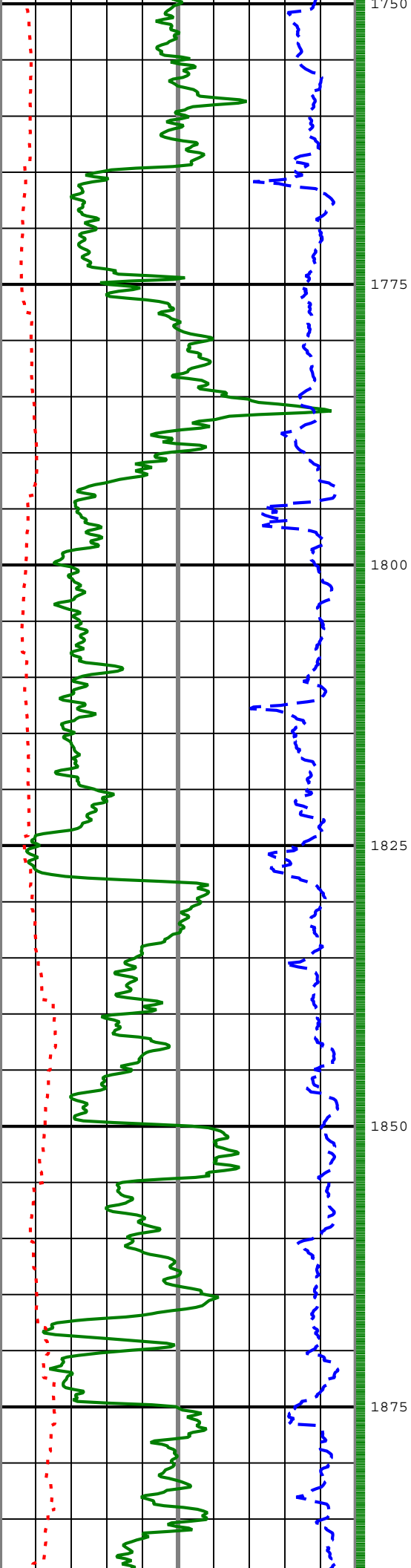


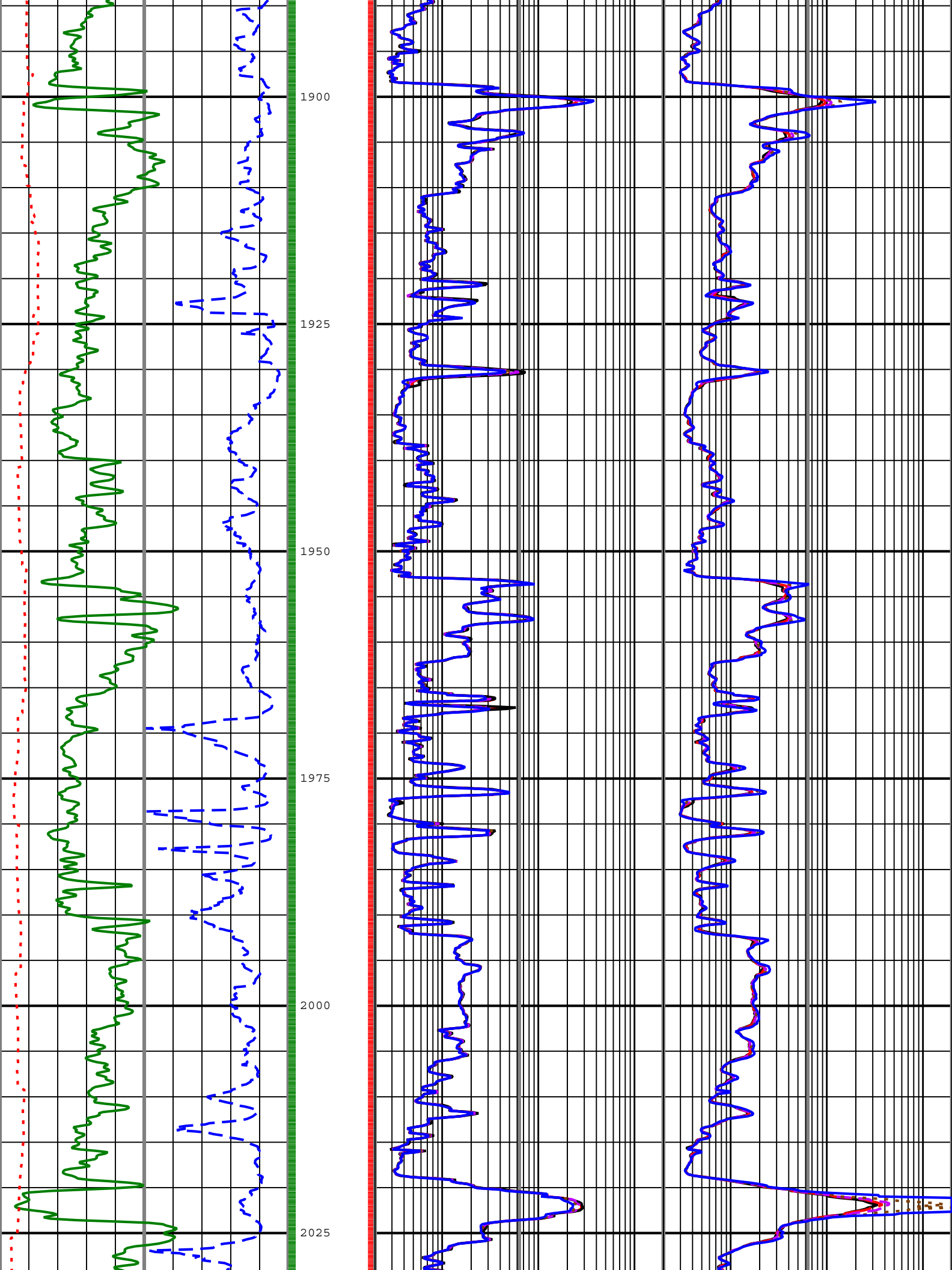


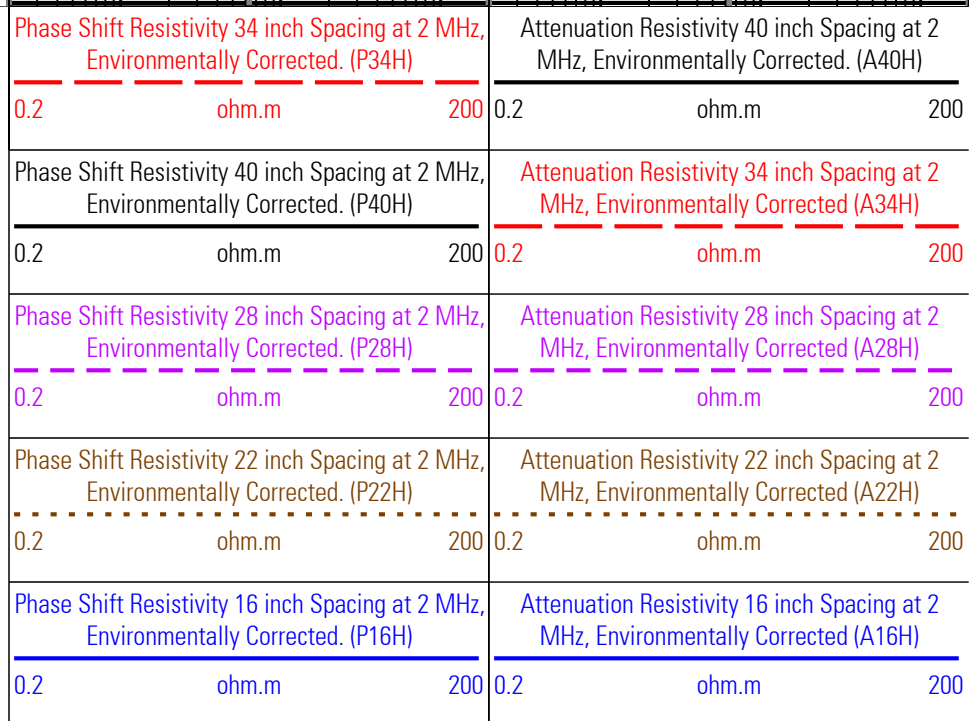
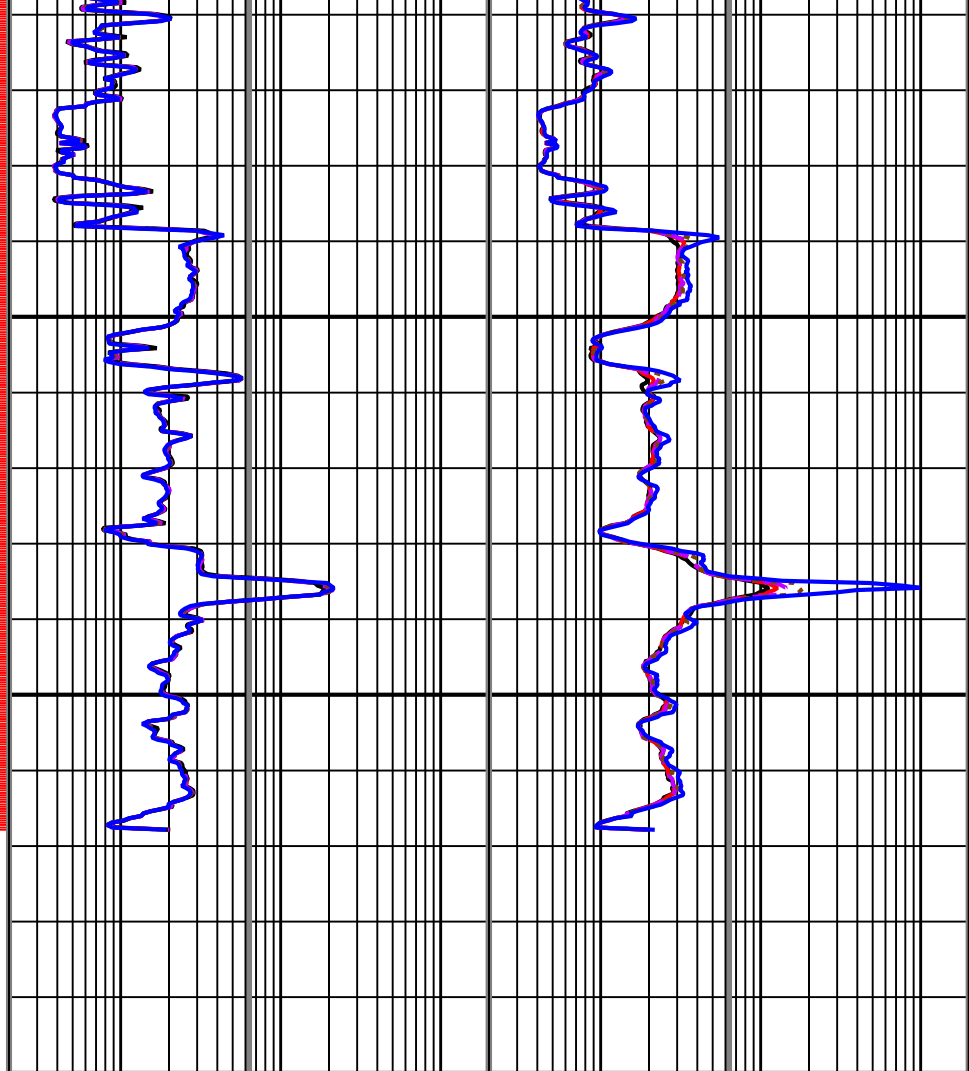
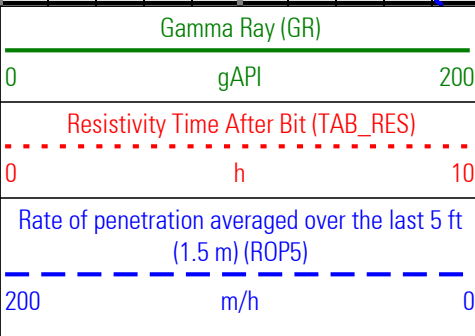
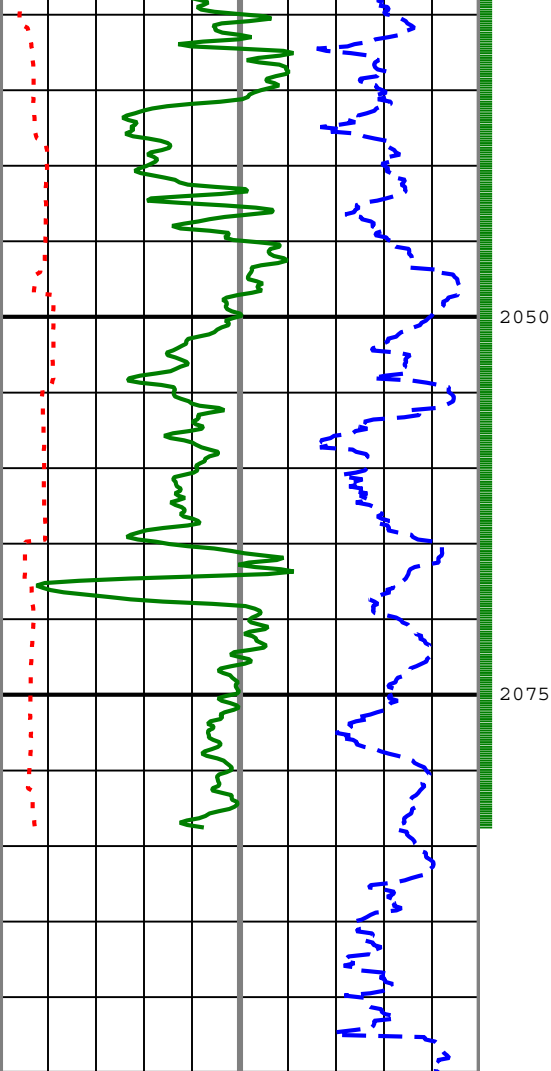












—P34H - Phase Shift Resistivity 34 inch Spacing at 2 MHz, Environmentally Corrected.

— GR - Gamma Ray

Description: Format: Log (VISION Resistivity RM) Index Scale: 1:500 Index Unit: m Index Type: Measured Depth Creation Date: 17-Sep-2009 10:21:38

Channel Processing Parameters

Run 2: Parameters

Parameter	Description	ToolPath	Value	Unit
BHK	Drilling Fluid Potassium Concentration	Borehole	Time Zoned	%

DRK	Drilling Fluid / Mud Solids Concentration	Borehole	Time Zoned	%
BHT	Bottom Hole Temperature	Borehole	68	degC
BS	Bit Size	COMPLETION	Depth Zoned	in
DFD	Drilling Fluid Density	Borehole	Time Zoned	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
GGRD	Geothermal Gradient	Borehole	18.23	degC/km
GRSE	Generalized Mud Resistivity Selection	Borehole	Computed (GEN-9)	
GTSE	Generalized Temperature Selection	Borehole	Gradient From Surface	
MST	Mud Sample Temperature	Borehole	Time Zoned	degC
RMS	Resistivity of Mud Sample	Borehole	Time Zoned	ohm.m
SHT	Surface Hole Temperature	Borehole	15	degC
TD	Total Measured Depth	Borehole	2100.35	m
TEMP_SEL_ARC	ARC Temperature Selection	ARC8:ARC8:ARDC	Annular	

Run 2 : Depth Zoned Parameters				
Parameter	Value	Start (m)	Stop (m)	
BS	17.5	803	816.61	
BS	12.25	816.61	2100.22	
All depth are actual.				

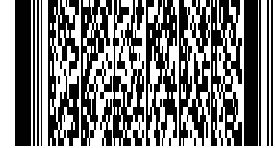
Run 2 : Time Zoned Parameters					
Pass Drilling					
Parameter	Value	Start Time	Stop Time	Start Depth (m)	Stop Depth (m)
BHK	5.77	11-Sep-2009 01:32:19	11-Sep-2009 11:30:28	816.56	1000.33
BHK	4.98	11-Sep-2009 11:30:28	12-Sep-2009 02:00:00	1000.33	1545.64
BHK	4.72	12-Sep-2009 02:00:00	13-Sep-2009 15:53:56	1545.64	2100.35
DFD	9	11-Sep-2009 01:32:19	11-Sep-2009 11:30:28	816.56	1000.33
DFD	9.1	11-Sep-2009 11:30:28	12-Sep-2009 02:00:00	1000.33	1545.64
DFD	9.5	12-Sep-2009 02:00:00	13-Sep-2009 15:53:56	1545.64	2100.35
MST	17.9	11-Sep-2009 01:32:19	11-Sep-2009 19:28:28	816.56	1428.19
MST	20.9	11-Sep-2009 19:28:28	12-Sep-2009 19:30:04	1428.19	1851.41
MST	22.4	12-Sep-2009 19:30:04	13-Sep-2009 15:53:56	1851.41	2100.35
RMS	0.07	11-Sep-2009 01:32:19	11-Sep-2009 19:28:28	816.56	1428.19
RMS	0.08	11-Sep-2009 19:28:28	12-Sep-2009 19:30:04	1428.19	1851.41
RMS	0.07	12-Sep-2009 19:30:04	13-Sep-2009 15:53:56	1851.41	2100.35

Pass Ream Up 1					
BHK	4.72	13-Sep-2009 13:03:17	13-Sep-2009 15:53:56	1587	1565
DFD	9.5	13-Sep-2009 13:03:17	13-Sep-2009 15:53:56	1587	1565
MST	22.4	13-Sep-2009 13:03:17	13-Sep-2009 15:53:56	1587	1565
RMS	0.07	13-Sep-2009 13:03:17	13-Sep-2009 15:53:56	1587	1565
All depth are at tool zero.					

Tool Control Parameters				
Run 2: Parameters				
Parameter	Description	ToolPath	Value	Unit
OFFBTM_TH	Threshold for deciding whether the bit is off bottom	DnMWorkflow	0.4	m

Detailed Calibration Record	
Run 2: ARC8 : Calibration Resistivity	

County: n/a
State: Tasmania
Country: Australia



Schlumberger

VISION Resistivity
1:500 Measured Depth
Recorded Mode Log