

--	--

Run number		3	4	5						
Bit size	in.	9.875	9.875	9.875						
Bit start depth	m	2042.0	4602.0	4950.0						
Bit end depth	m	4602.0	4950.0	5097.0						
Top interval logged	m	2012.3	4572.3	4920.2						
Bottom interval logged	m	4592.2	4940.0	5087.0						
Begin log: time		18:48	02:27	08:40						
Begin log: date		14-Oct-07	22-Oct-07	26-Oct-07						
End log: time		20:34	11:31	19:02						
End log: date		18-Oct-07	23-Oct-07	26-Oct-07						
<b>Mud data</b>										
Depth	m	4589.0	4950.0	5096.0						
Type		Accolade SBM	Accolade SBM	Accolade SBM						
Mud weight	ppg	11.45	12.10	12.15						
Solids	%	17.1	20.1	20.2						
Chlorides	mg/L	40,774	41,104	39,804						
Rm	ohm.m@°C	n/a	n/a	n/a						
Rmf	ohm.m@°C	n/a	n/a	n/a						
Rmc	ohm.m@°C	n/a	n/a	n/a						

Potassium	%	n/a	n/a	n/a						
<b>Environmental data</b>										
<b>GR</b>										
Mud weight	ppg	11.45	12.10	12.15						
Bit size	in.	9.875	9.875	9.875						
<b>Resistivity</b>										
<b>Neutron porosity</b>										
Hole Size	in.	9.875	9.875	9.875						
Mud weight	ppg	11.45	12.10	12.15						
Temperature	°C	100.0	107.0	106.0						
Mud salinity	ppk	52.464	50.771	49.619						
Formation salinity		n/a	n/a	n/a						
Recording rate 1	SEC	4 (RES,GR)	2 (RES,GR)	2 (RES,GR)						
Recording rate 2	SEC	8 (DEN,NEU)	4 (DEN,NEU)	4 (DEN,NEU)						
Filtering GR		3 pts	3 pts	3 pts						
Filtering density		3 pts	3 pts	3 pts						
Filtering Neutron		3 pts	3 pts	3 pts						
Company representative		R. Moore	G. Doty							
Schlumberger D&M Personnel		M. Y. Tan	C. Skiba	M. Lu	C. Soper	M. How				

<p style="text-align: center;"><b>DISCLAIMER</b></p> <p>THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.</p>		
<b>OTHER SERVICES FOR RUN3</b> Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	<b>OTHER SERVICES FOR RUN4</b> Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	<b>OTHER SERVICES FOR RUN5</b> Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations
<b>REMARKS: RUN NUMBER 3</b> Depth is referenced to Driller's Depth.  Gamma ray is corrected for mud weight, tool size and bit size.  Resistivity is borehole compensated and environmentally corrected.  Neutron porosity is corrected for the effects of borehole size (bit size), temperature, mud salinity and mud hydrogen index (a factor of mud weight, mud temperature and pressure).  Neutron Porosity is calculated using a limestone matrix density of 2.71 g/cm3.  Delta-T is borehole compensated.  High PEB due to addition of barite from 2068-2090m (sensor depth).  No porosity data from 2157-4602m (sensor depth).  POOH due to PNG failure in EcoScope*.	<b>REMARKS: RUN NUMBER 4</b> Depth is referenced to Driller's Depth.  Gamma ray is corrected for mud weight, tool size and bit size.  Resistivity is borehole compensated and environmentally corrected.  Neutron porosity is corrected for the effects of borehole size (bit size), temperature, mud salinity and mud hydrogen index (a factor of mud weight, mud temperature and pressure).  Neutron Porosity is calculated using a limestone matrix density of 2.71 g/cm3.  Delta-T is borehole compensated.  POOH due to loss of MWD signal.	<b>REMARKS: RUN NUMBER 5</b> Depth is referenced to Driller's Depth.  Gamma ray is corrected for mud weight, tool size and bit size.  Resistivity is borehole compensated and environmentally corrected.  Neutron porosity is corrected for the effects of borehole size (bit size), temperature, mud salinity and mud hydrogen index (a factor of mud weight, mud temperature and pressure).  Neutron Porosity is calculated using a limestone matrix density of 2.71 g/cm3.  Delta-T is borehole compensated.  POOH due to reaching TD of FTA A30A.

<b>EQUIPMENT DESCRIPTION</b>		
RUN3	RUN4	RUN5
DOWNHOLE EQUIPMENT	DOWNHOLE EQUIPMENT	DOWNHOLE EQUIPMENT

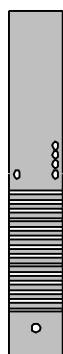
## DOWNHOLE EQUIPMENT

## DOWNHOLE EQUIPMENT

## DOWNHOLE EQUIPMENT

6-3/4" sonicVISION\*  
DHS: 6.6B04  
S/N: 630

Delta-T  
R-O port



32.70

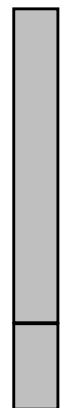
9-5/8" ILS  
S/N: OSS060564C



25.48

6-3/4" TeleScope\*  
MDC: FA28  
MEC: AB-232  
MDI: CA-2084  
MVC: AA-109

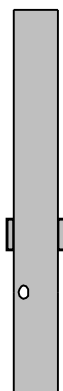
D&I  
MVC



24.37

6-3/4" EcoScope\*  
DHS: V2.1  
Blade OD: 9-3/8"  
S/N: 808  
PNG-C: 2242-41357  
Source S/N: A2474

PNG Monit  
Neutron N  
Spectroscopy  
Neutron D  
Neutron F  
Receiver  
Ultrasonic  
Density S  
Density L  
Continuous  
R-O Port  
Pressure  
Gamma Ray



15.97

6-3/4" PowerDrive Xceed\*  
S/N: 111



7.92

9-7/8" Reed Hycalog PDC Bit  
S/N: 216695



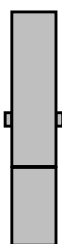
0.25

Maximum string diameter 9-7/8 in.

All lengths in Meters

6-3/4" adnVISION\*  
DHS: V8.3A02  
Blade OD: 8-1/4"  
S/N: 373

Neutron F  
Neutron N  
Density S  
Density L  
UltraSonic  
R-O Port



37.45  
37.29 39.06  
36.34  
36.24  
35.86  
35.10

6-3/4" sonicVISION\*  
DHS: 6.6B04  
S/N: 630

Delta-T  
R-O port



33.08

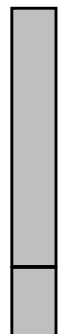
9-5/8" ILS  
S/N: OSS060564C



25.49

6-3/4" TeleScope\*  
MDC: FA28  
MEC: AB-232  
MDI: CA-2084  
MVC: AA-109

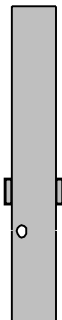
D&I  
MVC



24.38

6-3/4" EcoScope\*  
DHS: V2.1  
Blade OD: 9-3/8"  
S/N: 821  
PNG-C: 2242-41357  
Source S/N: A2474

PNG Monit  
Neutron N  
Spectroscopy  
Neutron D  
Neutron F  
Receiver  
Ultrasonic  
Density S  
Density L  
Continuous  
R-O Port  
Pressure  
Gamma Ray



15.98

6-3/4" PowerDrive Xceed\*  
S/N: 111



7.92

9-7/8" Reed Hycalog PDC Bit  
S/N: 216695



0.25

Maximum string diameter 9-7/8 in.

All lengths in Meters

6-3/4" sonicVISION\*  
DHS: 6.6B04  
S/N: 630

Delta-T  
R-O port



32.81

9-5/8" ILS  
S/N: OSS060564C



25.49

6-3/4" TeleScope\*  
MDC: V875  
MEC: AB-373  
MDI: CA-1841  
MVC: AA-282

D&I  
MVC



24.48

6-3/4" EcoScope\*  
DHS: V2.1  
Blade OD: 9-3/8"  
S/N: 821  
PNG-C: 2073-41121  
Source S/N: A2474

PNG Monit  
Neutron N  
Spectroscopy  
Neutron D  
Neutron F  
Receiver  
Ultrasonic  
Density S  
Density L  
Continuous  
R-O Port  
Pressure  
Gamma Ray



15.98

6-3/4" PowerDrive Xceed\*  
S/N: 111



7.92

9-7/8" Reed Hycalog PDC Bit  
S/N: 216695



0.25

Maximum string diameter 9-7/8 in.

All lengths in Meters

Variable Name	Variable Description	Run Name & Value		
Run Number		3	4	5
General Information				
BHT_RM	Bottom Hole Temperature (RM)	100.00	107.00	106.00
BSAL_RM	Mud Salinity (RM)	52.464	50.771	49.619
BS_RM	Bit Size (RM)	9.875	9.875	9.875
COEF_M	User Defined FEXP in Clean Sand	1.650000	1.650000	1.650000
C_WS	Overpressure correction to Sw and M	1.000000	1.000000	1.000000
FEXP	Formation Factor Exponent (RM)	2.000000	2.000000	2.000000
FNUM	Formation Factor Enumerator (RM)	1.000000	1.000000	1.000000
FPHI_RM	Formation Factor Porosity Source (RM)	XPLOT	XPLOT	XPLOT
MST_RM	Mud Sample temperature (RM)	75.000000	75.000000	75.000000
MW_RM	Mud Weight (RM)	11.45	12.10	12.15
OBMF_RM	Oil Based Mud (RM)	YES	YES	YES
RHOF_RM	Mud Filtrate Density (RM)	1.000000	1.000000	1.000000
RHOM_RM	Matrix density (RM)	2.710000	2.710000	2.710000
RMS_RM	Resistivity of Mud Sample (RM)	1000	1000	1000
RWA_COMP_M	Rwa computation model	BASIC	BASIC	BASIC
RWA_DEN_AD	Rwa Density Input ADN	RHOB	RHOB	RHOB
RWA_DEN_CD	Rwa Density Input CDN	RHOB	RHOB	RHOB
RWA_DEN_IN	Rwa Density Input	RHOB	RHOB	RHOB
RWA_FORM_M	Rwa computation formation model	CLASTIC	CLASTIC	CLASTIC
RWA_RES_IN	Rwa computation resistivity input	RT	P34H	RT
RWS_RM	Resistivity of Connate Water (RM)	1.000000	1.000000	1.000000
SHT_RM	Surface Hole Temperature (RM)			
TD_RM	Total Measured Depth (RM)	4602.00	4950.00	5097.00
TWS_RM	Temperature of Connate Water (RM)	75.000000	75.000000	75.000000
VF_ILLI	Fraction of illite in shales	0.500000	0.500000	0.500000
VF_KAOL	Fraction of kaolinite in shales	0.500000	0.500000	0.500000
VF_MONT	Fraction of montmorillonite in shales	0.000000	0.000000	0.000000
XPDM_RM	Cross plot density porosity multiplier	0.675000	0.675000	0.675000
XPNM_RM	Cross plot neutron porosity multiplier	0.325000	0.325000	0.325000
ISONIC				
FP_SD	First Sample delay	400.00	400.00	400.00
STC_CF	Center frequency of Filter	13.00	13.00	13.00
STC_BW	Bandwidth (kHz)	Default	Default	Default
STC_RWI	Receiver waveform ignored	None	None	None
PM_TOFF	Tool Time offset from surface system	0.00	0.00	0.00
DT_COH	Delta-T Coherence Cutoff Value	0.70	0.70	0.70
PPC_PF	Porosity Formula	Raymer-Hunt	Raymer-Hunt	Raymer-Hunt
PPC_PS	Sonic Porosity Source	DTRA	DTRA	DTRA
PPC_MDT	Matrix Delta-T	47.60	47.60	47.60
PPC_FDT	Fluid Delta-T	189.00	189.00	189.00
DVD				
LWD_RM/STATION_FILE/	PARAMETERStation Time-frame file name			
-----	-----Density Parameters-----			
-----	-----Neutron Parameters-----			
-----	-----Image Parameters-----			
-----	-----Sigma Parameters-----			
A12A	ARC Air Cal Attenuation From T1 at 2 MHz	9.530100	8.531670	8.531670
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	8.462110	8.527910	8.527910
A22A	ARC Air Cal Attenuation From T2 at 2 MHz	4.872150	5.881960	5.881960
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	5.973420	5.907090	5.907090
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	6.131120	5.136020	5.136020
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	5.056190	5.126850	5.126850
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	3.275440	4.281080	4.281080
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	4.371600	4.300000	4.300000
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	4.691160	3.695010	3.695010
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	3.611300	3.681320	3.681320
ABNT	Abnormal Transmitter Indicator	No_Tx_Failed	No_Tx_Failed	No_Tx_Failed
ALPHA_DEN	Density Enhanced Vertical Resolution Processing Switch	YES	YES	YES
ANISO_COMP	Anisotropy Computation Option	YES	YES	YES
ATMP_ARC	ARC Select Temperature Channel	Annulus_Temp	Annulus_Temp	Annulus_Temp
AZMF	Formation DIP Azimuth	0.000000	0.000000	0.000000
BH_COMPUTE	Borehole Inversion Computation Option	YES	YES	YES
CALG	DVDM Gamma Ray Cal Gain Factor	-1.000000	-1.000000	-1.000000
CDPTH_ARC	Process Start Depth	100.000000	100.000000	100.000000
CHI_RM	Caliper High Limit from BS (RM)	10.000000	10.000000	10.000000
CLO_RM	Caliper Low Limit from BS (RM)	-5.000000	-5.000000	-5.000000
DIELEC_COM	Dielectric Computation Option	YES	YES	YES
DIPF	Formation DIP Angle	0.000000	0.000000	0.000000
DTMUD	Delta-T for Mud (RM)	216.04	215.24	213.99
DTMUD_DH	Delta-T for Mud Downhole (RT)	216.04	215.24	213.99
DVDMDH\$	DVDM Down Hole Software Version	V21	V21	V21
DYN_IMAGE_	Generate Dynamic Normalized Image?	YES	YES	YES
EDPTH	Wizard Process Stop Depth	4602.00	4950.00	5097.00
EN_WIZARD	Enable ARC Wizard Processing	YES	YES	YES
ERRCT	Percentage Error Cutoff	4.500000	4.500000	4.500000
EVRL	EVR Process averaging number of samples (RM)	49	49	49
FWVN	Firmware Version Number	2.100000	2.100000	2.100000
GCSE	Generalized Caliper Selection	BS	BS	BS
GRBC	RM: DVDM Gamma Ray Blanket (CPS)	75.000000	75.000000	75.000000
GRSH	GR Shale (Invasion Computation Cutoff)	1000.000000	1000.000000	1000.000000
GR_CF	Gamma Ray Correction Factor	2.250000	2.250000	2.250000
GR_O2COR_O	Enable Gamma Ray Oxygen Activation Correction	YES	YES	YES
HIGH_BLEND	High Resistivity Threshold for Blending	2.000000	2.000000	2.000000
IDQT	Image Derived Quality Threshold	1.000000	1.000000	2.000000
IMAGE_MAX	Image Density Caliper Right Scale	8.000000	8.000000	8.000000

IMAGE_MAX	Image Density Quality Right Scale	1.000000	1.000000	1.000000
IMAGE_MAX	Image PEF(Segment) Right Scale	6.000000	6.000000	6.000000
IMAGE_MAX	Image RHOB(Segment) Right Scale	2.650000	2.650000	2.650000
IMAGE_MIN	Image Density Caliper Left Scale	2.000000	2.000000	2.000000
IMAGE_MIN	Image Density Quality Left Scale	0.000000	0.000000	0.000000
IMAGE_MIN	Image PEF(Segment) Left Scale	2.000000	2.000000	2.000000
IMAGE_MIN	Image RHOB(Segment) Left Scale	2.050000	2.050000	2.050000
INCLIN_B0	ARC Bias Constant (mg)	0.000000	0.000000	0.000000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	0.000000	0.000000	0.000000
INCLIN_B2	ARC Bias Secod-order Coeeficient (mg/degC)	0.000000	0.000000	0.000000
INCLIN_B3	ARC Bias Third-order Coeeficient (mg/degC)	0.000000	0.000000	0.000000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	1.000000	1.000000	1.000000
INCLIN_C1	ARC Scale First-order Coefficient (mA/g/degC)	0.000000	0.000000	0.000000
INCLIN_C2	ARC Scale Second-order Coeeficient (mA/g/degC)	0.000000	0.000000	0.000000
INCLIN_C3	ARC Scale Third-order Coeeficient (mA/g/degC)	0.000000	0.000000	0.000000
INVAS_COMP	Invasion Computation Option	YES	YES	YES
JSD	Acquisition start date	YES	YES	YES
JSD_ARC	ARC Acquisition start date	YES	YES	YES
LOW_BLEND	Low Resistivity Threshold for Blending	1.000000	1.000000	1.000000
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	LIMESTONE	LIMESTONE
MSWS	ARC Wizard Model Switch Window	5.000000	5.000000	5.000000
MULTIEFFEC	Multi Effect Option	YES	YES	YES
NEU_DCOR_O	Density Correction Source for Neutron Processing	Bottom	Bottom	Bottom
NEU_FTUBE	Far Thermal Tube Selection	Both	Both	Both
NEU_PRESCO	Pressure Correction Source for Neutron Processing	Annulus_Press	Annulus_Press	Annulus_Press
NTIK_SEL	Neutron Tick Channel Name	FAZ1	FAZ1	FAZ1
OACF	Oxygen Activation Correction Factor (RM)	8.000000	8.000000	8.000000
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	-0.991514	3.732350	3.732350
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	1.613050	-1.612500	-1.612500
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	0.887621	-3.842230	-3.842230
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	-1.590020	1.589550	1.589550
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	-1.029130	3.691090	3.691090
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	1.617380	-1.595490	-1.595490
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	0.870618	-3.819860	-3.819860
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	-1.592440	1.600640	1.600640
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	-0.992042	3.727520	3.727520
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	1.627430	-1.596340	-1.596340
PMUD	Potassium Concentration in Mud	0.000000	0.000000	0.000000
POFFSET	Pressure Offset	0.000000	0.000000	0.000000
PRTD	Preferred Resistivity Log for Rt Display	P34B	P34B	P34B
PSOF_ADJ_T	ARC: User Input Phase offset	0.000000	0.000000	0.000000
RESTIK	ARC resistivity tick source	Phase	Phase	Phase
SDPTH	Wizard Process Start Depth	1951.00	4602.00	4950.00
SHT_RM	Ground Level Temperature (Mud-Line When Offshore ) (RM)	10.00	10.00	10.00
SIG_PCOR_O	Porosity Correction Source for Sigma Processing	Best	Best	Best
SPEC_CSG_D	Casing Depth for Spectroscopy Processing	1951.00	1951.00	1951.00
SPEC_K_OPT	Potassium standard used during acquisition?	NO	NO	NO
SPL_CLAY_M	SpectroLith Clay Model	ARENITE	ARENITE	ARENITE
SPL_COAL_O	SpectroLith Coal Processing Option	BITUMINOUS	BITUMINOUS	LIGNITE
SPL_SULFUR	SpectroLith Sulfur Mineral Option	PYRITE	PYRITE	PYRITE
STAB_SIZE	Stabilizer Size	9.375	9.375	9.375
STOH	Top of Hole Sector	SECTOR_0	SECTOR_0	SECTOR_0
TRNO	Tool Run Number	3	4	5
TSIZ_ARC	ARC Tool Size	6.900000	6.900000	6.900000
TSNO	Tool Serial Number	6.900000	6.900000	6.900000
UNIFORM_CO	Uniform Rock Option	YES	YES	YES
VERS_ARC	ARC Down hole software version Number	2.100000	2.100000	2.100000
WPPV	Water Phase as Percent of Total Volume in OBM	22.00	19.00	18.00
WPSL	Salinity of the Water Phase Emulsified within the OBM	238.473	267.216	275.660
WRK	Way to Report Potassium Concentration	K by Wgt %	K by Wgt %	K by Wgt %
WSDI	Window Size of Dynamic Normalization Image	15.000000	15.000000	15.000000

Schlumberger Drilling &amp; Measurements

Parameter Insert Header Software version 2.0c

## IDEAL Version: ID12\_0C\_13

IDF

ECO6	id12_0c_01	MWD_10	id12_0c_01
SON675	id12_0c_01		

Format: EcoScope RM Log Vertical Scale: 1:500 Graphics File Created: 29-Oct-2007 17:38

## PIP SUMMARY

Density Samples +

Neutron Samples +

+ Gamma Ray Samples

+ Resistivity Samples

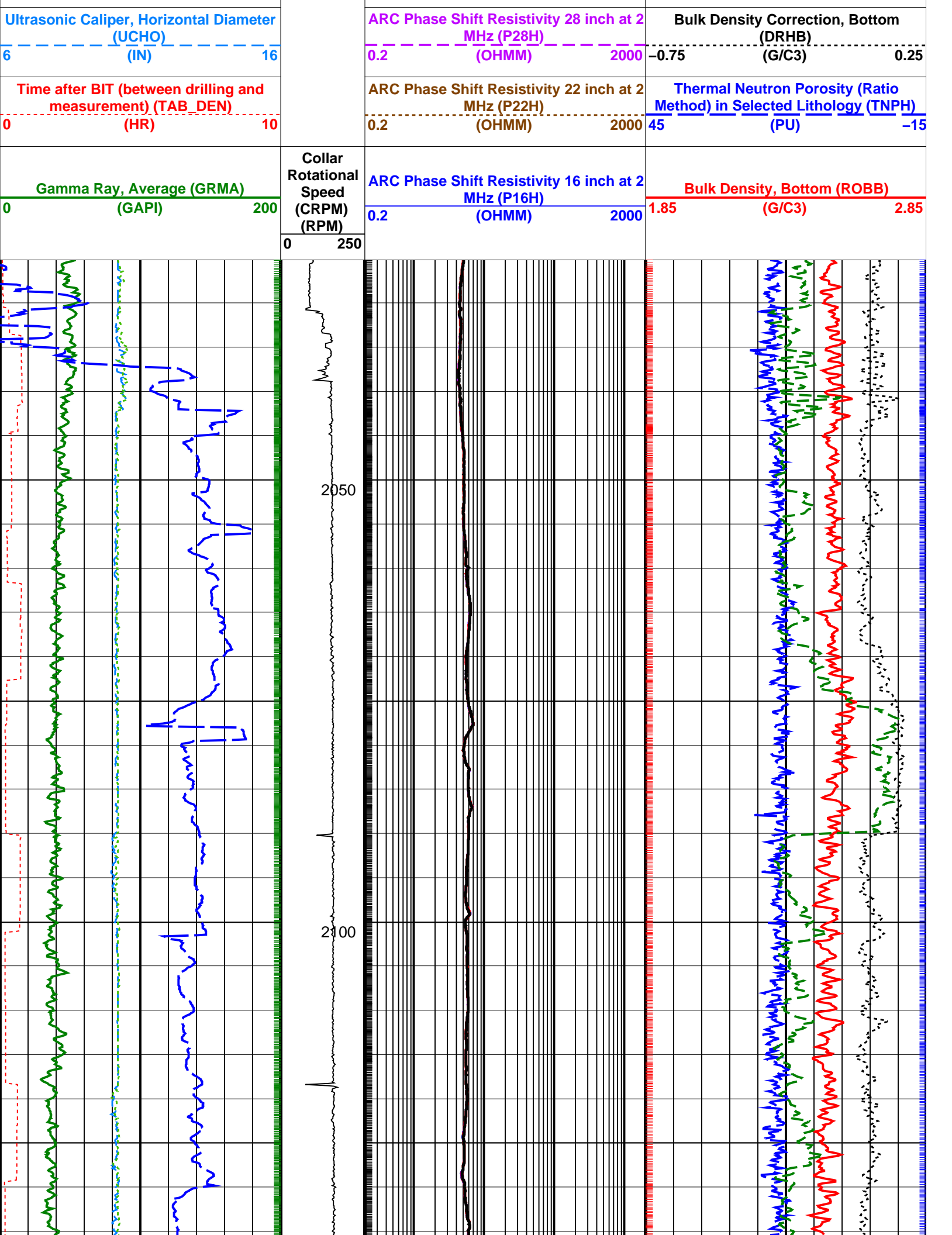
Rate of Penetration, Averaged over Last 5ft (ROP5_RM)	
200 (M/HR)	0

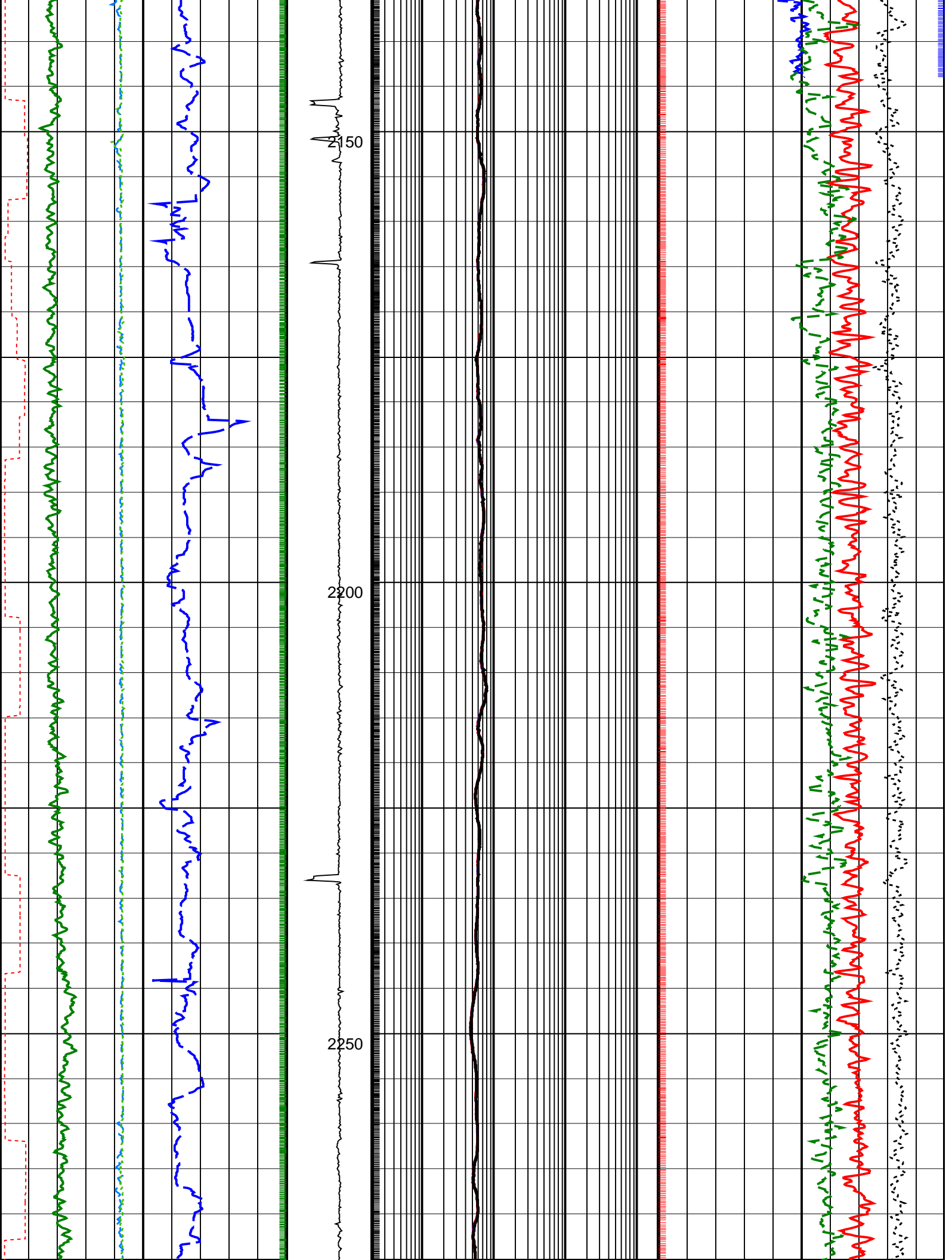
ARC Phase Shift Resistivity 40 inch at 2 MHz (P40H)	
0.2 (OHMM)	2000

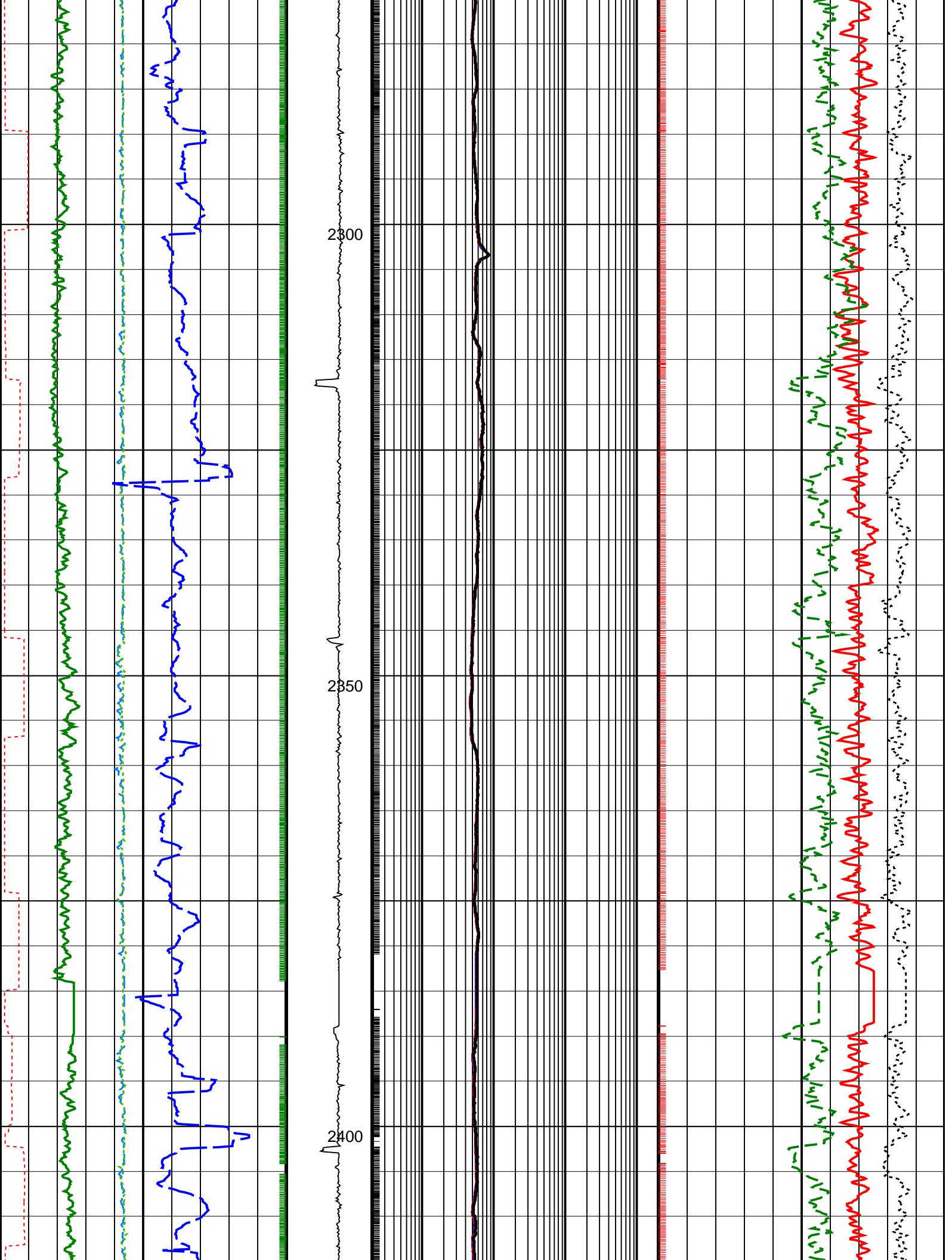
Ultrasonic Caliper, Vertical Diameter (UCVE)	
6 (IN)	16

ARC Phase Shift Resistivity 34 inch at 2 MHz (P34H)	
0.2 (OHMM)	2000

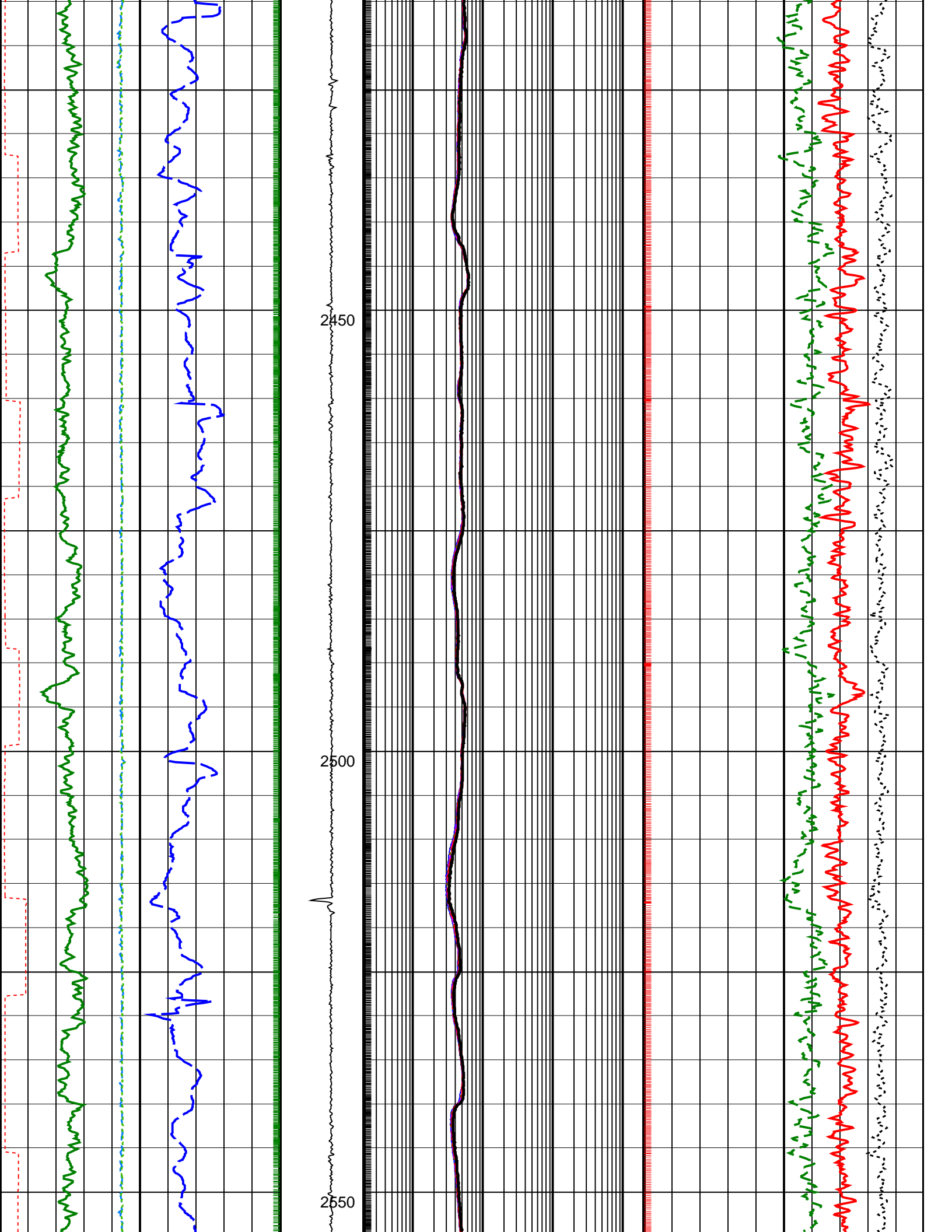
Photoelectric Factor, Bottom (PEB)	
(----	10

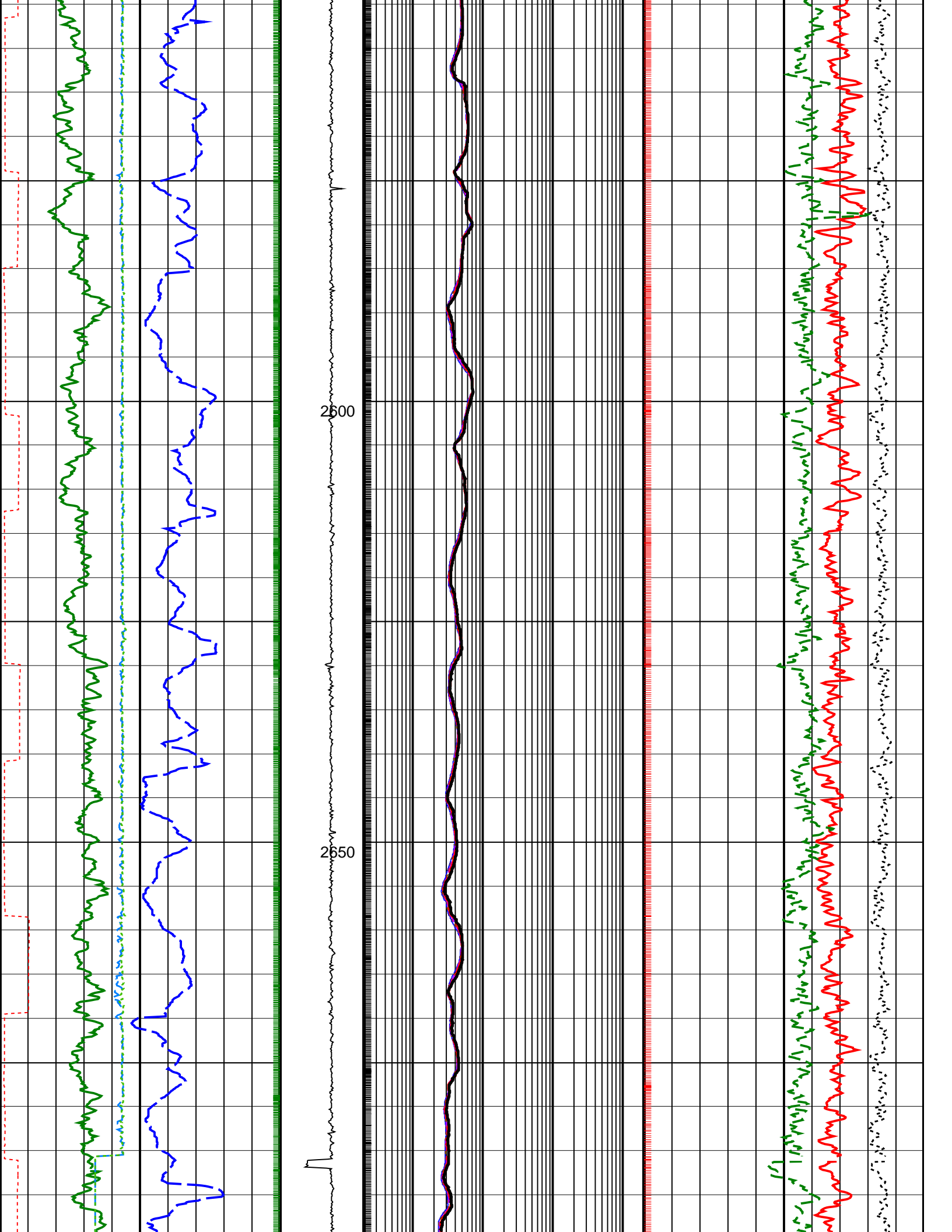


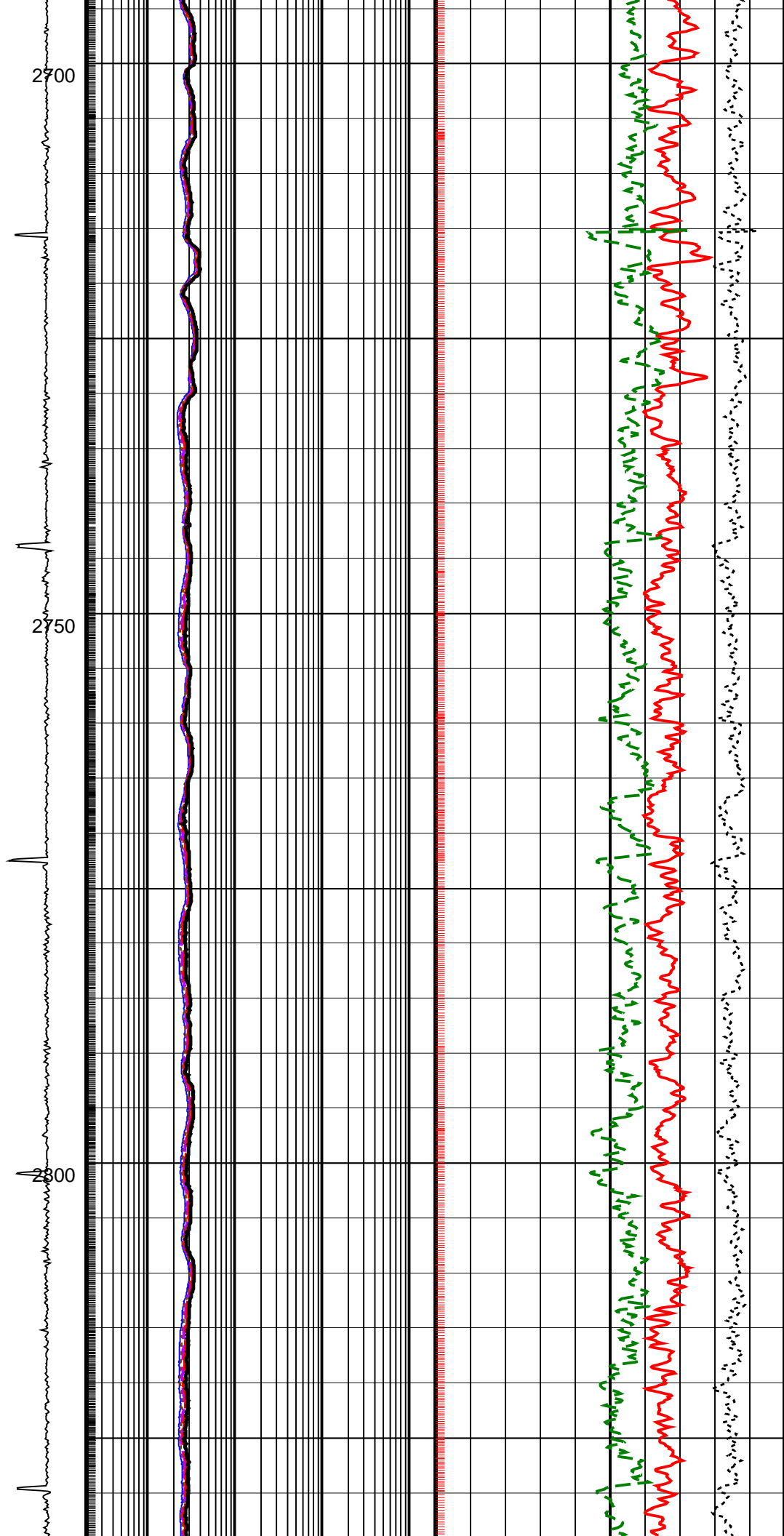
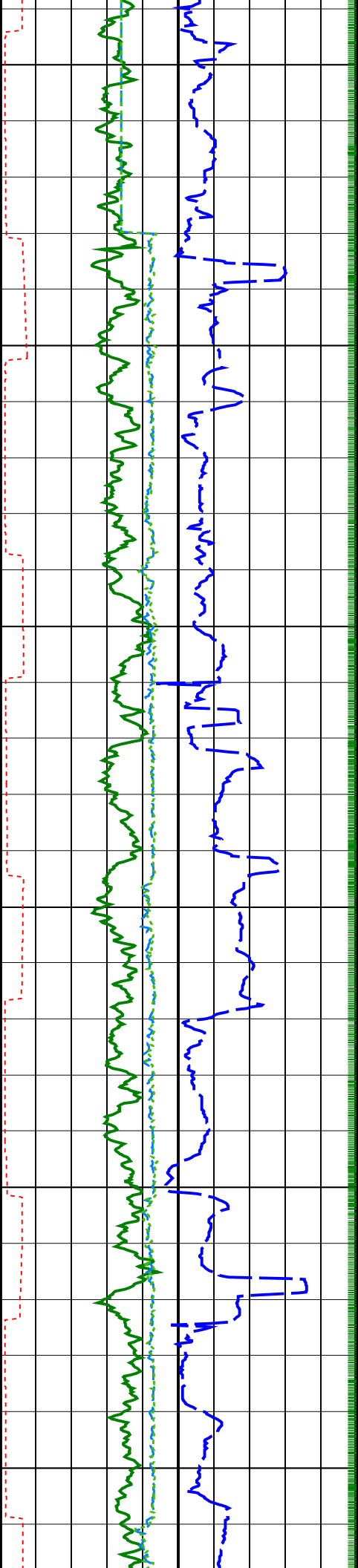


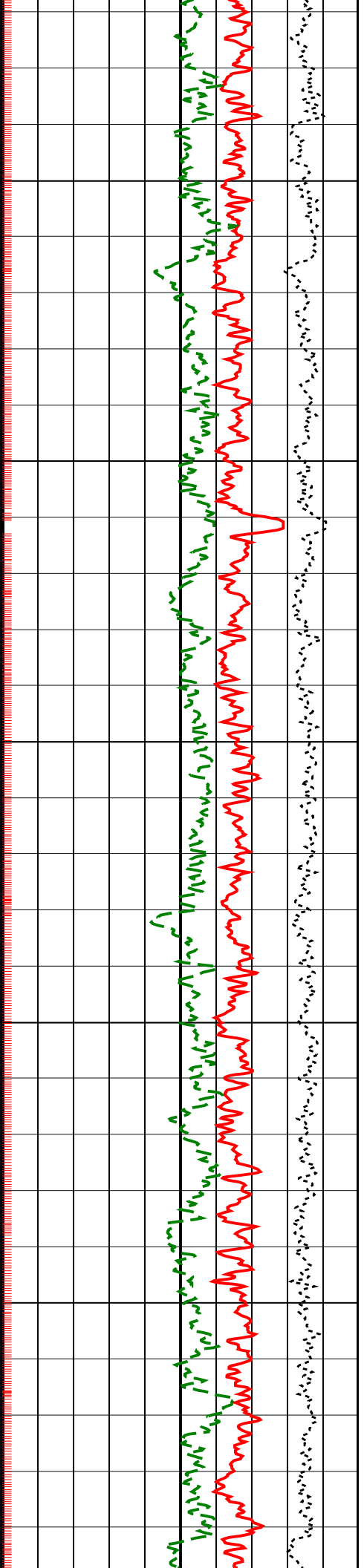
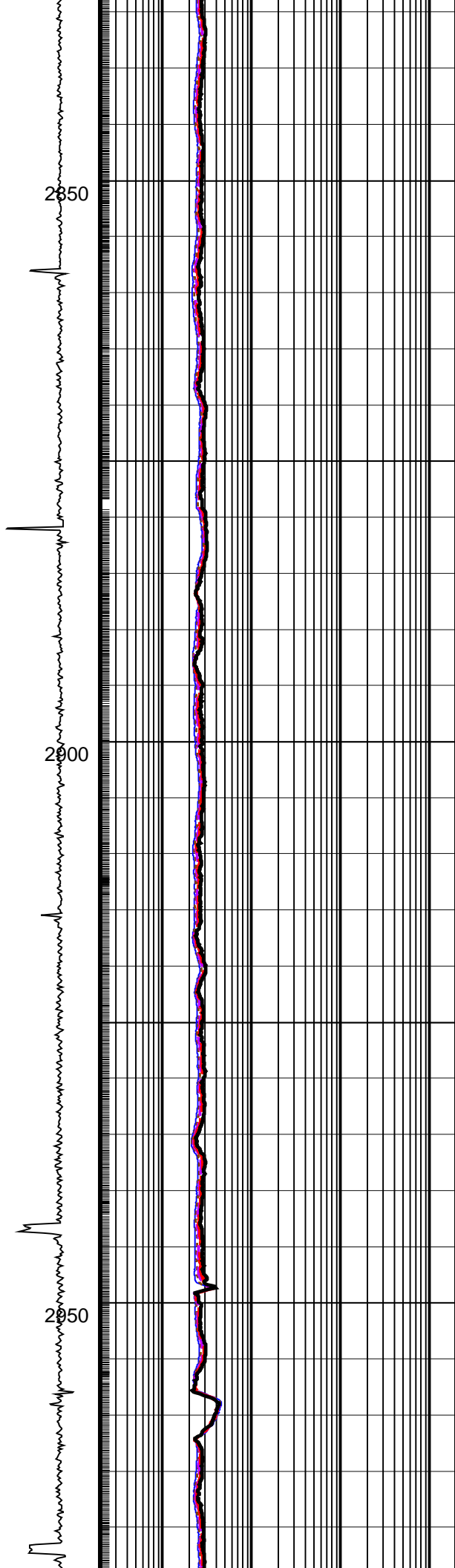
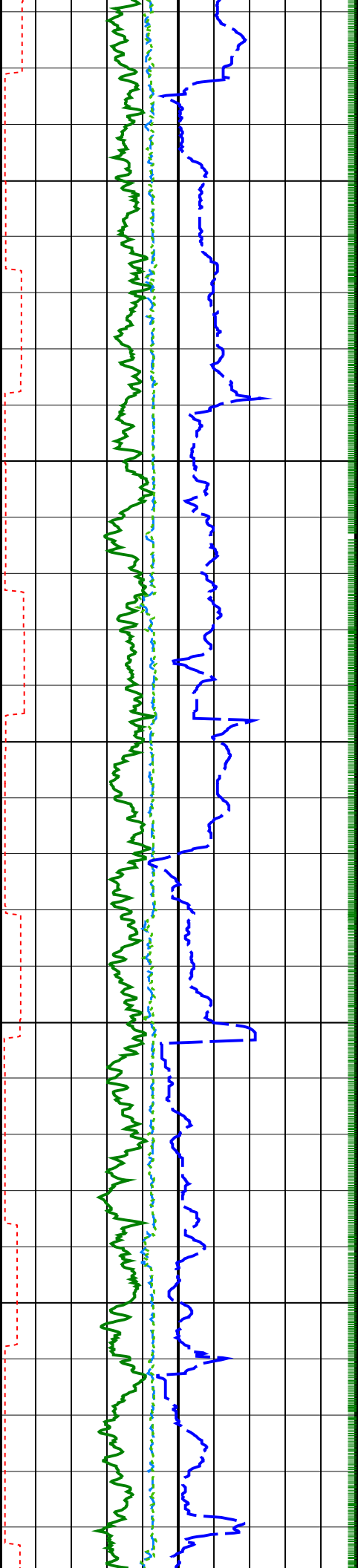


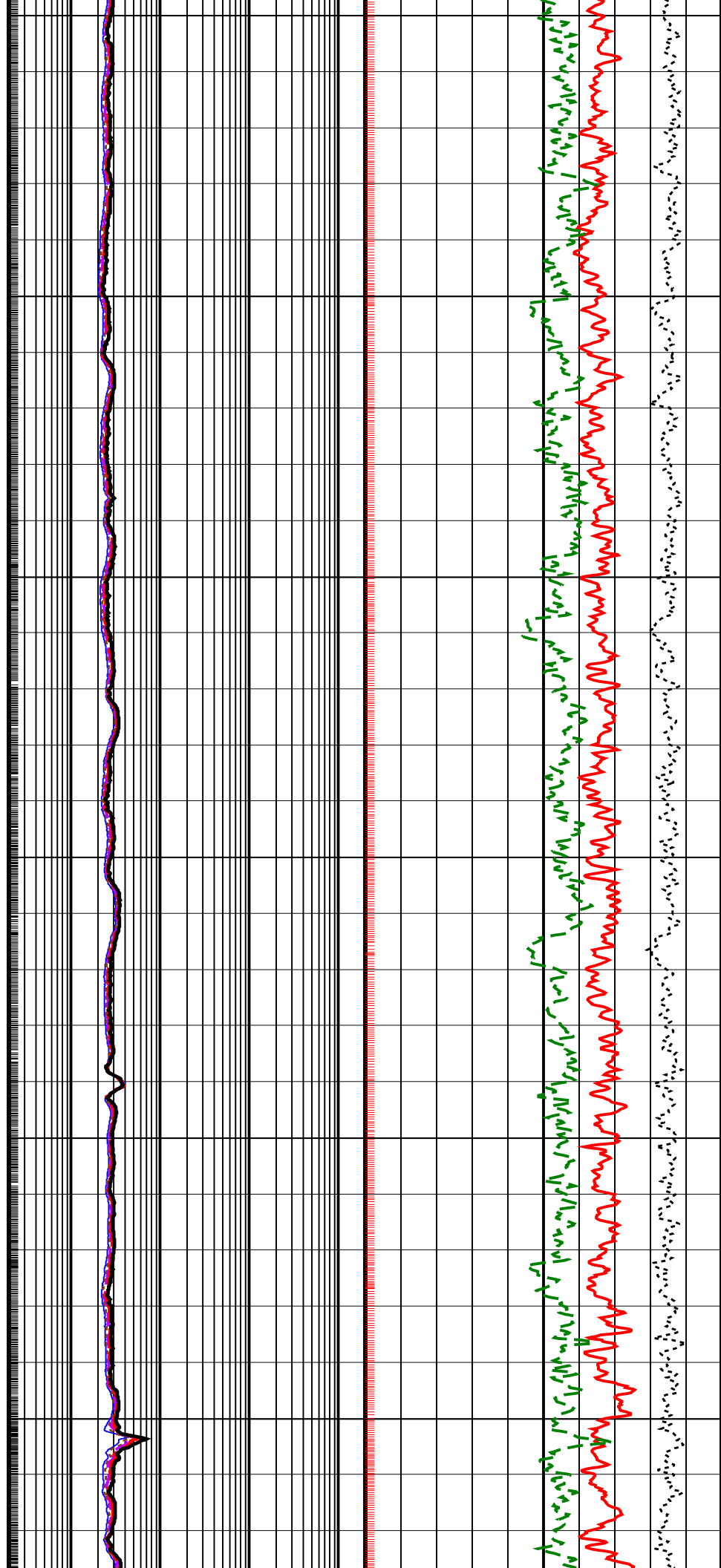
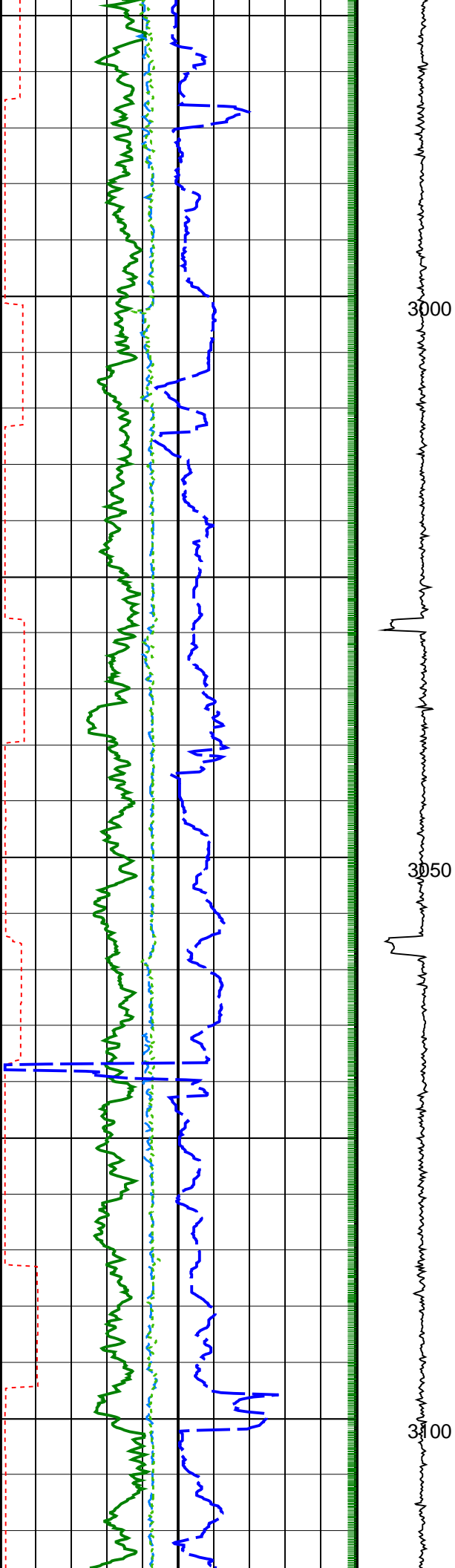


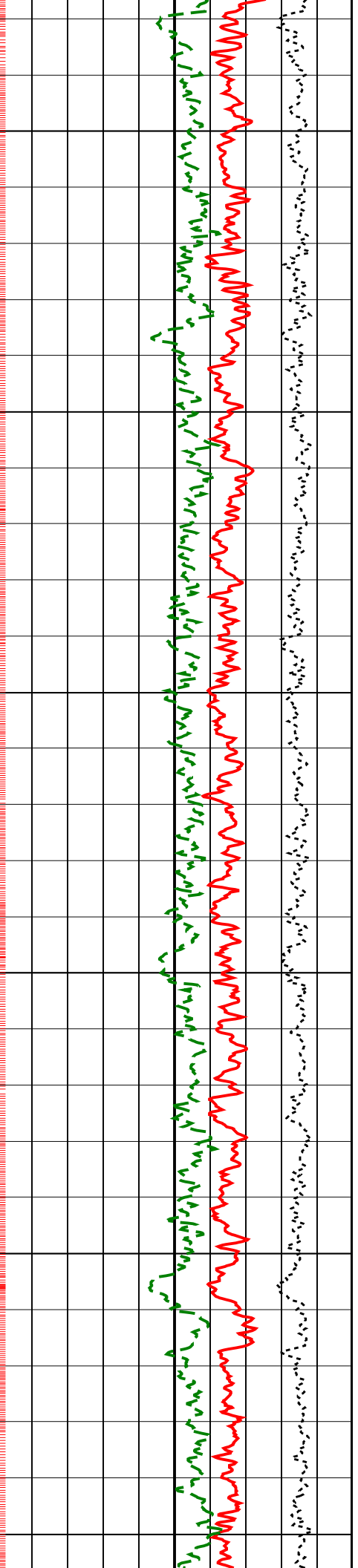
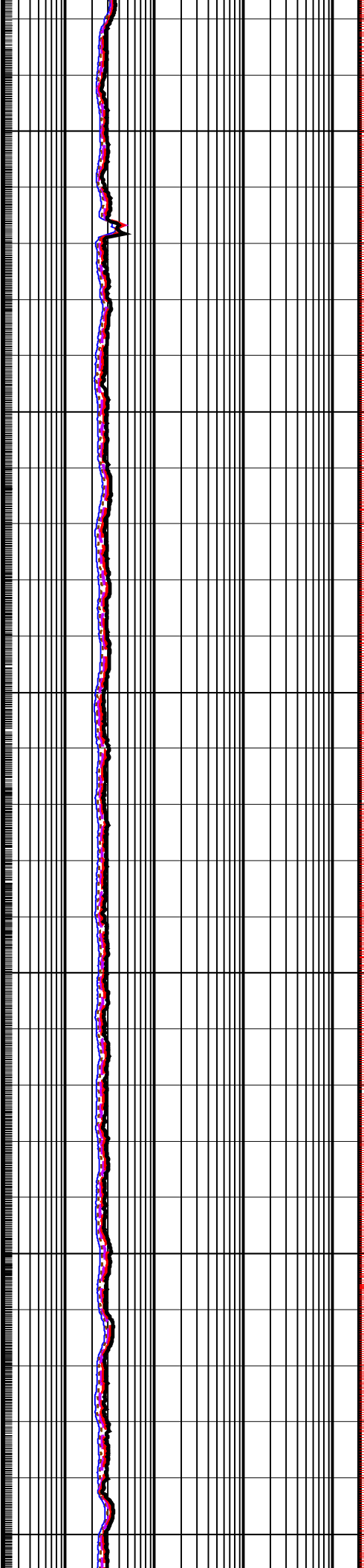
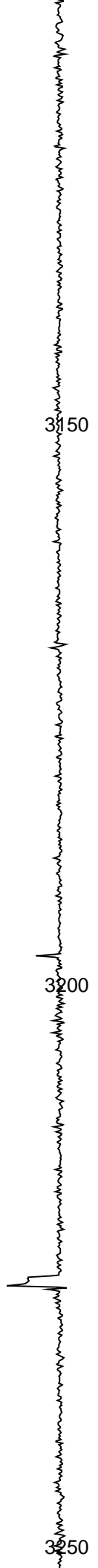
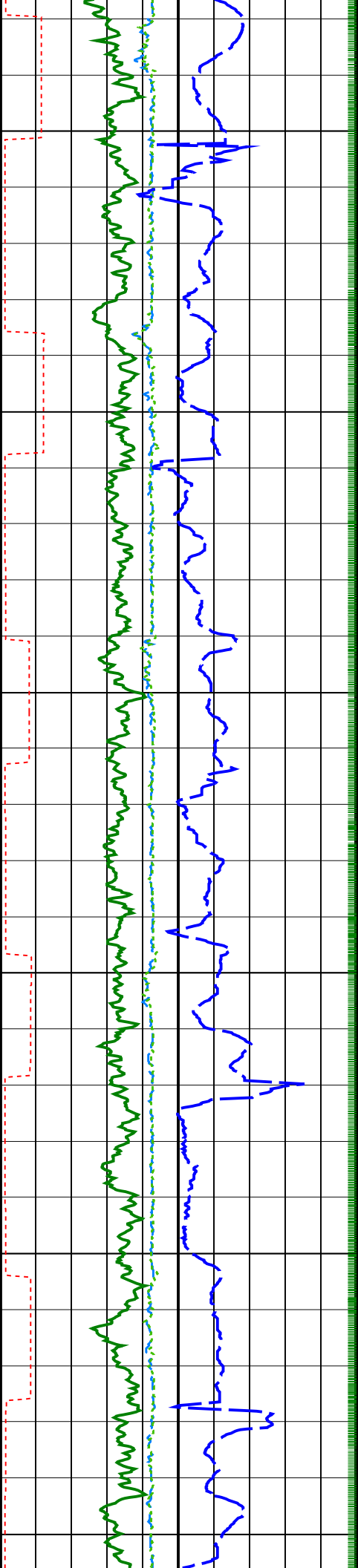


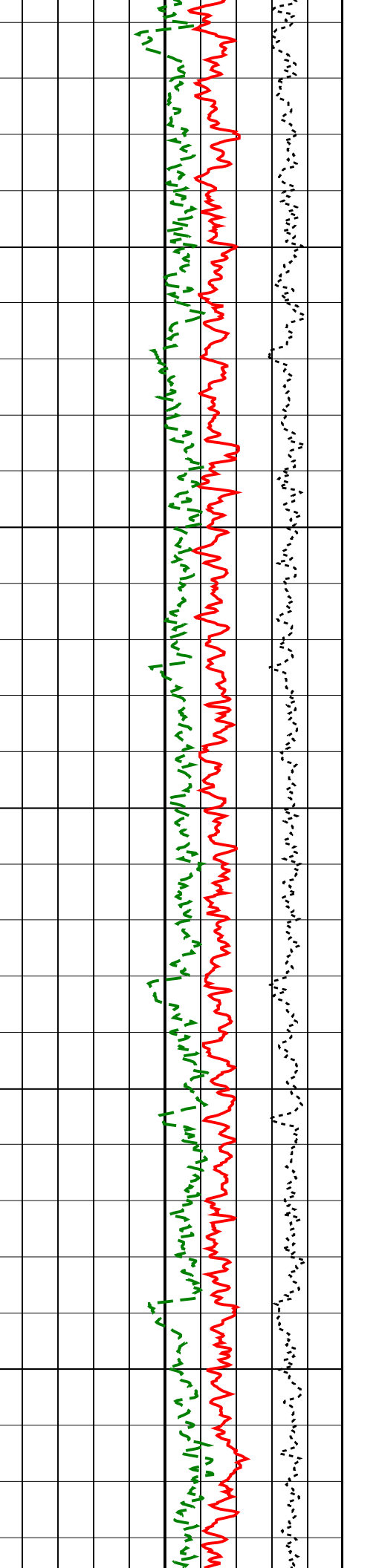
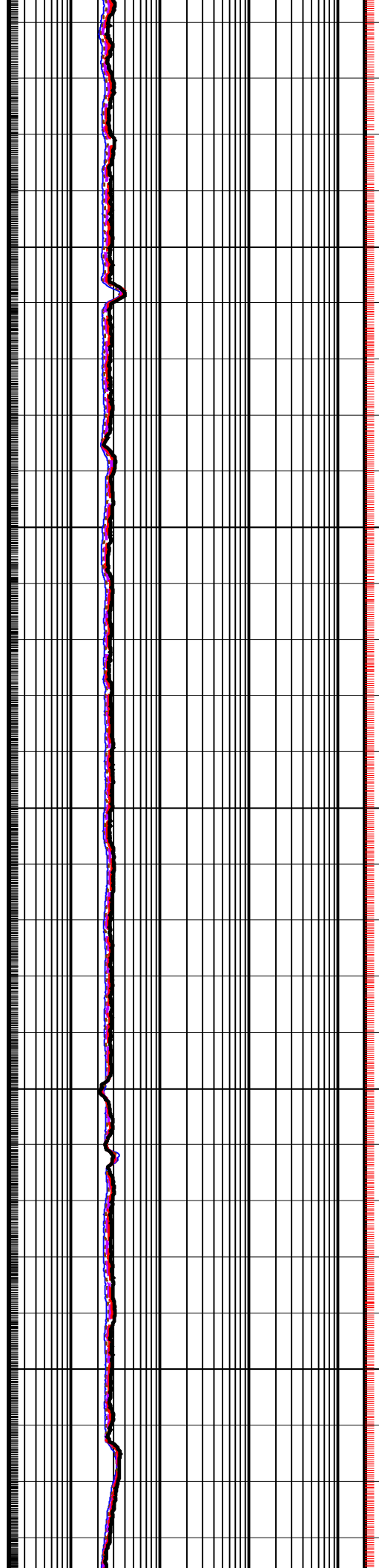
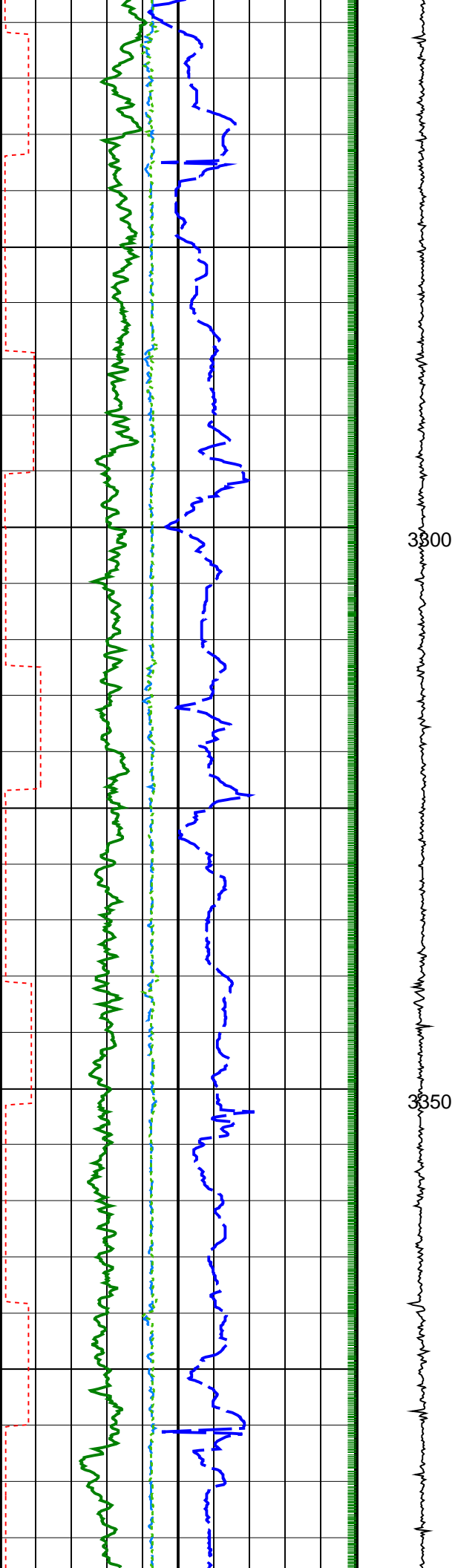


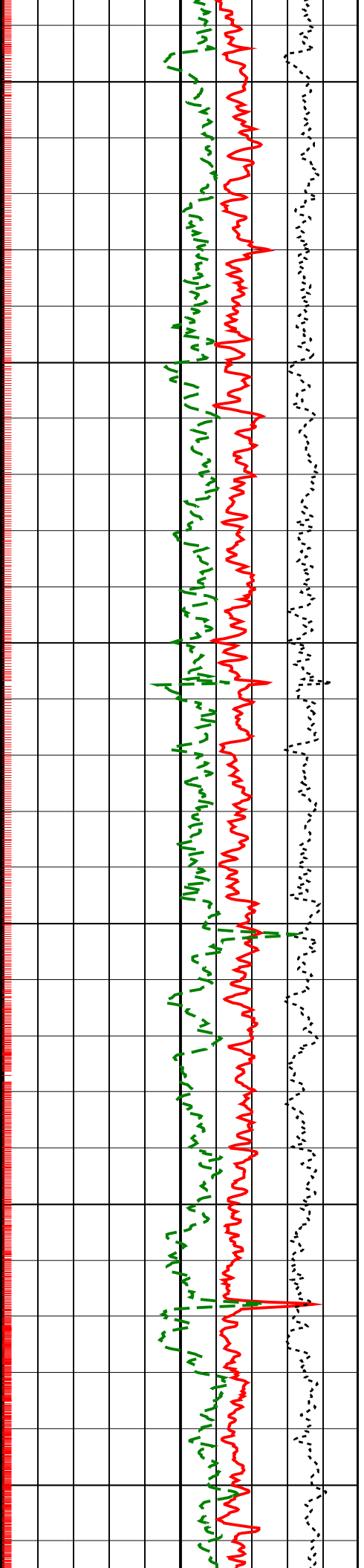
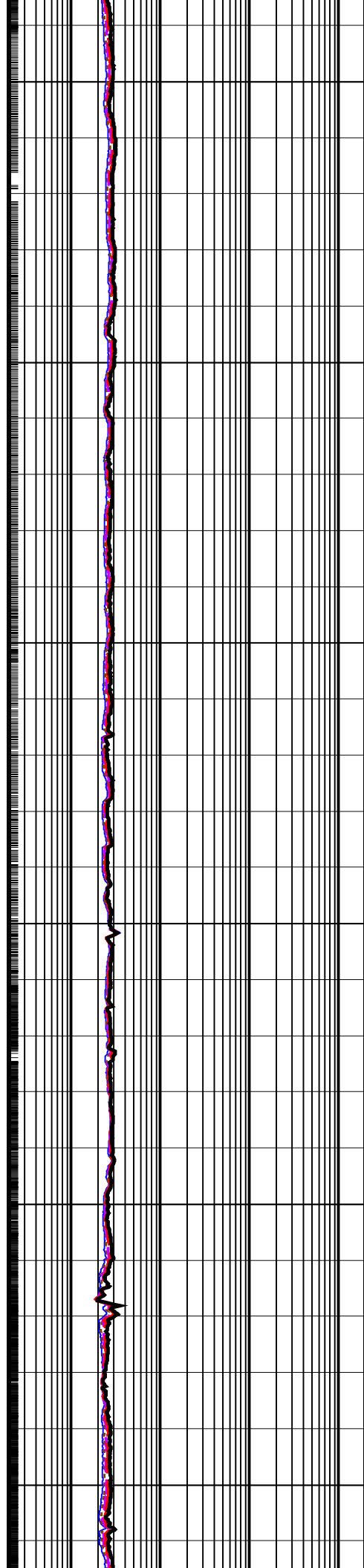
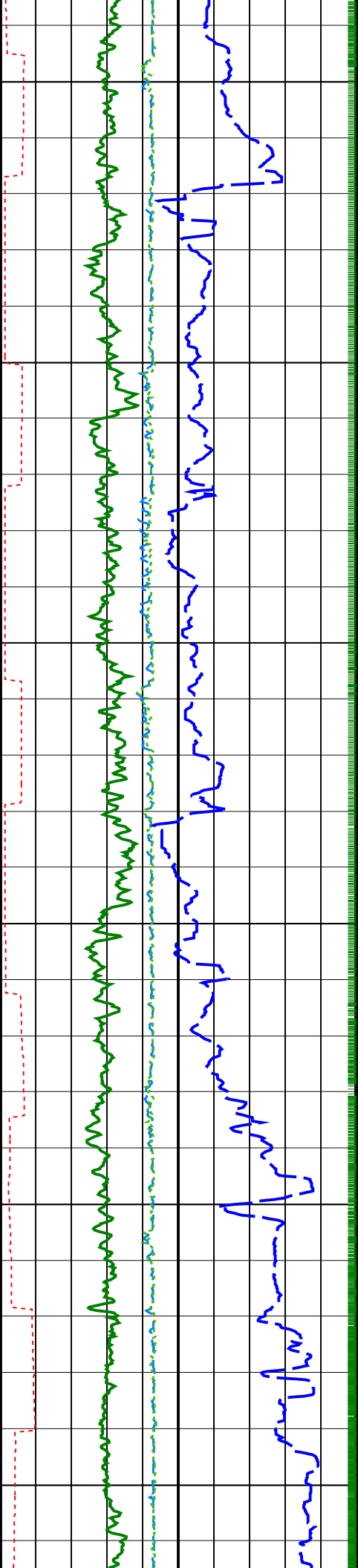




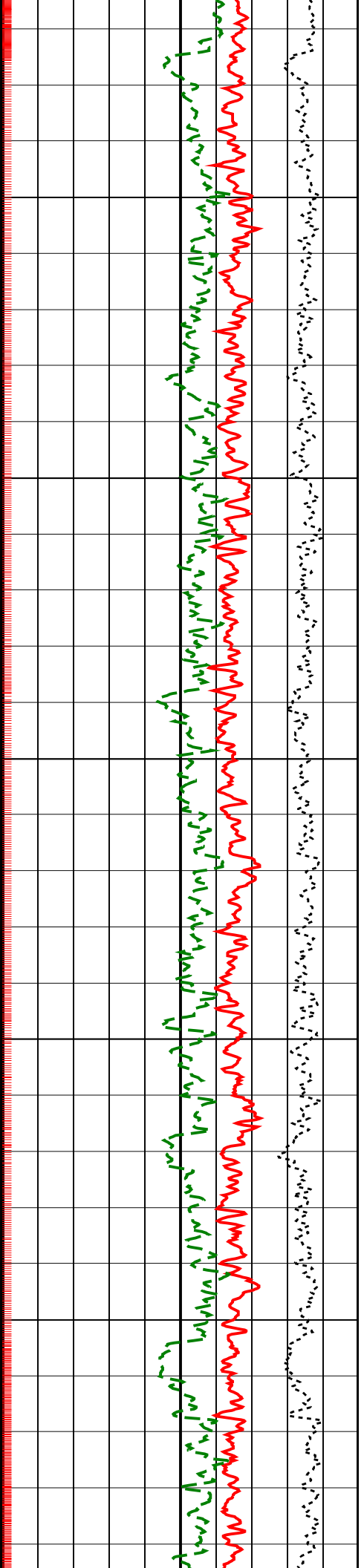
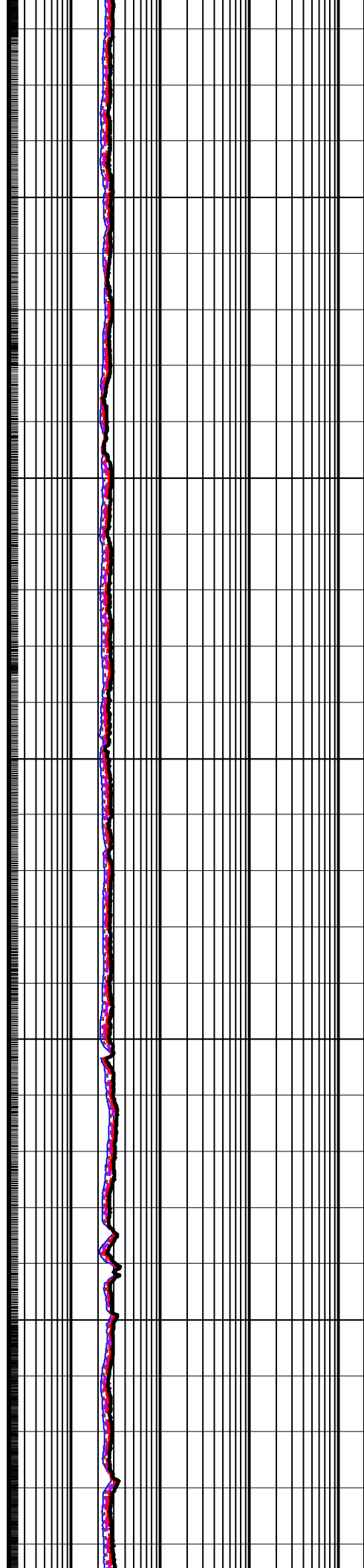
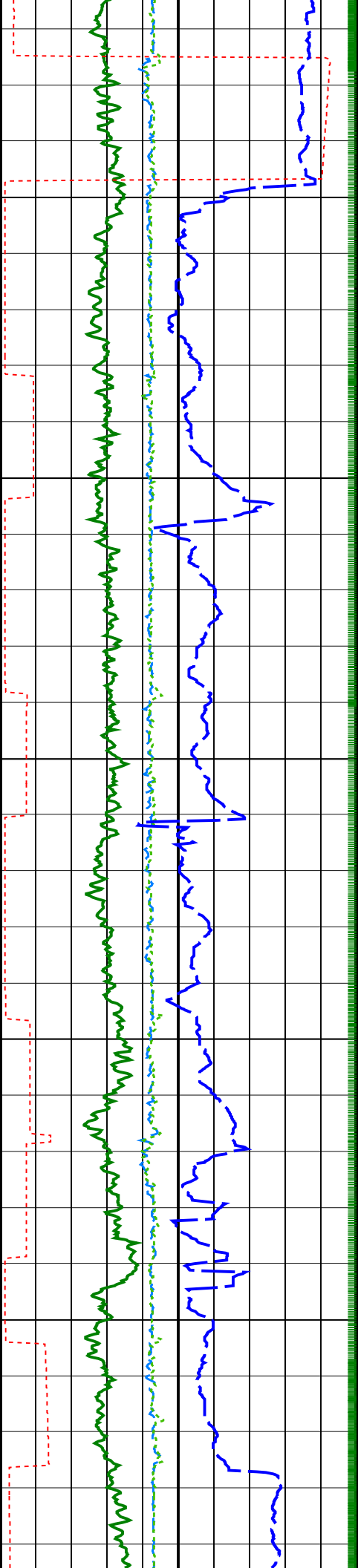


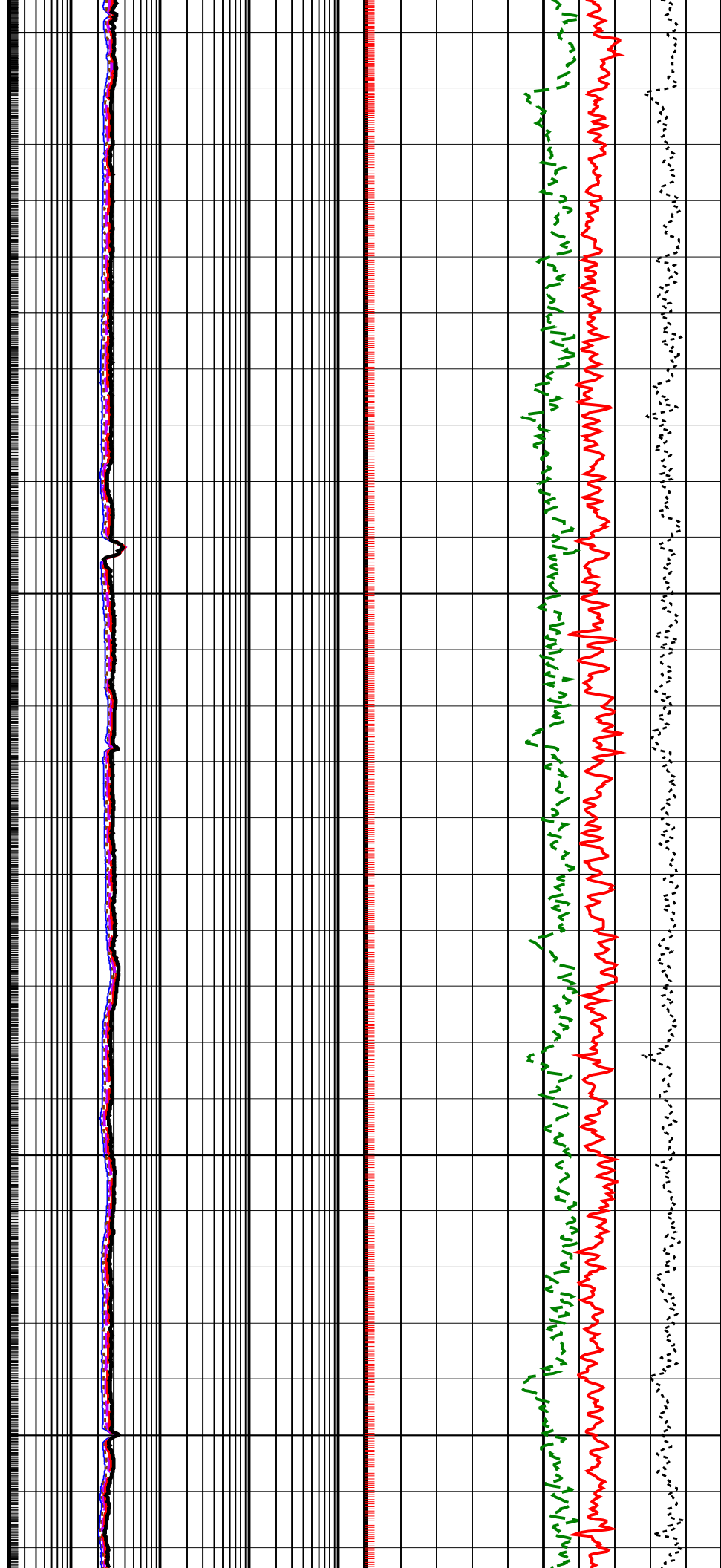
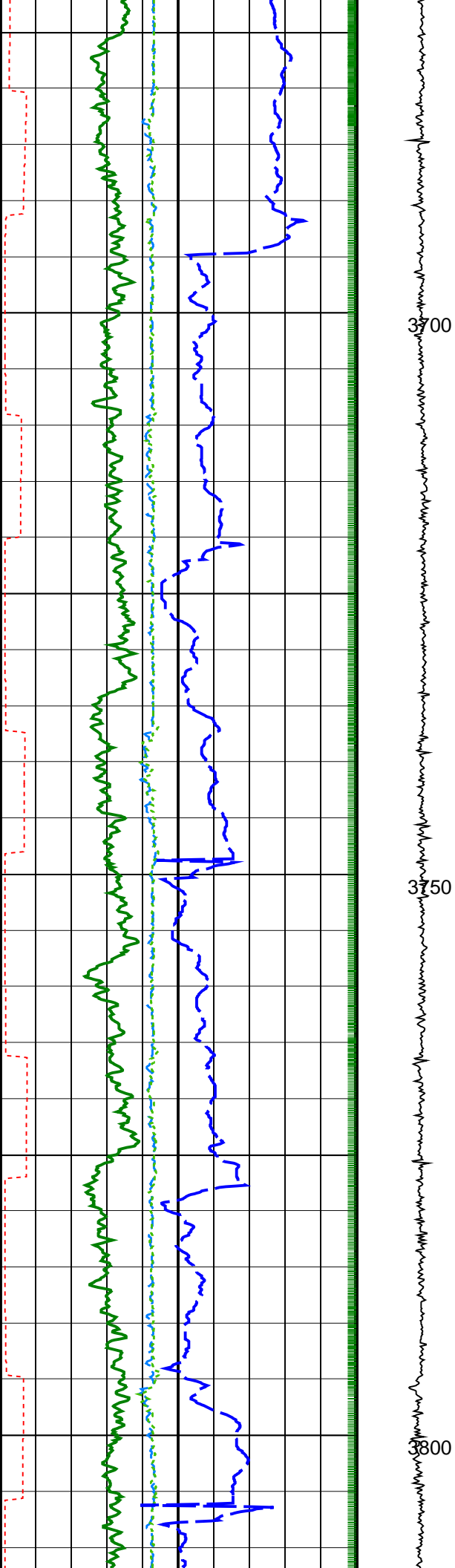


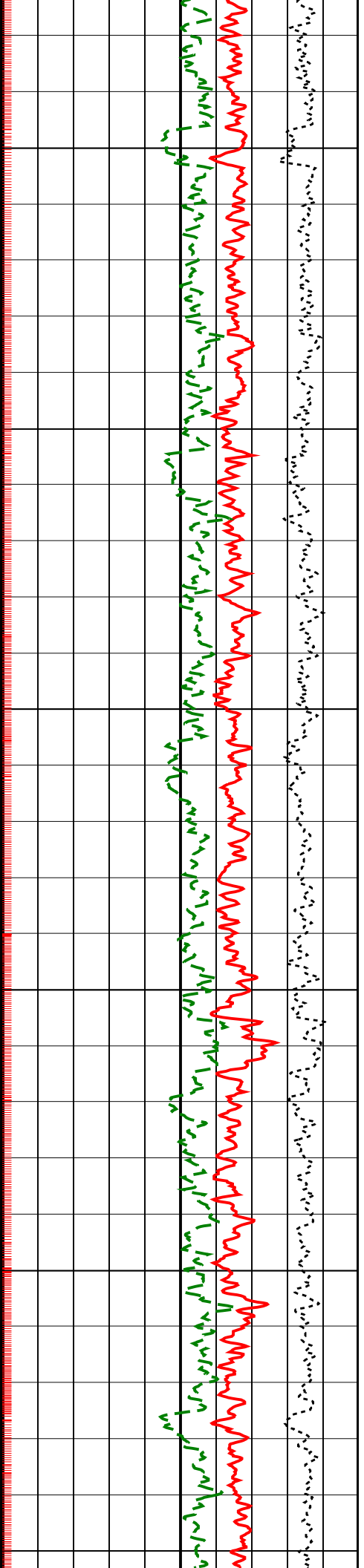
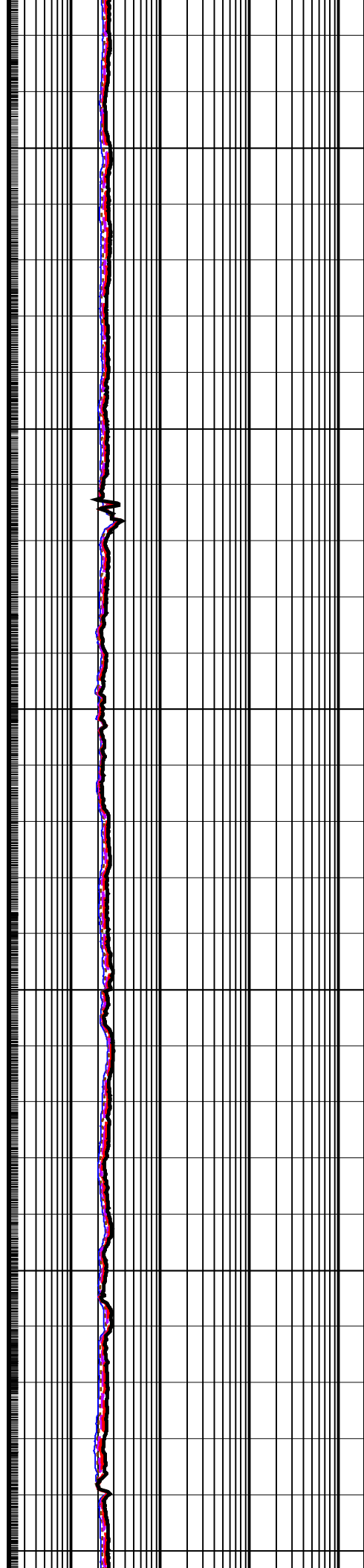
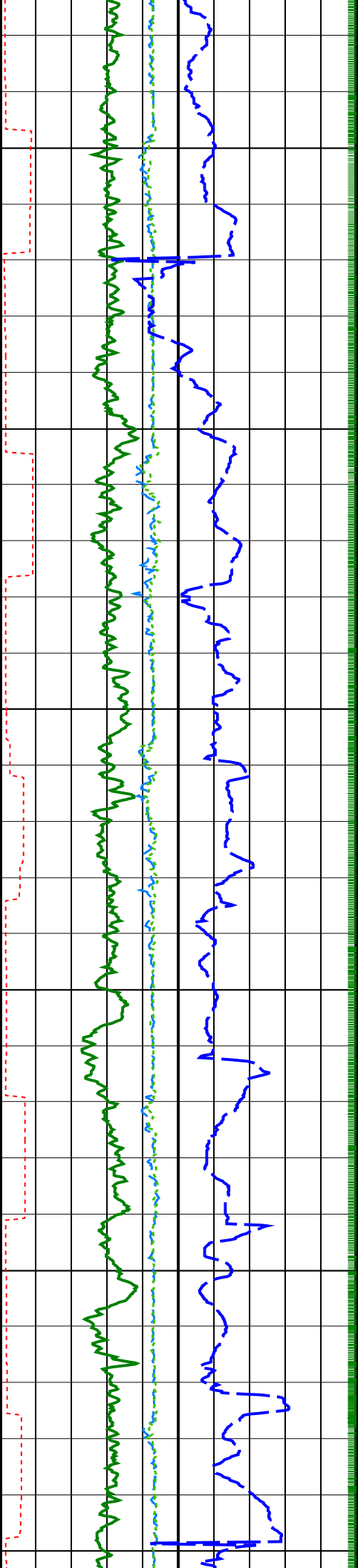


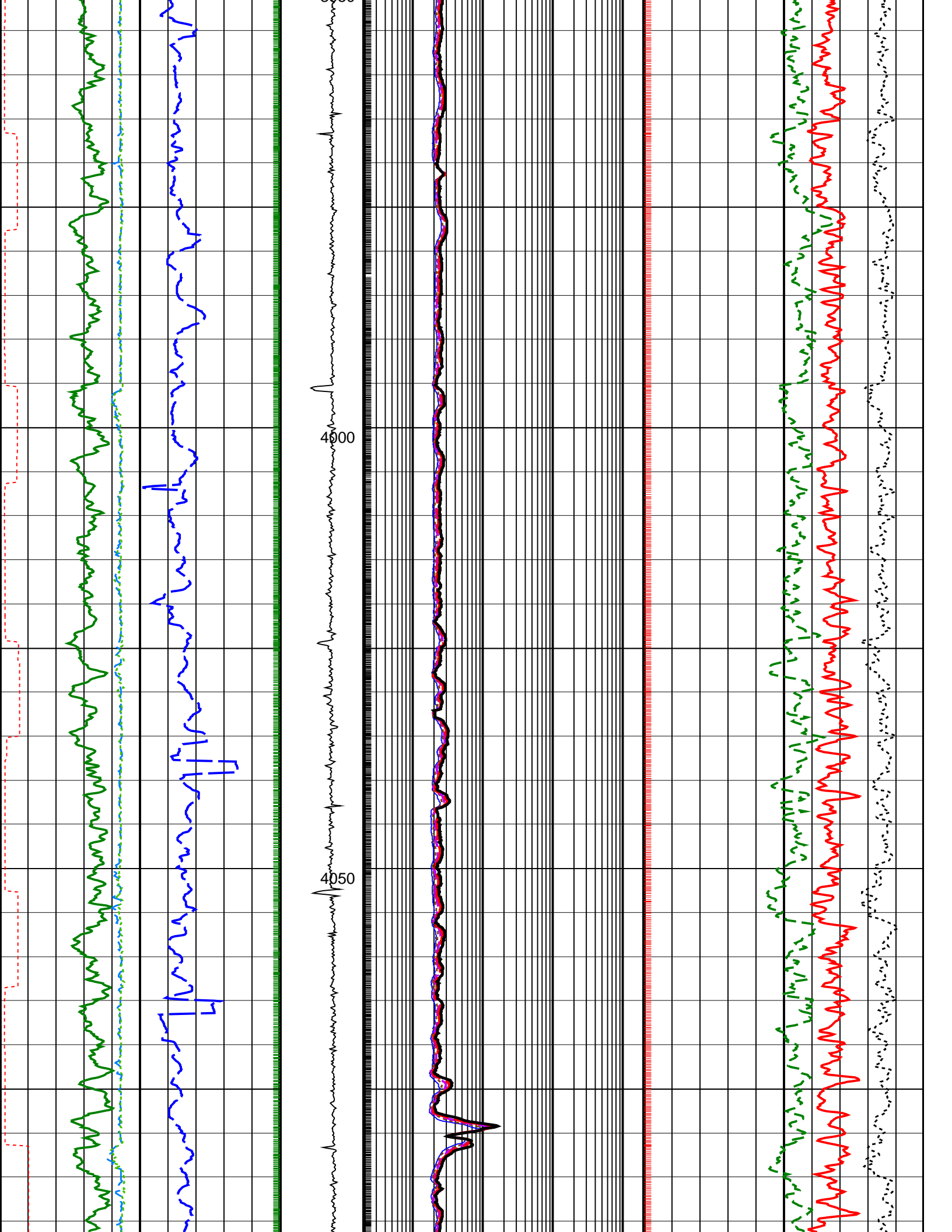


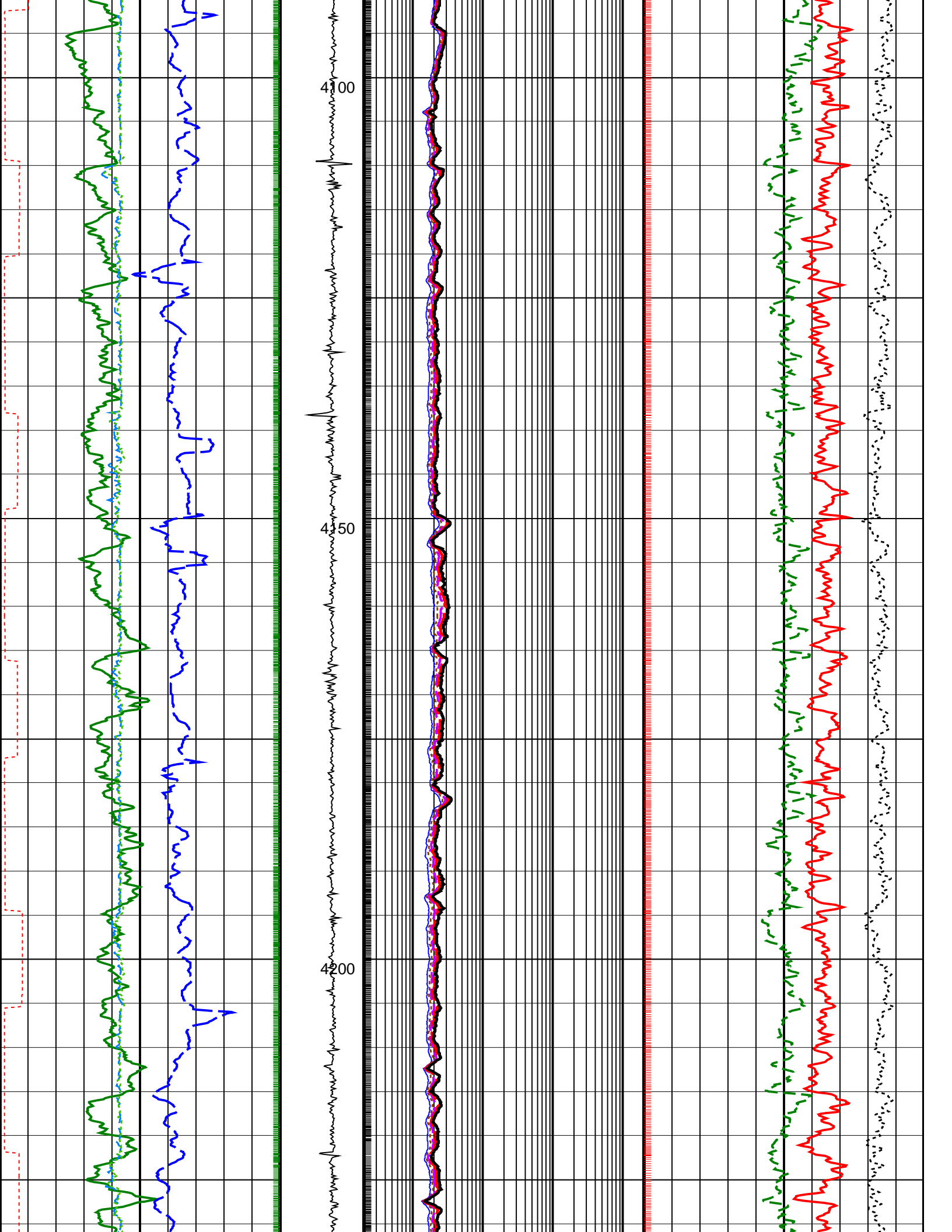


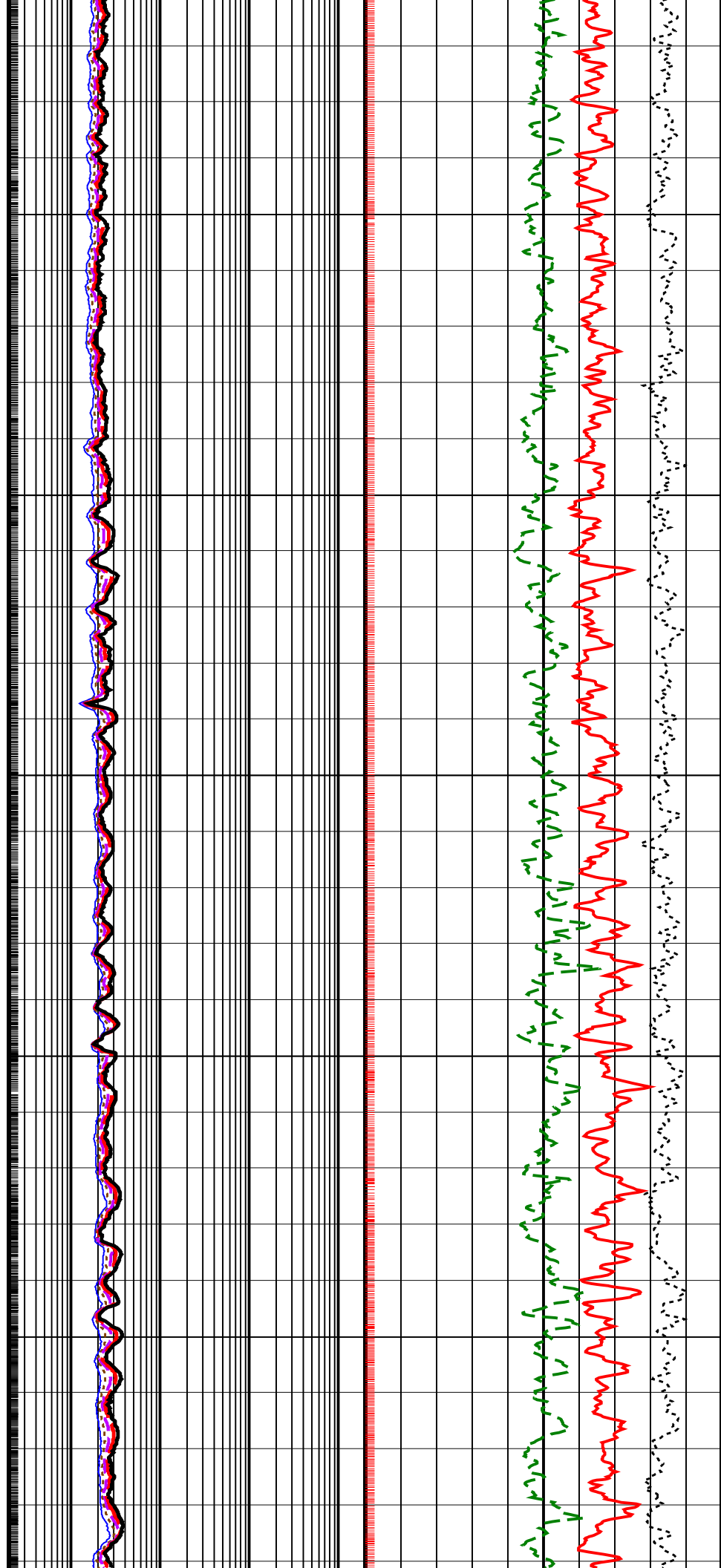
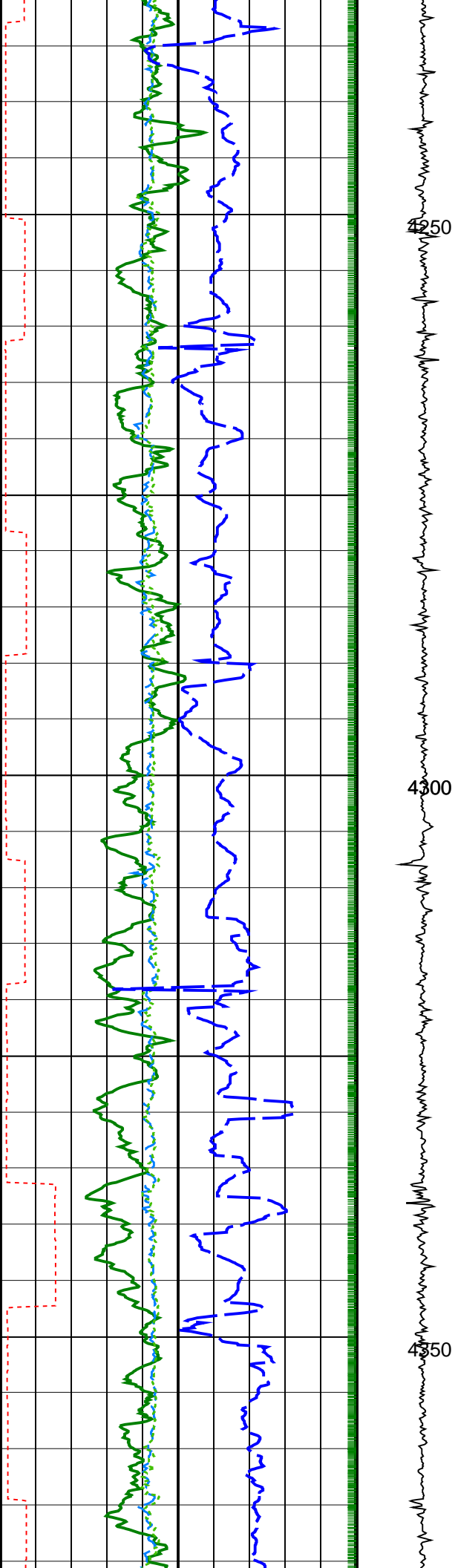


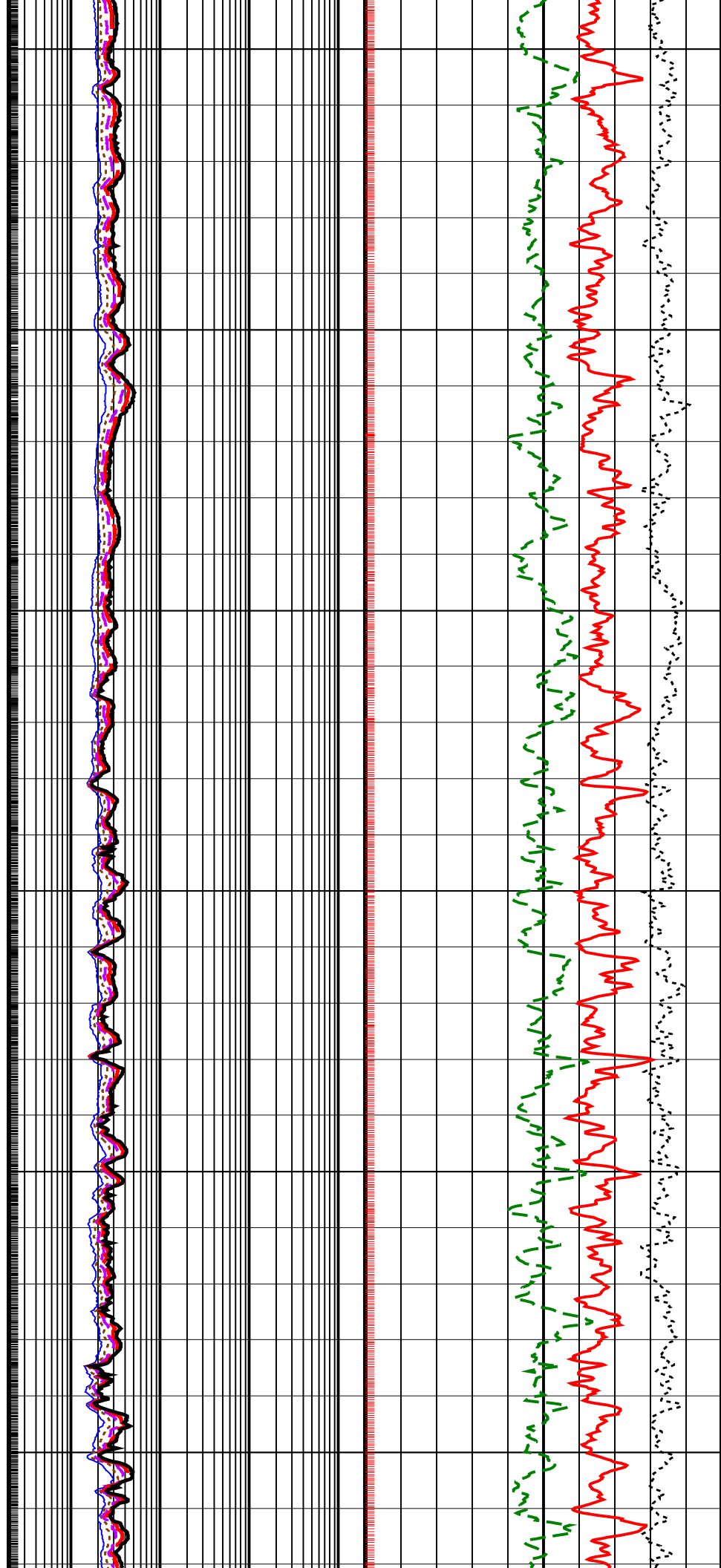
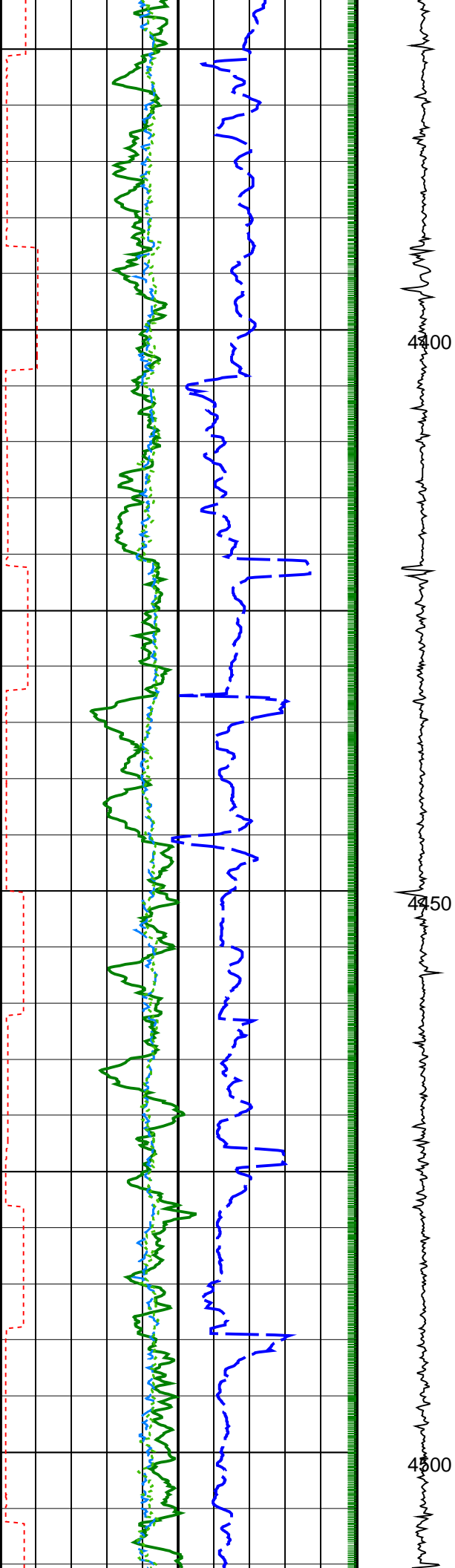




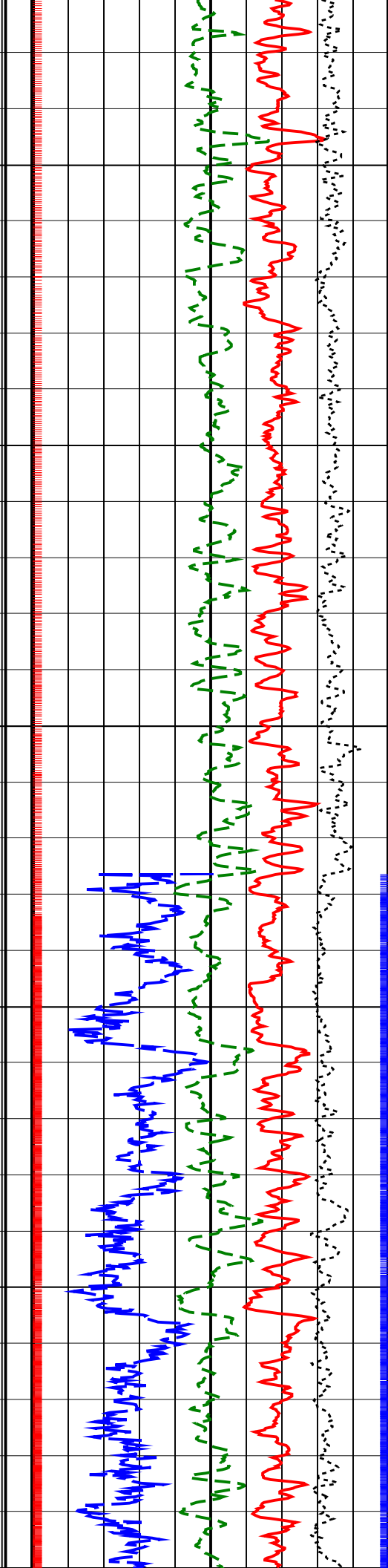
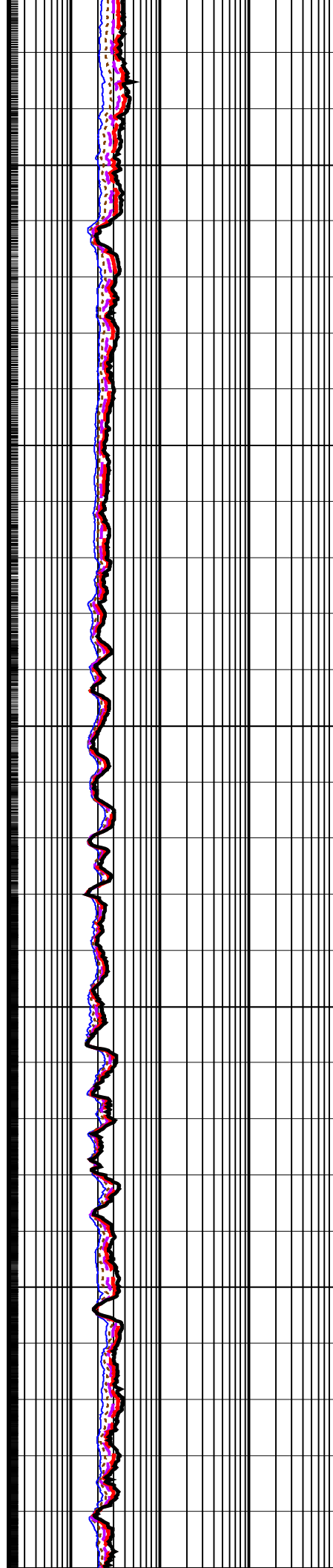
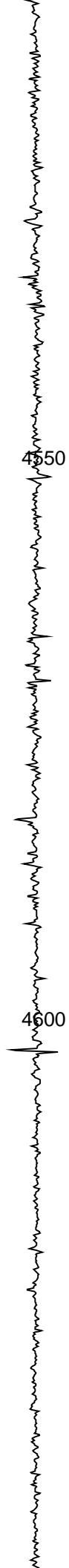
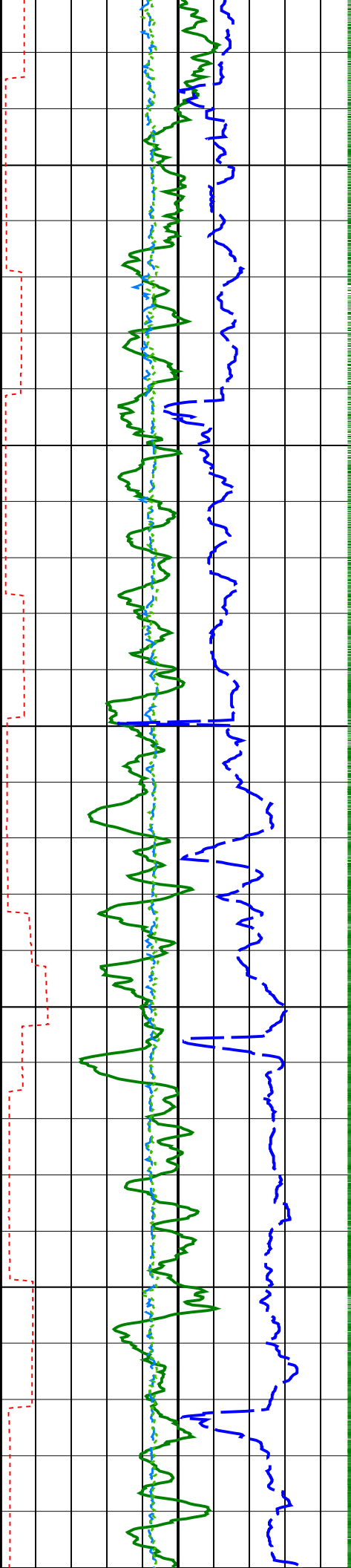




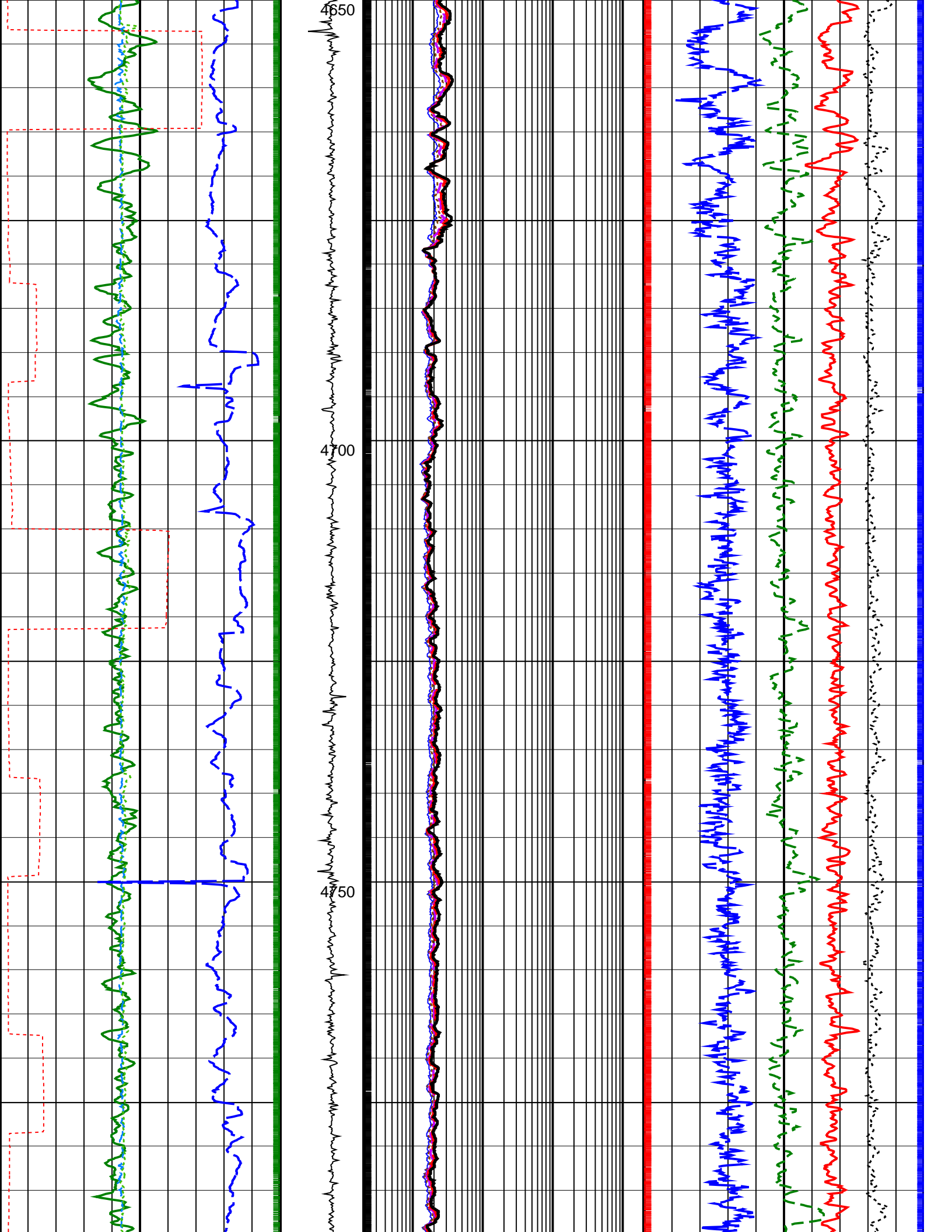


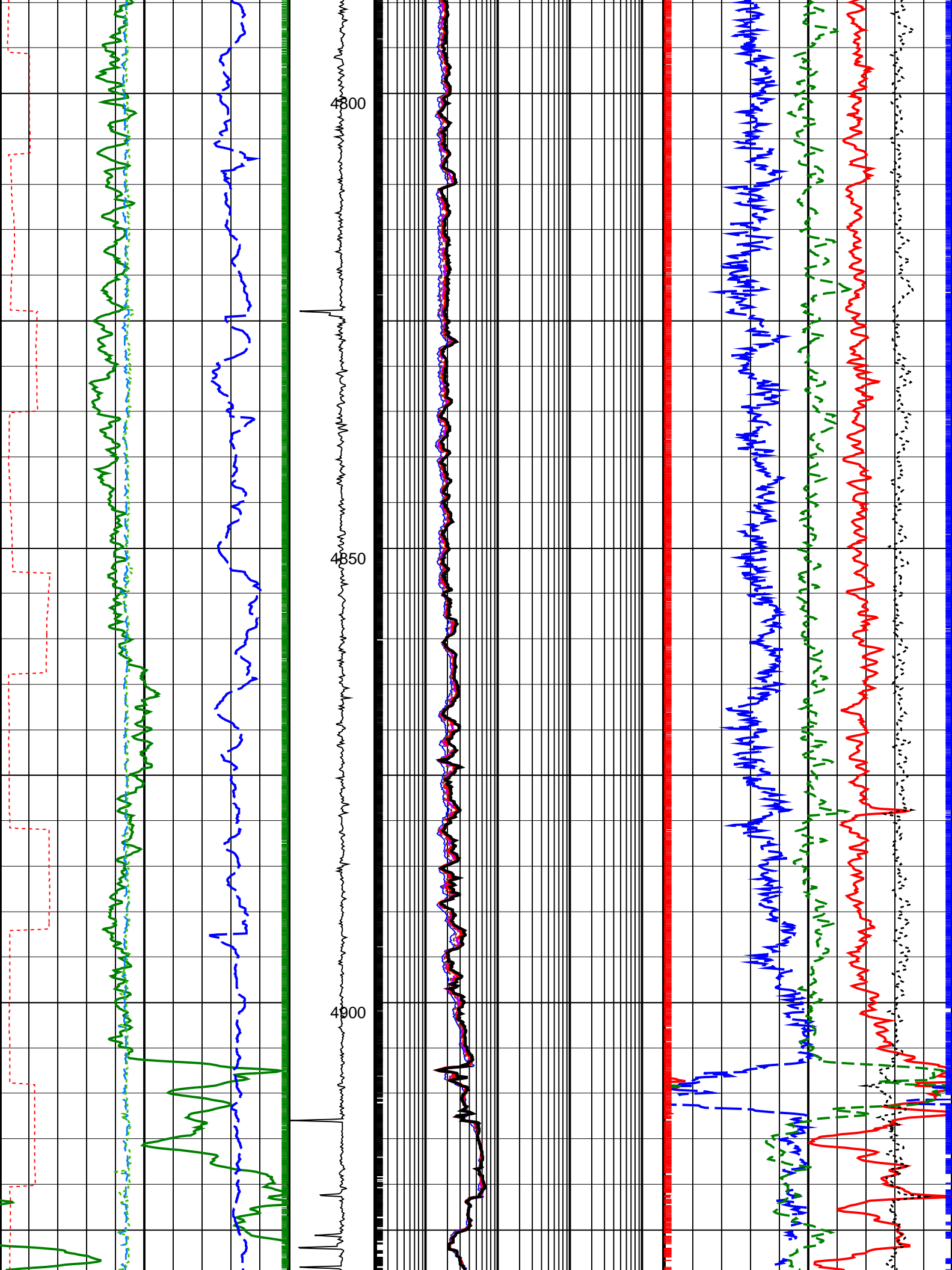


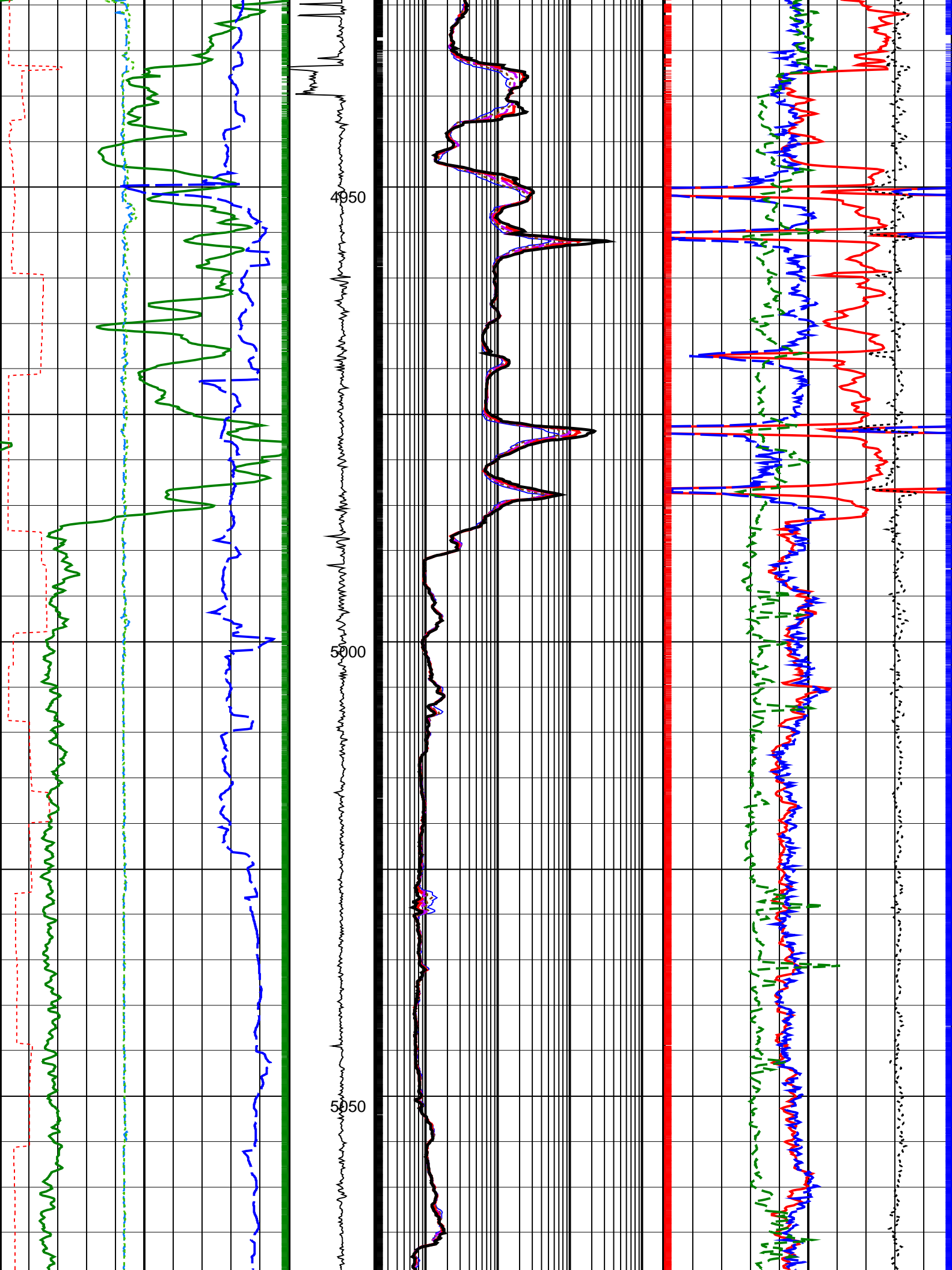


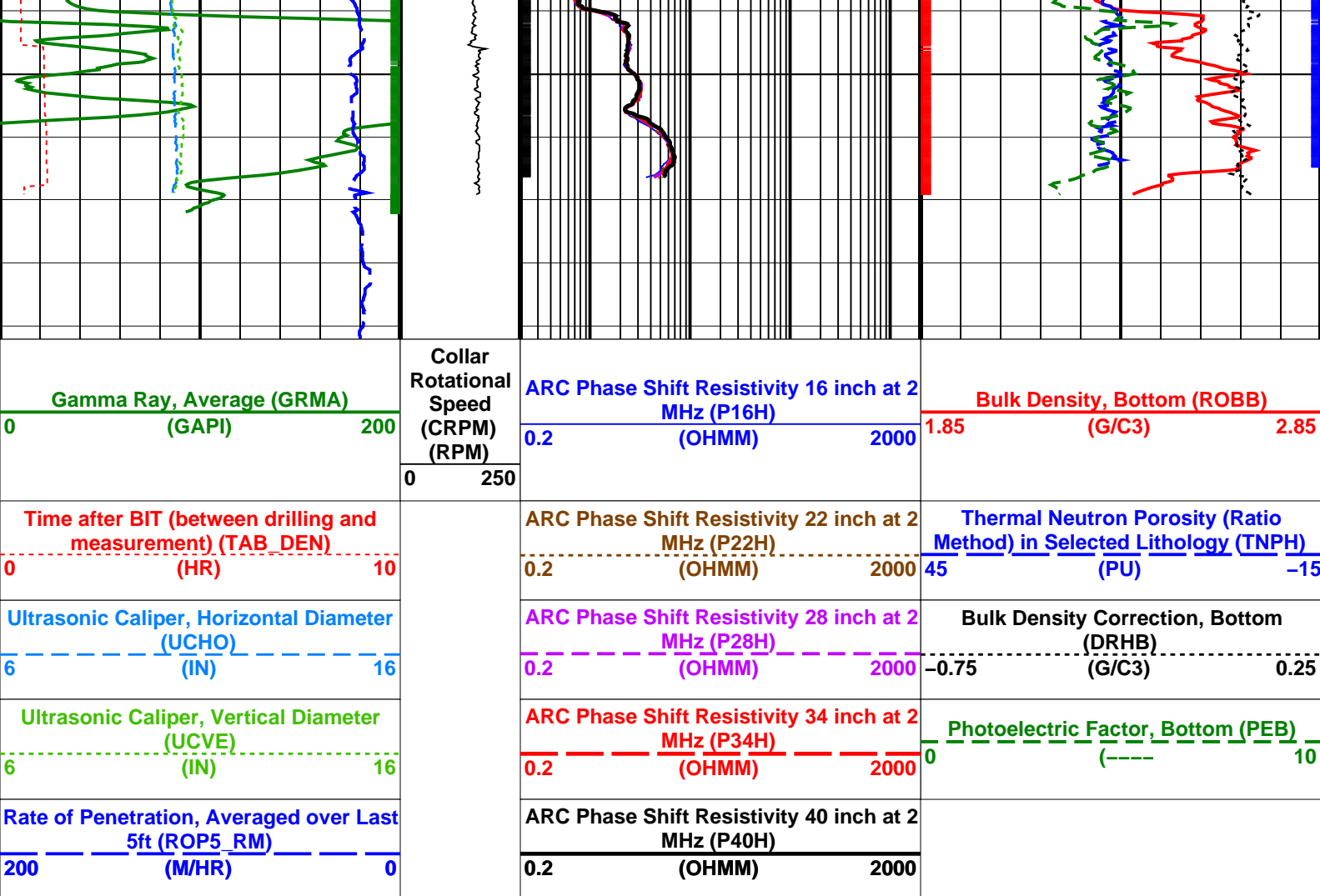












### PIP SUMMARY

Density Samples

Neutron Samples

Gamma Ray Samples

Resistivity Samples

## IDEAL Version: ID12\_0C\_13

IDF

ECO6  
SON675

id12\_0c\_01  
id12\_0c\_01

MWD\_10

id12\_0c\_01

### EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch / Equipment Identification

Primary Equipment:  
Tool Name and Serial Number  
Calibration Status  
Neutron Logging Source  
Density Logging Source  
Stabilizer Size









EcoScope\* 804 (Collar 808)  
Valid  
PNG-C 2242-41357  
GSR-Z A2474  
9.38 – in.




Master: 15-Sep-2007 12:07




### EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration




SSn LSn : Water Tank

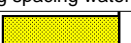

Phase	SSn Gain ----	Value	Phase	SSn Offset ----	Value
Master		1.087	Master		0
	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)			-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)	
Phase	LSn Gain ----	Value	Phase	LSn Offset ----	Value
Master		1.062	Master		0
	0.6000 (Minimum) 1.000 (Nominal) 1.400 (Maximum)			-3.000 (Minimum) 0 (Nominal) 3.000 (Maximum)	








Master: 15-Sep-2007 12:07											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Neutron: Water Tank											
Phase	Far 2 Gain ----				Value	Phase	Far 2 Offset ----				Value
Master					1.000	Master					0.8053
	0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)				-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)		
Phase	Far 1 Gain ----				Value	Phase	Far 1 Offset ----				Value
Master					1.006	Master					0.6186
	0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)				-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)		
Phase	Thermal Near gain ----				Value	Phase	Thermal Near offset ----				Value
Master					1.015	Master					25.89
	0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)				-500.0 (Minimum)	0 (Nominal)	500.0 (Maximum)		
Phase	Epithermal Near gain ----				Value	Phase	Epithermal Near offset ----				Value
Master					1.037	Master					100.7
	0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)				-300.0 (Minimum)	0 (Nominal)	300.0 (Maximum)		



Master: 15-Sep-2007 12:07											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Gamma Density: Magnesium Block											
Phase	LS window 3 – Mg CPS				Value	Phase	SS window 1 – Mg CPS				Value
Master					1965	Master					4716
	1000 (Minimum)	2000 (Nominal)	3000 (Maximum)				2500 (Minimum)	5250 (Nominal)	8000 (Maximum)		
Phase	SS window 3 – Mg CPS				Value						
Master					11100						
	6000 (Minimum)	12000 (Nominal)	18000 (Maximum)								











Master: 15-Sep-2007 12:07											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Gamma Density: Aluminum Block											
Phase	LS window 3 – Al CPS				Value	Phase	SS window 1 – Al CPS				Value
Master					368.8	Master					2457
	200.0 (Minimum)	400.0 (Nominal)	600.0 (Maximum)				1500 (Minimum)	3000 (Nominal)	4500 (Maximum)		
Phase	SS window 3 – Al CPS				Value						
Master					8183						
	4000 (Minimum)	8500 (Nominal)	13000 (Maximum)								

Master: 15-Sep-2007 12:07											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Gamma Density: Background											
Phase	LS window 3 – Background CPS				Value	Phase	SS window 1 – Background CPS				Value
Master					59.30	Master					72.40
	50.00 (Minimum)	70.00 (Nominal)	90.00 (Maximum)				50.00 (Minimum)	75.00 (Nominal)	100.0 (Maximum)		
Phase	SS window 3 – Background CPS				Value						
Master					353.9						
	270.0 (Minimum)	370.0 (Nominal)	470.0 (Maximum)								





Master: 15-Sep-2007 12:07											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Gamma Density: Water Block Check											
Phase	Long spacing water density G/C3				Value	Phase	Short spacing water density G/C3				Value
Master					1.024	Master					1.280
	0.9000 (Minimum)	1.150 (Nominal)	1.400 (Maximum)				0.9000 (Minimum)	1.150 (Nominal)	1.400 (Maximum)		




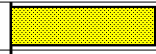
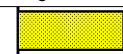

Master: 11-Sep-2007 7:12											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Resistivity: Air											
Phase	Phase-Shift T1				Value	Phase	Phase-Shift T2				Value
Master					-0.9915	Master					0.8876
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)				-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		
Phase	Phase-Shift T4				Value	Phase	Phase-Shift T5				Value
Master					0.8706	Master					-0.9920
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)				-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		
Phase	Phase-Shift T2 at 400KHz				Value	Phase	Phase-Shift T3 at 400KHz				Value
Master					1.613	Master					1.613
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)				-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		
Phase	Phase-Shift T4 at 400KHz				Value						
Master					1.613						
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)								

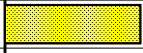

Master		1.617
	<div> <div></div> <div>–4.000 (Minimum)</div> <div>0 (Nominal)</div> <div>4.000 (Maximum)</div> </div>	
Phase	Phase–Shift T5 at 400KHz	Value
Master		1.627
	<div> <div></div> <div>–4.000 (Minimum)</div> <div>0 (Nominal)</div> <div>4.000 (Maximum)</div> </div>	




Master: 11–Sep–2007 7:12								
EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration								
Resistivity: Air								
Phase	Attenuation T1	Value	Phase	Attenuation T2	Value	Phase	Attenuation T3	Value
Master		9.530	Master		4.872	Master		6.131
	<div> <div></div> <div>7.000 (Minimum)</div> <div>9.000 (Nominal)</div> <div>11.00 (Maximum)</div> </div>			<div> <div></div> <div>4.000 (Minimum)</div> <div>6.000 (Nominal)</div> <div>8.000 (Maximum)</div> </div>			<div> <div></div> <div>3.500 (Minimum)</div> <div>5.500 (Nominal)</div> <div>7.500 (Maximum)</div> </div>	
Phase	Attenuation T4	Value	Phase	Attenuation T5	Value	Phase	Attenuation T1 at 400KHz	Value
Master		3.275	Master		4.691	Master		8.462
	<div> <div></div> <div>2.500 (Minimum)</div> <div>4.500 (Nominal)</div> <div>6.500 (Maximum)</div> </div>			<div> <div></div> <div>2.000 (Minimum)</div> <div>4.000 (Nominal)</div> <div>6.000 (Maximum)</div> </div>			<div> <div></div> <div>7.000 (Minimum)</div> <div>9.000 (Nominal)</div> <div>11.00 (Maximum)</div> </div>	
Phase	Attenuation T2 at 400KHz	Value	Phase	Attenuation T3 at 400KHz	Value	Phase	Attenuation T4 at 400KHz	Value
Master		5.973	Master		5.056	Master		4.372
	<div> <div></div> <div>4.000 (Minimum)</div> <div>6.000 (Nominal)</div> <div>8.000 (Maximum)</div> </div>			<div> <div></div> <div>3.500 (Minimum)</div> <div>5.500 (Nominal)</div> <div>7.500 (Maximum)</div> </div>			<div> <div></div> <div>2.500 (Minimum)</div> <div>4.500 (Nominal)</div> <div>6.500 (Maximum)</div> </div>	
Phase	Attenuation T5 at 400KHz	Value						
Master		3.611						
	<div> <div></div> <div>2.000 (Minimum)</div> <div>4.000 (Nominal)</div> <div>6.000 (Maximum)</div> </div>							




EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch / Equipment Identification	
<b>Primary Equipment:</b> Tool Name and Serial Number Calibration Status Neutron Logging Source Density Logging Source Stabilizer Size	EcoScope* 817 (Collar 821) Valid PNG–C 2073–41121 GSR–Z A2474 9.38 – in.




Master: 15–Sep–2007 17:26								
EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration								
SSn LSn : Water Tank								
Phase	SSn Gain ----	Value	Phase	SSn Offset ----	Value			
Master		1.112	Master		0			
	<div> <div></div> <div>0.6000 (Minimum)</div> <div>1.000 (Nominal)</div> <div>1.400 (Maximum)</div> </div>			<div> <div></div> <div>–3.000 (Minimum)</div> <div>0 (Nominal)</div> <div>3.000 (Maximum)</div> </div>				
Phase	LSn Gain ----	Value	Phase	LSn Offset ----	Value			
Master		1.108	Master		0			
	<div> <div></div> <div>0.6000 (Minimum)</div> <div>1.000 (Nominal)</div> <div>1.400 (Maximum)</div> </div>			<div> <div></div> <div>–3.000 (Minimum)</div> <div>0 (Nominal)</div> <div>3.000 (Maximum)</div> </div>				

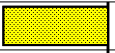
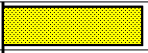
Master: 15–Sep–2007 17:26								
EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration								
Neutron: Water Tank								
Phase	Far 2 Gain ----	Value	Phase	Far 2 Offset ----	Value			
Master		1.001	Master		0.9219			
	<div> <div></div> <div>0.7000 (Minimum)</div> <div>1.000 (Nominal)</div> <div>1.300 (Maximum)</div> </div>			<div> <div></div> <div>–3.000 (Minimum)</div> <div>0 (Nominal)</div> <div>3.000 (Maximum)</div> </div>				
Phase	Far 1 Gain ----	Value	Phase	Far 1 Offset ----	Value			
Master		1.014	Master		1.825			
	<div> <div></div> <div>0.7000 (Minimum)</div> <div>1.000 (Nominal)</div> <div>1.300 (Maximum)</div> </div>			<div> <div></div> <div>–3.000 (Minimum)</div> <div>0 (Nominal)</div> <div>3.000 (Maximum)</div> </div>				
Phase	Thermal Near gain ----	Value	Phase	Thermal Near offset ----	Value			
Master		1.139	Master		4.922			
	<div> <div></div> <div>0.7000 (Minimum)</div> <div>1.000 (Nominal)</div> <div>1.300 (Maximum)</div> </div>			<div> <div></div> <div>–500.0 (Minimum)</div> <div>0 (Nominal)</div> <div>500.0 (Maximum)</div> </div>				











Phase	Epithermal Near gain	Value	Phase	Epithermal Near offset	Value
Master		1.172	Master		77.68
	0.7000 (Minimum)	1.000 (Nominal)		-300.0 (Minimum)	0 (Nominal)
		1.300 (Maximum)			300.0 (Maximum)







Master: 15-Sep-2007 17:26														
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration														
Gamma Density: Magnesium Block														
Phase	LS window 3 – Mg CPS			Value	Phase	SS window 1 – Mg CPS			Value	Phase	SS window 3 – Mg CPS			Value
Master				1893	Master				4625	Master				10810
	1000 (Minimum)	2000 (Nominal)	3000 (Maximum)			2500 (Minimum)	5250 (Nominal)	8000 (Maximum)			6000 (Minimum)	12000 (Nominal)	18000 (Maximum)	

Master: 15-Sep-2007 17:26														
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration														
Gamma Density: Aluminum Block														
Phase	LS window 3 – Al CPS			Value	Phase	SS window 1 – Al CPS			Value	Phase	SS window 3 – Al CPS			Value
Master				347.9	Master				2407	Master				7966
	200.0 (Minimum)	400.0 (Nominal)	600.0 (Maximum)			1500 (Minimum)	3000 (Nominal)	4500 (Maximum)			4000 (Minimum)	8500 (Nominal)	13000 (Maximum)	

Master: 15-Sep-2007 17:26											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Gamma Density: Background											
Phase	LS window 3 – Background CPS		Value	Phase	SS window 1 – Background CPS		Value	Phase	SS window 3 – Background CPS		Value
Master			60.03	Master			84.39	Master			402.2
	50.00 (Minimum)	70.00 (Nominal)	90.00 (Maximum)		50.00 (Minimum)	75.00 (Nominal)	100.0 (Maximum)		270.0 (Minimum)	370.0 (Nominal)	470.0 (Maximum)

Master: 15-Sep-2007 17:26									
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration									
Gamma Density: Water Block Check									
Phase	Long spacing water density G/C3			Value	Phase	Short spacing water density G/C3			Value
Master				1.039	Master				1.298
	0.9000 (Minimum)	1.150 (Nominal)	1.400 (Maximum)			0.9000 (Minimum)	1.150 (Nominal)	1.400 (Maximum)	

Master: 11-Sep-2007 16:03															
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration															
Resistivity: Air															
Phase	Phase-Shift T1			Value	Phase	Phase-Shift T2			Value	Phase	Phase-Shift T3			Value	
Master				3.732	Master				-3.842	Master				3.691	
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)
Phase	Phase-Shift T4			Value	Phase	Phase-Shift T5			Value	Phase	Phase-Shift T1 at 400KHz			Value	
Master				-3.820	Master				3.728	Master				-1.612	
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)
Phase	Phase-Shift T2 at 400KHz			Value	Phase	Phase-Shift T3 at 400KHz			Value	Phase	Phase-Shift T4 at 400KHz			Value	
Master				1.590	Master				-1.595	Master				1.601	
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)		-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)
Phase	Phase-Shift T5 at 400KHz			Value											
Master				-1.596											
	-4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)												

Master: 11-Sep-2007 16:03											
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration											
Resistivity: Air											
Phase	Attenuation T1		Value	Phase	Attenuation T2		Value	Phase	Attenuation T3		Value
Master			8.532	Master			5.882	Master			5.136
	7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)		4.000 (Minimum)	6.000 (Nominal)	8.000 (Maximum)		3.500 (Minimum)	5.500 (Nominal)	7.500 (Maximum)
Phase	Attenuation T4		Value	Phase	Attenuation T5		Value	Phase	Attenuation T1 at 400KHz		Value
											
	7.000 (Minimum)	9.000 (Nominal)			4.000 (Minimum)	6.000 (Nominal)			3.500 (Minimum)	5.500 (Nominal)	

Master	<div><div></div></div>	4.281	Master	<div><div></div></div>	3.695	Master	<div><div></div></div>	8.528			
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)	2.000 (Minimum)	4.000 (Nominal)	6.000 (Maximum)	7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)			
Phase	Attenuation T2 at 400KHz		Value	Phase	Attenuation T3 at 400KHz		Value	Phase	Attenuation T4 at 400KHz		Value
Master	<div><div></div></div>	5.907	Master	<div><div></div></div>	5.127	Master	<div><div></div></div>	4.300			
4.000 (Minimum)	6.000 (Nominal)	8.000 (Maximum)	3.500 (Minimum)	5.500 (Nominal)	7.500 (Maximum)	2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)			
Phase	Attenuation T5 at 400KHz		Value								
Master	<div><div></div></div>	3.681									
2.000 (Minimum)	4.000 (Nominal)	6.000 (Maximum)									

# SCHLUMBERGER

Survey report

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Client..... ESSO Australia  
Field..... Fortescue

Well..... FTA A30A  
API number.....  
Engineer..... MYT/ML/CS

RIG:..... ISDL 175  
STATE:..... Victoria

Spud date..... 30-Sep-07  
Last survey date..... 26-Oct-07  
Total accepted surveys... 114  
MD of first survey..... 1955.00 m  
MD of last survey..... 5097.00 m

----- Survey calculation methods-----  
Method for positions..... Minimum curvature  
Method for DLS..... Mason & Taylor

----- Depth reference -----  
Permanent datum..... Mean Sea Level  
Depth reference..... Driller's Depth  
GL above permanent..... -69.00 m  
KB above permanent..... Top Drive  
DF above permanent..... 42.50 m

----- Vertical section origin-----  
Latitude (+N/S-)..... -3.03 m  
Departure (+E/W-)..... 2.26 m

----- Platform reference point-----  
Latitude (+N/S-).....  
Departure (+E/W-).....

Azimuth from Vsect Origin to target: 167.02 degrees

----- Geomagnetic data -----  
Magnetic model..... BGGM version 2007  
Magnetic date..... 07-Oct-2007  
Magnetic field strength... 1199.38 HCNT  
Magnetic dec (+E/W-)..... 13.21 degrees  
Magnetic dip..... -68.86 degrees

----- MWD survey Reference Criteria -----  
Reference G..... 1000.04 mGal  
Reference H..... 1199.38 HCNT  
Reference Dip..... -68.86 degrees  
Tolerance of G..... (+/-) 2.50 mGal  
Tolerance of H..... (+/-) 6.00 HCNT  
Tolerance of Dip..... (+/-) 0.45 degrees

----- Corrections -----  
Magnetic dec (+E/W-)..... 13.21 degrees  
Grid convergence (+E/W-).. -0.79 degrees  
Total az corr (+E/W-)..... 14.00 degrees  
(Total az corr = magnetic dec - grid conv)  
Survey Correction Type ...:  
I=Sag Corrected Inclination  
M=Schlumberger Magnetic Correction  
S=Shell Magnetic Correction  
F=Failed Axis Correction  
R=Magnetic Resonance Tool Correction  
D=Dmag Magnetic Correction

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/100f)	Srvy tool type	Tool Corr (deg)
1	1955.00	55.75	162.23	0.00	1455.85	1092.63	-1055.69	299.95	1097.47	164.14	0.00	TIP	None
2	2250.77	69.65	165.71	28.02	1566.29	1365.26	-1320.98	362.84	1369.90	164.64	1.06	PUP	None
3	1995.21	57.22	163.80	28.18	1478.30	1125.90	-1087.58	309.74	1130.82	164.10	2.34	PUP	None
4	2023.24	64.72	166.80	28.03	1491.90	1150.37	-1111.27	315.93	1155.30	164.13	8.64	PUP	None
5	2051.45	71.49	169.04	28.21	1502.41	1176.53	-1136.85	321.39	1181.40	164.21	7.65	PUP	None
6	2079.96	71.14	169.37	28.51	1511.55	1203.52	-1163.38	326.45	1208.31	164.33	0.50	PUP	None
7	2108.05	71.14	168.88	28.09	1520.63	1230.08	-1189.48	331.46	1234.80	164.43	0.50	PUP	None
8	2136.64	71.84	167.68	28.59	1529.70	1257.18	-1216.03	336.97	1261.85	164.51	1.42	PUP	None
9	2165.43	72.05	166.40	28.79	1538.63	1284.55	-1242.70	343.11	1289.20	164.57	1.31	PUP	None
10	2193.72	71.76	165.69	28.29	1547.41	1311.44	-1268.80	349.60	1316.08	164.60	0.79	PUP	None
11	2222.75	70.62	165.82	29.03	1556.77	1338.91	-1295.43	356.36	1343.55	164.62	1.20	PUP	None
12	2250.77	69.65	165.71	28.02	1566.29	1365.26	-1320.98	362.84	1369.90	164.64	1.06	PUP	None
13	2279.13	68.83	165.75	28.36	1576.35	1391.77	-1346.68	369.37	1396.41	164.66	0.88	PUP	None
14	2307.45	68.81	166.28	28.32	1586.58	1418.17	-1372.30	375.76	1422.81	164.69	0.53	PUP	None
15	2336.15	69.07	166.58	28.70	1596.89	1444.96	-1398.34	382.04	1449.58	164.72	0.41	PUP	None
16	2363.54	70.29	167.44	27.39	1606.40	1470.64	-1423.36	387.81	1475.25	164.76	1.63	PUP	None
17	2392.16	71.60	168.26	28.62	1615.75	1497.69	-1449.81	393.50	1502.26	164.81	1.62	PUP	None
18	2422.17	72.98	169.08	30.01	1624.88	1526.26	-1477.84	399.12	1530.78	164.89	1.61	PUP	None
19	2450.13	73.24	169.08	27.96	1633.00	1553.00	-1504.11	404.19	1557.47	164.96	0.28	PUP	None
20	2477.76	73.66	168.98	27.63	1640.87	1579.47	-1530.11	409.23	1583.89	165.03	0.48	PUP	None
21	2506.35	73.52	169.22	28.59	1648.95	1606.88	-1557.04	414.41	1611.25	165.10	0.29	PUP	None
22	2535.11	73.48	169.23	28.76	1657.11	1634.43	-1584.13	419.57	1638.75	165.17	0.04	PUP	None
23	2563.32	73.38	169.36	28.21	1665.16	1661.45	-1610.70	424.59	1665.72	165.23	0.17	PUP	None
24	2591.23	73.09	169.77	27.91	1673.21	1688.15	-1636.98	429.43	1692.37	165.30	0.53	PUP	None
25	2619.31	72.74	169.82	28.08	1681.46	1714.96	-1663.39	434.19	1719.13	165.37	0.38	PUP	None
26	2646.86	72.67	170.03	27.55	1689.65	1741.23	-1689.29	438.79	1745.35	165.44	0.23	PUP	None
27	2675.66	72.54	170.06	28.80	1698.26	1768.67	-1716.36	443.54	1772.75	165.51	0.14	PUP	None



28	2705.19	72.91	169.05	29.53	1707.03	1796.84	-1744.09	448.65	1800.87	165.57	1.07	PUP	None
29	2733.18	73.05	168.39	27.99	1715.22	1823.59	-1770.34	453.89	1827.60	165.62	0.70	PUP	None
30	2762.14	73.03	167.70	28.96	1723.67	1851.29	-1797.44	459.63	1855.27	165.66	0.69	PUP	None

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Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
31	2790.66	72.58	166.77	28.52	1732.10	1878.53	-1824.01	465.65	1882.51	165.68	1.06	PUP	None
32	2819.04	72.14	166.23	28.38	1740.70	1905.58	-1850.31	471.96	1909.55	165.69	0.73	PUP	None
33	2847.52	71.38	165.87	28.48	1749.62	1932.62	-1876.56	478.48	1936.60	165.70	0.89	PUP	None
34	2876.23	70.52	165.19	28.71	1758.99	1959.79	-1902.84	485.26	1963.74	165.69	1.14	PUP	None
35	2904.84	70.51	165.27	28.61	1768.53	1986.71	-1928.92	492.14	1990.71	165.69	0.08	PUP	None
36	2933.11	70.44	165.55	28.27	1777.98	2013.34	-1954.70	498.85	2017.35	165.68	0.29	PUP	None
37	2961.11	70.40	165.16	28.00	1787.36	2039.71	-1980.22	505.52	2043.73	165.68	0.40	PUP	None
38	2990.07	70.34	165.59	28.96	1797.09	2066.98	-2006.62	512.41	2071.01	165.68	0.43	PUP	None
39	3019.13	70.41	166.88	29.06	1806.85	2094.35	-2033.20	518.92	2098.38	165.68	1.28	PUP	None
40	3047.70	70.22	167.71	28.57	1816.48	2121.25	-2059.44	524.83	2125.27	165.70	0.86	PUP	None
41	3075.91	70.20	168.07	28.21	1826.03	2147.79	-2085.40	530.40	2151.79	165.73	0.37	PUP	None
42	3101.77	70.63	168.59	25.86	1834.69	2172.14	-2109.26	535.33	2176.13	165.76	0.77	PUP	None
43	3129.68	71.74	168.99	27.91	1843.70	2198.55	-2135.17	540.47	2202.51	165.80	1.28	PUP	None
44	3158.09	72.47	169.15	28.41	1852.43	2225.57	-2161.72	545.59	2229.50	165.84	0.80	PUP	None
45	3185.00	72.31	169.08	26.91	1860.57	2251.20	-2186.90	550.44	2255.11	165.87	0.20	PUP	None
46	3214.29	72.21	169.14	29.29	1869.49	2279.08	-2214.30	555.71	2282.97	165.91	0.12	PUP	None
47	3243.73	72.15	169.05	29.44	1878.50	2307.09	-2241.82	561.01	2310.95	165.95	0.11	PUP	None
48	3271.59	71.93	168.94	27.86	1887.09	2333.57	-2267.84	566.07	2337.42	165.98	0.27	PUP	None
49	3299.14	72.18	169.06	27.55	1895.58	2359.77	-2293.56	571.07	2363.59	166.02	0.30	PUP	None
50	3325.55	72.20	169.41	26.41	1903.66	2384.89	-2318.27	575.77	2388.69	166.05	0.39	PUP	None
51	3356.80	72.07	169.33	31.25	1913.24	2414.61	-2347.50	581.25	2418.39	166.09	0.15	PUP	None
52	3387.14	71.86	169.69	30.34	1922.64	2443.43	-2375.86	586.50	2447.19	166.13	0.40	PUP	None
53	3414.68	71.65	170.11	27.54	1931.26	2469.56	-2401.62	591.09	2473.29	166.17	0.50	PUP	None
54	3442.97	71.57	169.99	28.29	1940.18	2496.36	-2428.06	595.73	2500.07	166.21	0.15	PUP	None
55	3470.84	71.56	170.28	27.87	1949.00	2522.76	-2454.11	600.26	2526.45	166.26	0.30	PUP	None
56	3498.51	72.70	170.48	27.67	1957.49	2549.05	-2480.07	604.66	2552.72	166.30	1.27	PUP	None
57	3527.37	73.43	169.99	28.86	1965.90	2576.62	-2507.28	609.34	2580.26	166.34	0.92	PUP	None
58	3555.31	73.83	169.16	27.94	1973.77	2603.40	-2533.64	614.19	2607.02	166.37	0.97	PUP	None
59	3581.96	73.58	168.35	26.65	1981.25	2628.97	-2558.73	619.18	2632.58	166.40	0.93	PUP	None
60	3610.60	73.39	167.91	28.64	1989.39	2656.42	-2585.60	624.83	2660.03	166.41	0.49	PUP	None

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Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
61	3641.92	73.26	167.11	31.32	1998.38	2686.42	-2614.89	631.32	2690.03	166.43	0.76	PUP	None
62	3667.99	73.14	166.98	26.07	2005.91	2711.38	-2639.22	636.91	2714.98	166.43	0.20	PUP	None
63	3698.90	73.03	167.34	30.91	2014.90	2740.95	-2668.05	643.49	2744.55	166.44	0.36	PUP	None
64	3725.38	72.89	167.44	26.48	2022.66	2766.27	-2692.76	649.01	2769.87	166.45	0.20	PUP	None
65	3754.21	73.00	167.96	28.83	2031.12	2793.83	-2719.69	654.88	2797.42	166.46	0.54	PUP	None
66	3780.98	72.75	168.14	26.77	2039.00	2819.41	-2744.72	660.18	2822.99	166.48	0.35	PUP	None
67	3812.46	72.59	167.98	31.48	2048.38	2849.45	-2774.12	666.40	2853.03	166.49	0.21	PUP	None
68	3841.49	72.07	167.51	29.03	2057.12	2877.13	-2801.17	672.27	2880.71	166.50	0.52	PUP	None
69	3870.65	72.36	166.75	29.16	2066.03	2904.90	-2828.24	678.46	2908.48	166.51	0.82	PUP	None
70	3898.80	71.64	166.28	28.15	2074.80	2931.65	-2854.25	684.70	2935.23	166.51	0.66	PUP	None
71	3927.38	71.44	166.18	28.58	2083.84	2958.76	-2880.58	691.15	2962.33	166.51	0.24	PUP	None
72	3955.78	71.27	166.09	28.40	2092.92	2985.66	-2906.70	697.60	2989.24	166.50	0.20	PUP	None
73	3985.06	71.32	166.66	29.28	2102.31	3013.39	-2933.66	704.13	3016.98	166.50	0.56	PUP	None
74	4013.30	71.39	166.57	28.24	2111.34	3040.15	-2959.69	710.32	3043.73	166.50	0.12	PUP	None
75	4041.55	70.81	166.80	28.25	2120.49	3066.88	-2985.70	716.48	3070.46	166.51	0.67	PUP	None
76	4070.92	69.83	166.40	29.37	2130.38	3094.53	-3012.60	722.89	3098.11	166.51	1.09	PUP	None
77	4099.00	69.81	166.95	28.08	2140.07	3120.89	-3038.24	728.96	3124.47	166.51	0.56	PUP	None
78	4127.50	69.68	167.19	28.50	2149.94	3147.62	-3064.30	734.95	3151.21	166.51	0.28	PUP	None
79	4155.41	69.44	167.27	27.91	2159.68	3173.78	-3089.81	740.73	3177.36	166.52	0.27	PUP	None
80	4181.20	69.14	167.67	25.79	2168.81	3197.90	-3113.36	745.96	3201.48	166.53	0.57	PUP	None
81	4209.46	69.02	167.88	28.26	2178.90	3224.29	-3139.16	751.55	3227.87	166.54	0.25	PUP	None
82	4236.82	69.10	168.10	27.36	2188.67	3249.84	-3164.15	756.87	3253.41	166.55	0.25	PUP	None
83	4264.92	69.52	168.57	28.10	2198.60	3276.12	-3189.90	762.18	3279.69	166.56	0.66	PUP	None
84	4293.42	70.73	168.86	28.50	2208.29	3302.91	-3216.18	767.43	3306.47	166.58	1.33	PUP	None
85	4325.97	72.40	170.04	32.55	2218.58	3333.76	-3246.54	773.08	3337.31	166.61	1.88	PUP	None
86	4352.00	73.35	170.95	26.03	2226.25	3358.59	-3271.07	777.19	3362.13	166.63	1.51	PUP	None
87	4380.55	72.91	171.60	28.55	2234.53	3385.84	-3298.07	781.33	3389.36	166.67	0.81	PUP	None
88	4410.01	72.80	171.51	29.46	2243.22	3413.90	-3325.92	785.46	3417.41	166.71	0.15	PUP	None
89	4438.08	72.64	170.90	28.07	2251.56	3440.63	-3352.41	789.56	3444.13	166.75	0.65	PUP	None
90	4465.56	72.51	170.54	27.48	2259.79	3466.80	-3378.28	793.79	3470.29	166.78	0.41	PUP	None

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Seq # -	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/ 100f)	Srvy tool type	Tool Corr (deg)
91	4495.81	72.13	170.07	30.25	2268.98	3495.57	-3406.69	798.64	3499.05	166.81	0.59	PUP	None

92	4523.80	71.77	169.83	27.99	2277.65	3522.15	-3432.90	803.29	3525.63	166.83	0.46	PUP	None
93	4552.62	71.83	169.27	28.82	2286.65	3549.50	-3459.82	808.25	3552.97	166.85	0.57	PUP	None
94	4581.24	71.87	168.75	28.62	2295.57	3576.68	-3486.52	813.44	3580.15	166.87	0.53	PUP	None
95	4586.10	71.89	168.59	4.86	2297.08	3581.30	-3491.05	814.35	3584.77	166.87	0.96	PUP	None
96	4614.12	71.42	168.12	28.02	2305.90	3607.88	-3517.09	819.71	3611.35	166.88	0.70	PUP	None
97	4642.99	70.92	168.05	28.87	2315.22	3635.20	-3543.83	825.36	3638.67	166.89	0.53	PUP	None
98	4669.70	70.18	167.62	26.71	2324.11	3660.39	-3568.45	830.66	3663.86	166.90	0.96	PUP	None
99	4699.74	69.28	167.57	30.04	2334.52	3688.56	-3595.97	836.72	3692.03	166.90	0.91	PUP	None
100	4728.16	69.87	167.86	28.42	2344.44	3715.20	-3621.99	842.38	3718.66	166.91	0.70	PUP	None
101	4756.28	70.40	168.49	28.12	2353.99	3741.64	-3647.88	847.80	3745.10	166.92	0.86	PUP	None
102	4783.28	70.00	169.54	27.00	2363.14	3767.02	-3672.82	852.64	3770.49	166.93	1.20	PUP	None
103	4812.44	69.81	168.96	29.16	2373.16	3794.39	-3699.72	857.75	3797.85	166.95	0.60	PUP	None
104	4841.30	69.64	168.30	28.86	2383.16	3821.45	-3726.26	863.09	3824.91	166.96	0.68	PUP	None
105	4870.22	69.39	167.62	28.92	2393.28	3848.54	-3752.76	868.74	3852.00	166.97	0.72	PUP	None
106	4898.55	69.55	167.00	28.33	2403.21	3875.07	-3778.64	874.57	3878.53	166.97	0.65	PUP	None
107	4926.41	69.43	166.64	27.86	2412.97	3901.16	-3804.05	880.52	3904.62	166.97	0.39	PUP	None
108	4949.28	69.44	166.15	22.87	2421.01	3922.57	-3824.86	885.55	3926.03	166.96	0.61	PUP	None
109	4977.56	69.03	163.97	28.28	2431.03	3949.00	-3850.41	892.37	3952.46	166.95	2.24	PUP	None
110	5006.00	68.79	160.71	28.44	2441.27	3975.44	-3875.69	900.42	3978.91	166.92	3.27	PUP	None
111	5034.09	68.99	160.80	28.09	2451.39	4001.49	-3900.43	909.05	4004.96	166.88	0.24	PUP	None
112	5062.20	69.16	160.84	28.11	2461.43	4027.59	-3925.22	917.68	4031.07	166.84	0.19	PUP	None
113	5073.92	69.18	161.05	11.72	2465.59	4038.48	-3935.58	921.26	4041.97	166.83	0.51	PUP	None
114	5097.00	69.22	161.40	23.08	2473.79	4059.95	-3956.01	928.20	4063.44	166.80	0.44	Projection to TD	
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Company:

ESSO Australia Pty Ltd

Schlumberger

Well:

FTA A30A

Field:

Fortescue

Rig:

ISDL 175

9.875 in. Section

State:

Victoria

EcoScope\* Service

1:500 Measured Depth

Recorded Mode Log