

Company: **ESSO Australia Pty Ltd**

**9.875 in. Section**

Well: **CBA A15B**  
 Field: **Halibut**  
 Rig: **ISDL 175**

State: **Victoria**

**VISION Density Neutron  
 1:500 True Vertical Depth  
 Recorded Mode Log**

Location		Total depth:	3120.0 m	K.B. Top Drive
Spud date:		11-Aug-2009	G.L. -79.00 m	
Runs:		2 & 4	D.F. 41.00 m	
Permanent datum:		Mean Sea Level	Elev.: 0.00 m	
Log measured from:		Drill Floor	41.00 m above Perm. datum	
Depth reference:		Driller's Depth		
Service Order no. 09ASQ0018	X = E 614,226,703 m	Longitude	Latitude	
	Y = N 5,743,507,484 m	E 148° 18' 32.509"	S 38° 26' 57.913"	

Rig: ISDL 175  
 Field: Halibut  
 Location: Bass Strait  
 Well: CBA A15B  
 Company: ESSO Australia Pty Ltd

Depth logged:	655.7 m	To	3109.6 m	Mag decl:	13.217 deg.	Other services:	
Date logged:	15-Aug-09	To	22-Aug-09	Mag dip:	-68.858 deg.	See Remarks	
Bore hole record				Casing record			
Hole size	from	to	Size	Density	from	to	
9.875 in.	655.7 m	3120.0 m	10.75 in.	40.50 lbm/ft	21.27 m	655.7 m	
Mud record							
Type	from	to	Min	Max	from	to	
Accolade SBM	655.7 m	3120.0 m	33.90 deg.	50.27 deg.	655.7 m	3120.0 m	

Surface equipment				Software record			
Unit	OLU-KC-0801	IDEAL Wis	ID14_OC_16				
Depth system	PD/AVCLT	HSPM	14_1C_03				
		LWD	v8.4 (radhVISION*)		v6.8 (sonicVISION*)		v9.4 (arcVISION*)
		MWD	V9.3C02				

## Bit Run Summary

<b>Run number</b>		2	4							
Bit size	in	9.875	9.875							
Bit start depth	m	758.0	1215.0							
Bit end depth	m	1215.0	3120.0							
Top interval logged	m	655.7	1204.6							
Bottom interval logged	m	1204.6	3109.6							
Begin log: time		15:33	23:24							
Begin log: date		15-Aug-09	19-Aug-09							
End log: time		09:22	05:41							
End log: date		16-Aug-09	22-Aug-09							
<b>Mud data</b>										
Depth	m	967.0	2980.0							
Type		Accolade SBM	Accolade SBM							
Mud weight	ppg	11.10	11.60							
Solids	%	15.3	21.6							
Chlorides	mg/L	40,719	40,940							
Rm	ohm.m@°C	n.a	n.a							
Rmf	ohm.m@°C	n.a	n.a							
Rmc	ohm.m@°C	n.a	n.a							

Potassium	%	n.a	n.a										
<b>Environmental data</b>													
<b>GR</b>													
Mud weight	ppg	11.10	11.60										
Bit size	in	9.875	9.875										
<b>Resistivity</b>													
<b>Neutron porosity</b>													
Hole Size	in	9.875	9.875										
Mud weight	ppg	11.10	11.60										
Temperature	°C	66.0	97.0										
Mud salinity	ppk	55.577	52.830										
Formation salinity		n.a	n.a										
Recording rate 1	SEC	6 (arc)	6 (arc)										
Recording rate 2	SEC	5 (adn) 10 (sonic)	5 (adn) 10 (sonic)										
Filtering GR		3 pts.	3 pts.										
Filtering density		3 pts.	3 pts.										
Filtering Neutron		3 pts.	3 pts.										
Company representative		R. C. Moore	G. Doty	D. Daniels									
D&M personnel		M. Amarasena	B. Low	W. Chehabi	C. Soper	D. Bui Khanh							

**DISCLAIMER**

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.

OTHER SERVICES FOR RUN2 Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	OTHER SERVICES FOR RUN4 Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	
REMARKS: RUN NUMBER 2 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  ADN was run with a 9-9/16" clamp on stabilizer  Delta-T is borehole compensated  Washed down from casing shoe @ 655.7m to bottom, which was drilled with previous KO BHA (Motor+TeleScope). POOH due to twist off.	REMARKS: RUN NUMBER 4 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  ADN was run with a 9-15/16" clamp on stabilizer  Delta-T is borehole compensated  POOH upon reaching TD of CBA A15B	

**EQUIPMENT DESCRIPTION**

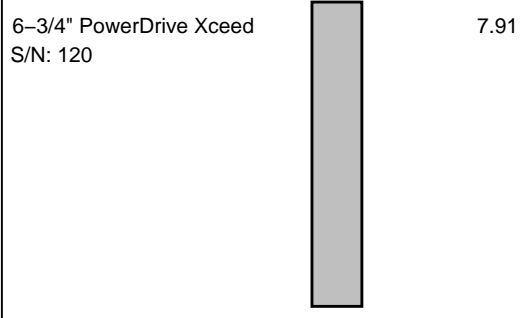
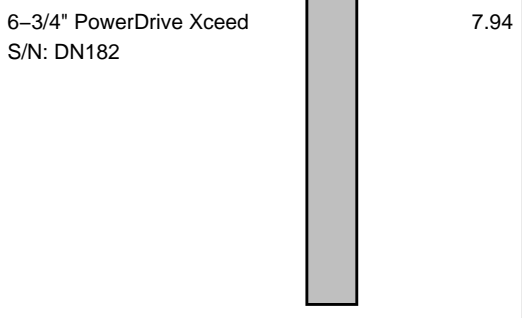
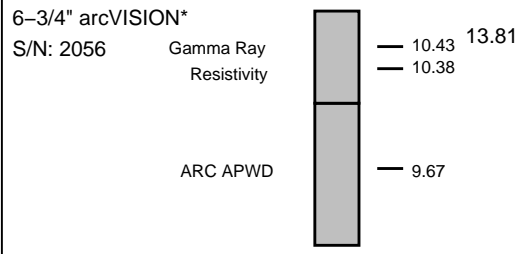
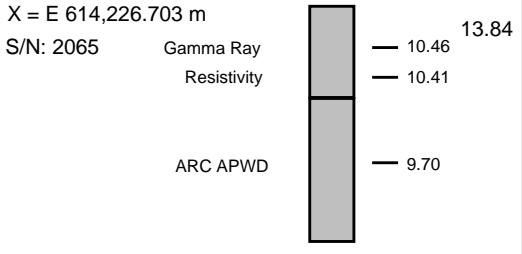
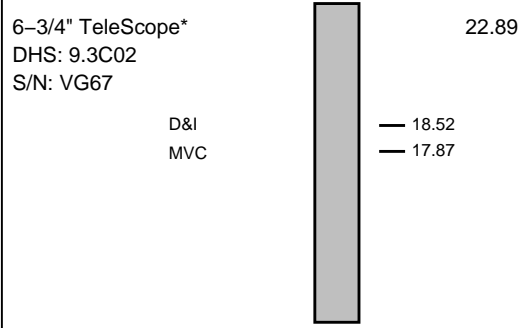
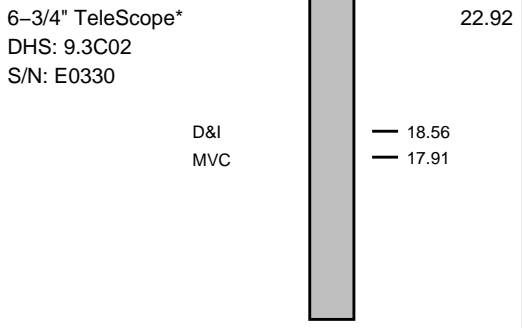
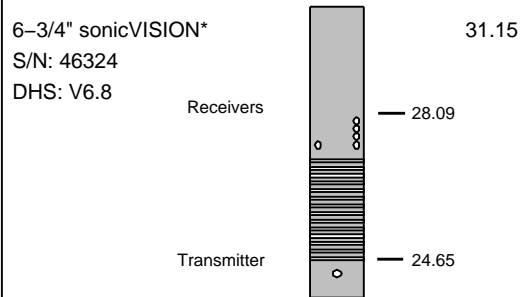
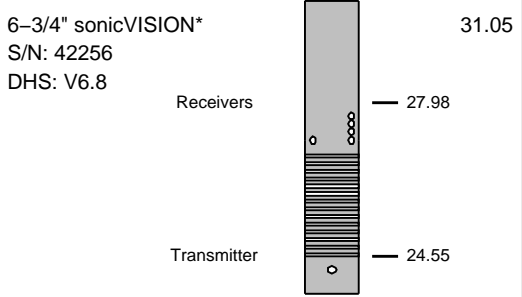
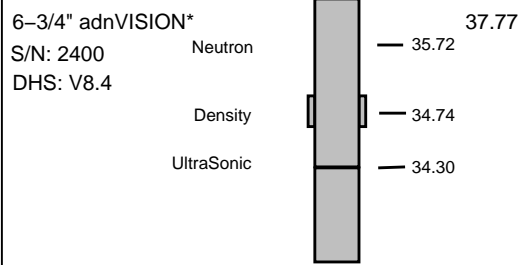
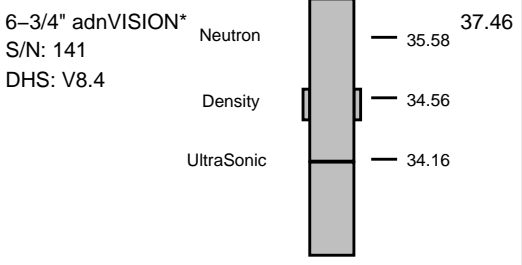
RUN2

RUN4

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DOWNHOLE EQUIPMENT

DOWNHOLE EQUIPMENT



Maximum string diameter 9.88 in.  
All lengths in Meters

Maximum string diameter 9.88 in.  
All lengths in Meters

Variable Name	Variable Description	Run Name & Value			
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Run Number 2 4

General Information

BHT_RM	Bottom Hole Temperature (RM)	DEGC	66.000	97.000	
BSAL_RM	Mud Salinity (RM)	PPK	55.577	52.830	
BS_RM	Bit Size (RM)	IN	9.875	9.875	
COEF_M	User Defined FEXP in Clean Sand	----	1.650	1.650	
C_WS	Overpressure correction to Sw and M	----	1.000	1.000	
FEXP	Formation Factor Exponent(RM)	----	2.000	2.000	
FNUM	Formation Factor Enumerator(RM)	----	1.000	1.000	
FPHI_RM	Formation Factor Porosity Source (RM)	----	XPLOT	XPLOT	
MST_RM	Mud Sample temperature (RM)	DEGC	23.889	23.889	
MW_RM	Mud Weight (RM)	LB/G	11.100	11.600	
OBMF_RM	Oil Based Mud (RM)	----	YES	YES	
RHOF_RM	Mud Filtrate Density (RM)	G/C3	1.000	1.000	
RHOM_RM	Matrix density (RM)	G/C3	2.710	2.710	
RMS_RM	Resistivity of Mud Sample (RM)	OHMM	1000.000	1000.000	
RWA_COMP_M	Rwa computation model				
RWA_DEN_AD	Rwa Density Input ADN				
RWA_DEN_CD	Rwa Density Input CDN				
RWA_DEN_IN	Rwa Density Input				
RWA_FORM_M	Rwa computation formation model				
RWA_RES_IN	Rwa computation resistivity input				
RWS_RM	Resistivity of Connate Water (RM)	OHMM	1.000	1.000	
SHT_RM	Ground Level Temperature (Mud-Line When Offshore ) (RM)	DEGC	10.000	10.000	10.000
TD_RM	Total Measured Depth (RM)	M	1215.000	3120.000	
TWS_RM	Temperature of Connate Water (RM)	DEGC	23.889	23.889	
VF_ILLI	Fraction of illite in shales	----	0.500	0.500	
VF_KAOL	Fraction of kaolinite in shales	----	0.500	0.500	
VF_MONT	Fraction of montmorillonite in shales	----	0.000	0.000	
XPDM_RM	Cross plot density porosity multiplier	----	0.675	0.675	
XPNM_RM	Cross plot neutron porosity multiplier	----	0.325	0.325	

ADN

ADN_CHASSIS_STR	Type String	Chassis	ADN	ADN	
ADN_COLLAR_STR	Type String	Collar	ADN	ADN	
ADN_DATA_FIX	ADN: Create A Corrected ADN Time Data File	----	NO	NO	NO
ADN_DATA_LTB	ADN: Create An ADN LTB Data File	----	NO	NO	NO
ADN_ORIENTATION	ADN Image Orientation	----	TOH	TOH	
ADN_STAB_STR	ADN Stabilizer Type String	----	TOH	TOH	
ALPHA_COMPUTE_D	Perform Density Enhanced Vertical Resolution process ?	----	YES	YES	YES
ALPHA_COMPUTE_N	Perform Neutron Enhanced Vertical Resolution process ?	----	YES	YES	YES
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	----	YES	YES	
A_DHS	ADN Down Hole Software Version String	----	v8.4	v8.4	
CHI_RM	Caliper High limit from BS (RM)	IN	3.000	3.000	
CLO_RM	Caliper Low limit from BS (RM)	IN	0.000	0.000	
DEVI	Well Section Deviation	DEG	39.150	39.380	
DTIK_SEL	ADN: Density Tick Channel Name	----	LSAZ	LSAZ	
DTMUD	Delta-T for Mud	US/F	212.000	234.292	
DYN_IMG_COMPUTE	Generate Dynamic Normalized Image?	----	YES	YES	YES
ECC_CORR_ADN	Perform Eccentering Correction for TNPH?	----	YES	YES	YES
ENVCOR	Neutron Processing: Environmental Correction?	----	YES	YES	
EVRL	EVR Process averaging number of samples (RM)	----	49	49	
FCD	Future Casing (Outer) Diameter	IN	7.000	7.000	
GCSE	Generalized Caliper Selection	----	BS	BS	
HPS	ADSE-EB (High Pressure Inconel Chassis)?	----	NO	NO	
IBS	Intergal Blade Stabilizer Collar?	----	NO	NO	
IDQT	Image Derived Quality Threshold	----	2.000	2.000	
IHVS	Integrated Hole Volume Start Value(RM)	F3	0.000	0.000	
IMAGE_MAX_SOA	Image SOA (Quadrant) Right Scale	IN	2.500	2.500	
IMAGE_MAX_SPEF	Image PEF(Segment) Right Scale	----	6.000	6.000	
IMAGE_MAX_SRHOB	Image RHOB(Segment) Right Scale	----	G/C3	2.650	2.650
IMAGE_MIN_SOA	Image SOA (Quadrant) Left Scale	IN	0.000	0.000	
IMAGE_MIN_SPEF	Image PEF(Segment) Left Scale	----	2.000	2.000	
IMAGE_MIN_SRHOB	Image RHOB(Segment) Left Scale	----	G/C3	2.050	2.050
JSD_ADN	Acquisition start date	----	15-Aug-09		
LITHO_TYPE_ADN	Lithology (RM)	----	LIME	LIME	
N1FTU_6_RM	ADN: Neutron Bank 1 Far Tubes used :	----	1-2-3	1-2-3	
N2FTU_6_RM	ADN: Neutron Bank 2 Far Tubes used :	----	1-2-3	1-2-3	
NNTU_RM	ADN Neutron Near Banks Used	----	1-2	1-2	
NTIK_SEL	ADN: Neutron Tick Channel Name	----	FR11	FR11	
RSD	LWD run start date dd-mmm-yy	----	15-Aug-09	19-Aug-09	
RWA_COMP_MOD	Rwa computation model	----	BASIC	BASIC	
RWA_DEN_ADN	Rwa Density Input	----	RHOB	RHOB	
RWA_DEN_CDN	Rwa Density Input	----	RHOB	RHOB	
RWA_DEN_INPUT	Rwa Density Input	----	RHOB	RHOB	
RWA_FORM_MOD	Rwa computation formation model	----	CLASTIC	CLASTIC	
RWA_RES_INPUT	Rwa computation resistivity input	----	RT	RT	
SOCNL	Standoff Distance of the CNL Tool	----	1.000	1.000	
SSIZ_ADN	ADN Stabilizer Size	IN	9.567	9.291	
STOH	ADN Density Top of Hole Sector (Left Boundary):	----	SECTOR_0	SECTOR_0	
TRPM_RM	Average Tool Rotational Speed	RPM	20.000	20.000	
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)	IN	0.180	0.180	
USWF_RM	ADN:Process Ultrasonic Waveform?	----	YES	YES	
VERS_ADN	ADN Downhole Software Version	----	8.400	8.400	
WSDI	Window Size of Dynamic Normalization Image	M	15.240	15.240	

ARC

A12A	ARC Air Cal Attenuation From T1 at 2 MHz	DB	8.333	9.542	
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	DB	8.316	9.516	

A22A	ARC Air Cal Attenuation From T2 at 2 MHz	DB	6.607	5.423
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	DB	6.631	5.456
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	DB	4.959	6.159
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	DB	4.934	6.125
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	DB	4.515	3.326
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	DB	4.532	3.352
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	DB	3.511	4.709
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	DB	3.496	4.677
ABNT	Abnormal Transmitter Indicator	----	No_Tx_Failed	No_Tx_Failed
ADHS	ARC Down Hole Software Version	----	v9.4	v9.4
AM2A	ARC Air Cal Amplitude Offset at 2 MHz	----	-50000.000	-50000.000
ANISO_COMPUTE	Anisotropy Computation Option	----	YES	YES
APICG	ARC5 Gamma Ray Gain Factor	----	1.065	1.098
APIG	ARC Gamma Ray API Gain Factor	----	-1.000	-1.000
ARC_DATA_FIX	ARC: Create A Corrected ARC Time Data File	----	NO	NO
ARC_DATA_LTB	ARC: Create An ARC LTB Data File	----	NO	NO
ATMP_ARC	ARC Select Temperature Channel	----	Annulus_Temp	Annulus_Temp
ATRN	ARC Tool Run Number	#4	Run	4
ATSN	ARC Tool Serial Number	----	2065	2056
AZMF	Formation DIP Azimuth	DEG	0.000	0.000
BH_COMPUTE	Borehole Inversion Computation Option	----	YES	YES
CALG	ARC Gamma Ray Cal Gain Factor	----	1.065	1.098
CALI_SLCT_ARC	ARC Caliper Selection	----	BITSIZE	BITSIZE
CDPTH_ARC	Process Start Depth	M	655.70	1204.0m
DIELEC_COMPUTE	Dielectric Computation Option	----	YES	YES
DIPF	Formation DIP Angle	DEG	0.000	0.000
ERRCT	Percentage Error Cutoff	----	4.500	4.500
GRSH	GR Shale (Invasion Computation Cutoff)	GAPI	1000.000	1000.000
HIGH_BLEND	High Resistivity Threshold for Blending	OHMM	2.000	2.000
INCLIN_B0	ARC Bias Constant (mg)	----	0.000	0.000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	----	0.000	0.000
INCLIN_B2	ARC Bias Second-order Coefficient (mg/degC)	----	0.000	0.000
INCLIN_B3	ARC Bias Third-order Coefficient (mg/degC)	----	0.000	0.000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	----	1.000	1.000
INCLIN_C1	ARC Scale First-order Coefficient (mA/g/degC)	----	0.000	0.000
INCLIN_C2	ARC Scale Second-order Coefficient (mA/g/degC)	----	0.000	0.000
INCLIN_C3	ARC Scale Third-order Coefficient (mA/g/degC)	----	0.000	0.000
INVAS_COMPUTE	Invasion Computation Option	----	YES	YES
JSD_ARC	ARC Acquisition start date	----	15-Aug-09	19-Aug-09
KPER	Potassium Concentration (RM)	----	0.000	0.000
LOW_BLEND	Low Resistivity Threshold for Blending	OHMM	1.000	1.000
MSWS	ARC Wizard Model Switch Window	M	1.524	1.524
MULTIEFFECT_COM	Multi Effect Option	----	YES	YES
P11AC_RM	ARC: Air Calibration For Phase T1 to R1	DEG	-999.250	-999.250
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	DEG	1.807	0.973
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	DEG	-0.430	-0.201
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	DEG	-1.674	-0.869
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	DEG	0.312	0.106
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	DEG	1.709	0.875
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	DEG	-0.386	-0.175
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	DEG	-1.713	-0.925
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	DEG	0.315	0.091
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	DEG	1.687	0.870
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	DEG	-0.392	-0.231
POFFSET_ARC	ARC: Pressure Offset	PSI	0.000	0.000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	----	P34B	P34B
PSOF_ADJ_T1	ARC: User Input Phase offset	DEG	0.000	0.000
RESTIK	ARC resistivity tick source	----	Phase	Phase
SHIG	ARC High Shock Risk Level	CPS	0.500	0.500
SMED	ARC Medium Shock Risk Level	CPS	0.330	0.330
SMIN	ARC Minimum Shock Risk Level	CPS	0.160	0.160
SUPD	ARC Real Time Shock Update Rate	S	30.000	30.000
TCODE_ARC	ARC Tool File Code	S	30.000	30.000
TSIZ_ARC	ARC Tool Size	IN	6.750	6.750
UNIFORM_COMPUTE	Uniform Rock Option	----	YES	YES
VERS_ARC	ARC Down hole software version Number	----	9.400	9.400
WRK	to Report Potassium Concentration (RM)	----	K_by_Wgt_%	K_by_Wgt_%
JSD_ADN	ADN Acquisition start date	----	15-Aug-09	19-Aug-09

Schlumberger Drilling & Measurements

ID13 Parameter Insert Header Software version 3.0c

## IDEAL Version: ID14\_0C\_16

IDF

**Format: VISION Density Neutron Log      Vertical Scale: 1:500      Graphics File Created: 26-Aug-2009 09:22**

**Rate of Penetration, Averaged over Last 5ft (ROP5\_RM)**

**200 (M/HR) 0**

**ARC Gamma Ray (GR\_ARC)**  
**0 (GAPI) 200**

**Vertical Hole Diameter (VERD)**  
**6 (IN) 16**

**Thermal Neutron Porosity (TNPH)**  
**0.45 (VV) -0.15**

Horizontal Hole Diameter (HORD)  
6 (IN) 16

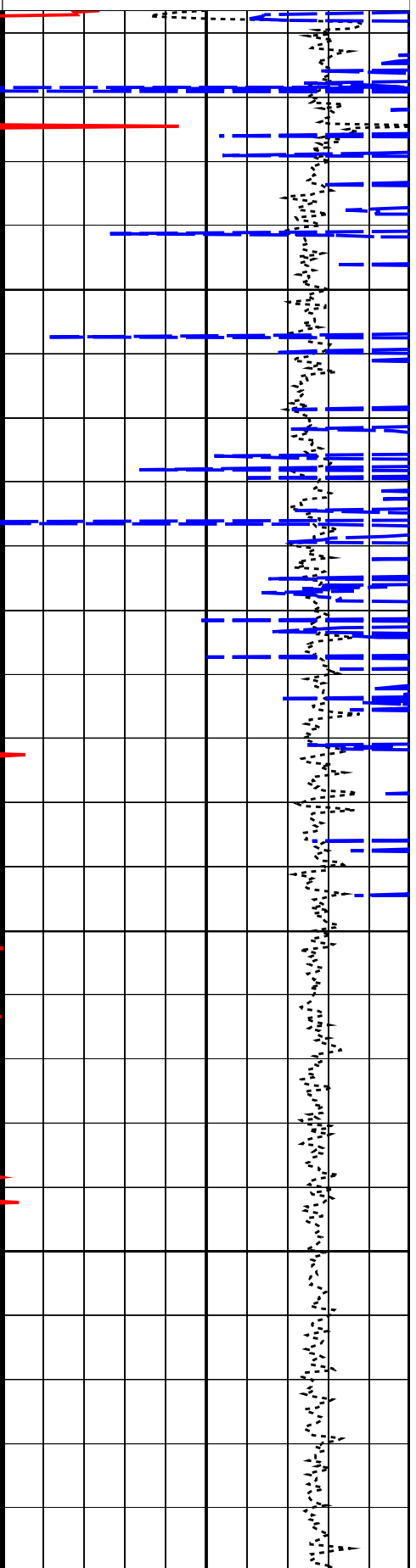
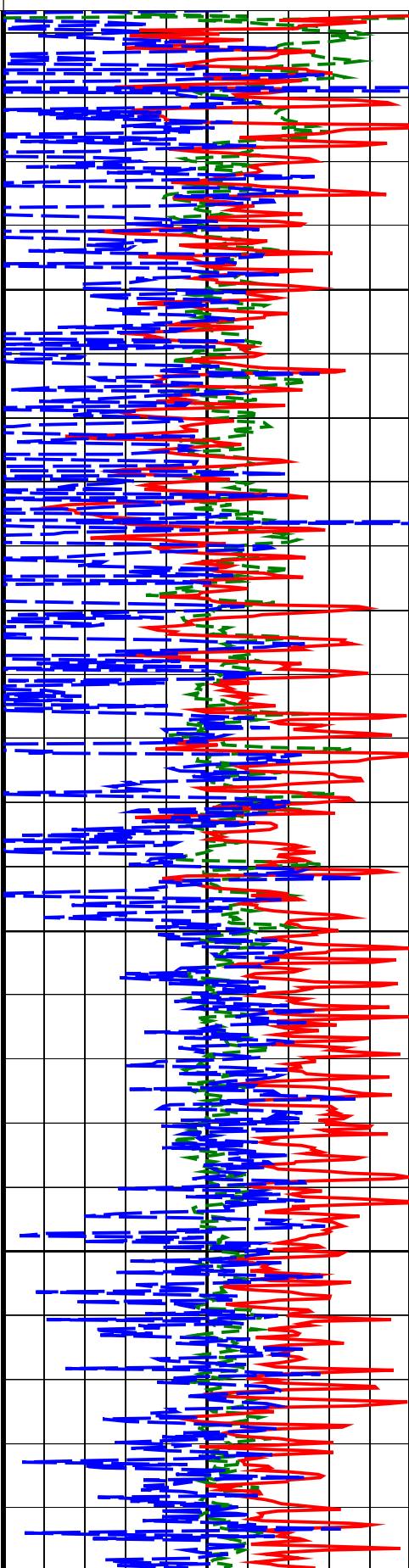
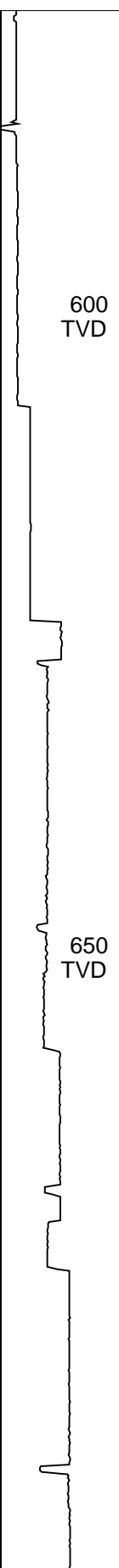
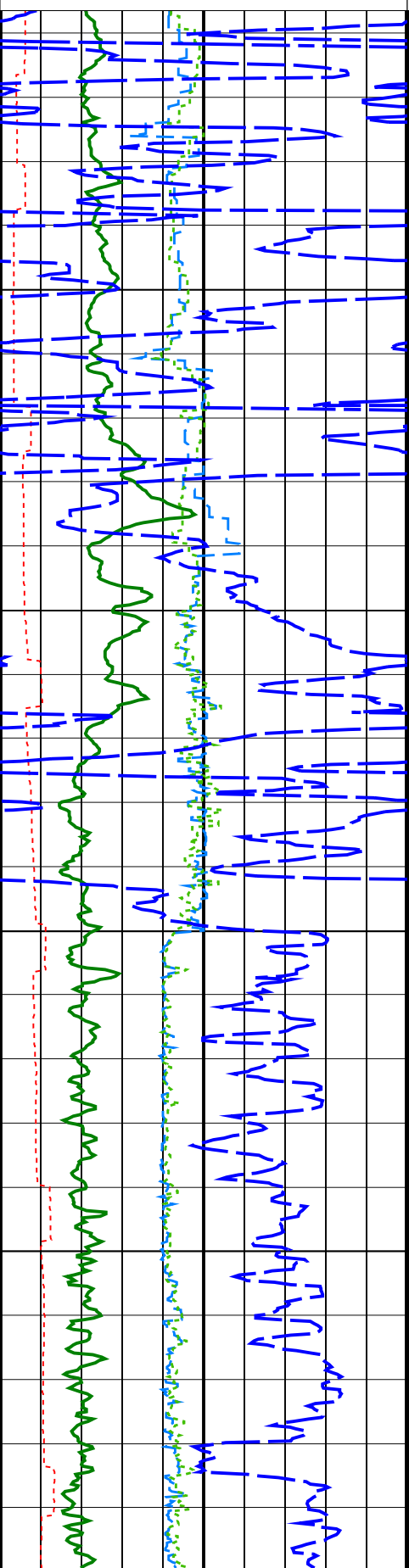
Bulk Density, Bottom (ROBB)  
1.85 (G/C3) 2.85

Density Time After Bit (TAB\_DEN)  
0 (HR) 10

ADN  
Rotational  
Speed  
(RPM\_ADN)  
(RPM)  
0 250

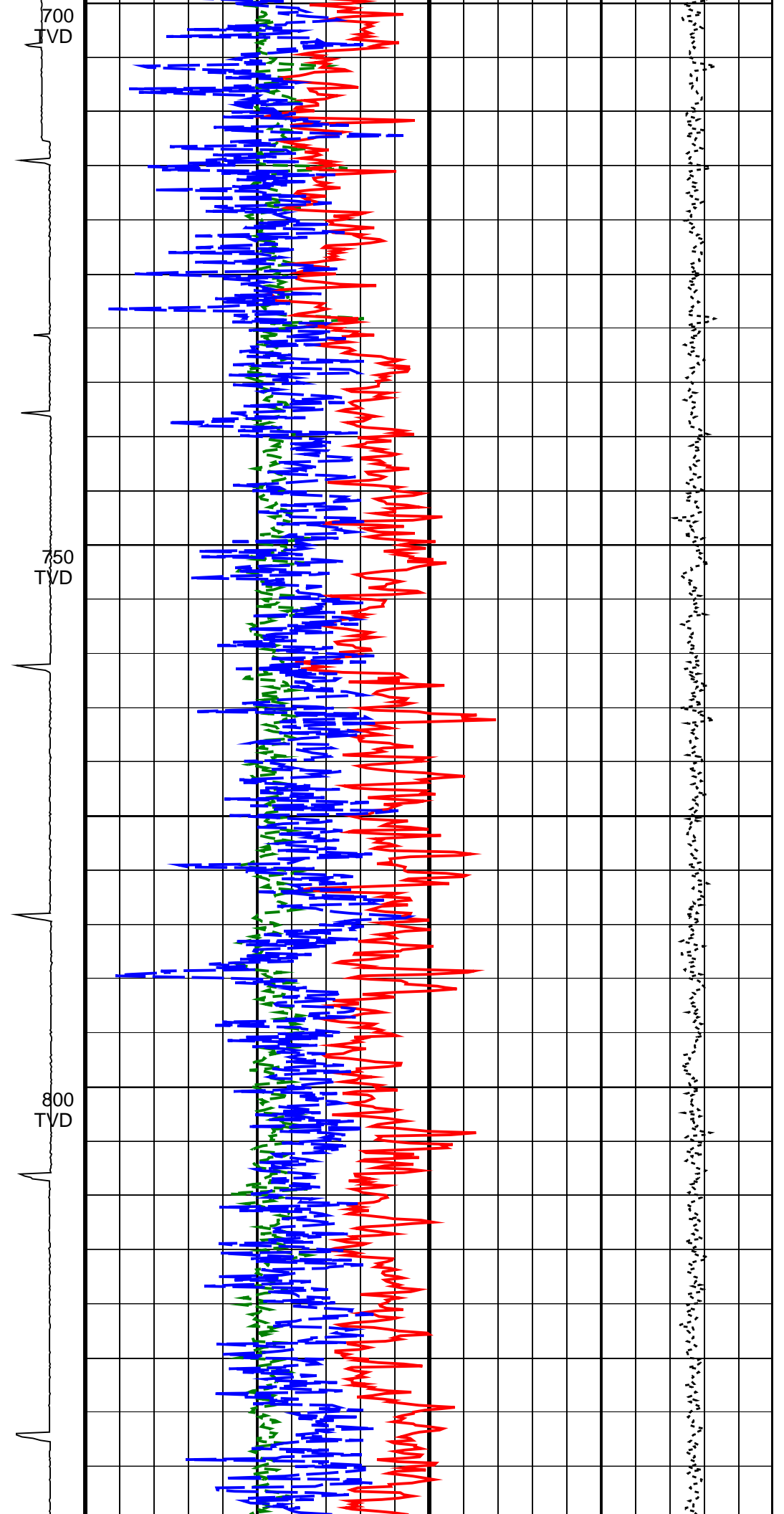
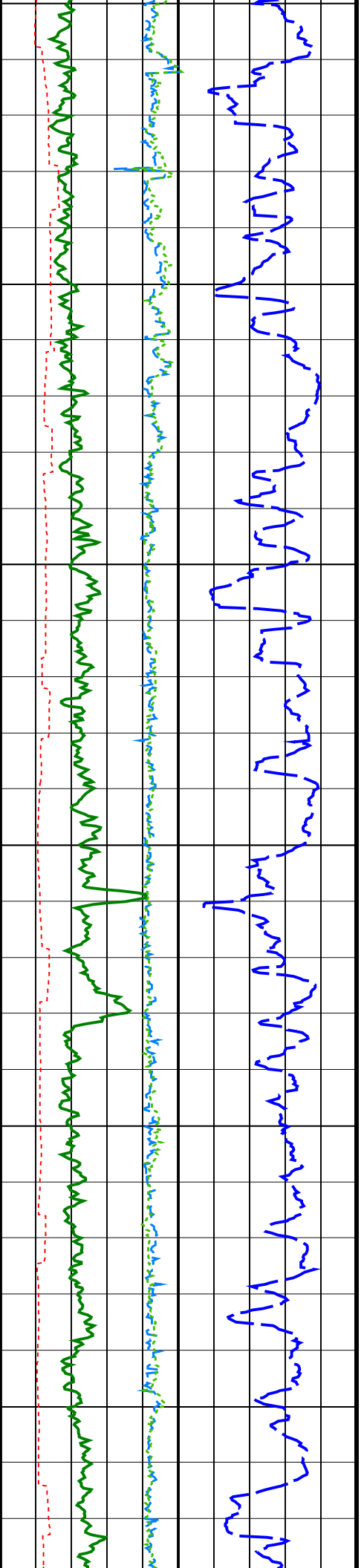
Photoelectric Factor, Bottom (PEB)  
0 (----) 10

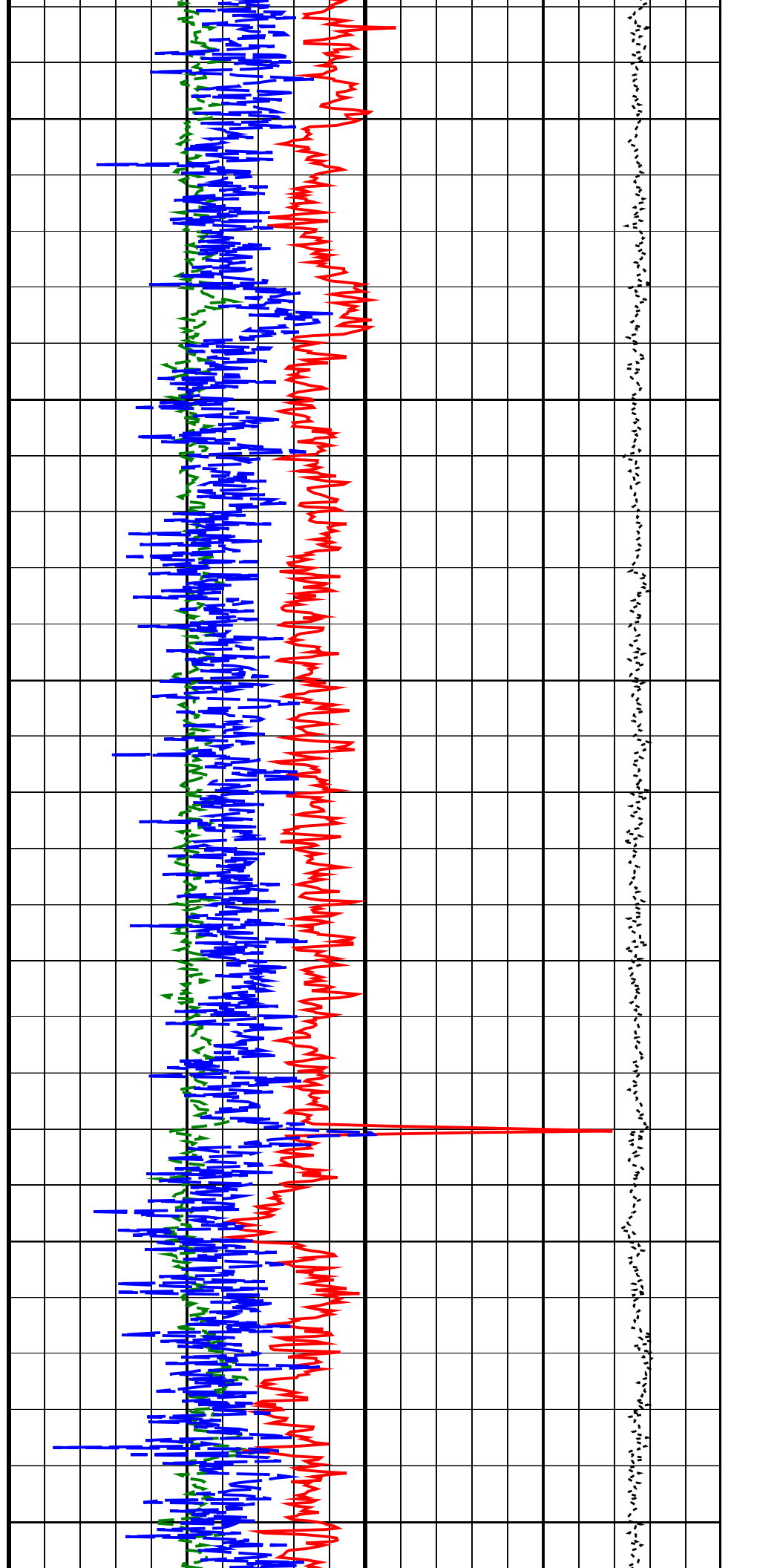
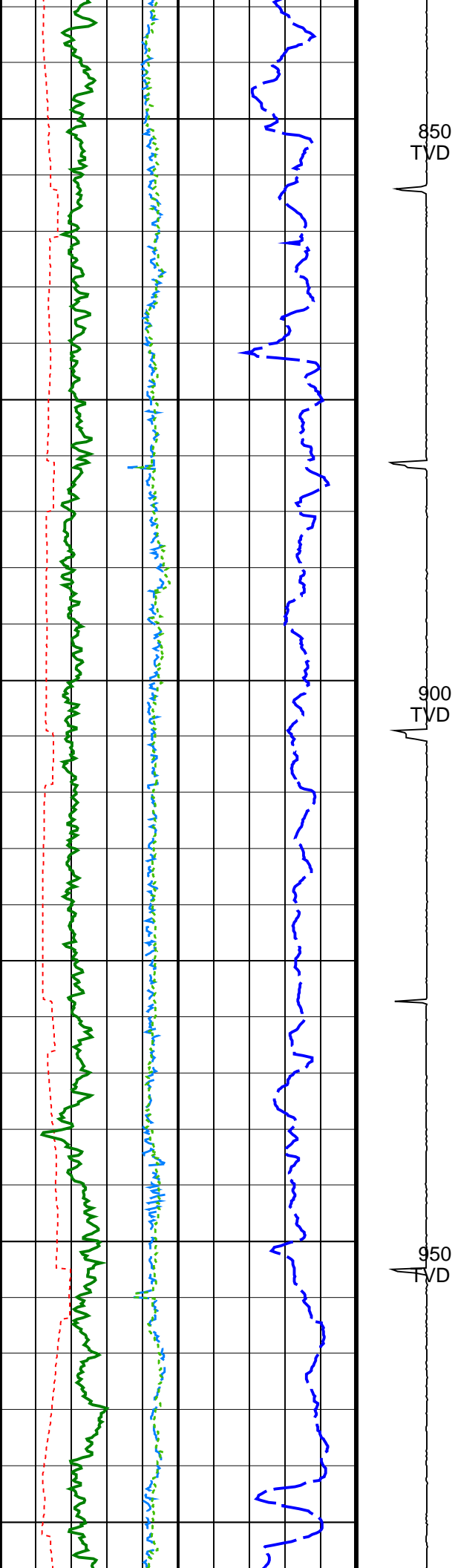
Bulk Density Correction, Bottom  
(DRHB)  
(G/C3)  
-0.75 0.25



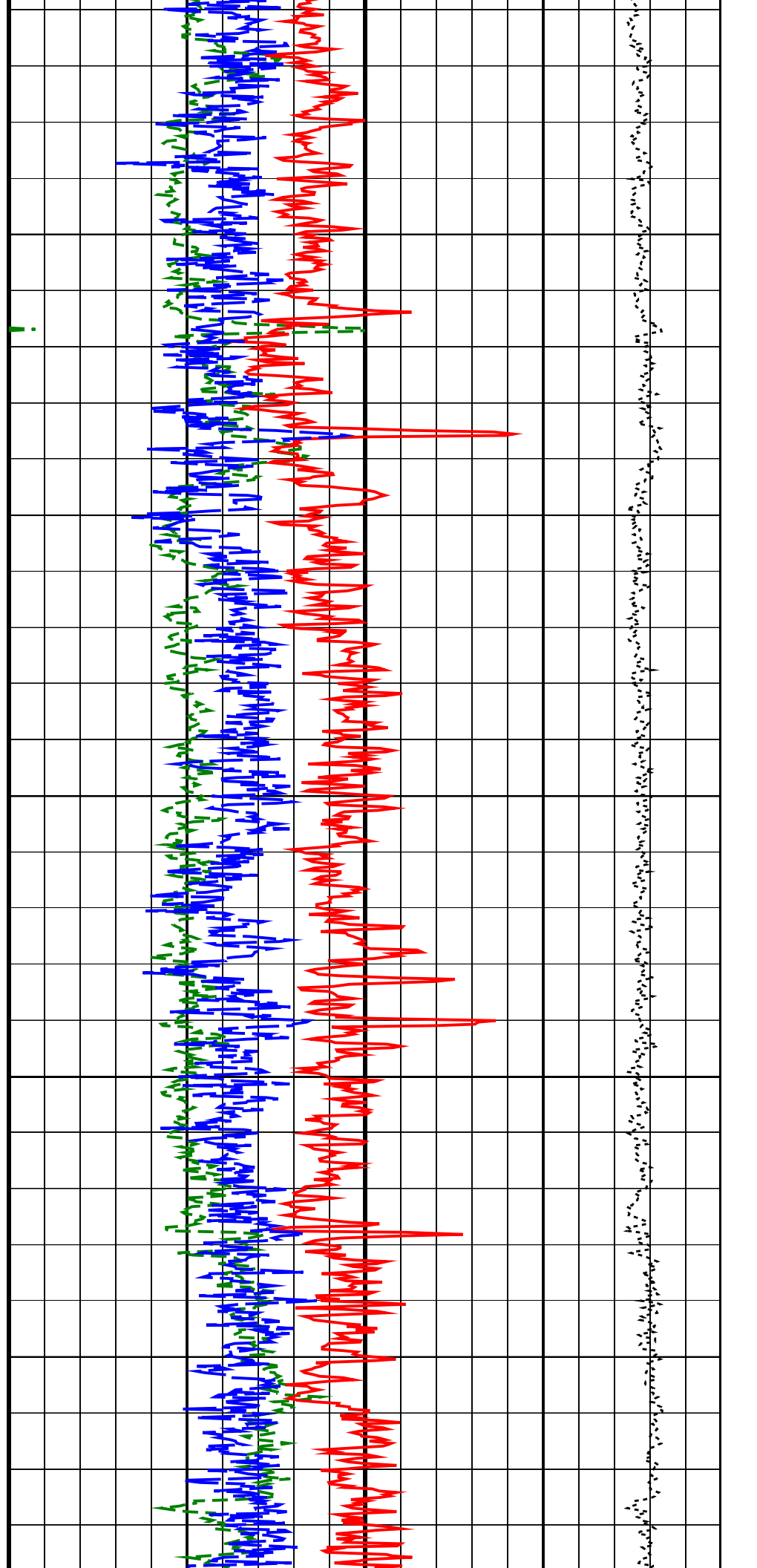
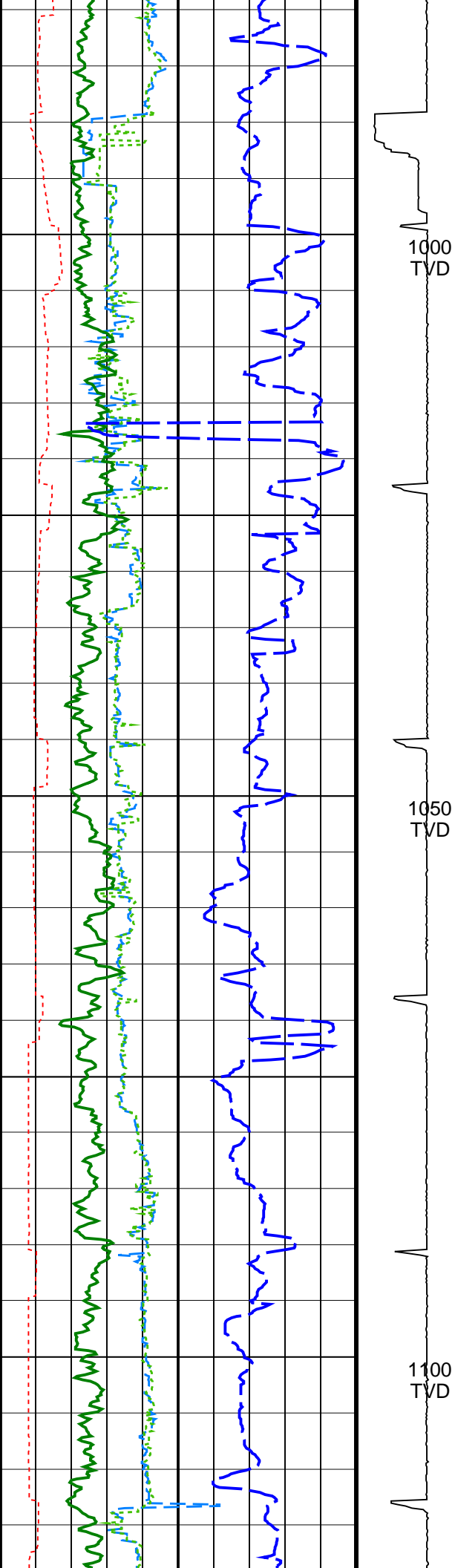
600  
TVD

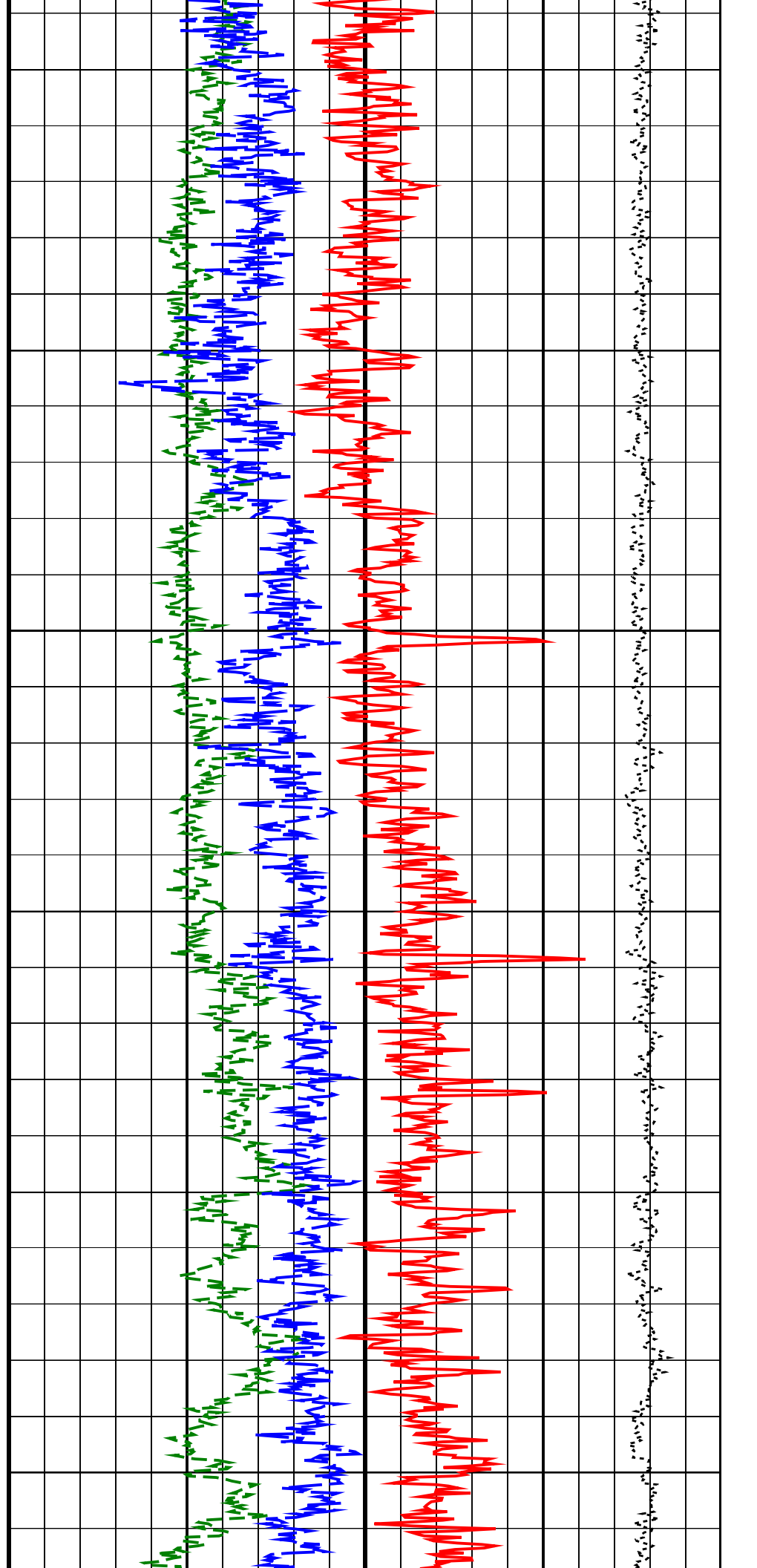
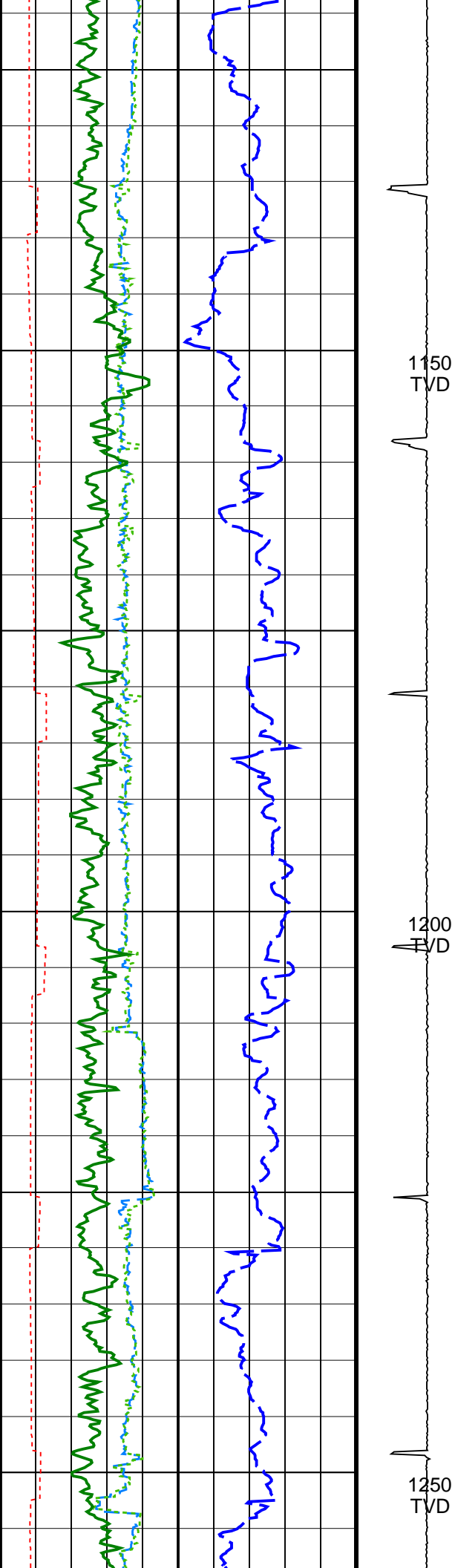
650  
TVD

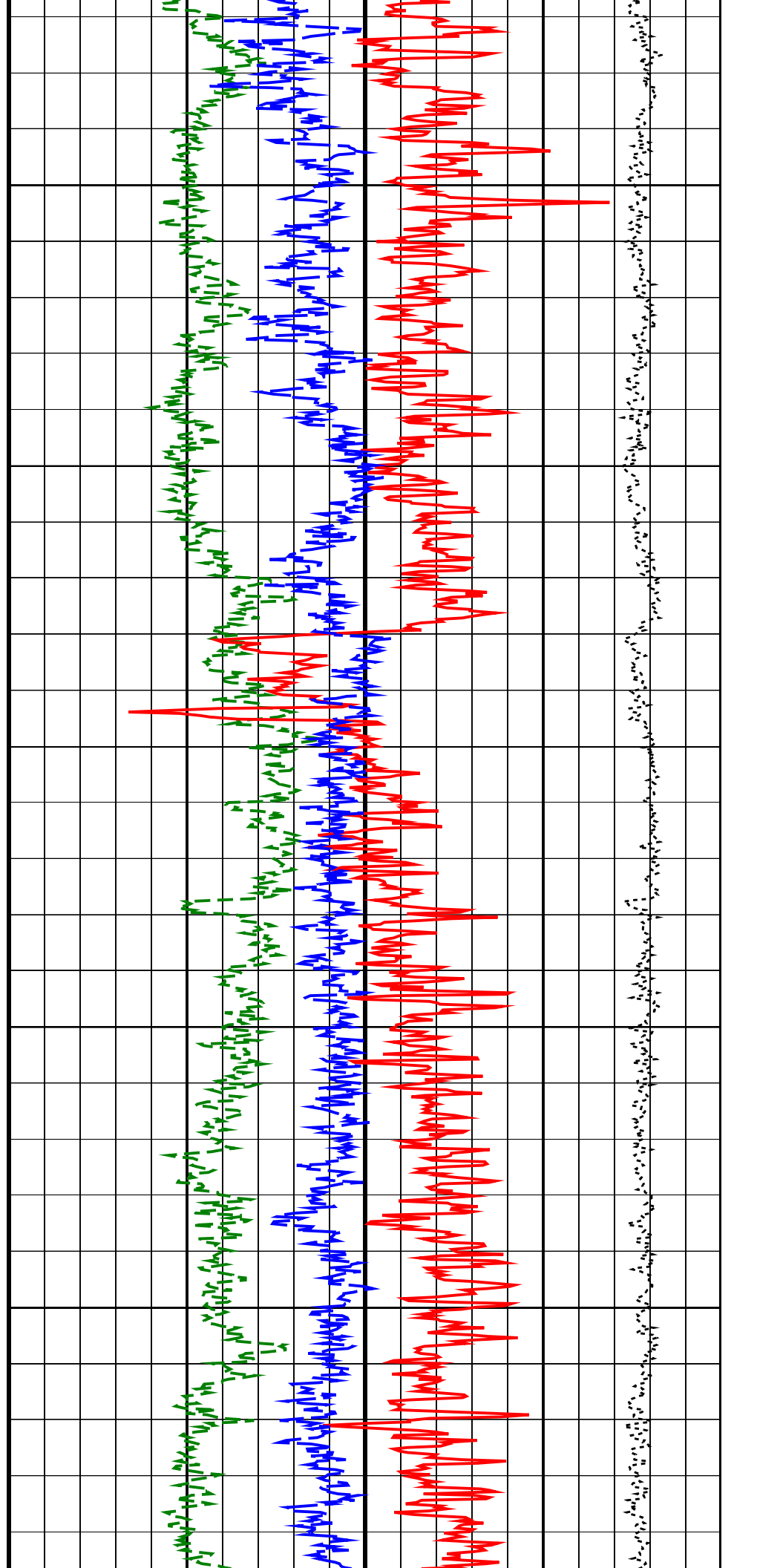
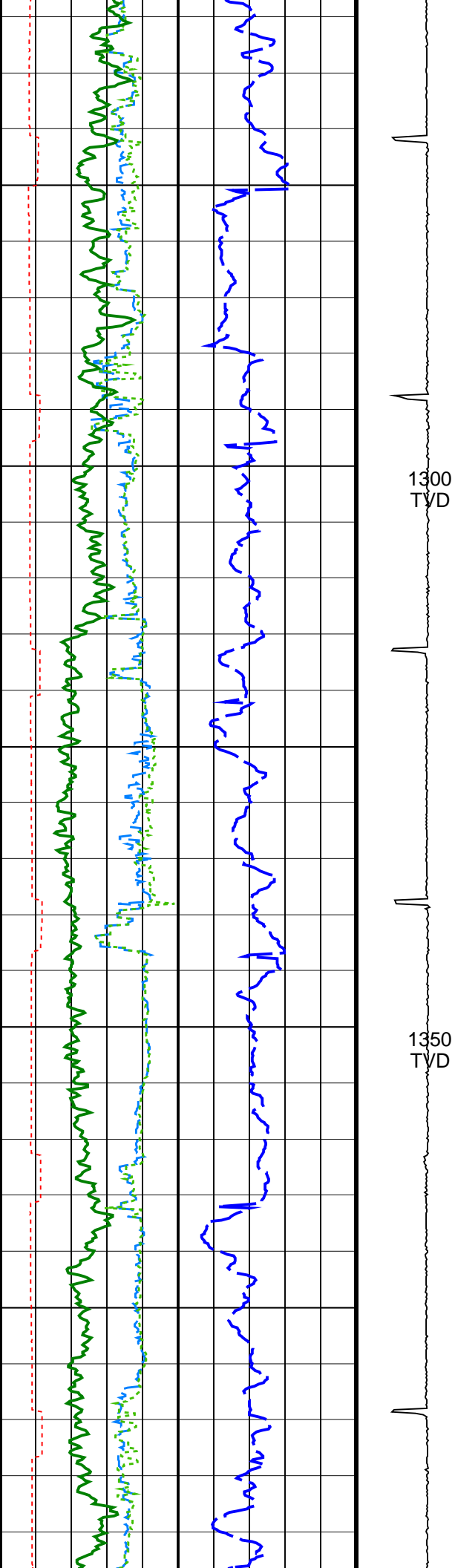


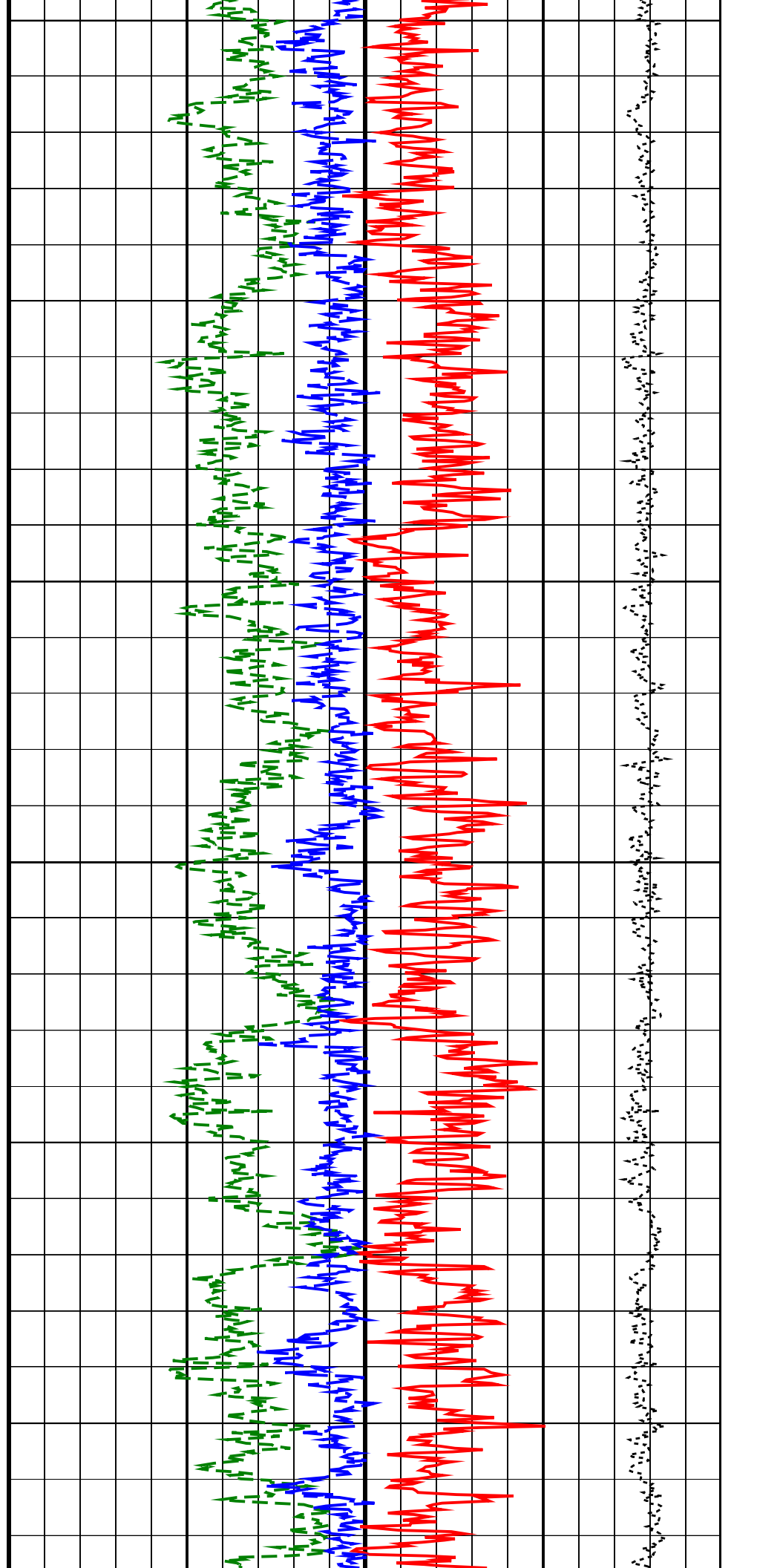
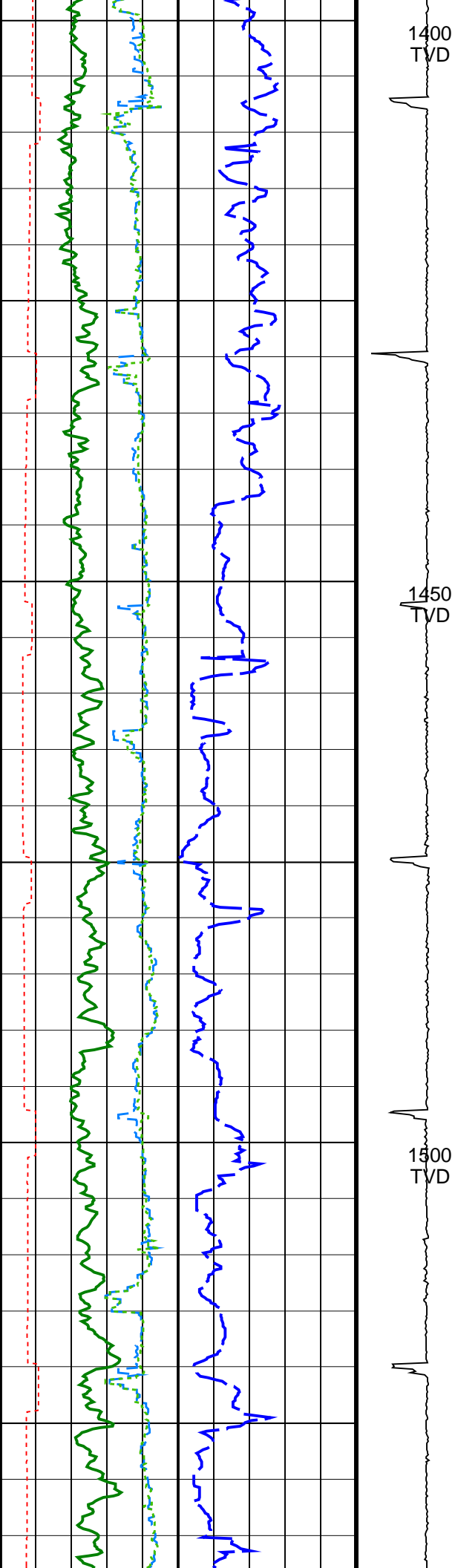


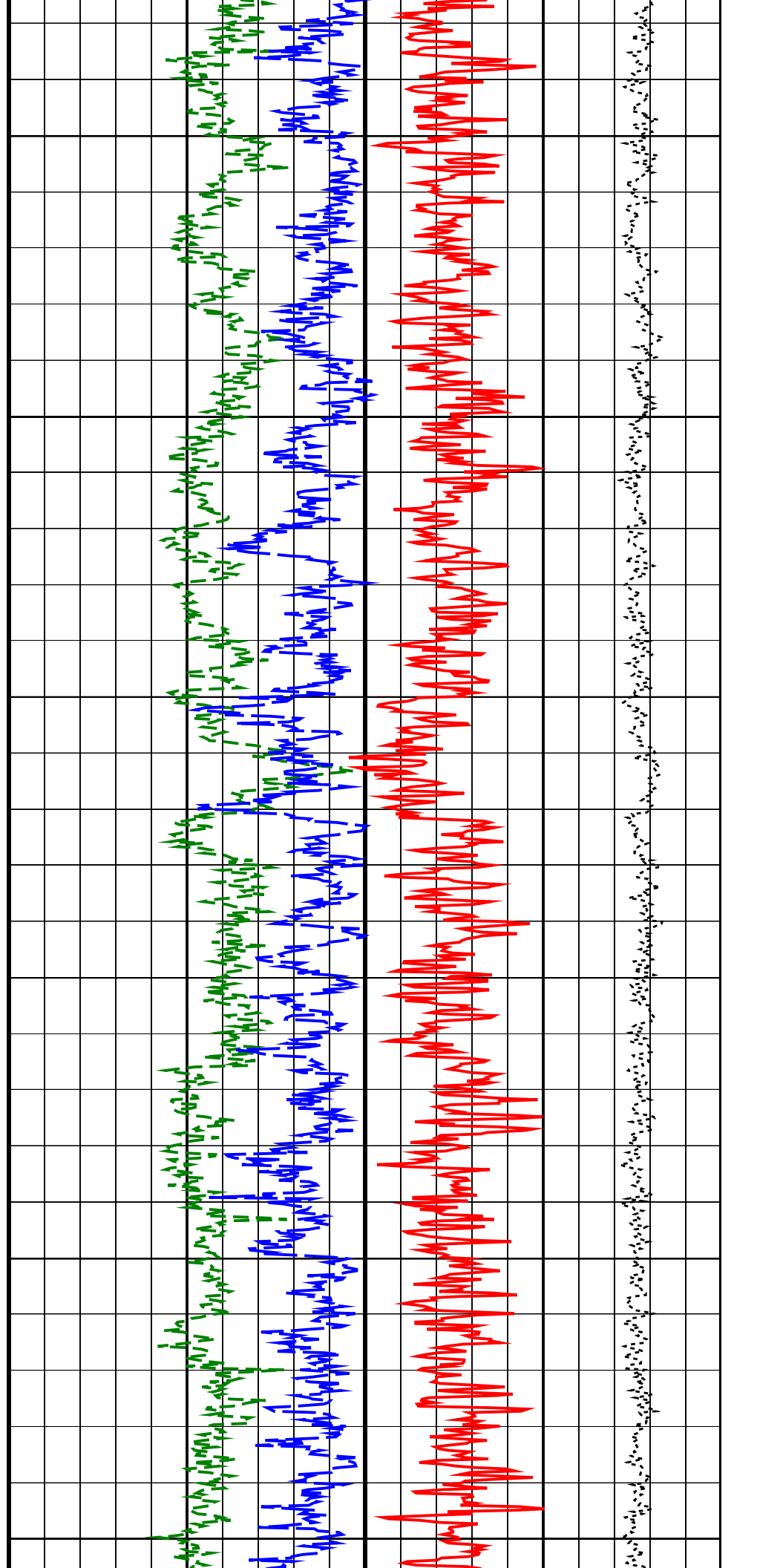
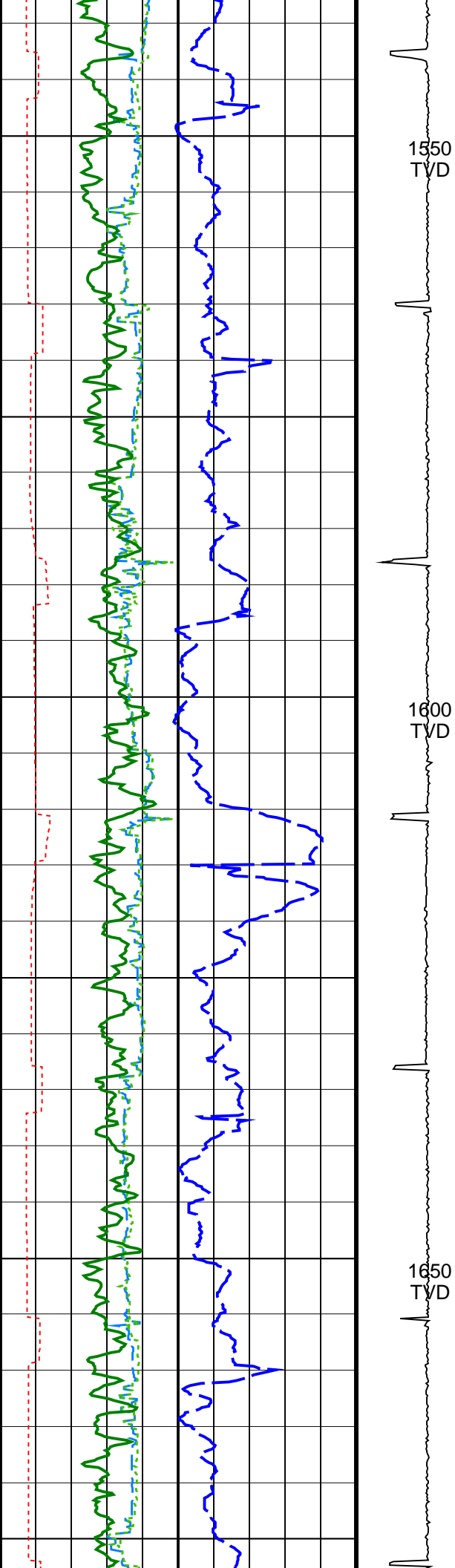


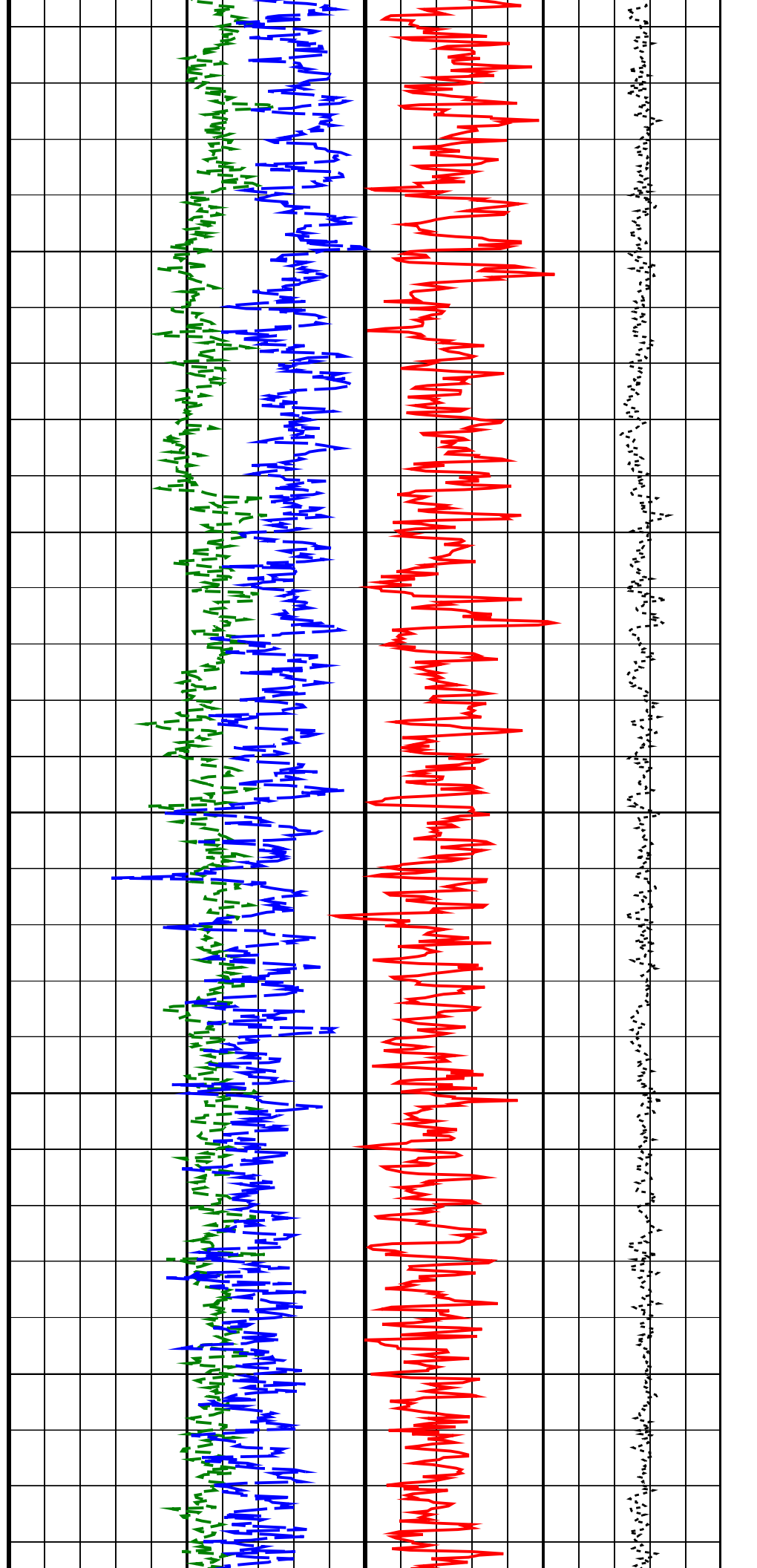
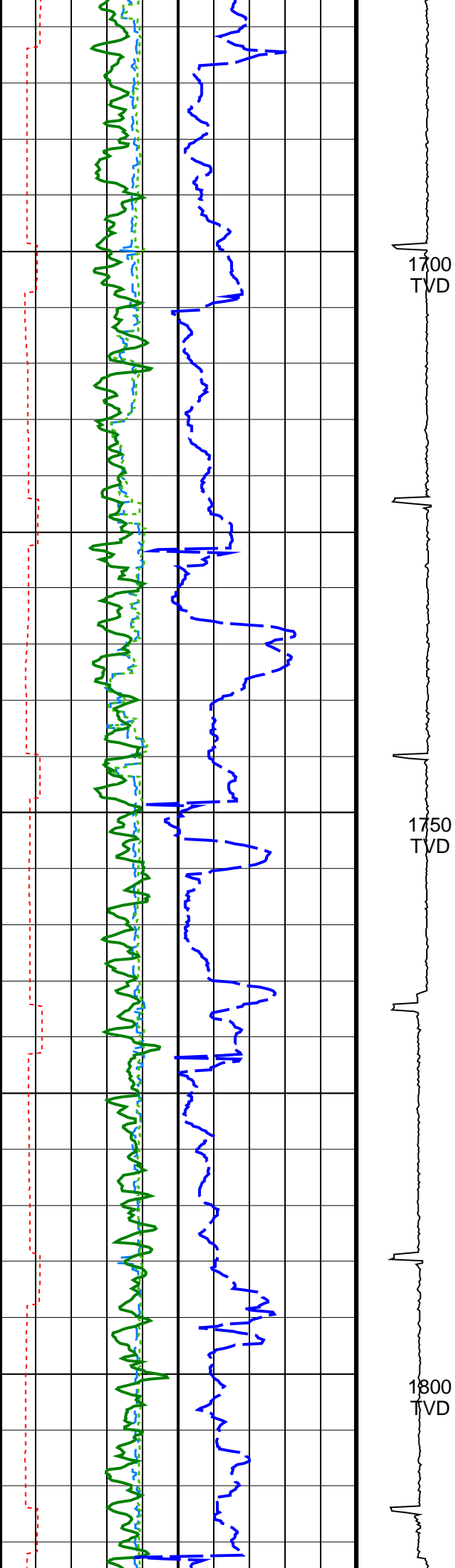


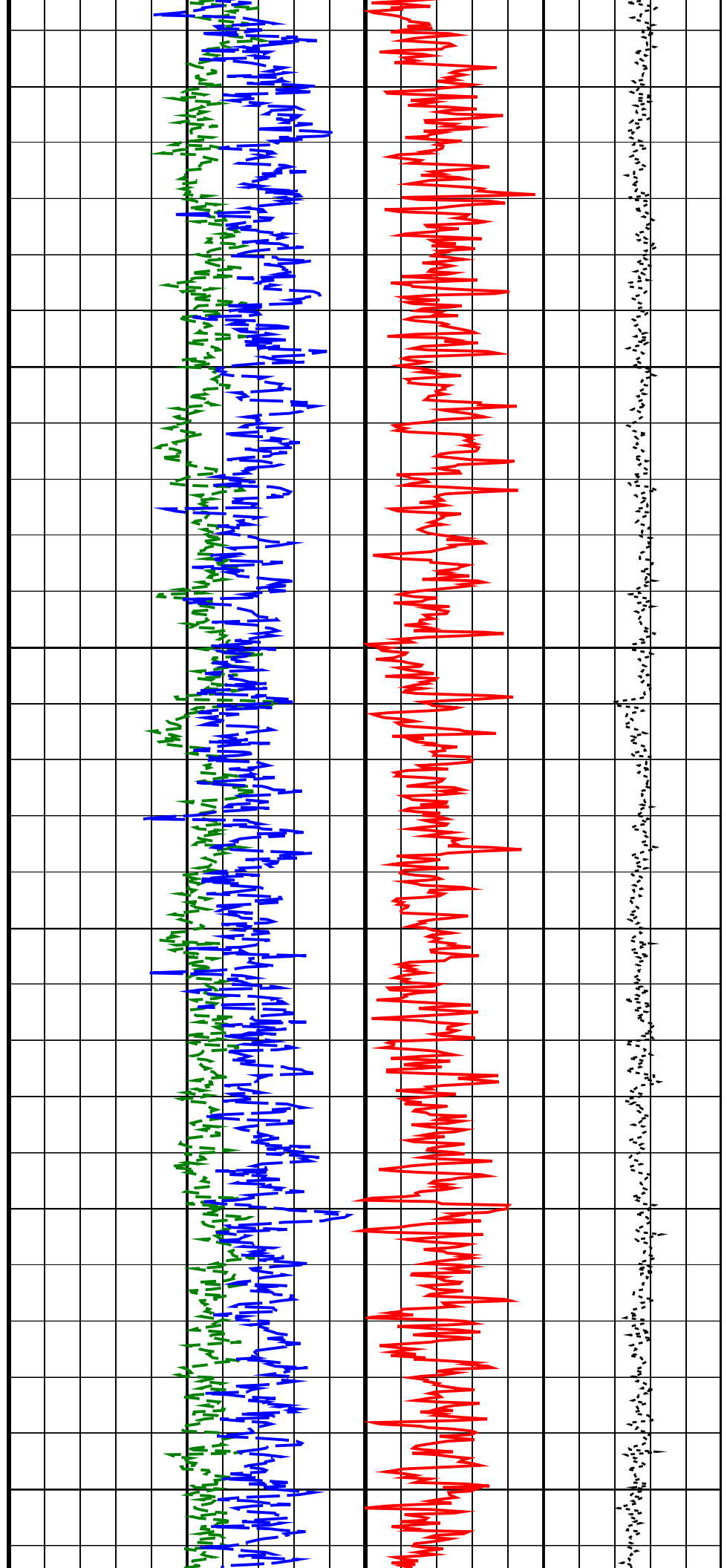
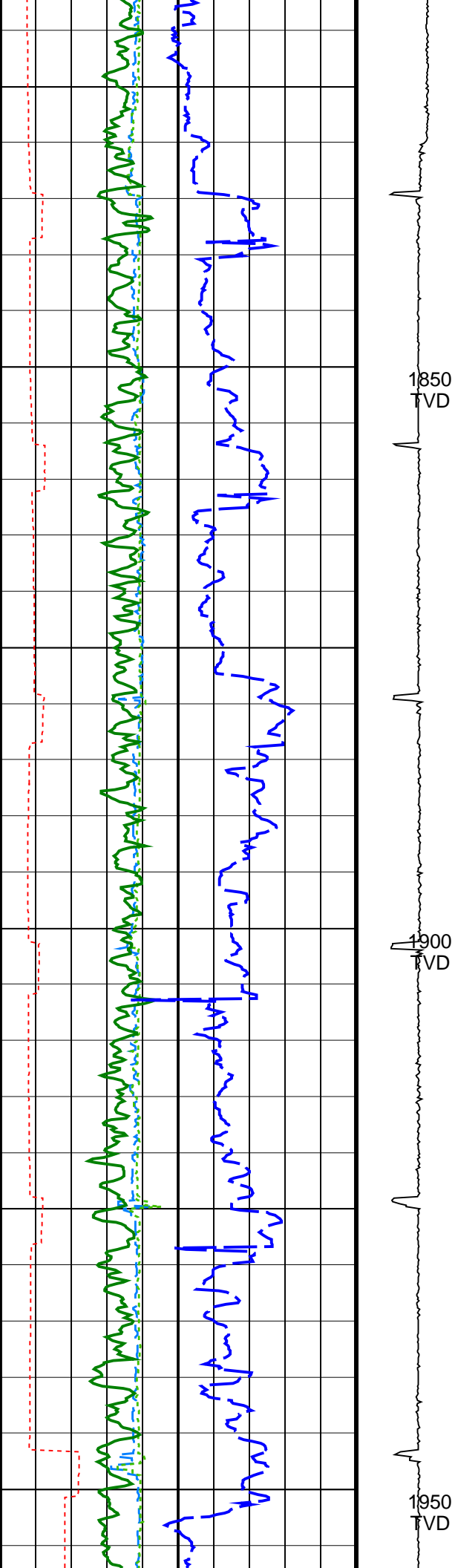


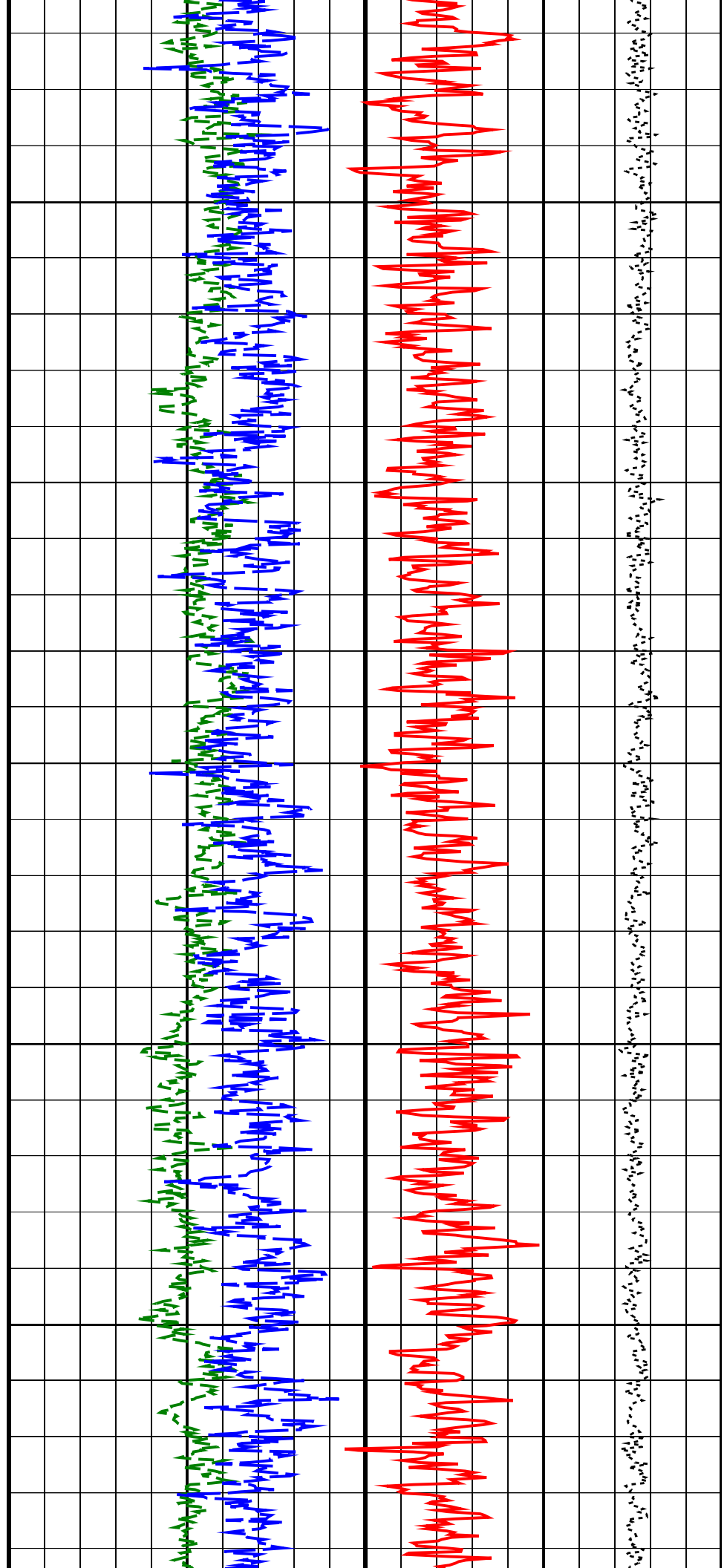
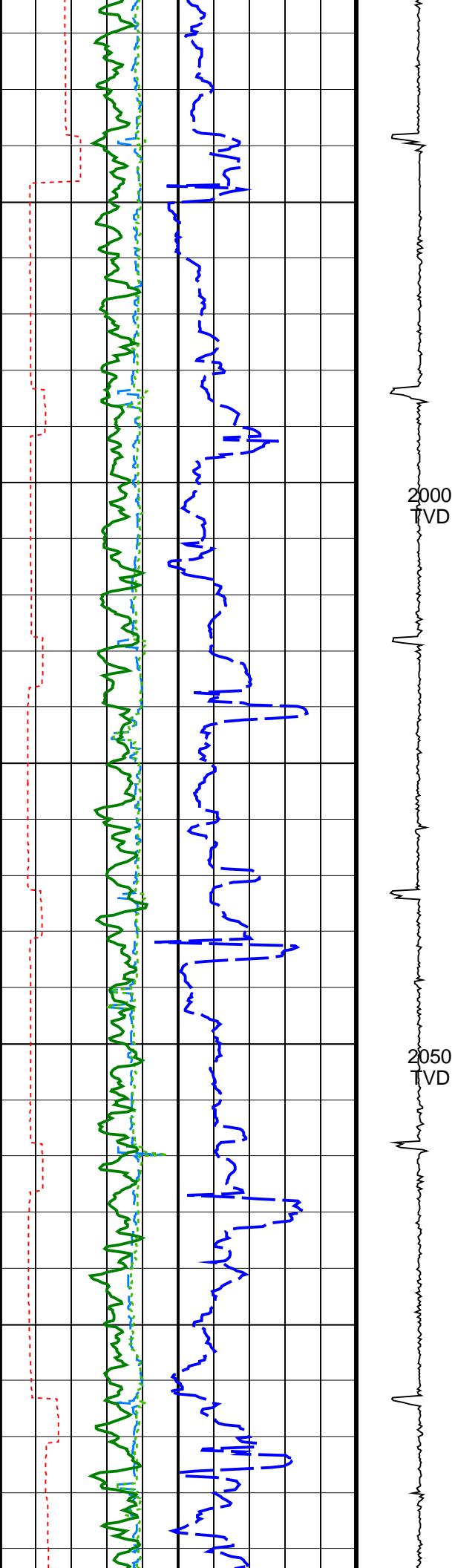




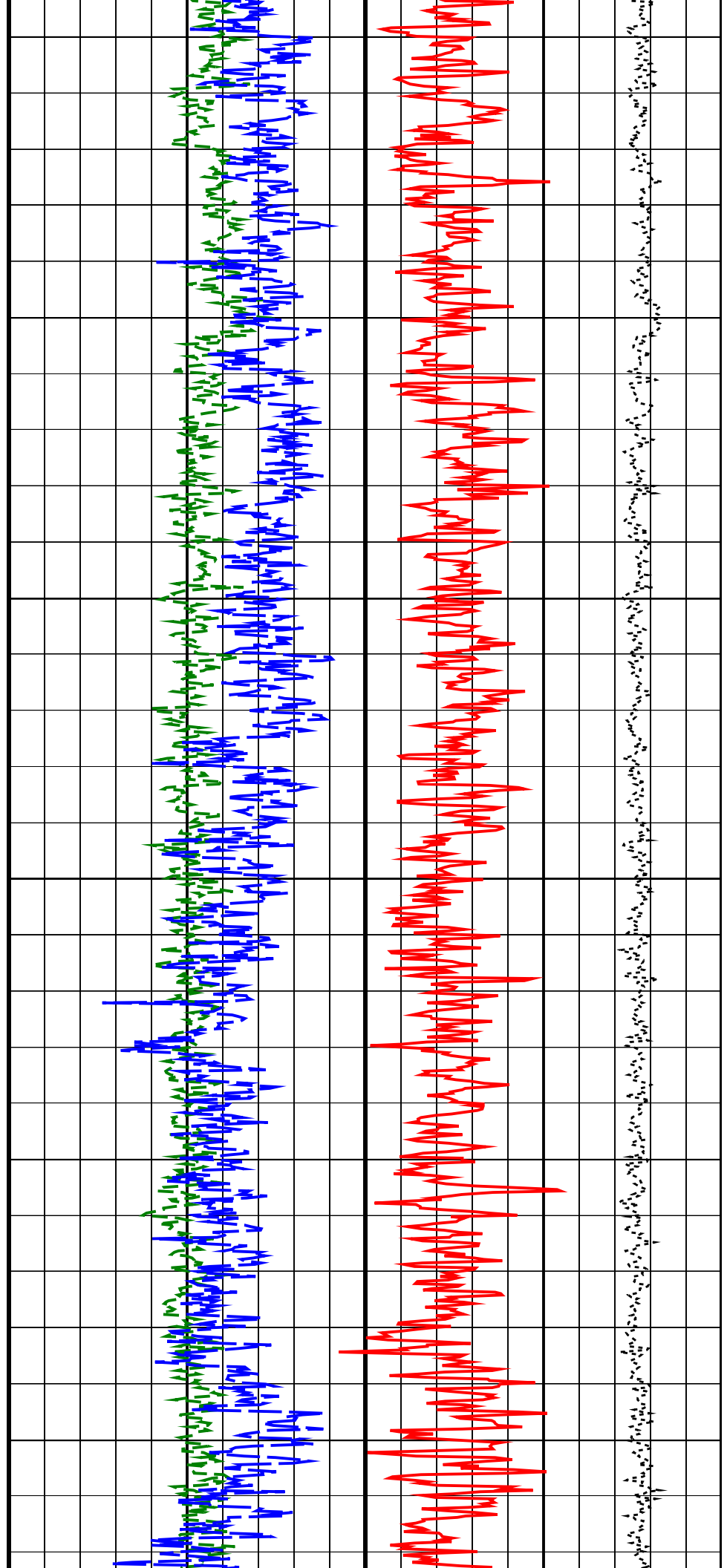
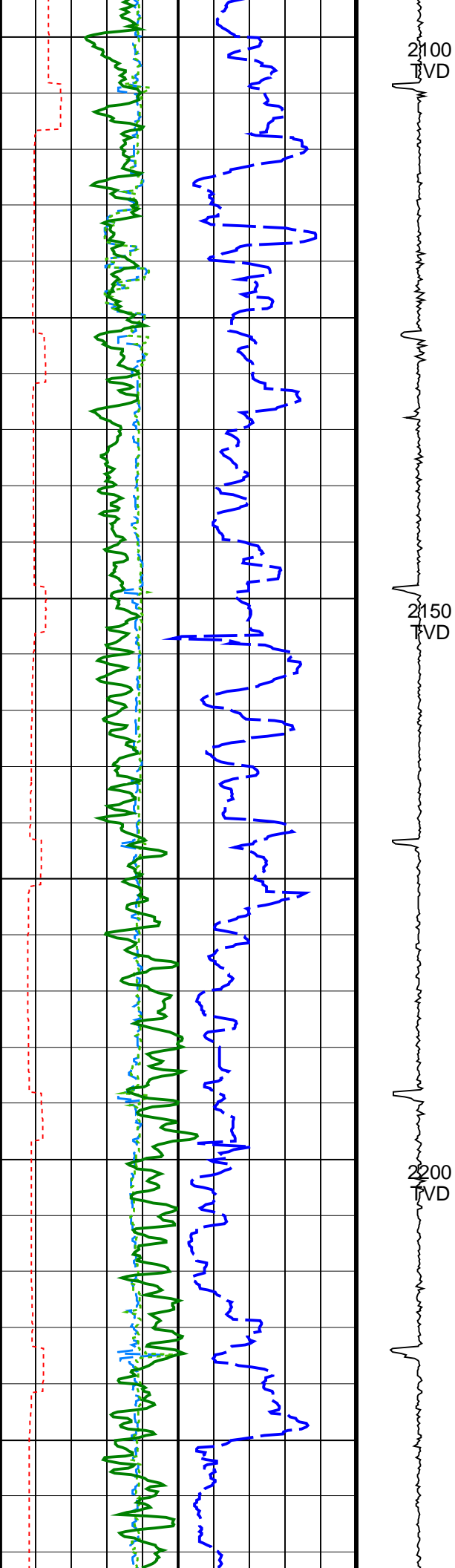


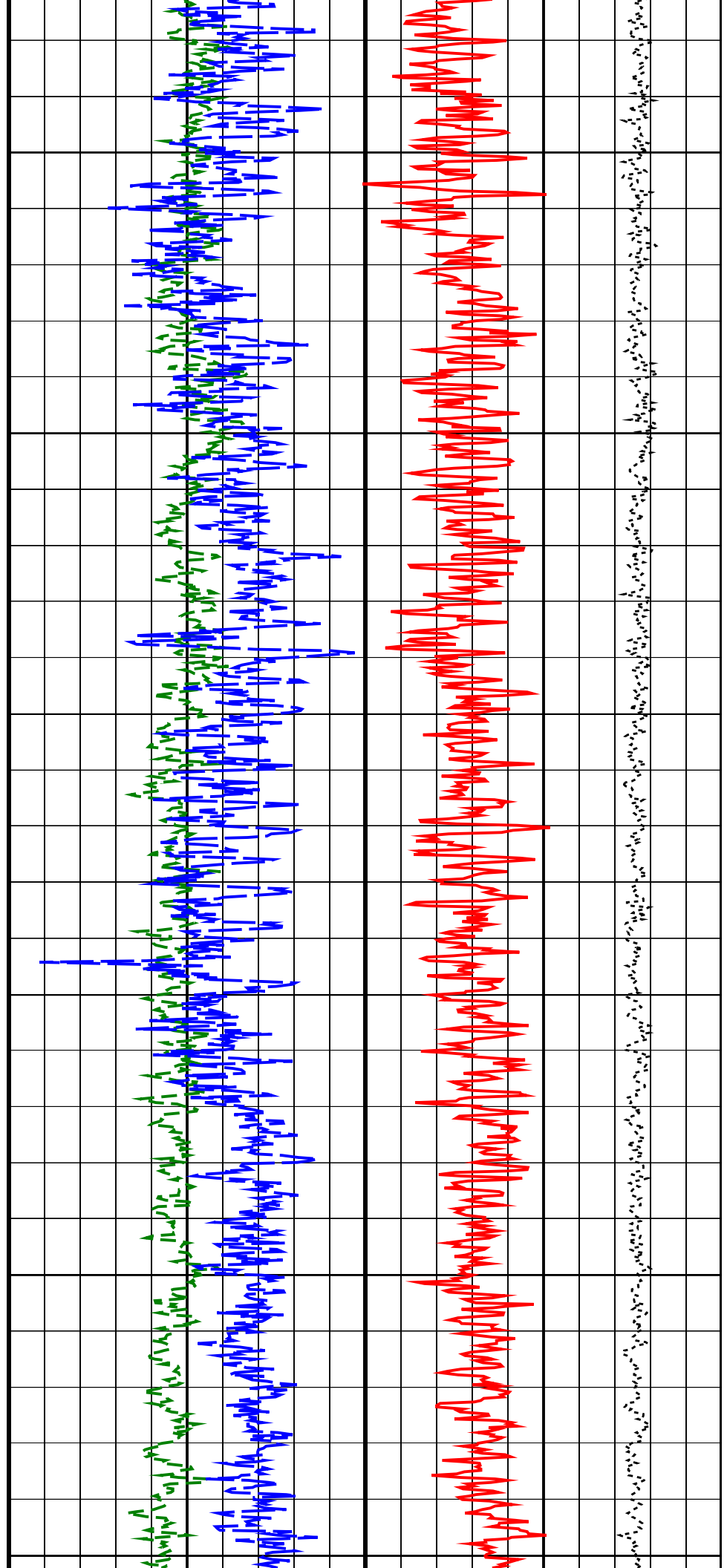
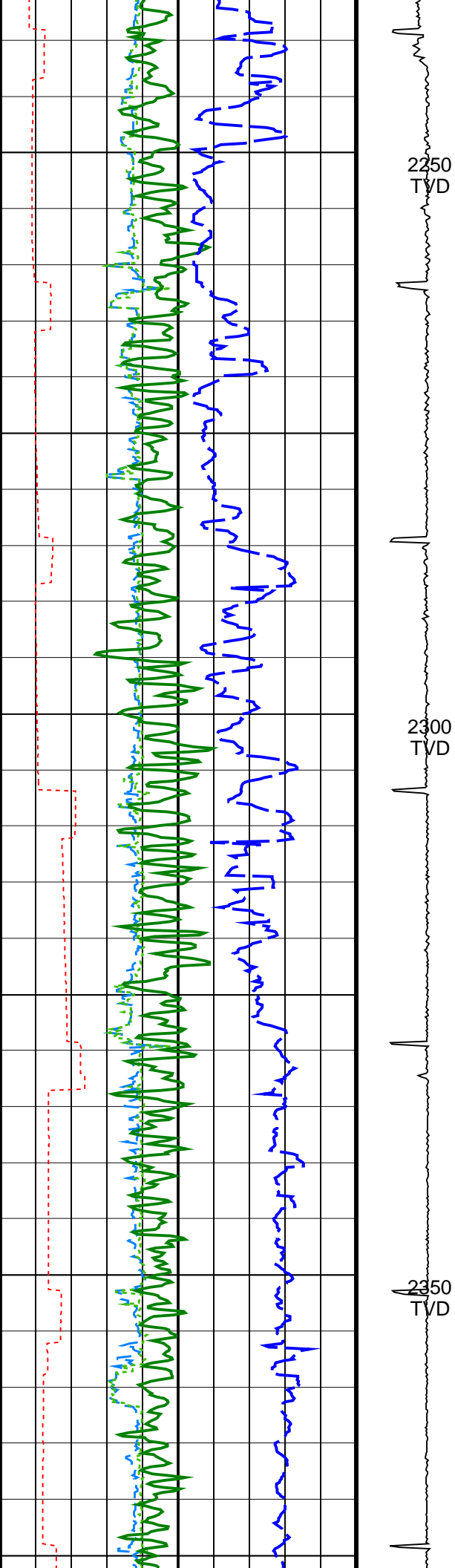


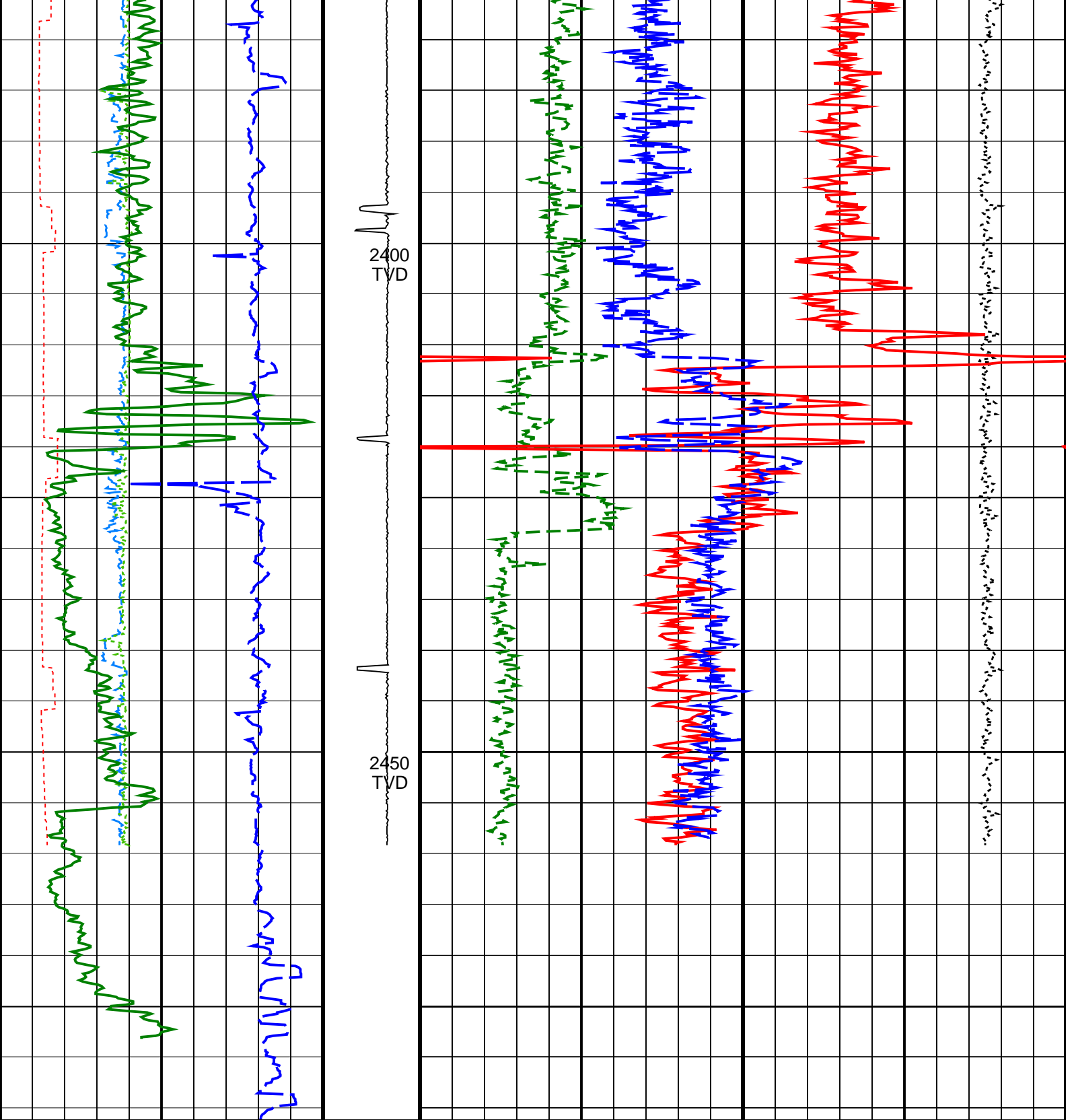












<b>Density Time After Bit (TAB_DEN)</b> (HR)	
0	10
<b>Horizontal Hole Diameter (HORD)</b> (IN)	
6	16
<b>Vertical Hole Diameter (VERD)</b> (IN)	
6	16
<b>ARC Gamma Ray (GR_ARC)</b> (GAPI)	
0	200

<b>ADN</b> <b>Rotational</b> <b>Speed</b> (RPM_ADN) (RPM)
0      250

<b>Photoelectric Factor, Bottom (PEB)</b> (----)	
0	10

<b>Bulk Density Correction, Bottom</b> (DRHB) (G/C3)	
-0.75	0.25

<b>Bulk Density, Bottom (ROBB)</b> (G/C3)	
1.85	2.85
<b>Thermal Neutron Porosity (TNPH)</b> (VV)	
0.45	-0.15

**IDEAL Version: ID14\_0C\_16**  
**IDF**

6.75-in. Azimuthal Density Neutron / Equipment Identification

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

ADN6 - CA 018  
 ADDC - AA 141  
 ADSE - EA 018  
 CLAMP-ON  
 NSR - M 202  
 GSR - J/Z 1994  
 9.57 in.  
 AUTO -

Master: 28-Jul-2009 2:39

6.75-in. Azimuthal Density Neutron Calibration

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		536.3	Master		1461	Master		3988
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

Master: 28-Jul-2009 2:39

6.75-in. Azimuthal Density Neutron Calibration

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		91.15	Master		861.7	Master		2821
	50.00 (Minimum) 725.0 (Nominal) 1400 (Maximum)			500.0 (Minimum) 4250 (Nominal) 8000 (Maximum)			1500 (Minimum) 15750 (Nominal) 30000 (Maximum)	

Master: 28-Jul-2009 2:39

6.75-in. Azimuthal Density Neutron Calibration

Density: Background

Phase	LS window 3 - Background CPS	Value	Phase	SS window 1 - Background CPS	Value	Phase	SS window 3 - Background CPS	Value
Master		30.55	Master		96.74	Master		432.8
	15.00 (Minimum) 82.50 (Nominal) 150.0 (Maximum)			40.00 (Minimum) 220.0 (Nominal) 400.0 (Maximum)			150.0 (Minimum) 825.0 (Nominal) 1500 (Maximum)	

Master: 28-Jul-2009 2:39

6.75-in. Azimuthal Density Neutron Calibration

Density: Water Block Check

Phase	Long spacing water density G/C3	Value	Phase	Short spacing water density G/C3	Value
Master		1.007	Master		1.104
	1.002 (Minimum) 1.017 (Nominal) 1.032 (Maximum)			1.079 (Minimum) 1.109 (Nominal) 1.139 (Maximum)	

Master: 28-Jul-2009 2:39

6.75-in. Azimuthal Density Neutron Calibration

Neutron: 3-Point Calibration

Phase	Far 1 tube 1 Air Point Measure CPS	Value	Phase	Far 1 tube 1 Rod Point Measure CPS	Value	Phase	Far 1 tube 1 H2O Point Measure CPS	Value
Master		17.52	Master		4.364	Master		2.137
	13.30 (Minimum) 19.05 (Nominal) 24.70 (Maximum)			3.400 (Minimum) 4.857 (Nominal) 6.200 (Maximum)			1.600 (Minimum) 2.363 (Nominal) 3.100 (Maximum)	
Phase	Far 1 tube 2 Air Point Measure CPS	Value	Phase	Far 1 tube 2 Rod Point Measure CPS	Value	Phase	Far 1 tube 2 H2O Point Measure CPS	Value
Master		18.26	Master		4.421	Master		2.158
	13.30 (Minimum) 19.05 (Nominal) 24.70 (Maximum)			3.400 (Minimum) 4.857 (Nominal) 6.200 (Maximum)			1.600 (Minimum) 2.363 (Nominal) 3.100 (Maximum)	
Phase	Far 1 tube 3 Air Point Measure CPS	Value	Phase	Far 1 tube 3 Rod Point Measure CPS	Value	Phase	Far 1 tube 3 H2O Point Measure CPS	Value
Master		17.58	Master		4.201	Master		2.013
	13.30 (Minimum) 19.05 (Nominal) 24.70 (Maximum)			3.400 (Minimum) 4.857 (Nominal) 6.200 (Maximum)			1.600 (Minimum) 2.363 (Nominal) 3.100 (Maximum)	
Phase	Far 2 tube 1 Air Point Measure CPS	Value	Phase	Far 2 tube 1 Rod Point Measure CPS	Value	Phase	Far 2 tube 1 H2O Point Measure CPS	Value

Master		17.48	Master		4.184	Master		2.061			
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)		
Phase	Far 2 tube 2 Air Point Measure	CPS	Value	Phase	Far 2 tube 2 Rod Point Measure	CPS	Value	Phase	Far 2 tube 2 H2O Point Measure	CPS	Value
Master		18.08	Master		4.252	Master		2.064			
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)		
Phase	Far 2 tube 3 Air Point Measure	CPS	Value	Phase	Far 2 tube 3 Rod Point Measure	CPS	Value	Phase	Far 2 tube 3 H2O Point Measure	CPS	Value
Master		17.33	Master		4.360	Master		2.098			
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)		
Phase	Near 1 tube 1 Air Point Measure	CPS	Value	Phase	Near 1 tube 1 Rod Point Measure	CPS	Value	Phase	Near 1 tube 1 H2O Point Measure	CPS	Value
Master		462.7	Master		726.6	Master		323.1			
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)	535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)	230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)		
Phase	Near 2 tube 1 Air Point Measure	CPS	Value	Phase	Near 2 tube 1 Rod Point Measure	CPS	Value	Phase	Near 2 tube 1 H2O Point Measure	CPS	Value
Master		452.9	Master		725.0	Master		318.7			
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)	535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)	230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)		

Master: 28-Jul-2009 2:39										
6.75-in. Azimuthal Density Neutron Calibration										
Neutron: Water Block Check										
Phase	Far Neutron water porosity PU								Value	
Master									92.37	
	90.00 (Minimum)		100.0 (Nominal)				125.0 (Maximum)			

6.75-in. Array Resistivity Compensated / Equipment Identification										
Primary Equipment:										
Tool Name and Serial Number				ARC6 - BA			1708			
ARC675 Calibration Status				AUTO -						

Master: 26-Jul-2009 12:36												
6.75-in. Array Resistivity Compensated Calibration												
Resistivity: Air												
Phase	Phase-Shift T1		Value	Phase	Phase-Shift T2		Value	Phase	Phase-Shift T3		Value	
Master			1.807	Master			-1.674	Master			1.709	
	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)
Phase	Phase-Shift T4		Value	Phase	Phase-Shift T5		Value	Phase	Phase-Shift T1 at 400KHz		Value	
Master			-1.713	Master			1.687	Master			-0.4300	
	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)
Phase	Phase-Shift T2 at 400KHz		Value	Phase	Phase-Shift T3 at 400KHz		Value	Phase	Phase-Shift T4 at 400KHz		Value	
Master			0.3120	Master			-0.3860	Master			0.3150	
	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)
Phase	Phase-Shift T5 at 400KHz		Value									
Master			-0.3920									
	-3.900 (Minimum)		0.1000 (Nominal)	4.100 (Maximum)								

Master: 26-Jul-2009 12:36										
6.75-in. Array Resistivity Compensated Calibration										
Resistivity: Air										

Phase	Attenuation T1	Value	Phase	Attenuation T2	Value	Phase	Attenuation T3	Value
Master		8.333	Master		6.607	Master		4.959
	6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)			4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)			2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)	
Phase	Attenuation T4	Value	Phase	Attenuation T5	Value	Phase	Attenuation T1 at 400KHz	Value
Master		4.515	Master		3.511	Master		8.316
	2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)			1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)			6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)	
Phase	Attenuation T2 at 400KHz	Value	Phase	Attenuation T3 at 400KHz	Value	Phase	Attenuation T4 at 400KHz	Value
Master		6.631	Master		4.934	Master		4.532
	4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)			2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)			2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)	
Phase	Attenuation T5 at 400KHz	Value						
Master		3.496						
	1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)							

Master: 26-Jul-2009 14:47		
6.75-in. Array Resistivity Compensated Calibration		
Gamma Ray: Blanket		
Phase	Gamma ray factor (equals Calibration Gain multiplied by API Gain Factor) CPS	Value
Master		5.112
	2.780 (Minimum) 4.800 (Nominal) 6.000 (Maximum)	

6.75-in. Azimuthal Density Neutron / Equipment Identification		
Primary Equipment:	ADN6 - CA	373
Tool Name and Serial Number	ADDC - AA	2400
Collar Type and Serial Number	ADSE - EA	373
Chassis Type and Serial Number	CLAMP-ON	
Stabilizer Type and Serial Number	NSR - M	202
Neutron Logging Source	GSR - JZ	1994
Density Logging Source	9.26 in.	
Stabilizer Size	AUTO -	
Calibration Status		

Master: 25-Jul-2009 3:12								
6.75-in. Azimuthal Density Neutron Calibration								
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		648.2	Master		1756	Master		4600
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

Master: 25-Jul-2009 3:12								
6.75-in. Azimuthal Density Neutron Calibration								
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		105.2	Master		999.9	Master		3185
	50.00 (Minimum) 725.0 (Nominal) 1400 (Maximum)			500.0 (Minimum) 4250 (Nominal) 8000 (Maximum)			1500 (Minimum) 15750 (Nominal) 30000 (Maximum)	

Master: 25-Jul-2009 3:12								
6.75-in. Azimuthal Density Neutron Calibration								
Density: Background								
Phase	LS window 3 - Background CPS	Value	Phase	SS window 1 - Background CPS	Value	Phase	SS window 3 - Background CPS	Value
Master		48.25	Master		112.5	Master		496.2
	15.00 (Minimum) 82.50 (Nominal) 150.0 (Maximum)			40.00 (Minimum) 220.0 (Nominal) 400.0 (Maximum)			150.0 (Minimum) 825.0 (Nominal) 1500 (Maximum)	

Master: 25-Jul-2009 3:12					
6.75-in. Azimuthal Density Neutron Calibration					
Density: Water Block Check					
Phase	Long spacing water density G/C3	Value	Phase	Short spacing water density G/C3	Value
Master		1.021	Master		1.119
	1.005 (Minimum) 1.020 (Nominal) 1.035 (Maximum)			1.081 (Minimum) 1.111 (Nominal) 1.141 (Maximum)	

Master: 25-Jul-2009 3:12											
6.75-in. Azimuthal Density Neutron Calibration											
Neutron: 3-Point Calibration											
Phase	Far 1 tube 1 Air Point Measure	CPS	Value	Phase	Far 1 tube 1 Rod Point Measure	CPS	Value	Phase	Far 1 tube 1 H2O Point Measure	CPS	Value
Master			18.12	Master			4.385	Master			2.134
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)		3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)		1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)
Phase	Far 1 tube 2 Air Point Measure	CPS	Value	Phase	Far 1 tube 2 Rod Point Measure	CPS	Value	Phase	Far 1 tube 2 H2O Point Measure	CPS	Value
Master			18.67	Master			4.582	Master			2.257
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)		3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)		1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)
Phase	Far 1 tube 3 Air Point Measure	CPS	Value	Phase	Far 1 tube 3 Rod Point Measure	CPS	Value	Phase	Far 1 tube 3 H2O Point Measure	CPS	Value
Master			17.17	Master			4.206	Master			2.044
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)		3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)		1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)
Phase	Far 2 tube 1 Air Point Measure	CPS	Value	Phase	Far 2 tube 1 Rod Point Measure	CPS	Value	Phase	Far 2 tube 1 H2O Point Measure	CPS	Value
Master			17.15	Master			4.421	Master			2.271
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)		3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)		1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)
Phase	Far 2 tube 2 Air Point Measure	CPS	Value	Phase	Far 2 tube 2 Rod Point Measure	CPS	Value	Phase	Far 2 tube 2 H2O Point Measure	CPS	Value
Master			18.87	Master			4.540	Master			2.250
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)		3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)		1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)
Phase	Far 2 tube 3 Air Point Measure	CPS	Value	Phase	Far 2 tube 3 Rod Point Measure	CPS	Value	Phase	Far 2 tube 3 H2O Point Measure	CPS	Value
Master			18.11	Master			4.419	Master			2.207
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)		3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)		1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)
Phase	Near 1 tube 1 Air Point Measure	CPS	Value	Phase	Near 1 tube 1 Rod Point Measure	CPS	Value	Phase	Near 1 tube 1 H2O Point Measure	CPS	Value
Master			472.9	Master			754.0	Master			338.7
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)		535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)		230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)
Phase	Near 2 tube 1 Air Point Measure	CPS	Value	Phase	Near 2 tube 1 Rod Point Measure	CPS	Value	Phase	Near 2 tube 1 H2O Point Measure	CPS	Value
Master			478.1	Master			744.8	Master			338.4
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)		535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)		230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)

Master: 25-Jul-2009 3:12												
6.75-in. Azimuthal Density Neutron Calibration												
Neutron: Water Block Check												
Phase	Far Neutron water porosity PU										Value	
Master											92.08	
	90.00 (Minimum)									100.0 (Nominal)	125.0 (Maximum)	

6.75-in. Array Resistivity Compensated / Equipment Identification											
Primary Equipment:											
Tool Name and Serial Number						ARC6 - BA 440					
ARC675 Calibration Status						AUTO -					

Master: 3-Aug-2009 11:34											
6.75-in. Array Resistivity Compensated Calibration											
Resistivity: Air											
Phase	Phase-Shift T1	Value	Phase	Phase-Shift T2	Value	Phase	Phase-Shift T3	Value			
Master		0.9730	Master		-0.8690	Master		0.8750			

Phase	Phase-Shift T4	Value	Phase	Phase-Shift T5	Value	Phase	Phase-Shift T1 at 400KHz	Value
Master		-0.9250	Master		0.8700	Master		-0.2010
	-3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)			-3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)			-3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	
Phase	Phase-Shift T2 at 400KHz	Value	Phase	Phase-Shift T3 at 400KHz	Value	Phase	Phase-Shift T4 at 400KHz	Value
Master		0.1060	Master		-0.1750	Master		0.09100
	-3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)			-3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)			-3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)	
Phase	Phase-Shift T5 at 400KHz	Value						
Master		-0.2310						
	-3.900 (Minimum) 0.1000 (Nominal) 4.100 (Maximum)							

Master: 3-Aug-2009 11:34								
6.75-in. Array Resistivity Compensated Calibration								
Resistivity: Air								
Phase	Attenuation T1	Value	Phase	Attenuation T2	Value	Phase	Attenuation T3	Value
Master		9.542	Master		5.423	Master		6.159
	6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)			4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)			2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)	
Phase	Attenuation T4	Value	Phase	Attenuation T5	Value	Phase	Attenuation T1 at 400KHz	Value
Master		3.326	Master		4.709	Master		9.516
	2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)			1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)			6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)	
Phase	Attenuation T2 at 400KHz	Value	Phase	Attenuation T3 at 400KHz	Value	Phase	Attenuation T4 at 400KHz	Value
Master		5.456	Master		6.125	Master		3.352
	4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)			2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)			2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)	
Phase	Attenuation T5 at 400KHz	Value						
Master		4.677						
	1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)							

Master: 2-Aug-2009 14:04		
6.75-in. Array Resistivity Compensated Calibration		
Gamma Ray: Blanket		
Phase	Gamma ray factor (equals Calibration Gain multiplied by API Gain Factor) CPS	Value
Master		5.271
	2.780 (Minimum) 4.800 (Nominal) 6.000 (Maximum)	

SCHLUMBERGER

Survey report 24-Aug-2009 23:33:55

Client.....: Esso Australia Pty Ltd.  
Field.....: Halibut

Well.....: CBA A15B Spud date.....: 11-Aug-2009  
API number.....: N/A Last survey date.....: 24-Aug-09  
Engineer.....: Mewan Amarasena Total accepted surveys...: 208  
MD of first survey.....: 0.00 m  
Rig Label.....: ISDL 175 MD of last survey.....: 3120.00 m  
STATE.....: Victoria

----- Survey calculation methods ----- Geomagnetic data -----  
Method for positions.....: Minimum curvature Magnetic model.....: BGM version 2009  
Method for DLS.....: Mason & Taylor Magnetic date.....: 22-Aug-2009  
Magnetic field strength...: 1199.27 HCNT

----- Depth reference -----  
Permanent datum.....: GROUND LEVEL Magnetic dec (+E/W-).....: 13.25 degrees  
Depth reference.....: Magnetic dip.....: -68.85 degrees

----- MWD survey Reference Criteria -----  
GL above permanent.....: -79.00 m Reference G.....: 1000.05 mGal  
KB above permanent.....: -15240.00 m Reference H.....: 1199.27 HCNT  
DF above permanent.....: 41.00 m Reference Dip.....: -68.85 degrees  
Tolerance of G.....: (+/-) 2.50 mGal  
Tolerance of H.....: (+/-) 6.00 HCNT

----- Vertical section origin -----  
Latitude (+N/S-).....: -4.26 m



Departure (+E/W-).....: 0.26 m Tolerance of Dip.....: (+/-) 0.45 degrees

----- Platform reference point----- Corrections -----  
Latitude (+N/S-).....: -304.57 m Magnetic dec (+E/W-).....: 13.25 degrees  
Departure (+E/W-).....: -304.57 m Grid convergence (+E/W-).....: -0.81 degrees  
Total az corr (+E/W-).....: 14.06 degrees  
Azimuth from Vsect Origin to target: 101.26 degrees (Total az corr = magnetic dec - grid conv)  
Survey Correction Type ....:G  
I=Sag Corrected Inclination  
M=Schlumberger Magnetic Correction  
S=Shell Magnetic Correction  
F=Failed Axis Correction  
R=Magnetic Resonance Tool Correction  
D=GeoMag Magnetic Correction

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SCHLUMBERGER Survey Report

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/100f)	DLS type	Srvy tool
1	0.00	0.00	0.00	0.00	0.00	0.00	-4.26	0.26	4.27	176.51	0.00	TIP None
2	1.99	0.00	0.00	1.99	1.99	0.00	-4.26	0.26	4.27	176.51	0.00	MWD+GMAG None
3	56.99	0.20	250.40	55.00	56.99	-0.08	-4.29	0.17	4.30	177.74	0.11	MWD+GMAG None
4	61.99	0.28	246.80	5.00	61.99	-0.10	-4.30	0.15	4.30	178.00	0.50	MWD+GMAG None
5	66.99	0.29	252.18	5.00	66.99	-0.12	-4.31	0.13	4.31	178.31	0.17	MWD+GMAG None
6	71.99	0.26	287.55	5.00	71.99	-0.14	-4.31	0.10	4.31	178.62	1.03	MWD+GMAG None
7	76.99	0.20	259.82	5.00	76.99	-0.16	-4.31	0.08	4.31	178.88	0.76	MWD+GMAG None
8	81.99	0.29	227.35	5.00	81.99	-0.18	-4.32	0.07	4.32	179.12	0.99	MWD+GMAG None
9	86.99	0.22	244.87	5.00	86.99	-0.19	-4.33	0.05	4.33	179.36	0.63	MWD+GMAG None
10	91.99	0.18	242.40	5.00	91.99	-0.21	-4.34	0.03	4.34	179.56	0.25	MWD+GMAG None
11	96.99	0.29	240.91	5.00	96.99	-0.22	-4.35	0.02	4.35	179.80	0.67	MWD+GMAG None
12	101.99	0.20	228.27	5.00	101.99	-0.24	-4.36	-0.00	4.36	180.03	0.64	MWD+GMAG None
13	106.99	0.30	239.63	5.00	106.99	-0.25	-4.37	-0.02	4.37	180.27	0.68	MWD+GMAG None
14	111.99	0.44	233.57	5.00	111.99	-0.28	-4.39	-0.05	4.39	180.61	0.88	MWD+GMAG None
15	116.99	0.66	219.12	5.00	116.99	-0.30	-4.42	-0.08	4.42	181.05	1.58	MWD+GMAG None
16	121.99	0.88	196.36	5.00	121.99	-0.32	-4.48	-0.11	4.48	181.40	2.27	MWD+GMAG None
17	126.99	1.31	197.05	5.00	126.99	-0.33	-4.57	-0.14	4.58	181.72	2.62	MWD+GMAG None
18	131.99	2.14	195.76	5.00	131.99	-0.34	-4.72	-0.18	4.72	182.18	5.06	MWD+GMAG None
19	136.99	2.80	194.93	5.00	136.98	-0.36	-4.93	-0.24	4.93	182.75	4.03	MWD+GMAG None
20	141.99	3.46	194.26	5.00	141.97	-0.37	-5.19	-0.30	5.20	183.36	4.03	MWD+GMAG None
21	146.99	4.00	195.37	5.00	146.96	-0.39	-5.51	-0.39	5.52	184.03	3.32	MWD+GMAG None
22	151.99	4.02	194.80	5.00	151.95	-0.42	-5.84	-0.48	5.86	184.69	0.27	MWD+GMAG None
23	156.99	4.60	194.49	5.00	156.94	-0.44	-6.21	-0.57	6.23	185.29	3.54	MWD+GMAG None
24	161.99	5.11	193.85	5.00	161.92	-0.46	-6.62	-0.68	6.65	185.85	3.13	MWD+GMAG None
25	166.99	5.58	192.53	5.00	166.90	-0.47	-7.07	-0.78	7.11	186.32	2.96	MWD+GMAG None
26	171.99	5.99	191.95	5.00	171.87	-0.48	-7.56	-0.89	7.62	186.72	2.52	MWD+GMAG None
27	176.99	6.44	194.10	5.00	176.84	-0.50	-8.09	-1.01	8.15	187.14	3.09	MWD+GMAG None
28	181.99	6.89	195.07	5.00	181.81	-0.53	-8.65	-1.16	8.73	187.63	2.83	MWD+GMAG None
29	186.99	7.21	193.12	5.00	186.77	-0.56	-9.25	-1.31	9.34	188.05	2.44	MWD+GMAG None
30	191.99	7.58	192.82	5.00	191.73	-0.58	-9.87	-1.45	9.98	188.37	2.27	MWD+GMAG None
31	196.99	7.71	194.69	5.00	196.68	-0.61	-10.52	-1.61	10.64	188.71	1.71	MWD+GMAG None
32	201.99	7.91	196.06	5.00	201.64	-0.66	-11.17	-1.79	11.32	189.11	1.67	MWD+GMAG None
33	206.99	8.46	195.00	5.00	206.59	-0.71	-11.86	-1.98	12.03	189.48	3.48	MWD+GMAG None
34	211.99	8.74	195.05	5.00	211.53	-0.76	-12.58	-2.18	12.77	189.81	1.71	MWD+GMAG None
35	216.99	9.03	197.40	5.00	216.47	-0.83	-13.32	-2.39	13.54	190.17	2.83	MWD+GMAG None
36	221.99	9.48	200.79	5.00	221.41	-0.94	-14.08	-2.65	14.33	190.68	4.31	MWD+GMAG None
37	226.99	10.12	204.15	5.00	226.33	-1.11	-14.87	-2.98	15.17	191.34	5.23	MWD+GMAG None
38	231.99	10.53	206.69	5.00	231.25	-1.33	-15.68	-3.37	16.04	192.12	3.73	MWD+GMAG None
39	236.99	11.31	207.35	5.00	236.16	-1.58	-16.52	-3.80	16.95	192.94	4.82	MWD+GMAG None
40	241.99	11.37	209.03	5.00	241.06	-1.87	-17.39	-4.26	17.90	193.77	2.05	MWD+GMAG None
41	246.99	11.97	211.45	5.00	246.96	-2.20	-18.26	-4.77	18.87	194.64	4.72	MWD+GMAG None
42	251.99	11.93	211.00	5.00	250.85	-2.55	-19.15	-5.31	19.87	195.49	0.62	MWD+GMAG None
43	256.99	12.45	210.09	5.00	255.74	-2.90	-20.06	-5.84	20.89	196.24	3.38	MWD+GMAG None
44	261.99	12.71	210.07	5.00	260.62	-3.25	-21.00	-6.39	21.95	196.92	1.59	MWD+GMAG None
45	266.99	12.73	210.19	5.00	265.50	-3.61	-21.95	-6.94	23.02	197.55	0.20	MWD+GMAG None
46	271.99	13.06	209.16	5.00	270.37	-3.96	-22.92	-7.49	24.11	198.11	2.45	MWD+GMAG None
47	276.99	13.78	207.38	5.00	275.23	-4.30	-23.94	-8.04	25.26	198.57	5.06	MWD+GMAG None
48	281.99	14.49	206.27	5.00	280.08	-4.63	-25.03	-8.59	26.47	198.95	4.63	MWD+GMAG None
49	286.99	15.39	205.27	5.00	284.91	-4.95	-26.19	-9.15	27.75	199.26	5.71	MWD+GMAG None
50	291.99	16.27	204.47	5.00	289.72	-5.27	-27.43	-9.73	29.10	199.53	5.53	MWD+GMAG None
51	296.99	17.15	204.87	5.00	294.51	-5.60	-28.74	-10.33	30.54	199.77	5.41	MWD+GMAG None
52	301.99	17.98	206.06	5.00	299.28	-5.97	-30.10	-10.98	32.04	200.04	5.51	MWD+GMAG None
53	306.99	18.72	207.35	5.00	304.02	-6.39	-31.51	-11.68	33.60	200.35	5.15	MWD+GMAG None
54	311.99	19.26	207.58	5.00	308.75	-6.85	-32.95	-12.43	35.22	200.68	3.32	MWD+GMAG None
55	316.99	19.99	208.55	5.00	313.46	-7.33	-34.43	-13.22	36.88	201.01	4.87	MWD+GMAG None
56	321.99	20.08	207.95	5.00	318.16	-7.83	-35.94	-14.04	38.58	201.33	1.37	MWD+GMAG None
57	326.99	20.72	207.24	5.00	322.85	-8.32	-37.48	-14.84	40.32	201.60	4.18	MWD+GMAG None
58	331.99	21.61	206.76	5.00	327.51	-8.81	-39.09	-15.66	42.11	201.83	5.53	MWD+GMAG None
59	336.99	21.88	206.11	5.00	332.15	-9.30	-40.75	-16.49	43.96	202.03	2.21	MWD+GMAG None
60	341.99	22.65	206.11	5.00	336.79	-9.79	-42.45	-17.32	45.85	202.20	4.60	MWD+GMAG None



140	1151.15	35.97	147.69	29.29	964.92	-6.21	-513.67	-107.49	524.80	191.82	2.97	MWD+GMAG	None
141	1180.37	37.11	144.04	29.22	988.40	6.18	-528.06	-97.73	537.03	190.49	2.56	MWD+GMAG	None
142	1209.48	38.07	140.36	29.11	1011.47	19.59	-542.08	-86.84	549.00	189.10	2.56	MWD+GMAG	None
143	1238.89	39.26	135.90	29.41	1034.44	34.28	-555.75	-74.58	560.73	187.64	3.14	MWD+GMAG	None
144	1267.92	39.12	129.66	29.03	1056.95	49.90	-568.20	-61.13	571.48	186.14	4.14	MWD+GMAG	None
145	1297.62	39.18	123.15	29.70	1079.99	66.86	-579.31	-46.06	581.14	184.55	4.22	MWD+GMAG	None
146	1326.78	39.41	118.14	29.16	1102.56	84.27	-588.72	-30.18	589.49	182.93	3.32	MWD+GMAG	None
147	1355.47	39.47	115.79	28.69	1124.72	101.81	-596.98	-13.94	597.14	181.34	1.59	MWD+GMAG	None
148	1384.73	39.38	115.33	29.26	1147.32	119.82	-605.00	2.82	605.01	179.73	0.32	MWD+GMAG	None
149	1413.91	39.31	113.08	29.18	1169.89	137.84	-612.58	19.70	612.90	178.16	1.49	MWD+GMAG	None
150	1442.97	39.24	107.37	29.06	1192.39	156.00	-618.94	36.94	620.04	176.58	3.79	MWD+GMAG	None
151	1472.21	39.07	102.00	29.24	1215.07	174.41	-623.62	54.79	626.02	174.98	3.54	MWD+GMAG	None
152	1500.97	39.11	97.89	28.76	1237.40	192.53	-626.75	72.64	630.94	173.39	2.75	MWD+GMAG	None
153	1530.21	39.08	96.10	29.24	1260.09	210.92	-628.99	90.94	635.53	171.77	1.18	MWD+GMAG	None
154	1559.52	38.74	94.28	29.31	1282.90	229.23	-630.66	109.27	640.05	170.17	1.24	MWD+GMAG	None
155	1588.77	39.18	88.54	29.25	1305.65	247.33	-631.11	127.64	643.88	168.57	3.79	MWD+GMAG	None
156	1618.15	39.37	81.55	29.38	1328.41	265.16	-629.50	146.15	646.24	166.93	4.59	MWD+GMAG	None
157	1646.97	39.20	74.70	28.82	1350.72	281.92	-625.75	163.98	646.88	165.32	4.59	MWD+GMAG	None
158	1676.19	38.98	71.14	29.22	1373.41	298.13	-620.34	181.59	646.37	163.68	2.35	MWD+GMAG	None
159	1705.37	39.14	66.90	29.18	1396.07	313.68	-613.76	198.75	645.14	162.06	2.80	MWD+GMAG	None
160	1735.05	39.36	62.07	29.68	1419.06	328.71	-605.68	215.68	642.93	160.40	3.15	MWD+GMAG	None
161	1764.52	39.06	60.70	29.47	1441.89	343.00	-596.75	232.03	640.28	158.75	0.95	MWD+GMAG	None
162	1793.06	39.58	63.00	28.54	1463.97	356.98	-588.23	247.98	638.36	157.14	1.65	MWD+GMAG	None
163	1822.31	39.69	64.50	29.25	1486.50	371.78	-579.97	264.71	637.53	155.47	1.00	MWD+GMAG	None
164	1851.65	39.59	63.81	29.34	1509.09	386.70	-571.81	281.56	637.37	153.78	0.47	MWD+GMAG	None
165	1881.00	39.12	62.94	29.35	1531.79	401.39	-563.47	298.19	637.51	152.11	0.75	MWD+GMAG	None
166	1910.31	38.96	62.85	29.31	1554.55	415.87	-555.06	314.63	638.03	150.45	0.18	MWD+GMAG	None
167	1939.28	38.97	63.05	28.97	1577.08	430.16	-546.78	330.85	639.09	148.82	0.13	MWD+GMAG	None
168	1968.57	38.74	63.52	29.29	1599.89	444.65	-538.52	347.27	640.78	147.18	0.39	MWD+GMAG	None
169	1997.83	40.26	61.14	29.26	1622.47	459.12	-529.87	363.74	642.71	145.53	2.23	MWD+GMAG	None
170	2027.11	40.22	59.84	29.28	1644.82	473.44	-520.56	380.20	644.62	143.86	0.88	MWD+GMAG	None
171	2056.12	40.34	60.54	29.01	1666.95	487.58	-511.23	396.48	646.96	142.21	0.49	MWD+GMAG	None
172	2084.88	40.11	59.83	28.76	1688.91	501.58	-502.00	412.59	649.80	140.58	0.54	MWD+GMAG	None
173	2114.14	39.08	59.18	29.26	1711.45	515.50	-492.53	428.66	652.95	138.97	1.16	MWD+GMAG	None
174	2143.26	39.36	57.87	29.12	1734.01	529.02	-482.92	444.36	656.26	137.38	0.92	MWD+GMAG	None
175	2172.49	39.74	58.69	29.23	1756.55	542.64	-473.14	460.20	660.03	135.79	0.67	MWD+GMAG	None
176	2201.88	39.81	61.08	29.39	1779.14	556.74	-463.70	476.46	664.86	134.22	1.59	MWD+GMAG	None
177	2230.77	39.90	61.74	28.89	1801.32	570.96	-454.84	492.72	670.56	132.71	0.46	MWD+GMAG	None
178	2260.15	39.95	61.86	29.38	1823.85	585.52	-445.93	509.33	676.96	131.20	0.10	MWD+GMAG	None
179	2289.43	39.90	62.29	29.28	1846.31	600.08	-437.13	525.94	683.88	129.73	0.29	MWD+GMAG	None
180	2318.52	39.84	62.20	29.09	1868.63	614.57	-428.45	542.44	691.24	128.30	0.09	MWD+GMAG	None
181	2347.98	39.92	62.11	29.46	1891.24	629.23	-419.63	559.14	699.09	126.89	0.10	MWD+GMAG	None
182	2376.85	39.74	61.33	28.87	1913.41	643.49	-410.87	575.43	707.05	125.53	0.56	MWD+GMAG	None
183	2406.06	39.63	61.81	29.21	1935.89	657.84	-401.99	591.83	715.44	124.19	0.34	MWD+GMAG	None
184	2435.41	39.72	63.06	29.35	1958.48	672.44	-393.32	608.44	724.50	122.88	0.83	MWD+GMAG	None
185	2464.76	39.77	63.84	29.35	1981.05	687.26	-384.93	625.22	734.22	121.62	0.52	MWD+GMAG	None
186	2493.95	39.74	64.22	29.19	2003.49	702.13	-376.75	642.01	744.39	120.41	0.26	MWD+GMAG	None
187	2522.87	39.65	63.67	28.92	2025.74	716.82	-368.64	658.60	754.75	119.24	0.38	MWD+GMAG	None
188	2552.13	39.47	62.17	29.26	2048.30	731.43	-360.16	675.19	765.24	118.08	1.01	MWD+GMAG	None
189	2581.30	39.43	61.25	29.17	2070.82	745.73	-351.37	691.51	775.66	116.94	0.61	MWD+GMAG	None
190	2610.63	39.51	61.34	29.33	2093.47	760.01	-342.42	707.87	786.34	115.81	0.10	MWD+GMAG	None
191	2640.00	39.48	61.94	29.37	2116.13	774.40	-333.55	724.30	797.41	114.73	0.40	MWD+GMAG	None
192	2668.74	39.46	63.27	28.74	2138.32	788.67	-325.14	740.52	808.76	113.70	0.90	MWD+GMAG	None
193	2697.93	39.53	63.79	29.19	2160.84	803.35	-316.87	757.14	820.77	112.71	0.35	MWD+GMAG	None
194	2727.10	39.54	63.69	29.17	2183.34	818.08	-308.65	773.79	833.08	111.75	0.07	MWD+GMAG	None
195	2756.40	39.47	64.30	29.30	2205.95	832.91	-300.48	790.55	845.72	110.81	0.41	MWD+GMAG	None
196	2785.88	39.64	63.95	29.48	2228.68	847.88	-292.28	807.44	858.71	109.90	0.29	MWD+GMAG	None
197	2814.78	39.36	63.05	28.90	2250.98	862.41	-284.08	823.89	871.49	109.02	0.67	MWD+GMAG	None
198	2843.97	39.61	63.98	29.19	2273.50	877.09	-275.81	840.50	884.60	108.17	0.67	MWD+GMAG	None
199	2873.36	39.71	63.95	29.39	2296.13	892.01	-267.57	857.36	898.14	107.33	0.11	MWD+GMAG	None
200	2902.69	39.60	63.54	29.33	2318.71	906.86	-259.29	874.14	911.79	106.52	0.29	MWD+GMAG	None
201	2931.61	39.57	62.54	28.92	2341.00	921.34	-250.94	890.57	925.25	105.74	0.67	MWD+GMAG	None
202	2960.43	39.61	60.24	28.82	2363.21	935.43	-242.14	906.69	938.47	104.95	1.55	MWD+GMAG	None
203	2989.69	39.50	59.77	29.26	2385.77	949.44	-232.83	922.83	951.74	104.16	0.33	MWD+GMAG	None
204	3019.00	39.51	59.07	29.31	2408.39	963.33	-223.34	938.88	965.08	103.38	0.46	MWD+GMAG	None
205	3048.37	39.56	58.02	29.37	2431.04	977.07	-213.59	954.83	978.42	102.61	0.70	MWD+GMAG	None
206	3077.66	39.47	57.95	29.29	2453.63	990.63	-203.71	970.63	991.77	101.85	0.10	MWD+GMAG	None
207	3100.08	39.63	57.84	22.42	2470.92	1001.01	-196.12	982.72	1002.10	101.29	0.24	MWD+GMAG	None
208	3120.00	39.50	58.00	19.92	2486.28	1010.24	-189.38	993.47	1011.36	100.79	0.25	Proj. to TD	

[(c)2009 IDEAL ID14\_OC\_16]

**Well: CBA A15B**  
**Field: Halibut**  
**Rig: ISDL 175**  
**State: Victoria**

**9.875 in. Section**

**VISION Density Neutron**  
**1:500 True Vertical Depth**  
**Recorded Mode Log**