


Rig: **ISDL 453** State: **Victoria**

Rig: ISDL 453 Field: Tuna Location: Bass Strait Well: TNA A-31 Company: Esso Australia Ltd.			GeoVISION Service				
			1:200 True Vertical Depth Recorded Mode Log				
	Location	Total depth:	3220 m		Elevation	K.B.	Top Drive
		Spud date:	30-May-02			G.L.	-59.40 m
		Runs:	3	To 3		D.F.	31.30 m
		Permanent datum:		Mean Sea Level		Elev.:	59.40 m
		Log measured from:		Drill Floor		31.30 m above Perm. datum	
	Depth reference:		Driller's Pipe Tally				
	API serial no.		x = 5774227.40m (North) y = 624231.22m (East)		Longitude      Latitude		
					E 148 25 5.666      S 38 10 16.232		
Depth logged: 829.0 m		To 3206 m		Mag decl: 13.156 deg		Other services:	
Date logged: 8-Jul-02		To 16-Jul-02		Mag dip: -68.695 deg		Directional Drilling	
Bore hole record				Casing record			
Hole size		from	to	Size	Density	from      to	
12 1/4 in.		145.0 m	835.0 m	20 in.	84 lb/ft	Surface      147.3 m	
8 1/2 in.		835.0 m	3220.0 m	9 5/8 in.	47 lb/ft	Surface      829.0 m	
Mud record				Borehole deviation record			
Type	from	to	Min	Max	from	to	
Seawater	145.0 m	835.0 m	2.88 deg	71.08 deg	145.0 m	835.0 m	
KCL/PHPA	829 m	3220 m	68.84 deg	72.86 deg	829 m	3220 m	
Surface equipment		Software record		<div>IDEAL services from Anadrill</div>			
Unit	OLU-FB-924	IDEAL Wis	ID6_1C_10r				
Depth system	PDA	SPM	ID6_1C_10r				
		LWD	see toolsketch				
		MWD	see toolsketch				

# Bit Run Summary

[illegible]

Type	KCL/PHPA/GLYCOL									
Mud weight	ppg	10.3								
Solids	%vol	7.3								
Chlorides	mg/l	48,000								
Rm	Ohmm@degC	0.1419@20								
Rmf	Ohmm@degC	0.1046@20								
Rmc	Ohmm@degC	0.2120@20								
Potassium	%vol	4								
<b>Environmental data</b>										
<b>GR</b>										
Mud weight	ppg	10.3								
Bit size	in	8.5								
<b>Resistivity</b>										
<b>Neutron porosity</b>										
Hole Size	in	8.5								
Mud weight	ppg	10.3								
Temperature	DegC	75.29								
Mud salinity	mg/l	48,000								
Formation salinity										
Recording rate 1	SEC	10								
Recording rate 2	SEC	10								
Filtering GR		3 pt								
Filtering density		3 pt								
Filtering Neutron		3 pt								
Company representative	G. Cambell	B. Davies								
Anadrill personnel	J. Walta	L. Bon	W. Betheux							

#### DISCLAIMER

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OTHER SERVICES FOR RUN3 Directional Surveys	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 3 8-1/2in Hole Section was logged from 829 m to 3206 m MD.  Depth is referenced to the Driller's pipe tally.  All data presented is from tool memory.  GR corrected for mud weight, tool and bit size. RAB6 Resistivity is corrected for the bit size, mud resistivity and borehole temperature.  Bottom quadrant density is presented. Neutron porosity is calculated with limestone matrix and is corrected for the bit size, borehome salinity, temperature and mud hydrogen index (from mud weight, temperature and pressure)  Mud type is water based KCl/PHPA/GLYCOL. Barite is present in the mud.  RAB6C Downhole Software 6C-V6.1 ADN6C Downhole Software 6.2B08	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

There were discrepancies in the pipe tally this run.

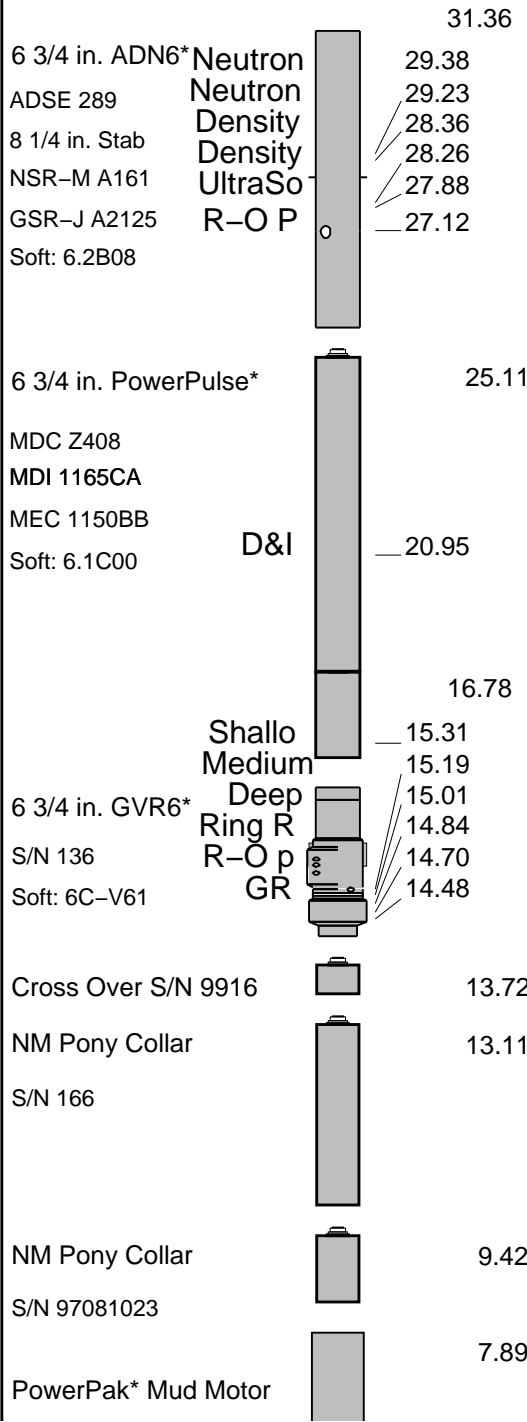
EQUIPMENT DESCRIPTION

RUN1

RUN

RUN

DOWNHOLE EQ



A675XP S/N 2179

0.78 deg bend



Bit-PDC

Geo-Diamond Model: S75HPX

MAXIMUM STRING DI

ALL LENGTHS I

0.19  
0.00

## True Vertical Depth Log

IDEAL Version: ID7\_OC\_02

IDF

RAB IDEAL Version: ID7\_OC\_02

MWD\_10

IDEAL Version: ID7\_OC\_02

ADN IDEAL Version: ID7\_OC\_02

Format: A31 RM GeoVISION Vertical Scale: 1:200

Graphics File Created: 21-Jul-2002 16:54

## Parameters

DLIS Name	Description	Value
ADN_COLLAR_STR	ADN Collar Type String	ADDC-AA: Slick
ADN_STAB_STR	ADN Stabilizer Type String	None
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	YES
A_DHS	ADN Down Hole Software Version String	V6.2B
BDBHCA	RAB: Button Deep Borehole A Factor	0.005
BDBHCB	RAB: Button Deep Borehole B Factor	0.000
BHA_COEF_VER	RAB: BHA Coef Generator Version	62012.0
BHT_RM	Bottom Hole Temperature (RM)	75.290 degC
BMBHCA	RAB: Button Medium Borehole A Factor	0.024
BMBHCB	RAB: Button Medium Borehole B Factor	0.000
BSAL_RM	Mud Salinity (RM)	79.200 ppk
BSBHCA	RAB: Button Shallow Borehole A Factor	0.024
BSBHCB	RAB: Button Shallow Borehole B Factor	0.000
BS_RM	Bit Size (RM)	8.500 in
BUT_KIMP_A	RAB: Button Impedance Coeff A	0.000
BUT_KIMP_B	RAB: Button Impedance Coeff B	0.000
DBUTTON_K_FACTOR	RAB: Button Deep K factor	0.005
DEVI	Well Section Deviation	0.100 deg
DHS_VERSION	RAB: DownHole Software Version	6.101
DO	Depth Offset	0.0 m
DTMUD	Delta-T for Mud	630.0 us/m
ENVCOR	Neutron Quadrant Processing: Environmental Correction?	YES
GRDC	Grid corr angle	-0.880 deg
LITHO_TYPE_ADN	Lithology (RM)	LIME
MBUTTON_K_FACTOR	RAB: Button Medium K Factor	0.005
MST_RM	Mud Sample temperature (RM)	20.000 degC
MW_RM	Mud Weight (RM)	10.300 lbm/gal
OBM	RAB: Oil base Mud	NO
OBMF_RM	Oil Based Mud	NO
RABEC	RAB: Resistivity Env-Cor	YES
RAB_TEMP_SELECT	RAB Temperature Selection	MEAS
READOUT_PORT_MP	RAB: ROP to Bit Face Distance	14.700 m
RHOF_RM	Mud Filtrate Density (RM)	1.000 g/cm3
RHOM_RM	Matrix density (RM)	2.710 g/cm3
RINGBHCA	RAB: Ring Borehole A Factor	0.161
RINGBHCB	RAB: Ring Borehole B Factor	0.000

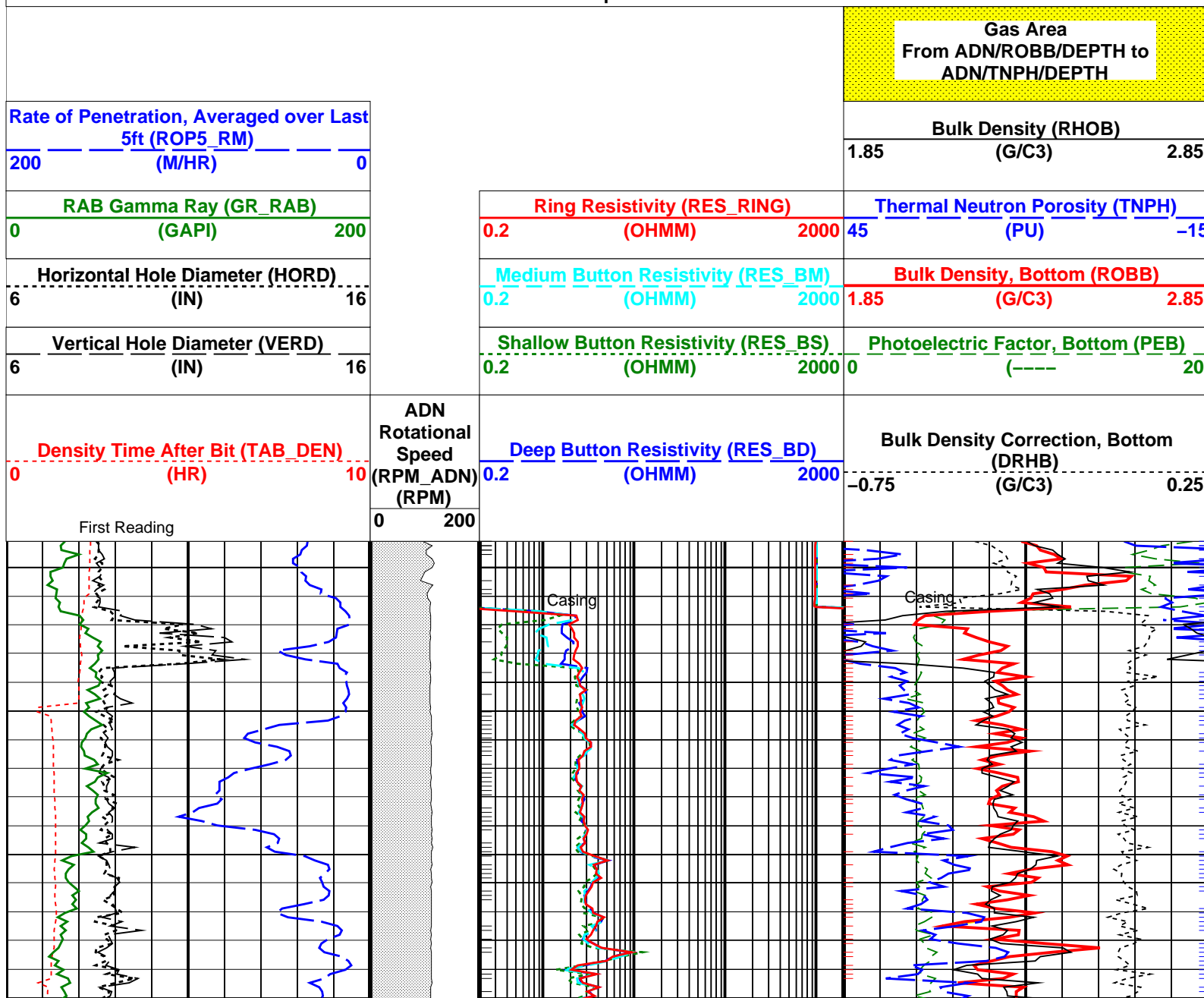
RINGBHCA	RAB: Ring Borehole A Factor	0.161	
RINGBHCB	RAB: Ring Borehole B Factor	0.000	
RING_KIMP_A	RAB: Ring Impedance Coeff A	0.000	
RING_KIMP_B	RAB: Ring Impedance Coeff B	0.000	
RING_K_FACTOR	RAB: Ring K Factor	0.153	
RMS_RM	Resistivity of Mud Sample (RM)	0.142	ohm.m
RWS_RM	Resistivity of Connate Water (RM)	1.000	ohm.m
SBUTTON_K_FACTOR	RAB: Button Shallow K Factor	0.007	
SHT_RM	Surface Hole Temperature (RM)	15.000	degC
SSIZ_ADN	ADN Stabilizer Size	8.250	in
STAB	RAB: Run with Stabilizer	YES	
TD_RM	Total Measured Depth (RM)	3220.0	m
TOOLTYPE	RAB: Azimuthal Tool	YES	
TRPM_RM	Average Tool Rotational Speed	20.000	c/min
TSIZ_ADN	ADN Tool Size	6.750	in
TS_VERSION	RAB: ToolScope Software Version	6.101	
TWS_RM	Temperature of Connate Water (RM)	23.889	degC
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)	0.300	in
VERS_ADN	ADN Downhole Software Version	6.200	
VRAB6	Rab Tool type (ENP/PILOT)	RAB6_C_SERIES	

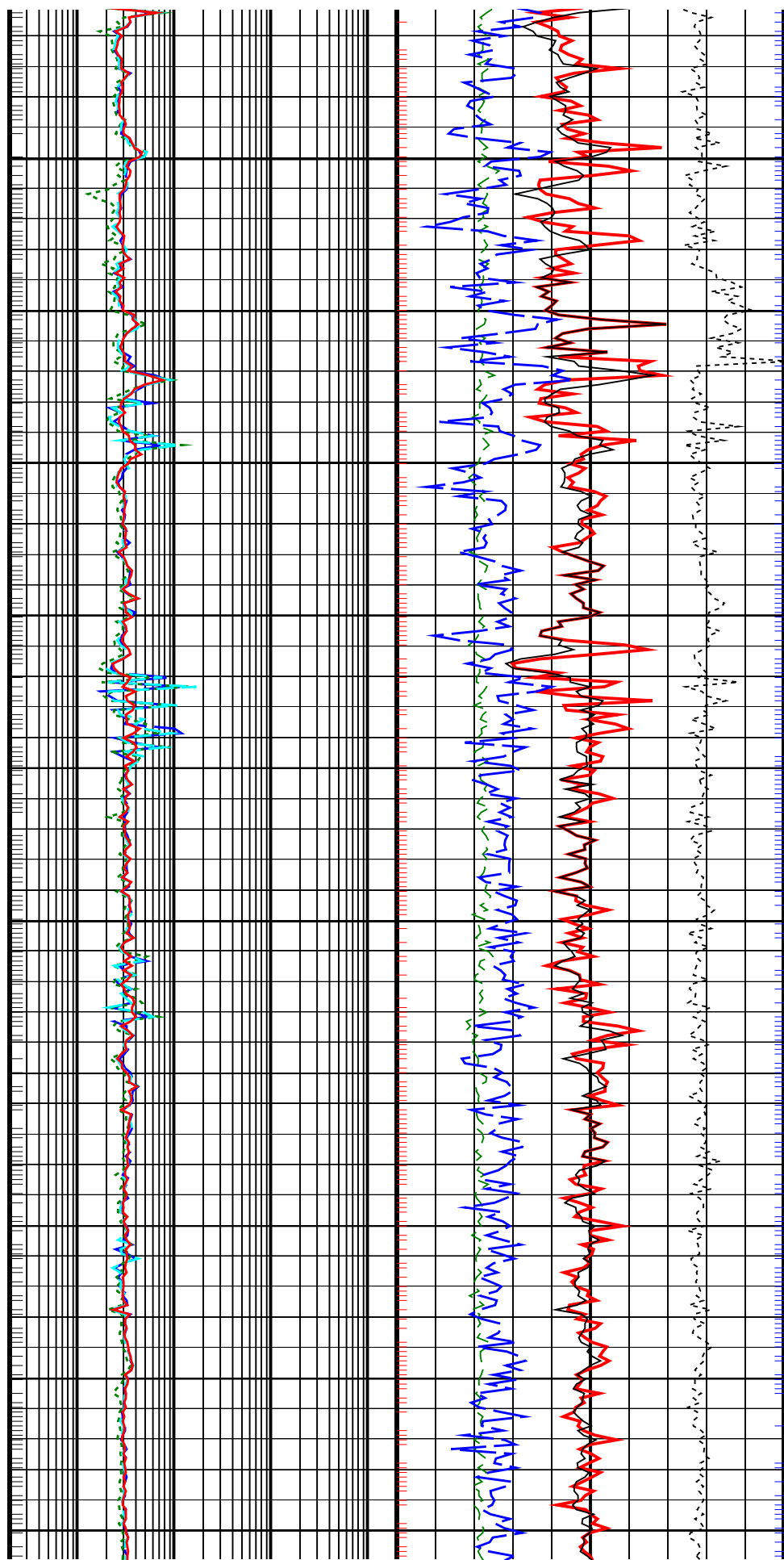
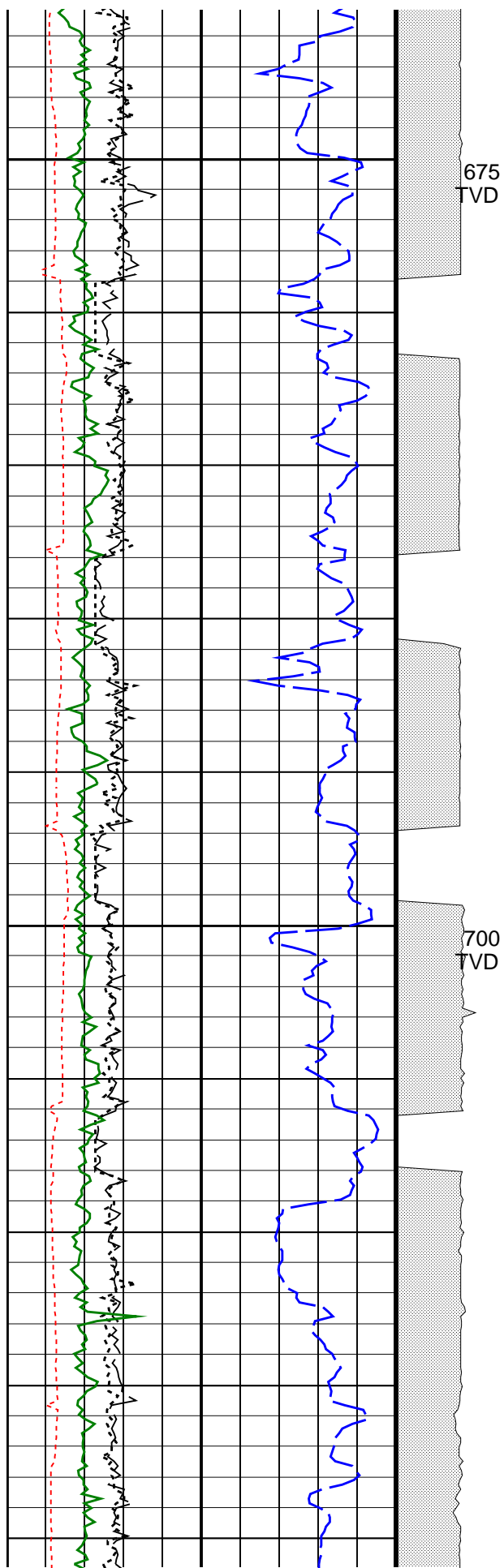
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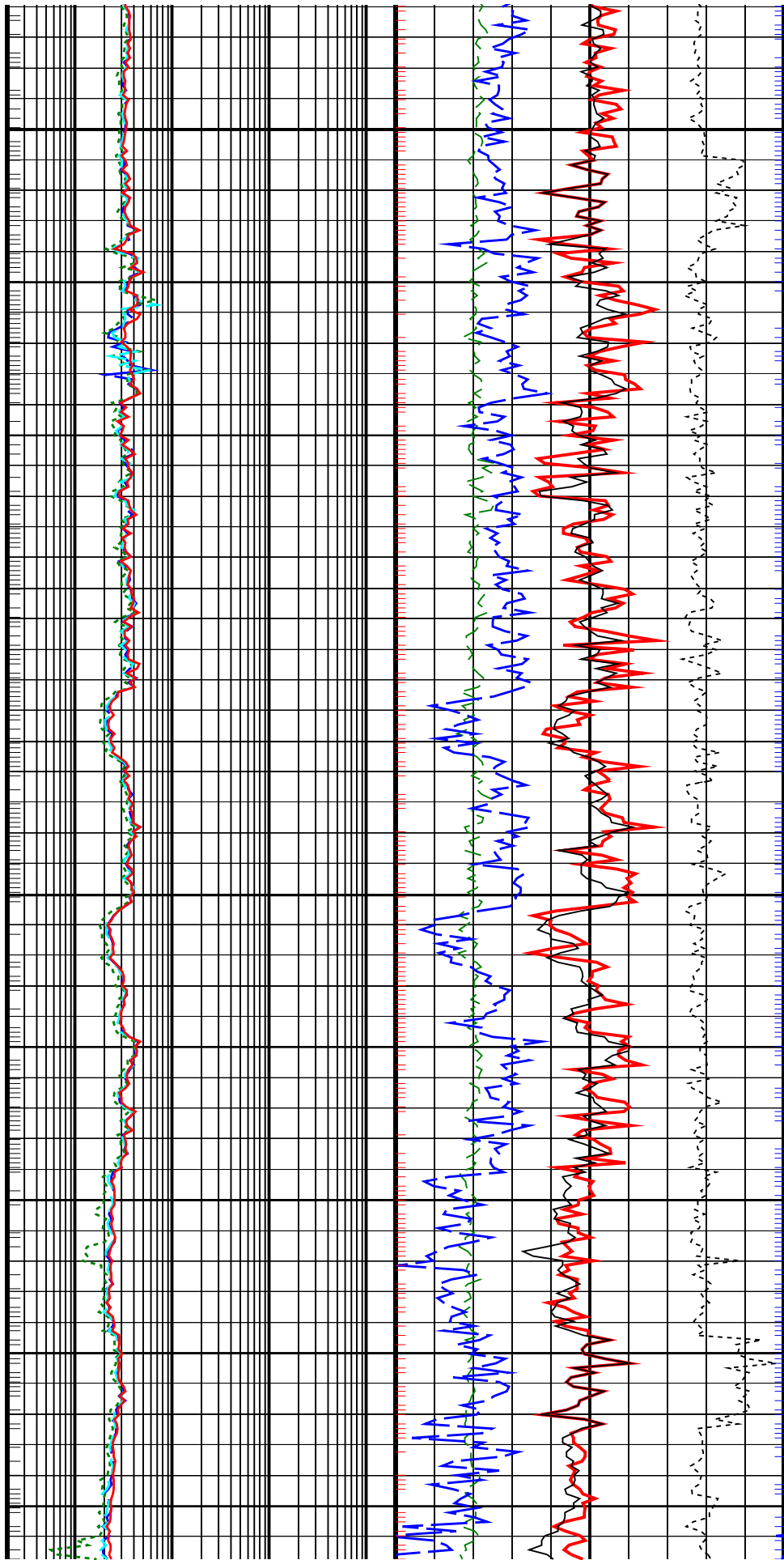
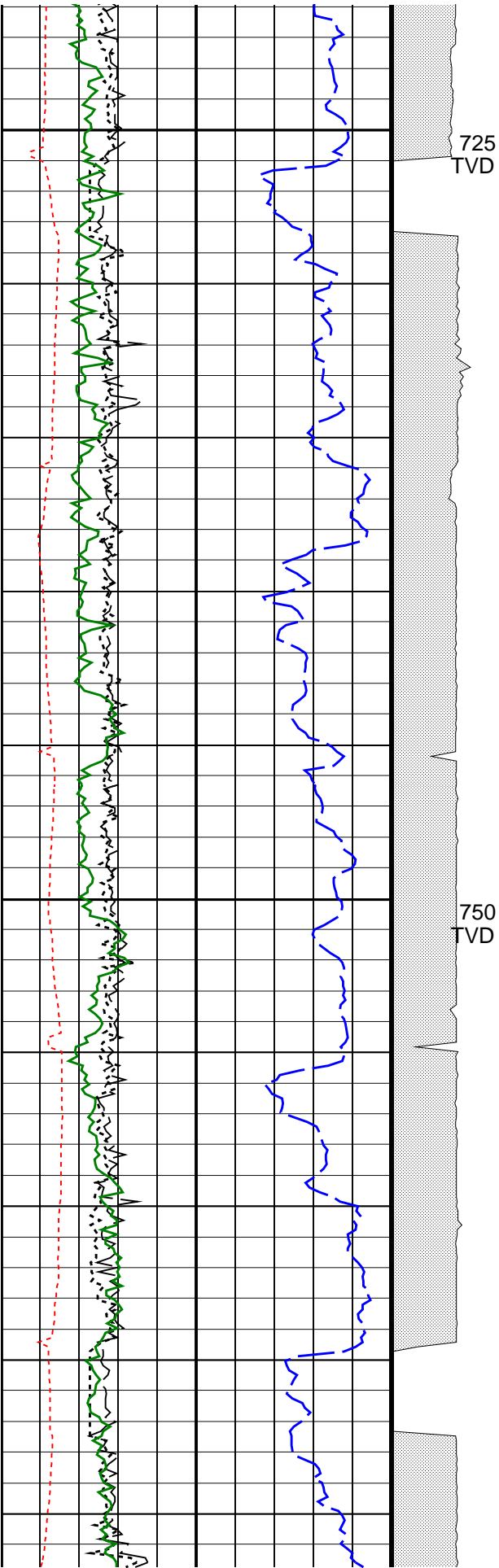
Density Samples ▬

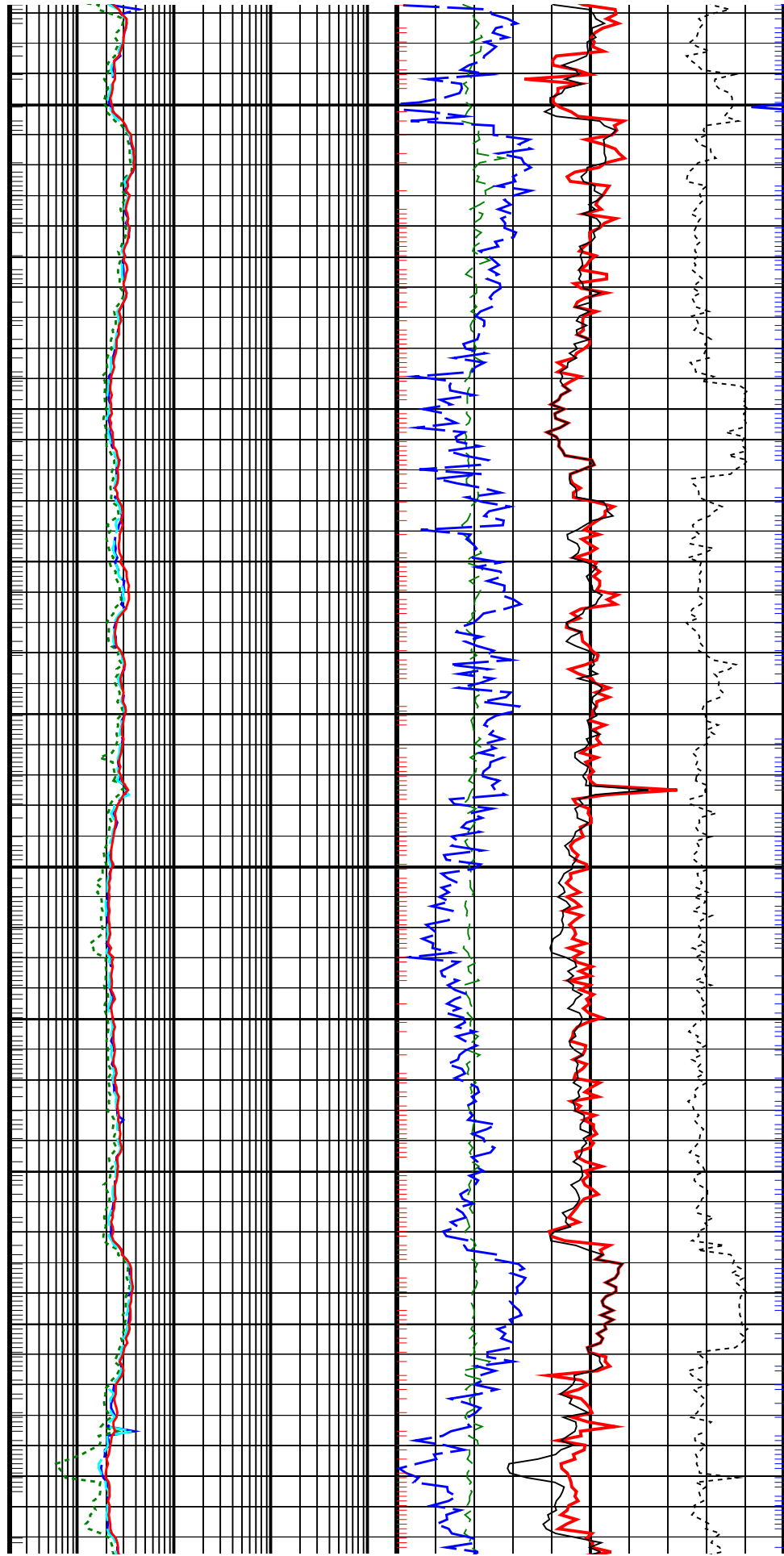
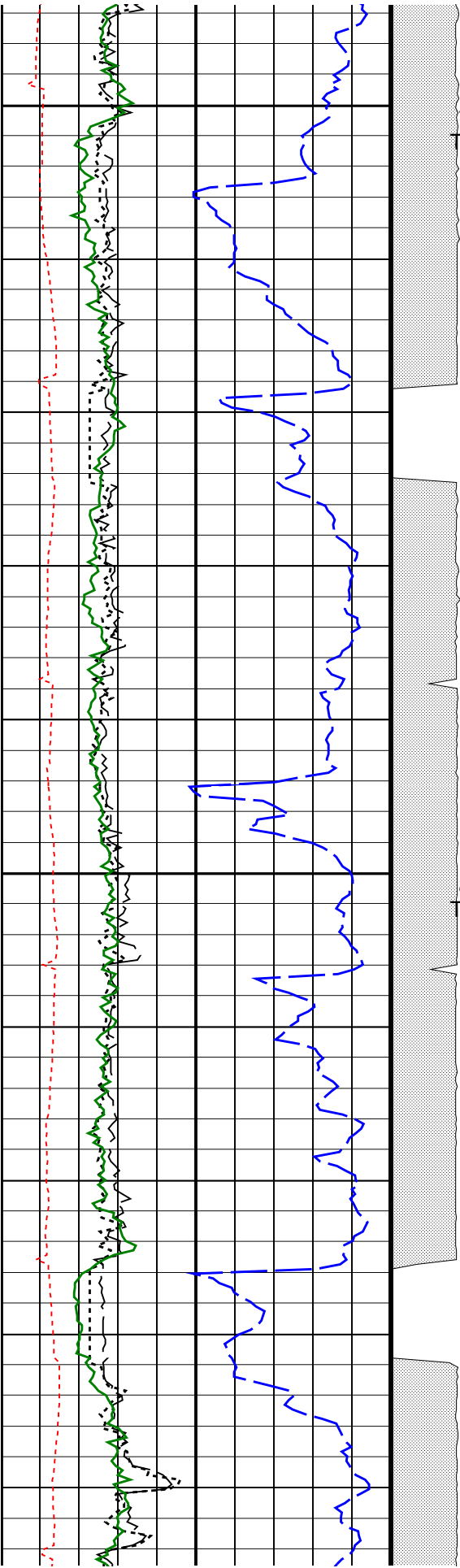
Neutron Samples ▬

▬ RAB samples

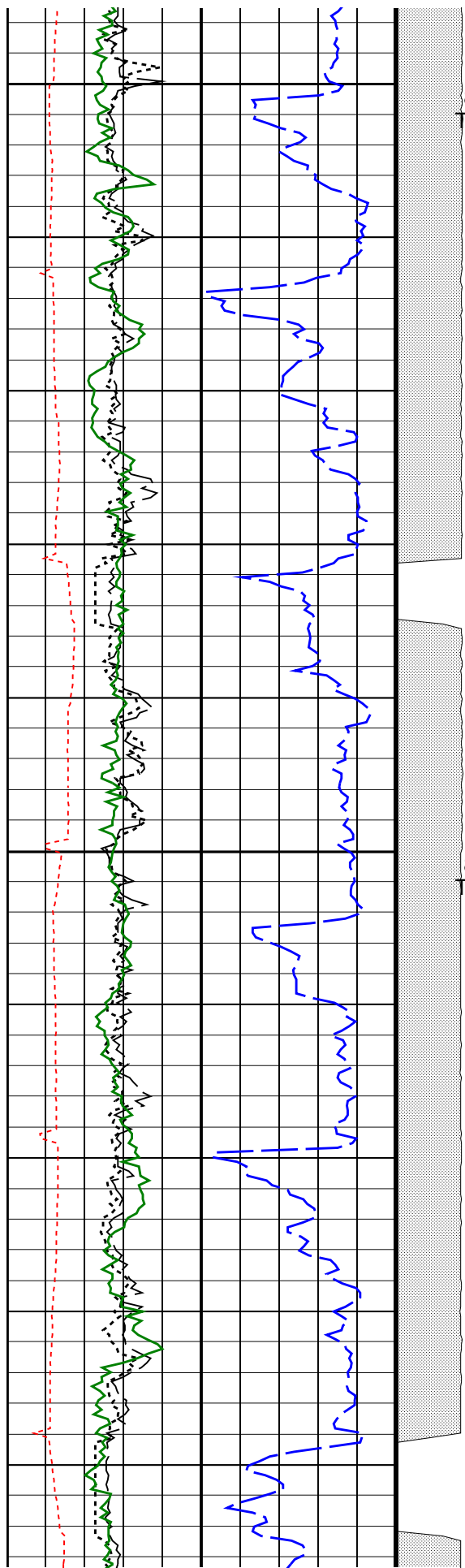






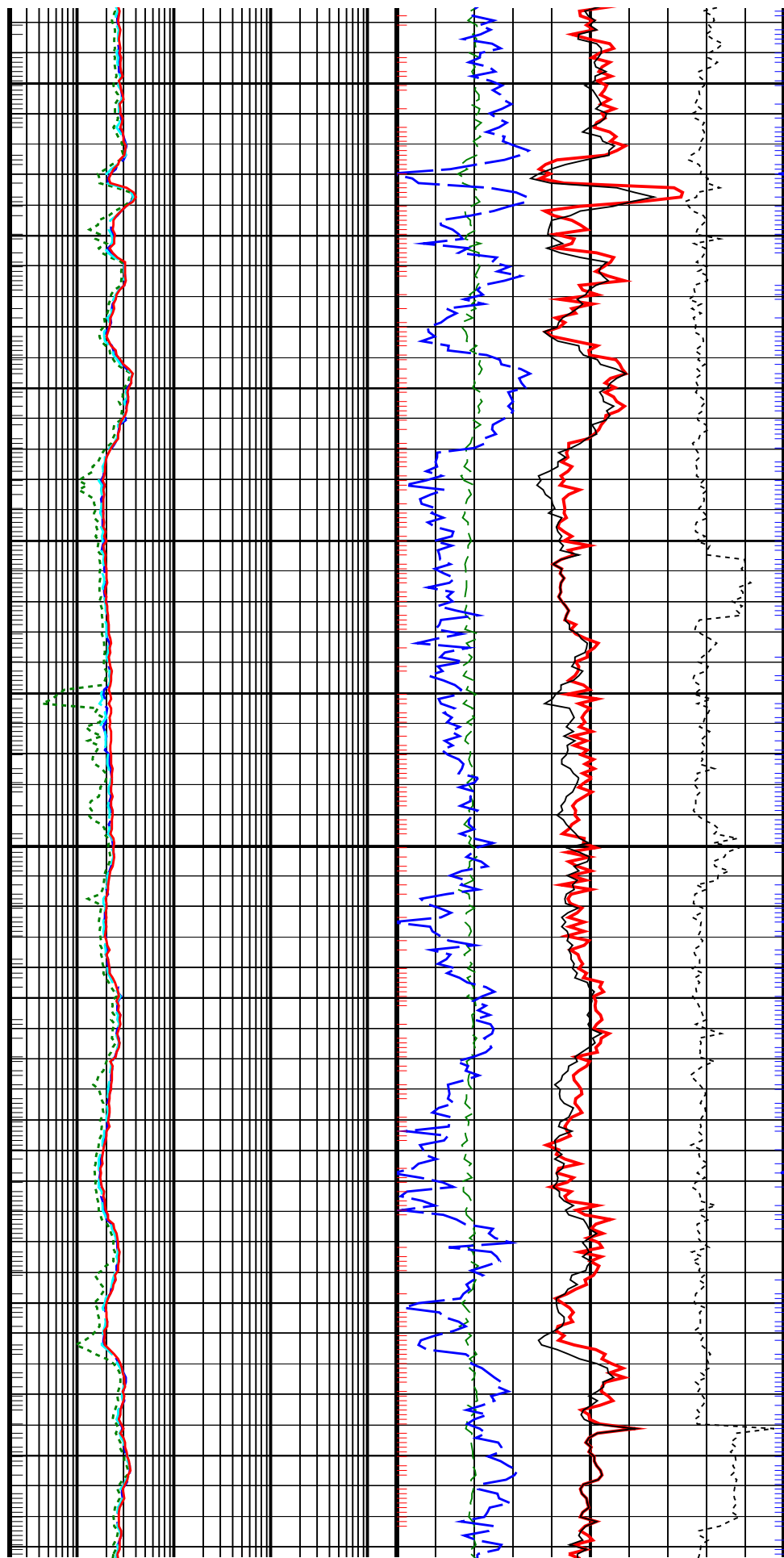


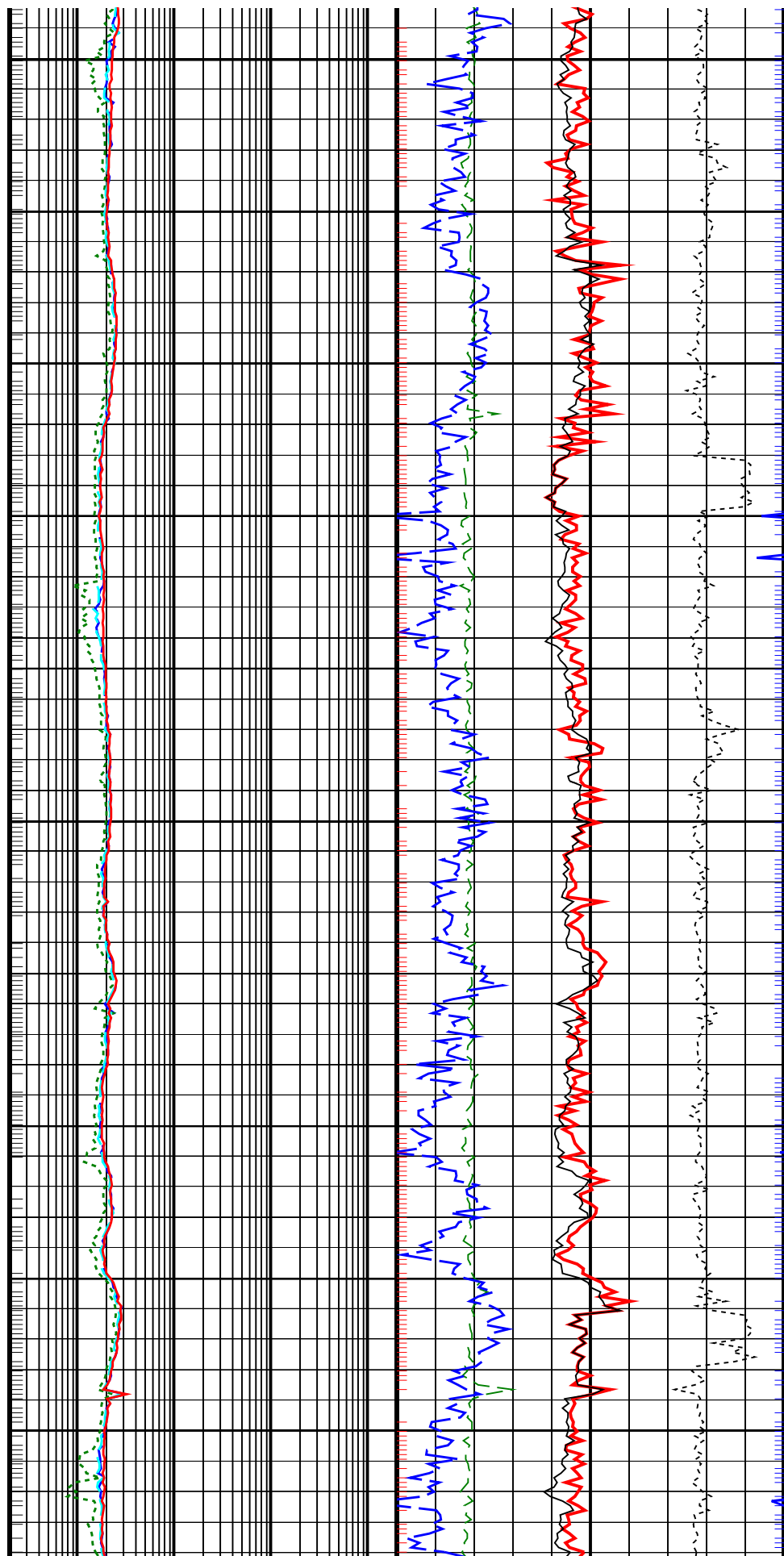
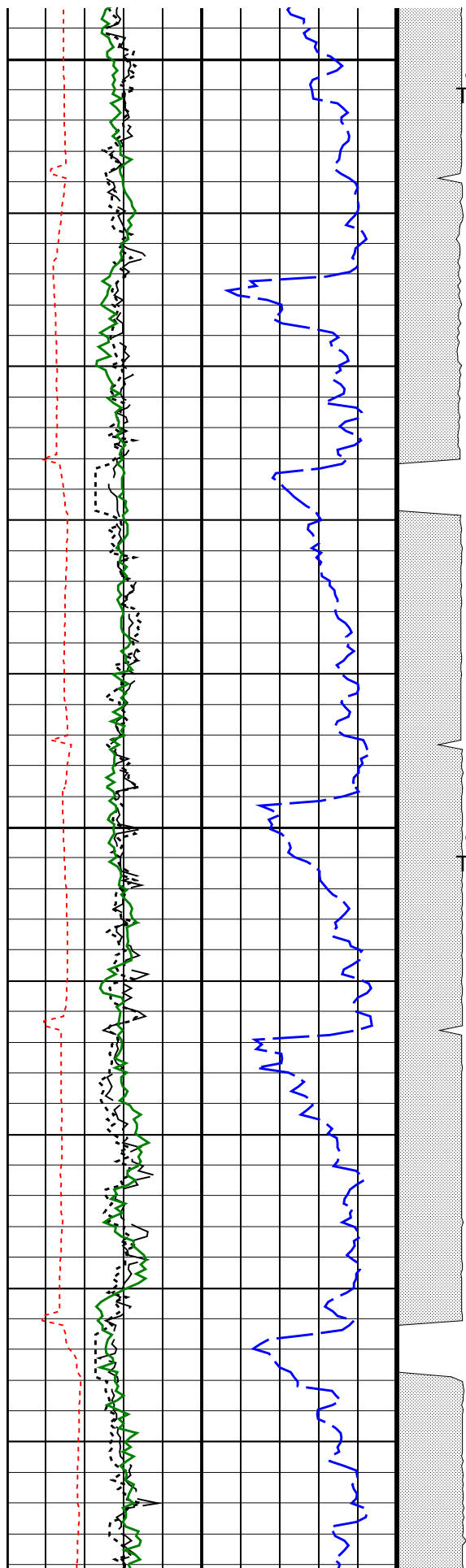


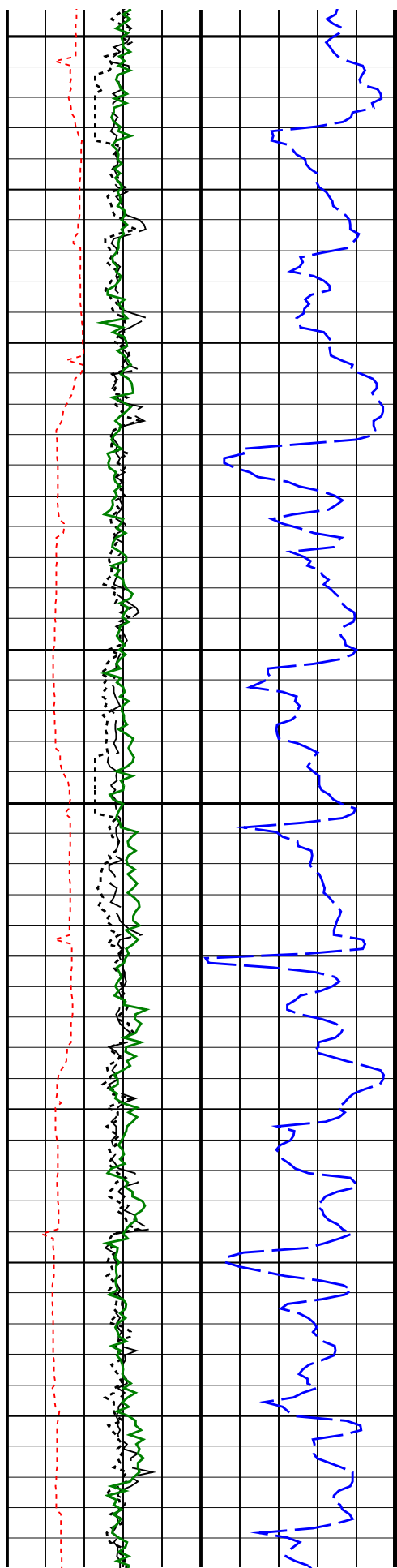


825  
TVD

850  
TVD

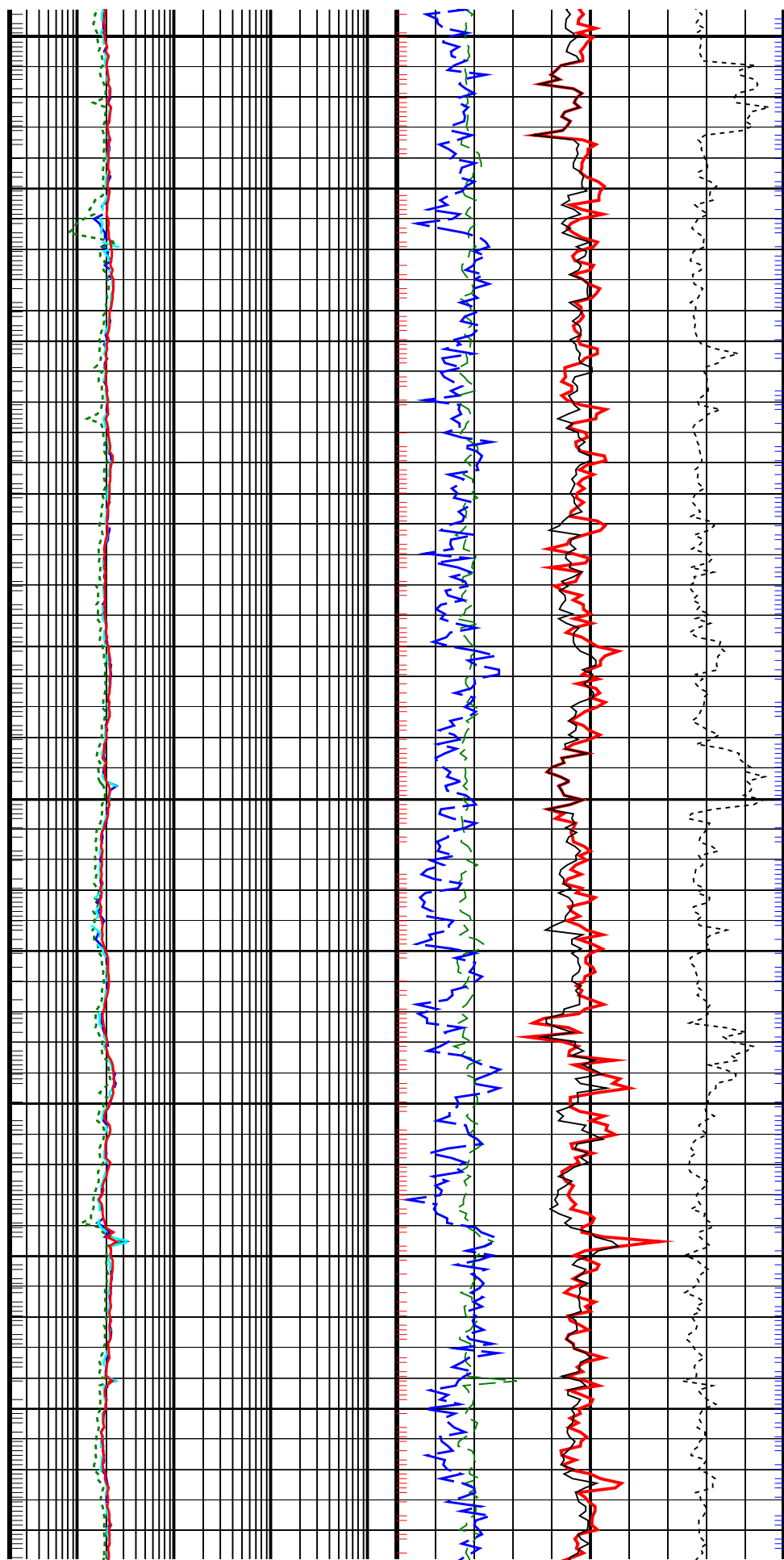


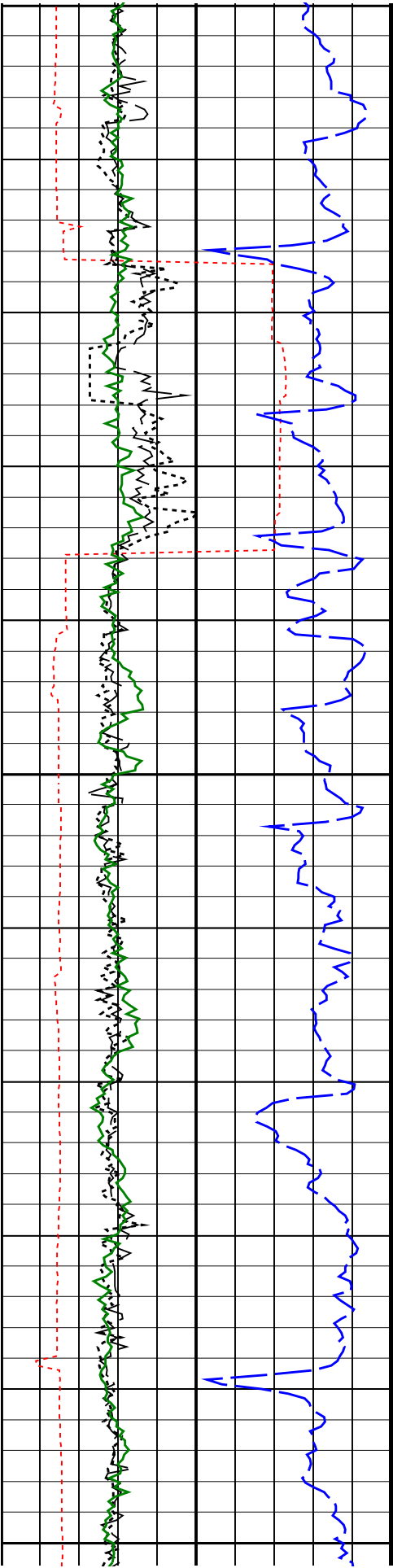




925  
TVD

950  
TVD

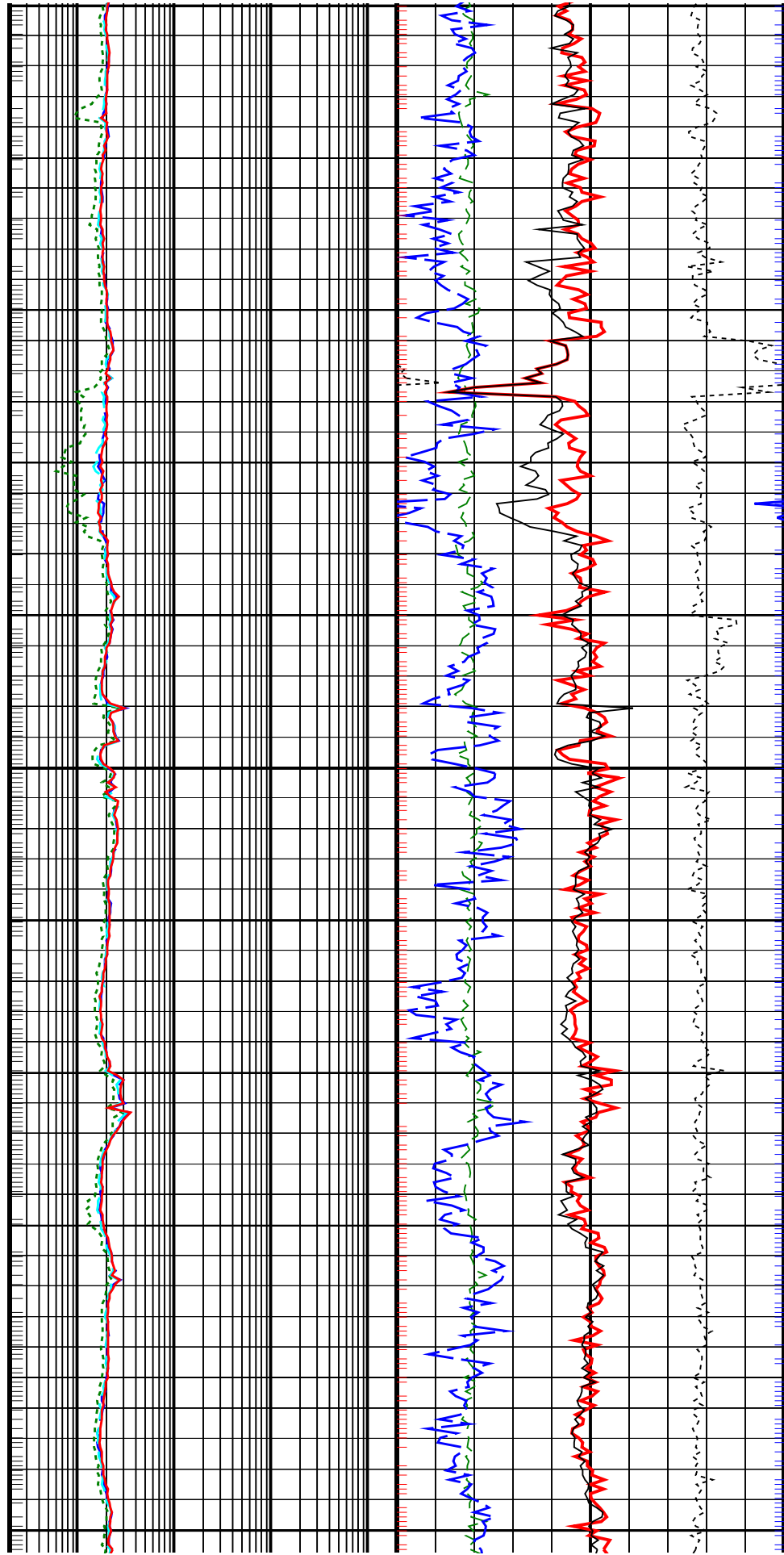




975 TVD

1000 TVD

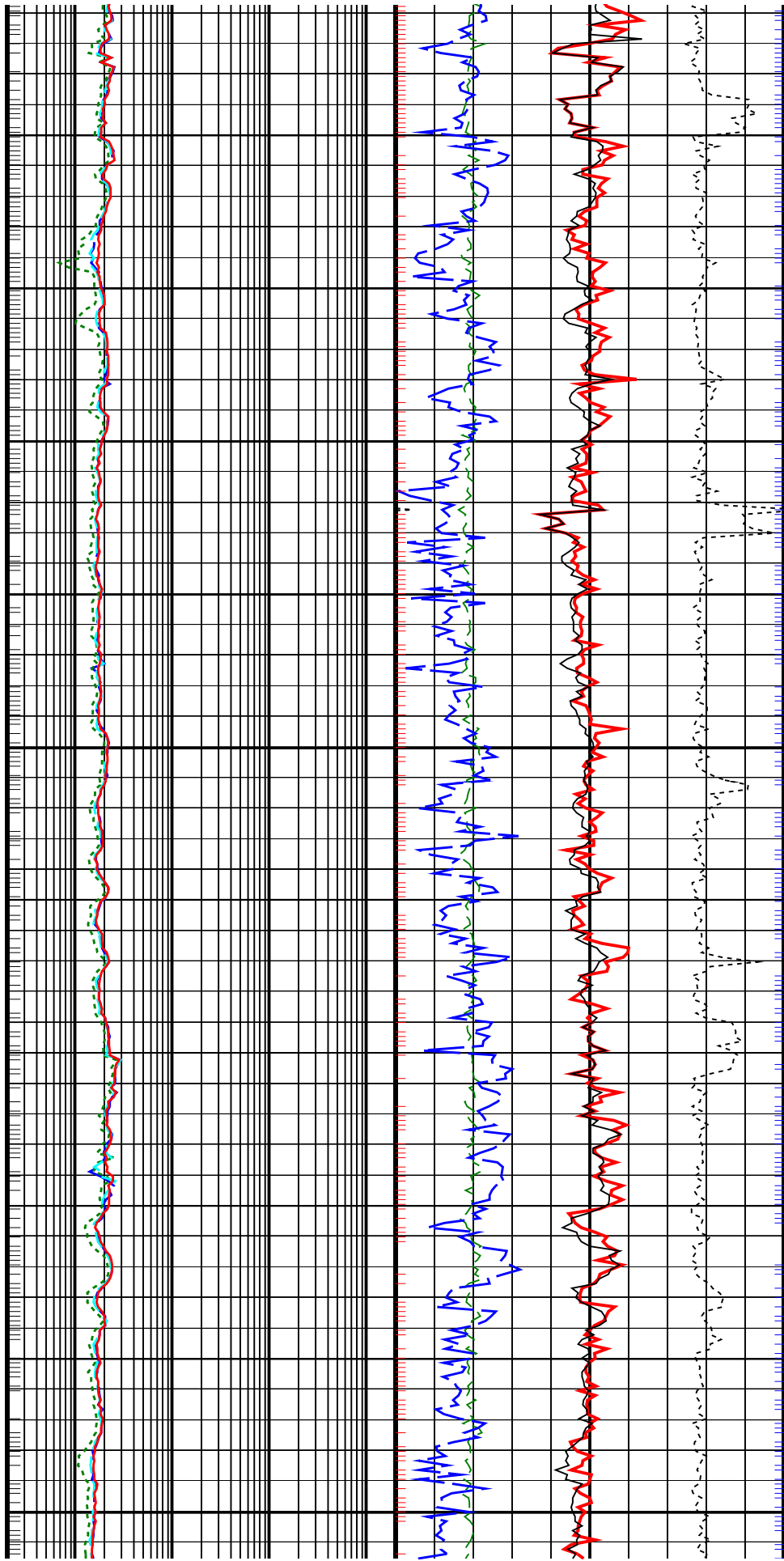
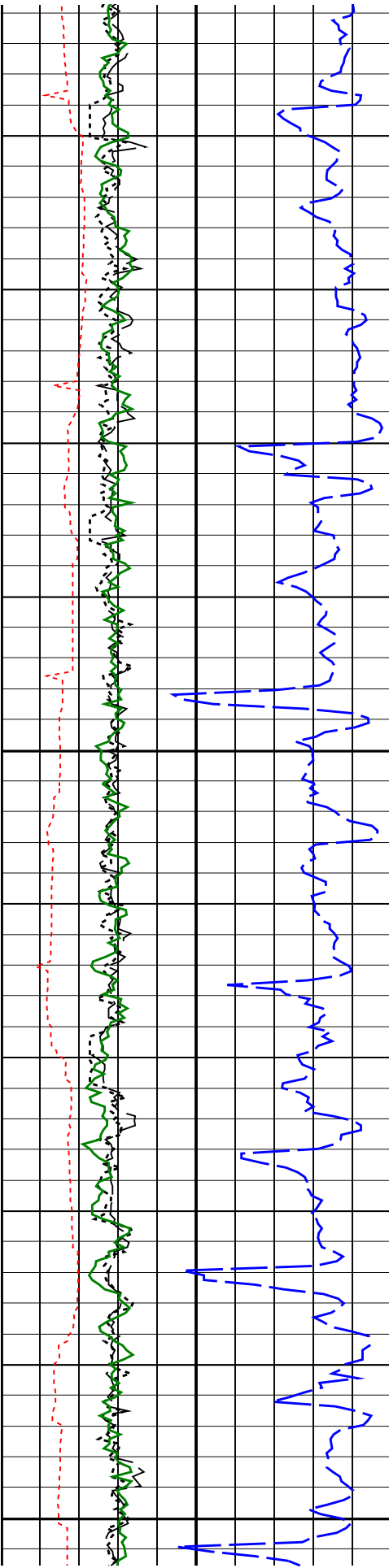
1025 TVD



1025  
TVD

1050  
TVD

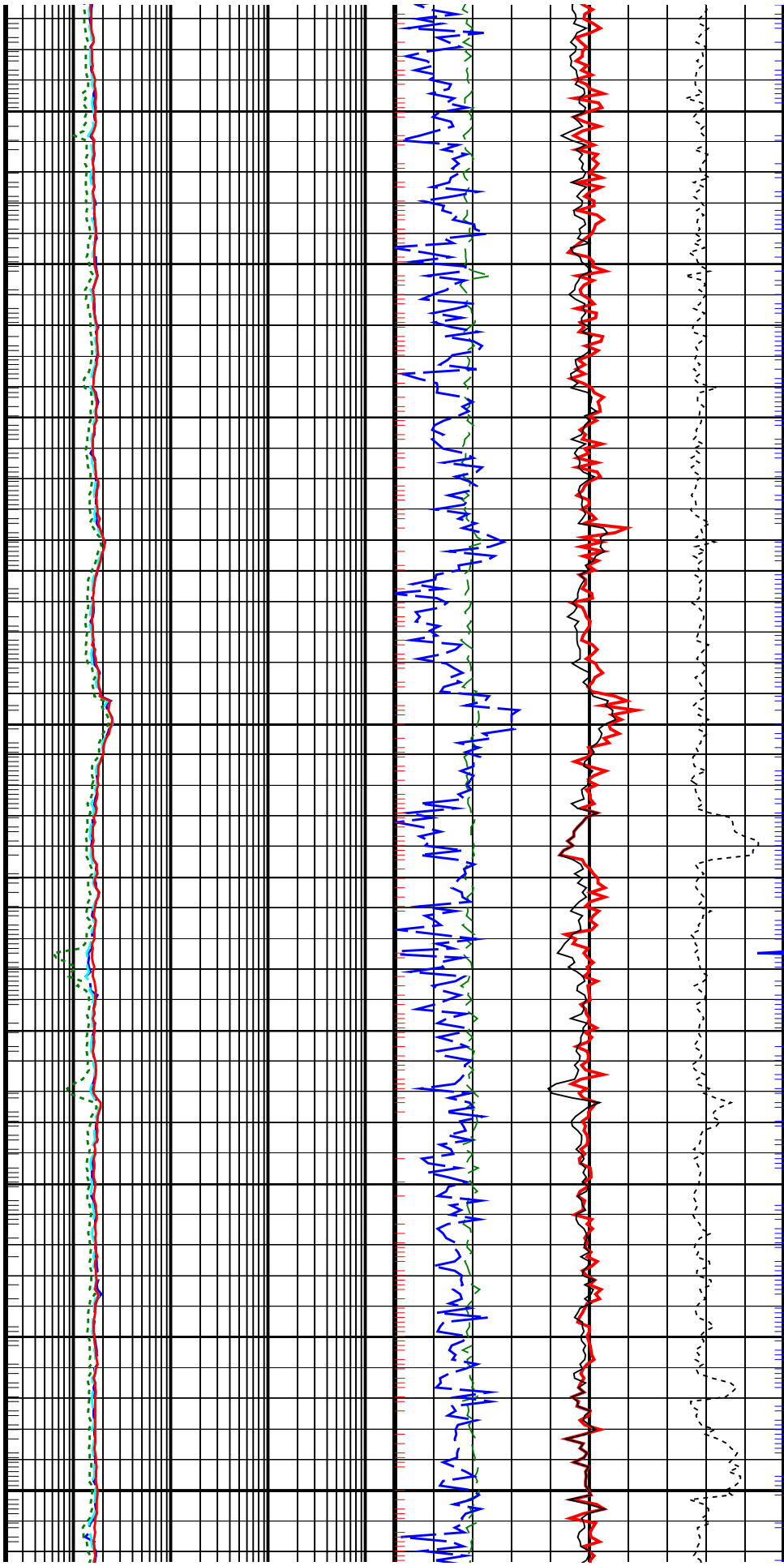
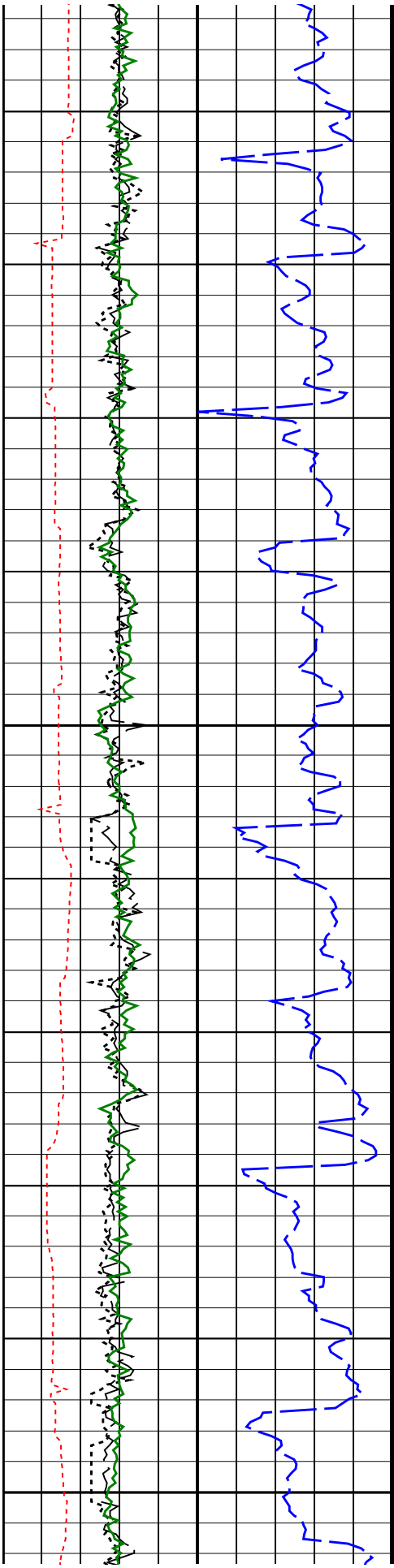
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TVD

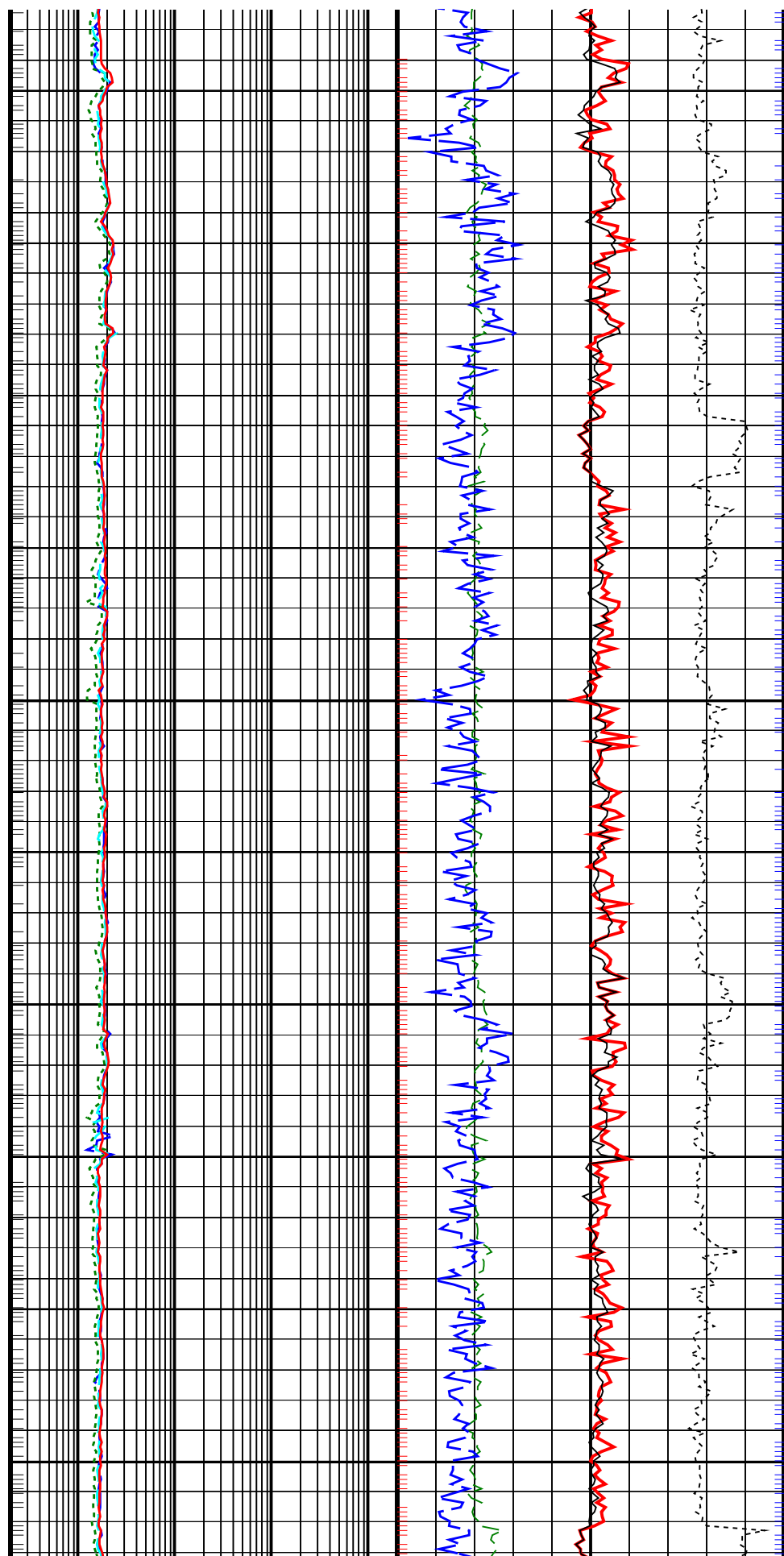
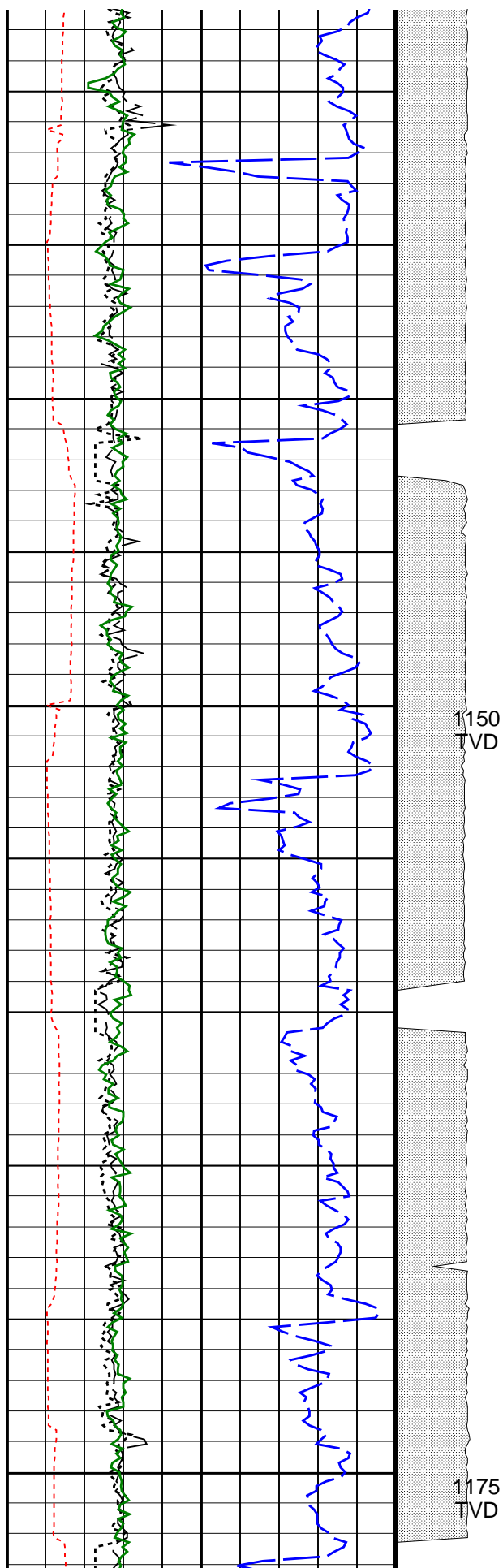


TVD

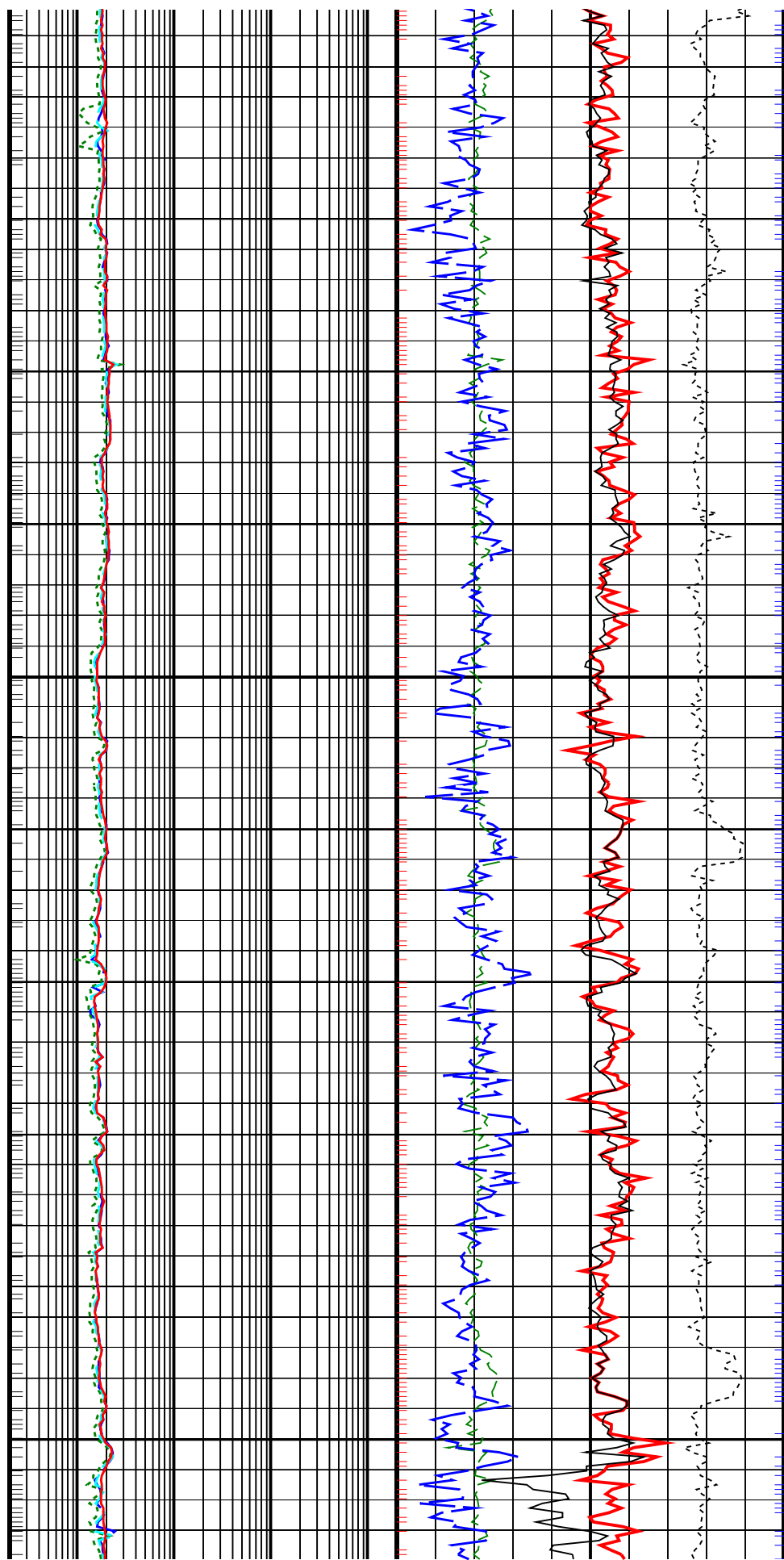
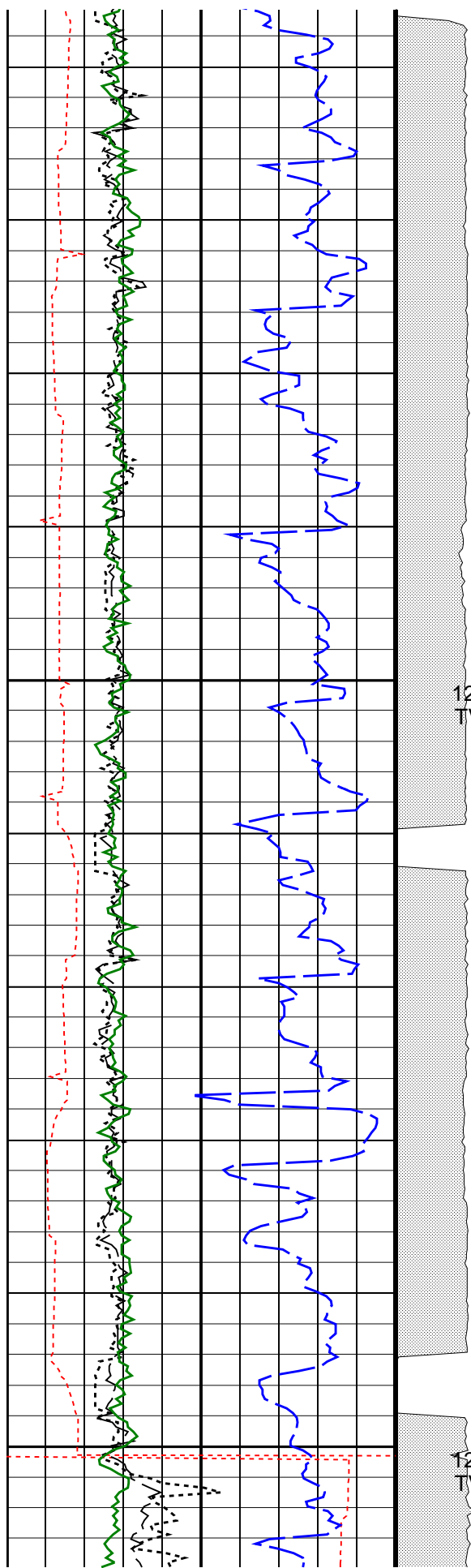
1100  
TVD

125  
TVD

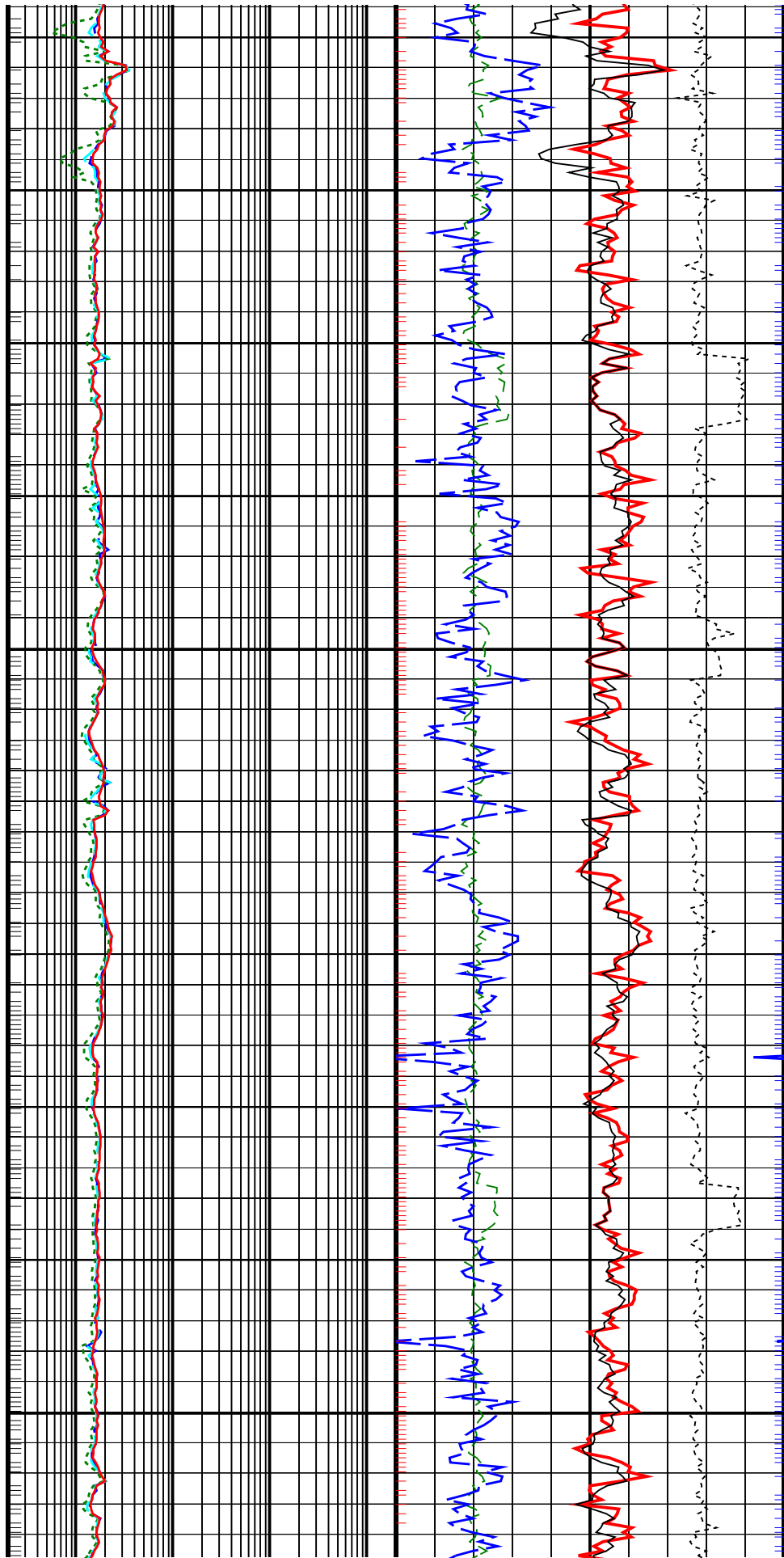
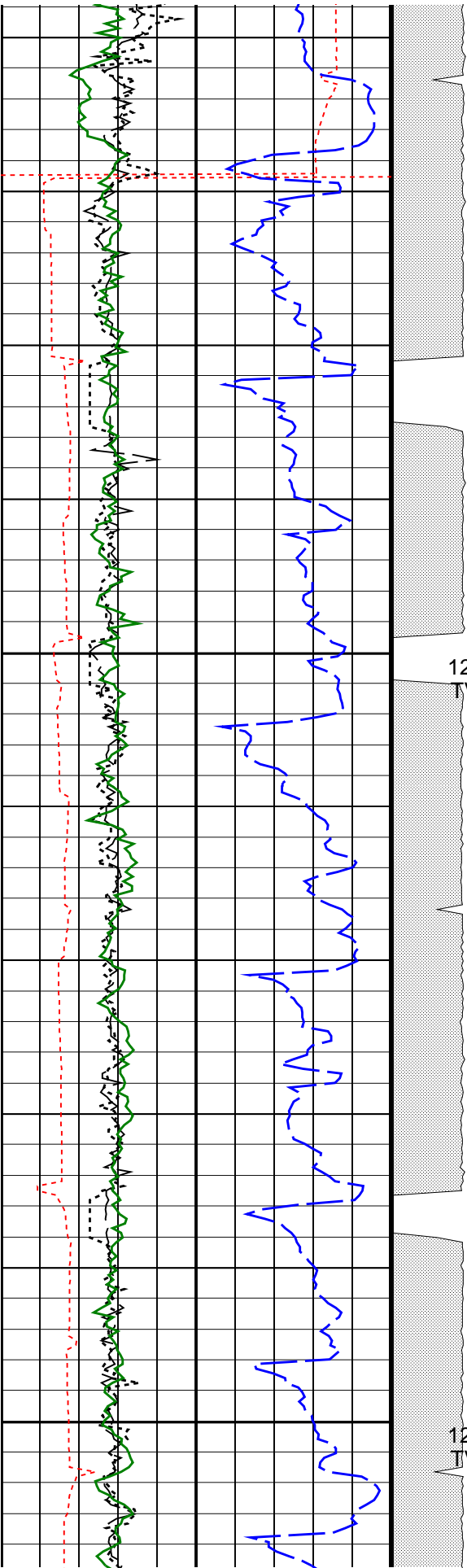


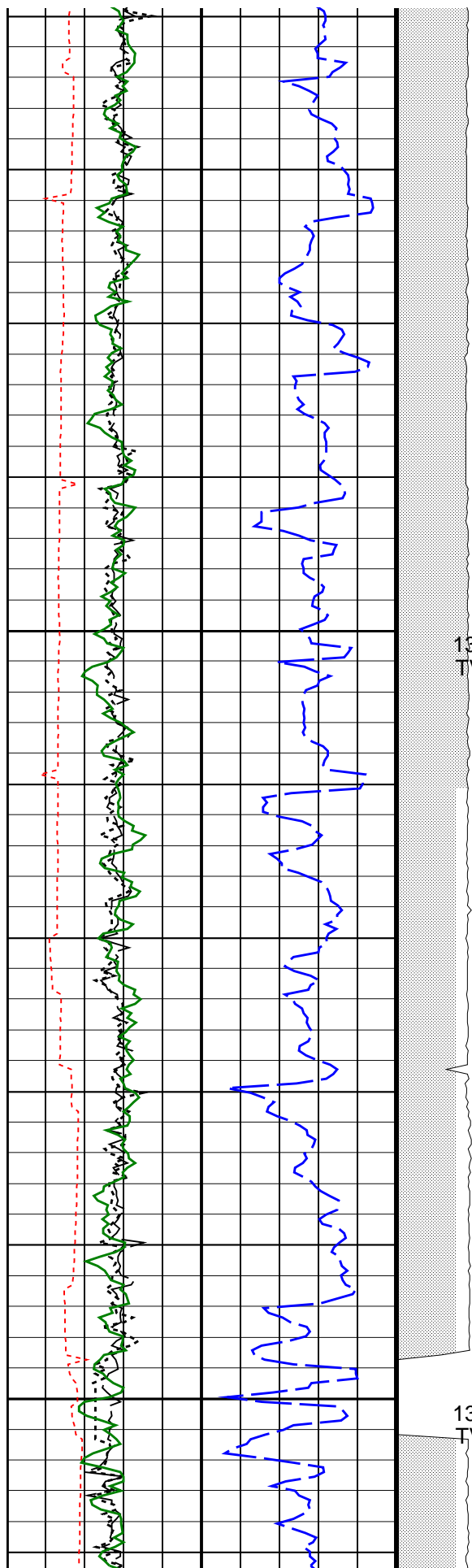






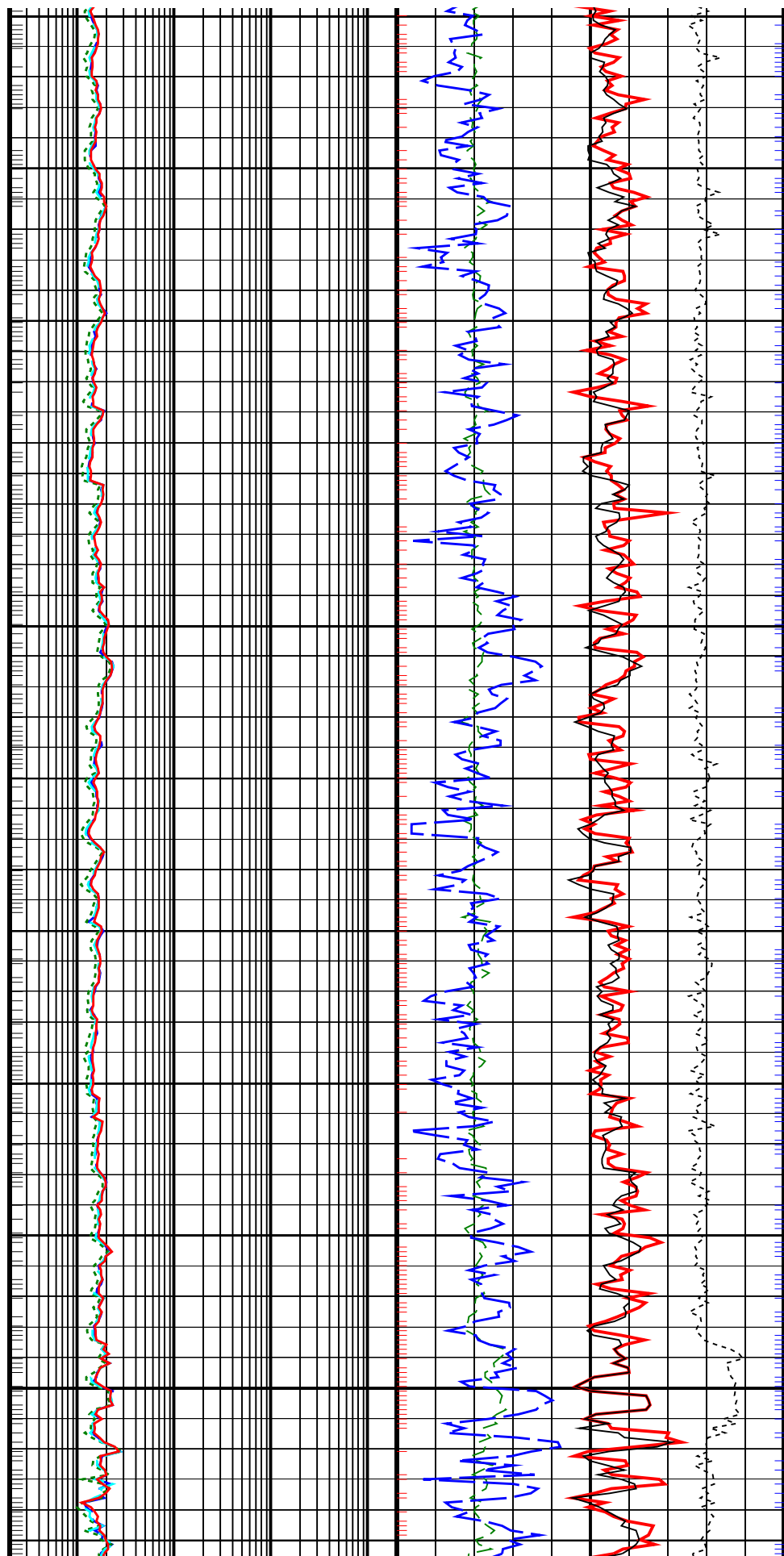


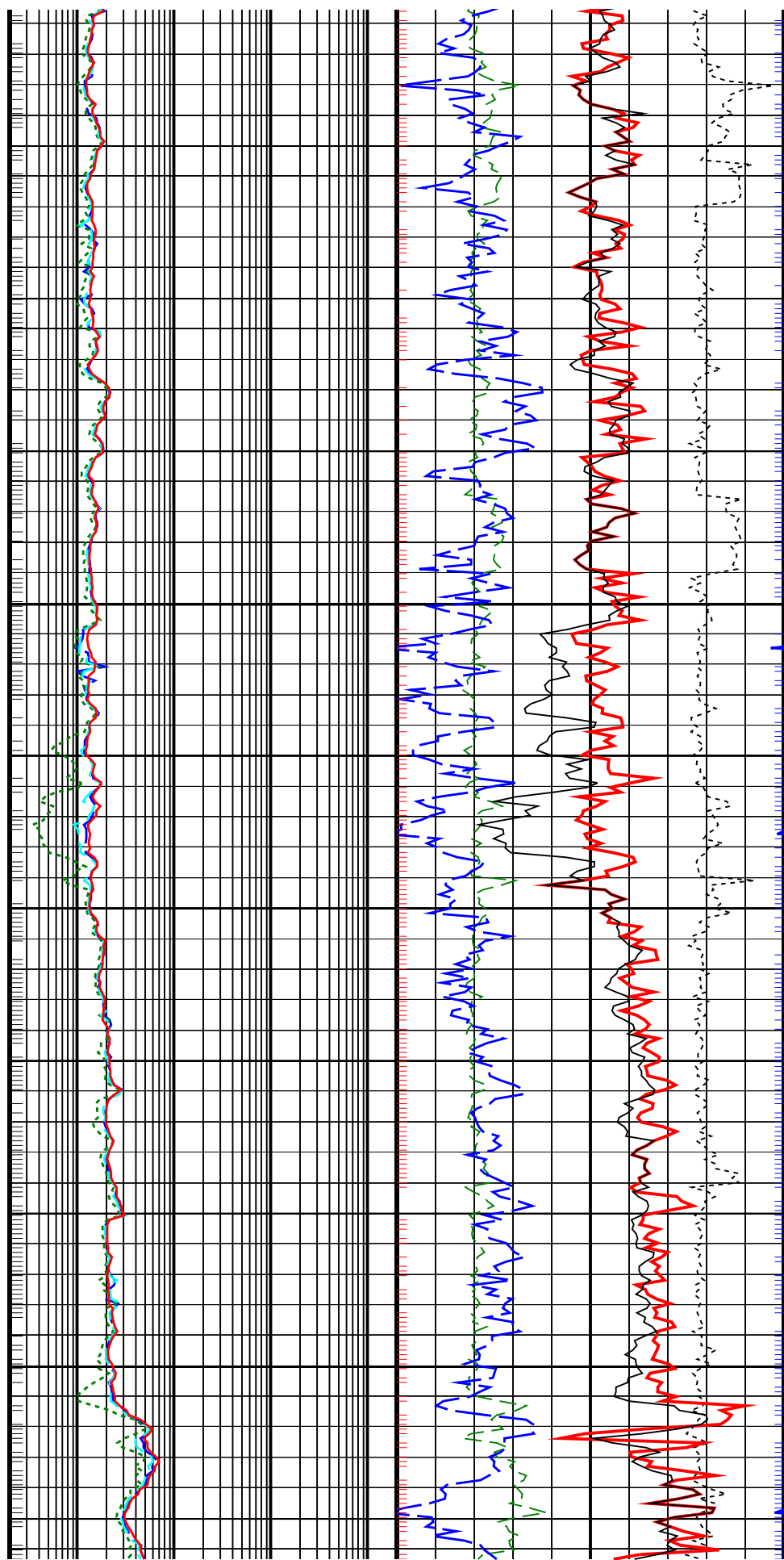
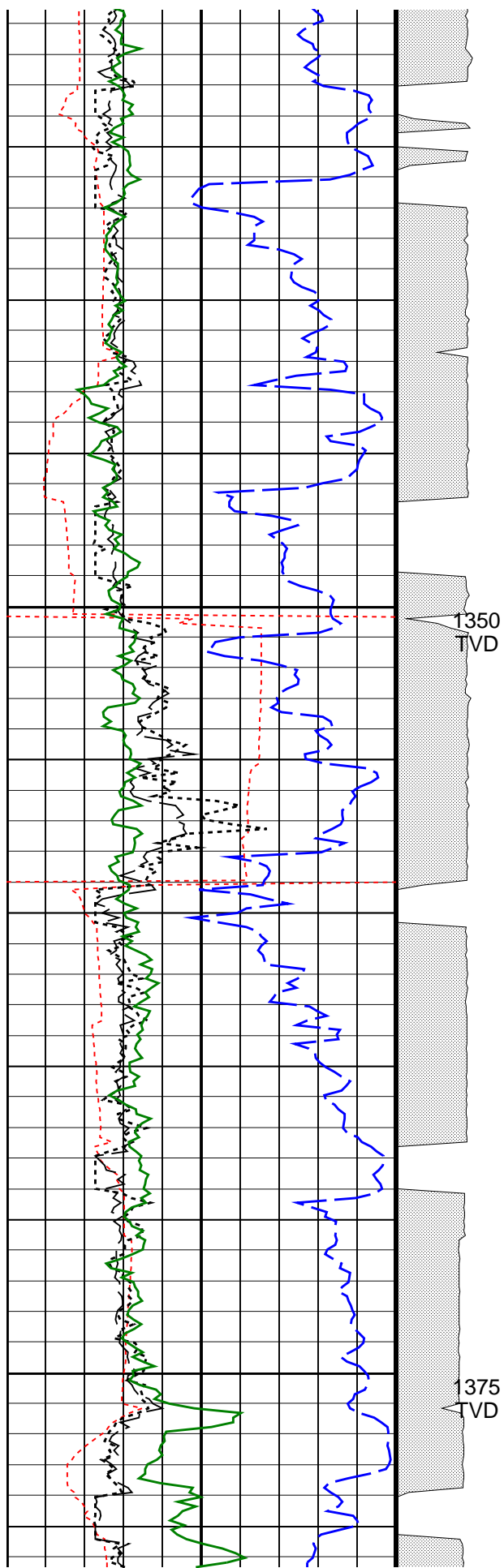


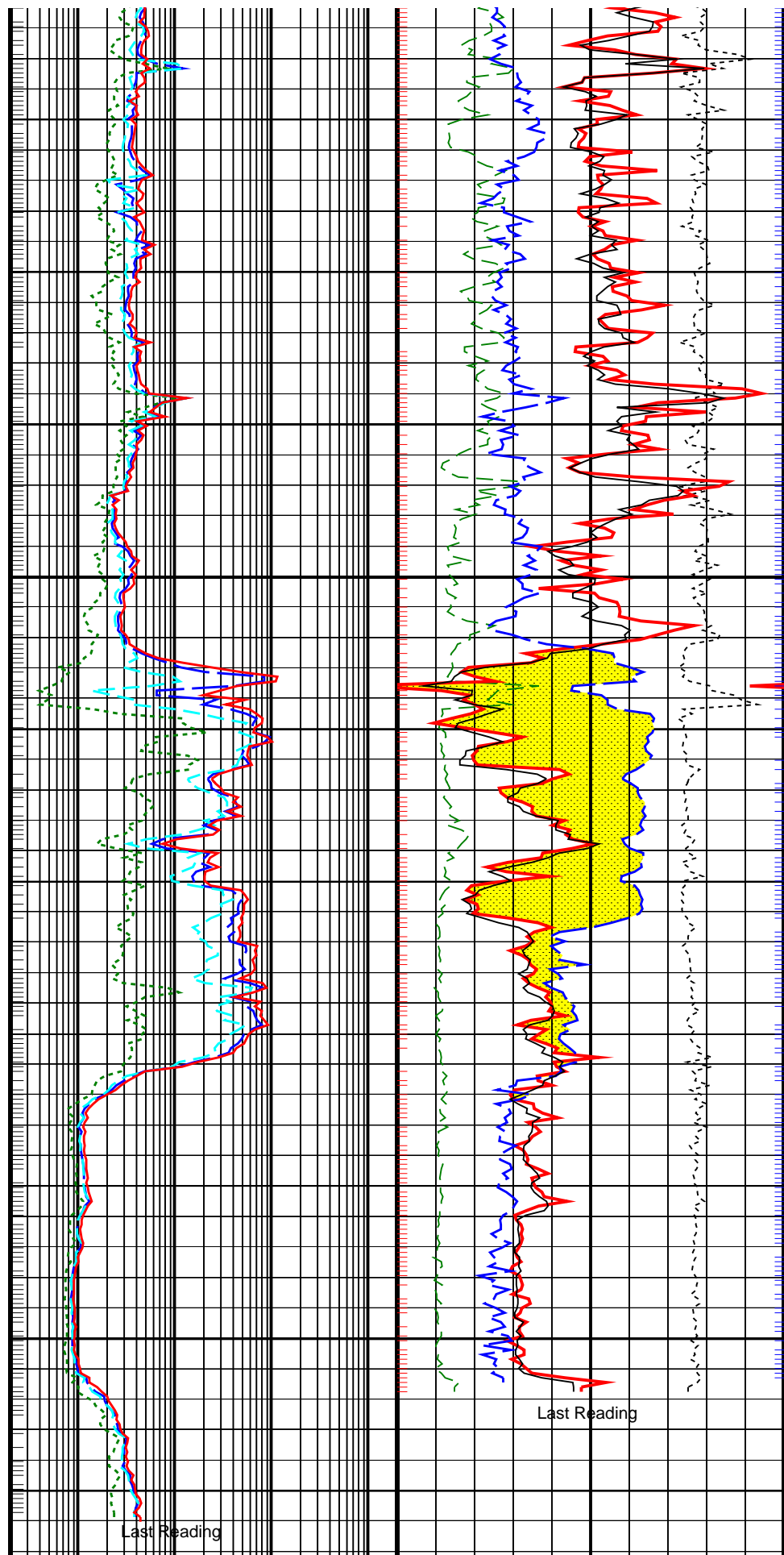
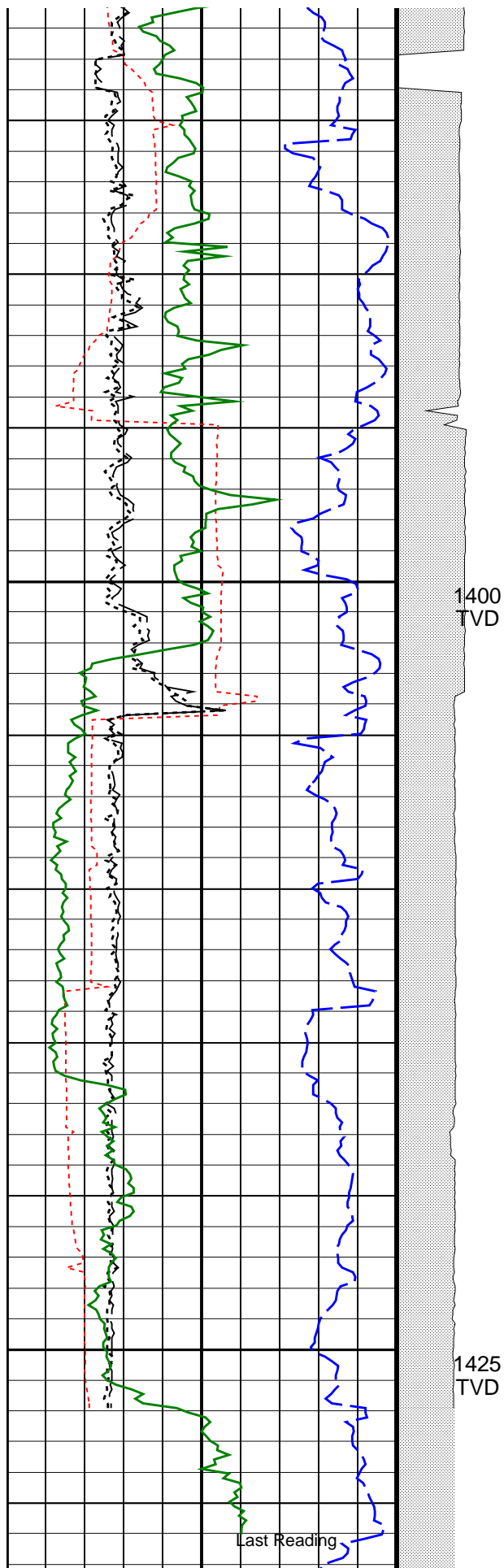


1300  
TVD

1325  
TVD







<div>Density Time After Bit (TAB_DEN) (HR)</div> <div>010</div>			<div>ADN Rotational Speed (RPM_ADN) (RPM)</div> <div>0200</div>			<div>Deep Button Resistivity (RES_BD) (OHMM)</div> <div>0.22000</div>			<div>Bulk Density Correction, Bottom (DRHB) (G/C3)</div> <div>-0.750.25</div>		
<div>Vertical Hole Diameter (VERD) (IN)</div> <div>616</div>			<div>Shallow Button Resistivity (RES_BS) (OHMM)</div> <div>0.22000</div>			<div>Photoelectric Factor, Bottom (PEB) (----</div> <div>020</div>					
<div>Horizontal Hole Diameter (HORD) (IN)</div> <div>616</div>			<div>Medium Button Resistivity (RES_BM) (OHMM)</div> <div>0.22000</div>			<div>Bulk Density, Bottom (ROBB) (G/C3)</div> <div>1.852.85</div>					
<div>RAB Gamma Ray (GR_RAB) (GAPI)</div> <div>0200</div>			<div>Ring Resistivity (RES_RING) (OHMM)</div> <div>0.22000</div>			<div>Thermal Neutron Porosity (TNPH) (PU)</div> <div>45-15</div>					
<div>Rate of Penetration, Averaged over Last 5ft (ROP5_RM) (M/HR)</div> <div>2000</div>						<div>Bulk Density (RHOB) (G/C3)</div> <div>1.852.85</div>					
						<div>Gas Area From ADN/ROBB/DEPTH to ADN/TNPH/DEPTH</div>					

PIP SUMMARY											
						Density Samples ▴					
						▾ RAB samples			Neutron Samples ▴		

IDEAL Version: ID7_OC_02											
IDF											
RAB		IDEAL Version: ID7_OC_02				MWD_10		IDEAL Version: ID7_OC_02			
ADN		IDEAL Version: ID7_OC_02									

True Vertical Depth Log											
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6.75-in. Azimuthal Density Neutron / Equipment Identification											
Primary Equipment:						ADN6 – CA			289		
Tool Name and Serial Number						NSR – M			A161		
Neutron Logging Source						GSR – J/Z			A2125		
Density Logging Source						8.25 – in.					
Stabilizer Size						Valid					
Calibration Status											

Master: 5-MAY-2002 12:34																	
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	<div></div>			1304	Master	<div></div>			3005	Master	<div></div>			7415			
250.0		4125		8000		700.0		9350		18000		2500		23750		45000	
(Minimum)		(Nominal)		(Maximum)		(Minimum)		(Nominal)		(Maximum)		(Minimum)		(Nominal)		(Maximum)	

Master: 5-MAY-2002 12:34														
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



# 6.75-in. Resistivity At-the-Bit / Equipment Identification

Primary Equipment:

Tool Name and Serial Number

RAB6 - CA

136









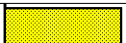



Calibration Status

Valid

Master: 10-JUN-2002 14:00

## 6.75-in. Resistivity At-the-Bit Calibration


### Resistivity: Fixture

Phase	Ring/T1 factor ----	Value	Phase	Ring/T2 factor ----	Value	Phase	M0/T1 factor ----	Value
Master		0.9840	Master		0.9910	Master		0.9920
	0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)	
Phase	M0/T2 factor ----	Value	Phase	M2/T1 factor ----	Value	Phase	M2/T2 factor ----	Value
Master		0.9960	Master		0.9940	Master		0.9980
	0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)	
Phase	BTN shallow/T1 factor ----	Value	Phase	BTN shallow/T2 factor ----	Value	Phase	BTN medium/T1 factor ----	Value
Master		1.016	Master		1.017	Master		1.019
	0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)	
Phase	BTN medium/T2 factor ----	Value	Phase	BTN deep/T1 factor ----	Value	Phase	BTN deep/T2 factor ----	Value
Master		1.021	Master		1.018	Master		1.021
	0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)			0.9750 (Minimum) 1.000 (Nominal) 1.025 (Maximum)	

Master: Calibration date not found

## 6.75-in. Resistivity At-the-Bit Calibration

### Gamma Ray: Blanket

Phase	Gamma ray factor ----	Value
Master		0.8800
	0.7500 (Minimum) 1.000 (Nominal) 1.250 (Maximum)	

ANADRILL

SCHLUMBERGER

Survey report

16-Jul-2002 15:22:12

Page 1 of 6

Client.....: Esso Australia Ltd.  
Field.....: Tuna

Well.....: A-31  
API number.....:  
Engineer.....: J. Walta

COUNTY.....: ISDL 453  
STATE.....: Victoria

Spud date.....: 30-Jun-02  
Last survey date.....: 16-Jul-02  
Total accepted surveys...: 141  
MD of first survey.....: 0.00 m  
MD of last survey.....: 3220.00 m

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

----- Depth reference -----  
Permanent datum.....: GROUND LEVEL  
Depth reference.....: Driller's Pipe Tally  
GL above permanent.....: -59.40 m  
KB above permanent.....: 31.30 m  
DF above permanent.....: 31.30 m

----- Vertical section origin-----  
Latitude (+N/S-).....: 1.86 m  
Departure (+E/W-).....: 6.34 m

----- Platform reference point-----  
Latitude (+N/S-).....: 1.86 m  
Departure (+E/W-).....: 6.34 m

Azimuth from rotary table to target: 88.50 degrees

----- Geomagnetic data -----  
Magnetic model.....: BGGM version 2001  
Magnetic date.....: 27-Jun-2002  
Magnetic field strength...: 1200.42 HCNT  
Magnetic dec (+E/W-).....: 13.16 degrees  
Magnetic dip.....: -68.69 degrees

----- MWD survey Reference Criteria -----  
Reference G.....: 1000.02 mGal  
Reference H.....: 1200.42 HCNT  
Reference Dip.....: -68.69 degrees  
Tolerance of G.....: (+/-) 2.50 mGal  
Tolerance of H.....: (+/-) 6.00 HCNT  
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----  
Magnetic dec (+E/W-).....: 13.16 degrees  
Grid convergence (+E/W-)..: -0.88 degrees  
Total az corr (+E/W-).....: 14.04 degrees  
(Total az corr = magnetic dec - grid conv)

Azimuth from rotary table to target: 88.50 degrees

Total az corr (+E/W-)....: 14.04 degrees  
(Total az corr = magnetic dec - grid conv)[(c)2002 Anadrill IDEAL ID6\_1C\_10]  
ANADRILL SCHLUMBERGER Survey Report

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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/ 10m)	Srvy tool type	Tool qual type
1	0.00	0.00	0.00	0.00	0.00	0.00	1.86	6.34	0.00	73.65	0.00	TIP	-
2	12.07	0.07	344.00	12.07	12.07	0.00	1.87	6.34	0.01	73.59	0.06	GYR	-
3	17.07	0.15	344.00	5.00	17.07	0.00	1.88	6.34	0.02	73.50	0.16	GYR	-
4	22.07	0.14	312.50	5.00	22.07	-0.01	1.89	6.33	0.03	73.40	0.16	GYR	-
5	27.07	0.33	283.90	5.00	27.07	-0.03	1.89	6.31	0.04	73.29	0.44	GYR	-
6	32.07	0.48	276.70	5.00	32.07	-0.06	1.90	6.28	0.07	73.15	0.32	GYR	-
7	37.07	0.50	274.50	5.00	37.07	-0.10	1.90	6.23	0.11	73.01	0.05	GYR	-
8	42.07	0.49	276.00	5.00	42.07	-0.15	1.91	6.19	0.16	72.87	0.03	GYR	-
9	47.07	0.50	278.80	5.00	47.07	-0.19	1.91	6.15	0.20	72.71	0.05	GYR	-
10	52.07	0.36	277.40	5.00	52.07	-0.23	1.92	6.11	0.24	72.56	0.28	GYR	-
11	57.07	0.47	259.00	5.00	57.07	-0.26	1.92	6.07	0.27	72.48	0.34	GYR	-
12	62.07	0.41	247.50	5.00	62.07	-0.30	1.91	6.04	0.30	72.48	0.21	GYR	-
13	67.07	0.43	215.40	5.00	67.07	-0.33	1.88	6.01	0.33	72.59	0.47	GYR	-
14	72.07	0.51	202.50	5.00	72.07	-0.35	1.85	5.99	0.35	72.85	0.26	GYR	-
15	77.07	0.58	176.30	5.00	77.07	-0.36	1.80	5.99	0.36	73.23	0.51	GYR	-
16	82.07	0.73	162.00	5.00	82.07	-0.35	1.75	6.00	0.36	73.75	0.44	GYR	-
17	87.07	0.88	153.60	5.00	87.07	-0.32	1.68	6.02	0.36	74.39	0.38	GYR	-
18	92.07	1.13	141.90	5.00	92.07	-0.28	1.61	6.07	0.37	75.15	0.64	GYR	-
19	97.07	1.40	130.90	5.00	97.07	-0.20	1.53	6.15	0.38	76.02	0.72	GYR	-
20	102.07	1.84	120.70	5.00	102.06	-0.09	1.45	6.26	0.42	76.97	1.05	GYR	-
21	107.07	2.20	115.70	5.00	107.06	0.07	1.37	6.42	0.50	77.97	0.80	GYR	-
22	112.07	2.55	109.80	5.00	112.06	0.25	1.29	6.61	0.63	78.97	0.85	GYR	-
23	117.07	2.98	107.40	5.00	117.05	0.48	1.21	6.84	0.82	79.95	0.89	GYR	-
24	122.07	3.35	103.90	5.00	122.04	0.75	1.14	7.10	1.05	80.90	0.83	GYR	-
25	127.07	4.20	102.50	5.00	127.03	1.06	1.06	7.42	1.35	81.85	1.71	GYR	-
26	132.07	4.33	100.60	5.00	132.02	1.43	0.99	7.79	1.69	82.77	0.38	GYR	-
27	137.07	5.10	98.60	5.00	137.00	1.83	0.92	8.19	2.08	83.59	1.57	GYR	-
28	137.97	5.16	98.30	0.90	137.90	1.91	0.91	8.27	2.16	83.73	0.73	GYR	-
29	146.90	4.51	98.30	8.93	146.80	2.65	0.80	9.02	2.88	84.93	0.73	GYR	-
30	158.50	3.99	103.00	11.60	158.36	3.48	0.64	9.86	3.73	86.27	0.54	GYR	-

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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/ 10m)	Srvy tool type	Tool qual type
31	174.60	3.62	103.90	16.10	174.43	4.51	0.36	10.90	4.80	87.92	0.23	GYR	-
32	195.00	2.99	112.10	20.40	194.79	5.62	0.00	12.01	5.97	89.81	0.39	GYR	-
33	222.00	2.88	120.80	27.00	221.76	6.84	-0.61	13.25	7.34	92.47	0.17	GYR	-
34	241.10	3.91	130.60	19.10	240.83	7.73	-1.28	14.16	8.42	95.01	0.62	GYR	-
35	260.10	4.76	122.40	19.00	259.77	8.87	-2.13	15.31	9.82	97.85	0.55	GYR	-
36	279.30	5.31	103.40	19.20	278.90	10.39	-2.76	16.85	11.48	99.26	0.91	GYR	-
37	299.90	6.86	80.10	20.60	299.38	12.52	-2.77	18.99	13.47	98.27	1.40	GYR	-
38	316.15	10.55	72.73	16.25	315.44	14.92	-2.16	21.37	15.56	95.76	2.37	GYR	-
39	352.61	15.35	86.12	36.46	350.98	22.96	-0.84	29.38	23.19	91.56	1.54	MWD	6-axis
40	381.38	18.05	94.30	28.77	378.53	31.20	-0.92	37.62	31.40	91.40	1.24	MWD	6-axis
41	411.78	22.54	100.22	30.40	407.04	41.60	-2.31	48.06	41.93	92.70	1.62	MWD	6-axis
42	440.11	27.94	100.01	28.33	432.66	53.42	-4.42	59.95	53.97	94.18	1.91	MWD	6-axis
43	468.74	33.27	97.20	28.63	457.29	67.77	-6.58	74.35	68.54	95.08	1.93	MWD	6-axis
44	497.29	38.36	92.89	28.55	480.44	84.36	-8.01	90.99	85.22	95.00	1.99	MWD	6-axis
45	525.14	42.74	90.51	27.85	501.60	102.43	-8.53	109.08	103.26	94.45	1.67	MWD	6-axis
46	553.01	46.80	88.98	27.87	521.38	122.05	-8.43	128.70	122.79	93.73	1.51	MWD	6-axis
47	581.11	49.46	88.91	28.10	540.13	142.97	-8.04	149.62	143.62	93.06	0.95	MWD	6-axis
48	610.17	54.19	89.41	29.06	558.09	165.81	-7.71	172.45	166.39	92.55	1.63	MWD	6-axis
49	638.05	55.66	87.50	27.88	574.11	188.62	-7.09	195.26	189.13	92.07	0.77	MWD	6-axis
50	666.55	59.63	85.97	28.50	589.36	212.68	-5.72	219.29	213.08	91.48	1.46	MWD	6-axis
51	694.05	62.75	86.06	27.50	602.61	236.75	-4.04	243.32	237.06	91.04	1.13	MWD	6-axis
52	722.81	62.20	87.21	28.76	615.91	262.24	-2.54	268.78	262.48	90.53	0.40	MWD	6-axis
53	751.15	63.87	87.30	28.34	628.76	287.49	-1.33	294.01	287.69	90.25	0.59	MWD	6-axis
54	778.71	68.59	88.51	27.56	639.86	312.70	-0.42	319.21	312.88	90.07	1.76	MWD	6-axis
55	807.83	70.94	88.67	29.12	649.93	340.02	0.25	346.52	340.19	90.02	0.81	MWD	6-axis
56	812.33	71.08	88.93	4.50	651.40	344.28	0.34	350.78	344.44	89.94	0.63	MWD	6-axis
57	845.38	70.42	89.00	33.05	662.29	375.48	0.91	381.97	375.63	89.86	0.20	MWD	6-axis
58	874.18	71.18	89.28	28.80	671.77	402.67	1.32	409.17	402.83	89.81	0.28	MWD	6-axis
59	902.04	71.77	90.21	27.86	680.62	429.08	1.43	435.58	429.24	89.81	0.38	MWD	6-axis
60	931.93	71.89	89.41	29.89	689.94	457.48	1.53	463.98	457.64	89.81	0.26	MWD	6-axis

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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/ 10m)	Srvy tool type	Tool qual type
61	960.85	71.56	88.10	28.92	699.01	484.94	2.12	491.44	485.10	89.75	0.45	MWD	6-axis
62	989.81	70.75	87.66	28.96	708.36	512.34	3.14	518.82	512.49	89.65	0.31	MWD	6-axis
63	1018.64	69.68	87.09	28.83	718.12	539.46	4.38	545.92	539.59	89.54	0.42	MWD	6-axis
64	1047.42	68.84	87.34	28.78	728.31	566.37	5.69	572.81	566.48	89.43	0.30	MWD	6-axis
65	1076.22	70.95	88.00	28.80	738.21	593.41	6.79	599.83	593.51	89.35	0.76	MWD	6-axis
66	1104.92	71.26	88.33	28.70	747.50	620.57	7.65	626.97	620.65	89.30	0.15	MWD	6-axis
67	1133.56	70.77	88.57	28.64	756.82	647.65	8.39	654.04	647.73	89.26	0.19	MWD	6-axis
68	1162.76	69.60	88.22	29.20	766.72	675.12	9.16	681.50	675.20	89.23	0.42	MWD	6-axis
69	1192.29	70.68	87.70	29.53	776.75	702.89	10.15	709.25	702.96	89.18	0.40	MWD	6-axis
70	1220.68	70.21	87.93	28.39	786.25	729.64	11.17	735.99	729.71	89.13	0.18	MWD	6-axis
71	1249.53	71.42	88.09	28.85	795.74	756.89	12.11	763.22	756.95	89.09	0.42	MWD	6-axis
72	1278.47	70.83	88.55	28.94	805.10	784.27	12.91	790.59	784.33	89.06	0.25	MWD	6-axis
73	1307.78	70.41	88.78	29.31	814.82	811.92	13.56	818.23	811.98	89.05	0.16	MWD	6-axis
74	1336.76	71.90	87.82	28.98	824.18	839.35	14.37	845.65	839.40	89.02	0.60	MWD	6-axis
75	1365.54	71.58	88.03	28.78	833.20	866.67	15.36	872.96	866.72	89.01	0.13	MWD	6-axis
76	1394.99	70.65	87.88	29.45	842.73	894.54	16.36	900.81	894.58	89.01	0.32	MWD	6-axis
77	1423.91	71.30	88.18	28.92	852.16	921.88	17.30	928.13	921.92	88.93	0.25	MWD	6-axis
78	1453.13	70.73	88.04	29.22	861.67	949.51	18.21	982.91	976.73	88.91	0.20	MWD	6-axis
79	1482.00	69.94	87.98	28.87	871.38	976.69	19.15	982.91	976.73	88.88	0.27	MWD	6-axis
80	1511.29	71.58	88.27	29.29	881.03	1004.34	20.06	1010.55	1004.38	88.86	0.57	MWD	6-axis
81	1540.24	71.22	88.49	28.95	890.27	1031.78	20.83	1037.98	1031.81	88.85	0.14	MWD	6-axis
82	1569.45	71.83	88.59	29.21	899.52	1059.49	21.54	1065.67	1059.52	88.84	0.21	MWD	6-axis
83	1598.45	70.89	88.78	29.00	908.79	1086.96	22.17	1093.15	1086.99	88.84	0.33	MWD	6-axis
84	1627.03	70.31	88.62	28.58	918.29	1113.92	22.78	1120.10	1113.95	88.83	0.21	MWD	6-axis
85	1655.99	70.03	88.33	28.96	928.11	1141.16	23.51	1147.33	1141.19	88.82	0.13	MWD	6-axis
86	1684.63	70.80	88.15	28.64	937.71	1168.15	24.33	1174.30	1168.17	88.81	0.28	MWD	6-axis
87	1712.70	70.52	87.93	28.07	947.01	1194.63	25.24	1200.77	1194.66	88.79	0.12	MWD	6-axis
88	1741.50	70.18	87.75	28.80	956.69	1221.75	26.26	1227.87	1221.78	88.77	0.13	MWD	6-axis
89	1770.04	71.16	87.80	28.54	966.14	1248.68	27.31	1254.78	1248.70	88.75	0.34	MWD	6-axis
90	1798.12	71.43	87.83	28.08	975.14	1275.28	28.32	1281.36	1275.30	88.73	0.10	MWD	6-axis

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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/ 10m)	Srvy tool type	Tool qual type
91	1826.11	70.51	87.92	27.99	984.27	1301.73	29.30	1307.80	1301.75	88.71	0.33	MWD	6-axis
92	1854.99	70.21	88.08	28.88	993.97	1328.93	30.25	1334.99	1328.95	88.70	0.12	MWD	6-axis
93	1883.45	71.73	88.50	28.46	1003.25	1355.84	31.05	1361.88	1355.85	88.69	0.55	MWD	6-axis
94	1911.83	71.46	88.41	28.38	1012.22	1382.77	31.78	1388.80	1382.78	88.69	0.10	MWD	6-axis
95	1940.74	70.88	88.18	28.91	1021.55	1410.13	32.59	1416.15	1410.14	88.68	0.21	MWD	6-axis
96	1969.40	70.59	87.87	28.66	1031.01	1437.18	33.53	1443.18	1437.19	88.67	0.15	MWD	6-axis
97	1997.53	70.80	87.93	28.13	1040.31	1463.73	34.50	1469.71	1463.74	88.65	0.08	MWD	6-axis
98	2025.72	70.53	88.02	28.19	1049.64	1490.33	35.44	1496.30	1490.34	88.64	0.10	MWD	6-axis
99	2054.36	70.76	87.93	28.64	1059.13	1517.35	36.39	1523.30	1517.36	88.63	0.09	MWD	6-axis
100	2082.32	71.12	87.77	27.96	1068.26	1543.77	37.39	1549.71	1543.78	88.62	0.14	MWD	6-axis
101	2110.78	71.56	87.78	28.46	1077.37	1570.73	38.43	1576.65	1570.74	88.60	0.15	MWD	6-axis
102	2139.97	71.34	88.05	29.19	1086.66	1598.41	39.44	1604.31	1598.41	88.59	0.12	MWD	6-axis
103	2168.08	71.08	88.00	28.11	1095.71	1625.02	40.36	1630.91	1630.91	88.58	0.09	MWD	6-axis
104	2196.66	70.48	88.06	28.58	1105.12	1652.00	41.28	1657.88	1652.01	88.57	0.21	MWD	6-axis
105	2224.04	70.56	88.41	27.38	1114.25	1677.81	42.08	1683.68	1677.82	88.57	0.12	MWD	6-axis
106	2252.28	69.98	88.12	28.24	1123.78	1704.4	42.88	1710.25	1704.40	88.56	0.23	MWD	6-axis
107	2281.17	70.52	88.43	28.89	1133.54	1731.59	43.70	1737.42	1731.59	88.56	0.21	MWD	6-axis
108	2309.72	70.74	88.71	28.55	1143.01	1758.52	44.37	1764.35	1758.52	88.56	0.12	MWD	6-axis
109	2338.26	71.66	88.51	28.54	1152.21	1785.54	45.03	1791.36	1795.54	88.56	0.33	MWD	6-axis
110	2366.50	70.97	88.30	28.24	1161.26	1812.29	45.77	1818.10	1812.29	88.56	0.25	MWD	6-axis
111	2394.81	71.70	88.78	28.31	1170.32	1839.11	46.46	1844.91	1839.11	88.56	0.30	MWD	6-axis
112	2423.21	71.20	88.59	28.40	1179.35	1866.03	47.08	1871.83	1866.04	88.56	0.19	MWD	6-axis
113	2451.21	72.24	88.33	28.00	1188.14	1892.62	47.62	1898.41	1892.62	88.56	0.38	MWD	6-axis
114	2479.83	71.81	88.61	28.62	1196.97	1919.84	48.52	1925.62	1919.85	88.56	0.18	MWD	6-axis
115	2508.56	71.30	88.90	28.73	1206.06	1947.10	49.11	1952.87	1947.10	88.56	0.20	MWD	6-axis
116	2536.94	71.30	88.28	28.38	1215.16	1973.98	49.77	1979.74	1973.98	88.56	0.21	MWD	6-axis
117	2565.00	70.95	88.92	28.06	1224.23	2000.53	50.42	2006.28	2000.53	88.56	0.25	MWD	6-axis
118	2593.75	71.06	88.00	28.75	1233.59	2027.71	51.15	2033.46	2027.72	88.56	0.30	MWD	6-axis
119	2621.34	70.89	88.69	27.59	1242.59	2053.80	51.90	2059.53	2053.80	88.56	0.24	MWD	6-axis
120	2649.12	71.64	88.05	27.78	1251.51	2080.10	52.65	2085.83	2080.11	88.55	0.35	MWD	6-axis

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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/ 10m)	Srvy tool type	Tool qual type
121	2677.65	71.61	87.32	28.53	1260.50	2107.18	53.75	2112.88	2107.18	88.54	0.24	MWD	6-axis

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121	2677.65	71.61	87.32	28.53	1260.50	2107.18	53.75	2112.88	2107.18	88.54	0.24	MWD	6-axis
122	2706.95	71.20	87.67	29.30	1269.85	2134.94	54.96	2140.62	2134.94	88.53	0.18	MWD	6-axis
123	2734.92	71.02	87.18	27.97	1278.90	2161.40	56.15	2167.06	2161.40	88.51	0.18	MWD	6-axis
124	2763.51	70.88	87.43	28.59	1288.23	2188.42	57.42	2194.06	2188.42	88.50	0.10	MWD	6-axis
125	2791.53	70.61	87.84	28.02	1297.47	2214.87	58.51	2220.49	2214.87	88.49	0.17	MWD	6-axis
126	2820.22	70.49	88.27	28.69	1307.03	2241.92	59.43	2247.52	2241.92	88.48	0.15	MWD	6-axis
127	2849.03	70.21	88.69	28.81	1316.71	2269.05	60.15	2274.64	2269.05	88.48	0.17	MWD	6-axis
128	2876.04	70.13	89.20	27.01	1325.88	2294.46	60.62	2300.05	2294.46	88.49	0.18	MWD	6-axis
129	2904.05	71.38	88.95	28.01	1335.11	2320.90	61.04	2326.49	2320.90	88.50	0.45	MWD	6-axis
130	2931.57	72.04	88.48	27.52	1343.75	2347.03	61.63	2352.61	2347.03	88.50	0.29	MWD	6-axis
131	2957.82	72.11	88.37	26.25	1351.82	2372.01	62.32	2377.58	2372.01	88.50	0.05	MWD	6-axis
132	2988.58	72.86	87.28	30.76	1361.08	2401.34	63.43	2406.89	2401.34	88.49	0.42	MWD	6-axis
133	3016.69	72.05	87.25	28.11	1369.56	2428.14	64.71	2433.66	2428.14	88.48	0.29	MWD	6-axis
134	3044.23	71.27	87.17	27.54	1378.22	2454.27	65.98	2459.77	2454.27	88.46	0.28	MWD	6-axis
135	3072.08	71.29	87.84	27.85	1387.16	2480.64	67.13	2486.12	2480.64	88.45	0.23	MWD	6-axis
136	3100.54	70.27	88.02	28.46	1396.53	2507.51	68.10	2512.98	2507.51	88.45	0.36	MWD	6-axis
137	3128.49	69.94	88.36	27.95	1406.04	2533.80	68.93	2539.25	2533.80	88.44	0.16	MWD	6-axis
138	3156.30	70.71	88.09	27.81	1415.40	2559.98	69.74	2565.42	2559.98	88.44	0.29	MWD	6-axis
139	3184.71	71.86	87.90	28.41	1424.52	2586.89	70.68	2592.31	2586.89	88.44	0.41	MWD	6-axis
140	3197.86	72.24	87.73	13.15	1428.57	2599.40	71.16	2604.81	2599.40	88.43	0.31	MWD	6-axis
141	3220.00	72.50	87.60	22.14	1435.28	2620.50	72.02	2625.90	2620.50	88.43	0.13	Projection TD	

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Company: Esso Australia Ltd.

Well: TNA A-31

Field: Tuna

Rig: ISDL 453

State: Victoria

IDEAL services from Anadrill

GeoVISION Service  
1:200 True Vertical Depth  
Recorded Mode Log

Schlumberger