Schlumberger

Company: **ESSO Australia Pty Ltd**

9.875 in. Section

Well: **CBA A15B**

Field: **Halibut**

Rig: **ISDL 175** State: **Victoria**

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

VISION Service
1:500 Measured Depth
Recorded Mode Log

Location

Total depth:	3120.0 m
Spud date:	11−Aug−2009
Runs:	2 & 4

Elevation

K.B.	Top Drive
G.L.	−79.00 m
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.	X = E 614,226.703 m	Longitude	Latitude
09ASQ0018	Y = N 5,743,507.484 m	E 148° 18' 32.509"	S 38° 26' 57.913"

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

Hole size	from	to
9.875 in.	655.7 m	3120.0 m

Casing record

Size	Density	from	to
10.75 in.	40.50 lbm/ft	21.27 m	655.7 m

Mud record

Type	from	to
Accolade SBM	655.7 m	3120.0 m

Borehole deviation record

Min	Max	from	to
33.90 deg.	50.27 deg.	655.7 m	3120.0 m

Surface equipment

Unit	OLU−KC−0801
Depth system	PDA/CLT

Software record

IDEAL Wis	ID14_0C_16		
HSPM	14_1C_03		
LWD	v8.4 (adnVISION*)	v6.8 (sonicVISION*)	v9.4 (arcVISION*)
MWD	V9.3C02		

Bit Run Summary

Run number		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
Mud data			
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								
Environmental data											
GR											
Mud weight	ppg	11.10	11.60								
Bit size	in	9.875	9.875								
Resistivity											
Neutron porosity											
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

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OTHER SERVICES FOR RUN2	OTHER SERVICES FOR RUN4	
Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations	
REMARKS: RUN NUMBER 2	**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 9−9/16" 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.	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

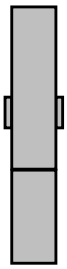
RUN2	RUN4	
DOWNHOLE EQUIPMENT	DOWNHOLE EQUIPMENT	

DOWNHOLE EQUIPMENT

6−3/4" adnVISION*
S/N: 141
DHS: V8.4

Neutron — 35.58
Density — 34.56
UltraSonic — 34.16

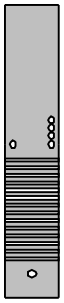
37.46



6−3/4" sonicVISION*
S/N: 42256
DHS: V6.8

Receivers — 27.98
Transmitter — 24.55

31.05



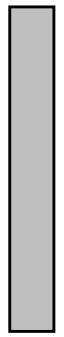
8−3/8" NM−ILS
S/N: ASQ9008

23.75

6−3/4" TeleScope*
DHS: 9.3C02
S/N: E0330

D&I — 18.56
MVC — 17.91

22.92



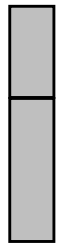
9−7/8" NM−ILS
S/N: 0SS0902151A

14.81

X = E 614,226.703 m
S/N: 2065

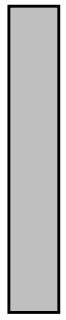
Gamma Ray — 10.46
Resistivity — 10.41
ARC APWD — 9.70

13.84



6−3/4" PowerDrive Xceed
S/N: DN182

7.94



9−7/8" Reed Hycalog PDC Bit
S/N: MB1845

0.00

0.28

Maximum string diameter 9.88 in.

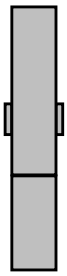
All lengths in Meters

DOWNHOLE EQUIPMENT

6−3/4" adnVISION*
S/N: 2400
DHS: V8.4

Neutron — 35.72
Density — 34.74
UltraSonic — 34.30

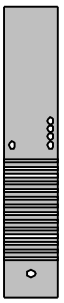
37.77



6−3/4" sonicVISION*
S/N: 46324
DHS: V6.8

Receivers — 28.09
Transmitter — 24.65

31.15



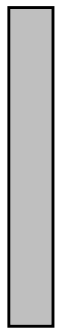
8−3/8" NM−ILS
S/N: OSS081216

23.86

6−3/4" TeleScope*
DHS: 9.3C02
S/N: VG67

D&I — 18.52
MVC — 17.87

22.89



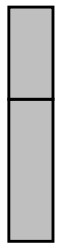
9−7/8" NM−ILS
S/N: OSS051299B

14.86

6−3/4" arcVISION*
S/N: 2056

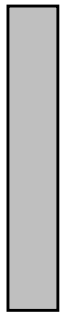
Gamma Ray — 10.43
Resistivity — 10.38
ARC APWD — 9.67

13.81



6−3/4" PowerDrive Xceed
S/N: 120

7.91



9−7/8" Reed Hycalog PDC Bit
S/N: 219372

0.00

0.25

Maximum string diameter 9.88 in.

All lengths in Meters

Variable Name	Variable Description		Run Name & Value		
	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	
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	
ADN_DATA_LTB	ADN: Create An ADN LTB Data File	----	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	
ALPHA_COMPUTE_N	Perform Neutron Enhanced Vertical Resolution process ?	----	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	
ECC_CORR_ADN	Perform Eccentering Correction for TNPH?	----	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 Coeeficient (mg/degC)	----	0.000	0.000
INCLIN_B3	ARC Bias Third-order Coeeficient (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 Coeeficient (mA/g/degC)	----	0.000	0.000
INCLIN_C2	ARC Scale Second-order Coeeficient (mA/g/degC)	----	0.000	0.000
INCLIN_C3	ARC Scale Third-order Coeeficient (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 Service RM Log **Vertical Scale: 1:500** **Graphics File Created: 25-Aug-2009 15:17**

PIP SUMMARY

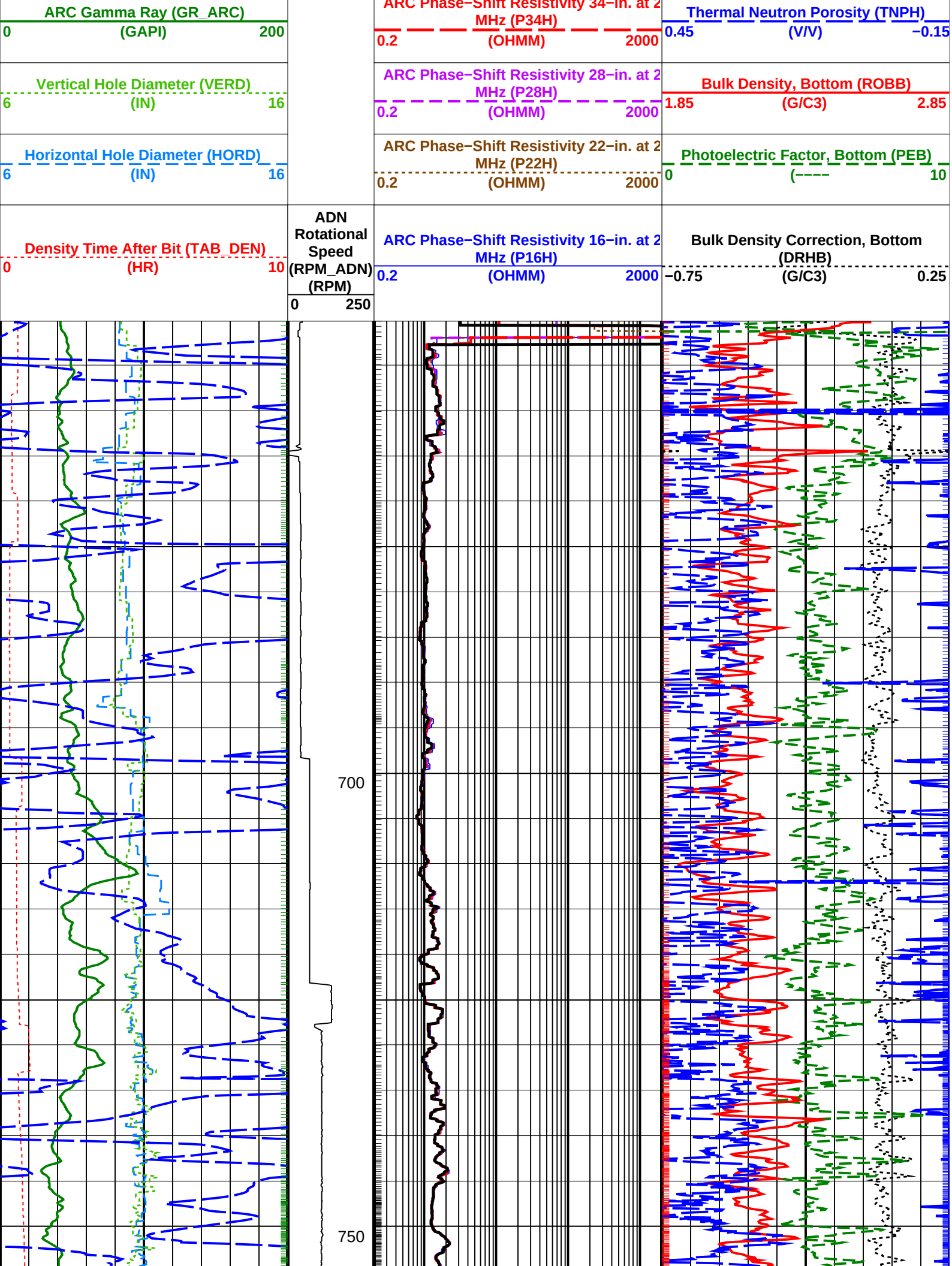
Density Samples

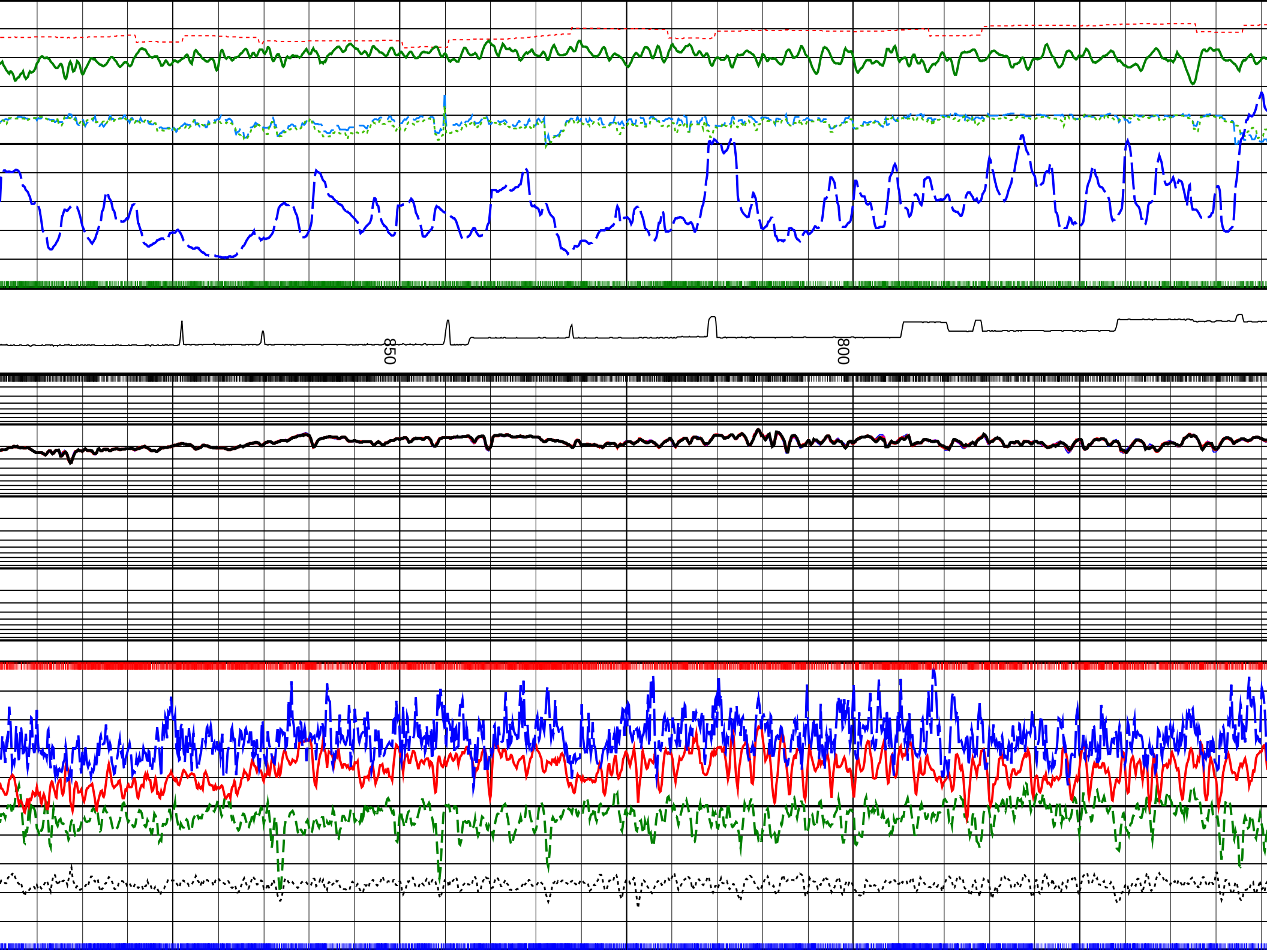
Neutron Samples

ARC Gamma Ray Samples

ARC Resistivity Samples

Rate of Penetration, Averaged over Last 5ft (ROP5_RM)			ARC Phase-Shift Resistivity 40-in. at 2 MHz (P40H)		
200	(M/HR)	0	0.2	(OHMM)	2000


ARC Gamma Ray (GR_ARC)
0
(GAPI)
200
Vertical Hole Diameter (VERD)
6
(IN)
16
Horizontal Hole Diameter (HORD)
6
(IN)
16
Density Time After Bit (TAB_DEN)
0
(HR)
10
ADN Rotational Speed (RPM_ADN) (RPM)
0
250
ARC Phase−Shift Resistivity 34−in. at 2 MHz (P34H)
0.2
(OHMM)
2000
ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H)
0.2
(OHMM)
2000
ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H)
0.2
(OHMM)
2000
ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)
0.2
(OHMM)
2000
Thermal Neutron Porosity (TNPH)
0.45
(V/V)
−0.15
Bulk Density, Bottom (ROBB)
1.85
(G/C3)
2.85
Photoelectric Factor, Bottom (PEB)
0
(−−−−
10
Bulk Density Correction, Bottom (DRHB)
−0.75
(G/C3)
0.25
700
750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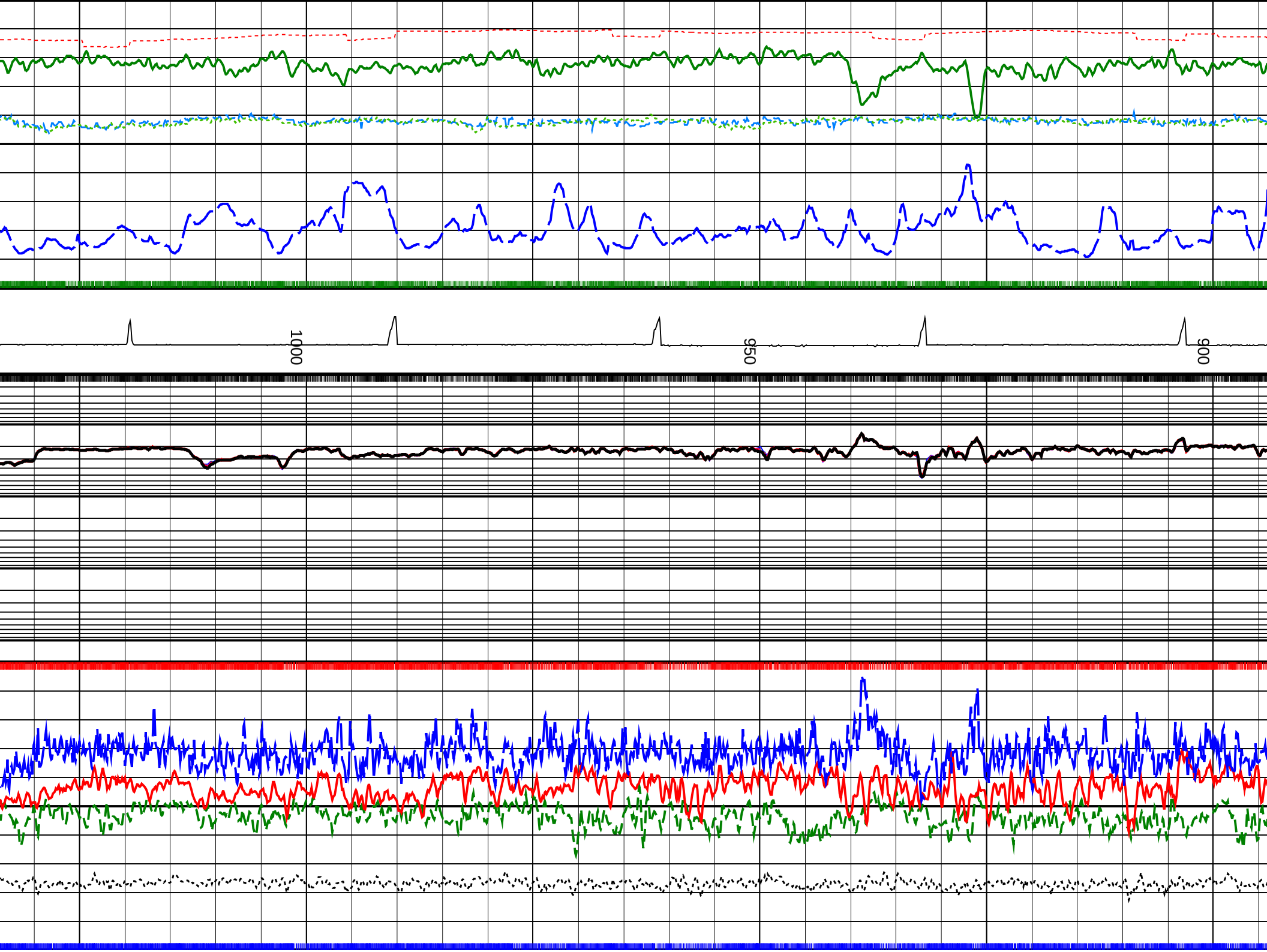
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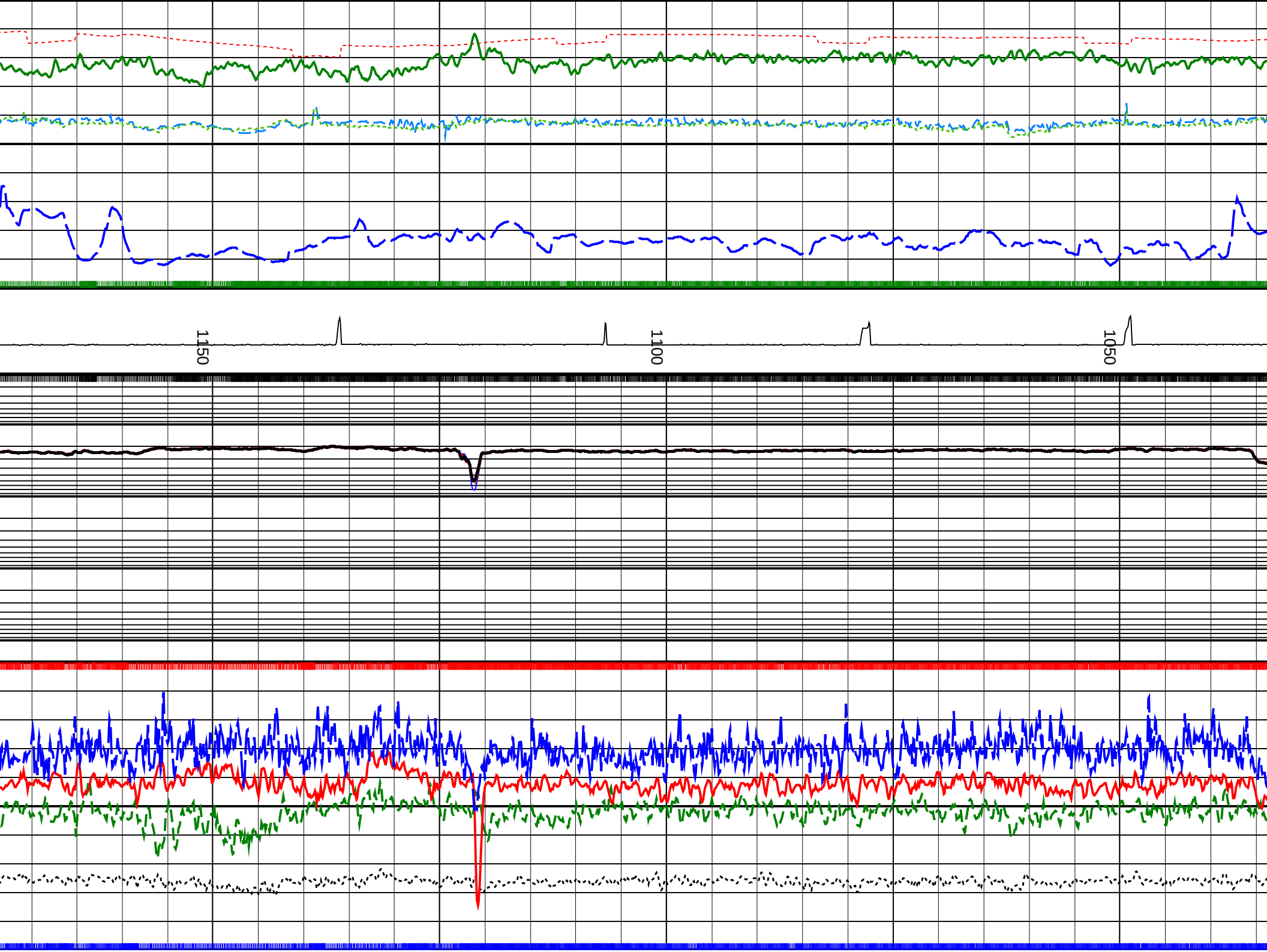
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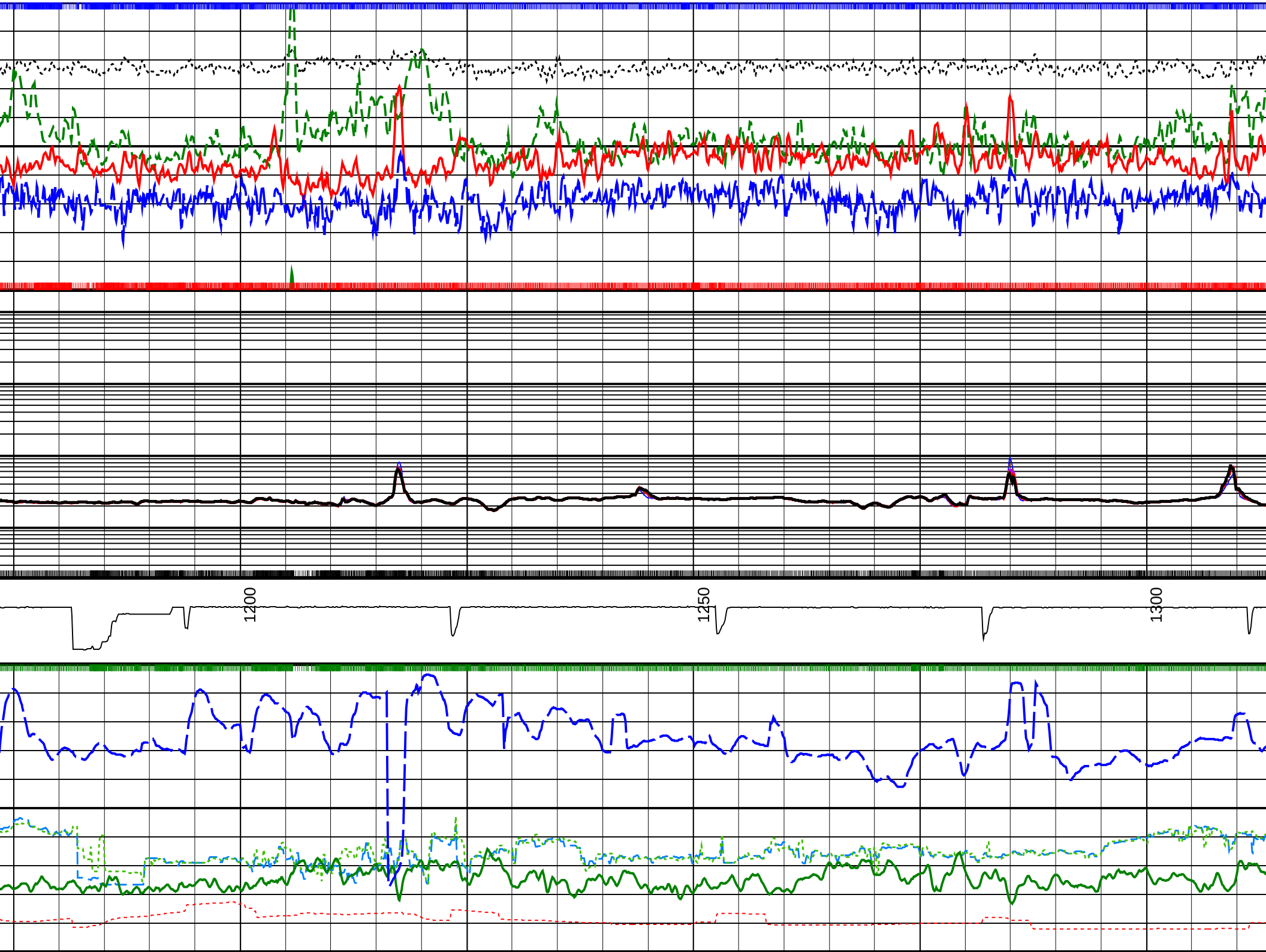
1100
1050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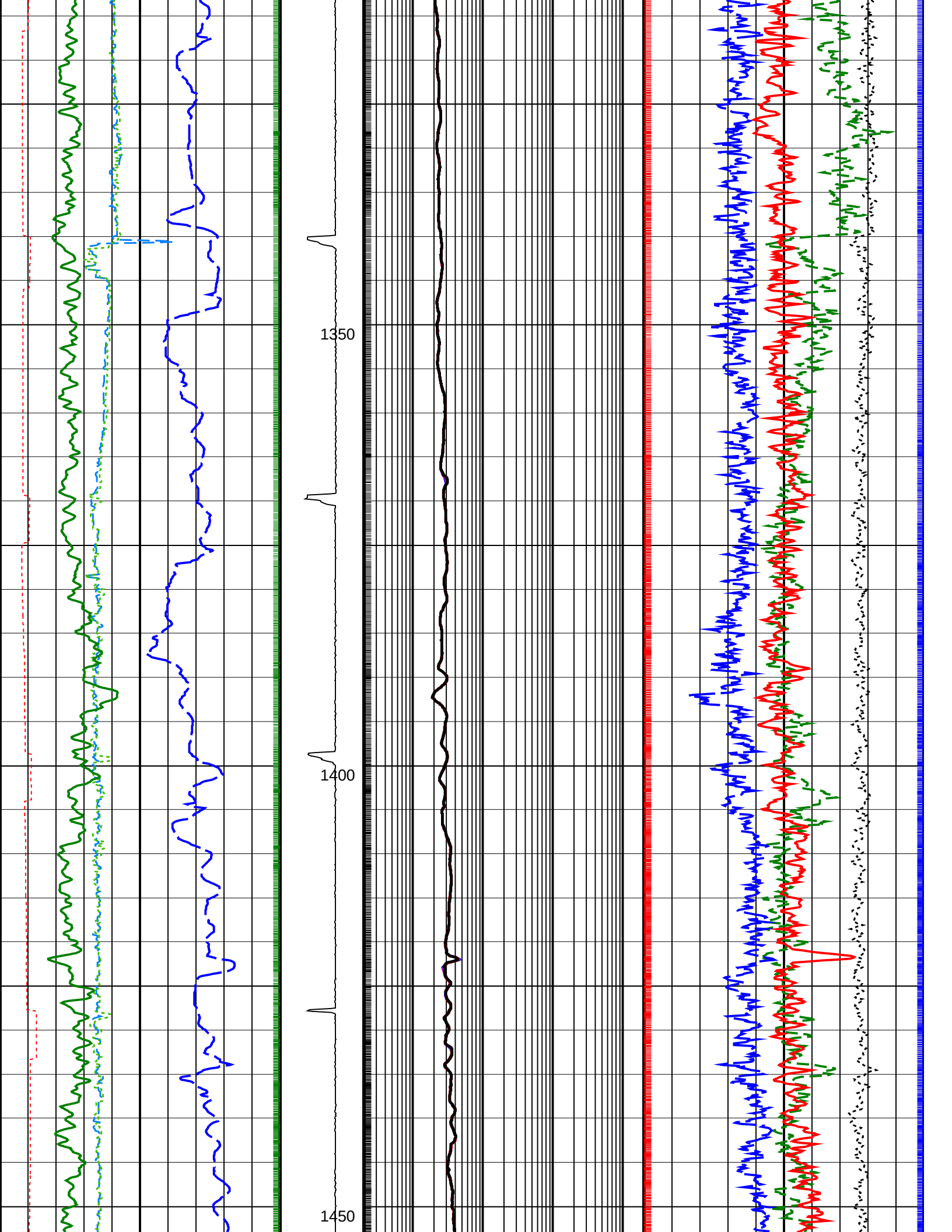
1300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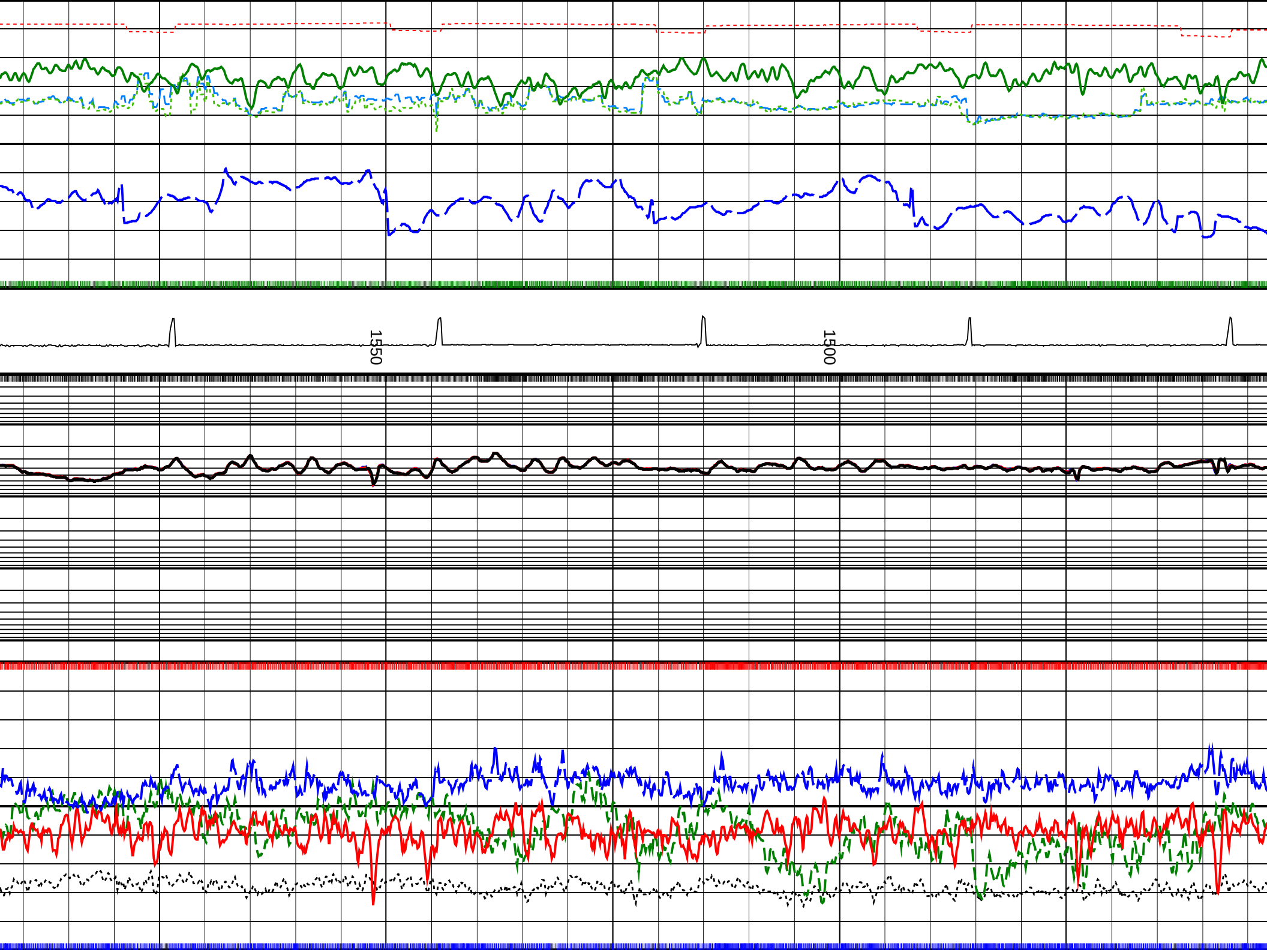
1400
1450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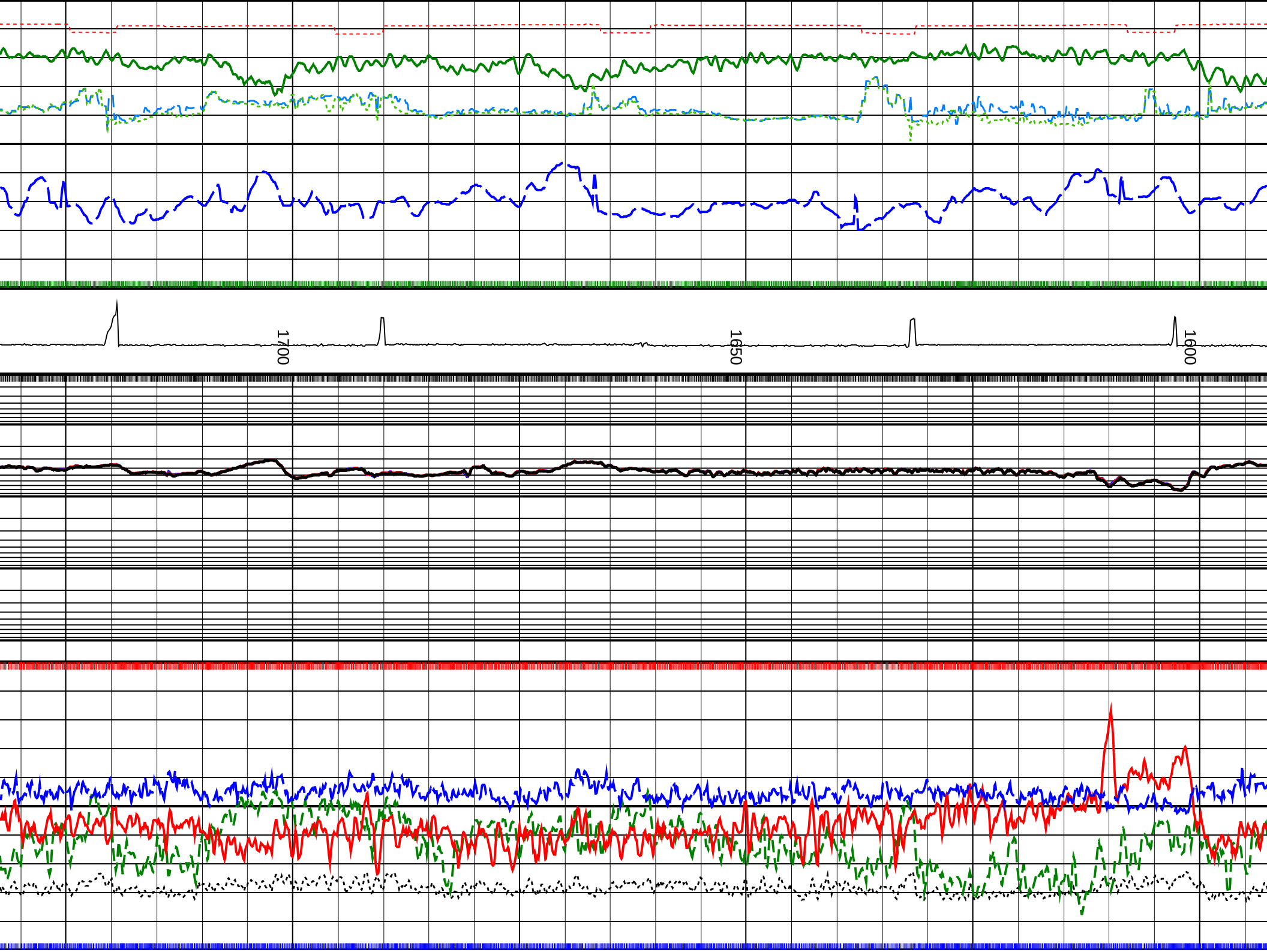
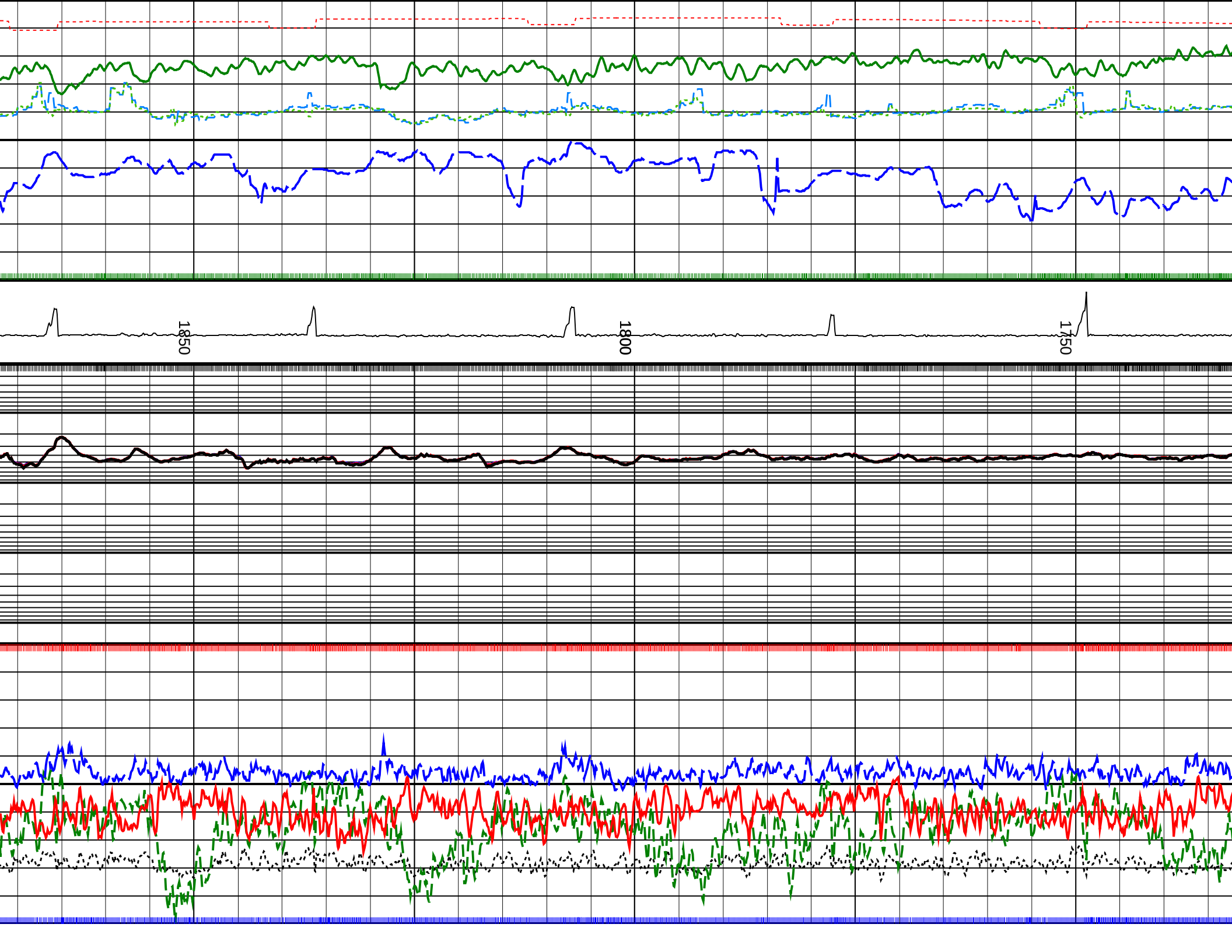

1700
1650
1600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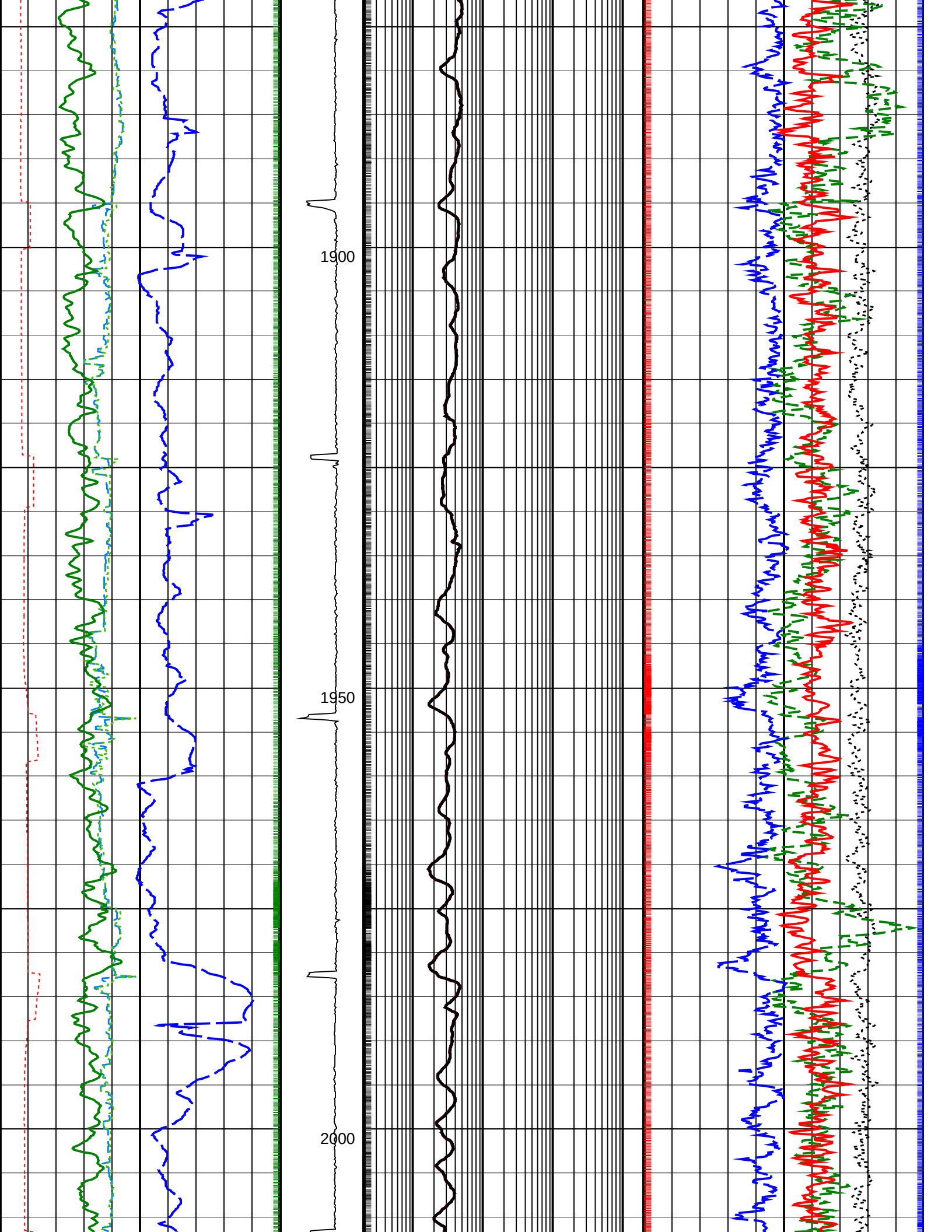
1800
1750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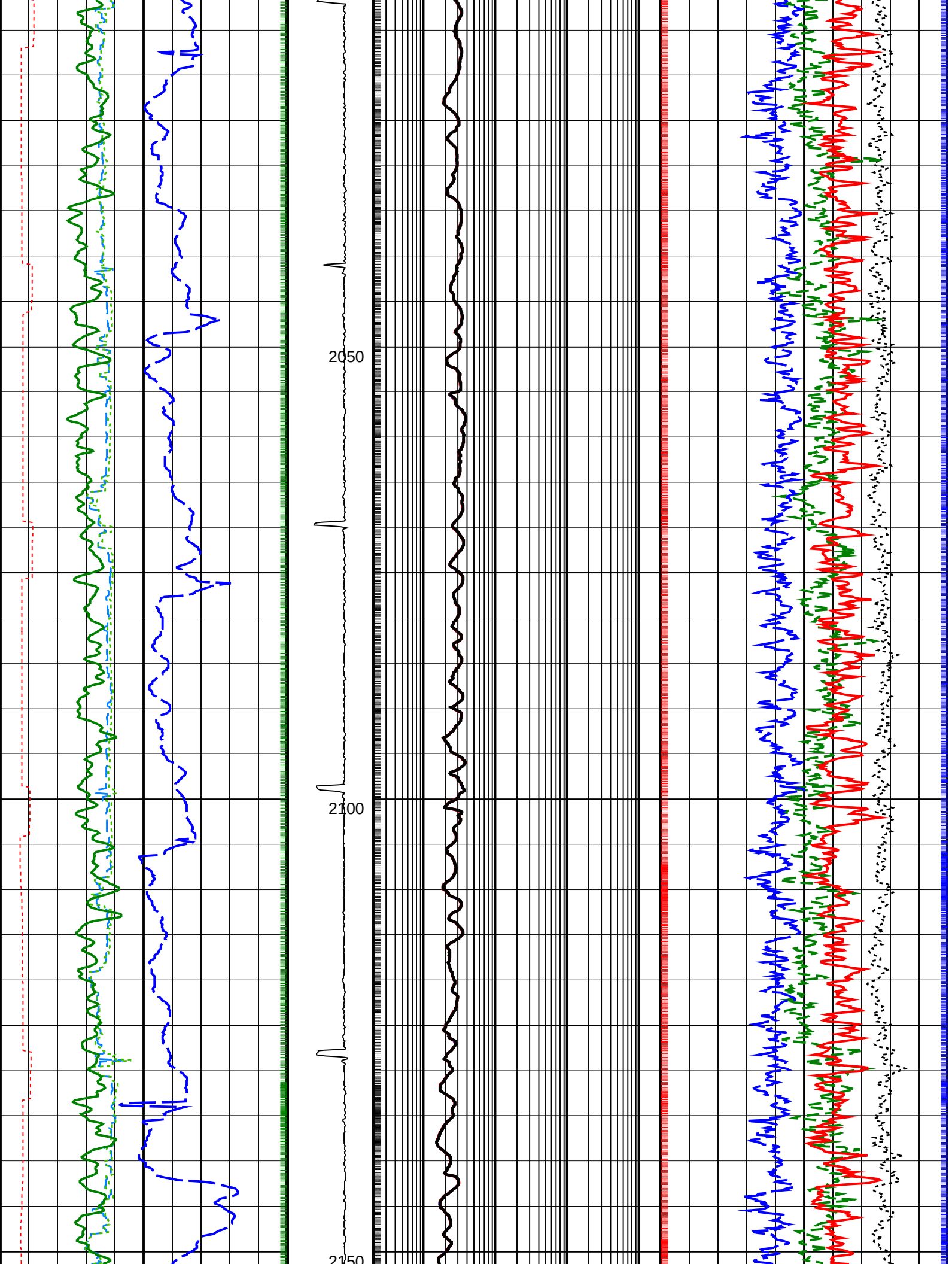
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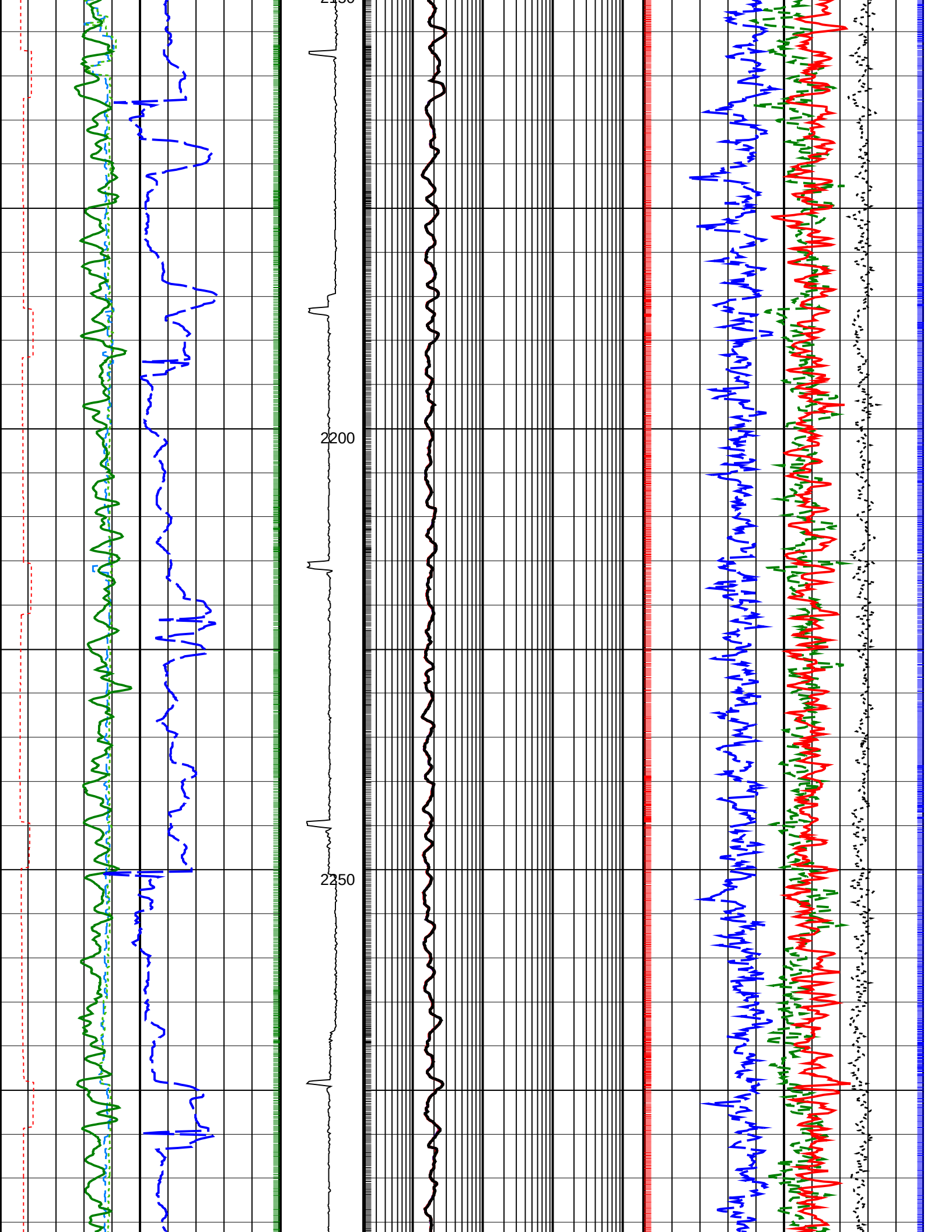
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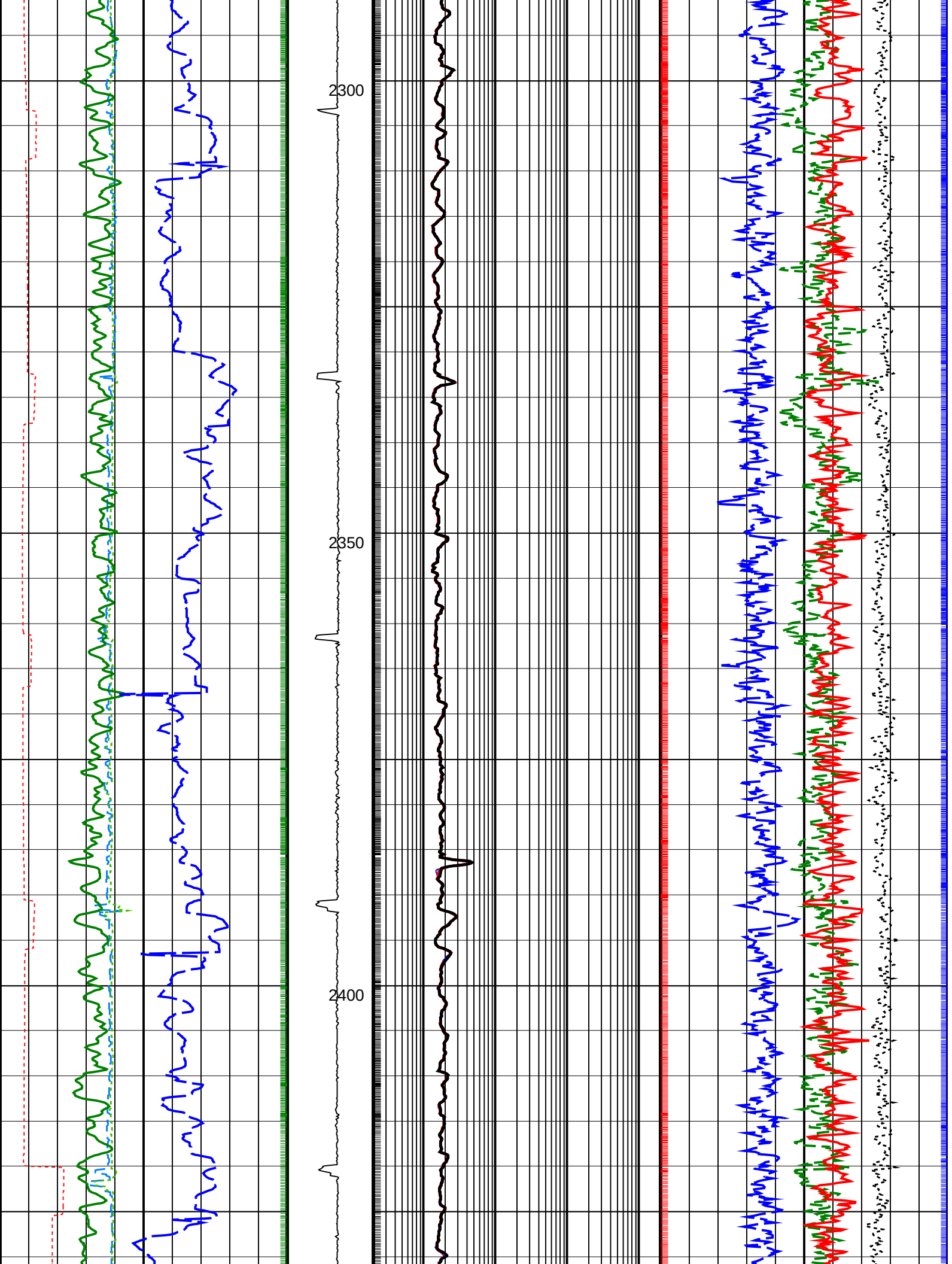
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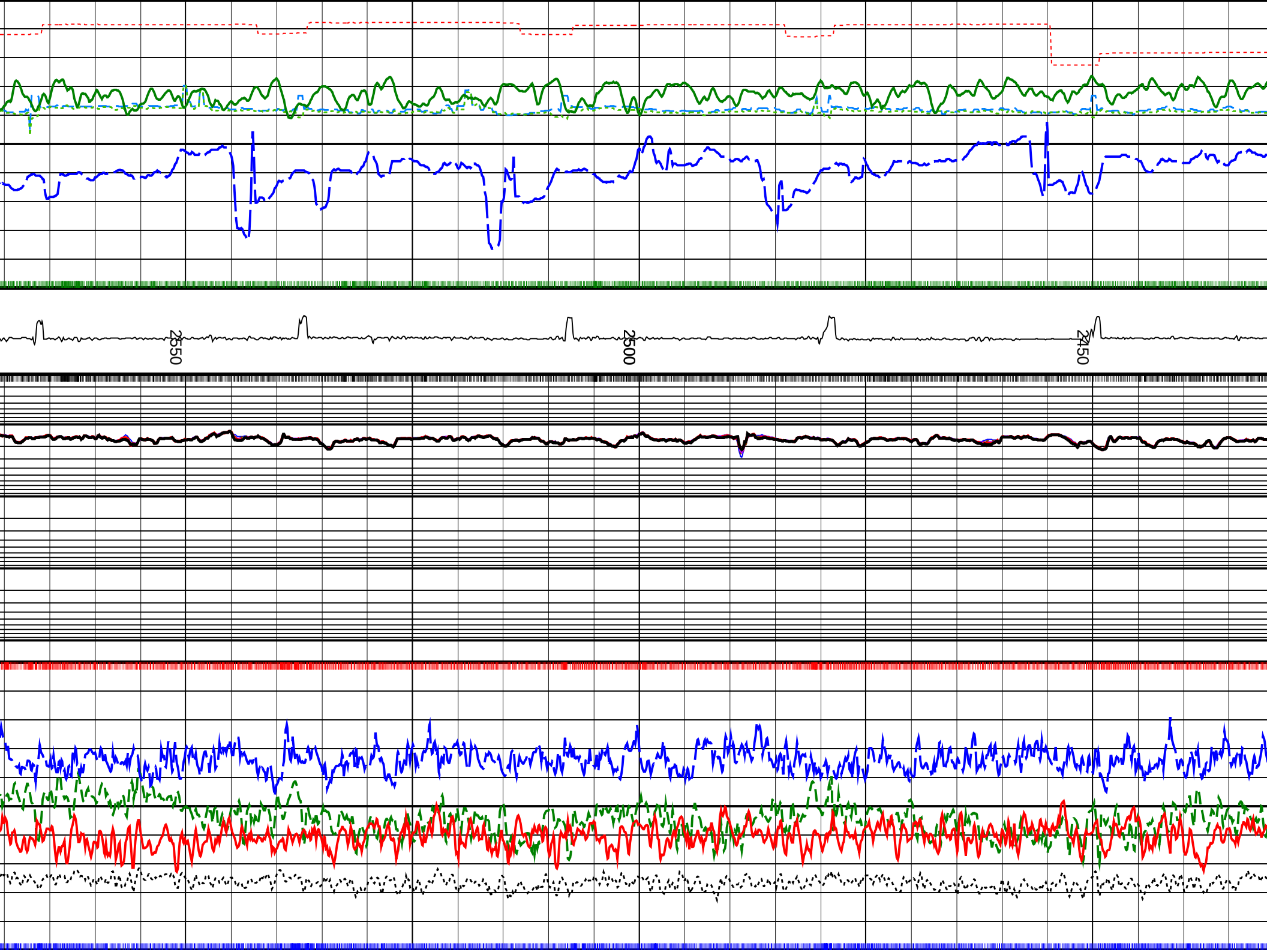
2400


2550
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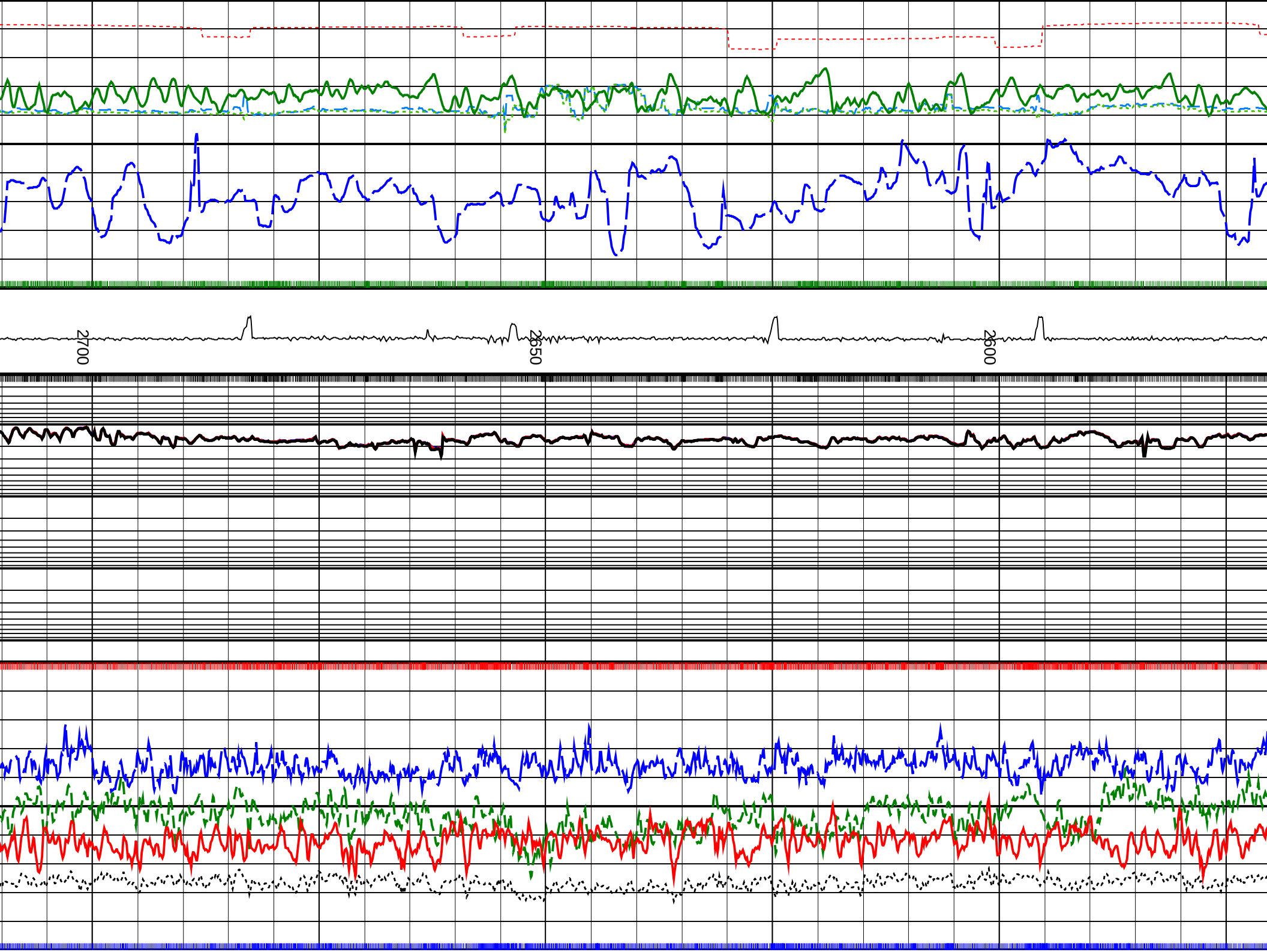
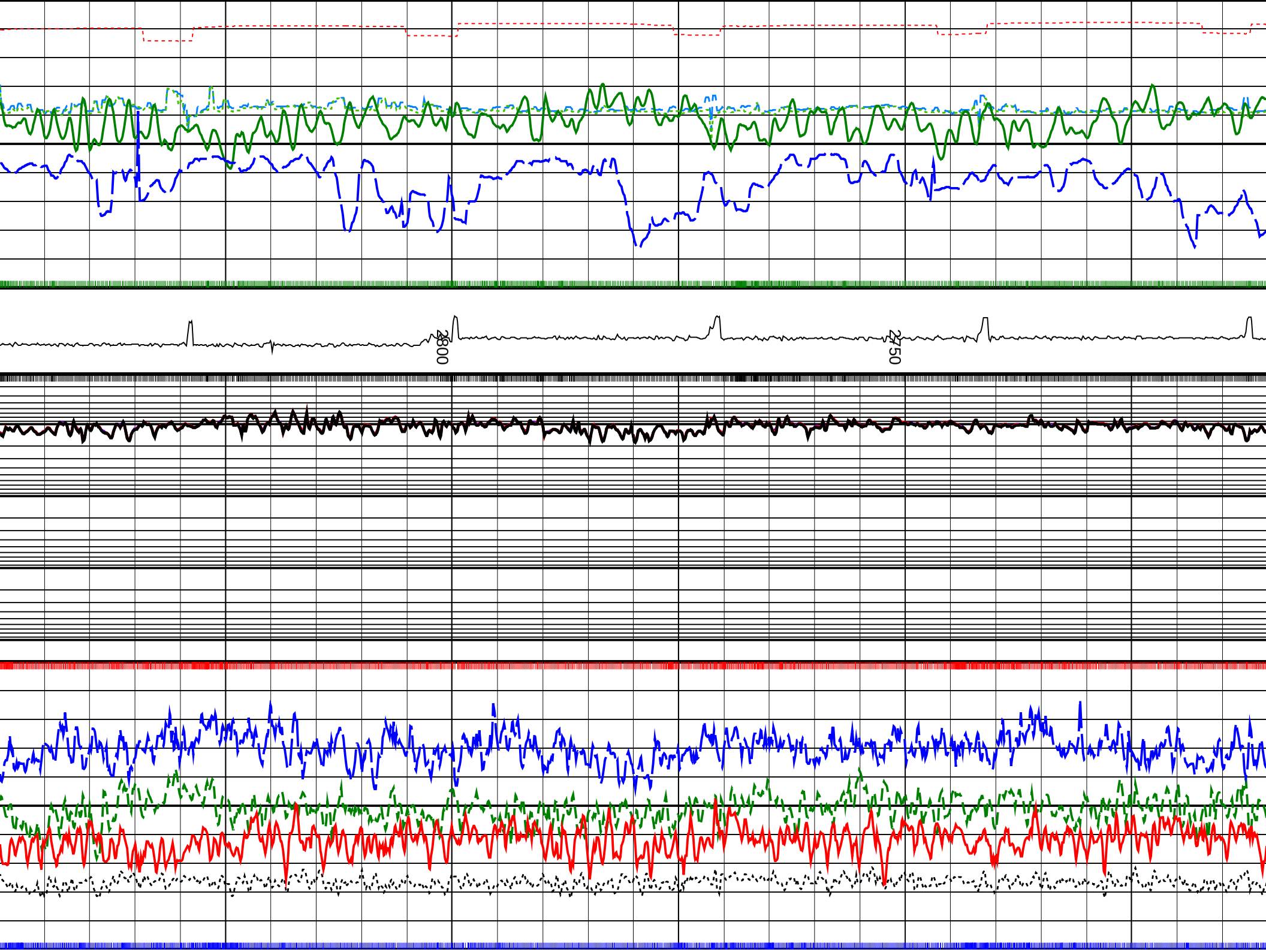

2700
2650
2600


2800
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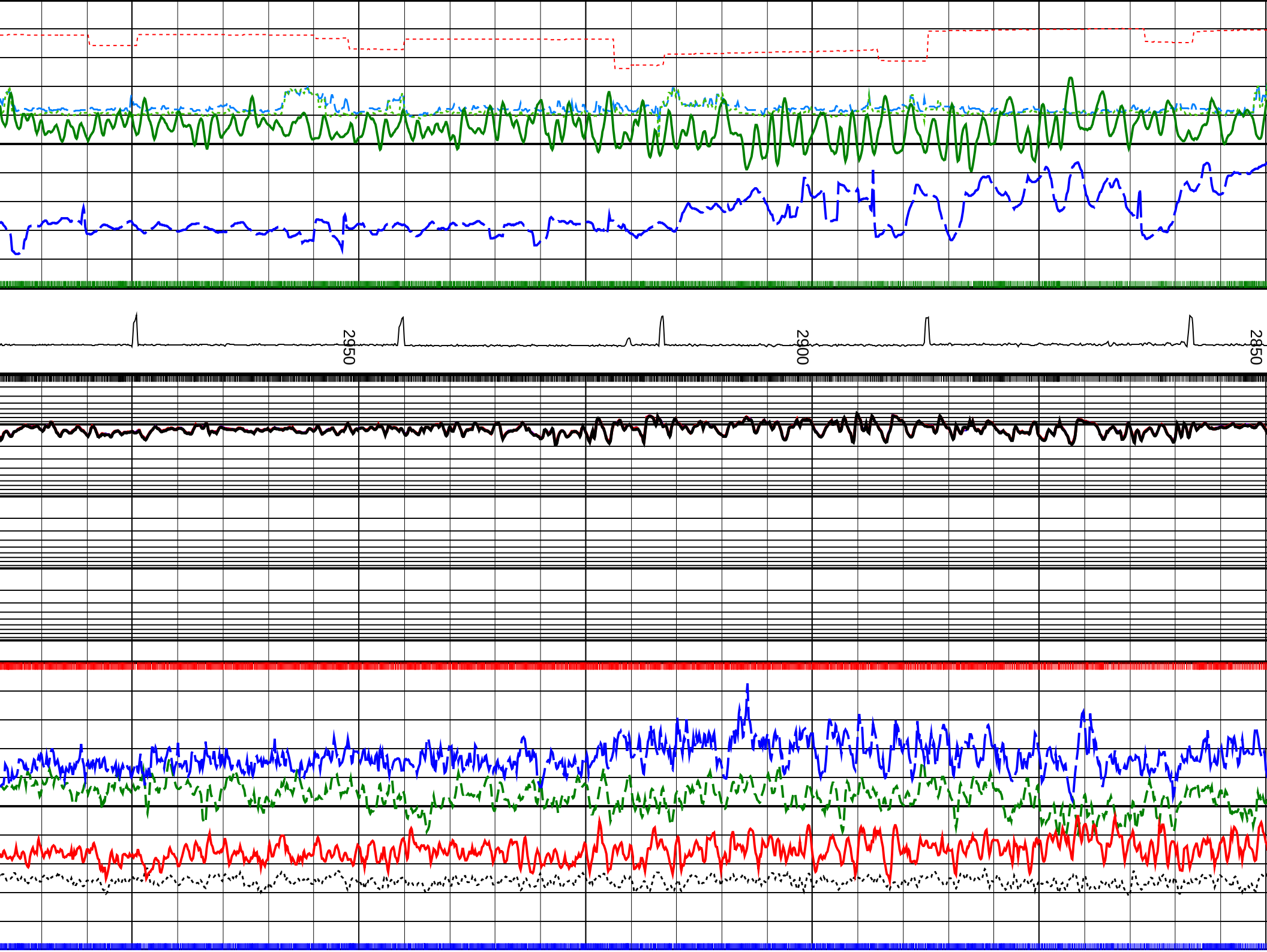
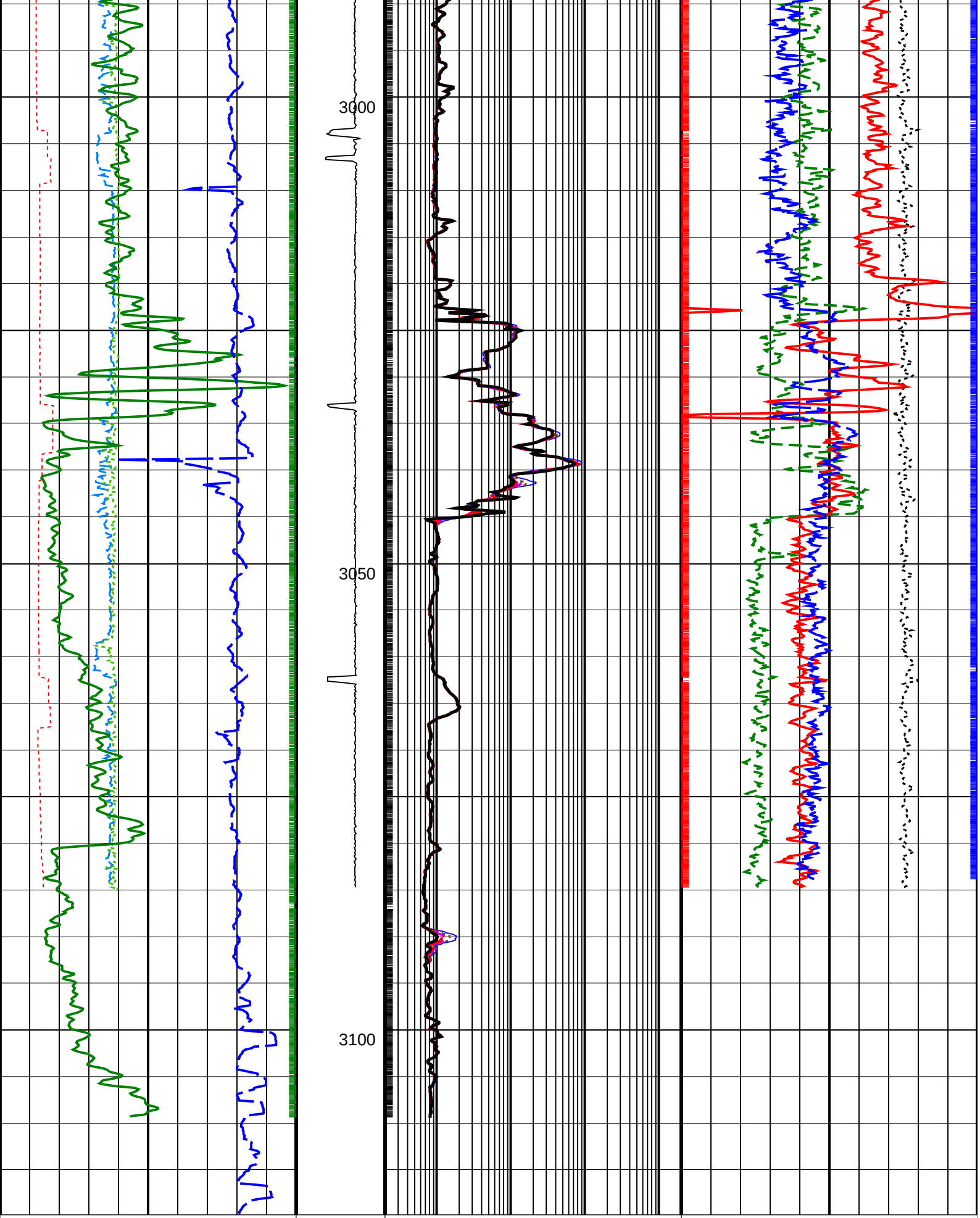

2950
2900
2850



Density Time After Bit (TAB_DEN)
0 (HR) 10

ADN Rotational Speed (RPM_ADN) (RPM)

ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)
0.2 (OHMM) 2000

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

0 250		
Horizontal Hole Diameter (HORD) 6 (IN) 16	ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H) 0.2 (OHMM) 2000	Photoelectric Factor, Bottom (PEB) 0 (−−−− 10
Vertical Hole Diameter (VERD) 6 (IN) 16	ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H) 0.2 (OHMM) 2000	Bulk Density, Bottom (ROBB) 1.85 (G/C3) 2.85
ARC Gamma Ray (GR_ARC) 0 (GAPI) 200	ARC Phase−Shift Resistivity 34−in. at 2 MHz (P34H) 0.2 (OHMM) 2000	Thermal Neutron Porosity (TNPH) 0.45 (V/V) −0.15
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 200 (M/HR) 0	ARC Phase−Shift Resistivity 40−in. at 2 MHz (P40H) 0.2 (OHMM) 2000	

PIP SUMMARY

Density Samples

Neutron Samples

ARC Gamma Ray Samples

ARC Resistivity Samples

IDEAL Version: ID14_0C_16

IDF

6.75−in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:		
Tool Name and Serial Number	ADN6 − CA	018
Collar Type and Serial Number	ADDC − AA	141
Chassis Type and Serial Number	ADSE − EA	018
Stabilizer Type and Serial Number	CLAMP−ON	
Neutron Logging Source	NSR − M	202
Density Logging Source	GSR − J/Z	1994
Stabilizer Size	9.57 − in.	
Calibration Status	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	1.017 1.032		1.079	1.109 1.139	

(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(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)

Phase	Phase−Shift T4	Value
Master		−1.713
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5	Value
Master		1.687
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T1 at 400KHz	Value
Master		−0.4300
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2 at 400KHz	Value
Master		0.3120
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3 at 400KHz	Value
Master		−0.3860
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4 at 400KHz	Value
Master		0.3150
−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
Master		8.333
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2	Value
Master		6.607
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3	Value
Master		4.959
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4	Value
Master		4.515
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5	Value
Master		3.511
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Phase	Attenuation T1 at 400KHz	Value
Master		8.316
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2 at 400KHz	Value
Master		6.631
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3 at 400KHz	Value
Master		4.934
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4 at 400KHz	Value
Master		4.532
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:		
Tool Name and Serial Number	ADN6 − CA	373
Collar Type and Serial Number	ADDC − AA	2400
Chassis Type and Serial Number	ADSE − EA	373
Stabilizer Type and Serial Number	CLAMP−ON	
Neutron Logging Source	NSR − M	202
Density Logging Source	GSR − J/Z	1994
Stabilizer Size	9.29 − in.	
Calibration Status	AUTO −	

Master: 25−Jul−2009 3:12

6.75−in. Azimuthal Density Neutron Calibration

Density: Magnesium Block

Phase	LS window 3 − Mg CPS	Value
Master		648.2
250.0 (Minimum)	4125 (Nominal)	8000 (Maximum)

Phase	SS window 1 − Mg CPS	Value
Master		1756
700.0 (Minimum)	9350 (Nominal)	18000 (Maximum)

Phase	SS window 3 − Mg CPS	Value
Master		4600
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
Master		135.2

Phase	SS window 1 − Al CPS	Value
Master		366.9

Phase	SS window 3 − Al CPS	Value
Master		2125

Phase			Value
Master			105.2
	50.00 (Minimum)	725.0 (Nominal)	1400 (Maximum)

Phase			Value
Master			999.9
	500.0 (Minimum)	4250 (Nominal)	8000 (Maximum)

Phase			Value
Master			3185
	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
Master			48.25
	15.00 (Minimum)	82.50 (Nominal)	150.0 (Maximum)

Phase	SS window 1 − Background CPS		Value
Master			112.5
	40.00 (Minimum)	220.0 (Nominal)	400.0 (Maximum)

Phase	SS window 3 − Background CPS		Value
Master			496.2
	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
Master			1.021
	1.005 (Minimum)	1.020 (Nominal)	1.035 (Maximum)

Phase	Short spacing water density G/C3		Value
Master			1.119
	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
Master			18.12
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 1 tube 1 Rod Point Measure CPS		Value
Master			4.385
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 1 tube 1 H2O Point Measure CPS		Value
Master			2.134
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 1 tube 2 Air Point Measure CPS		Value
Master			18.67
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 1 tube 2 Rod Point Measure CPS		Value
Master			4.582
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 1 tube 2 H2O Point Measure CPS		Value
Master			2.257
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 1 tube 3 Air Point Measure CPS		Value
Master			**17.17**
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 1 tube 3 Rod Point Measure CPS		Value
Master			**4.206**
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 1 tube 3 H2O Point Measure CPS		Value
Master			**2.044**
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 1 Air Point Measure CPS		Value
Master			17.15
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 1 Rod Point Measure CPS		Value
Master			4.421
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 1 H2O Point Measure CPS		Value
Master			2.271
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 2 Air Point Measure CPS		Value
Master			18.87
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 2 Rod Point Measure CPS		Value
Master			4.540
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 2 H2O Point Measure CPS		Value
Master			2.250
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Far 2 tube 3 Air Point Measure CPS		Value
Master			18.11
	13.30 (Minimum)	19.05 (Nominal)	24.70 (Maximum)

Phase	Far 2 tube 3 Rod Point Measure CPS		Value
Master			4.419
	3.400 (Minimum)	4.857 (Nominal)	6.200 (Maximum)

Phase	Far 2 tube 3 H2O Point Measure CPS		Value
Master			2.207
	1.600 (Minimum)	2.363 (Nominal)	3.100 (Maximum)

Phase	Near 1 tube 1 Air Point Measure CPS		Value
Master			472.9
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)

Phase	Near 1 tube 1 Rod Point Measure CPS		Value
Master			754.0
	535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)

Phase	Near 1 tube 1 H2O Point Measure CPS		Value
Master			338.7
	230.0 (Minimum)	343.7 (Nominal)	430.0 (Maximum)

Phase	Near 2 tube 1 Air Point Measure CPS		Value
Master			478.1
	345.0 (Minimum)	487.5 (Nominal)	595.0 (Maximum)

Phase	Near 2 tube 1 Rod Point Measure CPS		Value
Master			744.8
	535.0 (Minimum)	768.8 (Nominal)	925.0 (Maximum)

Phase	Near 2 tube 1 H2O Point Measure CPS		Value
Master			338.4
	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
Master		0.9730
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2	Value
Master		−0.8690
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3	Value
Master		0.8750
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4	Value
Master		−0.9250
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5	Value
Master		0.8700
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T1 at 400KHz	Value
Master		−0.2010
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2 at 400KHz	Value
Master		0.1060
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3 at 400KHz	Value
Master		−0.1750
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4 at 400KHz	Value
Master		0.09100
−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
Master		9.542
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2	Value
Master		5.423
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3	Value
Master		6.159
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4	Value
Master		3.326
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5	Value
Master		4.709
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Phase	Attenuation T1 at 400KHz	Value
Master		9.516
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2 at 400KHz	Value
Master		5.456
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3 at 400KHz	Value
Master		6.125
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4 at 400KHz	Value
Master		3.352
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)

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.....: BGGM version 2009
Method for DLS.....: Mason & Taylor Magnetic date.....: 22−Aug−2009
Magnetic field strength..: 1199.27 HCNT
−−−−− Depth reference −−−−−−−−−−−−−−−−−−−−−− Magnetic dec (+E/W−).....: 13.25 degrees
Permanent datum.....: GROUND LEVEL Magnetic dip.....: −68.85 degrees
Depth reference.....:
GL above permanent.....: −79.00 m −−−−− MWD survey Reference Criteria −−−−−−−−−
KB above permanent.....: −15240.00 m Reference G.....: 1000.05 mGal
DF above permanent.....: 41.00 m Reference H.....: 1199.27 HCNT
Reference Dip.....: −68.85 degrees
−−−−− Vertical section origin−−−−−−−−−−−−−−−− Tolerance of G.....: (+/−) 2.50 mGal
Latitude (+N/S−).....: −4.26 m Tolerance of H.....: (+/−) 6.00 HCNT
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)	DLS (deg/ 100f)	Srvy Tool type	Corr (deg)
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	245.96	−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	336.78	−9.78	−42.45	−17.32	45.85	202.20	4.69	MWD+GMAG	None
61	346.99	22.97	206.34	5.00	341.39	−10.29	−44.19	−18.18	47.78	202.36	2.03	MWD+GMAG	None
62	351.99	23.95	205.32	5.00	345.98	−10.79	−45.98	−19.04	49.77	202.50	6.47	MWD+GMAG	None
63	356.99	24.28	204.06	5.00	350.54	−11.26	−47.84	−19.90	51.81	202.58	3.73	MWD+GMAG	None
64	361.99	25.19	204.90	5.00	355.08	−11.74	−49.74	−20.76	53.90	202.66	5.95	MWD+GMAG	None
65	366.99	25.69	205.89	5.00	359.60	−12.26	−51.68	−21.69	56.05	202.76	4.00	MWD+GMAG	None
66	371.99	26.05	204.23	5.00	364.09	−12.78	−53.66	−22.61	58.23	202.85	4.93	MWD+GMAG	None
67	376.99	26.18	203.82	5.00	368.58	−13.27	−55.67	−23.51	60.43	202.89	1.36	MWD+GMAG	None
68	381.99	27.25	205.09	5.00	373.05	−13.78	−57.72	−24.44	62.68	202.95	7.39	MWD+GMAG	None
69	386.99	27.51	205.37	5.00	377.49	−14.34	−59.80	−25.42	64.97	203.03	1.77	MWD+GMAG	None
70	391.99	28.39	203.98	5.00	381.91	−14.88	−61.92	−26.39	67.32	203.09	6.67	MWD+GMAG	None
71	396.99	28.47	204.13	5.00	386.30	−15.41	−64.10	−27.36	69.70	203.12	0.65	MWD+GMAG	None
72	401.99	29.03	205.21	5.00	390.69	−15.97	−66.28	−28.37	72.10	203.17	4.66	MWD+GMAG	None
73	406.99	29.30	205.00	5.00	395.05	−16.55	−68.49	−29.40	74.53	203.23	1.76	MWD+GMAG	None
74	411.99	30.07	203.60	5.00	399.40	−17.11	−70.75	−30.42	77.01	203.27	6.32	MWD+GMAG	None
75	416.99	30.49	204.10	5.00	403.72	−17.66	−73.05	−31.44	79.53	203.29	2.99	MWD+GMAG	None
76	421.99	31.22	205.74	5.00	408.01	−18.26	−75.38	−32.52	82.09	203.34	6.79	MWD+GMAG	None
77	426.99	31.45	204.76	5.00	412.28	−18.89	−77.73	−33.63	84.69	203.40	3.41	MWD+GMAG	None
78	**431.99**	**32.19**	**203.64**	**5.00**	**416.53**	**−19.48**	**−80.13**	**−34.71**	**87.33**	**203.42**	**5.77**	**MWD+GMAG**	**None**
79	**436.99**	**32.40**	**204.19**	**5.00**	**420.75**	**−20.07**	**−82.58**	**−35.79**	**90.00**	**203.43**	**2.20**	**MWD+GMAG**	**None**
80	441.99	33.41	205.04	5.00	424.95	−20.70	−85.05	−36.93	92.72	203.47	6.77	MWD+GMAG	None
81	446.99	33.68	204.82	5.00	429.12	−21.35	−87.55	−38.09	95.48	203.51	1.81	MWD+GMAG	None
82	451.99	34.04	204.78	5.00	433.27	−22.00	−90.08	−39.26	98.26	203.55	2.20	MWD+GMAG	None
83	456.99	34.87	204.64	5.00	437.39	−22.66	−92.65	−40.44	101.09	203.58	5.08	MWD+GMAG	None
84	461.99	35.22	204.68	5.00	441.49	−23.32	−95.26	−41.64	103.96	203.61	2.14	MWD+GMAG	None
85	466.99	35.84	204.58	5.00	445.56	−24.00	−97.90	−42.85	106.87	203.64	3.80	MWD+GMAG	None
86	471.99	36.19	204.66	5.00	449.60	−24.67	−100.57	−44.07	109.81	203.66	2.15	MWD+GMAG	None
87	476.99	36.69	204.72	5.00	453.62	−25.36	−103.27	−45.31	112.78	203.69	3.06	MWD+GMAG	None
88	481.99	36.97	204.82	5.00	457.63	−26.06	−105.99	−46.57	115.77	203.72	1.75	MWD+GMAG	None
89	486.99	37.41	204.64	5.00	461.61	−26.77	−108.74	−47.84	118.79	203.75	2.76	MWD+GMAG	None
90	491.99	37.68	204.56	5.00	465.57	−27.47	−111.51	−49.10	121.84	203.77	1.67	MWD+GMAG	None
91	496.99	38.35	204.70	5.00	469.51	−28.18	−114.31	−50.39	124.92	203.79	4.12	MWD+GMAG	None
92	501.99	38.49	204.60	5.00	473.43	−28.90	−117.13	−51.68	128.03	203.81	0.93	MWD+GMAG	None
93	506.99	39.24	204.75	5.00	477.32	−29.63	−119.98	−52.99	131.16	203.83	4.61	MWD+GMAG	None
94	511.99	39.35	204.78	5.00	481.19	−30.37	−122.86	−54.32	134.33	203.85	0.68	MWD+GMAG	None
95	516.99	40.02	204.83	5.00	485.04	−31.12	−125.76	−55.66	137.52	203.87	4.09	MWD+GMAG	None
96	521.99	40.43	204.74	5.00	488.86	−31.87	−128.69	−57.01	140.75	203.89	2.52	MWD+GMAG	None
97	526.99	40.84	204.65	5.00	492.65	−32.63	−131.65	−58.37	144.01	203.91	2.52	MWD+GMAG	None
98	531.99	40.91	204.91	5.00	496.43	−33.40	−134.62	−59.74	147.28	203.93	1.12	MWD+GMAG	None
99	536.99	41.55	205.13	5.00	500.19	−34.18	−137.60	−61.14	150.57	203.96	4.00	MWD+GMAG	None
100	541.99	41.87	204.99	5.00	503.93	−34.97	−140.62	−62.55	153.90	203.98	2.03	MWD+GMAG	None
101	546.99	42.55	204.90	5.00	507.63	−35.77	−143.66	−63.96	157.26	204.00	4.16	MWD+GMAG	None
102	551.99	42.70	205.00	5.00	511.31	−36.57	−146.73	−65.39	160.64	204.02	1.00	MWD+GMAG	None
103	556.99	43.45	205.21	5.00	514.96	−37.39	−149.82	−66.84	164.06	204.04	4.65	MWD+GMAG	None
104	561.99	43.58	205.16	5.00	518.59	−38.21	−152.94	−68.31	167.50	204.07	0.82	MWD+GMAG	None
105	566.99	44.29	204.73	5.00	522.19	−39.04	−156.09	−69.77	170.97	204.08	4.69	MWD+GMAG	None
106	571.99	44.39	205.02	5.00	525.76	−39.86	−159.26	−71.24	174.46	204.10	1.38	MWD+GMAG	None
107	576.99	45.01	204.98	5.00	529.32	−40.69	−162.44	−72.72	177.98	204.12	3.78	MWD+GMAG	None
108	581.99	45.22	204.88	5.00	532.84	−41.53	−165.66	−74.22	181.52	204.13	1.35	MWD+GMAG	None
109	586.99	46.01	205.21	5.00	536.34	−42.38	−168.89	−75.73	185.09	204.15	5.03	MWD+GMAG	None
110	591.99	46.20	205.27	5.00	539.81	−43.25	−172.15	−77.27	188.70	204.17	1.19	MWD+GMAG	None
111	596.99	46.90	205.00	5.00	543.25	−44.12	−175.44	−78.81	192.33	204.19	4.43	MWD+GMAG	None
112	601.99	47.24	205.01	5.00	546.65	−44.99	−178.76	−80.36	195.99	204.21	2.07	MWD+GMAG	None
113	606.99	47.64	205.45	5.00	550.03	−45.88	−182.09	−81.93	199.67	204.22	3.14	MWD+GMAG	None
114	611.99	48.11	205.05	5.00	553.39	−46.78	−185.44	−83.51	203.38	204.24	3.39	MWD+GMAG	None
115	616.99	48.48	204.70	5.00	556.72	−47.66	−188.83	−85.08	207.11	204.25	2.76	MWD+GMAG	None
116	621.99	48.89	205.16	5.00	560.02	−48.54	−192.23	−86.66	210.86	204.27	3.27	MWD+GMAG	None
117	626.99	49.48	205.53	5.00	563.28	−49.47	−195.65	−88.28	214.65	204.29	3.98	MWD+GMAG	None
118	631.99	49.83	205.07	5.00	566.52	−50.39	−199.10	−89.91	218.46	204.30	3.02	MWD+GMAG	None

118	631.99	49.83	205.07	5.00	566.52	−50.39	−199.10	−89.91	218.46	204.30	3.02	MWD+GMAG	None
119	636.99	50.16	204.92	5.00	569.74	−51.30	−202.57	−91.53	222.29	204.32	2.13	MWD+GMAG	None
120	641.99	50.55	205.18	5.00	572.93	−52.22	−206.06	−93.16	226.14	204.33	2.67	MWD+GMAG	None
121	646.99	51.18	204.74	5.00	576.08	−53.14	−209.57	−94.79	230.02	204.34	4.37	MWD+GMAG	None
122	651.99	50.87	206.23	5.00	579.23	−54.09	−213.08	−96.47	233.90	204.36	7.31	MWD+GMAG	None
123	656.99	49.68	206.65	5.00	582.42	−55.10	−216.53	−98.18	237.74	204.39	7.52	MWD+GMAG	None
124	684.46	50.27	195.16	27.47	600.12	−58.60	−236.12	−105.65	258.68	204.11	9.78	MWD+GMAG	None
125	710.49	47.70	189.94	26.03	617.21	−59.06	−255.27	−109.94	277.94	203.30	5.51	MWD+GMAG	None
126	743.04	45.23	192.85	32.55	639.63	−59.10	−278.40	−114.58	301.06	202.37	3.04	MWD+GMAG	None
127	772.28	45.03	193.62	29.24	660.26	−59.82	−298.57	−119.33	321.54	201.78	0.61	MWD+GMAG	None
128	801.18	41.92	194.98	28.90	681.23	−60.87	−317.84	−124.23	341.26	201.35	3.43	MWD+GMAG	None
129	830.54	39.47	196.53	29.36	703.49	−62.36	−336.26	−129.42	360.31	201.05	2.75	MWD+GMAG	None
130	859.87	37.07	196.93	29.33	726.52	−64.09	−353.66	−134.65	378.43	200.84	2.51	MWD+GMAG	None
131	889.17	36.72	191.01	29.30	749.96	−64.92	−370.71	−138.90	395.88	200.54	3.71	MWD+GMAG	None
132	918.30	36.60	185.41	29.13	773.33	−64.00	−387.91	−141.38	412.87	200.02	3.50	MWD+GMAG	None
133	946.81	35.54	178.31	28.51	796.38	−61.28	−404.66	−141.94	428.83	199.33	4.61	MWD+GMAG	None
134	976.16	34.34	172.01	29.35	820.45	−56.63	−421.39	−140.53	444.21	198.44	3.95	MWD+GMAG	None
135	1005.33	34.01	168.14	29.17	844.59	−50.72	−437.53	−137.71	458.69	197.47	2.30	MWD+GMAG	None
139	1121.86	35.15	152.40	29.07	941.09	−17.43	−498.93	−116.00	512.23	193.09	3.11	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	

Company: **ESSO Australia Pty Ltd**

Schlumberger

Well: **CBA A15B**

Field: **Halibut**

Rig: **ISDL 175**

9.875 in. Section

State: **Victoria**

VISION Service
1:500 Measured Depth
Recorded Mode Log