Schlumberger

Company:	ESSO Australia Pty Ltd		
			9.875 in. Section
Well:	CBA A28		
Field:	Halibut		
Rig:	ISDL 175	State:	Victoria

Rig: ISDL 175
Field: Halibut
Location: Bass Strait
Well: CBA A28
Company: ESSO Australia Pty Ltd

VISION Resistivity
1:500 Measured Depth
Recorded Mode Log

Location

Total depth:	3995.0 m	Elevation	K.B.	Top Drive
Spud date:	04−July−2009		G.L.	−79.00 m
Run:	1		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.		Longitude	Latitude
09ASQ0017	X = E 614238.697 m Y = N 5743521.130 m	148° 18' 32.995"	−38° 26' 57.465"

Depth logged:	584.96 m	To	3984.58 m	Mag decl:	13.218 deg.	Other services:	
Date logged:	08−Jul−09	To	15−Jul−09	Mag dip:	−68.859 deg.	See Remarks	

Bore hole record			Casing record			
Hole size	from	to	Size	Density	from	to
9.875 in.	584.96 m	3995.0 m	10.75 in.	40.50 lbm/ft	19.54 m	584.96 m

Mud record			Borehole deviation record			
Type	from	to	Min	Max	from	to
Accolade SBM	584.96 m	3995.0 m	18.92 deg.	60.22 deg.	624.15 m	3975.05 m

Surface equipment		Software record			
Unit	OLU−KC−0801	IDEAL Wis	ID14_0C_16		
Depth system	PDA/CLT	HSPM	14_1C_03		
		LWD	v8.4 (adnVISION*)	v6.7 (sonicVISION*)	v9.3b13 (arcVISION*)
		MWD	9.2c02		

Bit Run Summary

Run number		1									
Bit size	in	9.875									
Bit start depth	m	584.96									
Bit end depth	m	3995.0									
Top interval logged	m	584.96									
Bottom interval logged	m	3984.58									
Begin log: time		04:41:12									
Begin log: date		09−Jul−09									
End log: time		14:16:04									
End log: date		15−Jul−09									
Mud data											
Depth	m	3859.0									
Type		Accolade SBM									
Mud weight	ppg	11.80									
Solids	%	22.6									
Chlorides	mg/L	44,042									
Rm	ohm.m@°C	n.a									
Rmf	ohm.m@°C	n.a									
Rmc	ohm.m@°C	n.a									

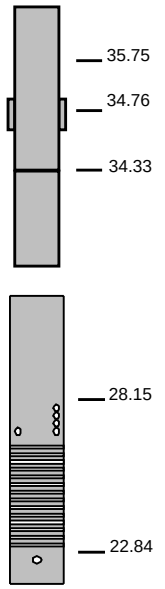
Potassium	%	n.a									
Environmental data											
GR											
Mud weight	ppg	11.80									
Bit size	in	9.875									
Resistivity											
Neutron porosity											
Hole Size	in	9.875									
Mud weight	ppg	11.80									
Temperature	°C	104									
Mud salinity	ppk	51.131									
Formation salinity		n.a									
Recording rate 1	SEC	6 (arc)									
Recording rate 2	SEC	5 (adn) 10 (sonic)									
Filtering GR		3 pts.									
Filtering density		3 pts.									
Filtering Neutron		3 pts.									
Company representative		M. Calicutt	G. Doty	D. Daniels	R. C Moore						
D&M personnel		M. Amarasena	B. Low	W. Chehabi	C. Soper	S. Ahmad	D.B. Khanh				

OTHER SERVICES FOR RUN2	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations		
REMARKS: RUN NUMBER 1	**REMARKS: RUN NUMBER**	**REMARKS: RUN NUMBER**
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 9−3/8" clamp on stabilizer Delta−T is borehole compensated POOH upon reaching TD of CBA A−28		

EQUIPMENT DESCRIPTION

RUN1	RUN	RUN
DOWNHOLE EQUIPMENT		

DOWNHOLE EQUIPMENT



6−3/4" adnVISION* 9−3/8" Stabilizer DHS: V8.4 S/N: 2386	37.81
6−3/4" sonicVISION* DHS: V6.7 S/N: 630	31.19
9−5/8" NM−ILS S/N: OSSO902161	23.93
6−3/4" TeleScope* DHS: 9.2C02 S/N: E0330	22.94
9−5/8" NM−ILS S/N: OSS090215A	14.83
6−3/4" arcVISION* DHS: V9.3 S/N: 2056	13.86
6−3/4" PowerDrive Xceed S/N: 120	7.95
9−7/8" Reed Hycalog PDC Bit S/N: 222650	0.31

Maximum string diameter 9.88 in.

All lengths in Meters

Variable Name	Variable Description	Run Name & Value		
	Run Number			1
	General Information			
BHT_RM	Bottom Hole Temperature (RM)		DEGC	104.000
BSAL_RM	Mud Salinity (RM)		PPK	51.131
BS_RM	Bit Size (RM)		IN	9.875
COEF_M	User Defined FEXP in Clean Sand		----	1.650
C_WS	Overpressure correction to Sw and M		----	1.000
FEXP	Formation Factor Exponent(RM)		----	2.000
FNUM	Formation Factor Enumerator(RM)		----	1.000
FPHI_RM	Formation Factor Porosity Source (RM)		----	XPLOT
MST_RM	Mud Sample temperature (RM)		DEGC	23.889
MW_RM	Mud Weight (RM)		LB/G	11.800
OBMF_RM	Oil Based Mud (RM)		----	YES
RHOF_RM	Mud Filtrate Density (RM)		G/C3	1.000
RHOM_RM	Matrix density (RM)		G/C3	2.710
RMS_RM	Resistivity of Mud Sample (RM)		OHMM	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
SHT_RM	Ground Level Temperature (Mud-Line When Offshore) (RM)		DEGC	10.000
TD_RM	Total Measured Depth (RM)		M	3995.000
TWS_RM	Temperature of Connate Water (RM)		DEGC	23.889
VF_ILLI	Fraction of illite in shales		----	0.500
VF_KAOL	Fraction of kaolinite in shales		----	0.500
VF_MONT	Fraction of montmorillonite in shales		----	0.000
XPDM_RM	Cross plot density porosity multiplier		----	0.675
XPNM_RM	Cross plot neutron porosity multiplier		----	0.325
	ADN			
ADN_CHASSIS_STR	Type String		Chassis	ADN
ADN_COLLAR_STR	Type String		Collar	ADN
ADN_DATA_FIX	ADN: Create A Corrected ADN Time Data File		----	NO
ADN_DATA_LTB	ADN: Create An ADN LTB Data File		----	NO
ADN_ORIENTATION	ADN Image Orientation		----	TOH
ADN_STAB_STR	ADN Stabilizer Type String		----	TOH
ALPHA_COMPUTE_D	Perform Density Enhanced Vertical Resolution process ?		----	YES
ALPHA_COMPUTE_N	**Perform Neutron Enhanced Vertical Resolution process ?**		**----**	**YES**
AVE_ADN	**ADN/Array Channels: perform averaging(RM) :**		**----**	**YES**
A_DHS	ADN Down Hole Software Version String		----	v8.4
CHI_RM	Caliper High limit from BS (RM)		IN	3.000
CLO_RM	Caliper Low limit from BS (RM)		IN	0.000
DEVI	Well Section Deviation		DEG	56.580
DTIK_SEL	ADN: Density Tick Channel Name		----	LSAZ
DTMUD	Delta-T for Mud		US/F	214.039
DYN_IMG_COMPUTE	Generate Dynamic Normalized Image?		----	YES
ECC_CORR_ADN	Perform Eccentering Correction for TNPH?		----	YES
ENVCOR	Neutron Processing: Environmental Correction?		----	YES
EVRL	EVR Process averaging number of samples (RM)		----	49
FCD	Future Casing (Outer) Diameter		IN	0.000
GCSE	Generalized Caliper Selection		----	BS
HPS	ADSE-EB (High Pressure Inconel Chassis)?		----	NO
IBS	Intergal Blade Stabilizer Collar?		----	No
IDQT	Image Derived Quality Threshold		----	2.000
IHVS	Integrated Hole Volume Start Value(RM)		F3	0.000
IMAGE_MAX_SOA	Image SOA (Quadrant) Right Scale		IN	2.500
IMAGE_MAX_SPEF	Image PEF(Segment) Right Scale		----	6.000
IMAGE_MAX_SRHOB	Image RHOB(Segment) Right Scale		G/C3	2.650
IMAGE_MIN_SOA	Image SOA (Quadrant) Left Scale		IN	0.000
IMAGE_MIN_SPEF	Image PEF(Segment) Left Scale		----	2.000
IMAGE_MIN_SRHOB	Image RHOB(Segment) Left Scale		G/C3	2.050
JSD_ADN	ADN Acquisition start date		Wed Jul 08 17:56:49 2009	
LITHO_TYPE_ADN	Lithology (RM)		----	LIME
N1FTU_6_RM	ADN: Neutron Bank 1 Far Tubes used :		----	1-2-3
N2FTU_6_RM	ADN: Neutron Bank 2 Far Tubes used :		----	1-2-3
NNTU_RM	ADN Neutron Near Banks Used		----	1-2
NTIK_SEL	ADN: Neutron Tick Channel Name		----	FR11
RSD	LWD run start date dd-mmm-yy			08-July-2009
RWA_COMP_MOD	Rwa computation model		----	BASIC
RWA_DEN_ADN	Rwa Density Input		----	RHOB
RWA_DEN_CDN	Rwa Density Input		----	RHOB
RWA_DEN_INPUT	Rwa Density Input		----	RHOB
RWA_FORM_MOD	Rwa computation formation model		----	CLASTIC
RWA_RES_INPUT	Rwa computation resistivity input		----	RT
SOCNL	Standoff Distance of the CNL Tool		----	1.000
SSIZ_ADN	ADN Stabilizer Size		IN	9.313
STOH	ADN Density Top of Hole Sector (Left Boundary):		----	SECTOR_0
TRPM_RM	Average Tool Rotational Speed		RPM	20.000
USMIN_RM	ADN:Minimum Ultrasonic standoff (RM)		IN	0.180
USWF_RM	ADN:Process Ultrasonic Waveform?		----	YES
VERS_ADN	ADN Downhole Software Version		----	8.400
WSDI	Window Size of Dynamic Normalization Image		M	15.240
	ARC			
A12A	ARC Air Cal Attenuation From T1 at 2 MHz		DB	9.546
A14A	ARC Air Cal Attenuation From T1 at 400 KHz		DB	9.516

A22A	ARC Air Cal Attenuation From T2 at 2 MHz	DB	5.419
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	DB	5.456
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	DB	6.162
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	DB	6.127
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	DB	3.322
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	DB	3.352
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	DB	4.713
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	DB	4.683
ABNT	Abnormal Transmitter Indicator	----	No_Tx_Failed
ADHS	ARC Down Hole Software Version	----	v9.3
AM2A	ARC Air Cal Amplitude Offset at 2 MHz	----	-50000.000
ANISO_COMPUTE	Anisotropy Computation Option	----	YES
APICG	ARC5 Gamma Ray Gain Factor	----	1.115
APIG	ARC Gamma Ray API Gain Factor	----	-1.000
ARC_DATA_FIX	ARC: Create A Corrected ARC Time Data File	----	NO
ARC_DATA_LTB	ARC: Create An ARC LTB Data File	----	NO
ATMP_ARC	ARC Select Temperature Channel	----	Annulus_Temp
ATRN	ARC Tool Run Number	----	Run #1
ATSN	ARC Tool Serial Number	----	2056
AZMF	Formation DIP Azimuth	DEG	0.000
BH_COMPUTE	Borehole Inversion Computation Option	----	YES
CALG	ARC Gamma Ray Cal Gain Factor	----	1.115
CALI_SLCT_ARC	ARC Caliper Selection	----	BITSIZE
CDPTH_ARC	Process Start Depth	M	30.480
DIELEC_COMPUTE	Dielectric Computation Option	----	YES
DIPF	Formation DIP Angle	DEG	0.000
ERRCT	Percentage Error Cutoff	----	4.500
GRSH	GR Shale (Invasion Computation Cutoff)	GAPI	1000.000
HIGH_BLEND	High Resistivity Threshold for Blending	OHMM	2.000
INCLIN_B0	ARC Bias Constant (mg)	----	0.000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	----	0.000
INCLIN_B2	ARC Bias Secod-order Coeeficient (mg/degC)	----	0.000
INCLIN_B3	ARC Bias Third-order Coeeficient (mg/degC)	----	0.000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	----	1.000
INCLIN_C1	ARC Scale First-order Coeeficient (mA/g/degC)	----	0.000
INCLIN_C2	ARC Scale Second-order Coeeficient (mA/g/degC)	----	0.000
INCLIN_C3	ARC Scale Third-order Coeeficient (mA/g/degC)	----	0.000
INVAS_COMPUTE	Invasion Computation Option	----	YES
JSD_ARC	ARC Acquisition start date	Wed Jul 08 17:56:49 2009	
KPER	Potassium Concentration (RM)	----	0.000
LOW_BLEND	Low Resistivity Threshold for Blending	OHMM	1.000
MSWS	ARC Wizard Model Switch Window	M	1.524
MULTIEFFECT_COM	Multi Effect Option	----	YES
P11AC_RM	ARC: Air Calibration For Phase T1 to R1	DEG	-999.250
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	DEG	0.939
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	DEG	-0.180
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	DEG	-0.848
P24A	**ARC Air Cal Phase-Shift From T2 at 400 KHz**	**DEG**	**0.106**
P32A	**ARC Air Cal Phase-Shift From T3 at 2 MHz**	**DEG**	**0.831**
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	DEG	-0.160
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	DEG	-0.908
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	DEG	0.096
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	DEG	0.818
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	DEG	-0.161
POFFSET_ARC	ARC: Pressure Offset	PSI	0.000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	----	P34B
PSOF_ADJ_T1	ARC: User Input Phase offset	DEG	0.000
RESTIK	ARC resistivity tick source	----	Phase
SHIG	ARC High Shock Risk Level	CPS	0.500
SMED	ARC Medium Shock Risk Level	CPS	0.330
SMIN	ARC Minimum Shock Risk Level	CPS	0.160
SUPD	ARC Real Time Shock Update Rate	S	30.000
TCODE_ARC	ARC Tool File Code	S	30.000
TSIZ_ARC	ARC Tool Size	IN	6.750
UNIFORM_COMPUTE	Uniform Rock Option	----	YES
VERS_ARC	ARC Down hole software version Number	----	9.300
WRK	to Report Potassium Concentration (RM)	----	K_by_Wgt_%

Schlumberger Drilling & Measurements ID13 Parameter Insert Header Software version 3.0c

IDEAL Version: ID14_0C_16

IDF

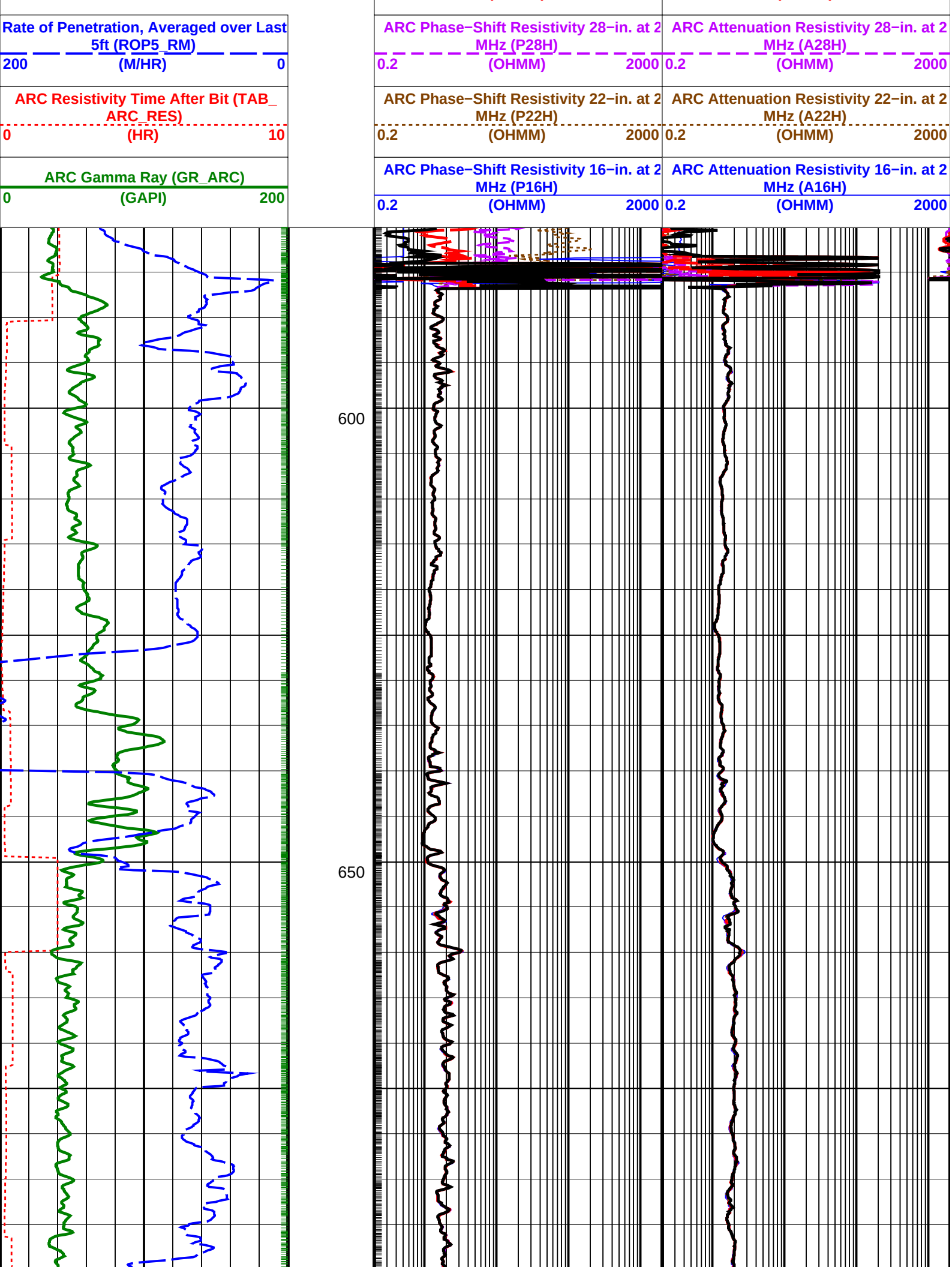
Format: VISION Resistivity 2MHz Vertical Scale: 1:500 Graphics File Created: 23-Jul-2009 15:09

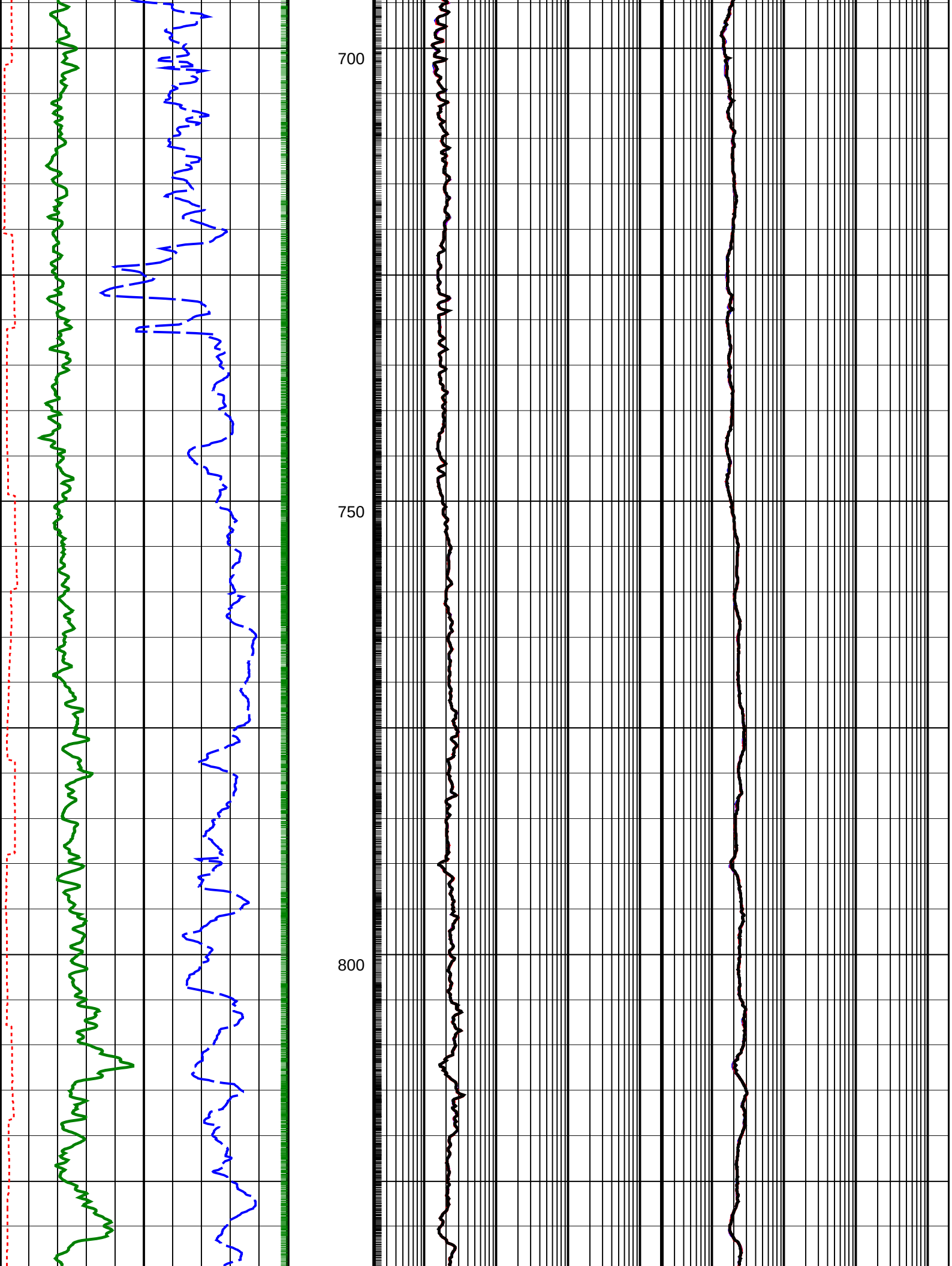
PIP SUMMARY

ARC Gamma Ray Samples

ARC Resistivity Samples

ARC Phase-Shift Resistivity 40-in. at 2 MHz (P40H)			ARC Attenuation Resistivity 40-in. at 2 MHz (A40H)		
0.2	(OHMM)	2000	0.2	(OHMM)	2000
ARC Phase-Shift Resistivity 34-in. at 2 MHz (P34H)			ARC Attenuation Resistivity 34-in. at 2 MHz (A34H)		
0.2	(OHMM)	2000	0.2	(OHMM)	2000


Rate of Penetration, Averaged over Last 5ft (ROP5_RM)
200 (M/HR) 0
ARC Resistivity Time After Bit (TAB_ARC_RES)
0 (HR) 10
ARC Gamma Ray (GR_ARC)
0 (GAPI) 200
ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H)
0.2 (OHMM) 2000
ARC Attenuation Resistivity 28−in. at 2 MHz (A28H)
0.2 (OHMM) 2000
ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H)
0.2 (OHMM) 2000
ARC Attenuation Resistivity 22−in. at 2 MHz (A22H)
0.2 (OHMM) 2000
ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)
0.2 (OHMM) 2000
ARC Attenuation Resistivity 16−in. at 2 MHz (A16H)
0.2 (OHMM) 2000
600
650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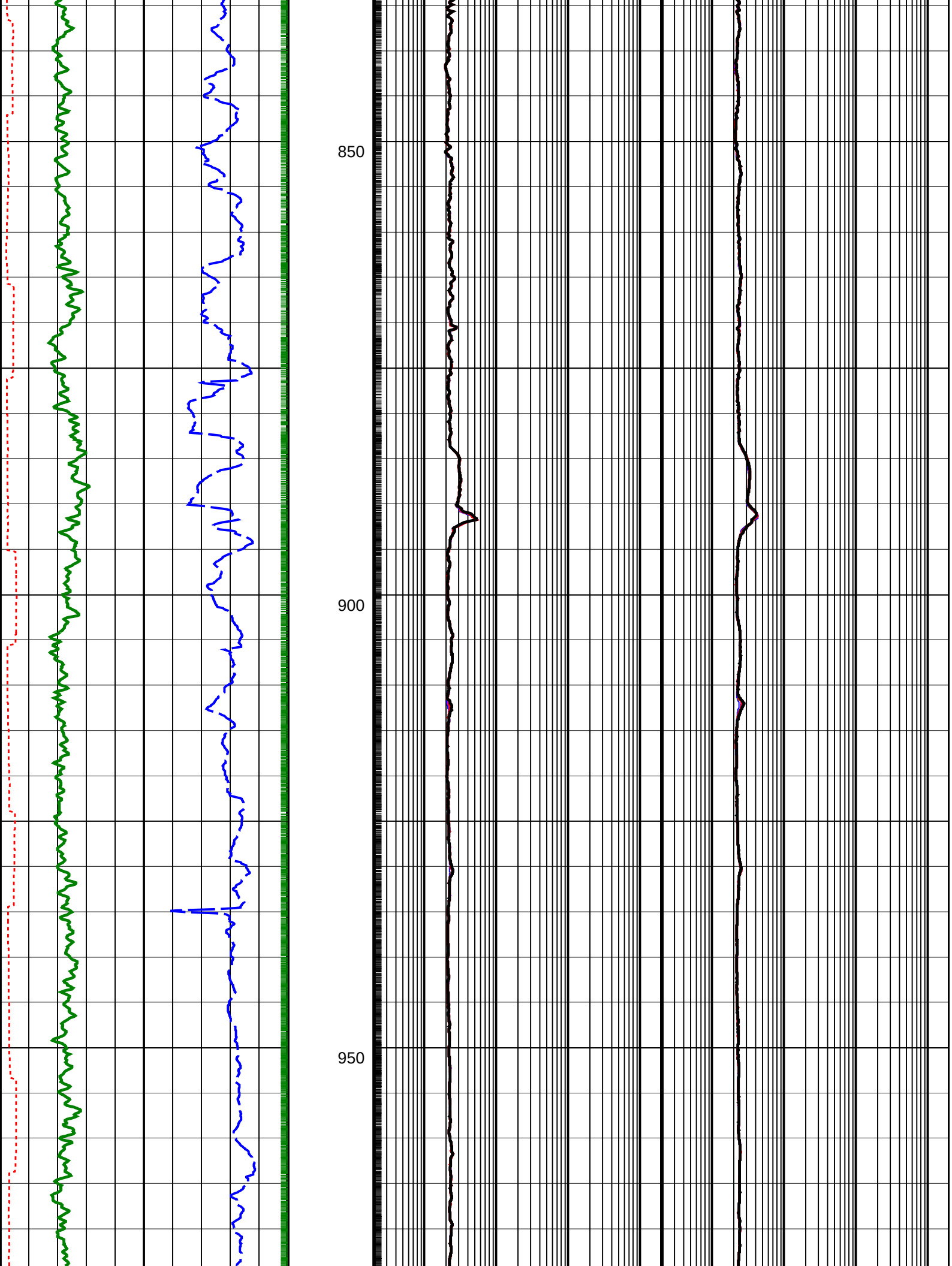
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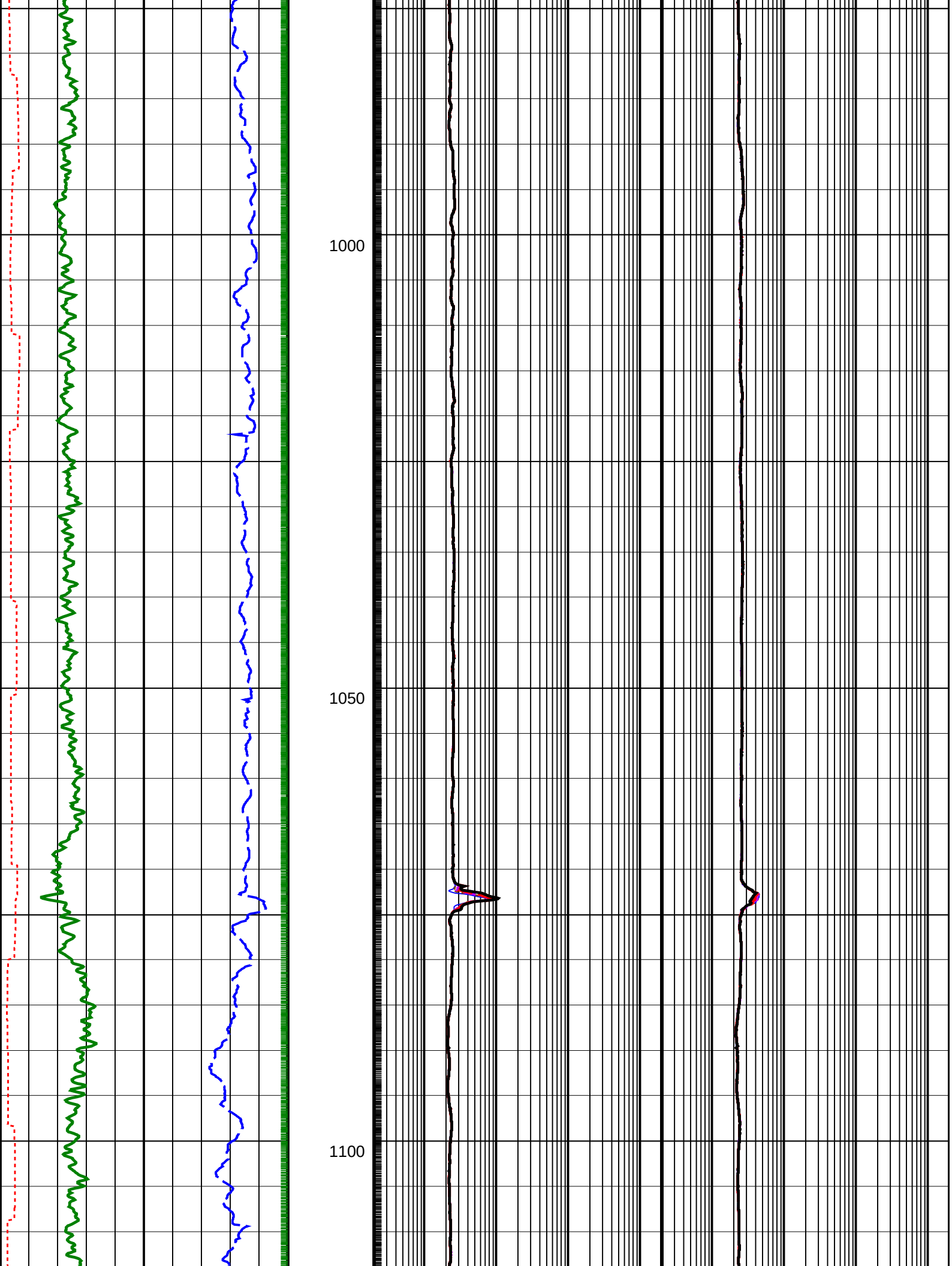
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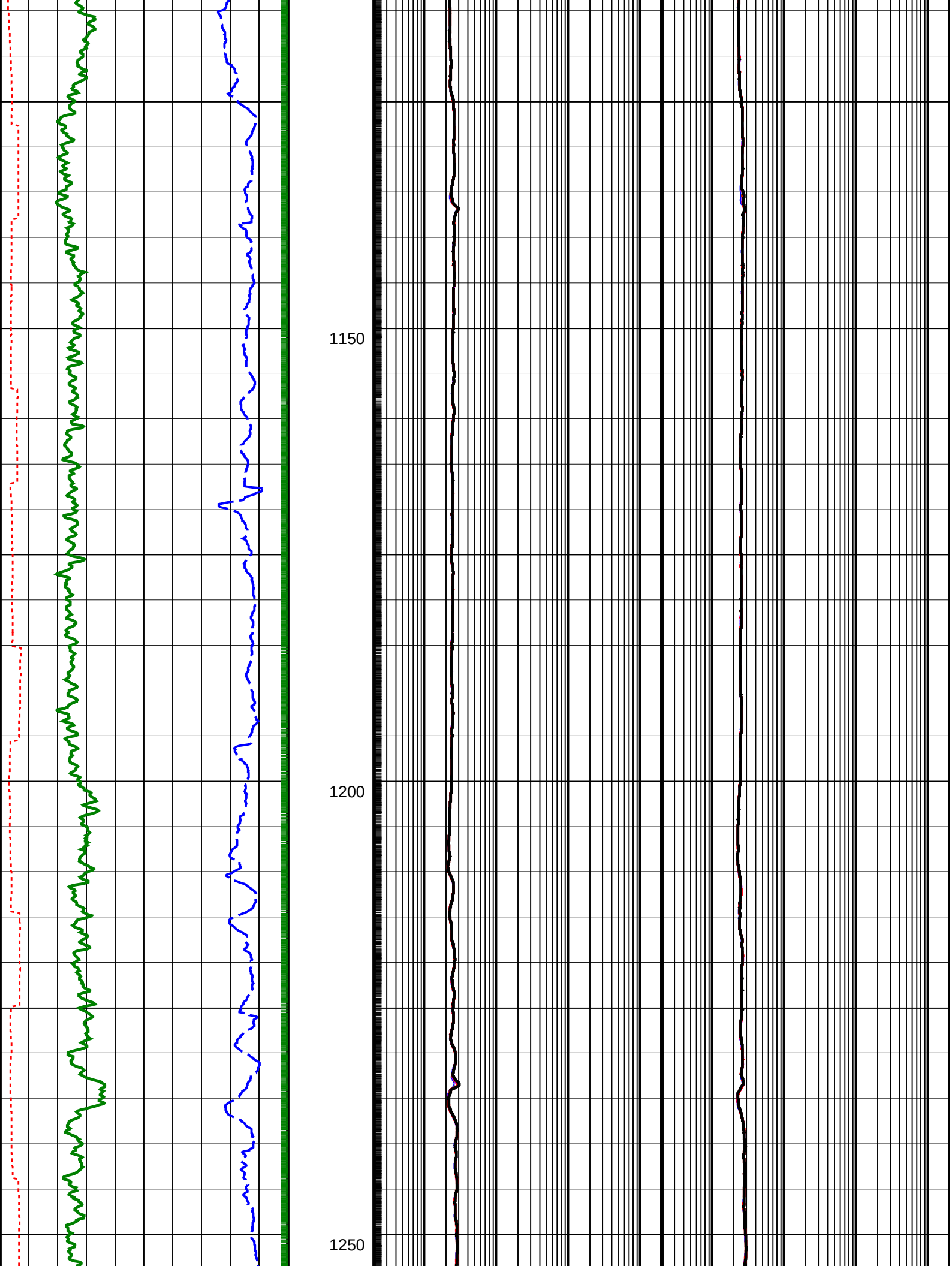
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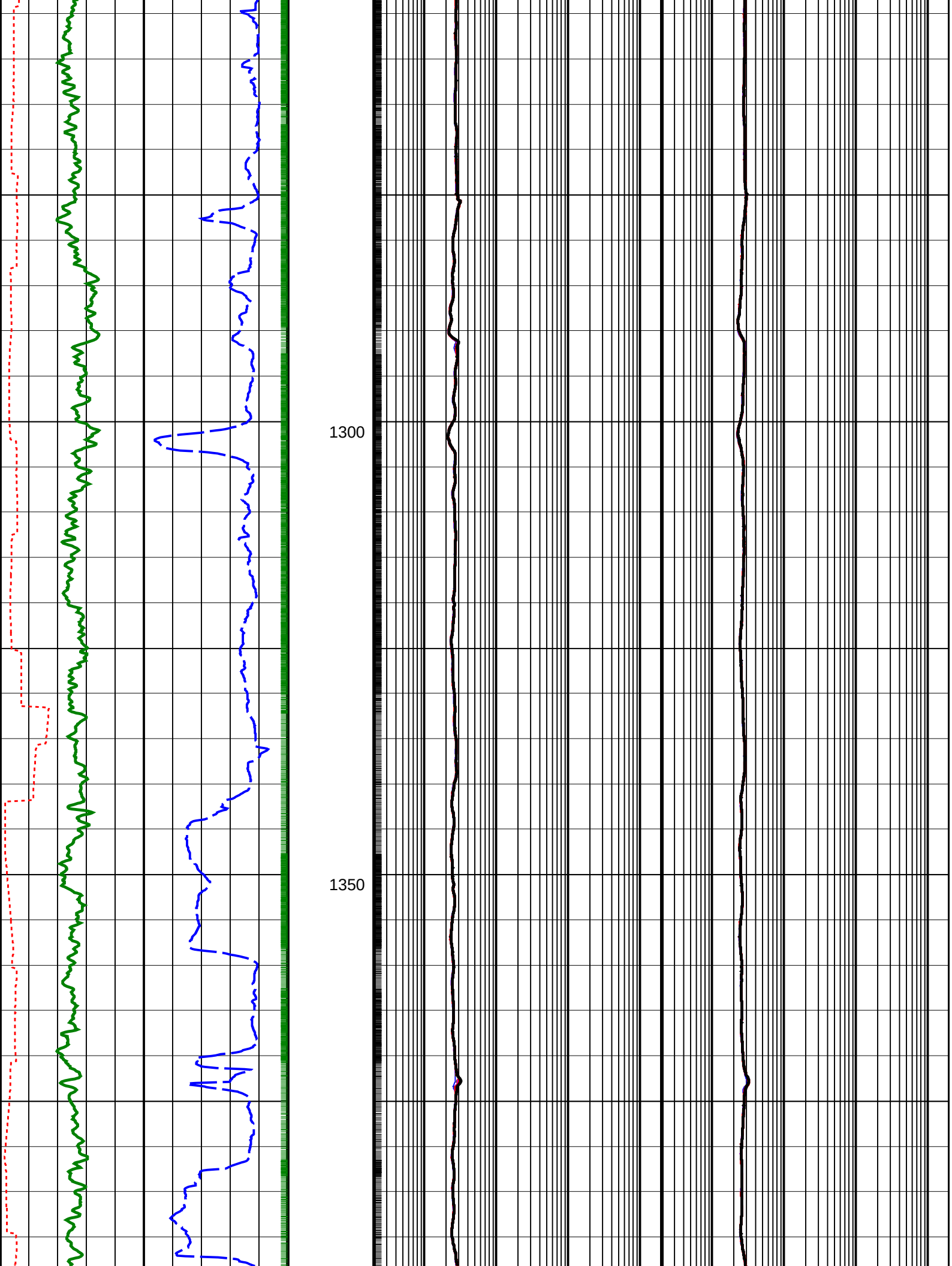
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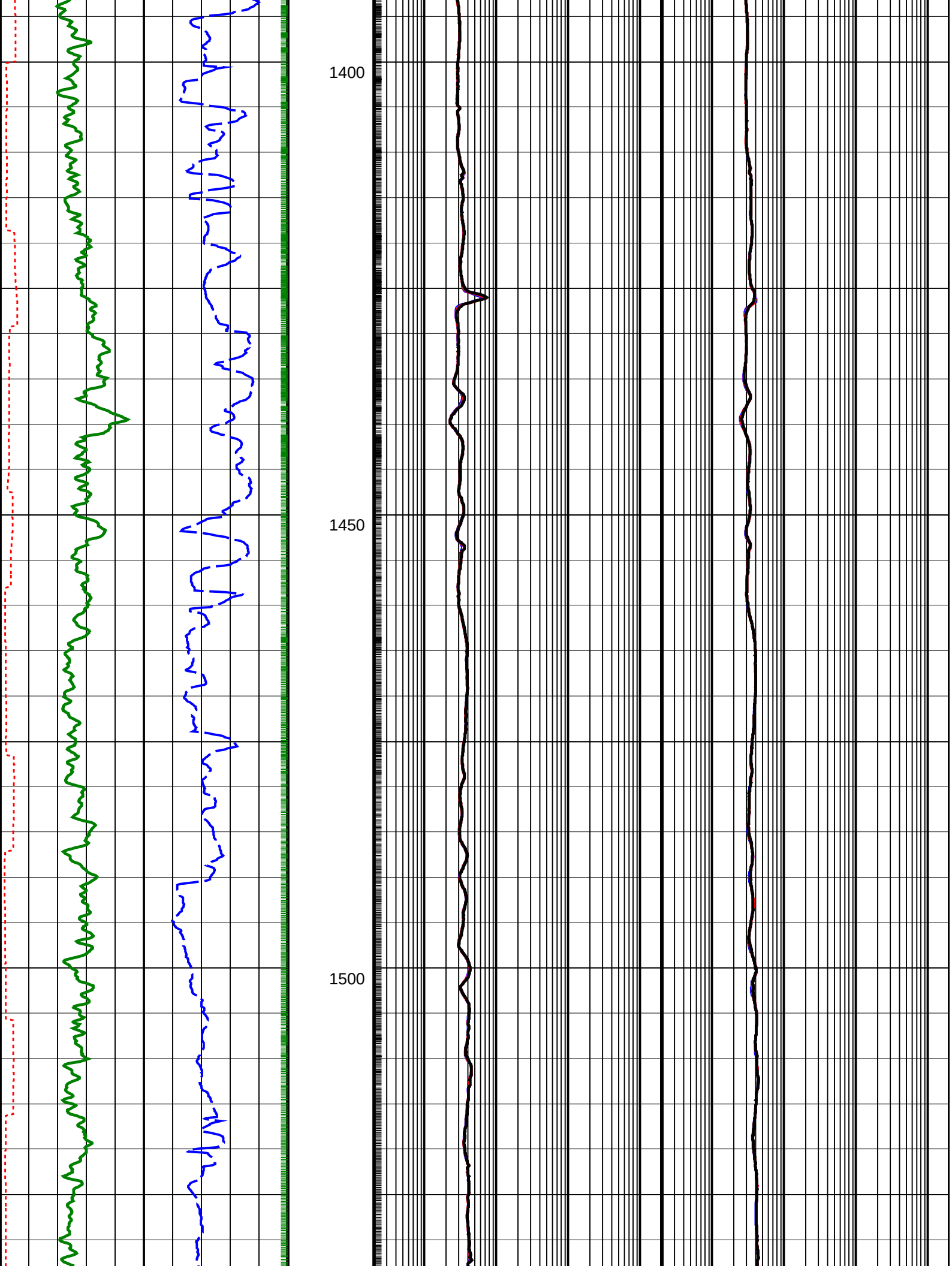
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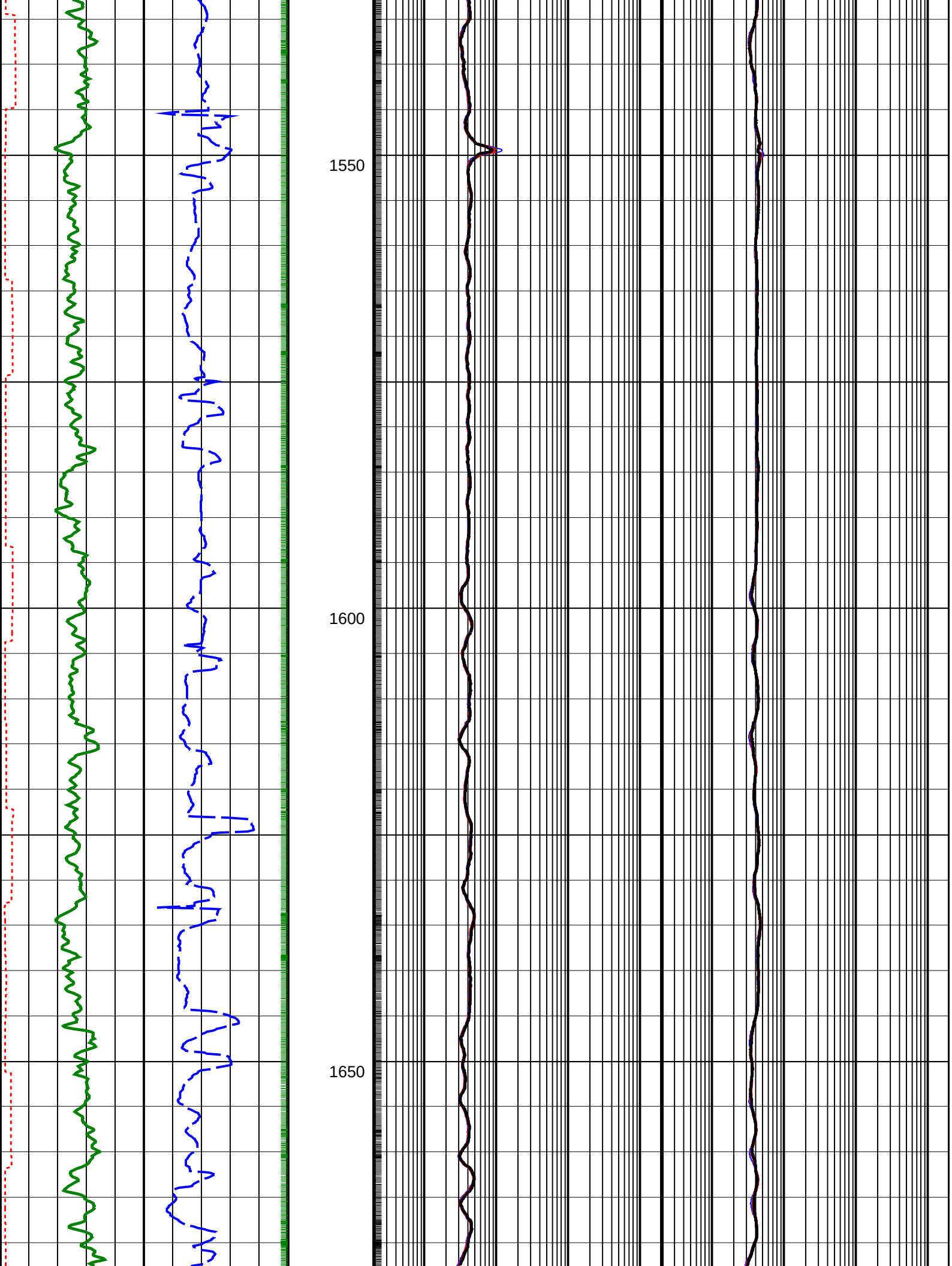
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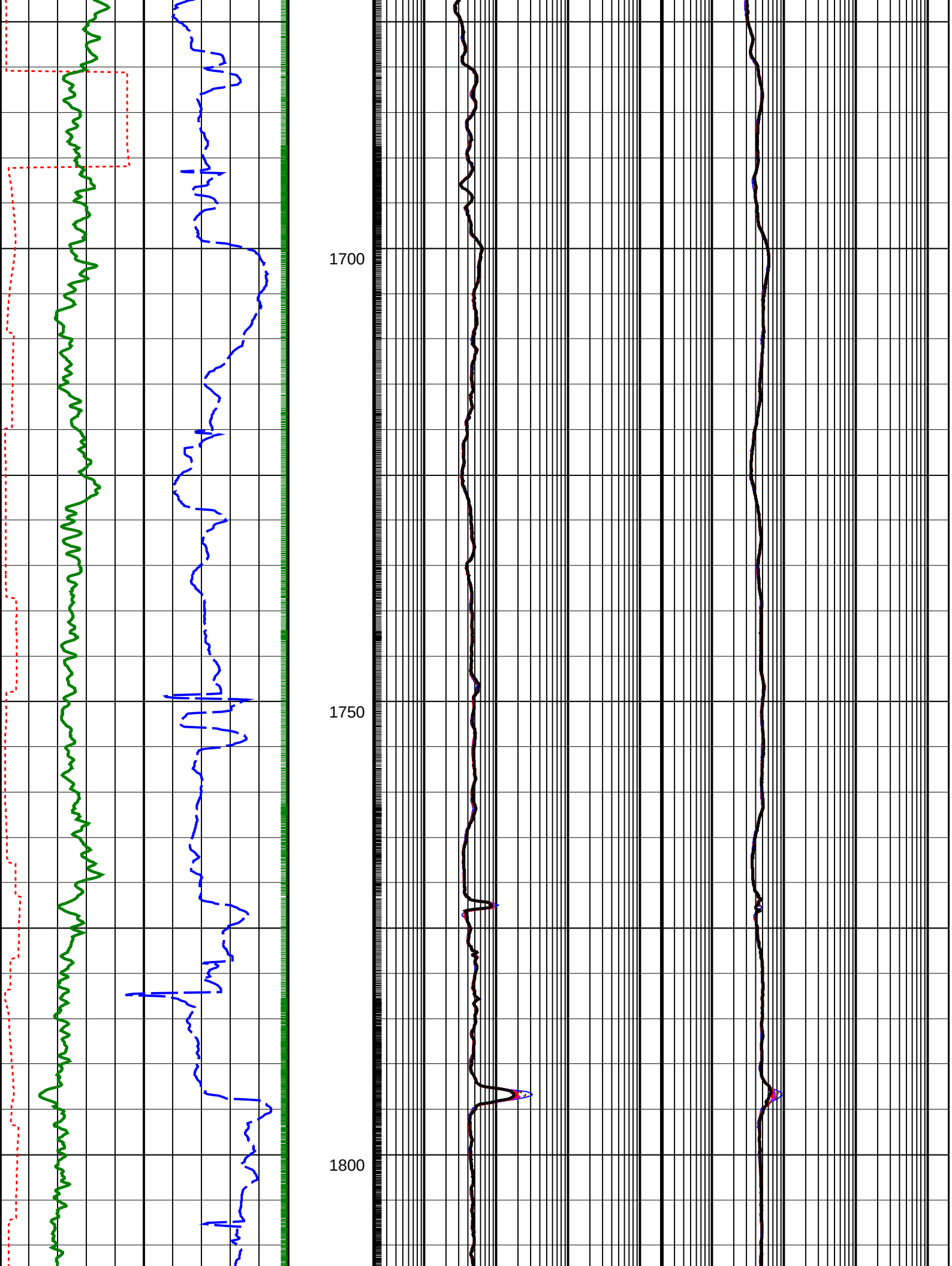
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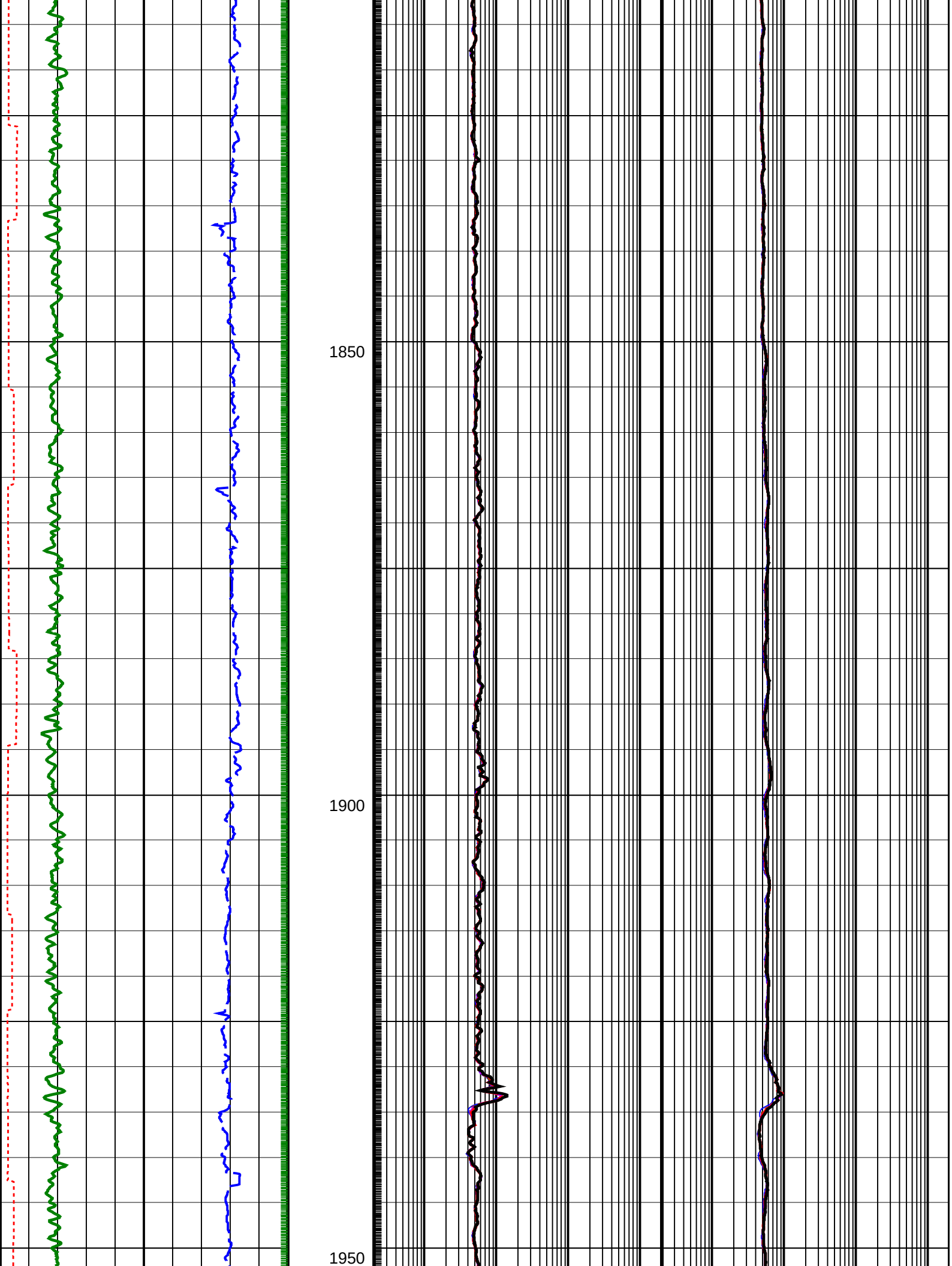
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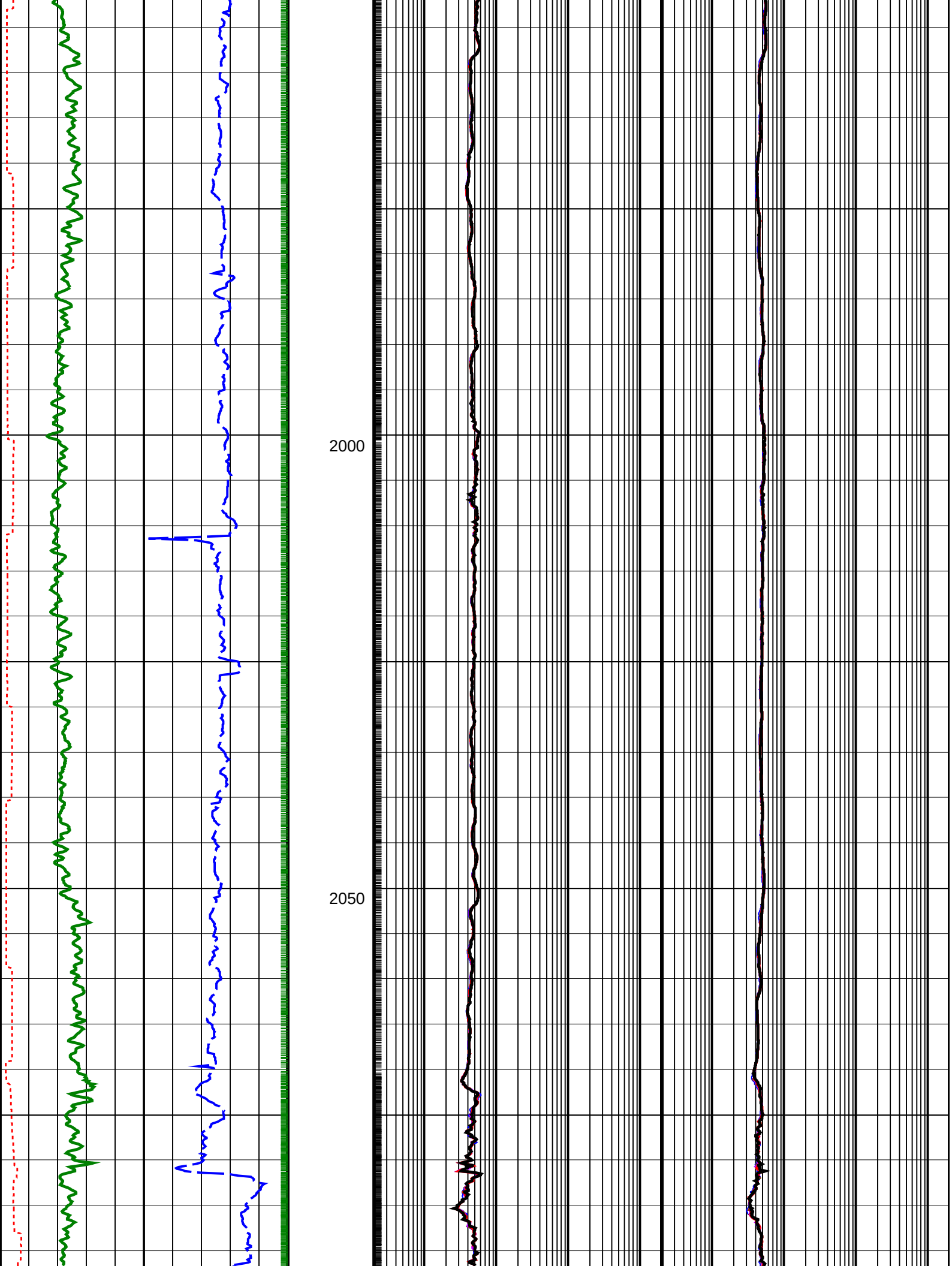
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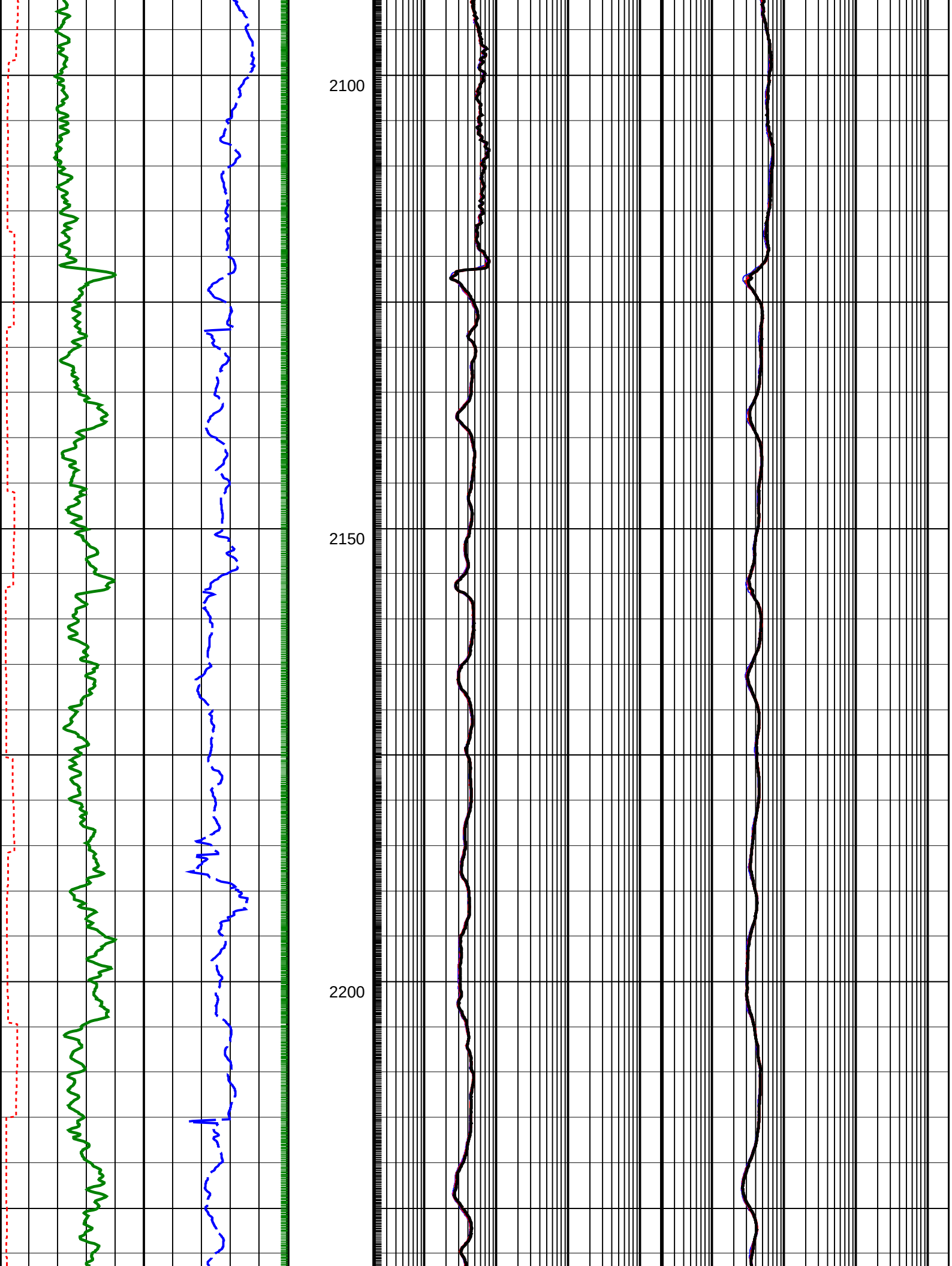
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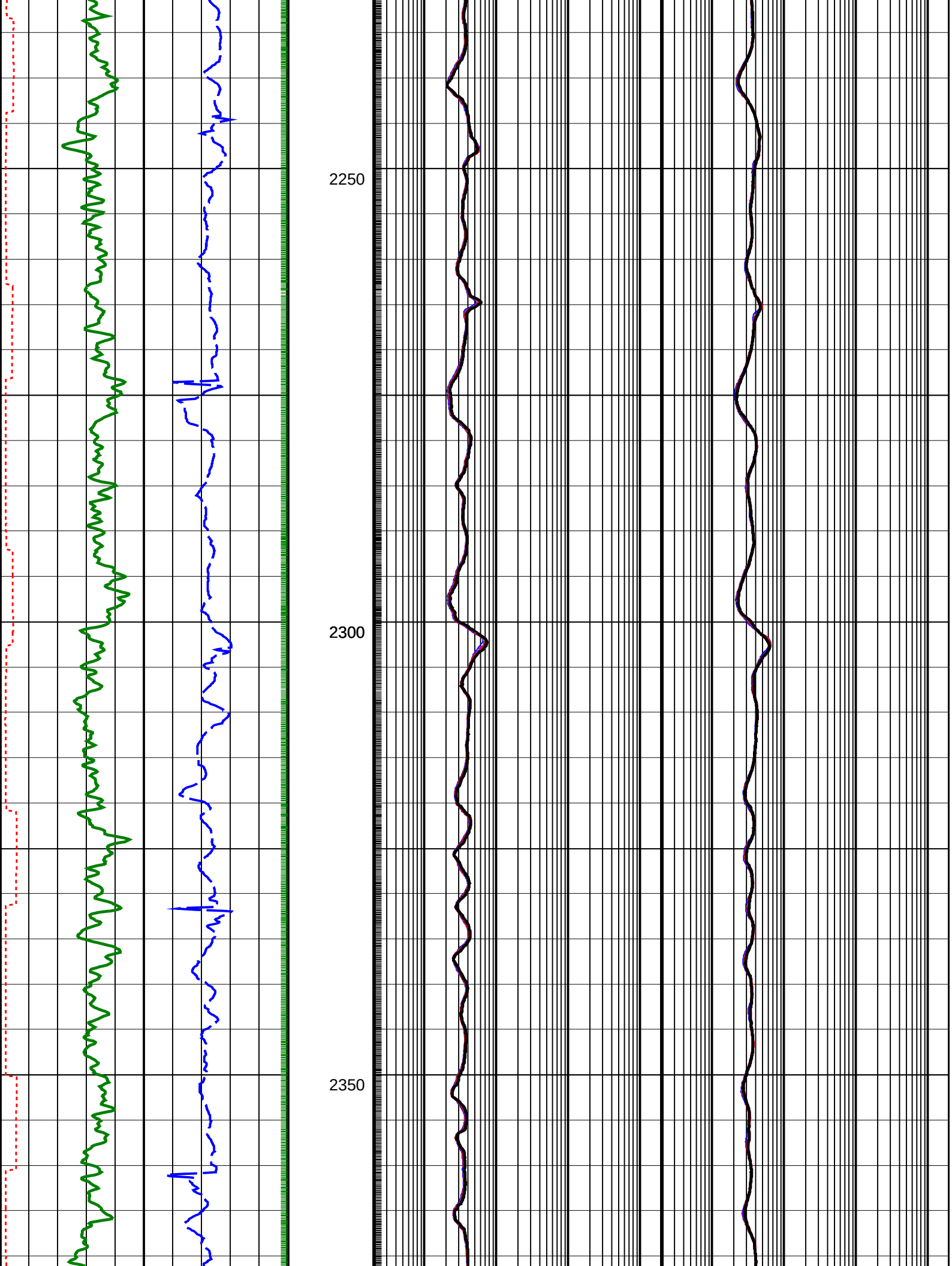
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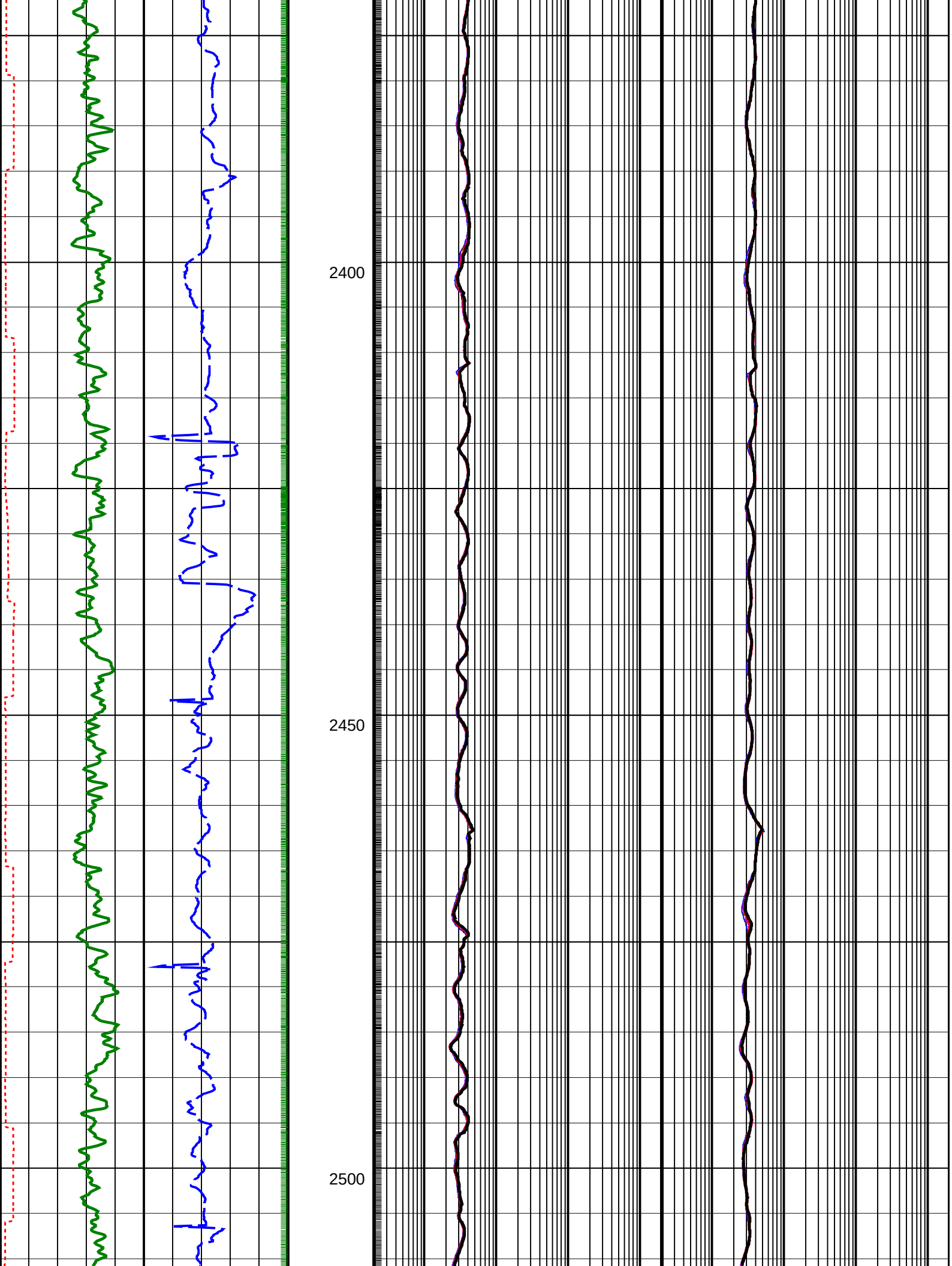
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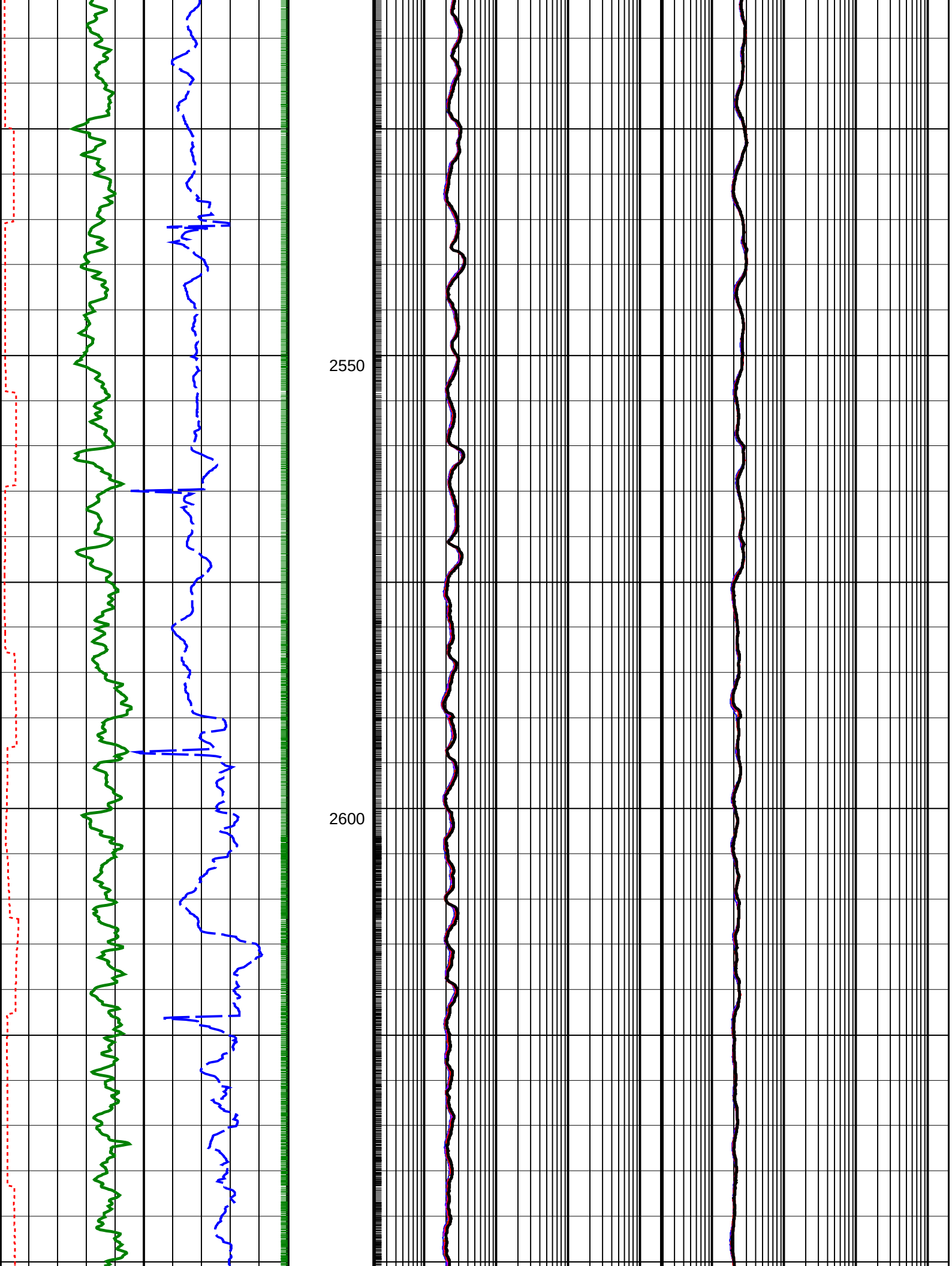
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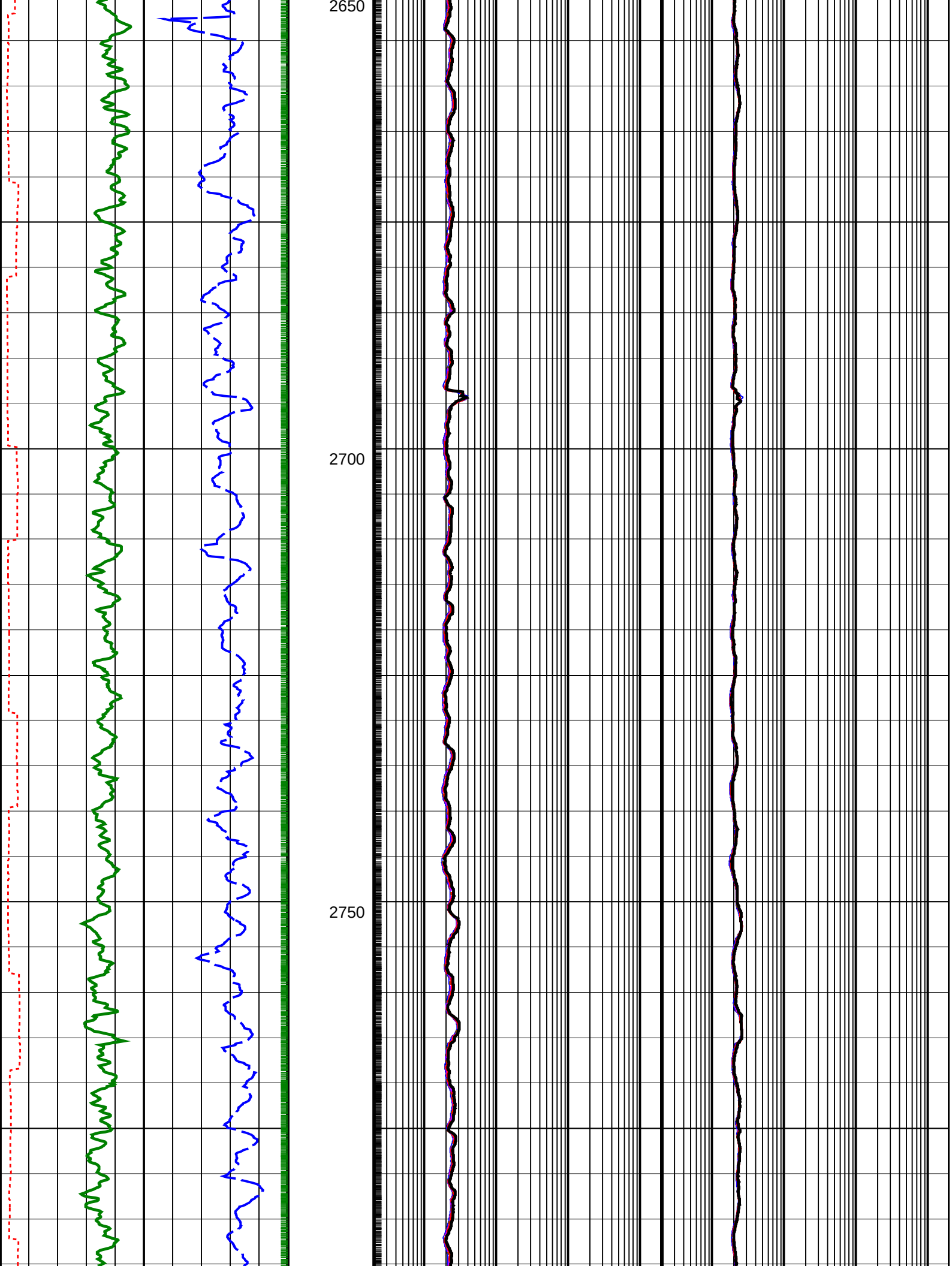
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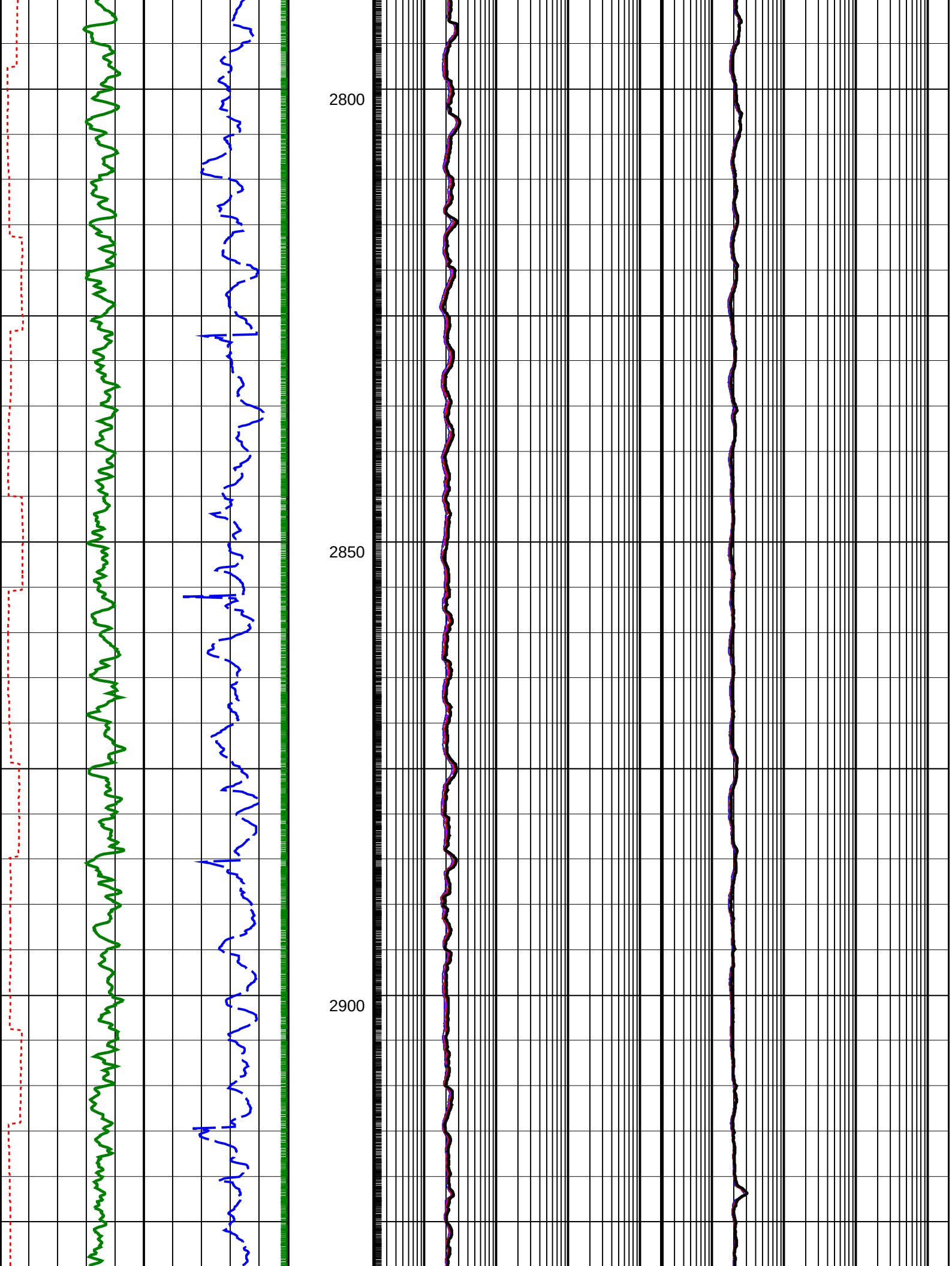
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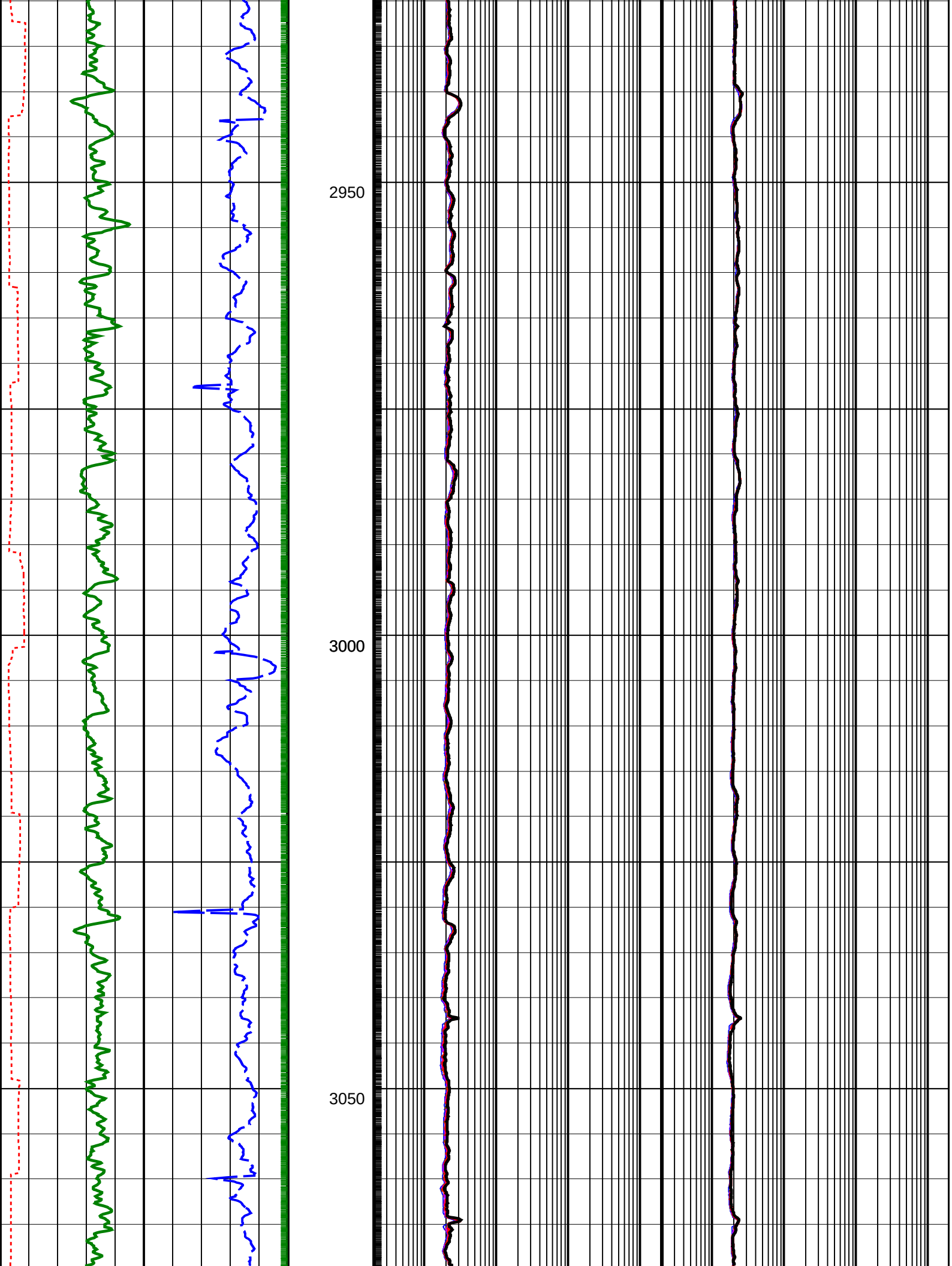
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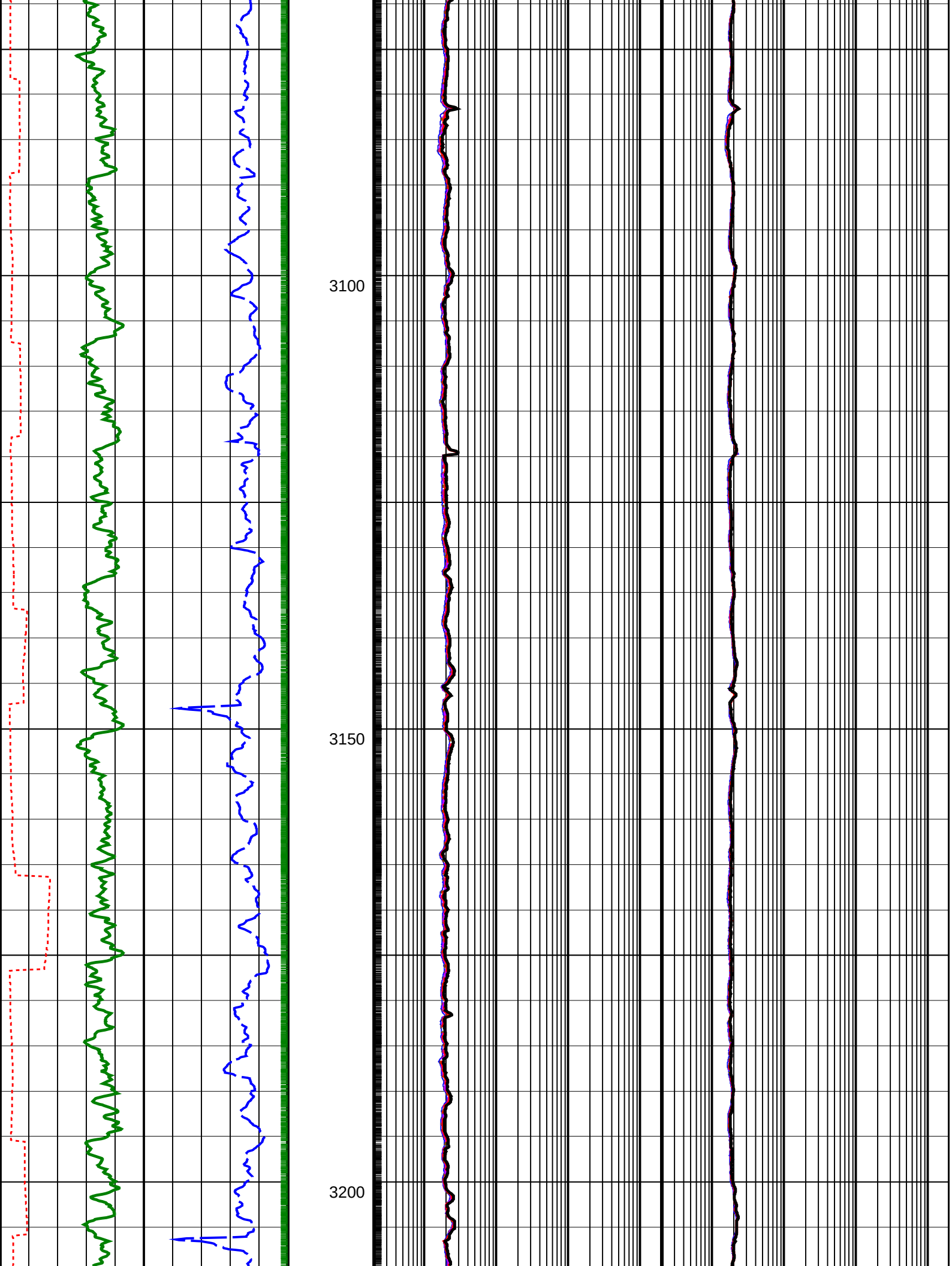
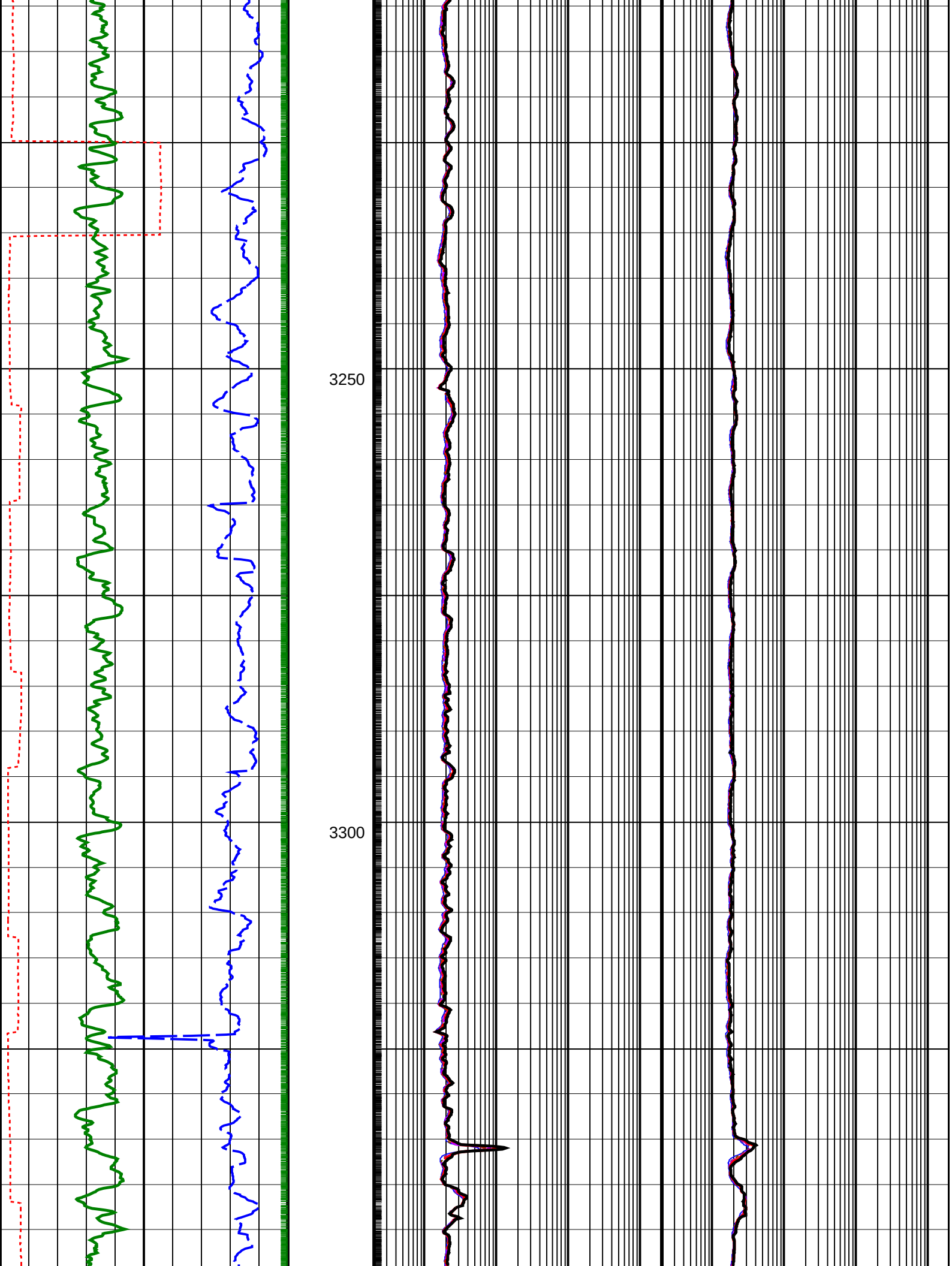
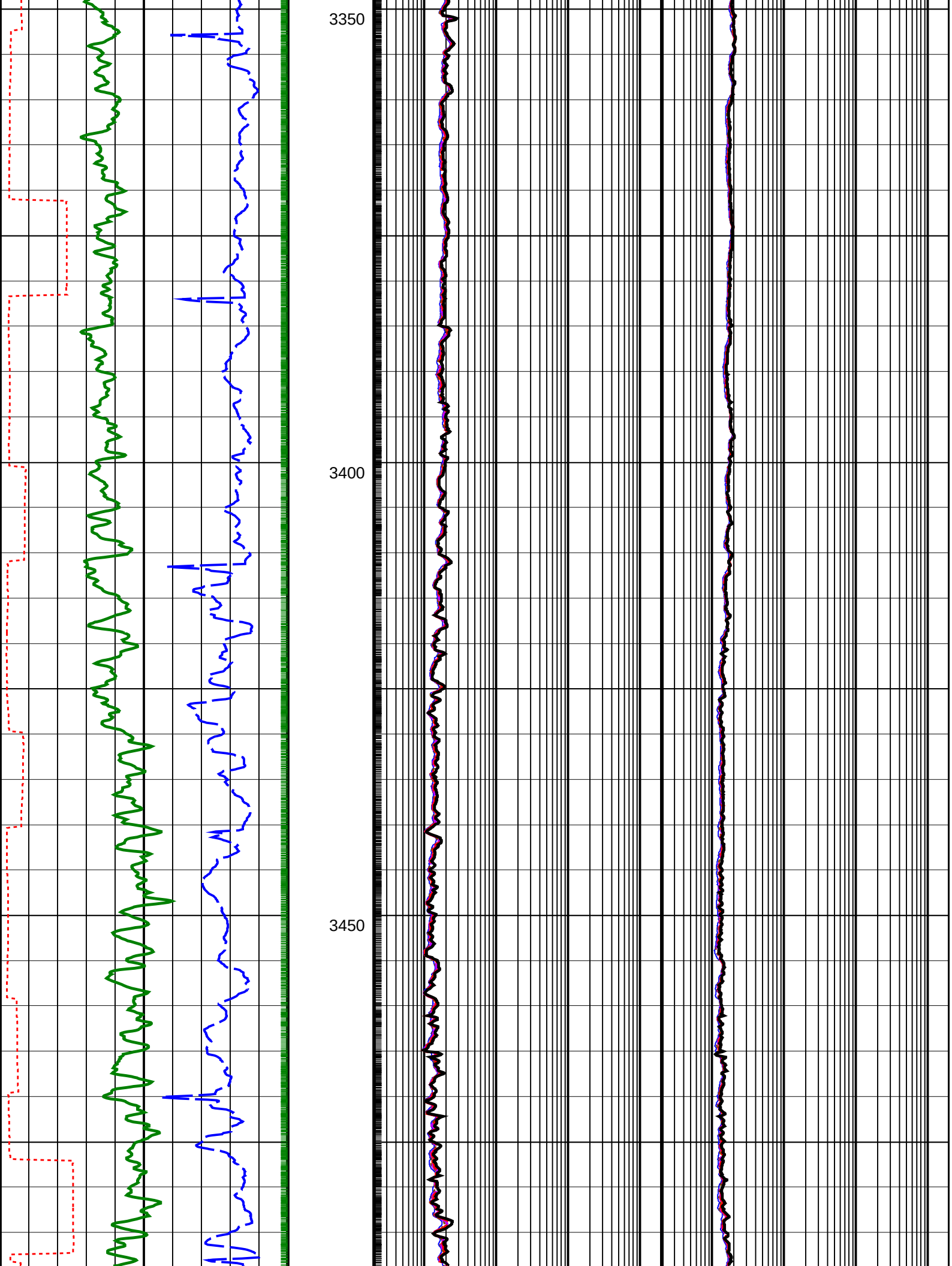
3000
3050


3100
3150
3200


3250
3300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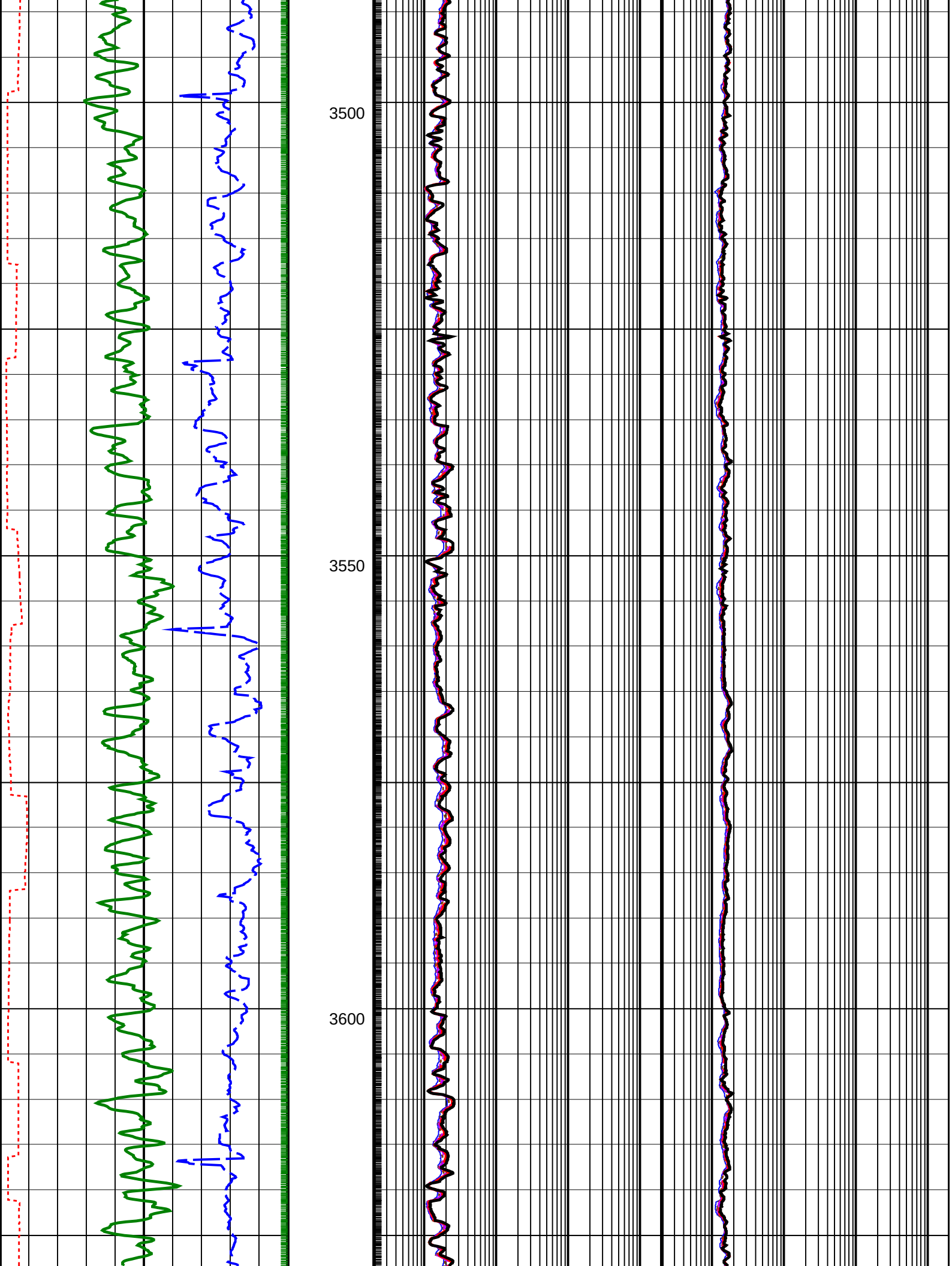
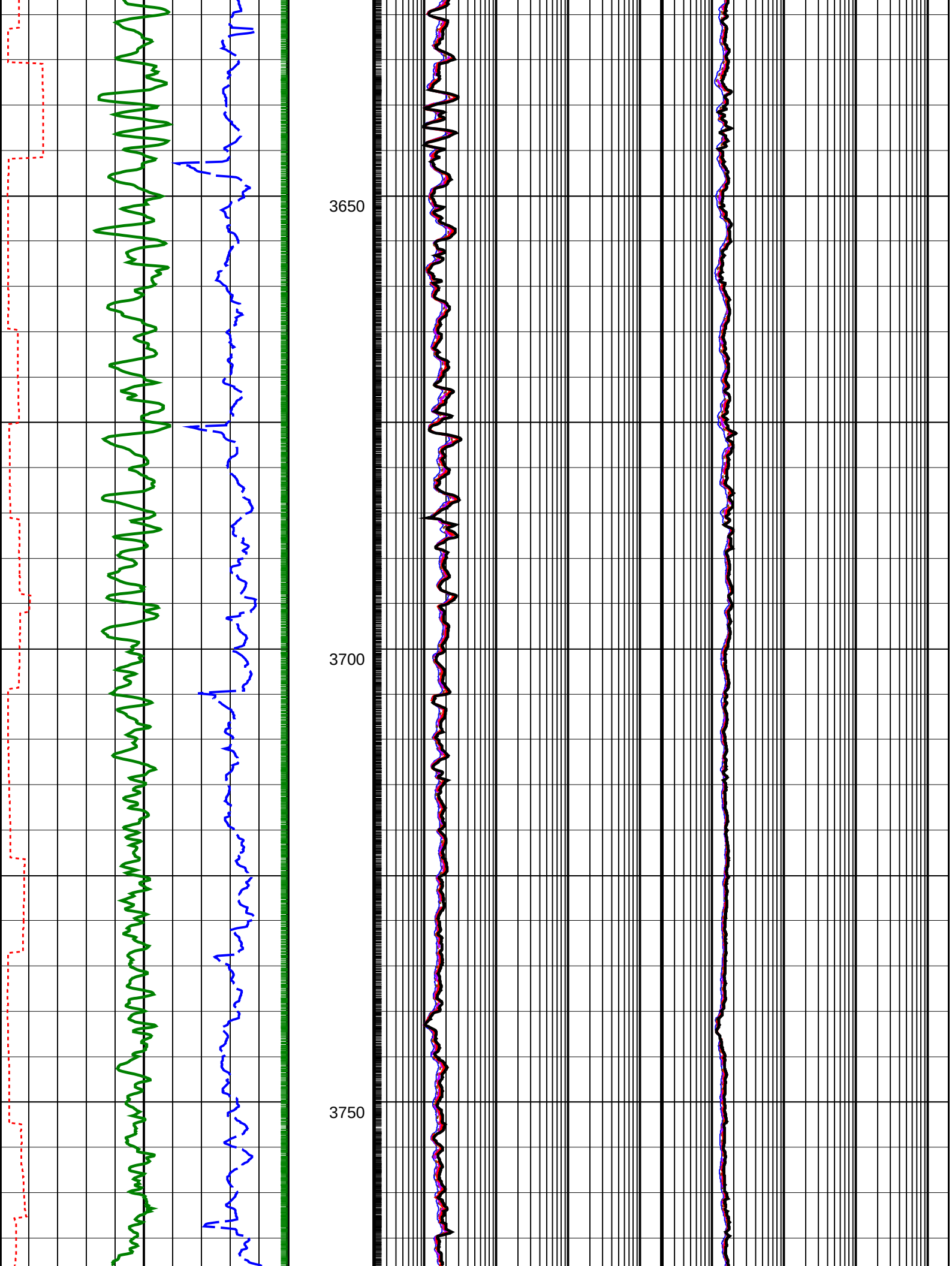
3400
3450


3500
3550
3600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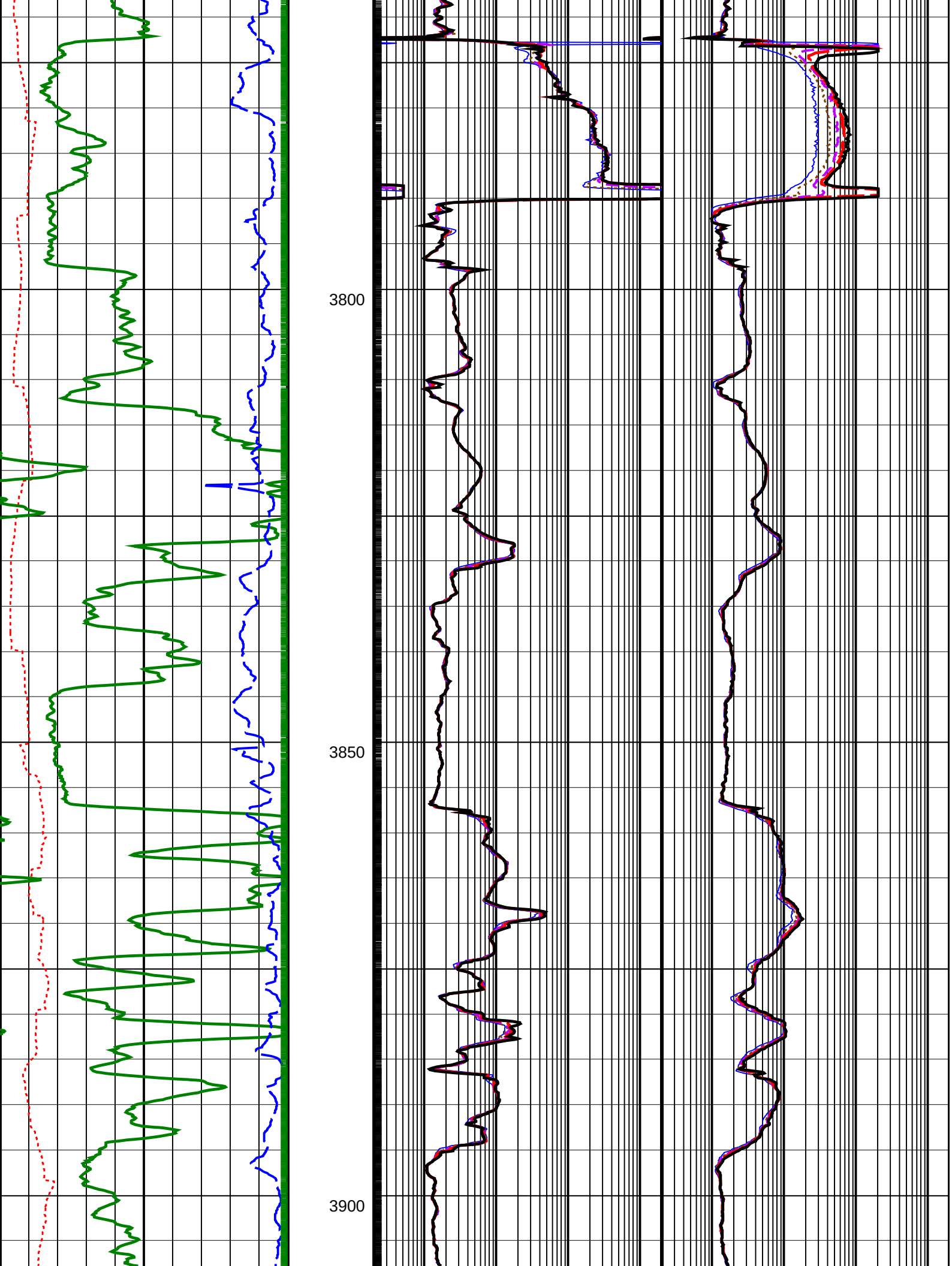
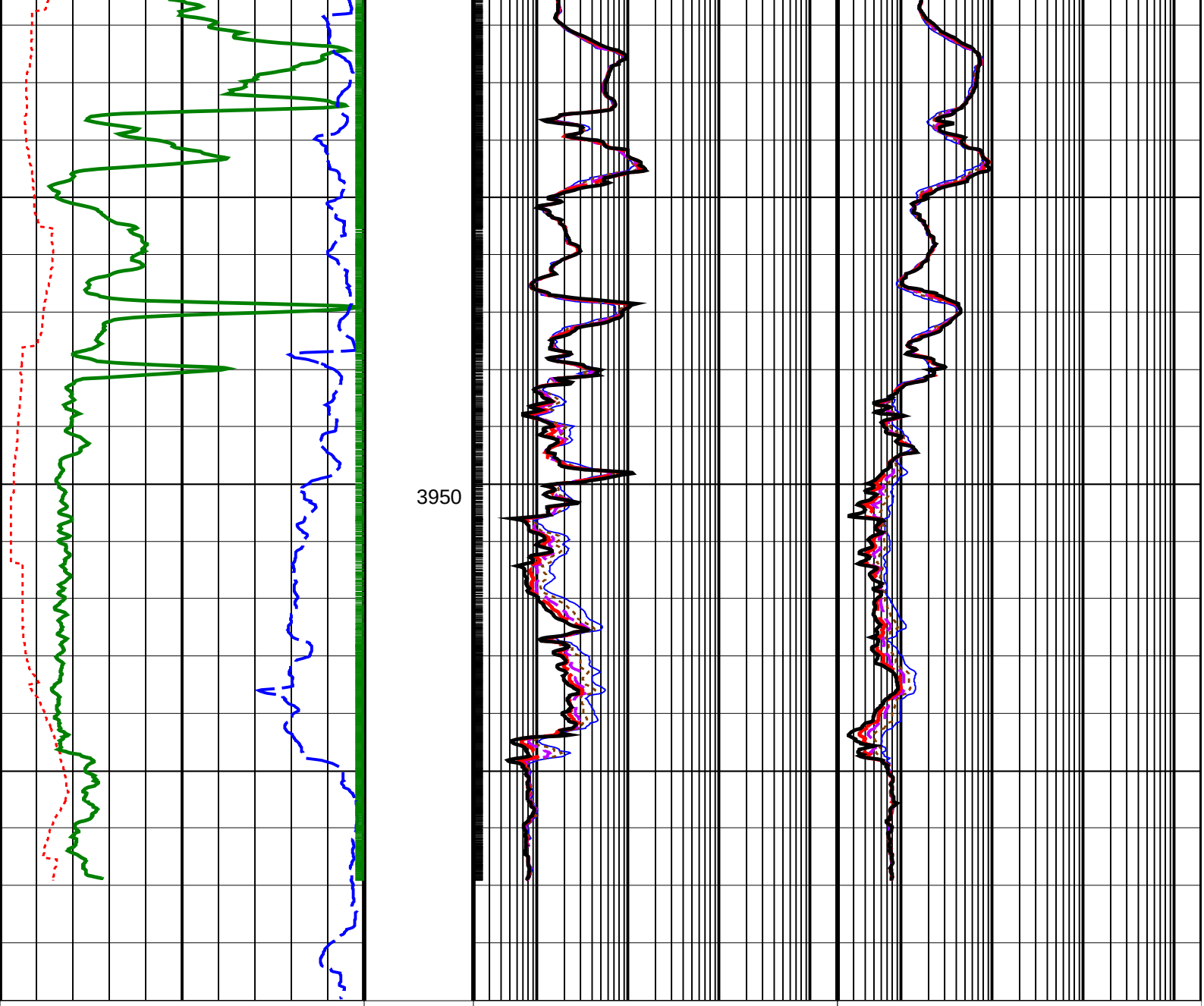
3700
3750


3800
3850
3900



ARC Gamma Ray (GR_ARC)	ARC Phase−Shift Resistivity 16−in. at 2 MHz (P16H)	ARC Attenuation Resistivity 16−in. at 2 MHz (A16H)
0 (GAPI) 200	0.2 (OHMM) 2000	0.2 (OHMM) 2000
ARC Resistivity Time After Bit (TAB_ARC_RES)	**ARC Phase−Shift Resistivity 22−in. at 2 MHz (P22H)**	**ARC Attenuation Resistivity 22−in. at 2 MHz (A22H)**
0 (HR) 10	0.2 (OHMM) 2000	0.2 (OHMM) 2000
Rate of Penetration, Averaged over Last 5ft (ROP5_RM)	**ARC Phase−Shift Resistivity 28−in. at 2 MHz (P28H)**	**ARC Attenuation Resistivity 28−in. at 2 MHz (A28H)**
200 (M/HR) 0	0.2 (OHMM) 2000	0.2 (OHMM) 2000
	ARC Phase−Shift Resistivity 34−in. at 2 MHz (P34H)	**ARC Attenuation Resistivity 34−in. at 2 MHz (A34H)**
	0.2 (OHMM) 2000	0.2 (OHMM) 2000
	ARC Phase−Shift Resistivity 40−in. at 2 MHz (P40H)	**ARC Attenuation Resistivity 40−in. at 2 MHz (A40H)**
	0.2 (OHMM) 2000	0.2 (OHMM) 2000

PIP SUMMARY

ARC Gamma Ray Samples

ARC Resistivity Samples

IDEAL Version: ID14_0C_16

IDF

6.75−in. Array Resistivity Compensated / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ARC6 − BA	440
ARC675 Calibration Status	AUTO −	

Master: 22−May−2009 13:19

6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Phase−Shift T1	Value
Master		0.9390
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2	Value
Master		−0.8480
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3	Value
Master		0.8310
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4	Value
Master		−0.9080
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5	Value
Master		0.8180
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T1 at 400KHz	Value
Master		−0.1800
−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		−0.1600
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4 at 400KHz	Value
Master		0.09600
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5 at 400KHz	Value
Master		−0.1610
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Master: 22−May−2009 13:19

6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Attenuation T1	Value
Master		9.546
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2	Value
Master		5.419
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3	Value
Master		6.162
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4	Value
Master		3.322
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5	Value
Master		4.713
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		6.127
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		4.683
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Master: 22−May−2009 11:07

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		5.354
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	2386
Collar Type and Serial Number	ADDC − AA	437
Chassis Type and Serial Number	ADSE − EA	1
Stabilizer Type and Serial Number	−	202
Neutron Logging Source	NSR − M	

Neutron Logging Source	NSR – N	202
Density Logging Source	GSR – J/Z	1994
Stabilizer Size	9.31 – in.	
Calibration Status	AUTO –	

Master: 30−May−2009 2:14

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		656.1	Master		1797	Master		4761
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

Master: 30−May−2009 2:14

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		108.0	Master		1024	Master		3304
	50.00 (Minimum) 725.0 (Nominal) 1400 (Maximum)			500.0 (Minimum) 4250 (Nominal) 8000 (Maximum)			1500 (Minimum) 15750 (Nominal) 30000 (Maximum)	

Master: 30−May−2009 2:14

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		44.00	Master		124.5	Master		537.0
	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: 30−May−2009 2:14

6.75−in. Azimuthal Density Neutron Calibration

Density: Water Block Check

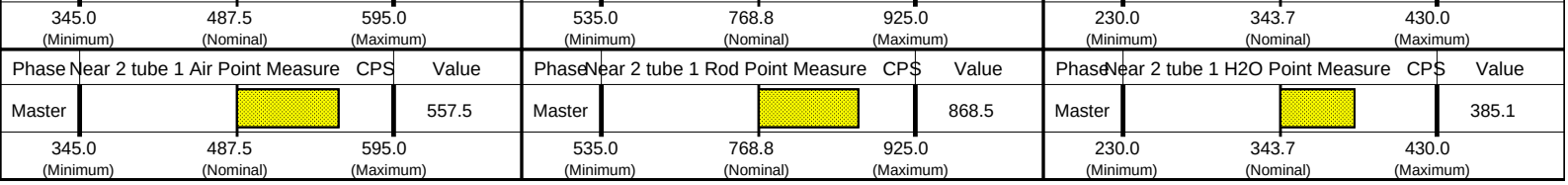
Phase	Long spacing water density G/C3	Value	Phase	Short spacing water density G/C3	Value
Master		**1.021**	**Master**		**1.140**
	1.005 (Minimum) 1.020 (Nominal) 1.035 (Maximum)			1.081 (Minimum) 1.111 (Nominal) 1.141 (Maximum)	

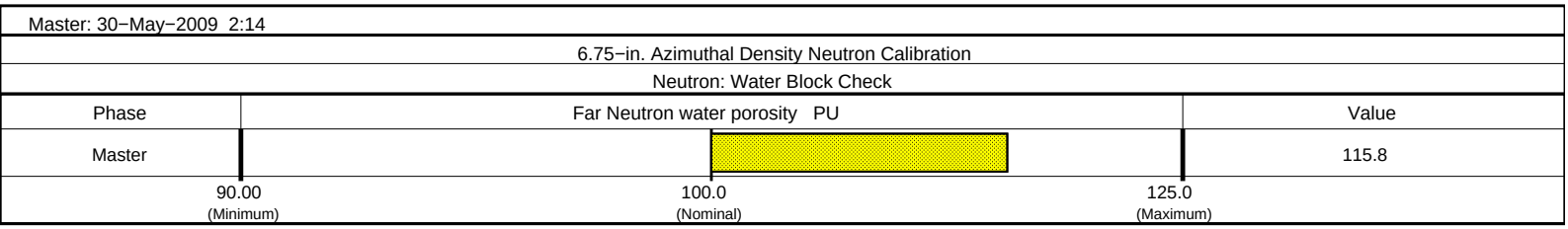
Master: 30−May−2009 2:14

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		22.79	Master		5.690	Master		2.784
	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		23.81	Master		5.940	Master		2.825
	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		23.27	Master		5.990	Master		2.793
	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		22.88	Master		5.850	Master		2.817
	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		24.19	Master		5.930	Master		2.888
	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		22.40	Master		5.630	Master		2.707
	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		554.1	Master		869.5	Master		384.0





SCHLUMBERGER

Survey report 24-Jul-2009 01:20:43

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

Well.....: CBA A-28
API number.....: n.a
Engineer.....: M. Amarasena & B. Low

Rig Label.....: ISDL 175
STATE:.....: VICTORIA

Spud date.....: 04-July-2009
Last survey date.....: 16-Jul-09
Total accepted surveys...: 212
MD of first survey.....: 0.00 m
MD of last survey.....: 3995.00 m

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

----- Depth reference -----
Permanent datum.....: Mean Sea Level
Depth reference.....: Driller's Depth
GL above permanent.....: -79.00 m
KB above permanent.....: Top Drive
DF above permanent.....: 41.00 m

----- Vertical section origin-----
Latitude (+N/S-).....: -0.33 m
Departure (+E/W-).....: 12.85 m

----- Platform reference point-----
Latitude (+N/S-).....: -304.57 m
Departure (+E/W-).....: -304.57 m

Azimuth from Vsect Origin to target: 23.06 degrees

----- Geomagnetic data -----
Magnetic model.....: BGGM version 2009
Magnetic date.....: 16-Jul-2009
Magnetic field strength..: 1199.30 HCNT
Magnetic dec (+E/W-).....: 13.25 degrees
Magnetic dip.....: -68.85 degrees

----- MWD survey Reference Criteria ---
Reference G.....: 1000.05 mGal
Reference H.....: 1199.31 HCNT
Reference Dip.....: -68.86 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----
Magnetic dec (+E/W-).....: 13.22 degrees
Grid convergence (+E/W-).: -0.81 degrees
Total az corr (+E/W-).....: 14.03 degrees
(Total az corr = magnetic dec - grid conv)
Survey Correction Type ...: G
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=SORSl Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
G=Geomag Magnetic Correction

[(c)2009 IDEAL ID14_0C_16]
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	Tool Corr (deg)
1	0.00	0.00	0.00	0.00	0.00	0.00	-0.33	12.85	12.85	91.47	0.00	TIP	None
2	16.66	0.00	0.00	16.66	16.66	0.00	-0.33	12.85	12.85	91.47	0.00	MWD_M	None
3	36.66	0.15	282.12	20.00	36.66	-0.00	-0.32	12.82	12.83	91.45	0.23	MWD_M	None
4	38.66	0.15	273.97	2.00	38.66	-0.01	-0.32	12.82	12.82	91.45	0.32	MWD_M	None
5	40.66	0.23	270.68	2.00	40.66	-0.01	-0.32	12.81	12.82	91.45	1.23	MWD_M	None
6	42.66	0.31	264.13	2.00	42.66	-0.01	-0.32	12.80	12.81	91.45	1.30	MWD_M	None
7	44.66	0.30	267.57	2.00	44.66	-0.02	-0.32	12.79	12.80	91.45	0.32	MWD_M	None
8	46.66	0.30	265.48	2.00	46.66	-0.02	-0.33	12.78	12.79	91.46	0.17	MWD_M	None
9	48.66	0.29	267.02	2.00	48.66	-0.03	-0.33	12.77	12.78	91.46	0.19	MWD_M	None
10	50.66	0.25	266.19	2.00	50.66	-0.03	-0.33	12.76	12.77	91.47	0.61	MWD_M	None
11	52.66	0.24	272.88	2.00	52.66	-0.03	-0.33	12.75	12.76	91.47	0.46	MWD_M	None
12	54.66	0.26	288.17	2.00	54.66	-0.04	-0.33	12.75	12.75	91.46	1.06	MWD_M	None
13	56.66	0.33	270.59	2.00	56.66	-0.04	-0.32	12.74	12.74	91.46	1.73	MWD_M	None
14	58.66	0.30	281.54	2.00	58.66	-0.04	-0.32	12.72	12.73	91.45	1.02	MWD_M	None
15	60.66	0.26	266.25	2.00	60.66	-0.05	-0.32	12.71	12.72	91.45	1.62	MWD_M	None

15	60.66	0.36	266.25	2.00	60.66	-0.05	-0.32	12.71	12.72	91.45	1.62	MWD_M	None
16	62.66	0.29	274.05	2.00	62.66	-0.05	-0.32	12.70	12.71	91.45	1.26	MWD_M	None
17	64.66	0.27	273.86	2.00	64.66	-0.05	-0.32	12.69	12.70	91.45	0.31	MWD_M	None
18	66.66	0.26	296.17	2.00	66.66	-0.06	-0.32	12.68	12.69	91.44	1.57	MWD_M	None
19	68.66	0.31	280.08	2.00	68.66	-0.06	-0.32	12.67	12.68	91.43	1.43	MWD_M	None
20	70.66	0.34	277.71	2.00	70.66	-0.06	-0.31	12.66	12.67	91.42	0.50	MWD_M	None
21	72.66	0.33	277.00	2.00	72.66	-0.06	-0.31	12.65	12.65	91.42	0.17	MWD_M	None
22	74.66	0.36	274.99	2.00	74.66	-0.07	-0.31	12.64	12.64	91.41	0.49	MWD_M	None
23	76.66	0.29	290.32	2.00	76.66	-0.07	-0.31	12.63	12.63	91.40	1.69	MWD_M	None
24	78.66	0.32	285.07	2.00	78.66	-0.07	-0.31	12.62	12.62	91.39	0.62	MWD_M	None
25	80.66	0.33	292.86	2.00	80.66	-0.07	-0.30	12.61	12.61	91.37	0.69	MWD_M	None
26	82.66	0.39	279.44	2.00	82.66	-0.07	-0.30	12.60	12.60	91.36	1.57	MWD_M	None
27	84.66	0.38	284.56	2.00	84.66	-0.07	-0.30	12.58	12.59	91.35	0.55	MWD_M	None
28	86.66	0.39	278.52	2.00	86.66	-0.08	-0.29	12.57	12.57	91.34	0.64	MWD_M	None
29	88.56	0.38	287.85	1.90	88.56	-0.08	-0.29	12.56	12.56	91.33	1.02	MWD_M	None
30	90.66	0.41	283.19	2.10	90.66	-0.08	-0.29	12.54	12.55	91.31	0.64	MWD_M	None
31	92.66	0.39	289.71	2.00	92.66	-0.08	-0.28	12.53	12.53	91.29	0.76	MWD_M	None
32	94.66	0.38	295.25	2.00	94.66	-0.08	-0.28	12.52	12.52	91.27	0.59	MWD_M	None
33	96.66	0.39	287.12	2.00	96.66	-0.08	-0.27	12.50	12.51	91.25	0.85	MWD_M	None
34	98.66	0.39	285.83	2.00	98.66	-0.08	-0.27	12.49	12.49	91.23	0.13	MWD_M	None
35	100.66	0.35	285.51	2.00	100.66	-0.09	-0.27	12.48	12.48	91.22	0.61	MWD_M	None
36	102.66	0.28	309.57	2.00	102.66	-0.09	-0.26	12.47	12.47	91.20	2.26	MWD_M	None
37	104.66	0.27	296.91	2.00	104.66	-0.08	-0.26	12.46	12.46	91.17	0.94	MWD_M	None
38	106.66	0.29	305.34	2.00	106.66	-0.08	-0.25	12.45	12.46	91.15	0.70	MWD_M	None
39	108.66	0.25	312.09	2.00	108.66	-0.08	-0.24	12.45	12.45	91.13	0.78	MWD_M	None
40	110.66	0.20	315.14	2.00	110.66	-0.08	-0.24	12.44	12.44	91.10	0.78	MWD_M	None
41	112.66	0.20	1.77	2.00	112.66	-0.07	-0.23	12.44	12.44	91.07	2.41	MWD_M	None
42	114.66	0.20	31.97	2.00	114.66	-0.07	-0.23	12.44	12.44	91.04	1.59	MWD_M	None
43	116.66	0.42	49.98	2.00	116.66	-0.06	-0.22	12.45	12.45	91.01	3.63	MWD_M	None
44	118.66	0.43	64.95	2.00	118.66	-0.04	-0.21	12.46	12.46	90.97	1.69	MWD_M	None
45	120.66	0.62	68.14	2.00	120.66	-0.03	-0.20	12.48	12.48	90.94	2.93	MWD_M	None
46	122.66	0.72	73.92	2.00	122.66	-0.02	-0.20	12.50	12.50	90.90	1.84	MWD_M	None
47	124.66	0.85	75.95	2.00	124.66	0.00	-0.19	12.52	12.53	90.87	2.03	MWD_M	None
48	126.66	1.02	78.53	2.00	126.66	0.02	-0.18	12.56	12.56	90.83	2.67	MWD_M	None
49	128.66	1.17	82.63	2.00	128.66	0.04	-0.18	12.59	12.60	90.80	2.58	MWD_M	None
50	130.66	1.38	84.62	2.00	130.66	0.06	-0.17	12.64	12.64	90.78	3.27	MWD_M	None
51	132.66	1.56	87.03	2.00	132.66	0.09	-0.17	12.69	12.69	90.76	2.90	MWD_M	None
52	134.66	1.82	87.91	2.00	134.66	0.11	-0.17	12.75	12.75	90.74	3.98	MWD_M	None
53	136.66	1.95	93.13	2.00	136.65	0.14	-0.17	12.81	12.82	90.74	3.28	MWD_M	None
54	**138.66**	**2.25**	**93.77**	**2.00**	**138.65**	**0.16**	**-0.17**	**12.89**	**12.89**	**90.76**	**4.59**	**MWD_M**	**None**
55	**140.66**	**2.53**	**95.30**	**2.00**	**140.65**	**0.19**	**-0.18**	**12.97**	**12.97**	**90.78**	**4.38**	**MWD_M**	**None**
56	142.66	2.74	96.77	2.00	142.65	0.21	-0.19	13.06	13.06	90.82	3.36	MWD_M	None
57	144.66	2.93	98.79	2.00	144.65	0.24	-0.20	13.16	13.16	90.87	3.27	MWD_M	None
58	146.66	3.14	101.46	2.00	146.64	0.26	-0.22	13.26	13.27	90.94	3.86	MWD_M	None
59	148.66	3.35	103.25	2.00	148.64	0.29	-0.24	13.37	13.38	91.04	3.55	MWD_M	None
60	150.66	3.58	106.29	2.00	150.64	0.30	-0.27	13.49	13.49	91.16	4.49	MWD_M	None
61	152.66	3.90	106.62	2.00	152.63	0.32	-0.31	13.62	13.62	91.31	4.89	MWD_M	None
62	154.66	4.09	110.01	2.00	154.63	0.33	-0.35	13.75	13.75	91.48	4.62	MWD_M	None
63	156.66	4.30	111.77	2.00	156.62	0.33	-0.41	13.89	13.89	91.68	3.75	MWD_M	None
64	158.66	4.44	115.63	2.00	158.62	0.33	-0.47	14.02	14.03	91.91	4.96	MWD_M	None
65	160.66	4.62	117.21	2.00	160.61	0.32	-0.54	14.17	14.18	92.18	3.34	MWD_M	None
66	162.66	4.79	120.62	2.00	162.60	0.31	-0.62	14.31	14.32	92.47	4.99	MWD_M	None
67	164.66	4.97	121.73	2.00	164.60	0.28	-0.71	14.46	14.47	92.80	3.10	MWD_M	None
68	166.66	5.13	124.00	2.00	166.59	0.25	-0.80	14.60	14.63	93.14	3.90	MWD_M	None
69	168.66	5.22	126.72	2.00	168.58	0.21	-0.91	14.75	14.78	93.51	3.98	MWD_M	None
70	170.56	5.34	128.62	1.90	170.47	0.17	-1.01	14.89	14.92	93.89	3.40	MWD_M	None
71	172.66	5.48	132.35	2.10	172.56	0.11	-1.14	15.04	15.08	94.34	5.49	MWD_M	None
72	174.66	5.56	133.86	2.00	174.55	0.04	-1.27	15.18	15.23	94.79	2.53	MWD_M	None
73	176.66	5.62	137.14	2.00	176.54	-0.03	-1.41	15.32	15.38	95.27	4.95	MWD_M	None
74	178.66	5.65	139.33	2.00	178.53	-0.11	-1.56	15.45	15.53	95.76	3.31	MWD_M	None
75	180.66	5.71	142.62	2.00	180.53	-0.21	-1.71	15.57	15.67	96.27	5.05	MWD_M	None
76	182.66	5.73	145.06	2.00	182.52	-0.31	-1.87	15.69	15.80	96.81	3.72	MWD_M	None
77	183.56	5.74	146.07	0.90	183.41	-0.36	-1.95	15.74	15.86	97.05	3.43	MWD_M	None
78	184.66	5.74	148.00	1.10	184.51	-0.42	-2.04	15.80	15.93	97.35	5.35	MWD_M	None
79	186.66	5.73	147.11	2.00	186.50	-0.53	-2.21	15.91	16.06	97.90	1.36	MWD_M	None
80	188.46	5.77	152.36	1.80	188.29	-0.64	-2.36	16.00	16.17	98.40	8.93	MWD_M	None
81	209.78	5.45	150.05	21.32	209.50	-1.93	-4.19	17.00	17.51	103.85	0.56	MWD_M	None
82	224.52	5.72	145.48	14.74	224.17	-2.74	-5.40	17.77	18.57	106.91	1.08	MWD_M	None
83	250.69	5.81	133.61	26.17	250.21	-3.91	-7.39	19.46	20.82	110.79	1.39	MWD_M	None
84	279.20	6.77	122.27	28.51	278.55	-4.68	-9.28	21.93	23.81	112.94	1.67	MWD_M	None
85	308.58	7.92	119.20	29.38	307.69	-5.17	-11.19	25.16	27.54	113.99	1.26	MWD_M	None
86	339.14	9.50	119.20	30.56	337.90	-5.67	-13.45	29.20	32.15	114.74	1.58	MWD_M	None
87	367.60	11.61	118.76	28.46	365.87	-6.21	-15.98	33.76	37.35	115.32	2.26	MWD_M	None
88	396.12	11.88	118.23	28.52	393.80	-6.75	-18.75	38.86	43.15	115.75	0.31	MWD_M	None
89	426.66	9.85	112.69	30.54	423.79	-7.02	-21.24	44.04	48.90	115.75	2.28	MWD_M	None
90	455.09	8.71	97.49	28.43	451.85	-6.43	-22.46	48.42	53.38	114.88	2.89	MWD_M	None
91	484.01	8.71	78.94	28.92	480.44	-4.61	-22.33	52.74	57.27	112.94	2.95	MWD_M	None
92	513.64	10.82	55.57	29.63	509.65	-1.01	-20.32	57.24	60.74	109.55	4.57	MWD_M	None
93	542.40	14.78	40.27	28.76	537.70	4.78	-15.99	61.84	63.88	104.50	5.49	MWD_M	None
94	566.86	17.77	34.30	24.46	561.18	11.42	-10.53	65.96	66.80	99.07	4.26	MWD_M	None

95	595.06	18.15	35.16	28.20	588.01	19.94	-3.38	70.92	71.00	92.73	0.50	MWD_M	None
96	624.15	18.92	34.77	29.09	615.59	28.99	4.20	76.22	76.33	86.85	0.82	MWD_M	None
97	652.79	21.59	36.35	28.64	642.45	38.66	12.26	81.99	82.90	81.50	2.90	MWD_M	None
98	682.13	24.60	38.19	29.34	669.44	49.81	21.41	88.97	91.51	76.47	3.22	MWD_M	None
99	711.47	27.43	37.36	29.34	695.80	62.26	31.58	96.84	101.86	71.94	2.96	MWD_M	None
100	740.21	29.18	34.61	28.74	721.11	75.54	42.61	104.84	113.17	67.88	2.31	MWD_M	None
101	769.54	31.81	31.78	29.33	746.38	90.19	55.07	112.98	125.68	64.01	3.11	MWD_M	None
102	798.80	33.84	29.46	29.26	770.97	105.91	68.72	121.05	139.19	60.42	2.49	MWD_M	None
103	827.53	35.47	26.86	28.73	794.60	122.18	83.12	128.75	153.25	57.15	2.33	MWD_M	None
104	856.84	37.28	25.07	29.31	818.20	139.54	98.75	136.35	168.35	54.09	2.18	MWD_M	None
105	886.41	38.83	22.45	29.57	841.48	157.76	115.43	143.69	184.31	51.22	2.31	MWD_M	None
106	915.18	39.43	19.24	28.77	863.80	175.90	132.40	150.14	200.18	48.59	2.24	MWD_M	None
107	944.17	40.98	16.72	28.99	885.95	194.53	150.19	155.91	216.49	46.07	2.36	MWD_M	None
108	973.14	42.51	14.01	28.97	907.56	213.64	168.79	161.02	233.27	43.65	2.49	MWD_M	None
109	1002.13	44.70	12.37	28.99	928.55	233.34	188.26	165.57	250.71	41.33	2.59	MWD_M	None
110	1031.32	47.88	10.84	29.19	948.72	254.01	208.92	169.81	269.23	39.10	3.52	MWD_M	None
111	1060.50	51.75	10.85	29.18	967.55	275.80	230.81	174.00	289.05	37.01	4.04	MWD_M	None
112	1089.43	55.01	10.64	28.93	984.80	298.48	253.62	178.33	310.04	35.11	3.44	MWD_M	None
113	1118.25	56.91	12.19	28.82	1000.93	321.87	277.03	183.06	332.05	33.46	2.43	MWD_M	None
114	1147.62	58.48	15.37	29.37	1016.63	346.36	301.13	188.98	355.52	32.11	3.23	MWD_M	None
115	1176.30	60.05	18.39	28.68	1031.29	370.86	324.71	196.14	379.35	31.13	3.22	MWD_M	None
116	1205.67	59.77	18.18	29.37	1046.02	396.19	348.84	204.11	404.17	30.33	0.35	MWD_M	None
117	1234.95	59.86	19.17	29.28	1060.74	421.42	372.82	212.21	428.99	29.65	0.90	MWD_M	None
118	1263.67	60.07	20.01	28.72	1075.11	446.24	396.24	220.55	453.49	29.10	0.80	MWD_M	None
119	1293.25	60.15	20.02	29.58	1089.85	471.85	420.34	229.33	478.83	28.62	0.08	MWD_M	None
120	1322.64	59.97	19.21	29.39	1104.52	497.27	444.33	237.88	504.00	28.16	0.75	MWD_M	None
121	1351.50	59.92	19.41	28.86	1118.98	522.20	467.90	246.14	528.69	27.75	0.19	MWD_M	None
122	1380.50	60.04	20.09	29.00	1133.49	547.27	491.54	254.62	553.57	27.38	0.63	MWD_M	None
123	1409.92	59.97	20.52	29.42	1148.19	572.72	515.43	263.47	578.87	27.07	0.39	MWD_M	None
124	1438.53	59.86	20.80	28.61	1162.54	597.45	538.60	272.20	603.47	26.81	0.28	MWD_M	None
125	1467.55	60.11	21.29	29.02	1177.05	622.56	562.05	281.22	628.48	26.58	0.52	MWD_M	None
126	1496.82	59.87	18.88	29.27	1191.69	647.87	585.85	289.93	653.66	26.33	2.19	MWD_M	None
127	1525.53	59.74	17.72	28.71	1206.13	672.60	609.41	297.72	678.24	26.04	1.07	MWD_M	None
128	1554.91	59.57	18.01	29.38	1220.98	697.85	633.54	305.50	703.35	25.74	0.31	MWD_M	None
129	1584.26	59.48	17.09	29.35	1235.86	723.03	657.66	313.12	728.40	25.46	0.83	MWD_M	None
130	1613.10	59.15	15.78	28.84	1250.58	747.66	681.45	320.14	752.90	25.16	1.24	MWD_M	None
131	1642.17	59.16	16.24	29.07	1265.48	772.43	705.44	327.03	777.55	24.87	0.41	MWD_M	None
132	1671.65	59.02	15.35	29.48	1280.63	797.52	729.77	333.91	802.54	24.59	0.80	MWD_M	None
133	1700.47	58.31	17.02	28.82	1295.62	821.96	753.41	340.77	826.90	24.34	1.69	MWD_M	None
134	**1729.63**	**58.92**	**22.55**	**29.16**	**1310.81**	**846.80**	**776.82**	**349.19**	**851.70**	**24.20**	**4.98**	**MWD_M**	**None**
135	**1758.83**	**58.82**	**22.82**	**29.20**	**1325.91**	**871.79**	**799.88**	**358.83**	**876.68**	**24.16**	**0.26**	**MWD_M**	**None**
136	1787.93	58.61	23.08	29.10	1341.02	896.66	822.78	368.53	901.55	24.13	0.32	MWD_M	None
137	1817.21	59.43	23.68	29.28	1356.09	921.76	845.83	378.49	926.65	24.11	1.01	MWD_M	None
138	1846.51	59.43	24.12	29.30	1370.99	946.99	868.89	388.71	951.88	24.10	0.39	MWD_M	None
139	1875.07	59.50	24.23	28.56	1385.50	971.58	891.33	398.79	976.48	24.10	0.13	MWD_M	None
140	1904.44	59.75	22.90	29.37	1400.35	996.92	914.56	408.92	1001.81	24.09	1.22	MWD_M	None
141	1933.72	59.48	19.71	29.28	1415.17	1022.16	938.08	418.09	1027.04	24.02	2.88	MWD_M	None
142	1962.43	59.47	20.15	28.71	1429.75	1046.86	961.33	426.52	1051.71	23.93	0.40	MWD_M	None
143	1991.76	59.38	21.95	29.33	1444.67	1072.09	984.90	435.59	1076.92	23.86	1.61	MWD_M	None
144	2021.22	59.35	22.82	29.46	1459.68	1097.44	1008.34	445.25	1102.26	23.82	0.78	MWD_M	None
145	2050.01	59.68	22.93	28.79	1474.29	1122.25	1031.20	454.89	1127.07	23.80	0.36	MWD_M	None
146	2079.21	59.65	22.41	29.20	1489.03	1147.45	1054.45	464.60	1152.27	23.78	0.47	MWD_M	None
147	2108.37	59.70	23.23	29.16	1503.76	1172.62	1077.65	474.37	1177.44	23.76	0.74	MWD_M	None
148	2137.20	59.85	22.82	28.83	1518.27	1197.53	1100.58	484.11	1202.34	23.74	0.41	MWD_M	None
149	2166.54	59.74	21.54	29.34	1533.03	1222.88	1124.06	493.68	1227.69	23.71	1.15	MWD_M	None
150	2195.52	59.64	22.29	28.98	1547.66	1247.89	1147.27	503.02	1252.70	23.68	0.69	MWD_M	None
151	2224.36	59.75	22.87	28.84	1562.21	1272.79	1170.26	512.58	1277.59	23.65	0.54	MWD_M	None
152	2253.73	60.22	23.04	29.37	1576.90	1298.22	1193.67	522.50	1303.02	23.64	0.51	MWD_M	None
153	2283.19	59.87	20.53	29.46	1591.61	1323.74	1217.37	531.97	1328.53	23.60	2.28	MWD_M	None
154	2311.67	59.52	20.36	28.48	1605.98	1348.30	1240.41	540.56	1353.08	23.55	0.41	MWD_M	None
155	2341.15	59.82	21.83	29.48	1620.87	1373.73	1264.15	549.72	1378.50	23.50	1.35	MWD_M	None
156	2370.43	59.66	22.41	29.28	1635.63	1399.02	1287.58	559.24	1403.78	23.48	0.55	MWD_M	None
157	2399.26	59.55	23.35	28.83	1650.21	1423.88	1310.49	568.91	1428.65	23.47	0.87	MWD_M	None
158	2428.57	59.84	24.69	29.31	1665.00	1449.19	1333.60	579.21	1453.95	23.48	1.24	MWD_M	None
159	2457.61	59.82	24.38	29.04	1679.60	1474.28	1356.44	589.63	1479.06	23.49	0.28	MWD_M	None
160	2486.56	59.59	23.12	28.95	1694.20	1499.28	1379.32	599.70	1504.05	23.50	1.17	MWD_M	None
161	2515.72	59.36	22.64	29.16	1709.01	1524.40	1402.46	609.47	1529.17	23.49	0.49	MWD_M	None
162	2545.18	59.41	21.78	29.46	1724.02	1549.75	1425.93	619.05	1554.51	23.47	0.77	MWD_M	None
163	2573.92	59.26	21.58	28.74	1738.67	1574.46	1448.91	628.18	1579.22	23.44	0.24	MWD_M	None
164	2603.41	59.42	23.05	29.49	1753.71	1599.82	1472.37	637.82	1604.59	23.42	1.32	MWD_M	None
165	2632.84	59.38	24.47	29.43	1768.70	1625.15	1495.56	648.02	1629.92	23.43	1.27	MWD_M	None
166	2661.62	59.52	25.28	28.78	1783.32	1649.92	1518.04	658.45	1654.69	23.45	0.75	MWD_M	None
167	2690.92	59.70	24.08	29.30	1798.15	1675.19	1541.01	669.00	1679.96	23.47	1.09	MWD_M	None
168	2720.28	59.58	21.98	29.36	1812.99	1700.52	1564.32	678.91	1705.29	23.46	1.89	MWD_M	None
169	2749.04	59.37	21.99	28.76	1827.60	1725.29	1587.29	688.18	1730.06	23.44	0.22	MWD_M	None
170	2778.13	59.45	23.33	29.09	1842.40	1750.33	1610.40	697.83	1755.10	23.43	1.21	MWD_M	None
171	2807.52	59.67	23.86	29.39	1857.29	1775.67	1633.62	707.97	1780.43	23.43	0.53	MWD_M	None
172	2836.11	59.51	22.38	28.59	1871.76	1800.32	1656.30	717.66	1805.09	23.43	1.37	MWD_M	None
173	2865.65	59.48	22.53	29.54	1886.76	1825.77	1679.82	727.38	1830.54	23.41	0.14	MWD_M	None
174	2894.85	59.45	23.33	29.20	1901.59	1850.92	1702.98	737.18	1855.69	23.41	0.72	MWD_M	None

175	2923.39	59.44	24.25	28.54	1916.10	1875.50	1725.47	747.09	1880.26	23.41	0.85	MWD_M	None
176	2952.55	59.61	24.71	29.16	1930.89	1900.62	1748.34	757.50	1905.39	23.43	0.45	MWD_M	None
177	2981.91	59.57	23.83	29.36	1945.75	1925.94	1771.42	767.91	1930.71	23.44	0.79	MWD_M	None
178	3010.73	59.51	22.77	28.82	1960.36	1950.78	1794.24	777.74	1955.55	23.43	0.97	MWD_M	None
179	3039.88	59.65	22.96	29.15	1975.12	1975.91	1817.40	787.50	1980.68	23.43	0.23	MWD_M	None
180	3069.23	59.51	22.34	29.35	1989.98	2001.22	1840.76	797.25	2005.99	23.42	0.57	MWD_M	None
181	3098.41	59.35	22.53	29.18	2004.82	2026.35	1863.98	806.84	2031.11	23.41	0.24	MWD_M	None
182	3127.99	59.44	23.19	29.58	2019.88	2051.80	1887.44	816.73	2056.57	23.40	0.59	MWD_M	None
183	3157.38	59.47	23.22	29.39	2034.82	2077.12	1910.70	826.70	2081.88	23.40	0.04	MWD_M	None
184	3186.73	59.31	23.11	29.35	2049.76	2102.38	1933.93	836.64	2107.14	23.39	0.19	MWD_M	None
185	3215.94	59.37	24.15	29.21	2064.66	2127.50	1956.95	846.71	2132.27	23.40	0.94	MWD_M	None
186	3245.35	59.51	24.71	29.41	2079.61	2152.82	1980.00	857.19	2157.59	23.41	0.52	MWD_M	None
187	3274.59	59.60	25.00	29.24	2094.43	2178.01	2002.88	867.78	2182.79	23.43	0.28	MWD_M	None
188	3303.86	59.61	23.83	29.27	2109.24	2203.25	2025.87	878.22	2208.03	23.44	1.05	MWD_M	None
189	3332.91	59.46	22.93	29.05	2123.97	2228.29	2048.85	888.15	2233.07	23.44	0.83	MWD_M	None
190	3362.03	59.58	23.59	29.12	2138.74	2253.39	2071.91	898.06	2258.17	23.43	0.61	MWD_M	None
191	3391.52	59.67	22.84	29.49	2153.65	2278.83	2095.29	908.09	2283.61	23.43	0.68	MWD_M	None
192	3420.79	59.35	22.01	29.27	2168.50	2304.05	2118.60	917.71	2308.83	23.42	0.82	MWD_M	None
193	3450.01	59.45	22.73	29.22	2183.38	2329.20	2141.86	927.29	2333.97	23.41	0.65	MWD_M	None
194	3479.40	59.58	22.73	29.39	2198.29	2354.53	2165.22	937.07	2359.30	23.40	0.13	MWD_M	None
195	3508.93	59.34	22.40	29.53	2213.29	2379.96	2188.71	946.83	2384.73	23.39	0.38	MWD_M	None
196	3538.34	59.41	22.83	29.41	2228.27	2405.26	2212.07	956.56	2410.03	23.39	0.39	MWD_M	None
197	3567.53	59.57	22.81	29.19	2243.09	2430.41	2235.25	966.32	2435.18	23.38	0.17	MWD_M	None
198	3597.21	59.37	21.96	29.68	2258.17	2455.98	2258.89	976.05	2460.74	23.37	0.78	MWD_M	None
199	3626.61	59.34	22.65	29.40	2273.16	2481.27	2282.29	985.65	2486.03	23.36	0.62	MWD_M	None
200	3655.73	59.42	23.74	29.12	2287.99	2506.33	2305.32	995.52	2511.09	23.36	0.99	MWD_M	None
201	3684.88	59.58	23.66	29.15	2302.78	2531.44	2328.32	1005.62	2536.21	23.36	0.18	MWD_M	None
202	3714.32	59.45	22.93	29.44	2317.72	2556.81	2351.62	1015.65	2561.58	23.36	0.67	MWD_M	None
203	3743.32	59.51	23.42	29.00	2332.45	2581.79	2374.59	1025.48	2586.56	23.36	0.45	MWD_M	None
204	3772.52	59.48	23.57	29.20	2347.27	2606.95	2397.66	1035.51	2611.72	23.36	0.14	MWD_M	None
205	3801.53	59.65	21.84	29.01	2361.97	2631.96	2420.73	1045.17	2636.73	23.35	1.58	MWD_M	None
206	3830.73	59.64	20.53	29.20	2376.72	2657.14	2444.23	1054.27	2661.90	23.33	1.18	MWD_M	None
207	3860.11	59.58	19.92	29.38	2391.58	2682.46	2468.01	1063.03	2687.21	23.30	0.55	MWD_M	None
208	3889.48	59.44	20.43	29.37	2406.49	2707.73	2491.76	1071.76	2712.48	23.27	0.48	MWD_M	None
209	3918.81	59.49	20.84	29.33	2421.39	2732.97	2515.40	1080.66	2737.72	23.25	0.37	MWD_M	None
210	3948.11	60.11	21.34	29.30	2436.13	2758.28	2539.03	1089.78	2763.02	23.23	0.79	MWD_M	None
211	3975.05	60.00	18.97	26.94	2449.58	2781.59	2560.94	1097.82	2786.33	23.20	2.33	MWD_M	None
212	3995.00	59.95	18.90	19.95	2459.56	2798.82	2577.28	1103.42	2803.56	23.18	0.12	Proj. to TD	

Company: **ESSO Australia Pty Ltd**

Schlumberger

Well: **CBA A28**

Field: **Halibut**

Rig: **ISDL 175**

9.875 in. Section

State: **Victoria**

VISION Resistivity
1:500 Measured Depth
Recorded Mode Log