Schlumberger

Company: **SANDIA TECHNOLOGIES, LLC**

Well: **NYSTA TANDEM LOT 1**
Field: **WILDCAT**
County: **ROCKLAND** State: **NEW YORK**

County: ROCKLAND
Field: WILDCAT
Location: LAT: 41.1036
Well: NYSTA TANDEM LOT 1
Company: SANDIA TECHNOLOGIES, LLC

Platform Express
Array Induction
Gamma Ray / Caliper / SP

LOCATION

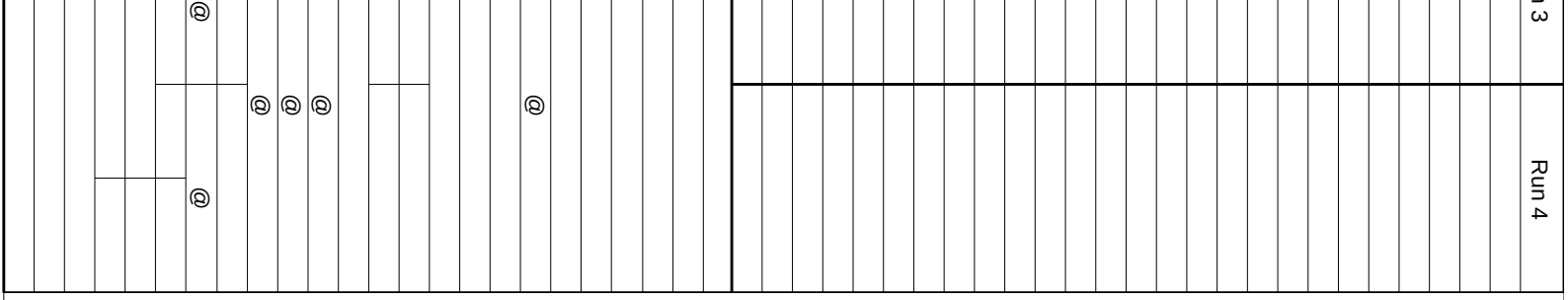
LAT: 41.1036
LONG: −74.027

Elev.: K.B. 402.00 ft
G.L. 386.00 ft
D.F. 402.00 ft

Permanent Datum: GROUND LEVEL Elev.: 386.00 ft
Log Measured From: KELLY BUSHING 16.00 ft above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No. 31−087−27016−00−00 | Section: | Township: CLARKSTOWN

	Run 1	Run 2	Run 3
Logging Date	15−Oct−2011		
Run Number	2A		
Depth Driller	6885 ft		
Schlumberger Depth	6870 ft		
Bottom Log Interval	6870 ft		
Top Log Interval	1492 ft		
Casing Driller Size @ Depth	9.625 in @ 1496 ft	@	@
Casing Schlumberger	1492 ft		
Bit Size	8.500 in		
Type Fluid In Hole	FRESH WATER GEL		
MUD Density / Viscosity	9.4 lbm/gal / 9.4 s		
MUD Fluid Loss / PH	0 cm3 / 10		
MUD Source Of Sample	MUD PIT		
RM @ Measured Temperature	1.107 ohm.m @ 64 degF	@	@
RMF @ Measured Temperature	0.886 ohm.m @ 64 degF	@	@
RMC @ Measured Temperature	1.328 ohm.m @ 64 degF	@	@
Source RMF / RMC	CALCULATED / CALCULATED		
RM @ MRT / RMF @ MRT	0.685 @ 108 / 0.548 @ 108	@ / @	@ / @
Maximum Recorded Temperatures	108 degF		
Circulation Stopped Time	15−Oct−2011 1:00		
Logger On Bottom Time	15−Oct−2011 12:00		
Unit Number / Location	7052 BRADFORD, PA		
Recorded By	TIM STOEVER		
Witnessed By	B.ARMSTRONG / D. COLLINS		



DEPTH SUMMARY LISTING

Date Created: 15−OCT−2011 13:28:23

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−39P LXS
Serial Number:	6420	Serial Number:	1095	Serial Number:	7052
Calibration Date:	18−JUL−2011	Calibration Date:	04−OCT−2011	Length:	9800 FT
Calibrator Serial Number:		Calibrator Serial Number:	108244		
Calibration Cable Type:	7−39P LXS	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	−6	Calibration RMS:	14	Rig Type:	LAND
Wheel Correction 2:	−4	Calibration Peak Error:	24		

Depth Control Parameters

Log Sequence:	Subsequent Trip To the Well
Reference Log Name:	PLATFORM EXPRESS
Reference Log Run Number:	1
Reference Log Date:	31−AUG−2011
Subsequent Trip Down Log Correction:	

Depth Control Remarks

1. IDW USED AS PRIMARY DEPTH CONTROL
2. Z CHART USED AS SECONDARY DEPTH CONTROL
3.
4.
5.
6.

OTHER SERVICES1	OTHER SERVICES2
OS1: RUN 2A: PEX−AIT	OS1:
OS2: RUN 2B: FMI−MSIP	OS2:
OS3: RUN 2C: CMR−ECS−HNGS	OS3:
OS4: RUN 2D: USIT−DSLT	OS4:
OS5: RUN 2E: VSP SEISMIC	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
THANK YOU FOR CHOOSING SCHLUMBERGER!!!	
MATRIX: SANDSTONE	
MATRIX DENSITY: 2.65 G/CC	

RIG: UNION RIG 48

CREW: PAUL REYNOLDS, BRYAN AUSTIN, NAT DORSAY

RUN 1		RUN 2	
SERVICE ORDER #:	BMNA−00055	SERVICE ORDER #:	
PROGRAM VERSION:	19C0−187	PROGRAM VERSION:	
FLUID LEVEL:	0 ft	FLUID LEVEL:	

RUN 1 LOGGED INTERVAL	START	STOP	RUN 2 LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT

GSR−U/Y
NCT−B
CNB−AB
NCS−VB

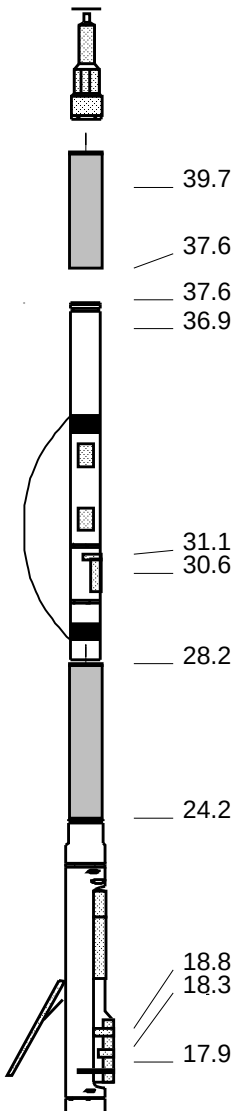
WITM (DTS)−A

DOWNHOLE EQUIPMENT

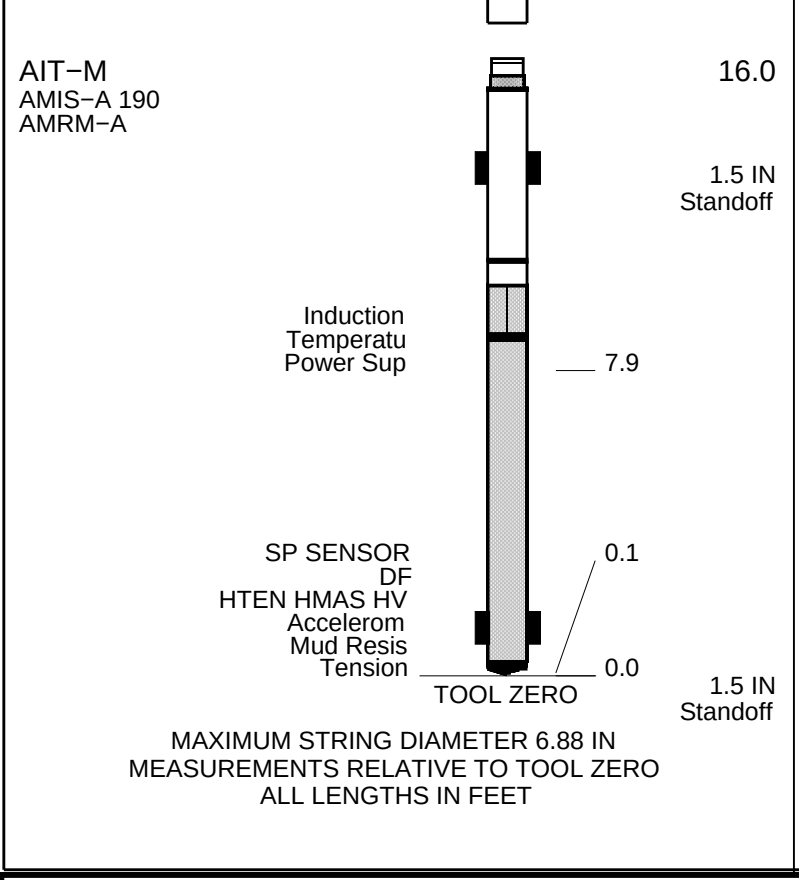
LEH−QT
LEH−QT

DTC−H
ECH−KC 10496
DTCH0−A 9406
DTCH1−A

HILTH−FTB
HGNSD−H 4836
HMCA−H
HGNH 3947
NLS−KL
NSR−F 5142
HACCZ−H 6313
HCNT−H
HGR
HRCC−H 4819
HRMS−H 4824
HRGD−H 2368
GLS−VJ 5482
MCFL Device−H
HILT Nucl. LS−H
HILT Nucl. SS−H
HILT Nucl. BS−H
BOW−SPR
NPV−N



RUN 2



Schlumberger

MAIN PASS 2"=100’

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:10	PRODUCER	15−Oct−2011 12:28	6886.5 FT	330.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_012PUP	FN:16	PRODUCER	15−Oct−2011 16:01	6886.5 FT	330.5 FT
BACKUP	AIT_TLD_MCFL_CNL_012PUP	FN:17	PRODUCER	15−Oct−2011 16:04	6886.5 FT	330.5 FT

OP System Version: 19C0−187

AIT−M	19C0−187	HILTH−FTB	19C0−187
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S

GR > 400
From LHT1 to GR2

GR > 200
From LHT1 to GR1

Tension (TENS)

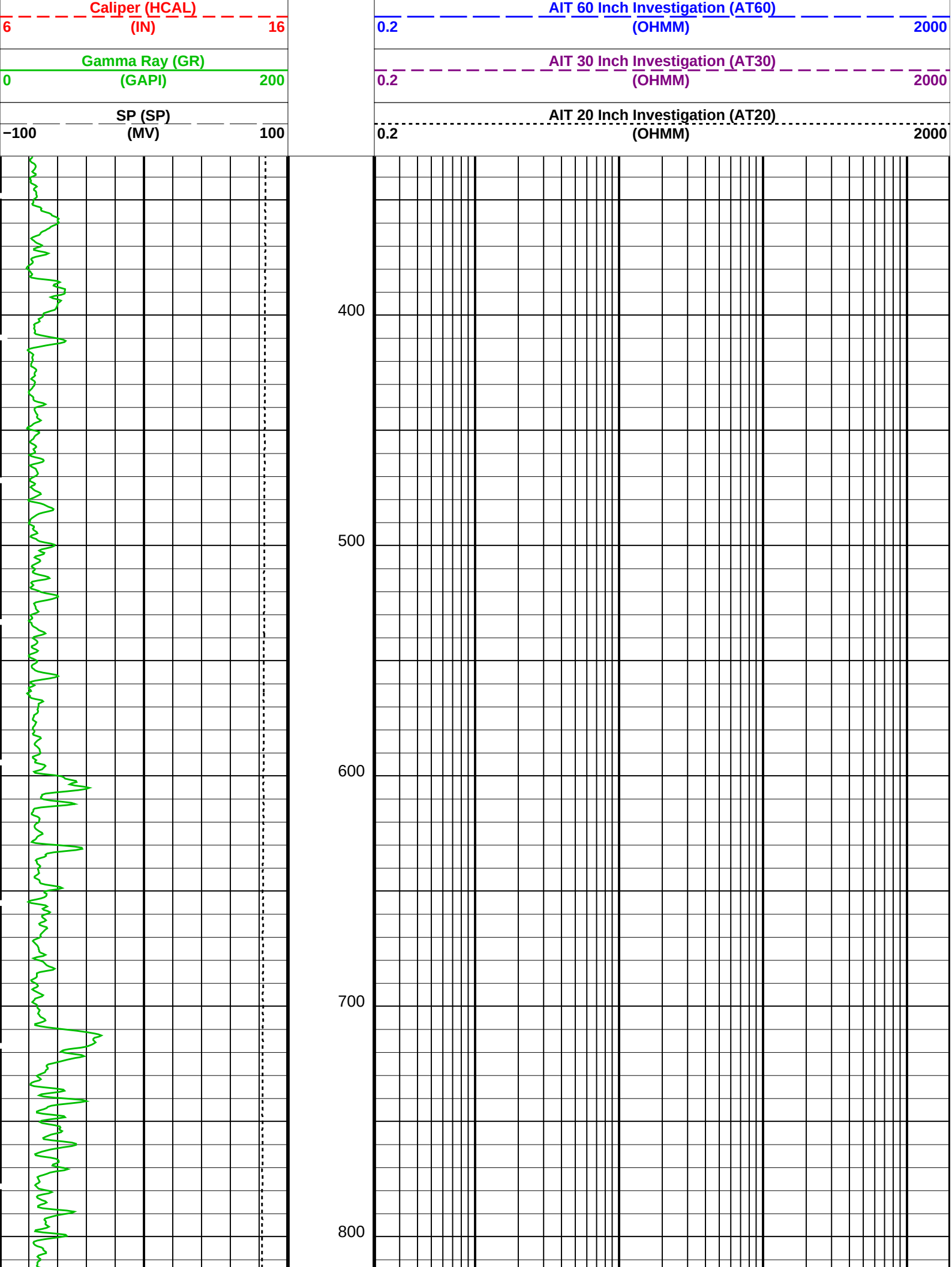
10000 **(LBF)** **0**

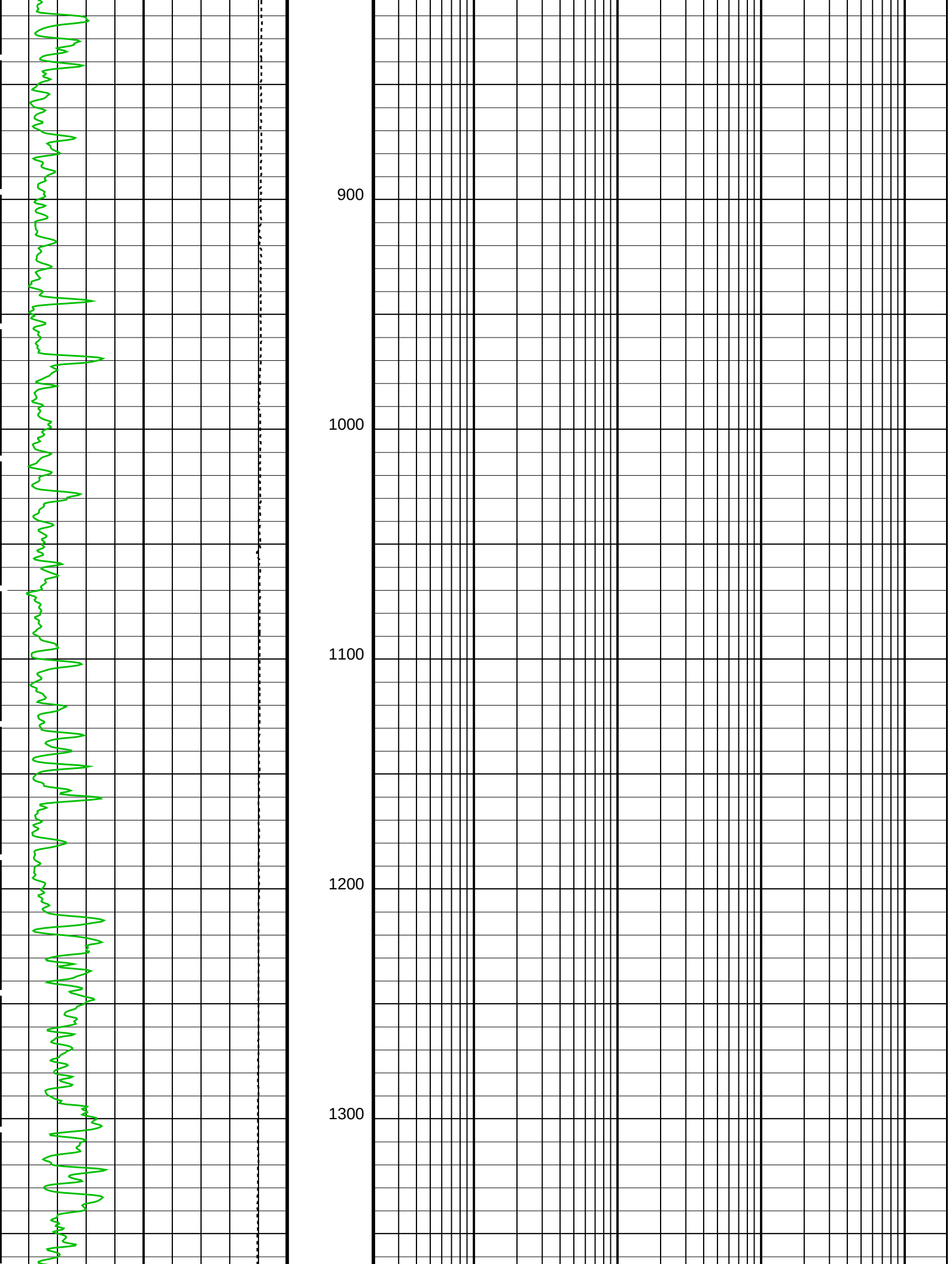
Std. Res. Invaded Zone Resistivity (RXOZ)

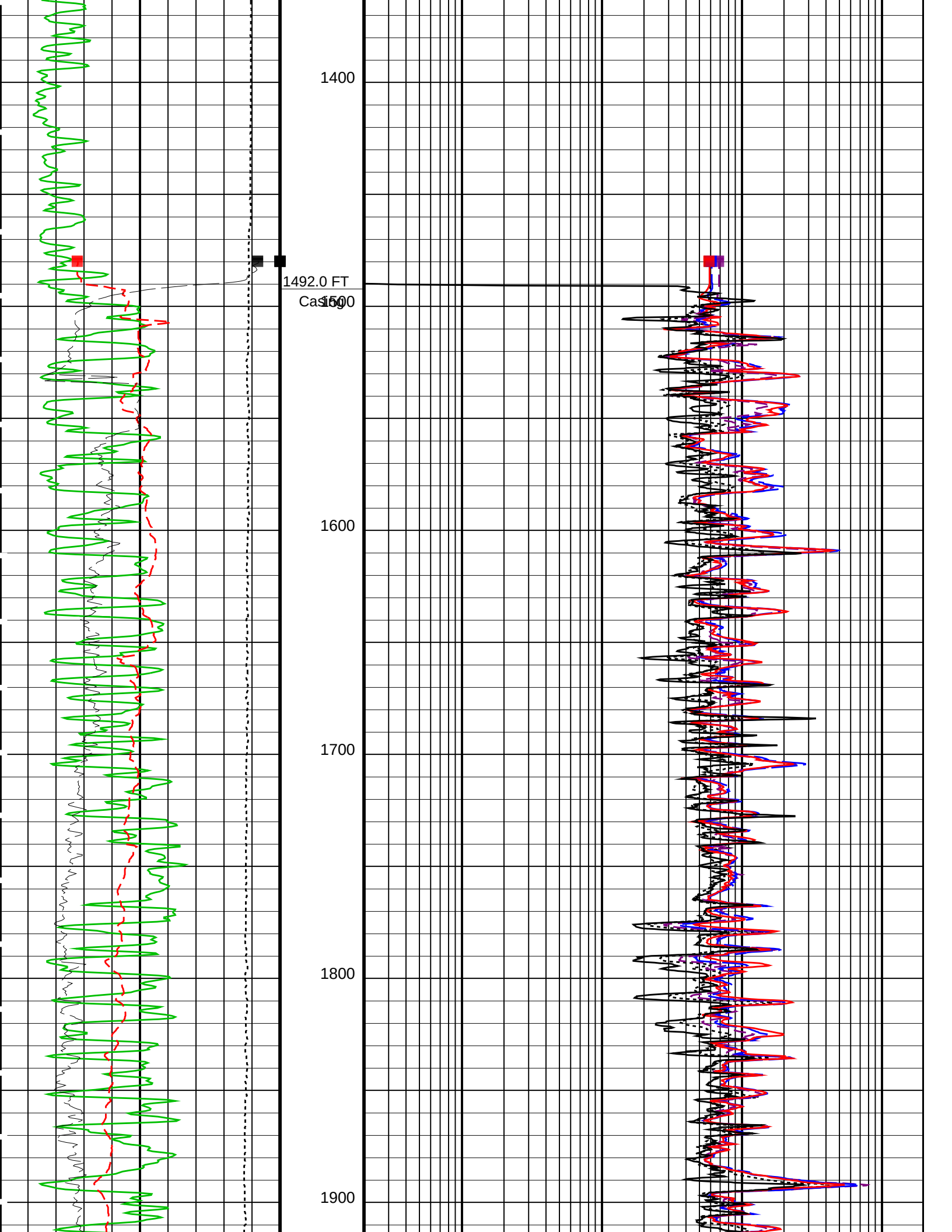
0.2 **(OHMM)** **2000**

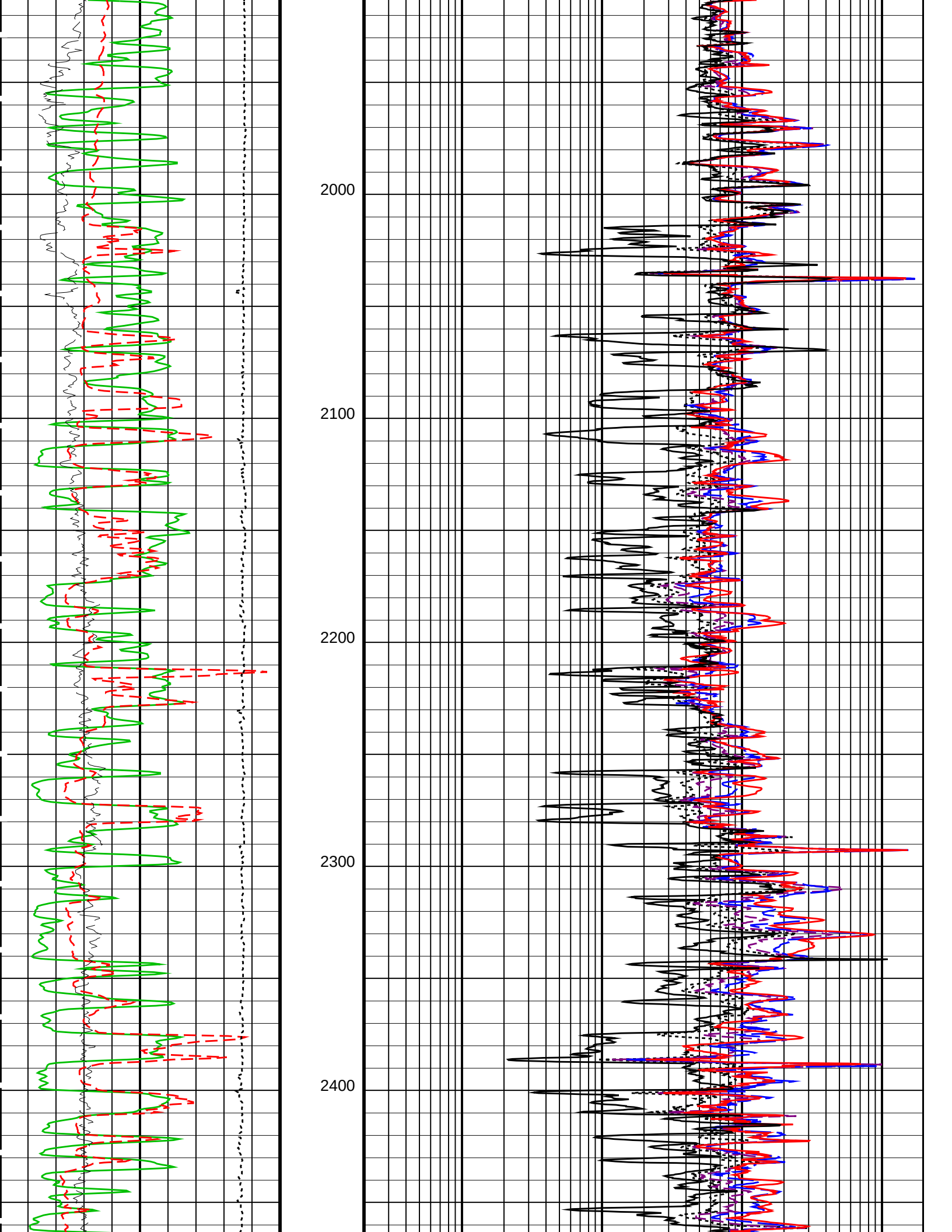
AIT 90 Inch Investigation (AT90)

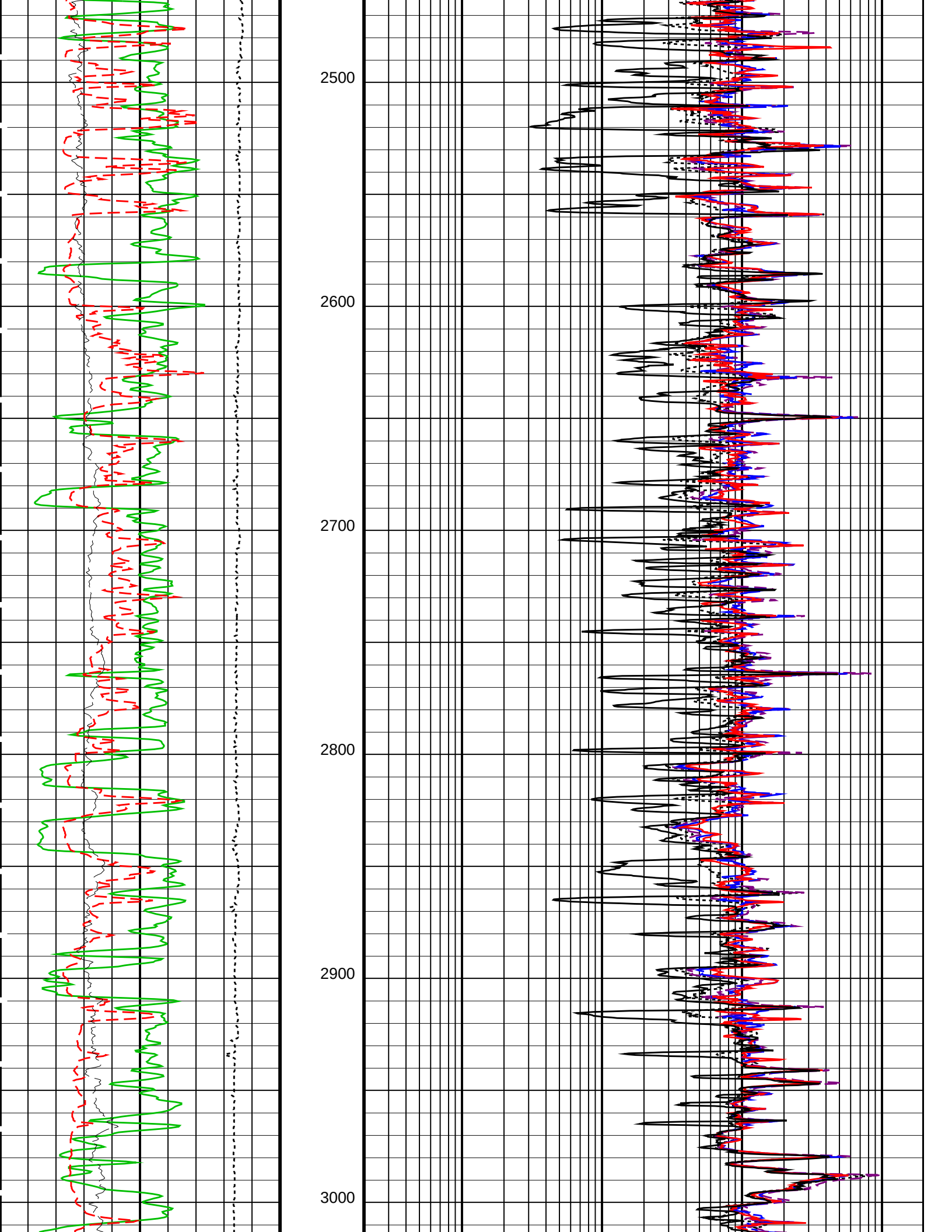
0.2 **(OHMM)** **2000**


Caliper (HCAL)
6
(IN)
16
Gamma Ray (GR)
0
(GAPI)
200
SP (SP)
−100
(MV)
100
AIT 60 Inch Investigation (AT60)
0.2
(OHMM)
2000
AIT 30 Inch Investigation (AT30)
0.2
(OHMM)
2000
AIT 20 Inch Investigation (AT20)
0.2
(OHMM)
2000
400
500
600
700
800


900
1000
1100
1200
1300


1400
1492.0 FT
Casing
1500
1600
1700
1800
1900


2000
2100
2200
2300
2400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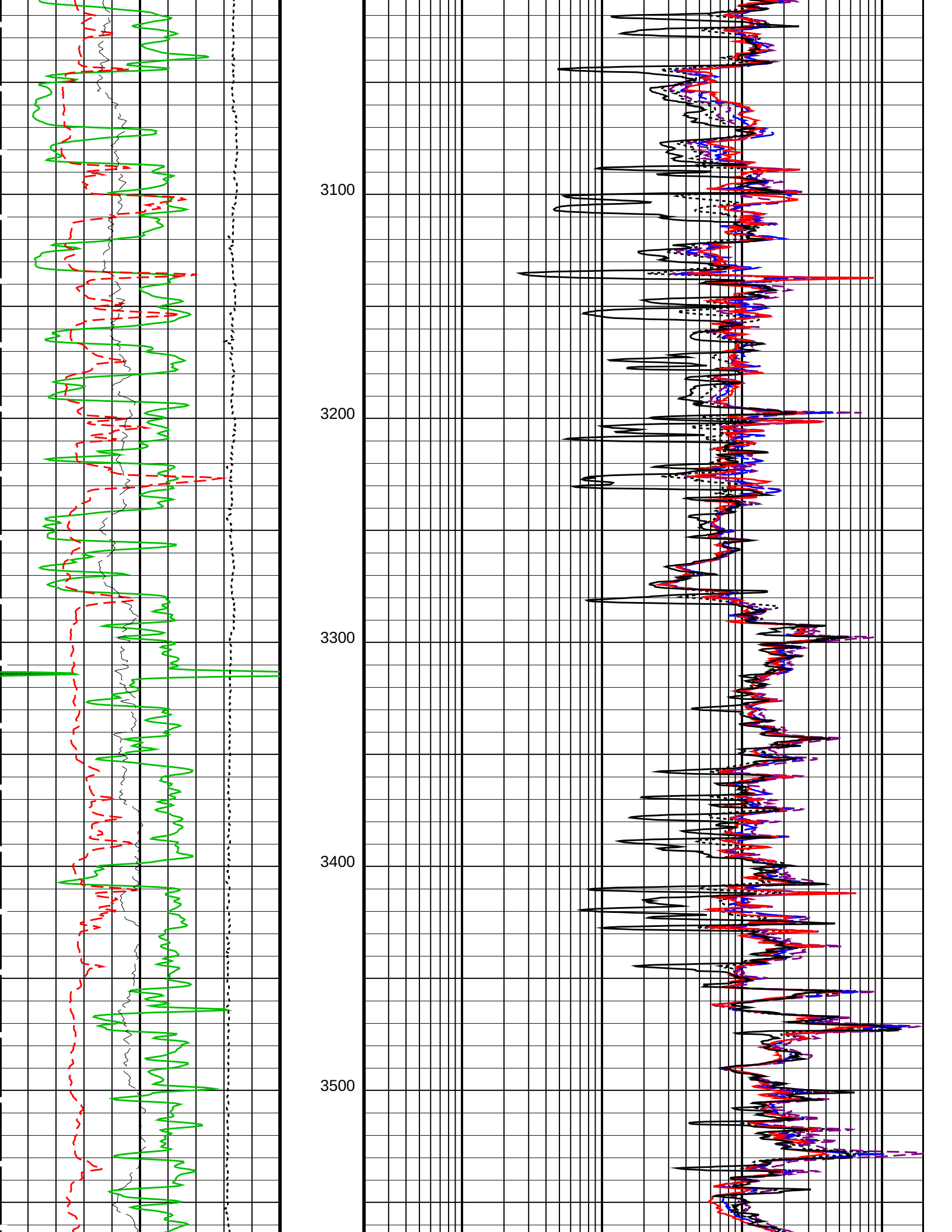
2600
2700
2800
2900
3000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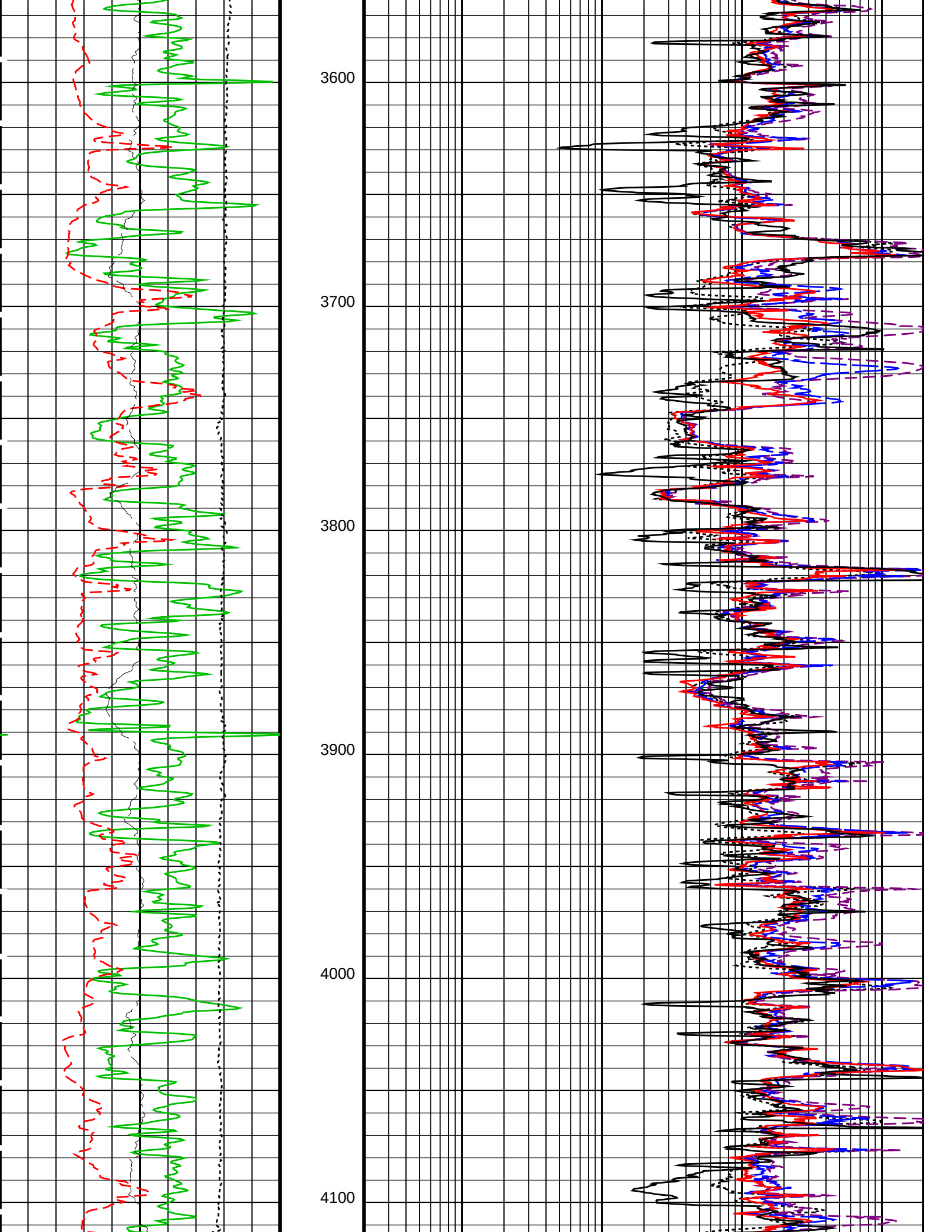
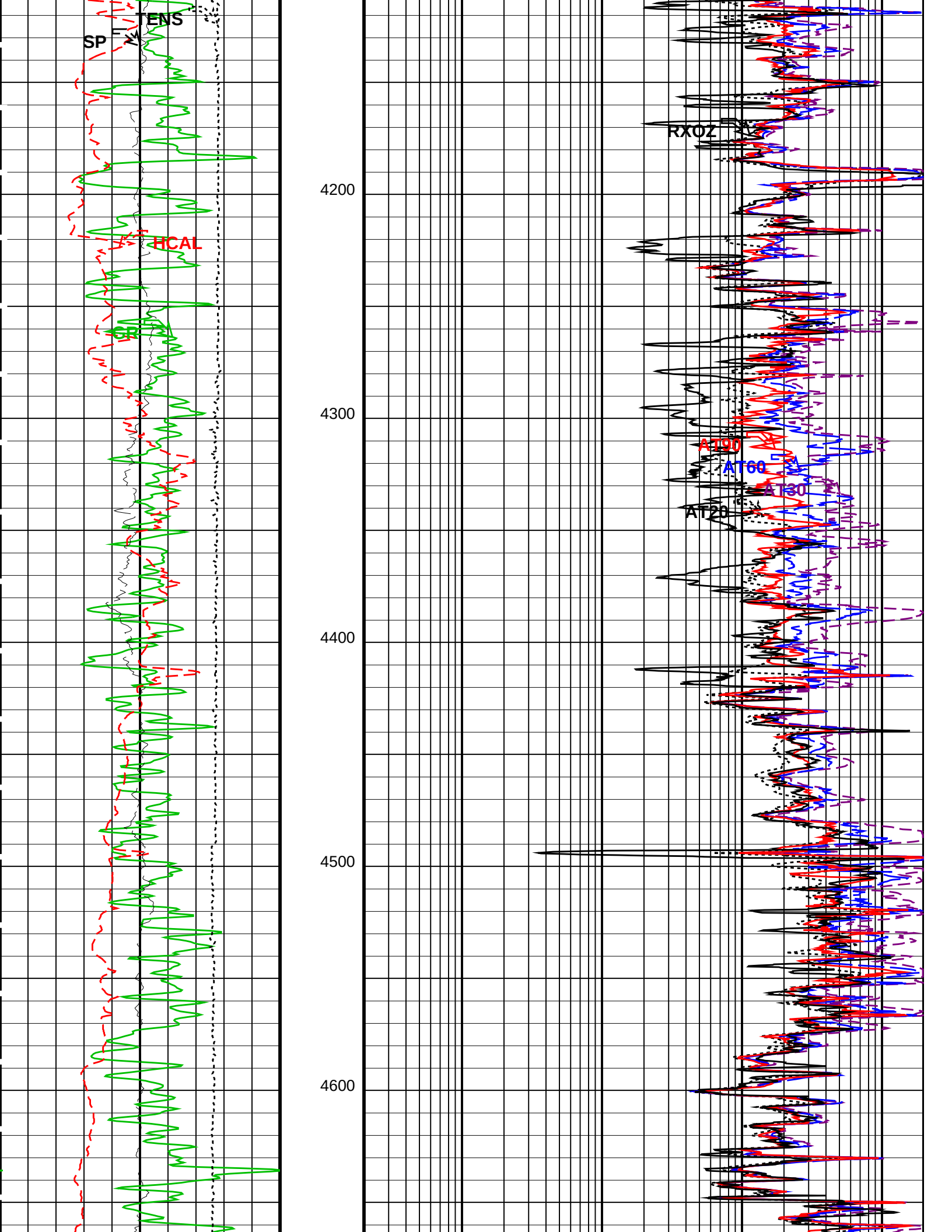
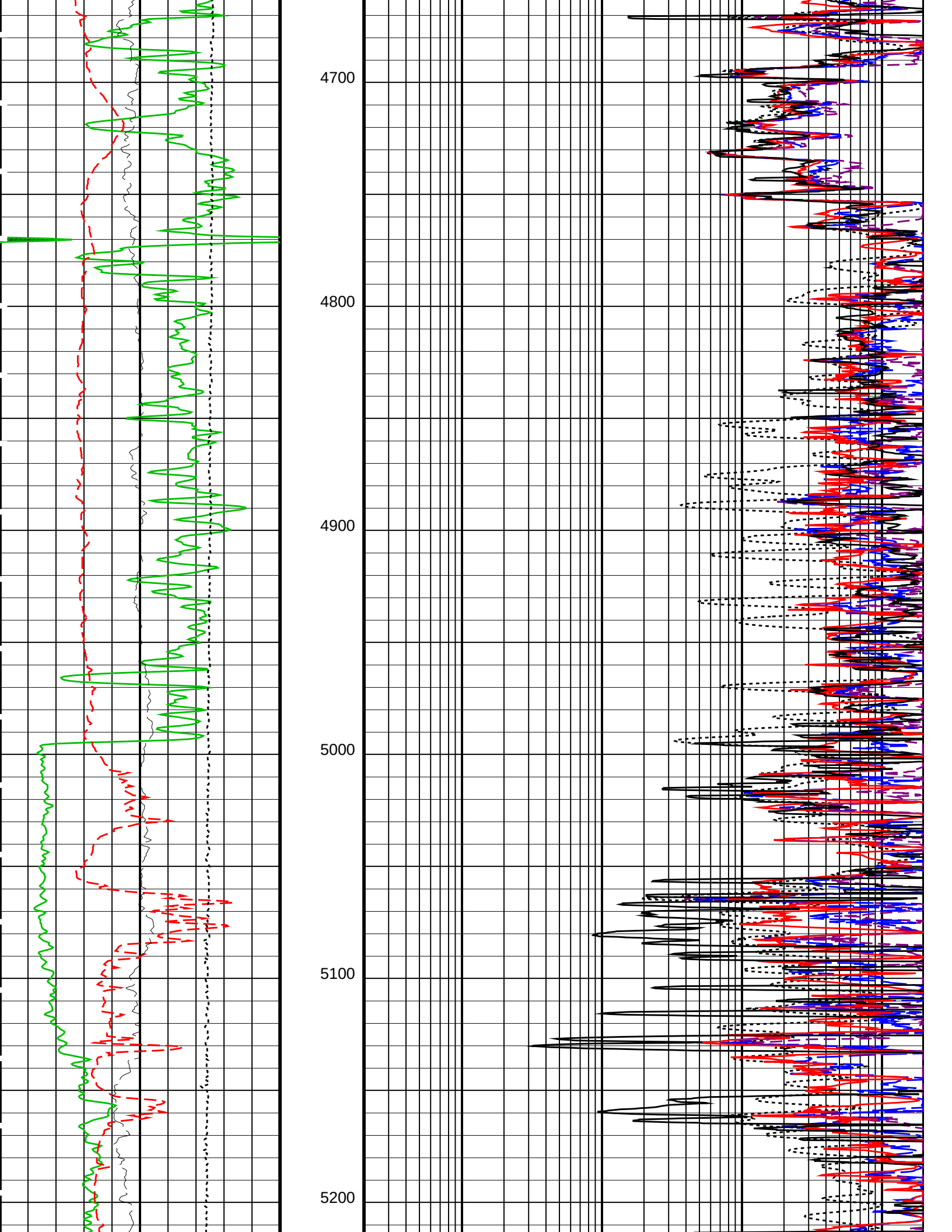
3200
3300
3400
3500


3600
3700
3800
3900
4000
4100


SP
TENS
HCAL
GR
RXOZ
AT90
AT60
AT30
AT20
4200
4300
4400
4500
4600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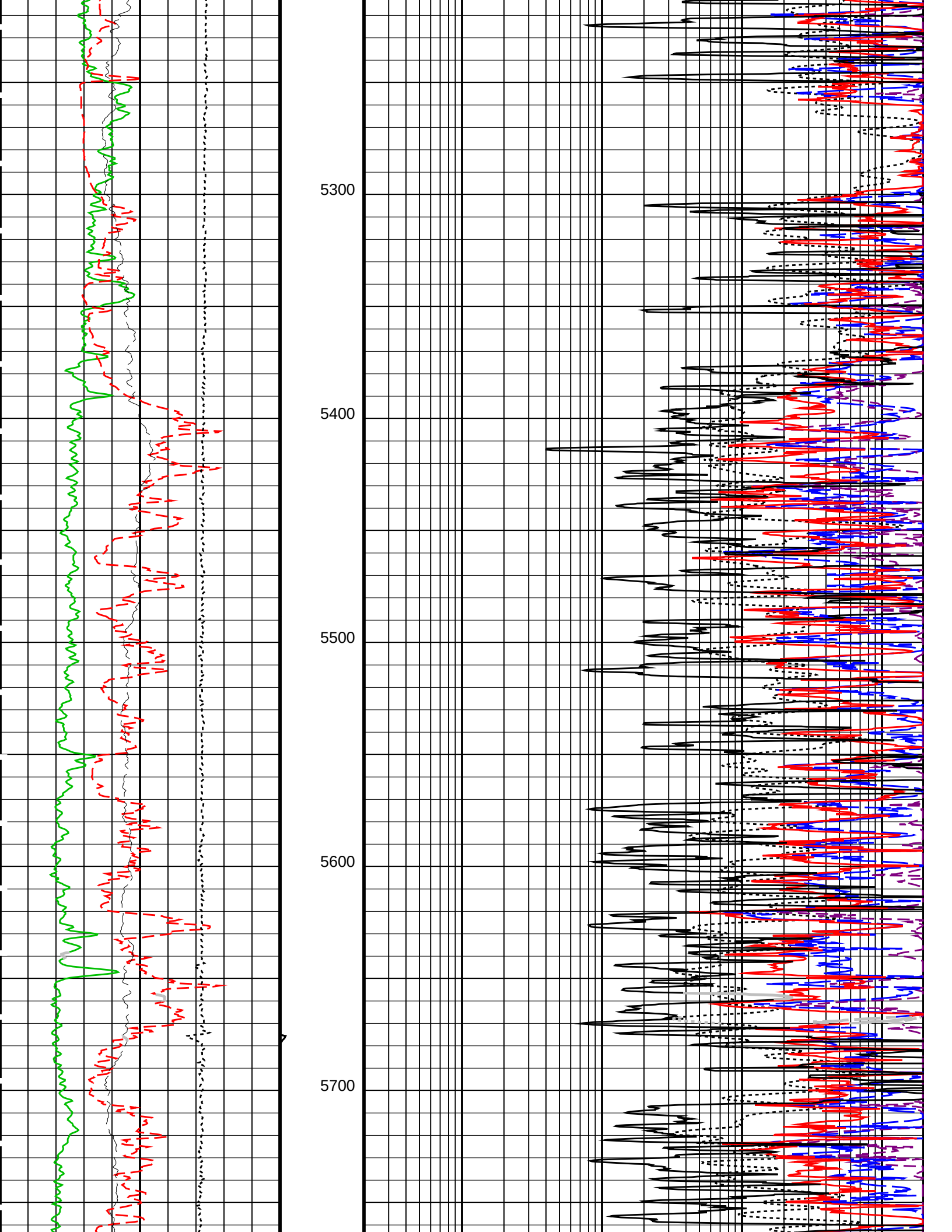
4800
4900
5000
5100
5200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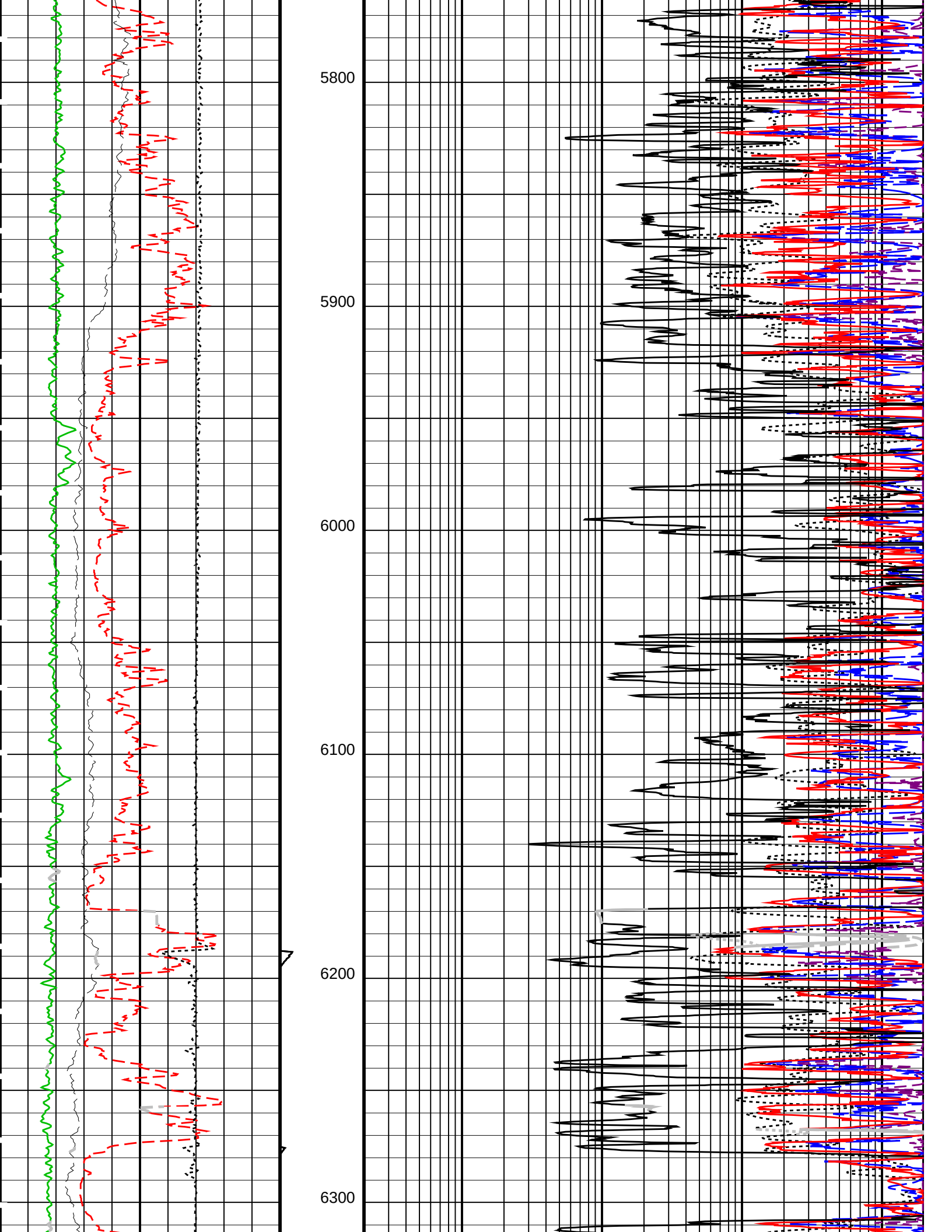
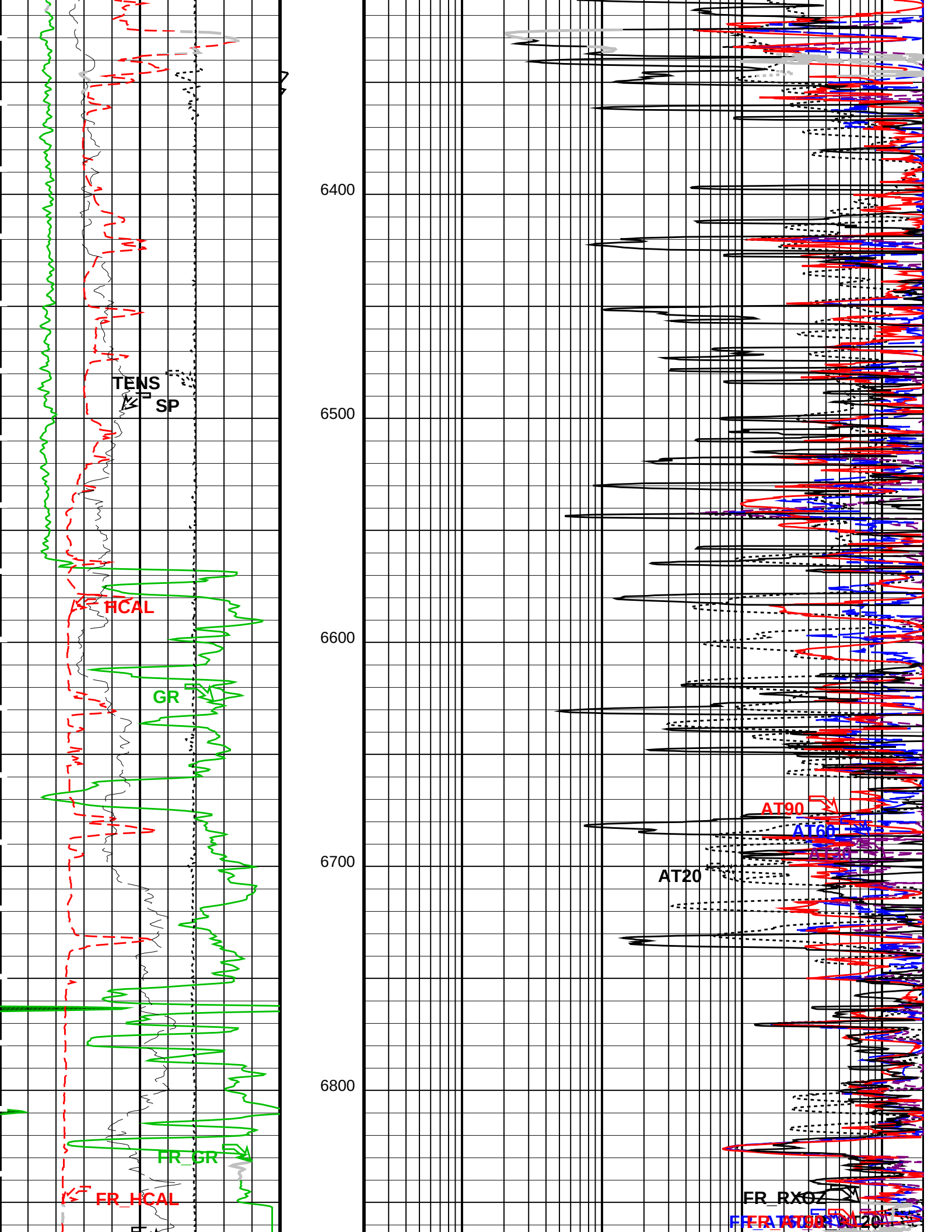
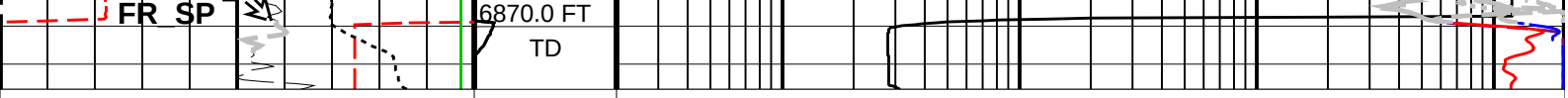
5400
5500
5600
5700


5800
5900
6000
6100
6200
6300


TENS
SP
HCAL
GR
FR_GR
FR_HCAL
6400
6500
6600
6700
6800
AT90
AT60
AT20
FR_RXOZ



SP (SP)		
−100	(MV)	100

Gamma Ray (GR)		
0	(GAPI)	200

Caliper (HCAL)		
6	(IN)	16

Tension (TENS)		
10000	(LBF)	0

GR > 200
From LHT1 to GR1

GR > 400
From LHT1 to GR2

AIT 20 Inch Investigation (AT20)		
0.2	(OHMM)	2000

AIT 30 Inch Investigation (AT30)		
0.2	(OHMM)	2000

AIT 60 Inch Investigation (AT60)		
0.2	(OHMM)	2000

AIT 90 Inch Investigation (AT90)		
0.2	(OHMM)	2000

Std. Res. Invaded Zone Resistivity (RXOZ)		
0.2	(OHMM)	2000

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	AIT−M: Array Induction Tool − M		
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	1491	FT
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AIGS	Array Induction Select Akima Interpolation Gating	On	
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
AULV	Array Induction User Level Control	Normal	
AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00	
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
	HILTH−FTB: High resolution Integrated Logging Tool−DTS		
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MPOF	MCFL Processing Operation Mode	ON	
SHT	Surface Hole Temperature	68	DEGF
	HOLEV: Integrated Hole/Cement Volume		
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68	DEGF
	STI: Stuck Tool Indicator		

LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth − Driller	6885.00	FT
TDL	Total Depth − Logger	6870.00	FT
	System and Miscellaneous		
BS	Bit Size	8.500	IN
DFD	Drilling Fluid Density	9.40	LB/G
DO	Depth Offset for Playback	0.0	FT
FLEV	Fluid Level	0.00	FT
MST	Mud Sample Temperature	64.30	DEGF
PP	Playback Processing	NORMAL	
TD	Total Depth	6870	FT

Format: AIT2 Vertical Scale: 2" per 100’ Graphics File Created: 15−Oct−2011 16:01

OP System Version: 19C0−187

AIT−M	19C0−187	HILTH−FTB	19C0−187
DTC−H	19C0−187		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:10	PRODUCER	15−Oct−2011 12:28	6886.5 FT	330.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_012PUP	FN:16	PRODUCER	15−Oct−2011 16:01		
BACKUP	AIT_TLD_MCFL_CNL_012PUP	FN:17	PRODUCER	15−Oct−2011 16:04		

Schlumberger

MAIN PASS 5"=100’

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:10	PRODUCER	15−Oct−2011 12:28	6886.5 FT	330.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_012PUP	FN:16	PRODUCER	15−Oct−2011 16:01	6886.5 FT	330.5 FT
BACKUP	AIT_TLD_MCFL_CNL_012PUP	FN:17	PRODUCER	15−Oct−2011 16:04	6886.5 FT	330.5 FT

OP System Version: 19C0−187

AIT−M	19C0−187	HILTH−FTB	19C0−187
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S

GR > 400
From LHT1 to GR2

GR > 200
From LHT1 to GR1

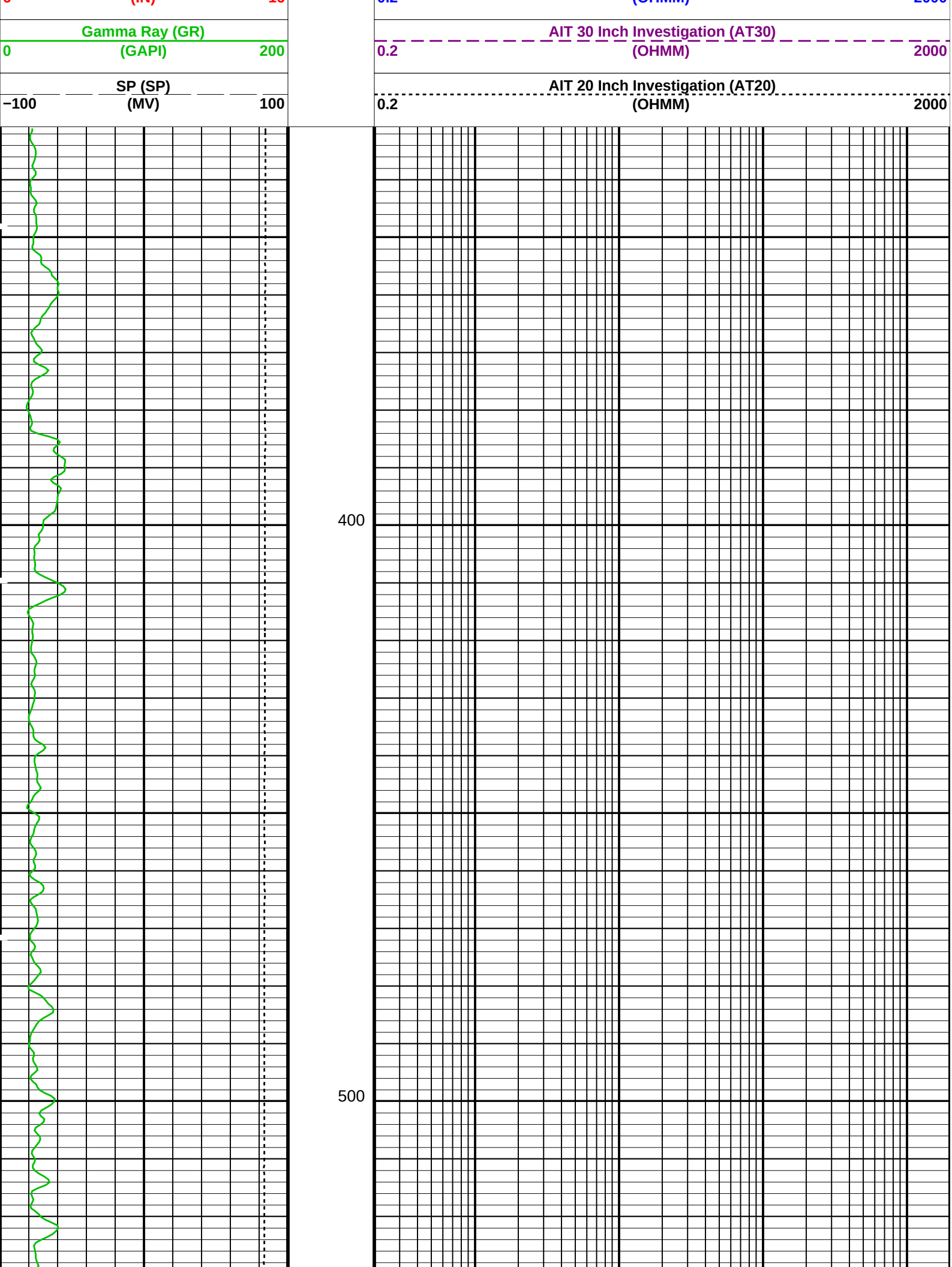
Tension (TENS)
10000 (LBF) 0

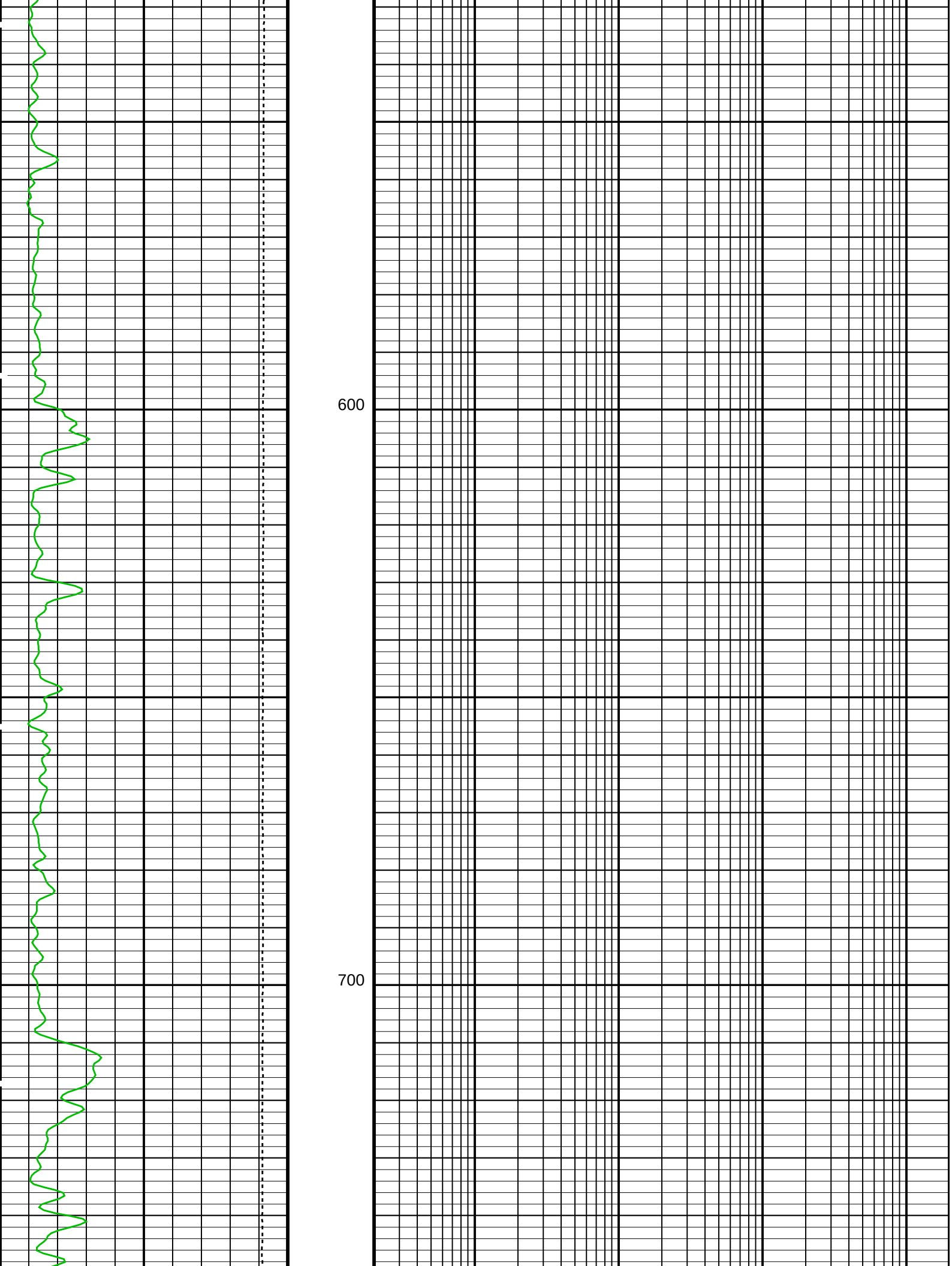
Caliper (HCAL)
6 (IN) 16

Std. Res. Invaded Zone Resistivity (RXOZ)
0.2 (OHMM) 2000

AIT 90 Inch Investigation (AT90)
0.2 (OHMM) 2000

AIT 60 Inch Investigation (AT60)
0.2 (OHMM) 2000


(IN)
Gamma Ray (GR)
0
(GAPI)
200
SP (SP)
−100
(MV)
100
AIT 30 Inch Investigation (AT30)
0.2
(OHMM)
2000
AIT 20 Inch Investigation (AT20)
0.2
(OHMM)
2000
400
500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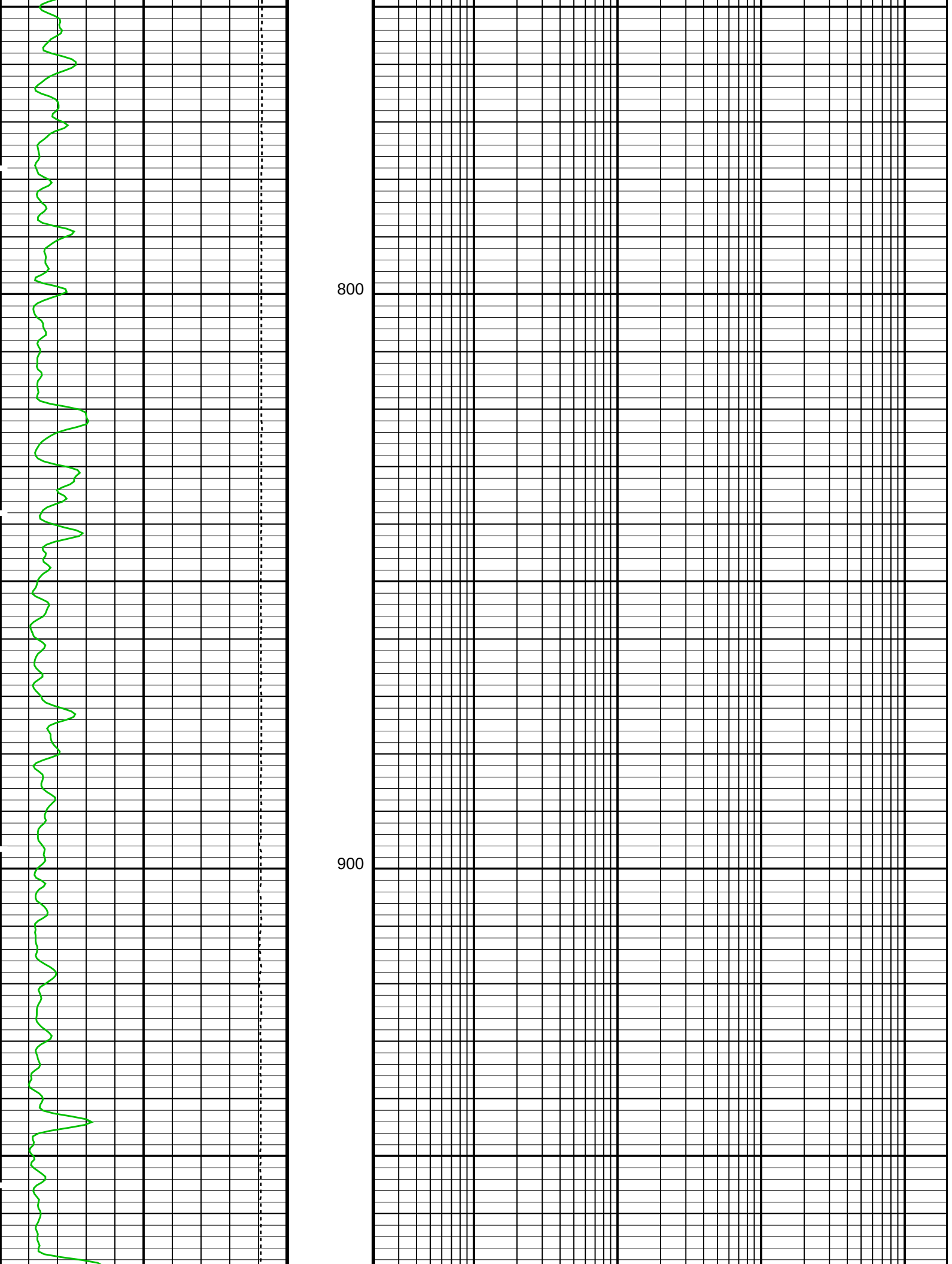
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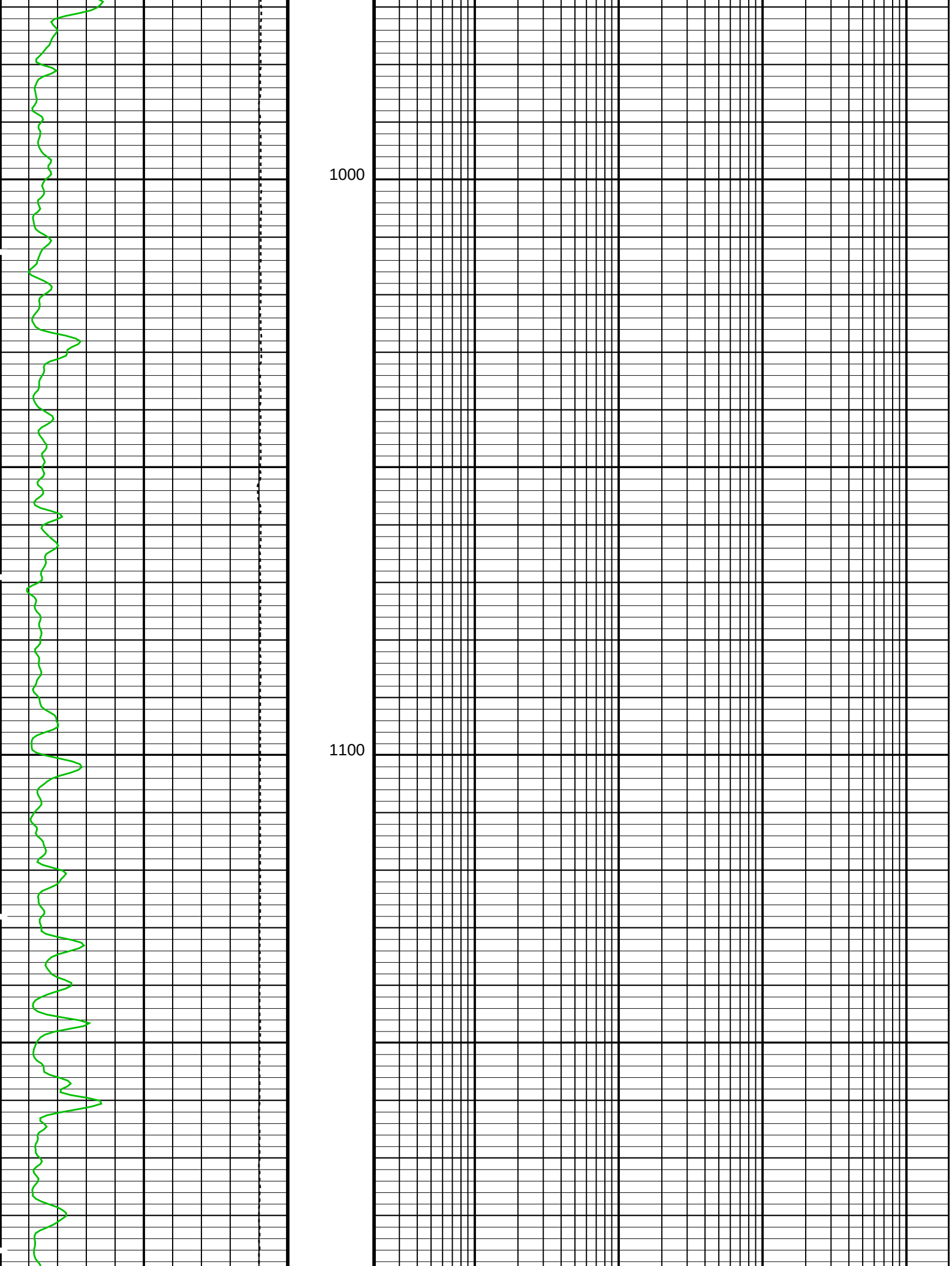
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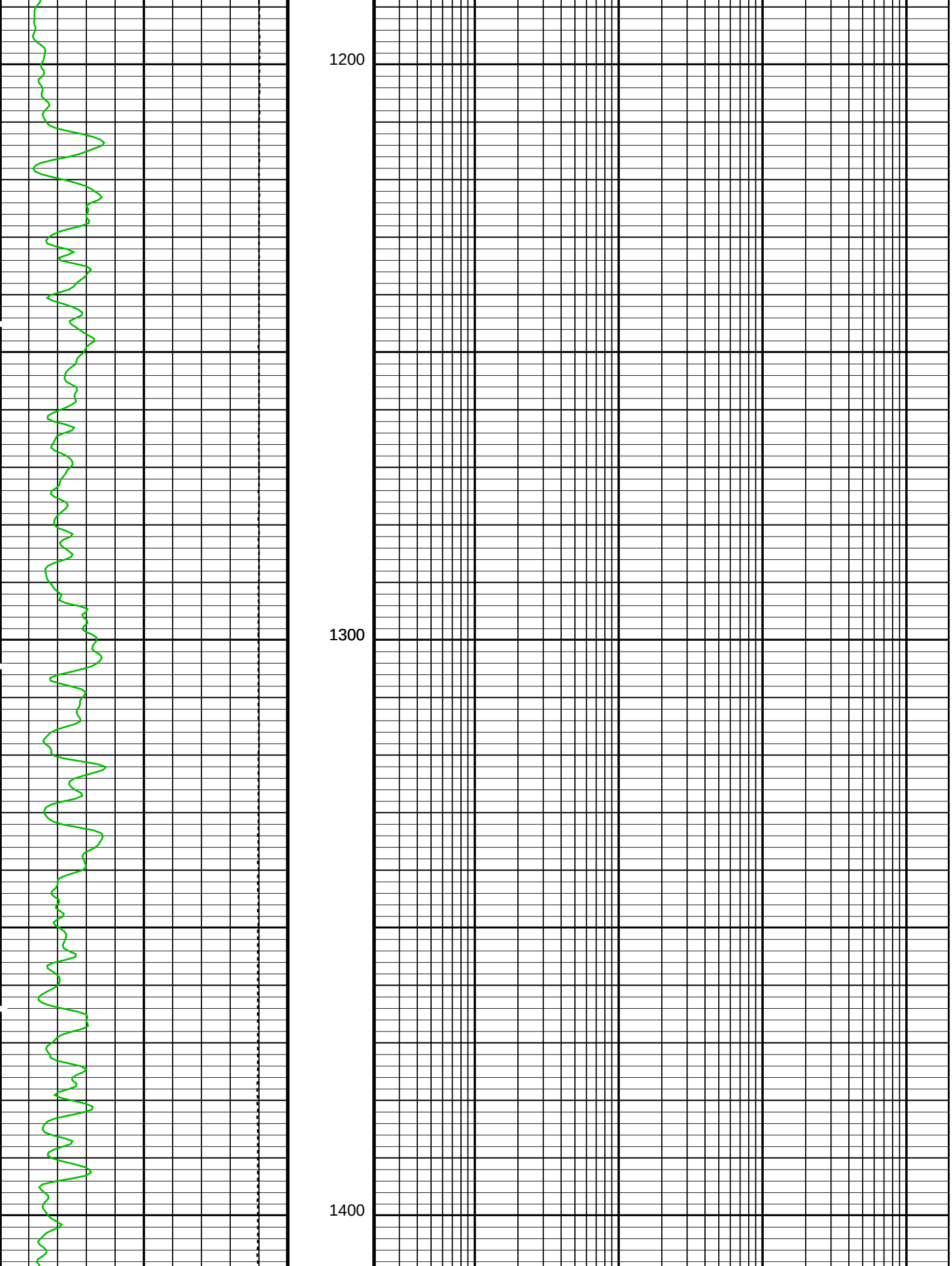
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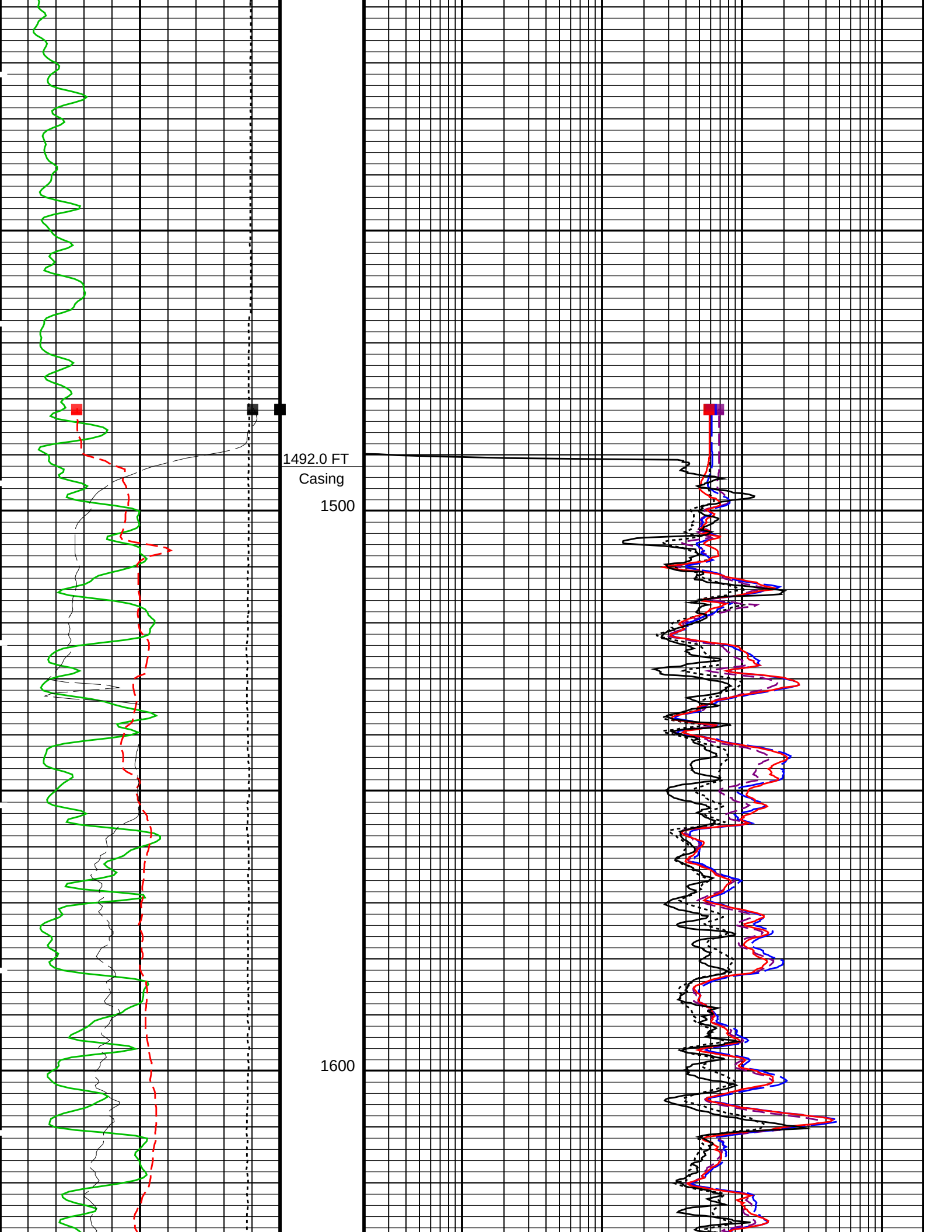
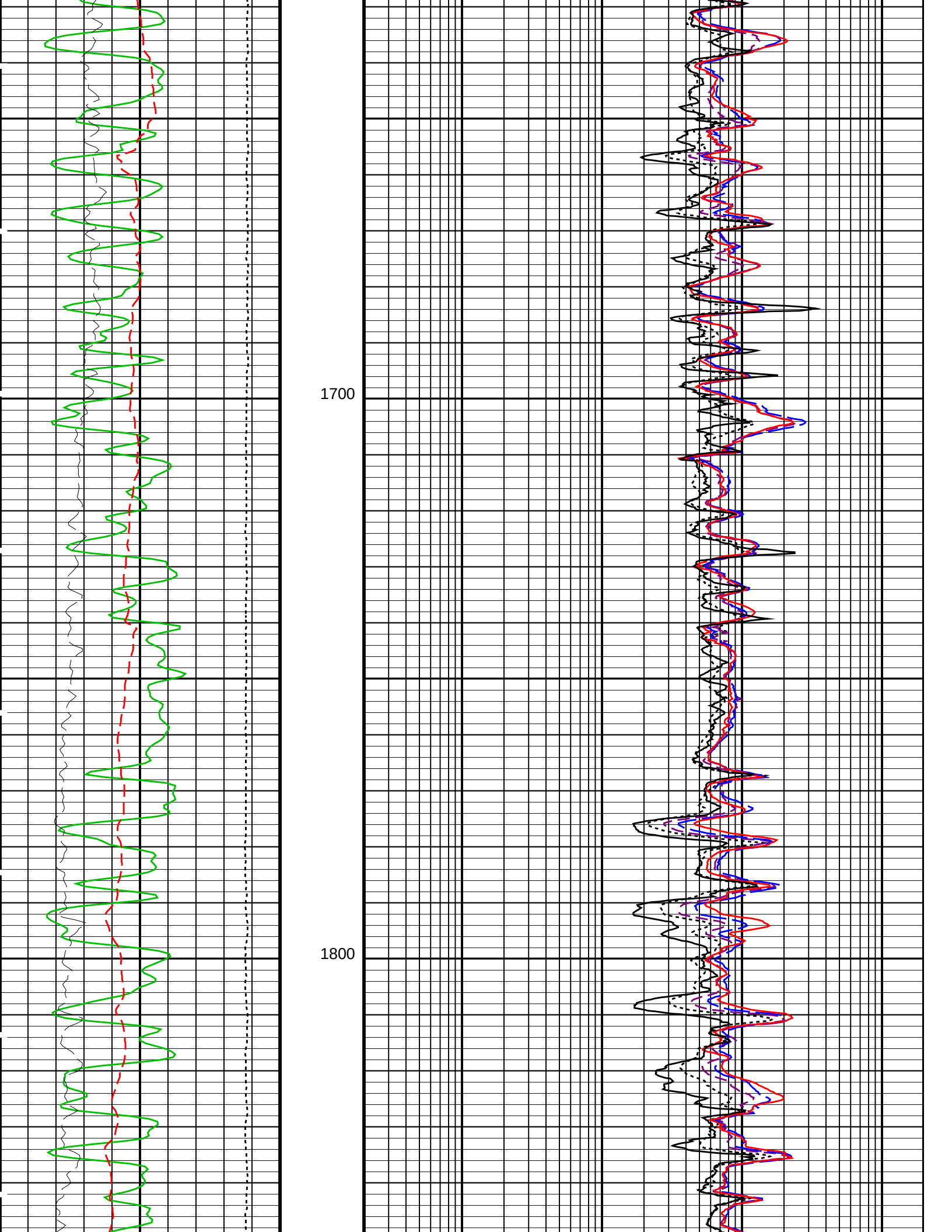
1300
1400


1492.0 FT
Casing
1500
1600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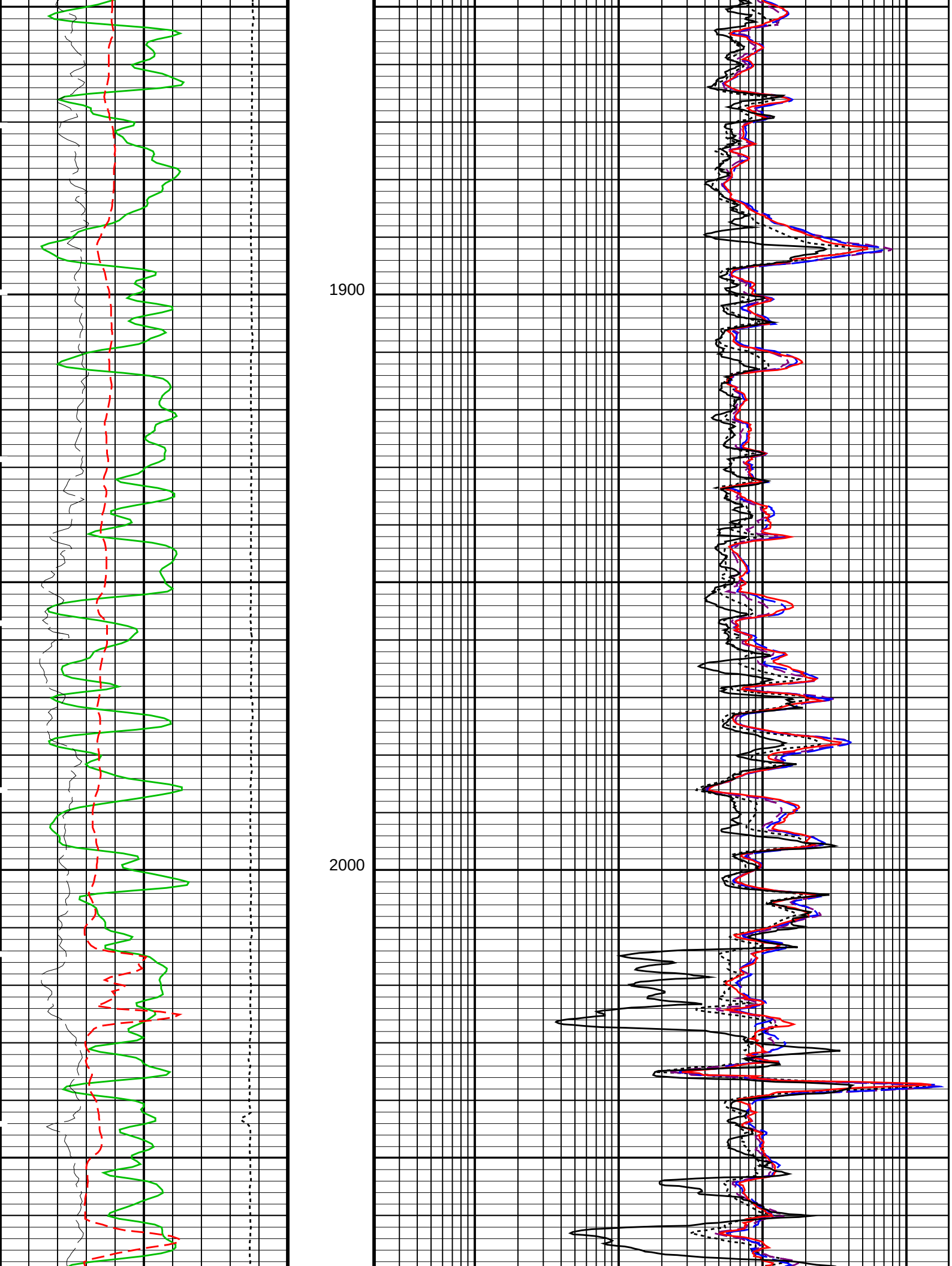
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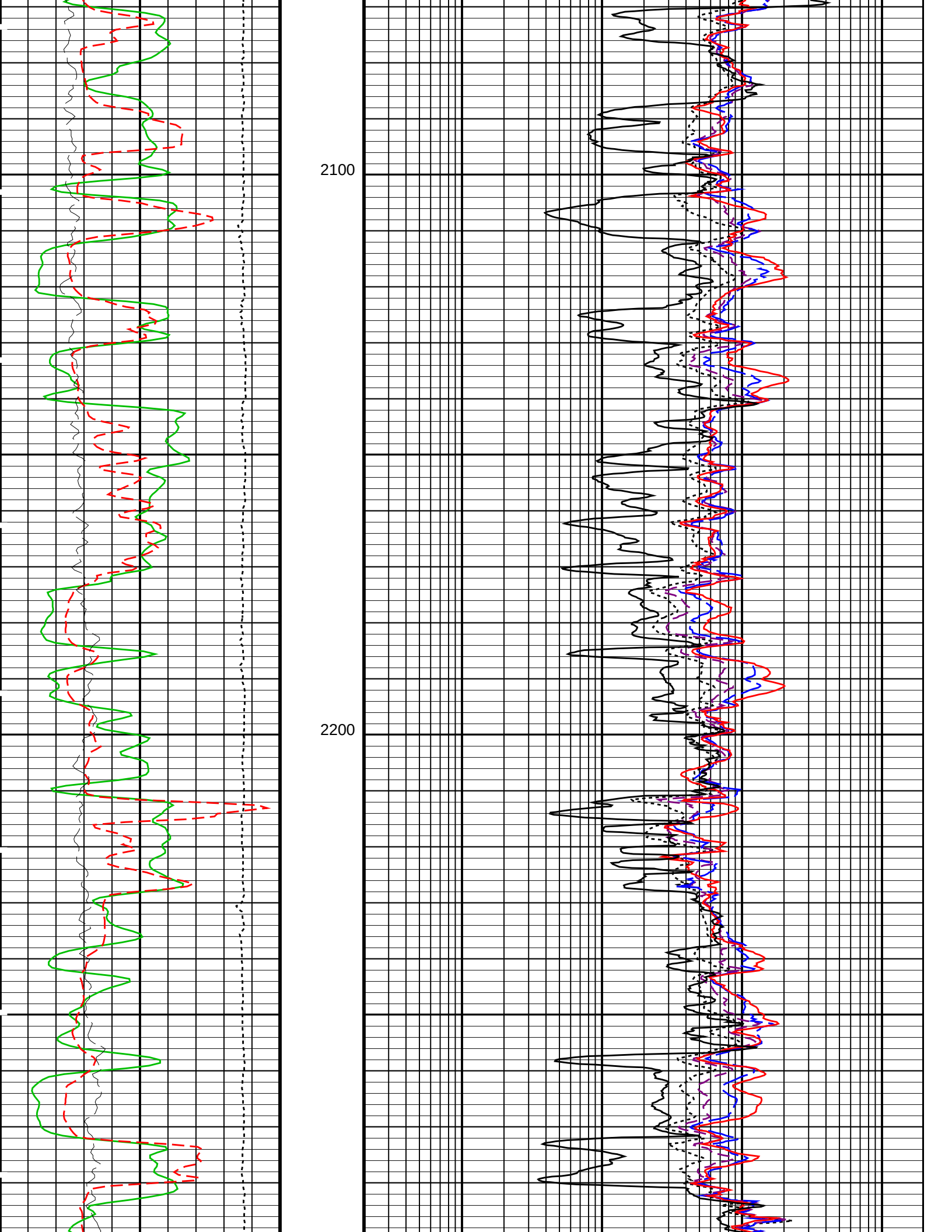
2100
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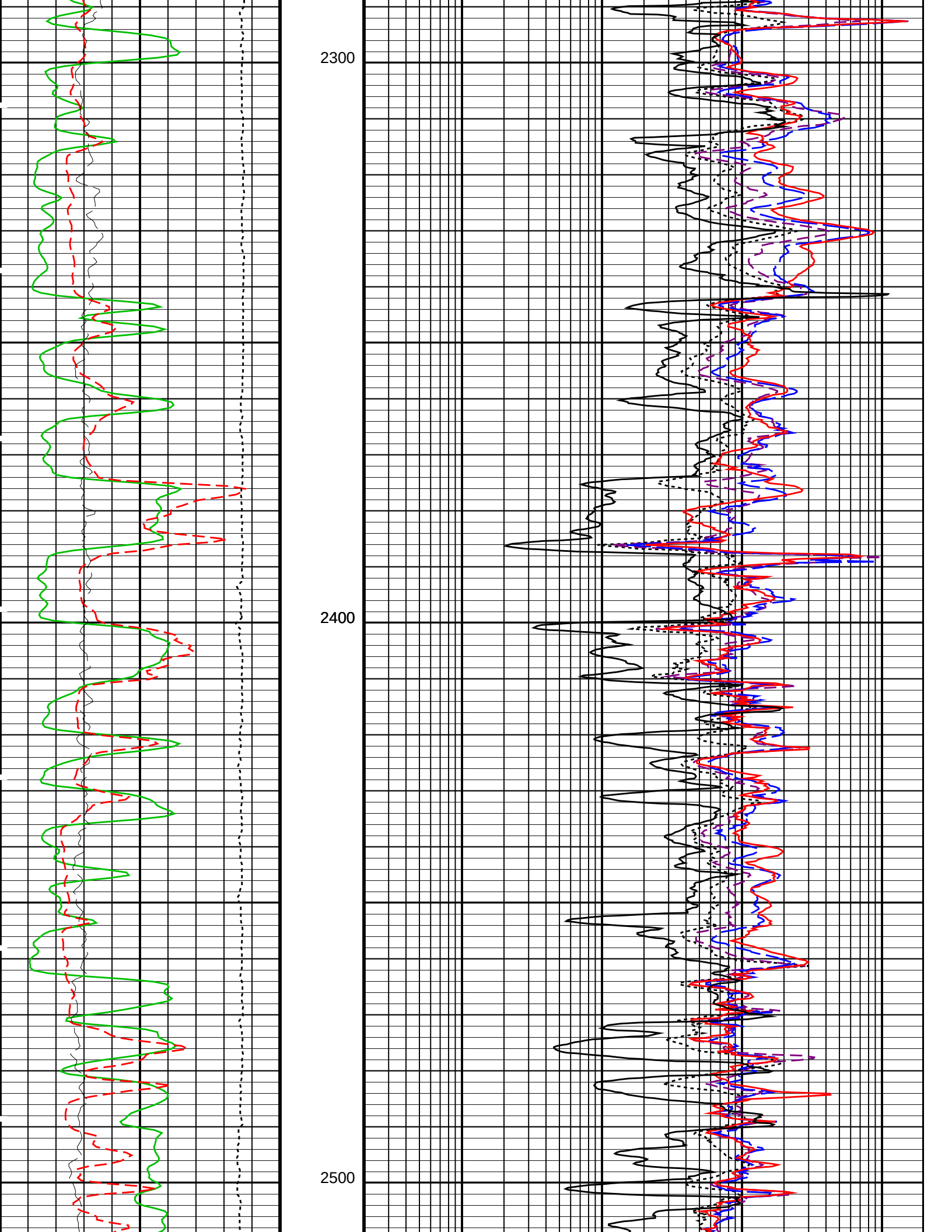
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2400
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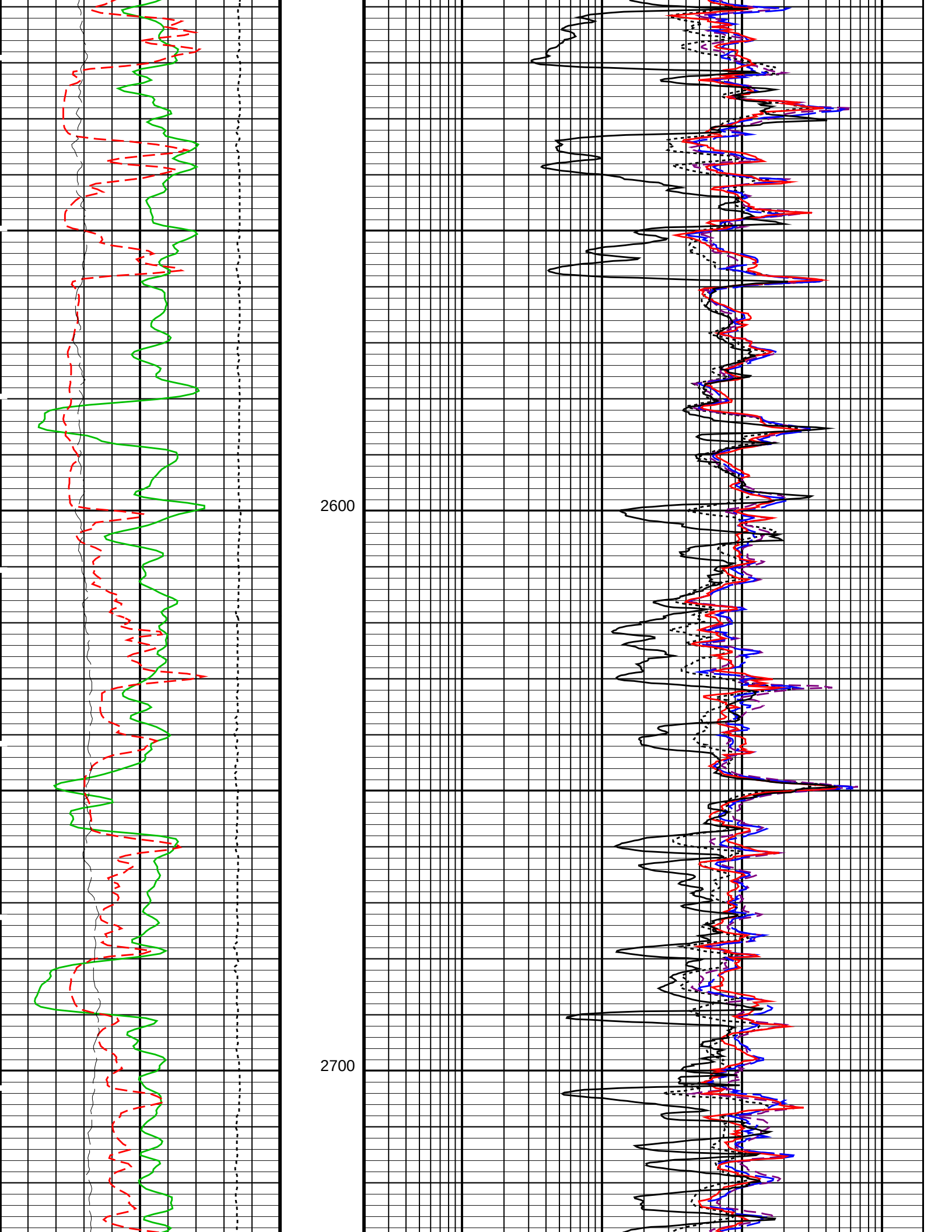
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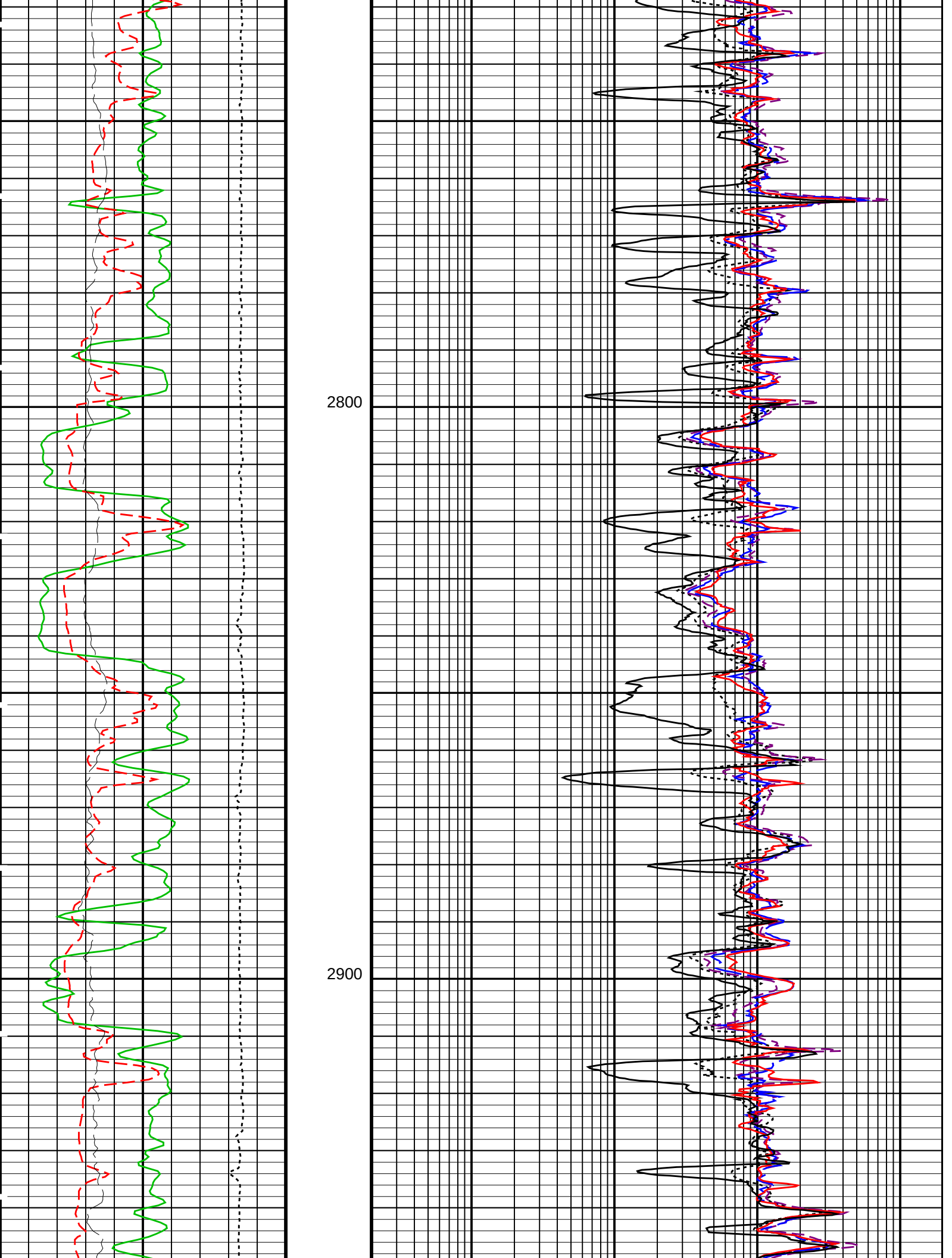
2700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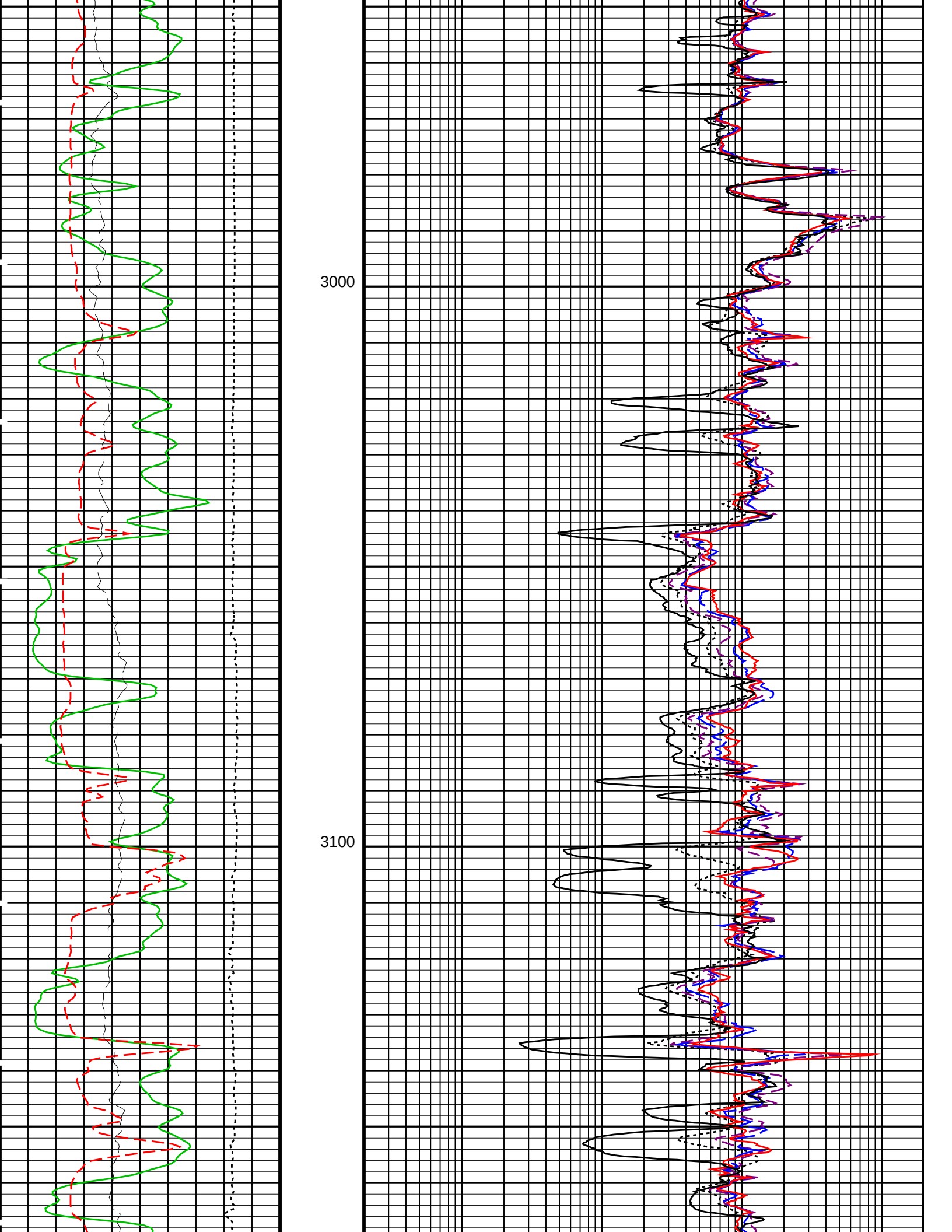
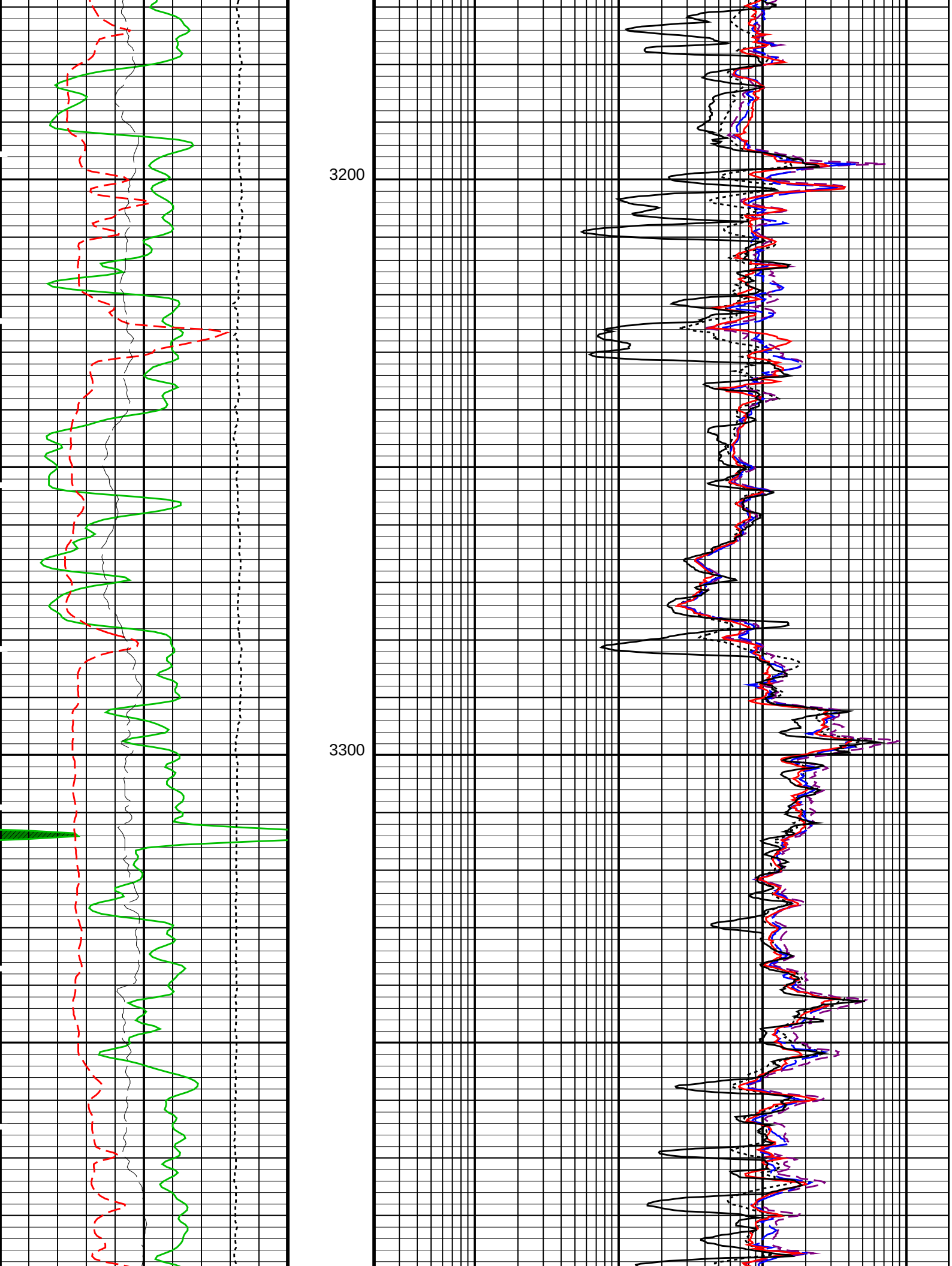

3000
3100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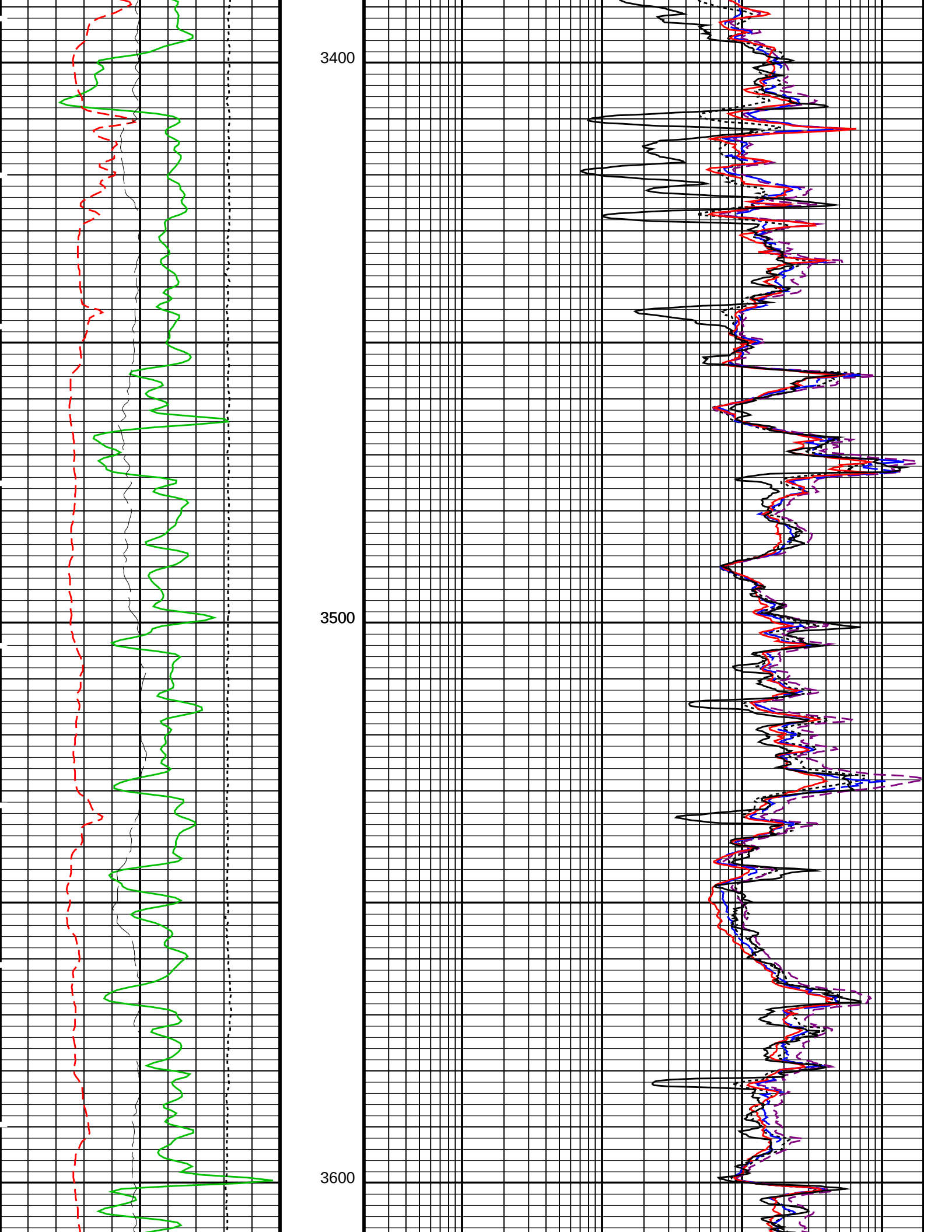
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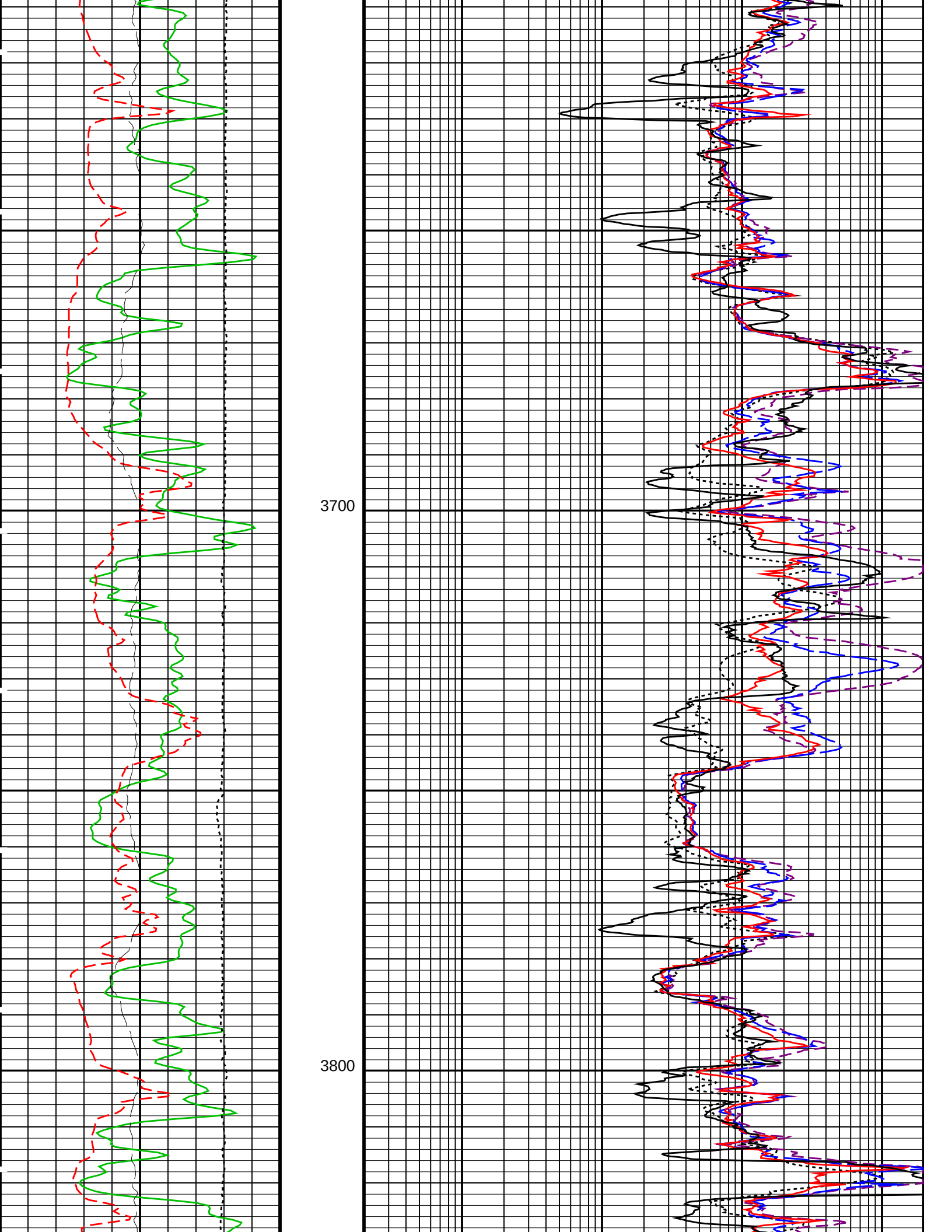
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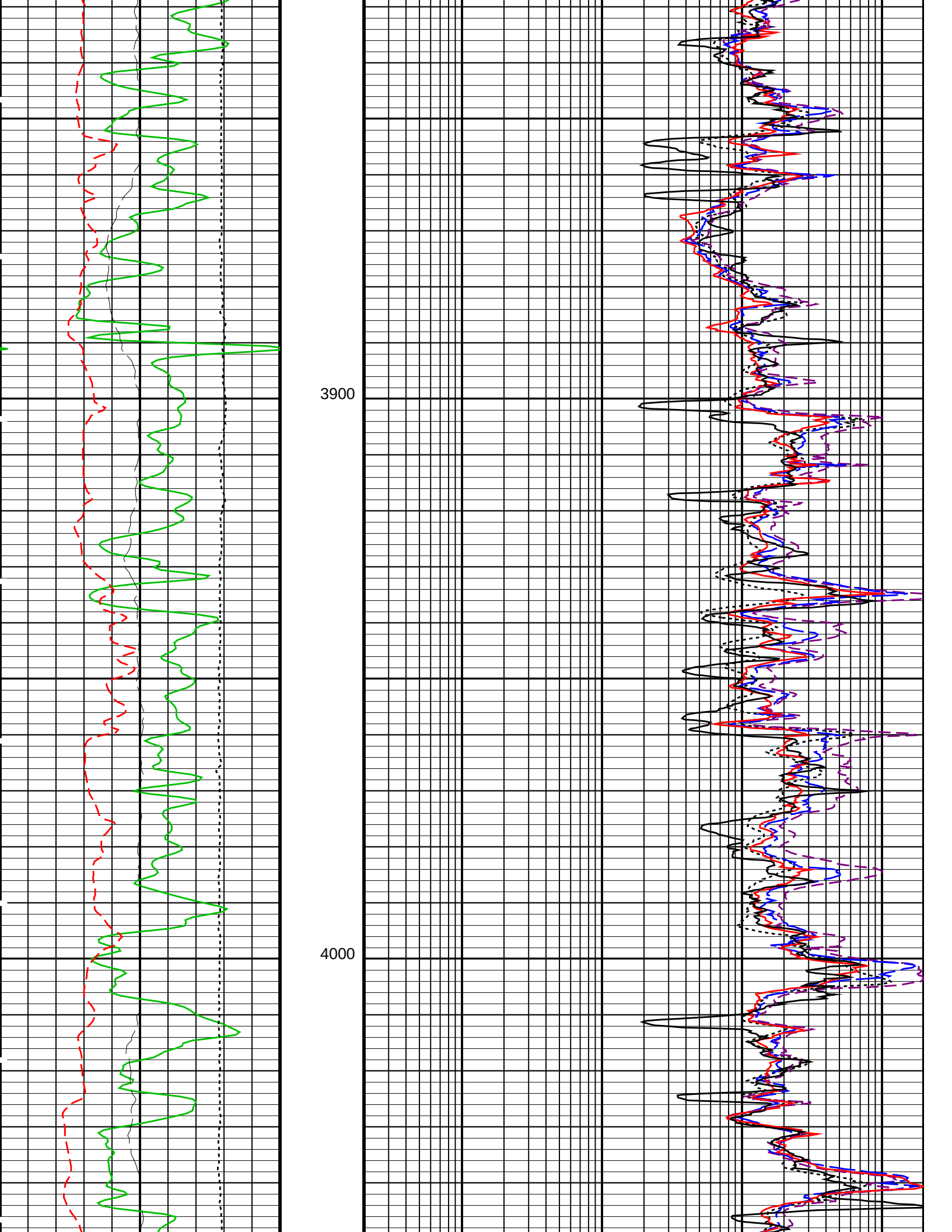
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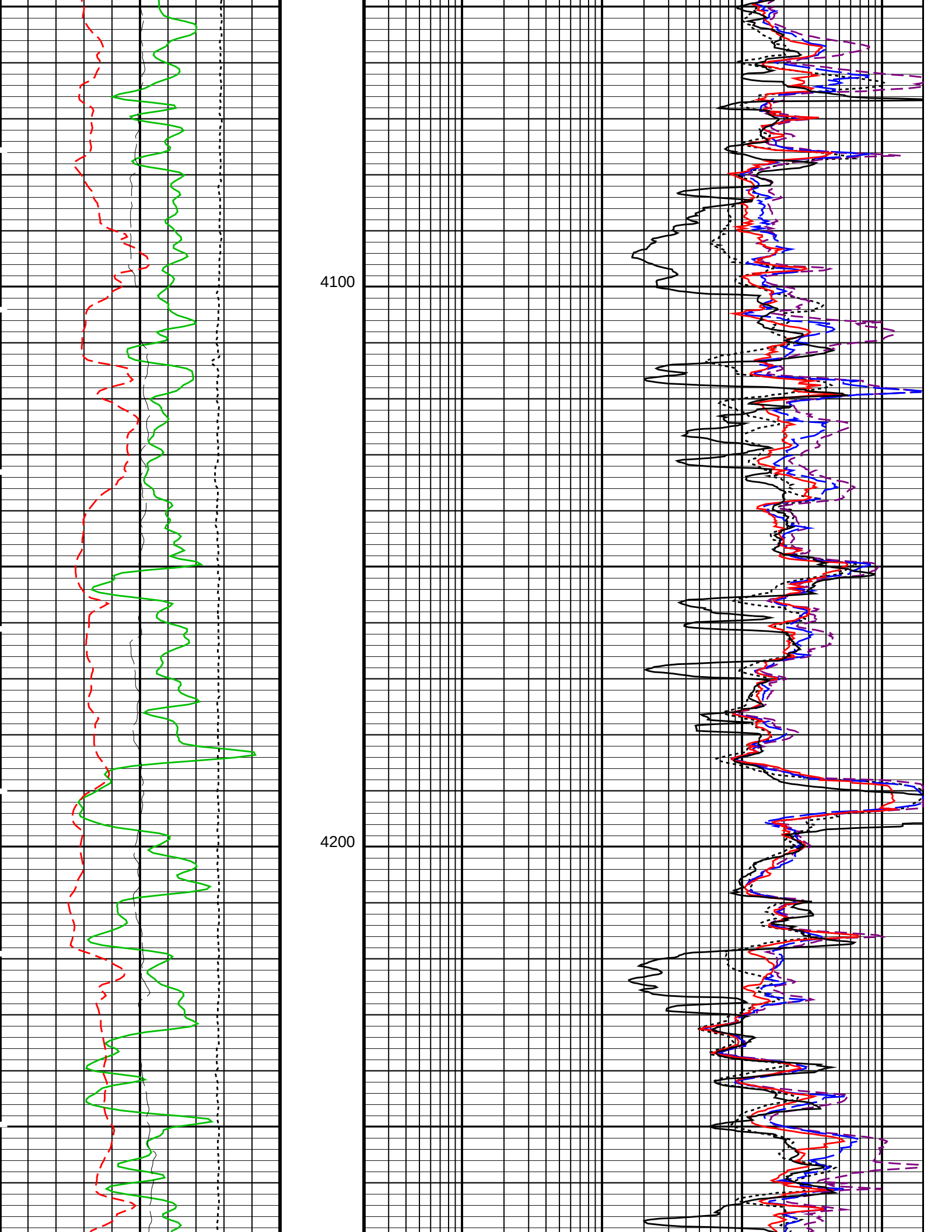
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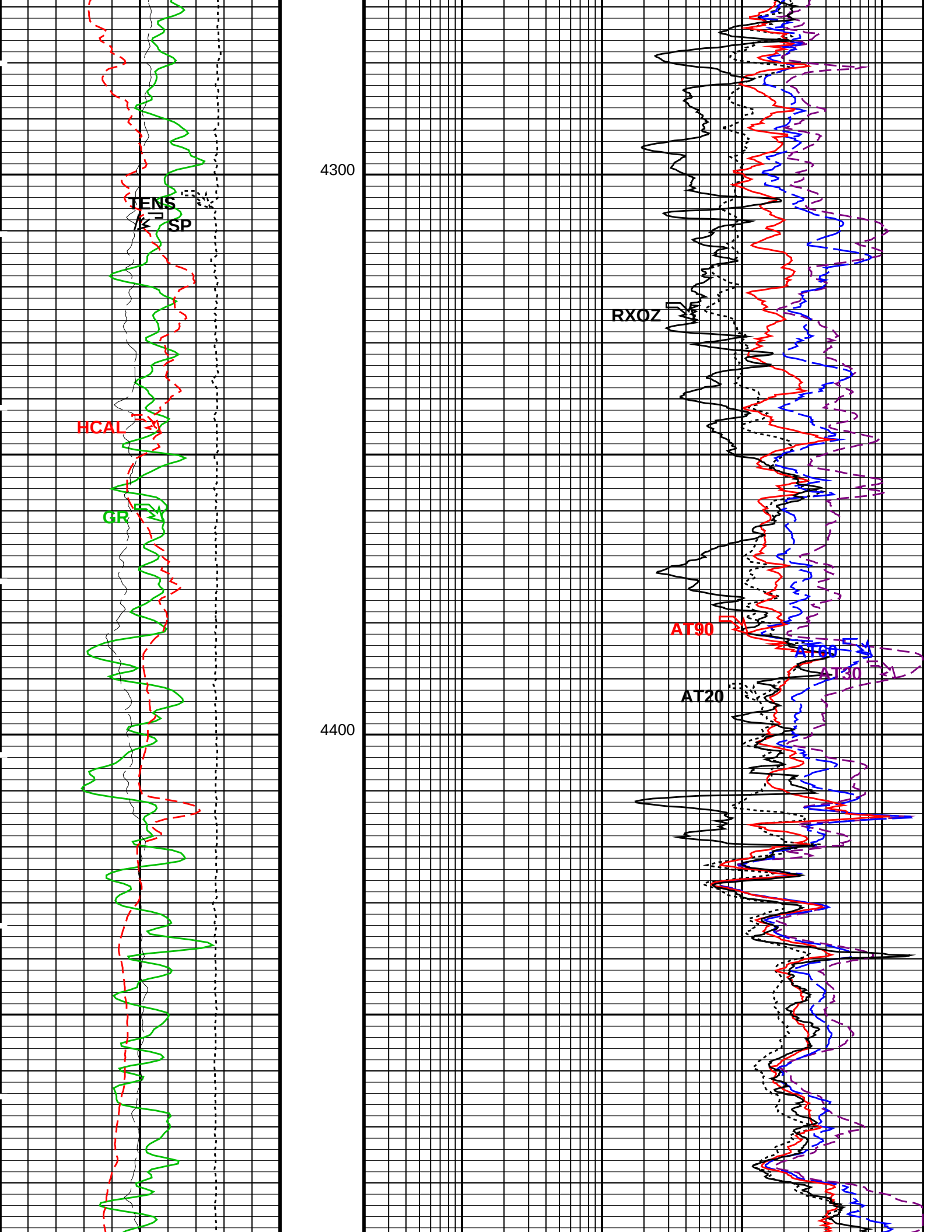
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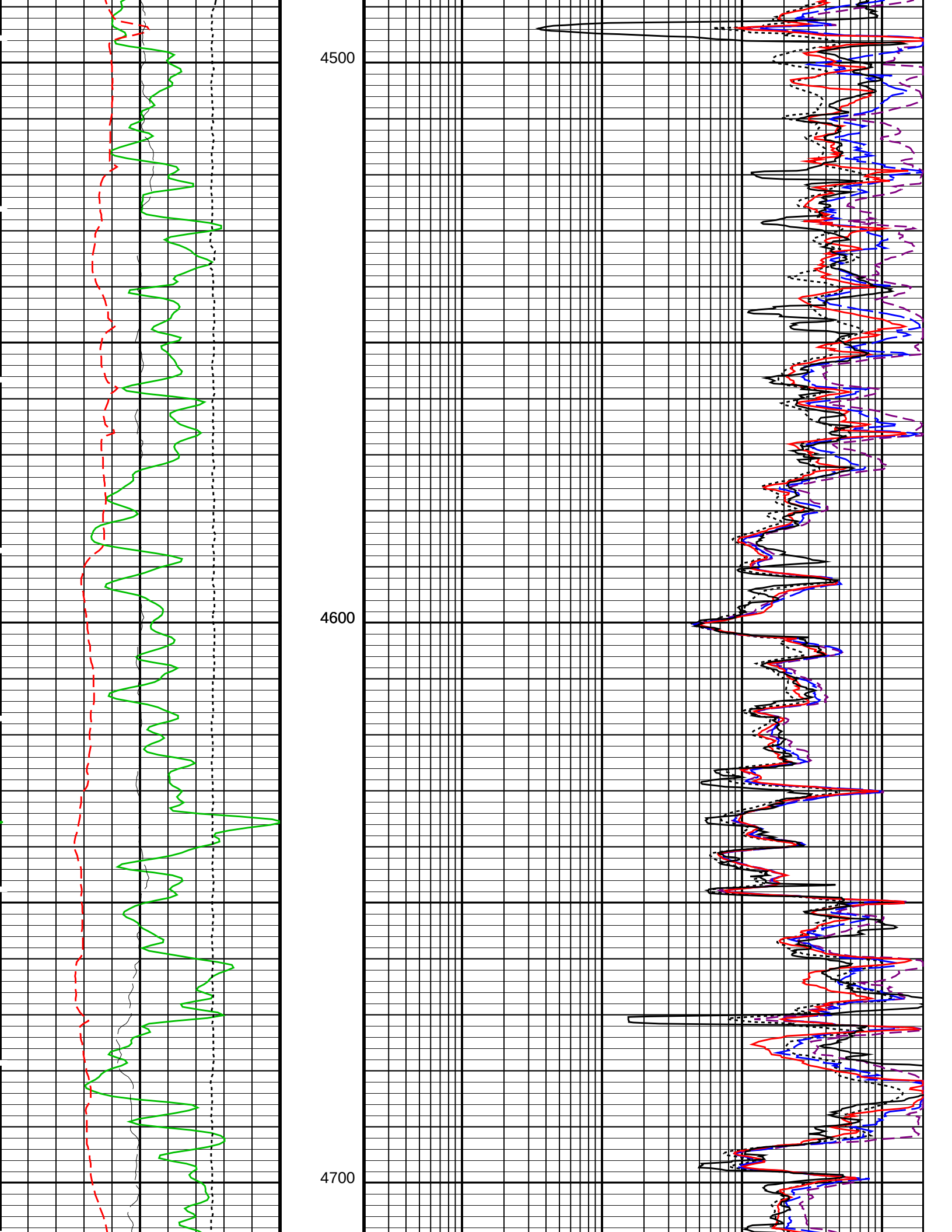
4400
TENS
SP
HCAL
GR
RXOZ
AT90
AT60
AT30
AT20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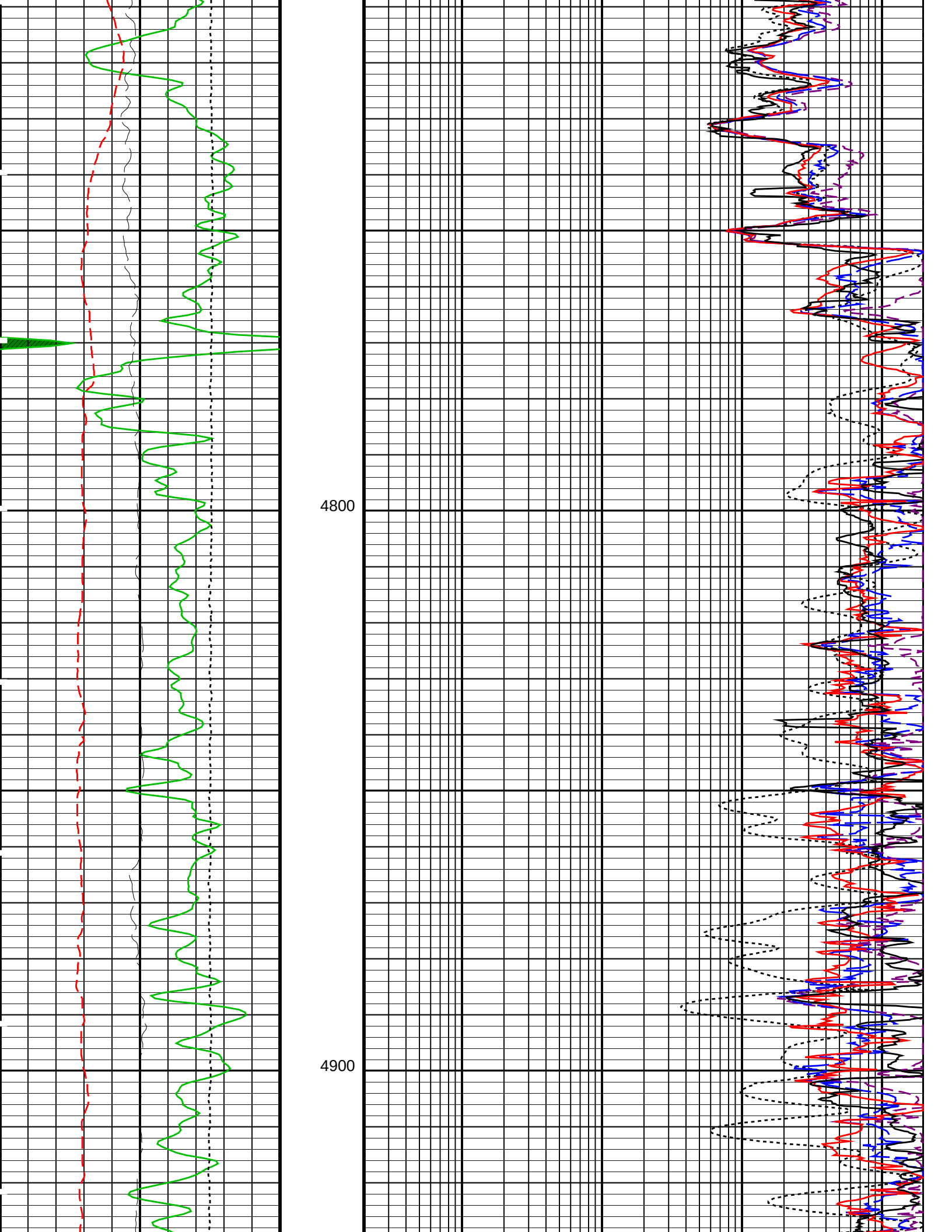
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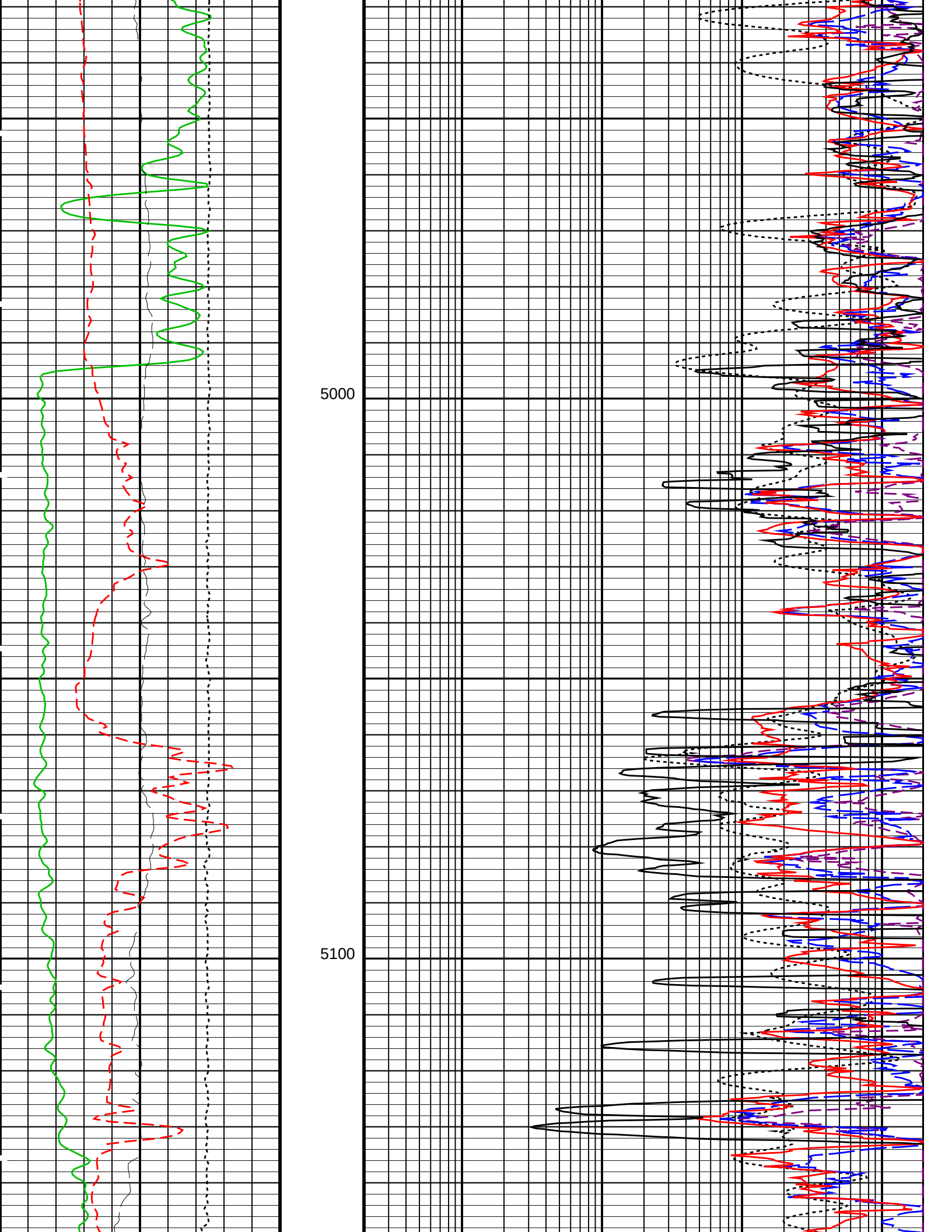
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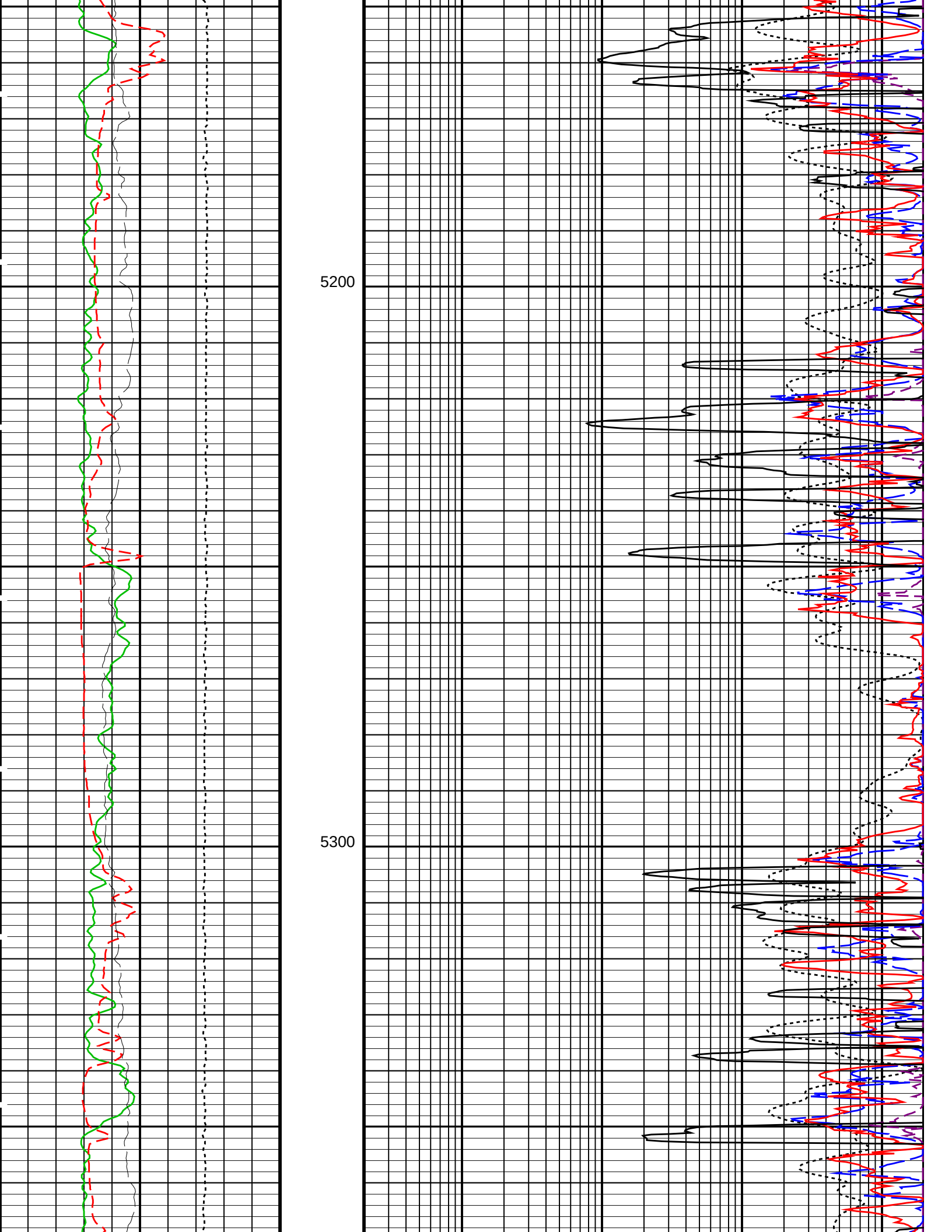
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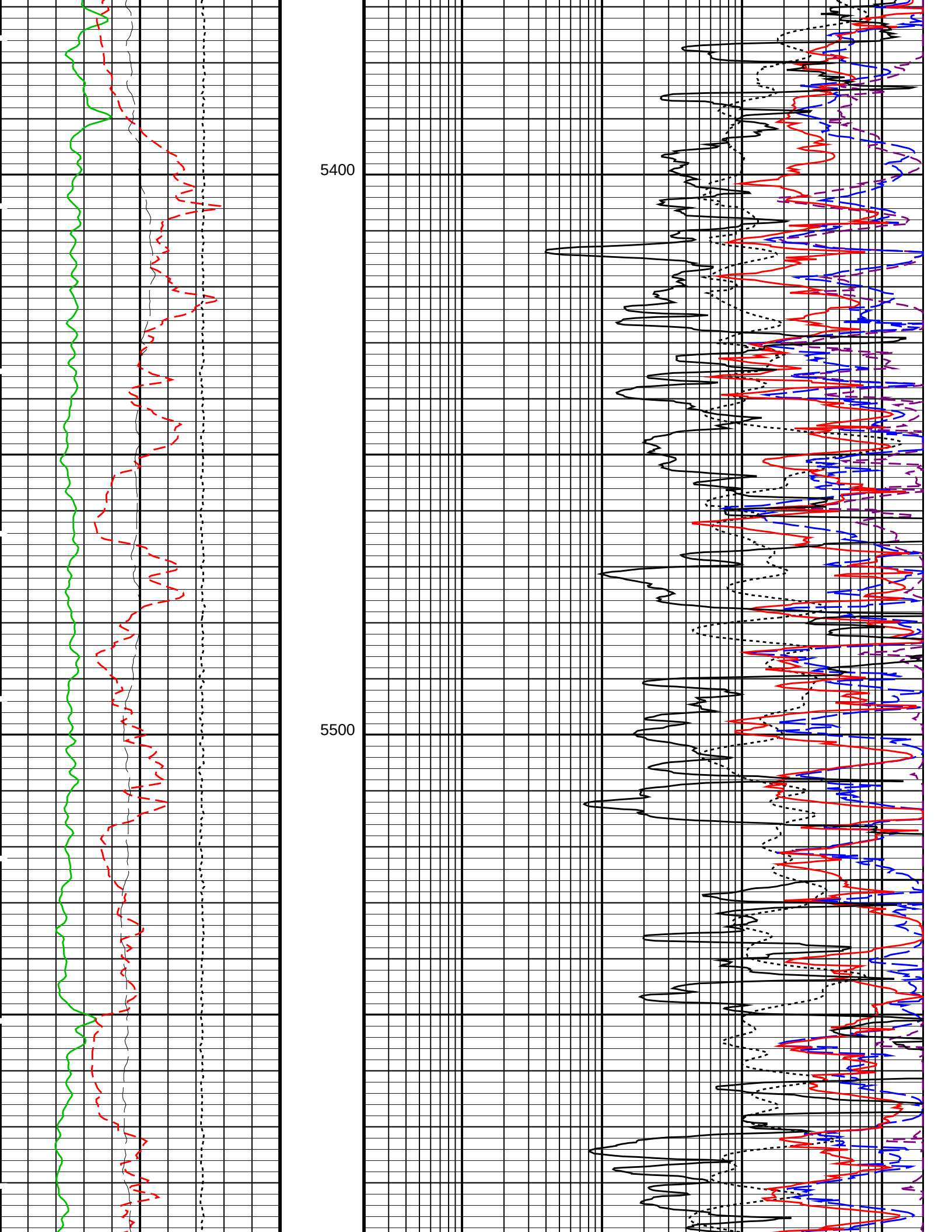
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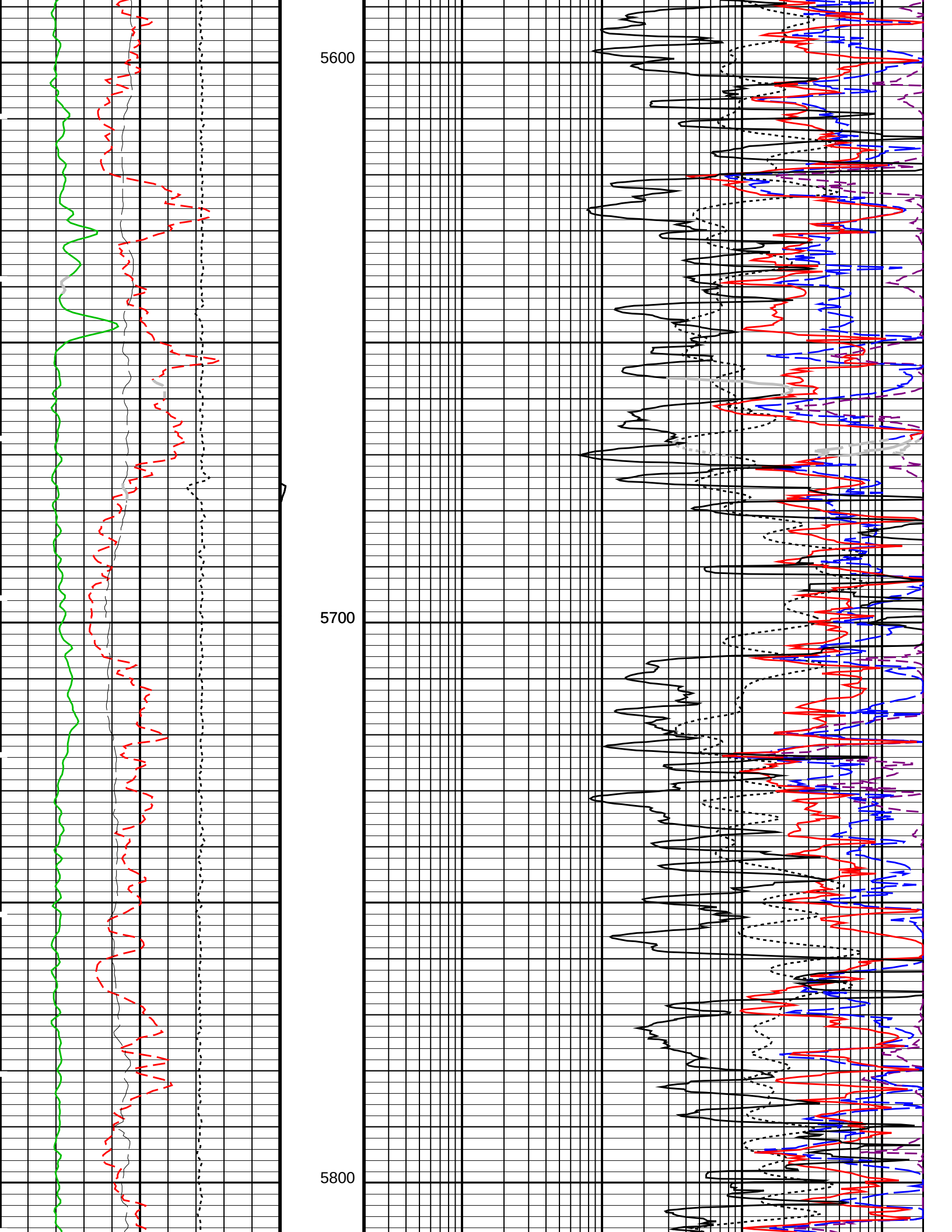
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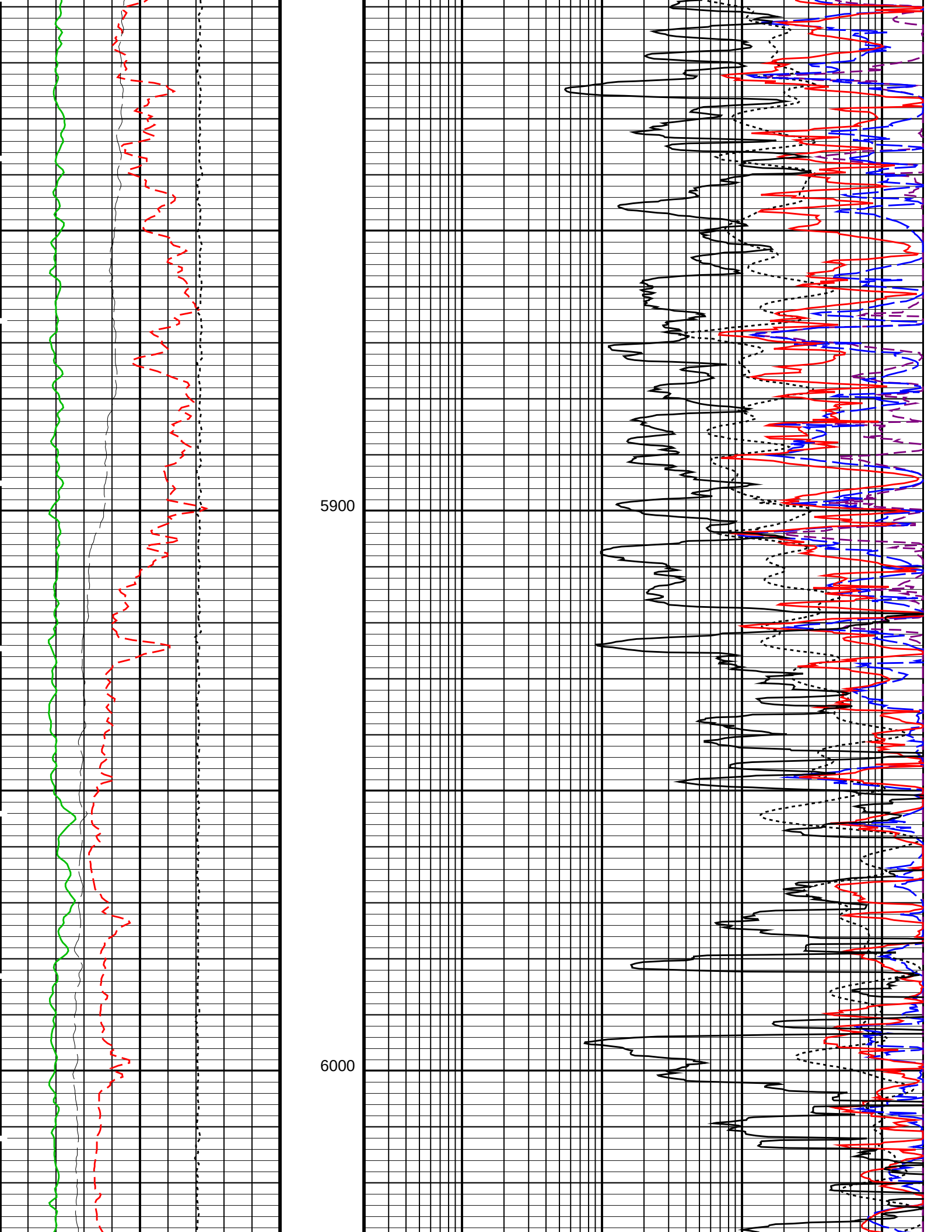
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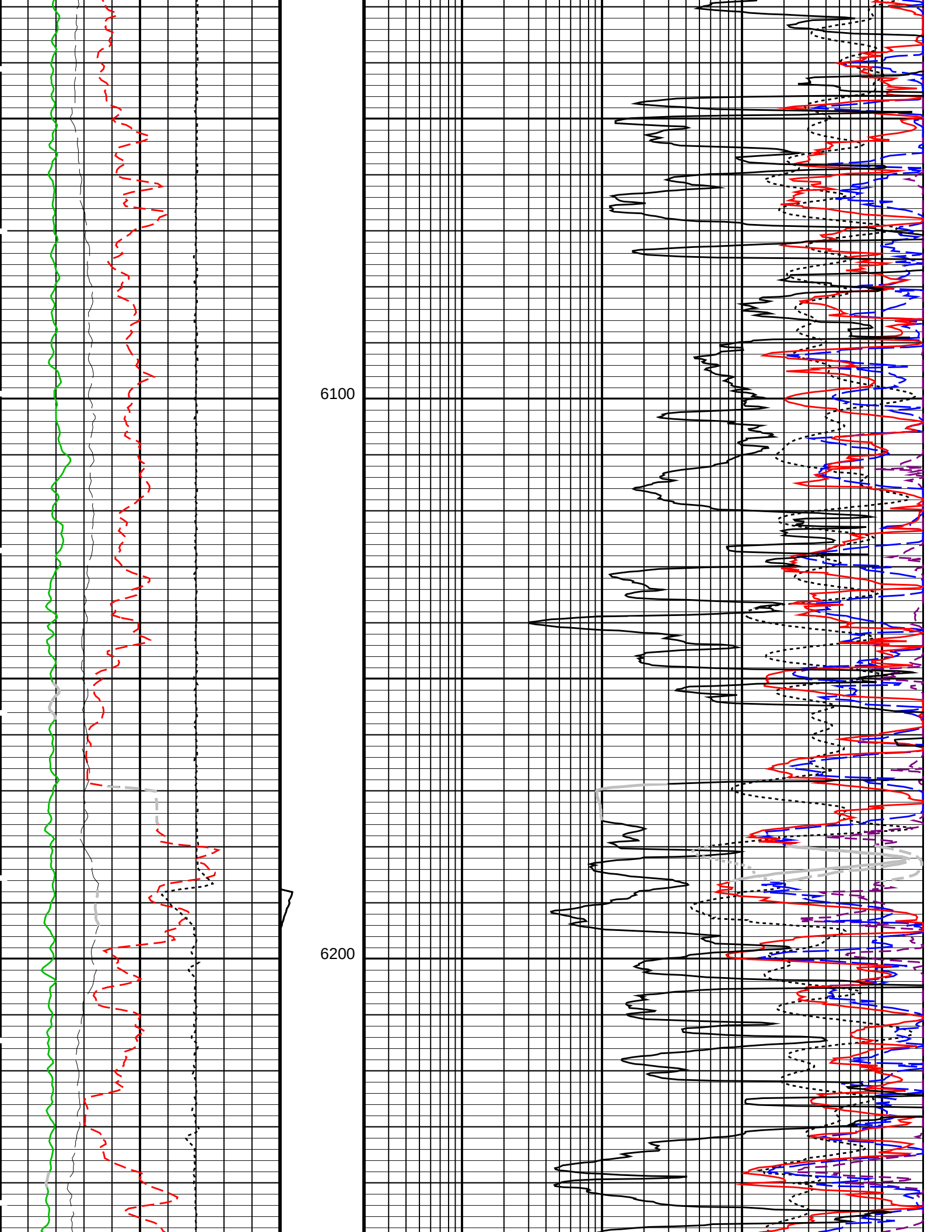
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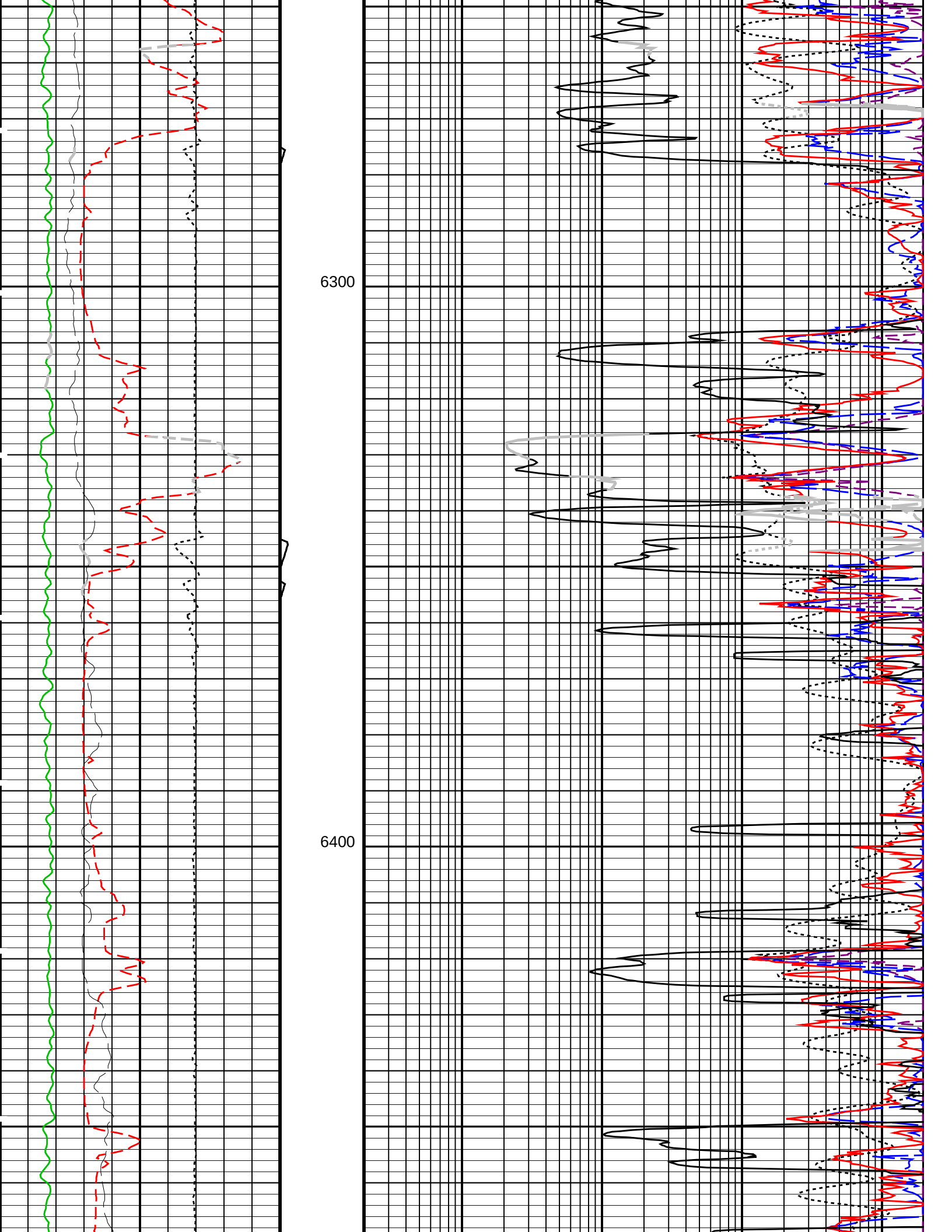
6200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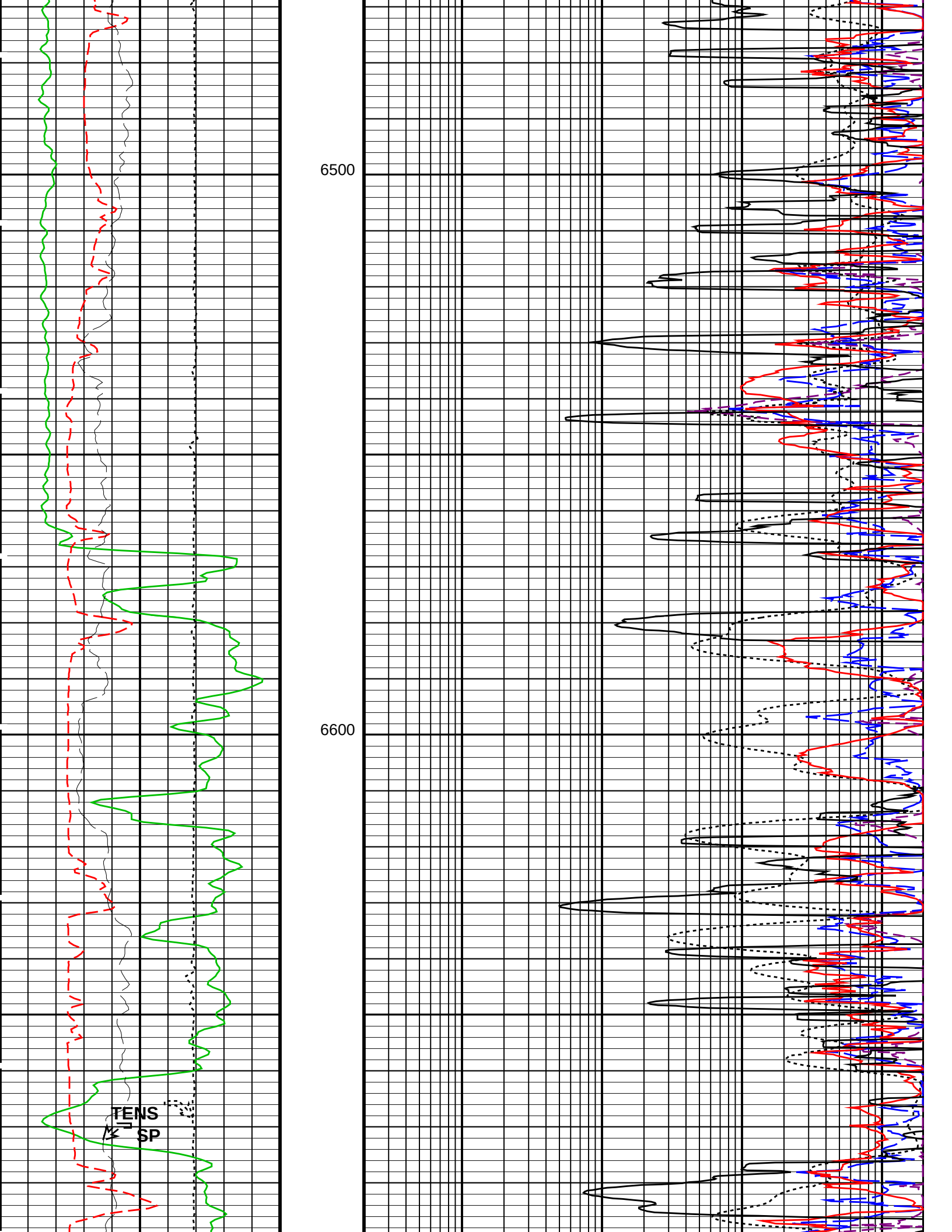
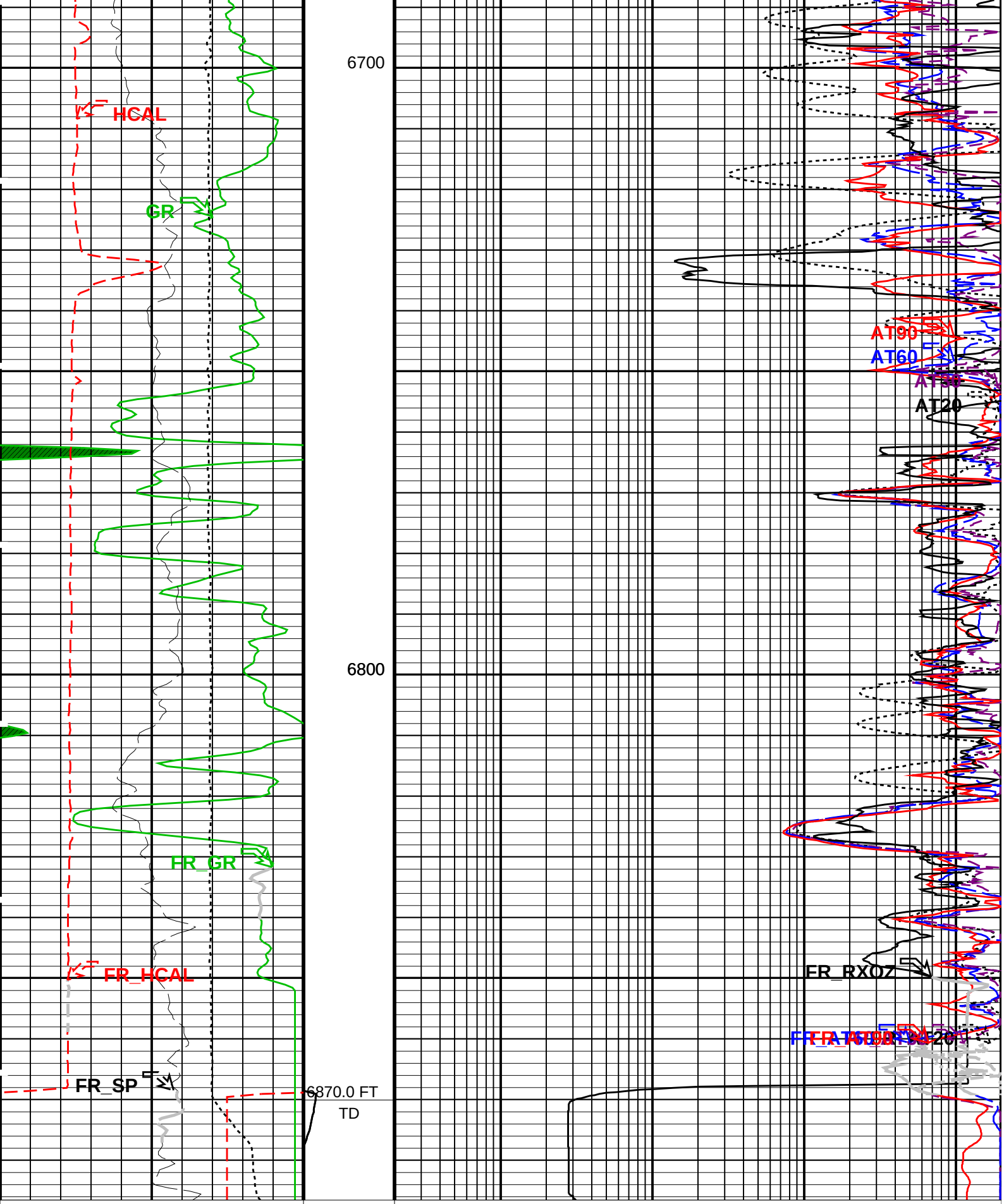
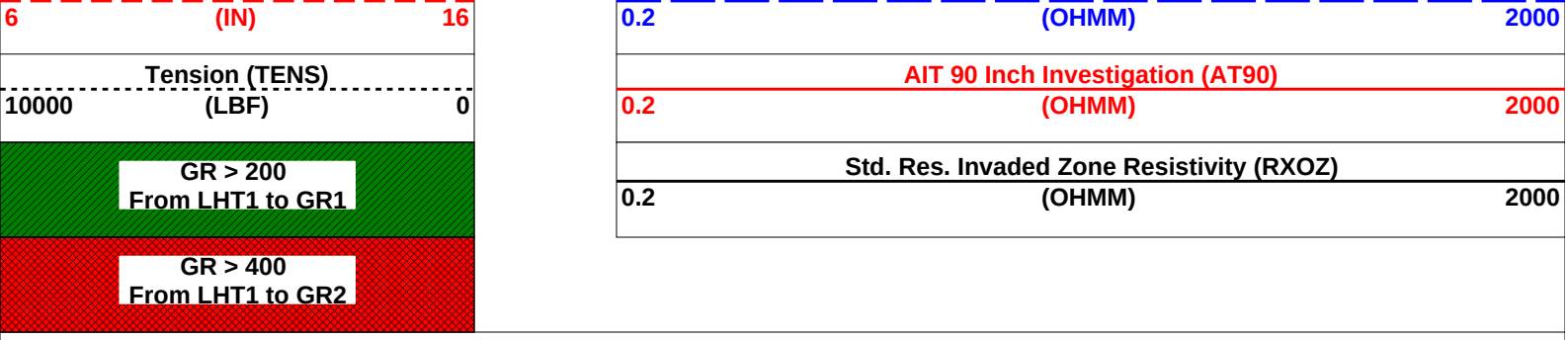
6400


6500
6600
TENS
SP


6700
6800
HCAL
GR
FR_GR
FR_HCAL
FR_SP
AT90
AT60
AT30
AT20
FR_RXOZ
6870.0 FT
TD
SP (SP)
−100
(MV)
100
Gamma Ray (GR)
0
(GAPI)
200
Caliper (HCAL)
AIT 20 Inch Investigation (AT20)
0.2
(OHMM)
2000
AIT 30 Inch Investigation (AT30)
0.2
(OHMM)
2000
AIT 60 Inch Investigation (AT60)



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	AIT−M: Array Induction Tool − M		
AAPL	Array Induction Answer Product Level(Depth Log/View only)	3_BholeCorr_BasicLogs_RadialProcessing	
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	1491	FT
ADITM	Array Induction Desired Tool Mode	0x00_Log_000	
AEBC	Array Induction Enable Borehole Correction	Yes	
AEBL	Array Induction Enable Basic Logs	Yes	
AERP	Array Induction Enable Radial Processing	Yes	
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AFVN	Array Induction Firmware Code Version Number	1	
AIGS	Array Induction Select Akima Interpolation Gating	On	
ALNV	Array Induction Log Not Valid Flag	Log_Valid−No_Default_Parameters	
AMRD	Array Induction Mud Resistivity Calibration Depth	0	FT
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPM	Array Induction Radial Processing Mode	0_One	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ARTS	AIT Rt Selection (for ALLRES computation)	AITM_OneResA60	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
ATTY	Array Induction Tool Type (of acquired data)	AITM	
AULV	Array Induction User Level Control	Normal	
AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
RTCO	RTCO − Rt Invasion Correction	YES	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
	HILTH−FTB: High resolution Integrated Logging Tool−DTS		
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1.1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	

FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCLF	Germany Coal−like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	77	DEGF
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSSO	HRDD Nuclear Source Strength Option	NORMAL	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e−005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e−005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PEA_FILTER	PEA Filter	NO_FILTER	
PEFC_FILTER	PEFC Filter	NO_FILTER	
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	NO	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth − Driller	6885.00	FT
TDL	Total Depth − Logger	6870.00	FT
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	1200.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	36.00	LB/F
DFD	Drilling Fluid Density	9.40	LB/G
DO	Depth Offset for Playback	0.0	FT
FLEV	Fluid Level	0.00	FT
MST	Mud Sample Temperature	64.30	DEGF
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	0.8856	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	6870	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: AIT5 Vertical Scale: 5" per 100’ Graphics File Created: 15−Oct−2011 16:01

OP System Version: 19C0−187

AIT−M 19C0−187 HILTH−FTB 19C0−187

DTC−H	19C0−187

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:10	PRODUCER	15−Oct−2011 12:28	6886.5 FT	330.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_012PUP	FN:16	PRODUCER	15−Oct−2011 16:01		
BACKUP	AIT_TLD_MCFL_CNL_012PUP	FN:17	PRODUCER	15−Oct−2011 16:04		

Schlumberger

REPEAT PASS 5"=100’

MAXIS Field Log

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_006LUP	FN:8	PRODUCER	15−Oct−2011 12:12	6886.5 FT	6417.5 FT
BACKUP	AIT_TLD_MCFL_CNL_006LUP	FN:9	PRODUCER	15−Oct−2011 12:16	6886.5 FT	6417.5 FT

OP System Version: 19C0−187

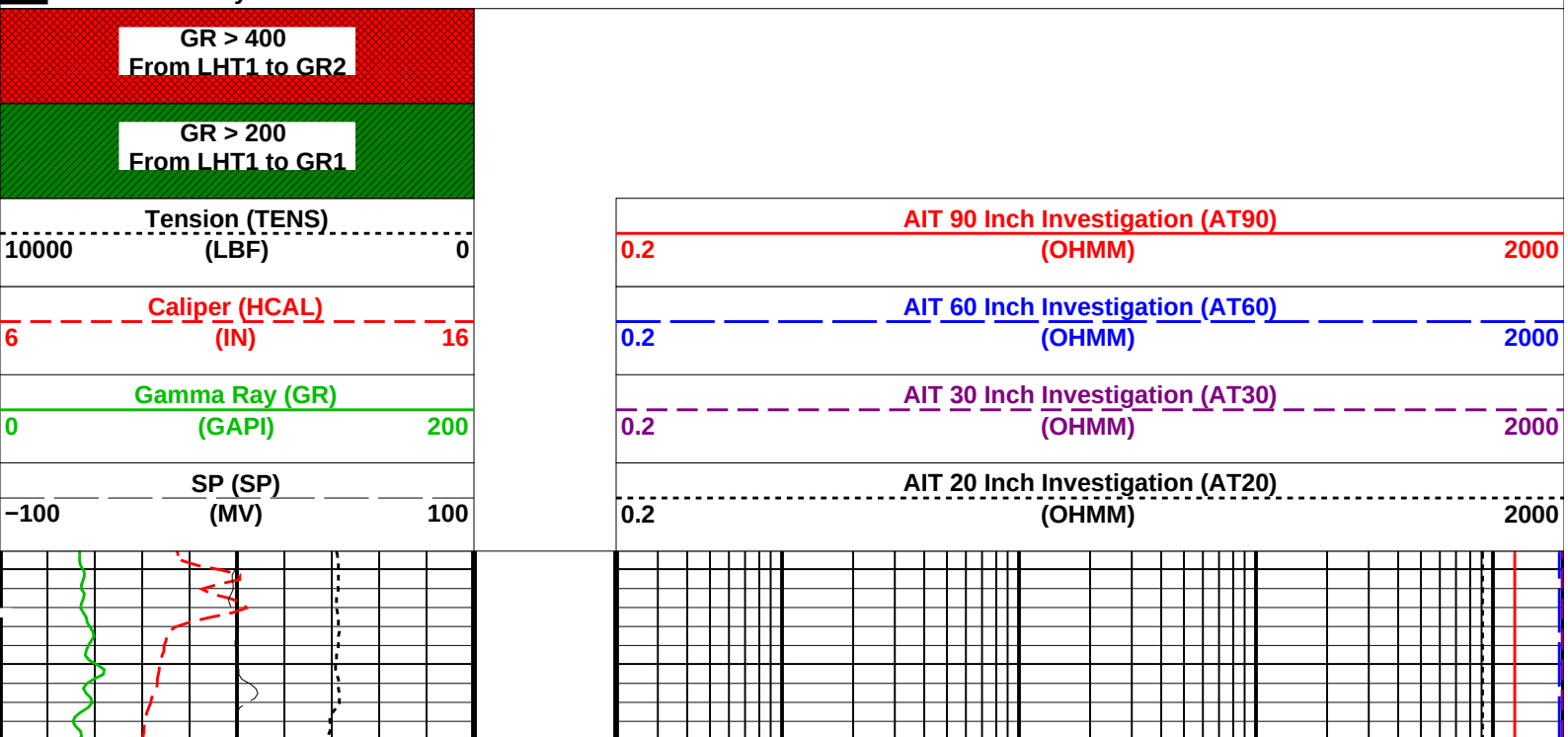
AIT−M	19C0−187	HILTH−FTB	19C0−187
DTC−H	19C0−187		

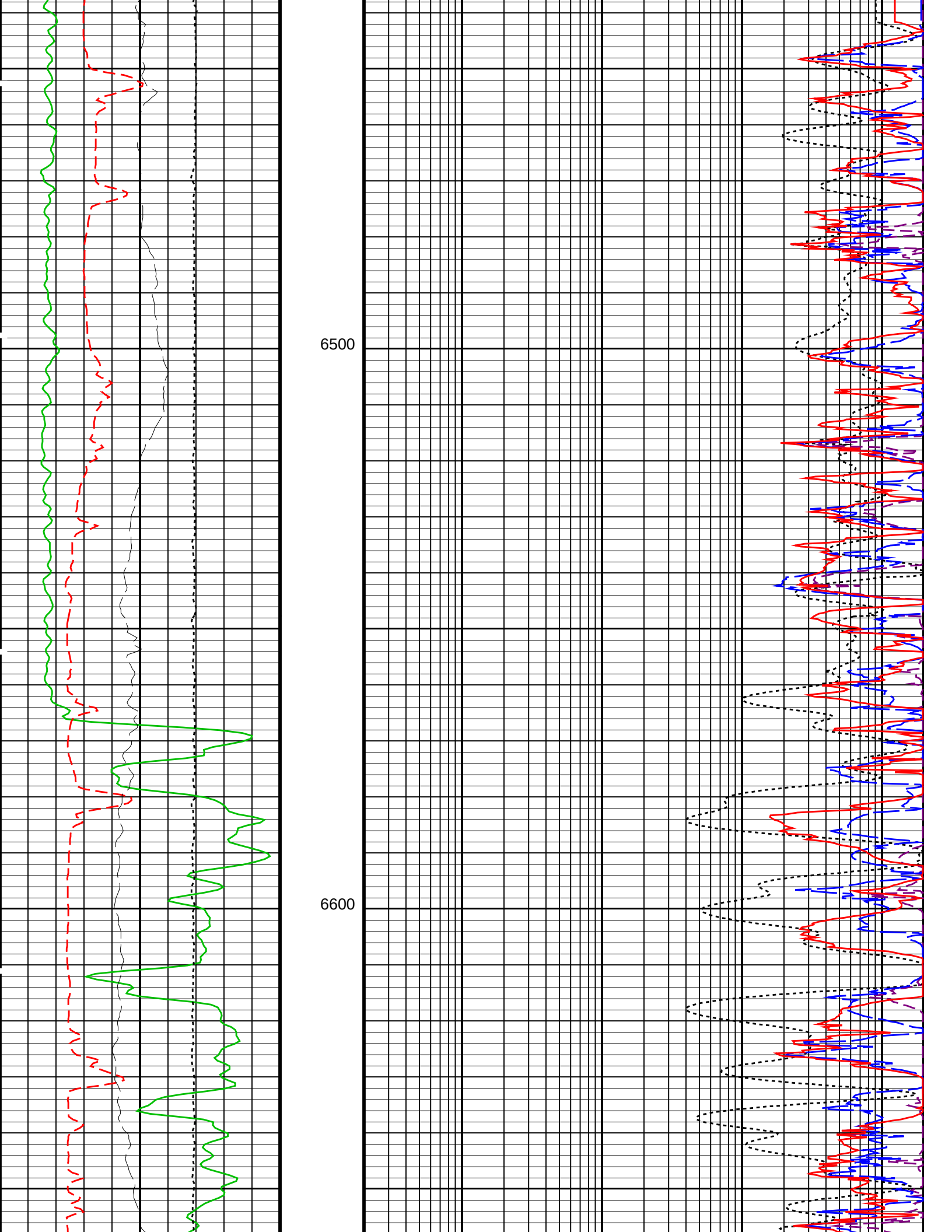
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
TD	6869 FT	6864 FT	6791.8 12:18:44
TDL	6869.00 FT	6864.00 FT	6791.8 12:18:44

PIP SUMMARY

Time Mark Every 60 S

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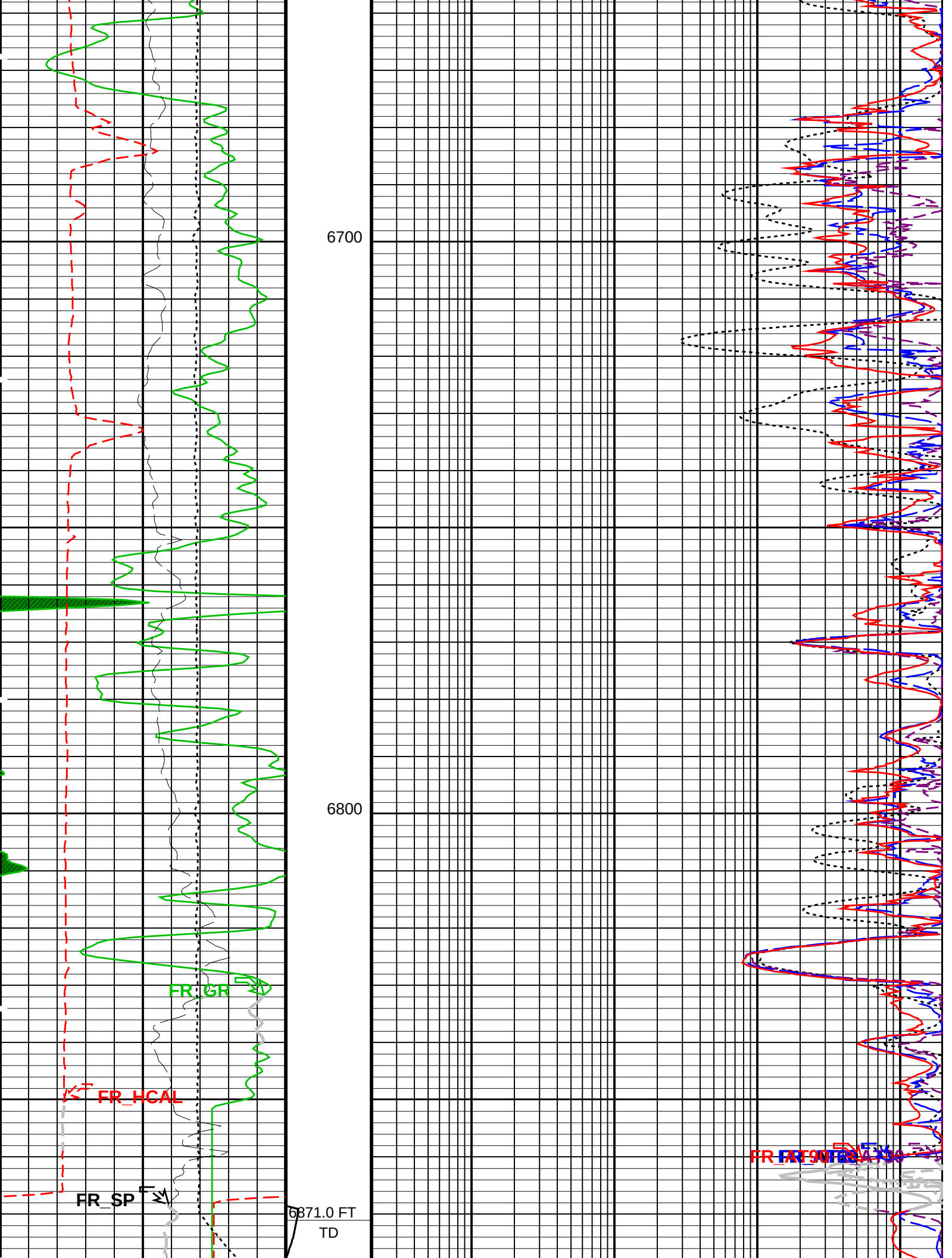
6600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6800
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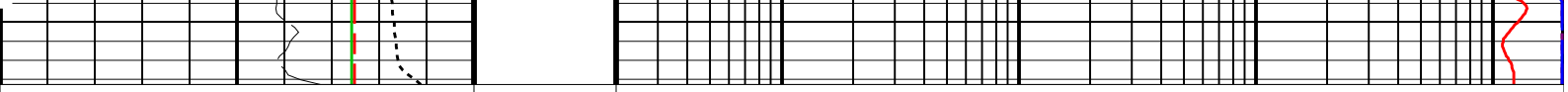
FR_SP
6871.0 FT
TD



SP (SP)		
−100	(MV)	100
Gamma Ray (GR)		
0	(GAPI)	200
Caliper (HCAL)		
6	(IN)	16
Tension (TENS)		
10000	(LBF)	0

AIT 20 Inch Investigation (AT20)		
0.2	(OHMM)	2000
AIT 30 Inch Investigation (AT30)		
0.2	(OHMM)	2000
AIT 60 Inch Investigation (AT60)		
0.2	(OHMM)	2000
AIT 90 Inch Investigation (AT90)		
0.2	(OHMM)	2000

GR > 200
From LHT1 to GR1

GR > 400
From LHT1 to GR2

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	AIT−M: Array Induction Tool − M		
AAPL	Array Induction Answer Product Level(Depth Log/View only)	3_BholeCorr_BasicLogs_RadialProcessing	
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	−50000	FT
ADITM	Array Induction Desired Tool Mode	0x00_Log_000	
AEBC	Array Induction Enable Borehole Correction	Yes	
AEBL	Array Induction Enable Basic Logs	Yes	
AERP	Array Induction Enable Radial Processing	Yes	
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AFVN	Array Induction Firmware Code Version Number	1	
AIGS	Array Induction Select Akima Interpolation Gating	On	
ALNV	Array Induction Log Not Valid Flag	Log_Valid−No_Default_Parameters	
AMRD	Array Induction Mud Resistivity Calibration Depth	0	FT
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPM	Array Induction Radial Processing Mode	0_One	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ARTS	AIT Rt Selection (for ALLRES computation)	AITM_OneResA60	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
ATTY	Array Induction Tool Type (of acquired data)	AITM	
AULV	Array Induction User Level Control	Normal	
AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	150	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
RTCO	RTCO − Rt Invasion Correction	YES	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
	HILTH−FTB: High resolution Integrated Logging Tool−DTS		
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	

BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	150	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1.1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCLF	Germany Coal−like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	77	DEGF
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSSO	HRDD Nuclear Source Strength Option	NORMAL	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e−005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e−005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PEA_FILTER	PEA Filter	NO_FILTER	
PEFC_FILTER	PEFC Filter	NO_FILTER	
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	NO	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	150	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth − Driller	6885.00	FT
TDL	Total Depth − Logger	6864.00	FT
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	1200.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	36.00	LB/F
DFD	Drilling Fluid Density	9.40	LB/G
FLEV	Fluid Level	0.00	FT
MST	Mud Sample Temperature	64.30	DEGF
PBVSADP	Use alternate depth channel for playback	NO	
RMFS	Resistivity of Mud Filtrate Sample	0.8856	OHMM

RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	6864	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: AIT5 Vertical Scale: 5" per 100' Graphics File Created: 15−Oct−2011 12:12

OP System Version: 19C0−187

AIT−M	19C0−187	HILTH−FTB	19C0−187
DTC−H	19C0−187		

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_006LUP	FN:8	PRODUCER	15−Oct−2011 12:12	
BACKUP	AIT_TLD_MCFL_CNL_006LUP	FN:9	PRODUCER	15−Oct−2011 12:16	

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Repeat Analysis

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_012PUP	FN:16	PRODUCER	15−Oct−2011 16:01	6886.5 FT	330.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_006LUP	FN:8	PRODUCER	15−Oct−2011 12:12	6886.5 FT	6417.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015PUP	FN:22	PRODUCER	15−Oct−2011 16:19
BACKUP	AIT_TLD_MCFL_CNL_015PUP	FN:23	PRODUCER	15−Oct−2011 16:22

OP System Version: 19C0−187

AIT−M	19C0−187	HILTH−FTB	19C0−187
DTC−H	19C0−187		

PIP SUMMARY

Time Mark Every 60 S

GR > 400
From LHT1 to GR2

GR > 200
From LHT1 to GR1

TENS_REP Curve (TENS_REP)
10000 (LBF) 0

SP_REP Curve (SP_REP)
−100 (MV) 100

HCAL_REP Curve (HCAL_REP)
6 (IN) 16

GR2_REP Curve (GR_REP)
400 (GAPI) 600

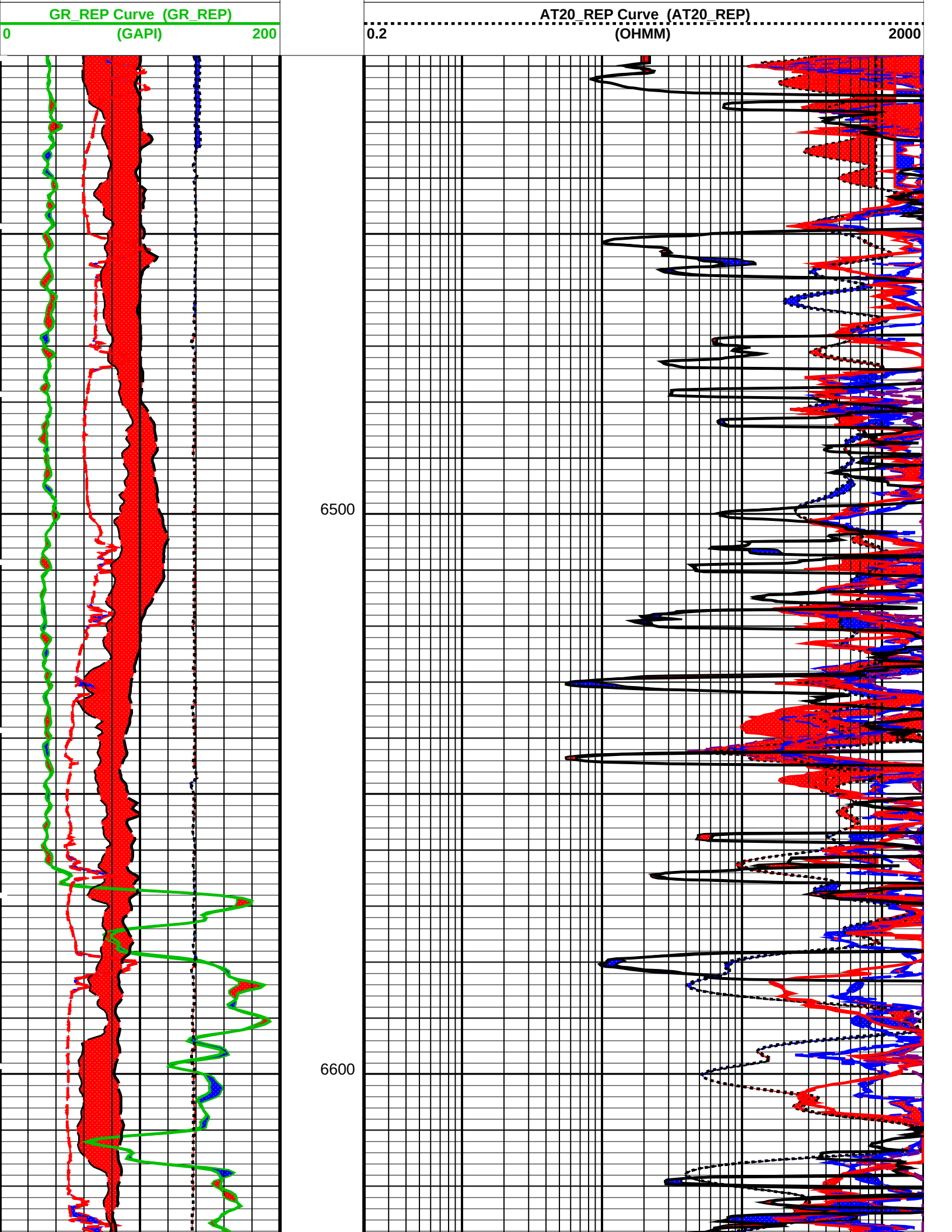
GR1_REP Curve (GR_REP)
200 (GAPI) 400

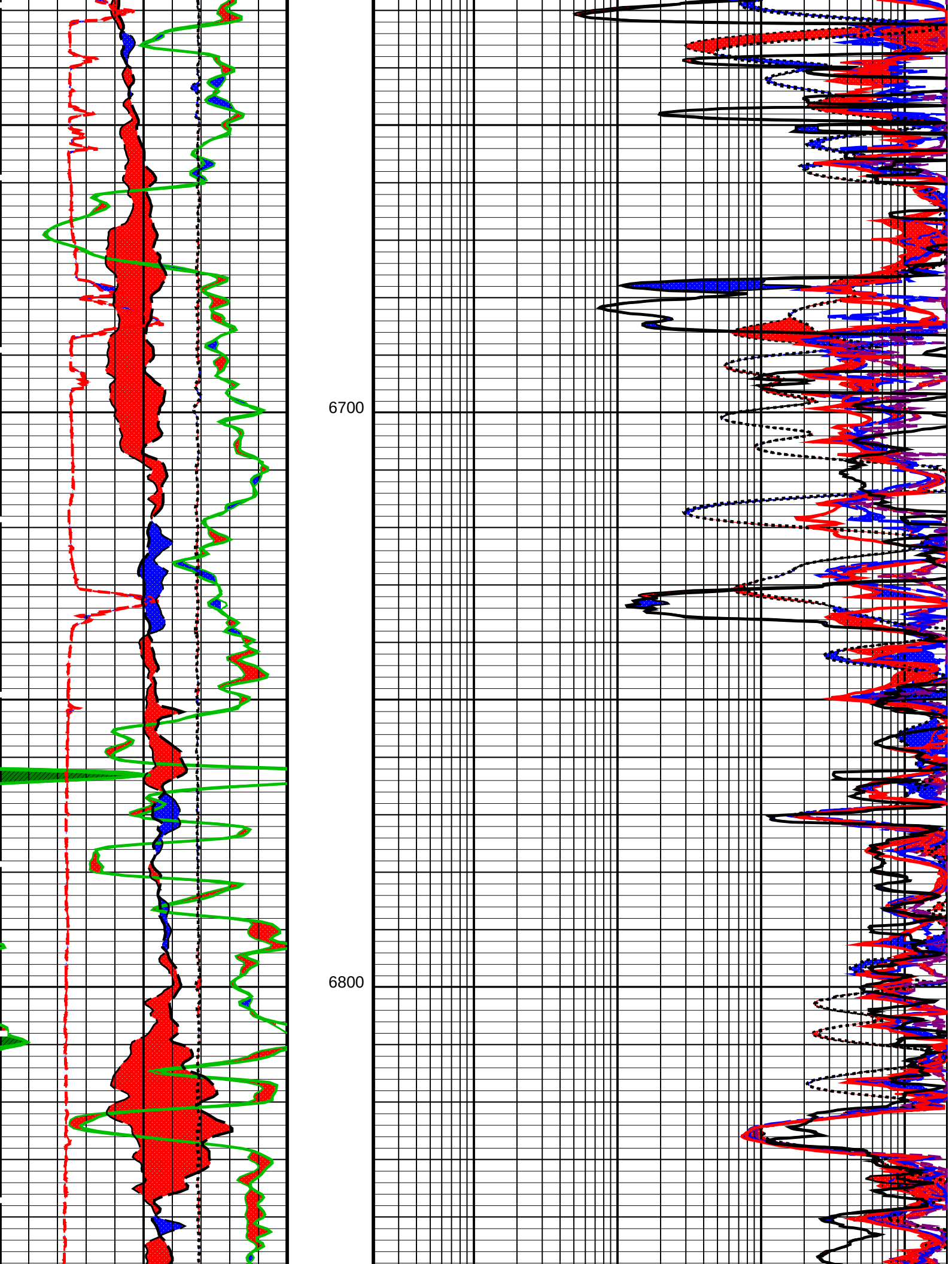
RXOZ_REP Curve (RXOZ_REP)
0.2 (OHMM) 2000

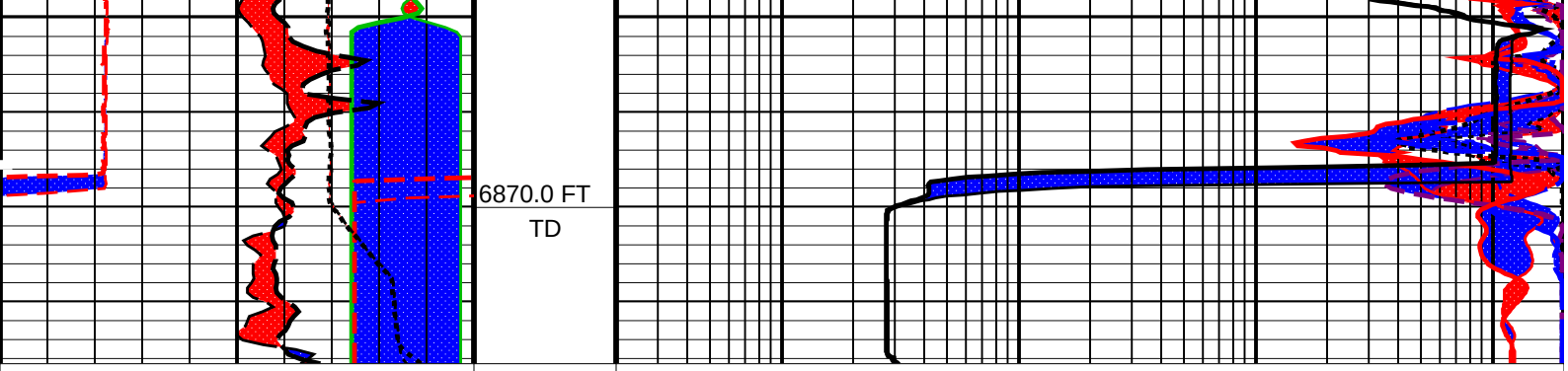
AT90_REP Curve (AT90_REP)
0.2 (OHMM) 2000

AT60_REP Curve (AT60_REP)
0.2 (OHMM) 2000

AT30_REP Curve (AT30_REP)
0.2 (OHMM) 2000


GR_REP Curve (GR_REP)
0
(GAPI)
200
AT20_REP Curve (AT20_REP)
0.2
(OHMM)
2000
6500
6600


6700
6800



GR_REP Curve (GR_REP)
0 (GAPI) 200

GR1_REP Curve (GR_REP)
200 (GAPI) 400

GR2_REP Curve (GR_REP)
400 (GAPI) 600

HCAL_REP Curve (HCAL_REP)
6 (IN) 16

SP_REP Curve (SP_REP)
−100 (MV) 100

TENS_REP Curve (TENS_REP)
10000 (LBF) 0

AT20_REP Curve (AT20_REP)
0.2 (OHMM) 2000

AT30_REP Curve (AT30_REP)
0.2 (OHMM) 2000

AT60_REP Curve (AT60_REP)
0.2 (OHMM) 2000

AT90_REP Curve (AT90_REP)
0.2 (OHMM) 2000

RXOZ_REP Curve (RXOZ_REP)
0.2 (OHMM) 2000

GR > 200
From LHT1 to GR1

GR > 400
From LHT1 to GR2

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
	AIT−M: Array Induction Tool − M		
AAPL	Array Induction Answer Product Level(Depth Log/View only)	3_BholeCorr_BasicLogs_RadialProcessing	
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff	
ABHV	Array Induction Borehole Correction Code Version Number	900	
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four	
ABLV	Array Induction Basic Logs Code Version Number	223	
ACDE	Array Induction Casing Detection Enable	Yes	
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered	
ACSED	Array Induction Casing Shoe Estimated Depth	1491	FT
ADITM	Array Induction Desired Tool Mode	0x00_Log_000	
AEBC	Array Induction Enable Borehole Correction	Yes	
AEBL	Array Induction Enable Basic Logs	Yes	
AERP	Array Induction Enable Radial Processing	Yes	
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes	
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AFVN	Array Induction Firmware Code Version Number	1	
AIGS	Array Induction Select Akima Interpolation Gating	On	
ALNV	Array Induction Log Not Valid Flag	Log_Valid−No_Default_Parameters	
AMRD	Array Induction Mud Resistivity Calibration Depth	0	FT
AMRF	Array Induction Mud Resistivity Factor	1	
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
ARFV	Array Induction Radial Profiling Code Version Number	701	
ARPM	Array Induction Radial Processing Mode	0_One	
ARPV	Array Induction Radial Parametrization Code Version Number	232	
ARTS	AIT Rt Selection (for ALLRES computation)	AITM_OneResA60	
ASTA	Array Induction Tool Standoff	1.5	IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal	
ATTY	Array Induction Tool Type (of acquired data)	AITM	
AULV	Array Induction User Level Control	Normal	
AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00	

AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
RTCO	RTCO − Rt Invasion Correction	YES	
SHT	Surface Hole Temperature	68	DEGF
SPNV	SP Next Value	0	MV
HILTH−FTB: High resolution Integrated Logging Tool−DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1.1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
FSAL	Formation Salinity	−50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCLF	Germany Coal−like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	77	DEGF
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSSO	HRDD Nuclear Source Strength Option	NORMAL	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.65	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e−005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e−005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PEA_FILTER	PEA Filter	NO_FILTER	
PEFC_FILTER	PEFC Filter	NO_FILTER	
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	NO	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	108	DEGF
FCD	Future Casing (Outer) Diameter	0	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	

ISSBAR	Barite Mud Switch	NOBARITE	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth − Driller	6885.00	FT
TDL	Total Depth − Logger	6870.00	FT
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	1200.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	36.00	LB/F
DFD	Drilling Fluid Density	9.40	LB/G
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	0.00	FT
MST	Mud Sample Temperature	64.30	DEGF
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	0.8856	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	6870	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF

Format: AIT5_REP **Vertical Scale: 5" per 100'** **Graphics File Created: 15−Oct−2011 16:19**

OP System Version: 19C0−187

AIT−M	19C0−187	HILTH−FTB	19C0−187
DTC−H	19C0−187		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_012PUP	FN:16	PRODUCER	15−Oct−2011 16:01	6886.5 FT	330.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_006LUP	FN:8	PRODUCER	15−Oct−2011 12:12	6886.5 FT	6417.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_015PUP	FN:22	PRODUCER	15−Oct−2011 16:19
BACKUP	AIT_TLD_MCFL_CNL_015PUP	FN:23	PRODUCER	15−Oct−2011 16:22

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CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool − M Wellsite Calibration − Electronics Calibration Check − Thru Cal Mag. & Phase							
Before: 10−Oct−2011 10:07							
Thru Cal Magnitude − 0	0	N/A	0.6138	N/A	N/A	N/A	V
Thru Cal Magnitude − 1	0	N/A	1.257	N/A	N/A	N/A	V
Thru Cal Magnitude − 2	0	N/A	0.6224	N/A	N/A	N/A	V
Thru Cal Magnitude − 3	0	N/A	0.7041	N/A	N/A	N/A	V
Thru Cal Magnitude − 4	0	N/A	1.319	N/A	N/A	N/A	V
Thru Cal Magnitude − 5	0	N/A	1.919	N/A	N/A	N/A	V
Thru Cal Magnitude − 6	0	N/A	1.918	N/A	N/A	N/A	V
Thru Cal Magnitude − 7	0	N/A	1.377	N/A	N/A	N/A	V
Thru Cal Phase − 0	0	N/A	192.1	N/A	N/A	N/A	DEG
Thru Cal Phase − 1	0	N/A	191.0	N/A	N/A	N/A	DEG

Thru Cal Phase − 2	0	N/A	187.4	N/A	N/A	N/A	DEG
Thru Cal Phase − 3	0	N/A	186.6	N/A	N/A	N/A	DEG
Thru Cal Phase − 4	0	N/A	180.4	N/A	N/A	N/A	DEG
Thru Cal Phase − 5	0	N/A	178.8	N/A	N/A	N/A	DEG
Thru Cal Phase − 6	0	N/A	178.8	N/A	N/A	N/A	DEG
Thru Cal Phase − 7	0	N/A	178.0	N/A	N/A	N/A	DEG

Array Induction Tool − M Wellsite Calibration − Electronics Calibration Check − Auxiliary
Before: 10−Oct−2011 10:07

Array Induction SPA Plus	991.0	N/A	989.0	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	N/A	−0.2888	N/A	N/A	N/A	MV
Array Induction Temperature Pl	0.9170	N/A	0.9161	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	N/A	−0.0002814	N/A	N/A	N/A	V

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Stab Measurement Summary
Before: 10−Oct−2011 10:12

BS Window Ratio	0.7352	N/A	0.7386	N/A	N/A	N/A	
BS Window Sum	9410	N/A	9268	N/A	N/A	N/A	CPS
SS Window Ratio	0.4886	N/A	0.4886	N/A	N/A	N/A	
SS Window Sum	9987	N/A	9800	N/A	N/A	N/A	CPS
LS Window Ratio	0.2945	N/A	0.2904	N/A	N/A	N/A	
LS Window Sum	1125	N/A	1109	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Photo−multiplier High Voltages Calibrations
Before: 10−Oct−2011 10:12

BS PM High Voltage (Command)	1305	N/A	1329	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1452	N/A	1443	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1889	N/A	1887	N/A	N/A	N/A	V

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Crystal Quality Resolutions Calibration
Before: 10−Oct−2011 10:12

BS Crystal Resolution	11.16	N/A	11.04	N/A	N/A	N/A	%
SS Crystal Resolution	8.840	N/A	8.762	N/A	N/A	N/A	%
LS Crystal Resolution	9.092	N/A	9.007	N/A	N/A	N/A	%

High resolution Integrated Logging Tool−DTS Wellsite Calibration − MCFL Calibration
Before: 10−Oct−2011 10:13

Raw B0 Resistivity	3875	N/A	3861	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3832	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3837	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool−DTS Wellsite Calibration − HILT Caliper Calibration
Before: 10−Oct−2011 10:09

HILT Caliper Zero Measurement	8.000	N/A	7.797	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.20	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Detector Calibration
Before: 10−Oct−2011 10:09

Gamma Ray Background	30.00	N/A	42.81	N/A	N/A	N/A	GAPI
Gamma Ray (Jig − Bkgd)	165.0	N/A	173.7	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Zero Measurement
Master: 23−Jul−2011 12:09 Before: 10−Oct−2011 10:10

CNTC Background	27.29	27.29	27.11	N/A	N/A	4.094	CPS
CFTC Background	27.71	27.71	28.87	N/A	N/A	4.156	CPS

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Ratio Measurement
Master: 23−Jul−2011 12:09

Thermal Near Corr. (Tank)	5800	5360	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2241	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.392	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Accelerometer Calibration
Before: 15−Oct−2011 11:06

Z−Axis Acceleration	32.19	N/A	32.11	N/A	N/A	N/A	F/S2

High resolution Integrated Logging Tool−DTS Master Calibration − Inversion results
Master: 20−Sep−2011 14:20

Rho Aluminum	2.596	2.598	−−	−−	−−	−−	G/C3
Rho Magnesium	1.686	1.690	−−	−−	−−	−−	G/C3
Pe Aluminum	2.570	2.551	−−	−−	−−	−−	
Pe Magnesium	2.650	2.609	−−	−−	−−	−−	

High resolution Integrated Logging Tool−DTS Master Calibration − Deviation Summary
Master: 20−Sep−2011 14:20

BS Average Deviation	0	0.3450	−−	−−	−−	−−	%
BS Max Deviation	0	1.064	−−	−−	−−	−−	%
SS Average Deviation	0	0.2802	−−	−−	−−	−−	%
SS Max Deviation	0	1.289	−−	−−	−−	−−	%
LS Average Deviation	0	0.5325	−−	−−	−−	−−	%
LS Max Deviation	0	1.395	−−	−−	−−	−−	%

The GLS−VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT−B Water Temperature 76.0 DEGF.
Thermal Housing Size 3.381 IN.
NSR−F serial number 5142

Array Induction Tool − M / Equipment Identification

Primary Equipment:

Rm/SP Bottom Nose	AMRM − A	
Array Induction Sonde	AMIS − A	190

Auxiliary Equipment:

Array Induction Tool − M Wellsite Calibration

Electronics Calibration Check − Thru Cal Mag. & Phase

Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Before	0.6138		0.6100	192.1		197.0
1	Before	1.257		1.270	191.0		196.0
2	Before	0.6224		0.6200	187.4		192.0
3	Before	0.7041		0.7000	186.6		191.0
4	Before	1.319		1.340	180.4		185.0
5	Before	1.919		1.960	178.8		182.0
6	Before	1.918		1.960	178.8		181.0
7	Before	1.377		1.410	178.0		175.0
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom −60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

Before: 10−Oct−2011 10:07

Array Induction Tool − M Wellsite Calibration

Electronics Calibration Check − Auxiliary

Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Before		989.0	Before		−0.2888
	941.0 (Minimum) 991.0 (Nominal) 1040 (Maximum)			−50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)	
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Before		0.9161	Before		−0.0002814
	0.8710 (Minimum) 0.9170 (Nominal) 0.9630 (Maximum)			−0.05000 (Minimum) 0 (Nominal) 0.05000 (Maximum)	

Before: 10−Oct−2011 10:07

High resolution Integrated Logging Tool−DTS / Equipment Identification

Primary Equipment:

HILT high−Resolution Mechanical Sonde	HRMS − H	4824
HILT Rxo Gamma−ray Device	HRGD − H	2368
HILT Micro Cylindrically Focused Log Dev	MCFL − H	
GR Logging Source	GLS − VJ	5482
HILT High Res. Control Cartridge	HRCC − H	4819
HILT Gamma−Ray Neutron Sonde−DTS	HGNS − H	4836
HGNS Gamma−Ray Device	HGR −	
HGNS Neutron Detector with Alpha Source	HCNT − H	

Auxiliary Equipment:

Neutron Calibration Tank	NCT − B	
Gamma Source Radioactive	GSR − U/Y	
HGNS Housing	HGNH −	3947

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Stab Measurement Summary

Phase	BS Window Ratio	Value
Before		0.7386
	0.6984 (Minimum) 0.7352 (Nominal) 0.7719 (Maximum)	

Phase	SS Window Ratio	Value
Before		0.4886
	0.4642 (Minimum) 0.4886 (Nominal) 0.5130 (Maximum)	

Phase	LS Window Ratio	Value
Before		0.2904
	0.2798 (Minimum) 0.2945 (Nominal) 0.3092 (Maximum)	

Phase	BS Window Sum CPS	Value
Before		9268
	8940 (Minimum) 9410 (Nominal) 9881 (Maximum)	

Phase	SS Window Sum CPS	Value
Before		9800
	9488 (Minimum) 9987 (Nominal) 10490 (Maximum)	

Phase	LS Window Sum CPS	Value
Before		1109
	1068 (Minimum) 1125 (Nominal) 1181 (Maximum)	

Before: 10−Oct−2011 10:12

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Photo−multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V	Value
Before		1329
	1205 (Minimum) 1305 (Nominal) 1405 (Maximum)	

Phase	SS PM High Voltage (Command) V	Value
Before		1443
	1352 (Minimum) 1452 (Nominal) 1552 (Maximum)	

Phase	LS PM High Voltage (Command) V	Value
Before		1887
	1789 (Minimum) 1889 (Nominal) 1989 (Maximum)	

Before: 10−Oct−2011 10:12

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Crystal Quality Resolutions Calibration

Phase	BS Crystal Resolution %	Value
Before		11.04
	10.16 (Minimum) 11.16 (Nominal) 12.16 (Maximum)	

Phase	SS Crystal Resolution %	Value
Before		8.762
	7.840 (Minimum) 8.840 (Nominal) 9.840 (Maximum)	

Phase	LS Crystal Resolution %	Value
Before		9.007
	8.092 (Minimum) 9.092 (Nominal) 10.09 (Maximum)	

Before: 10−Oct−2011 10:12

High resolution Integrated Logging Tool−DTS Wellsite Calibration

MCFL Calibration

Phase	Raw B0 Resistivity OHMM	Value
Before		3861
	3565 (Minimum) 3875 (Nominal) 4185 (Maximum)	

Phase	Raw B1 Resistivity OHMM	Value
Before		3832
	3524 (Minimum) 3830 (Nominal) 4136 (Maximum)	

Phase	Raw B2 Resistivity OHMM	Value
Before		3837
	3524 (Minimum) 3830 (Nominal) 4136 (Maximum)	

Before: 10−Oct−2011 10:13

High resolution Integrated Logging Tool−DTS Wellsite Calibration

HILT Caliper Calibration

Phase	HILT Caliper Zero Measurement IN	Value
Before		7.797
	6.000 (Minimum) 8.000 (Nominal) 10.00 (Maximum)	

Phase	HILT Caliper Plus Measurement IN	Value
Before		12.20
	9.000 (Minimum) 12.00 (Nominal) 15.00 (Maximum)	

Before: 10−Oct−2011 10:09

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value
Before		42.81
	0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)	

Phase	Gamma Ray (Jig − Bkgd) GAPI	Value
Before		173.7
	157.1 (Minimum) 165.0 (Nominal) 206.3 (Maximum)	

Before: 10−Oct−2011 10:09

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Zero Measurement

Phase	CNTC Background CPS	Value
Master		27.29
Before		27.11
	5.000 (Minimum) 27.29 (Nominal) 40.00 (Maximum)	

Phase	CFTC Background CPS	Value
Master		27.71
Before		28.87
	5.000 (Minimum) 27.71 (Nominal) 40.00 (Maximum)	

Master: 23−Jul−2011 12:09 Before: 10−Oct−2011 10:10

High resolution Integrated Logging Tool−DTS Wellsite Calibration

Ratio Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5360	Master		2241	Master		2.392
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 23−Jul−2011 12:09

High resolution Integrated Logging Tool−DTS
Wellsite Calibration
Accelerometer Calibration

Phase	Z−Axis Acceleration F/S2	Value
Before		32.11
	31.53 (Minimum) 32.19 (Nominal) 32.84 (Maximum)	

Before: 15−Oct−2011 11:06

High resolution Integrated Logging Tool−DTS Master Calibration
Inversion results

Phase	Rho Aluminum G/C3	Value	Phase	Rho Magnesium G/C3	Value
Master		2.598	Master		1.690
	2.586 (Minimum) 2.596 (Nominal) 2.606 (Maximum)			1.676 (Minimum) 1.686 (Nominal) 1.696 (Maximum)	
Phase	Pe Aluminum	Value	Phase	Pe Magnesium	Value
Master		2.551	Master		2.609
	2.470 (Minimum) 2.570 (Nominal) 2.670 (Maximum)			2.550 (Minimum) 2.650 (Nominal) 2.750 (Maximum)	

Master: 20−Sep−2011 14:20

High resolution Integrated Logging Tool−DTS Master Calibration
Deviation Summary

Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %	Value
Master		0.3450	Master		0.2802	Master		0.5325
	−0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			−1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)	
Phase	BS Max Deviation %	Value	Phase	SS Max Deviation %	Value	Phase	LS Max Deviation %	Value
Master		1.064	Master		1.289	Master		1.395
	−1.600 (Minimum) 0 (Nominal) 1.600 (Maximum)			−2.500 (Minimum) 0 (Nominal) 2.500 (Maximum)			−3.500 (Minimum) 0 (Nominal) 3.500 (Maximum)	

Master: 20−Sep−2011 14:20

High resolution Integrated Logging Tool−DTS Master Calibration
Zero Measurement

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		27.29	Master		27.71
	5.000 (Minimum) 27.29 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 27.71 (Nominal) 40.00 (Maximum)	

Master: 23−Jul−2011 12:09

High resolution Integrated Logging Tool−DTS Master Calibration
Tank Measurement

Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value
Master		5360	Master		2241	Master		2.392
	4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)	

Master: 23−Jul−2011 12:09

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC−H Auxiliary Cartridge	DTCH − A	
DTC−H Telemetry Cartridge	DTCH − A	9406

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing	ECH − KC	10496

Company:	**SANDIA TECHNOLOGIES, LLC**
Well:	**NYSTA TANDEM LOT 1**
Field:	**WILDCAT**
County:	**ROCKLAND**
State:	**NEW YORK**

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Platform Express
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