ALLIED WIRELINE

LITHO DENSITY COMPENSATED NEUTRON MICROLOG

Company COMANCHE RESOURCES Co., LLC
Well LOHRDING 8-1
Field WILDCAT
County COMANCHE State KANSAS

Location: API #: 15-033-21582
SW/4 SE/4
SEC 8 TWP 31S RGE 19W

Permanent Datum GL Elevation 2168 ft.
Log Measured From KB , 11 ft. above perm. datum
Drilling Measured From KB

Other Services
GR/CNL
LDT/SP
MEL/MAS

Elevation
K.B. 2179 ft.
D.F. 2178 ft.
G.L. 2168 ft.

Date	04/26/2010		
Run Number	ONE		
Depth Driller	5830 ft		
Depth Logger	5828 ft		
Bottom Logged Interval	5827 ft		
Top Log Interval	936 ft		
Casing Driller	8.625" @ 946 ft	@	
Casing Logger	946 ft		
Bit Size	7.875"	@	
Type Fluid in Hole	WBM		
Density / Viscosity	9.2 / 55		
pH / Fluid Loss	10.5 / 18		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	2.2 @ 47 F	@	
Rmf @ Meas. Temp	1.6 @ 44 F	@	
Rmc @ Meas. Temp	2.4 @ 44 F	@	
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	1.23 @ 126 F	@	
Time Circulation Stopped	00:00		
Time Logger on Bottom	08:35		
Maximum Recorded Temperature	126 F		
Equipment Number	10002		
Location	OKC		
Recorded By	K.GASMI	J.BROWNAWELL	
Witnessed By	J.SPELLMAN		

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Equipment and Log Data

Service Order: 21005

Gamma		Density		Neutron		Sonic		IAT	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	C10099	Serial No.	B10111	Serial No.	C10089	Serial No.	C10038SS	Serial No.	B10109
O.D.	3.375 in.	Source No.		Source No.		Centralizers		Standoffs	@
		O.D.	4.5 in.	O.D.	3.375 in.	O.D.	3.375 in.	O.D	3.875 in.

Logging Pass Data

General			Gamma		Density			Neutron			Sonic			IAT	
			Scales		Scales			Scales			Scales			Scales	
Run	Depths		Left	Right	Left	Right	Matrix	Left	Right	Matrix	Left	Right	Matrix	Left	Right
ONE	TD	CSG	0	150	30%	-10%	2.71	30%	-10%	LIME	140	40	LIME	0.2	2000

Comments

AHV CALCULATED FOR 5.5 INCH CASING
CNL DECENTRALIZED
CAL RECORDED 100 FT IN CSG
CHLORIDES AT 5800 PPM

YOUR CREW TODAY: K. GASMI,J.BROWNAWELL, M.GARDNER, P.MURPHY
THANK YOU FOR CHOOSING ALLIED WIRELINE. OKLAHOMA CITY, OK. (405) 445-7135.

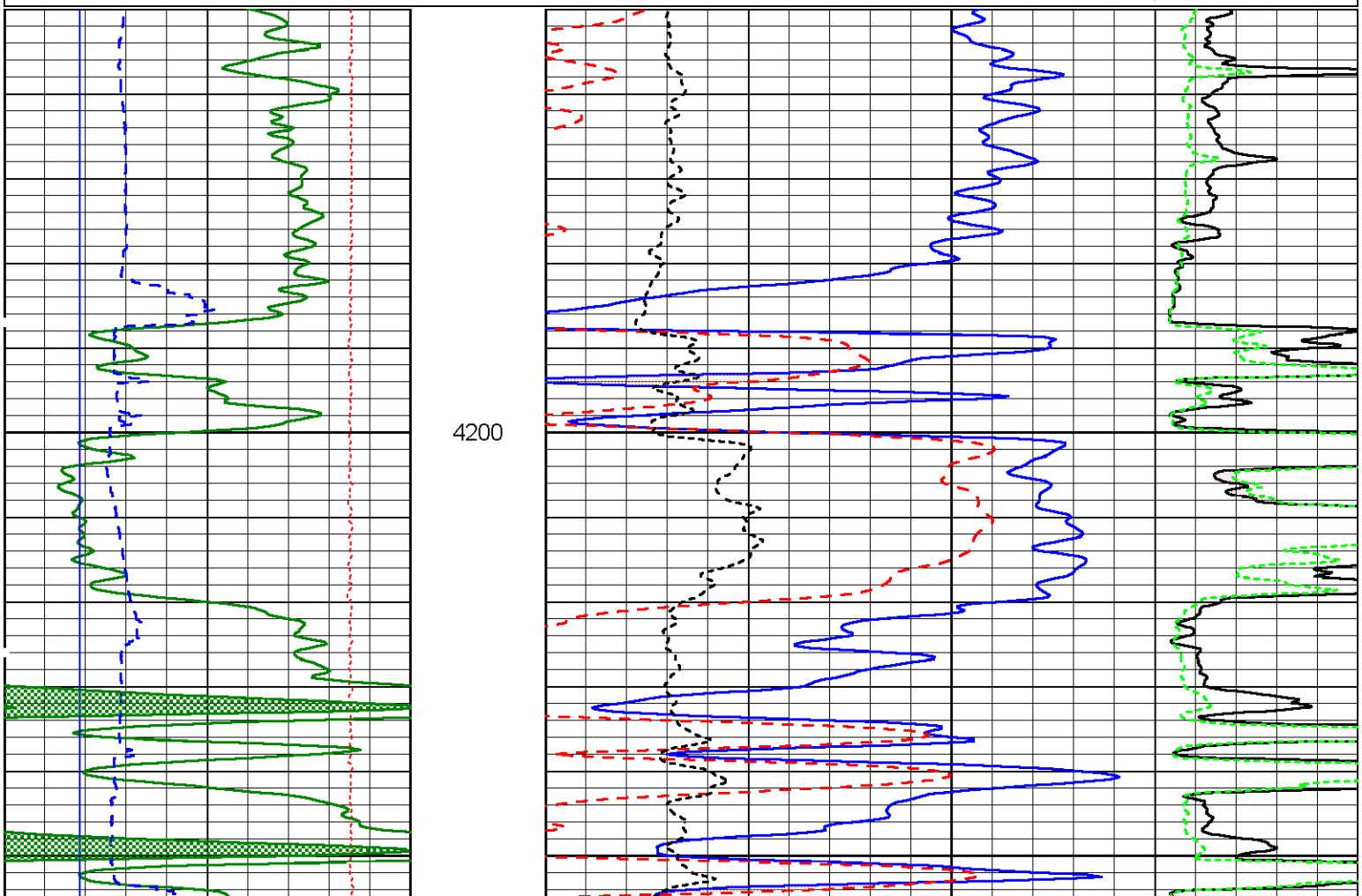
MAIN PASS

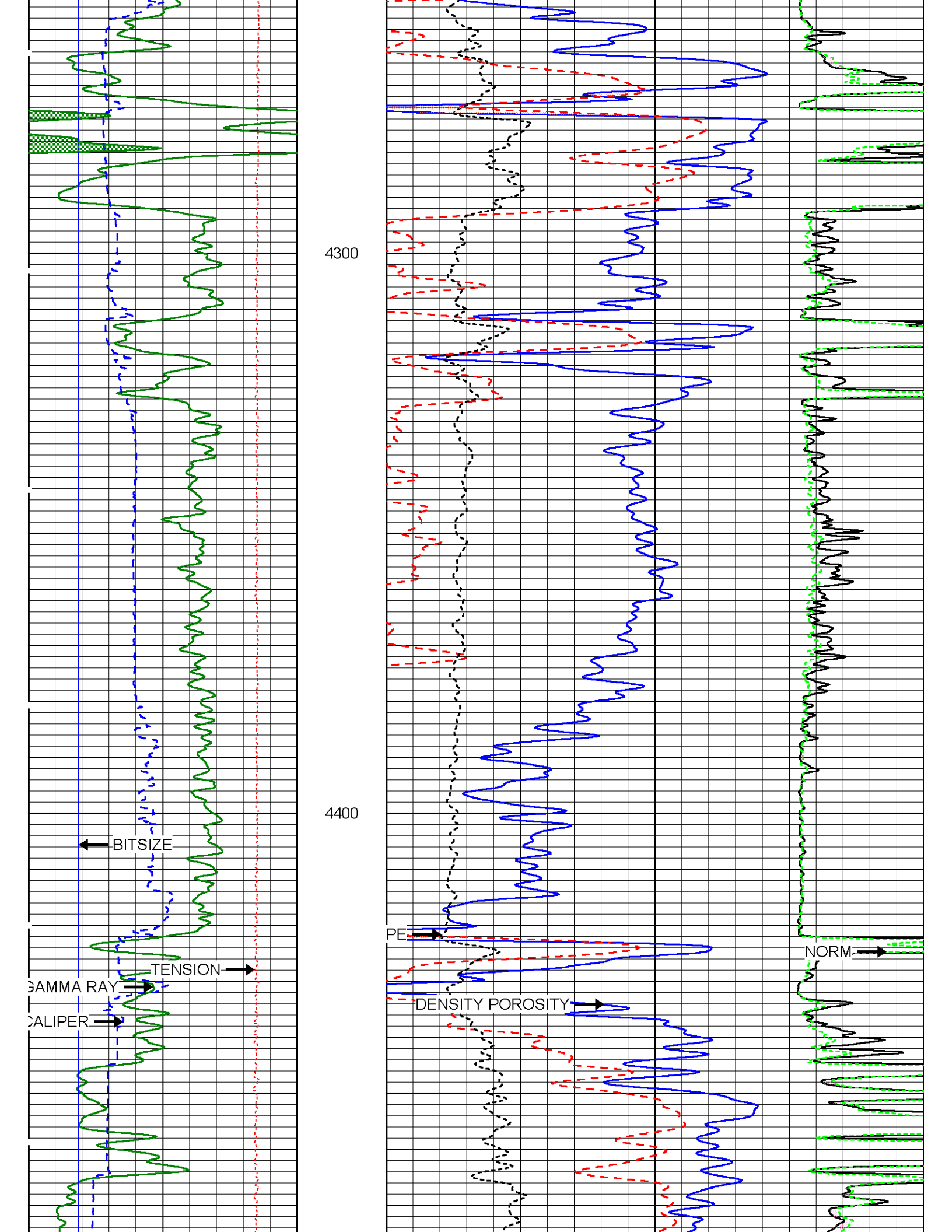
5 INCH

Database File:	lohrding_8_1.db
Dataset Pathname:	Lohrding_/run1/pass3
Presentation Format:	alimed
Dataset Creation:	Wed Apr 27 09:09:25 2011 by Log Sondex V7.03
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
6	BITSIZE (in)	16
	TENSION	
10000	(lb)	0

30	DENSITY POROSITY (pu)	-10
30	NEUTRON POROSITY (pu)	-10
0	PE	10
	INV	
0	(Ohm-m)	20
	NORM	
0	(Ohm-m)	20

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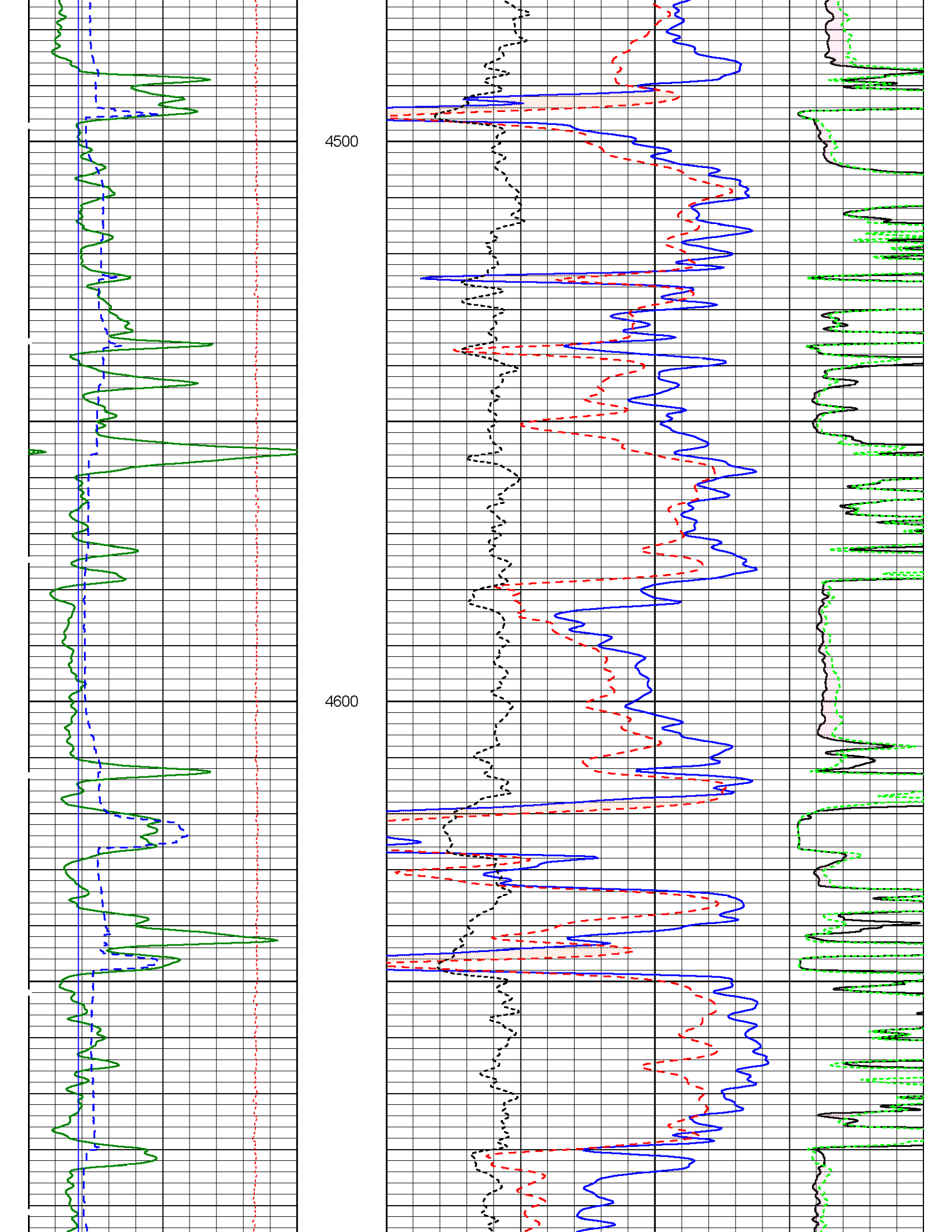
BITSIZE
TENSION
GAMMA RAY
CALIPER
PE
DENSITY POROSITY
NORM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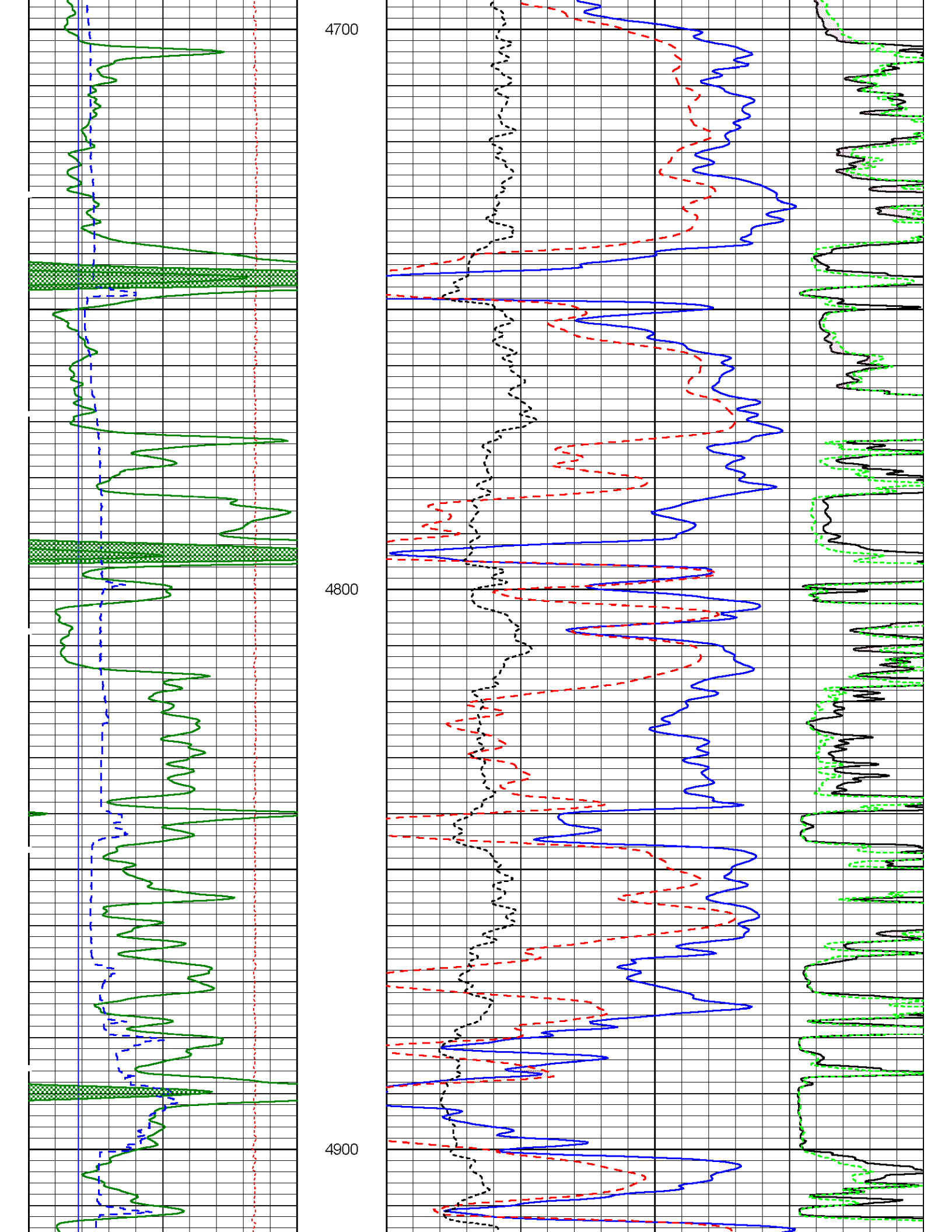
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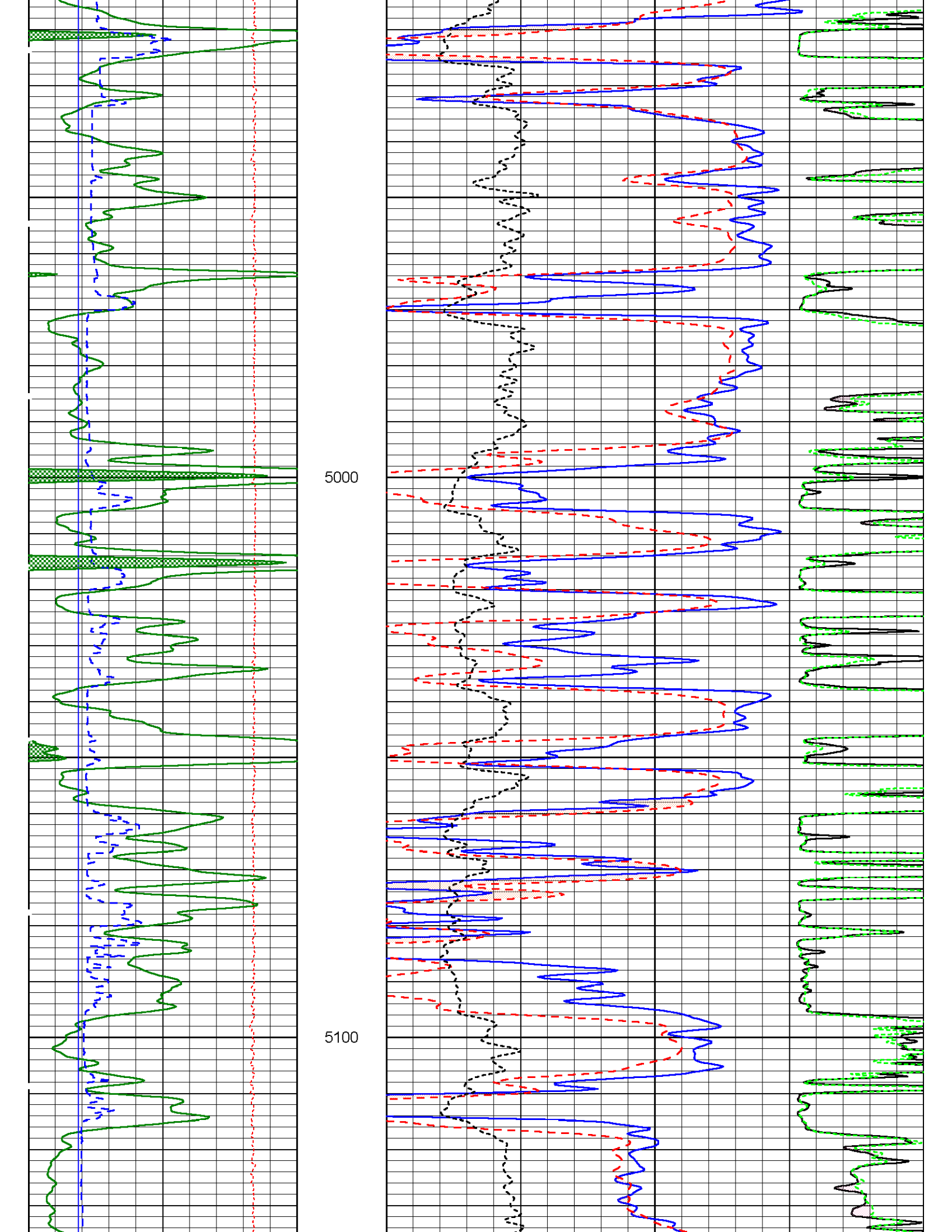
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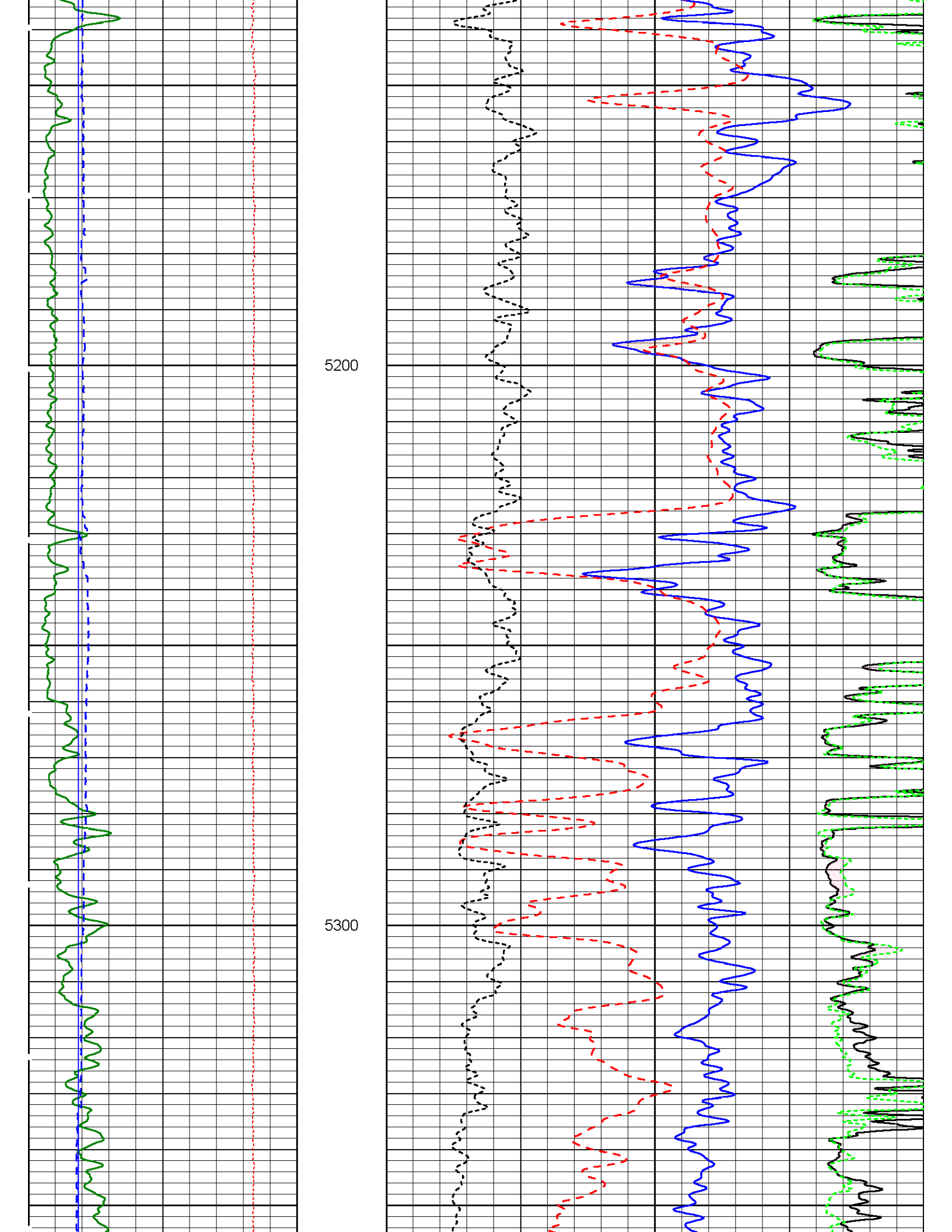
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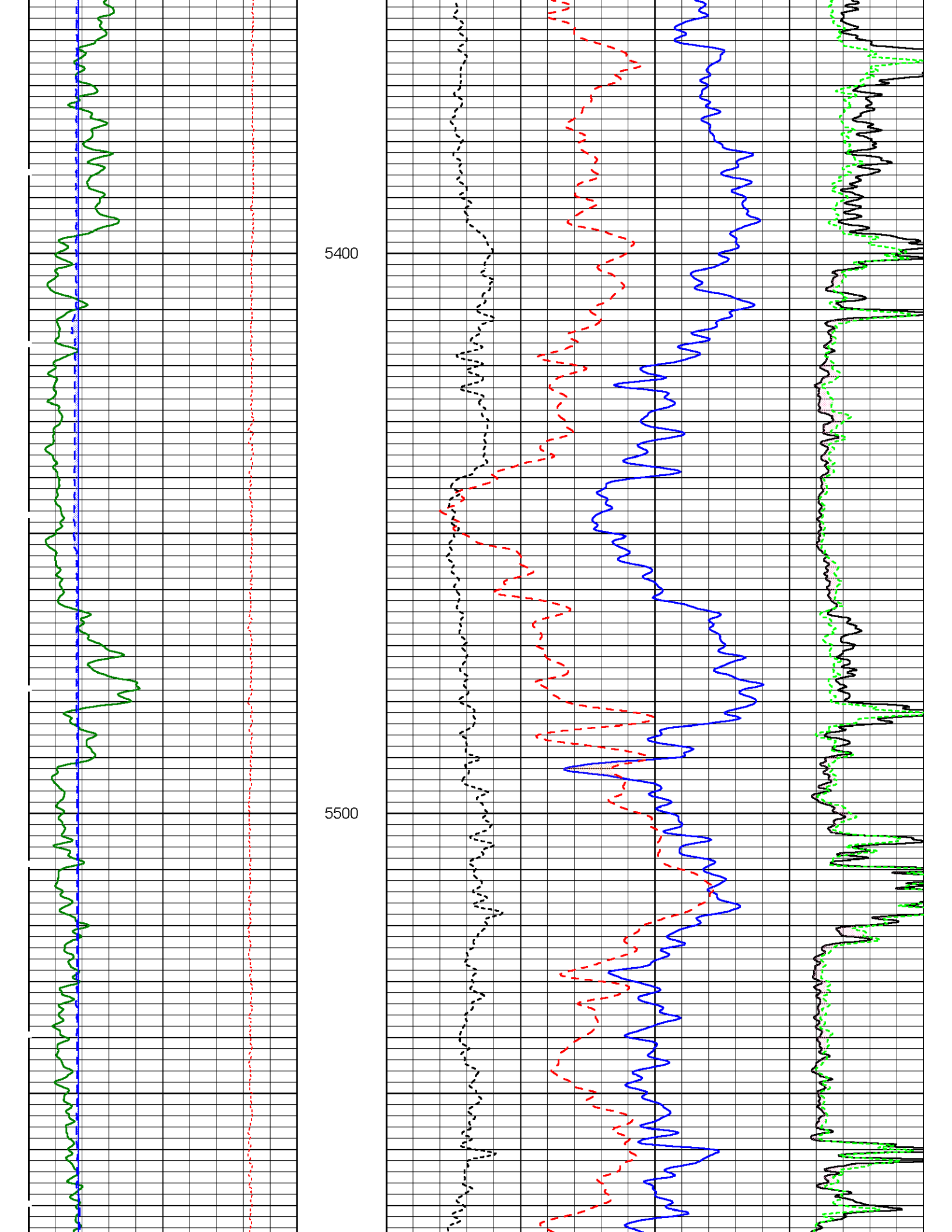
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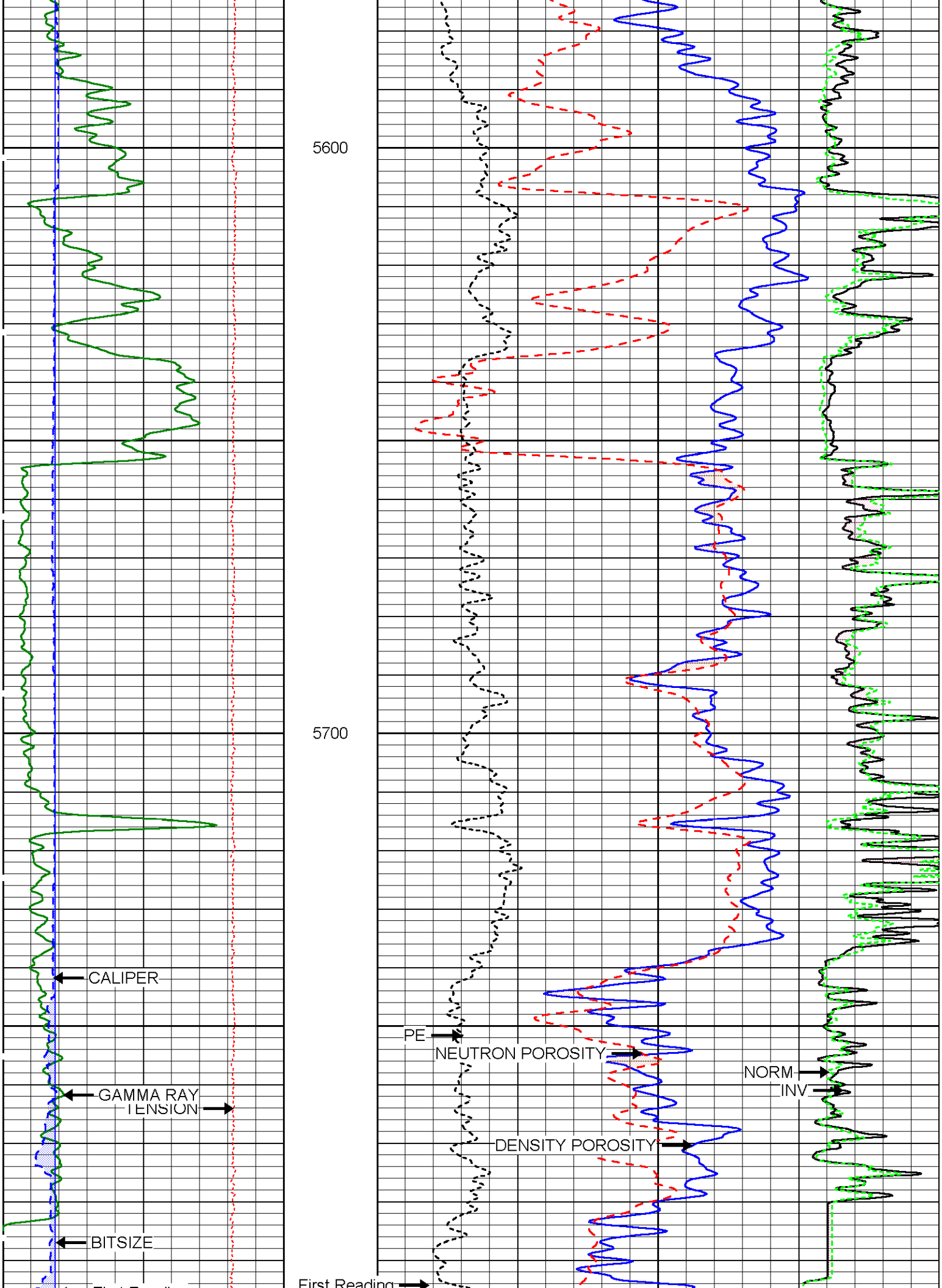
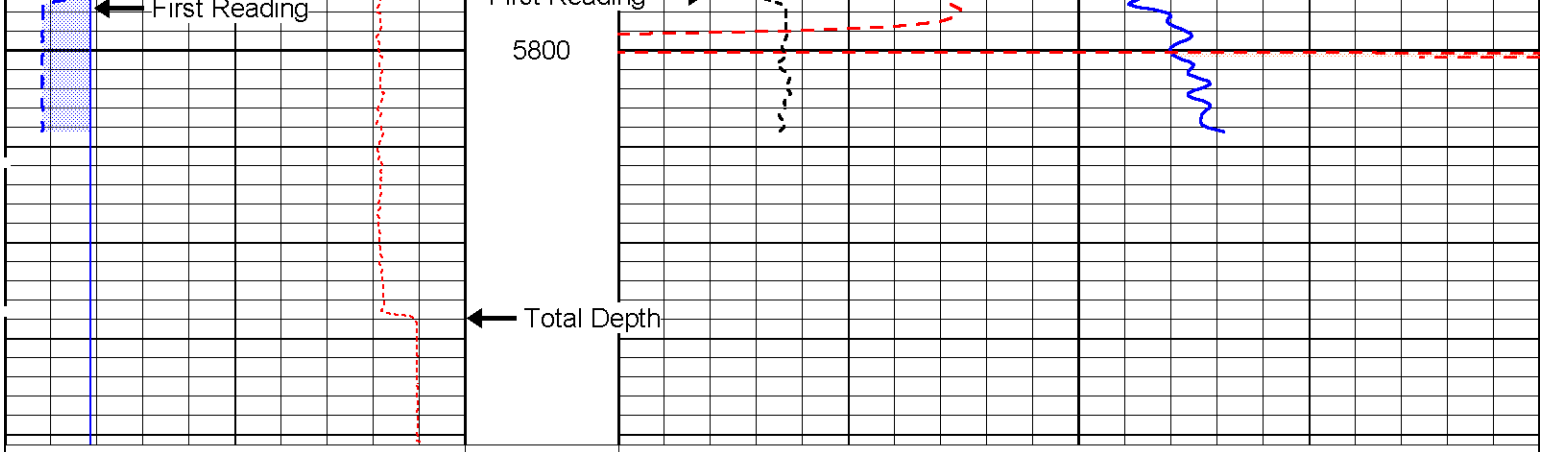

5600
5700
CALIPER
GAMMA RAY
TENSION
BITSIZE
PE
NEUTRON POROSITY
NORM
INV
DENSITY POROSITY
First Reading



0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
6	BITSIZE (in)	16
	TENSION	
10000	(lb)	0

30	DENSITY POROSITY (pu)	-10
30	NEUTRON POROSITY (pu)	-10
0	PE	10

	INV	
0	(Ohm-m)	20
	NORM	
0	(Ohm-m)	20

REPEAT PASS

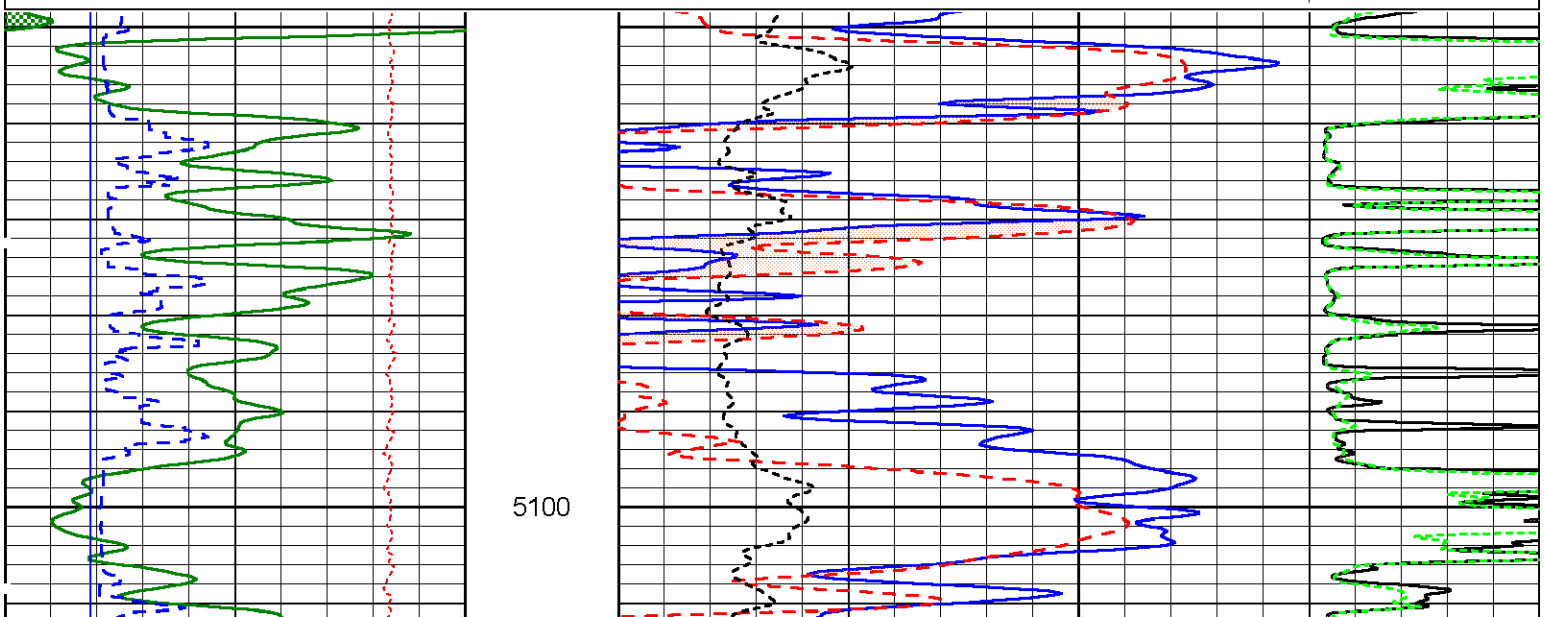
5 INCH

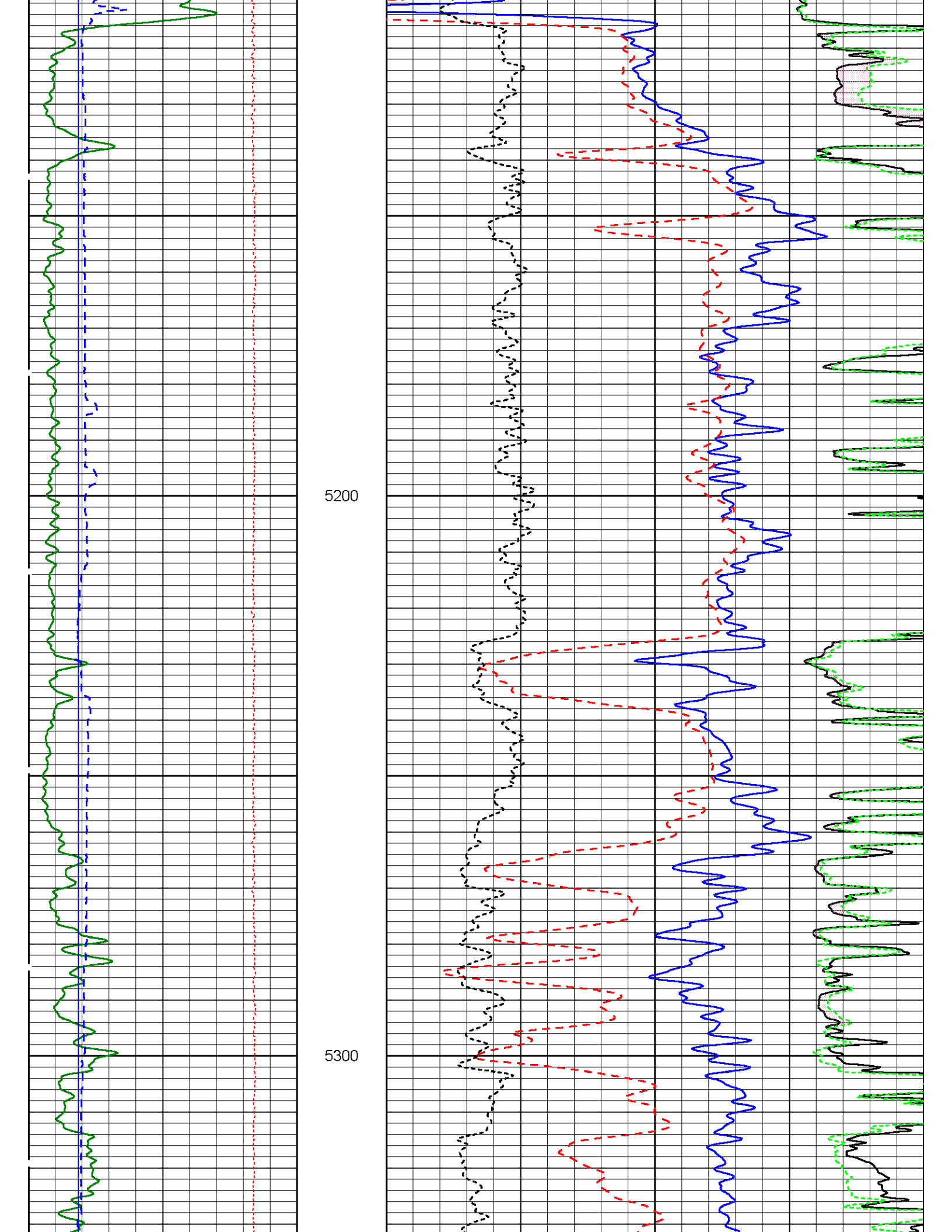
Database File:	lohrding_8_1.db
Dataset Pathname:	Lohrding_/run1/repeat
Presentation Format:	alimed
Dataset Creation:	Wed Apr 27 09:18:47 2011 by Calc Sondex V7.03
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
6	BITSIZE (in)	16
	TENSION	
10000	(lb)	0

30	DENSITY POROSITY (pu)	-10
30	NEUTRON POROSITY (pu)	-10
0	PE	10

	INV	
0	(Ohm-m)	20
	NORM	
0	(Ohm-m)	20

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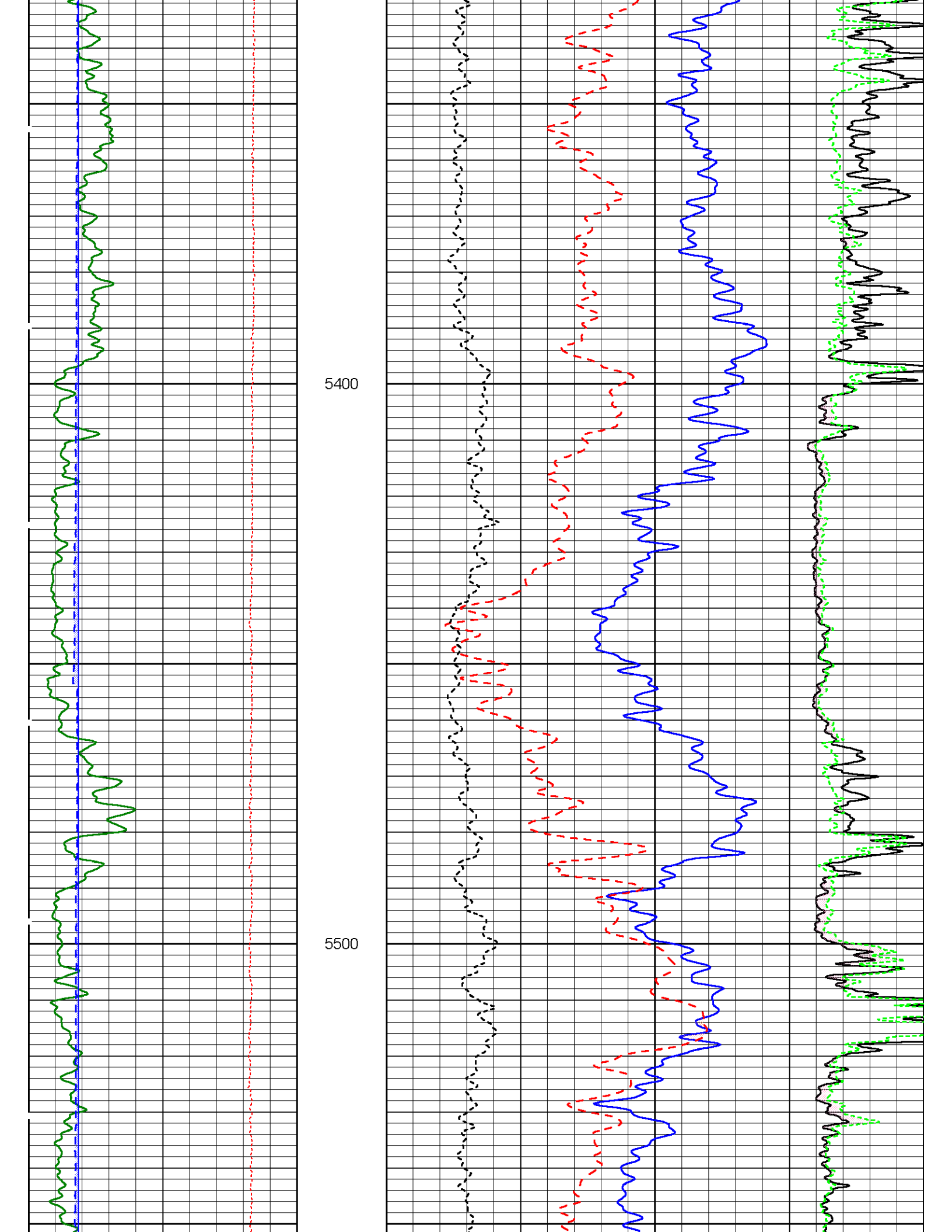
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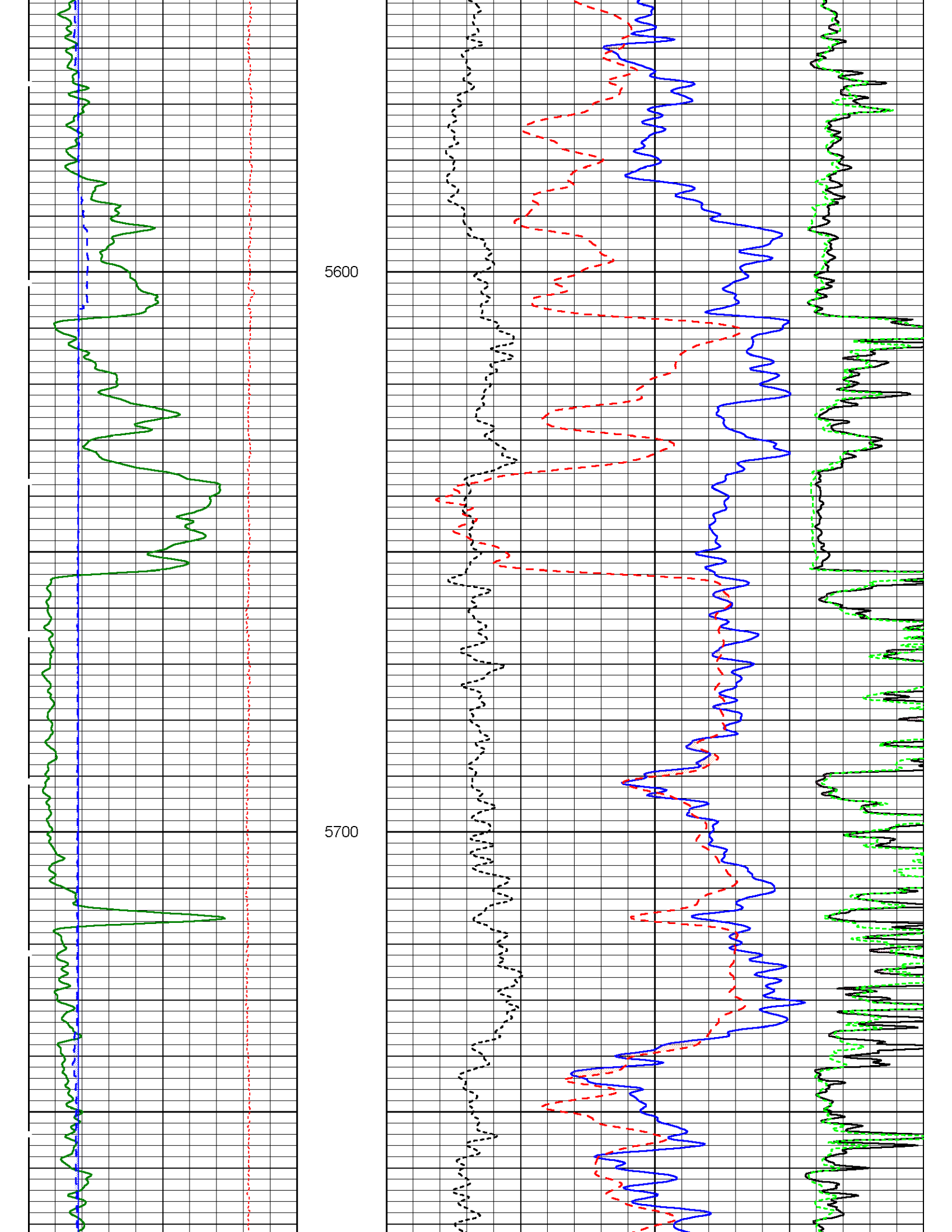
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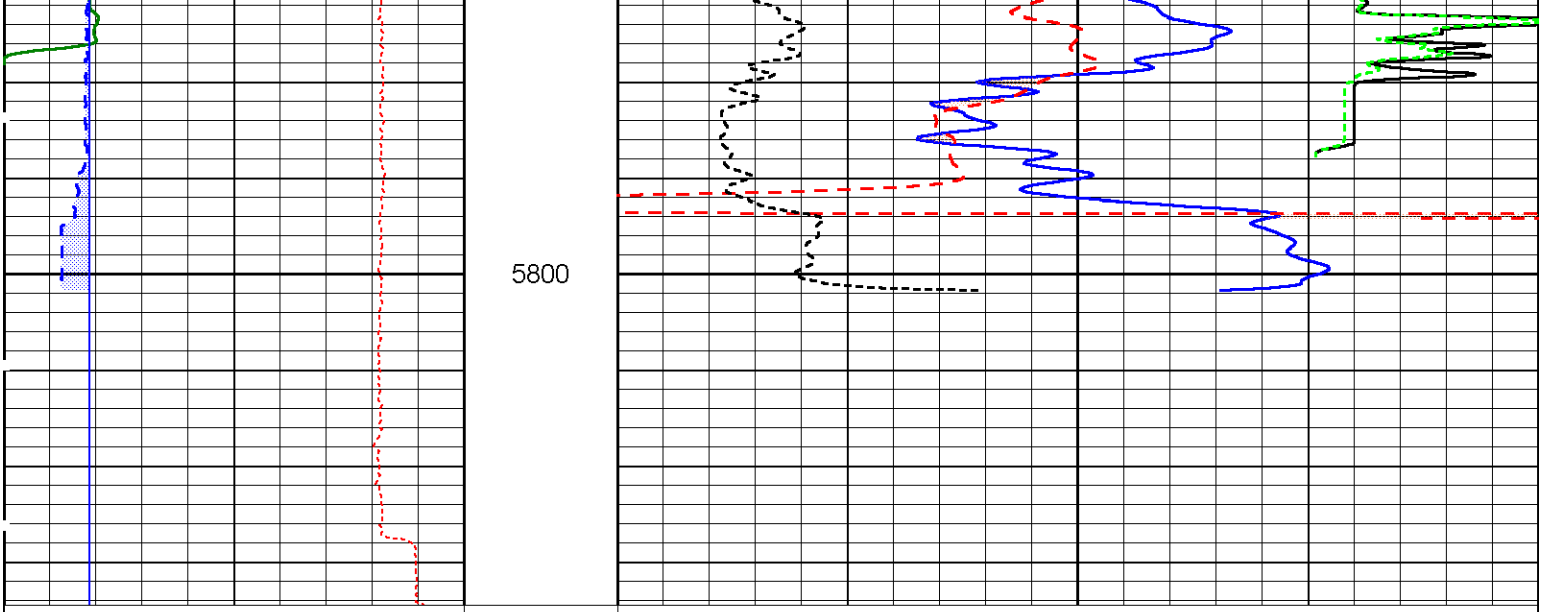
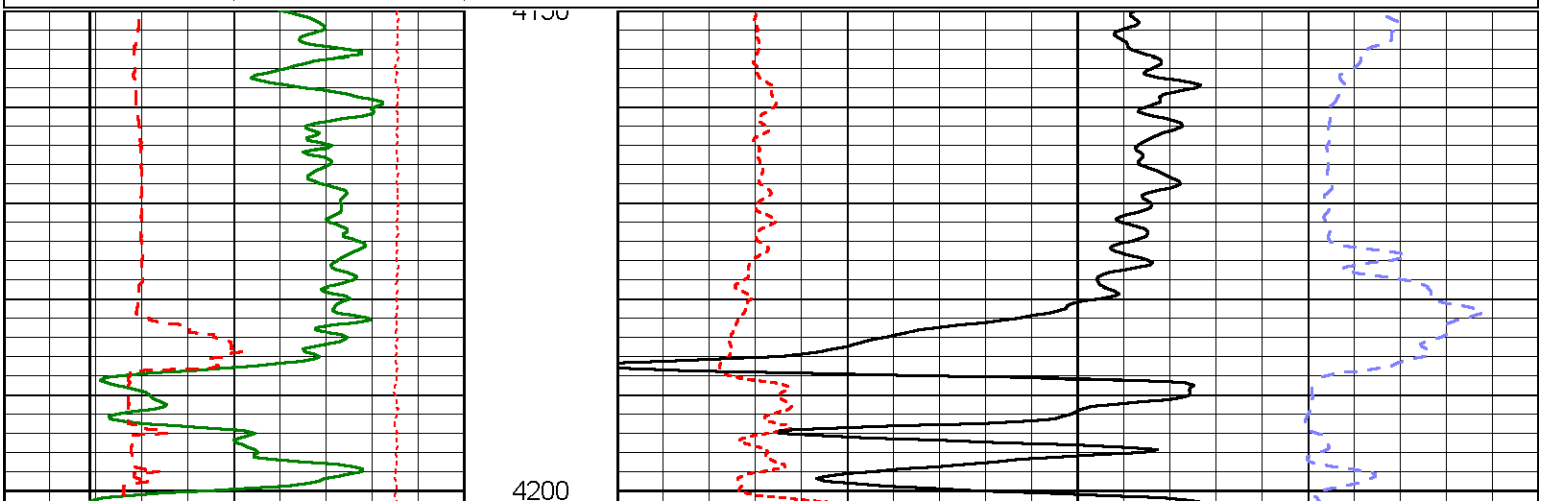
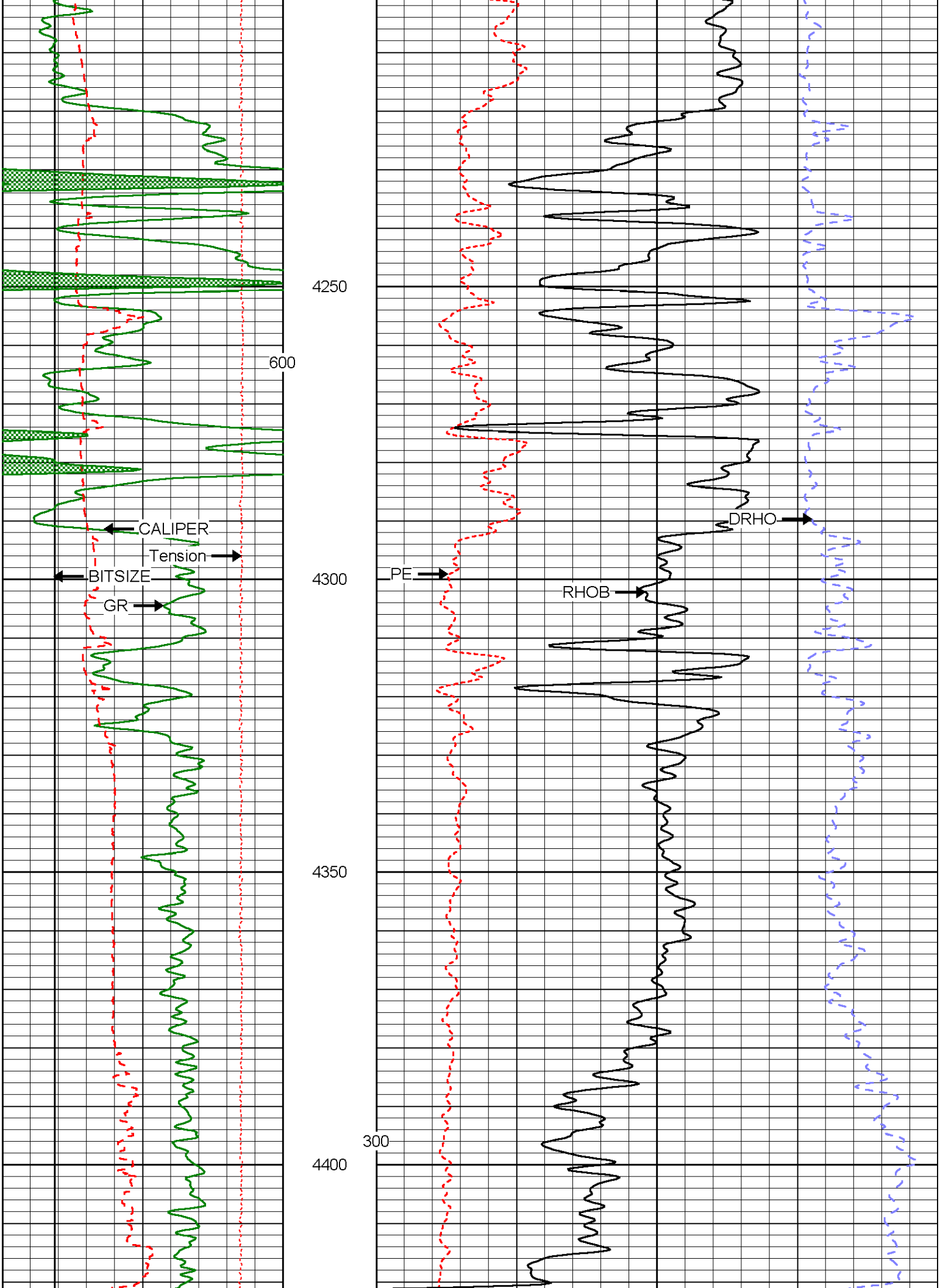


MAIN PASS

5 INCH

Database File:	lohrding_8_1.db
Dataset Pathname:	Lohrding_/run1/pass3
Presentation Format:	abulkd
Dataset Creation:	Wed Apr 27 09:09:25 2011 by Log Sondex V7.03
Charted by:	Depth in Feet scaled 1:240

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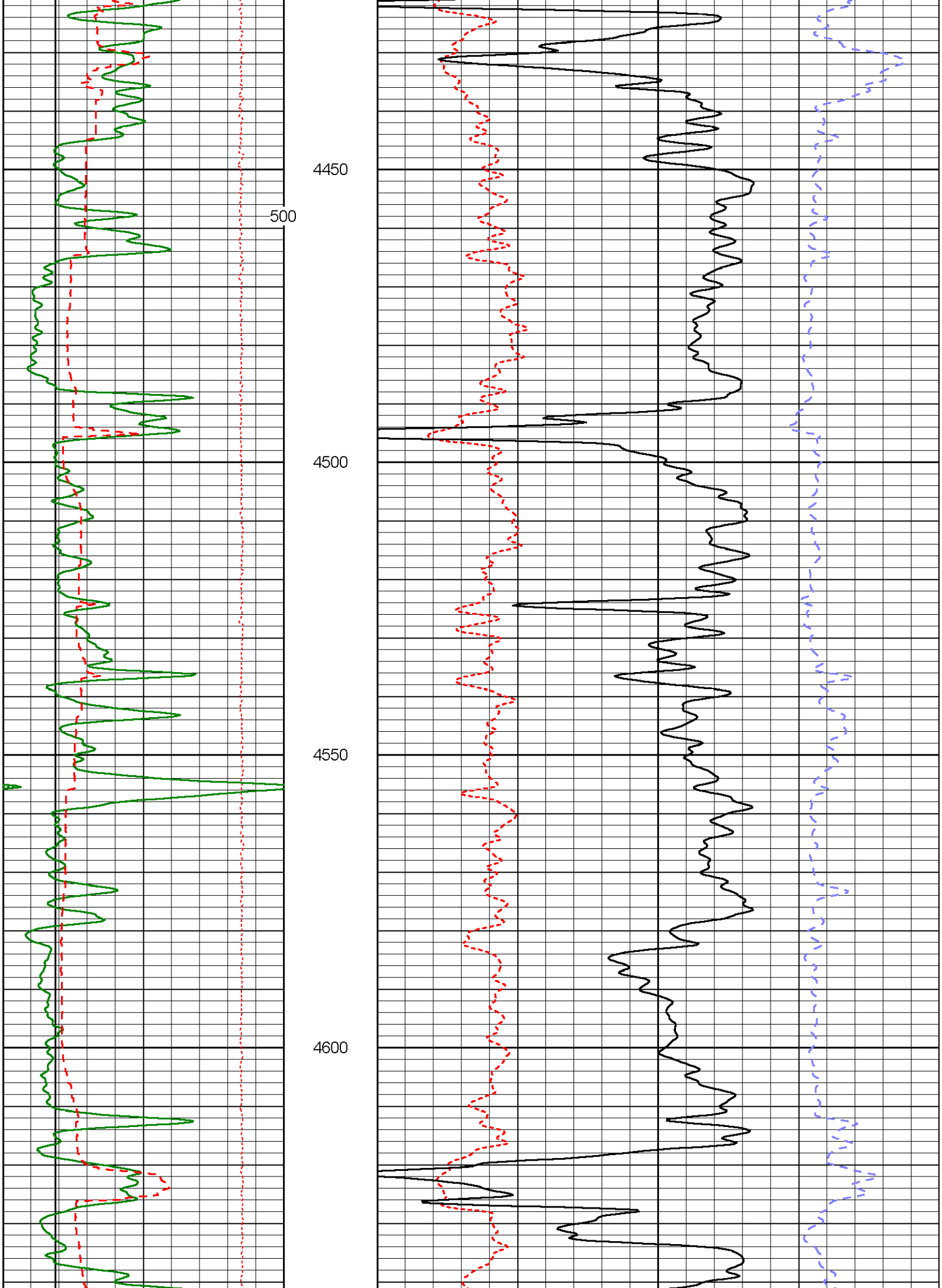
600
CALIPER
Tension
BITSIZE
GR
4300
PE
RHOB
DRHO
4350
300
4400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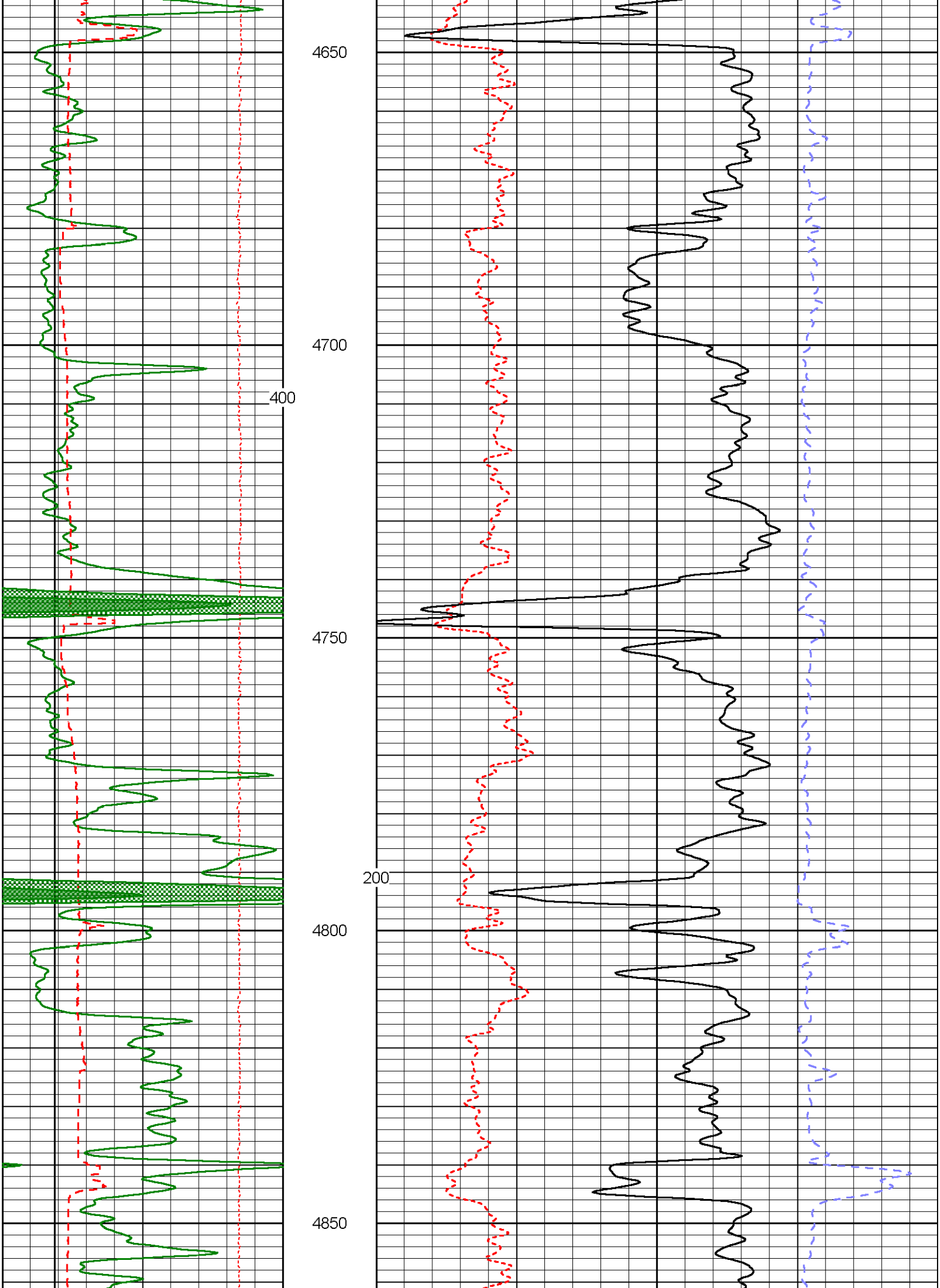
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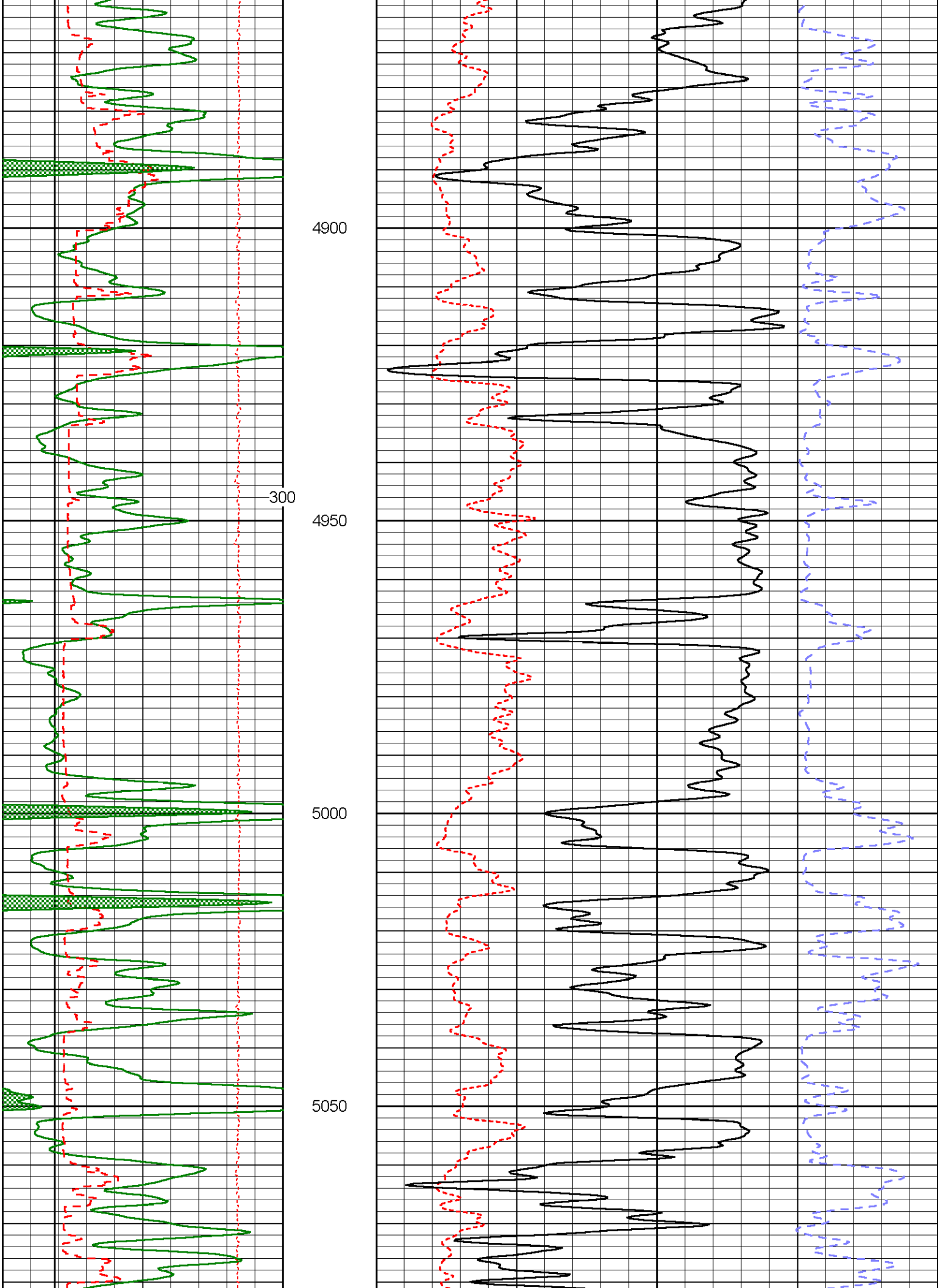
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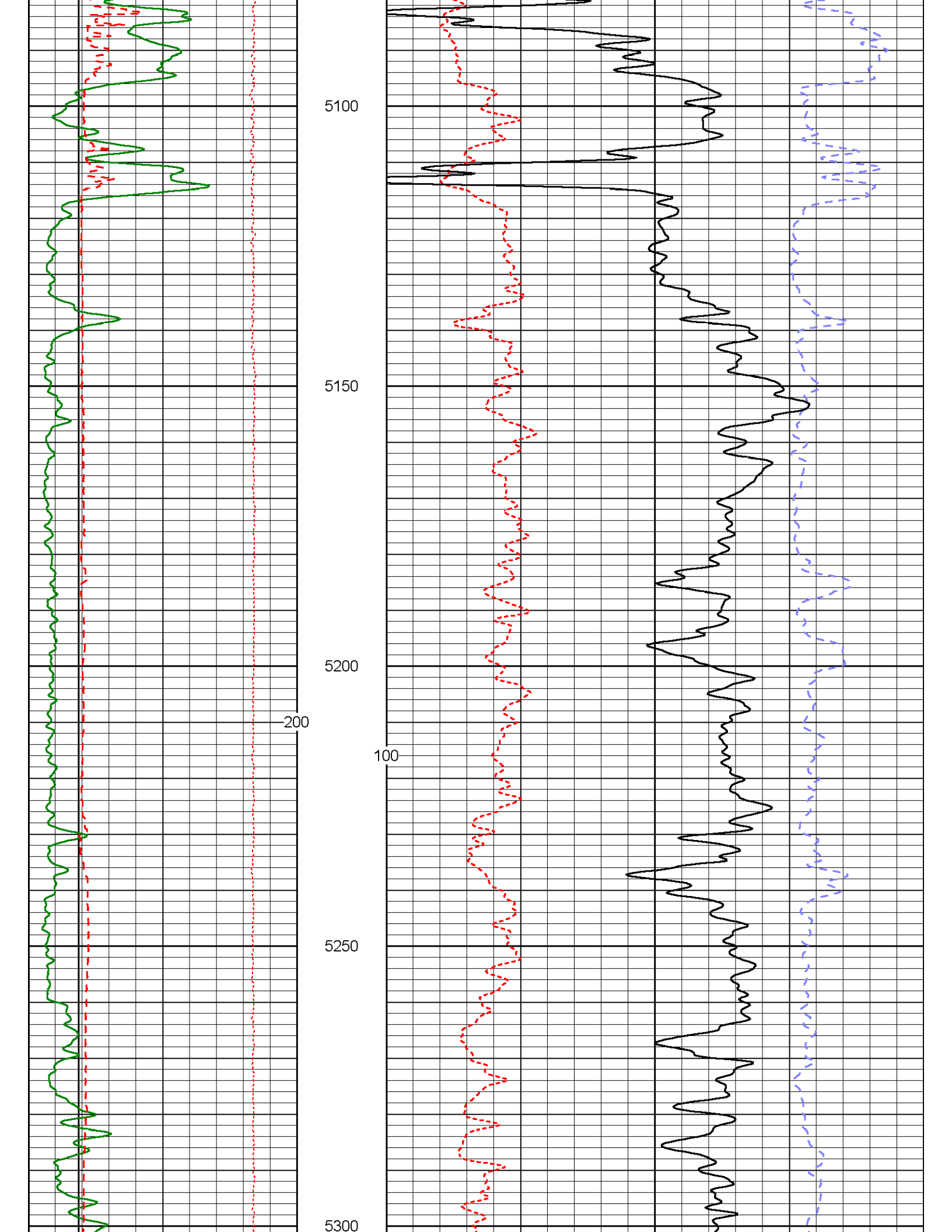
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5200
5250
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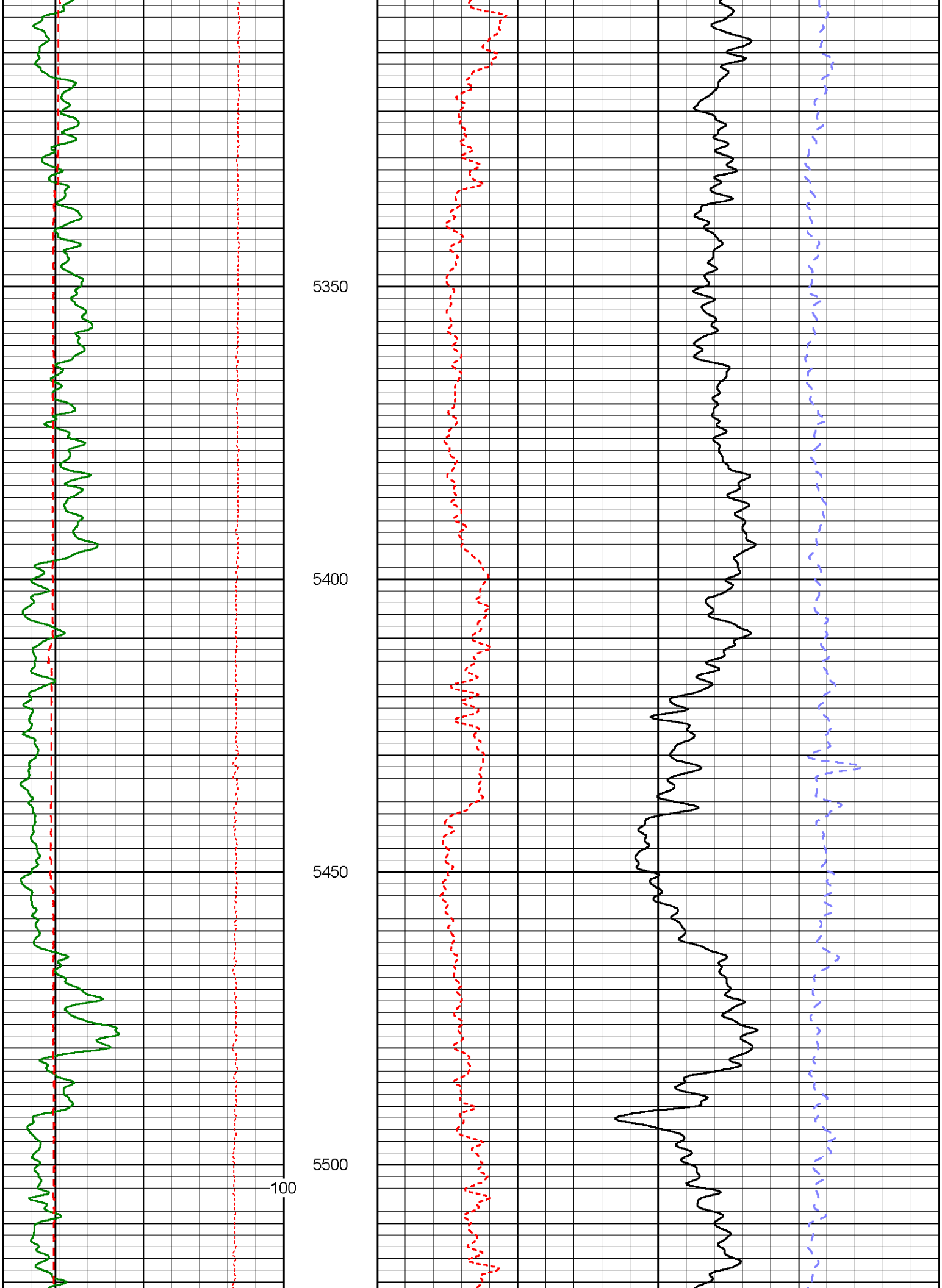
200
100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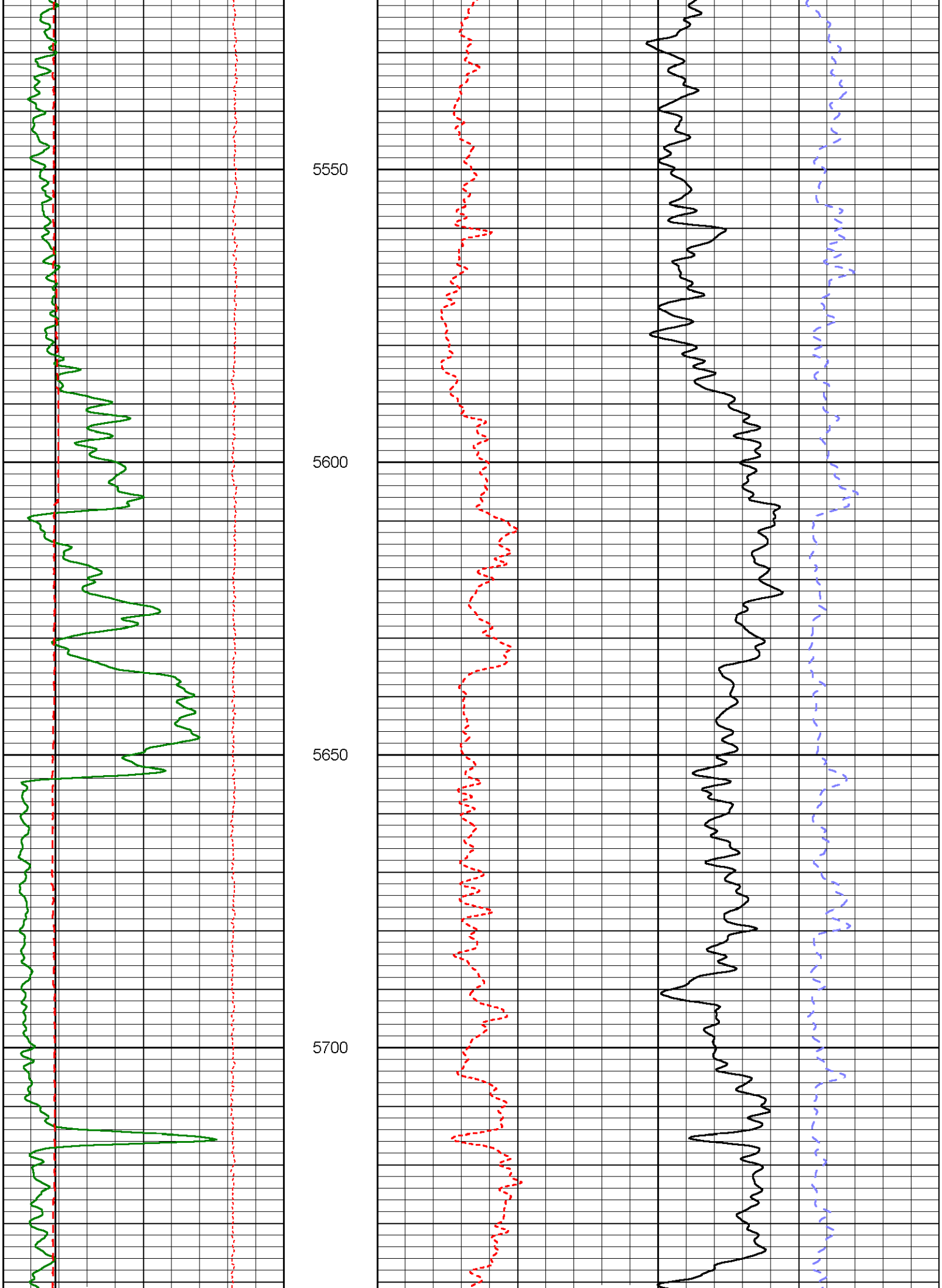
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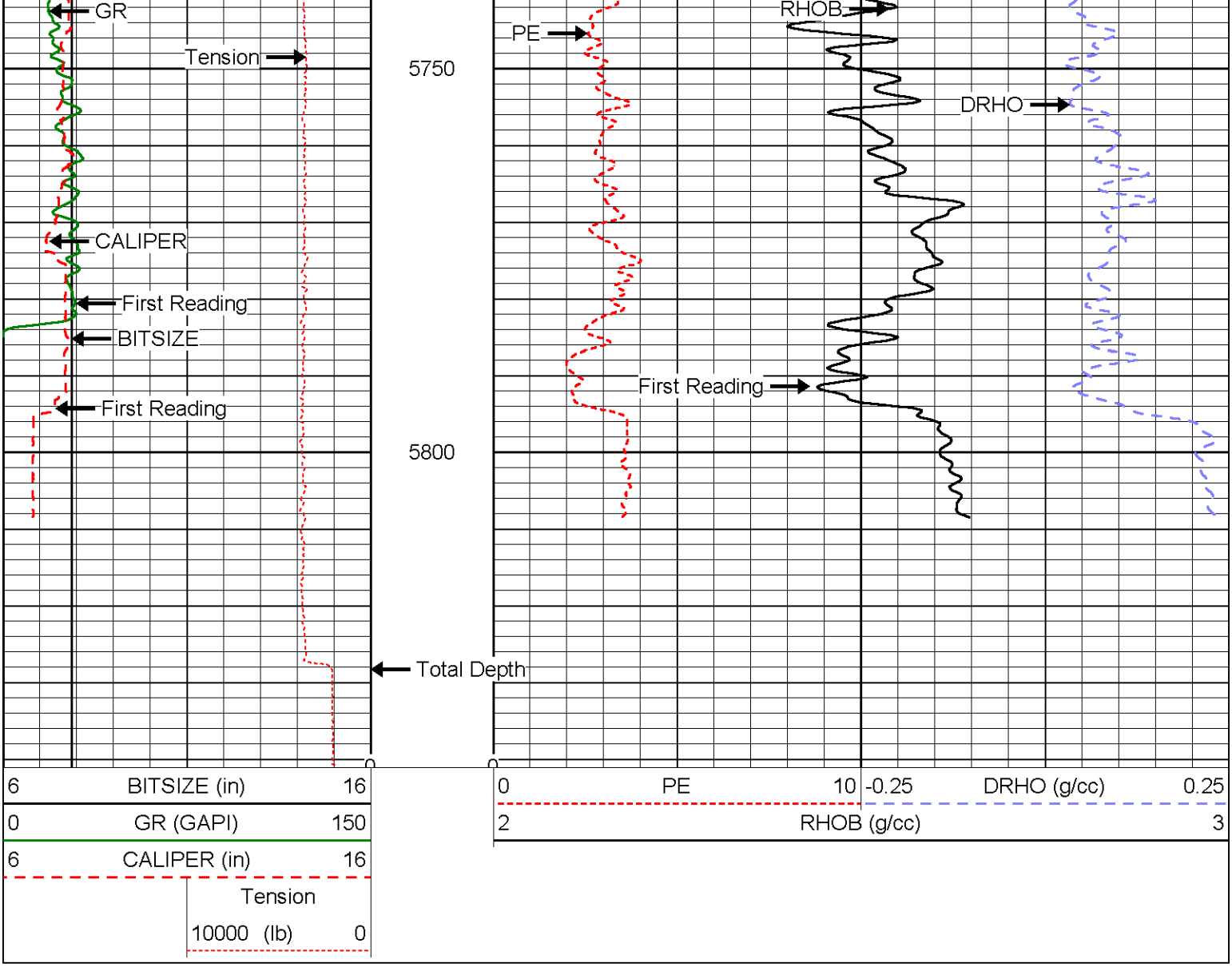
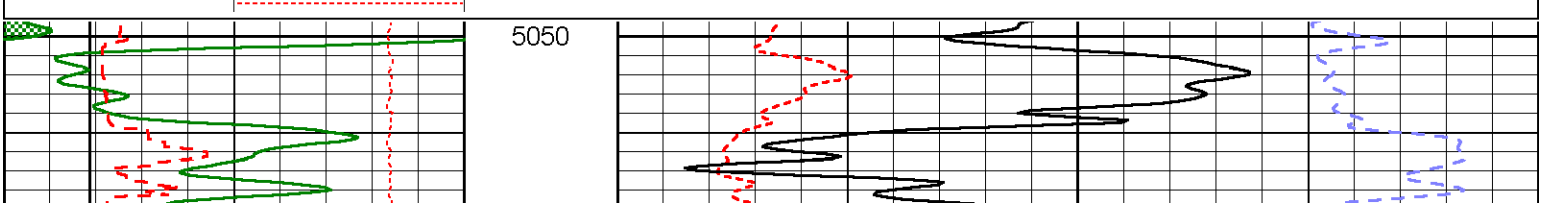
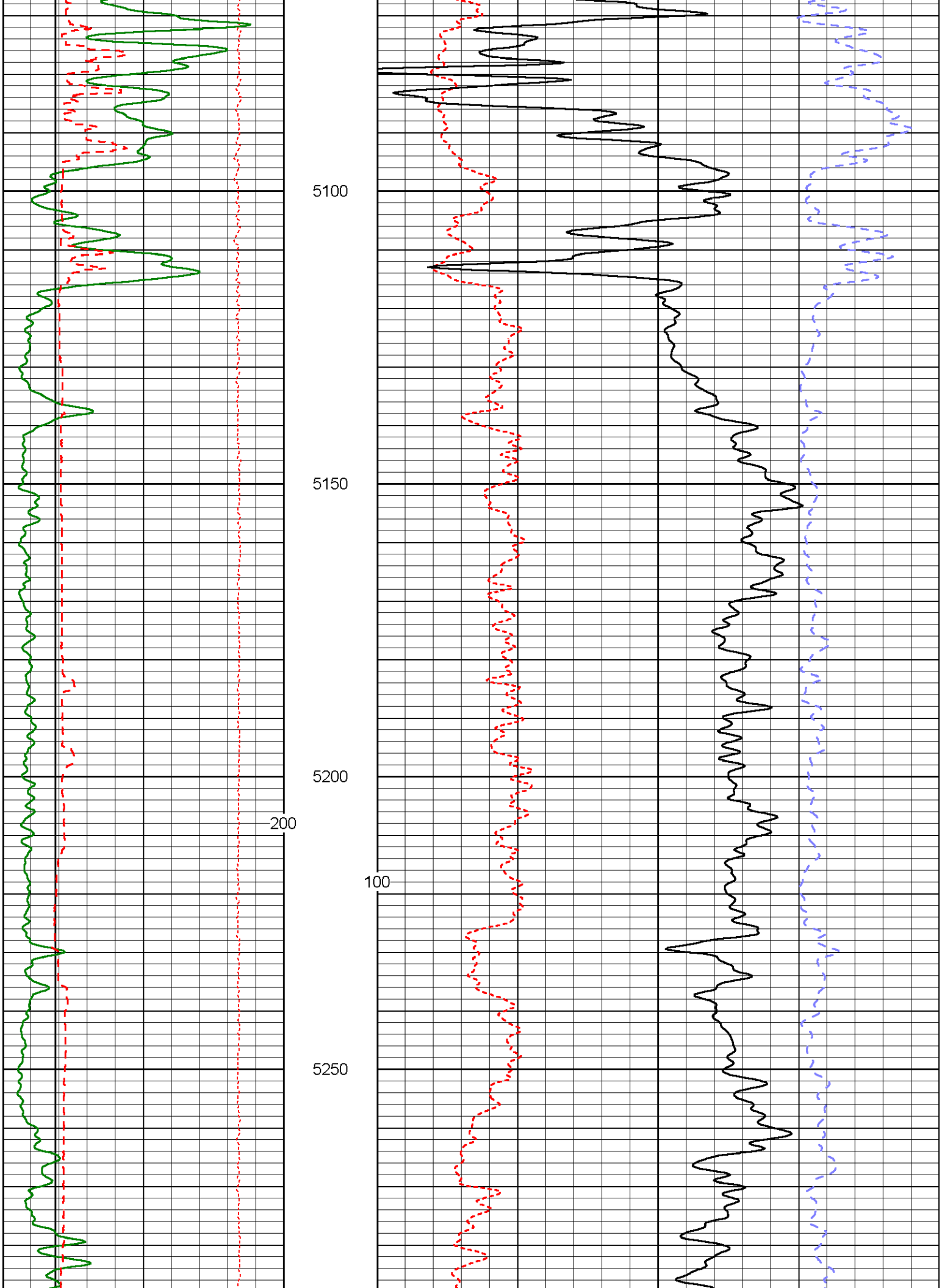


REPEAT PASS

5 INCH

Database File: lohrding_8_1.db
Dataset Pathname: Lohrding_/run1/repeat
Presentation Format: abulkd
Dataset Creation: Wed Apr 27 09:18:47 2011 by Calc Sondex V7.03
Charted by: Depth in Feet scaled 1:240

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200
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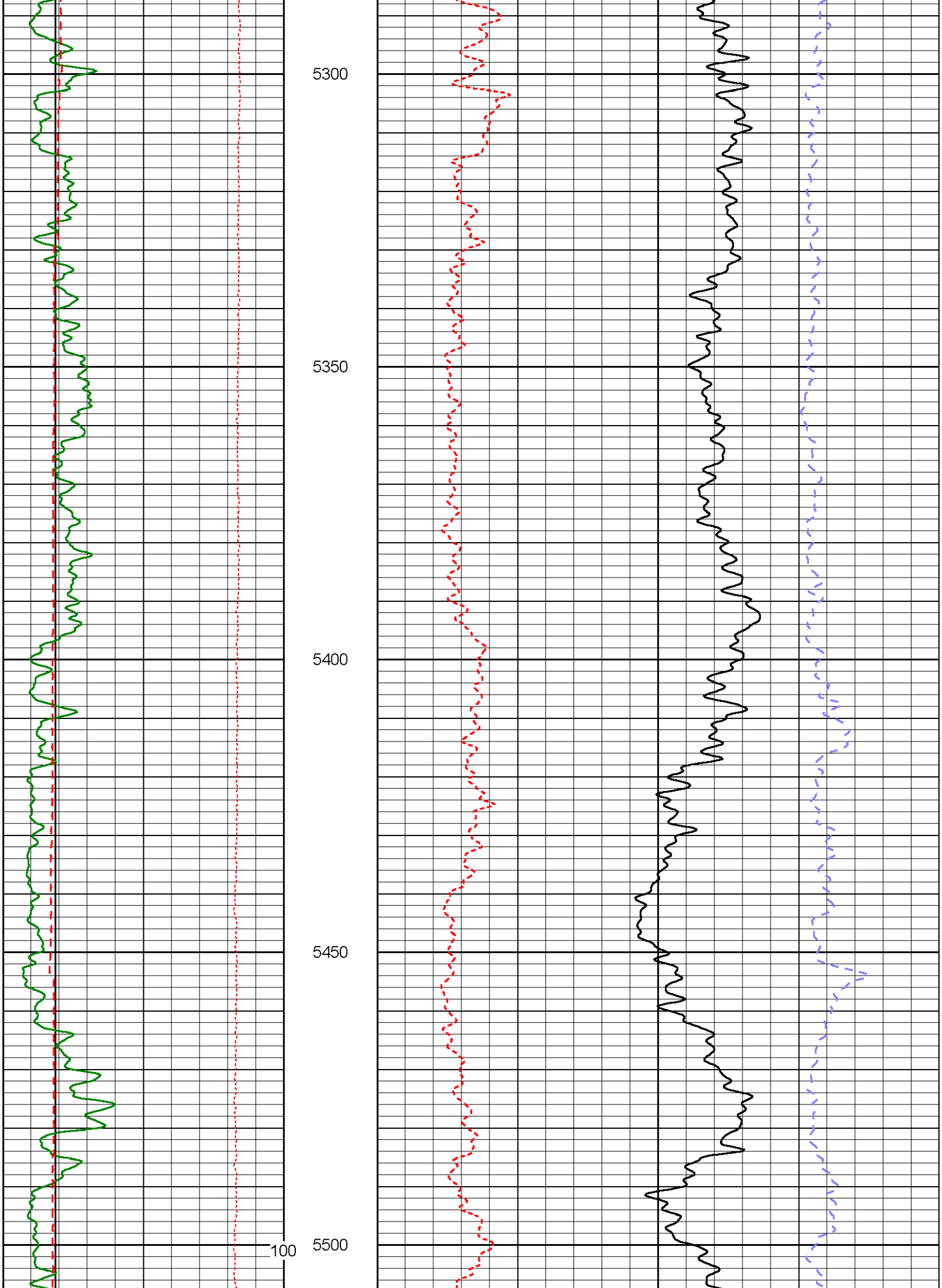
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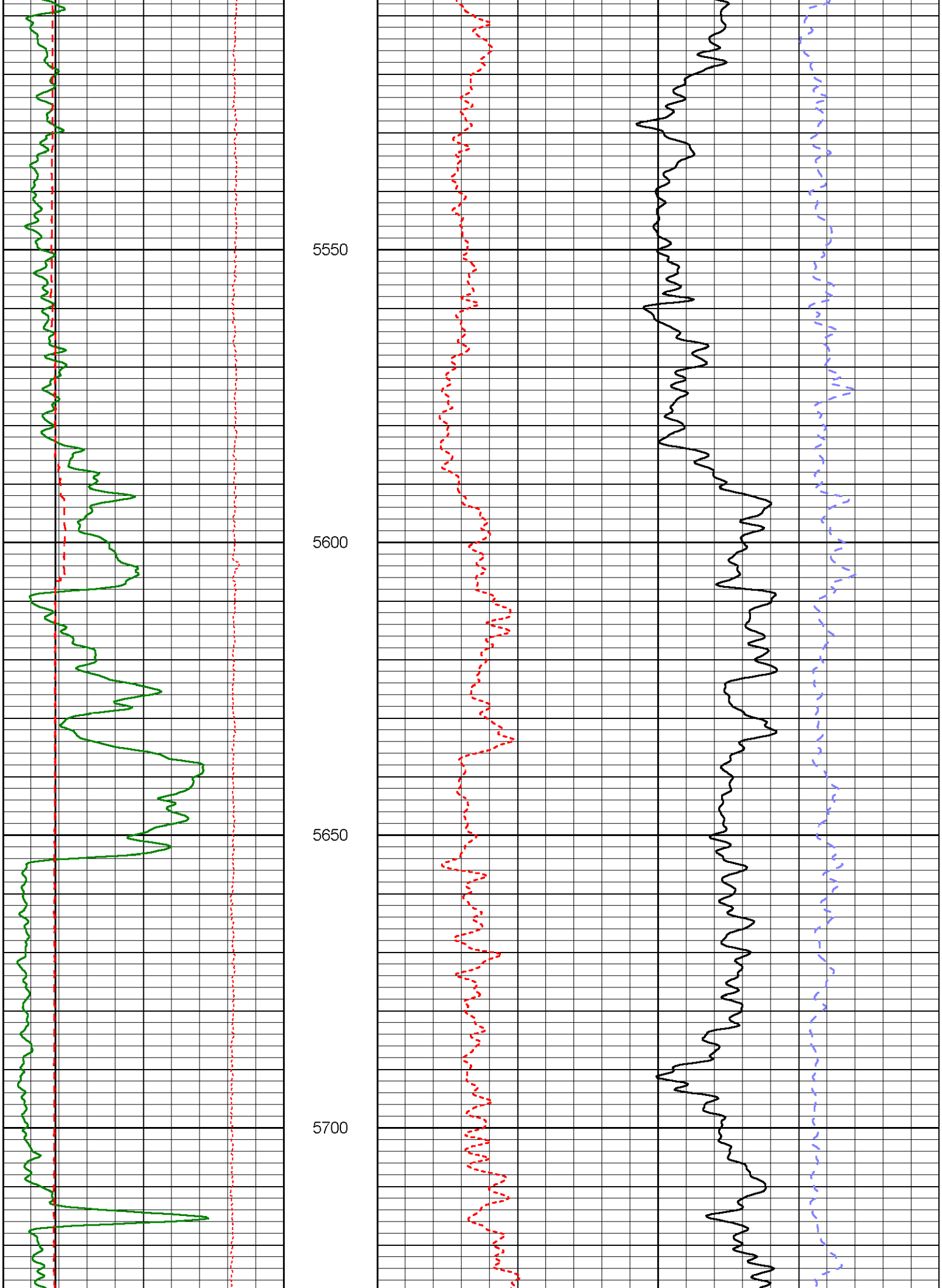
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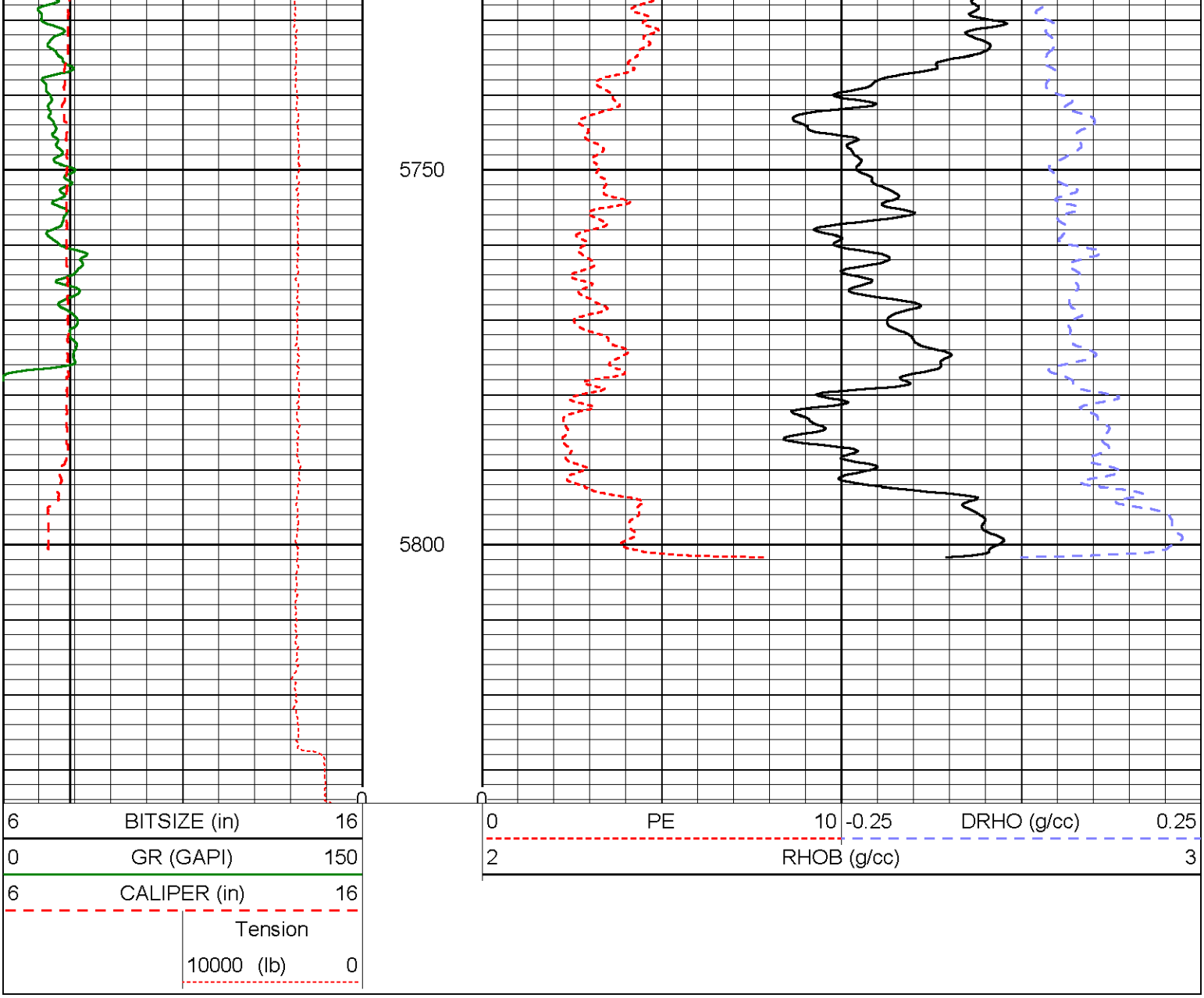


Log Variables

Database:C:\Warrior\Data\lohrding_8_1.db
Dataset: field/Lohrding_/run1/repeat

Top - Bottom

FRMSALIN kppm	MUDSALIN kppm	DEVI °	SRFTEMP degF	SO in	DE-CENT	CASED?	CASEWGHT lb/ft
0	0	0	68	0.25	Yes	No	11.5
AIR_HOLE?	**MudWgt lb/gal**	**FLUIDDEN g/cc**	**MATRXDEN g/cc**	**MAXAMPL mV**	**MINAMPL mV**	**MINATTN db/ft**	**COMPACT**
No	9.2	1	2.71	0	1	0.8	1
SVFLUID usec/ft	**SVMATRIX usec/ft**	**SPSHIFT mV**	**CASEOD in**	**PERFS**	**TDEPTH ft**	**BOTTEMP degF**	**BOREID in**
189	47.6	0	5.5	0	5830	126	7.875

Calibration Report

Database File: lohrding_8_1.db
Dataset Pathname: Lohrding_/run1/repeat
Dataset Creation: Wed Apr 27 09:18:47 2011 by Calc Sondex V7.03

Induction Array Tool Calibration Report

Serial Number: B10109
Tool Model: 002
Filter Version:

Master Calibration Performed: Wed Oct 06 07:31:12 2010
Temperature: 64.8 degF

Sonde Error:

Array	1	2	3	4	5	6	7	
Real	194.9	-9.2	-37.7	-13.3	-1.3	1.7	5.2	mmho/m
Imaginary	162.8	-7.6	-13.6	-28.4	-1.3	-0.9	-0.0	mmho/m

Loop Gain:

Array	1	2	3	4	5	6	7	
Loop (real)	537.7	678.5	1295.3	1394.1	1144.8	712.8	404.8	mmho/m
Loop (imaginary)	73.3	92.5	389.8	419.5	344.5	214.5	121.8	mmho/m
Real	762.5	724.6	1251.1	1388.6	1170.7	747.9	426.4	mmho/m
Imaginary	238.2	80.5	372.7	395.5	351.8	223.7	128.3	mmho/m
Gain (real)	0.947	0.925	1.005	0.994	0.977	0.955	0.961	
Gain (imaginary)	0.973	1.050	1.009	0.990	0.976	0.955	0.949	

Before Survey Verification Performed: Tue Apr 26 11:04:53 2011
Sonde 1 Temperature: 61.1 degF
Sonde 2 Temperature: 62.6 degF
Array 1 Temperature: 61.5 degF

Array	1	2	3	4	5	6	7
TxIR	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1
TxIX	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Tx Magnitude	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Gain	133.5	158.3	134.3	142.8	171.9	127.6	126.1
RxCR	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
RxCX	0.2	0.1	0.3	0.1	0.1	0.2	0.2
RxC Magnitude	1.6	4.2	1.7	3.0	6.7	1.3	1.2

Litho Density Tool Calibration Report

Serial Number: B10111S50130B
Tool Model: 002

Caliper Calibration Performed: Thu Apr 21 10:02:08 2011

	Diameter		Reading	
Small Ring:	6.000	in	1138.200	cps
Large Ring:	13.000	in	2003.900	cps

Gain: 0.0081
Offset: -3.3534

Master Calibration Performed: Wed Apr 20 14:53:22 2011

Source Number: 50130B
Medium: Water
Al Block Density: 2.6014 g/cc

	Background	Al Block	Al Block + Fe	
SS1	793.4	4572.5	4371.0	cps
SS2	2247.4	30837.7	29281.9	cps
SSTOTAL	5267.8	49416.2	46593.1	cps

LITH	107.3	548.3	390.9	cps
LL	212.4	905.8	870.8	cps
LU	611.4	1203.0	1175.6	cps
LS	823.8	2108.9	2046.5	cps
LSTOTAL	1557.3	5112.5	4597.6	cps
SSHV	631.1	635.4	639.1	V
LSHV	539.3	541.8	544.7	V
SSFF	0.01	0.01	0.01	
LSFF	-0.00	0.00	0.01	

Before Survey Verification Performed: Tue Apr 26 11:06:24 2011
After Survey Verification Performed:

	Master Background	Before Survey Background	After Survey Background	
SS1	793.4	790.5		cps
SS2	2247.4	2236.4		cps
SSTOTAL	5267.8	5251.3		cps
LITH	107.3	107.9		cps
LL	212.4	215.1		cps
LU	611.4	616.4		cps
LS	823.8	831.5		cps
LSTOTAL	1557.3	1562.7		cps
SSHV	631.1	633.9		V
LSHV	539.3	537.4		V
SSFF	0.01	0.02		
LSFF	-0.00	0.02		

Compensated Neutron Tool Calibration Report

Serial Number: C10089S66006B
Tool Model: 009

Master Calibration Performed: Mon Apr 25 11:49:56 2011

Source Number: 66006B

Short Spacing Counts:	6155.82	cps
Long Spacing Counts:	241.55	cps
High Voltage:	1378.98	V
Target Ratio:	27.2000	
Ratio:	25.4842	
K-Factor:	1.0673	

Before Survey Verification Performed: Tue Apr 26 11:17:18 2011
After Survey Verification Performed:

Verifier Number: 6490

Verifier Values	Master Cal	Before Survey	After Survey	
Short Spacing Counts:	248.24	297.95		cps
Long Spacing Counts:	270.23	278.92		cps
High Voltage:	1378.95	1379.27		V
Ratio:	0.9186	1.0683		

Micro Electric Log Calibration Report

Serial Number: 000001
Tool Model: 001

Caliper Calibration Performed: Mon Mar 21 16:54:34 2011

	Diameter		Reading 1	Reading 2
Small Ring:	3.000	in	1315.800	1351.000
Large Ring:	6.500	in	1323.400	1500.800
Gain:			0.4605	0.0234
Offset:			-602.9610	-28.5654

Pad Calibration

	Inverse	Normal
Gain:	1.0000	1.0000
Offset:	0.7000	0.7000

Gamma Ray Calibration Report

Serial Number:	C10099
Tool Model:	001

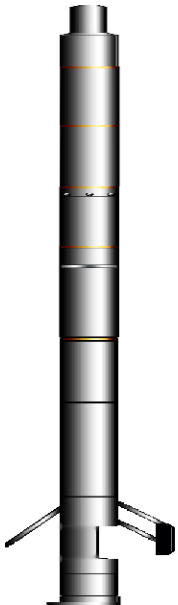
Performed:	Tue Apr 26 11:26:08 2011	
Calibrator Value:	236.0	GAPI
Background Reading:	105.6	cps
Calibrator Reading:	815.6	cps
Sensitivity:	0.3324	GAPI/cps

Head Tension Unit Calibration Report

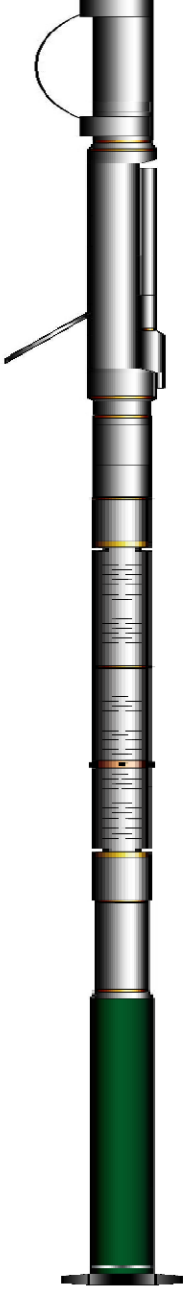
Serial Number:	000003
Tool Model:	011

Performed: Thu Oct 21 05:29:52 2010

Point #	Reference		Reading	
1	-20000.000	lb	3476.000	cps
2	0.000	lb	31341.000	cps
3	20000.000	lb	59363.000	cps
4		lb		cps
5		lb		cps
6		lb		cps
7		lb		cps
8		lb		cps
9		lb		cps
10		lb		cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-001 (000004) Cable Head	2.19	3.38	35.00
			XTU-008 (C10087) Crossover Ultrawire Toolbus to Ultralink	2.08	3.38	47.00
HTEN	61.68		HTU-011 (000003) Head Tension Unit	2.18	3.38	55.00
			SJT-001 (000001) Swivel Joint	2.11	3.38	53.00
GR	57.54		GRT-001 (C10099) Gamma Ray Tool	3.22	3.38	69.00
			MEL-001 (000001) Micro Electric Log	9.17	3.38	190.00
MEL	47.55					

CNLSC CNSSC	42.74 42.24	CNL-009 (C10089S66006B) Compensated Neutron Logging Tool	5.27	3.38	125.00
LDT	32.58	LDT-002 (B10111S50130B) Litho Density Tool	9.75	4.50	310.00
		KJT-001 (000001) Knuckle Joint	2.86	3.38	72.00
WVFUTRF WVFUTRN WVFLTRF WVFLTRN	21.68 20.68 20.68 19.68	MAS-001SS (C10038SS) Multi Array Sonic Tool (SS)	14.28	3.38	242.00
IAT	8.44	IAT-002 (B10109) Induction Array Tool	13.22	3.88	196.00
SP	0.42	BN-SOFF (000001) Bottom Nose Standoff	0.38	6.88	6.00



Dataset:	lohrding_8_1.db: field/Lohrding_/run1/repeat
Total Length:	66.71 ft
Total Weight:	1400.00 lb
O.D.	6.88 in

ALLIED WIRELINE

Company:	COMANCHE RESOURCES Co., LLC
Well:	LOHRDING 8-1
Field:	WILDCAT
State:	KANSAS