Confidentiality Requested:
☐ Yes ☑ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1226320

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 33989
Name: Bengalia Land and Cattle Company
Address 1: PO BOX 521008
Address 2:
City: TULSA State: OK Zip: 74152 + 1008
Contact Person: David Hullum
Phone: (918) 587-8022
CONTRACTOR: License # 5822
Name: Val Energy, Inc.
Wellsite Geologist: Mark Crawford
Purchaser:

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☑ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☐ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

☐ Deepening ☐ Re-perf. ☐ Conv. to ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

03/19/2014	3/30/2014	3/30/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-069-20472-00-00
Spot Description:
SE - SW - NW - NE Sec. 19 Twp. 25 S. R. 30 ☐ East ☑ West
1190 Feet from ☑ North / ☐ South Line of Section
2173 Feet from ☑ East / ☐ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☑ NE ☐ NW ☐ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Gray
Lease Name: XPO-RENICK Well #: 1-19A
Field Name:
Producing Formation: Mississippian
Elevation: Ground: 2735 Kelly Bushing: 2745
Total Vertical Depth: 5010 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1800 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 4100 ppm Fluid volume: 100 bbls
Dewatering method used: Evaporated

Location of fluid disposal if hauled offsite:

Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

☐ **Confidentiality Requested**
Date:
☐ **Confidential Release Date:**
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 10/07/2014

1226320

Operator Name: Bengalia Land and Cattle Company Lease Name: XPO-RENICK Well #: 1-19A

Sec. 19 Twp. 25 S. R. 30 ☐ East ☑ West County: Gray

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Attached

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Cherokee	4608	
Morrow	4755	
Mississippi	4775	
St. Louis	4875	

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
surface	12.25	8.625	24	1800	light	590	
production	7.875	5.5	15.5	4975	aa2	320	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ Plug Off Zone	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☑ Yes ☐ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☑ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
4			4862-4870

TUBING RECORD: Size: 2.375 Set At: 4832 Packer At: Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 8/28/2014

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	0	0	68		

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:
4862
4870

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Bengalia Land and Cattle Company
Well Name	XPO-RENICK 1-19A
Doc ID	1226320

All Electric Logs Run

Sonic
Resistivity
Cement Bond Log
Microlog

COMPANY	BENGALIA LAND AND CATTLE COMPANY
WELL	XPO 1-19A
FIELD/BLOCK	DANIELLE
COUNTY	GRAY
STATE	KANSAS

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

COMPANY **BENGALIA LAND AND CATTLE COMPANY**

WELL **XPO 1-19A**

FIELD/BLOCK **DANIELLE**

COUNTY **GRAY** STATE **KANSAS**

API No. 15-069-20472-00-00

Location (SHL) 1190' FNL & 2173' FEL

Sect. 19 Twp. 25S Rge. 30W

Other Services:
DSN /SDL
MICROLOG
BSAT
ACRT
XRMI

Permanent Datum GL Elev. 2735.0 ft

Log measured from KB 10.0 ft above perm. Datum

Drilling measured from KB

Elev.: K.B. 2745.0 ft
D.F. 2744.0 ft
G.L. 2735.0 ft

Date	28-Mar-14					
Run No.	ONE					
Depth - Driller	5010.00 ft					
Depth - Logger	5003.0 ft					
Bottom - Logged Interval	4993					
Top - Logged Interval	1852					
Casing - Driller	8.625 in	@ 1858.0 ft		@		@
Casing - Logger	1852.0 ft					
Bit Size	7.875 in			@		@
Type Fluid in Hole	Water Based Mud					
Density / Viscosity	8.9 ppg	57.00 s/qt				
PH / Fluid Loss	9.50 pH	7.6 cptm				
Source of Sample	MUD PIT					
Rm @ Meas. Temperature	1.430 ohmm	@ 70.00 degF		@		@
Rmf @ Meas. Temperature	1.22 ohmm	@ 70.00 degF		@		@
Rmc @ Meas. Temperature	1.640 ohmm	@ 70.00 degF		@		@
Source Rmf / Rmc	CALCULATED	CALCULATED				
Rm @ BHT	0.87 ohmm	@ 120.0 degF		@		@
Time Since Circulation	5.5000 hr					
Time on Bottom	28-Mar-14 10:50					
Max. Rec. Temperature	120.0 degF	@ 5003.0 ft		@		@
Equipment / Location	11230668	LIBERAL				
Recorded By	SHELDON INGERSOLL					
Witnessed By	A. GARNER		M. CRAWFORD			

Fold here

Service Ticket No.: 901224229 API Serial No.: 15-069-20472-00-00 PGM Version: WL INSITE R4.2.0 (Build 2)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE					
Date	Sample No.				
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@		@	
Rmf @ Meas. Temp.		@		@	
Rmc @ Meas. Temp.		@		@	
Source Rmf	Rmc				
Rm @ BHT		@		@	
Rmf @ BHT		@		@	
Rmc @ BHT		@		@	

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	ACRT	N/A	CENT	
	10929775			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	10748374	Serial No.	10747684	Serial No.	10673790	Serial No.	10735145
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.	2	Diameter	5.3"	Diameter	3.625"
Detector Model No.	T-102	Spacing	.5'	Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS-137	Source Type	AM-241BE
Length	8"	LSA [Y/N]		Serial No.	5073GW	Serial No.	DSN-436
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5003	1852	REC	0	150	30	-10	47.6 us/ft	30	-10	2.71 gm/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

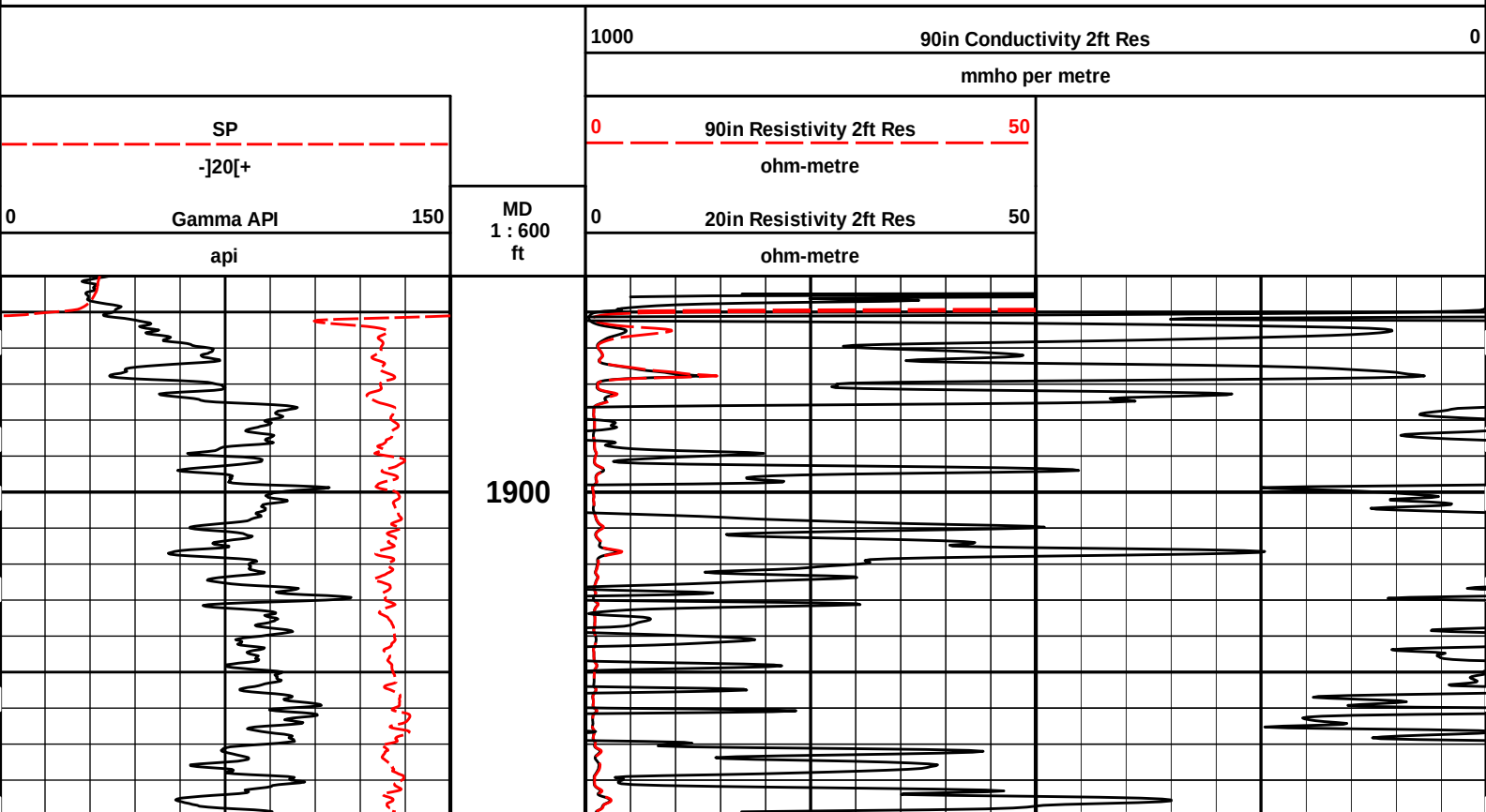
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

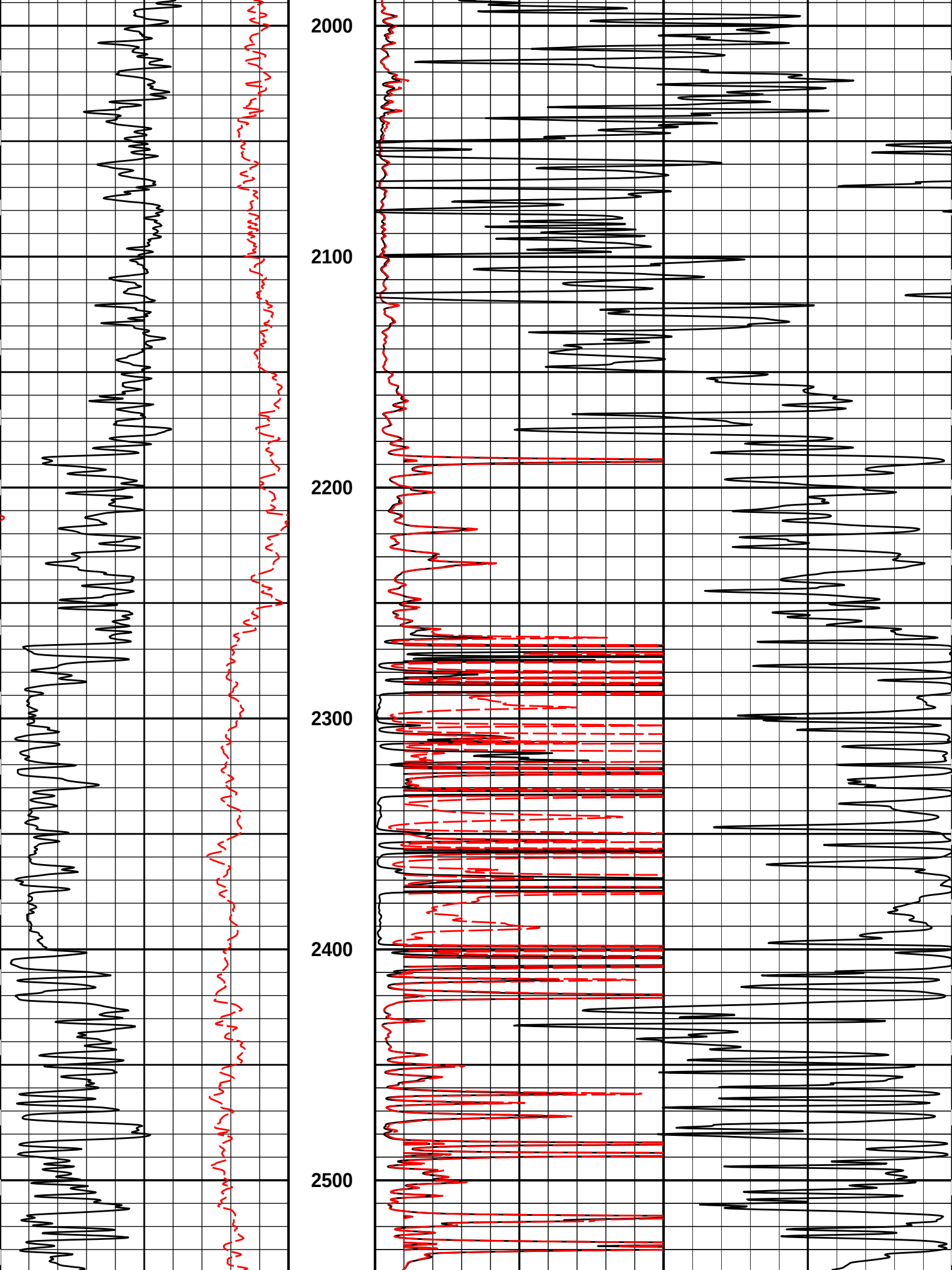
CHLORIDES REPORTED FOR 1700 ppm.

HALLIBURTON

Plot Time: 28-Mar-14 13:27:59
Plot Range: 1840 ft to 5005.75 ft
Data: XPO_1-19A\Well Based\R1 CASING
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\ACRT\ACRT_2_lib

2 INCH MAIN LOG

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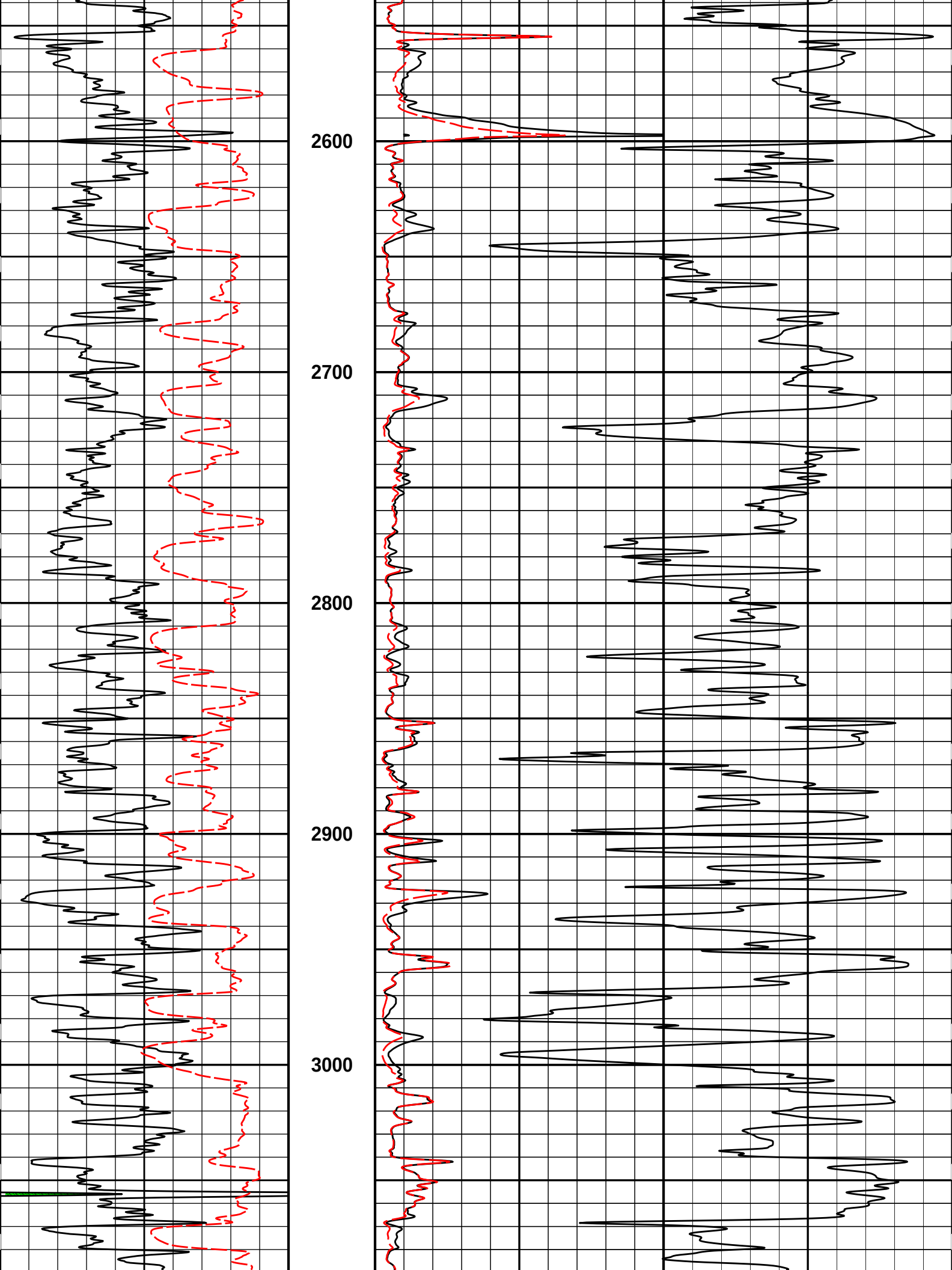
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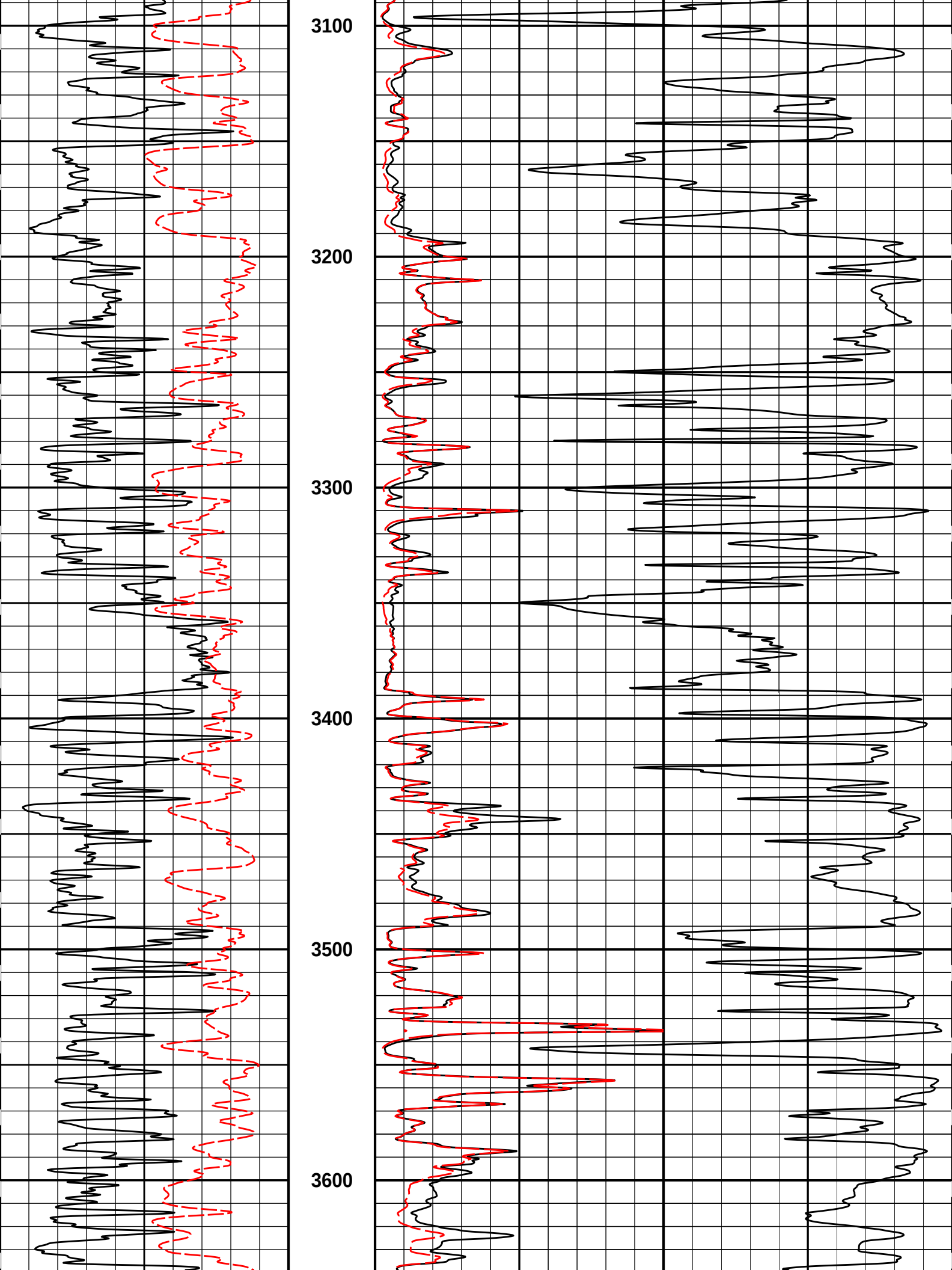
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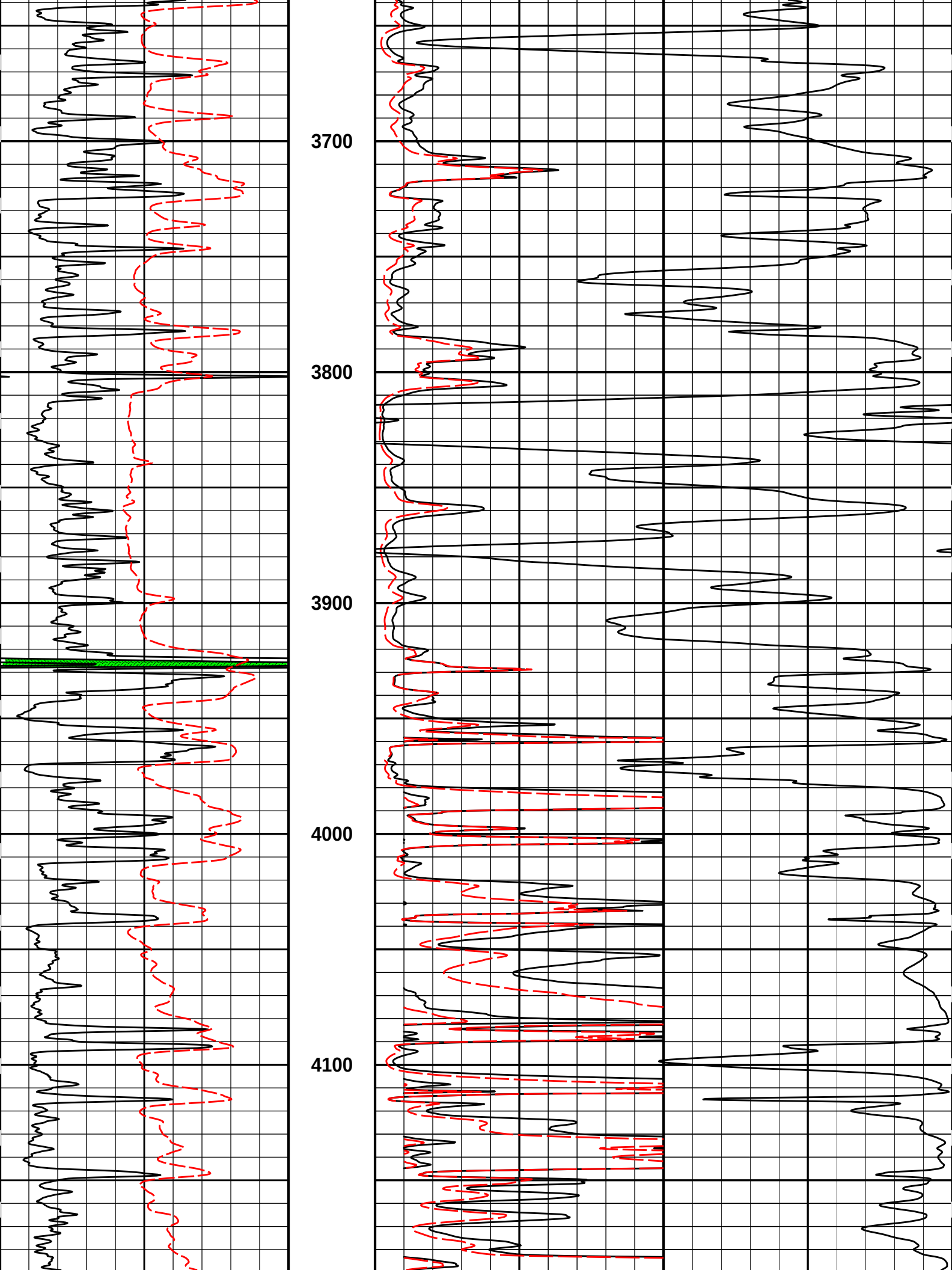
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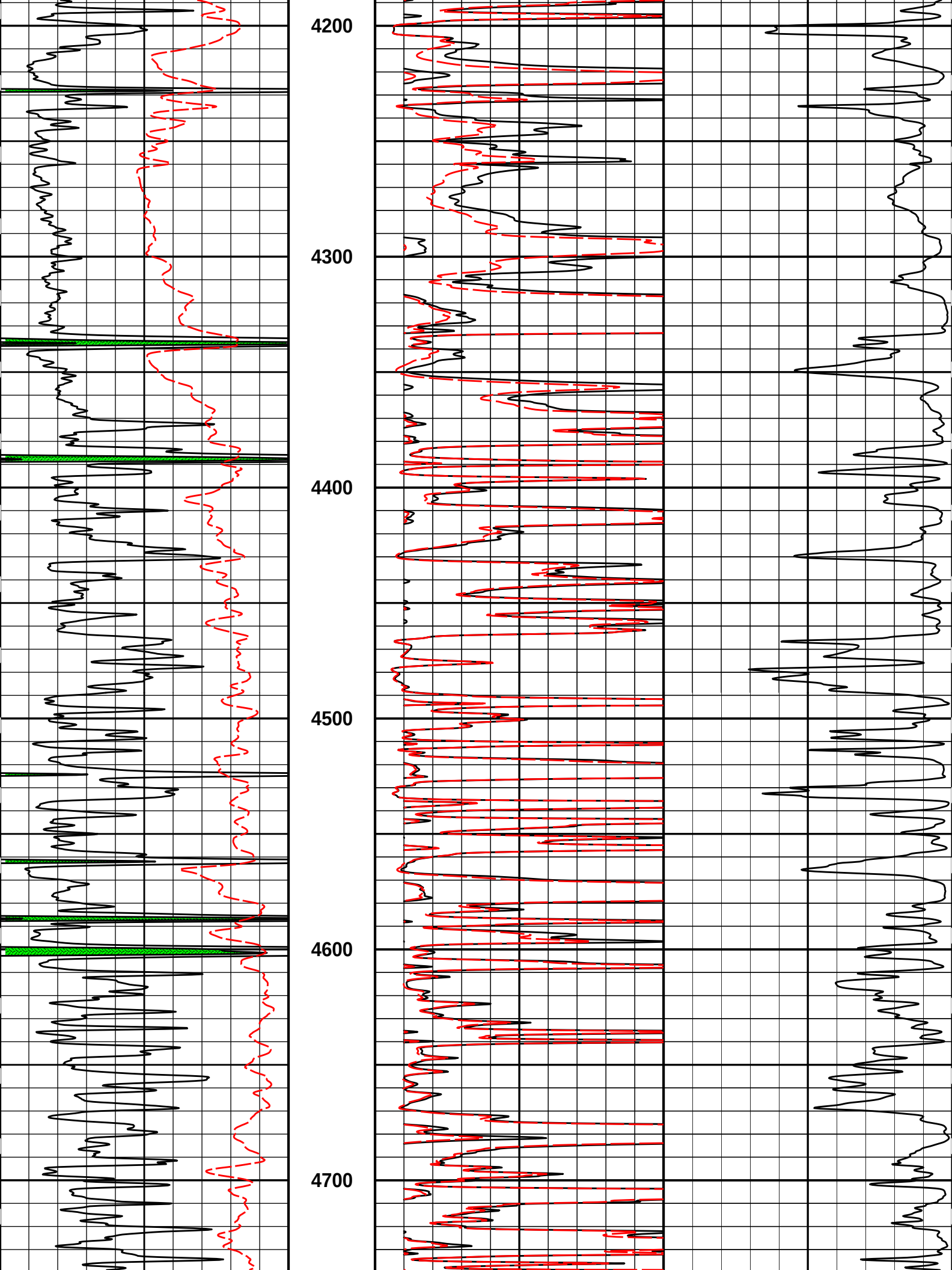
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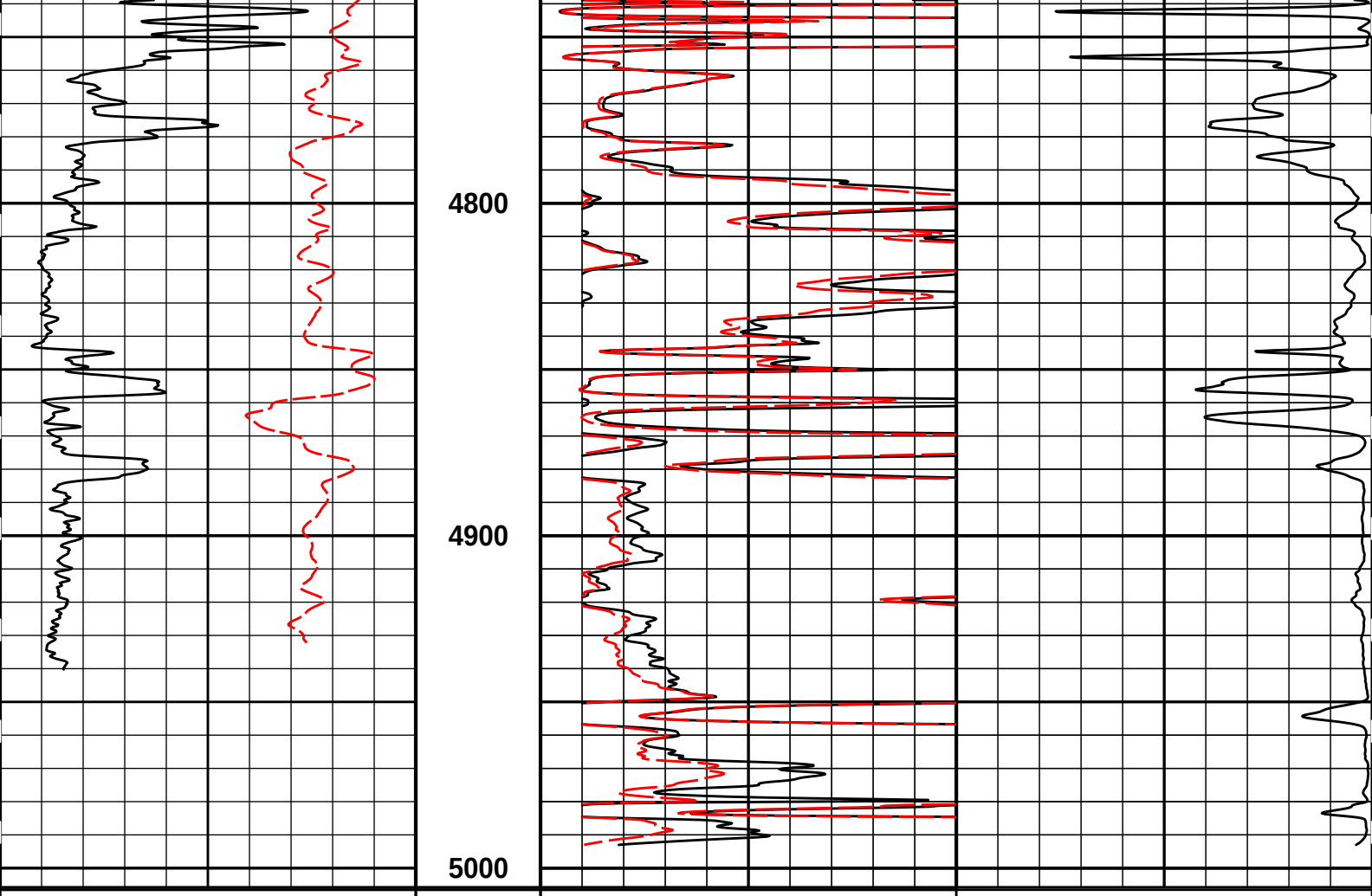

0 Gamma API 150	MD 1 : 600 ft	0 20in Resistivity 2ft Res 50	
api		ohm-metre	
SP		0 90in Resistivity 2ft Res 50	
-]20[+		ohm-metre	
		1000 90in Conductivity 2ft Res 0	
		mmho per metre	

HALLIBURTON

Plot Time: 28-Mar-14 13:28:00
Plot Range: 1840 ft to 5005.75 ft
Data: XPO_1-19A\Well Based\R1 CASING\
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\ACRT\ACRT_2_lib

2 INCH MAIN LOG

HALLIBURTON

Plot Time: 28-Mar-14 13:28:00
Plot Range: 1840 ft to 5005.75 ft
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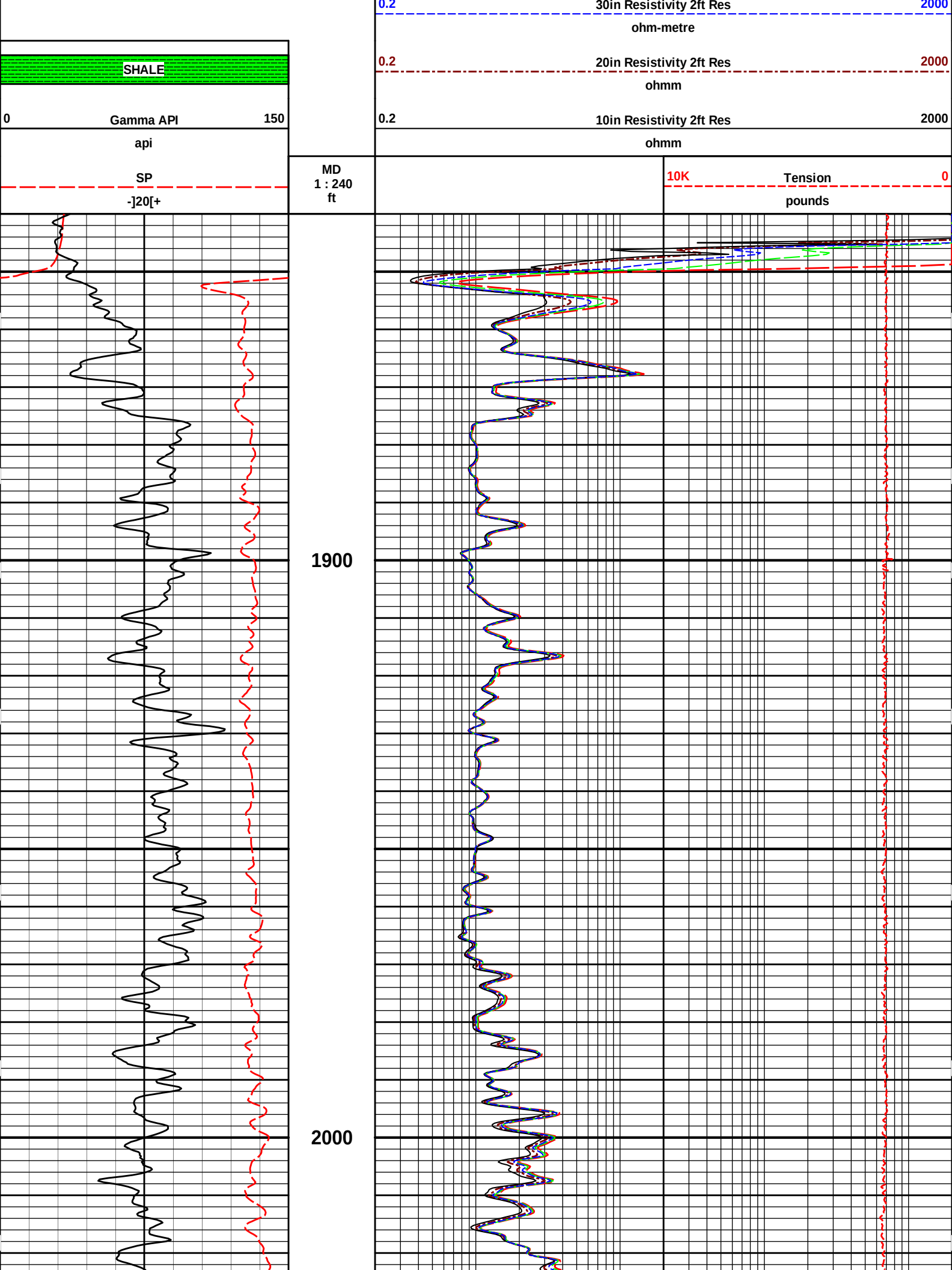
5 INCH MAIN LOG

0.2 90in Resistivity 2ft Res 2000
ohmm
0.2 60in Resistivity 2ft Res 2000
ohmm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Gamma API
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SP
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MD
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ft
0.2
30in Resistivity 2ft Res
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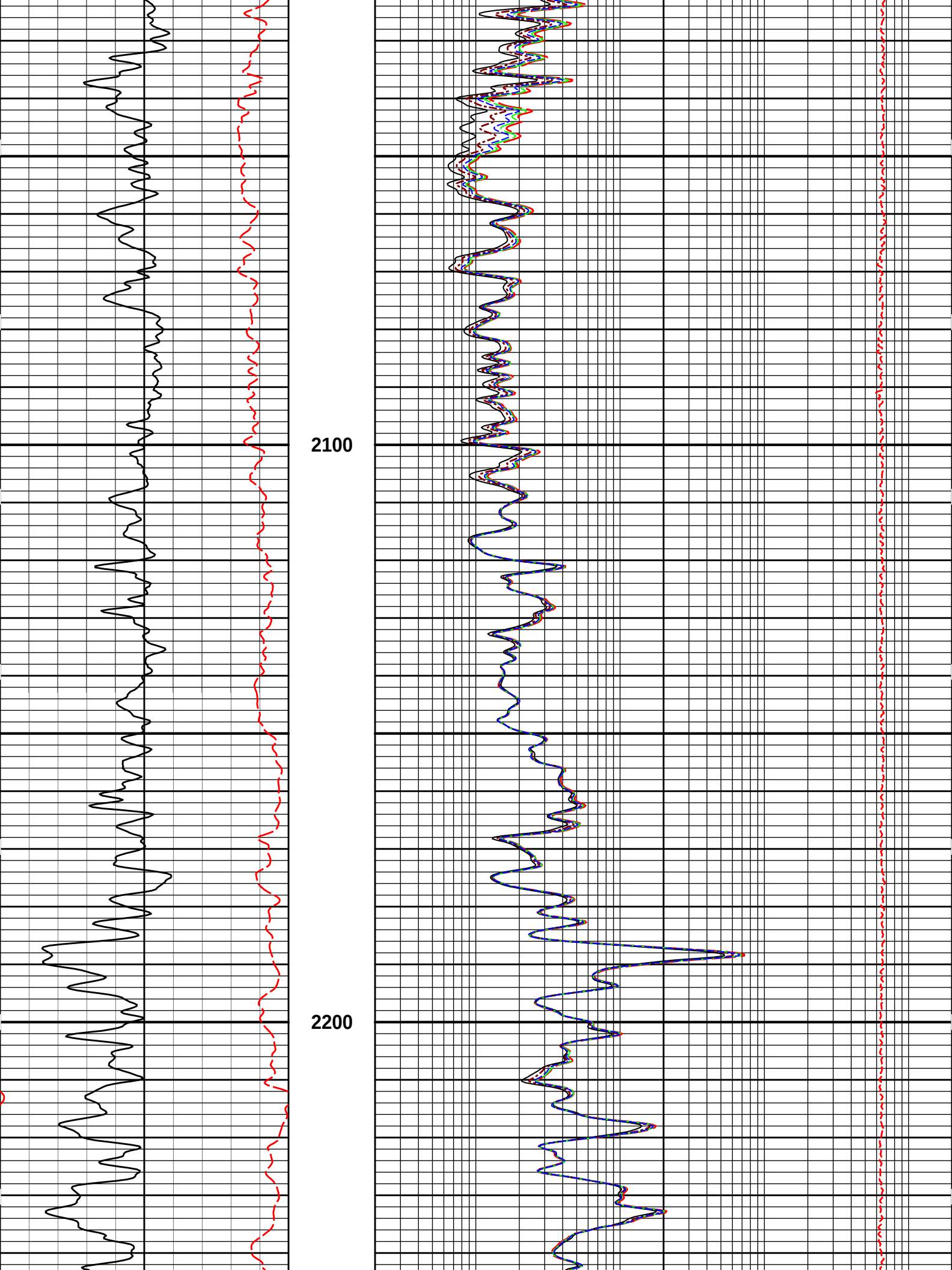
ohm-metre
0.2
20in Resistivity 2ft Res
2000
ohmm
0.2
10in Resistivity 2ft Res
2000
ohmm
10K
Tension
0
pounds
1900
2000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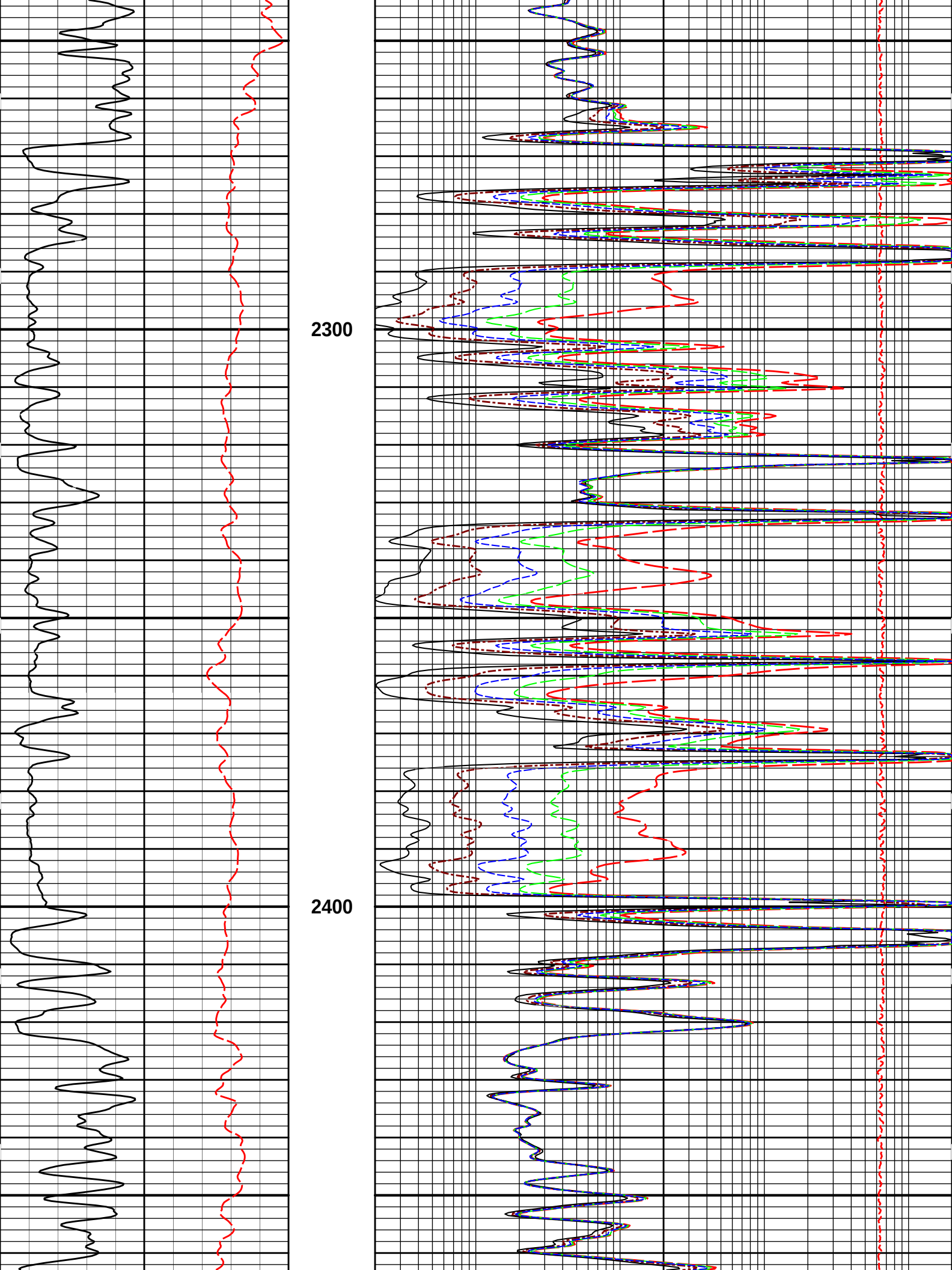
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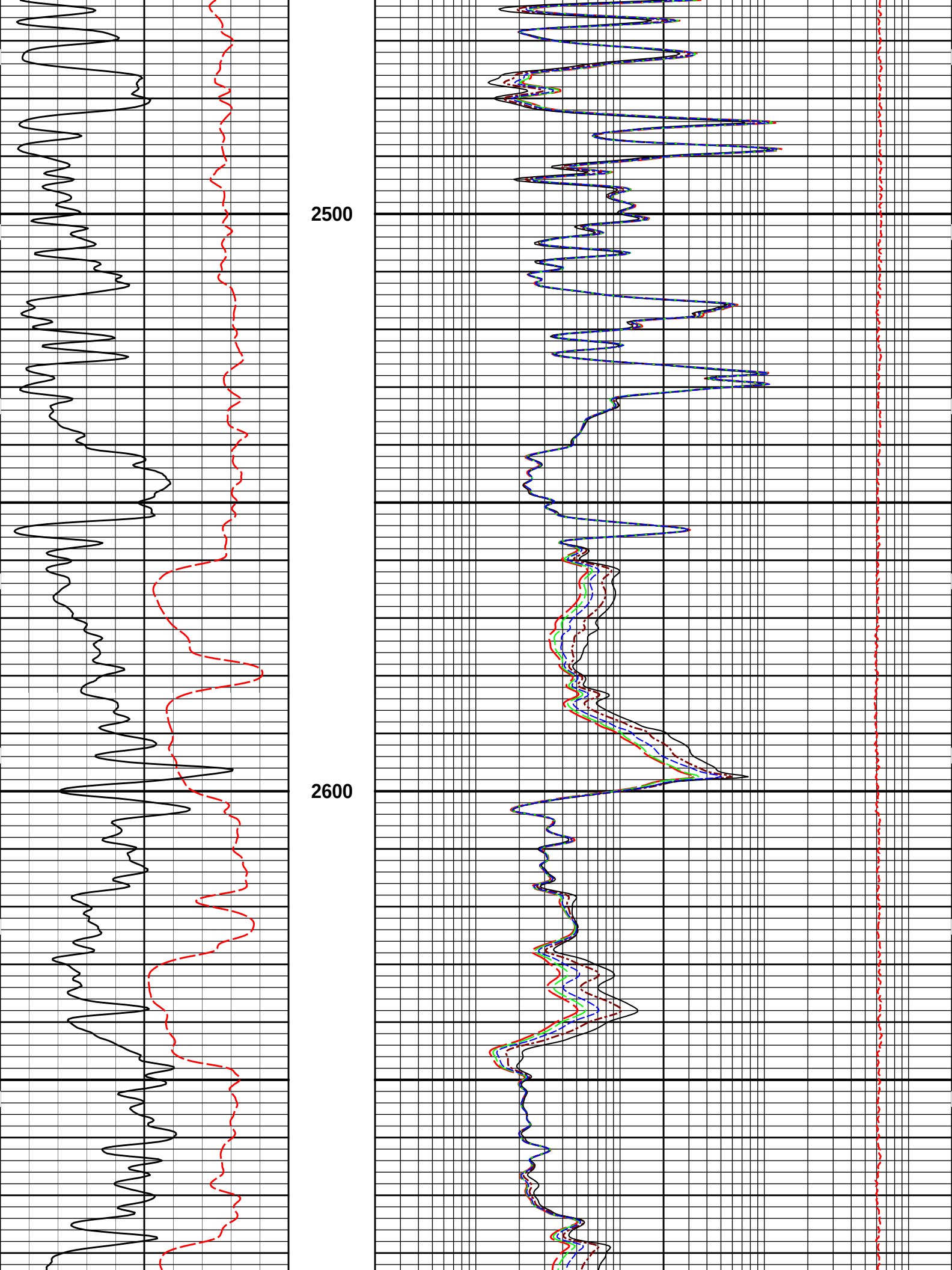
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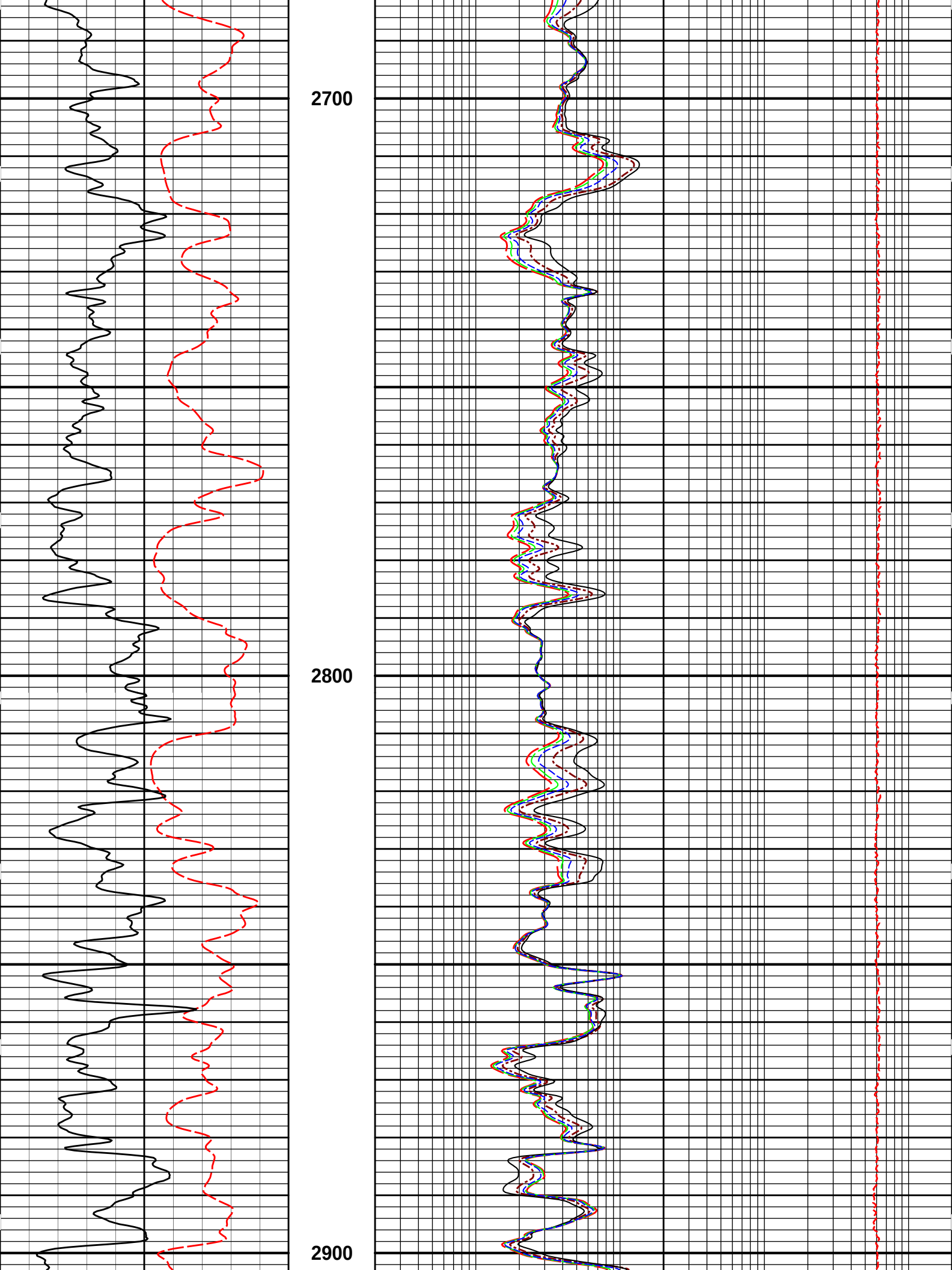
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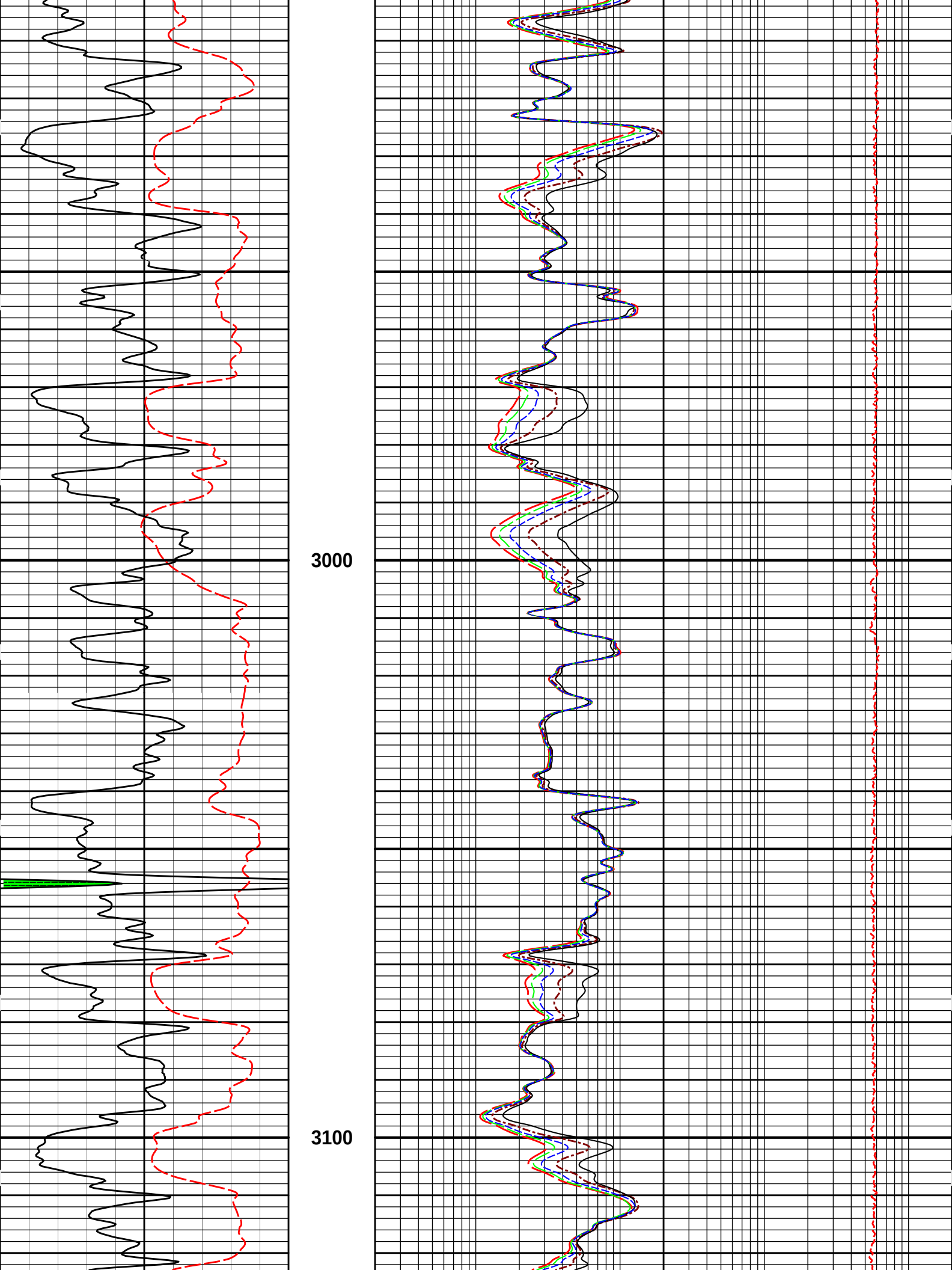
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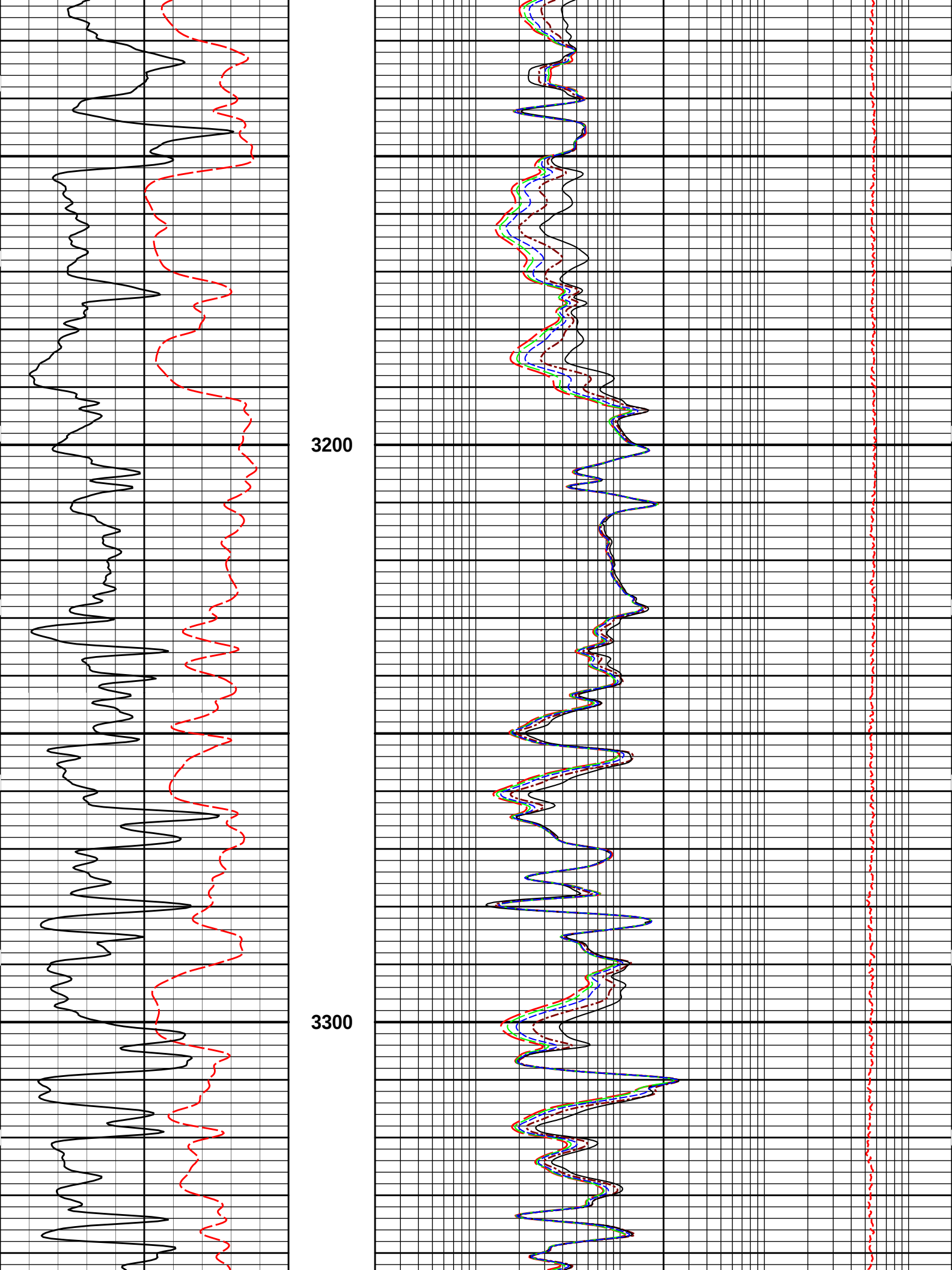
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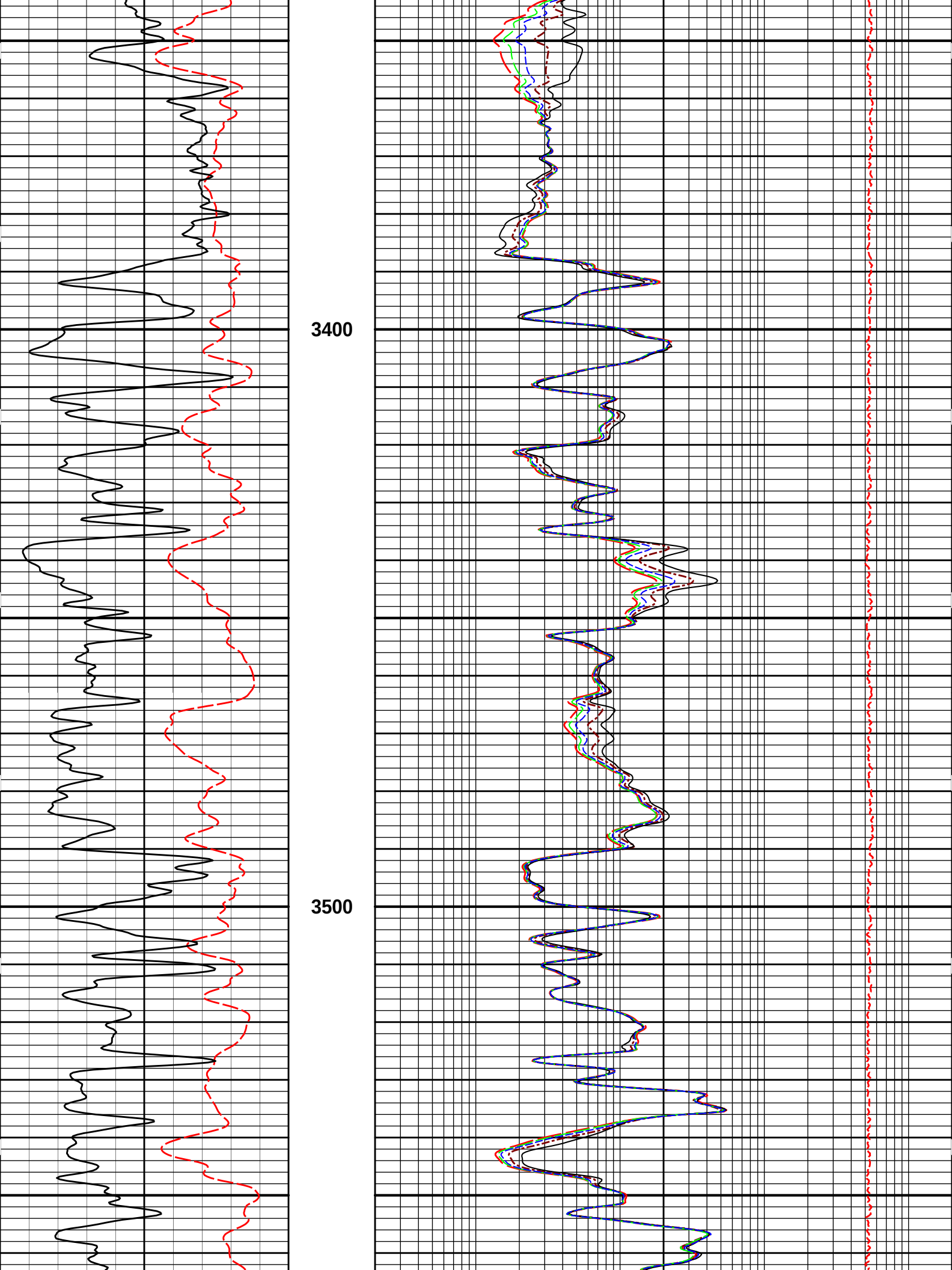
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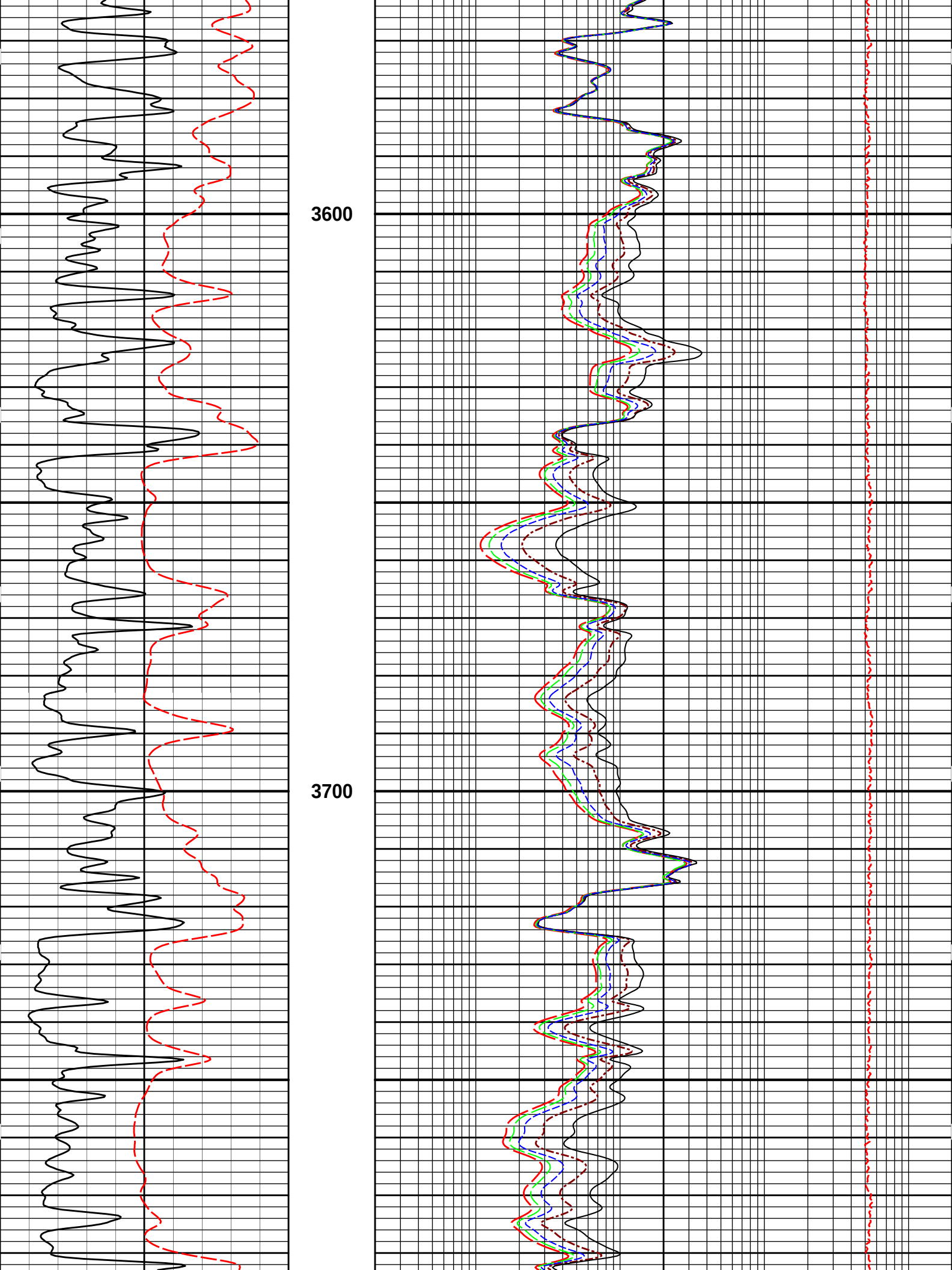
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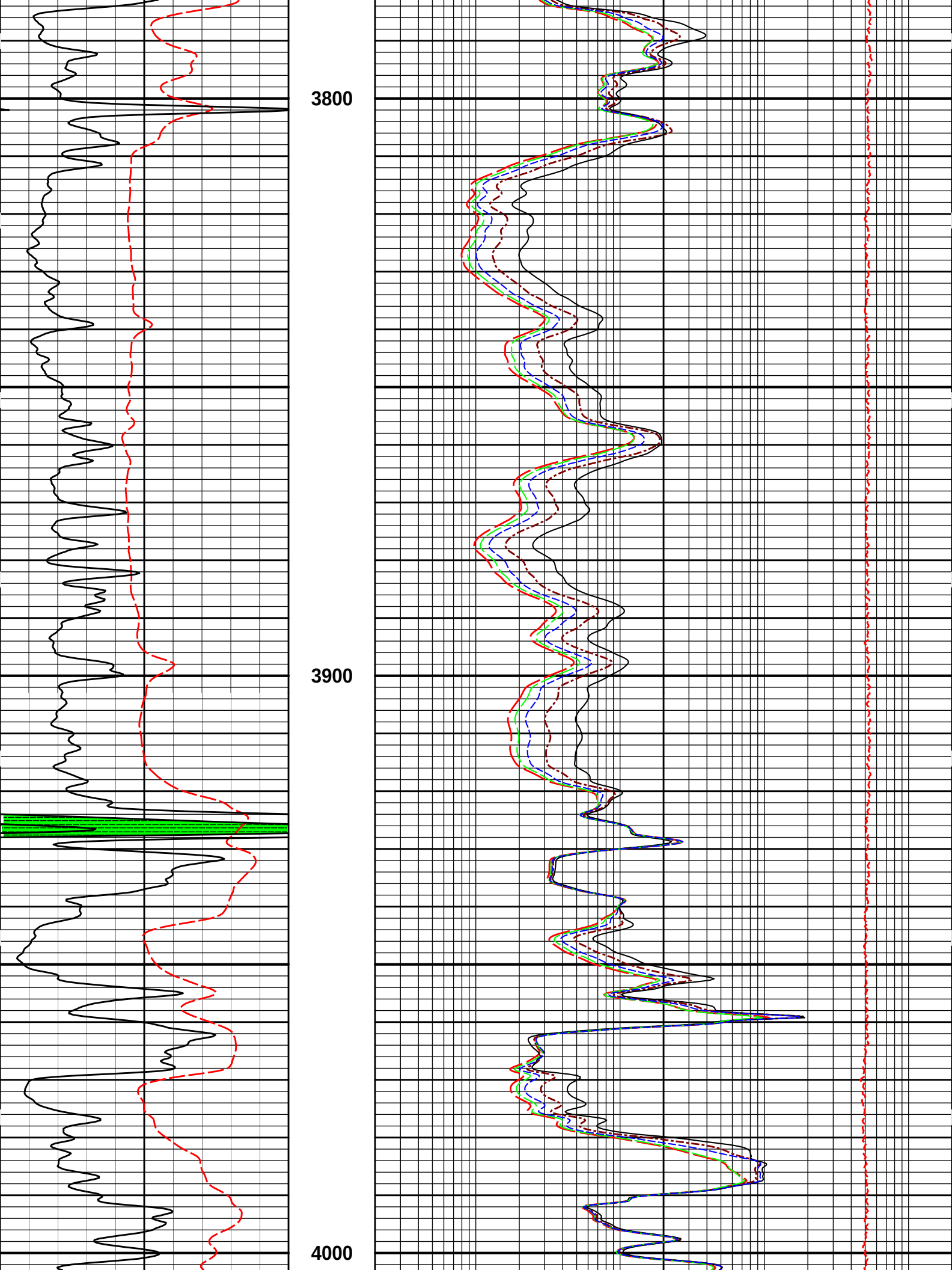
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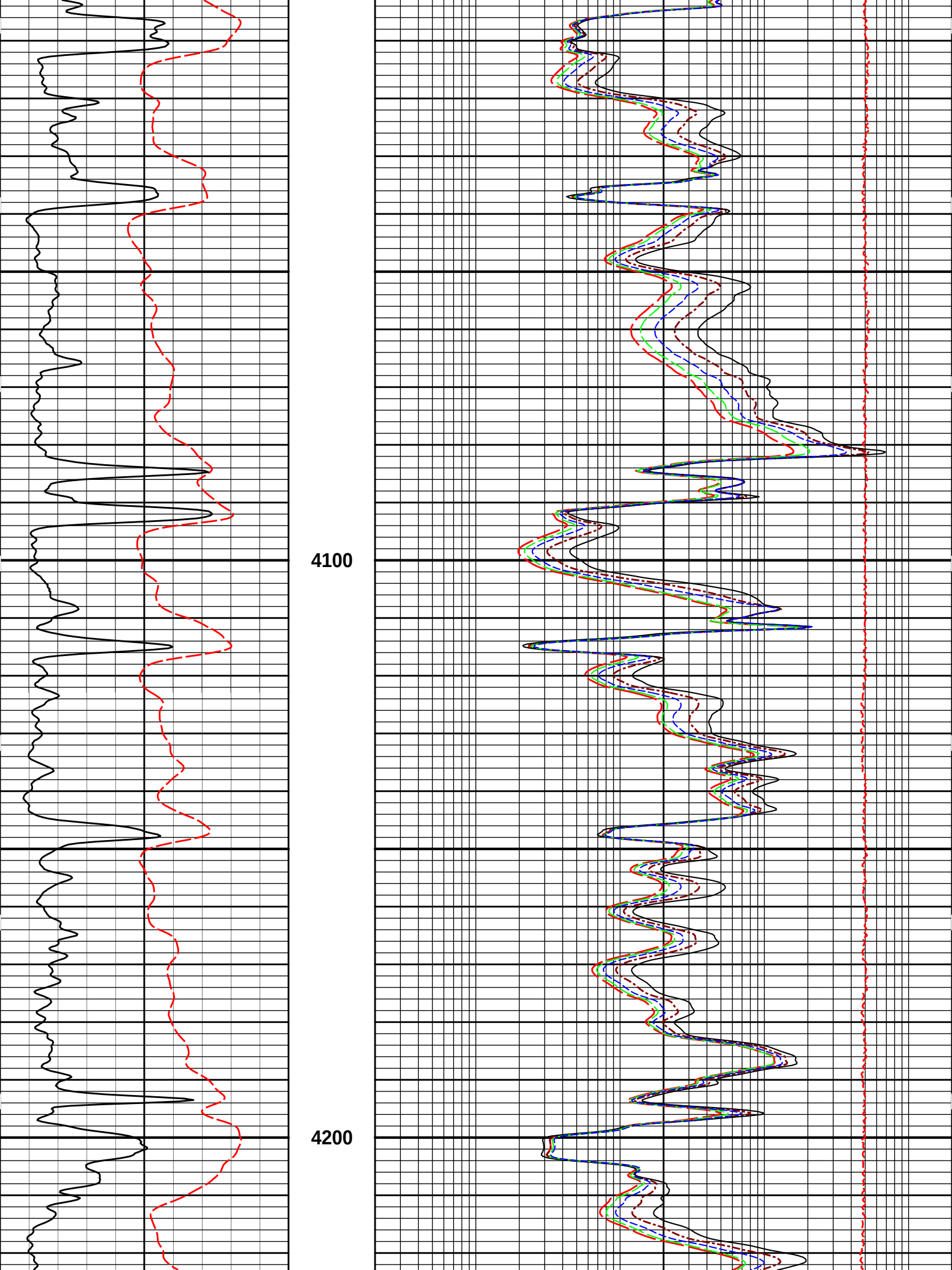
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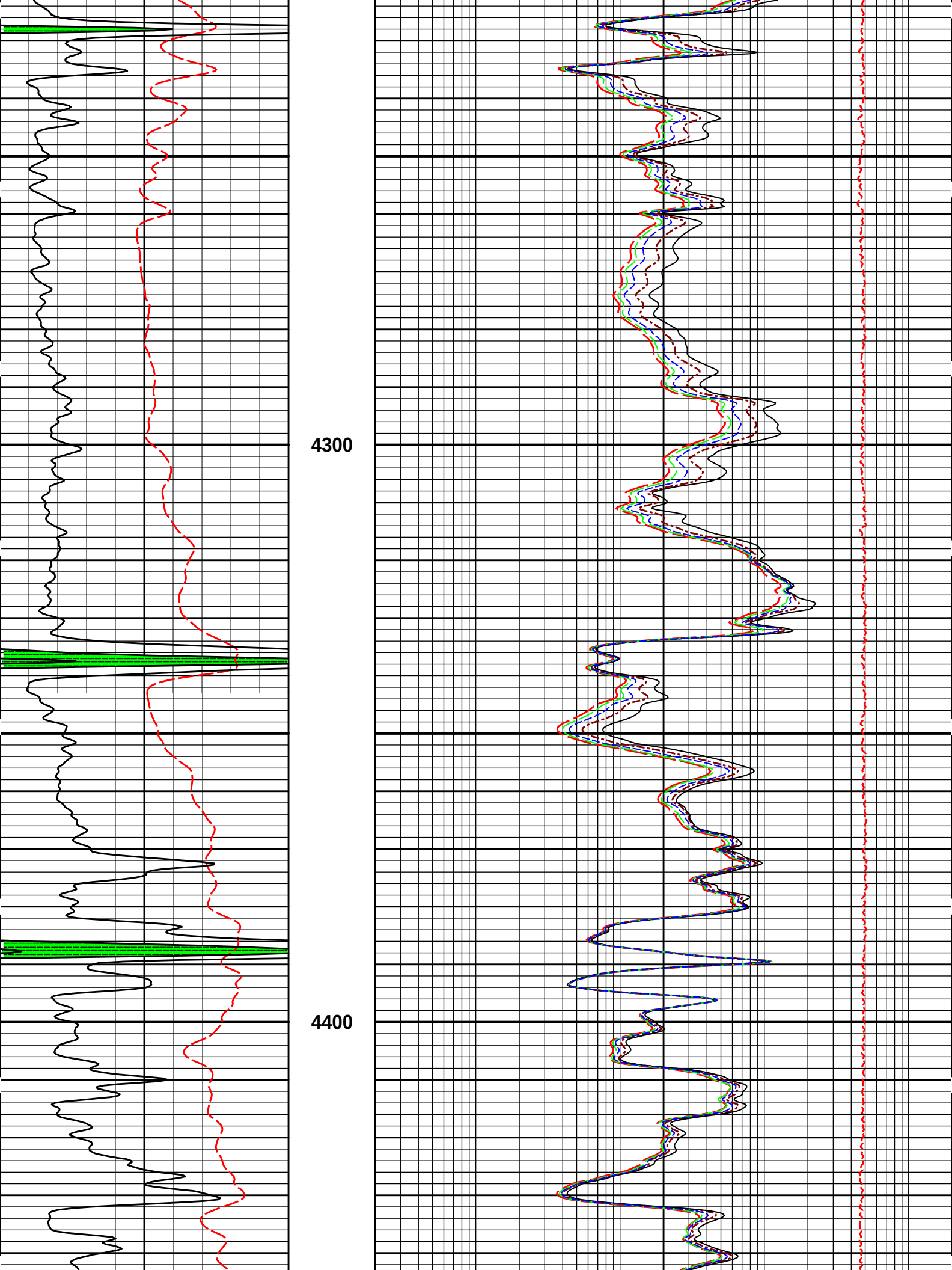
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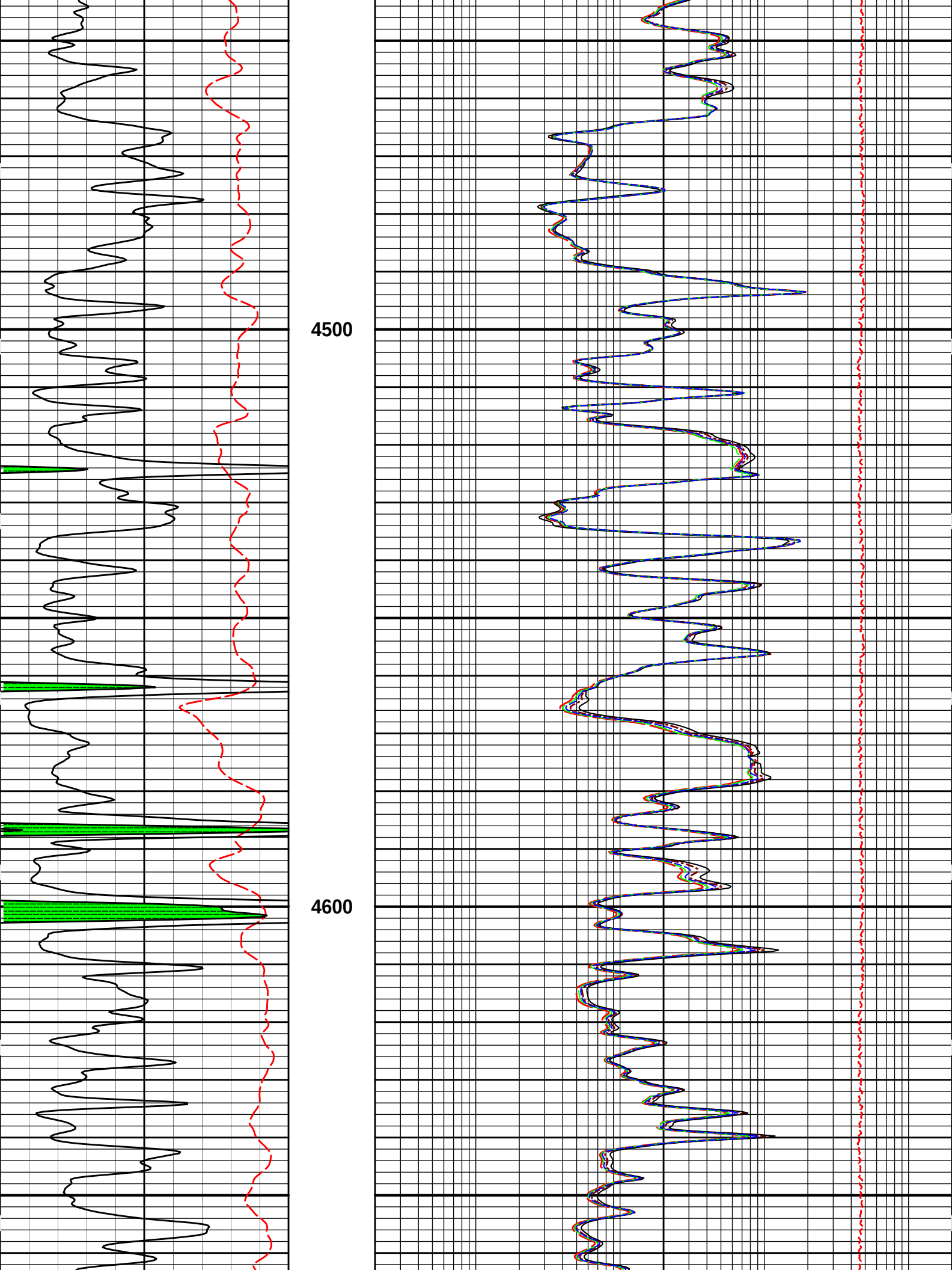
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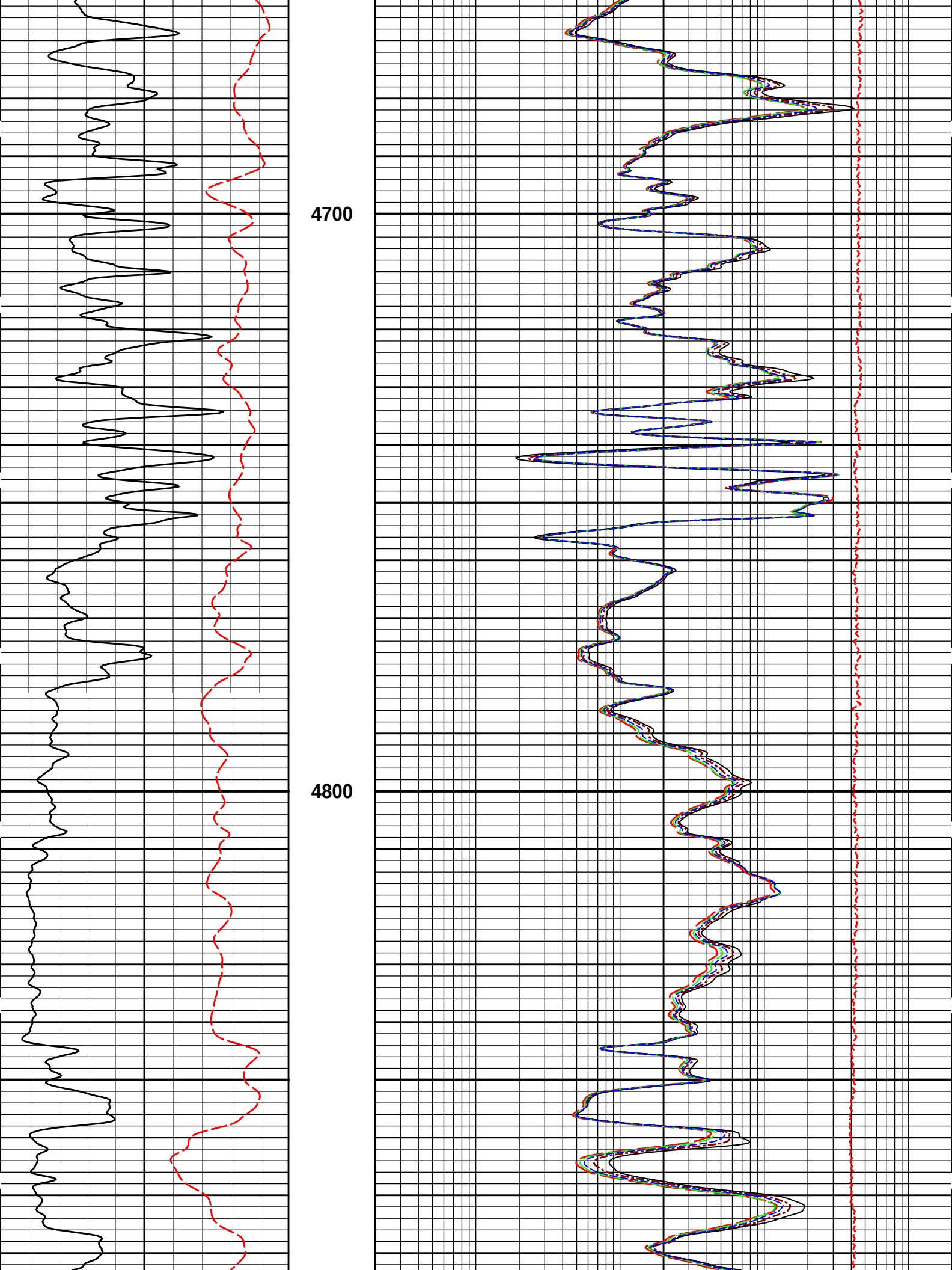
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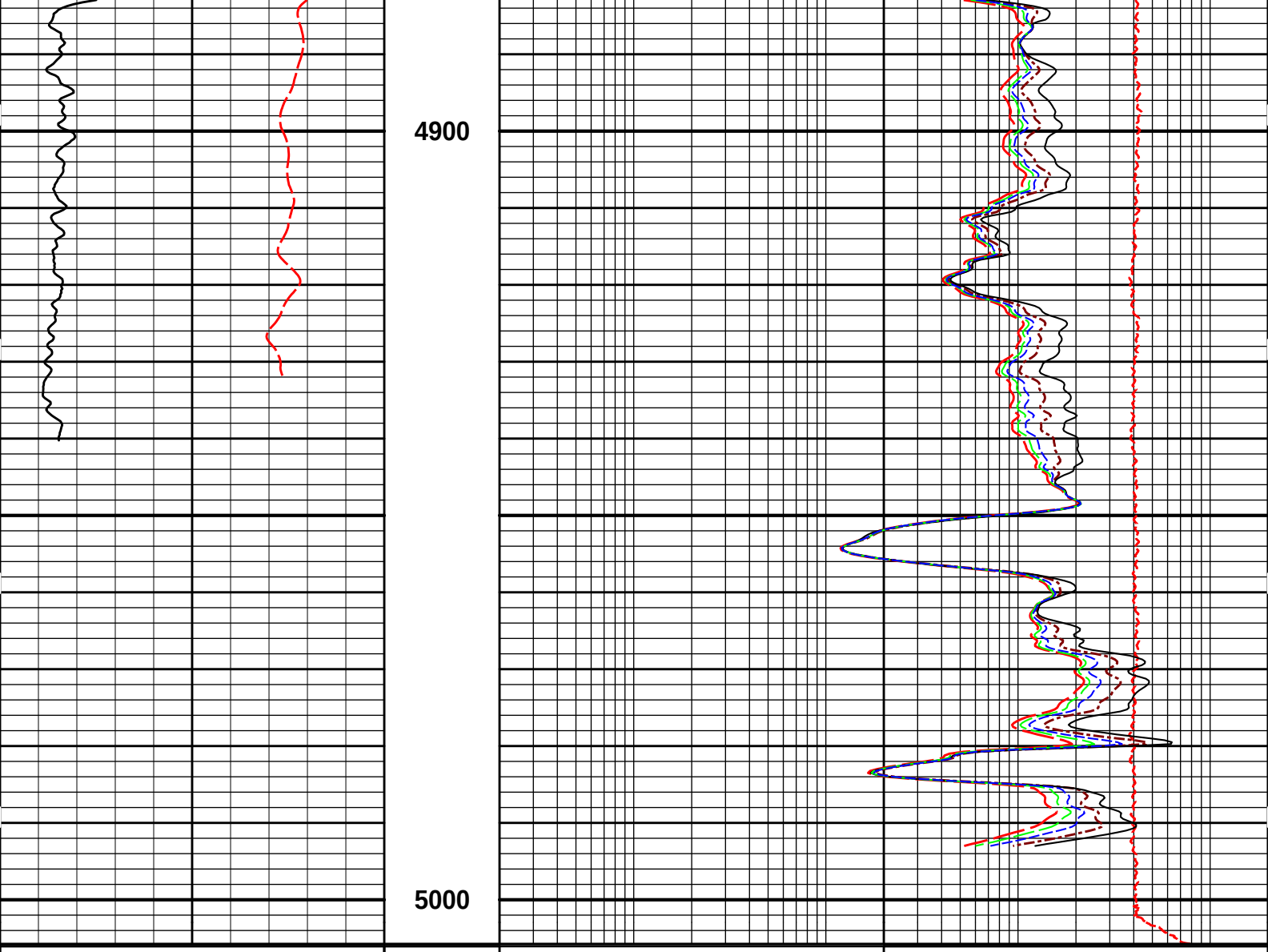

SP

-]20[+

0 Gamma API 150

api

SHALE

MD
1 : 240
ft

10K Tension 0

pounds

0.2 10in Resistivity 2ft Res 2000

ohmm

0.2 20in Resistivity 2ft Res 2000

ohmm

0.2 30in Resistivity 2ft Res 2000

ohm-metre

0.2 60in Resistivity 2ft Res 2000

ohmm

0.2 90in Resistivity 2ft Res 2000

ohmm

HALLIBURTON

Plot Time: 28-Mar-14 13:28:03
Plot Range: 1840 ft to 5005.75 ft
Data: XPO_1-19A\Well Based\R1 CASING\
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\ACRT\ACRT_5_main_lib

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 28-Mar-14 13:28:03
Plot Range: 4595 ft to 5006.75 ft

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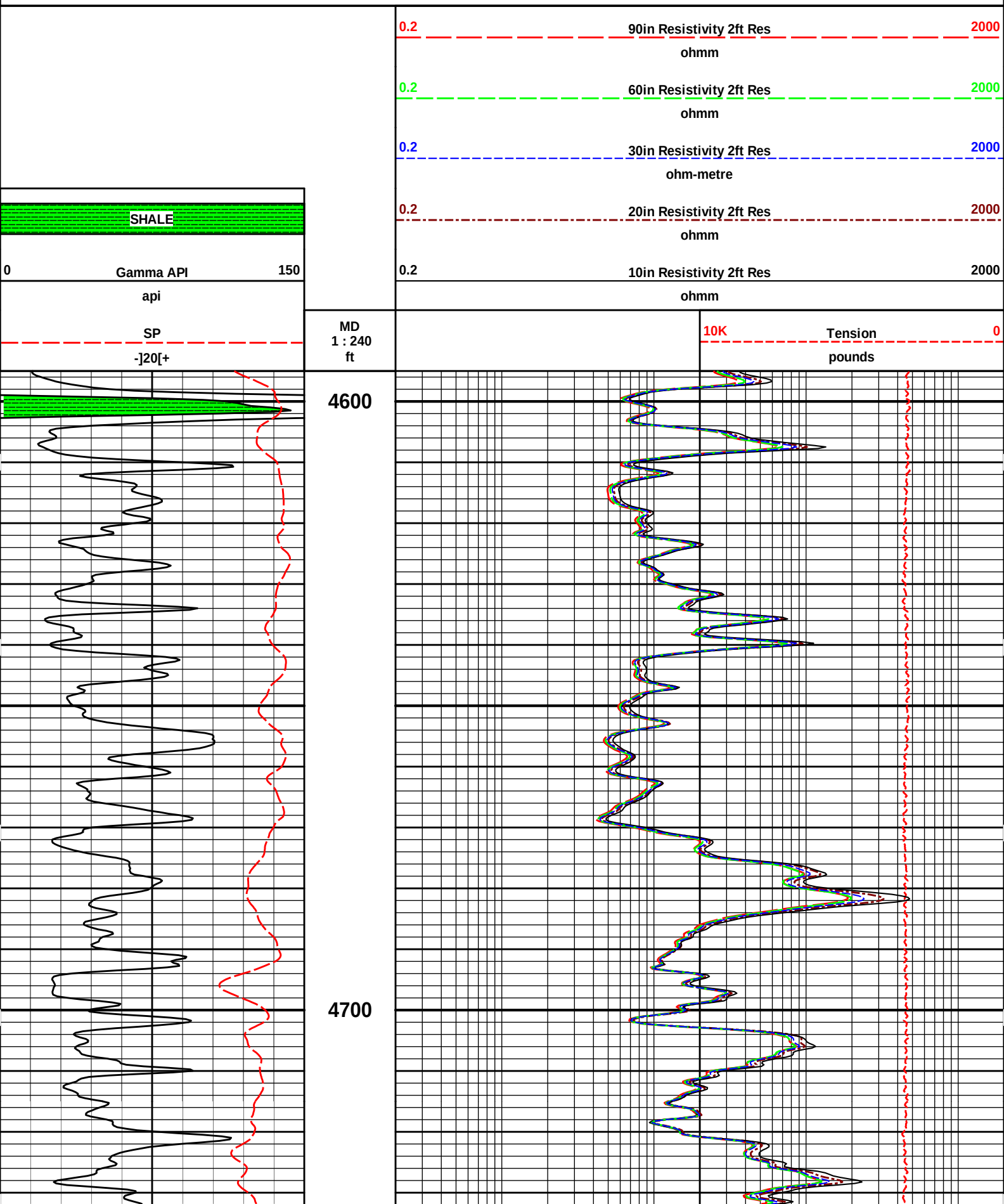
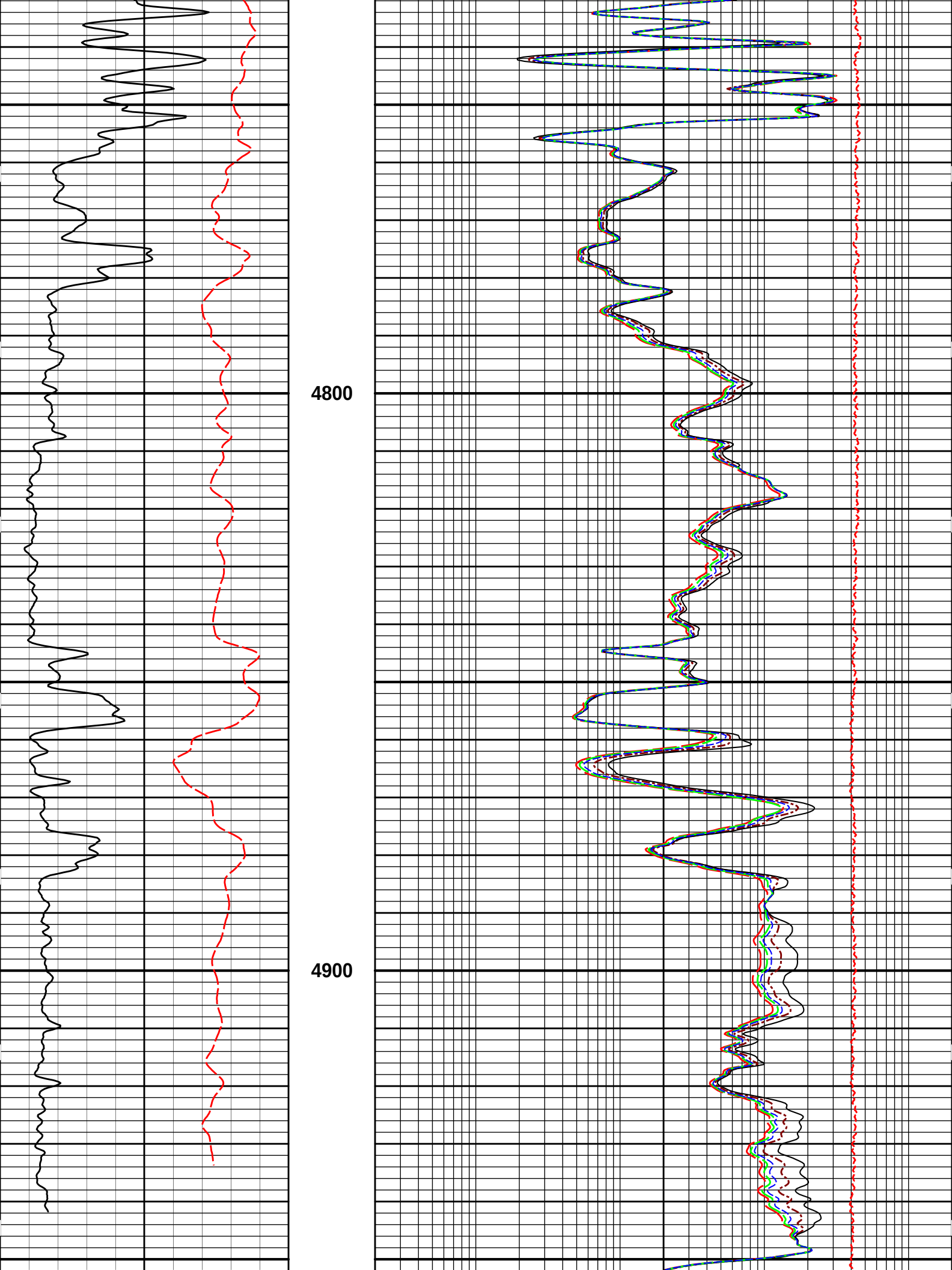
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\ACRT\ACRT_5_repeat_lib

REPEAT SECTION

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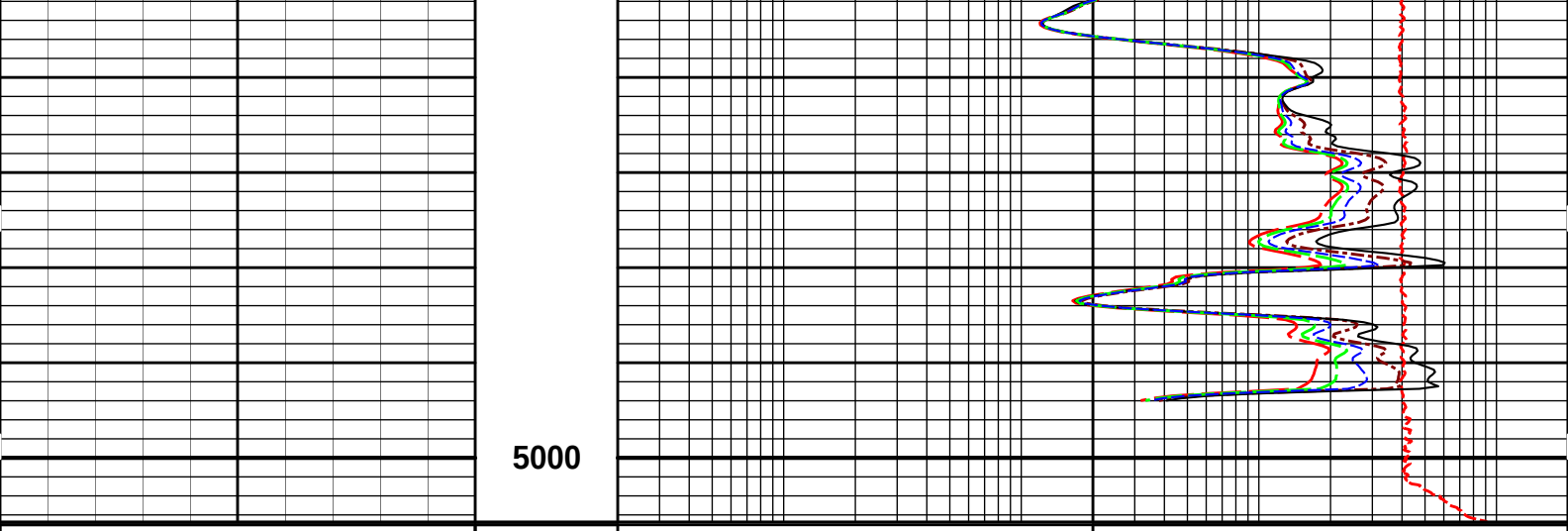


SP
-]20[+

0 Gamma API 150
api

SHALE

MD
1 : 240
ft

10K Tension 0
pounds

0.2 10in Resistivity 2ft Res 2000
ohmm

0.2 20in Resistivity 2ft Res 2000
ohmm

0.2 30in Resistivity 2ft Res 2000
ohm-metre

0.2 60in Resistivity 2ft Res 2000
ohmm

0.2 90in Resistivity 2ft Res 2000
ohmm

HALLIBURTON

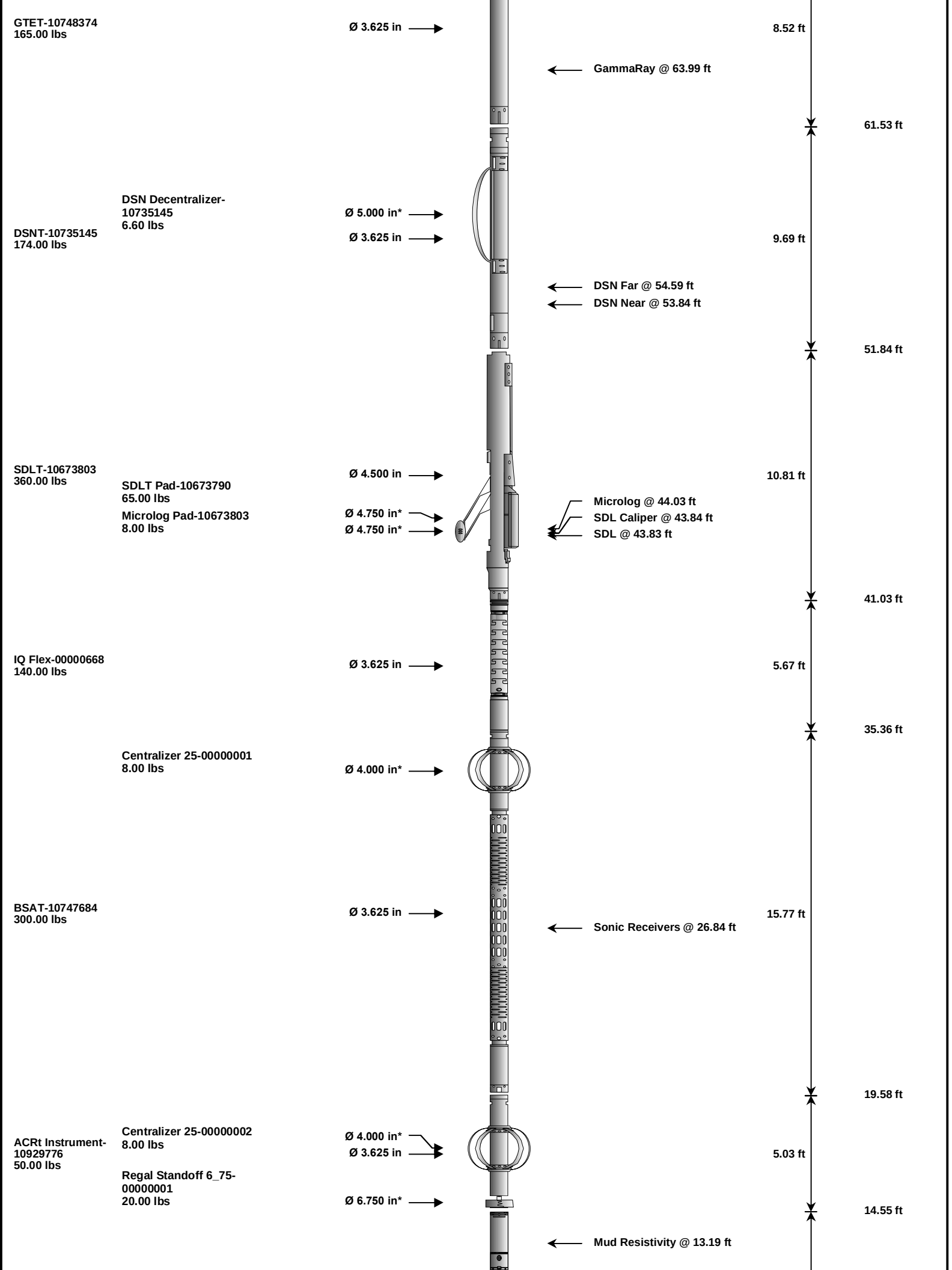
Plot Time: 28-Mar-14 13:28:04
Plot Range: 4595 ft to 5006.75 ft
Data: XPO_1-19A\Well Based\R1 REPEAT\
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\ACRT\ACRT_5_repeat_lib

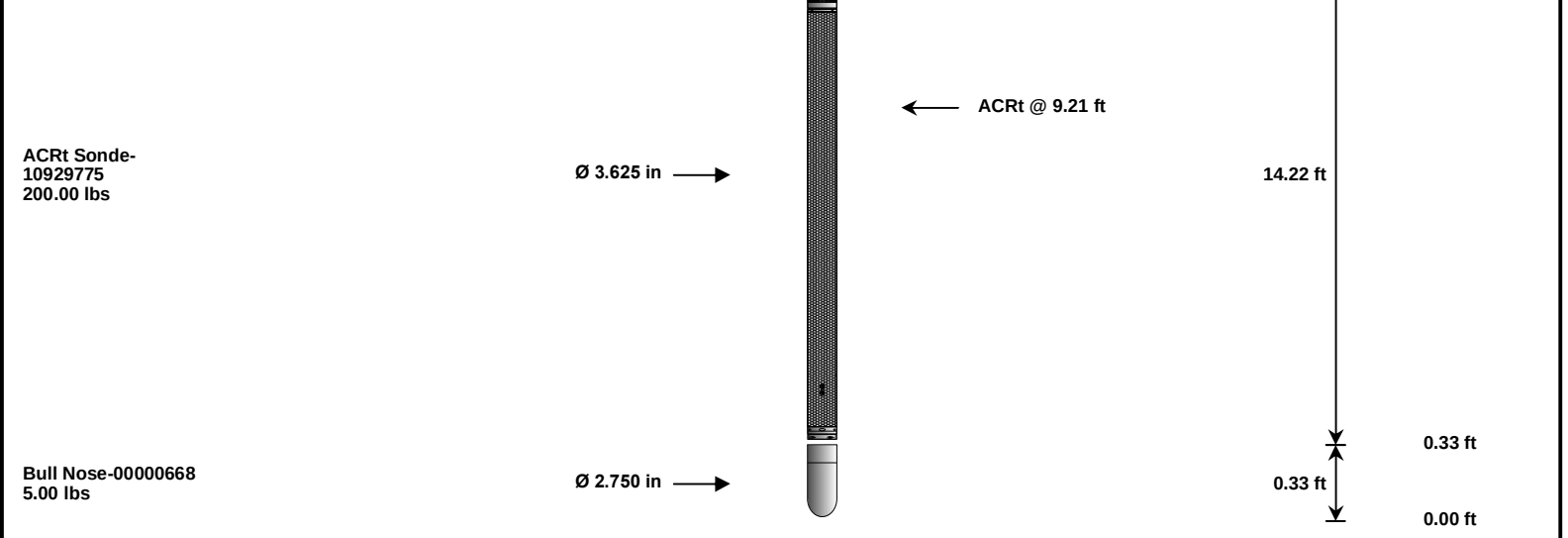
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in		Temperature @ 76.74 ft	3.03 ft	77.77 ft
XOHD-00000001 20.00 lbs		Ø 2.750 in Ø 3.625 in			0.95 ft	74.74 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in		SP @ 72.01 ft	3.74 ft	73.79 ft
						70.05 ft


GTET-10748374
165.00 lbs
Ø 3.625 in
8.52 ft
GammaRay @ 63.99 ft
61.53 ft
DSN Decentralizer-10735145
6.60 lbs
Ø 5.000 in*
DSNT-10735145
174.00 lbs
Ø 3.625 in
9.69 ft
DSN Far @ 54.59 ft
DSN Near @ 53.84 ft
51.84 ft
SDLT-10673803
360.00 lbs
Ø 4.500 in
10.81 ft
SDLT Pad-10673790
65.00 lbs
Microlog Pad-10673803
8.00 lbs
Ø 4.750 in*
Ø 4.750 in*
Microlog @ 44.03 ft
SDL Caliper @ 43.84 ft
SDL @ 43.83 ft
41.03 ft
IQ Flex-00000668
140.00 lbs
Ø 3.625 in
5.67 ft
35.36 ft
Centralizer 25-00000001
8.00 lbs
Ø 4.000 in*
BSAT-10747684
300.00 lbs
Ø 3.625 in
15.77 ft
Sonic Receivers @ 26.84 ft
19.58 ft
ACRt Instrument-10929776
50.00 lbs
Centralizer 25-00000002
8.00 lbs
Ø 4.000 in*
Ø 3.625 in
5.03 ft
Regal Standoff 6_75-00000001
20.00 lbs
Ø 6.750 in*
14.55 ft
Mud Resistivity @ 13.19 ft



Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_696	37.50	3.03		74.74	300.00
XOHD	Hostile to Dits Cross Over	00000001	20.00	0.95		73.79	300.00
SP	SP Sub	12345678	60.00	3.74		70.05	300.00
GTET	Gamma Telemetry Tool	10748374	165.00	8.52		61.53	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69		51.84	60.00
DCNT	DSN Decentralizer	10735145	6.60	5.13	*	55.17	300.00
SDLT	Spectral Density Tool	10673803	360.00	10.81		41.03	60.00
SDLP	Density Insite Pad	10673790	65.00	2.55	*	43.24	60.00
MICP	Microlog Pad	10673803	8.00	1.00	*	43.53	60.00
IQF	IQ Flex tool	00000668	140.00	5.67		35.36	300.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77		19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	32.60	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10929776	50.00	5.03		14.55	120.00
RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	*	14.71	300.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	*	16.19	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22		0.33	120.00
BLNS	Bull Nose	00000668	5.00	0.33		0.00	300.00
Total			**1,627.10**	**77.77**			

* Not included in Total Length and Length Accumulation.

Data: XPO_1-19A\0001 QUAD\IDLE **Date: 28-Mar-14 10:11:30**

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	8.950	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.500	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in

SHARED	ICOD	AHV Casing OD	5.500	in
SHARED	ST	Surface Temperature	75.0	degF
SHARED	TD	Total Well Depth	5010.00	ft
SHARED	BHT	Bottom Hole Temperature	130.0	degF
SHARED	SVTM	Navigation and Survey Master Tool	NONE	
SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
SHARED	TEMM	Temperature Master Tool	NONE	
Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
GTET	GROK	Process Gamma Ray?	Yes	
GTET	GRSO	Gamma Tool Standoff	0.000	in
GTET	GEOK	Process Gamma Ray EVR?	No	
GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
GTET	BHSM	Borehole Size Source Tool	SDLT	
DSNT	DNOK	Process DSN?	Yes	
DSNT	DEOK	Process DSN EVR?	No	
DSNT	NLIT	Neutron Lithology	Limestone	
DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
DSNT	DNTP	Temperature Correction Type	None	
DSNT	DPRS	DSN Pressure Correction Type	None	
DSNT	SHCO	View More Correction Options	No	
DSNT	UTVD	Use TVD for Gradient Corrections?	No	
DSNT	LHWT	Logging Horizontal Water Tank?	No	
DSNT	BHSM	Borehole Size Source Tool	SDLT	
SDLT	CLOK	Process Caliper Outputs?	Yes	
SDLT Pad	DNOK	Process Density?	Yes	
SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in

ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	

BOTTOM

Data: XPO_1-19A\0001 QUAD\004 28-Mar-14 11:33 Up @5005.3f **Date: 28-Mar-14 12:08:52**

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 10748374 **Reference Calibration Date:** 05-Mar-14 16:34:57

Engineer: thomas hyde **Calibration Date:** 18-Mar-14 09:50:24

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	34.3	33.1	api
Background + Calibrator	274.5	265.1	api
Calibrator	240.2	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name: GTET - 10748374 **Reference Calibration Date:** 18-Mar-14 09:50:24

Engineer: SHELDON INGERSOLL **Calibration Date:** 26-Mar-14 23:24:02

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	33.1	43.2	api
Background + Calibrator	265.1	266.5	api
Calibrator	232.0	223.3	api

Shop	Field	Difference	Tolerance
232.0	223.3	8.7	+/- 9.00

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

Tool Name: ACRt Sonde - 10929775 **Reference Calibration Date:** 19-Feb-14 09:38:10

Engineer: THOMAS K HYDE **Calibration Date:** 19-Mar-14 12:09:45

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Host Tool Name: ACRt Instrument - 10929776

TYPICAL GAIN RANGE

Subarray	R12KHz			R36KHz			R72KHz		
	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper	Lower	(mmho/m)	Upper

A1 (80")	0.95	1.0263	1.05	0.95	1.0215	1.05	0.95	1.0134	1.05
A2 (50")	0.95	1.0255	1.05	0.95	1.0200	1.05	0.95	1.0139	1.05
A3 (29")	0.95	1.0203	1.05	0.95	1.0138	1.05	0.95	1.0074	1.05
A4 (17")	0.95	1.0214	1.05	0.95	1.0109	1.05	0.95	1.0062	1.05
A5 (10")	N/A	N/A	N/A	0.95	1.0112	1.05	0.95	1.0071	1.05
A6 (6")	N/A	N/A	N/A	0.95	1.0205	1.05	0.95	1.0176	1.05

SONDE OFFSET

Subarray	R12KHz (mmho/m)	R36KHz (mmho/m)	R72KHz (mmho/m)
A1 (80")	-1.574	-4.651	-4.858
A2 (50")	-2.610	-4.430	-4.683
A3 (29")	-14.818	-4.760	-2.984
A4 (17")	-104.629	-32.400	-25.186
A5 (10")	N/A	-118.666	-54.048
A6 (6")	N/A	280.838	141.655

TRANSMITTER CURRENT GAIN

Signal	Lower	R	Upper
12K	0.6	0.84	1.3
36K	1.0	1.17	2.0
72K	1.0	1.46	2.0

R-MUD VERIFICATION

Signal	Lower (ohm-m)	Measured (ohm-m)	Upper (ohm-m)
Mud Cell	0.95	0.99	1.05

PASS/FAIL SUMMARY

GAIN RANGE CHK	PASS
SONDE OFFSET CHK	PASS

TOOL OK TO LOG

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10748374						
Gamma Ray Calibrator	232.0	223.3	----------	8.7	+/- 9.00	api
ACRt Sonde-10929775						
Mud Cell	0.99	----------	----------	0.00	----------	ohm-m

Data: XPO_1-19A\0001 QUAD\004 28-Mar-14 11:33 Up @5005.3f **Date: 28-Mar-14 12:14:52**

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
Rwa / CrossPlot				
TPUL	Tension Pull	77.76	NO	
BS	Bit Size	77.76	NO	
HDIA	Measured Hole Diameter	0.00	NO	
CH_HOS				

DHTN	DownholeTension	0.00	BLK	0.000
	SP Sub			
PLTC	Plot Control Mask	72.01	NO	
SP	Spontaneous Potential	72.01	BLK	1.250
SPR	Raw Spontaneous Potential	72.01	NO	
SPO	Spontaneous Potential Offset	72.01	NO	
	GTET			
TPUL	Tension Pull	63.99	NO	
GR	Natural Gamma Ray API	63.99	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	63.99	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	63.99	W	1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	53.74	NO	
RNDS	Near Detector Telemetry Counts	53.84	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.59	TRI	0.583
DNTT	DSN Tool Temperature	53.84	NO	
DSNS	DSN Tool Status	53.74	NO	
ERND	Near Detector Telemetry Counts EVR	53.84	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.59	BLK	0.000
ENTM	DSN Tool Temperature EVR	53.84	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	SDLT			
TPUL	Tension Pull	43.84	NO	
PCAL	Pad Caliper	43.84	TRI	0.250
ACAL	Arm Caliper	43.84	TRI	0.250
	BSAT			
TPUL	Tension Pull	26.84	NO	
STAT	Status	26.84	NO	
DLYT	Delay Time	26.84	NO	
SI	Sample Interval	26.84	NO	
TXRX	Raw Telemetry 10 Receivers	26.84	NO	
FRMC	Tool Frame Count	26.84	NO	
GMOD	Gain processing mode	19.58	NO	
	ACRt Sonde			
TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000

F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	SDLT Pad			
TPUL	Tension Pull	43.83	NO	
NAB	Near Above	43.66	BLK	0.920
NHI	Near Cesium High	43.66	BLK	0.920
NLO	Near Cesium Low	43.66	BLK	0.920
NVA	Near Valley	43.66	BLK	0.920
NBA	Near Barite	43.66	BLK	0.920
NDE	Near Density	43.66	BLK	0.920
NPK	Near Peak	43.66	BLK	0.920
NLI	Near Lithology	43.66	BLK	0.920
NBAU	Near Barite Unfiltered	43.66	BLK	0.250
NLIU	Near Lithology Unfiltered	43.66	BLK	0.250
FAB	Far Above	44.01	BLK	0.250
FHI	Far Cesium High	44.01	BLK	0.250

FLO	Far Cesium Low	44.01	BLK	0.250
FVA	Far Valley	44.01	BLK	0.250
FBA	Far Barite	44.01	BLK	0.250
FDE	Far Density	44.01	BLK	0.250
FPK	Far Peak	44.01	BLK	0.250
FLI	Far Lithology	44.01	BLK	0.250
PTMP	Pad Temperature	43.84	BLK	0.920
NHV	Near Detector High Voltage	43.24	NO	
FHV	Far Detector High Voltage	43.24	NO	
ITMP	Instrument Temperature	43.24	NO	
DDHV	Detector High Voltage	43.24	NO	
HDIA	Measured Hole Diameter	0.00	NO	

Microlog Pad

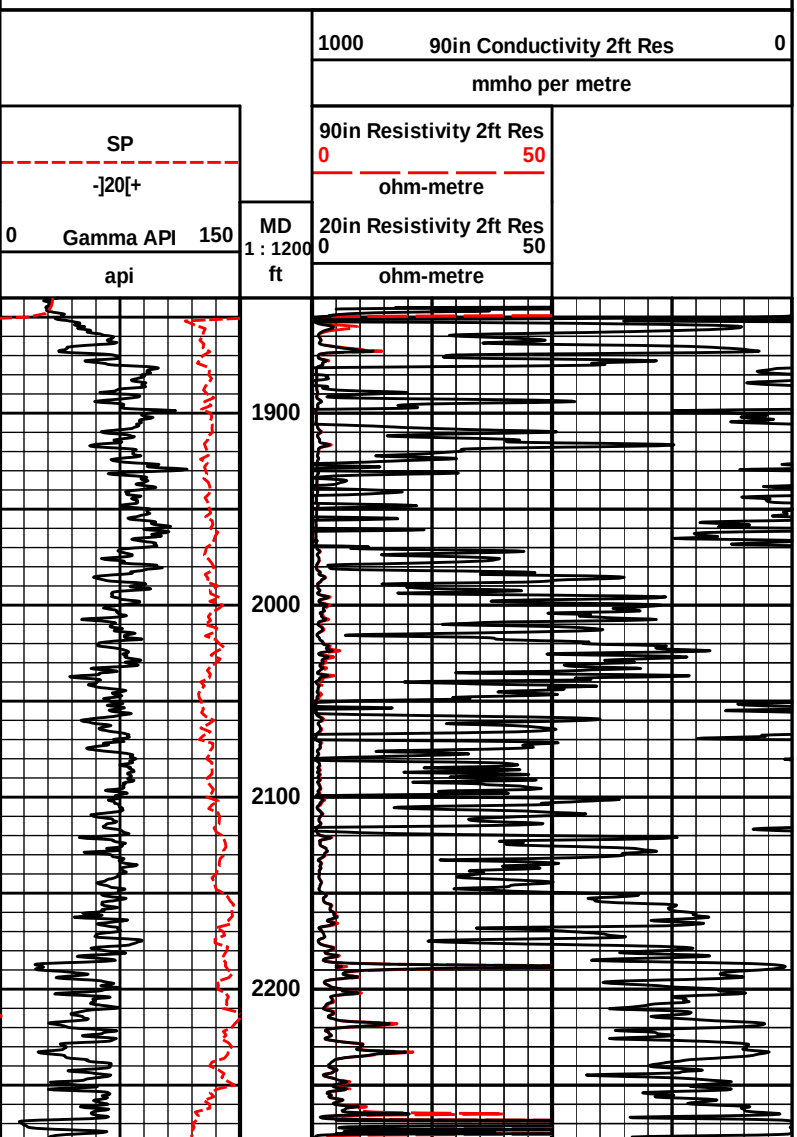
TPUL	Tension Pull	44.03	NO	
MINV	Microlog Lateral	44.03	BLK	0.750
MNOR	Microlog Normal	44.03	BLK	0.750

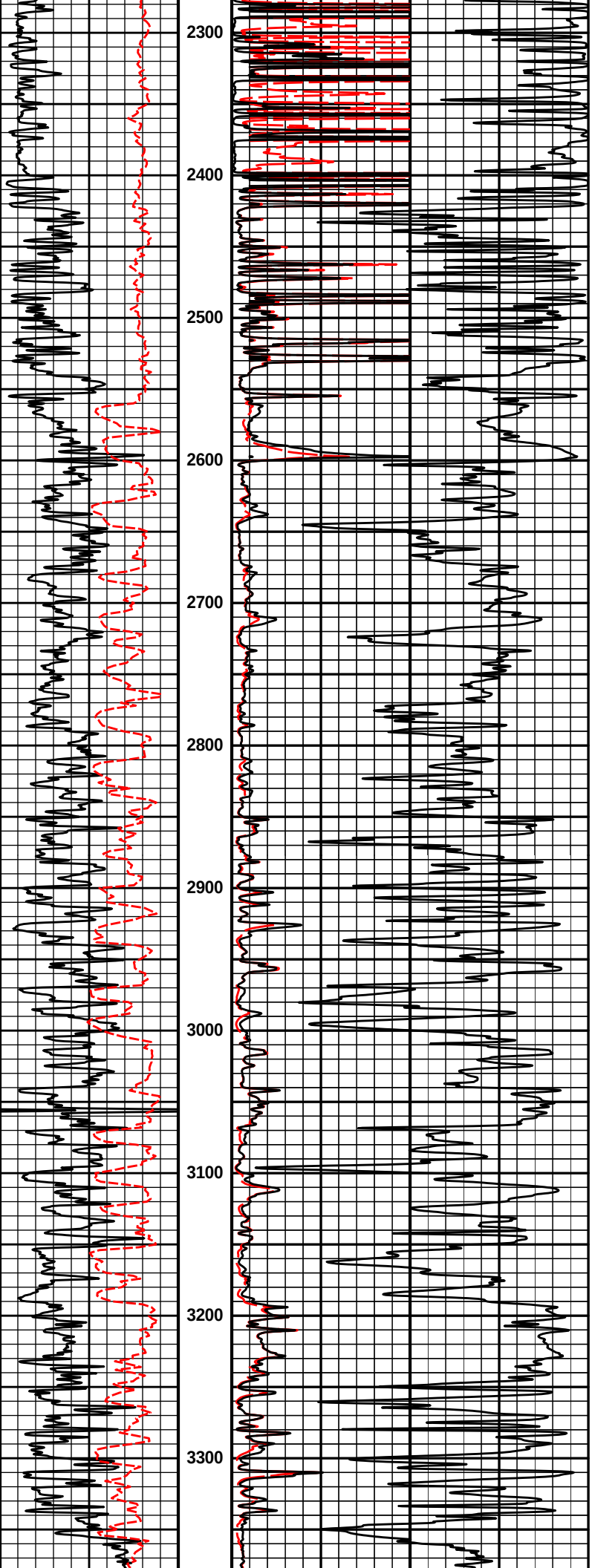
Data: XPO_1-19A\0001 QUAD\004 28-Mar-14 11:33 Up @5005.3f **Date: 28-Mar-14 12:08:26**

HALLIBURTON

Plot Time: 28-Mar-14 13:28:04
Plot Range: 1840 ft to 4993 ft
Data: XPO_1-19A\Well Based\R1 CASING
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\ACRT\ACRT_1_lib

1 INCH MAIN LOG

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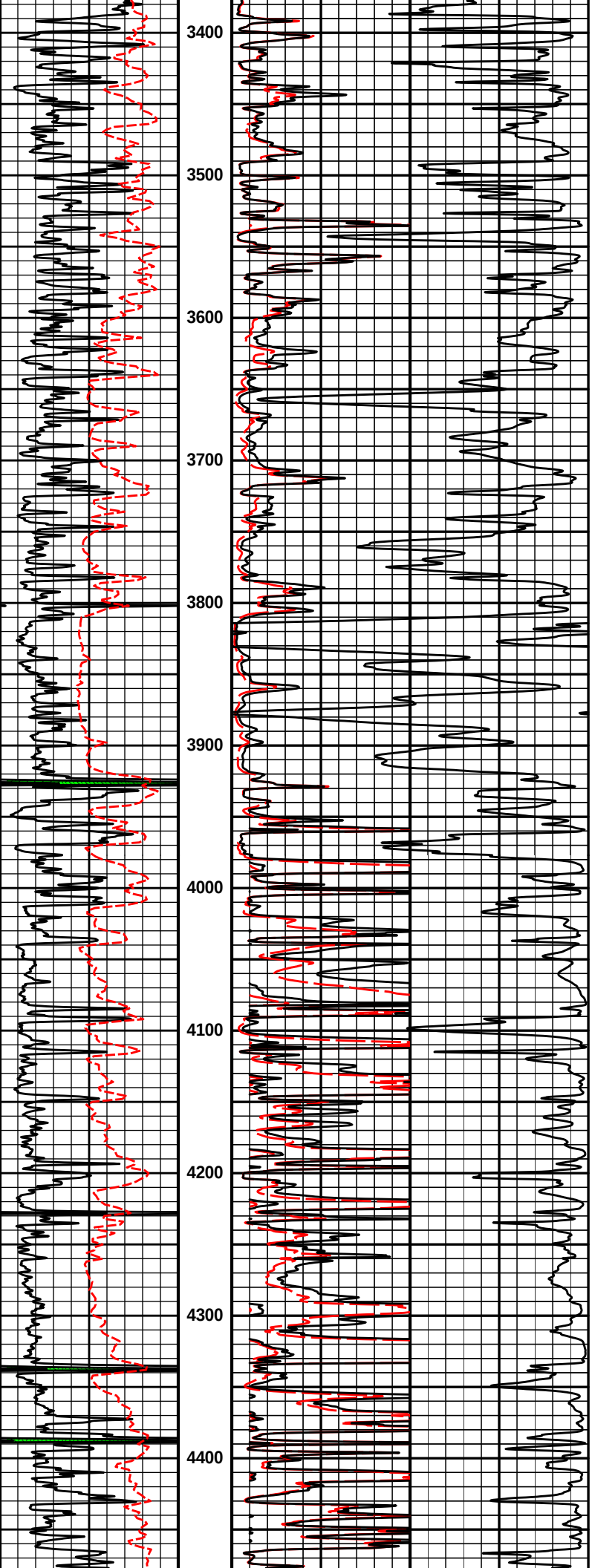
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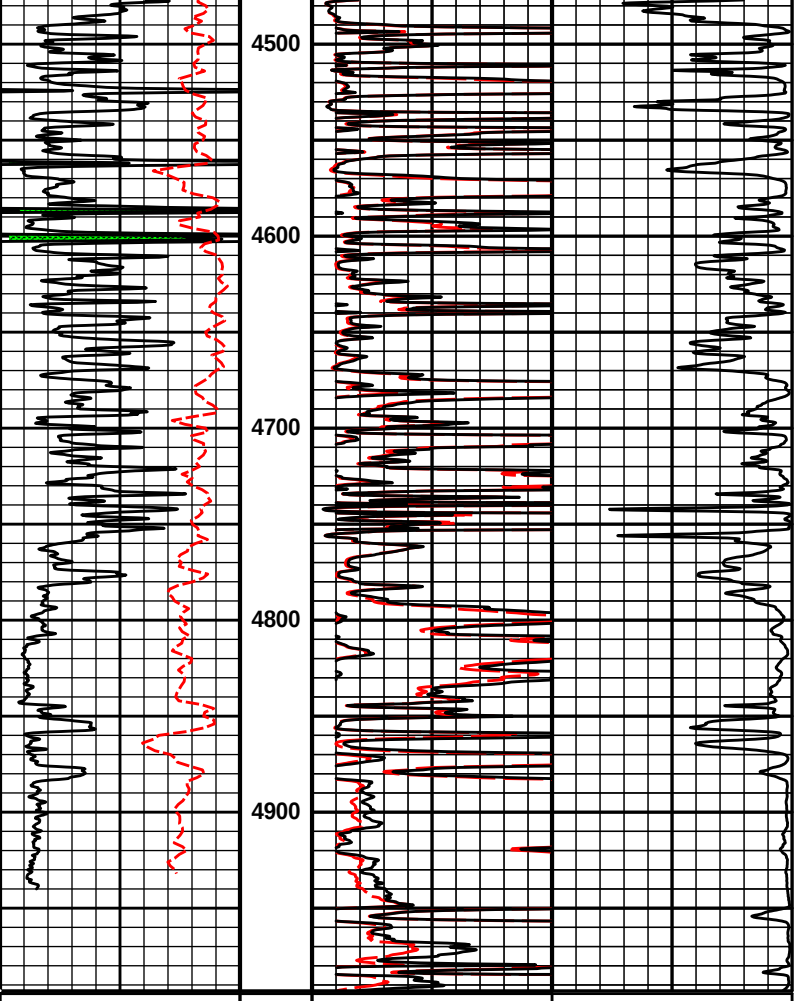


0 Gamma API 150	MD 1 : 1200 ft	20in Resistivity 2ft Res 0 50
api		ohm-metre
SP		90in Resistivity 2ft Res 0 50
-]20[+		ohm-metre
		1000 90in Conductivity 2ft Res 0
		mmho per metre

HALLIBURTON

Plot Time: 28-Mar-14 13:28:06
Plot Range: 1840 ft to 4993 ft
Data: XPO_1-19A\Well Based\R1 CASING
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\ACRT\ACRT_1_lib

1 INCH MAIN LOG

COMPANY	**BENGALIA LAND AND CATTLE COMPANY**
WELL	**XPO 1-19A**
FIELD	**DANIELLE**
COUNTY	**GRAY**
STATE	**KANSAS**

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY LOG

HALLIBURTON

MICROLOG

COMPANY	BENGALIA LAND AND CATTLE COMPANY
WELL	XPO 1-19A
FIELD/BLOCK	DANIELLE
COUNTY	GRAY
STATE	KANSAS

COMPANY **BENGALIA LAND AND CATTLE COMPANY**

WELL **XPO 1-19A**

FIELD/BLOCK **DANIELLE**

COUNTY **GRAY** STATE **KANSAS**

API No. 15-069-20472-00-00

Location (SHL) 1190' FNL & 2173' FEL

Other Services: DSN /SDL, MICROLOG, BSAT, ACRT, XRMI

Sect. 19 Twp. 25S Rge. 30W

Permanent Datum GL Elev. 2735.0 ft

Log measured from KB 10.0 ft above perm. Datum

Drilling measured from KB

Elev.: K.B. 2745.0 ft, D.F. 2744.0 ft, G.L. 2735.0 ft

Date	28-Mar-14			
Run No.	ONE			
Depth - Driller	5010.00 ft			
Depth - Logger	5003.0 ft			
Bottom - Logged Interval	4959			
Top - Logged Interval	1852			
Casing - Driller	8.625 in @ 1858.0 ft		@	@
Casing - Logger	1852.0 ft			
Bit Size	7.875 in		@	@
Type Fluid in Hole	Water Based Mud			
Density / Viscosity	8.9 ppg	57.00 s/qt		
PH / Fluid Loss	9.50 pH	7.6 cptm		
Source of Sample	MUD PIT			
Rm @ Meas. Temperature	1.430 ohmm @ 70.00 degF		@	@
Rmf @ Meas. Temperature	1.22 ohmm @ 70.00 degF		@	@
Rmc @ Meas. Temperature	1.640 ohmm @ 70.00 degF		@	@
Source Rmf / Rmc	CALCULATED	CALCULATED		
Rm @ BHT	0.87 ohmm @ 120.0 degF		@	@
Time Since Circulation	5.5000 hr			
Time on Bottom	28-Mar-14 10:50			
Max. Rec. Temperature	120.0 degF @ 5003.0 ft		@	@
Equipment / Location	11230668	LIBERAL		
Recorded By	SHELDON INGERSOLL			
Witnessed By	A. GARNER		M. CRAWFORD	

Fold here

Service Ticket No.: 901224229 API Serial No.: 15-069-20472-00-00 PGM Version: WL INSITE R4.2.0 (Build 2)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE					
Date	Sample No.				
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@		@	
Rmf @ Meas. Temp.		@		@	
Rmc @ Meas. Temp.		@		@	
Source Rmf	Rmc				
Rm @ BHT		@		@	
Rmf @ BHT		@		@	
Rmc @ BHT		@		@	

RESISTIVITY SCALE CHANGES			
Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA				
Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	ACRT	N/A	CENT	
	10929775			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	10748374	Serial No.	10747684	Serial No.	10673790	Serial No.	10735145
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.	2	Diameter	5.3"	Diameter	3.625"
Detector Model No.	T-102	Spacing	.5'	Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS-137	Source Type	AM-241BE
Length	8"	LSA [Y/N]		Serial No.	5073GW	Serial No.	DSN-436
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

LOGGING DATA

GENERAL			GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5003	1852	REC	0	150	30	-10	47.6 us/ft	30	-10	2.71 gm/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

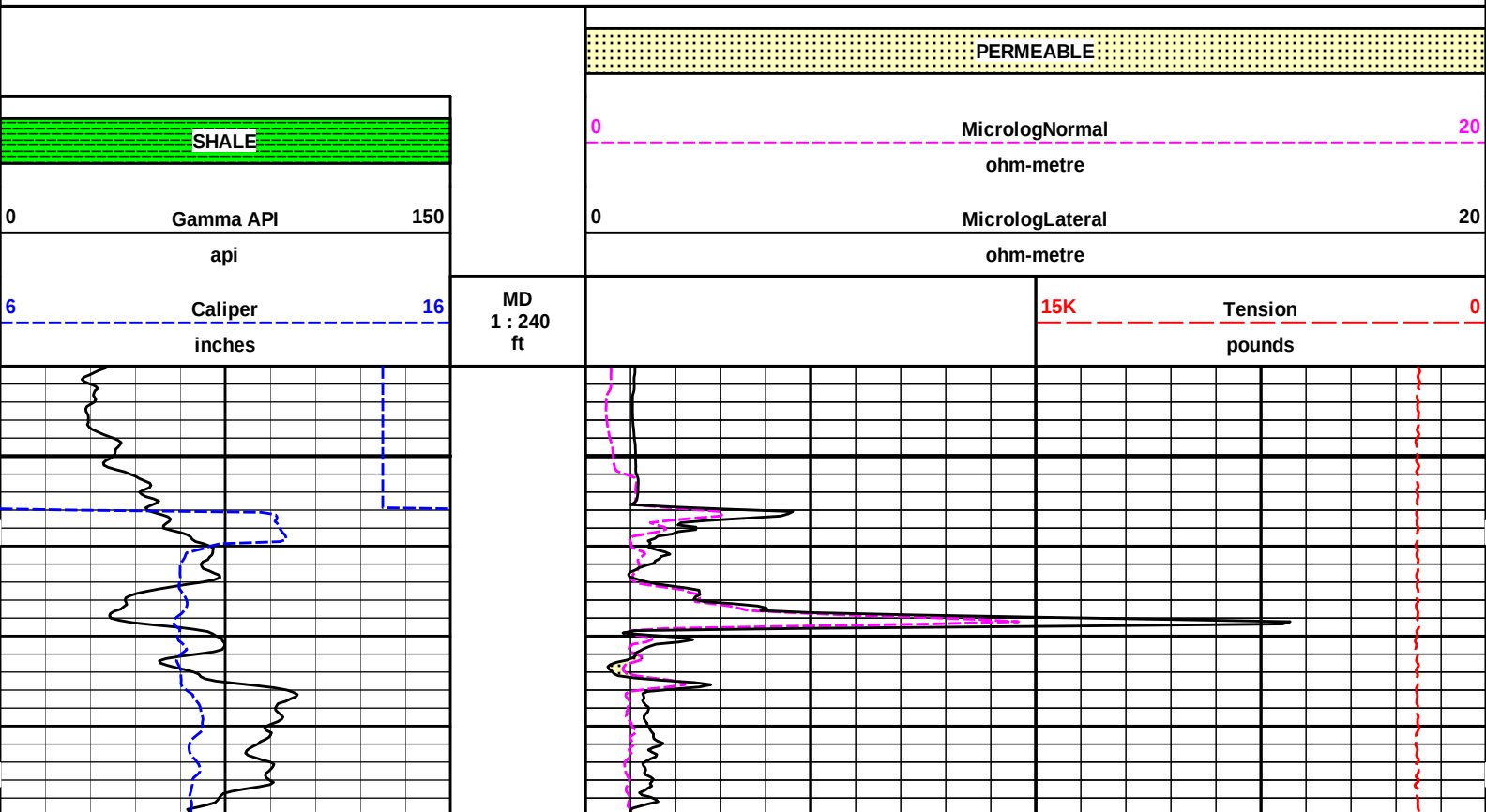
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

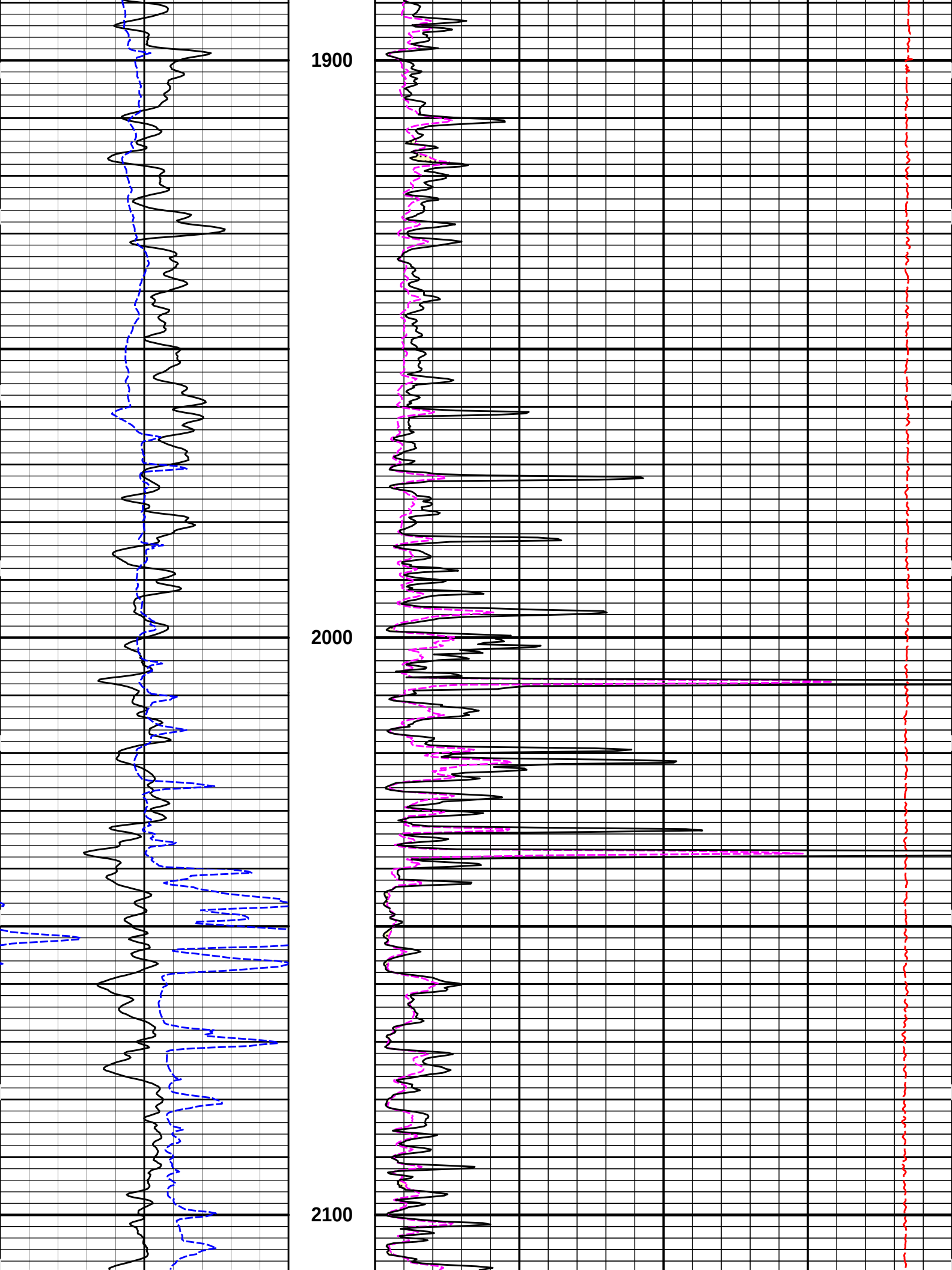
CHLORIDES REPORTED FOR 1700 ppm.

HALLIBURTON

Plot Time: 28-Mar-14 13:32:23
Plot Range: 1840 ft to 5005.75 ft
Data: XPO_1-19A\Well Based\R1 CASING
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\MICROLOG\Microlog_IQ_5_main_lib

5 INCH MAIN LOG

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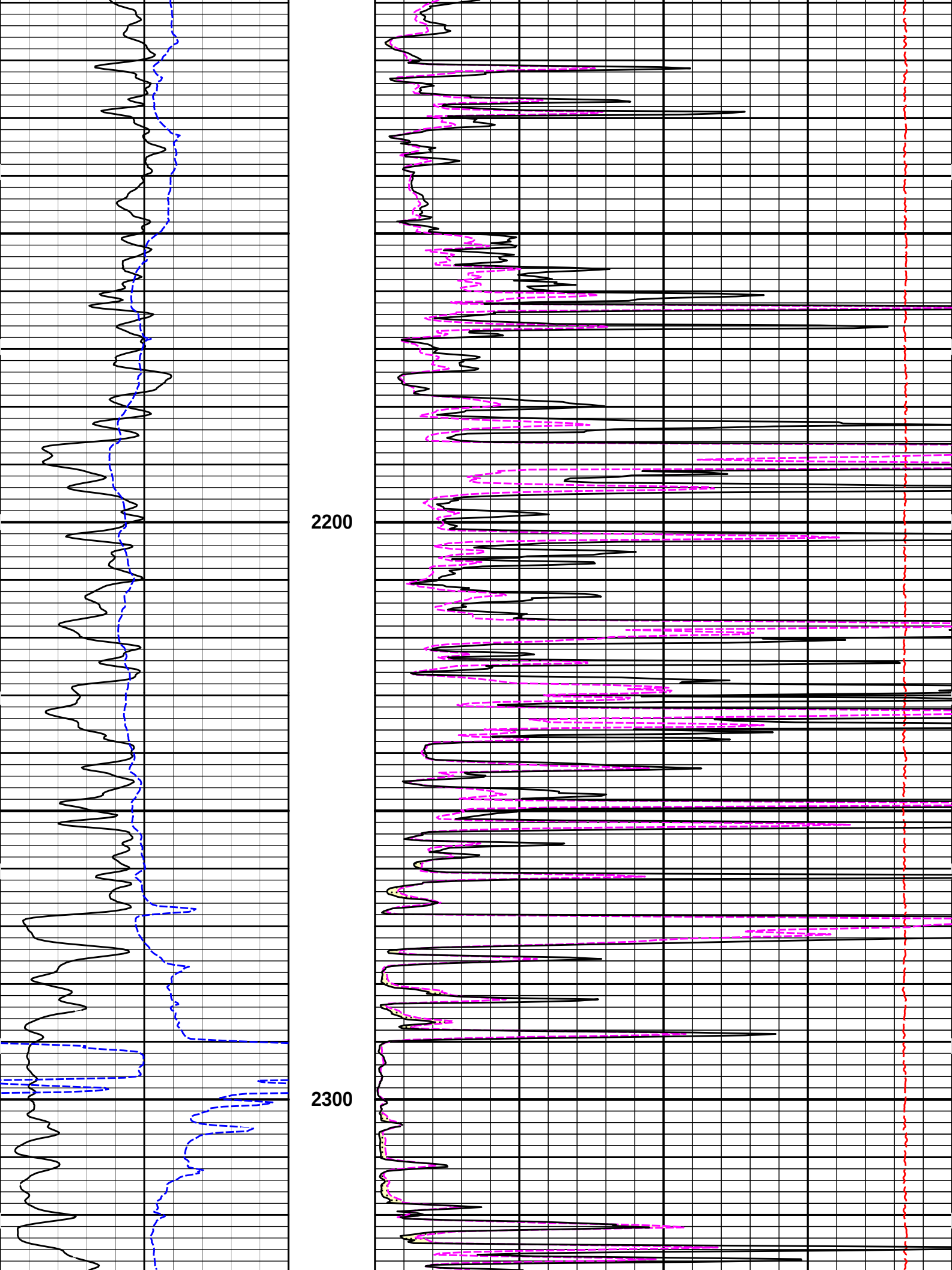
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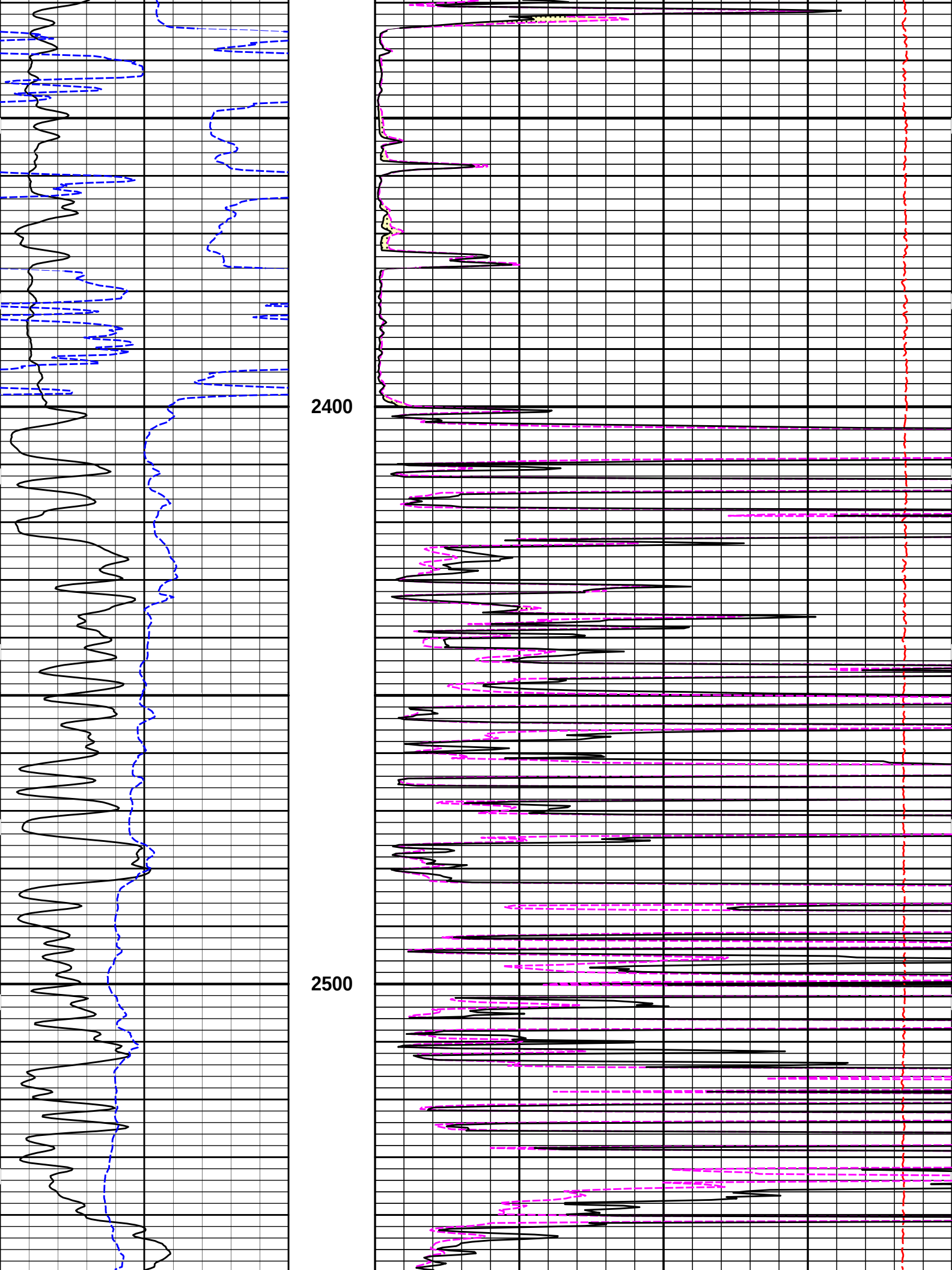
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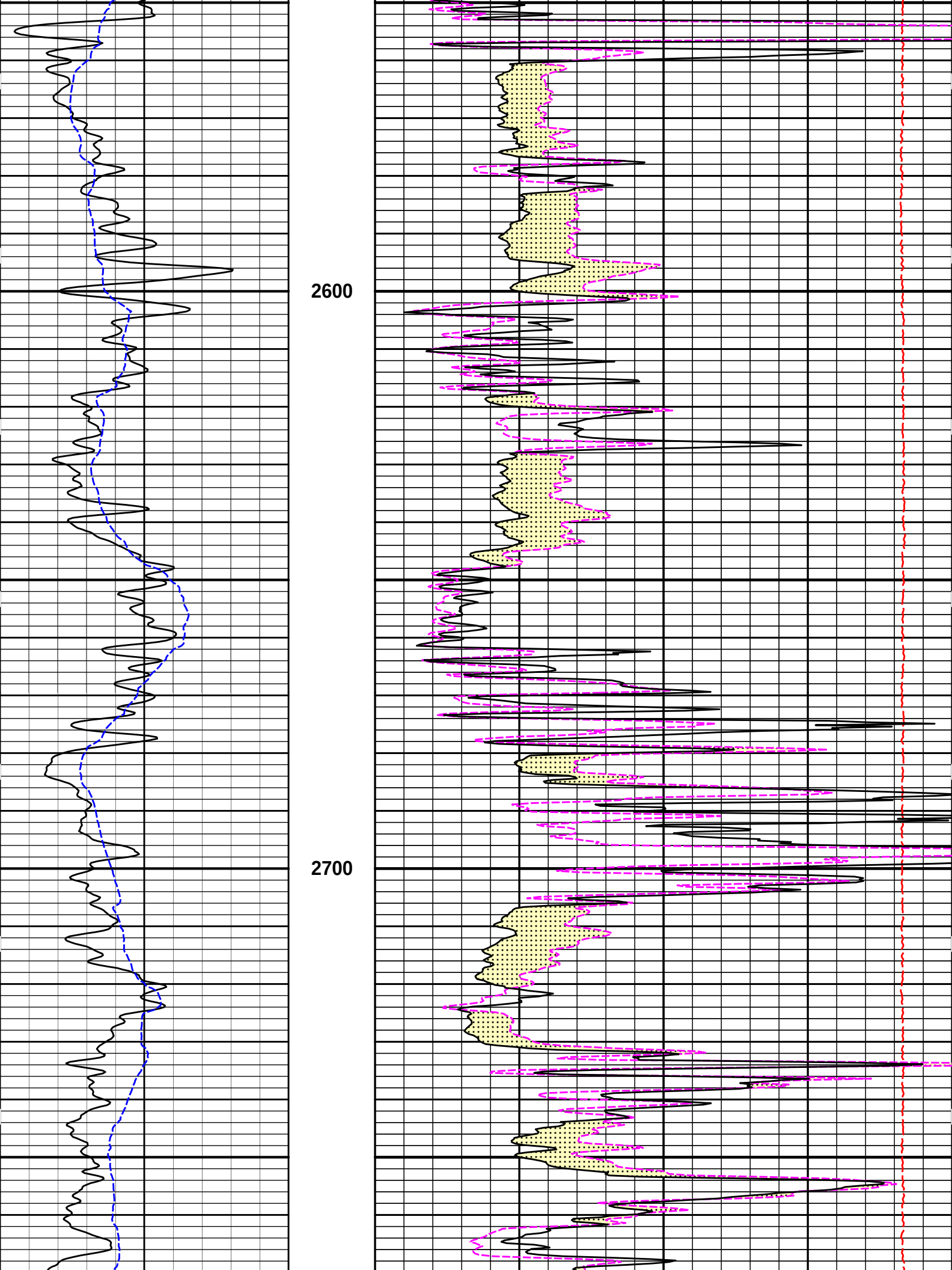
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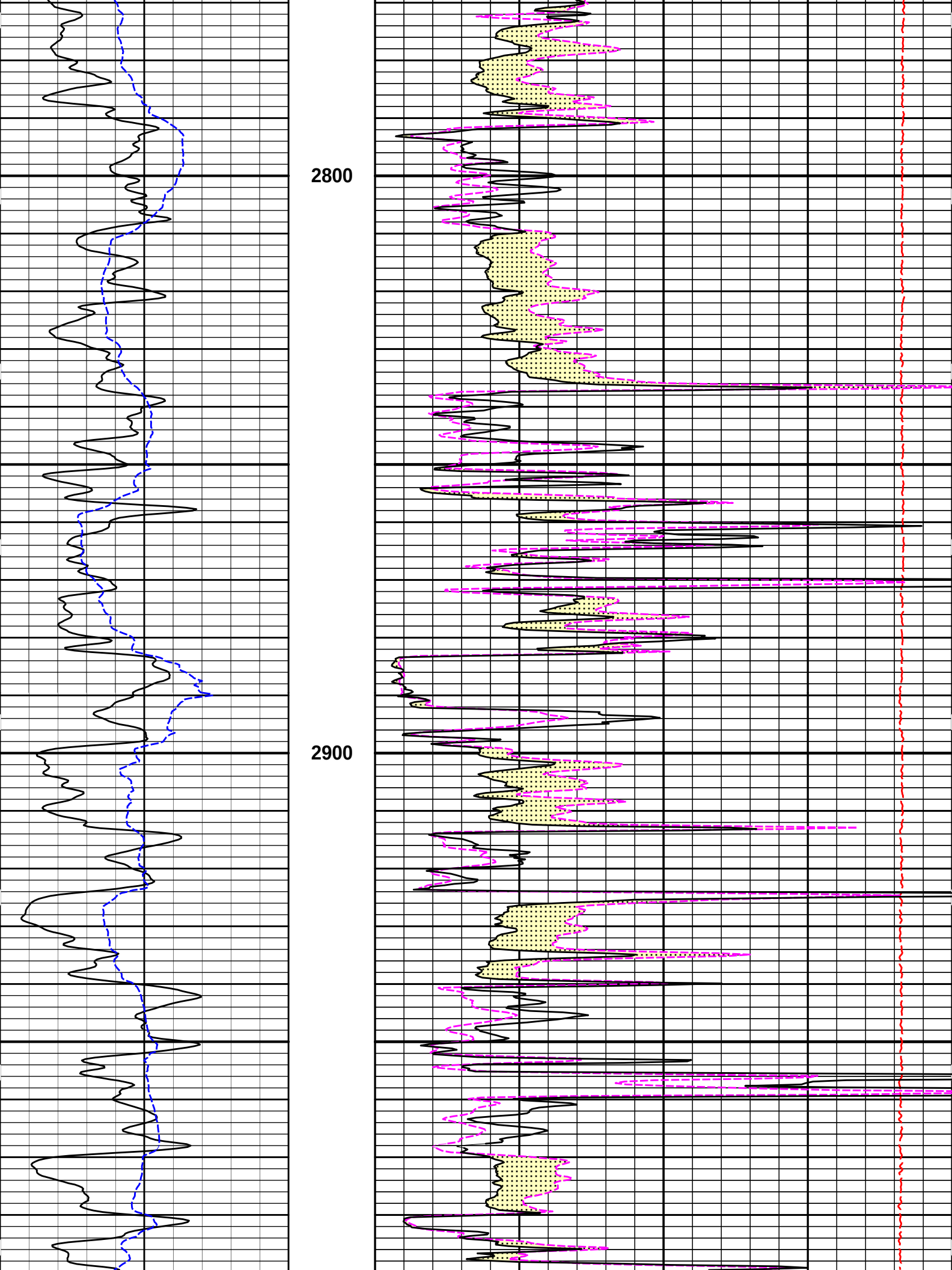
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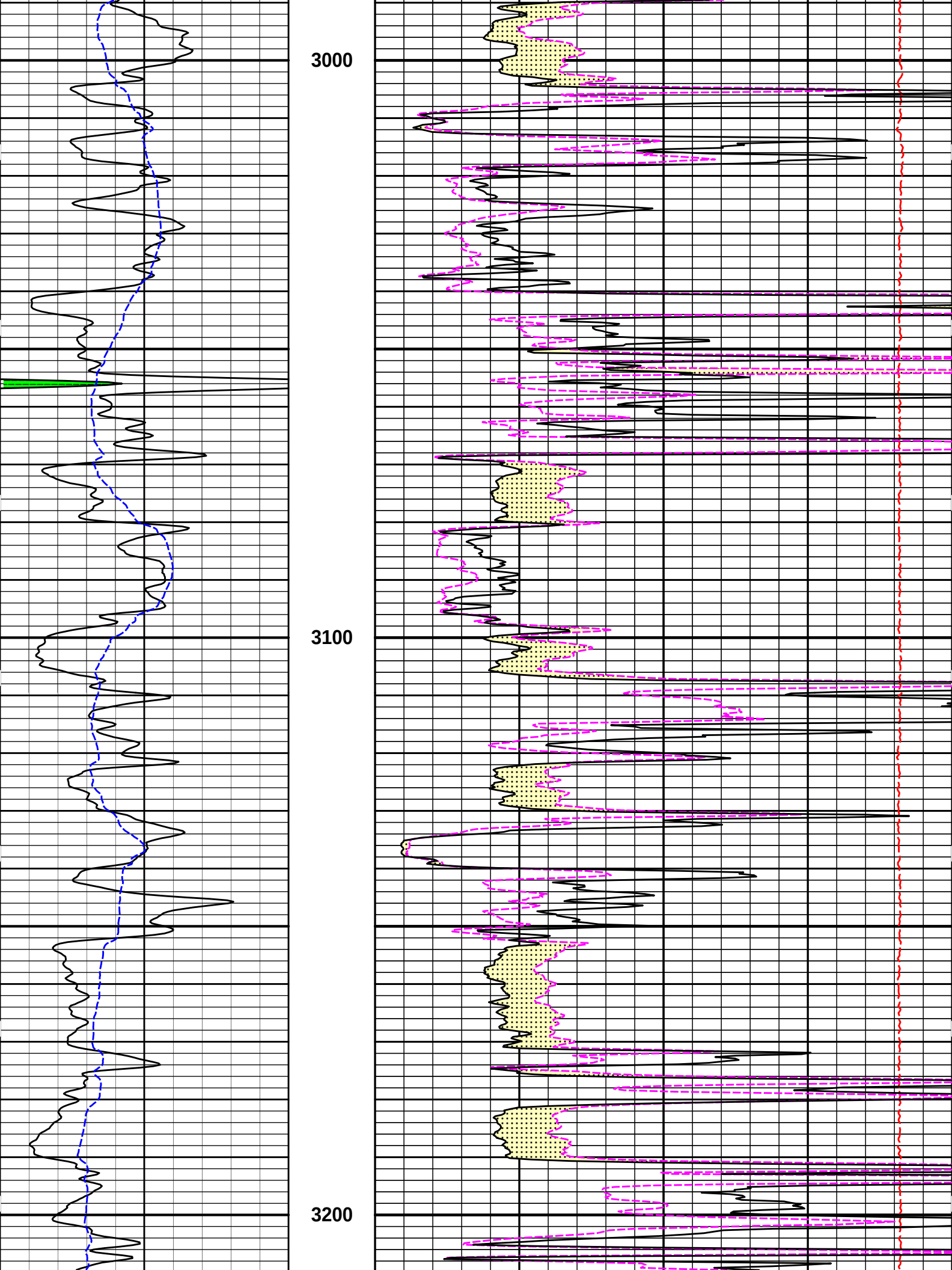
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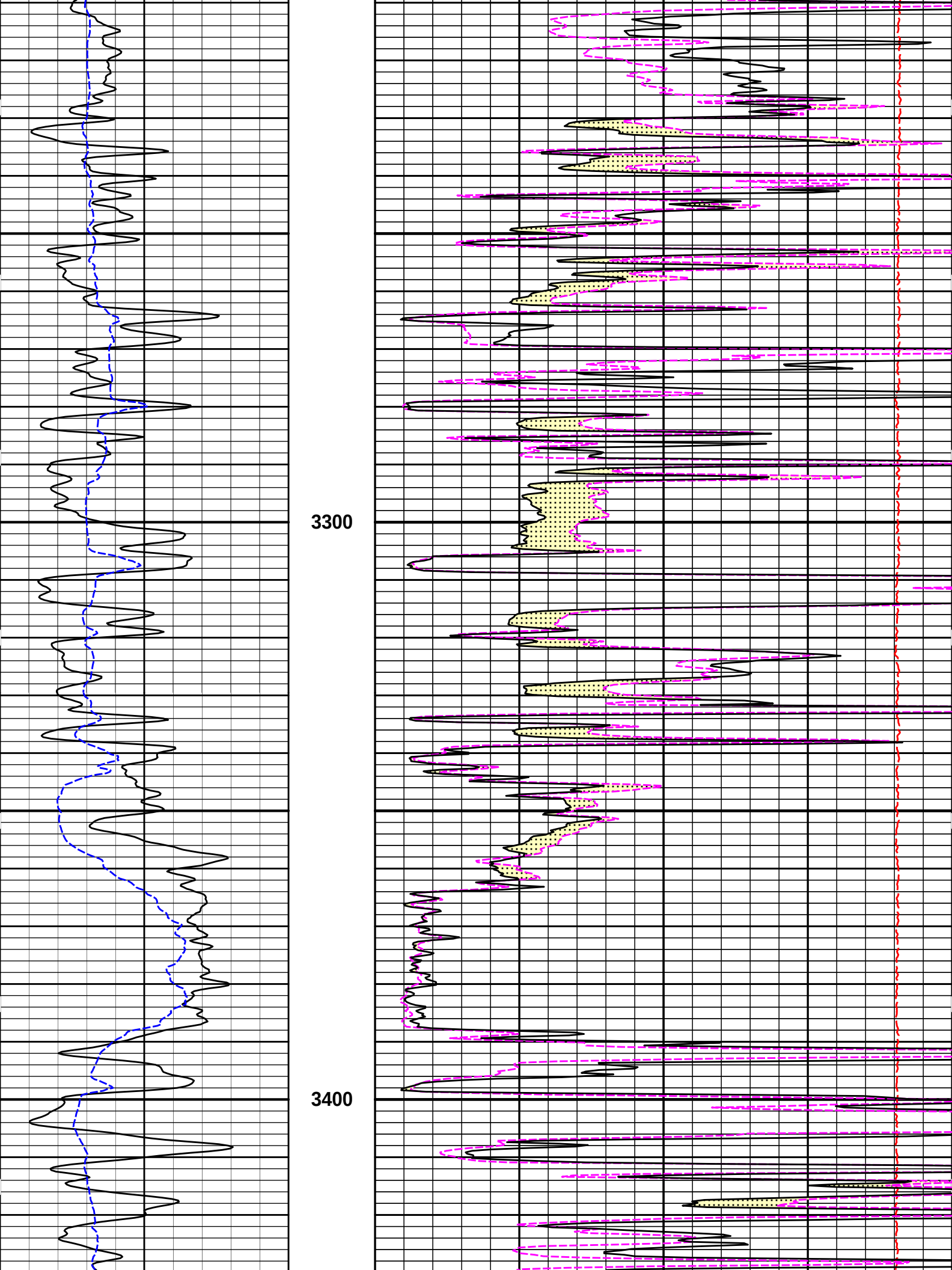
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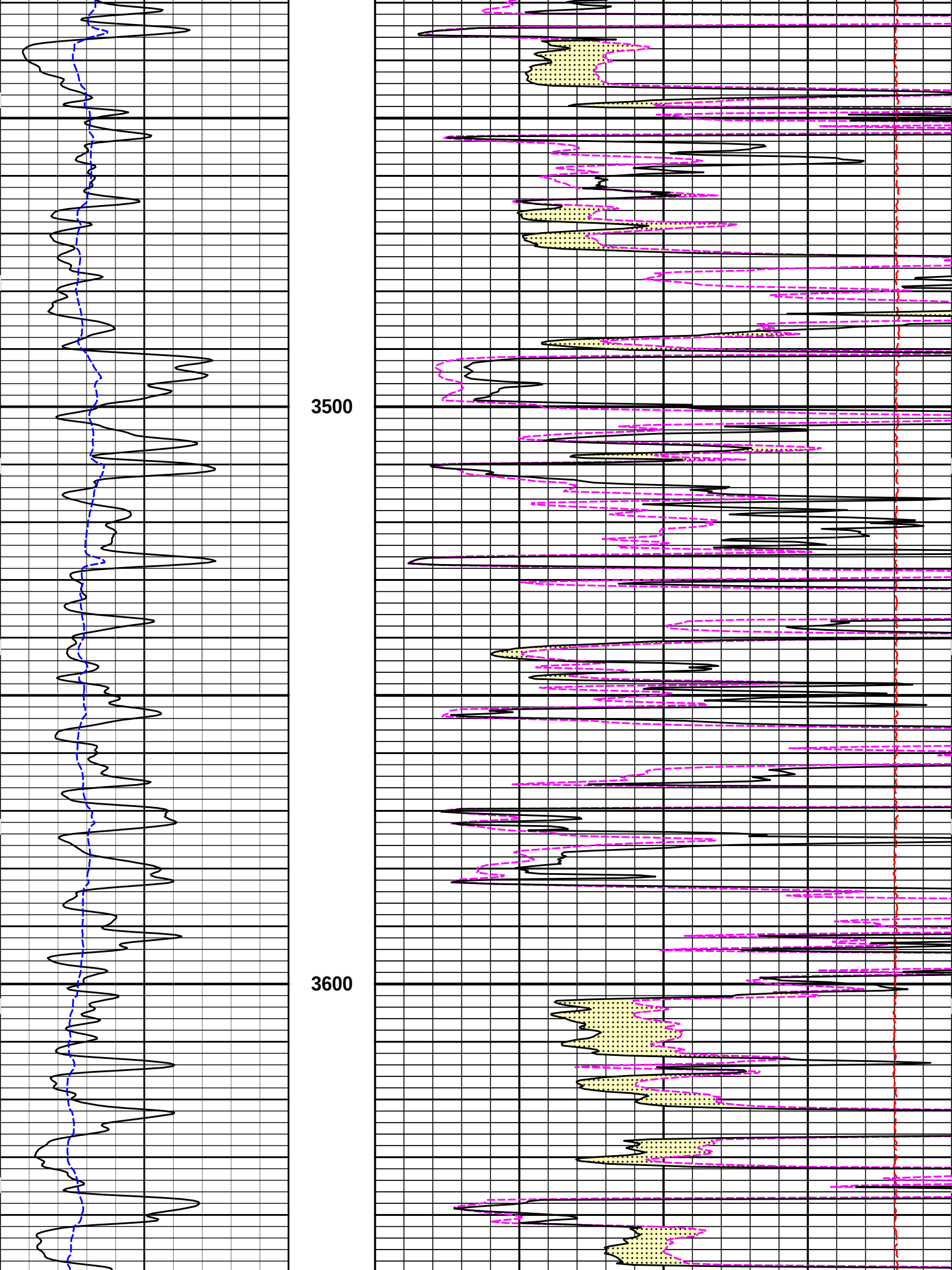
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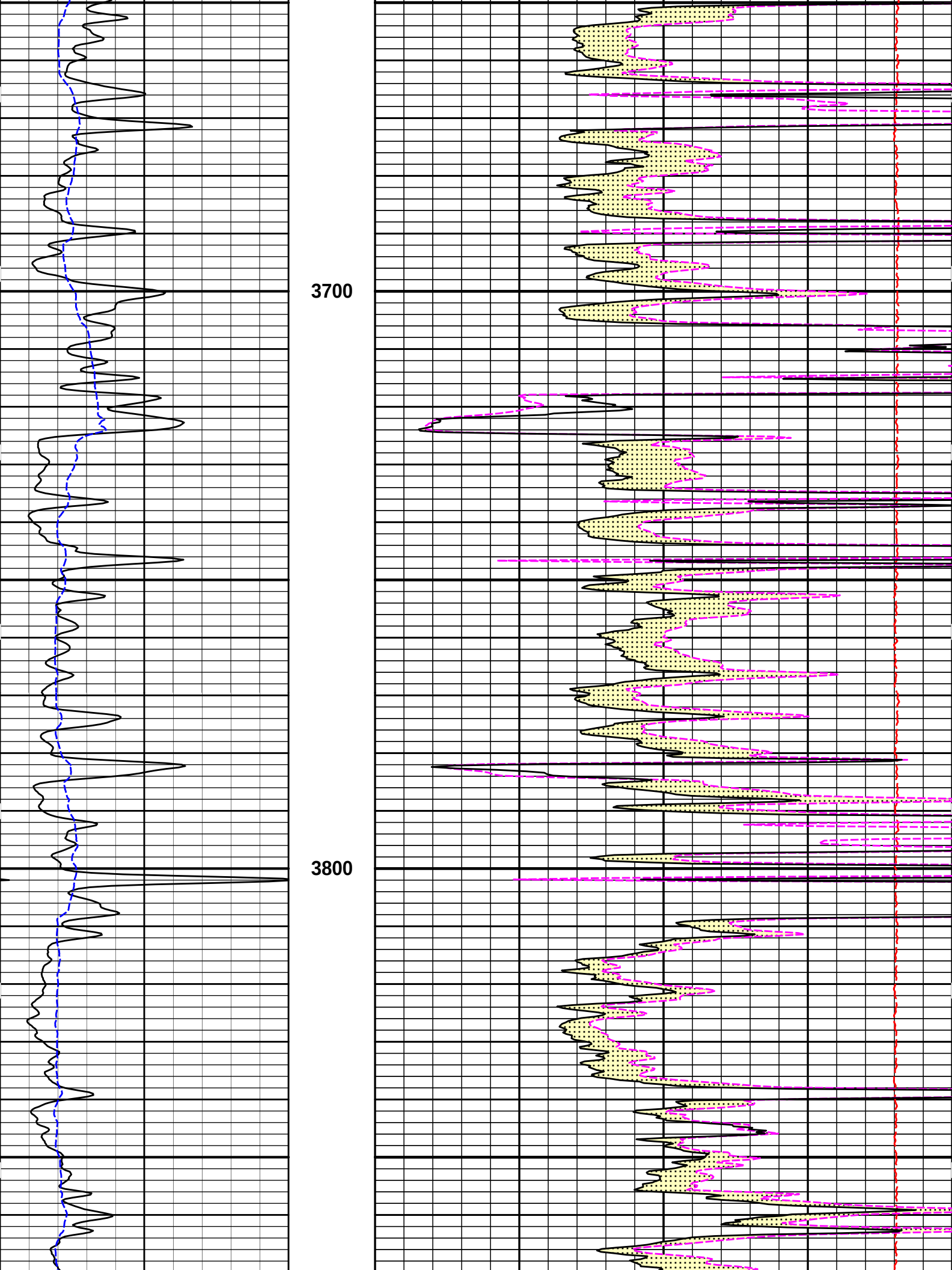
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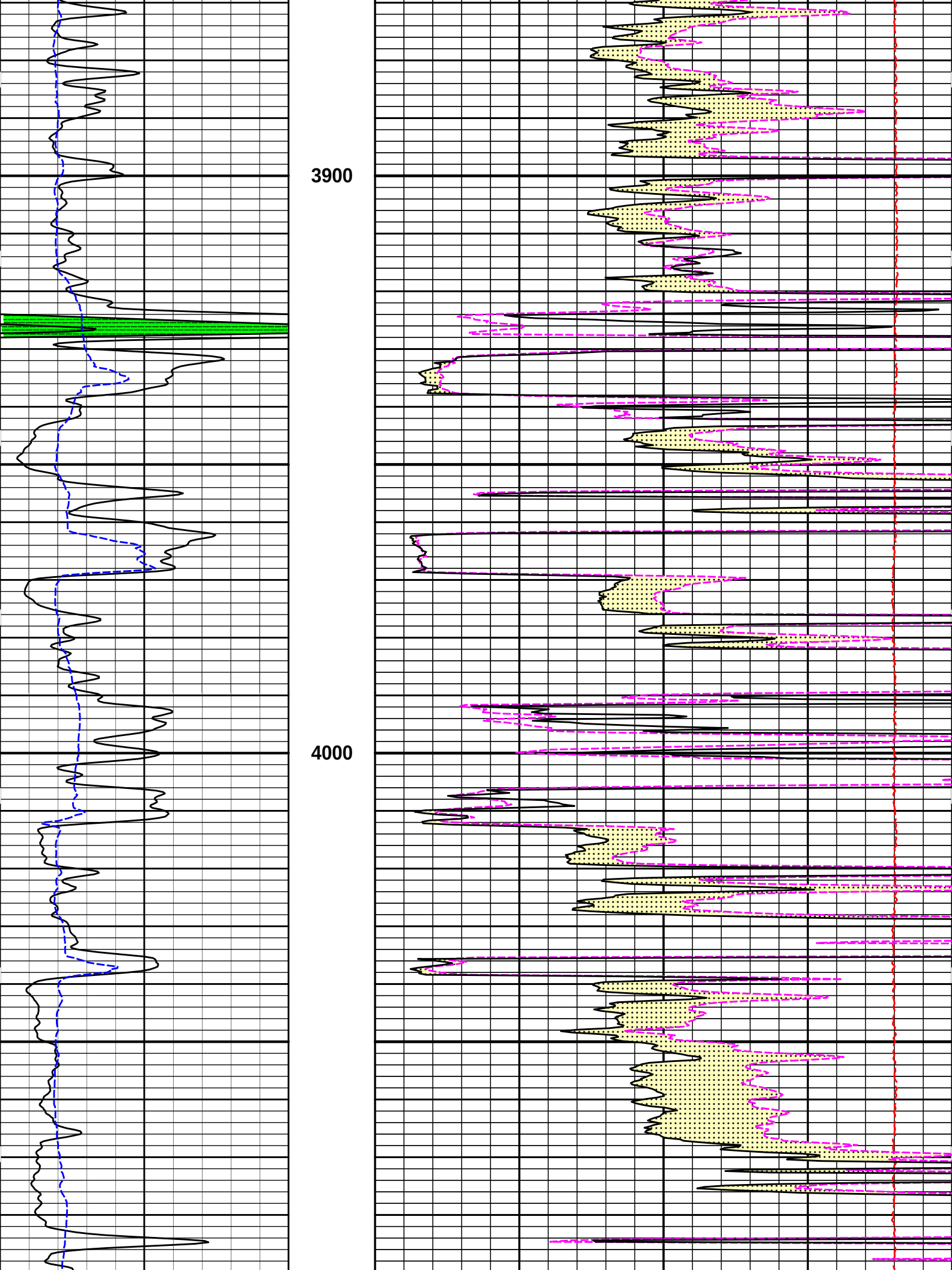
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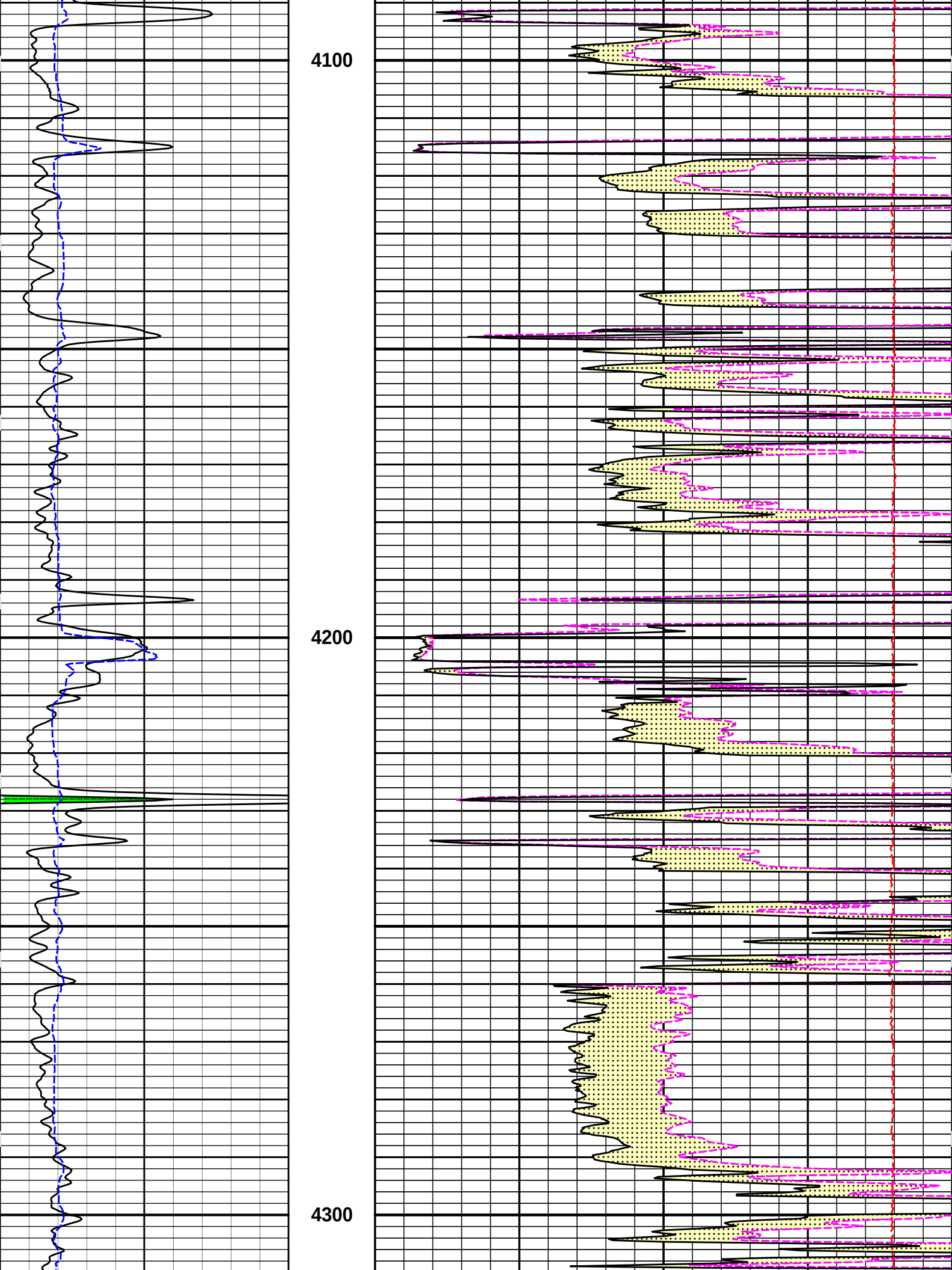
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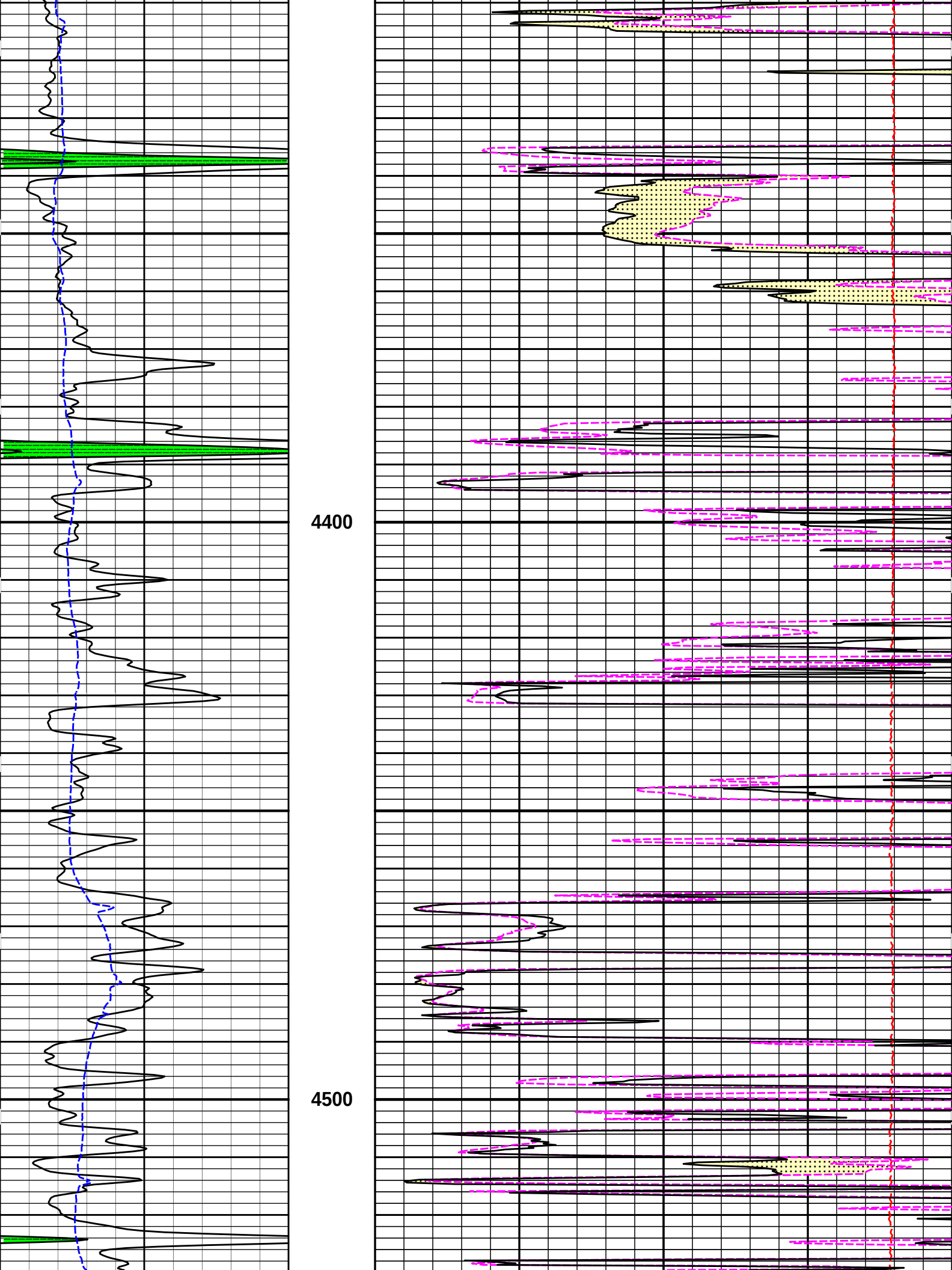
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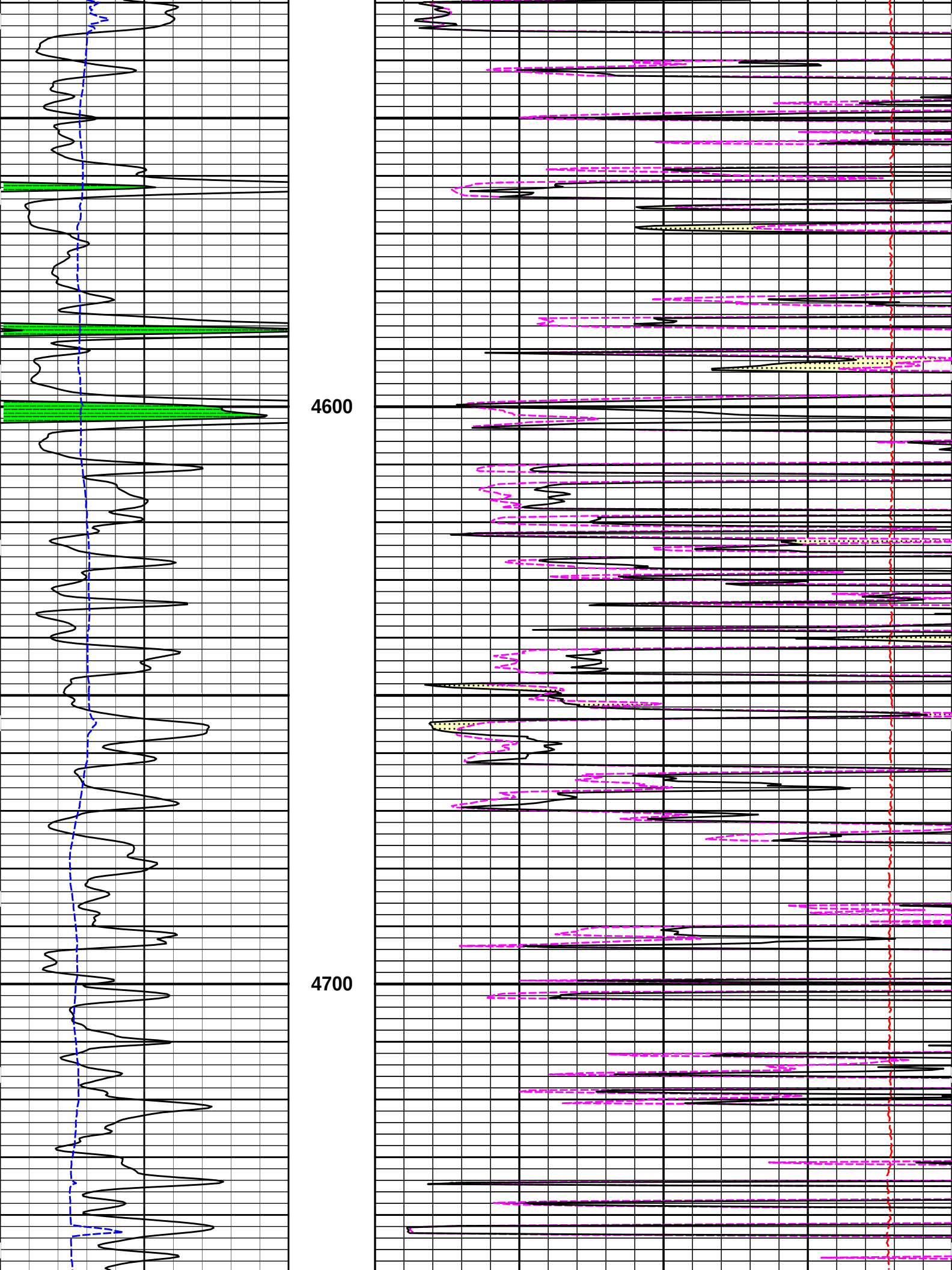
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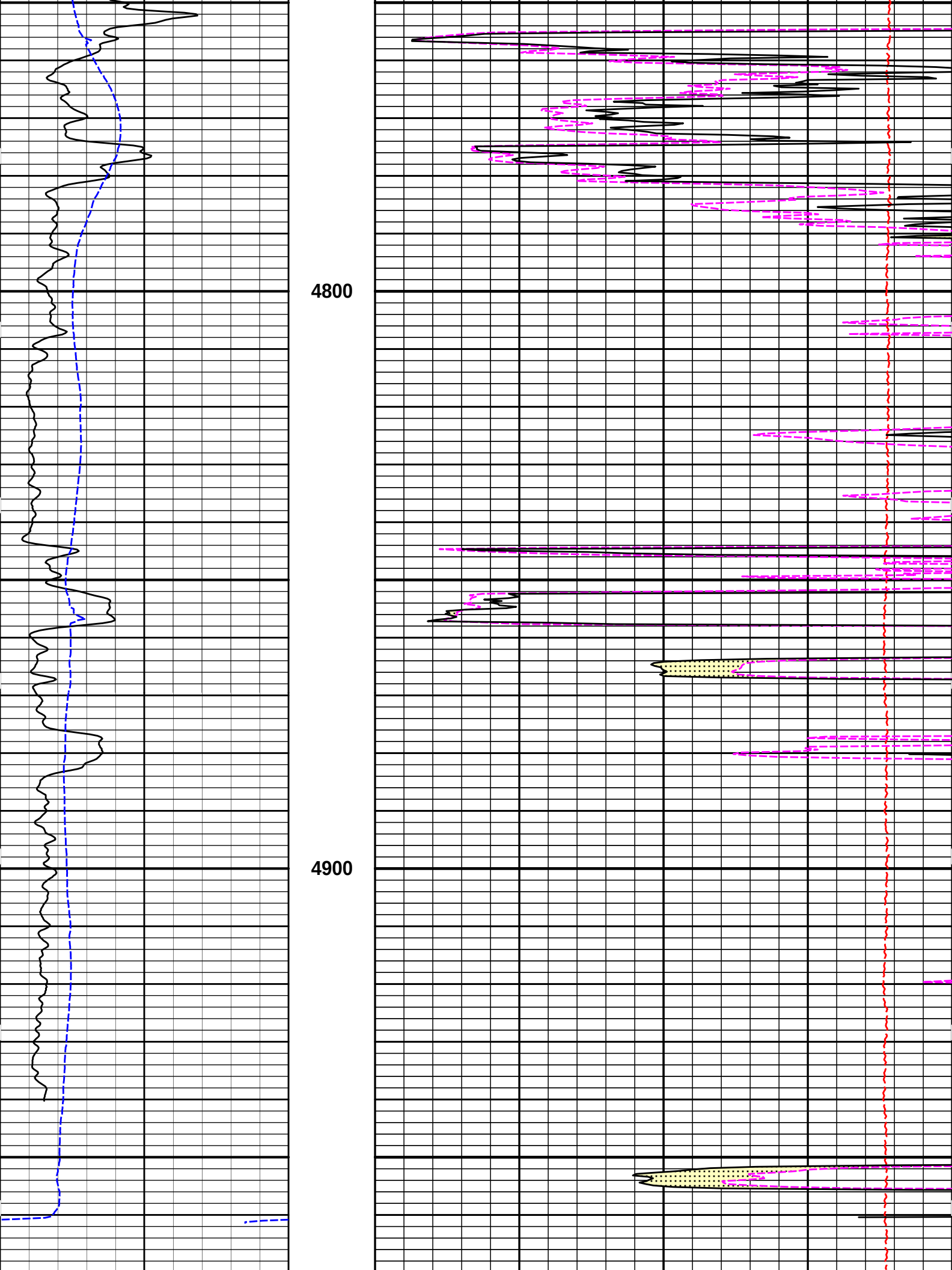
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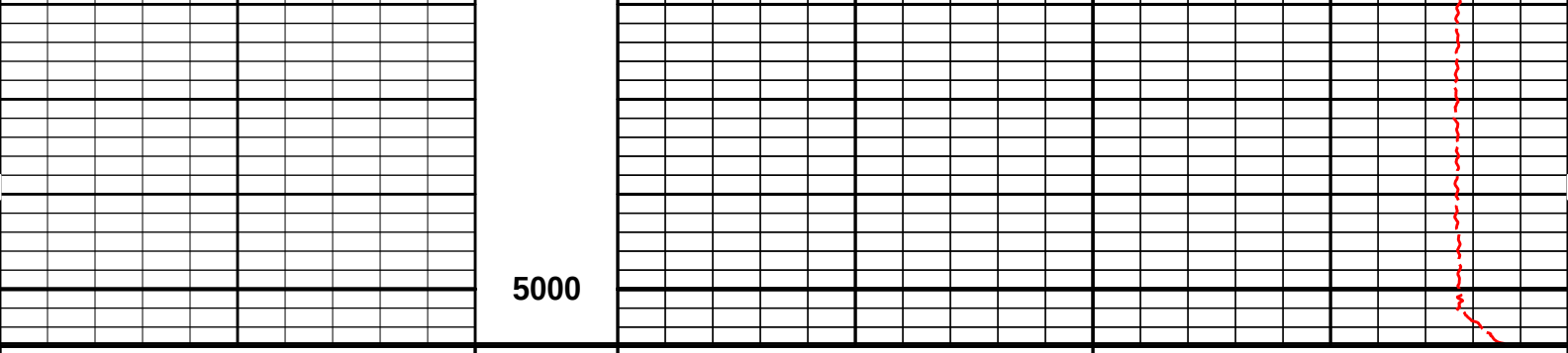


6 Caliper 16
inches

MD
1 : 240
ft

15K Tension 0
pounds

0 Gamma API 150
api

SHALE

0 MicrologLateral 20
ohm-metre

0 MicrologNormal 20
ohm-metre

PERMEABLE

HALLIBURTON

Plot Time: 28-Mar-14 13:32:25
Plot Range: 1840 ft to 5005.75 ft
Data: XPO_1-19A\Well Based\R1 CASING\
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\MICROLOG\Microlog_IQ_5_main_lib

5 INCH MAIN LOG

HALLIBURTON

Plot Time: 28-Mar-14 13:32:25
Plot Range: 4595 ft to 5006.75 ft
Data: XPO_1-19A\Well Based\R1 REPEAT\
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\MICROLOG\Microlog_IQ_5_rep_lib

REPEAT SECTION

PERMEABLE

0 MicrologNormal 20
ohm-metre

0 MicrologLateral 20
ohm-metre

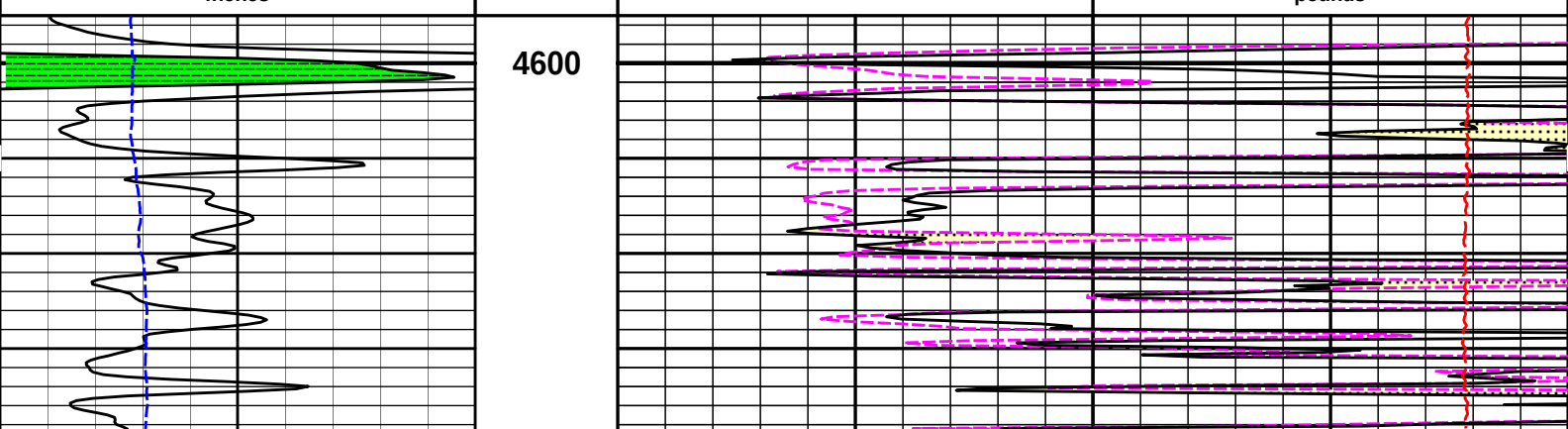
SHALE

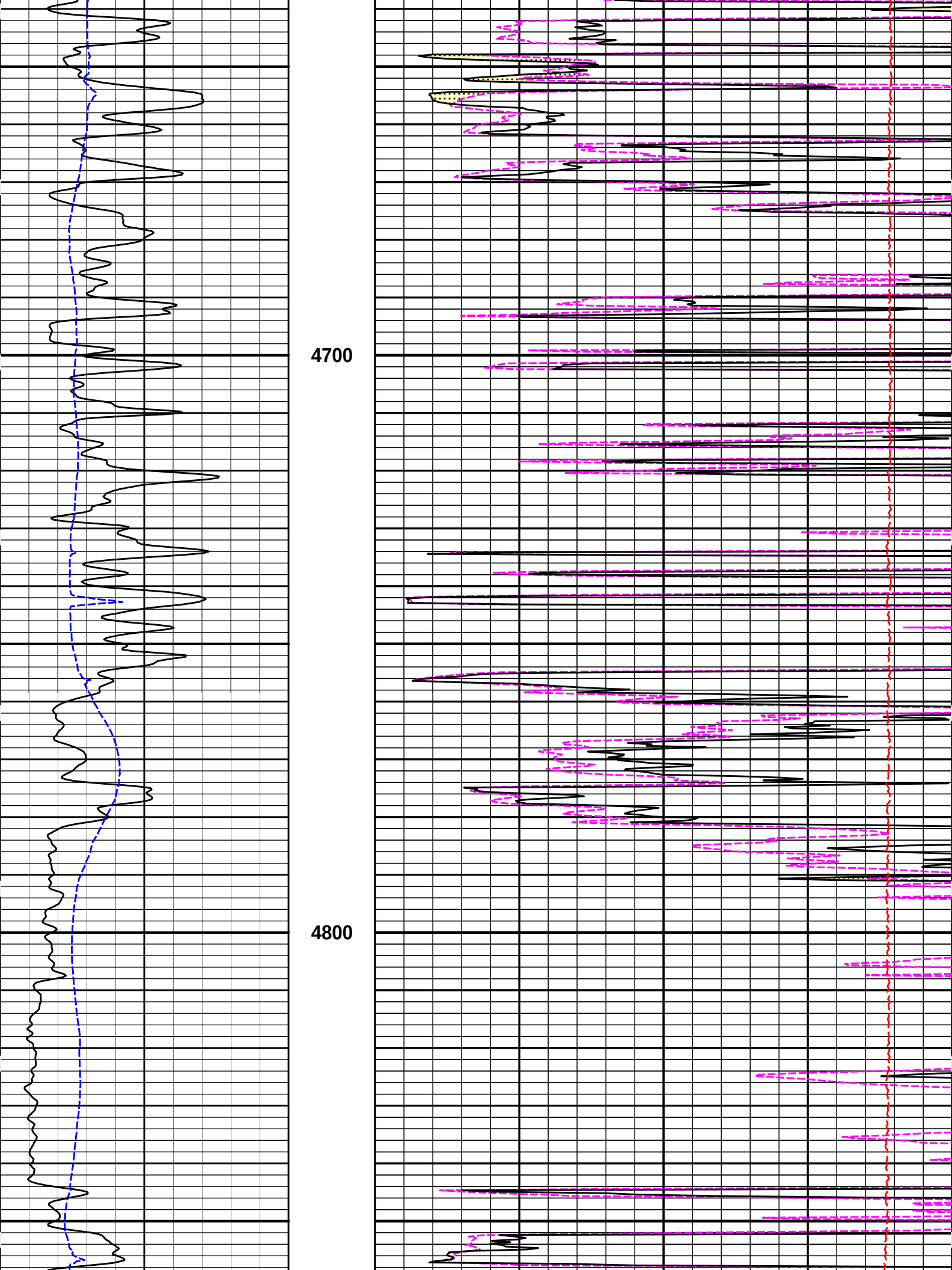
0 Gamma API 150
api

6 Caliper 16
inches

MD
1 : 240
ft

15K Tension 0
pounds

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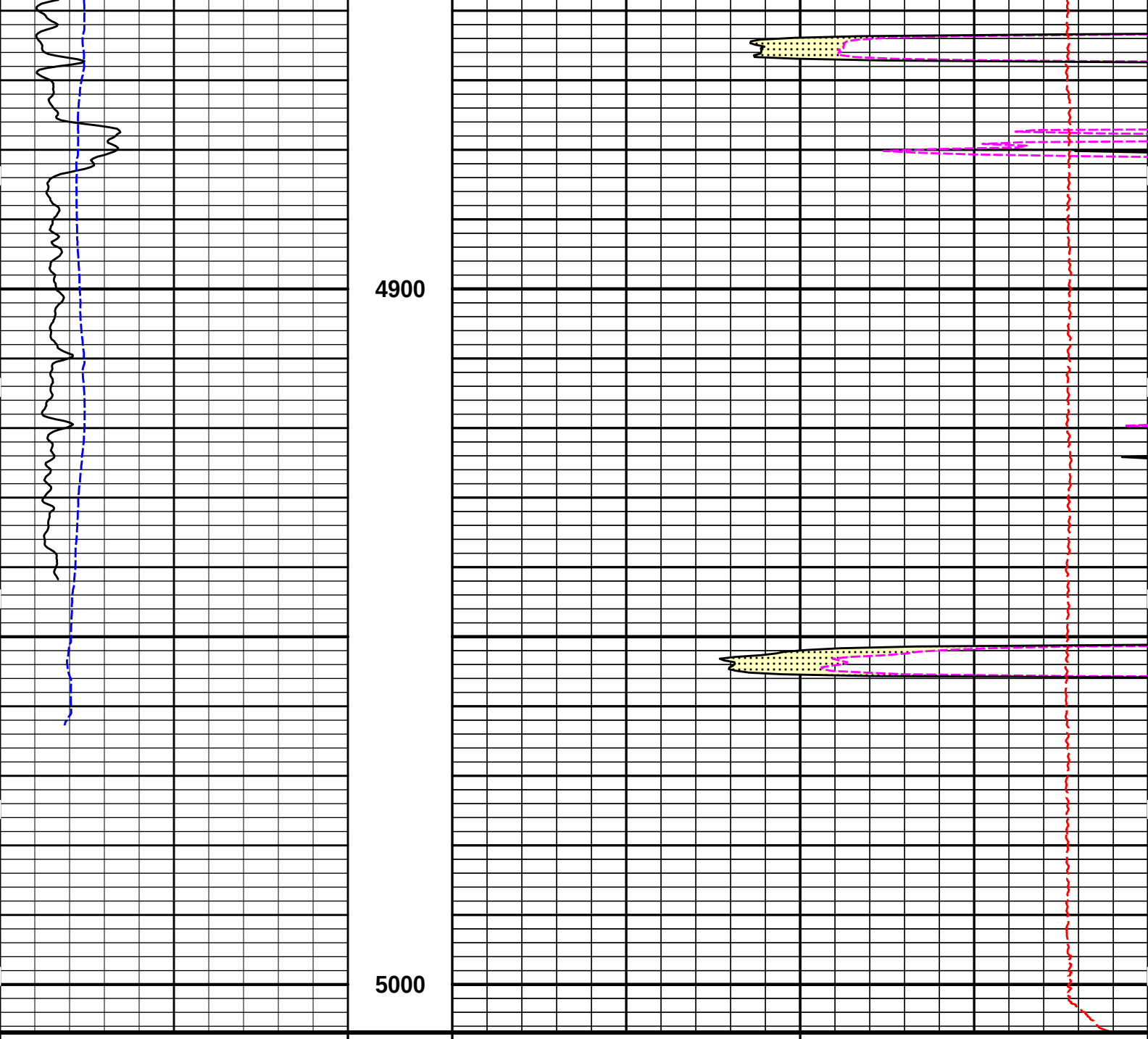


6 Caliper 16 inches	MD 1 : 240 ft	15K Tension 0 pounds
0 Gamma API 150 api		0 MicrologLateral 20 ohm-metre
SHALE		0 MicrologNormal 20 ohm-metre
		PERMEABLE

HALLIBURTON

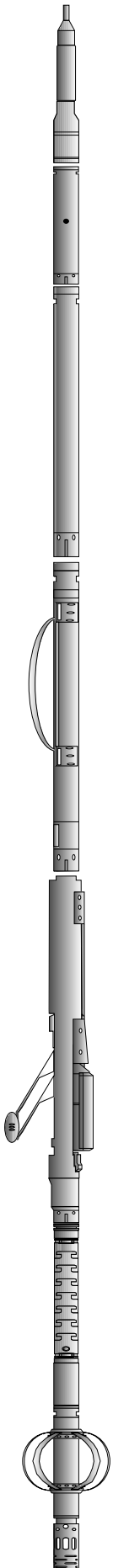
Plot Time: 28-Mar-14 13:32:26
Plot Range: 4595 ft to 5006.75 ft
Data: XPO_1-19A\Well Based\R1 REPEAT\
Plot File: \\-LOCAL-\XPO_1-19A\Well Based\MICROLOG\Microlog_IQ_5_rep_lib

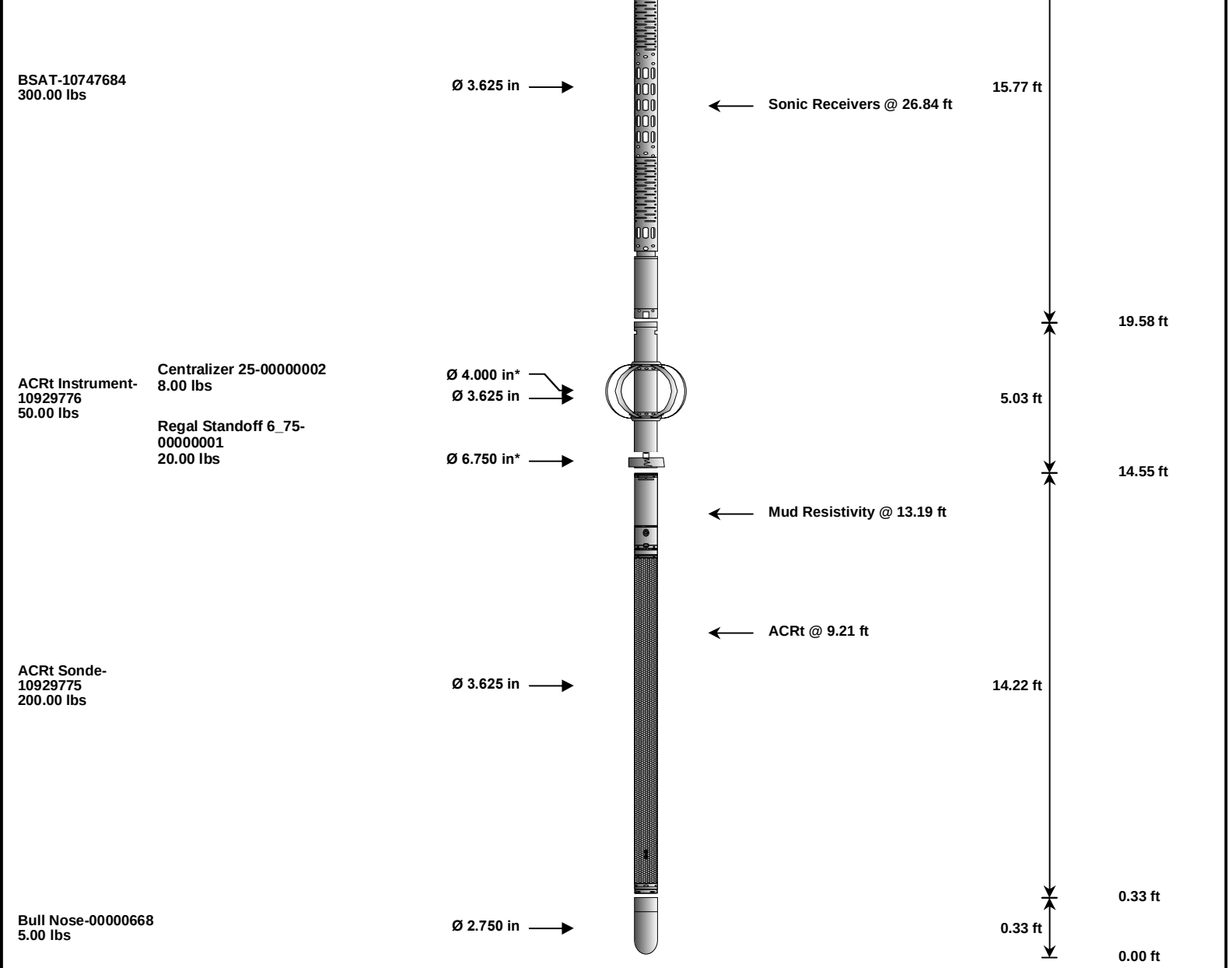
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						77.77 ft
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in		Temperature @ 76.74 ft	3.03 ft	
		Ø 2.750 in				74.74 ft
XOHD-00000001 20.00 lbs		Ø 3.625 in			0.95 ft	
						73.79 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in		SP @ 72.01 ft	3.74 ft	
						70.05 ft
GTET-10748374 165.00 lbs		Ø 3.625 in			8.52 ft	
				GammaRay @ 63.99 ft		
						61.53 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer-10735145 6.60 lbs	Ø 5.000 in* Ø 3.625 in		DSN Far @ 54.59 ft DSN Near @ 53.84 ft	9.69 ft	
						51.84 ft
SDLT-10673803 360.00 lbs	SDLT Pad-10673790 65.00 lbs Microlog Pad-10673803 8.00 lbs	Ø 4.500 in Ø 4.750 in* Ø 4.750 in*		Microlog @ 44.03 ft SDL Caliper @ 43.84 ft SDL @ 43.83 ft	10.81 ft	
						41.03 ft
IQ Flex-00000668 140.00 lbs		Ø 3.625 in			5.67 ft	
						35.36 ft
	Centralizer 25-00000001 8.00 lbs	Ø 4.000 in*				





Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_696	37.50	3.03		74.74	300.00
XOHD	Hostile to Dits Cross Over	00000001	20.00	0.95		73.79	300.00
SP	SP Sub	12345678	60.00	3.74		70.05	300.00
GTET	Gamma Telemetry Tool	10748374	165.00	8.52		61.53	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69		51.84	60.00
DCNT	DSN Decentralizer	10735145	6.60	5.13	*	55.17	300.00
SDLT	Spectral Density Tool	10673803	360.00	10.81		41.03	60.00
SDLP	Density Insite Pad	10673790	65.00	2.55	*	43.24	60.00
MICP	Microlog Pad	10673803	8.00	1.00	*	43.53	60.00
IQF	IQ Flex tool	00000668	140.00	5.67		35.36	300.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77		19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	32.60	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10929776	50.00	5.03		14.55	120.00
RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	*	14.71	300.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	*	16.19	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22		0.33	120.00
BLNS	Bull Nose	00000668	5.00	0.33		0.00	300.00
Total			**1,627.10**	**77.77**			

* Not included in Total Length and Length Accumulation.

Data: XPO_1-19A\0001 QUAD\IDLE

Date: 28-Mar-14 10:11:30

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10748374**	**Reference Calibration Date:**	**05-Mar-14 16:34:57**
Engineer:	**thomas hyde**	**Calibration Date:**	**18-Mar-14 09:50:24**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	34.3	33.1	api
Background + Calibrator	274.5	265.1	api
Calibrator	240.2	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 10748374**	**Reference Calibration Date:**	**18-Mar-14 09:50:24**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**26-Mar-14 23:24:02**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Field Verification	Shop	Field	Units
Background	33.1	43.2	api
Background + Calibrator	265.1	266.5	api
Calibrator	232.0	223.3	api

Shop	Field	Difference	Tolerance
232.0	223.3	8.7	+/- 9.00

DENSITY CALIPER SHOP CALIBRATION

Tool Name:	**SDLT - 10673803**	**Reference Calibration Date:**	**19-Feb-14 11:36:45**
Engineer:	**thomas hyde**	**Calibration Date:**	**18-Mar-14 10:01:07**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**
Host Tool Name:	**DSNT - 10735145**		

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-4075.69	-4085.93	-7000.00 - -1000.00
Pad Gain	0.0003810	0.0003931	0.000200 - 0.000600
Arm Offset	-4794.44	-4798.17	-5000.00 - 3000.00
Arm Gain	0.0005107	0.0004777	0.000300 - 0.000700
Arm Power	-0.000005244	-0.000002983	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER

Tool Diameter: 4.50 in

CALIBRATION RINGS

Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	1.94	2.00	0.06	+/- 0.20
Medium Ring (in)	3.64	3.75	0.11	+/- 0.20

RING DIAMETER:				
Small Ring (in)	6.63	6.50	-0.13	+/- 0.20
Medium Ring (in)	8.45	8.25	-0.20	+/- 0.20
Large Ring (in)	15.08	15.00	-0.08	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - 10673803 **Reference Calibration Date:** 18-Mar-14 10:01:07

Engineer: SHELDON INGERSOLL **Calibration Date:** 26-Mar-14 23:24:49

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.79	0.04	+/- 0.10
Ring Diameter	8.25	8.36	0.11	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed
Diameter Check:	Passed

MICRO LOG SHOP CALIBRATION

Tool Name: Microlog Pad - 10673803 **Reference Calibration Date:** 13-Feb-14 11:25:59

Engineer: THOMAS K HYDE **Calibration Date:** 18-Mar-14 11:11:30

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Host Tool Name: DSNT - 10735145

CALIBRATION COEFFICIENT SUMMARY

Measurement	Micro Log Normal		Micro Log Lateral		
	Measured	Calibrated	Measured	Calibrated	Units
Tool Zero	-0.06	-0.07	-0.01	0.00	ohmm
Calibration Point #1	0.00	0.00	-0.01	0.00	ohmm
Calibration Point #2	19.90	20.00	19.99	20.00	ohmm
Internal Reference	19.96	20.06	20.12	20.12	ohmm

Measurement	Micro Log Normal Tool Value	Micro Log Lateral Tool Value	Units
Tool Zero	0.44	0.29	V
Calibration Point #1	18.57	0.06	V
Calibration Point #2	5375.33	6975.69	V
Internal Reference	5390.12	7019.08	V

MICRO LOG FIELD CHECK

Tool Name: Microlog Pad - 10673803 **Reference Calibration Date:** 18-Mar-14 11:11:30

Engineer: THOMAS K HYDE **Calibration Date:** 26-Mar-14 23:19:24

Software Version: WL INSITE R4.2.0 (Build 2) **Calibration Version:** 1

Measurement	Micro Log Normal		Micro Log Lateral		
	Shop	Field	Shop	Field	Units

Tool Zero	-0.07	-0.08	0.00	0.00	ohmm
Internal Reference	20.06	20.03	20.12	20.10	ohmm

Summary

Signal	Shop	Field	Difference	Tolerence
Microlog Normal	20.06	20.03	0.03	+/- 0.80
Microlog Lateral	20.12	20.10	0.02	+/- 0.80

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10748374						
Gamma Ray Calibrator	232.0	223.3	----------	8.7	+/- 9.00	api
SDLT-10673803						
Pad Extension	3.75	3.79	----------	-0.04	+/-0.10	in
Ring Diameter	8.25	8.36	----------	-0.11	+/-0.15	in
Microlog Pad-10673803						
MicroLog Normal	20.06	20.03	----------	0.03	+/-0.80	ohmm
MicroLog Lateral	20.12	20.10	----------	0.02	+/-0.80	ohmm

Data: XPO_1-19A\0001 QUAD\004 28-Mar-14 11:33 Up @5005.3f **Date: 28-Mar-14 12:13:12**

HALLIBURTON

PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	8.950	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.500	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5010.00	ft
	SHARED	BHT	Bottom Hole Temperature	130.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF

	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
	Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
	GTET	BHSM	Borehole Size Source Tool	SDLT	
	DSNT	DNOK	Process DSN?	Yes	
	DSNT	DEOK	Process DSN EVR?	No	
	DSNT	NLIT	Neutron Lithology	Limestone	
	DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
	DSNT	DNTP	Temperature Correction Type	None	
	DSNT	DPRS	DSN Pressure Correction Type	None	
	DSNT	SHCO	View More Correction Options	No	
	DSNT	UTVD	Use TVD for Gradient Corrections?	No	
	DSNT	LHWT	Logging Horizontal Water Tank?	No	
	DSNT	BHSM	Borehole Size Source Tool	SDLT	
	SDLT	CLOK	Process Caliper Outputs?	Yes	
	SDLT Pad	DNOK	Process Density?	Yes	
	SDLT Pad	DNOK	Process Density EVR?	No	
	SDLT Pad	CB	Logging Calibration Blocks?	No	
	SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
	SDLT Pad	DTWN	Disable temperature warning	No	
	SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
	SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
	SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
	Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
	BSAT	MBOK	Compute BCAS Results?	Yes	
	BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
	BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
	BSAT	DTFL	Delta -T Fluid	189.00	uspf
	BSAT	DTMT	Delta -T Matrix Type	User define	
	BSAT	DTMA	Delta -T Matrix	47.60	uspf
	BSAT	DTSH	Delta -T Shale	100.00	uspf
	BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
	ACRt Sonde	RTOK	Process ACRt?	Yes	
	ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
	ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
	ACRt Sonde	TPOS	Tool Position	Free Hanging	
	ACRt Sonde	RMOP	Rmud Source	Mud Cell	
	ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
	ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
	ACRt Sonde	THQY	Threshold Quality	0.50	
	ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
	ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	

BOTTOM

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
	Depth Panel			
TENS	Tension	0.00	NO	
	Rwa / CrossPlot			
TPUL	Tension Pull	77.76	NO	
BS	Bit Size	77.76	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	CH_HOS			
DHTN	DownholeTension	0.00	BLK	0.000
	SP Sub			
PLTC	Plot Control Mask	72.01	NO	
SP	Spontaneous Potential	72.01	BLK	1.250
SPR	Raw Spontaneous Potential	72.01	NO	
SPO	Spontaneous Potential Offset	72.01	NO	
	GTET			
TPUL	Tension Pull	63.99	NO	
GR	Natural Gamma Ray API	63.99	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	63.99	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	63.99	W	1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
	DSNT			
TPUL	Tension Pull	53.74	NO	
RNDS	Near Detector Telemetry Counts	53.84	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.59	TRI	0.583
DNTT	DSN Tool Temperature	53.84	NO	
DSNS	DSN Tool Status	53.74	NO	
ERND	Near Detector Telemetry Counts EVR	53.84	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.59	BLK	0.000
ENTM	DSN Tool Temperature EVR	53.84	NO	
HDIA	Measured Hole Diameter	0.00	NO	
	SDLT			
TPUL	Tension Pull	43.84	NO	
PCAL	Pad Caliper	43.84	TRI	0.250
ACAL	Arm Caliper	43.84	TRI	0.250
	BSAT			
TPUL	Tension Pull	26.84	NO	
STAT	Status	26.84	NO	
DLYT	Delay Time	26.84	NO	
SI	Sample Interval	26.84	NO	
TXRX	Raw Telemetry 10 Receivers	26.84	NO	
FRMC	Tool Frame Count	26.84	NO	
GMOD	Gain processing mode	19.58	NO	
	ACRt Sonde			
TPUL	Tension Pull	2.73	NO	

F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000
F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
HDIA	Measured Hole Diameter	0.00	NO	

SDLT Pad

TPUL	Tension Pull	43.83	NO	
NAB	Near Above	43.66	BLK	0.920

NHI	Near Cesium High	43.66	BLK	0.920
NLO	Near Cesium Low	43.66	BLK	0.920
NVA	Near Valley	43.66	BLK	0.920
NBA	Near Barite	43.66	BLK	0.920
NDE	Near Density	43.66	BLK	0.920
NPK	Near Peak	43.66	BLK	0.920
NLI	Near Lithology	43.66	BLK	0.920
NBAU	Near Barite Unfiltered	43.66	BLK	0.250
NLIU	Near Lithology Unfiltered	43.66	BLK	0.250
FAB	Far Above	44.01	BLK	0.250
FHI	Far Cesium High	44.01	BLK	0.250
FLO	Far Cesium Low	44.01	BLK	0.250
FVA	Far Valley	44.01	BLK	0.250
FBA	Far Barite	44.01	BLK	0.250
FDE	Far Density	44.01	BLK	0.250
FPK	Far Peak	44.01	BLK	0.250
FLI	Far Lithology	44.01	BLK	0.250
PTMP	Pad Temperature	43.84	BLK	0.920
NHV	Near Detector High Voltage	43.24	NO	
FHV	Far Detector High Voltage	43.24	NO	
ITMP	Instrument Temperature	43.24	NO	
DDHV	Detector High Voltage	43.24	NO	
HDIA	Measured Hole Diameter	0.00	NO	

Microlog Pad

TPUL	Tension Pull	44.03	NO	
MINV	Microlog Lateral	44.03	BLK	0.750
MNOR	Microlog Normal	44.03	BLK	0.750

Data: XPO_1-19A\0001 QUAD\004 28-Mar-14 11:33 Up @5005.3f **Date: 28-Mar-14 12:08:26**

COMPANY	**BENGALIA LAND AND CATTLE COMPANY**		
WELL	**XPO 1-19A**		
FIELD	**DANIELLE**		
COUNTY	**GRAY**	STATE	**KANSAS**

HALLIBURTON

MICROLOG

HALLIBURTON

BOREHOLE COMPENSATED SONIC ARRAY LOG

COMPANY	BENGALIA LAND AND CATTLE COMPANY
WELL	XPO 1-19A
FIELD/BLOCK	DANIELLE
COUNTY	GRAY
STATE	KANSAS

COMPANY **BENGALIA LAND AND CATTLE COMPANY**

WELL **XPO 1-19A**

FIELD/BLOCK **DANIELLE**

COUNTY **GRAY** STATE **KANSAS**

API No. 15-069-20472-00-00

Location (SHL) 1190' FNL & 2173' FEL

Other Services:
DSN /SDL
MICROLOG
BSAT
ACRT
XRMI

Sect. 19 Twp. 25S Rge. 30W

Permanent Datum	GL	Elev. 2735.0 ft	Elev.: K.B. 2745.0 ft
Log measured from	KB	10.0 ft above perm. Datum	D.F. 2744.0 ft
Drilling measured from	KB		G.L. 2735.0 ft

Date	28-Mar-14		
Run No.	ONE		
Depth - Driller	5010.00 ft		
Depth - Logger	5003.0 ft		
Bottom - Logged Interval	4976		
Top - Logged Interval	1852		
Casing - Driller	8.625 in @ 1858.0 ft	@	@
Casing - Logger	1852.0 ft		
Bit Size	7.875 in	@	@
Type Fluid in Hole	Water Based Mud		
Density / Viscosity	8.9 ppg / 57.00 s/qt	/	/
PH / Fluid Loss	9.50 pH / 7.6 cptm	/	/
Source of Sample	MUD PIT		
Rm @ Meas. Temperature	1.430 ohmm @ 70.00 degF	@	@
Rmf @ Meas. Temperature	1.22 ohmm @ 70.00 degF	@	@
Rmc @ Meas. Temperature	1.640 ohmm @ 70.00 degF	@	@
Source Rmf / Rmc	CALCULATED / CALCULATED	/	/
Rm @ BHT	0.87 ohmm @ 120.0 degF	@	@
Time Since Circulation	5.5000 hr		
Time on Bottom	28-Mar-14 10:50		
Max. Rec. Temperature	120.0 degF @ 5003.0 ft	@	@
Equipment / Location	11230668 / LIBERAL	/	/
Recorded By	SHELDON INGERSOLL		
Witnessed By	A. GARNER	M. CRAWFORD	

Fold here

Service Ticket No.: 901224229 API Serial No.: 15-069-20472-00-00 PGM Version: WL INSITE R4.2.0 (Build 2)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE					
Date	Sample No.				
Depth-Driller					
Type Fluid in Hole					
Density	Viscosity				
Ph	Fluid Loss				
Source of Sample					
Rm @ Meas. Temp		@		@	
Rmf @ Meas. Temp.		@		@	
Rmc @ Meas. Temp.		@		@	
Source Rmf	Rmc				
Rm @ BHT		@		@	
Rmf @ BHT		@		@	
Rmc @ BHT		@		@	

RESISTIVITY SCALE CHANGES			
Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA				
Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
ONE	ACRT	N/A	CENT	
	10929775			

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	ONE
Serial No.	10748374	Serial No.	10747684	Serial No.	10673790	Serial No.	10735145
Model No.	GTET	Model No.	BSAT	Model No.	SDLT	Model No.	DSNT
Diameter	3.625"	No. of Cent.	2	Diameter	5.3"	Diameter	3.625"
Detector Model No.	T-102	Spacing	.5'	Log Type	GAM-GAM	Log Type	NEU-NEU
Type	SCINT			Source Type	CS-137	Source Type	AM-241BE
Length	8"	LSA [Y/N]		Serial No.	5073GW	Serial No.	DSN-436
Distance to Source	N/A	FWDA [Y/N]		Strength	1.5 CI	Strength	15 CI

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale		Matrix	Scale		Matrix	Scale		Matrix
No.	From	To	ft/min	L	R	L	R		L	R		L	R	
ONE	5003	1852	REC	0	150	30	-10	47.6 us/ft	30	-10	2.71 gm/cc	30	-10	LIME

DIRECTIONAL INFORMATION

Maximum Deviation	@	KOP	@

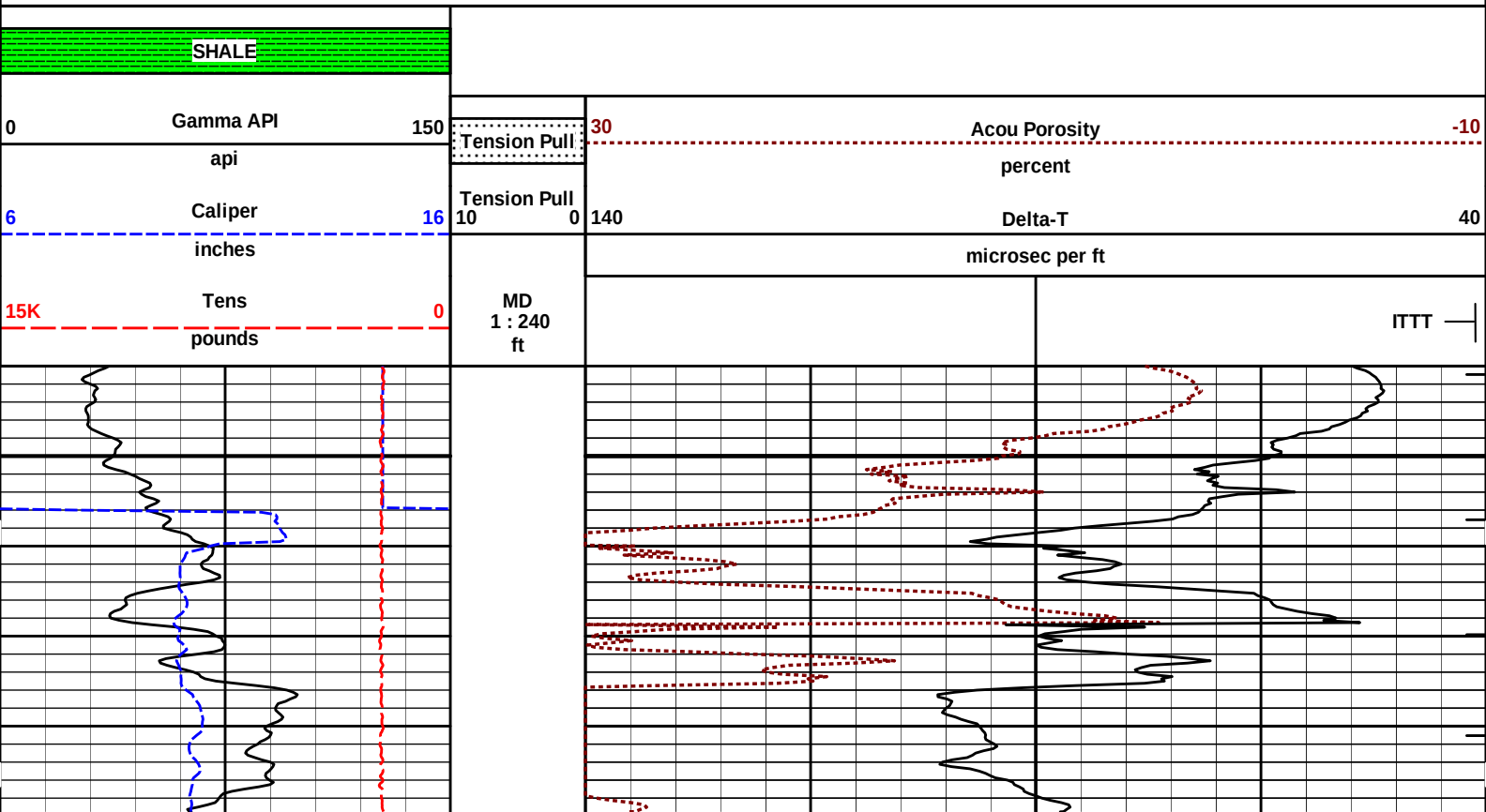
Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING.

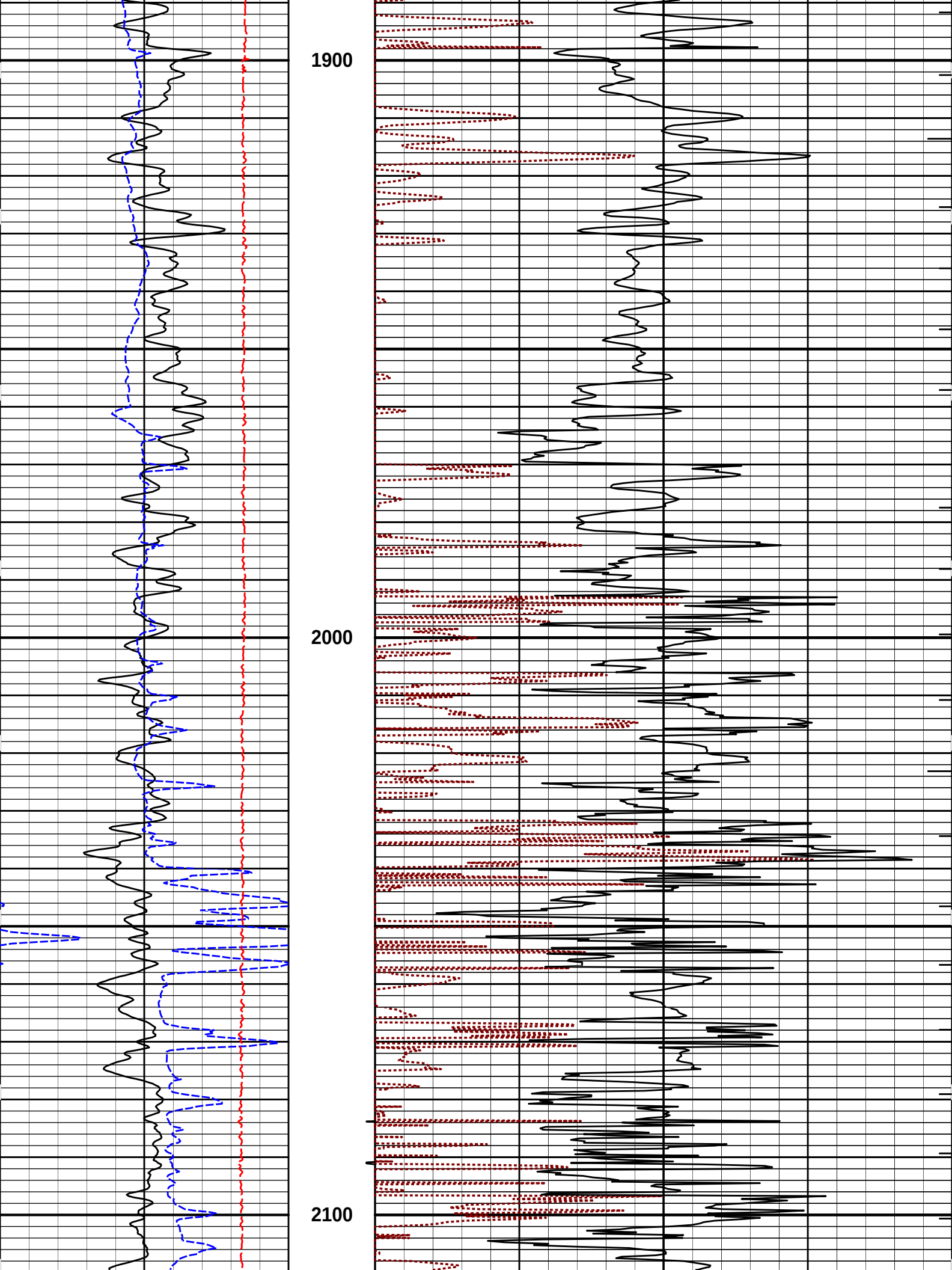
CHLORIDES REPORTED FOR 1700 ppm.

HALLIBURTON

Plot Time: 28-Mar-14 14:22:28
Plot Range: 1840 ft to 5005.75 ft
Data: XPO_1-19A\Well Based\R1 CASING\
Plot File: \\BSAT\BSAT_5_MAIN_LIB

5 INCH MAIN LOG

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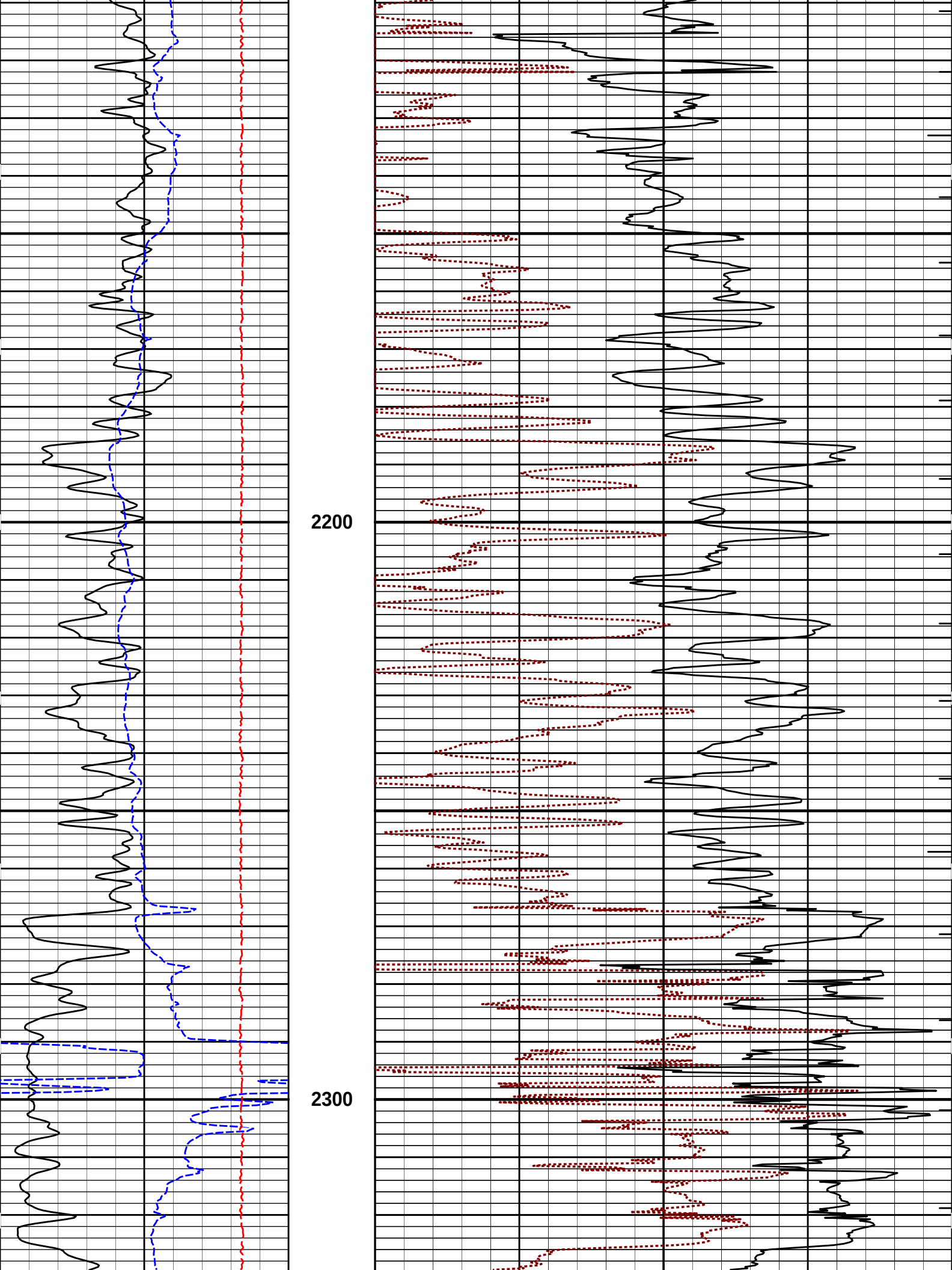
2100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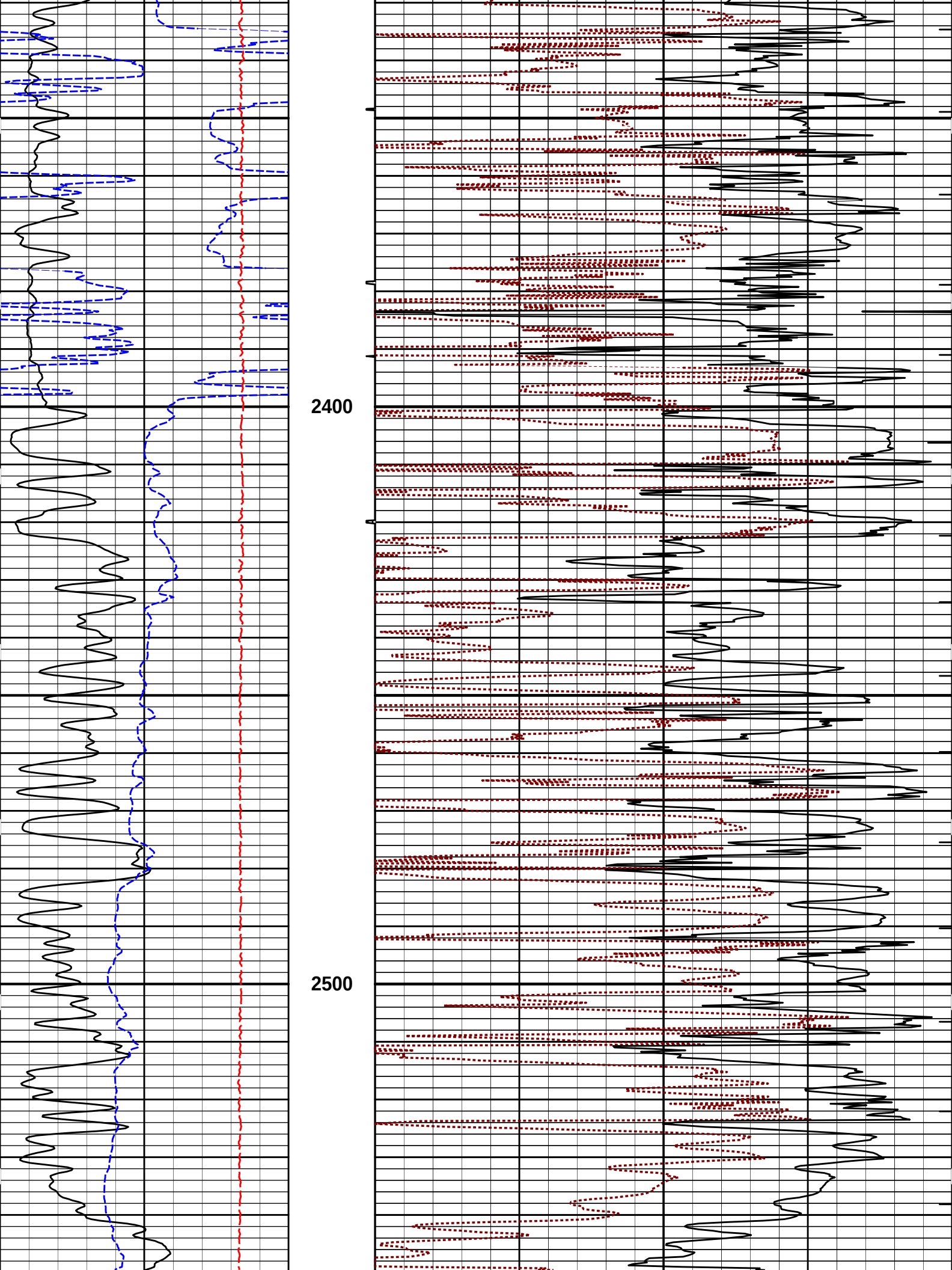
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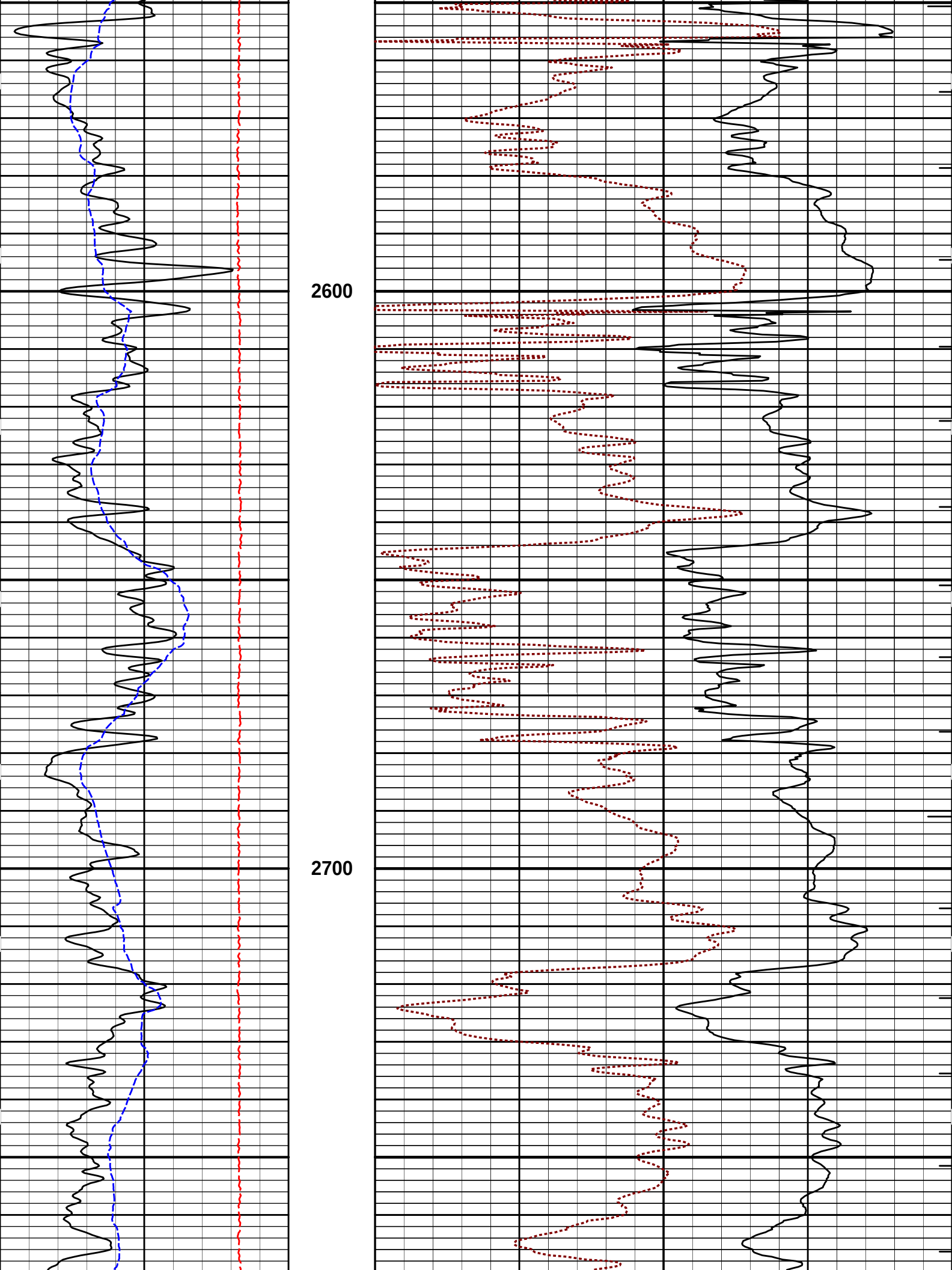
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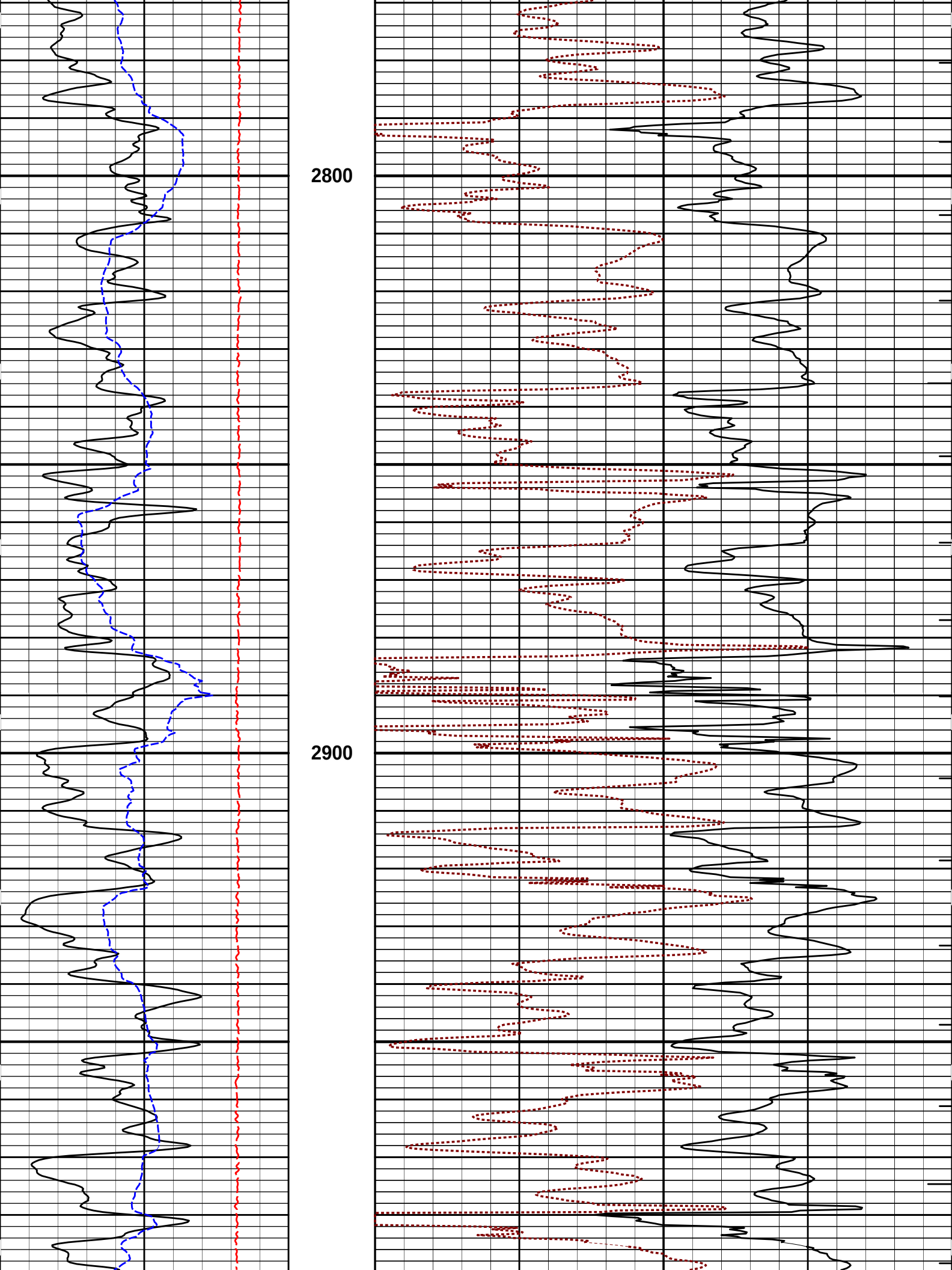
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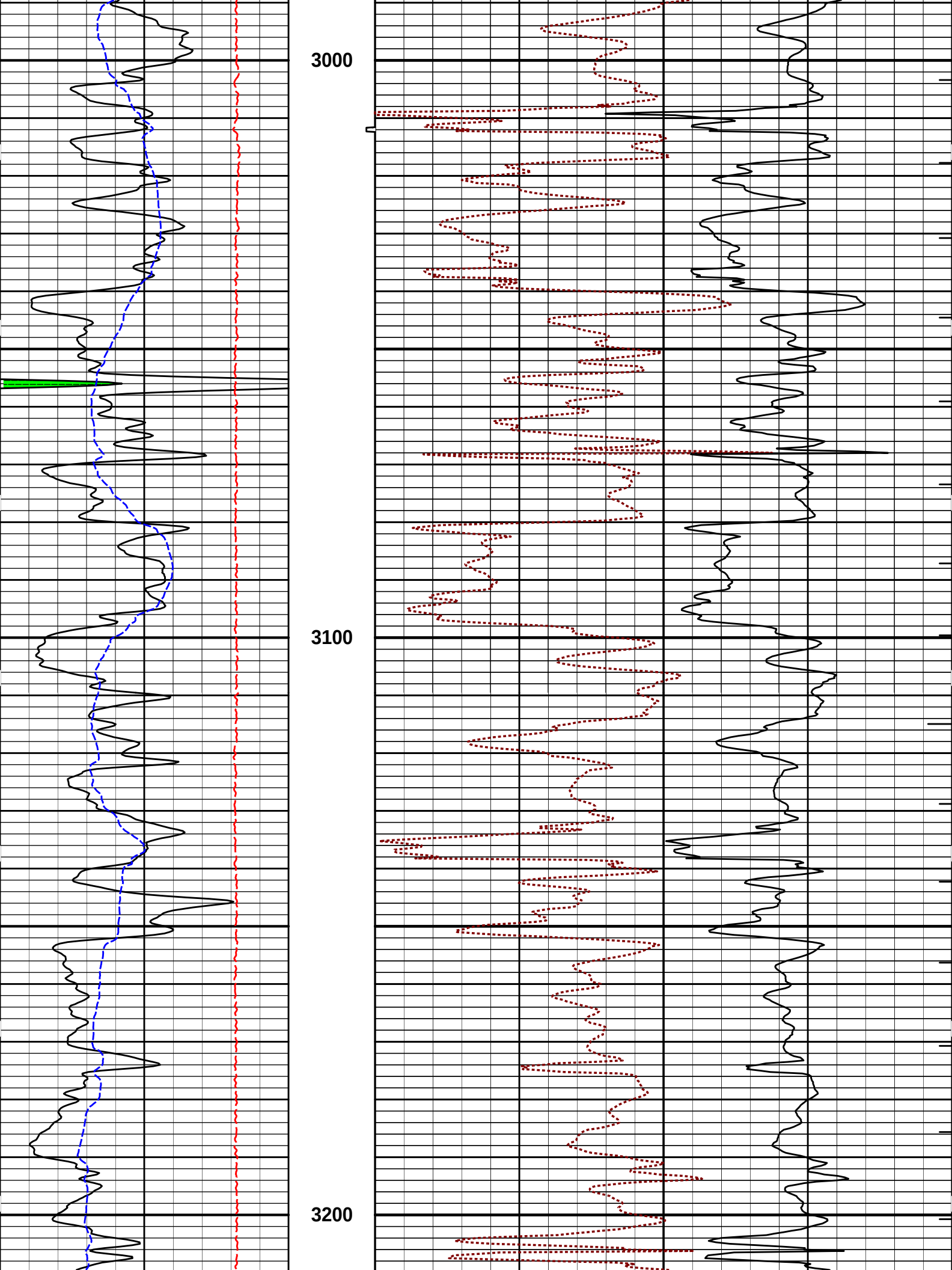
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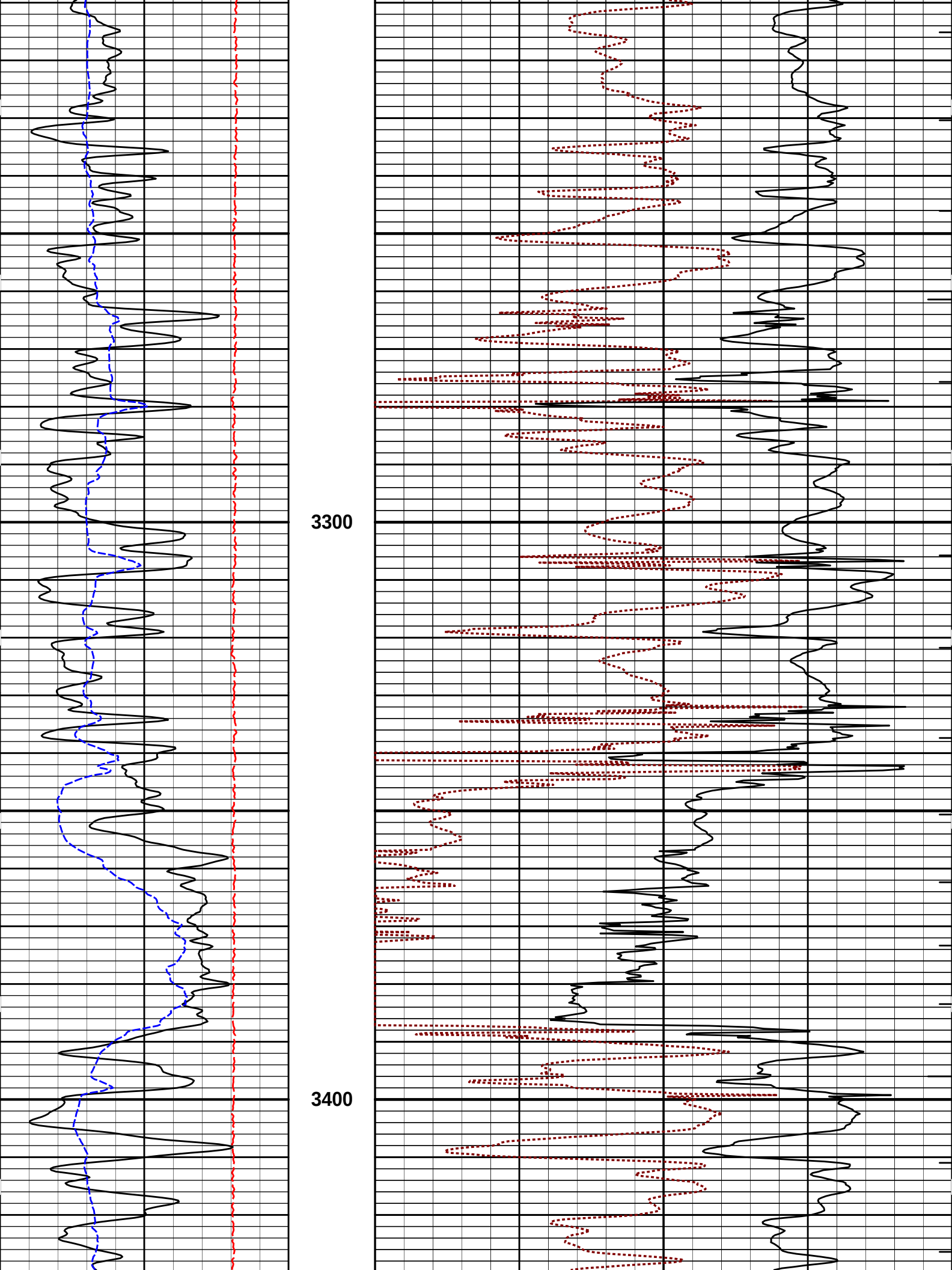
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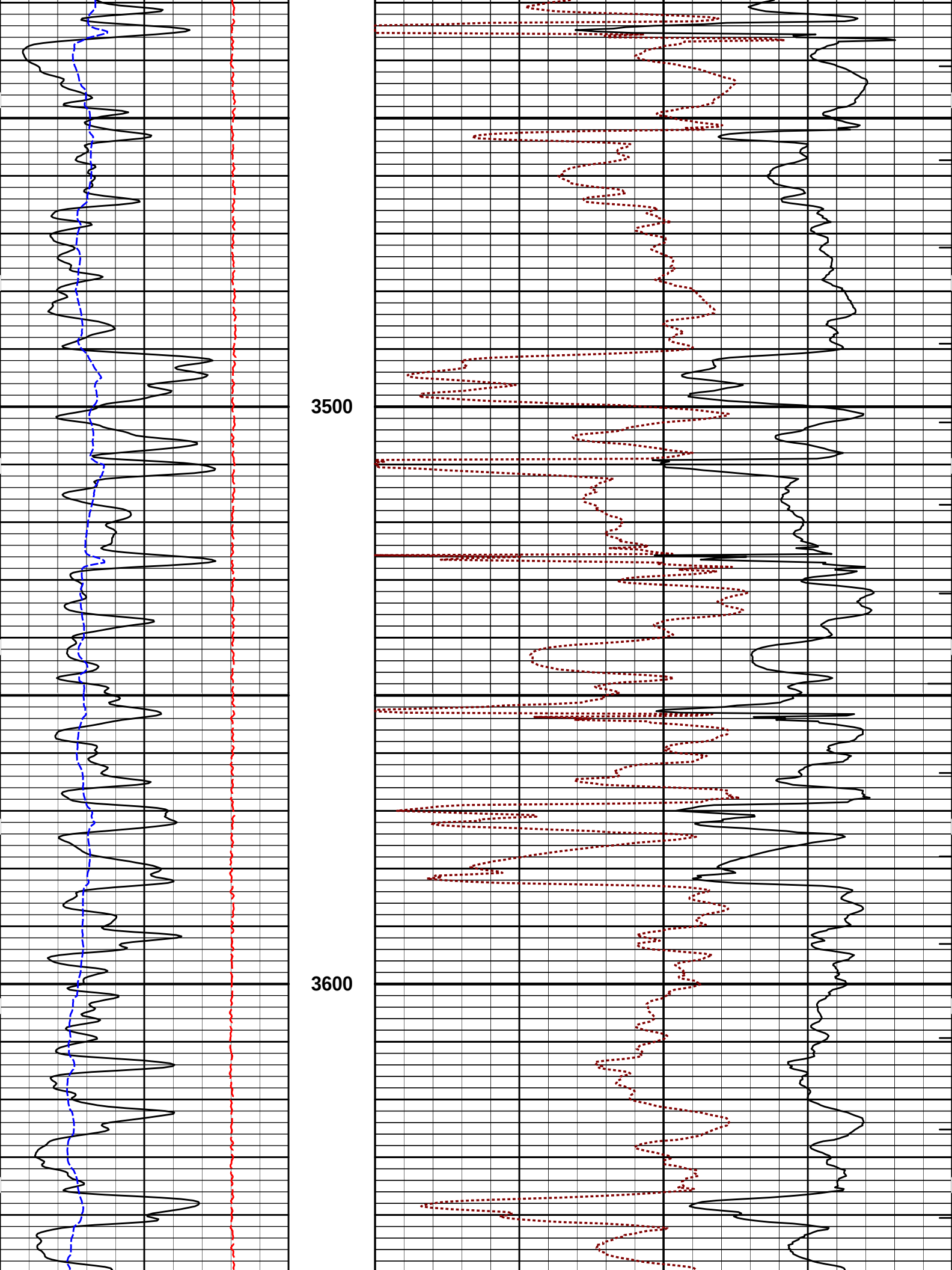
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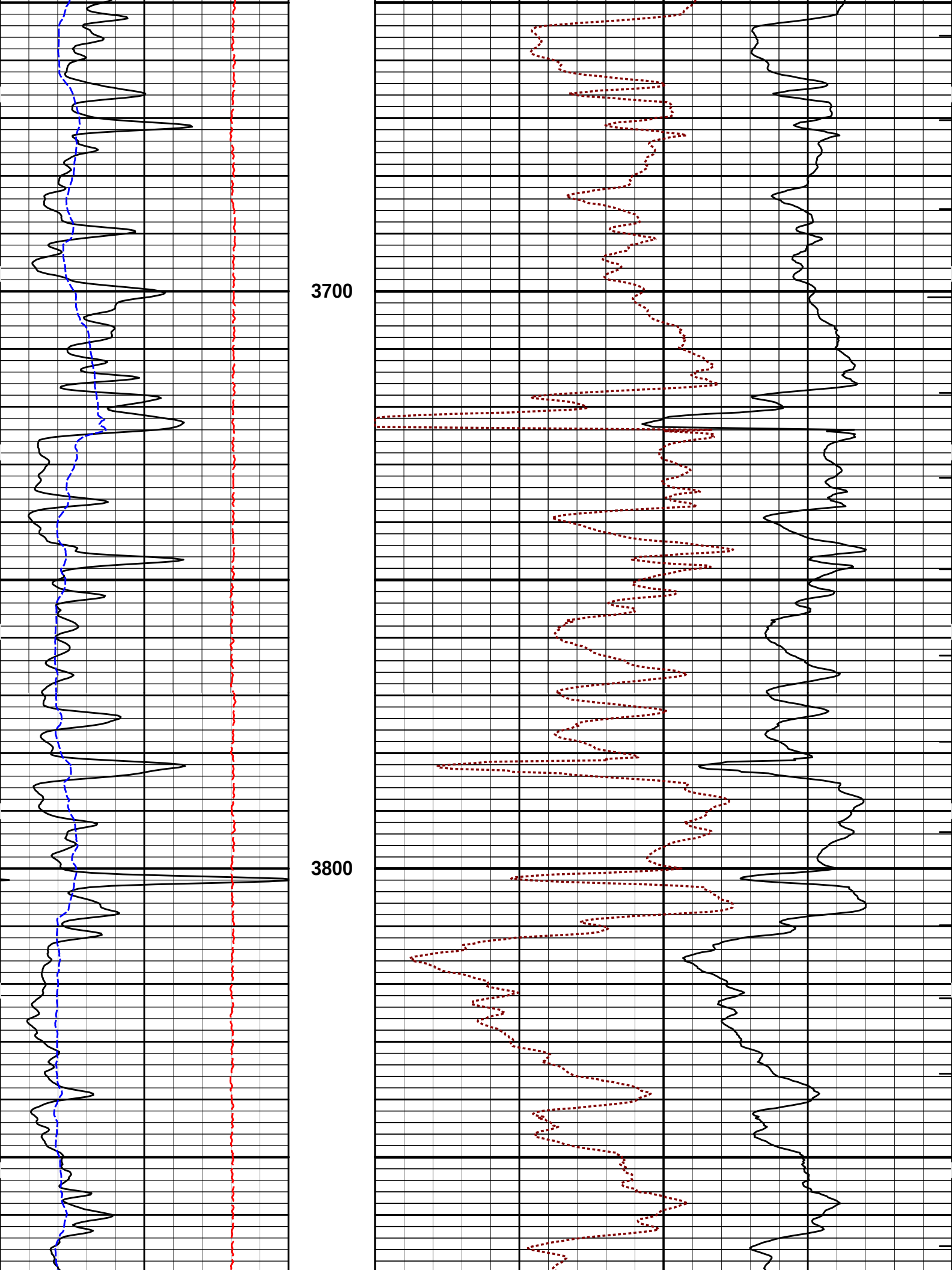
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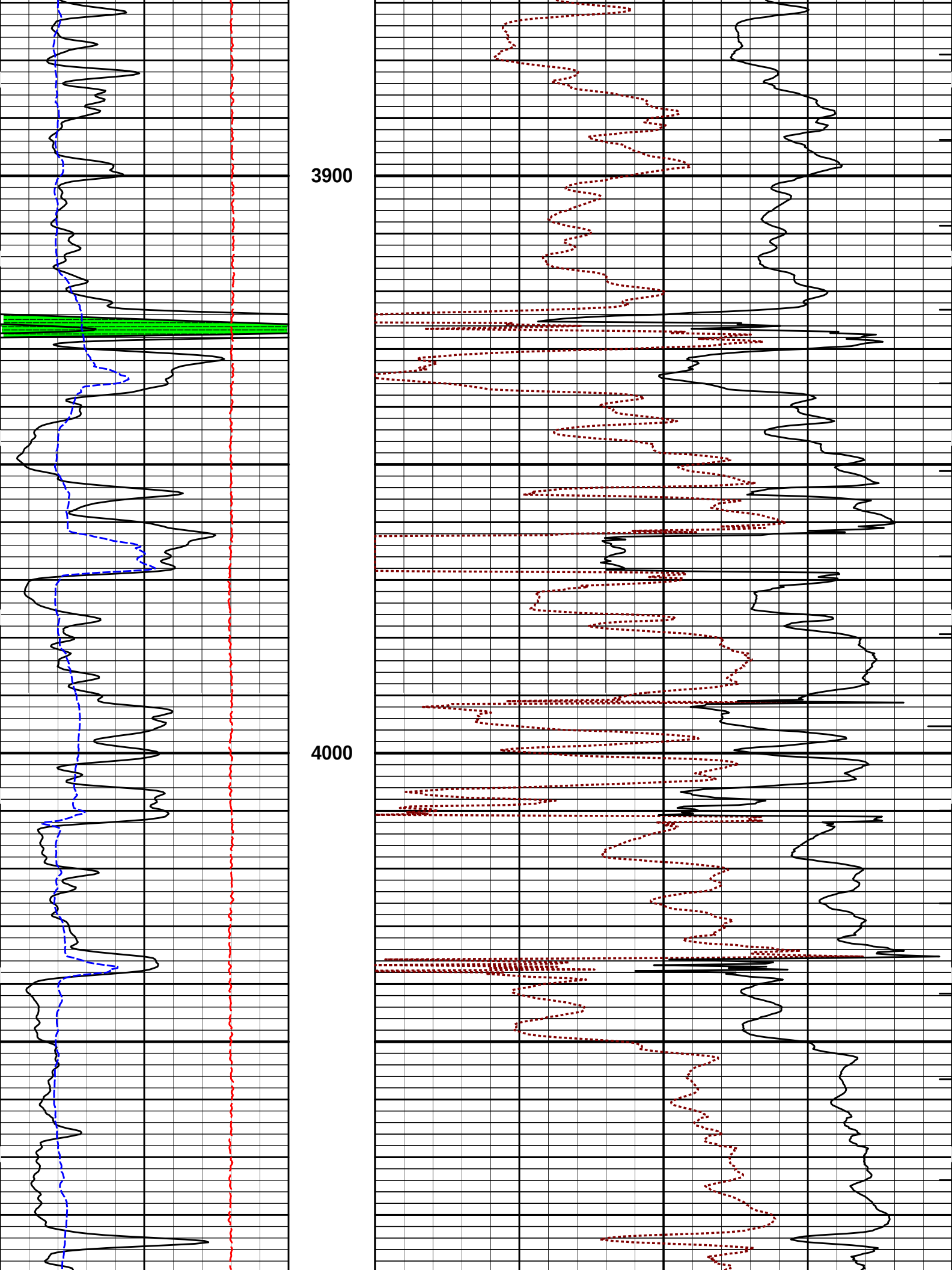
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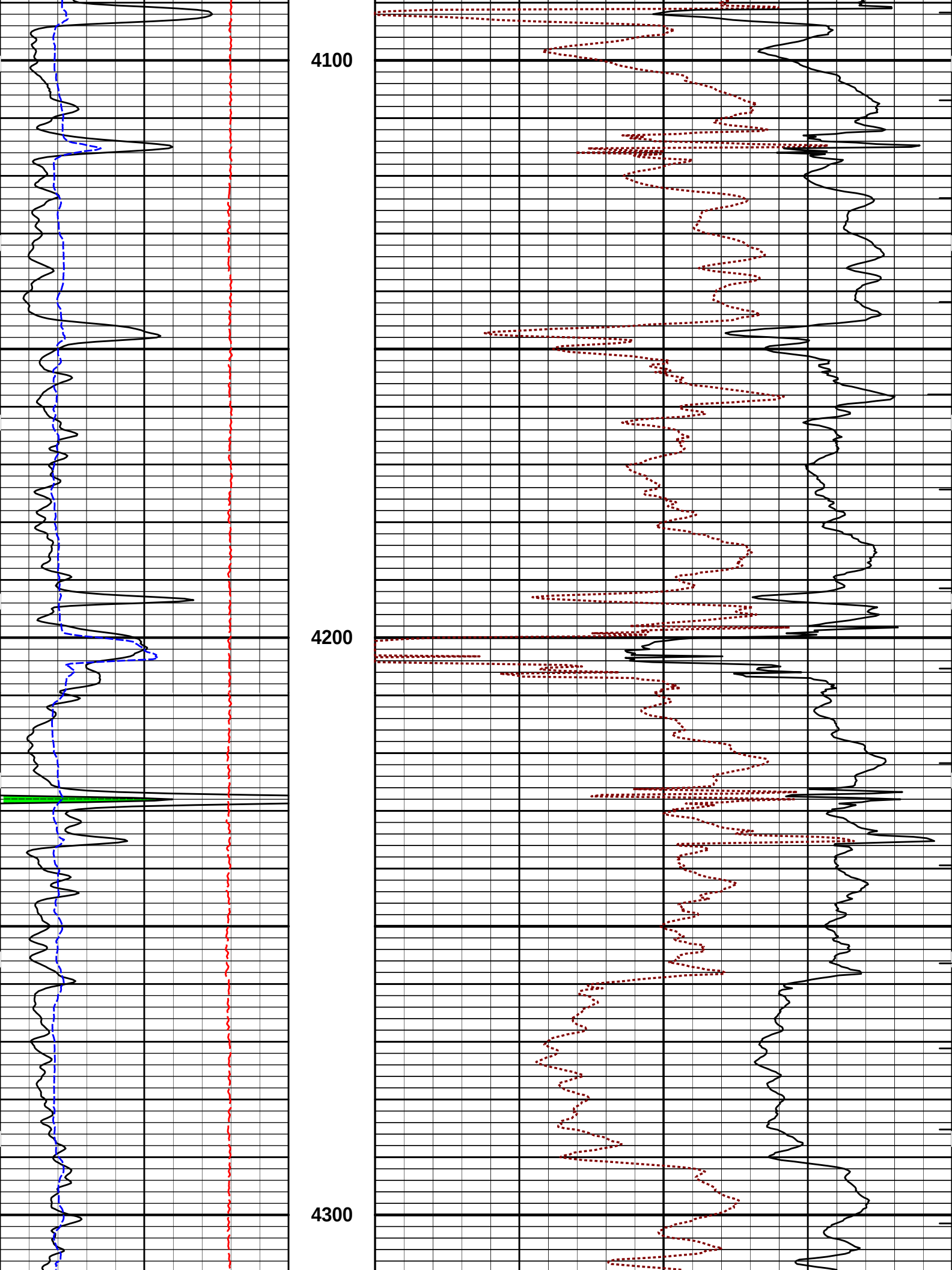
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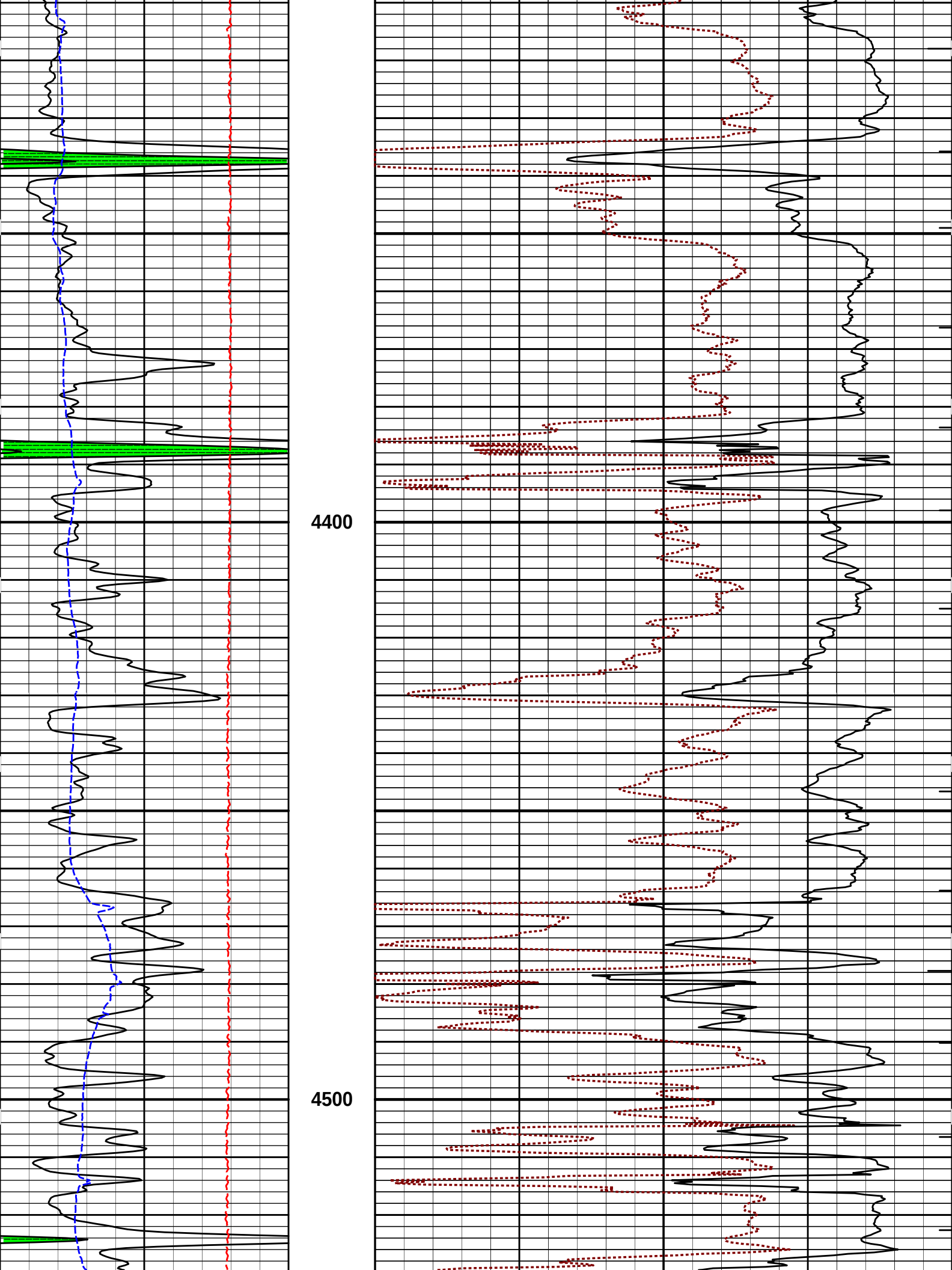
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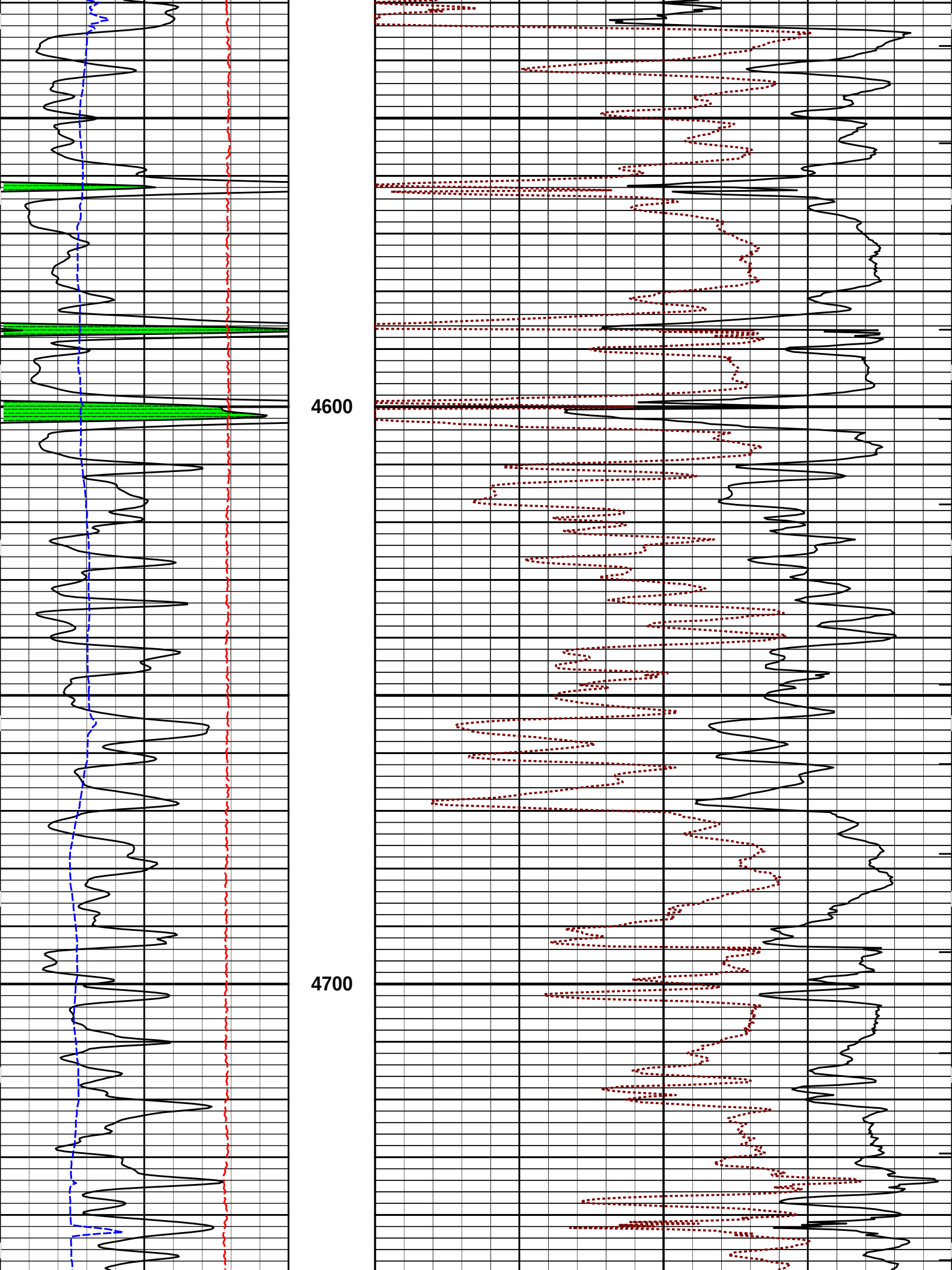
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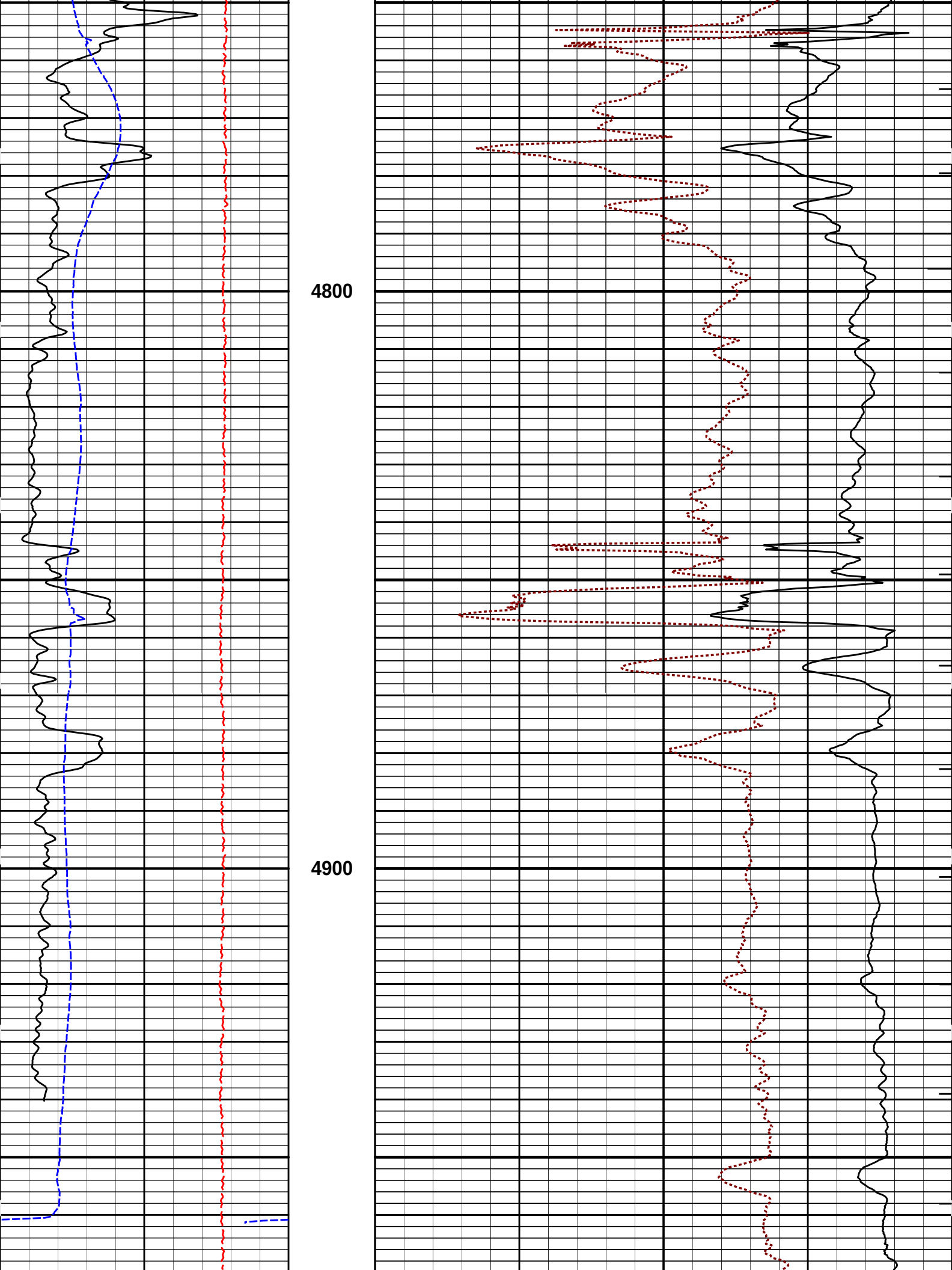
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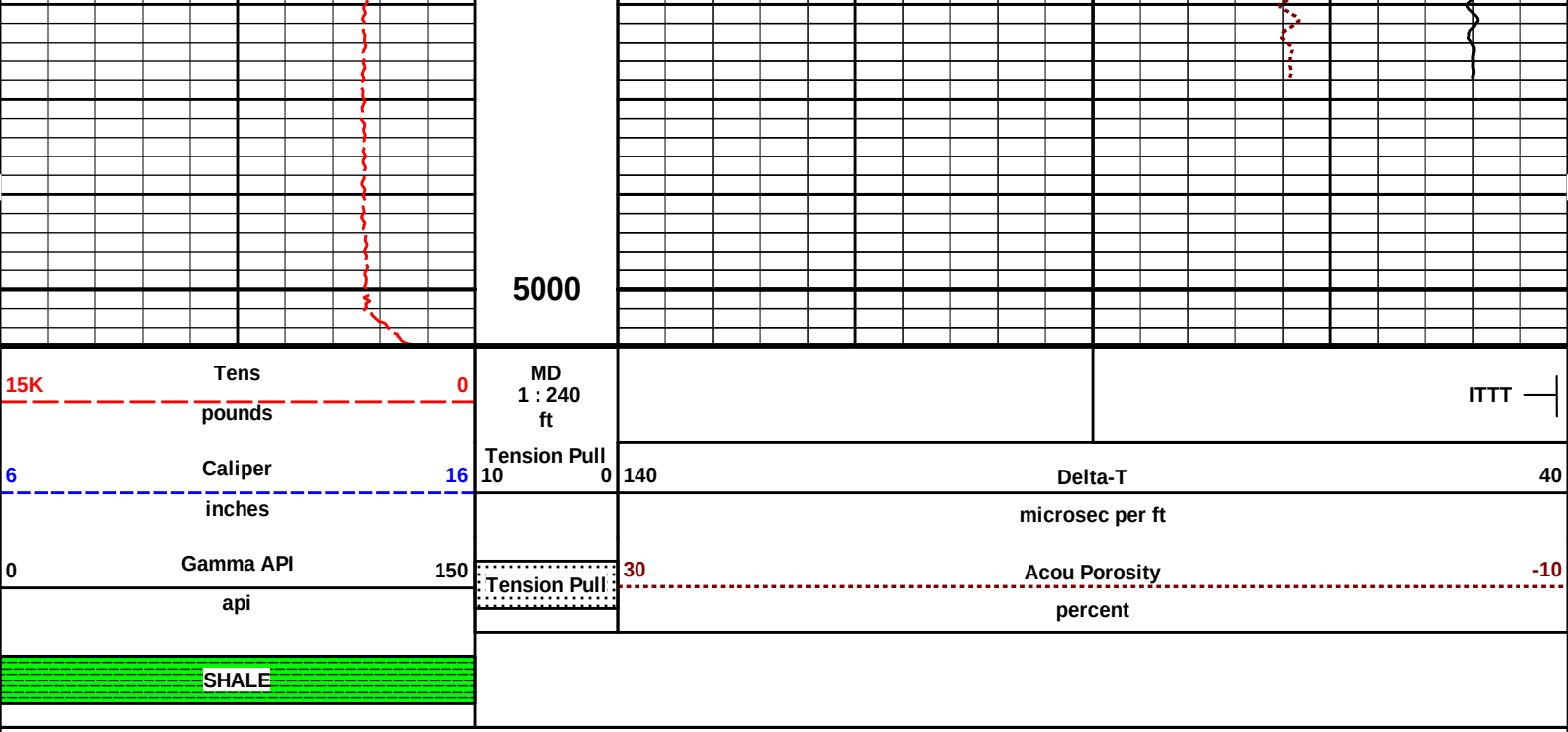


HALLIBURTON

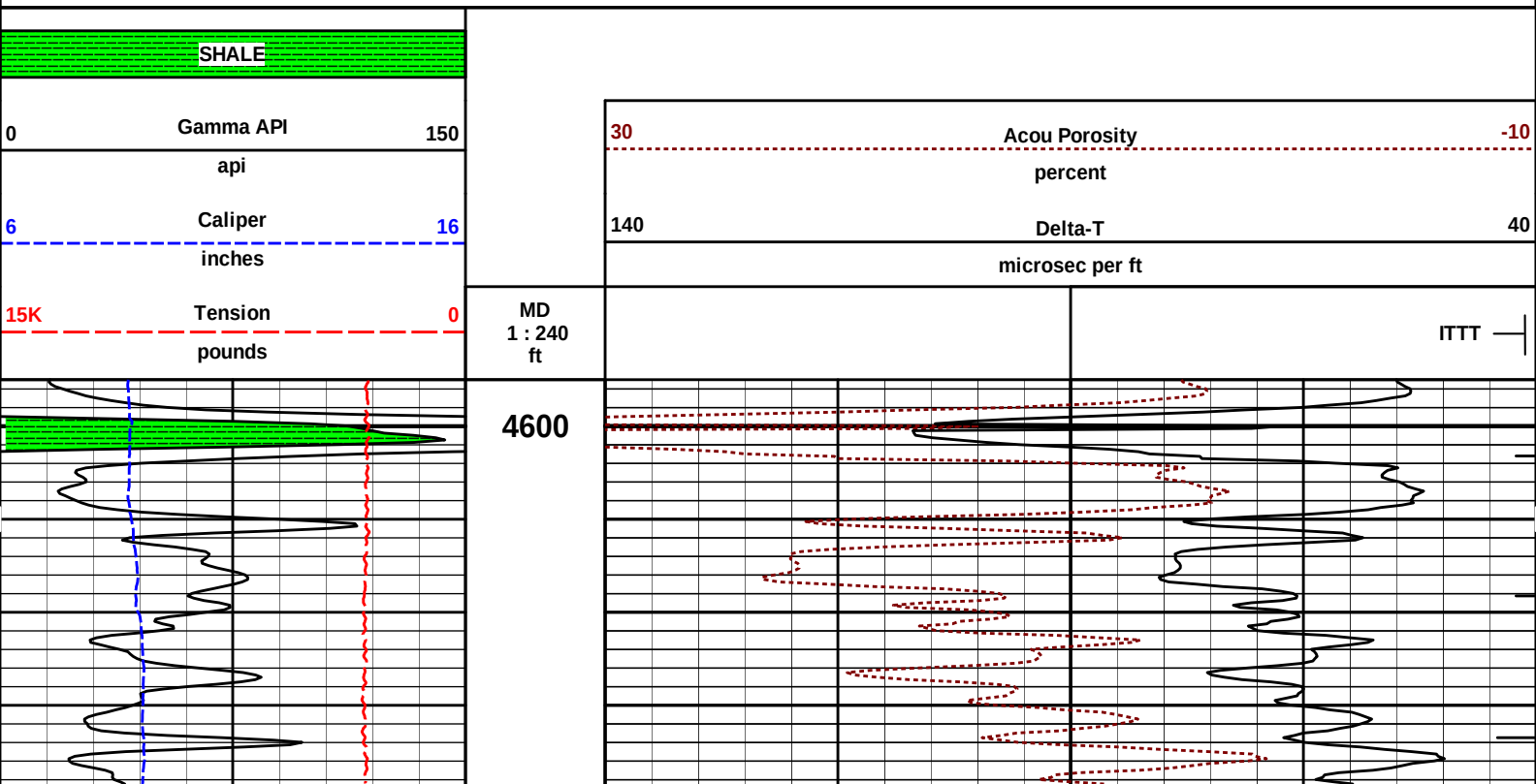
Plot Time: 28-Mar-14 14:22:30
Plot Range: 1840 ft to 5005.75 ft
Data: XPO_1-19A\Well Based\R1 CASING\
Plot File: \\BSAT\BSAT_5_MAIN_LIB

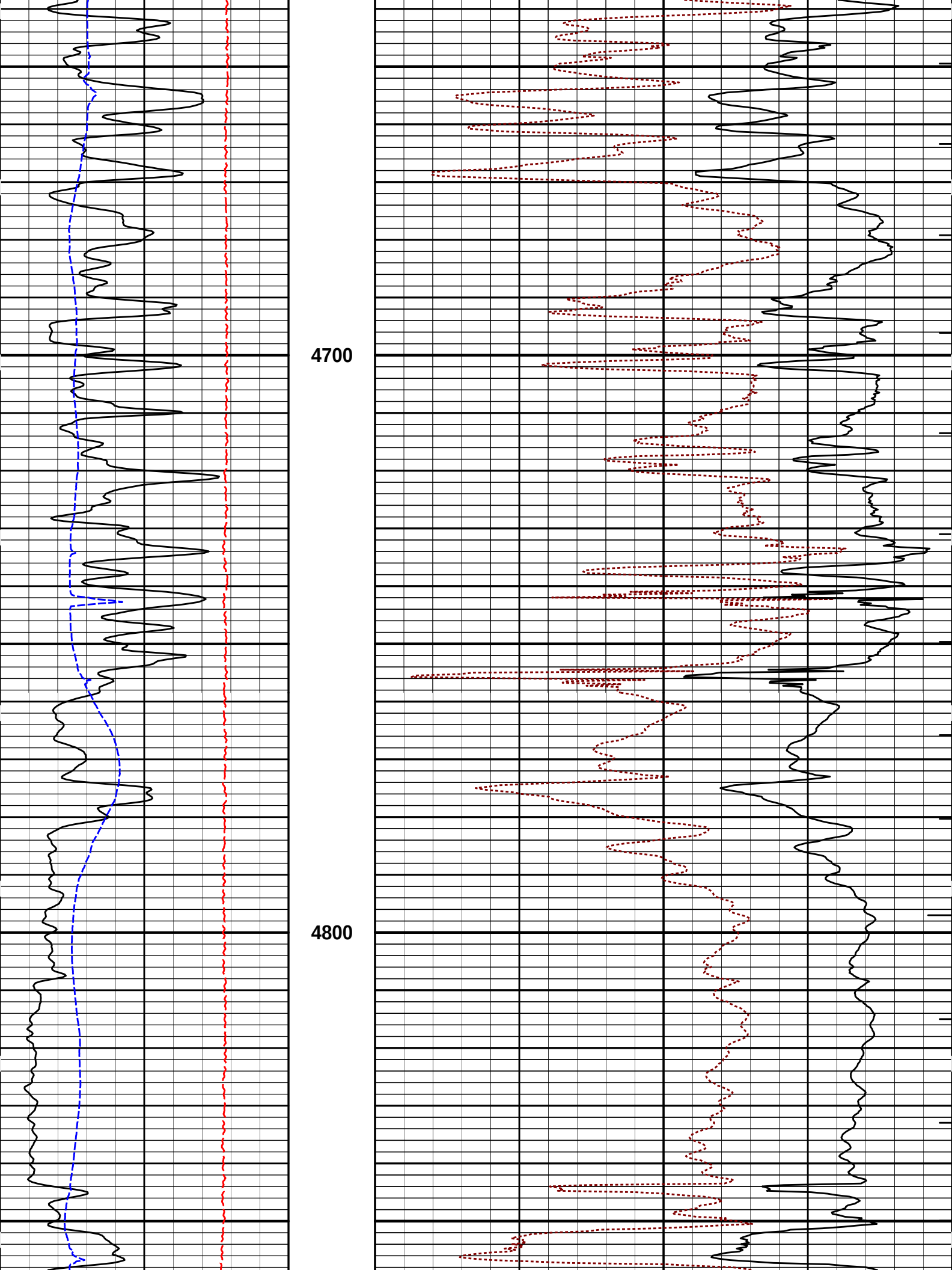
5 INCH MAIN LOG

HALLIBURTON

Plot Time: 28-Mar-14 14:22:30
Plot Range: 4595 ft to 5006.75 ft
Data: XPO_1-19A\Well Based\R1 REPEAT\
Plot File: \\BSAT\BSAT_5_REP_LIB

REPEAT SECTION

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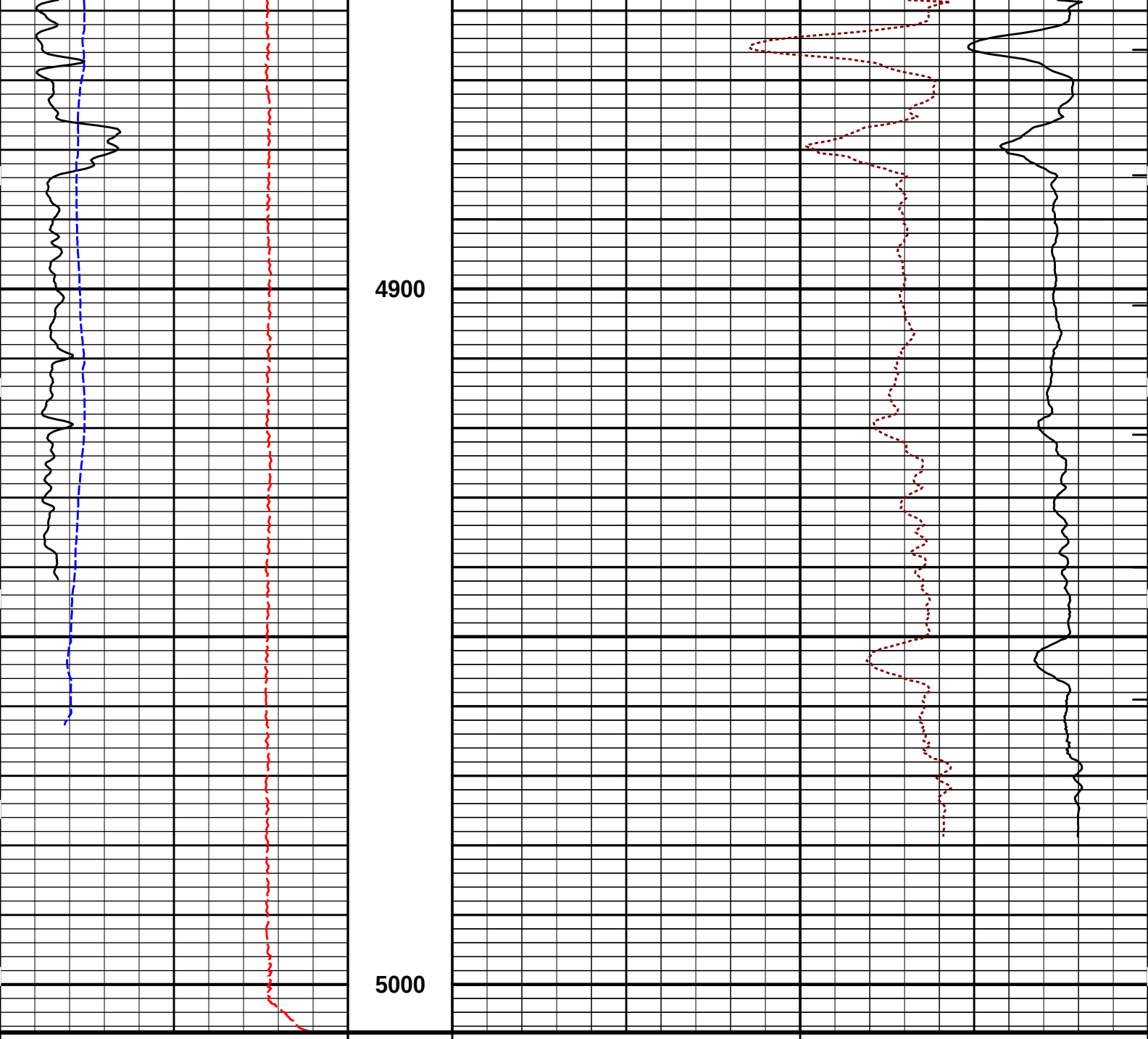


15K Tension 0
pounds

6 Caliper 16
inches

0 Gamma API 150
api

SHALE

MD
1 : 240
ft

ITTT

140 Delta-T 40
microsec per ft

30 Acou Porosity -10
percent

HALLIBURTON

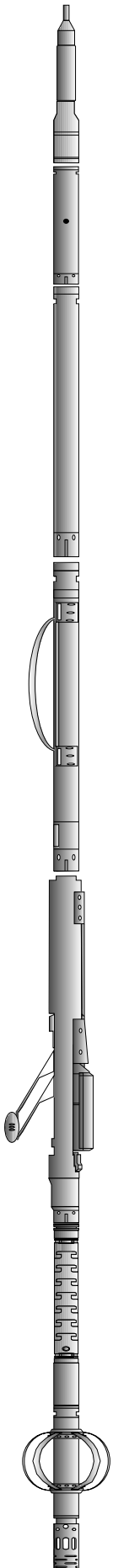
Plot Time: 28-Mar-14 14:22:31
Plot Range: 4595 ft to 5006.75 ft
Data: XPO_1-19A\Well Based\R1 REPEAT\
Plot File: \\BSAT\BSAT_5_REP_LIB

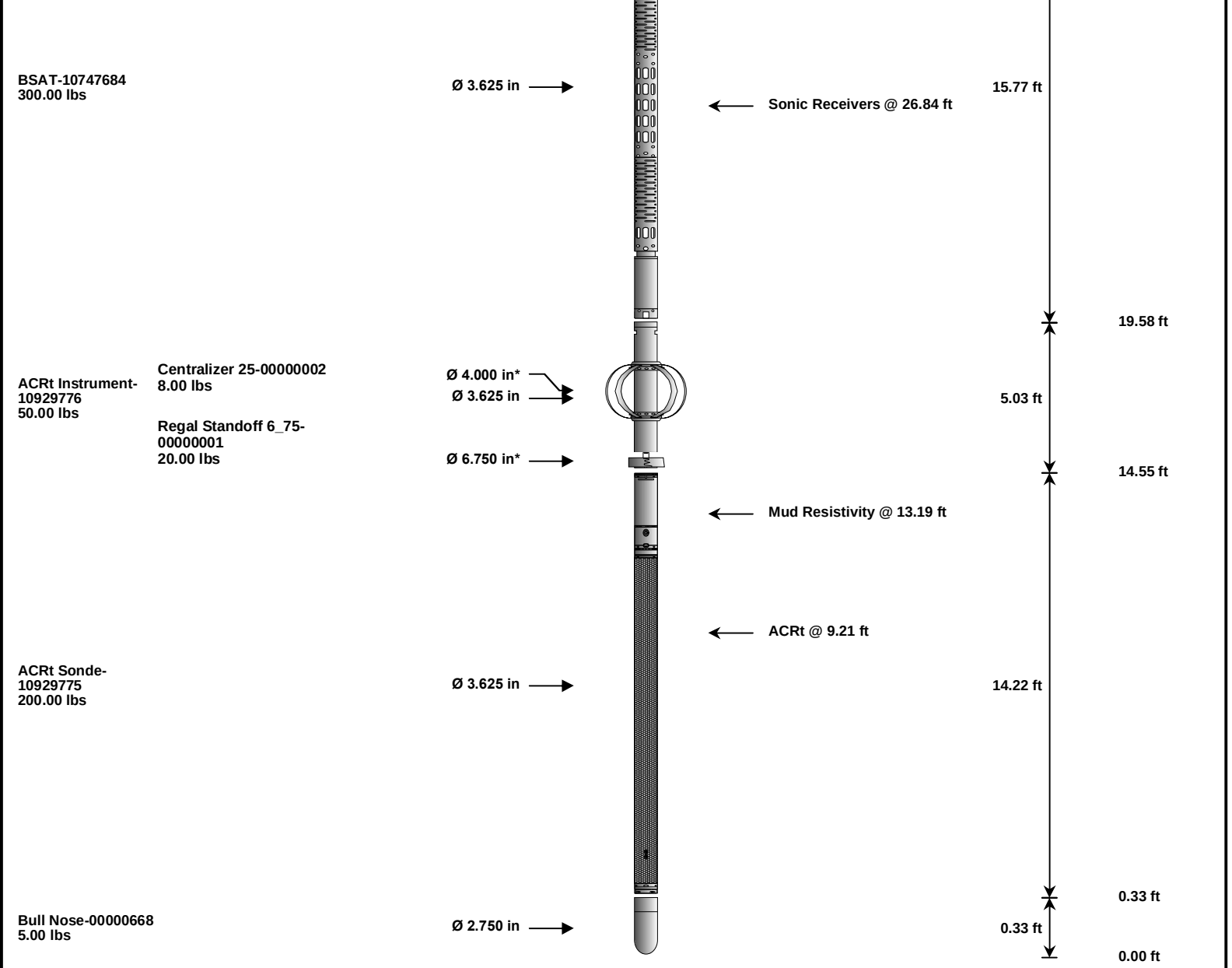
REPEAT SECTION

HALLIBURTON

TOOL STRING DIAGRAM REPORT

Description	Overbody Description	O.D.	Diagram	Sensors @ Delays	Length	Accumulated Length
						77.77 ft
CH_HOS-CH_696 37.50 lbs		Ø 2.750 in		Temperature @ 76.74 ft	3.03 ft	
		Ø 2.750 in				74.74 ft
XOHD-00000001 20.00 lbs		Ø 3.625 in			0.95 ft	
						73.79 ft
SP Sub-12345678 60.00 lbs		Ø 3.625 in		SP @ 72.01 ft	3.74 ft	
						70.05 ft
GTET-10748374 165.00 lbs		Ø 3.625 in			8.52 ft	
				GammaRay @ 63.99 ft		
						61.53 ft
DSNT-10735145 174.00 lbs	DSN Decentralizer-10735145 6.60 lbs	Ø 5.000 in* Ø 3.625 in		DSN Far @ 54.59 ft DSN Near @ 53.84 ft	9.69 ft	
						51.84 ft
SDLT-10673803 360.00 lbs	SDLT Pad-10673790 65.00 lbs Microlog Pad-10673803 8.00 lbs	Ø 4.500 in Ø 4.750 in* Ø 4.750 in*		Microlog @ 44.03 ft SDL Caliper @ 43.84 ft SDL @ 43.83 ft	10.81 ft	
						41.03 ft
IQ Flex-00000668 140.00 lbs		Ø 3.625 in			5.67 ft	
						35.36 ft
	Centralizer 25-00000001 8.00 lbs	Ø 4.000 in*				





Mnemonic	Tool Name	Serial Number	Weight (lbs)	Length (ft)		Accumulated Length (ft)	Max.Log. Speed (fpm)
CH_HOS	Hostile Cable Head with Load Cell	CH_696	37.50	3.03		74.74	300.00
XOHD	Hostile to Dits Cross Over	00000001	20.00	0.95		73.79	300.00
SP	SP Sub	12345678	60.00	3.74		70.05	300.00
GTET	Gamma Telemetry Tool	10748374	165.00	8.52		61.53	60.00
DSNT	Dual Spaced Neutron	10735145	174.00	9.69		51.84	60.00
DCNT	DSN Decentralizer	10735145	6.60	5.13	*	55.17	300.00
SDLT	Spectral Density Tool	10673803	360.00	10.81		41.03	60.00
SDLP	Density Insite Pad	10673790	65.00	2.55	*	43.24	60.00
MICP	Microlog Pad	10673803	8.00	1.00	*	43.53	60.00
IQF	IQ Flex tool	00000668	140.00	5.67		35.36	300.00
BSAT	Borehole Sonic Array Tool	10747684	300.00	15.77		19.58	60.00
OBCEN	Centralizer - 25 in. Overbody	00000001	8.00	2.08	*	32.60	300.00
ACRt	Array Compensated True Resistivity Instrument Section	10929776	50.00	5.03		14.55	120.00
RSOF	Regal Standoff 6.75in	00000001	20.00	0.52	*	14.71	300.00
OBCEN	Centralizer - 25 in. Overbody	00000002	8.00	2.08	*	16.19	300.00
ACRt	Array Compensated True Resistivity Sonde Section	10929775	200.00	14.22		0.33	120.00
BLNS	Bull Nose	00000668	5.00	0.33		0.00	300.00
Total			**1,627.10**	**77.77**			

* Not included in Total Length and Length Accumulation.

Data: XPO_1-19A\0001 QUAD\IDLE

Date: 28-Mar-14 10:11:30

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PARAMETERS REPORT

Depth (ft)	Tool Name	Mnemonic	Description	Value	Units
TOP					
	SHARED	BS	Bit Size	7.875	in
	SHARED	UBS	Use Bit Size instead of Caliper for all applications.	No	
	SHARED	MDBS	Mud Base	Water	
	SHARED	MDWT	Borehole Fluid Weight	8.950	ppg
	SHARED	WAGT	Weighting Agent	Natural	
	SHARED	BSAL	Borehole salinity	0.00	ppm
	SHARED	FSAL	Formation Salinity NaCl	0.00	ppm
	SHARED	KPCT	Percent K in Mud by Weight?	0.00	%
	SHARED	RMUD	Mud Resistivity	1.500	ohmm
	SHARED	TRM	Temperature of Mud	75.0	degF
	SHARED	CSD	Logging Interval is Cased?	No	
	SHARED	ICOD	AHV Casing OD	5.500	in
	SHARED	ST	Surface Temperature	75.0	degF
	SHARED	TD	Total Well Depth	5010.00	ft
	SHARED	BHT	Bottom Hole Temperature	130.0	degF
	SHARED	SVTM	Navigation and Survey Master Tool	NONE	
	SHARED	AZTM	High Res Z Accelerometer Master Tool	GTET	
	SHARED	TEMM	Temperature Master Tool	NONE	
	Rwa / CrossPlot	XPOK	Process Crossplot?	Yes	
	Rwa / CrossPlot	FCHO	Select Source of F	Automatic	
	Rwa / CrossPlot	AFAC	Archie A factor	0.6200	
	Rwa / CrossPlot	MFAC	Archie M factor	2.1500	
	Rwa / CrossPlot	RMFR	Rmf Reference	0.10	ohmm
	Rwa / CrossPlot	TMFR	Rmf Ref Temp	75.00	degF
	Rwa / CrossPlot	RWA	Resistivity of Formation Water	0.05	ohmm
	Rwa / CrossPlot	ADP	Use Air Porosity to calculate CrossplotPhi	No	
	Rwa / CrossPlot	BHSM	Borehole Size Source Tool	SDLT	
	GTET	GROK	Process Gamma Ray?	Yes	
	GTET	GRSO	Gamma Tool Standoff	0.000	in
	GTET	GEOK	Process Gamma Ray EVR?	No	
	GTET	TPOS	Tool Position for Gamma Ray Tools.	Eccentered	
	GTET	BHSM	Borehole Size Source Tool	SDLT	
	DSNT	DNOK	Process DSN?	Yes	
	DSNT	DEOK	Process DSN EVR?	No	
	DSNT	NLIT	Neutron Lithology	Limestone	
	DSNT	DNSO	DSN Standoff - 0.25 in (6.35 mm) Recommended	0.250	in
	DSNT	DNTP	Temperature Correction Type	None	
	DSNT	DPRS	DSN Pressure Correction Type	None	
	DSNT	SHCO	View More Correction Options	No	
	DSNT	UTVD	Use TVD for Gradient Corrections?	No	
	DSNT	LHWT	Logging Horizontal Water Tank?	No	
	DSNT	BHSM	Borehole Size Source Tool	SDLT	
	SDLT	CLOK	Process Caliper Outputs?	Yes	
	SDLT Pad	DNOK	Process Density?	Yes	

SDLT Pad	DNOK	Process Density EVR?	No	
SDLT Pad	CB	Logging Calibration Blocks?	No	
SDLT Pad	SPVT	SDLT Pad Temperature Valid?	Yes	
SDLT Pad	DTWN	Disable temperature warning	No	
SDLT Pad	DMA	Formation Density Matrix	2.710	g/cc
SDLT Pad	DFL	Formation Density Fluid	1.000	g/cc
SDLT Pad	BHSM	Borehole Size Source Tool	SDLT	
Microlog Pad	MLOK	Process MicroLog Outputs?	Yes	
BSAT	MBOK	Compute BCAS Results?	Yes	
BSAT	FLLO	Frequency Filter Low Pass Value?	5000	Hz
BSAT	FLHI	Frequency Filter High Pass Value?	27000	Hz
BSAT	DTFL	Delta -T Fluid	189.00	uspf
BSAT	DTMT	Delta -T Matrix Type	User define	
BSAT	DTMA	Delta -T Matrix	47.60	uspf
BSAT	DTSH	Delta -T Shale	100.00	uspf
BSAT	SPEQ	Acoustic Porosity Equation	Wylie	
ACRt Sonde	RTOK	Process ACRt?	Yes	
ACRt Sonde	MNSO	Minimum Tool Standoff	1.50	in
ACRt Sonde	TCS1	Temperature Correction Source	FP Lwr & FP Upr	
ACRt Sonde	TPOS	Tool Position	Free Hanging	
ACRt Sonde	RMOP	Rmud Source	Mud Cell	
ACRt Sonde	RMIN	Minimum Resistivity for MAP	0.20	ohmm
ACRt Sonde	RMIN	Maximum Resistivity for MAP	200.00	ohmm
ACRt Sonde	THQY	Threshold Quality	0.50	
ACRt Sonde	MRFX	Fixed mud resistivity	2000	ohmm
ACRt Sonde	BHSM	Borehole Size Source Tool	SDLT	

BOTTOM

Data: XPO_1-19A\0001 QUAD\004 28-Mar-14 11:33 Up @5005.3f **Date: 28-Mar-14 12:08:52**

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CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name:	**GTET - 10748374**	**Reference Calibration Date:**	**05-Mar-14 16:34:57**
Engineer:	**thomas hyde**	**Calibration Date:**	**18-Mar-14 09:50:24**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Measurement	Measured	Calibrated	Units
Background	34.3	33.1	api
Background + Calibrator	274.5	265.1	api
Calibrator	240.2	232.0	api

NATURAL GAMMA RAY TOOL FIELD CALIBRATION

Tool Name:	**GTET - 10748374**	**Reference Calibration Date:**	**18-Mar-14 09:50:24**
Engineer:	**SHELDON INGERSOLL**	**Calibration Date:**	**26-Mar-14 23:24:02**
Software Version:	**WL INSITE R4.2.0 (Build 2)**	**Calibration Version:**	**1**

Calibrator Source S/N: TB-185

Calibrator API Reference:228.00 api

Equivalent Calibrator API Reference:232.0 api

Equivalent Calibrator API Reference: 232.0 api

Field Verification	Shop	Field	Units
Background	33.1	43.2	api
Background + Calibrator	265.1	266.5	api
Calibrator	232.0	223.3	api

Shop	Field	Difference	Tolerance
232.0	223.3	8.7	+/- 9.00

DENSITY CALIPER SHOP CALIBRATION

Tool Name: SDLT - 10673803
Reference Calibration Date: 19-Feb-14 11:36:45
Engineer: thomas hyde
Calibration Date: 18-Mar-14 10:01:07
Software Version: WL INSITE R4.2.0 (Build 2)
Calibration Version: 1
Host Tool Name: DSNT - 10735145

CALIBRATION COEFFICIENTS

Measurement	Previous Value	New Value	Control Limit On New Value
Pad Offset	-4075.69	-4085.93	-7000.00 - -1000.00
Pad Gain	0.0003810	0.0003931	0.000200 - 0.000600
Arm Offset	-4794.44	-4798.17	-5000.00 - 3000.00
Arm Gain	0.0005107	0.0004777	0.000300 - 0.000700
Arm Power	-0.000005244	-0.000002983	-0.000010000 - 0.000010000

The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER
Tool Diameter: 4.50 in

CALIBRATION RINGS

Measurement	Current Reading (Previous Coeff.)	Calibrated (New Coeff.)	Change	Control Limit On New Value
PAD EXTENSION:				
Small Ring (in)	1.94	2.00	0.06	+/- 0.20
Medium Ring (in)	3.64	3.75	0.11	+/- 0.20
RING DIAMETER:				
Small Ring (in)	6.63	6.50	-0.13	+/- 0.20
Medium Ring (in)	8.45	8.25	-0.20	+/- 0.20
Large Ring (in)	15.08	15.00	-0.08	+/- 0.20

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed
Ring-Measurement Check:	Passed

PASS/FAIL SUMMARY	
Calibration-Coefficients Range Check:	Passed

SDLT CALIPER FIELD CALIBRATION

Tool Name: SDLT - 10673803
Reference Calibration Date: 18-Mar-14 10:01:07
Engineer: SHELDON INGERSOLL
Calibration Date: 26-Mar-14 23:24:49
Software Version: WL INSITE R4.2.0 (Build 2)
Calibration Version: 1

MEASURED CALIPER VALUES

Measurement	Shop	Field	Change	Control Limit On New Value
Pad Extension	3.75	3.79	0.04	+/- 0.10
Ring Diameter	8.25	8.36	0.11	+/- 0.15

PASS/FAIL SUMMARY	
Pad Extension Check:	Passed

Pad Extension Check:	Passed
Diameter Check:	Passed

CALIBRATION SUMMARY

Sensor	Shop	Field	Post	Difference	Tolerance	Units
GTET-10748374						
Gamma Ray Calibrator	232.0	223.3	----------	8.7	+/- 9.00	api
SDLT-10673803						
Pad Extension	3.75	3.79	----------	-0.04	+/-0.10	in
Ring Diameter	8.25	8.36	----------	-0.11	+/-0.15	in

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INPUTS, DELAYS AND FILTERS TABLE

Mnemonic	Input Description	Delay (ft)	Filter Type	Filter Length (ft)
Depth Panel				
TENS	Tension	0.00	NO	
Rwa / CrossPlot				
TPUL	Tension Pull	77.76	NO	
BS	Bit Size	77.76	NO	
HDIA	Measured Hole Diameter	0.00	NO	
CH_HOS				
DHTN	DownholeTension	0.00	BLK	0.000
SP Sub				
PLTC	Plot Control Mask	72.01	NO	
SP	Spontaneous Potential	72.01	BLK	1.250
SPR	Raw Spontaneous Potential	72.01	NO	
SPO	Spontaneous Potential Offset	72.01	NO	
GTET				
TPUL	Tension Pull	63.99	NO	
GR	Natural Gamma Ray API	63.99	TRI	1.750
GRU	Unfiltered Natural Gamma Ray API	63.99	NO	
EGR	Natural Gamma Ray API with Enhanced Vertical Resolution	63.99	W	1.416 , 0.750
HDIA	Measured Hole Diameter	0.00	NO	
ACCZ	Accelerometer Z	0.00	BLK	0.083
DEVI	Inclination	0.00	NO	
DSNT				
TPUL	Tension Pull	53.74	NO	
RNDS	Near Detector Telemetry Counts	53.84	BLK	1.417
RFDS	Far Detector Telemetry Counts	54.59	TRI	0.583
DNTT	DSN Tool Temperature	53.84	NO	
DSNS	DSN Tool Status	53.74	NO	
ERND	Near Detector Telemetry Counts EVR	53.84	BLK	0.000
ERFD	Far Detector Telemetry Counts EVR	54.59	BLK	0.000
ENTM	DSN Tool Temperature EVR	53.84	NO	
HDIA	Measured Hole Diameter	0.00	NO	
SDLT				

SDLT				
TPUL	Tension Pull	43.84	NO	
PCAL	Pad Caliper	43.84	TRI	0.250
ACAL	Arm Caliper	43.84	TRI	0.250
BSAT				
TPUL	Tension Pull	26.84	NO	
STAT	Status	26.84	NO	
DLYT	Delay Time	26.84	NO	
SI	Sample Interval	26.84	NO	
TXRX	Raw Telemetry 10 Receivers	26.84	NO	
FRMC	Tool Frame Count	26.84	NO	
GMOD	Gain processing mode	19.58	NO	
ACRt Sonde				
TPUL	Tension Pull	2.73	NO	
F1R1	ACRT 12KHz - 80in R value	8.98	BLK	0.000
F1X1	ACRT 12KHz - 80in X value	8.98	BLK	0.000
F1R2	ACRT 12KHz - 50in R value	6.48	BLK	0.000
F1X2	ACRT 12KHz - 50in X value	6.48	BLK	0.000
F1R3	ACRT 12KHz - 29in R value	4.98	BLK	0.000
F1X3	ACRT 12KHz - 29in X value	4.98	BLK	0.000
F1R4	ACRT 12KHz - 17in R value	3.98	BLK	0.000
F1X4	ACRT 12KHz - 17in X value	3.98	BLK	0.000
F1R5	ACRT 12KHz - 10in R value	3.48	BLK	0.000
F1X5	ACRT 12KHz - 10in X value	3.48	BLK	0.000
F1R6	ACRT 12KHz - 6in R value	3.23	BLK	0.000
F1X6	ACRT 12KHz - 6in X value	3.23	BLK	0.000
F2R1	ACRT 36KHz - 80in R value	8.98	BLK	0.000
F2X1	ACRT 36KHz - 80in X value	8.98	BLK	0.000
F2R2	ACRT 36KHz - 50in R value	6.48	BLK	0.000
F2X2	ACRT 36KHz - 50in X value	6.48	BLK	0.000
F2R3	ACRT 36KHz - 29in R value	4.98	BLK	0.000
F2X3	ACRT 36KHz - 29in X value	4.98	BLK	0.000
F2R4	ACRT 36KHz - 17in R value	3.98	BLK	0.000
F2X4	ACRT 36KHz - 17in X value	3.98	BLK	0.000
F2R5	ACRT 36KHz - 10in R value	3.48	BLK	0.000
F2X5	ACRT 36KHz - 10in X value	3.48	BLK	0.000
F2R6	ACRT 36KHz - 6in R value	3.23	BLK	0.000
F2X6	ACRT 36KHz - 6in X value	3.23	BLK	0.000
F3R1	ACRT 72KHz - 80in R value	8.98	BLK	0.000
F3X1	ACRT 72KHz - 80in X value	8.98	BLK	0.000
F3R2	ACRT 72KHz - 50in R value	6.48	BLK	0.000
F3X2	ACRT 72KHz - 50in X value	6.48	BLK	0.000
F3R3	ACRT 72KHz - 29in R value	4.98	BLK	0.000
F3X3	ACRT 72KHz - 29in X value	4.98	BLK	0.000
F3R4	ACRT 72KHz - 17in R value	3.98	BLK	0.000
F3X4	ACRT 72KHz - 17in X value	3.98	BLK	0.000
F3R5	ACRT 72KHz - 10in R value	3.48	BLK	0.000
F3X5	ACRT 72KHz - 10in X value	3.48	BLK	0.000
F3R6	ACRT 72KHz - 6in R value	3.23	BLK	0.000
F3X6	ACRT 72KHz - 6in X value	3.23	BLK	0.000
RMUD	Mud Resistivity	12.52	BLK	0.000
F1RT	Transmitter Reference 12 KHz Real Signal	2.73	BLK	0.000
F1XT	Transmitter Reference 12 KHz Imaginary Signal	2.73	BLK	0.000
F2RT	Transmitter Reference 36 KHz Real Signal	2.73	BLK	0.000

F2XT	Transmitter Reference 36 KHz Imaginary Signal	2.73	BLK	0.000
F3RT	Transmitter Reference 72 KHz Real Signal	2.73	BLK	0.000
F3XT	Transmitter Reference 72 KHz Imaginary Signal	2.73	BLK	0.000
TFPU	Upper Feedpipe Temperature Calculated	2.73	BLK	0.000
TFPL	Lower Feedpipe Temperature Calculated	2.73	BLK	0.000
ITMP	Instrument Temperature	2.73	BLK	0.000
TCVA	Temperature Correction Values Loop Off	2.73	NO	
TIDV	Instrument Temperature Derivative	2.73	NO	
TUDV	Upper Temperature Derivative	2.73	NO	
TLDV	Lower Temperature Derivative	2.73	NO	
TRBD	Receiver Board Temperature	2.73	NO	
HDIA	Measured Hole Diameter	0.00	NO	

SDLT Pad

TPUL	Tension Pull	43.83	NO	
NAB	Near Above	43.66	BLK	0.920
NHI	Near Cesium High	43.66	BLK	0.920
NLO	Near Cesium Low	43.66	BLK	0.920
NVA	Near Valley	43.66	BLK	0.920
NBA	Near Barite	43.66	BLK	0.920
NDE	Near Density	43.66	BLK	0.920
NPK	Near Peak	43.66	BLK	0.920
NLI	Near Lithology	43.66	BLK	0.920
NBAU	Near Barite Unfiltered	43.66	BLK	0.250
NLIU	Near Lithology Unfiltered	43.66	BLK	0.250
FAB	Far Above	44.01	BLK	0.250
FHI	Far Cesium High	44.01	BLK	0.250
FLO	Far Cesium Low	44.01	BLK	0.250
FVA	Far Valley	44.01	BLK	0.250
FBA	Far Barite	44.01	BLK	0.250
FDE	Far Density	44.01	BLK	0.250
FPK	Far Peak	44.01	BLK	0.250
FLI	Far Lithology	44.01	BLK	0.250
PTMP	Pad Temperature	43.84	BLK	0.920
NHV	Near Detector High Voltage	43.24	NO	
FHV	Far Detector High Voltage	43.24	NO	
ITMP	Instrument Temperature	43.24	NO	
DDHV	Detector High Voltage	43.24	NO	
HDIA	Measured Hole Diameter	0.00	NO	

Microlog Pad

TPUL	Tension Pull	44.03	NO	
MINV	Microlog Lateral	44.03	BLK	0.750
MNOR	Microlog Normal	44.03	BLK	0.750

Data: XPO_1-19A\0001 QUAD\004 28-Mar-14 11:33 Up @5005.3f **Date: 28-Mar-14 12:08:26**

COMPANY	**BENGALIA LAND AND CATTLE COMPANY**		
WELL	**XPO 1-19A**		
FIELD	**DANIELLE**		
COUNTY	**GRAY**	STATE	**KANSAS**

HALLIBURTON

BOREHOLE COMPENSATED SONIC ARRAY

HALLIBURTON

SONIC ARRAY
LOG

PIONEER

Pioneer Energy Services

Sonic Cement Bond Log

API No. 15-069-20472-00-00

Company Bengalia Land And Cattle Company

Well XPO 1-19A

Field Danielle

County Gray State Kansas

Location (SHL) 1190' FNL & 2173' FEL

Sec: 19 Twp: 25S Rge: 30W

Other Services: None

Permanent Datum	Ground Level	Elevation 2735	Elevation
Log Measured From	Kelly Bushing	10 Ft. Above Perm. Datum	K.B. 2745
Drilling Measured From	Kelly Bushing		D.F. 2744
			G.L. 2735
Run Number	One		
Date Survey	4/10/2014		
Date Cementing	3/29/2014		
Type Cementing Operation	Primary		
Depth Driller	5010		
Depth Logger	4917		
Logged Interval	4917 to 3750	Fluid Level to	@
Casing Driller	5.5 @ TD		@
Float Collar -- D.V. Tool	//// ////		
Squeeze Depth	////		
Amount & Type Cement	////		
Amount & Type Admix	////		
Type Fluid In Hole	Water		
Fluid Level	3800		
Salinity PPM CL	////		
Weight lb/gal -- Vis.	//// ////		
Approx. Logged Cement Top	0		
Calculated Cement Top	////		
Max. Hole Temperature	120		
Tool No.	DIG 1-5		
Spacing Recorded	3-5		
Equipment -- Location	5 Pratt		
Recorded By	Craig Bates		
Witnessed By	A. Garner		

<<< Fold Here >>>

Comments

Thank you for using Pioneer Energy Services
(620) 672-8300

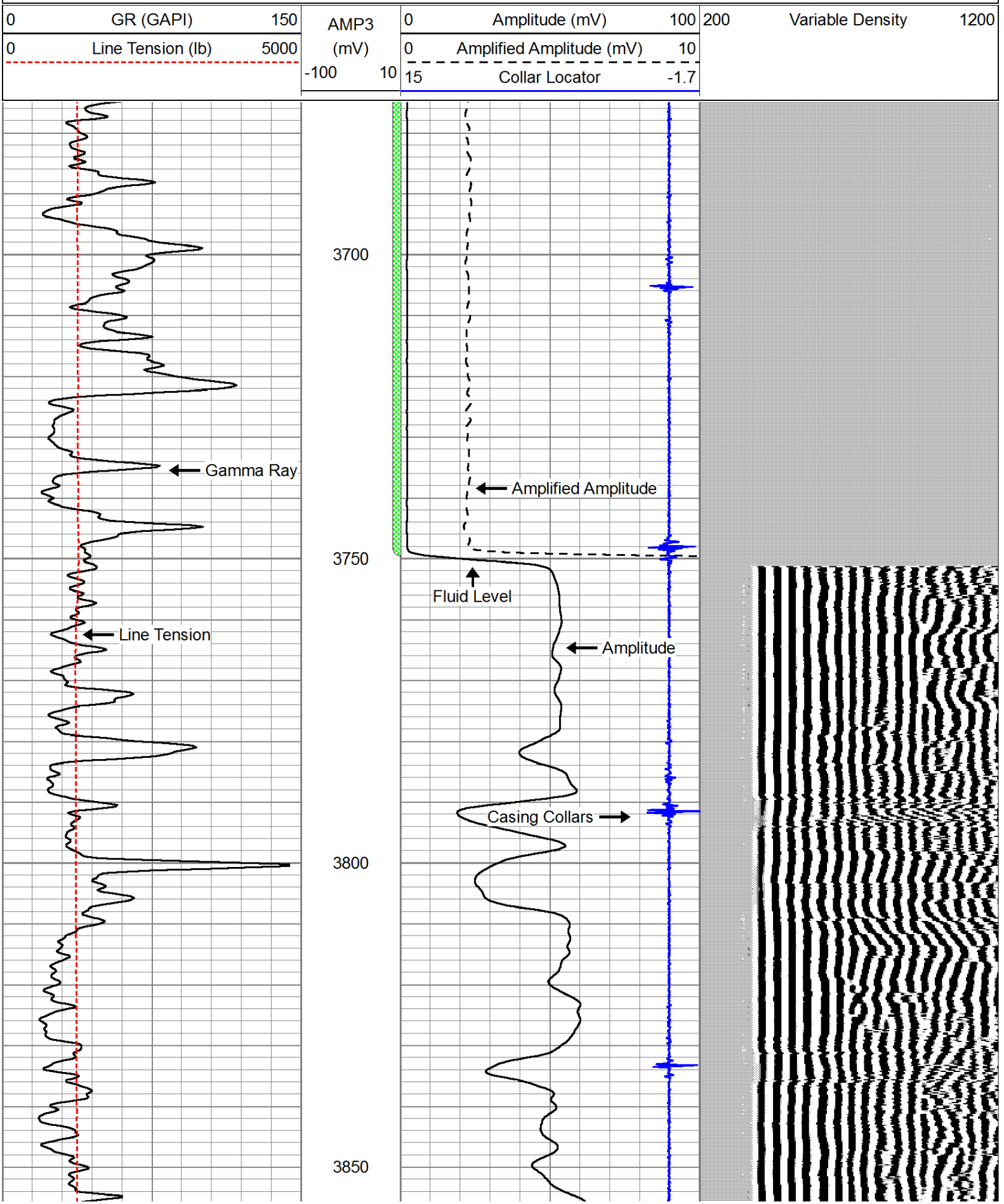
Pierceville Ks
2 E S Over RR Tracks at Rd 2
Sharp W and S Into

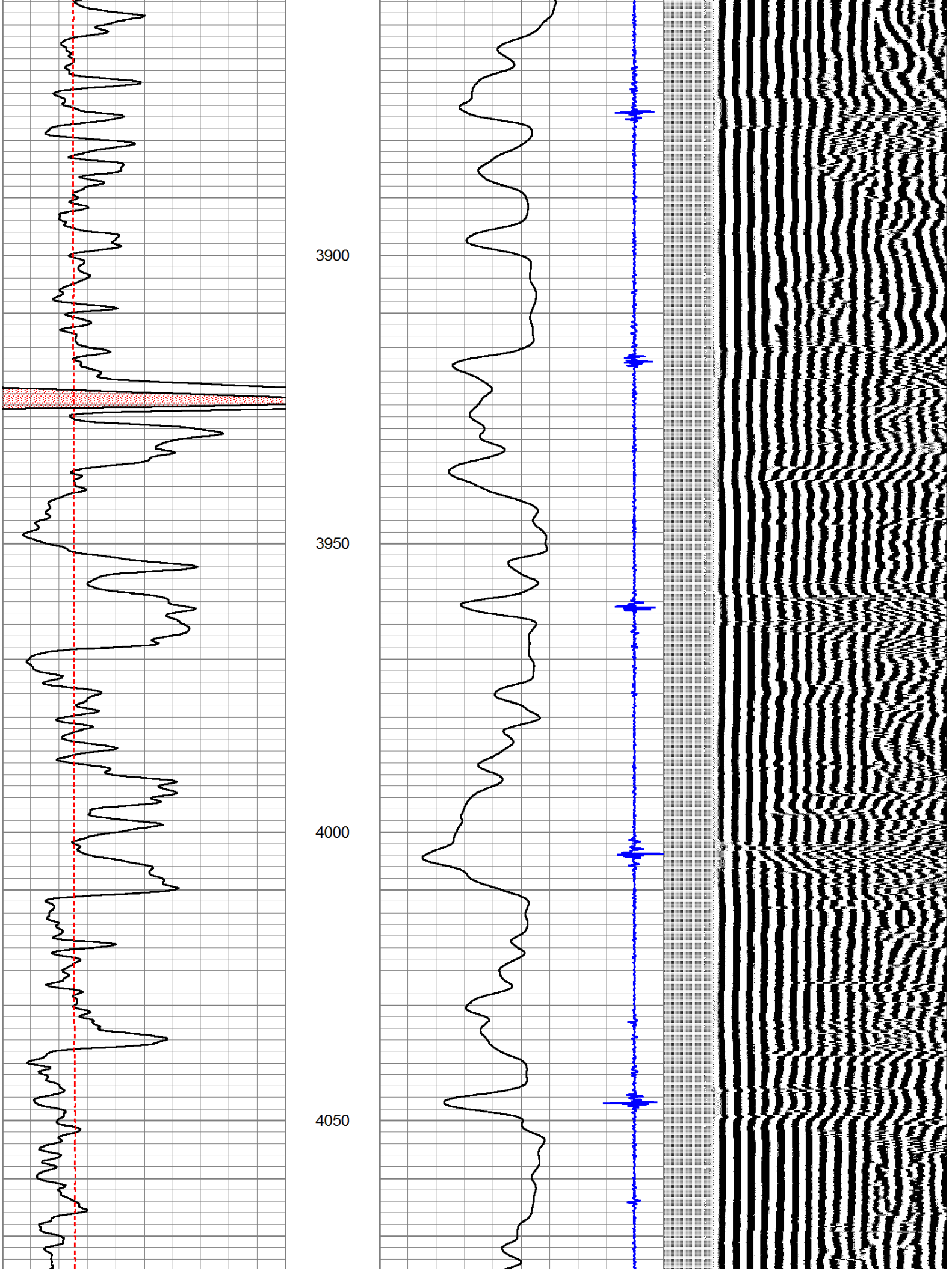
PIONEER

Main Pass

Pioneer Energy Services

Database File:	bengalia xpo_1-19a.db
Dataset Pathname:	grcbl/pass3
Presentation Format:	cbldig
Dataset Creation:	Thu Apr 10 12:21:28 2014 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

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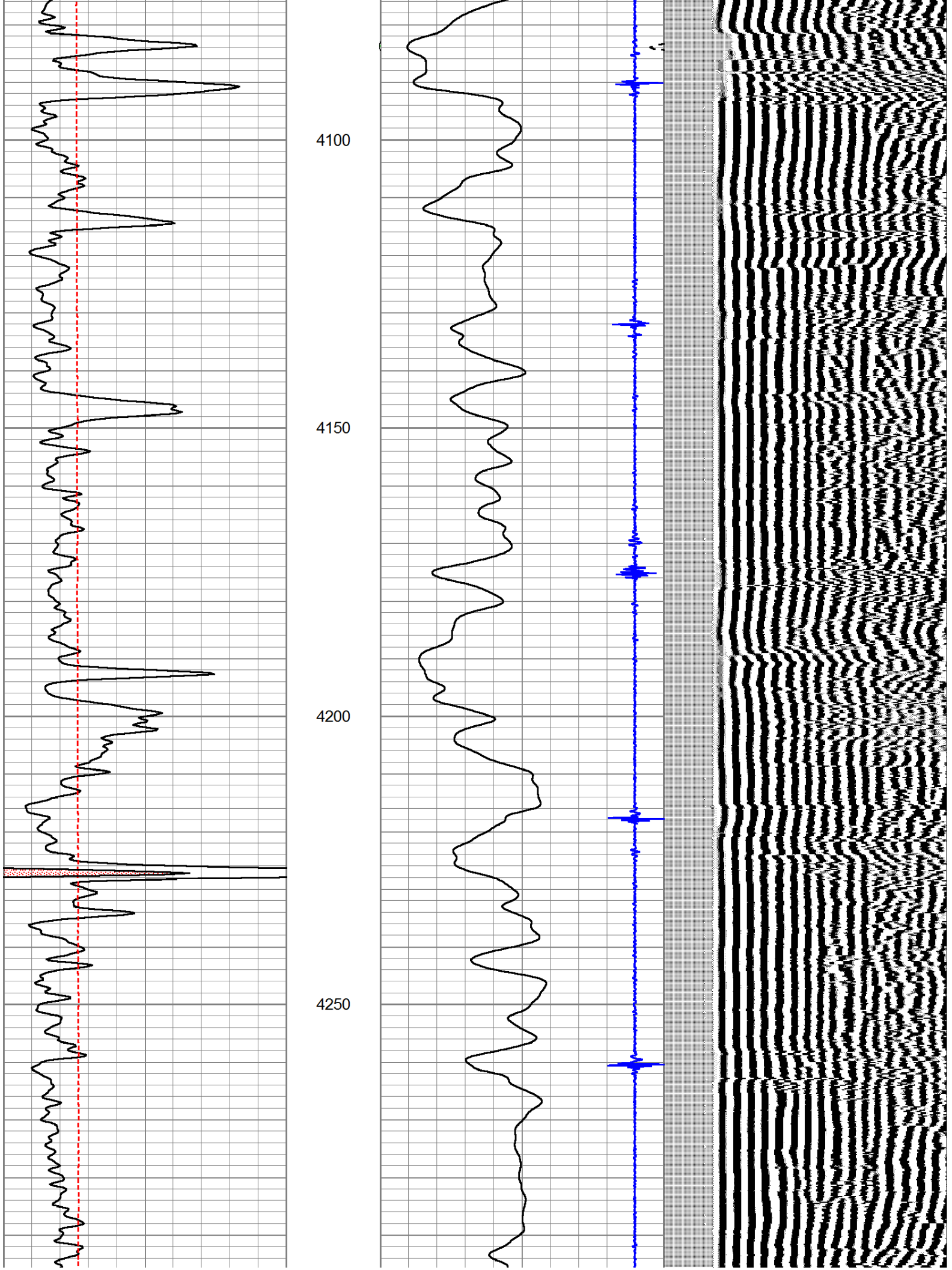
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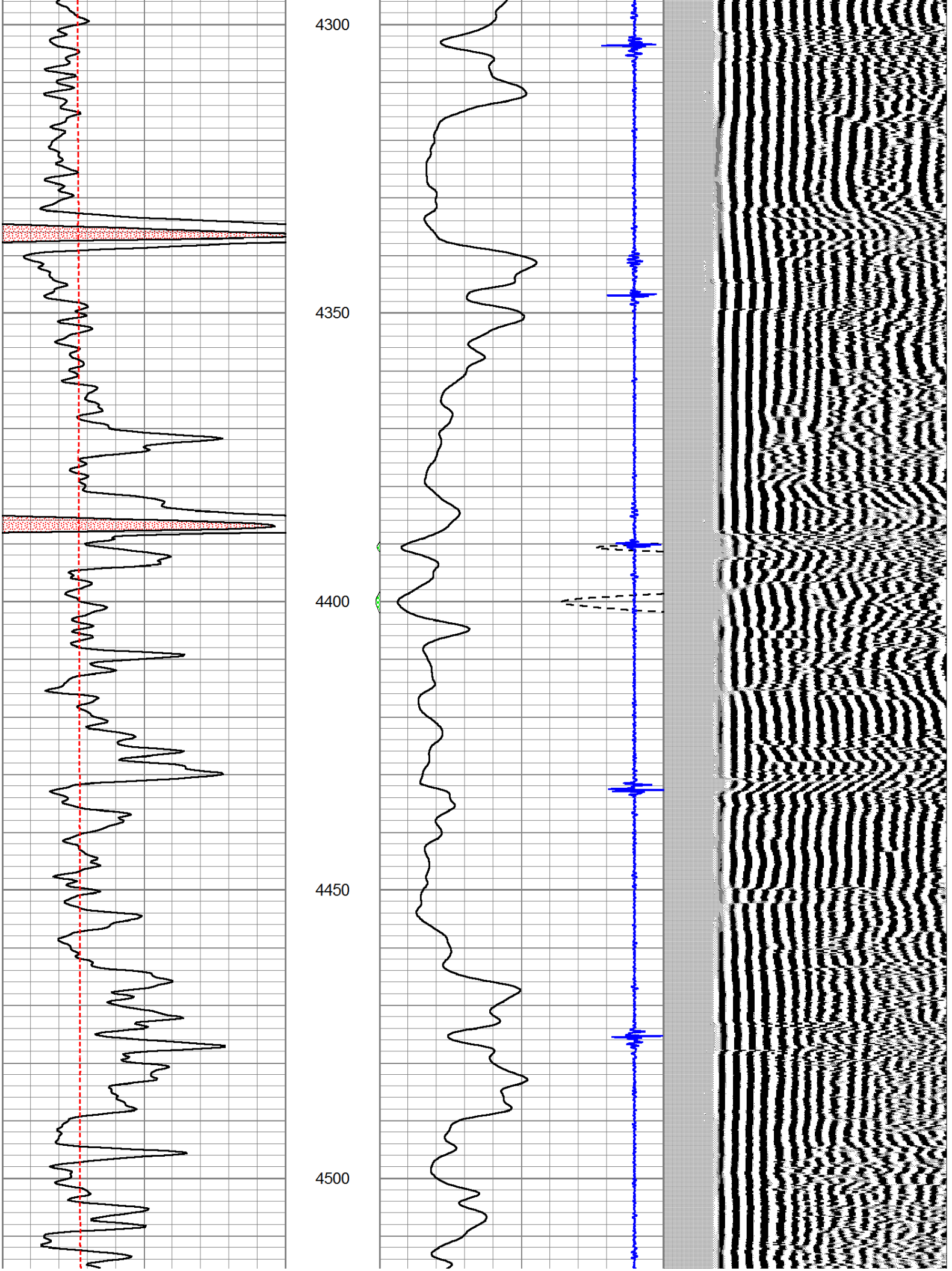
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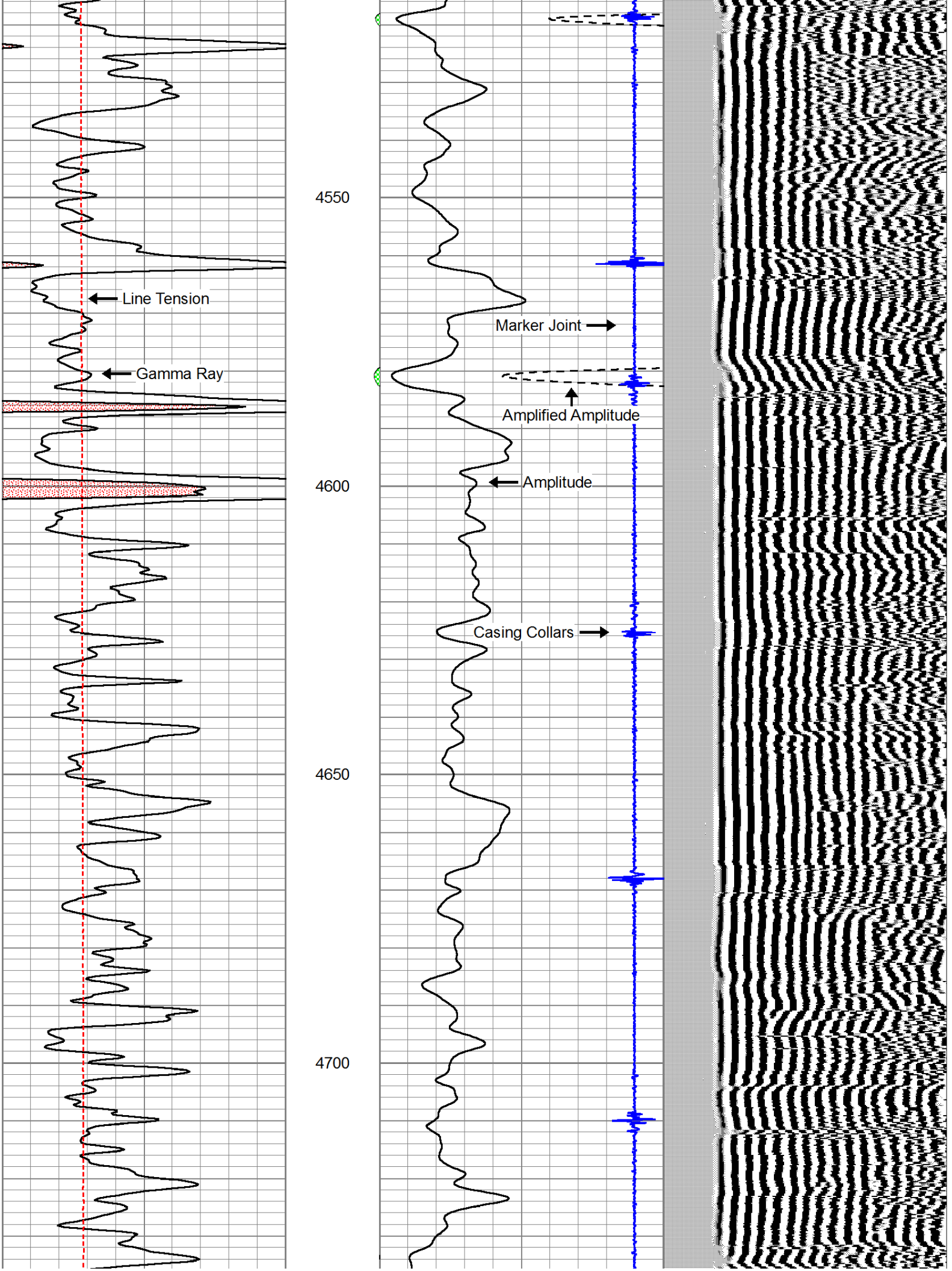
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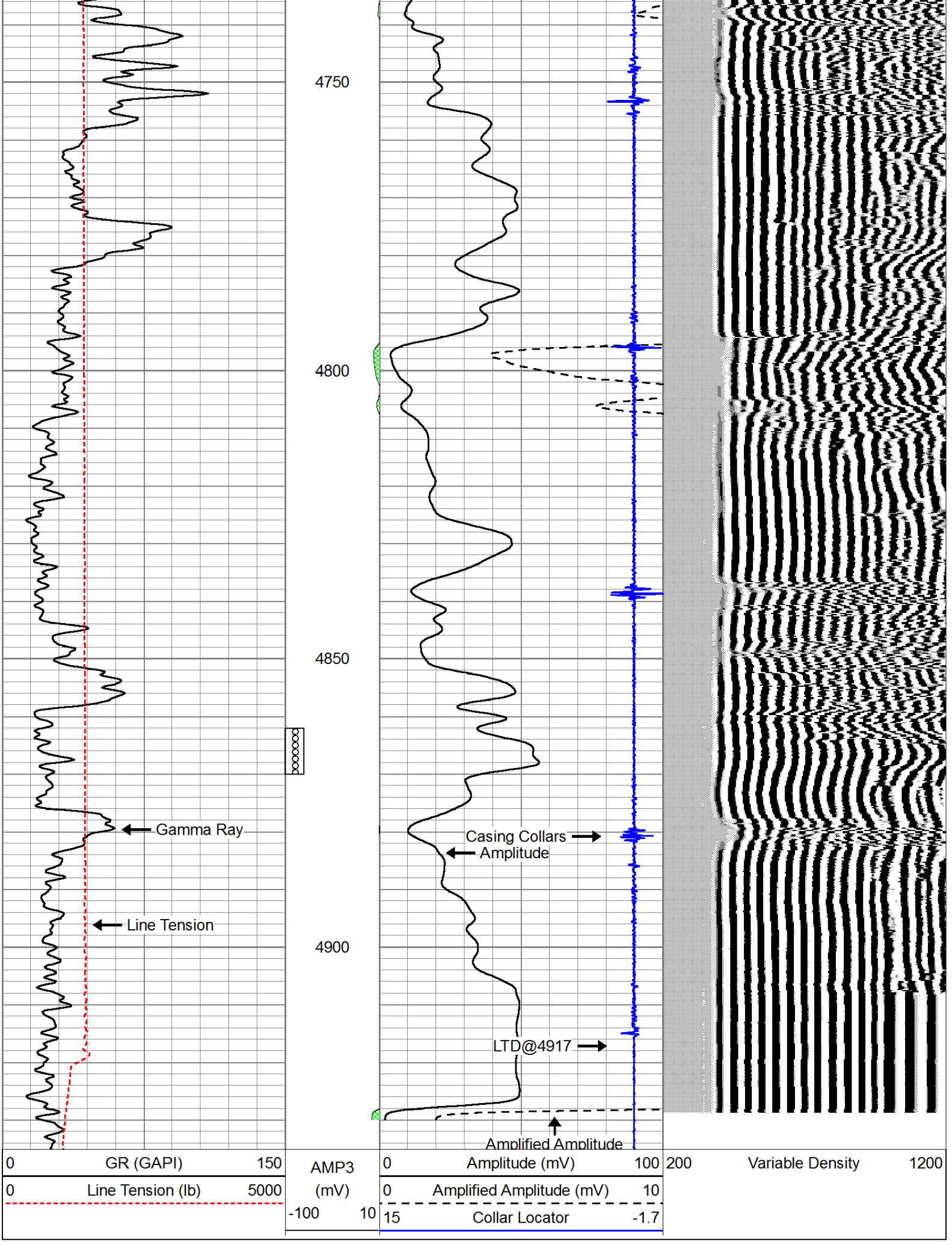
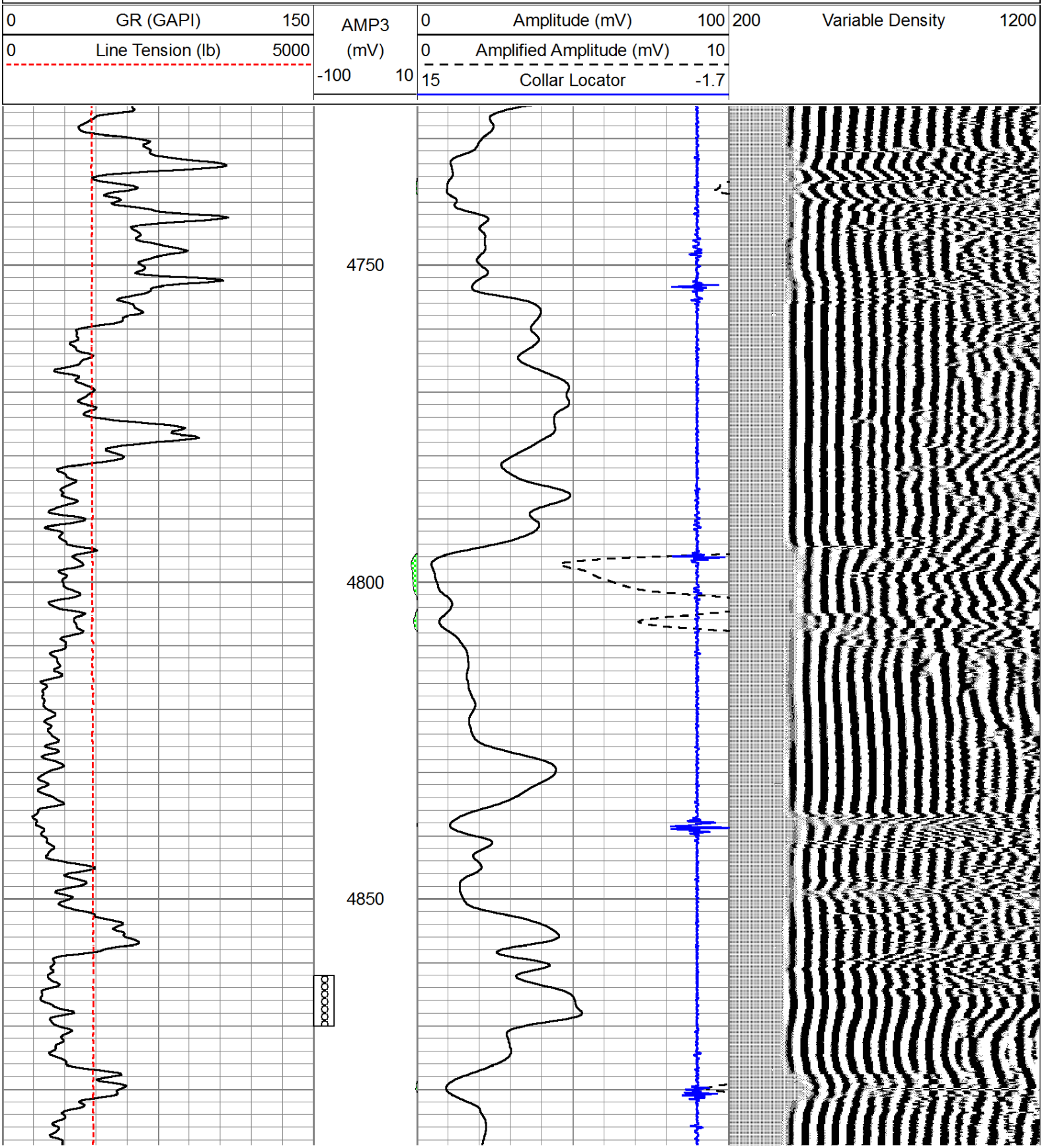
Line Tension
Gamma Ray
Marker Joint
Amplified Amplitude
4600
Amplitude
Casing Collars
4650
4700

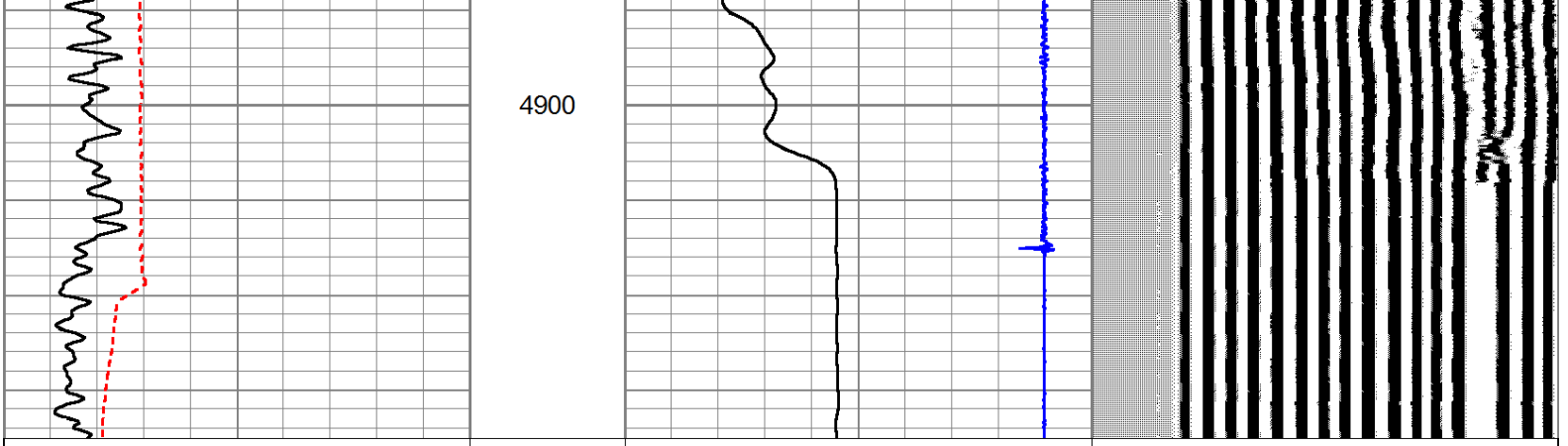

4750
4800
4850
4900
Gamma Ray
Line Tension
Casing Collars
Amplitude
LTD@4917
Amplified Amplitude
0
GR (GAPI)
150
0
Line Tension (lb)
5000
AMP3
(mV)
-100
10
0
Amplitude (mV)
100
0
Amplified Amplitude (mV)
10
15
Collar Locator
-1.7
200
Variable Density
1200

PIONEER
Pioneer Energy Services

Repeat Section

Database File:	bengalia xpo_1-19a.db
Dataset Pathname:	grcbl/pass2
Presentation Format:	cbldig
Dataset Creation:	Thu Apr 10 12:14:10 2014 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240





0 GR (GAPI) 150	AMP3 (mV)	0 Amplitude (mV) 100	200 Variable Density 1200
0 Line Tension (lb) 5000	-100 10	0 Amplified Amplitude (mV) 10	
		15 Collar Locator -1.7	

DRILL STEM TEST REPORT

Bengalia Land & Cattle Co.

P.O.Box 521008
Tulsa, OK 74152

ATTN: Austin Garner

19-25s-30w Gray,KS

XPO-Renick #1-19A

Job Ticket: 56506 **DST#: 1**

Test Start: 2014.03.26 @ 23:27:05

GENERAL INFORMATION:

Formation: **St. Louis**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:12:30
Time Test Ended: 11:01:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Cornelio Landa III
Unit No: 62

Interval: 4854.00 ft (KB) To 4897.00 ft (KB) (TVD)
Total Depth: 4897.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

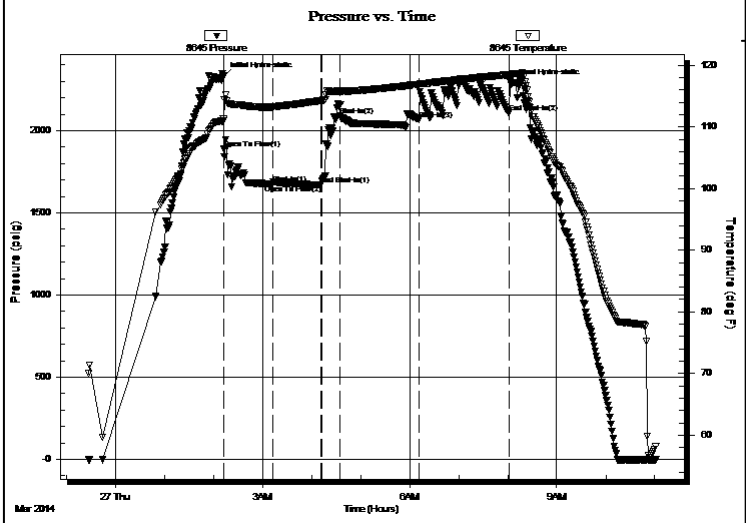
Reference Elevations: 2745.00 ft (KB)
2735.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8645 **Outside**

Press@RunDepth: 2090.93 psig @ 4856.00 ft (KB)
Start Date: 2014.03.26 End Date: 2014.03.27
Start Time: 23:27:05 End Time: 11:01:30

Capacity: 8000.00 psig
Last Calib.: 2014.03.27
Time On Btm: 2014.03.27 @ 02:11:48
Time Off Btm: 2014.03.27 @ 08:05:36

TEST COMMENT: IF: B.O.B. in 30 seconds-Died in 45 min.
ISI: No return
FF: B.O.B. in 5 min.-Died in 33 min.
FSI: No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2330.50	111.28	Initial Hydro-static
1	1892.74	111.03	Open To Flow (1)
61	1677.28	113.21	Shut-In(1)
120	1670.35	114.28	End Shut-In(1)
120	1670.38	114.28	Open To Flow (2)
144	2090.93	115.74	Shut-In(2)
241	2068.64	116.92	Shut-In(3)
350	2112.08	118.46	End Shut-In(2)
354	2289.29	118.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
4284.00	Mud 100m	60.09

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

FLUID SUMMARY

Bengalia Land & Cattle Co.

P.O.Box 521008
Tulsa, OK 74152

ATTN: Austin Garner

19-25s-30w Gray,KS

XPO-Renick #1-19A

Job Ticket: 56506 **DST#: 1**

Test Start: 2014.03.26 @ 23:27:05

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	43.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.59 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1300.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

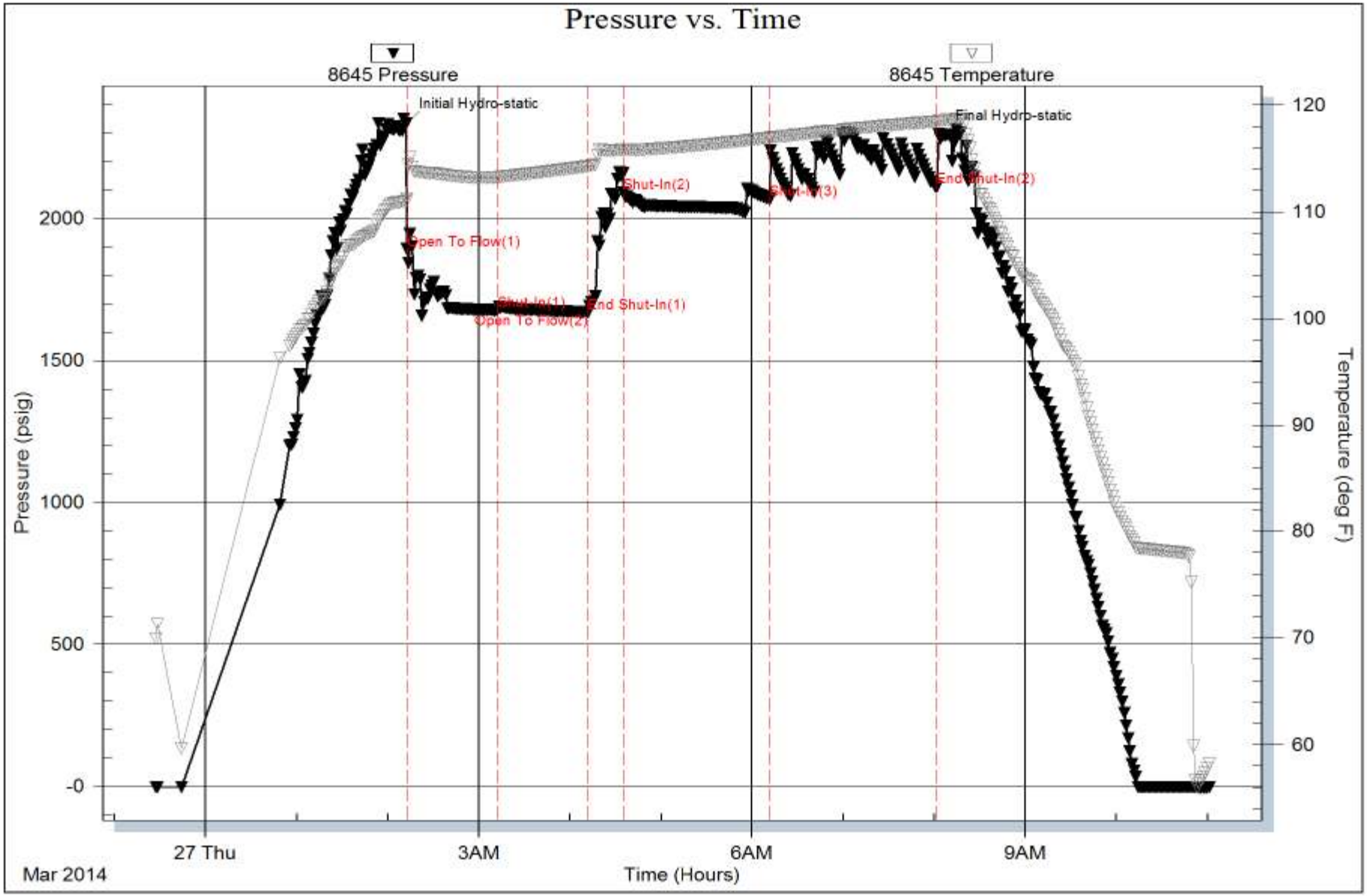
Recovery Table

Length ft	Description	Volume bbl
4284.00	Mud 100m	60.093

Total Length: 4284.00 ft Total Volume: 60.093 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8645 **Outside** Bengalia Land & Cattle Co. XPO-Renick #1-19A DST Test Number: 1



Trilobite Testing, Inc Ref. No: 56506 Printed: 2014.03.27 @ 16:13:13

BASIC ENERGY SERVICES

852

PAGE	CUST NO	INVOICE DATE
1 of 1	1001414	03/31/2014

INVOICE NUMBER

1717 - 91451710

Liberal (620) 624-2277

BILL TO
BENGALIA LAND AND CATTLE CO
PO Box: 521008
TULSA
OK US 74152
ATTN: CALVIN HULLUIM FR

JOB SITE
LEASE NAME XPO - Rennick #1
LOCATION
COUNTY Gray
STATE KS
JOB DESCRIPTION Cement-New Well Casing/Pi
JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40707450	19570		Net - 30 days	04/30/2014

For Service Dates: 03/29/2014 to 03/29/2014

0040707450

171704764A Cement-New Well Casing/Pi 03/29/2014
5 1/2" Longstring

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
AA2 Cement	320.00	EA	12.30	3,935.43 T
Gypsum	1,505.00	EA	0.51	762.72 T
C-15	181.00	EA	8.45	1,528.82 T
Salt	1,772.00	EA	0.34	598.69 T
C-41P	76.00	EA	2.70	205.42 T
Gilsonite	1,600.00	EA	0.45	724.38 T
"Guide Shoe - Regular. 5 1/2"" (Blue)"	1.00	EA	168.93	168.93
"Flapper Ins. Flt. Vlv., 5 1/2"" (Blue	1.00	EA	145.28	145.28
Centralizer 5 1/2 x 7 7/8 Turbo	12.00	EA	50.68	608.15
"Top Rubber Cmt Plug, 5 1/2"""	1.00	EA	70.95	70.95
Super Flush II	500.00	EA	1.03	516.93 T
Heavy Equipment Mileage	120.00	MI	4.73	567.61
Blending & Mixing Service Charge	320.00	BAG	0.95	302.72
"Proppant & Bulk Del. Chgs., per ton mil	903.00	EA	1.49	1,342.39
Depth Charge; 5001-6000'	1.00	EA	1,946.08	1,946.08
Plug Container Util. Chg.	1.00	EA	168.93	168.93
"Unit Mileage Chg (PU, cars one way)"	60.00	MI	2.87	172.31
"Service Supervisor, first 8 hrs on loc.	1.00	EA	118.25	118.25

PLEASE REMIT TO:
BASIC ENERGY SERVICES,LP
PO BOX 841903
DALLAS,TX 75284-1903

SEND OTHER CORRESPONDENCE TO:
BASIC ENERGY SERVICES,LP
801 CHERRY ST, STE 2100
FORT WORTH, TX 76102

SUB TOTAL	**13,883.99**
TAX	**603.88**
INVOICE TOTAL	**14,487.87**

BASIC ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

1700 S. Country Estates Rd.
Liberal, Kansas 67905
Phone 620-624-2277

FIELD SERVICE TICKET
1717 04764 A

3-29-14 DATE TICKET NO.

DATE OF JOB 3-29-14 DISTRICT 1717	NEW WELL ☐ OLD WELL ☐ PROD ☐ INJ ☐ WDW ☐ CUSTOMER ORDER NO.:
CUSTOMER Bengalia Land + Cattle	LEASE XPO - Rennicke #1 WELL NO.
ADDRESS	COUNTY Gray STATE KS
CITY STATE	SERVICE CREW I. Chavez, Sam, David
AUTHORIZED BY Jay Rabbit	JOB TYPE: 242 5½ Long String

EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS
79938	8	70897	8	27908	8
		19570	1	19579	1

	DATE	TIME
TRUCK CALLED	3-29-14	AM PM 1200
ARRIVED AT JOB	3-29-14	AM PM 200
START OPERATION	3-29-14	AM PM 645
FINISH OPERATION	3-29-14	AM PM 745
RELEASED	3-29-14	AM PM 845
MILES FROM STATION TO WELL	60	

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: X
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED		UNIT	QUANTITY	UNIT PRICE	$ AMOUNT
CL105	AA2 Cmt	✓	sk	320		5824 00
CC113	Gypsum	✓	lb	1505		1128 75
CC103	C-15	✓	lb	181		2262 50
CC111	Salt	✓	lb	1772		886 00
CC105	C-41P	✓	lb	76		304 00
CC201	Gilsonite	✓	lb	1600		1072 00
CF 251	Guide Shoe	✓	EA	1		250 00
CF 1451	Insert Float Valve	✓	EA	1		215 00
CF 1778	Centralizer 5½	✓	EA	12		900 00
CF 103	Rubber Plug	✓	EA	1		105 00
CC 155	Super Flush II	✓	gal	500		765 00
E101	Heavy Equipment Mileage		mi	120		840 00
CE 240	Blending & Mixing Charge		sk	320		448 00
E113	Bulk Delivery Charge		tm	903		1986 50
CE 206	Depth Charge		4hrs	1		2880 00
CE 504	Plug Container Charge		job	1		250 00
E100	Pickup Mileage		mi	60		255 00
5003	Service Supervisor		EA	1		175 00

SUB TOTAL 13983 99

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON $	
MATERIALS	%TAX ON $	
	TOTAL	

SERVICE REPRESENTATIVE Izzy Chavez

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: X
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

CLOUD LITHO - Abilene, TX

BASIC ENERGY SERVICES
Liberal, Kansas

Cement Report

Customer: Bengalia Land & Cattle	Lease No.	Date: 3-29-14
Lease: XPO - Rennick	Well #: 1	Service Receipt: 41764
Casing: 5½ / Depth: 4975	County: Gray	State: KS
Job Type: 242 Long Stg	Formation	Legal Description

Pipe Data		Perforating Data		Cement Data
Casing size: 5½	Tubing Size	Shots/Ft		Lead
Depth: 4975	~~Depth~~ 55 42	From	To	
Volume: 118 BLS	Volume	From	To	
Max Press: 2000	Max Press	From	To	Tail in: 520 SK AA2
Well Connection: 5½	Annulus Vol.	From	To	1.51 FT3-SK
Plug Depth: 4953	Packer Depth	From	To	6.64 GAL-SK 14.8 #

Time	Casing Pressure	Tubing Pressure	Bbls. Pumbed	Rate	Service Log
200					Arrive On Location
230					Safety Meeting - Rig Up
300					Rig Running Casing
525					Circulate w/ Rig
550					Hook Up To TBGS
555	2000		1	1	Pressure Test
600	410		5	5	Pump Water Spacer
605	375		12	5	Pump Super Flush
610	350		5	5	Pump Water Spacer
615	400		60	5	Pump cmt @ 14.8
635					Drop Plug - Wash Up
640	600		107	6	Displace
705	700		10	2	Slow Down
715	1200		1	1	Land Plug - Float Held
					Job Complete
					Plug Rat & Mouse Hole
					Thanks For Using Basic Energy Services

Service Units	78938	70897-19570	27808-19578			
Driver Names	Izzy	Fam	David			

Carl
Customer Representative

Station Manager

Izzy
Cementer

#13

BASIC ENERGY SERVICES

846

PAGE	CUST NO	INVOICE DATE
1 of 1	1001414	03/21/2014

INVOICE NUMBER

1717 - 91442442

Liberal (620) 624-2277

BILL TO
BENGALIA LAND AND CATTLE CO
PO Box: 521008
TULSA
OK US 74152
ATTN: CALVIN HULLUIM FR

JOB SITE
LEASE NAME XPO-Renick #1-19A
LOCATION
COUNTY Gray
STATE KS
JOB DESCRIPTION Cement-New Well Casing/Pi
JOB CONTACT

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
40703749	19570		Net - 30 days	04/20/2014

For Service Dates: 03/20/2014 to 03/20/2014

0040703749

171704758A Cement-New Well Casing/Pi 03/20/2014
8 5/8" Surface

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
A-Con' Blend	440.00	EA	12.18	5,360.29 T
Premium Plus Cement	150.00	EA	10.68	1,601.40 T
Calcium Chloride	1,524.00	EA	0.69	1,048.08 T
Celloflake	148.00	EA	2.42	358.66 T
C-51	83.00	EA	16.37	1,359.07 T
"Guide Shoe - Regular, 8 5/8"" (Blue)"	1.00	EA	248.89	248.89
"Flapper Ins. Flt. Vlv., 8 5/8"" (Blue)	1.00	EA	183.39	183.39
Centralizer 8 5/8 x 12 1/4	4.00	EA	94.97	379.88
"Cmt Basket, Canvas 8 5/8"	1.00	EA	687.72	687.72
"Top Rubber Cmt Plug, 8 5/8""	1.00	EA	147.37	147.37
Heavy Equipment Mileage	180.00	MI	4.58	825.26
Blending & Mixing Service Charge	590.00	BAG	0.92	541.01
"Proppant & Bulk Del. Chgs., per ton mil	1,665.00	EA	1.44	2,399.16
Depth Charge; 1001'-2000'	1.00	EA	982.46	982.46
Plug Container Util. Chg.	1.00	EA	163.74	163.74
"Unit Mileage Chg (PU, cars one way)"	60.00	MI	2.78	167.02
"Service Supervisor, first 8 hrs on loc.	1.00	EA	114.62	114.62

PLEASE REMIT TO:
BASIC ENERGY SERVICES,LP
PO BOX 841903
DALLAS,TX 75284-1903

SEND OTHER CORRESPONDENCE TO:
BASIC ENERGY SERVICES,LP
801 CHERRY ST, STE 2100
FORT WORTH, TX 76102

SUB TOTAL	**16,568.02**
TAX	**710.11**
INVOICE TOTAL	**17,278.13**

BASIC ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

1700 S. Country Estates Rd.
Liberal, Kansas 67905
Phone 620-624-2277

FIELD SERVICE TICKET
1717 04758 A

DATE TICKET NO.

DATE OF JOB 3-20-14 DISTRICT 1717	NEW WELL ☑ OLD WELL ☐ PROD ☐ INJ ☐ WDW ☐ CUSTOMER ORDER NO.:
CUSTOMER Bengalia Land & Cattle	LEASE XPO-Merrick #1-19A WELL NO.
ADDRESS	COUNTY Gray STATE KS
CITY STATE	SERVICE CREW T. Chavez, Sam, Gabe
AUTHORIZED BY Jerry Bartt JRB	JOB TYPE: 242 8 3/4 Surface

EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS
78958	8	70897 -	8	14355	8
		19570 -	1 -	17725	1
14827 -	8				
19883	1				

	DATE	TIME
TRUCK CALLED	3-19-14	AM PM 800
ARRIVED AT JOB	3-20-14	AM PM 1200
START OPERATION	3-20-14	AM PM 1600
FINISH OPERATION	3-20-14	AM PM 900
RELEASED	3-20-14	AM PM 940
MILES FROM STATION TO WELL 60		

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: X
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED		UNIT	QUANTITY	UNIT PRICE	$ AMOUNT
CL101	A-Con Blend	✓	sk	440		8184 00
CL110	Premium Plus Cmt	✓	sk	150		2445 00
CC109	Calcium Chloride	✓	lb	1524		1600 20
CC102	CelloFlake	✓	lb	148		547 60
CC130	C-51	✓	lb	83		2075 00
CF253	Guide Shoe	✓	ea	1		380 00
CF1453	Insert Float	✓	ea	1		280 00
CF1773	Centralizer 8 5/8	✓	ea	4		580 00
CF1500	Cmt Basket	✓	ea	1		1050 00
CF105	Rubber Plug	✓	ea	1		225 00
E101	Heavy Equipment Mileage		mi	180		1260 00
CE240	Blending & Mixing Charge		sk	590		826 00
E113	Bulk Delivery Charge		tm	1665		3663 00
CE202	Depth Charge		4hrs	1		1500 00
CE504	Plug Container Charge		job	1		250 00
E100	Pickup Mileage		mi	60		255 00
5003	Service Supervisor		ea	1		175 00

SUB TOTAL 16568 02

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON $	
MATERIALS	%TAX ON $	
	TOTAL	

SERVICE REPRESENTATIVE T. Chavez

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: X
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

CLOUD LITHO - Abilene, TX

BASIC ENERGY SERVICES
Liberal, Kansas

Cement Report

Customer Bengalia Land & Cattle	Lease No.	Date 3-20-14
Lease VDO - Renick	Well # 1-19A	Service Receipt 4758
Casing 8 5/8 / Depth 1850	County	State KS
Job Type 242 Surface	Formation	Legal Description 19-25-30

Pipe Data

Casing size 8 5/8	Tubing Size
Depth 1850	Depth ~~5540~~
Volume 115 bbls	Volume
Max Press 1800	Max Press
Well Connection 8 5/8	Annulus Vol.
Plug Depth 1810	Packer Depth

Perforating Data

Shots/Ft

From	To
From	To
From	To
From	To
From	To

Cement Data

Lead 440sk A-Con
2.45 Ft3/sk
18.16 Gal/sk 11.4#

Tail in 150sk Class C
1.34 Ft3/sk
6.33 Gal/sk 14.8#

Time	Casing Pressure	Tubing Pressure	Bbls. Pumbed	Rate	Service Log
1200					Arrive On Location
100					Safety Meeting - Rig Up
626	2000		1	1	Pressure Test
545					Circulate W/Rig
625					Hook on To BCS
630	400		231	6	Pump Lead cmt @ 11.4#
710	300		36	5	Pump Tail cmt @ 14.8#
725					Drop Plug - Wash Up
730	400		104	5.5	Displace
755	500		11	2	Slow Down
800	1000		1	1	Land Plug - Float Held
					Circ To Surface
					Job Complete

Service Units	78938	14355-37705	19827-19883	70897-19570		
Driver Names	Izzy	Sam	Gabe	Sam		

Earl
Customer Representative

Tony Bell
Station Manager

Izzy Chavez
Cementer

Taylor Printing, Inc.