KOLAR Document ID: 1374799

Confidentiality Requested:
☐ Yes ☑ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 33629
Name: Great Plains Energy, Inc.
Address 1: 6121 S 58TH ST, STE B
Address 2:
City: LIN COLN State: NE Zip: 68516 + ____
Contact Person: Dan Blankenau
Phone: (402) 443-6125
CONTRACTOR: License # 35410
Name: STP Drilling LLC
Wellsite Geologist: Rick Hall
Purchaser: MV Purchasing

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover

☑ Oil ☐ WSW ☐ SWD
☐ Gas ☐ DH ☐ EOR
☐ OG ☐ GSW
☐ 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 EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

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

9/19/2017 Spud Date or Recompletion Date
09/27/2017 Date Reached TD
10/25/2017 Completion Date or Recompletion Date

API No.: 15-065-24141-00-00
Spot Description:
___ - N2 - N2 - SW Sec. 30 Twp. 9 S. R. 24 ☐ East ☑ West
2310 Feet from ☐ North / ☑ South Line of Section
1320 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: Graham
Lease Name: REYNOLDS Well #: 1-30
Field Name:
Producing Formation: LKC
Elevation: Ground: 2553 Kelly Bushing: 25
Total Vertical Depth: 4180 Plug Back Total Depth: 4175
Amount of Surface Pipe Set and Cemented at: 260 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 2221 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: 2100 ppm Fluid volume: 200 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** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** Karen Ritter **Date:** 03/06/2018

Operator Name: Great Plains Energy, Inc. Lease Name: REYNOLDS Well #: 1-30

Sec. 30 Twp. 9 S. R. 24 ☐ East ☑ West County: Graham

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 *(Attach Additional Sheets)*	☑ Yes	☐ No
Samples Sent to Geological Survey	☐ Yes	☑ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Geologist Report / Mud Logs	☑ Yes	☐ No

List All E. Logs Run:
Attached

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

Name	Top	Datum
Anhydrite	2214	+339
Topeka	3626	-1073
Hebner	3845	-1292
Lansing	3880	-1327
BKC	4112	-1559

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	23	260	Common	185	3%cc 2%gel
Production	7.875	5.5	15	4178	EA-2	150	N/A

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	350-2221	MSD	250	N/A
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/ Injection:	Producing Method:
11/09/2017	☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	120		10		

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:	
		Top	Bottom
☑ Vented ☑ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*	4062	4068

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
4	4062	4068			500gla 15%MCA + 1500gal 20%SGA

TUBING RECORD:	Size:	Set At:	Packer At:
	2.875	4092	N/A

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Great Plains Energy, Inc.
Well Name	REYNOLDS 1-30
Doc ID	1374799

All Electric Logs Run

BHV
DIL
MEL
DUCP

Form	ACO1 - Well Completion
Operator	Great Plains Energy, Inc.
Well Name	REYNOLDS 1-30
Doc ID	1374799

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	260	Common	185	3%cc 2%gel
Production	7.875	5.5	15	4178	EA-2	150	N/A

PIONEER
Pioneer Energy Services

GAMMA RAY / CALIPER LOG

Company GREAT PLAINS ENERGY, INC.
Well REYNOLDS NO. 1-30
Field DREIL
County GRAHAM
State KANSAS

Location: API #: 15-065-24141-00-00
2310' FSL & 1320' FWL
SEC 30 TWP 9S RGE 24W

Other Services: DIL, MEL

Elevation: K.B. 2553', D.F. N/A, G.L. 2546'

Permanent Datum: GROUND LEVEL Elevation 2546'
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

Company	GREAT PLAINS ENERGY, INC.
Well	REYNOLDS NO. 1-30
Field	DREIL
County	GRAHAM
State	KANSAS
Location:	API #: 15-065-24141-00-00
	2310' FSL & 1320' FWL
	SEC 30 TWP 9S RGE 24W
Other Services	DIL, MEL
Elevation	K.B. 2553', D.F. N/A, G.L. 2546'
Permanent Datum	GROUND LEVEL
Elevation	2546'
Log Measured From	KELLY BUSHING
Drilling Measured From	KELLY BUSHING

Date	9/27/2017
Run Number	ONE
Type Log	BHV
Depth Driller	4180'
Depth Logger	4176'
Bottom Logged Interval	4155'
Top Logged Interval	250'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	2,100
Density	9.0
Level	FULL
Max. Rec. Temp. F	118 DEG/F
Operating Rig Time	3 HOURS
Equipment -- Location	108 HAYS
Recorded By	J. HENRICKSON
Witnessed By	RICK HALL

Borehole Record

Run No.	Bit	From	To
ONE	12.25"	0	261'
TWO	7.875"	261'	TD

Casing Record

Size	Wgt.	From	To
8.625"	23#	0	261'

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

WAKEENEY KANSAS
SOUTH TO RED LINE ROAD, 10 WEST, 1/2 NORTH, EAST INTO

Log Measured From: KELLY BUSHING 7 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

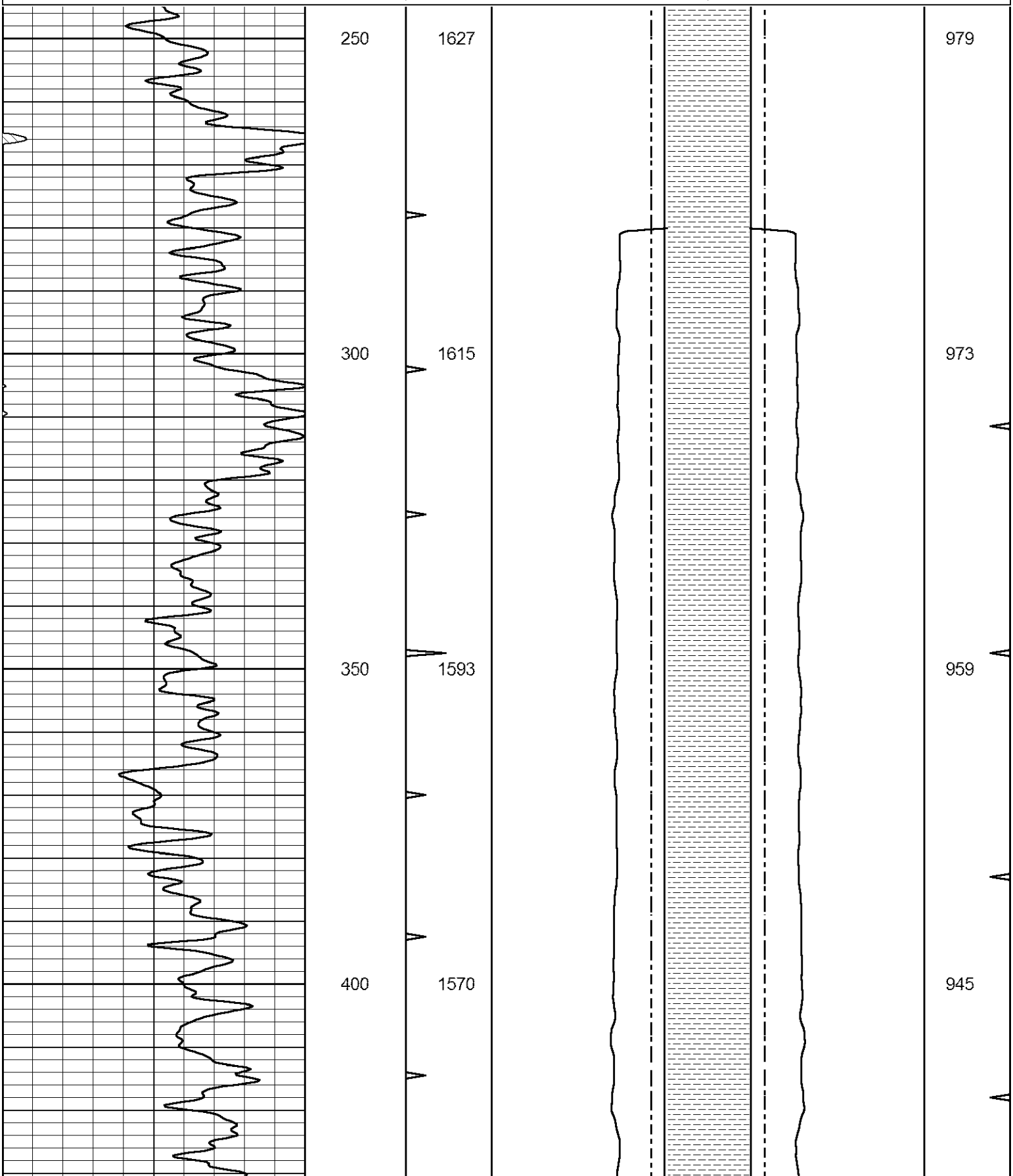
Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: RICK HALL
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

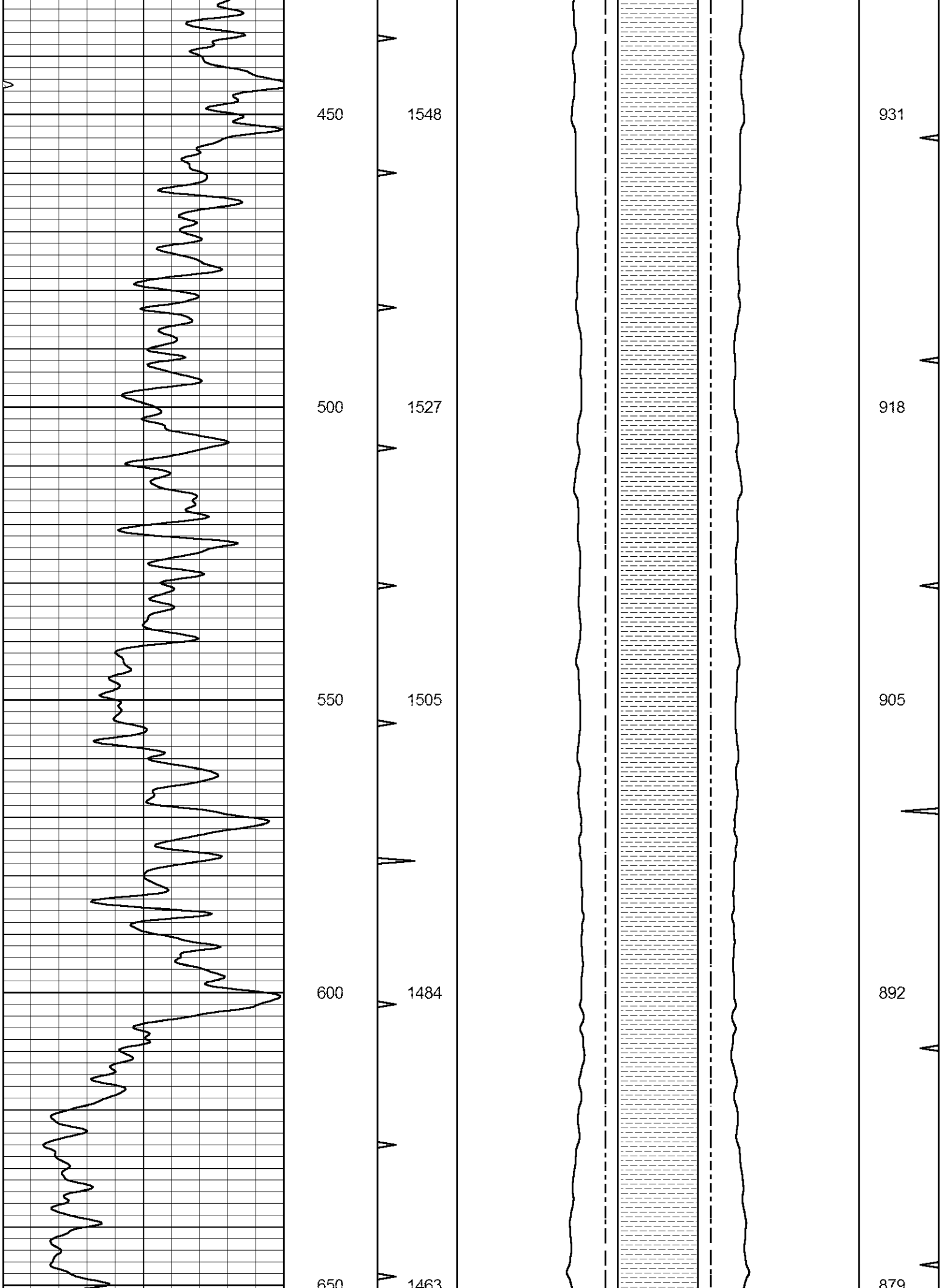
Database File	great_plains_reynolds_1_30.db
Dataset Pathname	MEL/pass2
Presentation Format	bhv5half
Dataset Creation	Wed Sep 27 05:20:55 2017
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150

16	CALIPER (in)	6
16	BIT SIZE	6
0	BVTX (ft3)	15

6	CALIPER (in)	16
6	BIT SIZE	16
15	AVTX (ft3)	0

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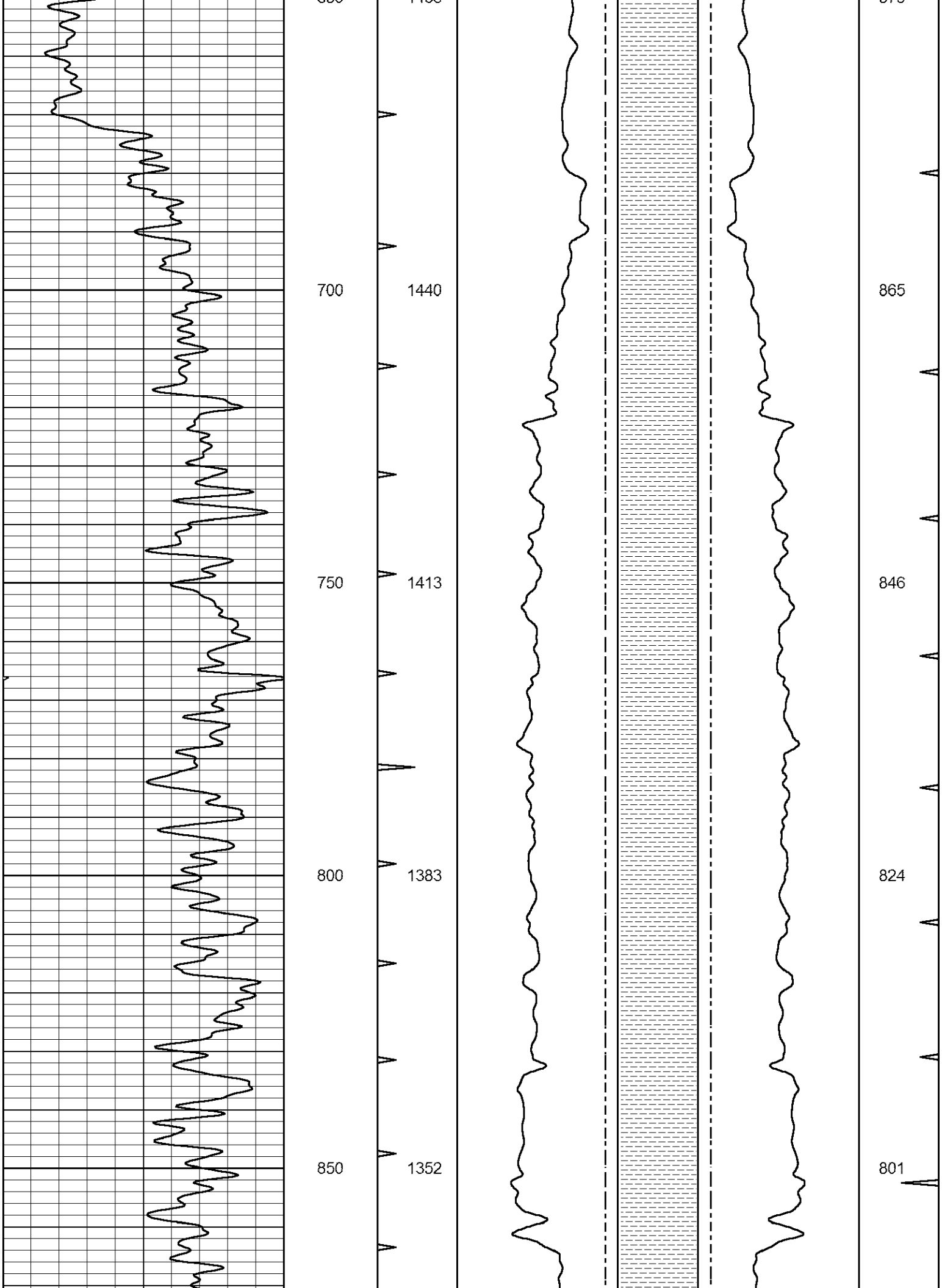
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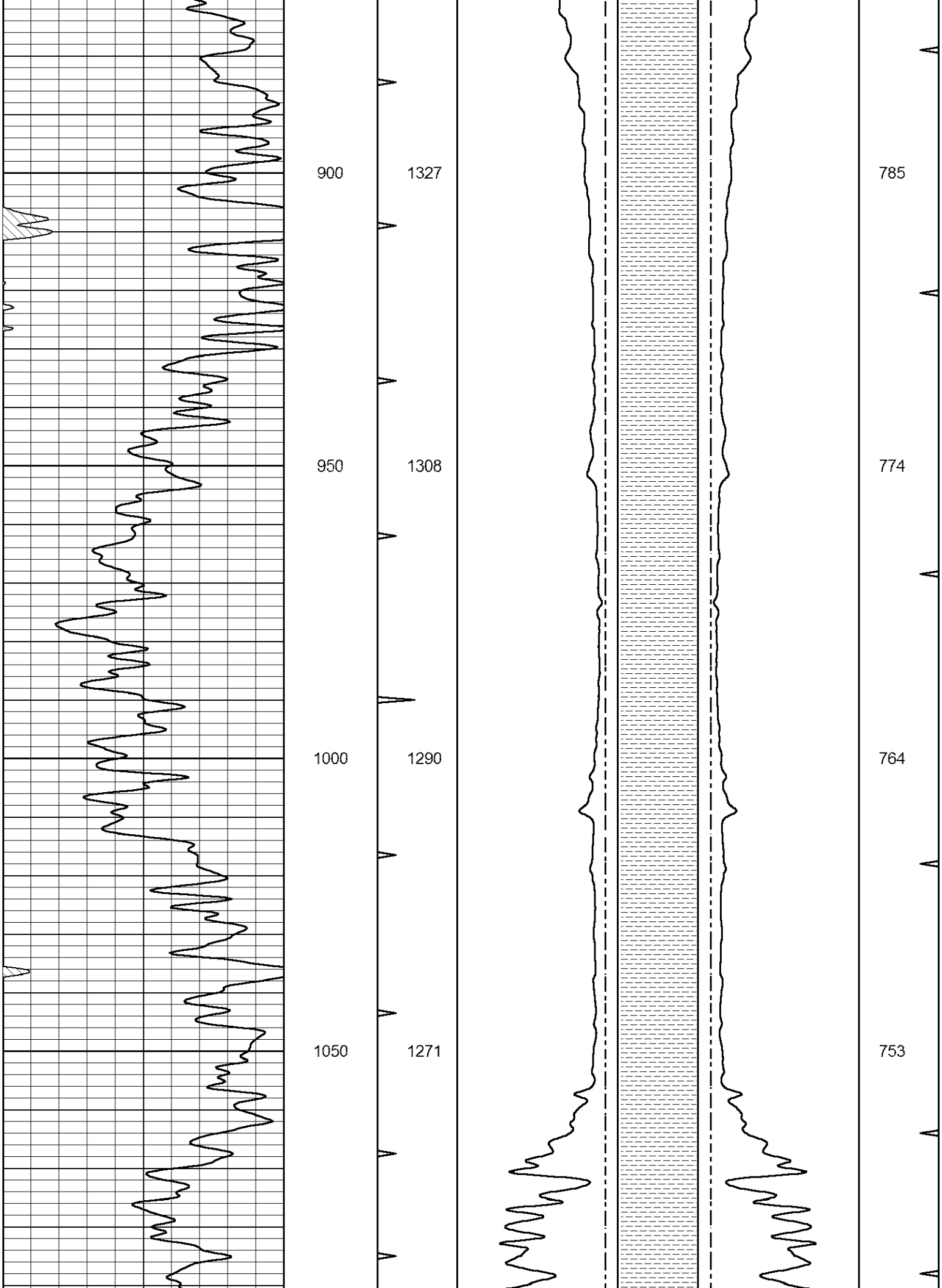
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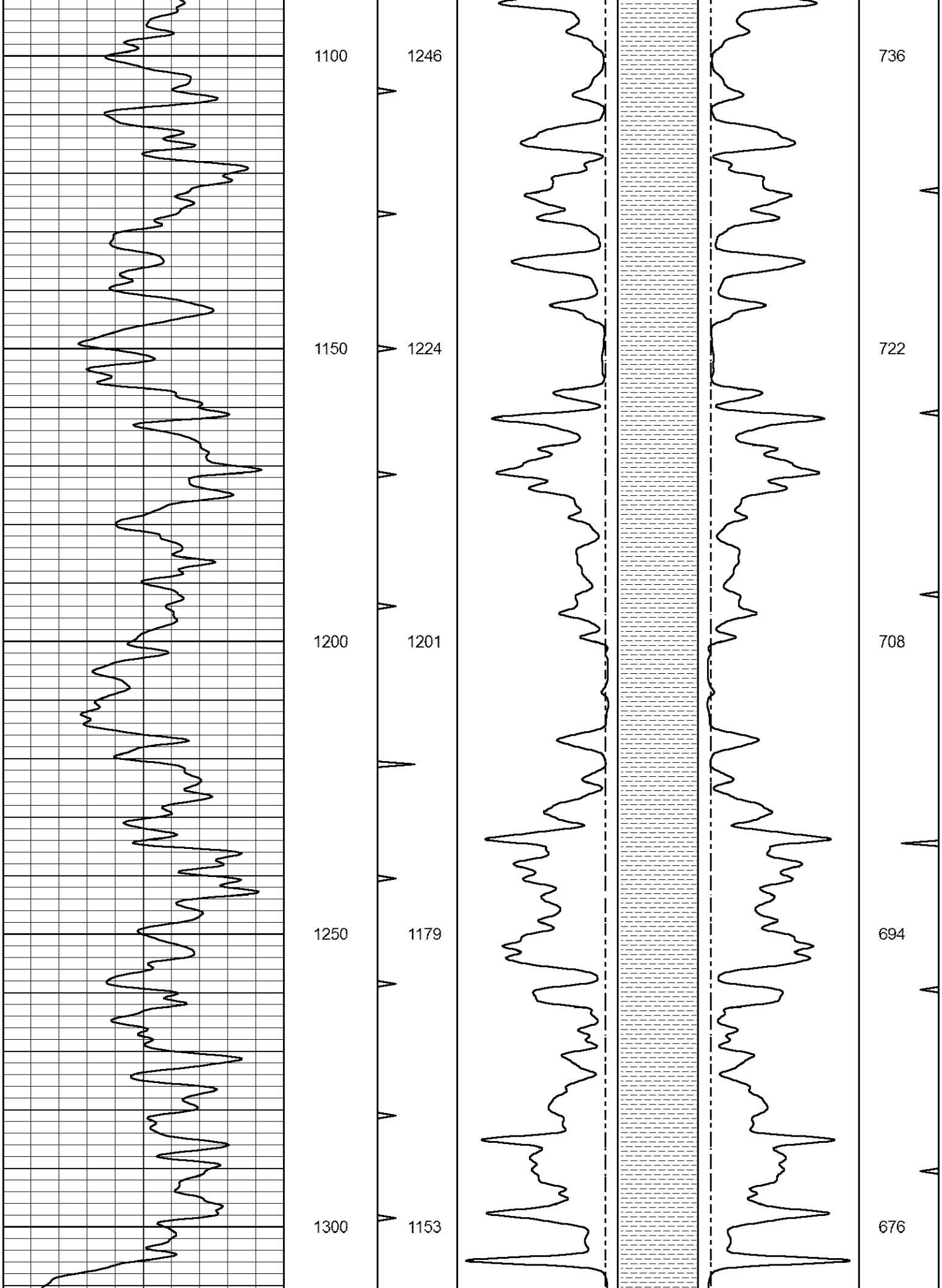
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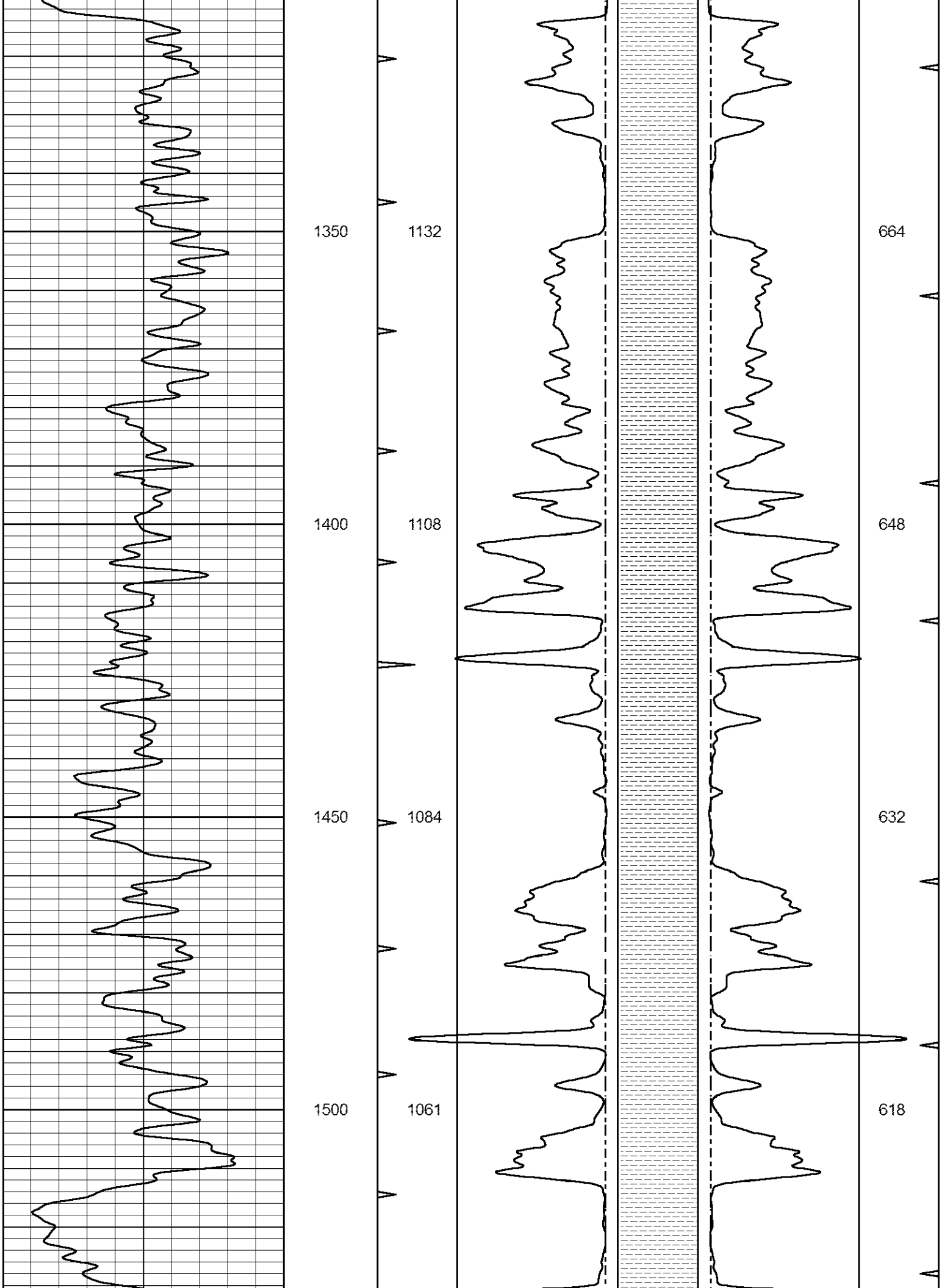
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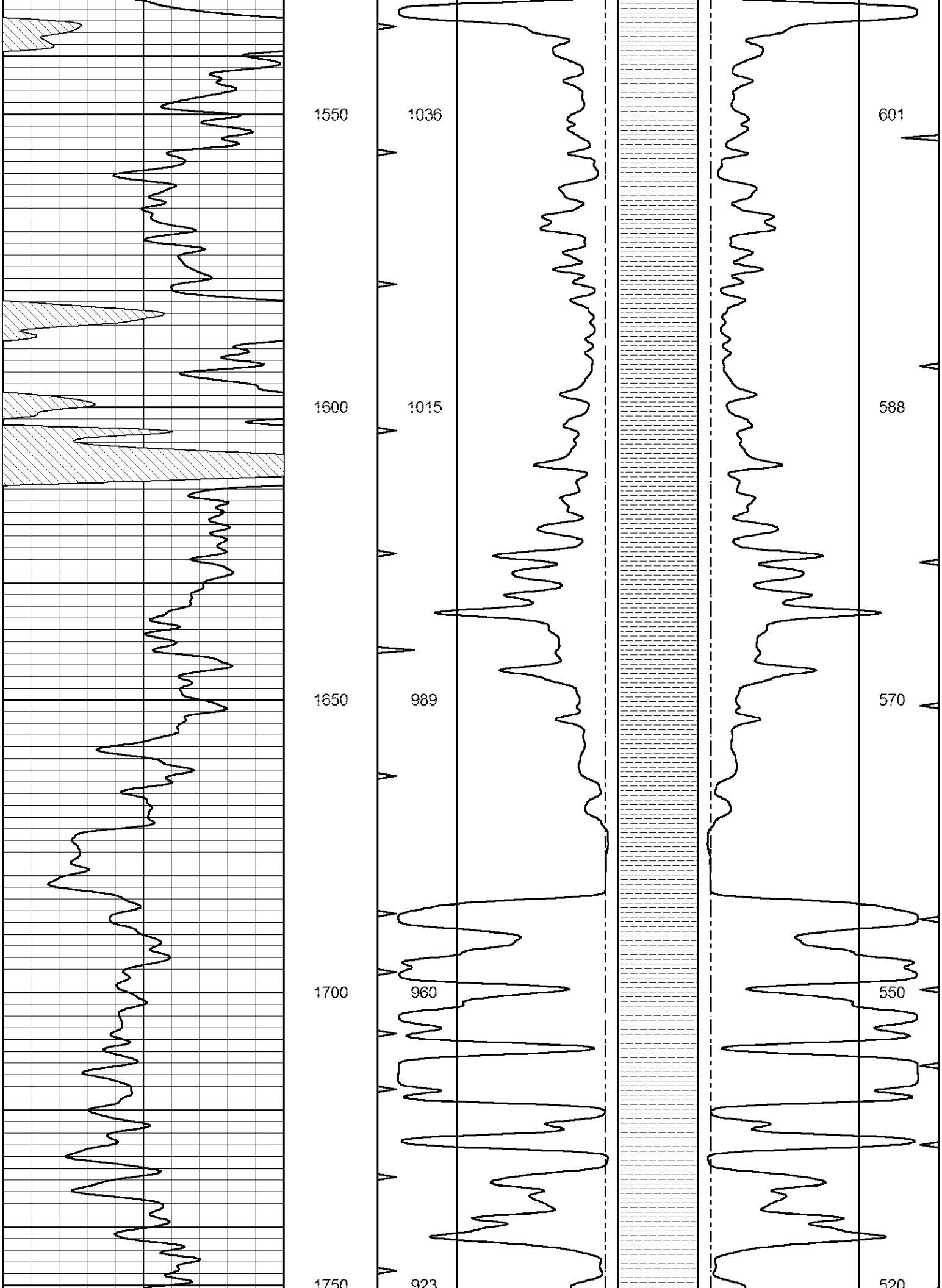
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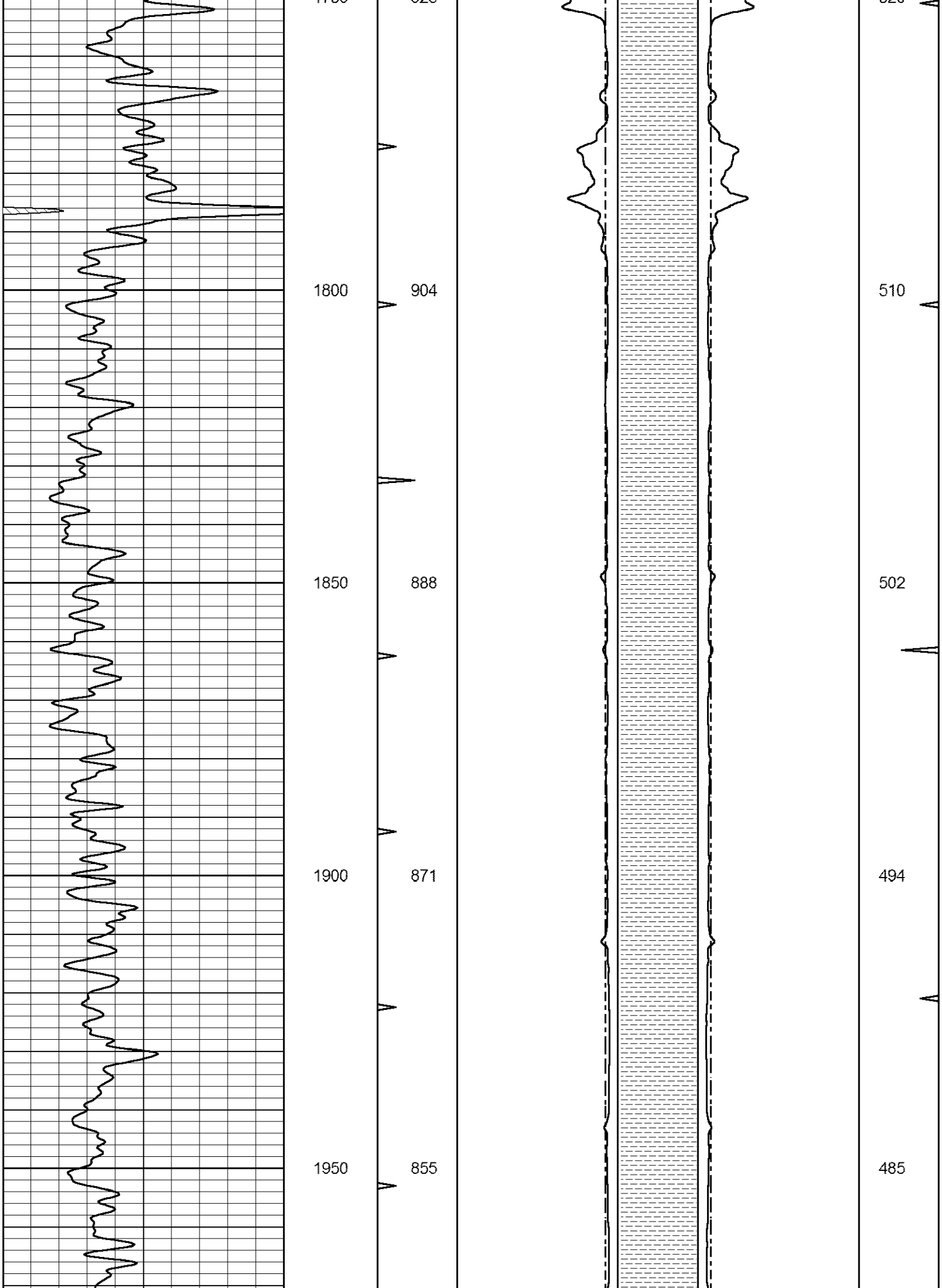
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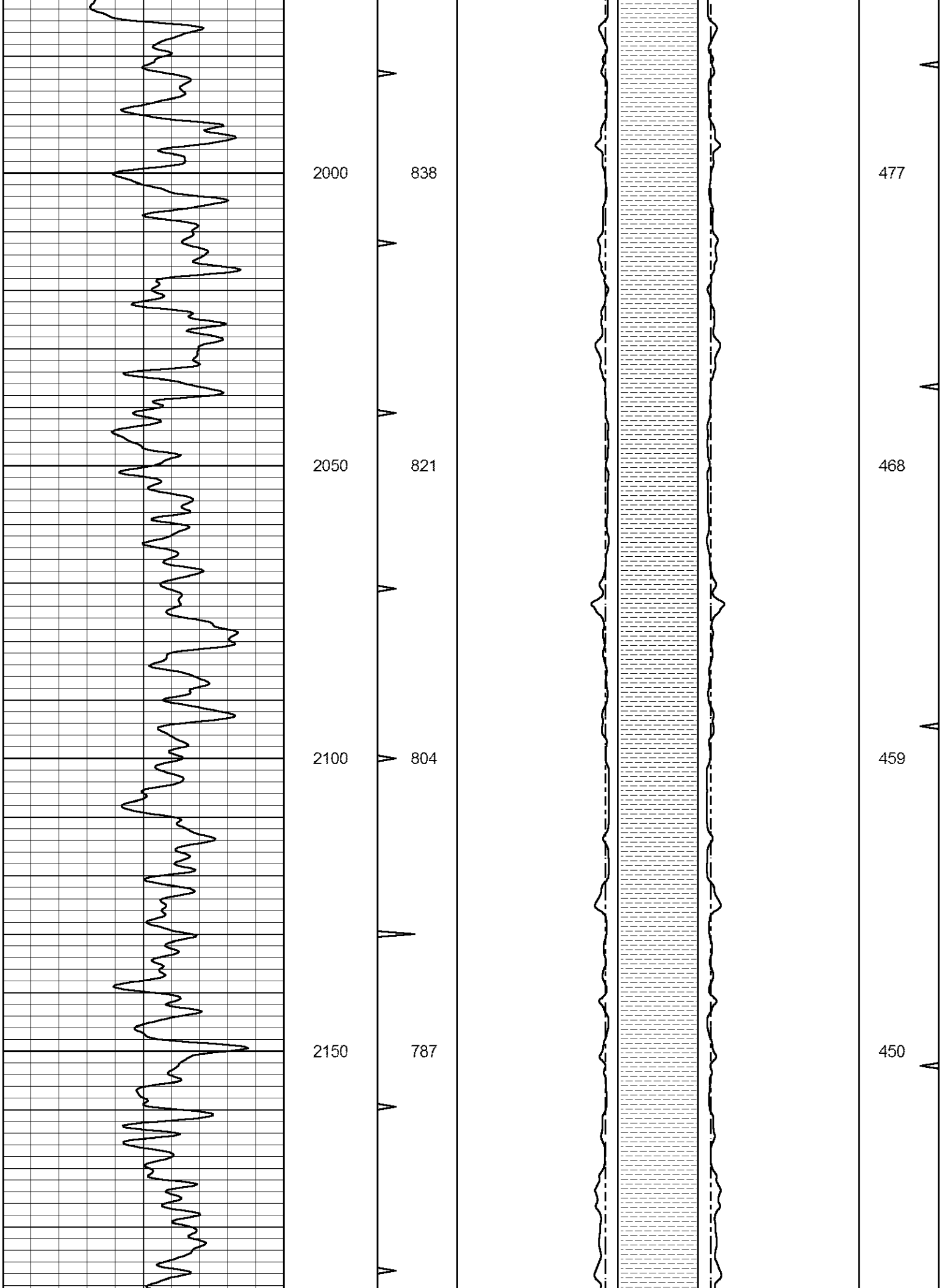
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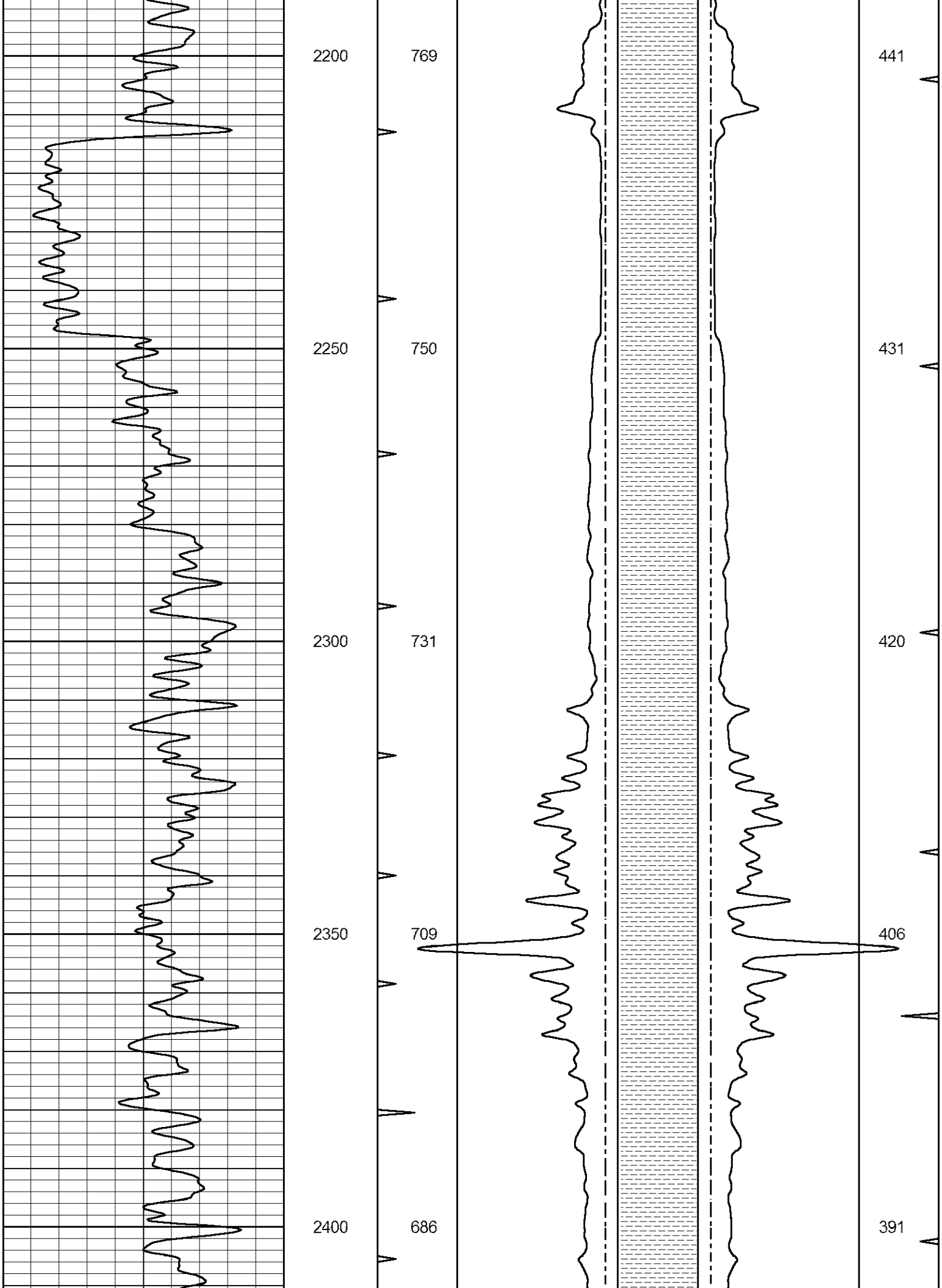
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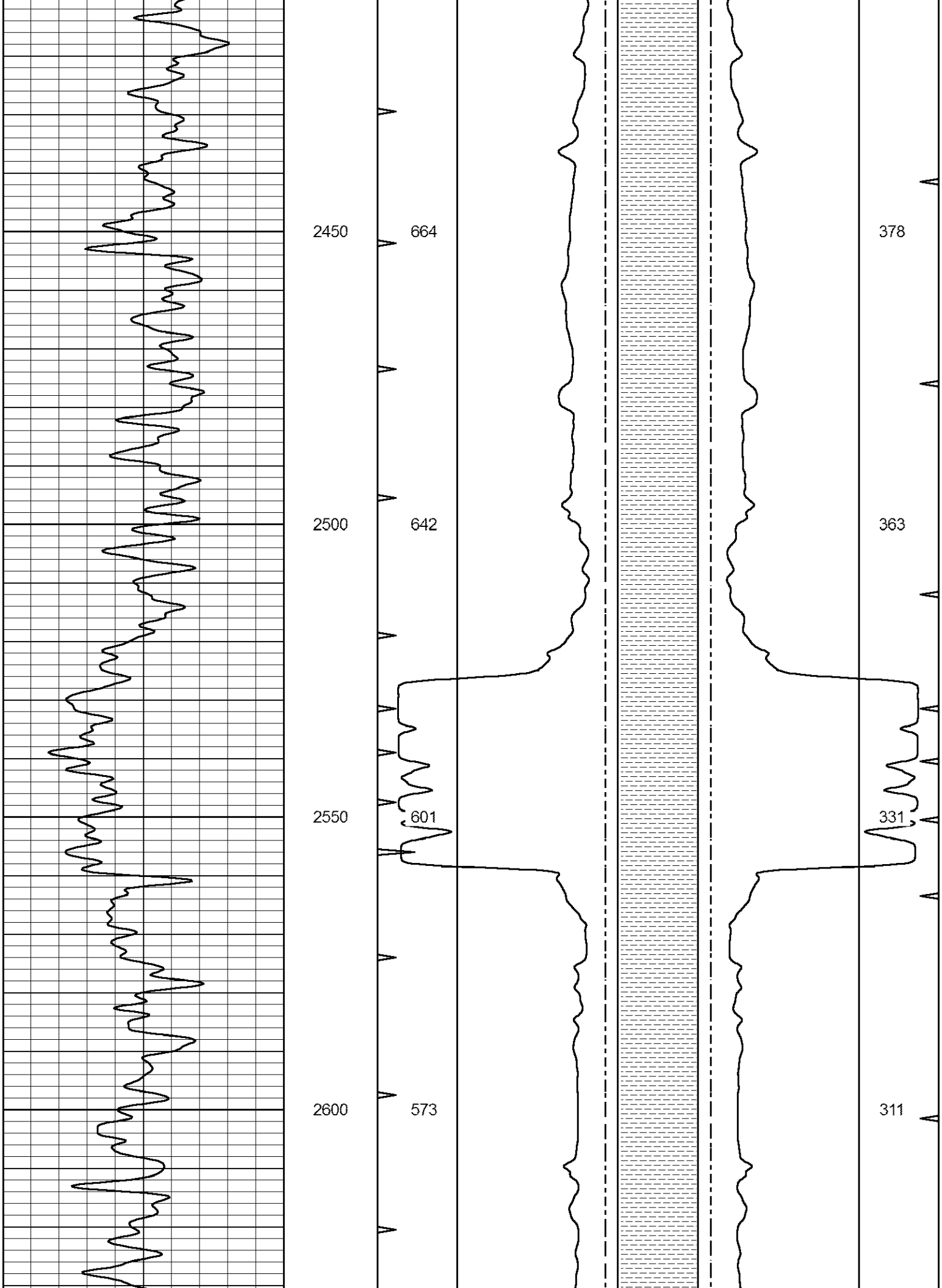
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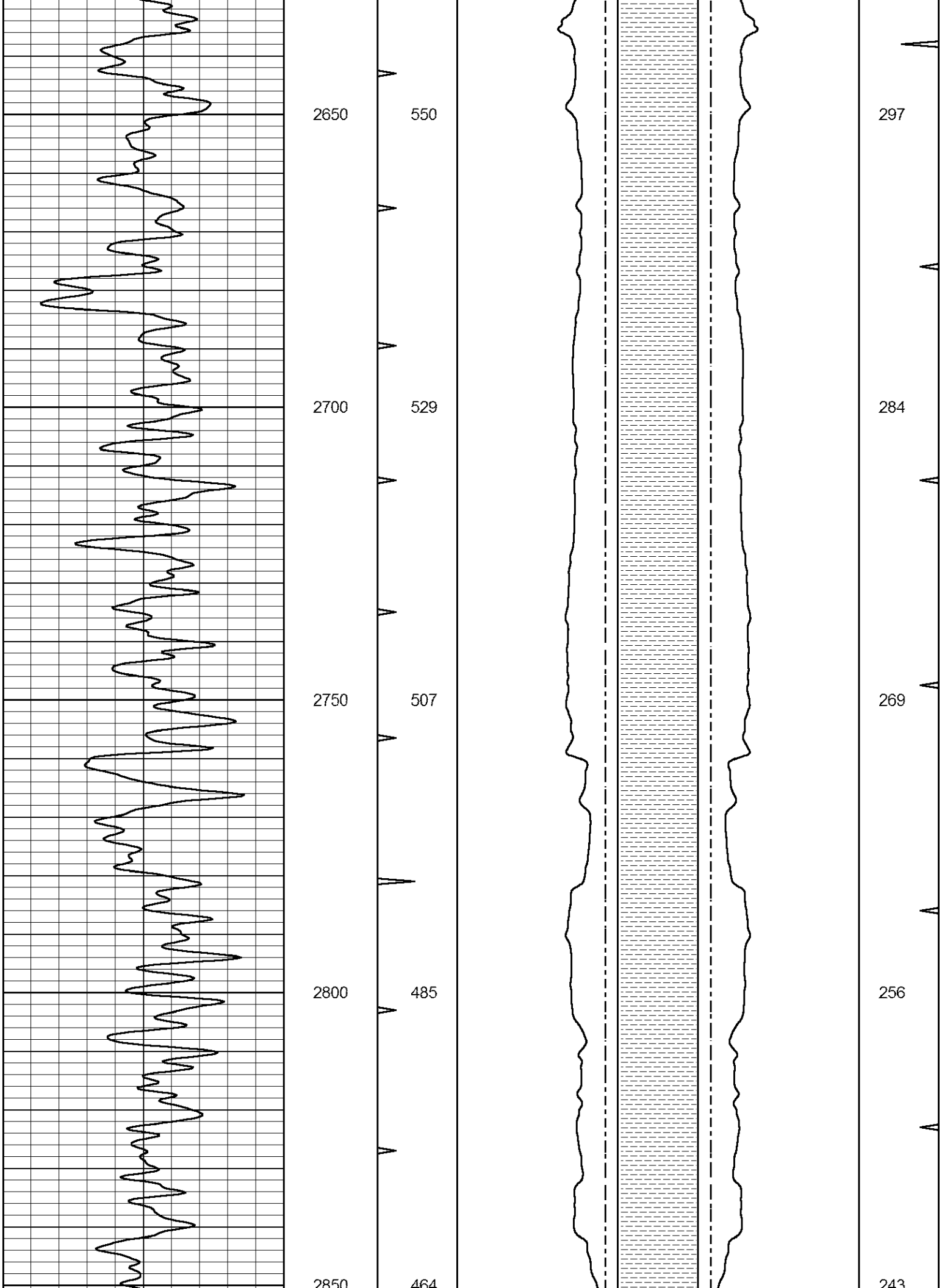
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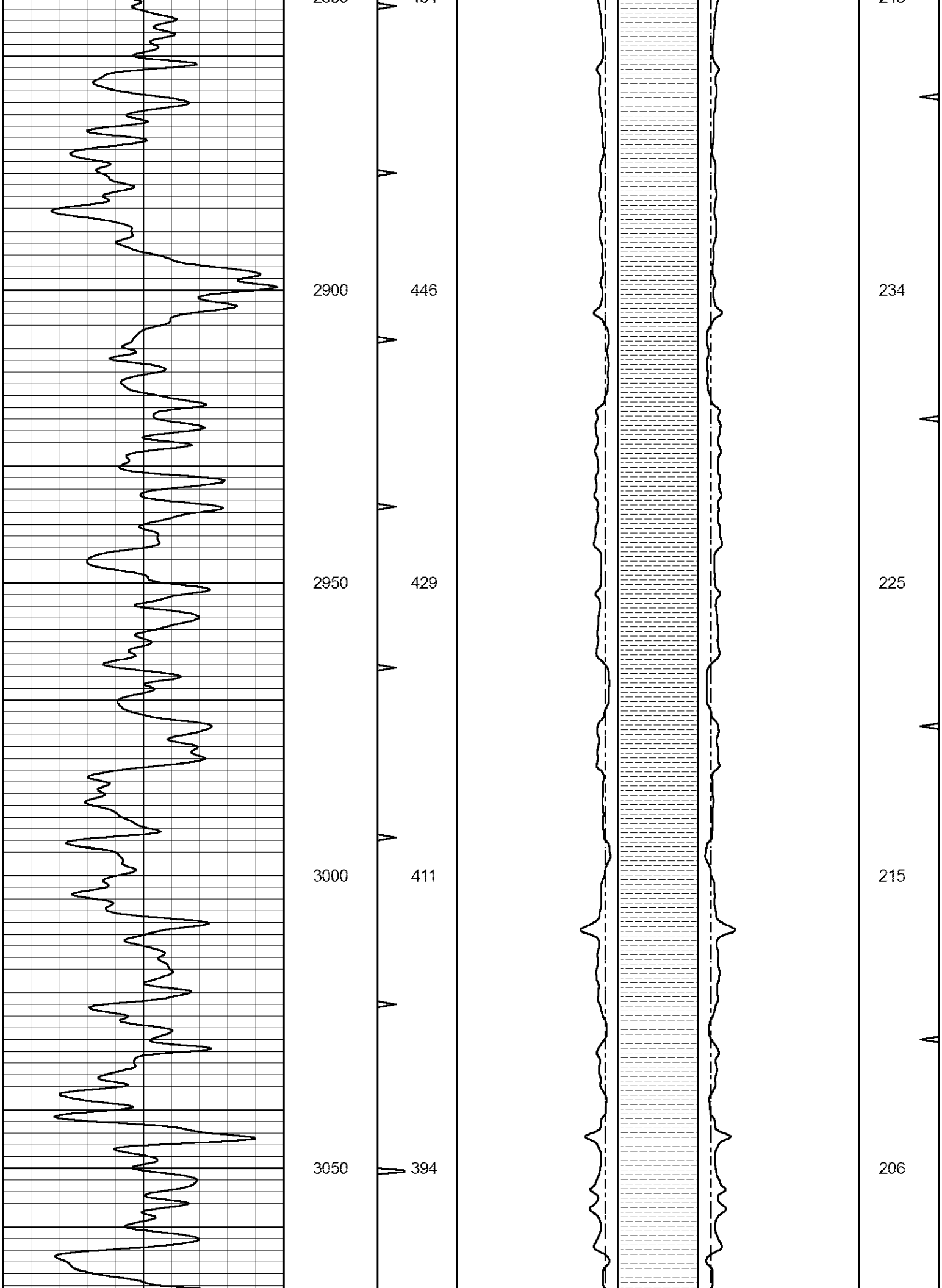
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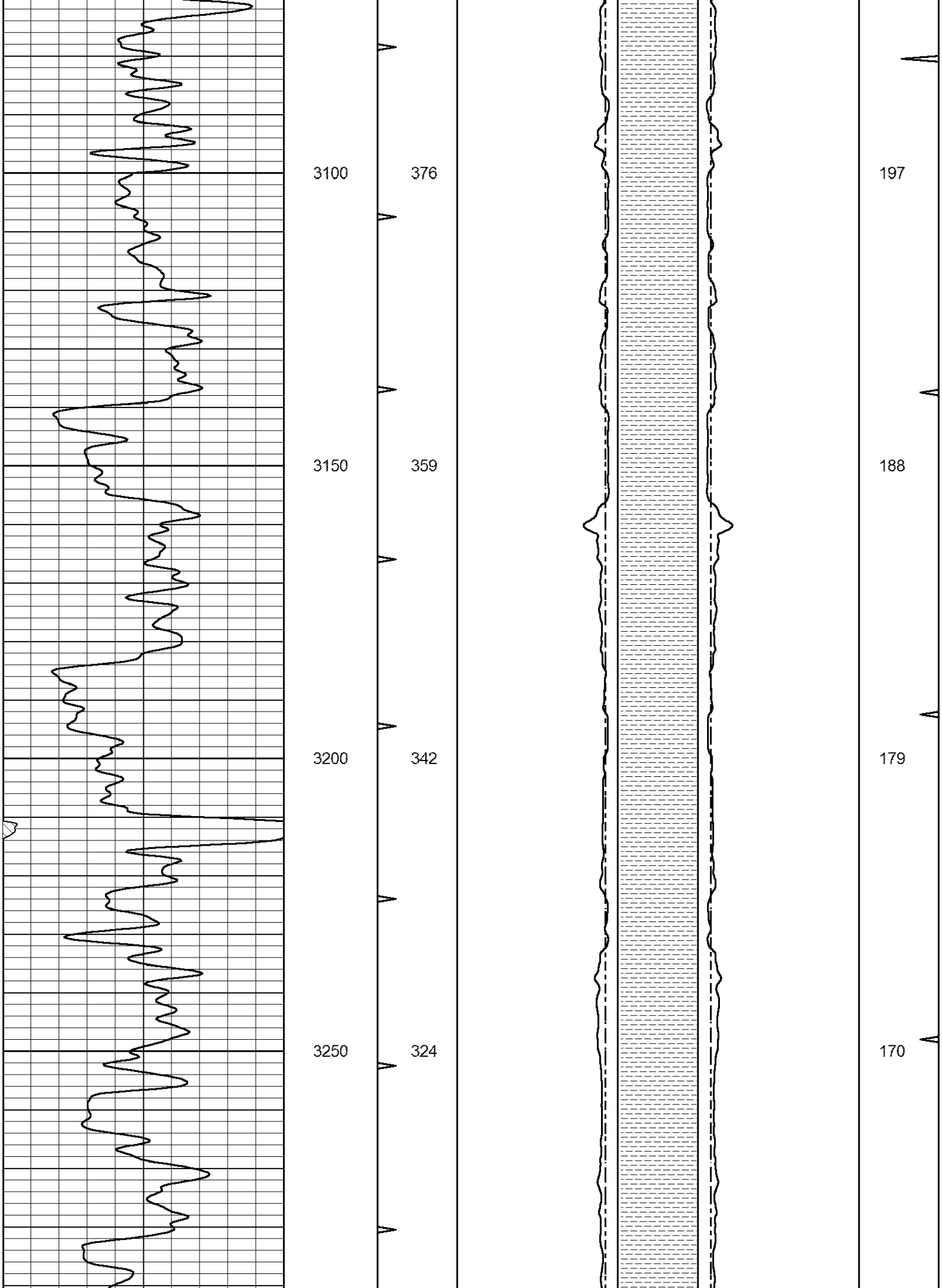
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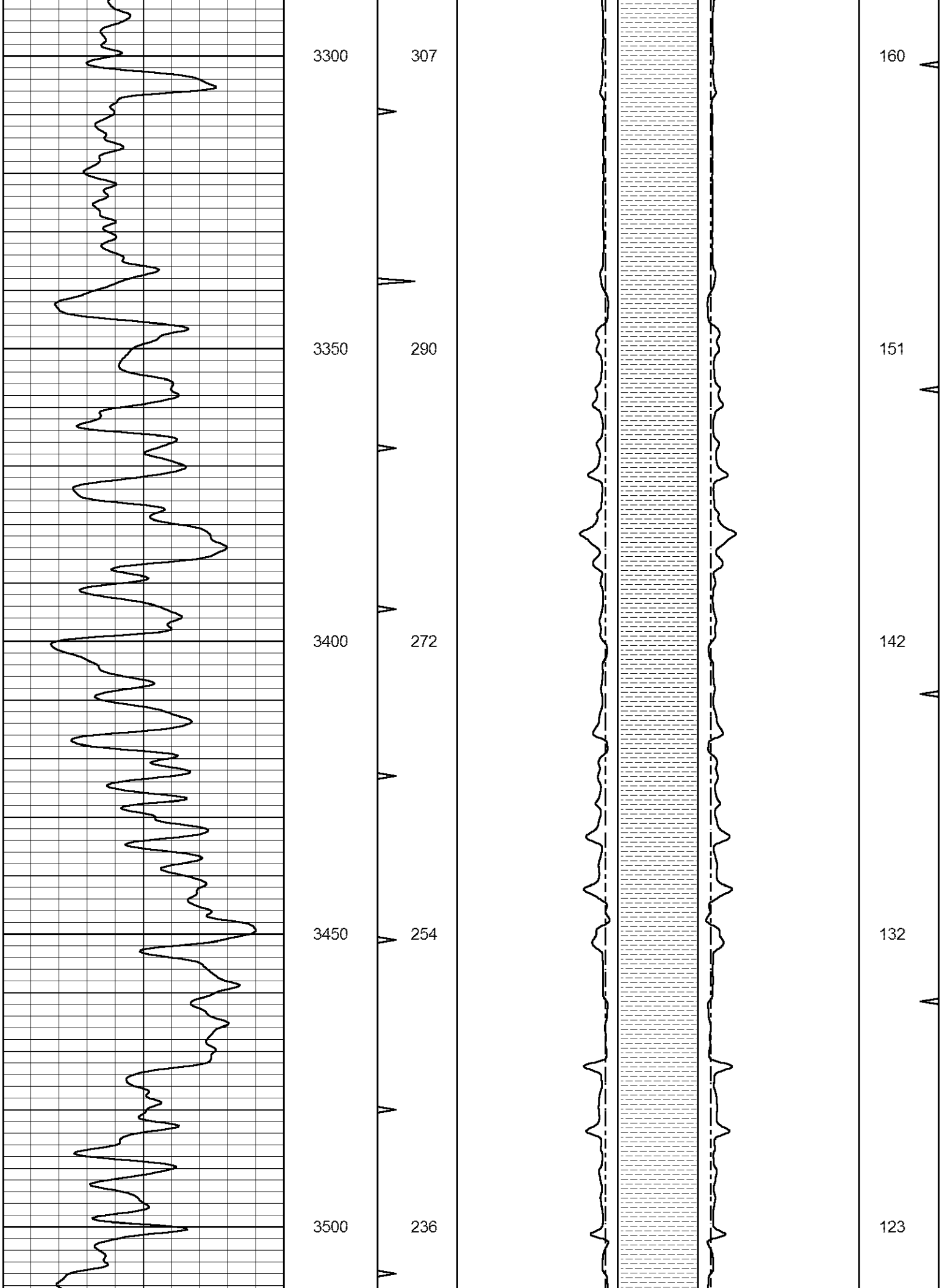
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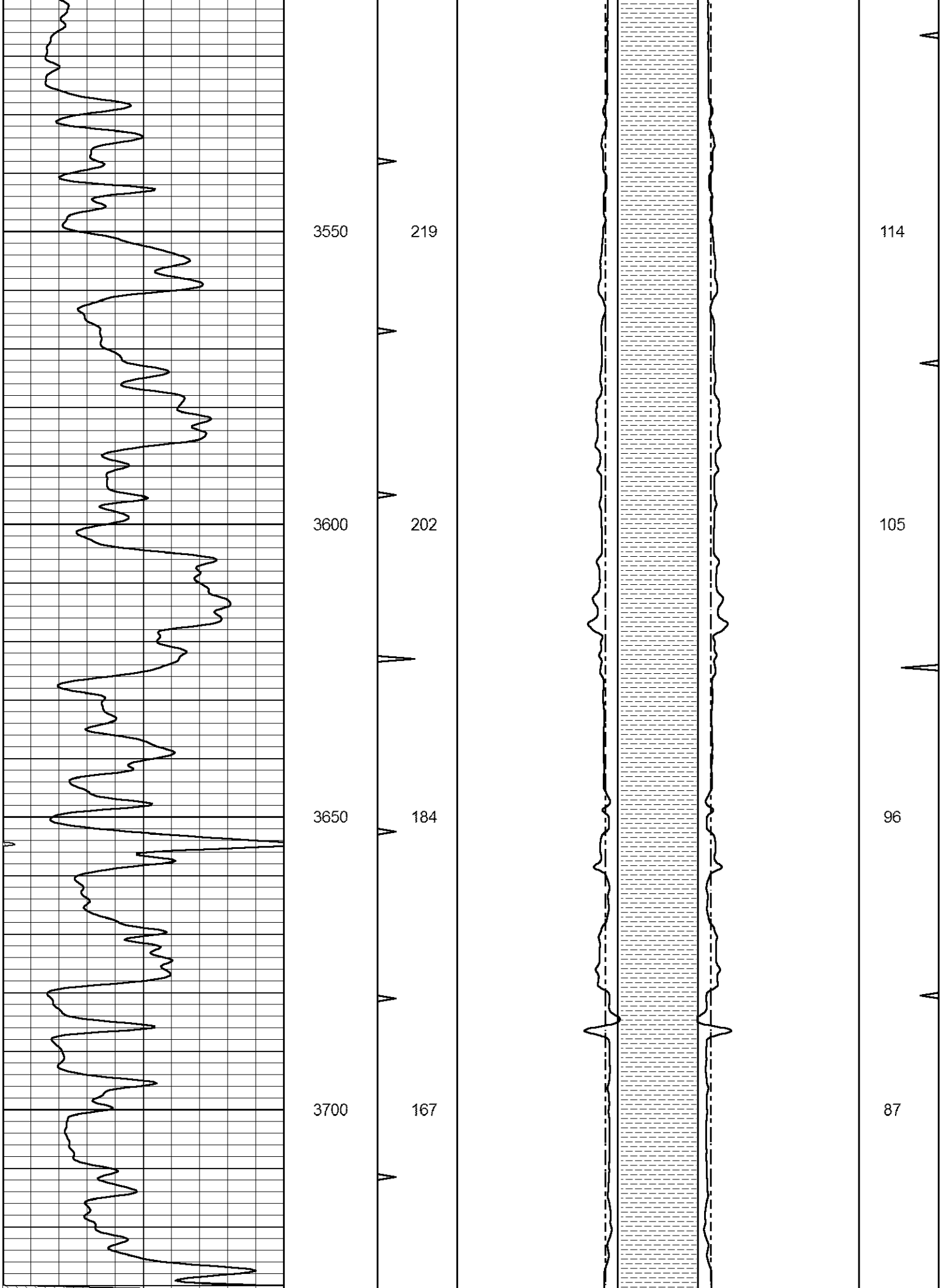
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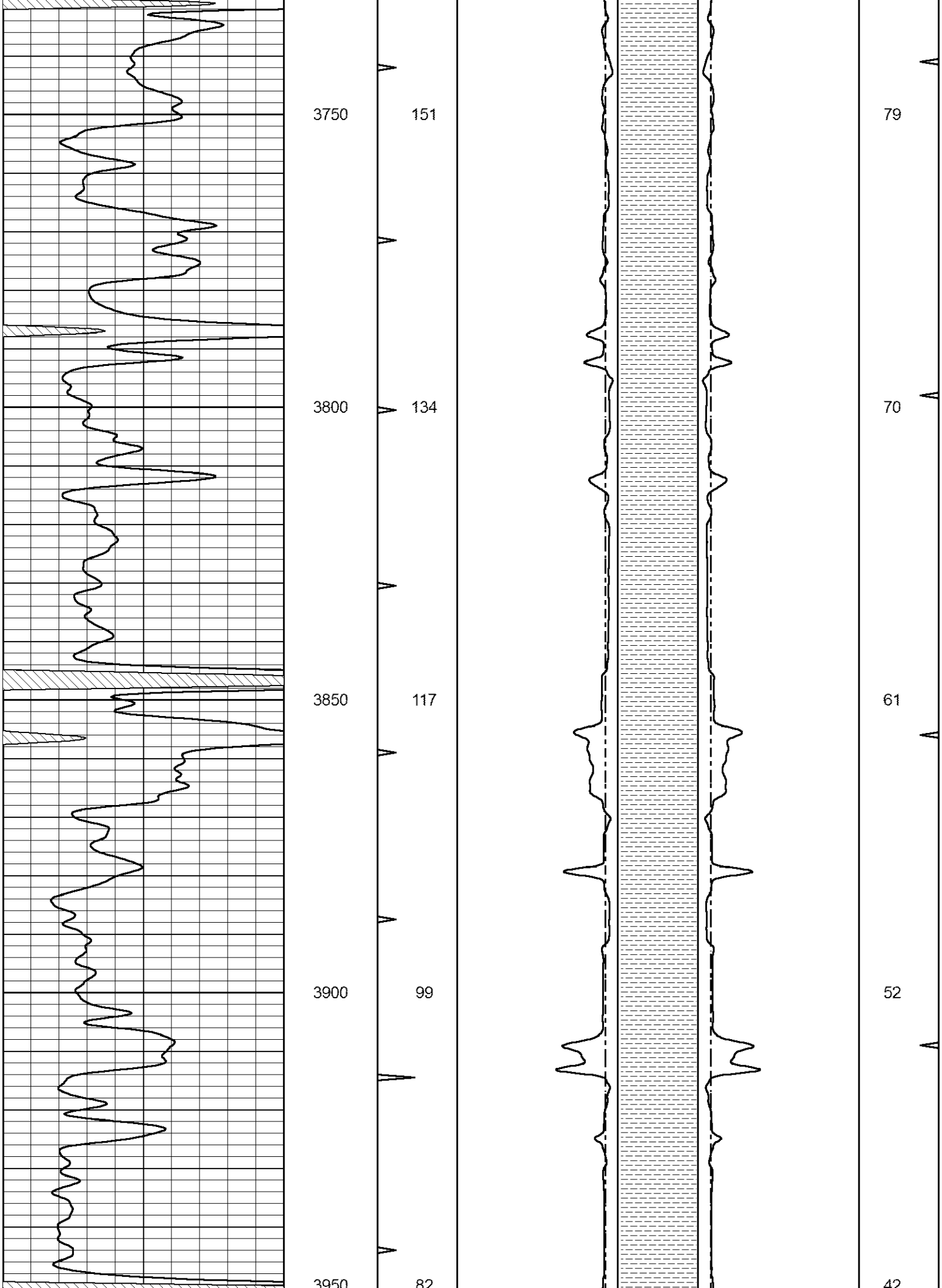
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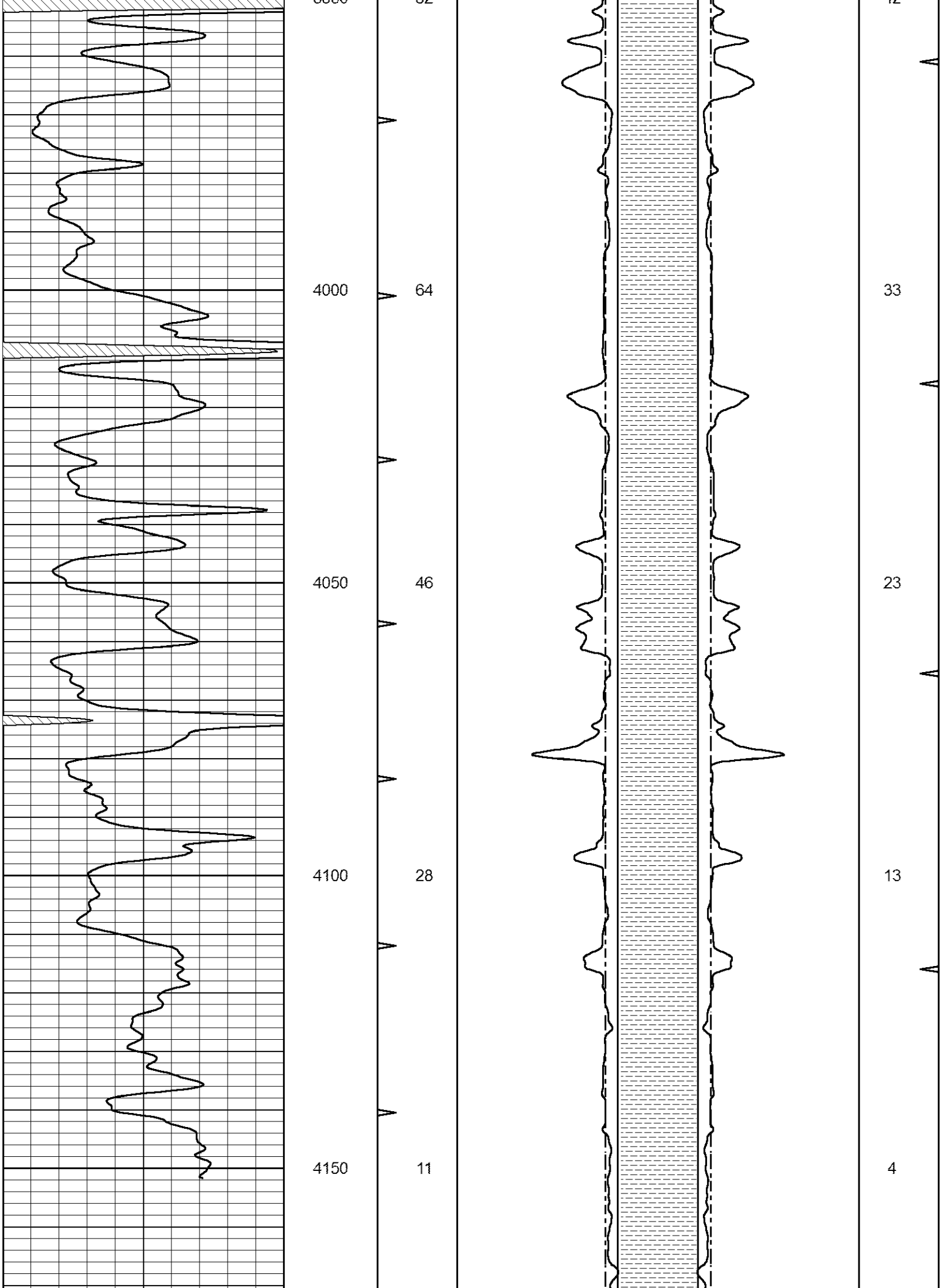
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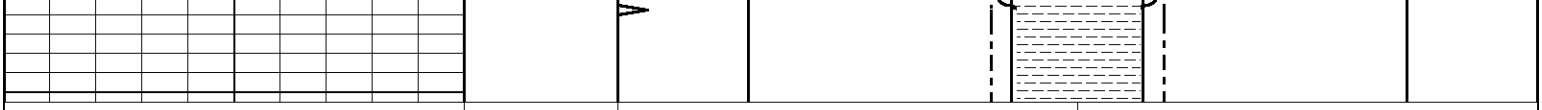


0 GAMMA RAY (GAPI) 150	16 CALIPER (in) 6	6 CALIPER (in) 16
	16 BIT SIZE 6	6 BIT SIZE 16
	0 BVTX (ft3) 15	15 AVTX (ft3) 0

PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company GREAT PLAINS ENERGY, INC.
Well REYNOLDS NO. 1-30
Field DREIL
County GRAHAM
State KANSAS

Location: API #: 15-065-24141-00-00
2310' FSL & 1320' FWL
SEC 30 TWP 9S RGE 24W

Other Services
CNL/CDL
MEL

Elevation
K.B. 2553'
D.F. N/A
G.L. 2546'

Permanent Datum GROUND LEVEL Elevation 2546'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Date	9/27/2017			
Run Number	ONE			
Depth Driller	4180'			
Depth Logger	4176'			
Bottom Logged Interval	4175'			
Top Log Interval	250'			
Casing Driller	8.625" @ 261'			
Casing Logger	260'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	2,100			
Density / Viscosity	9.0 75			
pH / Fluid Loss	10.5 7.2			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.85 @ 59			
Rmf @ Meas. Temp	.64 @ 59			
Rmc @ Meas. Temp	1.15 @ 59			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	.43 @ 118			
Operating Rig Time	3 HOURS			
Max Rec. Temp. F	118 DEG/F			
Equipment Number	108			
Location	HAYS			
Recorded By	J. HENRICKSON			
Witnessed By	RICK HALL			

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

WAKEENEY KANSAS
SOUTH TO RED LINE ROAD, 10 WEST, 1/2 NORTH, EAST INTO

Log Measured From: KELLY BUSHING 7 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

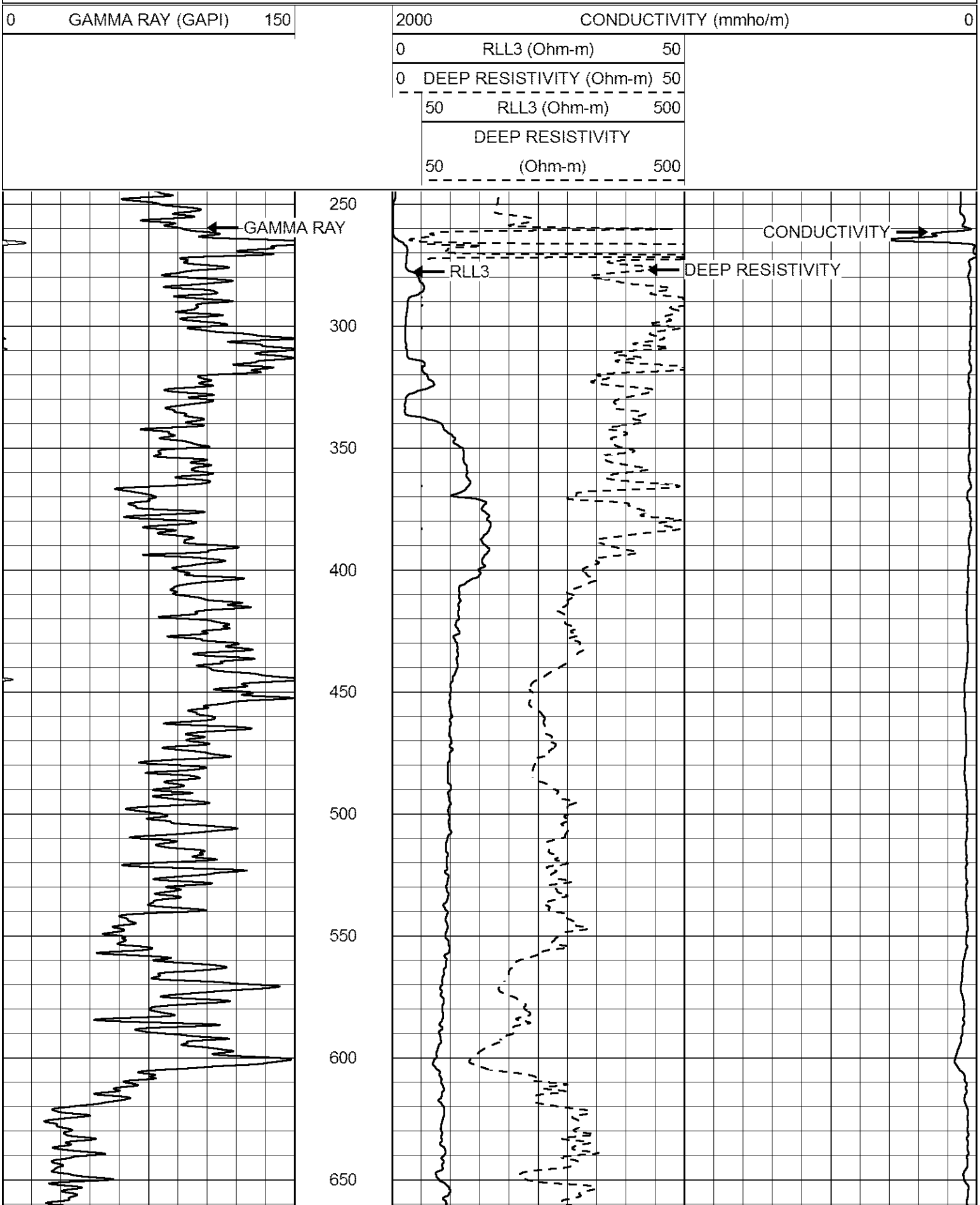
Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: RICK HALL
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

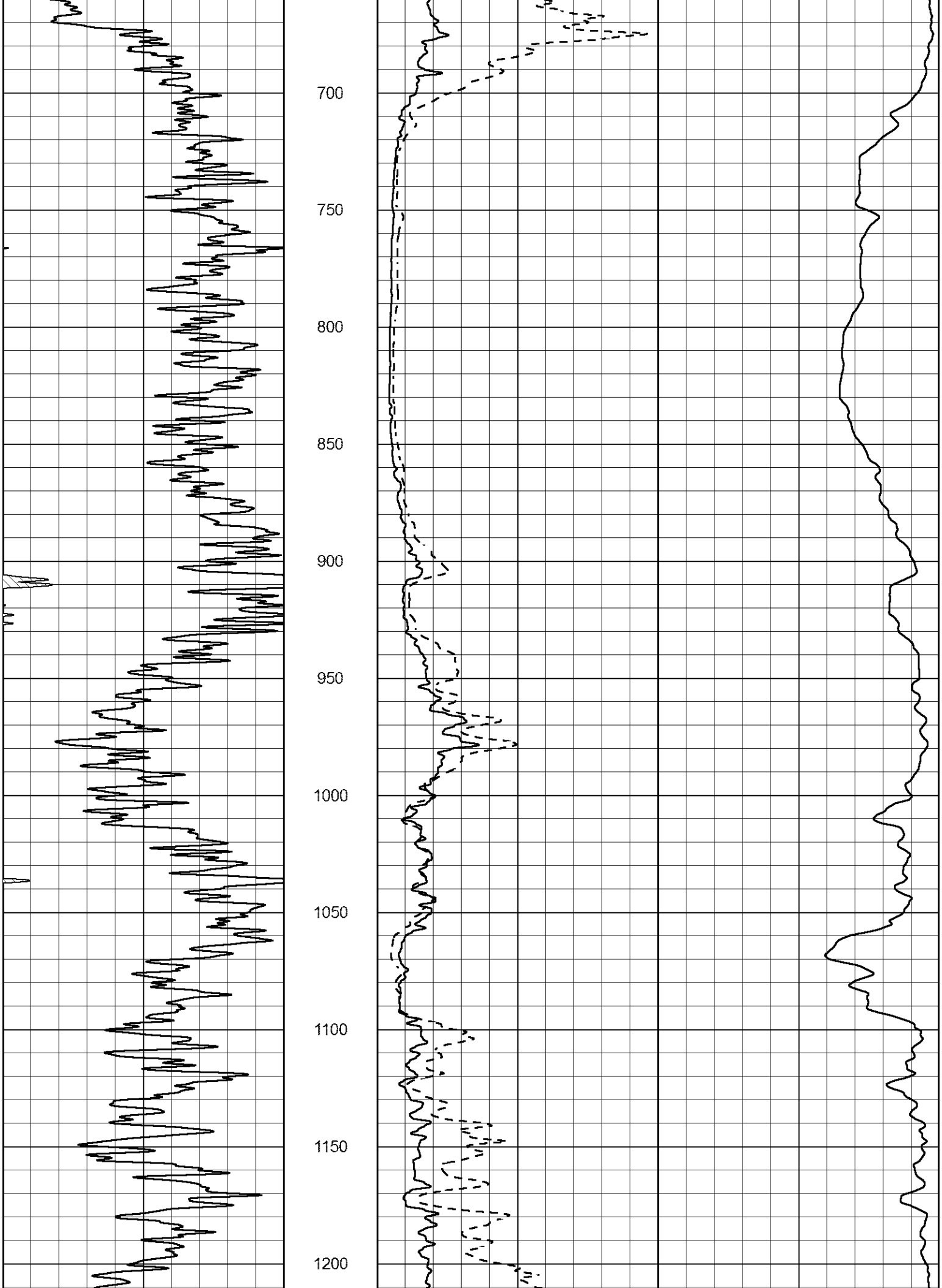
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	33.00					
CNLSC	29.90		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15					
			CDL-M&W (168-986)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					

Dataset: great_plains_reynolds_1_30.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	dil2in
Dataset Creation	Wed Sep 27 04:27:10 2017
Charted by	Depth in Feet scaled 1:600

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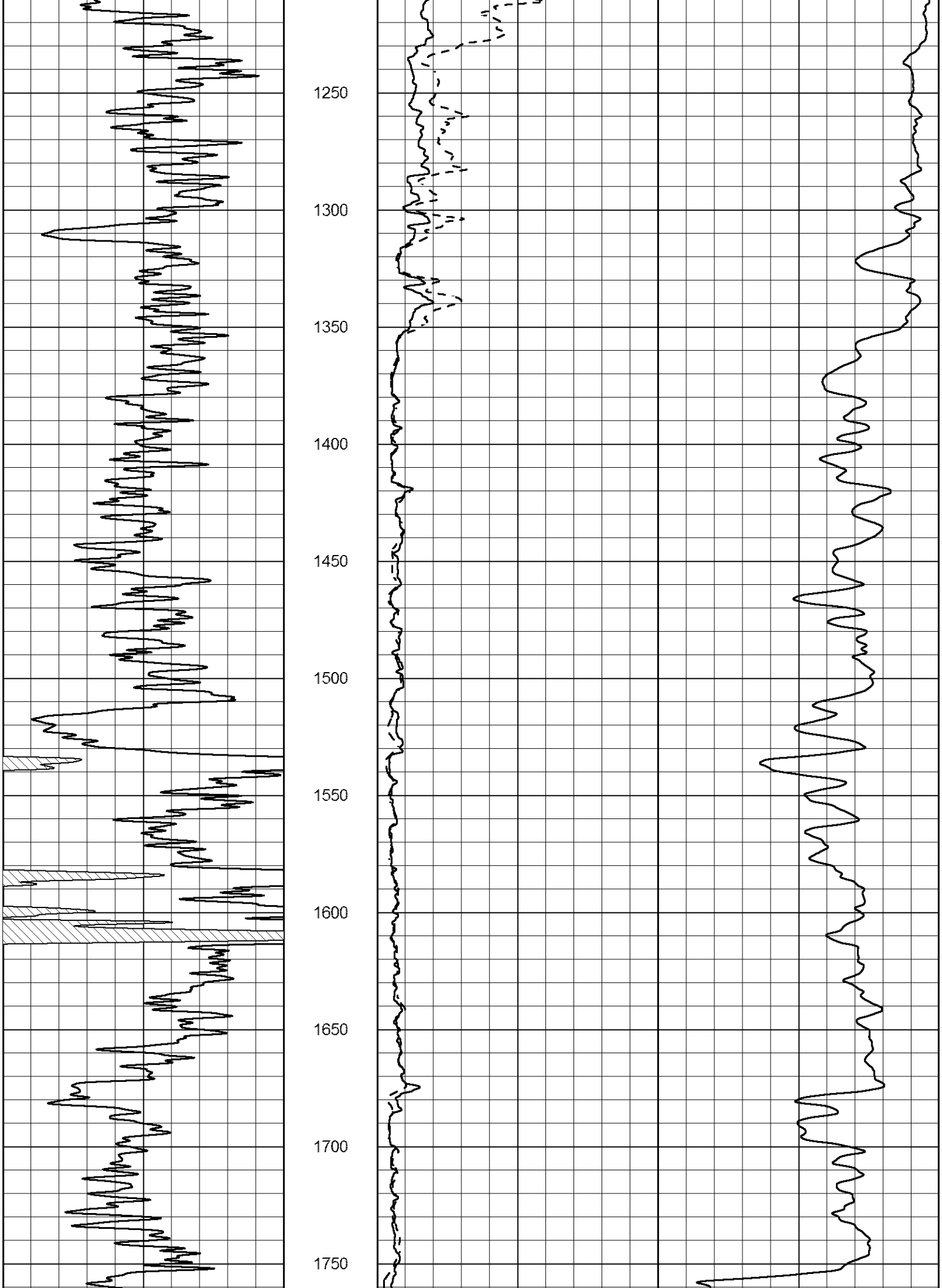
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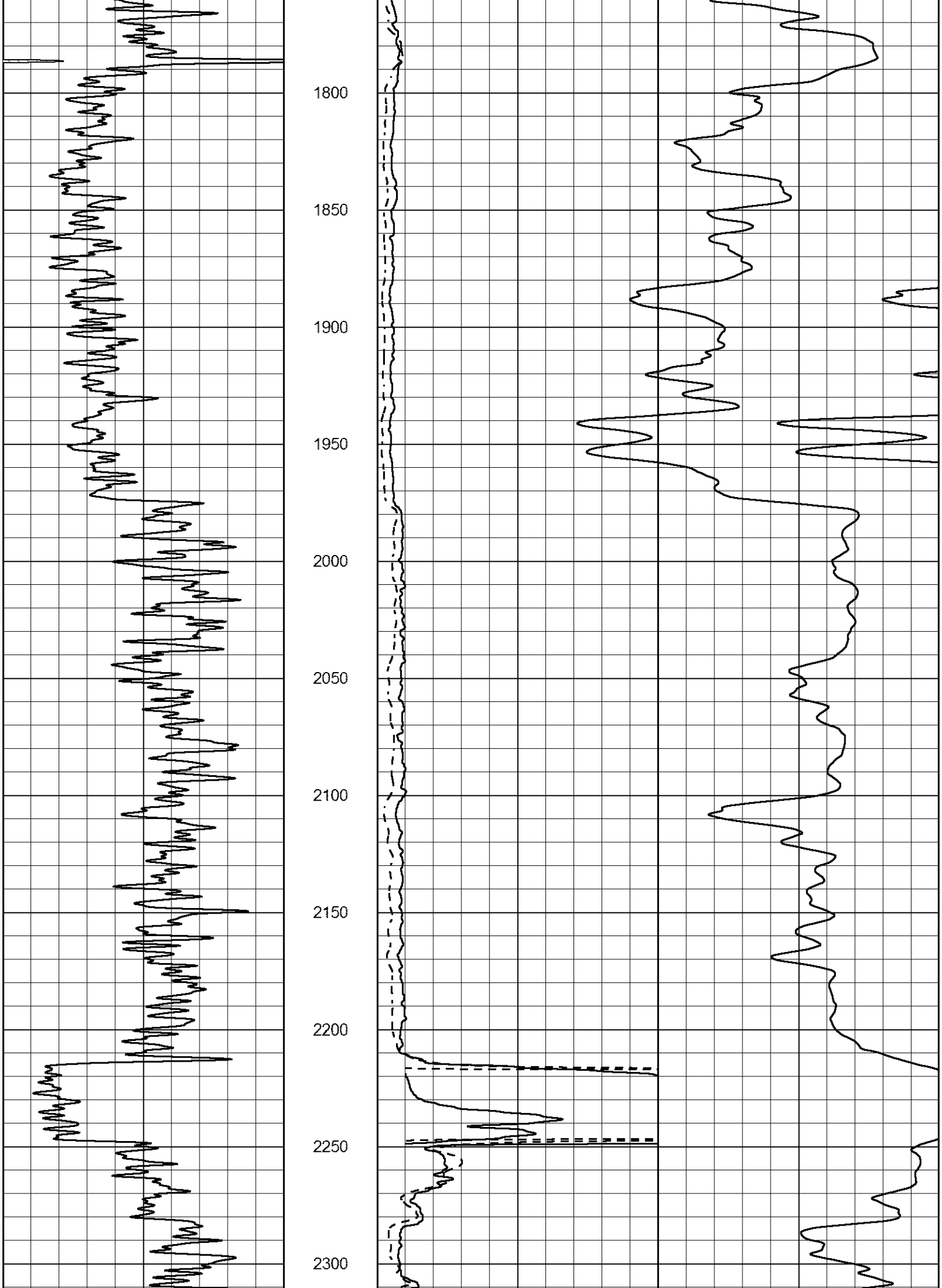
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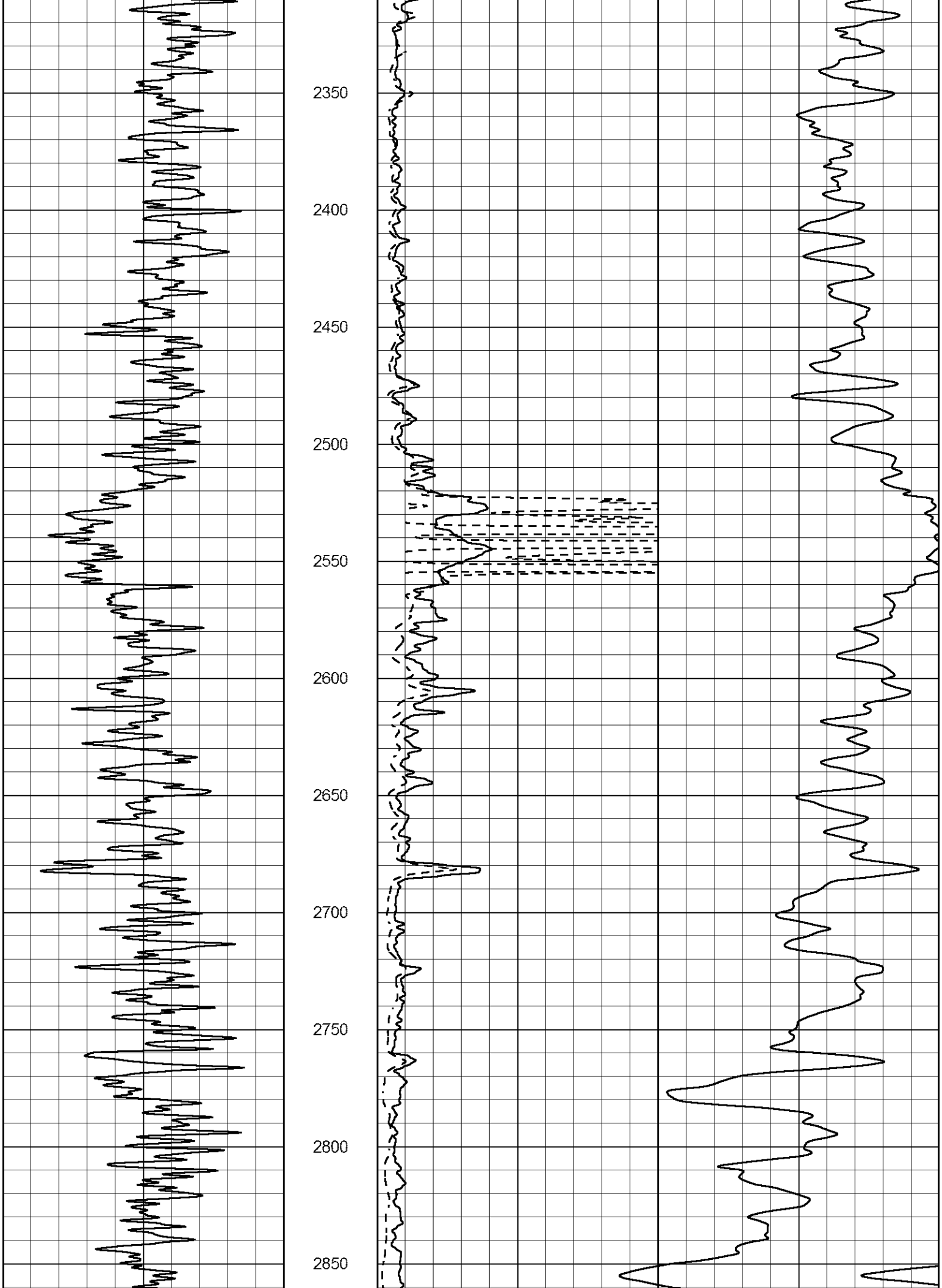
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300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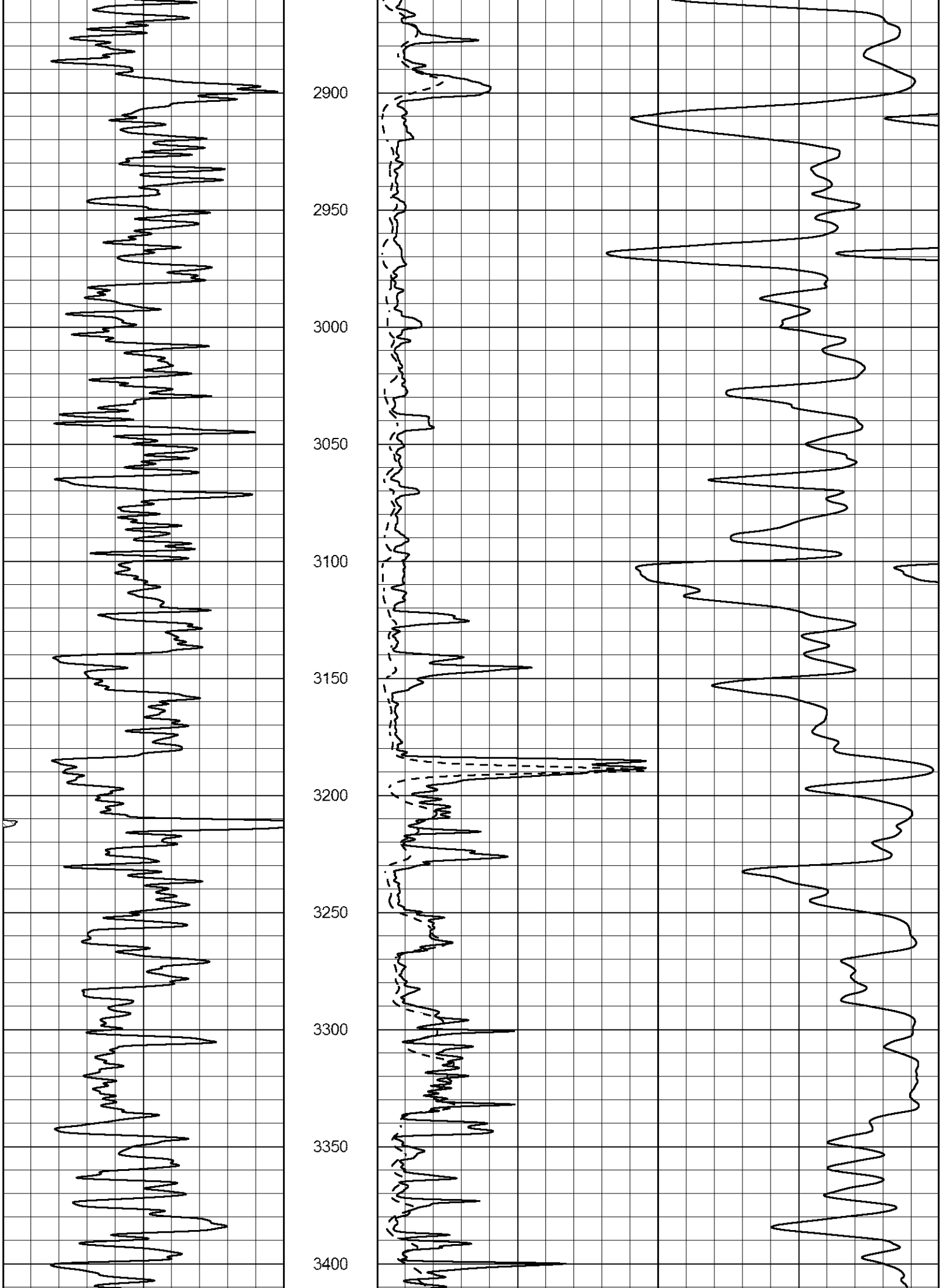
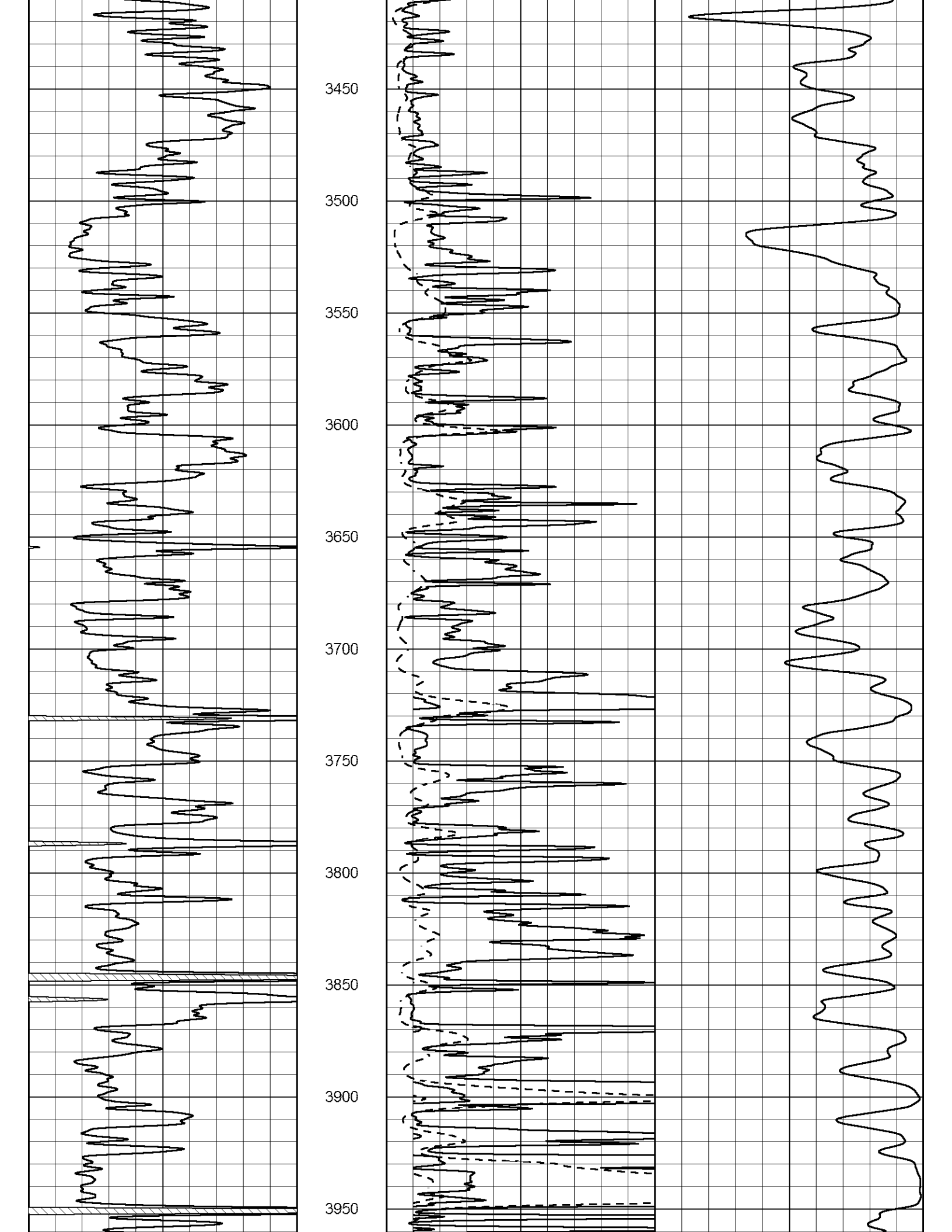
2400
2450
2500
2550
2600
2650
2700
2750
2800
2850


2900
2950
3000
3050
3100
3150
3200
3250
3300
3350
3400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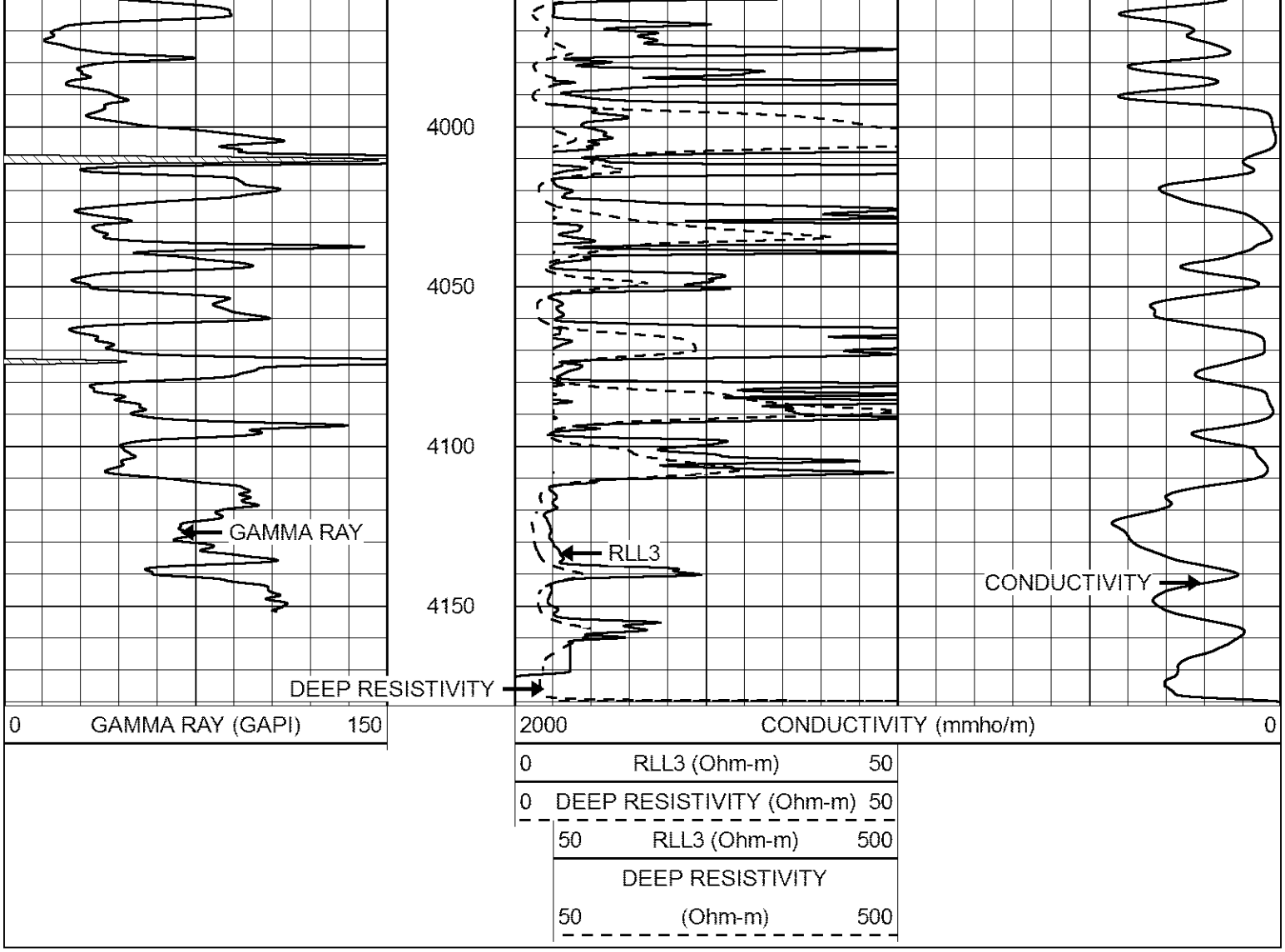
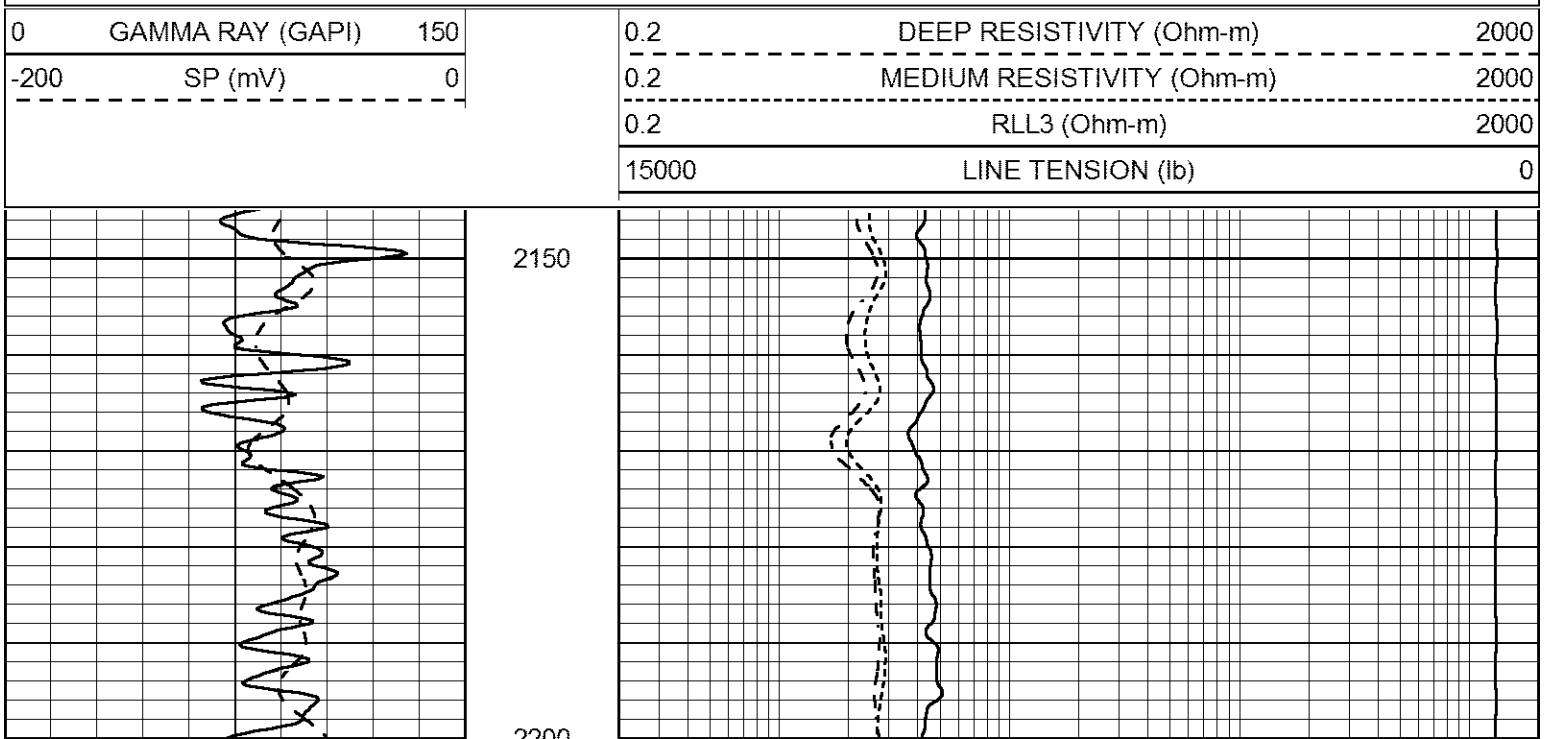
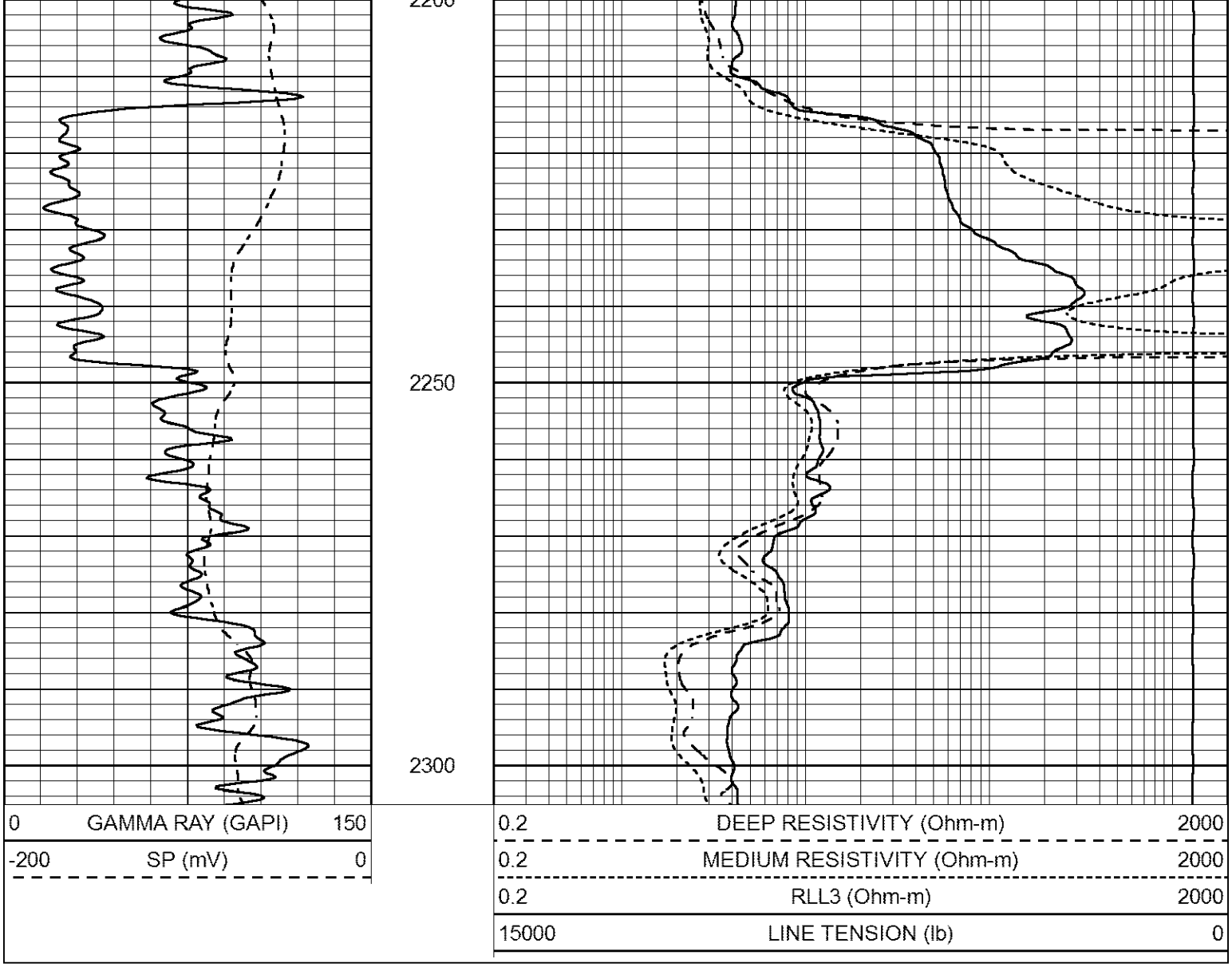
3900
3950

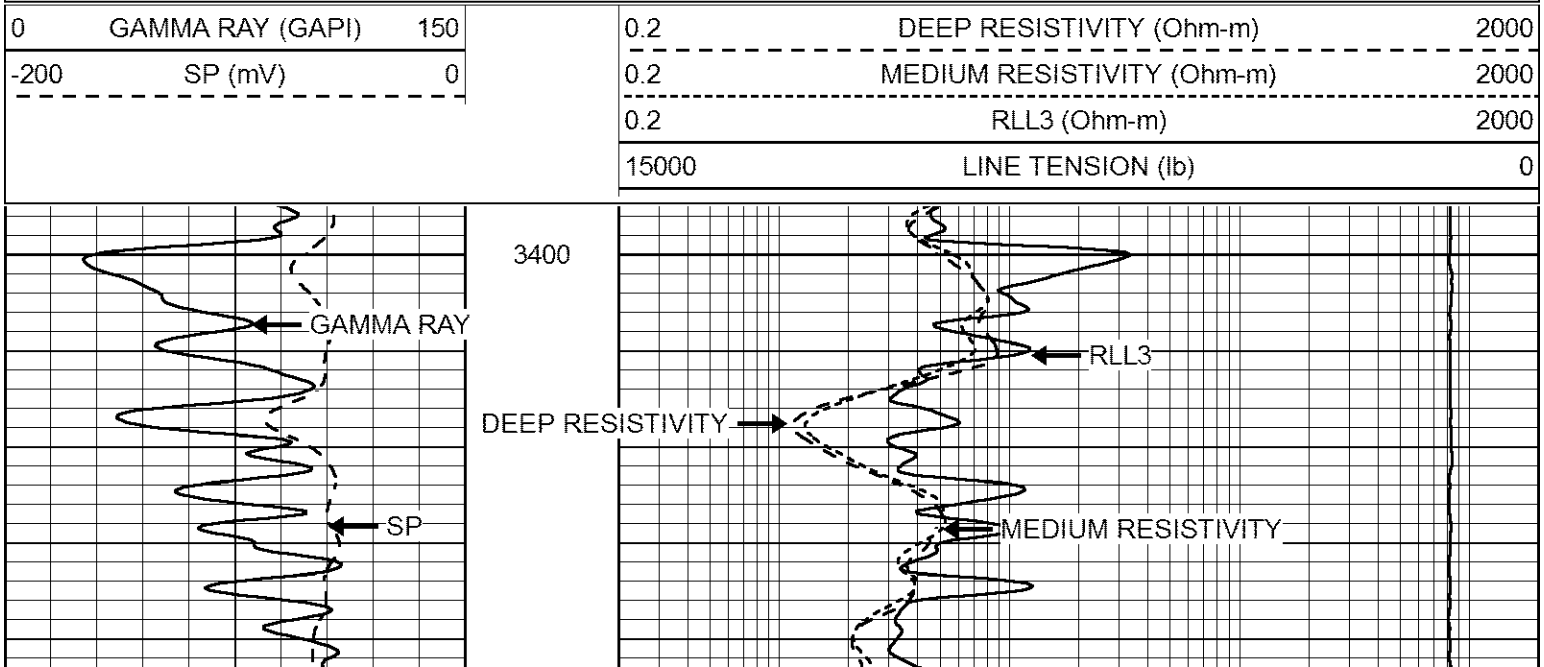


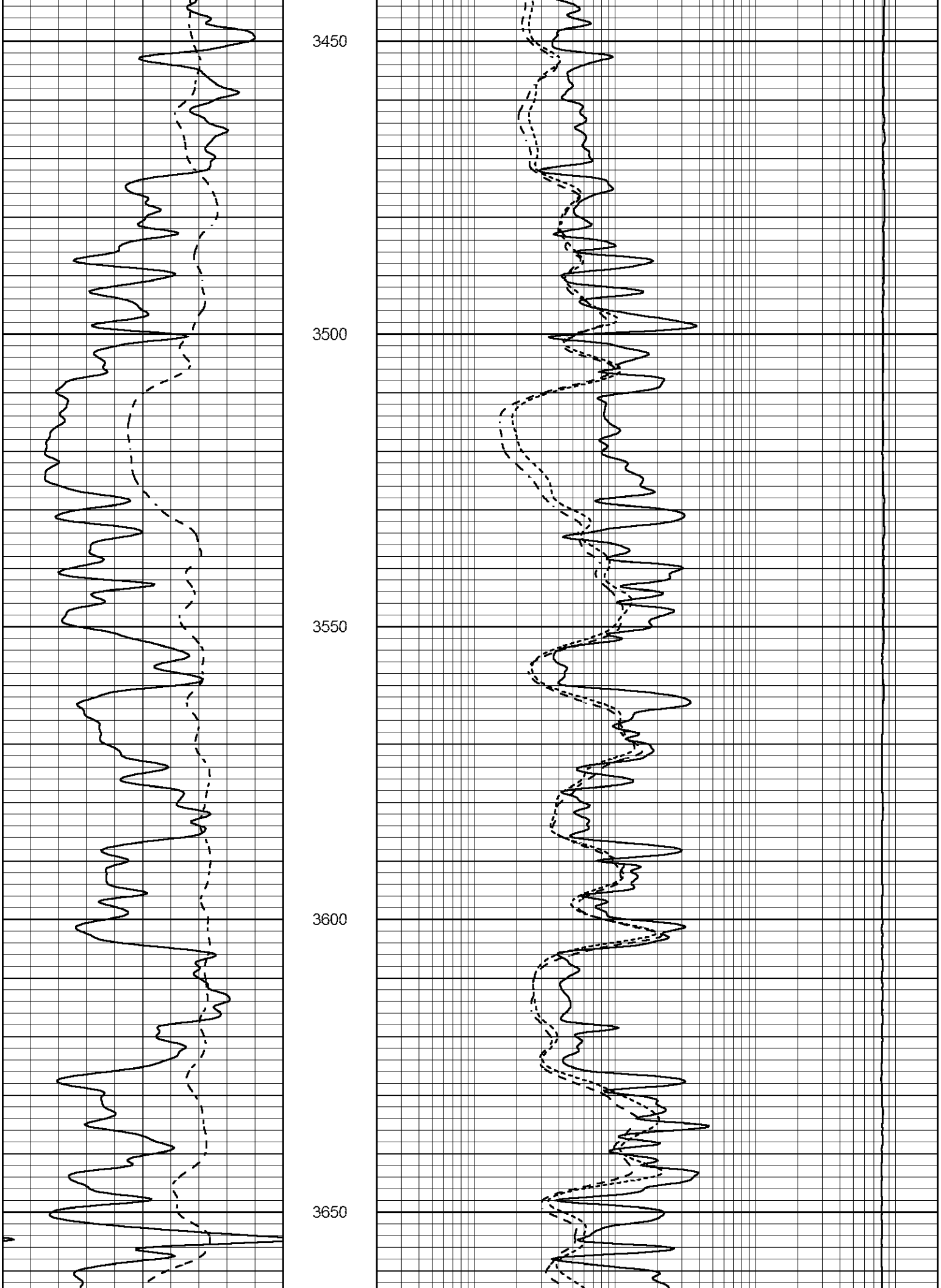
Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	dil
Dataset Creation	Wed Sep 27 04:27:10 2017
Charted by	Depth in Feet scaled 1:240





Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	dil
Dataset Creation	Wed Sep 27 04:27:10 2017
Charted by	Depth in Feet scaled 1:240

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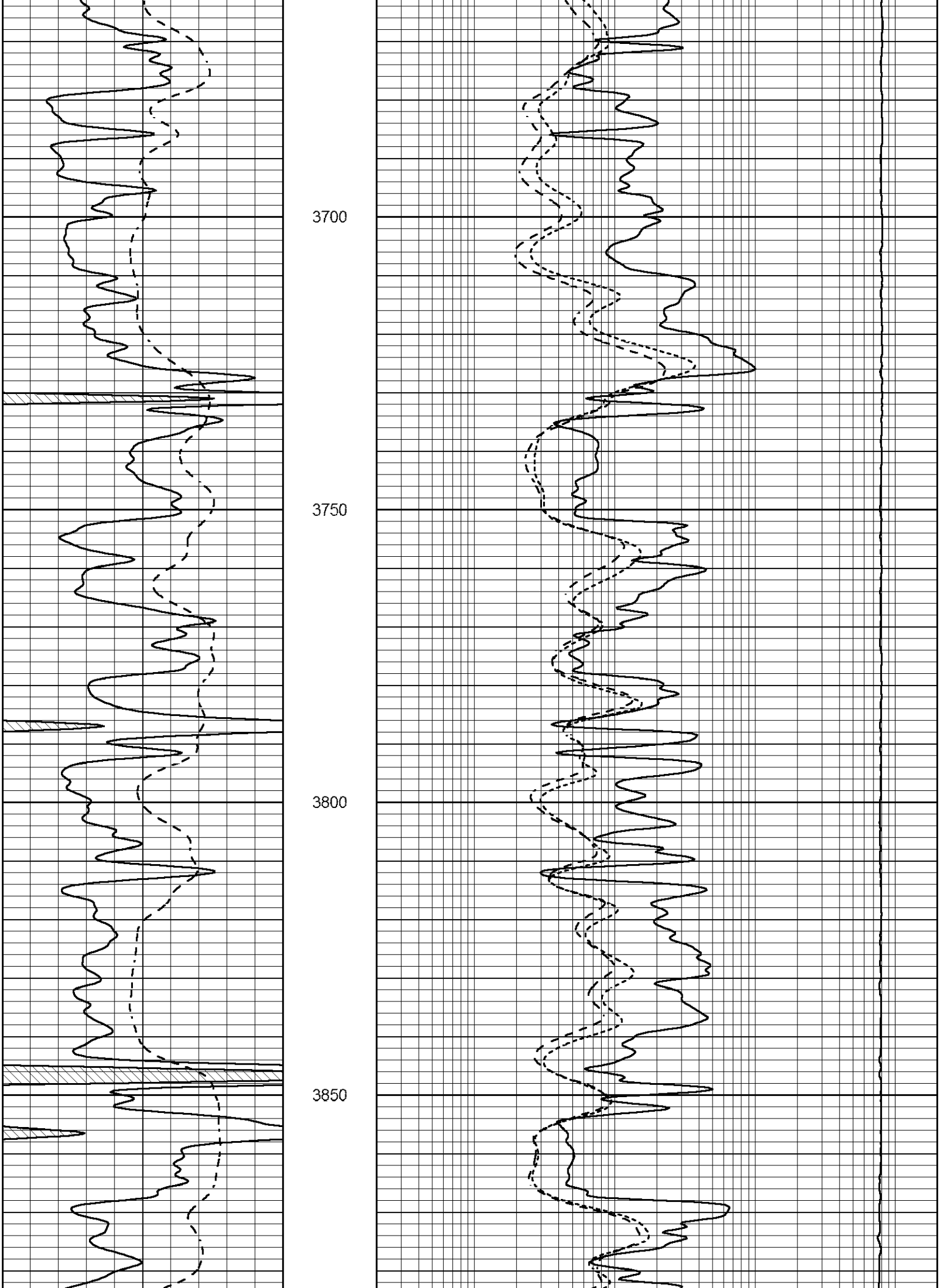
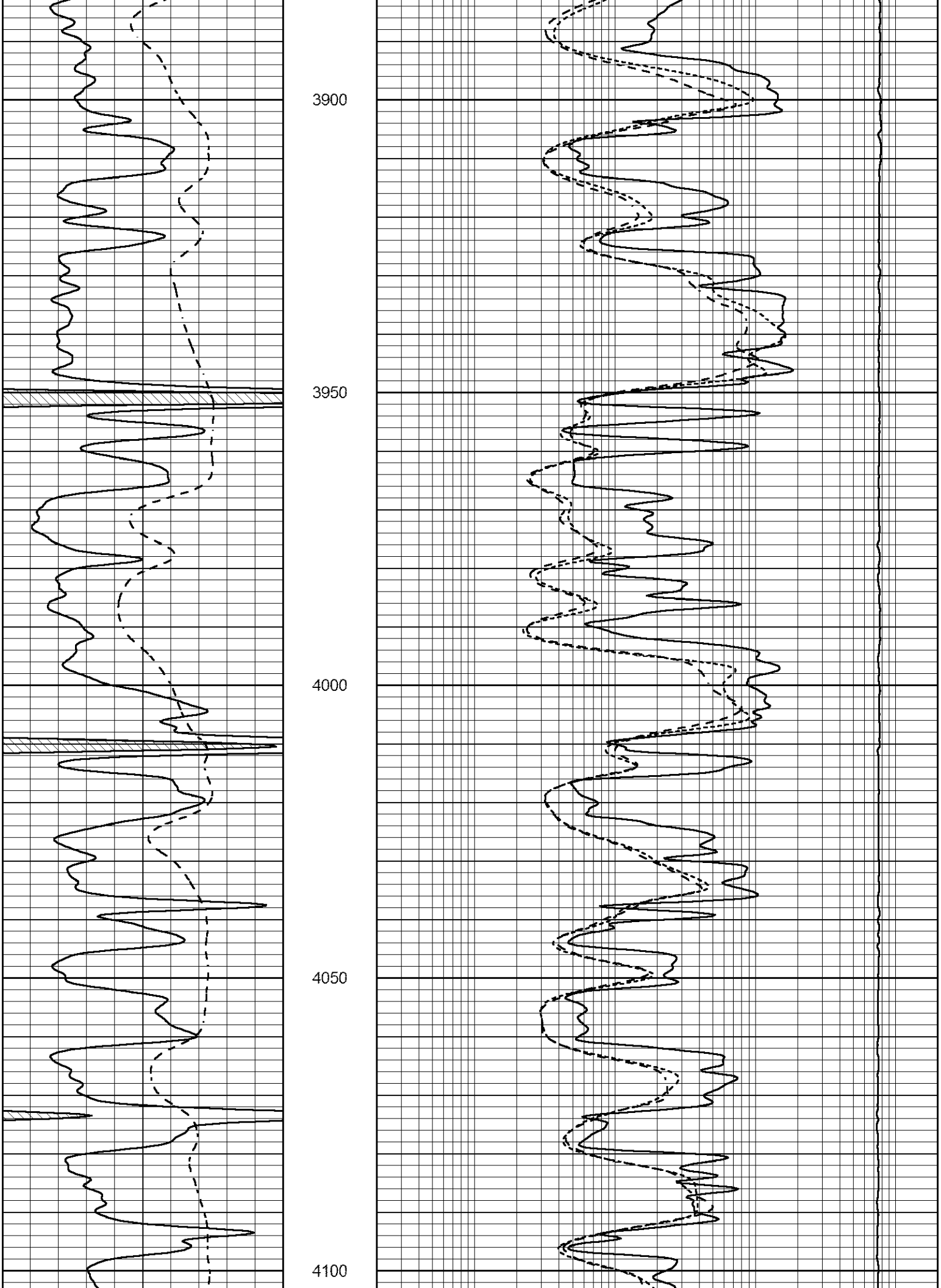
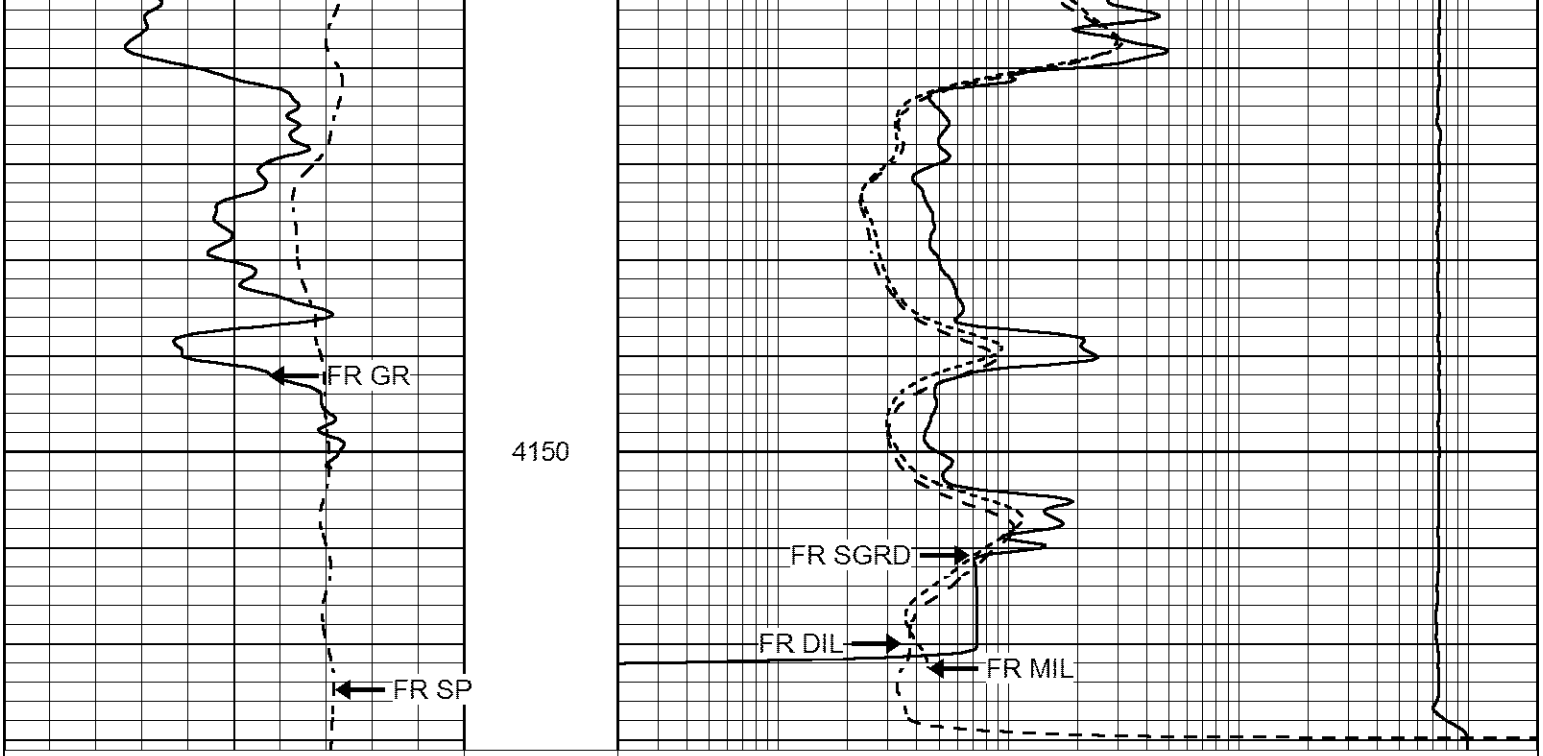
3550
3600
3650


3700
3750
3800
3850


3900
3950
4000
4050
4100



0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0

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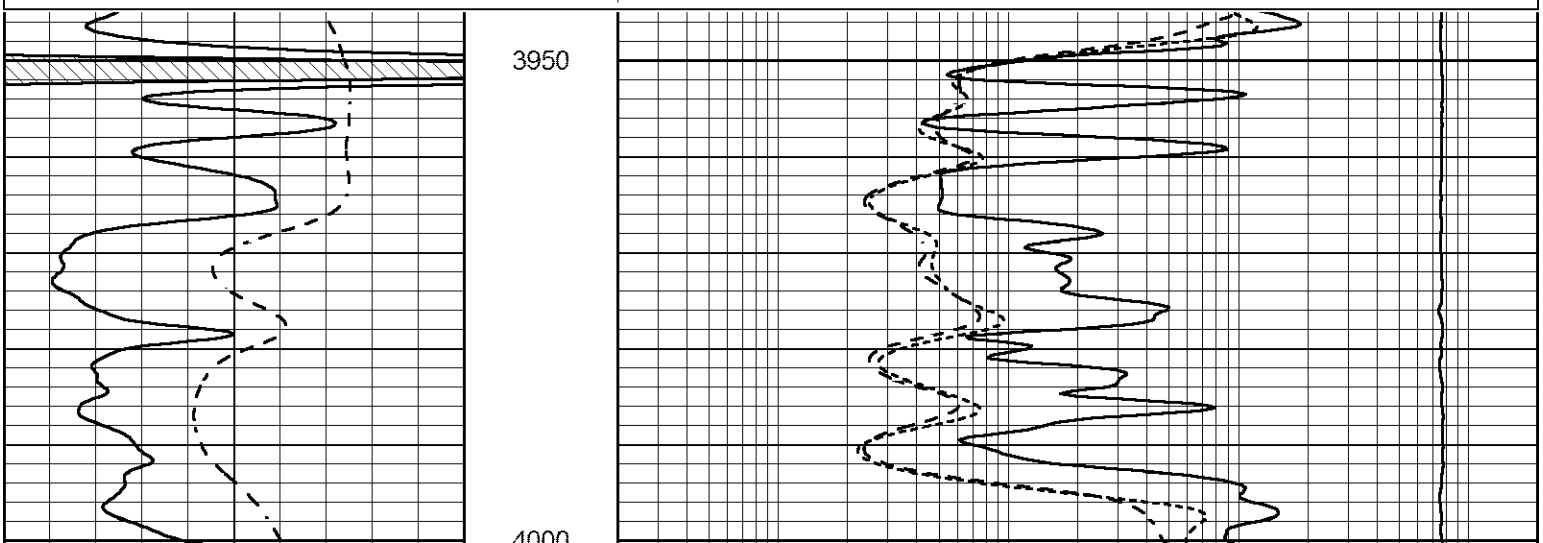
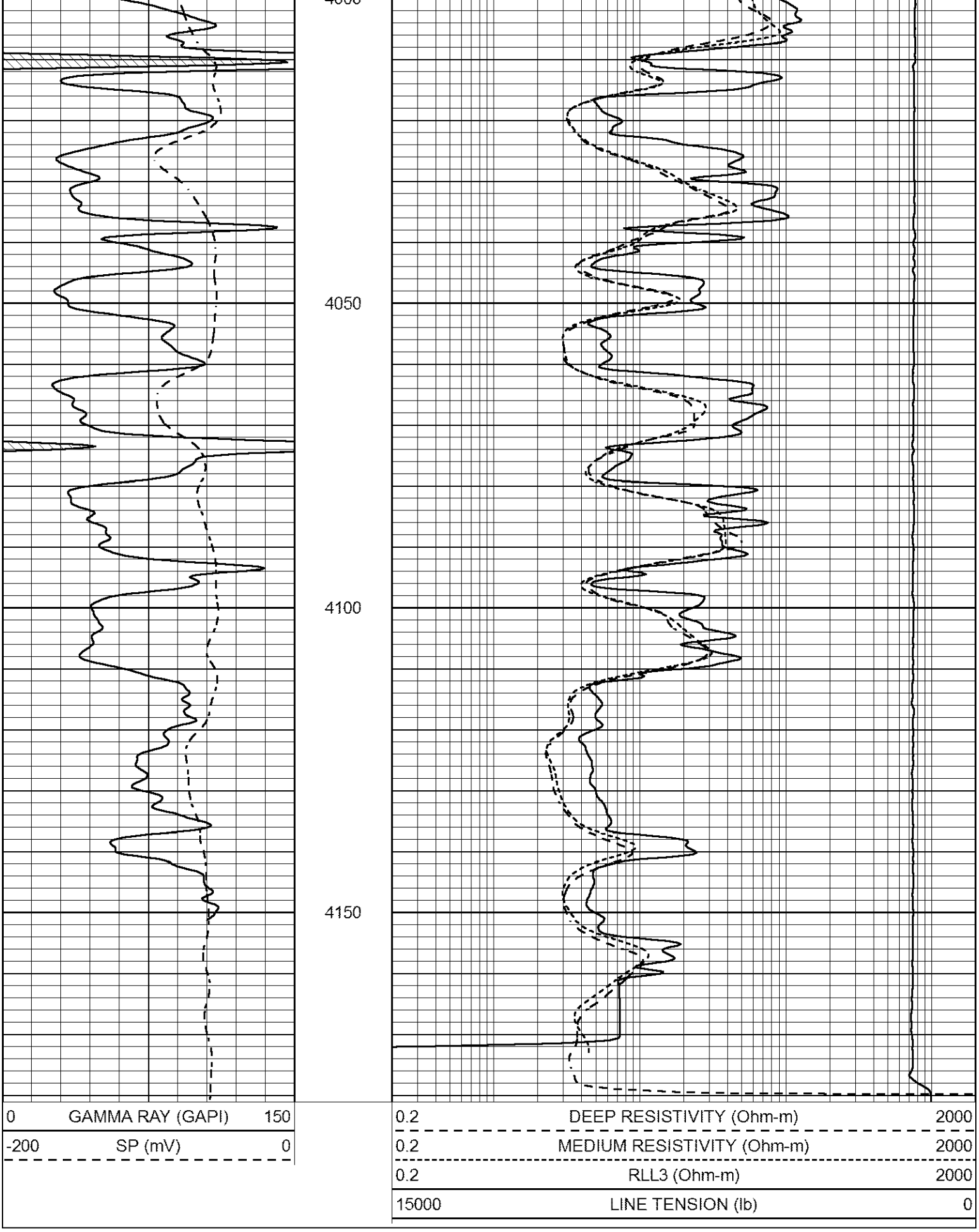
REPEAT SECTION

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass2.1
Presentation Format	dil
Dataset Creation	Wed Sep 27 04:32:16 2017
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0





Calibration Report

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Wed Sep 27 04:27:10 2017

Dataset Creation: Wed Sep 27 04:27:10 2017

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Tue Apr 11 16:07:38 2017

Loop:	Readings Air	Readings Loop	References Air	References Loop		Results Gain	Results Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
Source / Verifier: /
Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps

Spine Angle = 74.61 Density/Spine Ratio = 0.523

	Size		Reading
Small Ring	4.00	in	1.03
Large Ring	14.00	in	1.23

Compensated Neutron Calibration Report

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Wed Nov 16 11:21:36 2016

Detector	Readings		Target		Normalization
Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

Gamma Ray Calibration Report

Serial Number: 89-M&W
Tool Model: M&W
Calibration Performed: Tue Apr 11 16:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps

Company GREAT PLAINS ENERGY, INC.
Well REYNOLDS NO. 1-30

PIONEER

Pioneer Energy Services

Field	DREIL
County	GRAHAM
State	KANSAS

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Pioneer Energy Services

DUAL COMP POROSITY LOG

Company GREAT PLAINS ENERGY, INC.
Well REYNOLDS NO. 1-30
Field DREIL
County GRAHAM
State KANSAS

Location: API #: 15-065-24141-00-00
2310' FSL & 1320' FWL
SEC 30 TWP 9S RGE 24W

Other Services: DIL, MEL

Elevation: K.B. 2553', D.F. N/A, G.L. 2546'

Permanent Datum: GROUND LEVEL Elevation 2546'
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

Date	9/27/2017
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	4180'
Depth Logger	4176'
Bottom Logged Interval	4155'
Top Logged Interval	3400'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	2,100
Density	9.0
Level	FULL
Max. Rec. Temp. F	118 DEG/F
Operating Rig Time	3 HOURS
Equipment -- Location	108 HAYS
Recorded By	J. HENRICKSON
Witnessed By	RICK HALL

Borehole Record

Run No.	Bit	From	To
ONE	12.25"	0	261'
TWO	7.875"	261'	TD

Casing Record

Size	Wgt.	From	To
8.625"	23#	0	261'

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

WAKEENEY KANSAS
SOUTH TO RED LINE ROAD, 10 WEST, 1/2 NORTH, EAST INTO

Log Measured From: KELLY BUSHING 7 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: RICK HALL
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

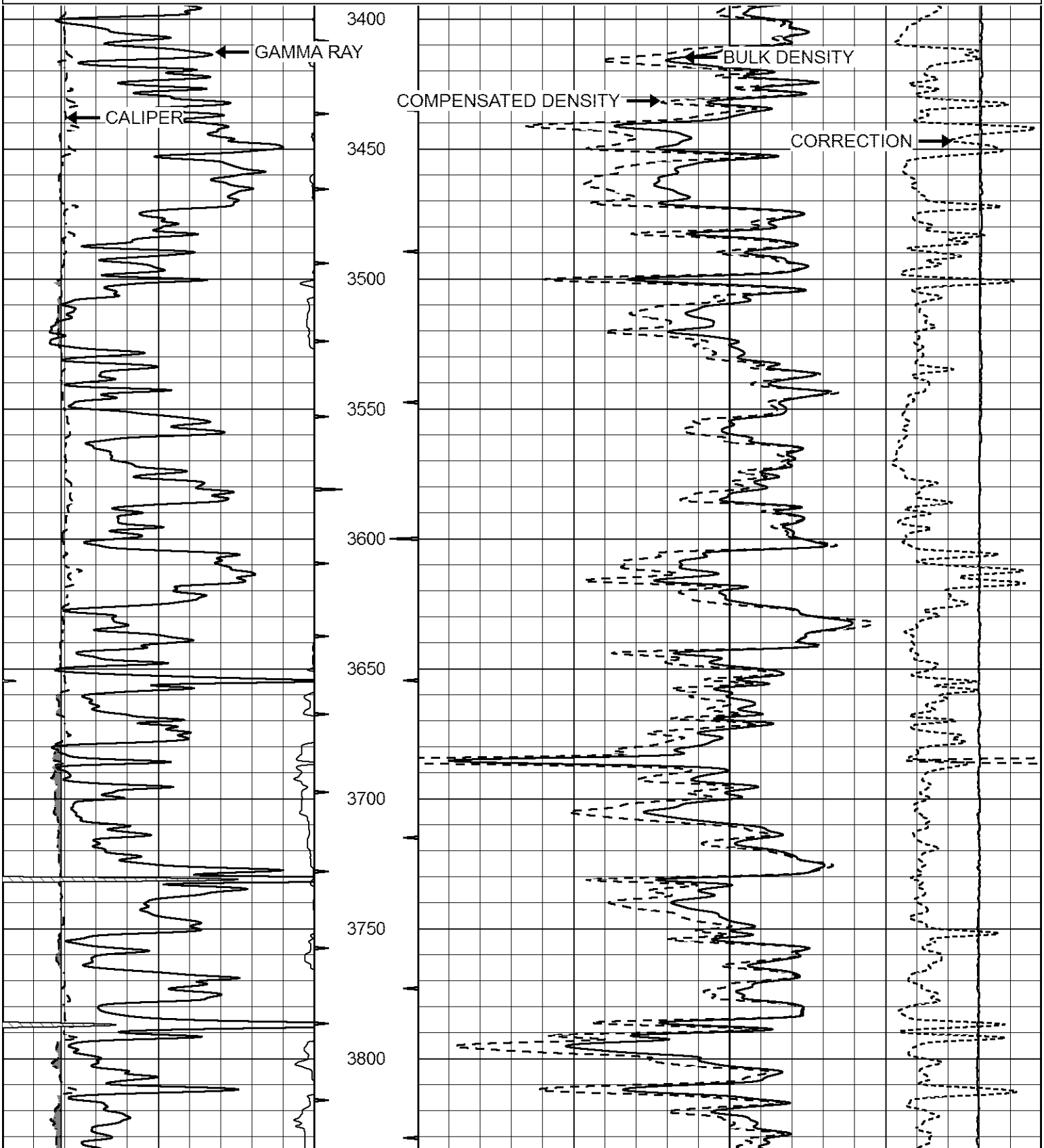
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	33.00					
CNLSC	29.90		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15					
			CDL-M&W (168-986)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					

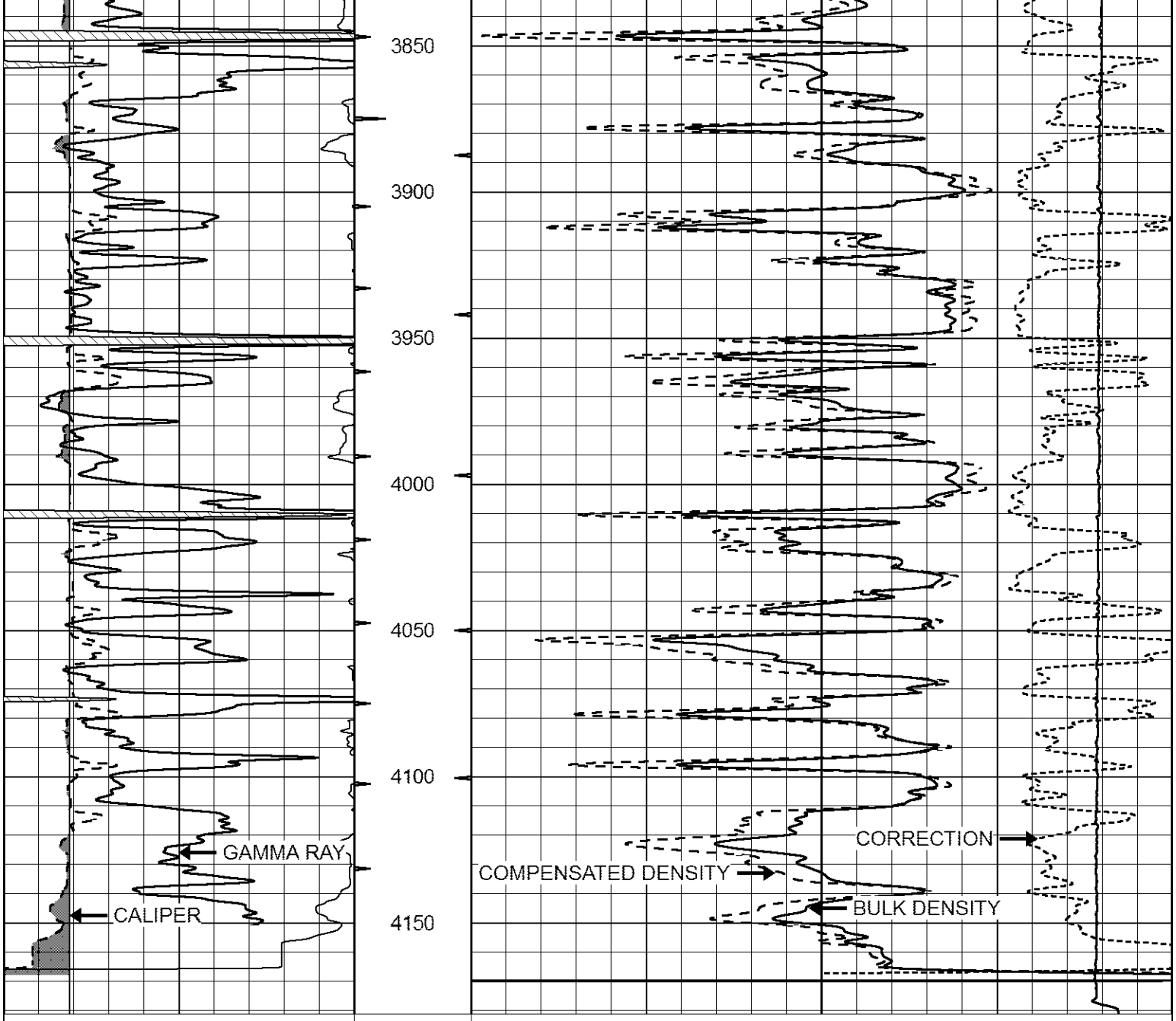
Dataset: great_plains_reynolds_1_30.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	cdl
Dataset Creation	Wed Sep 27 04:27:10 2017
Charted by	Depth in Feet scaled 1:600

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25





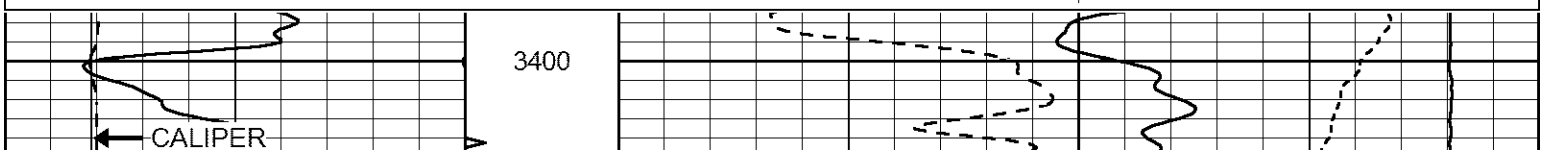
0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

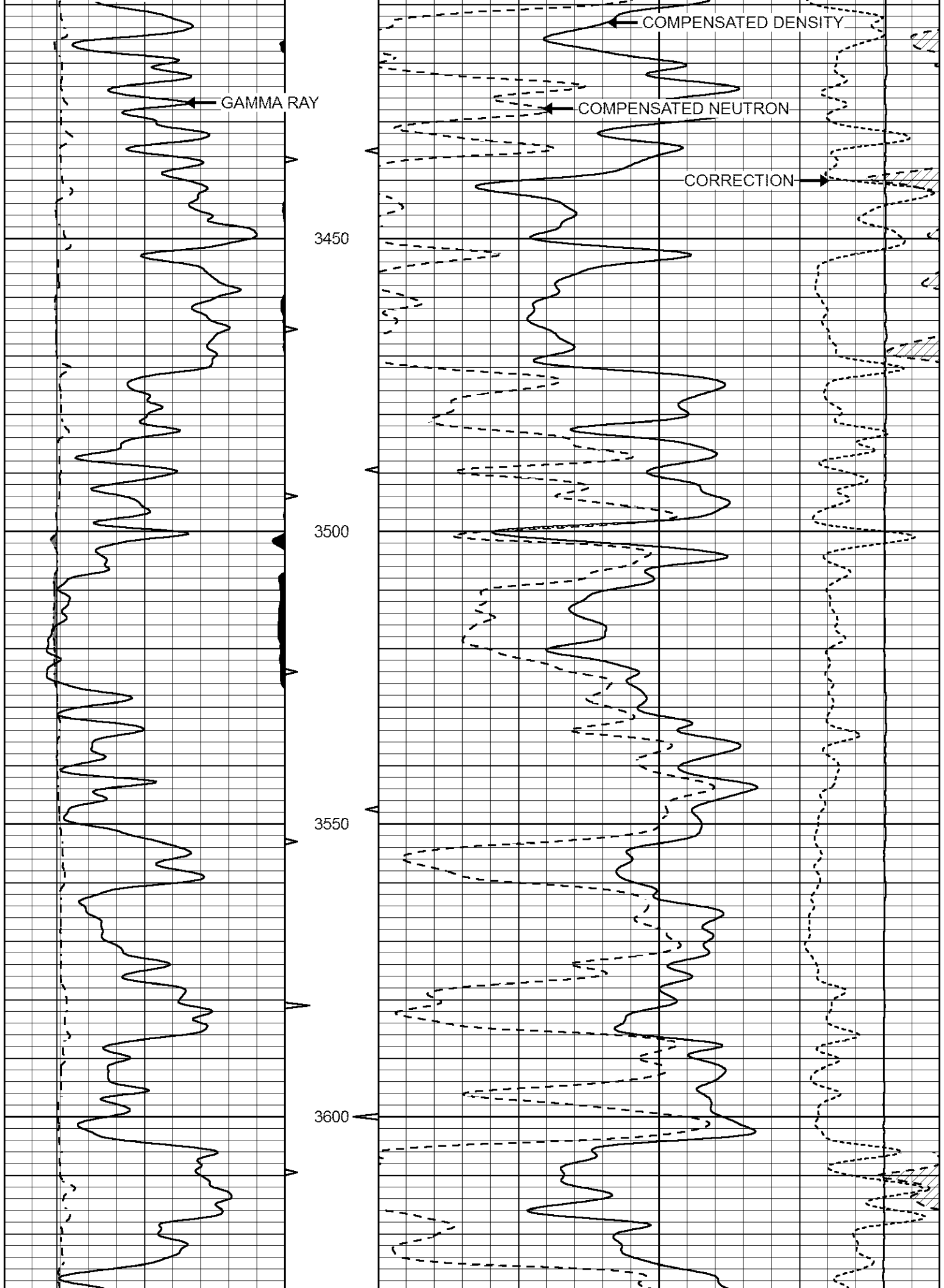
30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

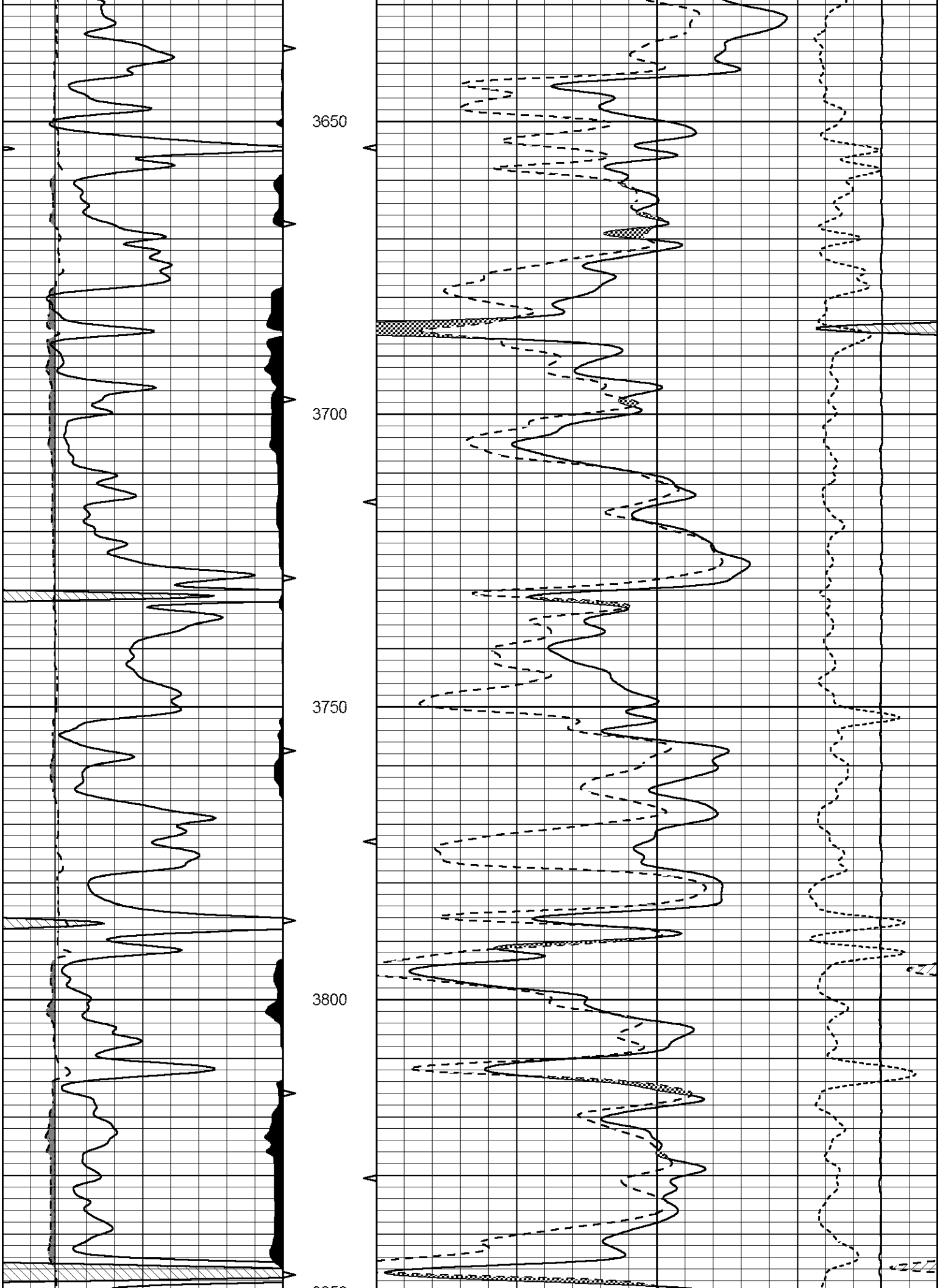
Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	cndlspec
Dataset Creation	Wed Sep 27 04:27:10 2017
Charted by	Depth in Feet scaled 1:240

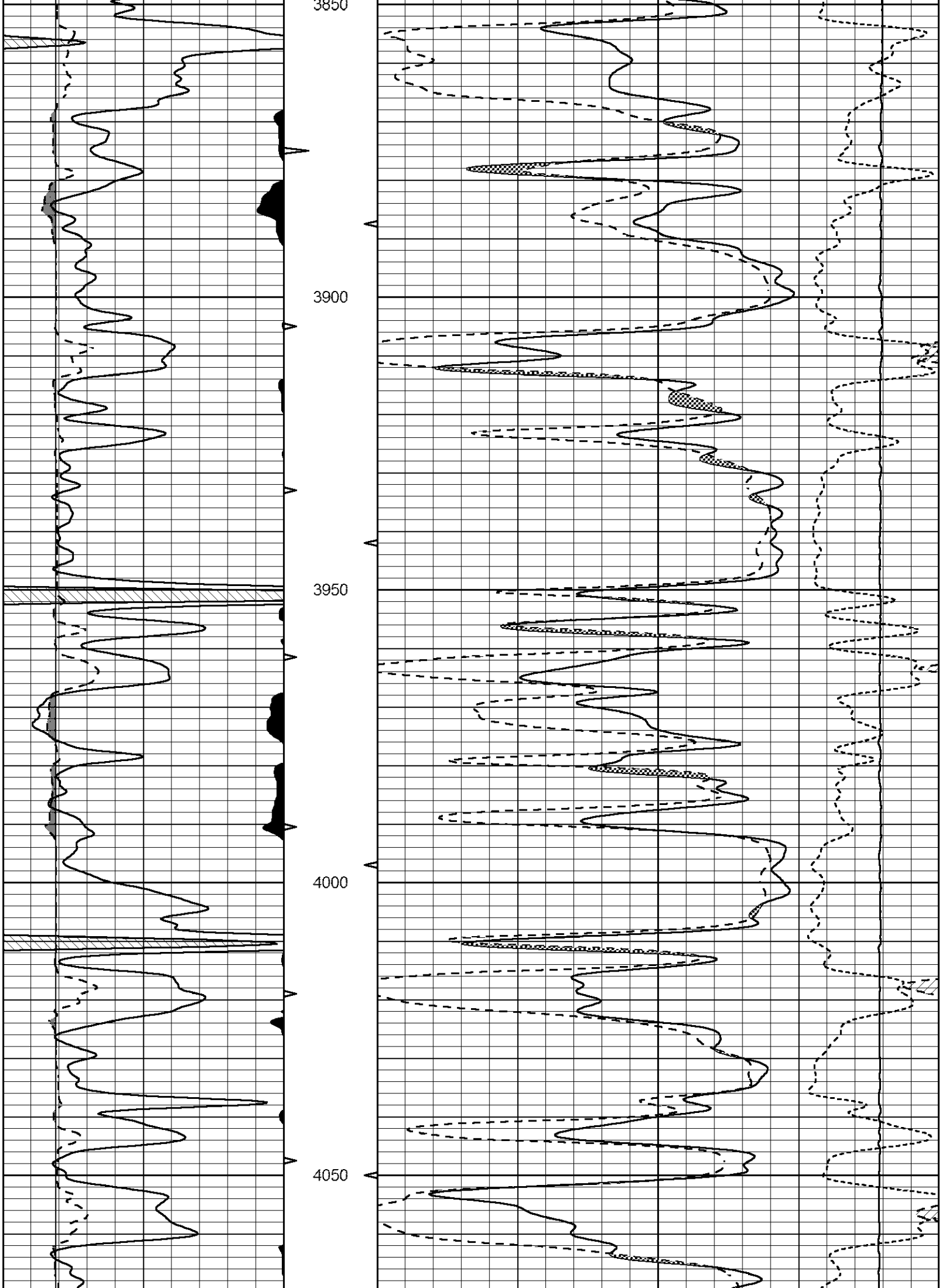
0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

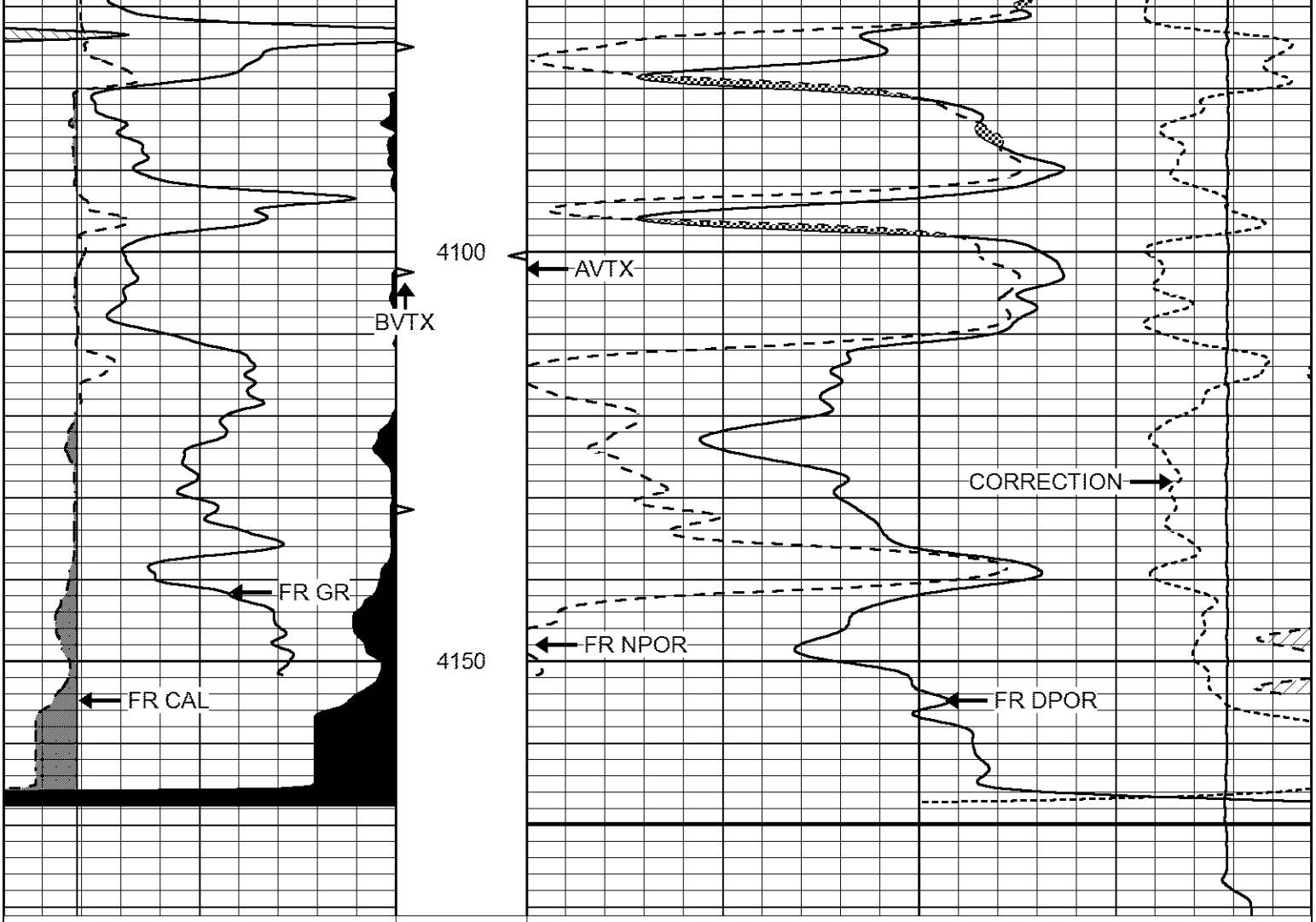
30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25




COMPENSATED DENSITY
GAMMA RAY
COMPENSATED NEUTRON
CORRECTION
3450
3500
3550
3600


3650
3700
3750
3800


3850
3900
3950
4000
4050



0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

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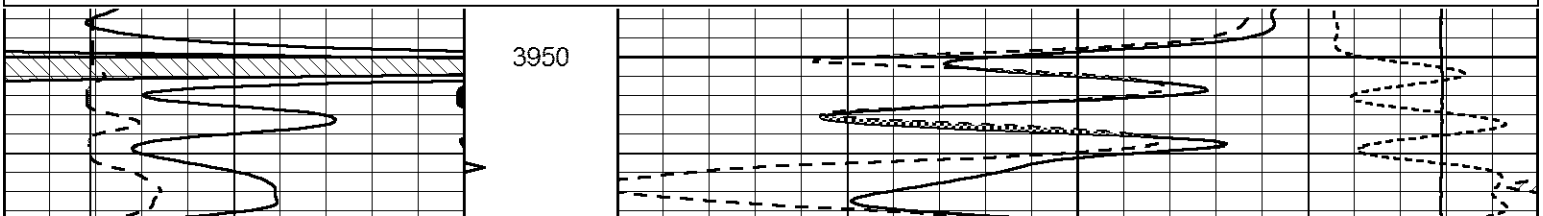
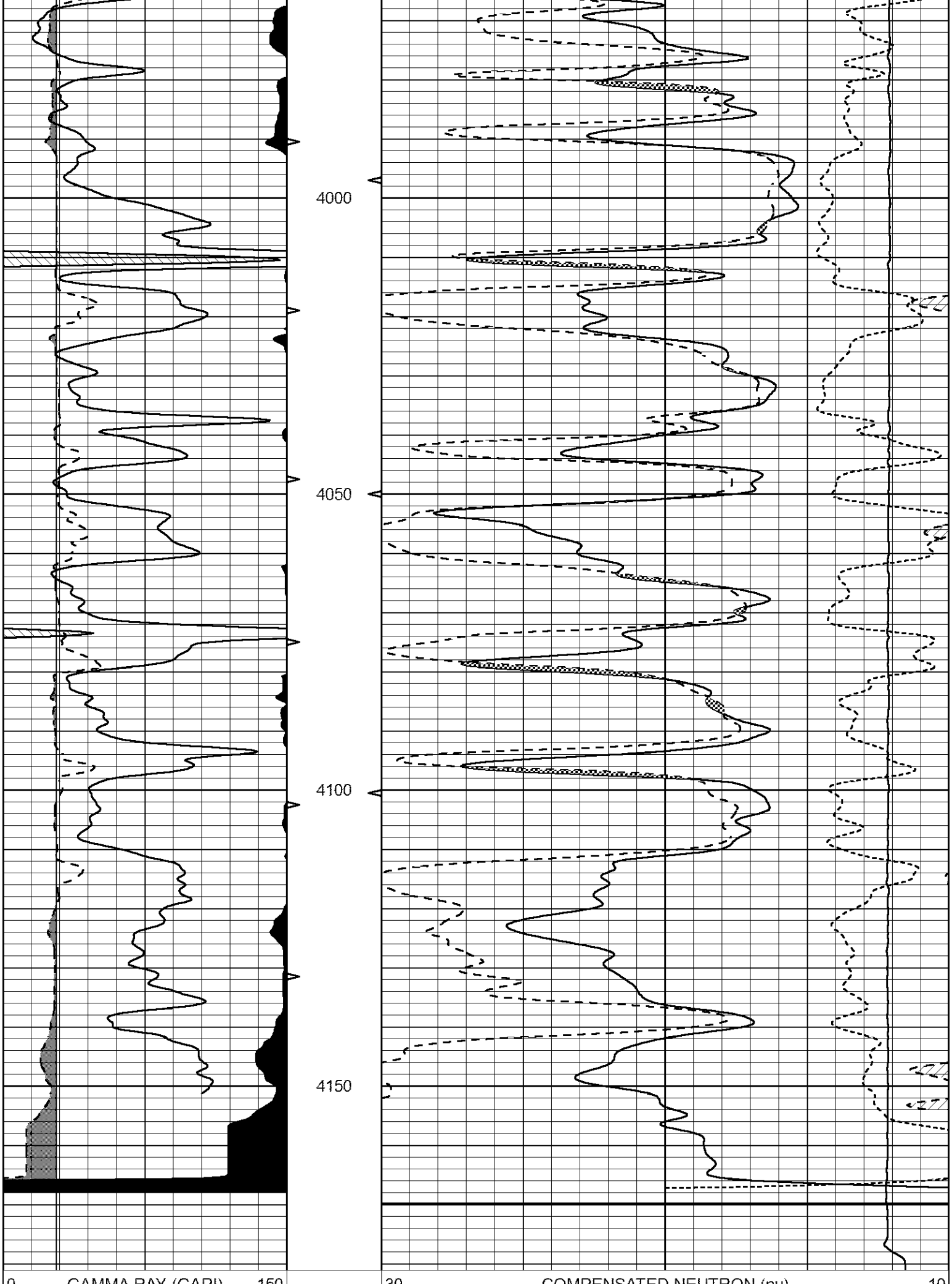
REPEAT SECTION

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass2.1
Presentation Format	cndlspec
Dataset Creation	Wed Sep 27 04:32:16 2017
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25




4000
4050
4100
4150
0
GAMMA RAY (GAPI)
150
30
COMPENSATED NEUTRON (pu)
-10

6	dcal (in)	16
6	BIT SIZE (in)	16

30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

Calibration Report

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Wed Sep 27 04:27:10 2017

Dual Induction Calibration Report

Serial-Model:	1987-M&W
Calibration Performed:	Tue Apr 11 16:07:38 2017

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model:	168-986-M&W
Source / Verifier:	/
Master Calibration Performed:	Tue Apr 11 16:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps

Spine Angle = 74.61 Density/Spine Ratio = 0.523

	Size		Reading
Small Ring	4.00	in	1.03
Large Ring	14.00	in	1.23

Compensated Neutron Calibration Report

Serial Number:	tk10-MW
Tool Model:	M&W
Calibration Performed:	Wed Nov 16 11:21:36 2016

Detector	Readings		Target		Normalization
Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

Gamma Ray Calibration Report

Serial Number:	89-M&W	
Tool Model:	M&W	
Calibration Performed:	Tue Apr 11 16:08:01 2017	
Calibrator Value:	1000.0	GAPI

Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

PIONEER
Pioneer Energy Services

Company	GREAT PLAINS ENERGY, INC.
Well	REYNOLDS NO. 1-30
Field	DREIL
County	GRAHAM
State	KANSAS

PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company GREAT PLAINS ENERGY, INC.
Well REYNOLDS NO. 1-30
Field DREIL
County GRAHAM
State KANSAS

Location: API #: 15-065-24141-00-00
2310' FSL & 1320' FWL
SEC 30 TWP 9S RGE 24W

Other Services
CNL/CDL
DIL

Permanent Datum GROUND LEVEL Elevation 2546'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2553'
D.F. N/A
G.L. 2546'

Date	9/27/2017		
Run Number	TWO		
Depth Driller	4180'		
Depth Logger	4176'		
Bottom Logged Interval	4175'		
Top Log Interval	3400'		
Casing Driller	8.625" @ 261'		
Casing Logger	260'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity,ppm CL	2,100		
Density / Viscosity	9.0 75		
pH / Fluid Loss	10.5 7.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.85 @ 59		
Rmf @ Meas. Temp	.64 @ 59		
Rmc @ Meas. Temp	1.15 @ 59		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	.43 @ 118		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	118 DEG/F		
Equipment Number	108		
Location	HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	RICK HALL		

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

WAKEENEY KANSAS
SOUTH TO RED LINE ROAD, 10 WEST, 1/2 NORTH, EAST INTO

Log Measured From: KELLY BUSHING 7 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: RICK HALL
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

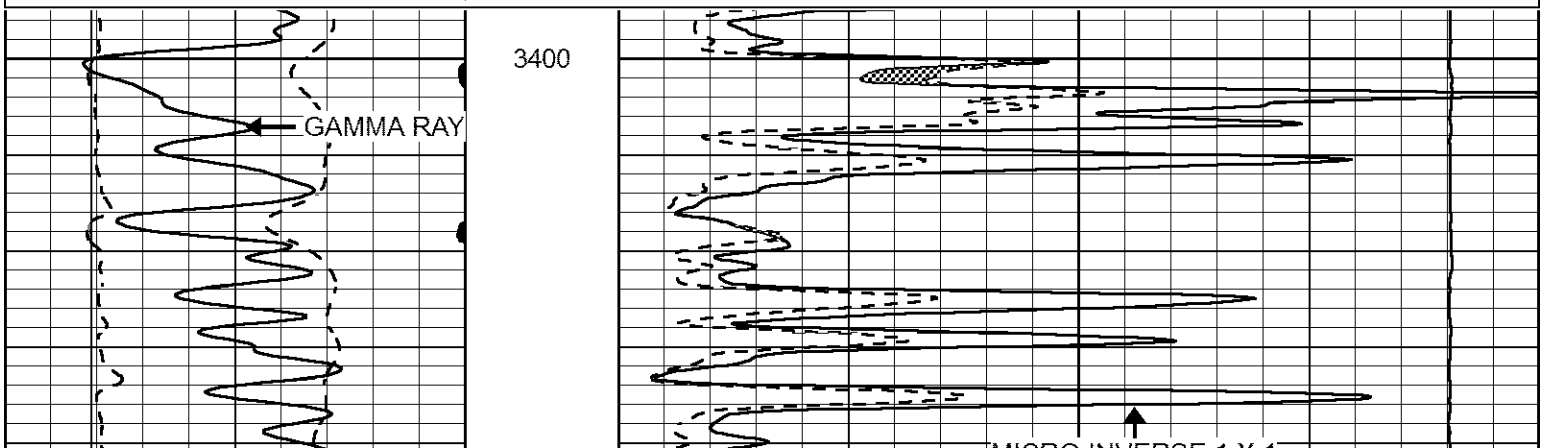
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			ML-Armadillo (Armadillo-4) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
MCAL	1.00					
MI	1.00					
MN	1.00					

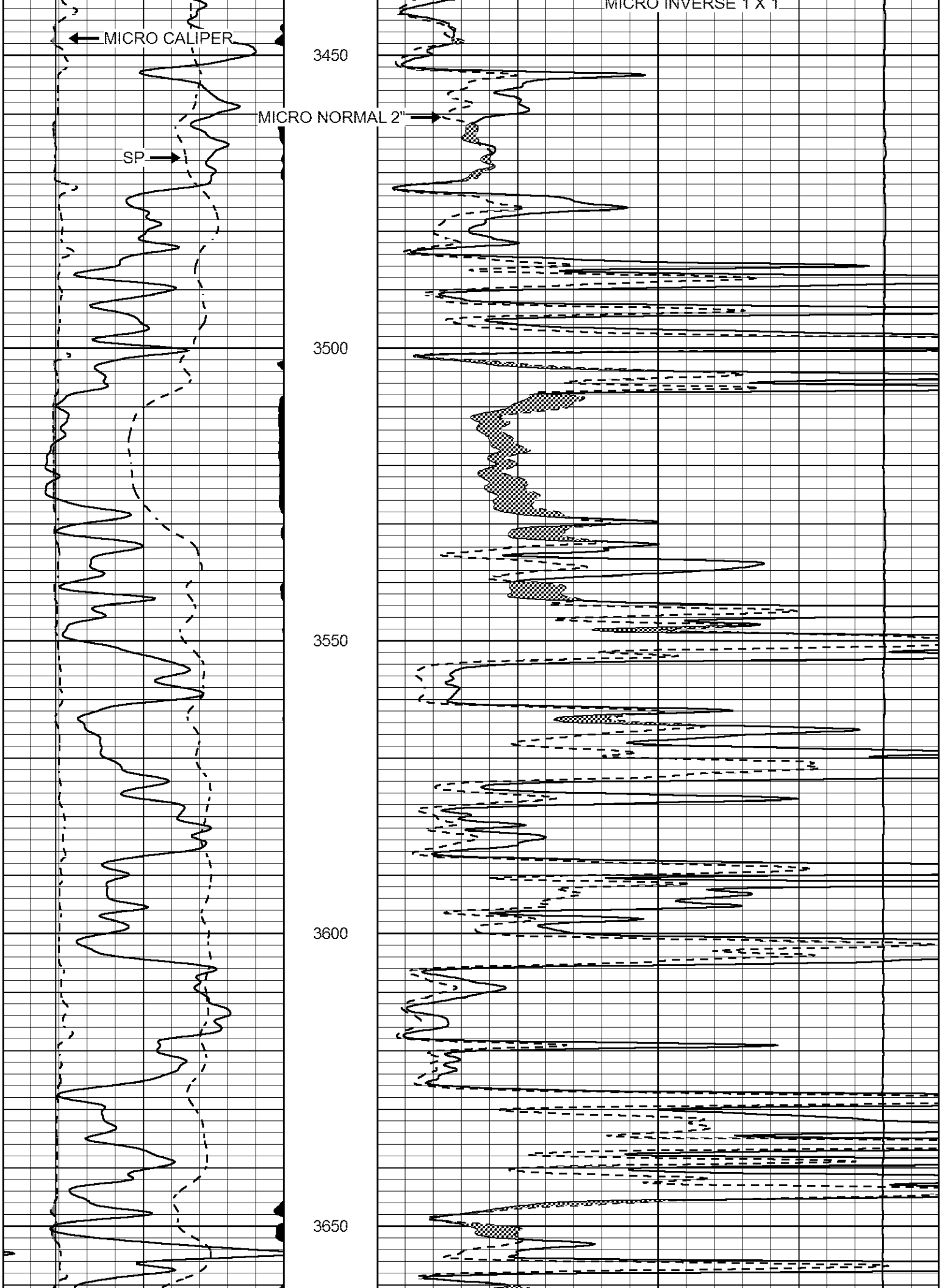
Dataset: great_plains_reynolds_1_30.db: field/well/MEL/pass2
Total length: 5.00 ft
Total weight: 100.00 lb
O.D.: 3.50 in

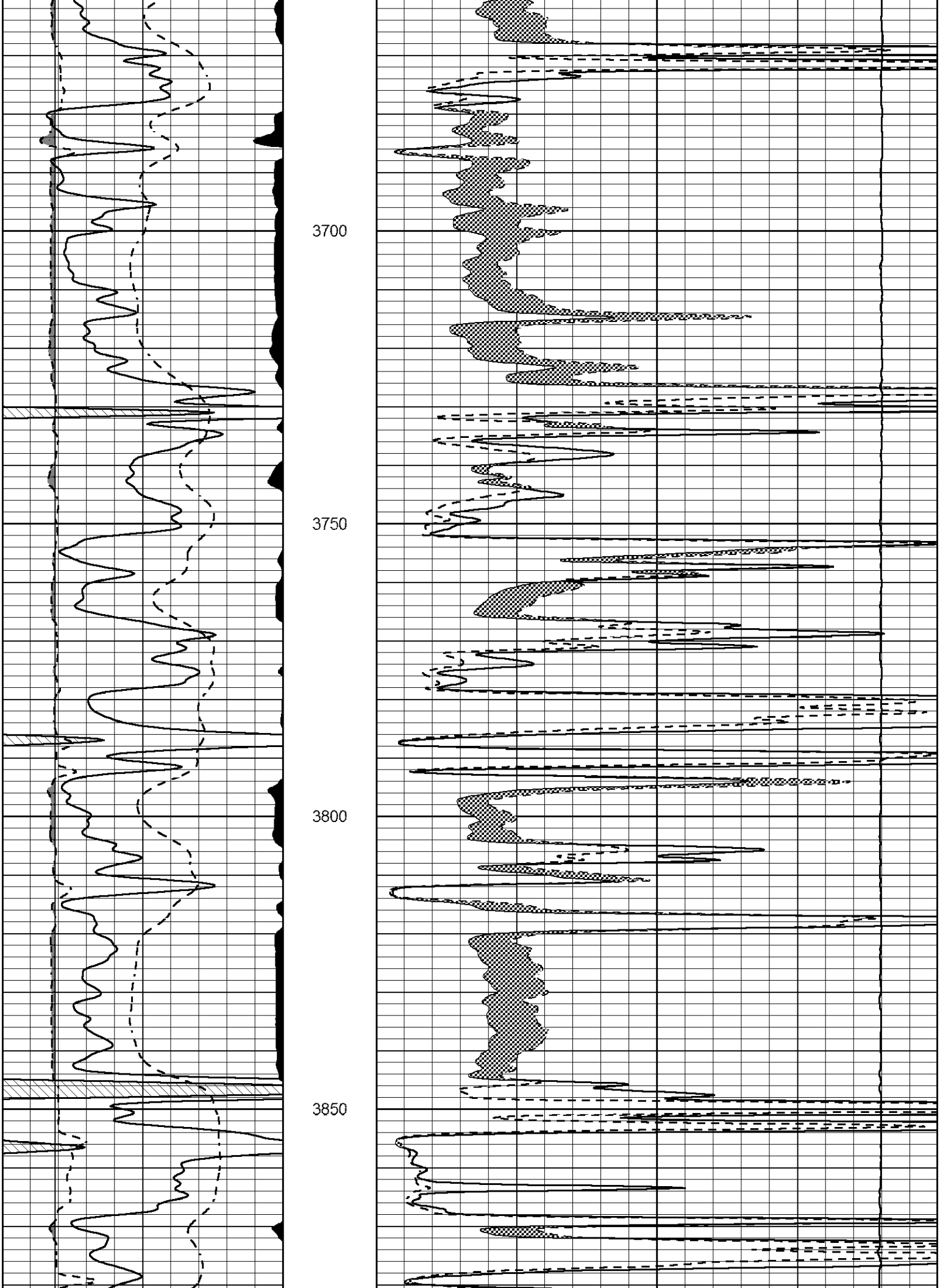
Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	micro
Dataset Creation	Wed Sep 27 04:27:10 2017
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0




MICRO INVERSE 1 X 1
MICRO CALIPER
3450
MICRO NORMAL 2"
SP
3500
3550
3600
3650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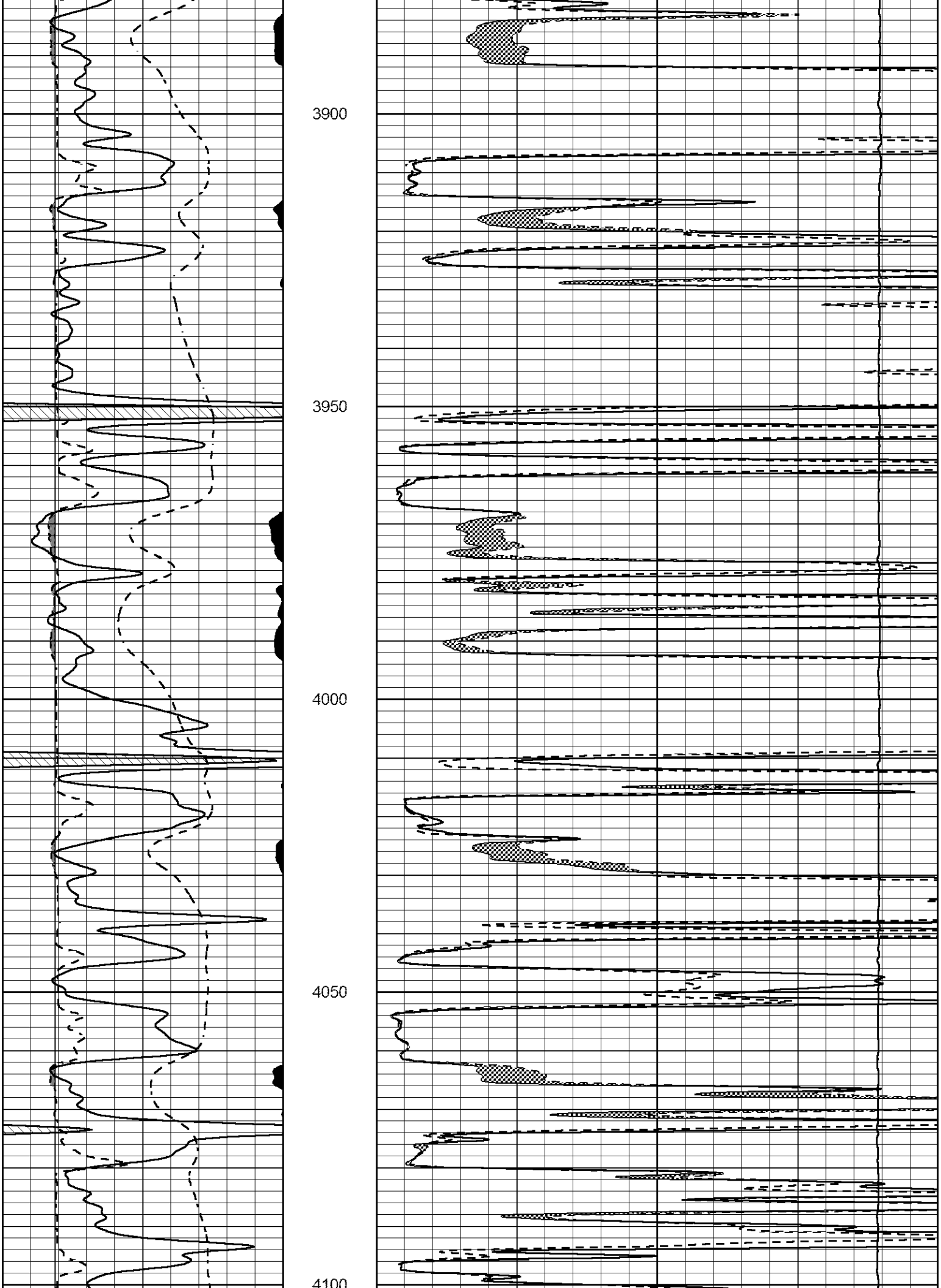
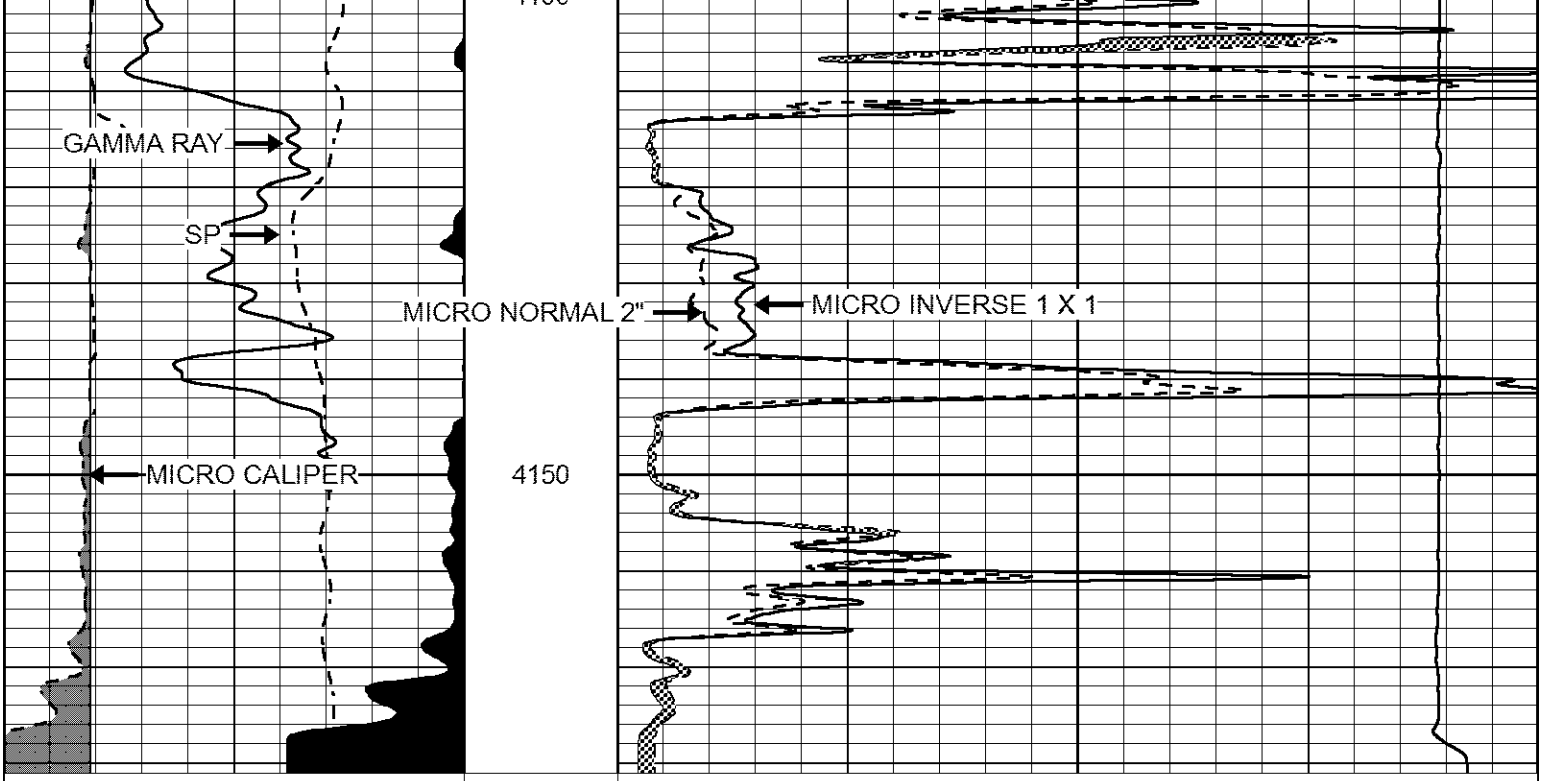
3850


3900
3950
4000
4050
4100



0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0

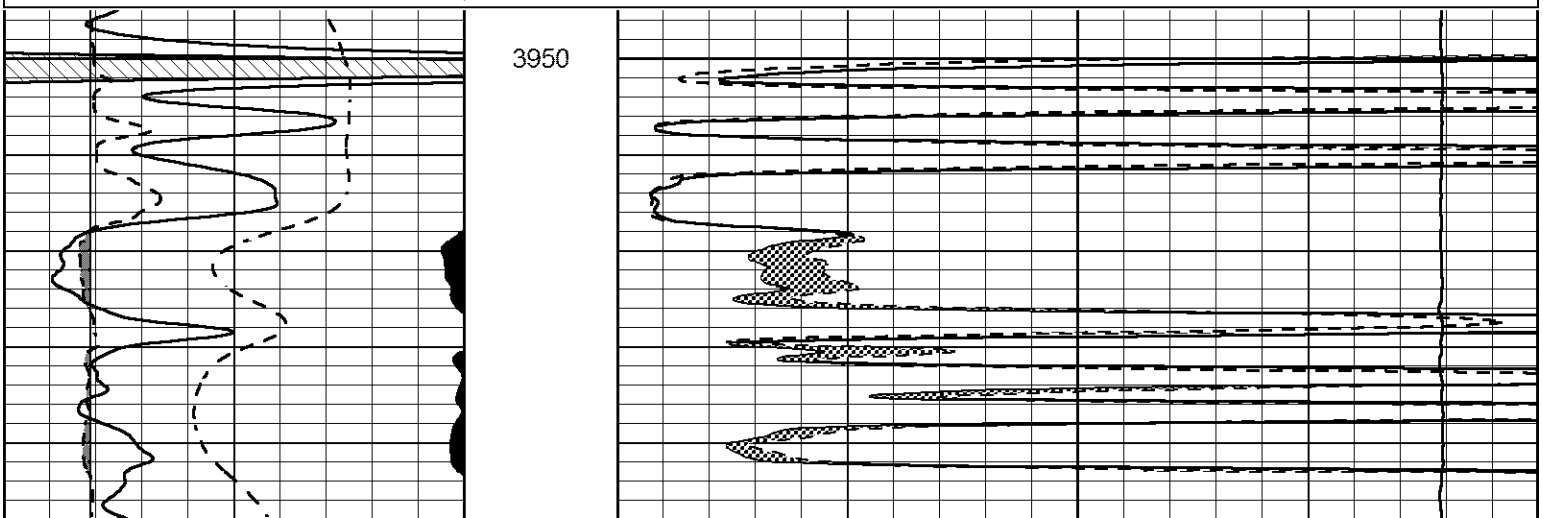
PIONEER
Pioneer Energy Services

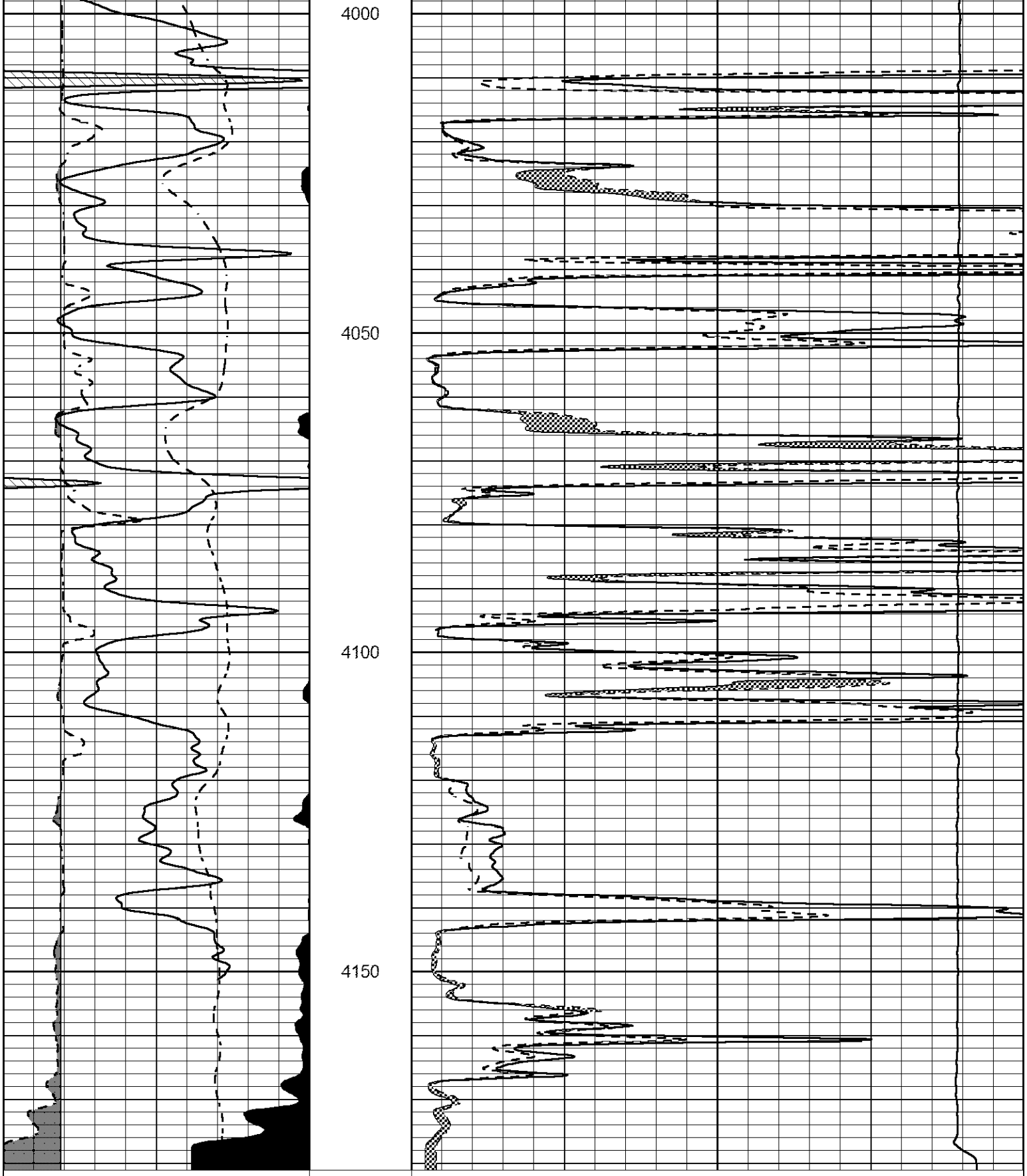
REPEAT SECTION

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass2.1
Presentation Format	micro
Dataset Creation	Wed Sep 27 04:32:16 2017
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0





Calibration Report

Database File	great_plains_reynolds_1_30.db
Dataset Pathname	stack/pass3.1

Dataset Creation Wed Sep 27 04:27:10 2017

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Tue Apr 11 16:07:38 2017

Loop:	Readings Air	Readings Loop	References Air	References Loop		Results Gain	Results Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
Source / Verifier: /
Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps

Spine Angle = 74.61 Density/Spine Ratio = 0.523

	Size		Reading
Small Ring	4.00	in	1.03
Large Ring	14.00	in	1.23

Compensated Neutron Calibration Report

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Wed Nov 16 11:21:36 2016

Detector	Readings		Target		Normalization
Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

Gamma Ray Calibration Report

Serial Number: 89-M&W
Tool Model: M&W
Calibration Performed: Tue Apr 11 16:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps

Company GREAT PLAINS ENERGY, INC.

PIONEER

Pioneer Energy Services

Well	REYNOLDS NO. 1-30
Field	DREIL
County	GRAHAM
State	KANSAS

REMIT TO
RR 1 BOX 90 D
HOXIE, KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

NO 608

DATE 9/4/17	SEC.	RANGE/TWP.	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
					COUNTY Gr	STATE Ks
LEASE Reynolds			WELL # 1-32			

CONTRACTOR		OWNER Great Plains			
TYPE OF JOB Surface					
HOLE SIZE	T.D.	CEMENT			
CASING SIZE 8 5/8	DEPTH	AMONT ORDERED			
TUBING SIZE	DEPTH				
DRILL PIPE	DEPTH				
TOOL	DEPTH				
PRES. MAX	MINIMUM	COMMON	185	@	
DISPLACEMENT	SHOE JOINT	POZMIX		@	
CEMENT LEFT IN CSG.		GEL	5	@	
PERFS		CHLORIDE	6	@	
		ASC		@	
EQUIPMENT				@	
				@	
PUMP TRUCK				@	
# Jerman				@	
BULK TRUCK				@	
# Jack				@	
BULK TRUCK				@	
#				@	
		HANDLING		@	
		MILEAGE		@	
				TOTAL	

REMARKS				
	SERVICE Surface			
Circulate to Pit	DEPT OF JOB		@	
	PUMP TRUCK CHARGE		@	
	EXTRA FOOTAGE		@	
Plug Down 4:00PM	MILEAGE	30	@	
	MANIFOLD		@	
			@	
			TOTAL	

CHARGES TO: Great Plains	
STREET	STATE
CITY	ZIP

To: Schippers Oil Field Services L.L.C.
You are hereby requested to rent cementing equipment and furnish staff to assit owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT	
	@
	@
	@
	@
	@
	TOTAL
TAX	
TOTAL CHARGE	
DISCOUNT (IF PAID IN 20 DAYS)	

Hoxie Sentinel Print / Form 411

SIGNATURE Ken Mee

PRINTED NAME

SWIFT Services, Inc.

CHARGE TO: Great Plains
ADDRESS
CITY, STATE, ZIP CODE

TICKET 30516

PAGE 1 OF 2

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. Hays Ks	# 1-30	Reynolds	Graham	Ks		9-27-17	
2. Ness City Ks	TICKET TYPE ☐ SERVICE ☐ SALES	CONTRACTOR STP	RIG NAME/NO.	SHIPPED VIA CT	DELIVERED TO Location	ORDER NO.	
3.	WELL TYPE Oil	WELL CATEGORY Development	JOB PURPOSE Two Stage - long String	WELL PERMIT NO.		WELL LOCATION	
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
575					MILEAGE Trk # 111	60	EA			5 00	300 00
579					Pump Charge - Two Stage	1	EA			1700 00	1700 00
290					D-Air	5	Unit			42 00	210 00
221					Liquid KCL	4	Gal			25 00	100 00
281					Mudflush	500	Gal			1 25	625 00
402					Centralizer	6	EA	5½		60 00	360 00
403					Cement Basket	1	EA			250 00	250 00
~~400~~ 417					D.V Latch Down Plug & Baffle	1	EA			200 00	200 00
407					Insert Float shoe w/ Auto Fill	1	EA			300 00	300 00
408					D.V Tool & Plug Set	1	EA			3250 00	3250 00
411					Recipo Scratcher	20	EA	↓		45 00	900 00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY,** and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X

DATE SIGNED | TIME SIGNED ☐ A.M. ☐ P.M.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.
P.O. BOX 466
NESS CITY, KS 67560
785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	8195 00
	9116 50
	17311 50
Graham TAX 7.5%	1029 84
TOTAL	18341 34

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR David Edgerton | APPROVAL

Thank You!

SWIFT Services, Inc.

PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 30516

CUSTOMER: Great Plains | WELL: Reynolds 1-30 | DATE: 9-27-17 | PAGE 2 | OF 2

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	TIME	DESCRIPTION	QTY	U/M	QTY	U/M	UNIT PRICE	AMOUNT
330		2				Swift Multi Density	250	sks			15 75	3937 50
325		2				Standard Cement	175	sks			12 25	2143 75
284		2				Calseal	8	sks			30 00	240 00
283		2				Salt	950	lbs			20	190 00
292		2				Halad 322	100	lbs			8 00	800 00
276		2				Fiorele	100	lbs			2 25	225 00
						SERVICE CHARGE Cement	CUBIC FEET 425	sks			1 50	637 50
						MILEAGE CHARGE TOTAL WEIGHT 41900 LOADED MILES 20	TON MILES 1257				75	942 75
											CONTINUATION TOTAL	9116.50

JOB LOG

SWIFT Services, Inc.

DATE 9-27-17 | PAGE NO.

CUSTOMER Great Plains | WELL NO. 1-30 | LEASE Reynolds | JOB TYPE 2 stage C.S | TICKET NO. 30576

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	1300							On location
								Csg - 5½ x 15.5 #
								RTD - 4180'
								Total Pipe - 4178
								Shoe Jt. 23.70 @ 4154'
								Centralizers - 1, 3, 5, 7, 9, 46
								Basket - 47
								D.V. Tool - 47 @ 2221
	1600							Start Running Csg
	1745							Break Circ on Bottom
	1840	2.5	6			0		Plug Rat Hole - 25 sks
		5	12			200		pump mudflush - 500 Gal
		5	20			200		pump KCl Spacer
		5	36			100		pump Cmt - 150 sks-2 @ 15.5 ppg
								Drop plug - Wash p & L
	1905	6.5	0			200		Start Disp
	1920	5	99			800		land plug Lift psi - 800 psi
								land psi - 1500 psi
								Release psi - Dry
	1925							Drop - D.V. opening tool
	1940					1300		Open D.V. Tool w/ pump truck
	1945							Circulate w/ mudpump
	2015		10					pump wtr spacer
	2025	6	0			200		Start Cmt - 5MD @ 11.2 ppg
		6	125			200		Raise weight to 14.5 ppg
		5	131			400		End Cmt
								Drop plug
	2100	6.5	0					Start Disp
	2100	5	52			600		End Disp - Lift psi - 600
								land psi - 1400
								Release psi - Dry
								Circulated Cement to Cellar

REMIT TO
RR 1 BOX 90 D
HOXIE, KS 67740

SCHIPPERS OIL FIELD SERVICE L.L.C.

№ 608

DATE 9/4/17	SEC.	RANGE/TWP.	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
					COUNTY	STATE
LEASE Reynolds			WELL # 1-2			

CONTRACTOR		OWNER Great Plains			
TYPE OF JOB Surface					
HOLE SIZE	T.D. 265	CEMENT			
CASING SIZE 8 5/8	DEPTH	AMONT ORDERED			
TUBING SIZE	DEPTH				
DRILL PIPE	DEPTH				
TOOL	DEPTH				
PRES. MAX	MINIMUM	COMMON	175	@ 18.00	3,330
DISPLACEMENT 16bbl	SHOE JOINT	POZMIX		@	
CEMENT LEFT IN CSG. 10 ft		GEL	5	@ 26	130.00
PERFS		CHLORIDE	6	@ 52	312.00
		ASC		@	
EQUIPMENT				@	
				@	
PUMP TRUCK				@	
# Jerrod				@	
BULK TRUCK				@	
# Jack				@	
BULK TRUCK				@	
#				@	
		HANDLING	196	@ 2.10	411.60
		MILEAGE	30	@ 15.68	470.40
			—,085X	TOTAL	

REMARKS	SERVICE			
	DEPT OF JOB		@	
Circulate to Pit	PUMP TRUCK CHARGE		@ 950	950
	EXTRA FOOTAGE		@	
Plug Down 4:00PM	MILEAGE	30	@ 6.00	180.00
	MANIFOLD		@	
			@	
			TOTAL	

CHARGES TO: Great Plains	
STREET	STATE
CITY	ZIP

To: Schippers Oil Field Services L.L.C.
You are hereby requested to rent cementing equipment and furnish staff to assit owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "TERMS AND CONDITIONS" listed on the reverse side.

PLUG & FLOAT EQUIPMENT	
	@
	@
	@
	@
	@
	TOTAL
TAX	
TOTAL CHARGE	
DISCOUNT (IF PAID IN 20 DAYS)	

Hoxie Sentinel Print / Form 411

SIGNATURE

PRINTED NAME

WHITEHALL EXPLORATION

87 De France Way • Golden, Colorado • (303) 279-6894

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

OPERATOR GREAT PLAINS ENERGY, INC.

LEASE REYNOLDS WELL NO. 1-30

FIELD DREIL

LOCATION N/2-N/2-SW

SEC. 30 TWP. 9S RGE. 24W

COUNTY GRAHAM STATE KS

ELEVATION

KB 2,553'

DF

GL 2546

Measurements Are All From K.B.

CASING RECORD

SURFACE 8⅝" @ 261'

PRODUCTION 5½" @ 4,178'

CONTRACTOR STP DRILLING, LLC

COMM: SEPT. 19, 2017 COMP: SEPT. 28, 2017

RTD 4180' LOG TD 4176'

SAMPLES SAVED FROM 3600' TO 4180' RTD

DRILLING TIME KEPT FROM 3600' TO 4180' RTD

SAMPLES EXAMINED FROM 3600' TO 4180' RTD

GEOLOGICAL SUPERVISION FROM 3600' TO 4180' RTD

MUD UP 3,052' TYPE MUD CHEMICAL

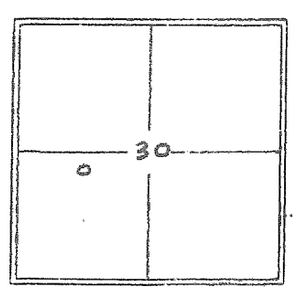
WELL SITE GEOLOGIST RICHARD J. HALL, CPG #5820

ELECTRICAL SURVEYS

PIONEER ENERGY SERVICES

- DUAL INDUCTION
- DUAL COMP. POROSITY
- MICROLOG

FORMATION	LOG TOP	LOG DATUM	SAMPLE TOP	SAMPLE DATUM	STRUCT. COMP.
S.C. ANHYDRITE	2214	+339	2214		-7
TOPEKA	3626	-1073	3627		FLAT
HEEBNER SH.	3845	-1292	3850		-2
LANSING	3880	-1327	3885		-3
'F' ZONE	3966	-1413	3972		-1
'J' ZONE	4062	-1509	4068		-1
BKC	4112	-1559	4116		FLAT



REFERENCE WELL FOR STRUCTURAL COMPARISON H&M PETROLEUM CORP. BETTY

LITHOLOGY | REMARKS | DST'S

STRAT GEO. SUPERVISION 9/22/17

3600

SHLY LS, DK GY, W/BN CLN LS INCS, HD

SH, MED-DK GY, SLTY, CMC IP, FIRM-OCC HD.

LS, BF-TAN IP, LT GY, PRED VF XLN, OCC F XLN IP, SM PCS, MOD AREN, SCAT PYR INCL, PR INTXLN POR, NS.

SH, DK GY, HD, CALC, SM VY ARENS, PYR INCL

LS BF-TAN, VF XLN OOLCAST SVM SHLY IP, BOL, VY PR - EX VUG POR, PR INTXLN POR, NS.

SH, MED-DK GY, CALC-LMY, HD-DNS, SILTY/SDY PCS.

LS, OFF WH-LT GY, BF, VF-MICRO XLN, DNS, HD, CHRT INCL, OCC FOS FRAG, VVPR-NO VIS POR, NS.

SLTST - SH, MED-DK GY, FURBK FUS FOS. FRAG, VY CALC.

MNR WH CHLK PCS

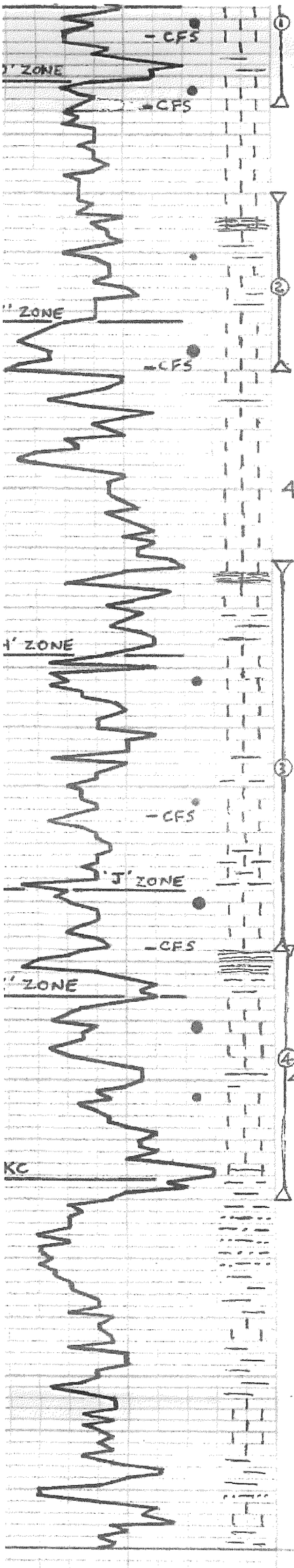
LS. BF-TAN F-VF XLN HD MOD

50

RATE OF PENETRATION 1 2 3 4 5 6 7 8 MIN./FT.

OIL SHOW

TOPEKA



SET/FRM, SCAT FOS FRAG, MOD CHLKY, SM VY F GR AREN MED INTXLN POR, SL OD, EVEN SPTTY/DLS BN OIL STN, FR SFO/BREAK.

LS, OFF WH - LT GY, TAN, PRED VF XLN, OOL, HD - WELL CMTD, SCAT OOL MOLD VUGS, V-VF XLN INTOOL MTRX, INTMED POR - MTRX, MED OD, UNEVEN - NEAR EVEN STAINING, VY GD OIL SHEEN ON SMPL SURF, FR SFO/BREAK,

LS, BF - LT/MED GY, PRED MICRO XLN, DNS, TIGHT, SL BRIT, NO VIS POR. NS. GRDG TO BN DNS LS, AA.

SH, BLACK, CARB, FIRM.

LS, MED GY, MICRO XLN, DNS, SM MICROVUGS, TI, NO VIS INTXLN POR, BN STN IP, NSO. SCAT TAN-BN CHRT.

SH, DK BN-BLACK, SUBBLKY.
LS, TAN, F-VF XLN, FRM-HD, SL CHLKY FOSSILIF, CALC FOS FRAG, SCAT VUGS, FR INTXLN POR, GD UNEVEN DK BN OIL STN VY GD SFO/BREAK-DROPLETS, FR YEL FL GD CUT & DRID HALO CUT; CARBONATE SD, CLR/TRNSLUC, VF-MED GR, PR SRTG, FR-MED INTGR POR, GD ODOR, SAT PCS LT TAN OIL STN, VY GD SFO DROPLETS/BREAK, DULL FL, GD MOD FAST STRMG CUT, GD DRIED HALO CUT FL.

LS, OFF WH - BF GRST, F XLN, FIRM BRIT, VF GR, SL CHLKY - VY CHLKY PCS, CAL INCL, GD INTXLN POR, NS.

LS, OFF WH IP - PRED LT-OCC MED GY, VF-MICRO XLN, DNS, MNR SHLY INCL, TI, NO VIS POR, NS.
LS, BN-DK BN, MICRO XLN, DNS, TI, NO VIS POR, NS.

SH, BLACK, CARB, FIRM, MOD FISS.

LS, DK TAN-BN, F XLN/GRST, HD, FR-MED INTXLN POR, EVEN STN, SL SFO-DISSEM/BRK, FR DULL FL, SLW STRMG CUT.

LS, OFF WH/LT GY IP, BF-TAN, SL MOTT, FRM-HD, F-VF XLN, SL CHLKY PCS IP, MED INTXLN POR IP - NO VIS POR IP (NON-homo), FR ODOR, UNEVEN GD BN OIL STN, SL-FR DISSEM, SFO/BRK, FR DULL YELLISH FL IP, FR SLOW STRMG CUT GRDG TO GD DULL MLKY CUT, MED DULL HALO DRIED FL.

LS, OFF WH - LT GY, CHALK - VF XLN, SFT-HD, PR INTXLN - MED IP, NO OD, UNEVEN BN OIL STN, SL SFO/DISSEM/BREAK, SPTTY FR FL, SL CUT-TI.

LS, OFF WH-LT GY, BF, VF-PRED MED XLN, WELL DEV GRST, SCAT TO MSTLY OOL PCS, SCAT INTXLN VUGS, MED-GD INTXLN-INTPART POR, SL OD, DULL YELISH FL, UNEVEN - SAT LT BN OIL STN, FR-MED SFO/BREAK, - RISS/MICRO-DROP, INTMED FLASH CUT, GD MOD FAST STRMG TO MLKY CUT, VY GD MOD BRGHT YEL DRIED RING FL.
SH, BK, CARB, FIRM.
LS, BF: BN, MED-VF XLN IP, FRM-HD CAL INCL IP, SCAT FOSS FRAG, VY OOL SCAT ABNT VUGS, INTMED-VY GD INTXLN & INTOOL MTRX POR, NO OD, UNEVEN-SAT BN-BK OIL STN, VY GD DK BN SFO/BREAK, NO FL, IMMED. FLASH MLKY CUT, VY STRONG MLKY CUT, EX VY PALE DULL DRIED FL.

LS, OFF WH - LT GY, F-VF XLN, HD, FR INTXLN POR, SPOTTY/UNEVEN BN/BLK OIL STN, MED SFO/BREAK, VY SLOW STRMG CUT, PR MLKY CUT, FR DRIED FL.

SH, MED-DK GY, SPLTY-PLTY, FIRM

SH, GN, PLTY, SOFT, MOD WXY.

SLTST, MED-DK GY, SUBBLKY; SLTST, MRN/GY, MOTT,

LS, LT GY, BF, MICROXLN - CHERT, MICRITIC, NO VIS POR.

SH, MED GY, PLTY, SL SLTY

LS, OFF WH - LT GY, VF-MICRO XLN, MOD ARGN - VF GR, SCAT CLAYEY INCL, TI, NO VIS POR.
SILTY LS GRDG TO:

SLTST, BN-MRN, FIRM, MOD CALC.

SH, MED-DK GY, PLTY, SLTY.

LS, BF, VF-MICRO XLN, DNS, MOD OOL, TI, NO VIS POR, NS.

- 4,030' - RTD 7:00 AM - 9/25/17

- MUD V
WT 8.9
VIS 51
FIL 7.2
CHL 2100
LCM 1/2

- 4120' - RTD 7:00 AM 9/26/17

- MUD V,
4,120'
WT. 9.0
VIS 75
FIL 7.2
CHL 2100
LCM 1/2#

- 4,180' - RTD 7:00 AM 9/27/17

FM: NO BLOW
REC 10' MUD

IHP 1925
IFP 20-27
ISIP 276
FFP 28-32
FSIP 277
FHP 1911

- 3935' - RTD - 7:00 AM - 9/24/17

- MUD V
3940'
WT: 9.0
VIS: 64
FIL: 8.0
CHL 2,300
LCM 1.0 FF

DST NO. 2

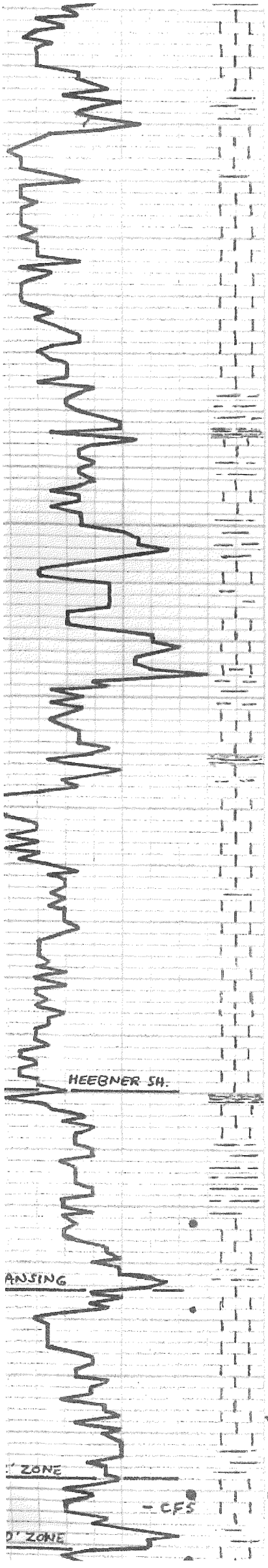
LKC 'E-F'
3950-3980'
15-30-30-90"
IFP: B.O.B. IN 14"
ISIP: WK SURF BLOW, DIED IN 5"
FFP: B.O.B. IN 11"
FSIP: SURF. BLOW BACK THRU-OUT.
REC. 442' GIP
126' CGO (20% G, 80% OIL)
185' OCWM (5% OIL, 35% W, 60% MUD)
TOTAL FLUID - 311'
API - 35°
IHP: 1953
IFP: 27-90
ISIP: 658
FFP: 97-143
FSIP: 666
FHP: 1897

DST NO. 3

LKC 'A-I, J' ZNS
4012-4078
30-60-15-90"
IFP: STRONG BLOW - B.O.B. IN 11"
ISIP: BUILT TO 1 3/4" BLOWBACK
FFP: B.O.B. IN 4"
FSIP: 3" BLOWBACK
REC. 584' GIP
233' GOCM (10% G, 35% OIL, 55% M)
API - 34°
BHT - 116°
IHP: 1960
IFP: 29-93
ISIP: 1199
FFP: 84-111
FSIP: 1197
FHP: 1919

DST NO. 4

LKC 'K-L'
4071-4120'
30-60-45-90"
IFP: SLOW BLOW BUILT TO 3"
FFP: BUILT TO 2 1/2"
SIP'S - NO BLOW
REC. 198' GIP
30' CO
30' HOCM - (40% O, 60% M)
API - 35°
BHT 119°F
IHP 2026
IFP 26-36
ISIP 250
FFP 39-47
FSIP 209
FHP 1978



SH, MED-DK GY, CALC-LMY, HD-DNS, SILTY/SDY PCS.

LS, OFF WH-LT GY, BF, VF-MICRO XLN, DNS, HD, CHRT INCL, OCC FOS FRAG, VY PR-NO VIS POR, NS.

SLTST-SH, MED-DK GY, SUBBK FOS FOS. FRAG, VY CALC,

MNR WH CHLK PCS

LS, BF-TAN, F-VF XLN, HD, MOD AREN, SCAT OOL, VY SL CHLKY, FR-MED INTXLN POR, NS.
SCAT TAN CHERT, LT GY.

LS, BF-TAN, CLN, MOD HD, F-VF XLN, OOL & AREN PCS W CALC INCL, MOTT, MOD-VY AREN IP PCS, PR-INTMED INTXLN POR, NS.

LS, BF-TAN, VF-MICRO XLN, HD-DNS, SL BRIT, NO VIS POR MED GY. VF XLN LS, TI.

LS, OFF WH, BF-LT TAN, MOD CHLKY IP, SCAT FOS FRAGS, MED INTXLN POR, NS.

LS, LT GY-BF, VF-MICRO XLN, HD-DNS, CHRTY PCS, SCAT CAL INCL, TI, NO VIS POR, NS.

SH, BLACK, CARB, FISC, FIRM

LS, BF-TAN, MOTT, VF-F XLN, FR-GOOD GRST DEV, CLN, MED-GD INTXLN POR, NS.

LS, LT GY, BF, VF MICRO XLN, SL ARG, TI, NO VIS POR.

LS, OFF WH-LT GY, F XLN, F GRST DEV, FIRM, CD VIS POR, NS.

LS, BN, F XLN, FRI, GRST DEV.

LS, LT BN-TAN, VF XLN, MOD DIRTY PCS, W/ DISS PYR INCL,

LS, TAN, VF XLN, VY (MICRO) OOL, CAL FILL, PR INTXLN POR, NS

— 3780' - RTD @ 7:00 AM 9/23/17

LS, LT GY, TR GNISH, F-VF XLN, FOS CHRT FOSS, MOD AREN, PR INTXLN POR, NS.
SH, VY DK GY, MOD CARB.

LS, BF-TAN, V-VF XLN, GD F-MED GRST, SM OOL SL-MOD CHLKY, MED INTXLN POR & INTPART POR.

LS, BF-TAN, LT GY, VF-MICRO, XLN, CHRT PCS, TI, NO VIS POR.

LS, OFF WH-WH CHLKY-BF-WH LS, VF XLN, SL MOTT, PR INTXLN POR, NS.

LS, DK GY, VY SHLY VF-MICRO XLN, PYR, NO VIS POR.

SH, GN, BLKY, WXY.

LS, TAN-D.K BN, VY XLN, MOTT, FOSSIF, AREN, DIRTY IP, PR-NO VIS POR.

SH, BLACK, SUBBLKY, VY CARB

LS, LT GY, VF-MICRO XLN, NS

— MUD @ 3860'
WT 8.9
VIS. 57
FIL 7.6
CHL 2000
LCM 1#

SH, SLTST IP, MED-DK GY, VY-CALC-LMY,

LS, LT GY, VF-MICRO XLN, VY OOL W/ CAL INCL, FOSSIF IP W/ MNR INTXLN POR, PRED TI. SCAT BN-BLK ST IP, SL SFO/BRK, BLEED OIL, GEN TI, GRDG TO CLN OOL LS.

LS, OFF WH-BF, F-VF XLN, GD GRST DEV IP, SCAT FOS & FUS FRAG, SM W/ ABNT OOL, RR PYR INCL, MNR LT BN OIL STN IP, NS.
ABNT WH CHLK PCS, SOFT

ABNT CHRT, OFF WH, GY, BF.

LS, OFF WH-BF, F-VF XLN, SFT/FRM, SCAT FOS FRAG, MOD CHLKY, SM VY F GR AREN MED INTXLN POR, SL OD EVEN SPTTY/DLS BNLO STN, FR SFO/BREAK.

DST NO. 1
LKC 'C-D'
3907-3935'
30-30-30-60
IFP: 1/4" BLOW
FFP: NO BLOW
REC 10' MUD

IHP 1925
IFP 30-27
ISIP 276
FFP 28-22

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Great Plains Energy, Inc.

6121 S. 58th St.
Suite B
Lincoln, NE 68516
ATTN: Rick Hall

30-9S-24W Graham, KS

Reynolds #1-30

Job Ticket: 55389 **DST#: 1**

Test Start: 2017.09.23 @ 22:37:14

GENERAL INFORMATION:

Formation: **LKC "C&D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:22:50
Time Test Ended: 08:11:04

Test Type: Conventional Bottom Hole (Initial)
Tester: Brannan Lonsdale
Unit No: 73

Interval: 3907.00 ft (KB) To 3935.00 ft (KB) (TVD)
Total Depth: 3935.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

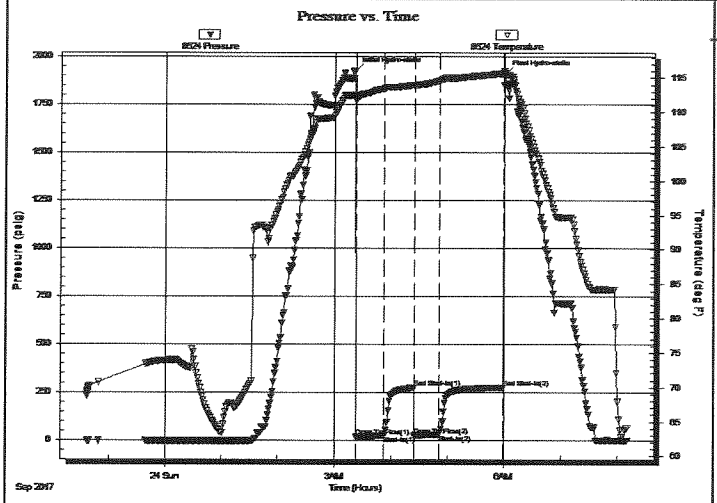
Reference Elevations: 2553.00 ft (KB)
2546.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8524 **Outside**

Press@RunDepth: 32.17 psig @ 3932.00 ft (KB)
Start Date: 2017.09.23 End Date: 2017.09.24
Start Time: 22:37:15 End Time: 08:11:04

Capacity: 8000.00 psig
Last Calib.: 2017.09.24
Time On Btm: 2017.09.24 @ 03:21:50
Time Off Btm: 2017.09.24 @ 06:00:20

TEST COMMENT: 30- IF- .25" blow
30- ISI- No blow
30- FF- No blow
60- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1924.76	112.52	Initial Hydro-static
1	19.50	111.74	Open To Flow (1)
31	26.67	113.49	Shut-In(1)
63	275.78	113.98	End Shut-In(1)
63	27.68	113.93	Open To Flow (2)
89	32.17	114.60	Shut-In(2)
157	276.82	115.70	End Shut-In(2)
159	1910.69	115.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	M	0.05

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Great Plains Energy, Inc.

6121 S. 58th St.
Suite B
Lincoln, NE 68516
ATTN: Rick Hall

30-9S-24W Graham, KS

Reynolds #1-30

Job Ticket: 55389 **DST#: 1**

Test Start: 2017.09.23 @ 22:37:14

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:	57.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2000.00 ppm				
Filter Cake:	inches				

Recovery Information

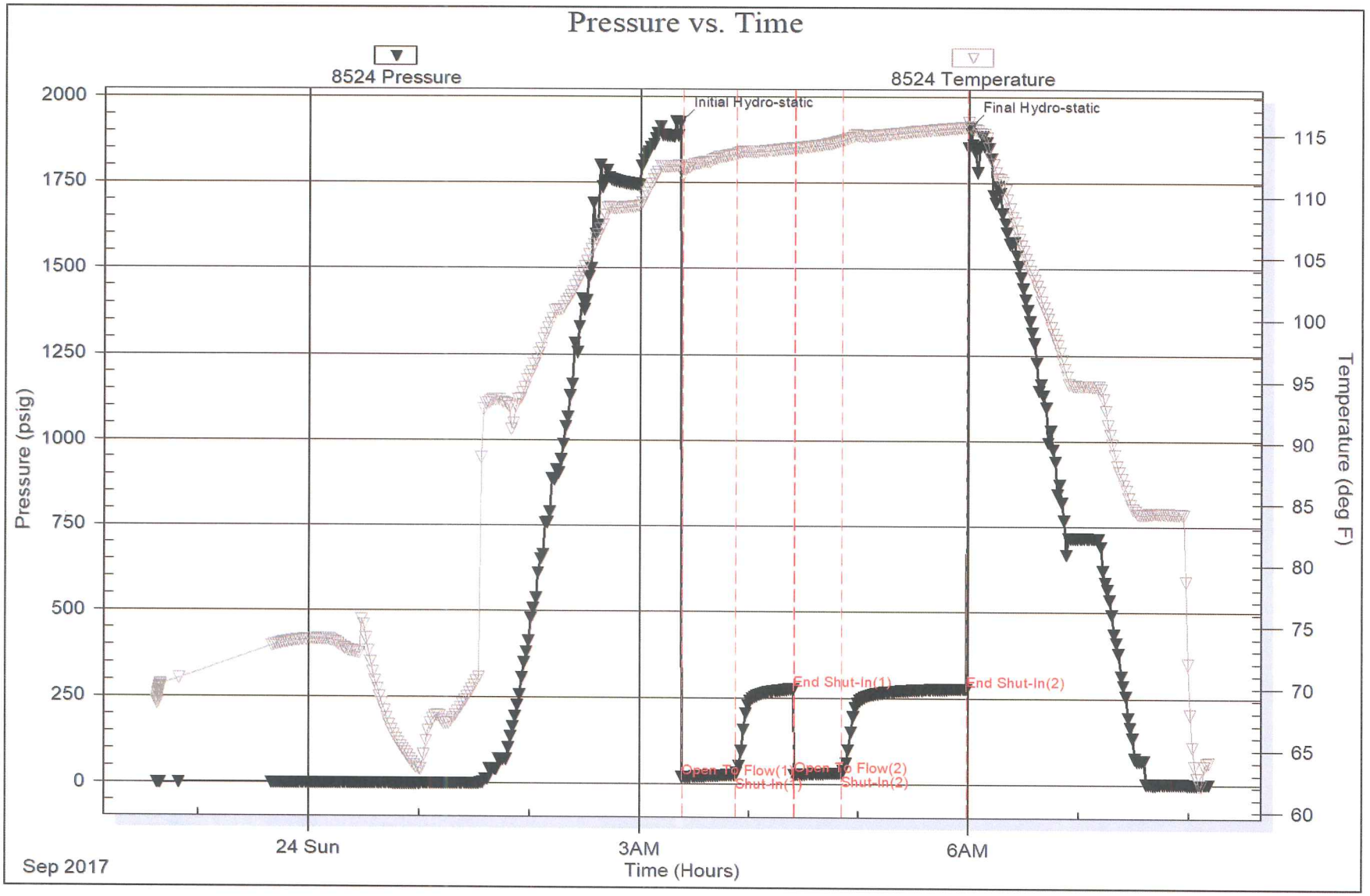
Recovery Table

Length ft	Description	Volume bbl
10.00	M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

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

Serial #: 8524 **Outside** Great Plains Energy, Inc. Reynolds #1-30 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 55389 Printed: 2017.09.24 @ 10:10:33

DRILL STEM TEST REPORT

Great Plains Energy, Inc.

6121 S. 58th St.
Suite B
Lincoln, NE 68516
ATTN: Rick Hall

30-9S-24W Graham, KS

Reynolds #1-30

Job Ticket: 55391 **DST#: 3**

Test Start: 2017.09.25 @ 15:18:22

GENERAL INFORMATION:

Formation: **LKC "H-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:17:13
Time Test Ended: 00:10:57

Test Type: Conventional Bottom Hole (Reset)
Tester: Brannan Lonsdale
Unit No: 73

Interval: 4012.00 ft (KB) To 4078.00 ft (KB) (TVD)
Total Depth: 4078.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

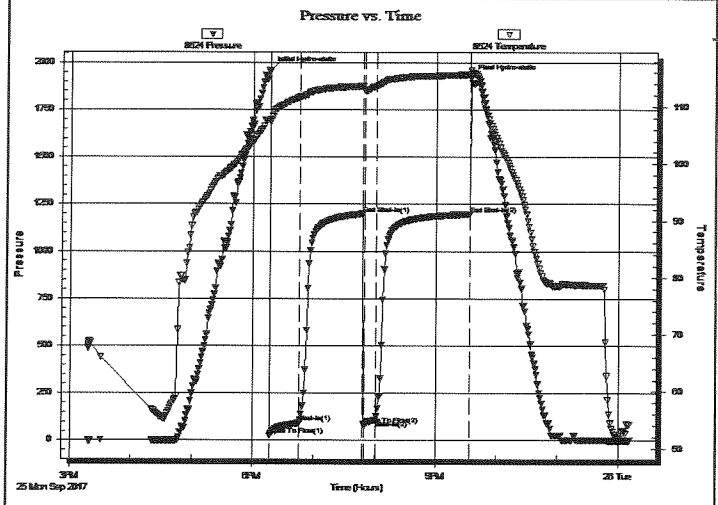
Reference Elevations: 2553.00 ft (KB)
2546.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8524 **Outside**

Press@RunDepth: 110.92 psig @ 4043.00 ft (KB)
Start Date: 2017.09.25 End Date: 2017.09.26
Start Time: 15:18:23 End Time: 00:10:57

Capacity: 8000.00 psig
Last Calib.: 2017.09.26
Time On Btm: 2017.09.25 @ 18:16:58
Time Off Btm: 2017.09.25 @ 21:34:13

TEST COMMENT: 30- IF- BOB 11mins
60- ISI- 1.75" blow
15- FF- BOB 4mins
90- FSI- 3" blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1959.78	107.87	Initial Hydro-static
1	27.29	107.39	Open To Flow (1)
30	93.13	111.75	Shut-In(1)
91	1198.93	113.63	End Shut-In(1)
93	84.15	112.89	Open To Flow (2)
104	110.92	113.64	Shut-In(2)
196	1197.31	115.72	End Shut-In(2)
198	1919.43	116.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
233.00	GOCM, 10%G 35%O 55%M	2.17
0.00	584' GIP	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Great Plains Energy, Inc.

6121 S. 58th St.
Suite B
Lincoln, NE 68516
ATTN: Rick Hall

30-9S-24W Graham, KS

Reynolds #1-30

Job Ticket: 55391 **DST#: 3**

Test Start: 2017.09.25 @ 15:18:22

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	34 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.20 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2100.00 ppm				
Filter Cake:	inches				

Recovery Information

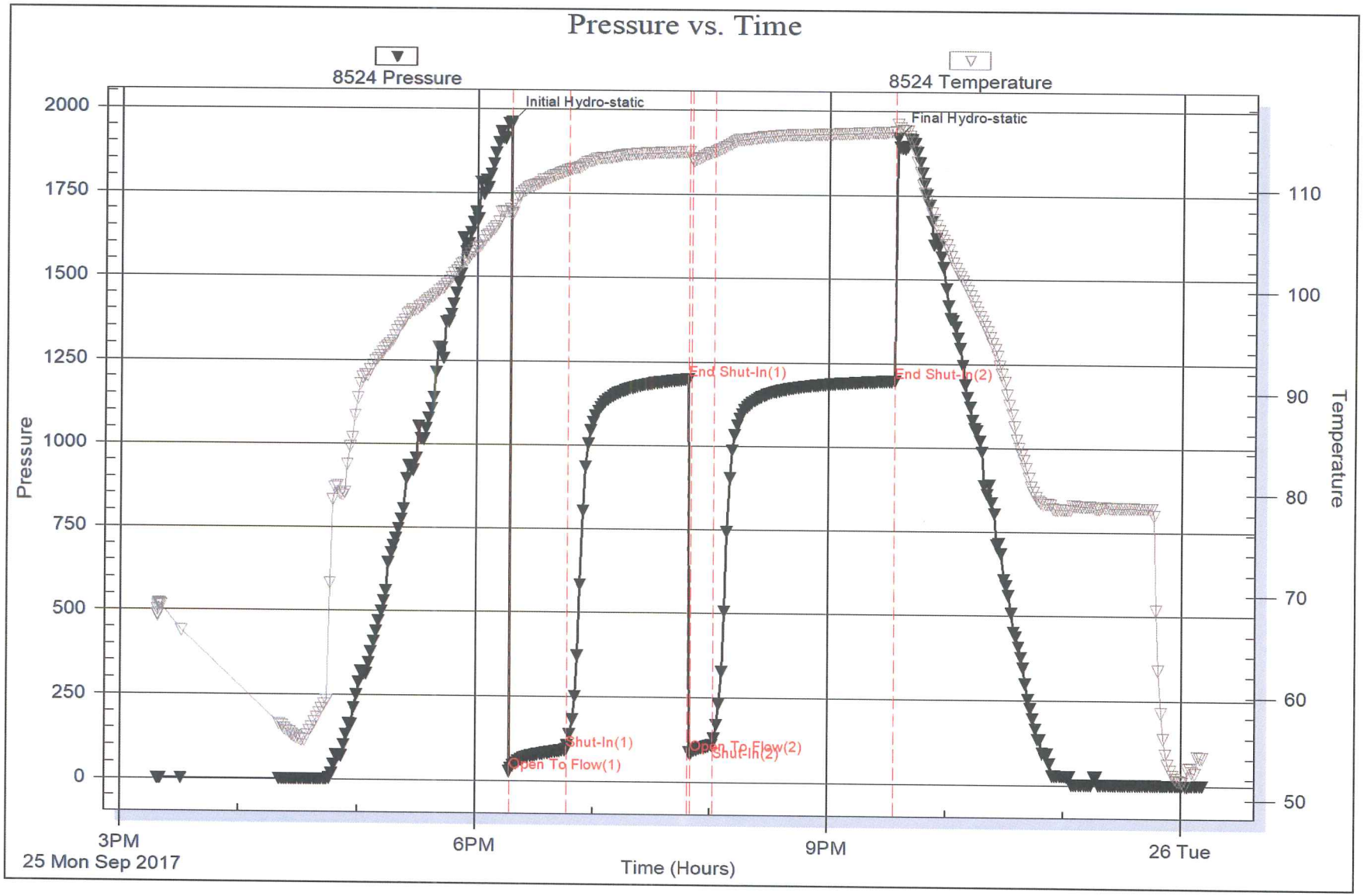
Recovery Table

Length ft	Description	Volume bbl
233.00	GOCM, 10%G 35%O 55%M	2.173
0.00	584' GIP	0.000

Total Length: 233.00 ft Total Volume: 2.173 bbl

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

Serial #: 8524 **Outside** Great Plains Energy, Inc. Reynolds #1-30 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 55391 Printed: 2017.09.26 @ 01:57:50

DRILL STEM TEST REPORT

Great Plains Energy, Inc.

6121 S. 58th St.
Suite B
Lincoln, NE 68516
ATTN: Rick Hall

30-9S-24W Graham, KS

Reynolds #1-30

Job Ticket: 55390 **DST#: 2**

Test Start: 2017.09.24 @ 17:08:14

GENERAL INFORMATION:

Formation: **LKC "F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:21:35
Time Test Ended: 01:28:35

Test Type: Conventional Bottom Hole (Reset)
Tester: Brannan Lonsdale
Unit No: 73

Interval: 3950.00 ft (KB) To 3980.00 ft (KB) (TVD)
Total Depth: 3980.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

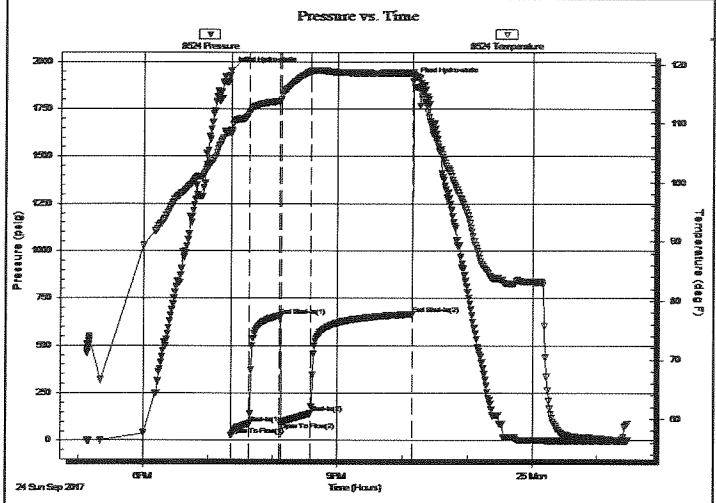
Reference Elevations: 2553.00 ft (KB)
2546.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8524 **Outside**

Press@RunDepth: 142.60 psig @ 3977.00 ft (KB)
Start Date: 2017.09.24 End Date: 2017.09.25
Start Time: 17:08:15 End Time: 01:28:35

Capacity: 8000.00 psig
Last Calib.: 2017.09.25
Time On Btm: 2017.09.24 @ 19:21:20
Time Off Btm: 2017.09.24 @ 22:09:50

TEST COMMENT: 15- IF- BOB 14mins
30- ISI- Surface blow died in 5mins
30- FF- BOB 11mins
90- FSI- Surface blow throughout



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1953.36	108.93	Initial Hydro-static
1	26.83	108.44	Open To Flow (1)
18	90.04	111.84	Shut-In(1)
46	657.69	113.81	End Shut-In(1)
47	96.67	114.12	Open To Flow (2)
75	142.60	118.87	Shut-In(2)
168	666.25	118.60	End Shut-In(2)
169	1896.65	118.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
185.00	WOCM 35%W 5%O 60%M	1.49
126.00	CGO, 20%G 80%O	1.79
0.00	442' GIP	0.00

* Recovery from multiple tests

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Great Plains Energy, Inc.

6121 S. 58th St.
Suite B
Lincoln, NE 68516
ATTN: Rick Hall

30-9S-24W Graham, KS

Reynolds #1-30

Job Ticket: 55390 **DST#: 2**

Test Start: 2017.09.24 @ 17:08:14

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	35 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	75000 ppm
Viscosity:	64.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2300.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
185.00	WOCM 35%W 5%O 60%M	1.493
126.00	CGO, 20%G 80%O	1.786
0.00	442' GIP	0.000

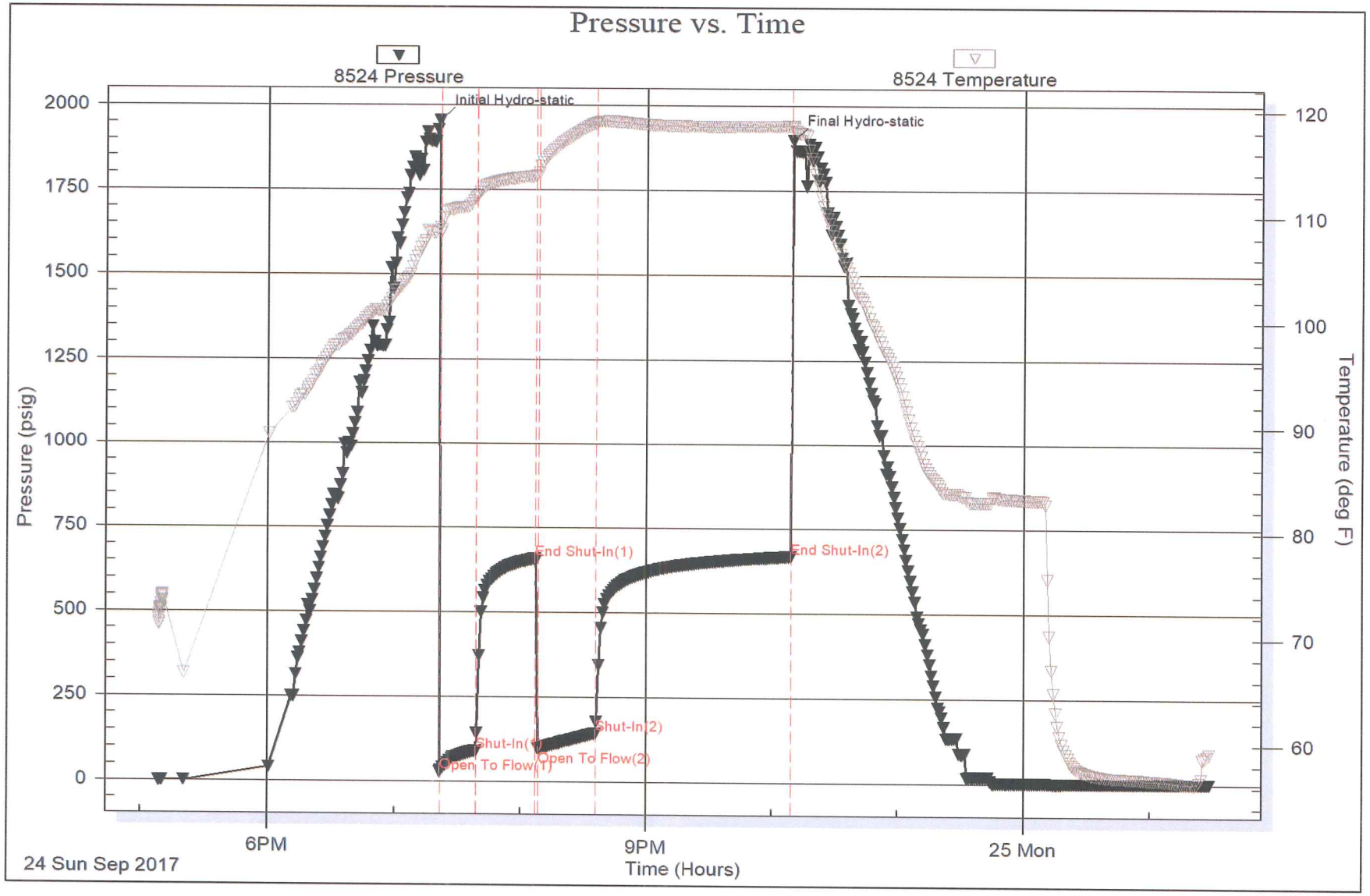
Total Length: 311.00 ft Total Volume: 3.279 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: RW: .07@85deg

Serial #: 8524 **Outside** Great Plains Energy, Inc. Reynolds #1-30 DST Test Number: 2



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