Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1075005

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 # 34110
Name: Caerus Kansas LLC
Address 1: 600 17TH ST, STE 1600 N
Address 2:
City: DENVER State: CO Zip: 80202 + ____
Contact Person: Amy Lay
Phone: (303) 565-4600
CONTRACTOR: License # 34233
Name: Maverick Drilling LLC
Wellsite Geologist: Jeff Lawler
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 #:

11/16/2011	11/22/2011	11/23/2011
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-185-23680-00-00
Spot Description:
S2 - SE - NE - SE Sec. 30 Twp. 24 S. R. 14 ☐ East ☑ West
1400 Feet from ☐ North / ☑ South Line of Section
330 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: Stafford
Lease Name: Waters Well #: 30-43
Field Name:
Producing Formation: N/A
Elevation: Ground: 1992 Kelly Bushing: 1999
Total Vertical Depth: 4448 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 266 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: 0 ppm Fluid volume: 160 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Rama Operating Co., Inc.
Lease Name: Jordan SWD License #: 3911
Quarter NW Sec. 26 Twp. 24 S. R. 12 ☐ East ☑ West
County: Stafford Permit #: 15265

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: 02/23/2012
☑ **Confidential Release Date:** 02/22/2014
☑ **Wireline Log Received**
☐ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 02/24/2012

[redacted] 1075005

Operator Name: Caerus Kansas LLC Lease Name: Waters Well #: 30-43

Sec. 30 Twp. 24 S. R. 14 ☐ East ☑ West County: Stafford

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:

Microlog, Porosity, Sonic, Dual Induction

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

Name	Top	Datum
Stone Corral	941	
Wood Siding	2821	
Heebner	3579	
Arbuckle	4339	

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	266	Class A 3%CC	365	2% Gel

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

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

Date of First, Resumed Production, SWD or ENHR. Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

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

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:

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

OPERATOR

Company:	CAERUS KANSAS LLC		
Address:	P. O. BOX 1378 HAYS, KS 67601		
Contact Geologist:	BRIAN KARLIN		
Contact Phone Nbr:	(785) 623-3290		
Well Name:	WATERS 30-43		
Location:	S2 SE NE SE 30-24S-14W	API:	15-185-23680
Pool:		Field:	SATTERLEE
State:	KANSAS	Country:	USA

Scale 1:240 Imperial

Well Name:	WATERS 30-43		
Surface Location:	S2 SE NE SE 30-24S-14W		
Bottom Location:			
API:	15-185-23680		
License Number:	34110		
Spud Date:	11/16/2011	Time:	3:34 PM
Region:	STAFFORD		
Drilling Completed:	11/23/2011	Time:	4:51 AM
Surface Coordinates:	1400' FSL & 330' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	1990.00ft		
K.B. Elevation:	1999.00ft		
Logged Interval:	0.00ft	To:	0.00ft
Total Depth:	4448.00ft		
Formation:			
Drilling Fluid Type:	FRESH WATER/CHEMICAL GEL		

SURFACE CO-ORDINATES

Well Type:	Vertical		
Longitude:	-98.8953390	Latitude:	37.9311191
N/S Co-ord:	1400' FSL		
E/W Co-ord:	330' FEL		

LOGGED BY

Company:	SOLUTIONS CONSULTING		
Address:	108 W 35TH HAYS, KS 67601		
Phone Nbr:	(785) 259-3737		
Logged By:	Geologist	Name:	JEFF LAWLER

CONTRACTOR

Contractor:	MAVERICK DRILLING LLC
Rig #:	108
Rig Type:	MUD ROTARY

Spud Date:	11/16/2011	Time:	3:34 PM
TD Date:	11/23/2011	Time:	4:51 AM
Rig Release:	11/24/2011	Time:	12:00 AM

ELEVATIONS

K.B. Elevation:	1999.00ft	Ground Elevation:	1990.00ft
K.B. to Ground:	9.00ft		

NOTES

DUE TO THE LOW STRUCTURAL POSITION TO OFFSET WELLS AND LACK OF AN ECONOMICAL RECOVERY ON DST #1, DECISION WAS MADE BY THE OPERATOR TO PLUG AND ABANDON WELL.

RESPECTFULLY SUBMITTED,
JEFF LAWLER

DST #1 ARBUKCLE

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Caerus Kansas LLC

P.O. Box 1378,
Hays KS, 67601

ATTN: Jeff Lawler

30-24-14w Stafford

Waters 30-43

Job Ticket: 44675 **DST#: 1**

Test Start: 2011.11.22 @ 12:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:54:30
Time Test Ended: 21:43:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Cody Bloedorn
Unit No: 41

Interval: 4308.00 ft (KB) To 4377.00 ft (KB) (TVD)
Total Depth: 4377.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

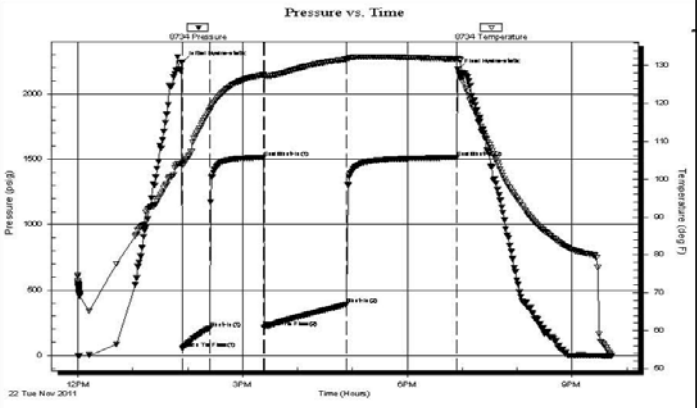
Reference Elevations: 1999.00 ft (KB)
1990.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8734 **Outside**

Press@RunDepth: 391.49 psig @ 4374.00 ft (KB)
Start Date: 2011.11.22 End Date: 2011.11.22
Start Time: 12:00:01 End Time: 21:43:30

Capacity: 8000.00 psig
Last Calib.: 2011.11.22
Time On Btm: 2011.11.22 @ 13:54:00
Time Off Btm: 2011.11.22 @ 18:55:00

TEST COMMENT: 30 - IF- B.O.B. in 20 Min.
60 - ISI- No blow back
90 - FF- B.O.B. in 25 Min.
120 - FSI- No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2245.03	104.22	Initial Hydro-static
1	54.71	103.80	Open To Flow (1)
30	208.35	118.09	Shut-In(1)
89	1512.84	127.48	End Shut-In(1)
90	213.45	127.17	Open To Flow (2)
180	391.49	131.63	Shut-In(2)
300	1512.63	131.71	End Shut-In(2)
301	2185.54	131.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	GVSOCMW, 5%G, 5%O, 20%M, 70%W	3.26
372.00	GVSOCM, 5%G, 5%O, 90%M	5.22

Gas Rates

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

ROCK TYPES

	Cht		Dolprim		Lmst fw7>		Carbon Sh		Ss
	Cht vari		Dolsec		shale, grn		shale, red		
	Chtcongl		Lmst fw<7		shale, gry		Shcol		

ACCESSORIES

FOSSIL
- Bioclastic or Fragmental
- Bryozoa
- Plant Remains

STRINGER
- Chert
- Dolomite
- green shale
- red shale

OTHER SYMBOLS

DST
- DST Int
- DST alt
- Core

Curve Track #1
ROP (min/ft)
Gamma (API)
Cal (in)
1:240 Imperial

Depth | Intervals
Cored Interval
DST Interval

DST

Lithology

Oil Show

Geological Descriptions

TG, C1 - C5
Total Gas (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
1:240 Imperial

0	ROP (min/ft)	7
0	Gamma (API)	150
6	Cal (in)	16

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

3270
3280
3290
3300
3310
3320
3330
3340
3350
3360

ANHYDRITE E-LOG TOP BASE

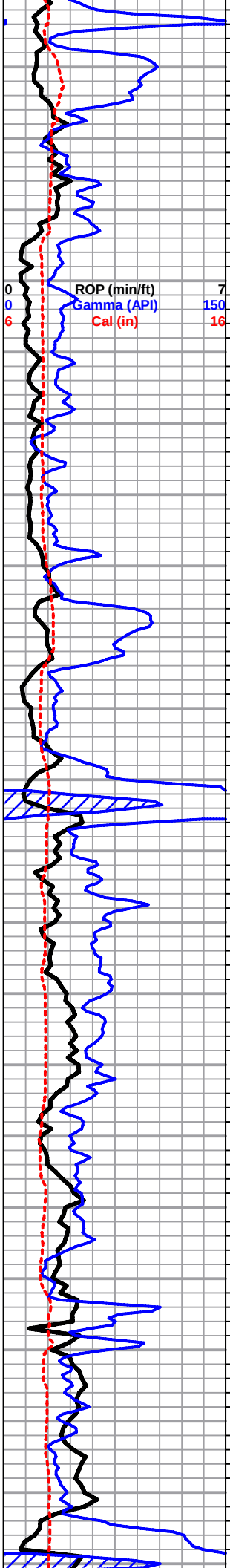
1' DRILL TIME FROM 3300' - RTD
10' WET/DRY SAMPLES FROM 3350' - RTD
JEFF LAWLER GEOLOGIC SUPERVISION FROM 3350' - TD

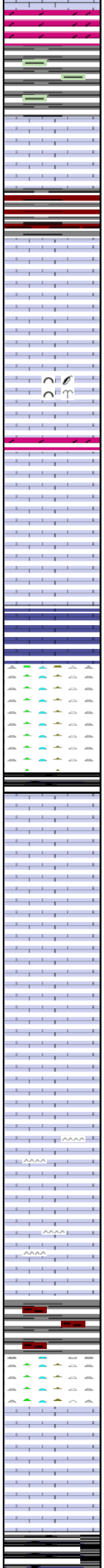
Lm- Tan Cream Lt Gray, F-Med XLN, slightly unconsolidated & fossiliferous w/ crinoids

Sh- Gray Maroon Brown, slick, blocky, clumps of argillaceous white & brown lime

Lm- Tan Lt Gray, FXLN, trashy oolitic bio-clastic mix

Lm- Tan Lt Brown Cream, FXLN, dolomitic Ls., few chips of angular bedded & reworked FSL chert





Lm- Cream Tan, F-Med grained, dolomitic Ls, chalky & dense,

Sh- Black Gray Lime Green, Blocky, slick, stippled, abundant white chalky lime

Lm- Tan Cream Drk Brown Milky White, FXLN, dolomitic Ls., dolomitic Chert & sharp angular FSL clastic bedded chert

Sh- Gray Maroon, slivers, slick & smooth, chalky in part

Chert/Lm- Smokey Gray Milky White Cream, Med XLN dolomitic Ls, chalky & dense. Chert - angular bedded massive FSL & clastic, few pieces of plant remains

Lm- Cream Lt Gray, Med XLN, granular dolomitic Ls. dense chalky cementation, bio-clastic w/ flora & fauna remains, FSL, bryozoa

Lm- Drk Gray Tan, A/A w/ bio-clastic drk gray Ls., more recrystallization in tan dolomitic Ls.

Lm- Lt Gray Cream Tan, F-Med XLN, moderately dense & well cemented, FSL w/ crinoids, some slightly unconsolidated

Lm- A/A, more chalky & soft

Chert- Lt Gray Tan, VF grained, smooth, dense, dolomitic bedded chert

Sh- Black Maroon Brown White, carbonaceous & fissile, smooth & blocky slivers, gritty & earthy chips, abundant clumps of argillaceous white chalky lime

Lm- Lt Gray, F-Med XLN, poorly developed, moderately dense w/ minimal visible porosity

Lm- A/A Med-Coarse XLN

Lm- A/A, FSL, more pinpoint porosity, mostly dense

Lm- Tan Cream Lt Gray, slightly dolomitic Ls, granular, well cemented, few pieces of mostly cherty gray Ls. FSL w/ fusulinids & crinoids

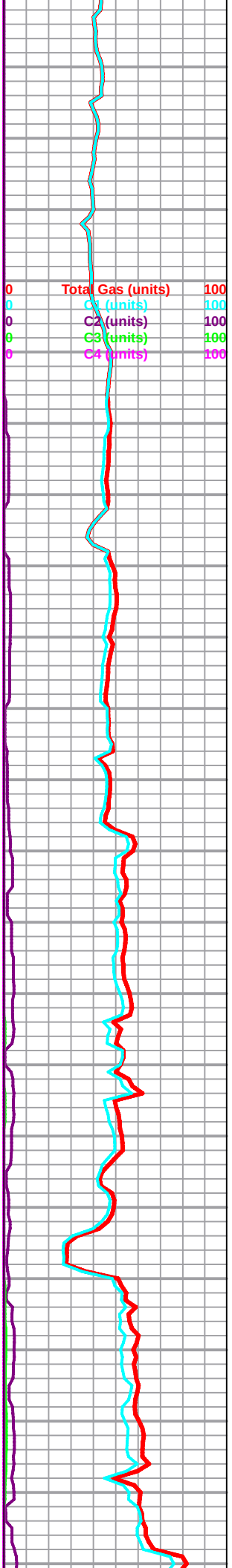
Lm- Lt - Drk Gray, VFXLN, mostly dense, FSL, trashy bio-clastic mix, few chips of reworked off white chert

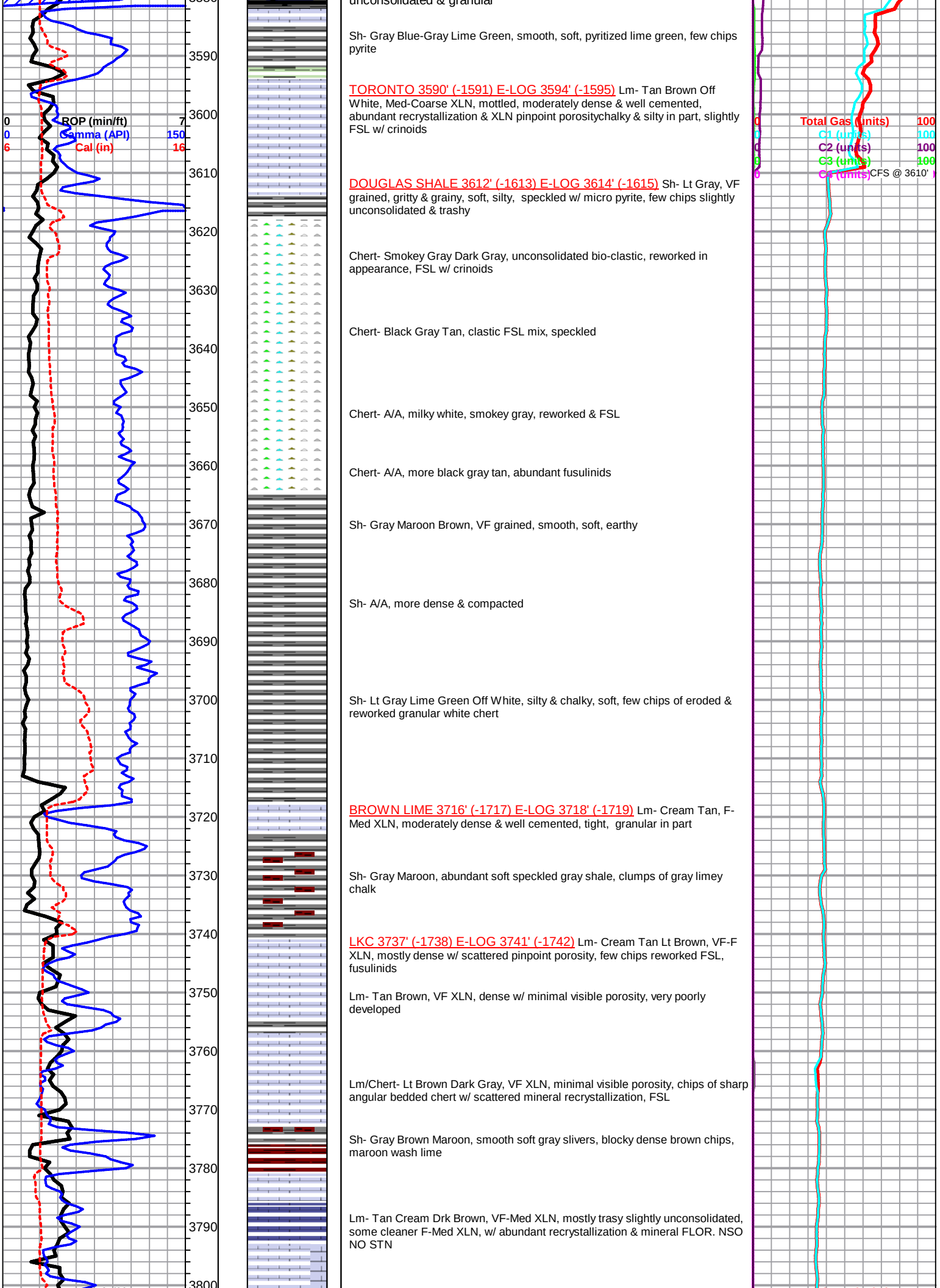
Sh- Gray Maroon Lt Purple, smooth slivers, few gritty & earthy

Chert- Black Smokey Gray Milky White, dense sharp angular bedded chert

Lm- Lt Brown Tan, F-Med grained, dolomitic Ls, dolomitic chert, granular, chalky in part w/ pinpoint porosity

HEEBNER 3571' (-1572) E-LOG 3575' (-1576) Sh- Black Gray Maroon Pale Green, carbonaceous, blocky, some smooth slivers, gray unconsolidated & granular





unconsolidated & granular

Sh- Gray Blue-Gray Lime Green, smooth, soft, pyritized lime green, few chips pyrite

TORONTO 3590' (-1591) E-LOG 3594' (-1595) Lm- Tan Brown Off White, Med-Coarse XLN, mottled, moderately dense & well cemented, abundant recrystallization & XLN pinpoint porositychalky & silty in part, slightly FSL w/ crinoids

DOUGLAS SHALE 3612' (-1613) E-LOG 3614' (-1615) Sh- Lt Gray, VF grained, gritty & grainy, soft, silty, speckled w/ micro pyrite, few chips slightly unconsolidated & trashy

Chert- Smokey Gray Dark Gray, unconsolidated bio-clastic, reworked in appearance, FSL w/ crinoids

Chert- Black Gray Tan, clastic FSL mix, speckled

Chert- A/A, milky white, smokey gray, reworked & FSL

Chert- A/A, more black gray tan, abundant fusulinids

Sh- Gray Maroon Brown, VF grained, smooth, soft, earthy

Sh- A/A, more dense & compacted

Sh- Lt Gray Lime Green Off White, silty & chalky, soft, few chips of eroded & reworked granular white chert

BROWN LIME 3716' (-1717) E-LOG 3718' (-1719) Lm- Cream Tan, F-Med XLN, moderately dense & well cemented, tight, granular in part

Sh- Gray Maroon, abundant soft speckled gray shale, clumps of gray limey chalk

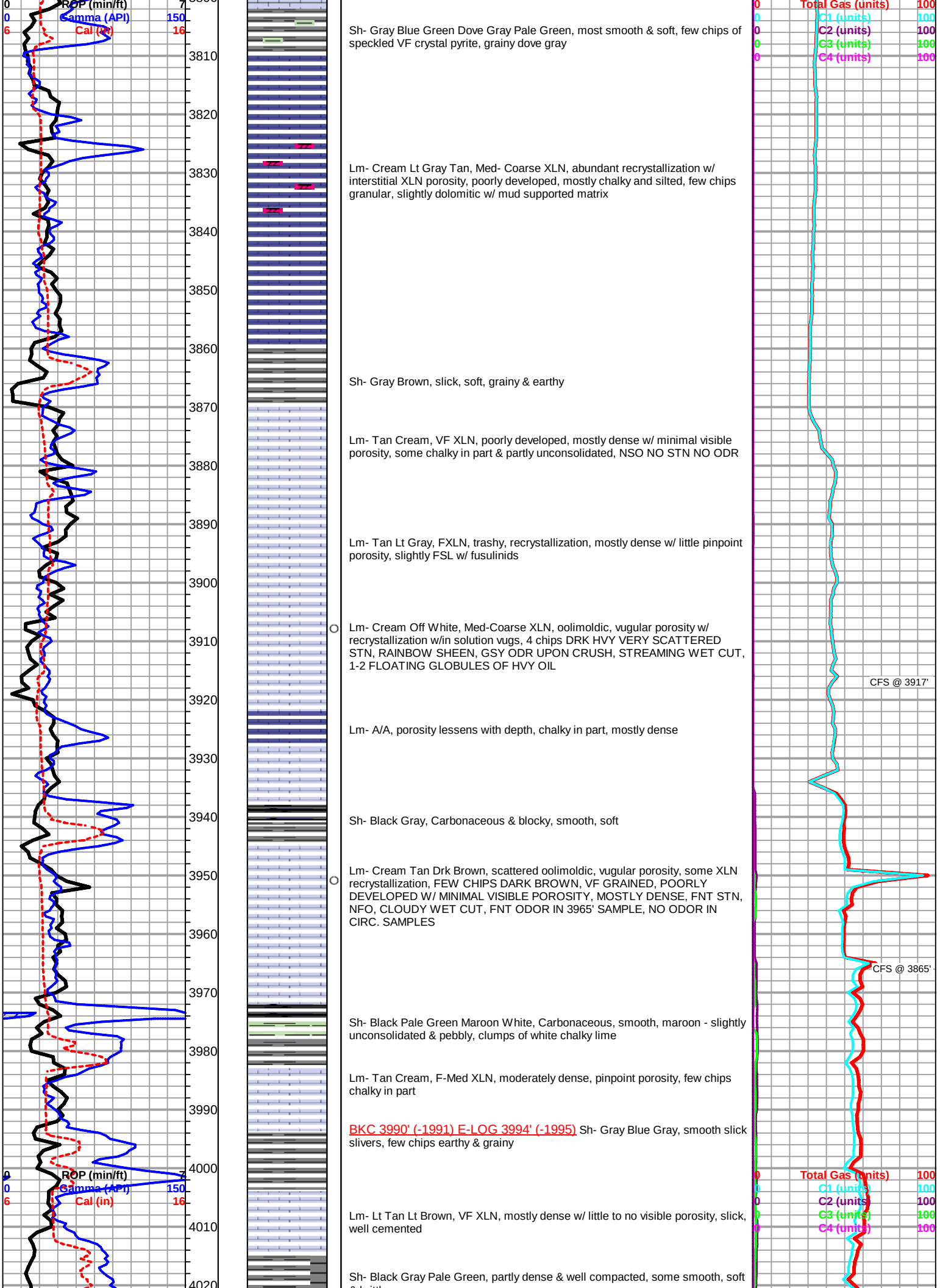
LKC 3737' (-1738) E-LOG 3741' (-1742) Lm- Cream Tan Lt Brown, VF-F XLN, mostly dense w/ scattered pinpoint porosity, few chips reworked FSL, fusulinids

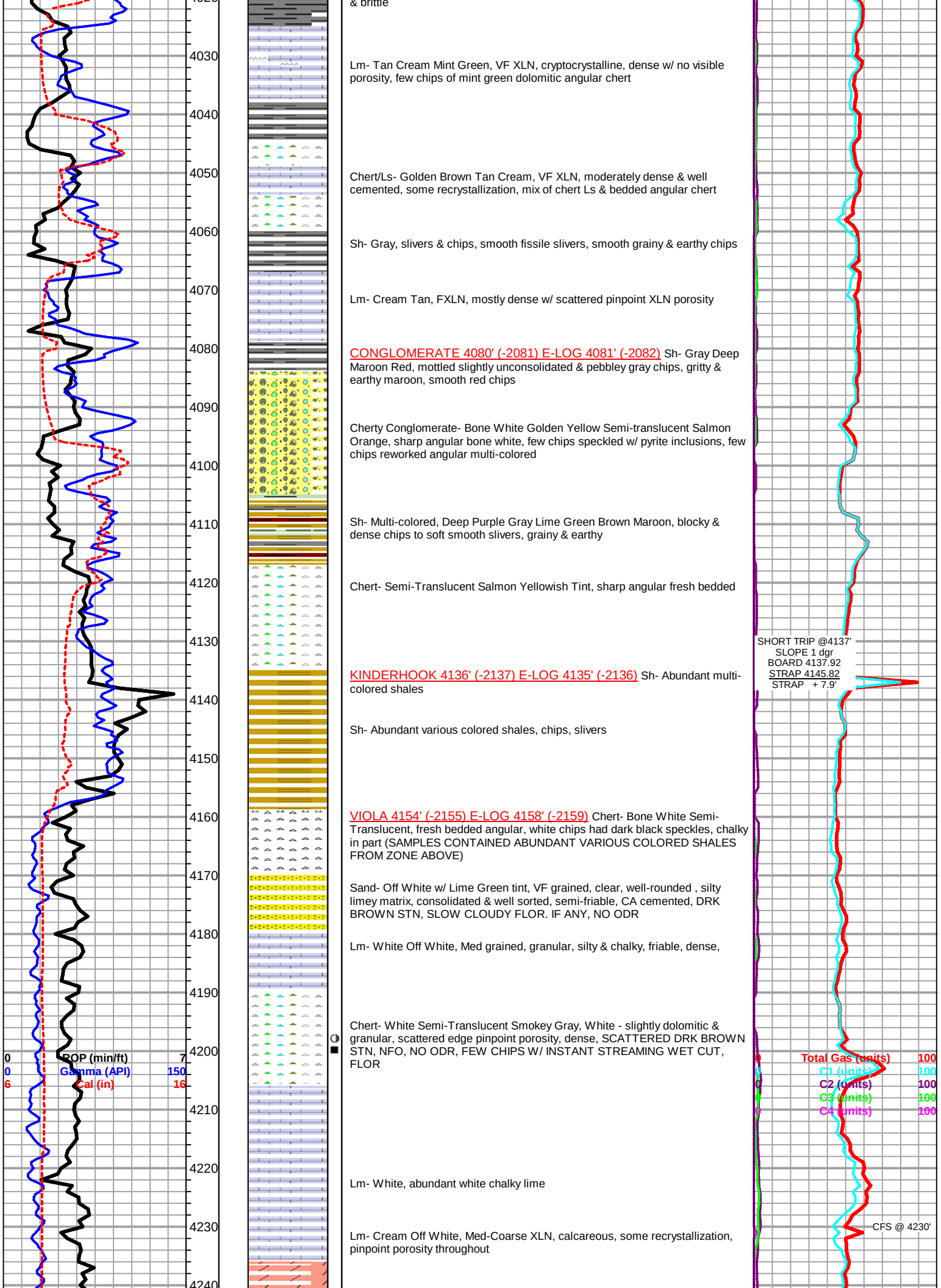
Lm- Tan Brown, VF XLN, dense w/ minimal visible porosity, very poorly developed

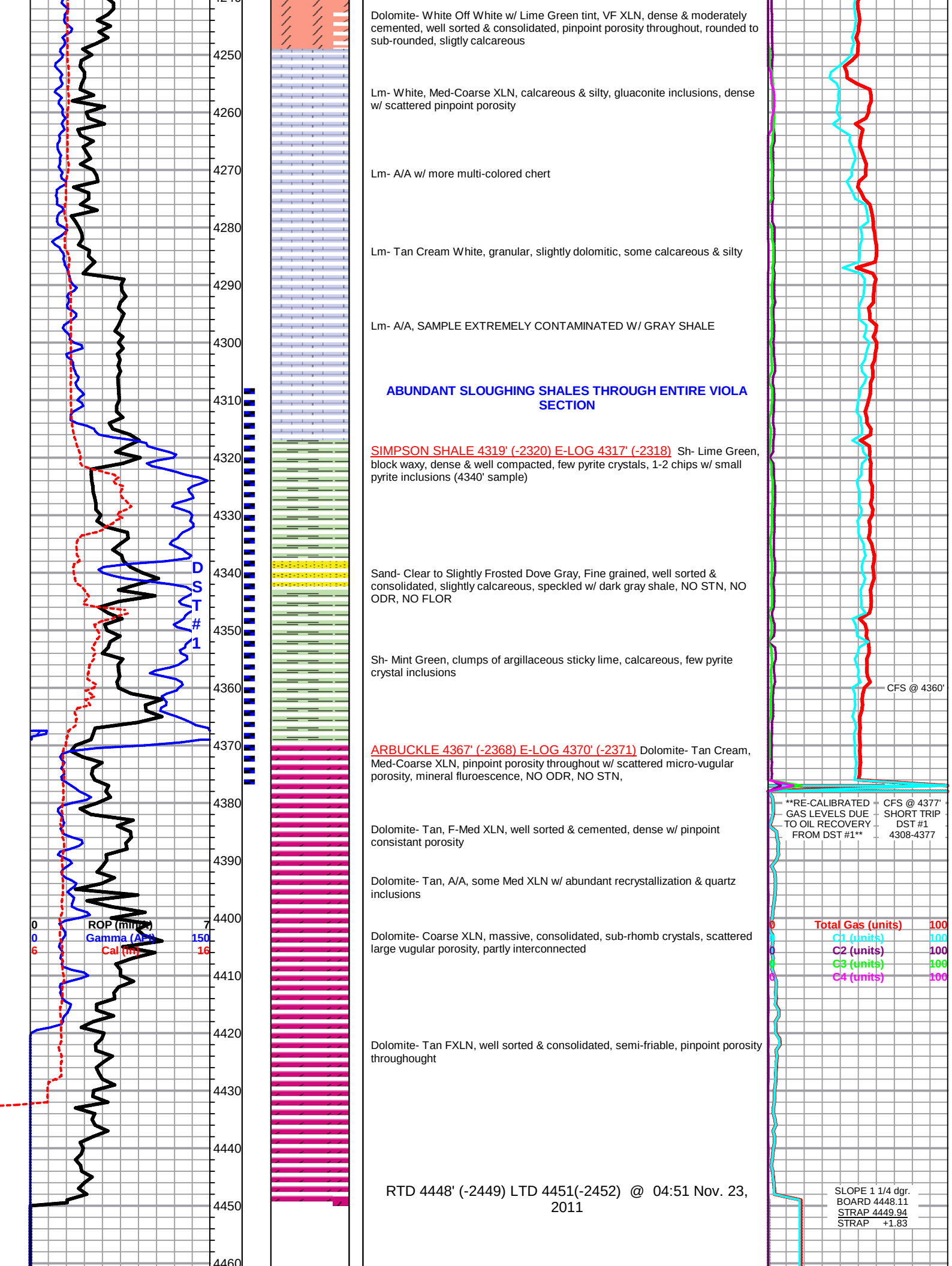
Lm/Chert- Lt Brown Dark Gray, VF XLN, minimal visible porosity, chips of sharp angular bedded chert w/ scattered mineral recrystallization, FSL

Sh- Gray Brown Maroon, smooth soft gray slivers, blocky dense brown chips, maroon wash lime

Lm- Tan Cream Drk Brown, VF-Med XLN, mostly trasy slightly unconsolidated, some cleaner F-Med XLN, w/ abundant recrystallization & mineral FLOR. NSO NO STN


0 ROP (min/ft) 7
0 Gamma (API) 150
6 Cal (in) 16
3810
3820
3830
3840
3850
3860
3870
3880
3890
3900
3910
3920
3930
3940
3950
3960
3970
3980
3990
4000
4010
4020
Sh- Gray Blue Green Dove Gray Pale Green, most smooth & soft, few chips of speckled VF crystal pyrite, grainy dove gray
Lm- Cream Lt Gray Tan, Med- Coarse XLN, abundant recrystallization w/ interstitial XLN porosity, poorly developed, mostly chalky and silted, few chips granular, slightly dolomitic w/ mud supported matrix
Sh- Gray Brown, slick, soft, grainy & earthy
Lm- Tan Cream, VF XLN, poorly developed, mostly dense w/ minimal visible porosity, some chalky in part & partly unconsolidated, NSO NO STN NO ODR
Lm- Tan Lt Gray, FXLN, trashy, recrystallization, mostly dense w/ little pinpoint porosity, slightly FSL w/ fusulinids
Lm- Cream Off White, Med-Coarse XLN, oolimoldic, vugular porosity w/ recrystallization w/in solution vugs, 4 chips DRK HVY VERY SCATTERED STN, RAINBOW SHEEN, GSY ODR UPON CRUSH, STREAMING WET CUT, 1-2 FLOATING GLOBULES OF HVY OIL
Lm- A/A, porosity lessens with depth, chalky in part, mostly dense
Sh- Black Gray, Carbonaceous & blocky, smooth, soft
Lm- Cream Tan Drk Brown, scattered oolimoldic, vugular porosity, some XLN recrystallization, FEW CHIPS DARK BROWN, VF GRAINED, POORLY DEVELOPED W/ MINIMAL VISIBLE POROSITY, MOSTLY DENSE, FNT STN, NFO, CLOUDY WET CUT, FNT ODOR IN 3965' SAMPLE, NO ODOR IN CIRC. SAMPLES
Sh- Black Pale Green Maroon White, Carbonaceous, smooth, maroon - slightly unconsolidated & pebbly, clumps of white chalky lime
Lm- Tan Cream, F-Med XLN, moderately dense, pinpoint porosity, few chips chalky in part
BKC 3990' (-1991) E-LOG 3994' (-1995) Sh- Gray Blue Gray, smooth slick slivers, few chips earthy & grainy
Lm- Lt Tan Lt Brown, VF XLN, mostly dense w/ little to no visible porosity, slick, well cemented
Sh- Black Gray Pale Green, partly dense & well compacted, some smooth, soft
0 Total Gas (units) 100
0 C1 (units) 100
0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100
CFS @ 3917'
CFS @ 3865'
0 ROP (min/ft) 7
0 Gamma (API) 150
6 Cal (in) 16
0 Total Gas (units) 100
0 C1 (units) 100
0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100


& brittle
Lm- Tan Cream Mint Green, VF XLN, cryptocrystalline, dense w/ no visible porosity, few chips of mint green dolomitic angular chert
Chert/Ls- Golden Brown Tan Cream, VF XLN, moderately dense & well cemented, some recrystallization, mix of chert Ls & bedded angular chert
Sh- Gray, slivers & chips, smooth fissile slivers, smooth grainy & earthy chips
Lm- Cream Tan, FXLN, mostly dense w/ scattered pinpoint XLN porosity
CONGLOMERATE 4080' (-2081) E-LOG 4081' (-2082) Sh- Gray Deep Maroon Red, mottled slightly unconsolidated & pebbley gray chips, gritty & earthy maroon, smooth red chips
Cherty Conglomerate- Bone White Golden Yellow Semi-translucent Salmon Orange, sharp angular bone white, few chips speckled w/ pyrite inclusions, few chips reworked angular multi-colored
Sh- Multi-colored, Deep Purple Gray Lime Green Brown Maroon, blocky & dense chips to soft smooth slivers, grainy & earthy
Chert- Semi-Translucent Salmon Yellowish Tint, sharp angular fresh bedded
KINDERHOOK 4136' (-2137) E-LOG 4135' (-2136) Sh- Abundant multi-colored shales
Sh- Abundant various colored shales, chips, slivers
VIOLA 4154' (-2155) E-LOG 4158' (-2159) Chert- Bone White Semi-Translucent, fresh bedded angular, white chips had dark black speckles, chalky in part (SAMPLES CONTAINED ABUNDANT VARIOUS COLORED SHALES FROM ZONE ABOVE)
Sand- Off White w/ Lime Green tint, VF grained, clear, well-rounded , silty limey matrix, consolidated & well sorted, semi-friable, CA cemented, DRK BROWN STN, SLOW CLOUDY FLOR. IF ANY, NO ODR
Lm- White Off White, Med grained, granular, silty & chalky, friable, dense,
Chert- White Semi-Translucent Smokey Gray, White - slightly dolomitic & granular, scattered edge pinpoint porosity, dense, SCATTERED DRK BROWN STN, NFO, NO ODR, FEW CHIPS W/ INSTANT STREAMING WET CUT, FLOR
Lm- White, abundant white chalky lime
Lm- Cream Off White, Med-Coarse XLN, calcareous, some recrystallization, pinpoint porosity throughout
4030
4040
4050
4060
4070
4080
4090
4100
4110
4120
4130
4140
4150
4160
4170
4180
4190
4200
4210
4220
4230
4240
0 ROP (min/ft) 7
0 Gamma (API) 150
6 Cal (in) 16
SHORT TRIP @4137'
SLOPE 1 dgr
BOARD 4137.92
STRAP 4145.82
STRAP + 7.9'
0 Total Gas (units) 100
C1 (units) 100
C2 (units) 100
C3 (units) 100
C4 (units) 100
CFS @ 4230'



Dolomite- White Off White w/ Lime Green tint, VF XLN, dense & moderately cemented, well sorted & consolidated, pinpoint porosity throughout, rounded to sub-rounded, sligtly calcareous

Lm- White, Med-Coarse XLN, calcareous & silty, gluaconite inclusions, dense w/ scattered pinpoint porosity

Lm- A/A w/ more multi-colored chert

Lm- Tan Cream White, granular, slightly dolomitic, some calcareous & silty

Lm- A/A, SAMPLE EXTREMELY CONTAMINATED W/ GRAY SHALE

ABUNDANT SLOUGHING SHALES THROUGH ENTIRE VIOLA SECTION

SIMPSON SHALE 4319' (-2320) E-LOG 4317' (-2318) Sh- Lime Green, block waxy, dense & well compacted, few pyrite crystals, 1-2 chips w/ small pyrite inclusions (4340' sample)

Sand- Clear to Slightly Frosted Dove Gray, Fine grained, well sorted & consolidated, slightly calcareous, speckled w/ dark gray shale, NO STN, NO ODR, NO FLOR

Sh- Mint Green, clumps of argillaceous sticky lime, calcareous, few pyrite crystal inclusions

ARBUCKLE 4367' (-2368) E-LOG 4370' (-2371) Dolomite- Tan Cream, Med-Coarse XLN, pinpoint porosity throughout w/ scattered micro-vugular porosity, mineral fluroescence, NO ODR, NO STN,

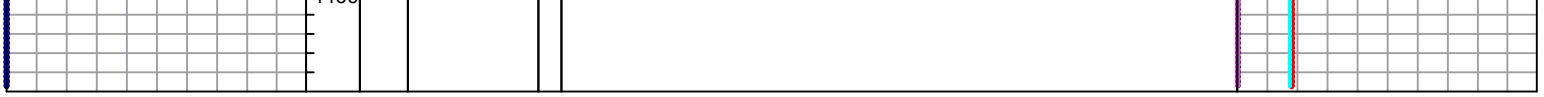
Dolomite- Tan, F-Med XLN, well sorted & cemented, dense w/ pinpoint consistant porosity

Dolomite- Tan, A/A, some Med XLN w/ abundant recrystallization & quartz inclusions

Dolomite- Coarse XLN, massive, consolidated, sub-rhomb crystals, scattered large vugular porosity, partly interconnected

Dolomite- Tan FXLN, well sorted & consolidated, semi-friable, pinpoint porosity throughought

RTD 4448' (-2449) LTD 4451(-2452) @ 04:51 Nov. 23, 2011



Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

February 23, 2012

Amy Lay
Caerus Kansas LLC
600 17TH ST, STE 1600 N
DENVER, CO 80202

Re: ACO1
API 15-185-23680-00-00
Waters 30-43
SE/4 Sec.30-24S-14W
Stafford County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Amy Lay

Notice: Fill out COMPLETELY and return to Conservation Division at the address below within 60 days from plugging date.

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

WELL PLUGGING RECORD
K.A.R. 82-3-117

Form CP-4
March 2009
Type or Print on this Form
Form must be Signed
All blanks must be Filled

OPERATOR: License #: 34110
Name: Caerus Kansas LLC
Address 1: P.O. Box 1378
Address 2:
City: Hays State: KS Zip: 67601 + 8378
Contact Person: Brian Karlin
Phone: (785) 623-3290
Type of Well: *(Check one)* ☐ Oil Well ☐ Gas Well ☐ OG ☑ D&A ☐ Cathodic
☐ Water Supply Well ☐ Other: ☐ SWD Permit #:
☐ ENHR Permit #: ☐ Gas Storage Permit #:
Is ACO-1 filed? ☐ Yes ☐ No If not, is well log attached? ☐ Yes ☐ No
Producing Formation(s): List All *(If needed attach another sheet)*
Depth to Top: Bottom: T.D.
Depth to Top: Bottom: T.D.
Depth to Top: Bottom: T.D.

API No. 15 - 185-23680-00-00
Spot Description:
S/2 - SE - NE - SE Sec. 30 Twp. 24 S. R. 14 ☐ East ☑ West
1,400 Feet from ☐ North / ☑ South Line of Section
330 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
County: Stafford
Lease Name: Waters Well #: 30-43
Date Well Completed: 11/23/2011
The plugging proposal was approved on: 11/22/2011 *(Date)*
by: Richard Lacy - KCC - Dodge City *(KCC **District** Agent's Name)*
Plugging Commenced: 11/23/2011
Plugging Completed: 11/23/2011

Show depth and thickness of all water, oil and gas formations.

Oil, Gas or Water Records		*Casing Record (Surface, Conductor & Production)*			
Formation	Content	Casing	Size	Setting Depth	Pulled Out
		Surface	8 5/8"	266'	None

Describe in detail the manner in which the well is plugged, indicating where the mud fluid was placed and the method or methods used in introducing it into the hole. If cement or other plugs were used, state the character of same depth placed from (bottom), to (top) for each plug set.

1st plug - 4370' - 50 sxs, 2nd plug - 960' - 50 sxs, 3rd plug - 290' - 50 sxs, 4th plug - 60' - 20 sxs, 30 sxs in the Rat Hole, 20 sxs in the Mouse Hole. Cementing material was a total of 220 sxs of 60/40 POZ Mix, 4% Gel. Cement was provided by Allied Cementing Company, LLC. Ticket #42302.

Plugging Contractor License #: 34233 Name: Maverick Drilling LLC
Address 1: 100 S. Main, Suite 440 Address 2:
City: Wichita State: Kansas Zip: 67202 +
Phone: (316) 262-6700
Name of Party Responsible for Plugging Fees: Caerus Kansas LLC
State of Colorado County, Denver , ss.
Amy Lay (Print Name) ☑ Employee of Operator or ☐ Operator on above-described well,
being first duly sworn on oath, says: That I have knowledge of the facts statements, and matters herein contained, and the log of the above-described well is as filed, and the same are true and correct, so help me God.
Signature: A. Lay

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

ALLIED CEMENTING CO., LLC. 042302

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Great Bend KS

DATE 11-23-11	SEC. 33	TWP. 24	RANGE 14	CALLED OUT	ON LOCATION	JOB START 900pm	JOB FINISH 1000pm
LEASE Wagner	WELL # 30-43		LOCATION Bijers Blacktop and 60 Hwy			COUNTY Stafford	STATE KS
OLD OR NEW (Circle one)			1W 1/2S Westward				

CONTRACTOR Mavrick Rig #108
TYPE OF JOB Rotary plug
HOLE SIZE 7 7/8 T.D. 4448
CASING SIZE 8 5/8 DEPTH 765
TUBING SIZE DEPTH
DRILL PIPE 4 1/2 DEPTH 4370
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. all
PERFS.
DISPLACEMENT Freshwater/Mud

OWNER Cairns Kansas LLC

CEMENT
AMOUNT ORDERED 220 Sx 60/40 4% gel

EQUIPMENT

PUMP TRUCK CEMENTER Bob R.
398 HELPER Shane K - Jon P.
BULK TRUCK
341 DRIVER Kenny - Jacob K.
BULK TRUCK
DRIVER

COMMON	132	@ 16.25	2145.00
POZMIX	88	@ 8.50	748.00
GEL	8	@ 21.25	170.00
CHLORIDE		@	
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	228	@ 2.25	513.00
MILEAGE	228 X 20 X .11		501.60
		TOTAL	4077.60

REMARKS:

1st plug at 4370 ft mix 50 sx
2nd plug at 960 ft mix 50 sx
3rd plug at 290 ft mix 50 sx
4th plug at 60 ft mix 20 sx
RH mix 30 sx
MH mix 20 sx

SERVICE

DEPTH OF JOB	4370		
PUMP TRUCK CHARGE			1250.00
EXTRA FOOTAGE		@	
MILEAGE	HVM 20	@ 7.00	140.00
MANIFOLD		@	
	HVM 20	@ 4.00	80.00
		@	
		TOTAL	1470.00

CHARGE TO: Cairns Kansas LLC
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

		@	
		@	
		@	
		@	
		@	
		TOTAL	

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist 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 "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES $5547.60
50/0 20% DISCOUNT 1326.00
IF PAID IN 30 DAYS
4,221.60

PRINTED NAME Tommy Swope

SIGNATURE [signature]

ALLIED CEMENTING CO., LLC. 037304

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Great Bend KS

DATE 11-16-11	SEC. 30	TWP. 24	RANGE 14	CALLED OUT	ON LOCATION	JOB START	JOB FINISH 330 Am
LEASE Waters	WELL # 30-43	LOCATION Saint John 50/281 Jct west				COUNTY Stafford	STATE KS
OLD OR NEW (Circle one)		Dillway 1 west 1 ½ south west into					

CONTRACTOR Maverick
TYPE OF JOB Surface
HOLE SIZE 12 ¼ T.D. 265
CASING SIZE 8 ⅝ 24# DEPTH 264
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 15 ¾ BBLS freshwater

OWNER Caerus Kansas LLC

CEMENT
AMOUNT ORDERED 200 sx Class A +3%cc +2% Gel
165 sx To 1 inch

COMMON	365	@ 16.25	5931.25
POZMIX		@	
GEL	7	@ 21.25	148.75
CHLORIDE	13	@ 58.20	756.60
ASC		@	
HANDLING	385	@ 2.25	866.25
MILEAGE	385 x 20 x .11		847.00
		TOTAL	8549.85

EQUIPMENT

PUMP TRUCK # 366 CEMENTER Wayne
HELPER John / Shane
BULK TRUCK # 341 DRIVER Vince / Jimmy
BULK TRUCK # DRIVER

REMARKS:

Pipe on Bottom Break circulation with Rig mud
mix 200 sx Class A +3%cc +2% Gel
Displace BBLS fresh water
Shut in cement didnt Circulate 1 inch 165 sx
Rig Down To Surface

SERVICE

DEPTH OF JOB	264		
PUMP TRUCK CHARGE			1125.00
EXTRA FOOTAGE		@	
MILEAGE Hvm	~~45~~ 20	@ 7.00	~~280.00~~ 140.00
MANIFOLD		@	
LVm	~~45~~ 20	@ 4.00	~~160.00~~ 80.00
		@	
		TOTAL	~~1565.00~~ 1345.00

CHARGE TO: Caerus Kansas LLC
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
	TOTAL	

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist 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 "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES ~~10,114.85~~ 9,894.85
DISCOUNT ~~80%~~ 20% 2,299.07 IF PAID IN 30 DAYS
7,595.78

PRINTED NAME Jeremy Stuckey

SIGNATURE [signature]

SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

SONIC LOG

Company CAERUS KANSAS, LLC.
Well WATERS #30-43
Field SATTERLEE
County STAFFORD
State KANSAS

Company CAERUS KANSAS, LLC
Well WATERS #30-43
Field SATTERLEE
County STAFFORD State KANSAS

Location: API # : 15-185-23680-0000
1400' FSL & 330' FEL
S/2 - SE - NE - SE
SEC 30 TWP 24S RGE 14W

Permanent Datum GROUND LEVEL Elevation 1990
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL
DIL/MEL

Elevation
K.B. 1999
D.F. 1997
G.L. 1990

Date	11/23/11		
Run Number	TWO		
Depth Driller	4448		
Depth Logger	4451		
Bottom Logged Interval	4441		
Top Log Interval	250		
Casing Driller	8 5/8" @ 265		
Casing Logger	265		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5000 PPM	
Density / Viscosity	9.6/56		
pH / Fluid Loss	9.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 66F		
Rmf @ Meas. Temp	0.49 @ 66F		
Rmc @ Meas. Temp	0.78 @ 66F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.36 @ 120F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	120F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	JEFF LAWLER		

<<< Fold Here >>>

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
MACKSVILLE, KS - EAST 3 MILES TO RD 80 - SOUTH 1 3/4 MILES
WEST INTO

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Charted by: Depth in Feet scaled 1:240

Marked by: Depth in Feet scaled 1:240

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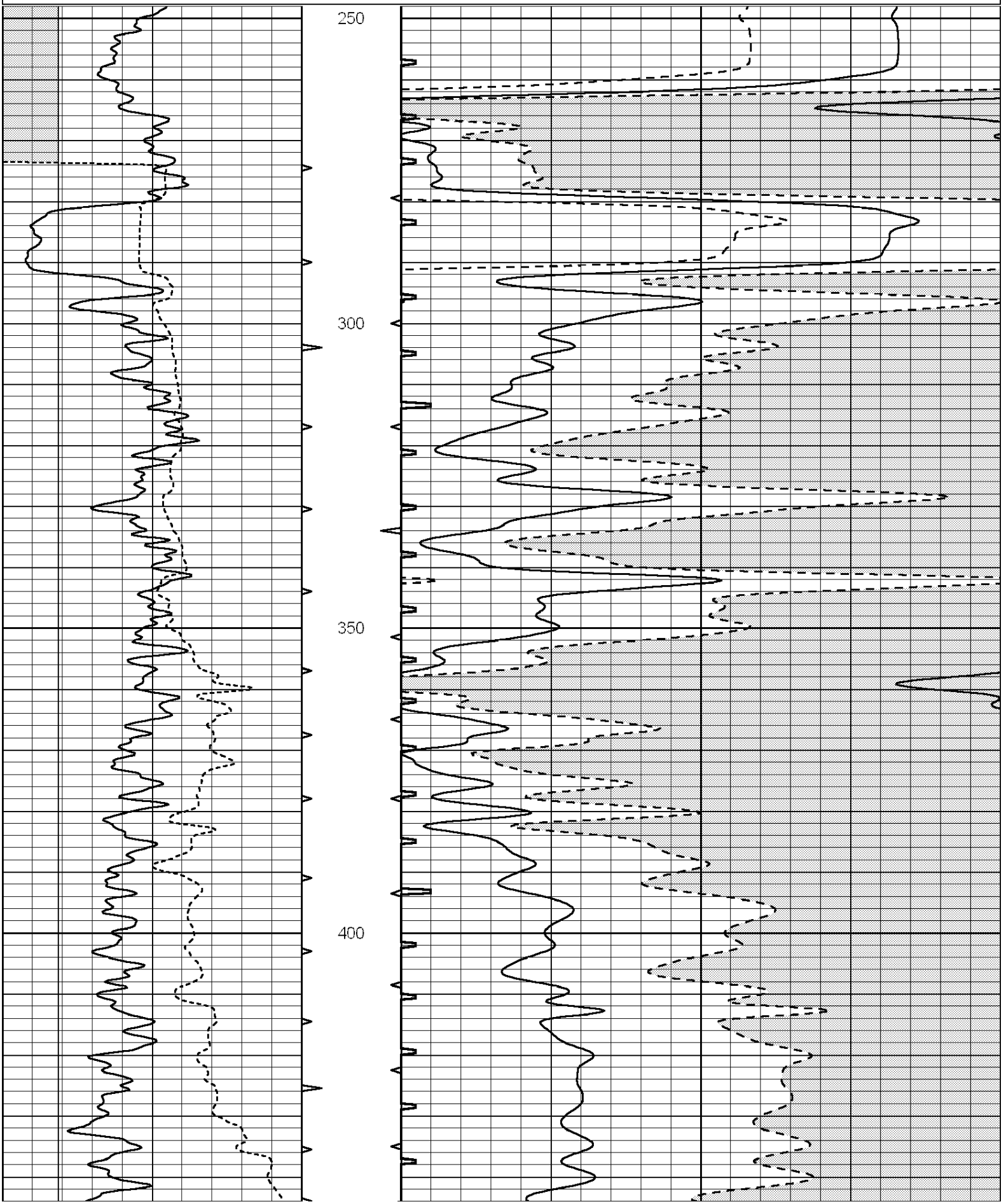
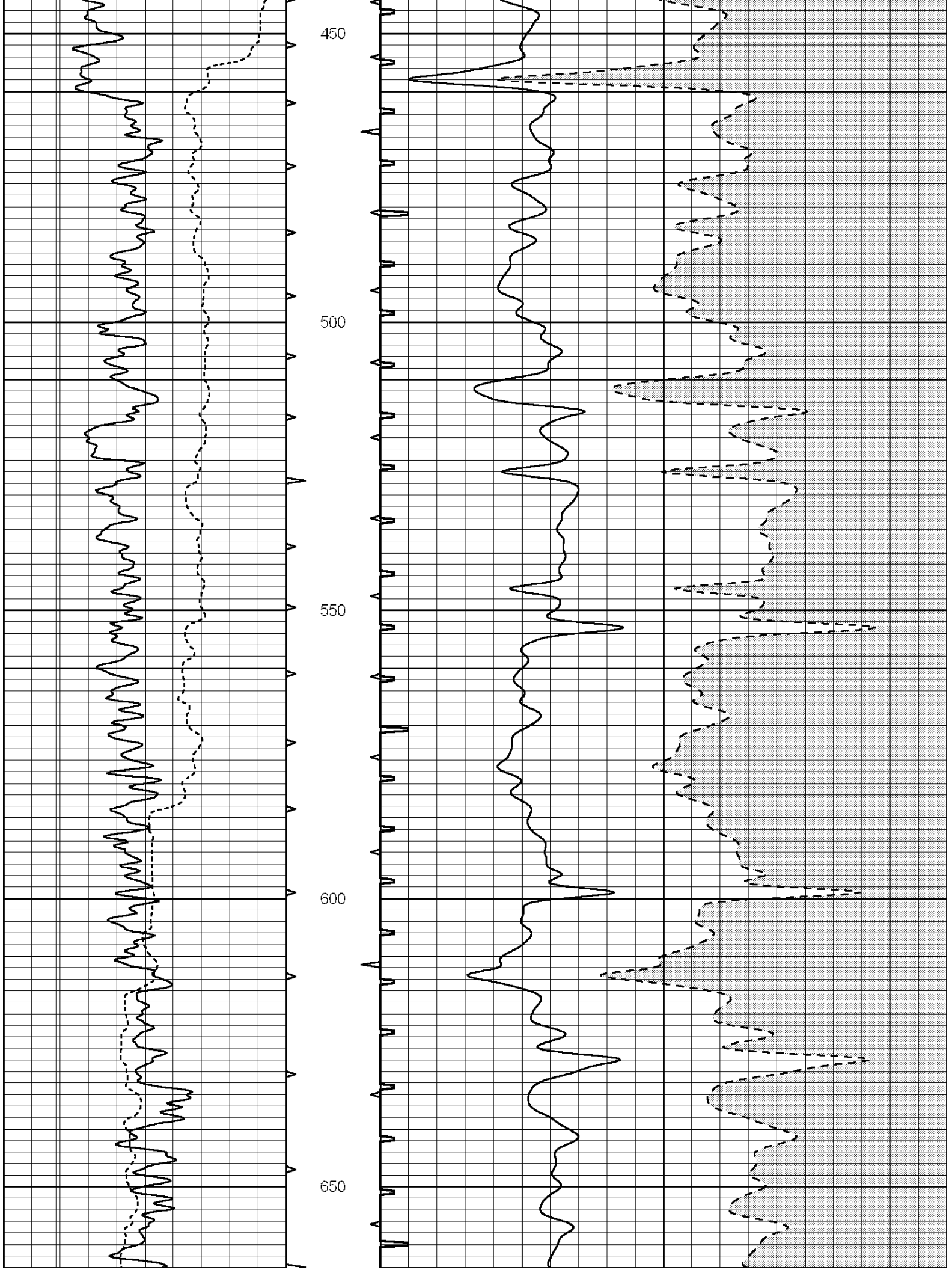
6	CALIPER (in)	16	10 (ft3) 0	30	SONIC POROSITY (pu) -10
			TBHV	0	ITT (msec) 20
			0 (ft3) 10		

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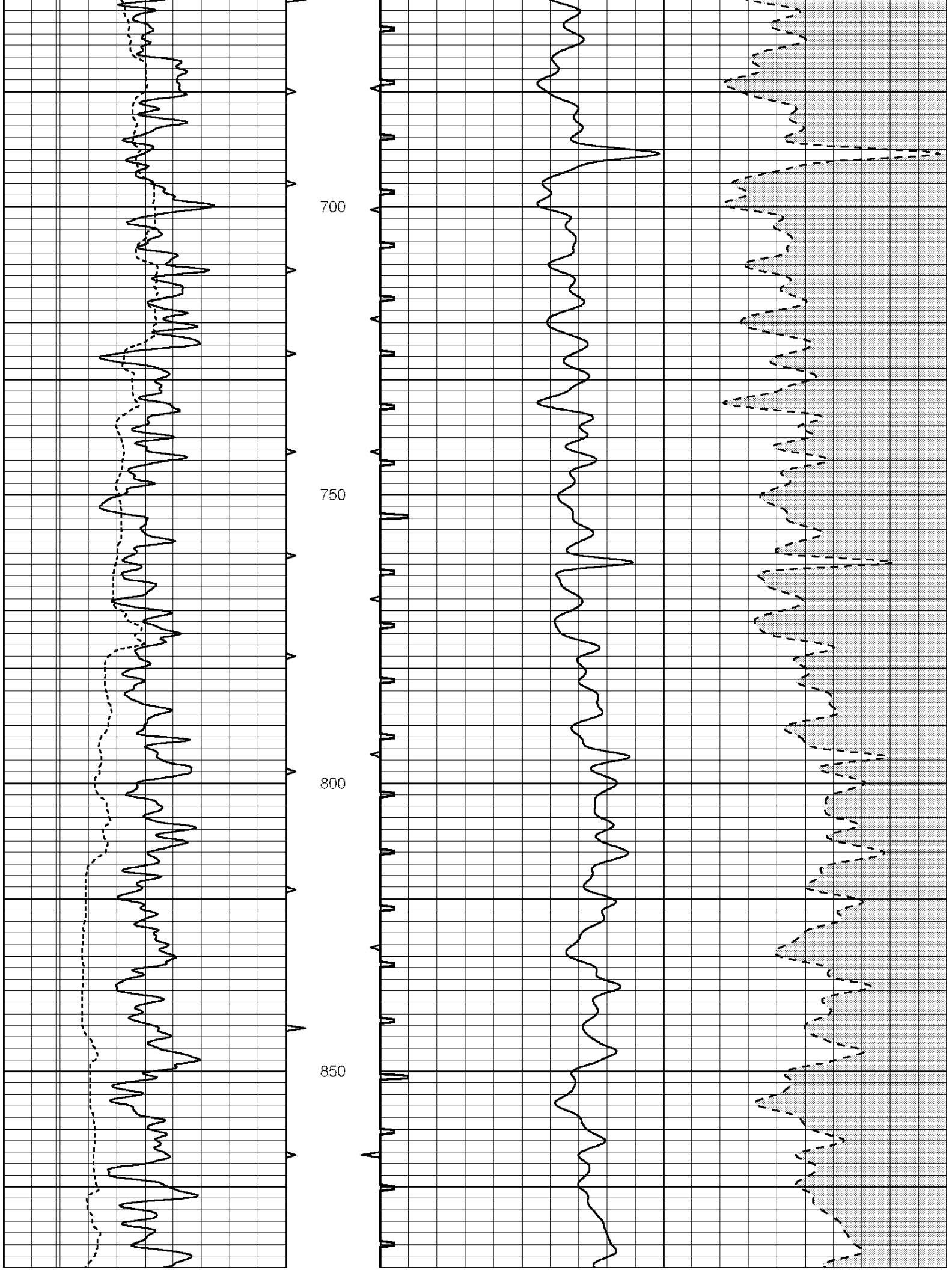
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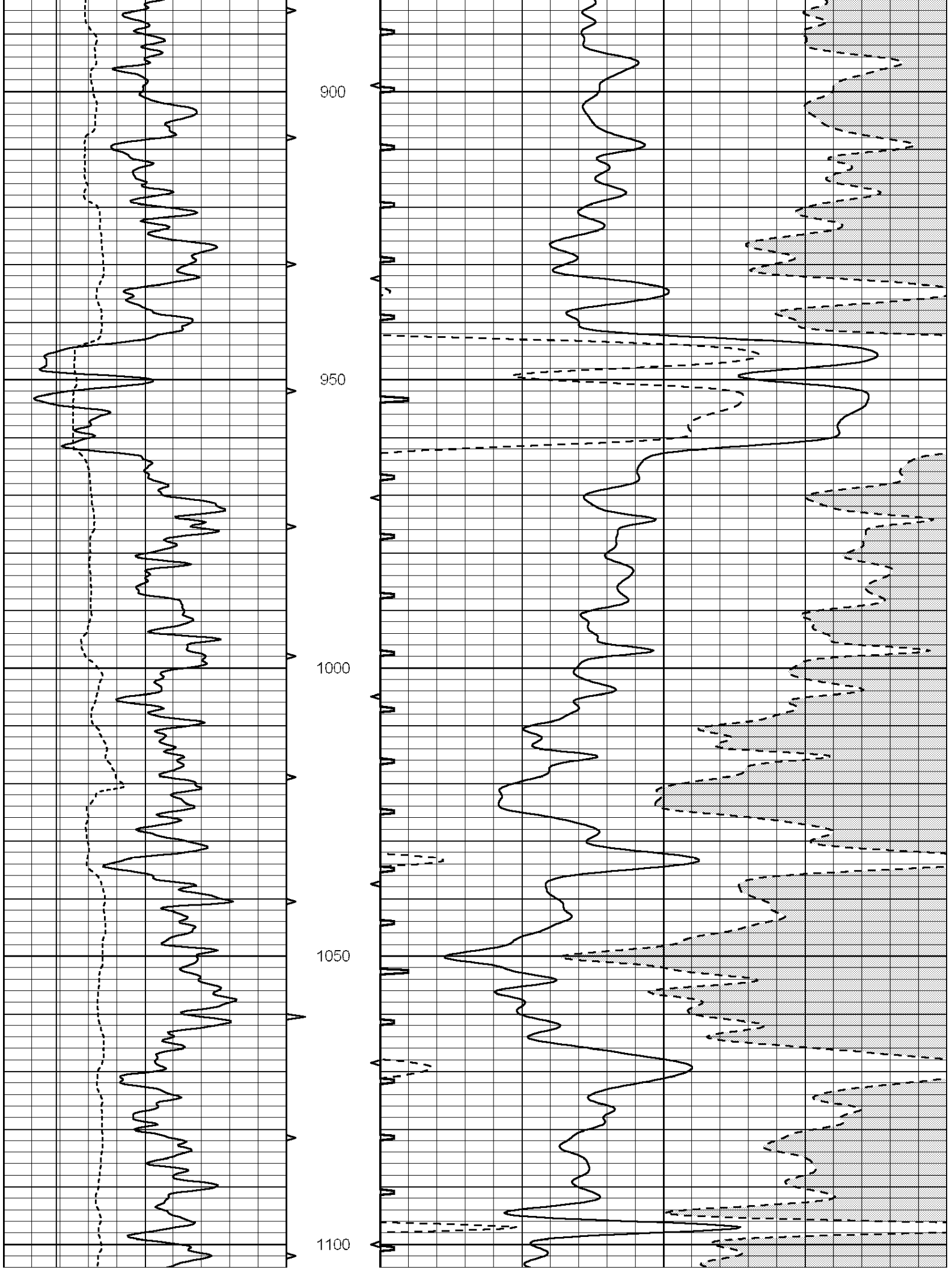
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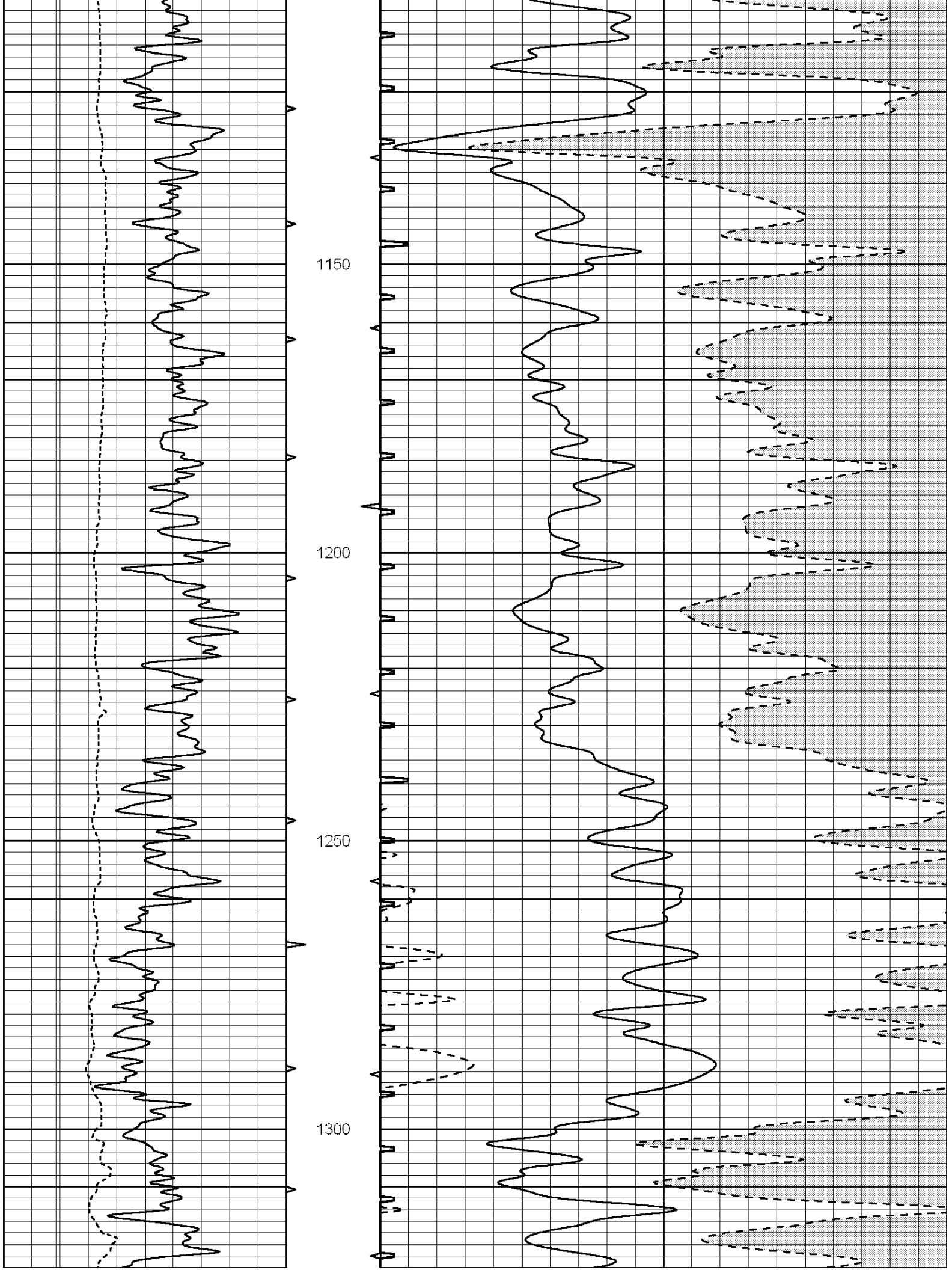
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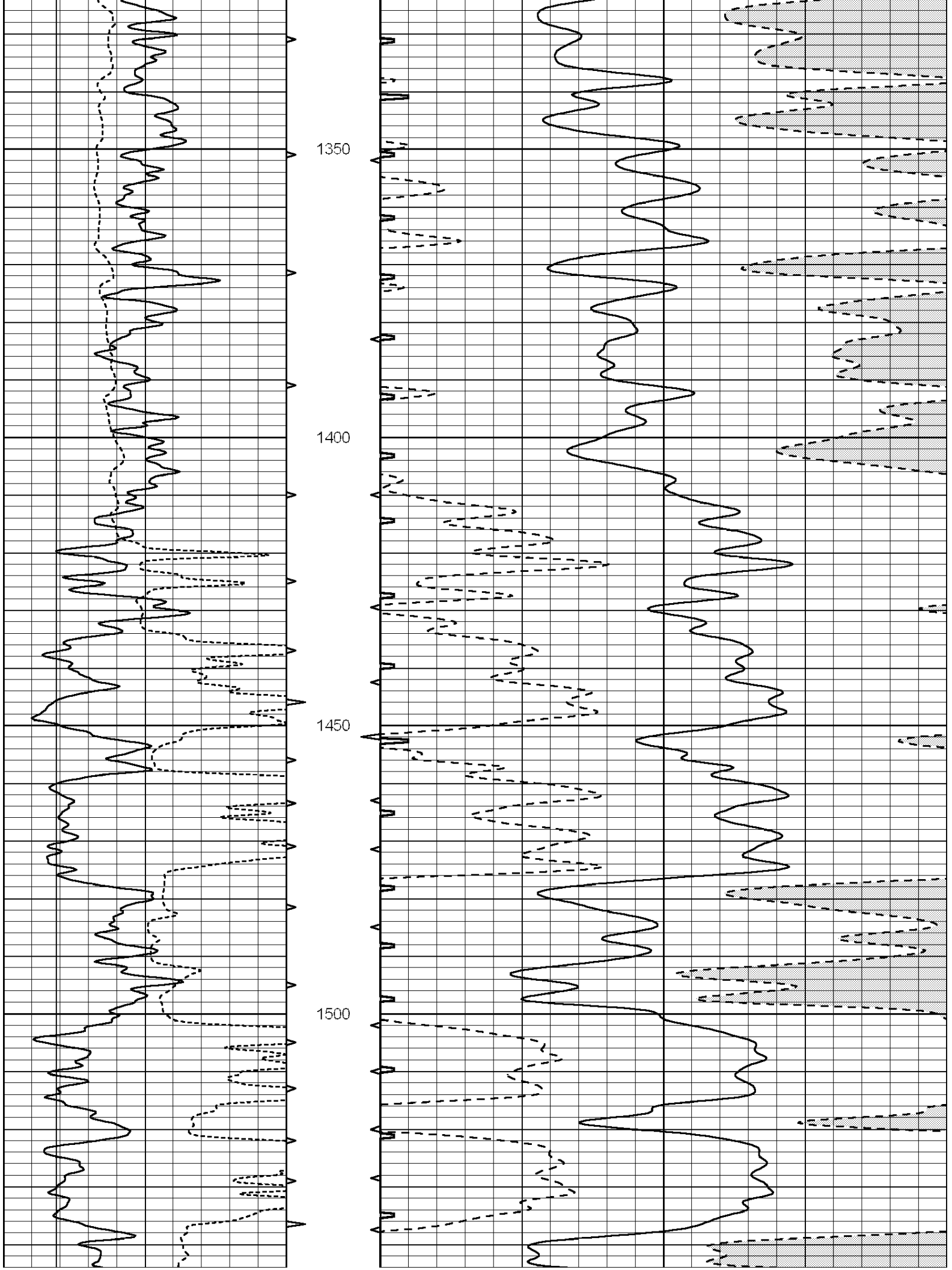
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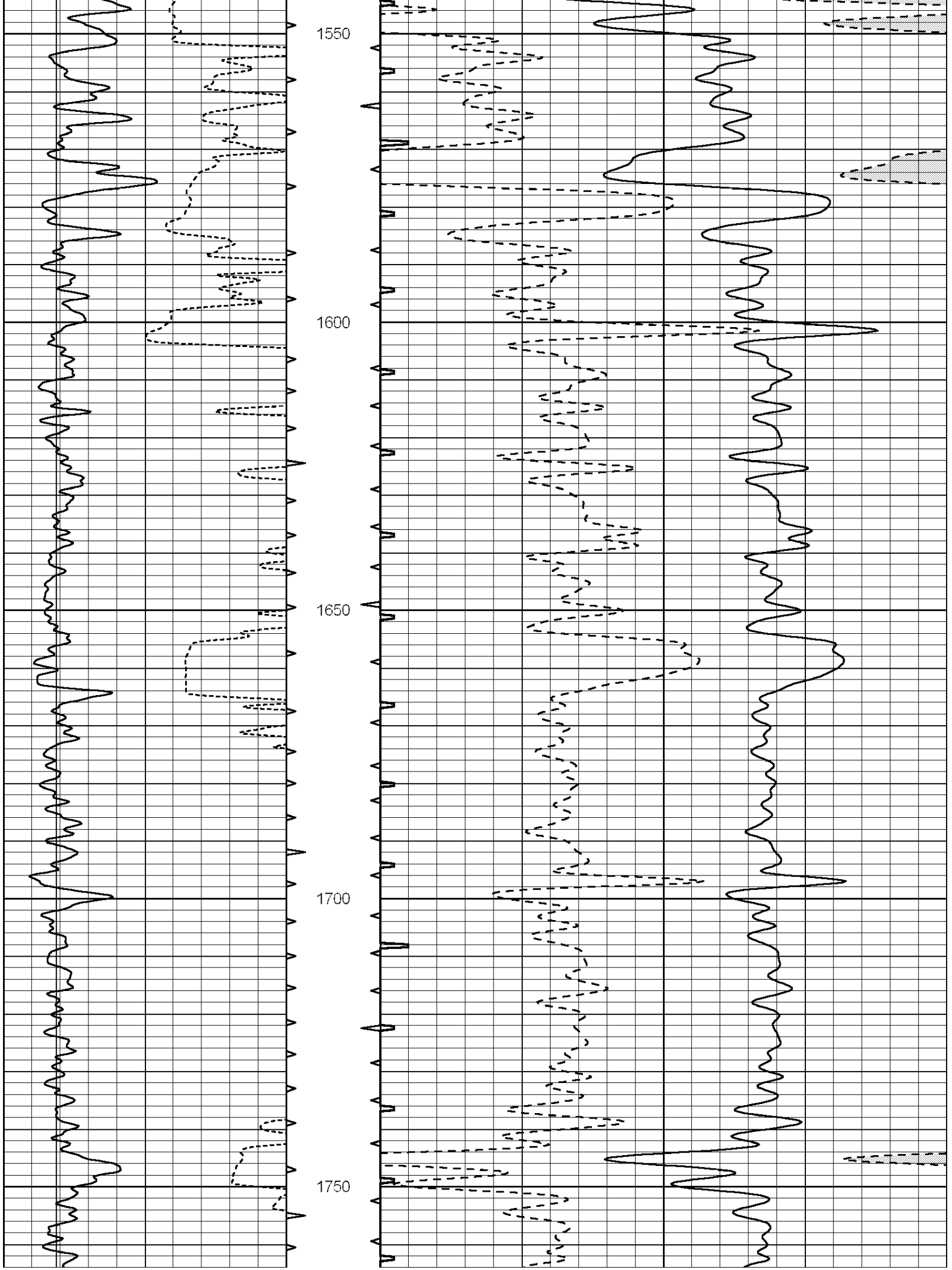
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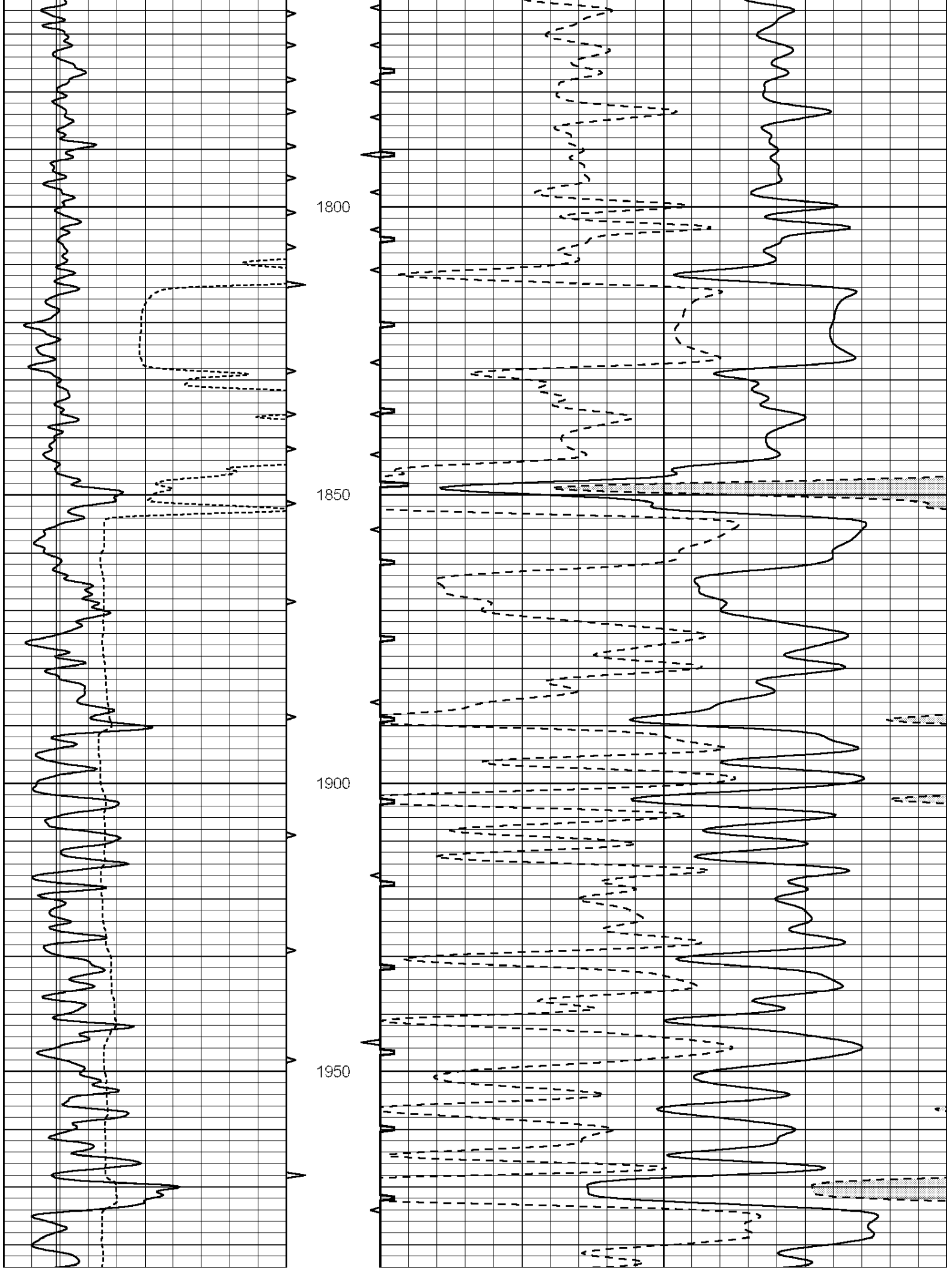
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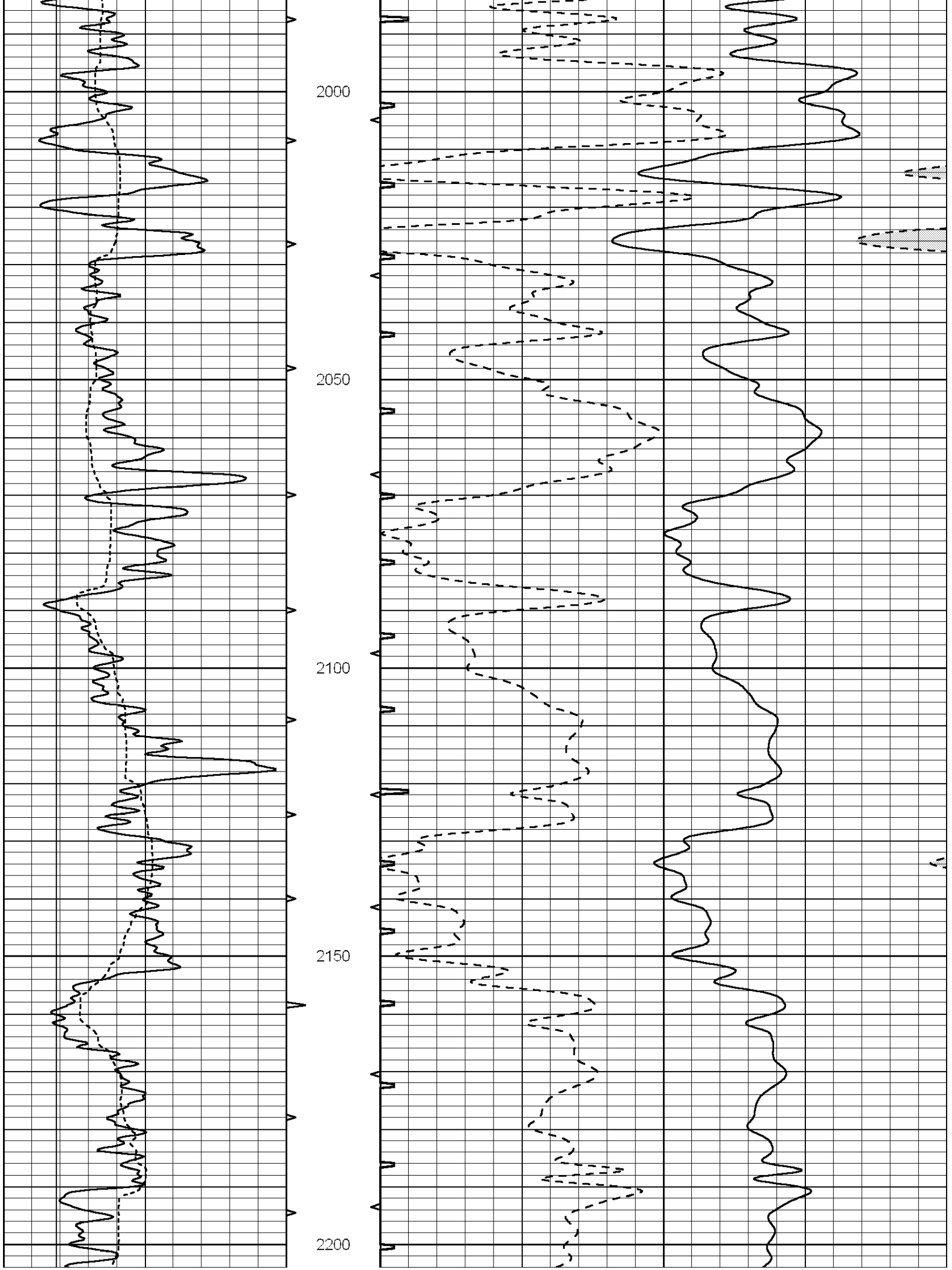
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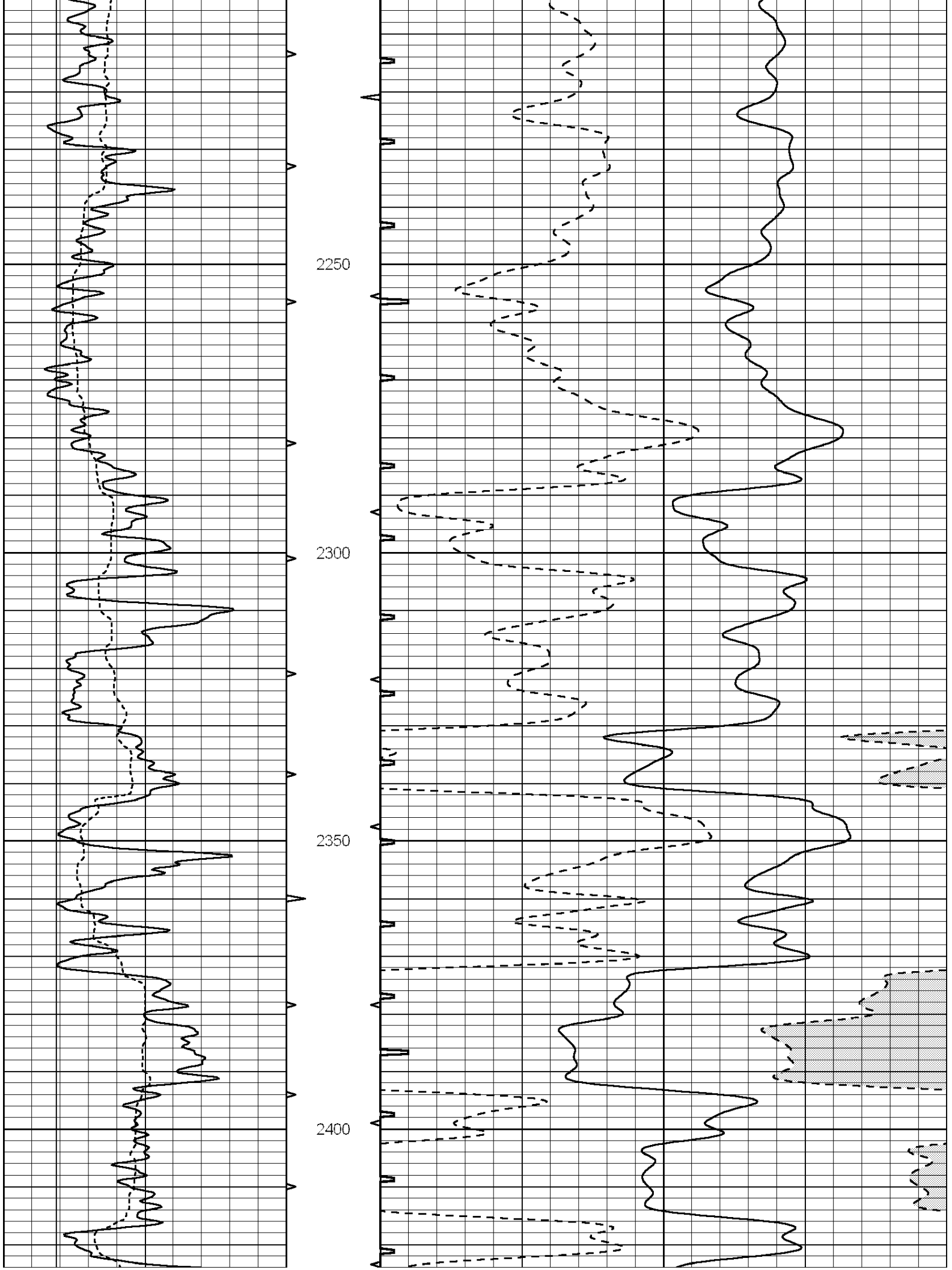
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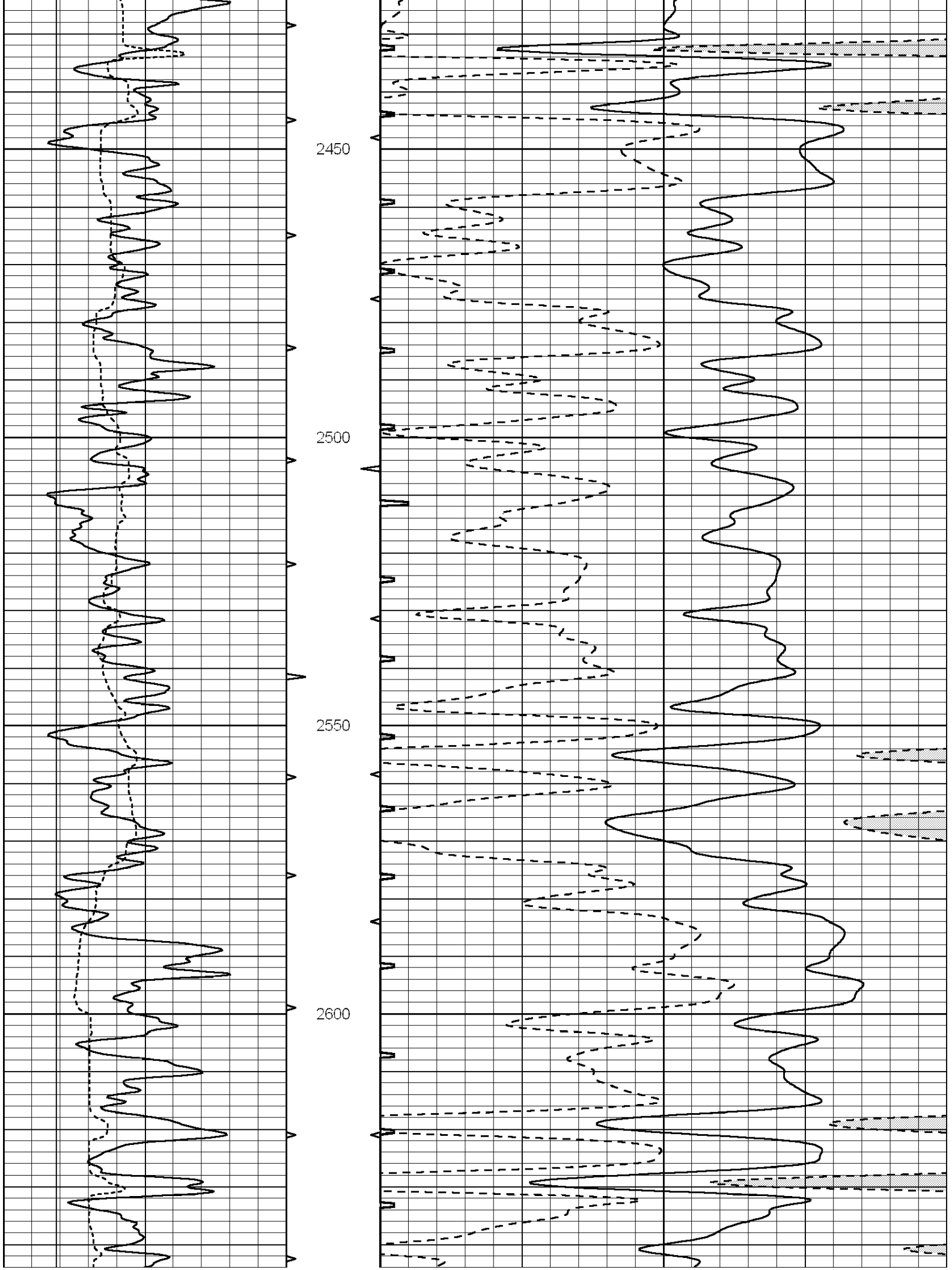
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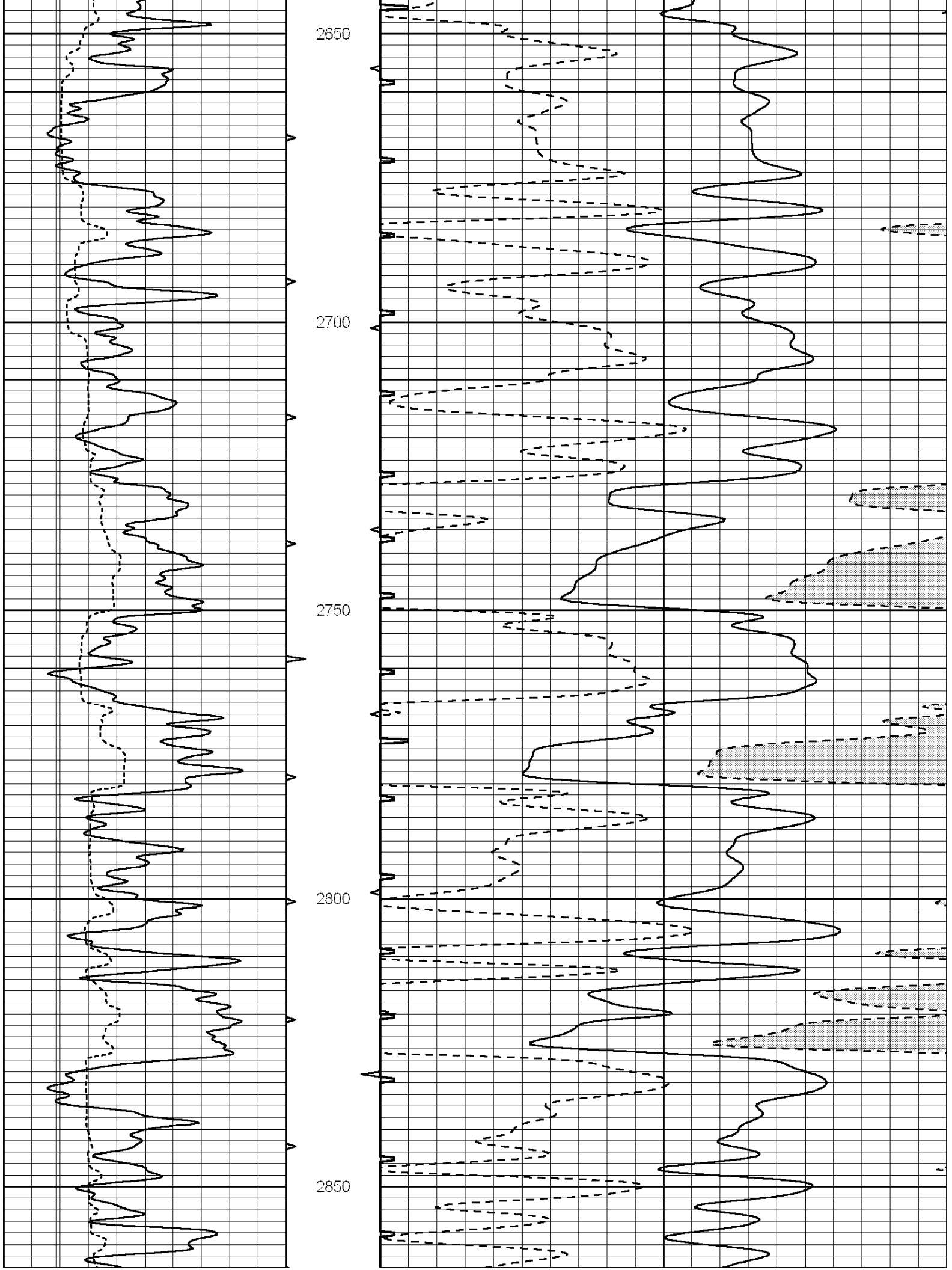
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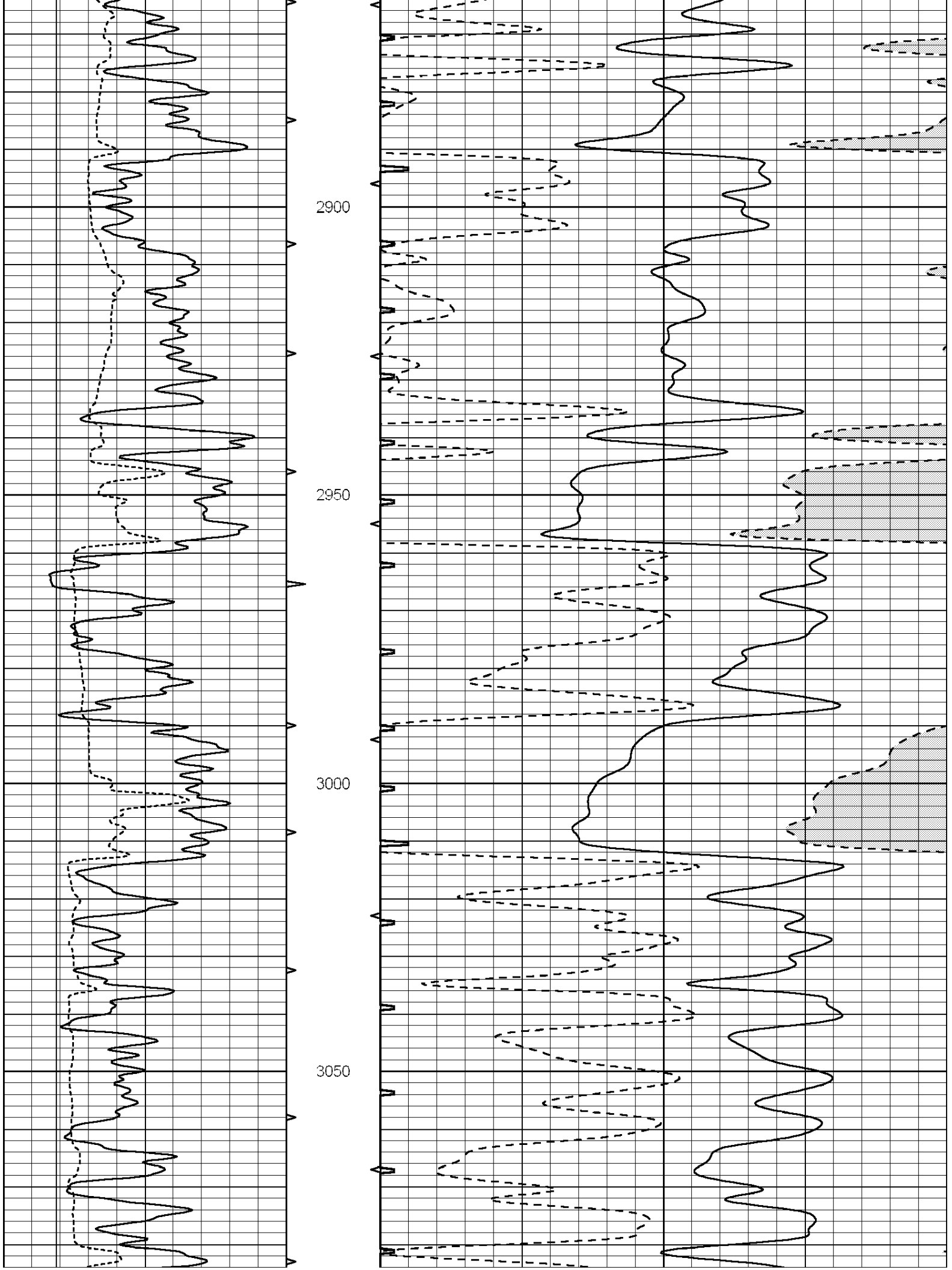
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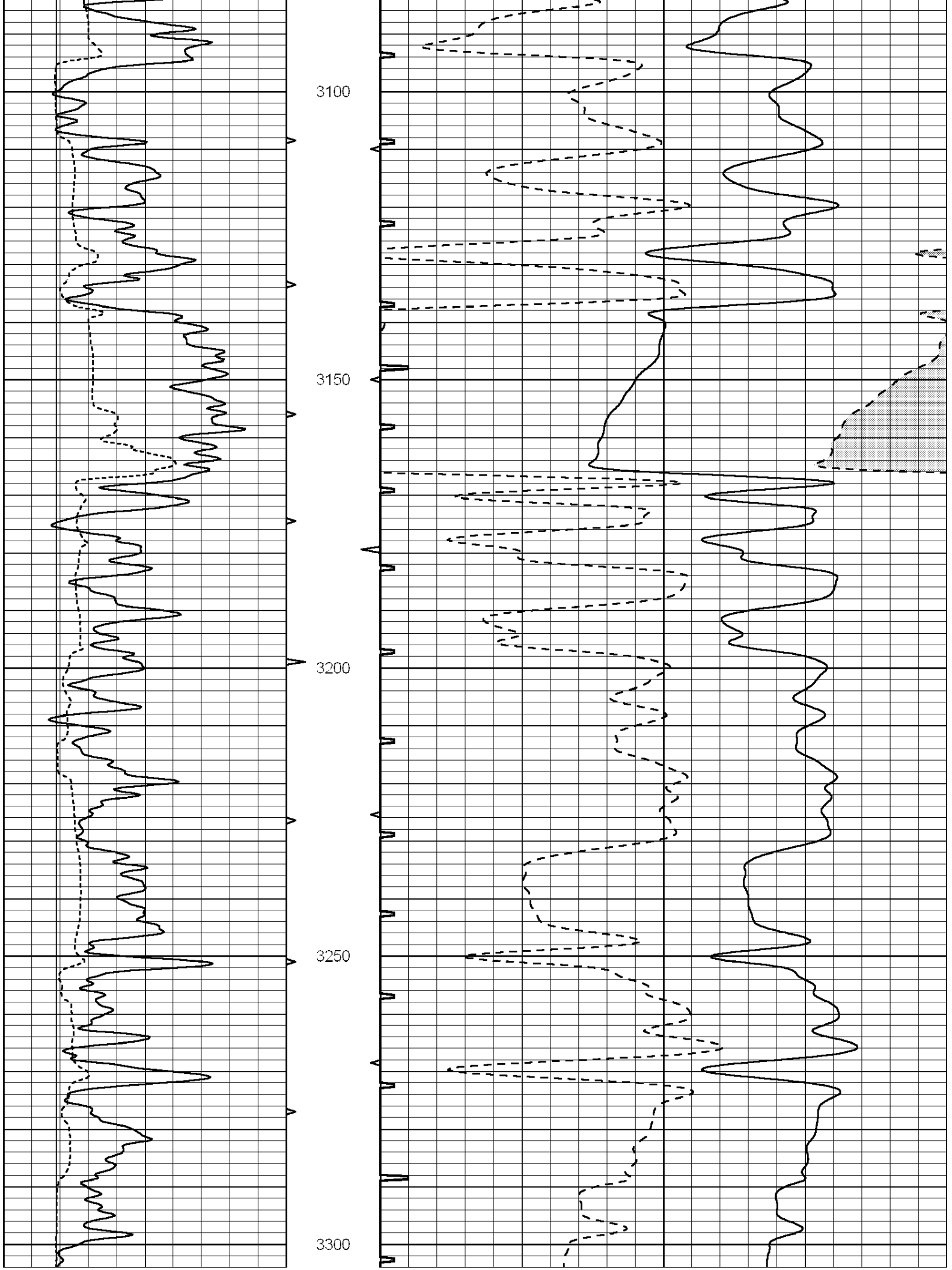
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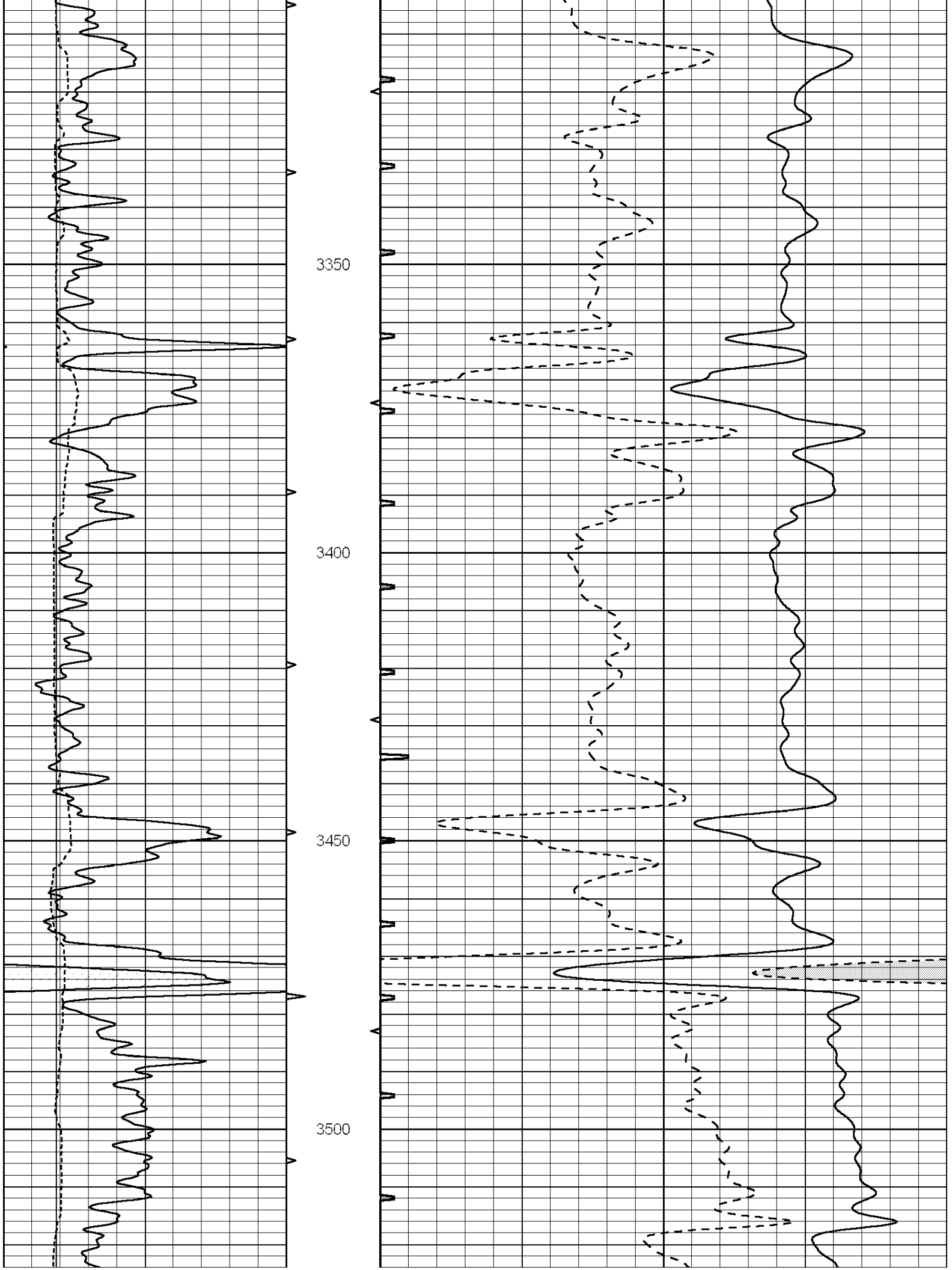
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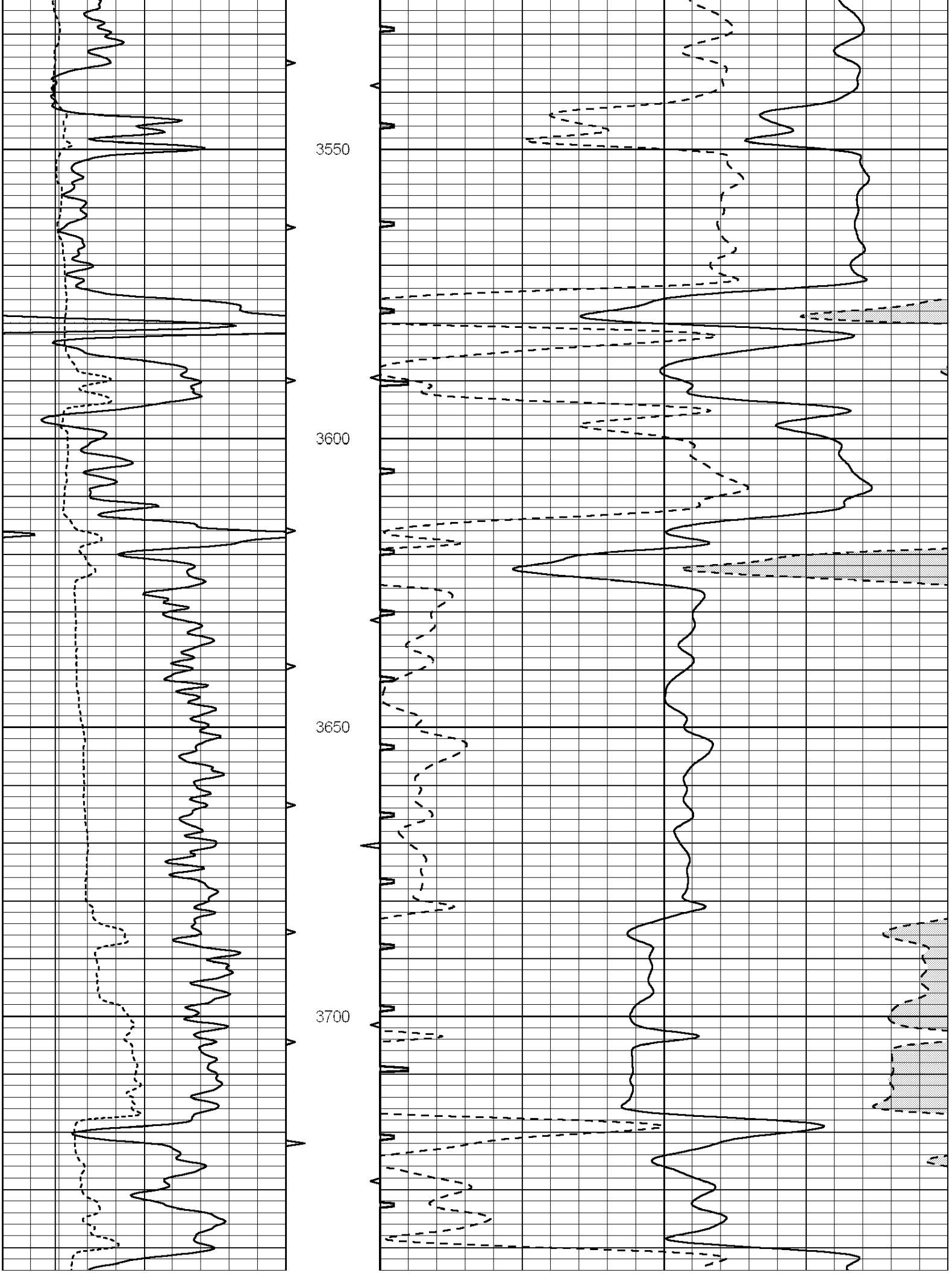
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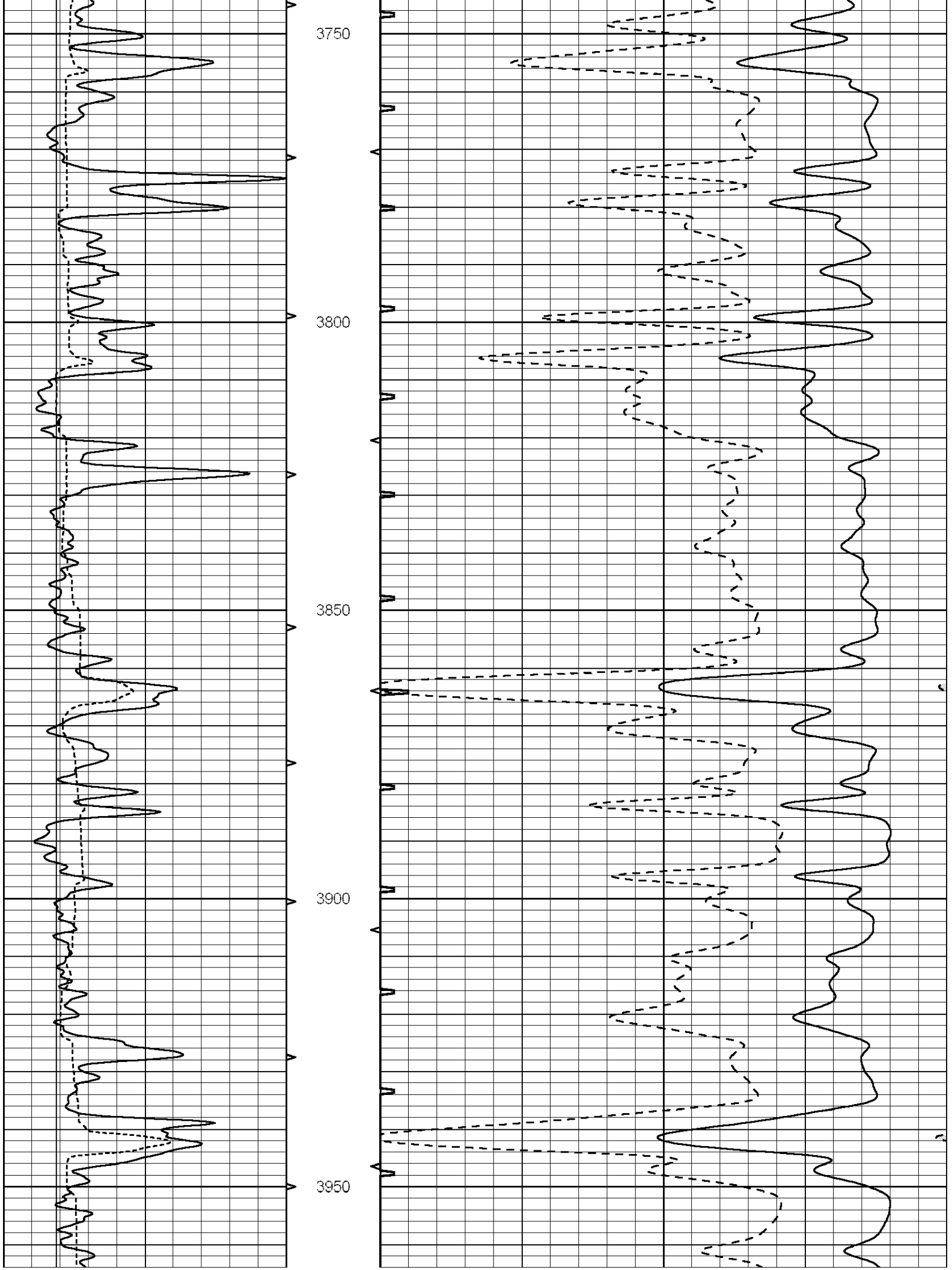
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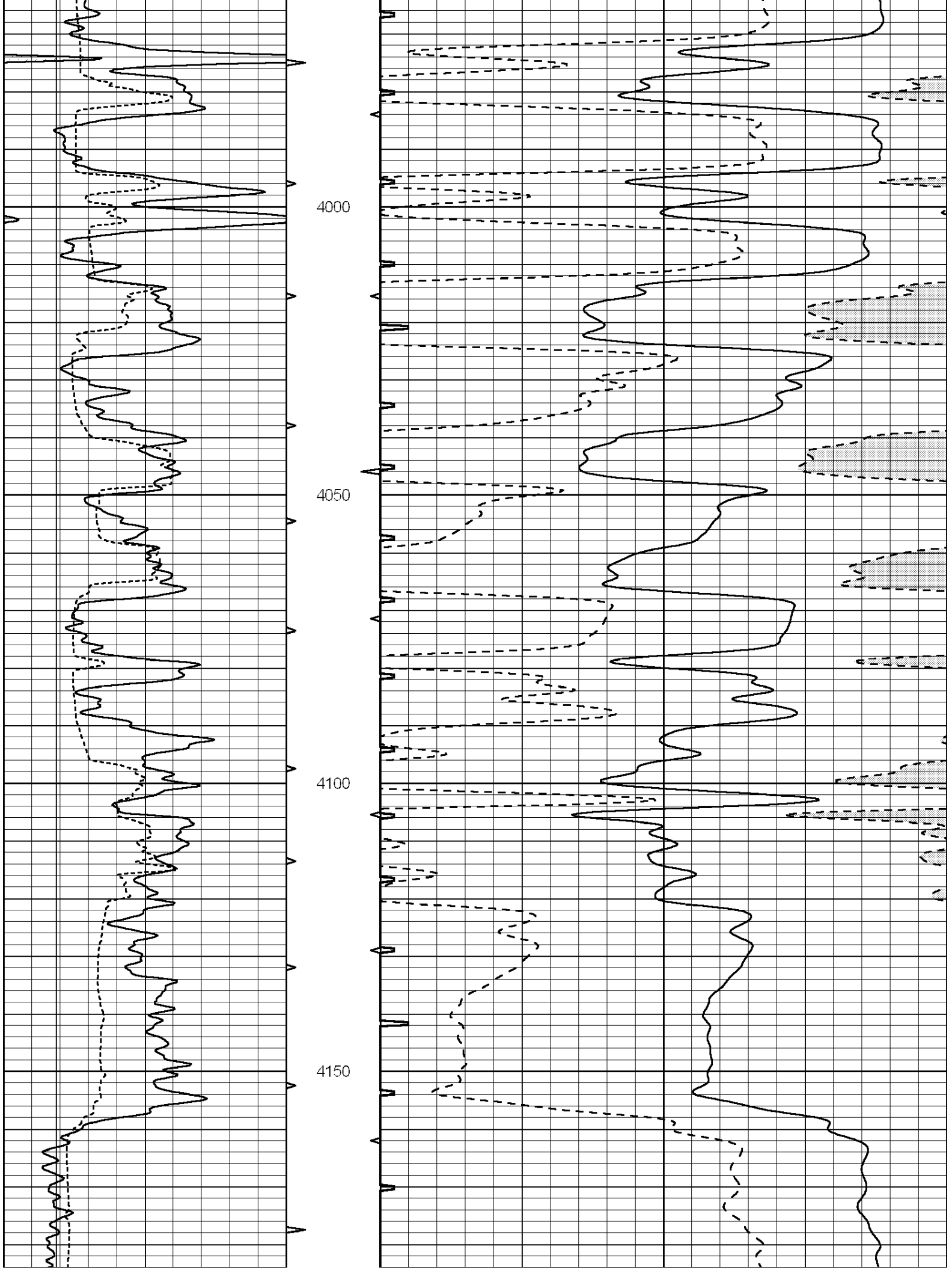
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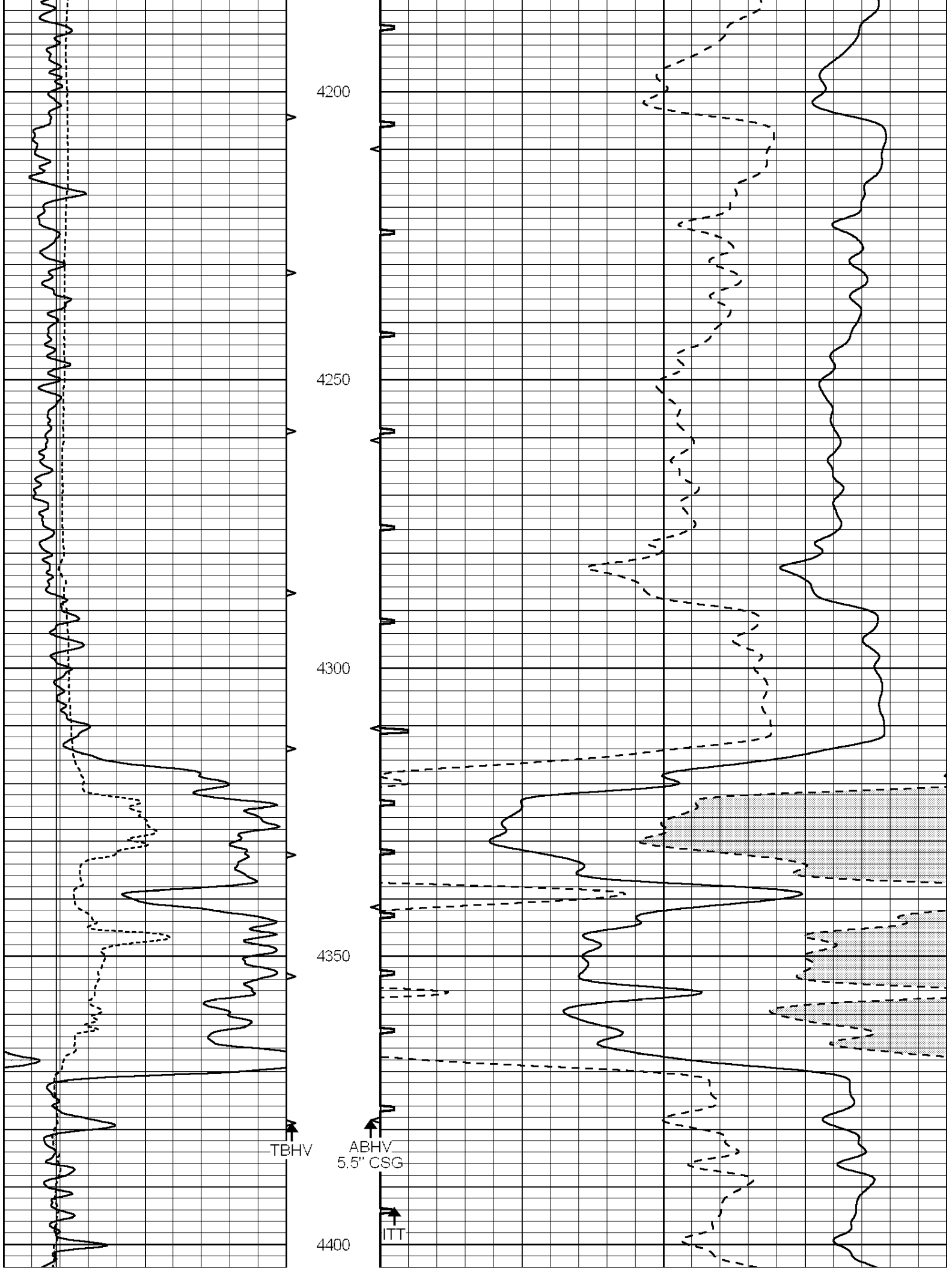
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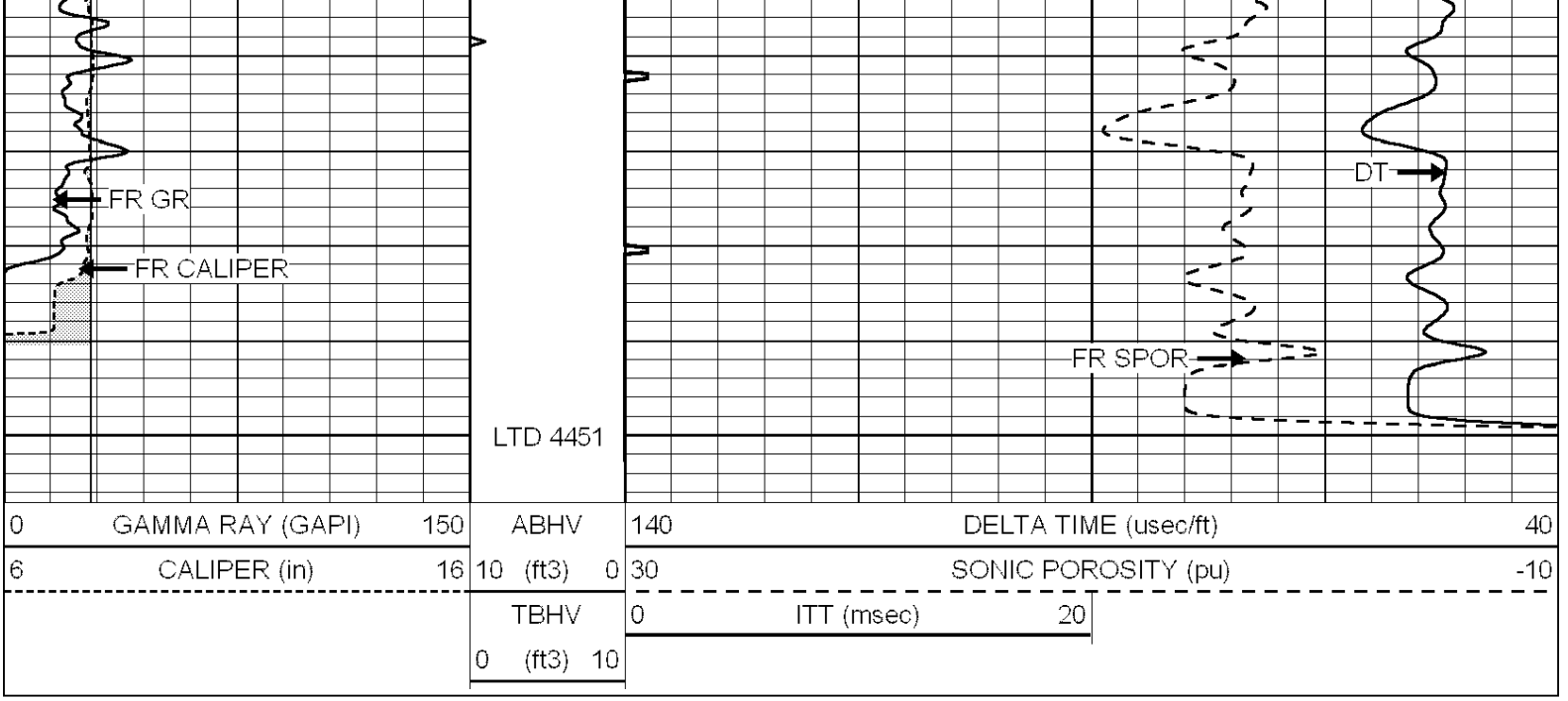
TBHV
ABHV
5.5" CSG
ITT



SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

REPEAT SECTION

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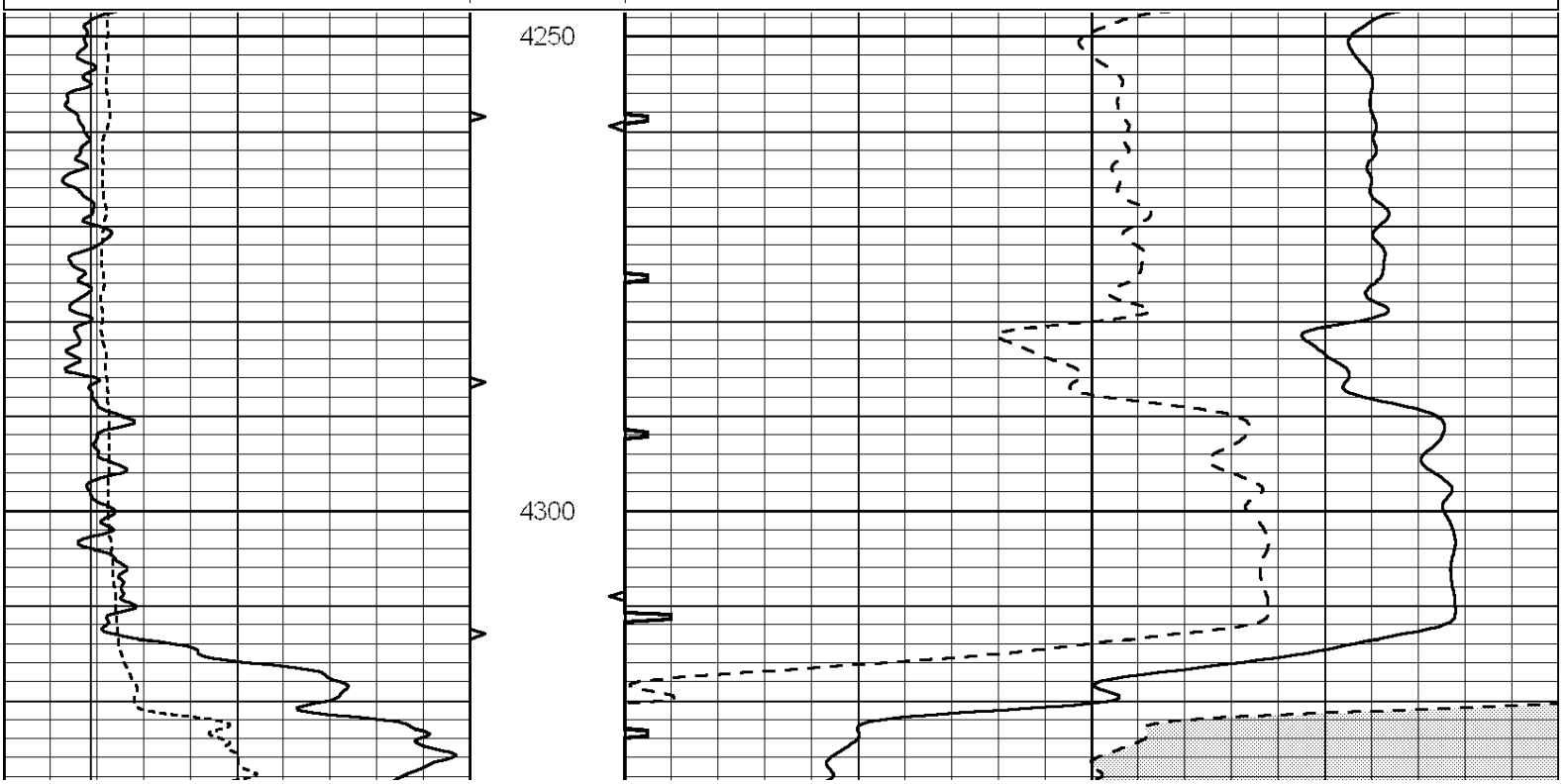

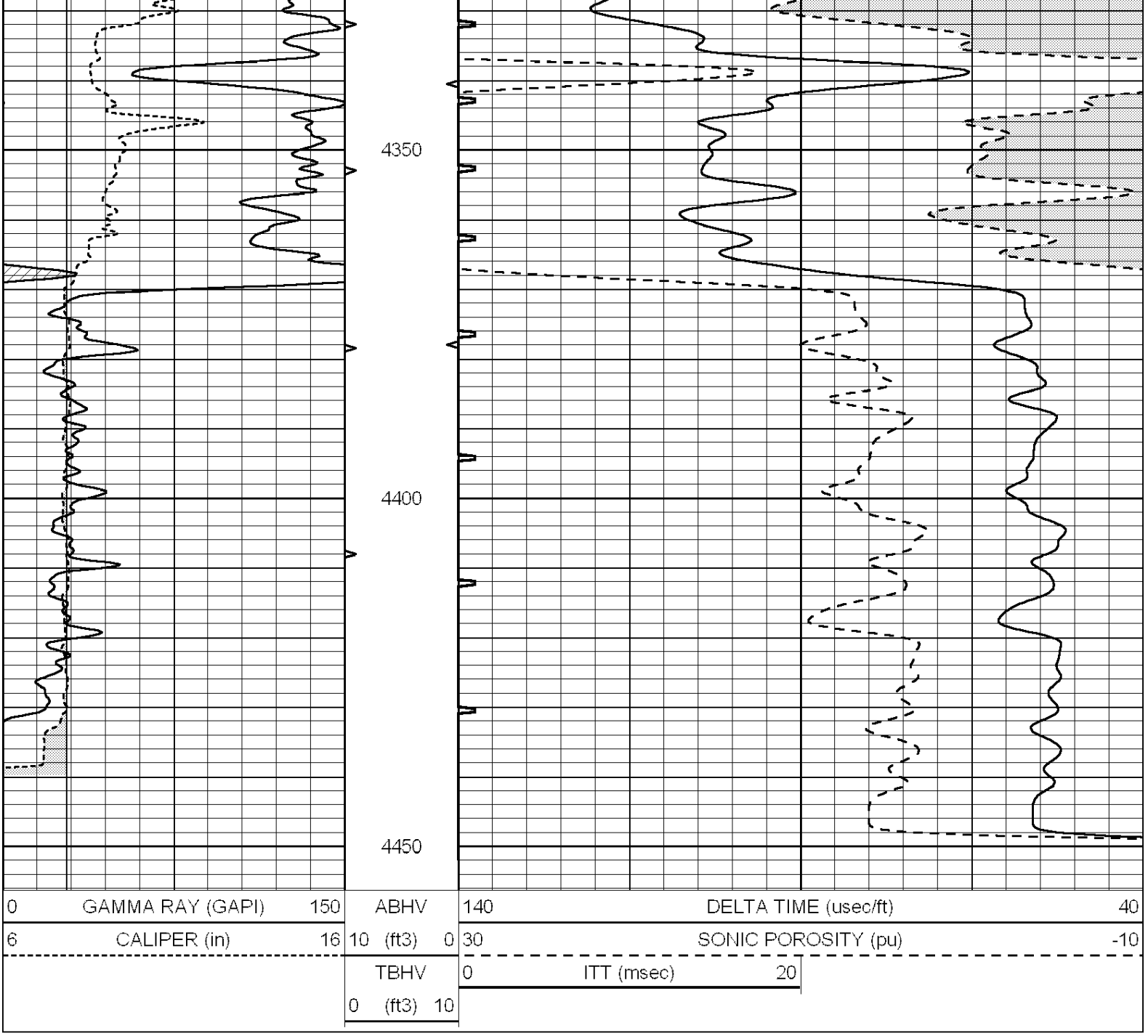
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10 (ft3) 0
TBHV
0 (ft3) 10
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30 SONIC POROSITY (pu) -10
0 ITT (msec) 20

SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

COMPENSATED DENSITY/NEUTRON LOG

Company CAERUS KANSAS, LLC
Well WATERS #30-43
Field SATTERLEE
County STAFFORD State KANSAS

Location: API # : 15-185-23680-0000
1400' FSL & 330' FEL
S/2 - SE - NE - SE
SEC 30 TWP 24S RGE 14W

Other Services
DIL
MEL/SON

Permanent Datum GROUND LEVEL Elevation 1990
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1999
D.F. 1997
G.L. 1990

Company	CAERUS KANSAS, LLC.		
Well	WATERS #30-43		
Field	SATTERLEE		
County	STAFFORD		
State	KANSAS		
Date	11/23/11		
Run Number	ONE		
Depth Driller	4448		
Depth Logger	4451		
Bottom Logged Interval	4427		
Top Log Interval	3300		
Casing Driller	8 5/8" @ 265		
Casing Logger	265		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5000 PPM	
Density / Viscosity	9.6/56		
pH / Fluid Loss	9.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 66F		
Rmf @ Meas. Temp	0.49 @ 66F		
Rmc @ Meas. Temp	0.78 @ 66F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.36 @ 120F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	120F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	JEFF LAWLER		

<<< Fold Here >>>

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
MACKSVILLE, KS - EAST 3 MILES TO RD 80 - SOUTH 1 3/4 MILES
WEST INTO

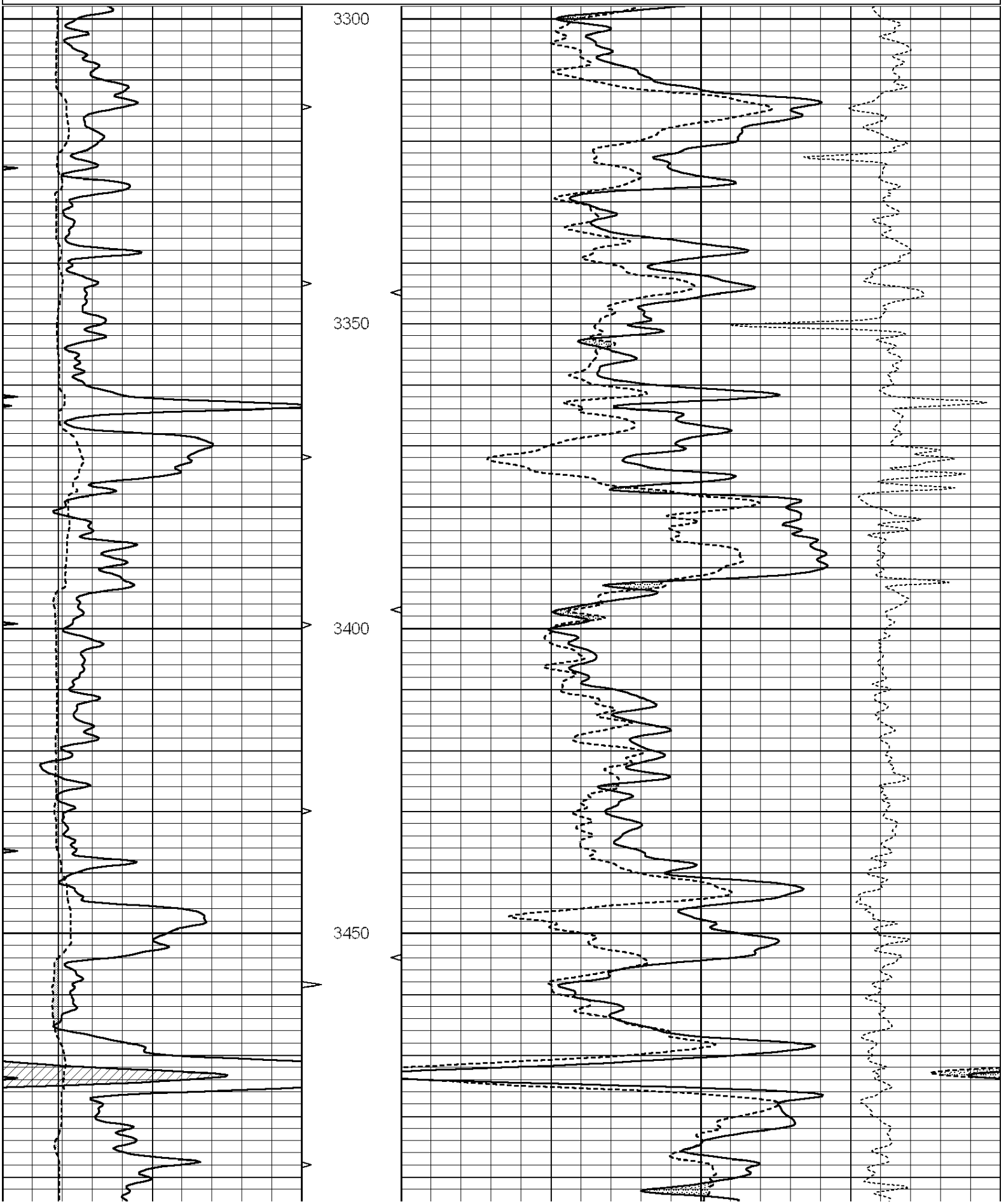
Database File:	008090ddn.db
Dataset Pathname:	pass3.2
Presentation Format:	_den_neu
Dataset Creation:	Wed Nov 23 10:26:24 2011 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

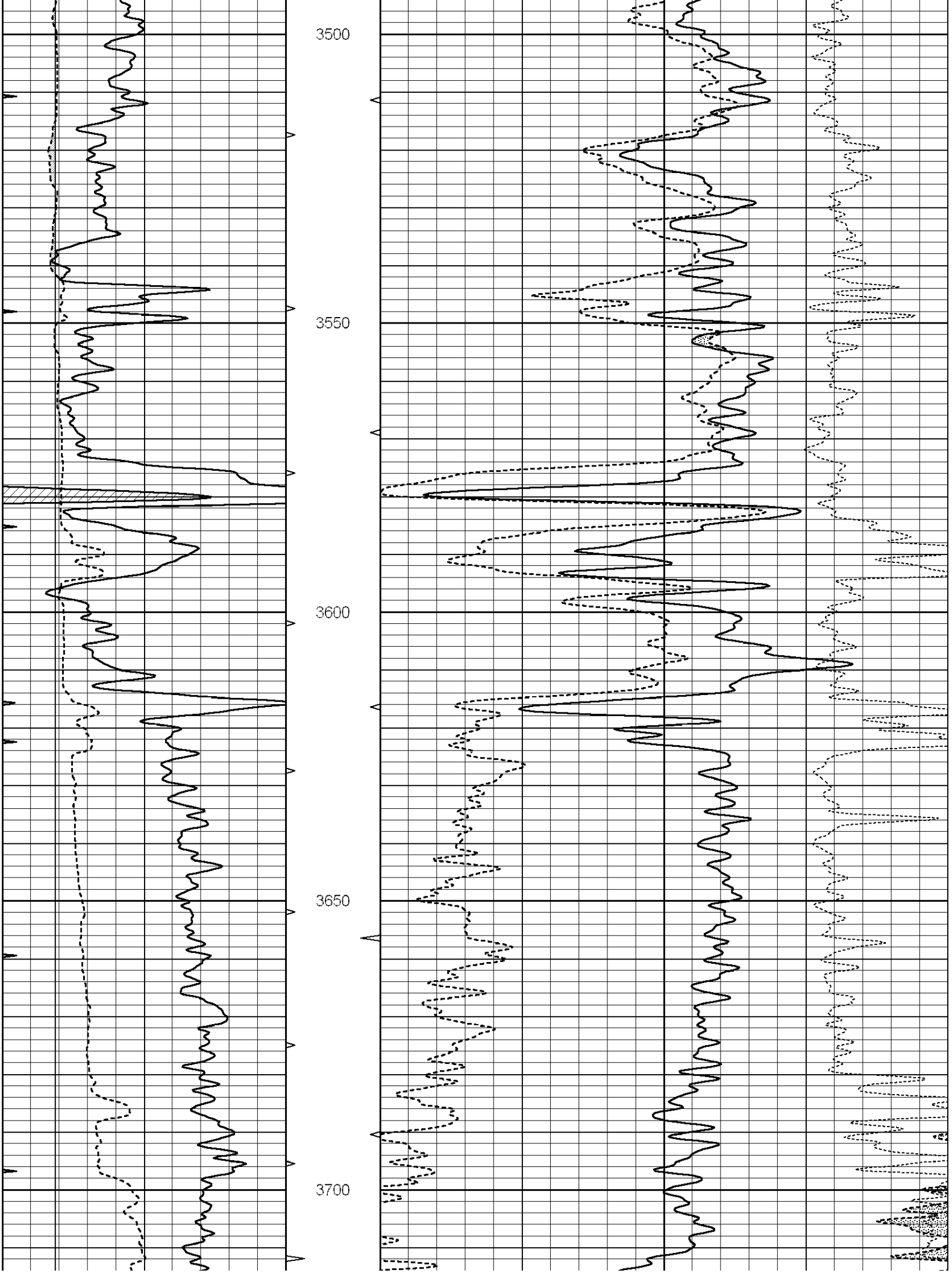
Started by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16
0	MINMK	20

AVTX		
10	(ft3)	0
BVTX		
0	(ft3)	10

30	COMPENSATED DENSITY (pu)	-10
30	COMPENSATED NEUTRON (pu)	-10
-0.25	CORRECTION (g/cc)	0.25

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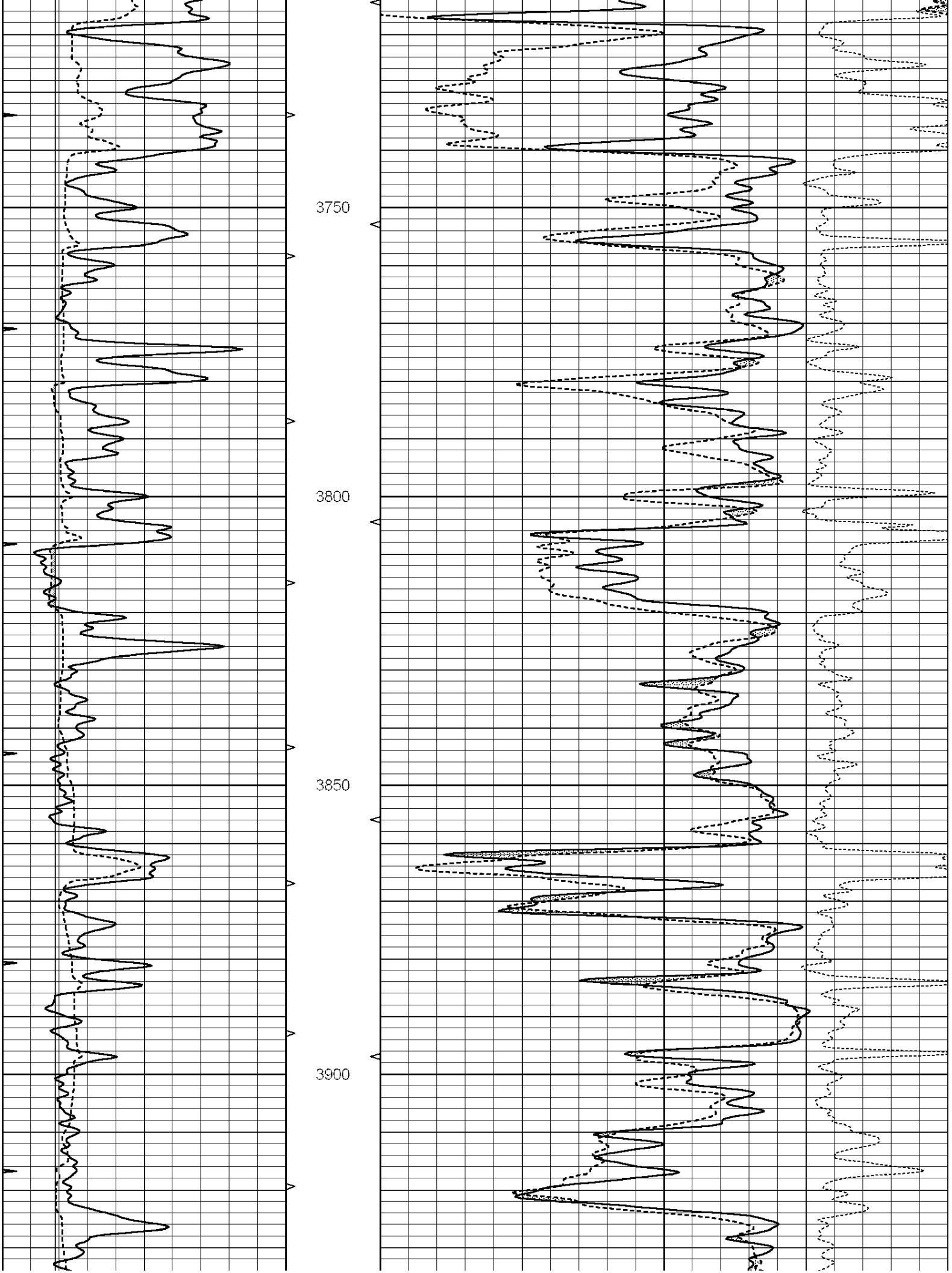
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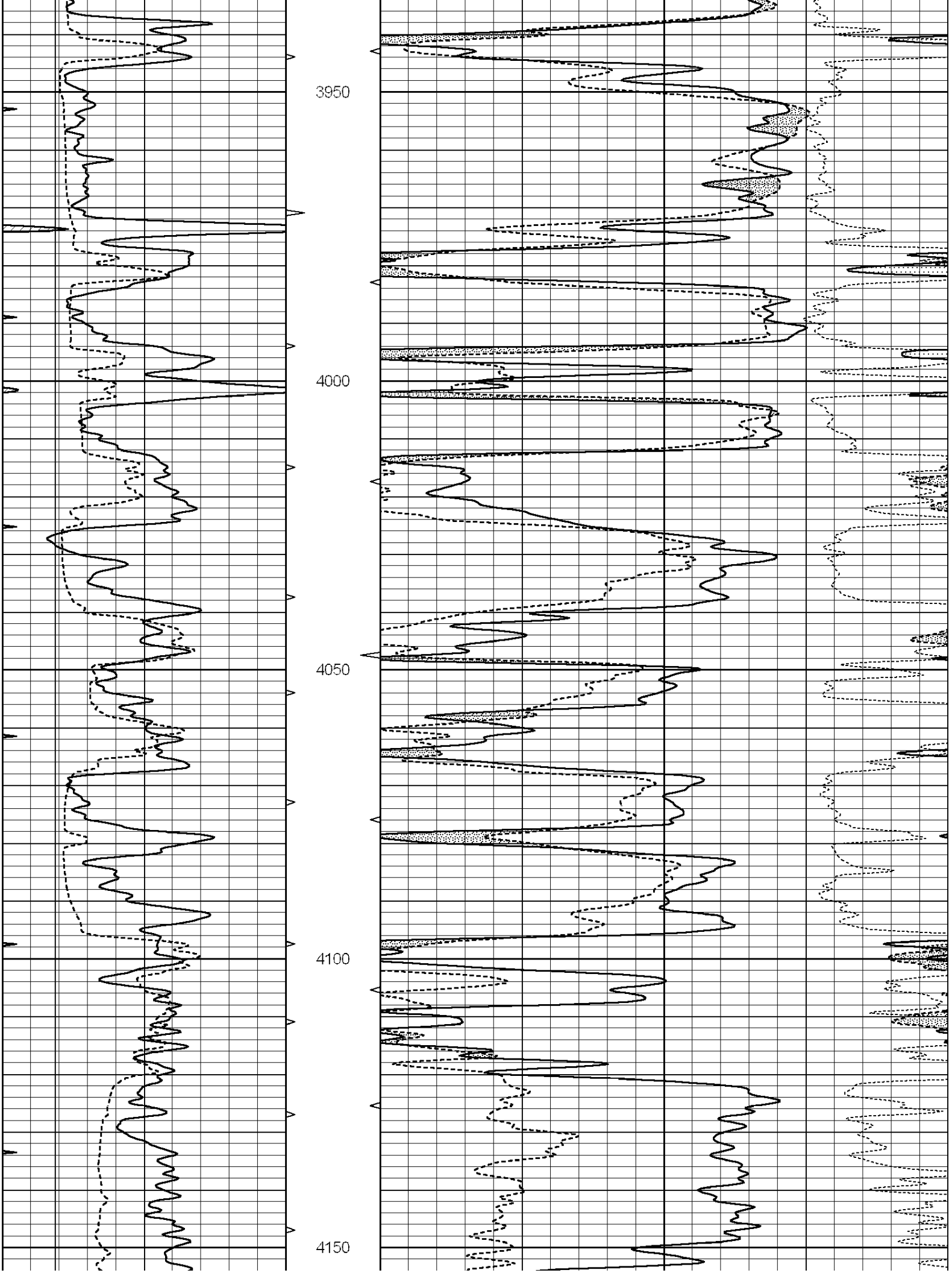
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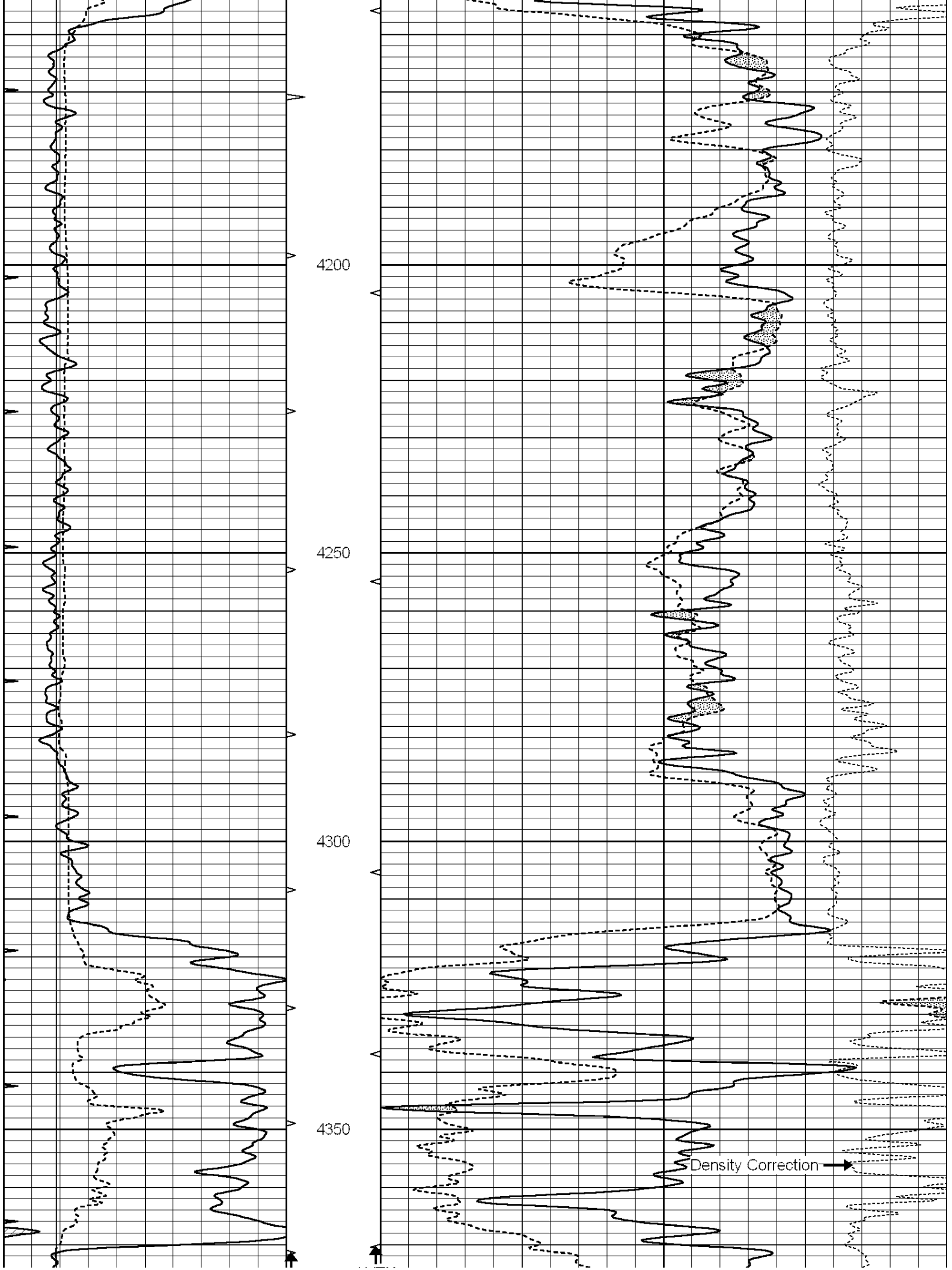
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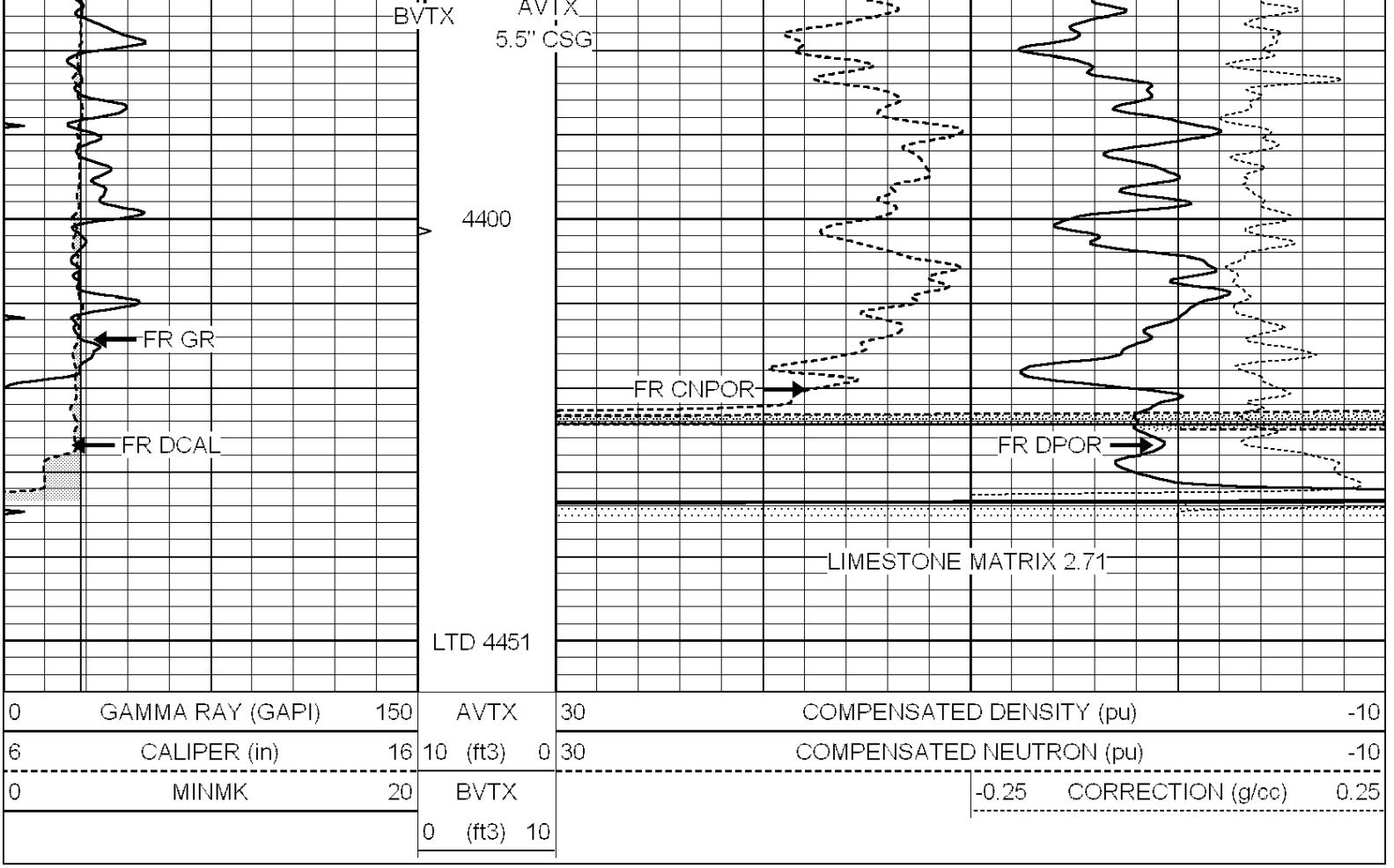
Density Correction

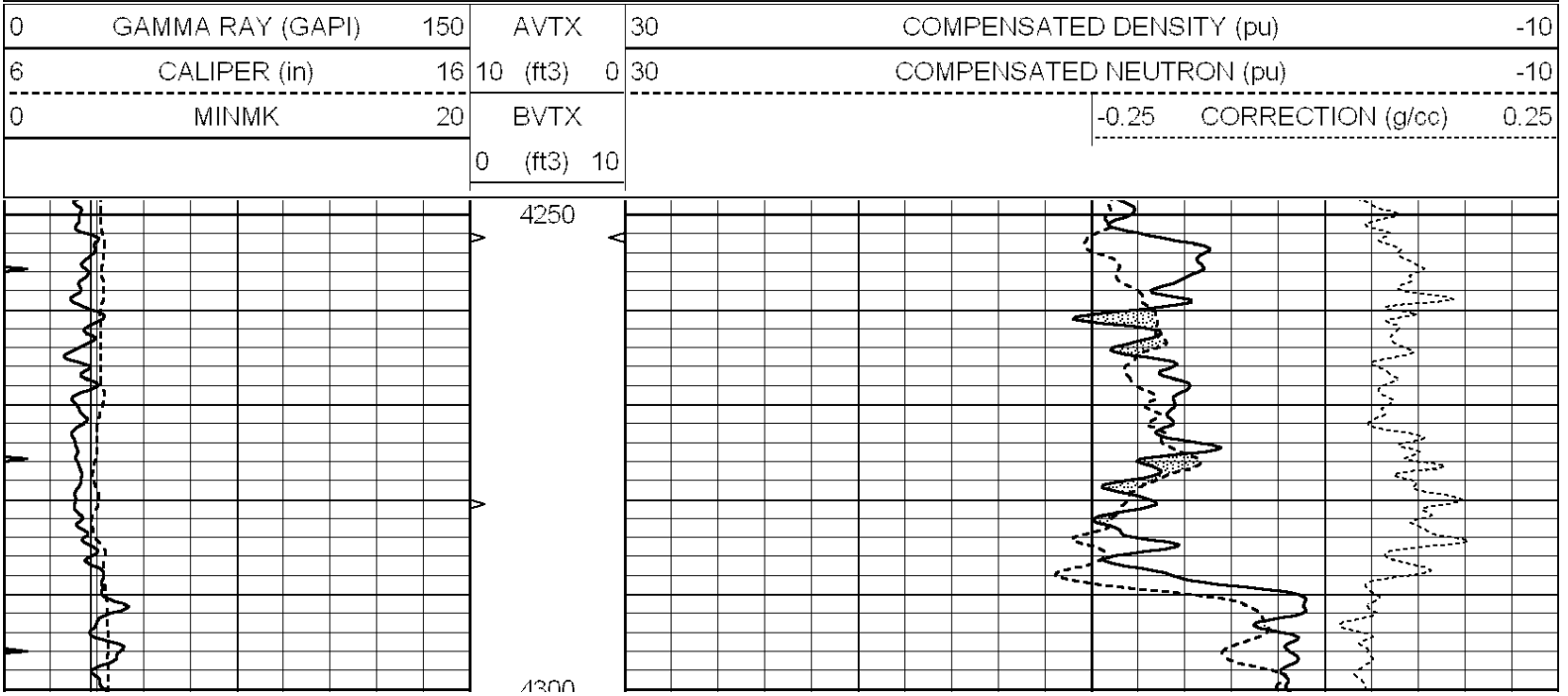


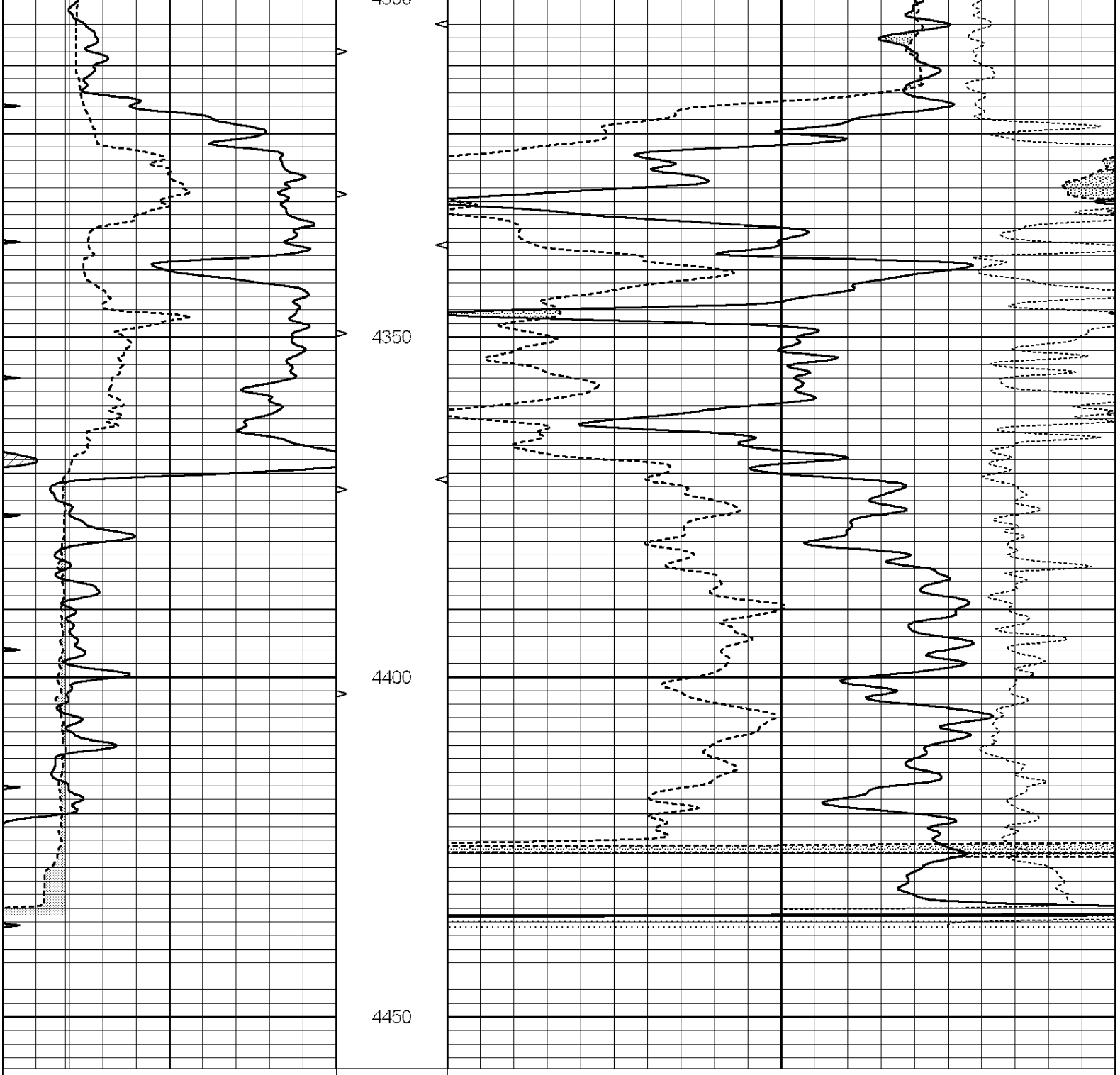
SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File:	008090ddn.db
Dataset Pathname:	pass2.4
Presentation Format:	_den_neu
Dataset Creation:	Wed Nov 23 10:27:32 2011 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240



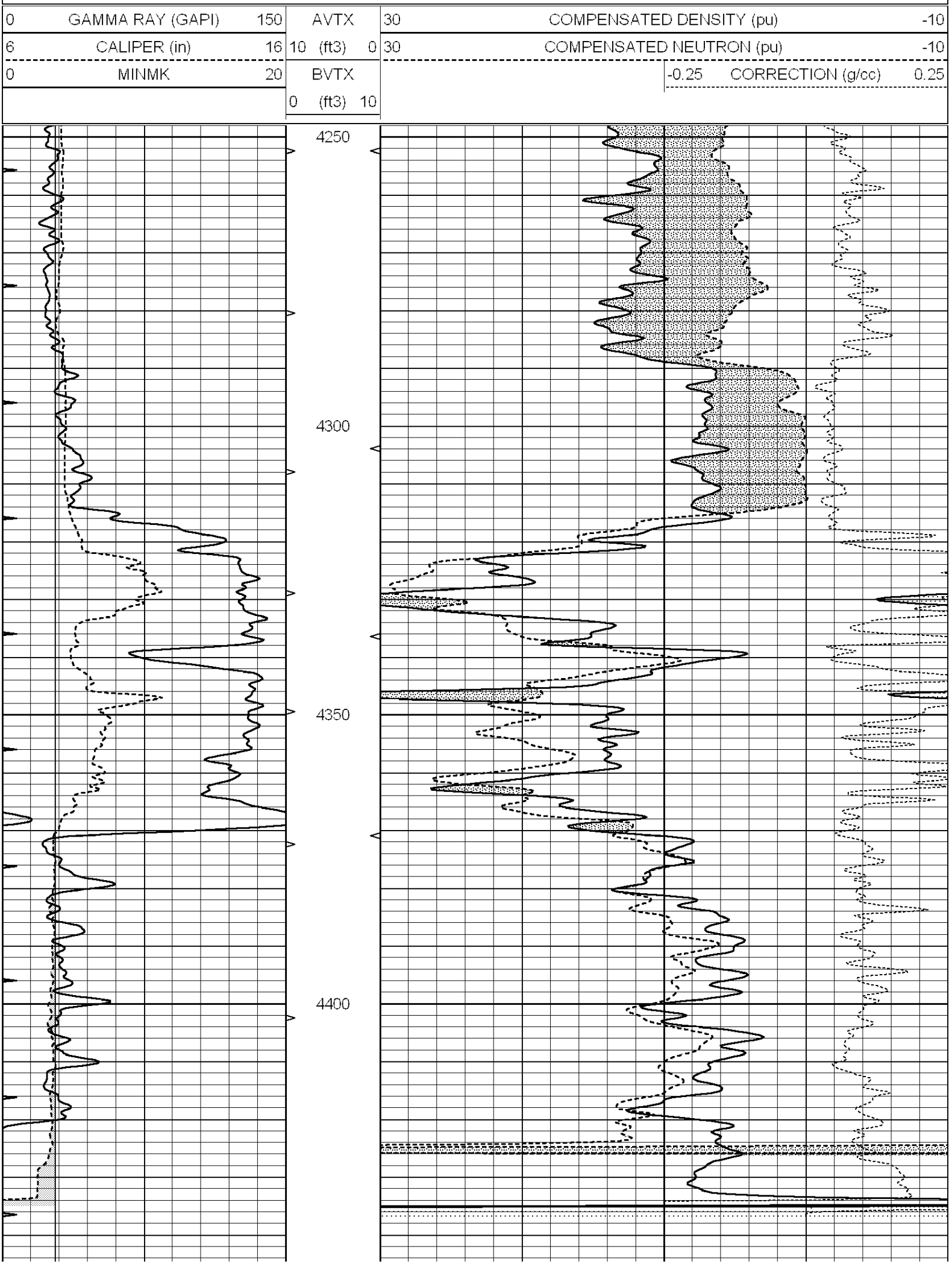


SUPERIOR WELL SERVICES

SUPERIOR
Hays, Kansas

DOLOMITE MATRIX 2.81

Database File:	008090ddn.db
Dataset Pathname:	pass2.5.D
Presentation Format:	_den_neu
Dataset Creation:	Wed Nov 23 10:29:13 2011
Charted by:	Depth in Feet scaled 1:240


0 GAMMA RAY (GAPI) 150
6 CALIPER (in) 16
0 MINMK 20
AVTX
10 (ft3) 0
BVTX
0 (ft3) 10
30 COMPENSATED DENSITY (pu) -10
30 COMPENSATED NEUTRON (pu) -10
-0.25 CORRECTION (g/cc) 0.25
4250
4300
4350
4400

4450

0 GAMMA RAY (GAPI) 150	AVTX	30 COMPENSATED DENSITY (pu) -10
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10
0 MINMK 20	BVTX	-0.25 CORRECTION (g/cc) 0.25
	0 (ft3) 10	

Calibration Report

Database File: 008090ddn.db
Dataset Pathname: pass3.2
Dataset Creation: Wed Nov 23 10:26:24 2011 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Fri Aug 01 06:33:19 2008
Downhole Cal Performed:	Mon Jul 28 11:08:27 2008
After Survey Verification Performed:	Mon Jul 28 11:08:27 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Compensated Density Calibration Report

Serial-Model:	GEAR4-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Sat Jul 16 17:35:04 2011

Master Calibration

Density Far Detector Near Detector

Magnesium	1.710	g/cc	1015.91	497.51	cps
Aluminum	2.580	g/cc	227.67	350.20	cps

Spine Angle = 76.79 Density/Spine Ratio = 0.566

	Size		Reading	
Small Ring	8.00	in	2.24	V
Large Ring	14.00	in	4.38	V

Compensated Neutron Calibration Report

Serial Number: 6I
Tool Model: G

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.0000
Long Space	1.00	cps	1.00	cps	1.0000

Gamma Ray Calibration Report

Serial Number: #8
Tool Model: OPEN
Performed: Mon Jun 13 16:56:43 2011

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 175.0 cps

Sensitivity: 0.8371 GAPI/cps

SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

MICRO LOG

Company	CAERUS KANSAS, LLC.
Well	WATERS #30-43
Field	SATTERLEE
County	STAFFORD
State	KANSAS

Company CAERUS KANSAS, LLC

Well WATERS #30-43

Field SATTERLEE

County STAFFORD State KANSAS

Location: API # : 15-185-23680-0000
1400' FSL & 330' FEL
S/2 - SE - NE - SE
SEC 30 TWP 24S RGE 14W

Permanent Datum GROUND LEVEL Elevation 1990
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL
DIL/SON

Elevation
K.B. 1999
D.F. 1997
G.L. 1990

Date	11/23/11		
Run Number	TWO		
Depth Driller	4448		
Depth Logger	4451		
Bottom Logged Interval	4433		
Top Log Interval	3300		
Casing Driller	8 5/8" @ 265		
Casing Logger	265		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5000 PPM	
Density / Viscosity	9.6/56		
pH / Fluid Loss	9.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 66F		
Rmf @ Meas. Temp	0.49 @ 66F		
Rmc @ Meas. Temp	0.78 @ 66F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.36 @ 120F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	120F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	JEFF LAWLER		

<<< Fold Here >>>

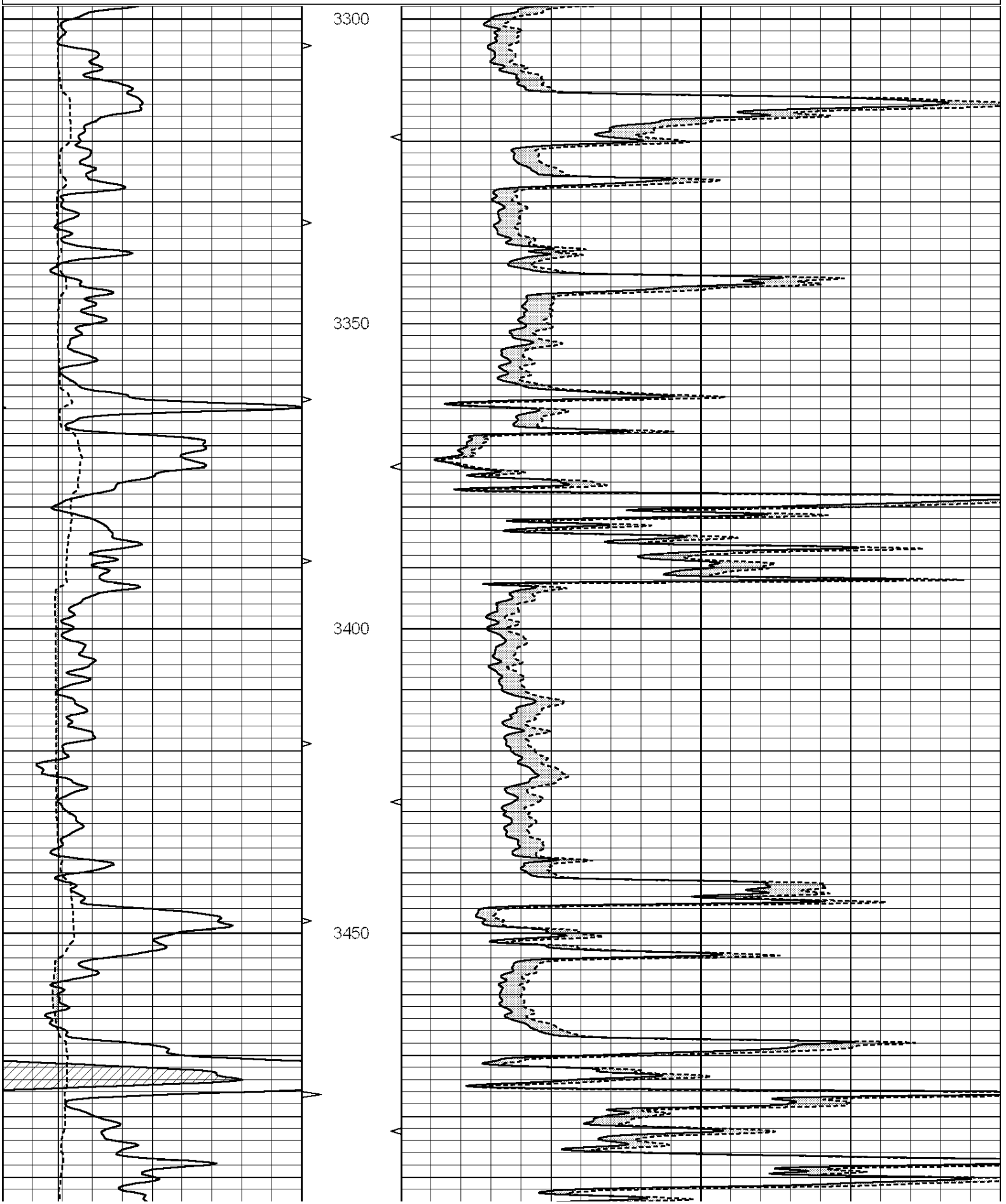
Comments

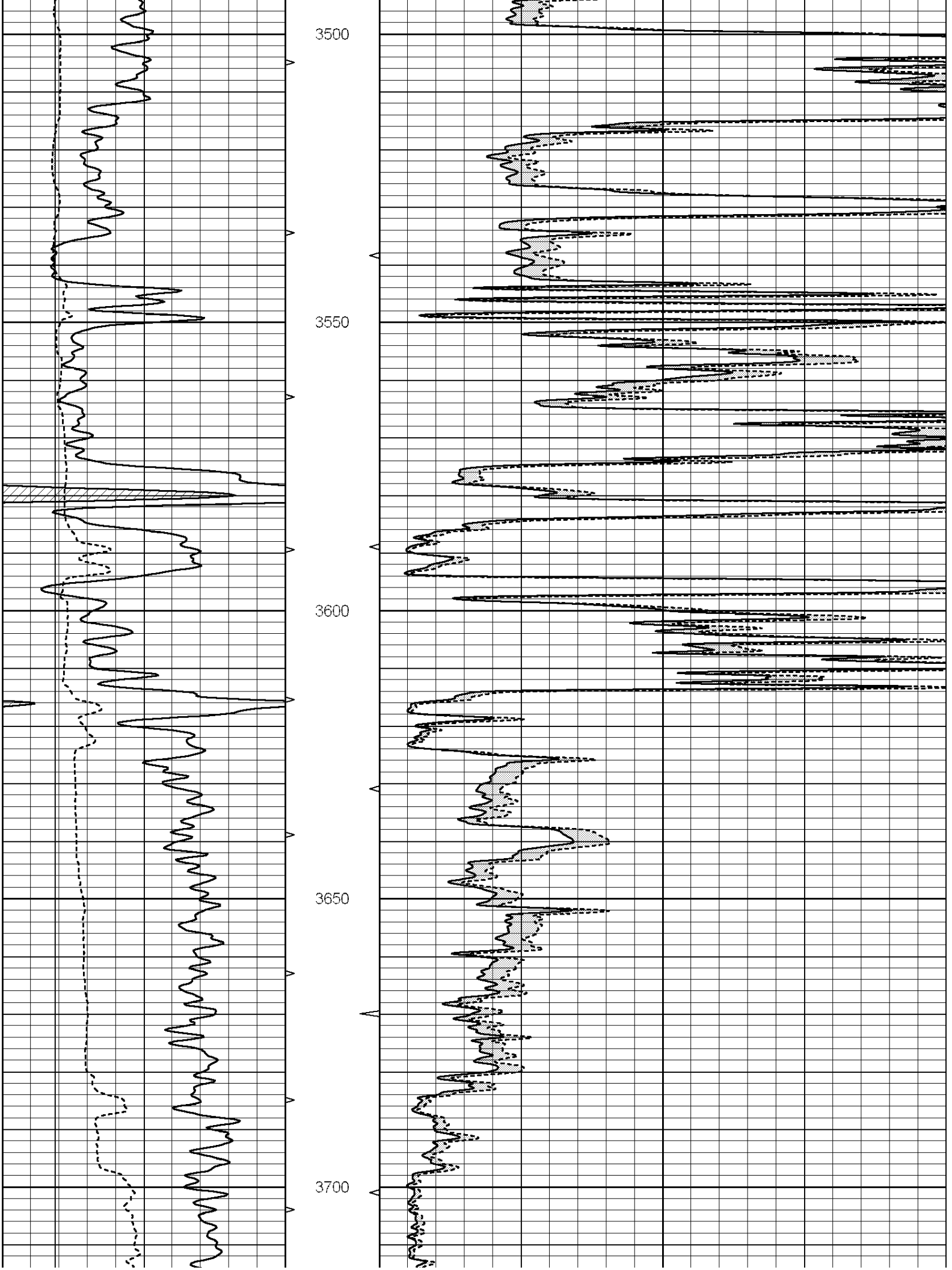
THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
MACKSVILLE, KS - EAST 3 MILES TO RD 80 - SOUTH 1 3/4 MILES
WEST INTO

Database File:	008090ddn.db
Dataset Pathname:	pass6.1
Presentation Format:	_micro
Dataset Creation:	Wed Nov 23 12:29:48 2011 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

Started by: Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150	ABHV	0 MEL1.5 (Ohm-m) 40
6 CALIPER (in) 16	10 (ft3) 0	0 MEL2.0 (Ohm-m) 40
	TBHV	
	0 (ft3) 10	

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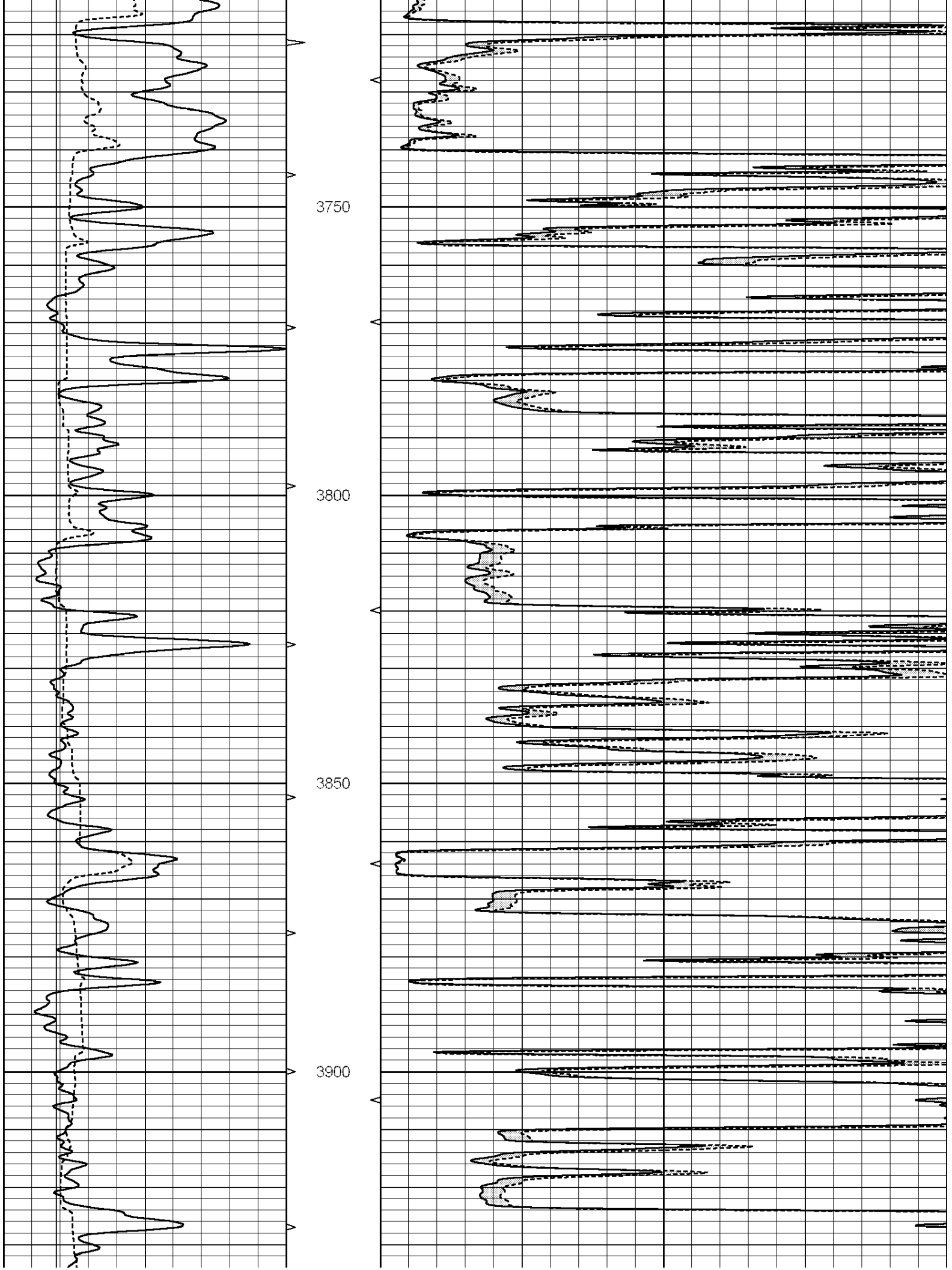
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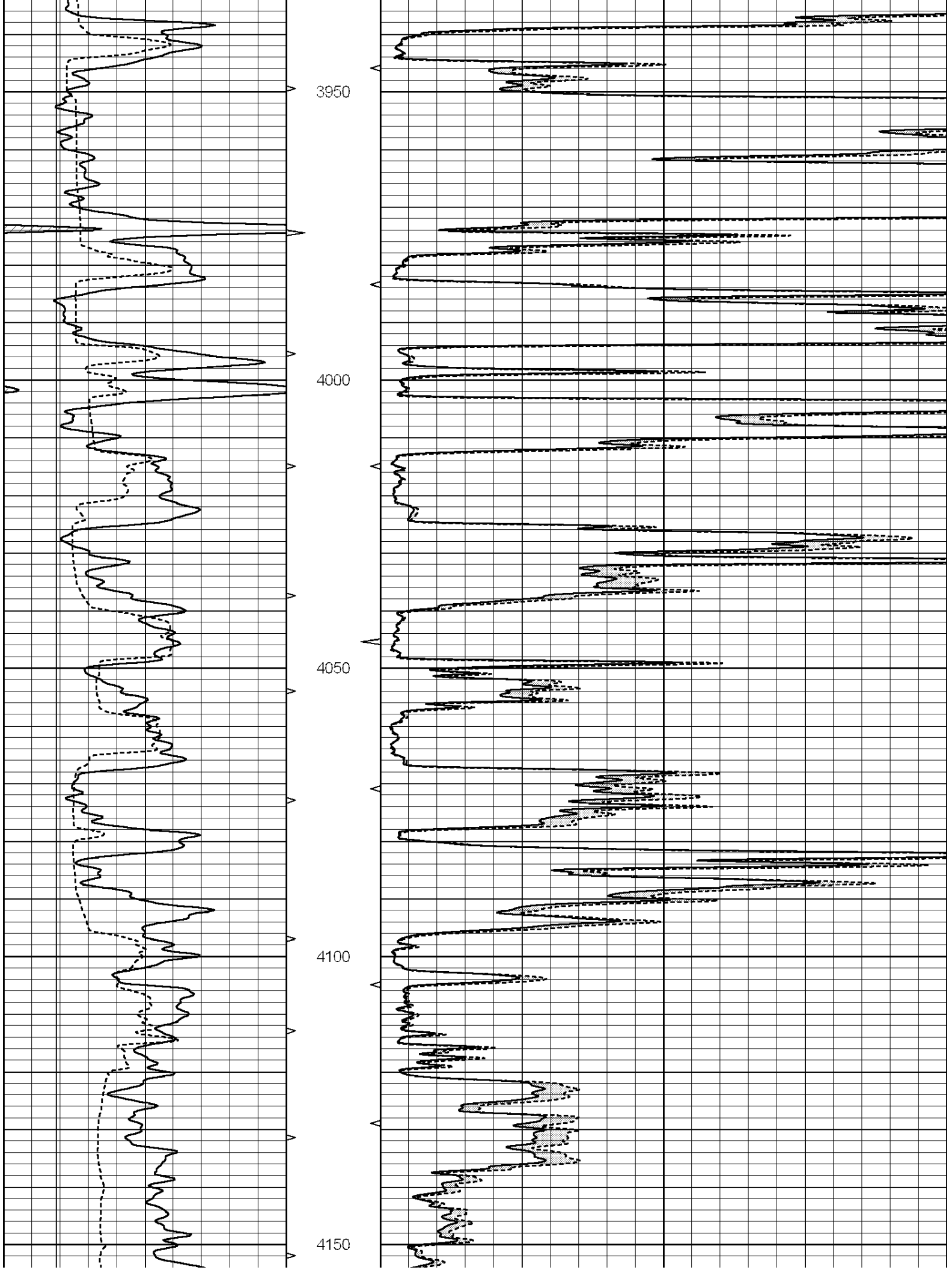
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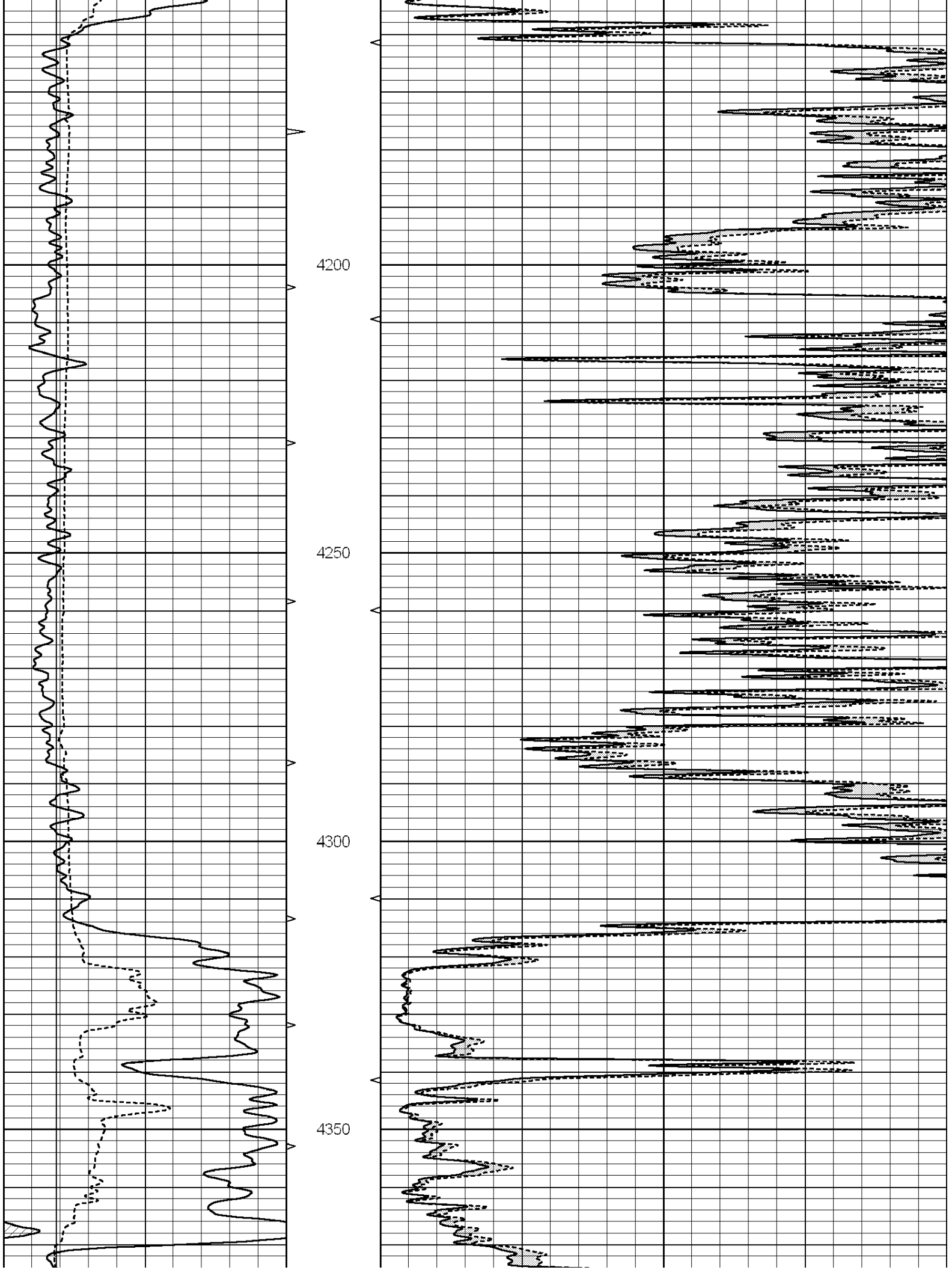
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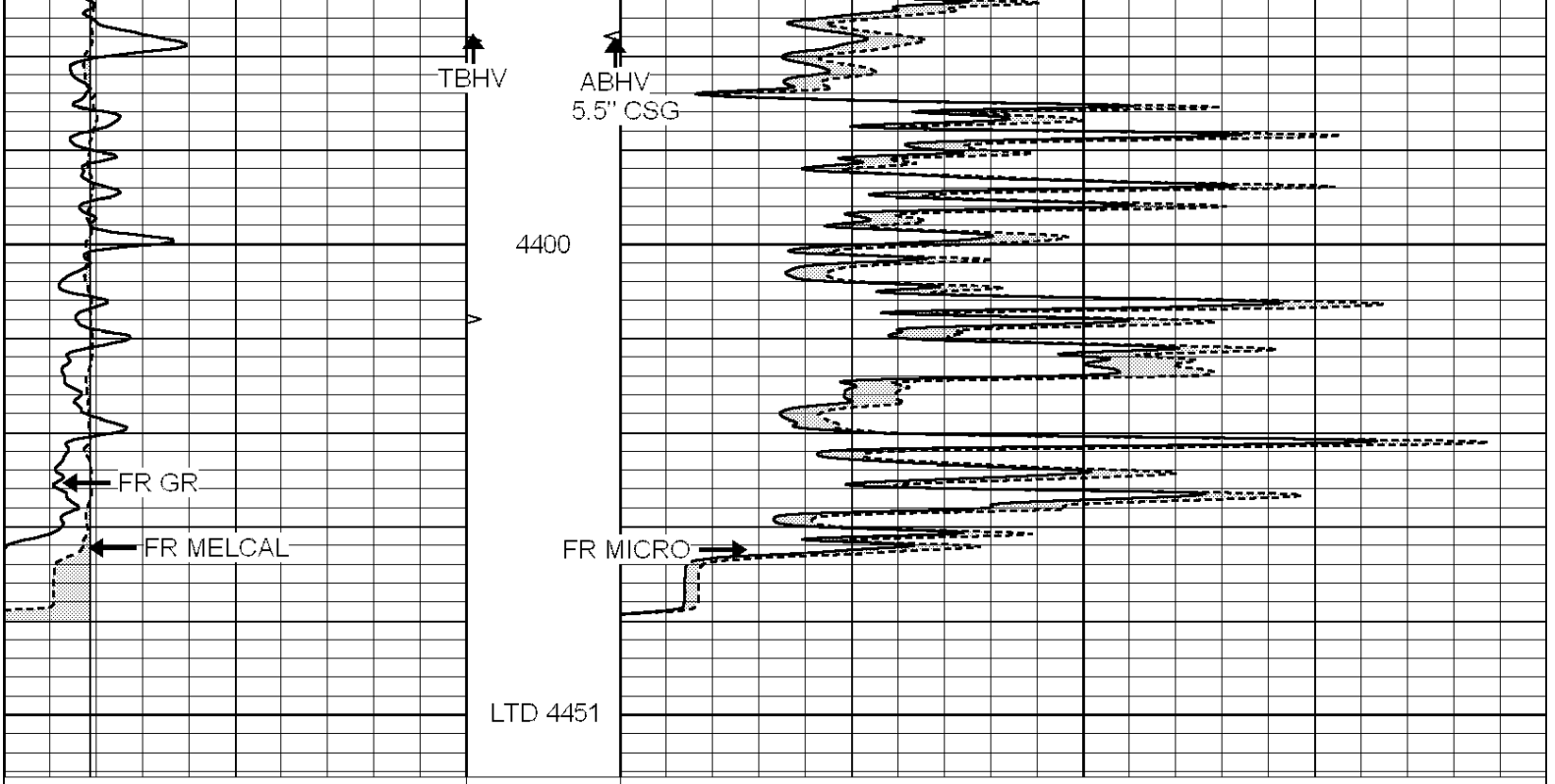


0 GAMMA RAY (GAPI) 150	ABHV	0	MEL1.5 (Ohm-m)	40
6 CALIPER (in) 16	10 (ft3) 0	0	MEL2.0 (Ohm-m)	40
	TBHV			
	0 (ft3) 10			

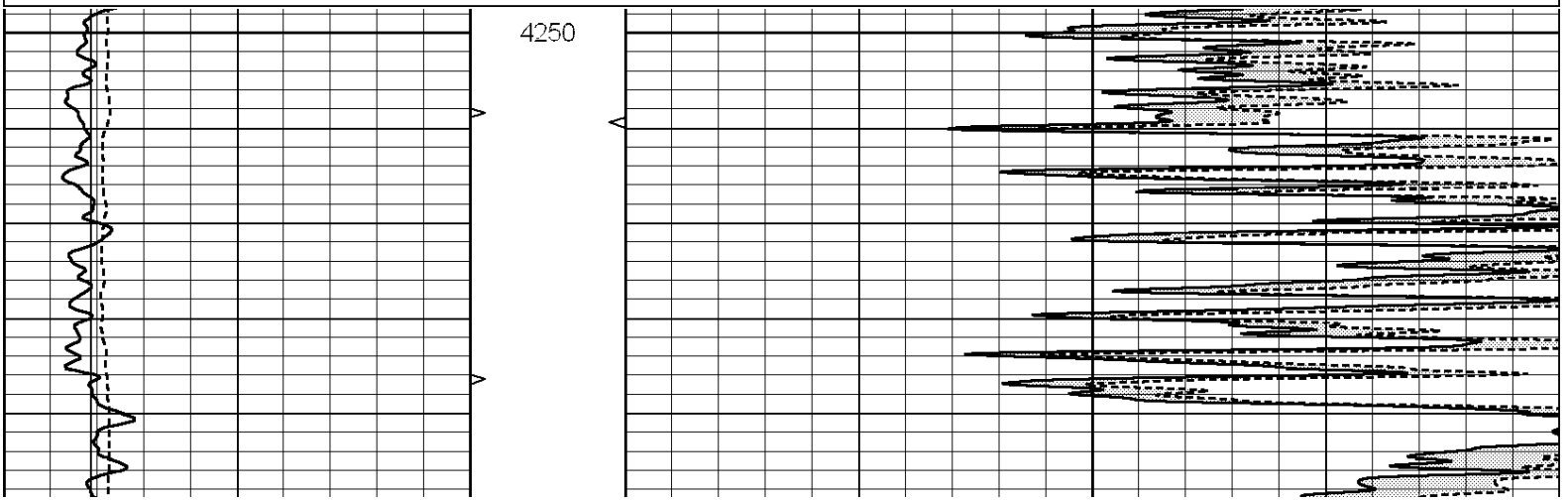
SUPERIOR WELL SERVICES

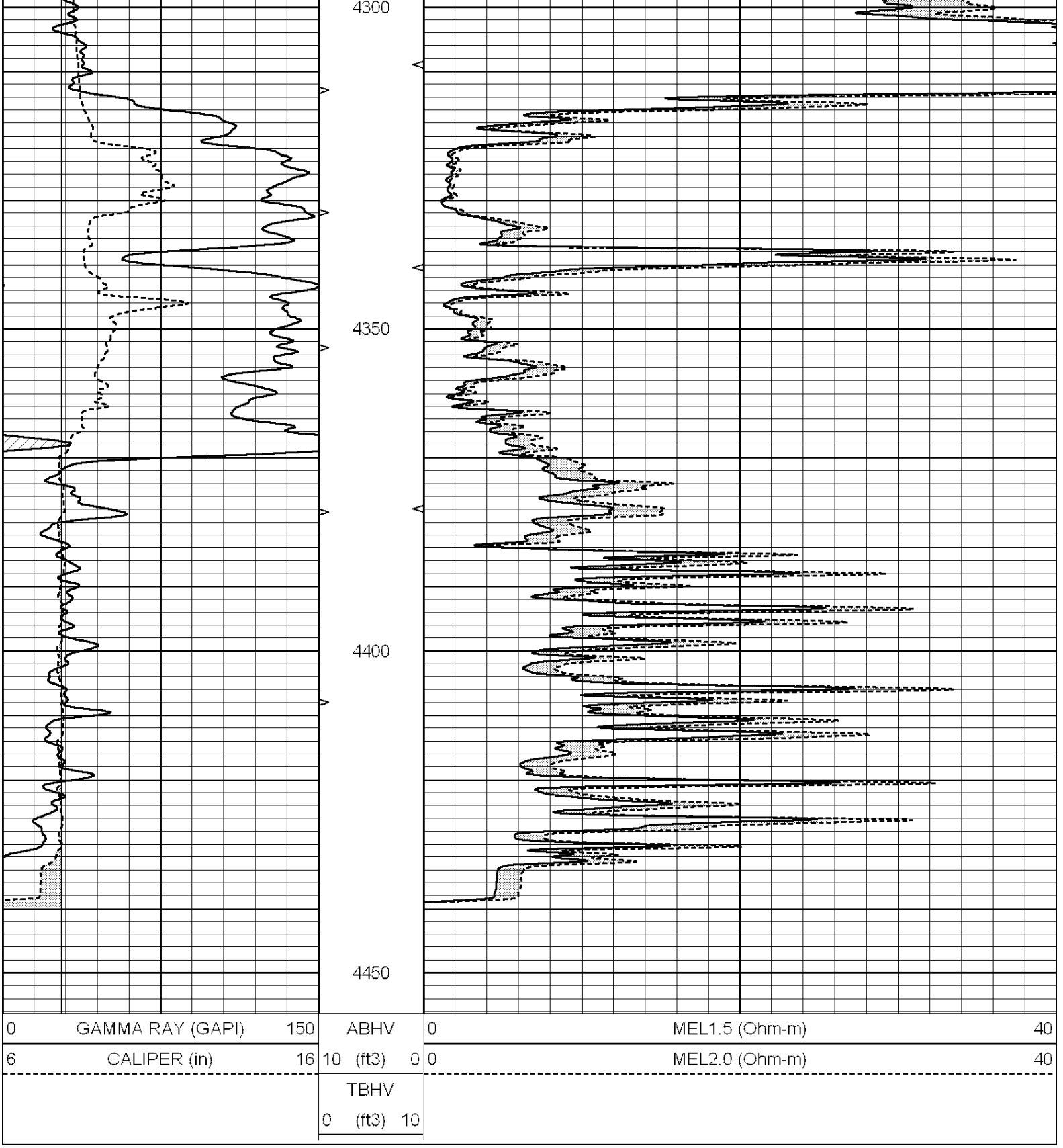
SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File:	008090ddn.db
Dataset Pathname:	pass5.1
Presentation Format:	_micro
Dataset Creation:	Wed Nov 23 12:43:49 2011 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

0 GAMMA RAY (GAPI) 150	ABHV	0	MEL1.5 (Ohm-m)	40
6 CALIPER (in) 16	10 (ft3) 0	0	MEL2.0 (Ohm-m)	40
	TBHV			
	0 (ft3) 10			





Calibration Report

Database File: 008090ddn.db
Dataset Pathname: pass6.1
Dataset Creation: Wed Nov 23 12:29:48 2011 by Calc Open-Cased 090629

MICRO Calibration Report

Serial Number: MICRO6
Tool Model: PROBE
Performed: Sun Nov 20 13:54:16 2011

Caliper Calibration:	Gain=5.211	Offset=0.160
	Low Cal	High Cal
References	8.000	14.000
Readings	1.178	2.330
1.5" Calibration:	Gain=30.075	Offset=-0.650
	Low Cal	High Cal
References	0.000	20.000
Readings	0.004	1.196
2" Calibration:	Gain=80.041	Offset=-1.500
	Low Cal	High Cal
References	0.000	20.000
Readings	0.006	0.913

Gamma Ray Calibration Report

Serial Number:	#8	
Tool Model:	OPEN	
Performed:	Mon Jun 13 16:56:43 2011	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	175.0	cps
Sensitivity:	0.8371	GAPI/cps

SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	CAERUS KANSAS, LLC.
Well	WATERS #30-43
Field	SATTERLEE
County	STAFFORD
State	KANSAS

Company CAERUS KANSAS, LLC

Well WATERS #30-43

Field SATTERLEE

County STAFFORD State KANSAS

Location: API # : 15-185-23680-0000
1400' FSL & 330' FEL
S/2 - SE - NE - SE
SEC 30 TWP 24S RGE 14W

Permanent Datum GROUND LEVEL Elevation 1990
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL
MEL/SON

Elevation
K.B. 1999
D.F. 1997
G.L. 1990

Date	11/23/11		
Run Number	ONE		
Depth Driller	4448		
Depth Logger	4451		
Bottom Logged Interval	4449		
Top Log Interval	0		
Casing Driller	8 5/8" @ 265		
Casing Logger	265		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5000 PPM	
Density / Viscosity	9.6/56		
pH / Fluid Loss	9.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 66F		
Rmf @ Meas. Temp	0.49 @ 66F		
Rmc @ Meas. Temp	0.78 @ 66F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.36 @ 120F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	120F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	JEFF LAWLER		

<<< Fold Here >>>

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
MACKSVILLE, KS - EAST 3 MILES TO RD 80 - SOUTH 1 3/4 MILES
WEST INTO

Database File:	008090ddn.db
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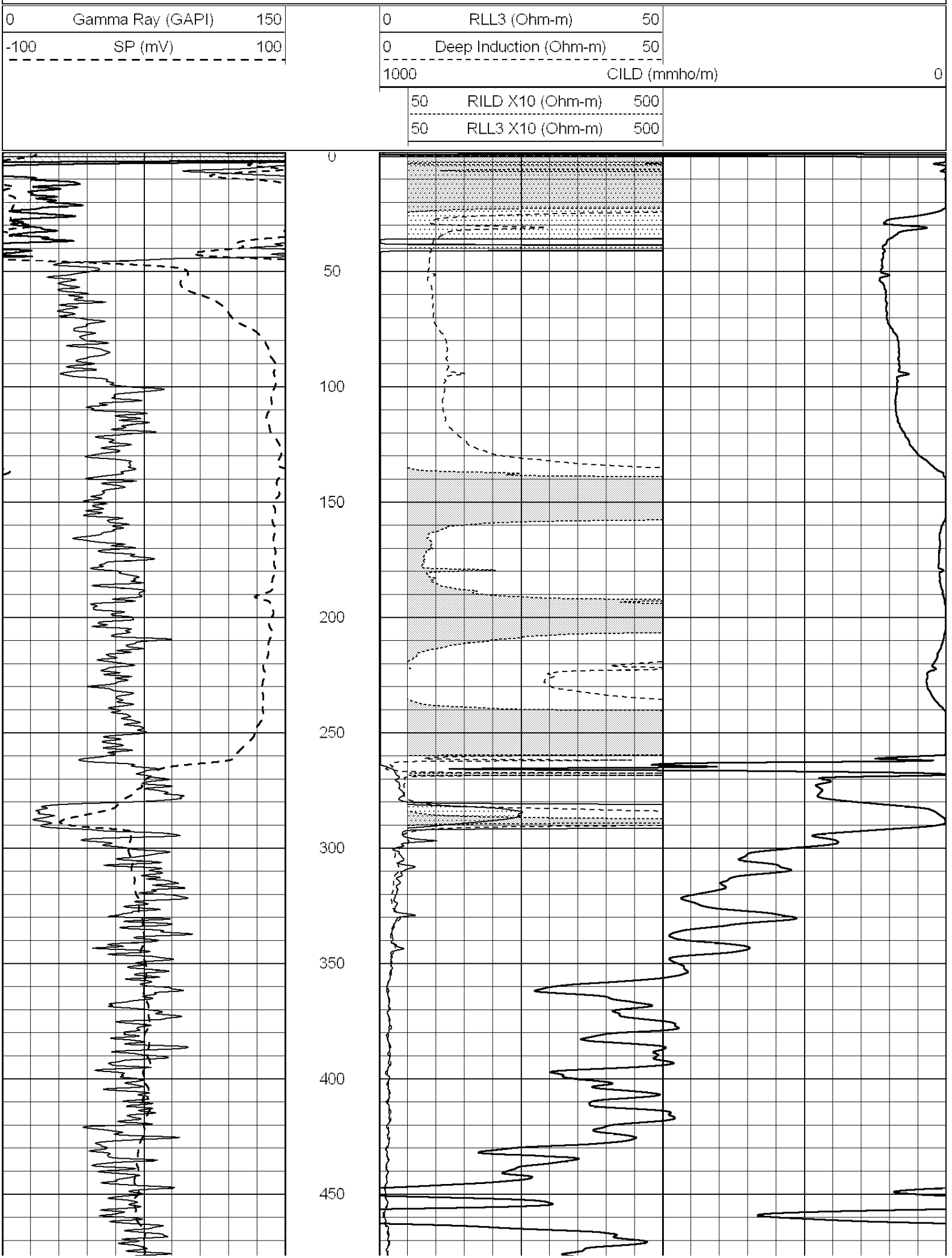
Presentation Format:	_dil2
Dataset Creation:	Wed Nov 23 11:38:07 2011 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:600


0 Gamma Ray (GAPI) 150
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0 RLL3 (Ohm-m) 50
0 Deep Induction (Ohm-m) 50
1000 CILD (mmho/m) 0
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50 RLL3 X10 (Ohm-m) 500
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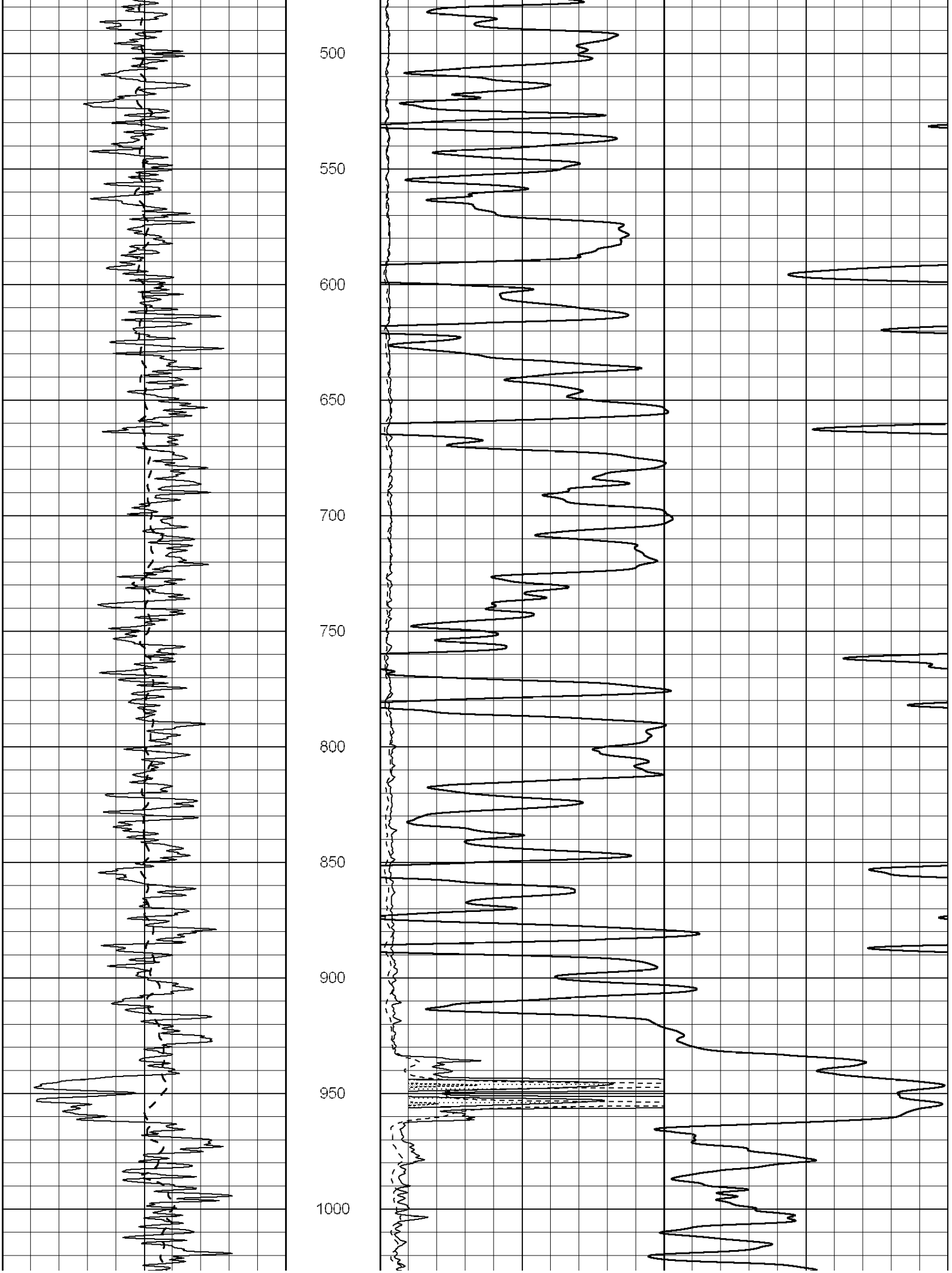
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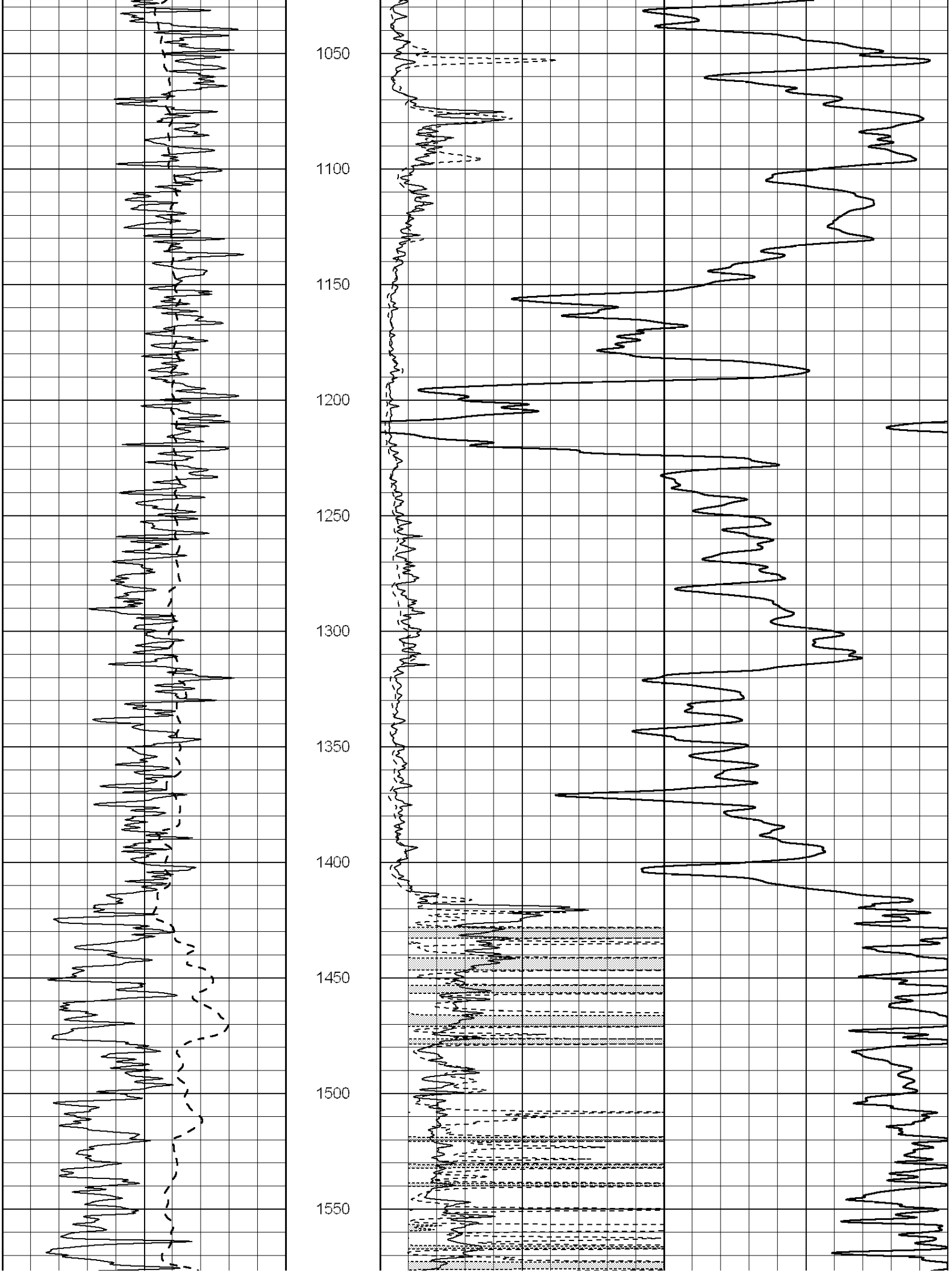
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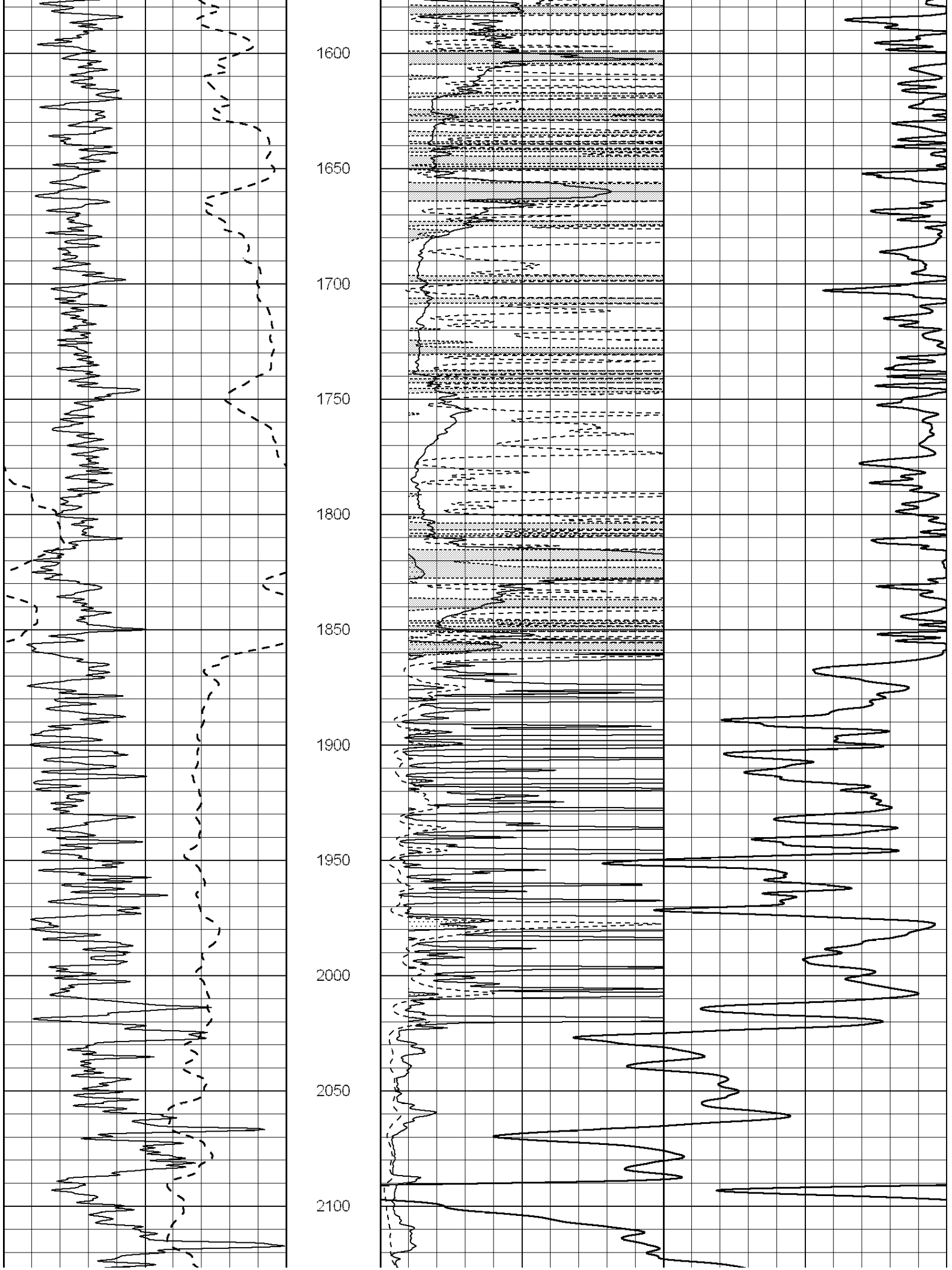
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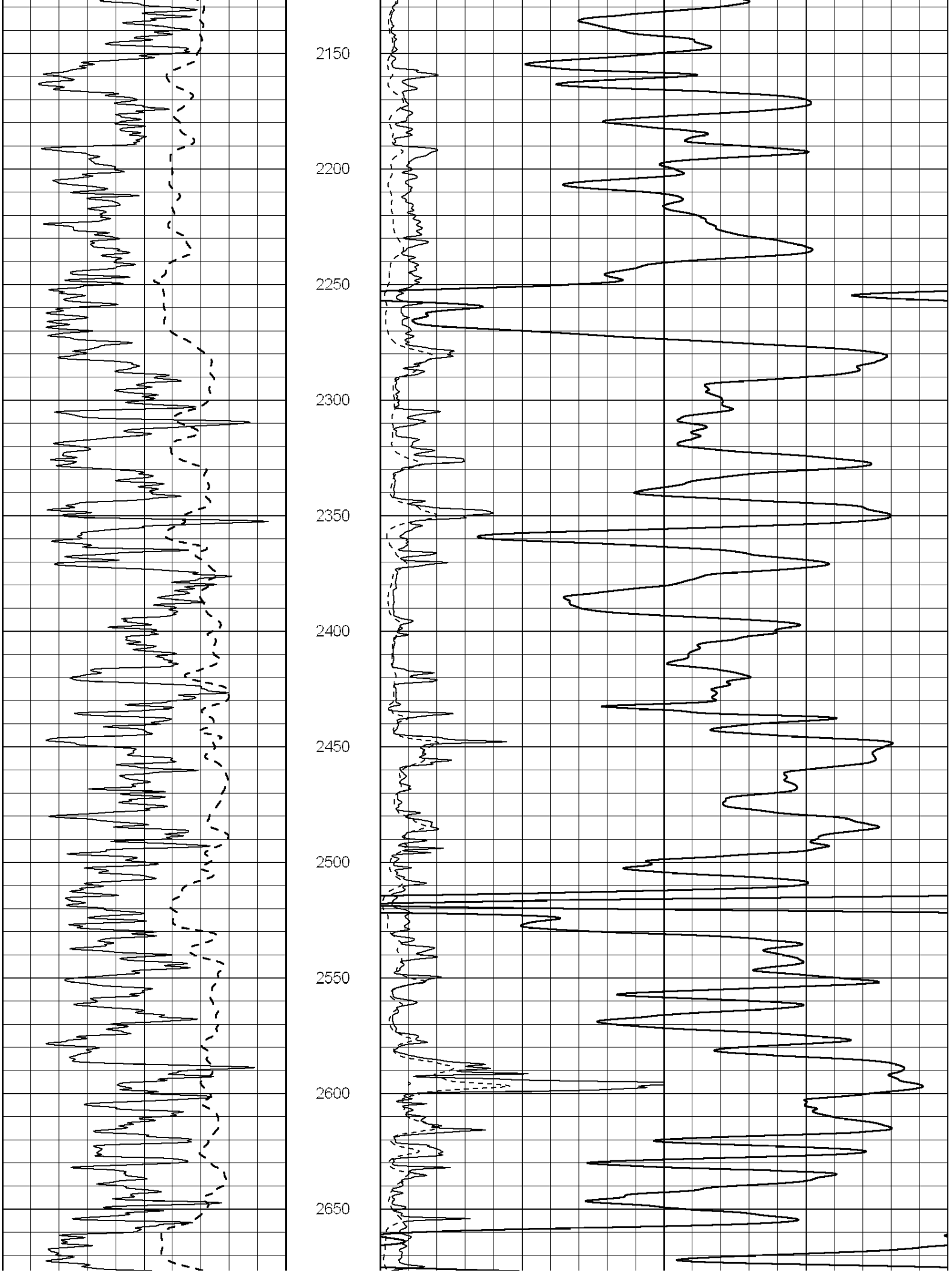
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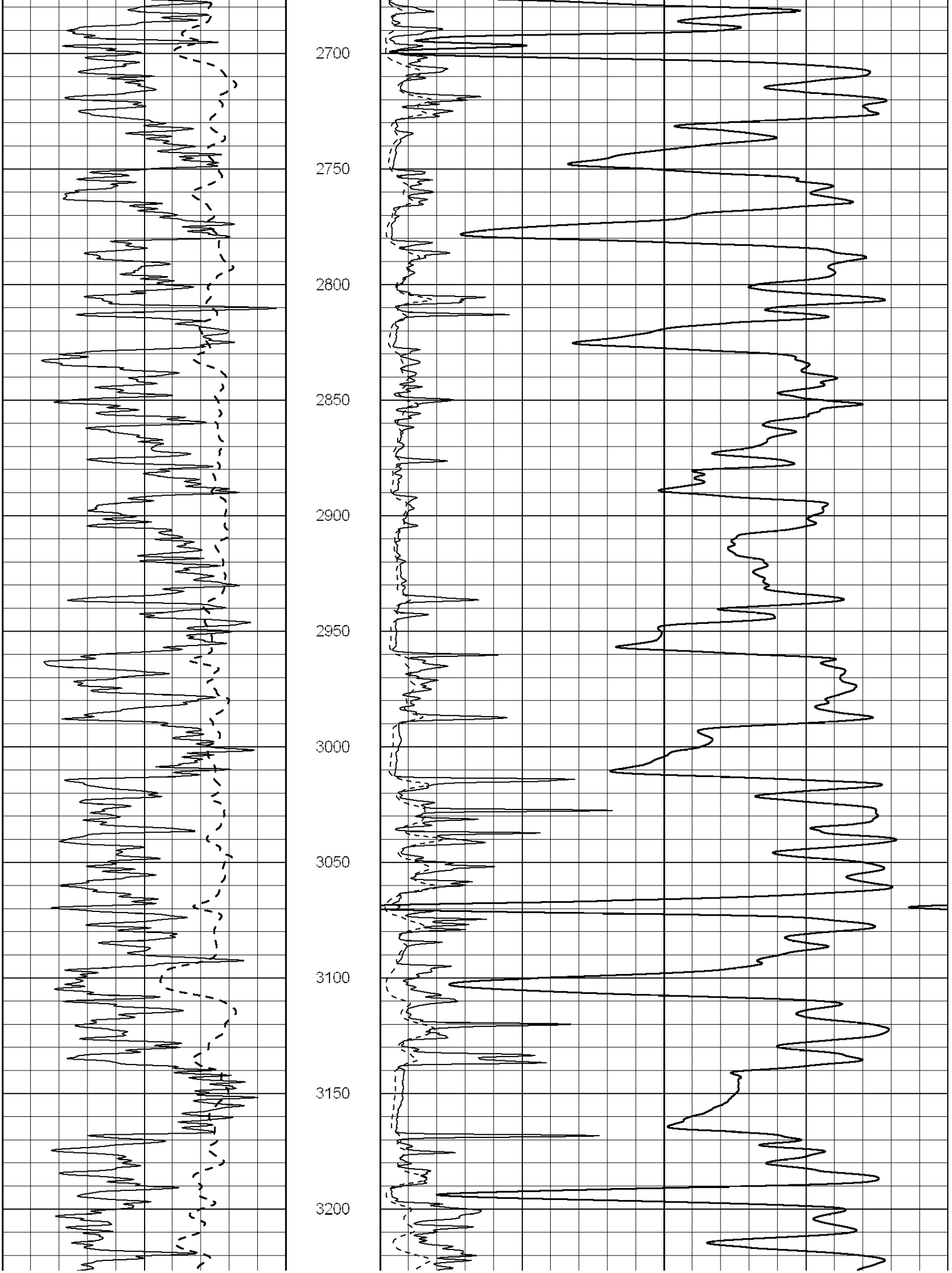
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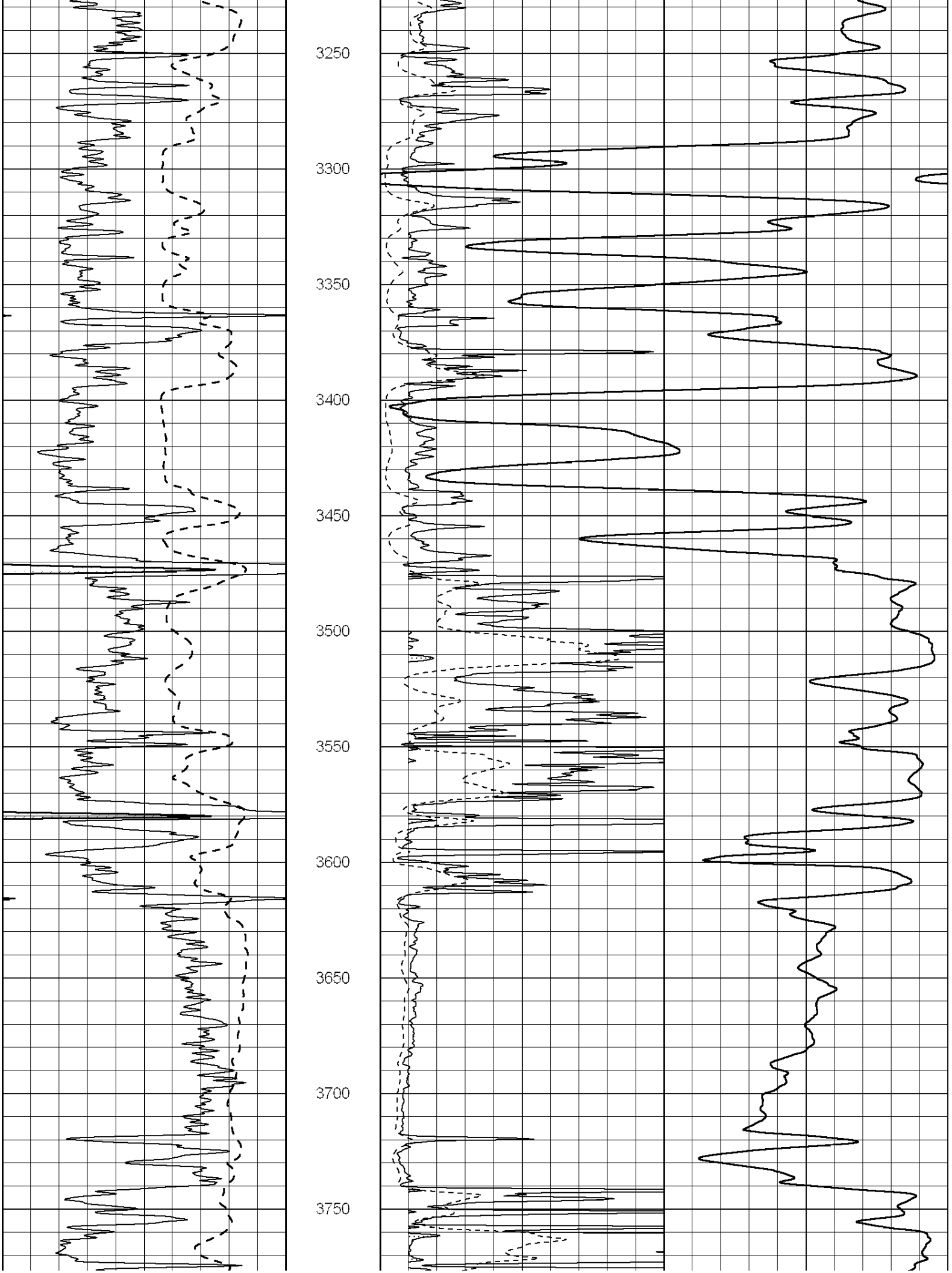
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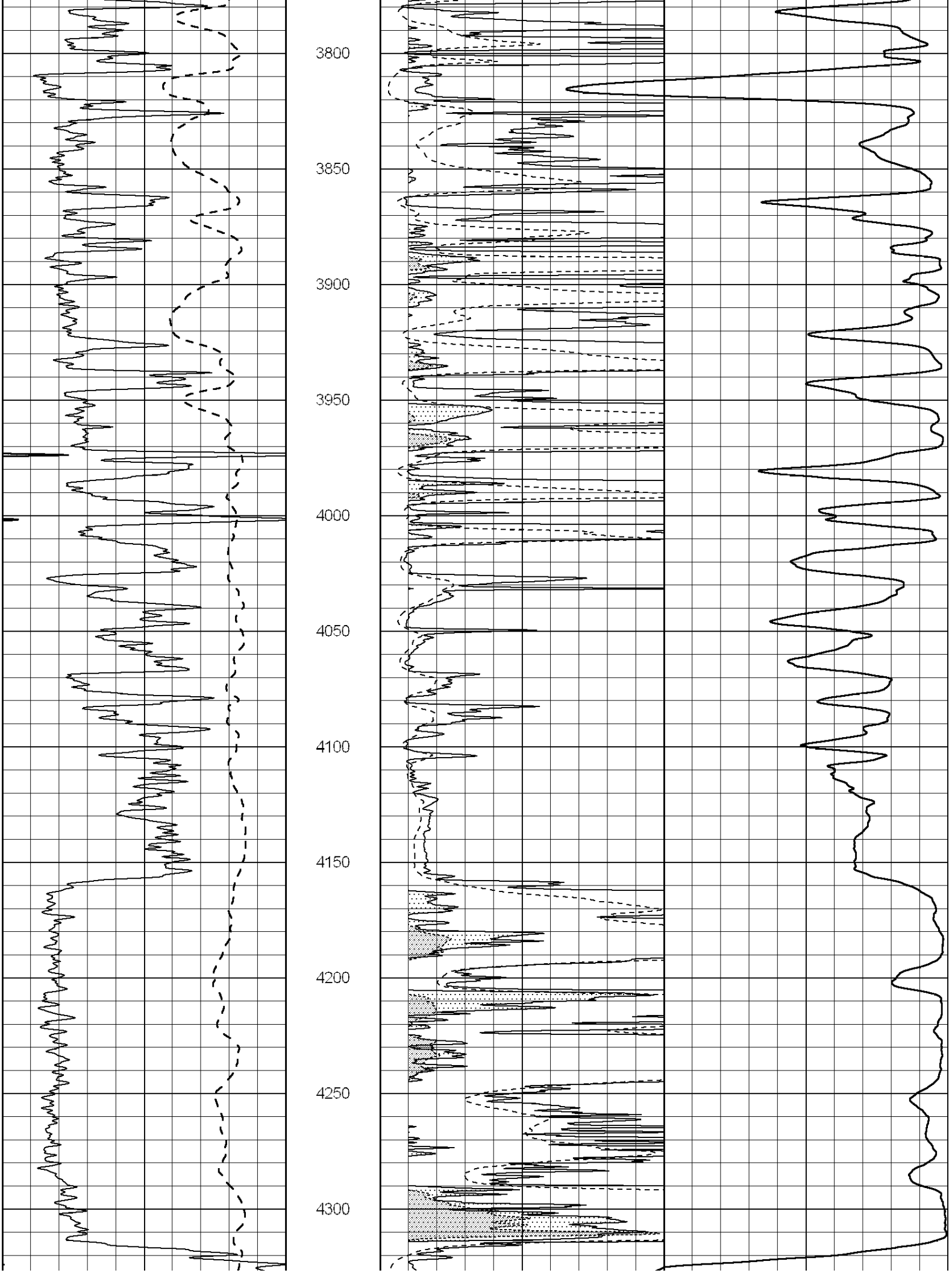
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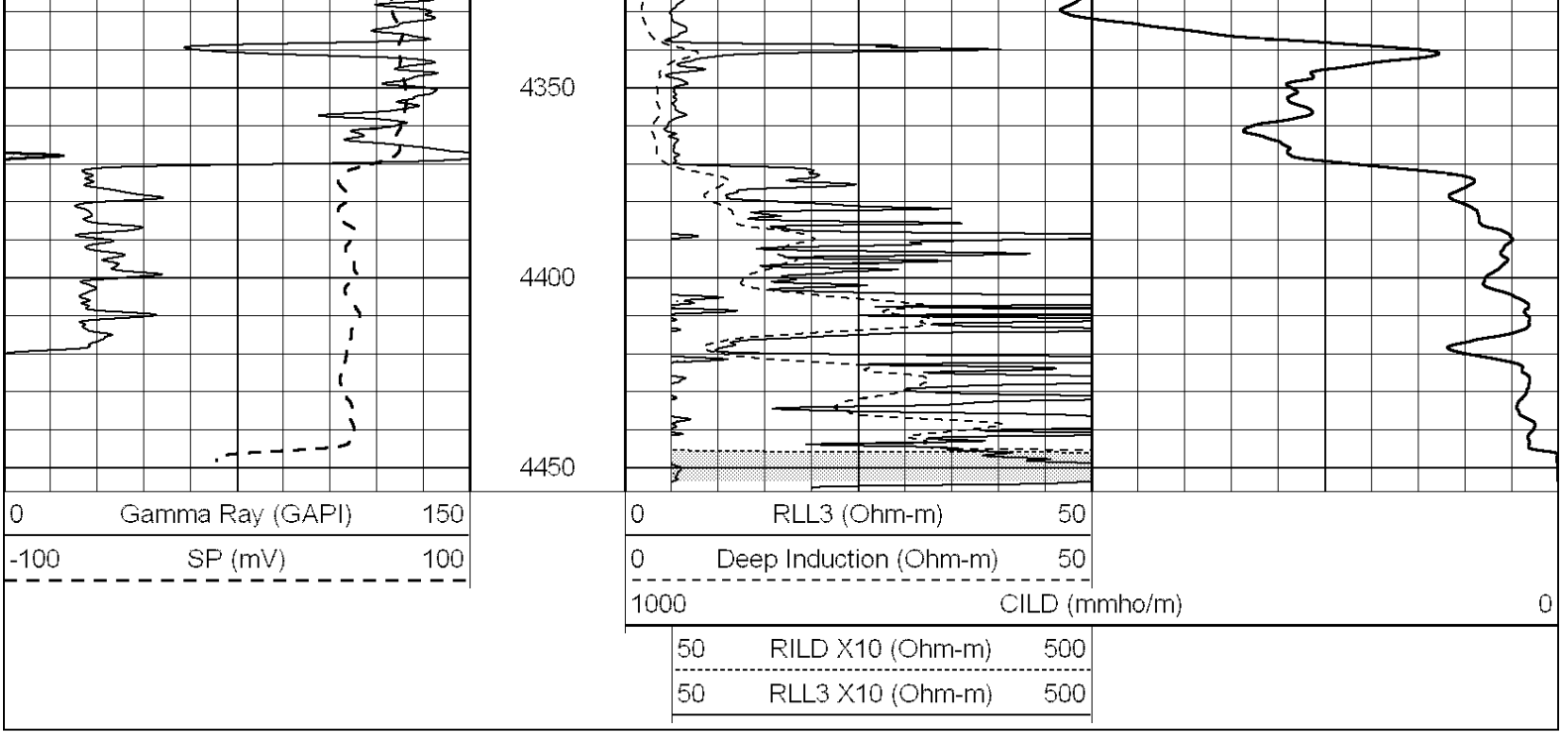

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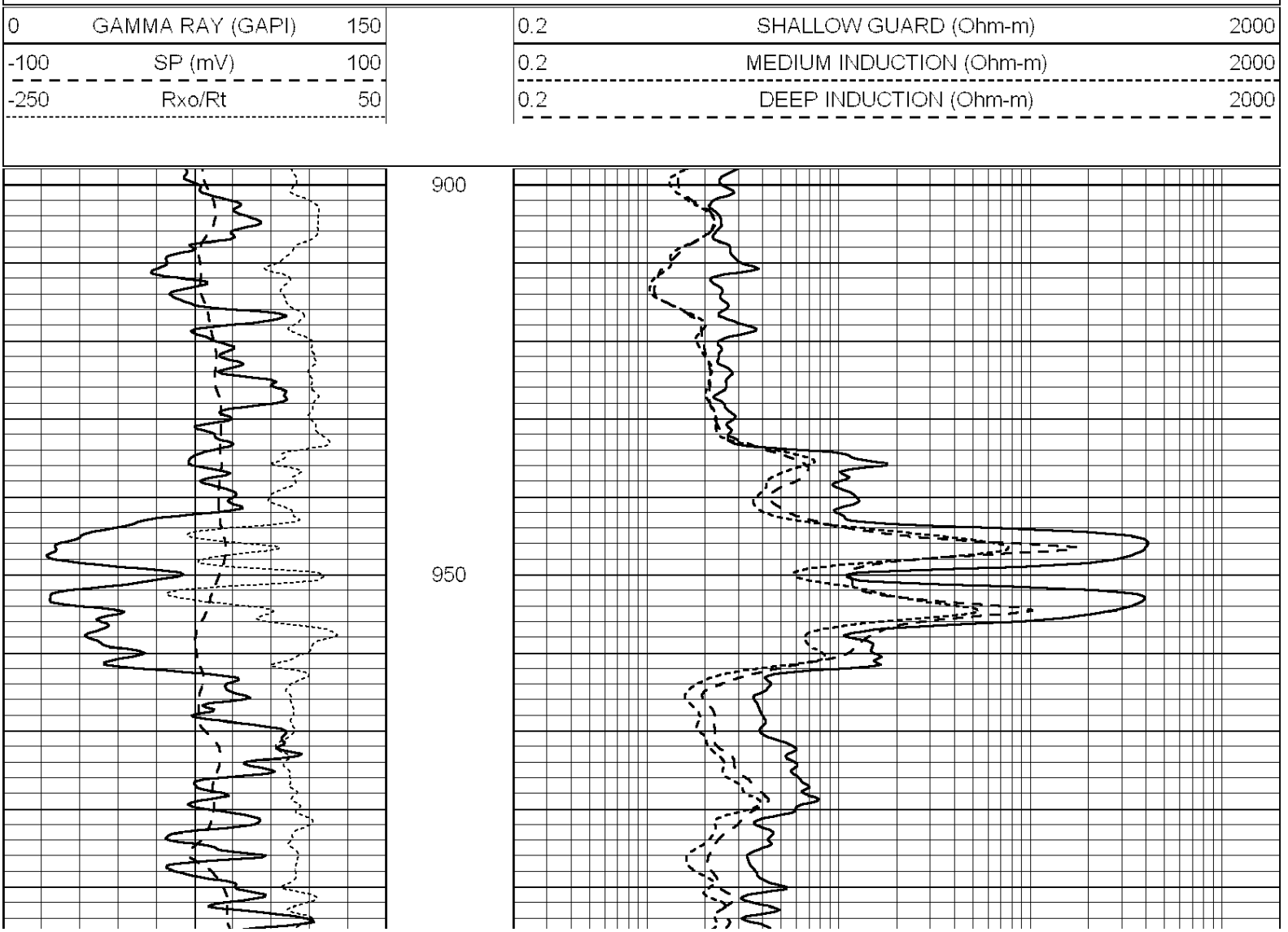
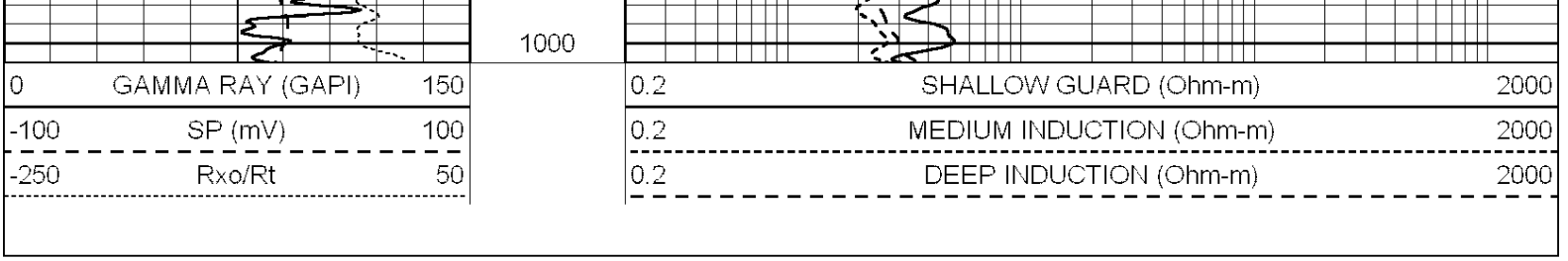
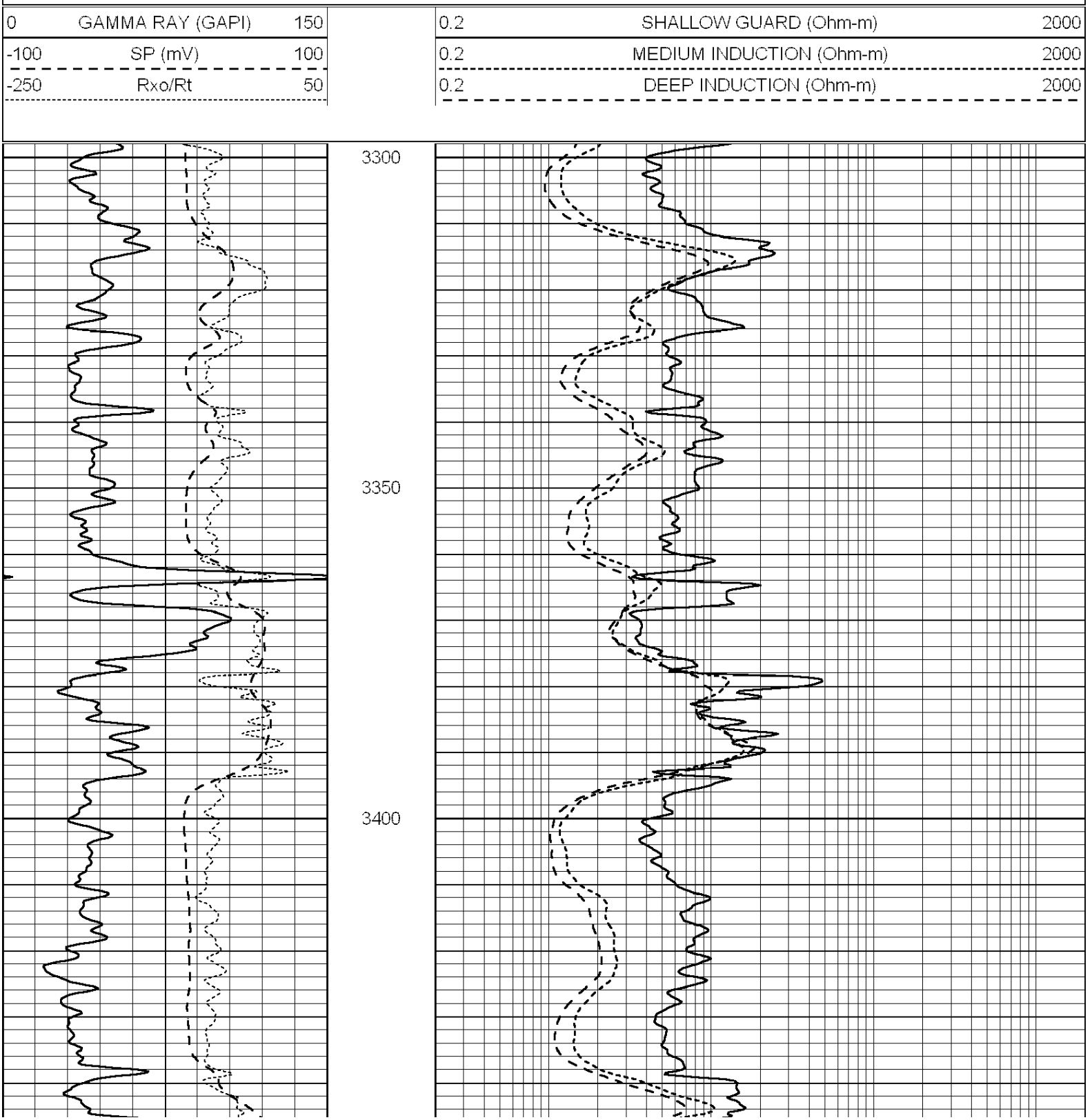
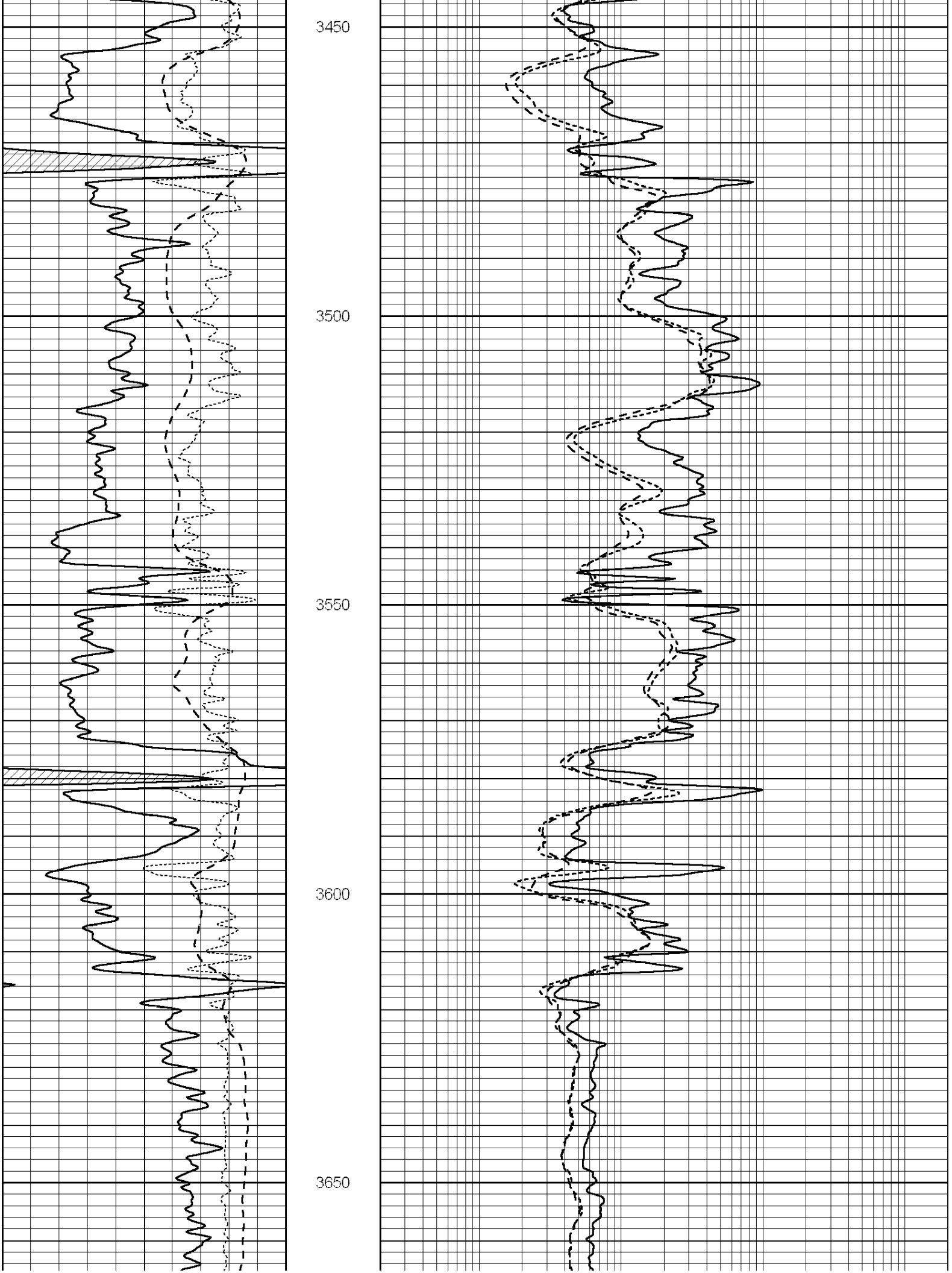
Dataset Pathname: pass3.3
Presentation Format: _dil
Dataset Creation: Wed Nov 23 11:38:07 2011 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

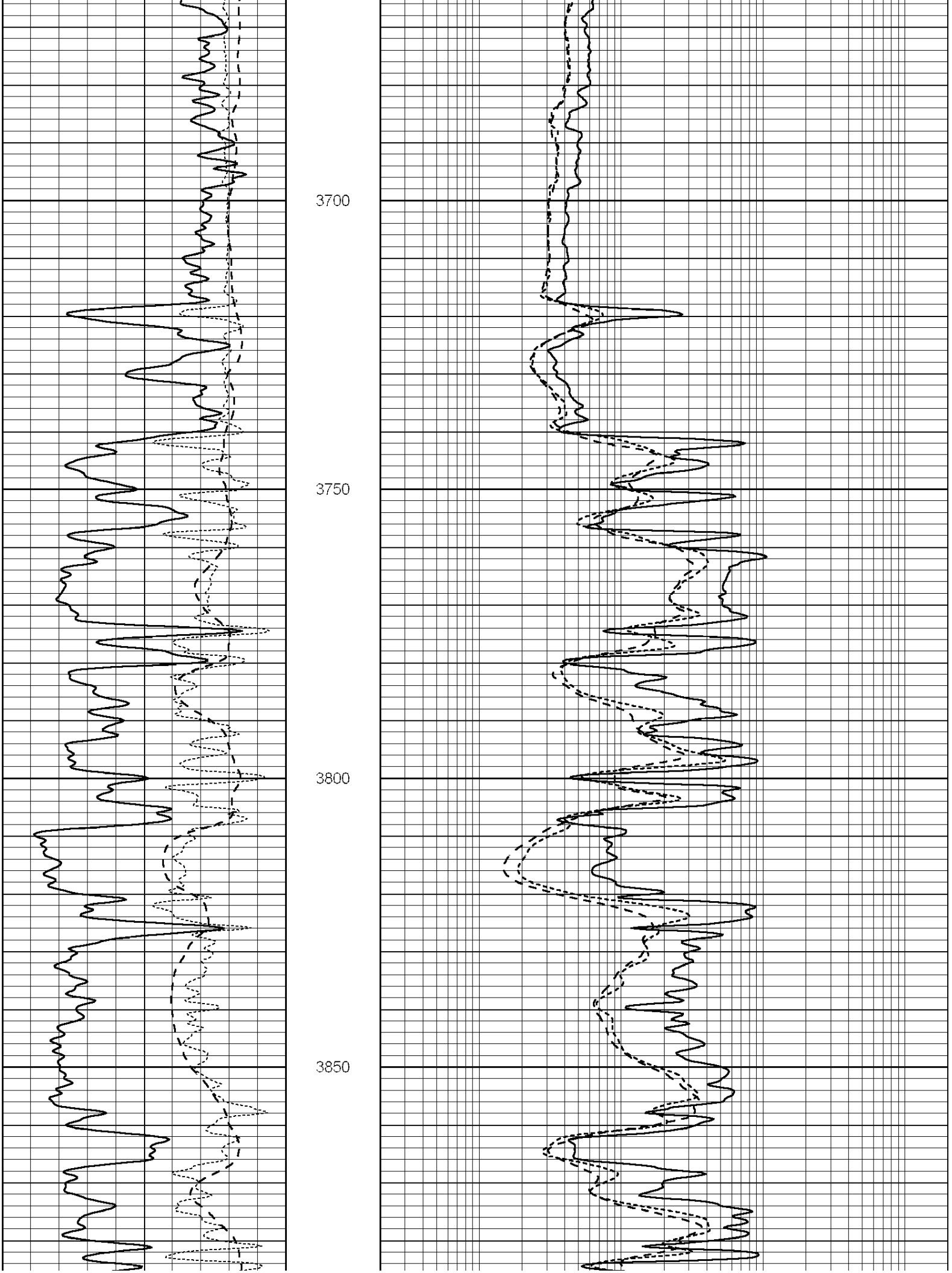


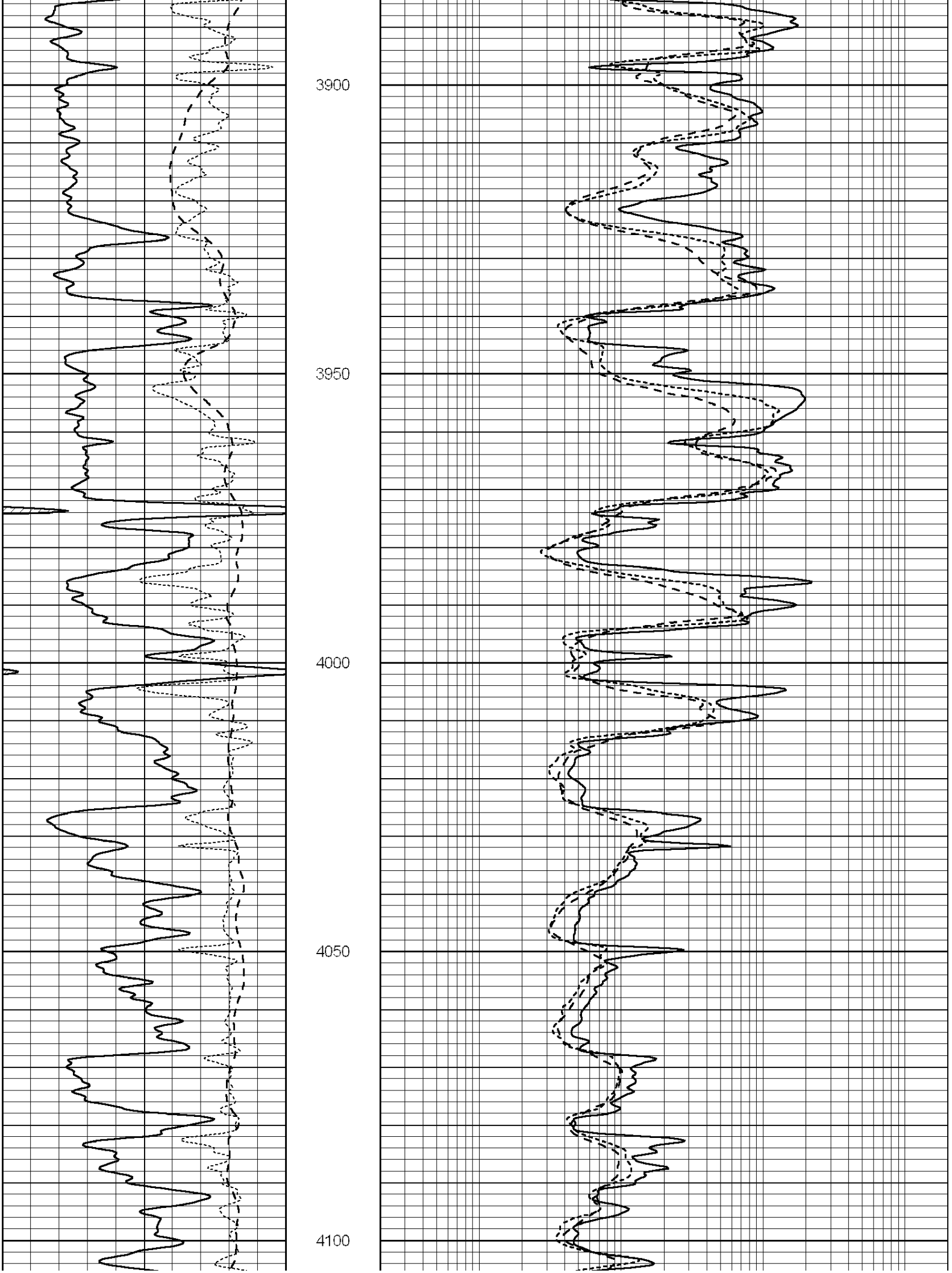


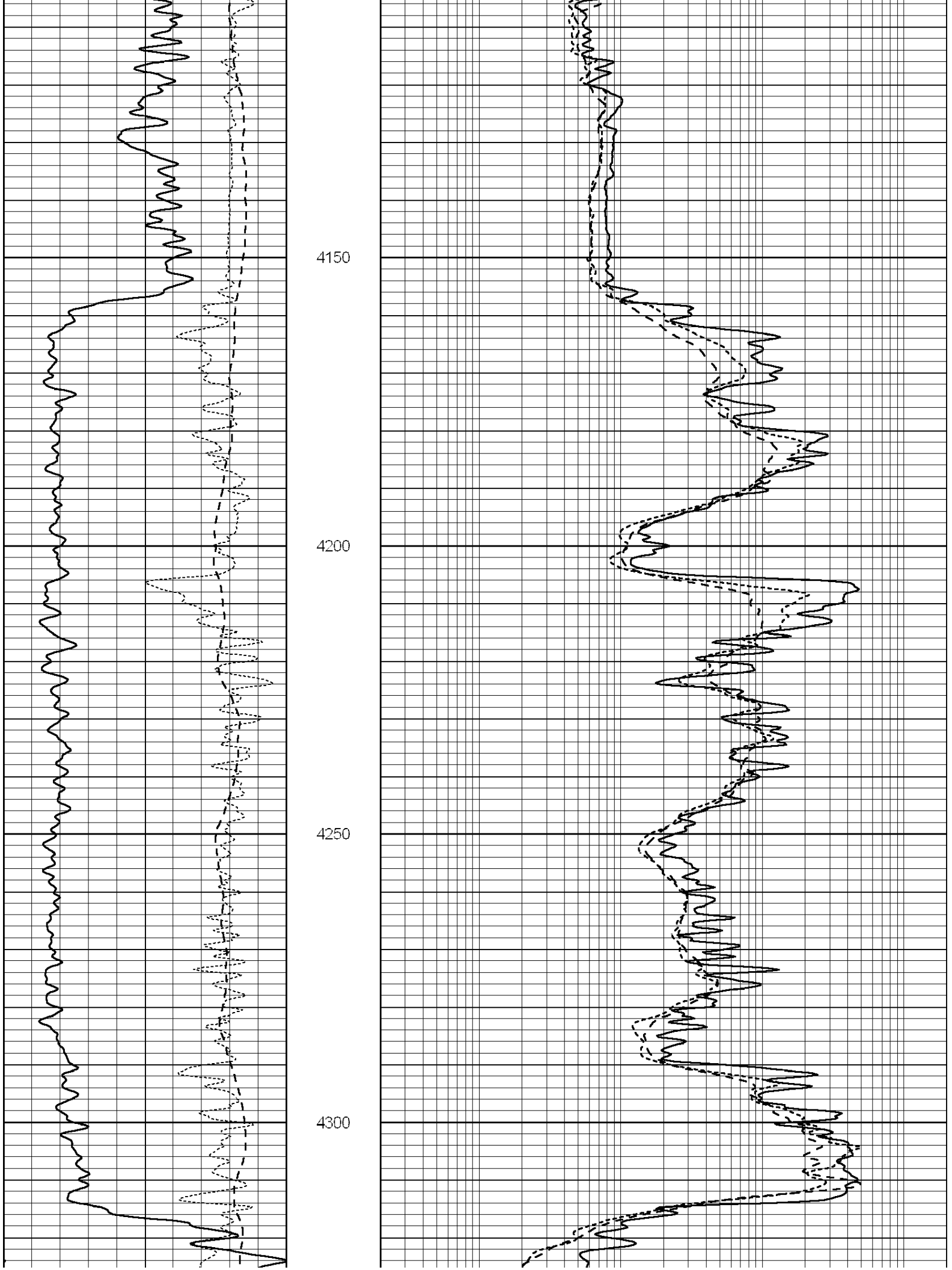
Database File: 008090ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Wed Nov 23 10:26:24 2011 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

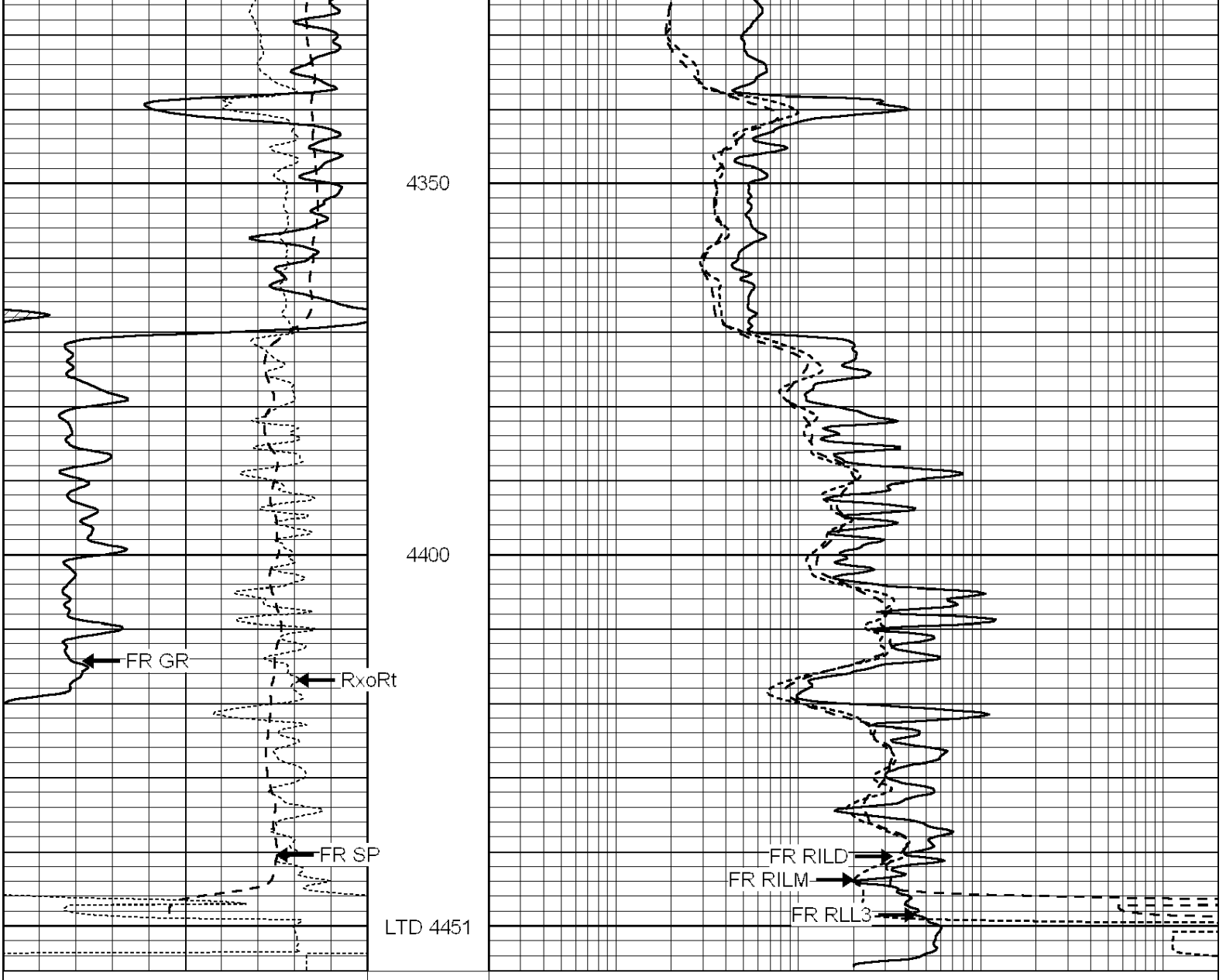



3450
3500
3550
3600
3650


3700
3750
3800
3850


3900
3950
4000
4050
4100


4150
4200
4250
4300



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

SUPERIOR WELL SERVICES

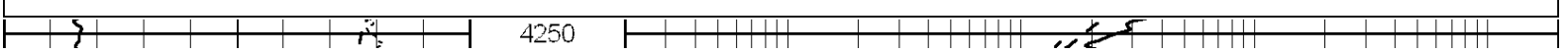
SUPERIOR
Hays,
Kansas

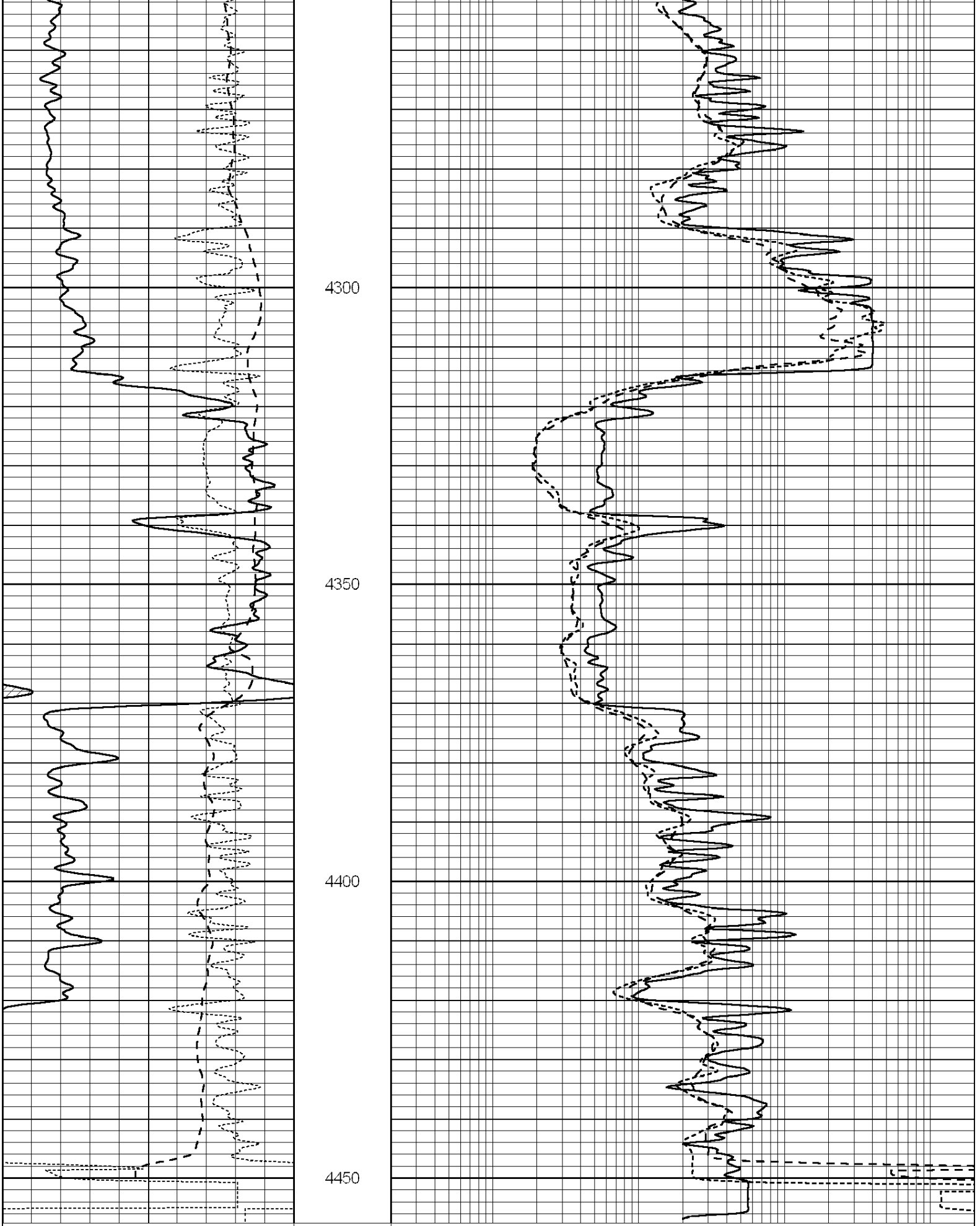
REPEAT SECTION

Database File:	008090ddn.db
Dataset Pathname:	pass2.4
Presentation Format:	_dil
Dataset Creation:	Wed Nov 23 10:27:32 2011 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000





0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

Calibration Report

Database File: 008090ddn.db
Dataset Pathname: pass3.3
Dataset Creation: Wed Nov 23 11:38:07 2011 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Fri Aug 01 06:33:19 2008
Downhole Cal Performed:	Mon Jul 28 11:08:27 2008
After Survey Verification Performed:	Mon Jul 28 11:08:27 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Compensated Density Calibration Report

Serial-Model:	GEAR4-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Sat Jul 16 17:35:04 2011

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1015.91	497.51	cps
Aluminum	2.580	g/cc	227.67	350.20	cps

Spine Angle = 76.79

Density/Spine Ratio = 0.566

	Size		Reading	
Small Ring	8.00	in	2.24	V

Large Ring	14.00	in	4.38	V

Compensated Neutron Calibration Report

Serial Number: 6I
Tool Model: G

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.0000
Long Space	1.00	cps	1.00	cps	1.0000

Gamma Ray Calibration Report

Serial Number: #8
Tool Model: OPEN
Performed: Mon Jun 13 16:56:43 2011

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 175.0 cps

Sensitivity: 0.8371 GAPI/cps