



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1075009  
OIL & GAS CONSERVATION DIVISION

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 # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

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 #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ 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: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1075009

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> 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)*

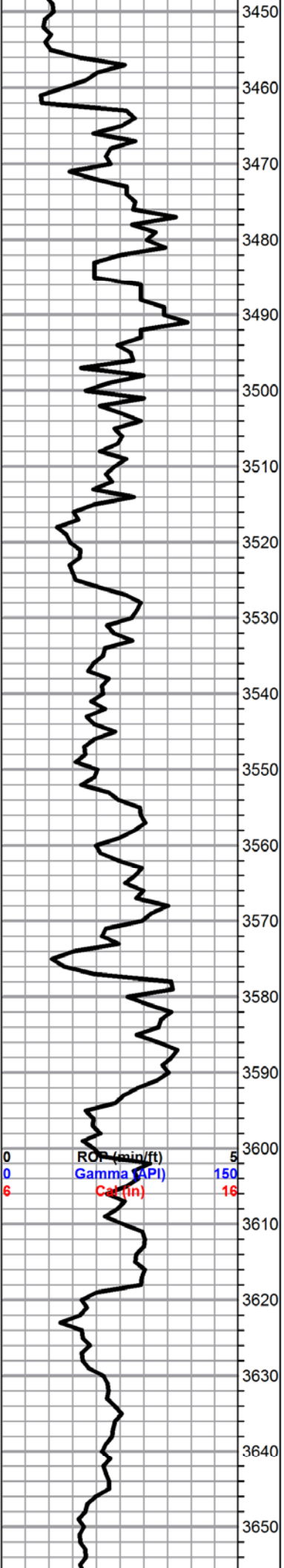
Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
-------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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Lm- Tan Cream Lt Gray, VF-Coarse XLN, mostly dense w/ little to no visible porosity, few chips of pebbly & unconsolidated, few chips of VF XLN, dense oolitic

3470 Sh- Black Gray Maroon, fissile, blocky, some smooth & soft

3490 Lm- Lt Gray Lt Brown, VF XLN, trashy reworked sherty Ls., mostly dense w/ little visible porosity, few chips of White & Smokey Gray sharp angular bedded chert

3500 Lm- Cream Tan, VF XLN, moderately dense w/ pinpoint porosity, granular in part, some silty

3510 Lm- Gray Cream Tan, Med XLN, chips of both sharp angular bedded & eroded and reworked chert, fossiliferous, bio-clastic

3520 Lm- Cream Tan, VF-F XLN, dense w/ minimal visible porosity, well cemented,

3530 Sh- Gray Maroon Brown, smooth slivers, gritty earthy chips

3540 Lm- Cream Buff, VF-F grained, mostly dense & well cemented cherty Ls, scattered pinpoint porosity

3550 Lm- Tan Cream, Med XLN, clastic cherty Ls, semi-granular w/ pinpoint porosity, some chalky & silty in part

3560 Lm/Chert- Lt Gray Tan, Coarse XLN, granular w/ good consistant porosity, chips of eroded & reworked chert.

**HEEBNER SHALE 3574' (-1583) E-LOG** Sh- Black Gray Maroon Lime Green, Carbonaceous, fissile, blocky, soft earthy slivers

3590 Sh/Ss- Gray Maroon White, micaceous, striated, soft, gritty grainy, poorly cemented maroon & lime green VF grained, well sorted & cemented Ss, balls of white argillaceous sticky lime

**TORONTO 3594' (-1603) E-LOG** Lm- Tan Cream Lt Gray, FXLN, siliceous cherty Ls, mostly dense & well cemented w/ consistant pinpoint to sub-vugular porosity, FSL w/ crinoids, fusulinids & pyritized bi-valve casts, few chips of dense cryptocrystalline w/ no visible porosity

**DOUGLAS SHALE 3614' (-1623) E-LOG** Sh- Gray Black Maroon, carbonaceous, fissile, blocky, smooth & soft, earthy, some maroon very dense & well compacted, almost lithofied chips

3640 Lm- Tan Cream, FXLN, most moderately dense w/ minimal visible porosity



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



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

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

February 23, 2012

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

Re: ACO1  
API 15-185-23719-00-00  
Waters 8-34  
SE/4 Sec.08-25S-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: 600 17TH ST, STE 1600 N  
Address 2: \_\_\_\_\_  
City: Denver State: CO Zip: 80202 + \_\_\_\_\_  
Contact Person: Amy Lay  
Phone: (720) 880-6414  
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 - 185-23719-00-00  
Spot Description: \_\_\_\_\_  
NW -NW- SW- SE Sec. 8 Twp. 25 S. R. 14  East  West  
1,208 Feet from  North /  South Line of Section  
2,429 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Stafford  
Lease Name: Waters Well #: 8-34  
Date Well Completed: \_\_\_\_\_  
The plugging proposal was approved on: 11/14/11 (Date)  
by: Ken Jehlik (KCC District Agent's Name)  
Plugging Commenced: 11/14/11  
Plugging Completed: 11/15/11

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"	263'	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 at 4391' with 50 sks, 2nd plug at 900' with 50 sks, 3rd plug at 290' with 40 sks, 4th plug at 60' with 20 sks, 30 sks in the rat hole. Cementing material was a total of 190' sks 60/40 4% gel 1/4# flocele. Cement provided by Allied Cementing Co., LLC.

Plugging Contractor License #: 34233 Name: Maverick Drilling LLC  
Address 1: 100 S. Main, Ste 440 Address 2: \_\_\_\_\_  
City: Wichita State: KS 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

# ALLIED CEMENTING CO., LLC. 042293

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
*Great Bend, KS*

DATE <i>11-13-11</i>	SEC. <i>8</i>	TWP. <i>25</i>	RANGE <i>14</i>	CALLED OUT	ON LOCATION	JOB START <i>4:00am</i>	JOB FINISH <i>5:00am</i>
LEASE <i>Waters</i>	WELL# <i>8-34</i>	LOCATION <i>50' + Ogilum black top</i>			COUNTY <i>Stafford</i>	STATE <i>KS</i>	
OLD OR NEW (Circle one)		<i>4 1/2 South West water</i>					

CONTRACTOR *Maverick Rwy # 1078*  
 TYPE OF JOB *Rotary plug*  
 HOLE SIZE *7 7/8* I.D. *4465*  
 CASING SIZE *8 3/4* DEPTH *263*  
 TUBING SIZE DEPTH  
 DRILL PIPE *4 1/2* DEPTH *4391*  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT  
 CEMENT LEFT IN CSG.  
 PERFS.  
 DISPLACEMENT

OWNER *Caerus Kansas LLC*  
 CEMENT  
 AMOUNT ORDERED *190 sm 60/40 496 gal*  
*124 Flr*

EQUIPMENT  
 PUMP TRUCK CEMENTER *Bob Roller*  
 # *398* HELPER *Dustin C.*  
 BULK TRUCK  
 # *344-170* DRIVER *Jimmy H.*  
 BULK TRUCK  
 # DRIVER *Jacob / Vince P.*

COMMON	<i>114</i>	@ <i>16.25</i>	<i>1,852.50</i>
POZMIX	<i>76</i>	@ <i>8.50</i>	<i>646.00</i>
GEL	<i>7</i>	@ <i>21.25</i>	<i>148.75</i>
CHLORIDE		@	
ASC		@	
		@	
<i>Flo Seal 48#</i>		@ <i>2.70</i>	<i>129.60</i>
		@	
		@	
		@	
		@	
HANDLING	<i>199</i>	@ <i>2.25</i>	<i>447.75</i>
MILEAGE	<i>199 x 20 x .11</i>		<i>437.80</i>
TOTAL			<i>3,662.40</i>

REMARKS:  
*1st plug at 4391' min 50sm*  
*2nd plug at 900' min 50sm*  
*3rd plug at 290' min 40sm*  
*4th plug at 60' min 20sm*  
*2H min 30sm*

SERVICE

DEPTH OF JOB	<i>4391</i>		
PUMP TRUCK CHARGE			<i>1,250.00</i>
EXTRA FOOTAGE		@	
MILEAGE	<i>Hum 20</i>	@ <i>7.00</i>	<i>140.00</i>
MANIFOLD		@	
	<i>hum 20</i>	@ <i>4.00</i>	<i>80.00</i>
TOTAL			<i>1,470.00</i>

CHARGE TO: *Caerus Kansas LLC*  
 STREET  
 CITY STATE ZIP

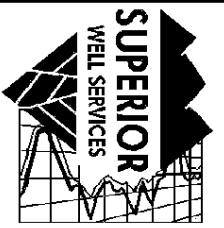
PLUG & FLOAT EQUIPMENT  
 @  
 @  
 @  
 @  
 @  
 TOTAL

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 *5,132.40*  
*50% 26% 1,223.82*  
 DISCOUNT *3908.58* IF PAID IN 30 DAYS

PRINTED NAME *Jeremy Stockey*  
 SIGNATURE *[Signature]*  
*Thank you!*





**SUPERIOR  
Hays,  
Kansas**

**DUAL  
INDUCTION  
LOG**

Company **CAERUS KANSAS, LLC.**  
Well **WATERS #8-34**  
Field  
County **STAFFORD** State **KANSAS**

Company **CAERUS KANSAS, LLC.**  
Well **WATERS #8-34**  
Field  
County **STAFFORD**  
State **KANSAS**

Location: **API # : 15-185-23719**  
**1208' FSL & 2429' FEL**  
**SEC 8 TWP 25S RGE 14W**  
Permanent Datum **GROUND LEVEL** Elevation **1982**  
Log Measured From **KELLY BUSHING 9' A.G.L.**  
Drilling Measured From **KELLY BUSHING**  
Other Services  
**CDL/CNL**  
**SONIC/MEL**  
Elevation  
K.B. 1991  
D.F.  
G.L. 1982

Date	11-14-11
Run Number	ONE
Depth Driller	4465
Depth Logger	4465
Bottom Logged Interval	4463
Top Log Interval	00
Casing Driller	263
Casing Logger	263
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	8.8 / 66
pH / Fluid Loss	10.5 / 8.0
Source of Sample	FLOWLINE
Rim @ Meas. Temp	0.45 @ 82F
Rmf @ Meas. Temp	0.34 @ 82F
Rmc @ Meas. Temp	0.54 @ 82F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	.310 @ 119F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	6:45 A.M.
Maximum Recorded Temperature	119F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
Witnessed By	JEFF LAWLER

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

**SUPERIOR WELL SERVICES**  
**785-628-6395**  
**THANK YOU FOR YOUR BUSINESS**  
**DIRECTIONS: MACKVILLE, 5E TO BLACKTOP, 4 3/4S, W INTO.**



**SUPERIOR  
Hays,  
Kansas**

**MAIN SECTION**

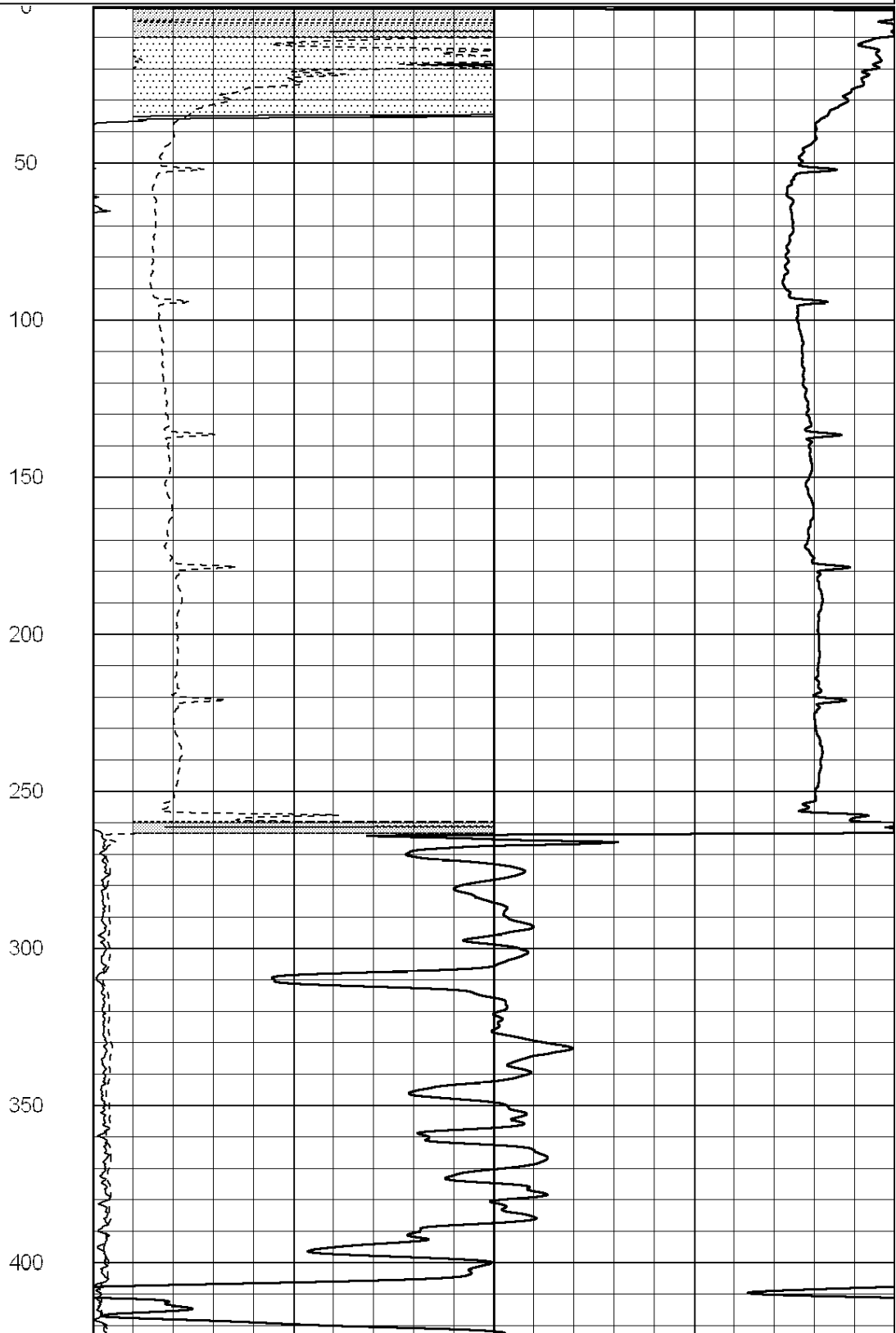
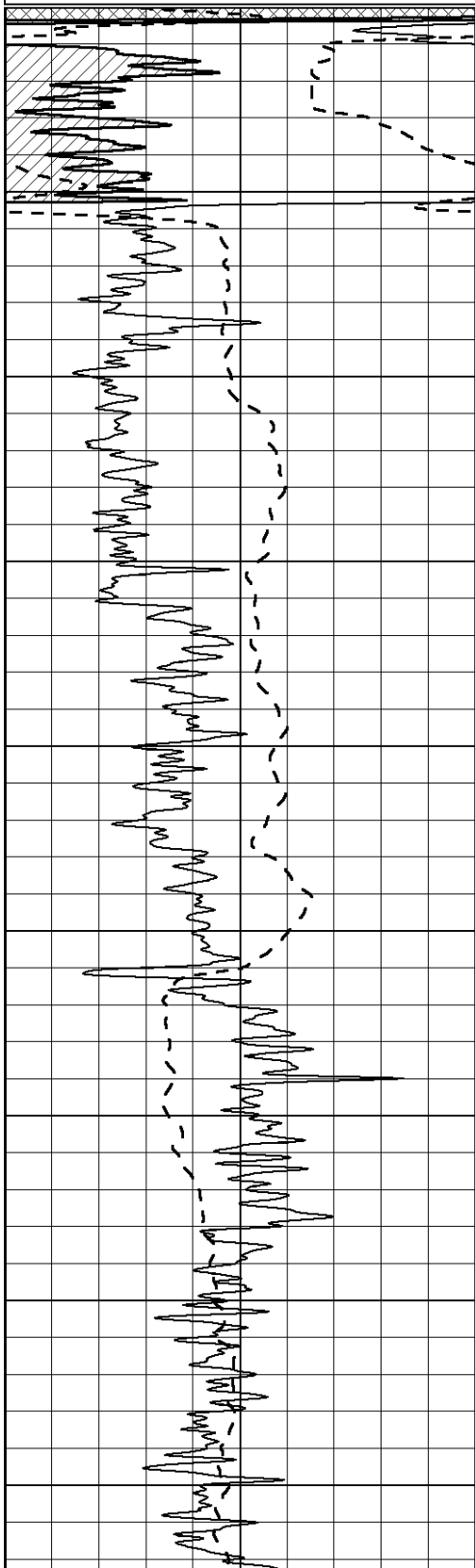


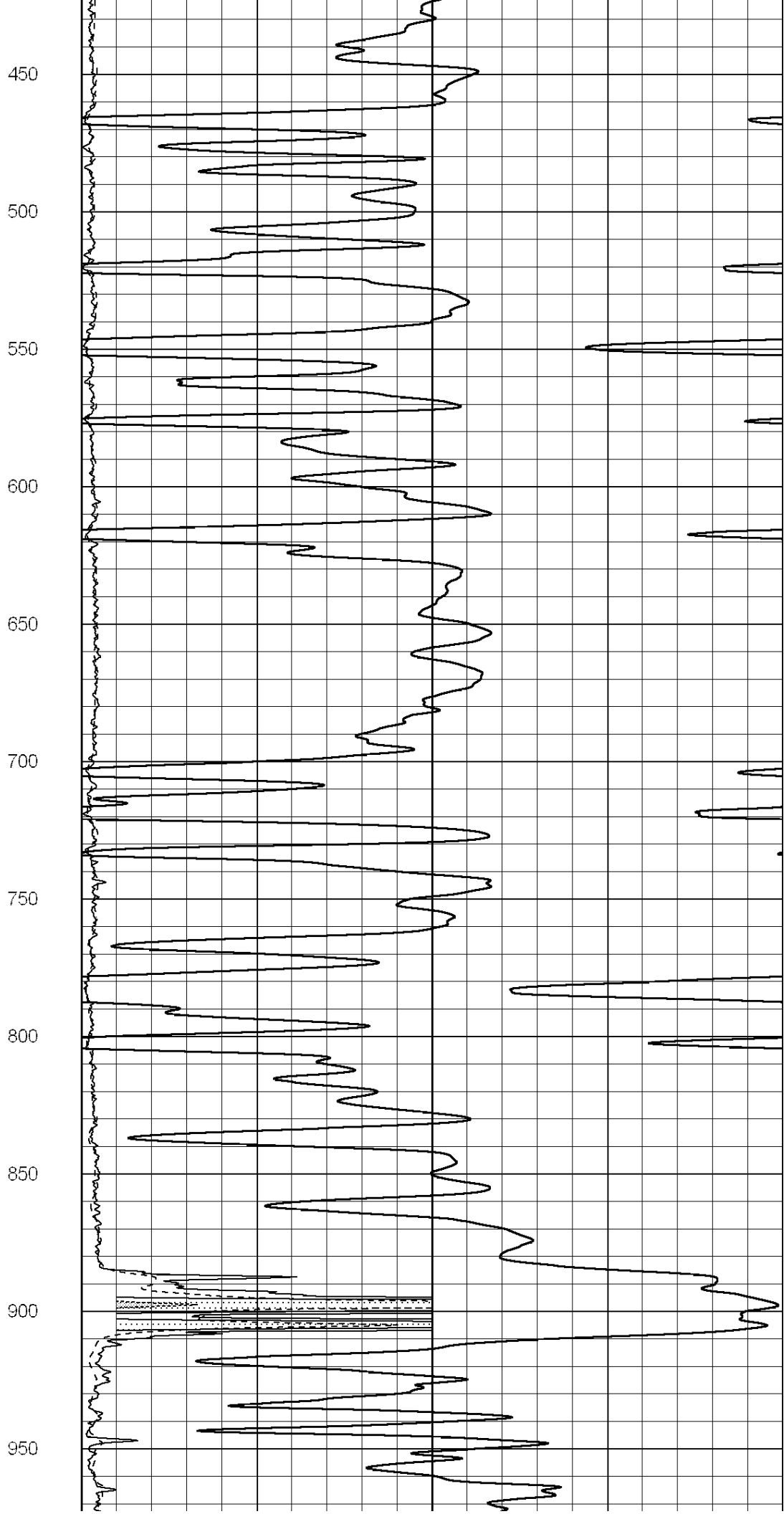
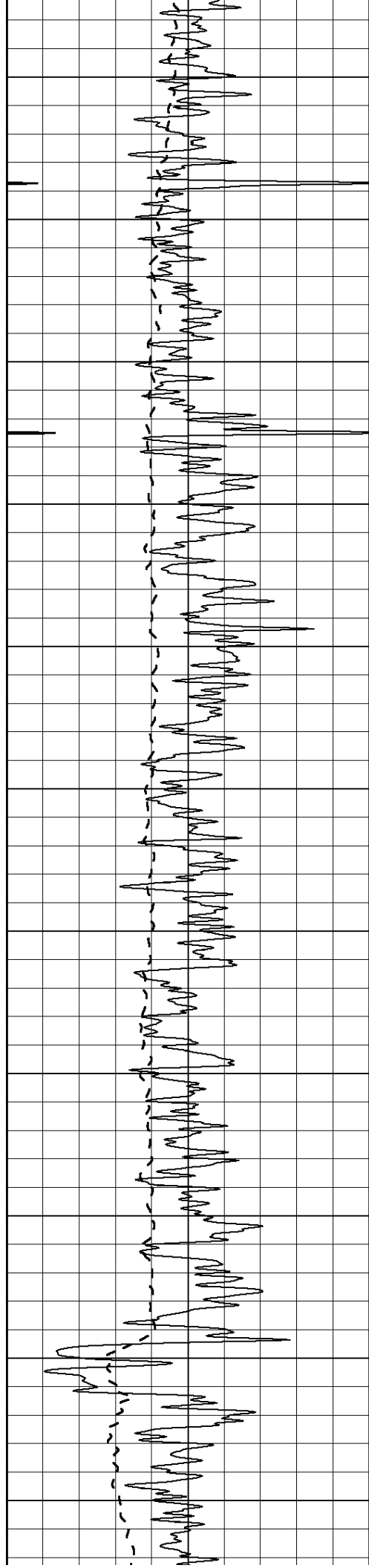
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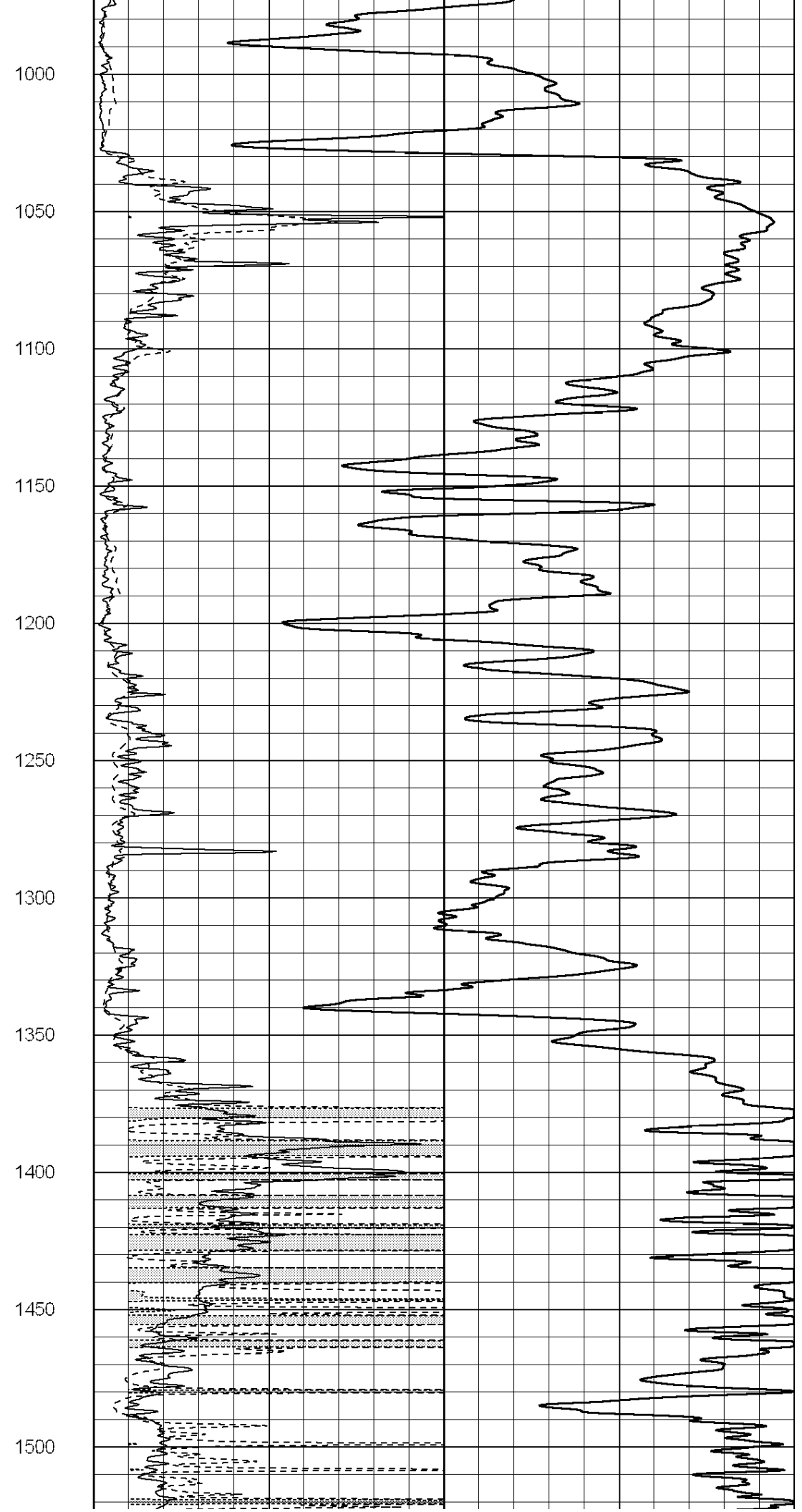
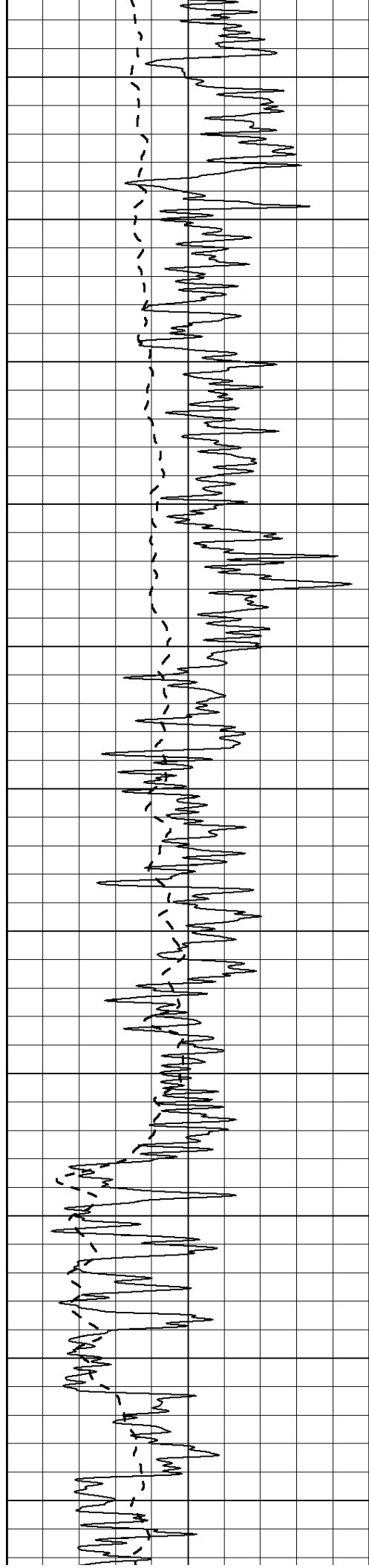
0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

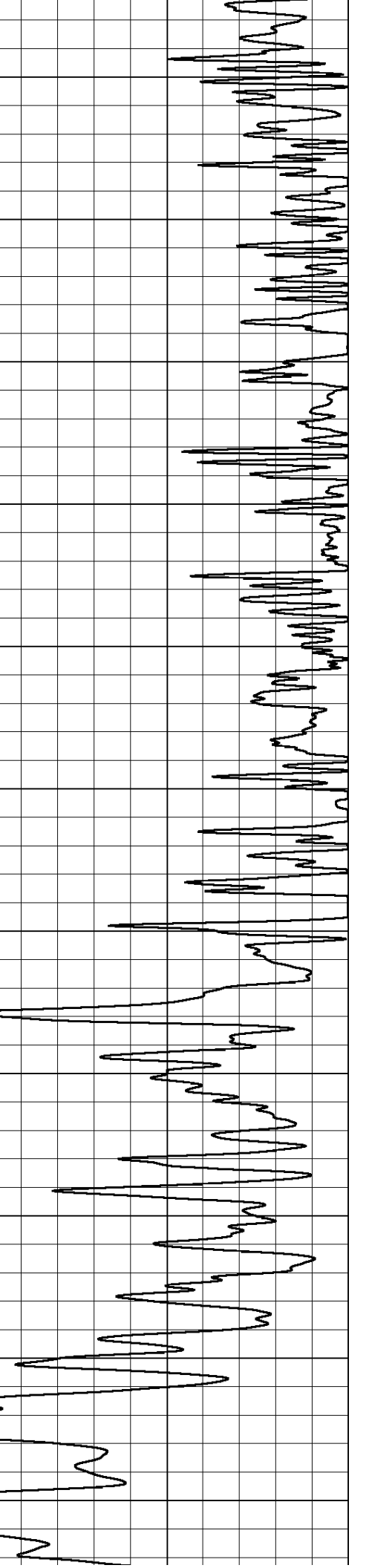
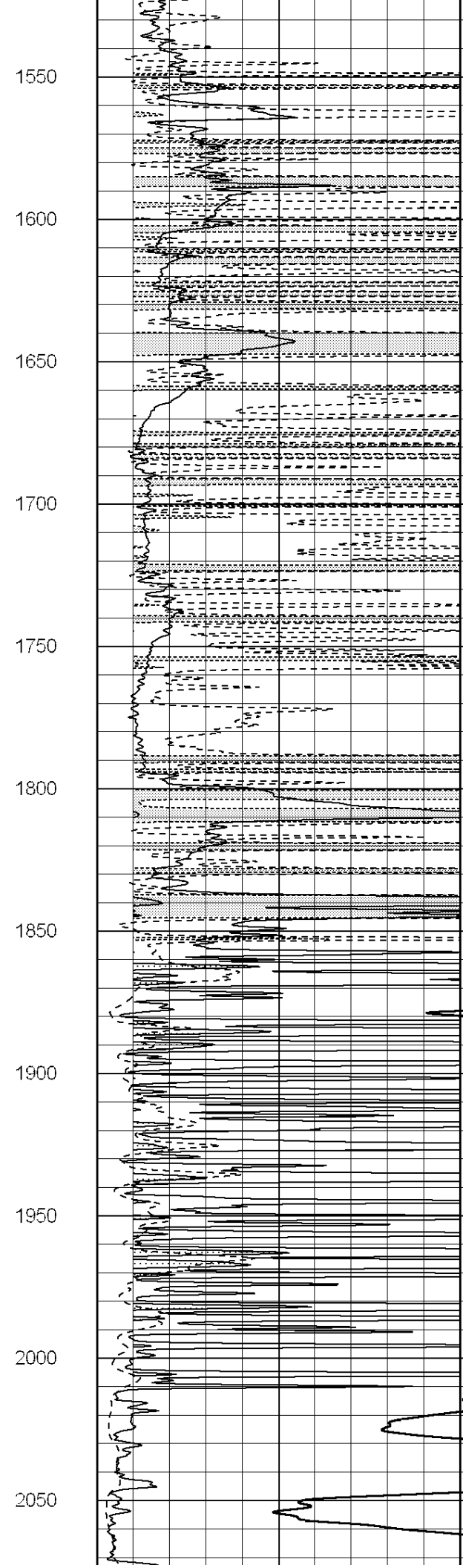
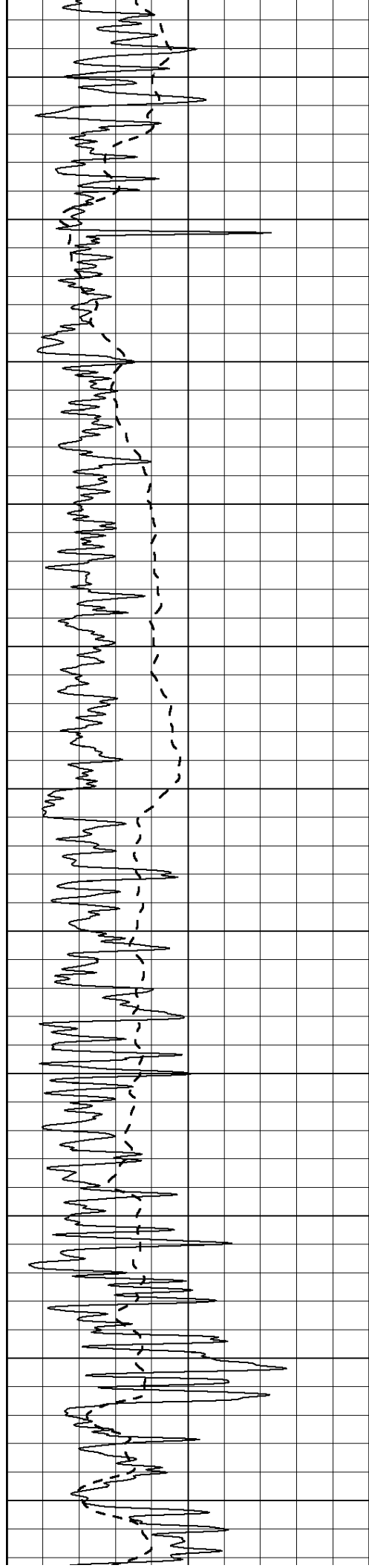
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0	Deep Induction (Ohm-m)	50

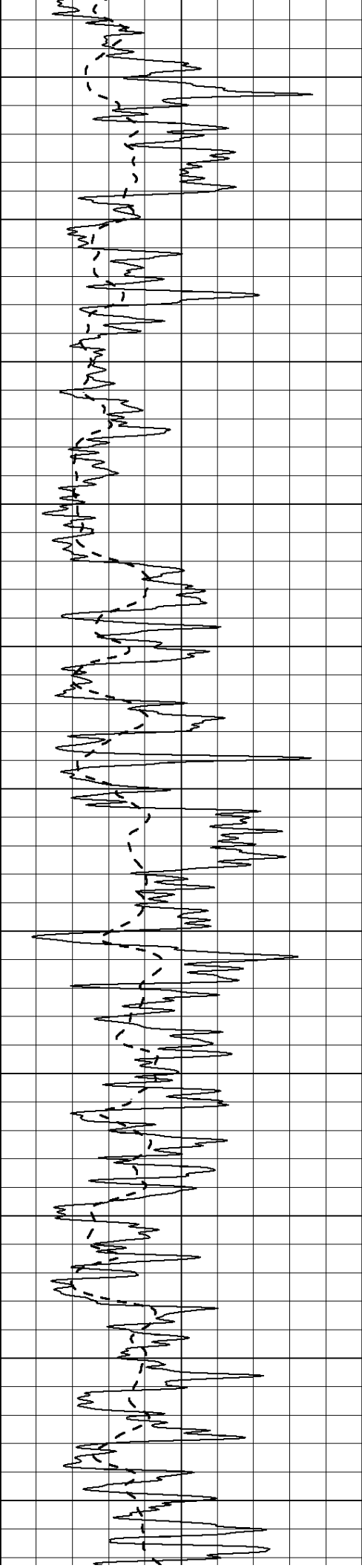
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500











2100

2150

2200

2250

2300

2350

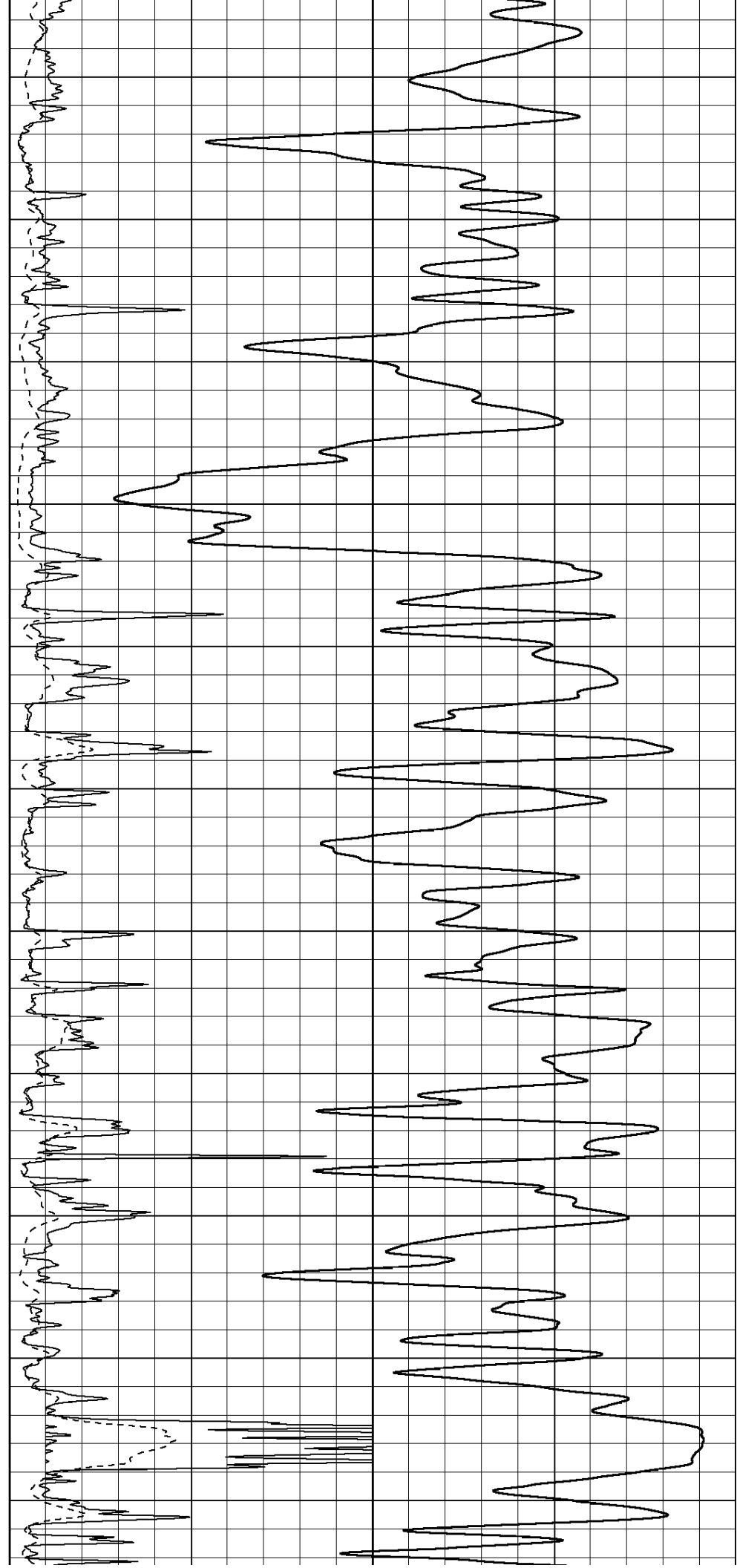
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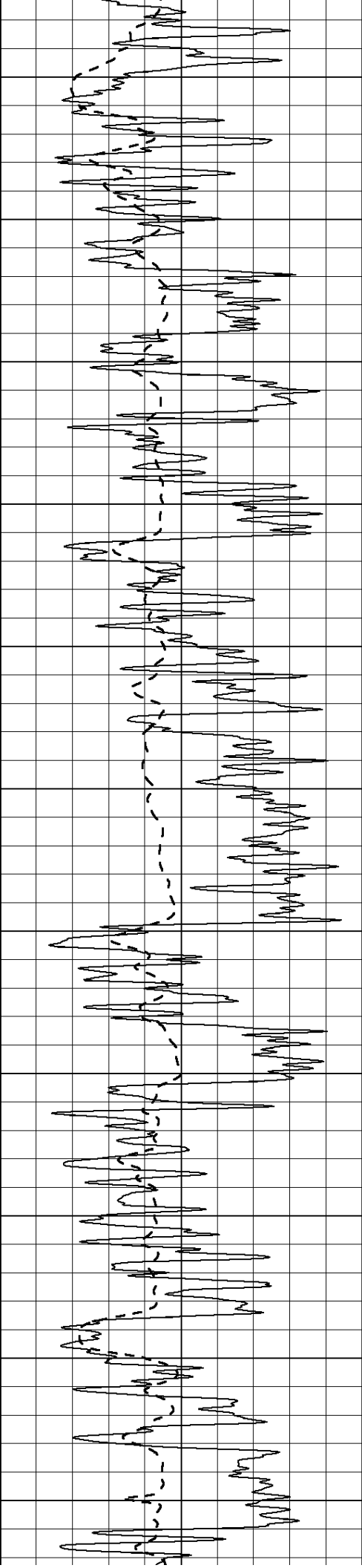
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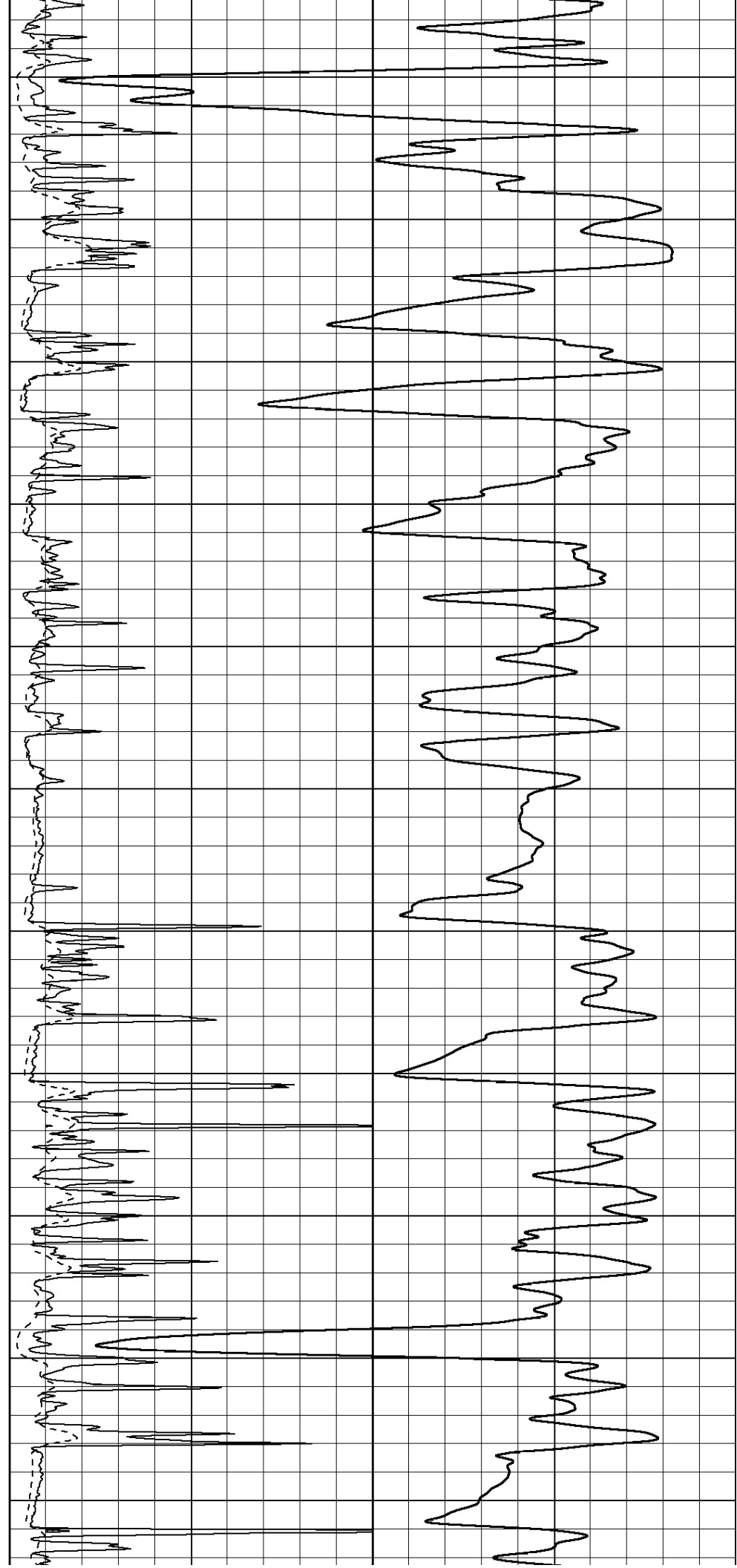
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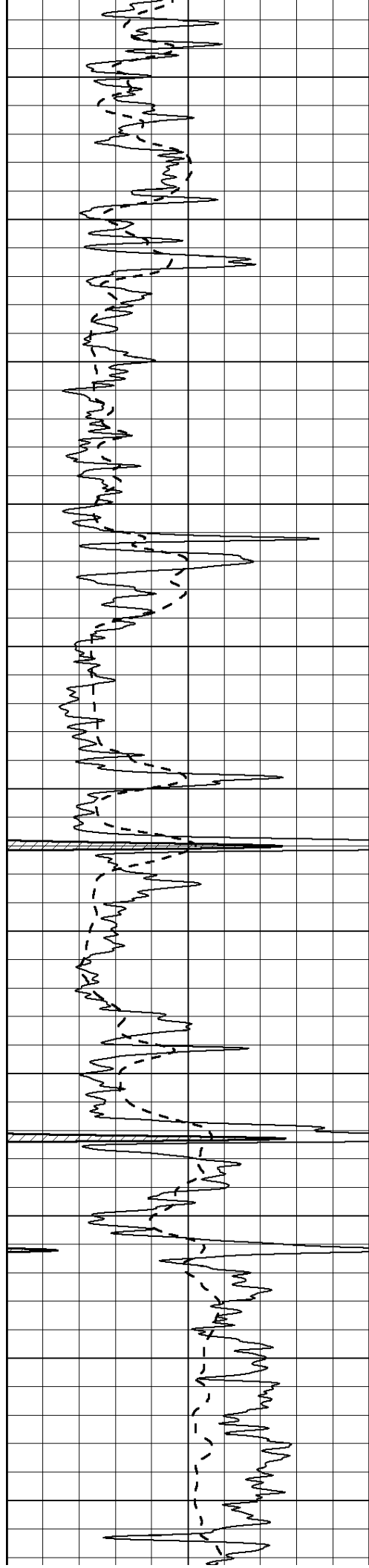
2600





2650  
2700  
2750  
2800  
2850  
2900  
2950  
3000  
3050  
3100  
3150





3200

3250

3300

3350

3400

3450

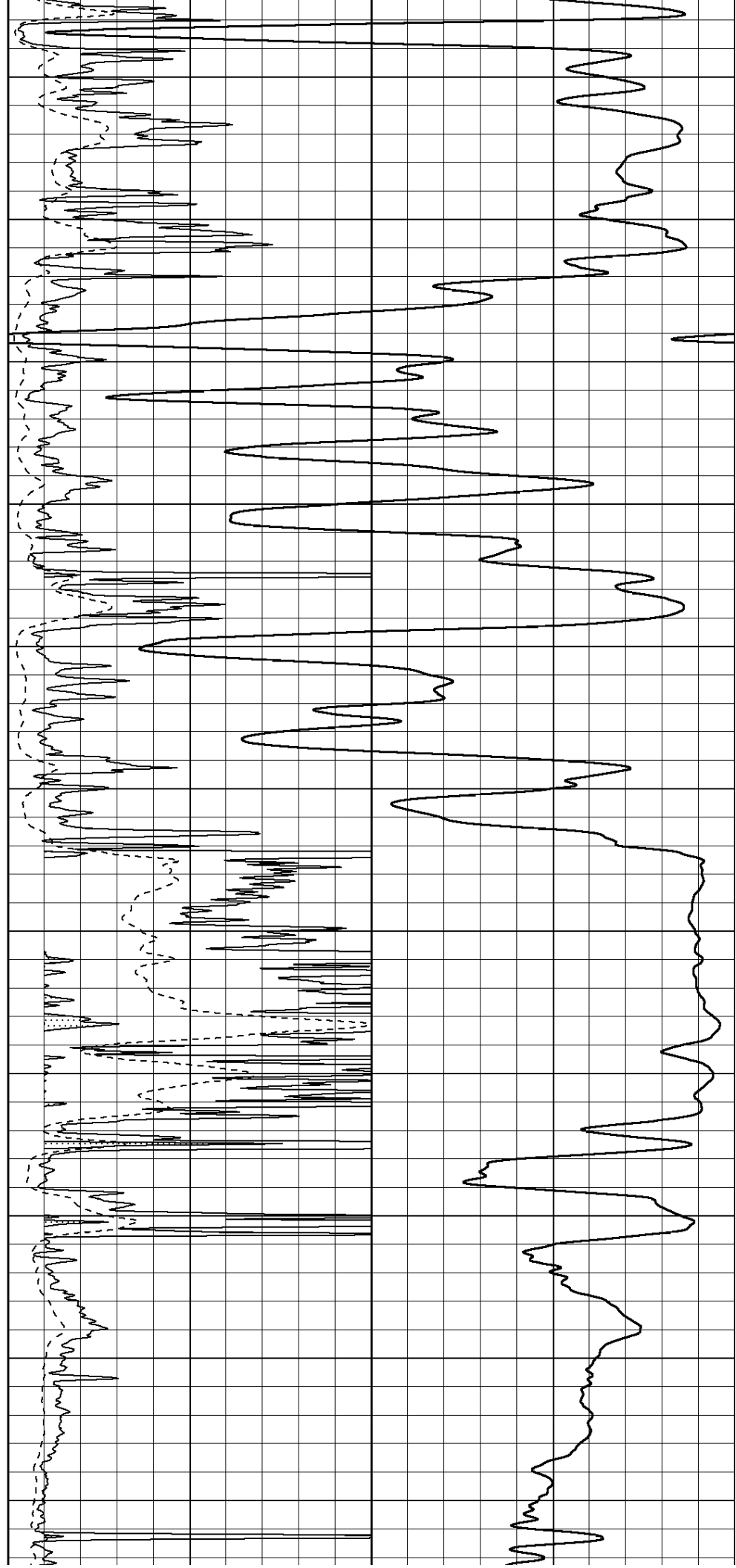
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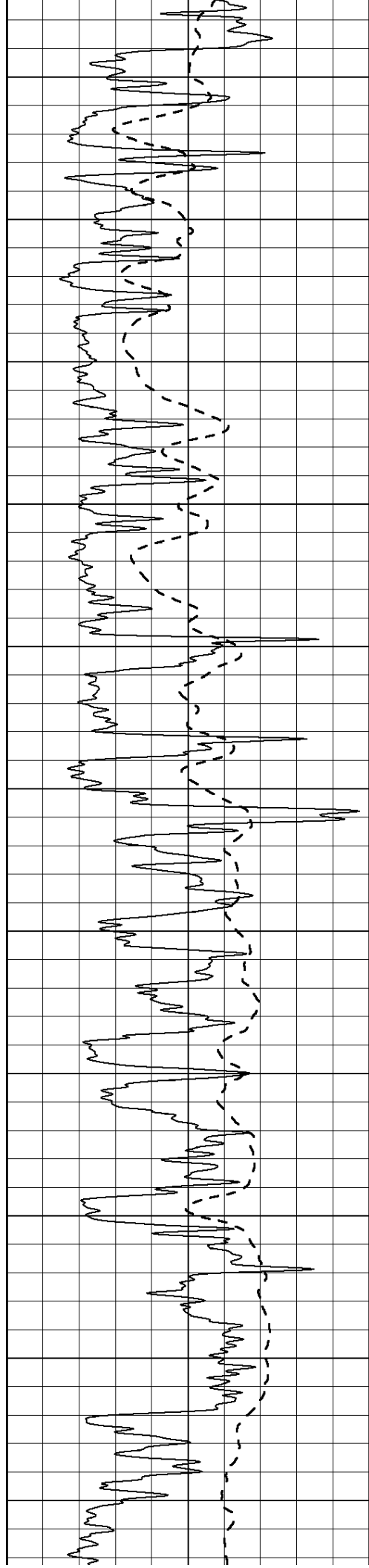
3550

3600

3650

3700





3750

3800

3850

3900

3950

4000

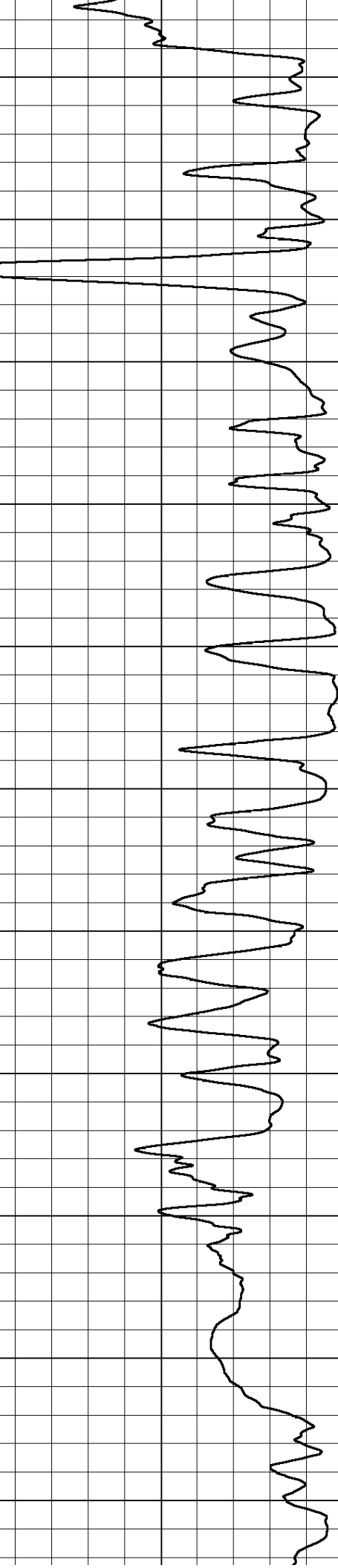
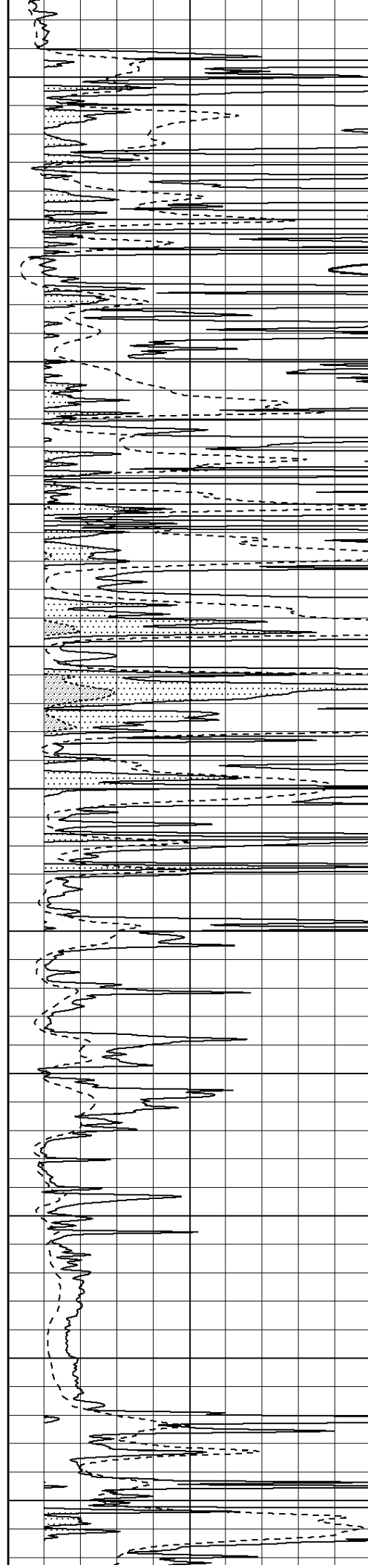
4050

4100

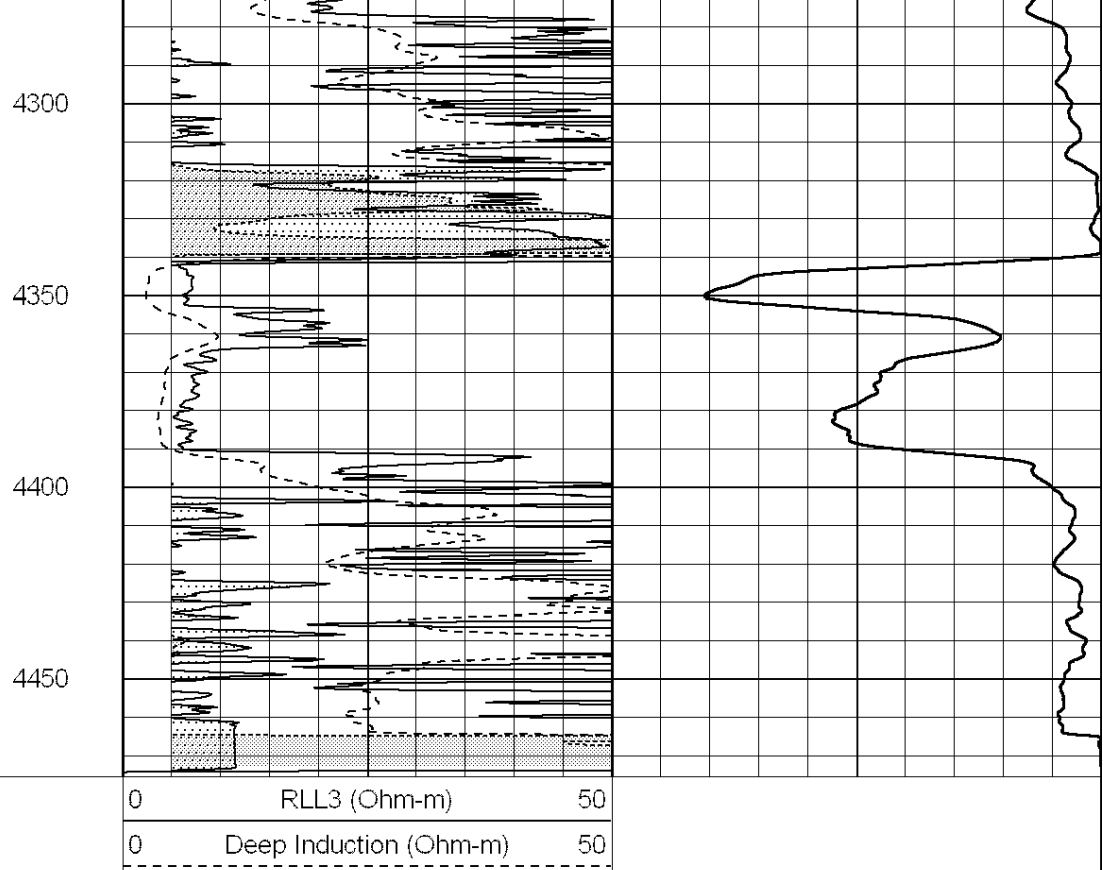
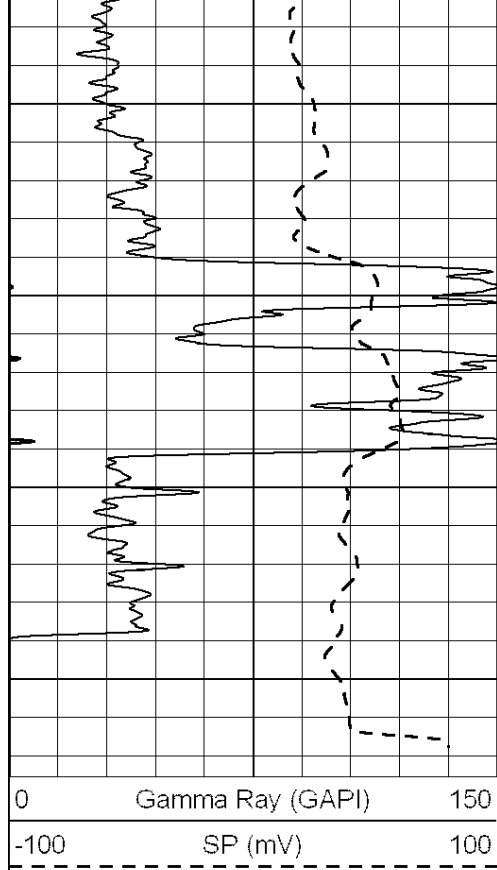
4150

4200

4250







0 Gamma Ray (GAPI) 150  
 -100 SP (mV) 100

0 RLL3 (Ohm-m) 50  
 0 Deep Induction (Ohm-m) 50  
 1000 CILD (mmho/m) 0

50 RILD X10 (Ohm-m) 500  
 50 RLL3 X10 (Ohm-m) 500



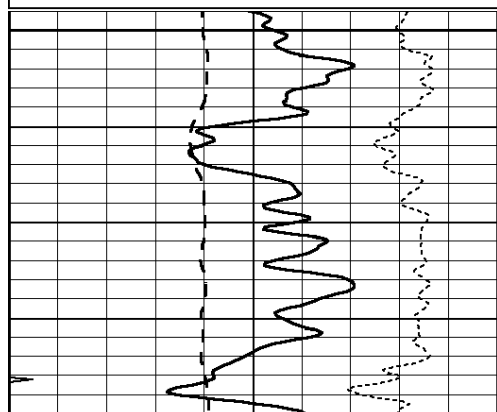
SUPERIOR  
 Hays,  
 Kansas

# MAIN SECTION

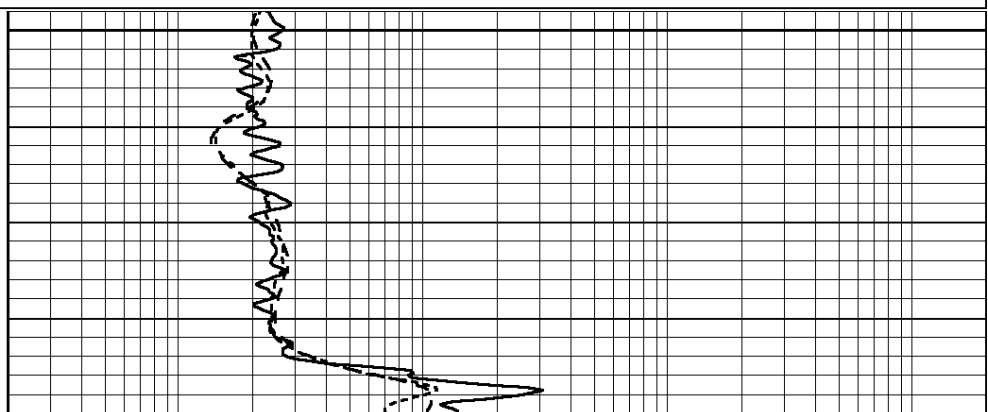
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 Dataset Pathname: pass3.1  
 Presentation Format: dil  
 Dataset Creation: Mon Nov 14 08:02:27 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

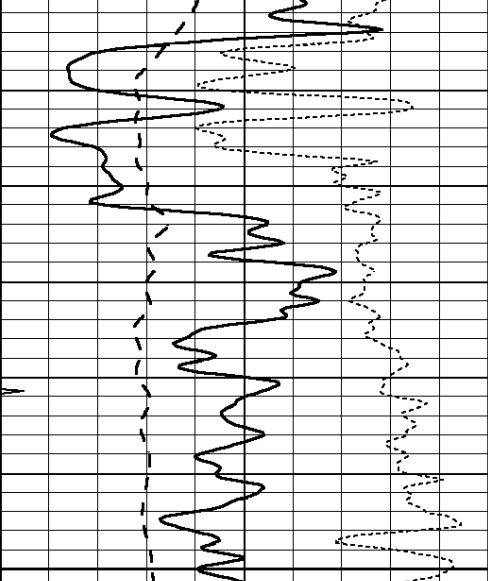
0 GAMMA RAY (GAPI) 150  
 -100 SP (mV) 100  
 -250 RxoRt 50  
 0 MINMK 20

0.2 RLL3 (Ohm-m) 2000  
 0.2 DEEP INDUCTION (Ohm-m) 2000  
 0.2 MEDIUM INDUCTION (Ohm-m) 2000



850

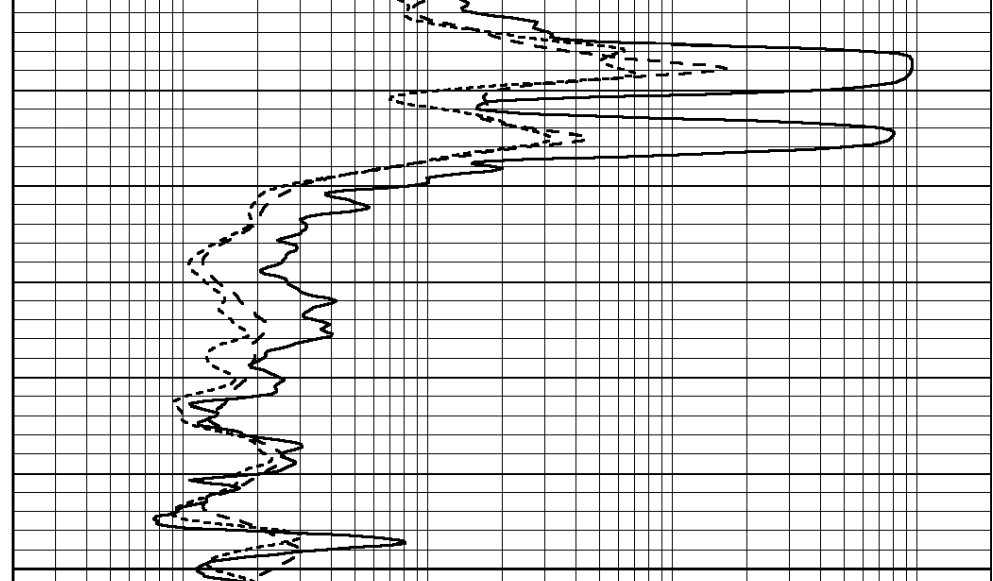




900

950

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20



0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



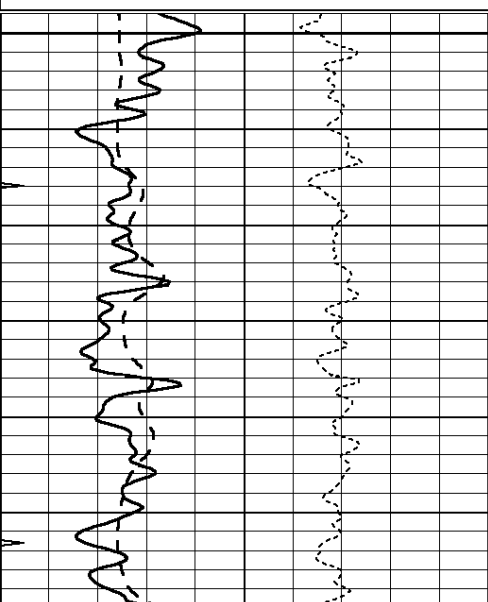
SUPERIOR  
Hays,  
Kansas

# MAIN SECTION

Database File: 008009ddn.db  
 Dataset Pathname: pass3.1  
 Presentation Format: dil  
 Dataset Creation: Mon Nov 14 08:02:27 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

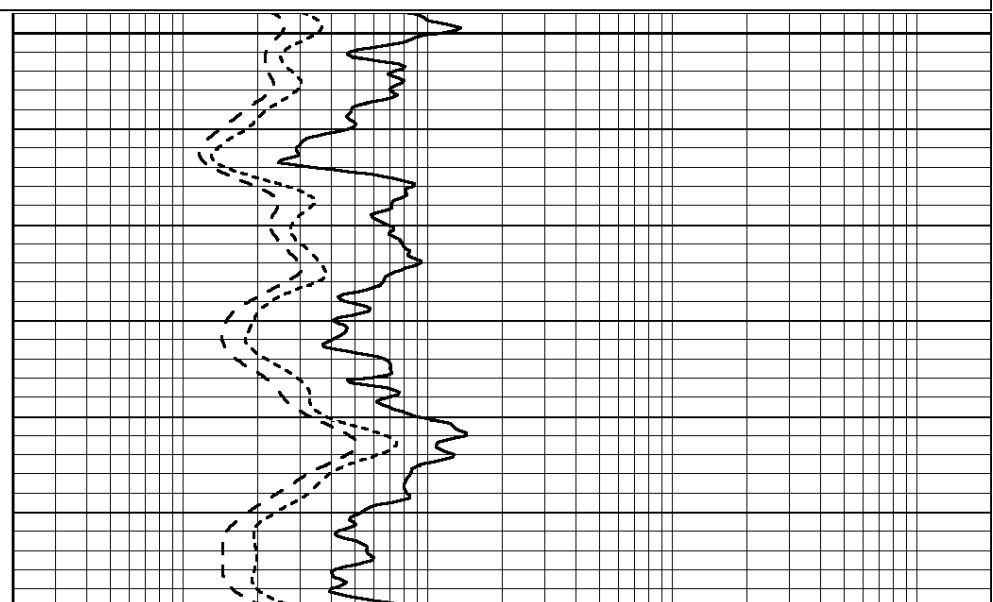
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

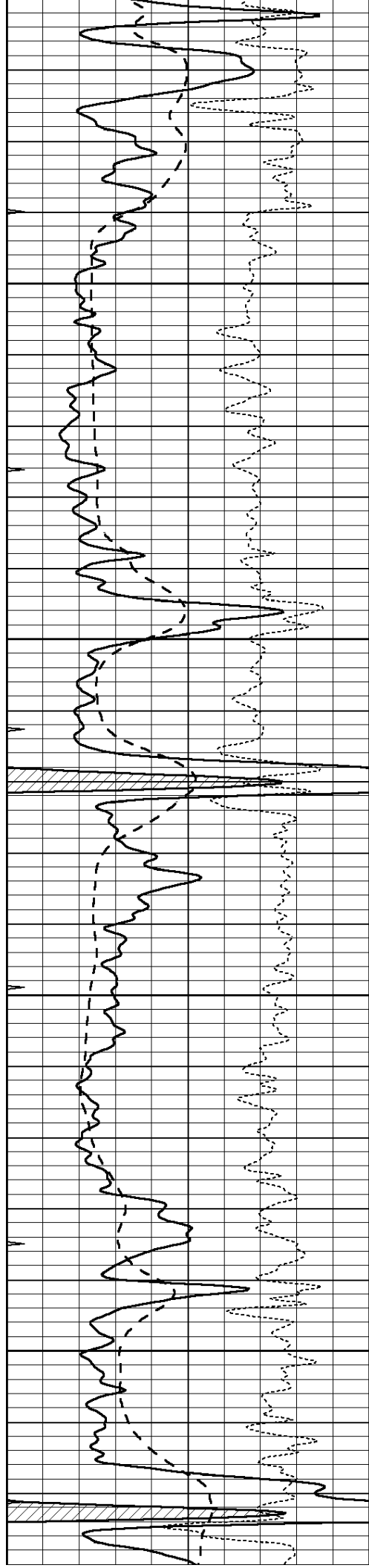
0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3300

3350



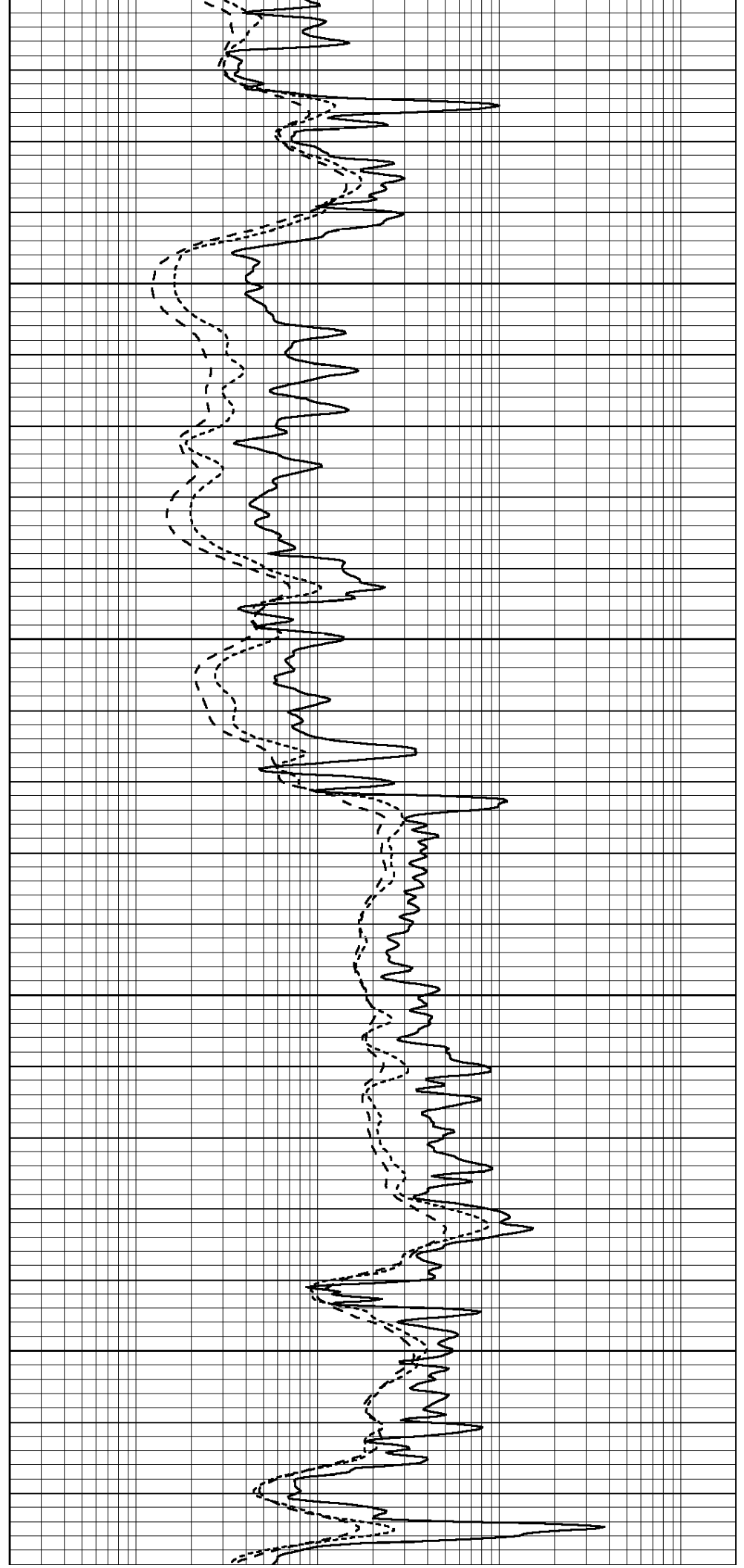


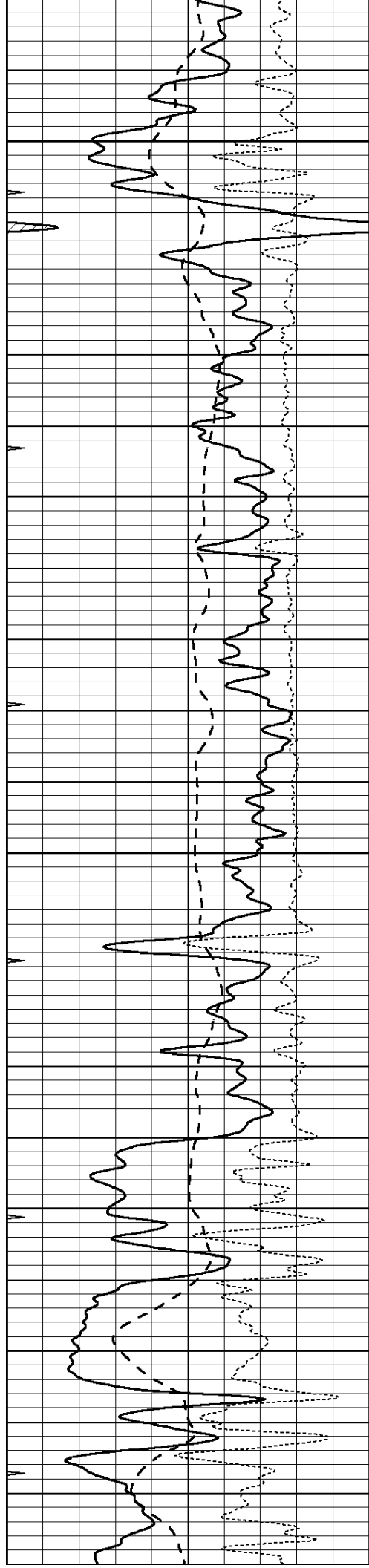
3400

3450

3500

3550





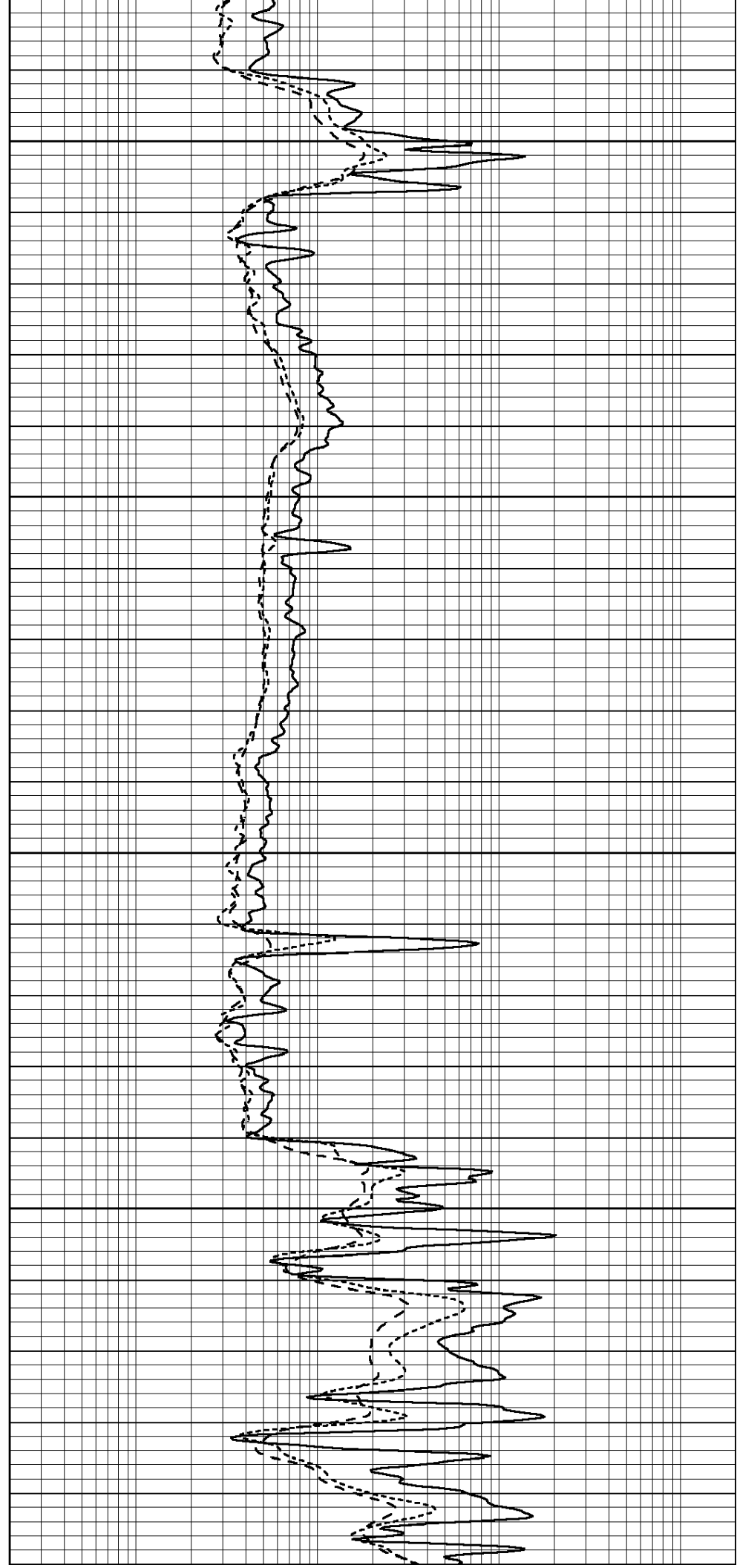
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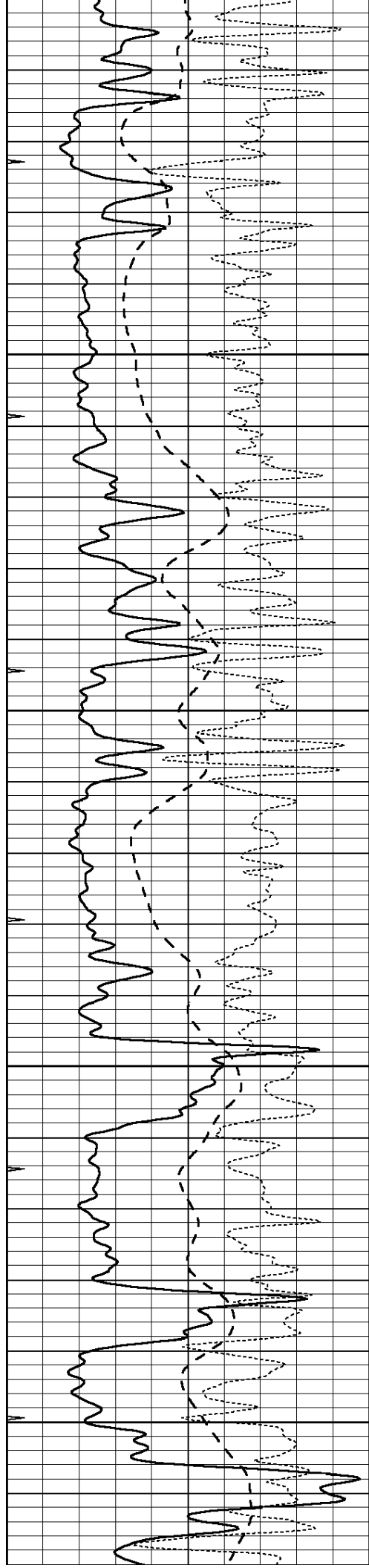
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3700

3750

3800





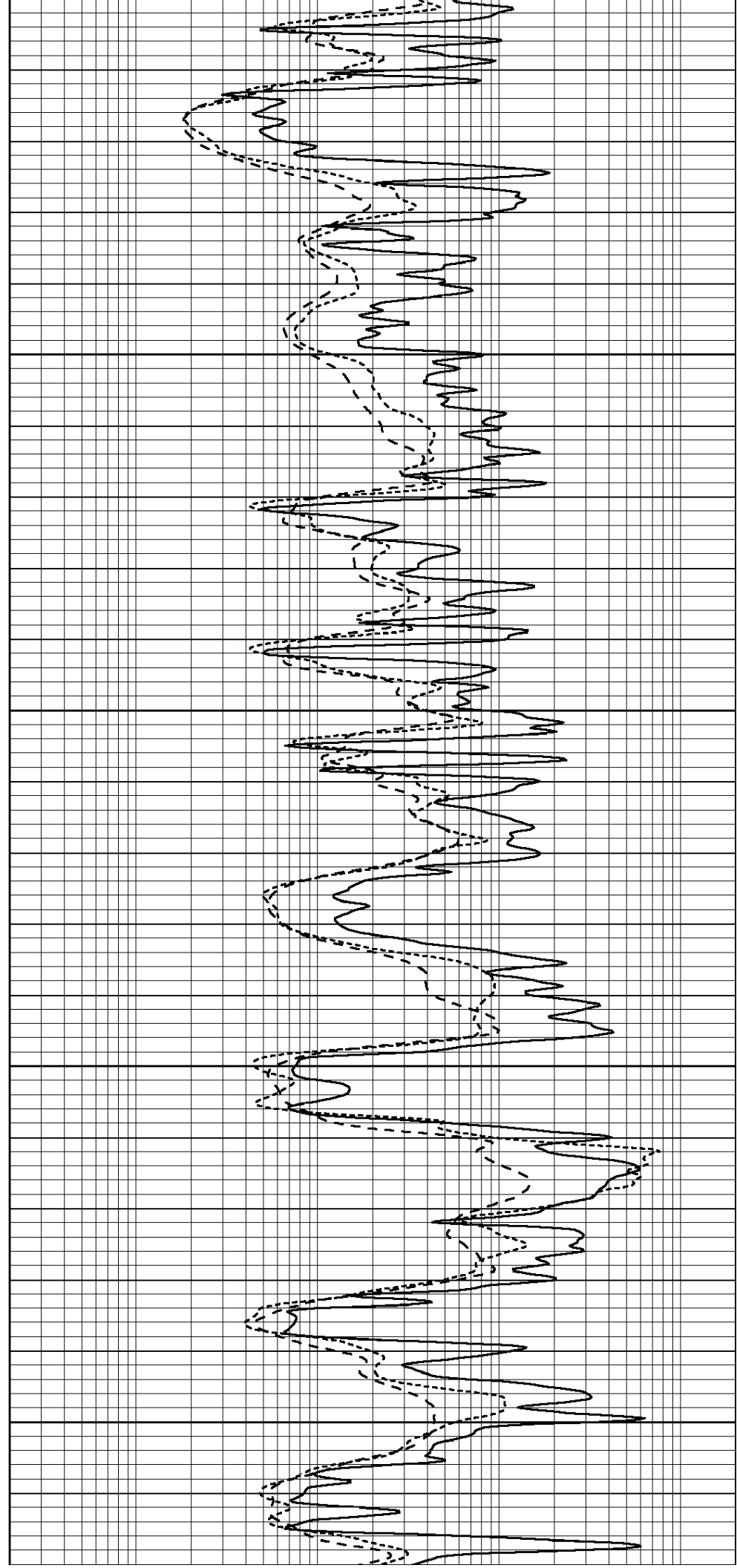
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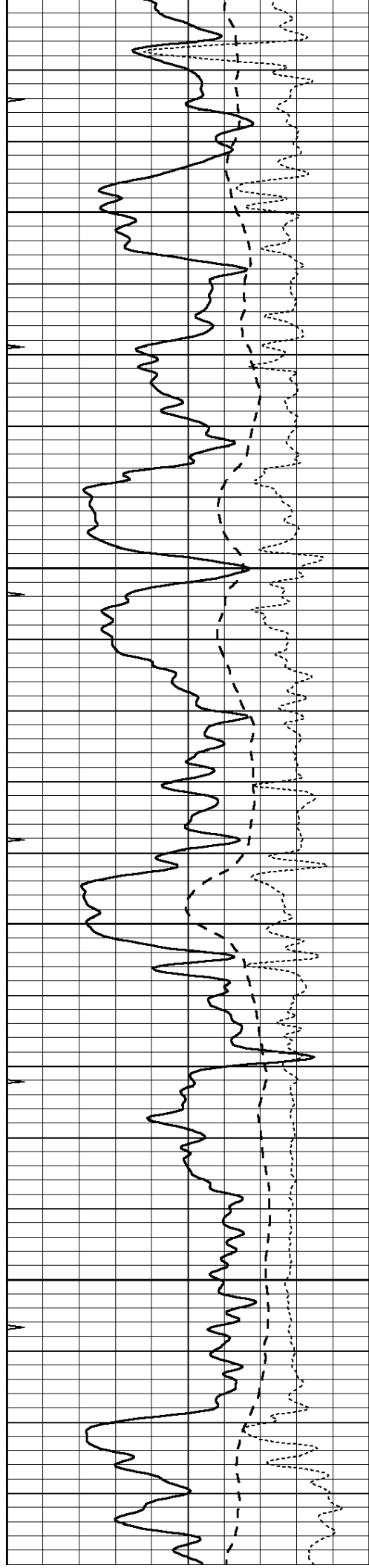
3850

3900

3950

4000



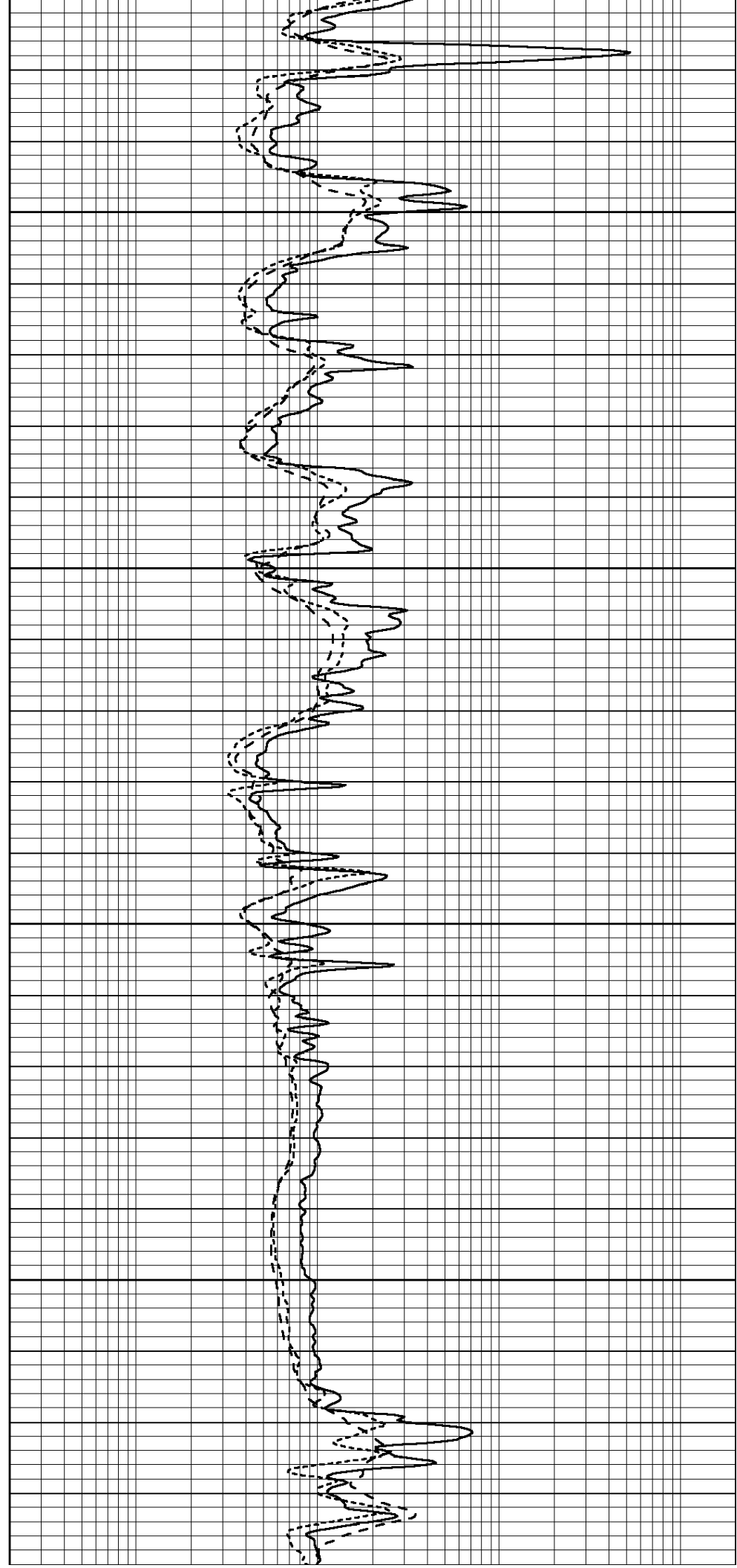


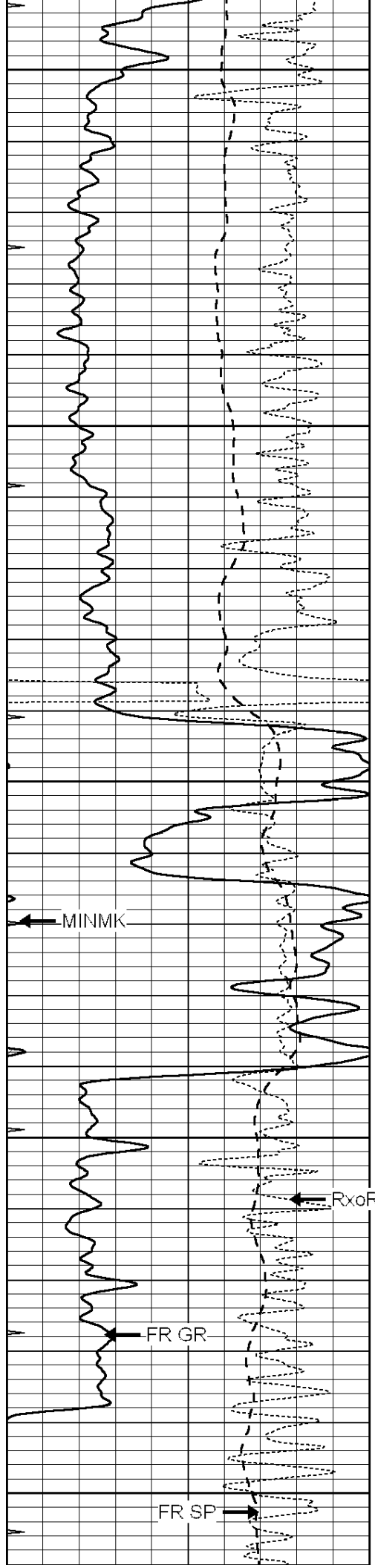
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4100

4150

4200





4250

4300

4350

4400

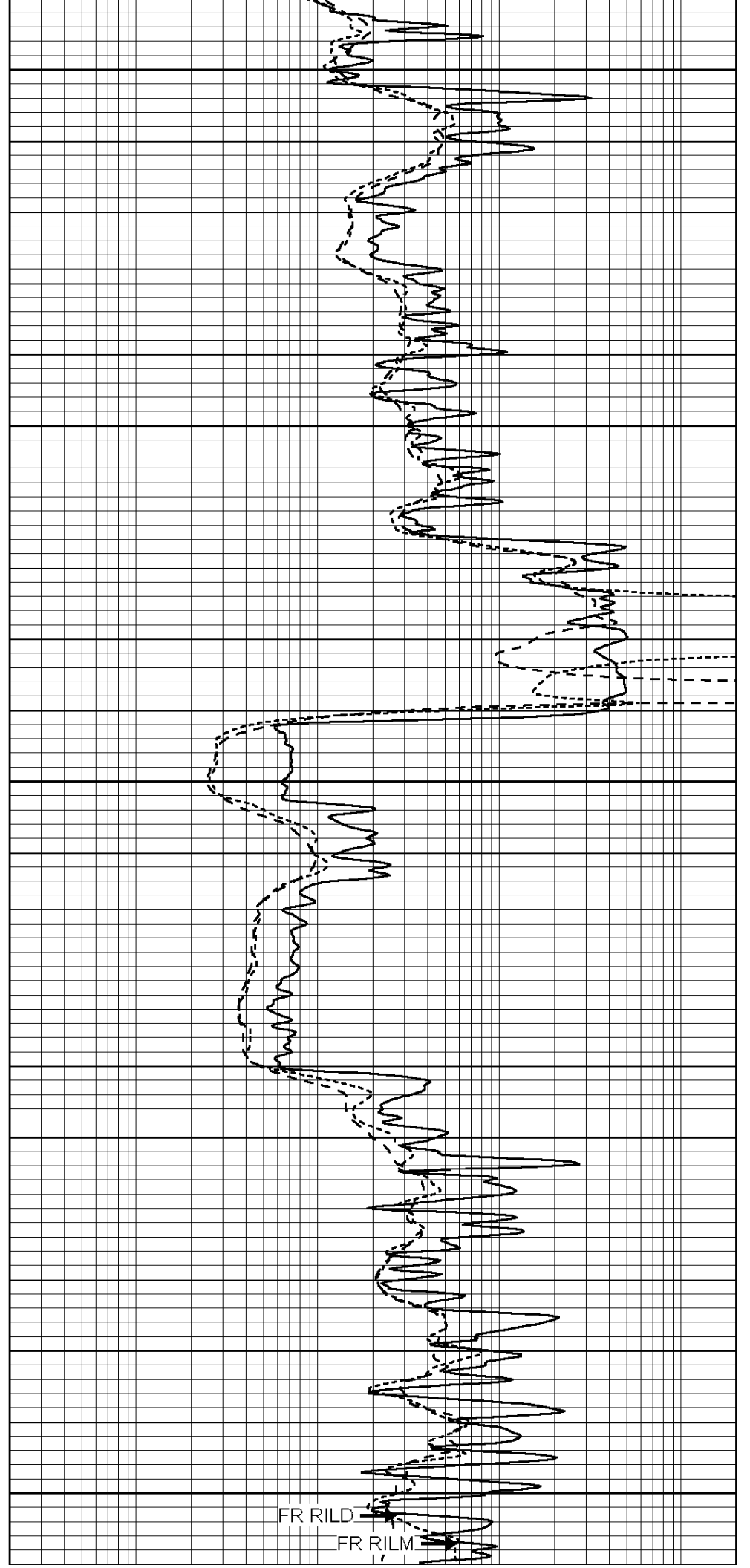
4450

MINMK

FR GR

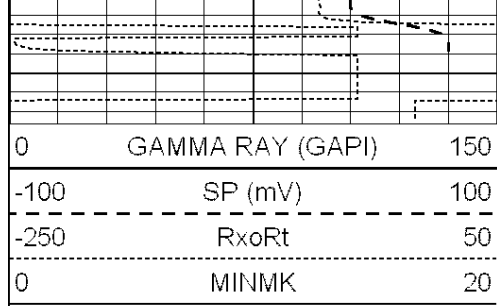
FR SP

RxoRt

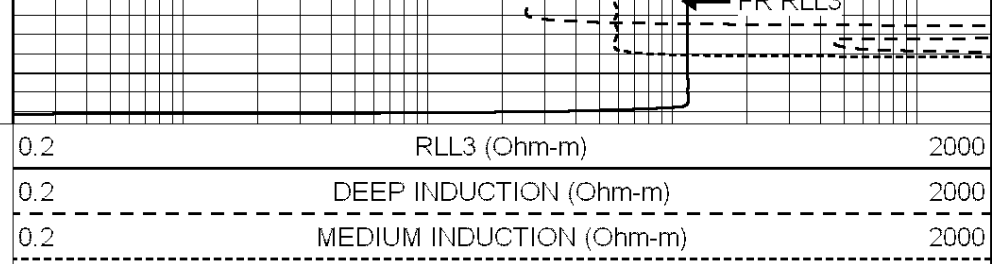


FR RILD

FR RILM



--- TD ---



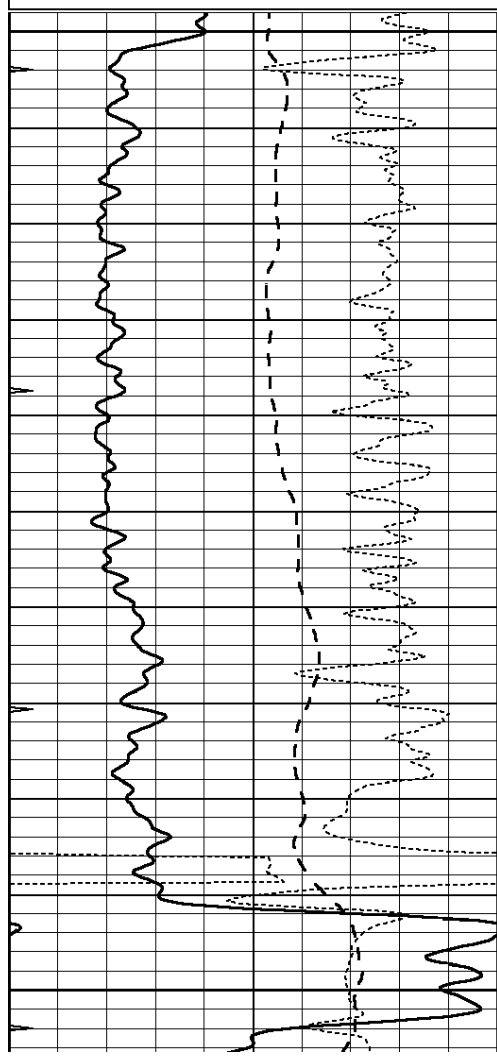
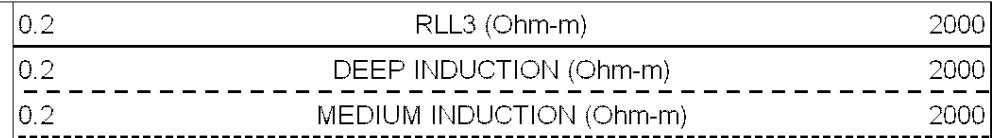
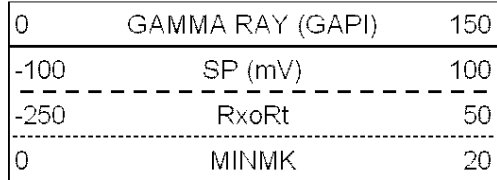
FR RLL3



SUPERIOR  
Hays,  
Kansas

# REPEAT SECTION

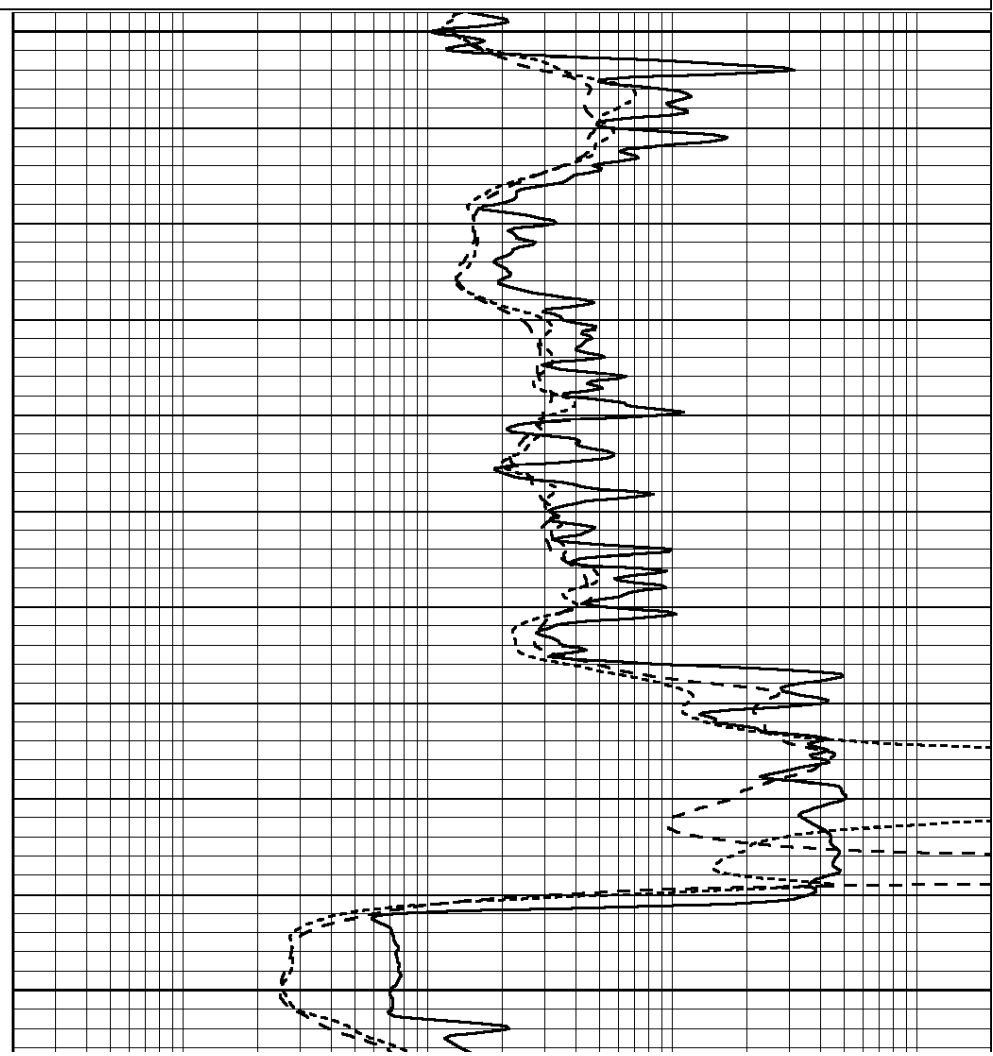
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 Presentation Format: dil  
 Dataset Creation: Mon Nov 14 08:15:03 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240



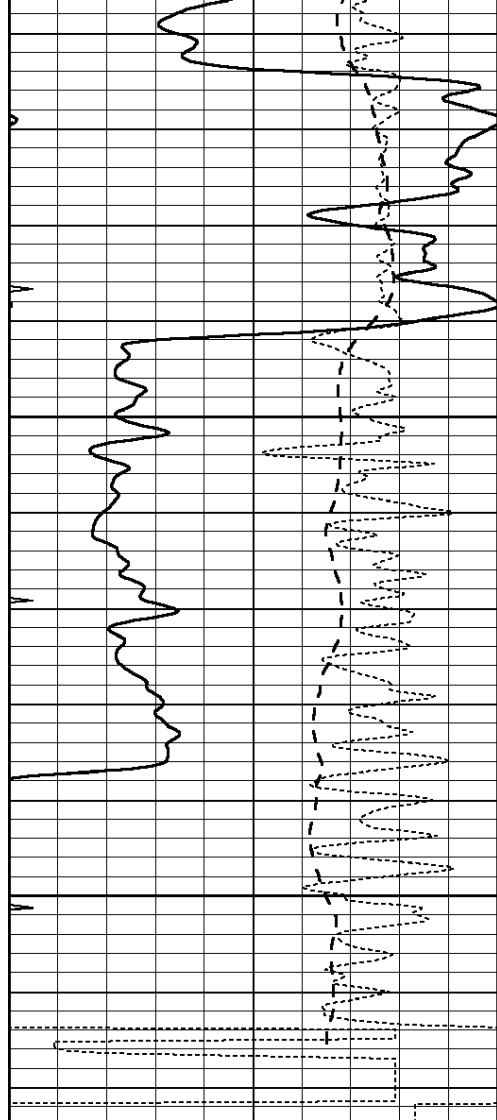
4250

4300

4350



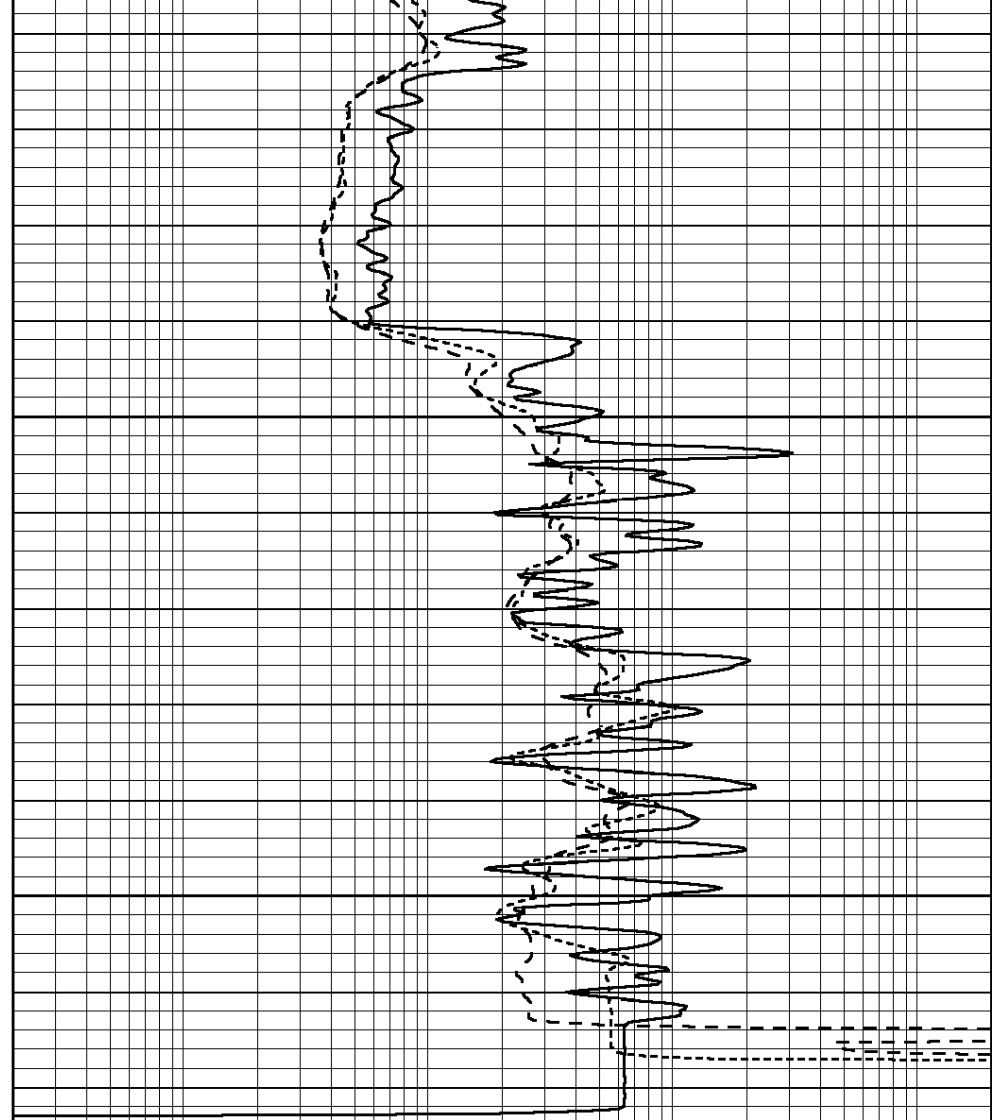




4400

4450

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20



0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

### Calibration Report

Database File: 008009ddn.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Mon Nov 14 08:02:27 2011 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: DIL5-GEAR  
 Performed: Mon Nov 14 06:23:01 2011

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	530.000	-18.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	550.000	-13.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

Compensated Density Calibration Report

Serial-Model:	GEAR1-GEARHART
Source / Verifier:	147 / 147
Master Calibration Performed:	Mon Nov 14 06:22:48 2011

Master Calibration

	<u>Density</u>		<u>Far Detector</u>	<u>Near Detector</u>	
Magnesium	1.710	g/cc	1243.76	629.14	cps
Aluminum	2.590	g/cc	282.16	435.01	cps
	Spine Angle = 76.03		Density/Spine Ratio = 0.576		
	<u>Size</u>		<u>Reading</u>		
Small Ring	8.30	in	3.15	V	
Large Ring	13.00	in	4.72	V	

Compensated Neutron Calibration Report

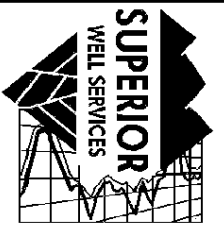
Serial Number:	NUE_2I
Tool Model:	G

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:	GR5
Tool Model:	OPEN
Performed:	Mon Nov 14 07:12:39 2011
Calibrator Value:	1.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	1.0 cps
Sensitivity:	0.6500 GAPI/cps



SUPERIOR  
Hays,  
Kansas

MICRO  
LOG

Company CAERUS KANSAS, LLC.  
Well WATERS #8-34  
Field  
County STAFFORD State KANSAS

Company CAERUS KANSAS, LLC.  
Well WATERS #8-34  
Field  
County STAFFORD  
State KANSAS

Location: API #: 15-185-23719  
1208' FSL & 2429' FEL  
SEC 8 TWP 25S RGE 14W  
Permanent Datum GROUND LEVEL Elevation 1982  
Log Measured From KELLY BUSHING 9' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
CDL/CNL  
SONIC/DIL  
Elevation  
K.B. 1991  
D.F.  
G.L. 1982

Date	11-14-11
Run Number	TWO
Depth Driller	4465
Depth Logger	4465
Bottom Logged Interval	4447
Top Log Interval	3300
Casing Driller	263
Casing Logger	263
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	8.8 / 66
pH / Fluid Loss	10.5 / 8.0
Source of Sample	FLOWLINE
Rim @ Meas. Temp	0.45 @ 82F
Rmf @ Meas. Temp	0.34 @ 82F
Rmc @ Meas. Temp	0.54 @ 82F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	.310 @ 119F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	6:45 A.M.
Maximum Recorded Temperature	119F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
Witnessed By	JEFF LAWLER

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

SUPERIOR WELL SERVICES  
785-628-6395  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS: MACKVILLE, 5E TO BLACKTOP, 4 3/4S, W INTO.



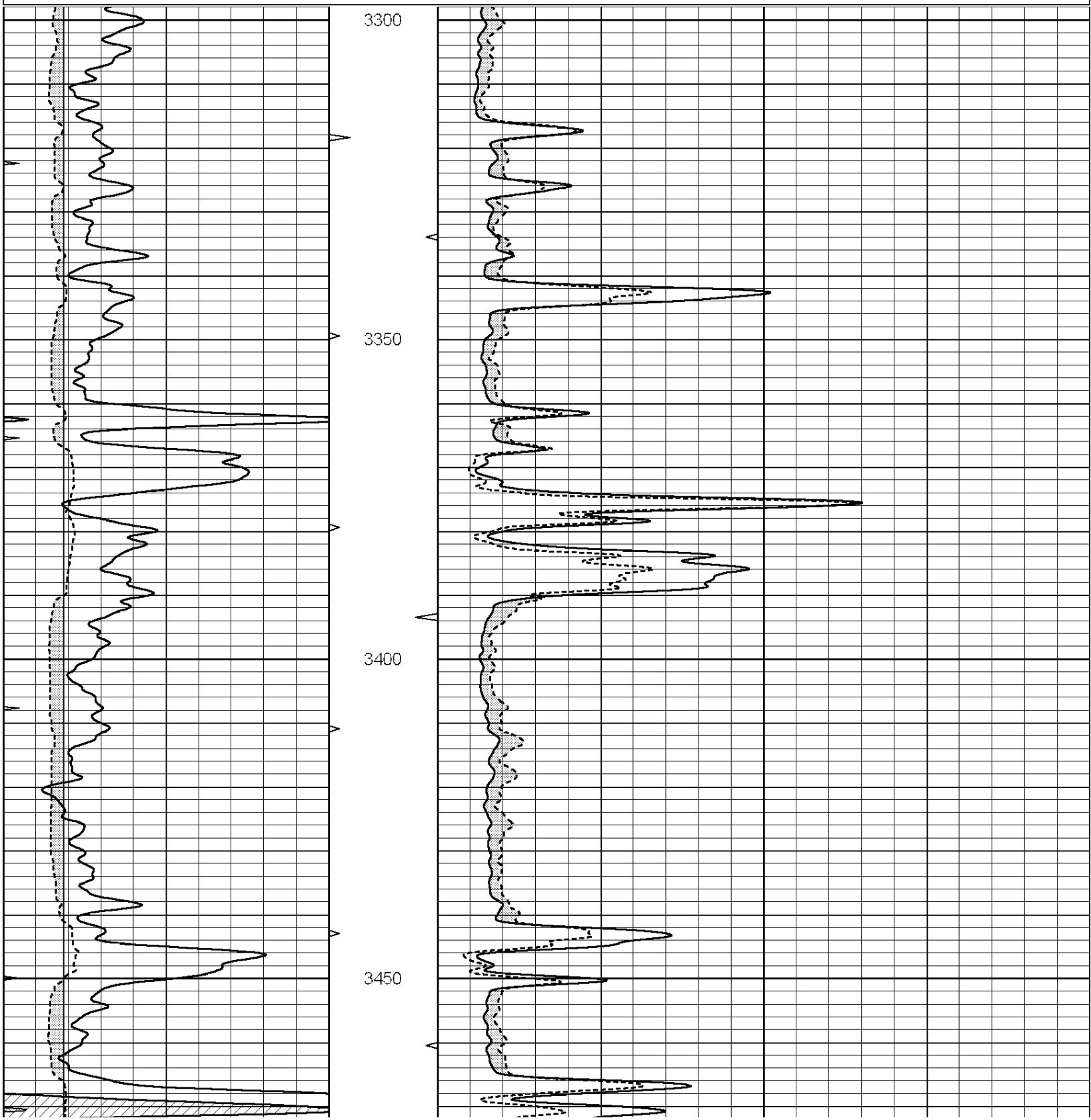
SUPERIOR  
Hays,  
Kansas

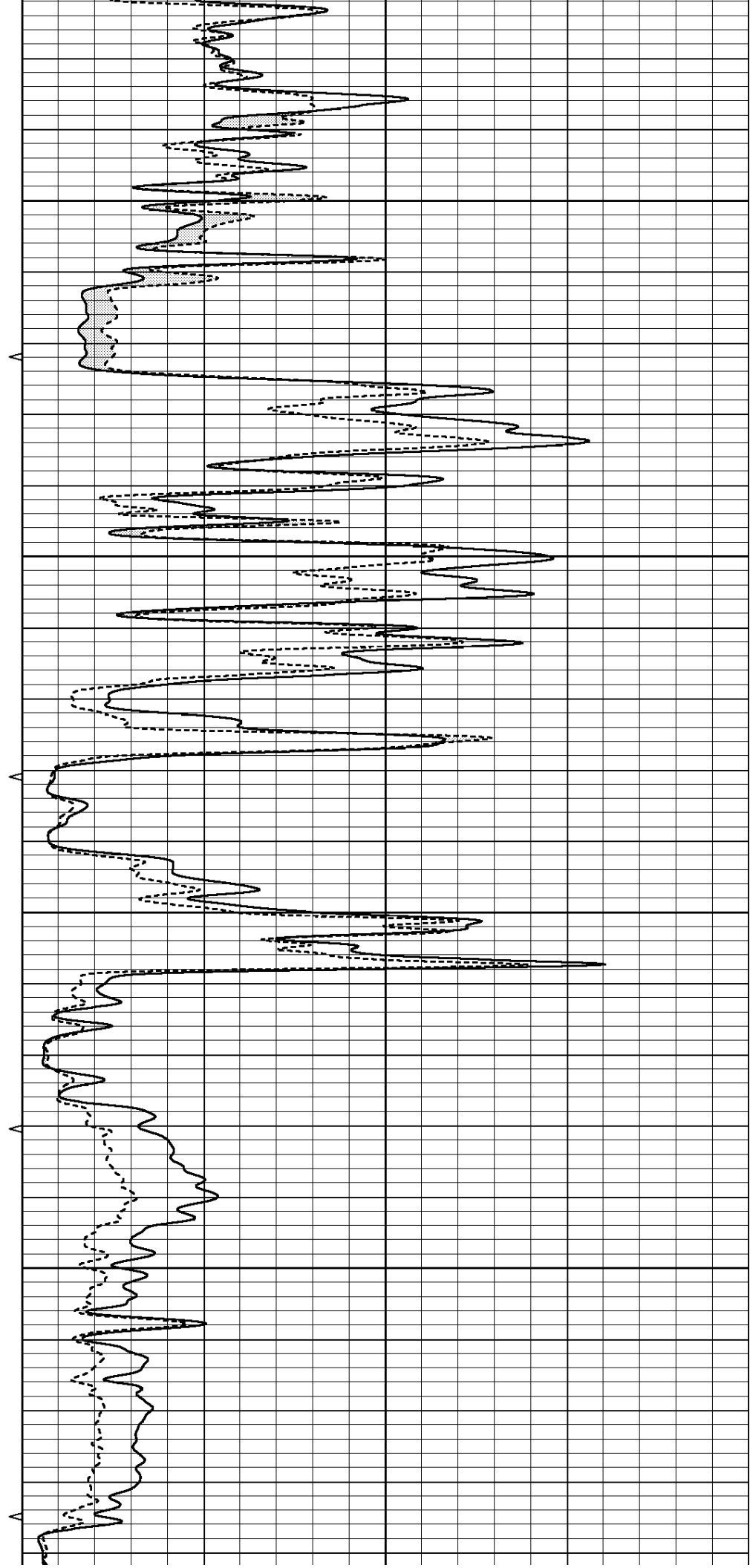
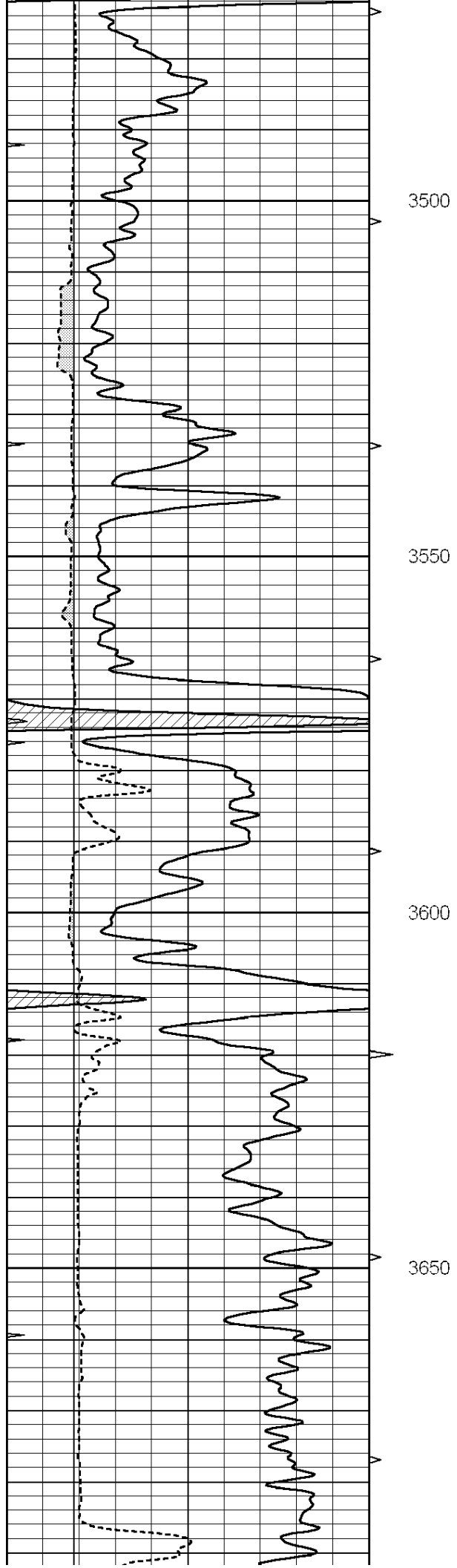
MAIN SECTION

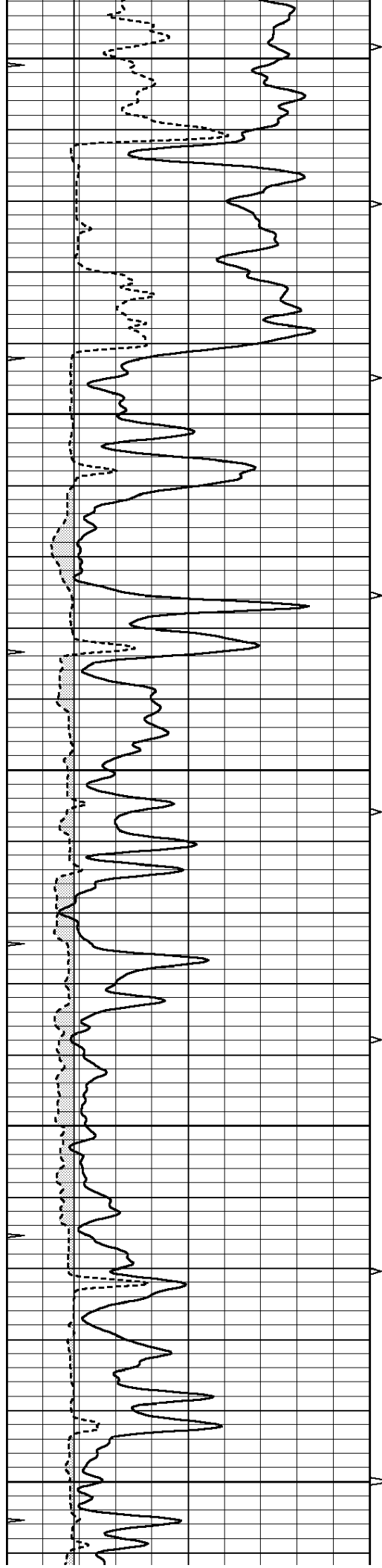
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 Dataset Pathname: pass5.1  
 Presentation Format: micro  
 Dataset Creation: Mon Nov 14 10:25:56 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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

0	MEL1.5 (Ohm-m)	40
0	MEL2.0 (Ohm-m)	40







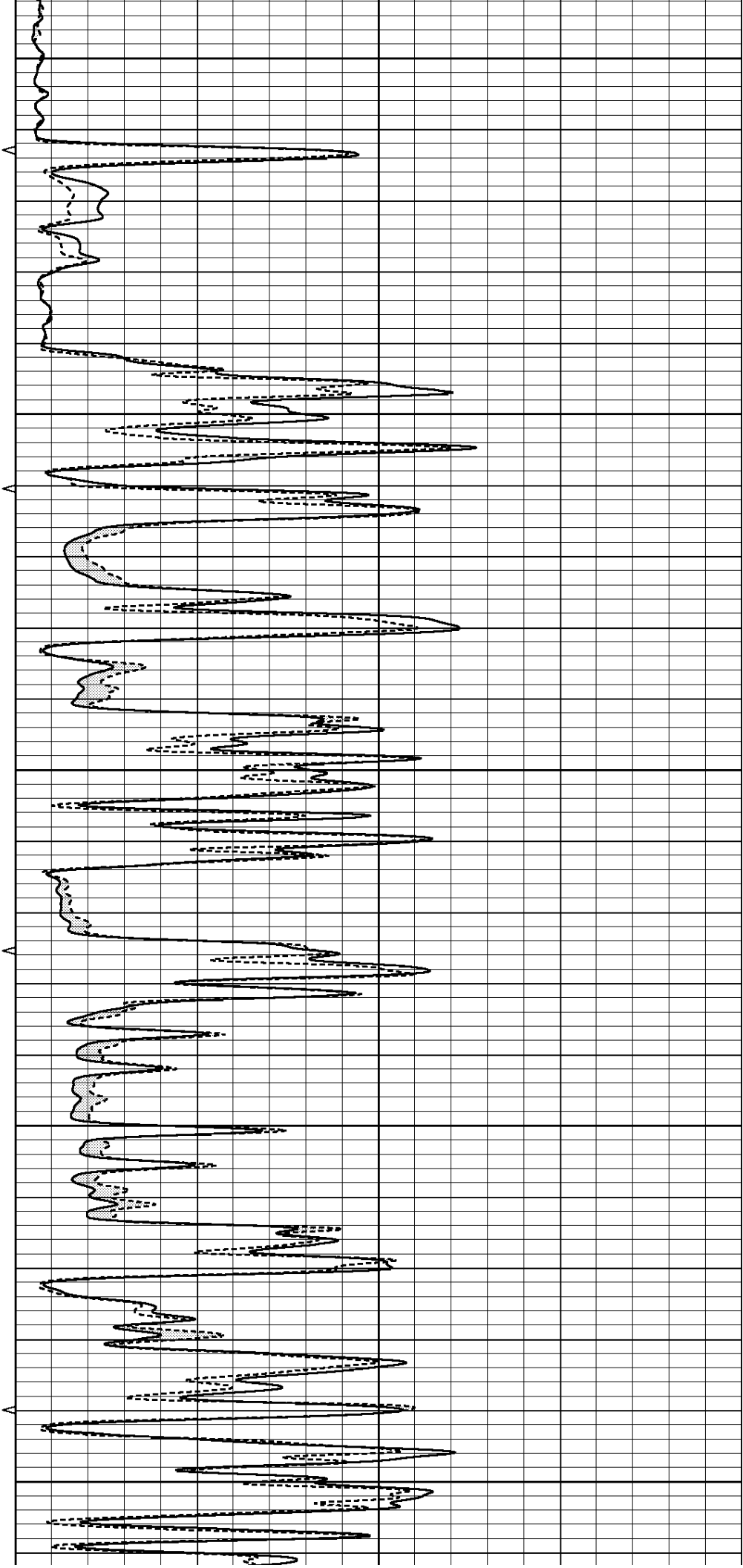
3700

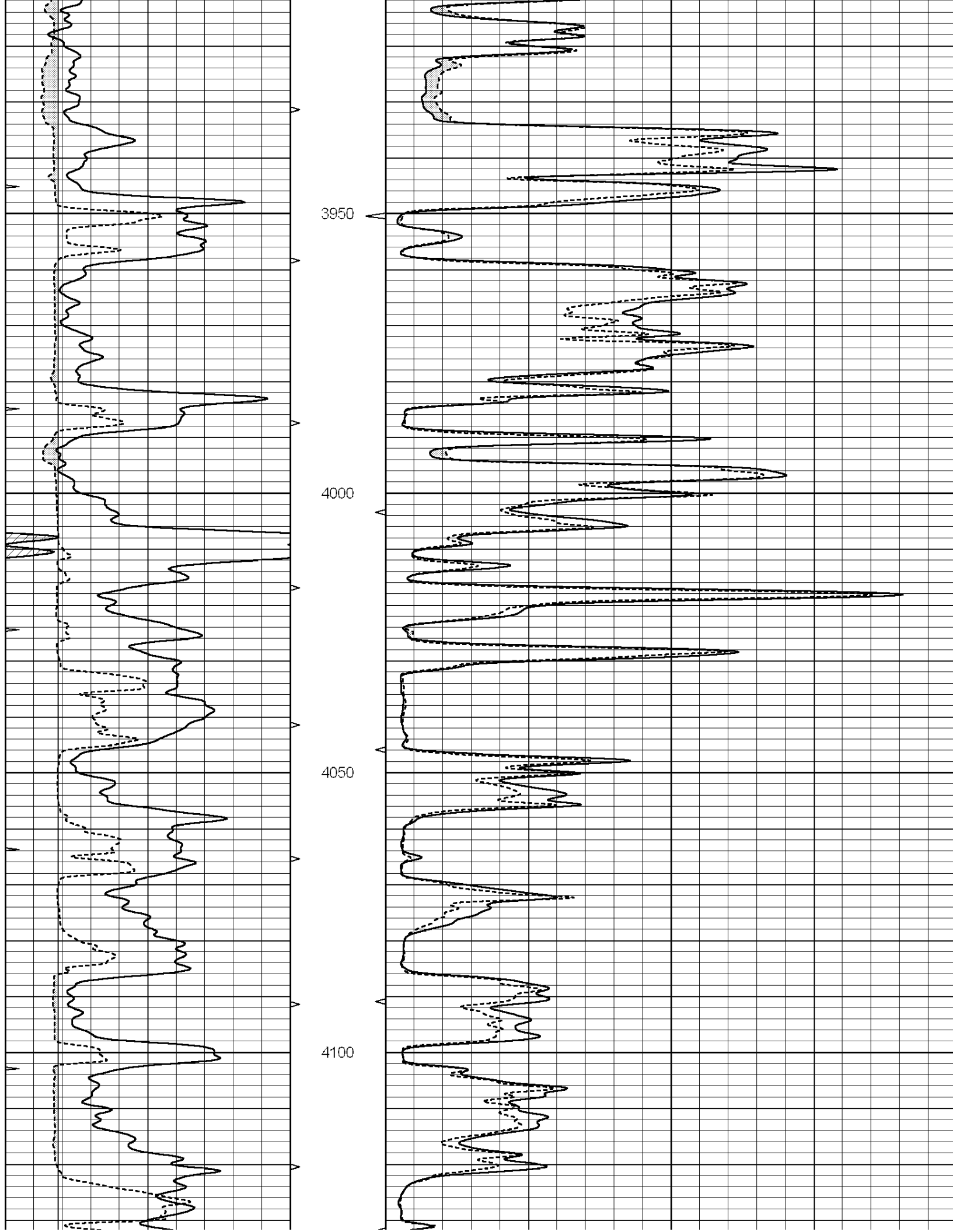
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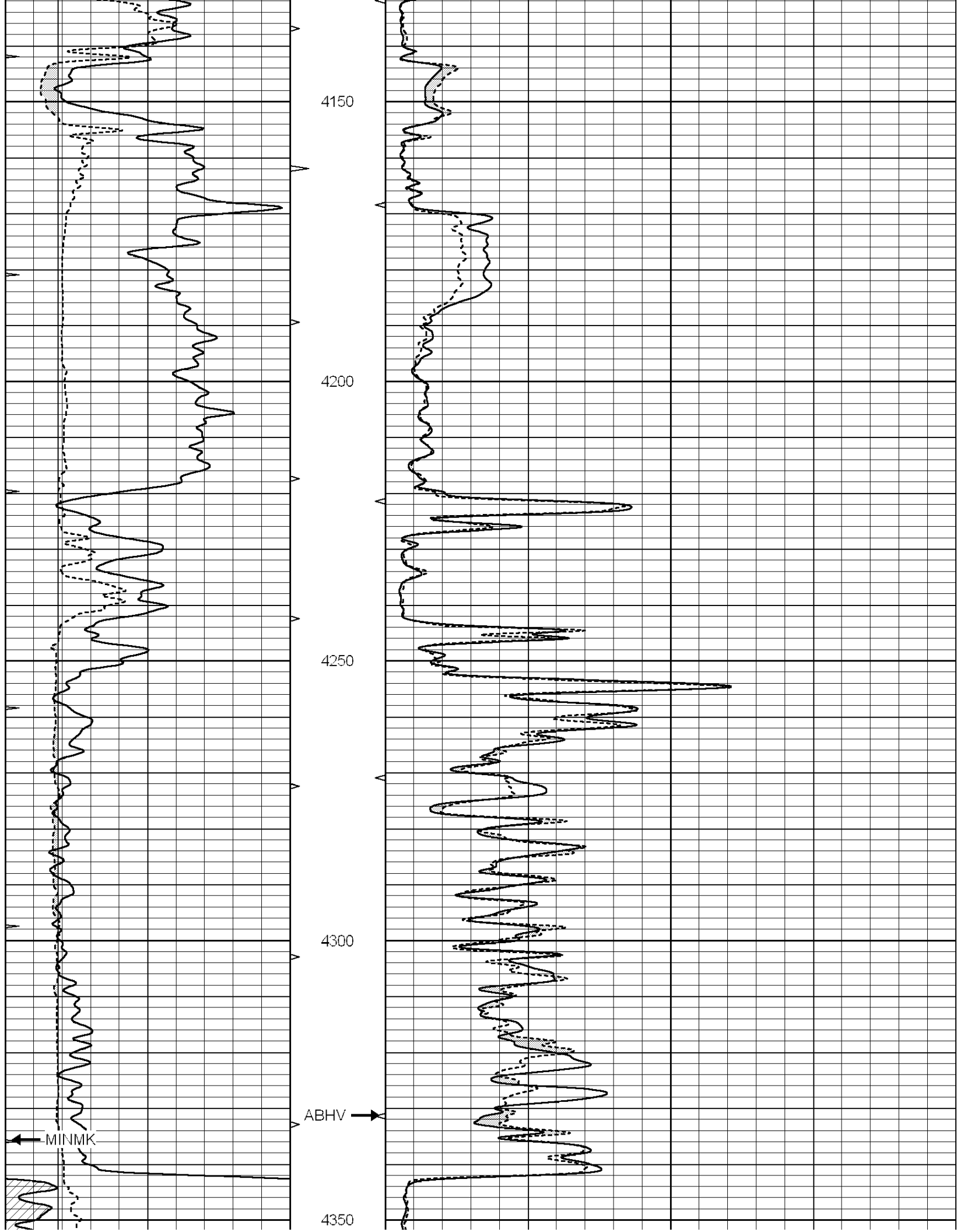
3800

3850

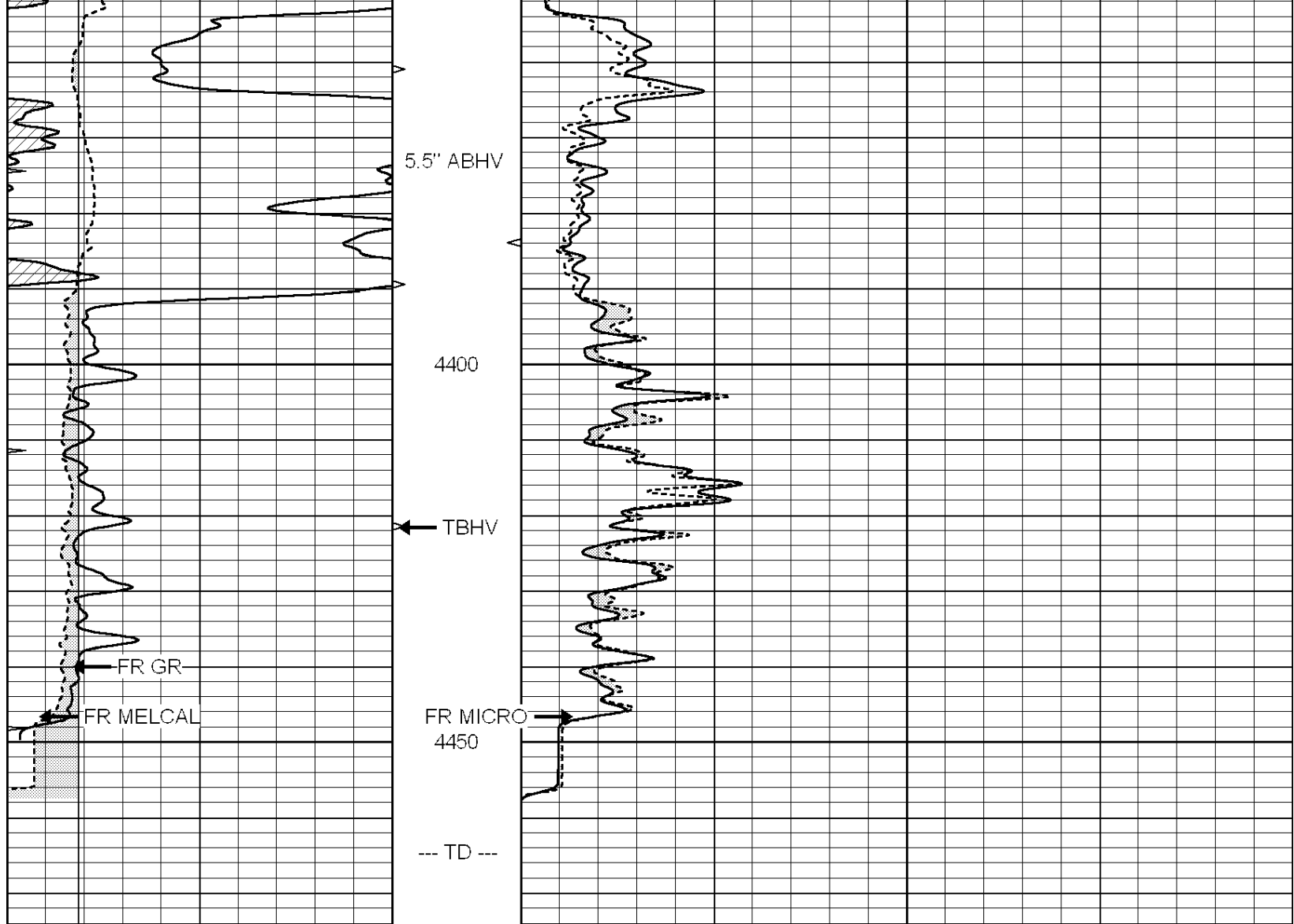
3900











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

0	MEL1.5 (Ohm-m)	40
0	MEL2.0 (Ohm-m)	40
-----		



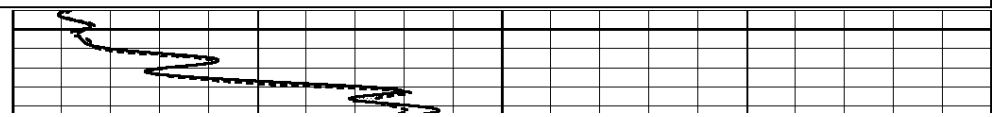
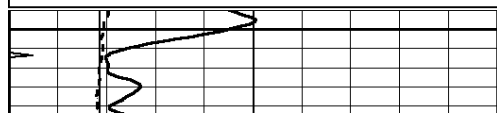
SUPERIOR  
Hays,  
Kansas

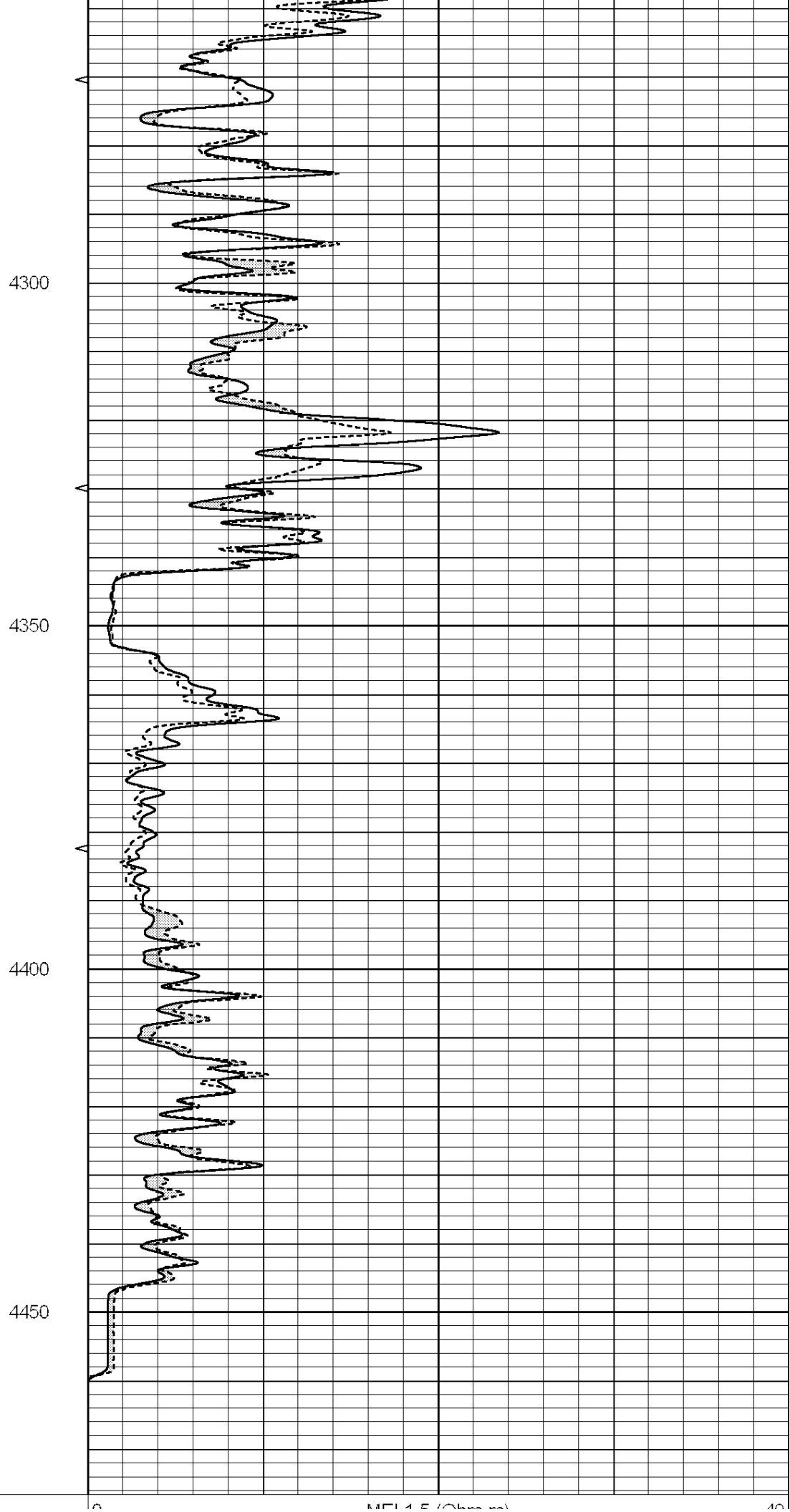
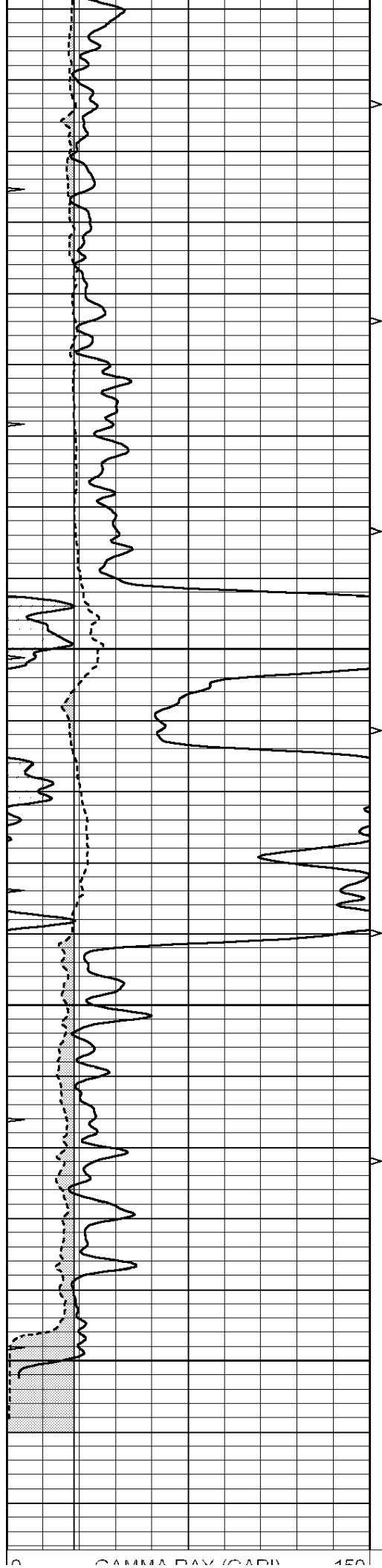
# REPEAT SECTION

Database File: 008009ddn.db  
 Dataset Pathname: pass4.1  
 Presentation Format: micro  
 Dataset Creation: Mon Nov 14 09:05:04 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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

0	MEL1.5 (Ohm-m)	40
0	MEL2.0 (Ohm-m)	40
-----		





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

0	MEL1.0 (Ohm-m)	40
0	MEL2.0 (Ohm-m)	40

Calibration Report

Database File: 008009ddn.db  
 Dataset Pathname: pass5.1  
 Dataset Creation: Mon Nov 14 10:25:56 2011 by Calc Open-Cased 090629

MICRO Calibration Report

Serial Number: Micro1  
 Tool Model: ProbeL  
 Performed: Mon Nov 14 09:02:00 2011

Caliper Calibration: Gain=2.962      Offset=-2.277

	Low Cal	High Cal
References	7.300	13.000
Readings	3.233	5.157

1.5" Calibration: Gain=34.000      Offset=0.000

	Low Cal	High Cal
References	0.000	20.000
Readings	0.003	0.844

2" Calibration: Gain=30.000      Offset=-0.400

	Low Cal	High Cal
References	0.000	20.000
Readings	0.028	0.817

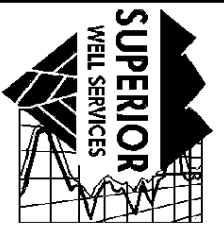
Gamma Ray Calibration Report

Serial Number: GR5  
 Tool Model: OPEN  
 Performed: Mon Nov 14 08:56:34 2011

Calibrator Value: 1.0      GAPI

Background Reading: 0.0      cps  
 Calibrator Reading: 1.0      cps

Sensitivity: 0.6500      GAPI/cps



**SUPERIOR  
Hays,  
Kansas**

**SONIC  
LOG**

Company **CAERUS KANSAS, LLC.**  
Well **WATERS #8-34**  
Field  
County **STAFFORD** State **KANSAS**

Company **CAERUS KANSAS, LLC.**  
Well **WATERS #8-34**  
Field  
County **STAFFORD**  
State **KANSAS**

Location: **API # : 15-185-23719**  
**1208' FSL & 2429' FEL**  
SEC 8 TWP 25S RGE 14W  
Permanent Datum **GROUND LEVEL** Elevation **1982**  
Log Measured From **KELLY BUSHING 9' A.G.L.**  
Drilling Measured From **KELLY BUSHING**  
Other Services  
**CDL/CNL  
MEL/DIL**  
Elevation  
K.B. 1991  
D.F.  
G.L. 1982

Date	11-14-11
Run Number	TWO
Depth Driller	4465
Depth Logger	4465
Bottom Logged Interval	4457
Top Log Interval	250
Casing Driller	263
Casing Logger	263
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	8.8 / 66
pH / Fluid Loss	10.5 / 8.0
Source of Sample	FLOWLINE
Rim @ Meas. Temp	0.45 @ 82F
Rmf @ Meas. Temp	0.34 @ 82F
Rmc @ Meas. Temp	0.54 @ 82F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	.310 @ 119F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	6:45 A.M.
Maximum Recorded Temperature	119F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
Witnessed By	JEFF LAWLER

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

**SUPERIOR WELL SERVICES**  
**785-628-6395**  
**THANK YOU FOR YOUR BUSINESS**  
**DIRECTIONS: MACKVILLE, 5E TO BLACKTOP, 4 3/4S, W INTO.**

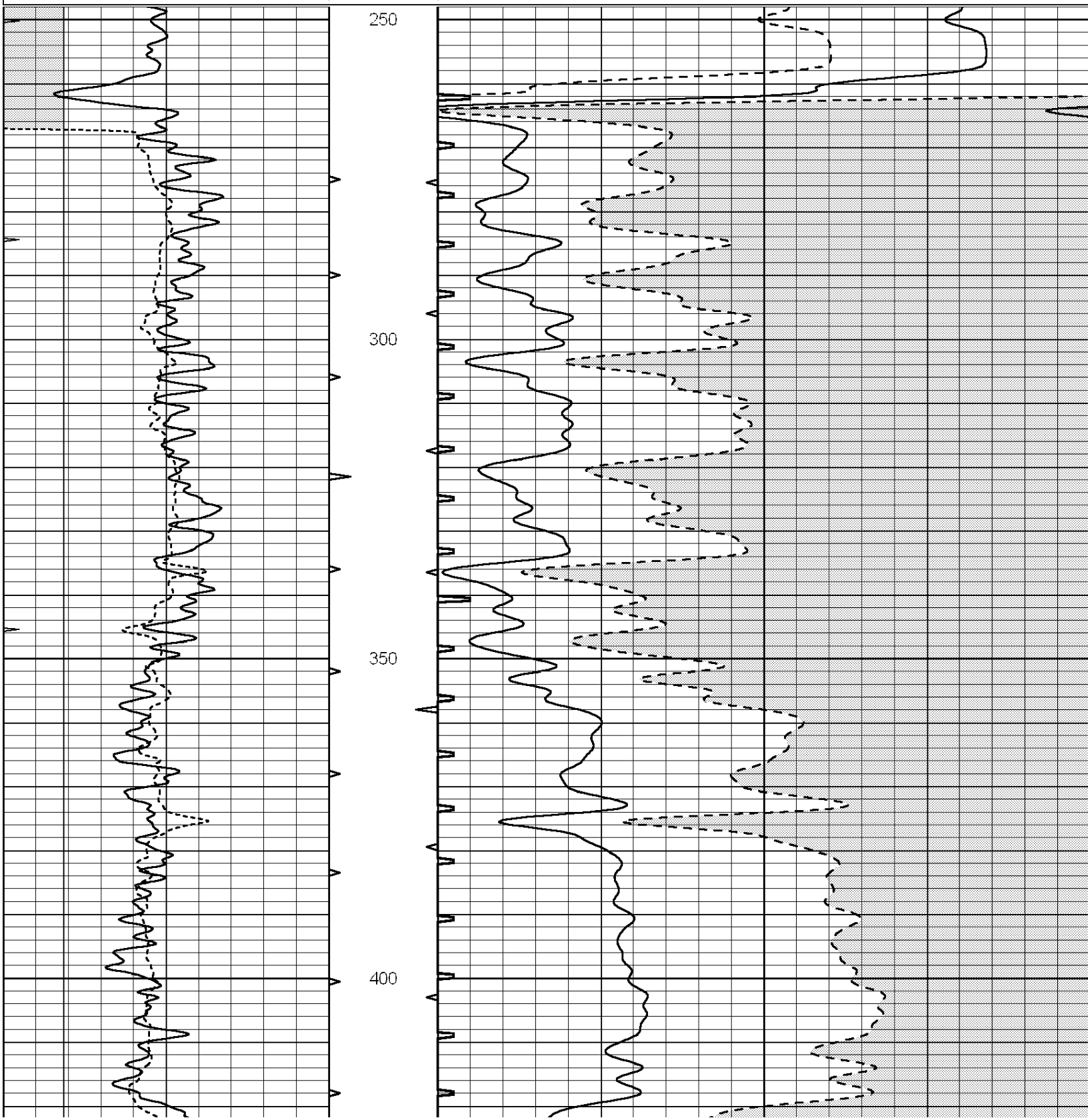


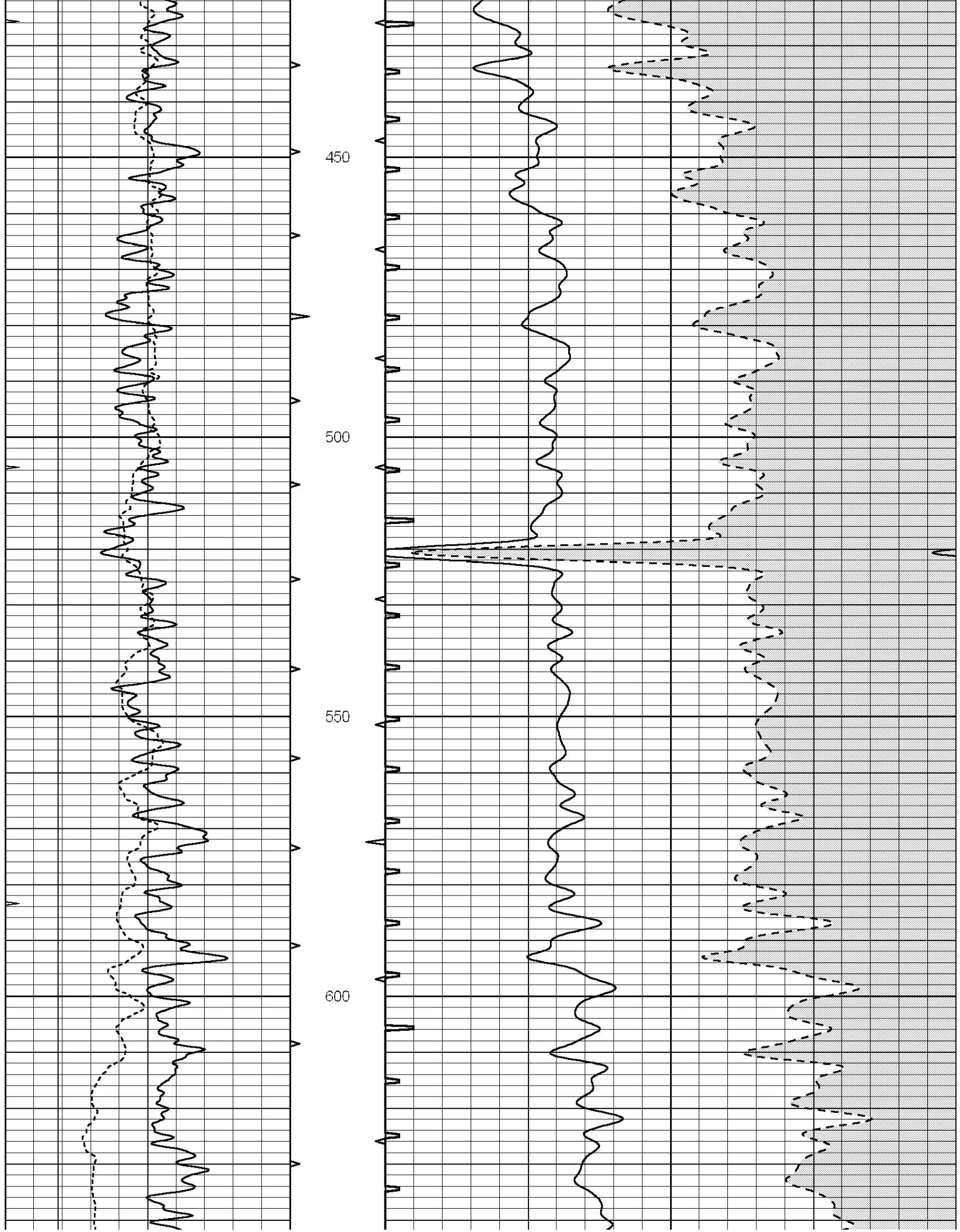
**SUPERIOR  
Hays,  
Kansas**

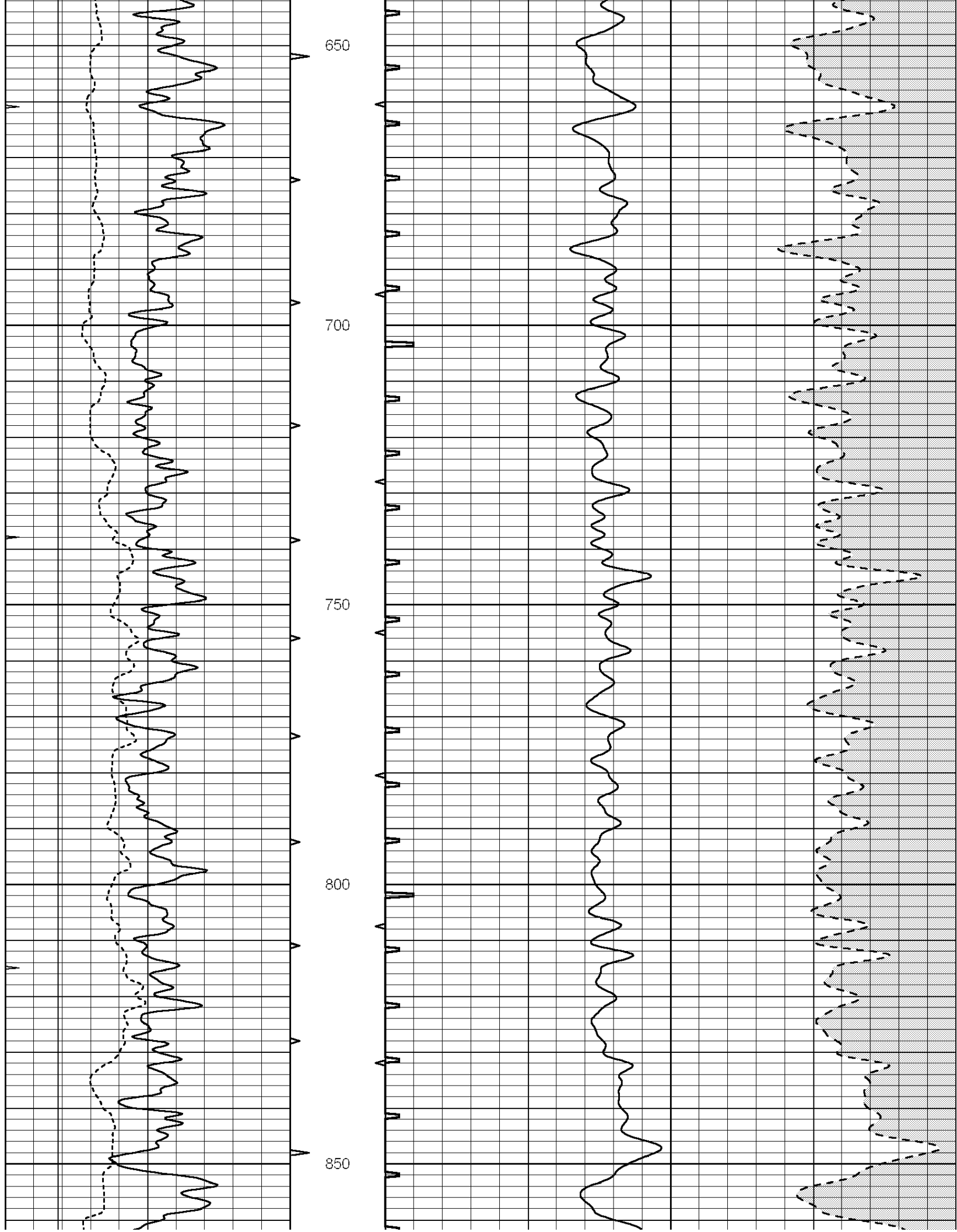
**MAIN SECTION**

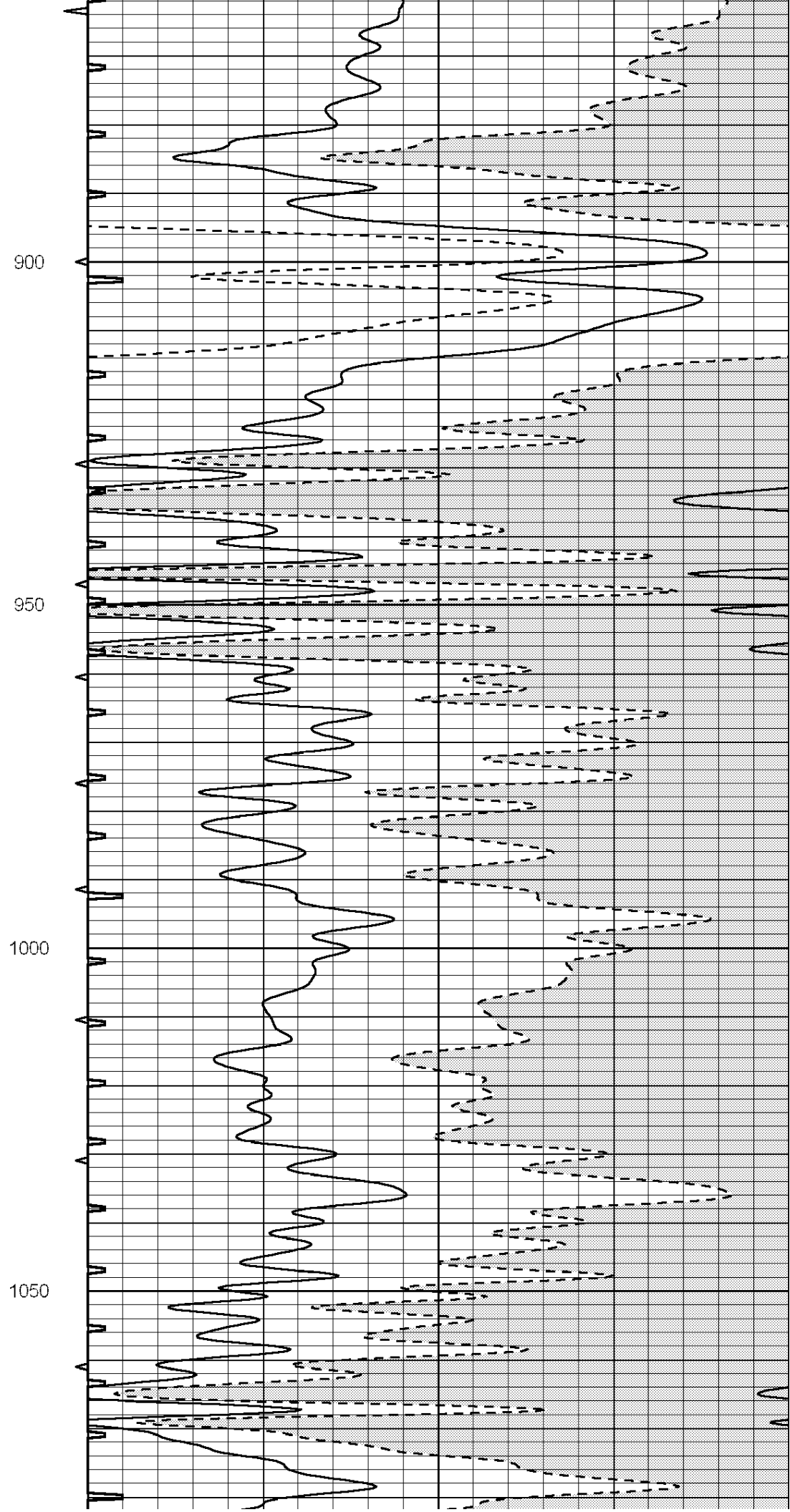
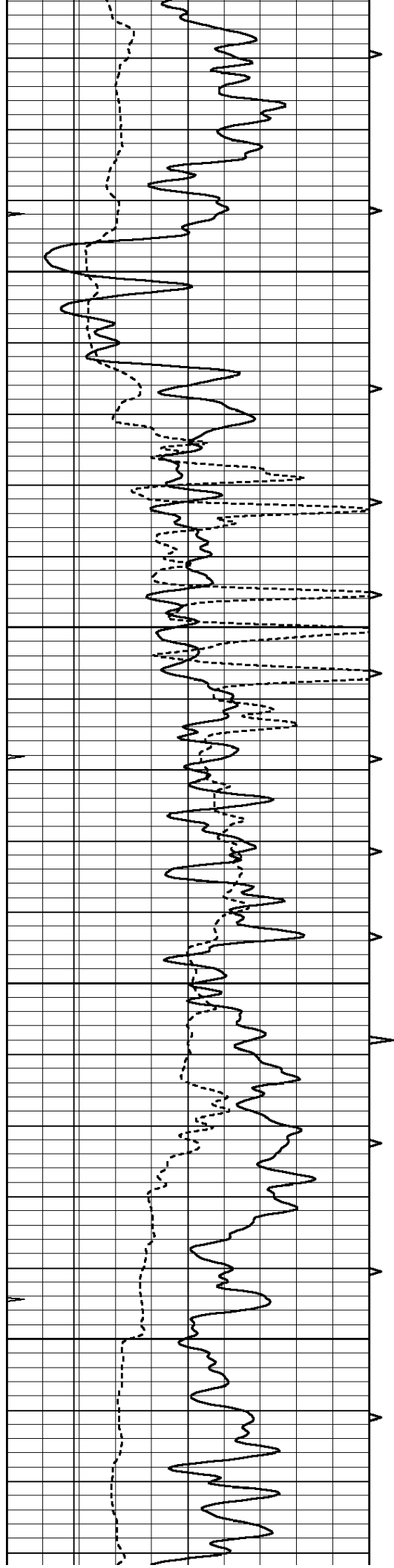
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 Presentation Format: slt  
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 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	140	DELTA TIME (usec/ft)	40
6	MELCAL (in)	16	10 (ft3)	0 30	SONIC POROSITY (pu)	-10
0	MINMK	20	TBHV	0	ITT (msec)	20
			0 (ft3)	10		

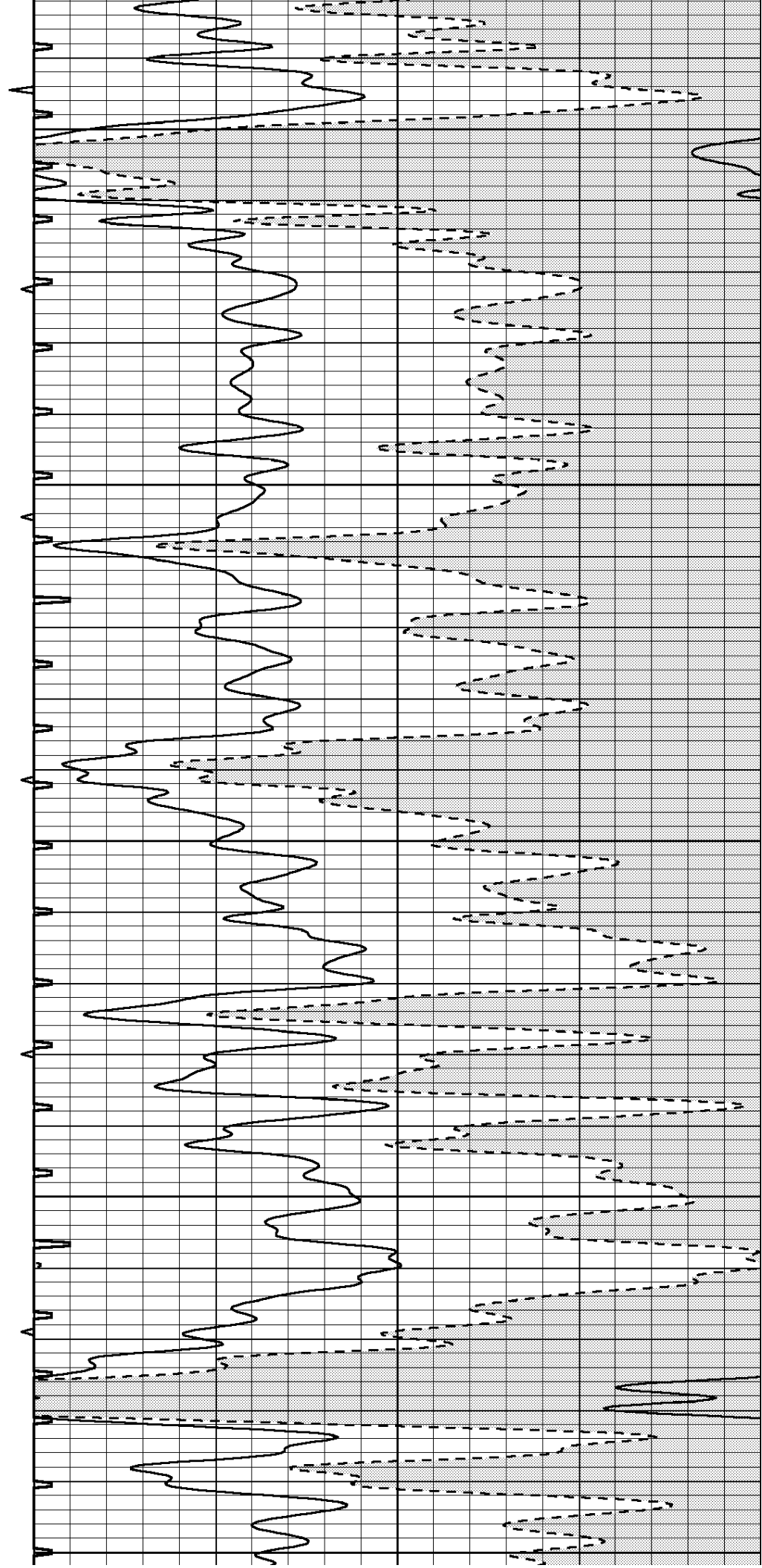
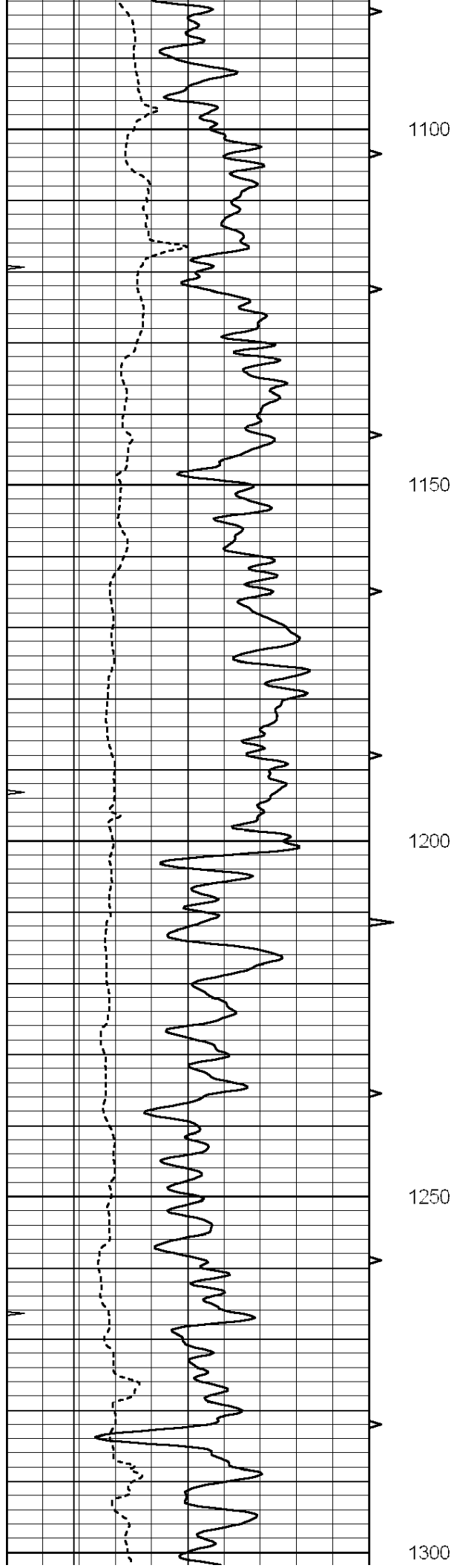


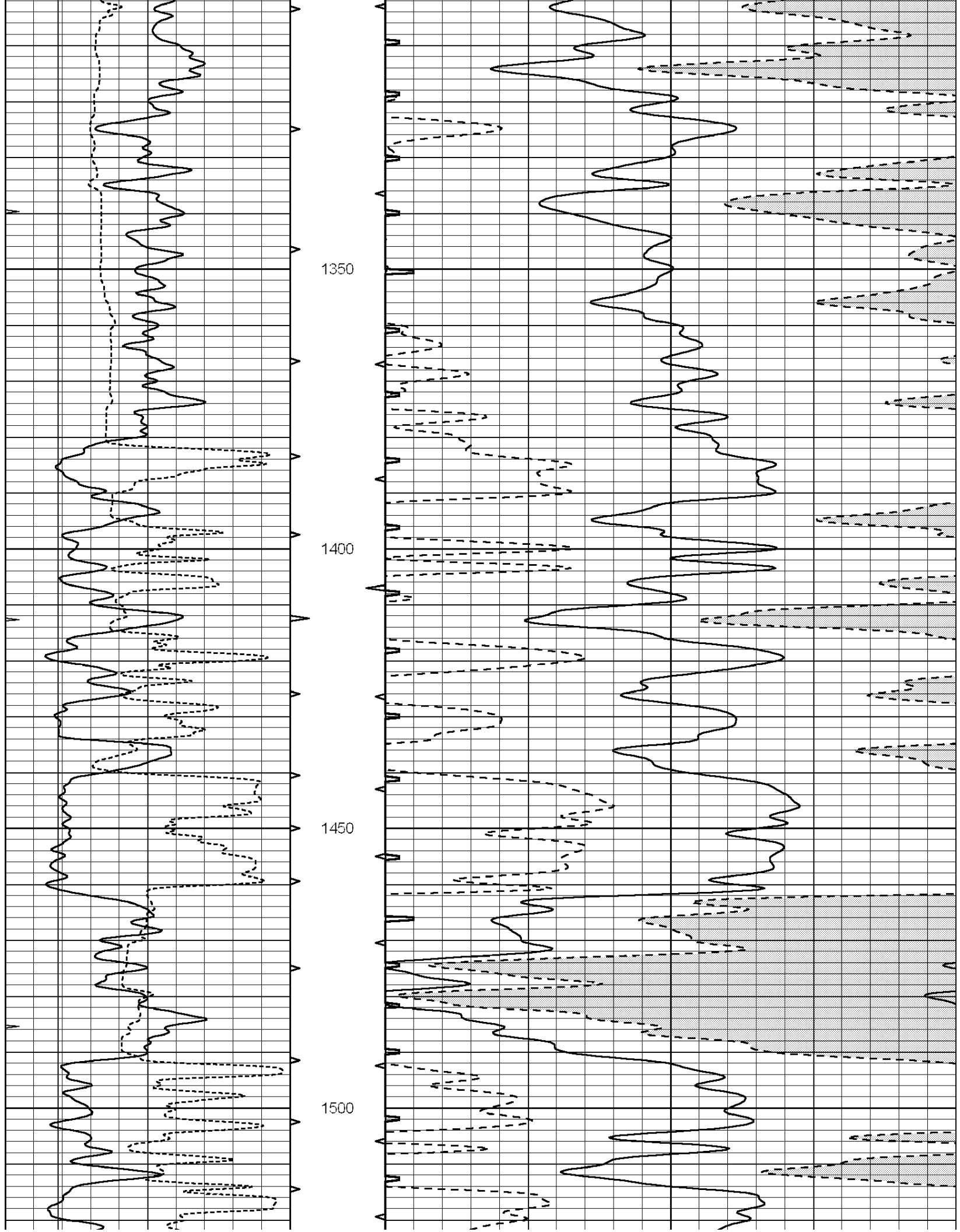


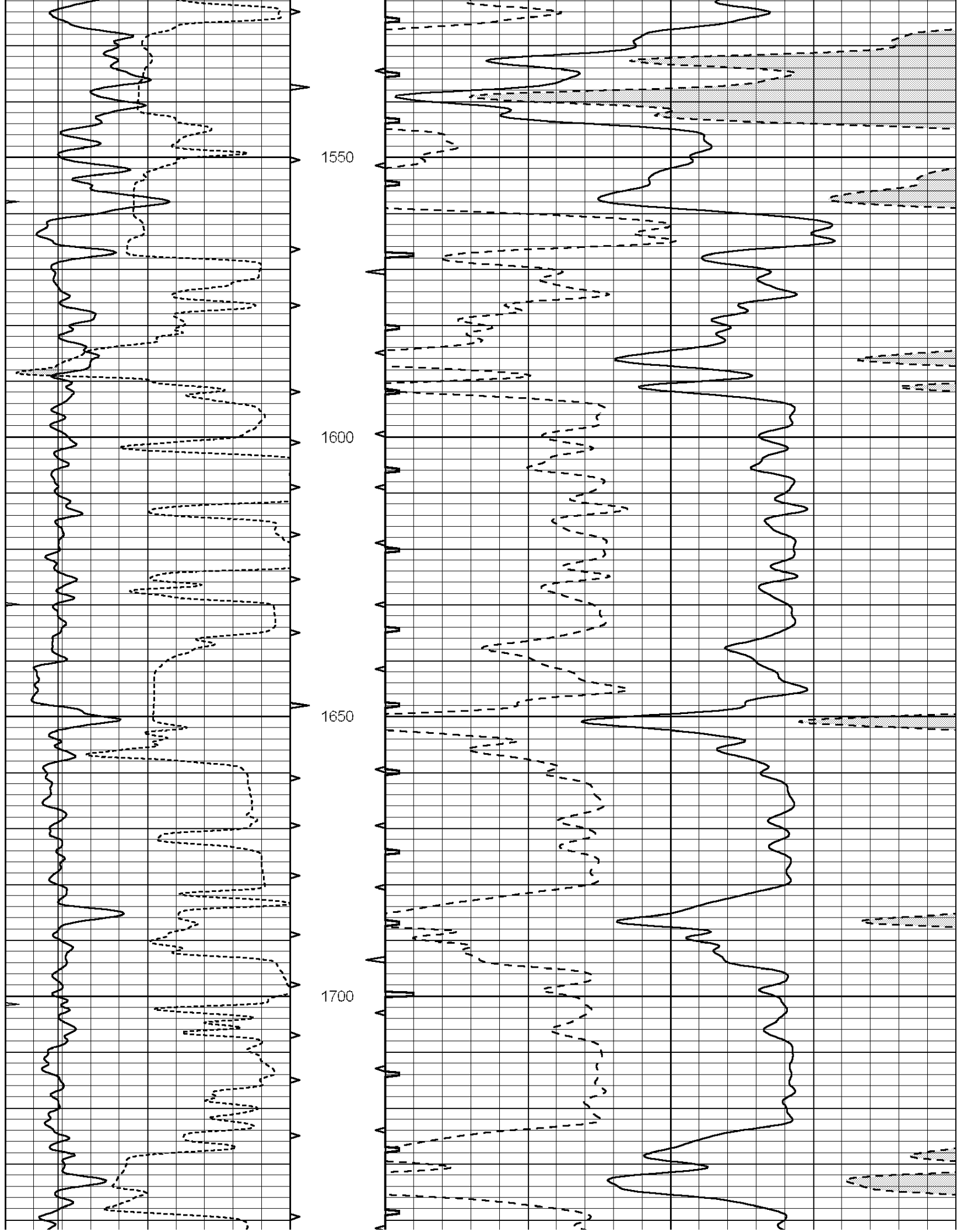


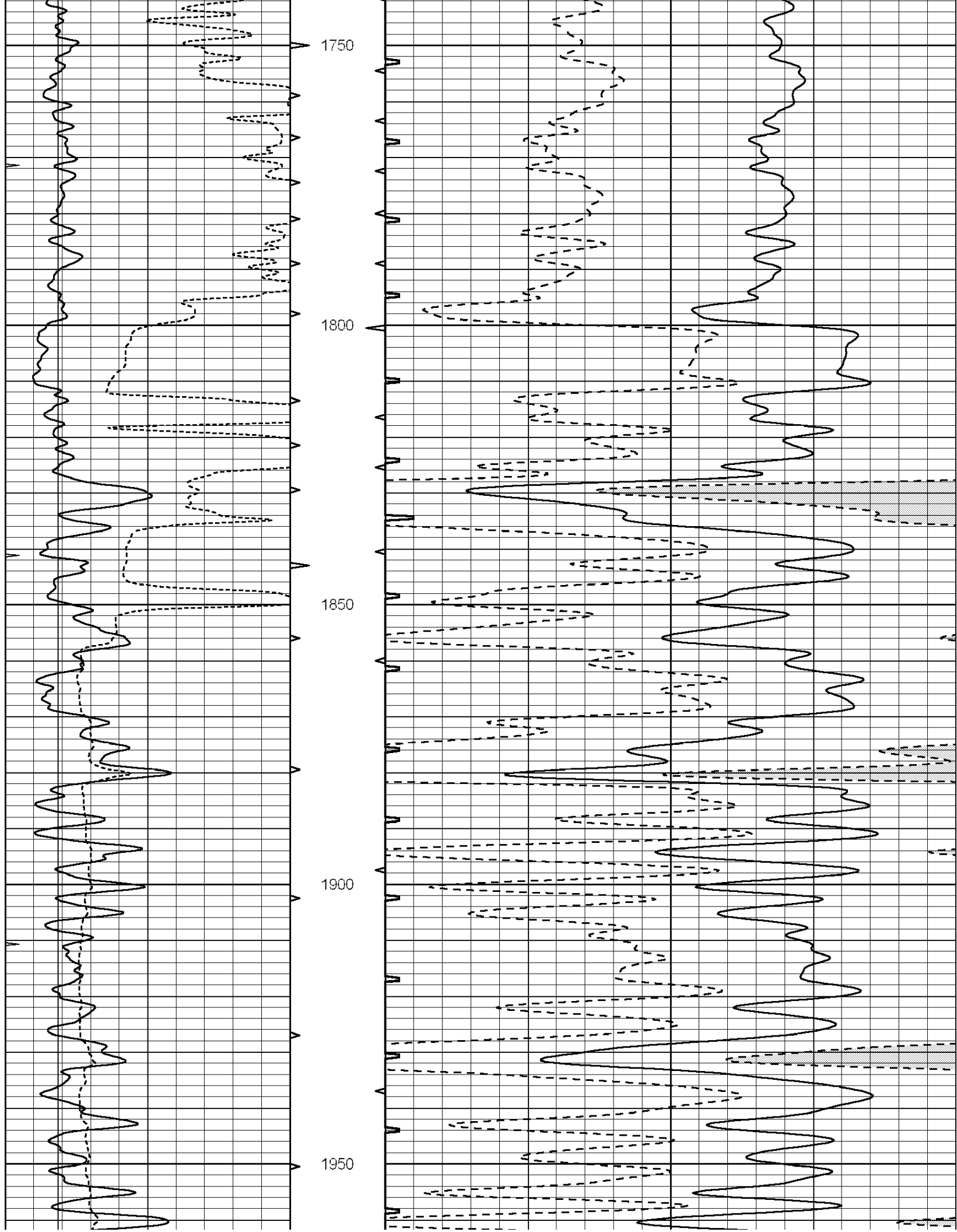


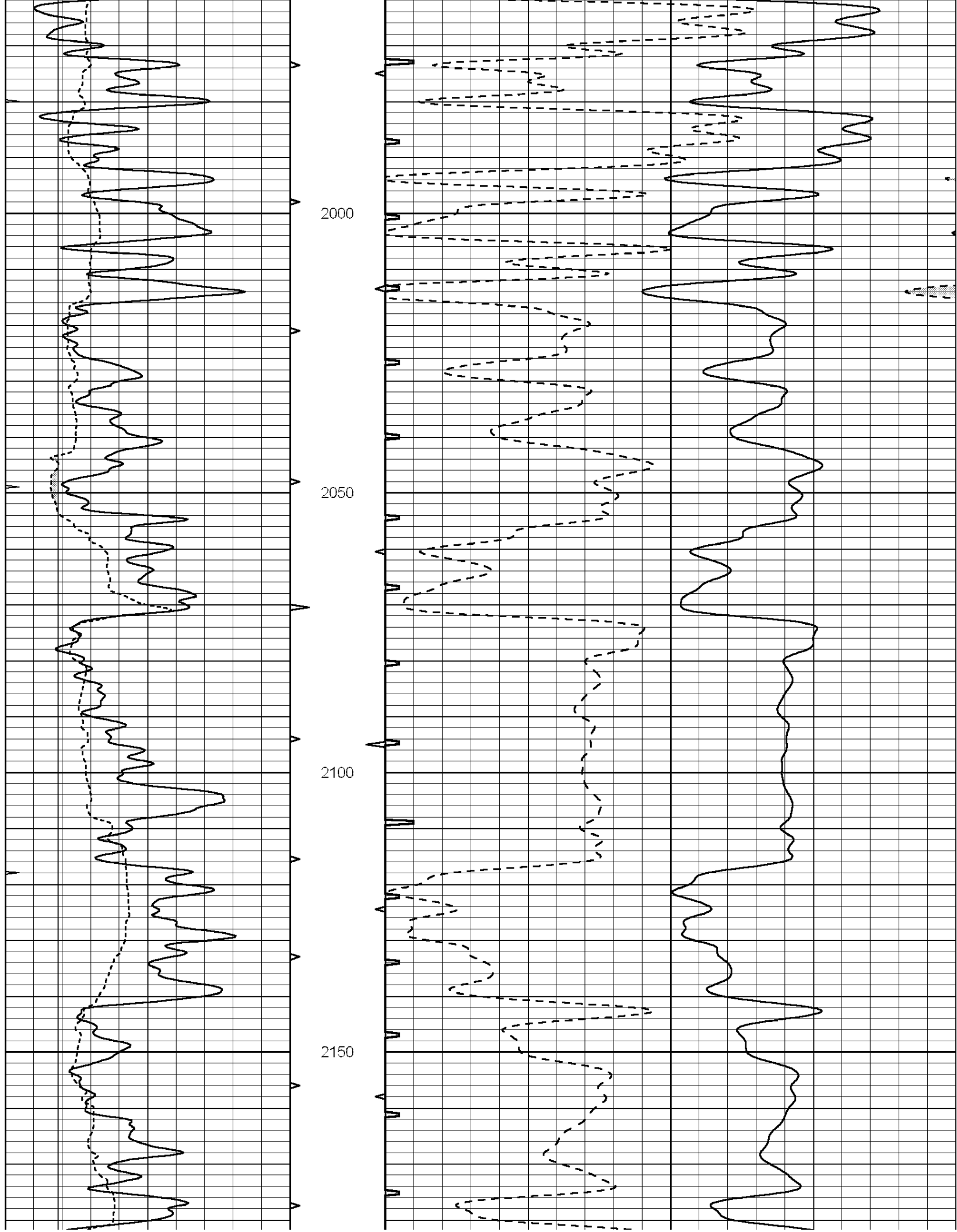


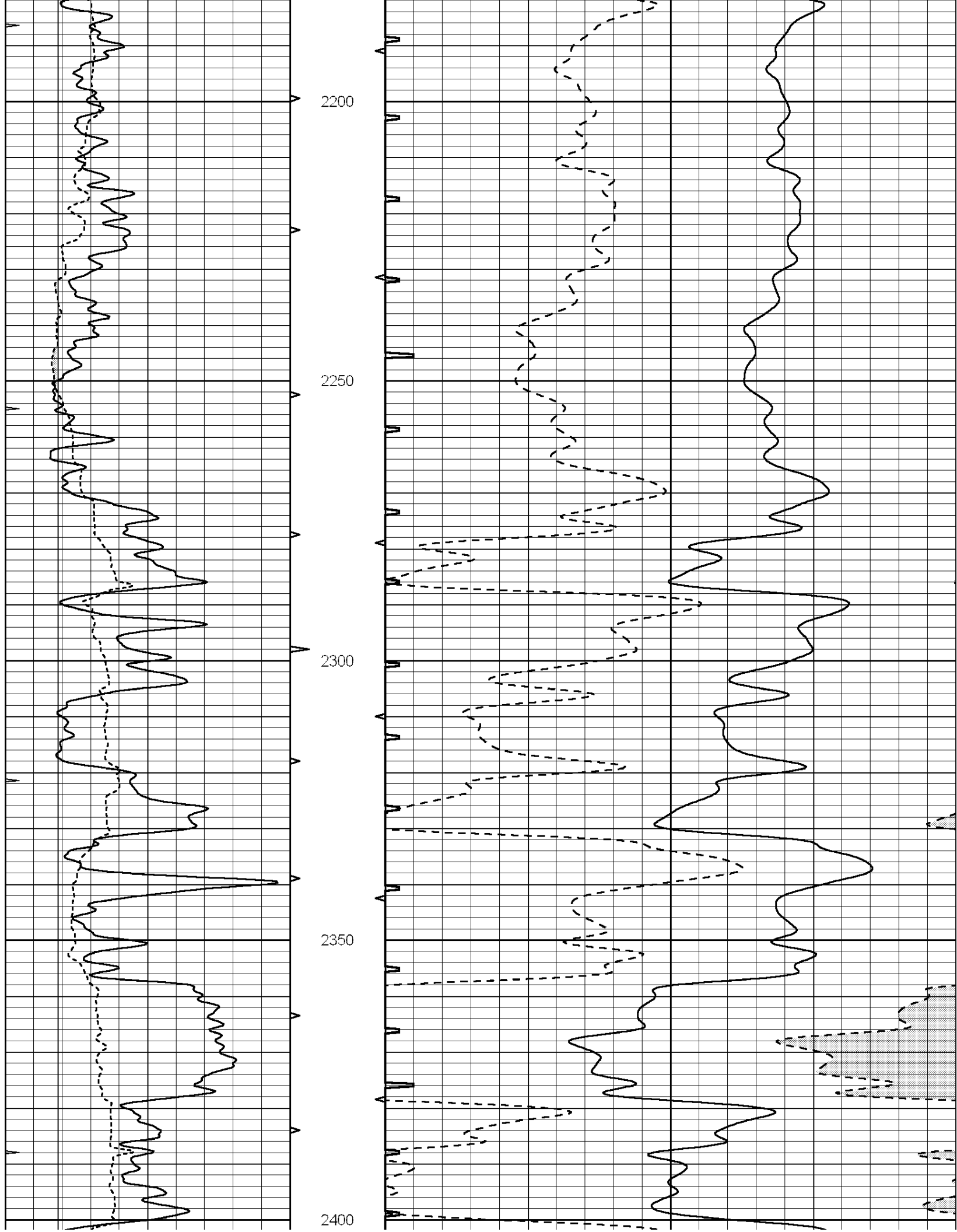


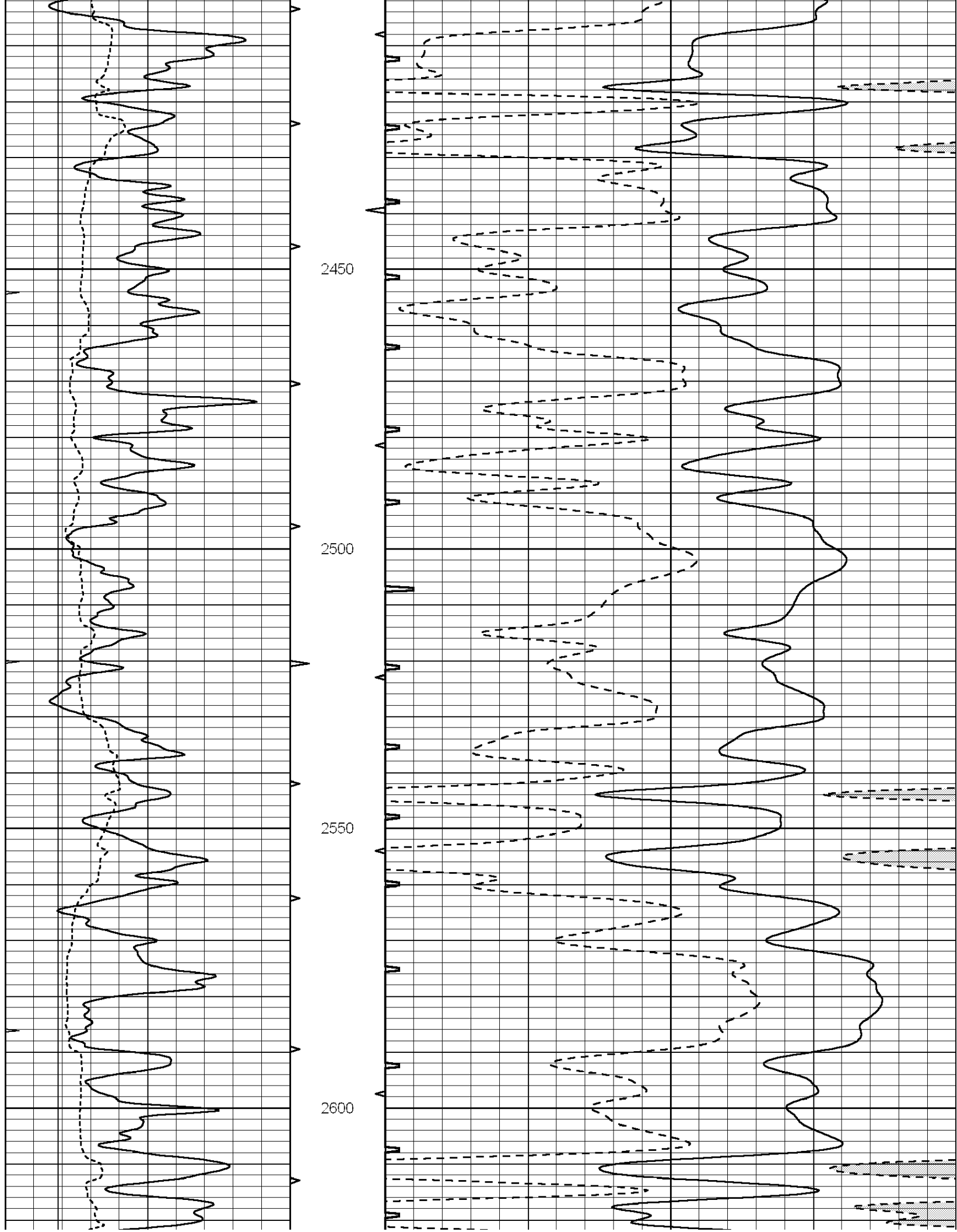


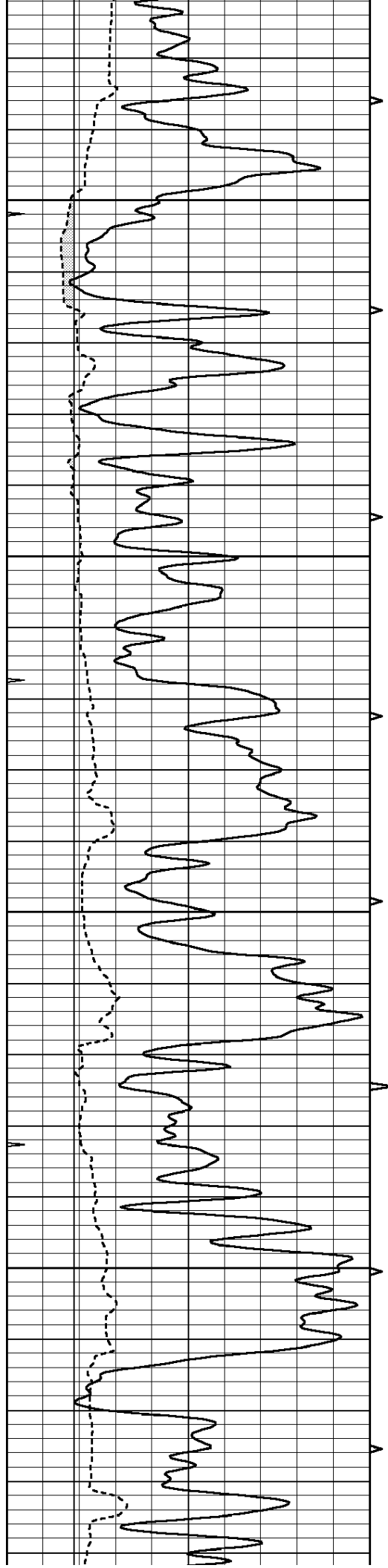










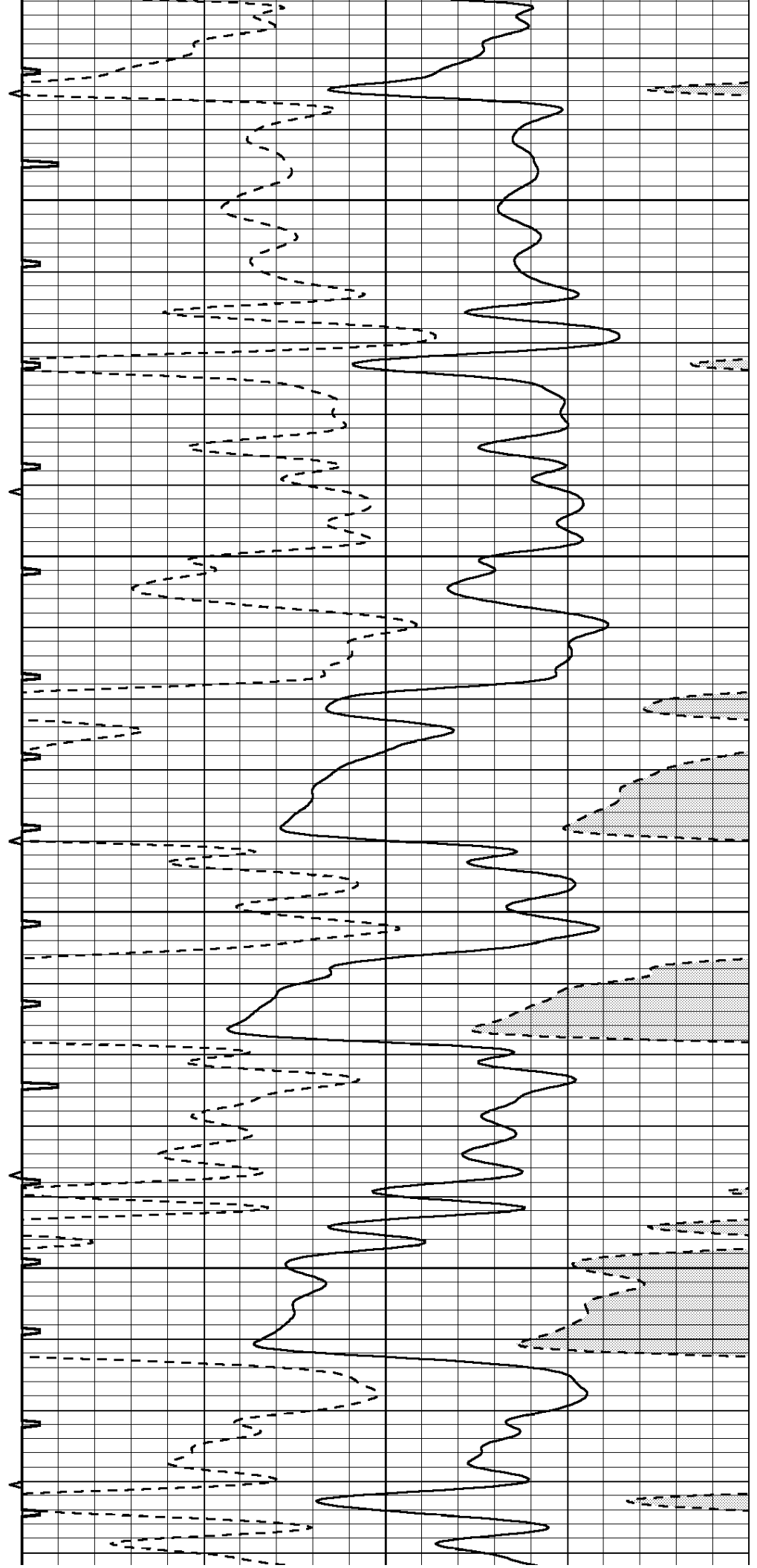


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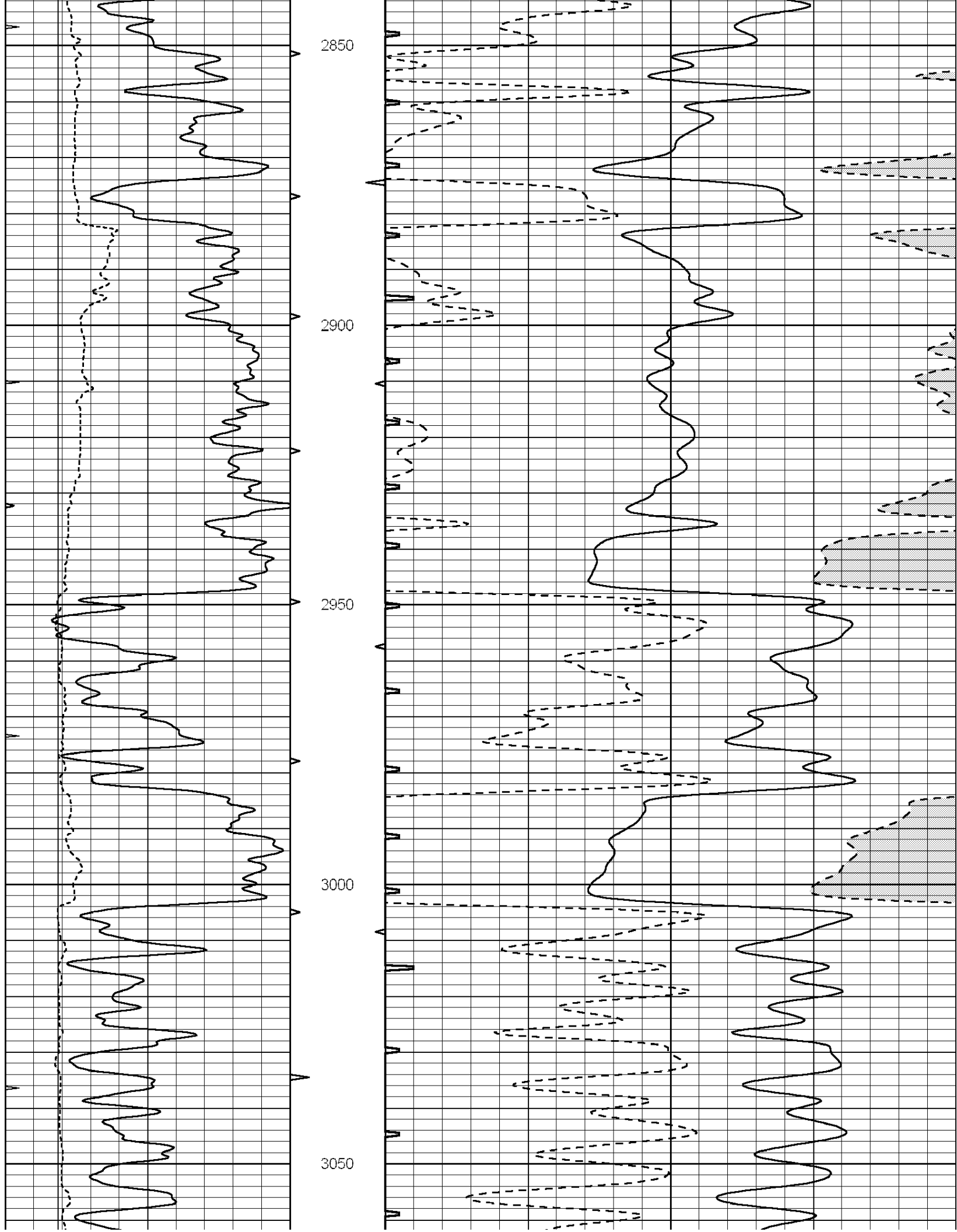
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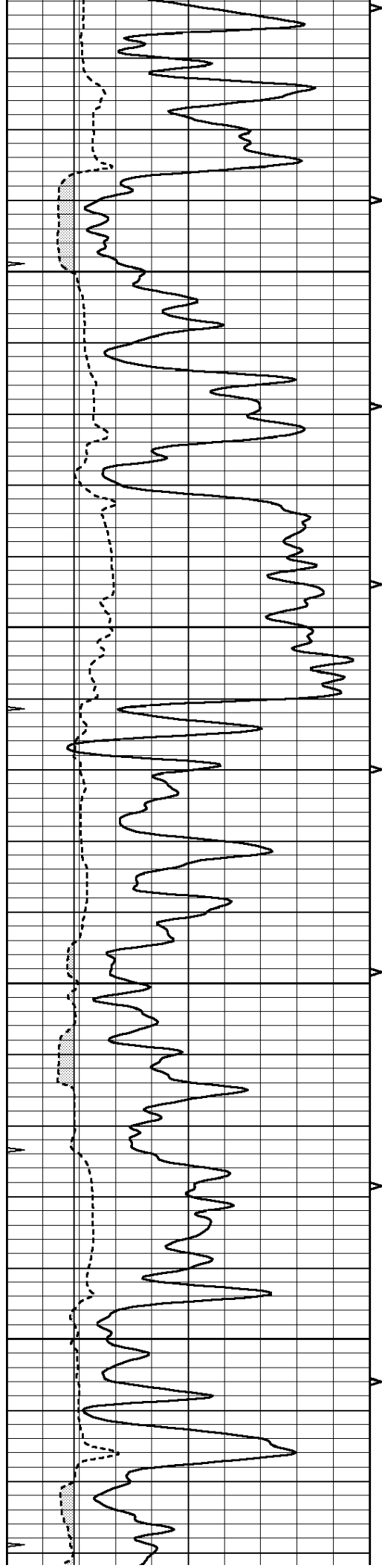
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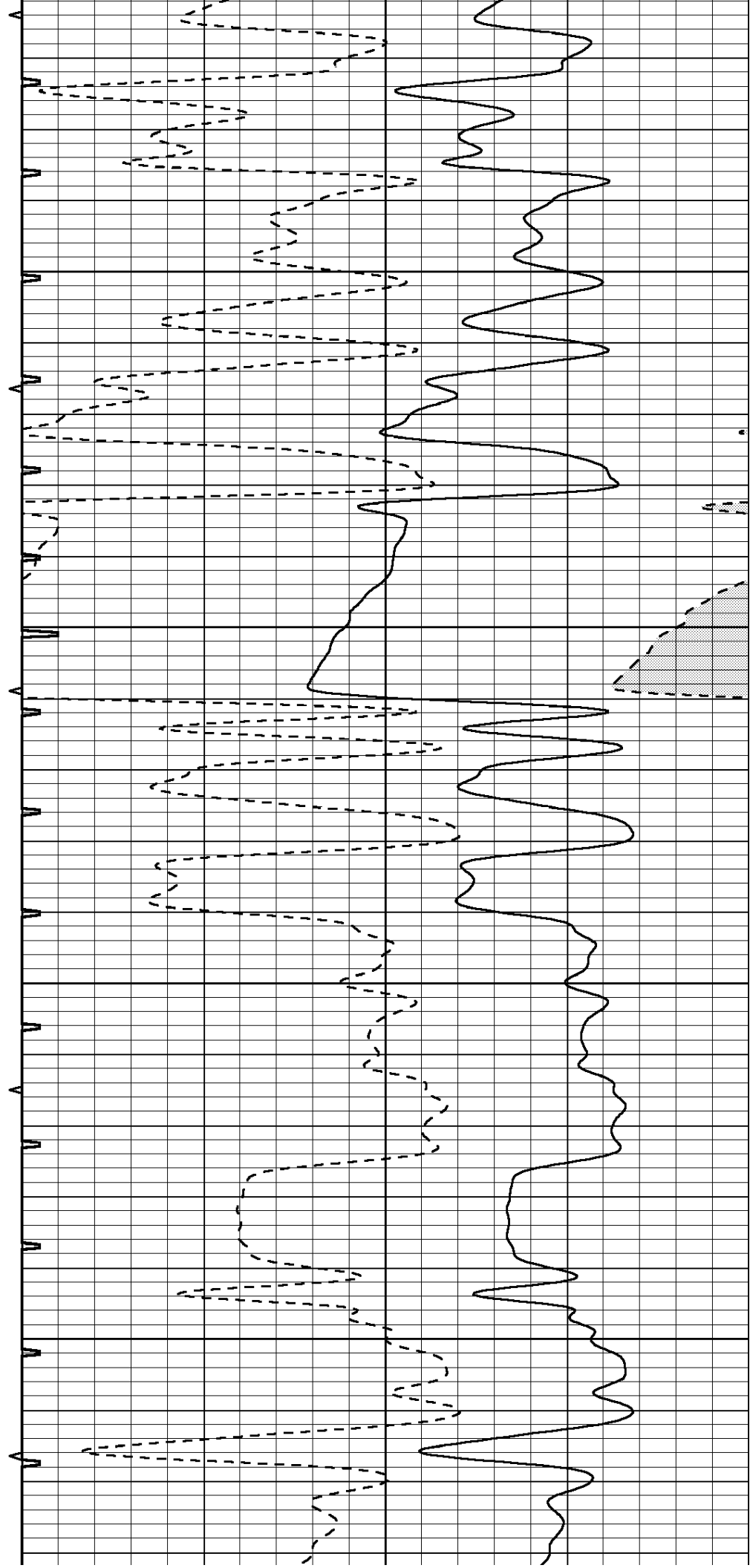


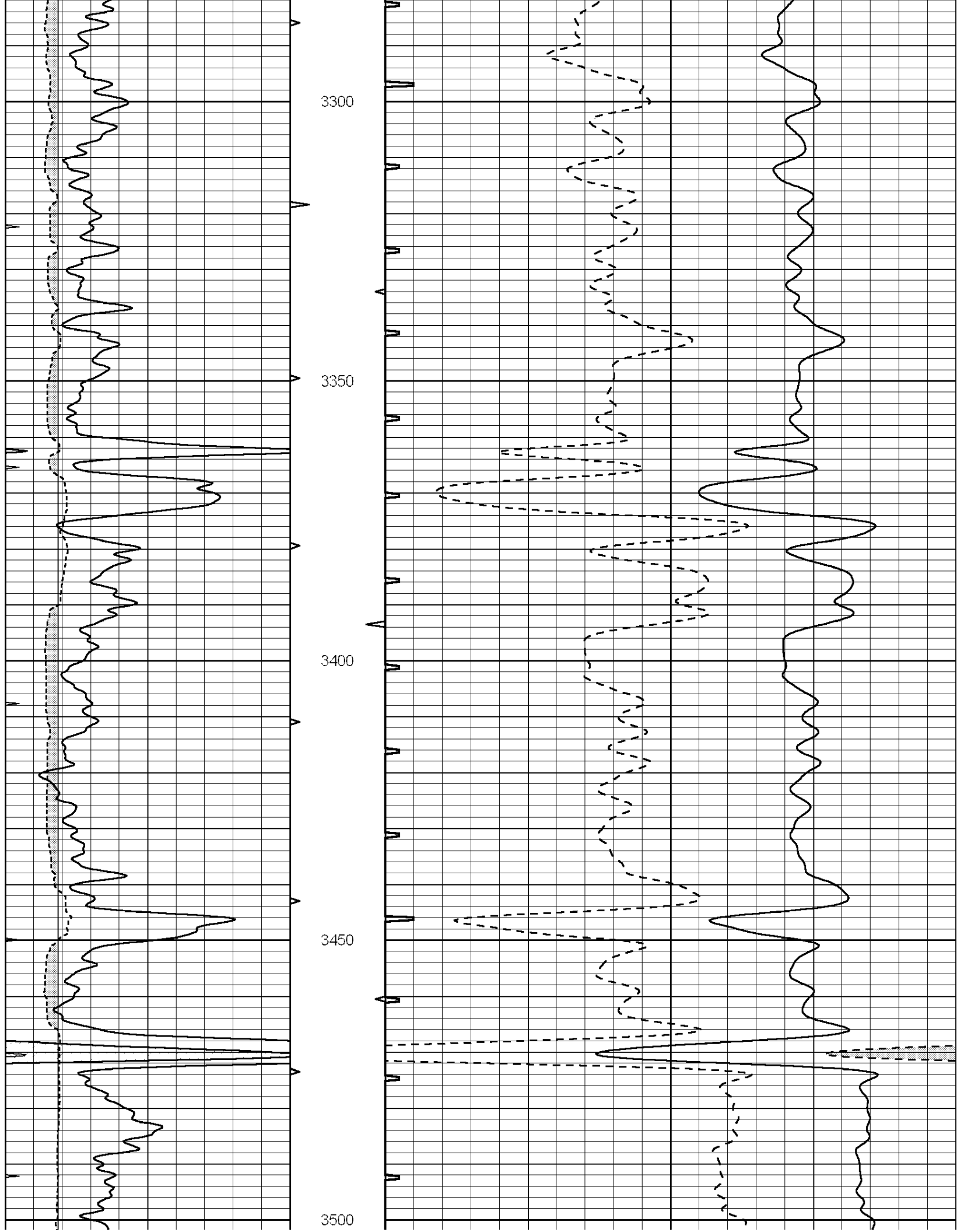
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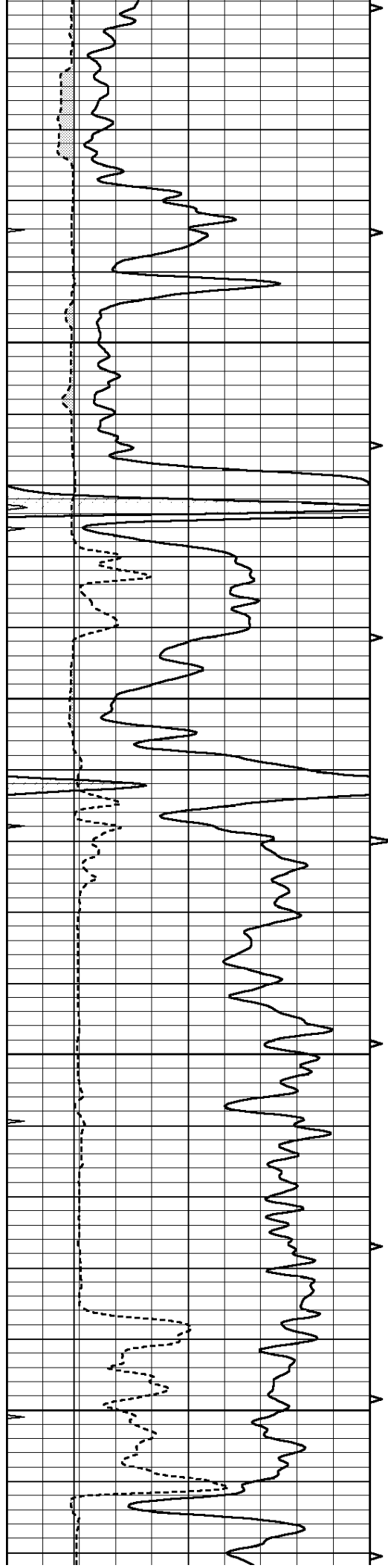
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3200

3250





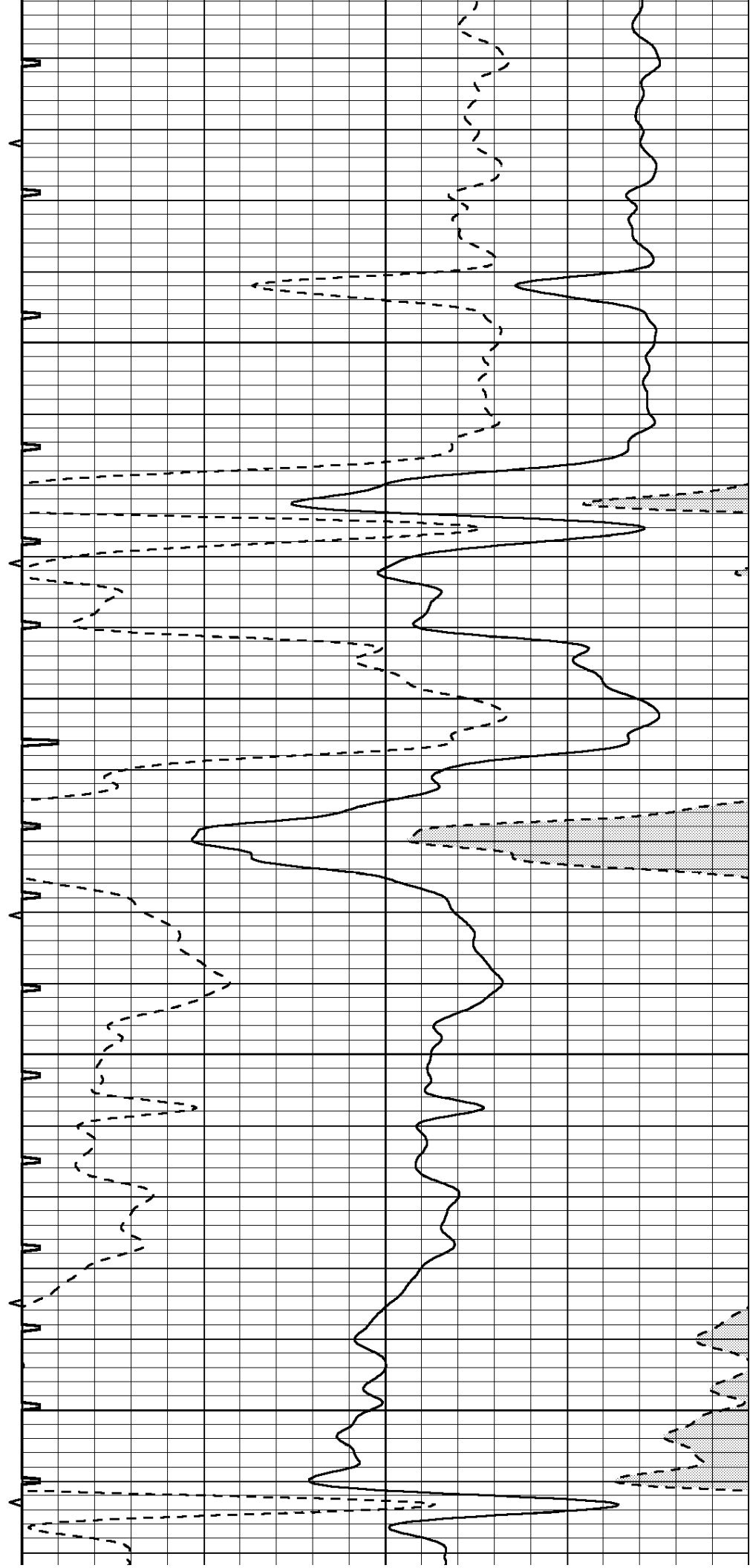


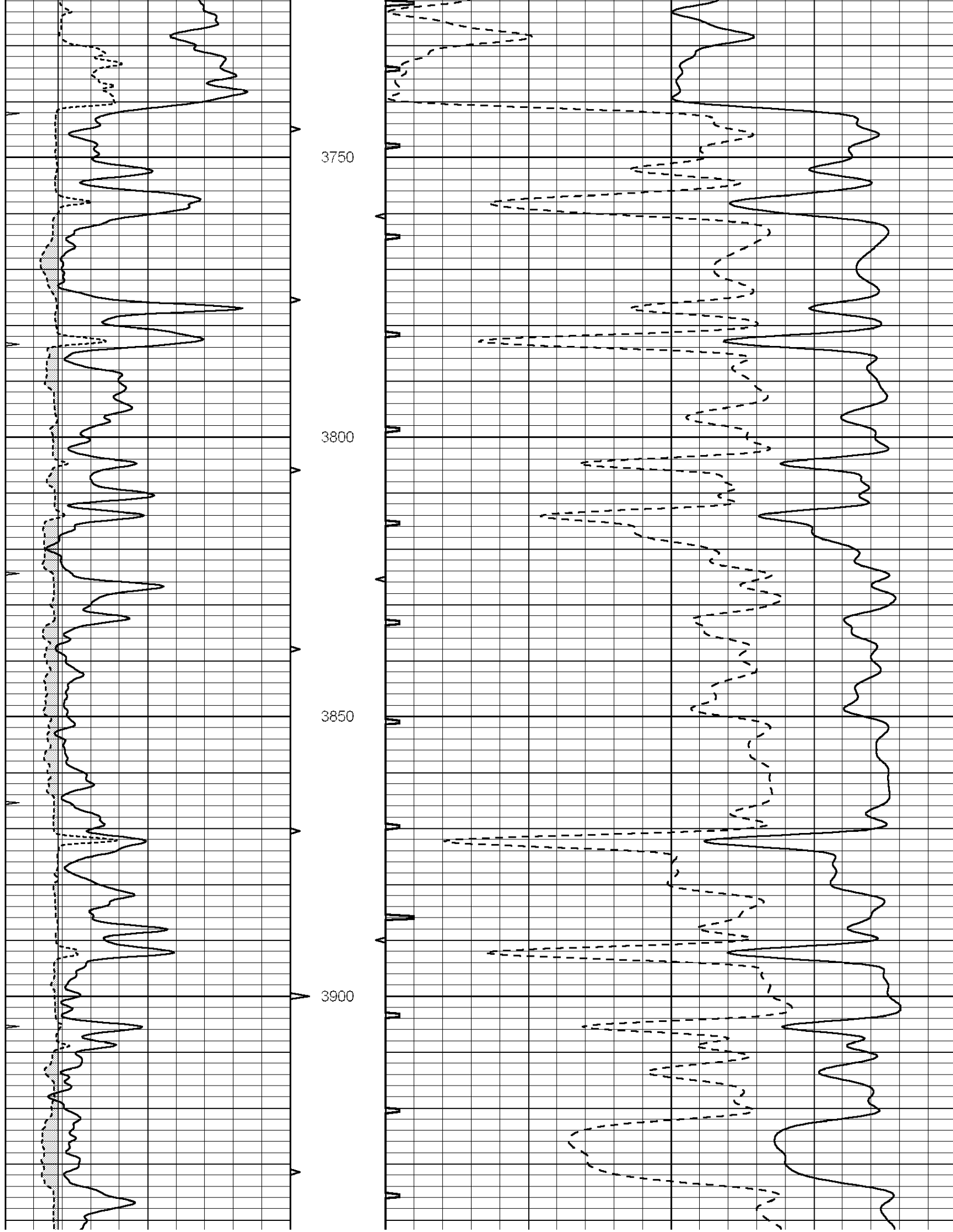
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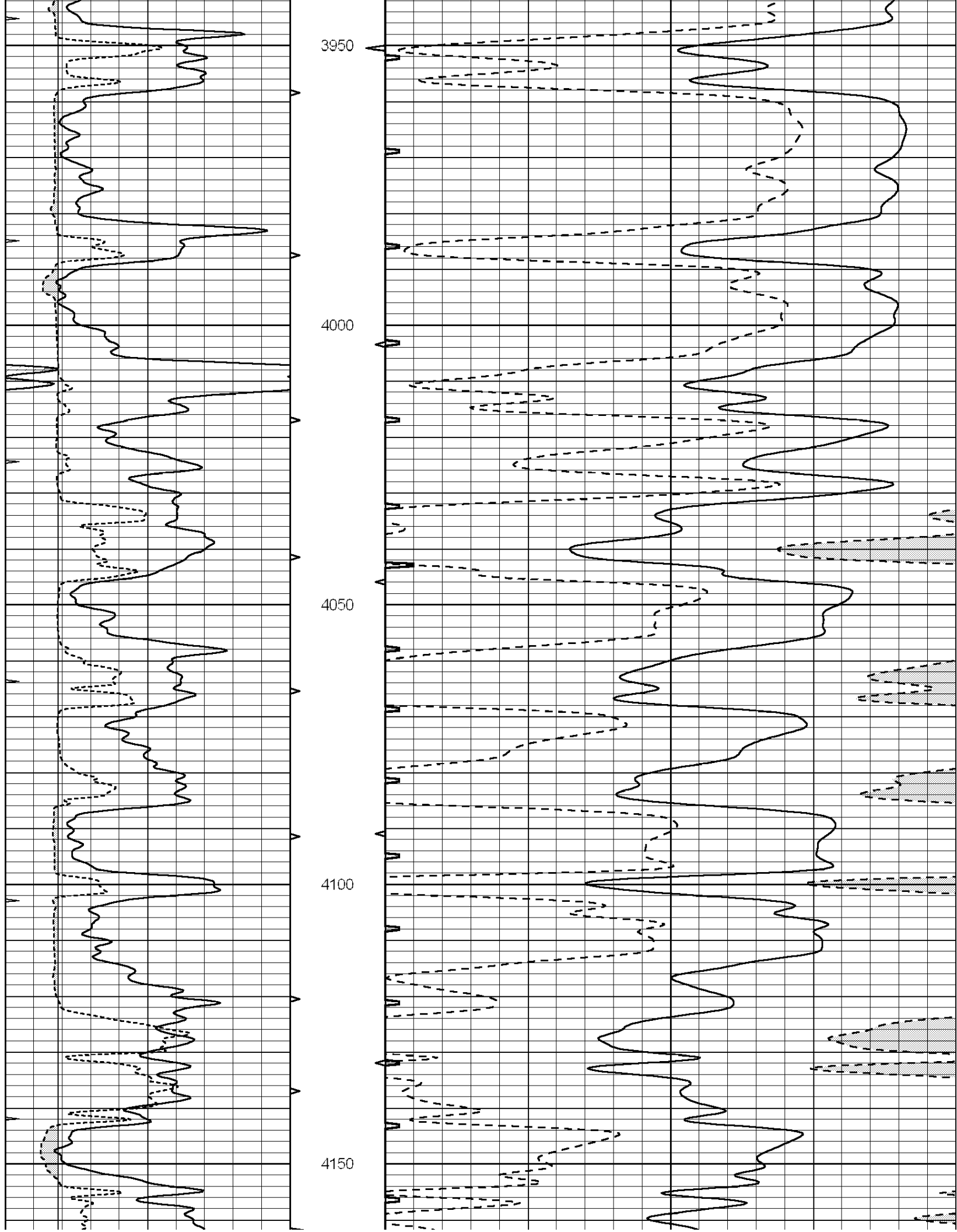
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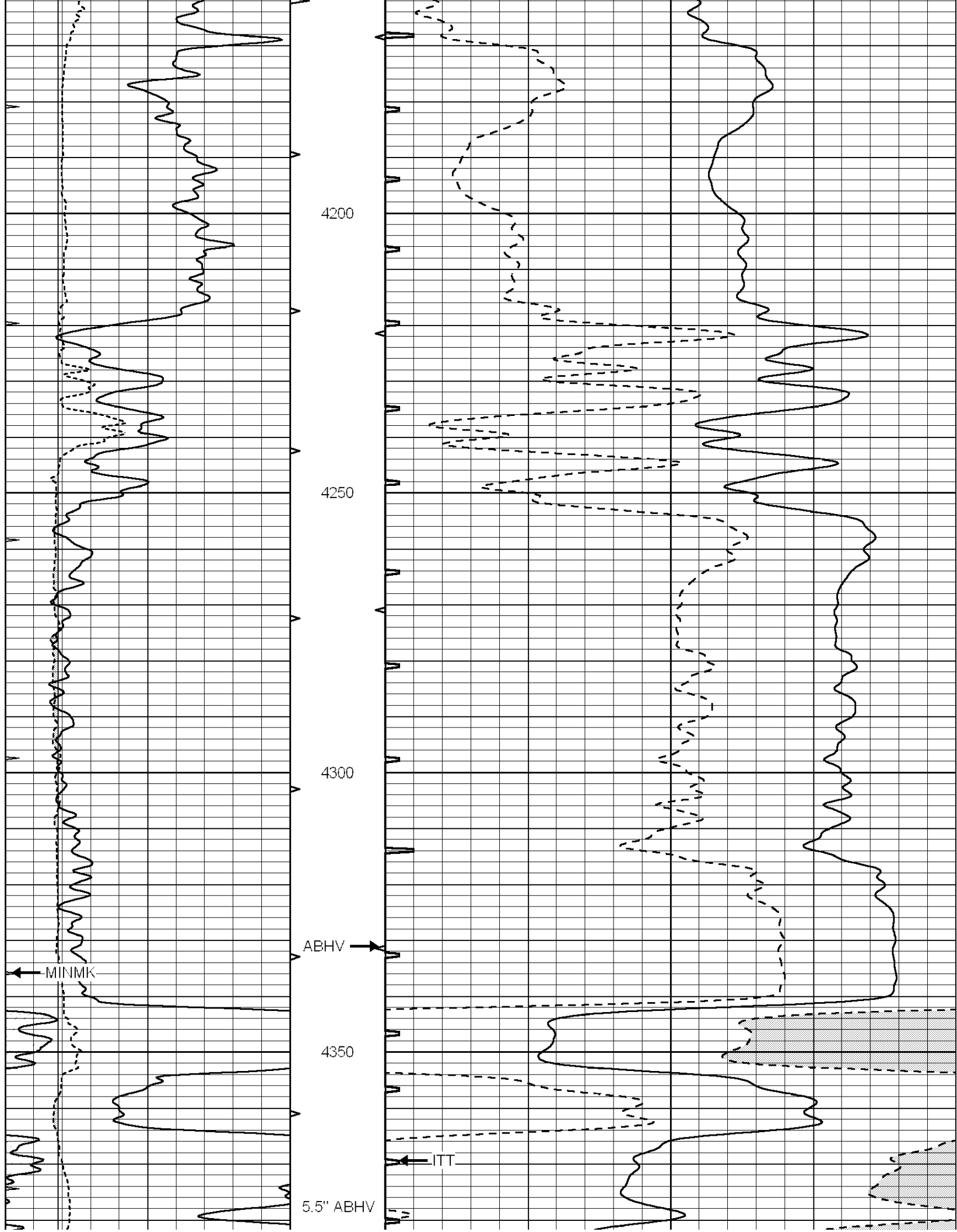
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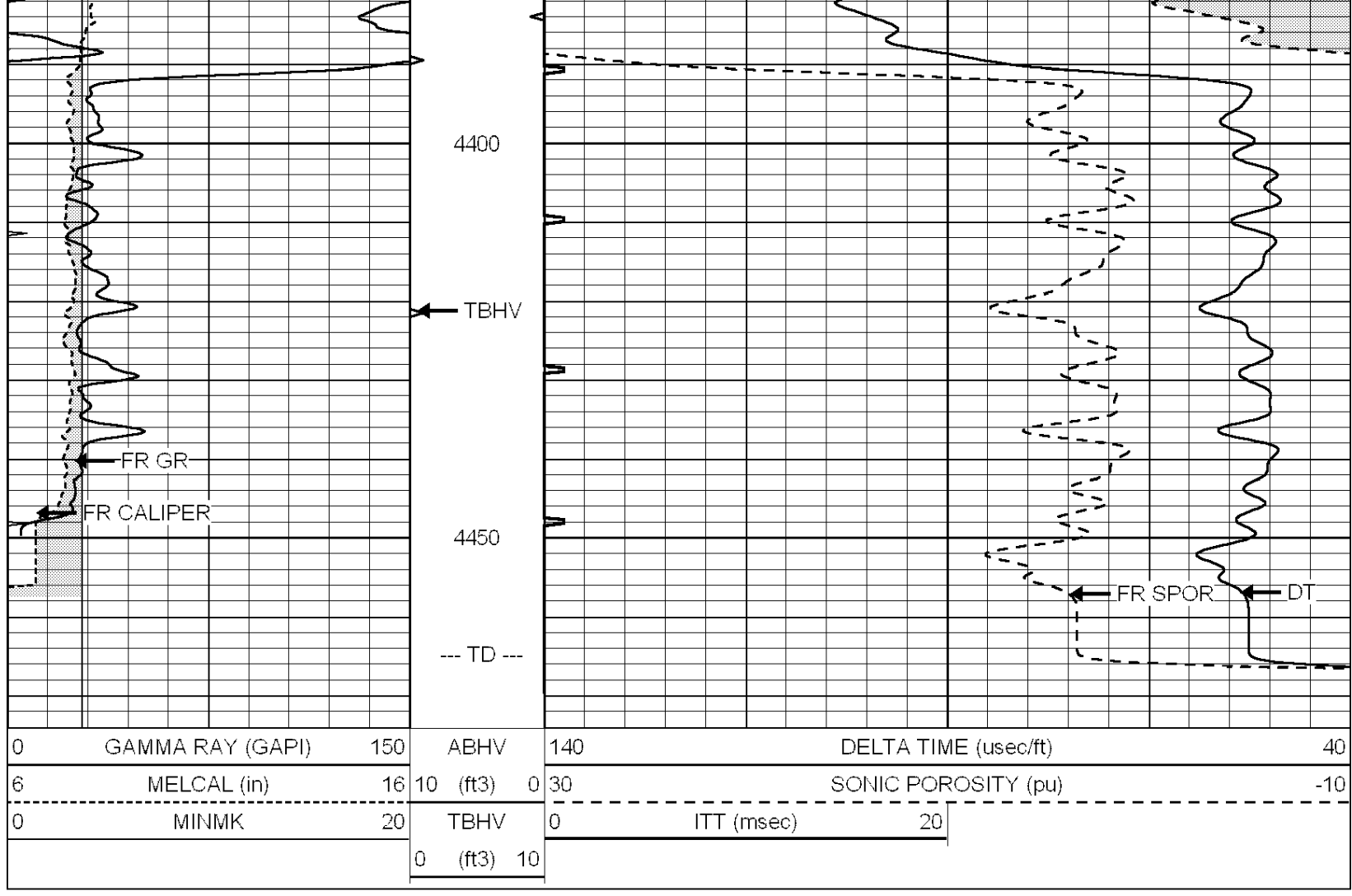
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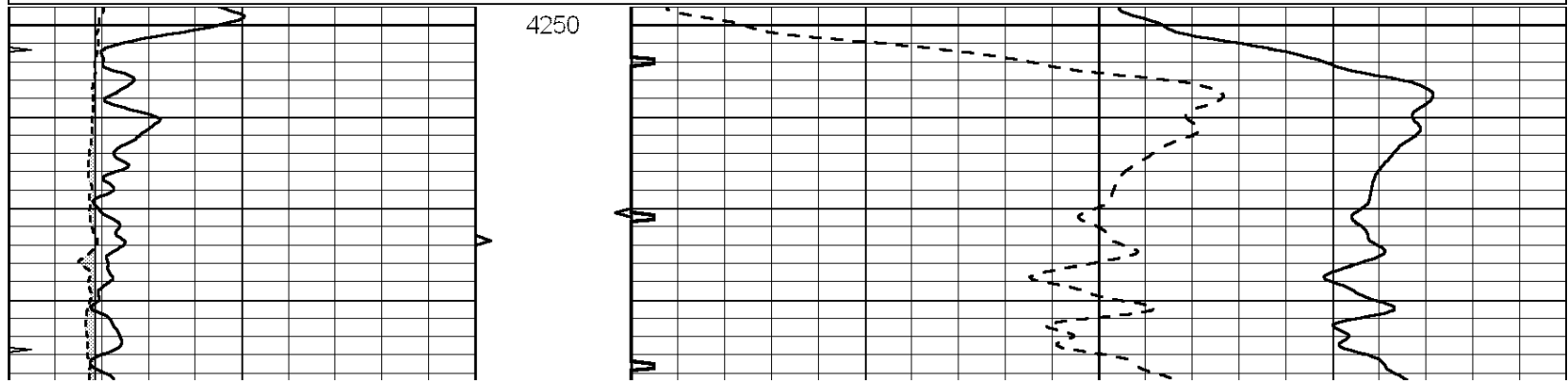


SUPERIOR  
Hays,  
Kansas

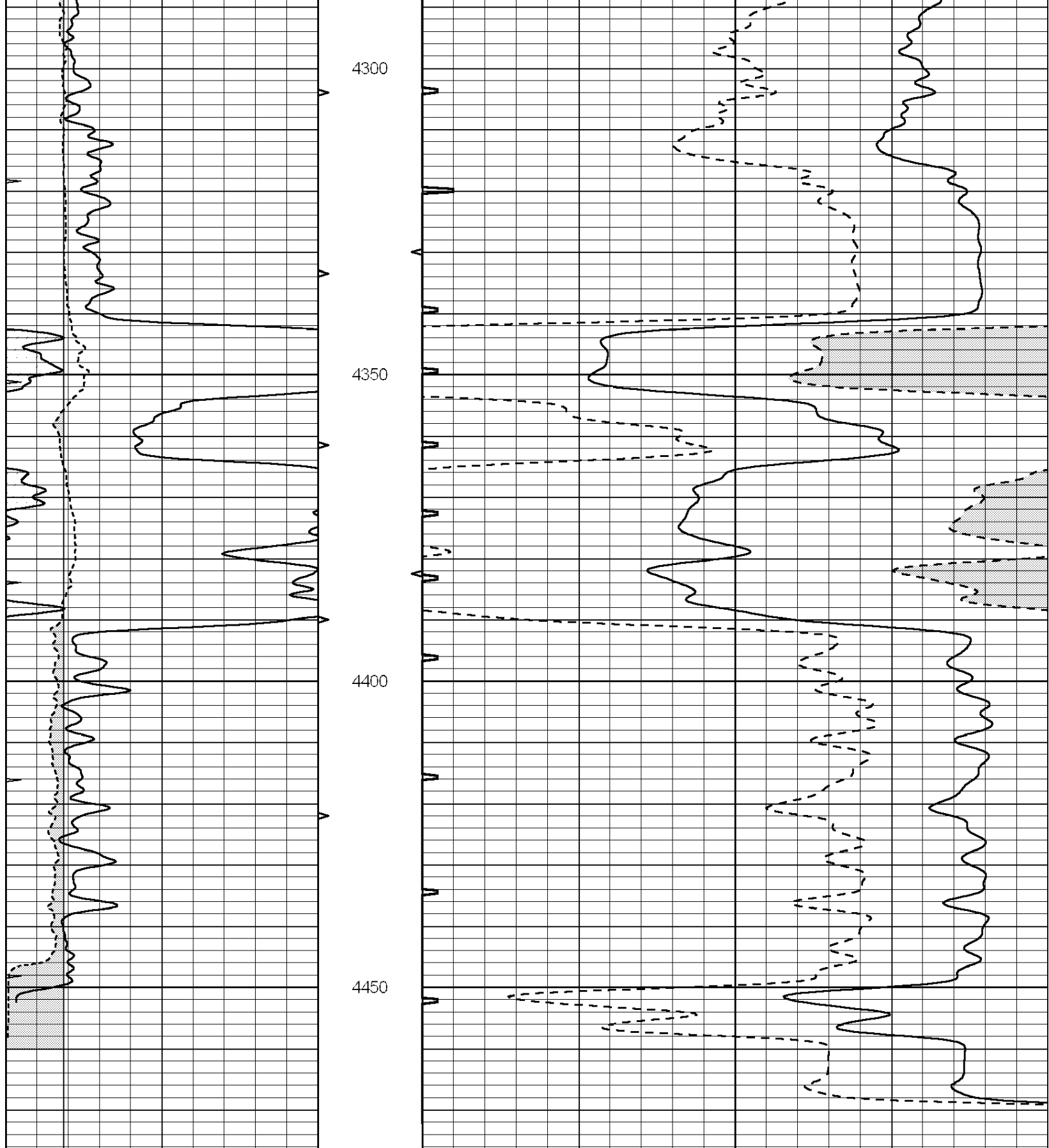
# REPEAT SECTION

Database File: 008009ddn.db  
 Dataset Pathname: pass4.1  
 Presentation Format: slt  
 Dataset Creation: Mon Nov 14 09:05:04 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

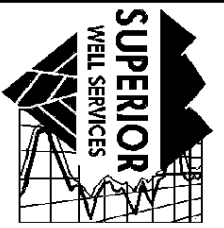
0	GAMMA RAY (GAPI)	150	ABHV	140	DELTA TIME (usec/ft)	40
6	MELCAL (in)	16	10 (ft3)	0 30	SONIC POROSITY (pu)	-10
0	MINMK	20	TBHV	0	ITT (msec)	20
			0 (ft3)	10		







0	GAMMA RAY (GAPI)	150	ABHV	140	DELTA TIME (usec/ft)	40
6	MELCAL (in)	16	10 (ft3)	0	SONIC POROSITY (pu)	-10
0	MINMK	20	TBHV	0	ITT (msec)	20
			0 (ft3)	10		



**SUPERIOR  
Hays,  
Kansas**

**COMPENSATED  
DENSITY / NEUTRON  
LOG**

Company CAERUS KANSAS, LLC.  
Well WATERS #8-34  
Field  
County STAFFORD State KANSAS

Company CAERUS KANSAS, LLC.  
Well WATERS #8-34  
Field  
County STAFFORD  
State KANSAS

Location: API #: 15-185-23719  
1208' FSL & 2429' FEL  
SEC 8 TWP 25S RGE 14W  
Permanent Datum GROUND LEVEL Elevation 1982  
Log Measured From KELLY BUSHING 9' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services  
DIL  
SONIC/MEL  
Elevation  
K.B. 1991  
D.F.  
G.L. 1982

Date	11-14-11
Run Number	ONE
Depth Driller	4465
Depth Logger	4465
Bottom Logged Interval	4441
Top Log Interval	3300
Casing Driller	263
Casing Logger	263
Bit Size	7.875
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	8.8 / 66
pH / Fluid Loss	10.5 / 8.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.45 @ 82F
Rmf @ Meas. Temp	0.34 @ 82F
Rmc @ Meas. Temp	0.54 @ 82F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.310 @ 119F
Time Circulation Stopped	3 HOURS
Time Logger on Bottom	6:45 A.M.
Maximum Recorded Temperature	119F
Equipment Number	860
Location	HAYS, KS.
Recorded By	RUPP
Witnessed By	JEFF LAWLER

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

SUPERIOR WELL SERVICES  
785-628-6395  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS: MACKVILLE, 5E TO BLACKTOP, 4 3/4S, W INTO.

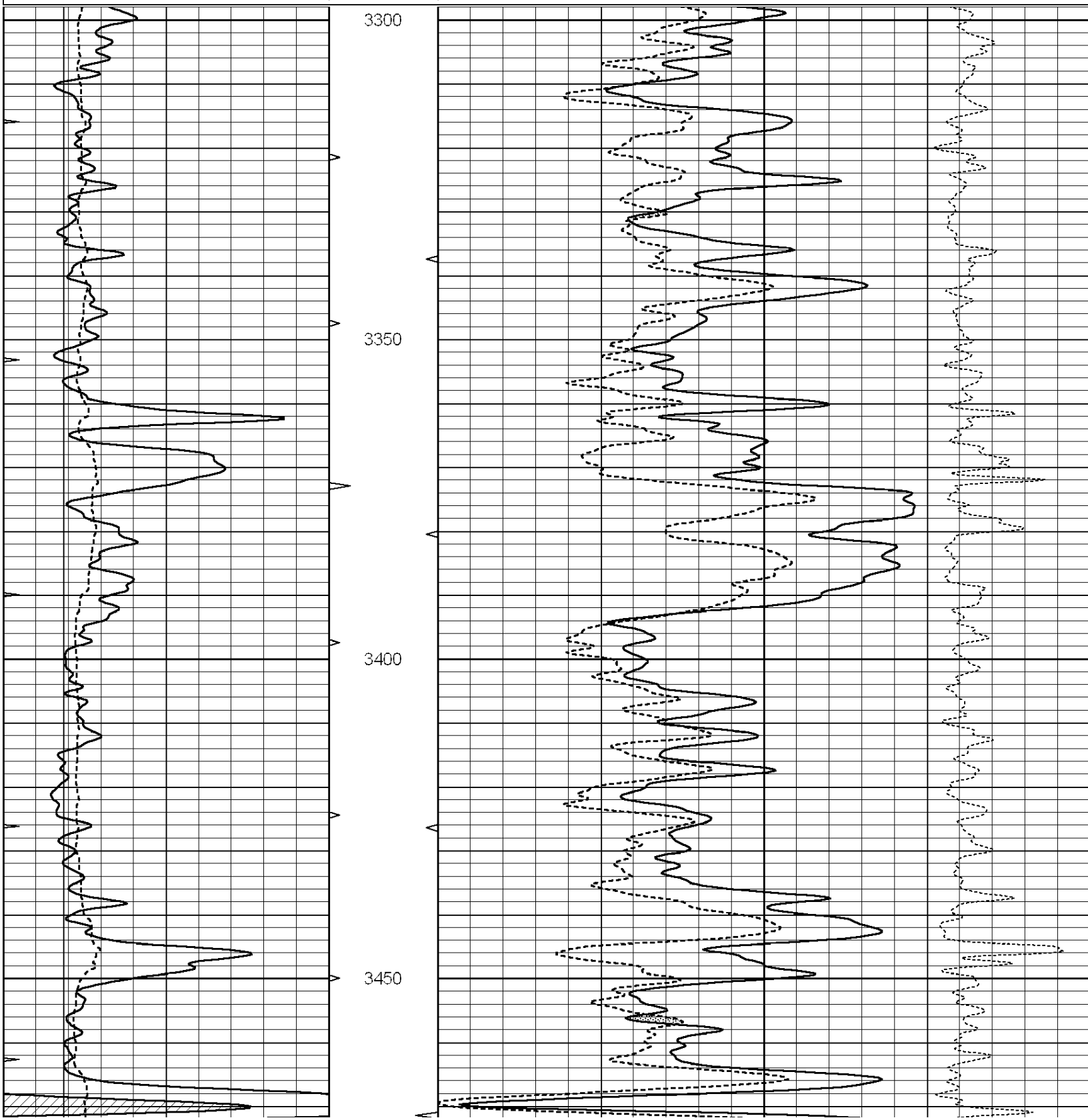


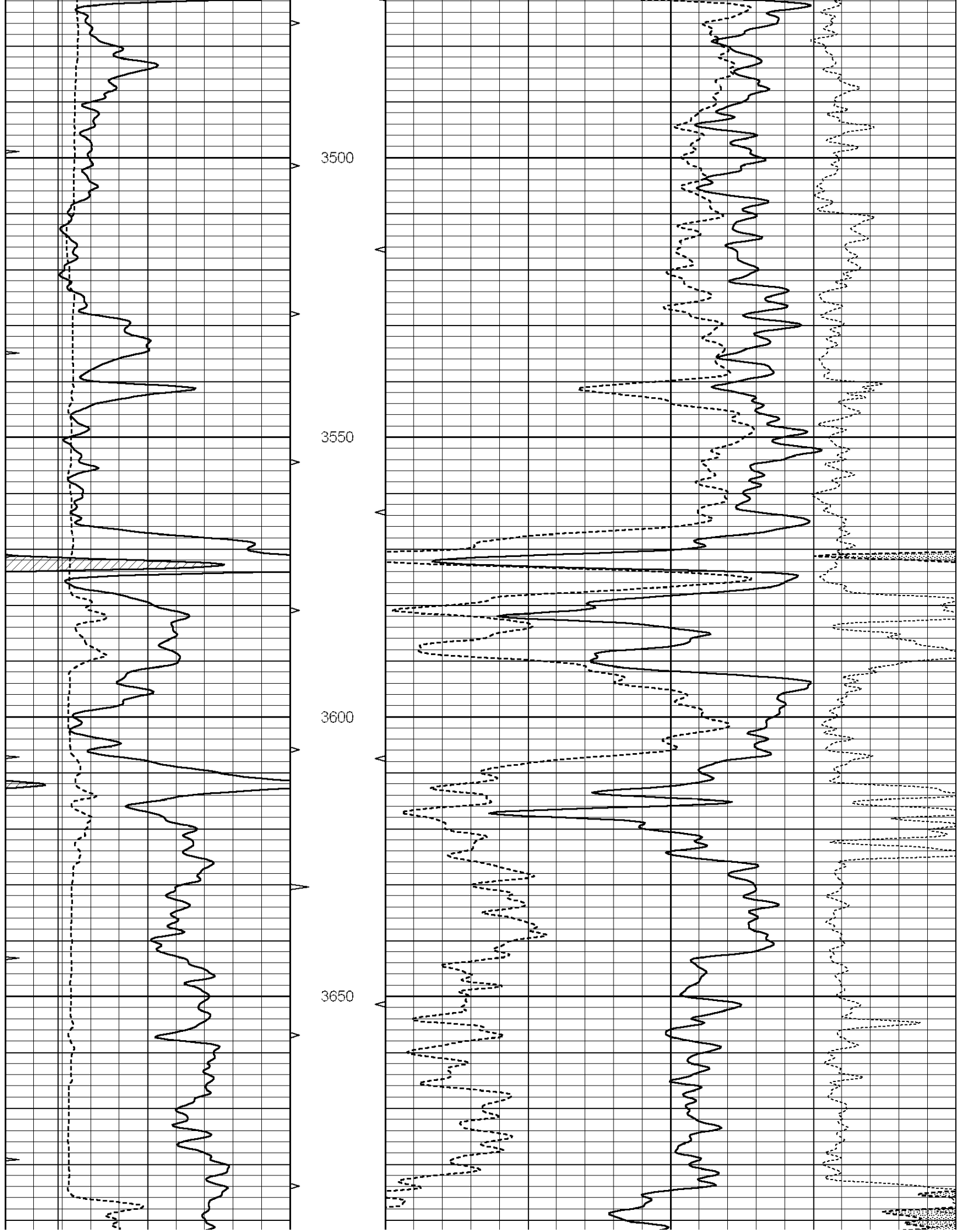
**SUPERIOR  
Hays,  
Kansas**

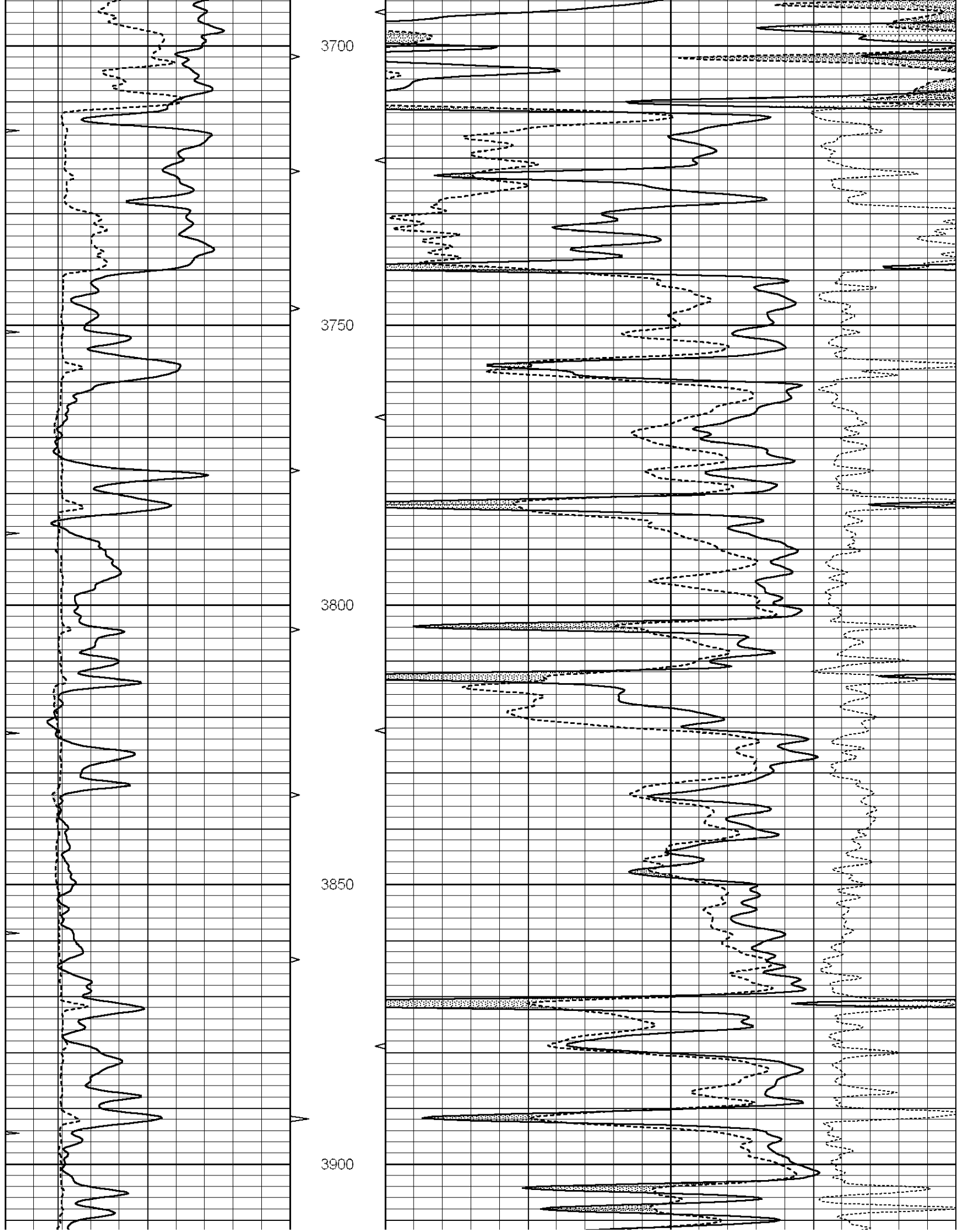
**MAIN SECTION**

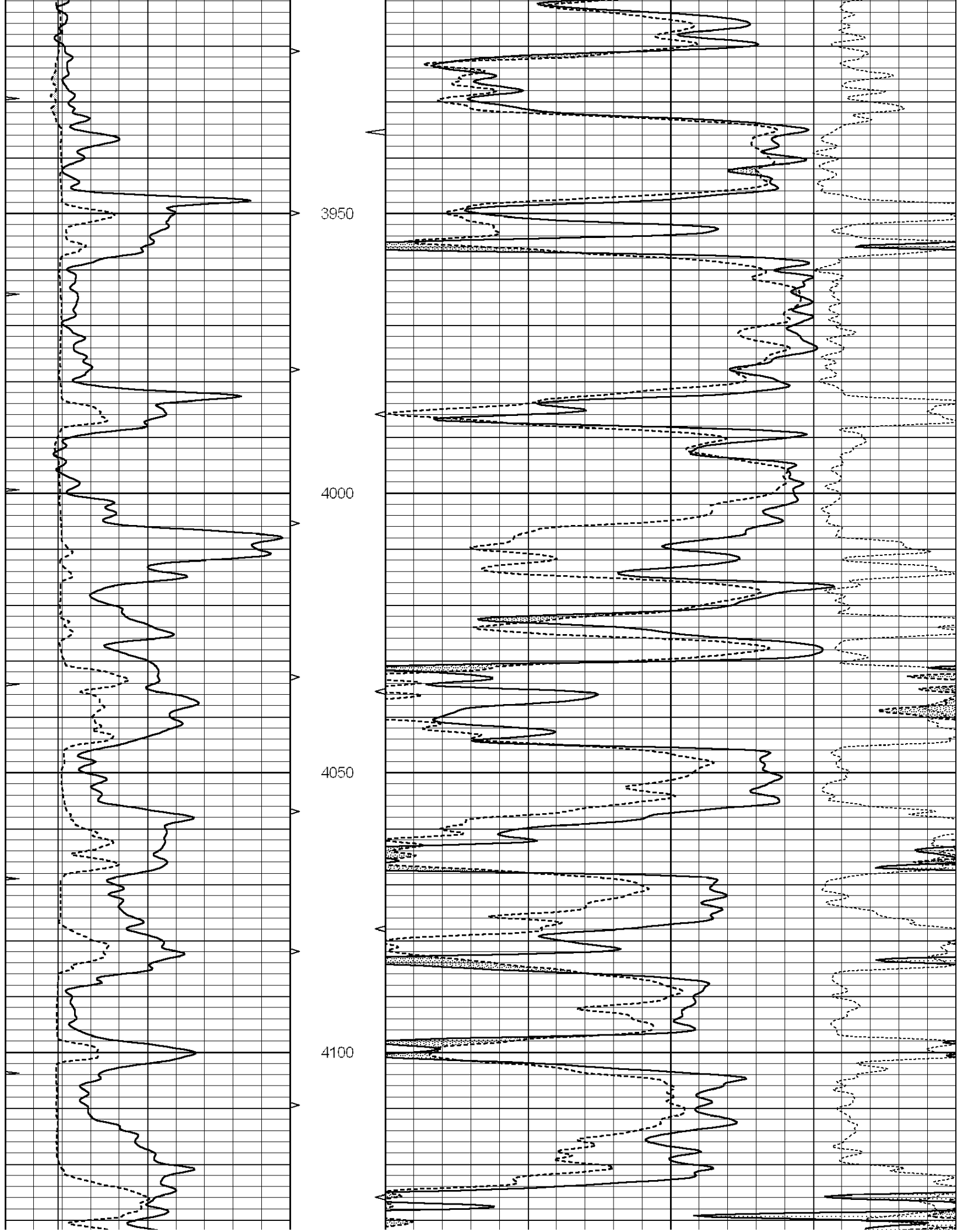
Database File: 008009ddn.db  
 Dataset Pathname: pass3.1  
 Presentation Format: den\_neu  
 Dataset Creation: Mon Nov 14 08:02:27 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

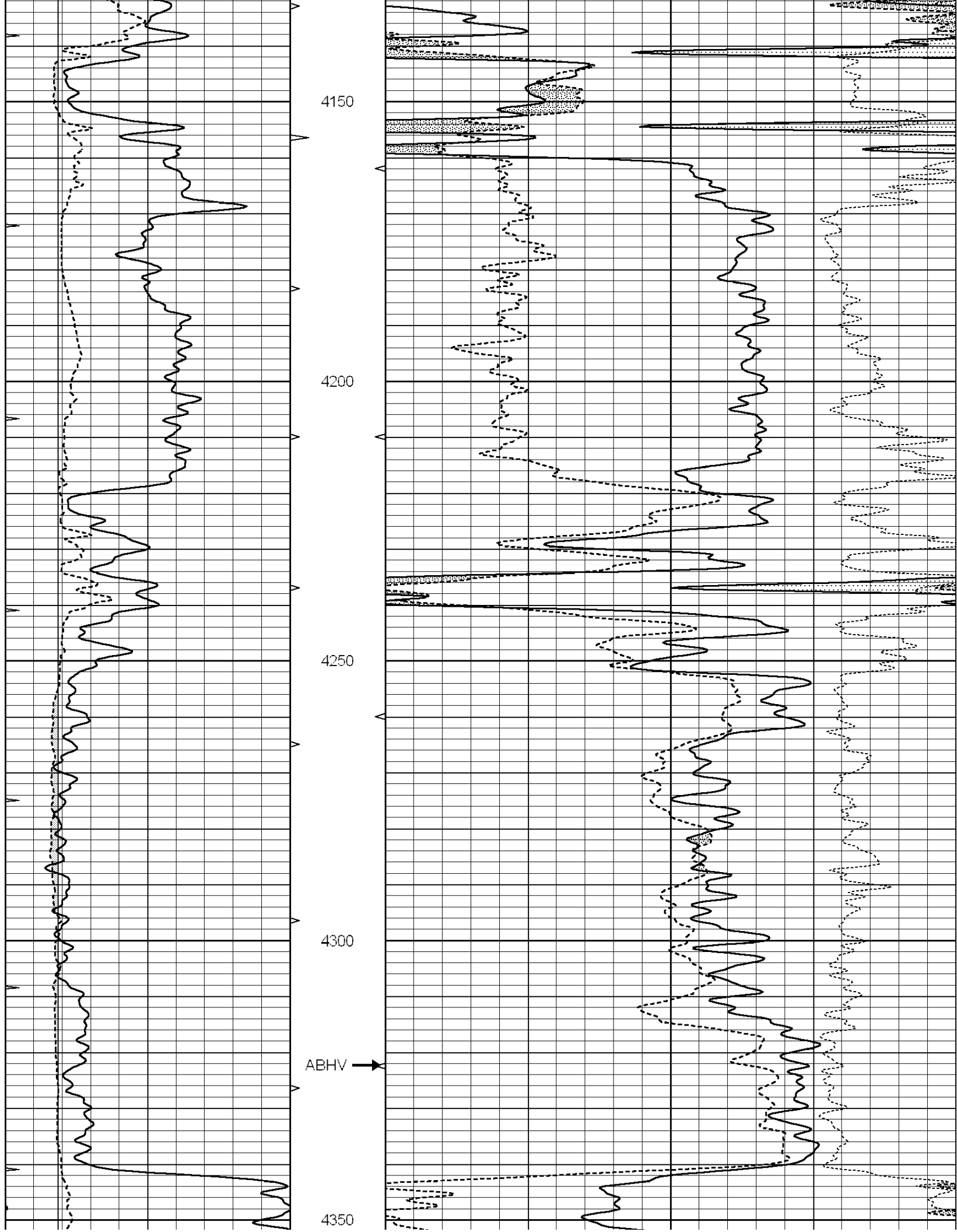
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6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

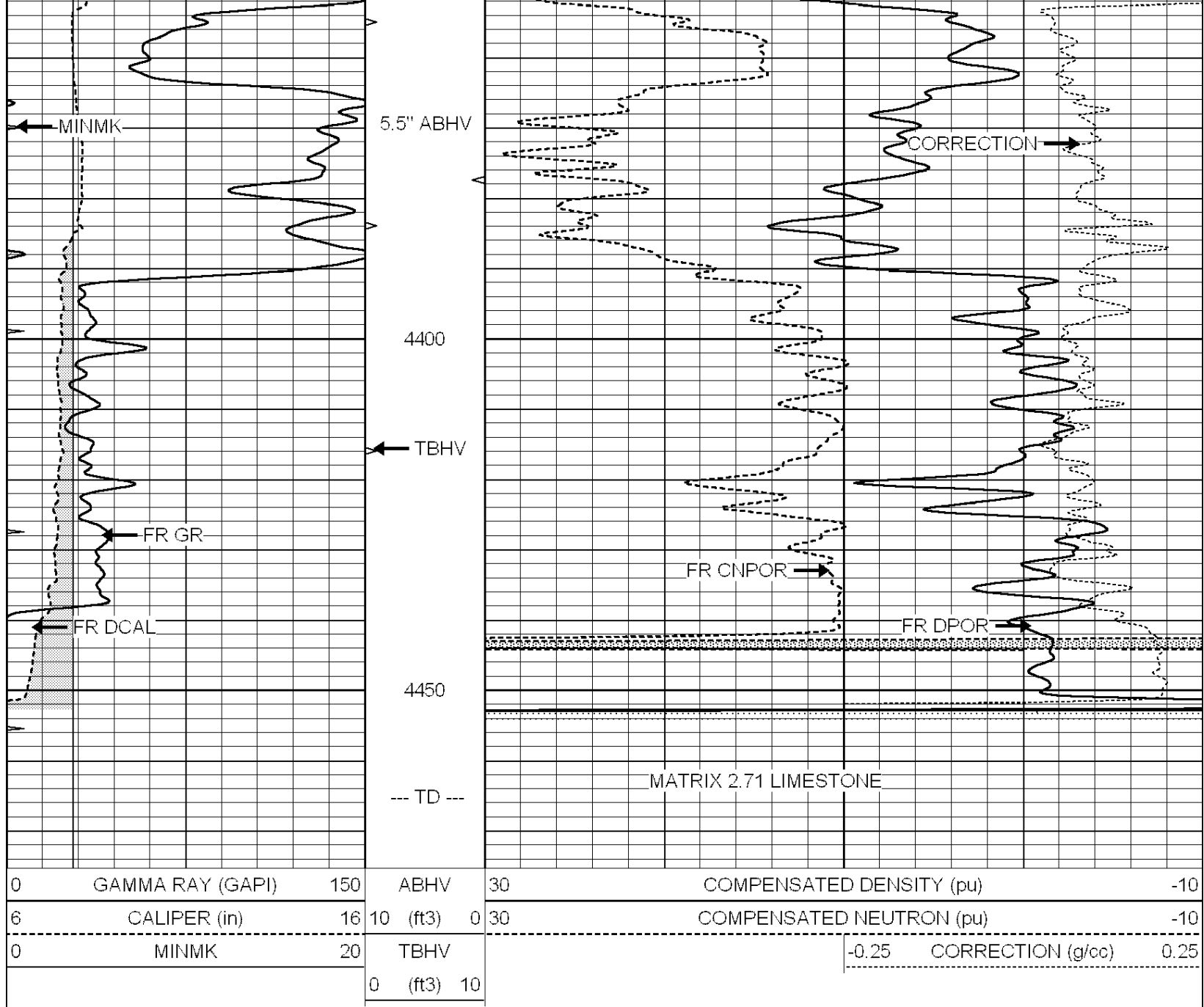










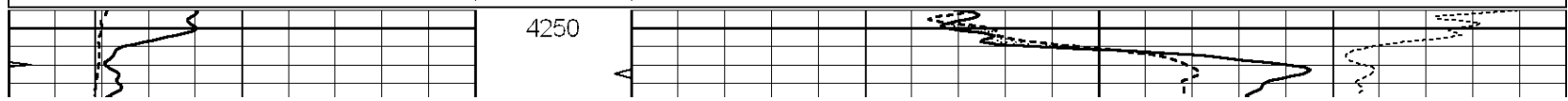


**SUPERIOR WELL SERVICES** Hays, Kansas

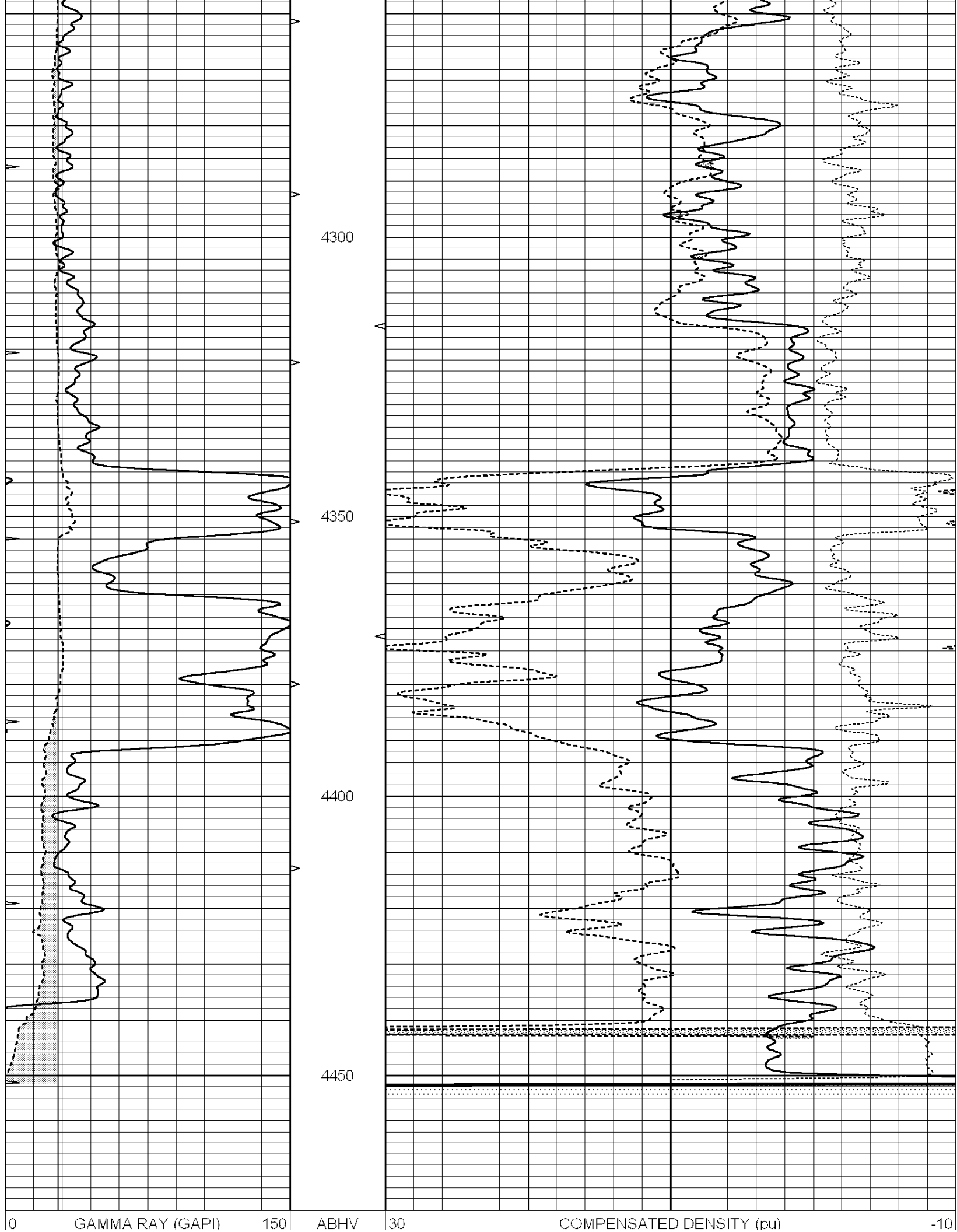
# REPEAT SECTION

Database File: 008009ddn.db  
 Dataset Pathname: pass2.1  
 Presentation Format: den\_neu  
 Dataset Creation: Mon Nov 14 08:15:03 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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







6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV			-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10			

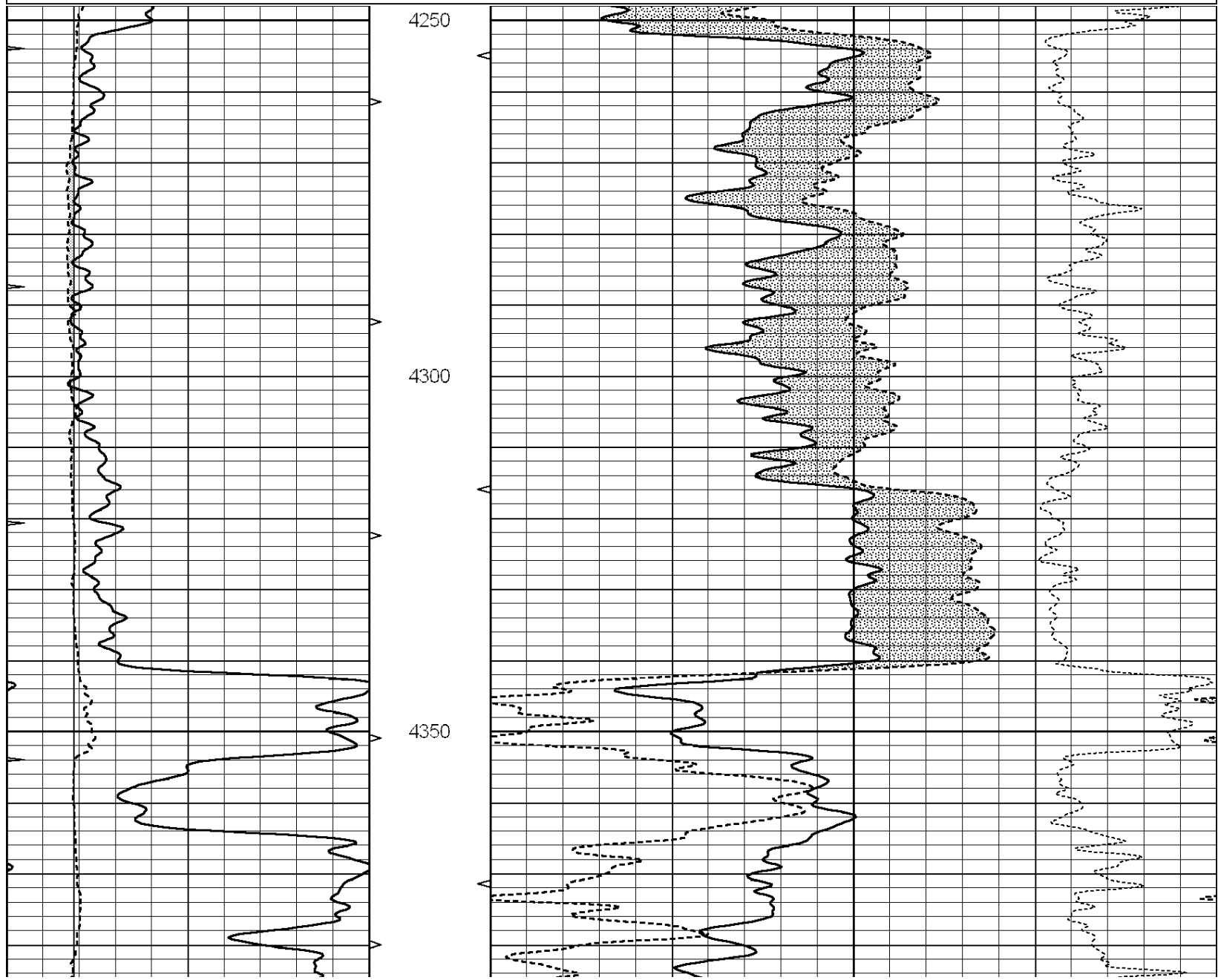


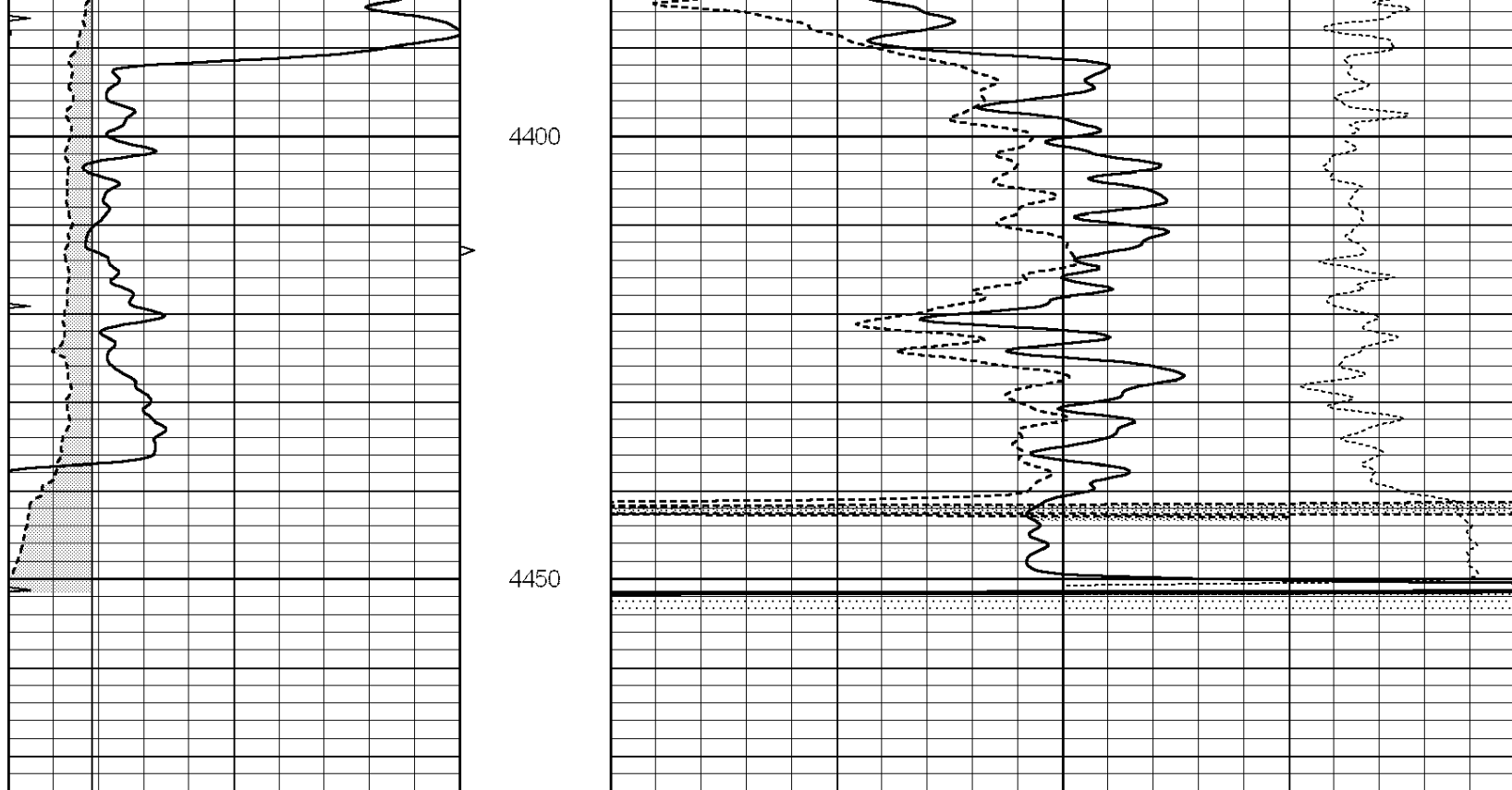
SUPERIOR  
Hays,  
Kansas

# DOLOMITE MATRIX 2.87

Database File: 008009ddn.db  
 Dataset Pathname: pass2.D  
 Presentation Format: den\_neu  
 Dataset Creation: Mon Nov 14 08:29:47 2011 by Calc Open-Cased 090629  
 Charted by: Depth in Feet scaled 1:240

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





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

### Calibration Report

Database File: 008009ddn.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Mon Nov 14 08:02:27 2011 by Calc Open-Cased 090629

### Dual Induction Calibration Report

Serial-Model: DIL5-GEAR  
 Performed: Mon Nov 14 06:23:01 2011

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	530.000	-18.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	550.000	-13.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

### Compensated Density Calibration Report

Serial-Model: GEAR1-GEARHART  
 Source / Verifier: 147 / 147  
 Master Calibration Performed: Mon Nov 14 06:22:48 2011

### Master Calibration

	Density		Far Detector	Near Detector
Magnesium	1.710	also	1243.76	620.14

Magnesium	1.710	g/cc	1243.70	0.2914	cps
Aluminum	2.590	g/cc	282.16	435.01	cps

Spine Angle = 76.03

Density/Spine Ratio = 0.576

	Size		Reading	
Small Ring	8.30	in	3.15	V
Large Ring	13.00	in	4.72	V

Compensated Neutron Calibration Report

Serial Number: NUC\_21  
 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: GR5  
 Tool Model: OPEN  
 Performed: Mon Nov 14 07:12:39 2011

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6500 GAPI/cps