

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**Form must be Typed**

**Form must be Signed**

**All blanks must be Filled**

**WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # \_\_\_\_\_

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

Gas  DH  EOR

OG  GSW

CM (Coal Bed Methane)

Cathodic  Other (Core, Expl., etc.): \_\_\_\_\_

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

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

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

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

Deepening  Re-perf.  Conv. to EOR  Conv. to SWD  
 Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

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  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

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 Geologist Report / Mud Logs <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				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

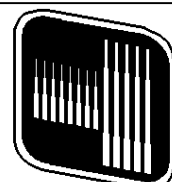
TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Mid-Continent Energy Corp.
Well Name	Rogers 1
Doc ID	1283435

All Electric Logs Run

composite
micro
phased induction
compensated neutron





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ENERGY SERVICES

**MICRO LOG**

<b>Company</b> MID-CONTINENT ENERGY CORP. <b>Well</b> ROGERS #1 <b>Field</b> WENGER <b>County</b> MARION <b>State</b> KANSAS <b>Country</b> USA <b>API No.</b> 15-115-21501-0000			<b>File No</b> : TUL-60745 <b>Company</b> : MID-CONTINENT ENERGY CORP. <b>Well</b> : ROGERS #1 <b>Field</b> : WENGER <b>County</b> : MARION <b>State</b> : KANSAS <b>Country</b> : USA <b>API No</b> : 15-115-21501-0000		
<b>Location</b> : 1320 FSL & 990 FFWL E/2 W/2 SW			<b>LSD</b> : <b>Sect</b> : 11 <b>Twp</b> : 21S <b>Rge</b> : 3E		
<b>Permanent Datum:</b> GL <b>Drilling Measured From:</b> KB <b>Log Measured From:</b> KB <b>Above Permanent Datum:</b> 5.00 Ft			<b>Elevations:</b> KB 1394.00 Ft DF 1393.00 Ft GL 1389.00 Ft		
<b>Date</b> 12-16-2015			<b>Services:</b> CNT LDT MLT		
<b>Run Number</b>	1				
<b>Depth--Driller</b>	3050.0	Ft			
<b>Depth--Logger</b>	30500.0	Ft			
<b>First Reading</b>	3027.0	Ft			
<b>Last Reading</b>	218.0	Ft			
<b>Casing--Driller</b>	218.0	Ft			
<b>Casing--Logger</b>	218.0	Ft			
<b>Bit Size</b>	7.875	in			
<b>Casing Size</b>	8.625	in			
<b>Hole Fluid Type</b>	WBM				
<b>Density</b>	9.3				
<b>Fluid Loss</b>	8.4				
<b>PH/Viscosity</b>	10.5	46.0			
<b>Sample Source</b>	MEASURED				
<b>RMF@Measured Temp.</b>	2.000	@ 70 F			
<b>RMF@Measured Temp</b>	1.600	@ 70 F			
<b>RMC@Measured Temp.</b>	2.400	@ 70 F			
<b>Source RMF/RMC</b>	CALCULATED/CALCULATED				
<b>RM@BHT</b>	1.380	@ 105 F			
<b>Time Circulation Stopped</b>	12-16-2015 16:30				
<b>Max Recorded Temp.</b>	105	F			
<b>Equipment/Base</b>	1022	TULSA, OK			
<b>Recorded By</b>	SHELDON TYLER				
<b>Witnessed By</b>	BEN LANDES				

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. E. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. E. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings			
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
7.875	3050.00	8.625	32.00	218.00	0.00

<b>Run Number</b>	1		
<b>Date</b>	12-16-2015		
<b>Date/Time On Bottom</b>	12-16-2015 19:30		
<b>Depth to Fluid</b>	0.0	Ft	
<b>Salinity</b>	1200.000		
<b>RMF@BHT</b>	1.100	@ 105 F	
<b>RMC@BHT</b>	1.660	@ 105 F	

Run Number 1

Comments

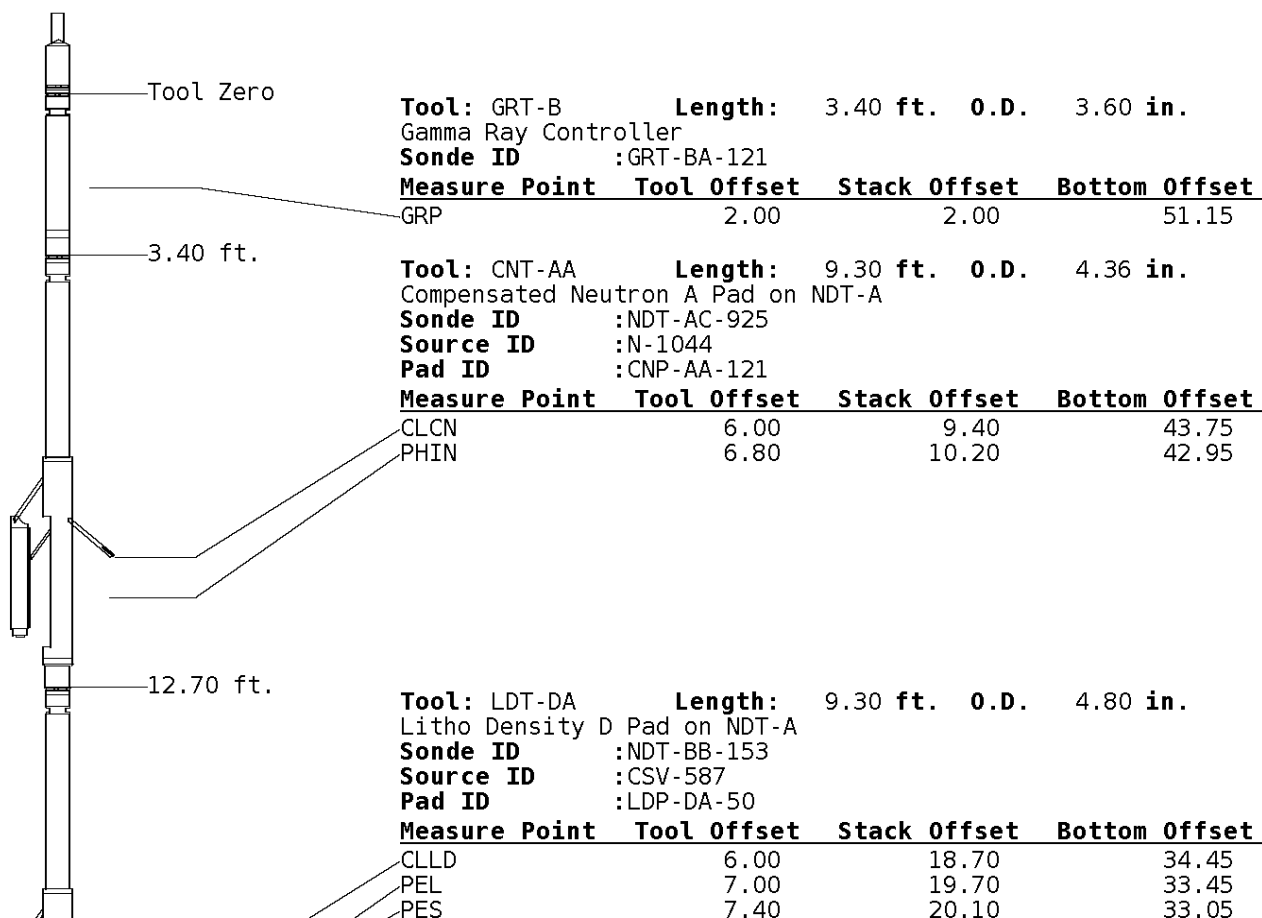
ALL PRESENTATIONS AS PER CUSTOMER REQUEST  
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION  
 CALIPERS ORIENTED ON X-Y AXIS  
 2.71 G/CC USED TO CALCULATE POROSITY  
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING  
 PHIN IS CALIPER CORRECTED

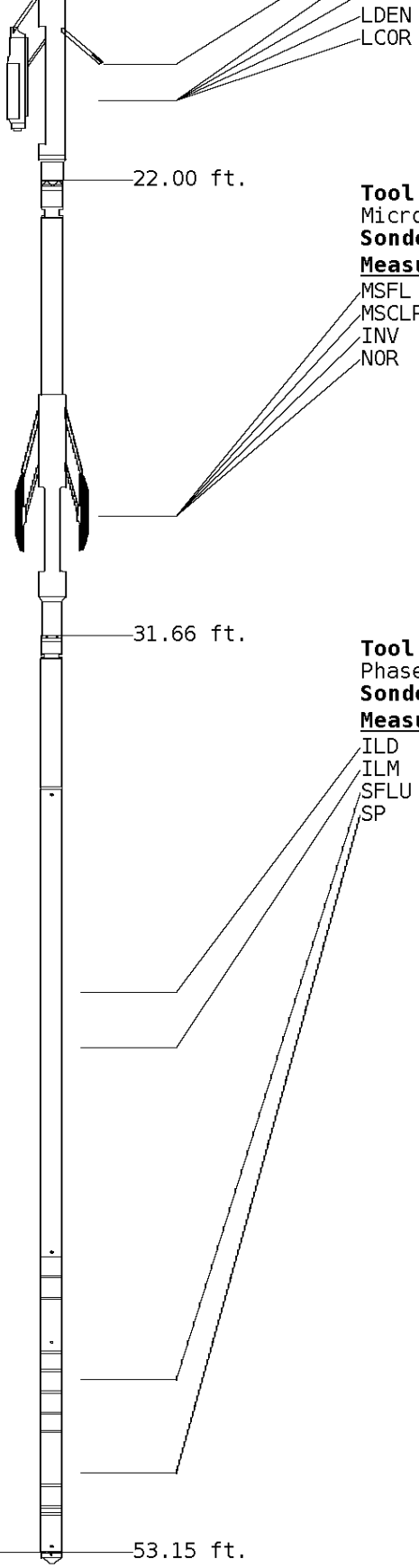
GRT: GRP, GRX  
 CNT: PHIN, CLCNIN, PHXN  
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX  
 MLT: NOR\_RF, INV\_RF, MSCLPIN  
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:  
 B.BROWN  
 J.McCANN

### Tool String Schematic

**Total Tool Length** - 53.15 ft.  
**Maximum Outside diameter** - 6.00 in.  
**Net Weight in Air** - 943.00 lbs.





7.20	19.90	33.25
7.20	19.90	33.25

**Tool:** MST-DA      **Length:** 9.66 ft.    **O.D.** 6.00 in.  
 Micro Spherically Focused (IC)  
**Sonde ID** :MST-DA-25

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.55
MSCLP	7.60	29.60	23.55
INV	7.60	29.60	23.55
NOR	7.60	29.60	23.55

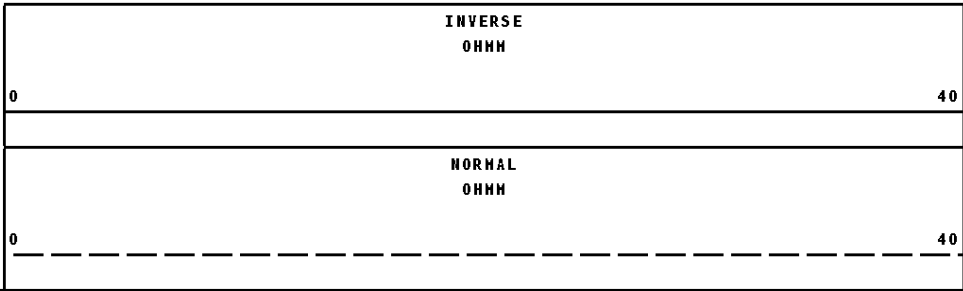
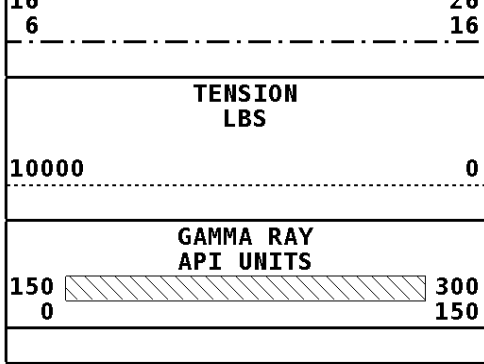
**Tool:** PIT-CA      **Length:** 21.49 ft.    **O.D.** 3.62 in.  
 Phased Dual Induction w/ RM & D  
**Sonde ID** :PIT-CA-075

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	40.58	12.56
ILM	10.10	41.76	11.39
SFLU	17.49	49.15	4.00
SP	20.60	52.26	0.88

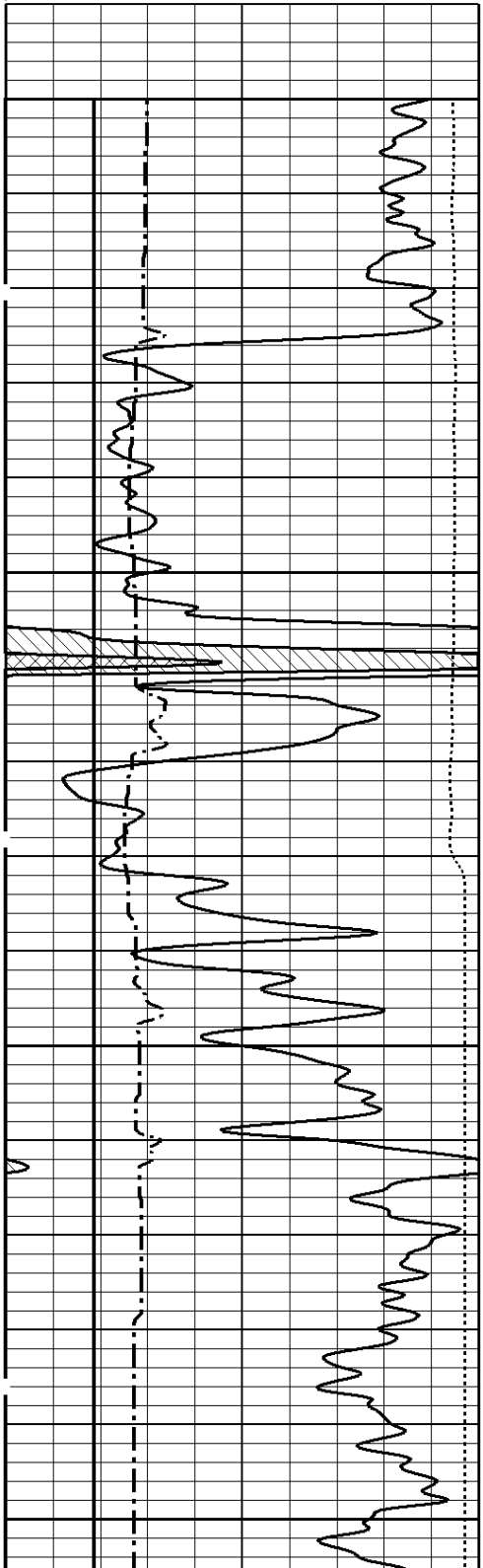
<b>Well File:</b> MID CONTINENT ENERGY ROGERS_1_DEC16_MSTK	<b>Scale:</b> 1:240	<b>Format:</b> MST-240
<b>Segment:</b> V1.D1.S5 AS FINAL MAIN	<b>Acquired:</b> 2015-12/16 19:42 3.4.0-13544	
<b>Reference:</b> 0	<b>Processed:</b> 2015-12/16 19:42 3.4.0-13544	

BIT SIZE INCHES (IN)	
6	16

CALIPER MICRO INCHES (IN)	
16	26

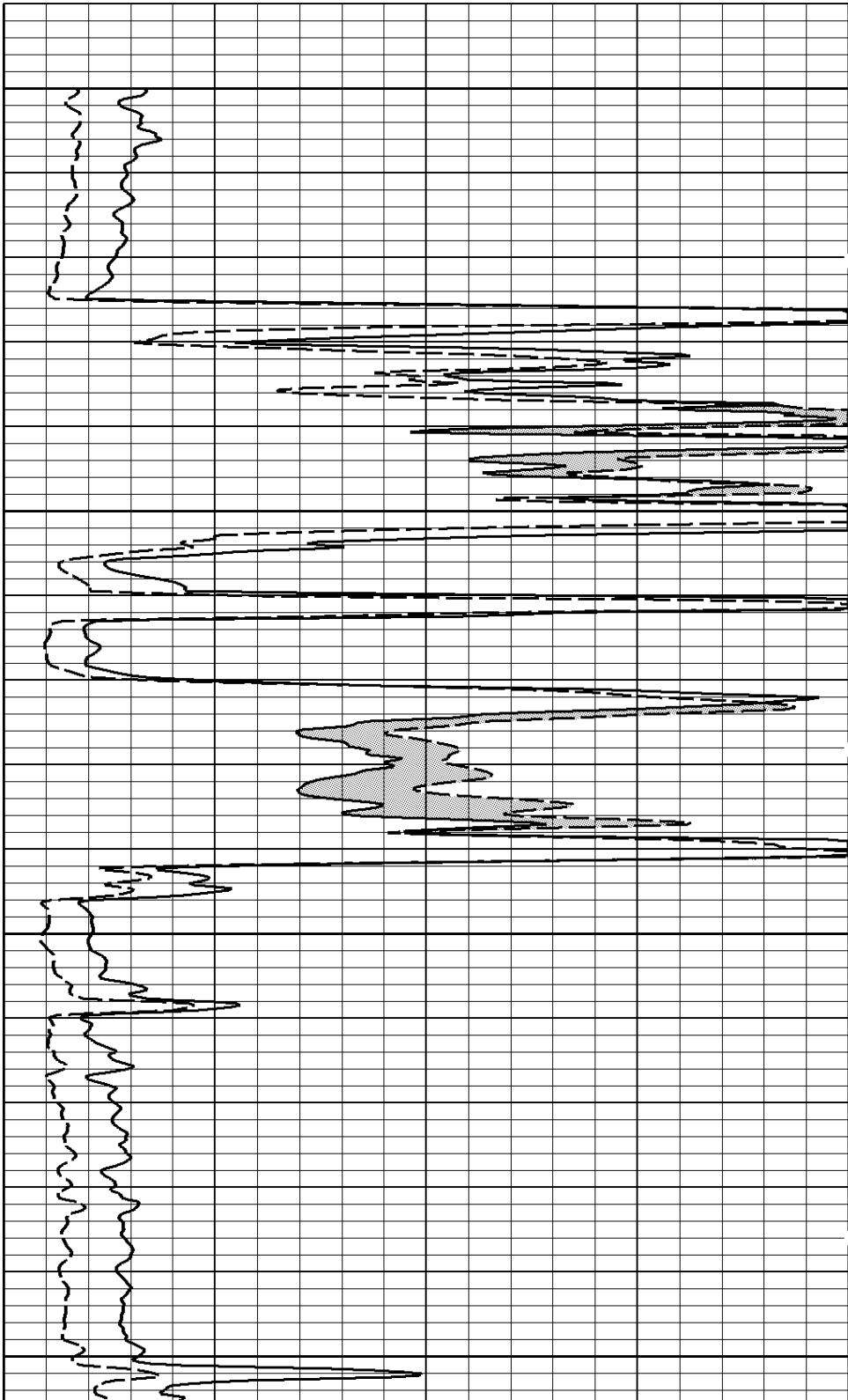


**1:240 MAIN SECTION**

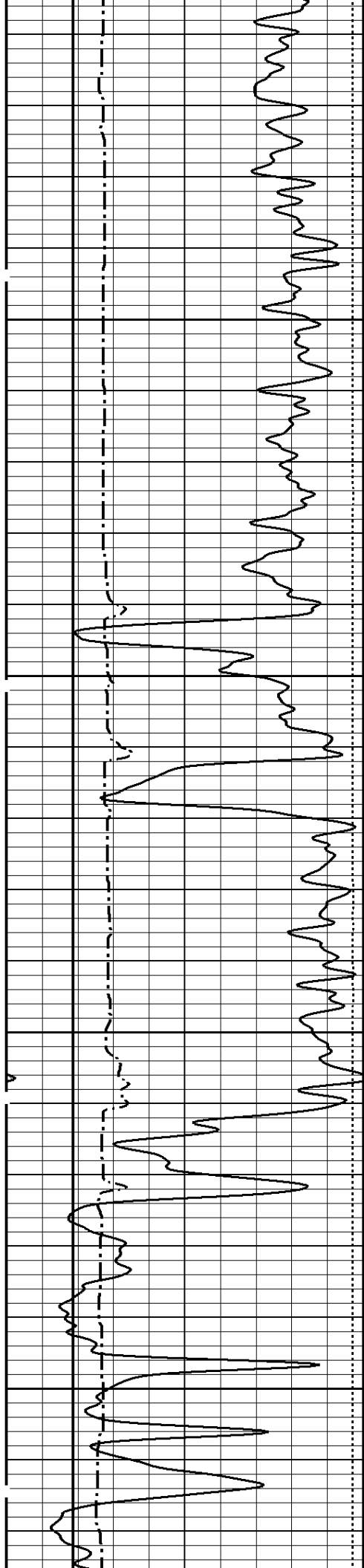


1600

1700

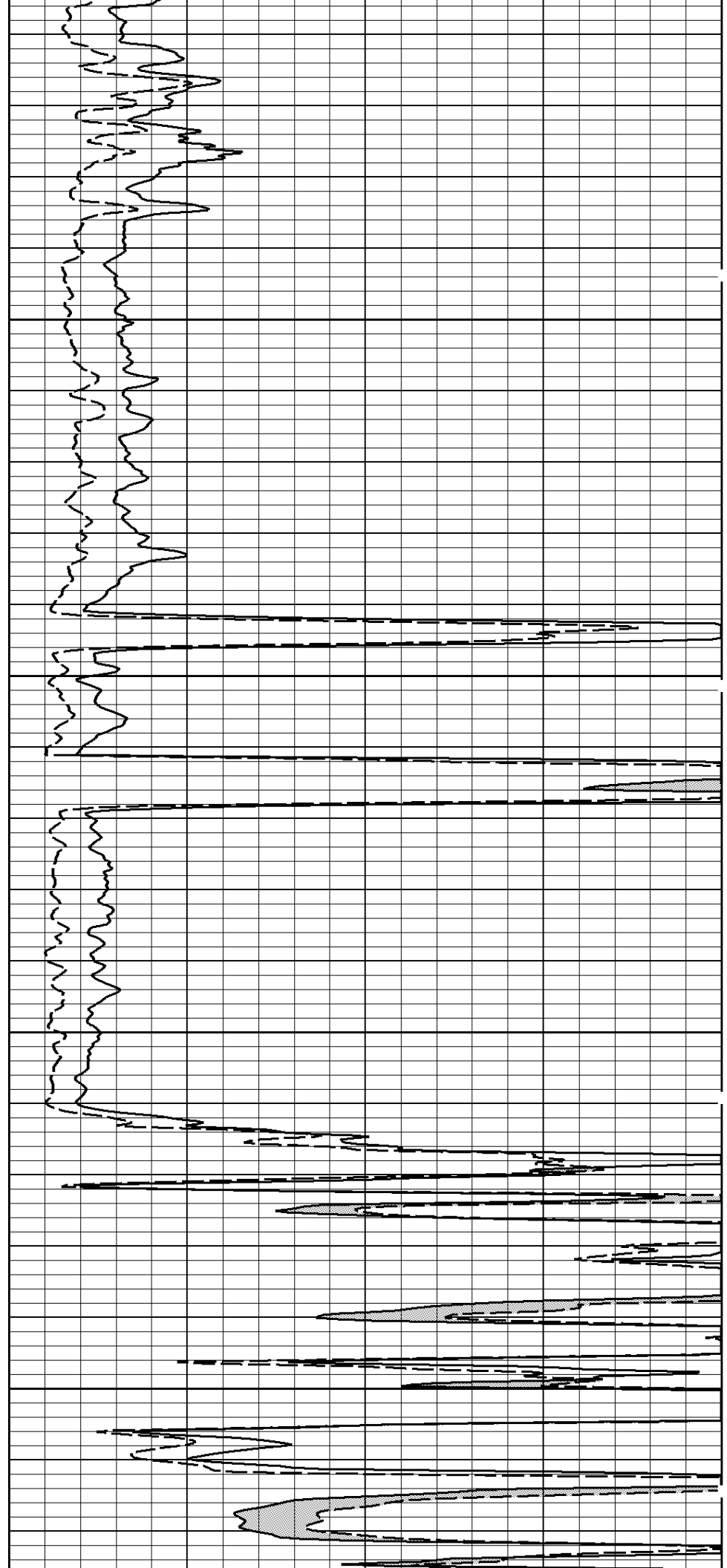


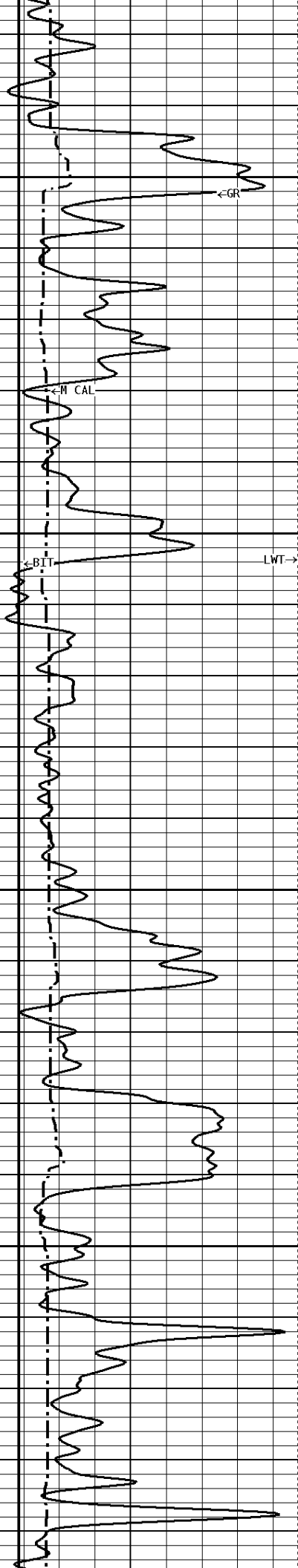




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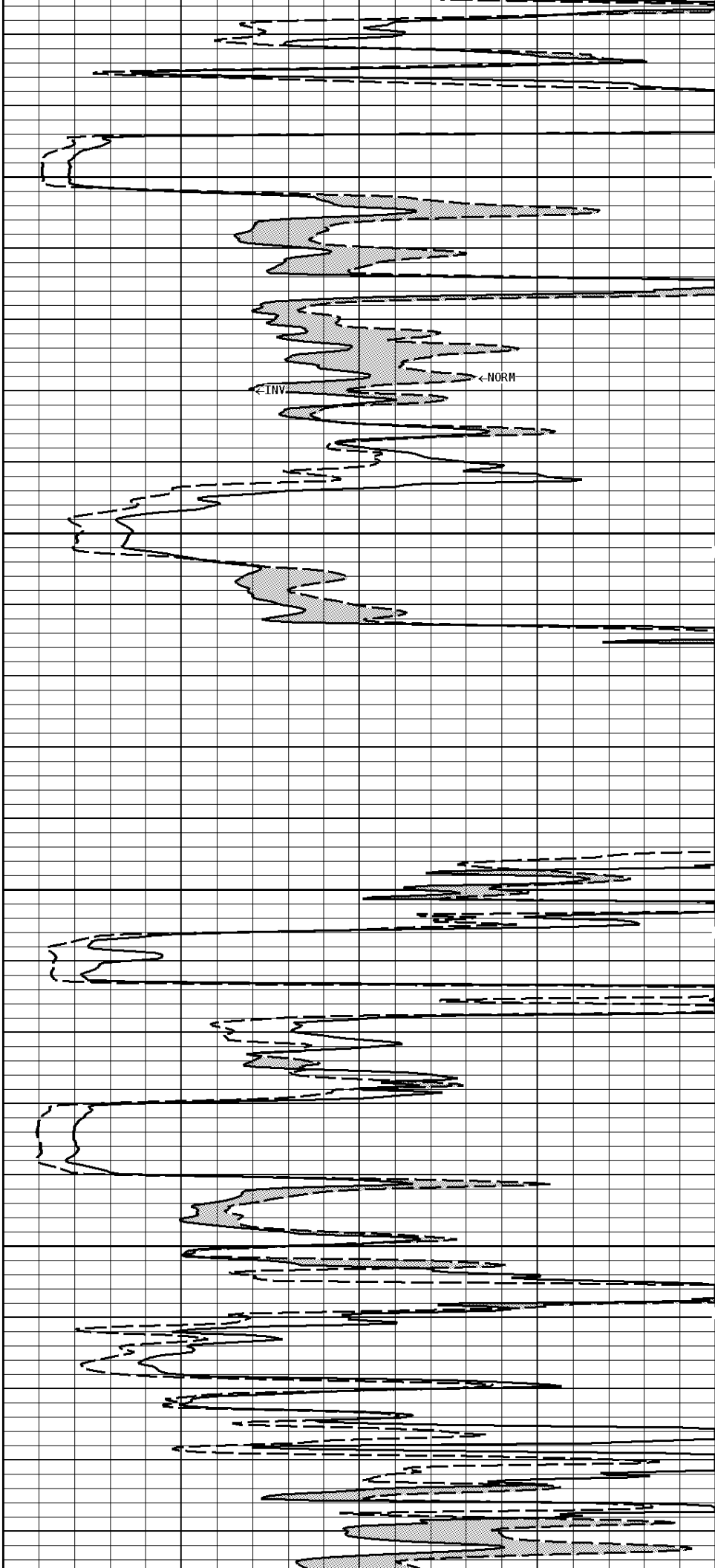
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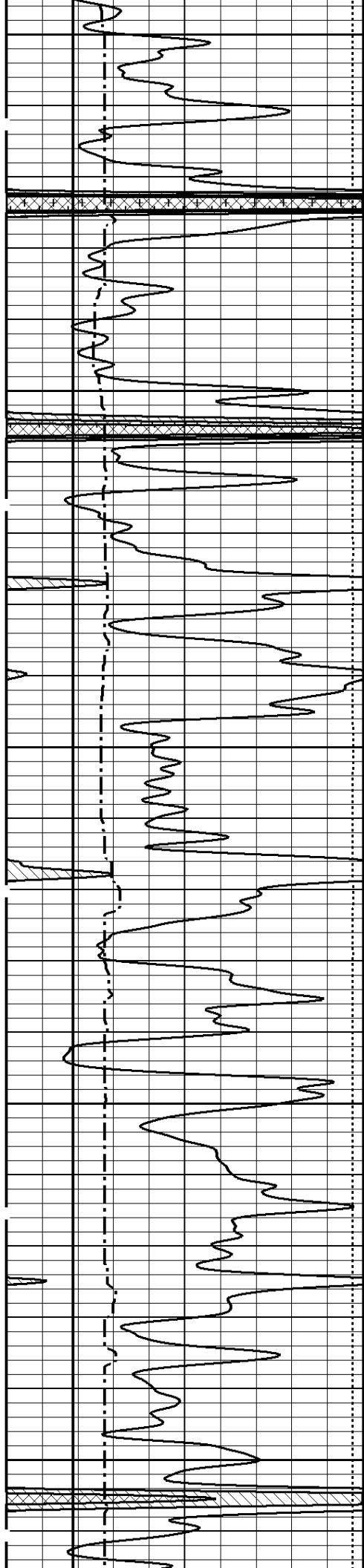




2000

2100

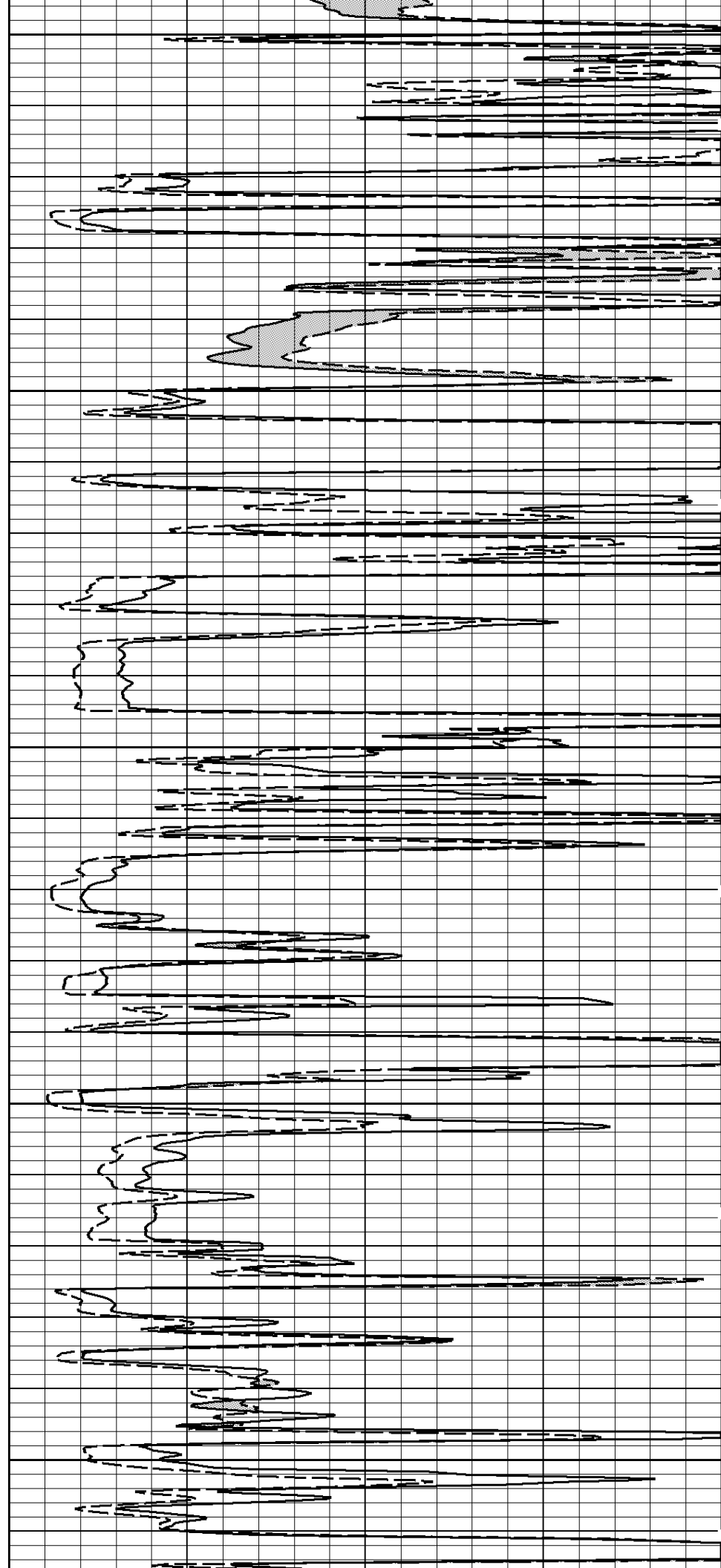


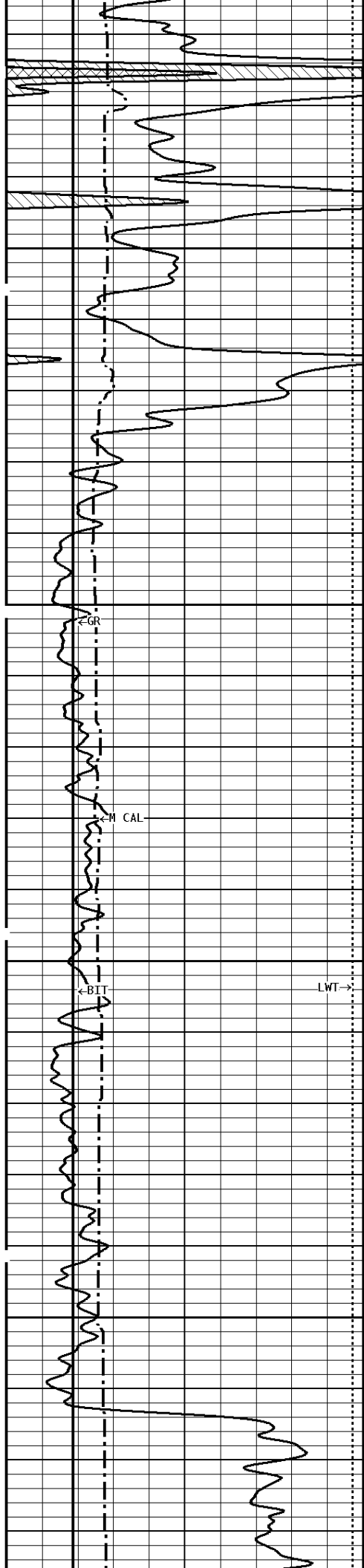


2200

2300

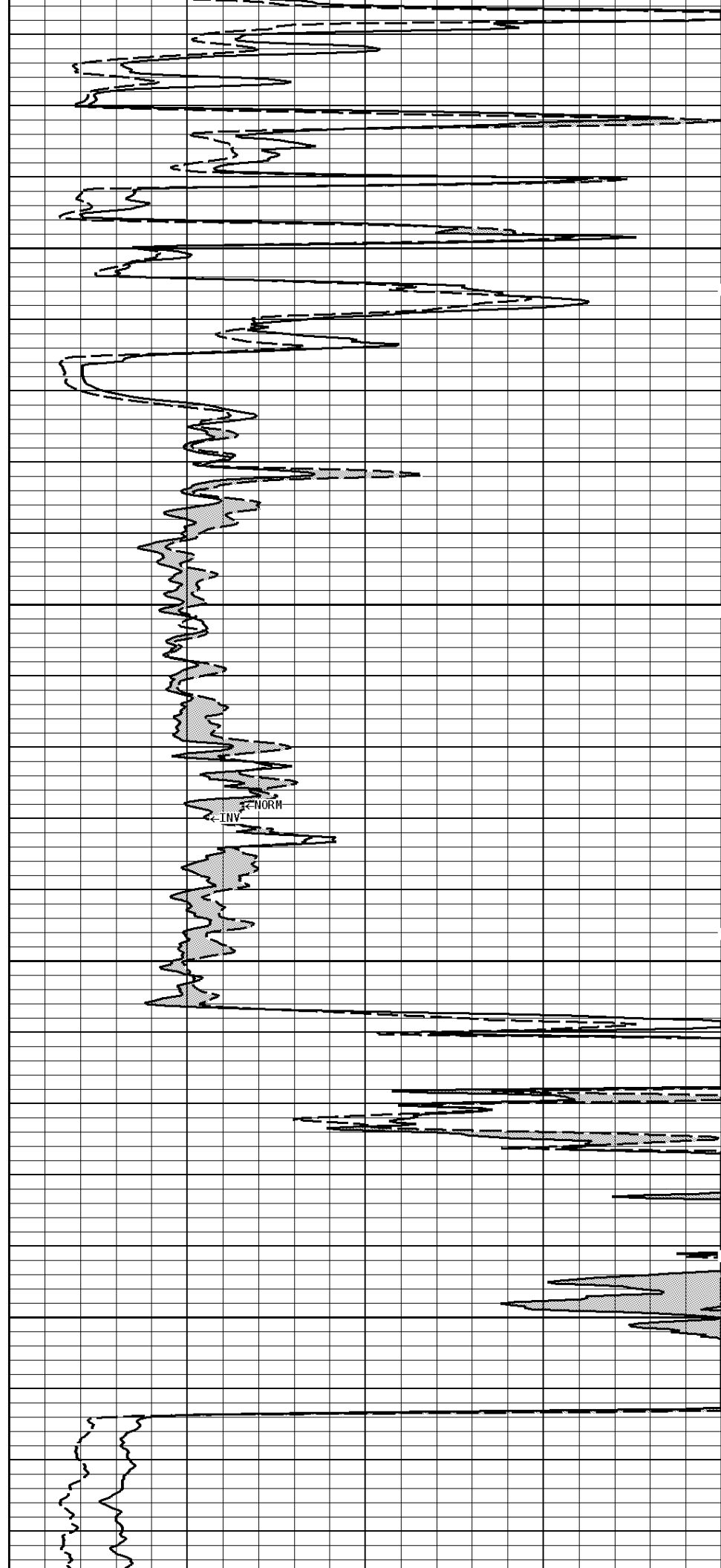
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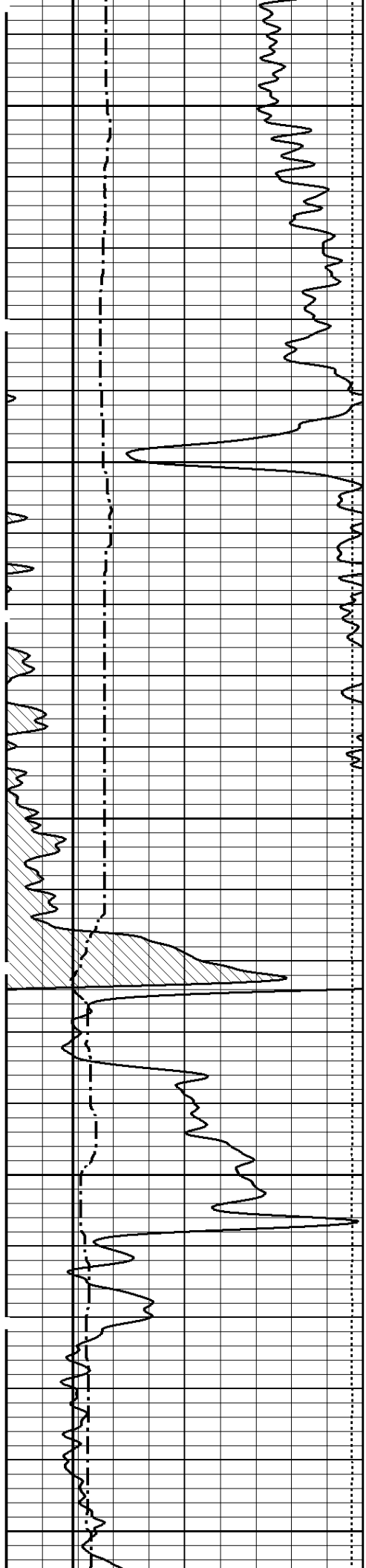




2500

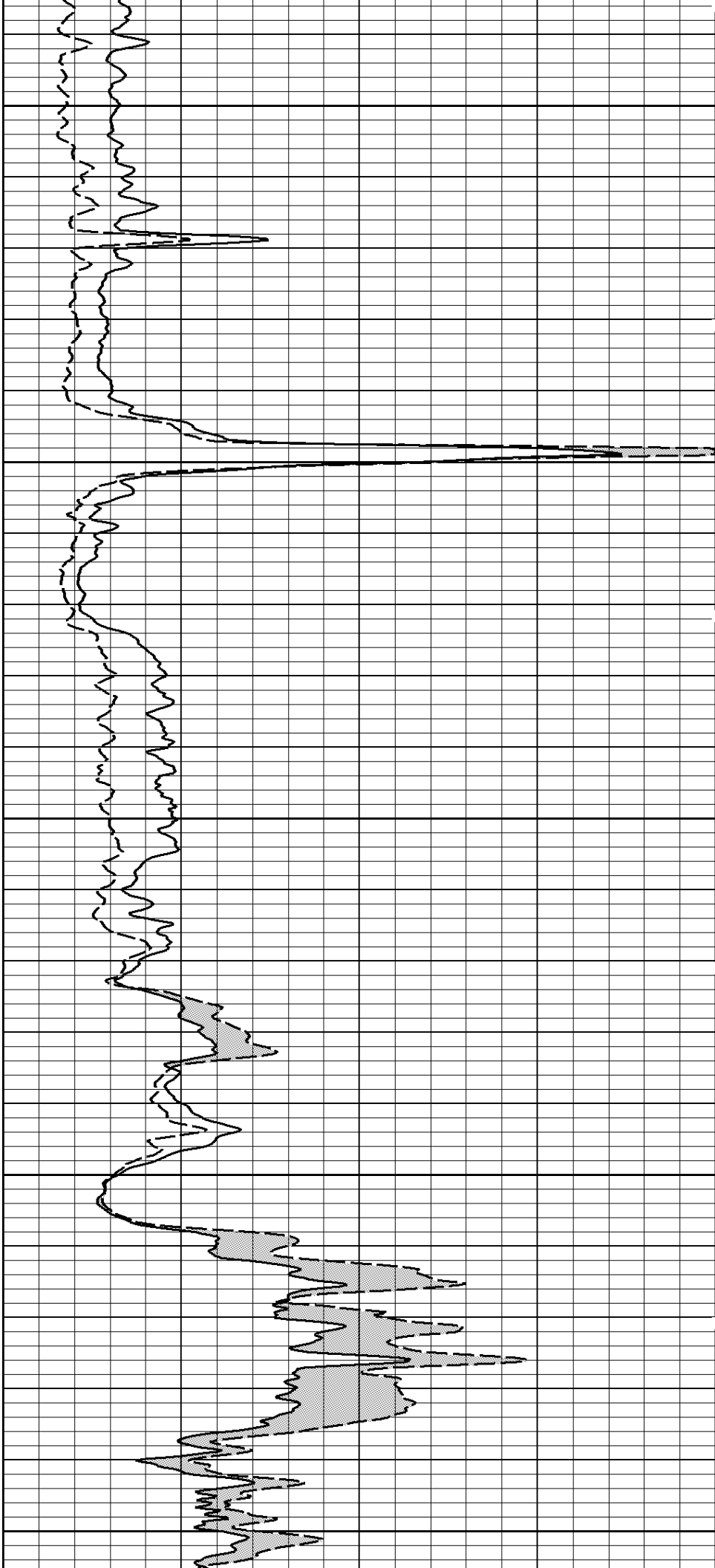
2600

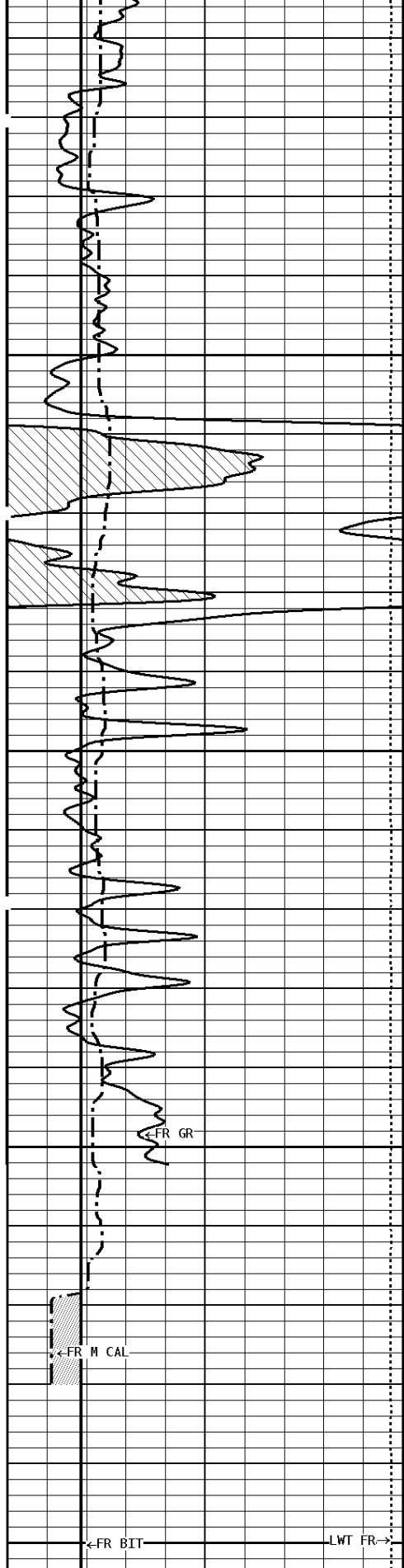




2700

2800

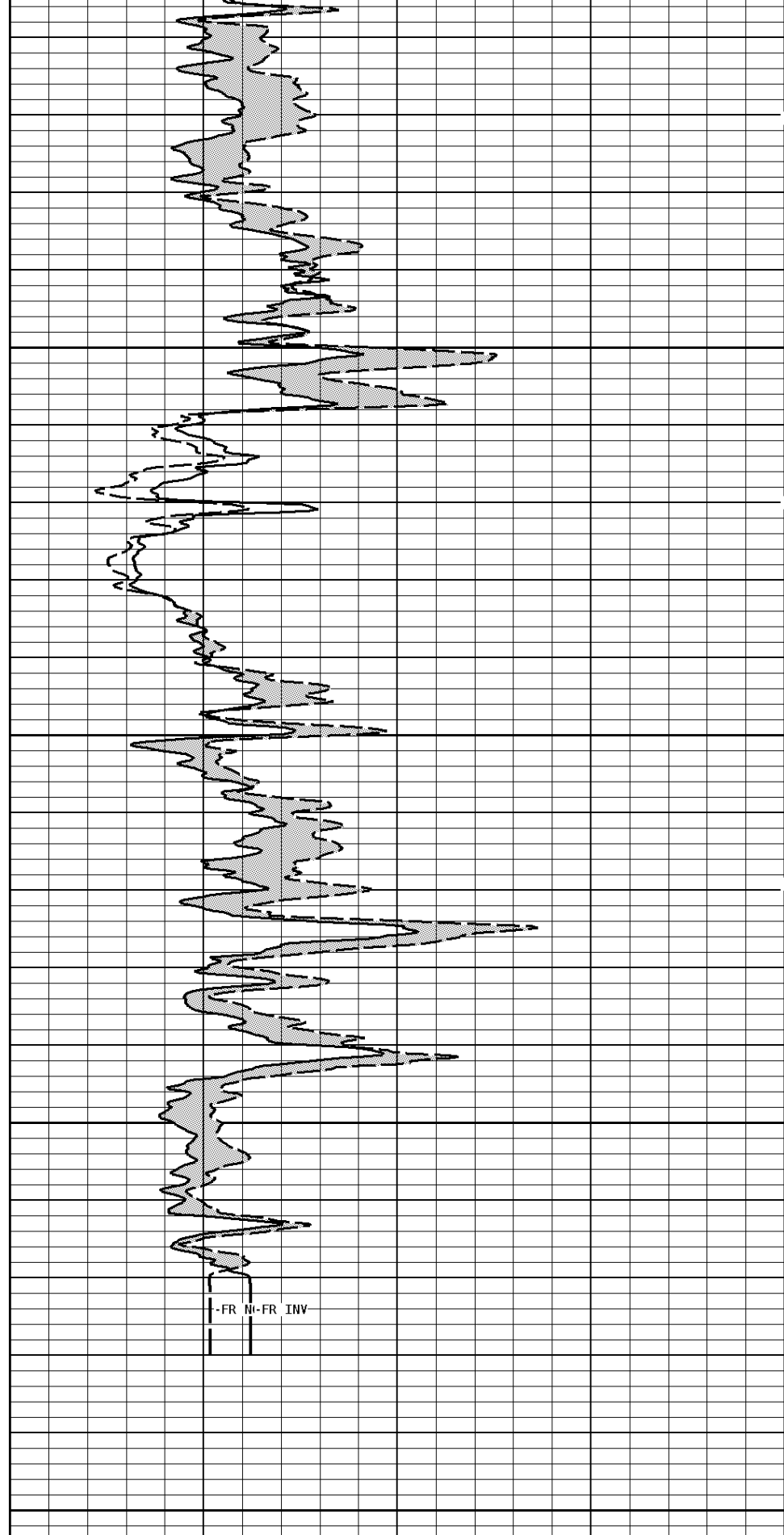




2900

3000

3050



-FR NI-FR INV

File #1.1.5

### 1:240 MAIN SECTION

<b>GAMMA RAY API UNITS</b>	
150 0	300 150
<b>TENSION LBS</b>	
10000	0
<b>CALIPER MICRO INCHES (IN)</b>	
16 6	26 16
<b>BIT SIZE INCHES (IN)</b>	
6	16

<b>NORMAL OHMM</b>	
0	40
<b>INVERSE OHMM</b>	
0	40

#### \* Borehole Zone Factors \*

<b>Zone 1 99999.0 to 0.0 Feet</b>	
Drill Bit Size	7.875 in
MSTNG Normal Correction	0.00 ohmm
MSTNG Inverse Correction	2.00 ohmm

**Well File:** MID CONTINENT ENERGY ROGERS\_1\_DEC16\_MSTK **Scale:** 1:240 **Format:** MST-240  
**Segment:** V1.D1.S6 AS FINAL REPEAT **Acquired:** 2015-12/16 19:22 3.4.0-13544  
**Reference:** 0 **Processed:** 2015-12/16 19:41 3.4.0-13544

<b>BIT SIZE INCHES (IN)</b>	
6	16
<b>CALIPER MICRO INCHES (IN)</b>	
16 6	26 16
<b>TENSION LBS</b>	
10000	0
<b>GAMMA RAY API UNITS</b>	
150 0	300 150

<b>INVERSE OHMM</b>	
0	40
<b>NORMAL OHMM</b>	
0	40

### 1:240 REPEAT SECTION

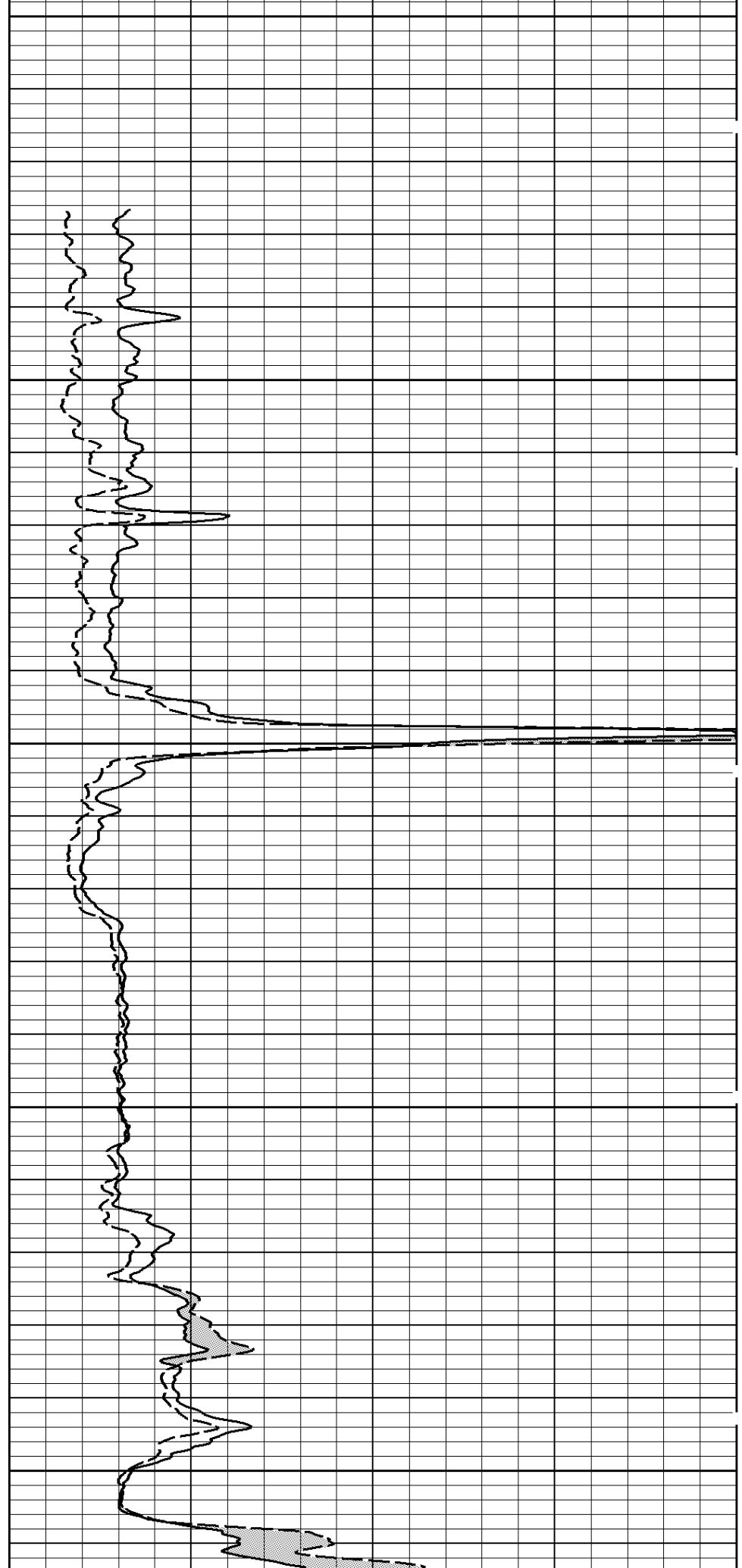
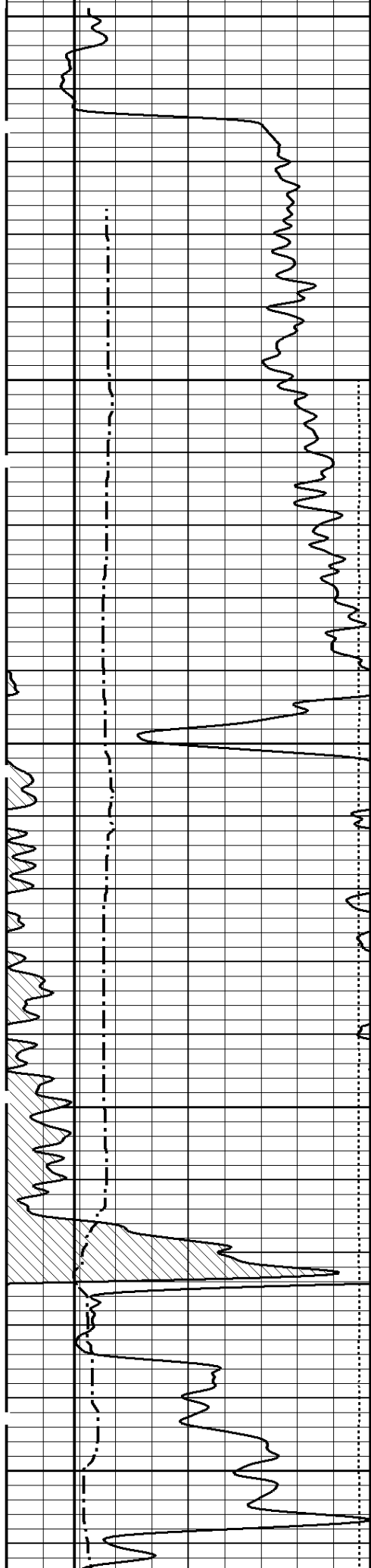
File

# 911

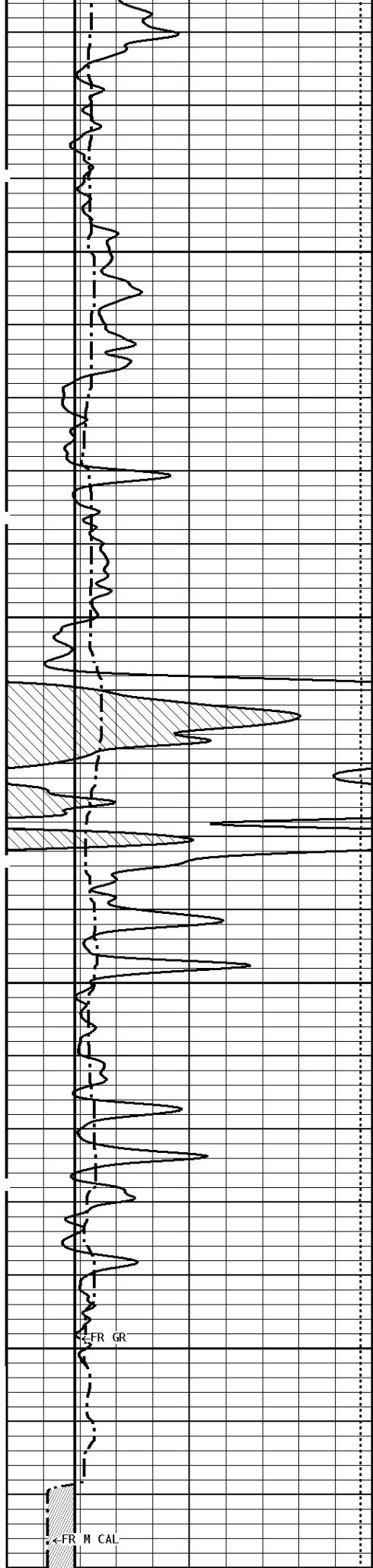
2600

2700

2800

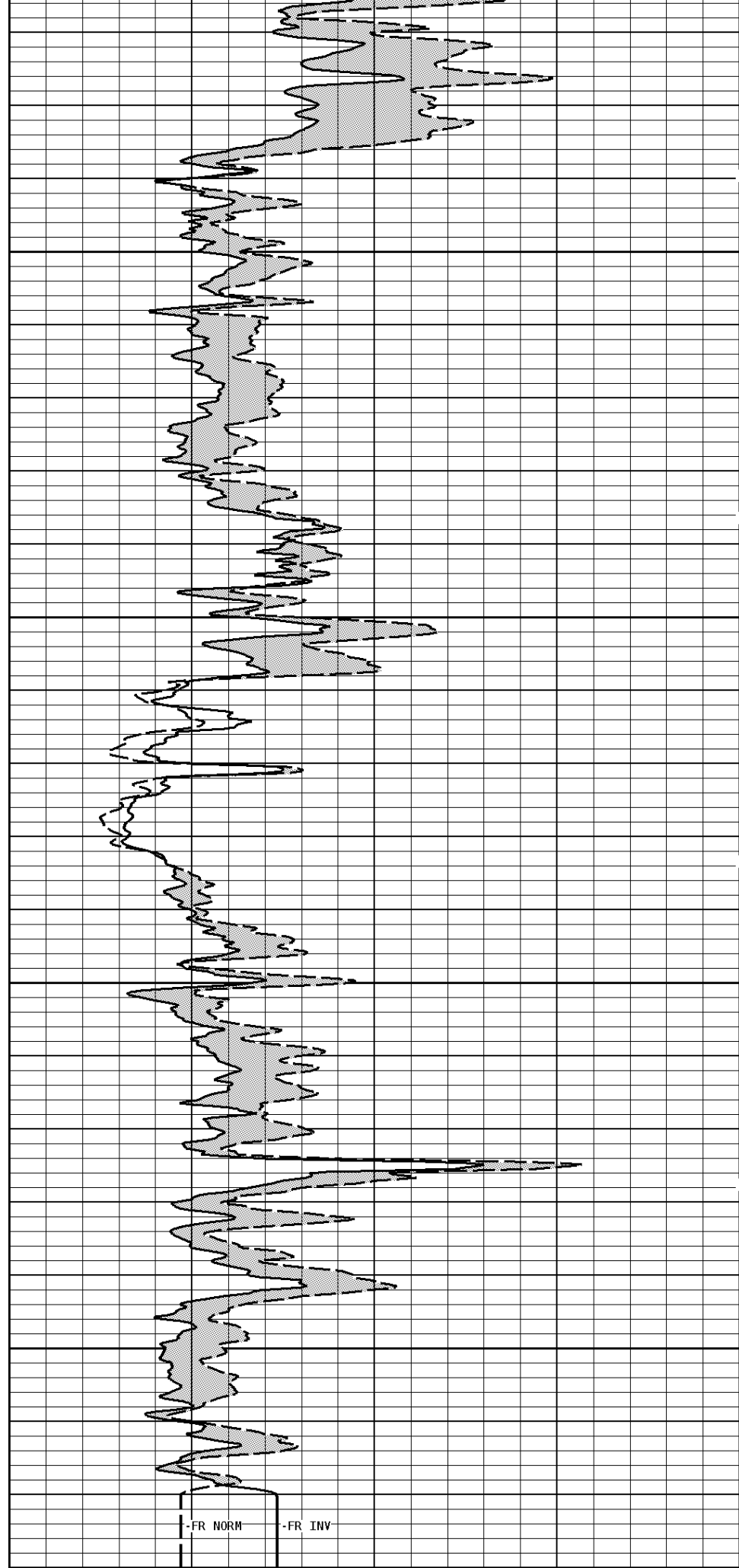




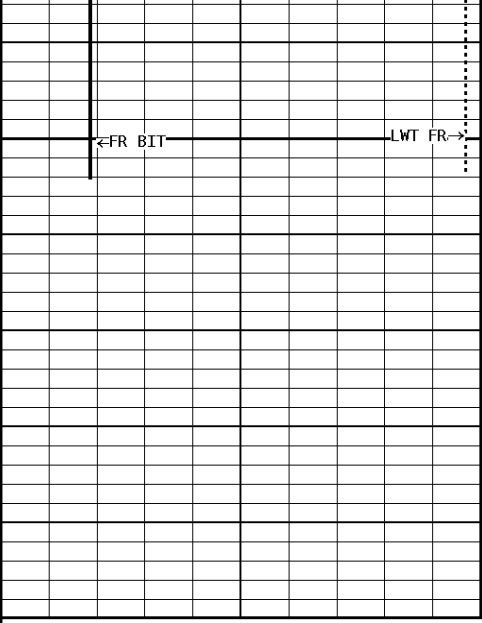


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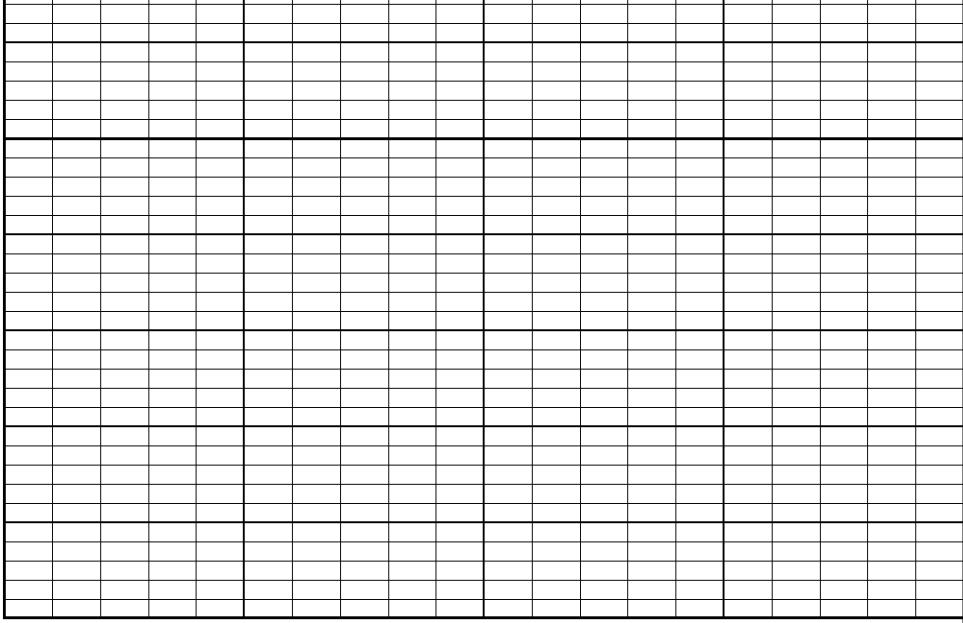
3000



FR NORM    FR INV



3050



**1:240 REPEAT SECTION**

<b>GAMMA RAY API UNITS</b>	
150 0	300 150
<b>TENSION LBS</b>	
10000	0
<b>CALIPER MICRO INCHES (IN)</b>	
16 6	26 16
<b>BIT SIZE INCHES (IN)</b>	
6	16

<b>NORMAL OHMM</b>	
0	40
<b>INVERSE OHMM</b>	
0	40

**\* Borehole Zone Factors \***

<b>Zone 1 99999.0 to 0.0 Feet</b>			
Drill Bit Size	_____	7.875	in
MSTNG Normal Correction	_____	0.00	ohmm
MSTNG Inverse Correction	_____	2.00	ohmm

**\* Calibration Summary \***

<b>Shop Calibration GRT-B</b>					
Performed : 02-Oct-2015			Time : 10:35		
Sensor Suite : GR-GR5			ID : GRT-BA-121		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig		
	47	352	175	GRAPI	

<b>Shop Calibration MST-DA</b>					
Performed : 05-DEC-2015			Time : 08:37		
Sensor Suite : CALI-MSN			ID : MST-DA-25		
	Jig - Measured		Jig - Calibrated	Units	
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	7.7	13.4	6.0	12.0	IN.

Performed : 05-DEC-2015  
Sensor Suite : MSTDA-NI

Time : 08:38  
ID : MST-DA-25

	Internal			Calibrated		
	Zero	Measured Reference	Units	Zero	Reference	Units
INV-V	0.0	30010.6		0.00	1546.00	MV
NOR-V	0.1	30159.6		0.00	1546.00	MV
IN-C	0.0	57334.5		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM



**Tucker**  
**ENERGY SERVICES**

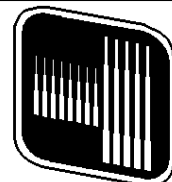
Company: MID-CONTINENT ENERGY CORP.

Well: ROGERS #1

Location: 1320' FSL & 990' FWL

Logged: 12-16-2015

K.B. Elev: 1394.0 Ft



**Tucker**  
ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company MID-CONTINENT ENERGY CORP.  
Well ROGERS #1  
Field WENGER  
County MARION  
State KANSAS  
Country USA  
API No. 15-115-21501-0000

File No : TUL-60745  
Company : MID-CONTINENT ENERGY CORP.  
Well : ROGERS #1  
Field : WENGER  
County : MARION  
State : KANSAS  
Country : USA  
API No : 15-115-21501-0000

Location :  
1320 FSL & 990' FWL  
E/2 W/2 SW

LSD :                      Sect : 11                      Twp : 21S                      Rge : 3E

Permanent Datum: GL  
Drilling Measured From: KB  
Log Measured From: KB  
Above Permanent Datum: 5.00 Ft  
Elevations: KB 1394.00 Ft, DF 1393.00 Ft, GL 1389.00 Ft  
Services: CNT, LDT, MLT, PIT

Date	12-16-2015	
Run Number	1	
Depth--Driller	3050.0	Ft
Depth--Logger	30500.0	Ft
First Reading	3018.0	Ft
Last Reading	218.0	Ft
Casing--Driller	218.0	Ft
Casing--Logger	218.0	Ft
Bit Size	7.875	In
Casing Size	8.625	In
Hole Fluid Type	WBM	
Density	9.3	
Fluid Loss	8.4	
PH/Viscosity	10.5	48.0
Sample Source	MEASURED	
RM@Measured Temp.	2.000	@ 70 F
RMF@Measured Temp	1.600	@ 70 F
RMG@Measured Temp.	2.400	@ 70 F
Source RMF/RMG	CALCULATED/CALCULATED	
RM@BHT	1.380	@ 105 F
Time Circulation Stopped	12-16-2015 16:30	
Max Recorded Temp.	105	F
Equipment/Base	1022	TULSA, OK
Recorded By	SHELDON TYLER	
Witnessed By	BEN LANDES	

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. E. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. E. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings			
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
7.875	3050.00	8.625	32.00	218.00	0.00

Run Number	1
Date	12-16-2015
Date/Time On Bottom	12-16-2015 19:30
Depth to Fluid	0.0 Ft
Salinity	1200.000
RMF@BHT	1.100 @ 105 F
RMG@BHT	1.660 @ 105 F

Run Number 1

Comments

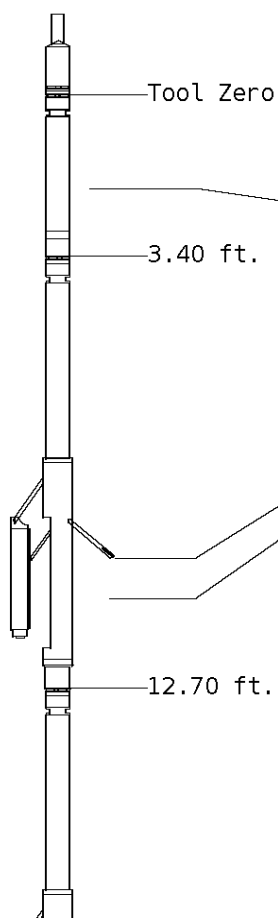
ALL PRESENTATIONS AS PER CUSTOMER REQUEST  
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION  
 CALIPERS ORIENTED ON X-Y AXIS  
 2.71 G/CC USED TO CALCULATE POROSITY  
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING  
 PHIN IS CALIPER CORRECTED

GRT: GRP, GRX  
 CNT: PHIN, CLCNIN, PHXN  
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX  
 MLT: NOR\_RF, INV\_RF, MSCLPIN  
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

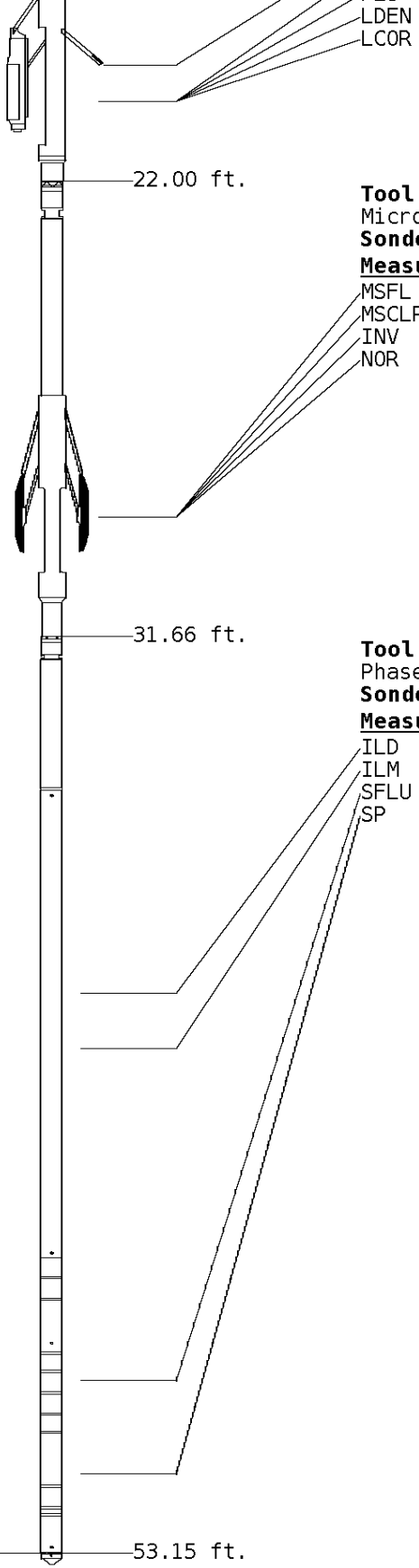
OPERATORS:  
 B.BROWN  
 J.McCANN

### Tool String Schematic

**Total Tool Length** - 53.15 ft.  
**Maximum Outside diameter** - 6.00 in.  
**Net Weight in Air** - 943.00 lbs.



<b>Tool:</b> GRT-B		<b>Length:</b> 3.40 ft.	<b>O.D.:</b> 3.60 in.
Gamma Ray Controller			
<b>Sonde ID</b> :GRT-BA-121			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>
GRP	2.00	2.00	51.15
<b>Tool:</b> CNT-AA		<b>Length:</b> 9.30 ft.	<b>O.D.:</b> 4.36 in.
Compensated Neutron A Pad on NDT-A			
<b>Sonde ID</b> :NDT-AC-925			
<b>Source ID</b> :N-1044			
<b>Pad ID</b> :CNP-AA-121			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>
CLCN	6.00	9.40	43.75
PHIN	6.80	10.20	42.95
<b>Tool:</b> LDT-DA		<b>Length:</b> 9.30 ft.	<b>O.D.:</b> 4.80 in.
Litho Density D Pad on NDT-A			
<b>Sonde ID</b> :NDT-BB-153			
<b>Source ID</b> :CSV-587			
<b>Pad ID</b> :LDP-DA-50			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>
CLLD	6.00	18.70	34.45
PEL	7.00	19.70	33.45
PES	7.40	20.10	33.05



LDEN 7.20 19.90 33.25  
 LCOR 7.20 19.90 33.25

**Tool:** MST-DA      **Length:** 9.66 ft.    **O.D.** 6.00 in.  
 Micro Spherically Focused (IC)  
**Sonde ID** :MST-DA-25

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.55
MSCLP	7.60	29.60	23.55
INV	7.60	29.60	23.55
NOR	7.60	29.60	23.55

**Tool:** PIT-CA      **Length:** 21.49 ft.    **O.D.** 3.62 in.  
 Phased Dual Induction w/ RM & D  
**Sonde ID** :PIT-CA-075

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	40.58	12.56
ILM	10.10	41.76	11.39
SFLU	17.49	49.15	4.00
SP	20.60	52.26	0.88

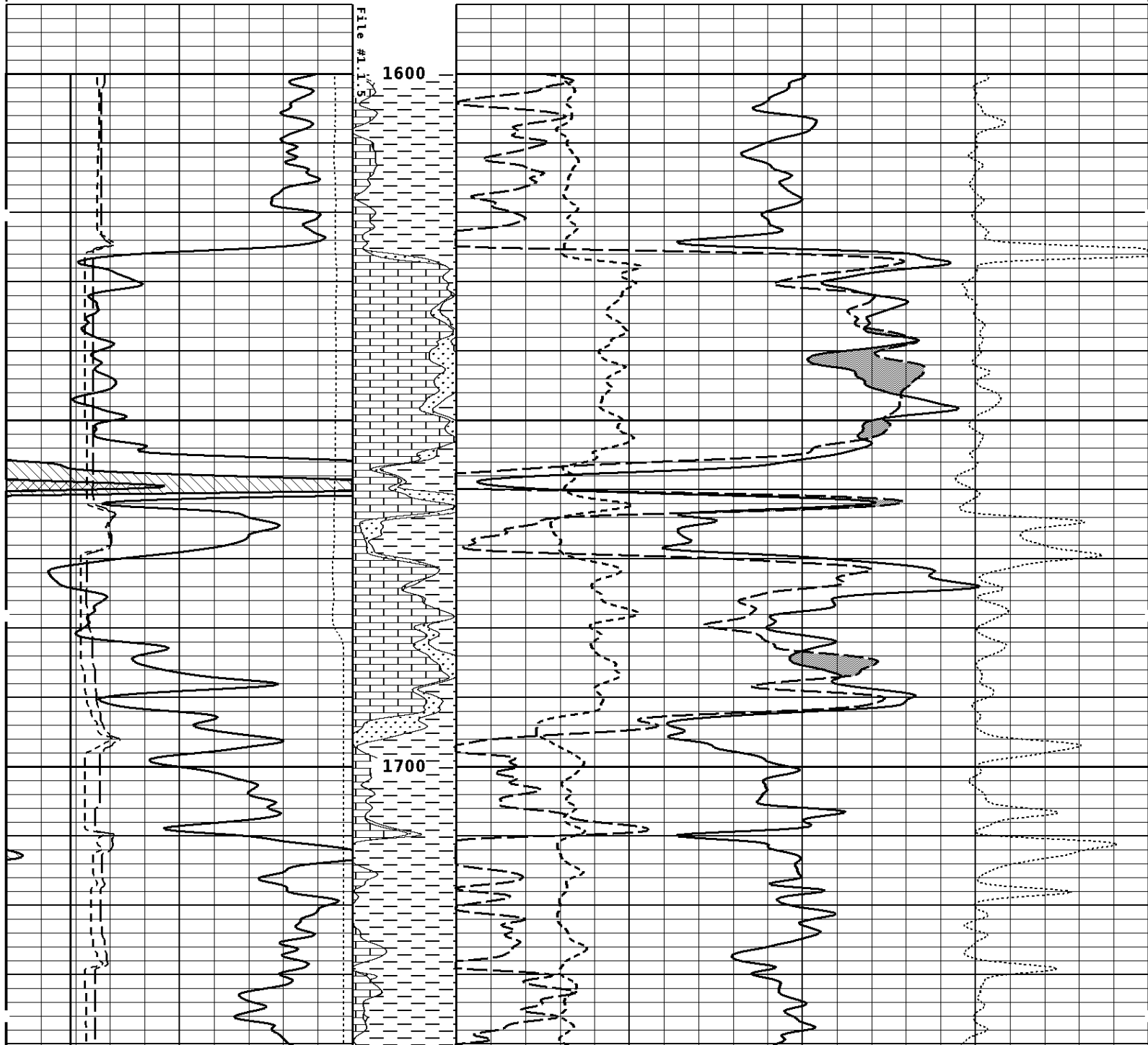
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**Segment:** V1.D1.S5 AS FINAL MAIN      **Acquired:** 2015-12/16 19:42 3.4.0-13544  
**Reference:** 0      **Processed:** 2015-12/16 19:42 3.4.0-13544

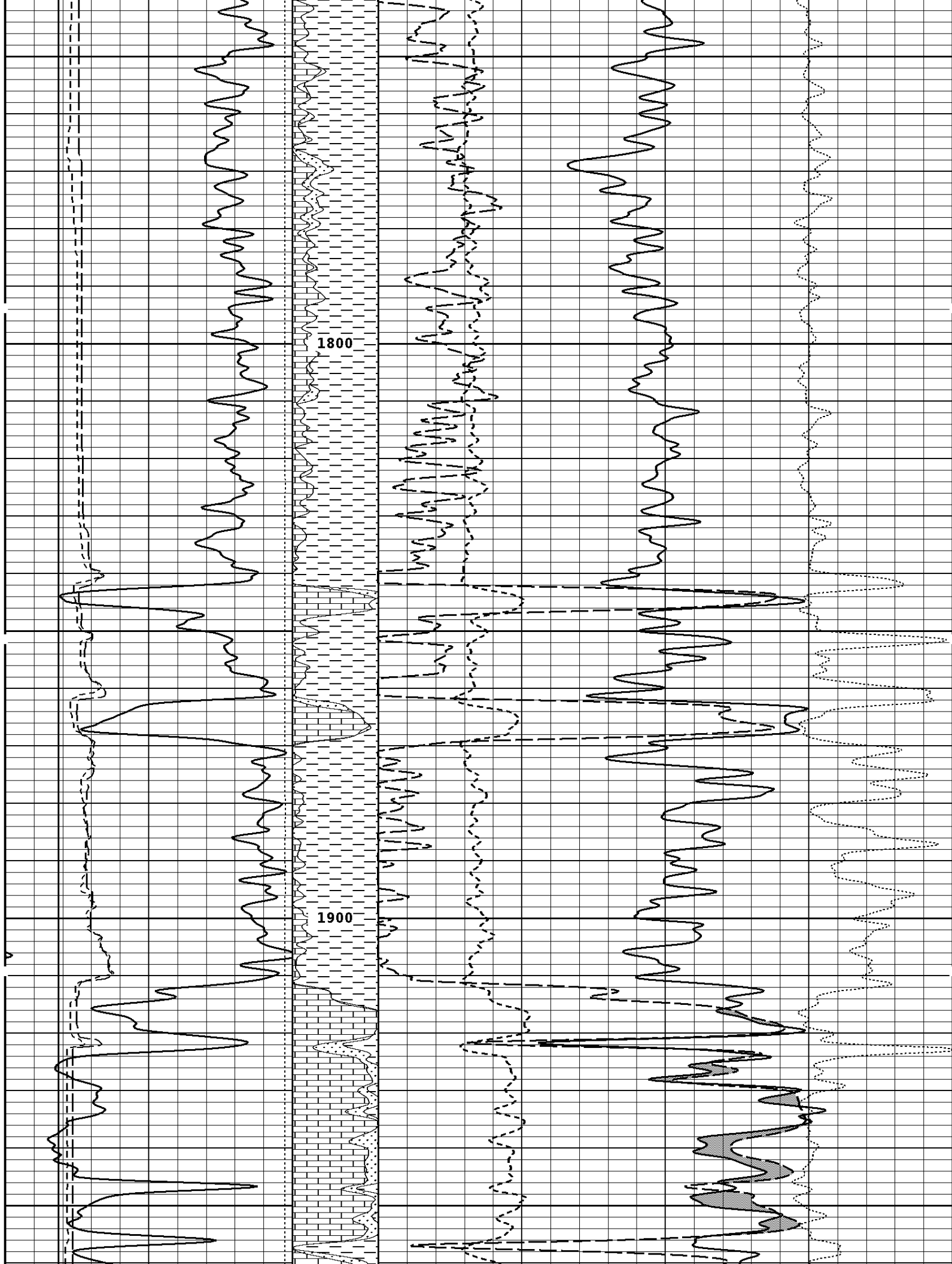
<b>BIT SIZE INCHES (IN)</b>	
6	16

<b>NEUTRON (Y) CALIPER INCHES (IN)</b>	
16	26

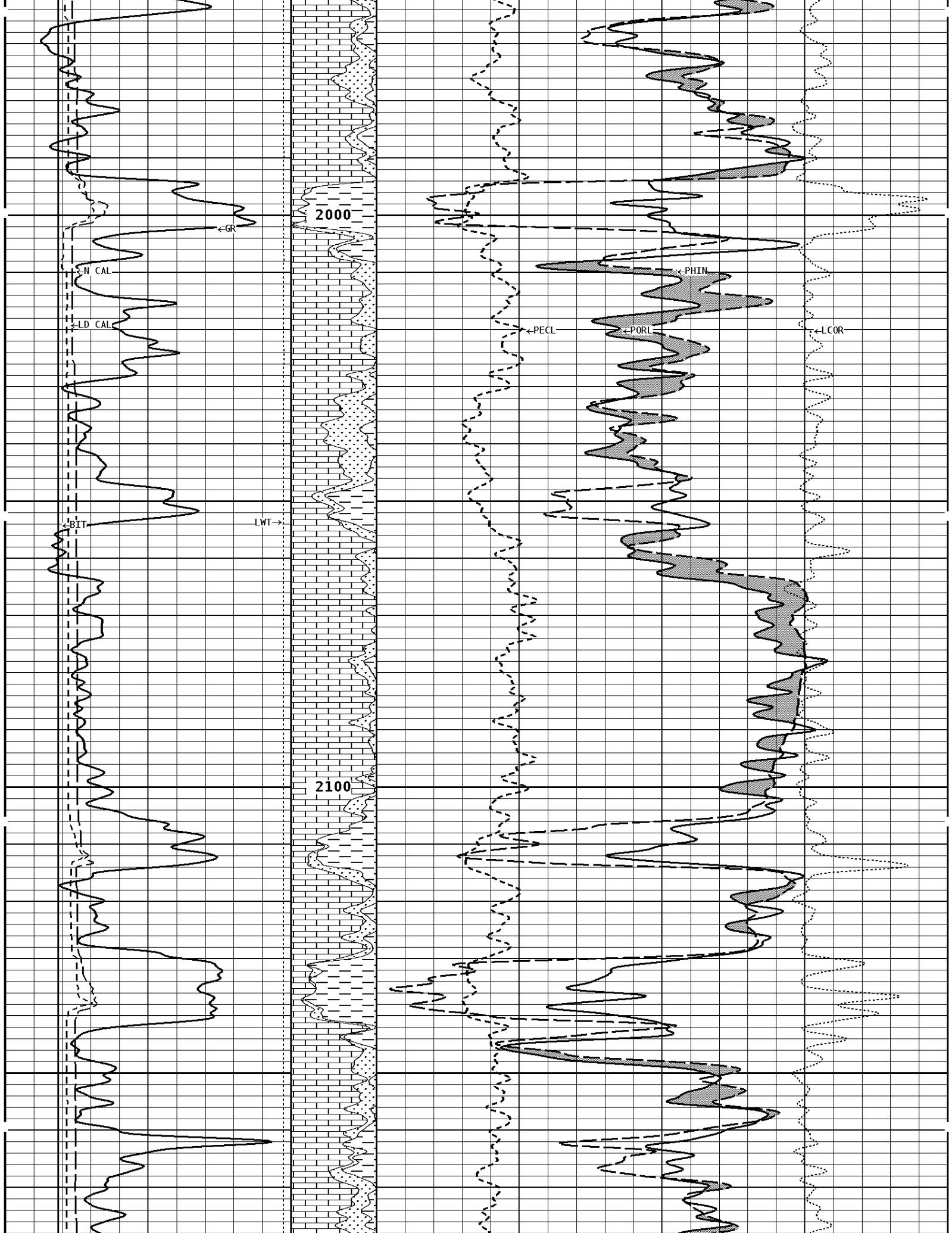
16 6	26 16			
DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNs/ELECTRON	DENSITY CORRECTION G/CC	
16 6	26 16	0	10	-0.25
				0.25
TENSION LBS	Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT		
10000	0	70		30
		30		-10
		-10		-50
GAMMA RAY API UNITS	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT		
150 0	300 150	30		-10

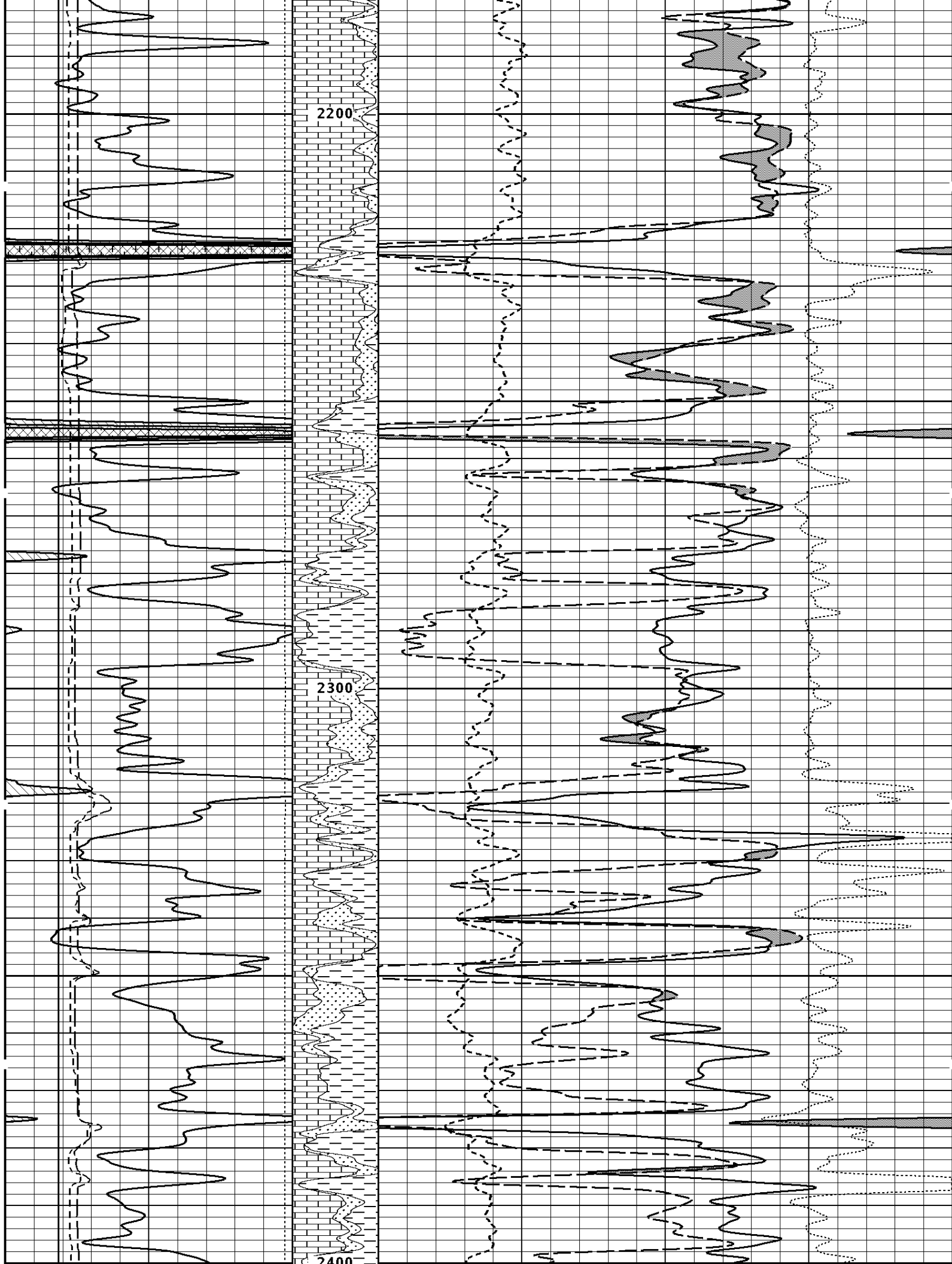
**1:240 MAIN SECTION**

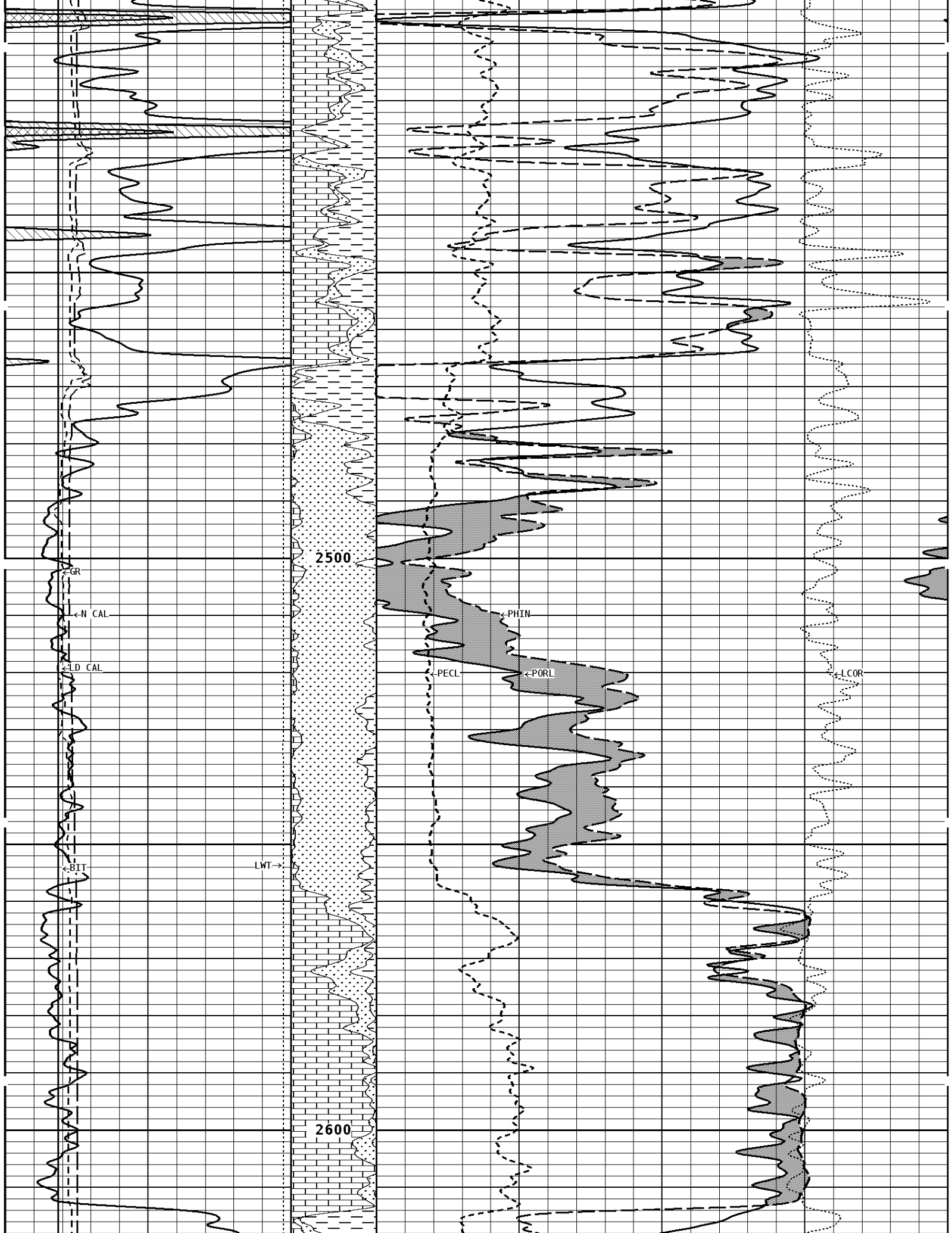


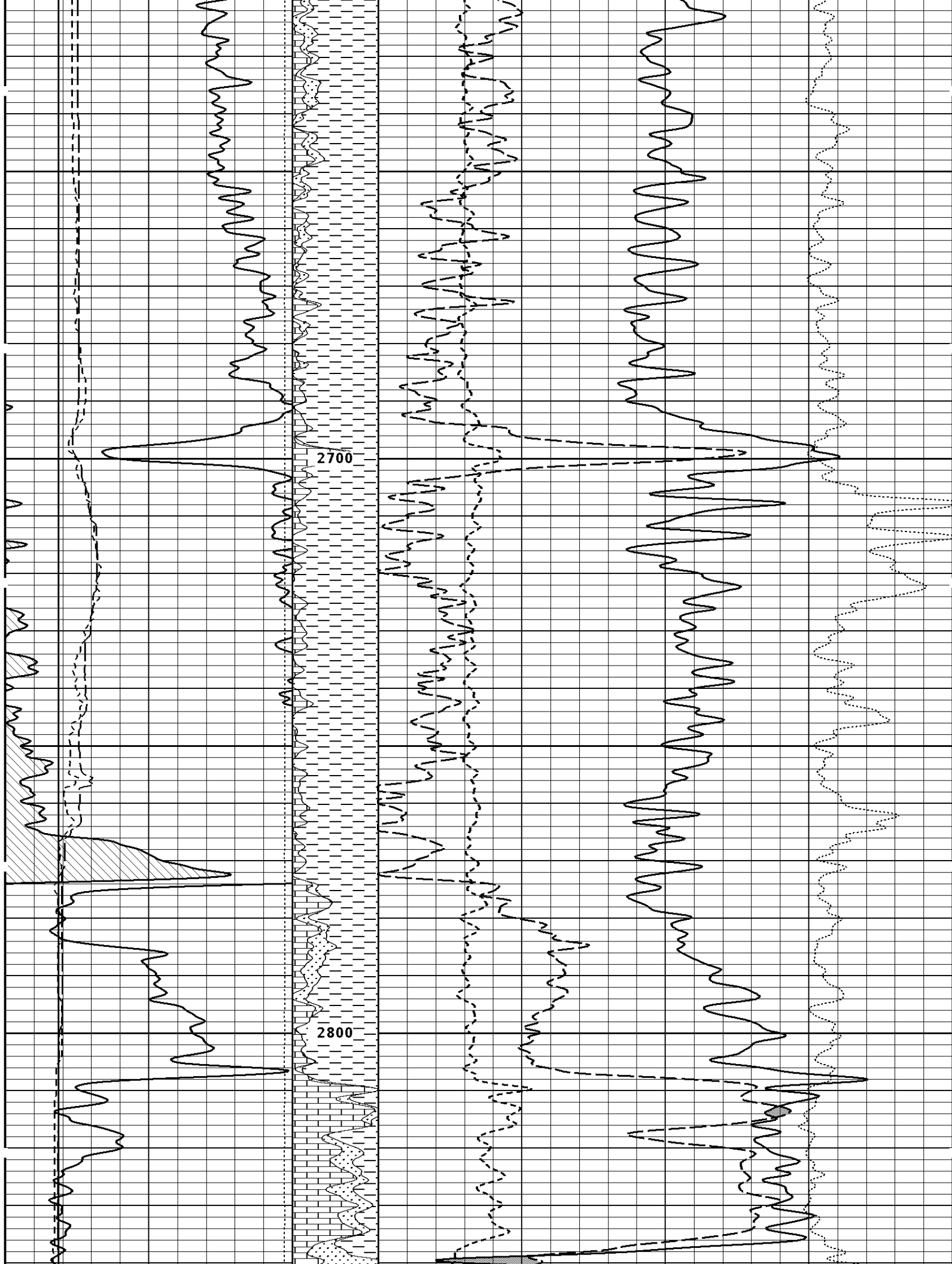


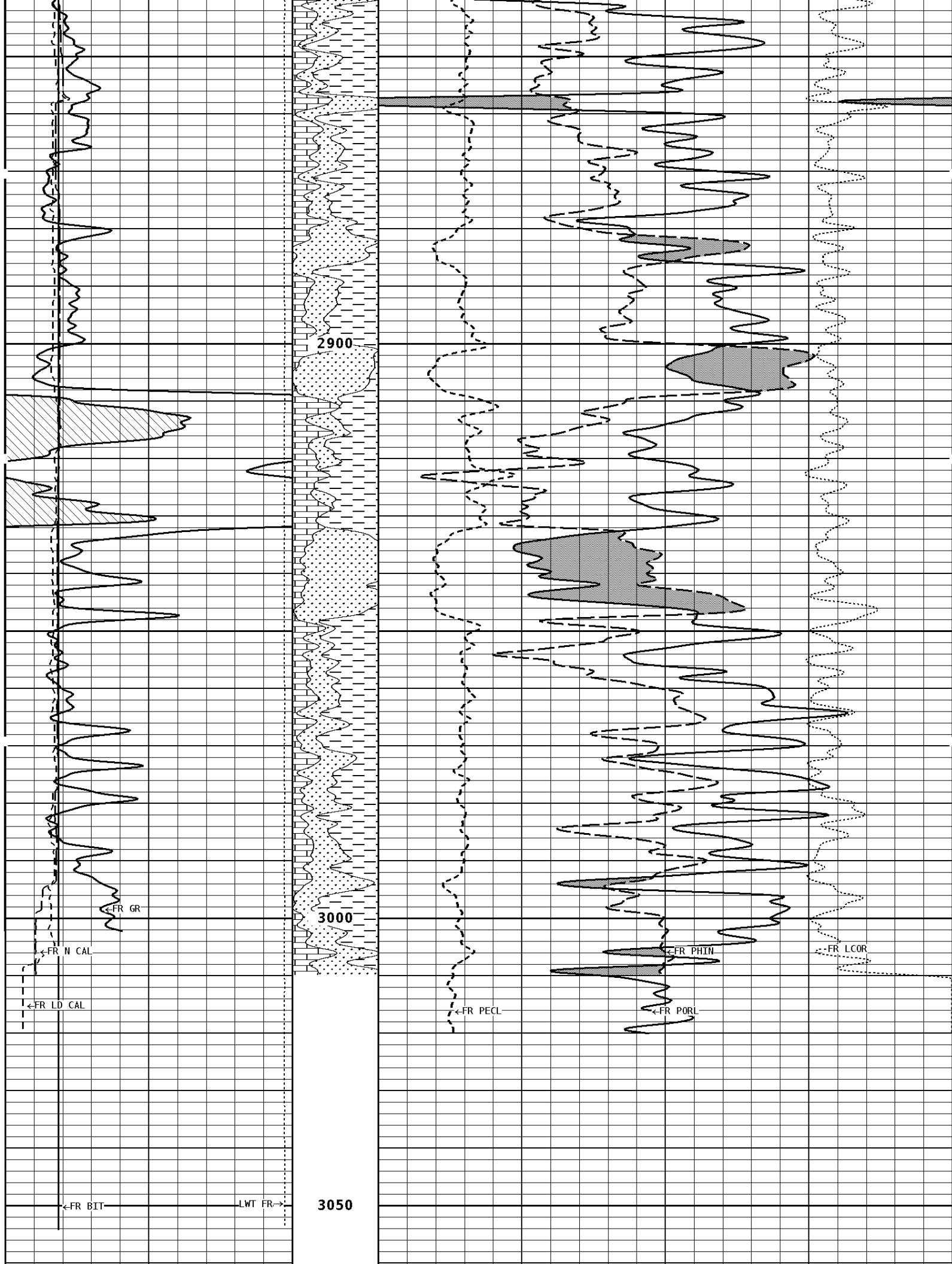












2900

3000

3050

←FR GR

←FR N CAL

←FR LD CAL

←FR BIT

LWT FR→

←FR PECL

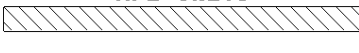
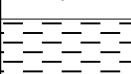
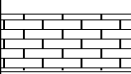
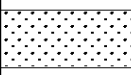
←FR PHIN

←FR PORL

←FR LCOR

File #1.1.5

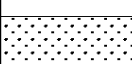
## 1:240 MAIN SECTION

<b>GAMMA RAY API UNITS</b> 	Volume Dolo/Shale 	<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b> 30 <span style="float: right;">-10</span>	
<b>TENSION LBS</b> 10000 <span style="float: right;">0</span>	Volume Calcite 	<b>DENSITY POROSITY (2.71g/cc) PERCENT</b> 70 <span style="float: right;">30</span> 30 <span style="float: right;">-10</span> -10 <span style="float: right;">-50</span>	
<b>DENSITY (X) CALIPER INCHES (IN)</b> 16 <span style="float: right;">26</span> 6 <span style="float: right;">16</span>	Volume Quartz 	<b>PE CROSS-SECTION BARNS/ELECTRON</b> 0 <span style="float: right;">10</span>	<b>DENSITY CORRECTION G/CC</b> -0.25 <span style="float: right;">0.25</span>
<b>NEUTRON (Y) CALIPER INCHES (IN)</b> 16 <span style="float: right;">26</span> 6 <span style="float: right;">16</span>			
<b>BIT SIZE INCHES (IN)</b> 6 <span style="float: right;">16</span>			

\* Borehole Zone Factors \*

<b>Zone 1 99999.0 to 0.0 Feet</b>		
Matrix Density	_____	2.71 g/cc
Fluid Density	_____	1.00 g/cc
Formation Matrix	_____	Limestone
Drill Bit Size	_____	7.875 in
Casing Diameter	_____	5.500 in
Casing Thickness	_____	0.250 in
Casing Correction (PHI N)	_____	Disable

<b>Well File:</b> MID CONTINENT ENERGY ROGERS_1_DEC16_MSTK <b>Segment:</b> V1.D1.S6 AS FINAL REPEAT <b>Reference:</b> 0	<b>Scale:</b> 1:240 <b>Format:</b> NLD-240 <b>Acquired:</b> 2015-12/16 19:22 3.4.0-13544 <b>Processed:</b> 2015-12/16 19:41 3.4.0-13544
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<b>BIT SIZE INCHES (IN)</b> 6 <span style="float: right;">16</span>			
<b>NEUTRON (Y) CALIPER INCHES (IN)</b> 16 <span style="float: right;">26</span> 6 <span style="float: right;">16</span>			
<b>DENSITY (X) CALIPER INCHES (IN)</b> 16 <span style="float: right;">26</span> 6 <span style="float: right;">16</span>	Volume Quartz 	<b>PE CROSS-SECTION BARNS/ELECTRON</b> 0 <span style="float: right;">10</span>	<b>DENSITY CORRECTION G/CC</b> -0.25 <span style="float: right;">0.25</span>

TENSION  
LBS  
10000 0

Volume  
Calcite  
70  
30  
-10

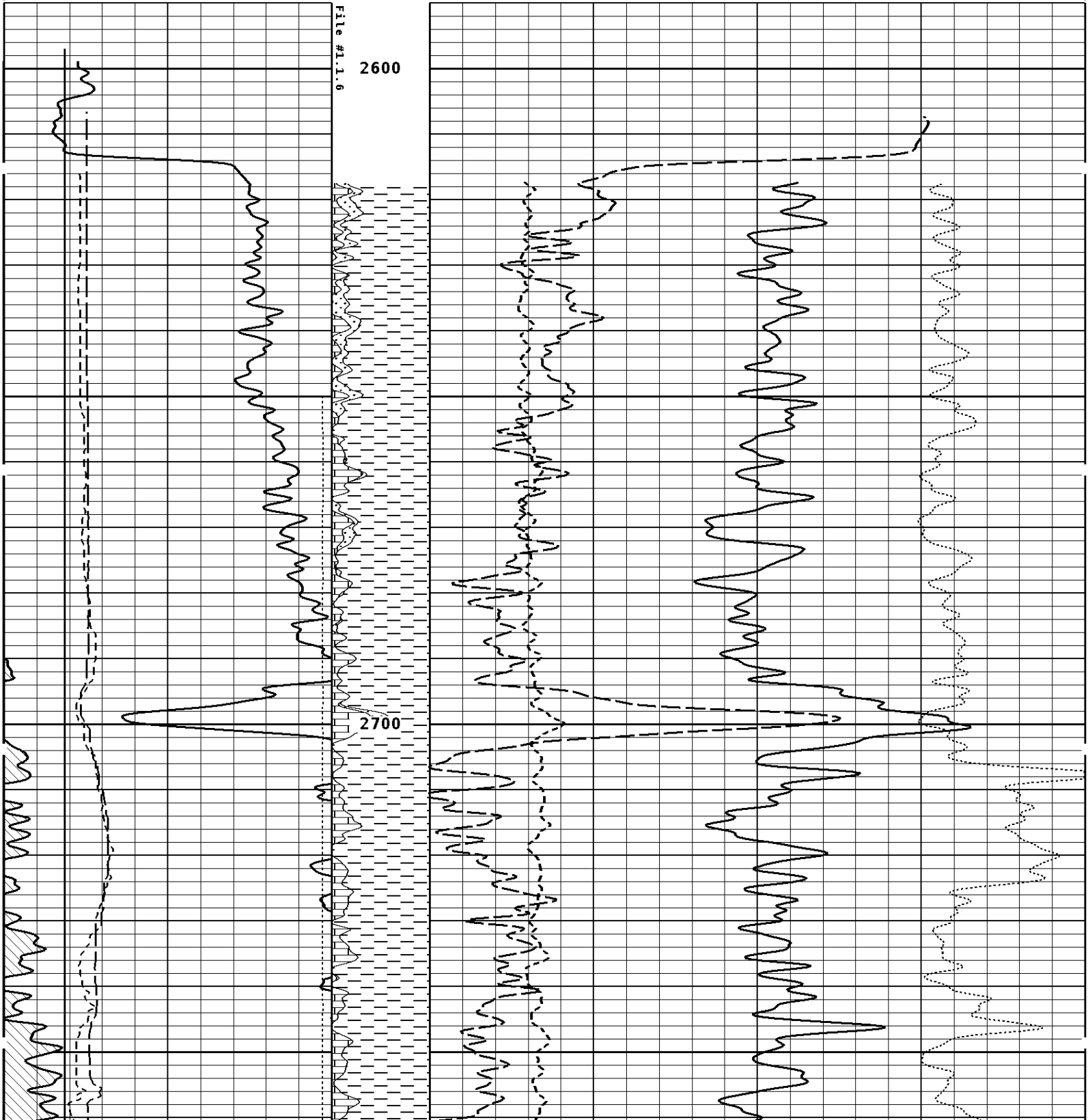
DENSITY POROSITY (2.71g/cc)  
PERCENT  
30  
-10  
-50

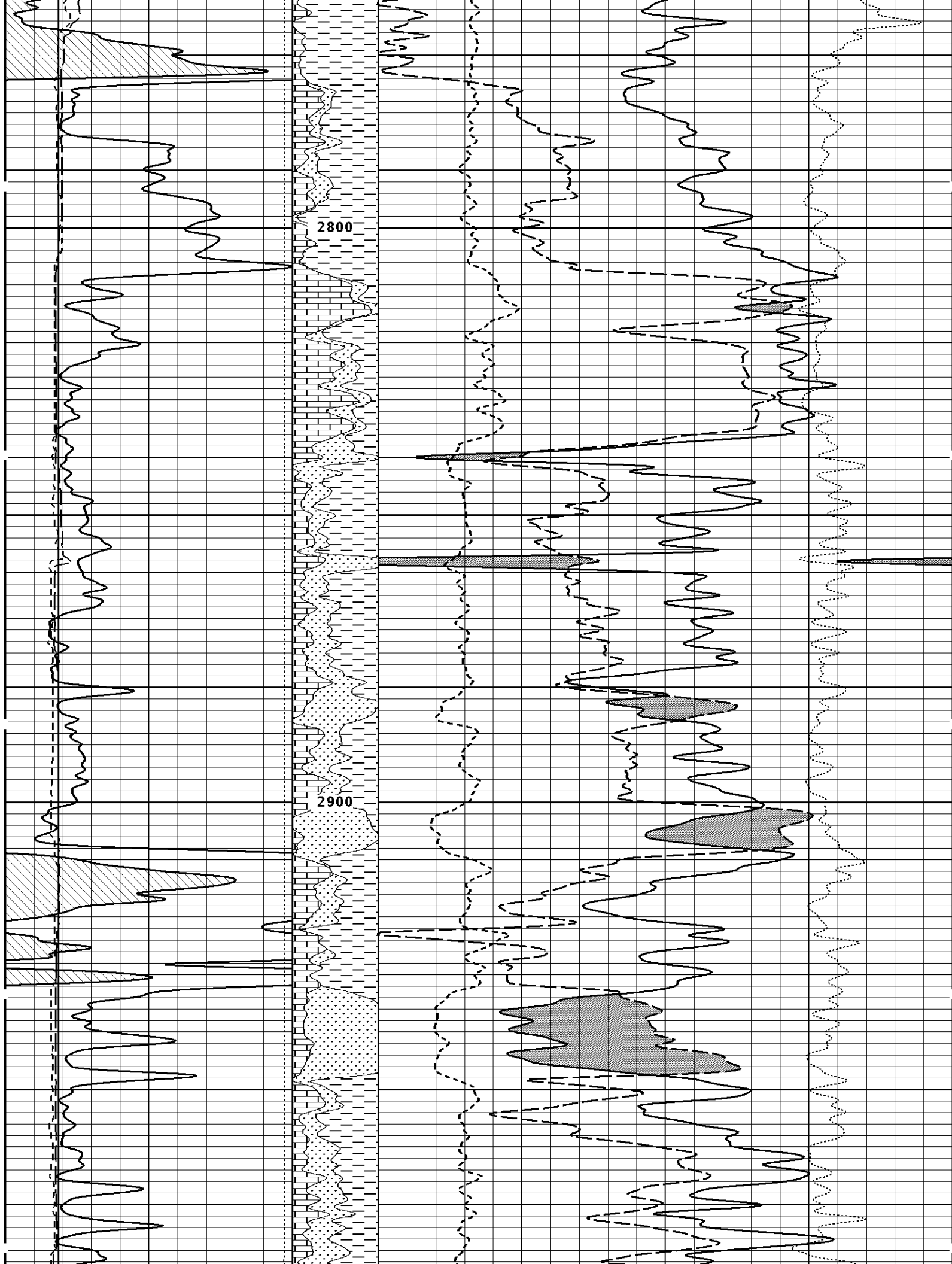
GAMMA RAY  
API UNITS  
150 0 300 150

Volume  
Dolo/Shale  
30

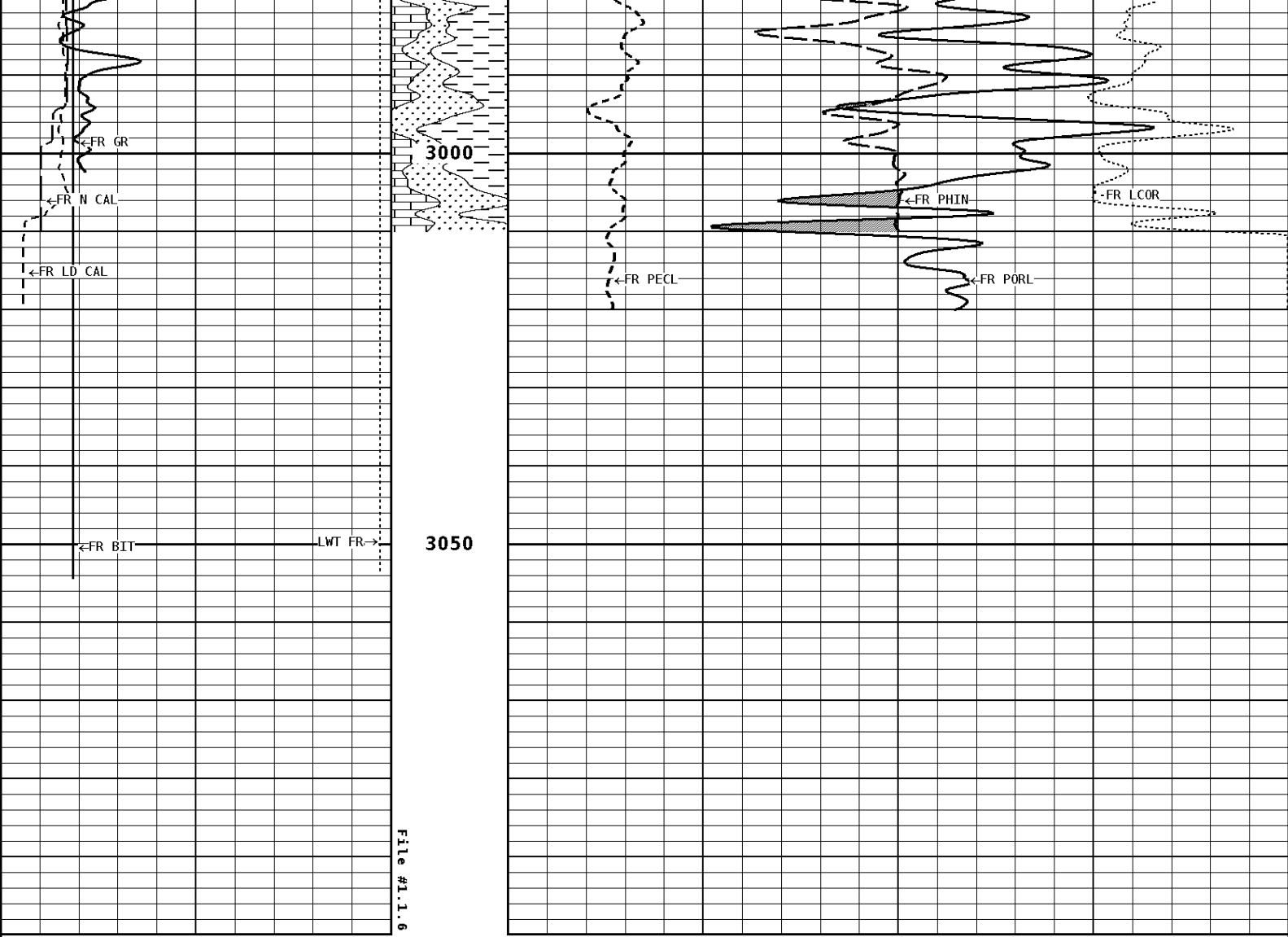
NEUTRON POROSITY (LIMESTONE)  
PERCENT  
-10

1:240 REPEAT SECTION









**1:240 REPEAT SECTION**

<b>GAMMA RAY API UNITS</b> 150 0  300 150		Volume Dolo/Shale 30	<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b> ----- -10	
<b>TENSION LBS</b> 10000 ----- 0		Volume Calcite 70 30 -10	<b>DENSITY POROSITY (2.71g/cc) PERCENT</b> ----- 30 -10 -50	
<b>DENSITY (X) CALIPER INCHES (IN)</b> 16 6 ----- 26 16		Volume Quartz 0	<b>PE CROSS-SECTION BARN/ELECTRON</b> ----- 10	<b>DENSITY CORRECTION G/CC</b> ----- -0.25 0.25
<b>NEUTRON (Y) CALIPER INCHES (IN)</b> 16 6 ----- 26 16				
<b>BIT SIZE INCHES (IN)</b> 6 ----- 16				

\* Borehole Zone Factors \*

Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: MID CONTINENT ENERGY ROGERS\_1\_DEC16\_MSTK      Scale: 1:240      Format: LDT-240  
 Segment: V1.D1.S5 AS FINAL MAIN      Acquired: 2015-12/16 19:42 3.4.0-13544  
 Reference: 0      Processed: 2015-12/16 19:42 3.4.0-13544

BIT SIZE INCHES (IN)	
6	16

NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16

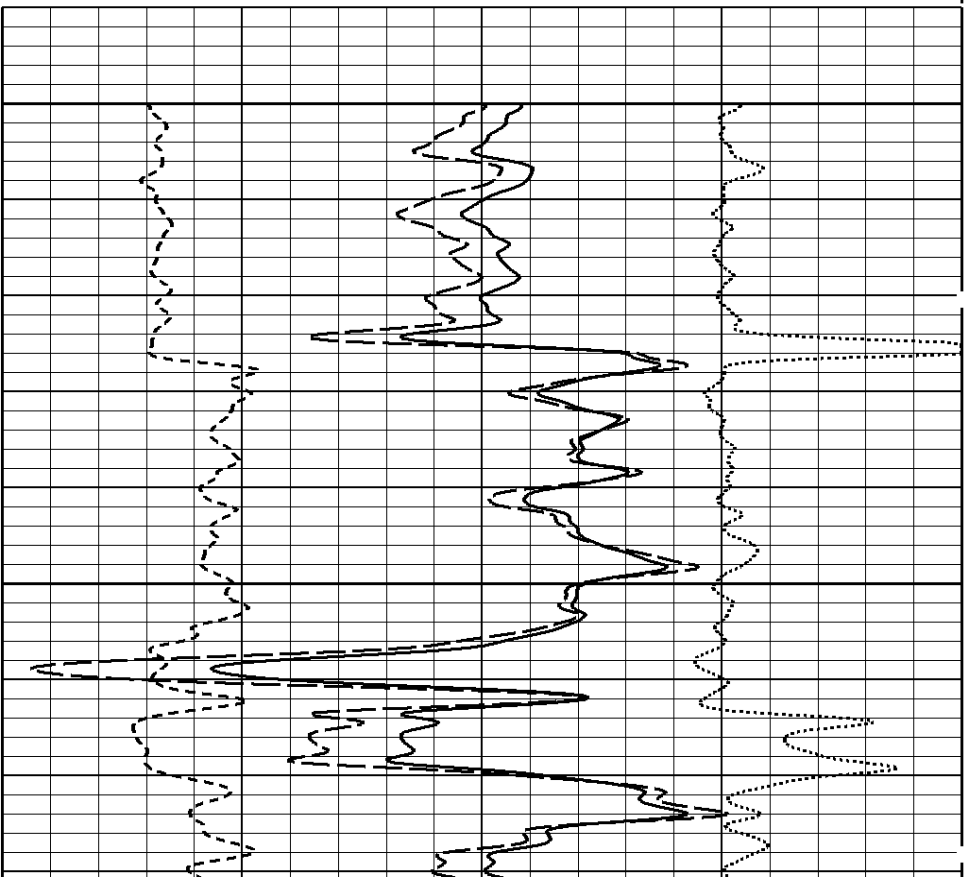
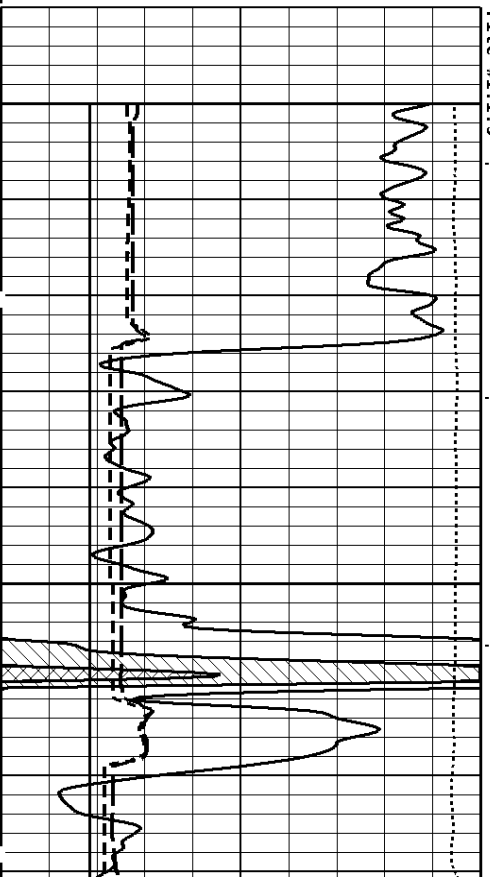
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16

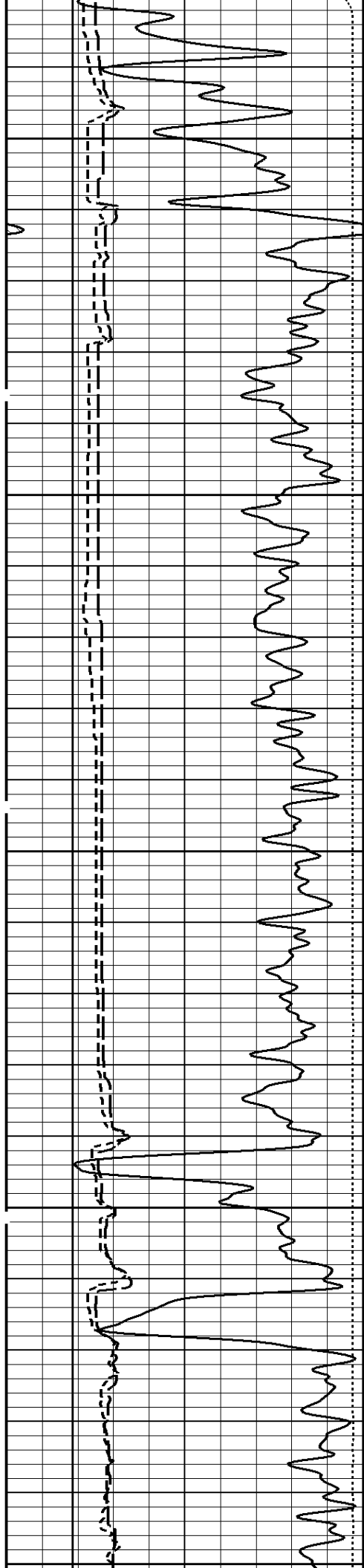
TENSION LBS	
10000	0

GAMMA RAY API UNITS	
150	300
0	150

PE CROSS-SECTION BARN/ ELECTRON		DENSITY CORRECTION G/CC	
0	10	-0.25	0.25
COMPENSATED BULK DENSITY G/CC			
3.0			4.0
2.0			3.0
1.0			2.0
DENSITY POROSITY (2.71g/cc) PERCENT			
70			30
30			-10
-10			-50

**1:240 MAIN SECTION**  
BULK DENSITY



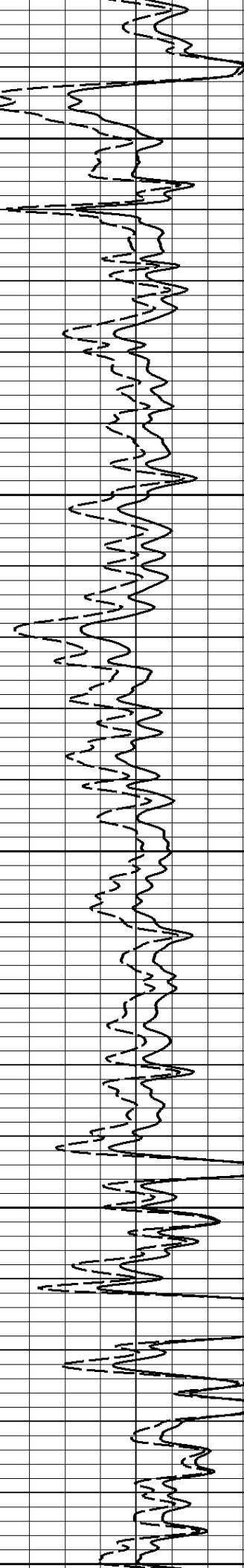
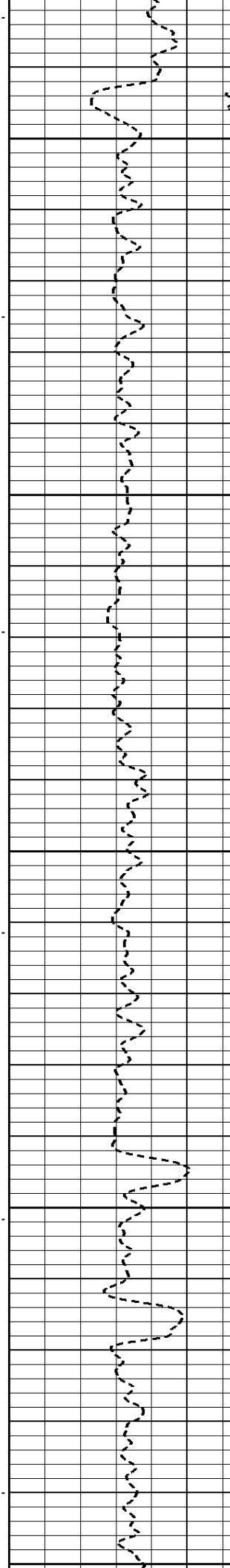


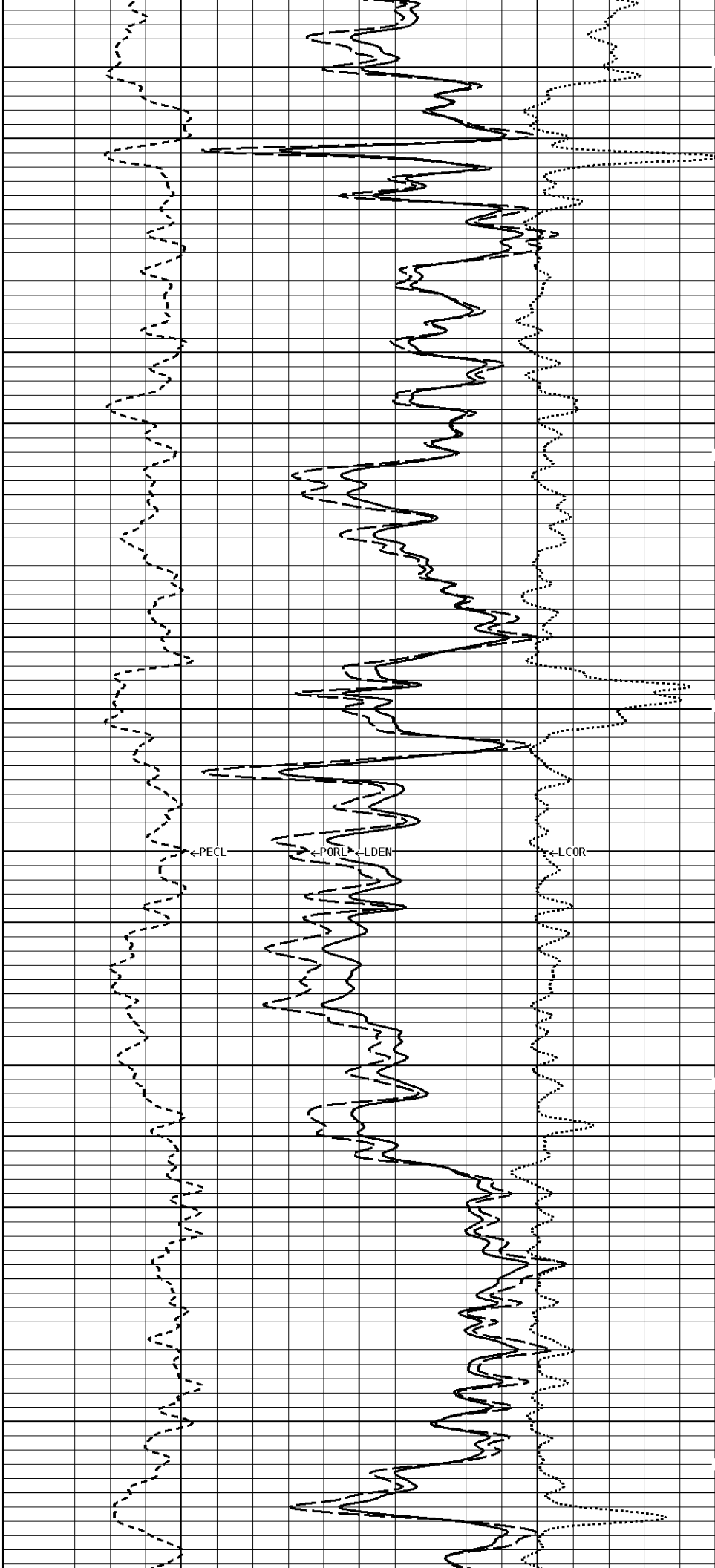
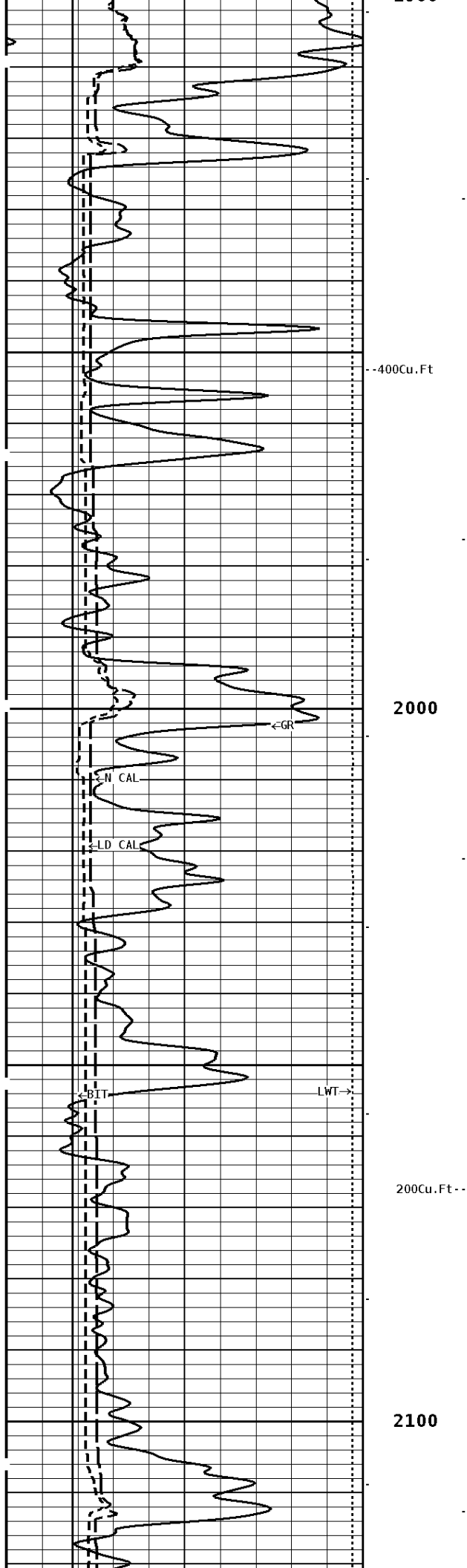
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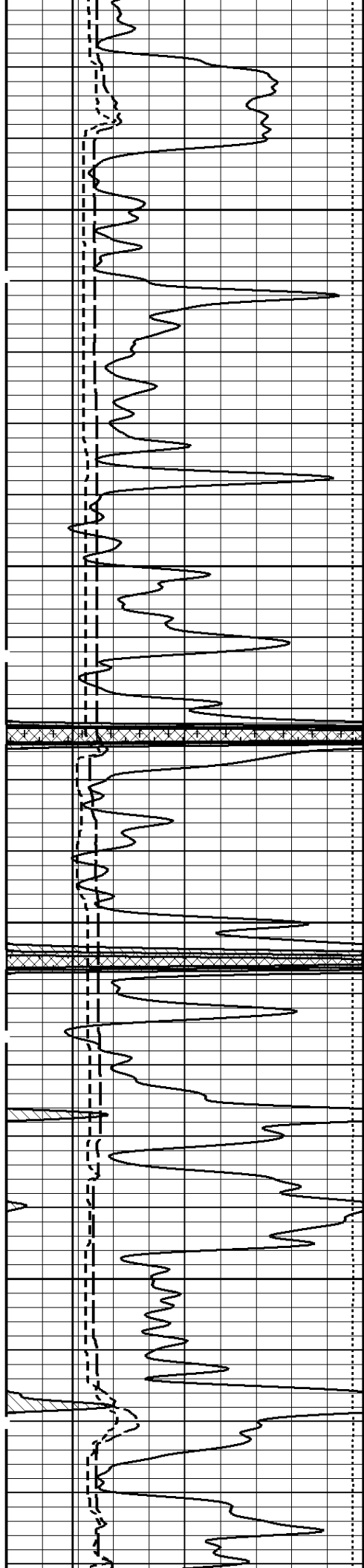
-500Cu.Ft

1800

1900



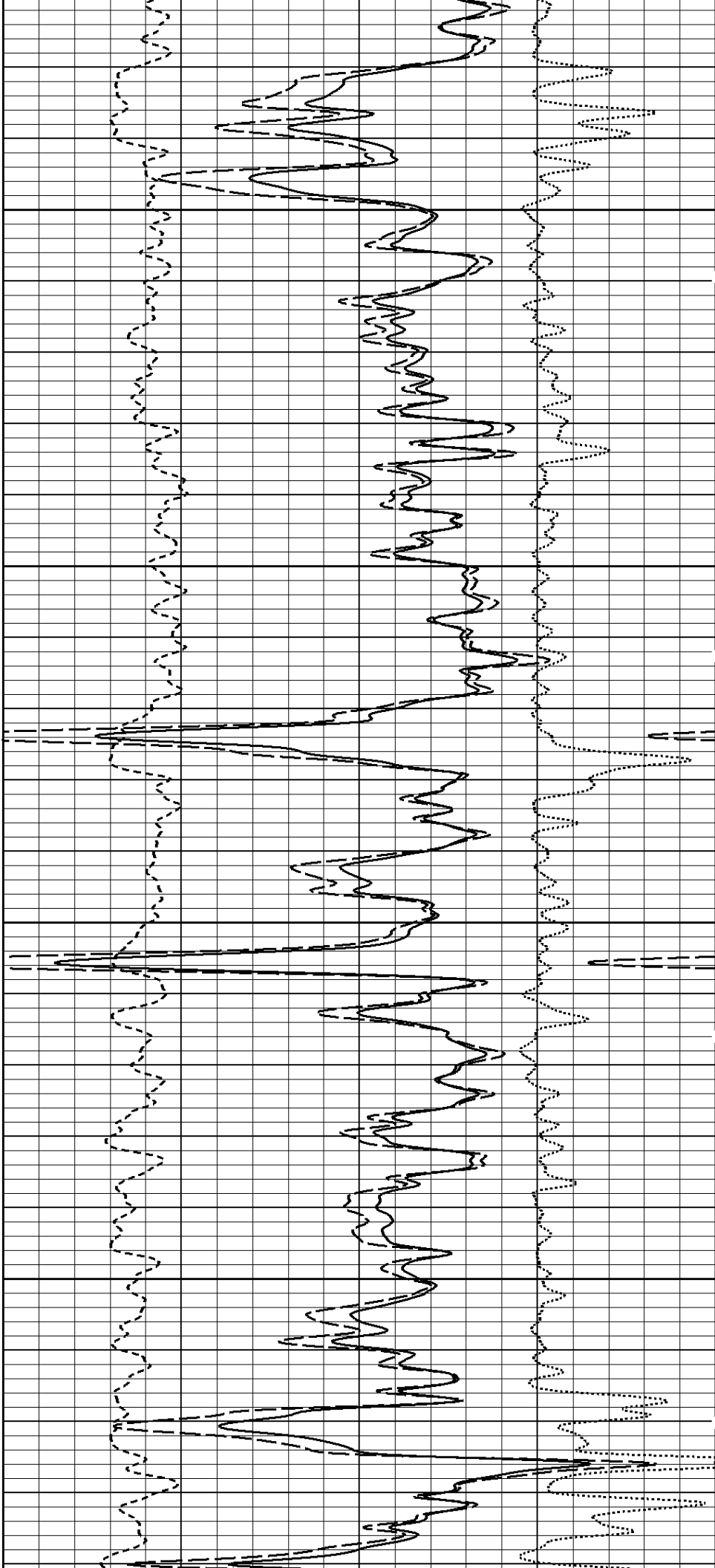


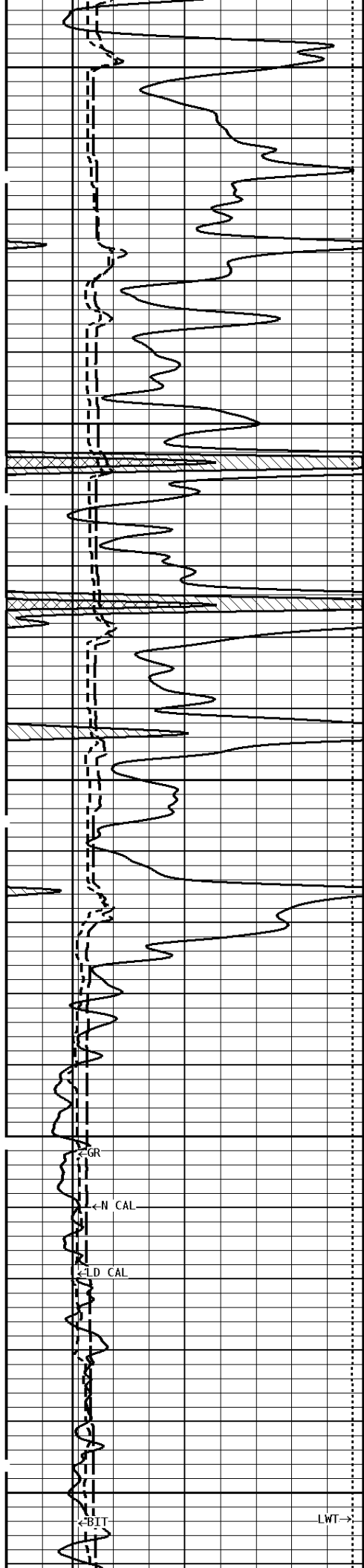


2200

---300Cu.Ft

2300



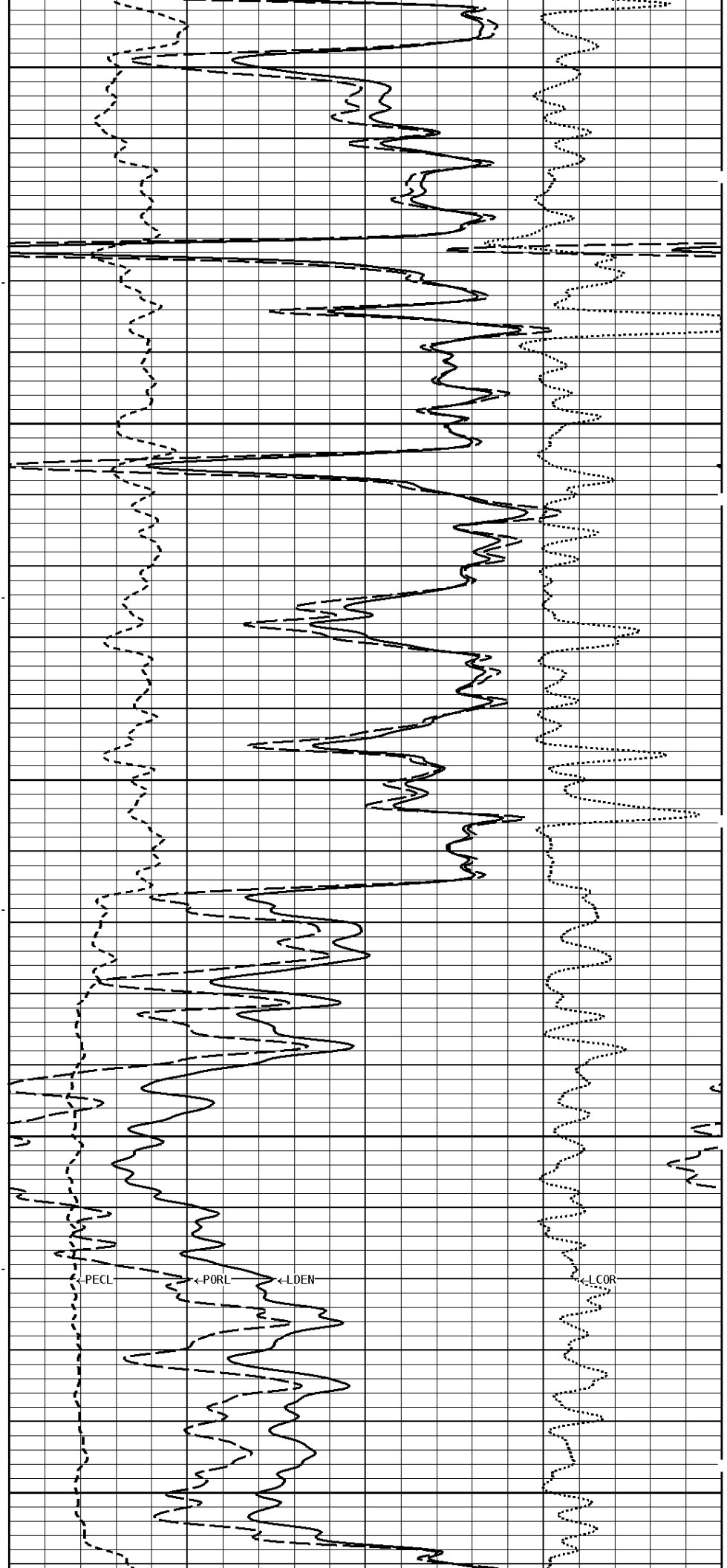


2400

200Cu.Ft

2500

100Cu.Ft

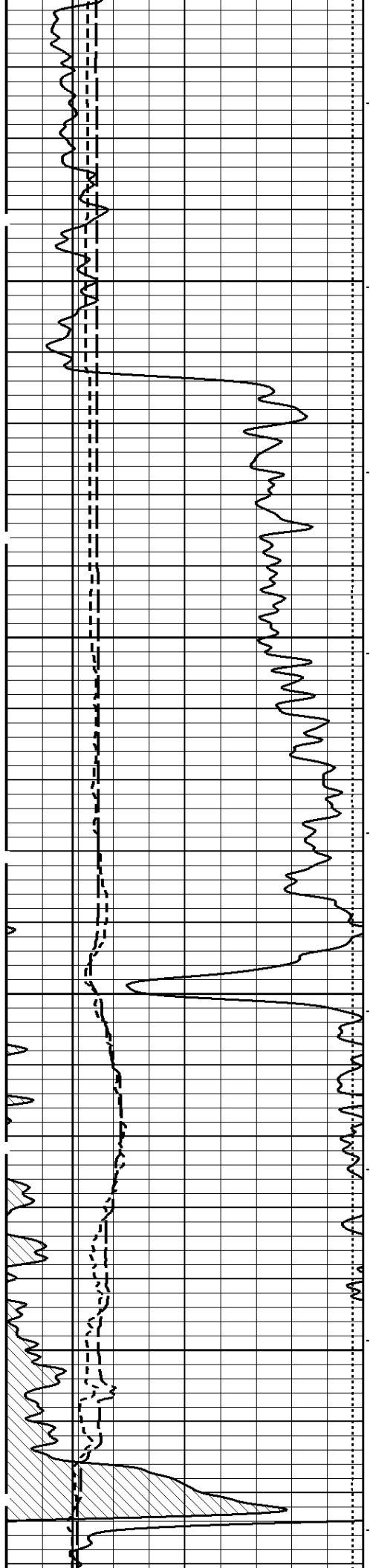


PECL

PORL

LDEN

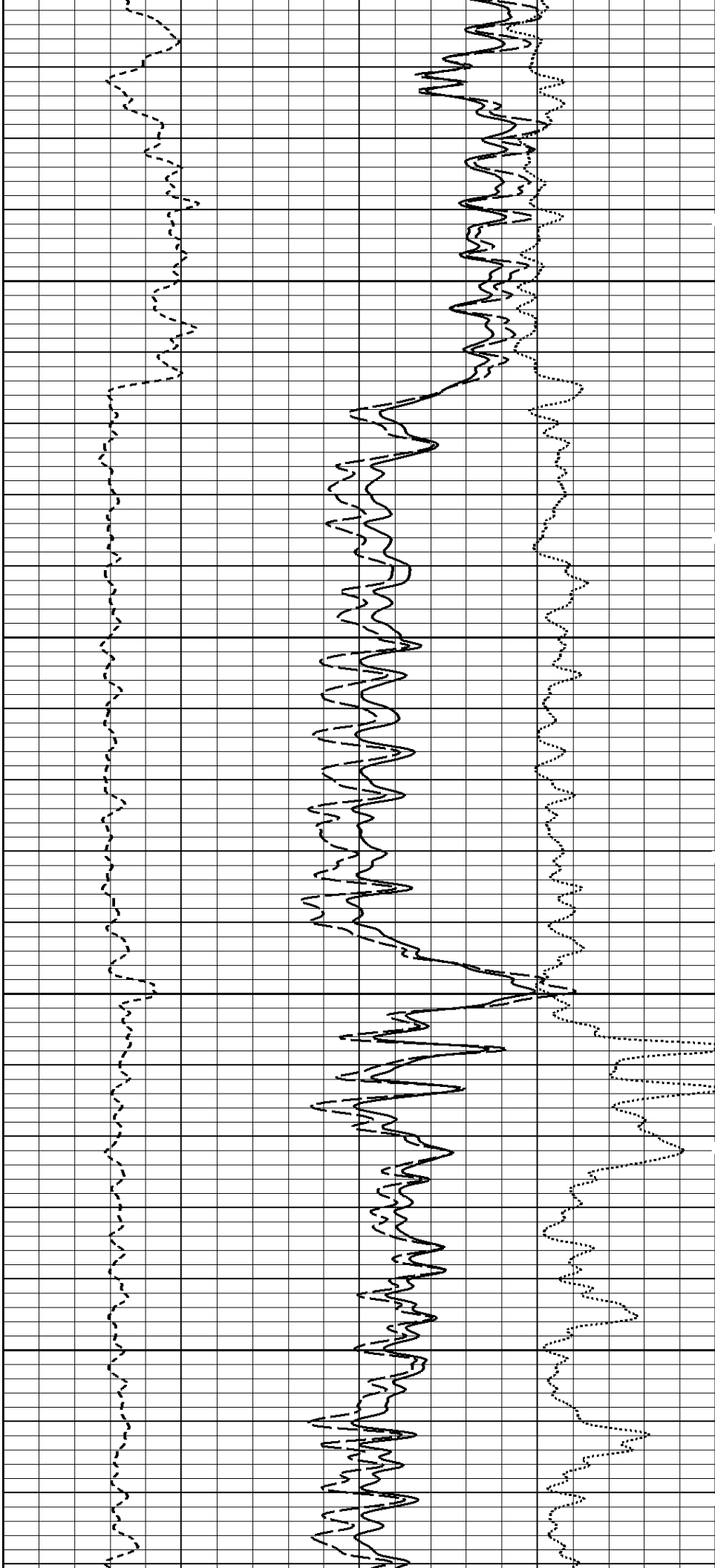
LCOR

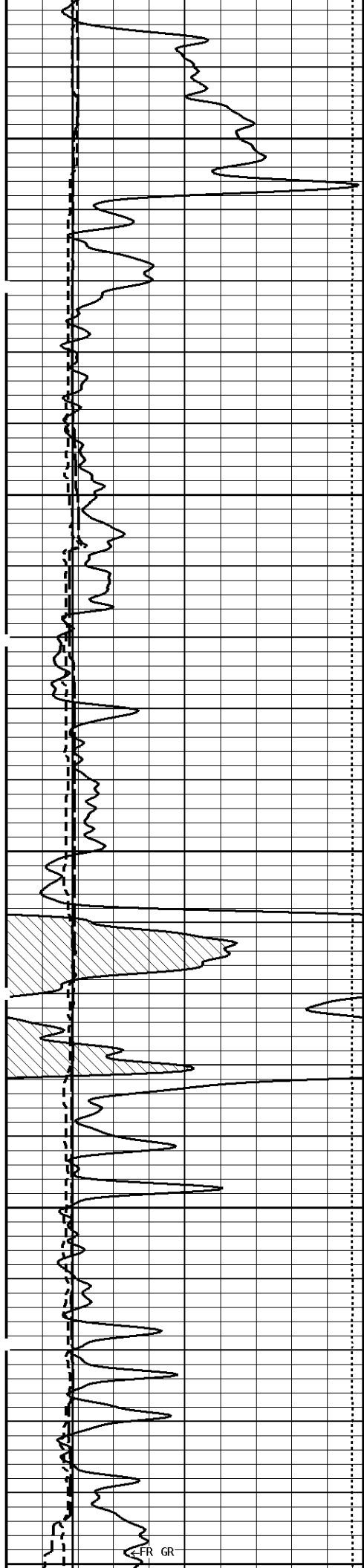


2600

2700

-100Cu.Ft



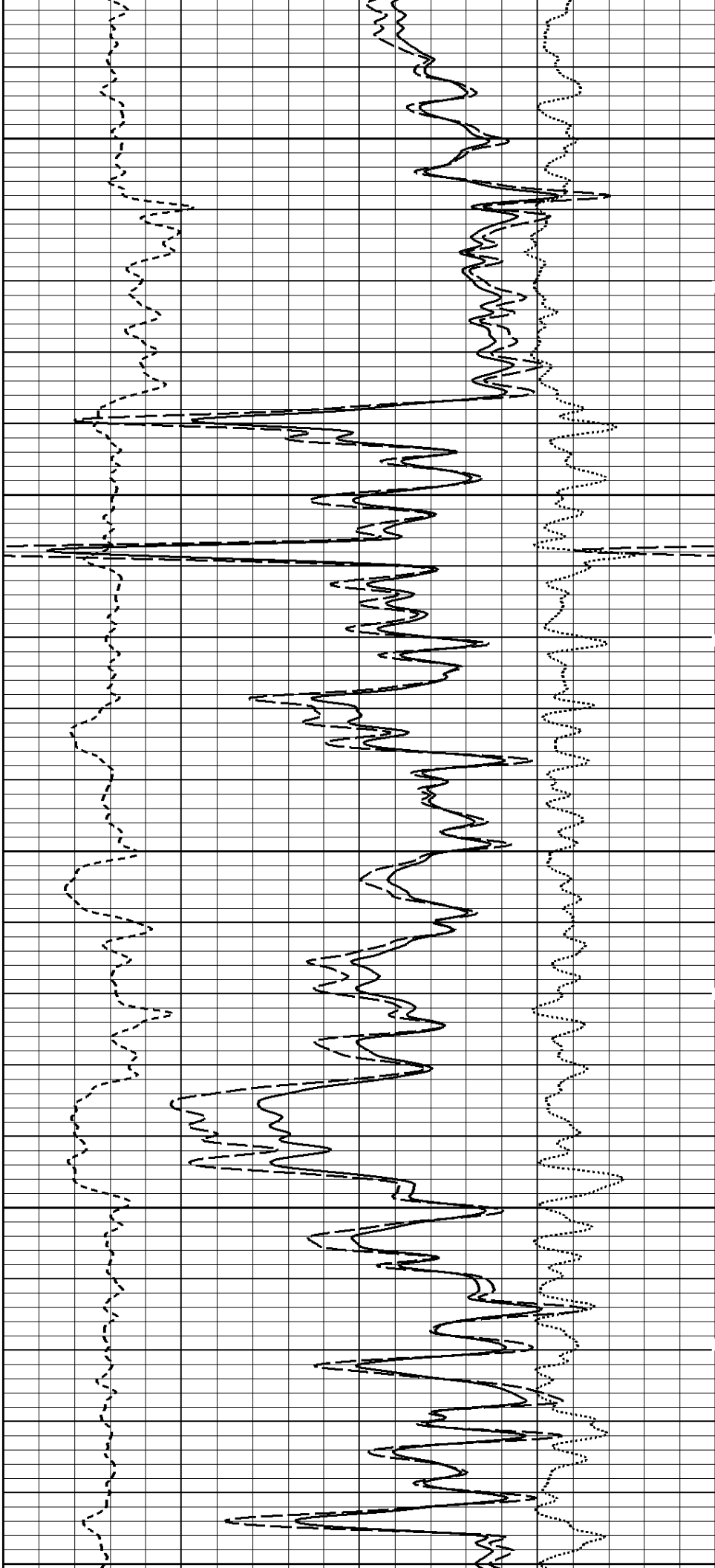


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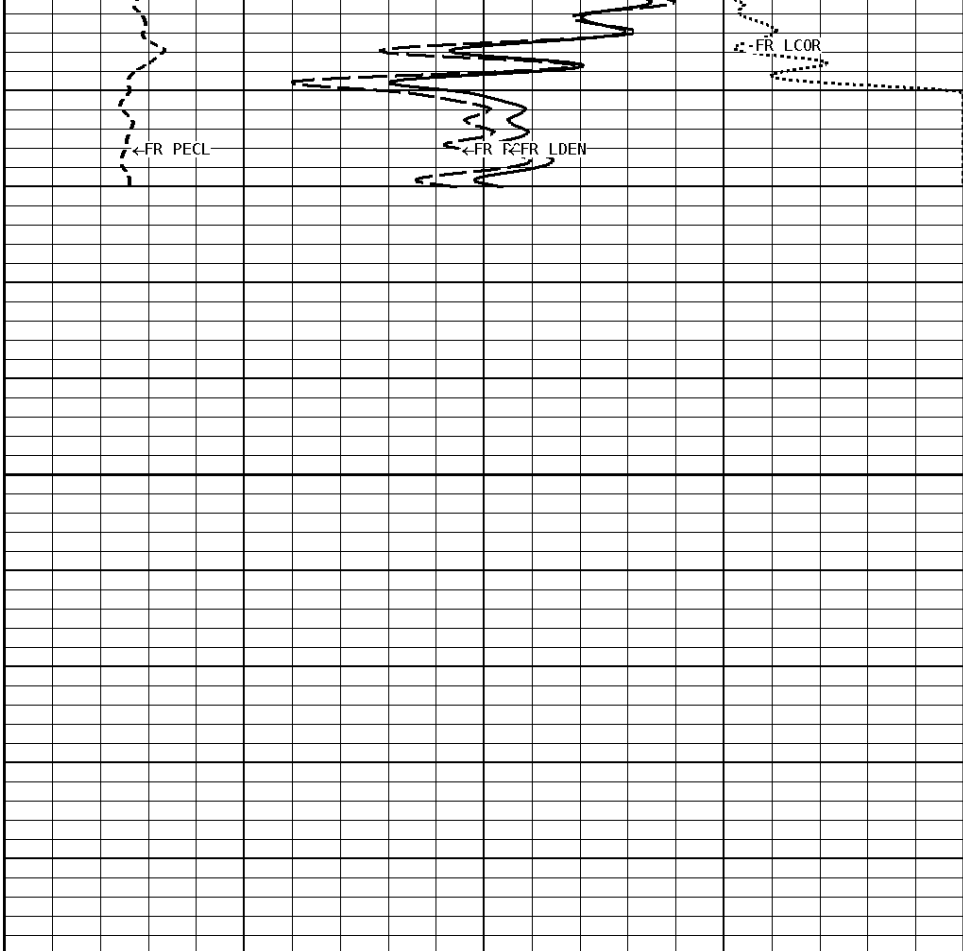
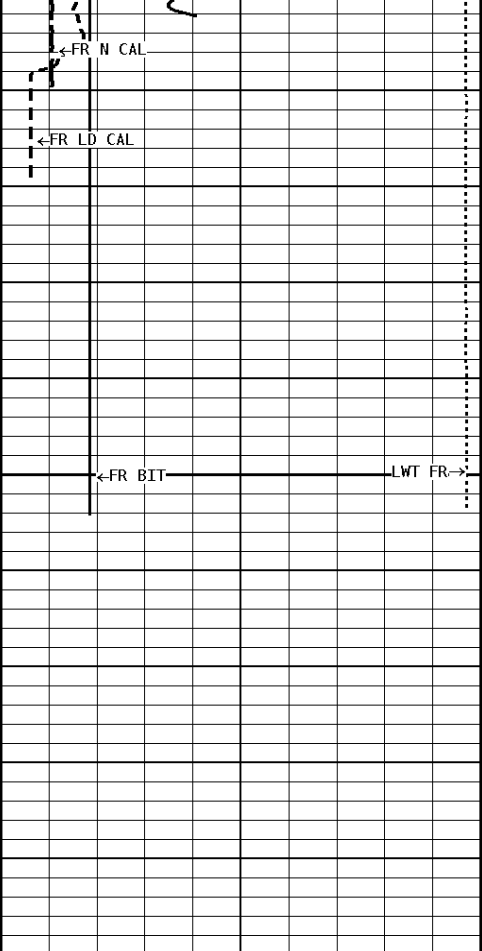
2900

3000

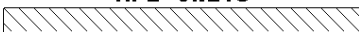
FR GR







**1:240 MAIN SECTION**  
BULK DENSITY

<b>GAMMA RAY</b> <b>API UNITS</b> 150 0  300 0 150	
<b>TENSION</b> <b>LBS</b> 10000 ..... 0	
<b>DENSITY (X) CALIPER</b> <b>INCHES (IN)</b> 16 ..... 26 6 ..... 16	
<b>NEUTRON (Y) CALIPER</b> <b>INCHES (IN)</b> 16 ..... 26 6 ..... 16	
<b>BIT SIZE</b> <b>INCHES (IN)</b> 6 ..... 16	

- BHV AHV - CU. FT	<b>DENSITY POROSITY (2.71g/cc)</b> <b>PERCENT</b> 70 ..... 30 30 ..... -10 -10 ..... -50	
	<b>COMPENSATED BULK DENSITY</b> <b>G/CC</b> 3.0 ..... 4.0 2.0 ..... 3.0 1.0 ..... 2.0	
	<b>PE CROSS-SECTION</b> <b>BARNS/ELECTRON</b> 0 ..... 10	<b>DENSITY CORRECTION</b> <b>G/CC</b> -0.25 ..... 0.25

**\* Borehole Zone Factors \***

<b>Zone 1 99999.0 to 0.0 Feet</b>		
Matrix Density	_____	2.71 g/cc
Fluid Density	_____	1.00 g/cc
Formation Matrix	_____	Limestone
Drill Bit Size	_____	7.875 in
Casing Diameter	_____	5.500 in
Casing Correction (PHI N)	_____	Disable

**\* Calibration Summary \***

<b>Shop Calibration</b>					
<b>GRT-B</b>					
Performed : 02-Oct-2015			Time : 10:35		
Sensor Suite : GR-GR5			ID : GRT-BA-121		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig		GRAPI
	47	352	175		

<b>Shop Calibration</b>					
<b>CNT-AA</b>					
Performed : 03-NOV-2015			Time : 11:23		
Sensor Suite : CALI-BCN			ID : NDT-AC-925		
	Jig - Measured		Jig - Calibrated		Units
CL # 1	Ring#1	Ring#2	Ring#1	Ring#2	IN.
	8.9	12.7	6.0	12.0	

Performed : 03-Nov-2015			Time : 10:26		
Sensor Suite : BHC NEUT			ID : CNP-AA-121		
Source ID : N-1044					
	Tank		Verification		Units
N/F	Measured	Calibrated	Jig		
Porosity	4.0097	3.6893	3.6894		%
	25.7	20.5	20.5		

<b>Shop Calibration</b>					
<b>LDT-DA</b>					
Performed : 12-DEC-2015			Time : 18:48		
Sensor Suite : CALI-LTH			ID : NDT-BB-153		
	Jig - Measured		Jig - Calibrated		Units
CL # 1	Ring#1	Ring#2	Ring#1	Ring#2	IN.
	7.2	12.0	6.0	12.0	

Performed : 12-DEC-2015			Time : 18:47		
Sensor Suite : BHCPENLNG			ID : LDP-DA-50		
Source ID : CSV-587					
	Short Space				Units
LSW1	BKGD	Al	Mg	Al+Fe	CPS
	68	427	689	291	
LSW2		500	794	369	CPS
	73				
LSW3		1222	1896	1053	CPS
	274				
LSW4		1164	1611	1050	CPS
	338				
LSW5		38	39	37	CPS
	31				
LSW6		92	94	92	CPS
	92				
LSW7		58	57	59	CPS
	55				
LSW8		2	2	2	CPS
	2				
QS	0.250	0.232	0.248	0.220	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC
	Long Space				Units
LLW1	BKGD	Al	Mg	Al+Fe	CPS
	100	510	2087	331	
LLW2		841	3461	633	CPS
	112				
LLW3		1682	6127	1476	CPS
	420				
LLW4		1030	2551	960	CPS
	543				
LLW5		67	78	66	CPS
	63				
LLW6		164	159	165	CPS
	167				
LLW7		109	106	111	CPS
	113				
LLW8		6	10	6	CPS
	5				
QL	0.192	0.203	0.202	0.196	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

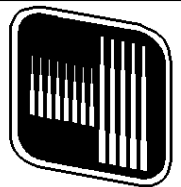
<b>Shop Calibration</b>					
<b>MST-DA</b>					
Performed : 05-DEC-2015			Time : 08:37		
Sensor Suite : CALI-MSN			ID : MST-DA-25		
	Jig - Measured		Jig - Calibrated		Units
CL # 1	Ring#1	Ring#2	Ring#1	Ring#2	IN.
	7.7	13.4	6.0	12.0	

Performed : 05-DEC-2015			Time : 08:38		
Sensor Suite : MSTDA-NI			ID : MST-DA-25		

	Measured		Internal		Calibrated		Units
	Zero	Reference	Units	Zero	Reference	Units	
	INV-V	0.0	30010.6		0.00	1546.00	
NOR-V	0.1	30159.6		0.00	1546.00	MV	
IN-C	0.0	57334.5		0.00	15.46	UA	
INV-R					32.34	OHMM	
NOR-R					55.11	OHMM	
Performed : 05-DEC-2015			Time : 08:39				
Sensor Suite : MSTDAMSF			ID : MST-DA-25				
	Measured		Internal		Calibrated		Units
	Zero	Reference	Units	Zero	Reference	Units	
	MSFC	6.9	42184.2		0.00	1522.00	
MSFB	32757.2	32562.9		0.00	1522.00	MA	
MOM1	0.0	43971.1		0.00	1522.00	MV	
MSFRA					43.30	OHMM	



Company: MID-CONTINENT ENERGY CORP.  
 Well: ROGERS #1  
 Location: 1320' FSL & 990' FWL  
 Logged: 12-16-2015  
 K.B. Elev: 1394.0 Ft



**Tucker**  
ENERGY SERVICES

PHASED INDUCTION

SHALLOW FOCUS SP LOG

Company MID-CONTINENT ENERGY CORP.  
Well ROGERS #1  
Field WENGER  
County MARION  
State KANSAS  
Country USA  
API No. 15-115-21501-0000

File No : TUL-60745  
Company : MID-CONTINENT ENERGY CORP.  
Well : ROGERS #1  
Field : WENGER  
County : MARION  
State : KANSAS  
Country : USA  
API No : 15-115-21501-0000

Location :  
1320 FSL & 990' FWL  
E/2 W/2 SW

LSD :                      Sect : 11                      Twp : 21S                      Rge : 3E

Permanent Datum: GL  
Drilling Measured From: KB                      Elevations: KB 1394.00                      Ft  
Log Measured From: KB                      DF 1393.00                      Ft  
Above Permanent Datum: 5.00 Ft                      GL 1389.00                      Ft

Services: CNT                      PIT  
LDT  
MLT

Date	12-16-2015	Run Number	1
Depth--Driller	3050.0	Depth--Driller	3050.0 Ft
Depth--Logger	30500.0	Depth--Logger	30500.0 Ft
First Reading	3050.0	First Reading	3050.0 Ft
Last Reading	218.0	Last Reading	218.0 Ft
Casing--Driller	218.0	Casing--Driller	218.0 Ft
Casing--Logger	218.0	Casing--Logger	218.0 Ft
Bit Size	7.875	Bit Size	7.875 In
Casing Size	8.625	Casing Size	8.625 In
Hole Fluid Type	WBM	Hole Fluid Type	WBM
Density	9.3	Density	9.3
Fluid Loss	8.4	Fluid Loss	8.4
PH/Viscosity	10.5	PH/Viscosity	10.5                      48.0
Sample Source	MEASURED	Sample Source	MEASURED
RM@Measured Temp.	2.000 @ 70 F	RM@Measured Temp.	2.000 @ 70 F
RMF@Measured Temp	1.600 @ 70 F	RMF@Measured Temp	1.600 @ 70 F
RMC@Measured Temp.	2.400 @ 70 F	RMC@Measured Temp.	2.400 @ 70 F
Source RMF/RMC	CALCULATED/CALCULATED	Source RMF/RMC	CALCULATED/CALCULATED
RM@BHT	1.380 @ 105 F	RM@BHT	1.380 @ 105 F
Time Circulation Stopped	12-16-2015 16:30	Time Circulation Stopped	12-16-2015 16:30
Max Recorded Temp.	105	Max Recorded Temp.	105 F
Equipment/Base	1022	Equipment/Base	1022 TULSA, OK
Recorded By	SHELDON TYLER	Recorded By	SHELDON TYLER
Witnessed By	BEN LANDES	Witnessed By	BEN LANDES

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. E. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. E. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings			
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
7.875	3050.00	8.625	32.00	218.00	0.00

Run Number	1
Date	12-16-2015
Date/Time On Bottom	12-16-2015 19:30
Depth to Fluid	0.0 Ft
Salinity	1200.000
RMF@BHT	1.100 @ 105 F
RMC@BHT	1.660 @ 105 F

Run Number 1

Comments

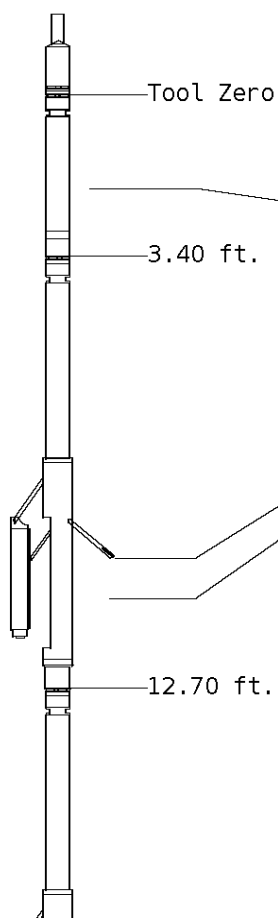
ALL PRESENTATIONS AS PER CUSTOMER REQUEST  
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION  
 CALIPERS ORIENTED ON X-Y AXIS  
 2.71 G/CC USED TO CALCULATE POROSITY  
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING  
 PHIN IS CALIPER CORRECTED

GRT: GRP, GRX  
 CNT: PHIN, CLCNIN, PHXN  
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX  
 MLT: NOR\_RF, INV\_RF, MSCLPIN  
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:  
 B.BROWN  
 J.McCANN

### Tool String Schematic

**Total Tool Length** - 53.15 ft.  
**Maximum Outside diameter** - 6.00 in.  
**Net Weight in Air** - 943.00 lbs.



**Tool:** GRT-B      **Length:** 3.40 ft.    **O.D.** 3.60 in.  
 Gamma Ray Controller

**Sonde ID** :GRT-BA-121

Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.15

**Tool:** CNT-AA      **Length:** 9.30 ft.    **O.D.** 4.36 in.  
 Compensated Neutron A Pad on NDT-A

**Sonde ID** :NDT-AC-925

**Source ID** :N-1044

**Pad ID** :CNP-AA-121

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	43.75
PHIN	6.80	10.20	42.95

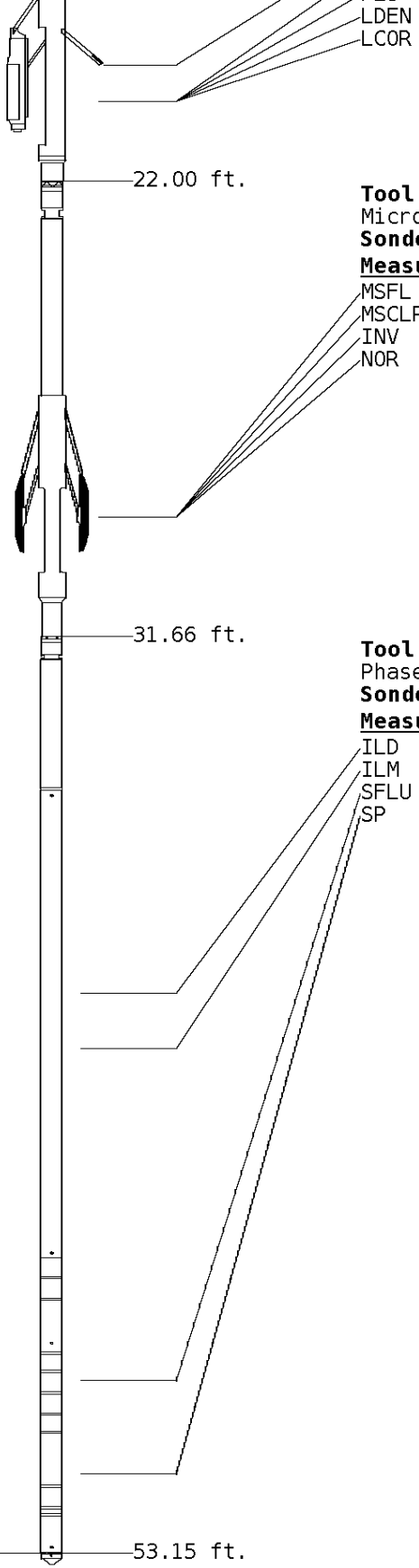
**Tool:** LDT-DA      **Length:** 9.30 ft.    **O.D.** 4.80 in.  
 Litho Density D Pad on NDT-A

**Sonde ID** :NDT-BB-153

**Source ID** :CSV-587

**Pad ID** :LDP-DA-50

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	34.45
PEL	7.00	19.70	33.45
PES	7.40	20.10	33.05



LDEN 7.20 19.90 33.25  
 LCOR 7.20 19.90 33.25

**Tool:** MST-DA      **Length:** 9.66 ft.    **O.D.** 6.00 in.  
 Micro Spherically Focused (IC)  
**Sonde ID** :MST-DA-25

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.55
MSCLP	7.60	29.60	23.55
INV	7.60	29.60	23.55
NOR	7.60	29.60	23.55

**Tool:** PIT-CA      **Length:** 21.49 ft.    **O.D.** 3.62 in.  
 Phased Dual Induction w/ RM & D  
**Sonde ID** :PIT-CA-075

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	40.58	12.56
ILM	10.10	41.76	11.39
SFLU	17.49	49.15	4.00
SP	20.60	52.26	0.88

LWT 53.15 ft.

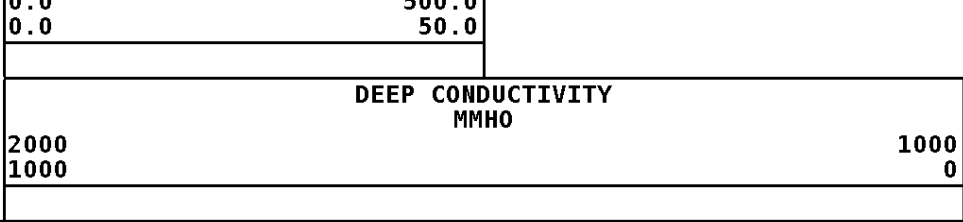
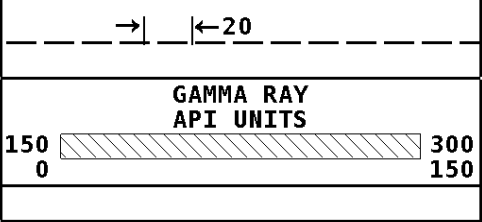
**Well File:** MID CONTINENT ENERGY ROGERS\_1\_DEC16\_MSTK      **Scale:** 1:600      **Format:** DIL-600  
**Segment:** V1.D1.S5 AS FINAL MAIN      **Acquired:** 2015-12/16 19:42 3.4.0-13544  
**Reference:** 0      **Processed:** 2015-12/16 19:42 3.4.0-13544

<b>TENSION</b> LBS	0
10000	0

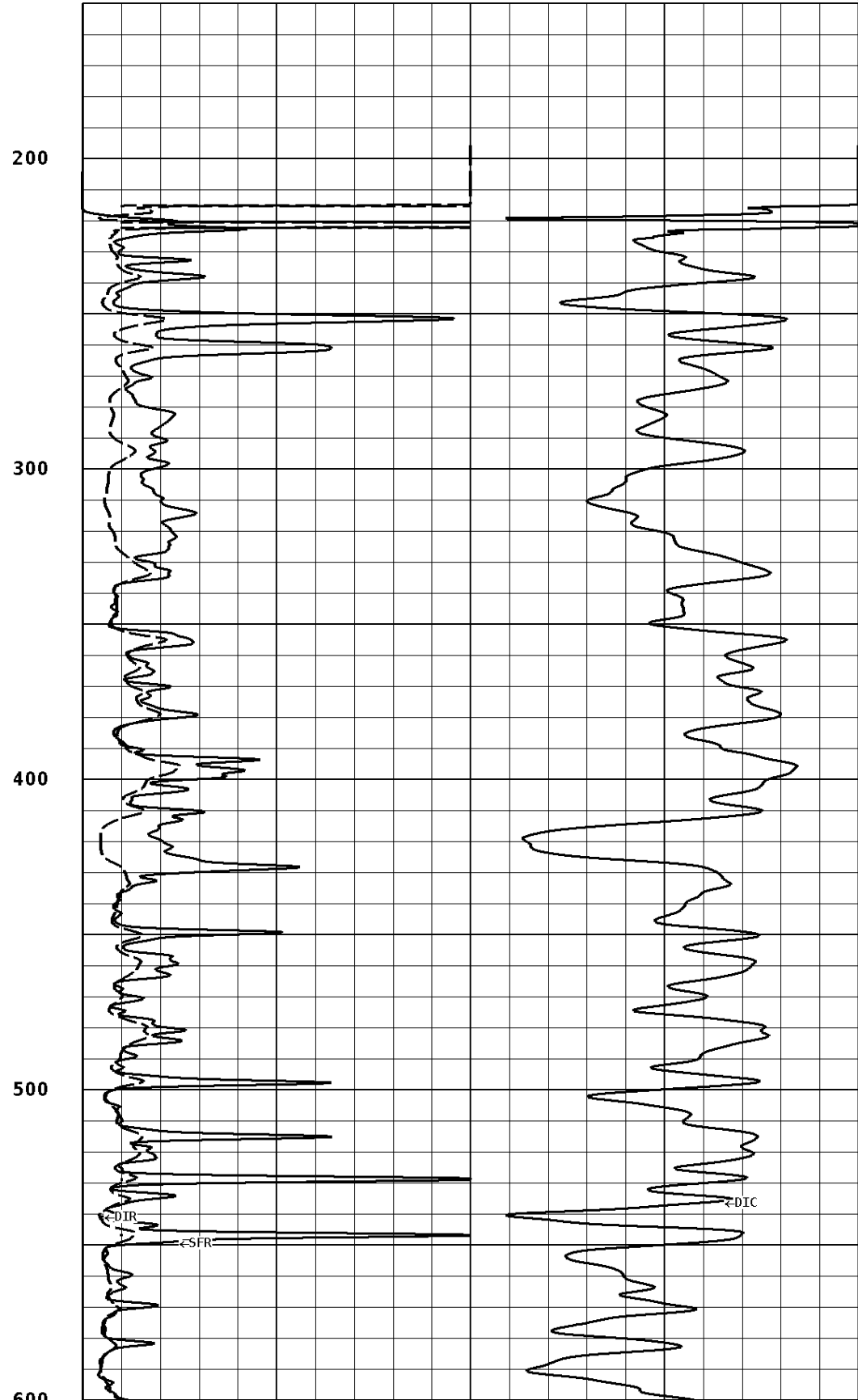
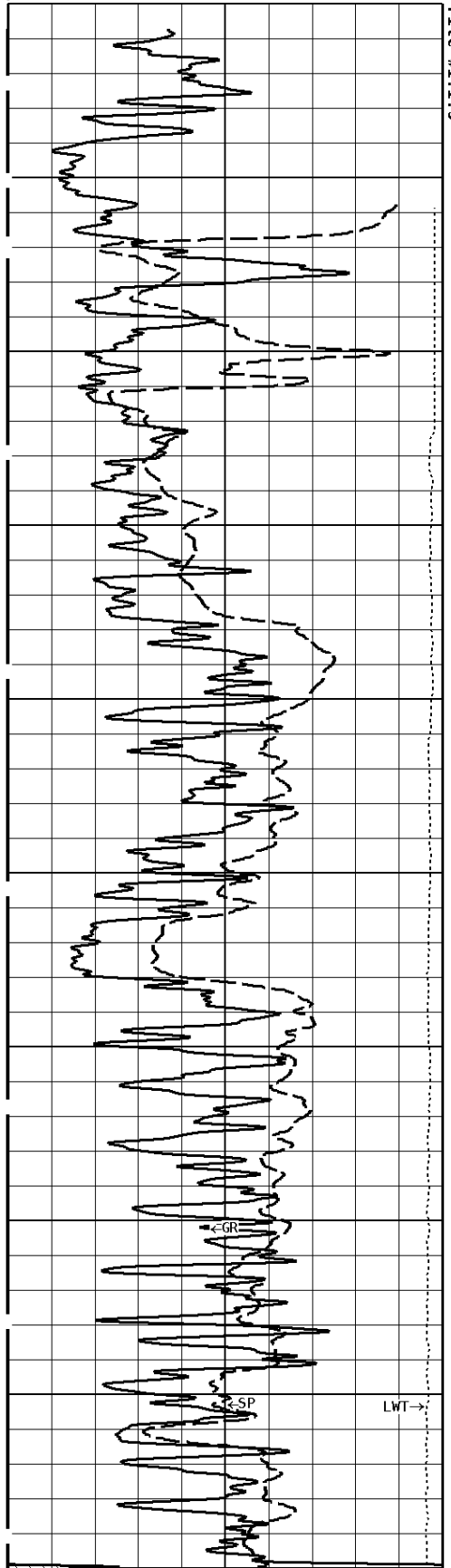
<b>DEEP INDUCTION</b> OHMM	500.0
0.0	50.0
0.0	50.0

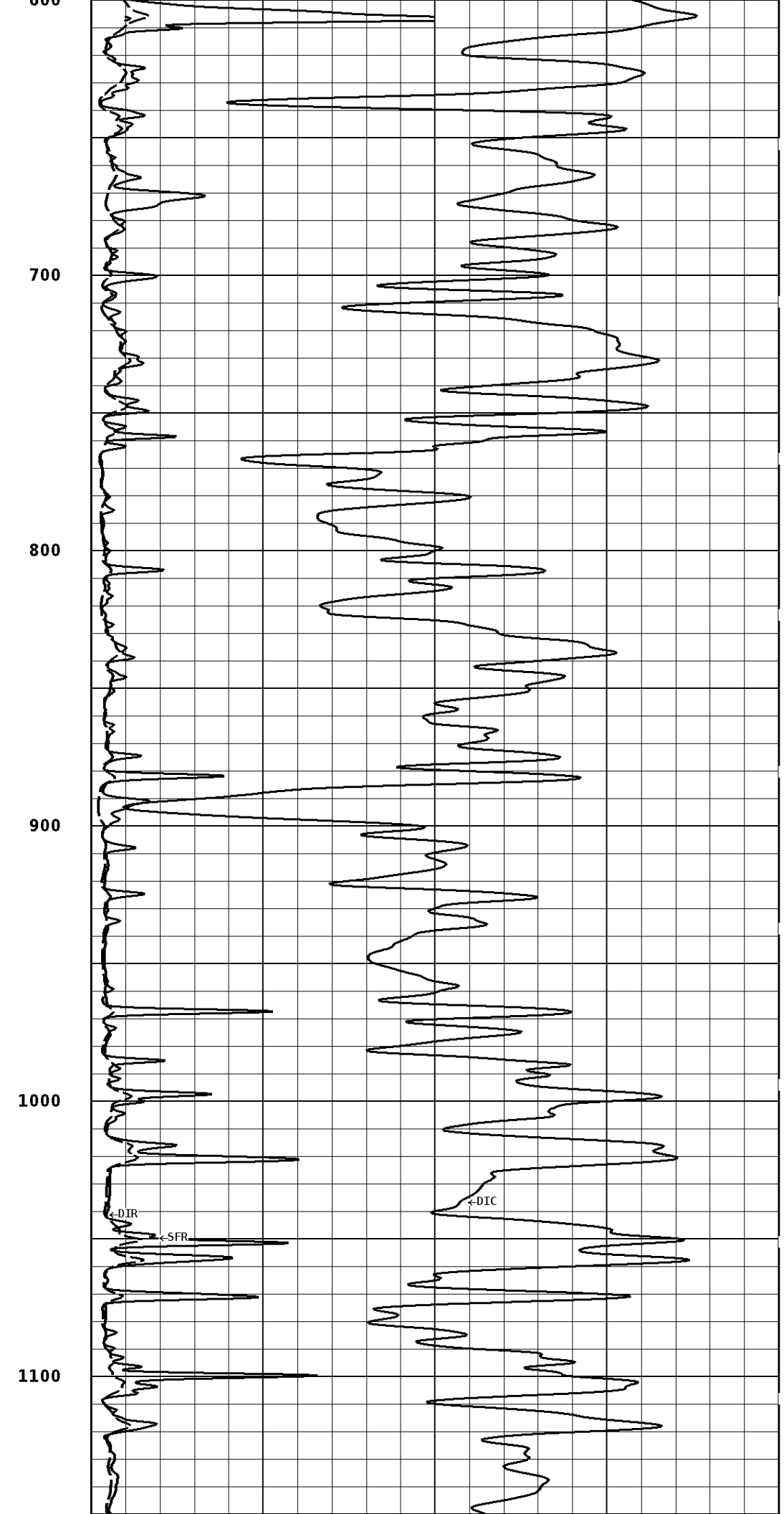
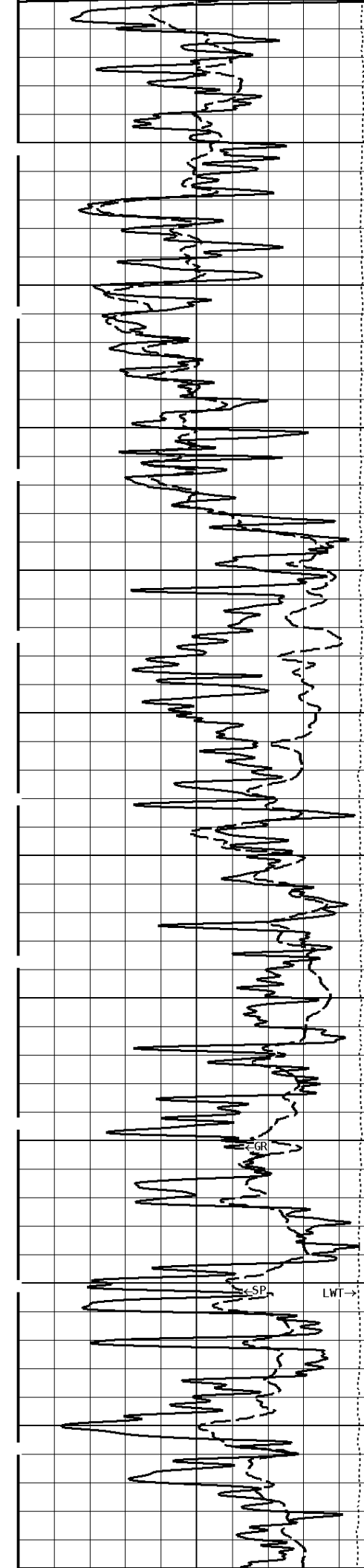
<b>SPONTANEOUS POTENTIAL</b> mV	
------------------------------------	--

<b>SHALLOW FOCUSED RESISTIVITY</b> OHMM	500.0
0.0	500.0

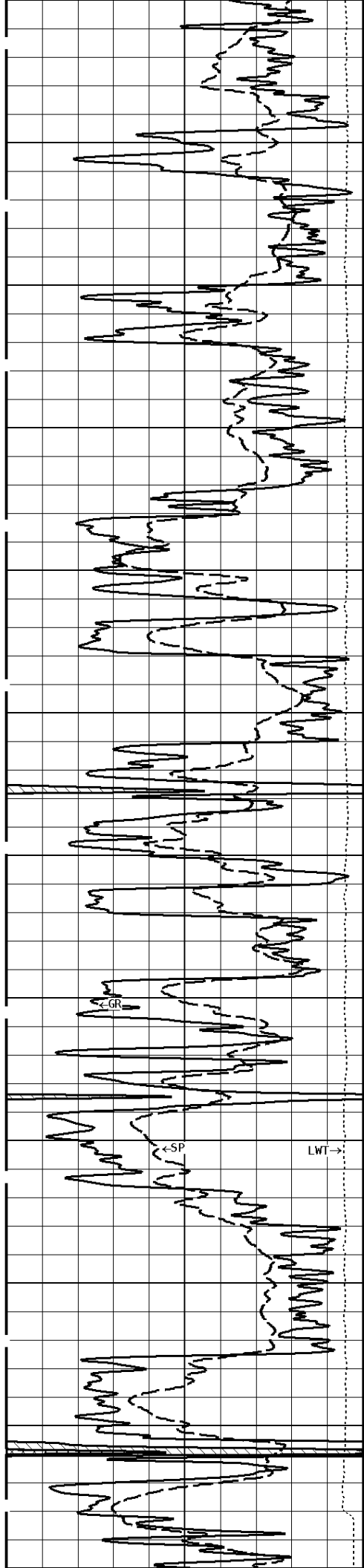


**1:600 MAIN SECTION**









1200

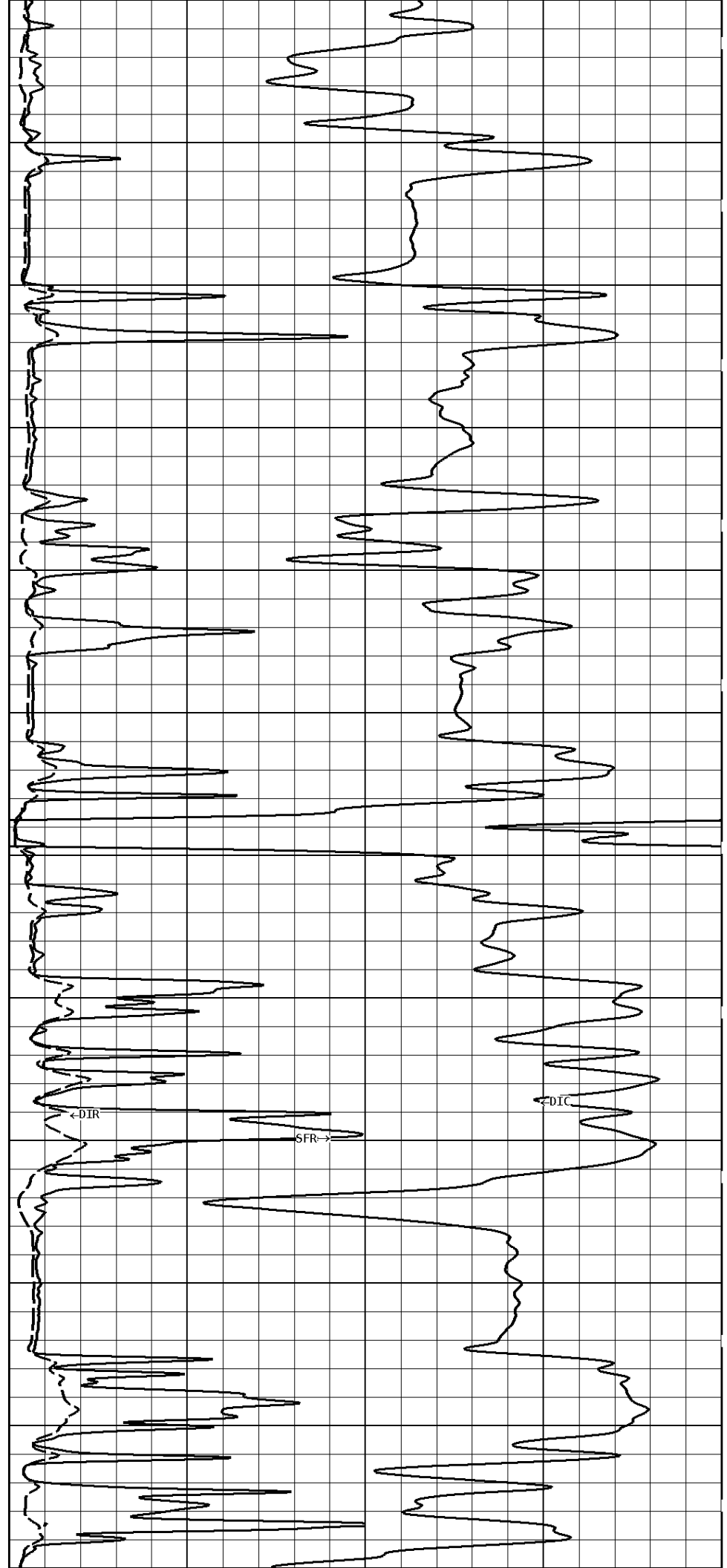
1300

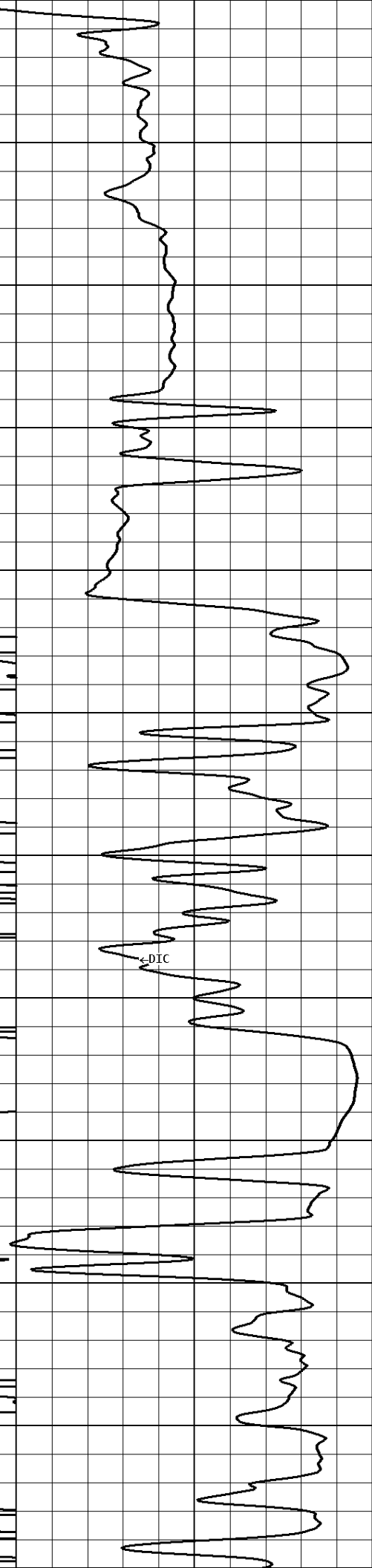
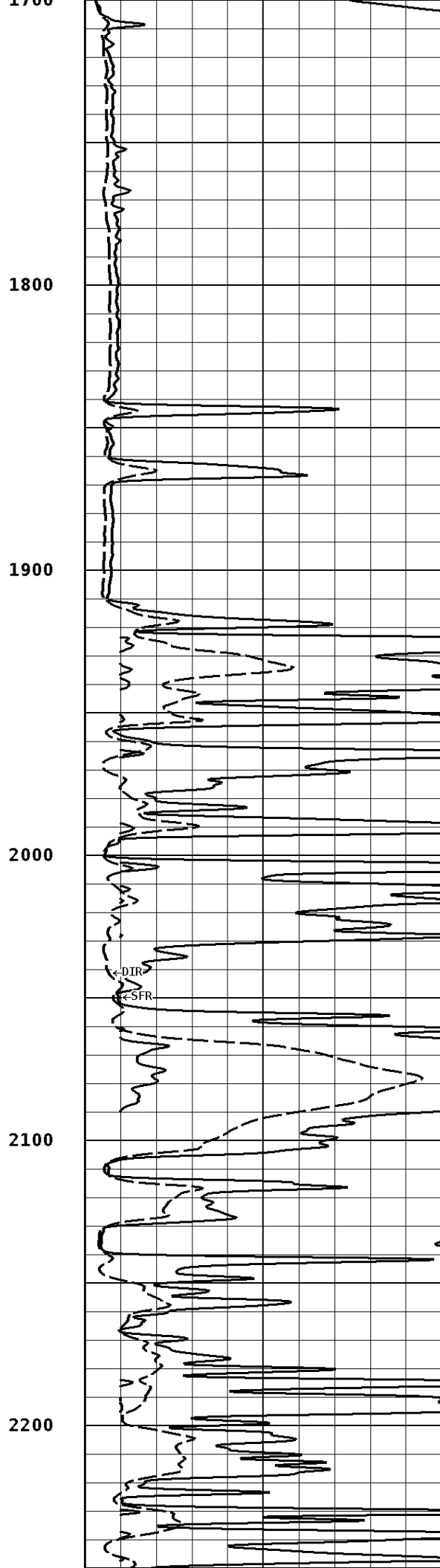
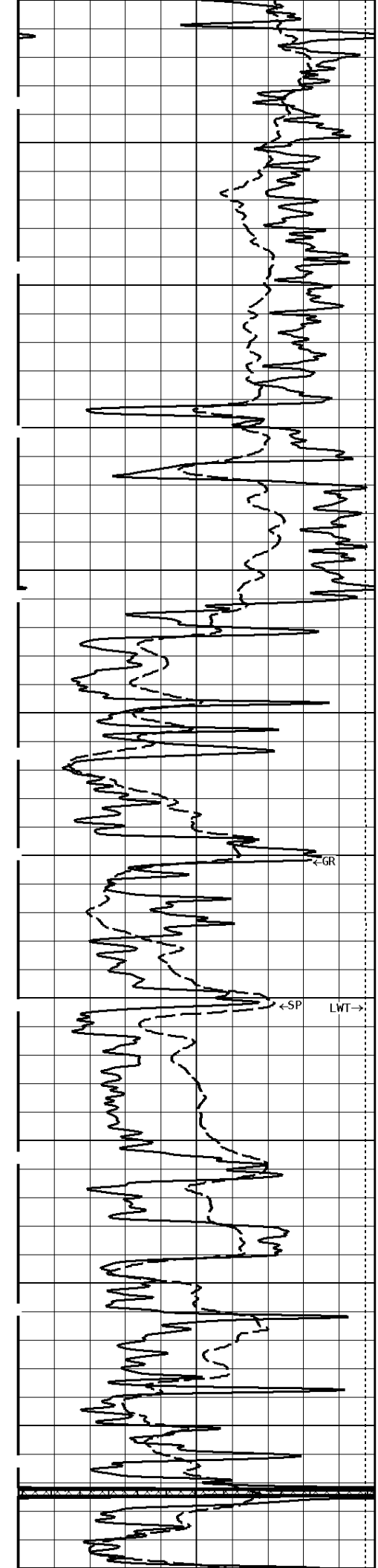
1400

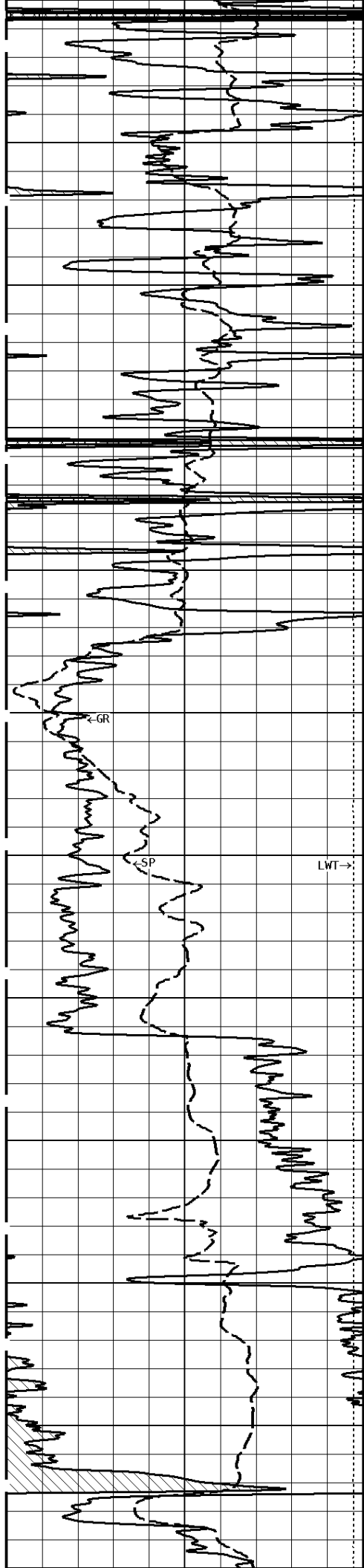
1500

1600

1700







2300

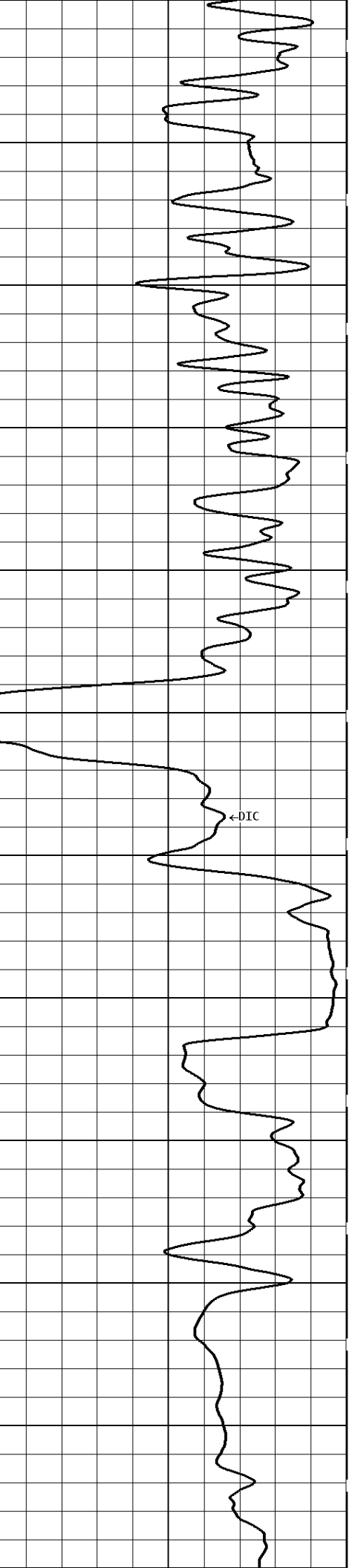
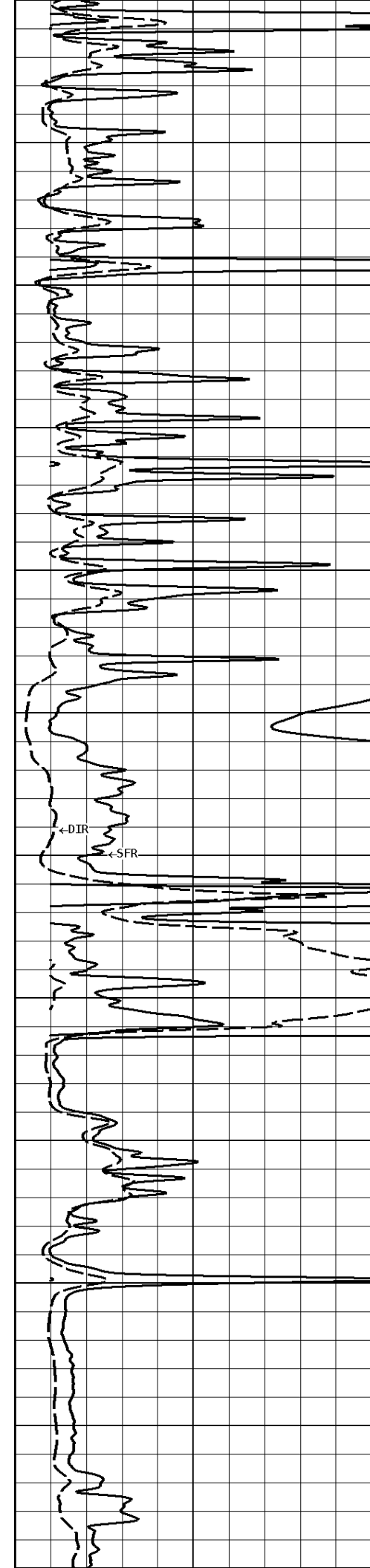
2400

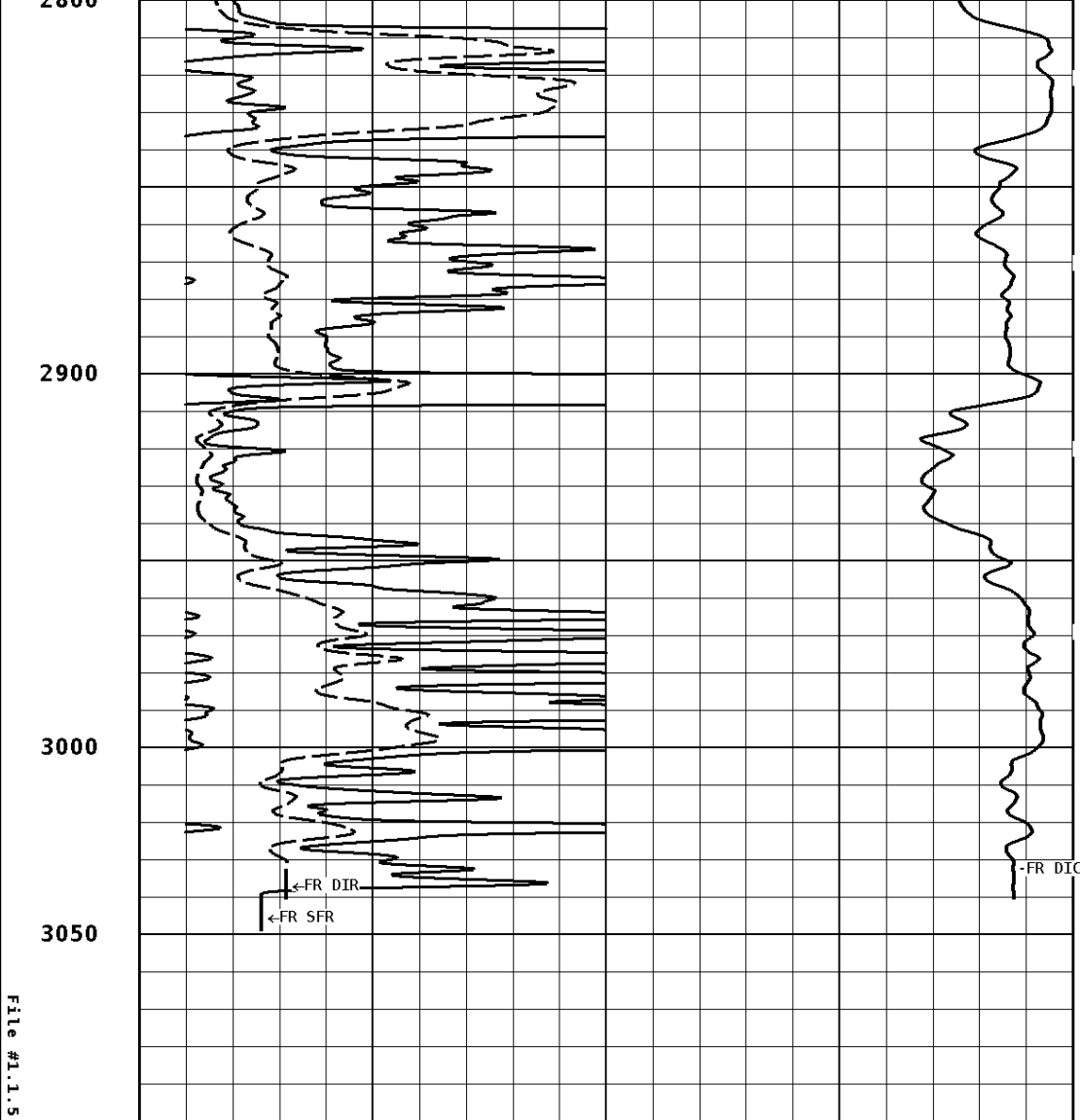
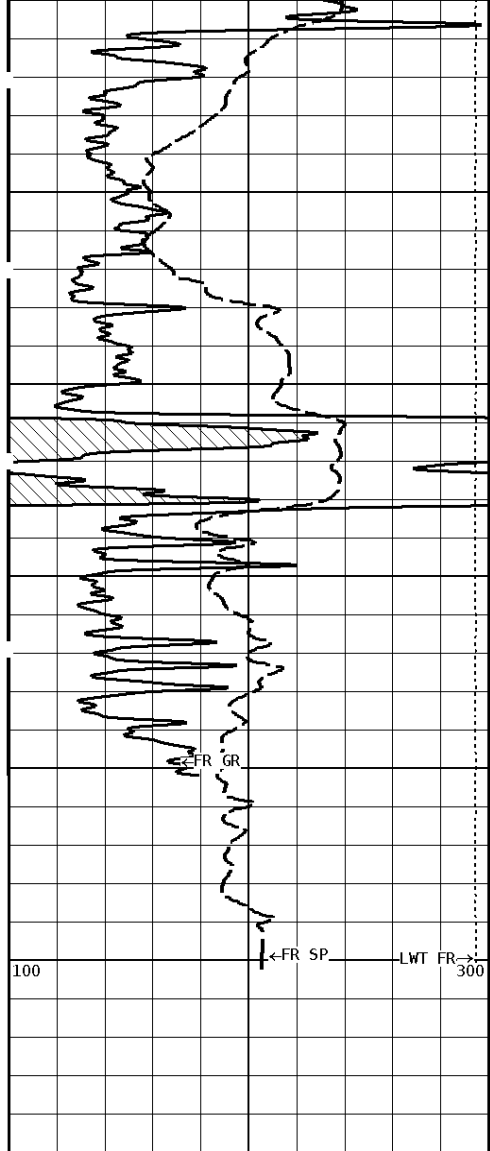
2500

2600

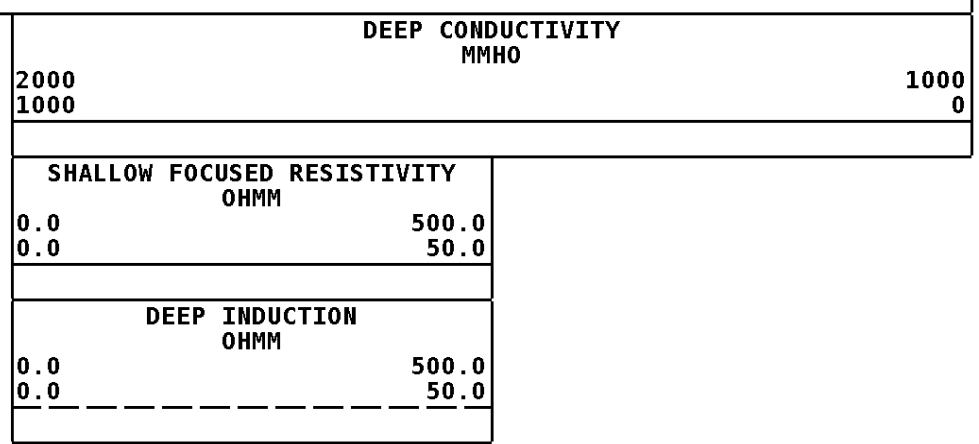
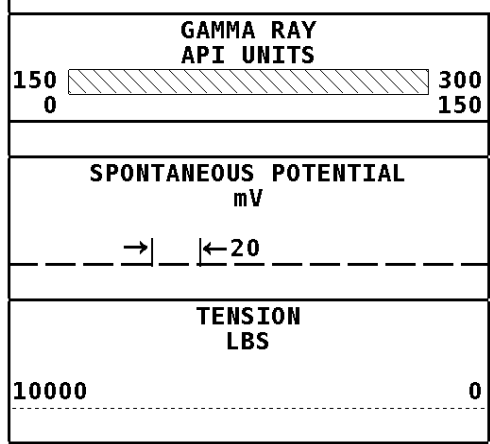
2700

2800

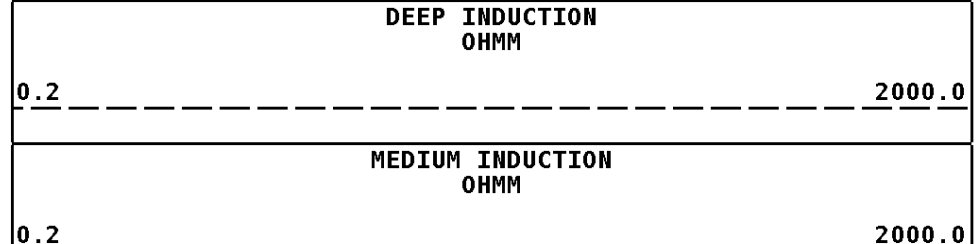
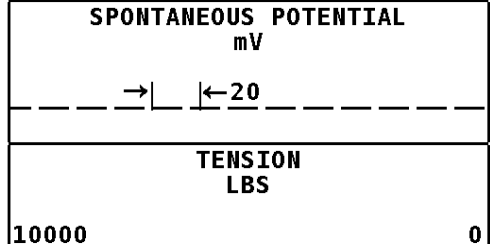




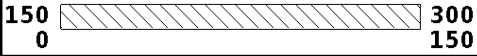
**1:600 MAIN SECTION**



Well File: MID CONTINENT ENERGY ROGERS\_1\_DEC16\_MSTK      Scale: 1:240      Format: DIL-240  
 Segment: V1.D1.S5 AS FINAL MAIN      Acquired: 2015-12/16 19:42 3.4.0-13544  
 Reference: 0      Processed: 2015-12/16 19:42 3.4.0-13544



GAMMA RAY  
API UNITS

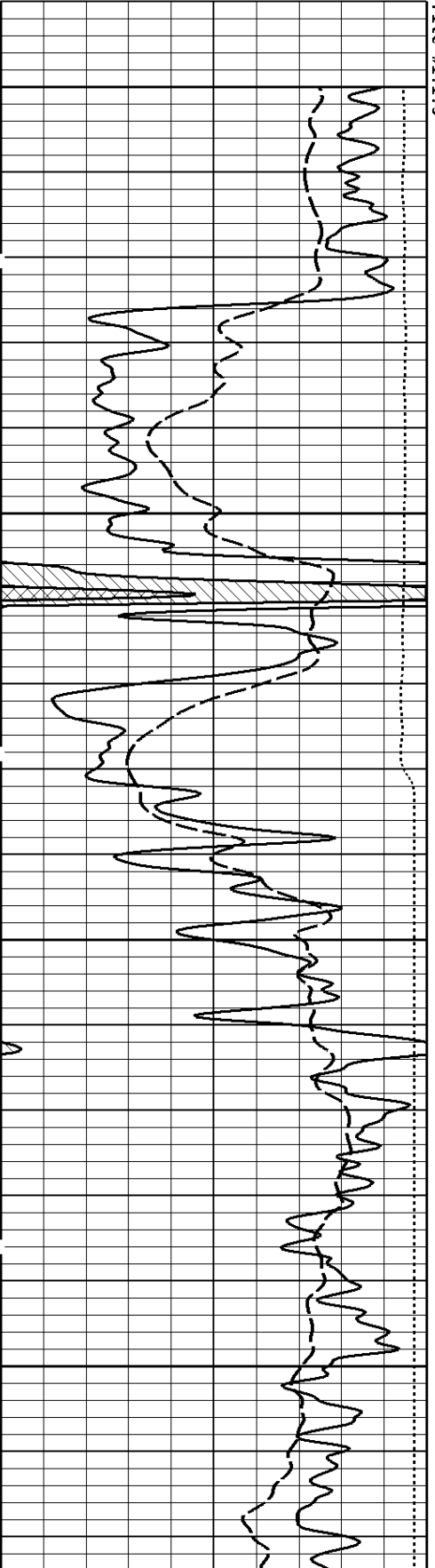


SHALLOW FOCUSED RESISTIVITY  
OHMM

0.2

2000.0

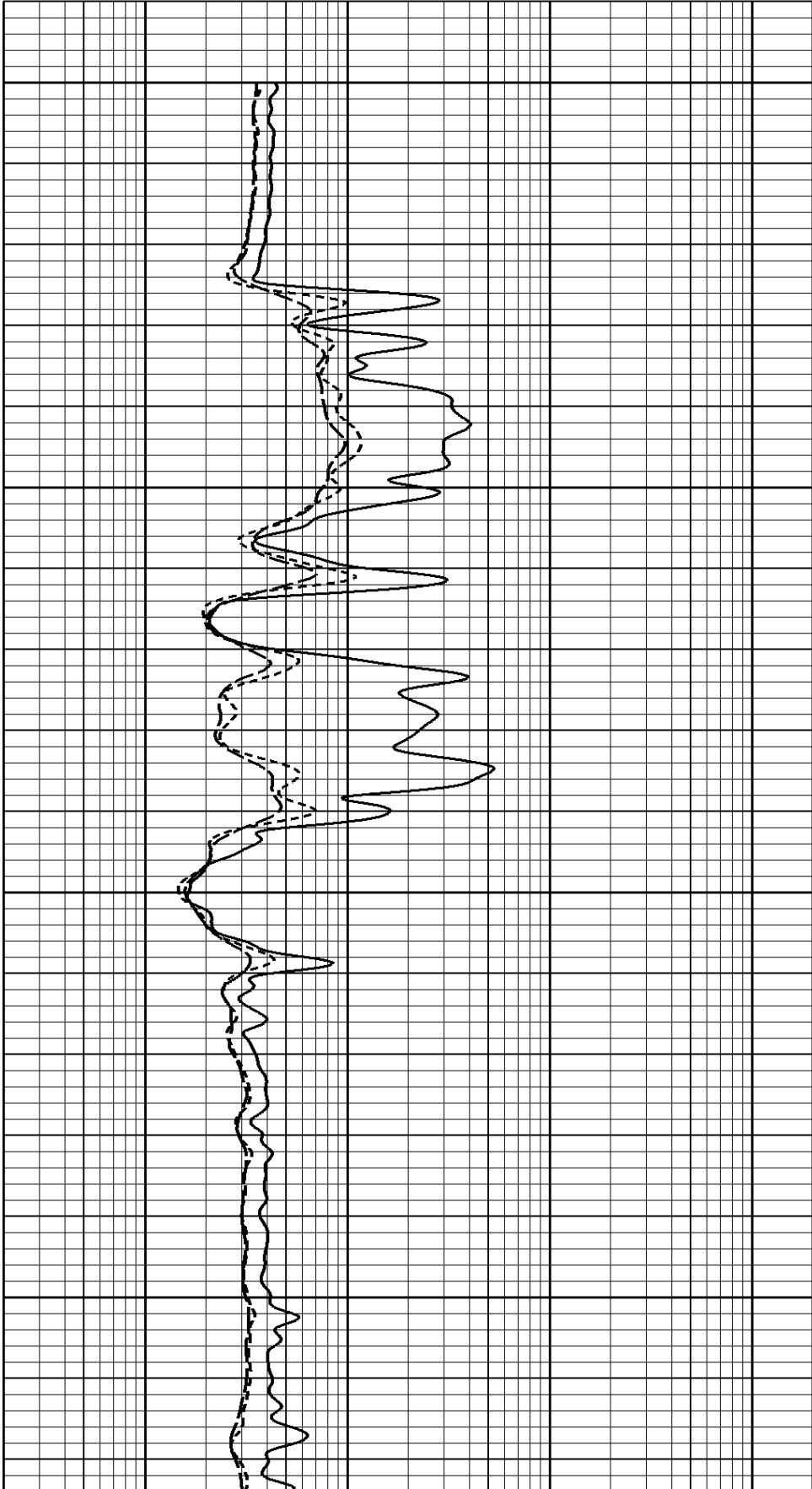
### 1:240 MAIN SECTION

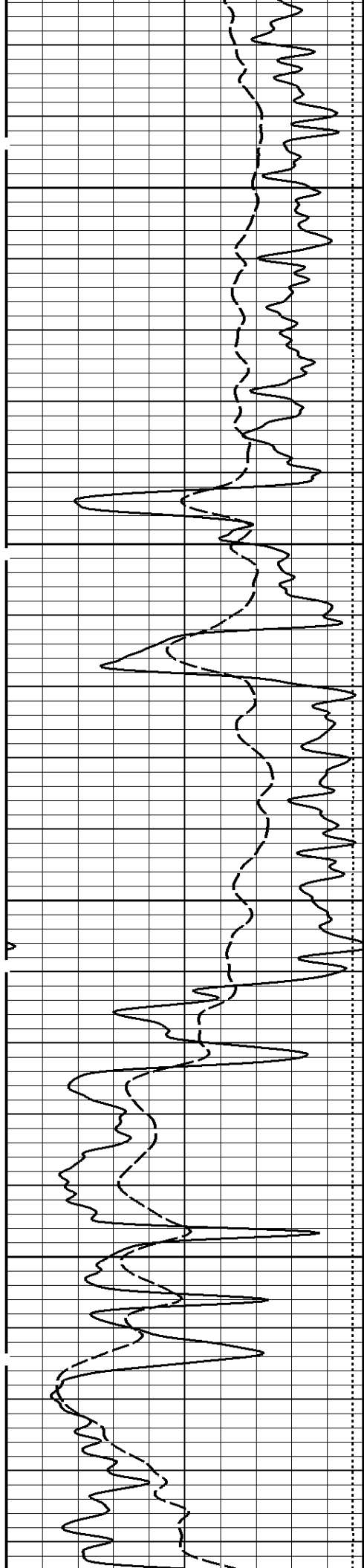


File #1.1.5

1600

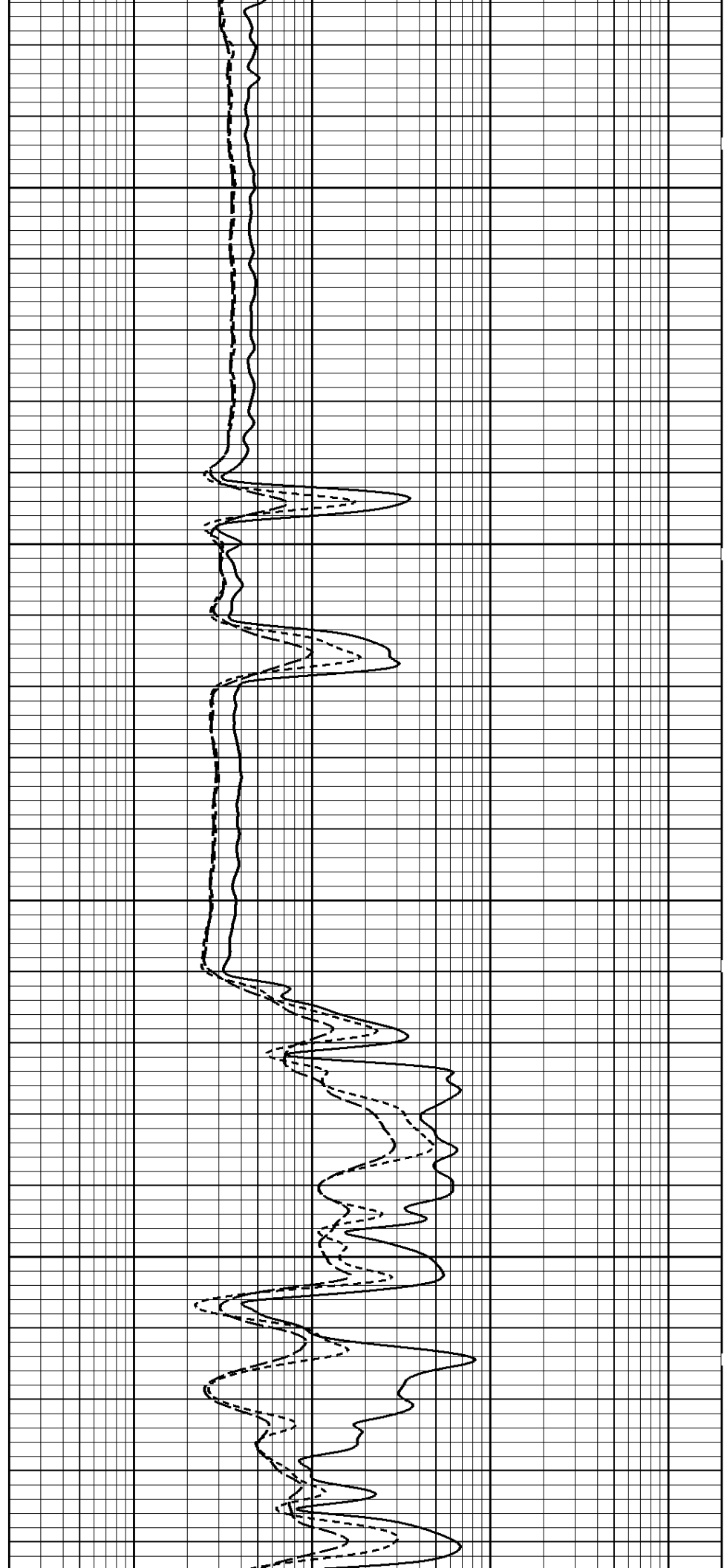
1700

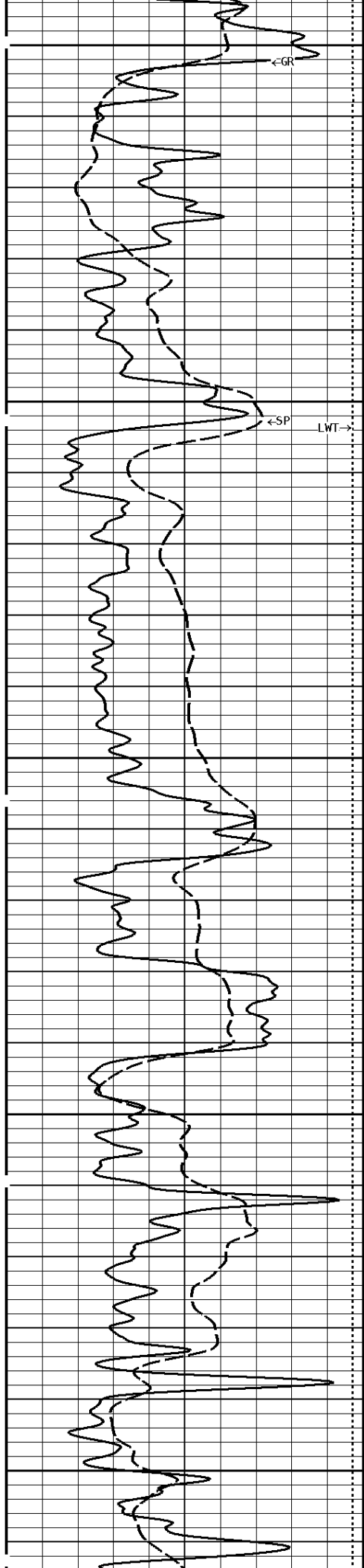




1800

1900





2000

2100

2200

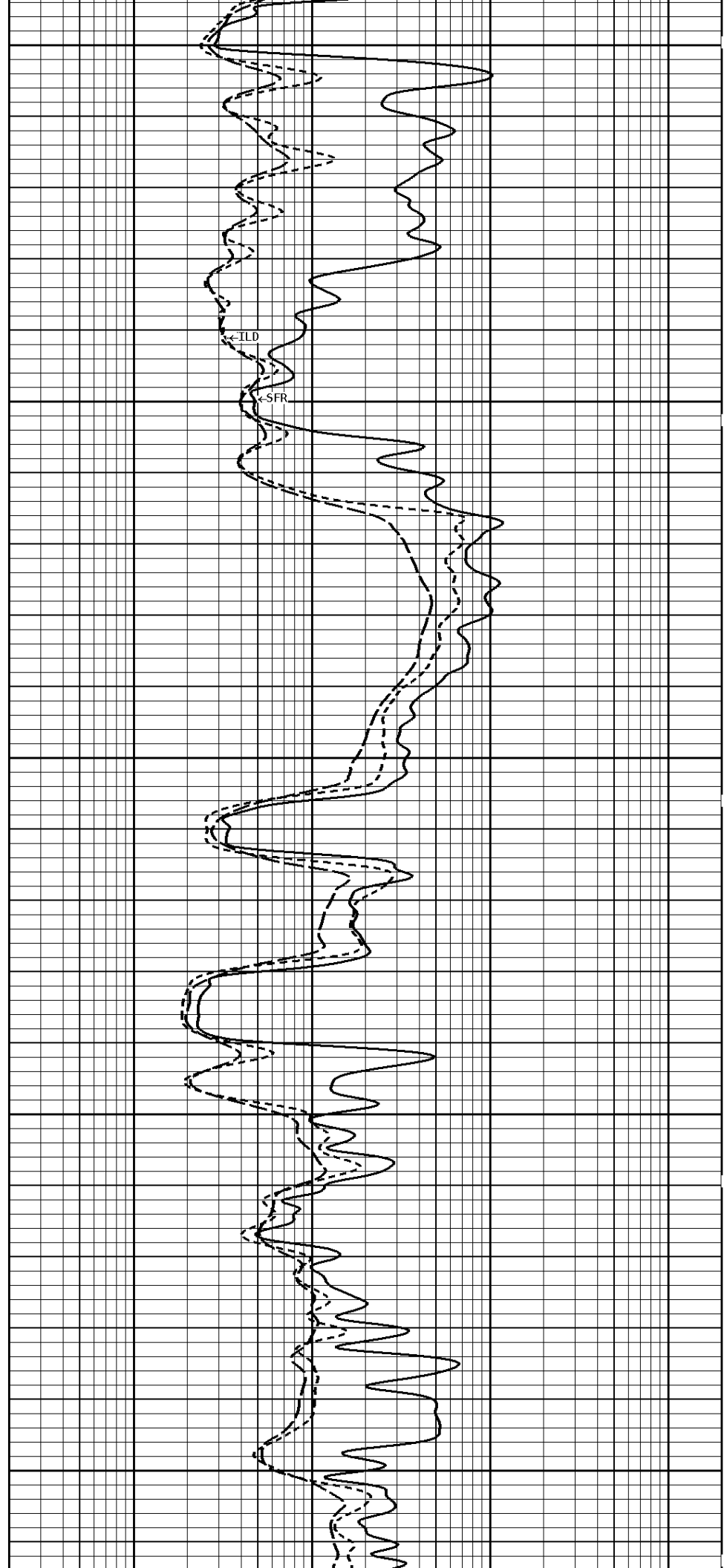
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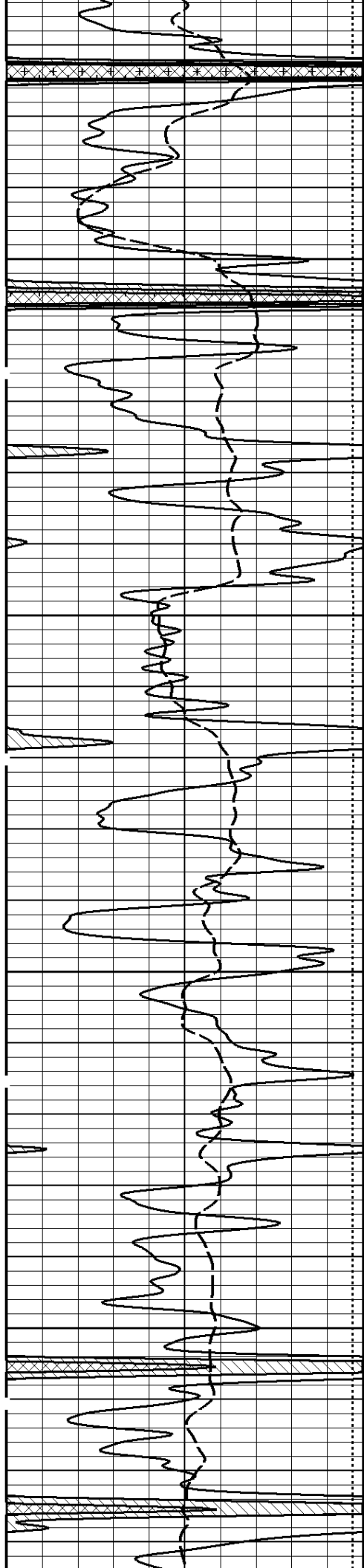
<SP>

LWT->

<ILD>

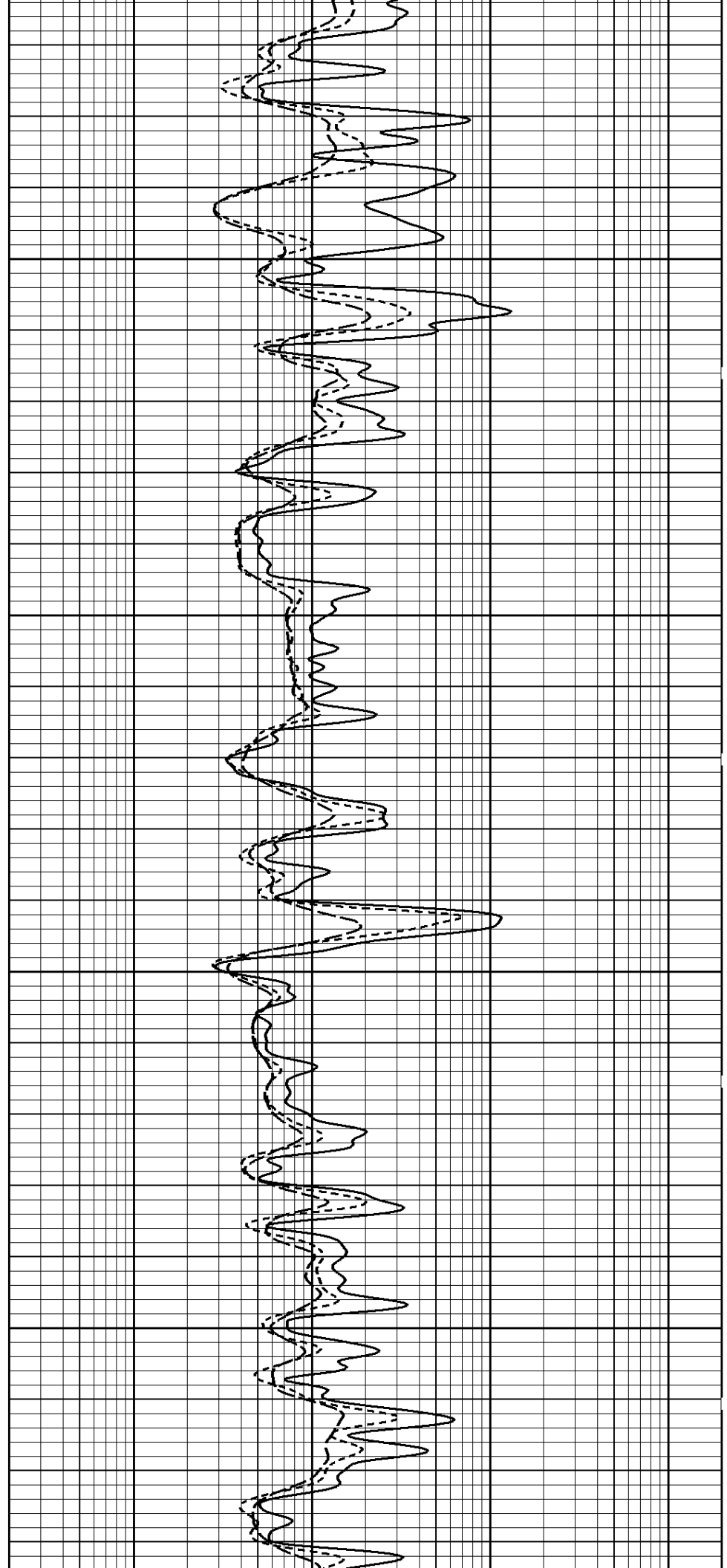
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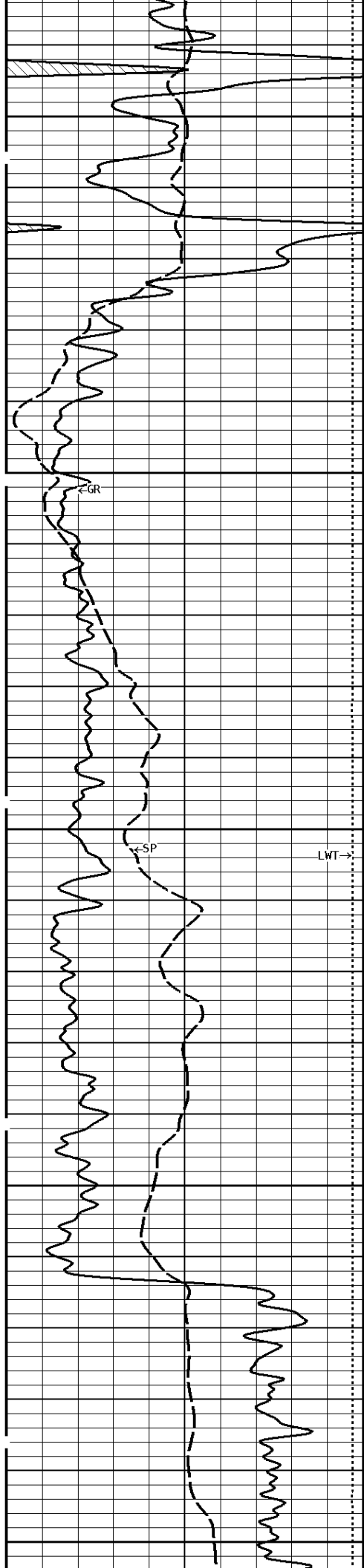


2300

2400

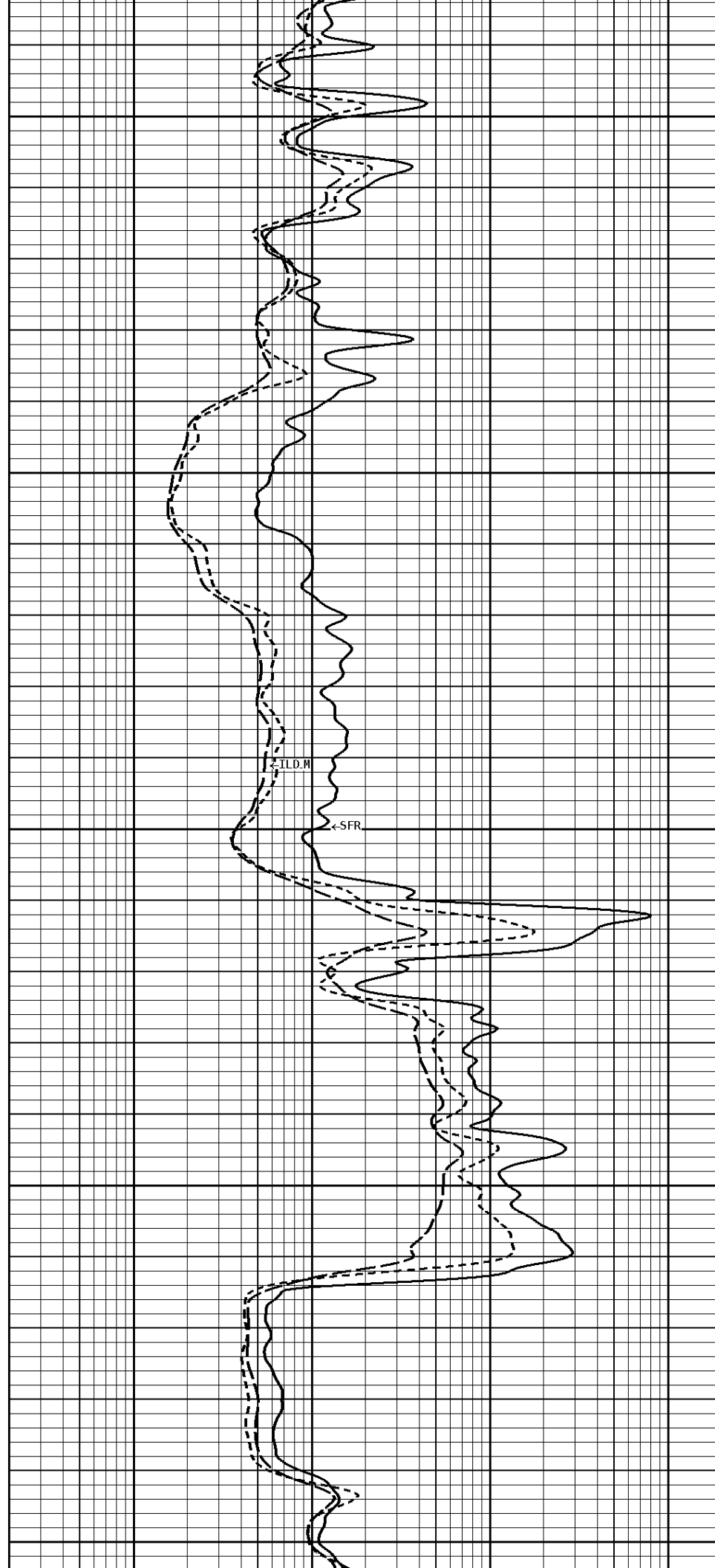


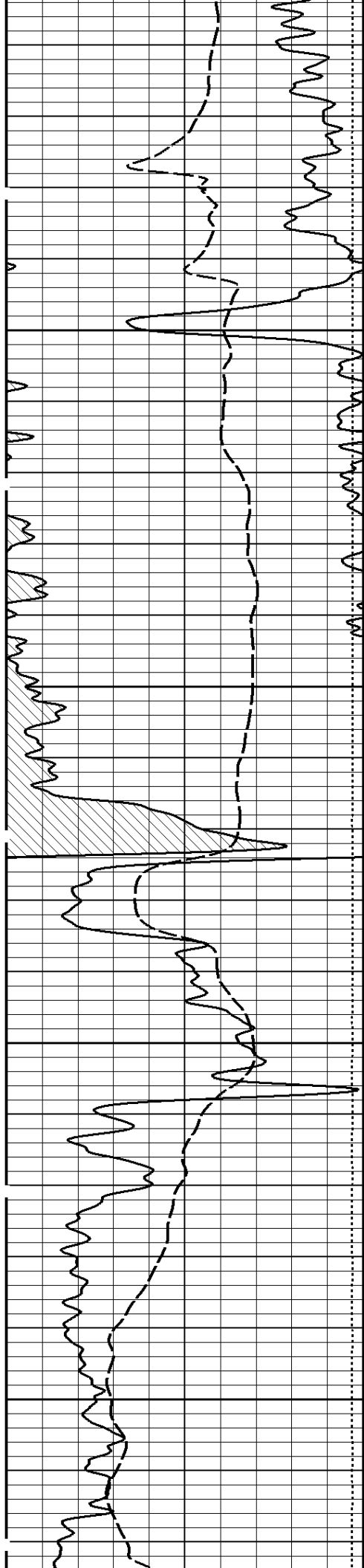




2500

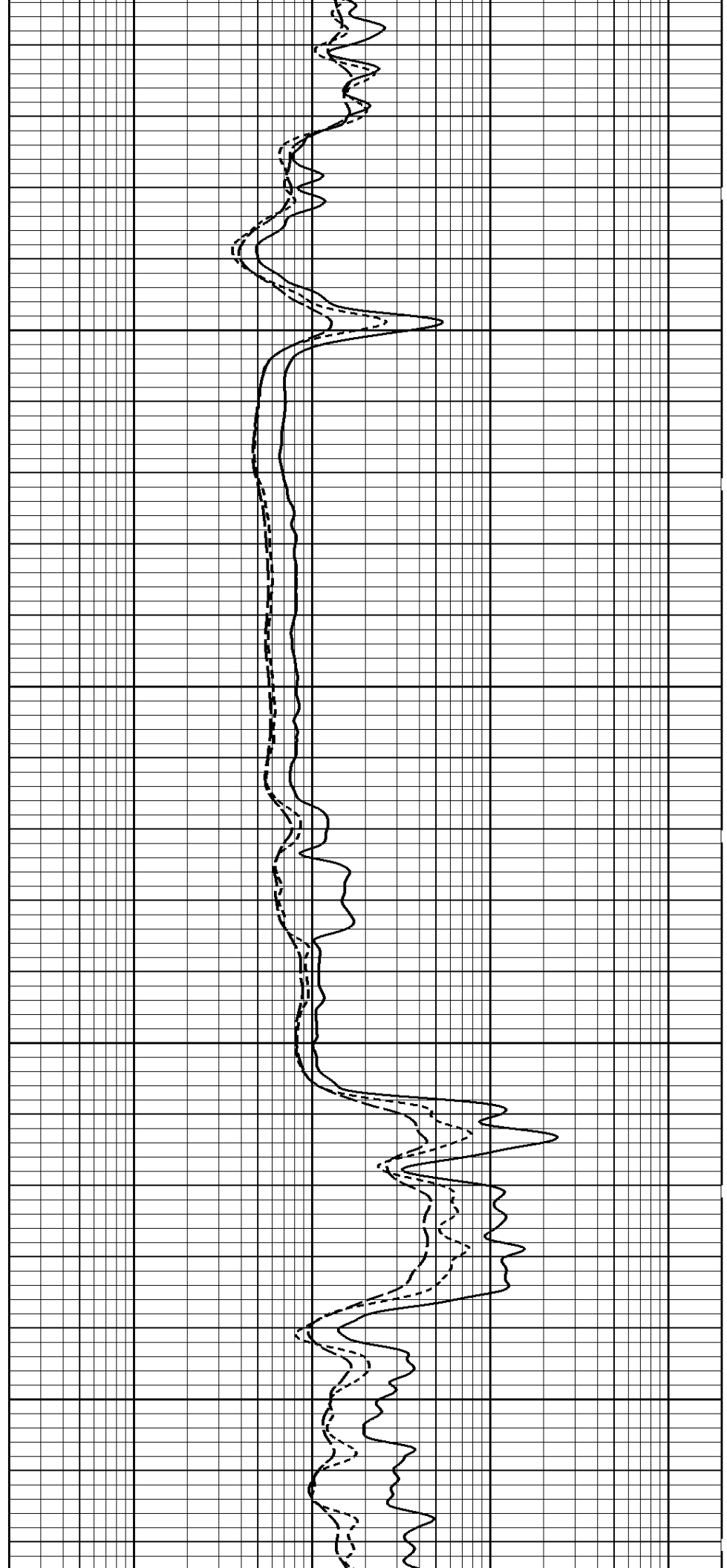
2600

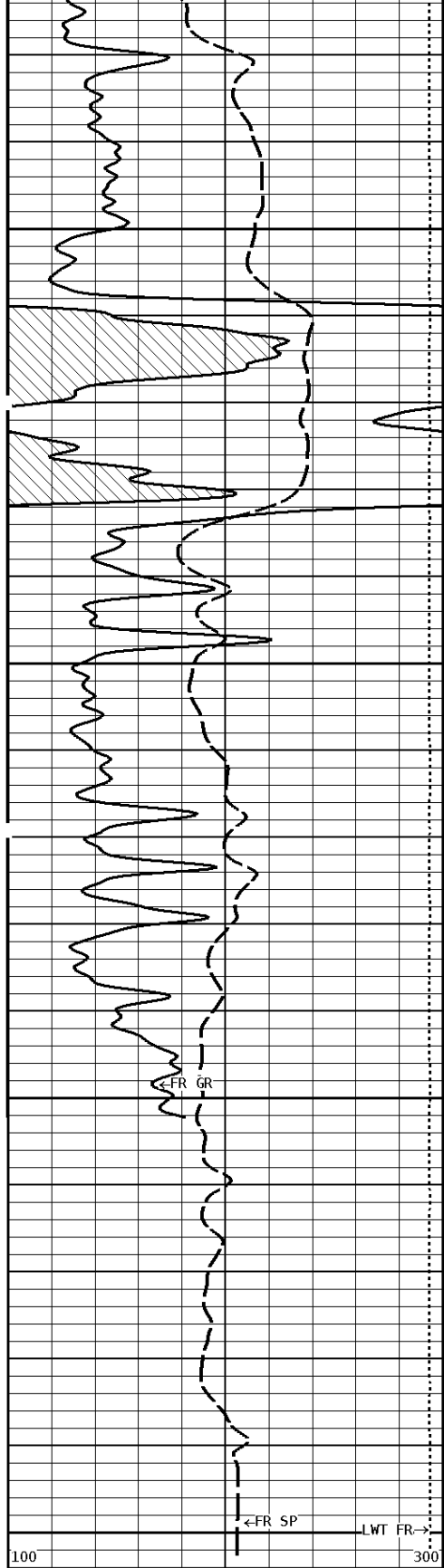




2700

2800

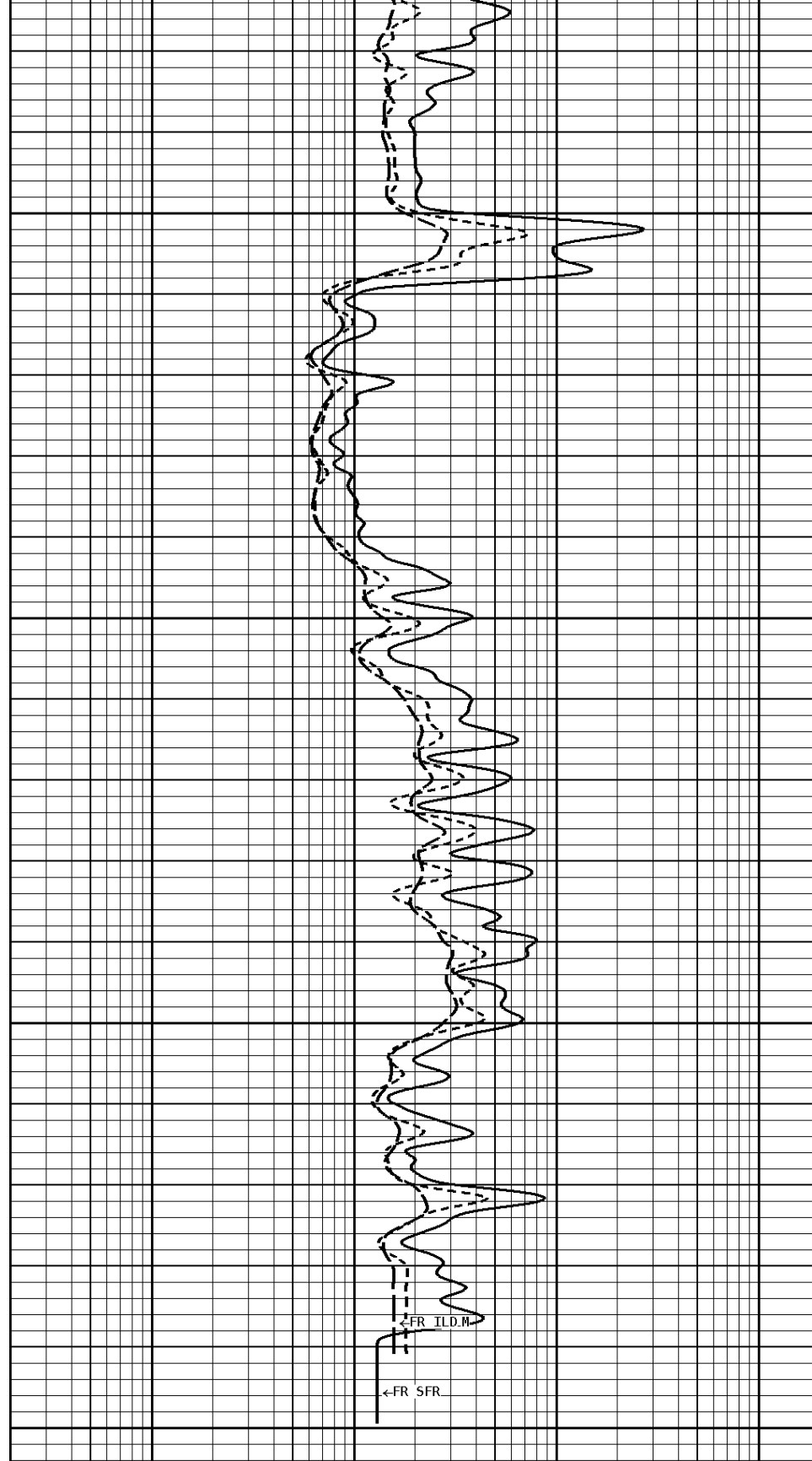




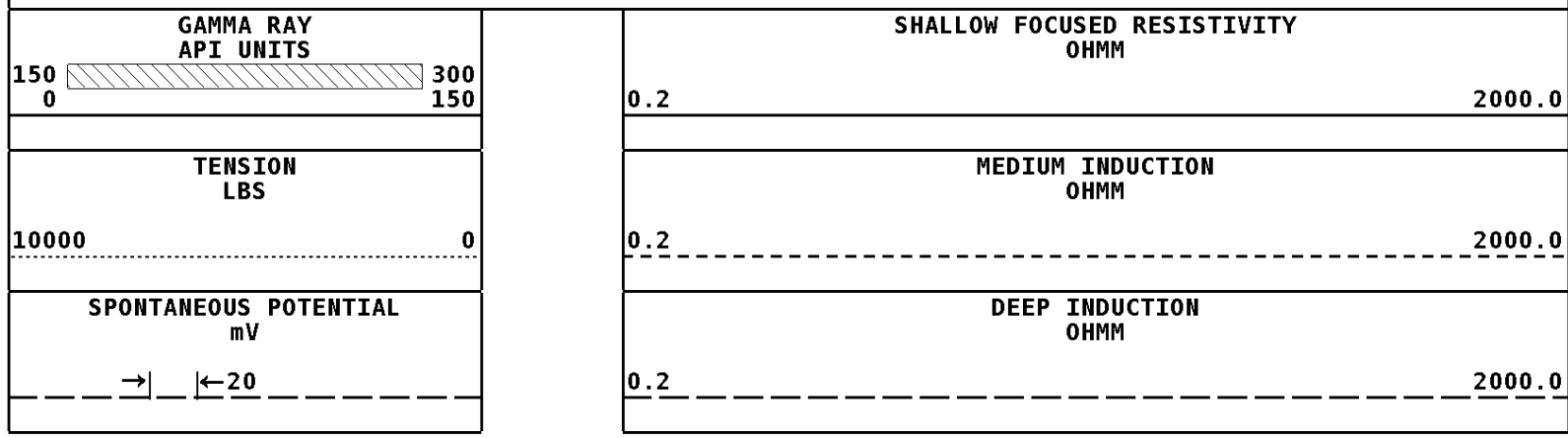
2900

3000

3050



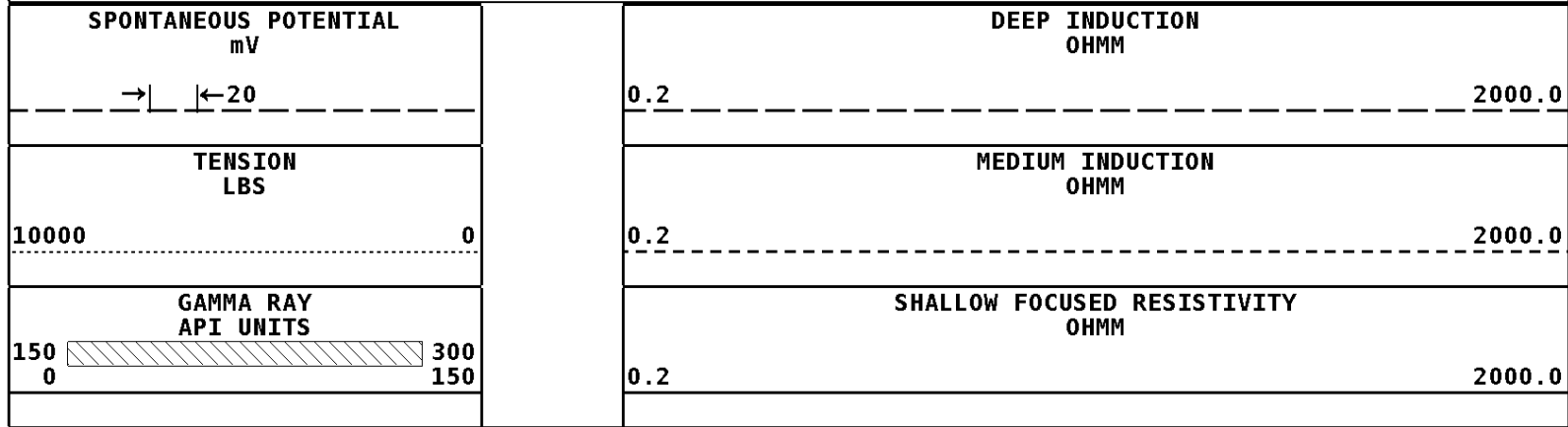
# 1:240 MAIN SECTION



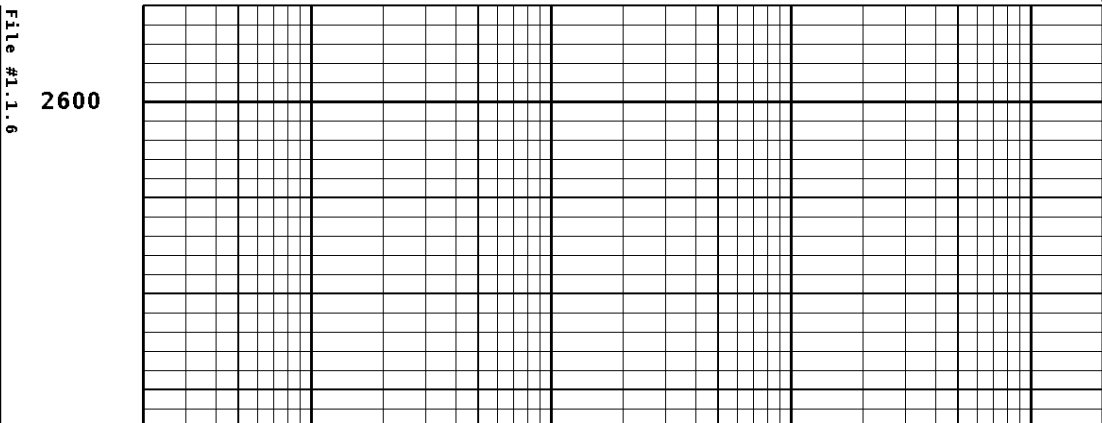
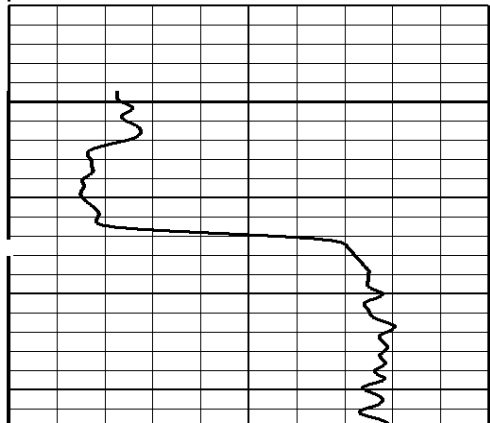
**\* Borehole Zone Factors \***

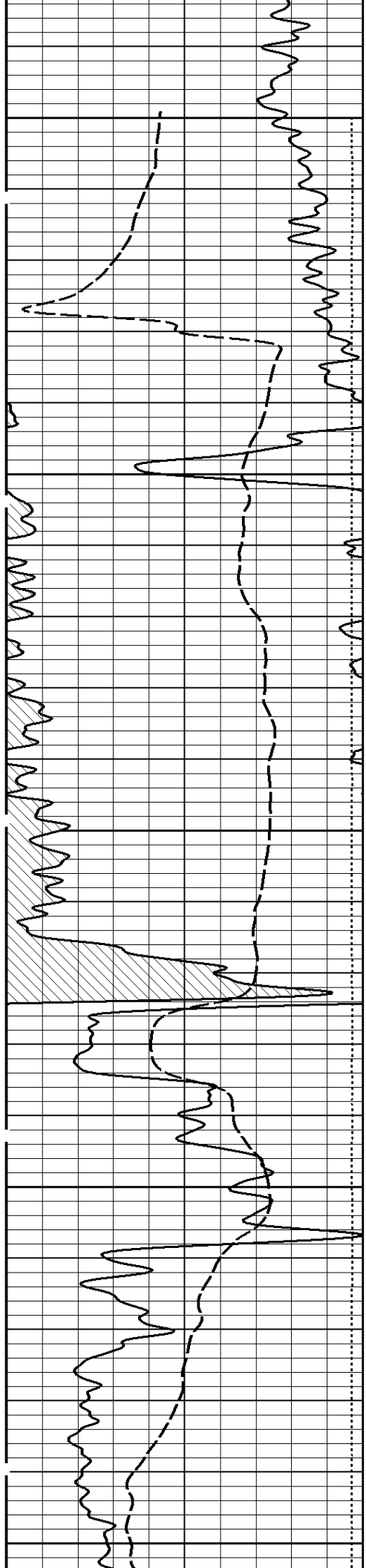
<b>Zone 1 99999.0 to 0.0 Feet</b>	
Drill Bit Size _____	7.875 in
Casing Diameter _____	5.500 in
BHT Depth _____	3050.000 ft
Borehole Temperature _____	105.0 degF
Temperature Gradient _____	1.00 DFHF
Resistivity Of Mud _____	2.000 ohmm
Resistivity Of Mud Temperature _____	70.00 degF

<b>Well File:</b> MID CONTINENT ENERGY ROGERS_1_DEC16_MSTK	<b>Scale:</b> 1:240	<b>Format:</b> DIL-240
<b>Segment:</b> V1.D1.S6 AS FINAL REPEAT	<b>Acquired:</b> 2015-12/16 19:22 3.4.0-13544	
<b>Reference:</b> 0	<b>Processed:</b> 2015-12/16 19:41 3.4.0-13544	



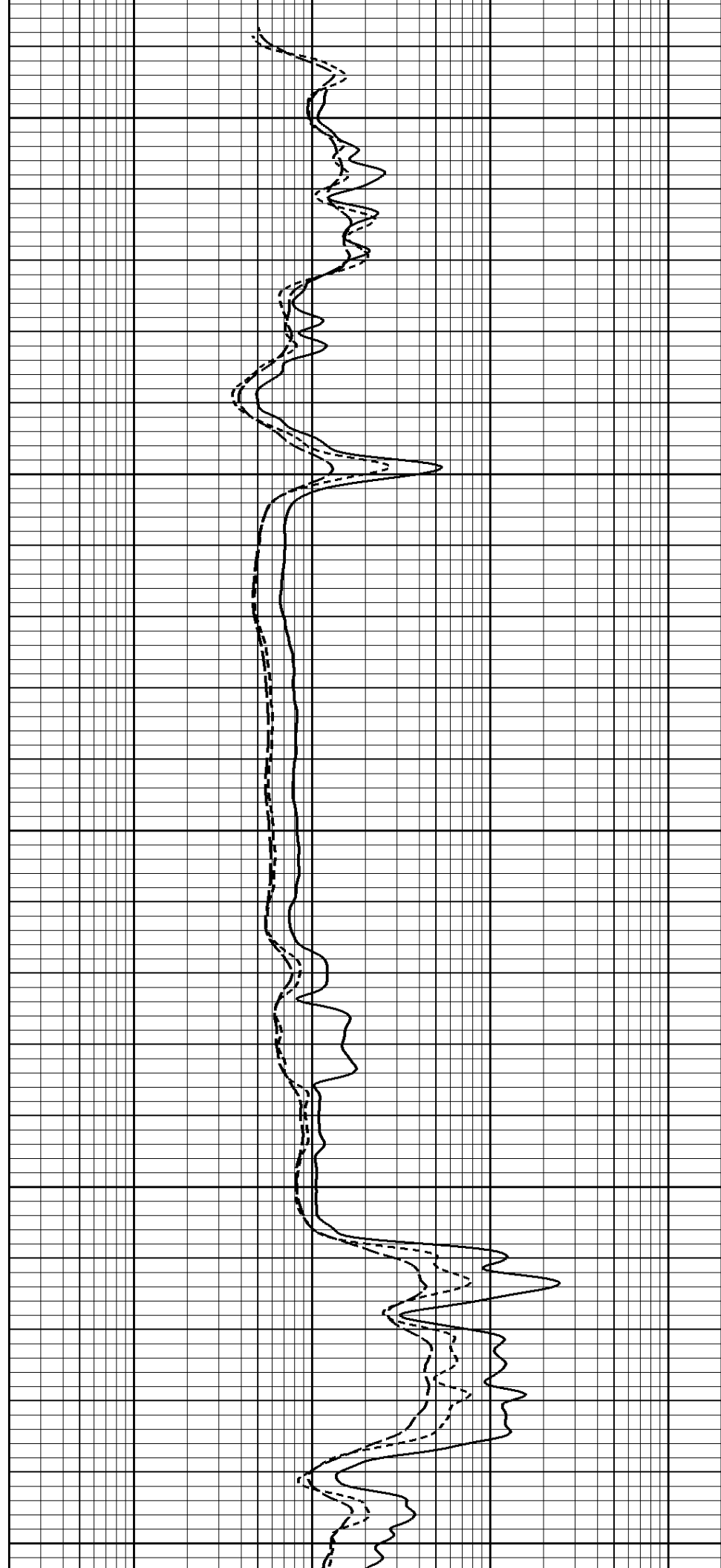
# 1:240 REPEAT SECTION

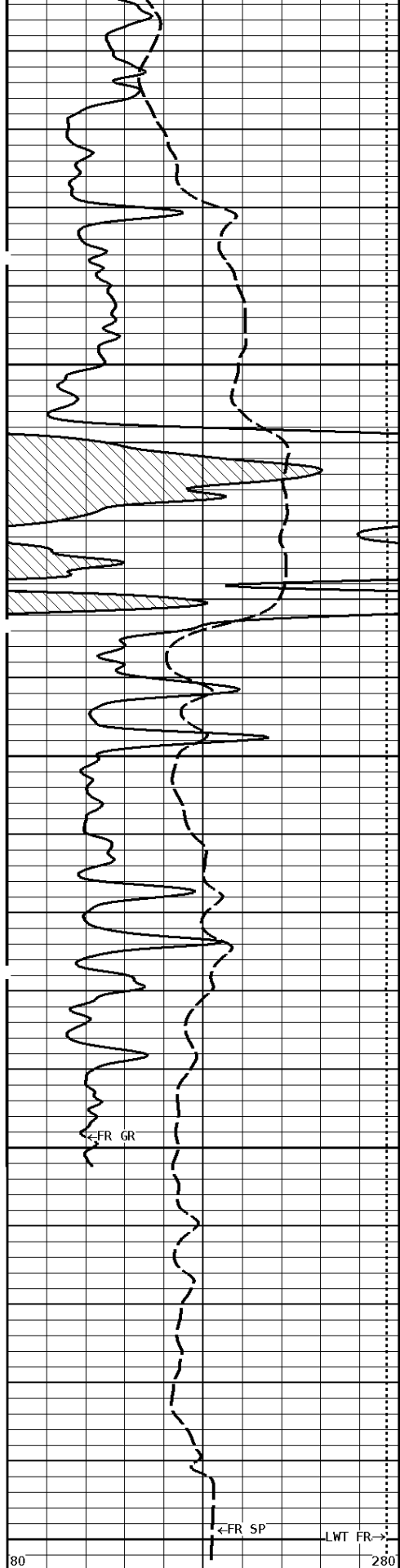




2700

2800





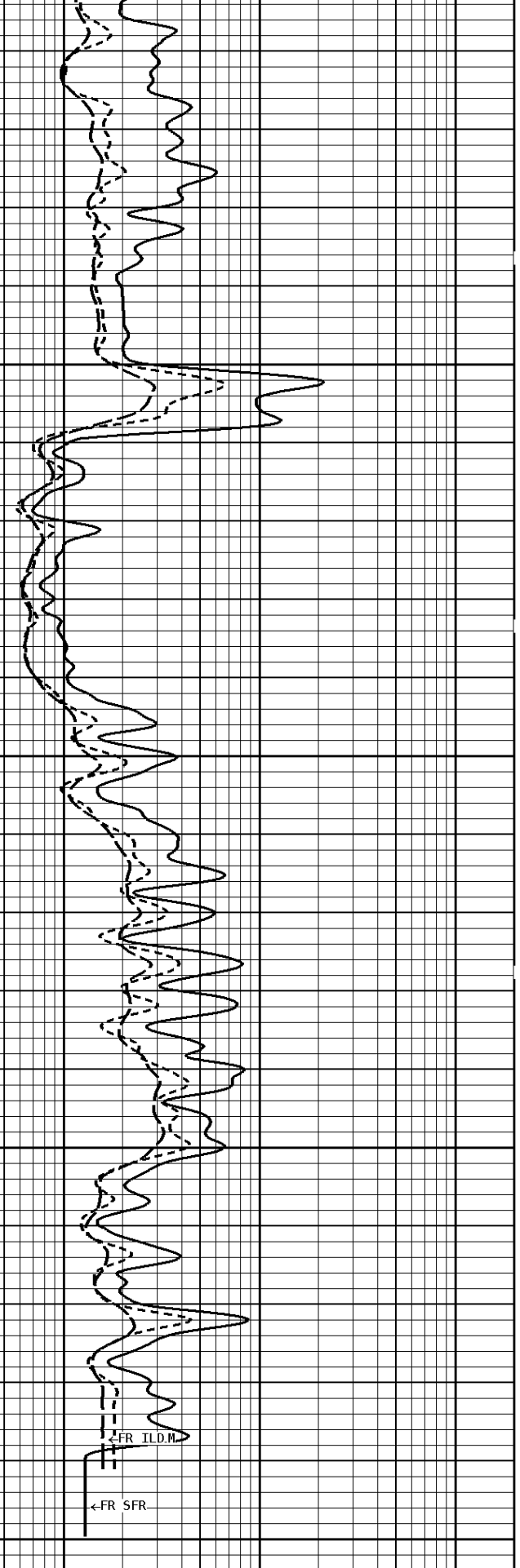
2900

3000

3050

80

280

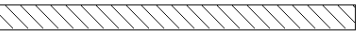


FR ILL.M

FR SFR

File #1.1.6

## 1:240 REPEAT SECTION

<b>GAMMA RAY API UNITS</b> 	<b>SHALLOW FOCUSED RESISTIVITY OHMM</b> 0.2 <span style="float: right;">2000.0</span>
<b>TENSION LBS</b> 10000 <span style="float: right;">0</span>	<b>MEDIUM INDUCTION OHMM</b> 0.2 <span style="float: right;">2000.0</span>
<b>SPONTANEOUS POTENTIAL mV</b> →   ← 20	<b>DEEP INDUCTION OHMM</b> 0.2 <span style="float: right;">2000.0</span>

\* Borehole Zone Factors \*

<b>Zone 1</b>	<b>99999.0</b>	<b>to</b>	<b>0.0</b>	<b>Feet</b>
Drill Bit Size			7.875	in
Casing Diameter			5.500	in
BHT Depth			3050.000	ft
Borehole Temperature			105.0	degF
Temperature Gradient			1.00	DFHF
Resistivity Of Mud			2.000	ohmm
Resistivity Of Mud Temperature			70.00	degF

\* Calibration Summary \*

<b>Shop Calibration GRT-B</b>					
Performed : 02-Oct-2015			Time : 10:35		
Sensor Suite : GR-GR5			ID : GRT-BA-121		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig	GRAPI	
	47	352	175		

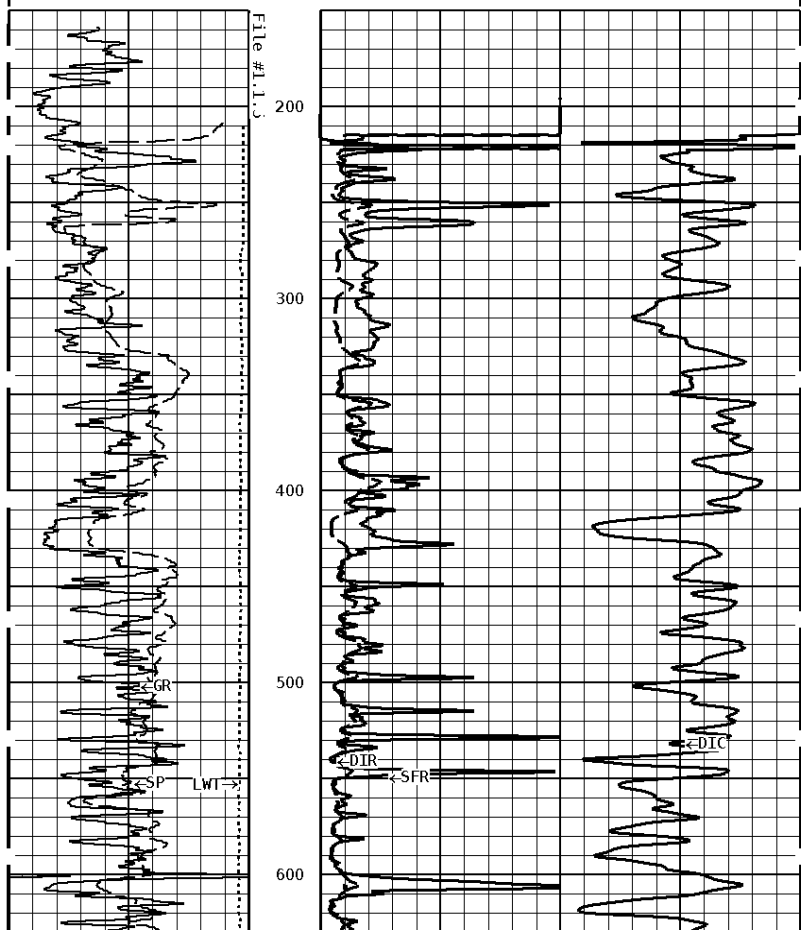
<b>Shop Calibration PIT-CA</b>					
Performed : 01-Sep-2015			Time : 11:21		
Sensor Suite : P-IND-T			ID : PIT-CA-075		
	Measured		Calibrated		
	R	X	R	X	Units
Air	131405	129928	1.7	0.2	MMHOS
Zero	131072	131066	-10.0	45.6	MMHOS
Reference	250933	249413	4990.0	5045.6	MMHOS
Loop	130268	216430	3608.8	3702.2	MMHOS
Sonde Error			-0.3	-6.5	MMHOS
Cond			4990.0	5045.6	MMHOS
	Measured		Calibrated		
	R	X	R	X	Units
Air	128167	131876	0.4	-1.4	MMHOS
Zero	131063	131061	52.1	-18.9	MMHOS
Reference	238743	236796	2052.1	1981.1	MMHOS
Loop	127374	223668	1721.9	1749.6	MMHOS
Sonde Error			-5.5	-0.4	MMHOS
Cond			2052.1	1981.1	MMHOS

Temperature		Calibrated		Units	
Measured Low	Measured High	Low	High	DEGF	
16980.0	56920.0	70.0	350.0		
Performed : 01-Sep-2015		Time : 11:10			
Sensor Suite : SFL		ID : PIT-CA-075			
Internal		Calibrated		Units	
Measured Zero	Reference	Zero	Reference		
Im	32734.8	47274.5	0.0	7028.0	uA
Ib	32765.3	49058.7	0.0	1750.0	mA
MOM1	32798.7	56631.7	0.0	175.0	mV
Equivalent SFL				43.97	OHMM
Performed : 01-Sep-2015		Time : 11:07			
Sensor Suite : P-SP		ID : PIT-CA-075			
Internal		Calibrated		Units	
Measured Zero	Reference	Zero	Reference		
	32767.5	58948.5	0.0	1000.0	mV

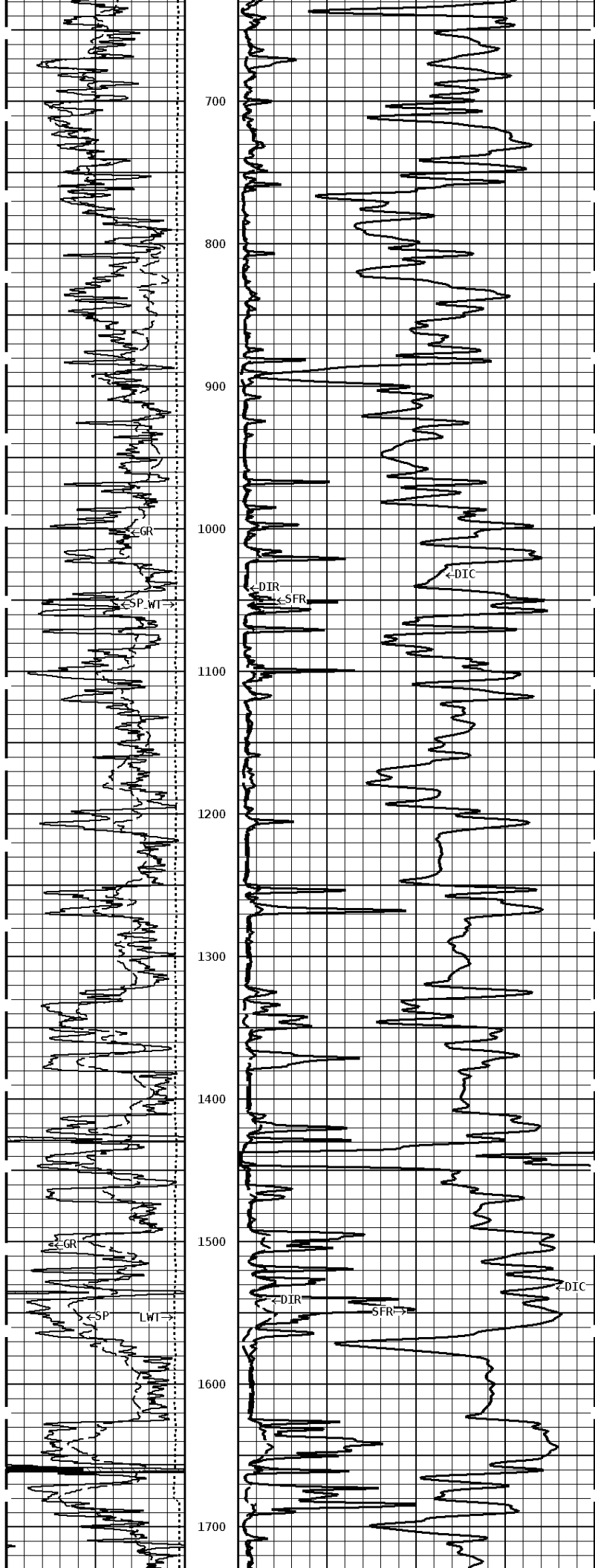
Well File: MID CONTINENT ENERGY ROGERS 1 DEC16 MSTK Scale: 1:1200 Format: DIL1200  
 Segment: V1.D1.S5 AS FINAL MAIN Acquired: 2015-12/16 19:42 3.4.0-13544  
 Reference: 0 Processed: 2015-12/16 19:42 3.4.0-13544

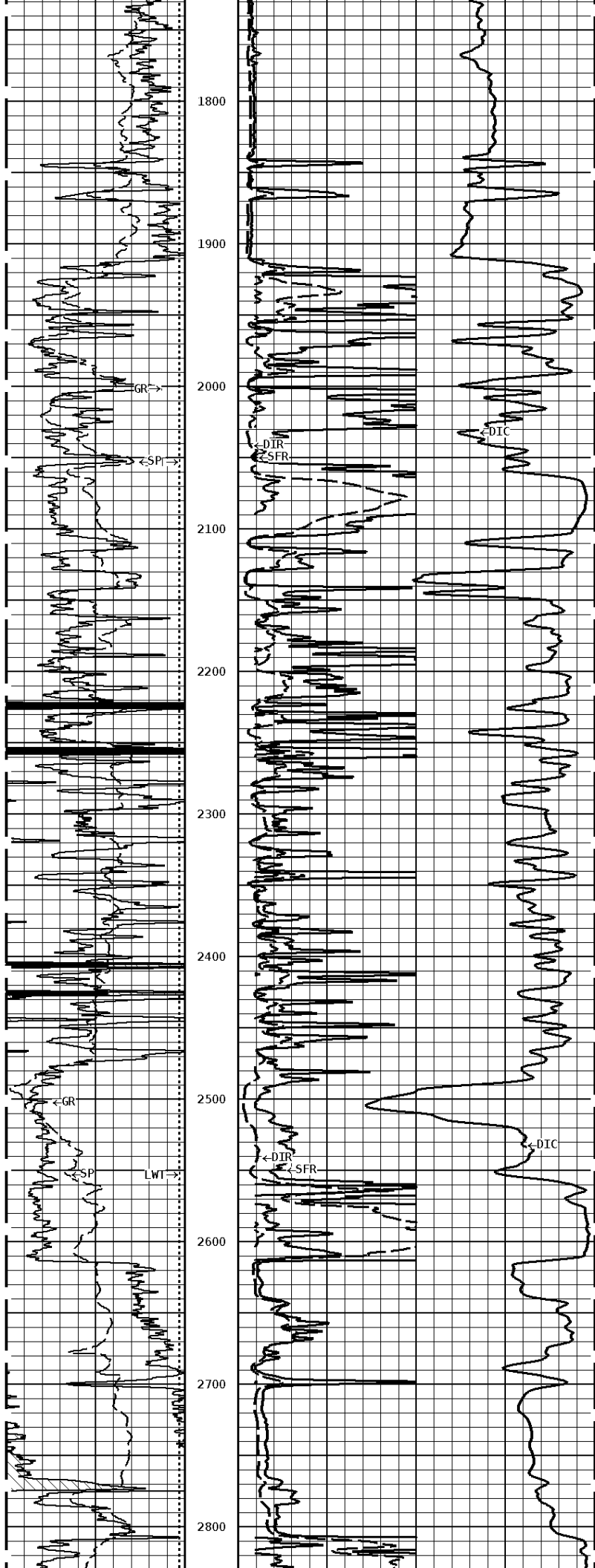
<b>TENSION</b> LBS	10000	0
<b>DEEP INDUCTION</b> OHMM	0.0	500.0
	0.0	50.0
<b>SPONTANEOUS POTENTIAL</b> mV	→   ← 20	
<b>GAMMA RAY</b> API UNITS	150	300
	0	150
<b>DEEP CONDUCTIVITY</b> MHMO	2000	1000
	1000	0

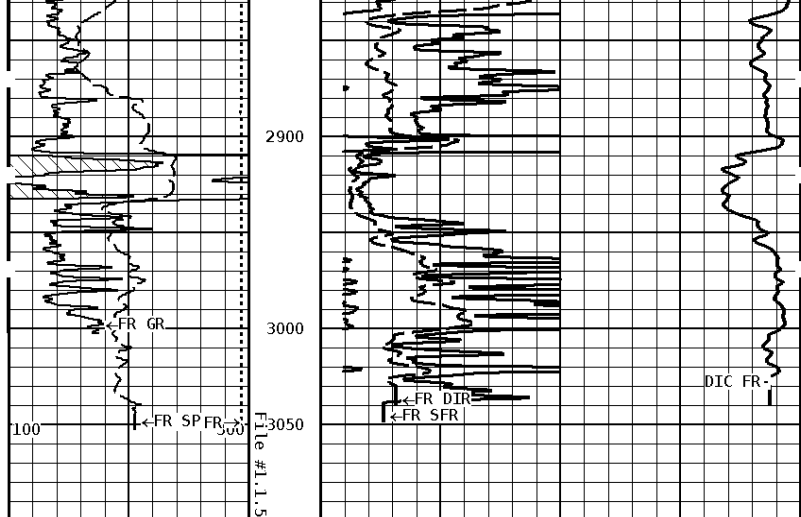
1:1200 MAIN SECTION









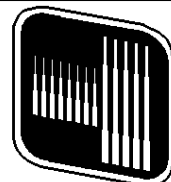


**1:1200 MAIN SECTION**

<p><b>GAMMA RAY API UNITS</b></p> <p>150 300 0 150</p>	<p><b>DEEP CONDUCTIVITY MHMO</b></p> <p>2000 1000 1000 0</p>	
<p><b>SPONTANEOUS POTENTIAL mV</b></p> <p>→   ← 20</p>	<p><b>SHALLOW FOCUSED OHMM</b></p> <p>0.0 500.0 0.0 50.0</p>	
<p><b>TENSION LBS</b></p> <p>10000 0</p>	<p><b>DEEP INDUCTION OHMM</b></p> <p>0.0 500.0 0.0 50.0</p>	



Company: MID-CONTINENT ENERGY CORP.  
 Well: ROGERS #1  
 Location: 1320' FSL & 990' FWL  
 Logged: 12-16-2015  
 K.B. Elev: 1394.0 Ft



**Tucker**  
ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company MID-CONTINENT ENERGY CORP.  
Well ROGERS #1  
Field WENGER  
County MARION  
State KANSAS  
Country USA  
API No. 15-115-21501-0000

File No : TUL-60745  
Company : MID-CONTINENT ENERGY CORP.  
Well : ROGERS #1  
Field : WENGER  
County : MARION  
State : KANSAS  
Country : USA  
API No : 15-115-21501-0000

Location :  
1320 FSL & 990' FWL  
E/2 W/2 SW

LSD :                      Sect : 11                      Twp : 21S                      Rge : 3E

Permanent Datum: GL  
Drilling Measured From: KB  
Log Measured From: KB  
Above Permanent Datum: 5.00 Ft  
Elevations: KB 1394.00 Ft, DF 1393.00 Ft, GL 1389.00 Ft  
Services: CNT, LDT, MLT, PIT

Date	12-16-2015	
Run Number	1	
Depth--Driller	3050.0	Ft
Depth--Logger	30500.0	Ft
First Reading	3018.0	Ft
Last Reading	218.0	Ft
Casing--Driller	218.0	Ft
Casing--Logger	218.0	Ft
Bit Size	7.875	in
Casing Size	8.625	in
Hole Fluid Type	WBM	
Density	9.3	
Fluid Loss	8.4	
PH/Viscosity	10.5	48.0
Sample Source	MEASURED	
RM@Measured Temp.	2.000	@ 70 F
RMF@Measured Temp	1.600	@ 70 F
RMG@Measured Temp.	2.400	@ 70 F
Source RMF/RMG	CALCULATED/CALCULATED	
RM@BHT	1.380	@ 105 F
Time Circulation Stopped	12-16-2015 16:30	
Max Recorded Temp.	105	F
Equipment/Base	1022	TULSA, OK
Recorded By	SHELDON TYLER	
Witnessed By	BEN LANDES	

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. E. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. E. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings			
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
7.875	3050.00	8.625	32.00	218.00	0.00

Run Number	1	
Date	12-16-2015	
Date/Time On Bottom	12-16-2015 19:30	
Depth to Fluid	0.0	Ft
Salinity	1200.000	
RMF@BHT	1.100	@ 105 F
RMC@BHT	1.660	@ 105 F

Run Number 1

Comments

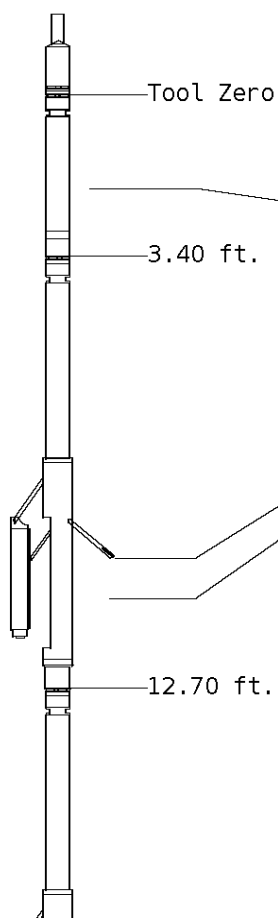
ALL PRESENTATIONS AS PER CUSTOMER REQUEST  
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION  
 CALIPERS ORIENTED ON X-Y AXIS  
 2.71 G/CC USED TO CALCULATE POROSITY  
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING  
 PHIN IS CALIPER CORRECTED

GRT: GRP, GRX  
 CNT: PHIN, CLCNIN, PHXN  
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX  
 MLT: NOR\_RF, INV\_RF, MSCLPIN  
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

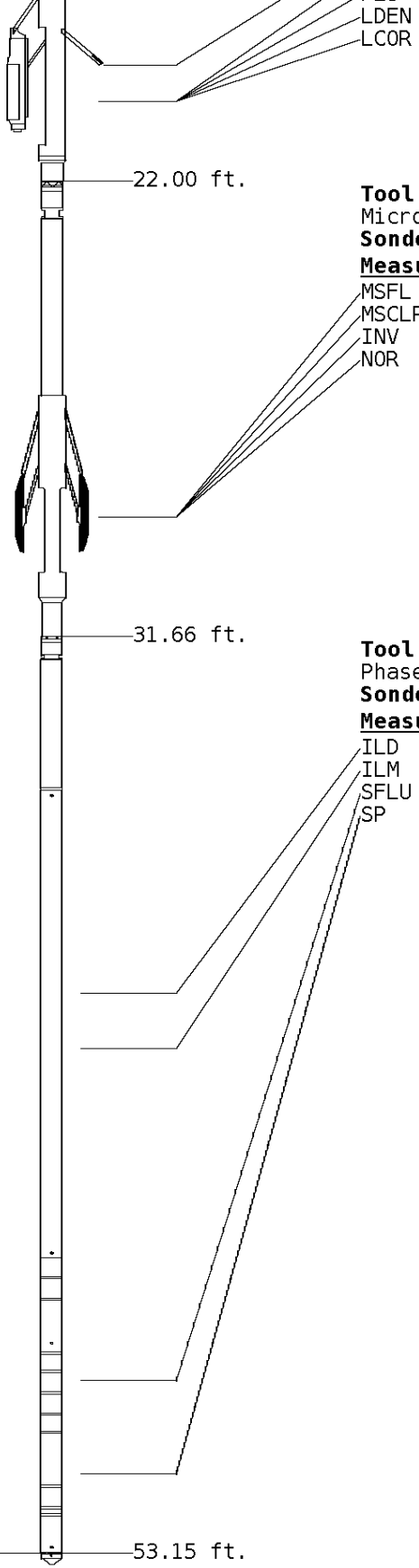
OPERATORS:  
 B.BROWN  
 J.McCANN

### Tool String Schematic

**Total Tool Length** - 53.15 ft.  
**Maximum Outside diameter** - 6.00 in.  
**Net Weight in Air** - 943.00 lbs.



<b>Tool:</b> GRT-B Gamma Ray Controller	<b>Length:</b> 3.40 ft.	<b>O.D.:</b> 3.60 in.		
<b>Sonde ID</b> :GRT-BA-121				
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>	
GRP	2.00	2.00	51.15	
<b>Tool:</b> CNT-AA Compensated Neutron A Pad on NDT-A	<b>Length:</b> 9.30 ft.	<b>O.D.:</b> 4.36 in.		
<b>Sonde ID</b> :NDT-AC-925				
<b>Source ID</b> :N-1044				
<b>Pad ID</b> :CNP-AA-121				
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>	
CLCN	6.00	9.40	43.75	
PHIN	6.80	10.20	42.95	
<b>Tool:</b> LDT-DA Litho Density D Pad on NDT-A	<b>Length:</b> 9.30 ft.	<b>O.D.:</b> 4.80 in.		
<b>Sonde ID</b> :NDT-BB-153				
<b>Source ID</b> :CSV-587				
<b>Pad ID</b> :LDP-DA-50				
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>	
CLLD	6.00	18.70	34.45	
PEL	7.00	19.70	33.45	
PES	7.40	20.10	33.05	



LDEN 7.20 19.90 33.25  
 LCOR 7.20 19.90 33.25

**Tool:** MST-DA      **Length:** 9.66 ft.    **O.D.** 6.00 in.  
 Micro Spherically Focused (IC)  
**Sonde ID** :MST-DA-25

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.55
MSCLP	7.60	29.60	23.55
INV	7.60	29.60	23.55
NOR	7.60	29.60	23.55

**Tool:** PIT-CA      **Length:** 21.49 ft.    **O.D.** 3.62 in.  
 Phased Dual Induction w/ RM & D  
**Sonde ID** :PIT-CA-075

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	40.58	12.56
ILM	10.10	41.76	11.39
SFLU	17.49	49.15	4.00
SP	20.60	52.26	0.88

LWT 53.15 ft.

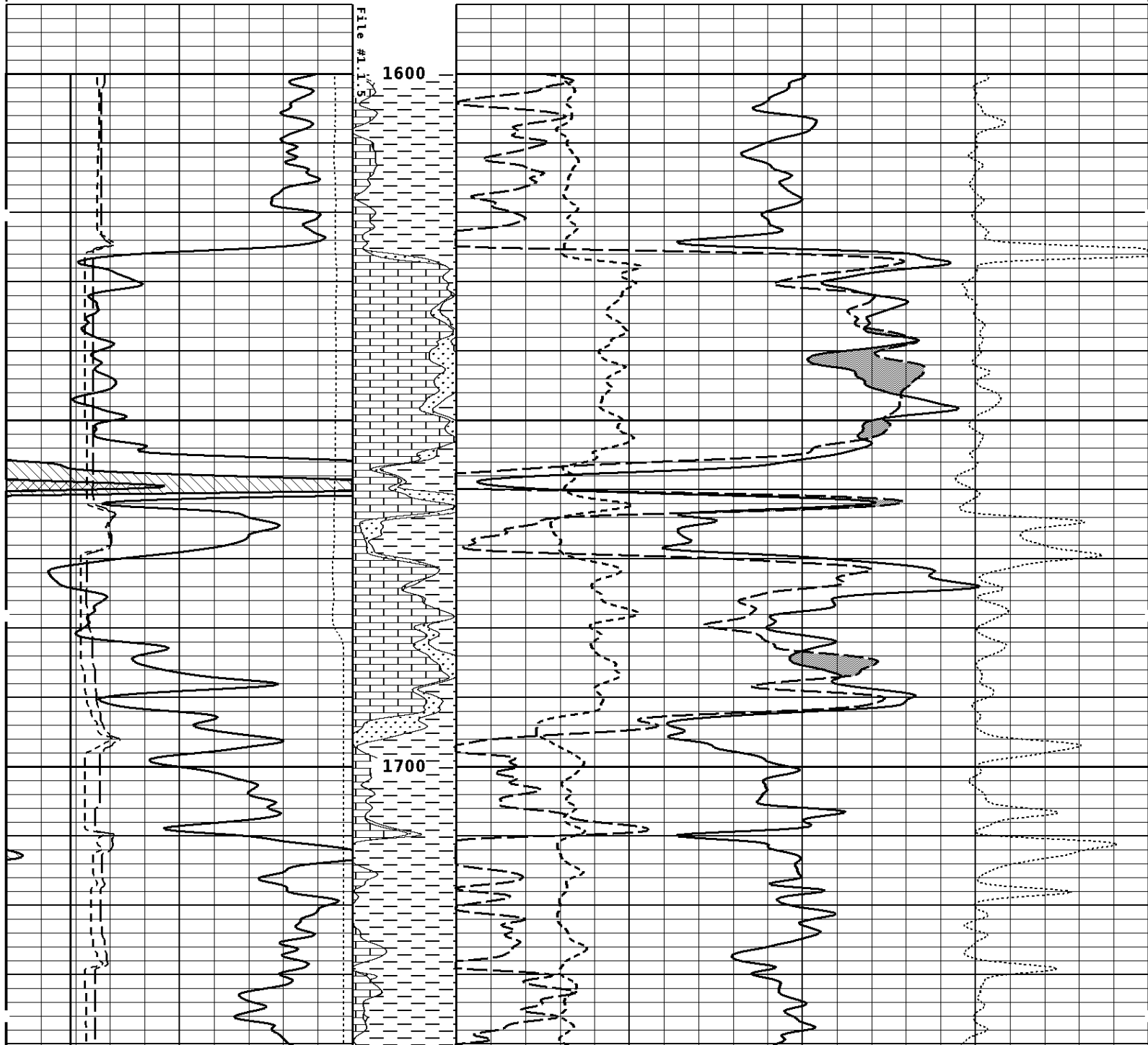
**Well File:** MID CONTINENT ENERGY ROGERS\_1\_DEC16\_MSTK      **Scale:** 1:240      **Format:** NLD-240  
**Segment:** V1.D1.S5 AS FINAL MAIN      **Acquired:** 2015-12/16 19:42 3.4.0-13544  
**Reference:** 0      **Processed:** 2015-12/16 19:42 3.4.0-13544

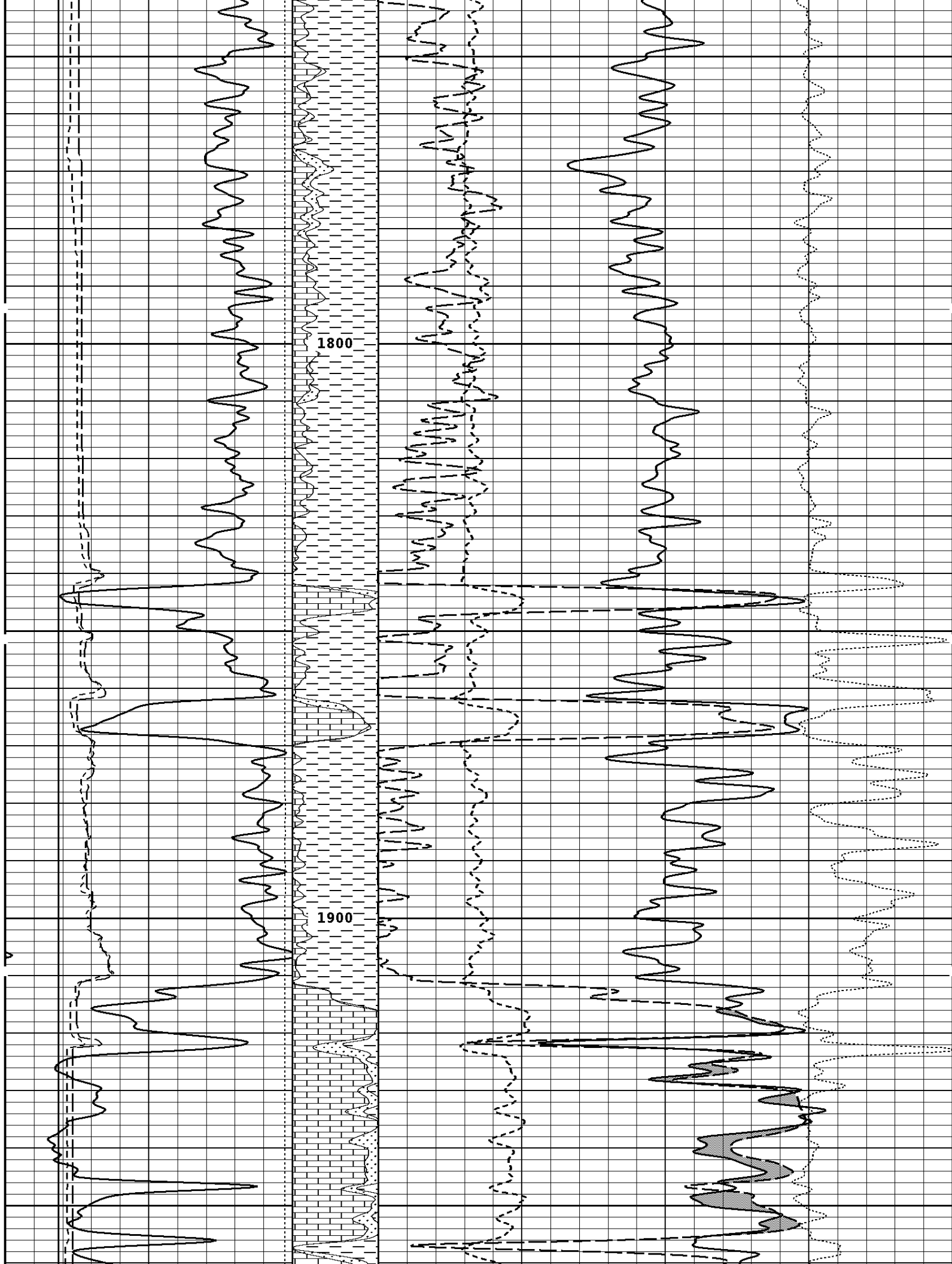
<b>BIT SIZE INCHES (IN)</b>	
6	16

<b>NEUTRON (Y) CALIPER INCHES (IN)</b>	
16	26

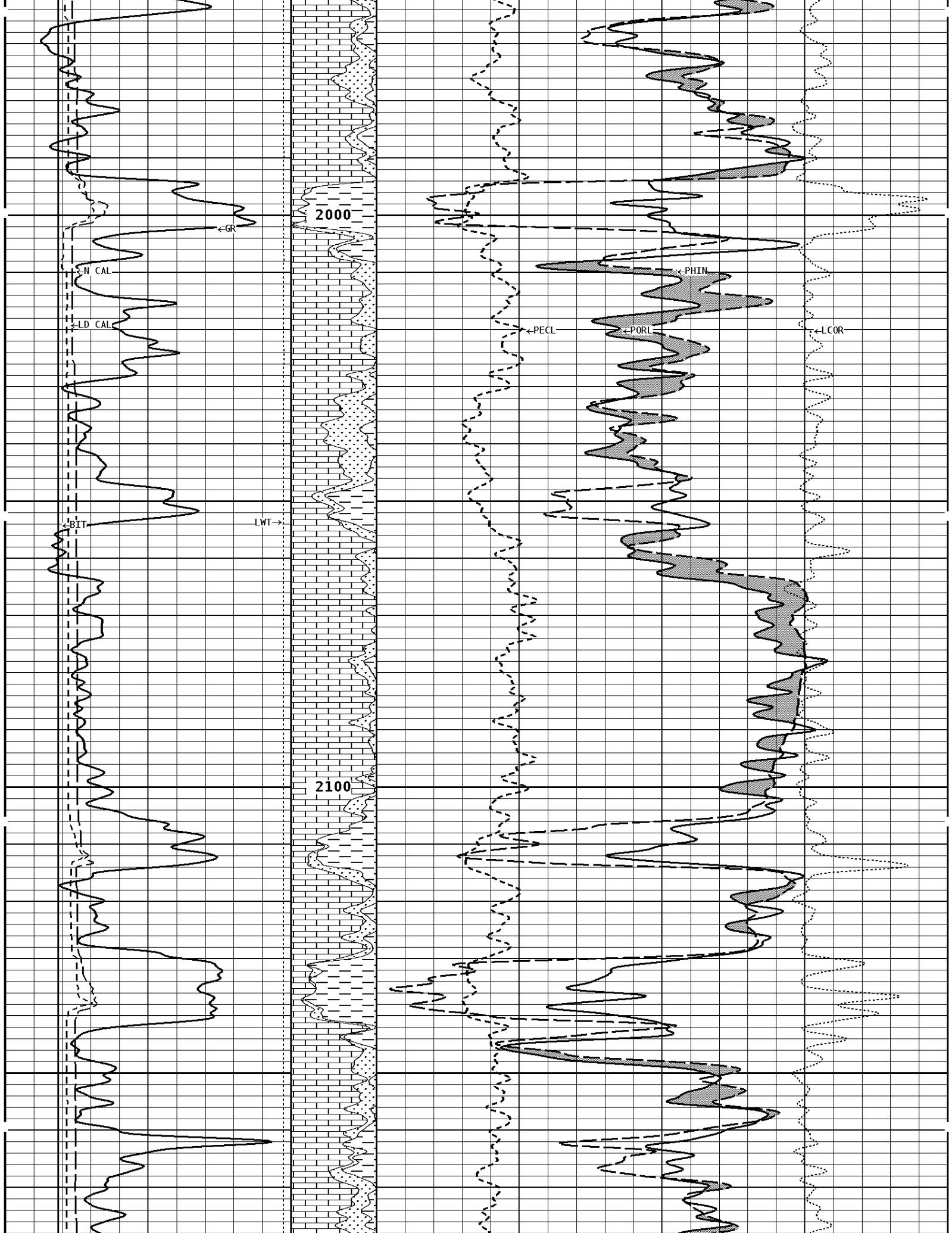
16 6	26 16			
DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNs/ELECTRON	DENSITY CORRECTION G/CC	
16 6	26 16	0	10	-0.25 0.25
TENSION LBS	Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT		
10000	0	70 30 -10	30 -10 -50	
GAMMA RAY API UNITS	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT		
150 0 300 150	30	-10		

**1:240 MAIN SECTION**









2000

2100

←GR

←EN CAL

←LD CAL

←BIT

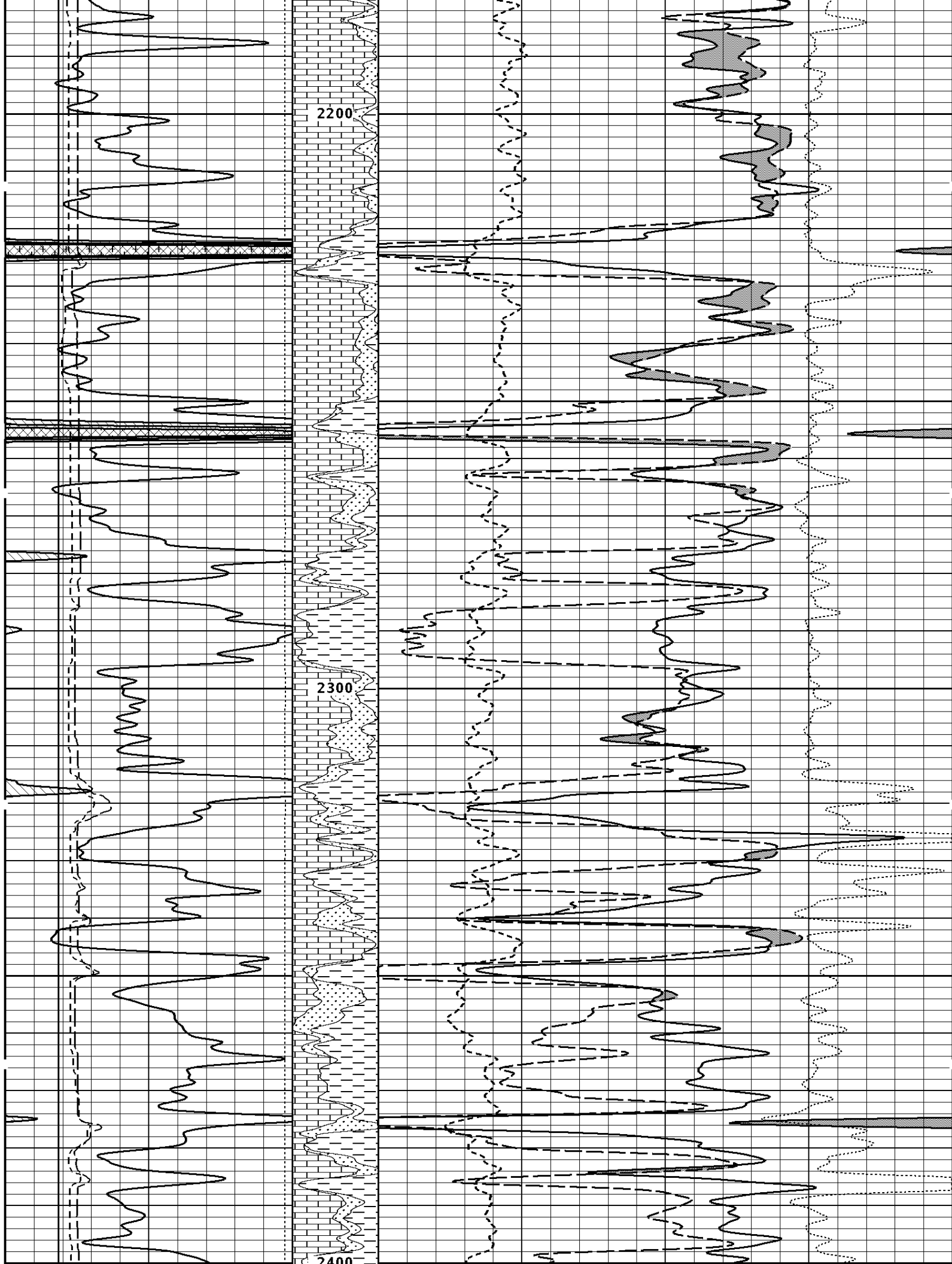
LWT →

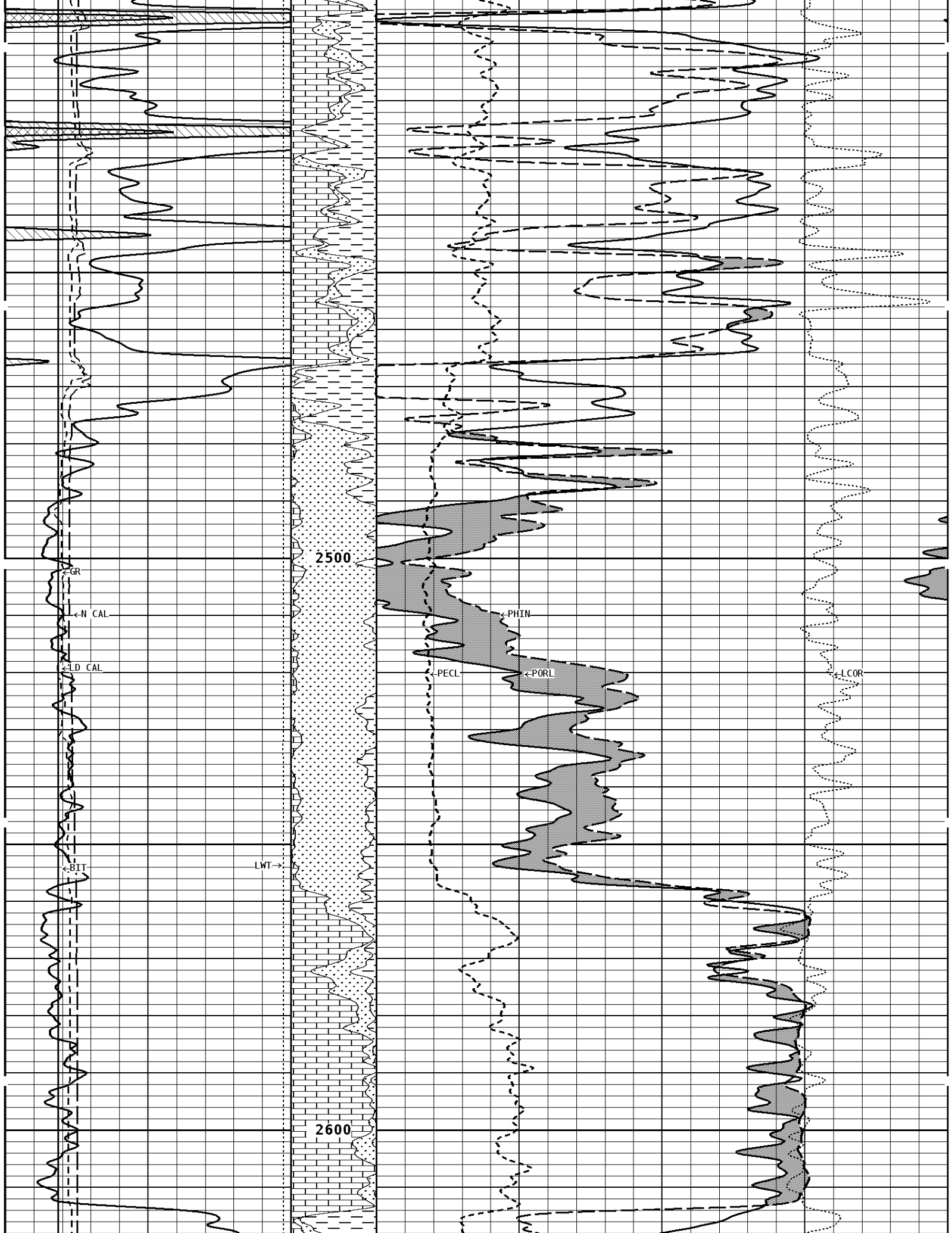
←PECL

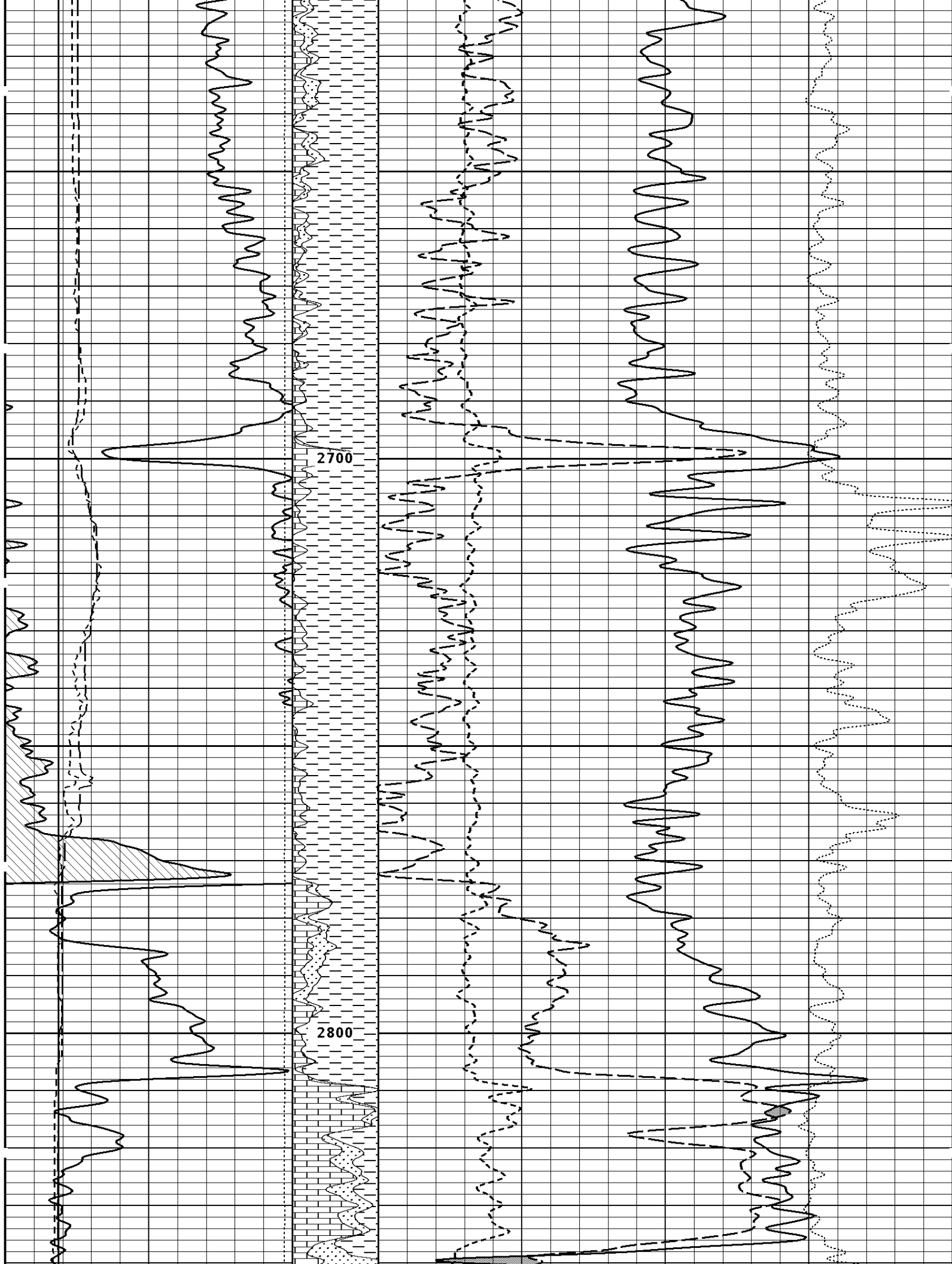
←PORA

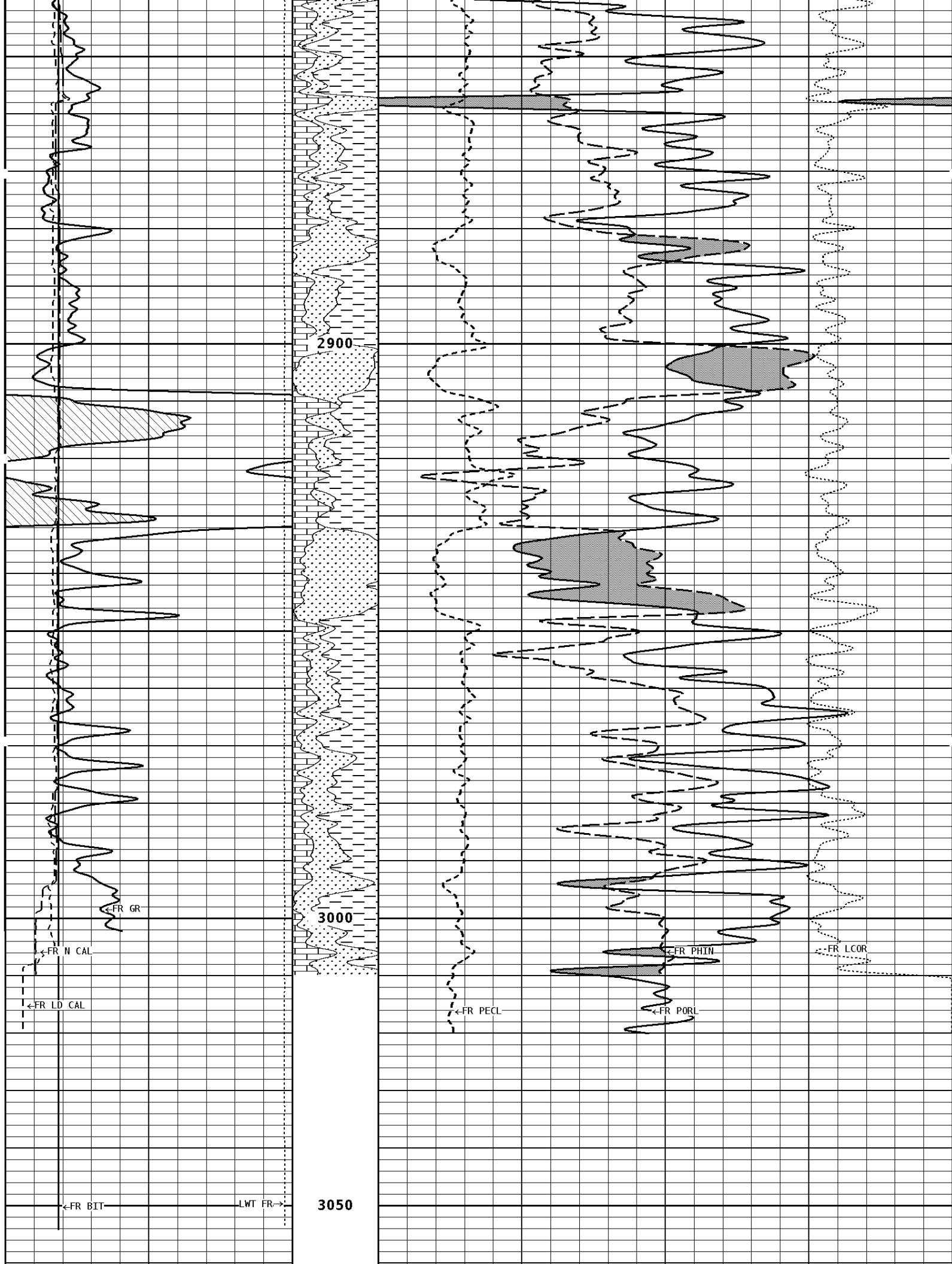
←PHIN

←L-COR



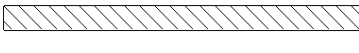
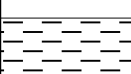





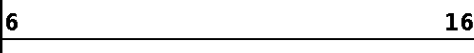






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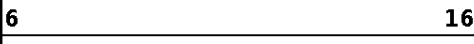


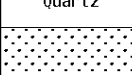
## 1:240 MAIN SECTION

<b>GAMMA RAY API UNITS</b> 	Volume Dolo/Shale 	<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b>	
150 0	300 150	30	-10
<b>TENSION LBS</b> 	Volume Calcite 	<b>DENSITY POROSITY (2.71g/cc) PERCENT</b>	
10000	0	70 30 -10	30 -10 -50
<b>DENSITY (X) CALIPER INCHES (IN)</b> 	Volume Quartz 	<b>PE CROSS-SECTION BARNS/ELECTRON</b>	<b>DENSITY CORRECTION G/CC</b>
16 6	26 16	0	10 -0.25 0.25
<b>NEUTRON (Y) CALIPER INCHES (IN)</b> 			
16 6	26 16		
<b>BIT SIZE INCHES (IN)</b> 			
6	16		

\* Borehole Zone Factors \*

<b>Zone 1 99999.0 to 0.0 Feet</b>			
Matrix Density	_____	2.71	g/cc
Fluid Density	_____	1.00	g/cc
Formation Matrix	_____	Limestone	
Drill Bit Size	_____	7.875	in
Casing Diameter	_____	5.500	in
Casing Thickness	_____	0.250	in
Casing Correction (PHI N)	_____	Disable	

<b>Well File:</b> MID CONTINENT ENERGY ROGERS_1_DEC16_MSTK	<b>Scale:</b> 1:240	<b>Format:</b> NLD-240
<b>Segment:</b> V1.D1.S6 AS FINAL REPEAT	<b>Acquired:</b> 2015-12/16 19:22 3.4.0-13544	
<b>Reference:</b> 0	<b>Processed:</b> 2015-12/16 19:41 3.4.0-13544	

<b>BIT SIZE INCHES (IN)</b> 			
6	16		
<b>NEUTRON (Y) CALIPER INCHES (IN)</b> 			
16 6	26 16		
<b>DENSITY (X) CALIPER INCHES (IN)</b> 	Volume Quartz 	<b>PE CROSS-SECTION BARNS/ELECTRON</b>	<b>DENSITY CORRECTION G/CC</b>
16 6	26 16	0	10 -0.25 0.25

TENSION  
LBS

10000 0

Volume  
Calcite

DENSITY POROSITY (2.71g/cc)  
PERCENT

70 30  
30 -10  
-10 -50

GAMMA RAY  
API UNITS

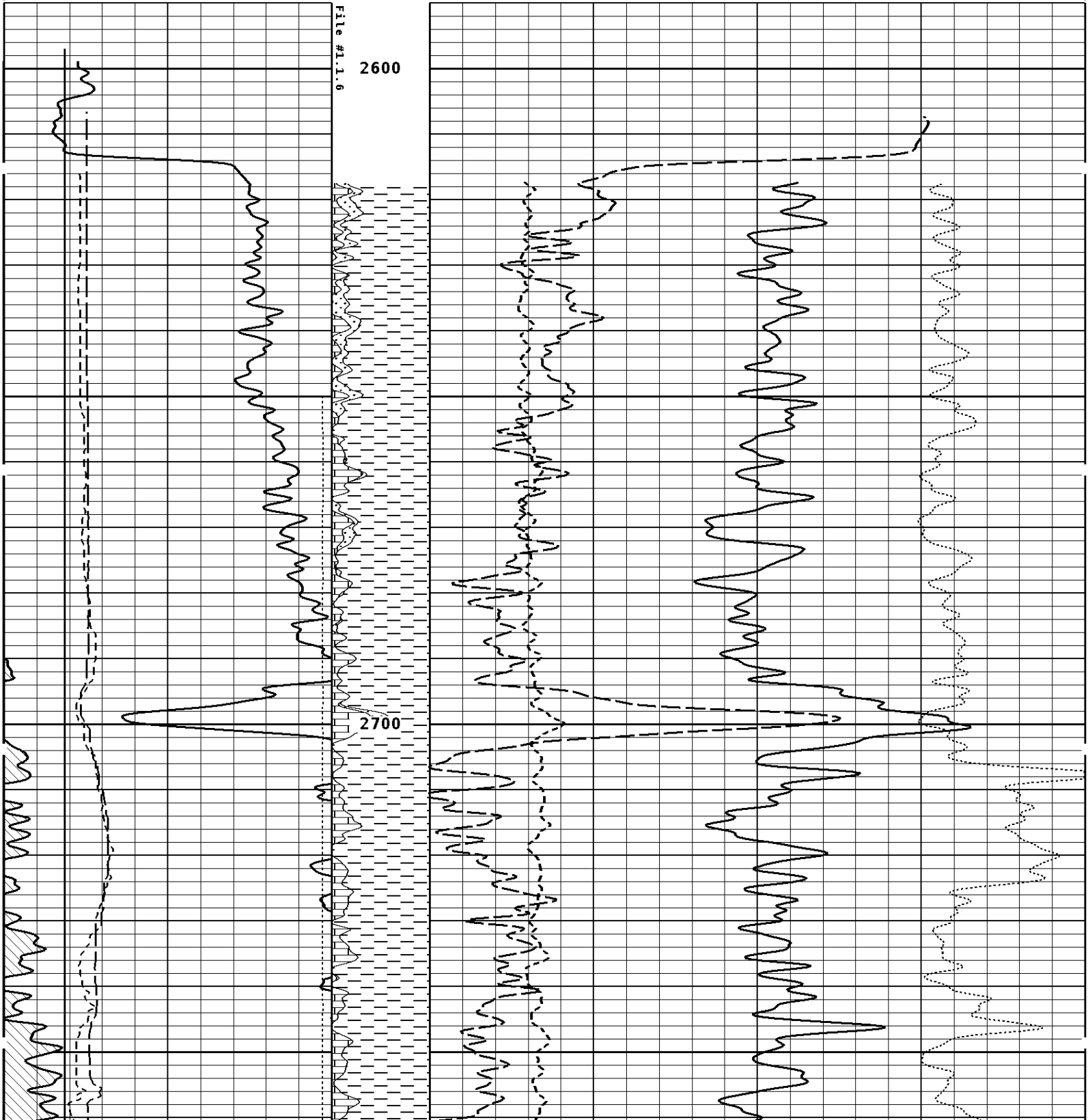
150 0 300 150

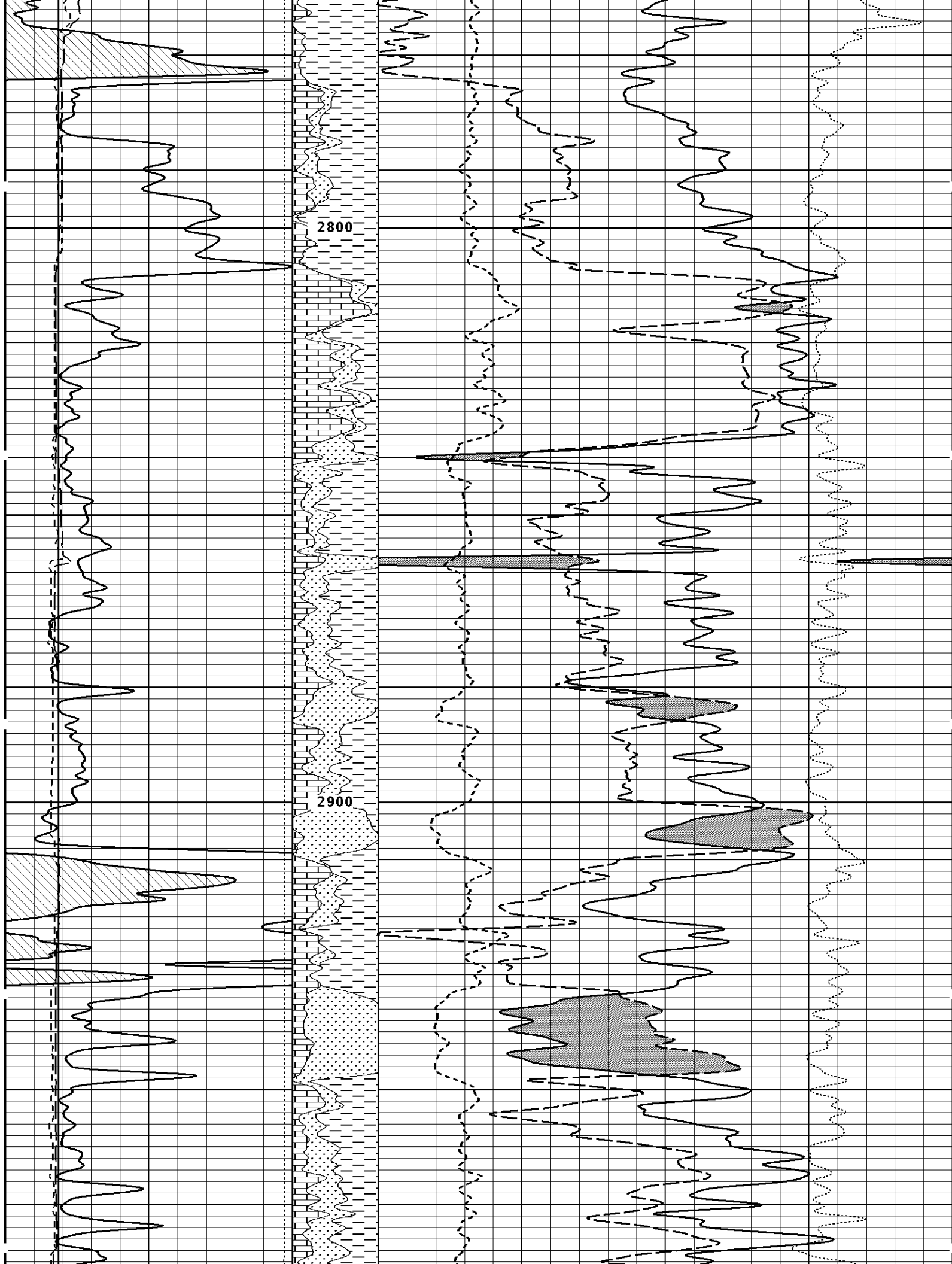
Volume  
Dolo/Shale

NEUTRON POROSITY (LIMESTONE)  
PERCENT

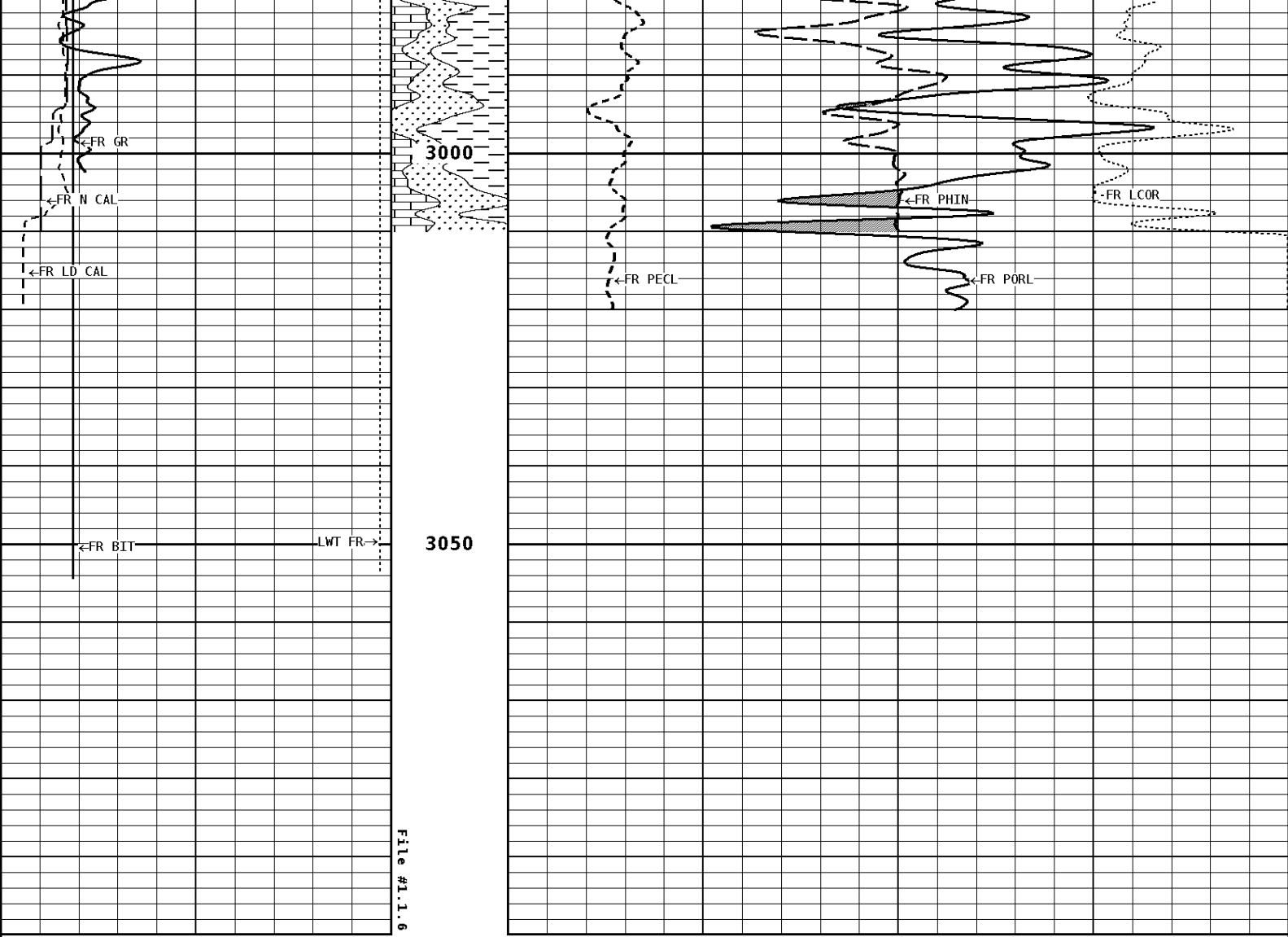
30 -10

1:240 REPEAT SECTION









**1:240 REPEAT SECTION**

<b>GAMMA RAY API UNITS</b> 150 0  300 150		Volume Dolo/Shale 	<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b> 30 ----- -10	
<b>TENSION LBS</b> 10000 ----- 0		Volume Calcite 	<b>DENSITY POROSITY (2.71g/cc) PERCENT</b> 70 30 -10 ----- 30 -10 -50	
<b>DENSITY (X) CALIPER INCHES (IN)</b> 16 6 ----- 26 16		Volume Quartz 	<b>PE CROSS-SECTION BARN/ELECTRON</b> 0 ----- 10	<b>DENSITY CORRECTION G/CC</b> ----- -0.25 0.25
<b>NEUTRON (Y) CALIPER INCHES (IN)</b> 16 6 ----- 26 16				
<b>BIT SIZE INCHES (IN)</b> 6 ----- 16				

\* Borehole Zone Factors \*

Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: MID CONTINENT ENERGY ROGERS\_1\_DEC16\_MSTK      Scale: 1:240      Format: LDT-240  
 Segment: V1.D1.S5 AS FINAL MAIN      Acquired: 2015-12/16 19:42 3.4.0-13544  
 Reference: 0      Processed: 2015-12/16 19:42 3.4.0-13544

BIT SIZE INCHES (IN)	
6	16

NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16

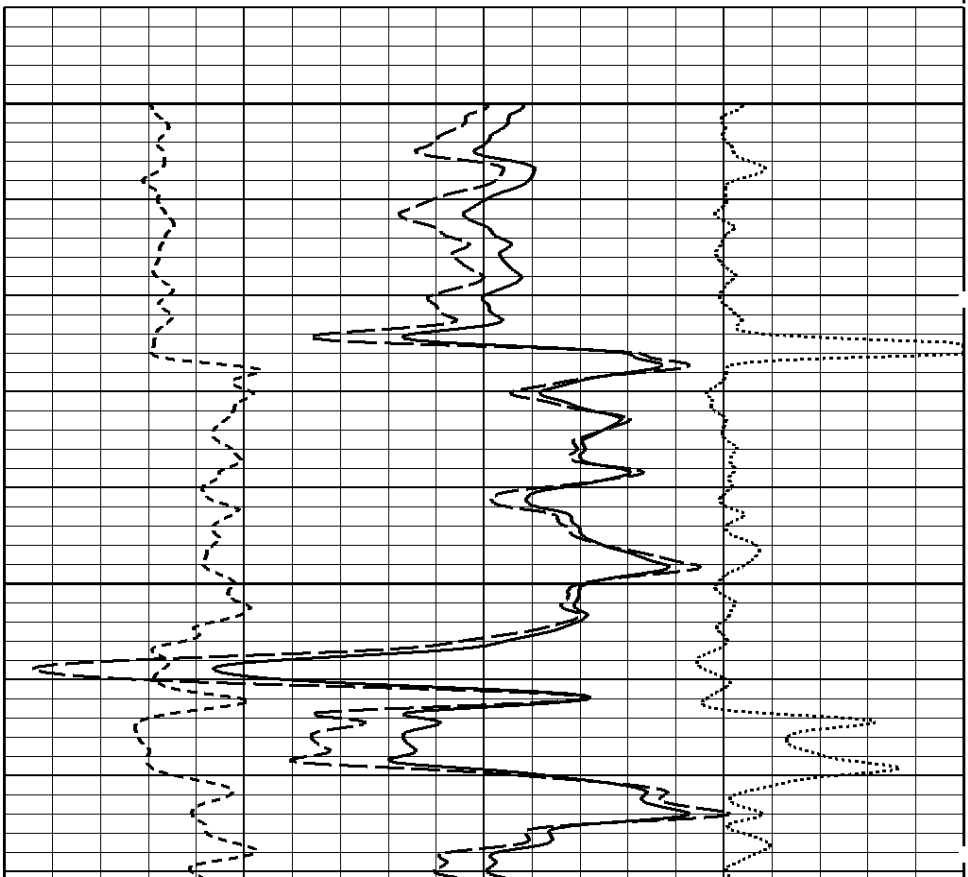
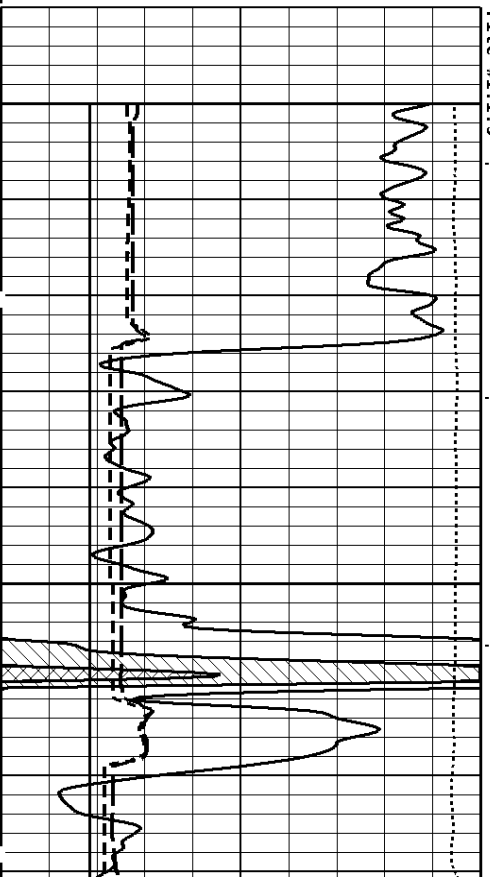
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16

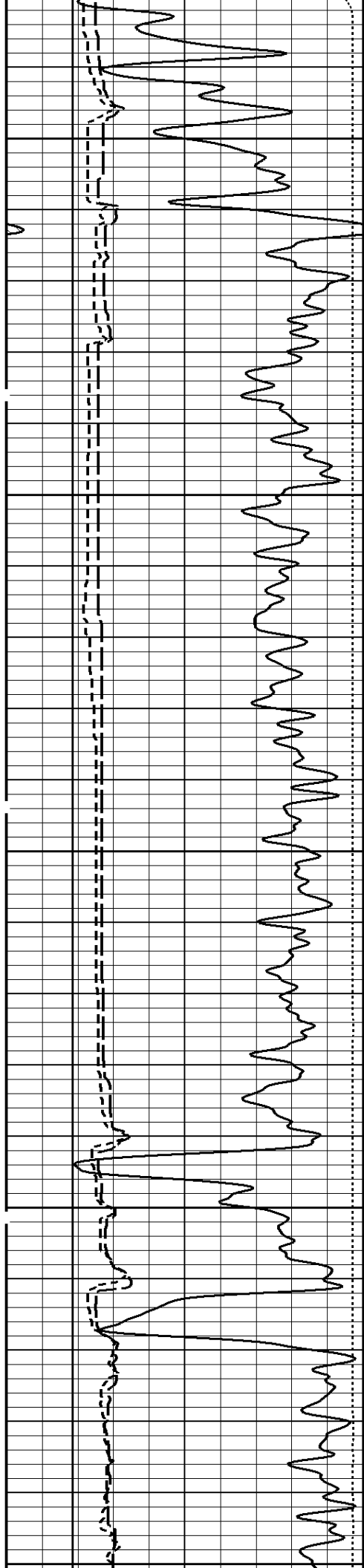
TENSION LBS	
10000	0

GAMMA RAY API UNITS	
150	300
0	150

PE CROSS-SECTION BARN/ ELECTRON		DENSITY CORRECTION G/CC	
0	10	-0.25	0.25
COMPENSATED BULK DENSITY G/CC			
3.0			4.0
2.0			3.0
1.0			2.0
DENSITY POROSITY (2.71g/cc) PERCENT			
70			30
30			-10
-10			-50

**1:240 MAIN SECTION**  
BULK DENSITY



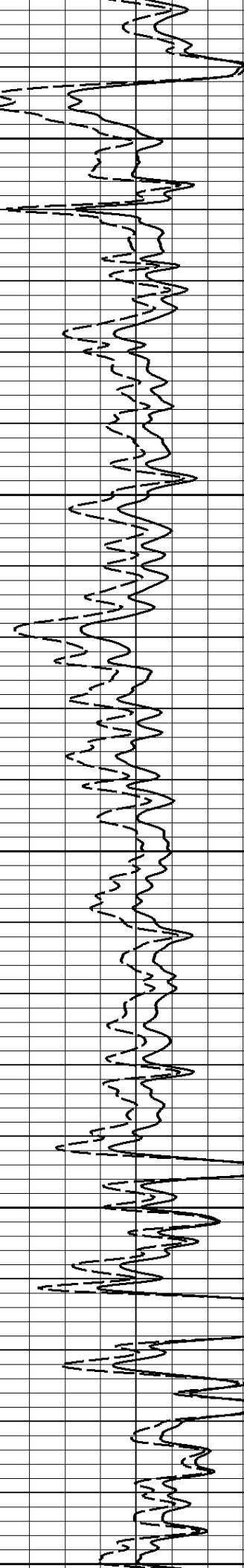
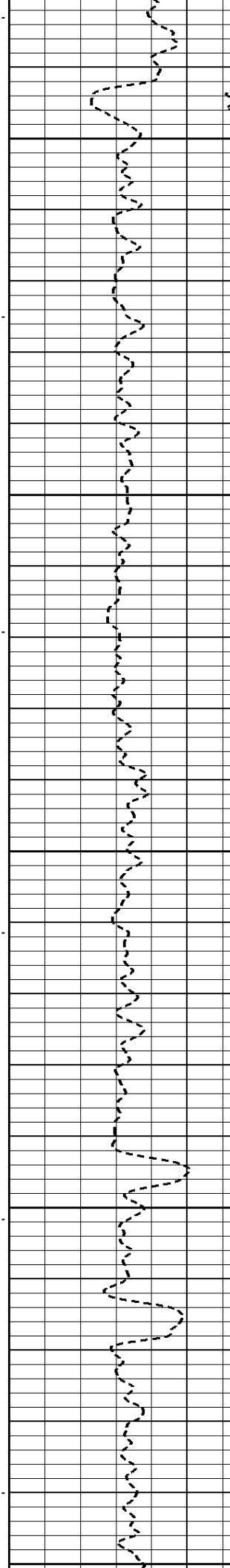


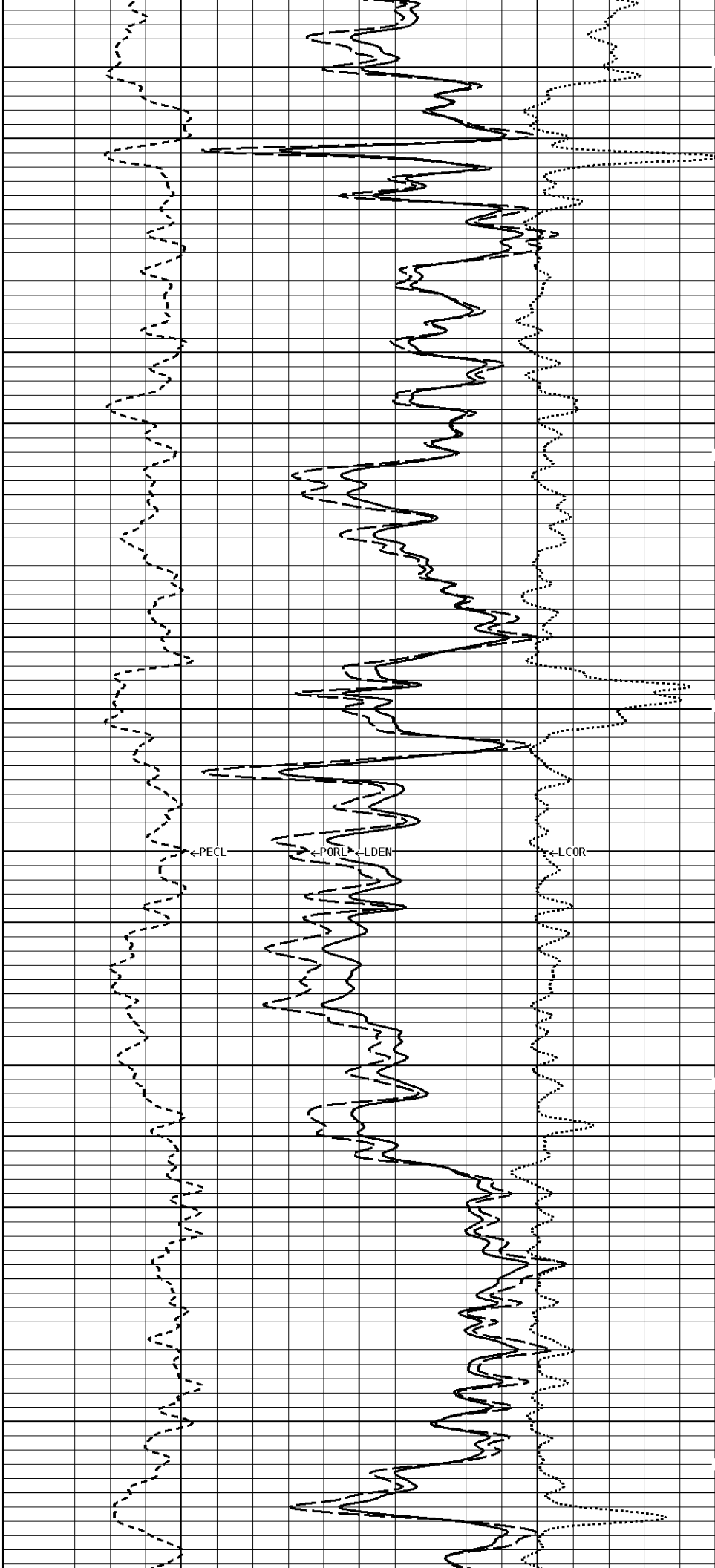
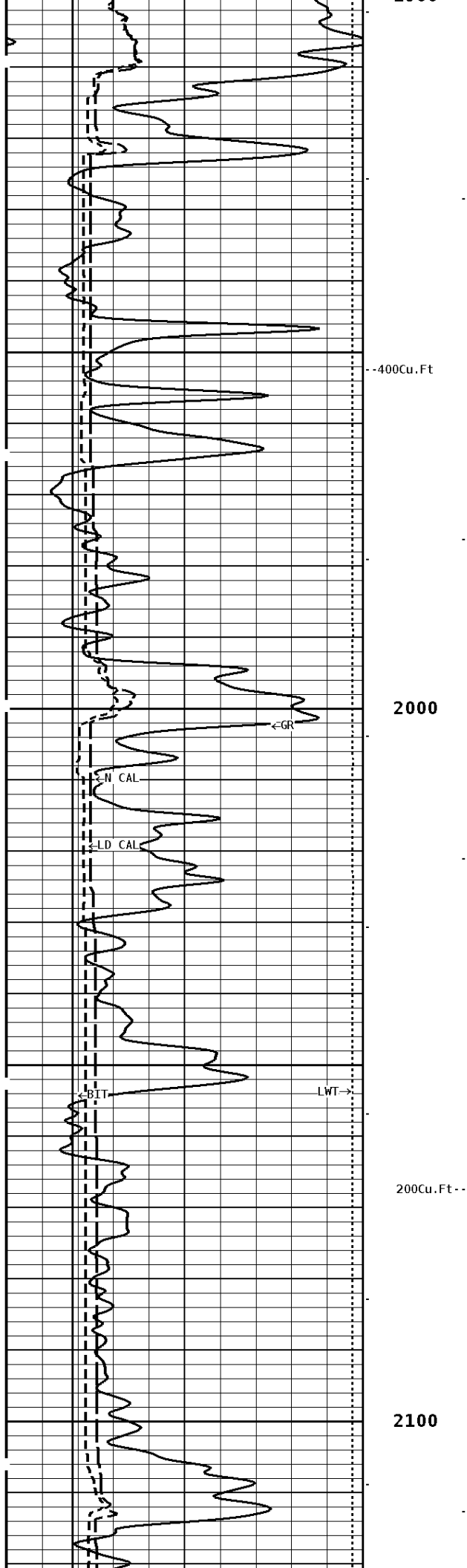
1700

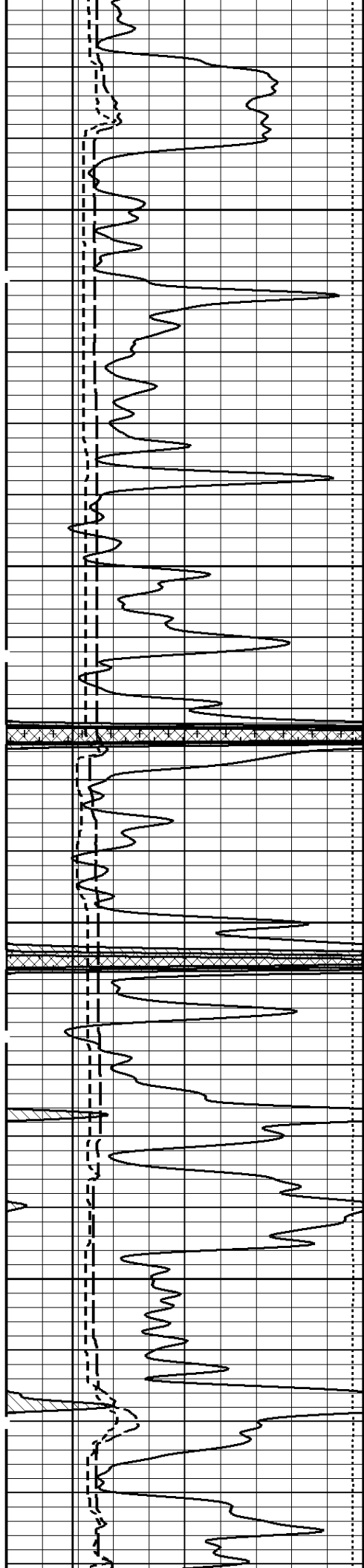
-500Cu.Ft

1800

1900



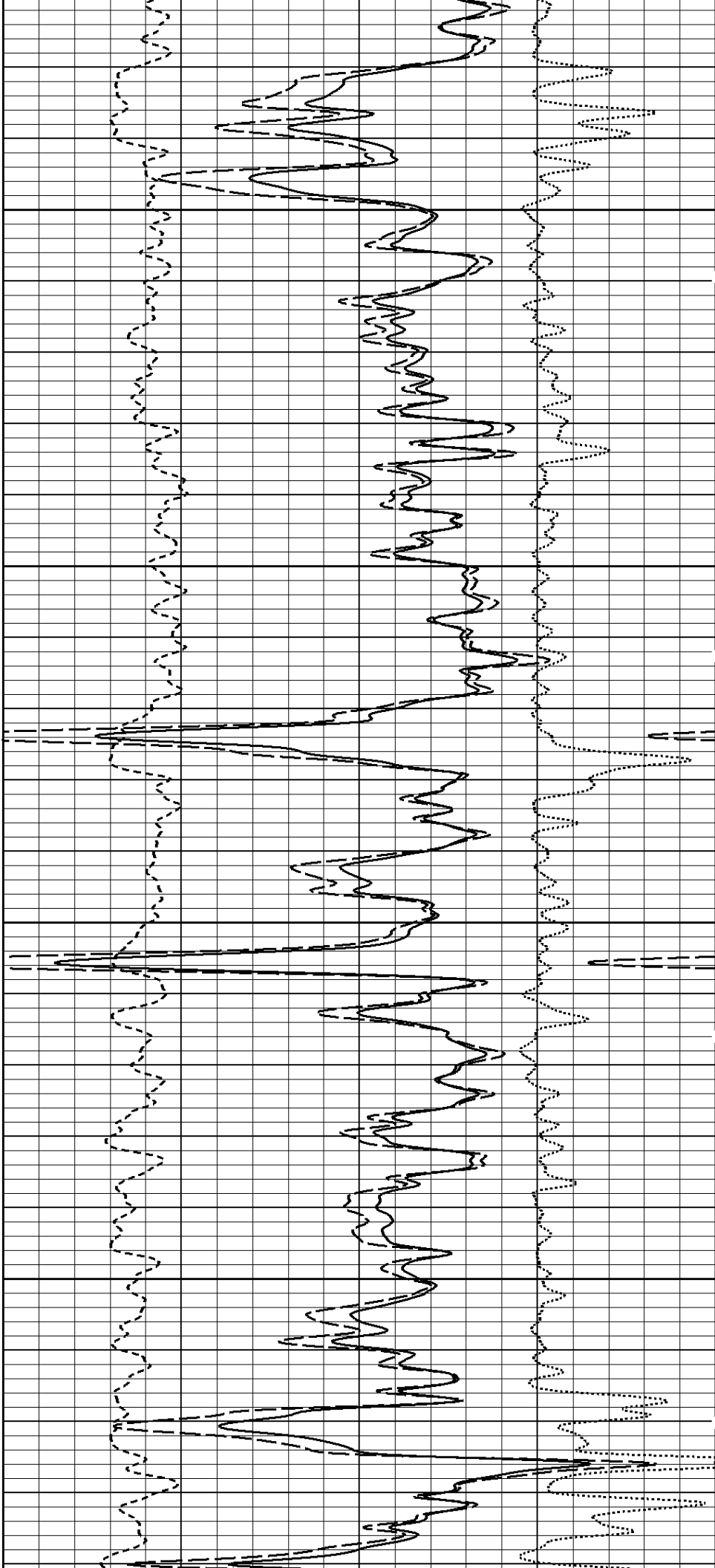


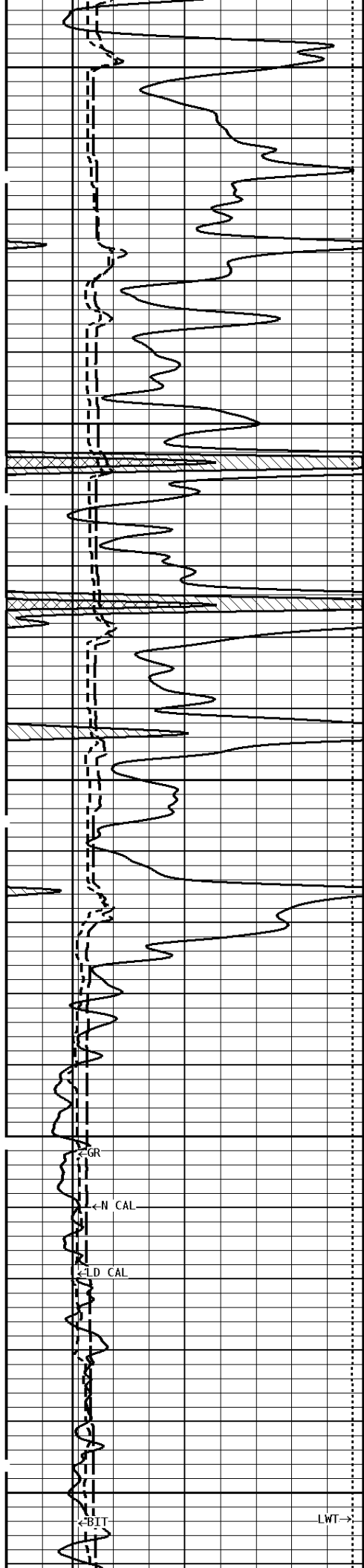


2200

---300Cu.Ft

2300



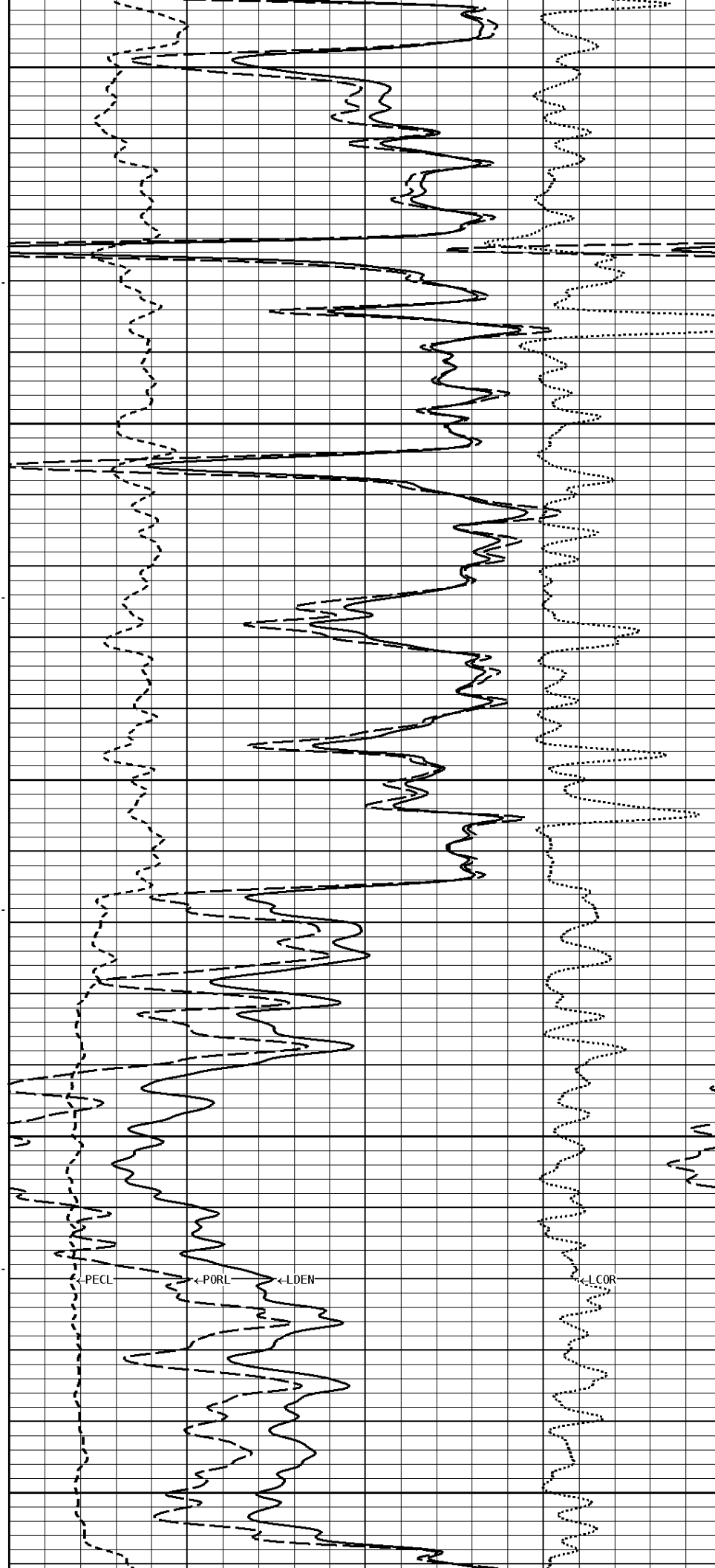


2400

200Cu.Ft

2500

100Cu.Ft

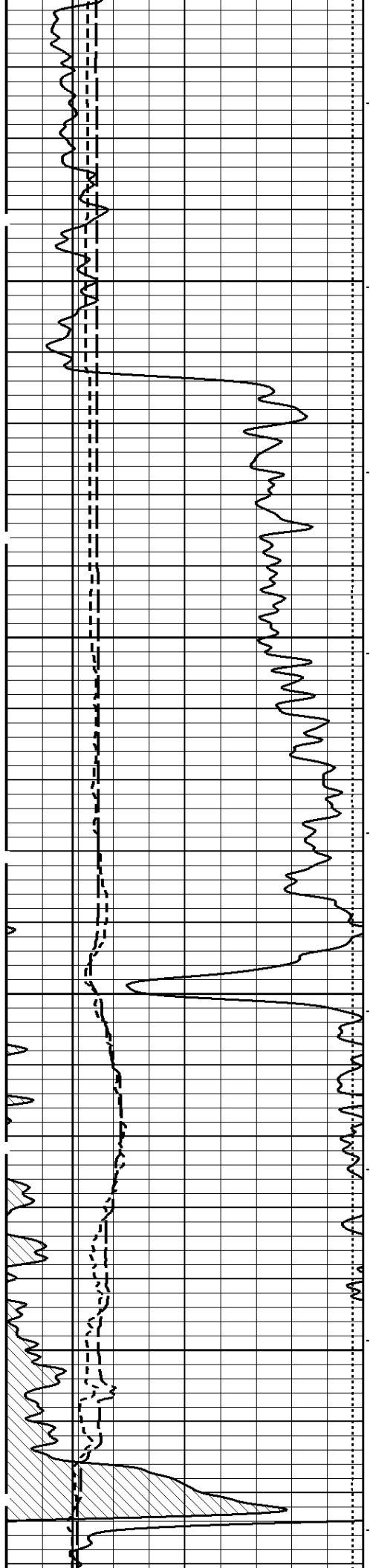


PECL

PORL

LDEN

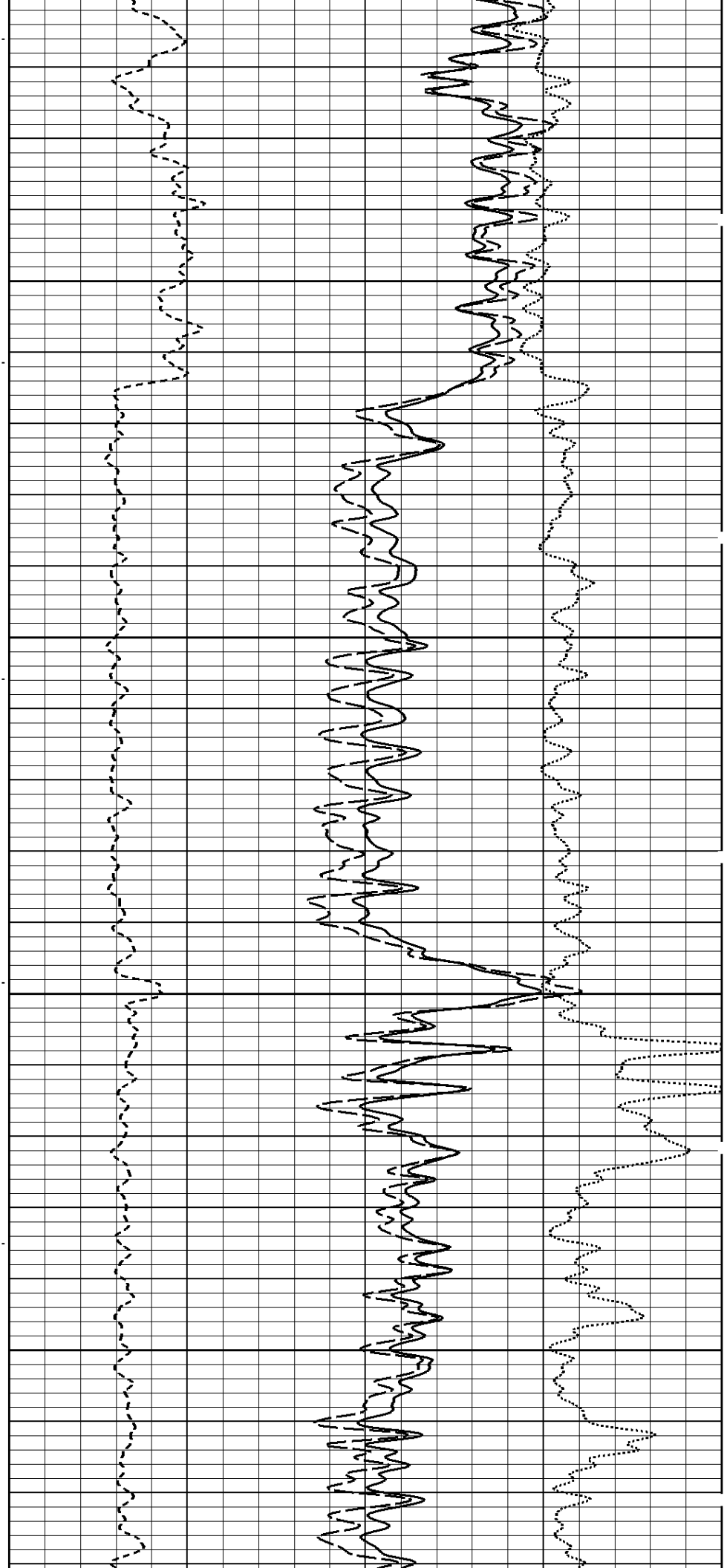
LCOR

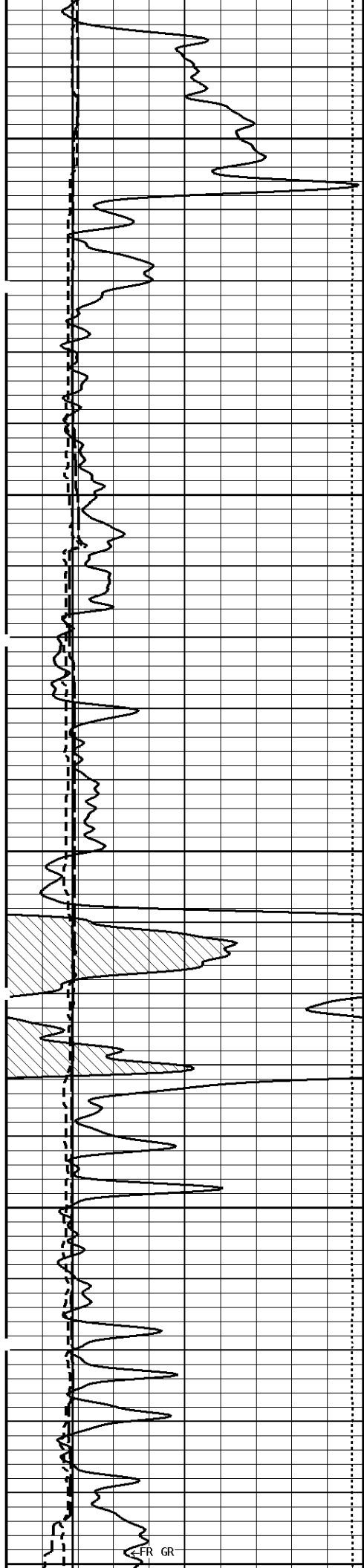


2600

2700

-100Cu.Ft

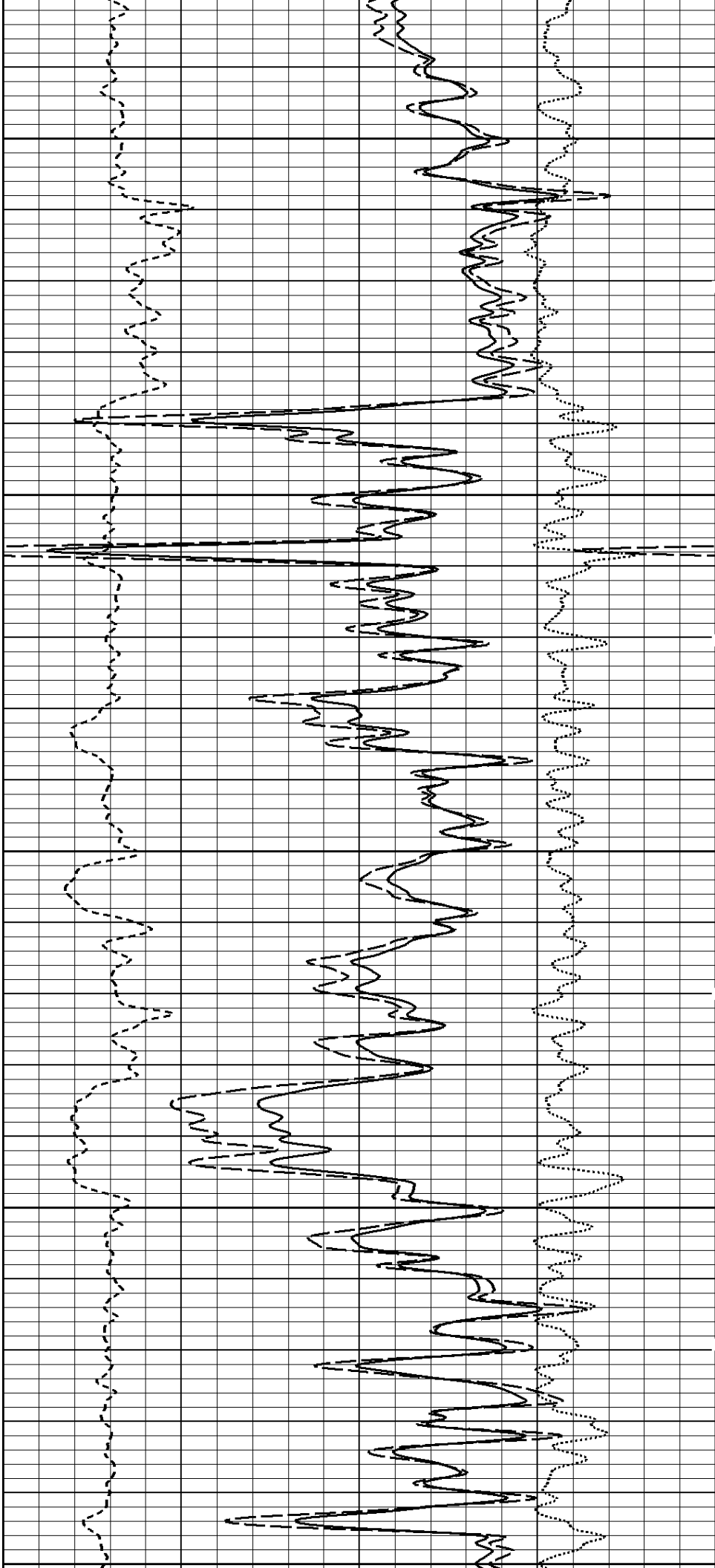




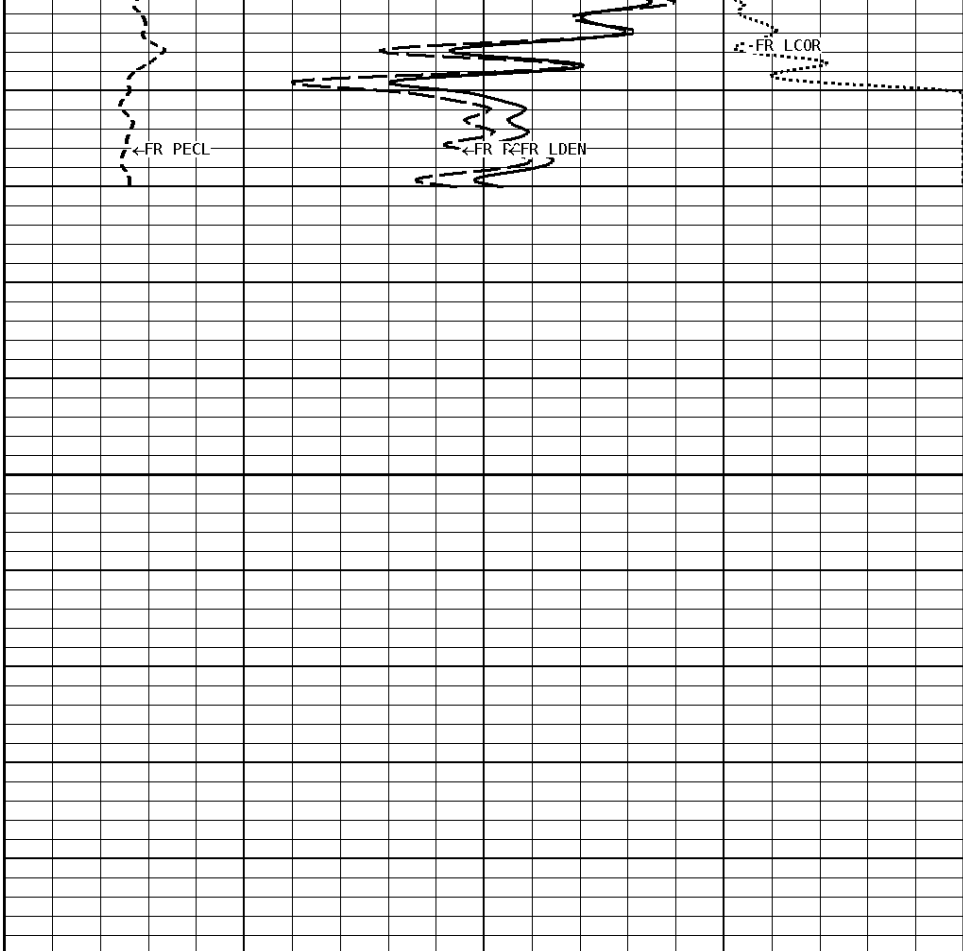
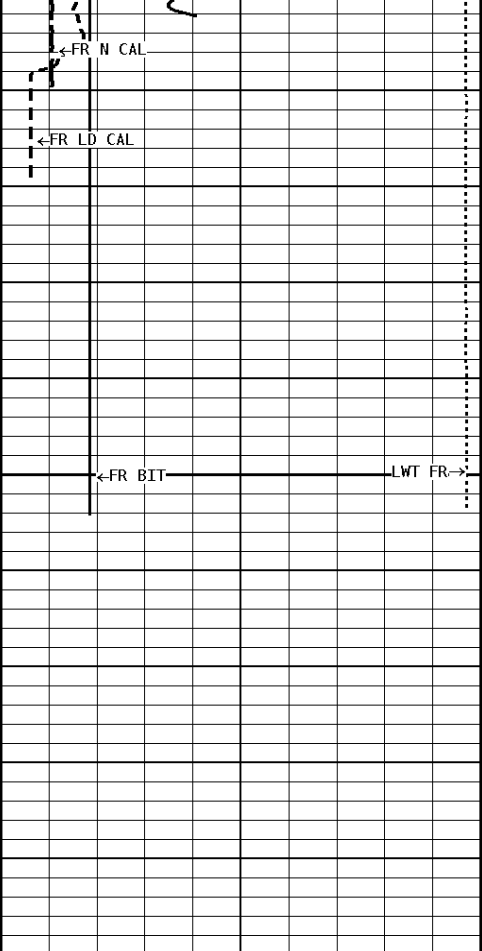
2800

2900

3000







**1:240 MAIN SECTION**  
BULK DENSITY

<b>GAMMA RAY</b> <b>API UNITS</b> 150 0  300 150	
<b>TENSION</b> <b>LBS</b> 10000 ..... 0	
<b>DENSITY (X) CALIPER</b> <b>INCHES (IN)</b> 16 ..... 26 6 ..... 16	
<b>NEUTRON (Y) CALIPER</b> <b>INCHES (IN)</b> 16 ..... 26 6 ..... 16	
<b>BIT SIZE</b> <b>INCHES (IN)</b> 6 ..... 16	

- BHV AHV - CU. FT 70 30 -10	<b>DENSITY POROSITY (2.71g/cc)</b> <b>PERCENT</b> ..... 30 -10 ..... -50	
	<b>COMPENSATED BULK DENSITY</b> <b>G/CC</b> 3.0 ..... 4.0 2.0 ..... 3.0 1.0 ..... 2.0	
0 ..... 10	<b>PE CROSS-SECTION</b> <b>BARNS/ELECTRON</b>	<b>DENSITY CORRECTION</b> <b>G/CC</b> -0.25 ..... 0.25

**\* Borehole Zone Factors \***

<b>Zone 1 99999.0 to 0.0 Feet</b>		
Matrix Density	_____	2.71 g/cc
Fluid Density	_____	1.00 g/cc
Formation Matrix	_____	Limestone
Drill Bit Size	_____	7.875 in
Casing Diameter	_____	5.500 in
Casing Correction (PHI N)	_____	Disable

**\* Calibration Summary \***

<b>Shop Calibration</b>					
<b>GRT-B</b>					
Performed : 02-Oct-2015			Time : 10:35		
Sensor Suite : GR-GR5			ID : GRT-BA-121		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig	GRAPI	
	47	352	175		
<b>Shop Calibration</b>					
<b>CNT-AA</b>					
Performed : 03-NOV-2015			Time : 11:23		
Sensor Suite : CALI-BCN			ID : NDT-AC-925		
	Jig - Measured	Units	Jig - Calibrated	Units	
CL # 1	Ring#1 Ring#2	Ring#1 Ring#2	Ring#1 Ring#2	IN.	
	8.9 12.7	6.0 12.0			
<b>Shop Calibration</b>					
<b>BHC NEUT</b>					
Performed : 03-Nov-2015			Time : 10:26		
Sensor Suite : BHC NEUT			ID : CNP-AA-121		
Source ID : N-1044					
	Tank	Verification	Units		
N/F	Measured	Calibrated	Jig		
Porosity	4.0097	3.6893	3.6894		%
	25.7	20.5	20.5		
<b>Shop Calibration</b>					
<b>LDT-DA</b>					
Performed : 12-DEC-2015			Time : 18:48		
Sensor Suite : CALI-LTH			ID : NDT-BB-153		
	Jig - Measured	Units	Jig - Calibrated	Units	
CL # 1	Ring#1 Ring#2	Ring#1 Ring#2	Ring#1 Ring#2	IN.	
	7.2 12.0	6.0 12.0			
<b>Shop Calibration</b>					
<b>BHCPENLNG</b>					
Performed : 12-DEC-2015			Time : 18:47		
Sensor Suite : BHCPENLNG			ID : LDP-DA-50		
Source ID : CSV-587					
	Short Space				
	BKGD	Al	Mg	Al+Fe	Units
LSW1	68	427	689	291	CPS
LSW2	73	500	794	369	CPS
LSW3	274	1222	1896	1053	CPS
LSW4	338	1164	1611	1050	CPS
LSW5	31	38	39	37	CPS
LSW6	92	92	94	92	CPS
LSW7	55	58	57	59	CPS
LSW8	2	2	2	2	CPS
QS	0.250	0.232	0.248	0.220	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC
	Long Space				
	BKGD	Al	Mg	Al+Fe	Units
LLW1	100	510	2087	331	CPS
LLW2	112	841	3461	633	CPS
LLW3	420	1682	6127	1476	CPS
LLW4	543	1030	2551	960	CPS
LLW5	63	67	78	66	CPS
LLW6	167	164	159	165	CPS
LLW7	113	109	106	111	CPS
LLW8	5	6	10	6	CPS
QL	0.192	0.203	0.202	0.196	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC
<b>Shop Calibration</b>					
<b>MST-DA</b>					
Performed : 05-DEC-2015			Time : 08:37		
Sensor Suite : CALI-MSN			ID : MST-DA-25		
	Jig - Measured	Units	Jig - Calibrated	Units	
CL # 1	Ring#1 Ring#2	Ring#1 Ring#2	Ring#1 Ring#2	IN.	
	7.7 13.4	6.0 12.0			
<b>Shop Calibration</b>					
<b>MSTDA-NI</b>					
Performed : 05-DEC-2015			Time : 08:38		
Sensor Suite : MSTDA-NI			ID : MST-DA-25		

	Measured		Internal	Calibrated		Units
	Zero	Reference	Units	Zero	Reference	
	INV-V	0.0	30010.6		0.00	
NOR-V	0.1	30159.6		0.00	1546.00	MV
IN-C	0.0	57334.5		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM
Performed : 05-DEC-2015			Time : 08:39			
Sensor Suite : MSTDAMSF			ID : MST-DA-25			
	Measured		Internal	Calibrated		Units
	Zero	Reference	Units	Zero	Reference	
	MSFC	6.9	42184.2		0.00	
MSFB	32757.2	32562.9		0.00	1522.00	MA
MOM1	0.0	43971.1		0.00	1522.00	MV
MSFRA					43.30	OHMM



Company: MID-CONTINENT ENERGY CORP.  
 Well: ROGERS #1  
 Location: 1320' FSL & 990' FWL  
 Logged: 12-16-2015  
 K.B. Elev: 1394.0 Ft



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Mid-Continent Energy Corp.

**11-21S-3E Marion,KS**

105 South Broadway Ste 360  
Wichita, KS 67202

**Rogers #1**

Job Ticket: 57887

**DST#: 1**

ATTN: Ben Landes

Test Start: 2015.12.15 @ 14:14:00

## GENERAL INFORMATION:

Formation: **Hunton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:36:30

Time Test Ended: 20:29:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jimmy Ricketts

Unit No: 68

**Interval: 2600.00 ft (KB) To 2793.00 ft (KB) (TVD)**

Reference Elevations: 1394.00 ft (KB)

Total Depth: 2793.00 ft (KB) (TVD)

1389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8790 Inside**

Press@RunDepth: 165.32 psig @ 2601.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.12.15 End Date: 2015.12.15

Last Calib.: 1899.12.30

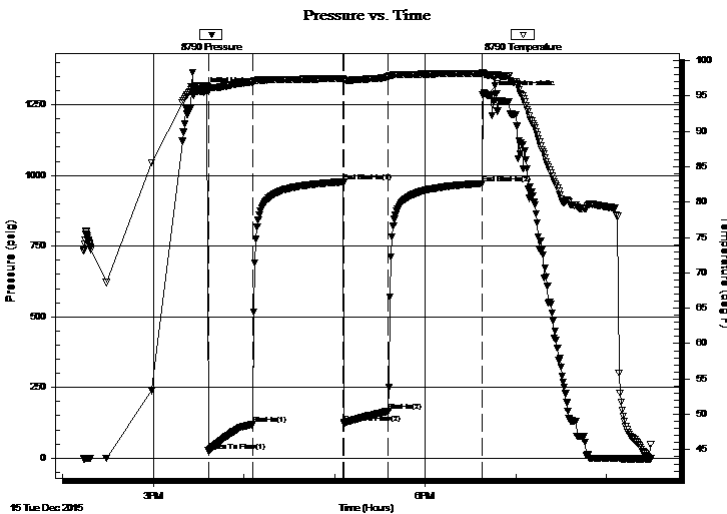
Start Time: 14:14:05 End Time: 20:29:29

Time On Btm: 2015.12.15 @ 15:33:30

Time Off Btm: 2015.12.15 @ 18:41:00

**TEST COMMENT:** IFP - Weak blow building to 1 inch blow initial flow period.  
ISI No blow back  
FFP - Weak blow building to 3 inch blow final flow period.  
FSI No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1294.98	96.44	Initial Hydro-static
3	25.43	95.67	Open To Flow (1)
33	118.87	96.92	Shut-In(1)
92	976.62	97.46	End Shut-In(1)
93	122.31	97.22	Open To Flow (2)
122	165.32	97.68	Shut-In(2)
185	971.22	98.20	End Shut-In(2)
188	1284.79	97.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
285.00	Drilling mud	1.47

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Mid-Continent Energy Corp.

**11-21S-3E Marion,KS**

105 South Broadway Ste 360  
Wichita, KS 67202

**Rogers #1**

Job Ticket: 57887

**DST#: 1**

ATTN: Ben Landes

Test Start: 2015.12.15 @ 14:14:00

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Reference Elevations: 1394.00 ft (KB)

Total Depth: 2793.00 ft (KB) (TVD)

1389.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8792** **Outside**

Press@RunDepth: psig @ 2601.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.12.15 End Date: 2015.12.15

Last Calib.: 1899.12.30

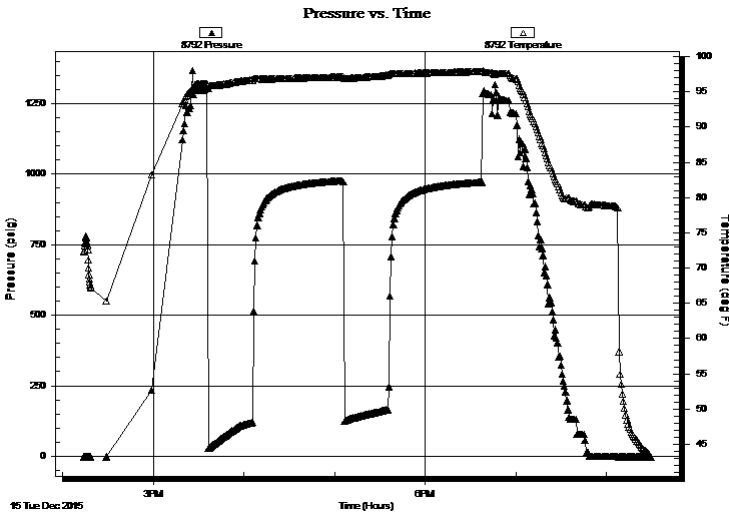
Start Time: 14:14:05 End Time: 20:29:14

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP - Weak blow building to 1 inch blow initial flow period.  
ISI No blow back  
FFP - Weak blow building to 3 inch blow final flow period.  
FSI No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
285.00	Drilling mud	1.47

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Mid-Continent Energy Corp.

**11-21S-3E Marion,KS**

105 South Broadway Ste 360  
Wichita, KS 67202

**Rogers #1**

Job Ticket: 57887

**DST#: 1**

ATTN: Ben Landes

Test Start: 2015.12.15 @ 14:14:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
285.00	Drilling mud	1.472

Total Length: 285.00 ft      Total Volume: bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

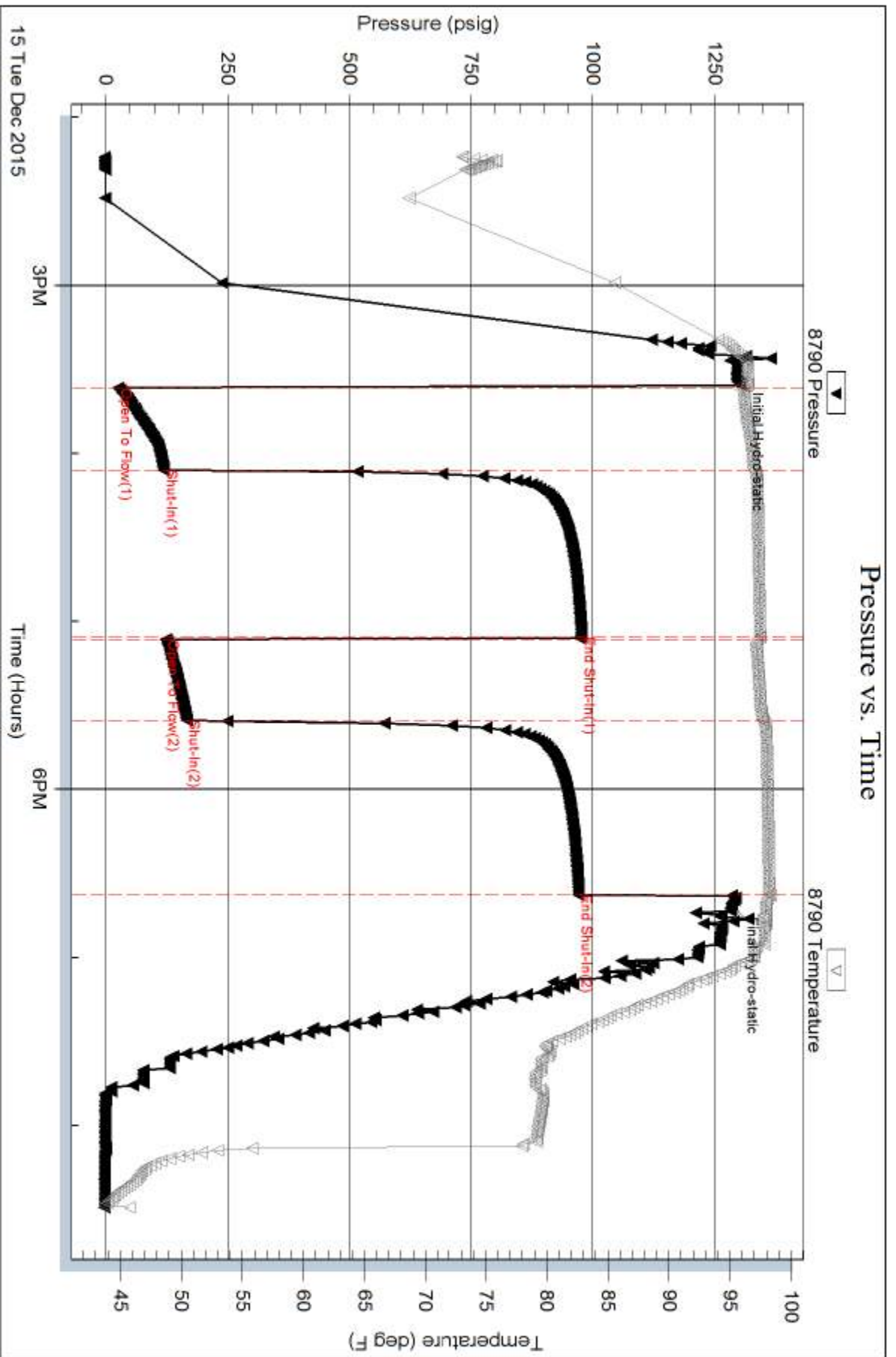
Serial #: 8790

Inside

Mid-Continent Energy Corp.

Rogers #1

DST Test Number: 1



15 Tue Dec 2015

3PM

6PM

Time (Hours)

Tribble Testing, Inc

Ref. No: 57887

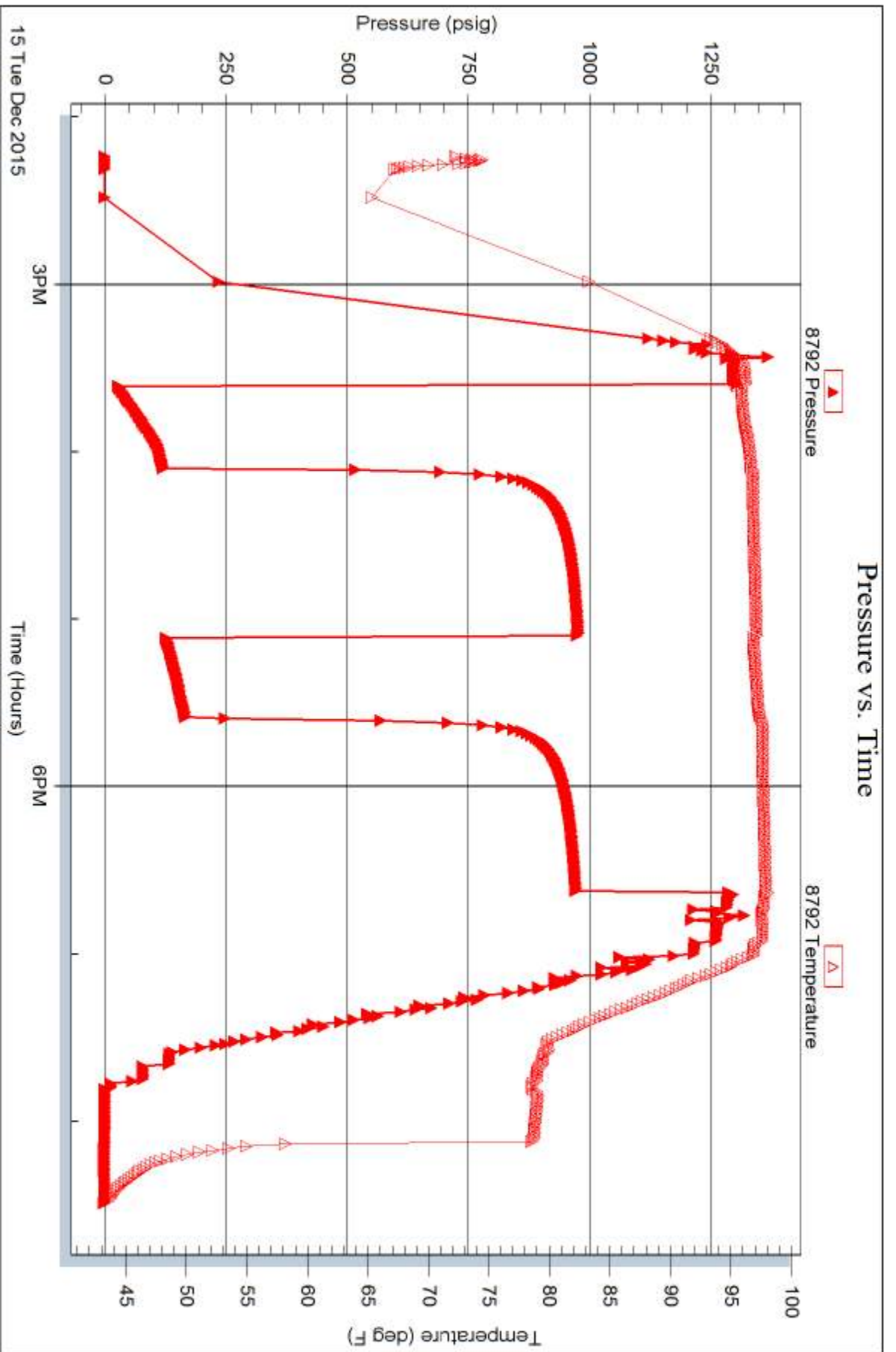
Printed: 2015.12.16 @ 14:37:32

Serial #: 8792

Outside Mc-Continent Energy Corp.

Rogers #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57887

Printed: 2015.12.16 @ 14:37:32



5030  
Field Hlt acc  
4936



**CONSOLIDATED**  
Oil Well Services, LLC

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

Invoice # 806664

TICKET NUMBER 51132  
LOCATION El Dorado  
FOREMAN Fuzzie

FIELD TICKET & TREATMENT REPORT

CEMENT API# 15-115-21501

125

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
12-17-15	5486	Roseads #1	11	21	3	Marion
CUSTOMER Mid Continent Energy Corp			Florence w-heap #50			
MAILING ADDRESS 105 S. Broadway Ste 360			To Florence 4. W 1/4 E w-4			
CITY Wichita	STATE KS	ZIP CODE 67202	TRUCK # 603	DRIVER Tracey	TRUCK # 775	DRIVER Jeremy

JOB TYPE P.T.A HOLE SIZE 17/8 HOLE DEPTH 3050' CASING SIZE & WEIGHT \_\_\_\_\_  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE 4 1/2 X TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT \_\_\_\_\_ SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_ DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting on w-w #4. Rig up and plus as ordered

3 SSKs @ 2950' 120 SSKs 60/40 pos 470 gal  
3 SSKs @ 268' w/1/4" Slossal  
3 SSKs @ 60'  
2 SSKs @ RH

Thanks Fuzzie & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CC0450	1	PUMP CHARGE	1500.00	1500.00
CC0002	30	MILEAGE	7.12	214.00
CC0711		Tow mileage Delivery (min)	1.25	660.00
CC5829	120 SSKs	60/40 pos 470 gal	16.00	1920.00
CC6079	30*	Slossal	2.00	60.00
		subtotal		4354.00
		40% less disc	1.777.80	(711.80)
		subtotal		2576.70

SCANNED

Revin 3787

SALES TAX ESTIMATED TOTAL **# 2576.70**  
DATE 12-17-15

AUTHORIZATION Walter Brown TITLE Tool Pusher

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.





**CONSOLIDATED**  
Oil Well Services, LLC

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

5002  
Field Hef doc  
4910

Invoice # 806646

TICKET NUMBER 51131

LOCATION EL Dorado

FOREMAN Fuzzy

FIELD TICKET & TREATMENT REPORT

CEMENT API 15-115-21501-00-00

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
12-11-15	5486	Rogers #1	11	21	3	Marion
CUSTOMER Midcontinent Energy Corp			Florence washer 50 - pounds 4-in 1/4 E WIN			
MAILING ADDRESS 105 S. Broadway Suite 360			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY Wichita			603	Tincey		
STATE KS			681	Jeremy		
ZIP CODE 67202						

JOB TYPE surface HOLE SIZE 12 1/4 HOLE DEPTH 218' CASING SIZE & WEIGHT 85 lb  
 CASING DEPTH 218' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.7 SLURRY VOL 38.7 WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 20'  
 DISPLACEMENT 12.6 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meetings on well #4. Rig up and establish circulation. Pump 3 BBL water mix 1605#s Class A. 390 cc 2705# w/ 1/2 # poly slake per sk. Displace 12 1/2 BBL and shut in. Cement did circulate approx 3 BBL topix.

THANKS Fuzzy  
+ crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0450	1	PUMP CHARGE	1500 <sup>00</sup>	1500 <sup>00</sup>
CE0002	30	MILEAGE	7.15	214 <sup>50</sup>
CE0711	7.5 ton	Tow Mileage Delivery (min)	88	660 <sup>00</sup>
CC5000	1288 1605#s	Class A	20 <sup>00</sup>	3200 <sup>00</sup>
CC5325	450 #	Calcium Chloride	1 <sup>00</sup>	450 <sup>00</sup>
CC5965	300 #	Gel	.30	90 <sup>00</sup>
CC6075	80 #	Poly-Slake	2 <sup>00</sup>	160 <sup>00</sup>
		Subtotal		6274 <sup>50</sup>
		less disc	4090	2509 <sup>80</sup>
				3764 <sup>70</sup>
<b>SCANNED</b>			SALES TAX	18720 ✓
			ESTIMATED TOTAL	3951.90 ✓

Ravin 9797

AUTHORIZATION Walt Brown TITLE Tool Pusher

DATE 12-12-15

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.