

**Tucker**  
ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company RUNNING FOXES PETROLEUM  
Well C. HEIM #2-19 INJ2  
Field LEAVENWORTH NORTHEAST  
County LEAVENWORTH  
State KANSAS  
Country USA  
API No. 15-103-21383-0000

File No : TUL-58371  
Company : RUNNING FOXES PETROLEUM INC.  
Well : C. HEIM #2-19 INJ2  
Field : LEAVENWORTH NORTHEAST  
County : LEAVENWORTH  
State : KANSAS  
Country : USA  
API No : 15-103-21383-0000

Location :  
660' FNL & 2620' FEL  
W2 W2 NW NE

LSD :                      Sect : 19                      Twp : 8S                      Rge : 22E

Permanent Datum:	GL	Elevations:		Services:	
Drilling Measured From:	GL	KB	0.00	CNT	
Log Measured From:	GL	DF	0.00	LDT	
Above Permanent Datum:	0.00 Ft	GL	875.00	PLT	
Date	10-16-2013				
Run Number	1				
Depth--Driller	1269.0	Ft			
Depth--Logger	1269.0	Ft			
First Reading	1246.0	Ft			
Last Reading	42.0	Ft			
Casing--Driller	42.0	Ft			
Casing--Logger	42.0	Ft			
Bit Size	6.750	In			
Casing Size	8.625	In			
Hole Fluid Type	CHEM-GEL				
Density	0.0				
Fluid Loss	0.0				
PH/Viscosity	0.0		0.0		
Sample Source	MEASURED				
RM@Measured Temp.	2.000	@ 75 F			
RMF@Measured Temp	1.600	@ 75 F			
RMC@Measured Temp.	2.400	@ 75 F			
Source RMF/RMC	CALCULATED/CALCULATED				
RM@BHT	1.780	@ 85 F			
Time Circulation Stopped	10-16-2013 8:30 am				
Max Recorded Temp.	85	F			
Equipment/Base	127	TULSA			
Recorded By	SHELDON TYLER				
Witnessed By	KURT HODGES				

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)
6.750	1269.00	8.625	32.00	42.00	0.00

Run Number	1
Date	10-16-2013
Date/Time On Bottom	10-16-2013 10:30 am
Depth to Fluid	0.0 Ft
Salinity	0.000
RMF@BHT	1.420 @ 85 F
RMC@BHT	2.140 @ 85 F

Run Number 1

Comments

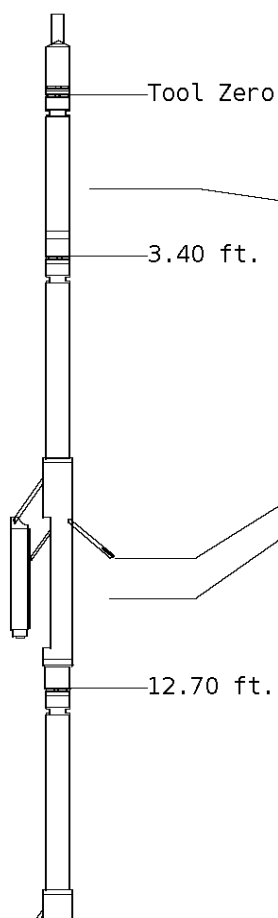
ALL PRESENTATIONS AS PER CUSTOMER REQUEST  
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION.  
 CALIPERS ORIENTED ON X-Y AXIS.  
 2.71 G/CC USED TO CALCULATED POROSITY.  
 ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING.  
 PHIN IS CALIPER CORRECTED.

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.

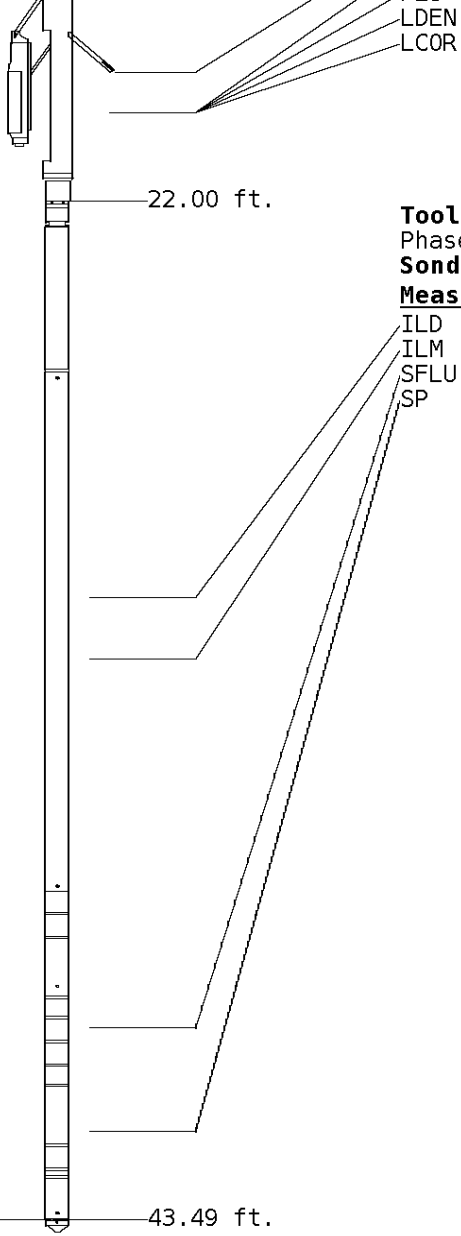
OPERATORS:  
 J.JOHNSON  
 D.HOPPER  
 J.ADAMS

### Tool String Schematic

**Total Tool Length** - 43.49 ft.  
**Maximum Outside diameter** - 4.80 in.  
**Net Weight in Air** - 743.00 lbs.



<b>Tool: GRT-B</b>		<b>Length:</b>	3.40 ft.	<b>O.D.</b>	3.60 in.
Gamma Ray Controller					
<b>Sonde ID</b>		:GRT-BB-117			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>		
GRP	2.00	2.00	41.49		
<b>Tool: CNT-AA</b>		<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-027			
<b>Source ID</b>		:N-1044			
<b>Pad ID</b>		:CNP-AE-42			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>		
CLCN	6.00	9.40	34.09		
PHIN	6.80	10.20	33.29		
<b>Tool: LDT-DA</b>		<b>Length:</b>	9.30 ft.	<b>O.D.</b>	4.80 in.
Litho Density D Pad on NDT-A					
<b>Sonde ID</b>		:PDT-GA-472			
<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	24.79		
PEL	7.00	19.70	23.79		
PES	7.40	20.10	23.39		



7.20 19.90 23.59  
 7.20 19.90 23.59

**Tool:** PIT-CA      **Length:** 21.49 ft.    **O.D.** 3.62 in.  
 Phased Dual Induction w/ RM & D  
**Sonde ID** :PIT-BA-20

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	30.92	12.56
ILM	10.10	32.10	11.39
SFLU	17.49	39.49	4.00
SP	20.60	42.60	0.88

**Well File:** RUNNING FOXES\_C HEIM 2-19 OCT16\_MSTK

**Scale:** 1:240      **Format:** NLD-240

**Segment:** V1.D2.S5 Reprocess of MAIN

**Acquired:** 2013-10/16 10:37 3.3.0-12261

**Reference:** 0

**Processed:** 2013-10/16 11:02 3.3.0-12261

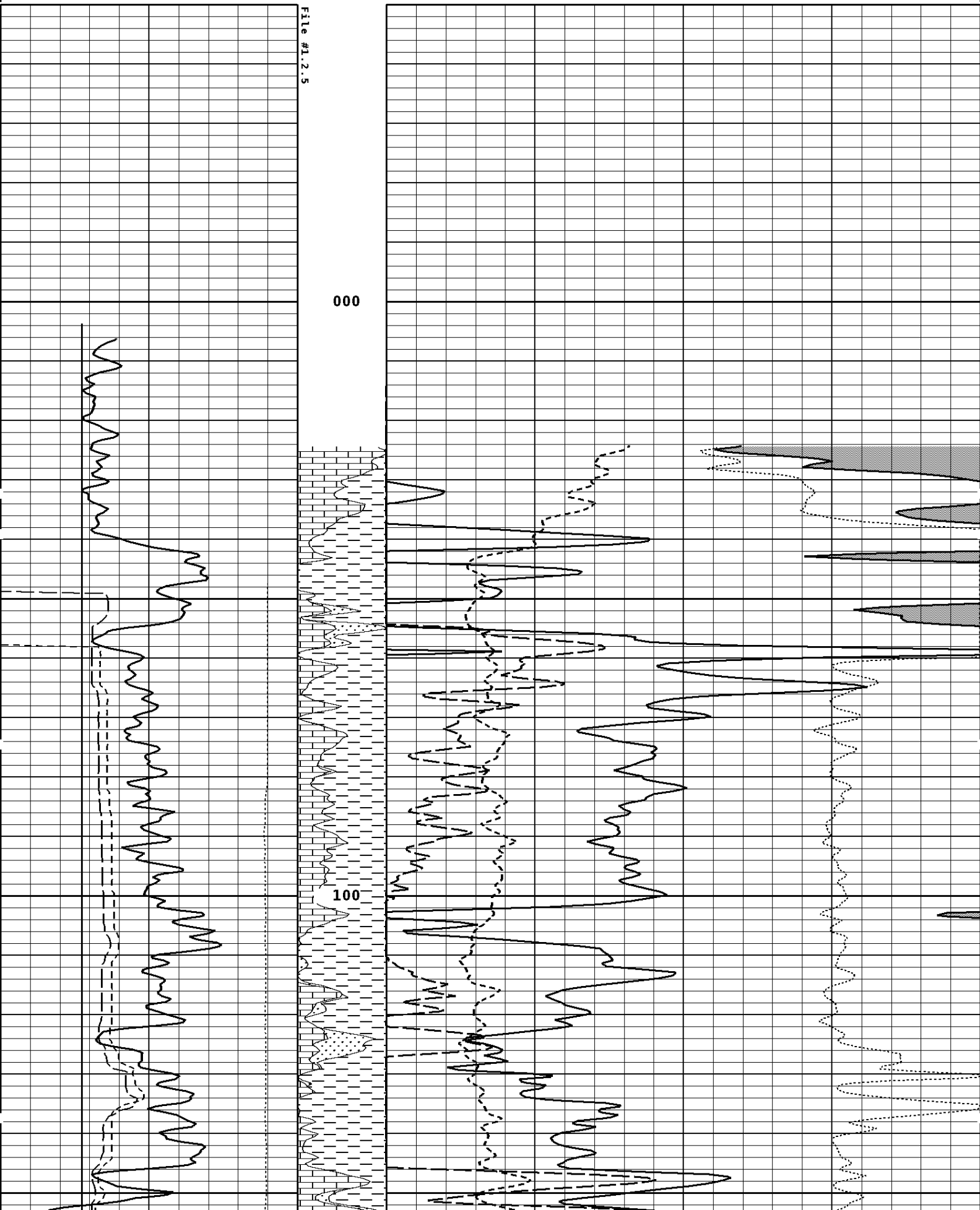
<b>BIT SIZE INCHES (IN)</b>				
4	14			
<b>NEUTRON (Y) CALIPER INCHES (IN)</b>				
14	24			
4	14			
<b>DENSITY (X) CALIPER INCHES (IN)</b>				
14	24			
4	14			
<b>TENSION LBS</b>		<b>Volume Quartz</b>	<b>PE CROSS-SECTION BARNS/ELECTRON</b>	<b>DENSITY CORRECTION G/CC</b>
10000	0			
		0	10	-0.25
<b>GAMMA RAY API UNITS</b>		<b>Volume Calcite</b>	<b>DENSITY POROSITY (2.71g/cc) PERCENT</b>	
200	400			
0	200			
		70		30
		30		-10
		-10		-50
<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b>		<b>Volume Dolo/Shale</b>		
		30		-10

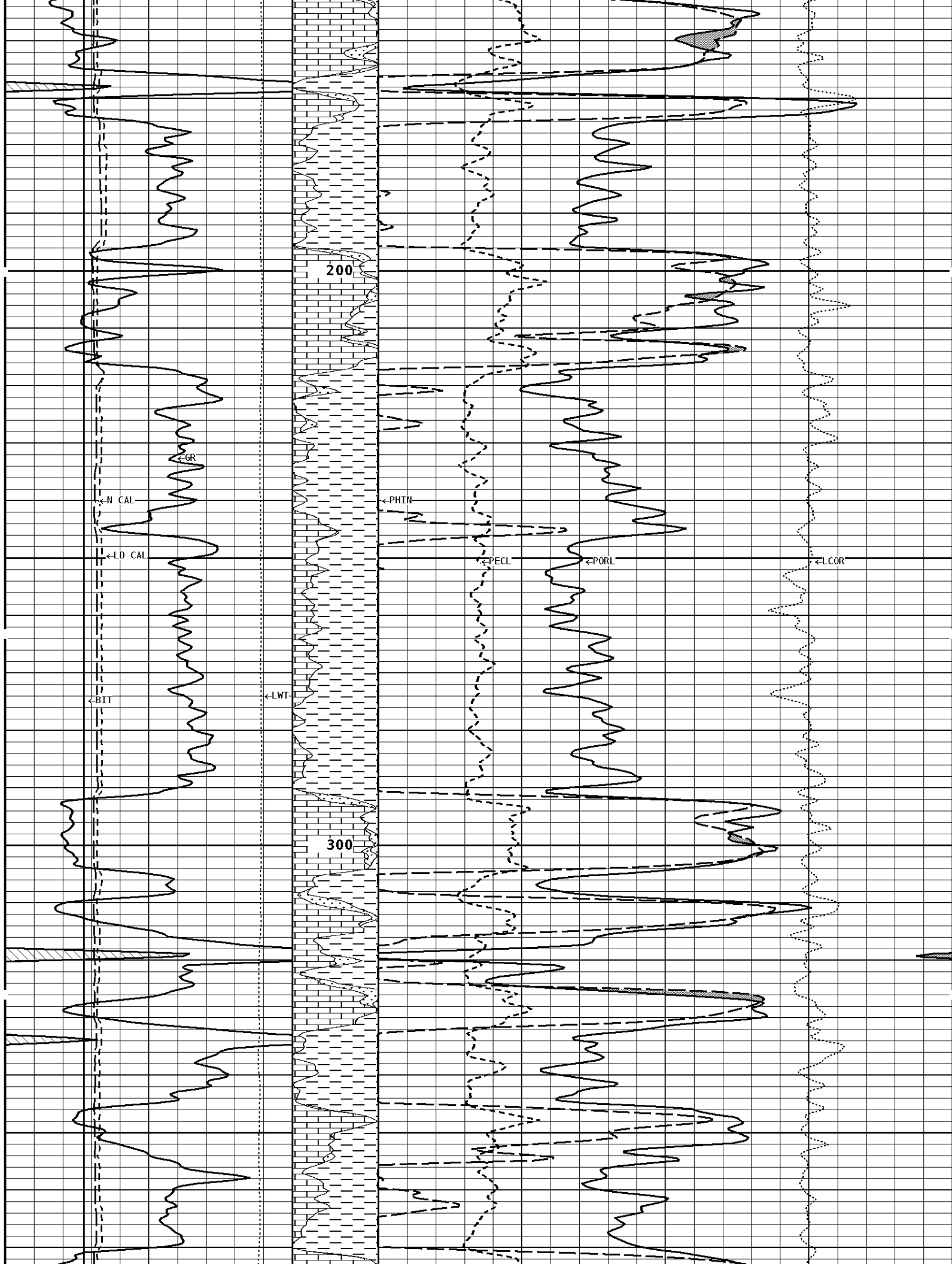
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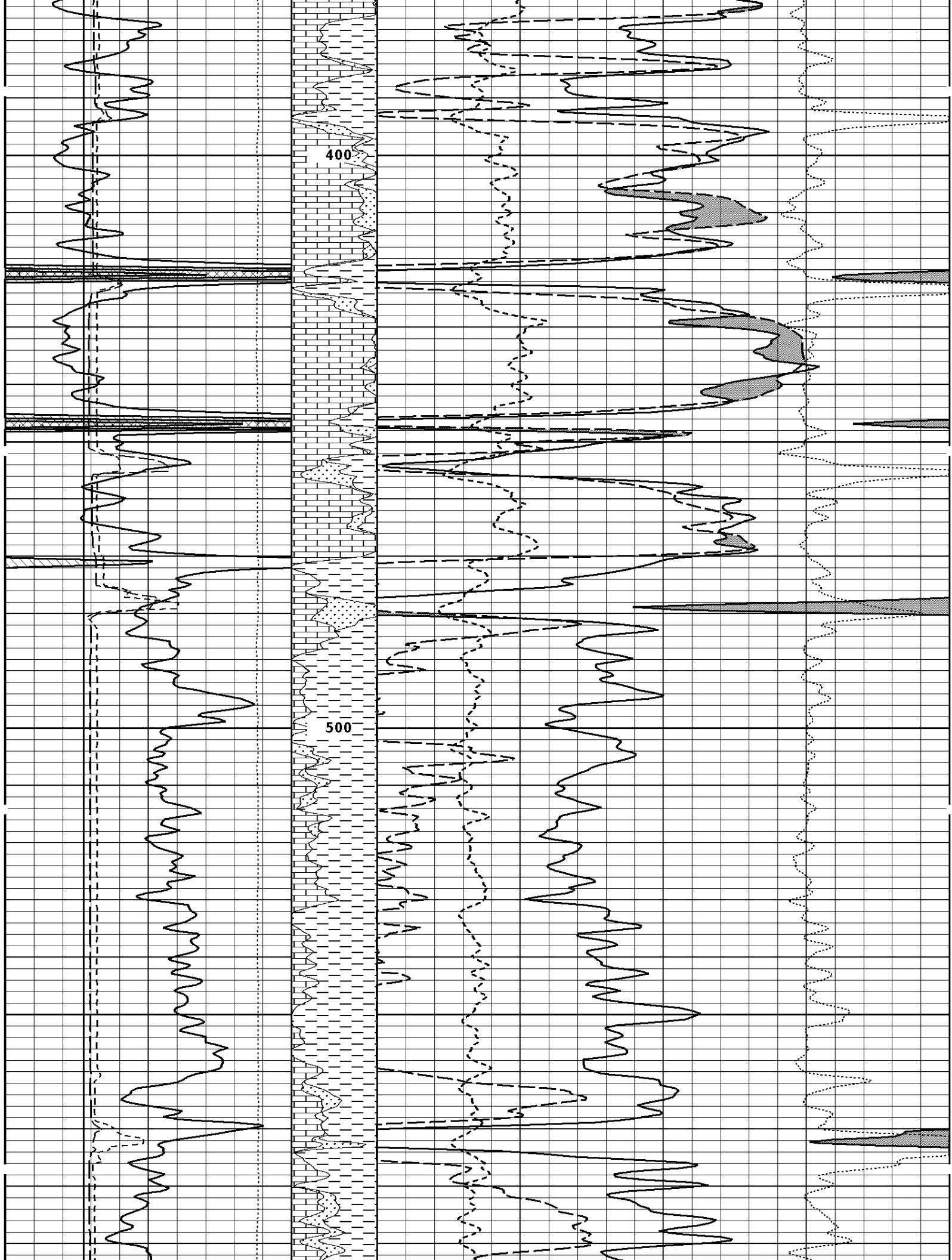
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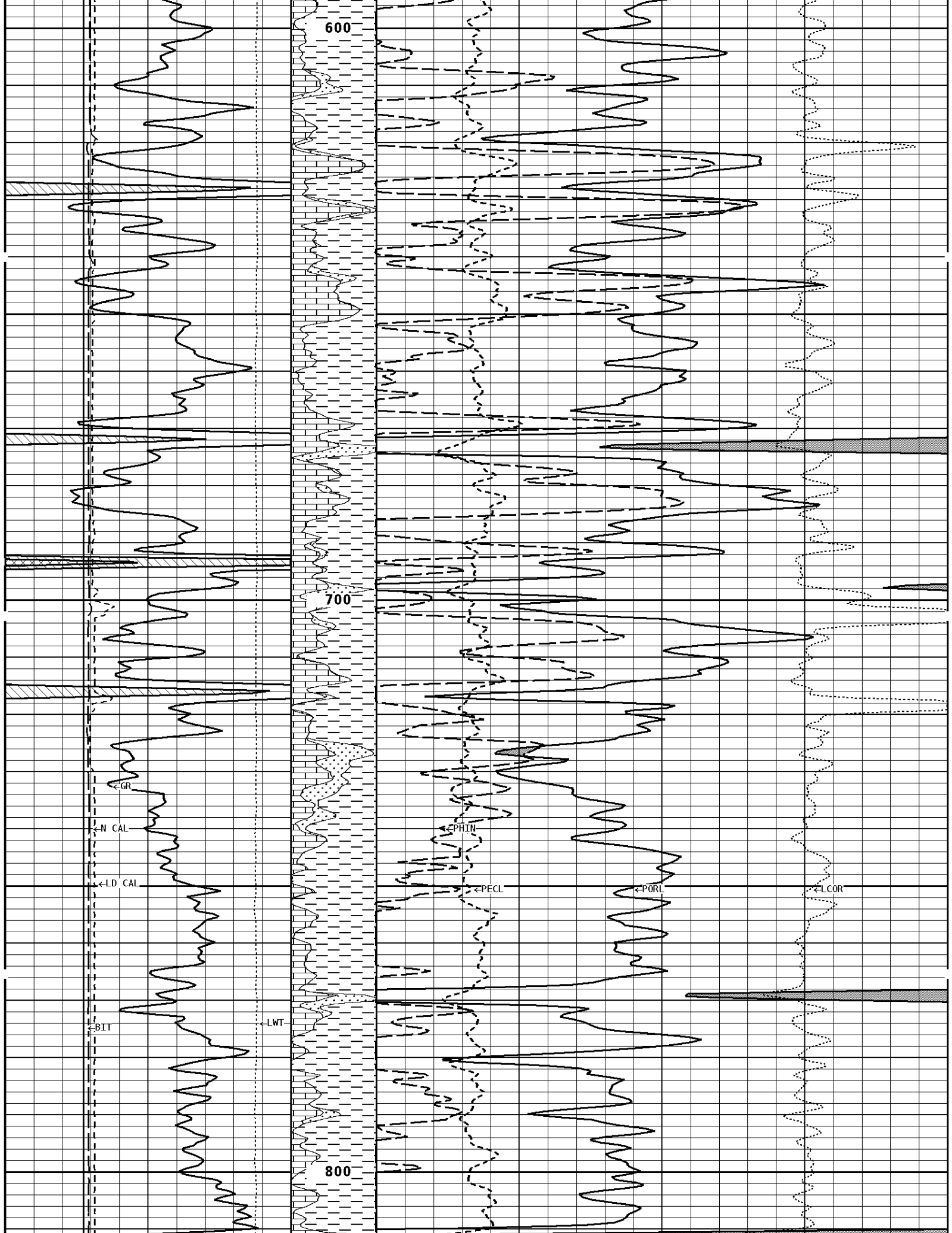
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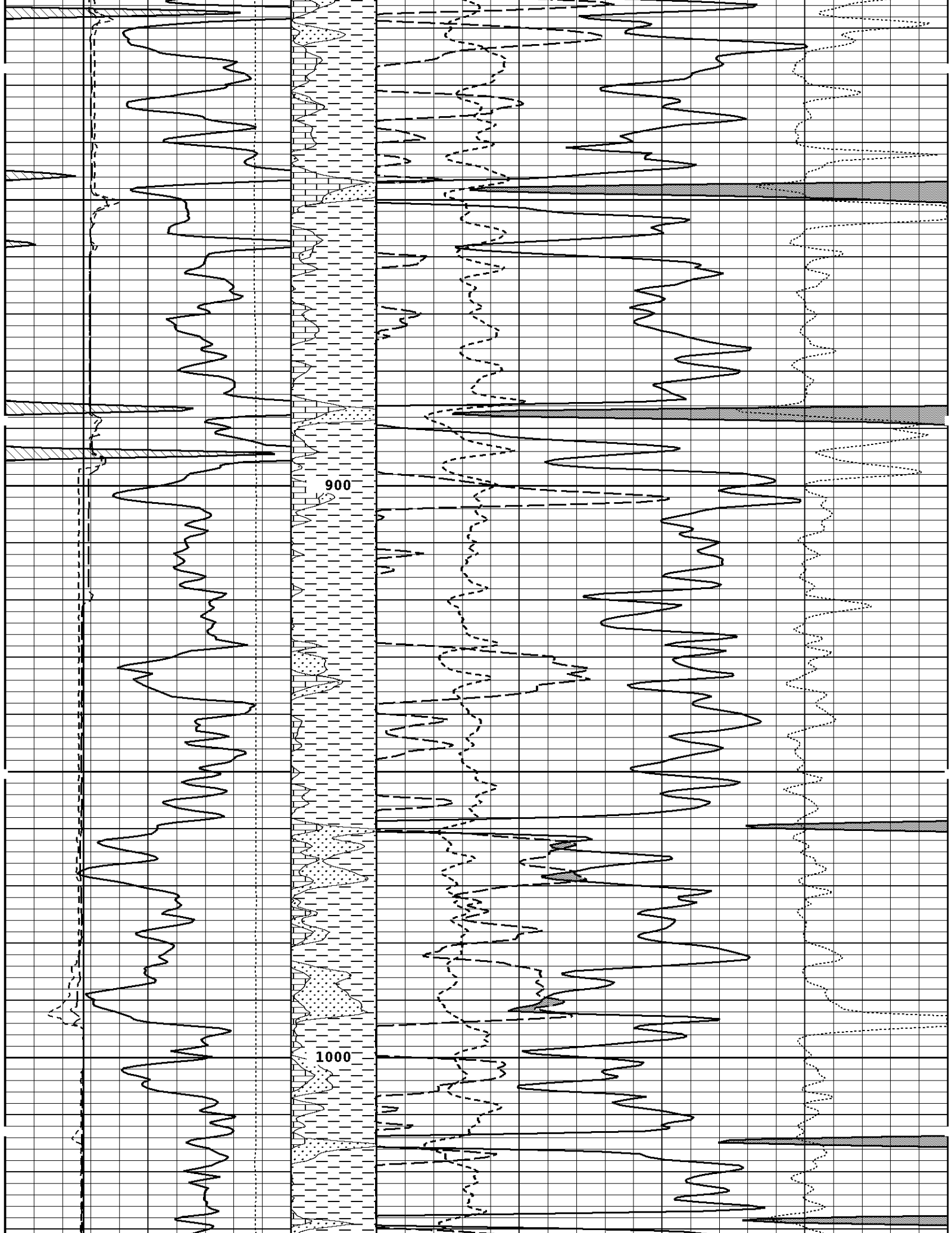
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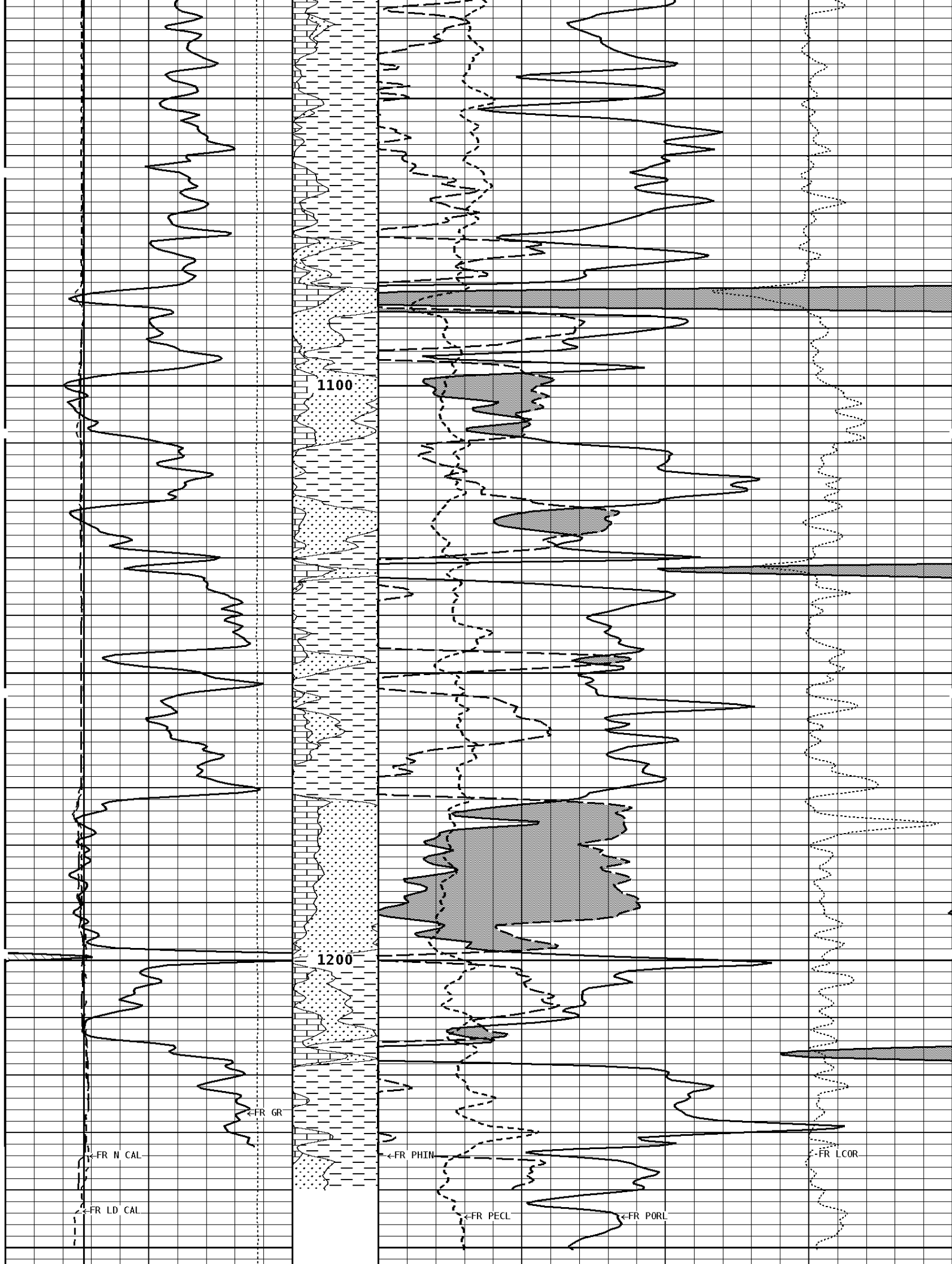












1100

1200

←FR N CAL

←FR LD CAL

←FR GR

←FR PHIN

←FR PECL

←FR PORL

←FR LCOR

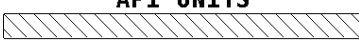
←FR BIT

LWT FR→

1269

File #1.2.5

### 1:240 MAIN SECTION

<b>GAMMA RAY API UNITS</b>	Volume Dolo/Shale	<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b>	
200  400 0 200	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>
14 24 4 14	0	10	-0.25 0.25
<b>NEUTRON (Y) CALIPER INCHES (IN)</b>			
14 24 4 14			
<b>BIT SIZE INCHES (IN)</b>			
4 14			

**\* 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 _____	6.750 in
Casing Diameter _____	2.875 in
Casing Thickness _____	0.250 in
Casing Correction (PHI N) _____	Disable

Well File: RUNNING FOXES C HEIM 2-19 OCT16 MSTK

Scale: 1:240 Format: NLD-240

Segment: V1.D2.S3 Reprocess of REPEAT

Acquired: 2013-10/16 10:27 3.3.0-12261

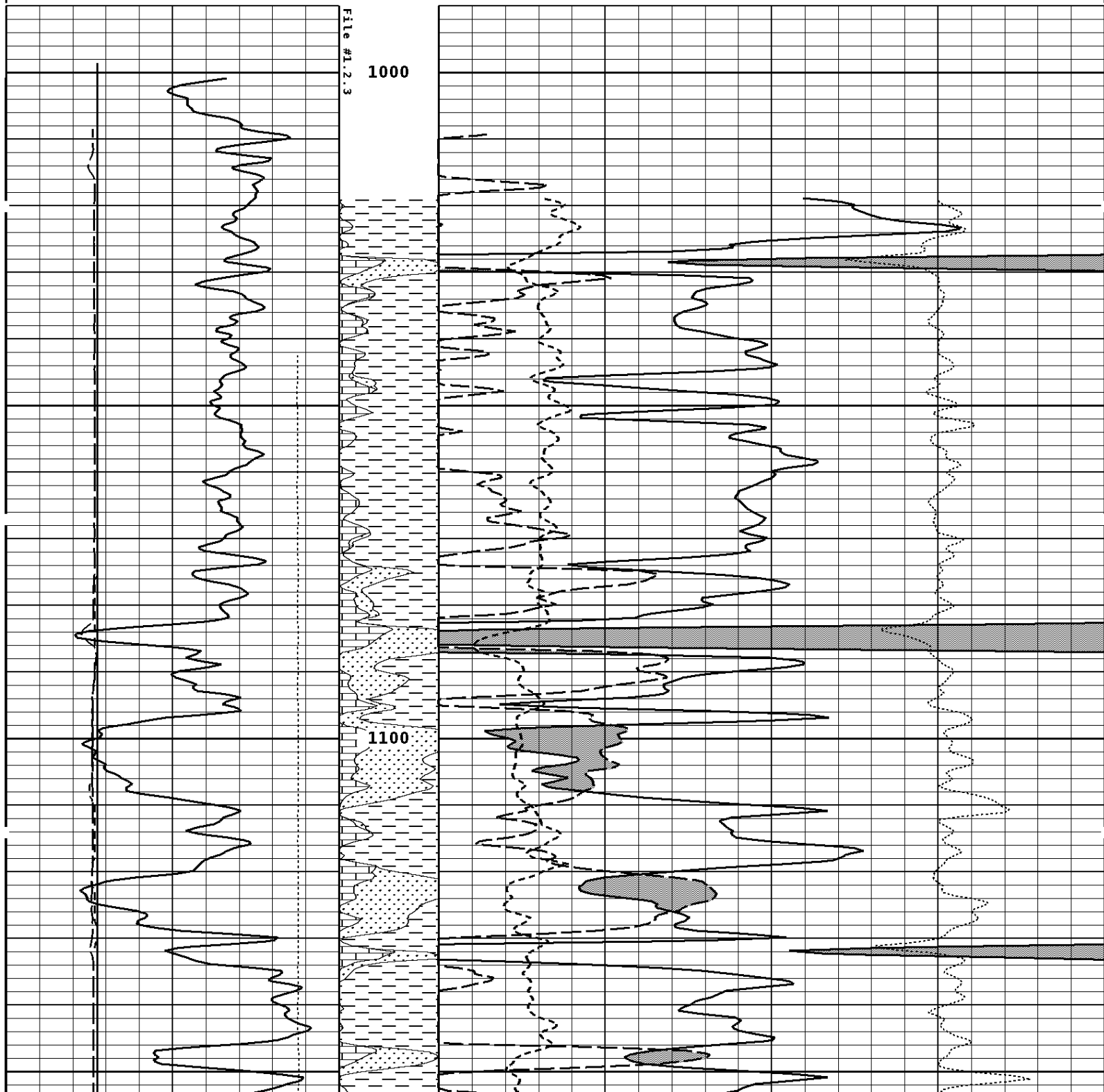
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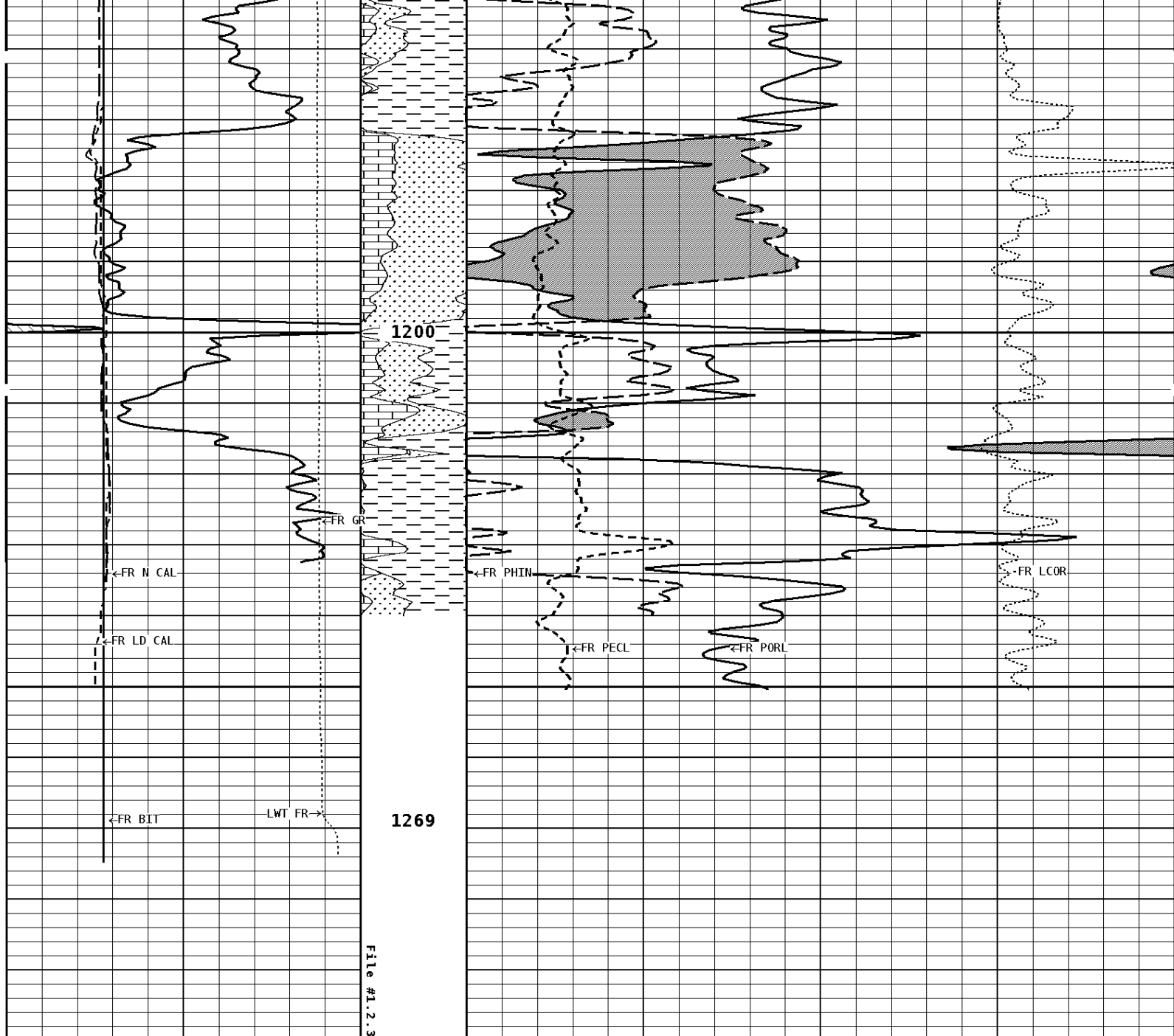
Processed: 2013-10/16 10:36 3.3.0-12261

<b>BIT SIZE INCHES (IN)</b>			
4 14			
<b>NEUTRON (Y) CALIPER INCHES (IN)</b>			
14 24 4 14			
<b>DENSITY (X) CALIPER INCHES (IN)</b>	Volume Quartz	<b>PE CROSS-SECTION BARNS/ELECTRON</b>	<b>DENSITY CORRECTION G/CC</b>

14 4	24 14	0	10 -0.25	0.25
<b>TENSION LBS</b>		Volume Calcite	<b>DENSITY POROSITY (2.71g/cc) PERCENT</b>	
10000	0	70 30 -10		30 -10 -50
<b>GAMMA RAY API UNITS</b>		Volume Dolo/Shale	<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b>	
200 0	400 200	30		-10

**1:240 REPEAT SECTION**





**1:240 REPEAT SECTION**

<b>GAMMA RAY API UNITS</b> 200 0 400 200		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> 14 4 24 14		Volume Quartz 0	<b>PE CROSS-SECTION BARNs/ELECTRON</b> 10	<b>DENSITY CORRECTION G/CC</b> -0.25 0.25
<b>NEUTRON (Y) CALIPER INCHES (IN)</b> 14 4 24 14				

BIT SIZE  
INCHES (IN)

4 14

\* Borehole Zone Factors \*

Zone 1 99999.0 to 0.0 Feet		
Matrix Density	_____	2.71 g/cc
Fluid Density	_____	1.00 g/cc
Formation Matrix	_____	Limestone
Drill Bit Size	_____	6.750 in
Casing Diameter	_____	2.875 in
Casing Thickness	_____	0.250 in
Casing Correction (PHI N)	_____	Disable

Well File: RUNNING FOXES C HEIM 2-19 OCT16 MSTK

Scale: 1:240

Format: LDT-240

Segment: V1.D2.S5 Reprocess of MAIN

Acquired: 2013-10/16 10:37 3.3.0-12261

Reference: 0

Processed: 2013-10/16 11:02 3.3.0-12261

BIT SIZE  
INCHES (IN)

4 14

NEUTRON (Y) CALIPER  
INCHES (IN)

14 24  
4 14

DENSITY (X) CALIPER  
INCHES (IN)

14 24  
4 14

TENSION  
LBS

10000 0

GAMMA RAY  
API UNITS

200 400  
0 200

-BHV AHV-  
CU.FT

PE CROSS-SECTION  
BARN/ELECTRON

0 10

DENSITY CORRECTION  
G/CC

-0.25 0.25

COMPENSATED BULK DENSITY  
G/CC

3.0 4.0  
2.0 3.0  
1.0 2.0

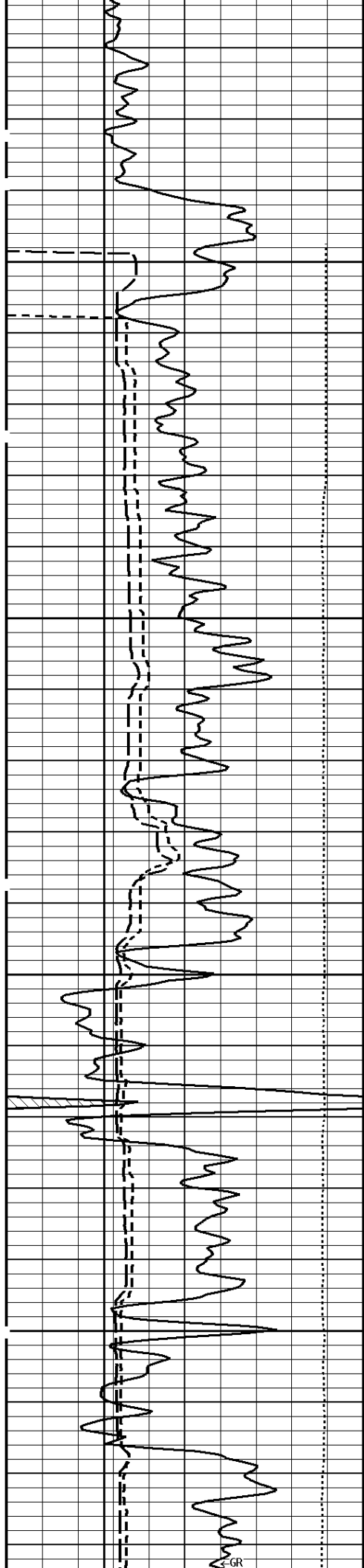
DENSITY POROSITY (2.71g/cc)  
PERCENT

70 30  
30 -10  
-10 -50

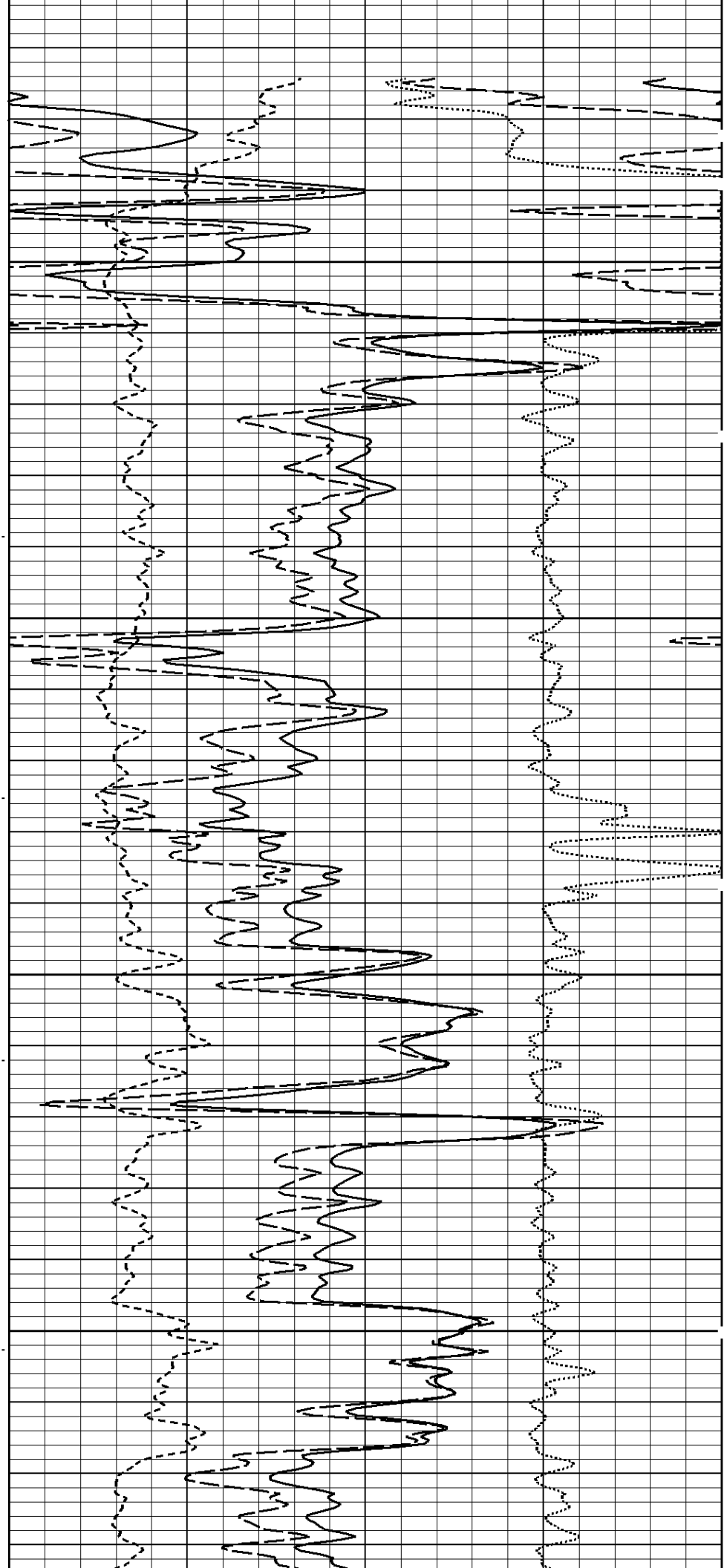
1:240 MAIN SECTION  
BULK DENSITY

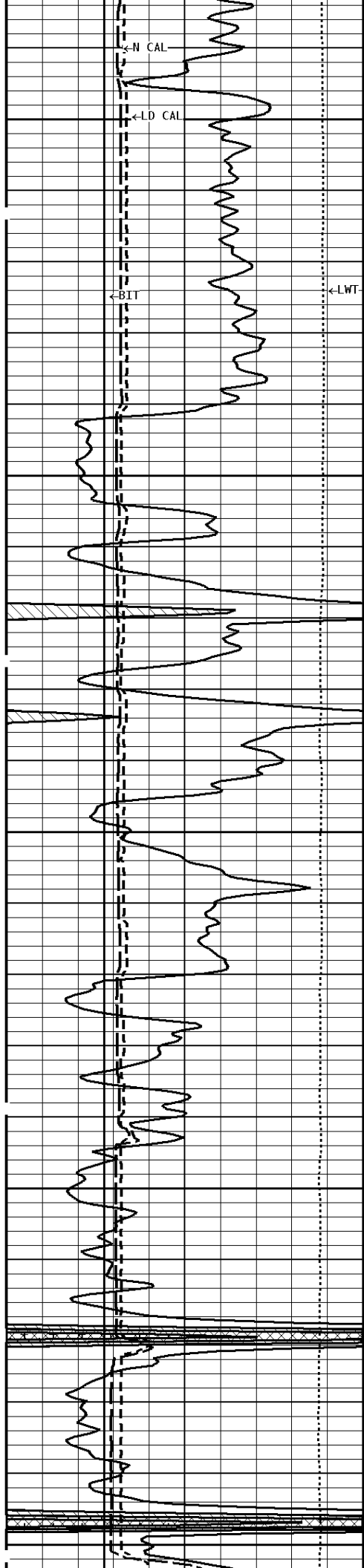
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100  
-300Cu.Ft  
200

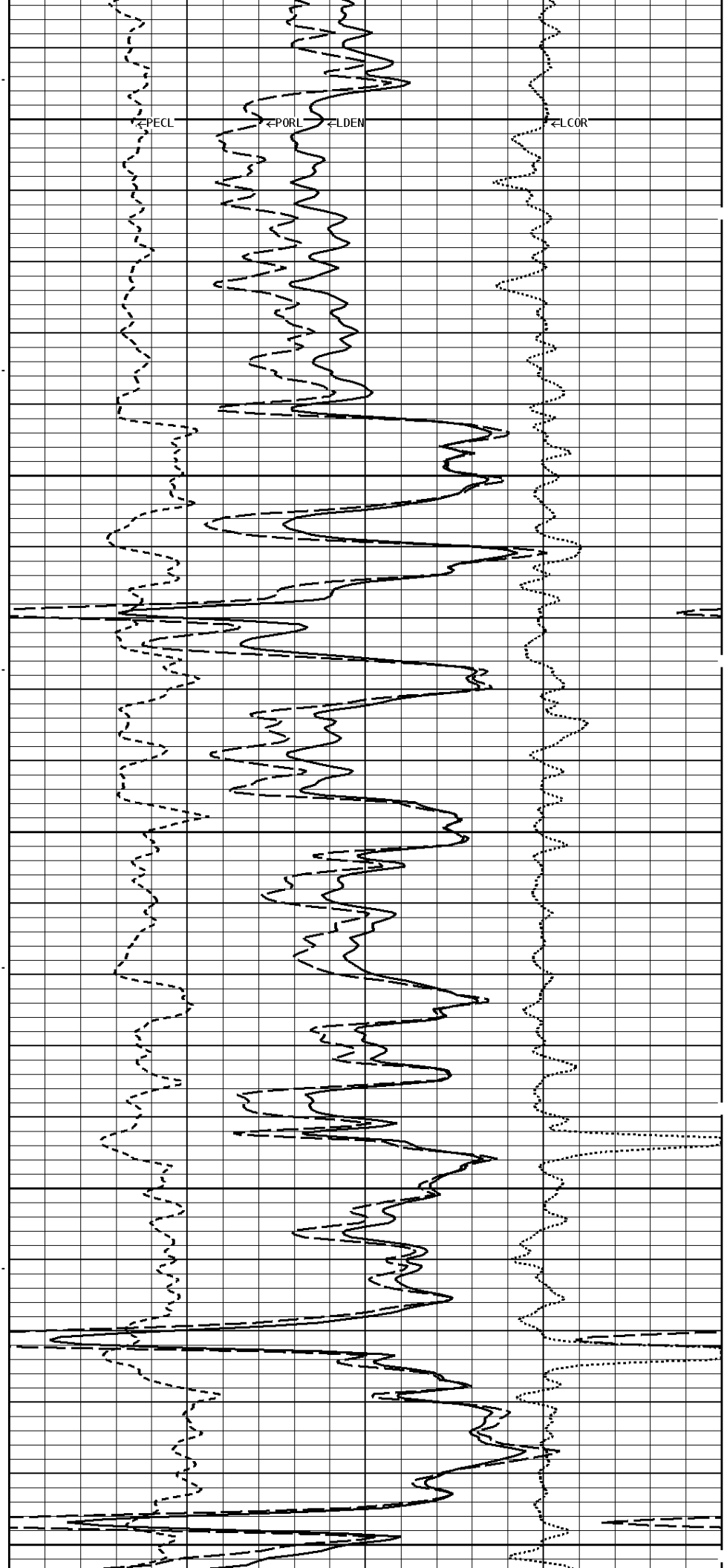


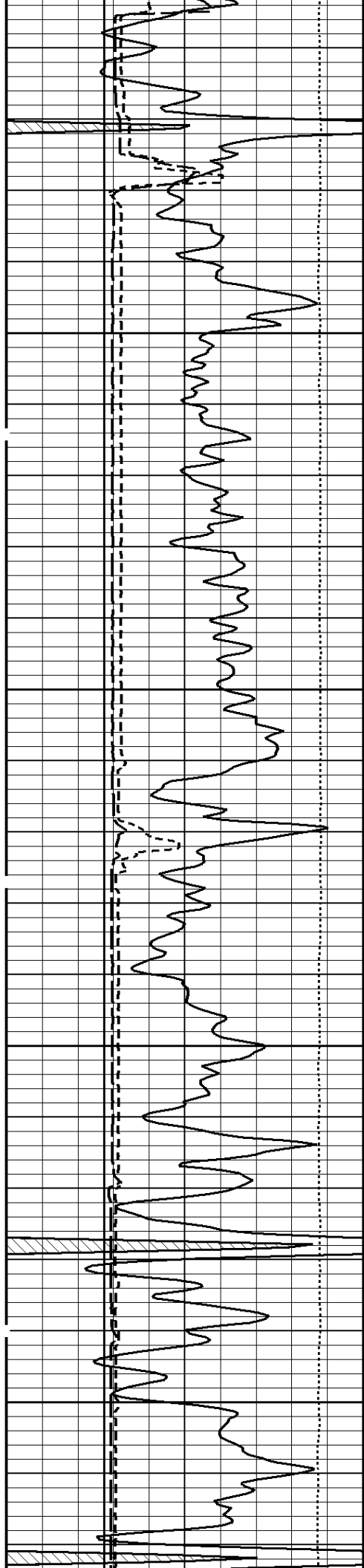


300

200Cu.Ft--

400

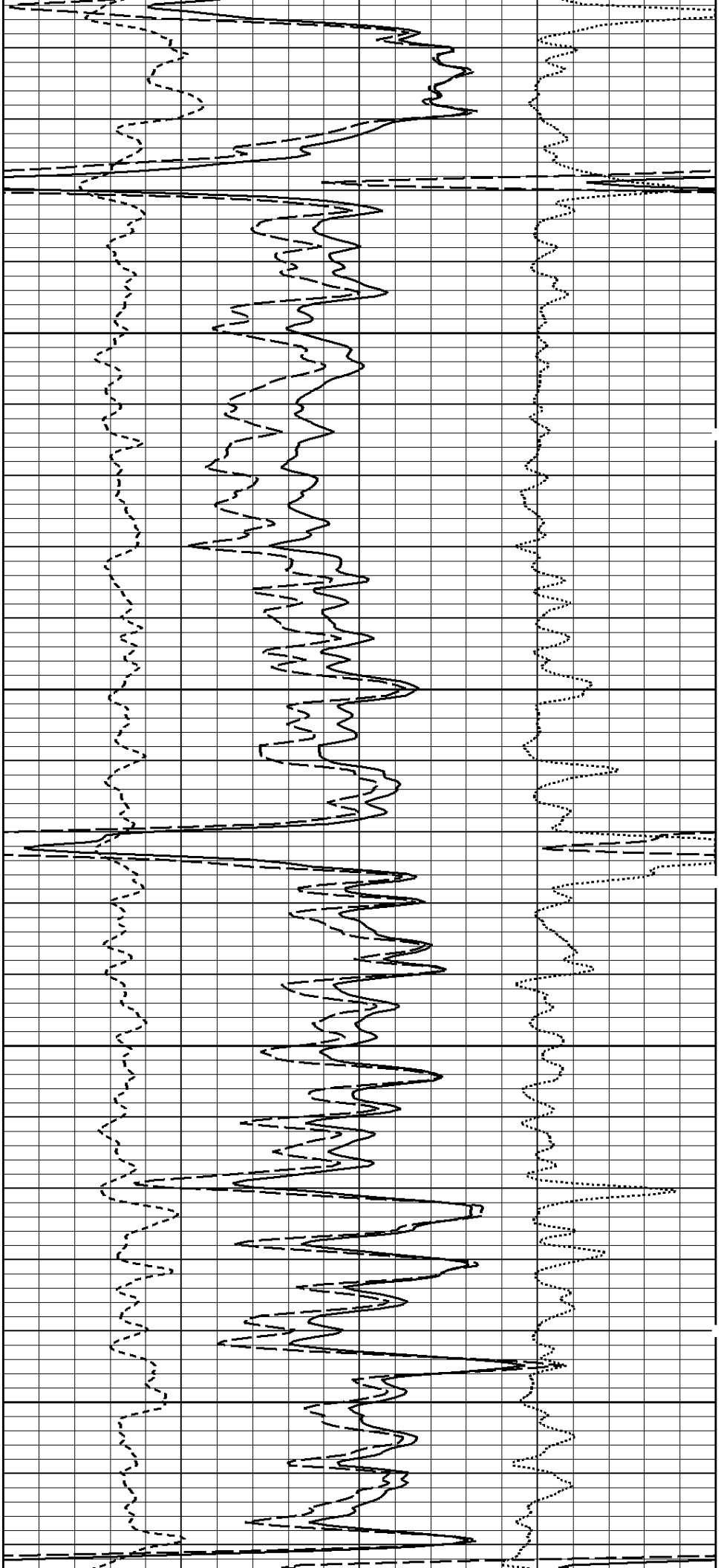


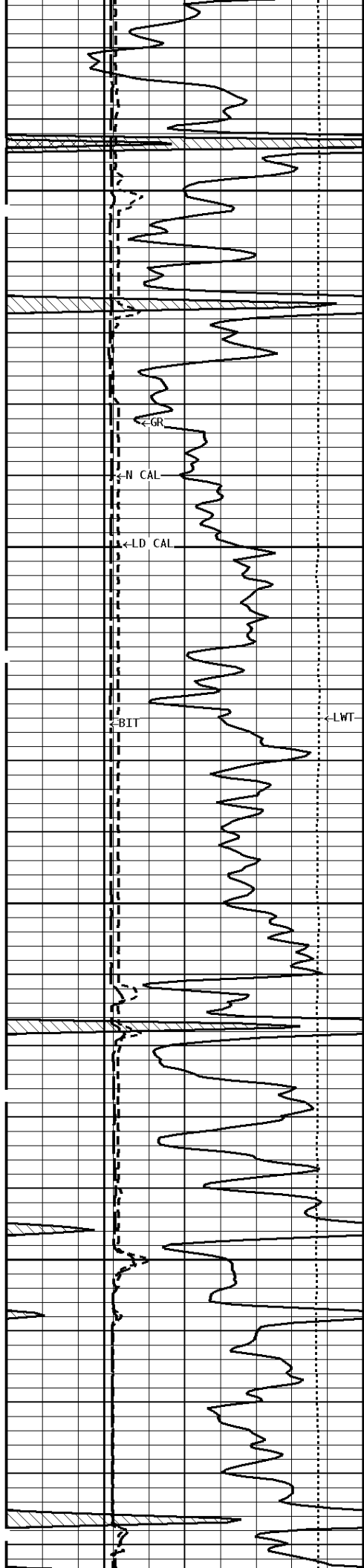


-200Cu.Ft

500

600



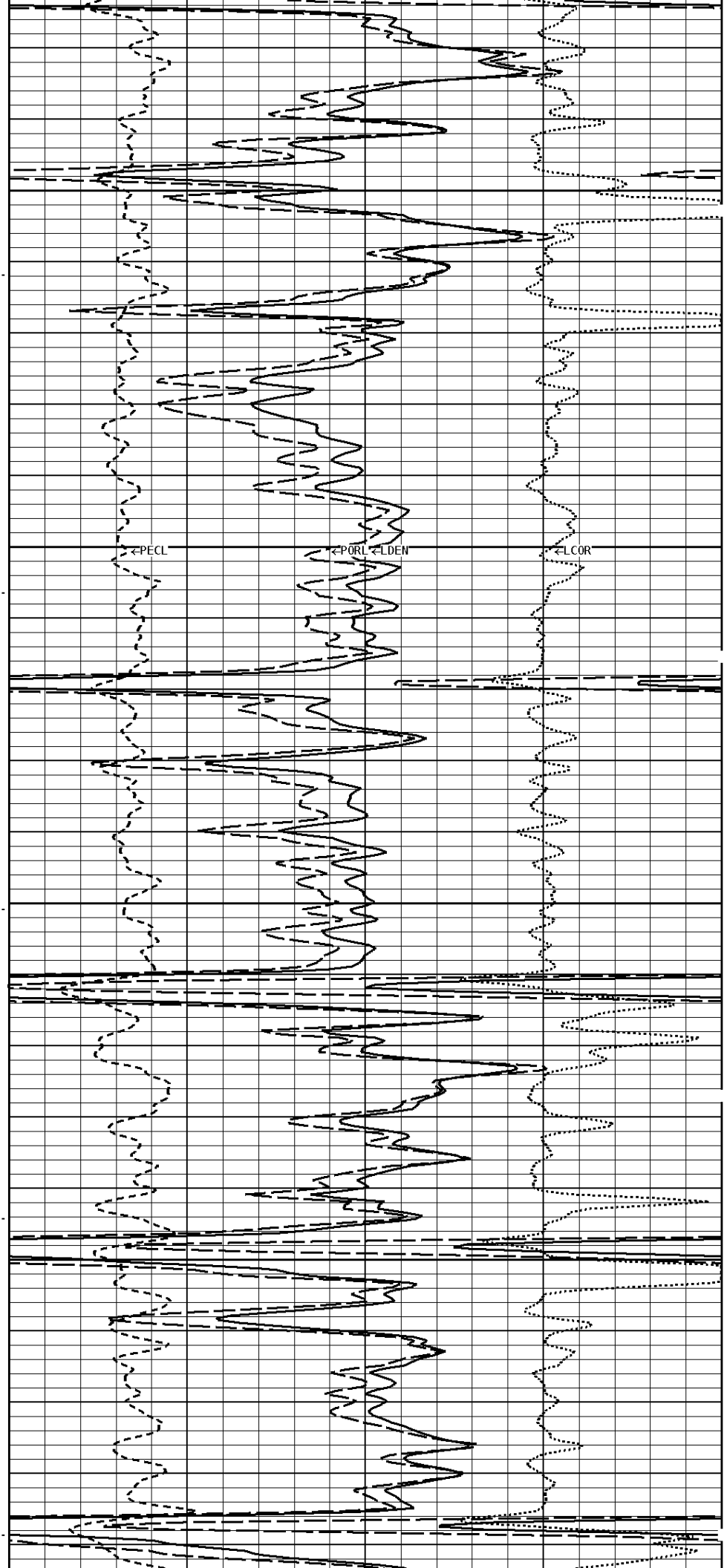


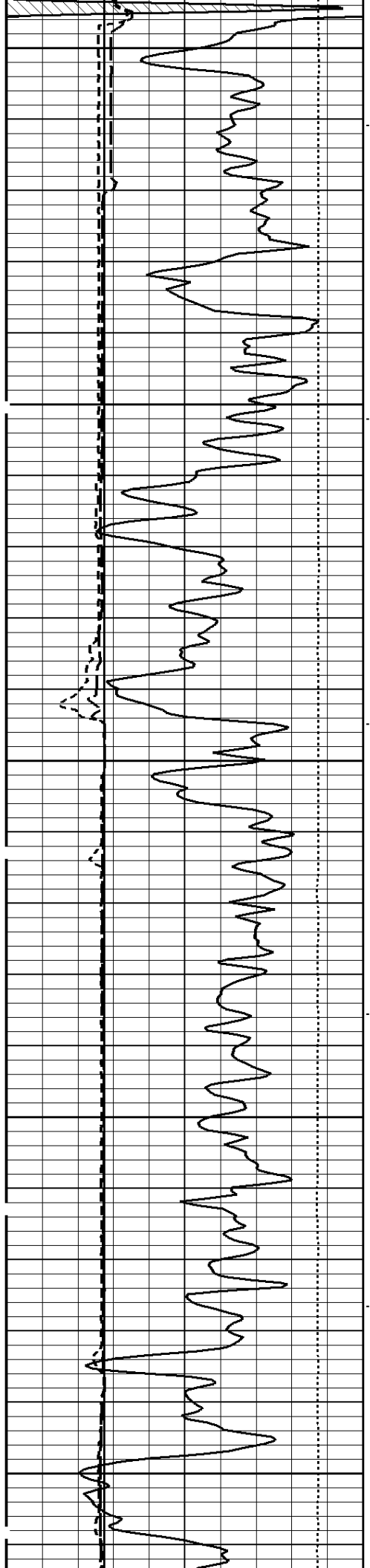
700

100Cu.Ft

800

100Cu.Ft

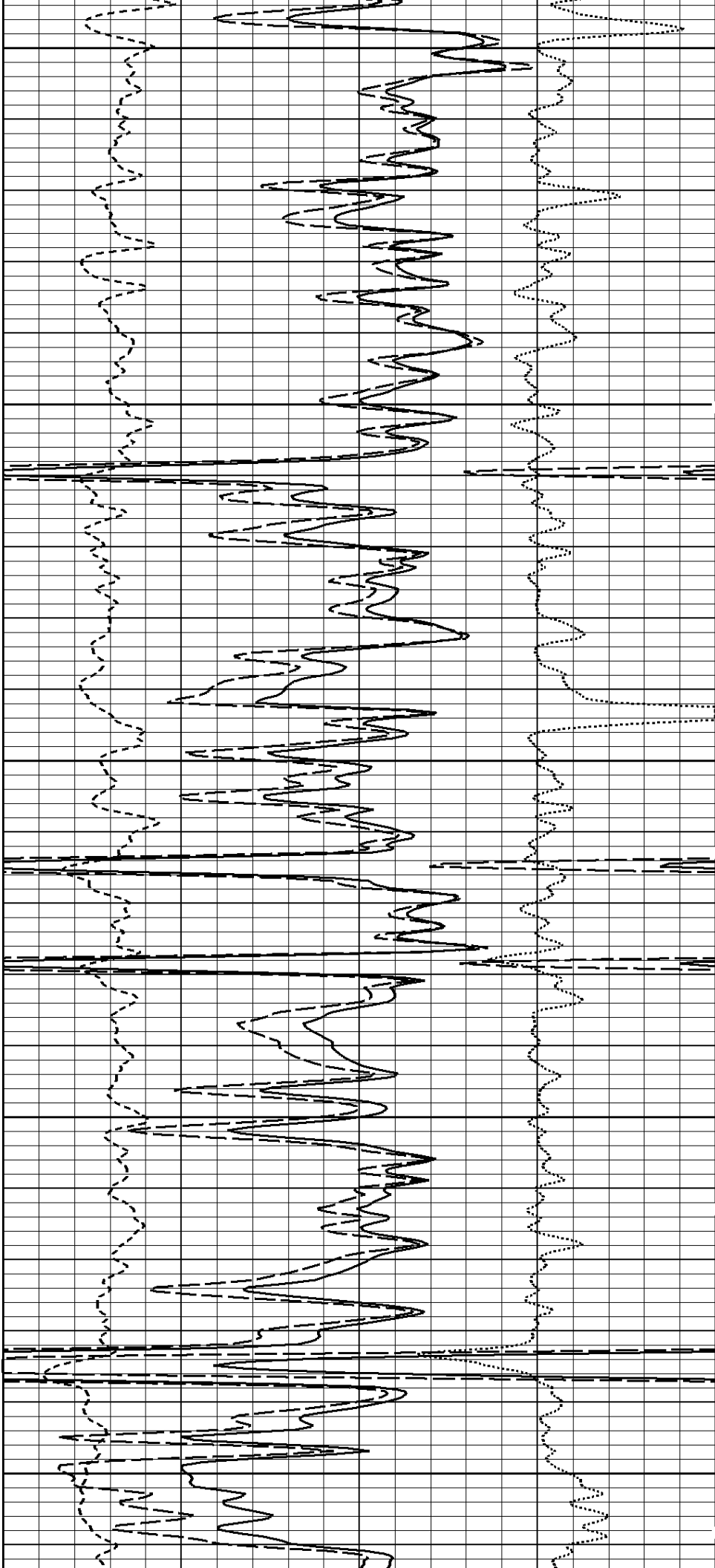


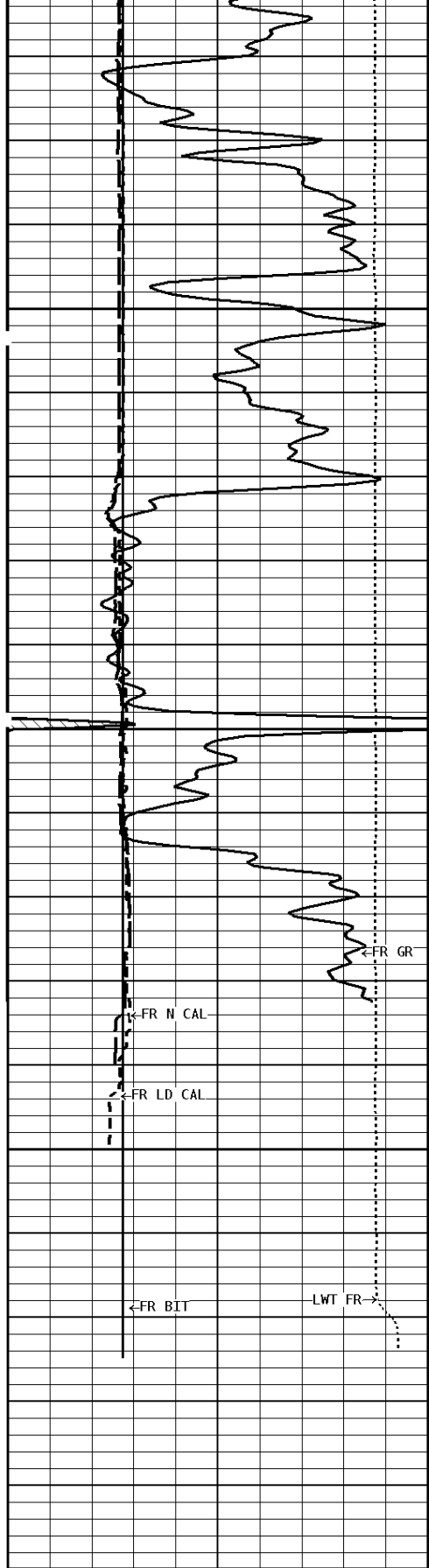


900

1000

1100

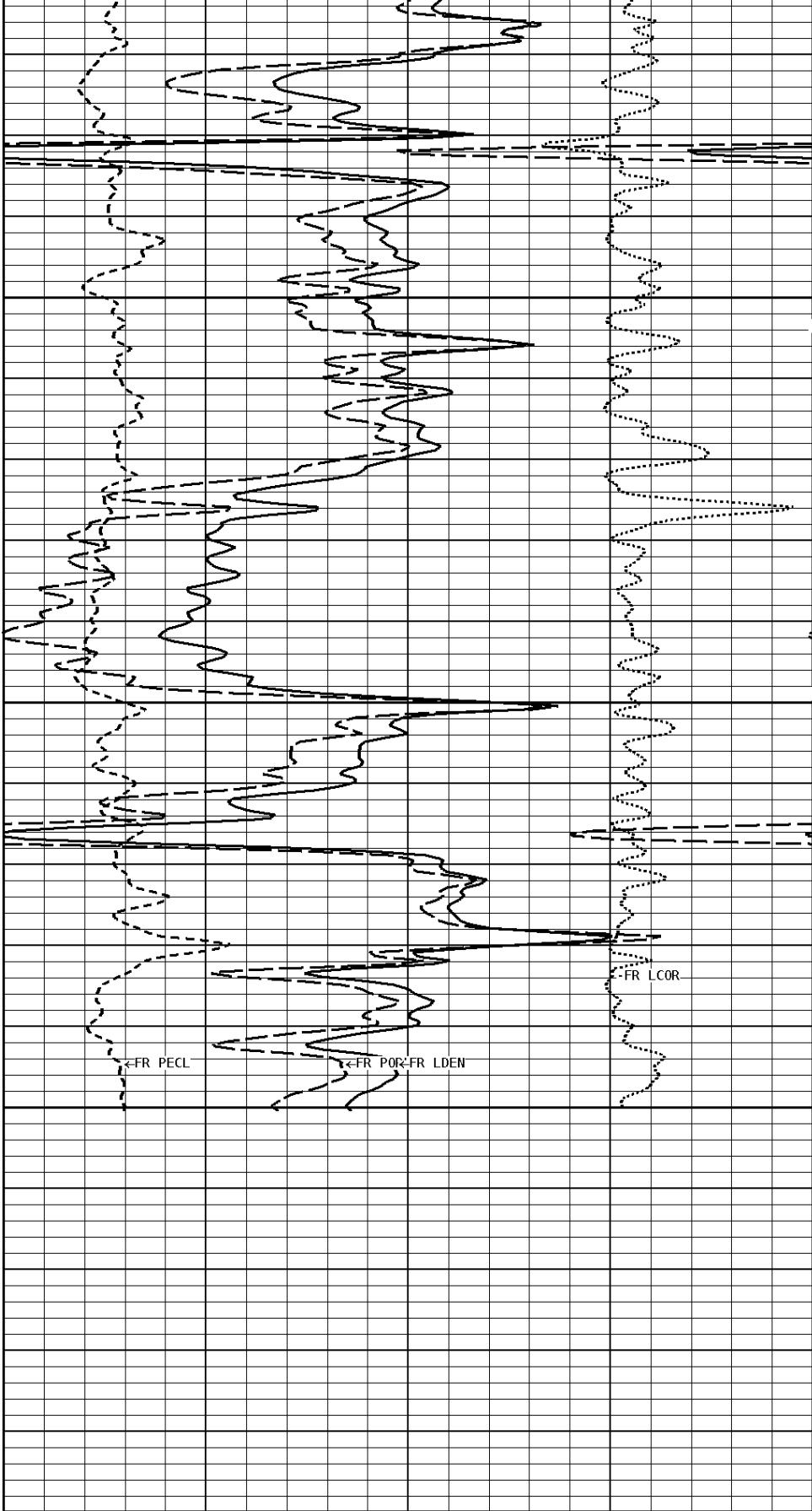




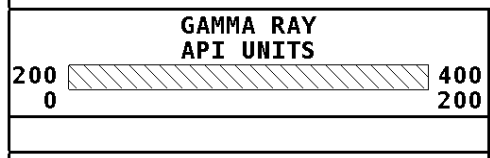
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1200

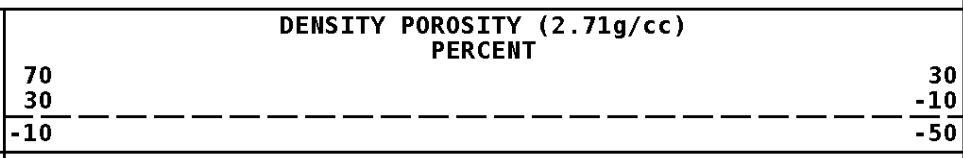
1269



**1:240 MAIN SECTION**  
BULK DENSITY



-BHV AHV-  
CU.FT



TENSTON

COMPENSATED BULK DENSITY

TENSION LBS	
10000	0
DENSITY (X) CALIPER INCHES (IN)	
14	24
4	14
NEUTRON (Y) CALIPER INCHES (IN)	
14	24
4	14
BIT SIZE INCHES (IN)	
4	14

COMPENSATED BULK DENSITY G/CC	
3.0	4.0
2.0	3.0
1.0	2.0
PE CROSS-SECTION BARN/ELECTRON	
0	10
DENSITY CORRECTION G/CC	
-0.25	0.25

**\* Borehole Zone Factors \***

<b>Zone 1</b>		<b>99999.0</b>	<b>to</b>	<b>0.0</b>	<b>Feet</b>
Matrix Density	_____	2.71	g/cc		
Fluid Density	_____	1.00	g/cc		
Formation Matrix	_____	Limestone			
Drill Bit Size	_____	6.750	in		
Casing Diameter	_____	2.875	in		
Casing Correction (PHI N)	_____	Disable			

**\* Calibration Summary \***

<b>Shop Calibration</b>					
<b>GRT-B</b>					
Performed : 12-SEP-2013			Time : 08:20		
Sensor Suite : GR-GR5			ID : GRT-BB-117		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig	GRAPI	
	53	363	175		
<b>Shop Calibration</b>					
<b>CNT-AA</b>					
Performed : 12-SEP-2013			Time : 08:13		
Sensor Suite : CALI-BCN			ID : NDT-AC-027		
	Jig - Measured		Jig - Calibrated		Units
CL # 1	Ring#1	Ring#2	Ring#1	Ring#2	IN.
	8.2	14.8	6.0	12.0	
<b>Shop Calibration</b>					
<b>LDT-DA</b>					
Performed : 12-Sep-2013			Time : 08:06		
Sensor Suite : BHC NEUT			ID : CNP-AE-42		
Source ID : N-1044					
	Measured	Tank	Verification	Units	
N/F	3.6181	Calibrated	Jig		
Porosity	19.4	3.6893	3.7221	%	
		20.5	21.0		
<b>Shop Calibration</b>					
<b>LDT-DA</b>					
Performed : 27-JUN-2013			Time : 10:38		
Sensor Suite : CALI-LTH			ID : PDT-GA-472		
	Jig - Measured		Jig - Calibrated		Units
CL # 1	Ring#1	Ring#2	Ring#1	Ring#2	IN.
	9.3	12.8	6.0	12.0	
<b>Shop Calibration</b>					
<b>LDP-DA-50</b>					
Performed : 12-Sep-2013			Time : 09:59		
Sensor Suite : BHCPELNG			ID : LDP-DA-50		
Source ID : CSV-587					
	BKGD		Short Space		Units
LSW1	73	Al	Mg	Al+Fe	CPS
LSW2	78	462	744	317	CPS
LSW3	291	533	859	394	CPS
LSW4	355	1309	2061	1141	CPS
		1248	1736	1125	CPS

LSW5	33	42	42	40	CPS
LSW6	98	98	99	97	CPS
LSW7	56	60	57	61	CPS
LSW8	1	2	3	2	CPS
QS	0.268	0.242	0.268	0.228	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC
Long Space					
	BKGD	Al	Mg	Al+Fe	Units
LLW1	106	531	2170	350	CPS
LLW2	116	896	3643	672	CPS
LLW3	444	1792	6513	1589	CPS
LLW4	572	1086	2725	1027	CPS
LLW5	67	71	82	69	CPS
LLW6	174	174	169	173	CPS
LLW7	116	111	110	115	CPS
LLW8	5	6	11	5	CPS
QL	0.200	0.222	0.212	0.200	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC



**Tucker**  
ENERGY SERVICES

Company: RUNNING FOXES PETROLEUM INC.  
 Well: C. HEIM #2-19 INJ2  
 Location: 660' FNL & 2620' FEL  
 Logged: 10-16-2013  
 K.B. Elev: 0.0 Ft