Tucker ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY MICRO LOG

N

Company RUNNING FOXES PETROLEUM INC.
Well ROUSH #11-10
Field LIVINGOOD SOUTH
County BROWN
State KANSAS
Country USA
API No. 15-013-20035-0000

File No : TUL-56861
Company : RUNNING FOXES PETROLEUM INC.
Well : ROUSH #11-10
Field : LIVINGOOD SOUTH
County : BROWN
State : KANSAS
Country : USA
API No : 15-013-20035-0000

Location :
2250' FSL & 1880' FWL
SE NW NE SW

LSD : **Sect :** 10 **Twp :** 1S **Rge :** 15E

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	1149.00 Ft	CNT	CST
Log Measured From:	KB	**DF**	1148.00 Ft	LDT	PIT
Above Permanent Datum:	9.00 Ft	**GL**	1140.00 Ft	MLT	

Date	08-04-2013			
Run Number	1			
Depth--Driller	3880.0 Ft			
Depth--Logger	3878.0 Ft			
First Reading	3842.0 Ft			
Last Reading	220.0 Ft			
Casing--Driller	220.0 Ft			
Casing--Logger	220.0 Ft			
Bit Size	7.875 In			
Casing Size	8.625 In			
Hole Fluid Type	CHEM-GEL			
Density	8.9 lb/gal			
Fluid Loss	8.0 ml/30min			
PH/Viscosity	9.5	42.0 sec/qt		
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	1.340 @ 115 F			
Time Circulation Stopped	08-04-2013 7:00 am			
Max Recorded Temp.	115 F			
Equipment/Base	127	TULSA		
Recorded By	SHELDON TYLER			
Witnessed By	CHAD COUNTS			

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
8.625	32.00	220.00	0.00

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	3880.00

Run Number	1
Date	08-04-2013
Date/Time On Bottom	08-04-2013 10:00 am
Depth to Fluid	0.0 Ft
Salinity	800.000 mg/L
RMF@BHT	1.070 @ 115 F
RMC@BHT	1.610 @ 115 F

Run Number 1

Comments

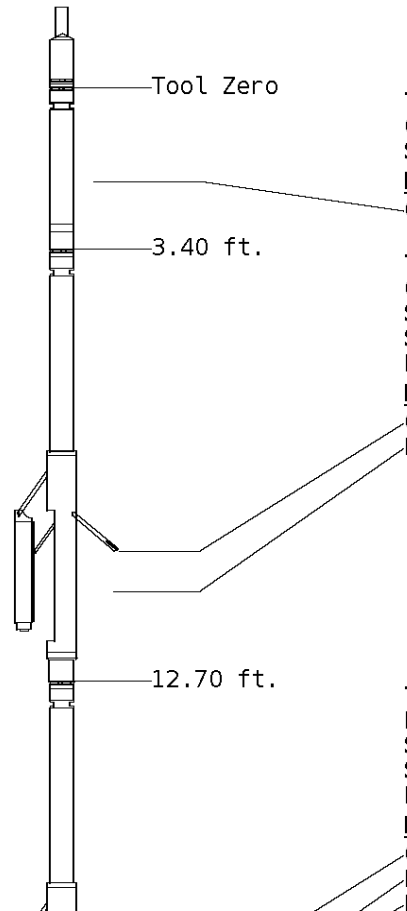
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT, MLT, CST AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED UISING 5.500" PRODUCTION CASING.

GRT: GRP.
CNT: PHIN, CLCNIN, PHXN.
LDT: PORL,LCORN,PECLN,LDENN,PORLLS,CLLDIN, PXRL,LCXRN,PECLNX,LDENNX,PXRLLS.
MLT: NOR_RF, INV_RF, MSCLPIN.
CST: PORS, CDTF, TT1PF, TT2PF, TT3PF. TT4PF, ITT.
PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:
A.JAHO
J.JOHNSON

Tool String Schematic

Total Tool Length - 66.95 **ft.**
Maximum Outside diameter - 6.00 **in.**
Net Weight in Air - 1171.00 **lbs.**



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BB-117

Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	64.95

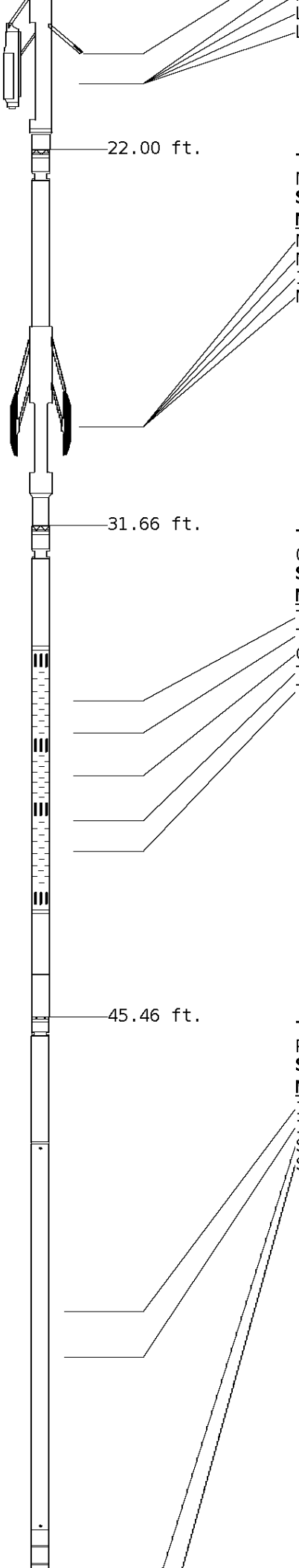
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AE-403
Source ID :N-1044
Pad ID :CNP-AA-103

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	57.55
PHIN	6.80	10.20	56.75

Tool: LDT-DA **Length:** 9.30 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-A
Sonde ID :NDT-AH-148
Source ID :CSV-587
Pad ID :LDP-DA-47

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	48.25
PEL	7.00	19.70	47.25
PES	7.40	20.10	46.85

LDEN	7.20	19.90	47.05
LCOR	7.20	19.90	47.05



22.00 ft.

Tool: MST-DA **Length:** 9.66 **ft.** **O.D.** 6.00 **in.**
Micro Spherically Focused (IC)
Sonde ID :MST-DA-31

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	37.35
MSCLP	7.60	29.60	37.35
INV	7.60	29.60	37.35
NOR	7.60	29.60	37.35

31.66 ft.

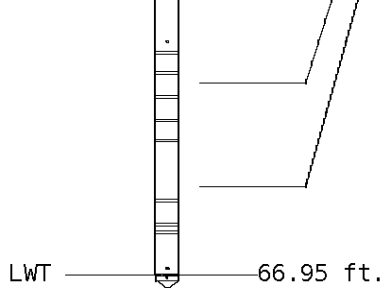
Tool: CST-AD **Length:** 13.80 **ft.** **O.D.** 3.60 **in.**
Open Hole Sonic
Sonde ID :CST-AB-012

Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	36.46	30.49
TT3	5.80	37.46	29.49
CDT	7.30	38.96	27.99
TT4	8.80	40.46	26.49
TT2	9.80	41.46	25.49

45.46 ft.

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-13

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	54.38	12.56
ILM	10.10	55.56	11.39
SFLU	17.49	62.95	4.00
SP	20.60	66.06	0.88



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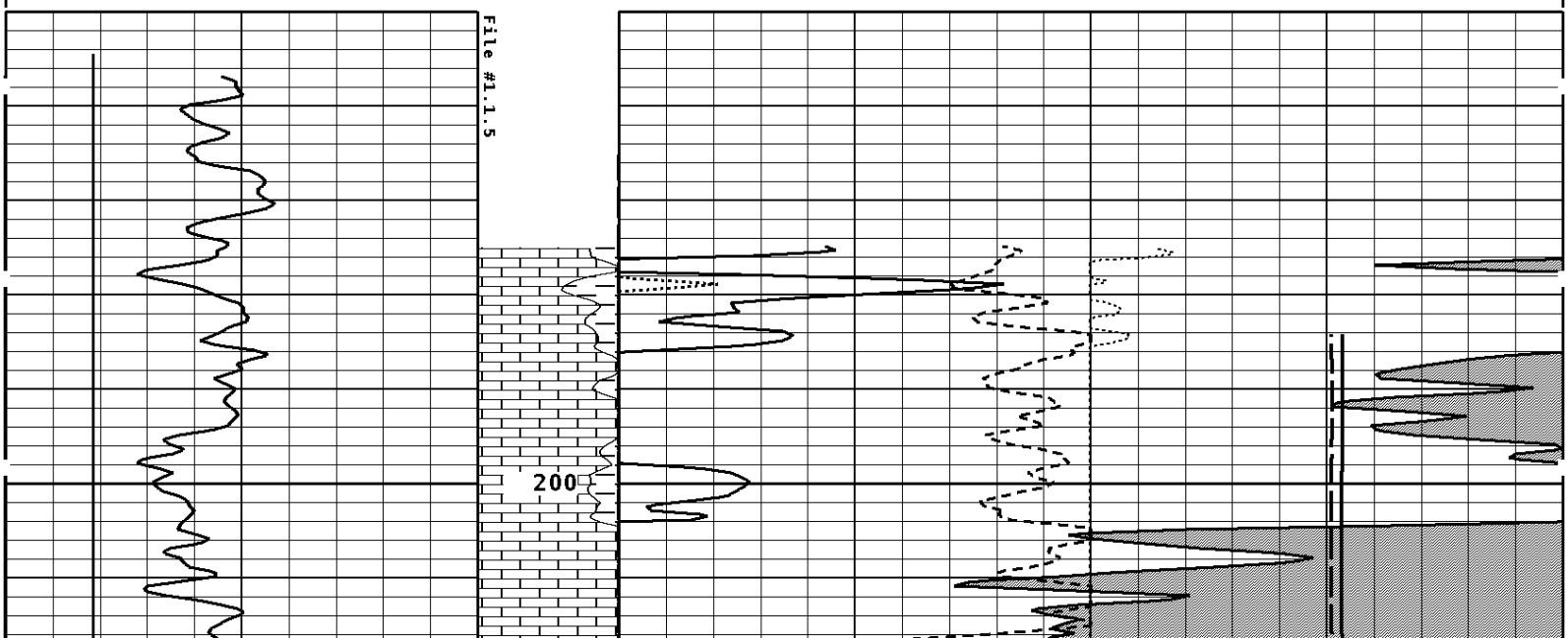
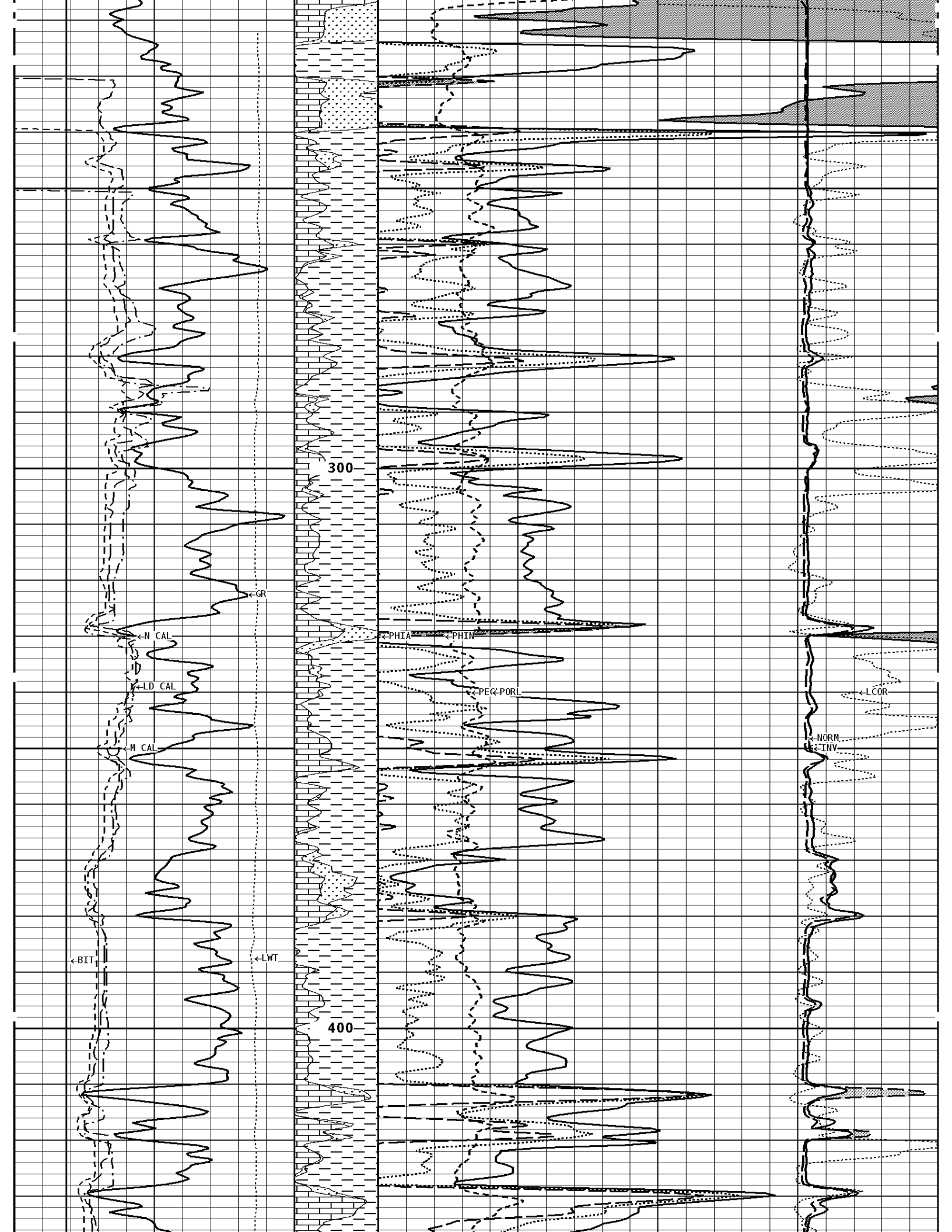
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2013-08/04 10:11 3.3.0-12217
Reference: 0 **Processed:** 2013-08/04 11:21 3.3.0-12217

CALIPER MICRO INCHES (IN) 16 / 26 / 6 / 16			NORMAL OHMM 0 / 40
BIT SIZE INCHES (IN) 6 / 16			INVERSE OHMM 0 / 40
NEUTRON (Y) CALIPER INCHES (IN) 16 / 26 / 6 / 16		PE CROSS-SECTION BARNS/ELECTRON 0 / 10	DENSITY CORRECTION G/CC -0.25 / 0.25
DENSITY (X) CALIPER INCHES (IN) 16 / 26 / 6 / 16	Volume Quartz	CROSS PLOT POROSITY 30 / -10	
TENSION LBS 10000 / 0	Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT 70 / 30 / -10 / 30 / -10 / -50	
GAMMA RAY API UNITS 150 / 300 / 0 / 150	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT 30 / -10	

1:240 MAIN SECTION

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M CAL
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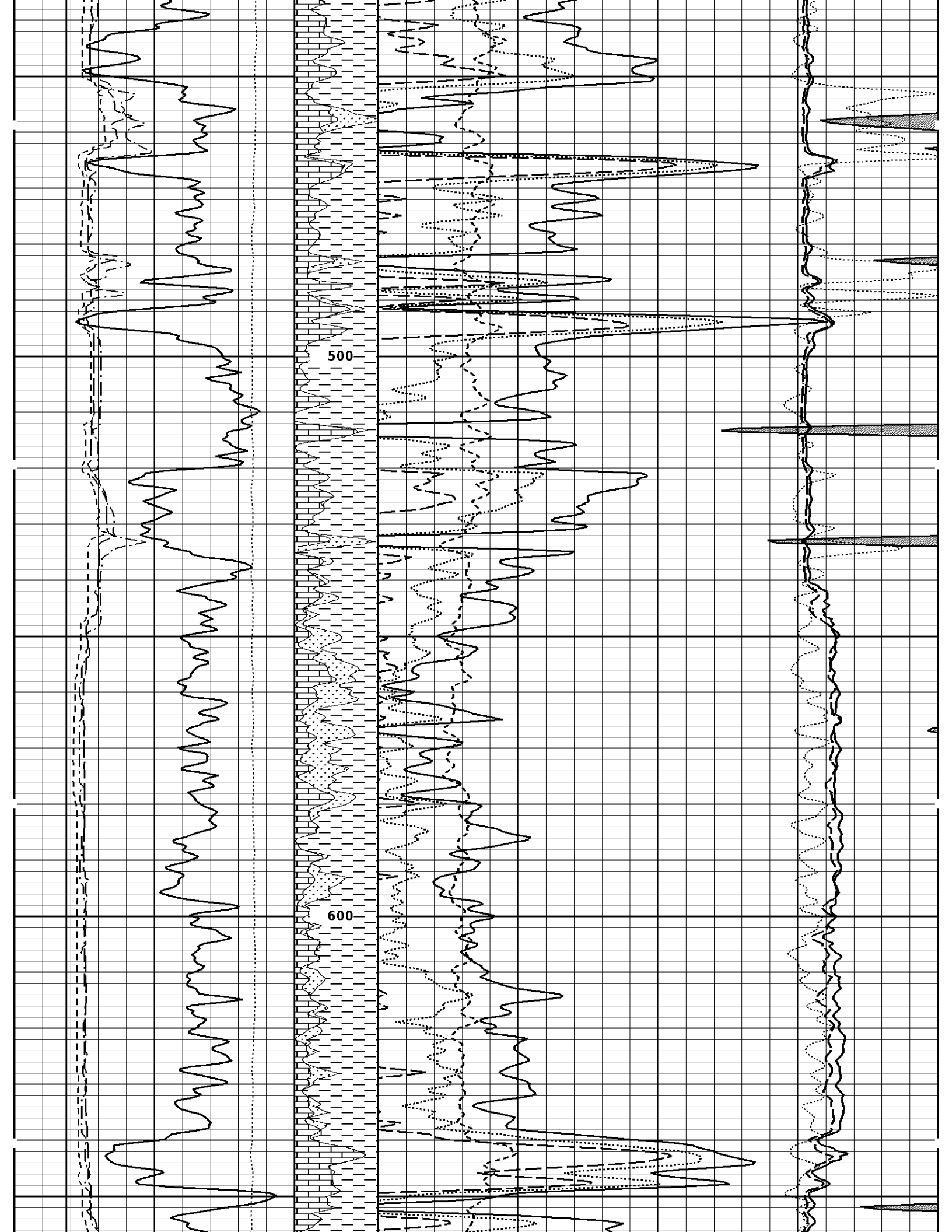
PHIA
PHIN
PEG
PORL
LCOR
NORM
INV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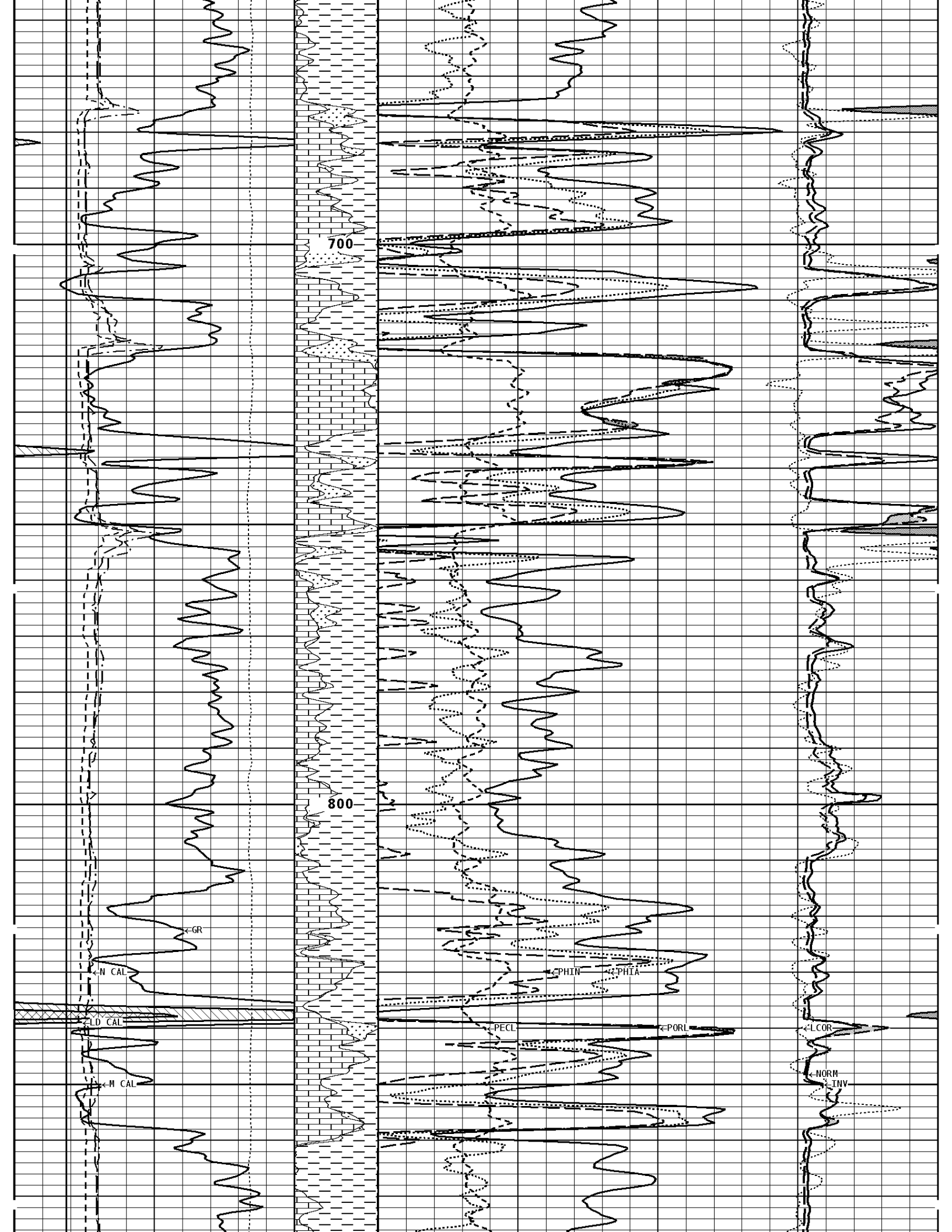
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M CAL
PHIN
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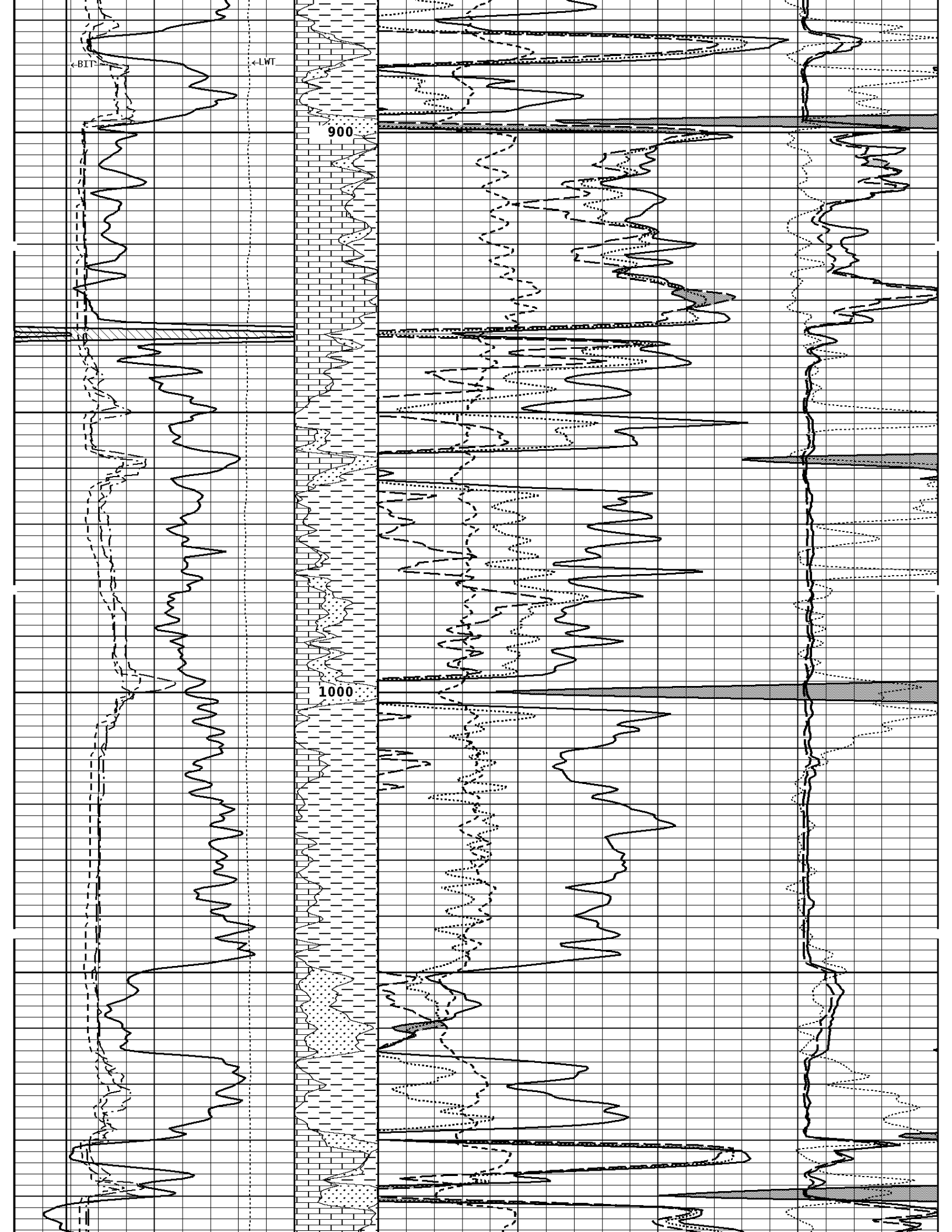
PORL
LCOR
NORM
INV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←LWT
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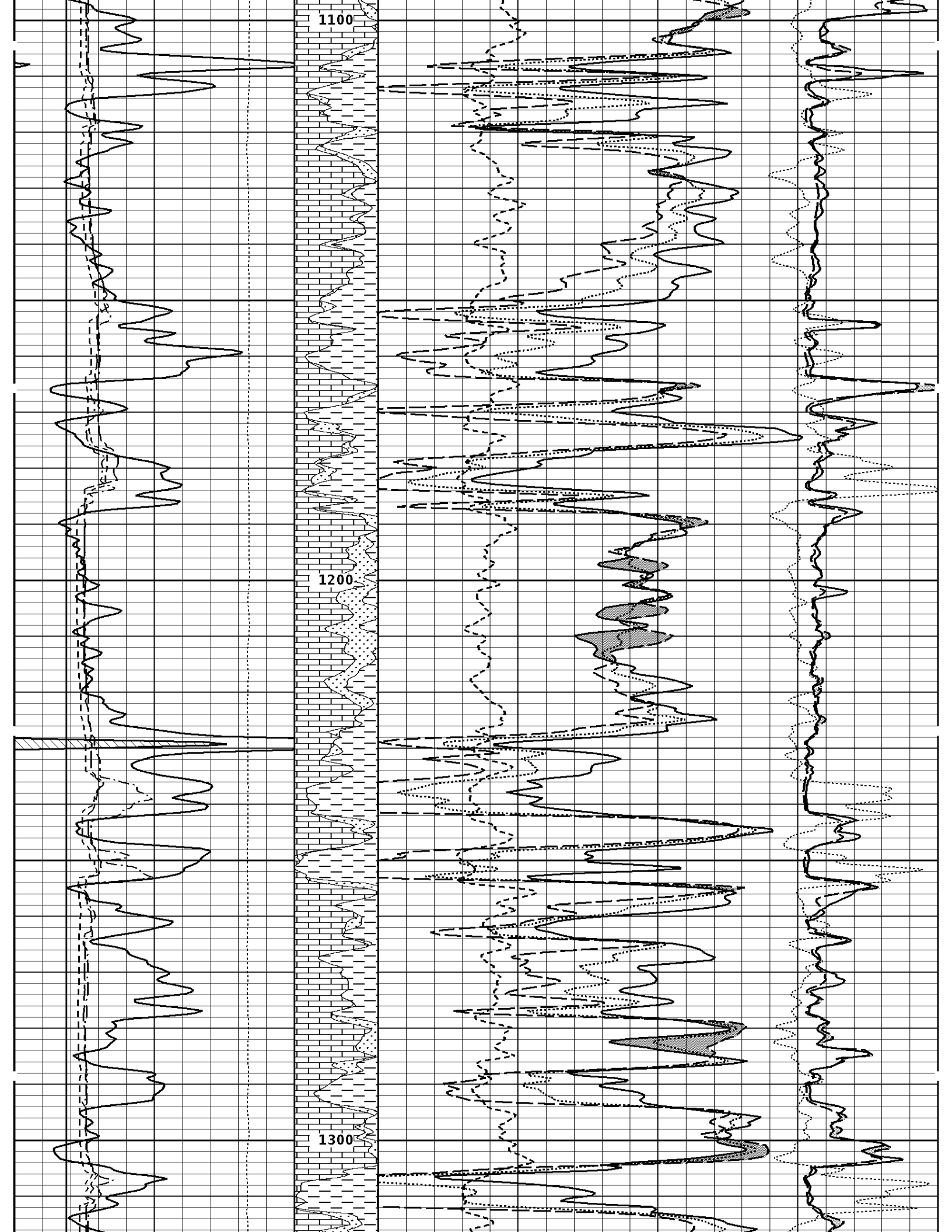
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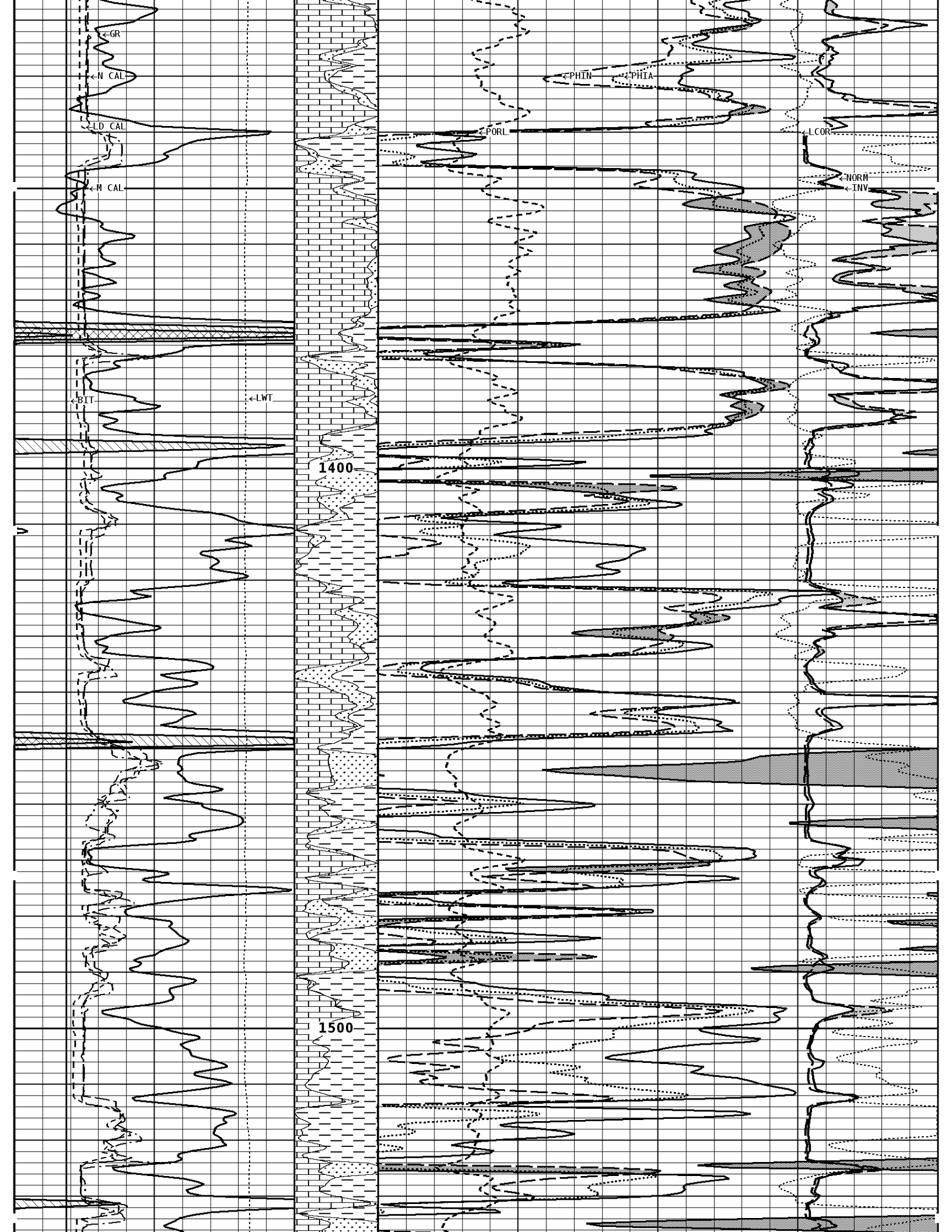
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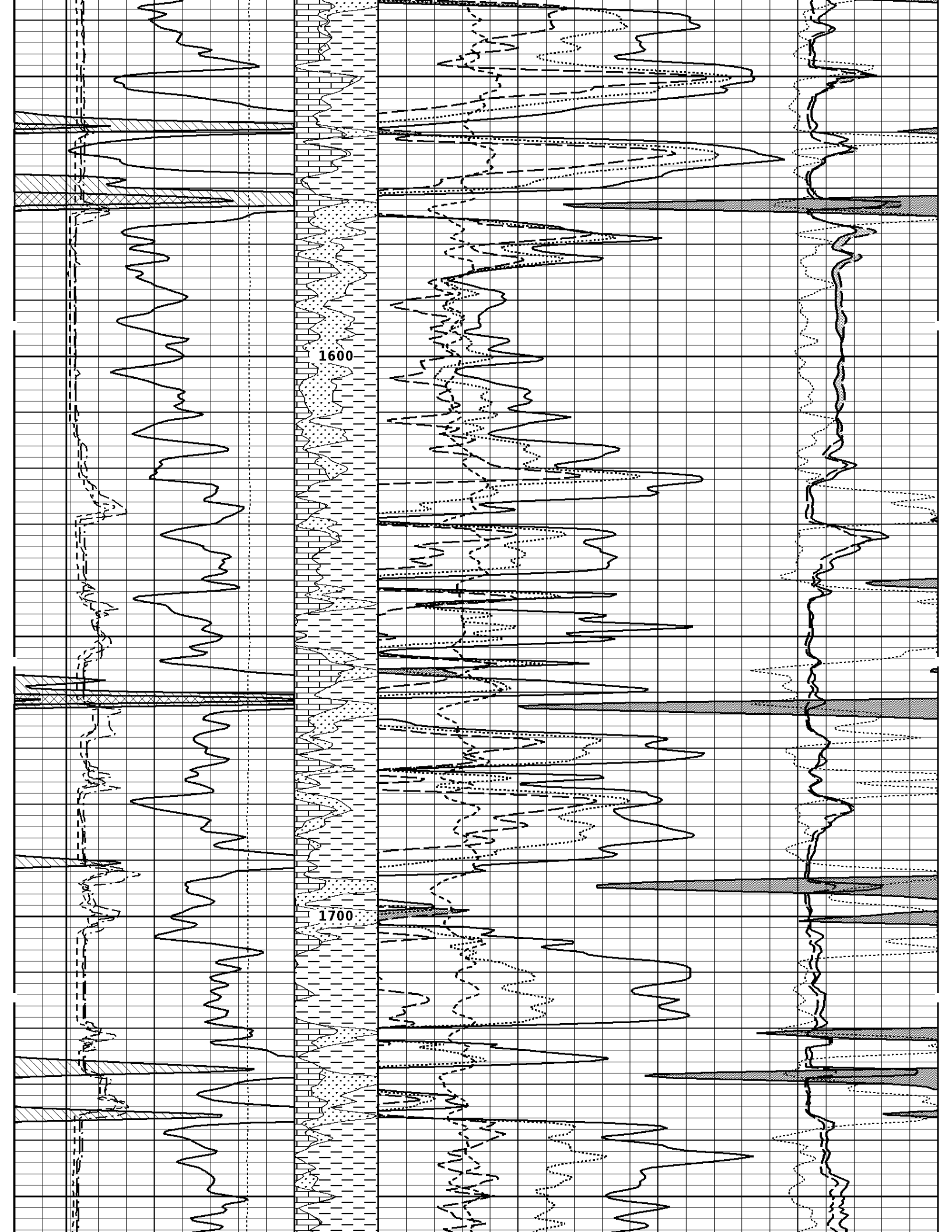
LCOR
NORM
INV
1400
1500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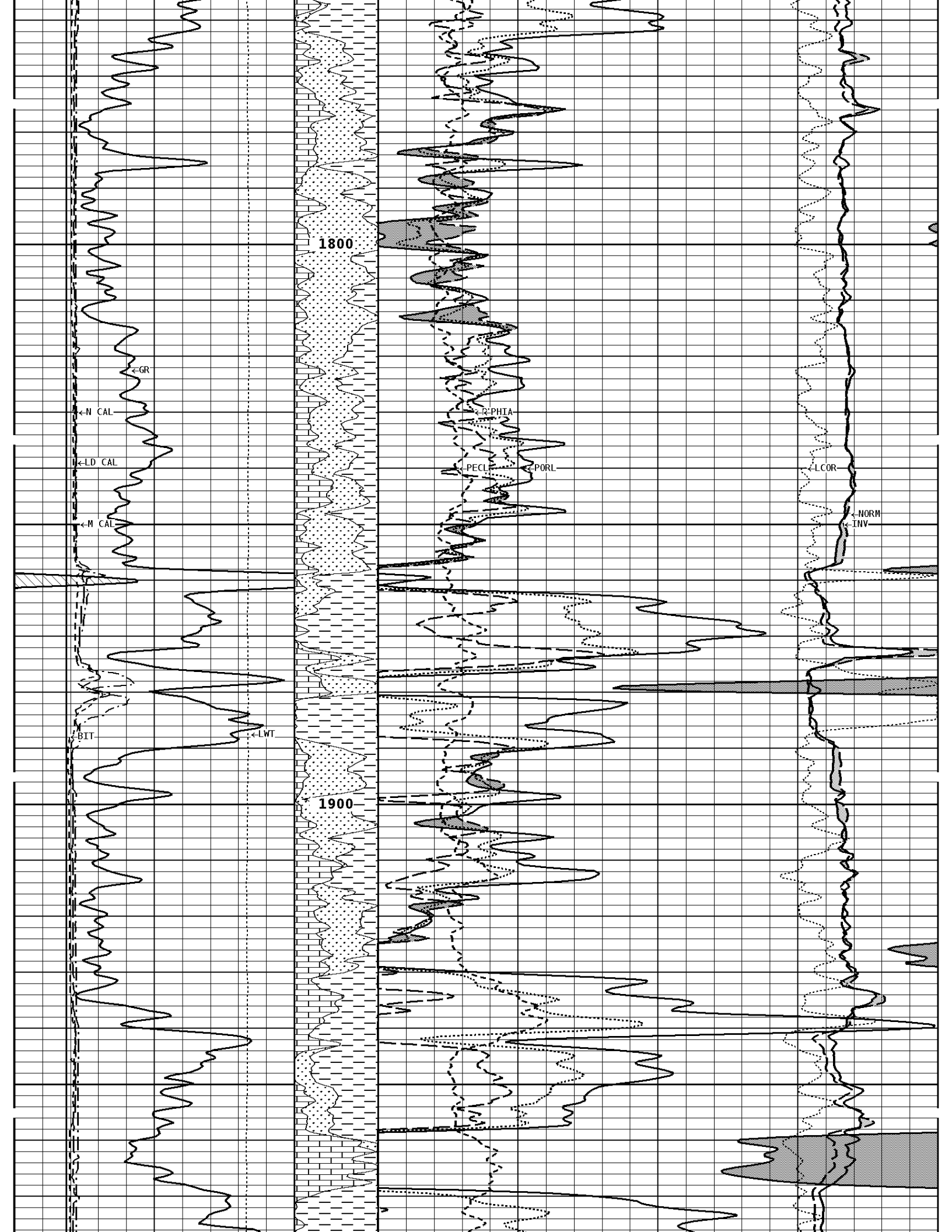
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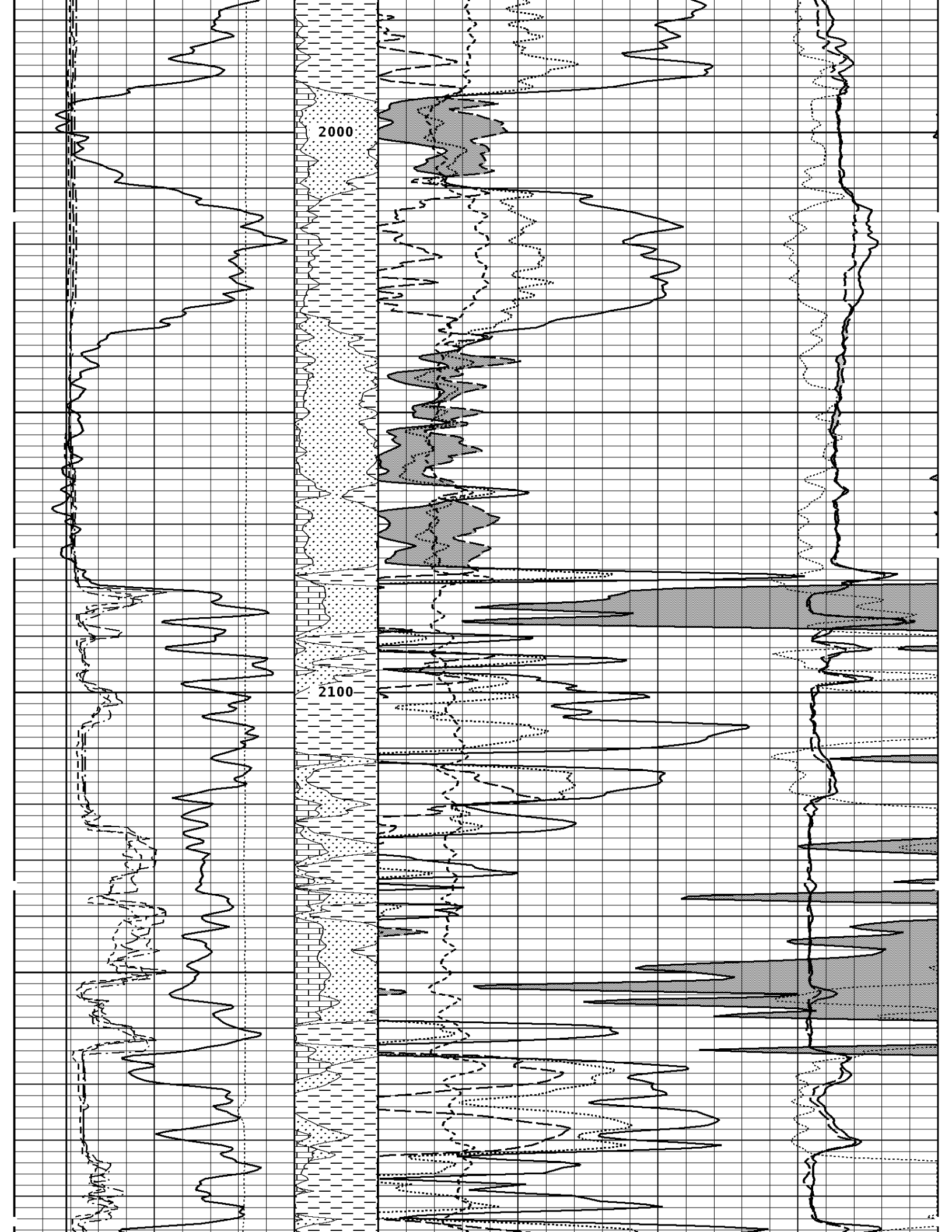
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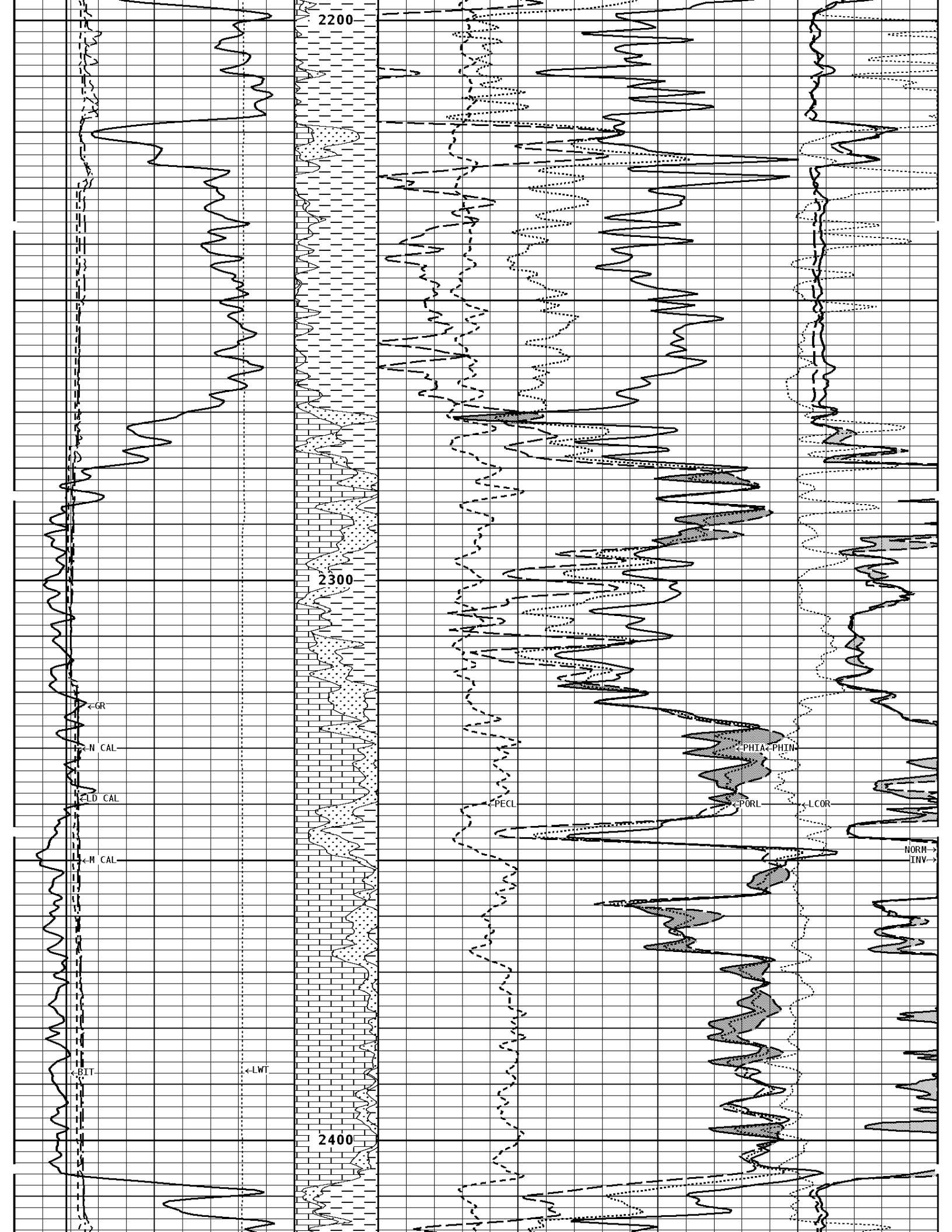
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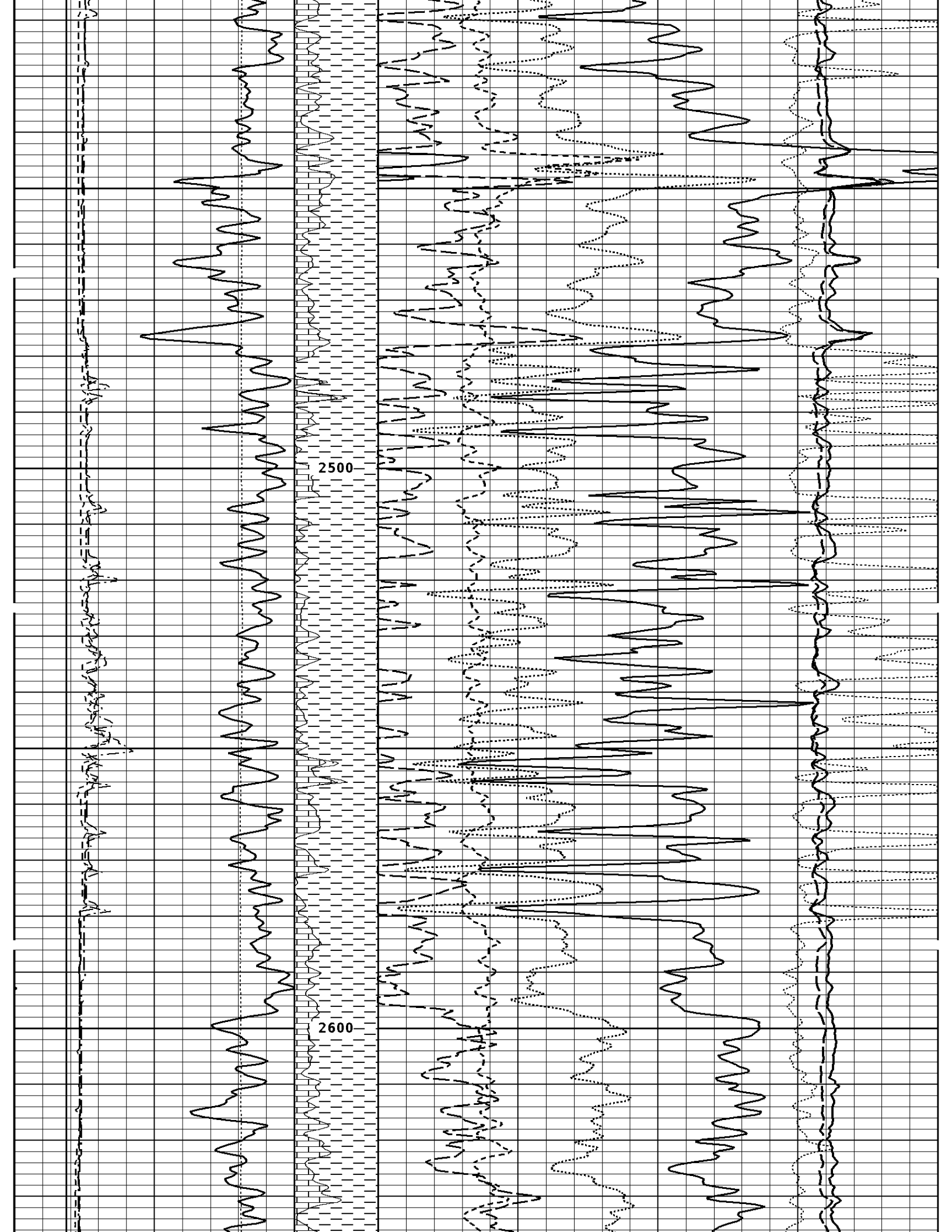
←LCOR
NORM→
INV→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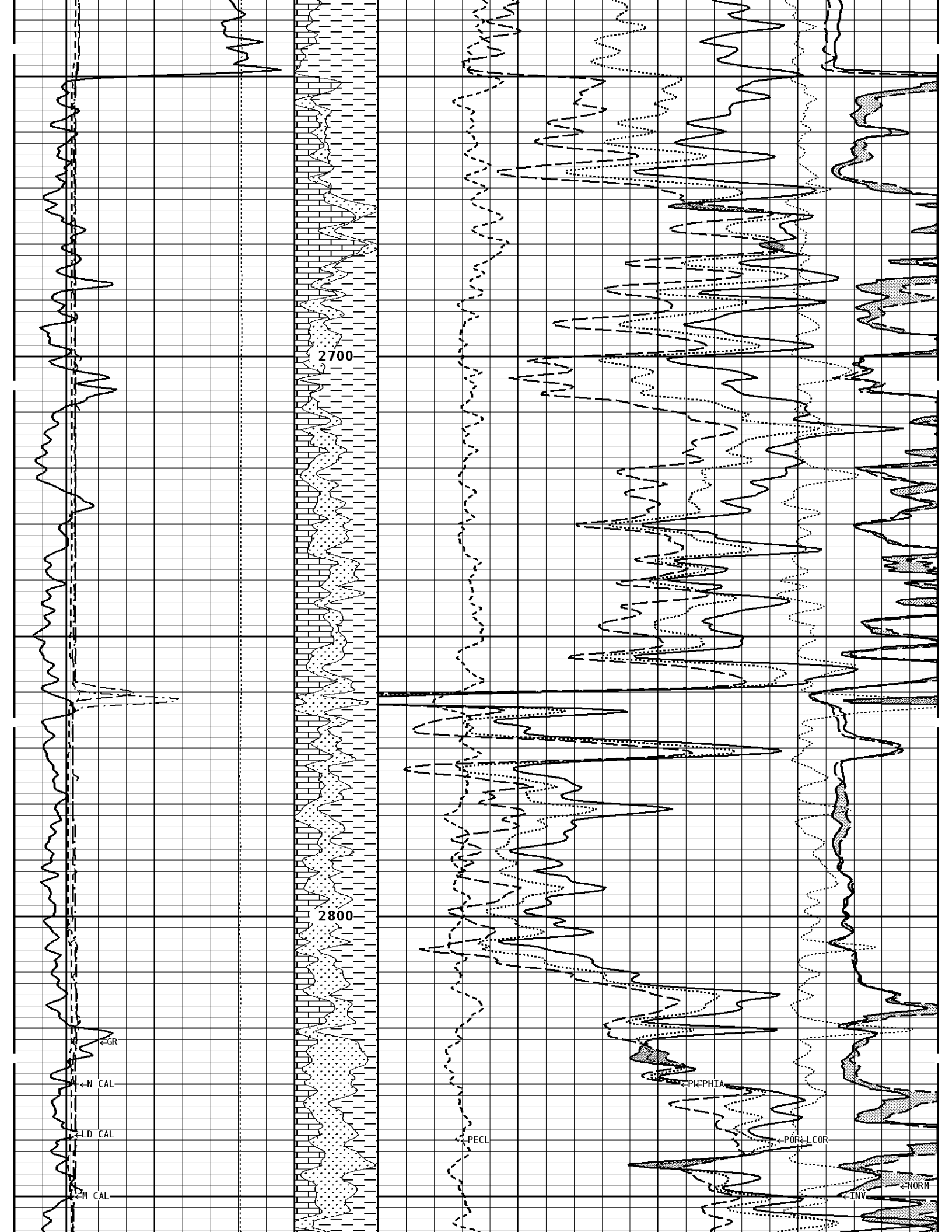
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←POR
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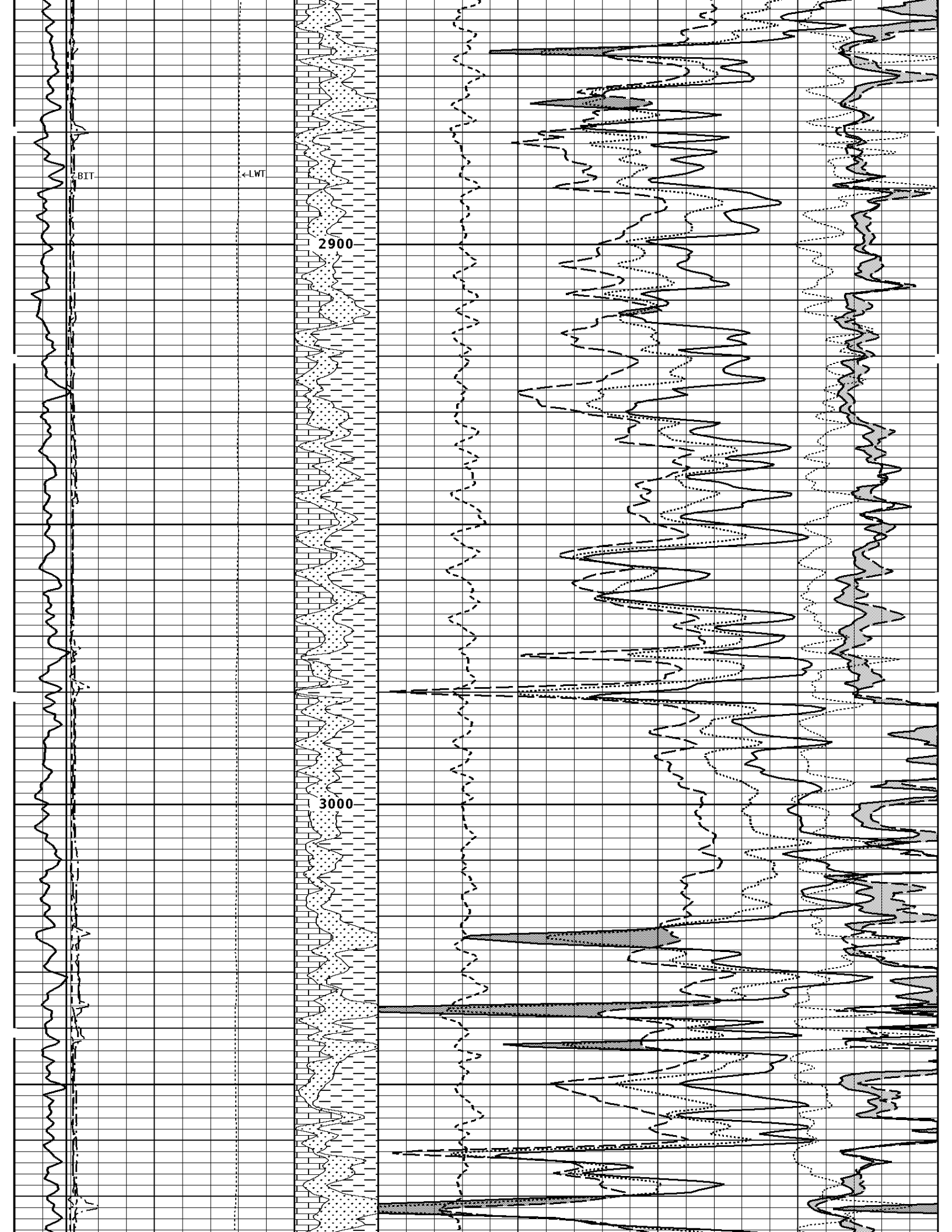
←NORM
←INV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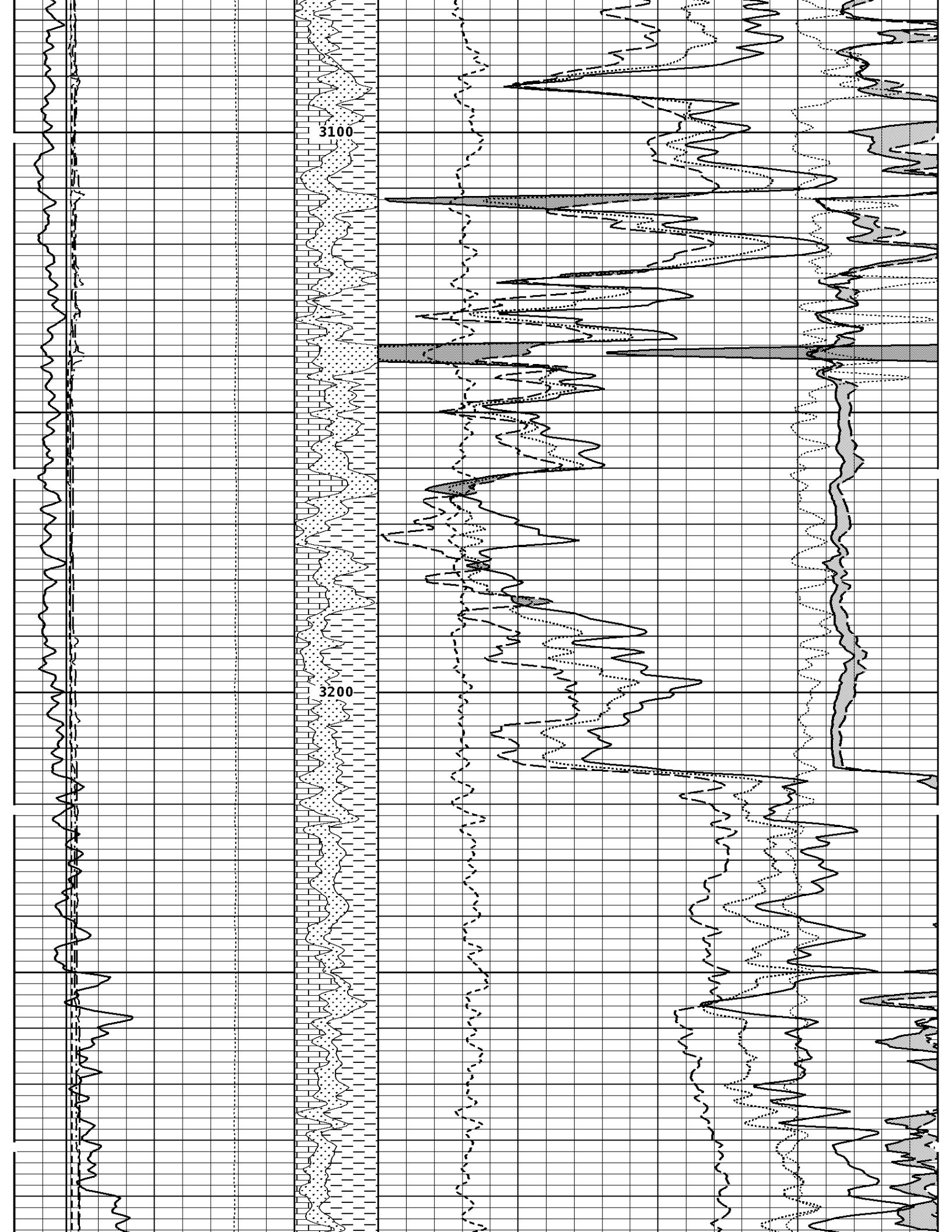
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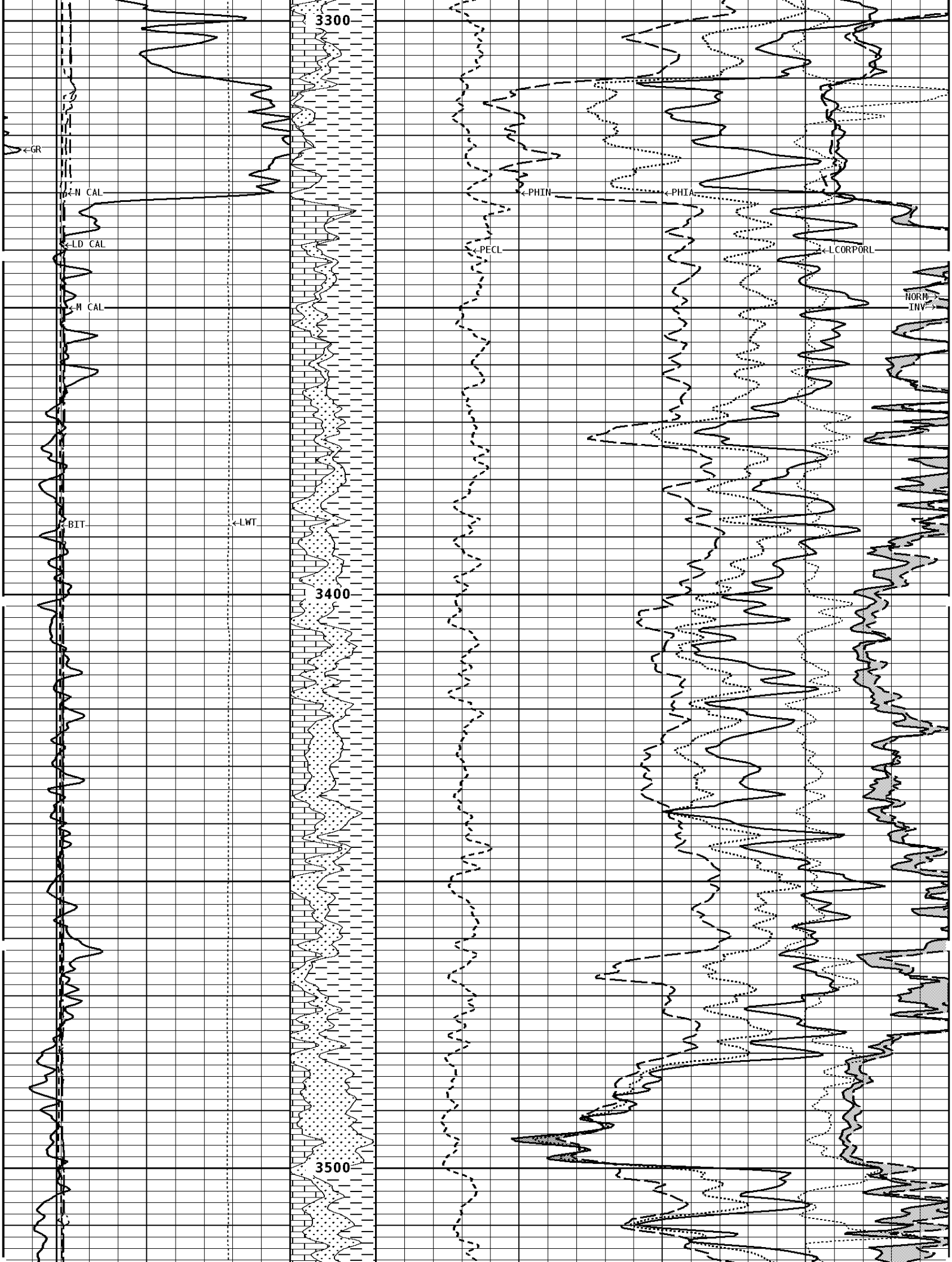
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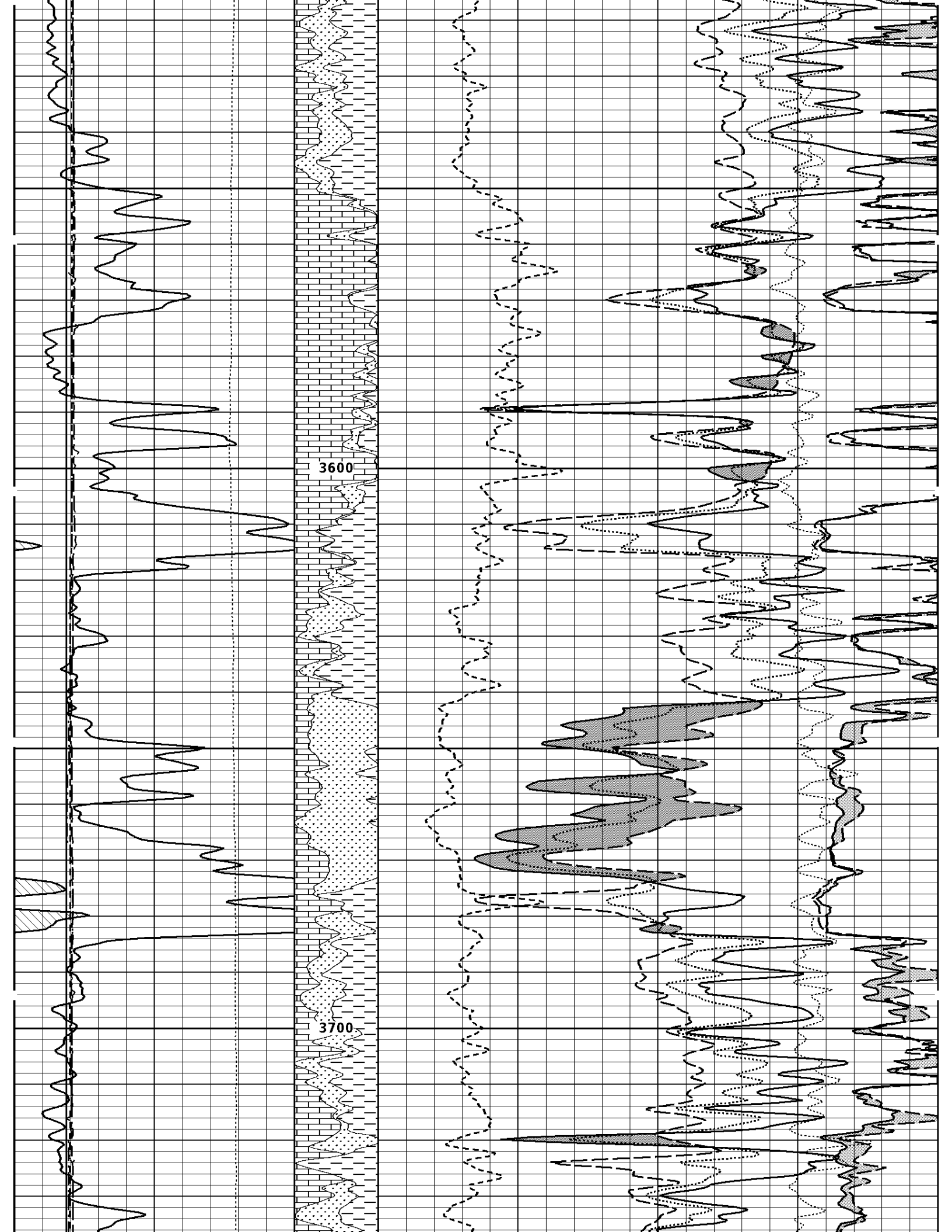
LCORPORL
NORM
INV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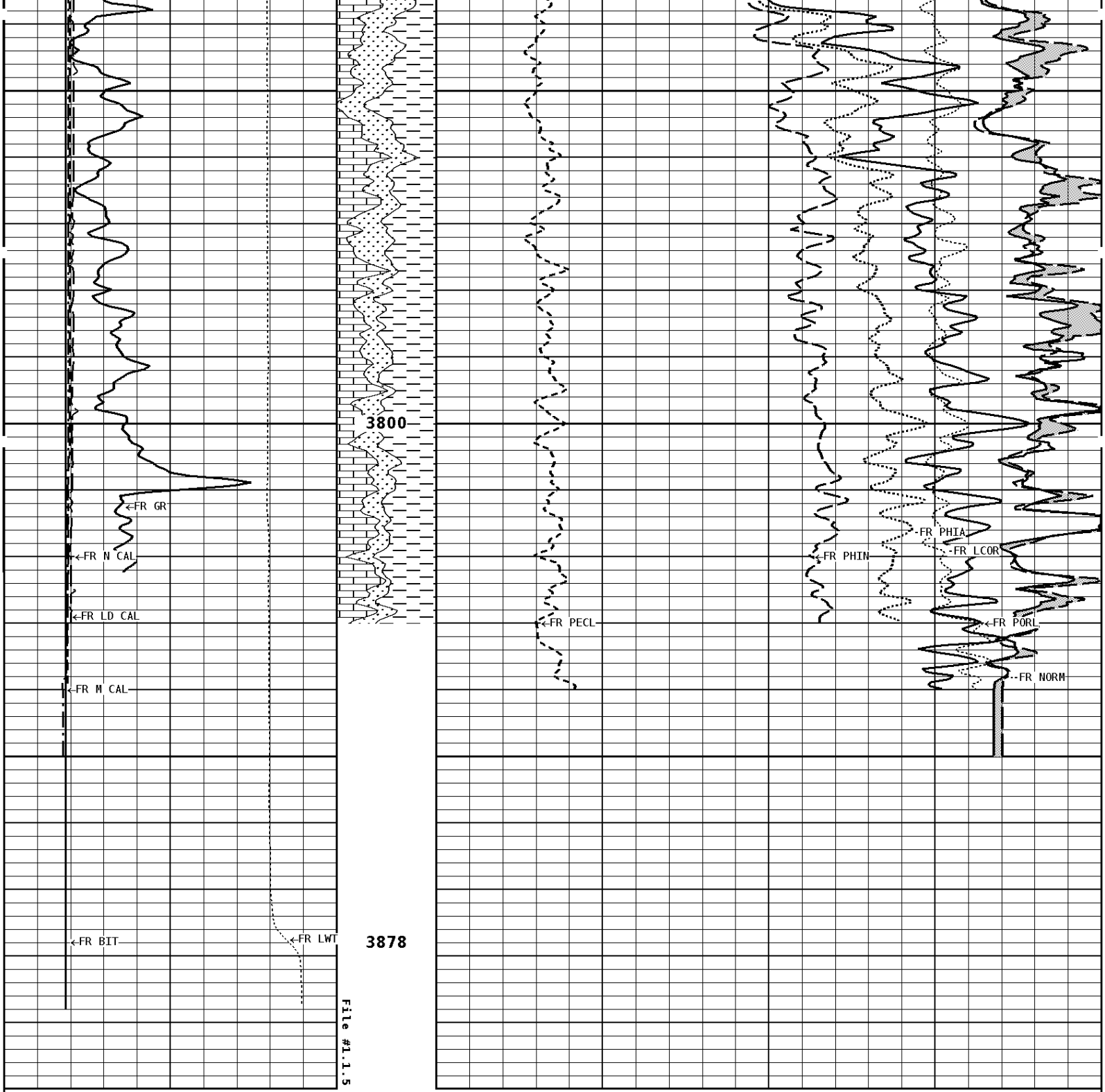


1:240 MAIN SECTION

GAMMA RAY **API UNITS** 150 — 300 0 — 150	Volume Dolo/Shale	**NEUTRON POROSITY (LIMESTONE)** **PERCENT** 30 — -10
TENSION **LBS** 10000 — 0	Volume Calcite	**DENSITY POROSITY (2.71g/cc)** **PERCENT** 70 — 30 30 — -10 -10 — -50
DENSITY (X) CALIPER **INCHES (IN)** 16 — 26 6 — 16	Volume Quartz	**CROSS PLOT POROSITY** 30 — -10

NEUTRON (Y) CALIPER INCHES (IN)		PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
16	26		
6	16	0 10	-0.25 0.25

BIT SIZE INCHES (IN)		INVERSE OHMM
6	16	0 40

CALIPER MICRO INCHES (IN)		NORMAL OHMM
16	26	
6	16	0 40

*** 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	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: RFP_ROUSH_11-10_AUGUST4_QUINT **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S3 Reprocess of REPEAT **Acquired:** 2013-08/04 09:57 3.3.0-12217
Reference: 0 **Processed:** 2013-08/04 10:07 3.3.0-12217

CALIPER MICRO INCHES (IN)		NORMAL OHMM
16	26	
6	16	0 40

BIT SIZE INCHES (IN)		INVERSE OHMM
6	16	0 40

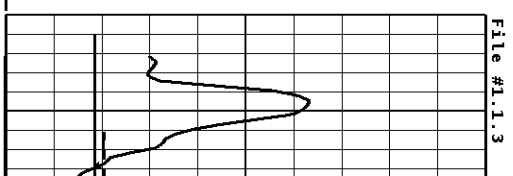
NEUTRON (Y) CALIPER INCHES (IN)		PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
16	26		
6	16	0 10	-0.25 0.25

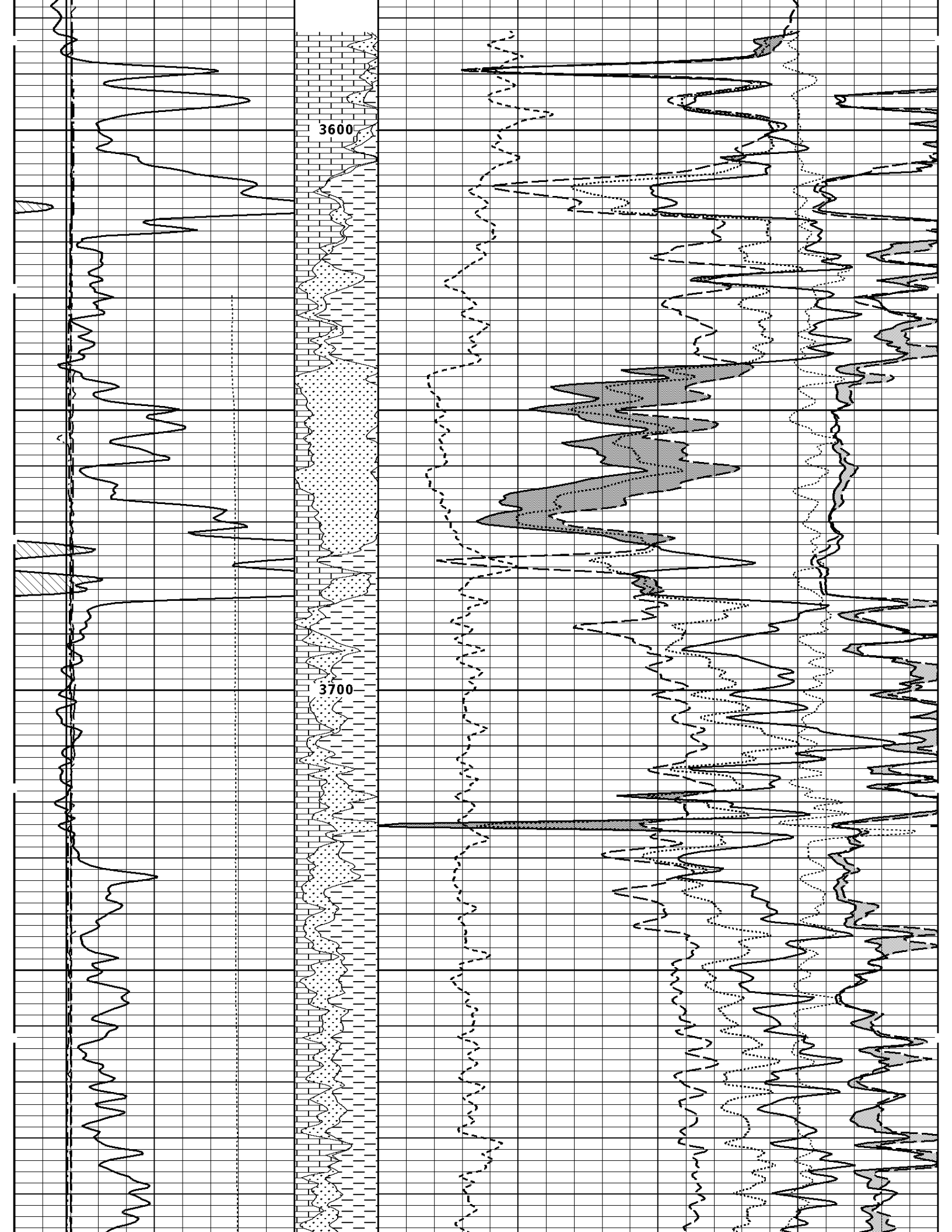
DENSITY (X) CALIPER INCHES (IN)		Volume Quartz	CROSS PLOT POROSITY
16	26		
6	16	30	-10

TENSION LBS		Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT	
			70	30
10000	0		30	-10
			-10	-50

GAMMA RAY API UNITS		Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT	
150	300			
0	150		30	-10

1:240 REPEAT SECTION

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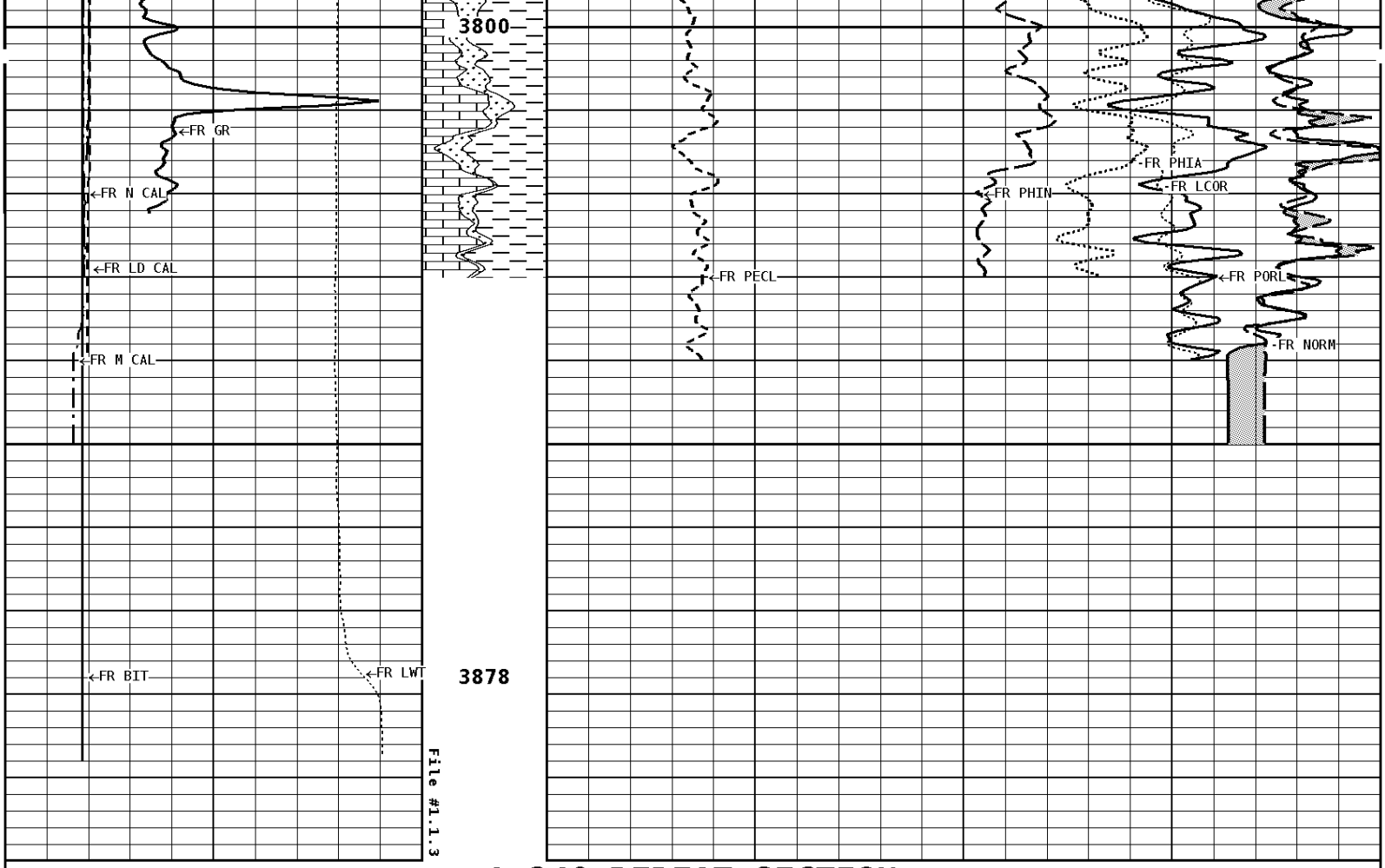


1:240 REPEAT SECTION

GAMMA RAY
API UNITS
150 — 300
0 — 150

Volume
Dolo/Shale

NEUTRON POROSITY (LIMESTONE)
PERCENT
30 — -10

TENSION
LBS
10000 — 0

Volume
Calcite

DENSITY POROSITY (2.71g/cc)
PERCENT
70 — 30
30 — -10
-10 — -50

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

Volume
Quartz

CROSS PLOT POROSITY
30 — -10

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

PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

DENSITY CORRECTION
G/CC
-0.25 — 0.25

BIT SIZE
INCHES (IN)
6 — 16

INVERSE
OHMM
0 — 40

CALIPER MICRO
INCHES (IN)
16 — 26
6 — 16

NORMAL
OHMM
0 — 40

* Borehole Zone Factors *

Zone 1	99999.0	to	0.0	Feet

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	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: RFP_ROUSH_11-10_AUGUST4_QUINT **Scale:** 1:240 **Format:** LDT-240
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2013-08/04 10:11 3.3.0-12217
Reference: 0 **Processed:** 2013-08/04 11:21 3.3.0-12217

BIT SIZE
INCHES (IN)
6 — 16

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

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

PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

DENSITY CORRECTION
G/CC
-0.25 — 0.25

TENSION
LBS
10000 — 0

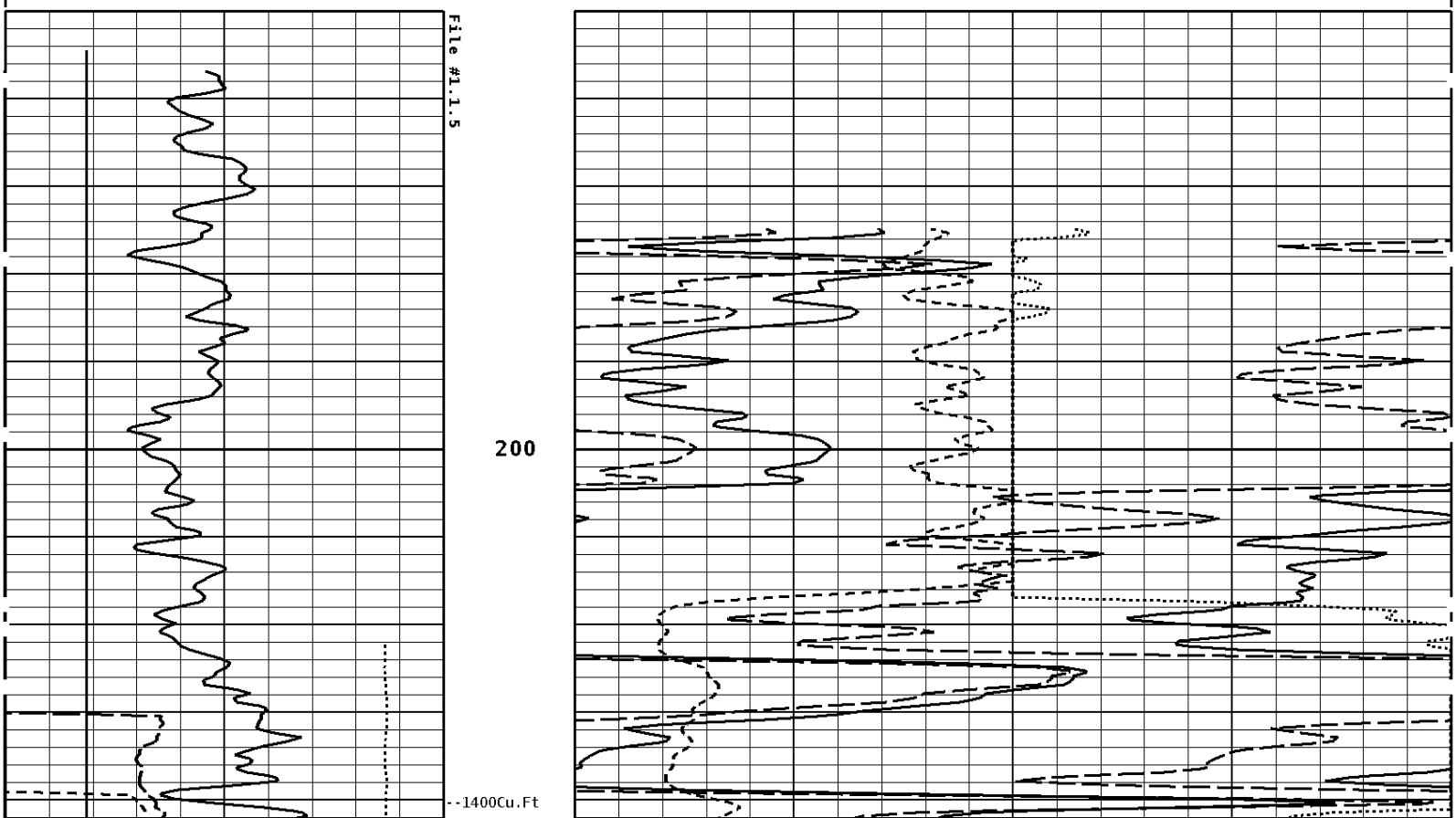
COMPENSATED BULK DENSITY
G/CC
3.0 — 4.0
2.0 — 3.0
1.0 — 2.0

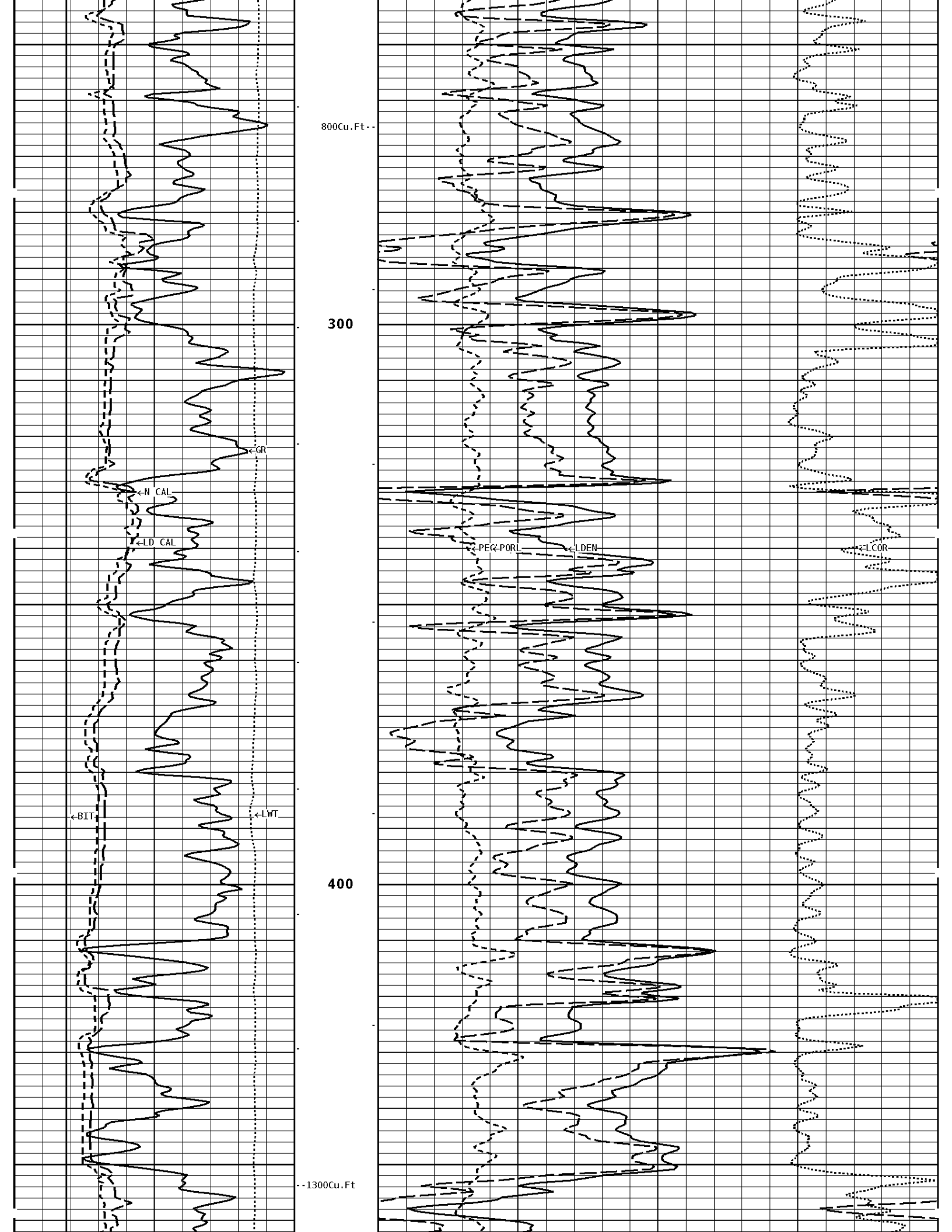
GAMMA RAY
API UNITS
150 — 300
0 — 150

-BHV AHV-
CU.FT

DENSITY POROSITY (2.71g/cc)
PERCENT
70 — 30
30 — -10
-10 — -50

1:240 MAIN SECTION
BULK DENSITY

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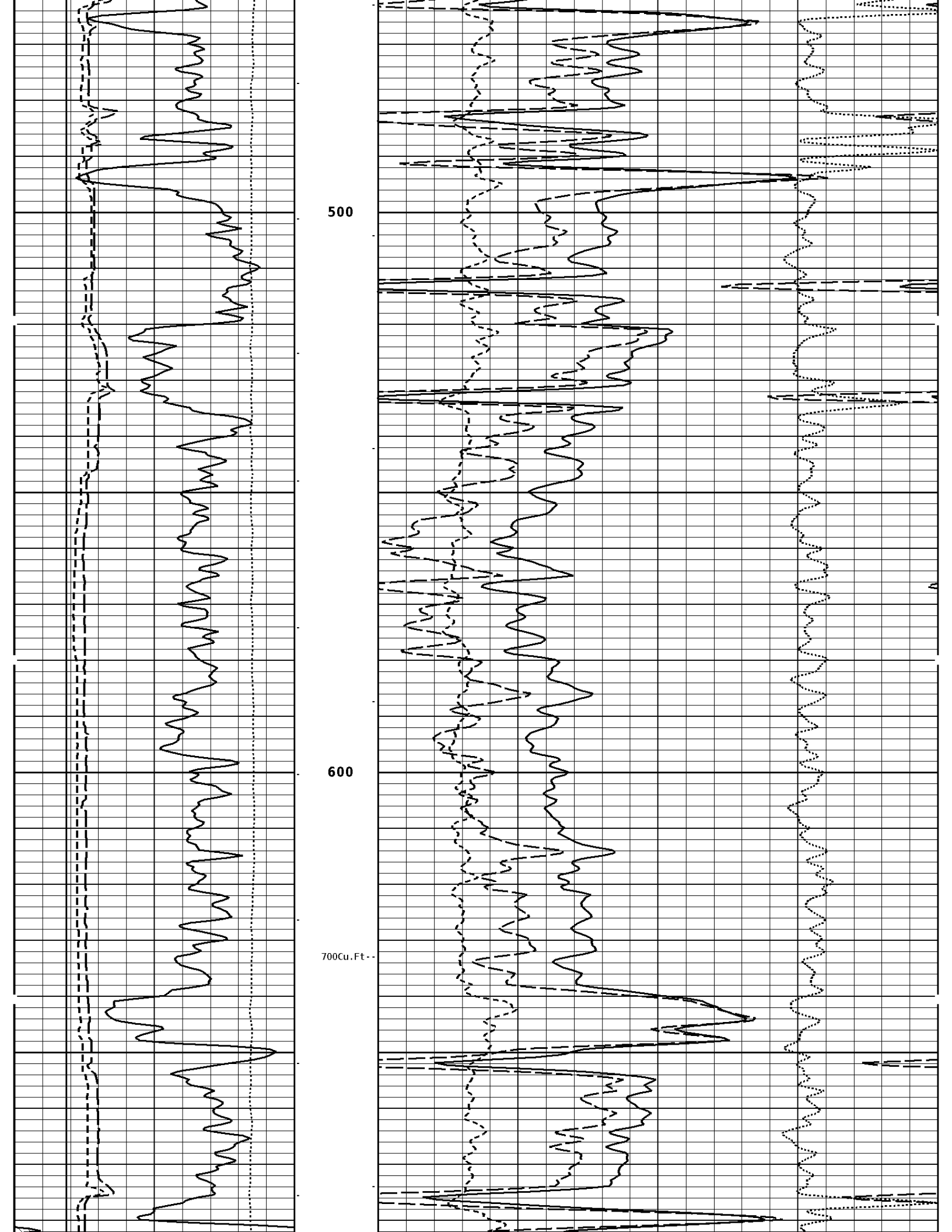
←BIT
←LWT
400
1300Cu.Ft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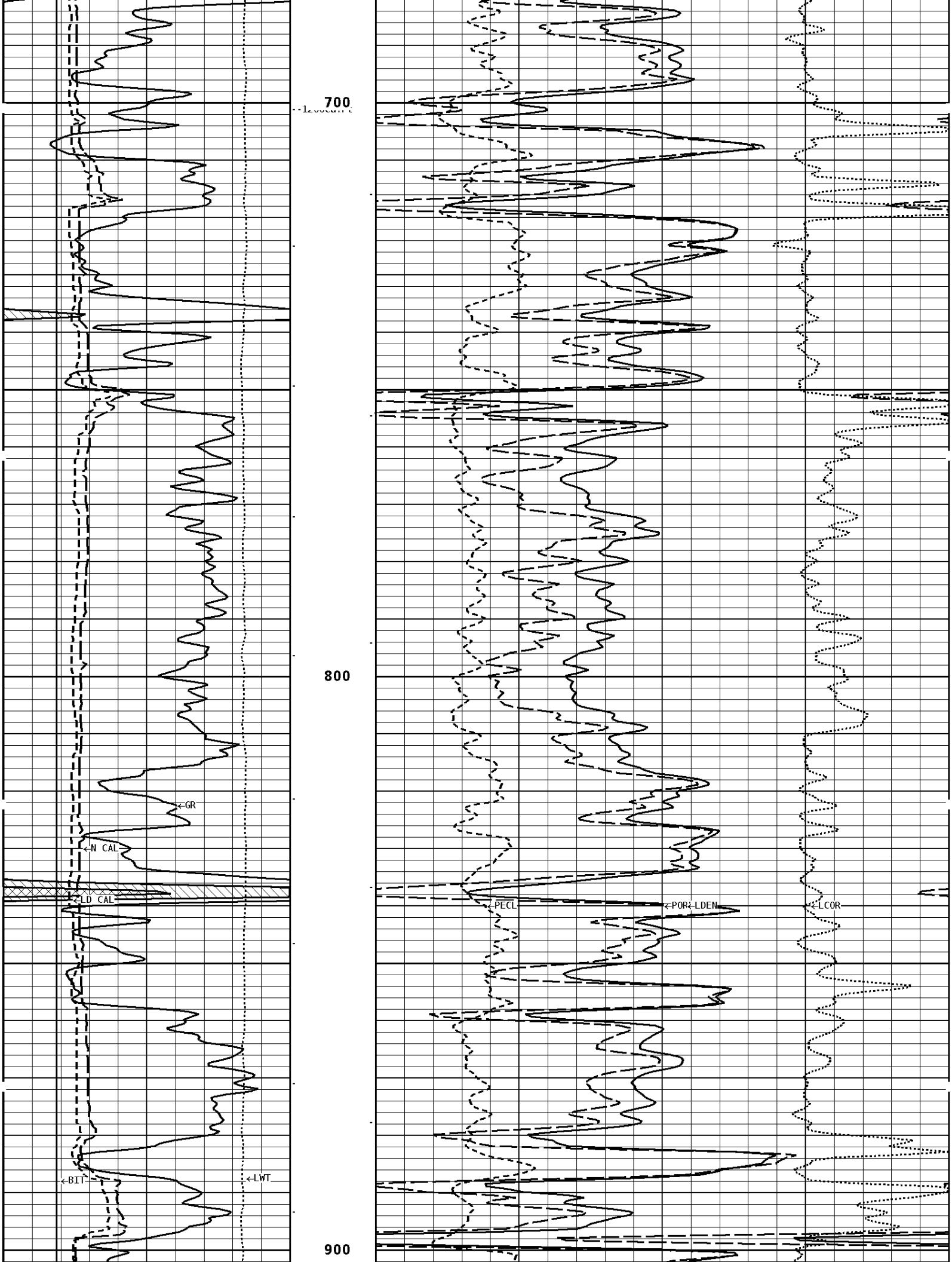
700Cu.Ft--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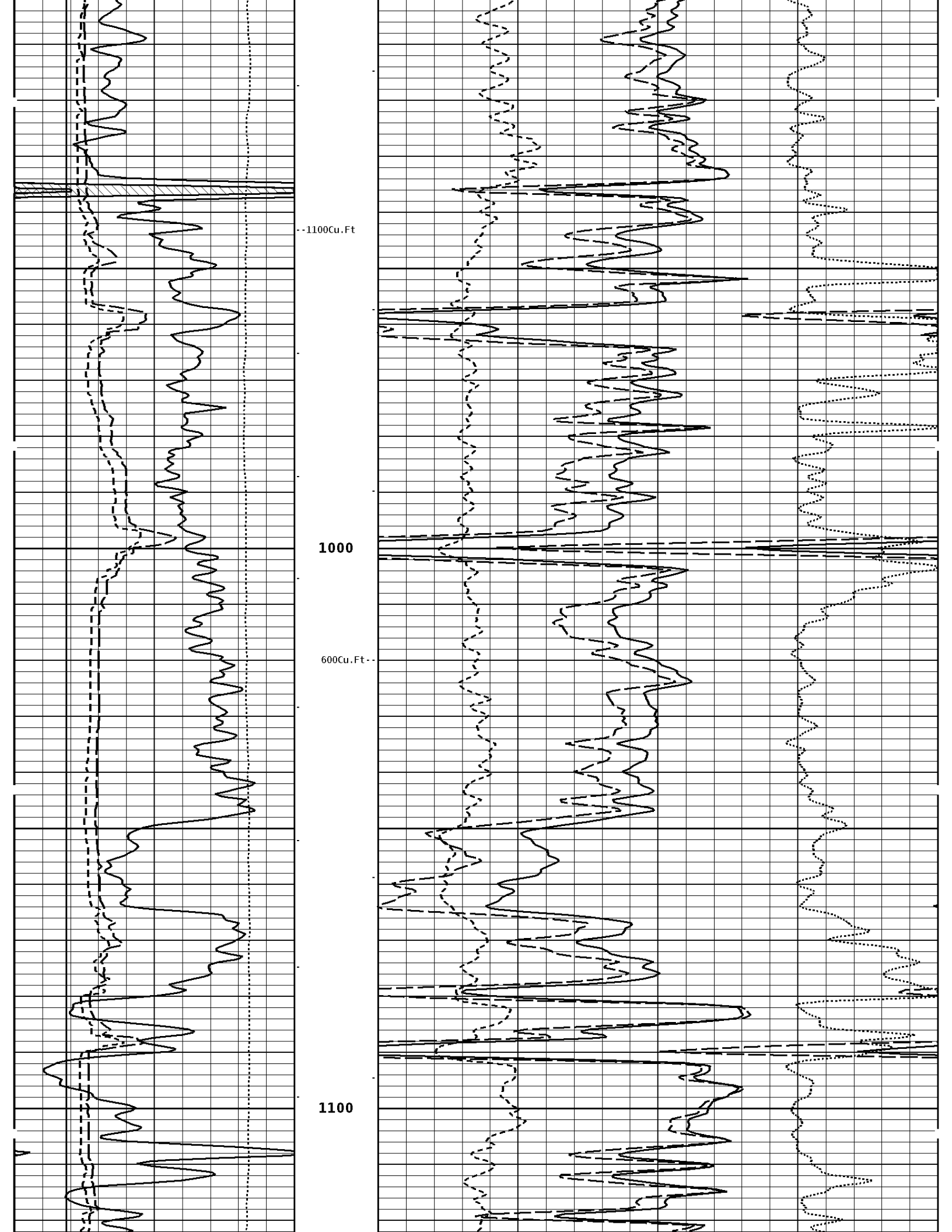
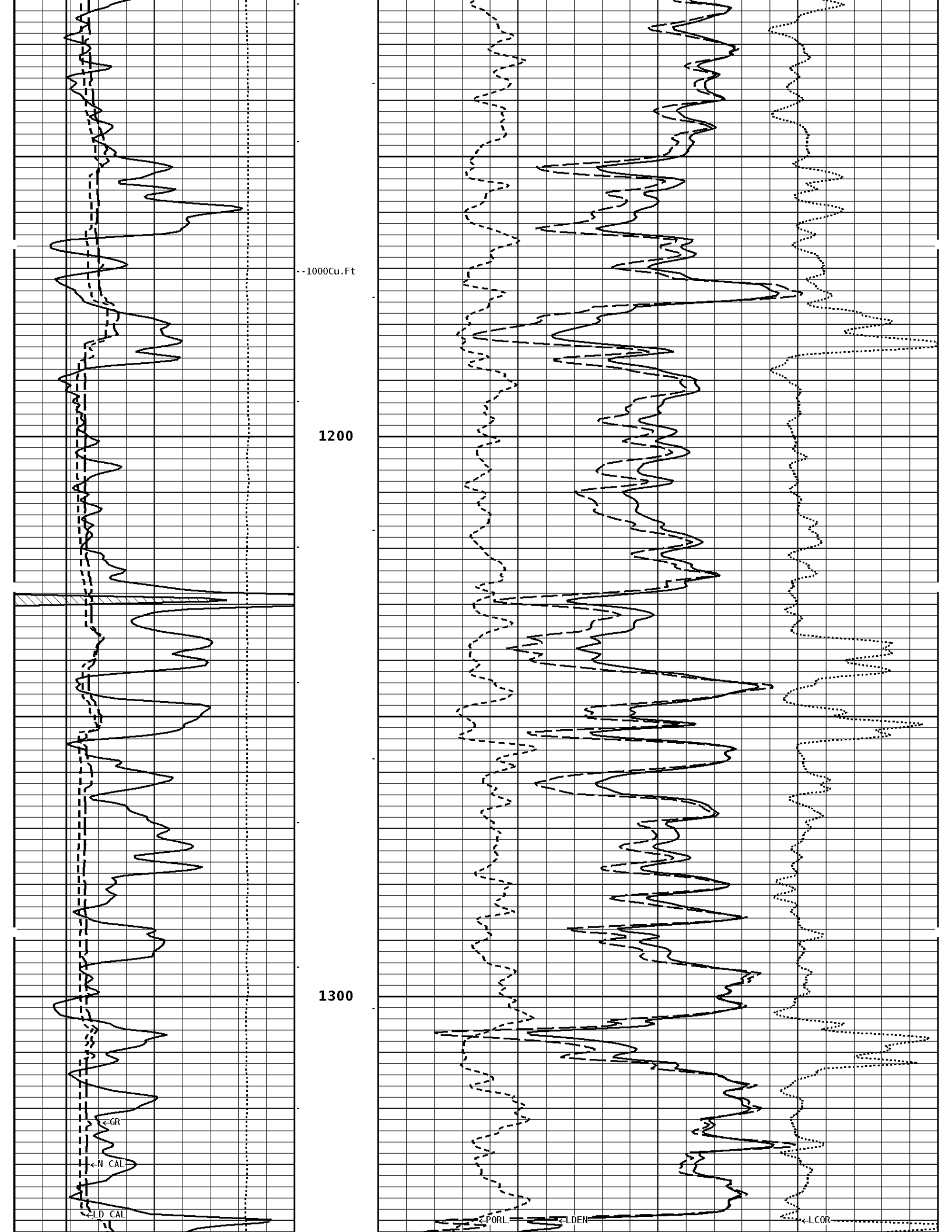
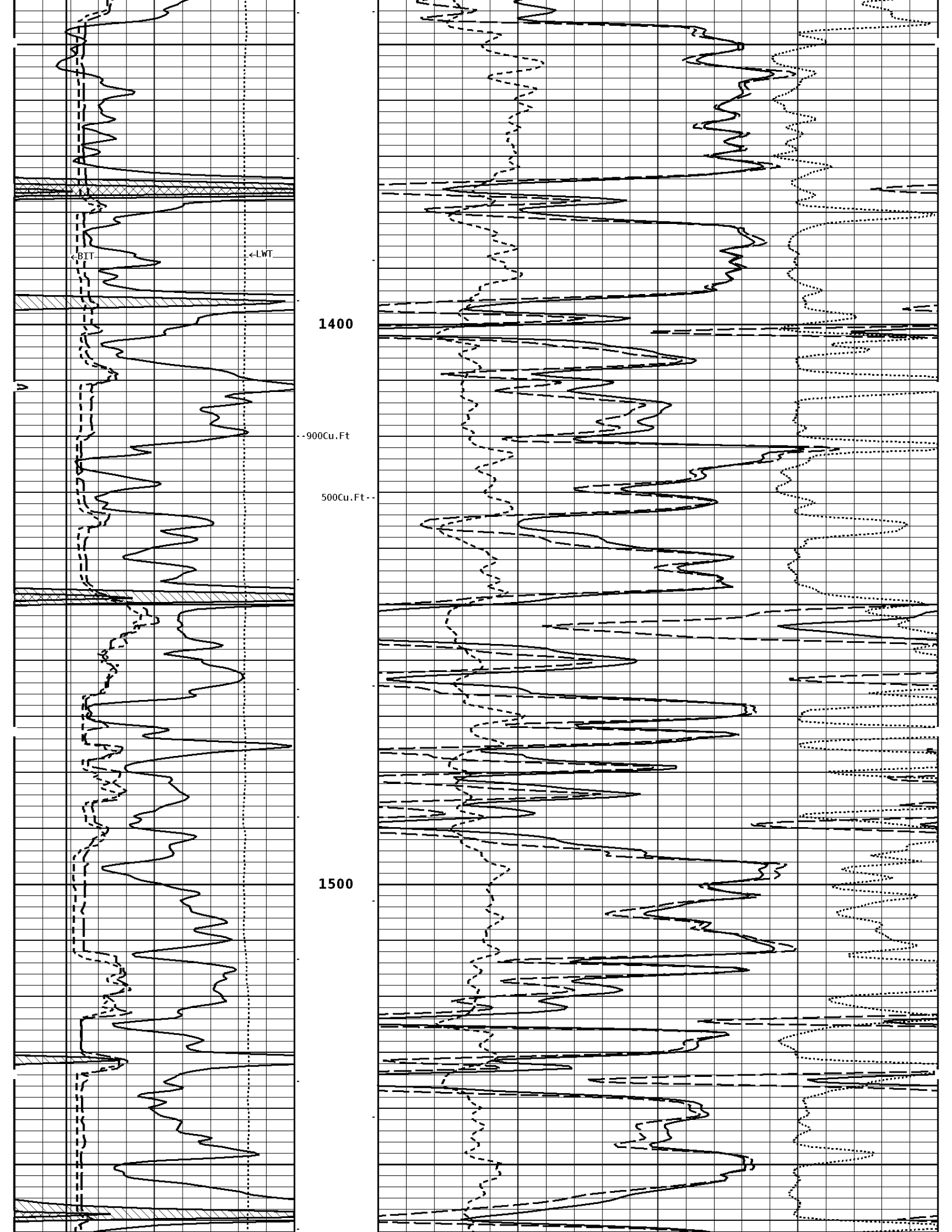
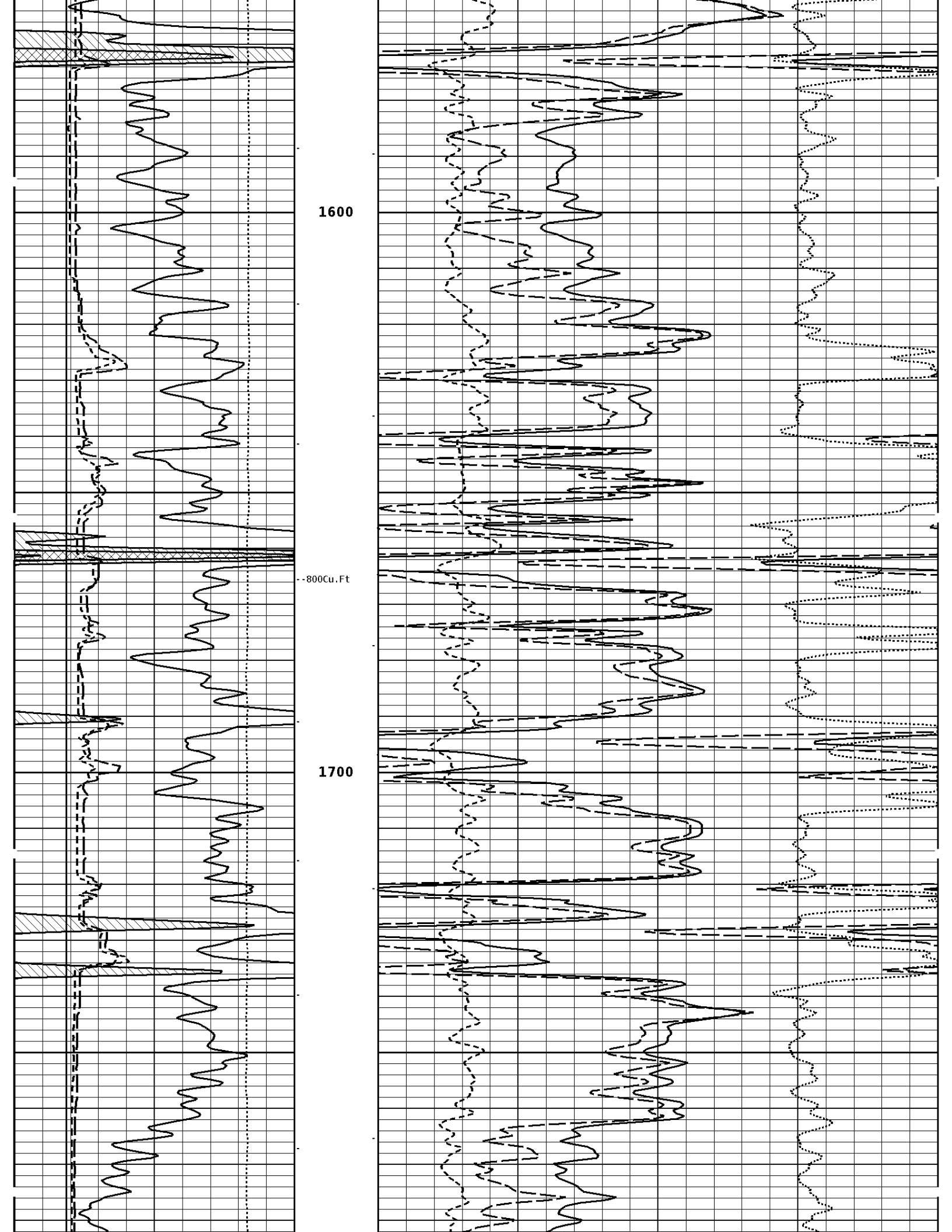
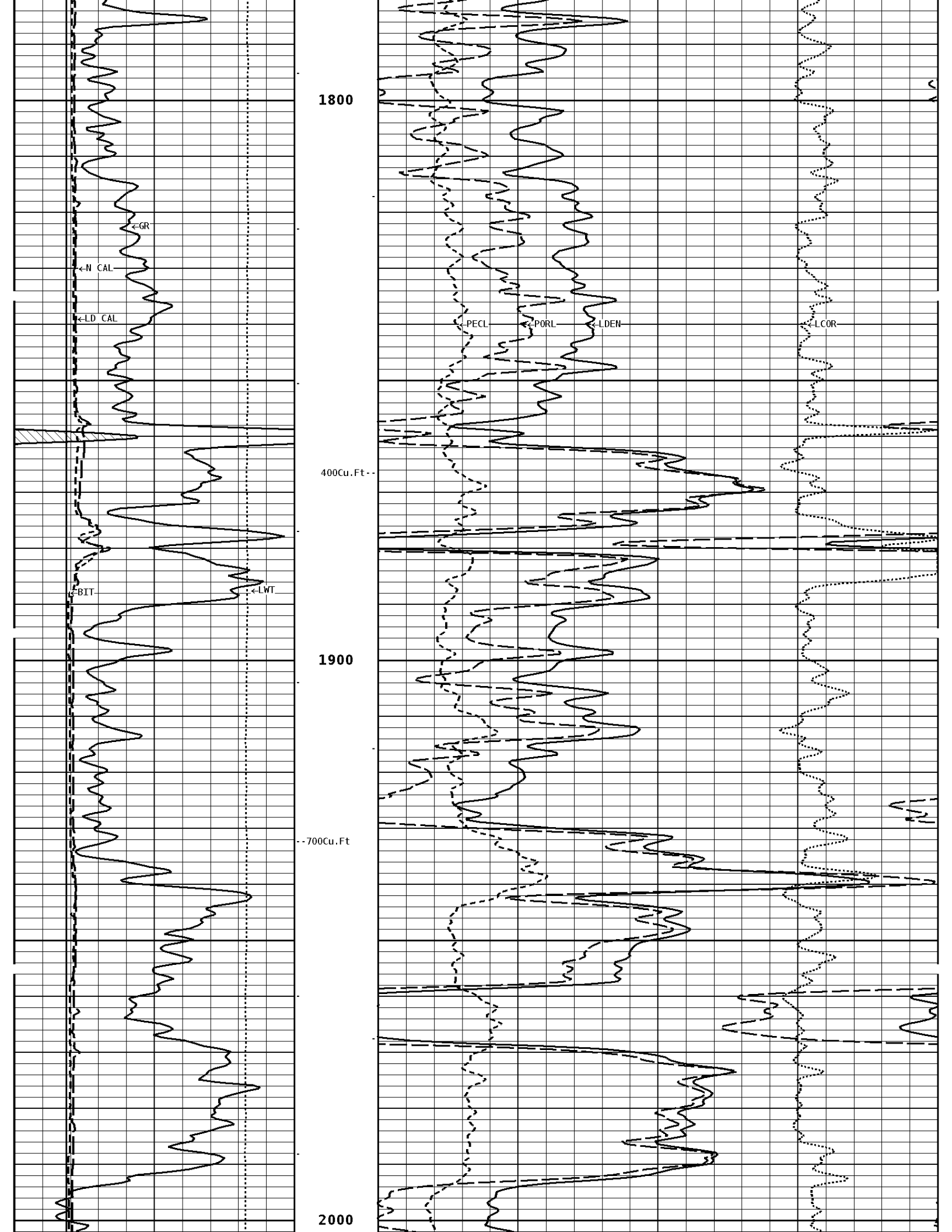
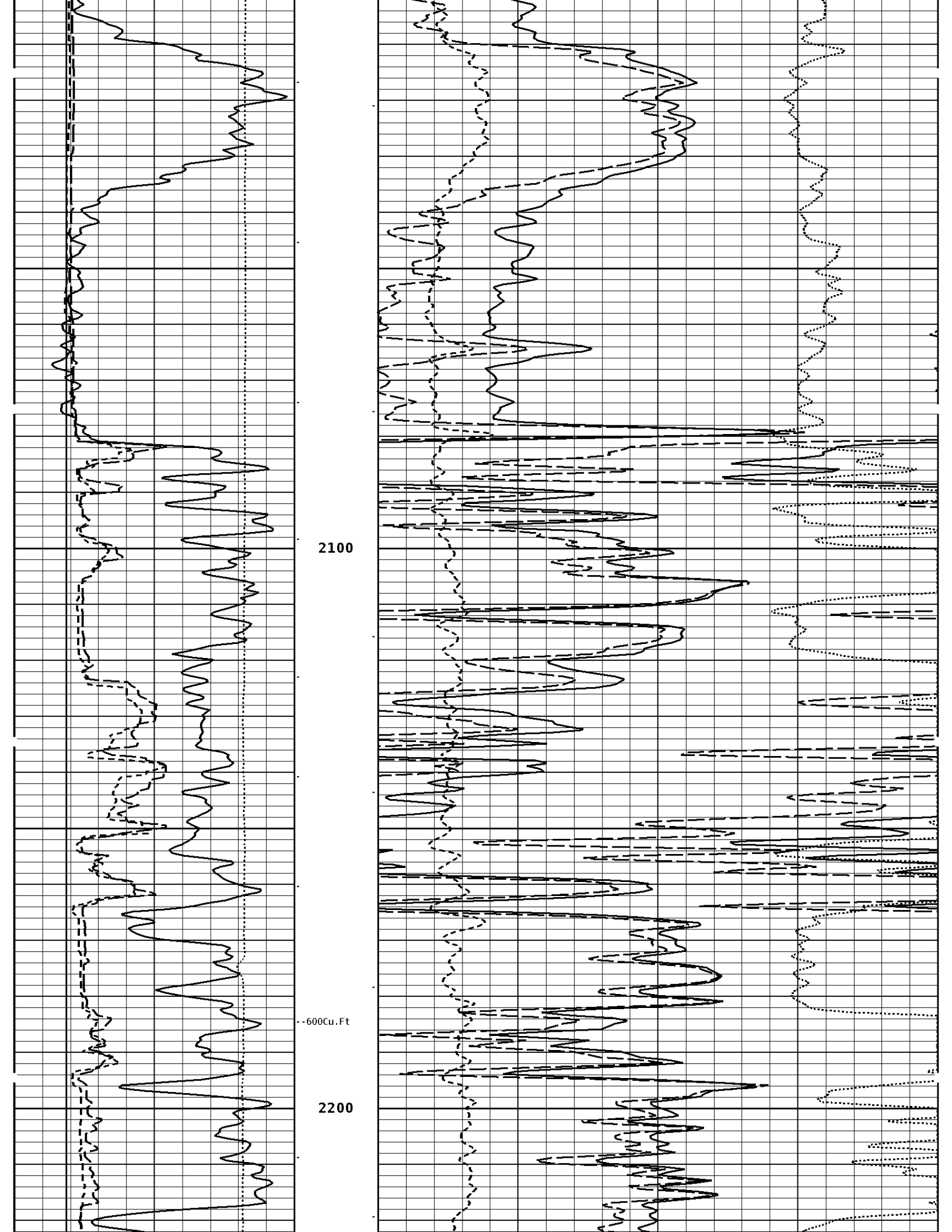

1100Cu.Ft
1000
600Cu.Ft
1100


--1000Cu.Ft
1200
1300
←GR
←N CAL
←LD CAL
←PORL
←LDEN
←LCOR


←BIT
←LWT
1400
900Cu.Ft
500Cu.Ft
1500


1600
800Cu.Ft
1700


1800
GR
N CAL
LD CAL
PECL
PORL
LDEN
LCOR
400Cu.Ft
BIT
LWT
1900
700Cu.Ft
2000


2100
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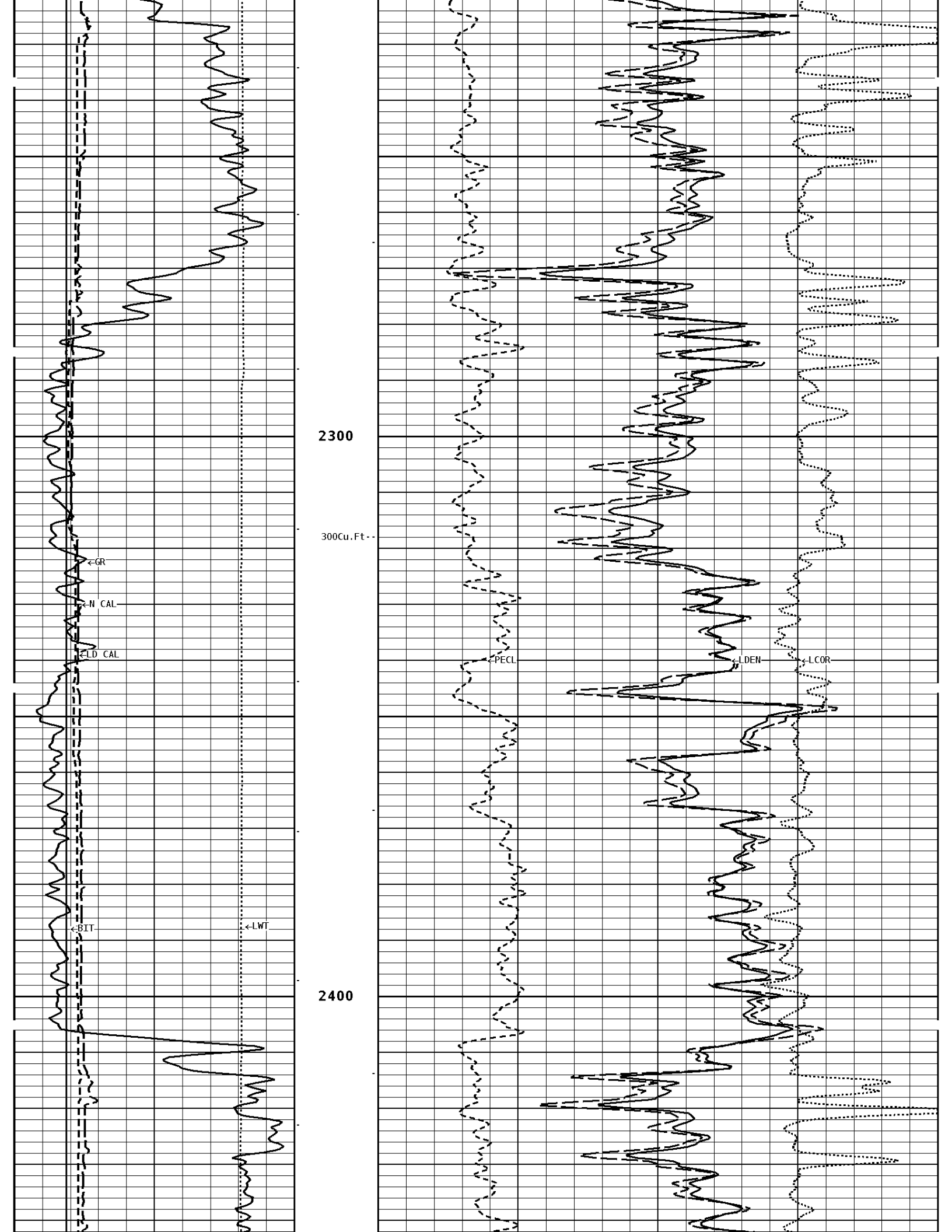
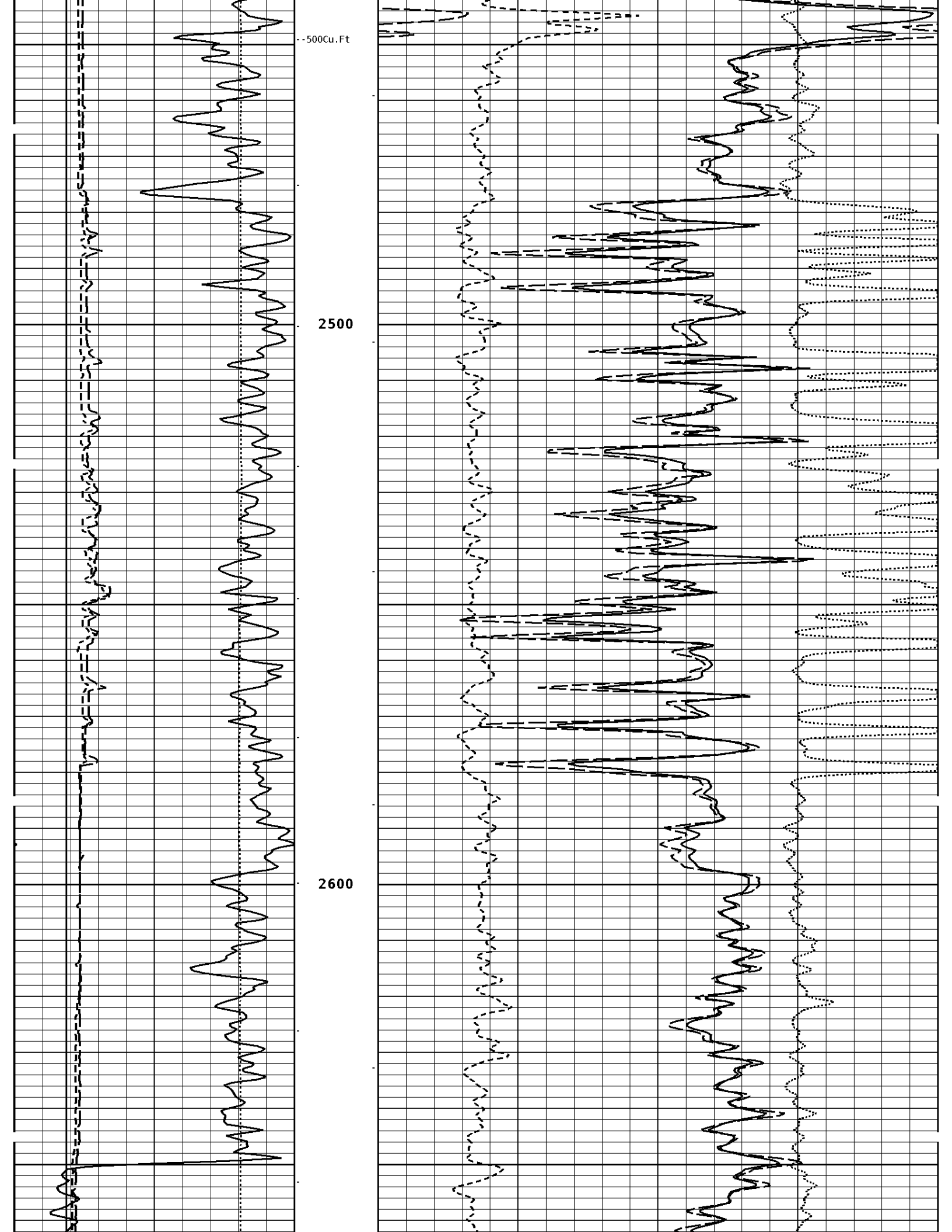
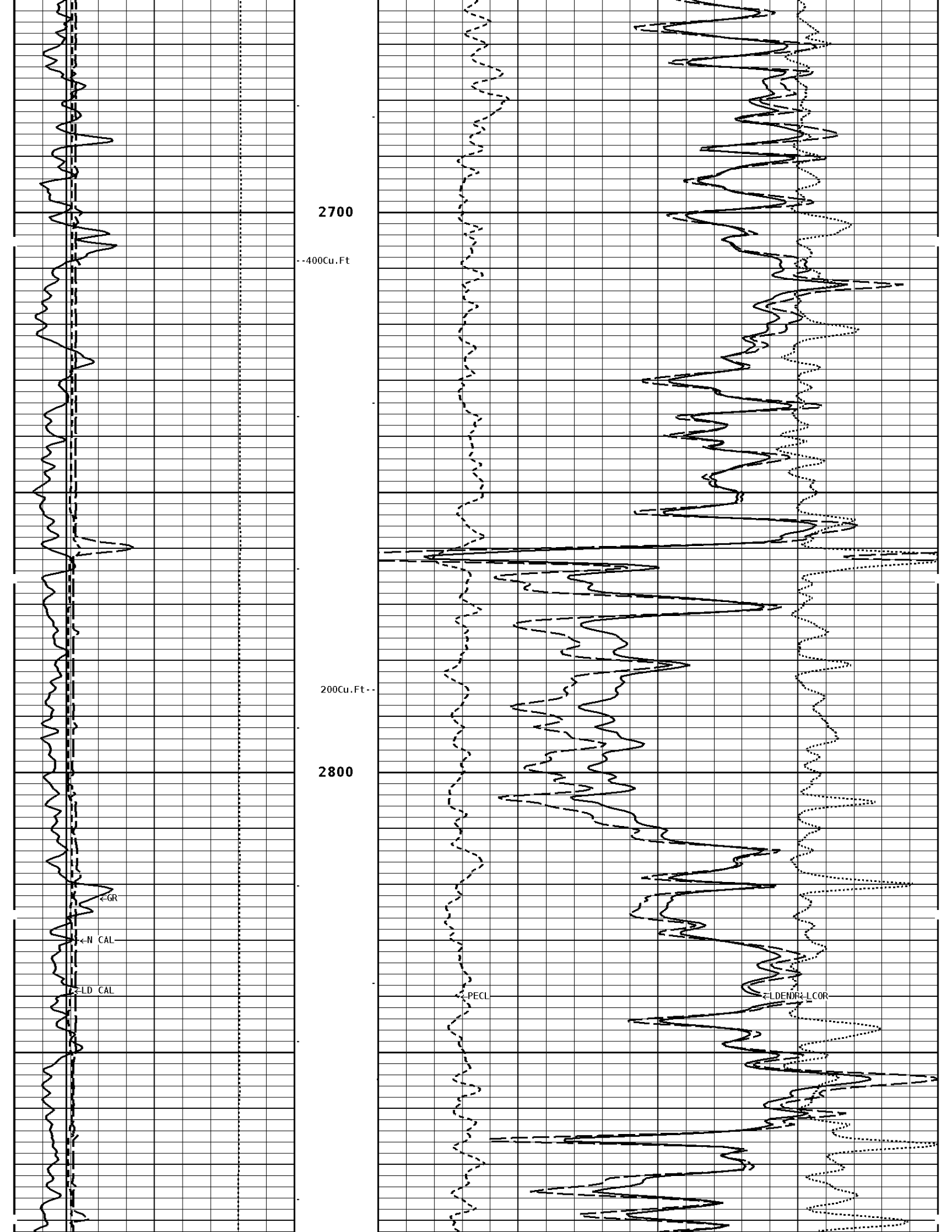
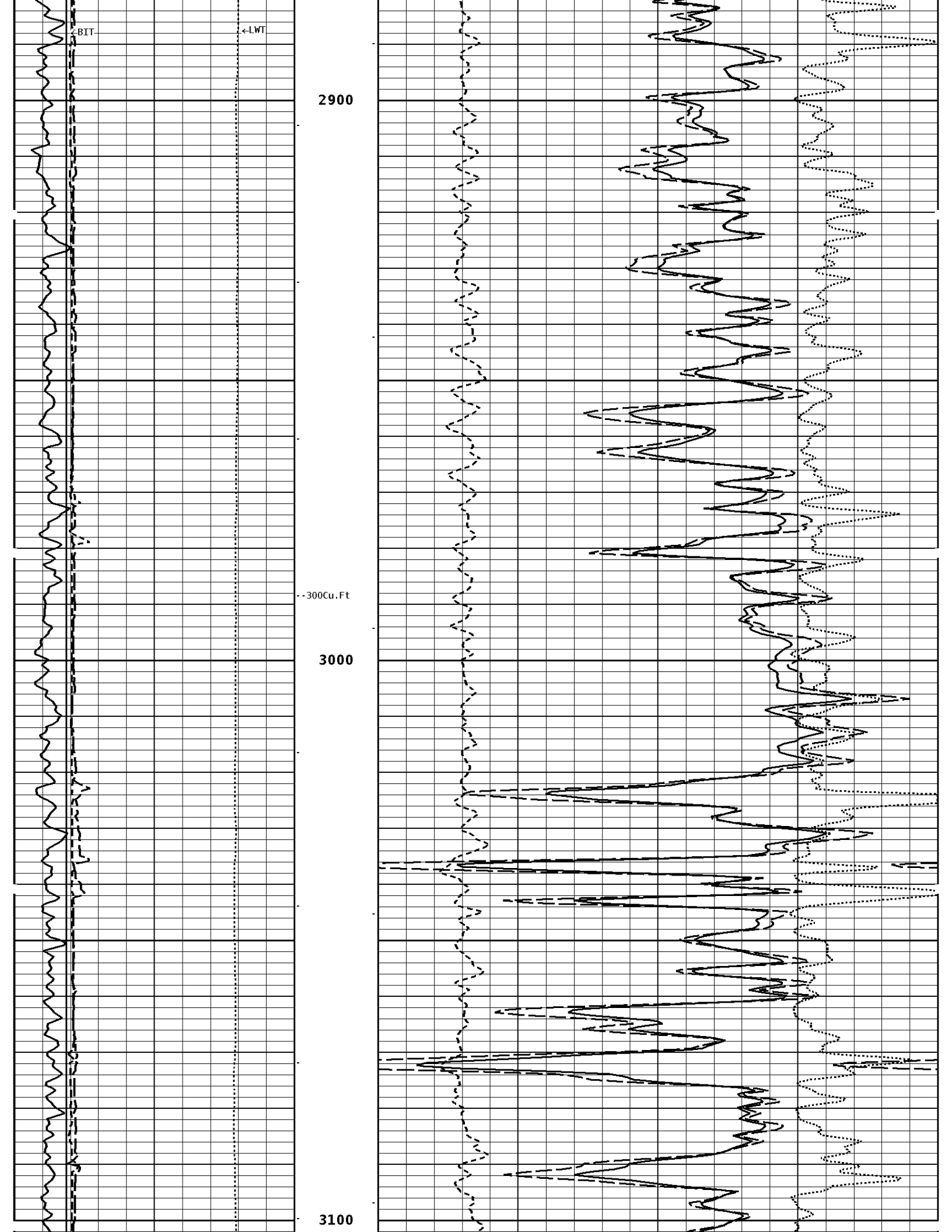
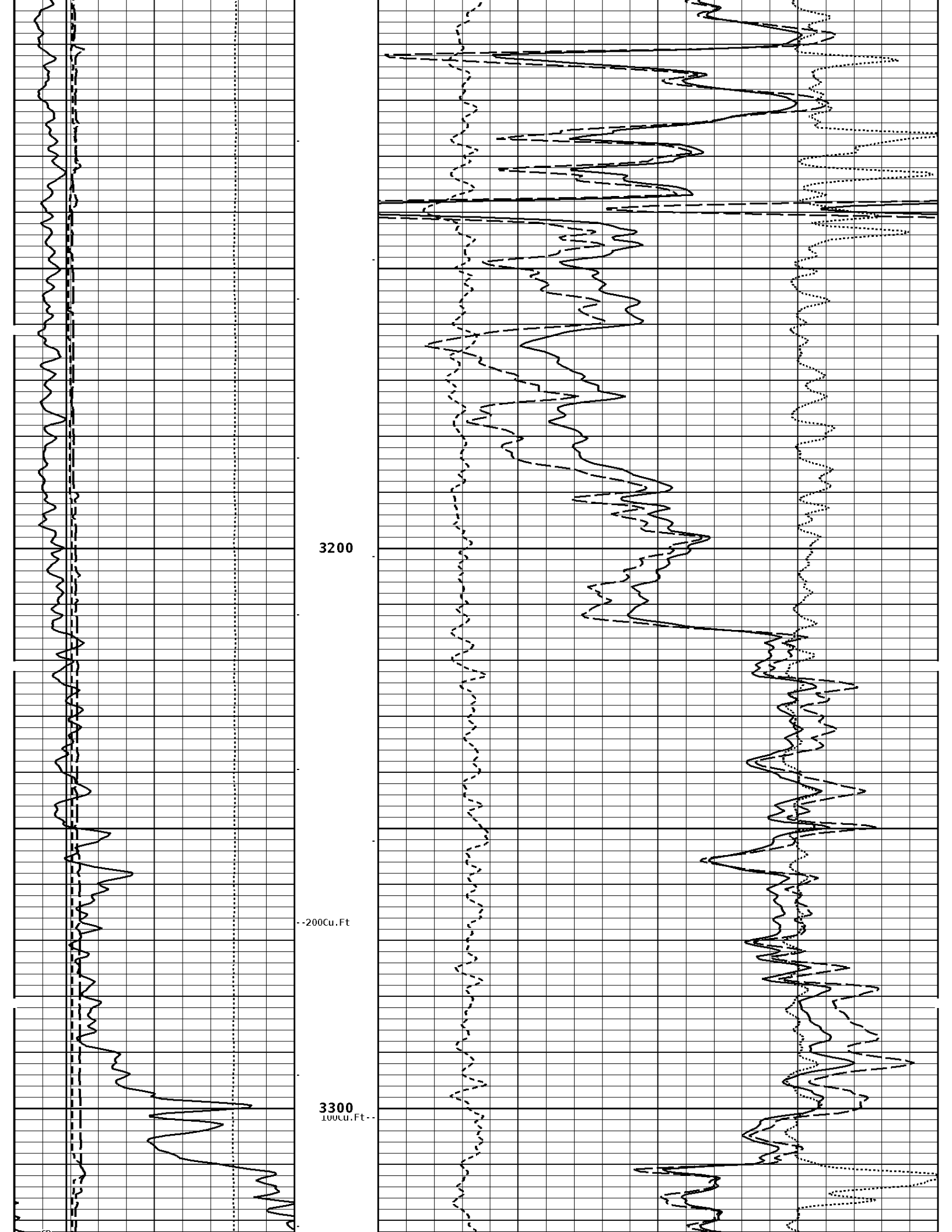
2200

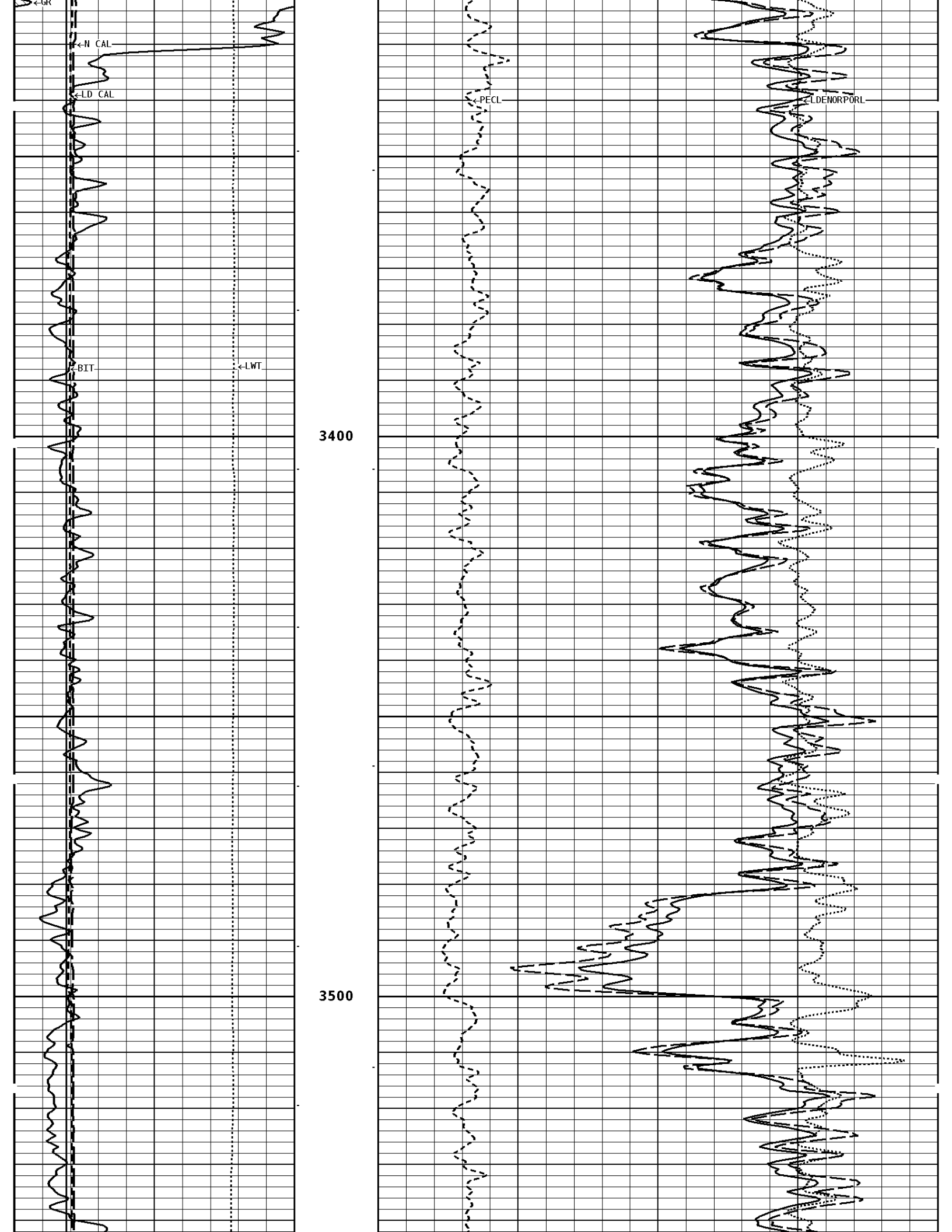

2300
300Cu.Ft
GR
N CAL
LD CAL
PECL
LDEN
LCOR
BIT
LWT
2400

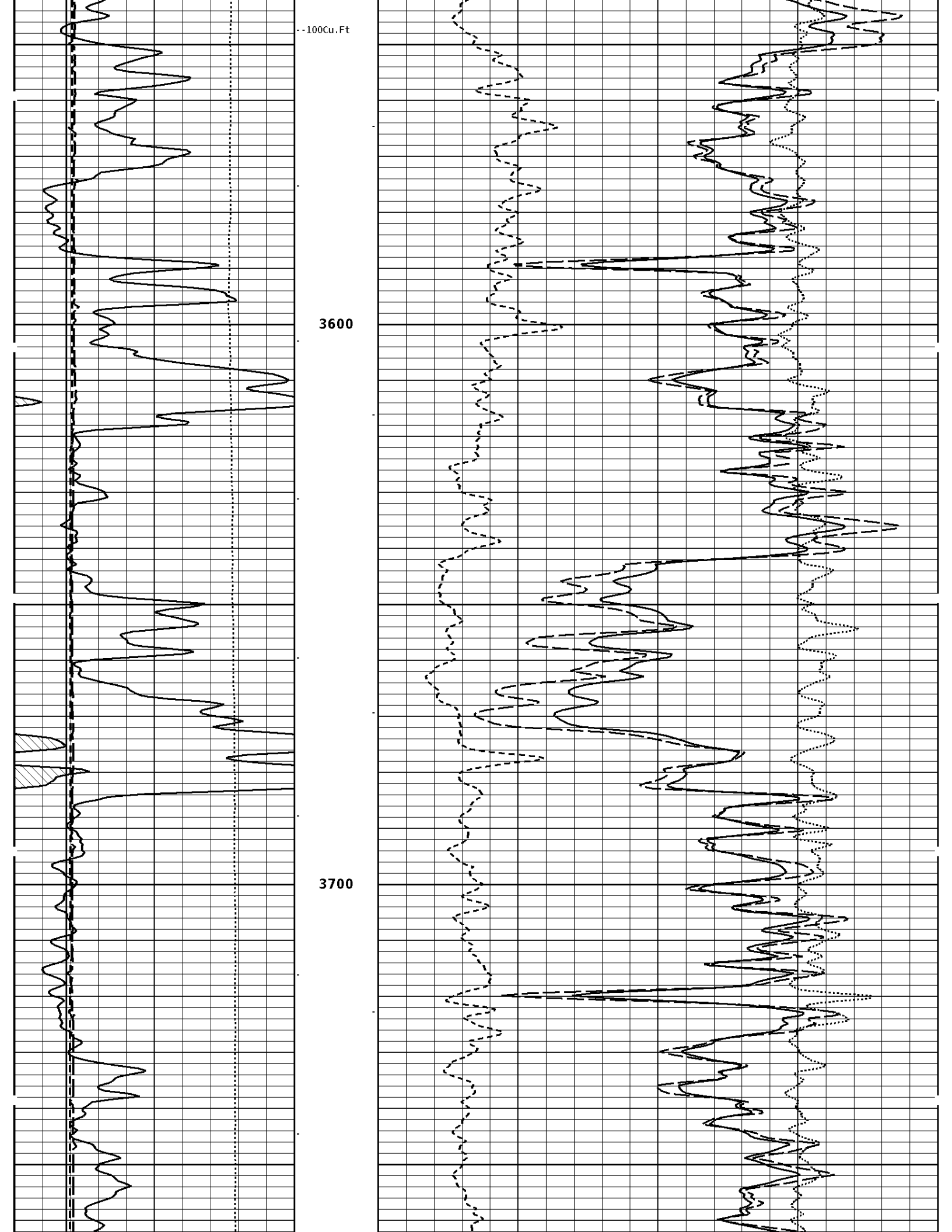

--500Cu.Ft
2500
2600

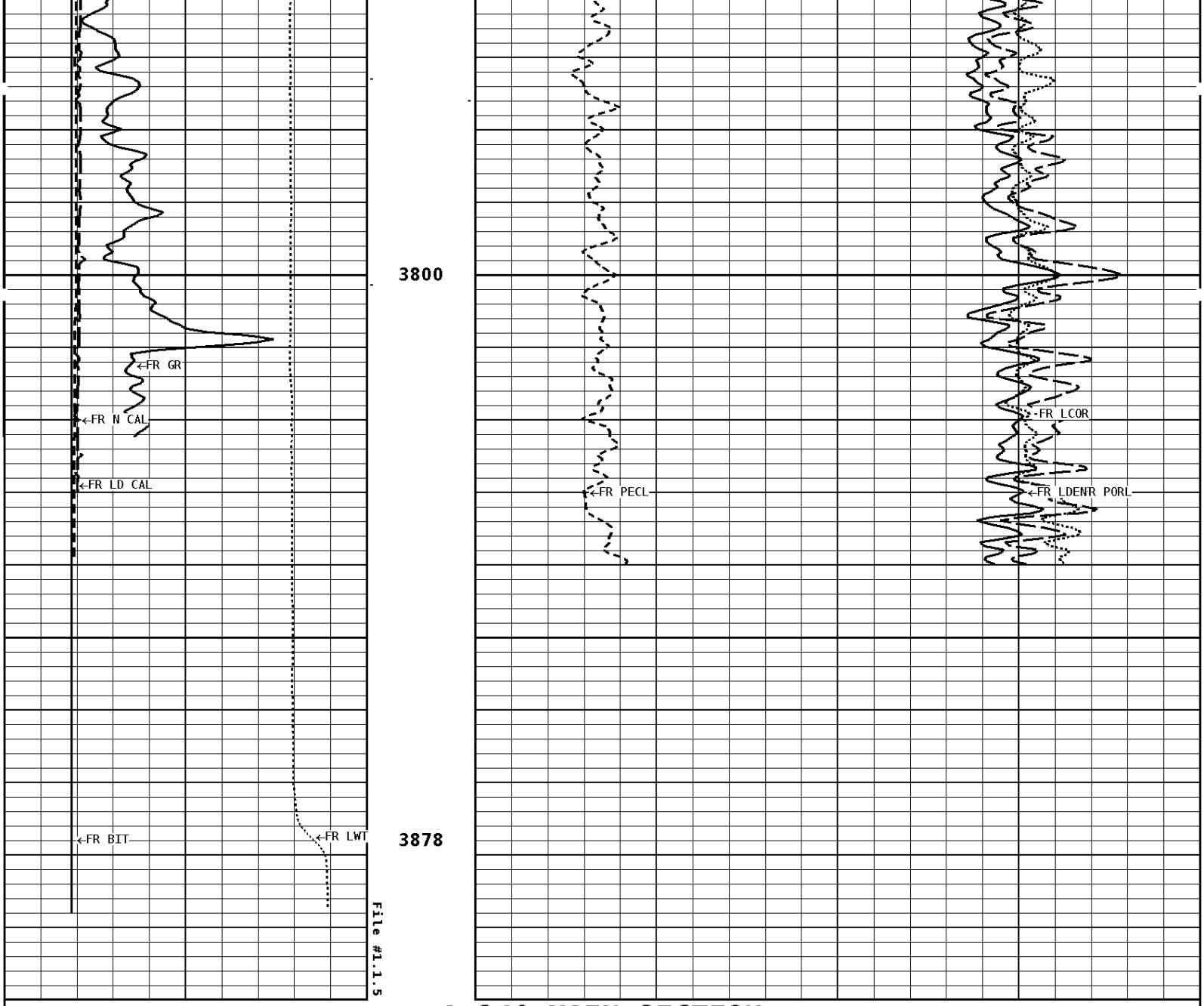

2700
--400Cu.Ft
200Cu.Ft--
2800
←GR
←N CAL
←LD CAL
←PECL
←LDENDR
←LCOR


BIT
LWT
2900
300Cu.Ft
3000
3100


3200
--200Cu.Ft
3300
100Cu.Ft--


←GR
←N CAL
←LD CAL
←PECL
←LDENORPORL
←BIT
←LWT
3400
3500


--100Cu.Ft
3600
3700



1:240 MAIN SECTION

BULK DENSITY

GAMMA RAY API UNITS	-BHV AHV- CU.FT	DENSITY POROSITY (2.71g/cc) PERCENT
150 300 0 150		70 30 30 -10 -10 -50
TENSION LBS		COMPENSATED BULK DENSITY G/CC
10000 0		3.0 4.0 2.0 3.0 1.0 2.0
DENSITY (X) CALIPER INCHES (IN)		PE CROSS-SECTION BARNS/ELECTRON / DENSITY CORRECTION G/CC
16 26 6 16		0 10 / -0.25 0.25
NEUTRON (Y) CALIPER INCHES (IN)		
16 26 6 16		
BIT SIZE INCHES (IN)		

* 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	7.875	in
Casing Diameter	5.500	in
Casing Correction (PHI N)	Disable	

* Calibration Summary *

Shop Calibration
GRT-B

Performed : 27-JUN-2013 Time : 09:38
Sensor Suite : GR-GR5 ID : GRT-BB-117

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	53	363	CPS	175	GRAPI

Shop Calibration
CNT-AA

Performed : 27-JUN-2013 Time : 13:55
Sensor Suite : CALI-BCN ID : NDT-AE-403

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	7.6	13.6	6.0	12.0	IN.

Performed : 27-Jun-2013 Time : 14:00
Sensor Suite : BHC NEUT ID : CNP-AA-103
Source ID : N-1044

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	4.0957	3.6893	3.7154	
Porosity	27.2	20.5	20.9	%

Shop Calibration
LDT-DA

Performed : 27-MAR-2013 Time : 12:04
Sensor Suite : CALI-LTH ID : NDT-AH-148

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	7.4	11.8	6.0	12.0	IN.

Performed : 27-Jun-2013 Time : 10:23
Sensor Suite : BHCPELNG ID : LDP-DA-47
Source ID : CSV-587

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	73	407	648	284	CPS
LSW2	77	490	782	366	CPS
LSW3	281	1251	1949	1078	CPS
LSW4	347	1200	1670	1074	CPS
LSW5	33	40	42	40	CPS
LSW6	92	93	92	94	CPS
LSW7	58	60	59	61	CPS
LSW8	2	3	3	3	CPS
QS	0.227	0.217	0.219	0.213	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	102	447	1778	300	CPS
LLW2	111	828	3433	607	CPS
LLW3	445	1830	6660	1603	CPS
LLW4	594	1160	2923	1081	CPS
LLW5	66	70	85	69	CPS
LLW6	188	186	181	186	CPS
LLW7	117	118	111	119	CPS
LLW8	4	5	9	5	CPS
QL	0.233	0.226	0.241	0.222	

QL	0.233	0.220	0.241	0.222	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Shop Calibration
MST-DA

Performed : 17-JUN-2013 Time : 16:03
Sensor Suite : CALI-MSN ID : MST-DA-31

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	5.9	10.0	6.0	12.0	IN.

Performed : 17-JUN-2013 Time : 15:56
Sensor Suite : MSTDA-NI ID : MST-DA-31

Internal

	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
INV-V	0.0	30233.0		0.00	1746.00	MV
NOR-V	2.8	30800.0		0.00	1446.00	MV
IN-C	0.0	29402.0		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM

Performed : 17-Jun-2013 Time : 15:58
Sensor Suite : MSTDAMSF ID : MST-DA-31

Internal

	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
MSFC	23.5	58435.2		0.00	1522.00	UA
MSFB	32763.0	32640.7		0.00	1522.00	MA
MOM1	4.0	59312.9		0.00	1522.00	MV
MSFRA					43.30	OHMM