Tucker ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY MICRO LOG

Company TRIPLE CROWN OPERATING LLC
Well FLAX #A1-24
Field SPLITTER WEST
County GOVE
State KANSAS
Country USA
API No. 15-063-22249

File No : TUL-60438
Company : TRIPLE CROWN OPERATING LLC.
Well : FLAX #A1-24
Field : SPLITTER WEST
County : GOVE
State : KANSAS
Country : USA
API No : 15-063-22249

Location :
330' FSL & 330' FEL
SE SE SE

LSD : **Sect :** 24 **Twp :** 15S **Rge :** 26W

Permanent Datum:	KB	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	2526.00 Ft	CNT	PIT
Log Measured From:	KB	**DF**	2525.00 Ft	LDT	
Above Permanent Datum:	6.00 Ft	**GL**	2520.00 Ft	MLT	

Date	03-31-2015			
Run Number	1			
Depth--Driller	4530.0 Ft			
Depth--Logger	4531.0 Ft			
First Reading	4508.0 Ft			
Last Reading	2500.0 Ft			
Casing--Driller	225.0 Ft			
Casing--Logger	225.0 Ft			
Bit Size	7.875 In			
Casing Size	8.625 In			
Hole Fluid Type	WBM			
Density	9.5			
Fluid Loss	8.8			
PH/Viscosity	9.5	52.0		
Sample Source	MEASURED			
RM@Measured Temp.	0.800 @ 70 F			
RMF@Measured Temp	0.680 @ 70 F			
RMC@Measured Temp.	0.920 @ 70 F			
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	0.480 @ 120 F			
Time Circulation Stopped	03-31-2015 3:30 pm			
Max Recorded Temp.	125 F			
Equipment/Base	T-126	TULSA		
Recorded By	S.K. DAVIS			
Witnessed By	D. WILLIAMS / C.WILLIAMS			

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	4531.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
8.625	20.00	225.00	0.00

Run Number	1
Date	03-31-2015
Date/Time On Bottom	03-31-2015 5:00 pm
Depth to Fluid	0.0 Ft
Salinity	3000.000
RMF@BHT	0.410 @ 120 F
RMC@BHT	0.560 @ 120 F

Run Number 1

Comments

ALL PRESENTATION PER CUSTOMER REQUEST
GRT,CNT,LDT,PIT RUN IN COMBINATION
CALIPERS ORIENTED ON X-Y AXIS
2.71 G/CC USED TO CALCULATE POROSITY
ANNULAR & BOREHOLE VOLUME CALCULATED USING 5.5 PRODUCTION CASING
PHIN IS CALIPER CORRECTED
DETAIL IS PRESENTED FROM TD TO 2500'
ANHYDRITE SECTION FROM 1990' TO 1950'
SALT SECTION FROM 2490' TO 2320'

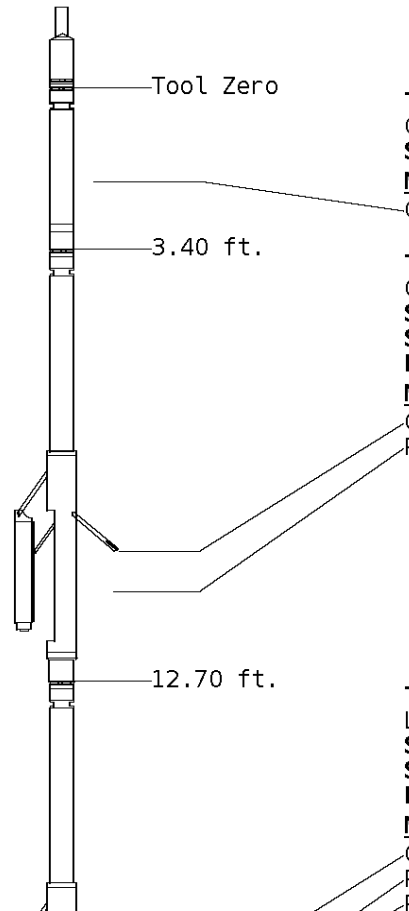
GRT; GRP,
CNT; PHIN, CLCNIN
LDT; PORL, LCORN, PECLN, LDENN, CLLDIN
MLT; NOR.RF, INV.RF, MSCLPIN.
PIT; ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS;
R. FRANKLIN

J. OFFEINGBU

Tool String Schematic

Total Tool Length - 53.57 **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-BB-013

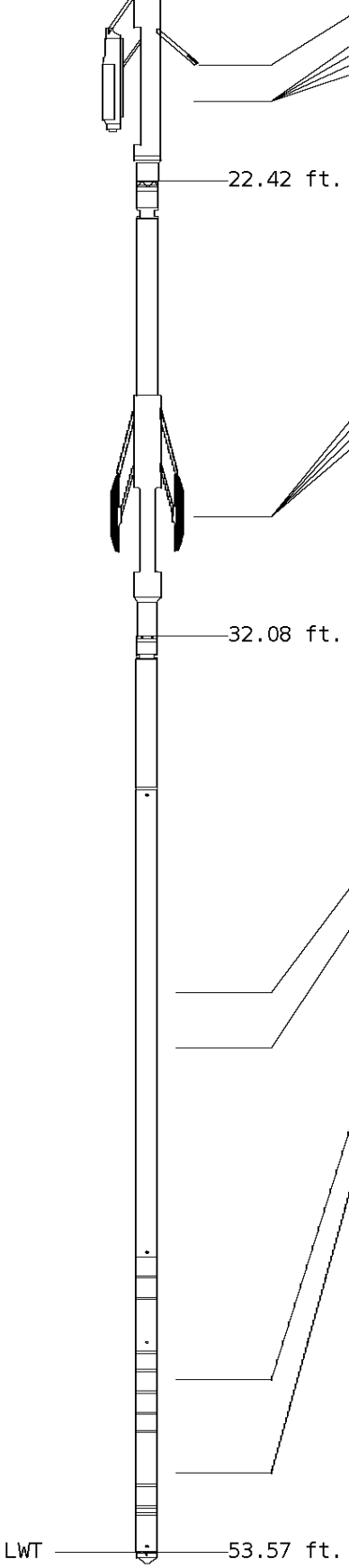
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.57

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BD-123
Source ID :N-1045
Pad ID :CNP-AA-111-

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	44.17
PHIN	6.80	10.20	43.37

Tool: LDT-DF **Length:** 9.72 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-F
Sonde ID :NDT-AH-116
Source ID :2991GW
Pad ID :LDP-DA-067

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	19.12	34.45
PEL	7.42	20.12	33.45
PES	7.82	20.52	33.05



LDEN	7.62	20.32	33.25
LCOR	7.62	20.32	33.25

Tool: MST-DA **Length:** 9.66 **ft.** **O.D.** 6.00 **in.**
Micro Spherically Focused (IC)
Sonde ID :MST-DA-26

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	30.02	23.55
MSCLP	7.60	30.02	23.55
INV	7.60	30.02	23.55
NOR	7.60	30.02	23.55

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-CA-077

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	41.00	12.56
ILM	10.10	42.18	11.39
SFLU	17.49	49.57	4.00
SP	20.60	52.68	0.88

Well File: trip-crow-flax-a1-24-mar-31 **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S5 MN **Acquired:** 2015-03/31 16:57 3.4.0-13477
Reference: 0 **Processed:** 2015-03/31 18:22 3.4.0-13477

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

BIT SIZE
INCHES (IN)

NORMAL
OHMM

6 16

0 40

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

INVERSE
OHMM
0 40

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

Volume
Quartz

PE CROSS-SECTION
BARNS/ELECTRON
0 10

DENSITY CORRECTION
G/CC
-0.25 0.25

TENSION
LBS
10000 0

Volume
Calcite

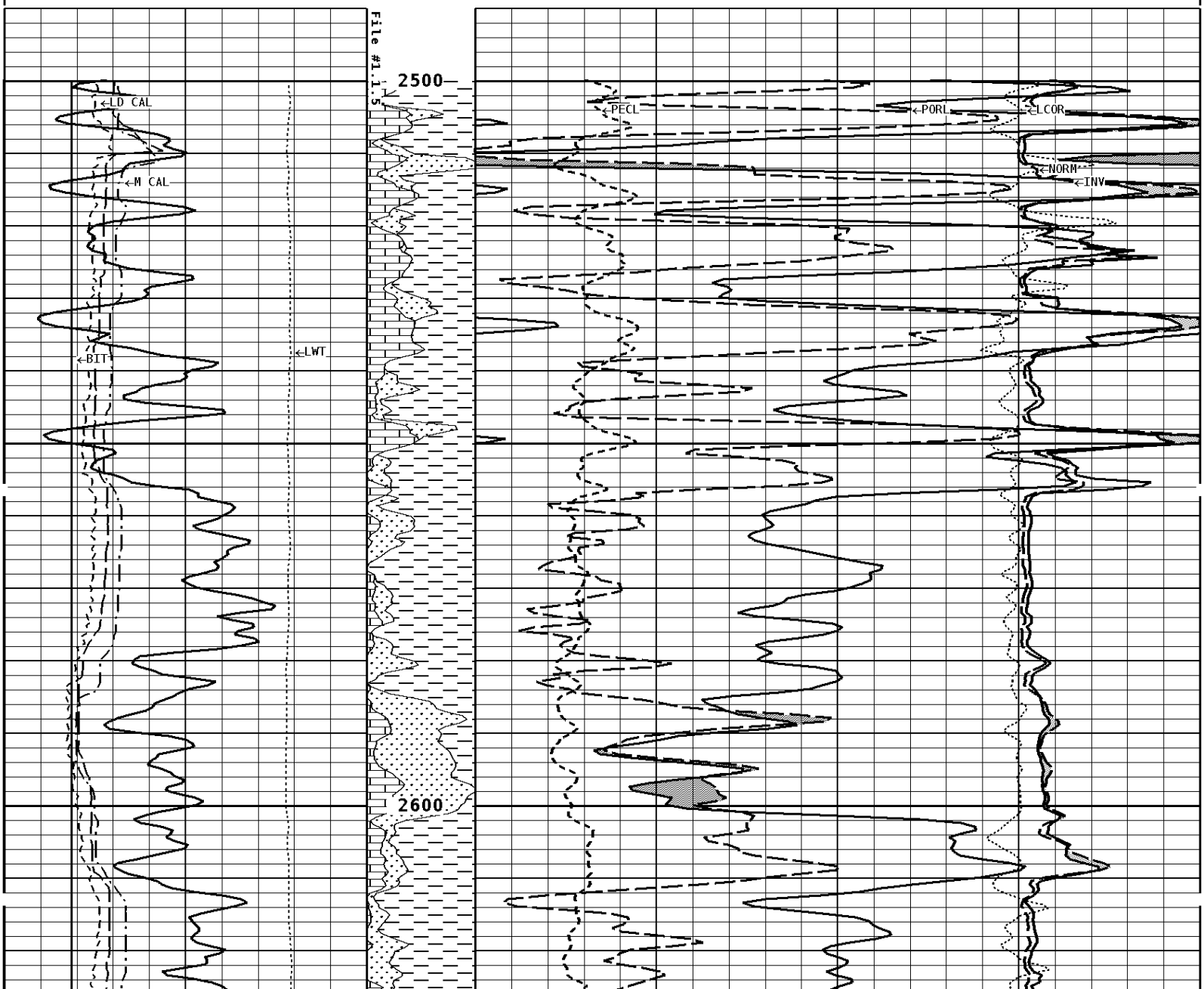
DENSITY POROSITY (2.71g/cc)
PERCENT
70 30
30 -10
-10 -50

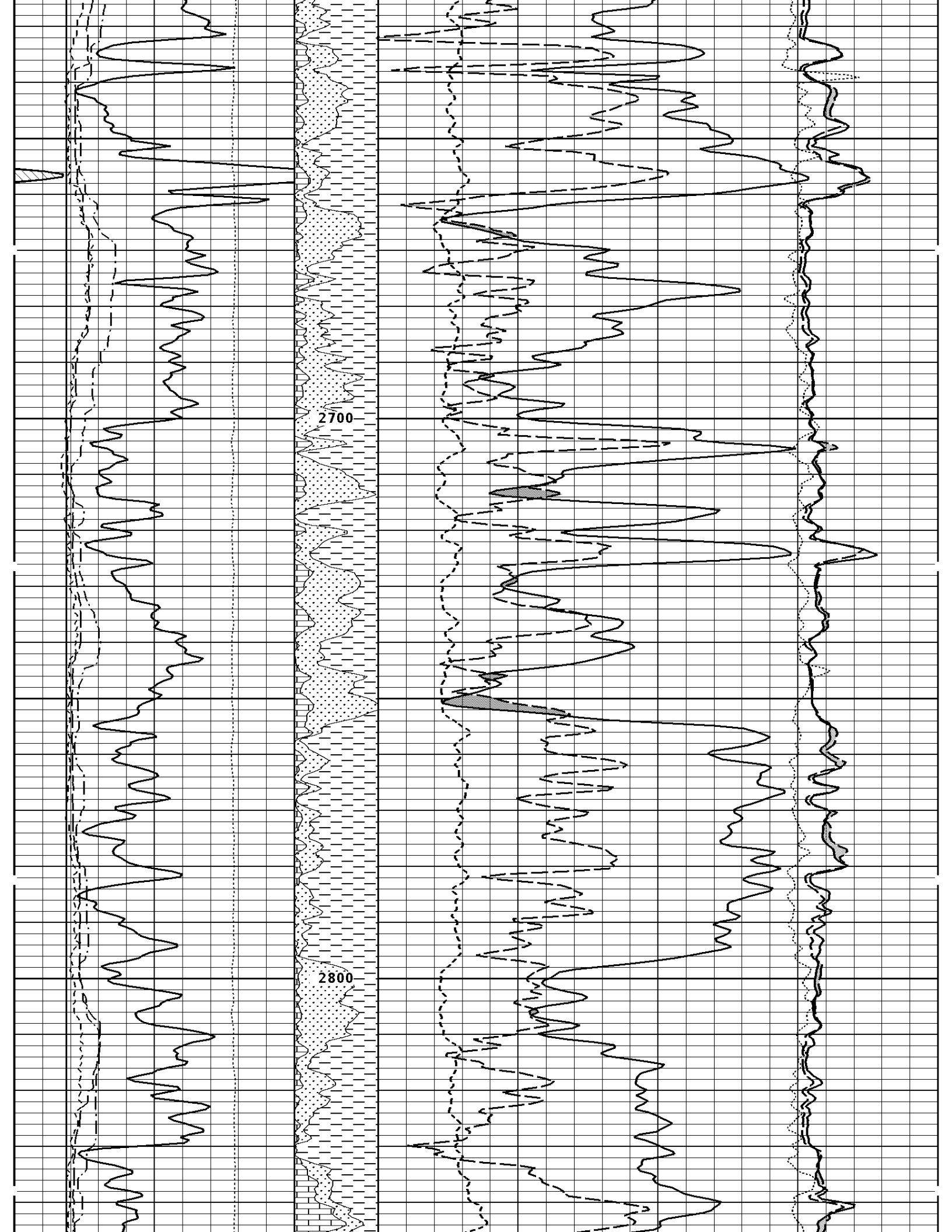
GAMMA RAY
API UNITS
150 300
0 150

Volume
Dolo/Shale

NEUTRON POROSITY (LIMESTONE)
PERCENT
30 -10

1:240 MAIN SECTION

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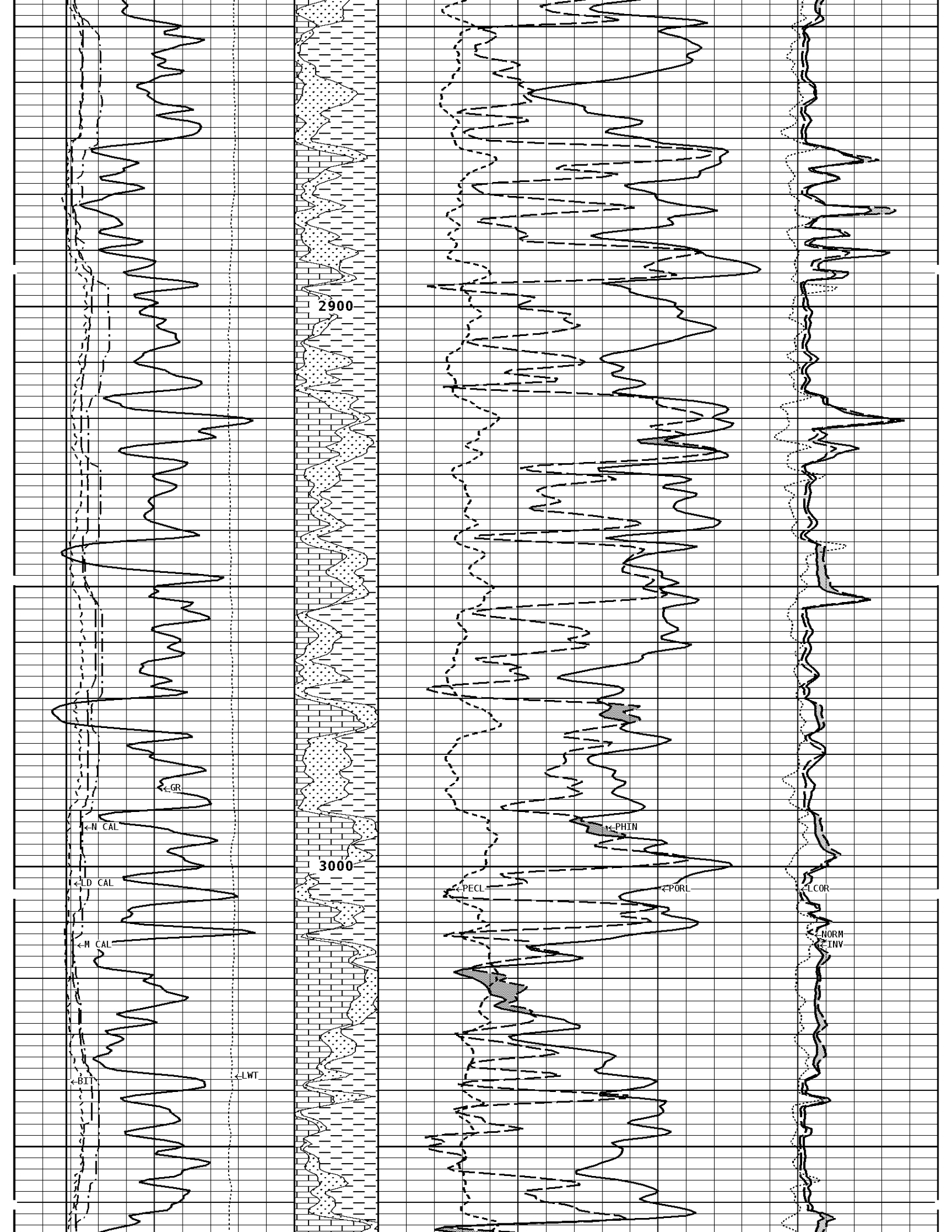
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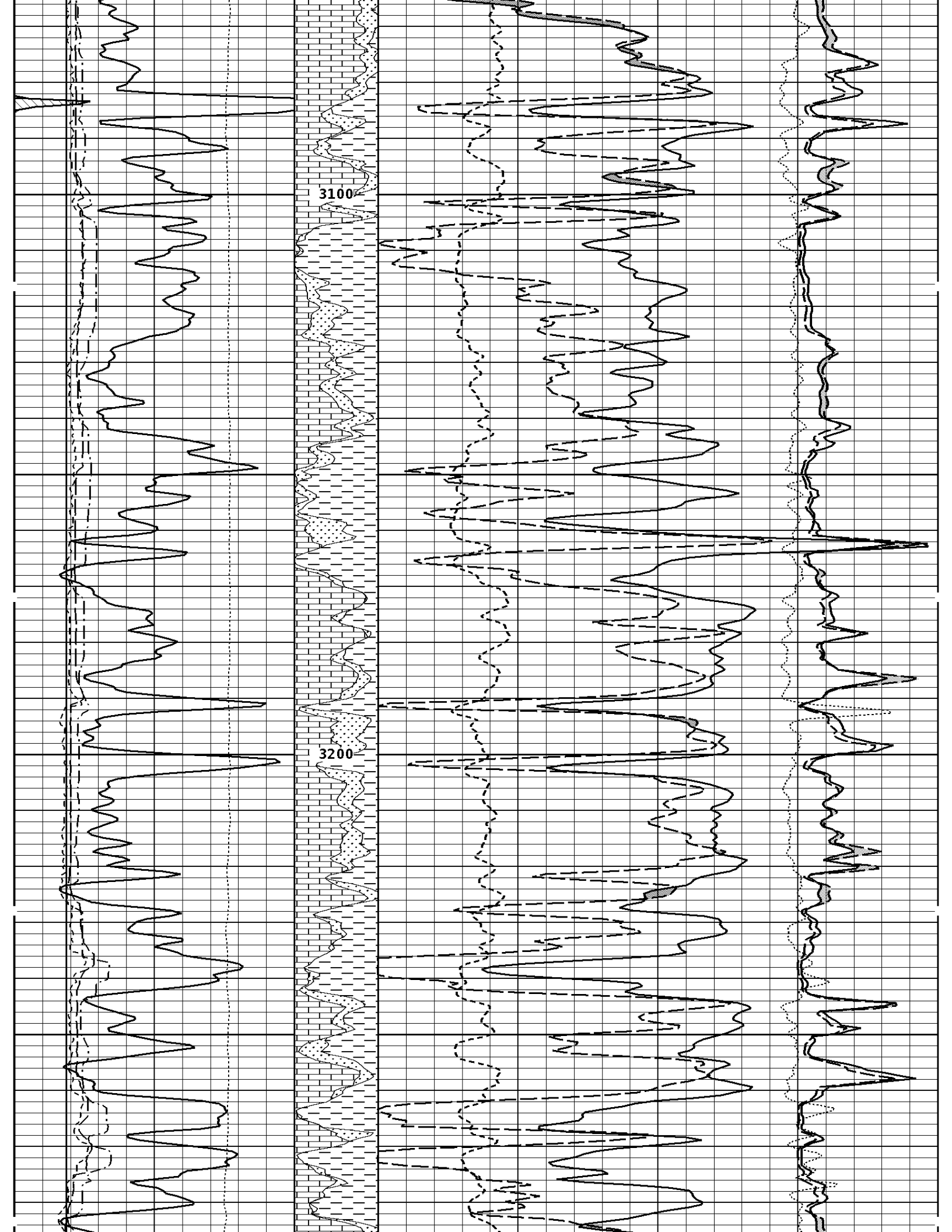
M CAL
BIT
LWT
PHIN
PECL
PORL
LCOR
NORM
INV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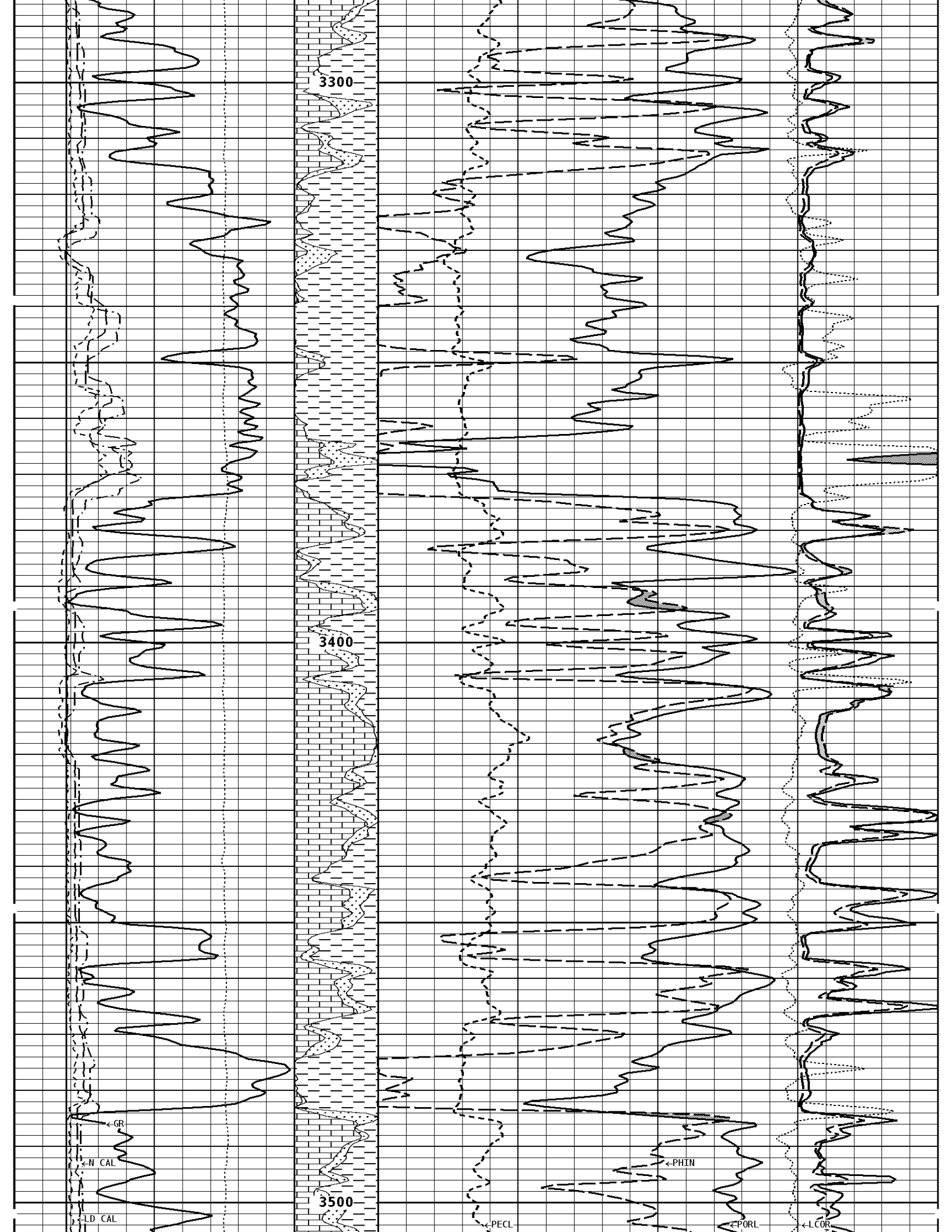
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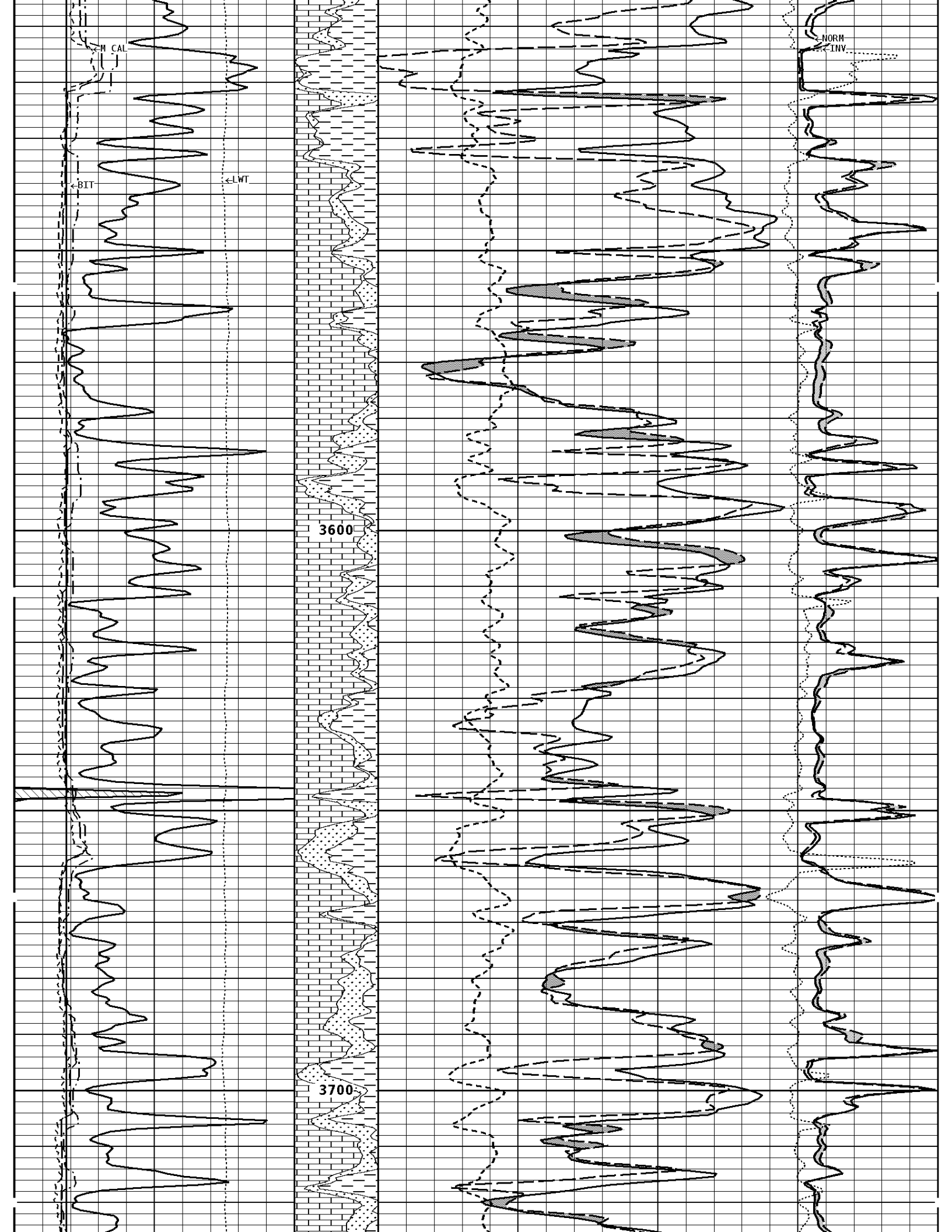
←PHIN
←PORL
←LCOR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BIT
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NORM
INV
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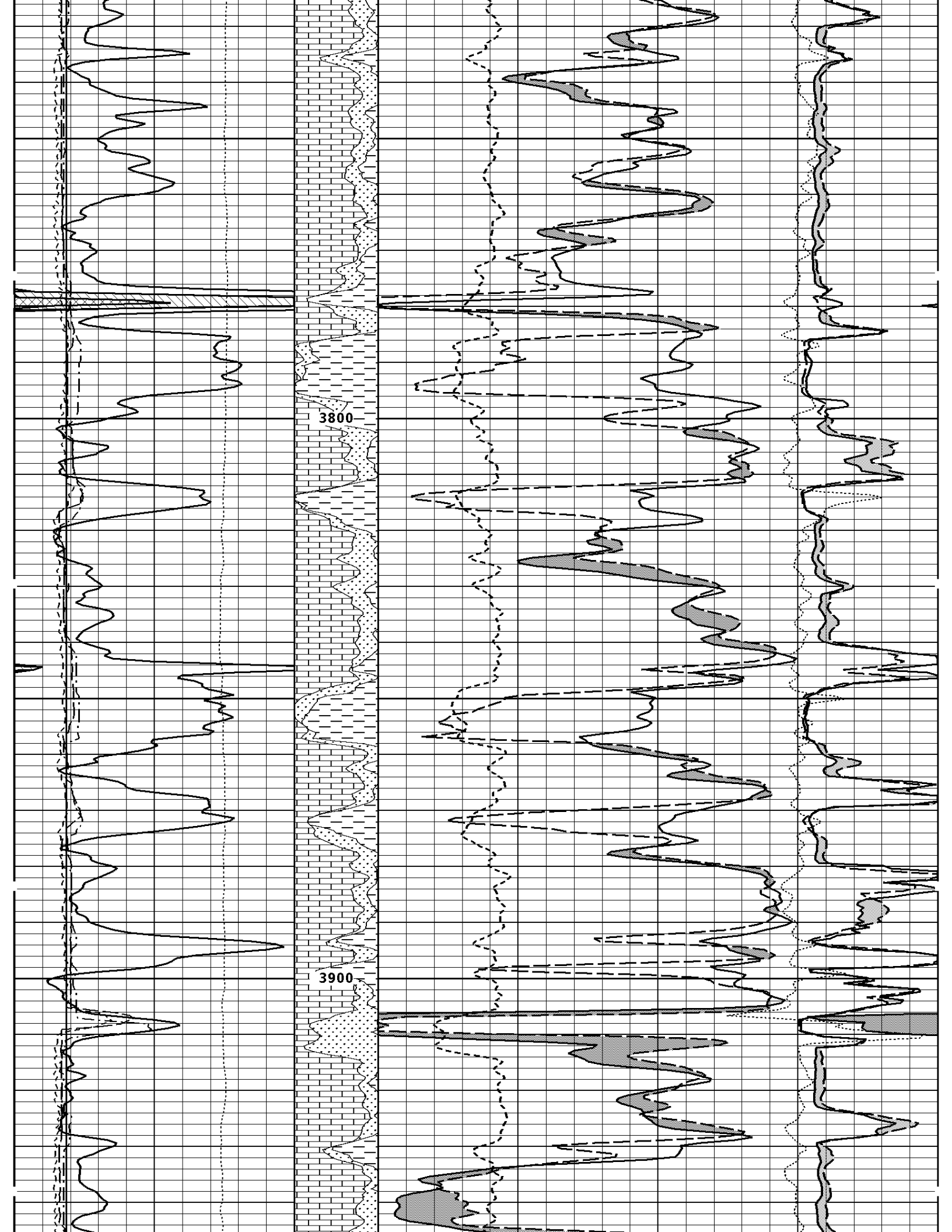
3700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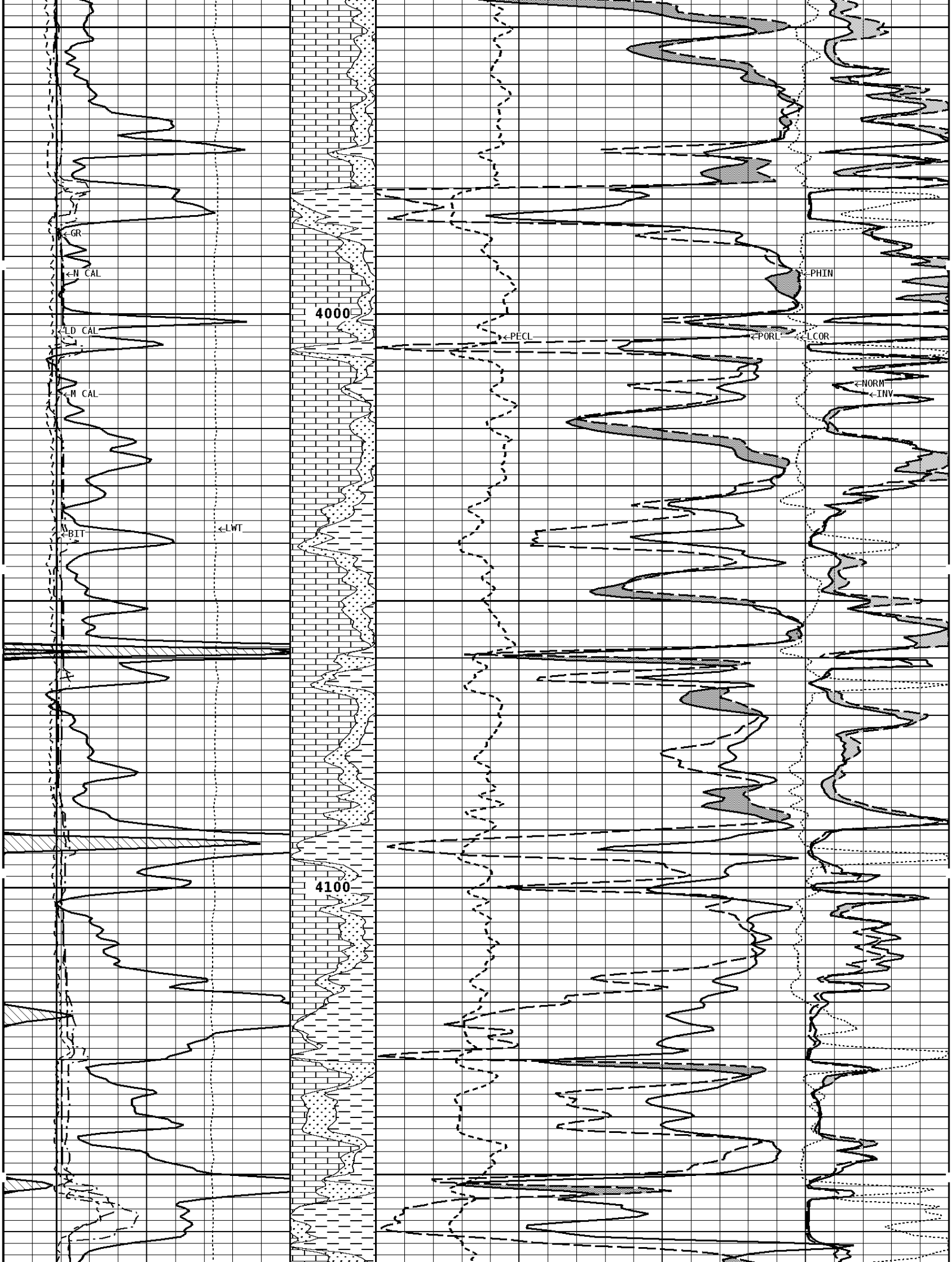
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BIT
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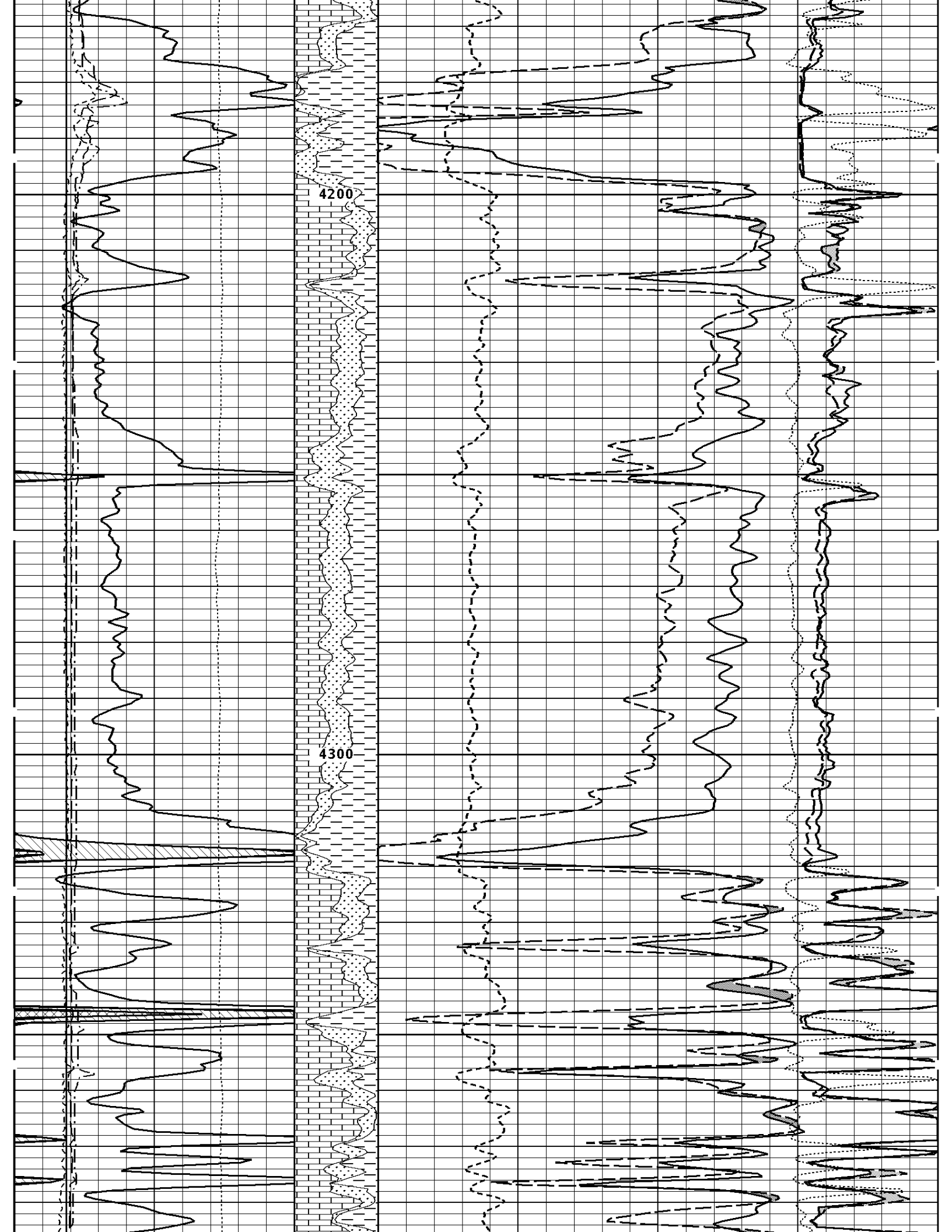
4100
PECL
PORL
LCOR
PHIN
NORM
INV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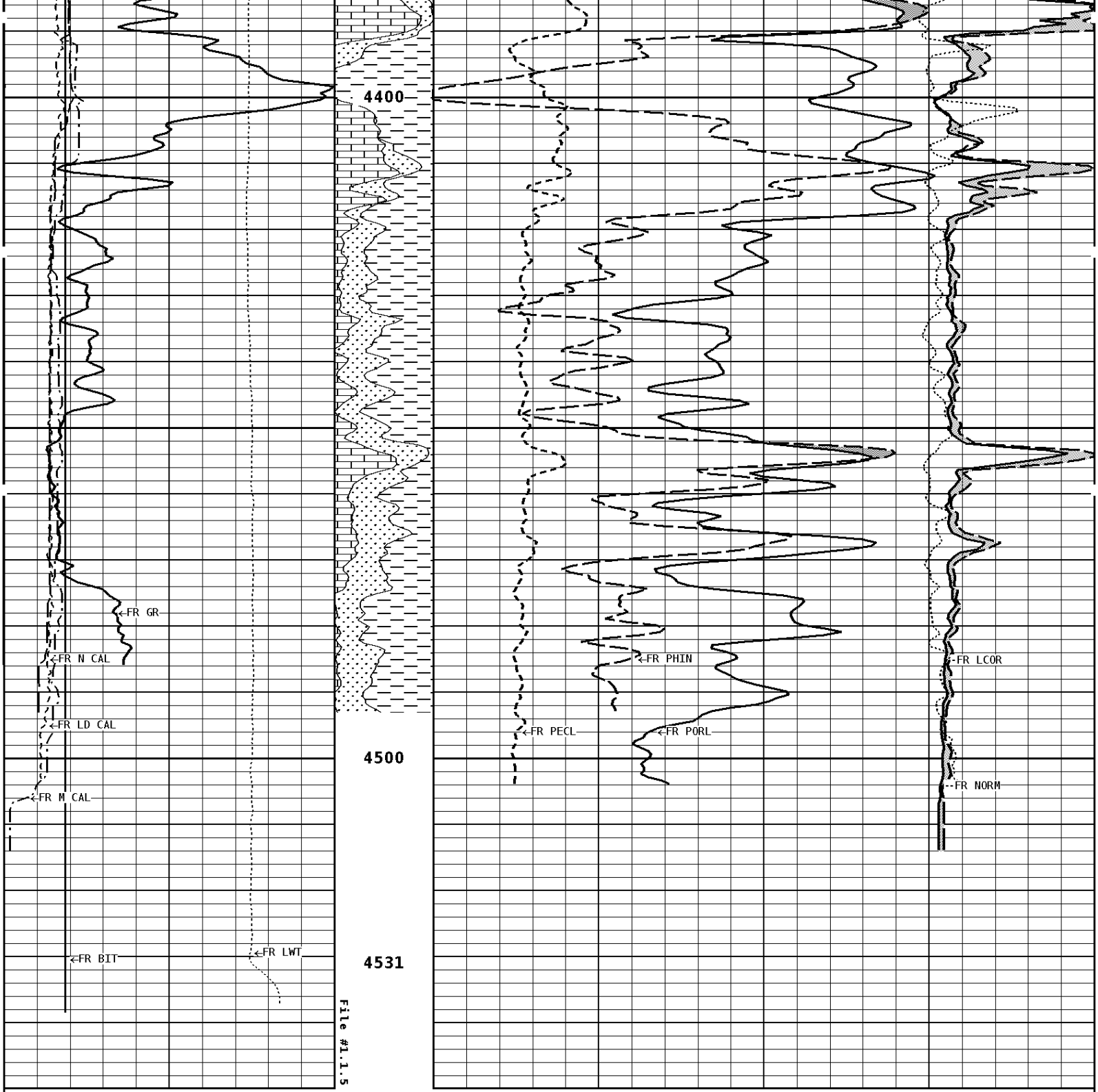


1:240 MAIN SECTION

GAMMA RAY API UNITS	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT
150 300 0 150		30 -10
TENSION LBS	**Volume Calcite**	**DENSITY POROSITY (2.71g/cc) PERCENT**
10000 0		70 30 30 -10 -10 -50
DENSITY (X) CALIPER INCHES (IN)	**Volume Quartz**	**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		INVERSE OHMM 0 40
BIT SIZE INCHES (IN) 6 16		NORMAL OHMM 0 40
CALIPER MICRO INCHES (IN) 16 26 / 6 16		

*** Borehole Zone Factors ***

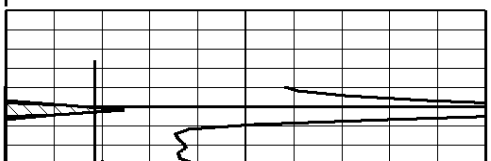
Zone 1 99999.0 to 0.0 Feet

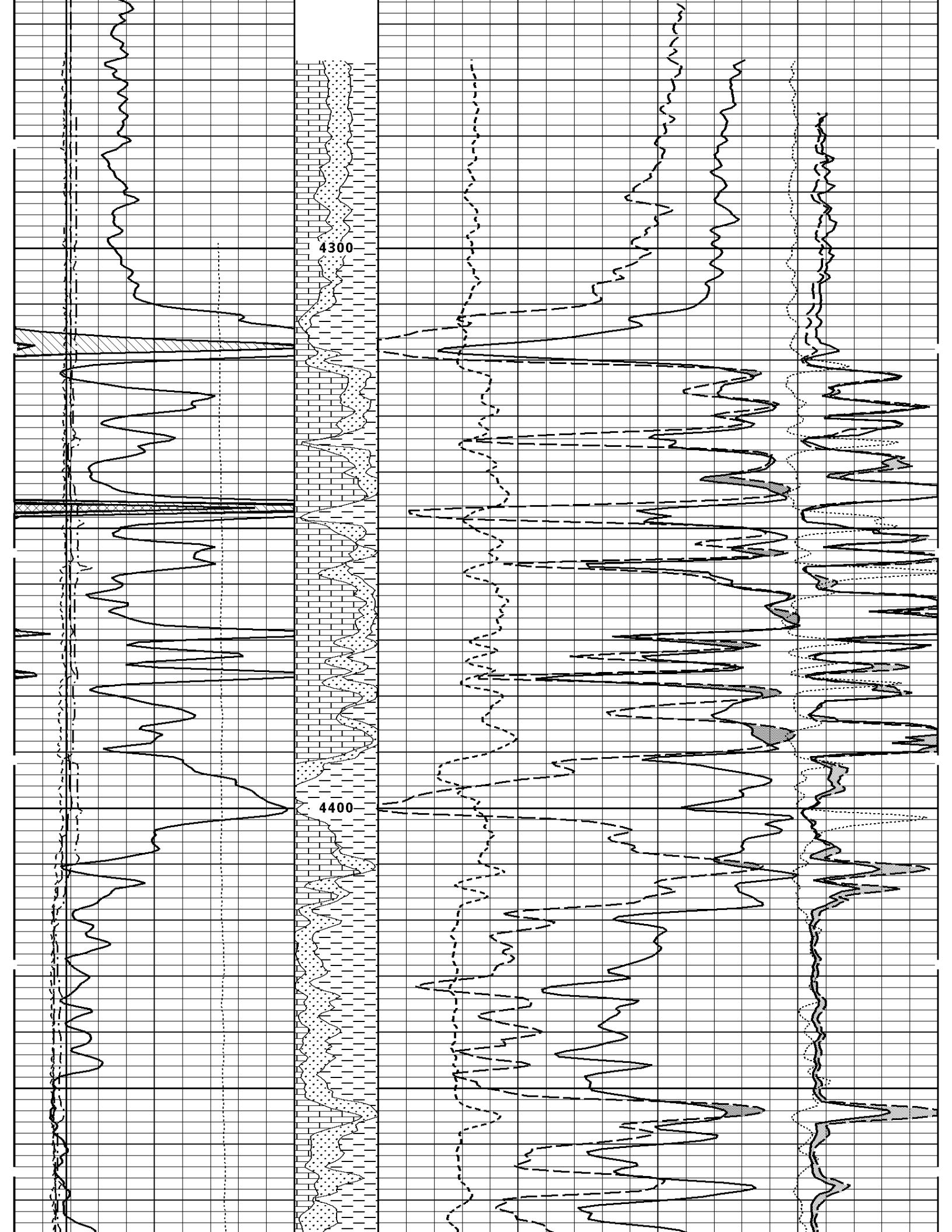
Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: trip-crow-flax-a1-24-mar-31 **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S4 RP **Acquired:** 2015-03/31 16:43 3.4.0-13477
Reference: 0 **Processed:** 2015-03/31 18:22 3.4.0-13477

CALIPER MICRO INCHES (IN) 16 26 / 6 16			
BIT SIZE INCHES (IN) 6 16			NORMAL OHMM 0 40
NEUTRON (Y) CALIPER INCHES (IN) 16 26 / 6 16			INVERSE OHMM 0 40
DENSITY (X) CALIPER INCHES (IN) 16 26 / 6 16	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON 0 10	DENSITY CORRECTION G/CC -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 150 300 / 0 150	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT 30 -10	

1:240 REPEAT SECTION

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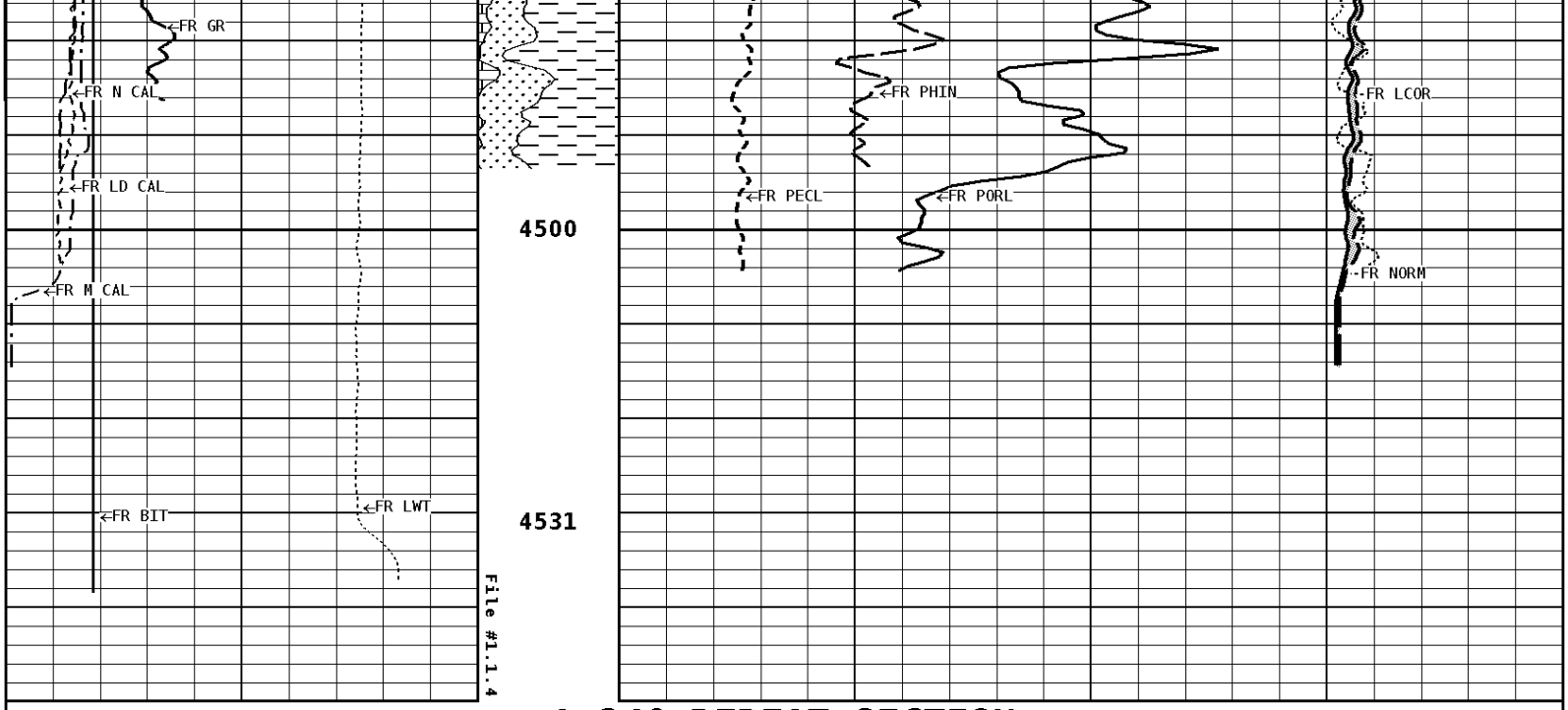


1:240 REPEAT SECTION

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

PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

DENSITY CORRECTION
G/CC
-0.25 — 0.25

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

INVERSE
OHMM
0 — 40

BIT SIZE
INCHES (IN)
6 — 16

NORMAL
OHMM
0 — 40

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

*** 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: trip-crow-ftax-a1-24-mar-31 **Scale:** 1:240 **Format:** NED-240
Segment: V1.D1.S6 DOL RP **Acquired:** 2015-03/31 16:43 3.4.0-13477
Reference: 0 **Processed:** 2015-03/31 18:35 3.4.0-13477

CALIPER MICRO
INCHES (IN)
16 26
6 16

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

Volume
Quartz

Volume
Calcite

Volume
Dolo/Shale

PE CROSS-SECTION
BARNS/ELECTRON
0 10

DENSITY CORRECTION
G/CC
-0.25 0.25

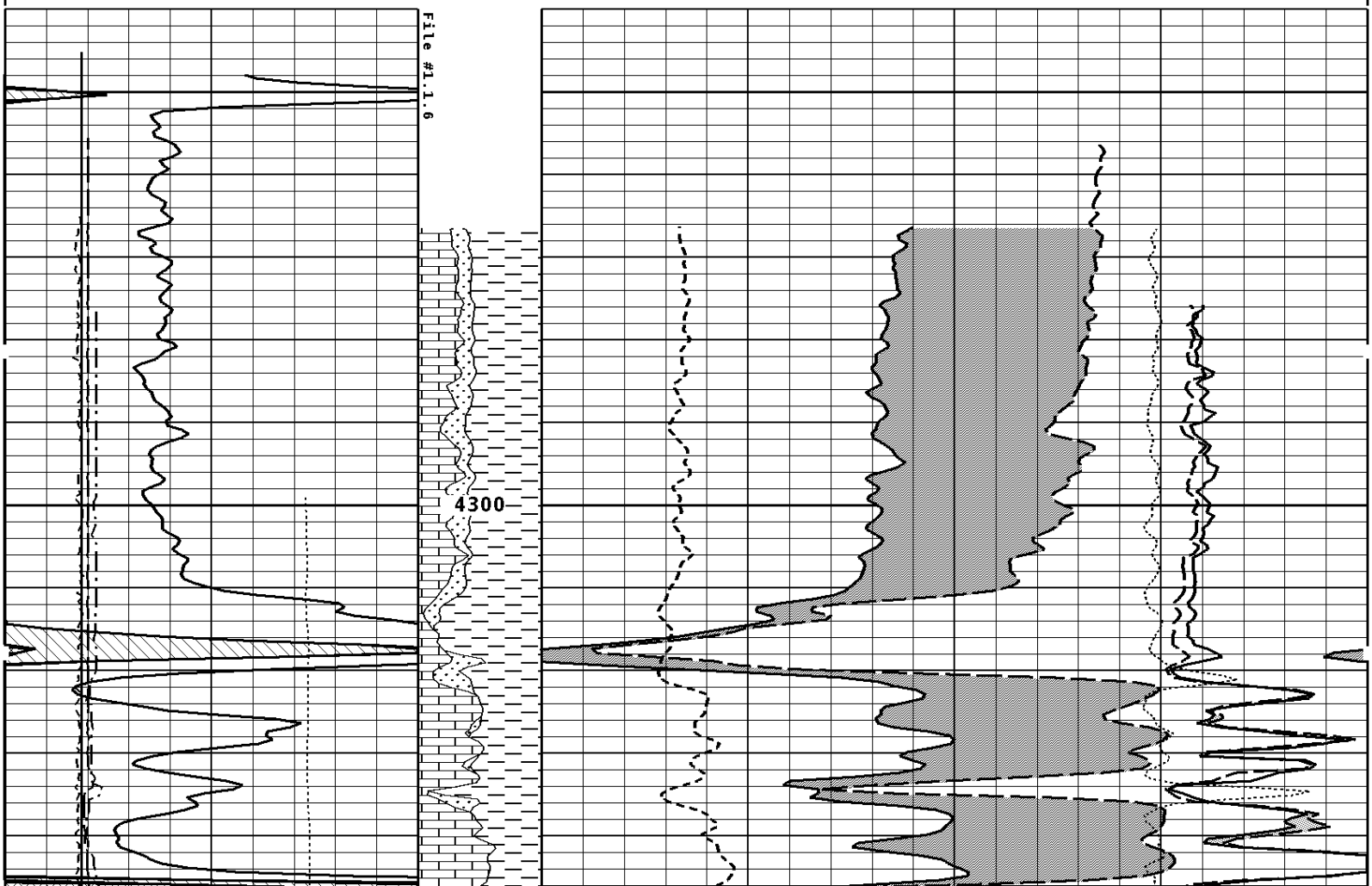
DENSITY POROSITY (2.87g/cc)
PERCENT
70 30
30 -10
-10 -50

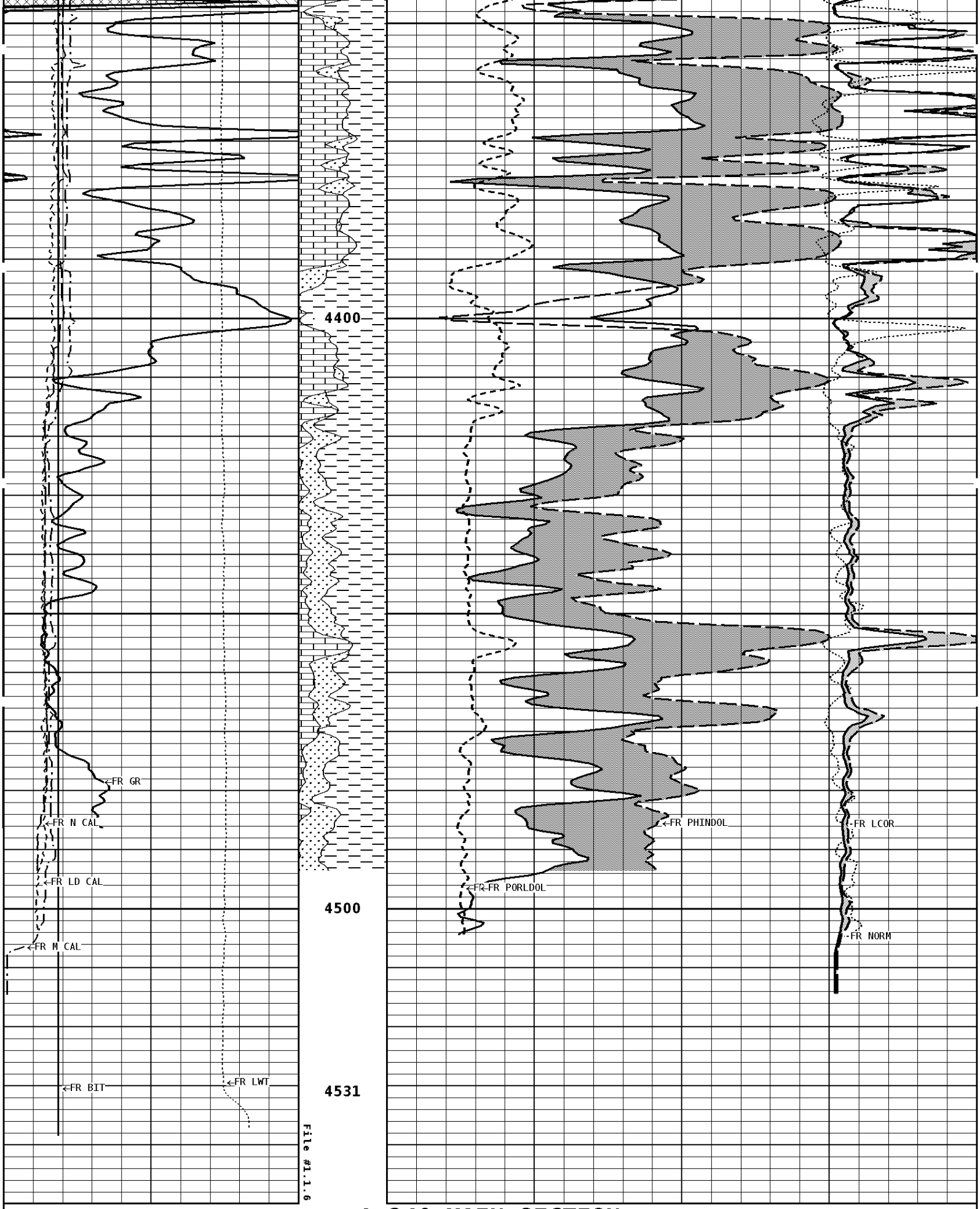
NEUTRON POROSITY (DOLOMITE)
PERCENT
30 -10

NORMAL
OHMM
0 40

INVERSE
OHMM
0 40

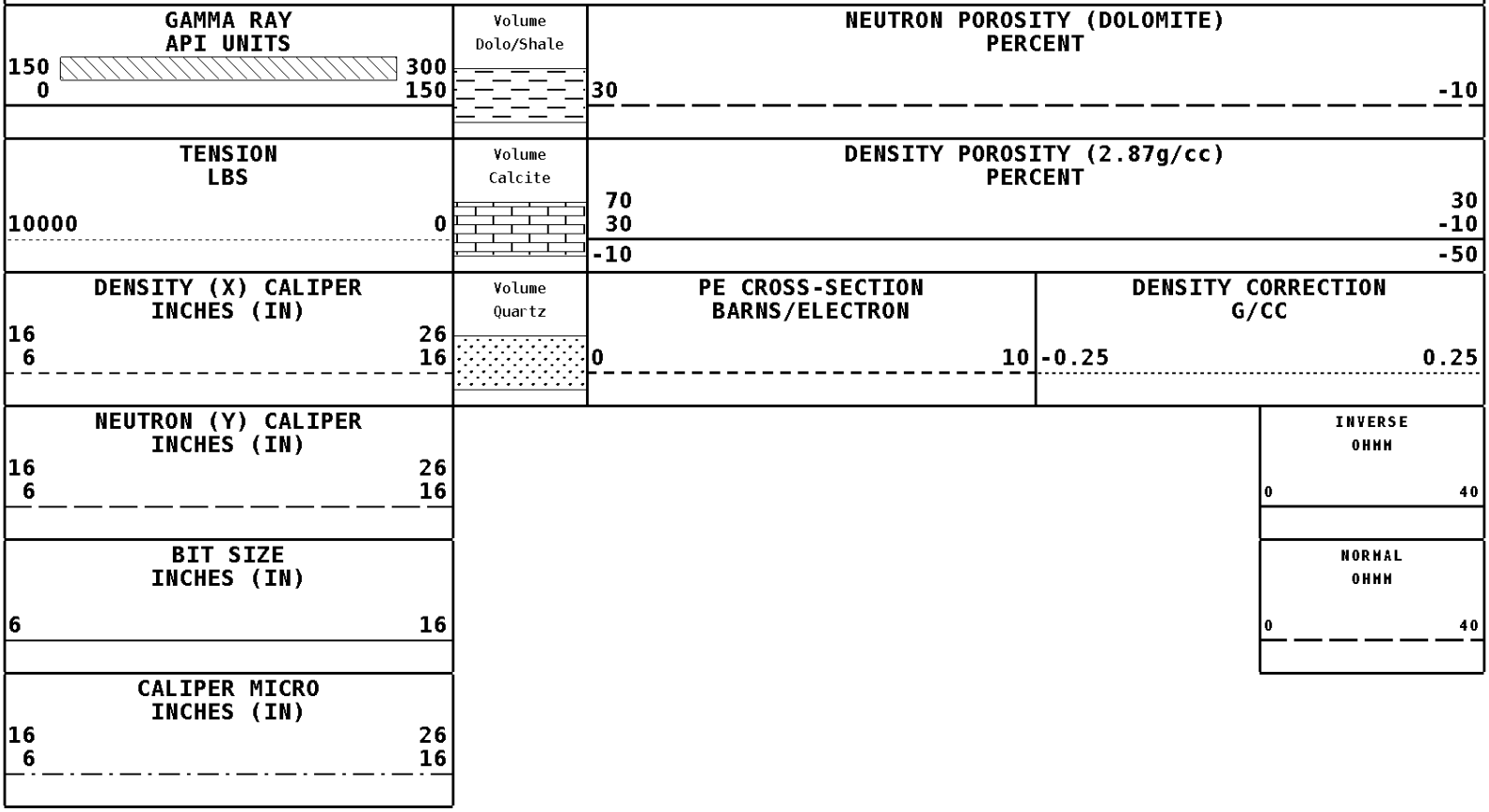
1:240 MAIN SECTION
DOLOMITE PLAYBACK





1:240 MAIN SECTION

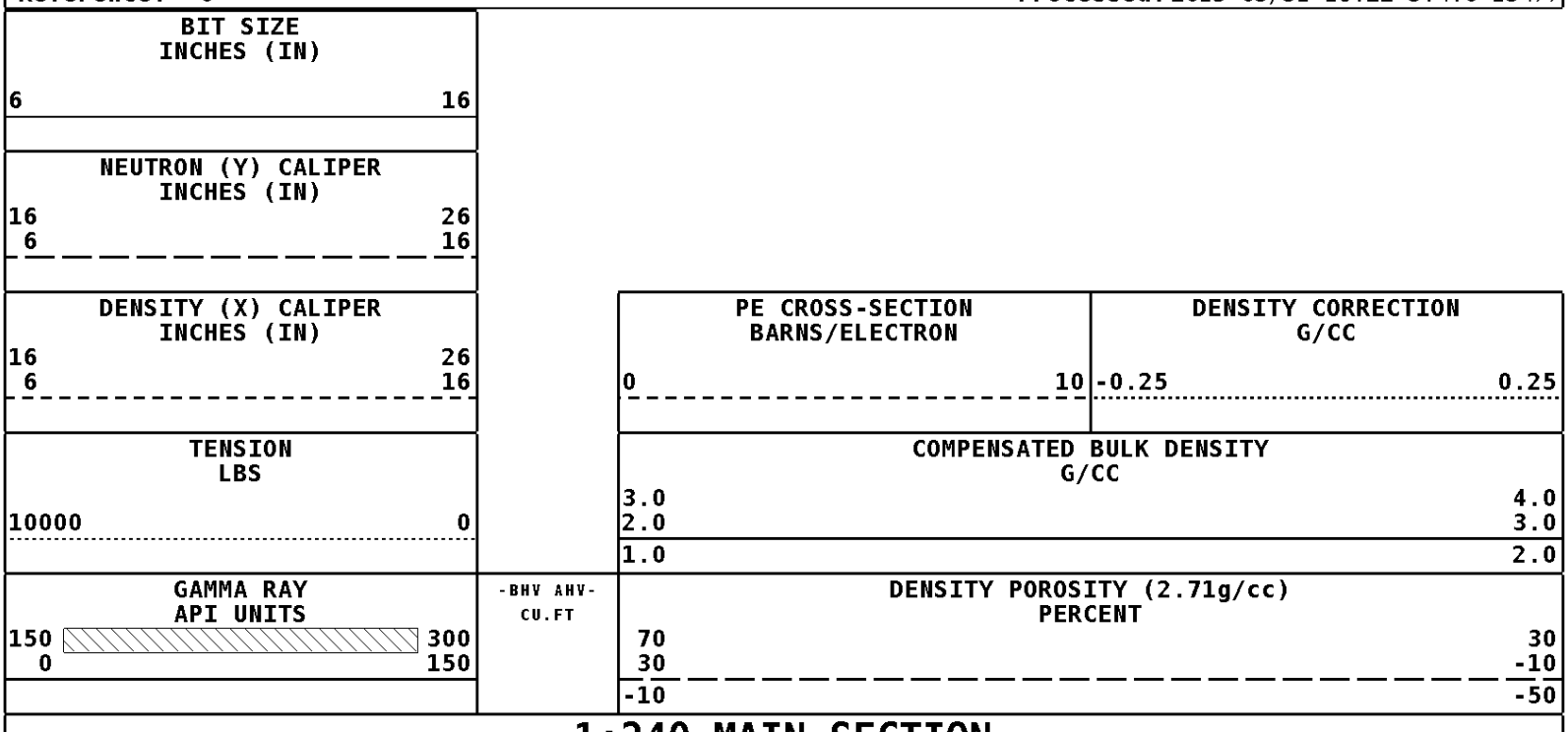
DOLOMITE PLAYBACK



*** Borehole Zone Factors ***

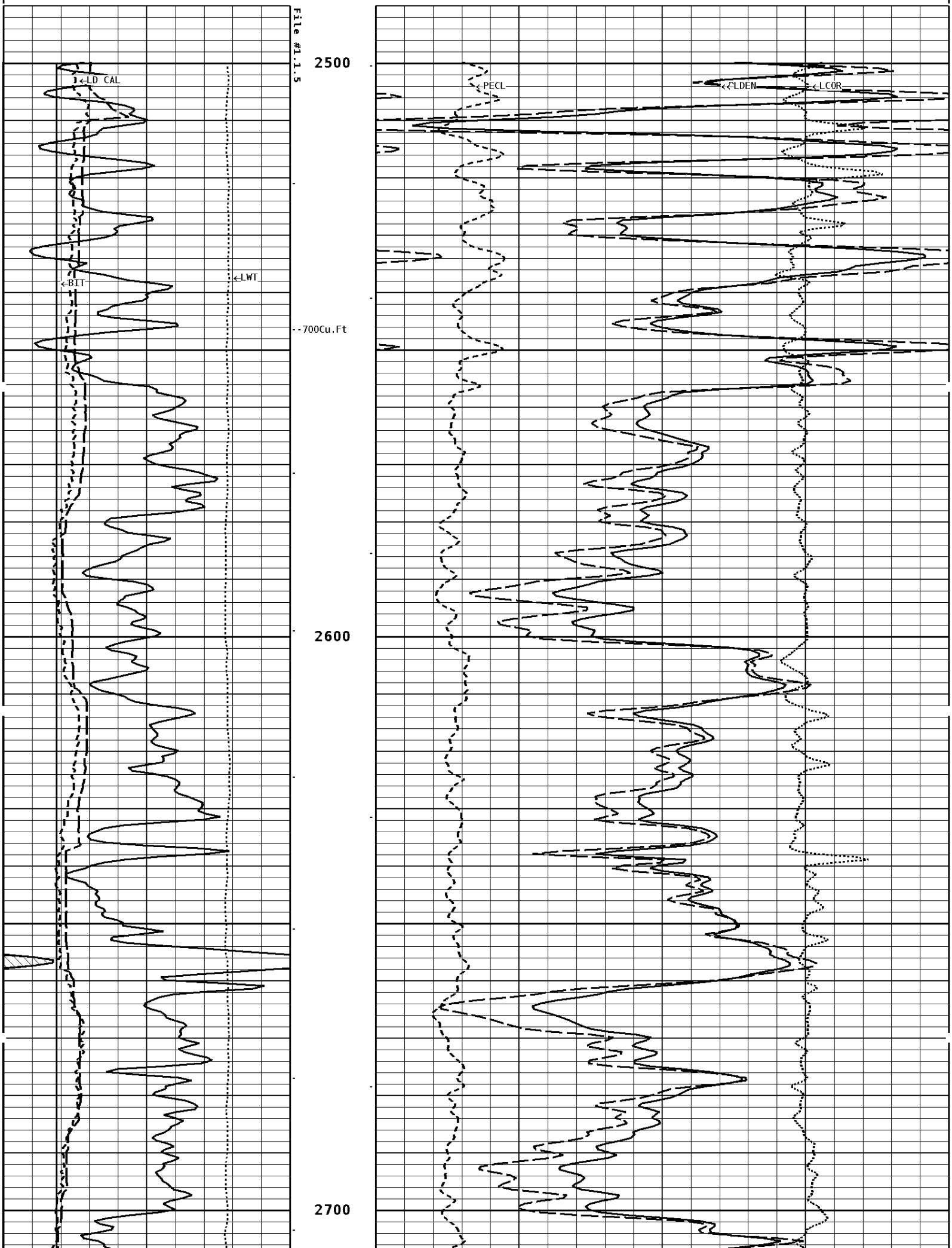
Zone 1 99999.0 to 0.0 Feet		
Fluid Density	1.00	g/cc
Drill Bit Size	7.875	in
Casing Diameter	5.500	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: trip-crow-flax-a1-24-mar-31 **Scale:** 1:240 **Format:** LDT-240
Segment: V1.D1.S5 MN **Acquired:** 2015-03/31 16:57 3.4.0-13477
Reference: 0 **Processed:** 2015-03/31 18:22 3.4.0-13477



1:240 MAIN SECTION

BULK DENSITY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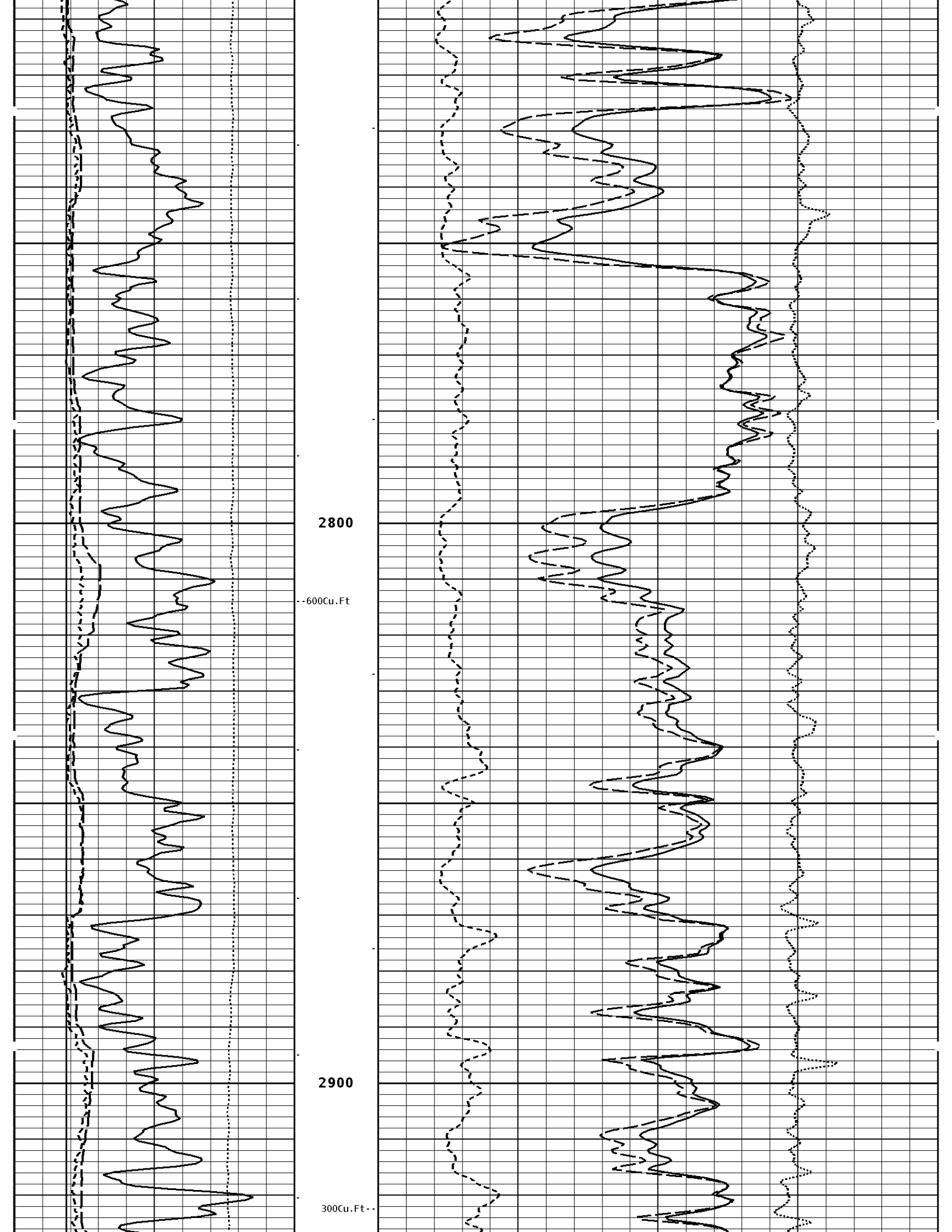
BIT
LWT
700Cu.Ft
PECL
LDEN
LCOR
2500
2600
2700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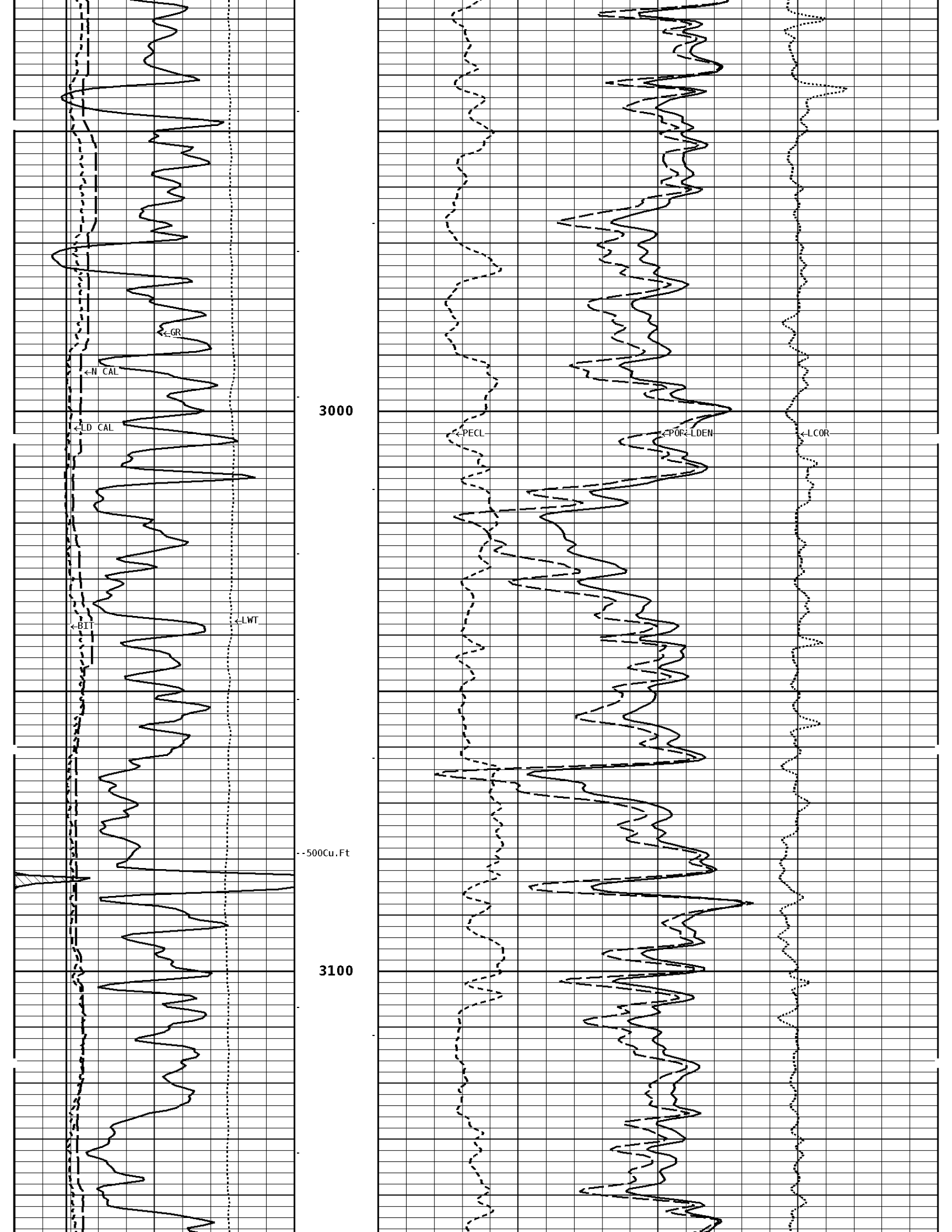
2900
300Cu.Ft--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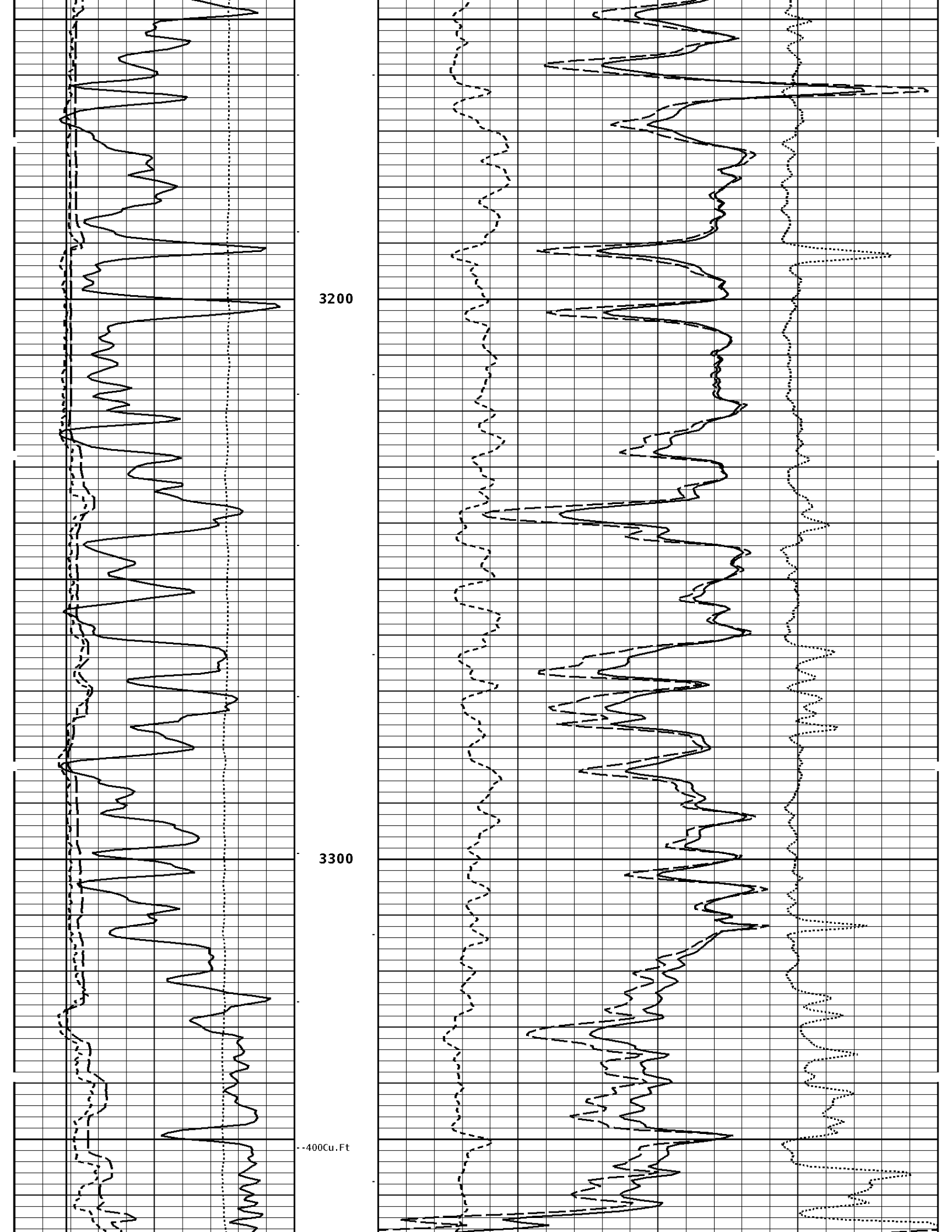
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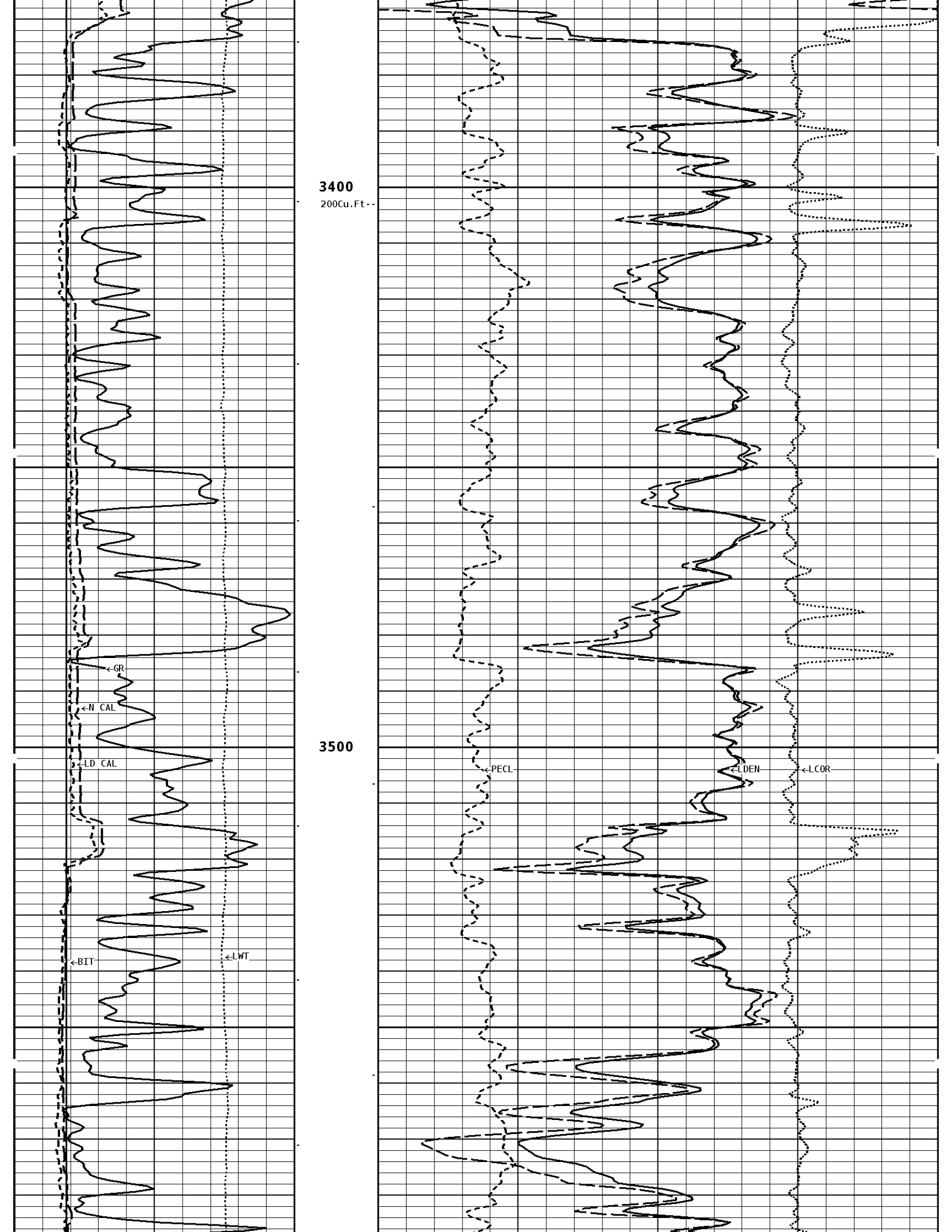
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←BIT
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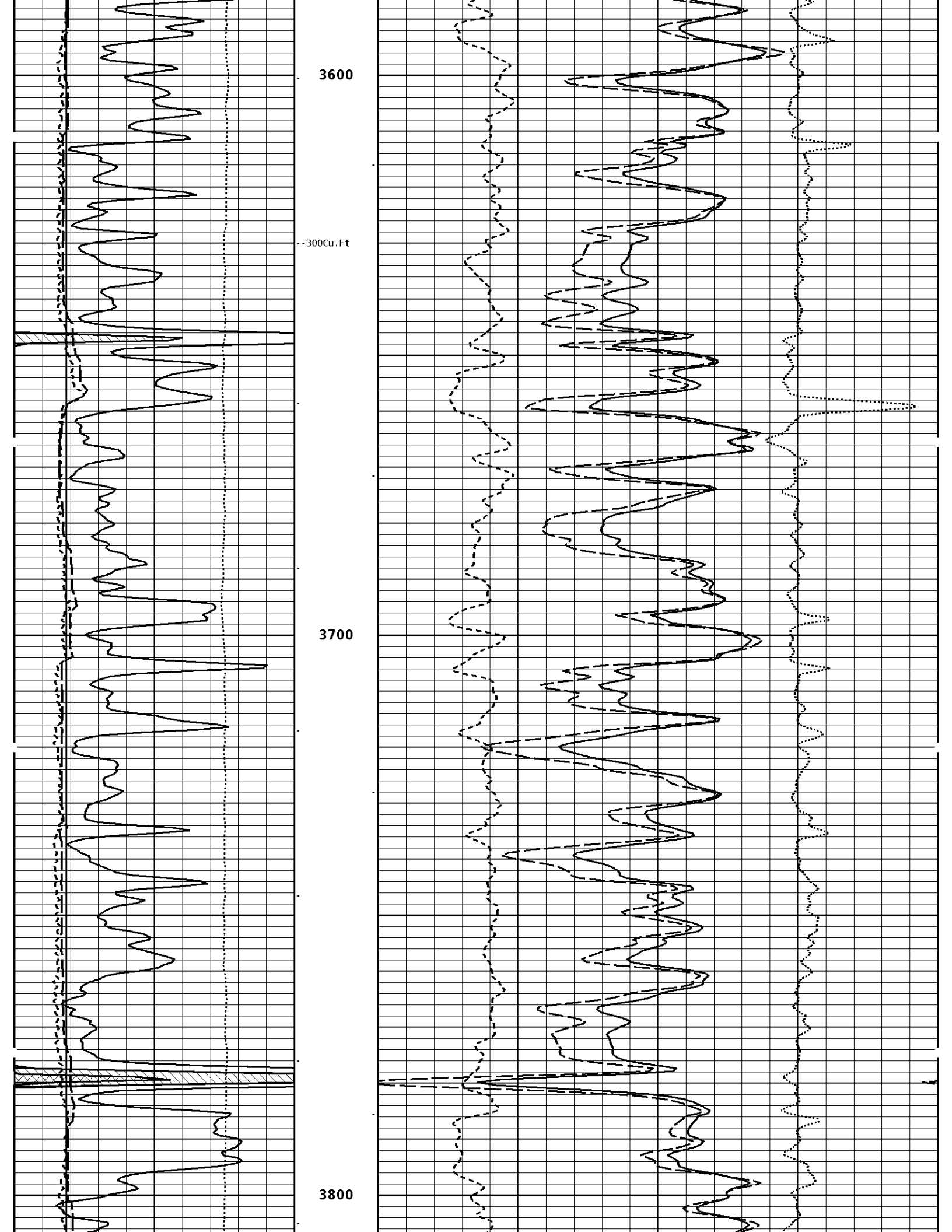
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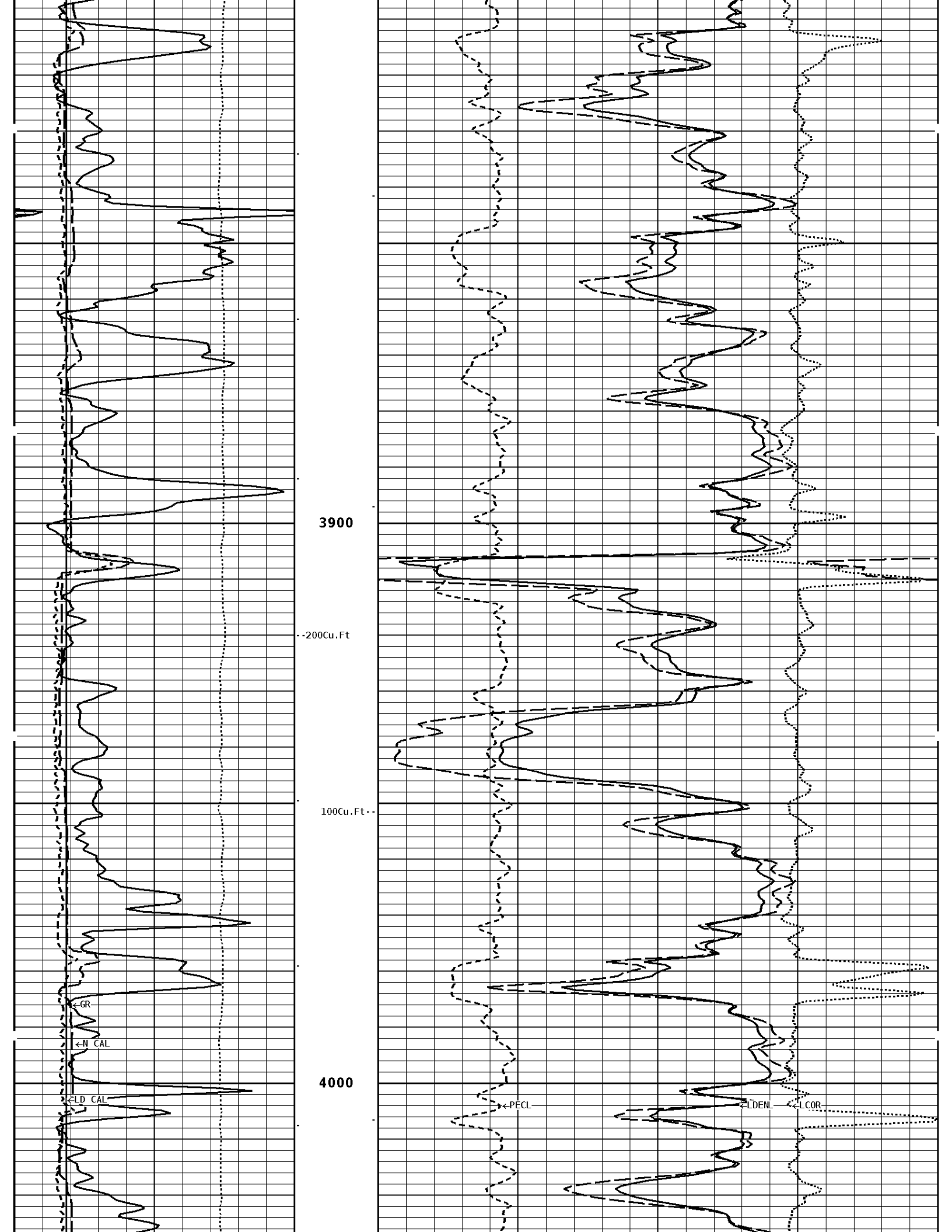
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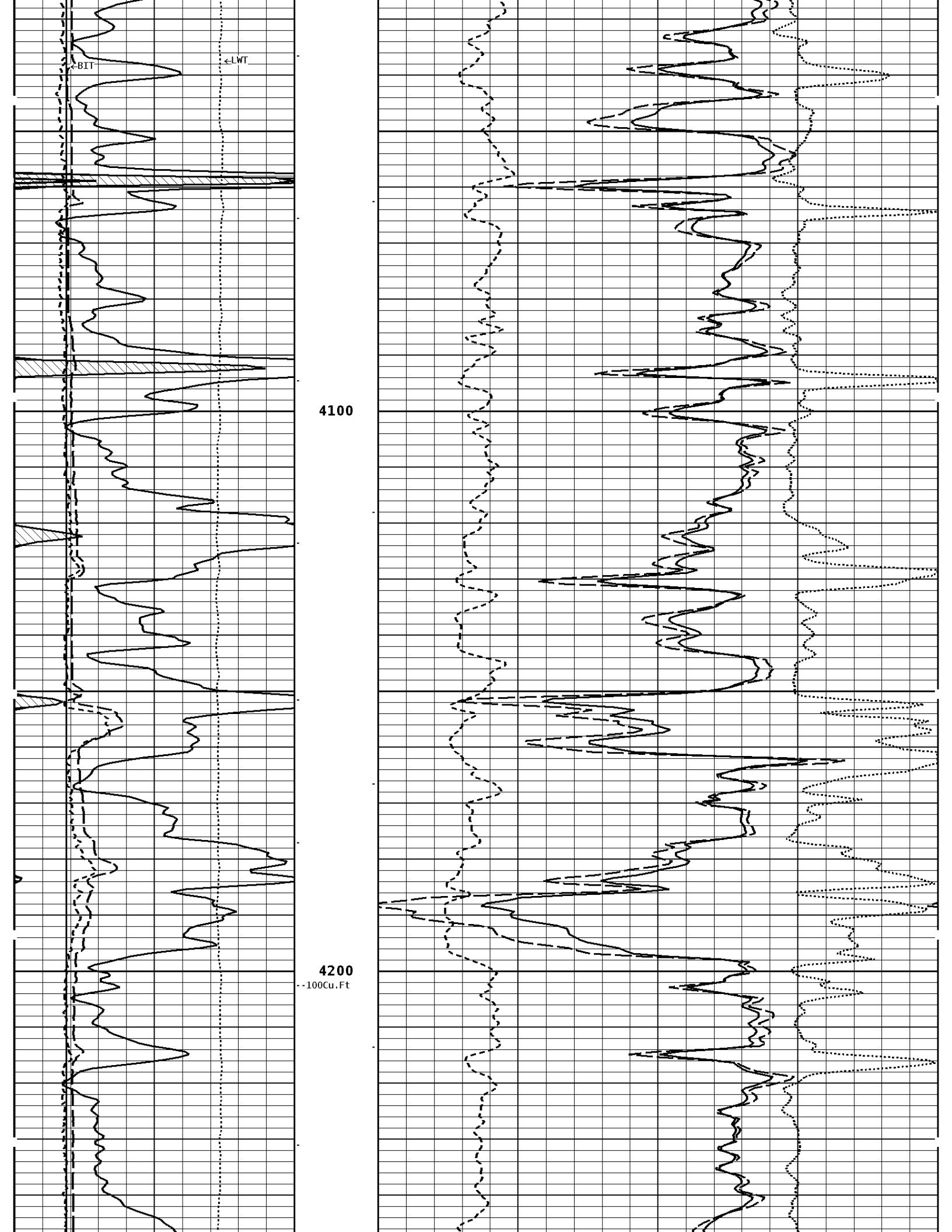
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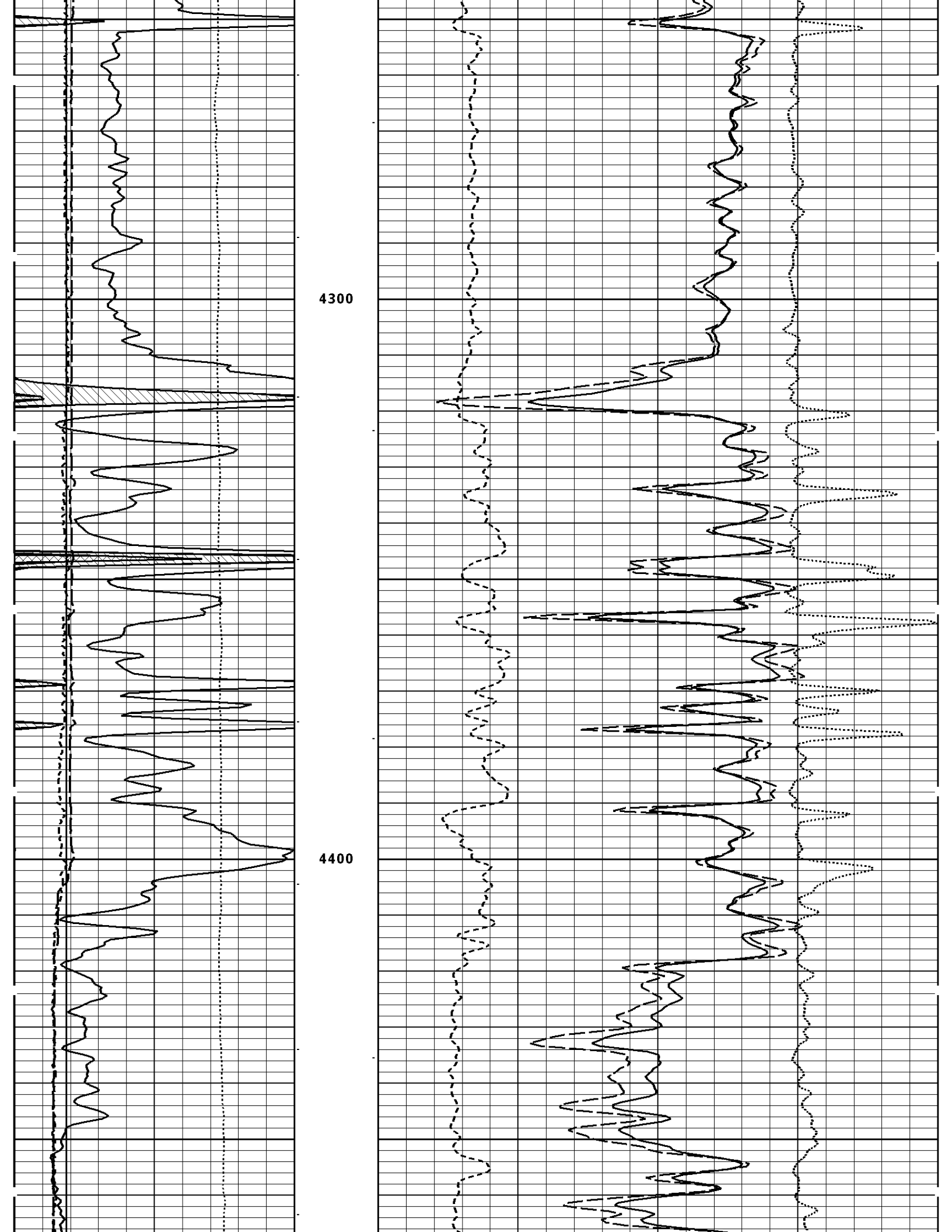
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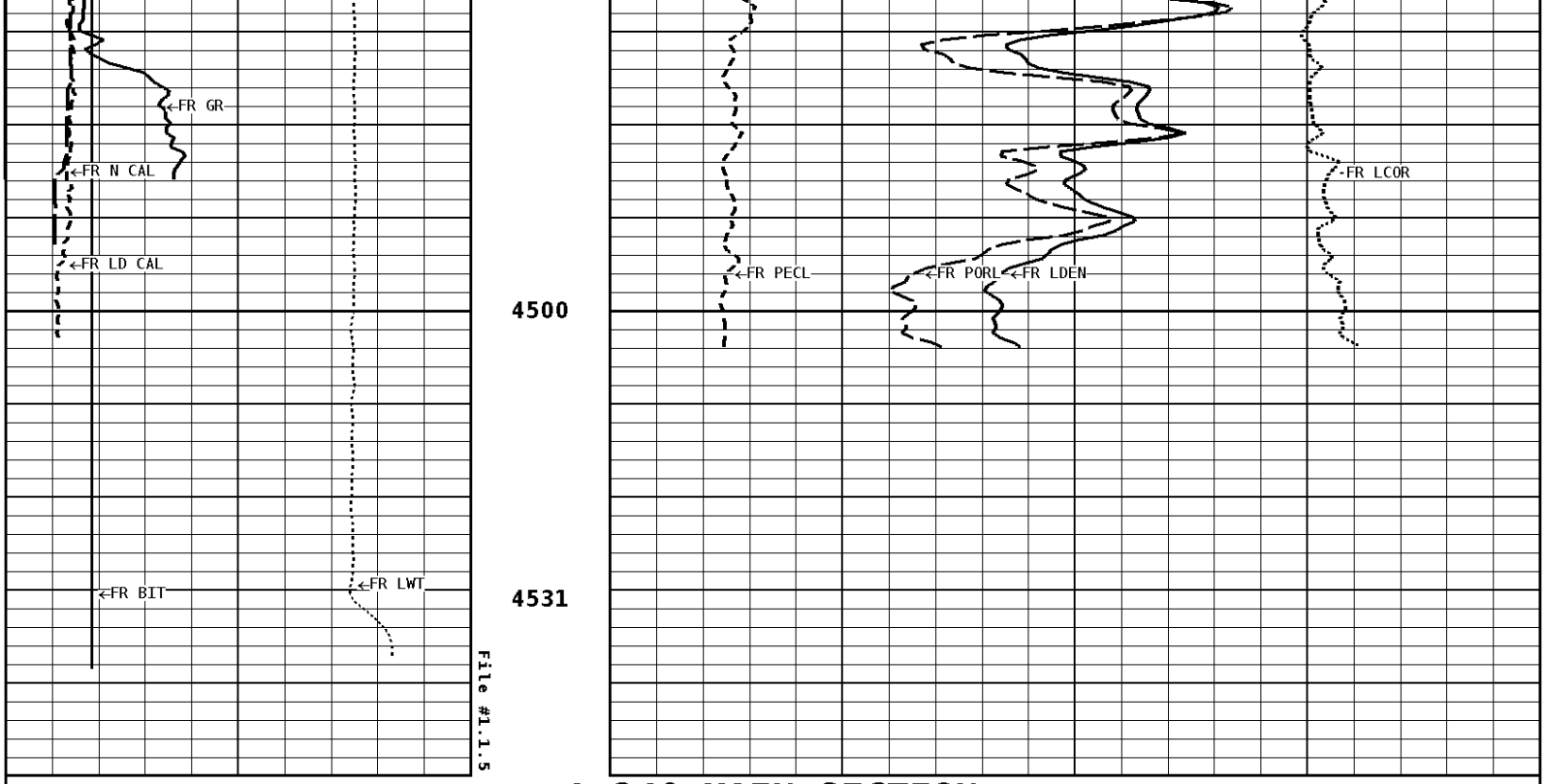

1:240 MAIN SECTION

BULK DENSITY

GAMMA RAY
API UNITS
150 — 300
0 — 150

-BHV AHV-
CU.FT

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

TENSION
LBS
10000 — 0

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

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

PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

DENSITY CORRECTION
G/CC
-0.25 — 0.25

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

BIT SIZE
INCHES (IN)
6 — 16

* 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 : 10-NOV-2014 Time : 17:59
Sensor Suite : GR-GR5 ID : GRT-BB-013

	Measured Background	Jig	Units	Calibrated Jig	Units
GR	62	380	CPS	175	GRAPI

Shop Calibration
CNT-AA

Performed : 13-MAR-2015 Time : 10:02
Sensor Suite : CALI-BCN ID : NDT-BD-123

	Jig - Measured Ring#1	Ring#2	Jig - Calibrated Ring#1	Ring#2	Units
CL # 1	9.5	14.5	6.0	12.0	IN.

Performed : 23-Mar-2015 Time : 10:31
Sensor Suite : BHC NEUT ID : CNP-AA-111-
Source ID : N-1045

	Tank Measured	Calibrated	Verification Jig	Units
N/F	3.5807	3.6893	3.6877	
Porosity	18.9	20.5	20.5	%

Shop Calibration
LDT-DF

Performed : 23-MAR-2015 Time : 13:00
Sensor Suite : CALI-LTH ID : NDT-AH-116

	Jig - Measured Ring#1	Ring#2	Jig - Calibrated Ring#1	Ring#2	Units
CL # 1	8.0	13.0	6.0	12.0	IN.

Performed : 23-Mar-2015 Time : 13:37
Sensor Suite : BHCPELNG ID : LDP-DA-067
Source ID : 2991GW

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	61	1081	1742	708	CPS
LSW2	64	1226	1949	904	CPS
LSW3	236	2799	4522	2413	CPS
LSW4	292	2518	3660	2247	CPS
LSW5	39	65	72	63	CPS
LSW6	65	70	69	70	CPS
LSW7	49	51	50	50	CPS
LSW8	10	11	13	12	CPS
QS	0.141	0.164	0.160	0.161	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	88	1216	5028	742	CPS
LLW2	99	2069	8175	1532	CPS
LLW3	369	3771	14472	3270	CPS
LLW4	471	1795	5771	1625	CPS
LLW5	51	61	111	59	CPS
LLW6	156	153	144	155	CPS
LLW7	98	97	94	98	CPS
LLW8	3	6	16	5	CPS
QL	0.231	0.221	0.214	0.223	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Shop Calibration
MST-DA

Performed : 12-FEB-2015 Time : 09:56
Sensor Suite : CALI-MSN ID : MST-DA-26

	Jig - Measured Ring#1	Ring#2	Jig - Calibrated Ring#1	Ring#2	Units
CL # 1	7.1	11.2	6.0	12.0	IN.

Performed : 12-FEB-2015 Time : 10:03
Sensor Suite : MSTDA-NI ID : MST-DA-26

Internal

	Measured Zero	Reference	Units	Calibrated Zero	Reference	Units
INV-V	87.0	29241.9		0.00	1546.00	MV
NOR-V	160.8	30370.9		0.00	1546.00	MV
IN-C	154.0	57456.8		0.00	15.46	UA

IN-C	134.0	57458.8		0.00	15.48	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM

Performed : 12-FEB-2015 Time : 10:04
Sensor Suite : MSTDAMSF ID : MST-DA-26

	Internal					
	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
MSFC	23.8	58792.3		0.00	1522.00	UA
MSFB	32762.0	62185.4		0.00	1522.00	MA
MOM1	0.0	56893.8		0.00	1522.00	MV
MSFRA					43.30	OHMM

Tucker ENERGY SERVICES

Company: TRIPLE CROWN OPERATING LLC.

Well: FLAX #A1-24

Location: 330' FSL & 330' FEL

Logged: 03-31-2015

K.B. Elev: 2526.0 Ft