Tucker WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY MICRO LOG

Company	KINNEY OIL COMPANY
Well	GRIMM # 1 - 32
Field	WILDCAT
County	NEMAHA
State	KANSAS
Country	USA
API No.	015- 131-20232-00-00

File No : TUL-57744
Company : KINNEY OIL COMPANY
Well : GRIMM # 1 - 32
Field : WILDCAT
County : NEMAHA
State : KANSAS
Country : USA
API No : 015- 131-20232-00-00

Location :
2300' FNL & 1400' FEL
NE SE SW NE

LSD : **Sect :** 32 **Twp :** 1S **Rge :** 14E

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	1275.00 Ft	CNT	CST
Log Measured From:	KB	**DF**	1274.00 Ft	LDT	PIT
Above Permanent Datum:	10.00 Ft	**GL**	1265.00 Ft	MLT	

Date	2012-04-28			
Run Number	1			
Depth--Driller	3963.0 Ft			
Depth--Logger	3955.0 Ft			
First Reading	3932.0 Ft			
Last Reading	1810.0 Ft			
Casing--Driller	262.0 Ft			
Casing--Logger	262.0 Ft			
Bit Size	7.875 In			
Casing Size	8.625 In			
Hole Fluid Type	CHEMICAL			
Density	9.4 LBS/GAL			
Fluid Loss	4.0 CC			
PH/Viscosity	9.5	48.0 SEC		
Sample Source	MEASURED			
RM@Measured Temp.	6.000 @ 74 F			
RMF@Measured Temp	4.800 @ 74 F			
RMC@Measured Temp.	7.200 @ 74 F			
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	3.894 @ 114 F			
Time Circulation Stopped	2012-04-28 10:00			
Max Recorded Temp.	114 F			
Equipment/Base	TRK 127	TULSA		
Recorded By	R. AUSTIN			
Witnessed By	J. KINNEY, S. MILLER			

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	3963.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	32.00	262.00

Run Number	1
Date	2012-04-28
Date/Time On Bottom	2012-04-28 17:55
Depth to Fluid	0.0 Ft
Salinity	500.000 PPM
RMF@BHT	3.115 @ 114 F
RMC@BHT	4.673 @ 114 F

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST

RUN 1 = GRT, CST AND MLT RUN IN COMBINATION.
RUN 2 = GRT, CNT, LDT 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.

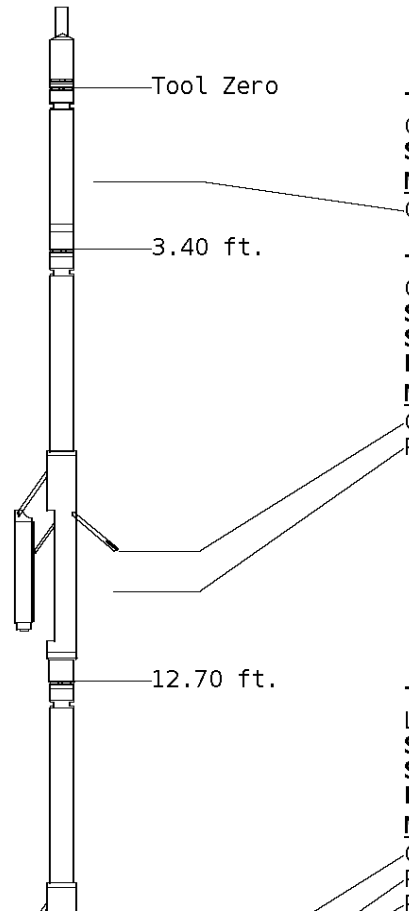
TOOLS STUCK IN HOLE AT APPROX 1810'. DATA PRESENTED WAS GATHERED RUN 1 UPLOG AND RUN 2 DOWNLOG, REPEAT AND MAIN PASS TD TO 1810'

GRT: GRP.
CNT: PHIN, CLCNIN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
MLT: NOR_R, INV_R, MSCLPIN.
CST: PORS, DDCDTF, TT1PF, TT3PF, ITT.
PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:
M.BURKE
N. BURDEN

Tool String Schematic

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



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BA-103

Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	41.49

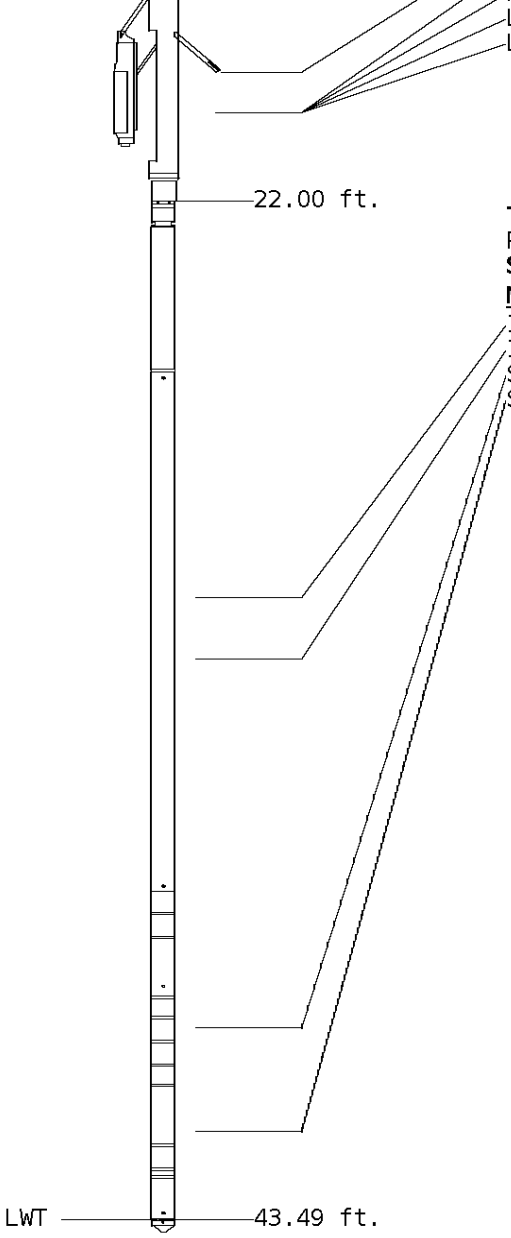
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AB-400
Source ID :N-1044
Pad ID :CNP-AA-116

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	34.09
PHIN	6.80	10.20	33.29

Tool: LDT-DA **Length:** 9.30 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-A
Sonde ID :PDT-GA-469
Source ID :CSV-587
Pad ID :LDP-DA-02

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	24.79
PEL	7.00	19.70	23.79
PES	7.40	20.10	23.39

LDEN	7.20	19.90	23.59
LCOR	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-AC-13

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: KINNEY_GRIMM-1-32_APR28_QSTK **Scale:** 1:240
Segment: V1.D8.S1 merged main no dic **Acquired:** Not Available
Reference: 0 **Processed:** Not Available

CALIPER MICRO
INCHES (IN)
16 26
6 16

TENSION
LBS
10000 0

MICRO-INVERSE
OHMM
0 100

BIT SIZE
INCHES (IN)
6 16

Volume
Dolo/Shale

MICRO-NORMAL
OHMM
0 100

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

Volume
Quartz

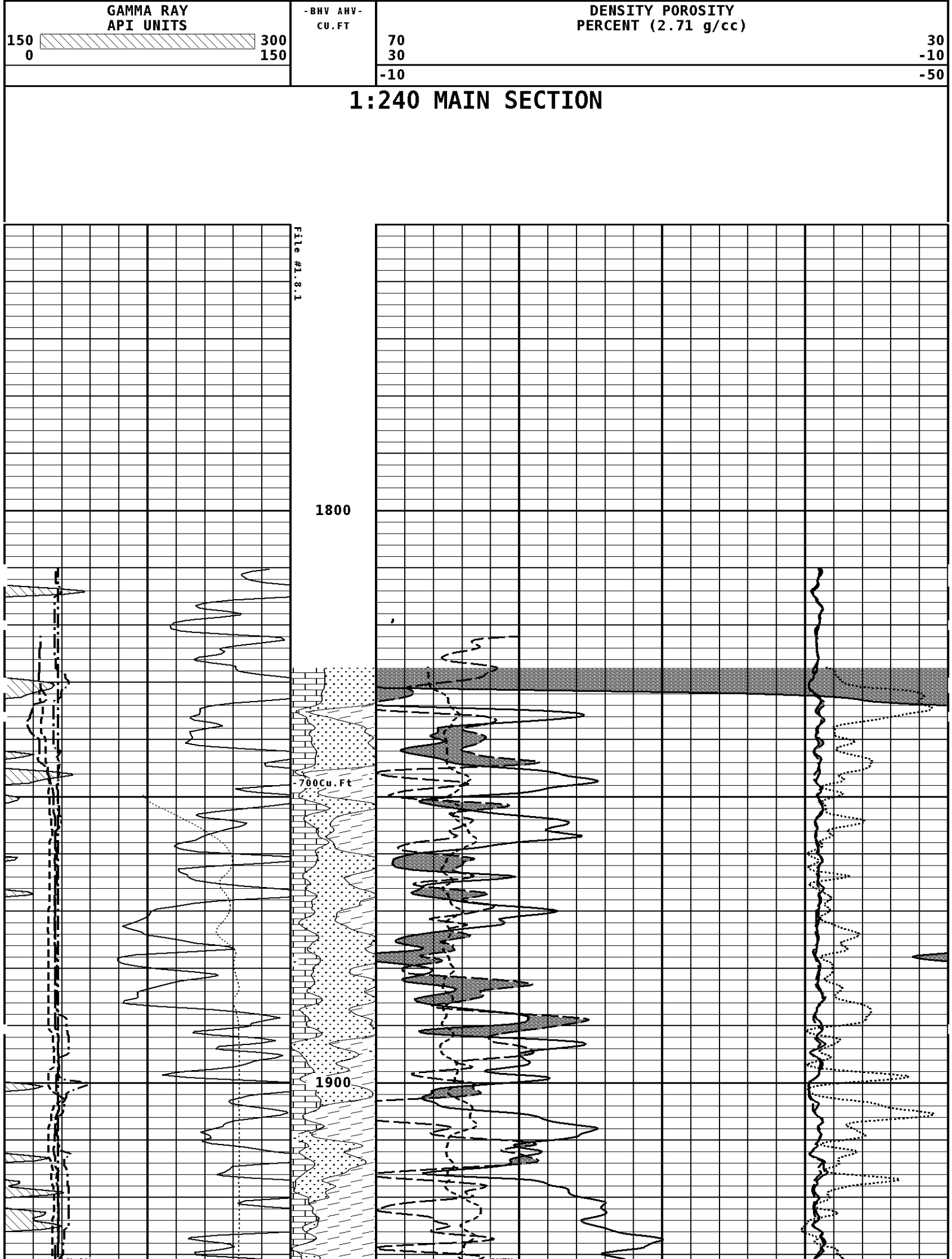
PE CROSS-SECTION
BARNS/ELECTRON
0 10

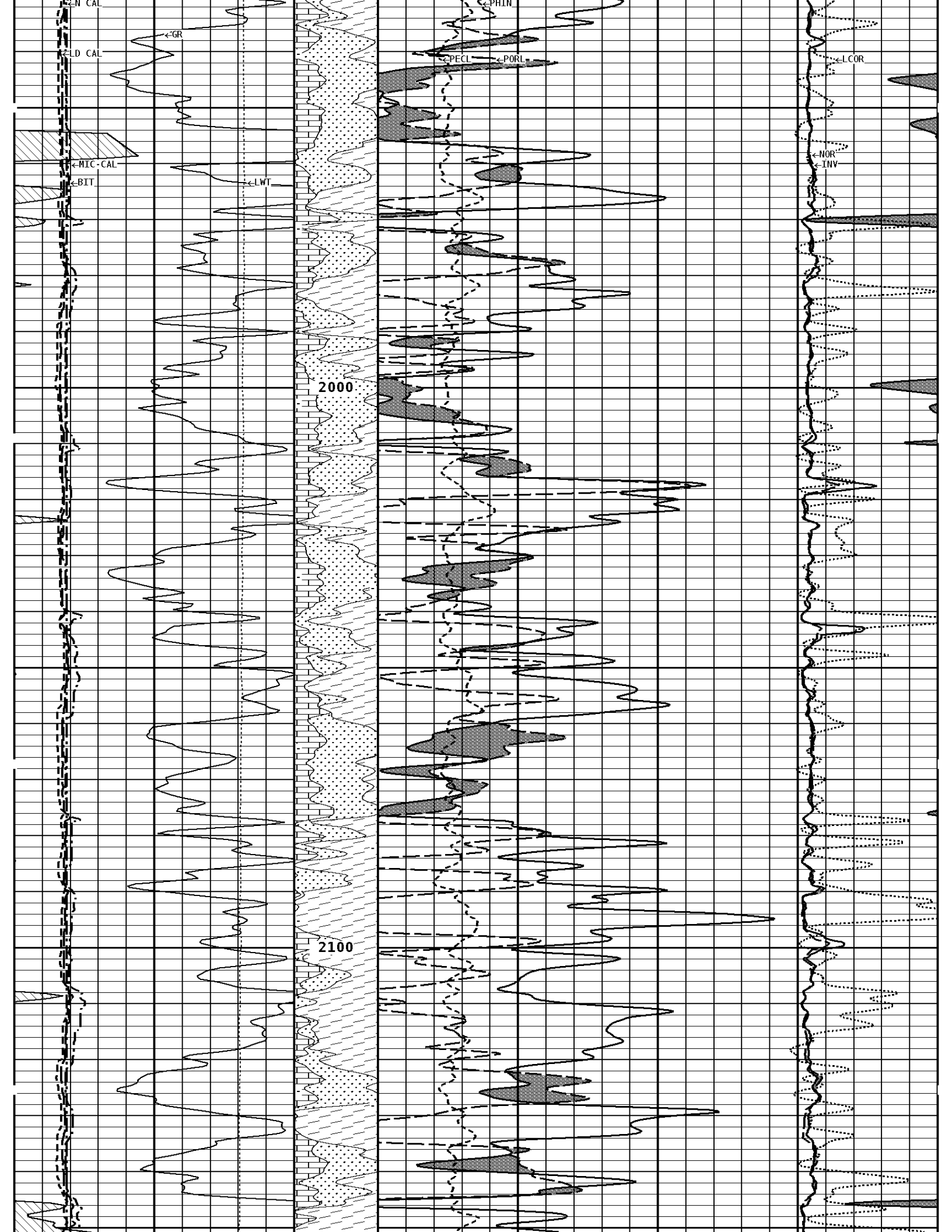
DENSITY CORRECTION
G/CC
-0.25 0.25

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

Volume
Calcite

NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 -10


GAMMA RAY
API UNITS
150
0
300
150
-BHV AHV-
CU.FT
DENSITY POROSITY
PERCENT (2.71 g/cc)
70
30
-10
30
-10
-50
1:240 MAIN SECTION
File #1.8.1
1800
-700Cu.Ft
1900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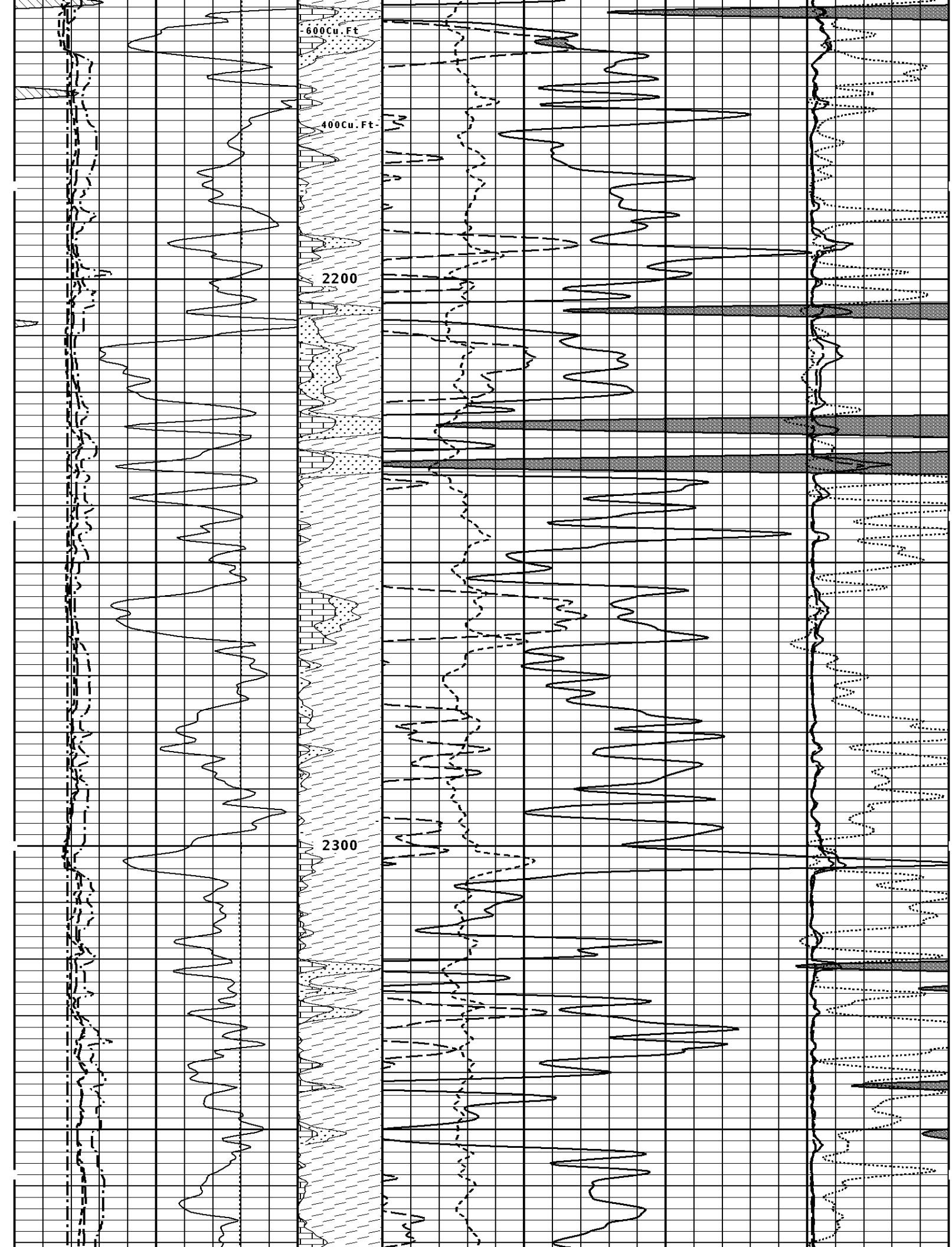
PHIN
PECL
PORL
LCOR
MIC-CAL
BIT
LWT
NOR
INV
2000
2100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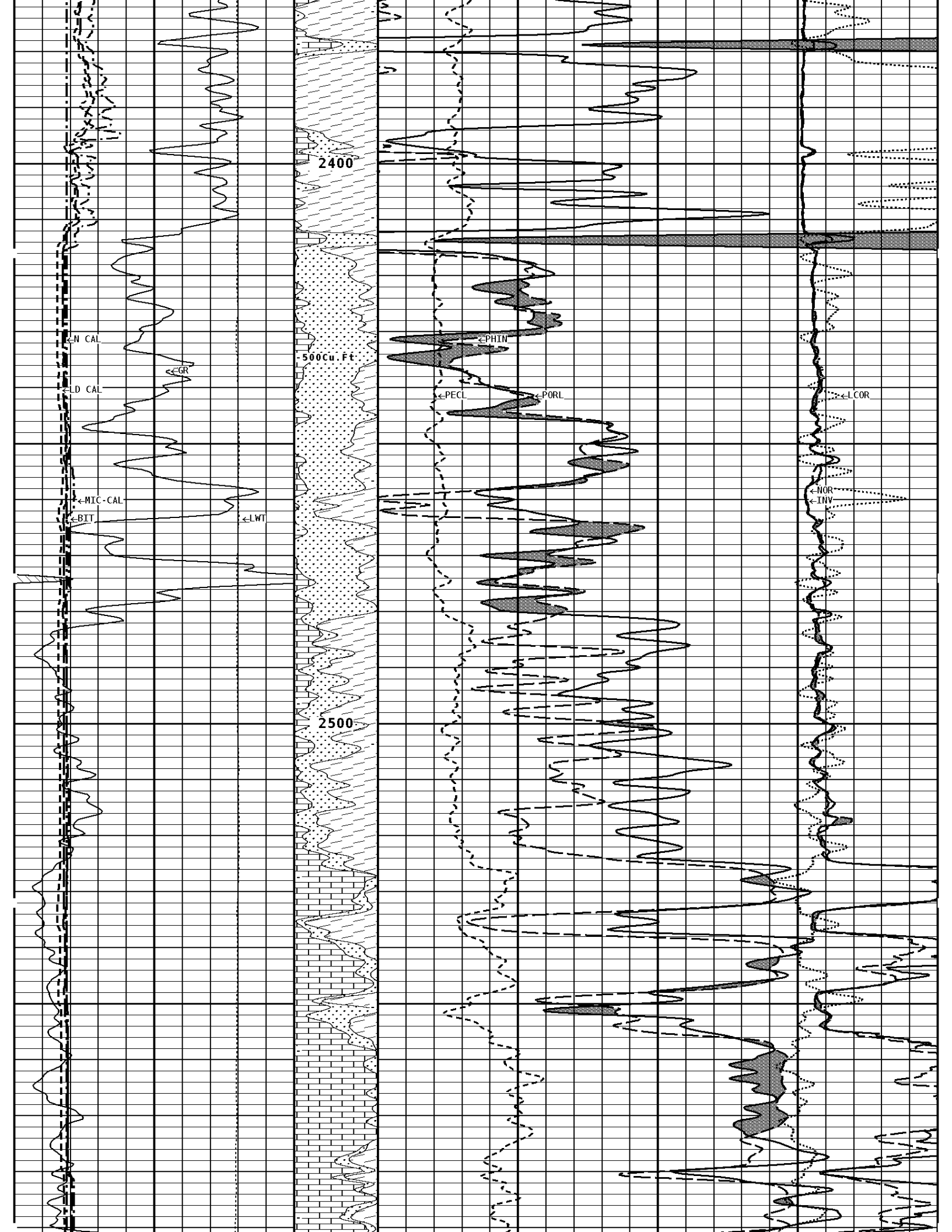
2300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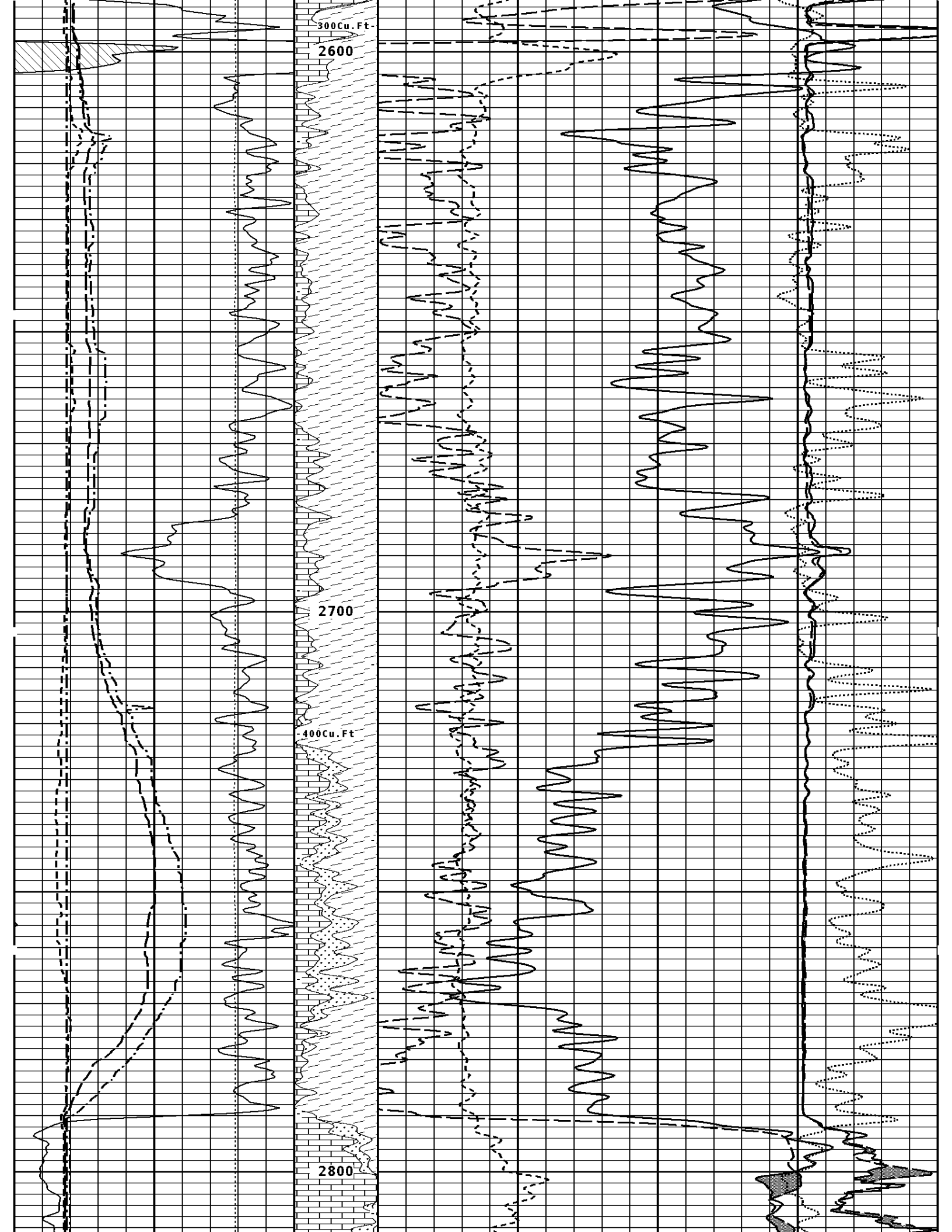
←LCOR
←NOR
←INV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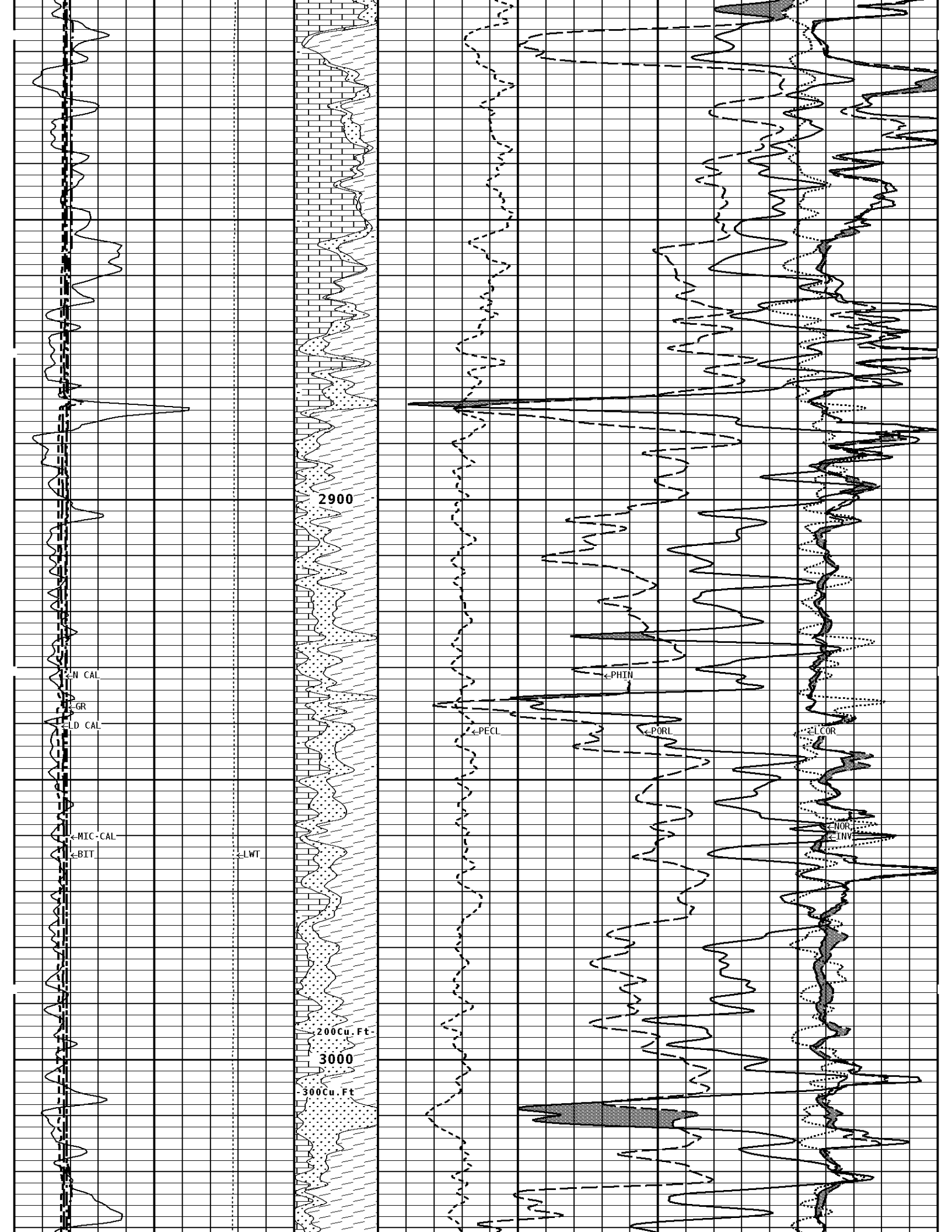
2700
400Cu.Ft
2800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BIT
LWT
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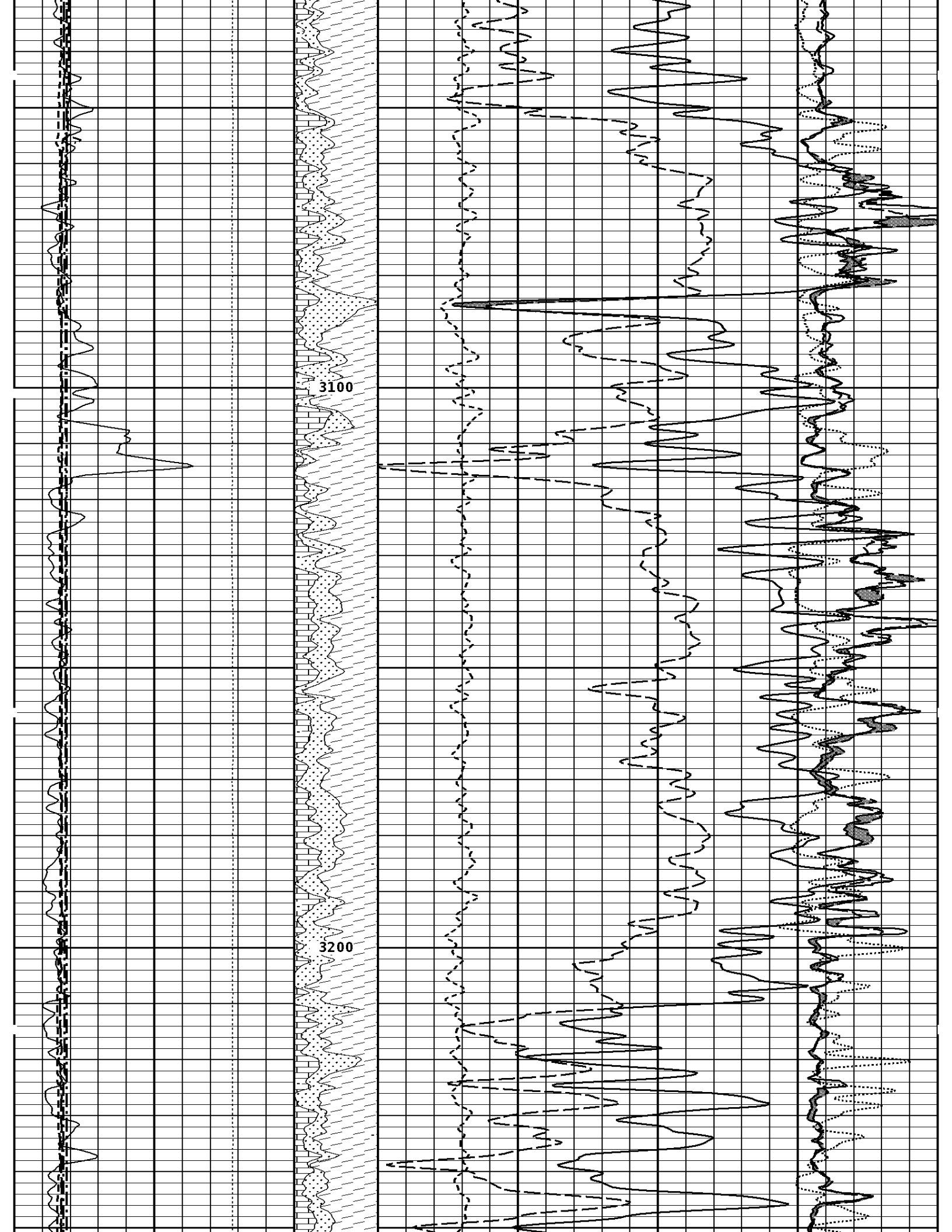
PHIN
PECL
PORL
LCOR
NOR
INV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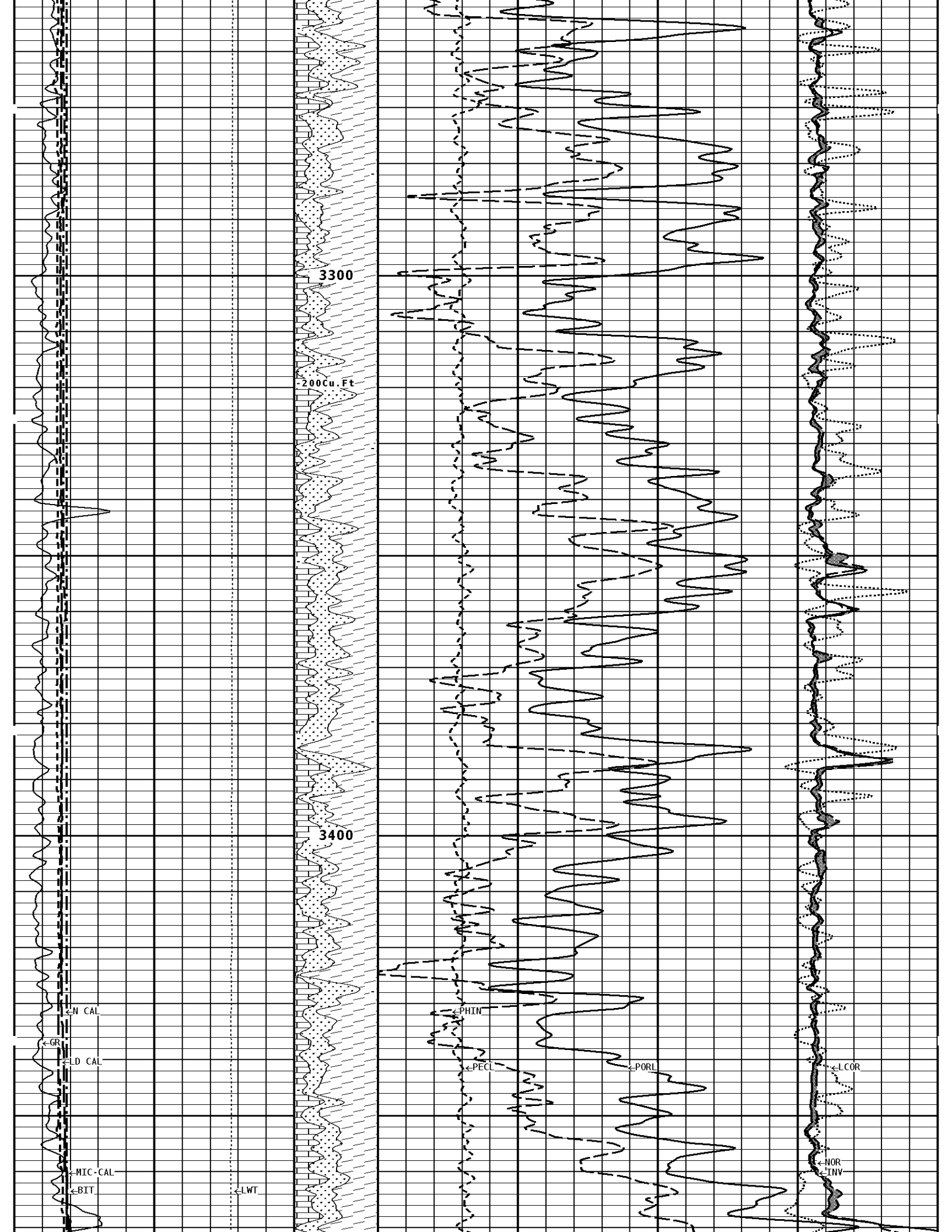
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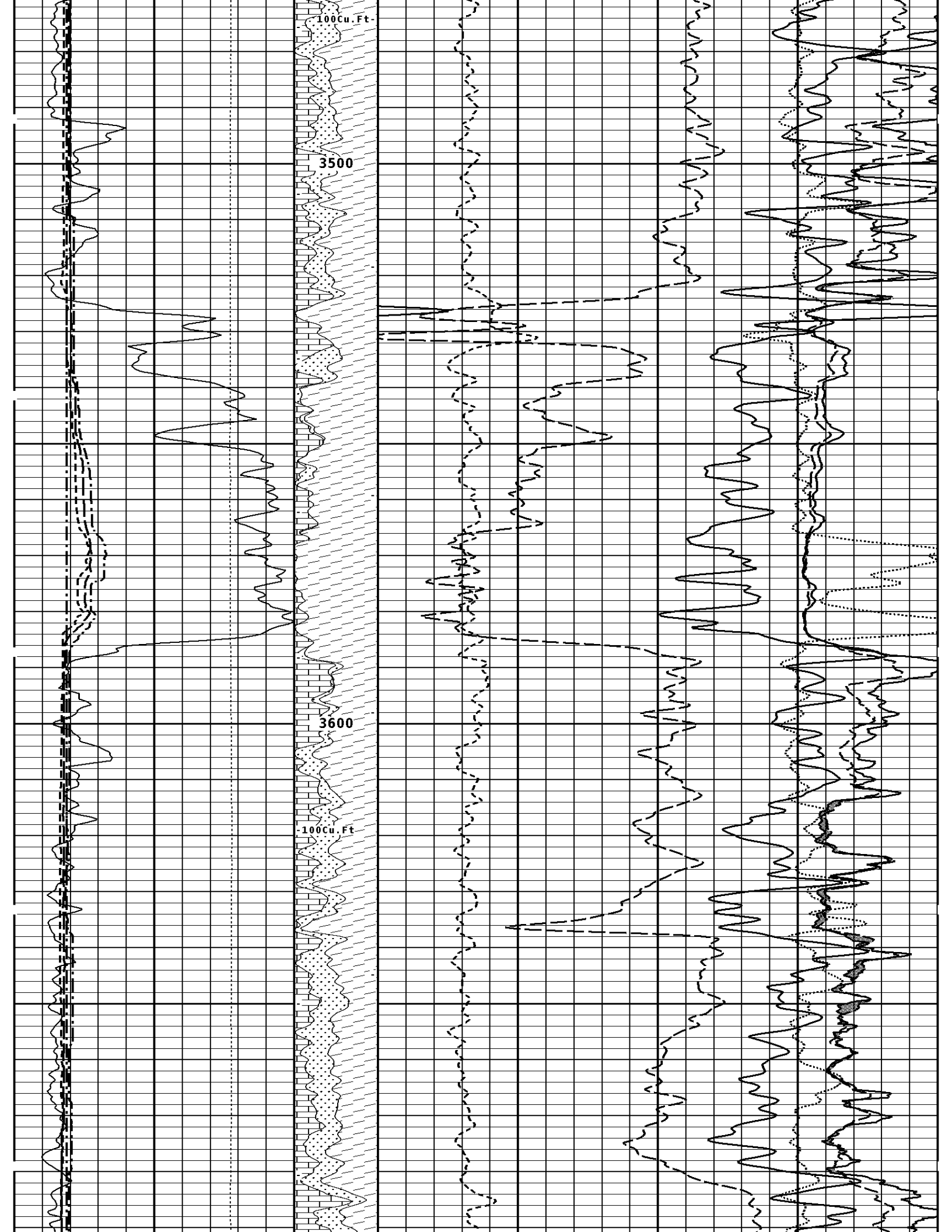
NOR
INV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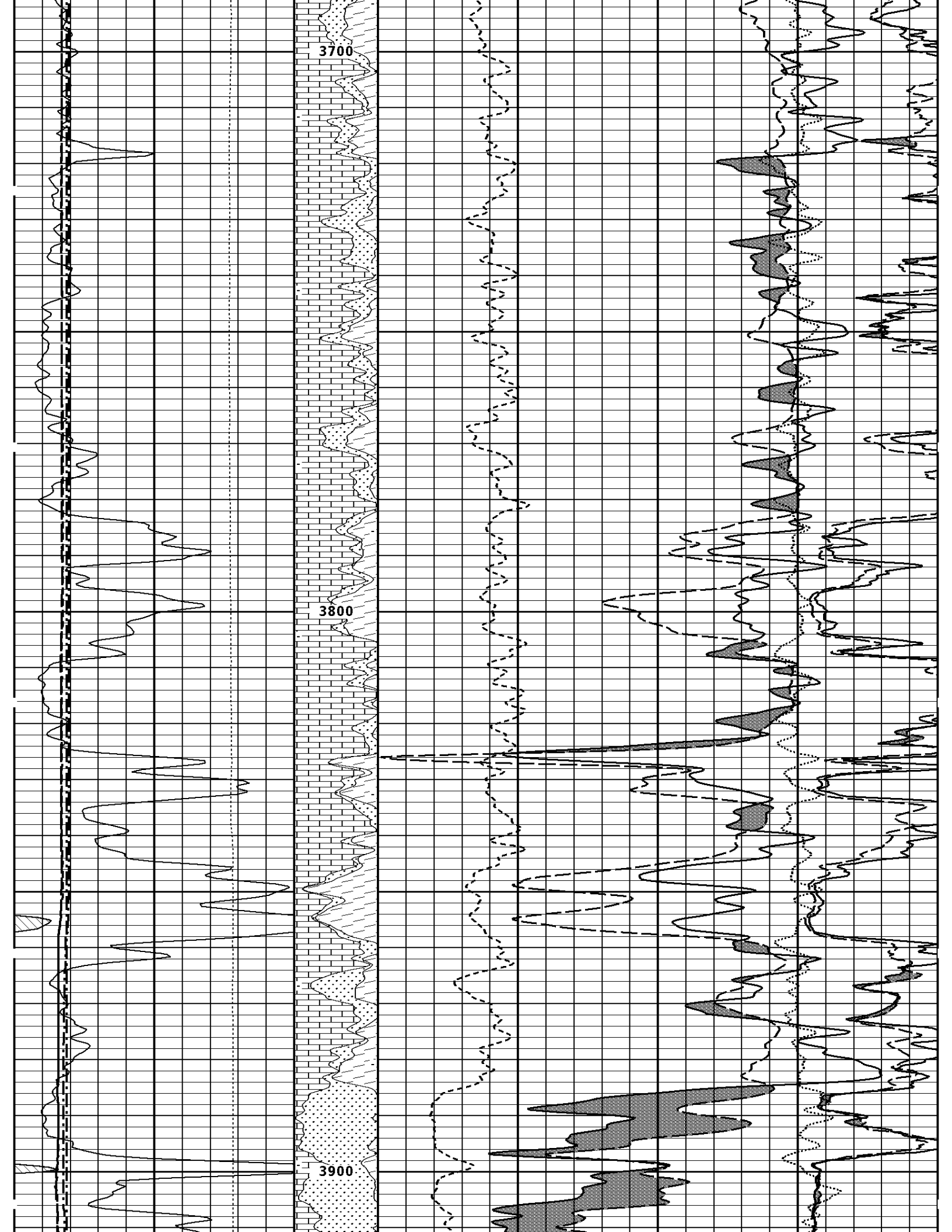
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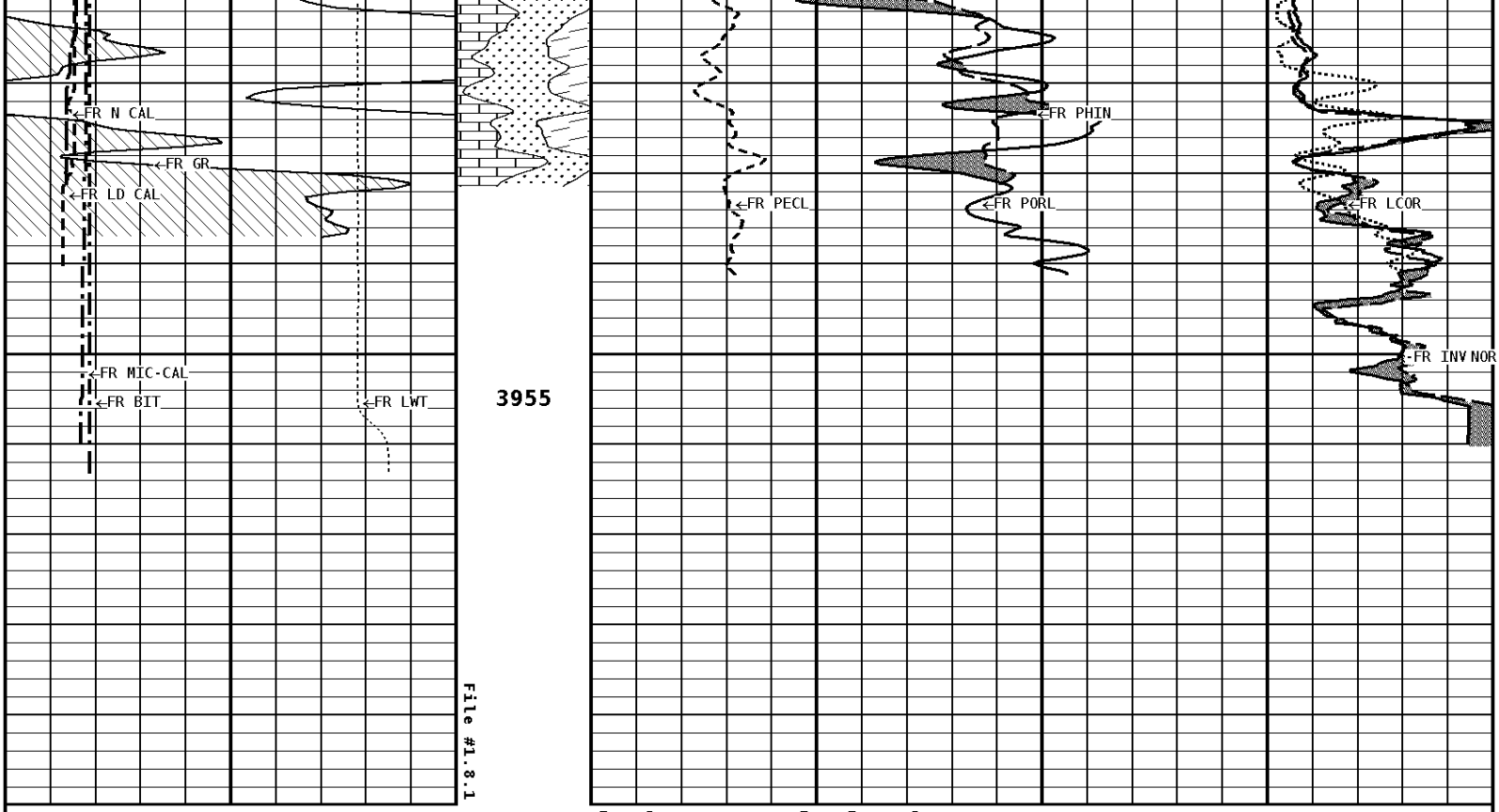


1:240 MAIN SECTION

GAMMA RAY **API UNITS** 150 — 300 0 — 150	-BHV AHV- CU.FT	**DENSITY POROSITY** **PERCENT (2.71 g/cc)** 70 — 30 30 — -10 -10 — -50
NEUTRON (Y) CALIPER **INCHES (IN)** 16 — 26 6 — 16	Volume Calcite	**NEUTRON POROSITY** **PERCENT (LIMESTONE MATRIX)** 30 — -10
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
BIT SIZE **INCHES (IN)** 6 — 16	Volume Dolo/Shale	**MICRO-NORMAL** **OHMM** 0 — 100
TENSION **LBS** 10000 — 0		**MICRO-INVERSE** **OHMM** 0 — 100
CALIPER MICRO **INCHES (IN)** 16 — 26 6 — 16		

Well File: KINNEY_GRIMM-1-32_APR28_QSTK
Segment: V1.D4.S1 MERGED REPEAT PASSES
Reference: 0

Scale: 1:240
Acquired: Not Available
Processed: Not Available

CALIPER MICRO
INCHES (IN)

INCHES (IN)
16 26
6 16

TENSION
LBS
10000 0

MICRO-INVERSE
OHMM
0 100

BIT SIZE
INCHES (IN)
6 16

Volume
Dolo/Shale

MICRO-NORMAL
OHMM
0 100

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

Volume
Calcite

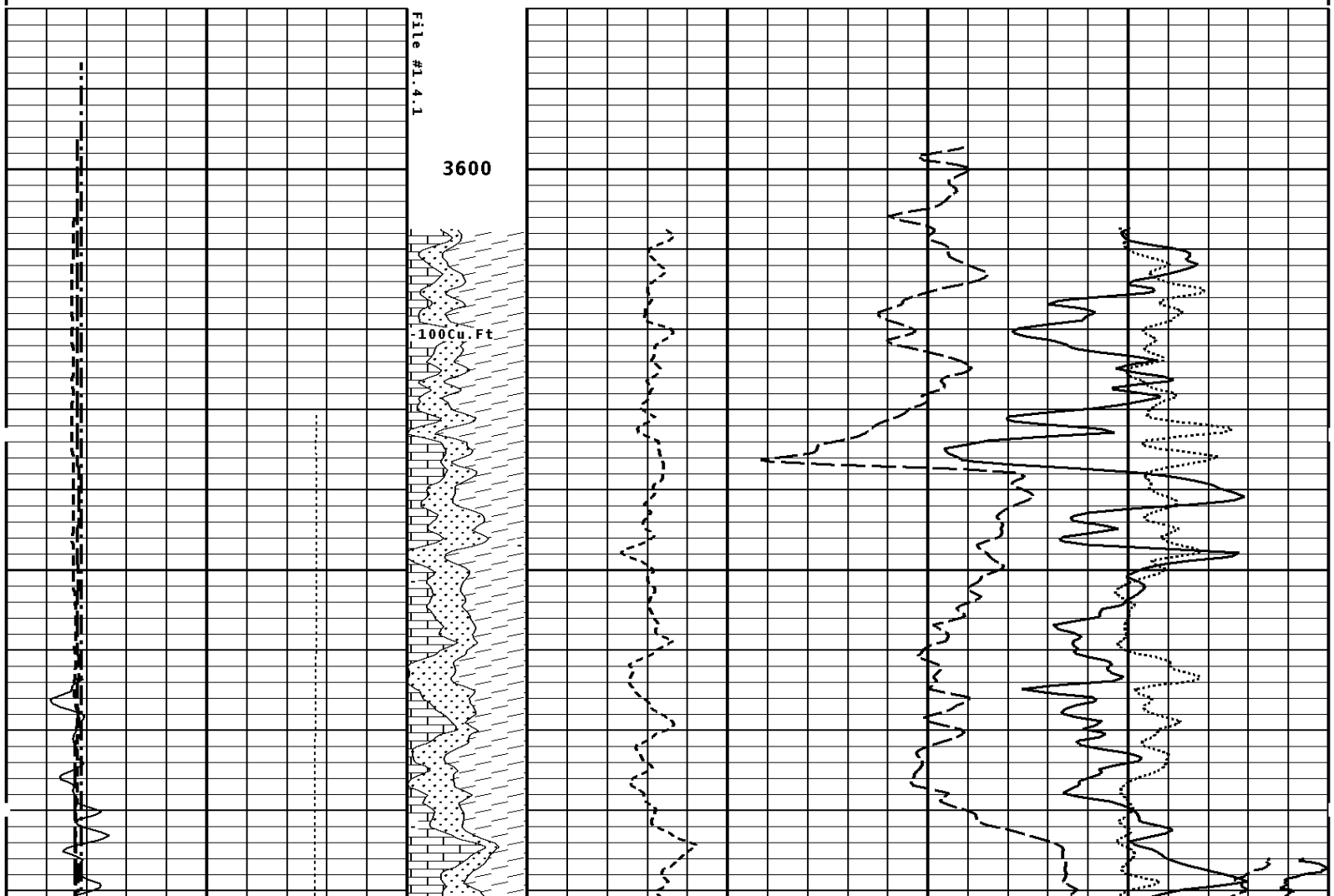
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 -10

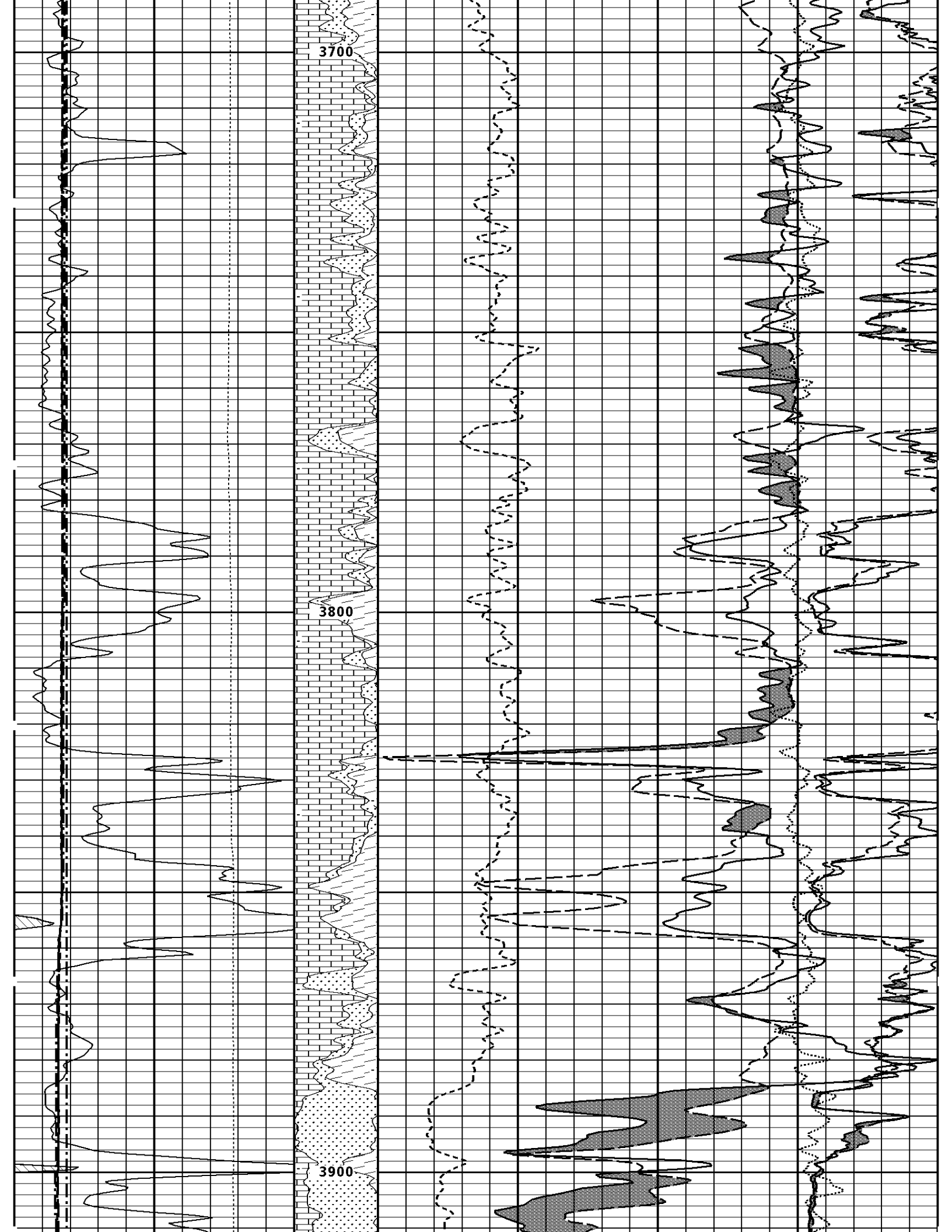
GAMMA RAY
API UNITS
150 300
0 150

-BHV AHV-
CU.FT

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

1:240 REPEAT SECTION

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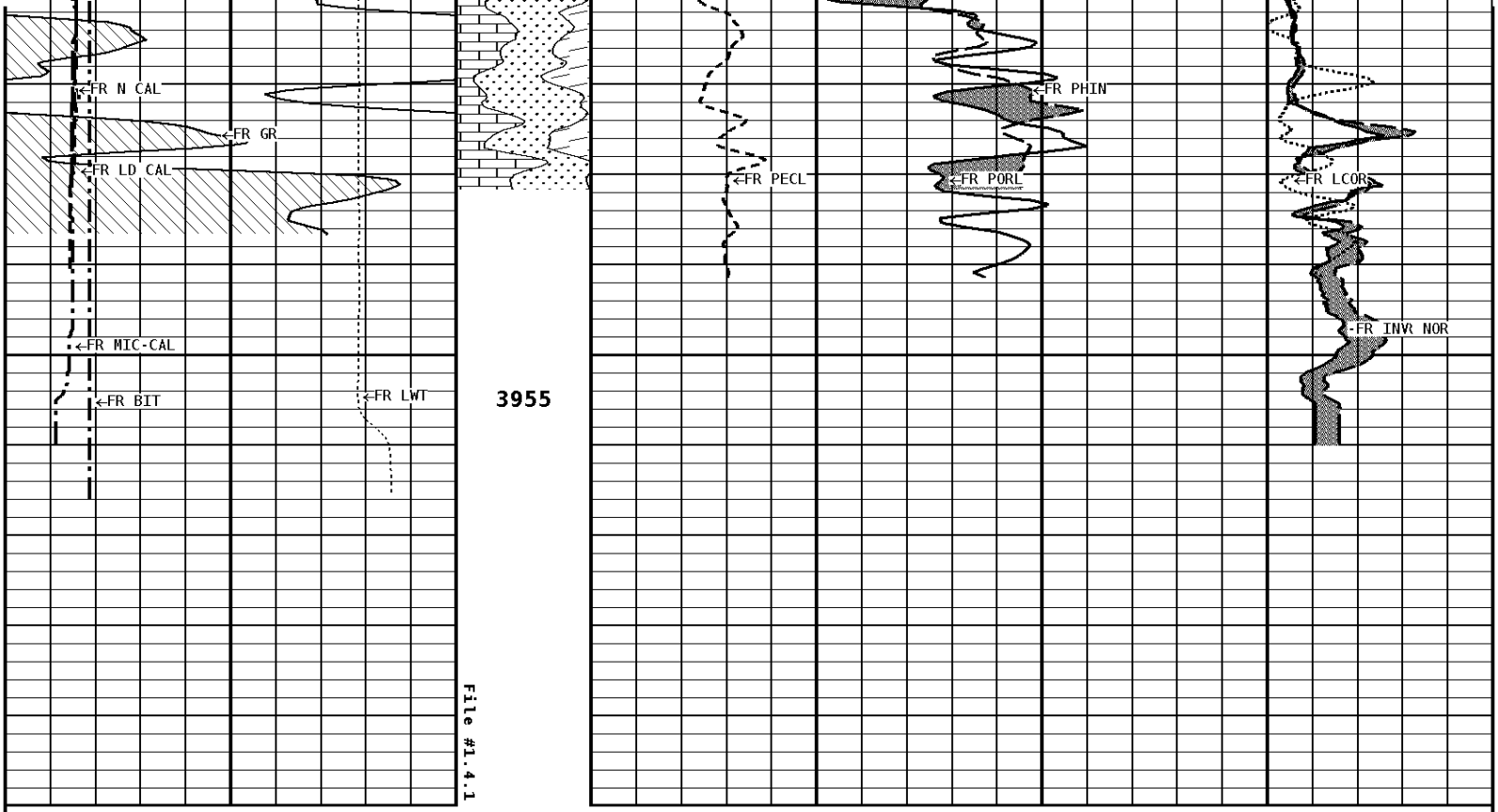


1:240 REPEAT SECTION

GAMMA RAY
API UNITS
150 — 300
0 — 150

-BHV AHV-
CU.FT

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

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

Volume Calcite

NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 — -10

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

BIT SIZE
INCHES (IN)
6 — 16

Volume Dolo/Shale

MICRO-NORMAL
OHMM
0 — 100

TENSION
LBS
10000 — 0

MICRO-INVERSE
OHMM
0 — 100

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

Well File: KINNEY_GRIMM-1-32_APR28_QSTK
Segment: V1.D8.S1 merged main no dic
Reference: 0

Scale: 1:240
Acquired: Not Available
Processed: Not Available

TENSION
LBS

LBS

10000 0

BIT SIZE
INCHES (IN)

6 16

DENSITY (X) CALIPER
INCHES (IN)

16 26
6 16

NEUTRON (Y) CALIPER
INCHES (IN)

16 26
6 16

GAMMA RAY
API UNITS

150 300
0 150

PE CROSS-SECTION
BARNS/ELECTRON

0 10

DENSITY CORRECTION
G/CC

-0.25 0.25

DENSITY POROSITY
PERCENT (2.71 g/cc)

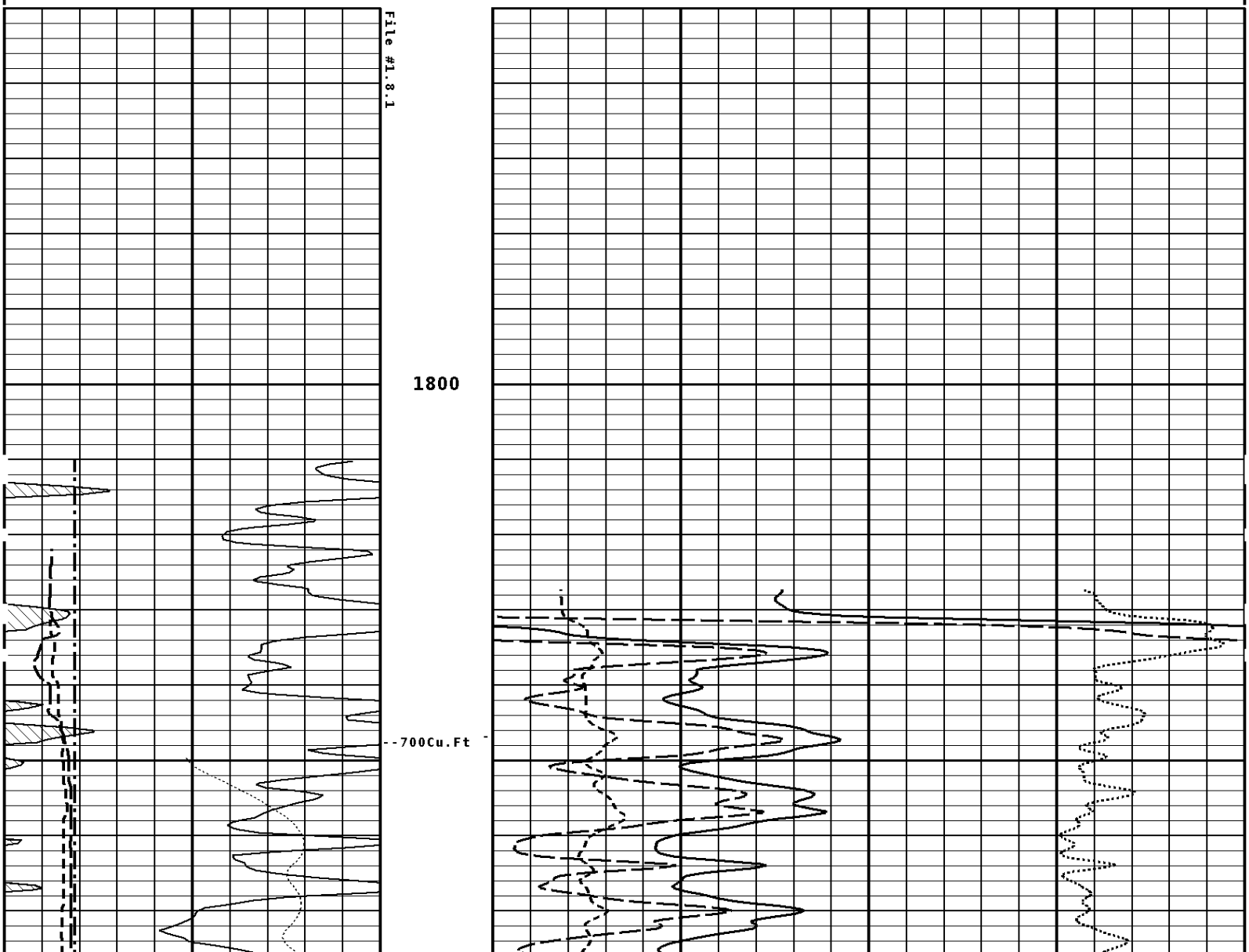
70 30
30 -10
-10 -50

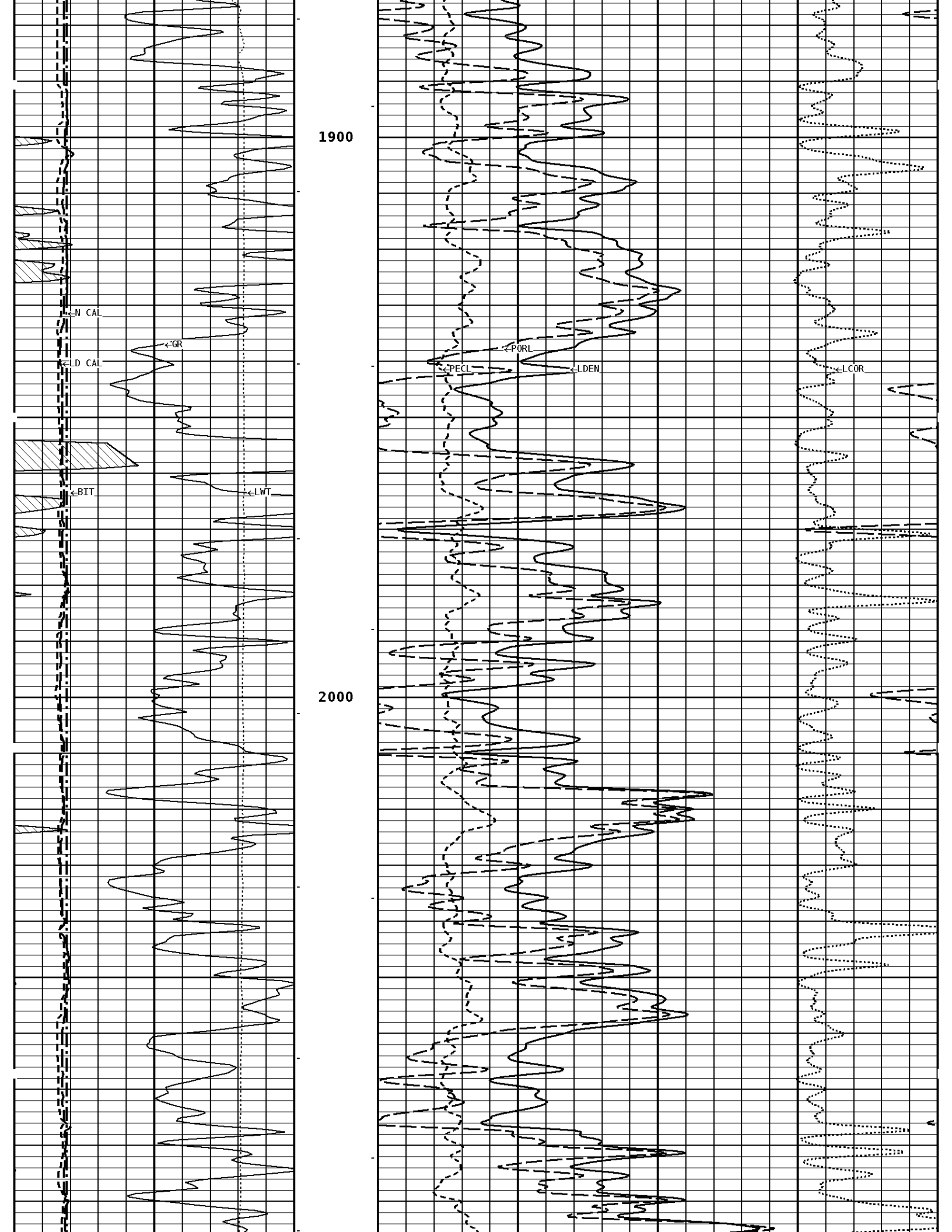
-BHV AHV-
CU.FT

COMPENSATED BULK DENSITY
G/CC

3.0 4.0
2.0 3.0
1.0 2.0

1:240 MAIN SECTION
BULK DENSITY

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LD CAL
BIT
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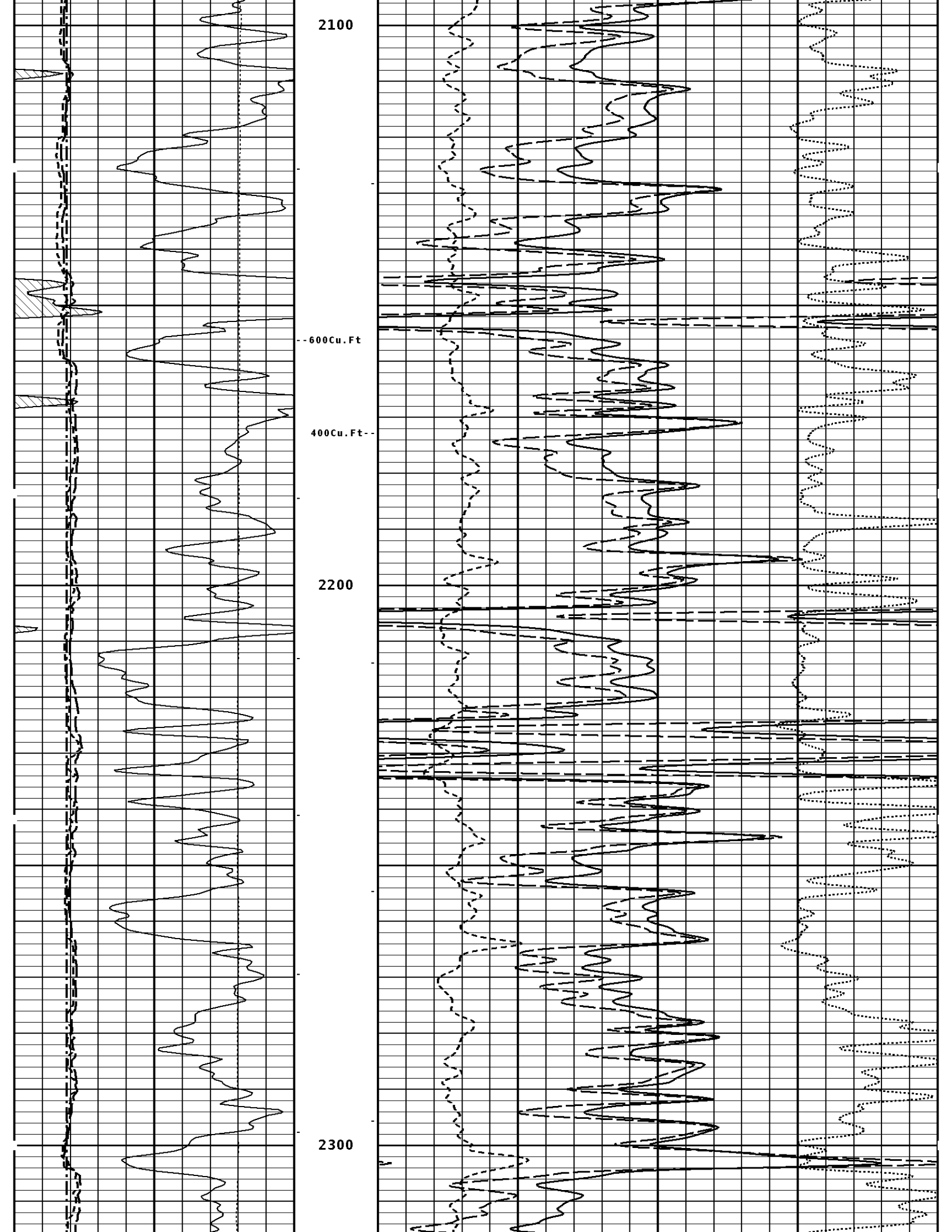
PORL
PECL
LDEN
LCOR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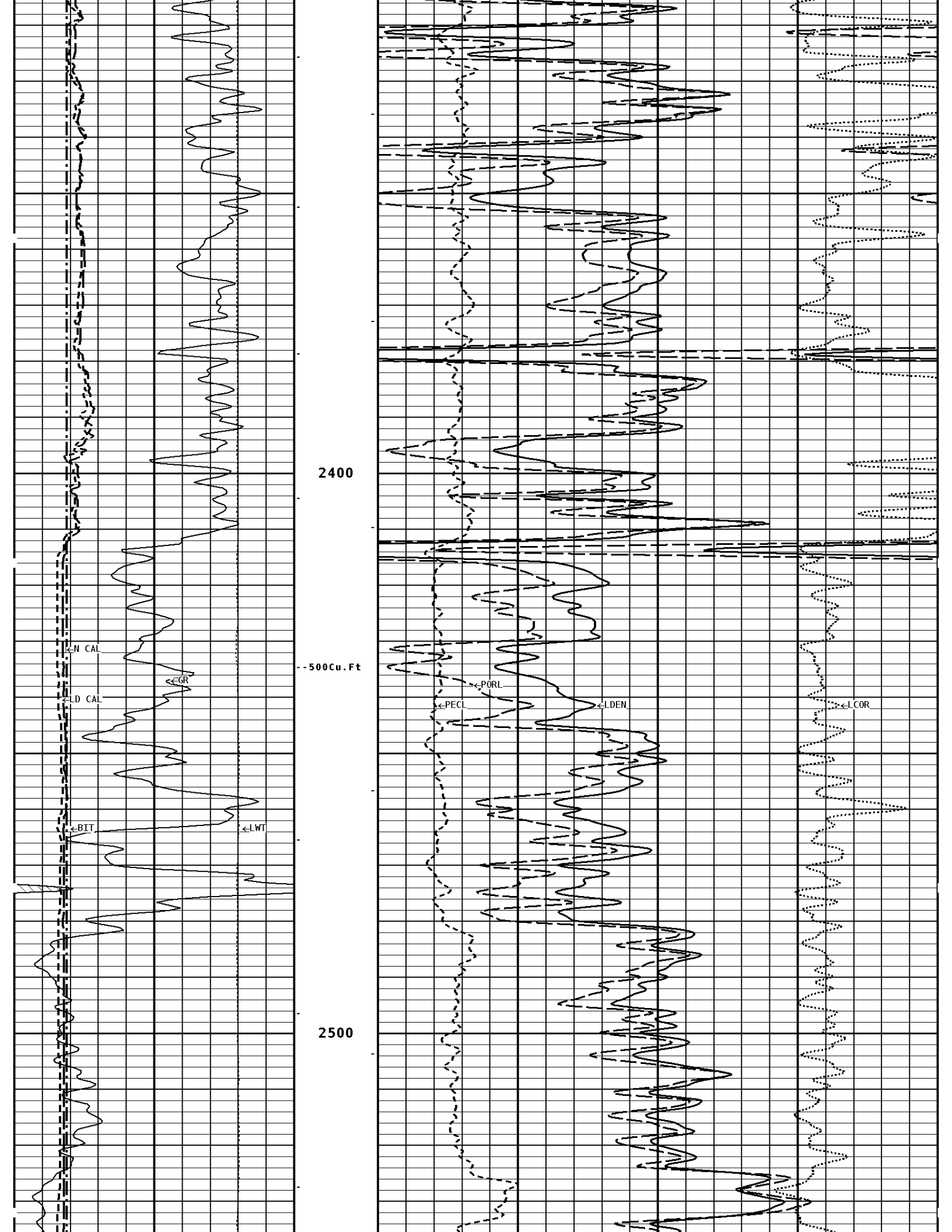
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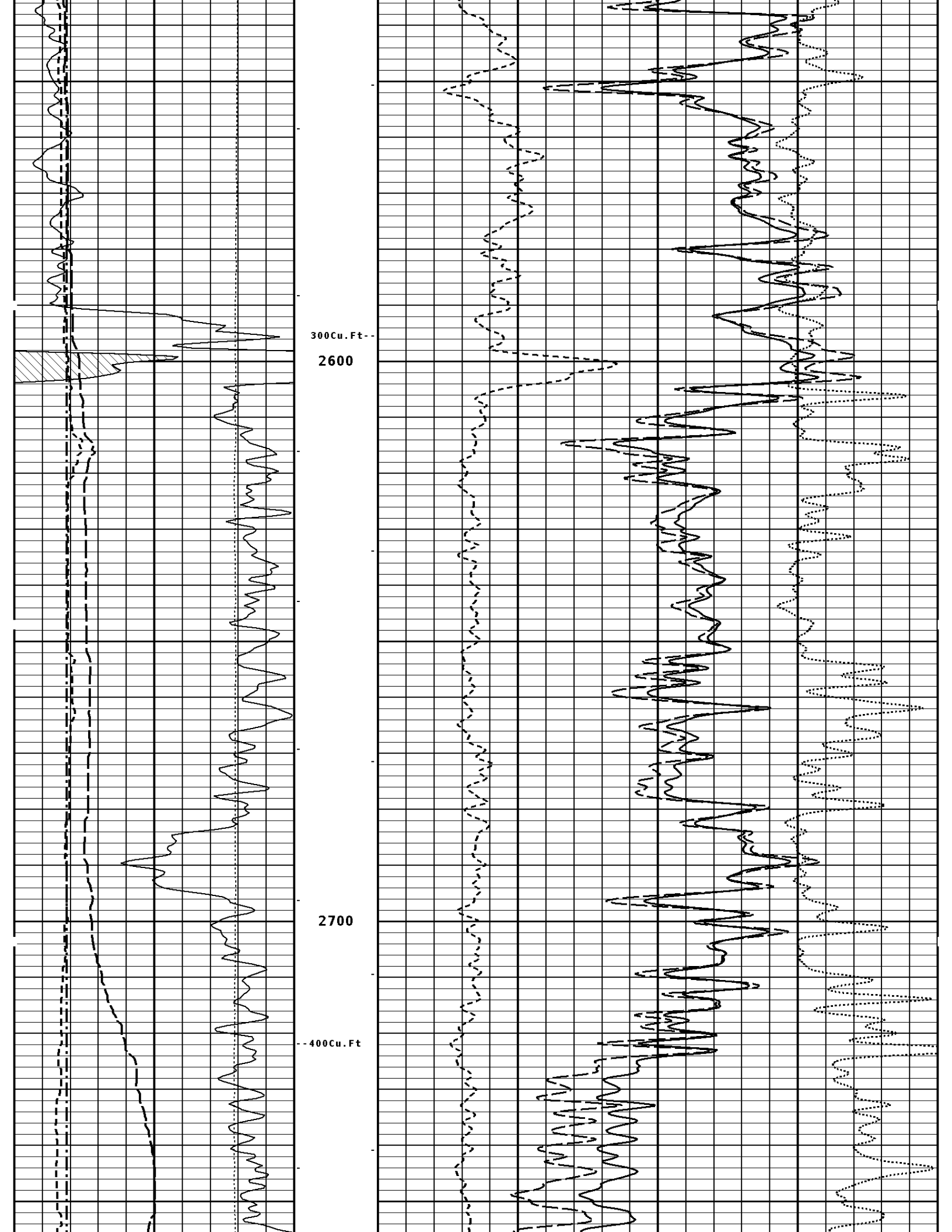
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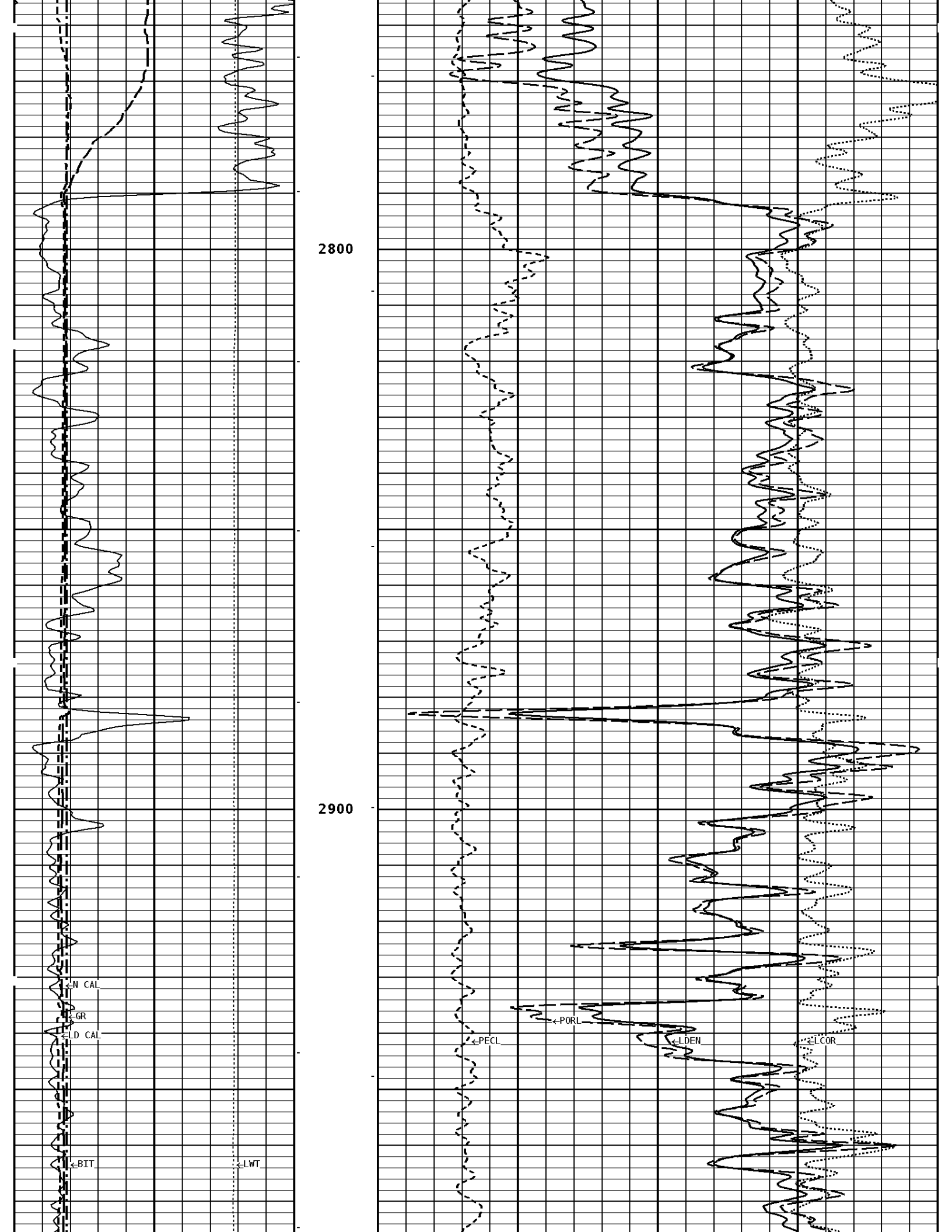
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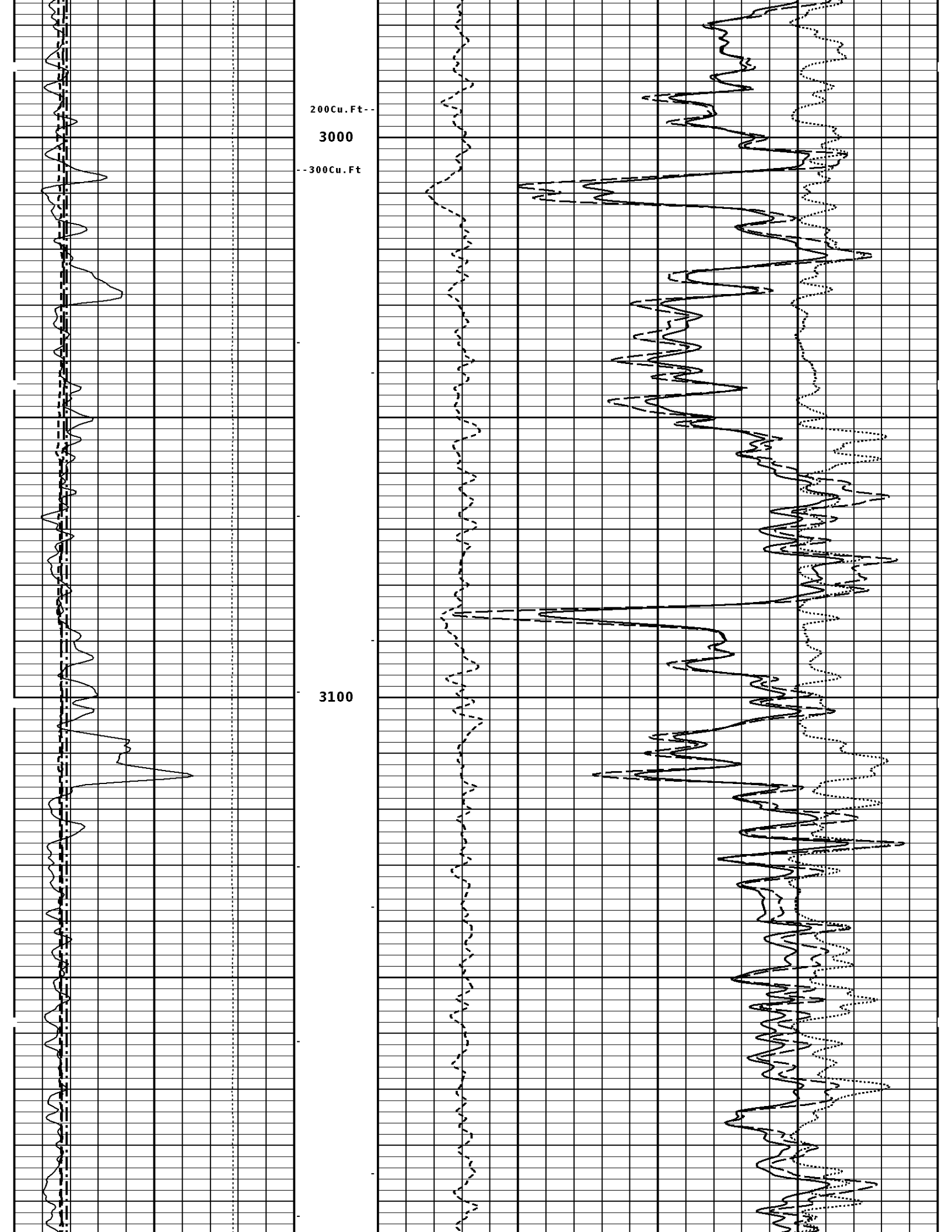
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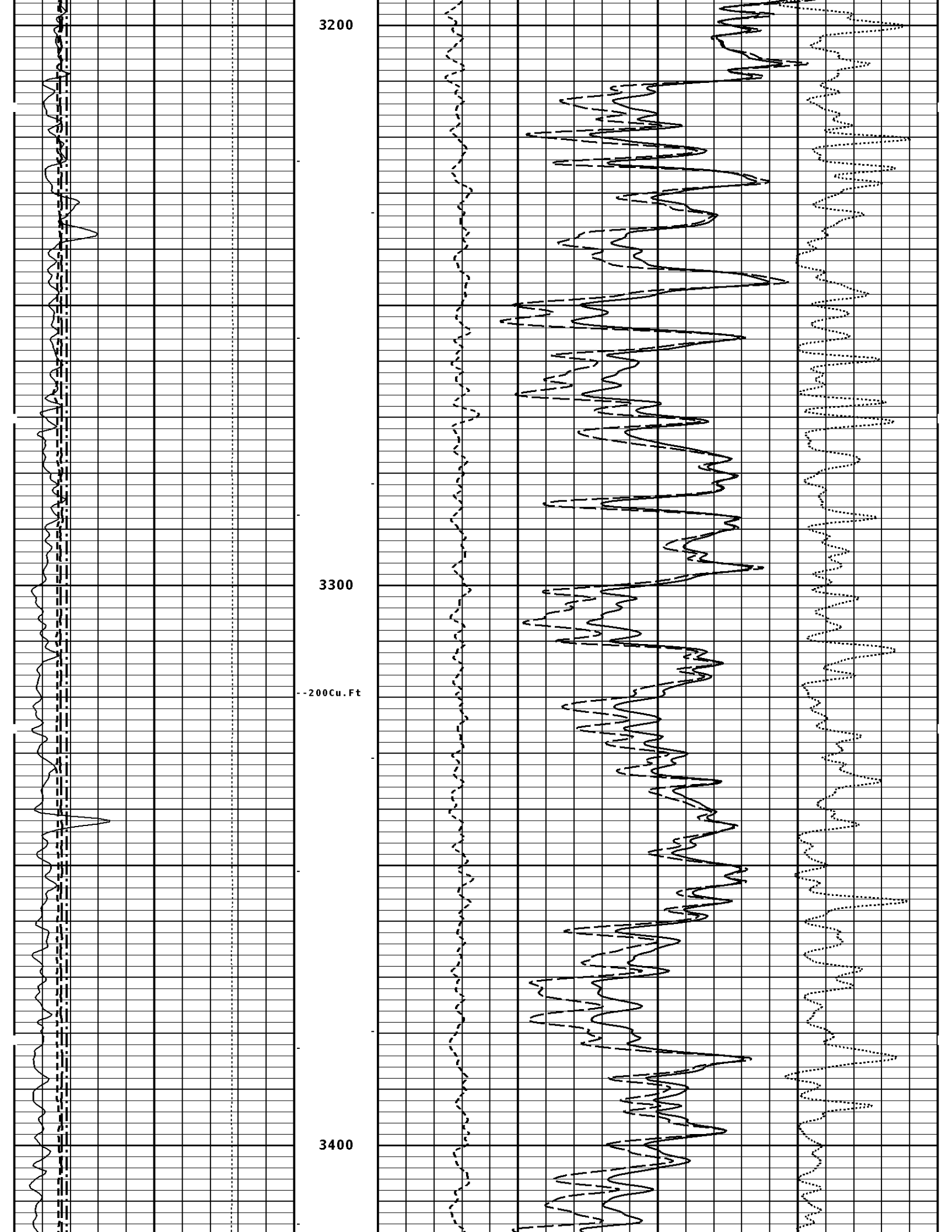
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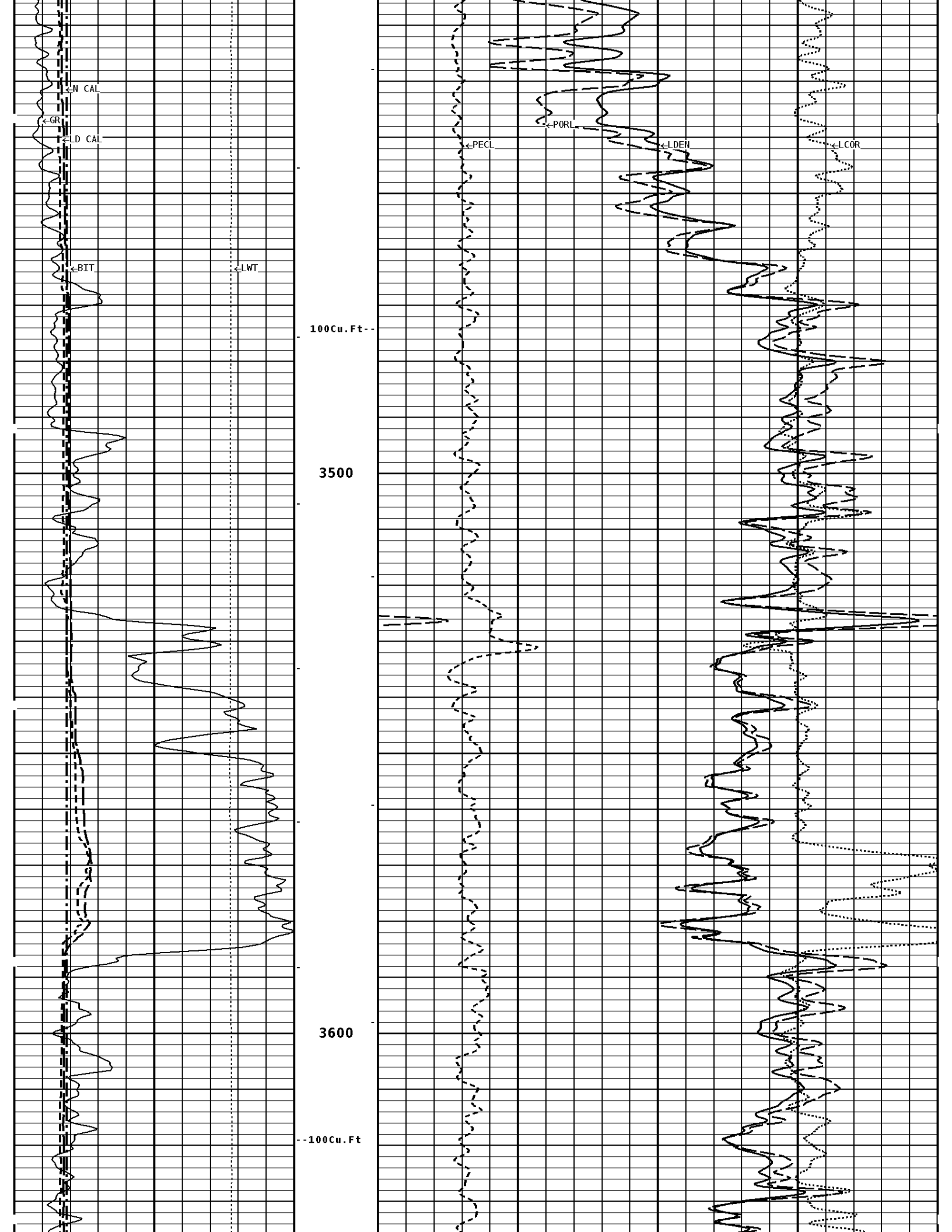
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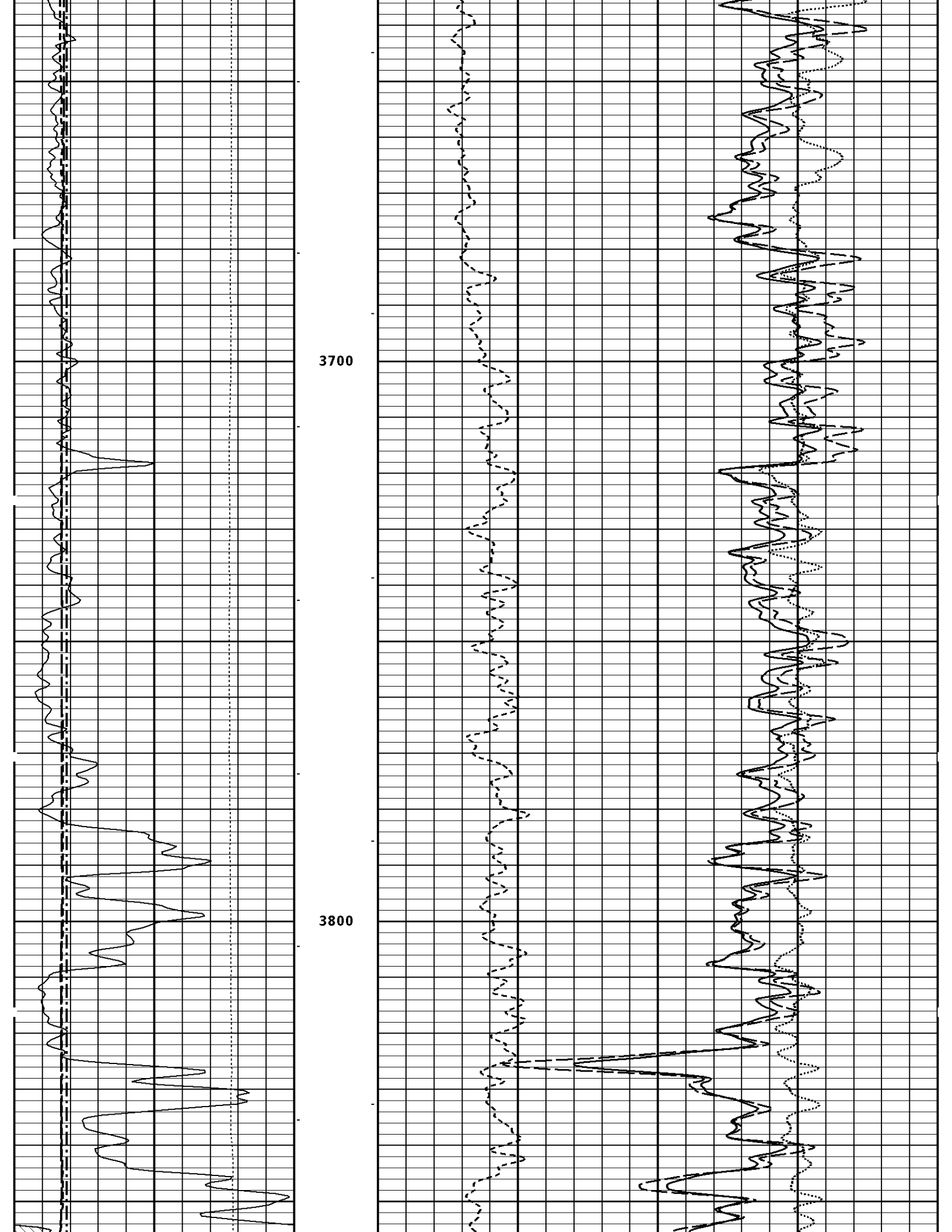
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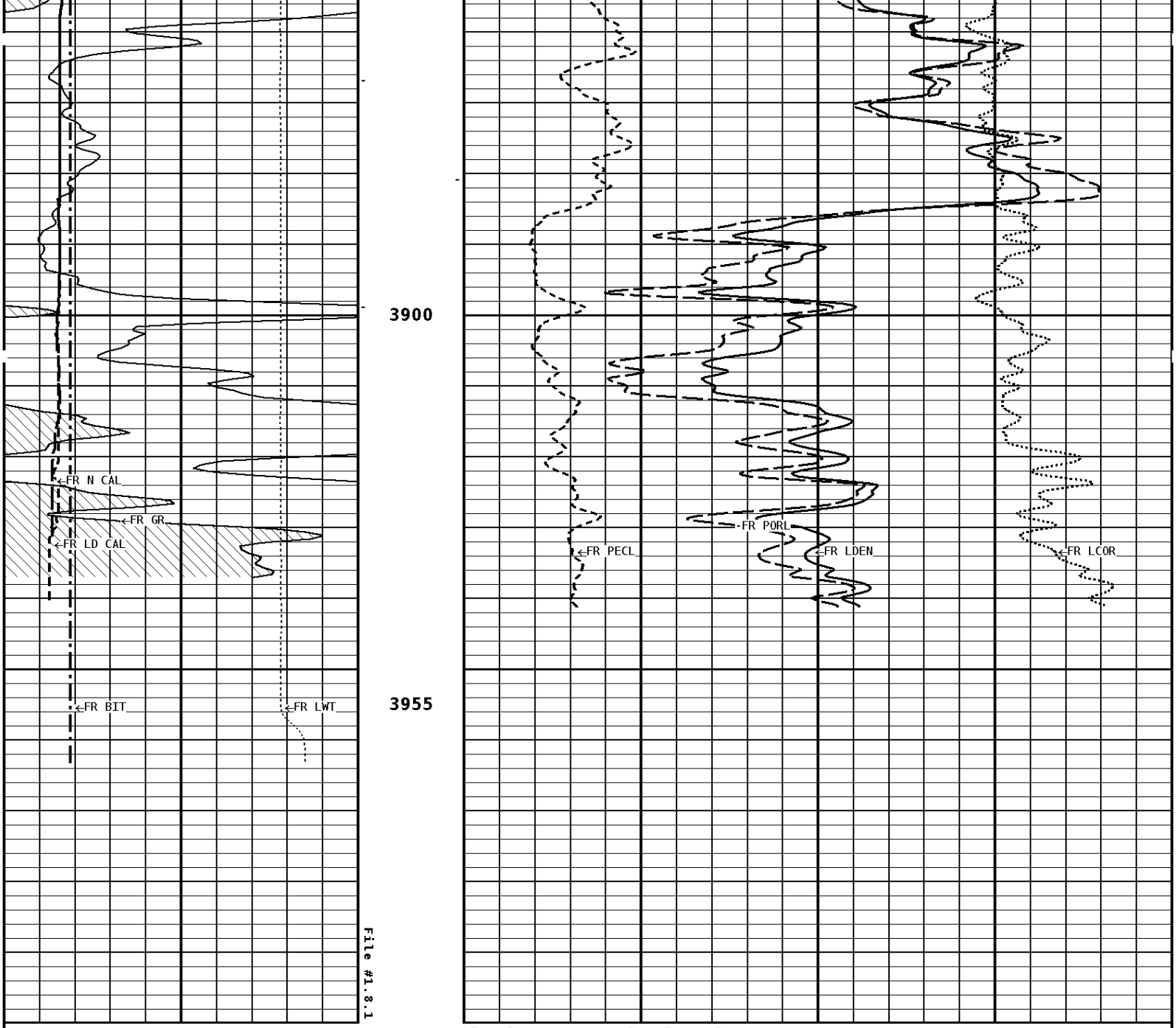

1:240 MAIN SECTION
BULK DENSITY

GAMMA RAY API UNITS	-BHV AHV- CU.FT	COMPENSATED BULK DENSITY G/CC
150 300 0 150		3.0 4.0 2.0 3.0 1.0 2.0
NEUTRON (Y) CALIPER INCHES (IN)		**DENSITY POROSITY PERCENT (2.71 g/cc)**
16 26 6 16		70 30 30 -10 -10 -50
DENSITY (X) 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)		

6	16

TENSION
LBS

10000	0

* Calibration Summary *

Shop Calibration
GRT-B

Performed : 24-Jul-2009 Time : 11:21
Sensor Suite : GR-GR5 ID : GRT-BA-103

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	53	332	CPS	175	GRAPI

Shop Calibration
CNT-AA

Performed : 21-MAR-2012 Time : 11:09
Sensor Suite : CALI-BCN ID : NDT-AB-400

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	8.3	14.3	6.0	12.0	IN.

Performed : 28-Mar-2012 Time : 12:06
Sensor Suite : BHC NEUT ID : CNP-AA-116
Source ID : N-1044

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	3.8736	3.6893	3.6981	
Porosity	23.4	20.5	20.6	%

Shop Calibration
LDT-DA

Performed : 25-MAR-2012 Time : 13:55
Sensor Suite : CALI-LTH ID : PDT-GA-469

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	6.6	12.6	6.0	12.0	IN.

Performed : 28-Mar-2012 Time : 09:53
Sensor Suite : BHCPELNG ID : LDP-DA-02
Source ID : CSV-587

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	68	456	733	308	CPS
LSW2	71	547	885	395	CPS
LSW3	275	1366	2152	1171	CPS
LSW4	355	1317	1849	1171	CPS
LSW5	34	43	45	43	CPS
LSW6	92	92	90	92	CPS
LSW7	58	59	58	60	CPS
LSW8	2	3	3	2	CPS
QS	0.226	0.219	0.217	0.209	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	105	617	2536	388	CPS
LLW2	118	1052	4340	761	CPS
LLW3	442	2013	7435	1745	CPS
LLW4	576	1176	3041	1083	CPS
LLW5	63	68	84	65	CPS
LLW6	188	182	175	182	CPS
LLW7	113	115	111	115	CPS
LLW8	4	5	10	5	CPS
QL	0.250	0.226	0.225	0.227	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Company: KINNEY OIL COMPANY

Tucker
WIRELINE SERVICES

Well: GRIMM # 1 - 32

Location: 2300' FNL & 1400' FEL

Logged: 2012-04-28

K.B. Elev: 1275.0