Tucker WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY MICRO LOG

Company RUNNING FOXES PETROLEUM
Well ANDRA 8-12-3
Field SAUZEK
County SUMNER
State KANSAS
Country USA
API No. 15-191-22596-00-00

File No : TUL-56742
Company : RUNNING FOXES PETROLEUM
Well : ANDRA 8-12-3
Field : SAUZEK
County : SUMNER
State : KANSAS
Country : USA
API No : 15-191-22596-00-00

Location :
2050' FNL & 1160' FEL
NW SW SE NE

LSD : **Sect :** 12 **Twp :** 33S **Rge :** 1E

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	1130.00 Ft	CNT	PIT
Log Measured From:	KB	**DF**	1129.00 Ft	LDT	
Above Permanent Datum:	10.00 Ft	**GL**	1120.00 Ft	MLT	

Date	2011-04-17						
Run Number	1						
Depth--Driller	3872.0	Ft					
Depth--Logger	3875.0	Ft					
First Reading	3852.0	Ft					
Last Reading	1950.0	Ft					
Casing--Driller	262.0	Ft					
Casing--Logger	262.0	Ft					
Bit Size	7.875	In					
Casing Size	8.625	In					
Hole Fluid Type	WBM						
Density	9.3	LBS/GAL					
Fluid Loss	3.0	CC					
PH/Viscosity	11.0	50.0 SEC					
Sample Source	MEASURED						
RM@Measured Temp.	1.300 @ 73 F						
RMF@Measured Temp	1.400 @ 58 F						
RMC@Measured Temp.	1.400 @ 58 F						
Source RMF/RMC	MEASURED	MEASURED					
RM@BHT	0.851 @ 121 F						
Time Circulation Stopped	2011-04-17 20:00						
Max Recorded Temp.	121 F						
Equipment/Base	TRK 127	TULSA					
Recorded By	B. BAILEY						
Witnessed By	M MACNOSKY						

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	3872.00

Casing Strings

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

Run Number	1	
Date	2011-04-17	
Date/Time On Bottom	2011-04-18 01:00	
Depth to Fluid	0.0	Ft
Salinity	0.000	PPM
RMF@BHT	0.745 @ 121	F
RMC@BHT	0.745 @ 121	F

Run Number 1

Comments

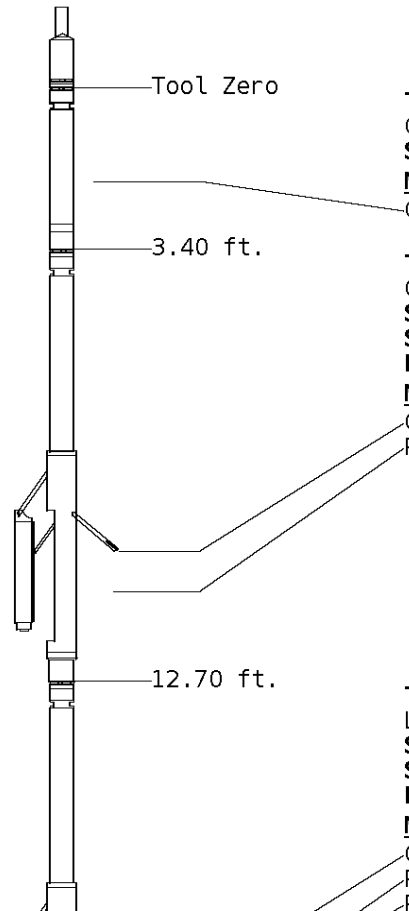
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED UISING 5.500" PRODUCTION CASING.
DETAIL FROM TD TO 1950' AS PER CUSTOMER REQUEST
GR AND PIT FROM TD TO SCG AS PER CUSTOMER REQUEST

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

OPERATORS:
R.AUSTIN
M.BURKE
J.THOMAS

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-BA-14

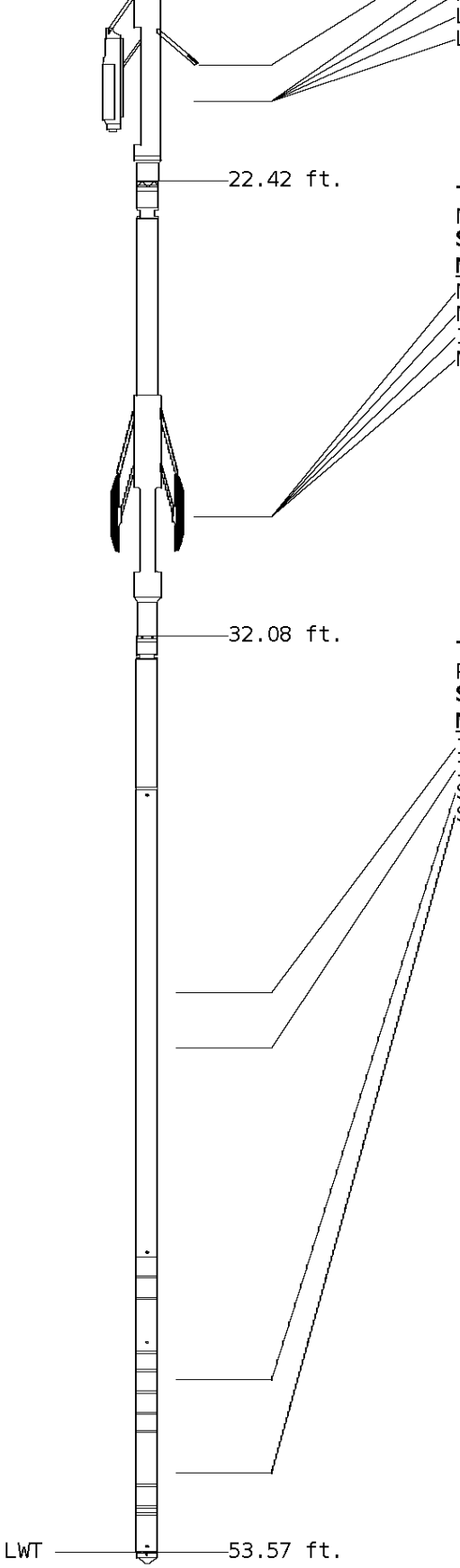
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.57

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

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

Tool: LDT-DP **Length:** 9.72 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on PDT
Sonde ID :PDT-GA-472
Source ID :CSV-587
Pad ID :LDP-DA-02

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-36

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-074

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: RUNNING_FOXES_ANDRA_8-12-3_APR17_MST **Scale:** 1:240
Segment: V1.D1.S6 Reprocess MAIN **Acquired:** 2011-04/18 00:51 3.2.0-9901
Reference: 0 **Processed:** 2011-04/18 02:28 3.2.0-9901

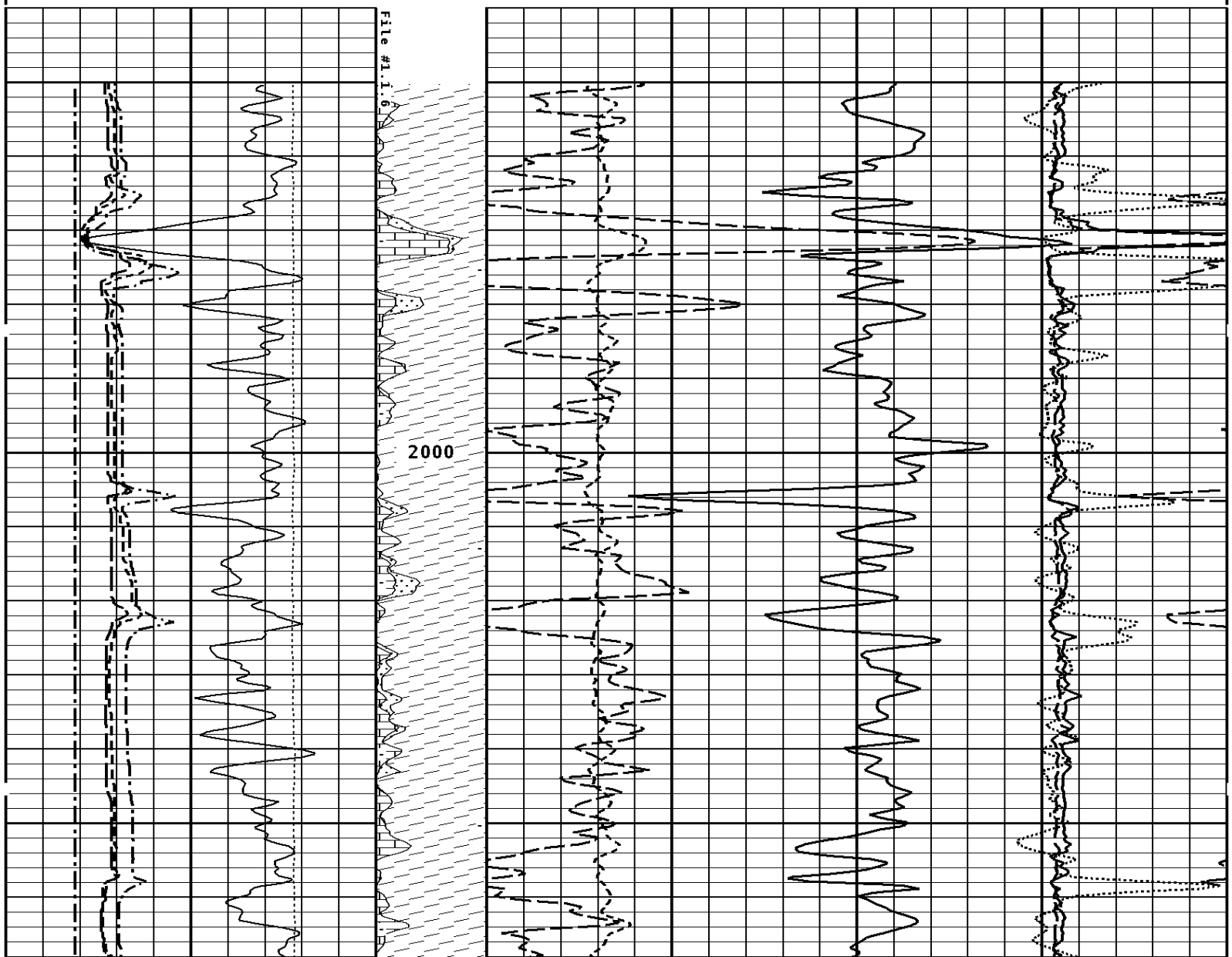
CALIPER MICRO
INCHES (IN)
16 26
6 16

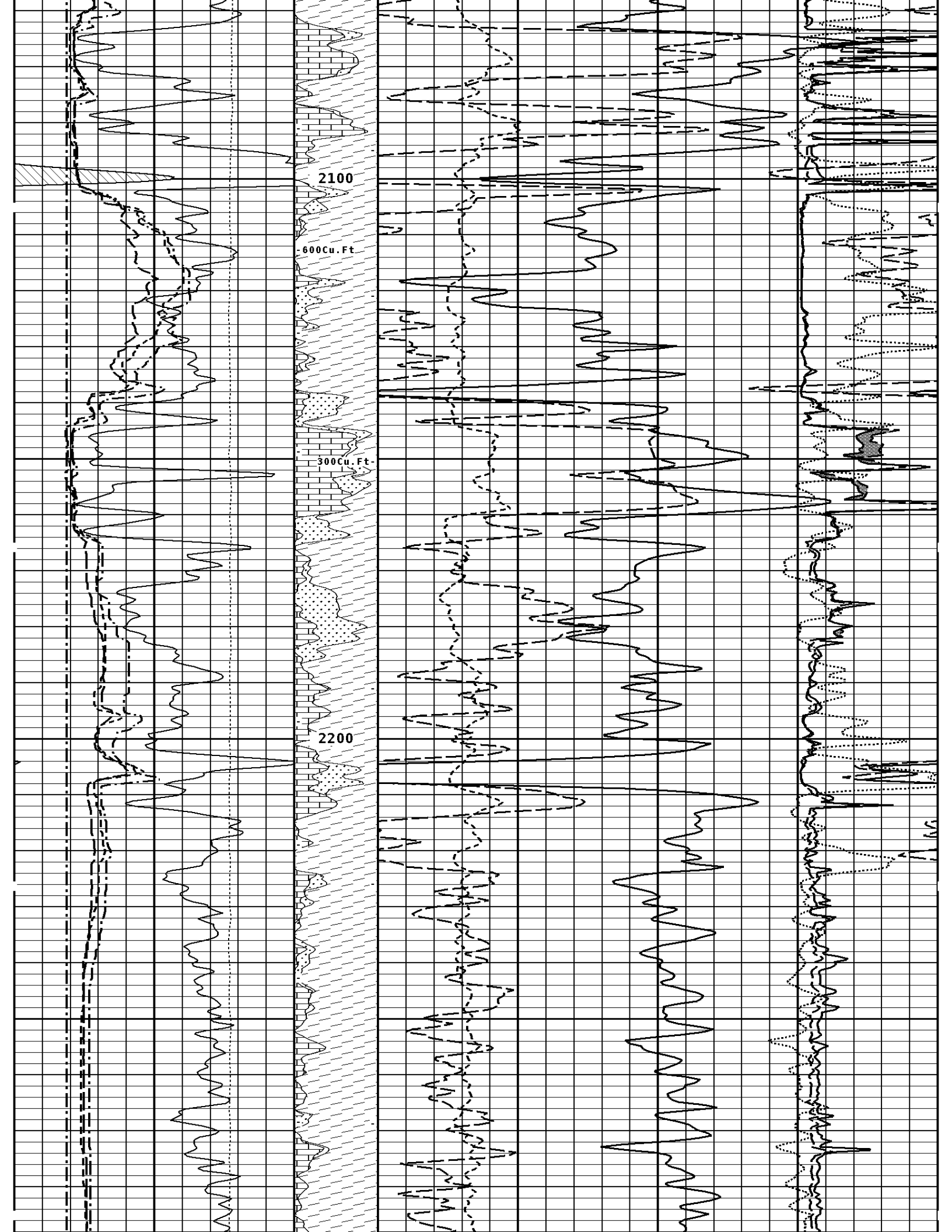
TENSION
LBS

MICRO-INVERSE
OHMM

10000 0			0 40
BIT SIZE INCHES (IN) 6 16	Volume Dolo/Shale		MICRO-NORMAL 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
NEUTRON (Y) CALIPER INCHES (IN) 16 26 / 6 16	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX) 70 30 / 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 MAIN SECTION

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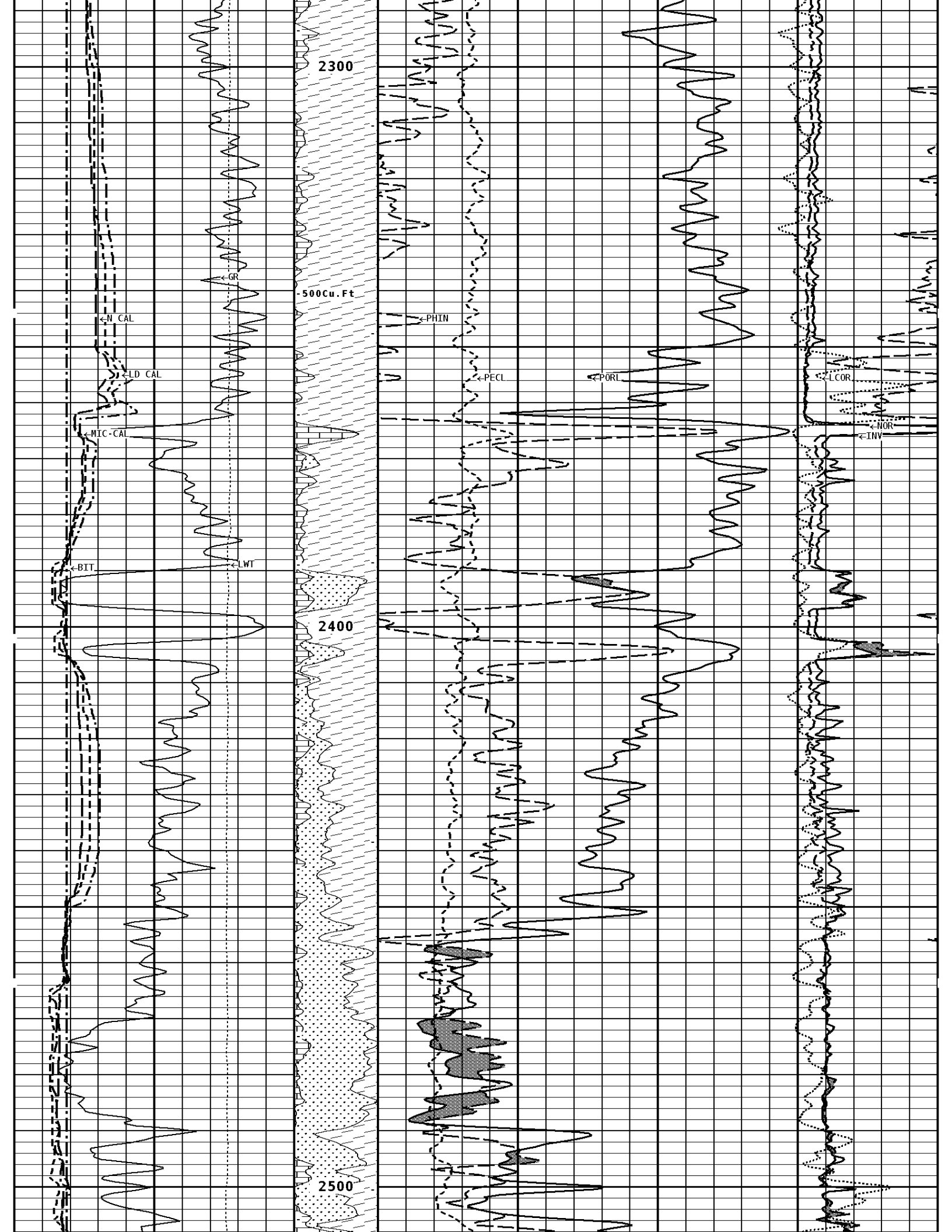
300Cu.Ft-
2200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GR
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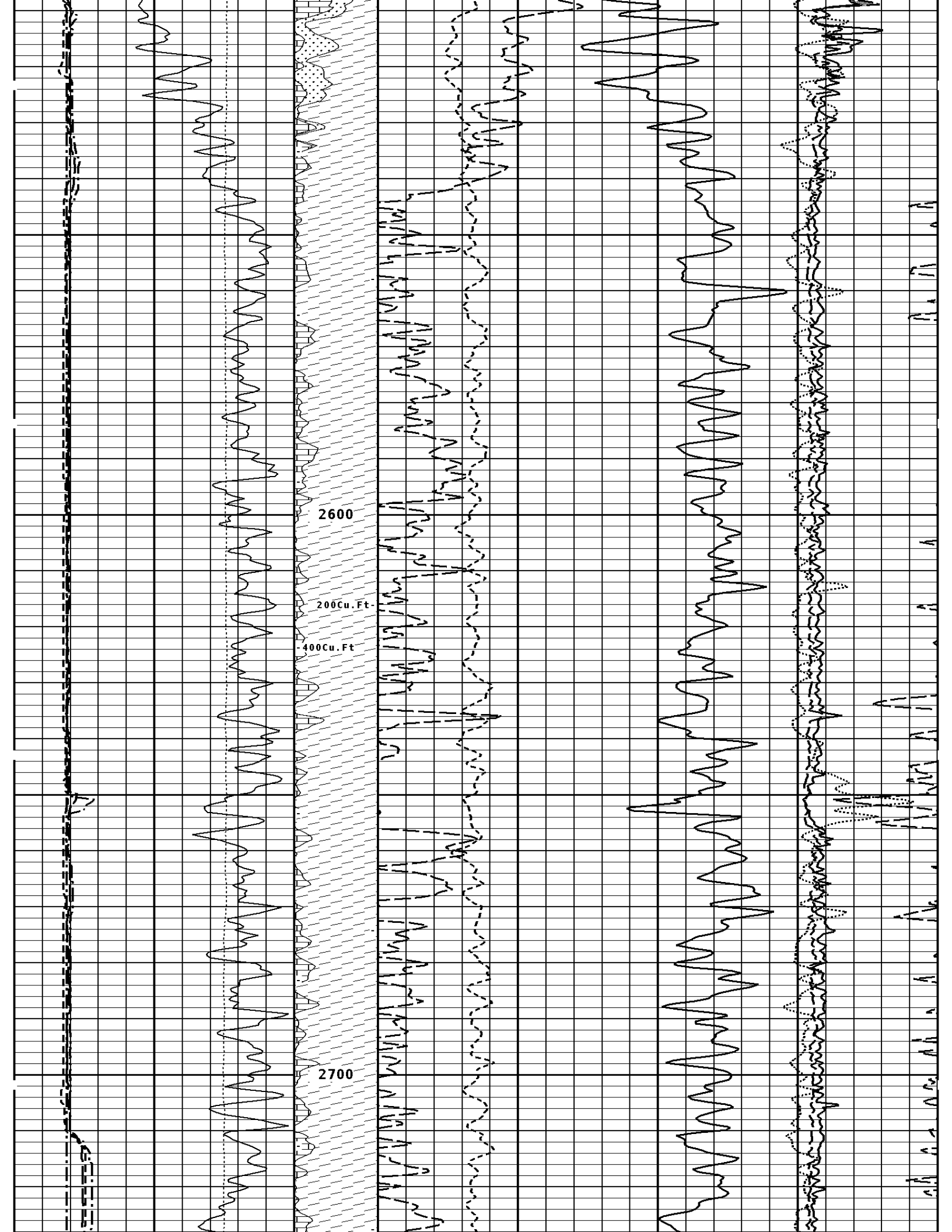
PHIN
LD CAL
PECL
PORL
LCOR
MIC-CAL
NOR
INV
BIT
LWT
2400
2500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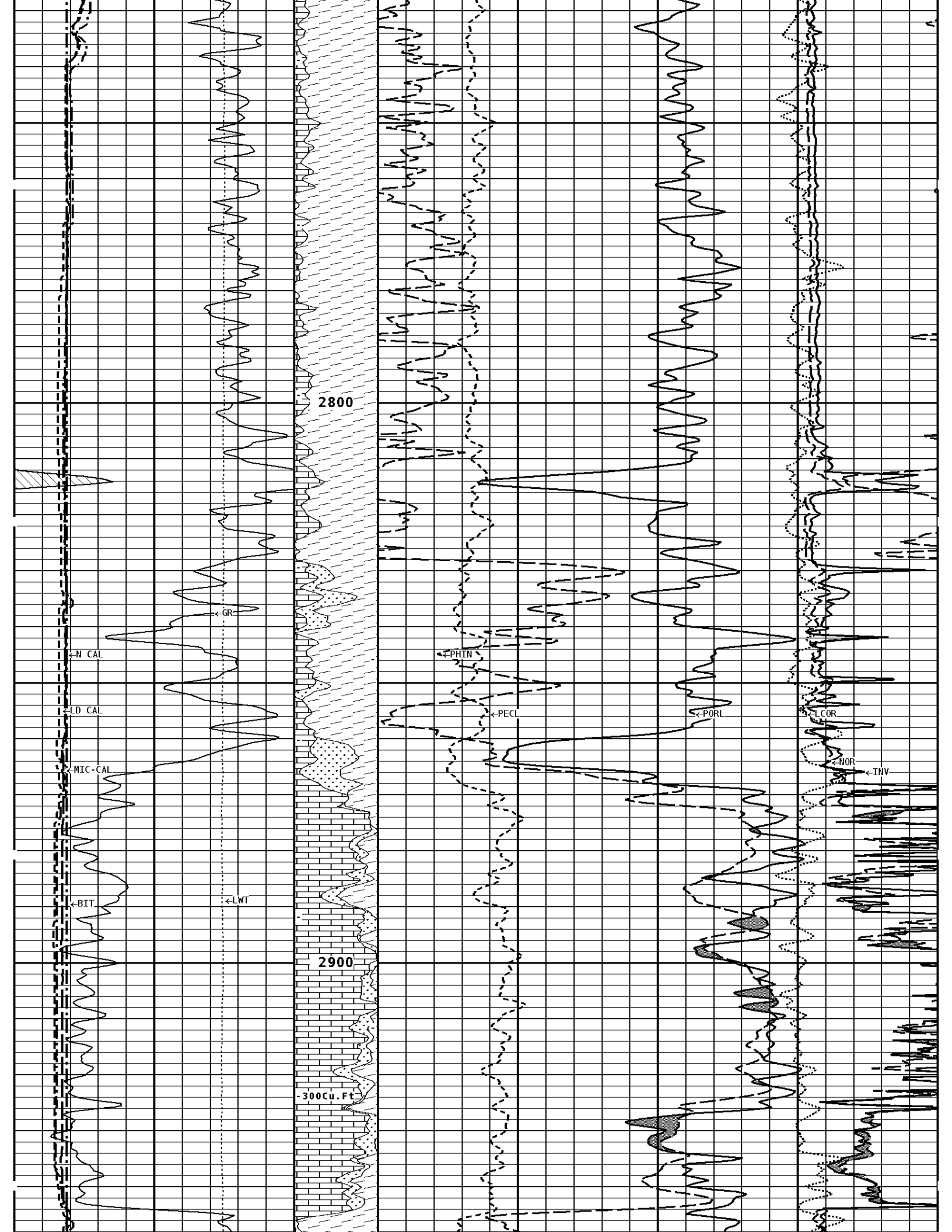
2700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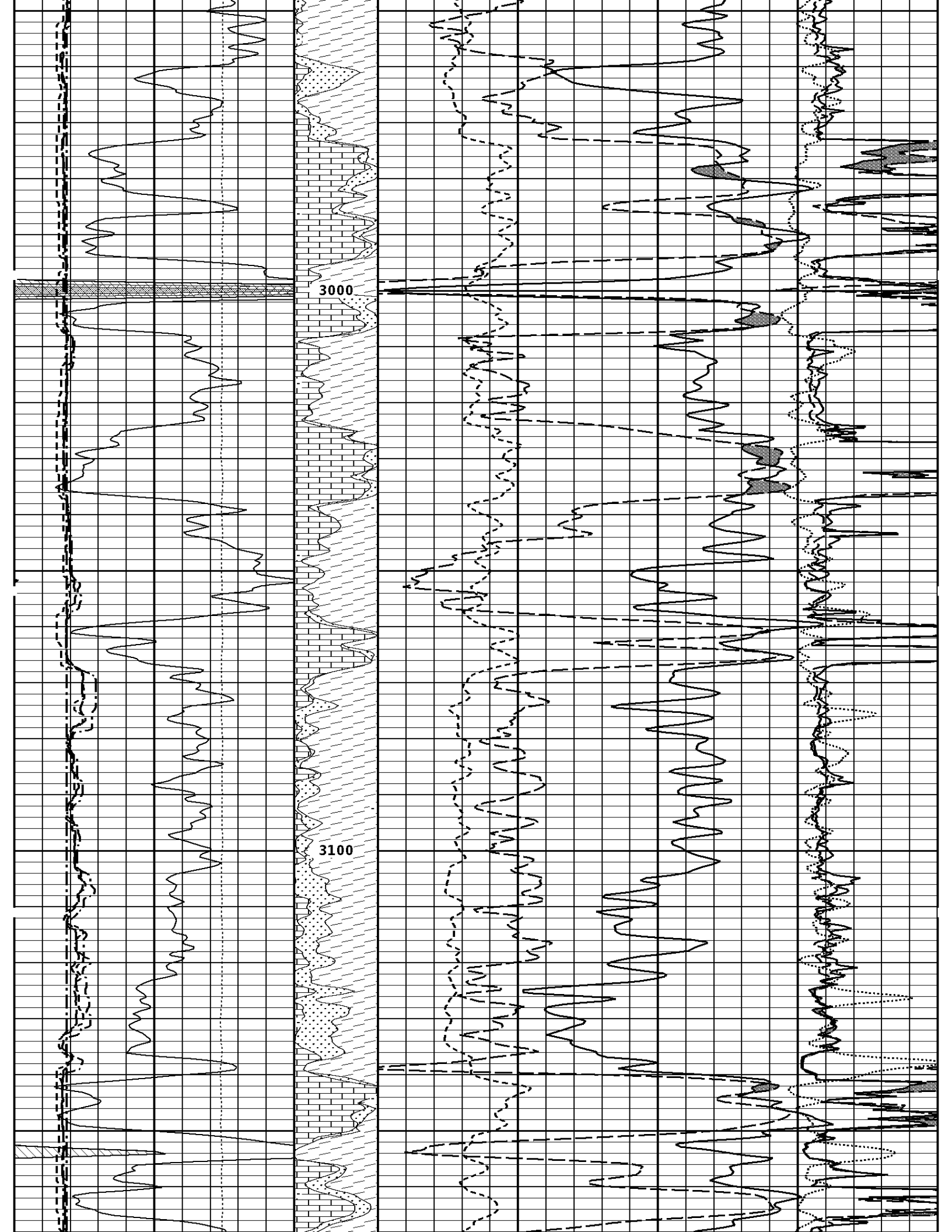
LD CAL
PECL
PORL
LCOR
MIC-CAL
NOR
INV
BIT
LWT
2900
-300Cu.Ft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3100


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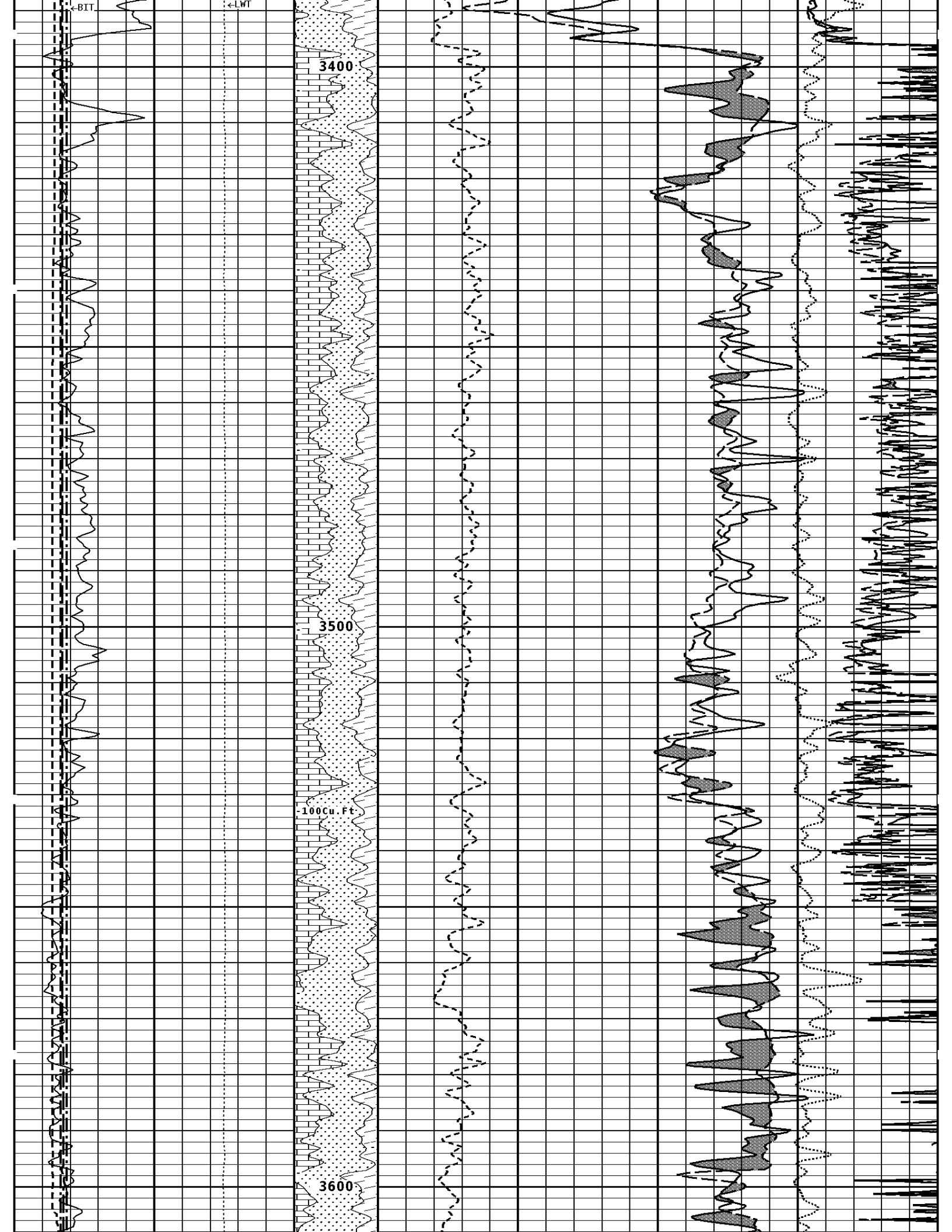
MIC-CAL
PHIN
PECL
PORL
LCOR
NOR
INV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←LWT
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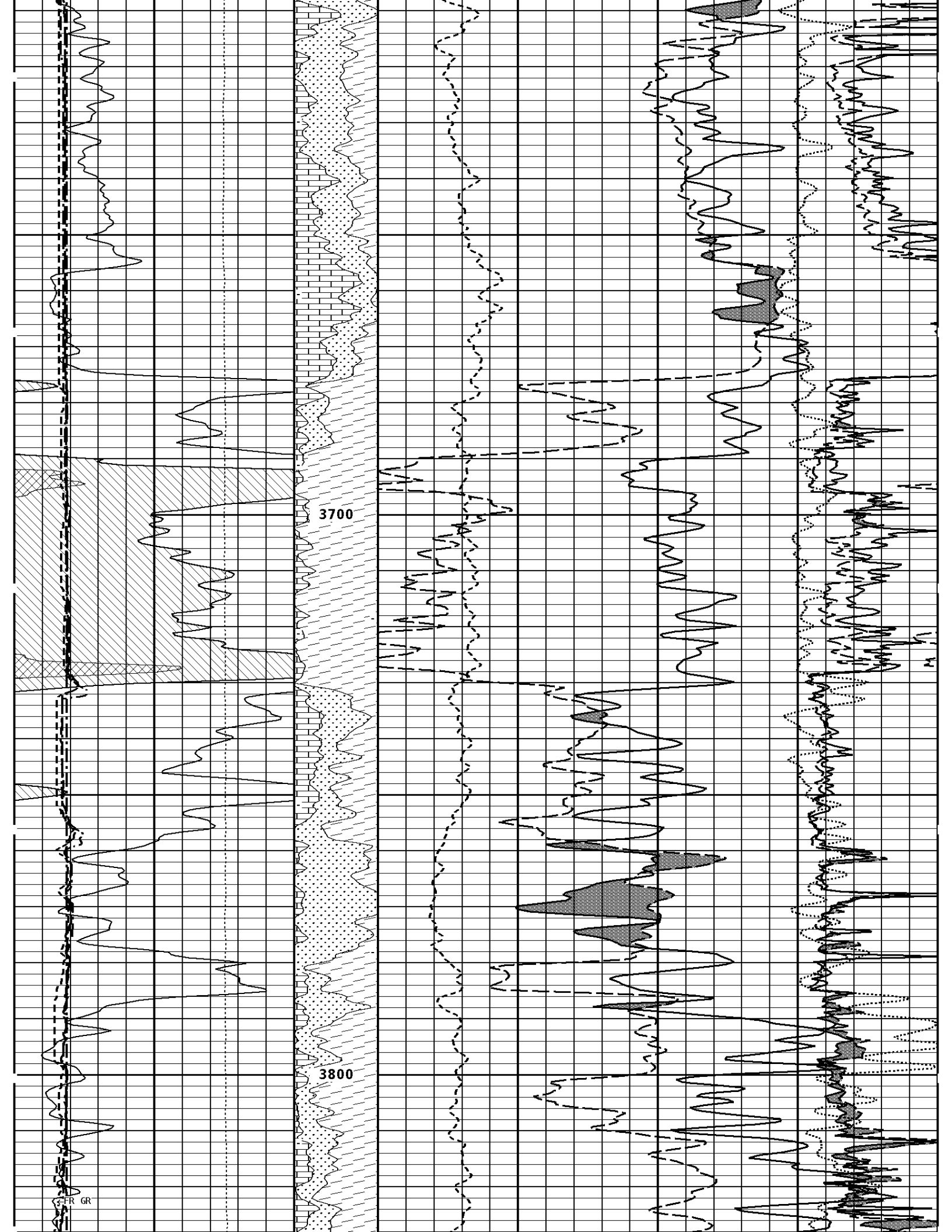
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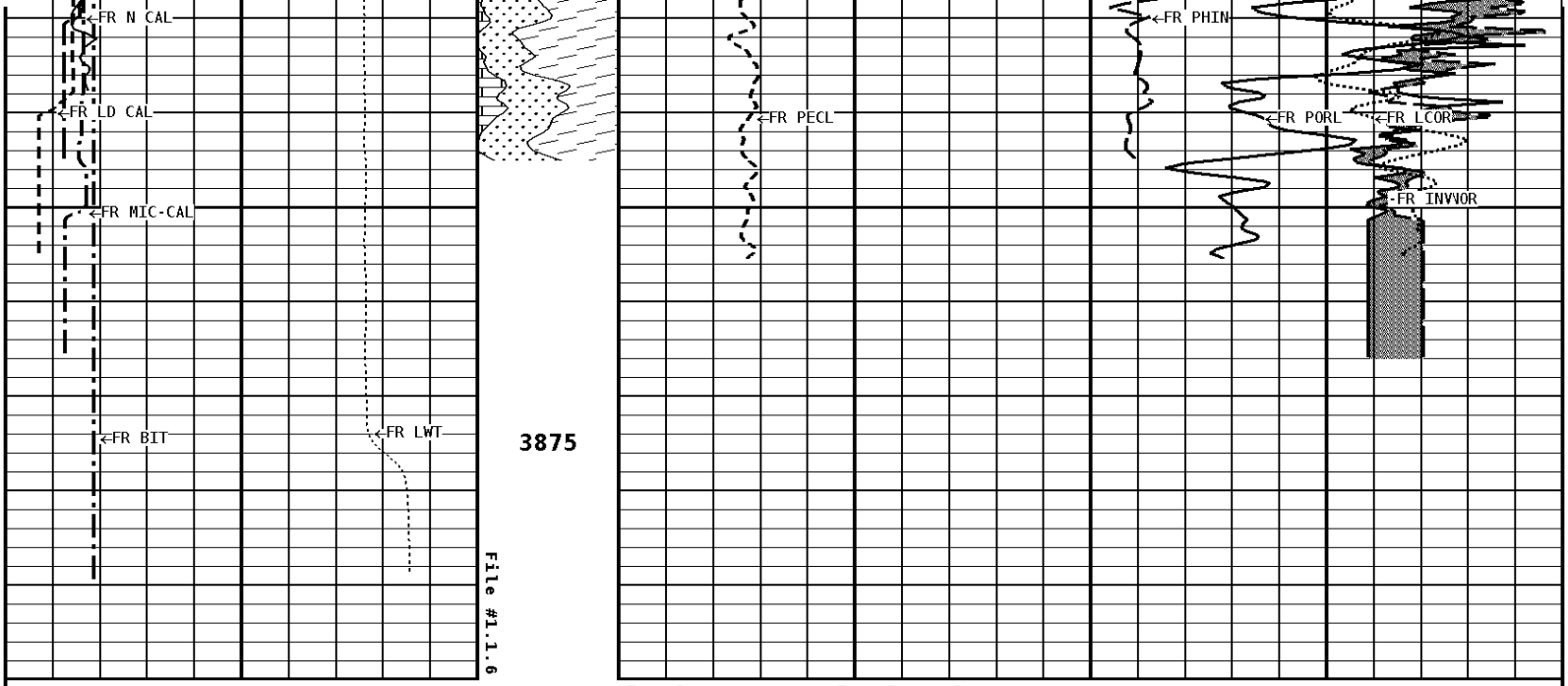


1:240 MAIN SECTION

GAMMA RAY API UNITS	-BHV AHV- CU.FT	DENSITY POROSITY PERCENT (2.71 g/cc)
150 300 0 150		70 30 30 -10 -10 -50
NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	**NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)**
16 26 6 16		70 30 30 -10
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
BIT SIZE INCHES (IN)	Volume Dolo/Shale	**MICRO-NORMAL OHMM**
6 16		0 40
TENSION LBS		**MICRO-INVERSE OHMM**
10000 0		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 Correction (PHI N)	Disable	

Well File: RUNNING_FOXES_ANDRA_8-12-3_APR17_MST
Segment: V1.D1.S5 Reprocess REPEAT
Reference: 0

Scale: 1:240
Acquired: 2011-04/18 00:37 3.2.0-9901
Processed: 2011-04/18 02:23 3.2.0-9901

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

TENSION
LBS
10000 — 0

MICRO-INVERSE
OHMM
0 — 40

BIT SIZE
INCHES (IN)
6 — 16

Volume
Dolo/Shale

MICRO-NORMAL
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

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

Volume
Calcite

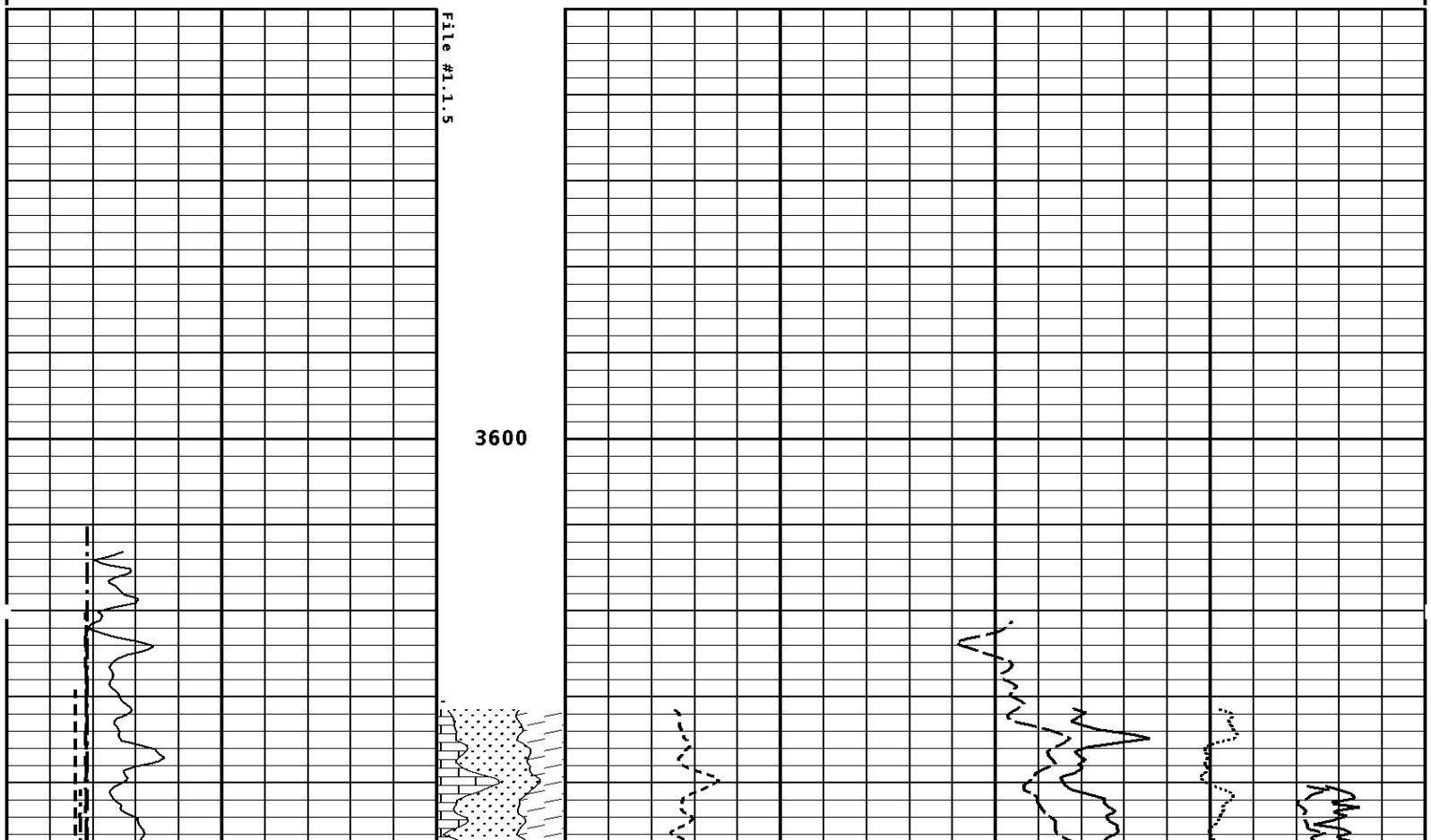
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
70 — 30
30 — -10

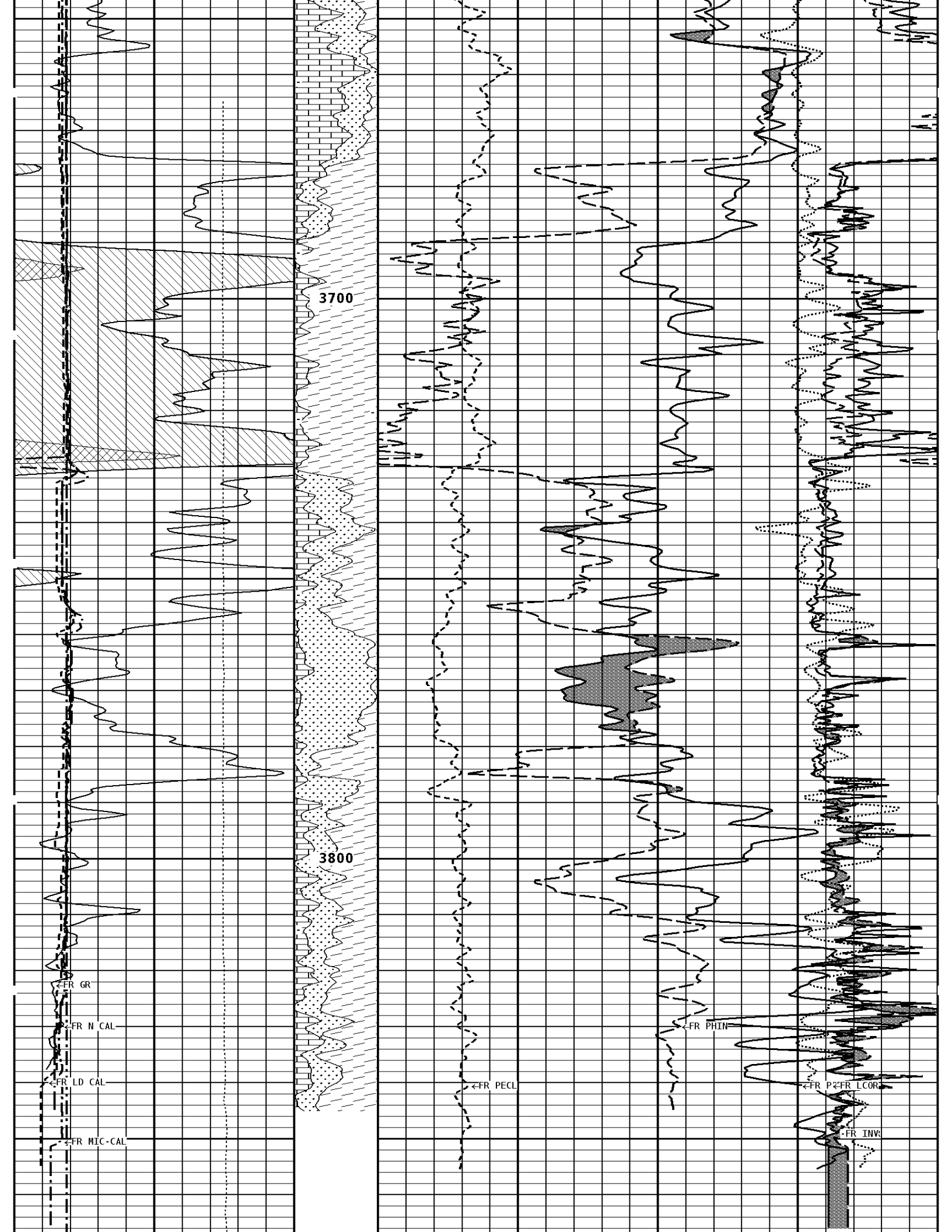
GAMMA RAY
API UNITS
150 — 300
0 — 150

-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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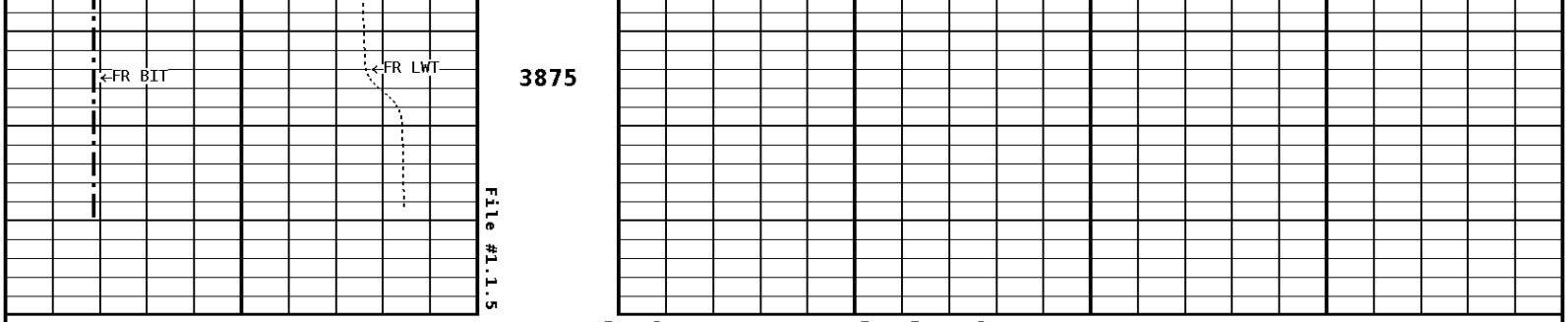


1:240 REPEAT SECTION

GAMMA RAY API UNITS	-BHV AHV- CU.FT	DENSITY POROSITY PERCENT (2.71 g/cc)
150 300 0 150		70 30 30 -10 -10 -50

NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
16 26 6 16		70 30 30 -10

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

BIT SIZE INCHES (IN)	Volume Dolo/Shale	MICRO-NORMAL OHMM	MICRO-INVERSE OHMM
6 16		0 40	0 40

TENSION LBS	CALIPER MICRO INCHES (IN)
10000 0	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 Correction (PHI N)	Disable	

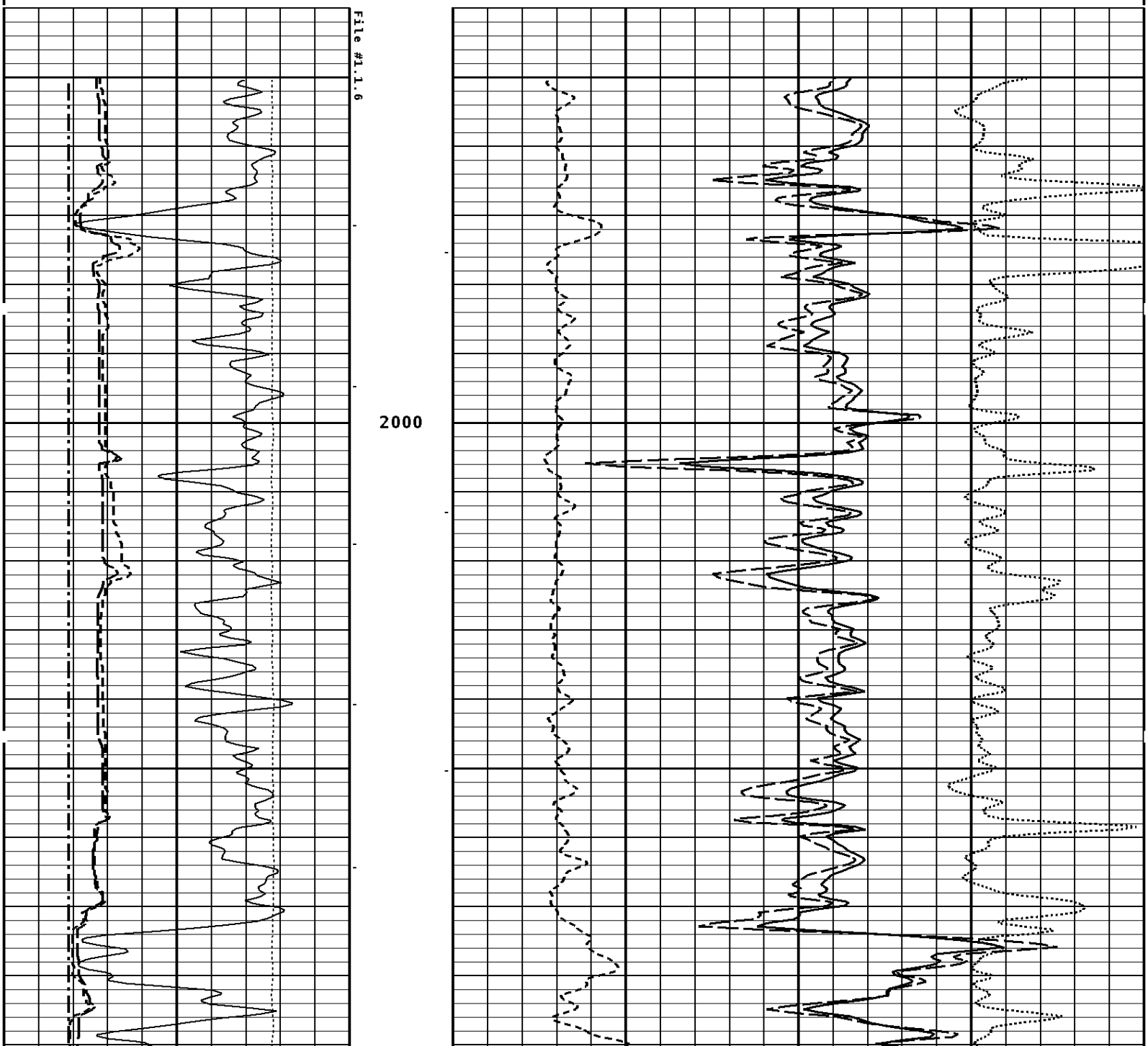
Well File: RUNNING_FOXES_ANDRA_8-12-3_APR17_MST **Scale:** 1:240
Segment: V1.D1.S6 Reprocess MAIN **Acquired:** 2011-04-18 00:51 3.2.0-9901
Reference: 0 **Processed:** 2011-04-18 02:28 3.2.0-9901

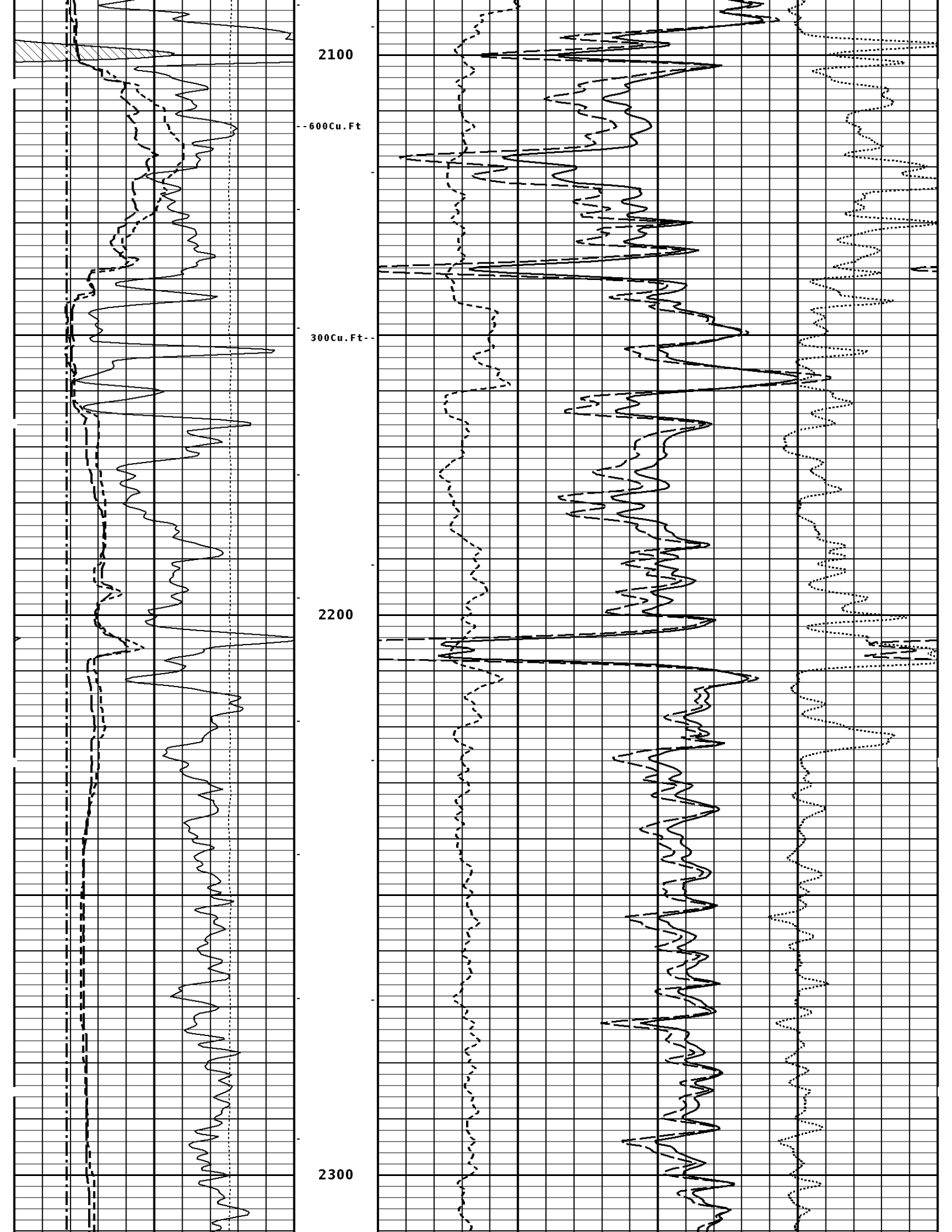
TENSION LBS
10000 0

BIT SIZE INCHES (IN)
6 16

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

1:240 MAIN SECTION
BULK DENSITY

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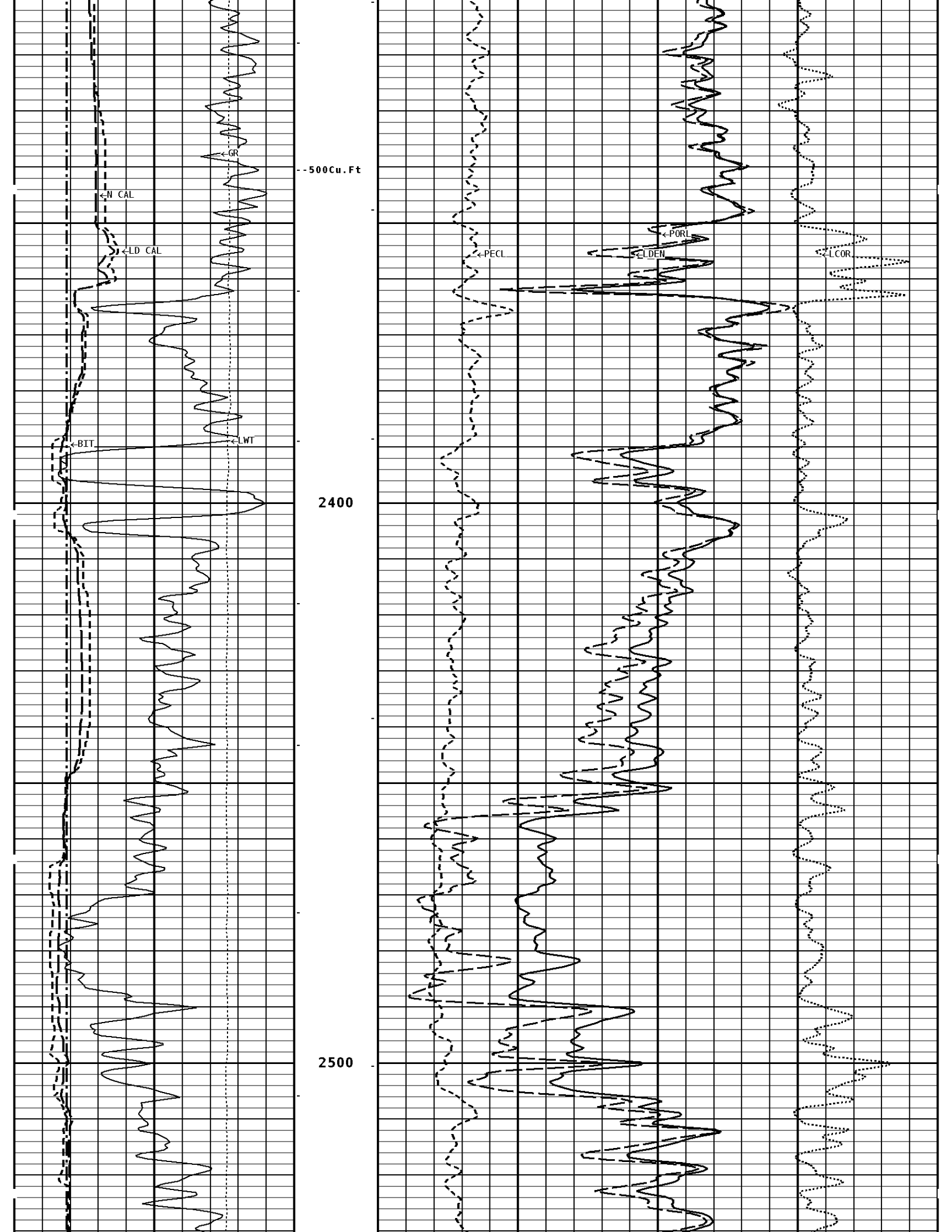
2300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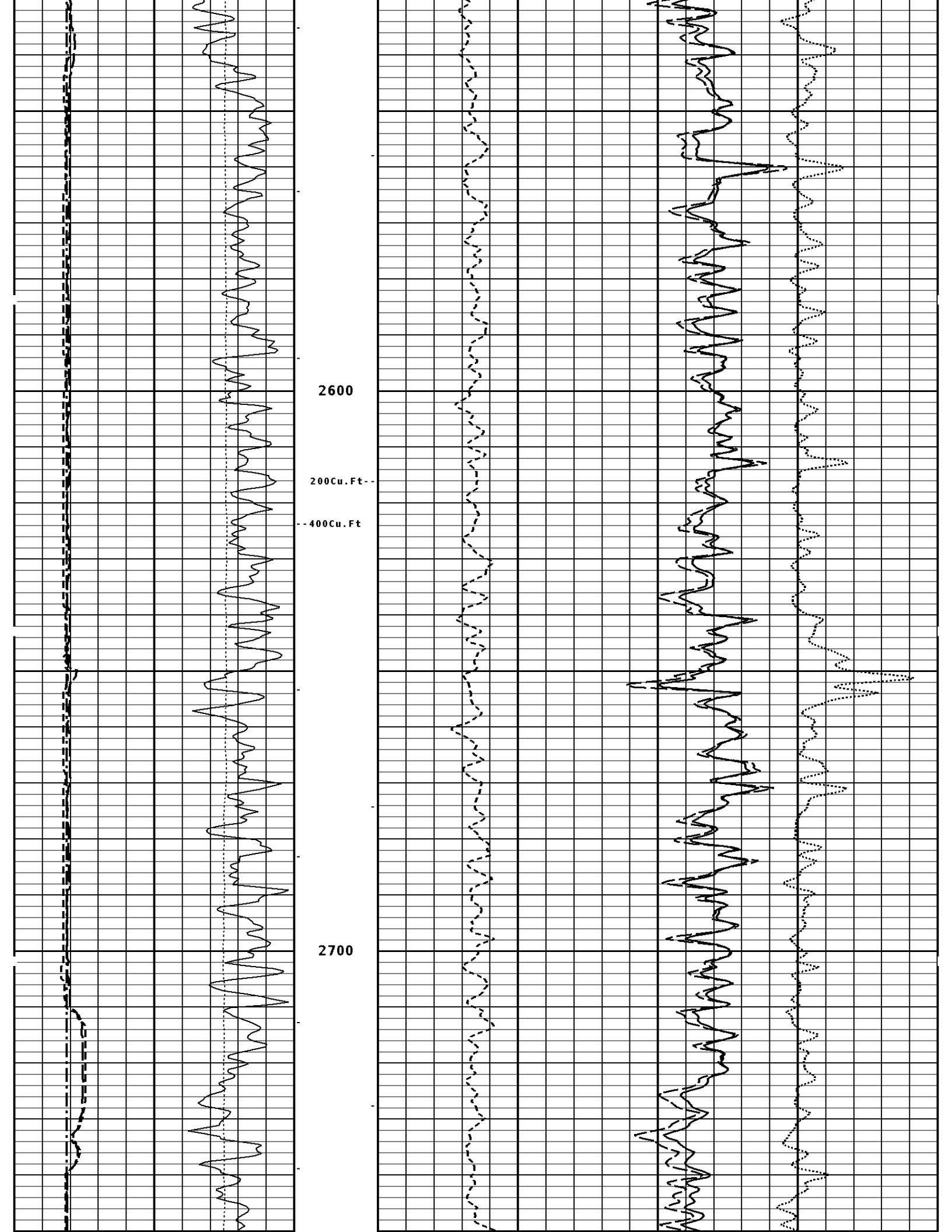
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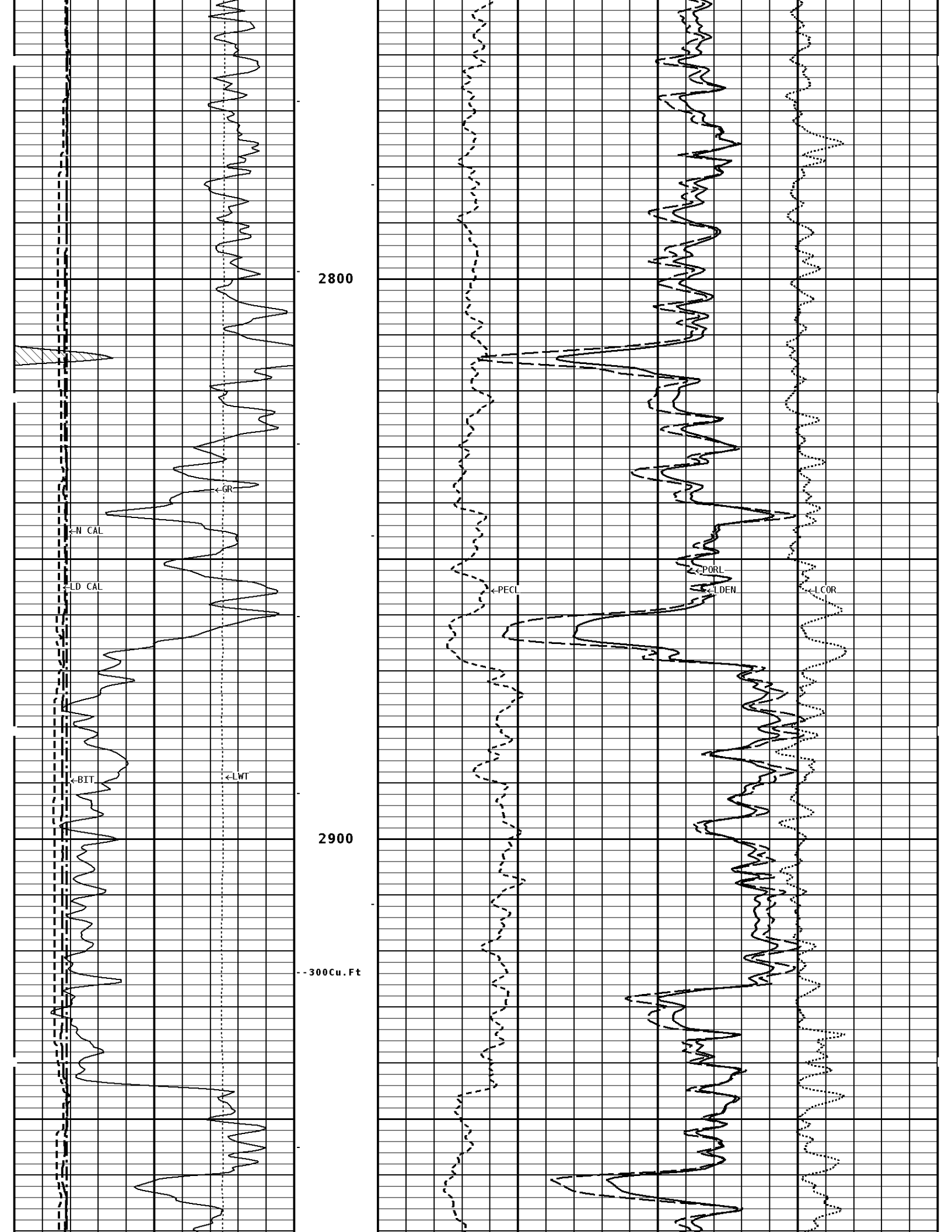
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LD CAL
BIT
LWT
2900
--300Cu.Ft
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PORL
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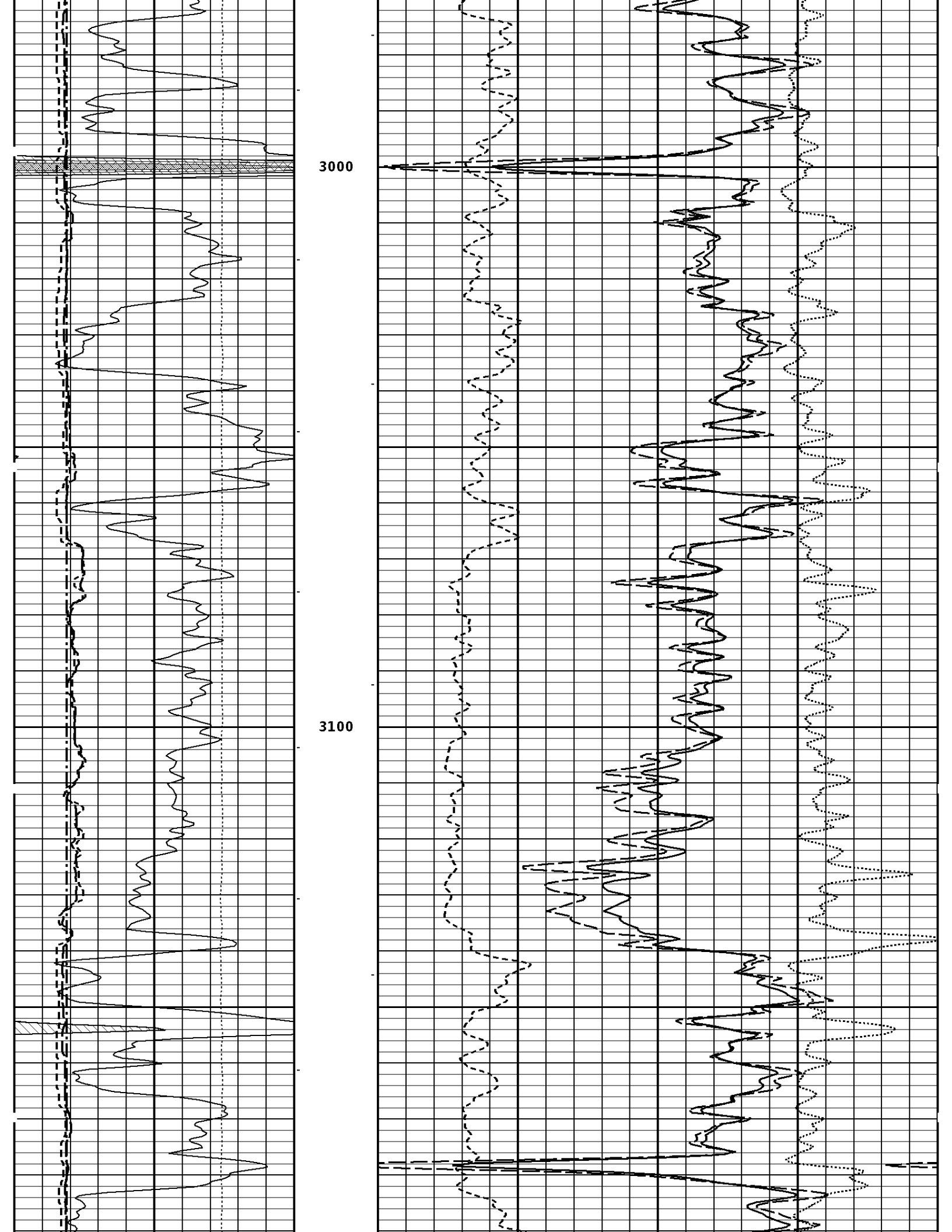
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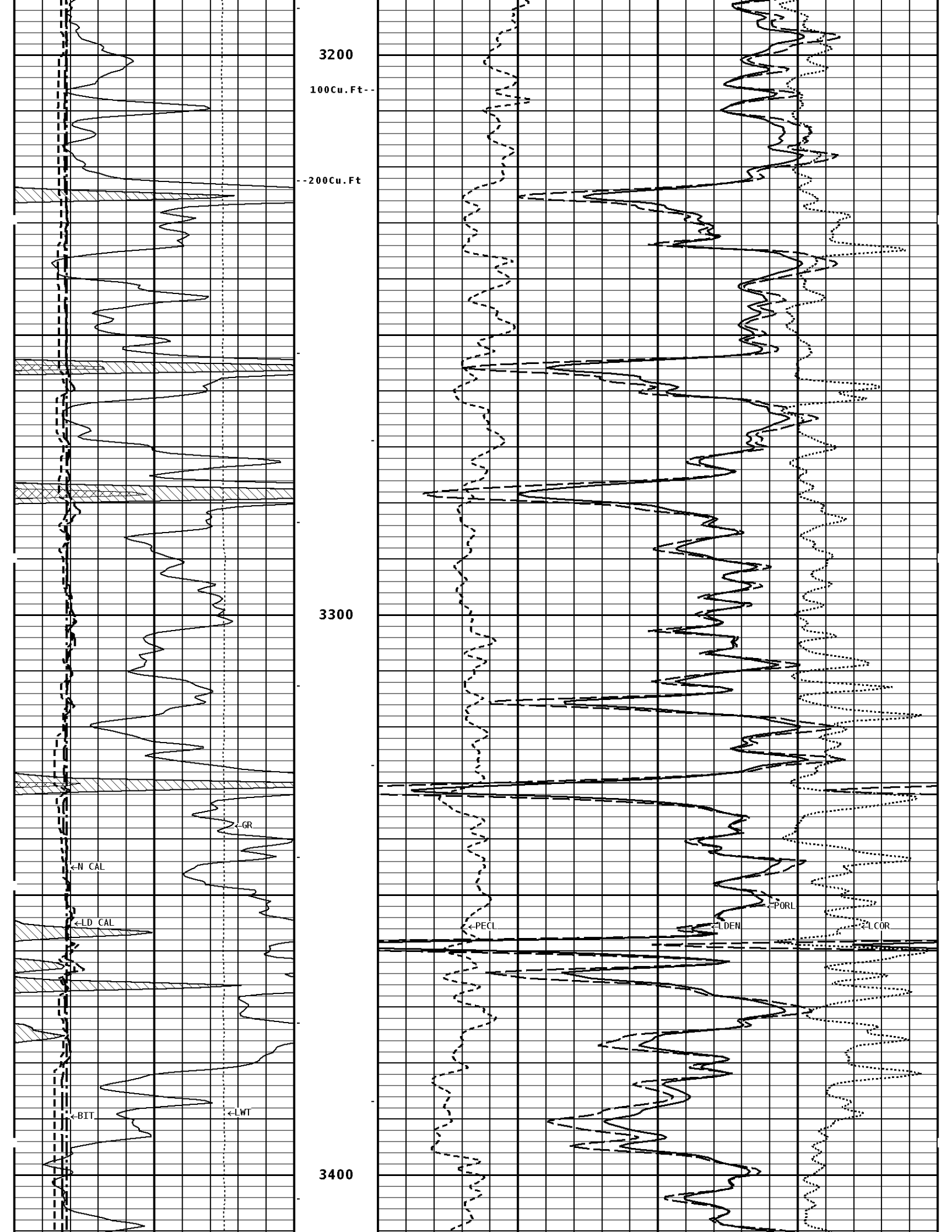
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←LDEN
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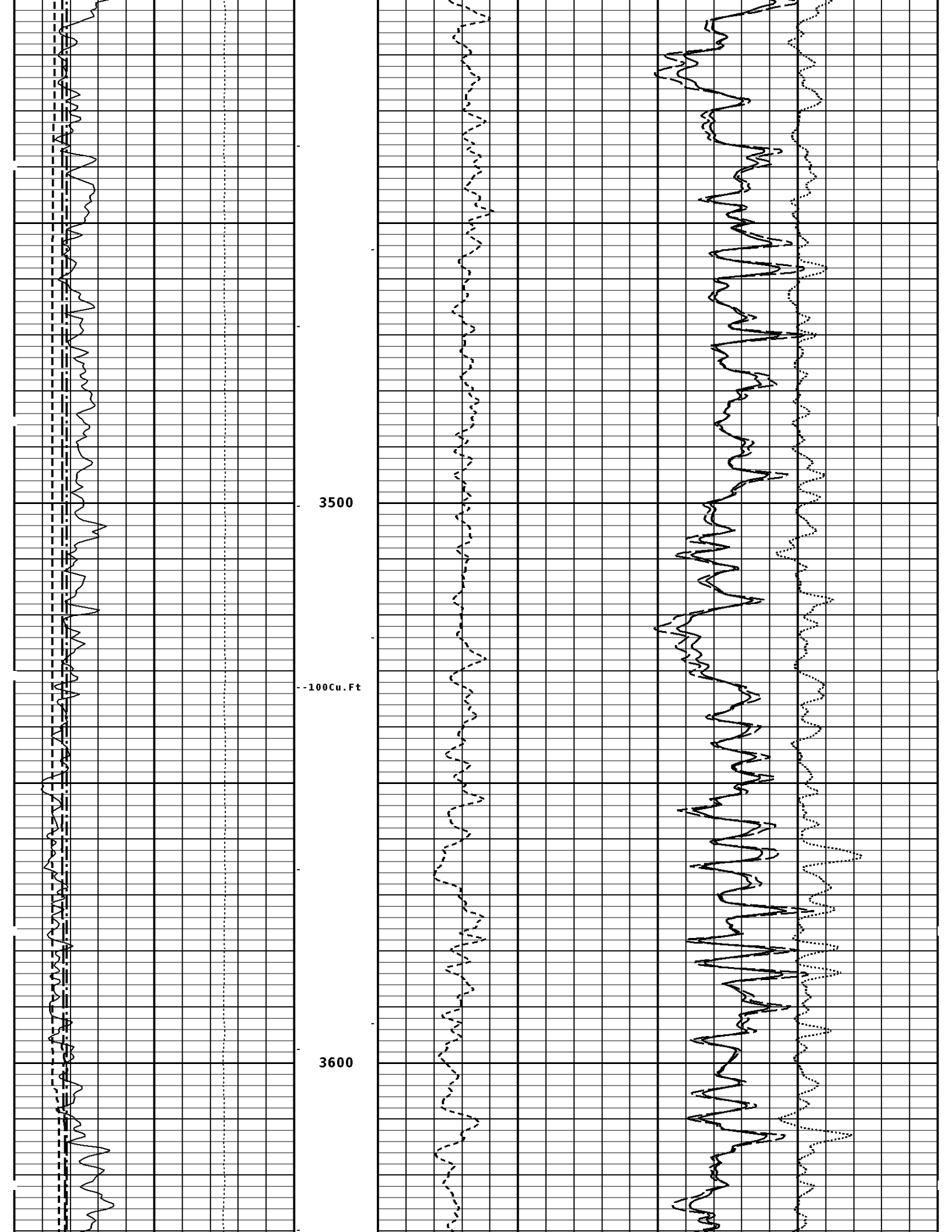
3400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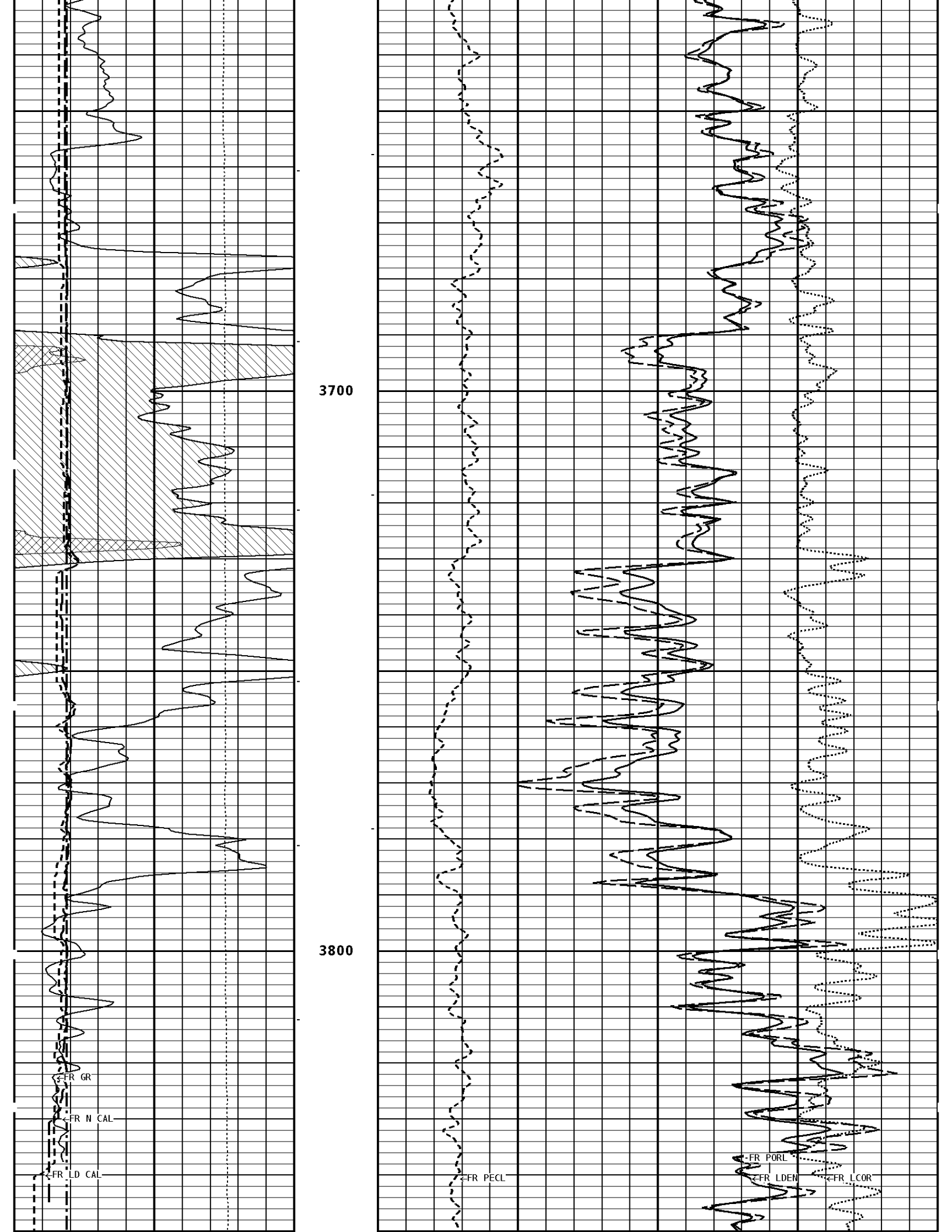
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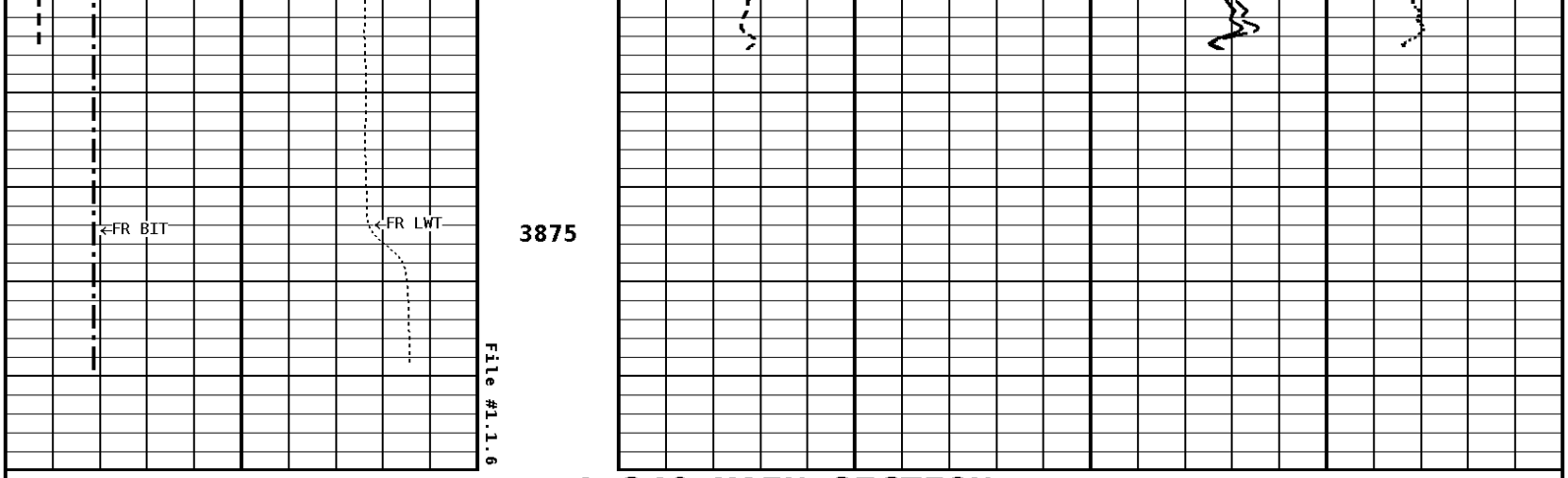

1:240 MAIN SECTION
BULK DENSITY

GAMMA RAY API UNITS	-BHV AHV- CU.FT	COMPENSATED BULK DENSITY G/CC
150 300		3.0 4.0
0 150		2.0 3.0
		1.0 2.0

NEUTRON (Y) CALIPER INCHES (IN)	DENSITY POROSITY PERCENT (2.71 g/cc)
16 26	70 30
6 16	30 -10
	-10 -50

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

BIT SIZE INCHES (IN)
6 16

TENSION LBS
10000 0

*** 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 : 21-Aug-2009 Time : 15:26
Sensor Suite : GR-GR5 ID : GRT-BA-14

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	49	347	CPS	175	GRAPI

Shop Calibration
CNT-AA

Performed : 21-MAR-2011 Time : 11:09
Sensor Suite : CALI-BCN ID : NDT-AB-400

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.0	13.9	6.0	12.0	IN.

Performed : 15-Apr-2011 Time : 11:12
Sensor Suite : BHC NEUT ID : CNP-AA-116
Source ID : N-1044

	Tank		Verification	Units
	Measured	Calibrated	Jig	
N/F	3.8743	3.6893	3.7032	
Porosity	23.4	20.5	20.7	%

Shop Calibration
LDT-DP

Performed : 15-Apr-2011 Time : 10:49
Sensor Suite : BHCPELNG ID : LDP-DA-02
Source ID : CSV-587

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	71	455	730	309	CPS
LSW2	73	554	888	395	CPS
LSW3	281	1380	2162	1174	CPS
LSW4	359	1330	1841	1175	CPS
LSW5	34	44	45	43	CPS
LSW6	93	94	93	94	CPS
LSW7	59	60	59	60	CPS
LSW8	2	3	3	3	CPS
QS	0.220	0.219	0.220	0.222	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	108	603	2484	383	CPS
LLW2	119	1042	4311	757	CPS
LLW3	451	2022	7439	1750	CPS
LLW4	587	1184	3041	1100	CPS
LLW5	62	69	84	68	CPS
LLW6	191	188	178	190	CPS
LLW7	118	118	112	119	CPS
LLW8	4	5	10	5	CPS
QL	0.235	0.230	0.226	0.231	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Shop Calibration
MST-DA

Performed : 19-SEP-2007 Time : 18:02
Sensor Suite : CALI-MSN ID : MST-DA-36

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	5.0	10.0	6.0	12.0	IN.

Performed : 19-SEP-2007 Time : 17:47
Sensor Suite : MSTDA-NI ID : MST-DA-36

Internal

	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
INV-V	220.8	20617.0		0.00	1946.00	MV
NOR-V	161.0	20472.8		0.00	1546.00	MV
IN-C	160.2	20698.7		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM

Performed : 09-SEP-2007 Time : 14:53
Sensor Suite : MSTDAMSF ID : MST-DA-36

Internal

	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
MSFC	150.0	58600.0		0.00	1522.00	UA
MSFB	32800.0	62500.0		0.00	1522.00	MA
MOM1	150.0	5950.0		0.00	1522.00	MV
MSFRA					43.30	OHMM