Tucker ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY MICRO LOG

Company PROLIFIC RESOURCES LLC.
Well ROESLER #3
Field
County PAWNEE
State KANSAS
Country USA
API No. 15-145-21802

File No : TUL-60437
Company : PROLIFIC RESOURCES LLC.
Well : ROESLER #3
Field :
County : PAWNEE
State : KANSAS
Country : USA
API No : 15-145-21802

Location :
836' FSL & 1833' FWL
SE NW SE SW

LSD : **Sect :** 2 **Twp :** 22S **Rge :** 18W

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	GL	**KB** 2048.00	Ft	CNT	PIT
Log Measured From:	GL	**DF** 2047.00	Ft	LDT	
Above Permanent Datum:	6.00 Ft	**GL** 2042.00	Ft	MLT	

Date	03-21-2015						
Run Number	1						
Depth--Driller	4285.0	Ft					
Depth--Logger	4284.0	Ft					
First Reading	4261.0	Ft					
Last Reading	1108.0	Ft					
Casing--Driller	1108.0	Ft					
Casing--Logger	1108.0	Ft					
Bit Size	7.875	In					
Casing Size	8.625	In					
Hole Fluid Type							
Density	9.3						
Fluid Loss	6.4						
PH/Viscosity	10.0	56.0					
Sample Source	MEASURED						
RM@Measured Temp.	0.500 @ 60 F						
RMF@Measured Temp	0.430 @ 60 F						
RMC@Measured Temp.	0.580 @ 60 F						
Source RMF/RMC	CALCULATED	CALCULATED					
RM@BHT	0.290 @ 110 F						
Time Circulation Stopped	03-21-2015 3:19 am						
Max Recorded Temp.	112 F						
Equipment/Base	T-126	TULSA					
Recorded By	S.K. DAVIS						
Witnessed By	B. STOLZLE / J BURK						

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
8.625	30.00	1108.00	0.00

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	4284.00

Run Number	1
Date	03-21-2015
Date/Time On Bottom	03-21-2015 2:45 am
Depth to Fluid	0.0 Ft
Salinity	5000.000
RMF@BHT	0.240 @ 110 F
RMC@BHT	0.330 @ 110 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 3500'
ANHYDRITE SECTION FROM 1128' TO SCG
SALT DOME FROM 1960' TO 1550'

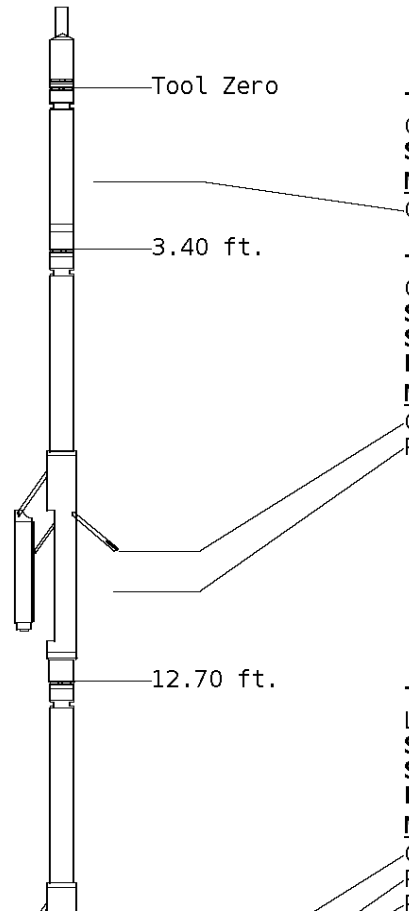
GRT; GRP,
CNT; PHIN, CLCNIN
LDT; PORL, LCORN, PECLN, LDENN, CLLDIN
MLT; NOR.RF, INV.RF, MSCLPIN.
PIT; ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS;

C. GONZALES
J. KLINE

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-015

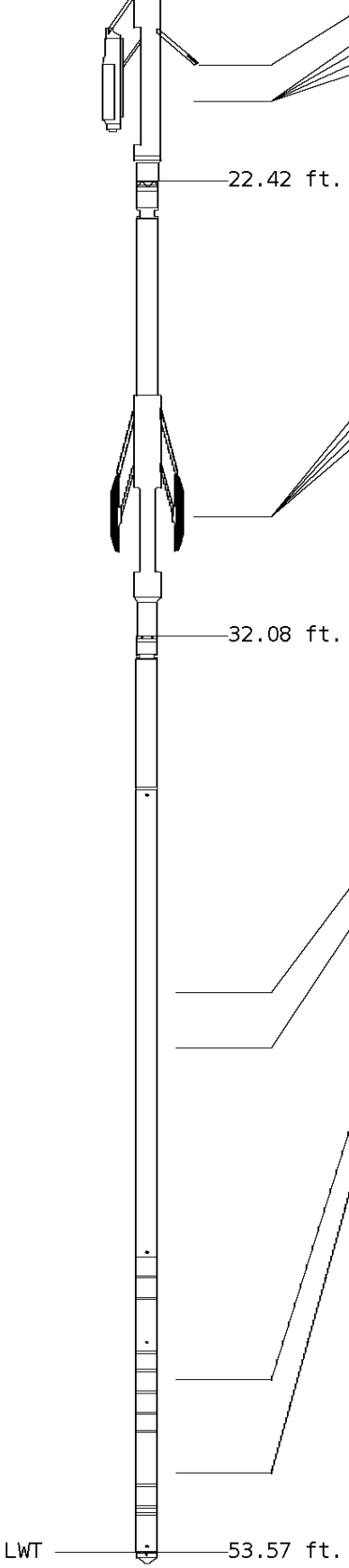
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.57

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-123
Source ID :N-1045
Pad ID :CNP-AA-101

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 :PDT-G-426
Source ID :2991GW
Pad ID :LDP-DA-50

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



Measure Point	Tool Offset	Stack Offset	Bottom Offset
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-32

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-075

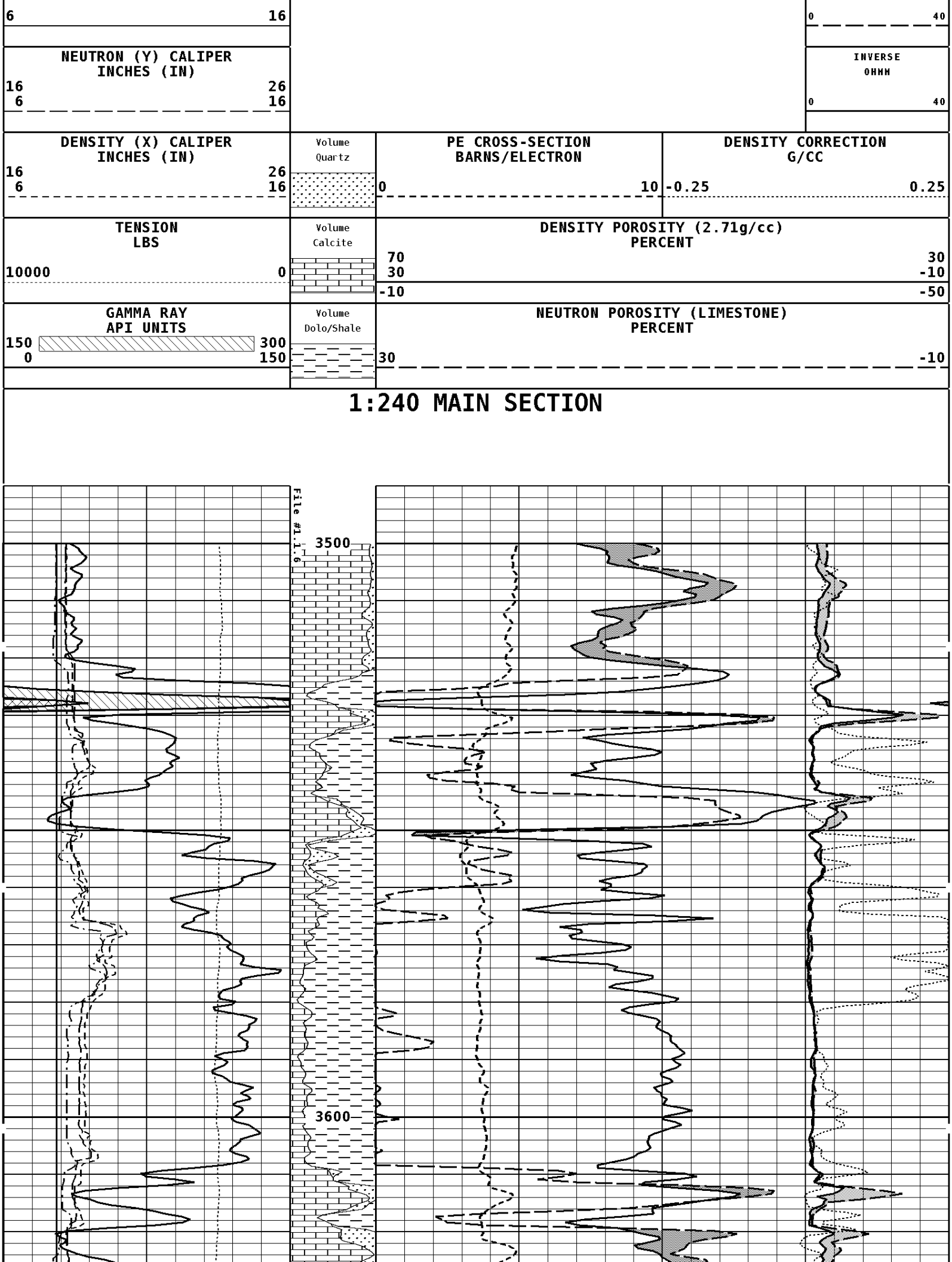
Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	41.00	12.56
ILM	10.10	42.18	11.39
SFLU	17.49	49.57	4.00
SP	20.60	52.68	0.88

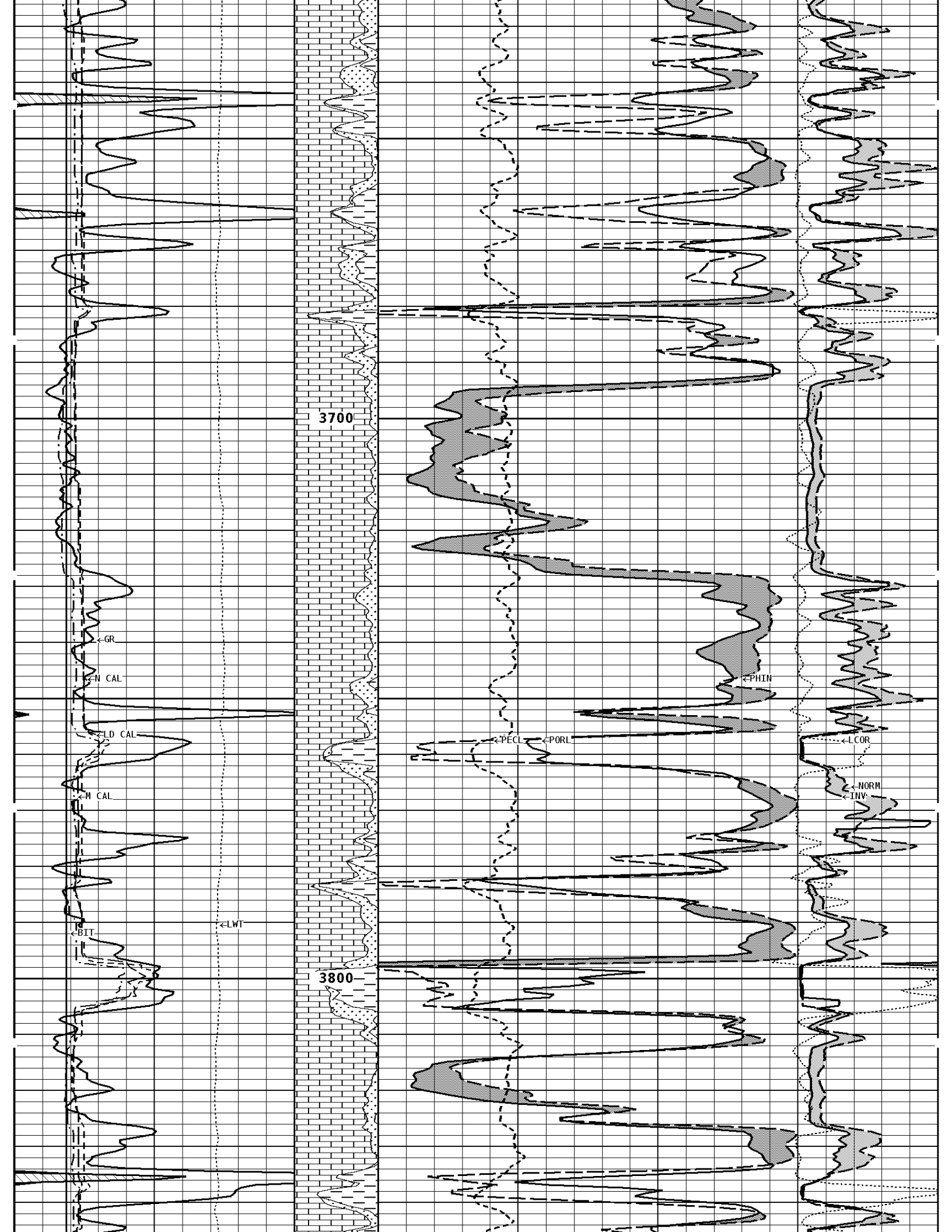
Well File: pro-roe-3-mar-21 **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S6 MAIN **Acquired:** 2015-03/21 02:48 3.4.0-13477
Reference: 0 **Processed:** 2015-03/21 04:12 3.4.0-13477

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
-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
File #1.1.6
3500
3600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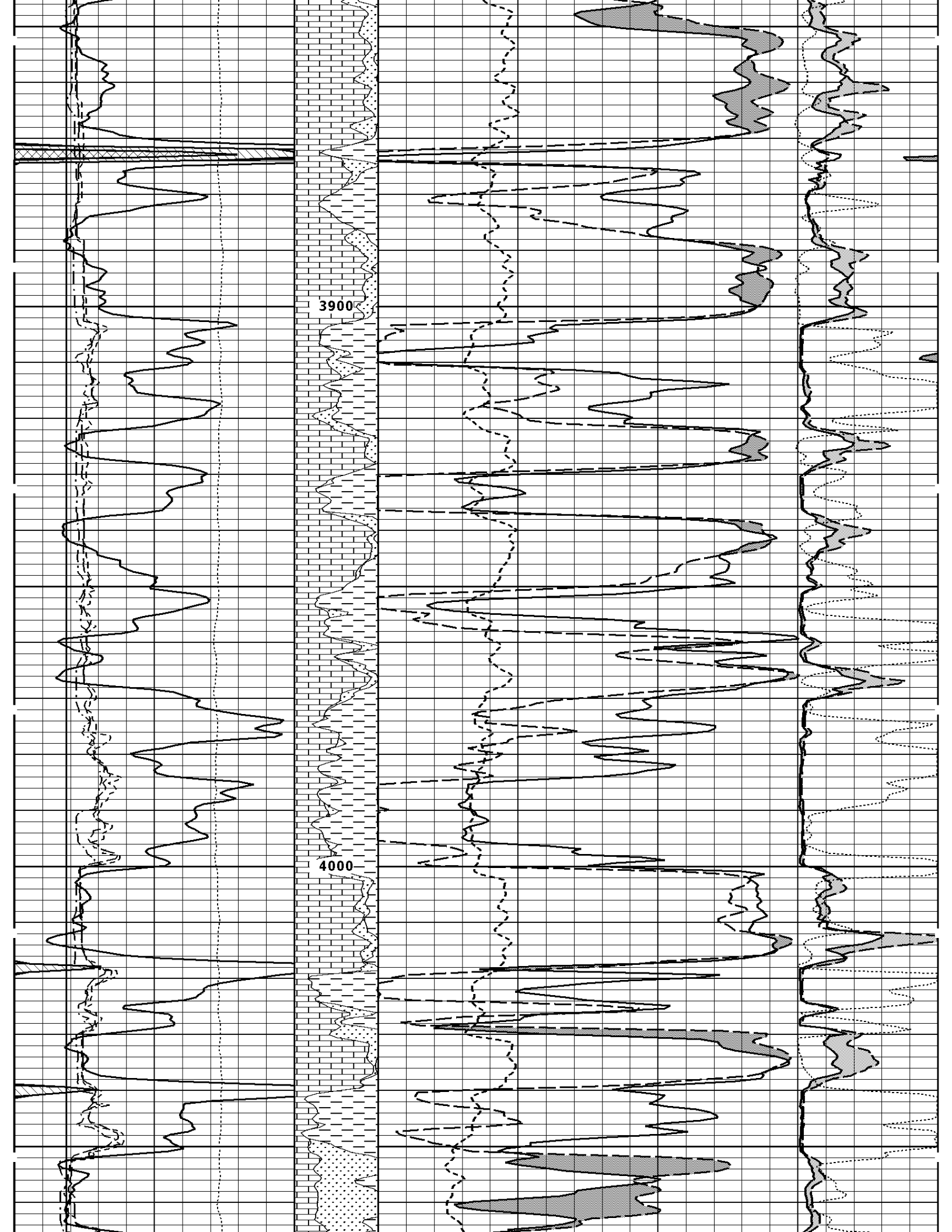
3800
GR
N CAL
LD CAL
M CAL
BIT
LWT
PHIN
PECL
PORL
LCOR
NORM
INV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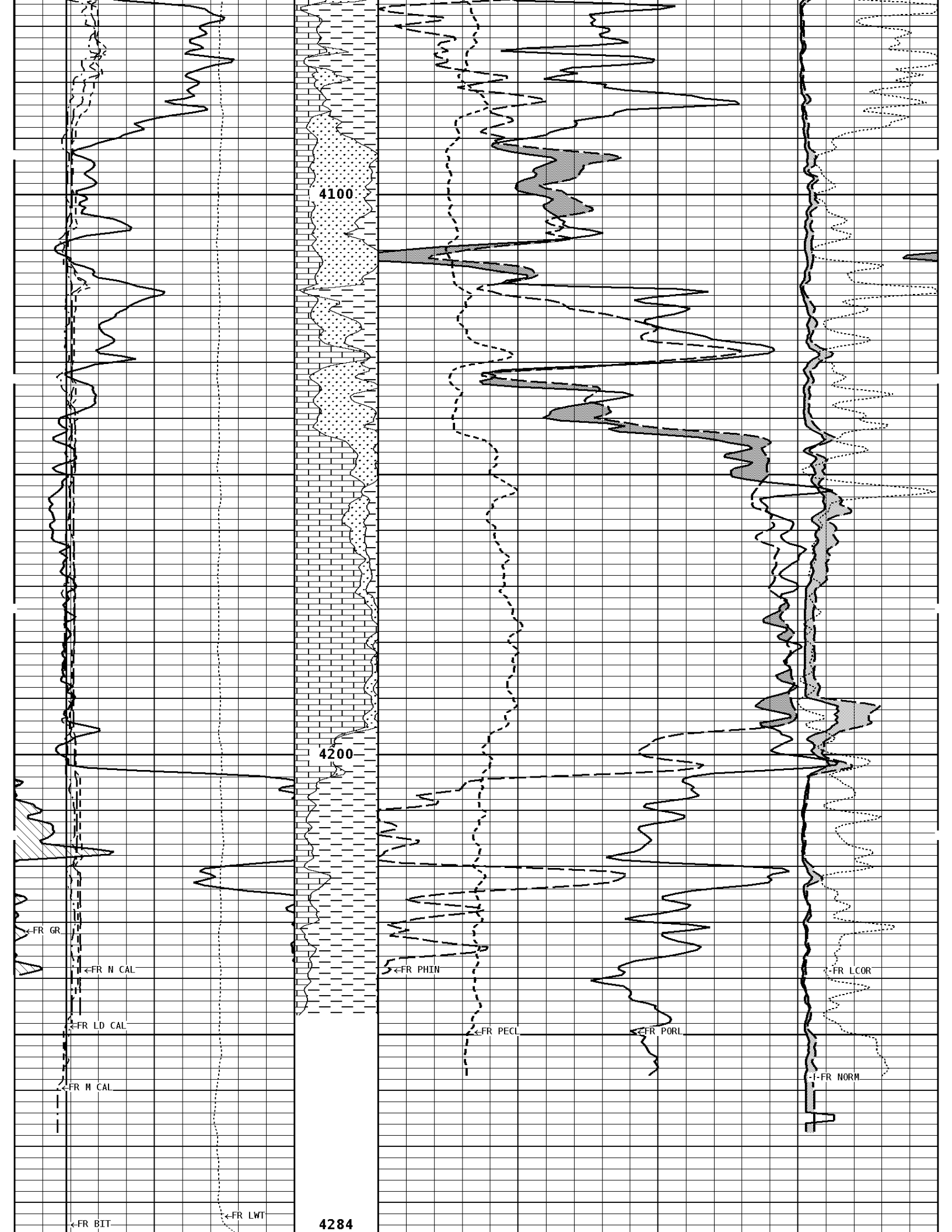
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4200
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←FR N CAL
←FR LD CAL
←FR M CAL
←FR BIT
←FR LWT
4284
←FR PHIN
←FR PECL
←FR PORL
←FR LCOR
←FR NORM

File #1.1.6

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)	INVERSE OHMM
16 — 26 6 — 16	0 — 40

BIT SIZE INCHES (IN)	NORMAL OHMM
6 — 16	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: pro-roe-3-mar-21 **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S7 REPEAT **Acquired:** 2015-03/21 02:28 3.4.0-13477
Reference: 0 **Processed:** 2015-03/21 04:13 3.4.0-13477

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

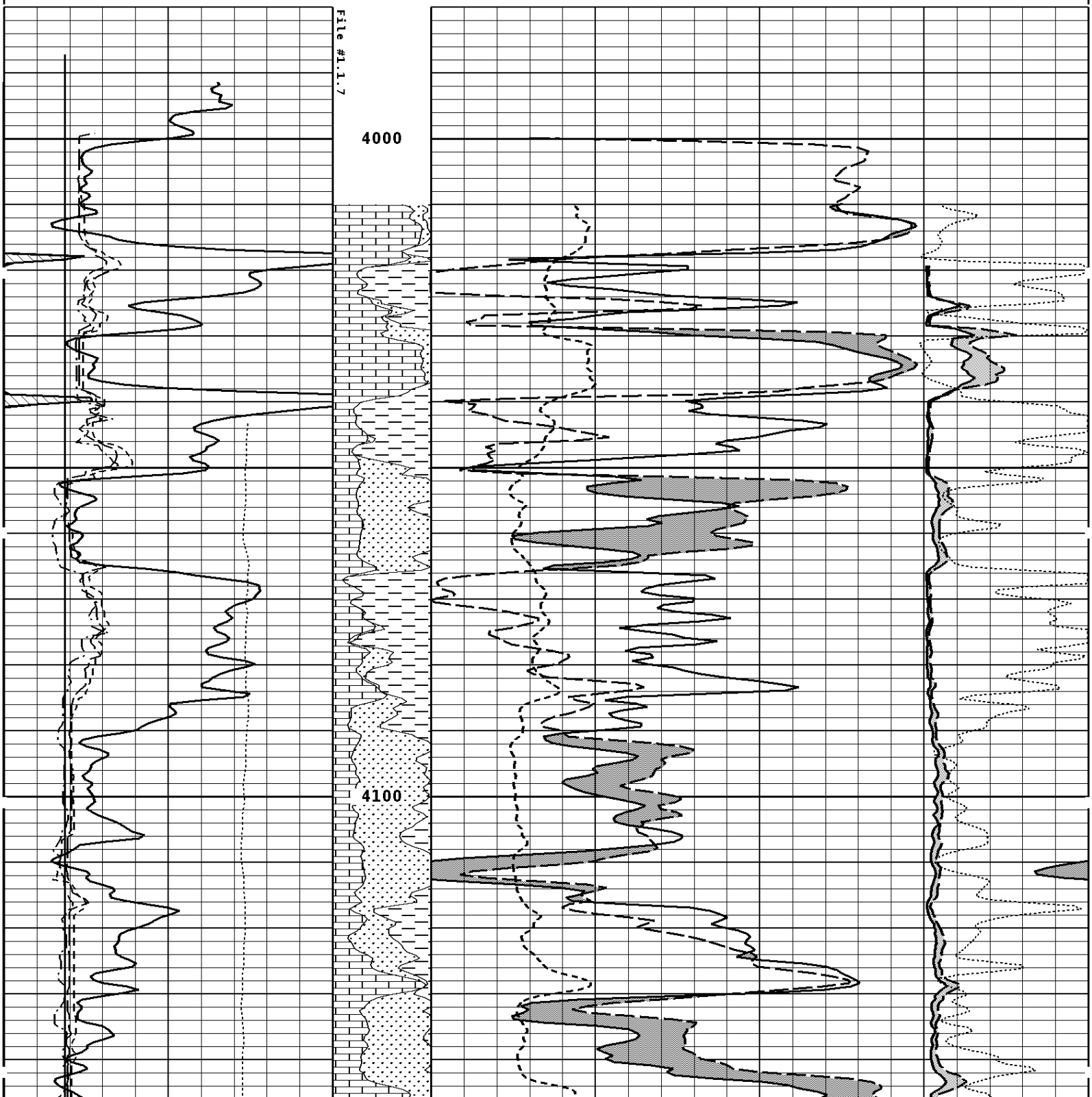
BIT SIZE INCHES (IN)	NORMAL OHMM
6 — 16	0 — 40

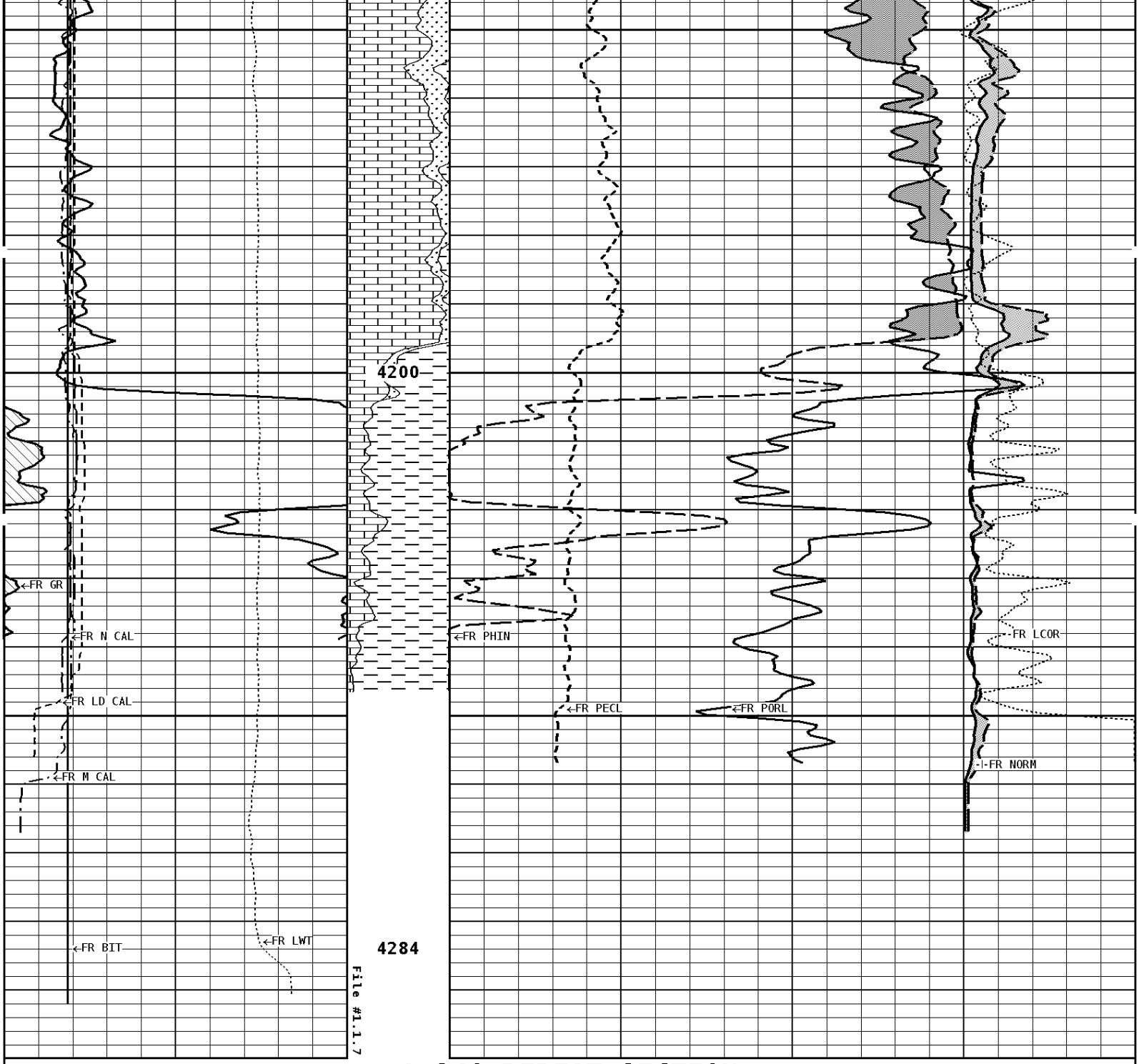
NEUTRON (Y) CALIPER INCHES (IN)	INVERSE OHMM
16 — 26 6 — 16	0 — 40

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
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





1:240 REPEAT 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)		**INVERSE OHMM**

16	26
6	16

BIT SIZE
INCHES (IN)

6	16

CALIPER MICRO
INCHES (IN)

16	26
6	16

0	40

NORMAL
OHMM

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: pro-roe-3-mar-21 **Scale:** 1:240 **Format:** LDT-240
Segment: V1.D1.S6 MAIN **Acquired:** 2015-03/21 02:48 3.4.0-13477
Reference: 0 **Processed:** 2015-03/21 04:12 3.4.0-13477

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

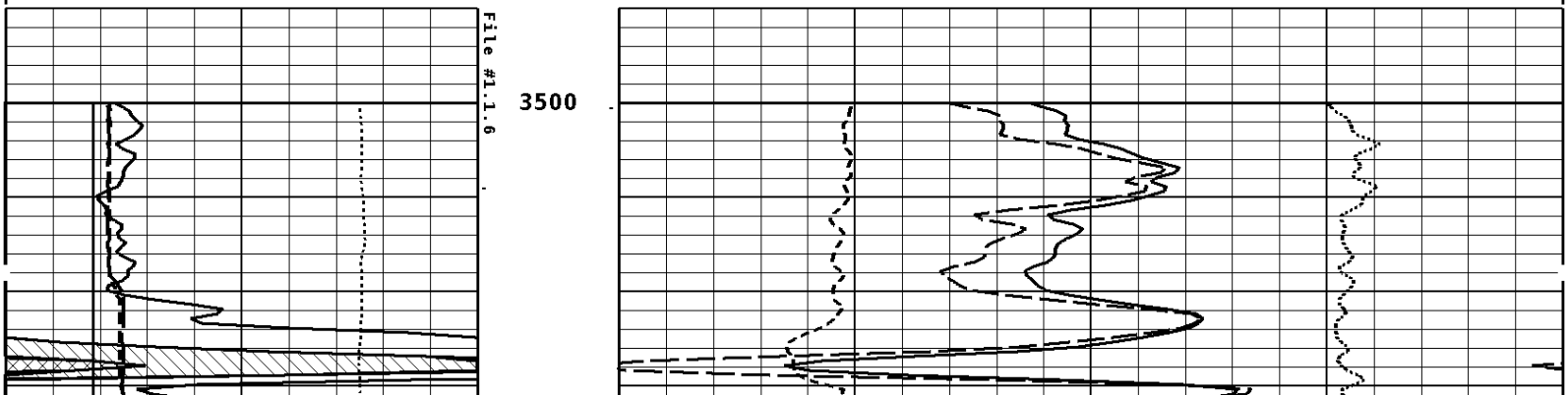
-BHV AHV-
CU.FT

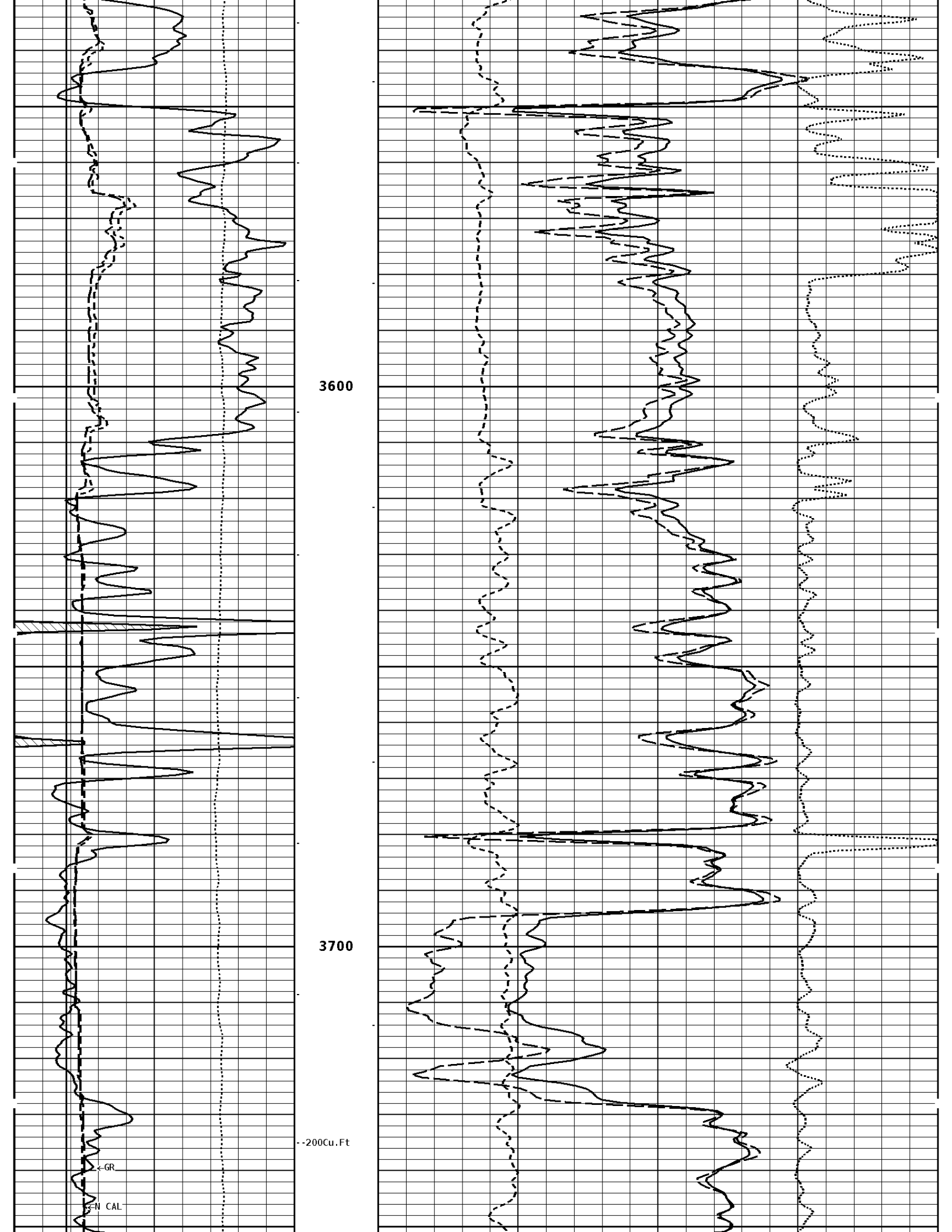
DENSITY POROSITY (2.71g/cc)
PERCENT

70	30
30	-10
-10	-50

1:240 MAIN SECTION

BULK DENSITY

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3700
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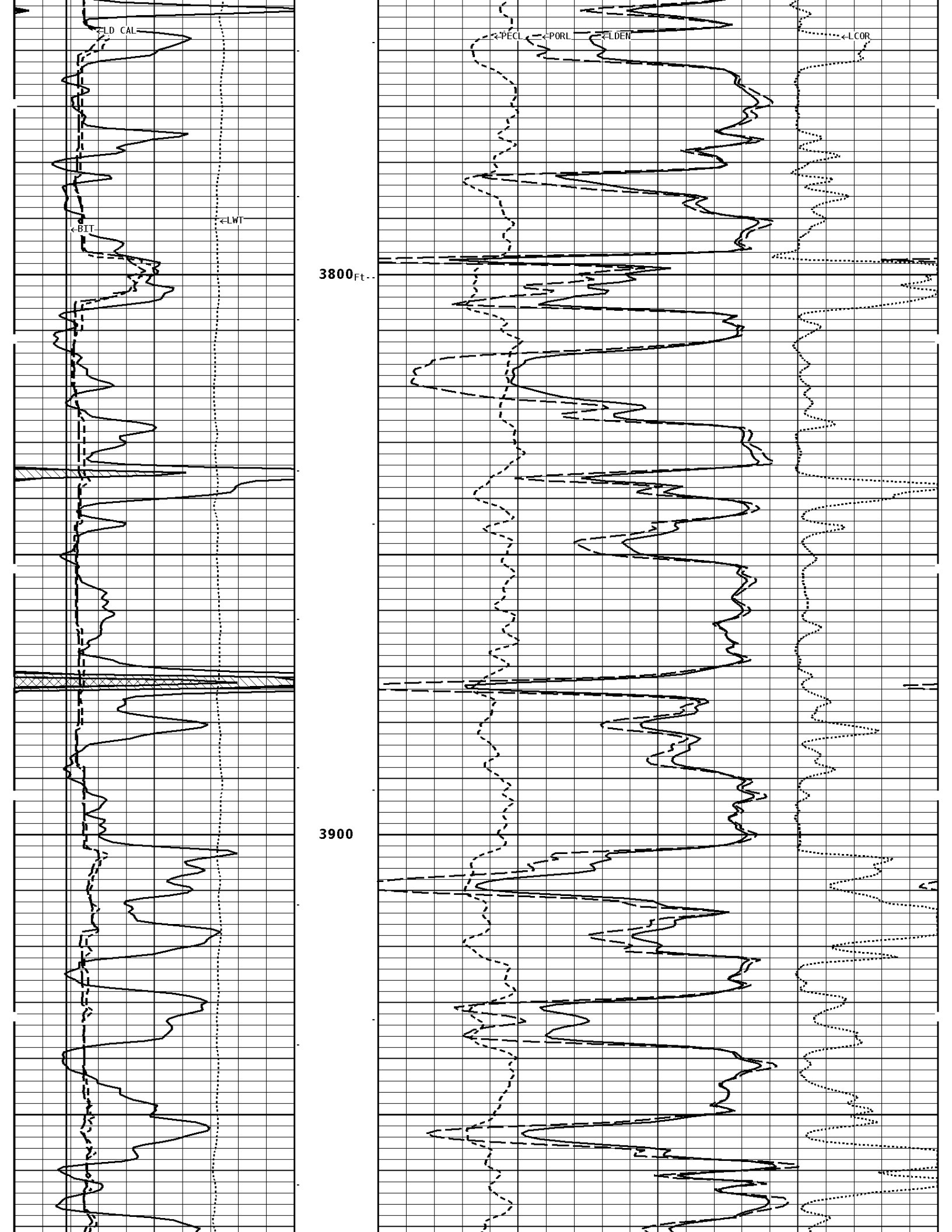
←N CAL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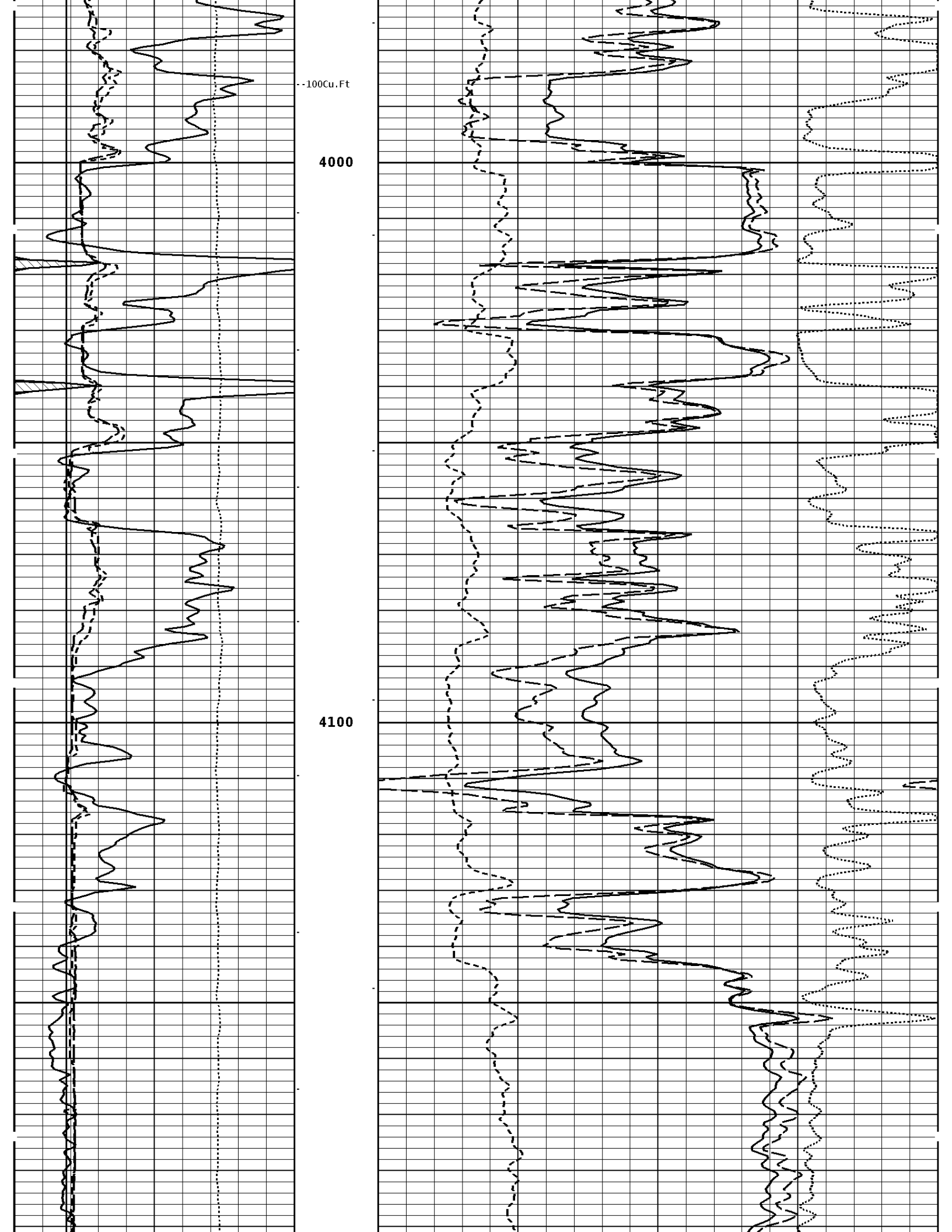
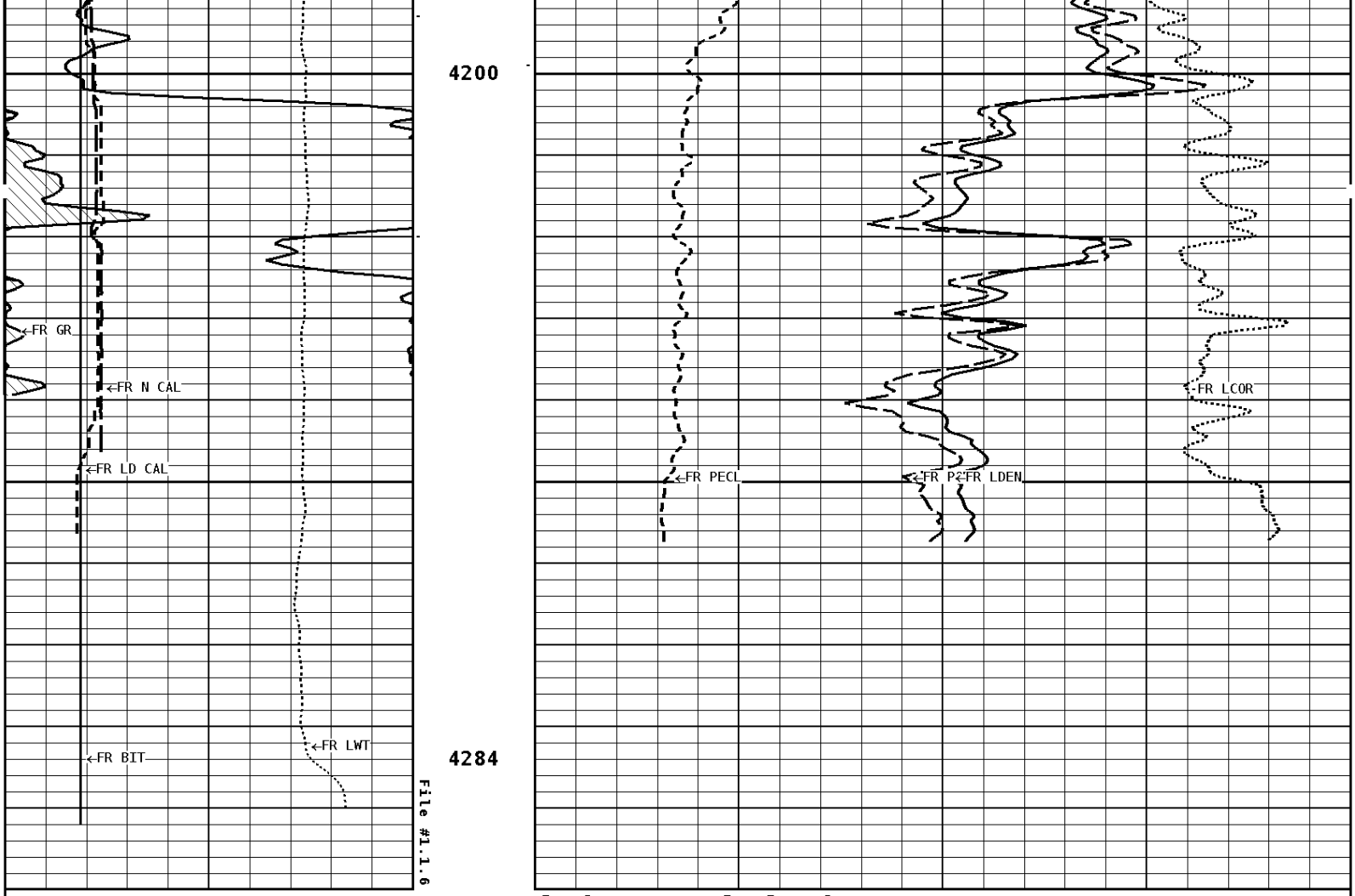
←BIT
←LWT
←PECL
←PORL
←LDEN
←LCOR
3800Ft
3900


--100Cu.Ft
4000
4100



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 : 13-Mar-2015 Time : 09:44
Sensor Suite : GR-GR5 ID : GRT-BA-015

	Measured		Units	Calibrated	Units
	Background	Jig		Jig	
GR	48	350	CPS	175	GRAPI

Shop Calibration
CNT-AA

Performed : 11-MAR-2015 Time : 10:07
Sensor Suite : CALI-BCN ID : NDT-BB-123

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	9.5	14.4	6.0	12.0	IN.

Performed : 11-Mar-2015 Time : 15:19
Sensor Suite : BHC NEUT ID : CNP-AA-101
Source ID : N-1045

	Tank		Verification	Units
	Measured	Calibrated	Jig	
N/F	3.4721	3.6893	3.6791	
Porosity	17.3	20.5	20.3	%

Shop Calibration
LDT-DF

Performed : 11-Mar-2015 Time : 16:09
Sensor Suite : CALI-LTH ID : PDT-G-426

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	7.5	11.4	6.0	12.0	IN.

Performed : 11-Mar-2015 Time : 15:59
Sensor Suite : BHCPELNG ID : LDP-DA-50
Source ID : 2991GW

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	88	1189	1867	700	CPS
LSW2	91	1286	2014	918	CPS
LSW3	323	2861	4587	2486	CPS
LSW4	404	2447	3604	2352	CPS
LSW5	58	55	64	52	CPS
LSW6	96	85	88	96	CPS
LSW7	59	54	54	61	CPS
LSW8	2	4	5	4	CPS
QS	0.235	0.225	0.243	0.220	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	143	1422	5701	789	CPS
LLW2	175	2058	7977	1547	CPS
LLW3	558	3637	13745	3287	CPS
LLW4	642	1744	5538	1688	CPS
LLW5	98	76	128	71	CPS
LLW6	169	151	129	165	CPS
LLW7	109	92	101	109	CPS
LLW8	6	10	26	8	CPS
QL	0.215	0.240	0.123	0.201	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Shop Calibration
MST-DA

Performed : 13-Mar-2015 Time : 09:49
Sensor Suite : CALI-MSN ID : MST-DA-32

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	7.0	11.4	6.0	12.0	IN.

Performed : 13-Mar-2015 Time : 09:37
Sensor Suite : MSTDA-NI ID : MST-DA-32

Internal

	Measured Zero	Measured Reference	Units	Calibrated Zero	Calibrated Reference	Units
INV-V	0.0	29663.2		0.00	1346.00	MV
NOR-V	0.0	30201.0		0.00	1446.00	MV
IN-C	0.0	61521.6		0.00	15.46	UA
INV-R					28.16	OHMM
NOR-R					51.54	OHMM

Performed : 13-Mar-2015 Time : 09:35
Sensor Suite : MSTDAMSF ID : MST-DA-32

Internal

	Measured Zero	Measured Reference	Units	Calibrated Zero	Calibrated Reference	Units
MSFC	8.1	42183.6		0.00	1522.00	UA
MSFB	32756.9	32938.9		0.00	1522.00	MA
MOM1	0.0	43969.5		0.00	1522.00	MV
MSFRA					43.30	OHMM

Tucker ENERGY SERVICES

Company: PROLIFIC RESOURCES LLC.

Well: ROESLER #3

Location: 836' FSL & 1833' FWL

Logged: 03-21-2015

K.B. Elev: 2048.0 Ft