Tucker WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company ANDERSON ENERGY, INC.
Well PRAIRIE FARMS-HARRIS #1
Field BETZ SOUTHWEST
County NESS
State KANSAS
Country USA
API No. 15-135-25337-0000

File No : TUL-56028
Company : ANDERSON ENERGY, INC.
Well : PRAIRIE FARMS-HARRIS #1
Field : BETZ SOUTHWEST
County : NESS
State : KANSAS
Country : USA
API No : 15-135-25337-0000

Location :
1950' FNL & 1050' FEL
SW NW SE NE

LSD : **Sect :** 17 **Twp :** 20S **Rge :** 21W

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	2259.00 Ft	CNT	CST
Log Measured From:	KB	**DF**	2258.00 Ft	LDT	PIT
Above Permanent Datum:	8.00 Ft	**GL**	2251.00 Ft	MLT	

Date	2012-01-27			
Run Number	1			
Depth--Driller	4650.0 Ft			
Depth--Logger	4642.0 Ft			
First Reading	4597.0 Ft			
Last Reading	265.0 Ft			
Casing--Driller	265.0 Ft			
Casing--Logger	265.0 Ft			
Bit Size	7.875 In			
Casing Size	8.625 In			
Hole Fluid Type	WBM			
Density	9.3 LBS/GAL			
Fluid Loss	8.4 CC			
PH/Viscosity	10.5	47.0 SEC		
Sample Source	MEASURED			
RM@Measured Temp.	1.300 @ 55 F			
RMF@Measured Temp	1.040 @ 55 F			
RMC@Measured Temp.	1.560 @ 55 F			
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	0.610 @ 125 F			
Time Circulation Stopped	2012-01-27 08:14			
Max Recorded Temp.	125 F			
Equipment/Base	TRK 127	TULSA		
Recorded By	S. TYLER / B. BAILEY			
Witnessed By	R. FISHER			

The customer is hereby warned that by providing the log data herein, T. W. S., does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	4650.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	32.00	265.00

Run Number	1		
Date	2012-01-27		
Date/Time On Bottom	2012-01-27 10:14		
Depth to Fluid	0.0	Ft	
Salinity	0.000	PPM	
RMF@BHT	0.490 @ 125	F	
RMC@BHT	0.730 @ 125	F	

Run Number 1

Comments

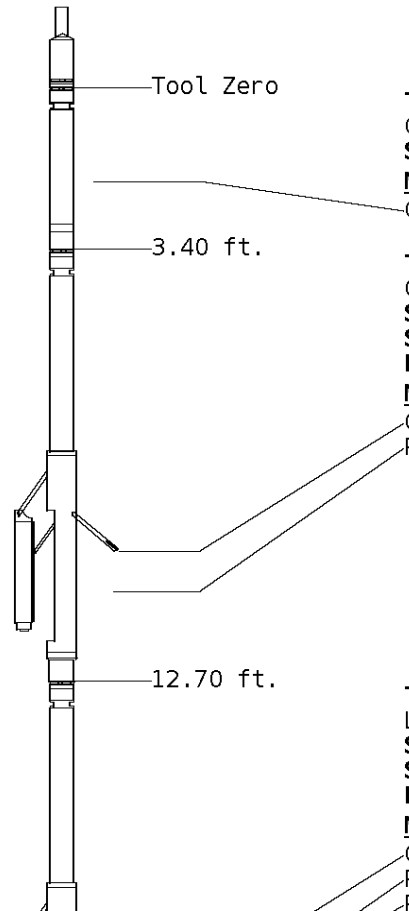
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT, MLT, CST AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED UISING 5.500" PRODUCTION CASING.

GRT: GRP.
CNT: PHIN, CLCNIN
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:
J.T
N.

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-BA-121

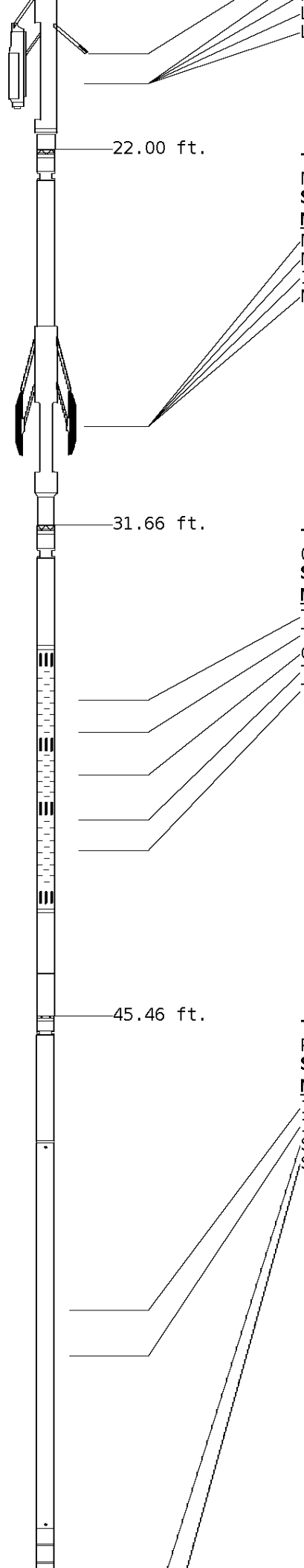
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	64.95

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-115
Source ID :N-1044
Pad ID :CNP-AA-116

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 :PDT-GA-472
Source ID :CSV-587
Pad ID :LDP-DA-01

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-36

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.

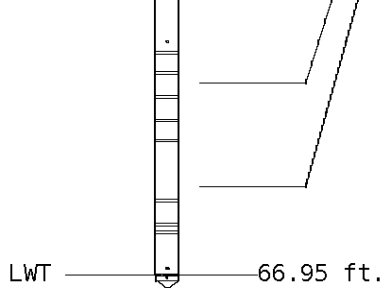
Tool: CST-AD **Length:** 13.80 **ft.** **O.D.** 3.60 **in.**
Open Hole Sonic
Sonde ID :CST-AB-38

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-AB-18

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



Well File: ANDERSON_PRARIE_FARMS_JAN27_QUINK
Segment: V1.D1.S6 SDSMN 3300
Reference: 0

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

TENSION
LBS
10000 — 0

BIT SIZE
INCHES (IN)
6 — 16

Volume
Dolo/Shale

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

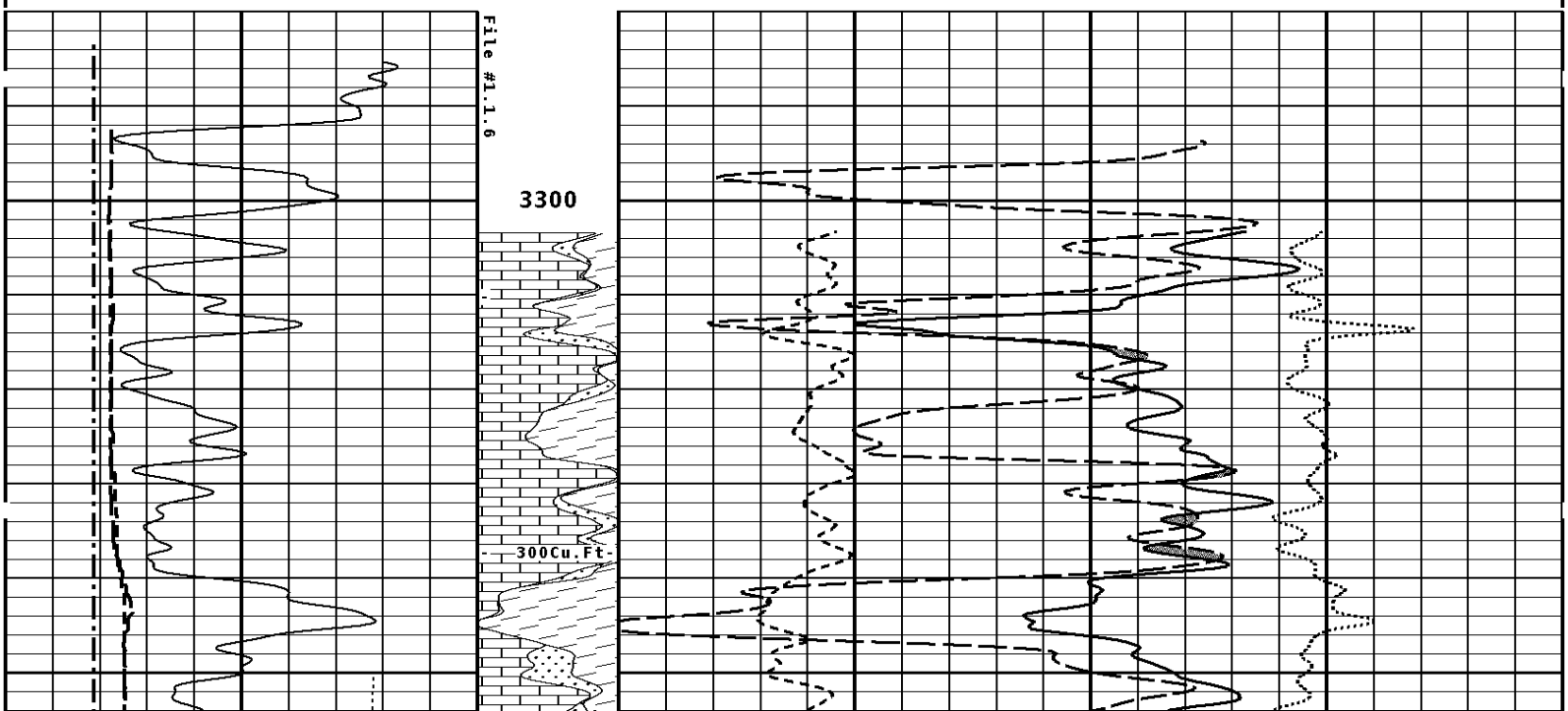
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 — -10

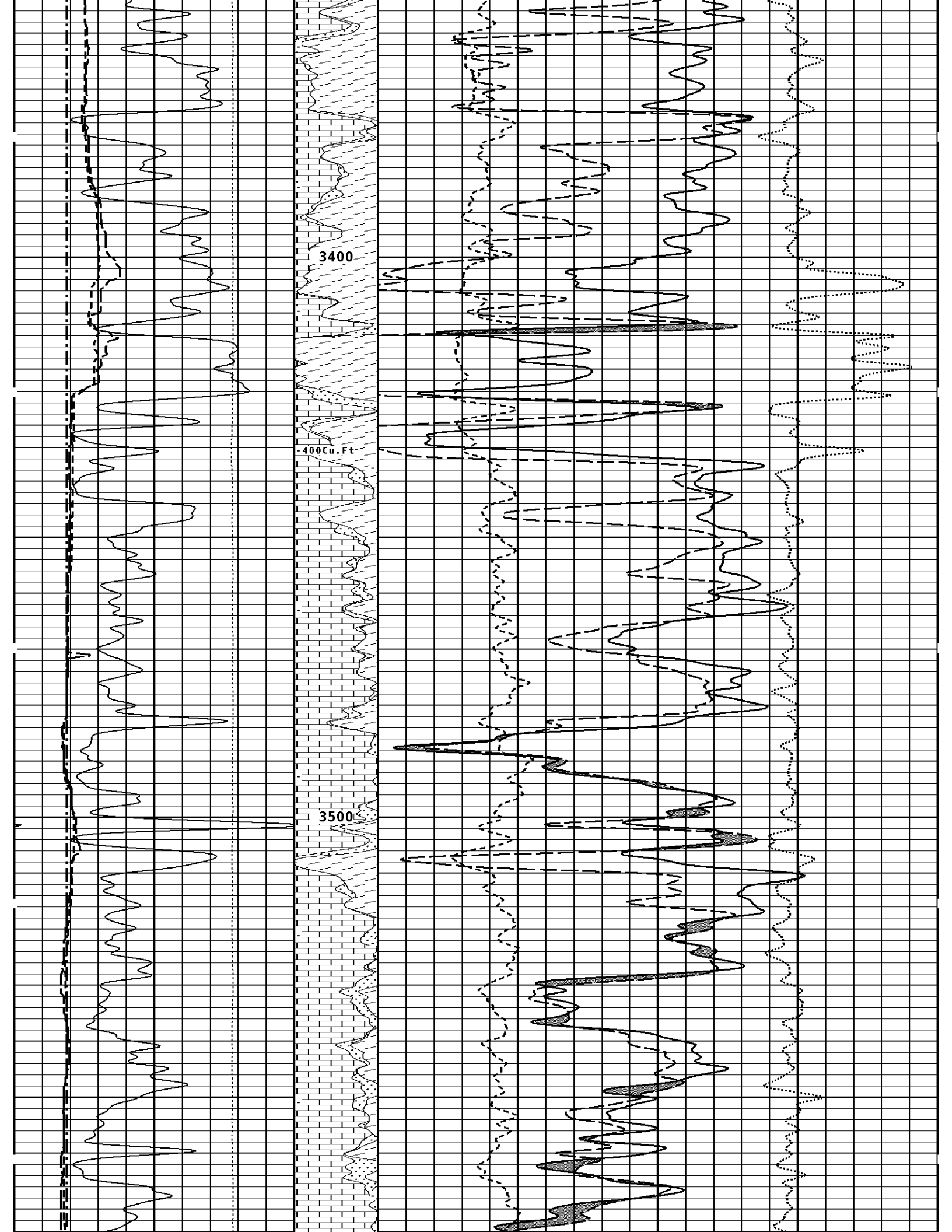
GAMMA RAY
API UNITS
150 — 300
0 — 150

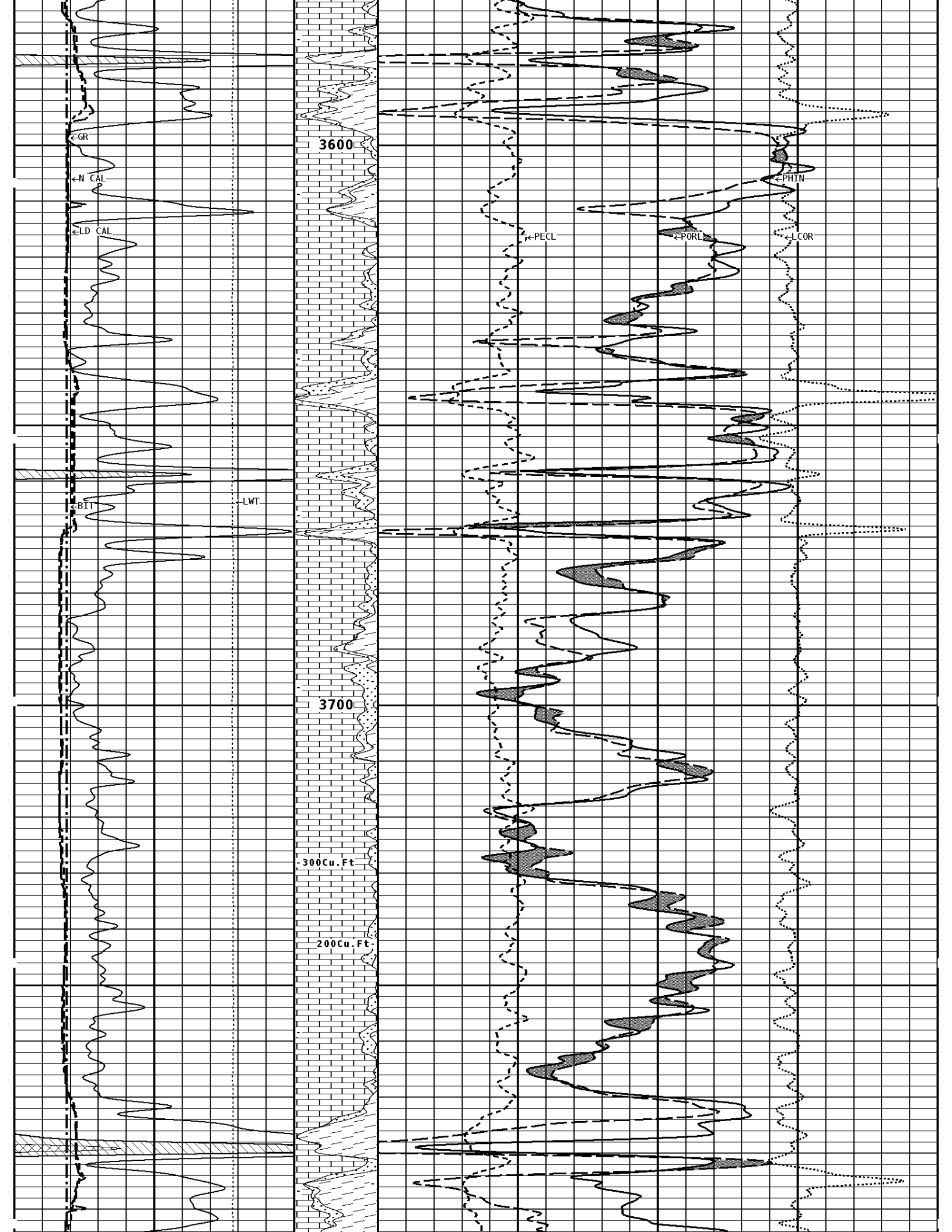
-BHV AHV-
CU.FT

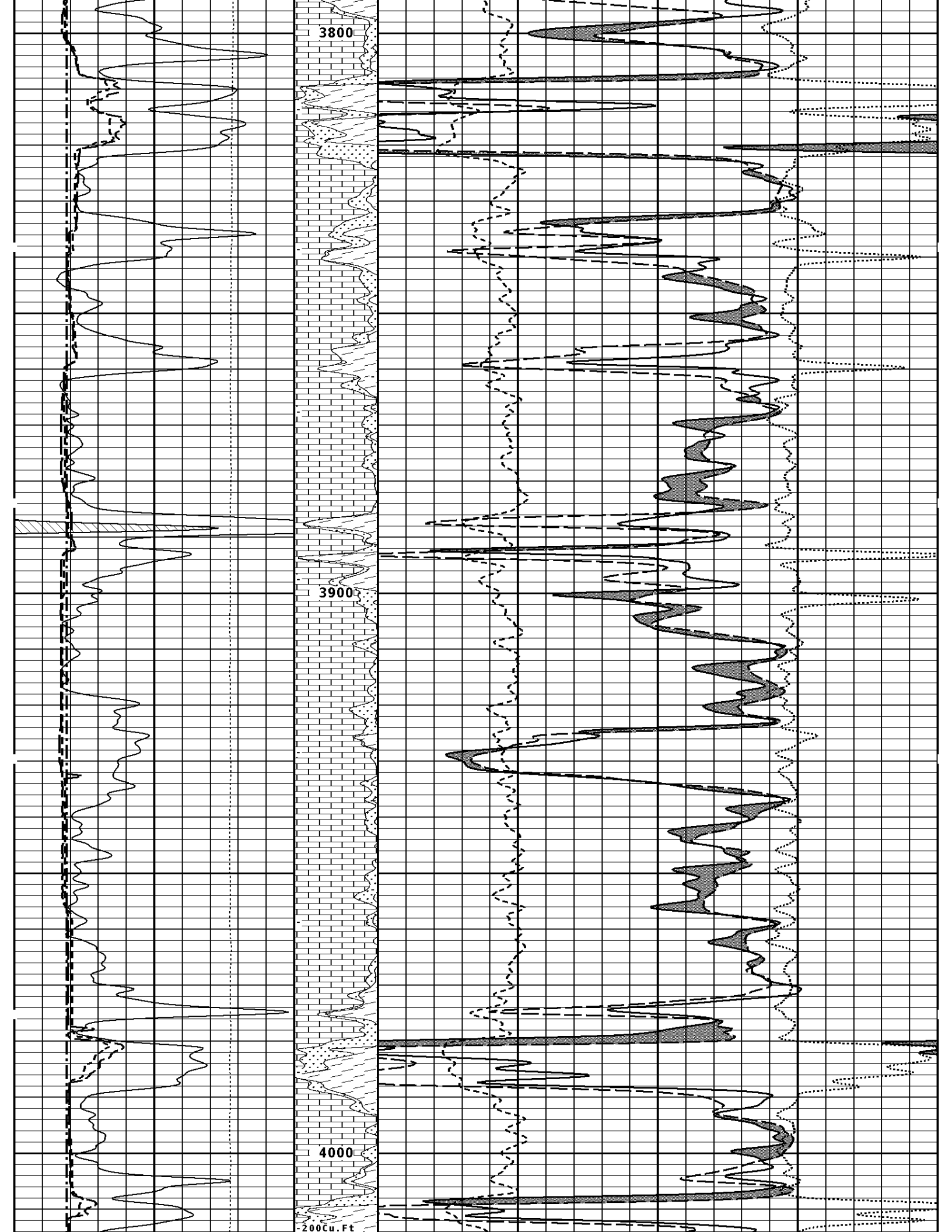
DENSITY POROSITY
PERCENT (2.71 g/cc)
70 — 30
30 — -10
-10 — -50

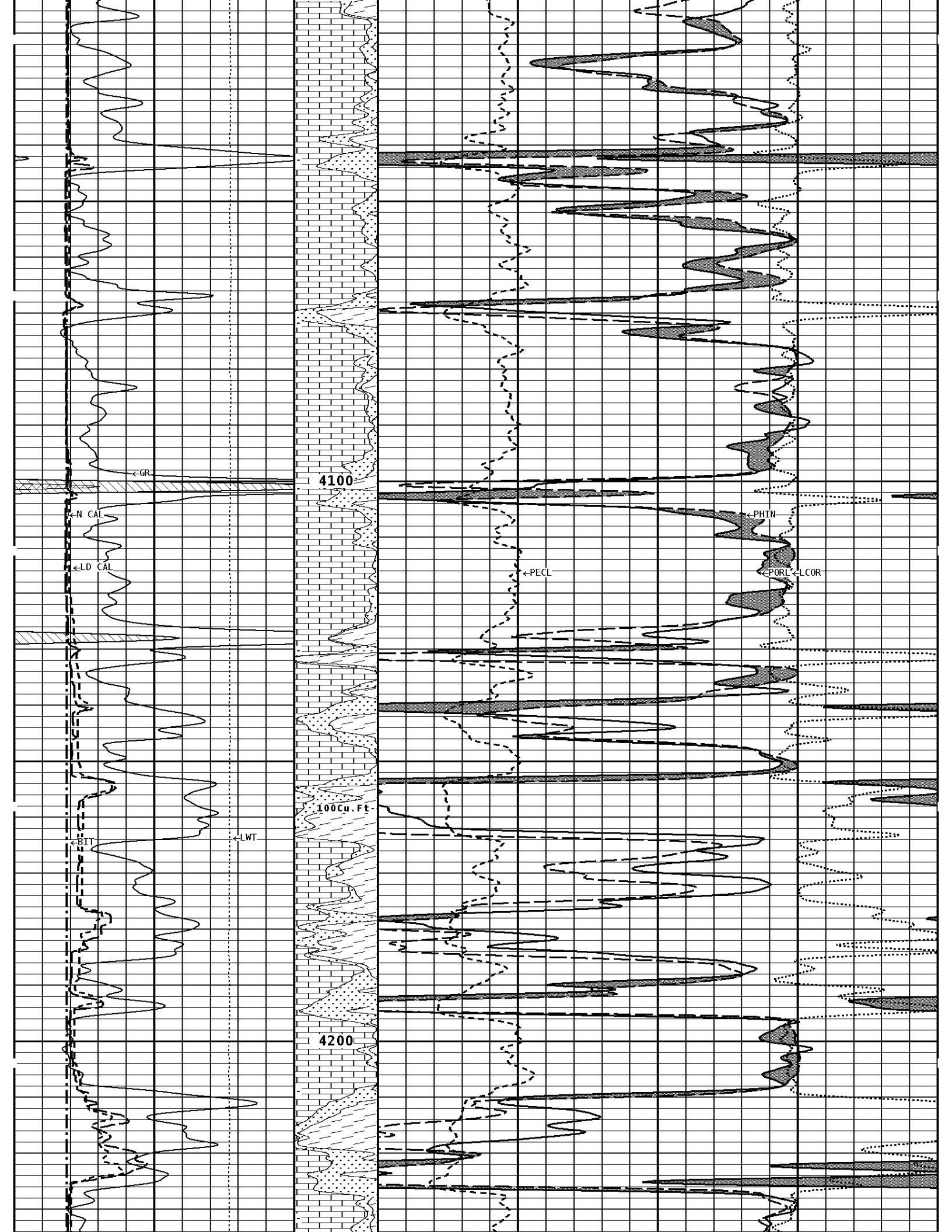
1:240 MAIN SECTION

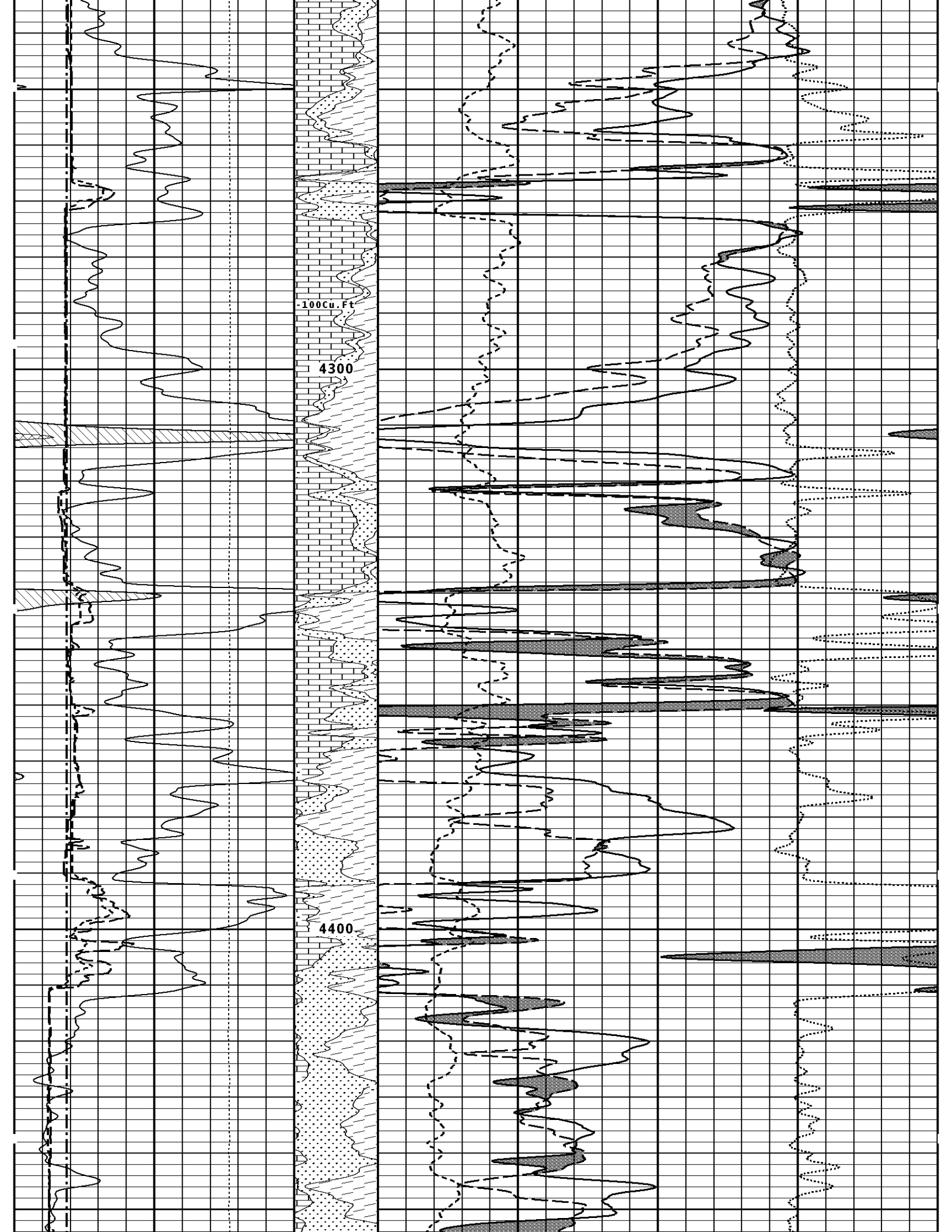


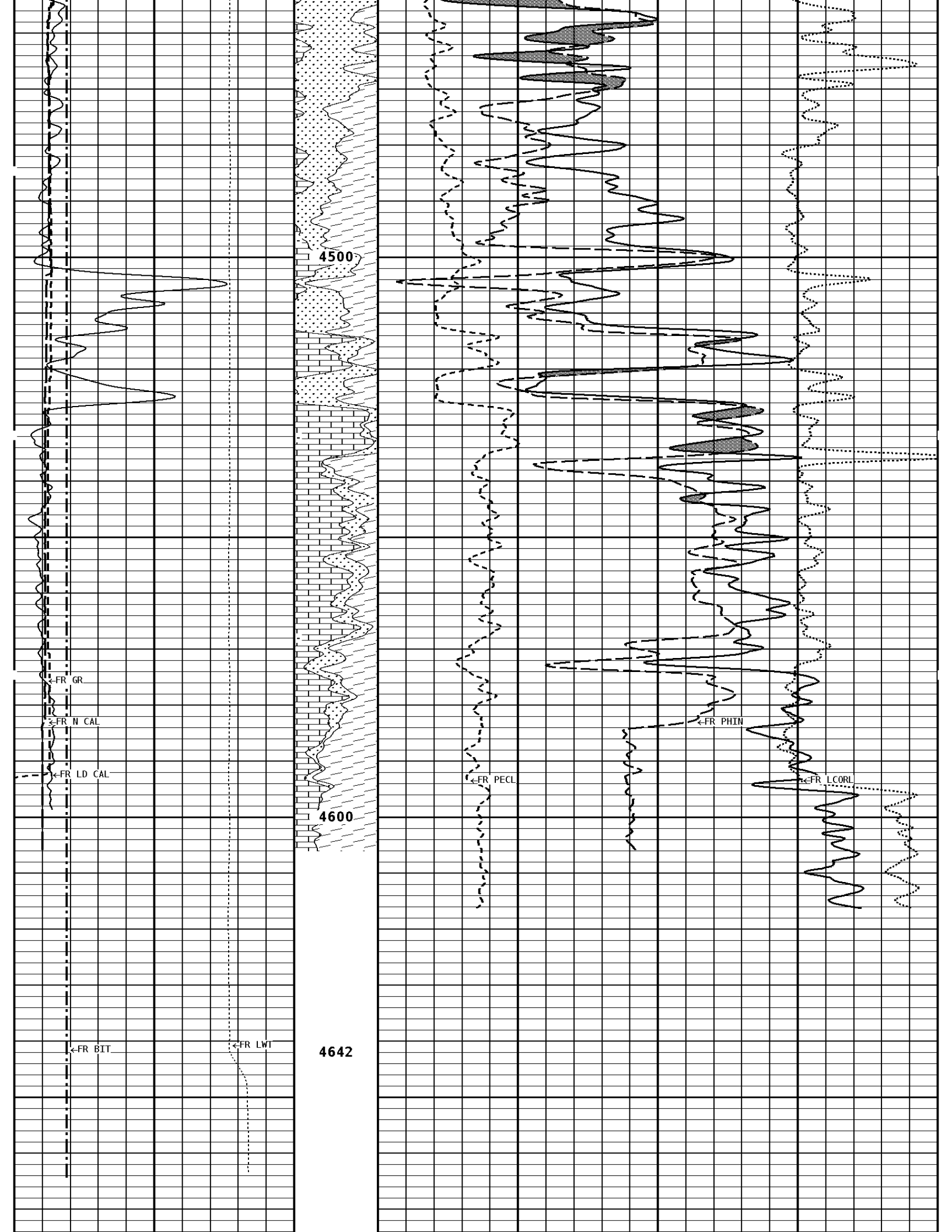

3400
-400Cu.Ft
3500


GR
N CAL
LD CAL
BIT
LWT
3600
3700
300Cu.Ft
200Cu.Ft
PECL
PORL
PHIN
LCOR


3800
3900
4000
-200Cu.Ft


GR
N CAL
LD CAL
BIT
LWT
4100
100Cu.Ft
4200
PHIN
PECL
PORL
LCOR


-100Cu.Ft
4300
4400


4500
4600
4642
←FR GR
←FR N CAL
←FR LD CAL
←FR BIT
←FR LWT
←FR PECL
←FR PHIN
←FR LCORL

File #1.1.6

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		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
6 16	

TENSION LBS
10000 0

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	7.875 in
Casing Diameter	4.500 in
Casing Correction (PHI N)	Disable
Fluid Density	1.00 g/cc
Matrix Density	2.71 g/cc
Formation Matrix	Limestone

Well File: ANDERSON_PRARIE_FARMS_JAN27_QUINK **Scale:** 1:240
Segment: V1.D1.S8 SCREPEAT **Acquired:** Not Available
Reference: 0 **Processed:** Not Available

TENSION LBS
10000 0

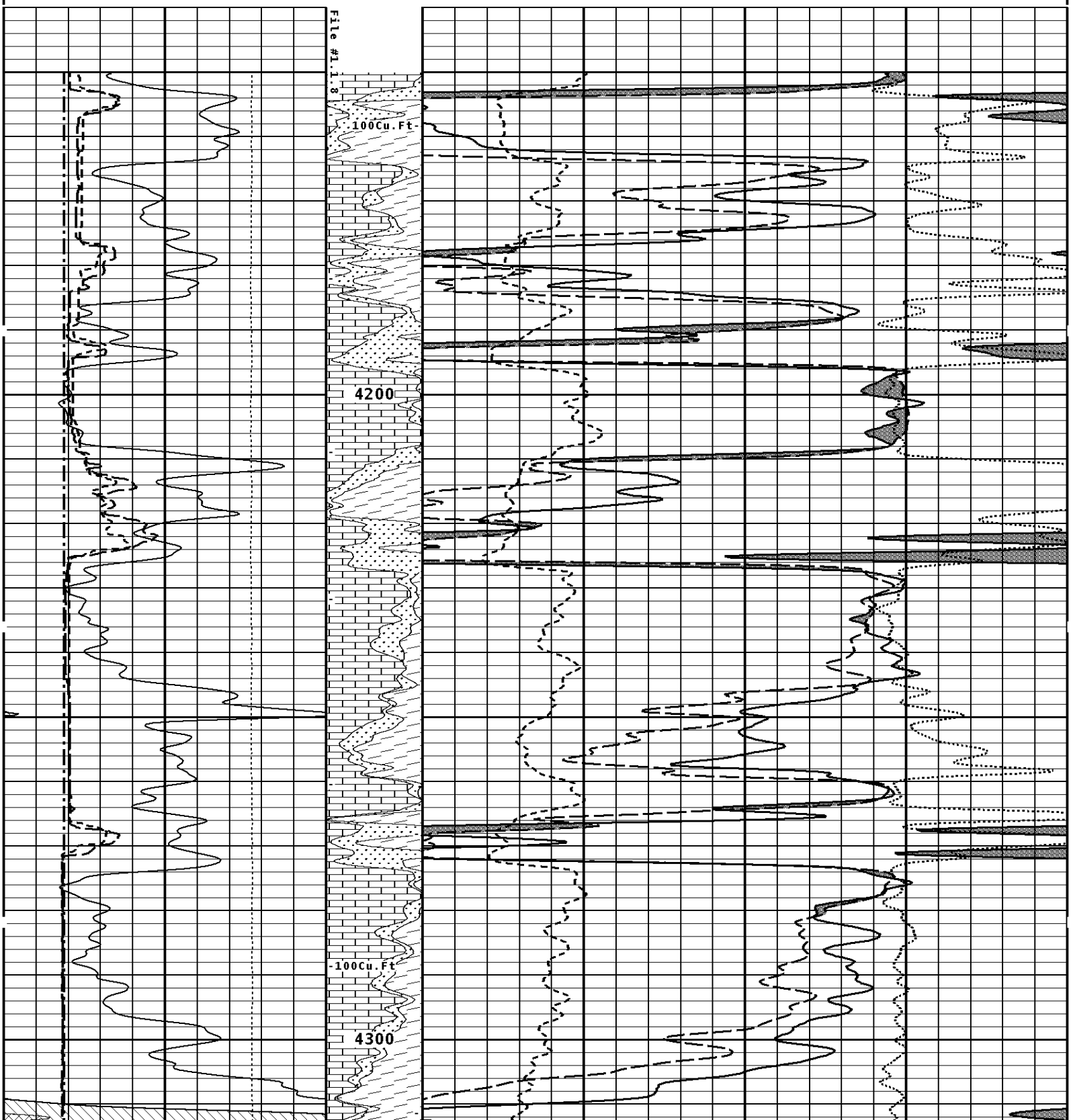
BIT SIZE INCHES (IN)	Volume Dolo/Shale
6 16	

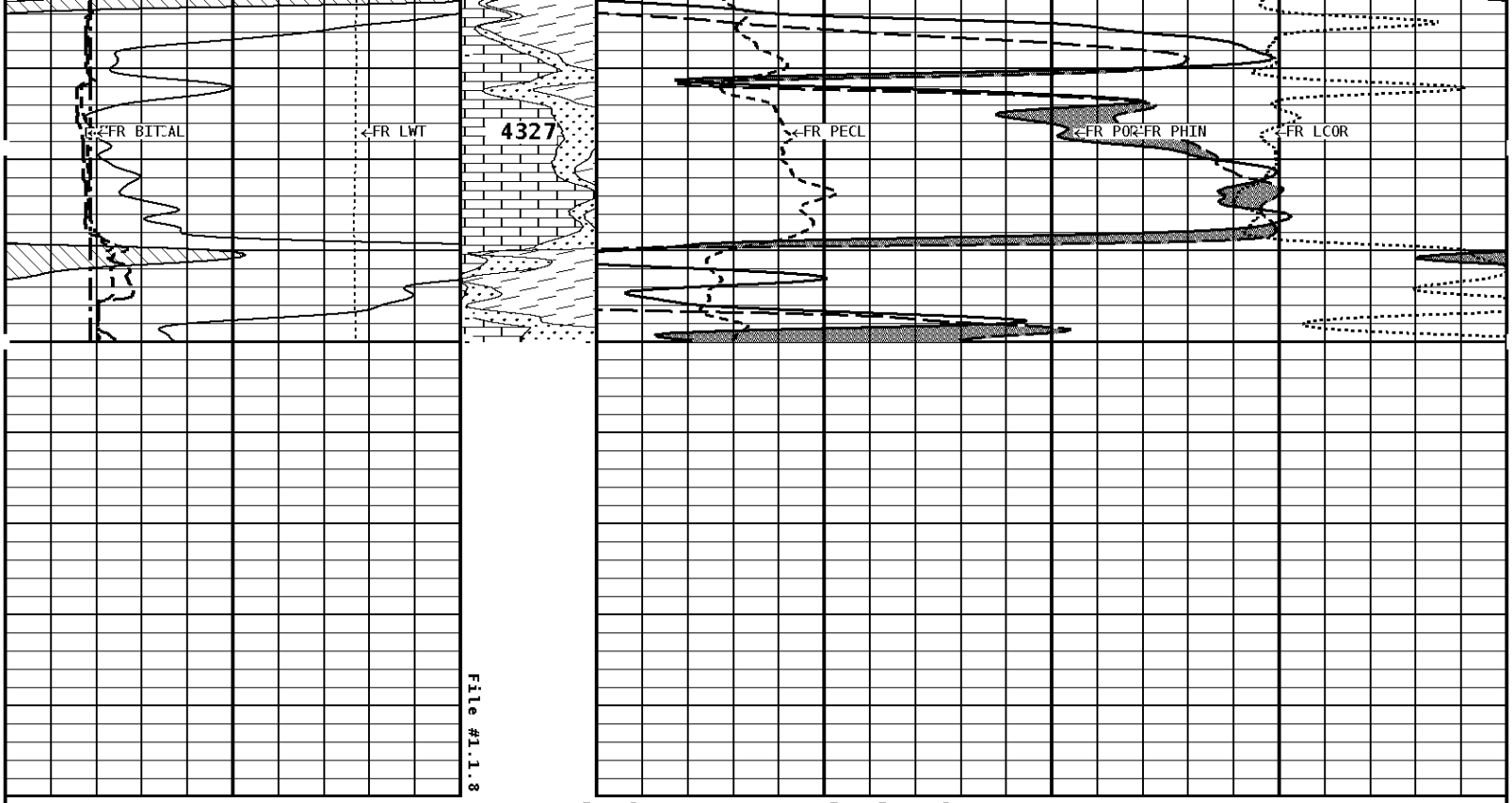
DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
16 26 6 16		0 10	-0.25 0.25

NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
16 26		

16 26 6 16		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





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		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		
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	4.500	in
Casing Correction (PHI N)	Disable	

Well File: ANDERSON_PRARIE_FARMS_JAN27_QUINK	**Scale:** 1:240
Segment: V1.D1.S6 SDSMN 3300	**Acquired:** Not Available
Reference: 0	**Processed:** Not Available

TENSION
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

-BHV AHV-
CU.FT

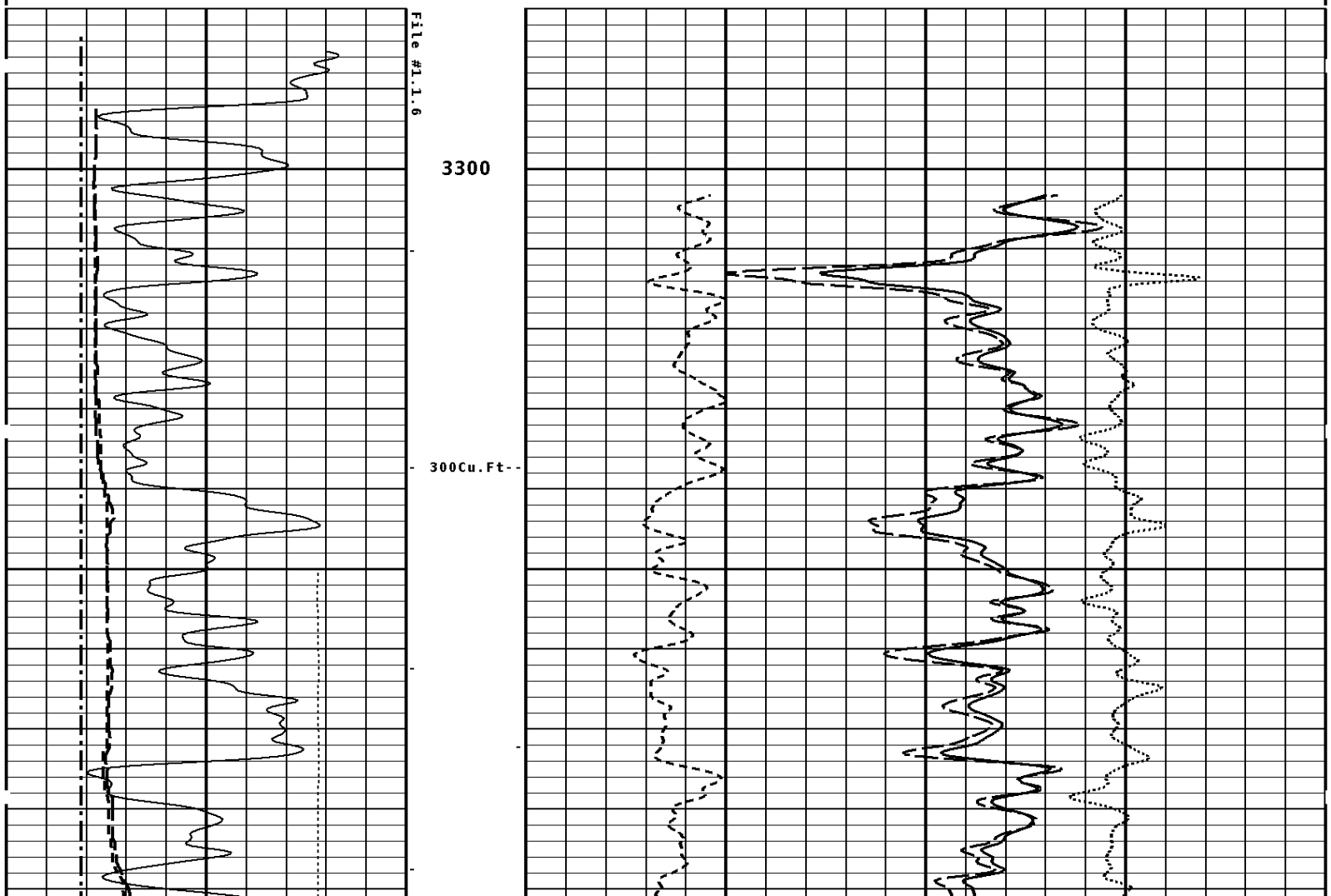
PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

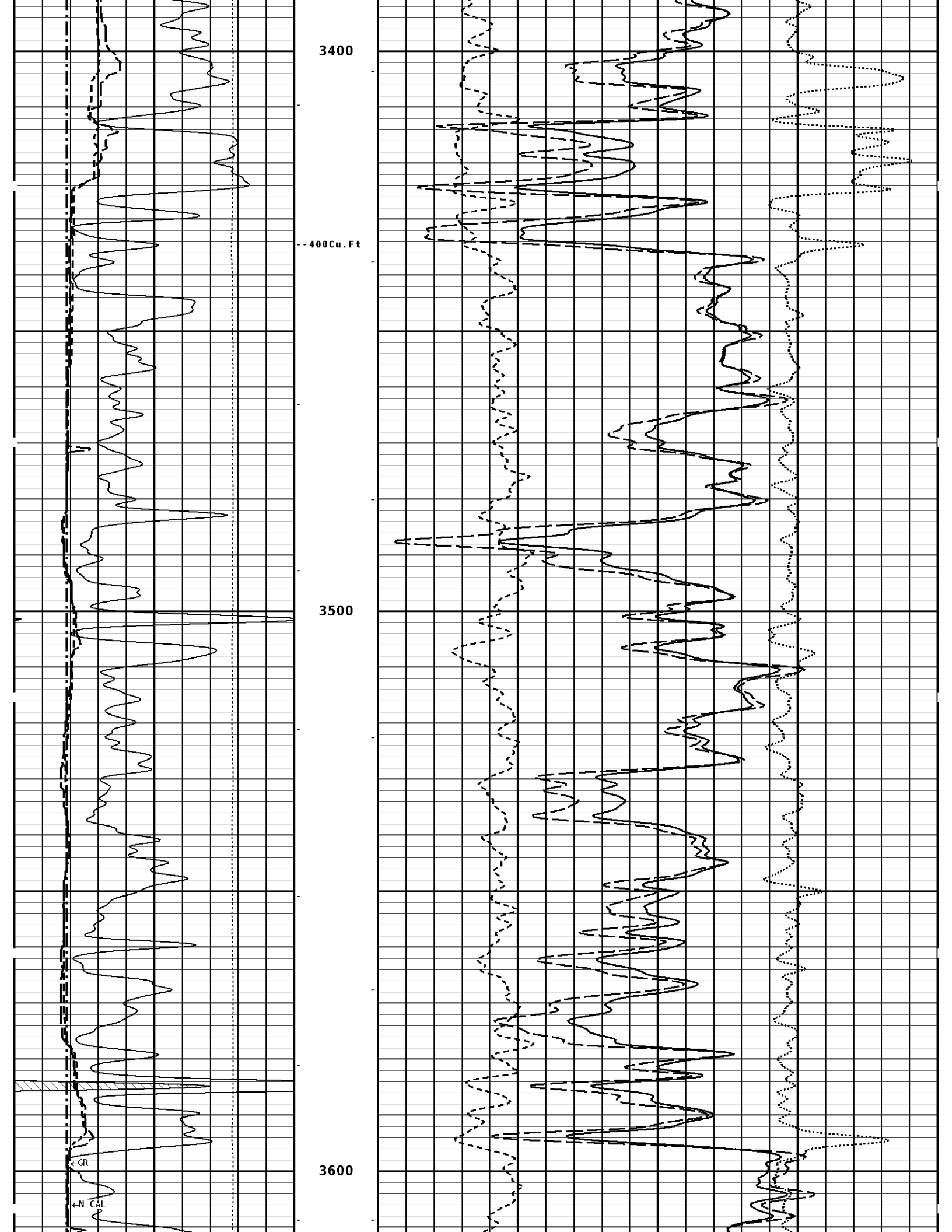
DENSITY CORRECTION
G/CC
-0.25 — 0.25

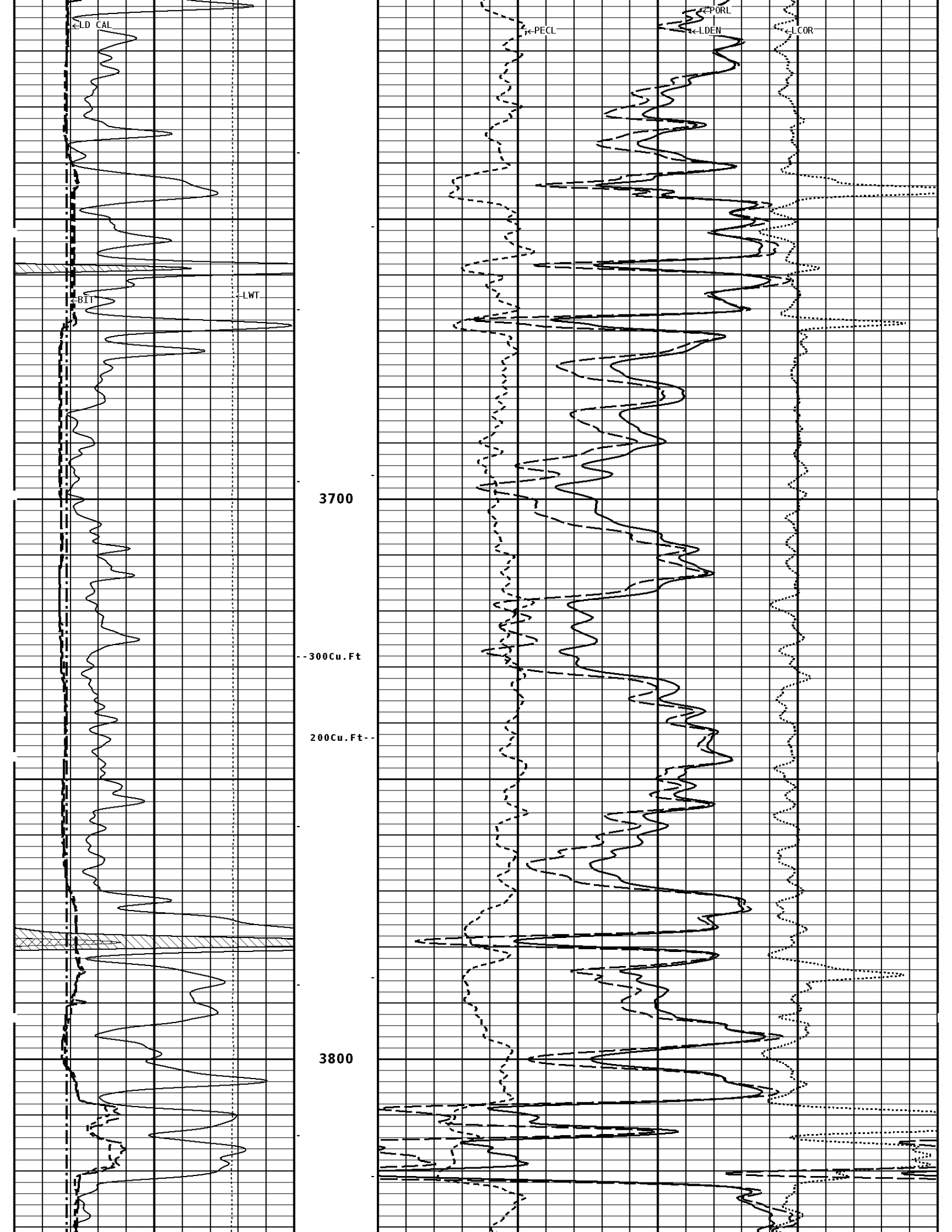
DENSITY POROSITY
PERCENT (2.71 g/cc)
70 — 30
30 — -10
-10 — -50

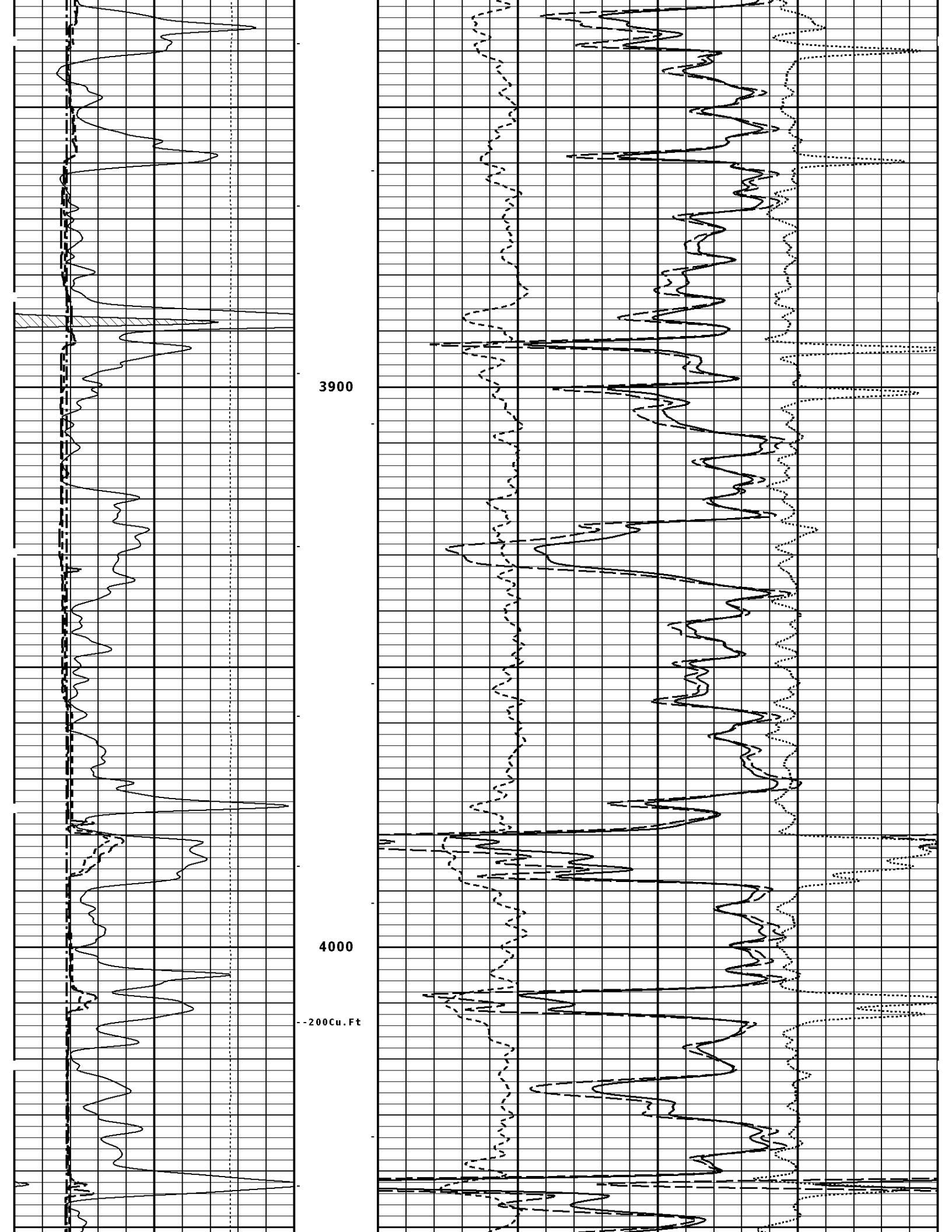
COMPENSATED BULK DENSITY
G/CC
3.0 — 4.0
2.0 — 3.0
1.0 — 2.0

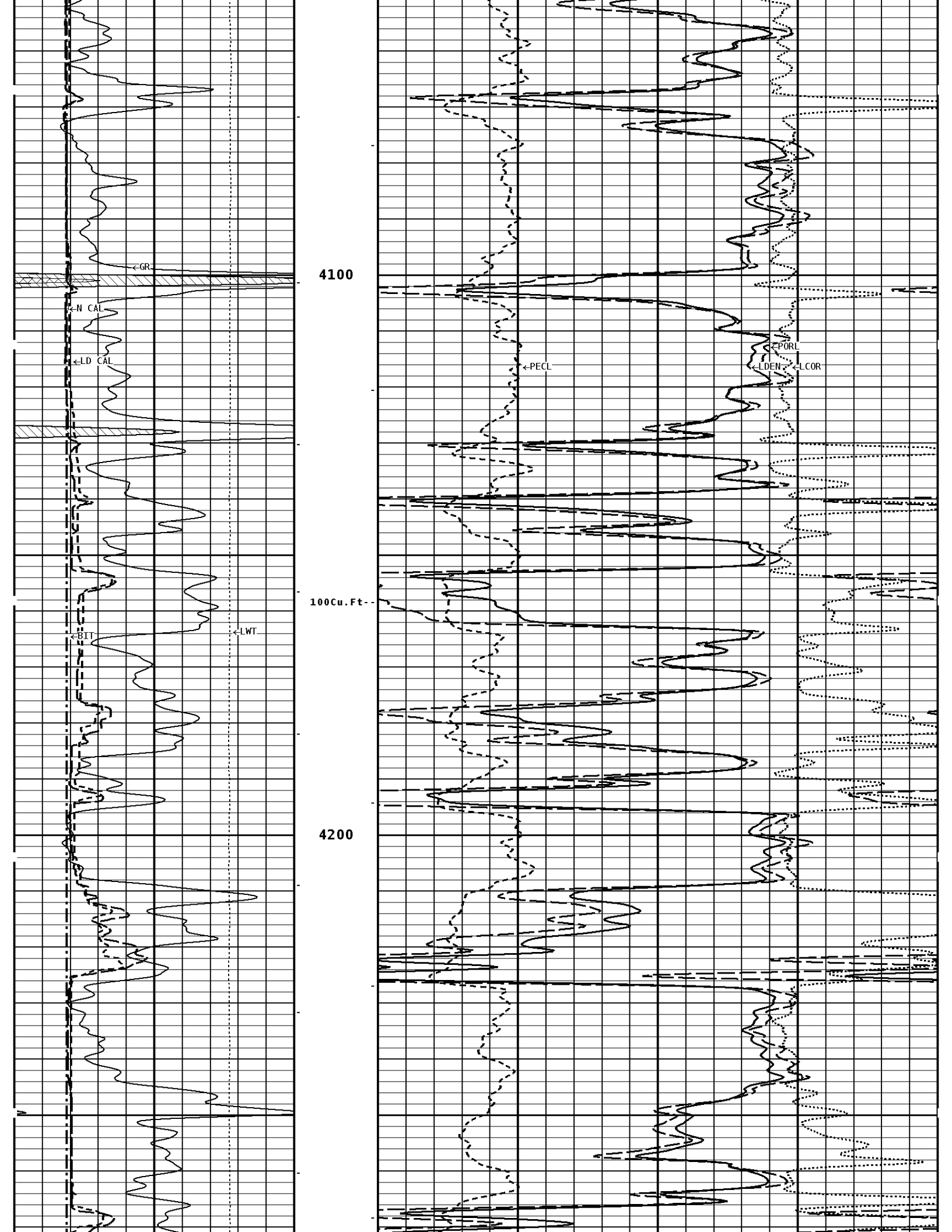
1:240 MAIN SECTION
BULK DENSITY

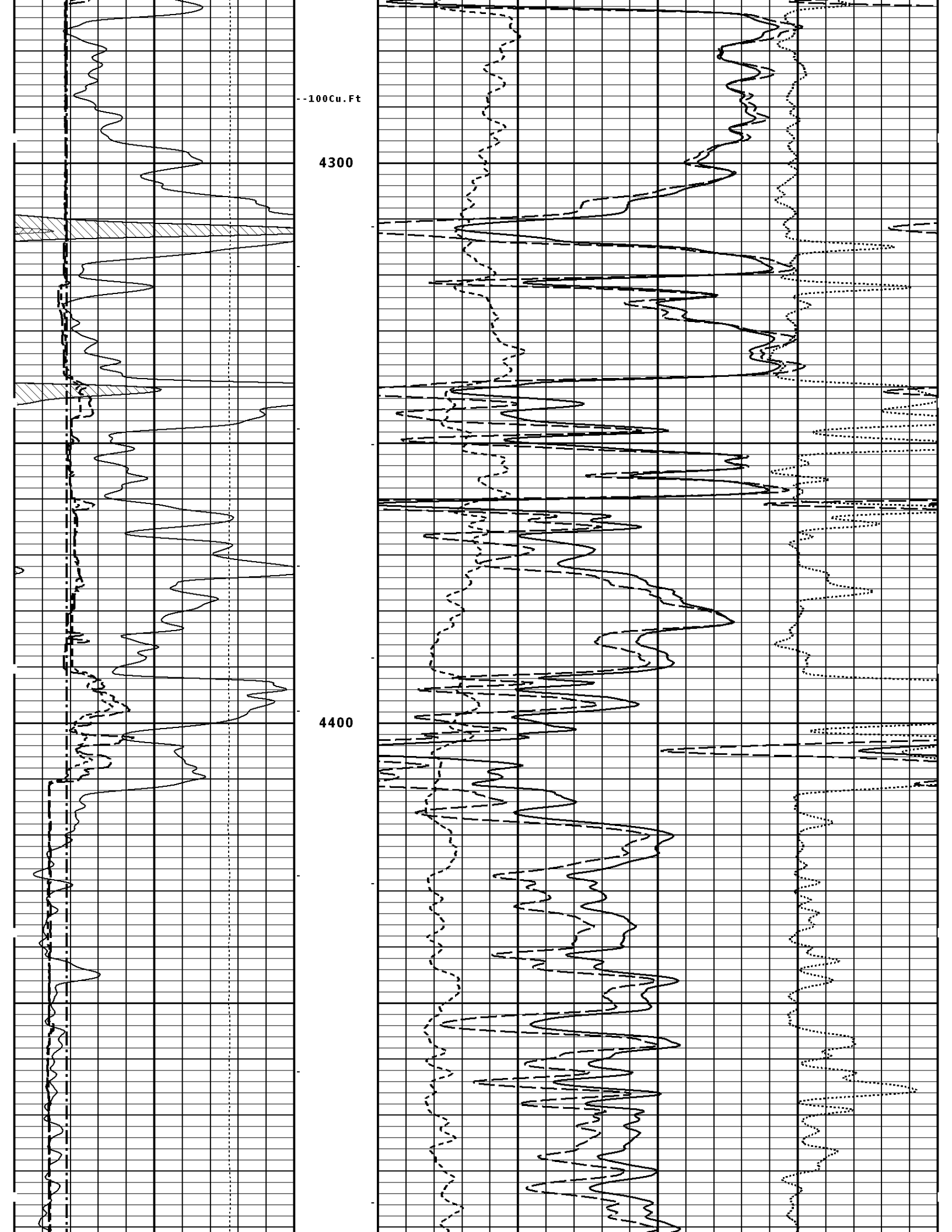


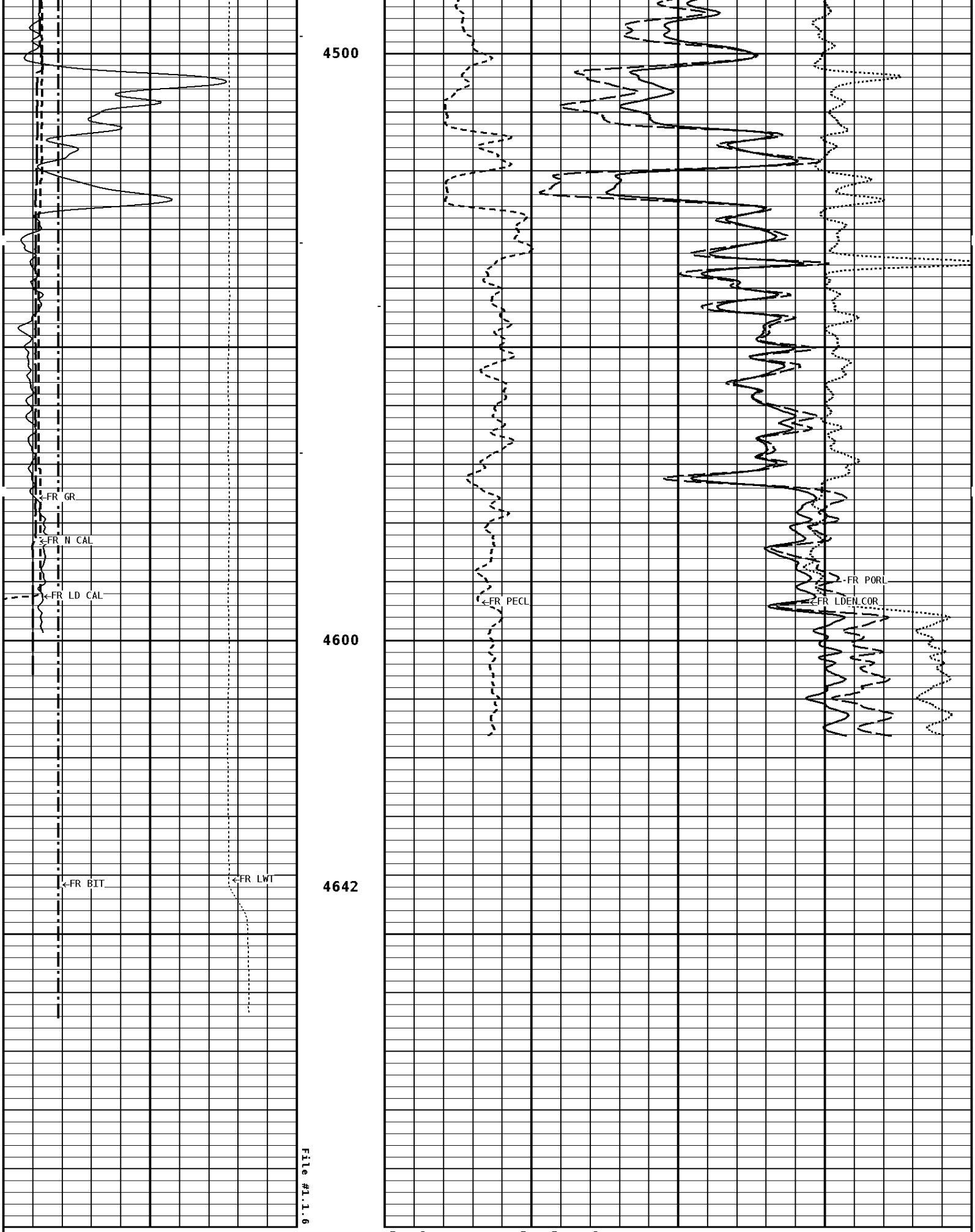

3400
--400Cu.Ft
3500
3600
←GR
←N CAL


←LD CAL
←BIT
←LWT
←PECL
←PORL
←LDEN
←LCOR
3700
--300Cu.Ft
200Cu.Ft--
3800

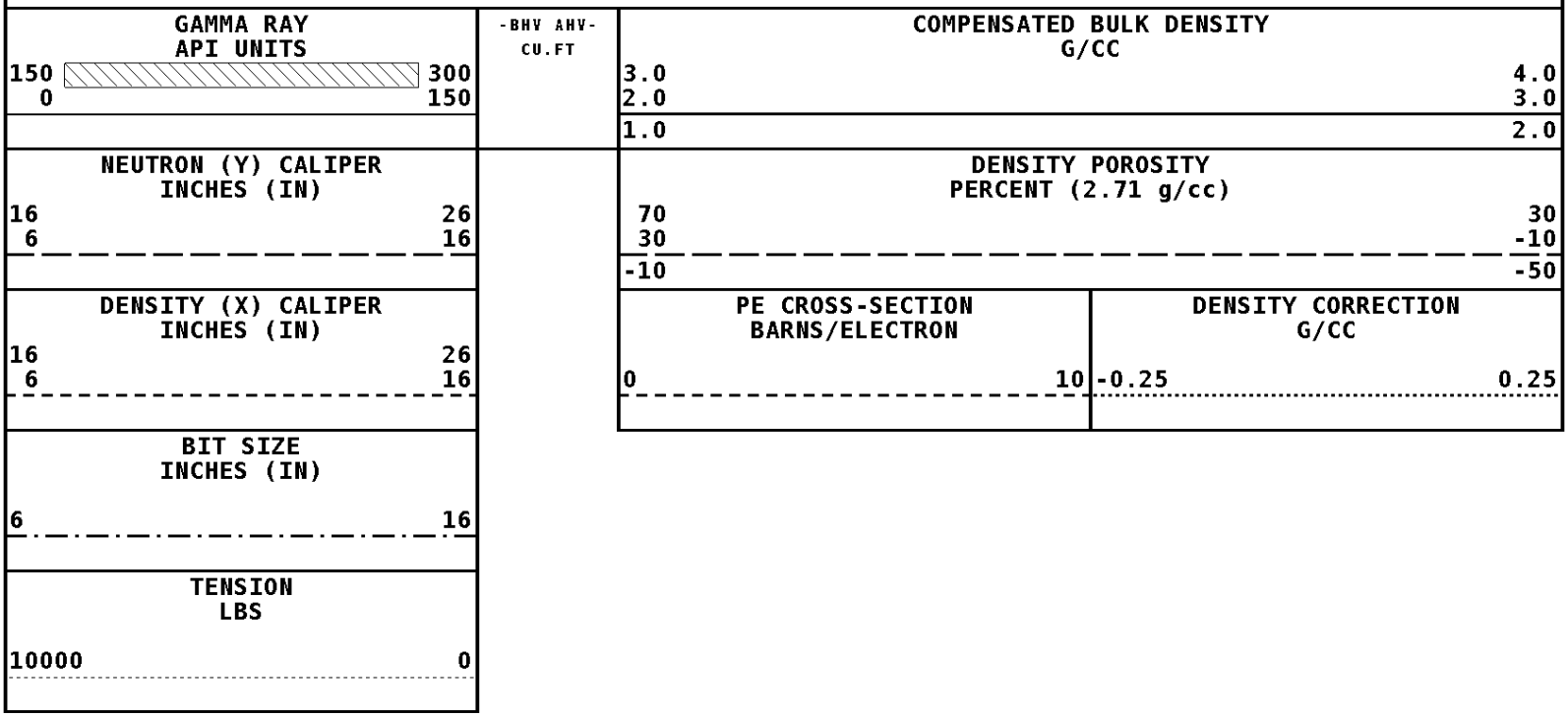

3900
4000
--200Cu.Ft


GR
N CAL
LD CAL
BIT
LWT
4100
100Cu.Ft
4200
PECL
PORL
LDEN
LCOR


--100Cu.Ft
4300
4400



1:240 MAIN SECTION
BULK DENSITY



* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	7.875	in
Casing Diameter	4.500	in
Casing Correction (PHI N)	Disable	
Fluid Density	1.00	g/cc
Matrix Density	2.71	g/cc
Formation Matrix	Limestone	

* Calibration Summary *

Shop Calibration GRT-B

Performed : 16-May-2011 Time : 10:12
Sensor Suite : GR-GR5 ID : GRT-BA-121

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	51	355	CPS	175	GRAPI

Shop Calibration CNT-AA

Performed : 27-JAN-2012 Time : 11:34
Sensor Suite : CALI-BCN ID : NDT-BB-115

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	8.7	14.7	6.0	12.0	IN.

Performed : 18-Oct-2011 Time : 10:20
Sensor Suite : BHC NEUT ID : CNP-AA-116
Source ID : N-1044

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	3.8665	3.6893	3.6928	
Porosity	23.3	20.5	20.6	%

Shop Calibration LDT-DA

Performed : 01-MAR-2011 Time : 03:40
Sensor Suite : CALI-LTH ID : PDT-GA-472

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	5.8	11.8	6.0	12.0	IN.

CL # 1 5.8 11.8 6.0 12.0 IN.

Performed : 29-Nov-2011 Time : 09:36
Sensor Suite : BHCPELNG ID : LDP-DA-01
Source ID : CSV-587

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	63	481	776	326	CPS
LSW2	69	556	876	417	CPS
LSW3	254	1315	2062	1138	CPS
LSW4	301	1198	1650	1080	CPS
LSW5	29	38	39	37	CPS
LSW6	78	78	79	78	CPS
LSW7	50	51	50	49	CPS
LSW8	2	2	3	2	CPS
QS	0.221	0.207	0.224	0.224	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	109	596	2376	389	CPS
LLW2	122	961	3865	724	CPS
LLW3	466	1912	6823	1682	CPS
LLW4	588	1139	2805	1066	CPS
LLW5	65	71	84	71	CPS
LLW6	191	187	183	188	CPS
LLW7	122	118	116	120	CPS
LLW8	4	6	11	6	CPS
QL	0.220	0.227	0.223	0.219	
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	11.0	6.0	12.0	IN.

Performed : 23-Aug-2011 Time : 09:18
Sensor Suite : MSTDA-NI ID : MST-DA-36

Internal

	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
INV-V	221.0	21282.7		0.00	1946.00	MV
NOR-V	164.0	21140.6		0.00	1546.00	MV
IN-C	157.3	21367.2		0.00	15.46	UA
INV-R					40.71	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