Tucker WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company ANDERSON ENERGY, INC.
Well KING B #1
Field MESERVE
County TREGO
State KANSAS
Country USA
API No. 015-195-22790-00-00

File No : TUL-57087
Company : ANDERSON ENERGY, INC.
Well : KING B #1
Field : MESERVE
County : TREGO
State : KANSAS
Country : USA
API No : 015-195-22790-00-00

Location :
1555' FSL & 1000' FEL
SW SW NE SE

LSD : **Sect :** 12 **Twp :** 15S **Rge :** 21W

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	2148.00 Ft	CNT	CST
Log Measured From:	KB	**DF**	2147.00 Ft	LDT	PIT
Above Permanent Datum:	9.00 Ft	**GL**	2139.00 Ft	MLT	

Date	2012-06-08						
Run Number	1						
Depth--Driller	4000.0	Ft					
Depth--Logger	3998.0	Ft					
First Reading	3953.0	Ft					
Last Reading	3000.0	Ft					
Casing--Driller	307.0	Ft					
Casing--Logger	307.0	Ft					
Bit Size	7.875	In					
Casing Size	8.625	In					
Hole Fluid Type	CHEMICAL						
Density	9.3	LBS/GAL					
Fluid Loss	7.2	CC					
PH/Viscosity	10.5	59.0 SEC					
Sample Source	MEASURED						
RM@Measured Temp.	0.500 @ 85 F						
RMF@Measured Temp	0.400 @ 85 F						
RMC@Measured Temp.	0.600 @ 85 F						
Source RMF/RMC	CALCULATED	CALCULATED					
RM@BHT	0.350 @ 121 F						
Time Circulation Stopped	2012-06-08 10:00						
Max Recorded Temp.	121	F					
Equipment/Base	TRK 127	TULSA					
Recorded By	R. AUSTIN						
Witnessed By	R. MARTIN						

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	4000.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	32.00	307.00

Run Number	1		
Date	2012-06-08		
Date/Time On Bottom	2012-06-08 13:45		
Depth to Fluid	0.0	Ft	
Salinity	3500.000	PPM	
RMF@BHT	0.280 @ 121	F	
RMC@BHT	0.420 @ 121	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.

POROSITY/MICRO DETAIL PRESENTED FROM TD TO 300O' AS PER CUSTOMER REQUEST.
ANHYDRITE SECTION PRESENTED FROM 1500' TO 1400' AS PER CUSTOMER REQUEST.

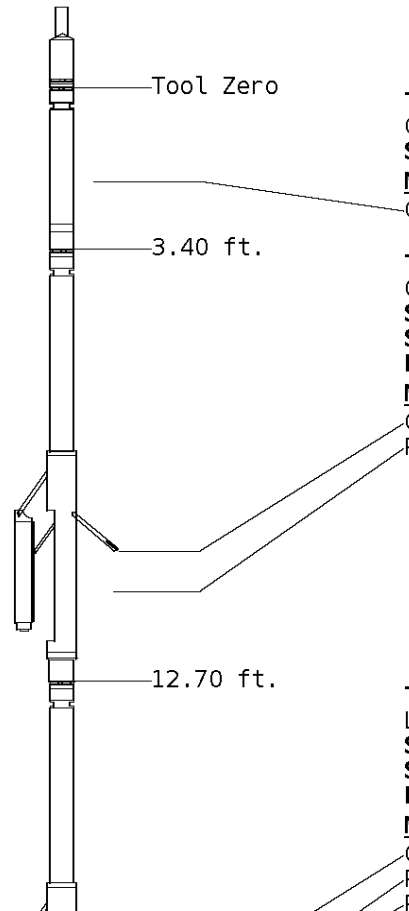
GRT: GRP.
CNT: PHIN, CLCNIN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
MLT: NOR_R, INV_R, MSCLPIN.
CST: PORS, DDCDTF, TT1PF, TT3PF, ITT.
PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:
J. TORBERT
N. BURDEN
M. RUBY

MM=3.2

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

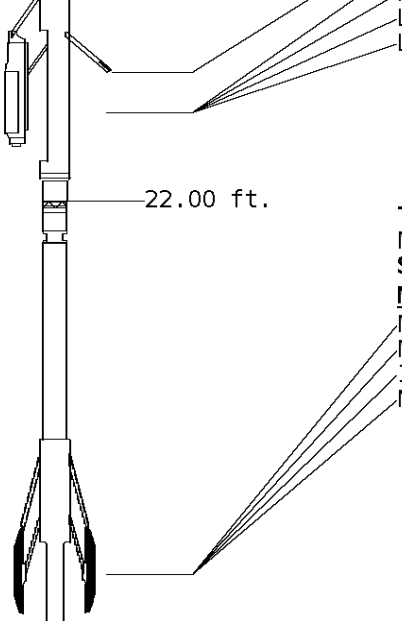
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AB-400
Source ID :N-1044
Pad ID :CNP-AA-116

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-469
Source ID :CSV-587
Pad ID :LDP-DA-02

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

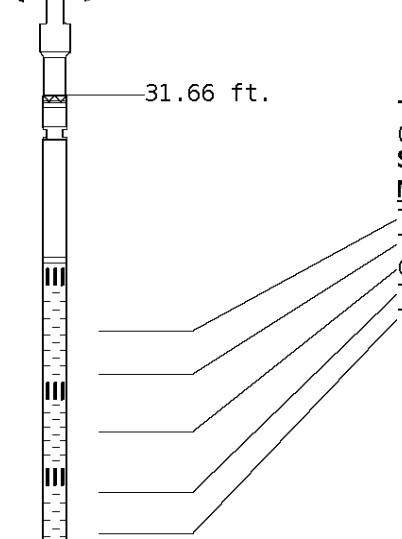
LDEN	7.20	19.90	47.05
LCOR	7.20	19.90	47.05



22.00 ft.

Tool: MST-DA **Length:** 9.66 **ft.** **O.D.** 6.00 **in.**
Micro Spherically Focused (IC)
Sonde ID :MST-DA-29

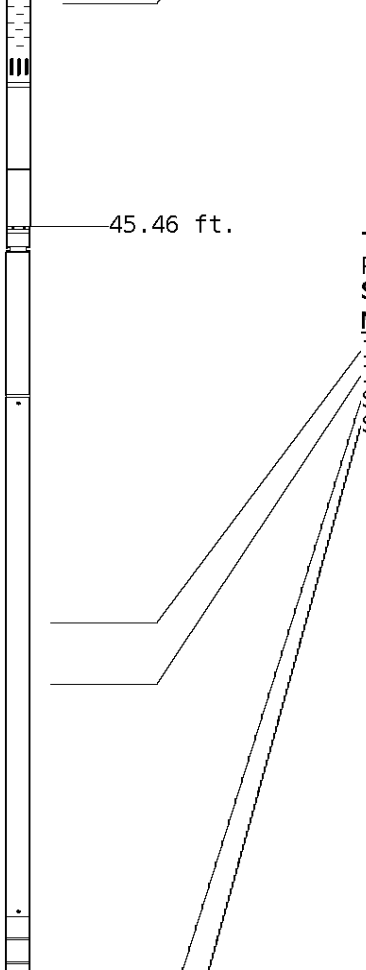
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	37.35
MSCLP	7.60	29.60	37.35
INV	7.60	29.60	37.35
NOR	7.60	29.60	37.35



31.66 ft.

Tool: CST-AD **Length:** 13.80 **ft.** **O.D.** 3.60 **in.**
Open Hole Sonic
Sonde ID :CST-AB-012

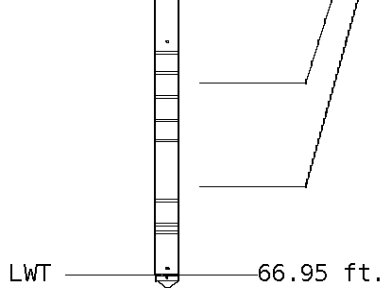
Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	36.46	30.49
TT3	5.80	37.46	29.49
CDT	7.30	38.96	27.99
TT4	8.80	40.46	26.49
TT2	9.80	41.46	25.49



45.46 ft.

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-13

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_KING-B-1_JUN8_QSTK
Segment: V1.D1.S7 Reprocess of Main segment
Reference: 0

Scale: 1:240
Acquired: 2012-06/08 14:02 3.2.0-10990
Processed: 2012-06/08 16:01 3.2.0-10990

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

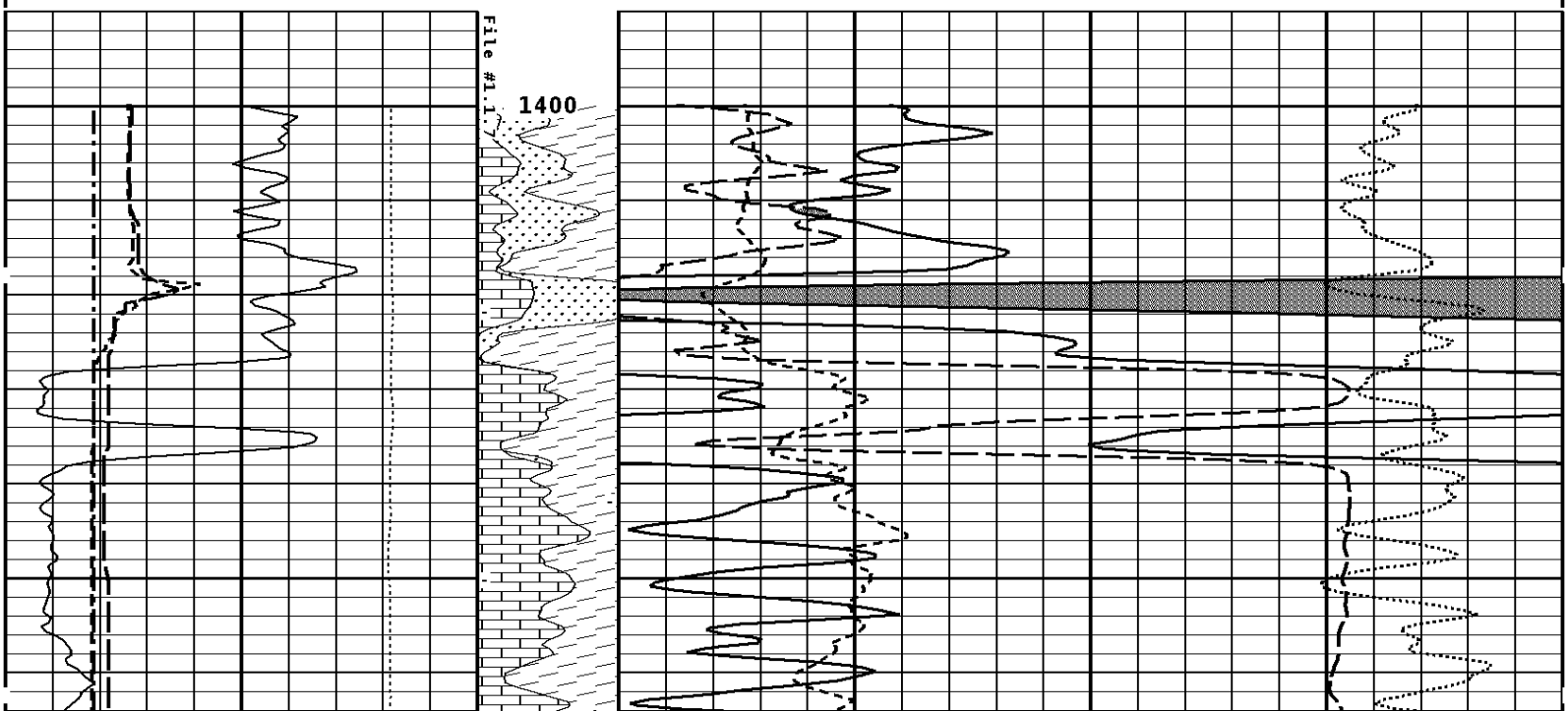
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 — -10

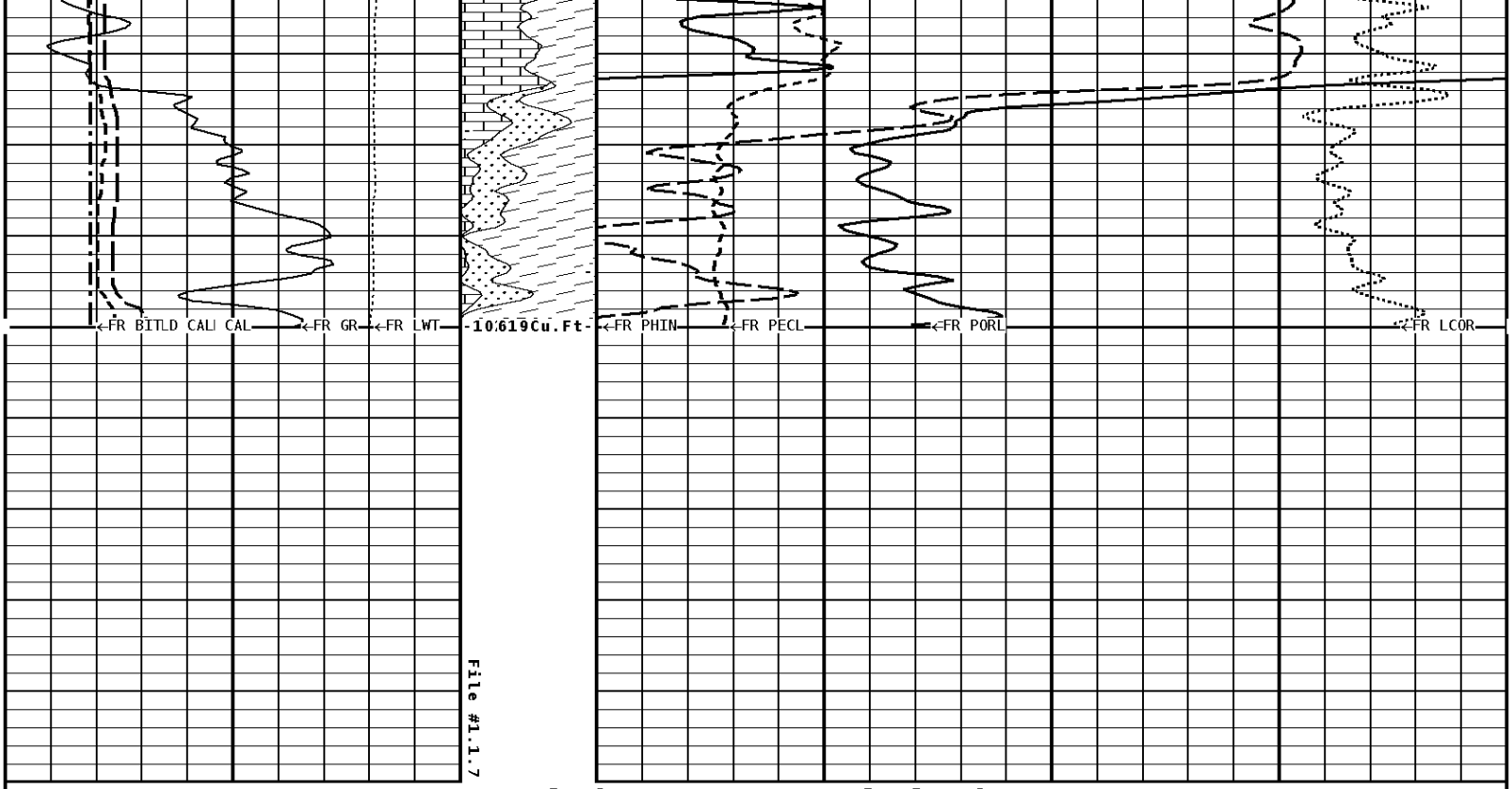
GAMMA RAY
API UNITS
150 — 300
0 — 150

-BHV AHV-
CU.FT

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

1:240 ANHYDRITE SECTION





1:240 ANHYDRITE 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	5.500	in
Casing Correction (PHI N)	Disable	

Well File: ANDERSON_KING-B-1_JUN8_QSTK
Segment: V1.D1.S7 Reprocess of Main segment
Reference: 0
Scale: 1:240
Acquired: 2012-06/08 14:02 3.2.0-10990
Processed: 2012-06/08 16:01 3.2.0-10990

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

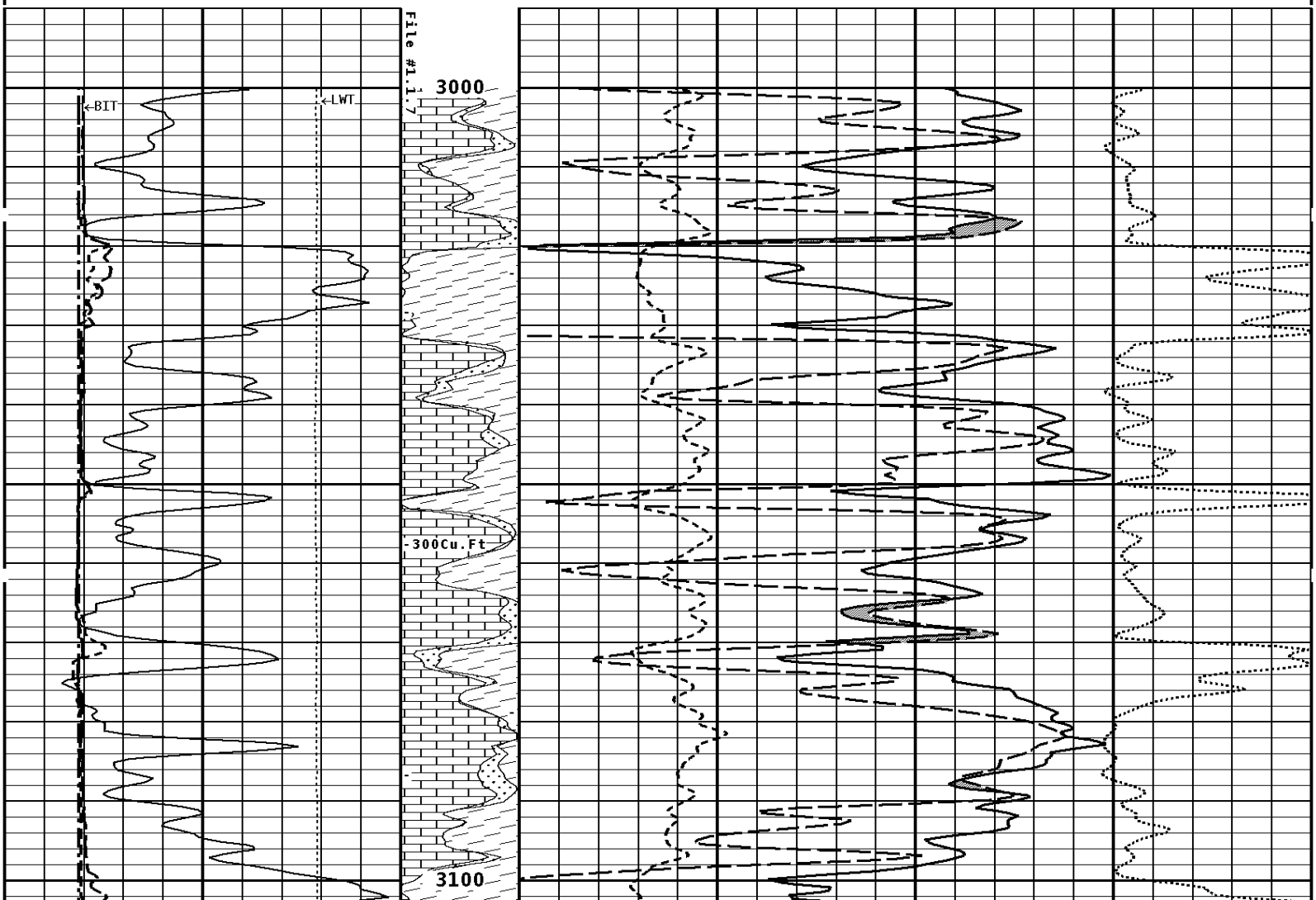
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 — -10

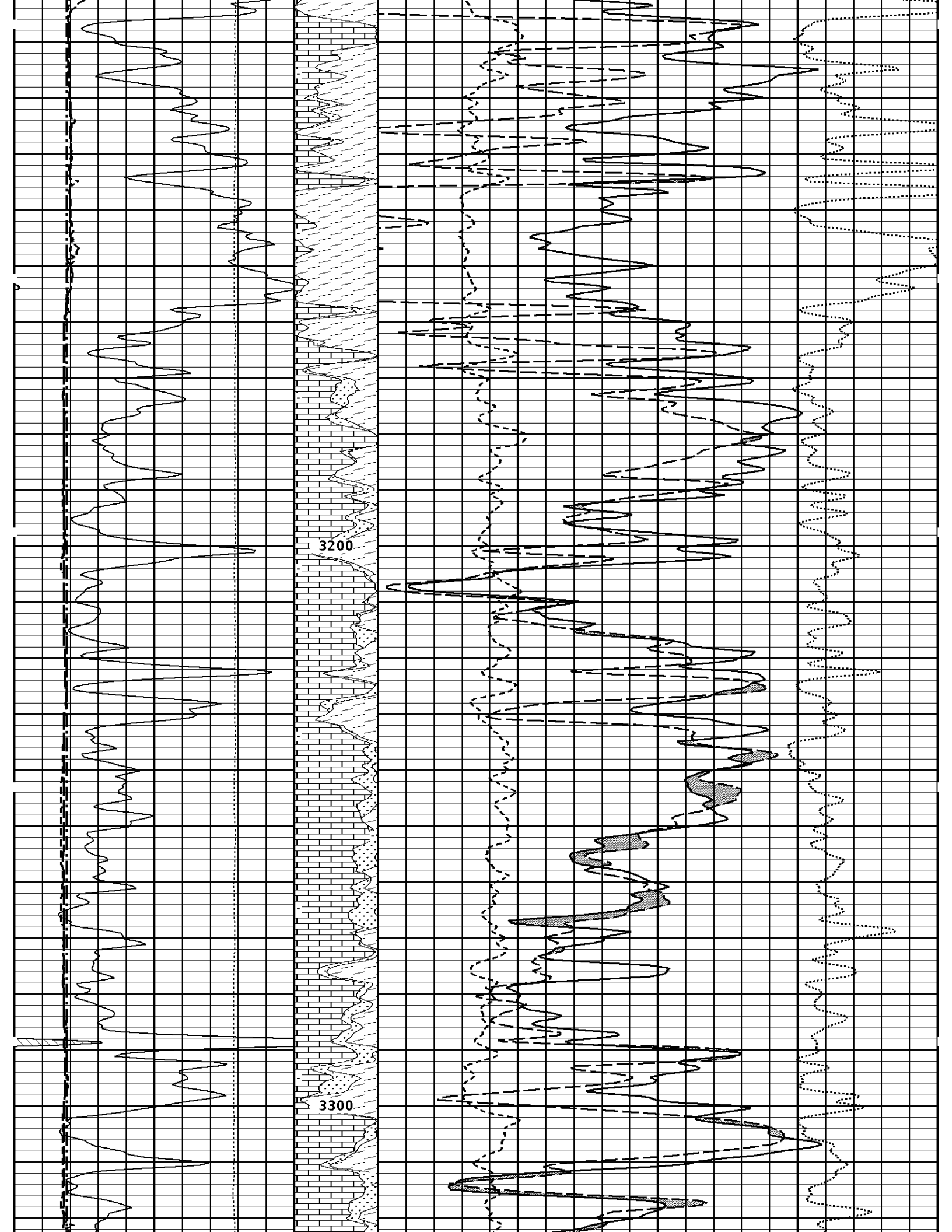
GAMMA RAY
API UNITS
150 — 300
0 — 150

-BHV AHV-
CU.FT

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

1:240 MAIN SECTION

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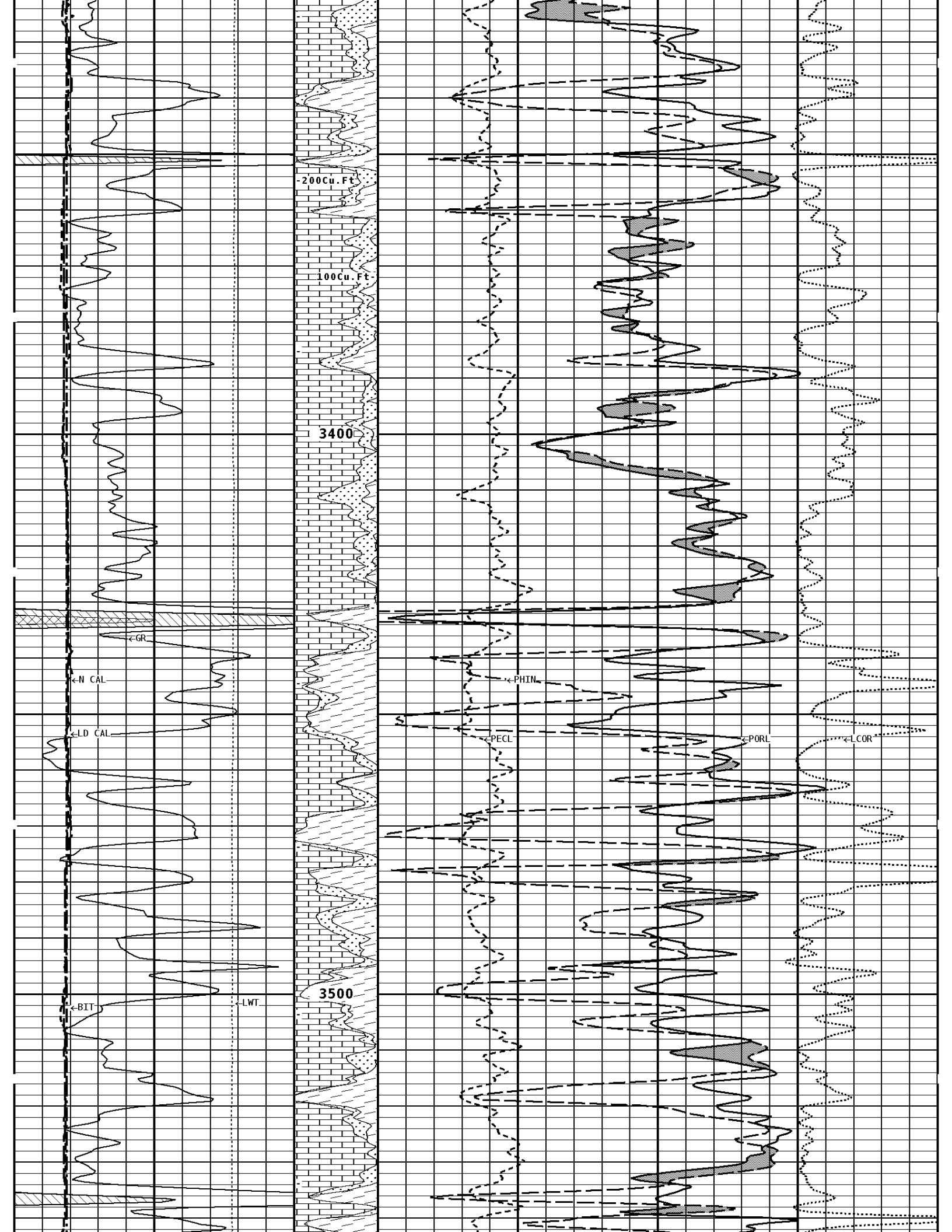
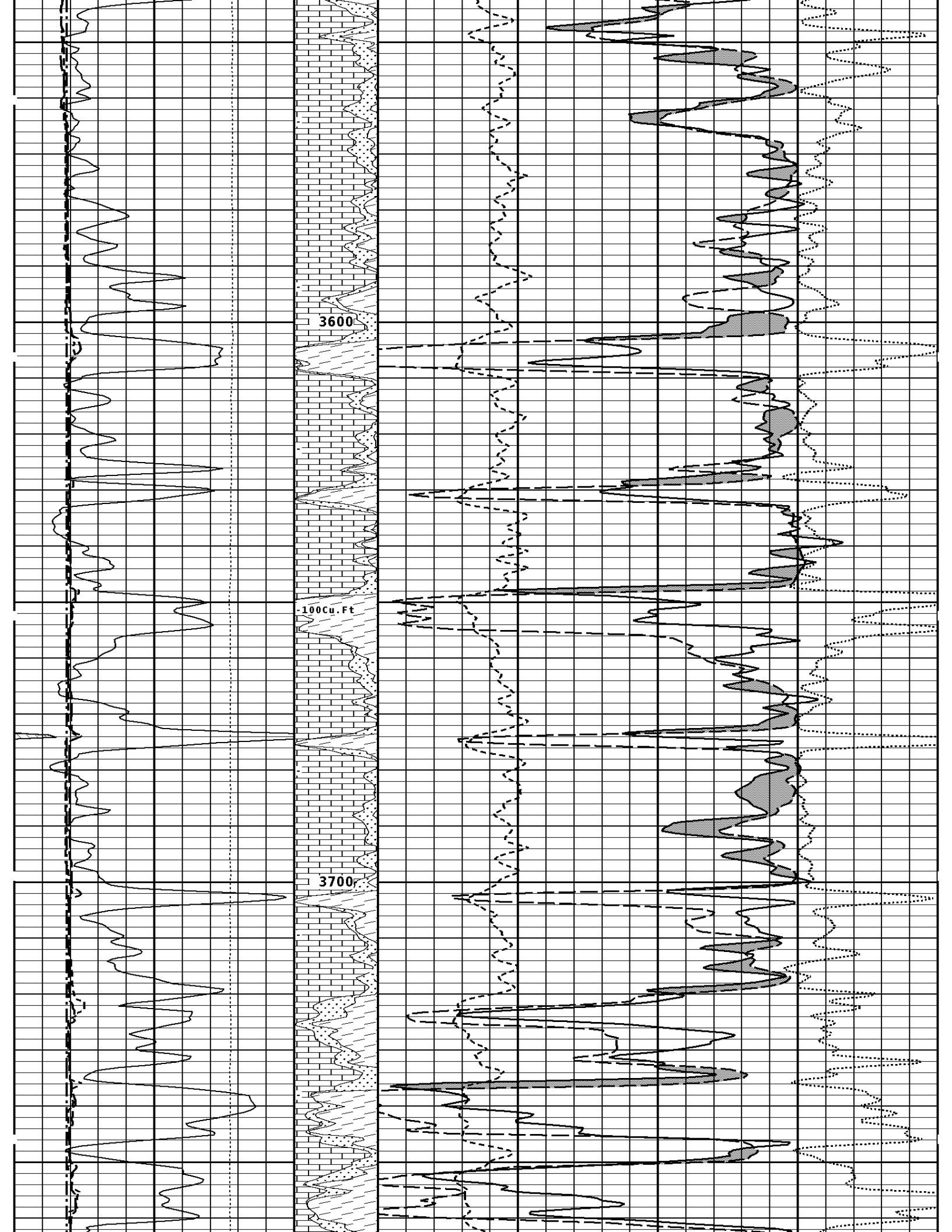
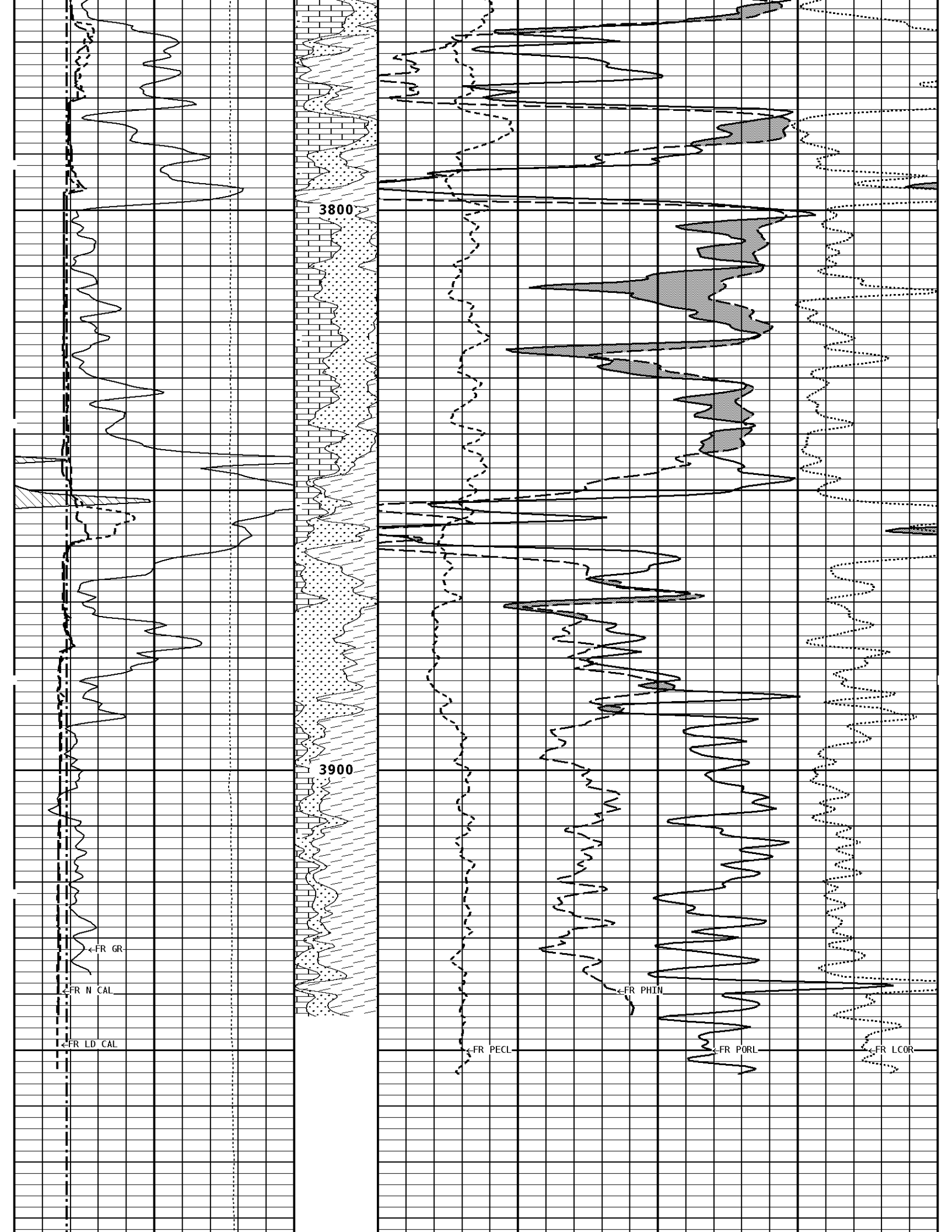
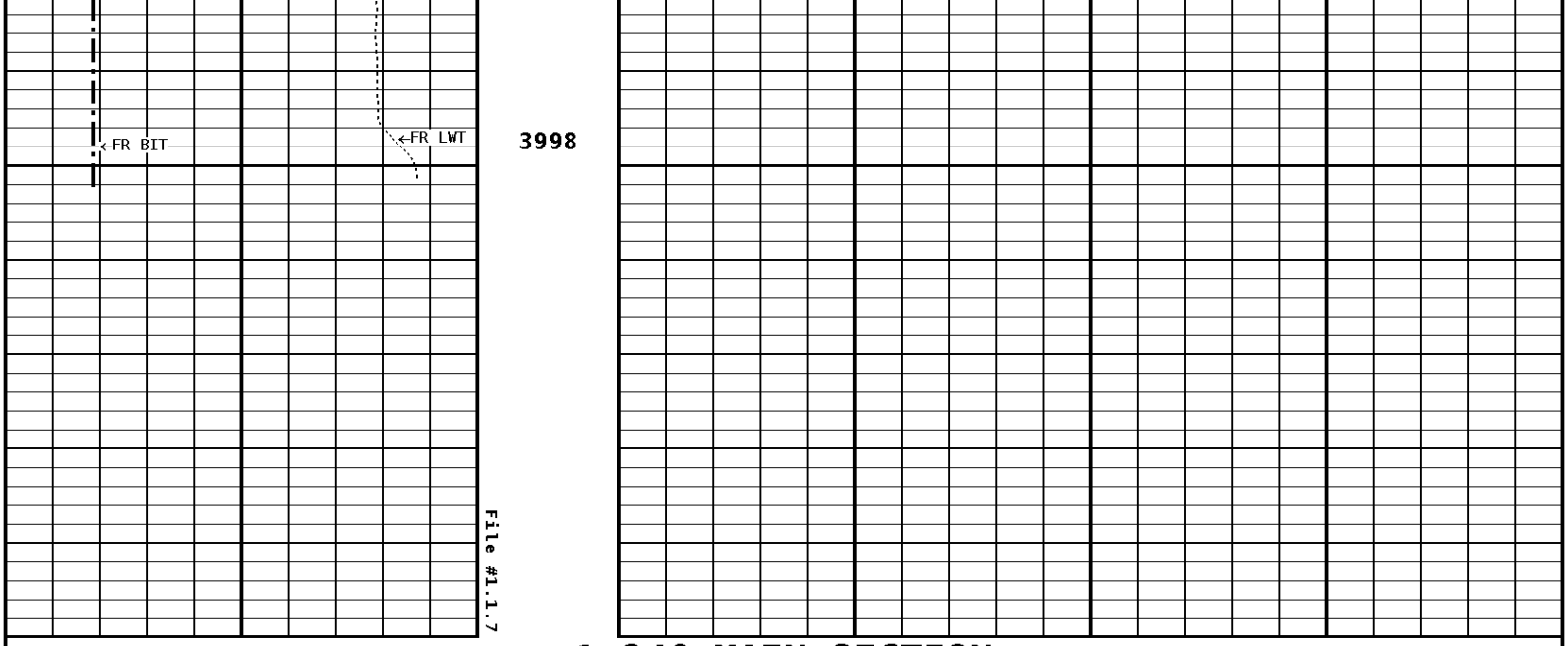
3300


200Cu.Ft
100Cu.Ft
3400
3500
GR
N CAL
LD CAL
BIT
LWT
PHIN
PECL
PORL
LCOR


3600
-100Cu.Ft
3700


3800
3900
FR GR
FR N CAL
FR LD CAL
FR PECL
FR PHIN
FR PORL
FR LCOR



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

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: ANDERSON_KING-B-1_JUN8_QSTK **Scale:** 1:240
Segment: V1.D1.S6 Reprocess of Repeat segment **Acquired:** 2012-06/08 13:42 3.2.0-10990
Reference: 0 **Processed:** 2012-06/08 16:01 3.2.0-10990

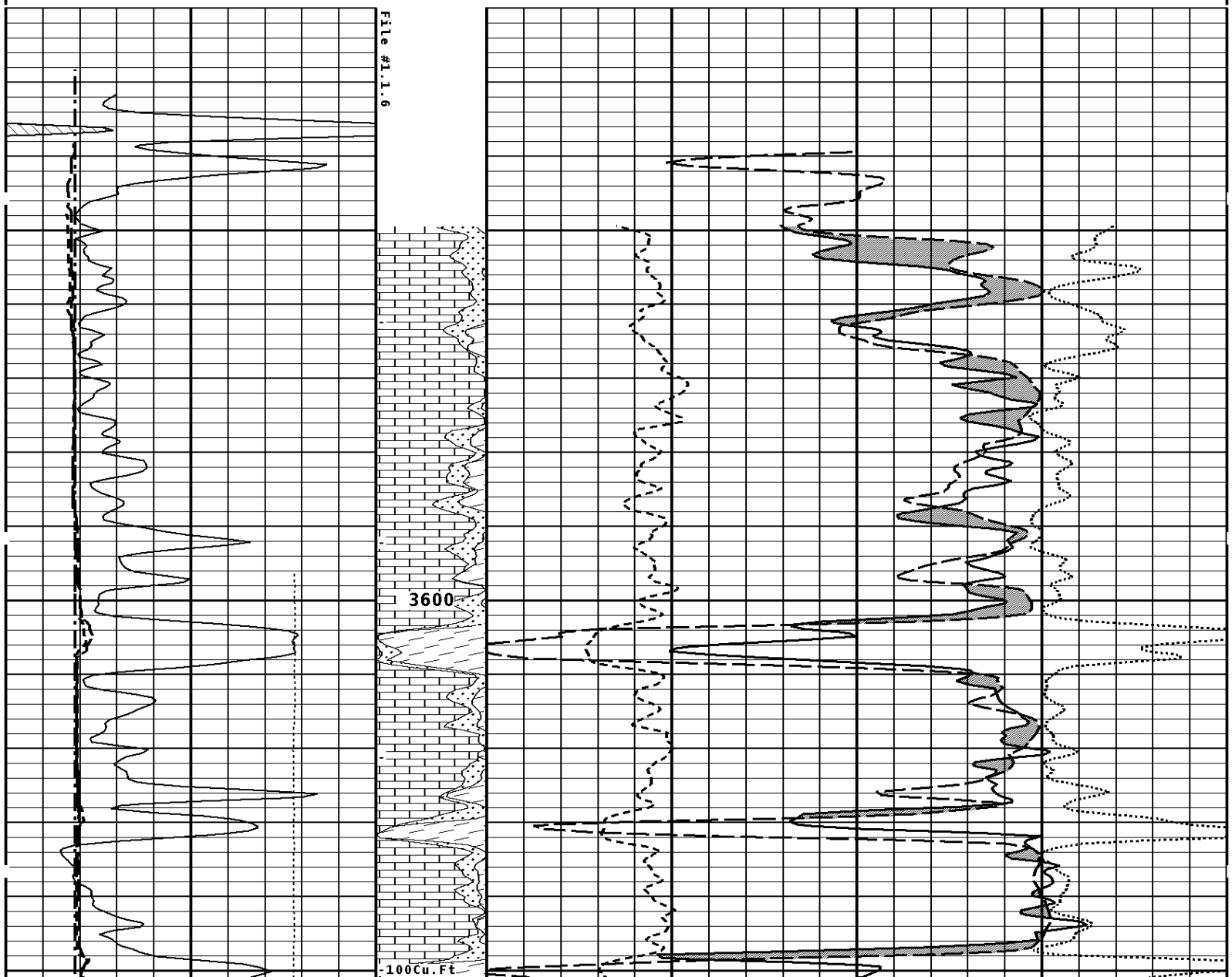
TENSION LBS

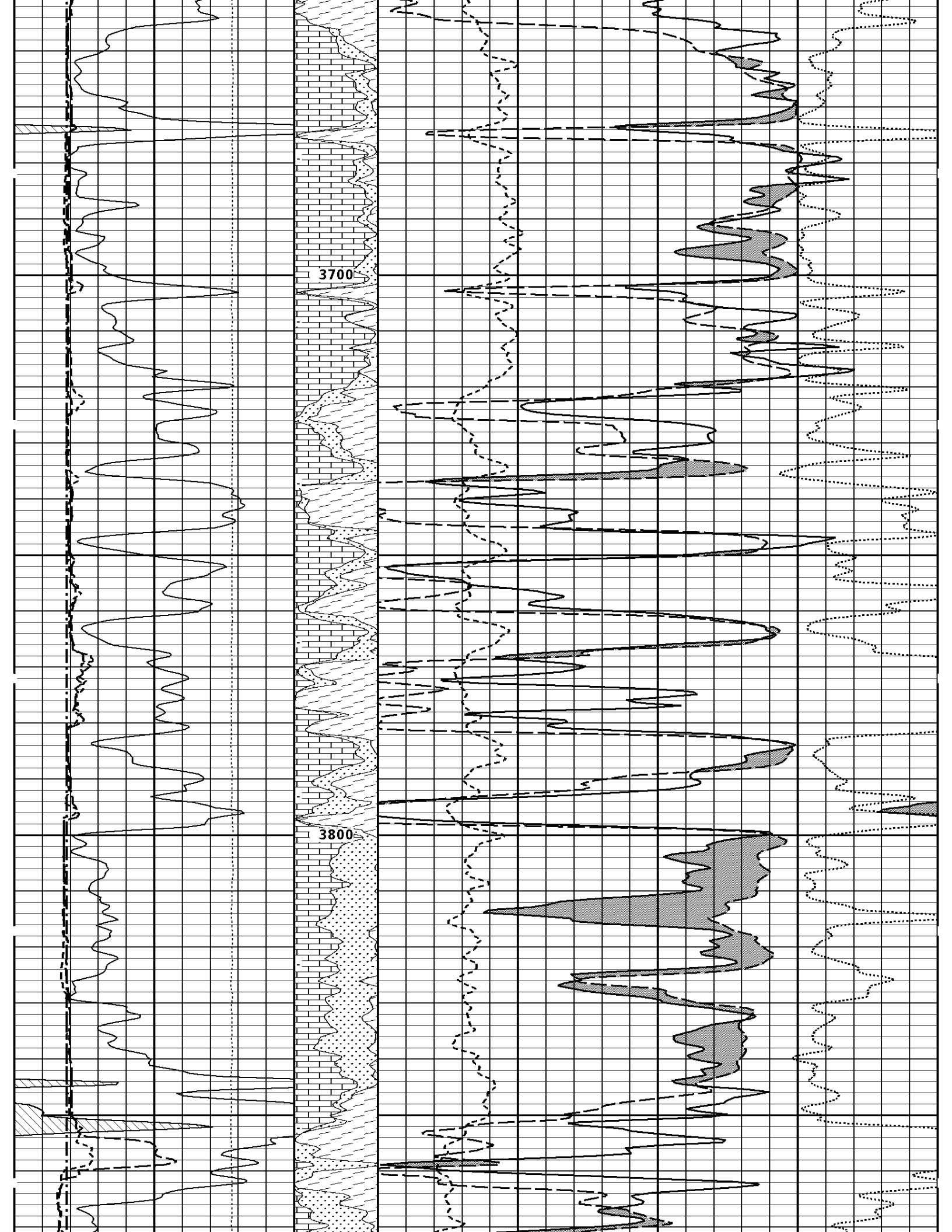
10000 0

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 6 16		30 -10	
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	

1:240 REPEAT SECTION

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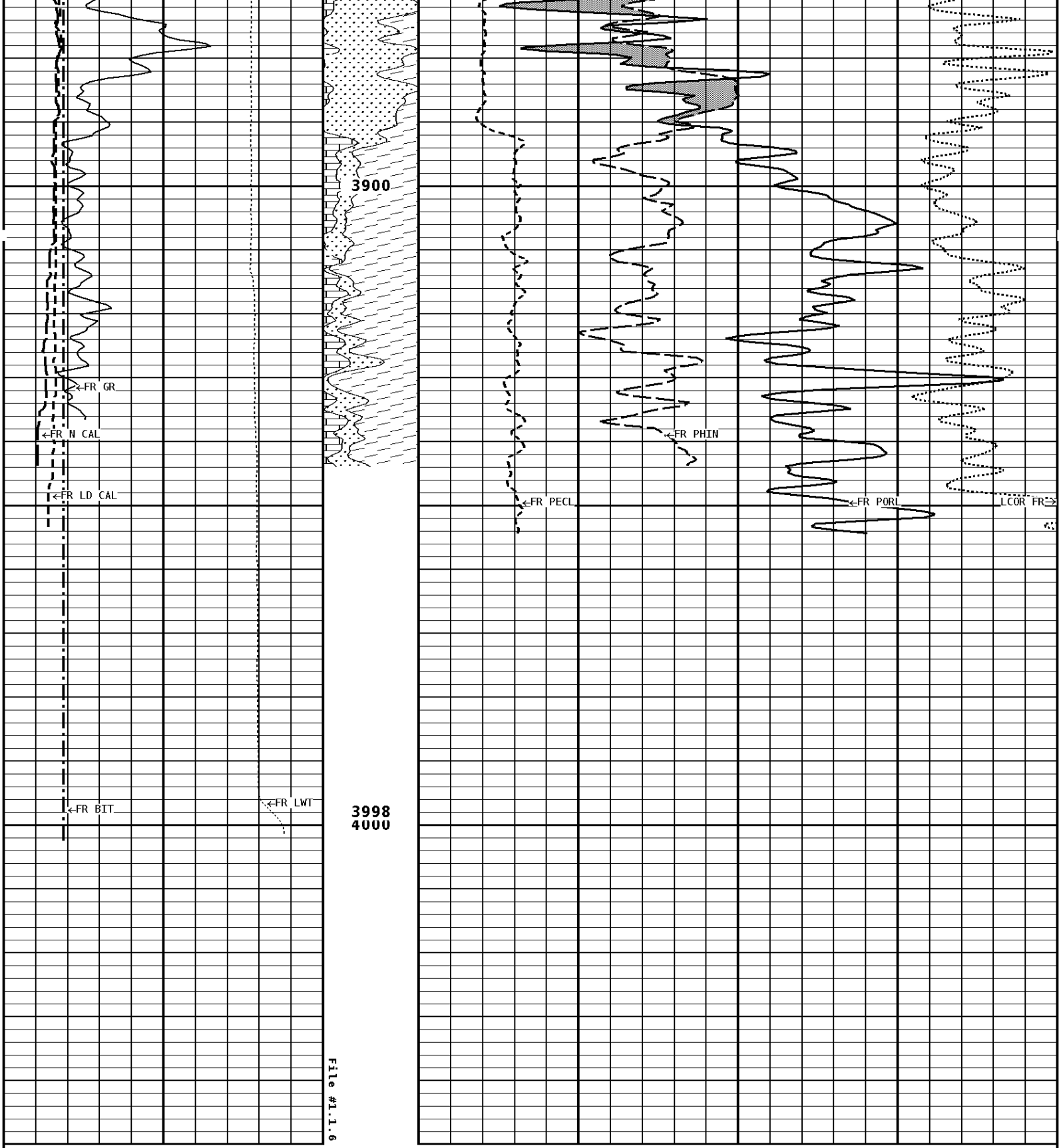
3800



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	Volume	NEUTRON POROSITY

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

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	5.500	in
Casing Correction (PHI N)	Disable	

Well File: ANDERSON_KING-B-1_JUN8_QSTK **Scale:** 1:240
Segment: V1.D1.S7 Reprocess of Main segment **Acquired:** 2012-06/08 14:02 3.2.0-10990
Reference: 0 **Processed:** 2012-06/08 16:01 3.2.0-10990

TENSION LBS					
10000	0				

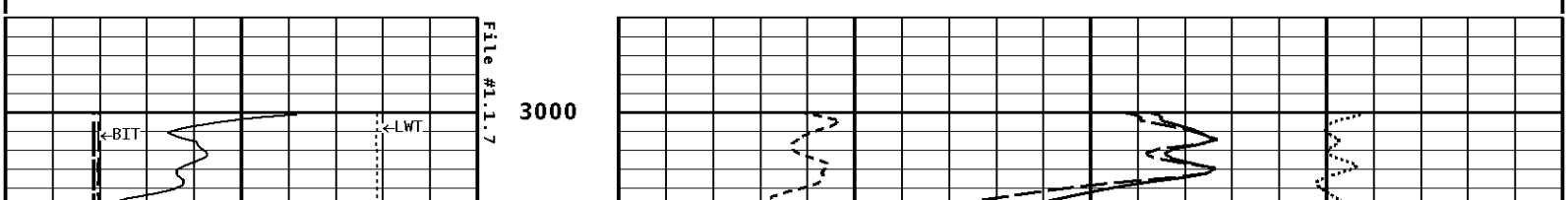
BIT SIZE INCHES (IN)					
6	16				

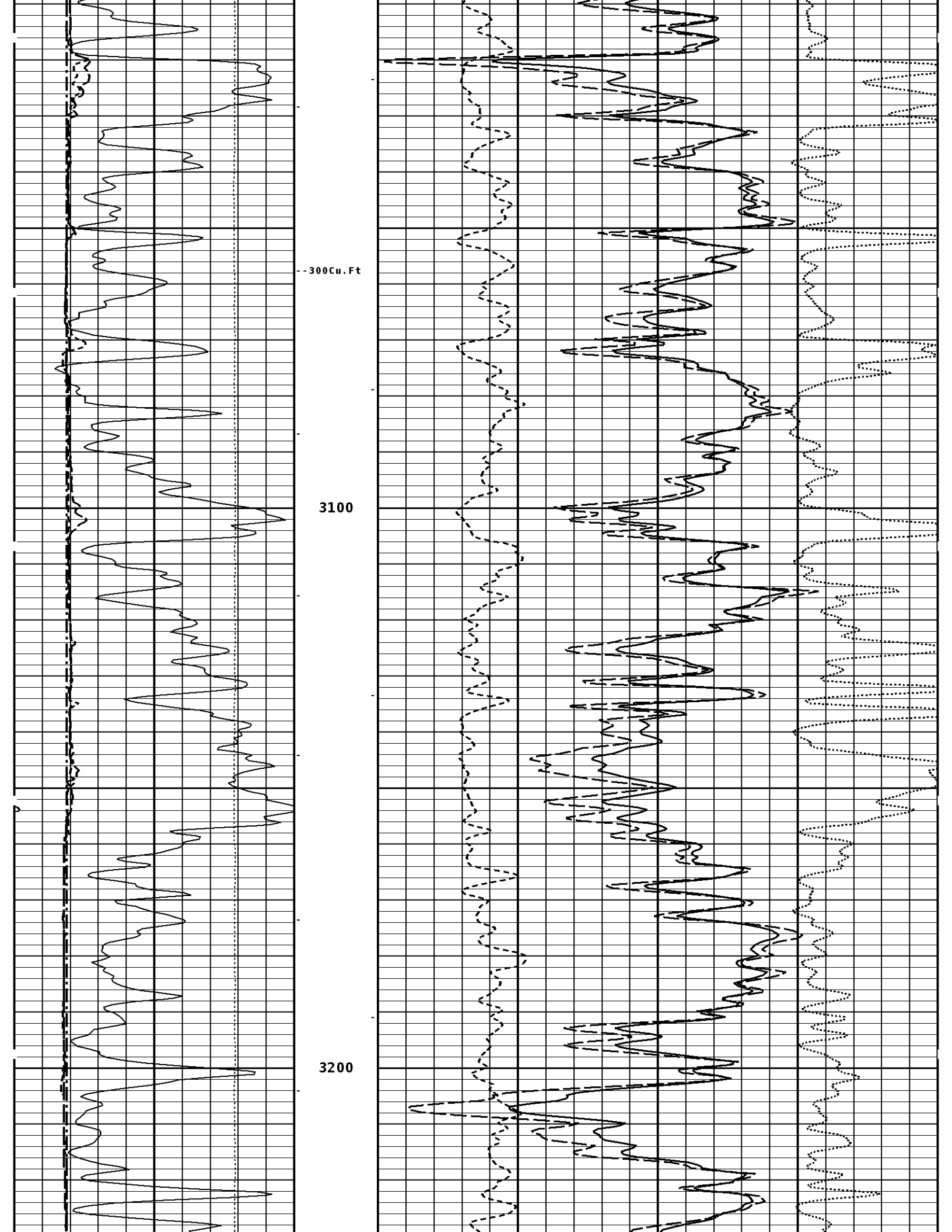
DENSITY (X) CALIPER INCHES (IN)			PE CROSS-SECTION BARNS/ELECTRON		DENSITY CORRECTION G/CC	
16	26					
6	16		0	10	-0.25	0.25

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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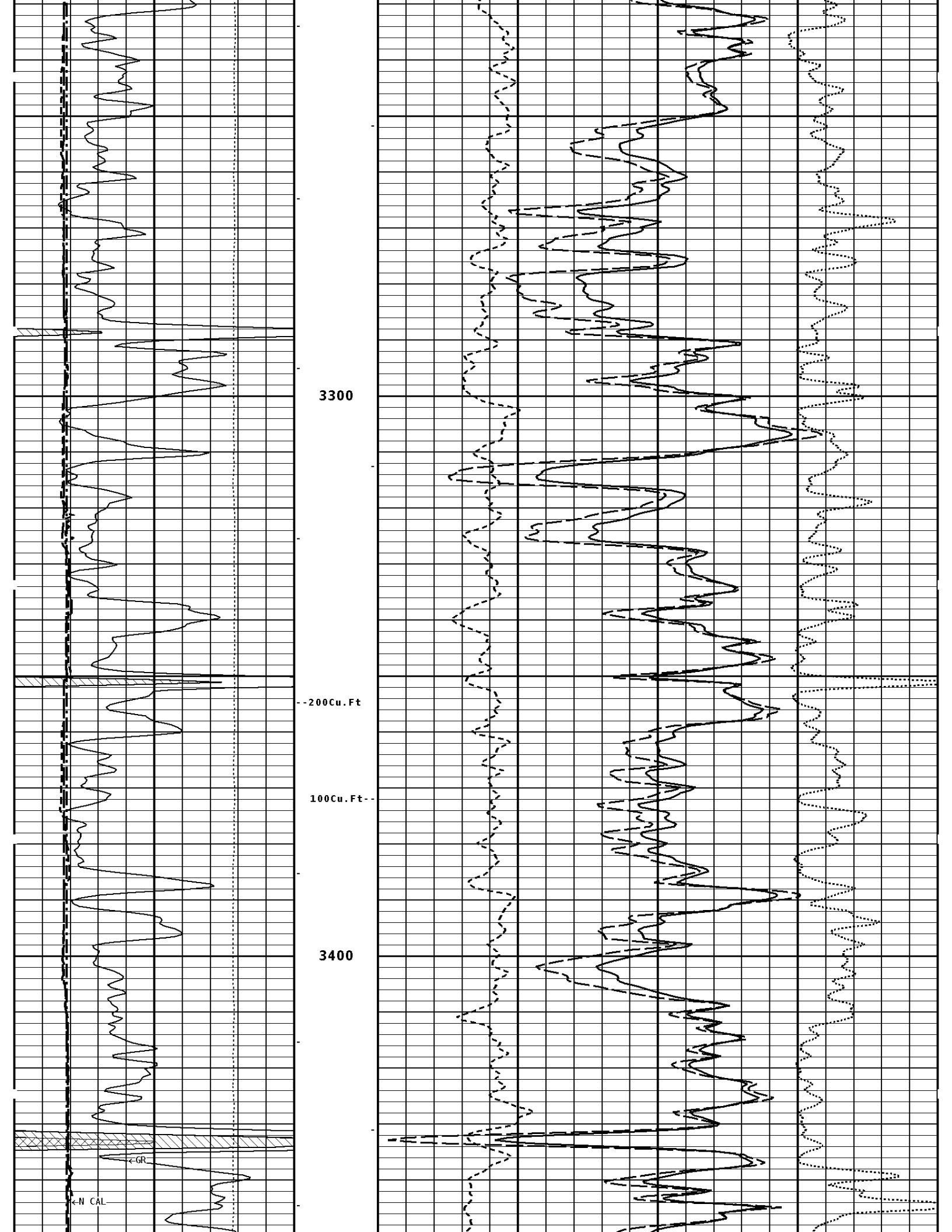
3200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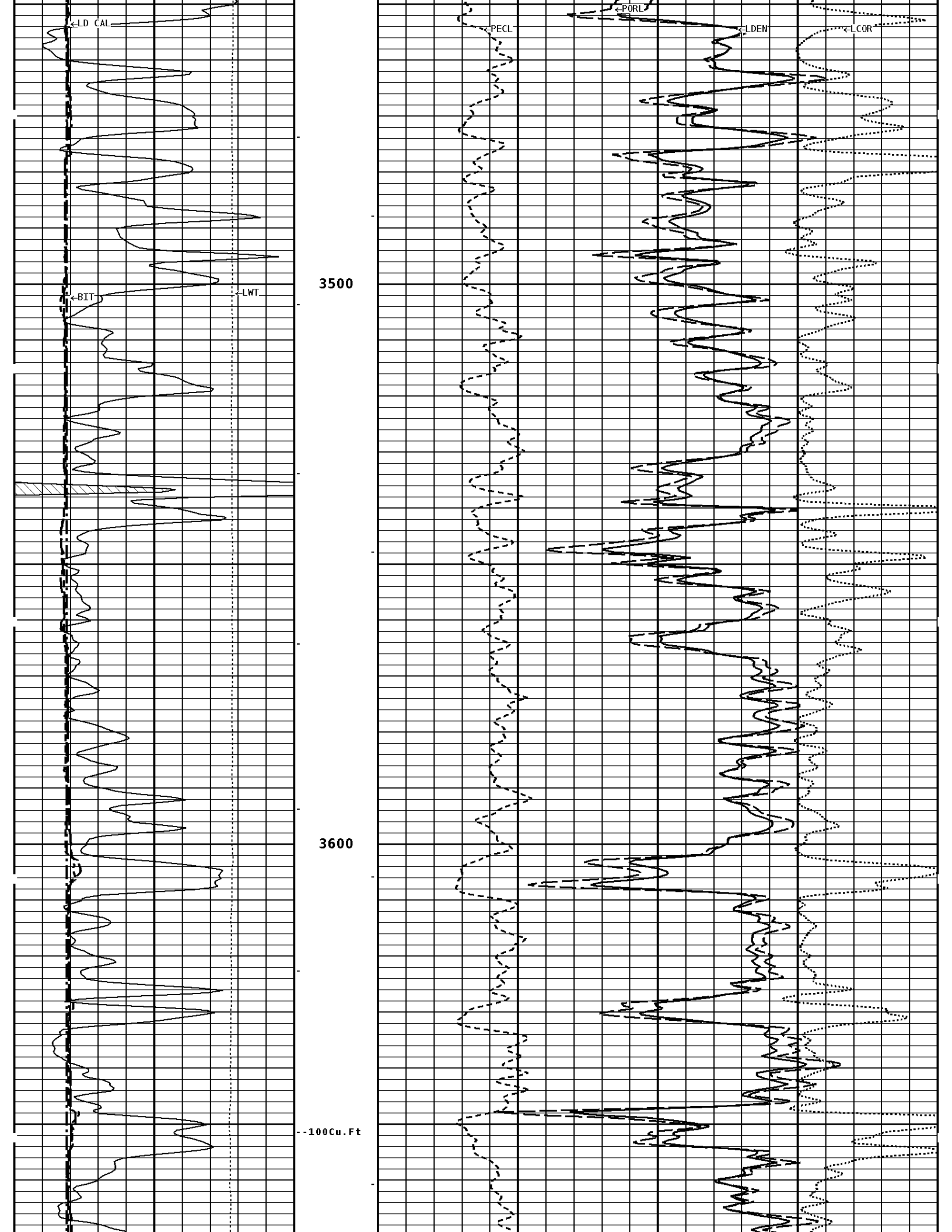
100Cu.Ft--
3400
GR
N CAL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LWT
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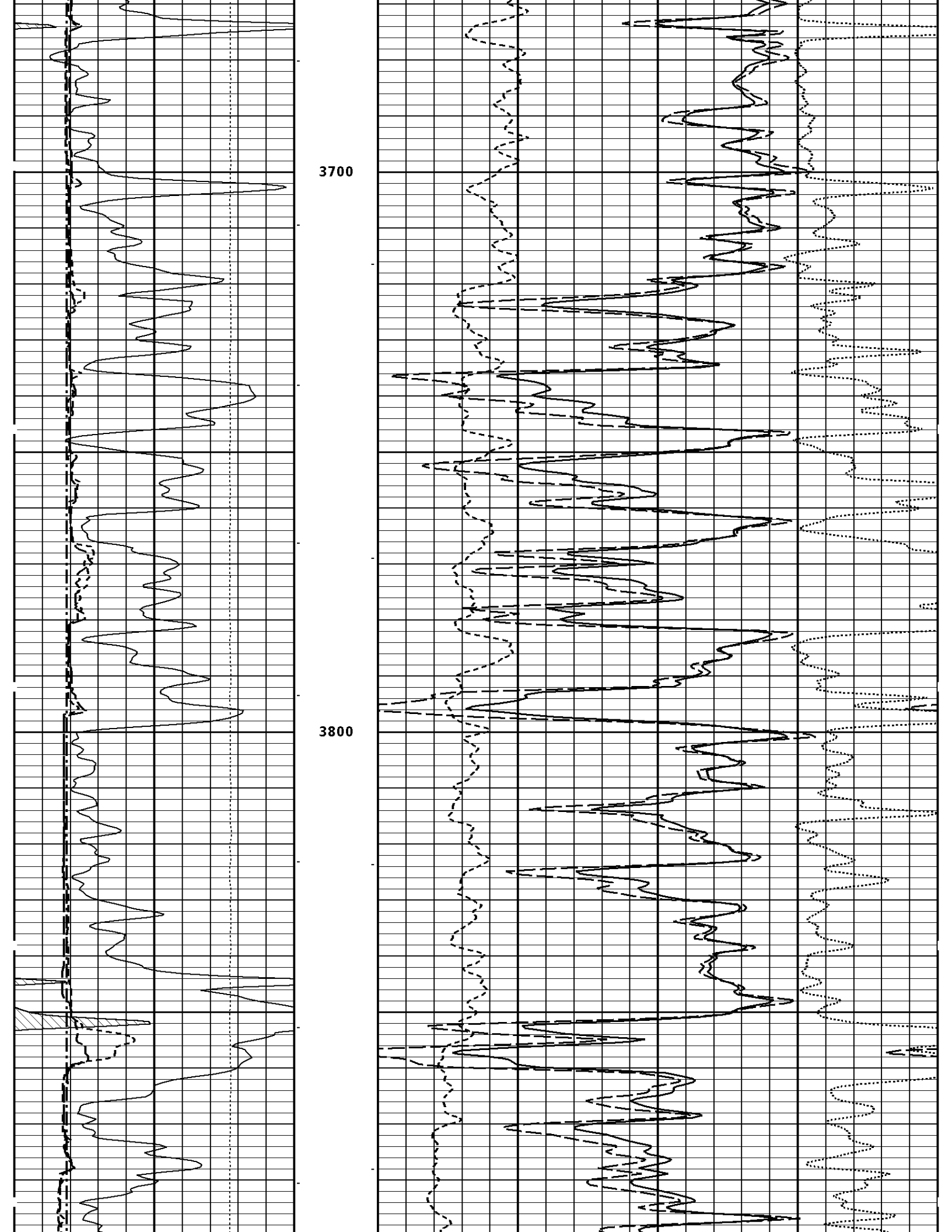
3600
--100Cu.Ft
PORL
PECL
LDEN
LCOR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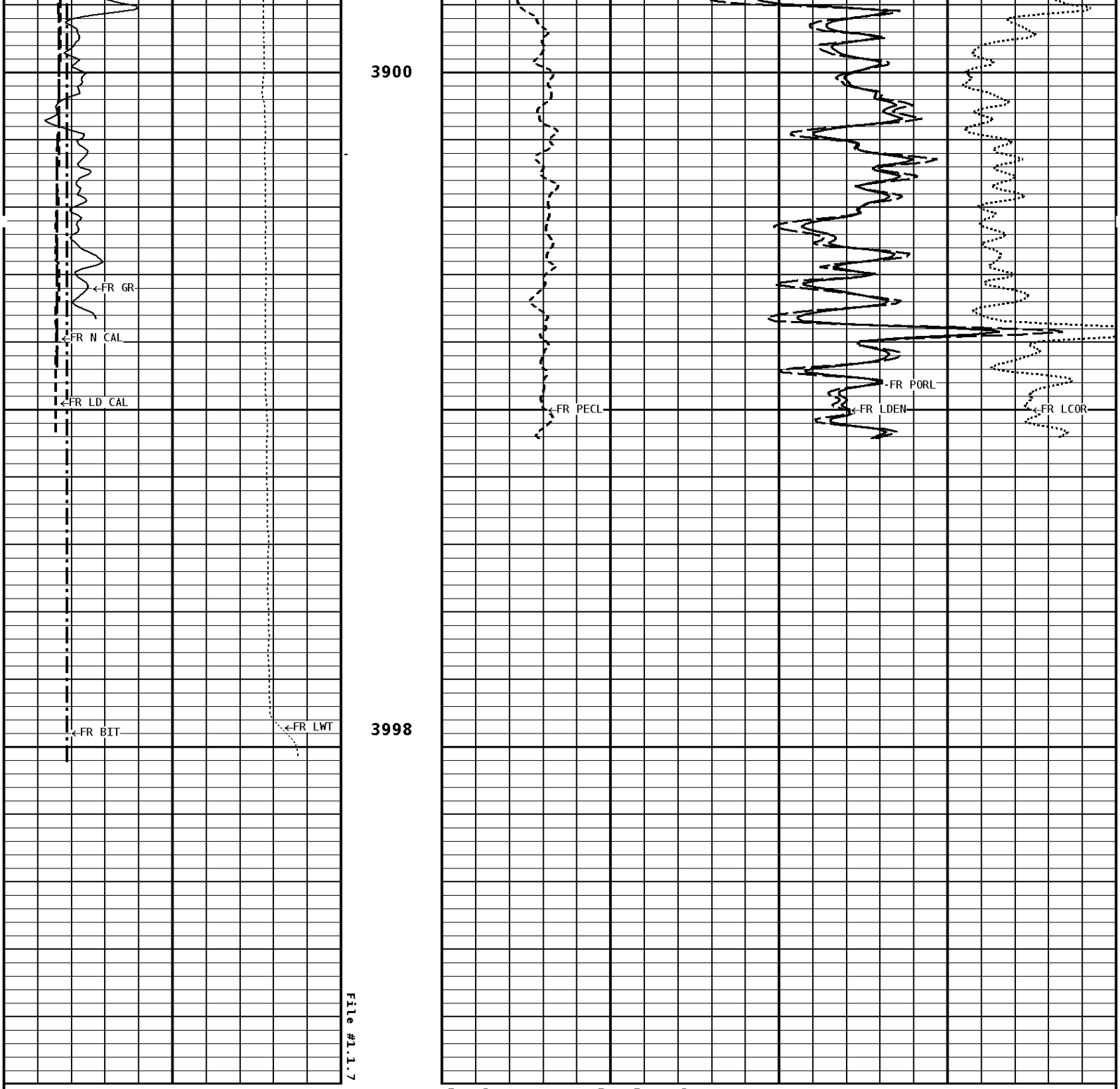

1:240 MAIN SECTION
BULK DENSITY

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

* 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 : 25-MAY-2012 Time : 12:30
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 : 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	6.5	12.5	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	Short Space Al	Short Space Mg	Short Space 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

Shop Calibration
MST-DA

Performed : 18-APR-2012 Time : 14:41
Sensor Suite : CALI-MSN ID : MST-DA-29

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.9	14.9	6.0	12.0	IN.

Performed : 08-JUN-2012 Time : 13:00
Sensor Suite : MSTDA-NI ID : MST-DA-29

Internal

	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
INV-V	85.5	29776.6		0.00	3146.00	MV
NOR-V	164.6	30960.8		0.00	1546.00	MV
IN-C	152.5	60554.1		0.00	15.46	UA
INV-R					44.90	OHMM
NOR-R					55.11	OHMM

Performed : 18-APR-2012 Time : 14:41
Sensor Suite : MSTDAMSF ID : MST-DA-29

Internal

	Measured			Calibrated		
	Zero	Reference	Units	Zero	Reference	Units
MSFC	17.6	59927.7		0.00	1522.00	UA
MSFB	32752.5	32602.8		0.00	1522.00	MA
MOM1	0.0	61154.9		0.00	1522.00	MV
MSFRA					43.30	OHMM

Tucker WIRELINE SERVICES

Company: ANDERSON ENERGY, INC.

Well: KING B #1

Location: 1555' FSL & 1000' FEL

Logged: 2012-06-08

K.B. Elev: 2148.0