Tucker WIRELINE SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company RUNNING FOXES PETROLEUM
Well DICKERSON 16-22D
Field BRONSON-XENIA
County ALLEN
State KANSAS
Country USA
API No. 15-001-30131-00-00

File No : TUL-56737
Company : RUNNING FOXES PETROLEUM
Well : DICKERSON 16-22D
Field : BRONSON-XENIA
County : ALLEN
State : KANSAS
Country : USA
API No : 15-001-30131-00-00

Location :
330' FSL & 330' FEL
SE SE SE

LSD : **Sect :** 22 **Twp :** 24S **Rge :** 21E

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	GL	**KB**	0.00 Ft	CNT	
Log Measured From:	GL	**DF**	0.00 Ft	LDT	
Above Permanent Datum:	0.00 Ft	**GL**	1103.00 Ft	PIT	

Date	2011-04-07			
Run Number	1			
Depth--Driller	898.0 Ft			
Depth--Logger	849.0 Ft			
First Reading	825.0 Ft			
Last Reading	20.0 Ft			
Casing--Driller	20.0 Ft			
Casing--Logger	20.0 Ft			
Bit Size	6.750 In			
Casing Size	8.625 In			
Hole Fluid Type	NATIVE			
Density	0.0 LBS/GAL			
Fluid Loss	0.0 CC			
PH/Viscosity	0.0	0.0 SEC		
Sample Source	CALCULATED			
RM@Measured Temp.	10.000 @ 64 F			
RMF@Measured Temp	8.000 @ 64 F			
RMC@Measured Temp.	12.000 @ 64 F			
Source RMF/RMC	MEASURED	MEASURED		
RM@BHT	7.711 @ 85 F			
Time Circulation Stopped	2011-04-06 16:15			
Max Recorded Temp.	85 F			
Equipment/Base	TRK 127	TULSA		
Recorded By	B.BAILEY			
Witnessed By	C.COUNTS			

Bitsize Intervals

Size (In)	Bottom (Ft)
6.750	898.0

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	32.00	20.0

Run Number	1		
Date	2011-04-07		
Date/Time On Bottom	2011-04-07 07:41		
Depth to Fluid	0.0	Ft	
Salinity	0.000	PPM	
RMF@BHT	6.169 @ 85	F	
RMC@BHT	9.254 @ 85	F	

Run Number 1

Comments

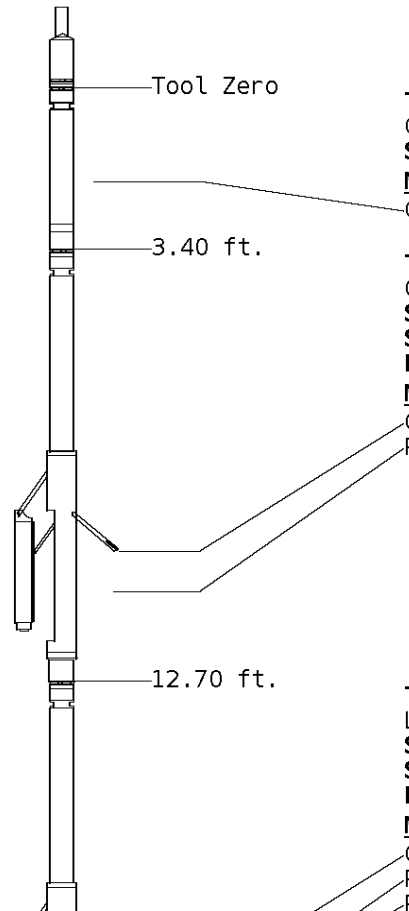
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED UISING 4.500" PRODUCTION CASING.
NO REPEAT DUE TO HOLE CONDICTION
GRT, CNT, LDT READING HIGH DUE TO HOLE CONDICTION.
HOLE DRILL WITH NO RETURN TELL TD.
BLACK SHALE IN MUD CAKE CAUSING TOOLS TO READ HIGH.

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

OPERATORS:
R.AUSTIN
M.BURKE
J.THOMAS

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-14

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

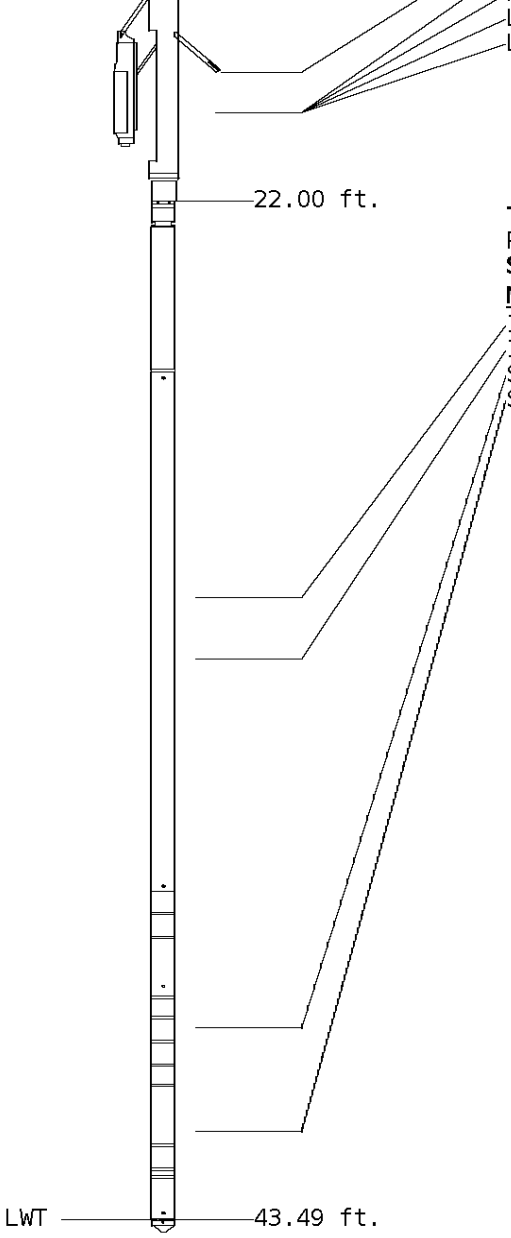
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AB-400
Source ID :N-1044
Pad ID :CNP-AA-116

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

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-CA-074

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: RUNNING_FOXES_DICKERSON_16-22D_APR7_MST **Scale:** 1:240
Segment: V1.D1.S4 Re-MAIN MIR-6 **Acquired:** 2011-04/07 07:43 3.2.0-9453
Reference: 0 **Processed:** 2011-04/07 08:13 3.2.0-9453

TENSION
LBS
10000 — 0

BIT SIZE
INCHES (IN)
4 — 14

Volume
Dolo/Shale

DENSITY (X) CALIPER
INCHES (IN)
14 — 24
4 — 14

Volume
Quartz

PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

DENSITY CORRECTION
G/CC
-0.25 — 0.25

NEUTRON (Y) CALIPER
INCHES (IN)
14 — 24
4 — 14

Volume
Calcite

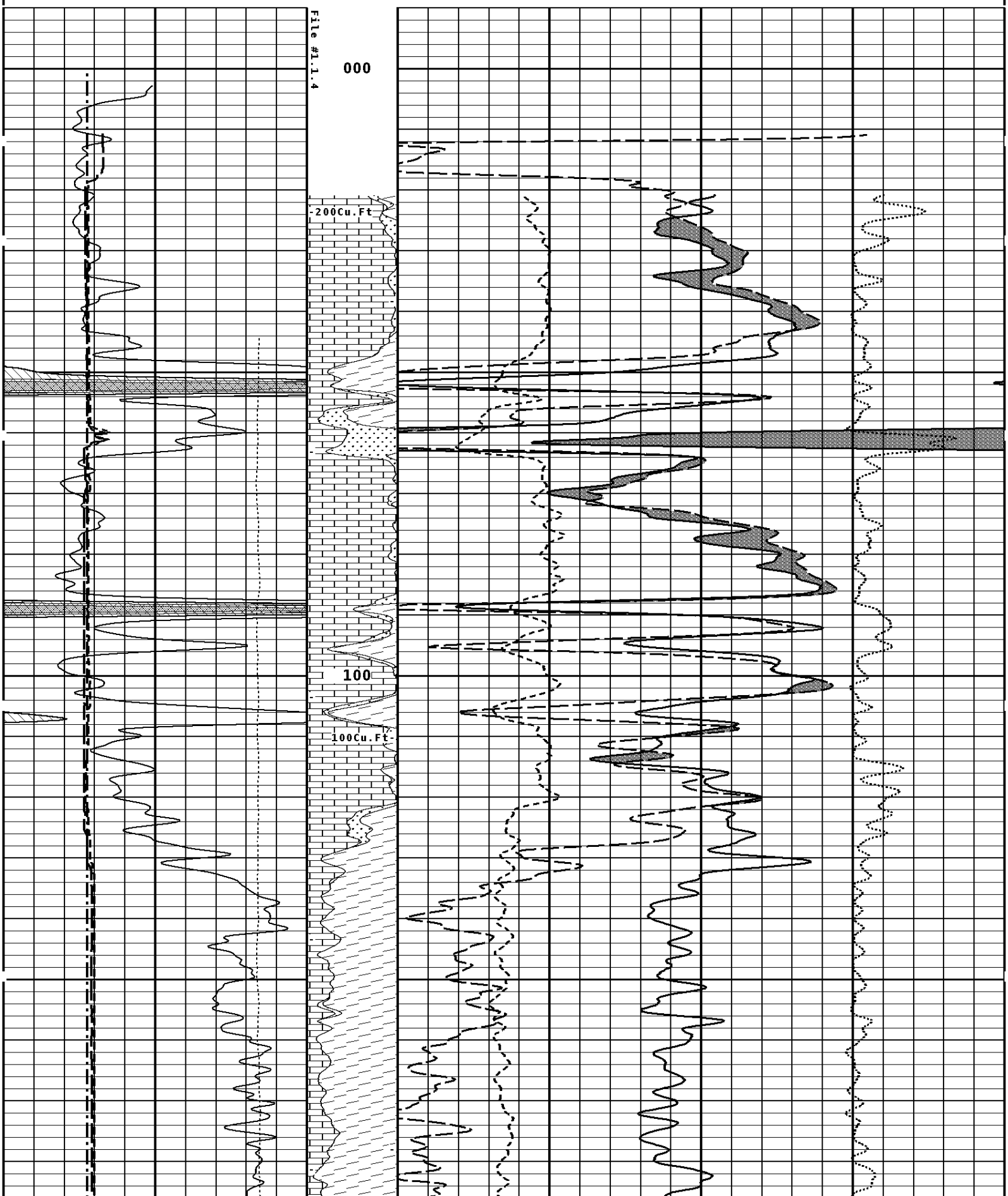
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 — -10

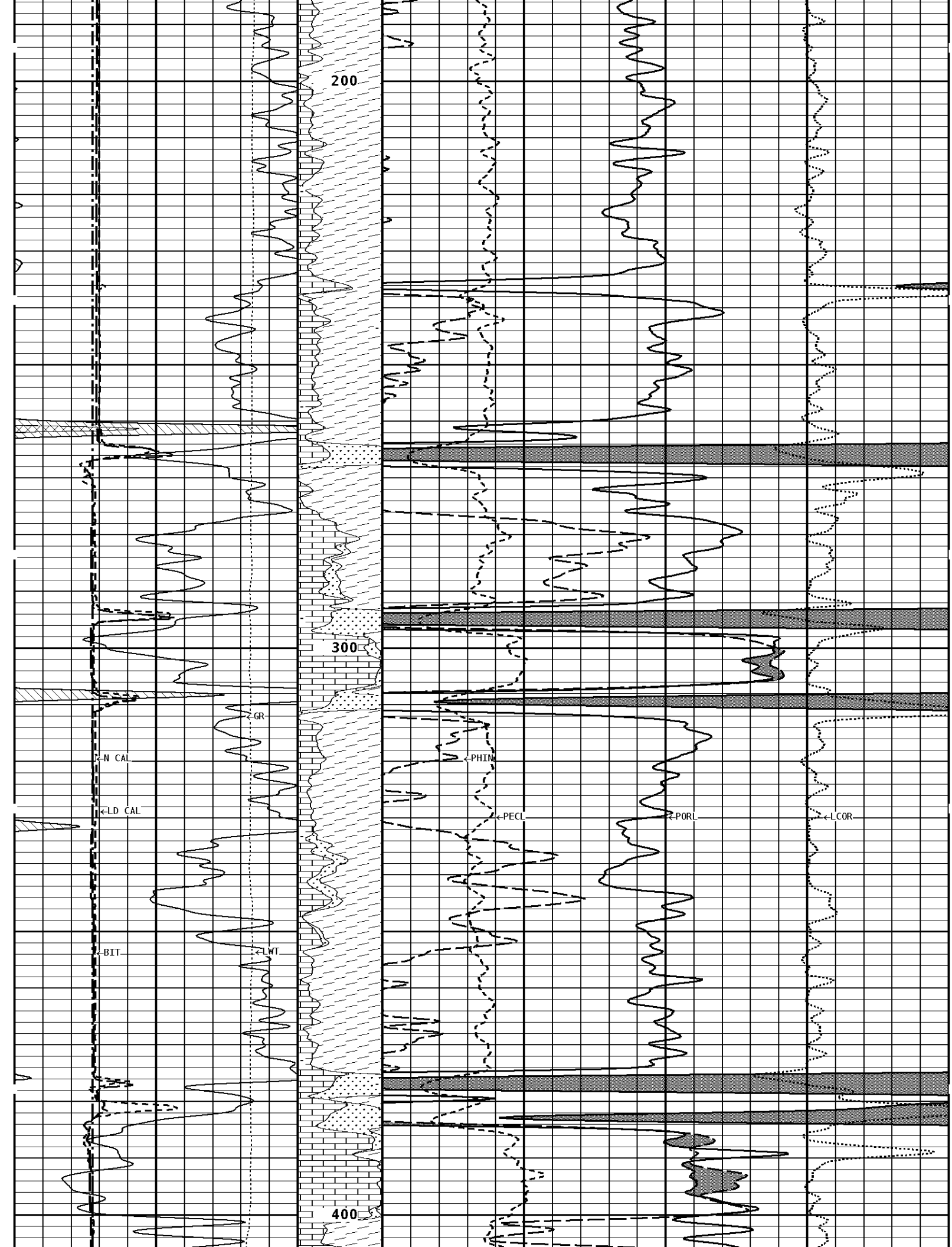
GAMMA RAY
API UNITS
150 — 300
0 — 150

-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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300
400
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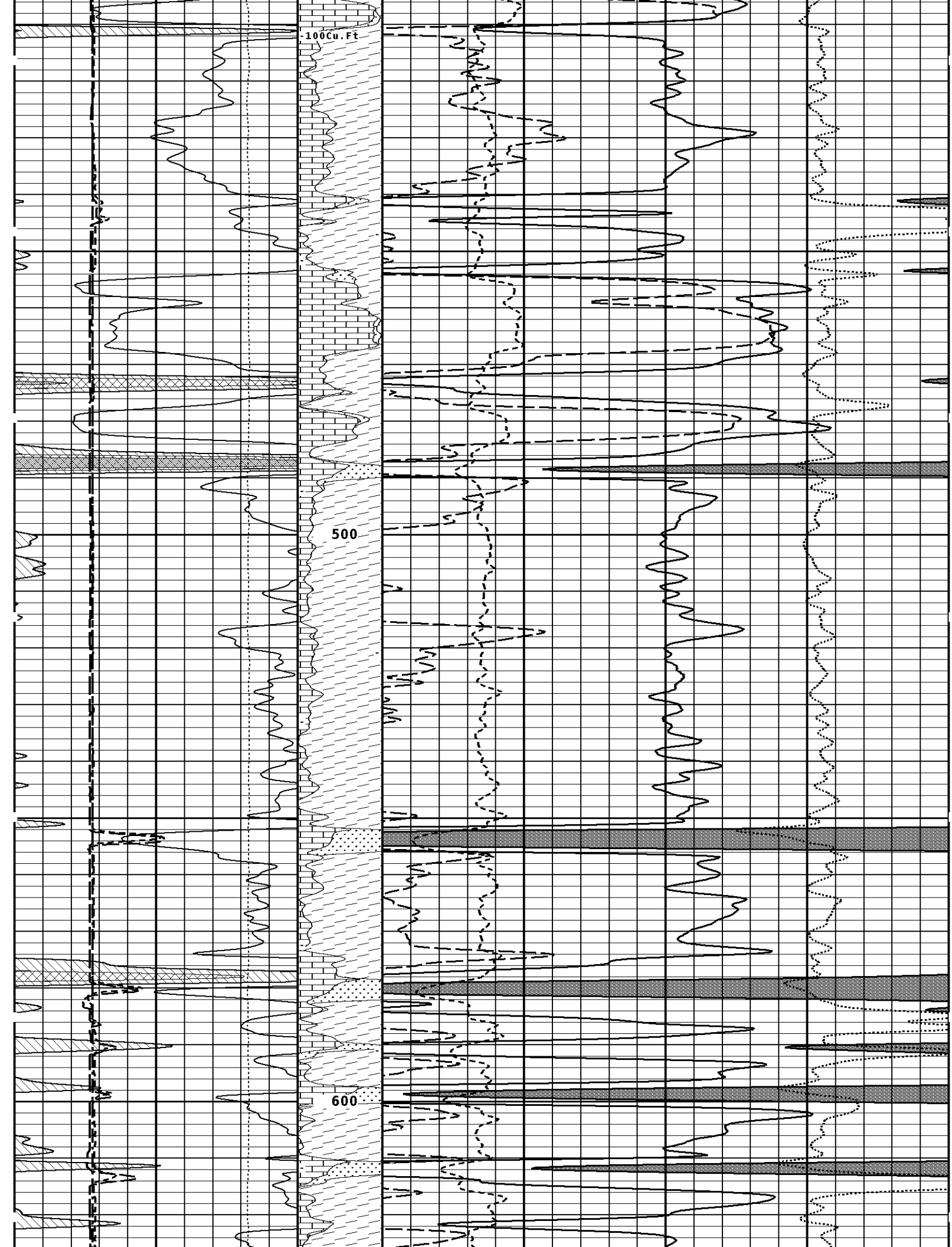
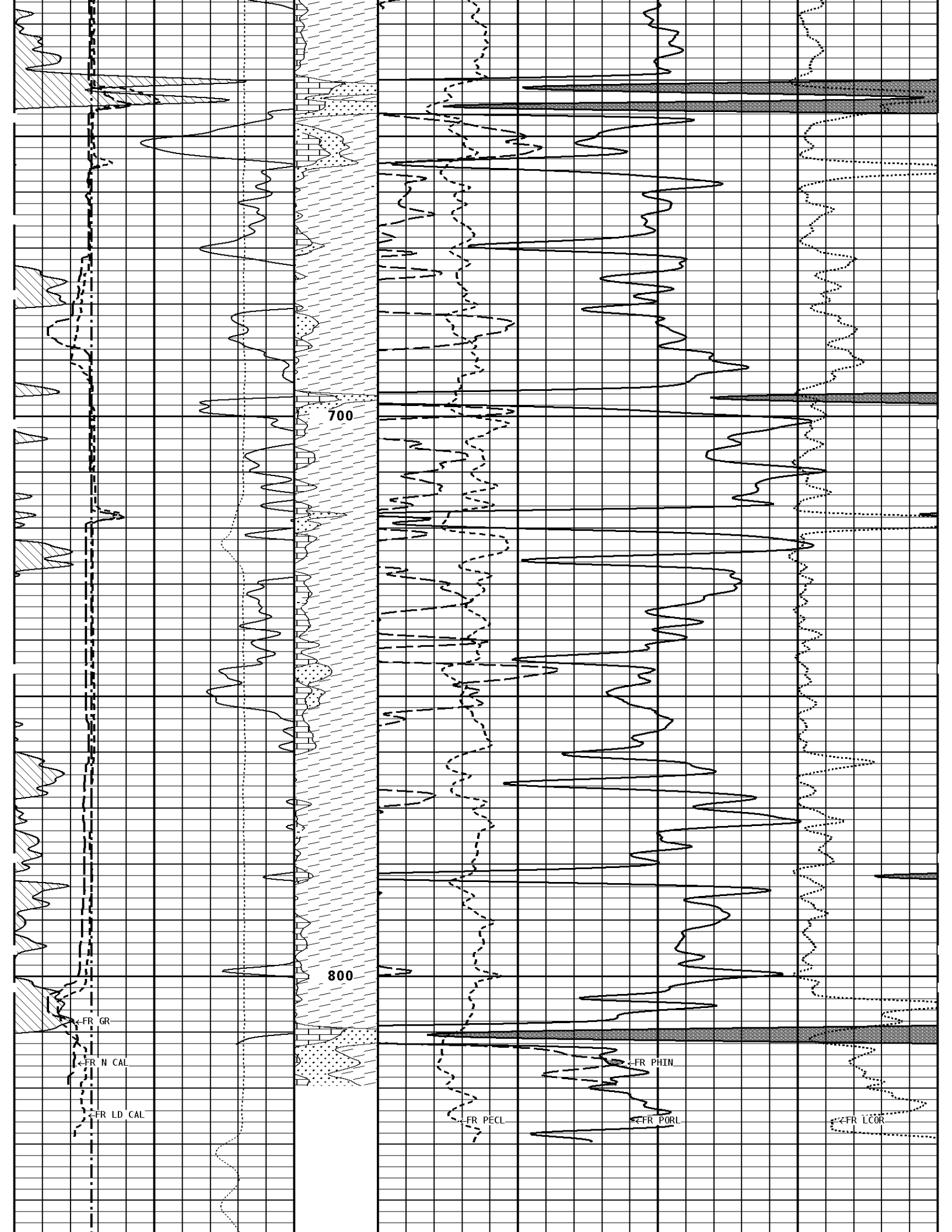
←N CAL
←LD CAL
←BIT
←LWT
←PHIN
←PECL
←PORL
←LCOR


100Cu.Ft
500
600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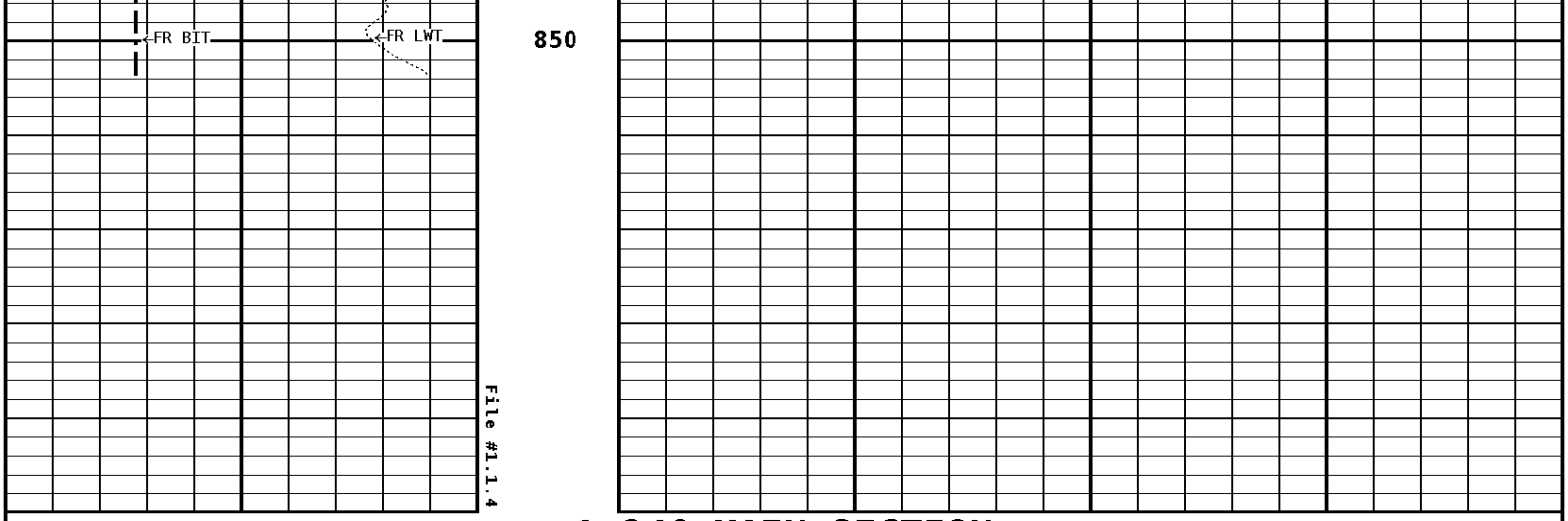
800
FR GR
FR N CAL
FR LD CAL
FR PECL
FR PHIN
FR PORL
FR LCOR



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)**
14 24 4 14		30 -10
DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	**PE CROSS-SECTION BARNS/ELECTRON** / **DENSITY CORRECTION G/CC**
14 24 4 14		0 10 / -0.25 0.25
BIT SIZE INCHES (IN)	Volume Dolo/Shale	
4 14		
TENSION LBS		
10000 0		

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

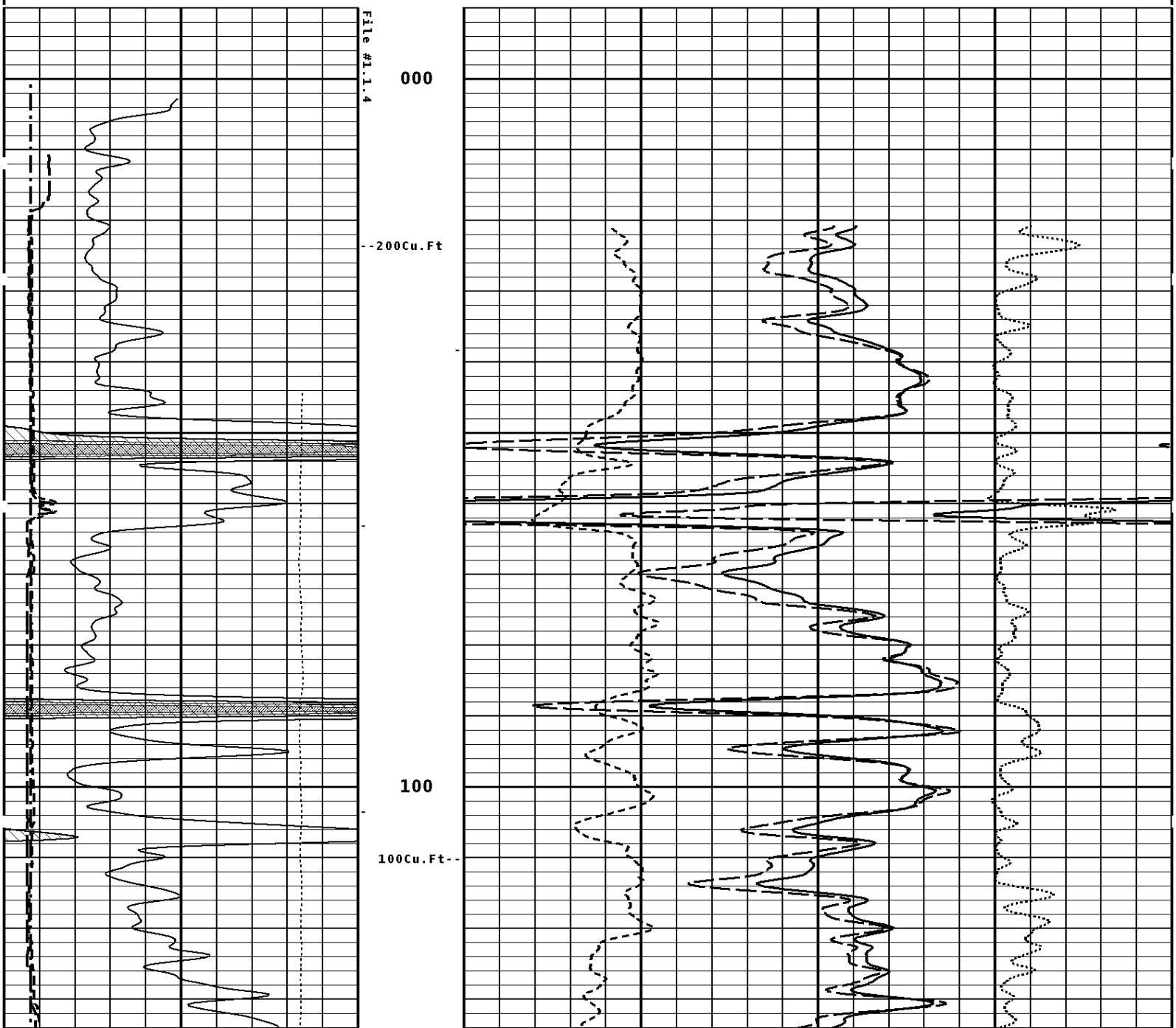
Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	6.750	in
Casing Diameter	4.500	in
Casing Correction (PHI N)	Disable	

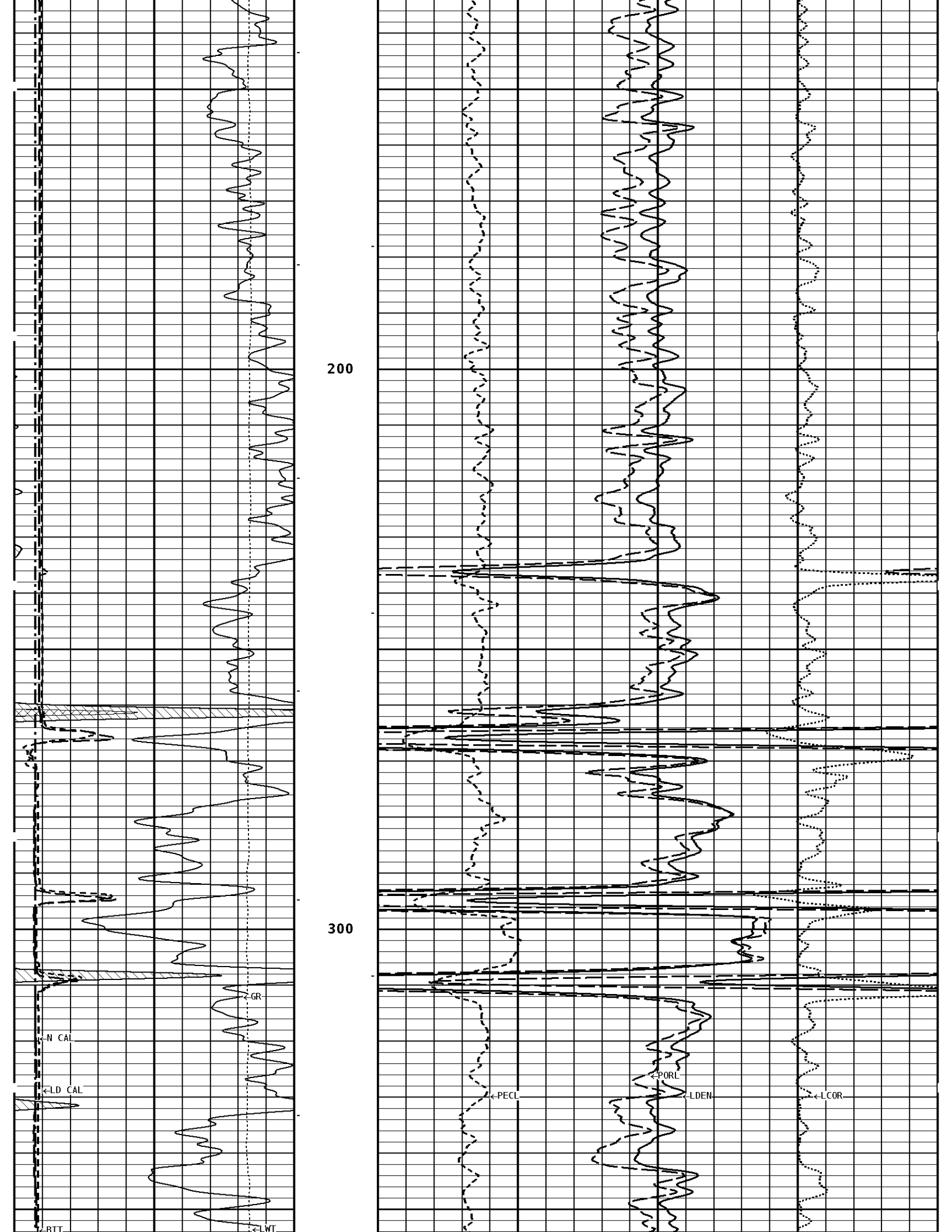
Well File: RUNNING_FOXES_DICKERSON_16-22D_APR7_MST **Scale:** 1:240
Segment: V1.D1.S4 Re-MAIN MIR-6 **Acquired:** 2011-04/07 07:43 3.2.0-9453
Reference: 0 **Processed:** 2011-04/07 08:13 3.2.0-9453

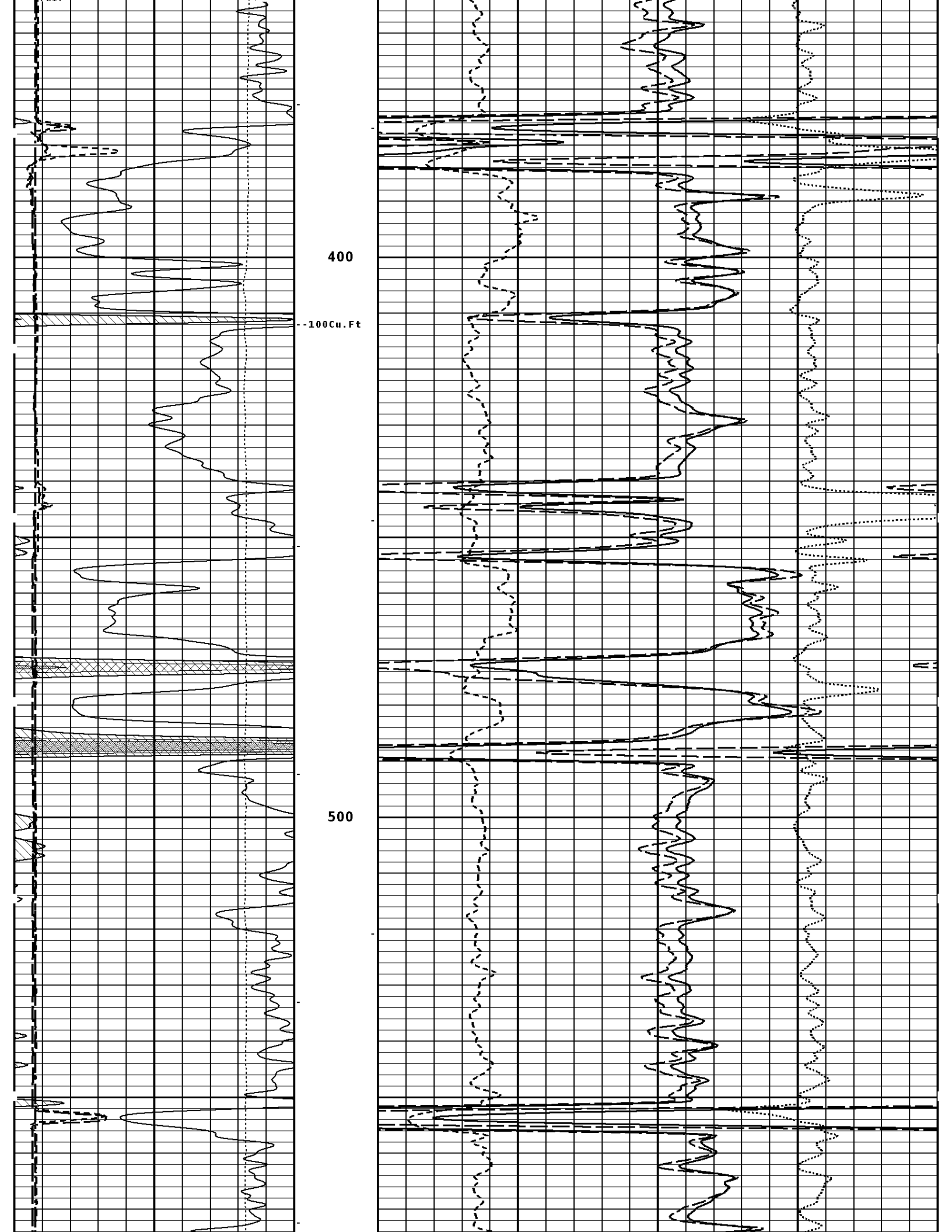
TENSION LBS	BIT SIZE INCHES (IN)
10000 0	

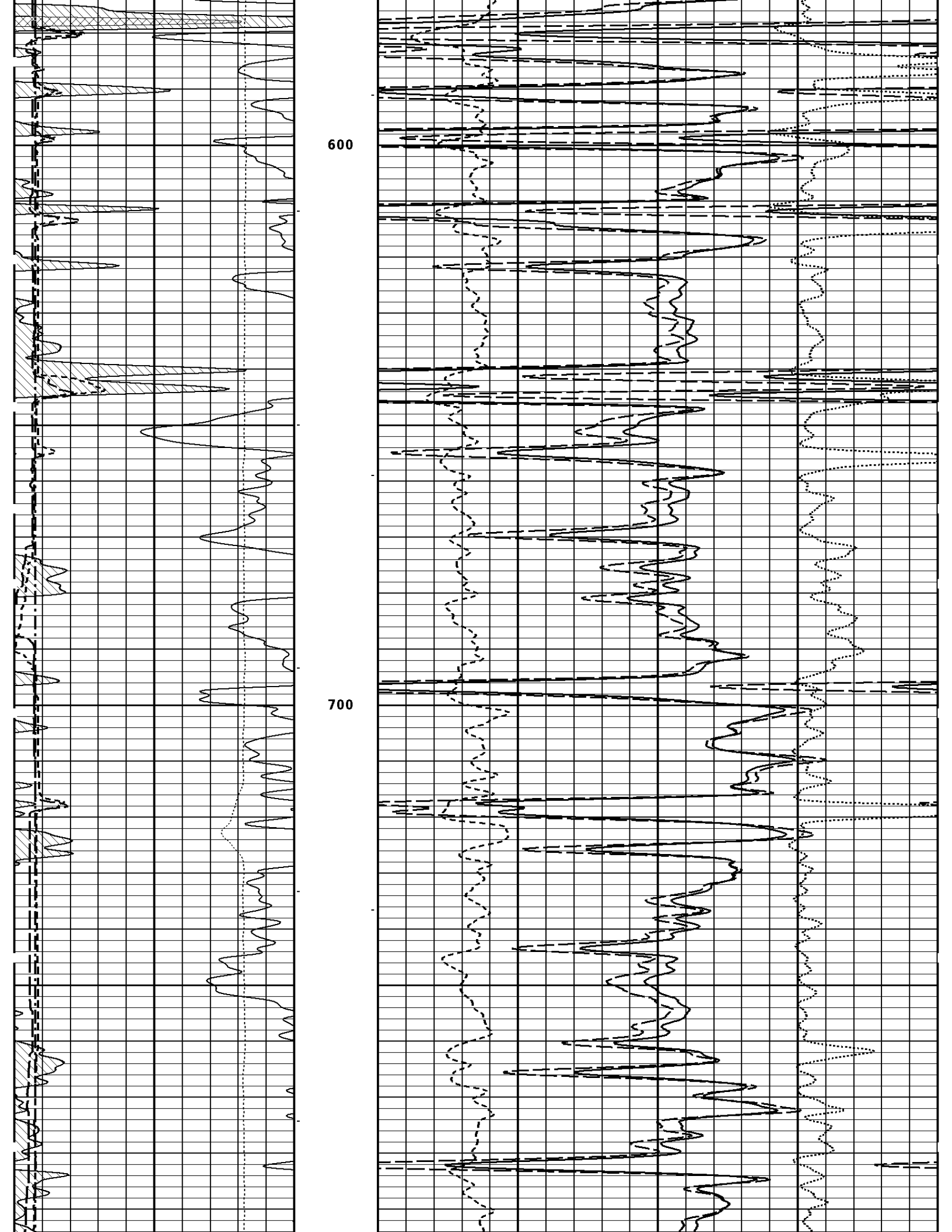
6 16			
DENSITY (X) CALIPER INCHES (IN) 16 26 / 6 16		PE CROSS-SECTION BARNS/ELECTRON 0 10	DENSITY CORRECTION G/CC -0.25 0.25
NEUTRON (Y) CALIPER INCHES (IN) 16 26 / 6 16		DENSITY POROSITY PERCENT (2.71 g/cc) 70 30 -10 / 30 -10 -50	
GAMMA RAY API UNITS 150 300 / 0 150	-BHV AHV- CU.FT	COMPENSATED BULK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

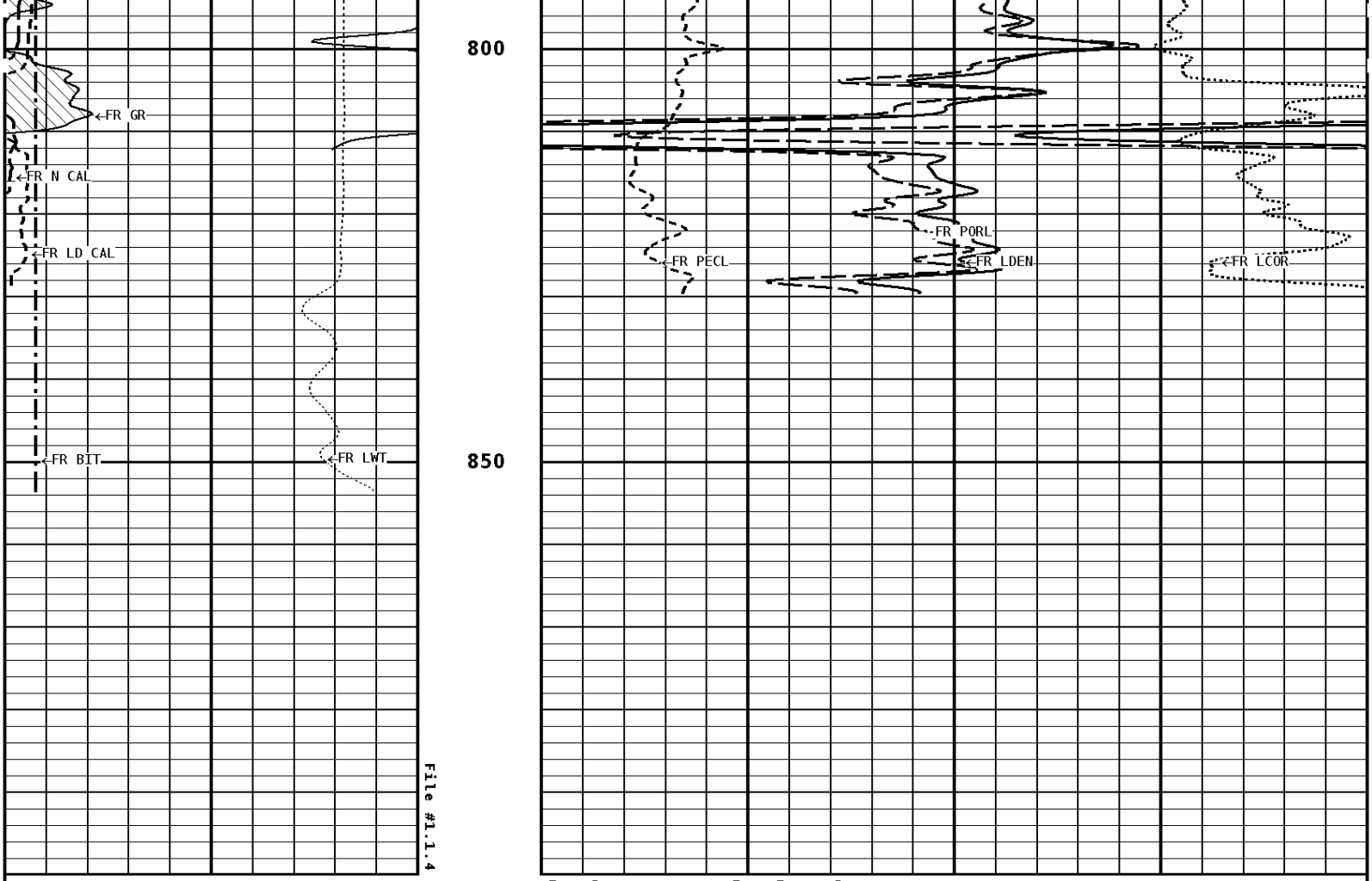
1:240 MAIN SECTION
BULK DENSITY




200
300
GR
N CAL
LD CAL
BIT
LWT
PECL
PORL
LDEN
LCOR


400
100Cu.Ft
500


600
700



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

Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	6.750	in
Casing Diameter	4.500	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 Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	8.2	14.2	6.0	12.0	IN.

Performed : 01-Mar-2011 Time : 05:19
Sensor Suite : BHC NEUT ID : CNP-AA-116
Source ID : N-1044

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	3.8635	3.6893	3.6912	
Porosity	23.2	20.5	20.5	%

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	6.0	12.0	6.0	12.0	IN.

Performed : 01-Mar-2011 Time : 04:52
Sensor Suite : BHCPELNG ID : LDP-DA-01
Source ID : CSV-587

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	64	491	807	327	CPS
LSW2	69	562	903	410	CPS
LSW3	260	1323	2108	1133	CPS
LSW4	311	1208	1699	1081	CPS
LSW5	31	39	41	38	CPS
LSW6	78	80	79	80	CPS
LSW7	50	52	51	52	CPS
LSW8	2	2	3	2	CPS
QS	0.217	0.210	0.212	0.214	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	112	624	2604	399	CPS
LLW2	125	1036	4338	760	CPS
LLW3	480	1990	7360	1745	CPS
LLW4	596	1164	2935	1081	CPS
LLW5	71	74	86	74	CPS
LLW6	194	188	182	187	CPS
LLW7	112	119	114	120	CPS
LLW8	10	8	14	9	CPS
QL	0.268	0.226	0.231	0.219	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC