Tucker ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company RUNNING FOXES PETROLEUM
Well HOLEMAN #1-22A-1
Field BRONSON-XENIA
County ALLEN
State KANSAS
Country USA
API No. 15-001-30603

File No : TUL-58218
Company : RUNNING FOXES PETROLEUM
Well : HOLEMAN #1-22A-1
Field : BRONSON-XENIA
County : ALLEN
State : KANSAS
Country : USA
API No : 15-001-30603

Location :
165' FNL & 165' FEL
NE NE NE NE

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**	1101.00 Ft	PIT	

Date	04-25-2013			
Run Number	1			
Depth--Driller	878.0 Ft			
Depth--Logger	878.0 Ft			
First Reading	855.0 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	FRESH / NATIVE			
Density	0.0 LBS/GAL			
Fluid Loss	0.0 CC			
PH/Viscosity	0.0	0.0 SEC		
Sample Source	MEASURED			
RM@Measured Temp.	10.000 @ 70 F			
RMF@Measured Temp	8.500 @ 70 F			
RMC@Measured Temp.	11.500 @ 70 F			
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	0.000 @ 80 F			
Time Circulation Stopped				
Max Recorded Temp.	80 F			
Equipment/Base	TRK 123	TULSA		
Recorded By	S. DAVIS			
Witnessed By	K. HODGED			

Bitsize Intervals

Size (In)	Bottom (Ft)
6.750	878.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	24.00	20.00

Run Number	1		
Date	04-25-2013		
Date/Time On Bottom	04-25-2013 1:00 pm		
Depth to Fluid	0.0 Ft		
Salinity	0.000 PPM		
RMF@BHT	0.000 @ 80 F		
RMC@BHT	0.000 @ 80 F		

Run Number 1

Comments

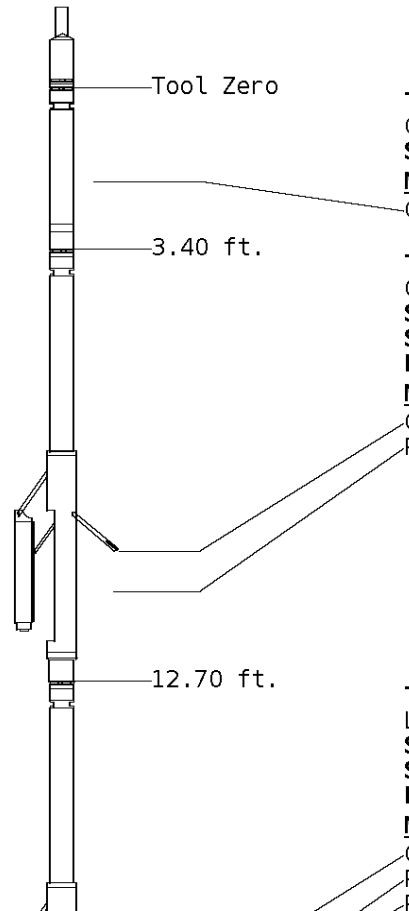
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
GRT, CNT, LDT, AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.17 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING.

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

OPERATORS:
J. THOMAS
D. HOPPER

Tool String Schematic

Total Tool Length - 43.91 **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-BC-41

Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	41.91

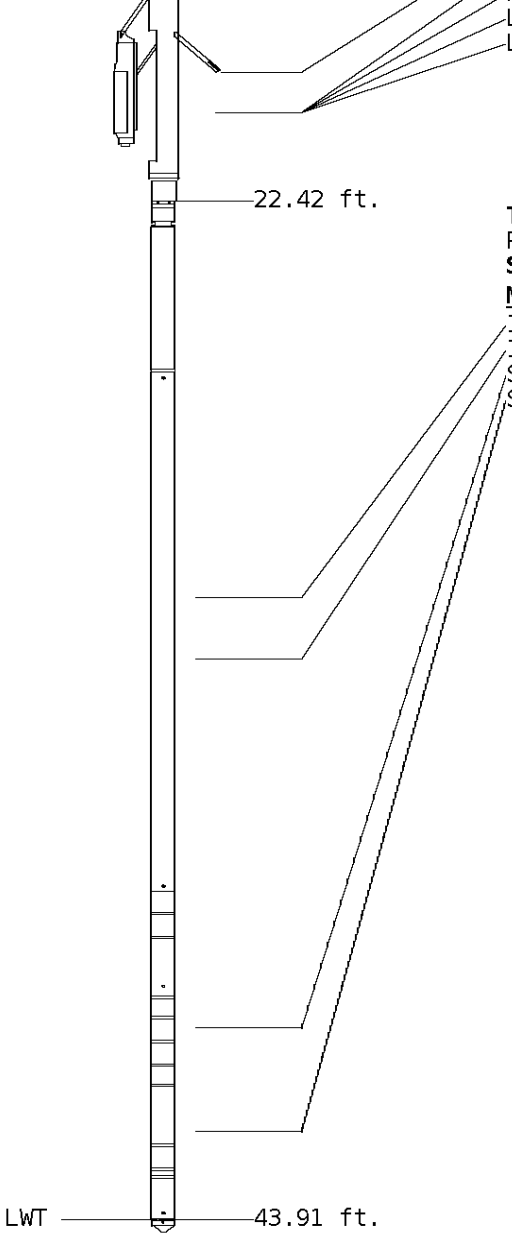
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-123
Source ID :N-1045
Pad ID :CNP-AA-024

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	34.51
PHIN	6.80	10.20	33.71

Tool: LDT-DF **Length:** 9.72 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-F
Sonde ID :PDT-GA-465
Source ID :2991GW
Pad ID :LDP-DA-067

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	19.12	24.79
PEL	7.42	20.12	23.79
PES	7.82	20.52	23.39

LDEN	7.62	20.32	23.59
LCOR	7.62	20.32	23.59



Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AB-005

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	31.34	12.56
ILM	10.10	32.52	11.39
SFLU	17.49	39.91	4.00
SP	20.60	43.02	0.88

Well File: rfp-hol-1-22a-1-stk-apr-25 **Scale:** 1:240
Segment: V1.D1.S5 MN **Acquired:** 2013-04/25 13:07 3.2.0-11401
Reference: 0 **Processed:** 2013-04/25 13:33 3.2.0-11401

BIT SIZE
INCHES (IN)
4 — 14

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

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

TENSION
LBS
10000 — 0

Volume
Calcite

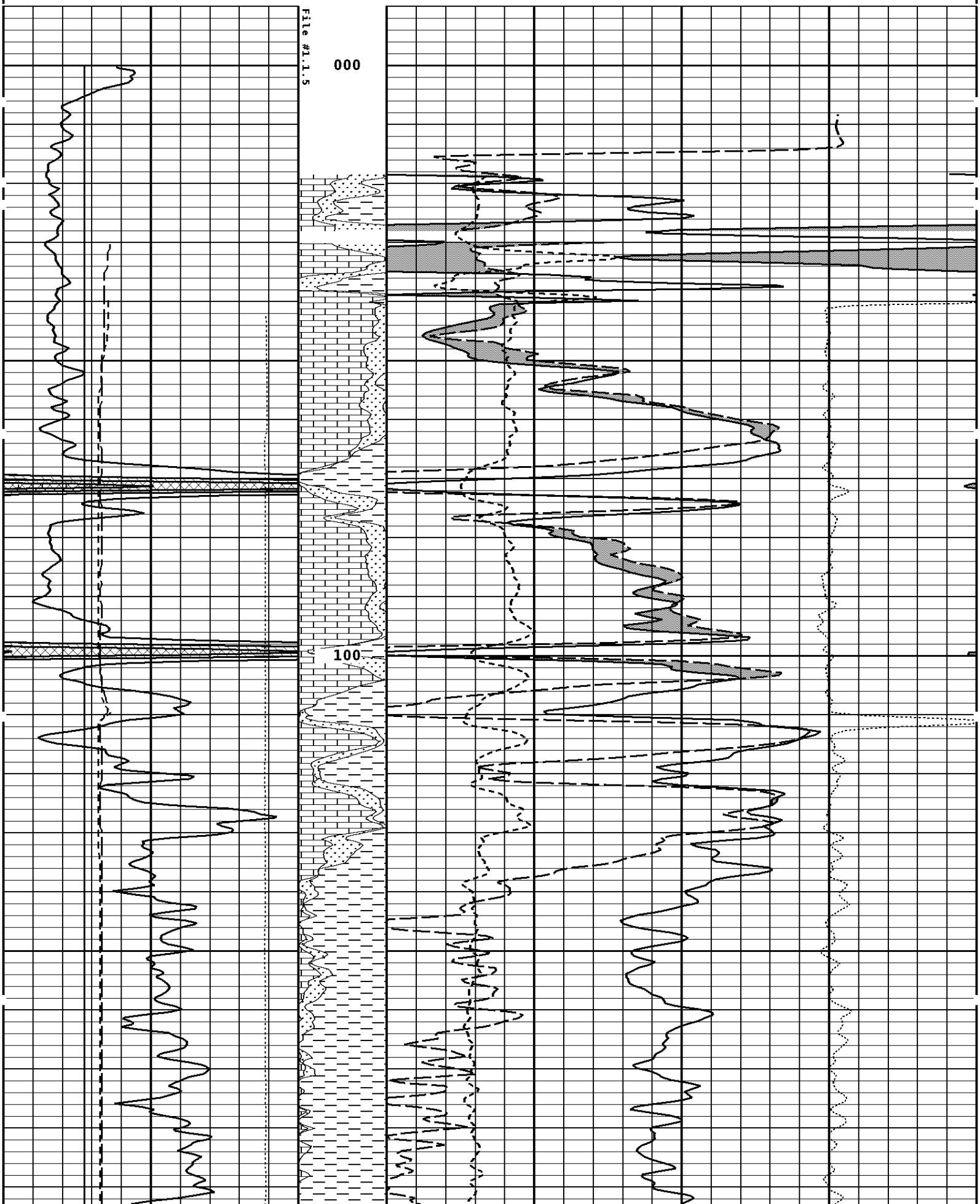
DENSITY POROSITY (2.71g/cc)
PERCENT
70 — 30
30 — -10
-10 — -50

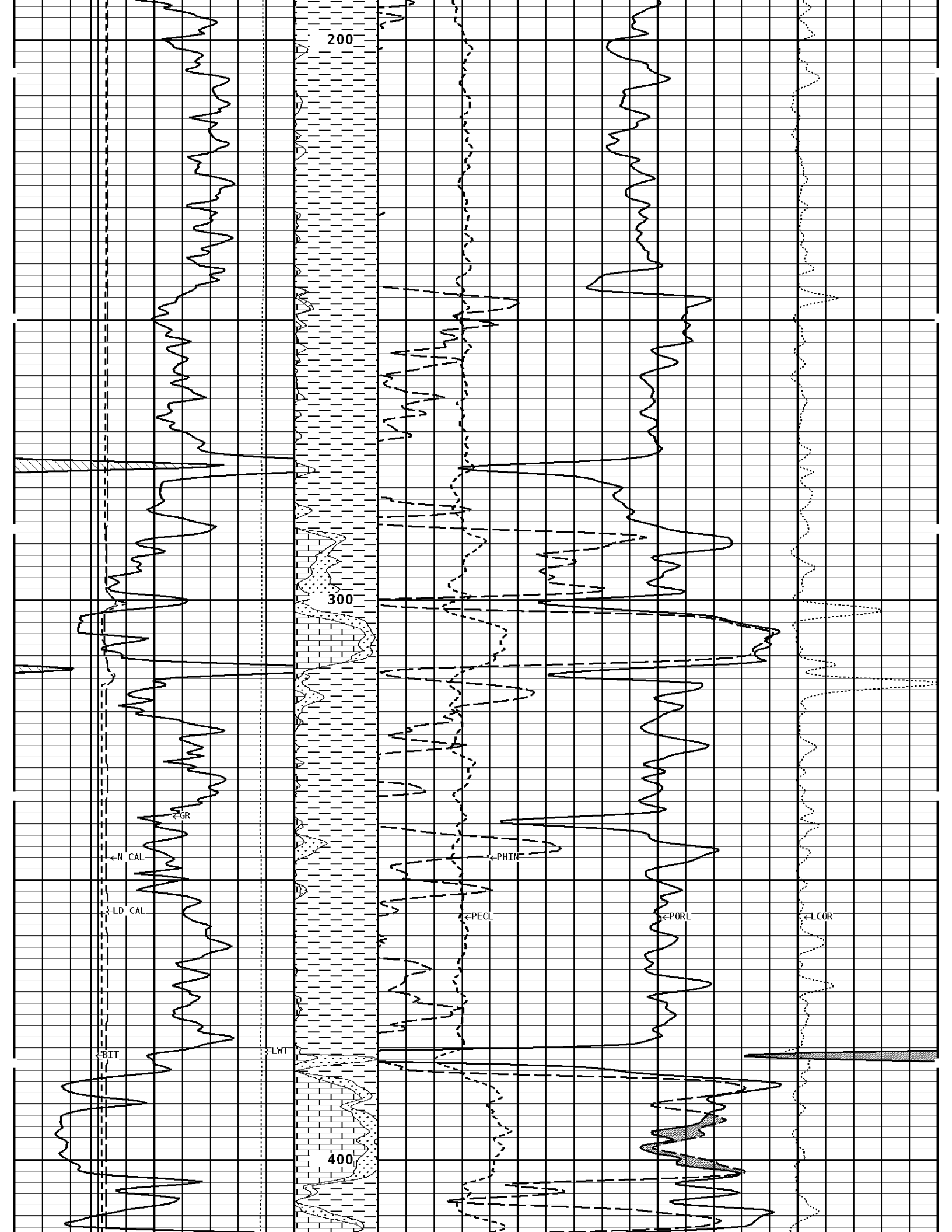
GAMMA RAY
API UNITS
200 — 400
0 — 200

Volume
Dolo/Shale

NEUTRON POROSITY (LIMESTONE)
PERCENT
30 — -10

1:240 MAIN SECTION

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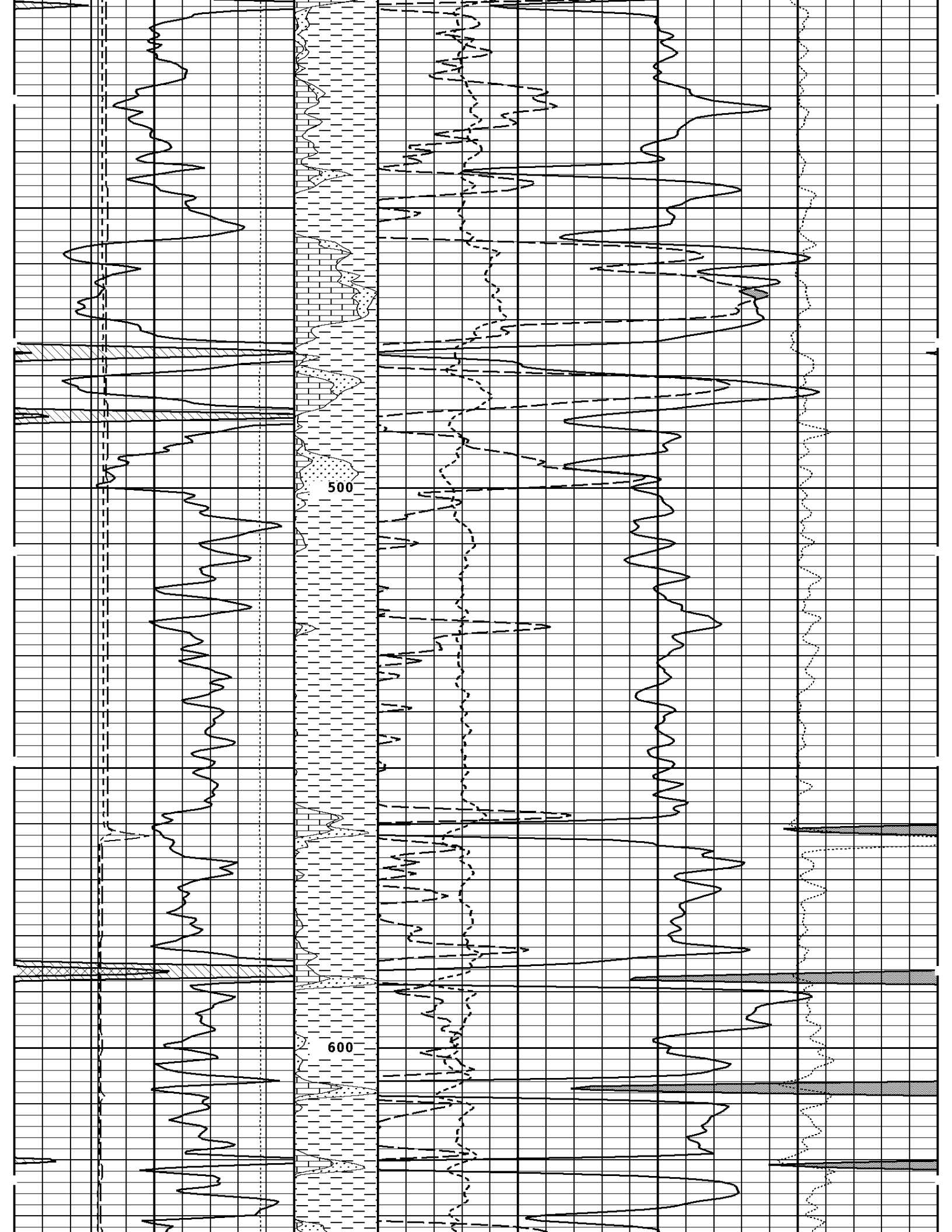
←LCOR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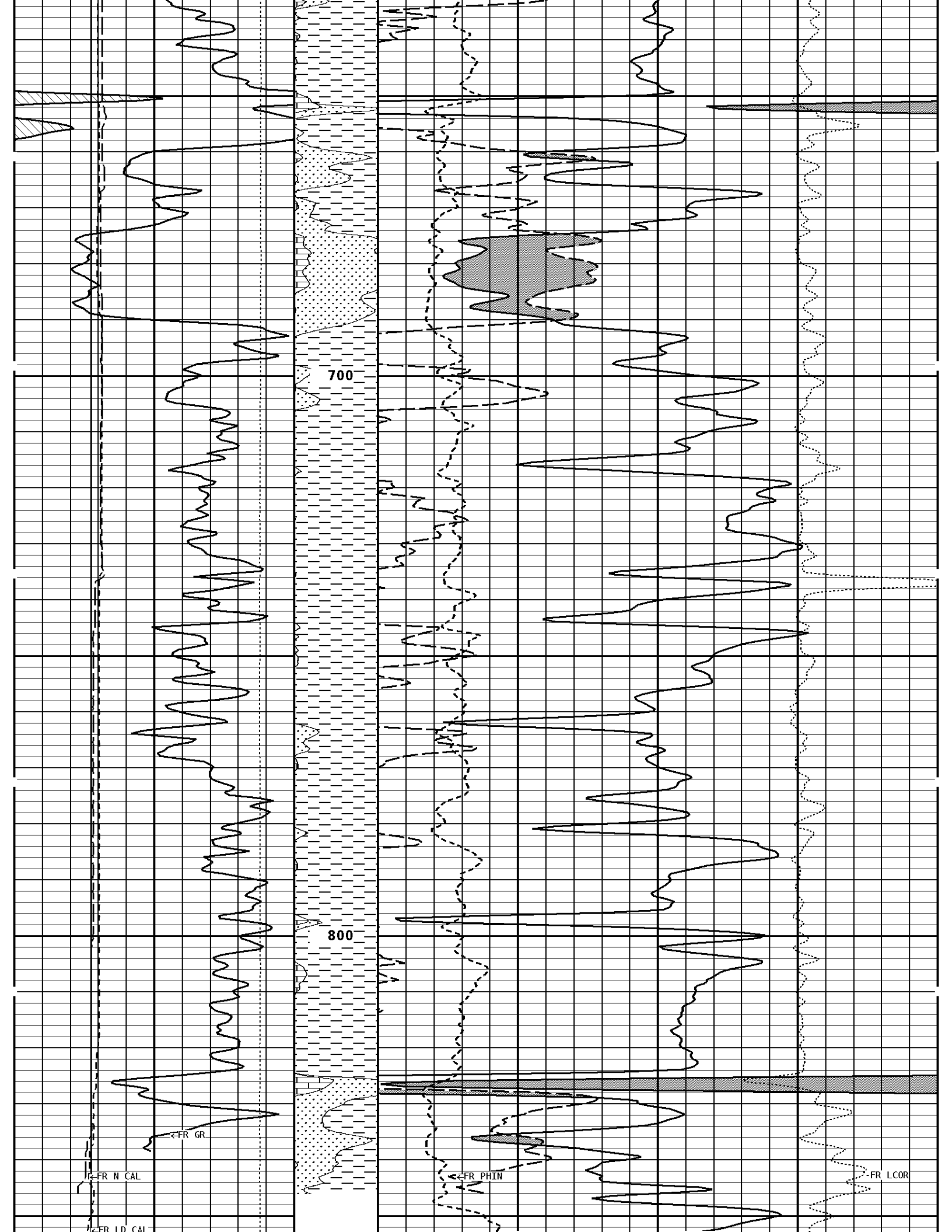
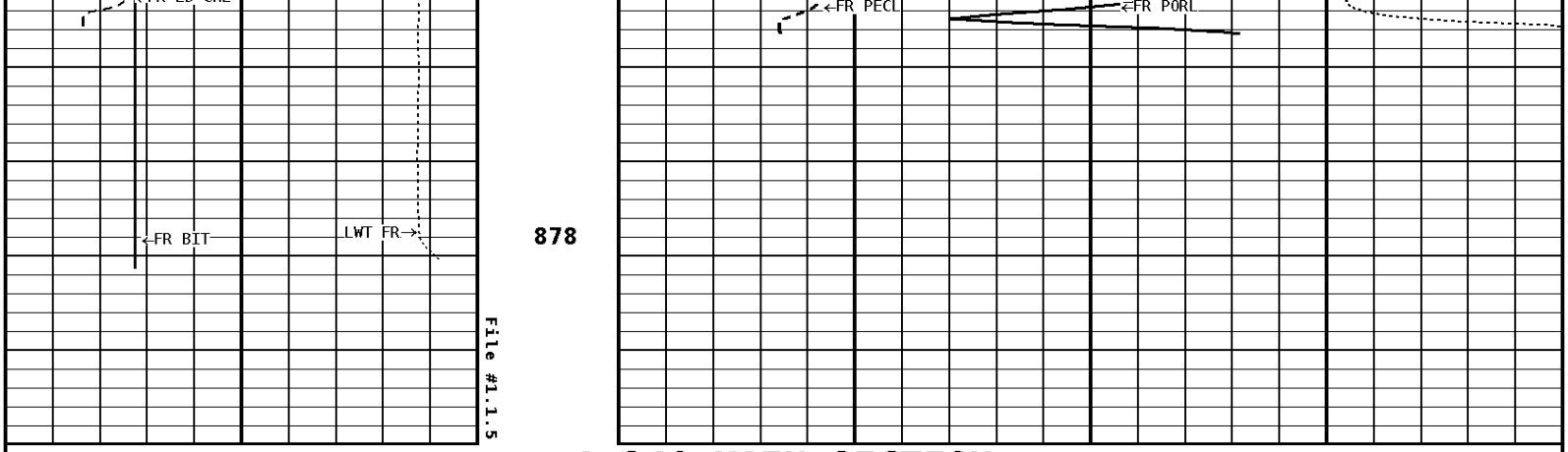

700
800
FR GR
FR N CAL
FR PHIN
FR LCOR



1:240 MAIN SECTION

GAMMA RAY API UNITS	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT
200 — 400 0 — 200		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**
14 — 24 4 — 14		0 — 10 / -0.25 — 0.25
NEUTRON (Y) CALIPER INCHES (IN)		
14 — 24 4 — 14		
BIT SIZE INCHES (IN)		
4 — 14		

*** 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	2.875	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: rfp-hol-1-22a-1-stk-apr-25 **Scale:** 1:240
Segment: V1.D1.S4 RP **Acquired:** 2013-04/25 12:53 3.2.0-11401
Reference: 0 **Processed:** 2013-04/25 13:33 3.2.0-11401

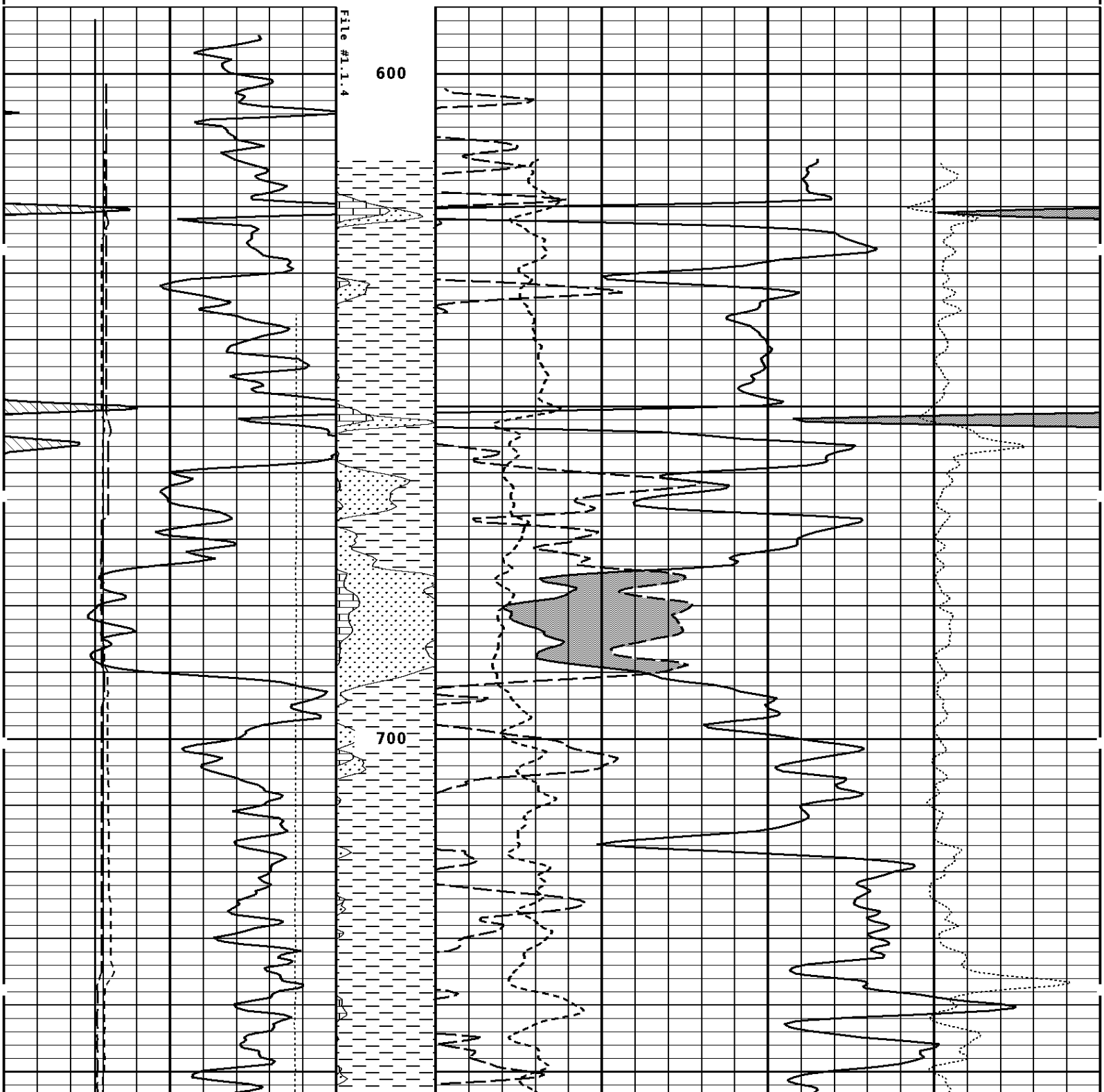
BIT SIZE INCHES (IN)		
4 — 14		
NEUTRON (Y) CALIPER INCHES (IN)		
14 — 24 4 — 14		
DENSITY (X) CALIPER INCHES (IN)	**Volume Quartz**	**PE CROSS-SECTION BARNS/ELECTRON** / **DENSITY CORRECTION G/CC**
14 — 24 4 — 14		0 — 10 / -0.25 — 0.25

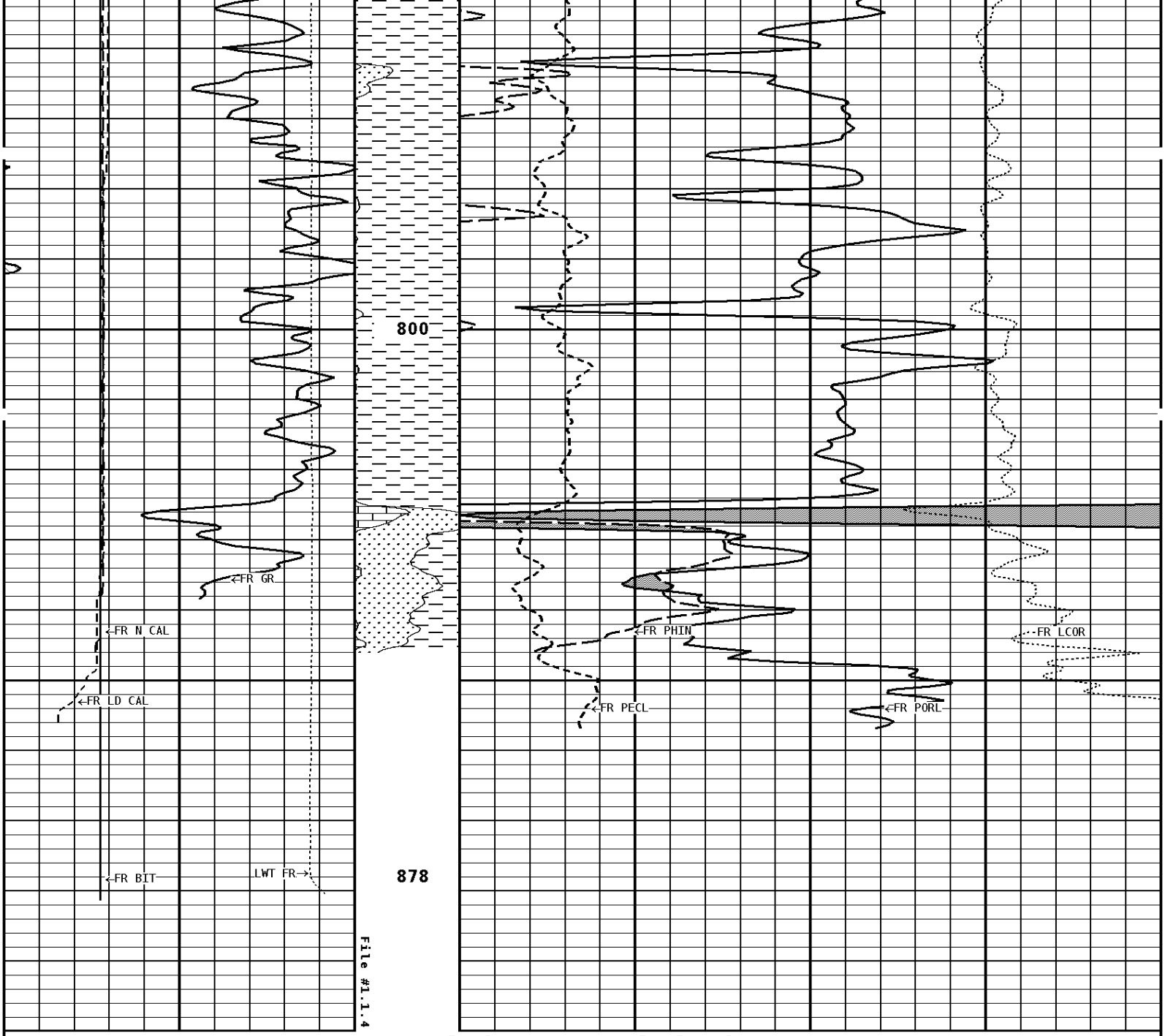
INCHES (IN)		BARNS/ELECTRON	g/cc
14 24	Quartz	0 10	-0.25 0.25
4 14			

TENSION LBS	Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT
10000 0		70 30 30 -10 -10 -50

GAMMA RAY API UNITS	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT
200 400 0 200		30 -10

1:240 REPEAT SECTION





1:240 REPEAT SECTION

GAMMA RAY API UNITS	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT
200 400 0 200		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**
14 24 4 14		0 10 / -0.25 0.25
NEUTRON (Y) CALIPER INCHES (IN)		
14 24 4 14		

BIT SIZE INCHES (IN)	
4	14

*** 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	2.875	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

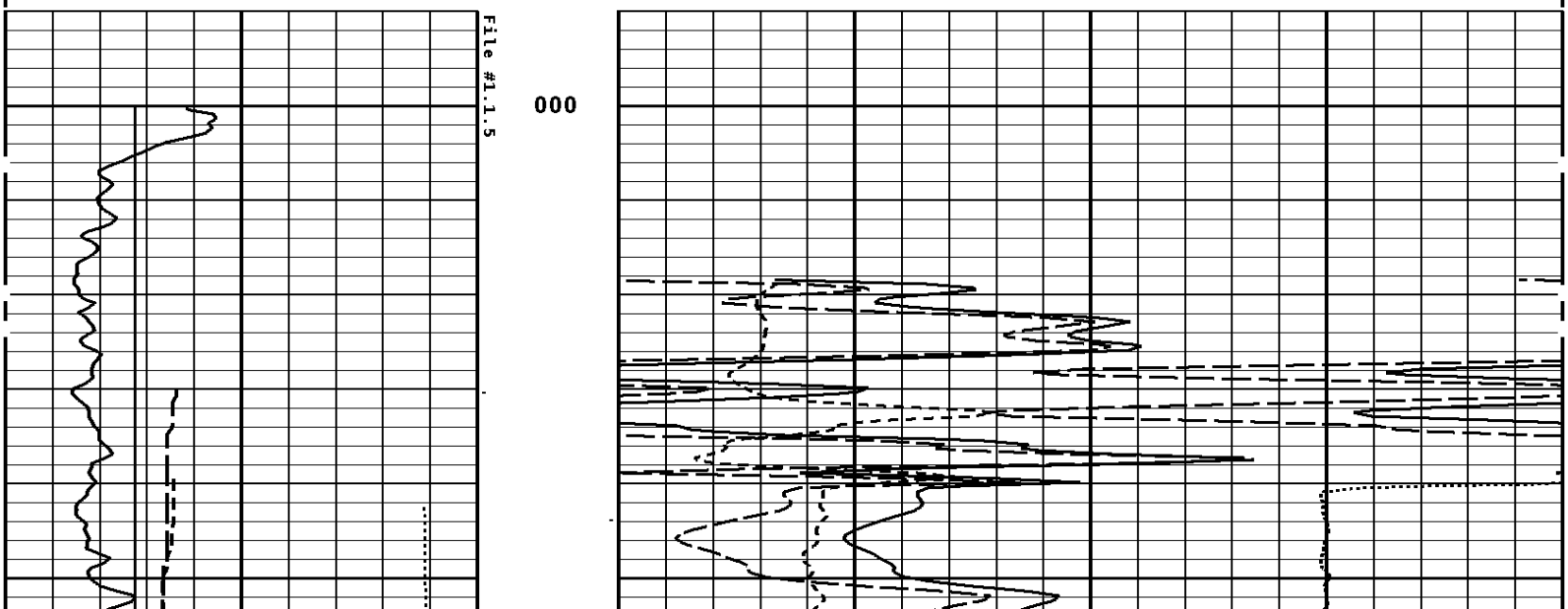
Well File: rfp-hol-1-22a-1-stk-apr-25 **Scale:** 1:240
Segment: V1.D1.S5 MN **Acquired:** 2013-04/25 13:07 3.2.0-11401
Reference: 0 **Processed:** 2013-04/25 13:33 3.2.0-11401

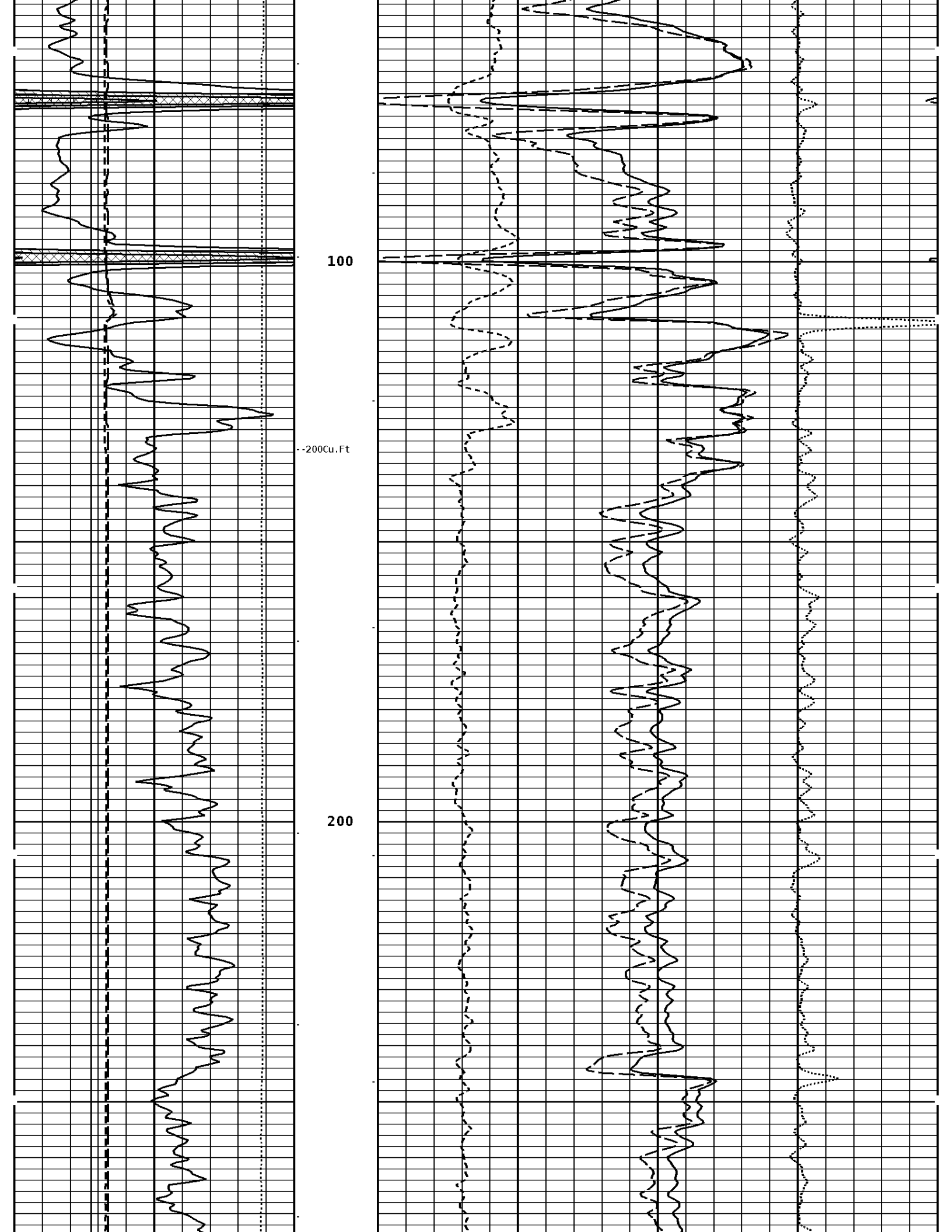
BIT SIZE INCHES (IN)			
4	14		
NEUTRON (Y) CALIPER INCHES (IN)			
14	24		
4	14		
DENSITY (X) CALIPER INCHES (IN)			
14	24		
4	14		
TENSION LBS			
10000	0		
GAMMA RAY API UNITS		-BHV AHV- CU.FT	
200	400		
0	200		

PE CROSS-SECTION BARNS/ELECTRON		DENSITY CORRECTION G/CC	
0	10	-0.25	0.25
COMPENSATED BULK DENSITY G/CC			
3.0	4.0		
2.0	3.0		
1.0	2.0		
DENSITY POROSITY (2.71g/cc) PERCENT			
70	30		
30	-10		
-10	-50		

1:240 MAIN SECTION

BULK DENSITY

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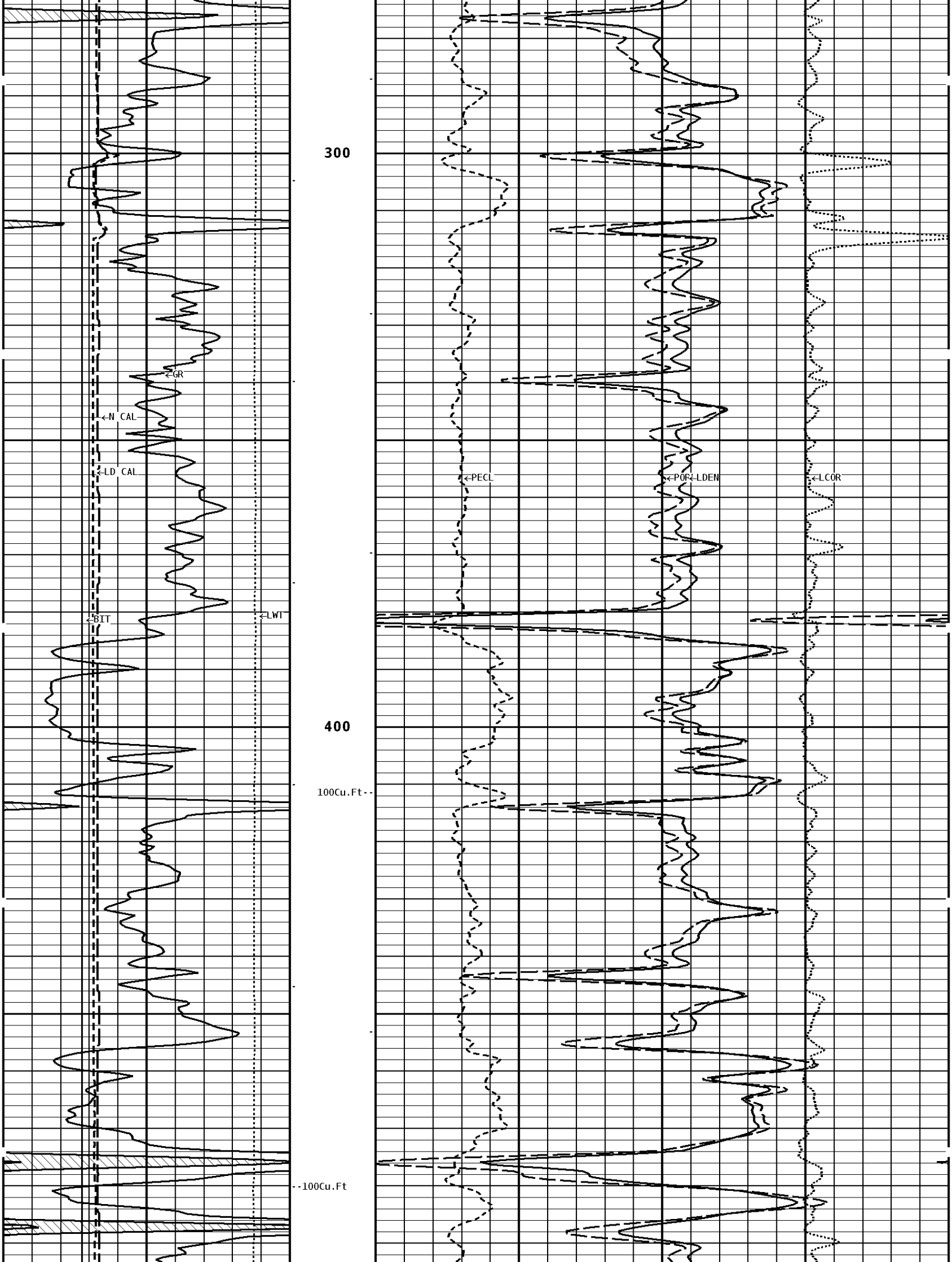
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←POR←LDEN
←LCOR
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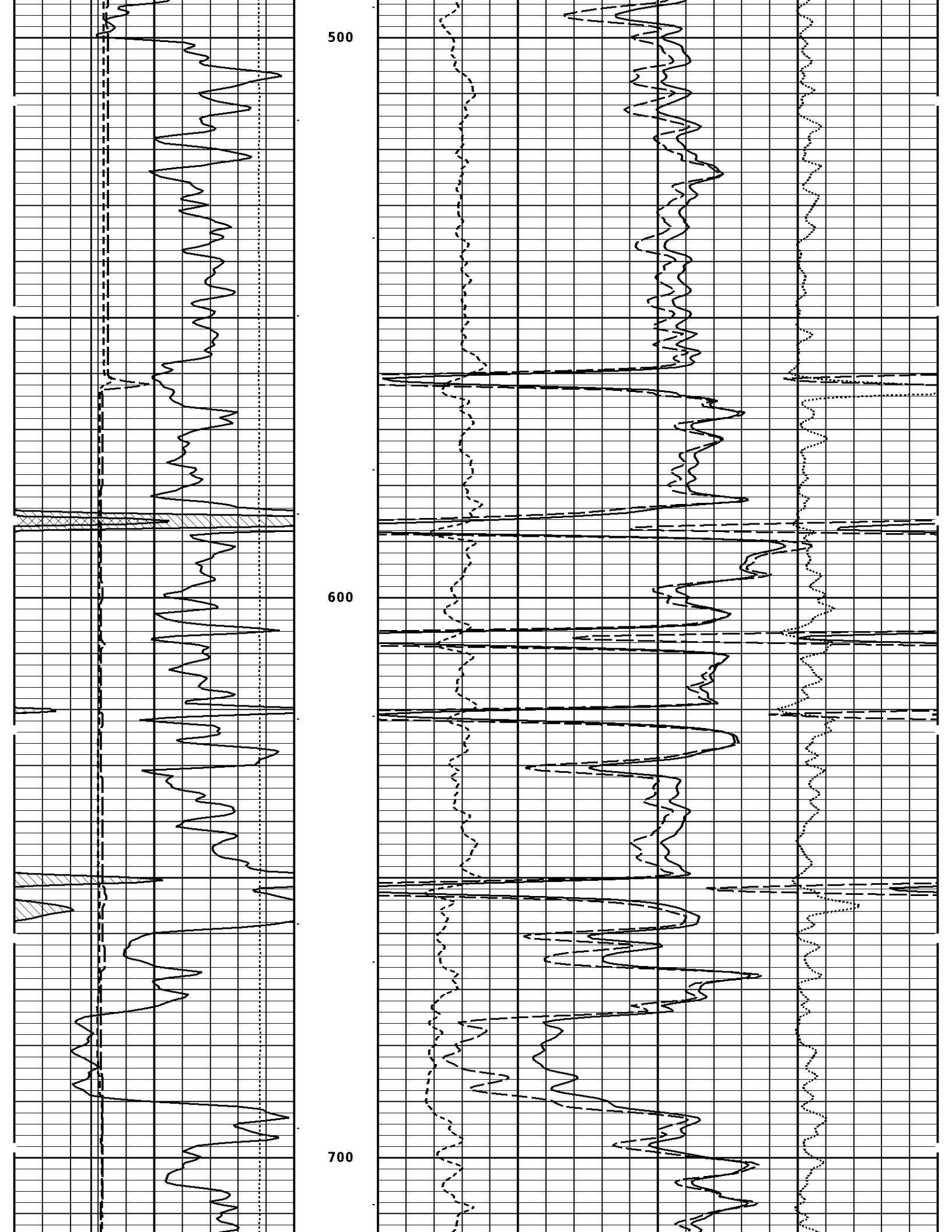
--100Cu.Ft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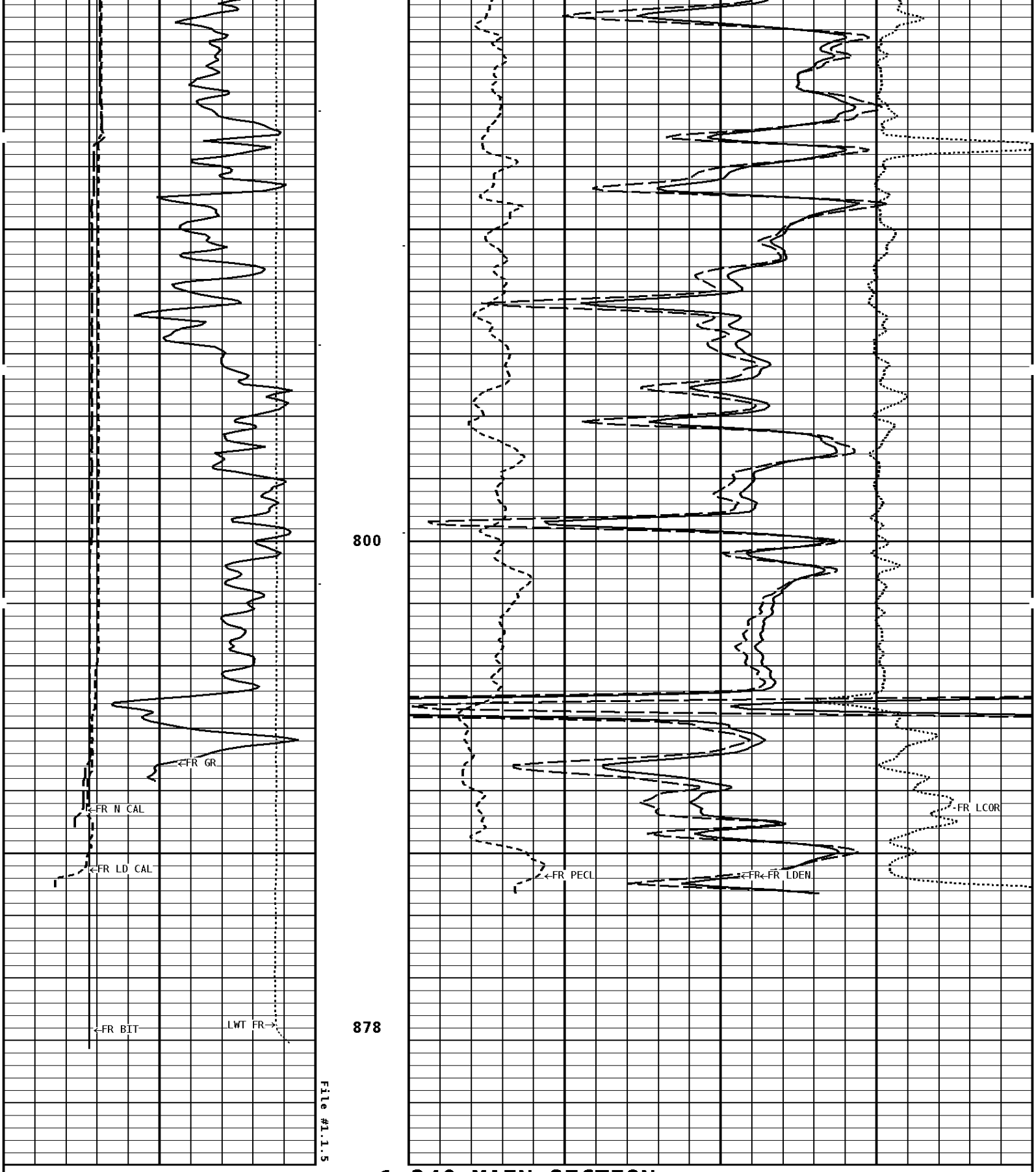
600
700



1:240 MAIN SECTION

BULK DENSITY

GAMMA RAY API UNITS	-BHV AHV- CU.FT	DENSITY POROSITY (2.71g/cc) PERCENT
200 400 0 200		70 30 30 -10 -10 -50
TENSION		COMPENSATED BULK DENSITY

TENSION LBS	
10000	0

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

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

BIT SIZE INCHES (IN)	
4	14

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

PE CROSS-SECTION BARNS/ELECTRON		DENSITY CORRECTION G/CC	
0	10	-0.25	0.25

* 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	2.875	in
Casing Correction (PHI N)	Disable	

* Calibration Summary *

Shop Calibration GRT-B

Performed : 15-Mar-2013 Time : 11:26
Sensor Suite : GR-GR5 ID : GRT-BC-41

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	54	360	CPS	175	GRAPI

Shop Calibration CNT-AA

Performed : 28-MAR-2013 Time : 10:39
Sensor Suite : CALI-BCN ID : NDT-BB-123

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	6.5	11.5	6.0	12.0	IN.

Performed : 16-Apr-2013 Time : 10:21
Sensor Suite : BHC NEUT ID : CNP-AA-024
Source ID : N-1045

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	3.9218	3.6893	3.6878	
Porosity	24.2	20.5	20.5	%

Shop Calibration LDT-DF

Performed : 26-MAR-2013 Time : 09:47
Sensor Suite : CALI-LTH ID : PDT-GA-465

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	7.1	10.0	6.0	12.0	IN.

Performed : 25-Mar-2013 Time : 10:15
Sensor Suite : BHCPELNG ID : LDP-DA-067
Source ID : 2991GW

	Short Space BKGD	Short Space Al	Short Space Mg	Short Space Al+Fe	Units
LSW1	63	1080	1757	701	CPS
LSW2	70	1291	2082	909	CPS
LSW3	250	2966	4802	2482	CPS
LSW4	309	2811	4154	2455	CPS

LSW5	45	81	89	75	CPS
LSW6	62	68	69	66	CPS
LSW7	52	52	53	53	CPS
LSW8	12	16	17	16	CPS
QS	0.089	0.136	0.136	0.116	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	92	1260	5124	755	CPS
LLW2	100	2328	9132	1657	CPS
LLW3	391	4208	16115	3589	CPS
LLW4	505	1966	6476	1759	CPS
LLW5	56	67	129	64	CPS
LLW6	163	161	151	163	CPS
LLW7	105	101	100	101	CPS
LLW8	3	6	18	5	CPS
QL	0.215	0.230	0.205	0.231	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Tucker ENERGY SERVICES

Company: RUNNING FOXES PETROLEUM

Well: HOLEMAN #1-22A-1

Location: 165' FNL & 165' FEL

Logged: 04-25-2013

K.B. Elev: 0.0 Ft