Tucker ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company SCZ RESOURCES, LLC
Well CANNON #C-1
Field HUMBOLDT-CHANUTE
County ALLEN
State KANSAS
Country USA
API No. 15-001-30897-0000

File No : TUL-59208
Company : SCZ RESOURCES, LLC
Well : CANNON #C-1
Field : HUMBOLDT-CHANUTE
County : ALLEN
State : KANSAS
Country : USA
API No : 15-001-30897-0000

Location :
165' FSL & 2475' FEL
NE NE NE NW

LSD : **Sect :** 22 **Twp :** 26S **Rge :** 18E

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**	971.00 Ft	PIT	

Date	03-07-2014			
Run Number	1			
Depth--Driller	1020.0 Ft			
Depth--Logger	1020.0 Ft			
First Reading	997.0 Ft			
Last Reading	22.0 Ft			
Casing--Driller	22.0 Ft			
Casing--Logger	22.0 Ft			
Bit Size	6.125 In			
Casing Size	7.000 In			
Hole Fluid Type	FRESH			
Density	0.0			
Fluid Loss	0.0			
PH/Viscosity	0.0	0.0		
Sample Source	MEASURED			
RM@Measured Temp.	1.000 @ 70 F			
RMF@Measured Temp	0.800 @ 70 F			
RMC@Measured Temp.	1.200 @ 70 F			
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	0.860 @ 82 F			
Time Circulation Stopped	03-07-2014 12:00 pm			
Max Recorded Temp.	82 F			
Equipment/Base	127	TULSA		
Recorded By	SHELDON TYLER			
Witnessed By	JORGE RANZ			

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
7.000	15.50	22.00	0.00

Bitsize Intervals

Size (In)	Bottom (Ft)
6.125	1020.00

Run Number	1
Date	03-07-2014
Date/Time On Bottom	03-07-2014 2:00 pm
Depth to Fluid	0.0 Ft
Salinity	0.000
RMF@BHT	0.690 @ 82 F
RMC@BHT	1.030 @ 82 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 CALCULATE POROSITY
ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING
PHIN IS CALIPER CORRECTED

FLUID LEVEL 140'

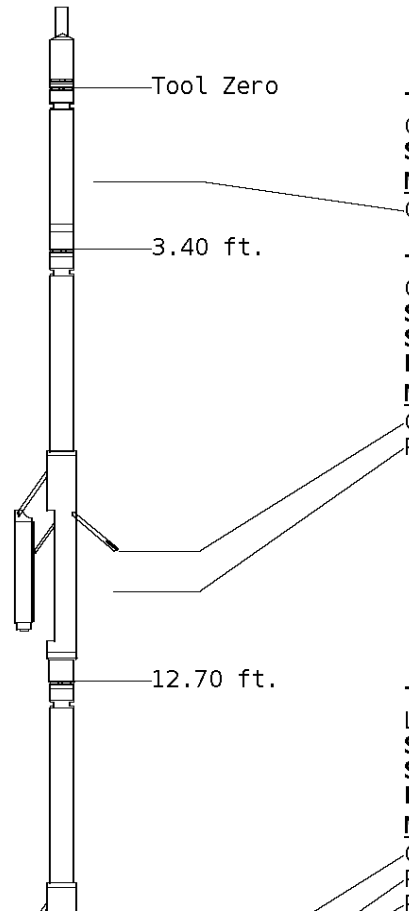
GRT: GRP, GRX
CNT: PHIN, CLCNIN, PHXN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX

PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:
J.JOHNSON

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-BB-006

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

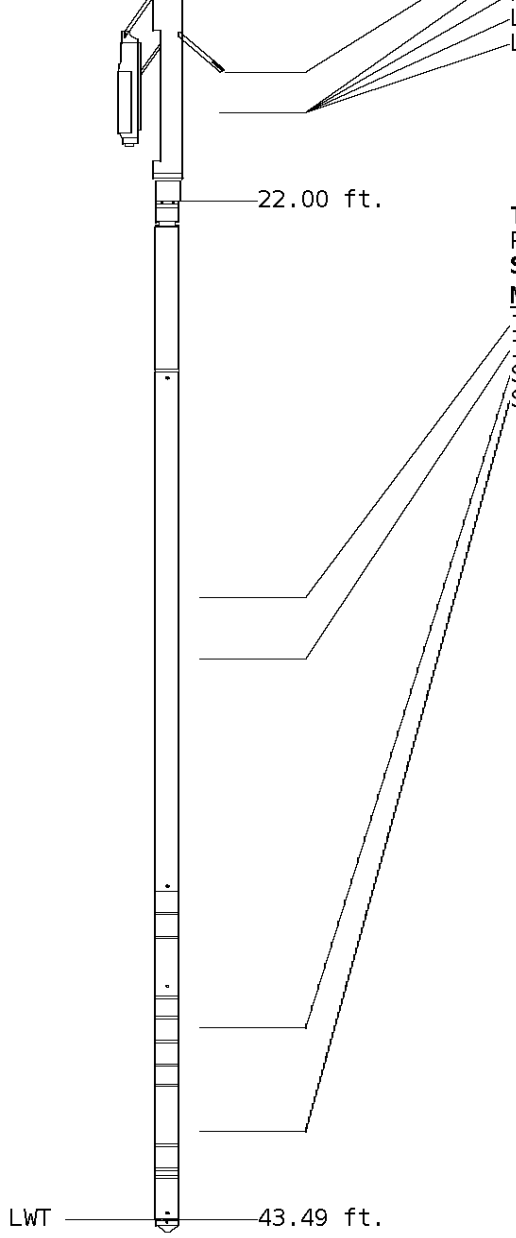
Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-038
Source ID :N-1044
Pad ID :CNP-AA-121

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 :NDT-AE-003
Source ID :CSV-587
Pad ID :LDP-DA-50

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-BA-20

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: SCZ_CANNON_C-1_MAR7_STK **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2014-03/07 14:17 3.3.0-12724
Reference: 0 **Processed:** 2014-03/07 14:38 3.3.0-12724

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

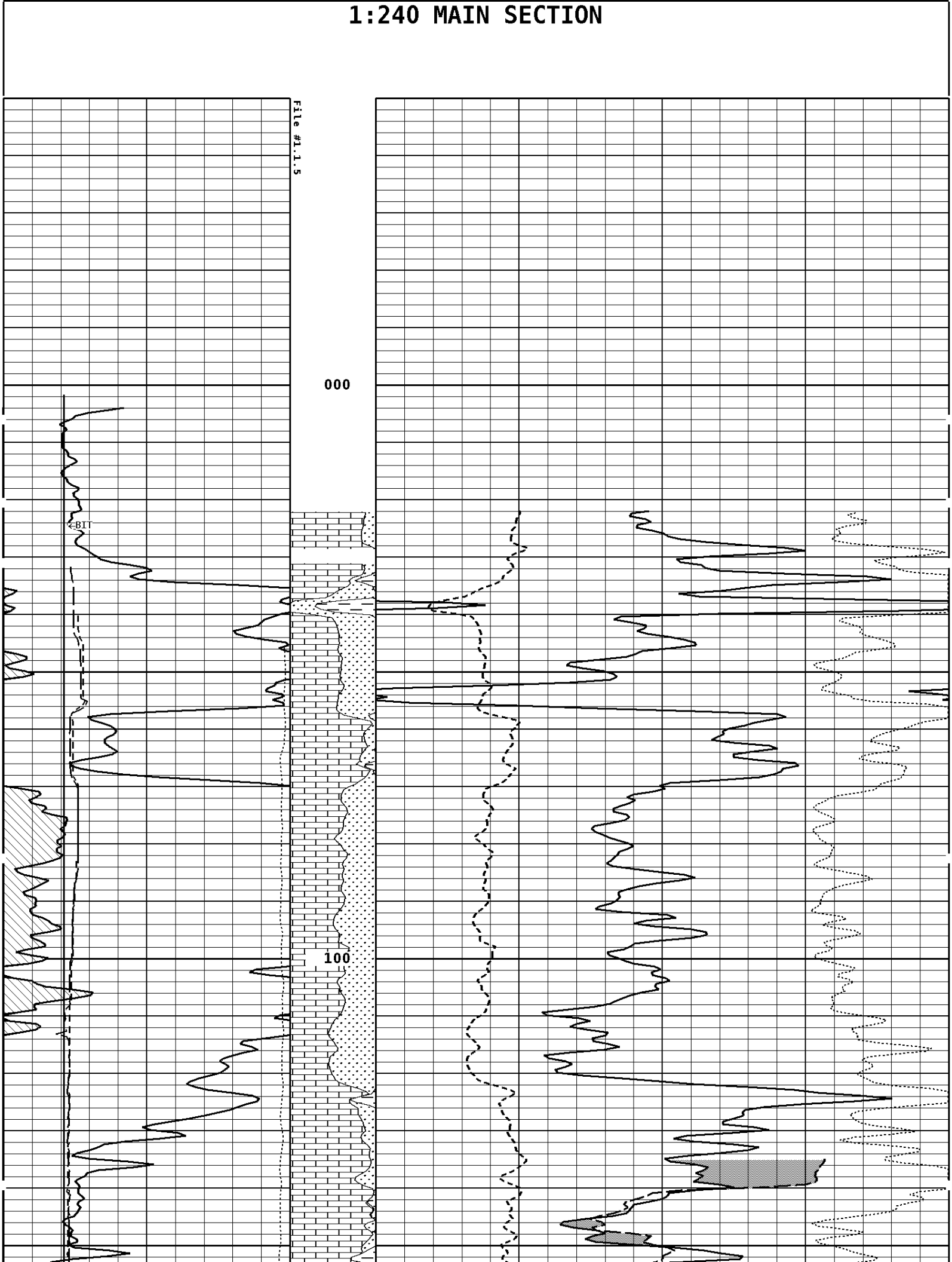
Volume
Calcite

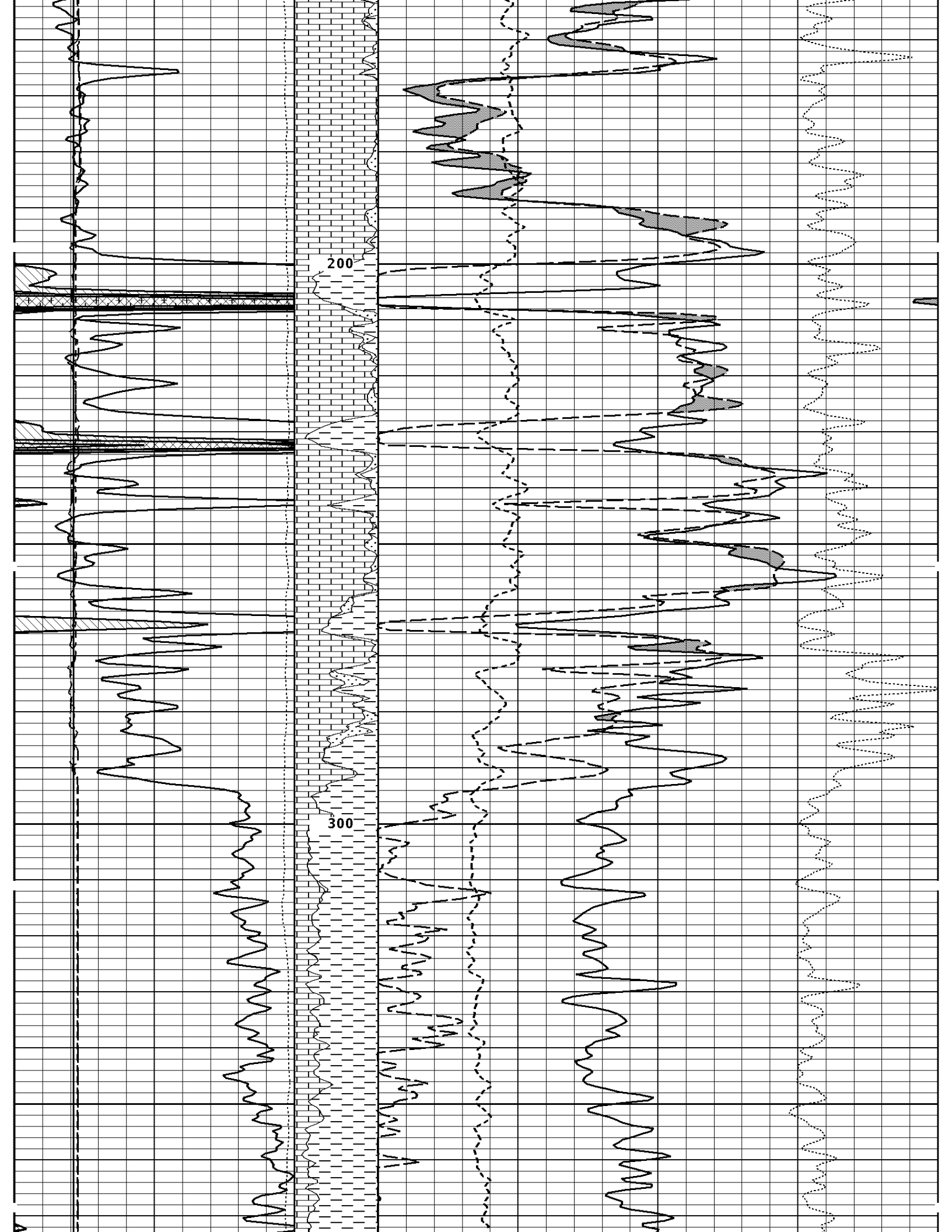
DENSITY POROSITY (2.71g/cc)
PERCENT
70 — 30
30 — -10
-10 — -50

GAMMA RAY
API UNITS
150 — 300
0 — 150

Volume
Dolo/Shale

NEUTRON POROSITY (LIMESTONE)
PERCENT
30 — -10


1:240 MAIN SECTION
File #1.1.5
000
BIT
100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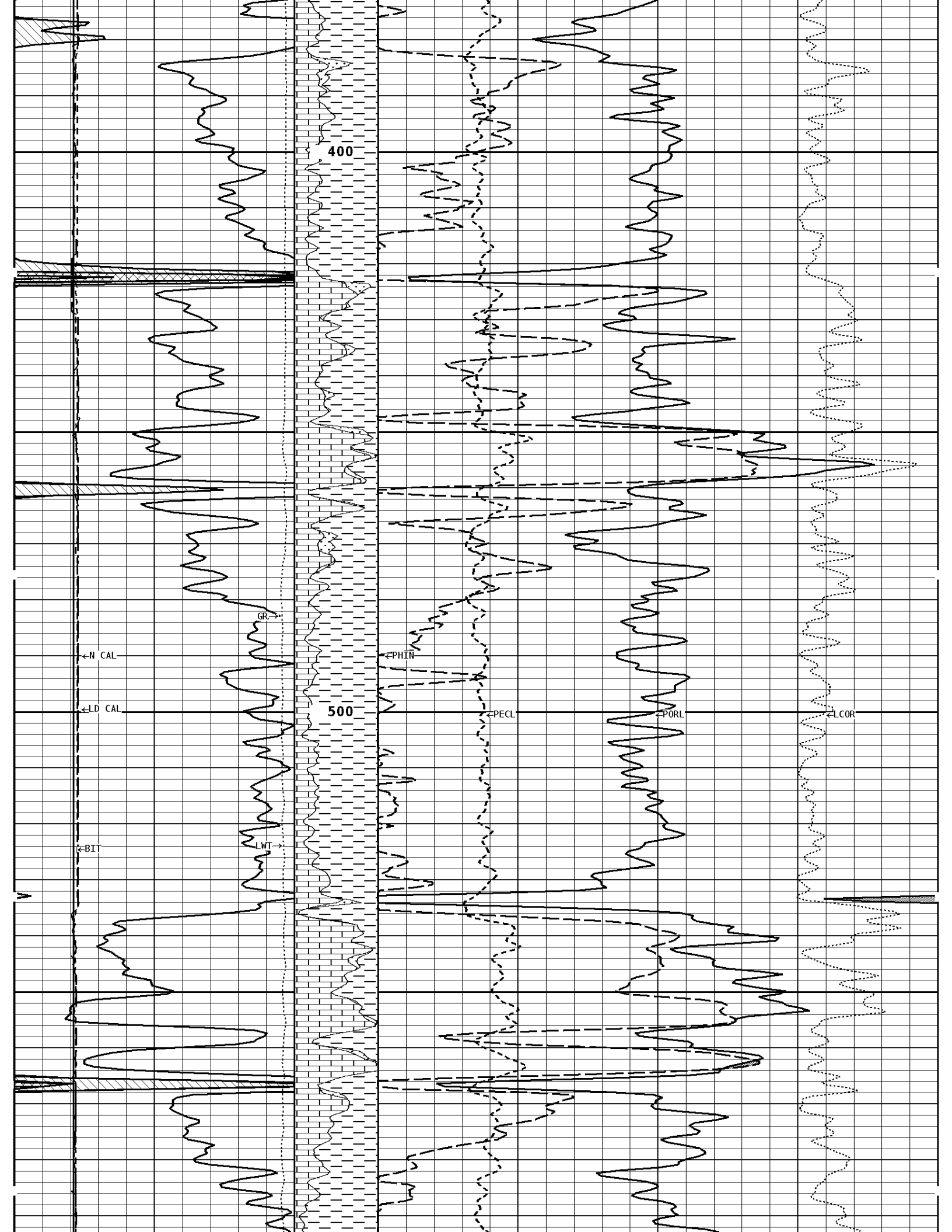
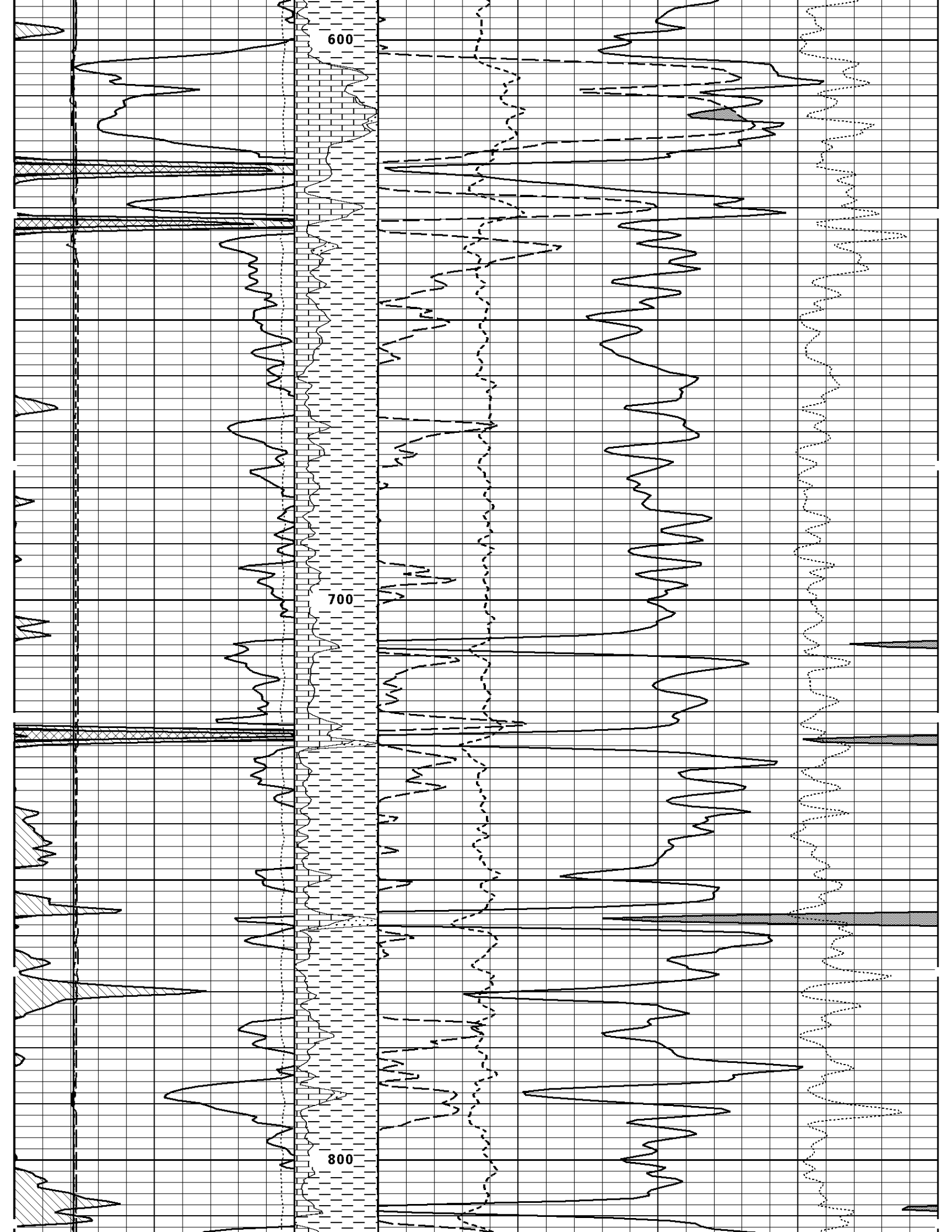
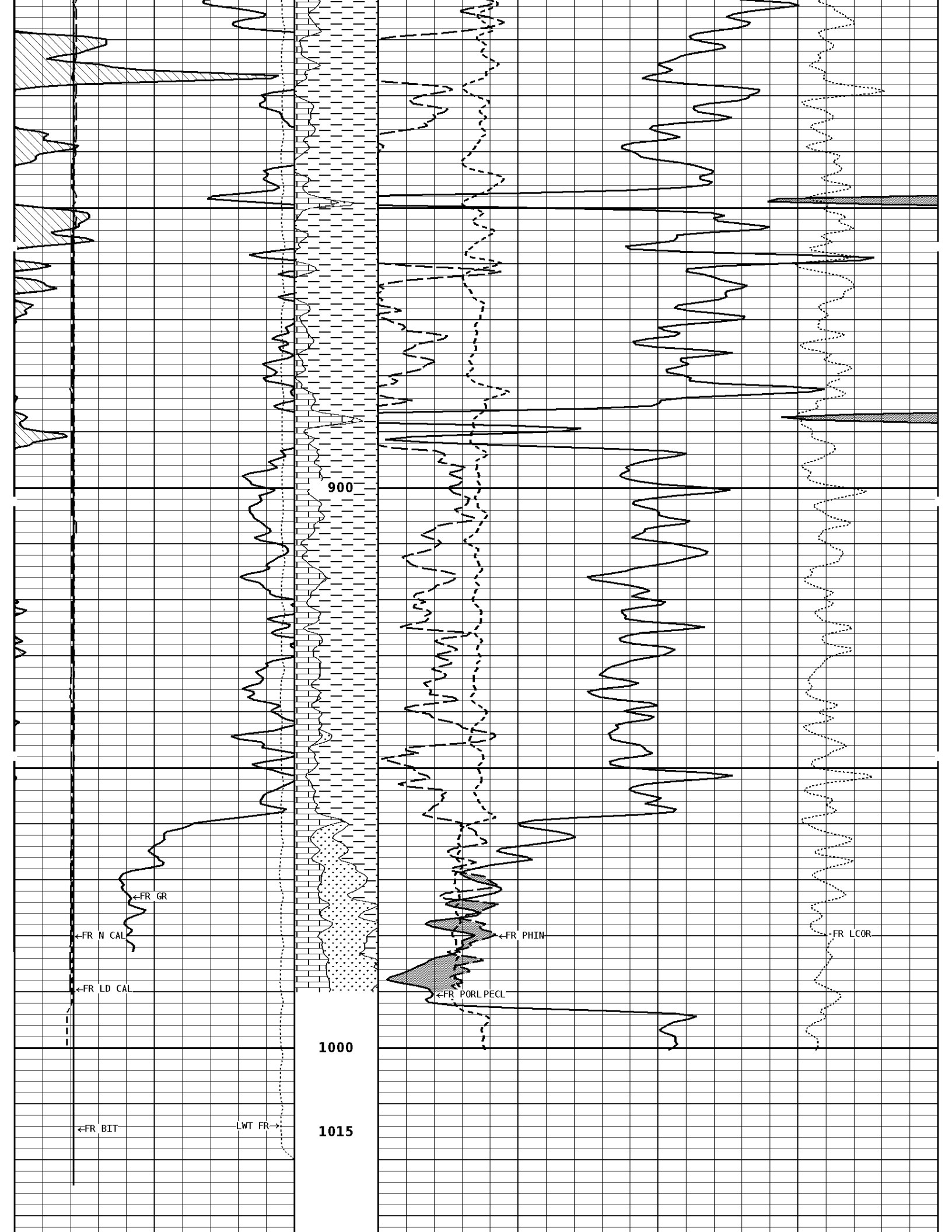
300

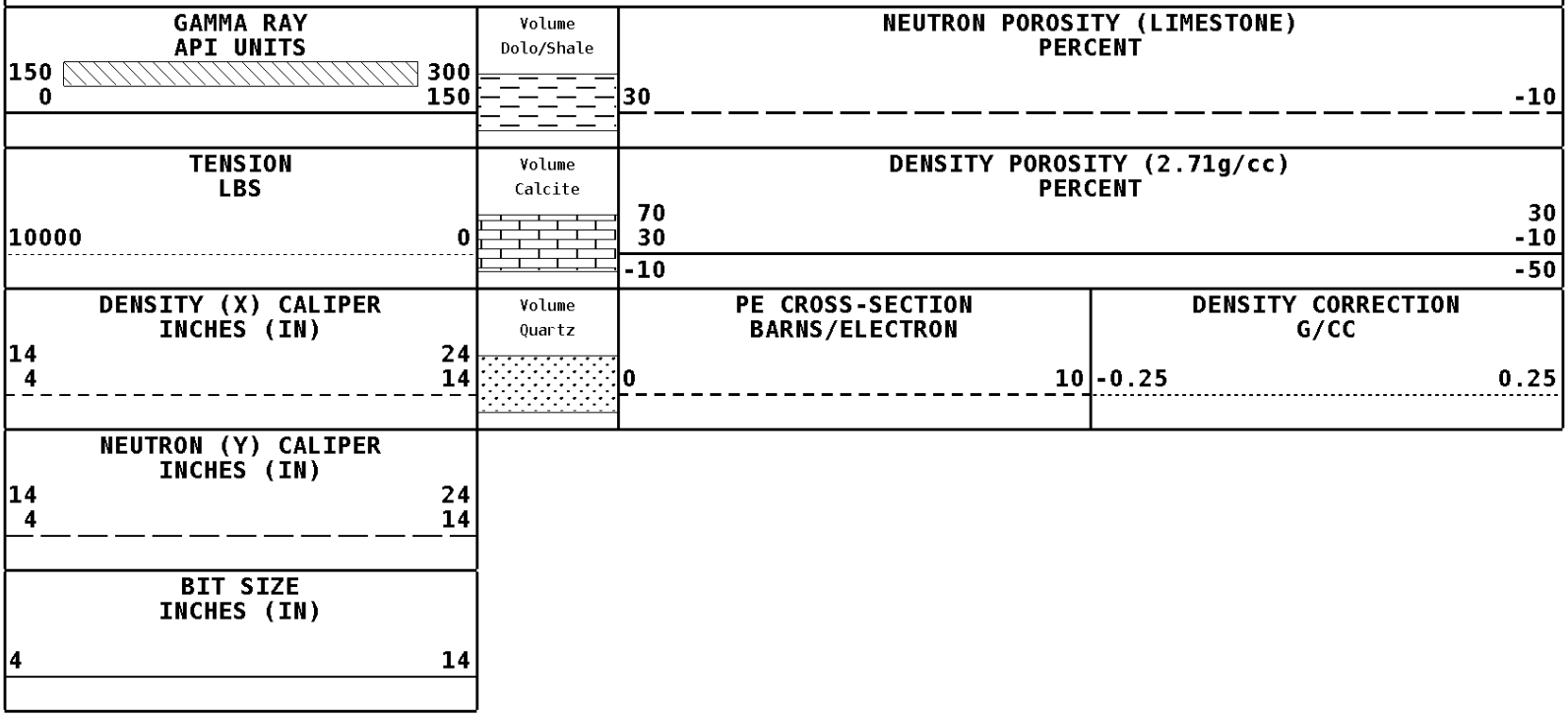

400
GR
N CAL
PHIN
LD CAL
500
PECL
PORL
LCOR
BIT
LWT


600
700
800


900
1000
1015
←FR GR
←FR N CAL
←FR LD CAL
←FR BIT
LWT FR→
←FR PHIN
←FR PORLPECL
FR LCOR

File #1.1.5

1:240 MAIN SECTION

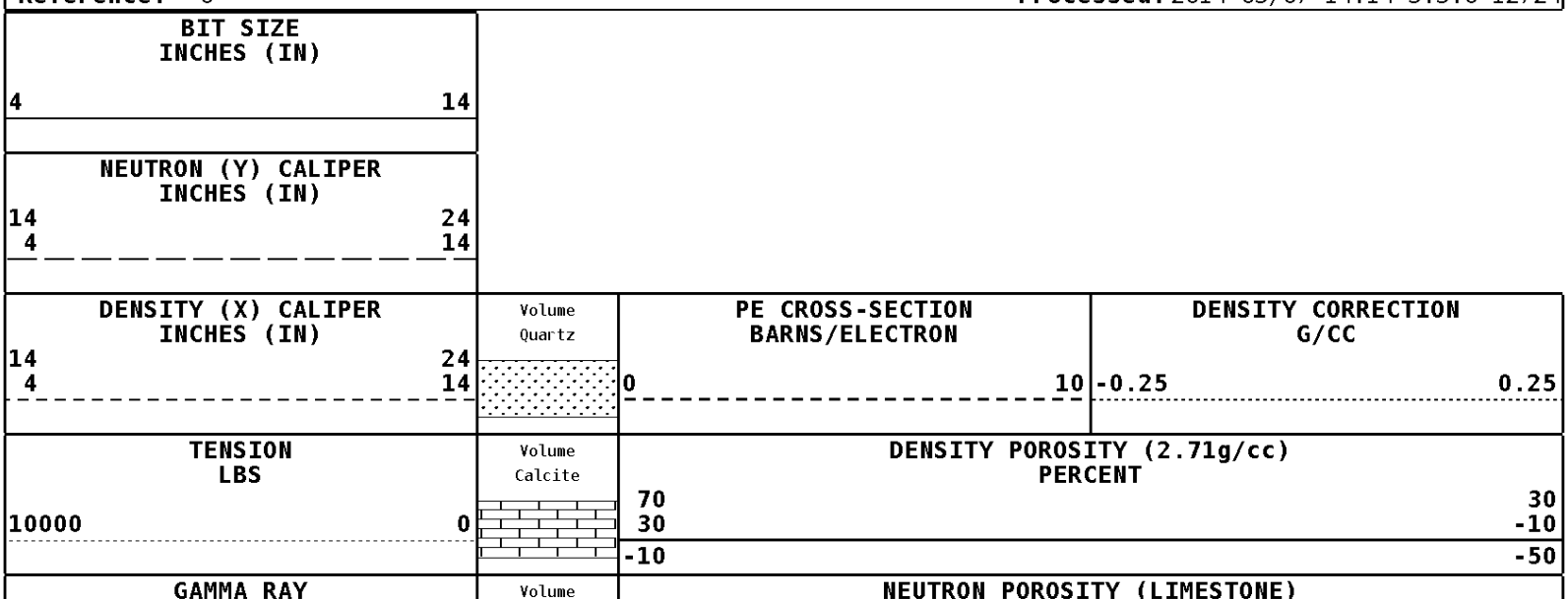


*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

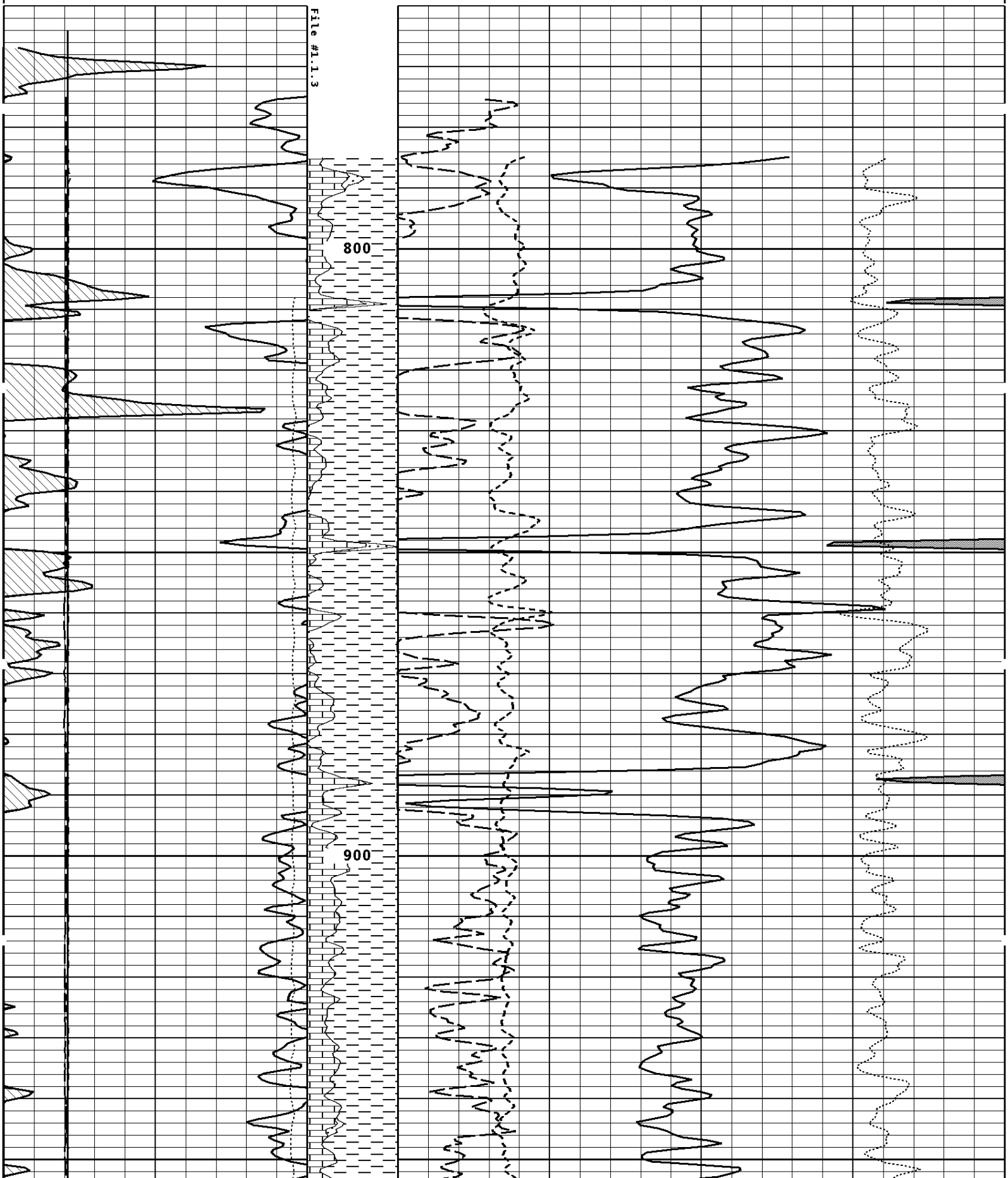
Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc
Formation Matrix	Limestone	
Drill Bit Size	6.125	in
Casing Diameter	2.875	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

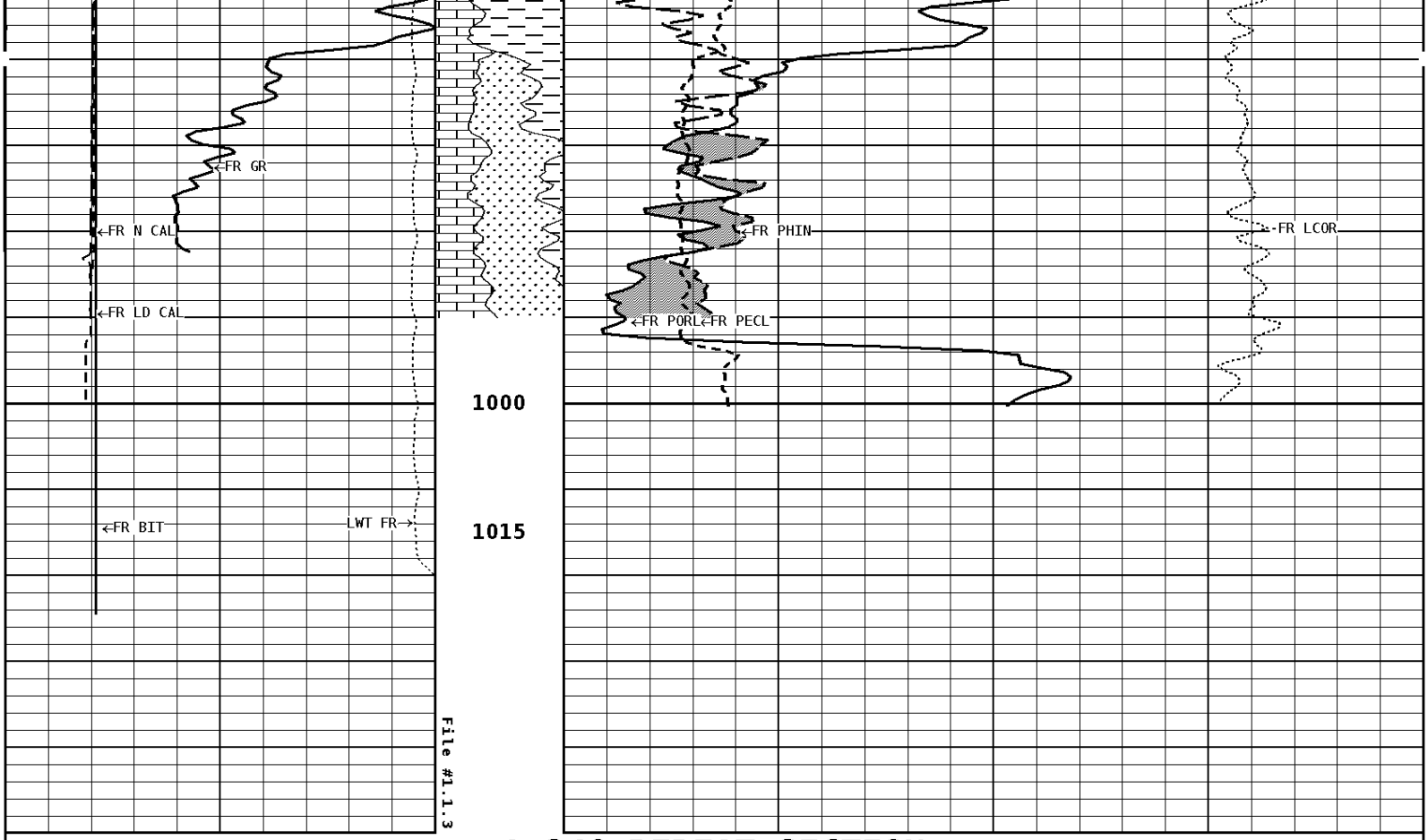
Well File: SCZ_CANNON_C-1_MAR7_STK **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S3 Reprocess of REPEAT **Acquired:** 2014-03/07 14:07 3.3.0-12724
Reference: 0 **Processed:** 2014-03/07 14:14 3.3.0-12724



150
0
300
150
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**
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	6.125	in
Casing Diameter	2.875	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: SCZ_CANNON_C-1_MAR7_STK		**Scale:** 1:120	**Format:** NLD-120
Segment: V1.D1.S5 Reprocess of MAIN		**Acquired:** 2014-03/07 14:17 3.3.0-12724	
Reference: 0		**Processed:** 2014-03/07 14:38 3.3.0-12724	

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

150 — 300
0 — 150

PE CROSS-SECTION
BARNS/ELECTRON

0 — 10

DENSITY CORRECTION
G/CC

-0.25 — 0.25

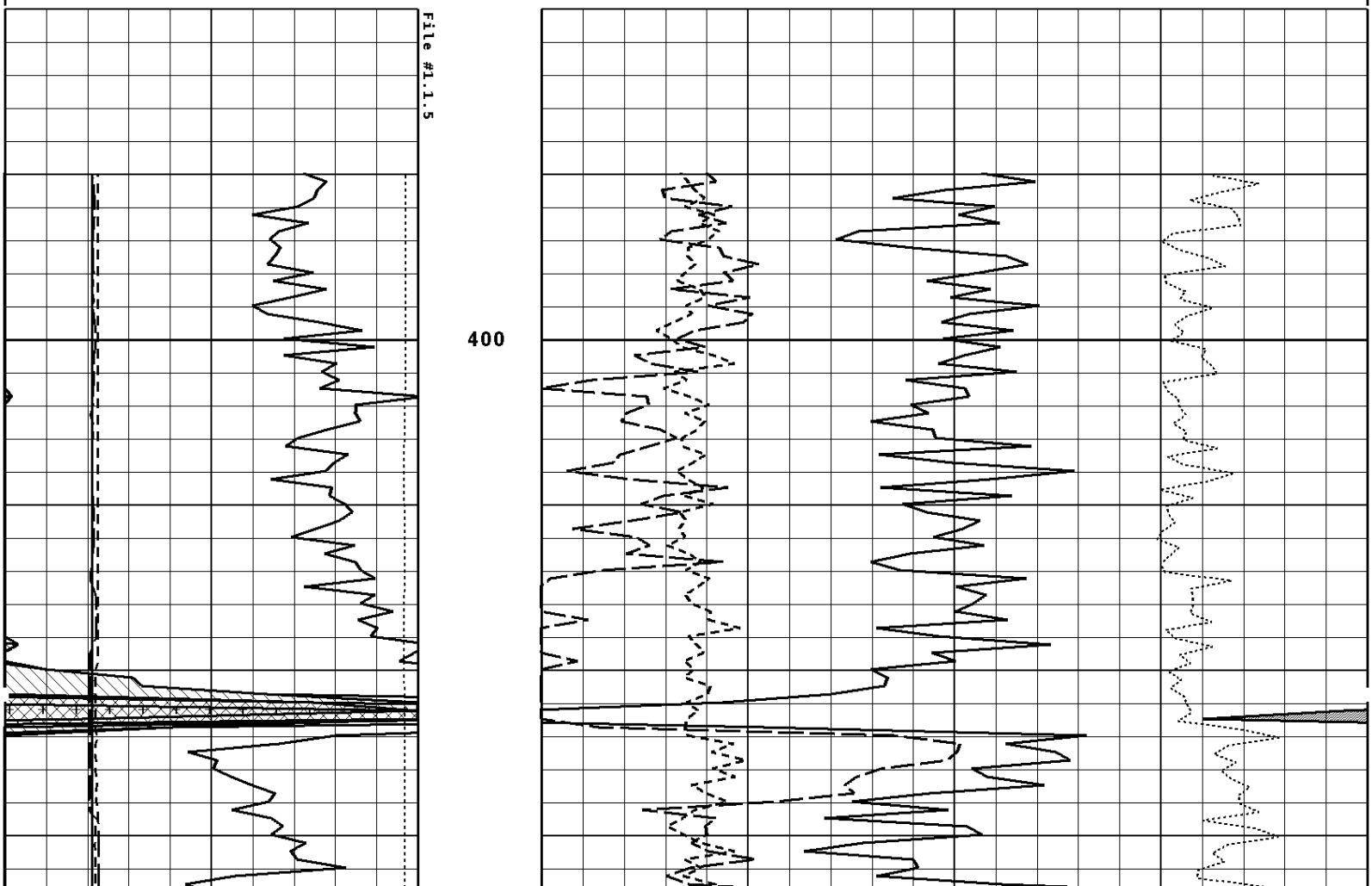
NEUTRON POROSITY (LIMESTONE)
PERCENT

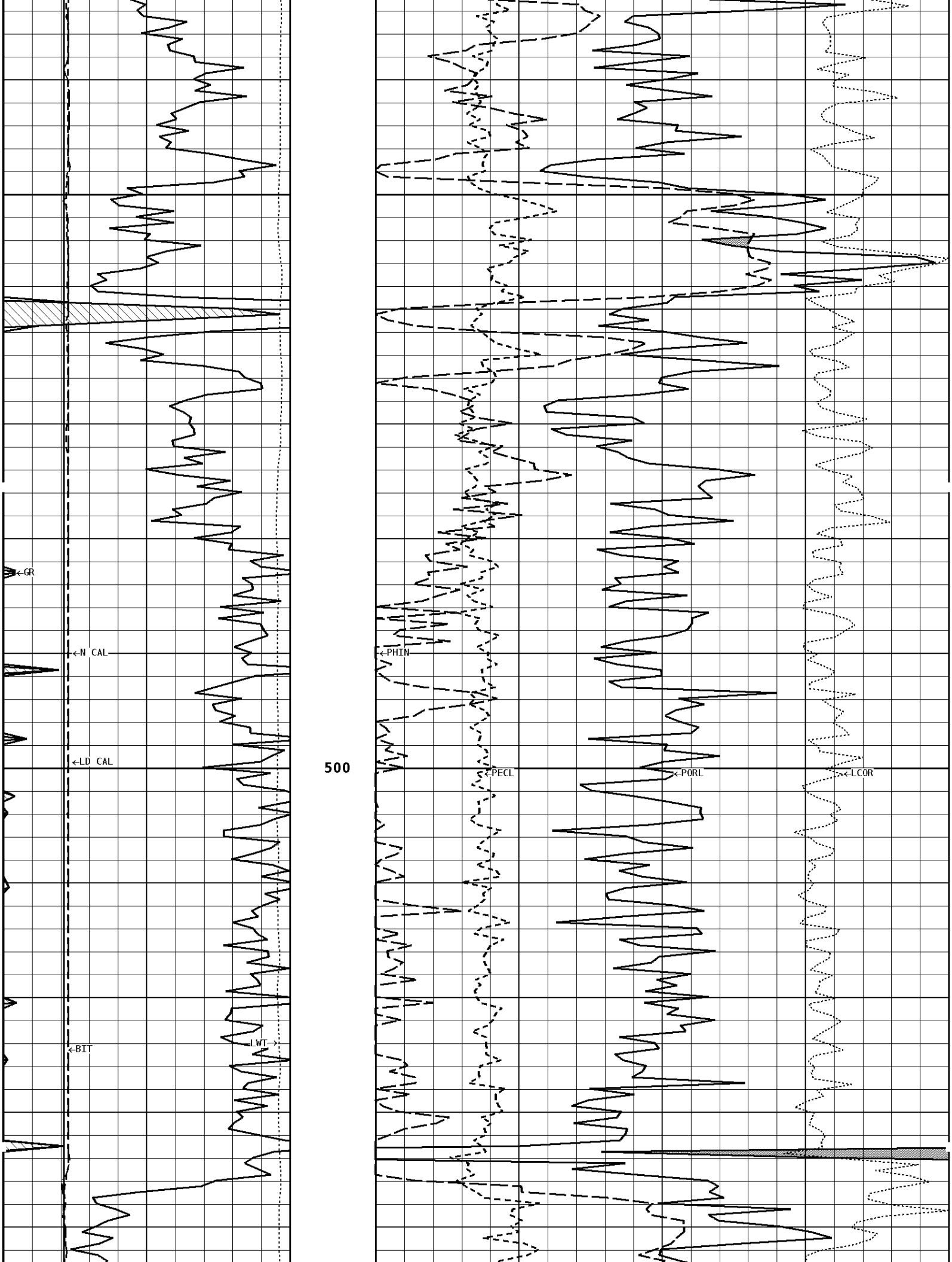
30 — -10

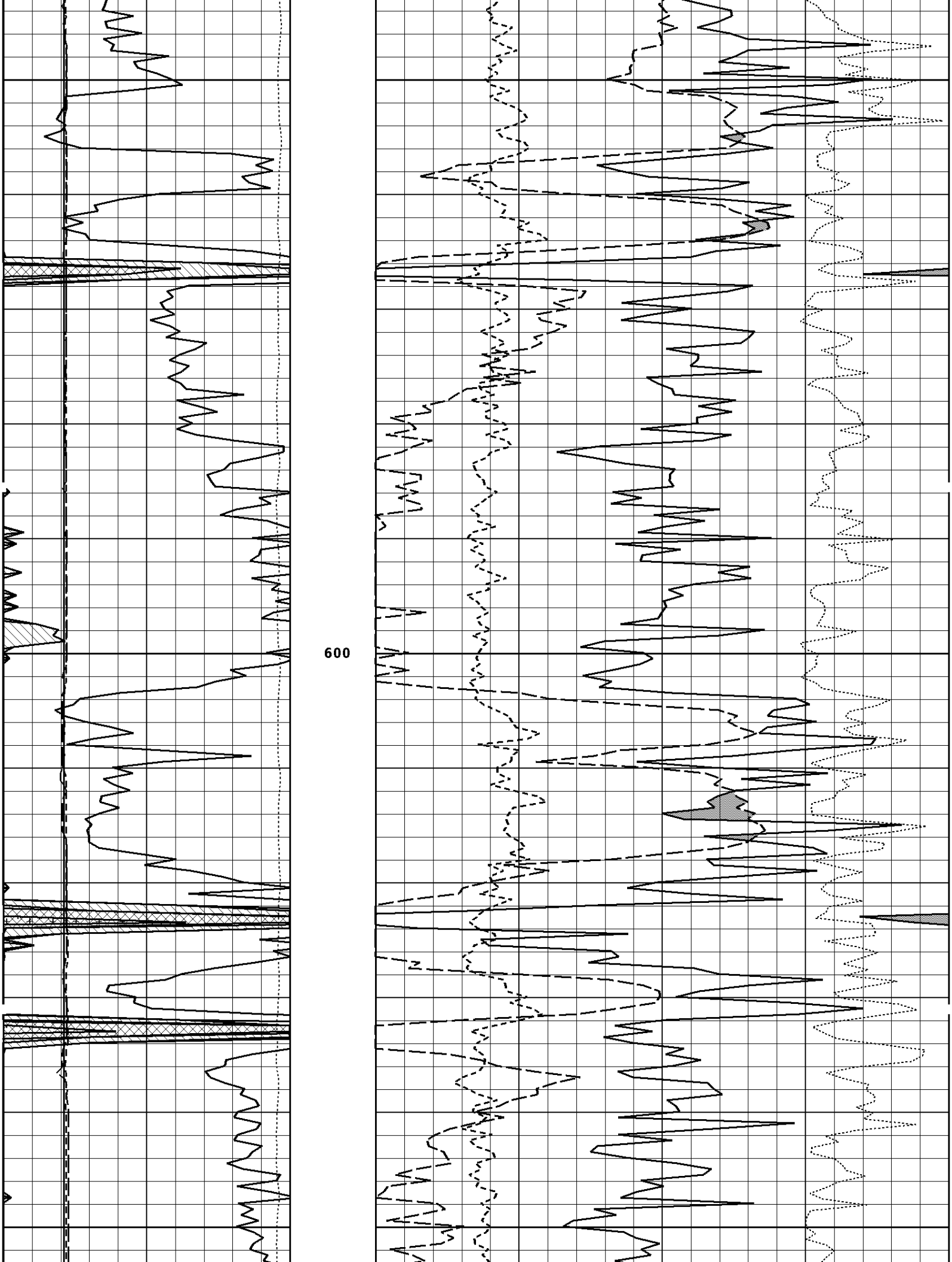
DENSITY POROSITY (2.71g/cc)
PERCENT

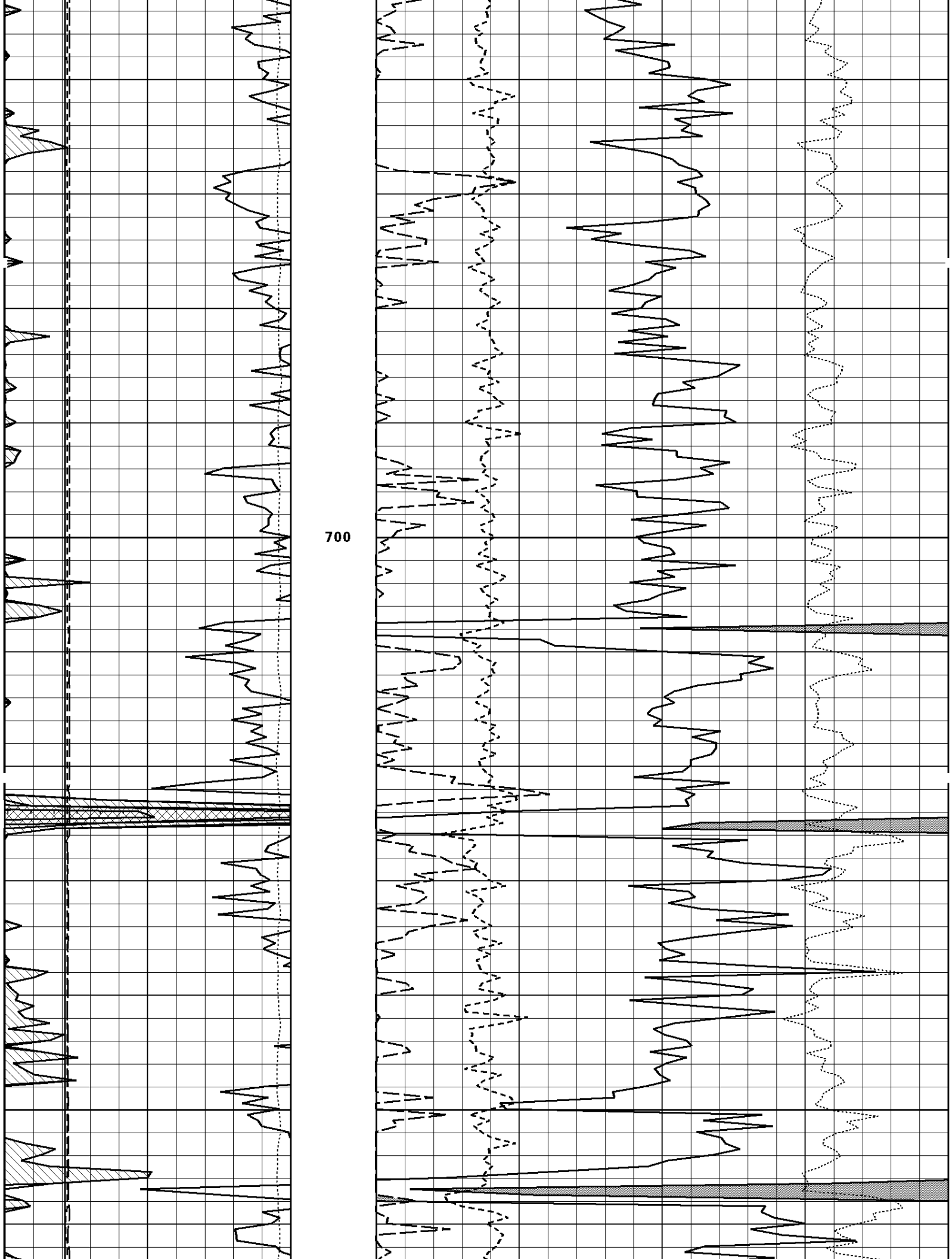
70 — 30
30 — -10
-10 — -50

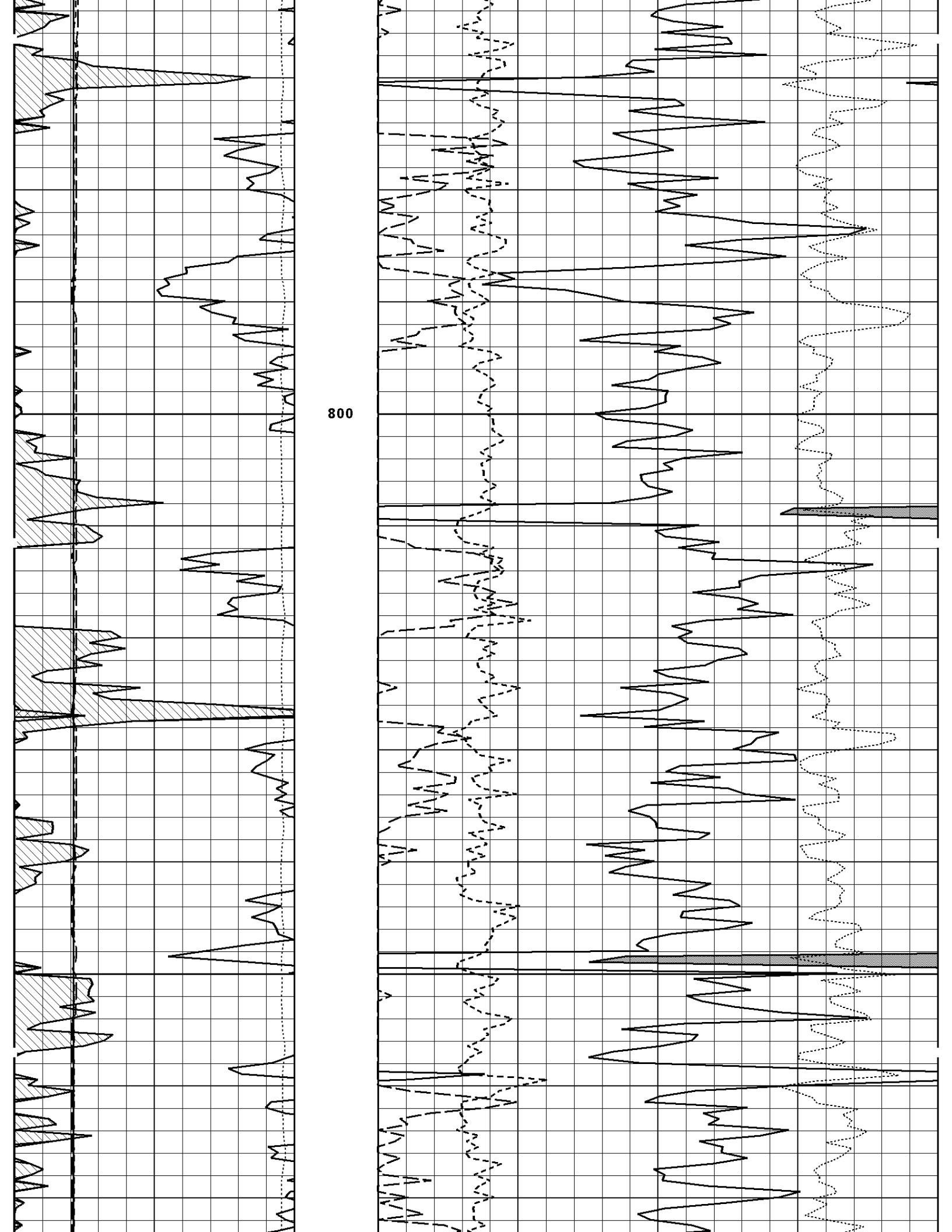
1:120 HIGH RESOLUTION




←GR
←N CAL
←LD CAL
←BIT
←LWT→
500
←PHIN
←PECL
←PORL
←LCOR


600


700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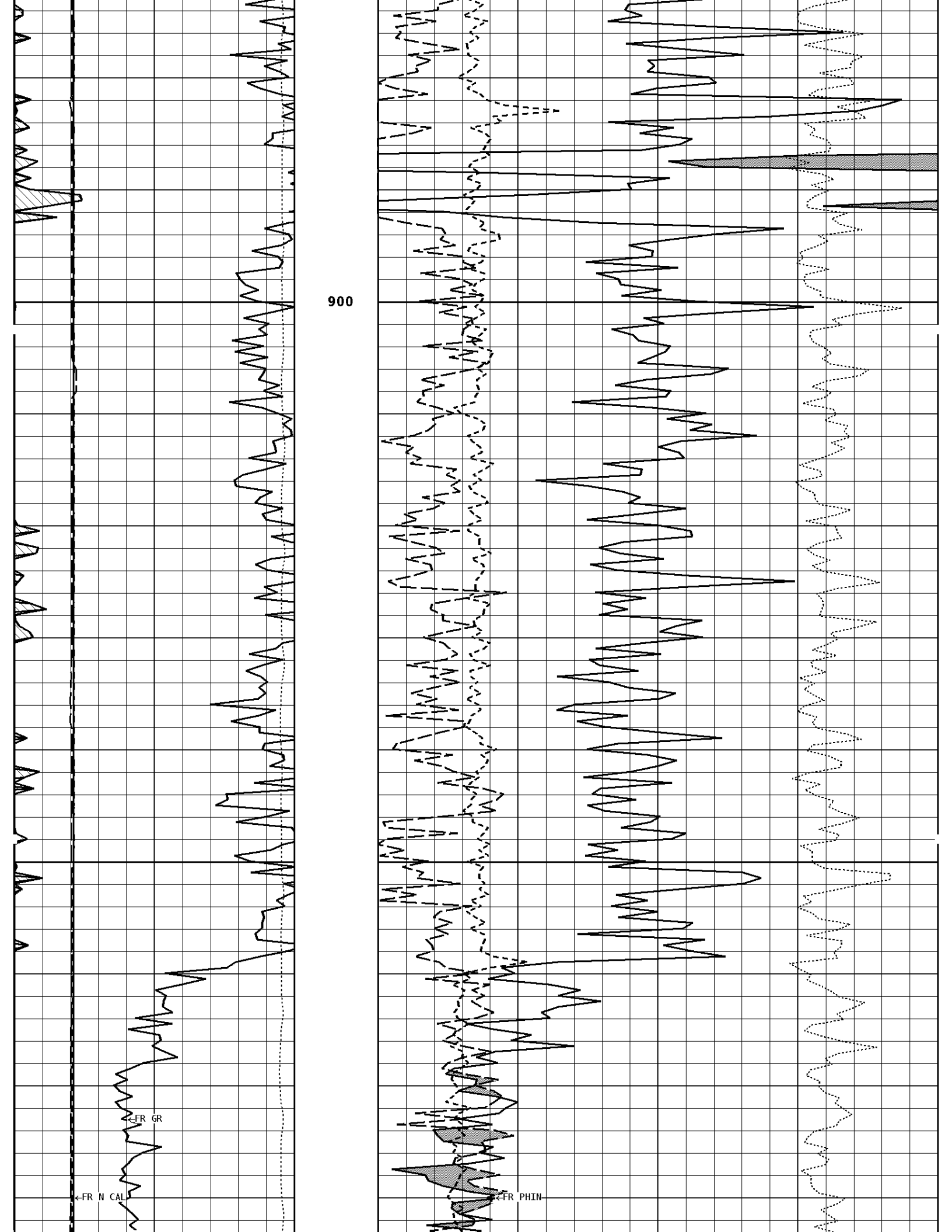
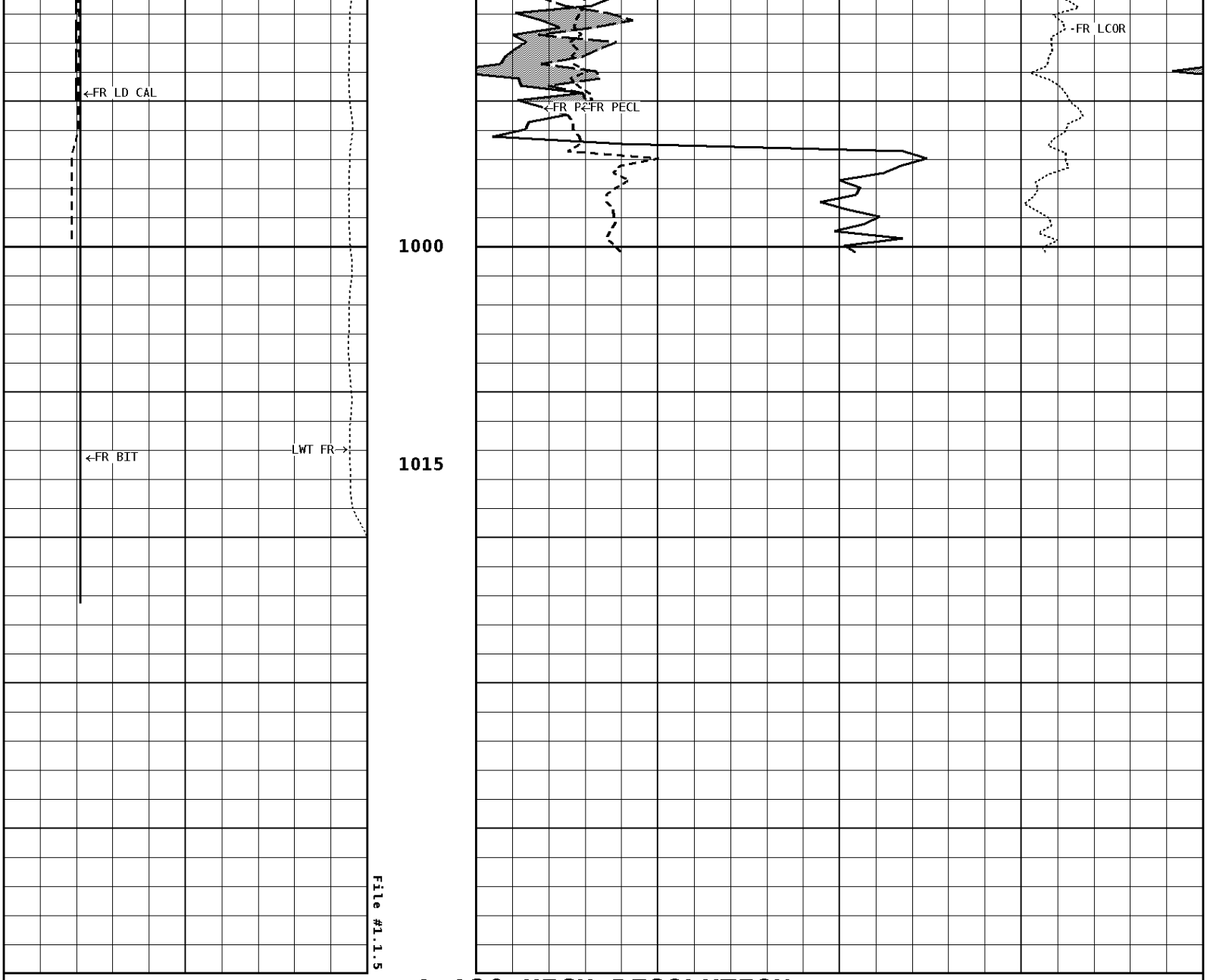

900
FR GR
FR N CAL
FR PHIN



1:120 HIGH RESOLUTION

GAMMA RAY API UNITS		DENSITY POROSITY (2.71g/cc) PERCENT	
150	300	70	30
0	150	30	-10
		-10	-50

TENSION LBS		NEUTRON POROSITY (LIMESTONE) PERCENT	
10000	0	30	-10

DENSITY (X) CALIPER INCHES (IN)		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	6.125	in
Casing Diameter	2.875	in
Casing Thickness	0.250	in
Casing Correction (PHI N)	Disable	

Well File: SCZ_CANNON_C-1_MAR7_STK **Scale:** 1:240 **Format:** LDT-240
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2014-03/07 14:17 3.3.0-12724
Reference: 0 **Processed:** 2014-03/07 14:38 3.3.0-12724

BIT SIZE
INCHES (IN)

4 14

NEUTRON (Y) CALIPER
INCHES (IN)

14 24
4 14

DENSITY (X) CALIPER
INCHES (IN)

14 24
4 14

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

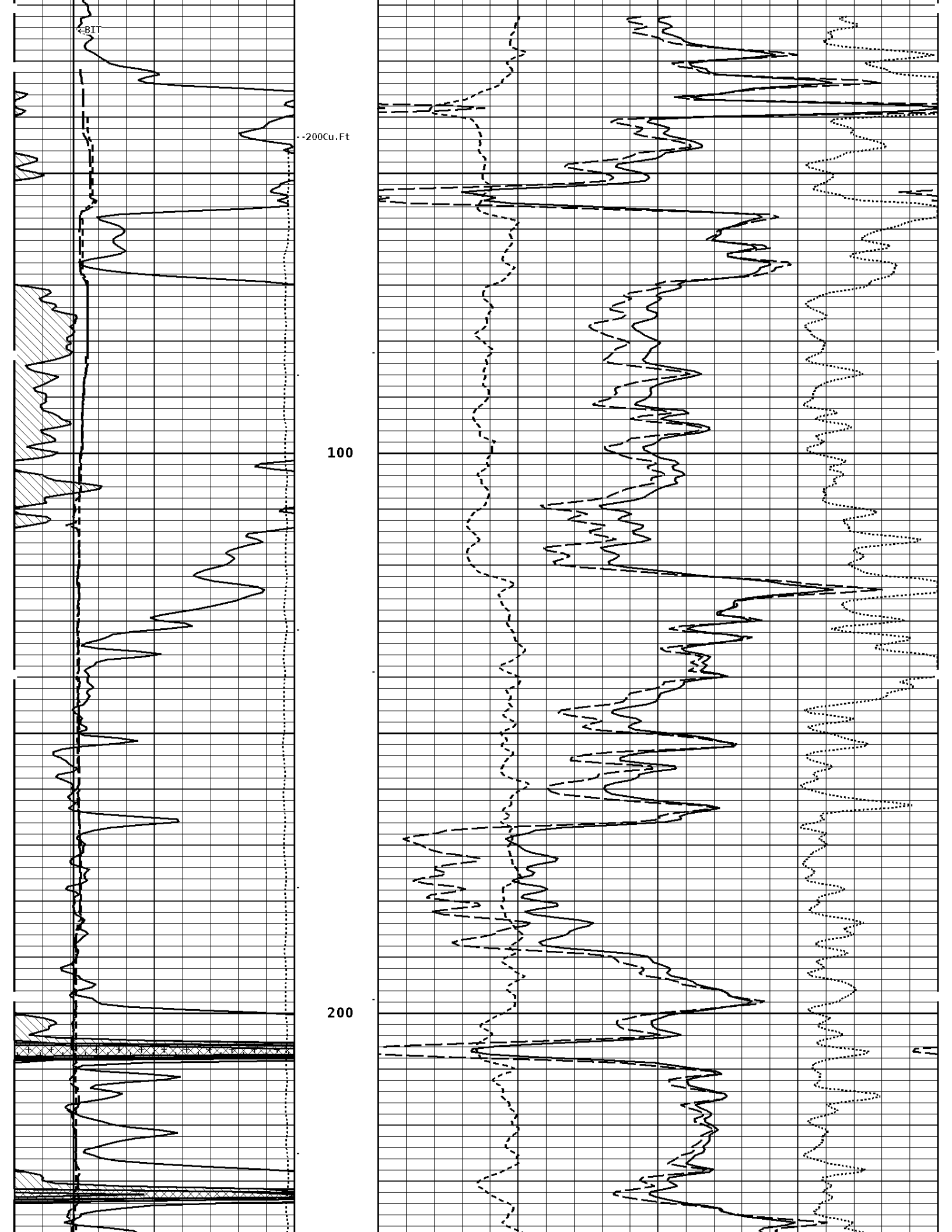
70 30
30 -10
-10 -50

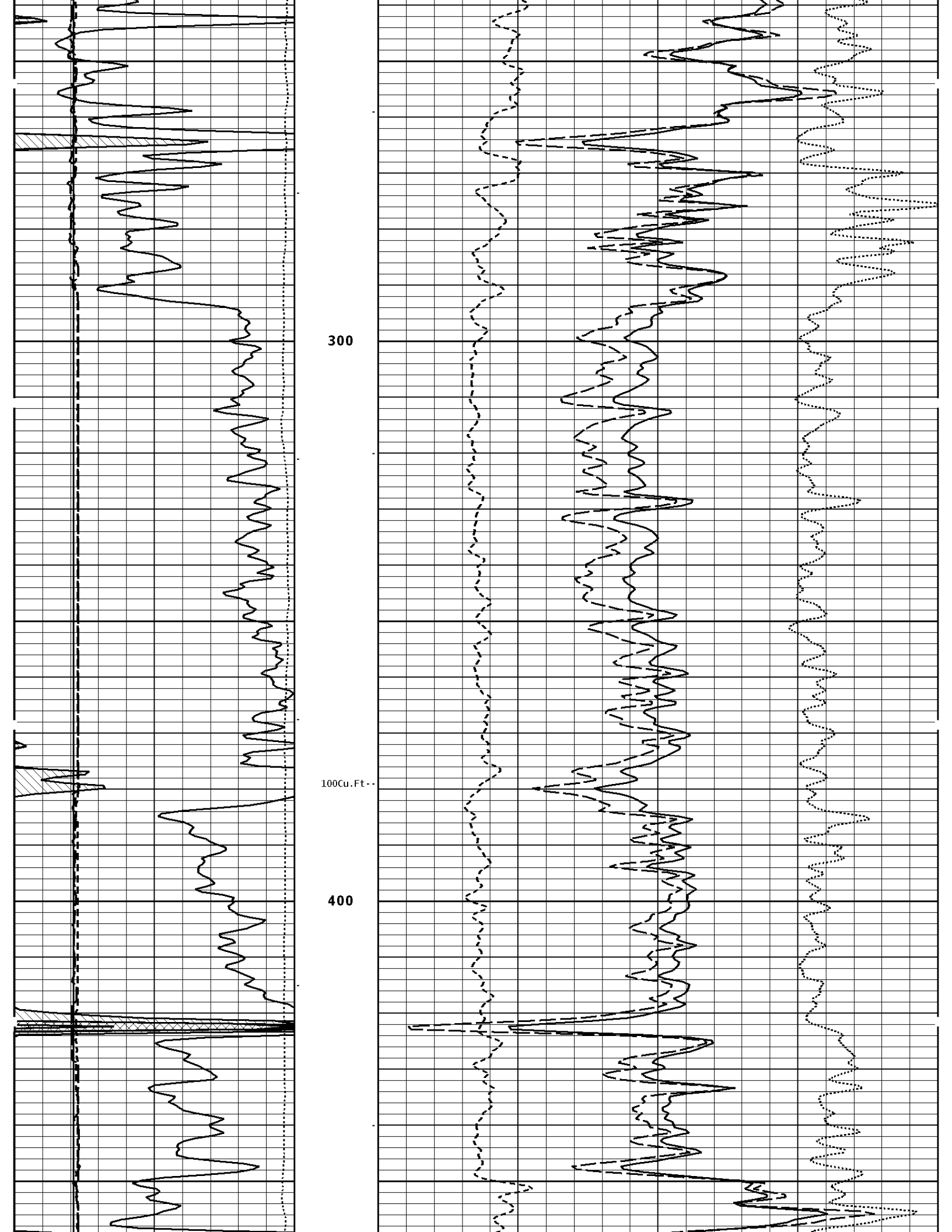
1:240 MAIN SECTION

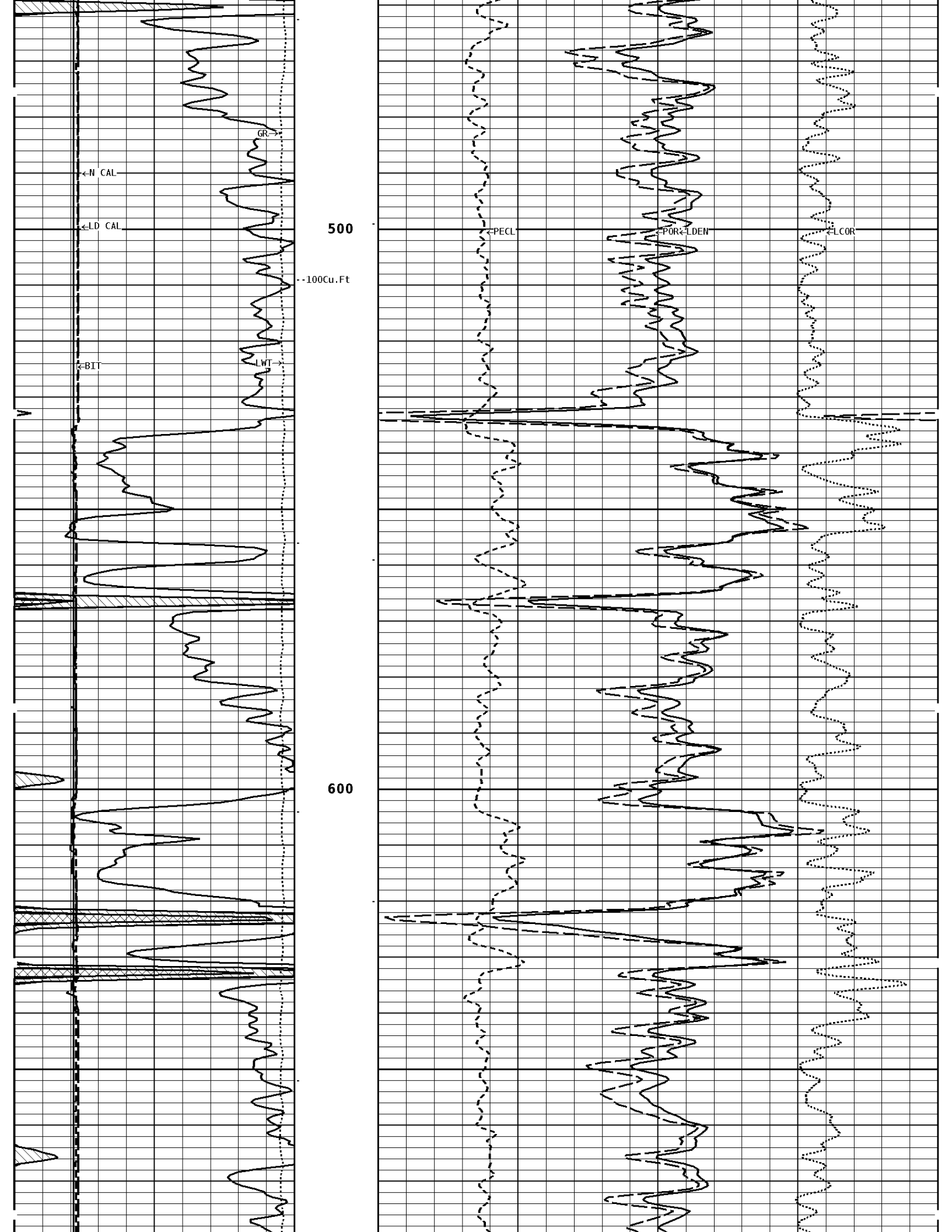
BULK DENSITY

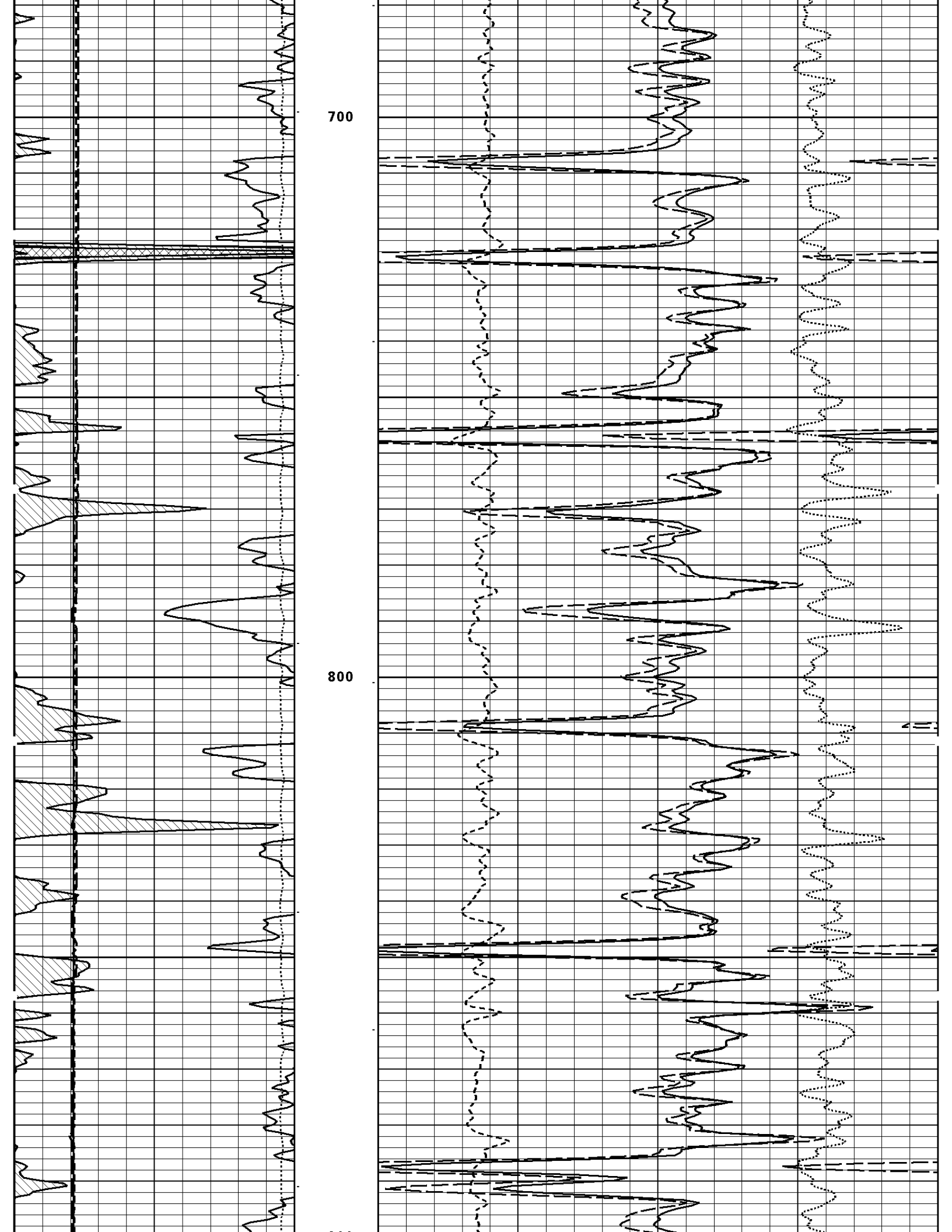
File #1.1.5

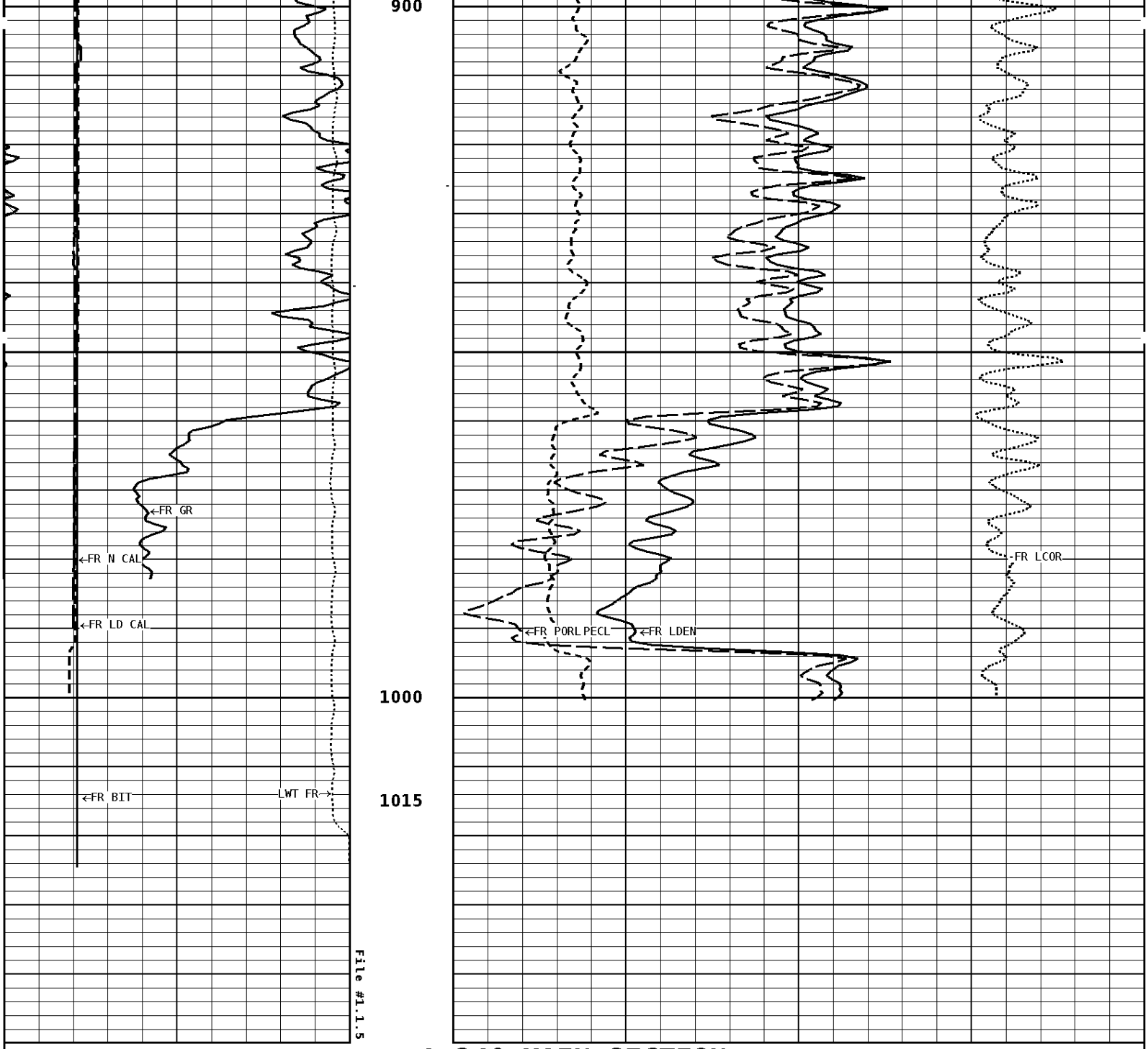
000


BIT
--200Cu.Ft
100
200


300
100Cu.Ft--
400


GR→
←N CAL
←LD CAL
500
←PECL
←POR
←LDEN
←LCOR
--100Cu.Ft
←BIT
LWT→
600

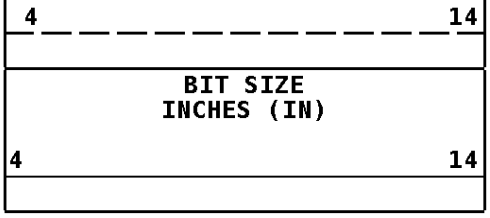

700
800



1:240 MAIN SECTION

BULK DENSITY

GAMMA RAY API UNITS	-BHV AHV- CU.FT	DENSITY POROSITY (2.71g/cc) PERCENT
150 300 0 150		70 30 30 -10 -10 -50
TENSION LBS		COMPENSATED BULK DENSITY G/CC
10000 0		3.0 4.0 2.0 3.0 1.0 2.0
DENSITY (X) CALIPER INCHES (IN)		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		



* 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	6.125	in
Casing Diameter	2.875	in
Casing Correction (PHI N)	Disable	

* Calibration Summary *

Shop Calibration GRT-B

Performed : 23-Jan-2014 Time : 11:12
Sensor Suite : GR-GR5 ID : GRT-BB-006

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	62	374	CPS	175	GRAPI

Shop Calibration CNT-AA

Performed : 23-JAN-2014 Time : 11:07
Sensor Suite : CALI-BCN ID : NDT-BB-038

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	8.4	13.8	6.0	12.0	IN.

Performed : 23-Jan-2014 Time : 10:58
Sensor Suite : BHC NEUT ID : CNP-AA-121
Source ID : N-1044

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	3.8388	3.6893	3.6950	
Porosity	22.8	20.5	20.6	%

Shop Calibration LDT-DA

Performed : 23-JAN-2014 Time : 10:36
Sensor Suite : CALI-LTH ID : NDT-AE-003

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	9.2	13.8	6.0	12.0	IN.

Performed : 23-Jan-2014 Time : 10:27
Sensor Suite : BHCPELNG ID : LDP-DA-50
Source ID : CSV-587

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	73	446	778	310	CPS
LSW2	75	530	862	396	CPS
LSW3	286	1307	2004	1137	CPS
LSW4	350	1247	1651	1124	CPS
LSW5	33	41	39	39	CPS
LSW6	96	97	92	97	CPS
LSW7	56	60	55	60	CPS
LSW8	1	2	2	2	CPS
QS	0.262	0.235	0.250	0.235	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	106	520	2287	342	CPS
LLW2	117	882	3586	657	CPS
LLW3	436	1777	6285	1571	CPS
LLW4	560	1082	2611	1014	CPS

LLW4	500	1082	2611	1014	CPS
LLW5	65	70	79	68	CPS
LLW6	171	174	149	171	CPS
LLW7	114	111	111	115	CPS
LLW8	4	6	12	5	CPS
QL	0.199	0.220	0.148	0.198	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Tucker ENERGY SERVICES

Company: SCZ RESOURCES, LLC

Well: CANNON #C-1

Location: 165' FSL & 2475' FEL

Logged: 03-07-2014

K.B. Elev: 0.0 Ft