Tucker ENERGY SERVICES

COMPOSITE LOG

Company VAL ENERGY, INC
Well BIRDZELL #1-23 OWWO
Field
County COWLEY
State KANSAS
Country USA
API No. 15-035-22441-0001

File No : TUL-62046
Company : VAL ENERGY, INC
Well : BIRDZELL #1-23 OWWO
Field :
County : COWLEY
State : KANSAS
Country : USA
API No : 15-035-22441-0001

Location :
660' FSL & 3630' FEL

LSD : **Sect :** 23 **Twp :** 33S **Rge :** 4E

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	0.00 Ft	CNT	PIT
Log Measured From:	KB	**DF**	0.00 Ft	LDT	
Above Permanent Datum:	0.00 Ft	**GL**	1117.00 Ft	MLT	

Date	11-03-2018						
Run Number	1						
Depth--Driller	3480.0	Ft					
Depth--Logger	3472.0	Ft					
First Reading	3472.0	Ft					
Last Reading	234.0	Ft					
Casing--Driller	234.0	Ft					
Casing--Logger	234.0	Ft					
Bit Size	7.875	In					
Casing Size	8.625	In					
Hole Fluid Type	WBM						
Density	9.0						
Fluid Loss	16.0						
PH/Viscosity	9.0	38.0					
Sample Source	MEASURED						
RM@Measured Temp.	2.000 @ 70 F						
RMF@Measured Temp	1.600 @ 70 F						
RMC@Measured Temp.	2.400 @ 70 F						
Source RMF/RMC	CALCULATED	CALCULATED					
RM@BHT	0.000 @ 110 F						
Time Circulation Stopped	11-03-2018 14:00						
Max Recorded Temp.	110 F						
Equipment/Base	1022	TULSA, OK					
Recorded By	SHELDON TYLER						
Witnessed By	JOE BAKER						

Bitsize Intervals

Size (In)	Bottom (Ft)
7.875	3480.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
8.625	32.00	234.00	0.00

Run Number	1
Date	11-03-2018
Date/Time On Bottom	11-03-2018 17:00
Depth to Fluid	0.0 Ft
Salinity	9000.000
RMF@BHT	0.000 @ 110 F
RMC@BHT	0.000 @ 110 F

Run Number 1

Comments

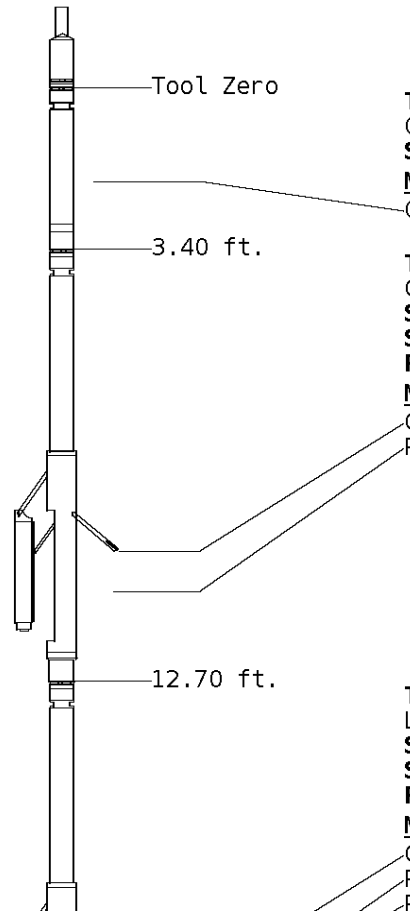
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION
CALIPERS ORIENTED ON X-Y AXIS
2.71 G/CC USED TO CALCULATE POROSITY
ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
PHIN IS CALIPER CORRECTED

GRT: GRP, GRX
CNT: PHIN, CLCNIN, PHXN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
MLT: NOR_RF, INV_RF, MSCLPIN
PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:
B.BAILEY
K.WARREN

Tool String Schematic

Total Tool Length - 53.15 **ft.**
Maximum Outside diameter - 6.00 **in.**
Net Weight in Air - 943.00 **lbs.**



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BA-121

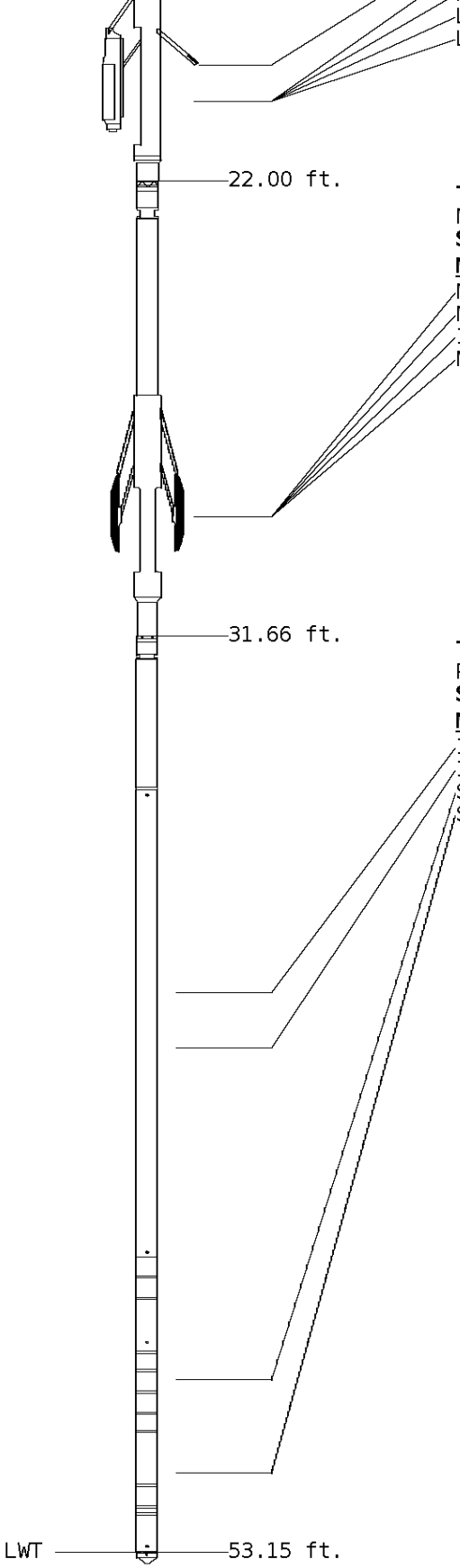
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.15

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-146
Source ID :N-1044
Pad ID :CNP-AA-115

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	43.75
PHIN	6.80	10.20	42.95

Tool: LDT-DA **Length:** 9.30 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-A
Sonde ID :PDT-GA-466
Source ID :63558B
Pad ID :LDP-DA-038

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	34.45
PEL	7.00	19.70	33.45
PES	7.40	20.10	33.05



LDEN	7.20	19.90	33.25
LCOR	7.20	19.90	33.25

Tool: MST-DA **Length:** 9.66 **ft.** **O.D.** 6.00 **in.**
Micro Spherically Focused (IC)
Sonde ID :MST-DA-021

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.55
MSCLP	7.60	29.60	23.55
INV	7.60	29.60	23.55
NOR	7.60	29.60	23.55

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-CA-069

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	40.58	12.56
ILM	10.10	41.76	11.39
SFLU	17.49	49.15	4.00
SP	20.60	52.26	0.88

Well File: VAL_ENERGY_BIRDZELL_OWWO_1-23_NOV3_MSTK **Scale:** 1:240 **Format:** COMSAT
Segment: V1.D1.S5 FINAL MAIN **Acquired:** Not Available
Reference: 0 **Processed:** Not Available

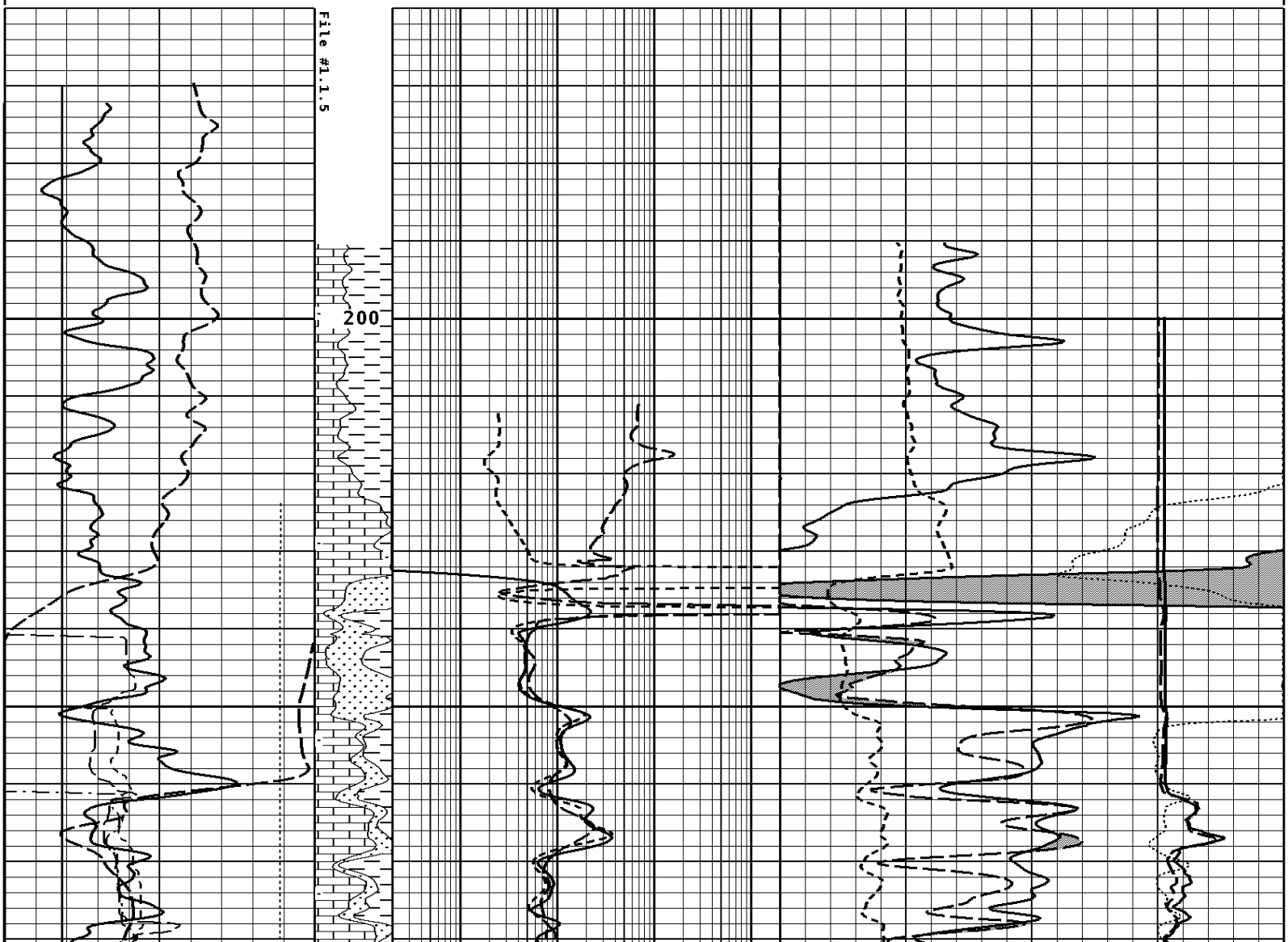
CALIPER MICRO
INCHES (IN)
16 26
6 16

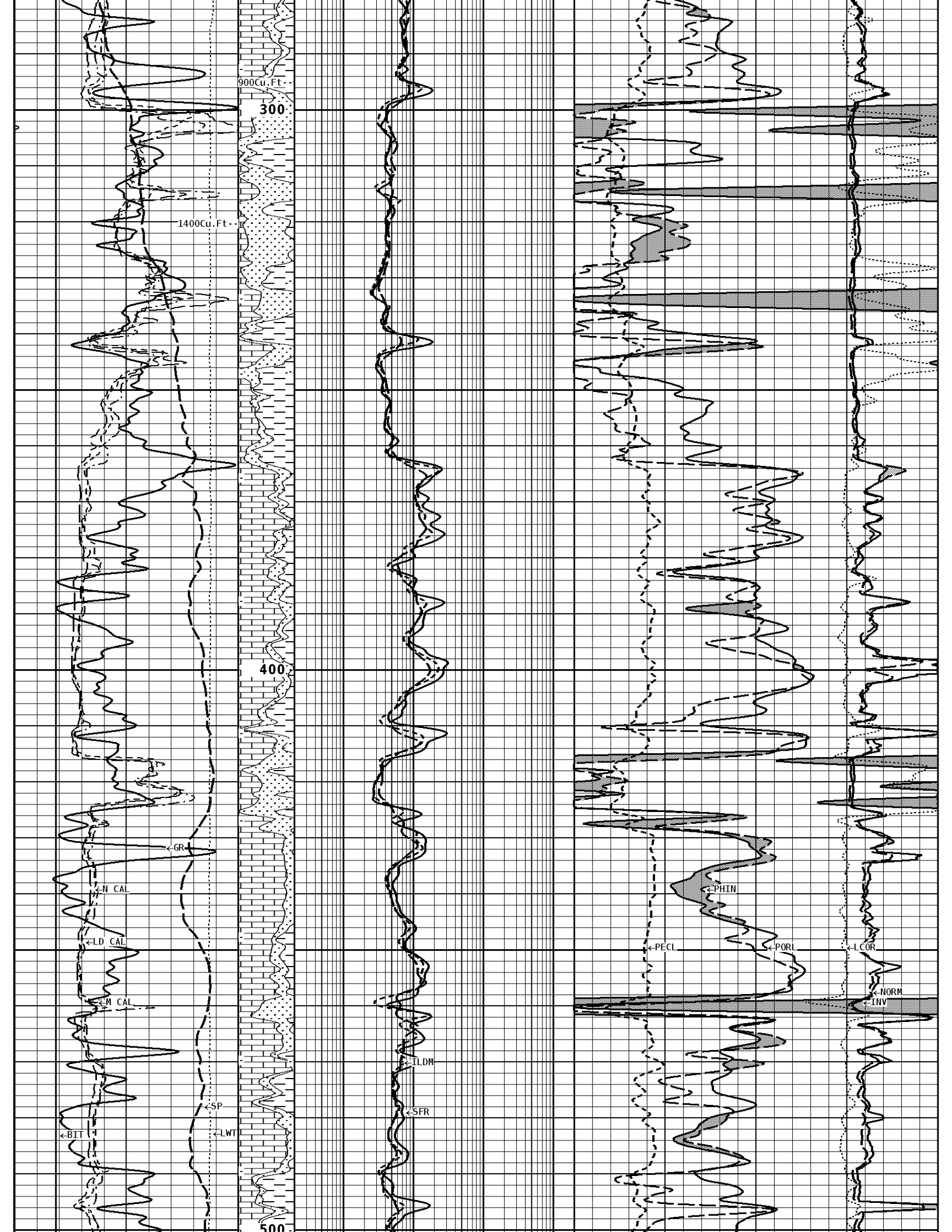
BIT SIZE
INCHES (IN)

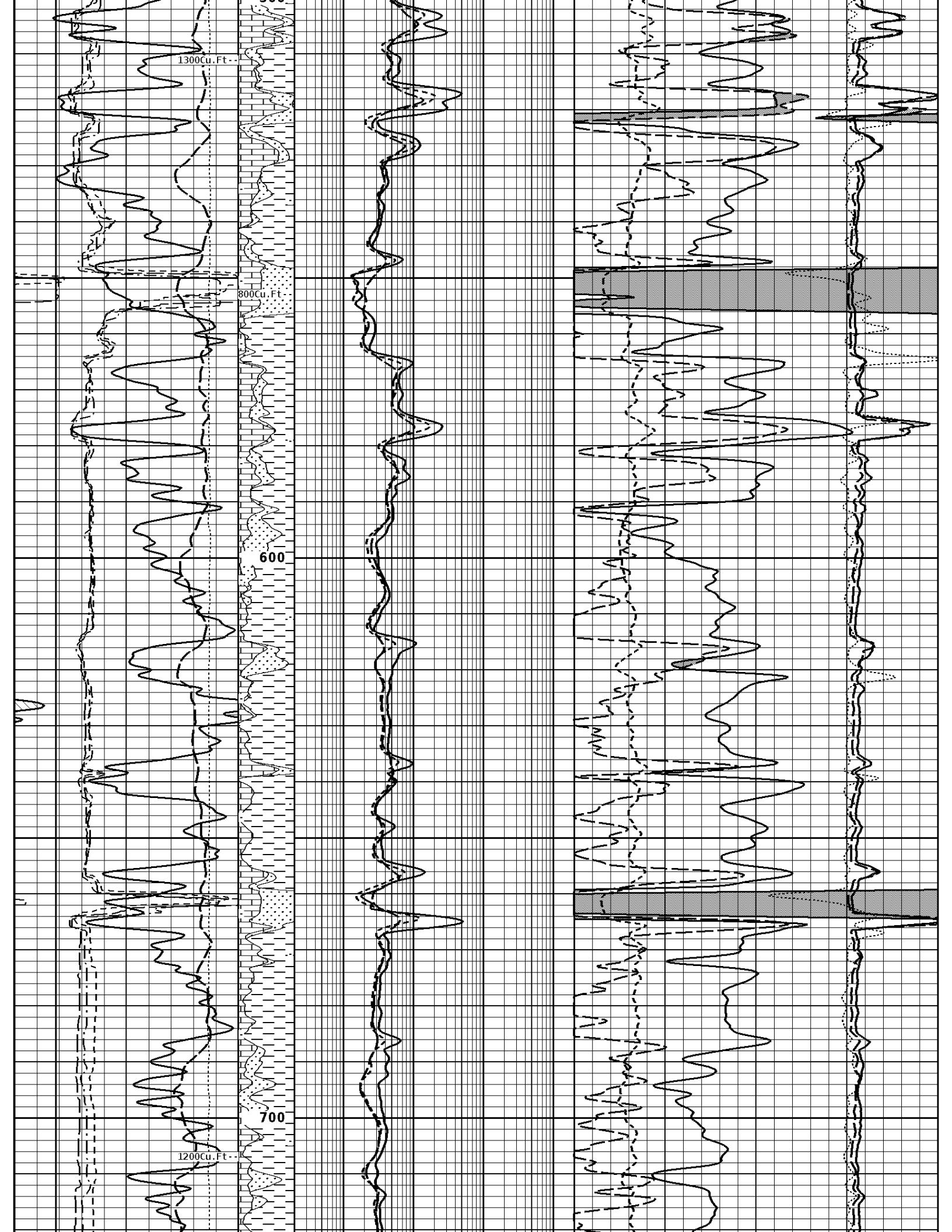
NORMAL
OHMM

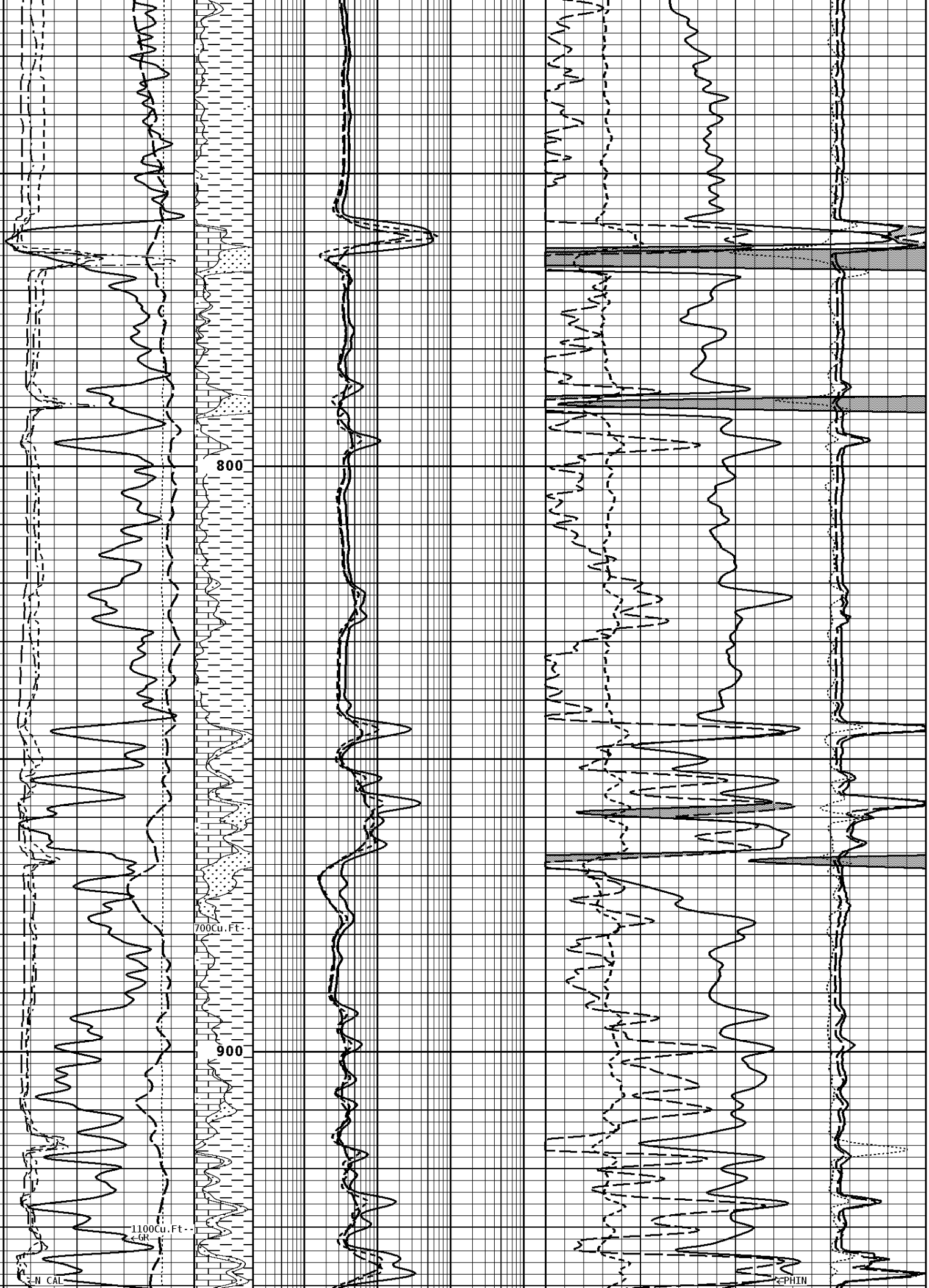
6 16			0 40
NEUTRON (Y) CALIPER INCHES (IN) 16 26 / 6 16			INVERSE OHMM 0 40
DENSITY (X) CALIPER INCHES (IN) 16 26 / 6 16	Volume Quartz		DENSITY CORRECTION G/CC -0.75 0.25
TENSION LBS 10000 0	Volume Calcite	SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0	PE CROSS-SECTION BARNS/ELECTRON 0 20
SPONTANEOUS POTENTIAL mV →| |←20	Volume Dolo/Shale	DEEP INDUCTION OHMM 0.2 2000.0	DENSITY POROSITY (2.71g/cc) PERCENT 70 30 / 30 -10 / -10 -50
GAMMA RAY API UNITS 150 300 / 0 150	-BHV AHV- CU.FT	MEDIUM INDUCTION OHMM 0.2 2000.0	NEUTRON POROSITY (LIMESTONE) PERCENT 30 -10

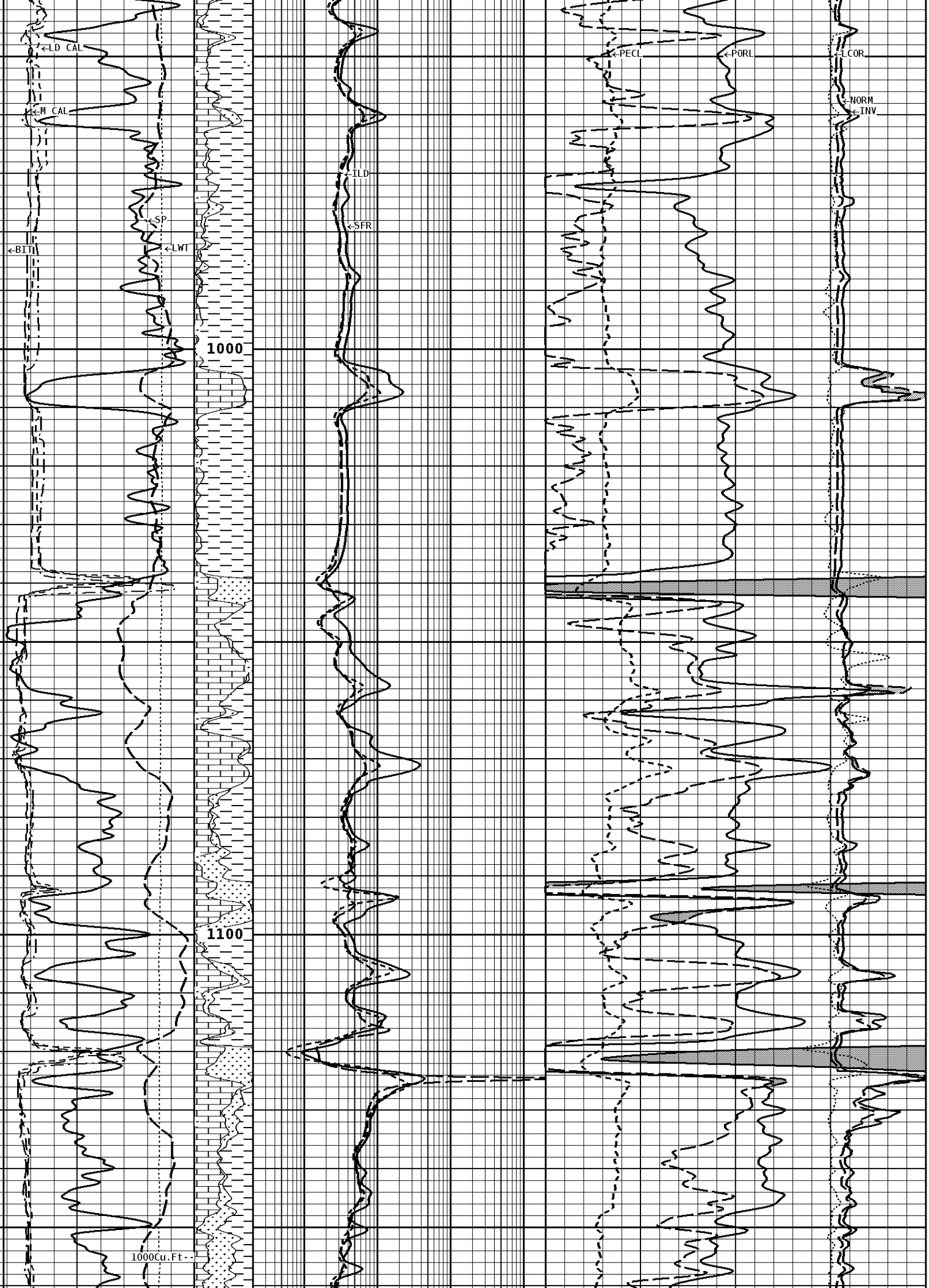
1:240 MAIN SECTION

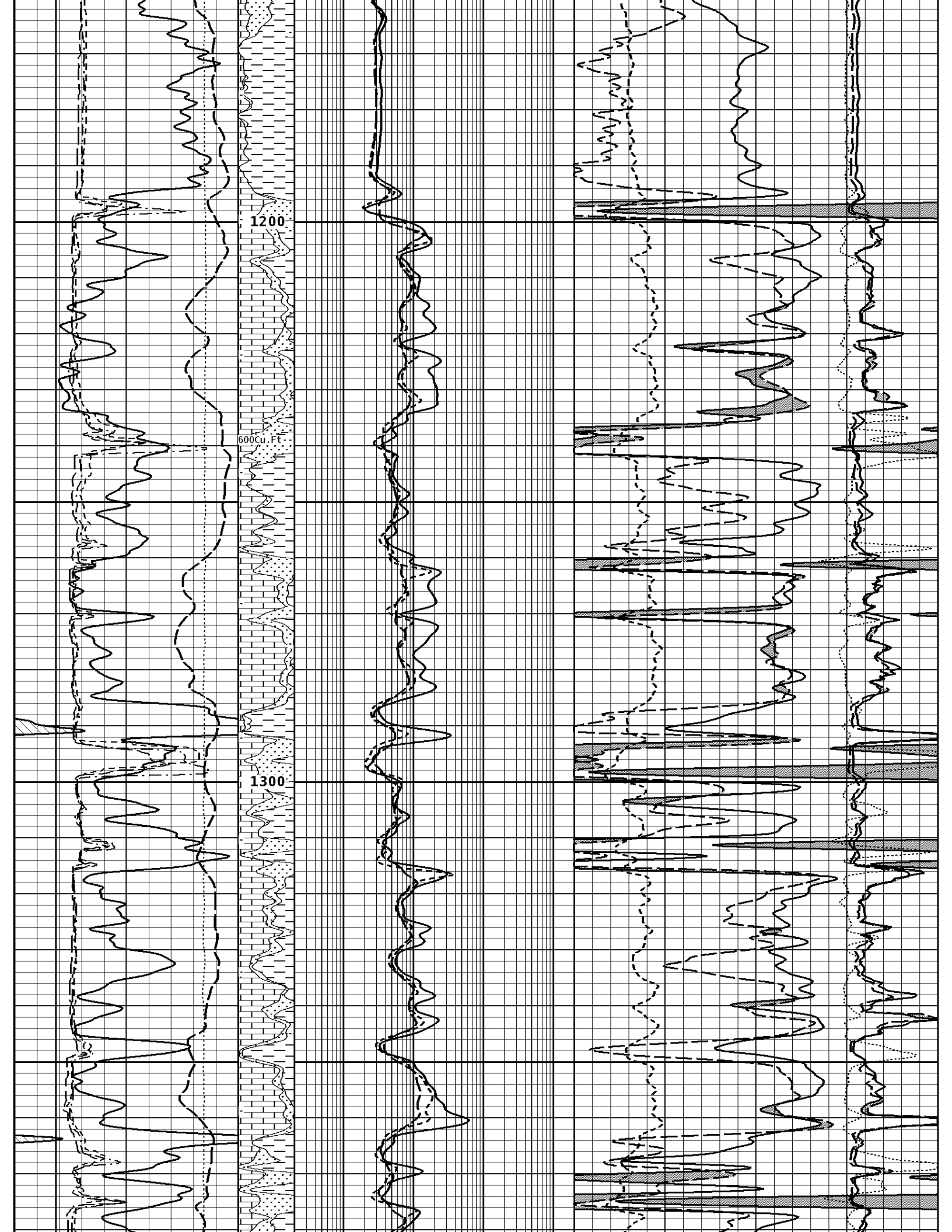


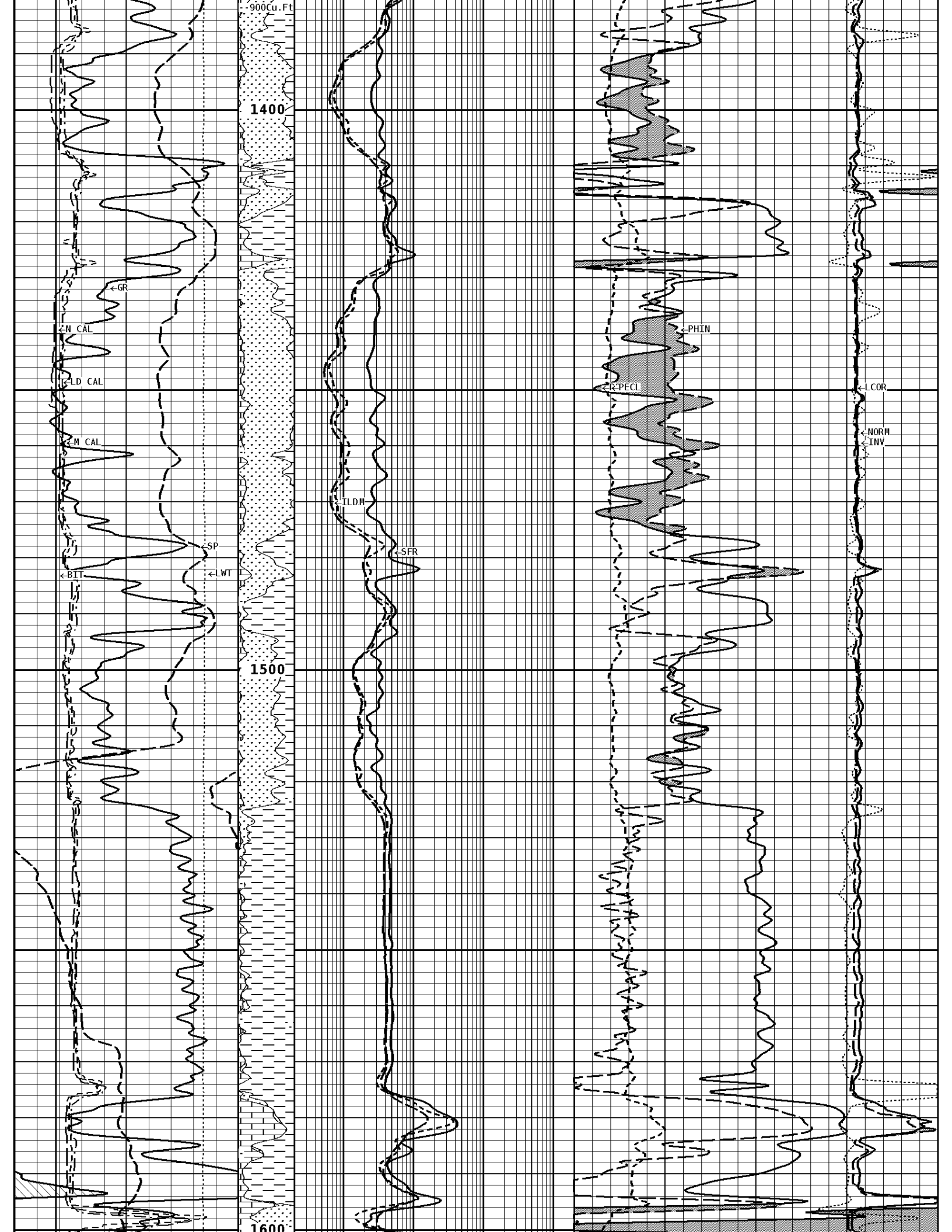

900Cu.Ft
300
1400Cu.Ft
400
GR
N CAL
LD CAL
M CAL
SP
BIT
LWT
ILDM
SFR
PHIN
PECL
PORL
LCOR
NORM
INV
500

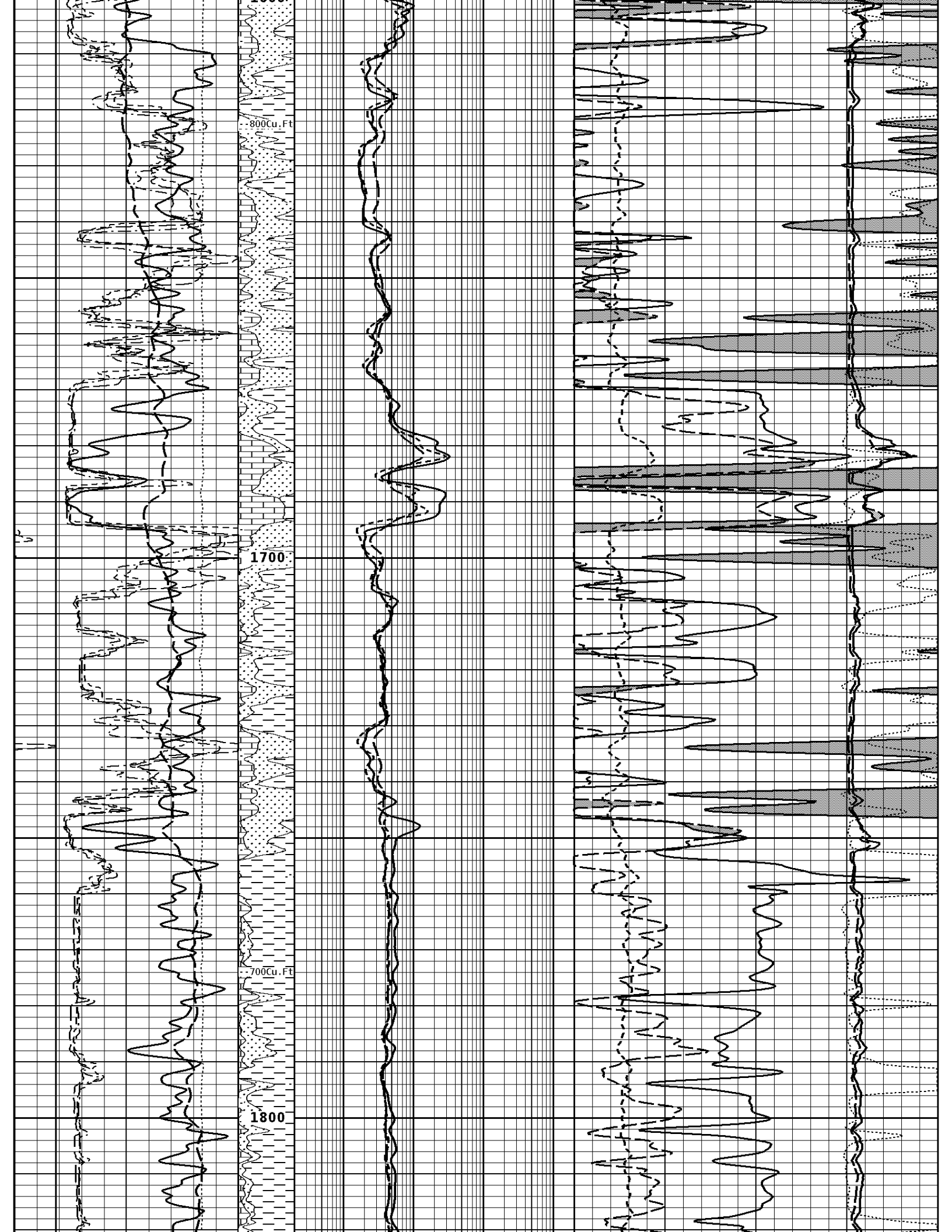

1300Cu.Ft.
800Cu.Ft.
600
700
1200Cu.Ft.

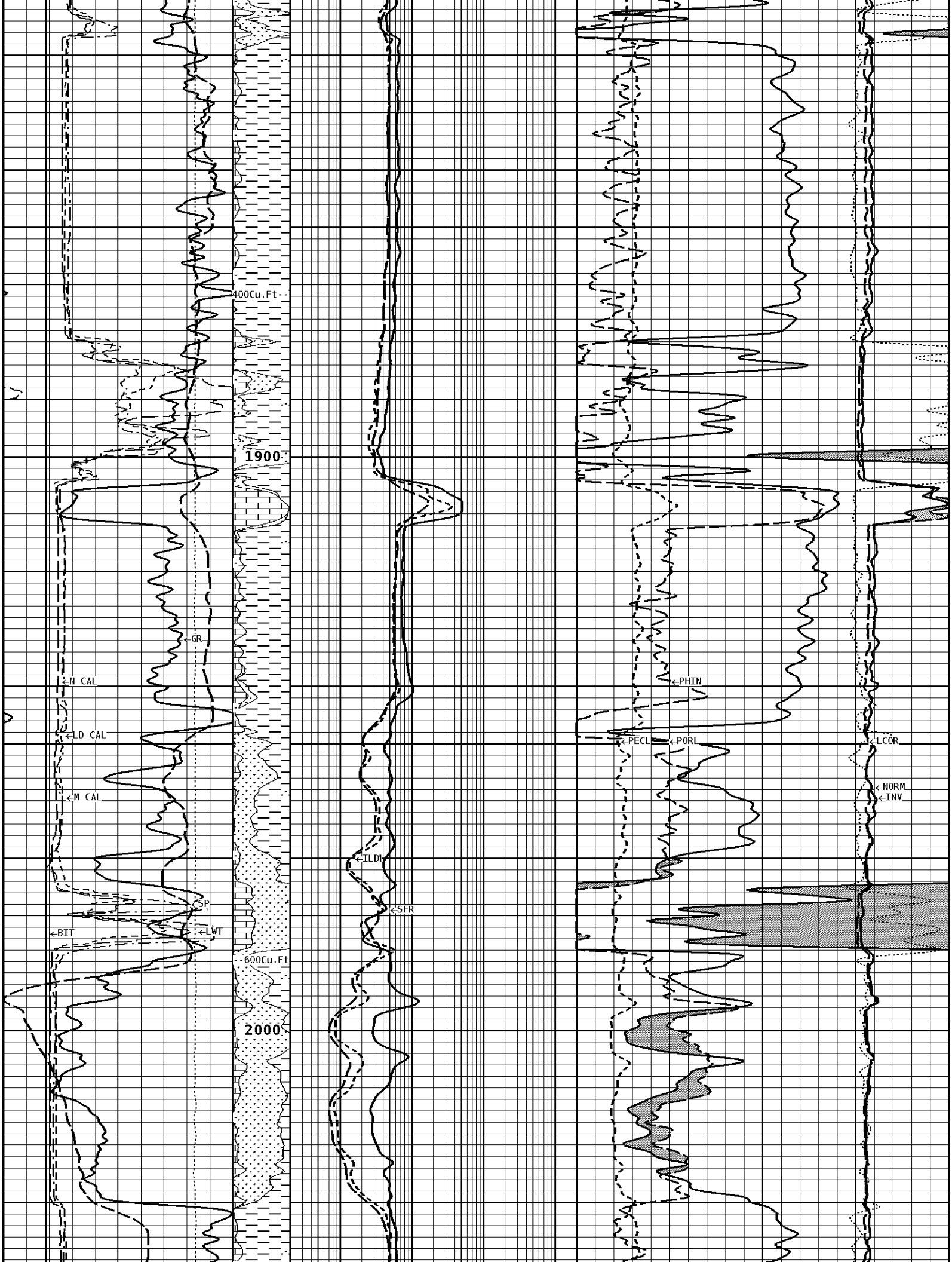

800
700Cu.Ft
900
1100Cu.Ft
GR
N CAL
PHIN


←LD CAL
←M_CAL
←SP
←BIT
←LWT
1000
1100
1000Cu.Ft--
←ILD
←SFR
←PECL
←PORL
←LCOR
←NORM
←INV


1200
600Cu. Ft.
1300

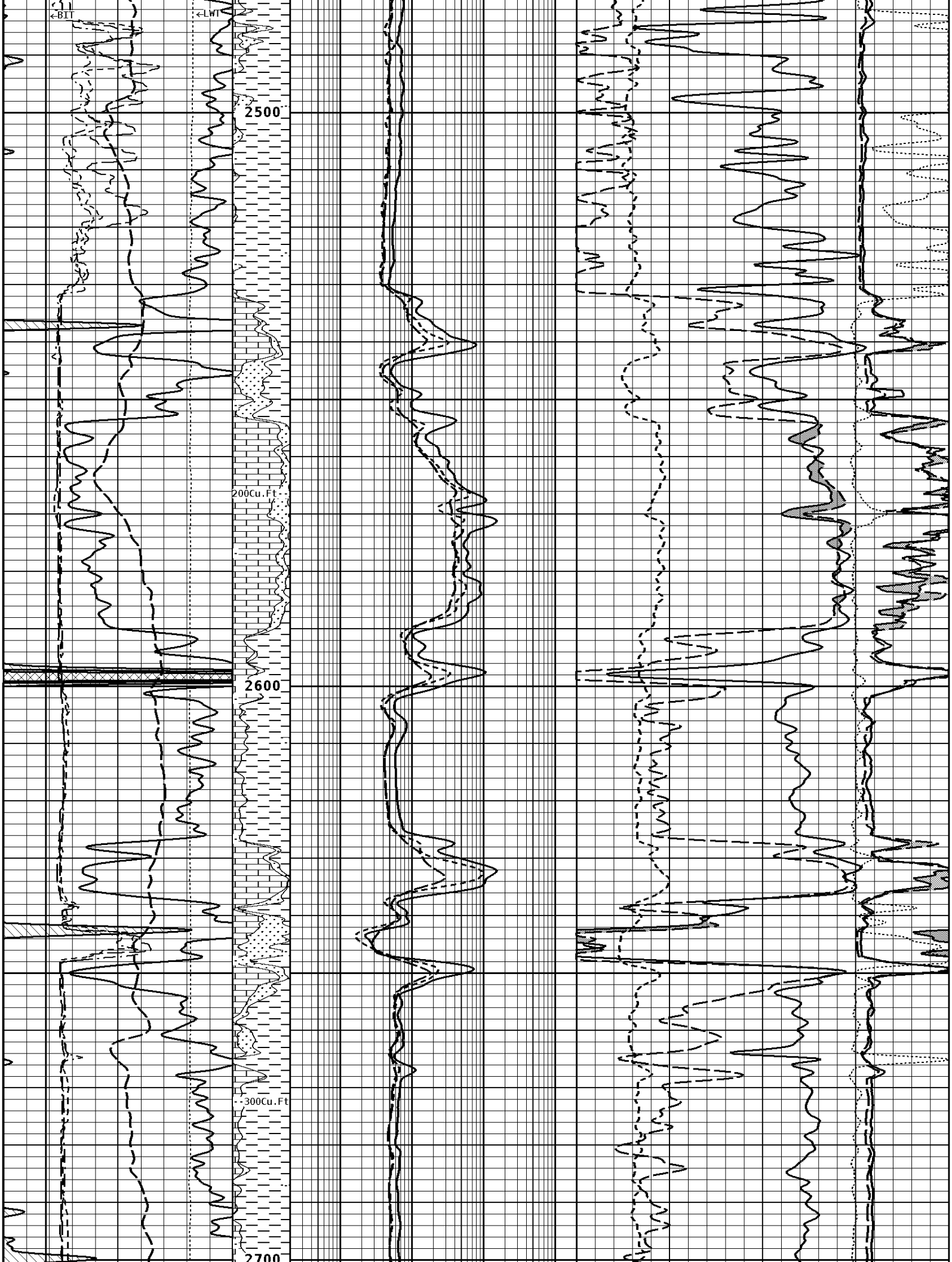

900Cu.Ft
1400
GR
N_CAL
LD_CAL
M_CAL
SP
BIT
LWT
1500
ILDM
SFR
PHIN
RHOBCL
LCOR
NORM
INV
1600

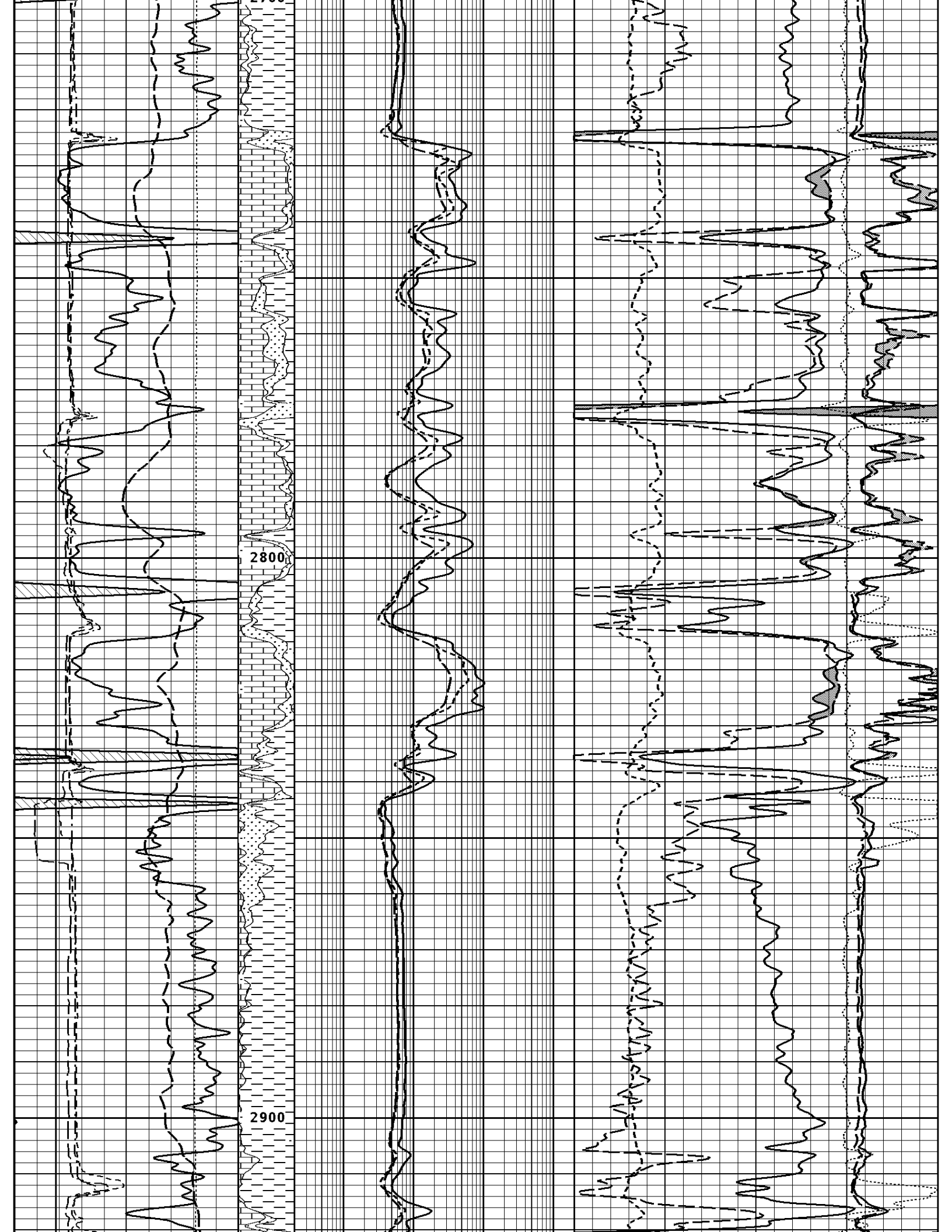

800Cu.Ft
1700
700Cu.Ft
1800

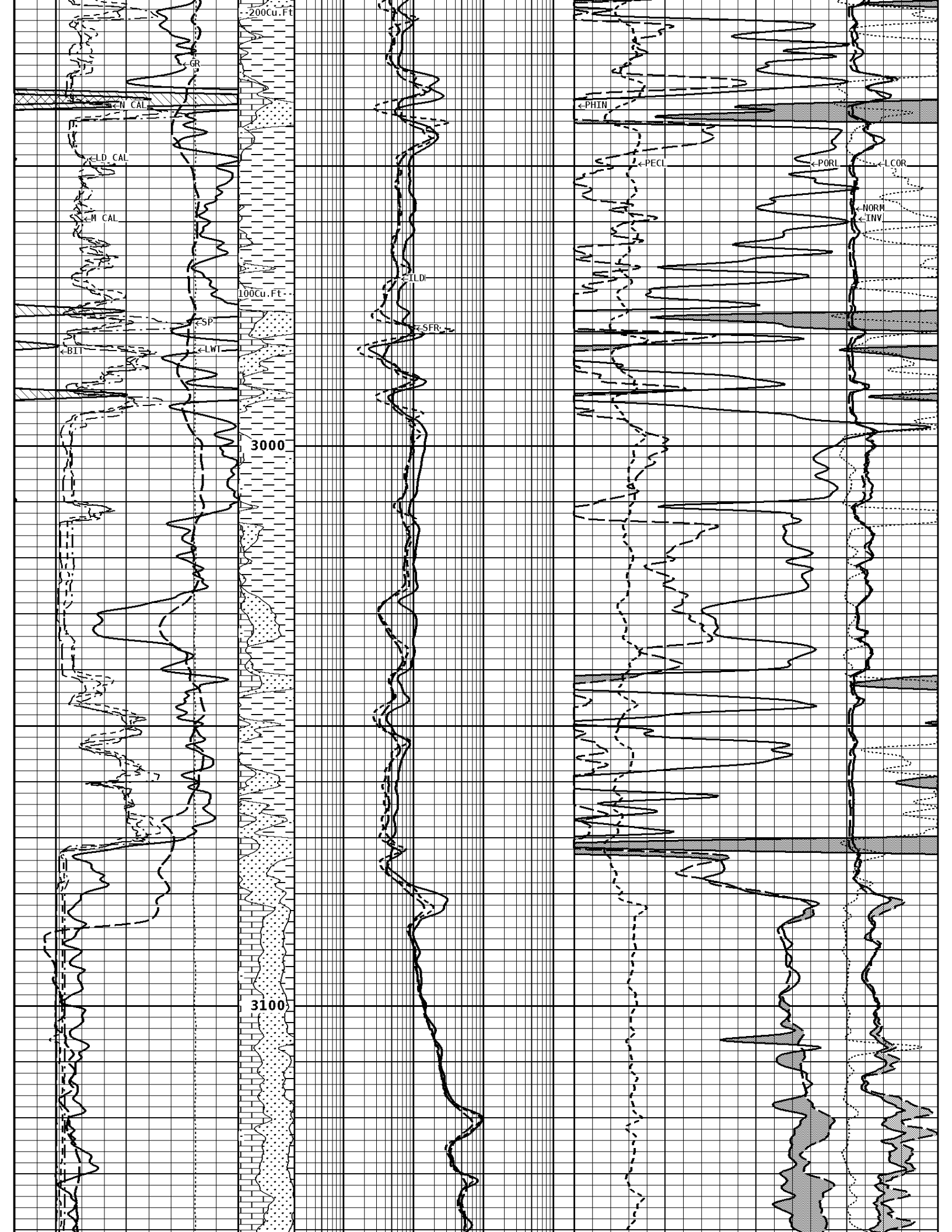

400Cu.Ft
1900
GR
N CAL
LD CAL
M CAL
SP
BIT
LWT
600Cu.Ft
2000
ILDI
SFR
PHIN
PECL
PORL
LCOR
NORM
INV

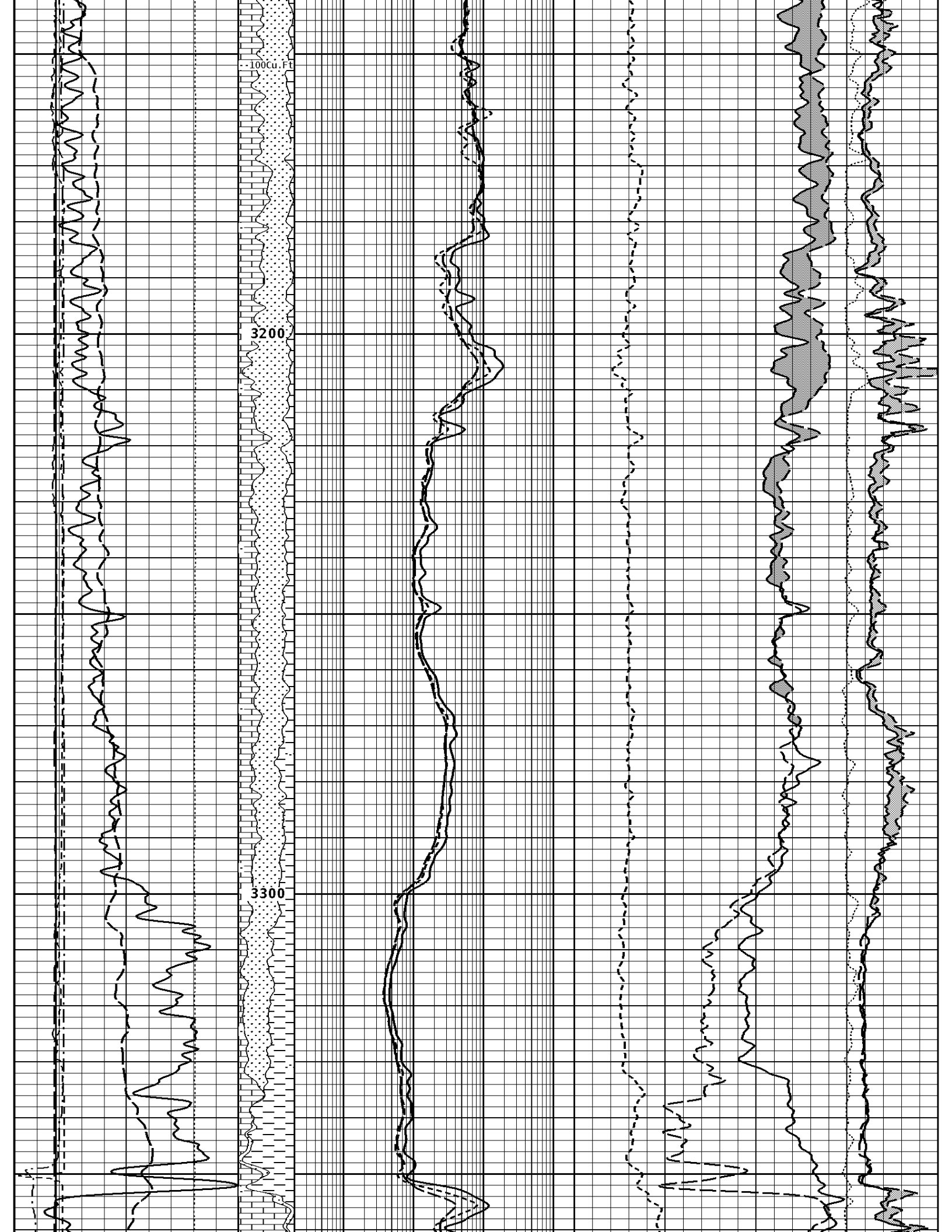

2100
2200
300Cu.Ft
500Cu.Ft

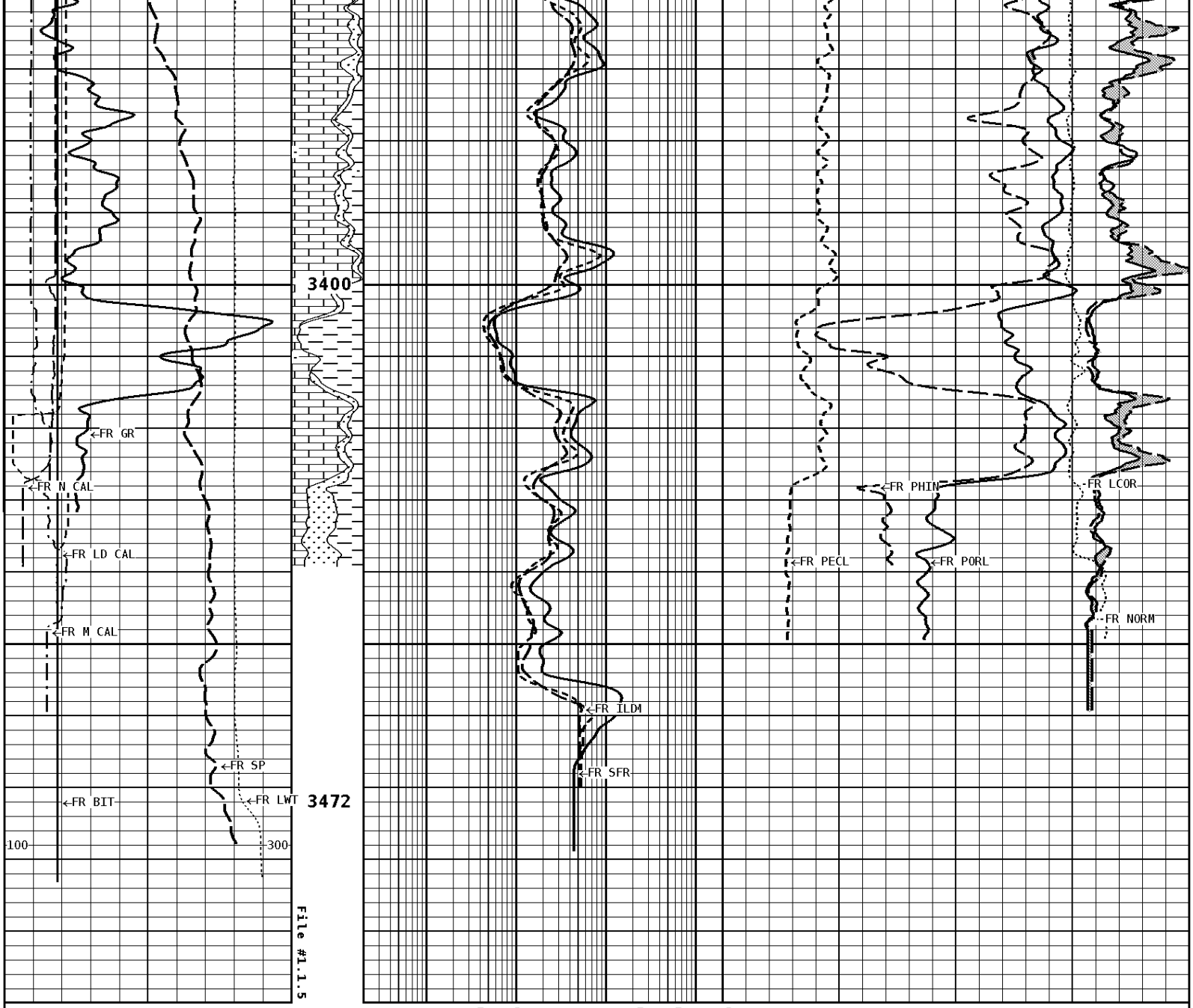

2300
2400
GR
N CAL
400Cu.Ft
LD CAL
M CAL
SP
ILDM
SFR
PHIN
PECL
PORL
LCOR
NORM
INV


←BIT
←LWT
2500
200Cu.Ft
2600
300Cu.Ft
2700


2800
2900

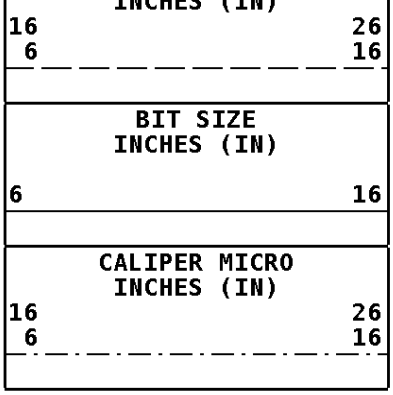

200Cu.Ft
GR
N CAL
LD CAL
M CAL
100Cu.Ft
SP
BIT
LWT
3000
3100
TLD
SFR
PHIN
PECL
PORL
LCOR
NORM
INV


100Cu.Ft
3200
3300



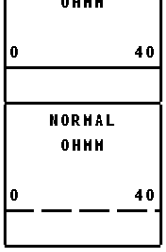
1:240 MAIN SECTION

GAMMA RAY **API UNITS** 150 300 0 150	-BHV AHV- CU.FT	**MEDIUM INDUCTION** **OHMM** 0.2 2000.0	**NEUTRON POROSITY (LIMESTONE)** **PERCENT** 30 -10
SPONTANEOUS POTENTIAL **mV** → ←20	Volume Dolo/Shale	**DEEP INDUCTION** **OHMM** 0.2 2000.0	**DENSITY POROSITY (2.71g/cc)** **PERCENT** 70 30 30 -10 -10 -50
TENSION **LBS** 10000 0	Volume Calcite	**SHALLOW FOCUSED RESISTIVITY** **OHMM** 0.2 2000.0	**PE CROSS-SECTION** **BARNS/ELECTRON** 0 20
DENSITY (X) CALIPER **INCHES (IN)** 16 26 6 16	Volume Quartz		**DENSITY CORRECTION** **G/CC** -0.75 0.25
NEUTRON (Y) CALIPER **INCHES (IN)**			**INVERSE**


INCHES (IN)
16
26
6
16

BIT SIZE
INCHES (IN)
6
16

CALIPER MICRO
INCHES (IN)
16
26
6
16


OHMM
0
40

NORMAL
OHMM
0
40