



PEL DENSITY MICRO LOG

Permanent Datum:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 2927.00	GRT MLT
Log Measured From:	KB	DF 2926.00	CNT CST
Above Permanent Datum:	12.00 Ft	GL 2915.00	LDT PIT

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Run Number	1		
Date	02-21-2020		
Date/Time On Bottom	02-21-2020 00:45		
Depth to Fluid	0.0 Ft		
Salinity	1250.000		
RMF@BHT	0.570 @ 135 F		
RMC@BHT	0.770 @ 135 F		

Comments

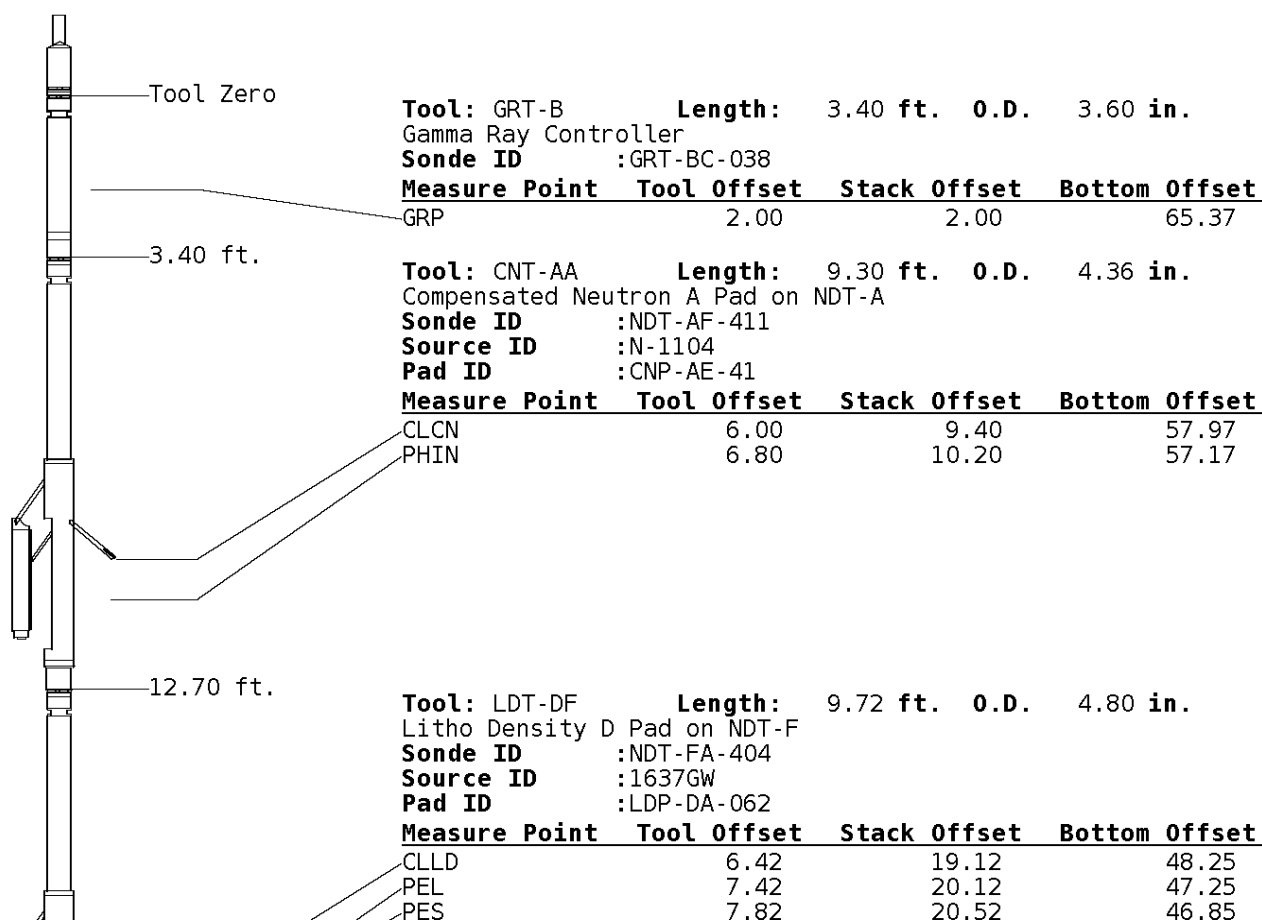
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, CST, MLT AND PIT RUN IN COMBINATION
 CALIPERS ORIENTED ON X-Y AXIS
 2.71 G/CC USED TO CALCULATE POROSITY
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
 PHIN IS CALIPER CORRECTED

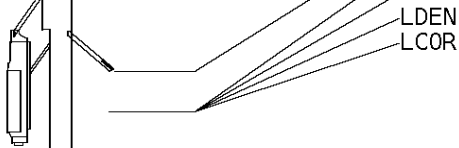
GRT: GRP
 CNT: PHIN, CLCNIN,
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN
 CST: PORS, CDTF, TTIPF, TT2PF, TT3PF, TT4PF, ITT
 MLT: NOR_RF, INV_RF, MSCLPIN
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:
 D. RAGSDALE
 J. VAUGHN
 D.LEGLEITER

Tool String Schematic

Total Tool Length - 67.37 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 1171.00 lbs.



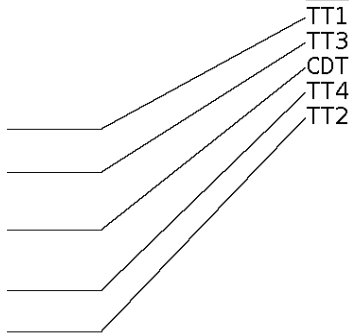


7.62	20.32	47.05
7.62	20.32	47.05

22.42 ft.

Tool: CST-AD **Length:** 13.80 ft. **O.D.** 3.60 in.
Open Hole Sonic
Sonde ID : CST-AB-21

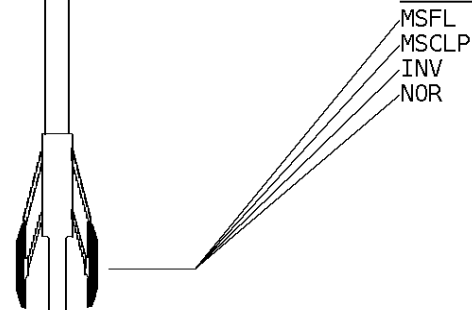
Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	27.22	40.15
TT3	5.80	28.22	39.15
CDT	7.30	29.72	37.65
TT4	8.80	31.22	36.15
TT2	9.80	32.22	35.15



36.22 ft.

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
Micro Spherically Focused (IC)
Sonde ID : MST-DA-13

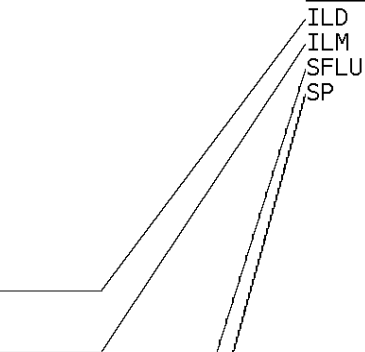
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	43.82	23.55
MSCLP	7.60	43.82	23.55
INV	7.60	43.82	23.55
NOR	7.60	43.82	23.55



45.88 ft.

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
Phased Dual Induction w/ RM & D
Sonde ID : PIT-AC-043

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	54.80	12.56
ILM	10.10	55.98	11.39
SFLU	17.49	63.37	4.00
SP	20.60	66.48	0.88



LWT 67.37 ft.

Well File: MERIT_DRUSSEL_A-11_FEB_20_QUINT

Segment: V1.D1.S6 MAIN

Reference: 0

Scale: 1:240

Format: NLD-240

Acquired: 2020-02/21 01:21 3.4.1-13972

Processed: 2020-02/21 03:32 3.4.1-13972

CALIPER MICRO
INCHES (IN)

16 26
6 16

BIT SIZE
INCHES (IN)

6 16

NEUTRON (Y) CALIPER
INCHES (IN)

16 26
6 16

DENSITY (X) CALIPER
INCHES (IN)

16 26
6 16

TENSION
LBS

10000 0

GAMMA RAY
API UNITS

150 300
0 150

Volume
Quartz

PE CROSS-SECTION
BARNES/ELECTRON

DENSITY CORRECTION
G/CC

0 10 -0.25 0.25

Volume
Calcite

DENSITY POROSITY (2.71g/cc)
PERCENT

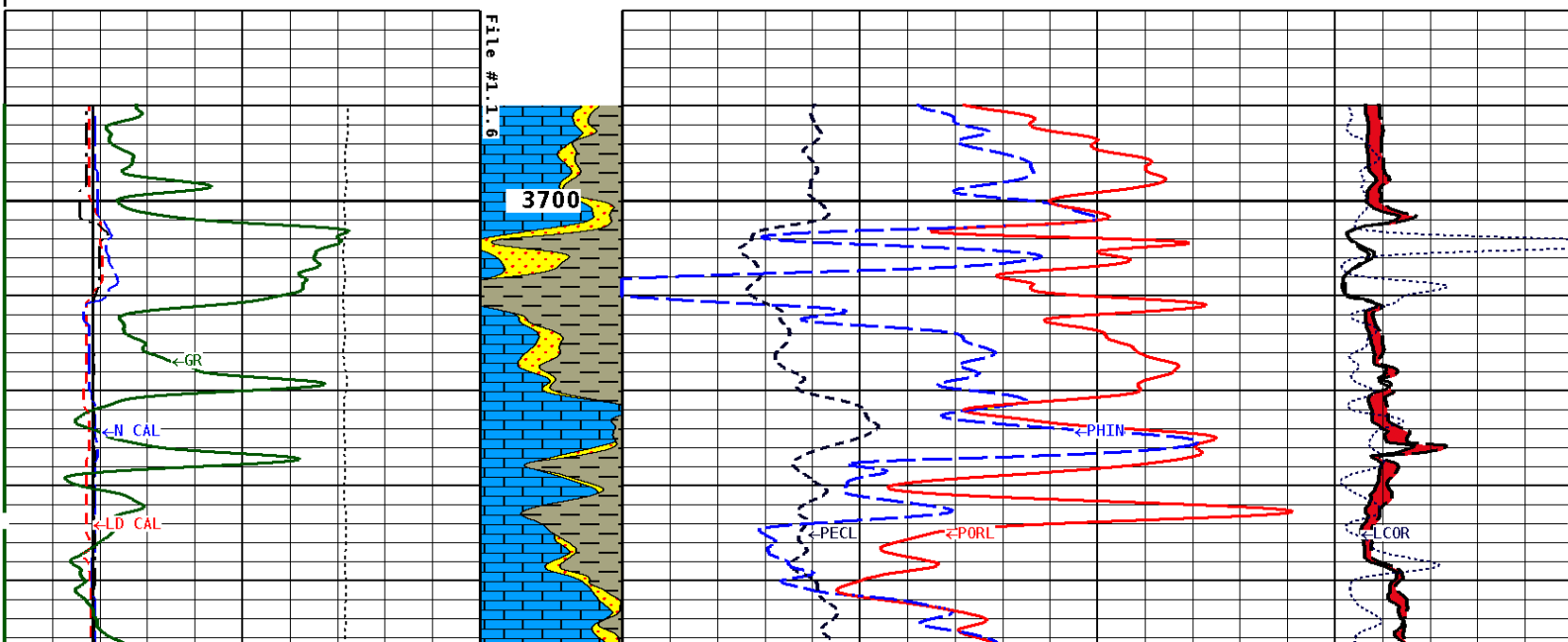
70 30
30 -10
-10 -50

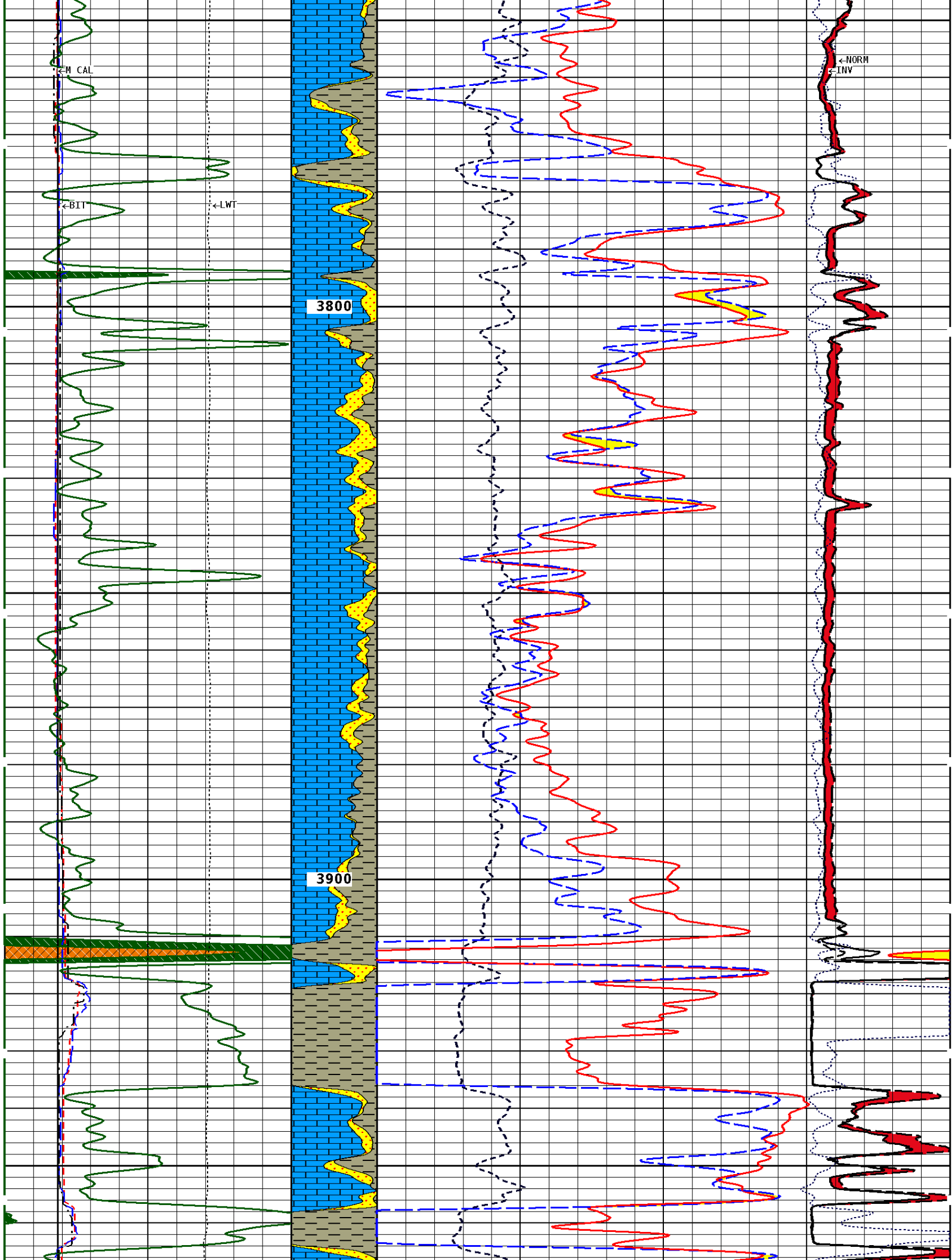
Volume
Dolo/Shale

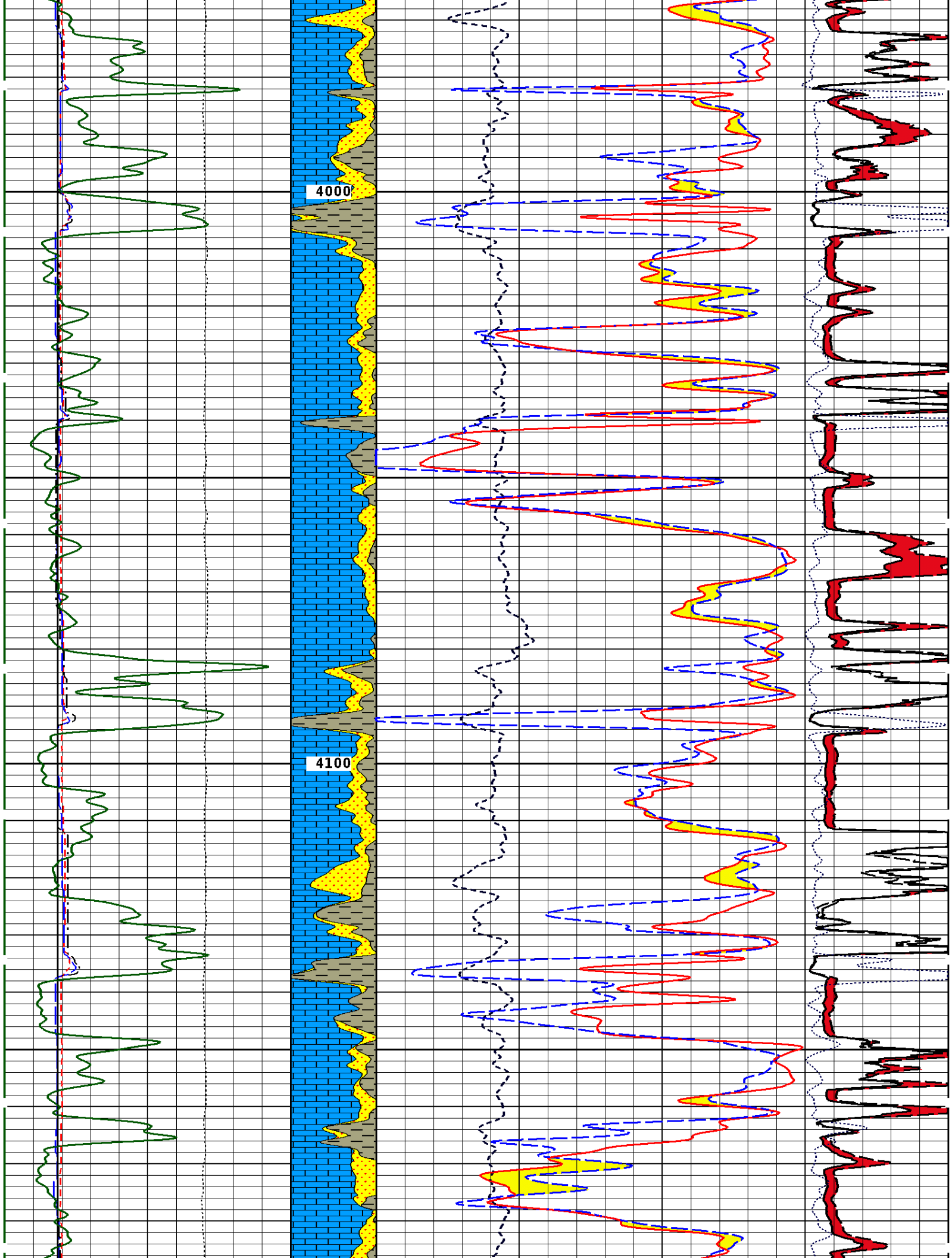
NEUTRON POROSITY (LIMESTONE)
PERCENT

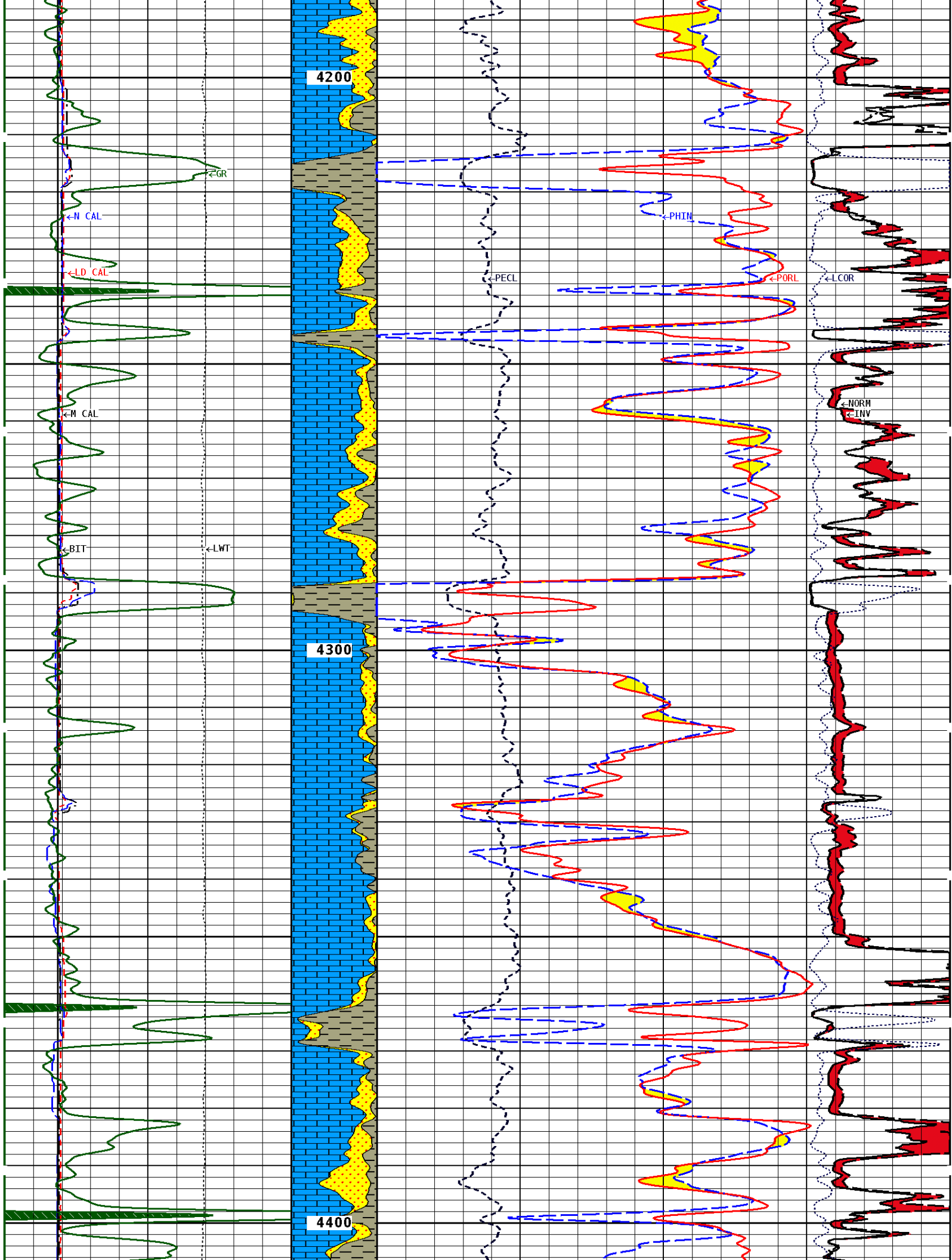
30 -10

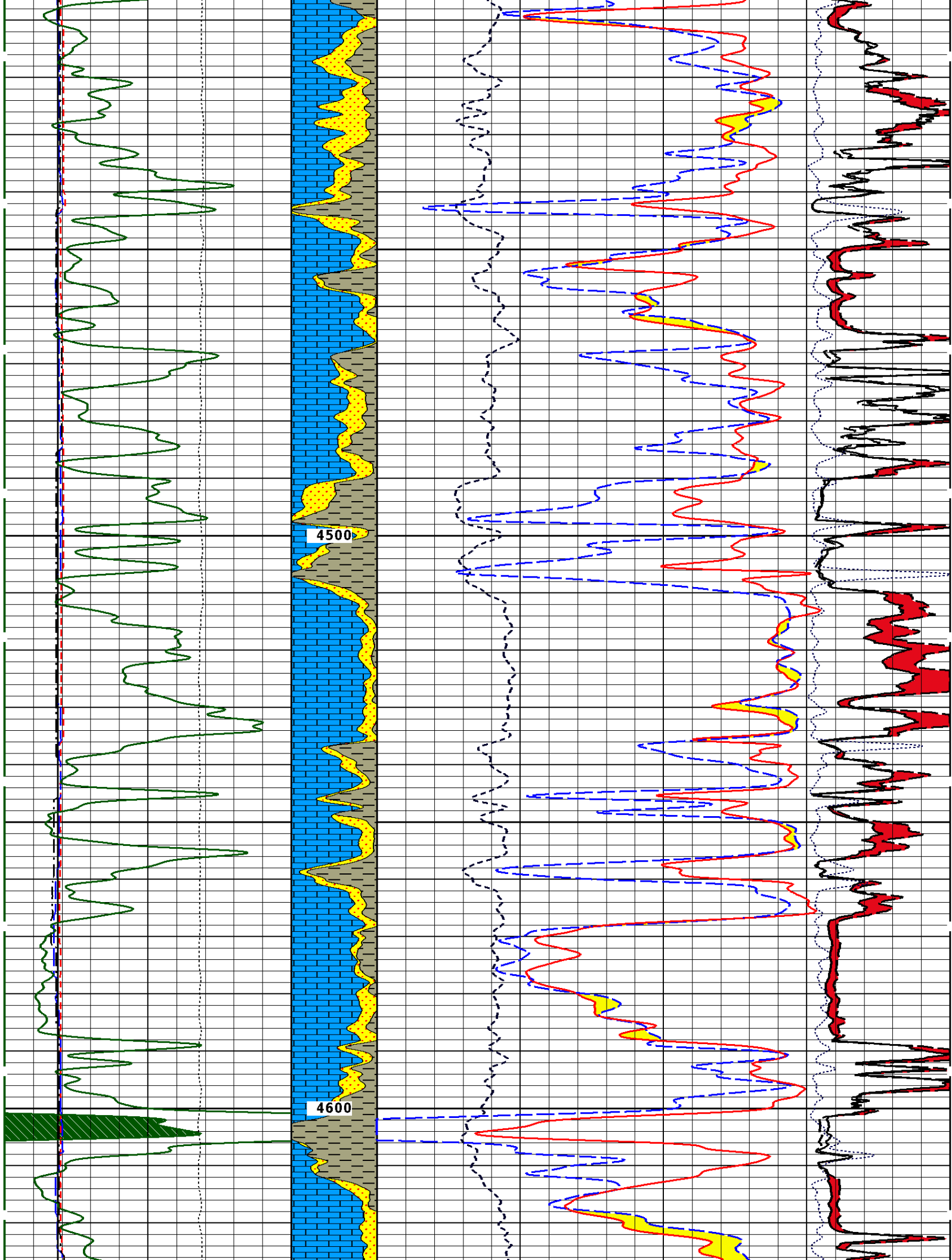
1:240 MAIN SECTION

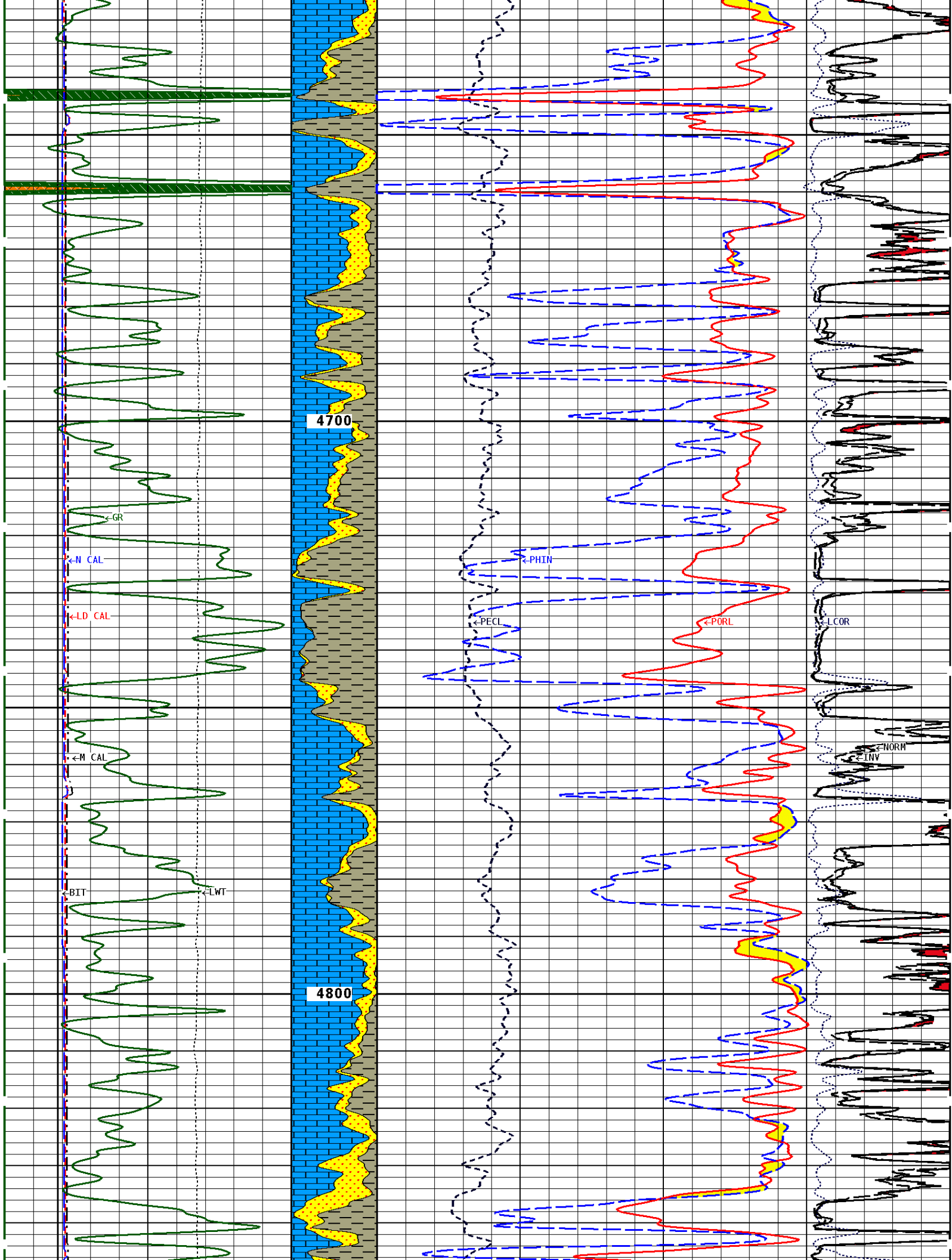


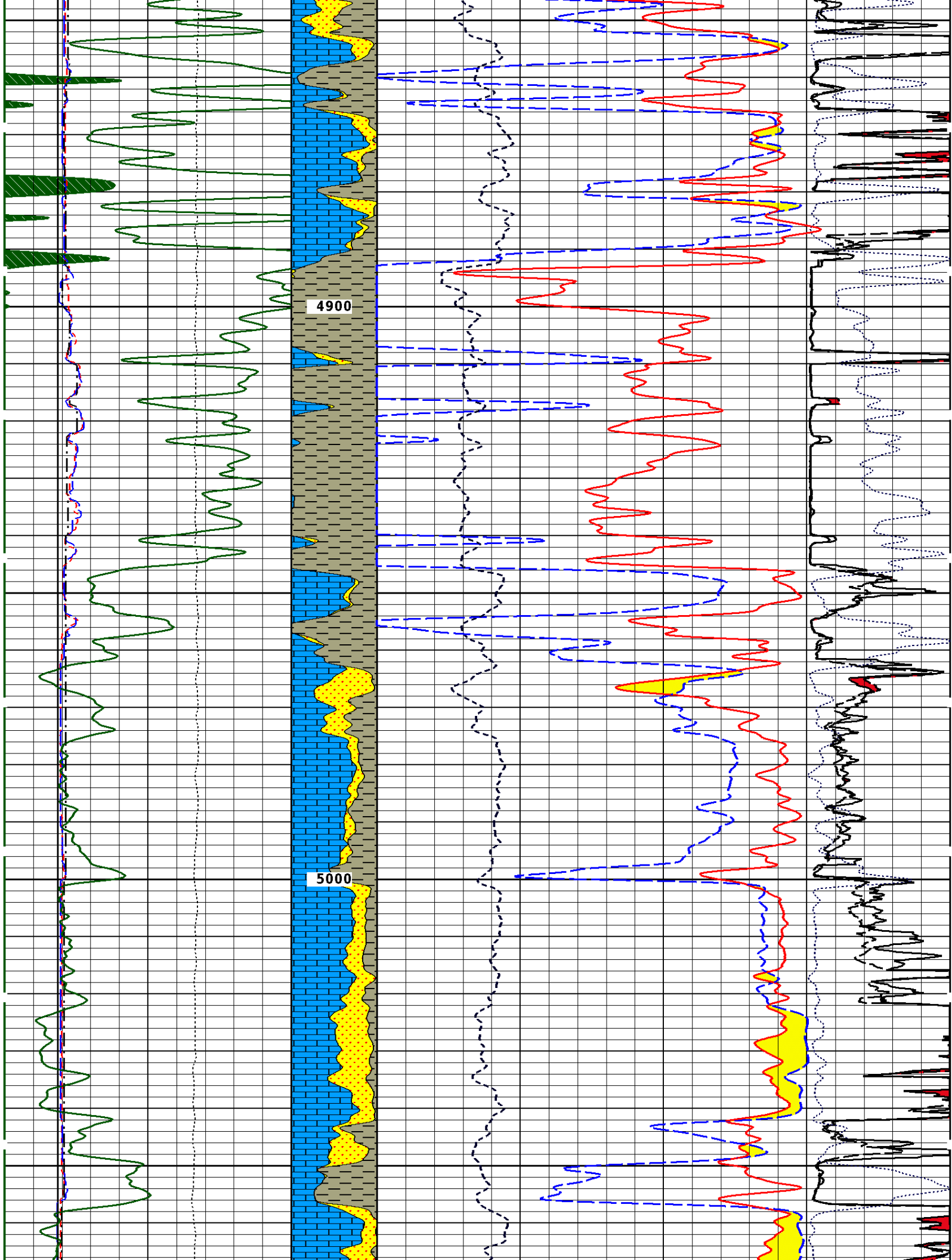


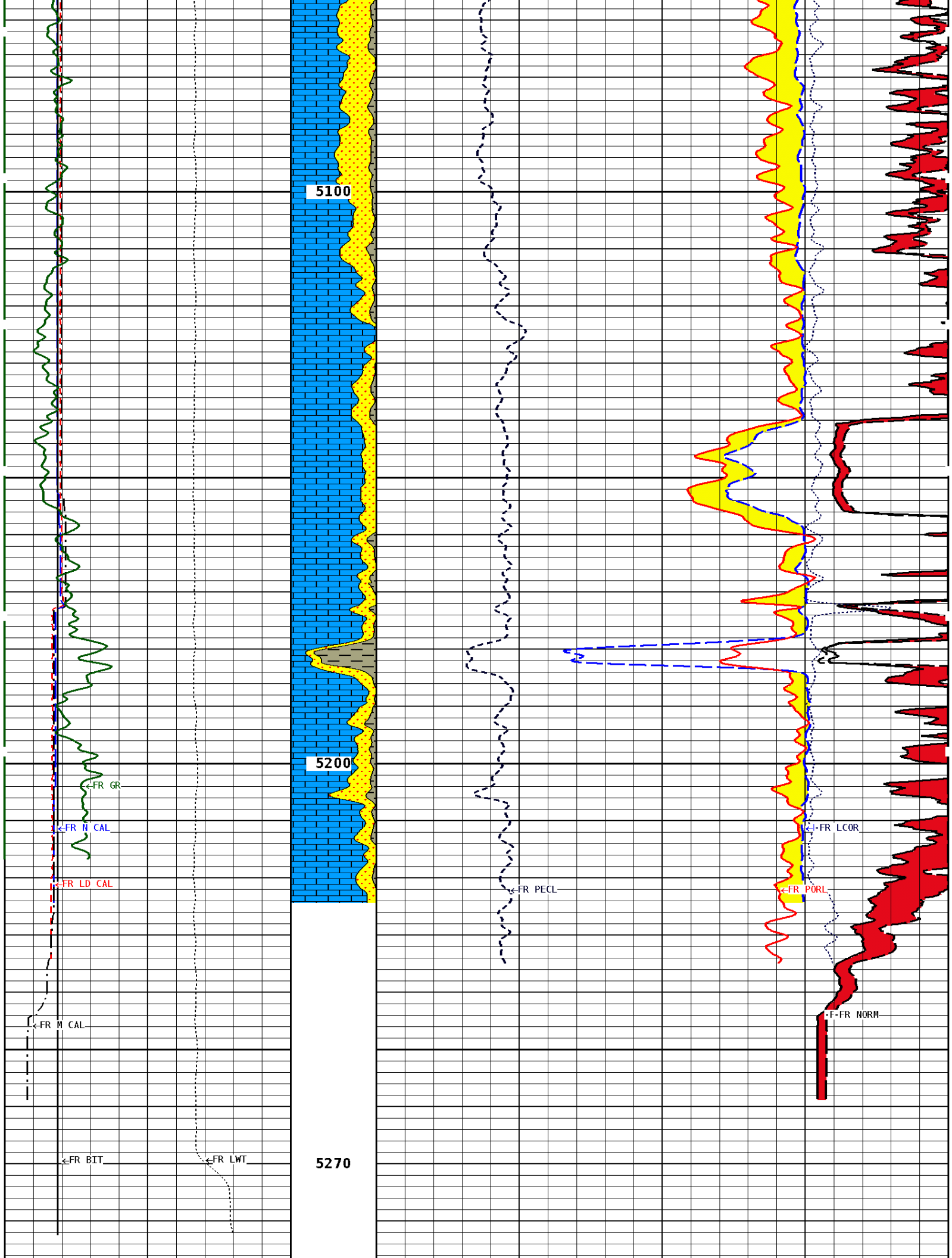


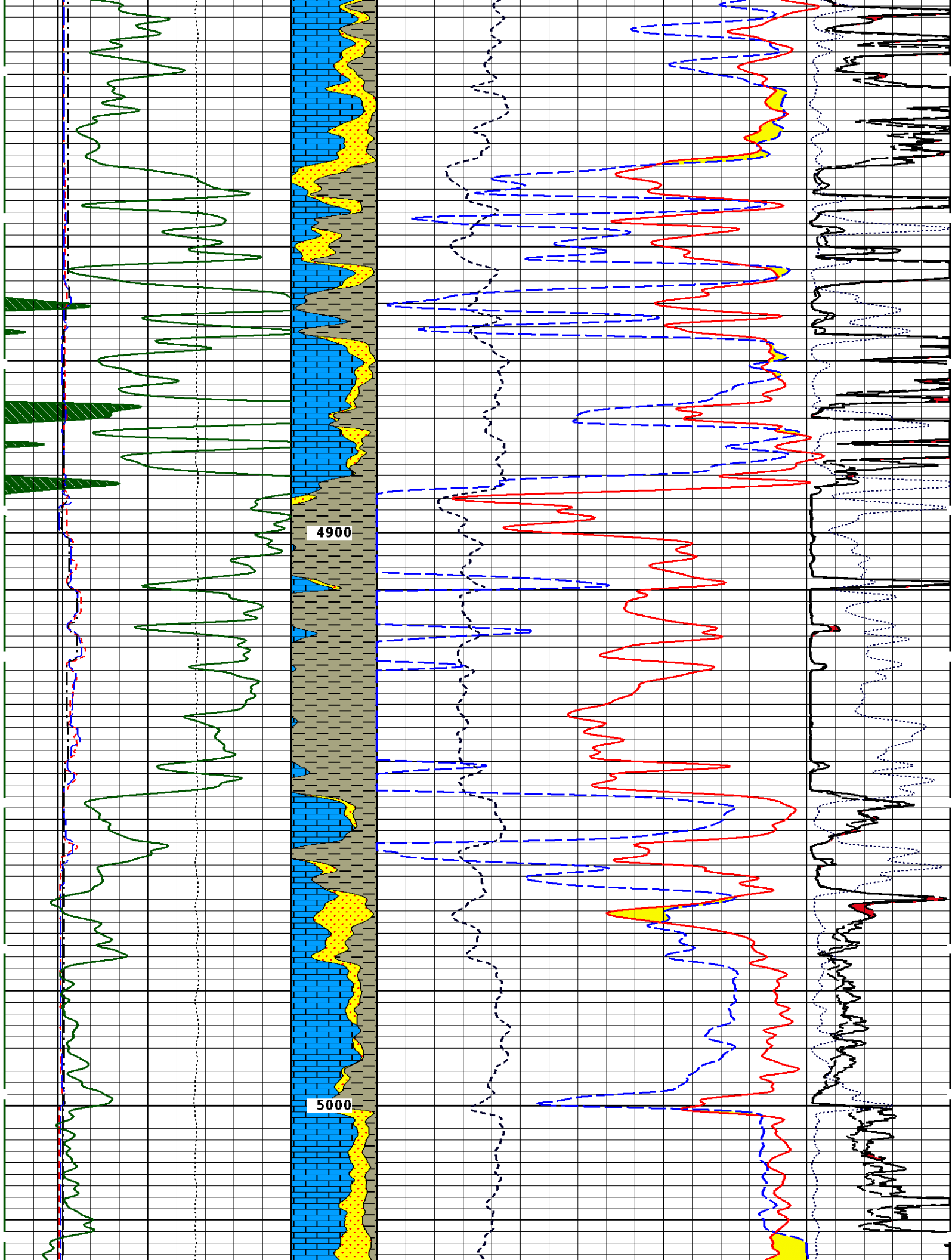


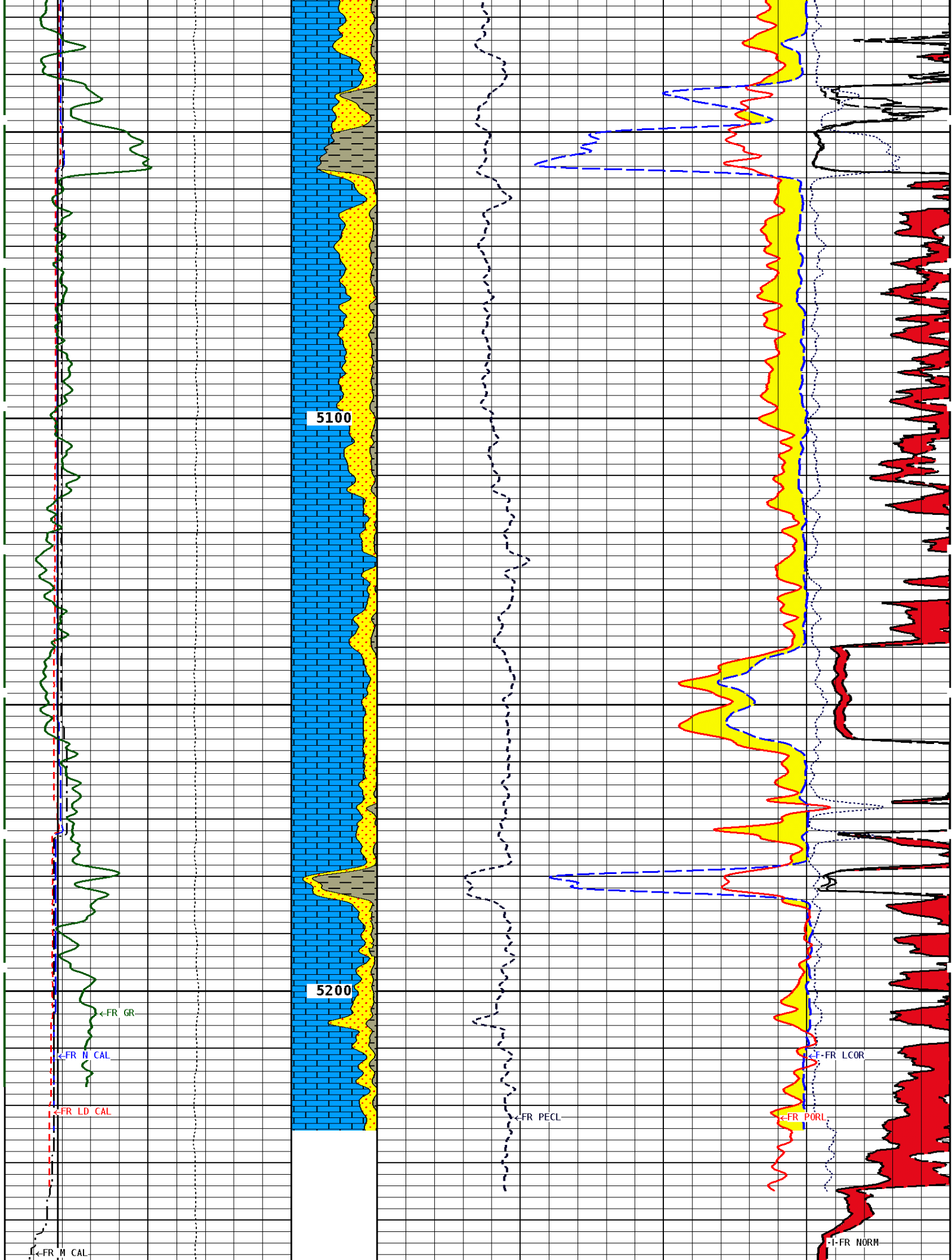


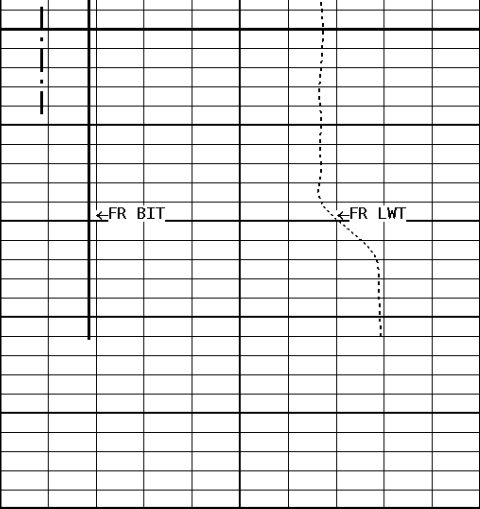












5269

File #1.1.4

1:240 REPEAT SECTION

GAMMA RAY API UNITS		Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT	
150 0	300 150		30	-10
TENSION LBS		Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT	
10000	0		70 30 -10	30 -10 -50
DENSITY (X) CALIPER INCHES (IN)		Volume Quartz	PE CROSS-SECTION BARNs/ELECTRON	DENSITY CORRECTION G/CC
16 6	26 16		010	-0.250.25
NEUTRON (Y) CALIPER INCHES (IN)				
16 6	26 16			
BIT SIZE INCHES (IN)				
6	16			
CALIPER MICRO INCHES (IN)				
16 6	26 16			

* 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 Thickness		0.250	in
Casing Correction (PHI N)		Disable	

Well File: MERIT DRUSSEL A-11 FEB 20 QUINT	Scale: 1:240	Format: LDT-240
Segment: V1.D1.S6 MAIN	Acquired: 2020-02/21 01:21 3.4.1-13972	
Reference: 0	Processed: 2020-02/21 03:32 3.4.1-13972	

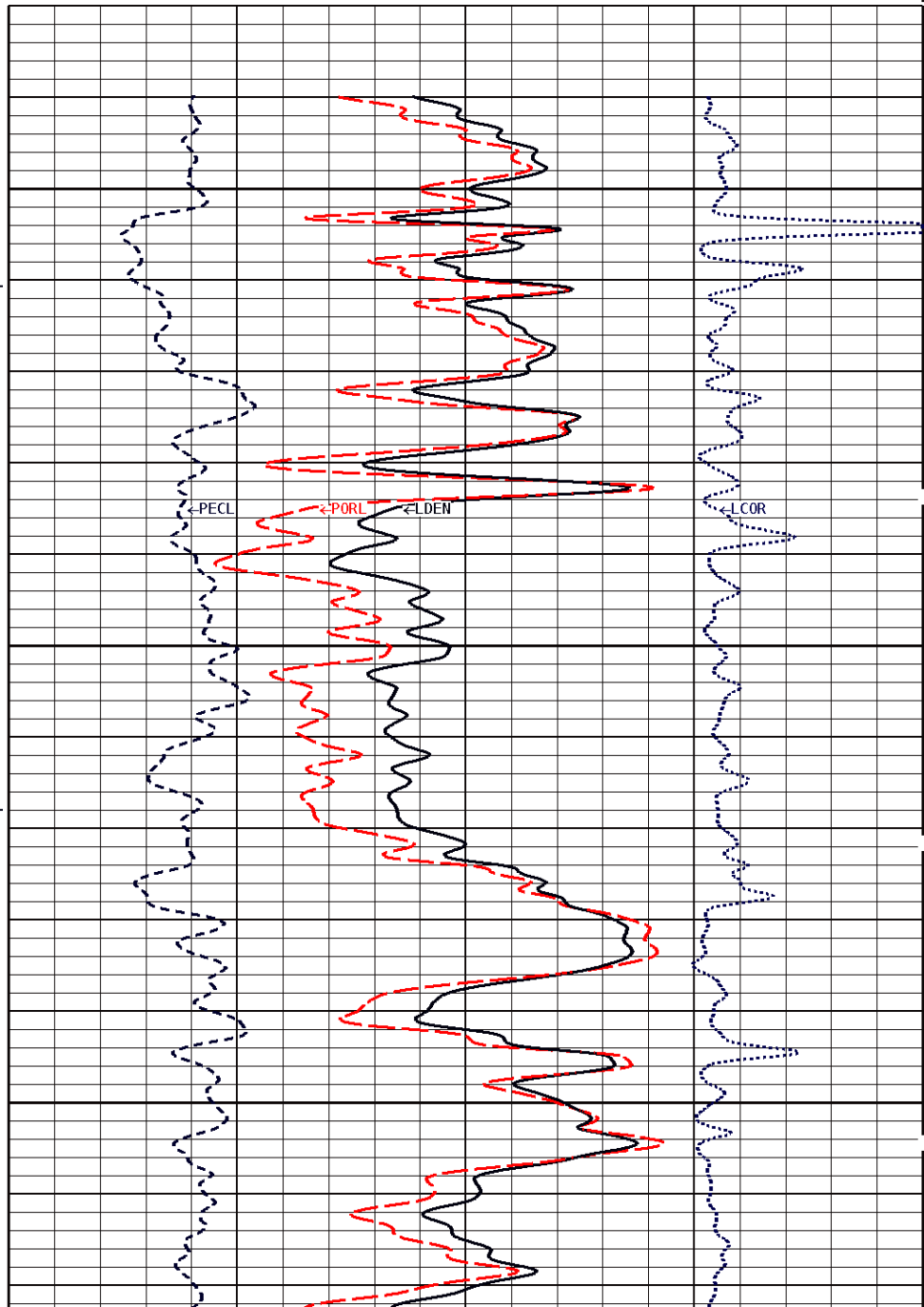
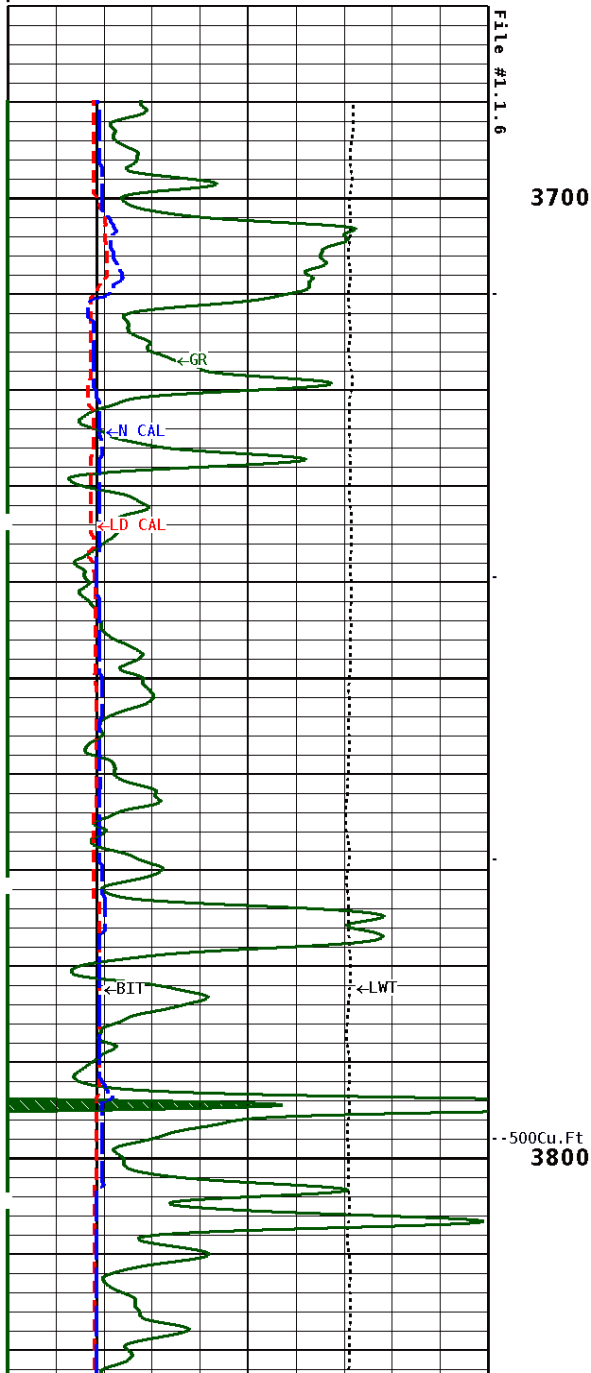
BIT SIZE INCHES (IN)	
6	16

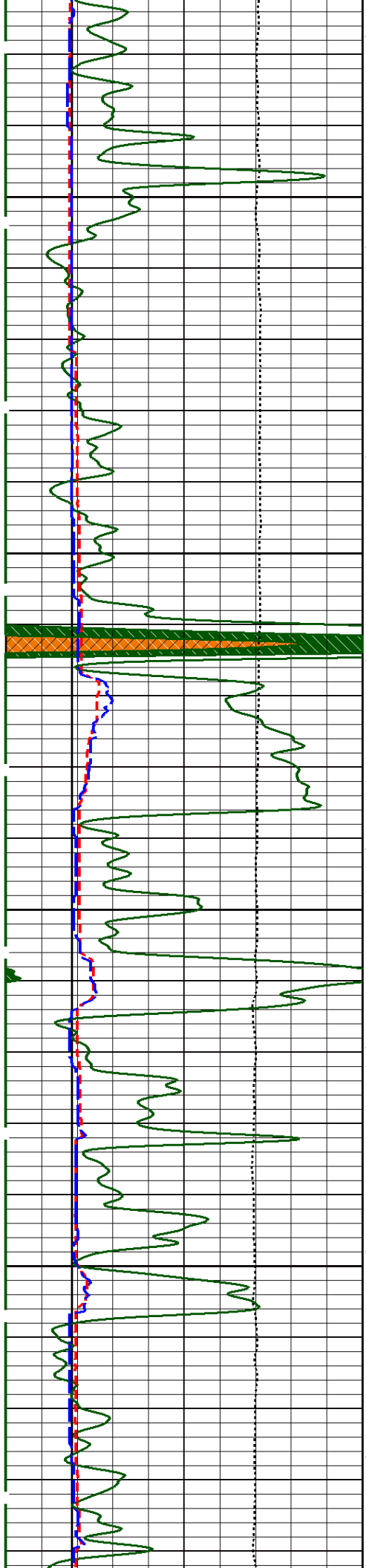
NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16
TENSION LBS	
10000	0
GAMMA RAY API UNITS	
150	300
0	150

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

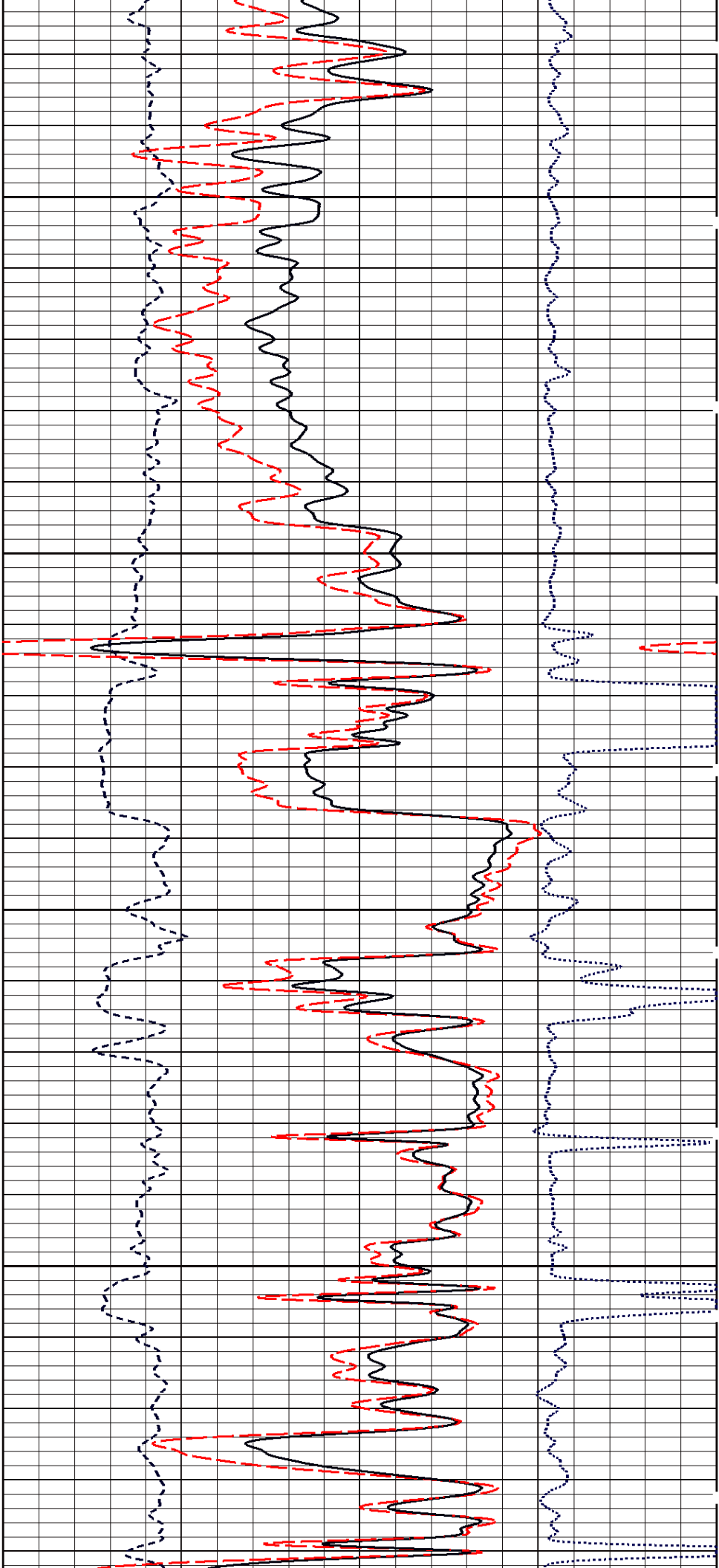
BULK DENSITY

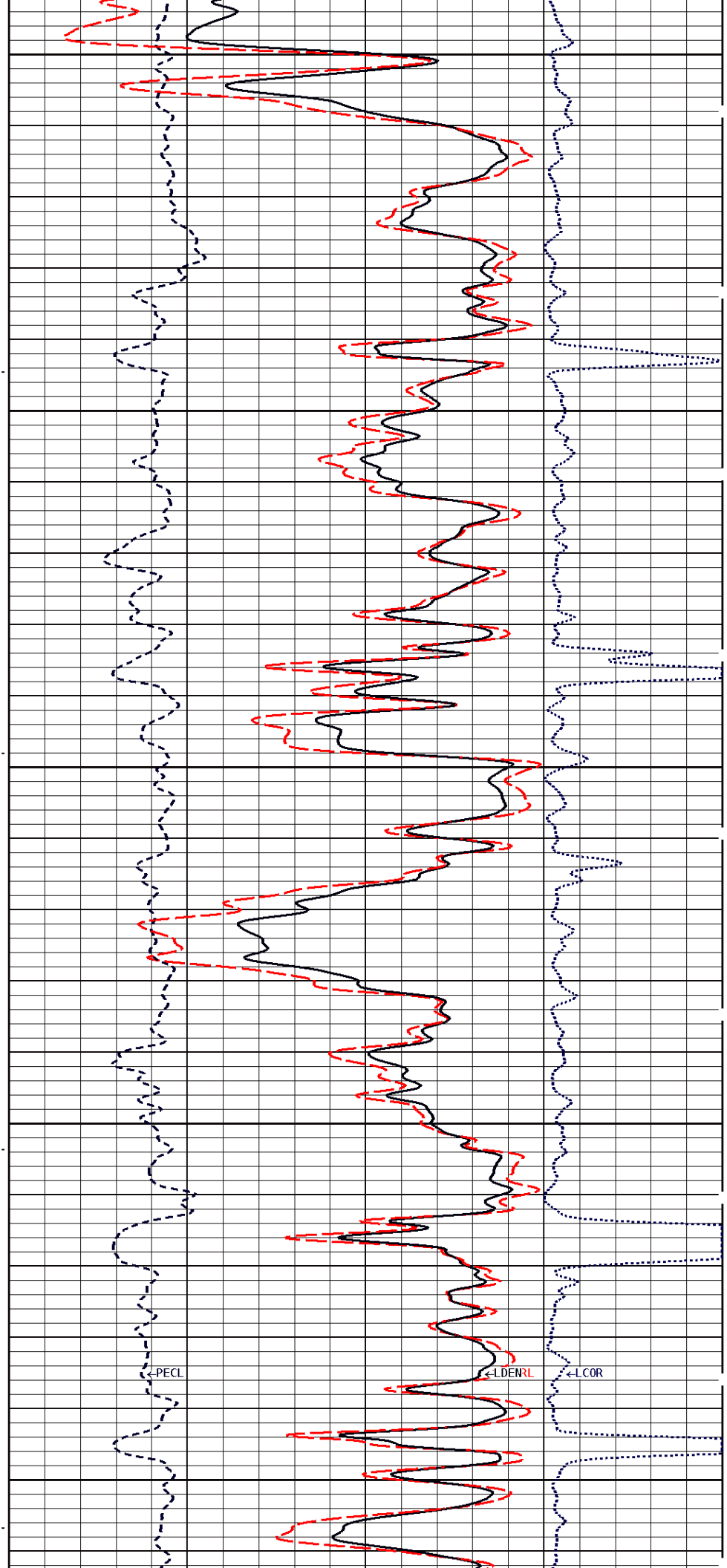
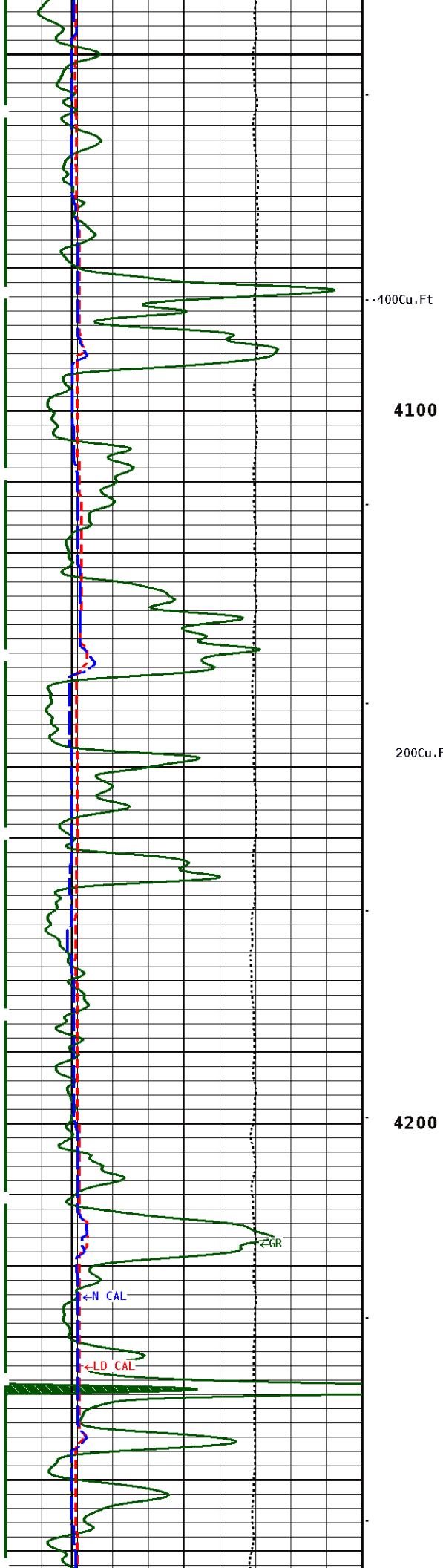


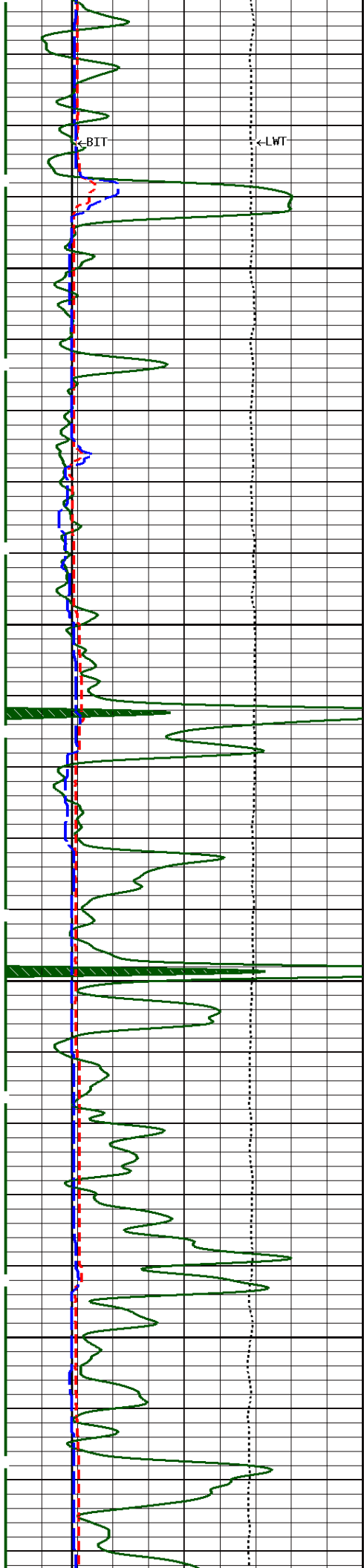


3900

4000



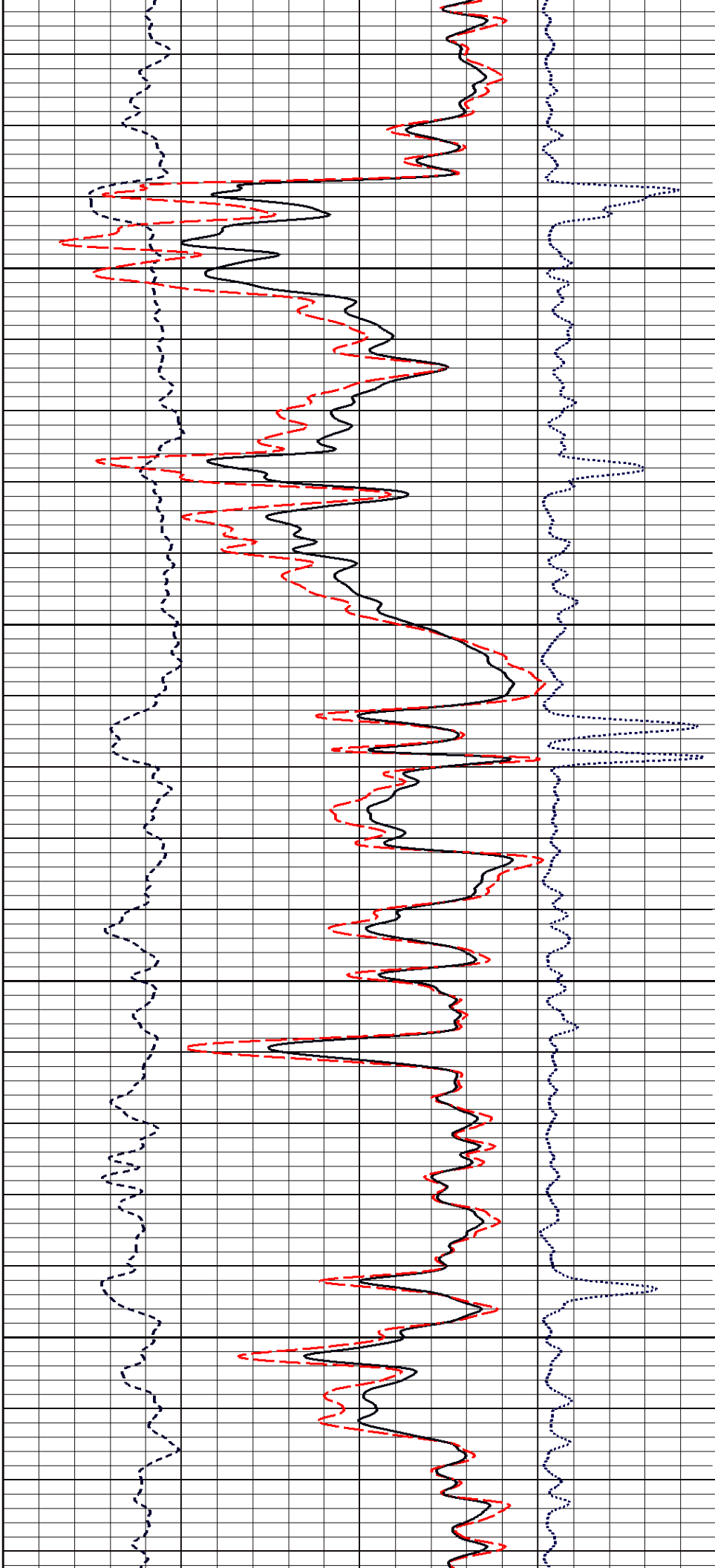


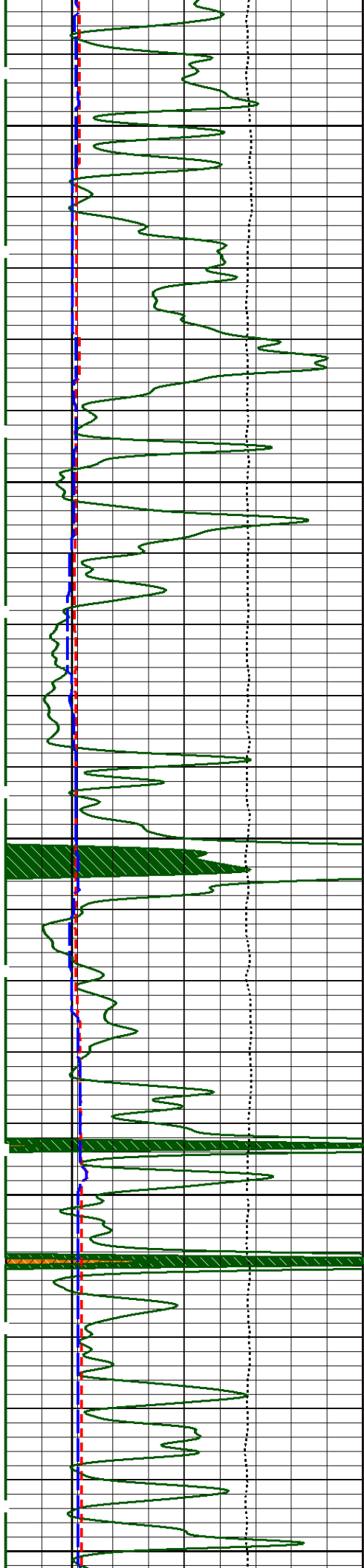


4300

--300Cu.Ft

4400





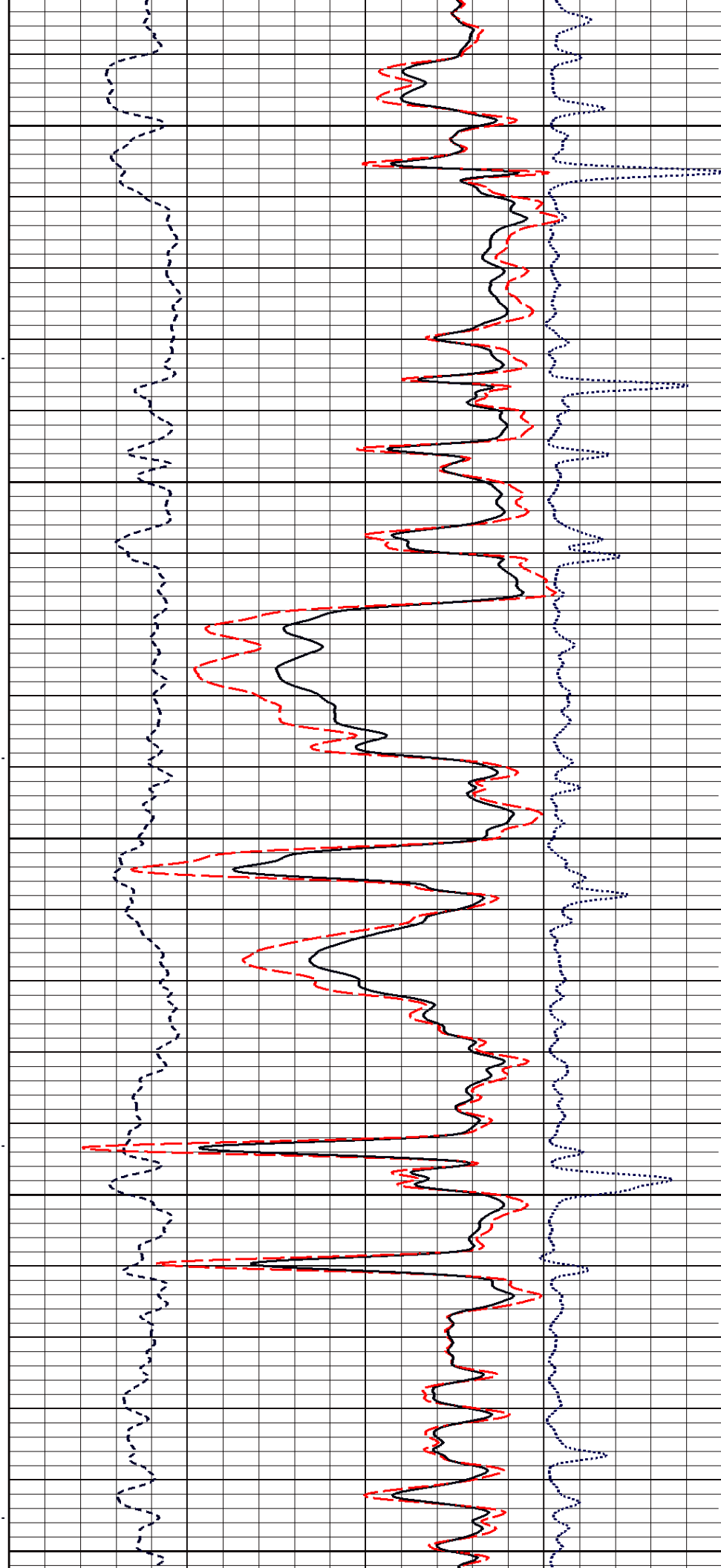
4500

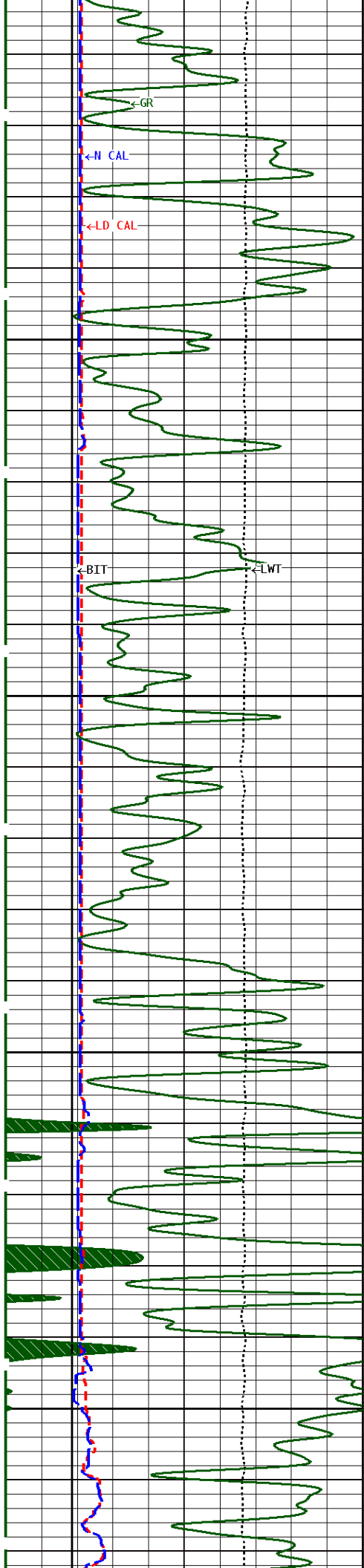
4600

-200Cu.Ft

100Cu.Ft--

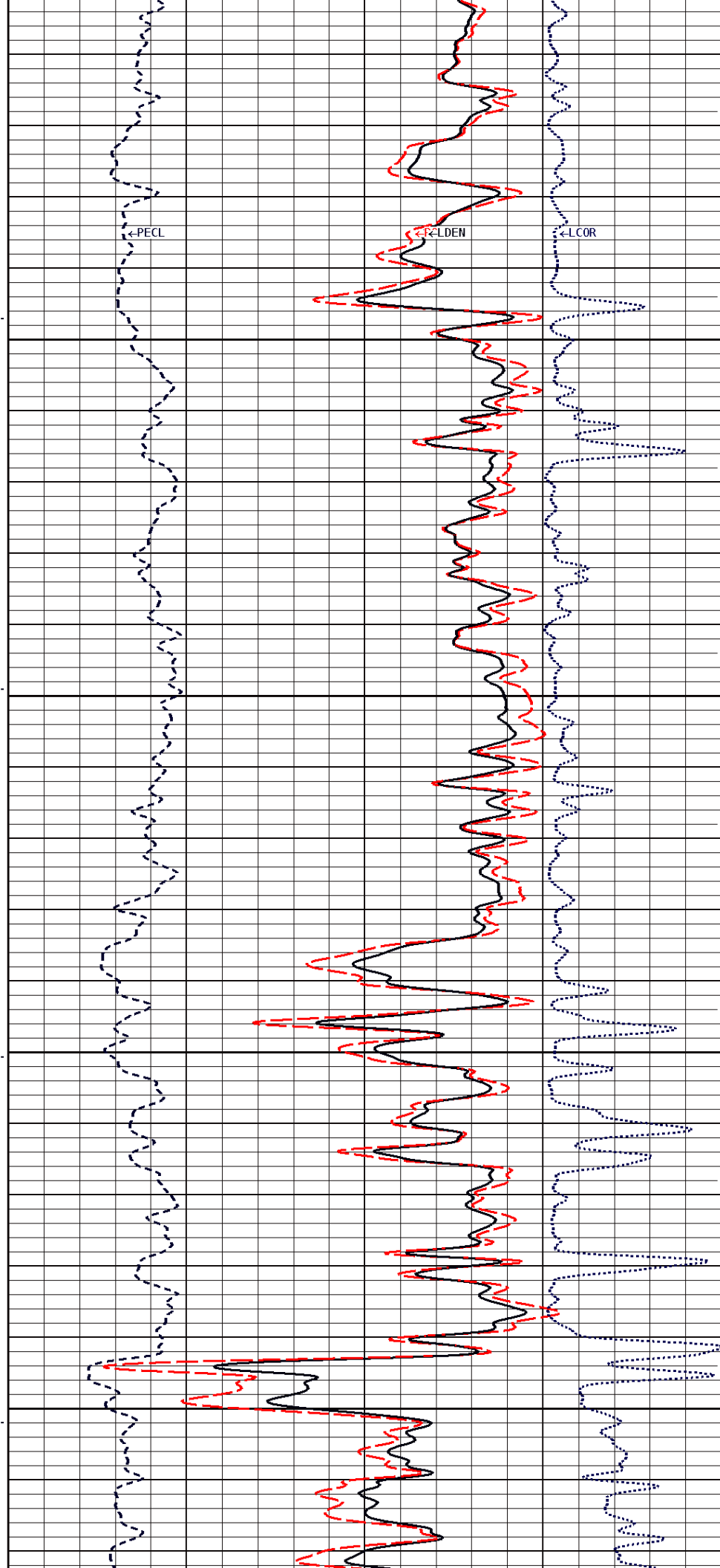
4700

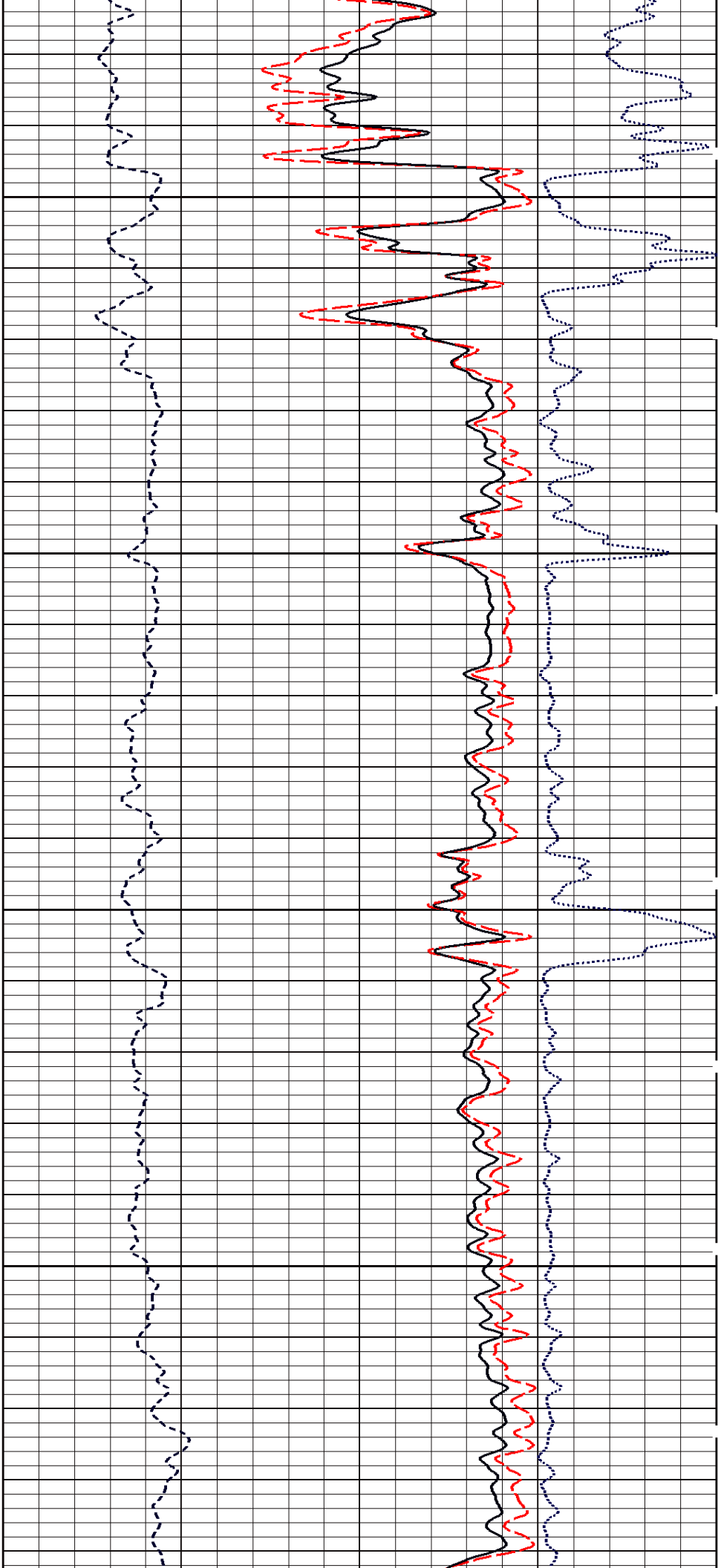
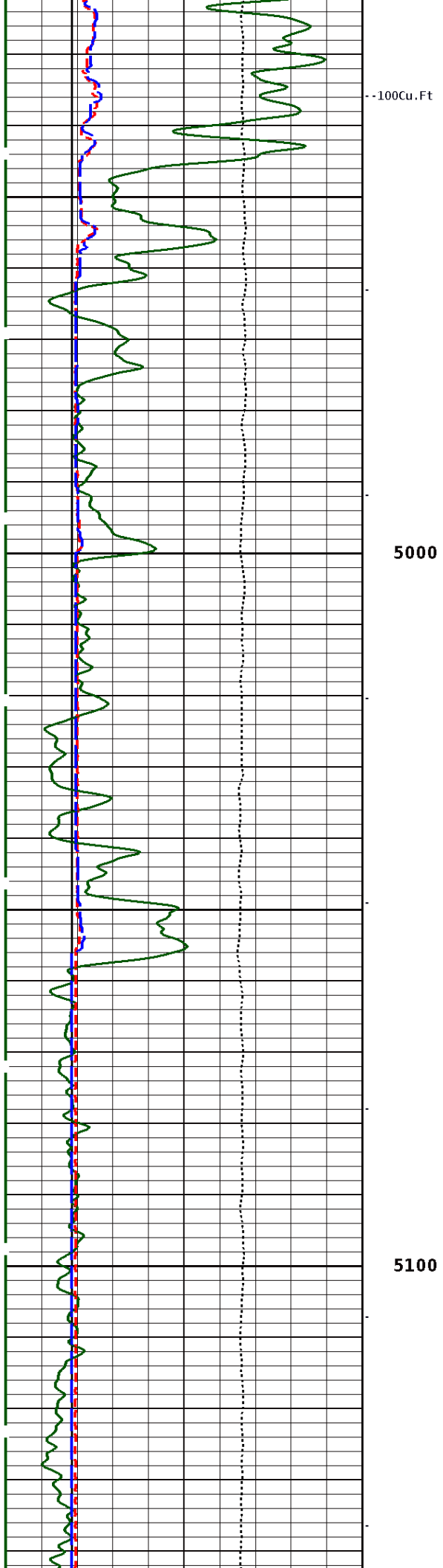


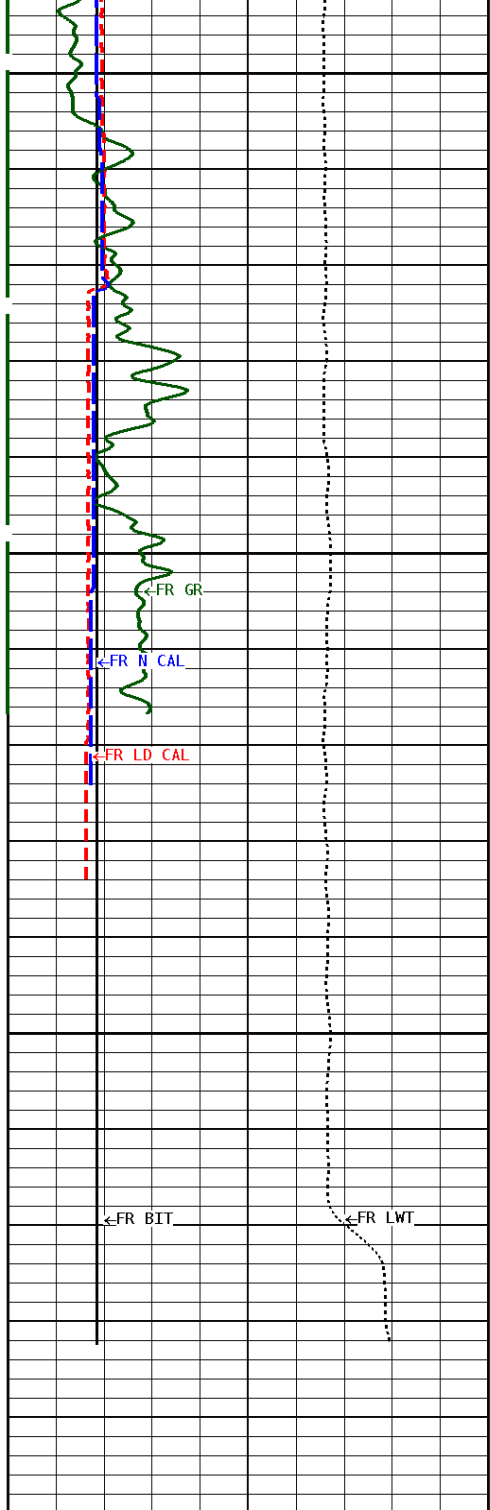


4800

4900



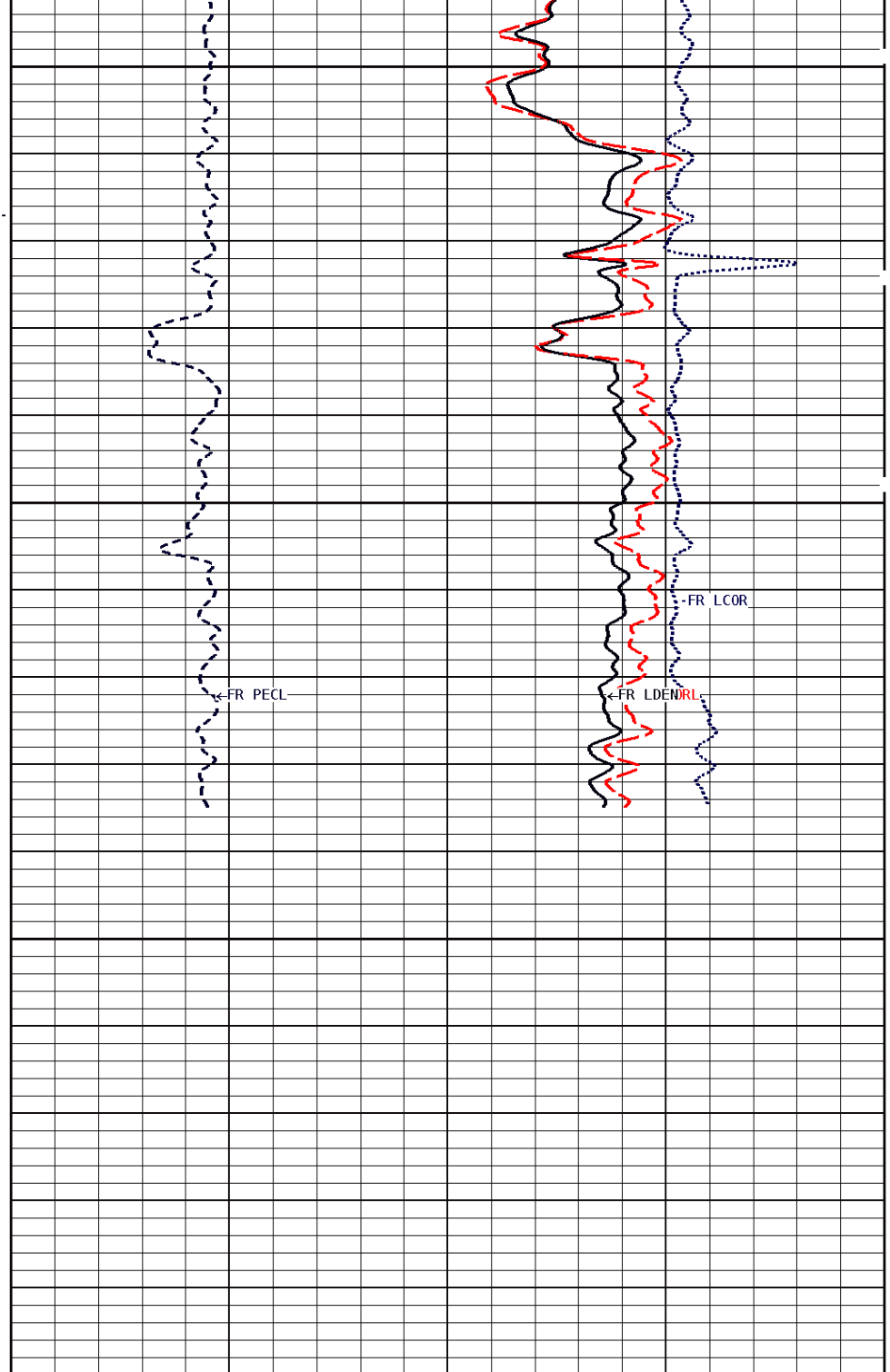




5200

5270

File #1.1.6



1:240 MAIN SECTION

BULK DENSITY

GAMMA RAY API UNITS	
150 0	300 150
TENSION LBS	
10000	0
DENSITY (X) CALIPER INCHES (IN)	
16 6	26 16
NEUTRON (X) CALIPER	

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

NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16
BIT SIZE INCHES (IN)	
6	16

*** 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 : 24-JUN-2019			Time : 12:20		
Sensor Suite : GR-GR5			ID : GRT-BC-038		
	Measured	Units	Calibrated	Units	
	Background	Jig	Jig		
GR	36	266	160	GRAPI	
Shop Calibration CNT-AA					
Performed : 03-JUN-2019			Time : 11:01		
Sensor Suite : CALI-BCN			ID : NDT-AF-411		
	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	7.7	12.7	6.0	12.0	IN.
Performed : 12-FEB-2020			Time : 10:01		
Sensor Suite : BHC NEUT			ID : CNP-AE-41		
Source ID : N-1104					
	Tank	Verification	Units		
	Measured	Jig			
N/F	3.5474	3.6893	3.6873		
Porosity	18.4	20.5	20.5	%	
Shop Calibration LDT-DF					
Performed : 21-DEC-2019			Time : 21:43		
Sensor Suite : CALI-LTH			ID : NDT-FA-404		
	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.5	13.4	6.0	12.0	IN.
Performed : 29-Jan-2020			Time : 14:42		
Sensor Suite : BHCPELNG			ID : LDP-DA-062		
Source ID : 1637GW					
Short Space					
	BKGD	Al	Mg	Al+Fe	Units
LSW1	59	960	1557	625	CPS
LSW2	61	1121	1778	816	CPS
LSW3	228	2554	4127	2191	CPS
LSW4	286	2191	3138	1951	CPS
LSW5	25	44	49	41	CPS
LSW6	79	82	79	83	CPS
LSW7	50	54	53	53	CPS
LSW8	1	3	4	3	CPS
QS	0.227	0.208	0.194	0.217	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC
Long Space					
	BKGD	Al	Mg	Al+Fe	Units
LLW1	84	1100	4544	670	CPS

LLW2	94	1944	7684	1420	CPS
LLW3	352	3530	13460	3067	CPS
LLW4	463	1657	5105	1519	CPS
LLW5	52	64	102	63	CPS
LLW6	146	154	134	154	CPS
LLW7	95	101	92	101	CPS
LLW8	3	6	14	6	CPS
QL	0.213	0.209	0.187	0.205	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC



Company: MERIT ENERGY COMPANY
 Well: DRUSSEL A-11
 Location: 314' FWL & 2359' FSL
 Logged: 02-21-2020
 K.B. Elev: 2927.0 Ft