



Tucker
ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company RUNNING FOXES PETROLEUM Well HOLEMAN #15-23C-3 Field WILDCAT County BOURBON State KANSAS Country USA API No. 15-011-24215-00-00		File No : TUL-58790 Company : RUNNING FOXES PETROLEUM Well : HOLEMAN #15-23C-3 Field : WILDCAT County : BOURBON State : KANSAS Country : USA API No : 15-011-24215-00-00	
Location : 165' FSL & 2475' FEL SW SW SW SE		LSD : Sect : 23 Twp : 25S Rge : 21E	
Permanent Datum:	GL	Elevations:	
Drilling Measured From:	GL	KB 0.00	Services:
Log Measured From:	GL	DF 0.00	CNT
Above Permanent Datum:	0.00 Ft	GL 1086.00	LDT
Date	04-19-2013		
Run Number	1		
Depth--Driller	910.0	Ft	
Depth--Logger	910.0	Ft	
First Reading	887.0	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		
Density	0.0		
Fluid Loss	0.0		
PH/Viscosity	0.0	0.0	
Sample Source	MEASURED		
RMF@Measured Temp.	10.000	@ 60 F	
RMF@Measured Temp	8.500	@ 60 F	
RMG@Measured Temp.	11.500	@ 60 F	
Source RMF/RMG	CALCULATED/CALCULATED		
RM@BHT	7.610	@ 81 F	
Time Circulation Stopped			
Max Recorded Temp.	81	F	
Equipment/Base	TRK-125	TULSA	
Recorded By	R. FRANKLIN		
Witnessed By	K. HODGES		

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. E. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. E. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings			
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)	Top (Ft)
6.750	910.00	8.625	32.00	20.00	0.00

Run Number	1	
Date	04-19-2013	
Date/Time On Bottom	04-19-2013 19:00	
Depth to Fluid	48.0 Ft	
Salinity	0.000	
RMF@BHT	0.000 @ 81 F	
RMG@BHT	8.750 @ 81 F	

Run Number 1

Comments

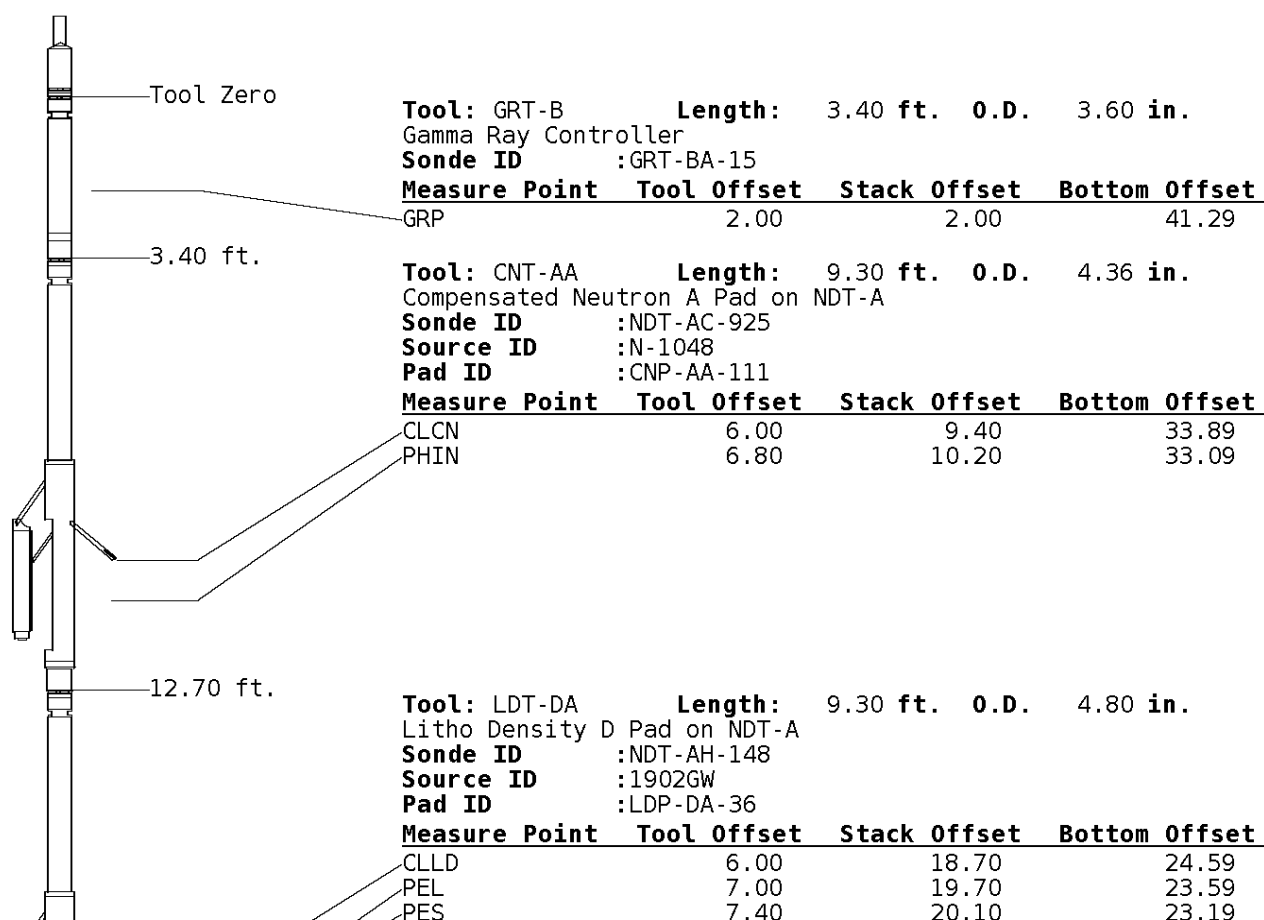
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
 GRT, CNT, LDT, AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATE POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 4.5" PRODUCTION CASING.
 FLUID LEVEL AT 48'

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

OPERATORS:
 R. SAMS

Tool String Schematic

Total Tool Length - 43.29 ft.
Maximum Outside diameter - 4.80 in.
Net Weight in Air - 743.00 lbs.





7.20	19.90	23.39
7.20	19.90	23.39

22.00 ft.

Tool: PIT-CA **Length:** 21.29 ft. **O.D.** 3.62 in.
 Phased Dual Induction
Sonde ID :PIT--AB-16

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.73	30.73	12.56
ILM	9.90	31.90	11.39
SFLU	17.29	39.29	4.00
SP	20.41	42.41	0.88

LWT 43.29 ft.

Well File: RUN_HOL_15-23C-3_APR_19_STK

Scale: 1:240 **Format:** NLD-240

Segment: V1.D1.S6 MAIN

Acquired: 2013-04/19 19:22 3.3.0-11923

Reference: 0

Processed: 2013-04/19 20:27 3.3.0-11923

**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**

**DENSITY CORRECTION
G/CC**

0 10 -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**

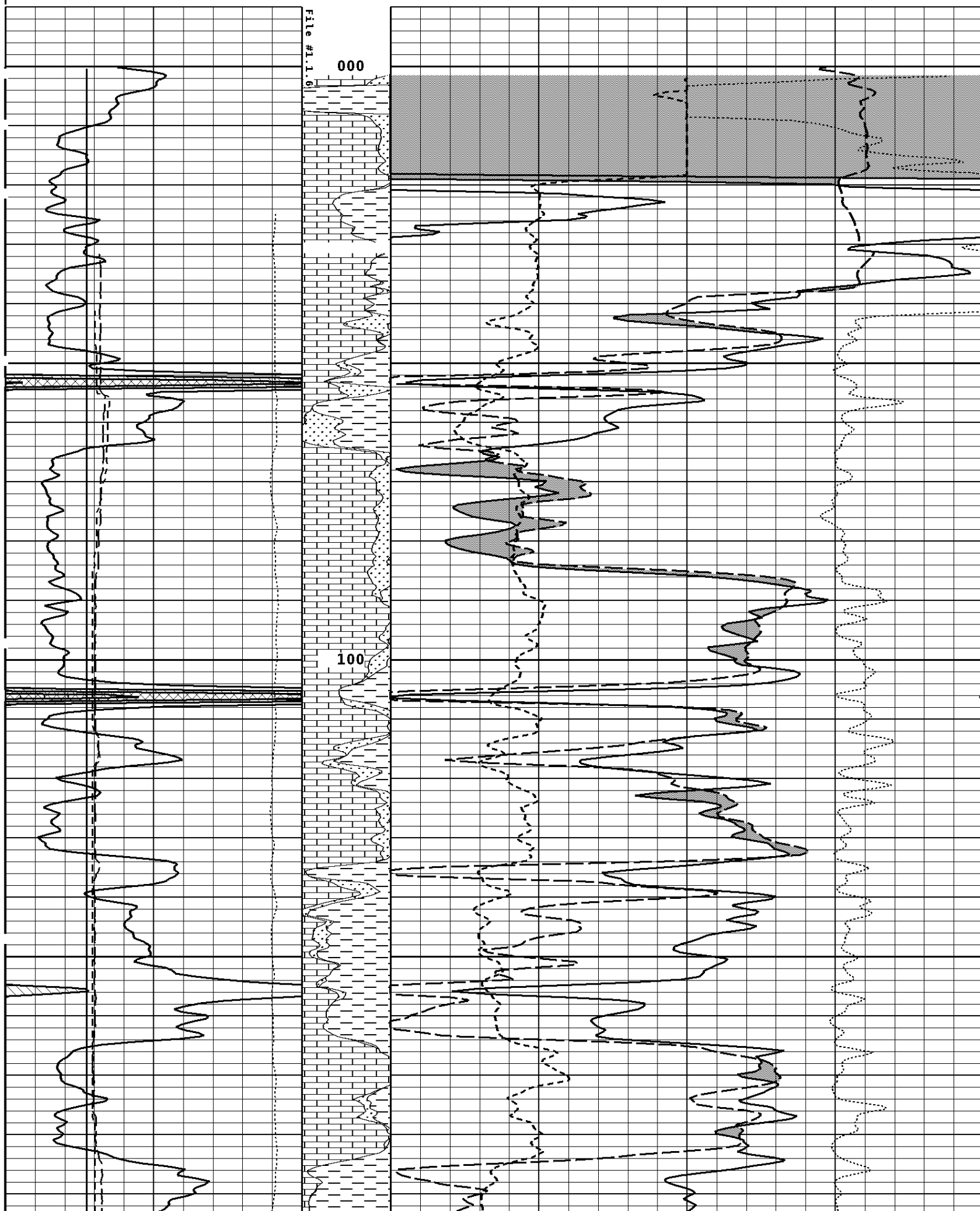
200 400
0 200

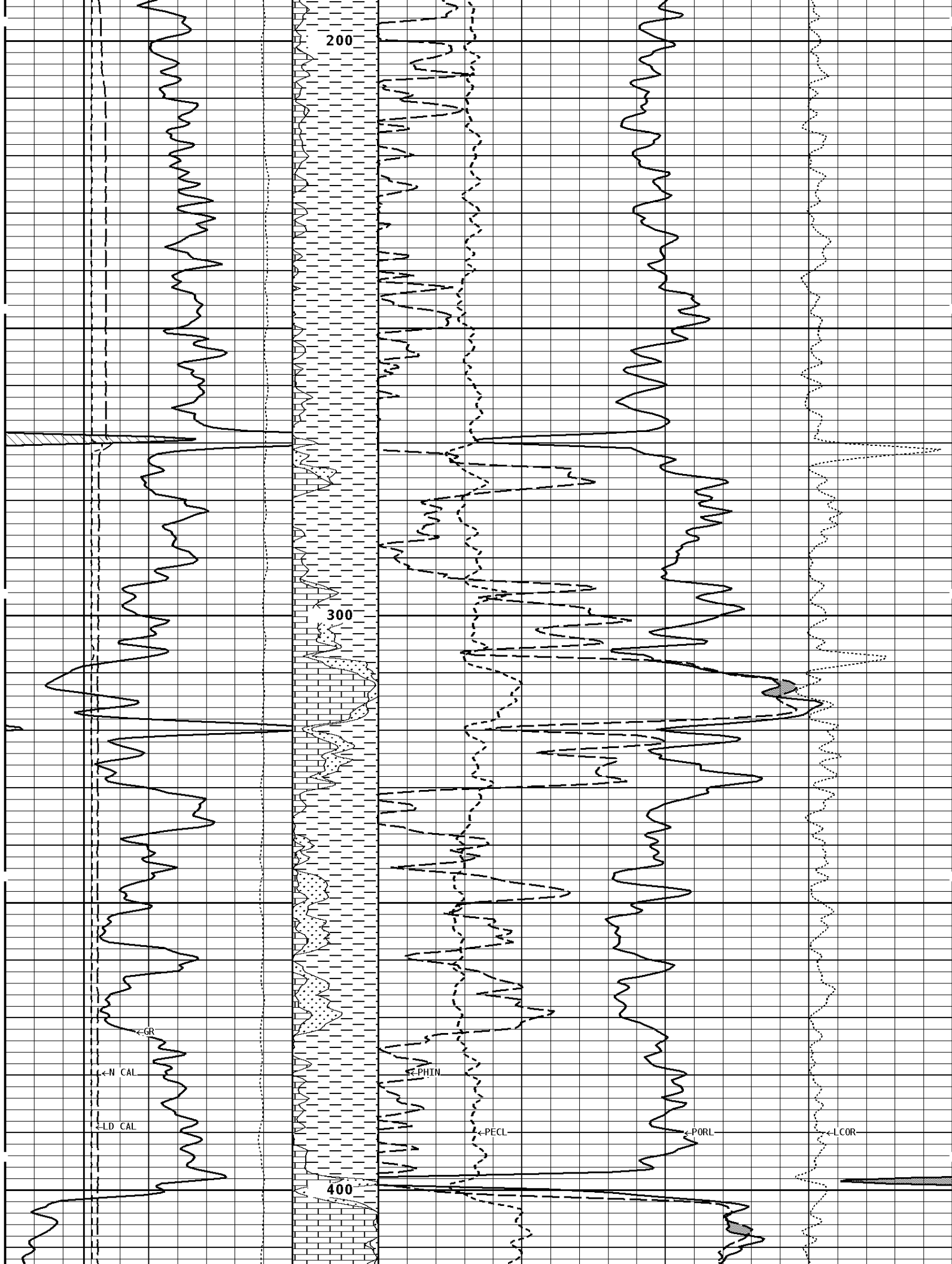
Volume
Dolo/Shale

**NEUTRON POROSITY (LIMESTONE)
PERCENT**

30 -10

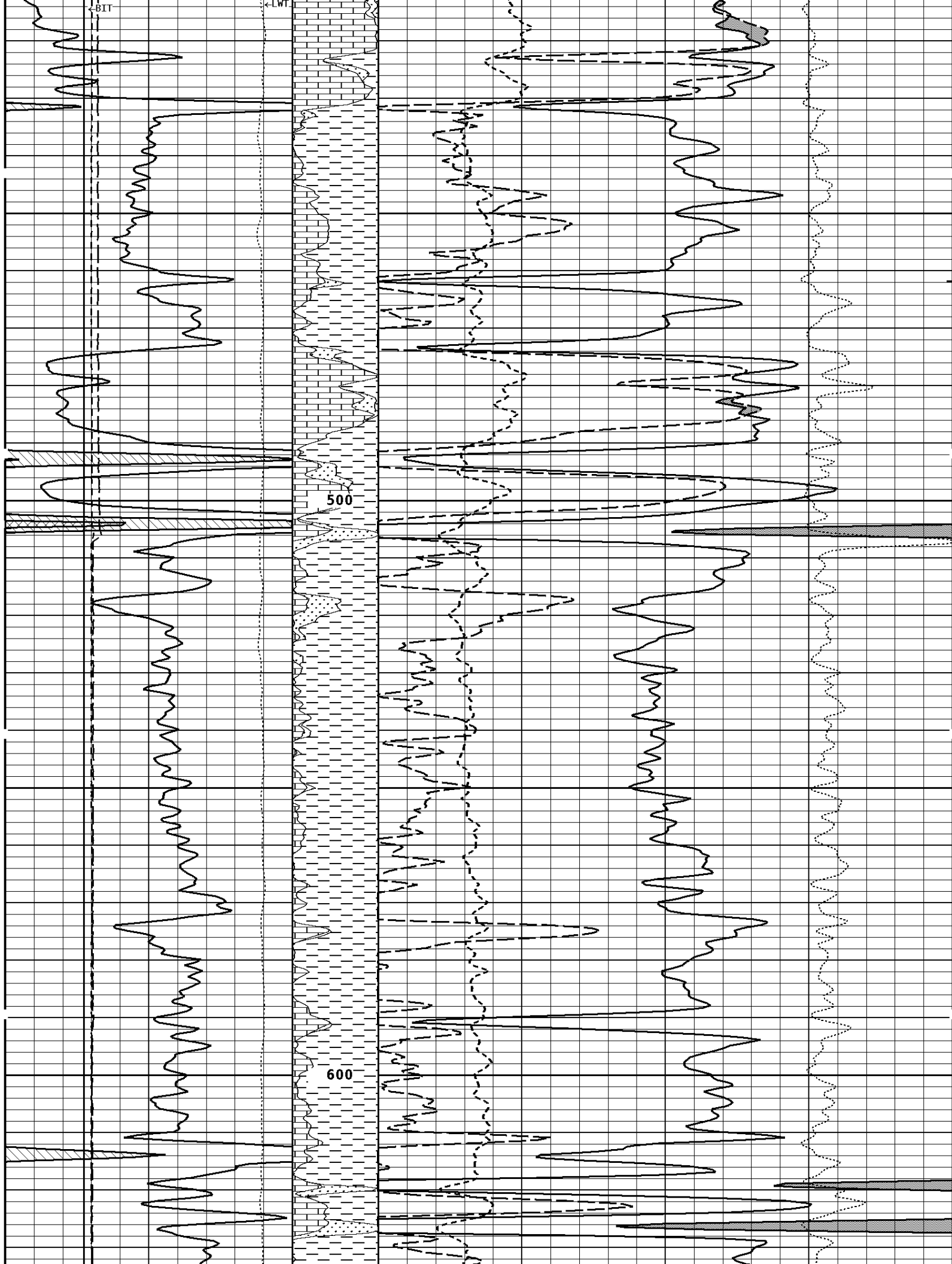
1:240 MAIN SECTION

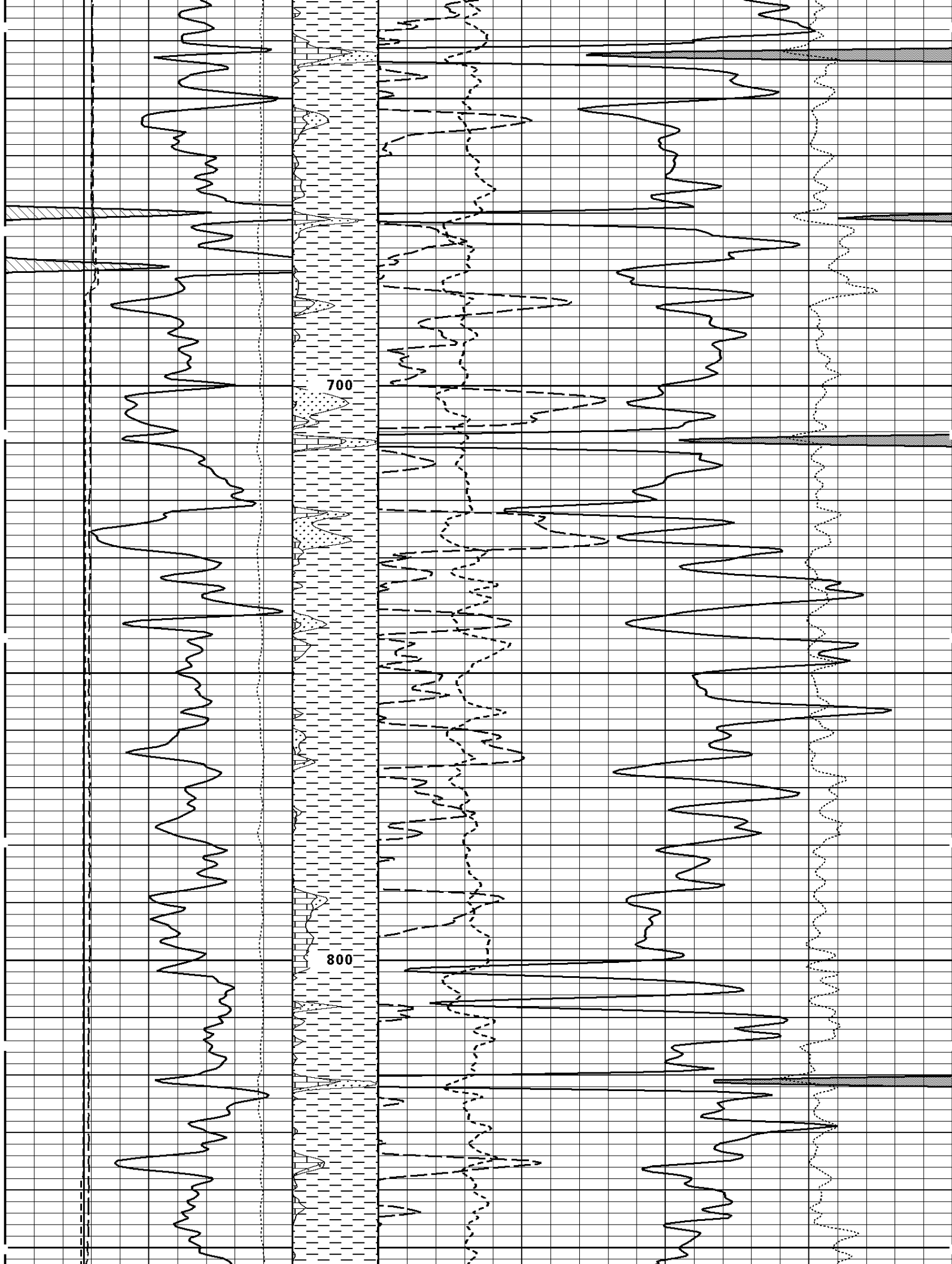


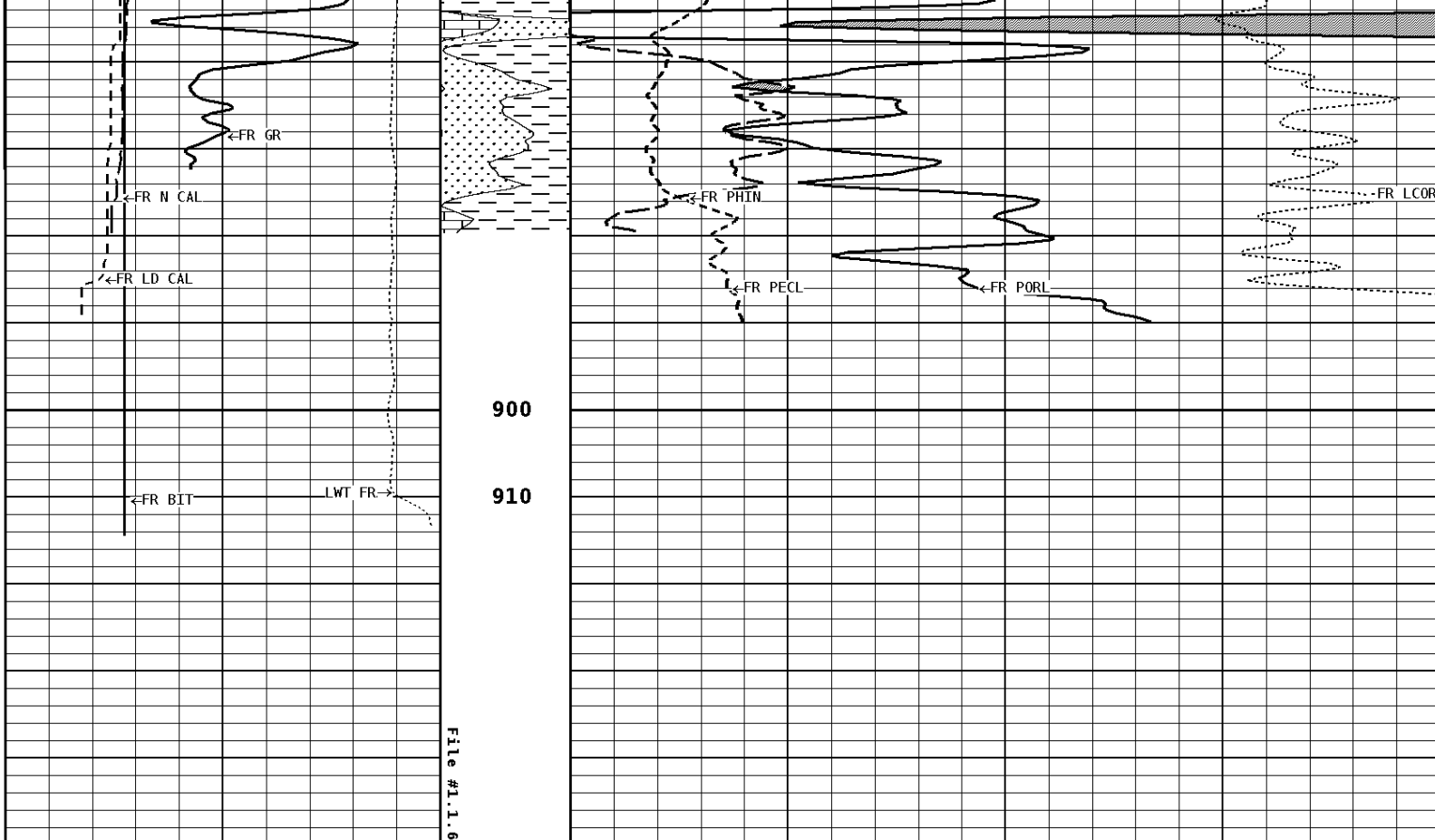


-BIT

-LWT







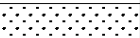
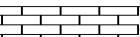
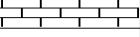
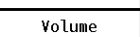
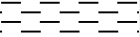
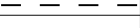
1:240 MAIN SECTION

GAMMA RAY API UNITS 200 0 400 200	Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT 30 -10	
TENSION LBS 10000 0	Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT 70 30 -10 -50	
DENSITY (X) CALIPER INCHES (IN) 14 4 24 14	Volume Quartz	PE CROSS-SECTION BARN/ ELECTRON 0 10	DENSITY CORRECTION G/CC -0.25 0.25
NEUTRON (Y) CALIPER INCHES (IN) 14 4 24 14			
BIT SIZE INCHES (IN) 4 14			

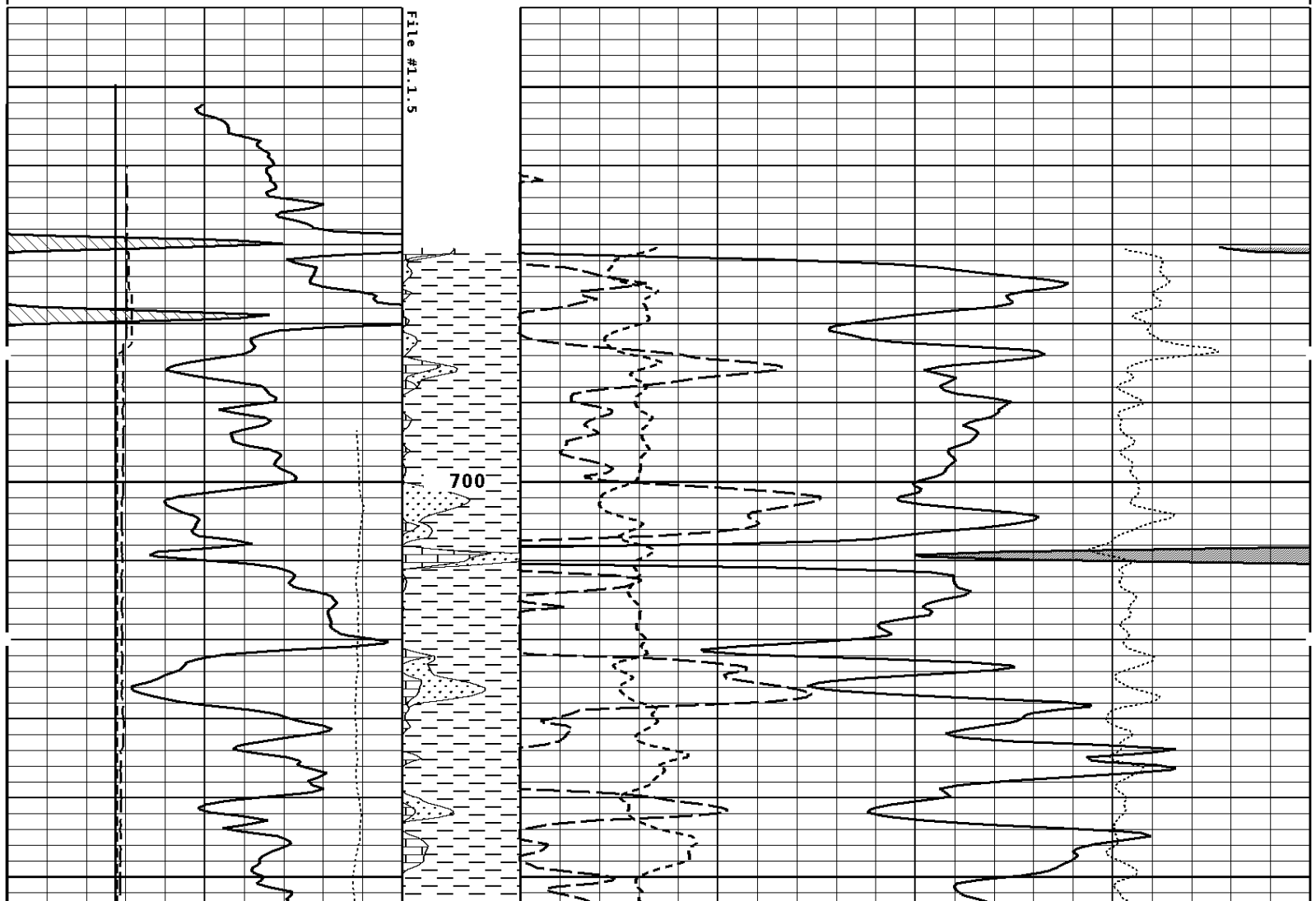
* Borehole Zone Factors *

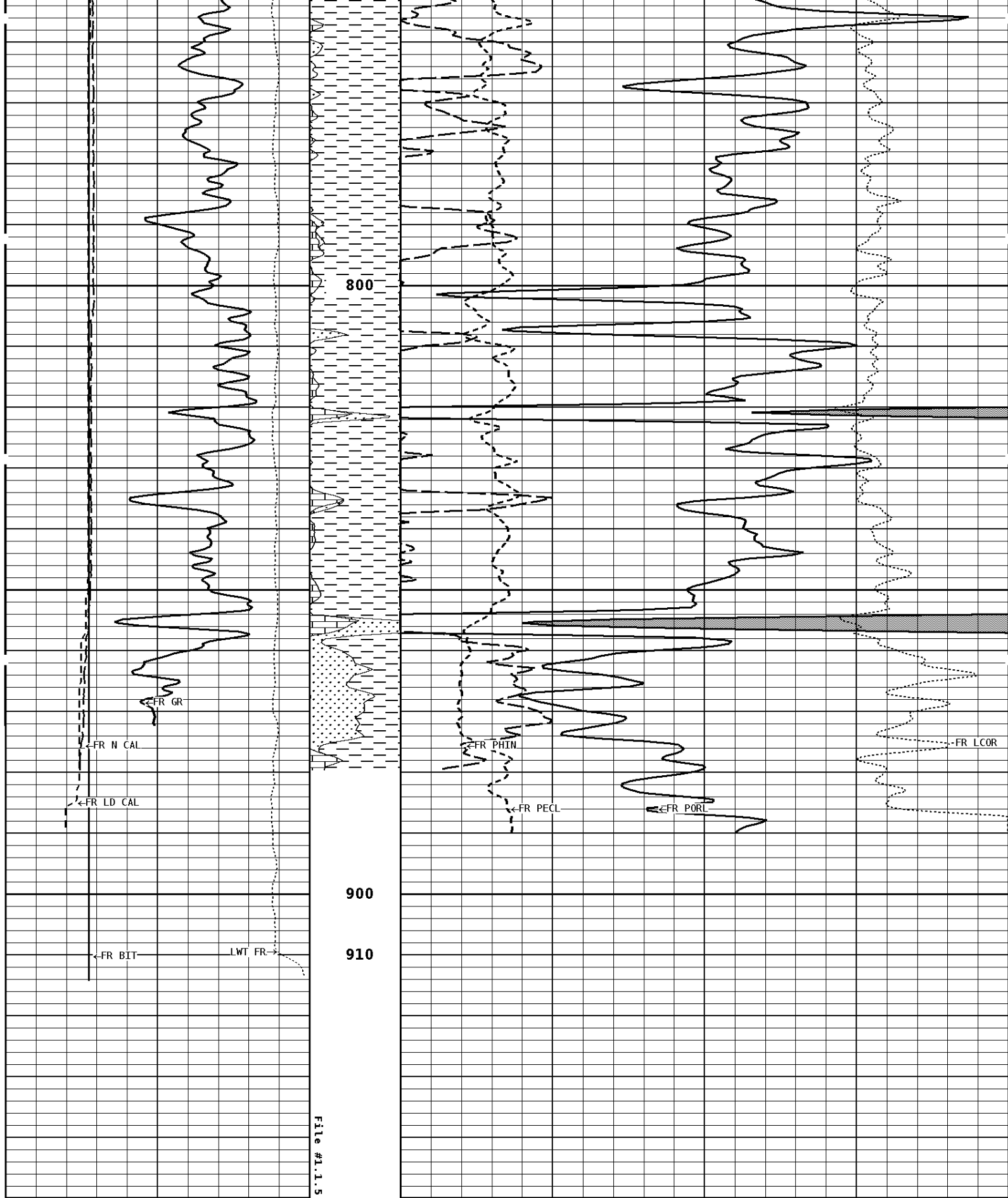
Zone 1 99999.0 to 0.0 Feet			
Matrix Density		2.71	g/cc
Fluid Density		1.00	g/cc
Formation Matrix		Limestone	
Drill Bit Size		6.750	in
Casing Diameter		4.500	in
Casing Thickness		0.250	in
Casing Correction (PHT N)		Disable	

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
-----				-----	
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



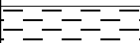
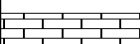
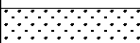


1:240 REPEAT SECTION

GAMMA RAY
API UNITS

Volume
Dolo/Shale

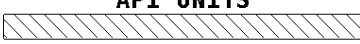
NEUTRON POROSITY (LIMESTONE)
PERCENT

200 0	400 200		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 4	24 14		0	10	-0.25
					0.25
NEUTRON (Y) CALIPER INCHES (IN)					
14 4	24 14				
BIT SIZE INCHES (IN)					
4	14				

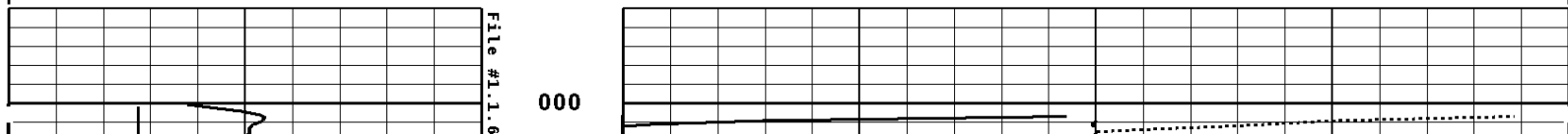
* Borehole Zone Factors *

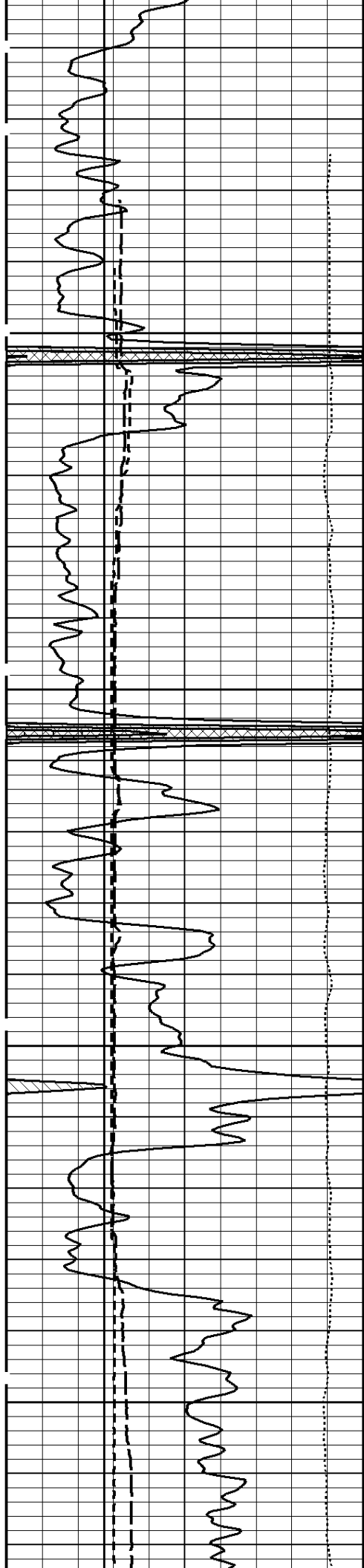
Zone 1 99999.0 to 0.0 Feet		
Matrix Density		2.71 g/cc
Fluid Density		1.00 g/cc
Formation Matrix		Limestone
Drill Bit Size		6.750 in
Casing Diameter		4.500 in
Casing Thickness		0.250 in
Casing Correction (PHI N)		Disable

Well File: RUN HOL 15-23C-3 APR 19 STK	Scale: 1:240	Format: LDT-240
Segment: V1.D1.S6 MAIN	Acquired: 2013-04/19 19:22 3.3.0-11923	
Reference: 0	Processed: 2013-04/19 20:27 3.3.0-11923	

BIT SIZE INCHES (IN)			
4	14		
NEUTRON (Y) CALIPER INCHES (IN)			
14 4	24 14		
DENSITY (X) CALIPER INCHES (IN)			
14 4	24 14		
TENSION LBS			
10000	0		
GAMMA RAY API UNITS		-BHV AHV- CU.FT	DENSITY POROSITY (2.71g/cc) PERCENT
200 0	400 200		70 30 -10
			30 -10 -50

1:240 MAIN SECTION
BULK DENSITY

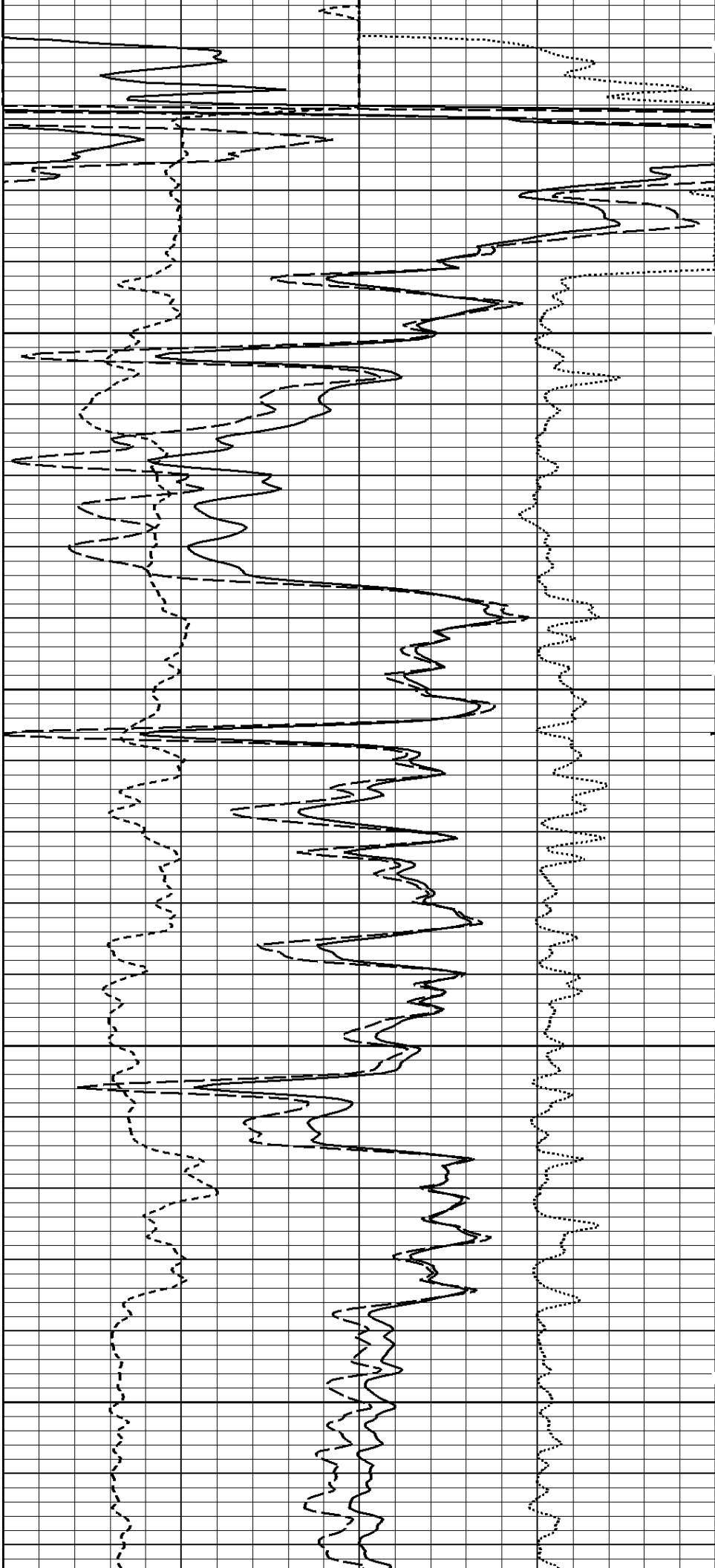


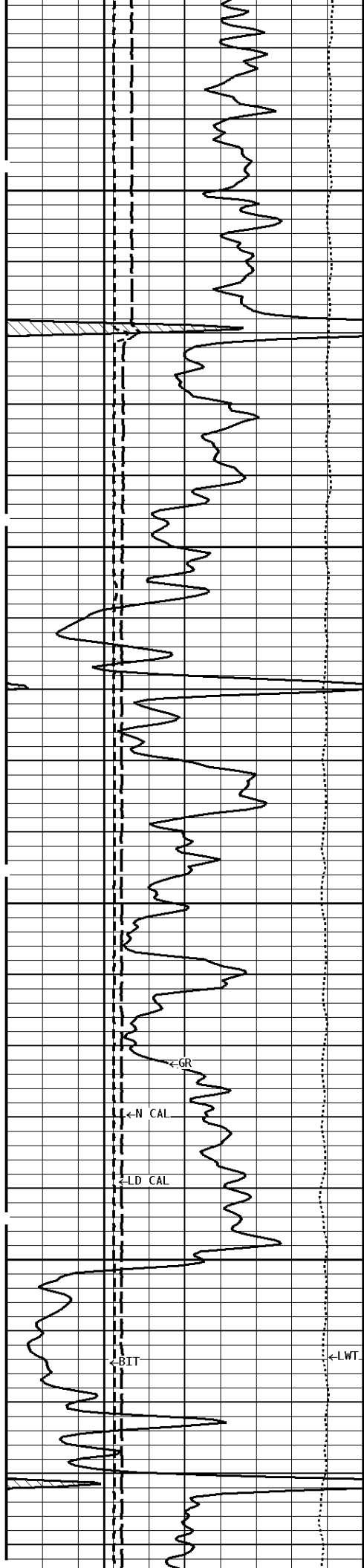


100

--200Cu.Ft

200

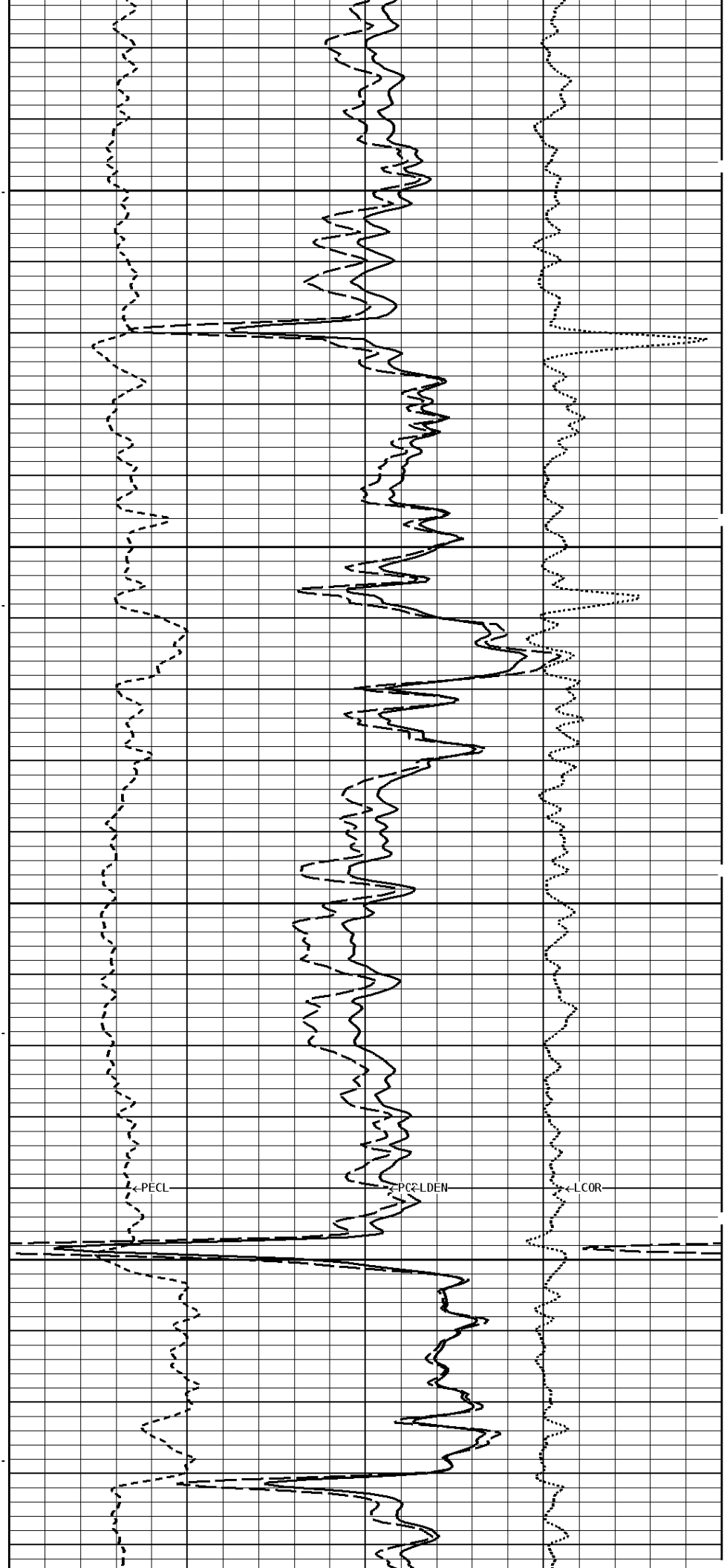


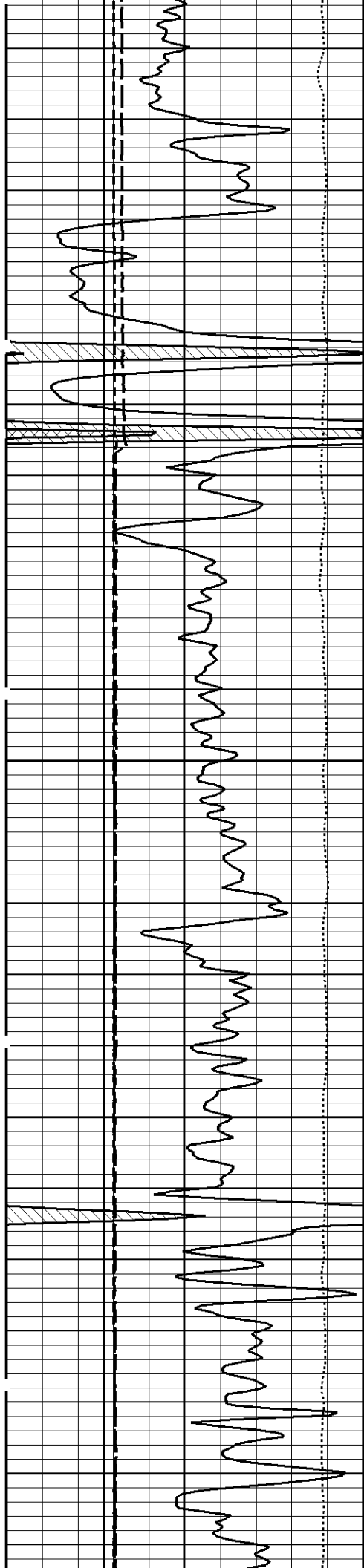


100Cu.Ft--

300

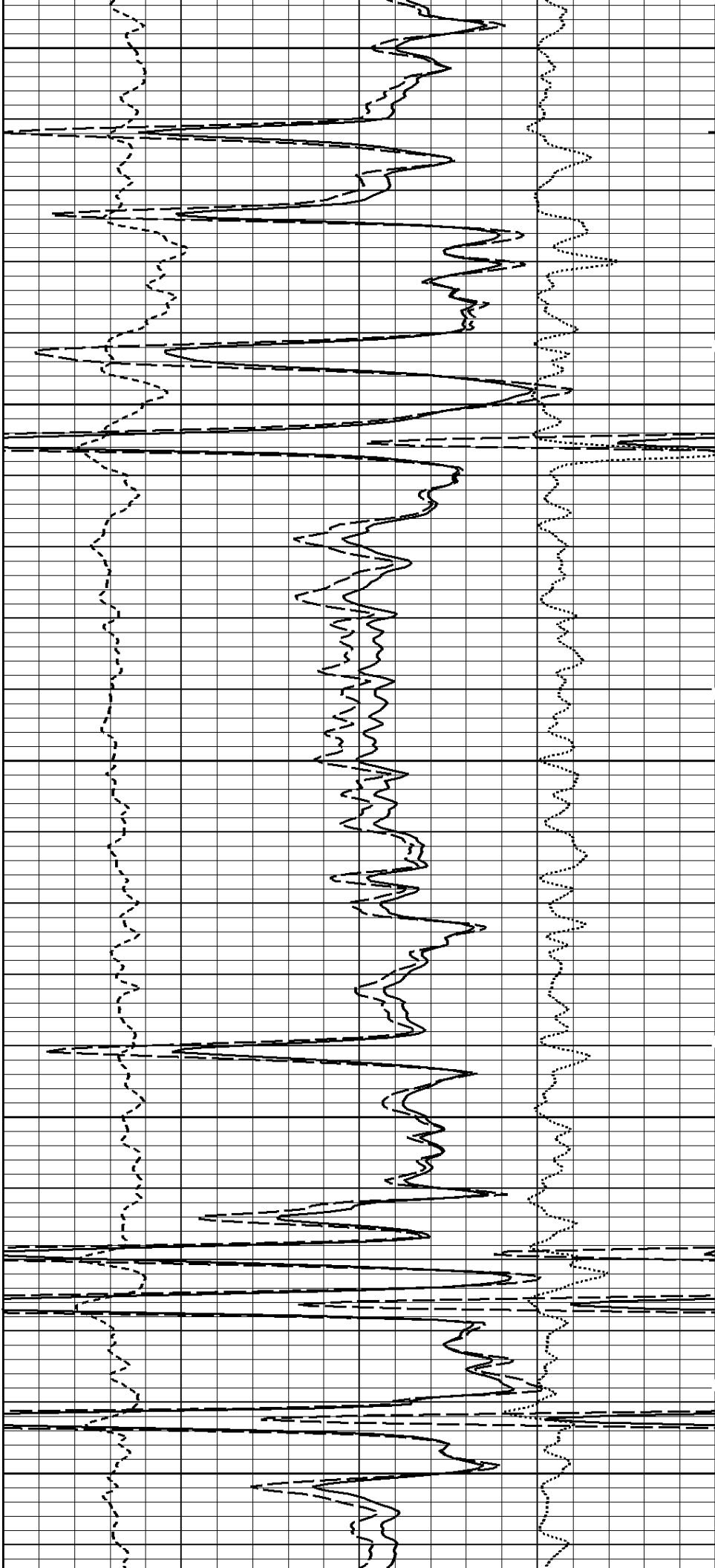
400

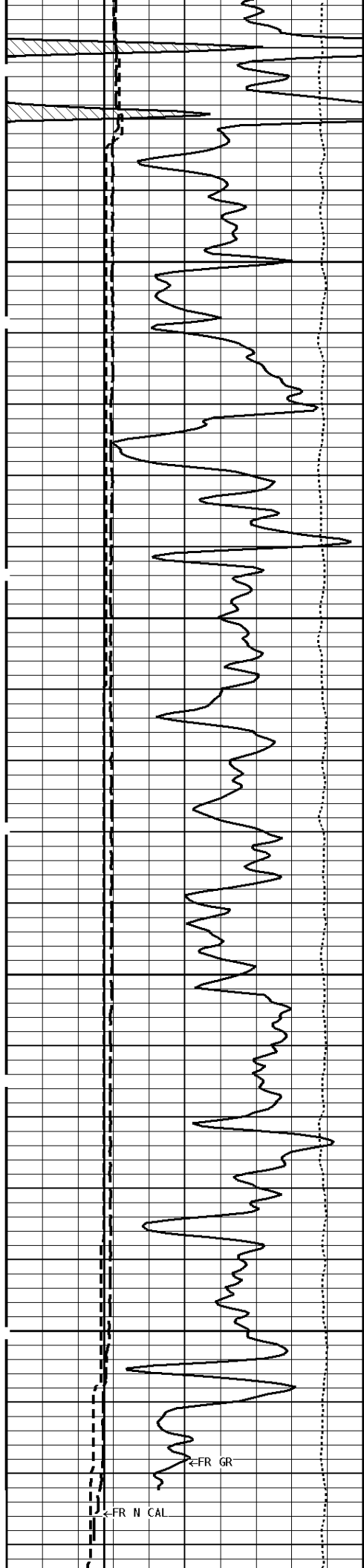




--100Cu.Ft

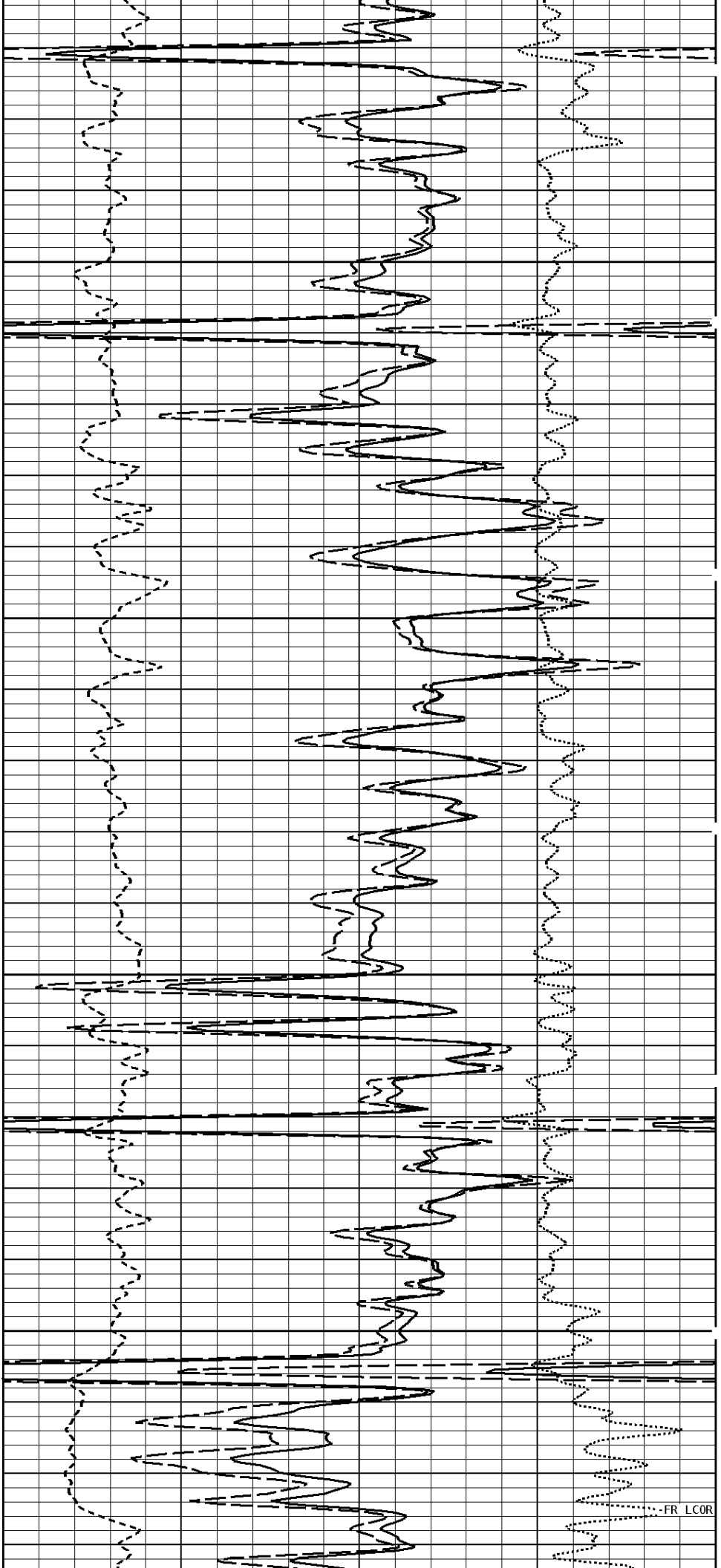
600

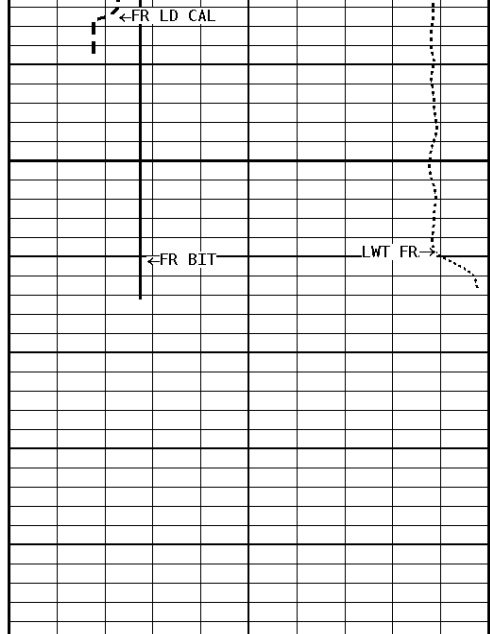




700

800





File #1.1.6

900

910

1:240 MAIN SECTION BULK DENSITY

GAMMA RAY API UNITS	
200	400
0	200
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

- BHV AHV - 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 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		4.500	in
Casing Correction (PHI N)		Disable	

* Calibration Summary *

Shop Calibration GRT-B			
Performed : 24-FEB-2013		Time : 17:32	
Sensor Suite : GR-GR5		ID : GRT-BA-15	
Measured	Units	Calibrated	Units
Background	Jig	Jig	
54	260	135	GRAB

GR	54	360	CPS	175	GRAP1
Shop Calibration					
CNT-AA					
Performed : 17-APR-2013			Time : 10:48		
Sensor Suite : CALI-BCN			ID : NDT-AC-925		
		Jig - Measured		Jig - Calibrated	
		Ring#1	Ring#2	Ring#1	Ring#2
CL # 1		7.5	10.9	6.0	12.0
				Units	
				IN.	
Performed : 22-Mar-2013			Time : 14:38		
Sensor Suite : BHC NEUT			ID : CNP-AA-111		
Source ID : N-1048					
		Tank		Verification	
		Measured	Calibrated	Jig	
N/F		3.6498	3.6893	3.7092	
Porosity		19.9	20.5	20.8	
				Units	
				%	
Shop Calibration					
LDT-DA					
Performed : 17-APR-2013			Time : 10:10		
Sensor Suite : CALI-LTH			ID : NDT-AH-148		
		Jig - Measured		Jig - Calibrated	
		Ring#1	Ring#2	Ring#1	Ring#2
CL # 1		7.2	11.4	6.0	12.0
				Units	
				IN.	
Performed : 01-Apr-2013			Time : 11:09		
Sensor Suite : BHCPELNG			ID : LDP-DA-36		
Source ID : 1902GW					
Short Space					
	BKGD	Al	Mg	Al+Fe	Units
LSW1	78	973	1570	638	CPS
LSW2	85	1138	1799	824	CPS
LSW3	313	2633	4235	2257	CPS
LSW4	391	2356	3378	2078	CPS
LSW5	44	54	60	52	CPS
LSW6	99	98	94	96	CPS
LSW7	67	63	63	62	CPS
LSW8	2	5	6	4	CPS
QS	0.193	0.216	0.199	0.211	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC
Long Space					
	BKGD	Al	Mg	Al+Fe	Units
LLW1	144	1079	4337	672	CPS
LLW2	177	1872	7420	1375	CPS
LLW3	577	3607	13512	3133	CPS
LLW4	651	1815	5398	1657	CPS
LLW5	83	76	110	76	CPS
LLW6	191	179	166	180	CPS
LLW7	126	119	110	120	CPS
LLW8	6	7	15	7	CPS
QL	0.205	0.202	0.205	0.201	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC



Tucker
ENERGY SERVICES

Company: RUNNING FOXES PETROLEUM
Well: HOLEMAN #15-23C-3
Location: 165' FSL & 2475' FEL
Logged: 04-19-2013
K.B. Elev: 0.0 Ft