

**Tucker**  
ENERGY SERVICES

**COMPOSITE LOG**

**Company:** CHIEFTAIN OIL CO., INC  
**Well:** BLEVINS A SWD #1  
**Field:** MAYBERRY  
**County:** BARBER  
**State:** KANSAS  
**Country:** USA  
**API No.:** 15-007-24177-0000

**File No.:** TUL-59635  
**Company:** CHIEFTAIN OIL CO., INC  
**Well:** BLEVINS A SWD #1  
**Field:** MAYBERRY  
**County:** BARBER  
**State:** KANSAS  
**Country:** USA  
**API No.:** 15-007-24177-0000

**Location:**  
 1970' FSL & 450' FWL  
 NE SW NW SW

**LSD:**                      **Sect:** 25                      **Twp:** 34S                      **Rge:** 11W

<b>Permanent Datum:</b>	GL	<b>Elevations:</b>		<b>Services:</b>	
<b>Drilling Measured From:</b>	KB	KB 1367.00	Ft	CNT	PIT
<b>Log Measured From:</b>	KB	DF 1366.00	Ft	LDT	
<b>Above Permanent Datum:</b>	1200 Ft	GL 1355.00	Ft	MLT	
<b>Date:</b>	06-29-2014				
<b>Run Number</b>	1				
<b>Depth--Driller</b>	5451.0	Ft			
<b>Depth--Logger</b>	5451.0	Ft			
<b>First Reading</b>	5451.0	Ft			
<b>Last Reading</b>	1029.0	Ft			
<b>Casing--Driller</b>	1029.0	Ft			
<b>Casing--Logger</b>	1029.0	Ft			
<b>Bit Size</b>	7.875	In			
<b>Casing Size</b>	8.625	In			
<b>Hole Fluid Type</b>	CHEM-GEL				
<b>Density</b>	9.0				
<b>Fluid Loss</b>	10.5				
<b>PH/Viscosity</b>	9.5	53.0			
<b>Sample Source</b>	MEASURED				
<b>RM@Measured Temp.</b>	2.000	@ 75	F		
<b>RMF@Measured Temp</b>	1.600	@ 75	F		
<b>RMG@Measured Temp.</b>	2.400	@ 75	F		
<b>Source RMF/RMG</b>	CALCULATED/CALCULATED				
<b>RM@BHT</b>	1.180	@ 132	F		
<b>Time Circulation Stopped</b>	06-29-2014 12:00 pm				
<b>Max Recorded Temp.</b>	132	F			
<b>Equipment/Base</b>	127	TULSA			
<b>Recorded By</b>	SHELDON TYLER				
<b>Witnessed By</b>	DAVID BARKER				

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)
7.875	5451.00	8.625	32.00	1029.00	0.00

<b>Run Number</b>	1
<b>Date</b>	06-29-2014
<b>Date/Time On Bottom</b>	06-29-2014 3:00 pm
<b>Depth to Fluid</b>	0.0 Ft
<b>Salinity</b>	6800.000
<b>RMF@BHT</b>	0.940 @ 132 F
<b>RMG@BHT</b>	1.420 @ 132 F

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

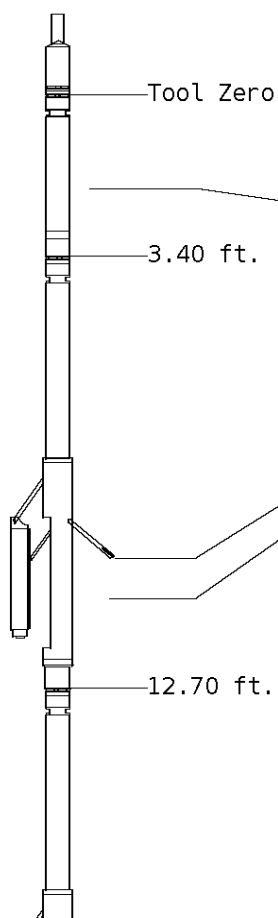
CUSTOMER REQUESTED DETAIL PULLED TO 3300'

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: +4  
 J.JOHNSON  
 A.DJAHO

### 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-BB-117

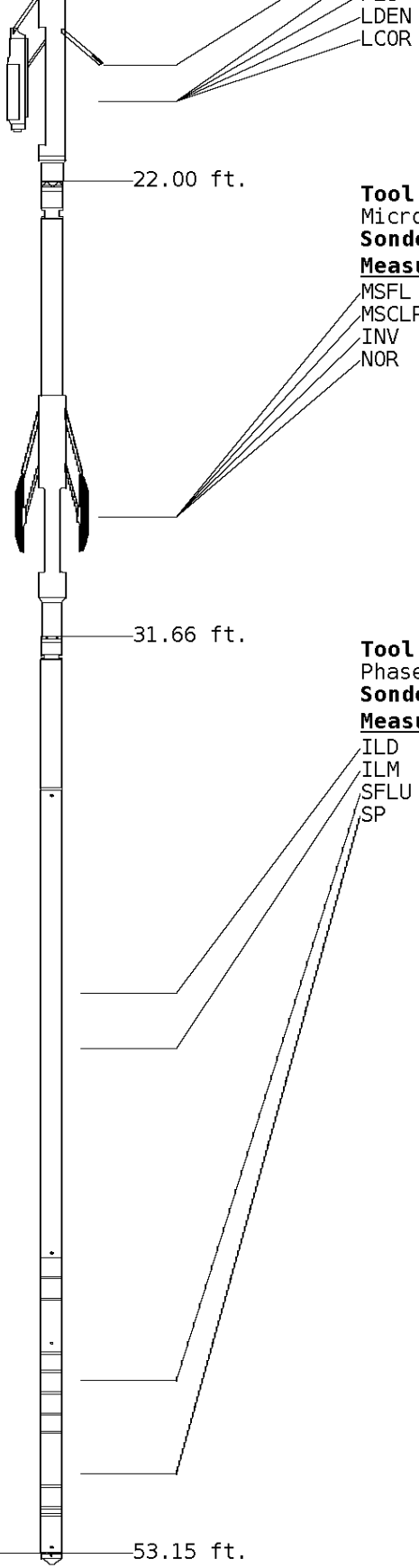
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.15

**Tool: CNT-AA**      **Length: 9.30 ft. O.D. 4.36 in.**  
 Compensated Neutron A Pad on NDT-A  
**Sonde ID** :NDT-AC-027  
**Source ID** :N-1044  
**Pad ID** :CNP-AE-42

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** :NDT-BB-129  
**Source ID** :CSV-587  
**Pad ID** :LDP-DA-50

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-25

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-062

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:** CHIEFTAIN OIL BLEVINS A SWD 1\_JUNE29\_MSTK      **Scale:** 1:240      **Format:** COMSAT  
**Segment:** V1.D1.S5 Reprocess of MAIN      **Acquired:** 2014-06/29 18:59 3.5.0-12850  
**Reference:** 0      **Processed:** 2014-06/29 20:13 3.5.0-12850

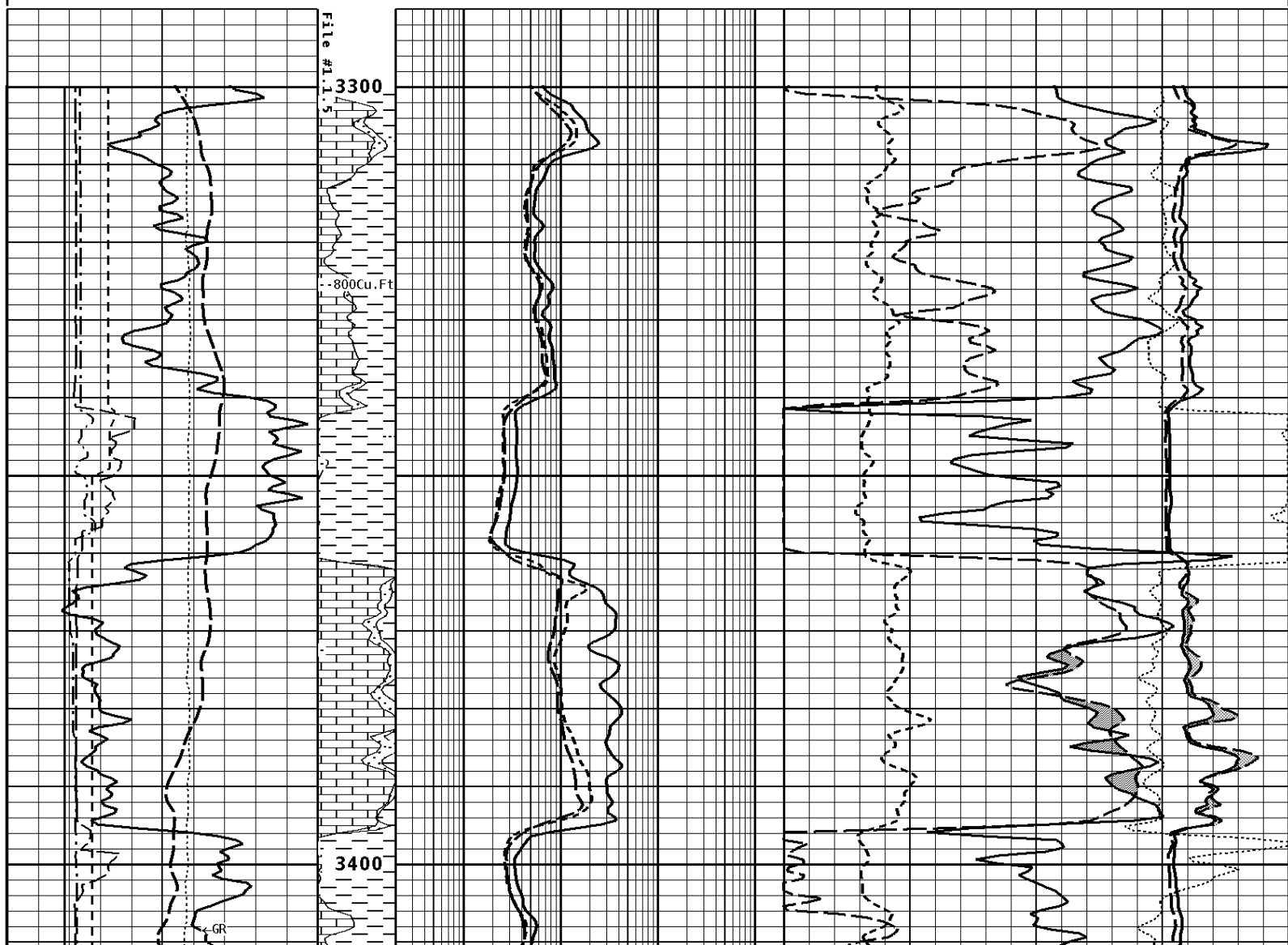
<b>CALIPER MICRO INCHES (IN)</b>	
16	26
6	16

**BIT SIZE INCHES (IN)**

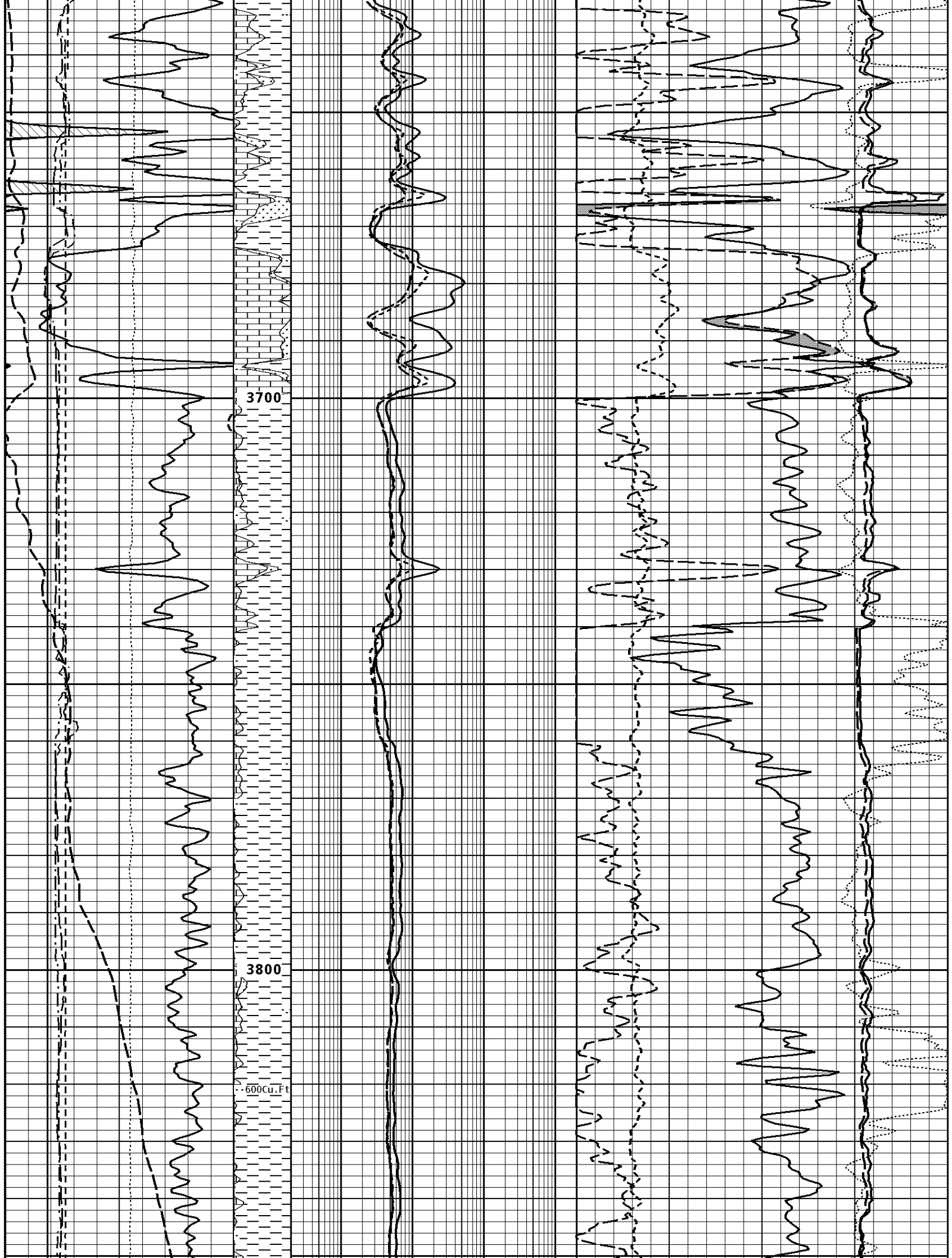
**NORHAL OHNM**

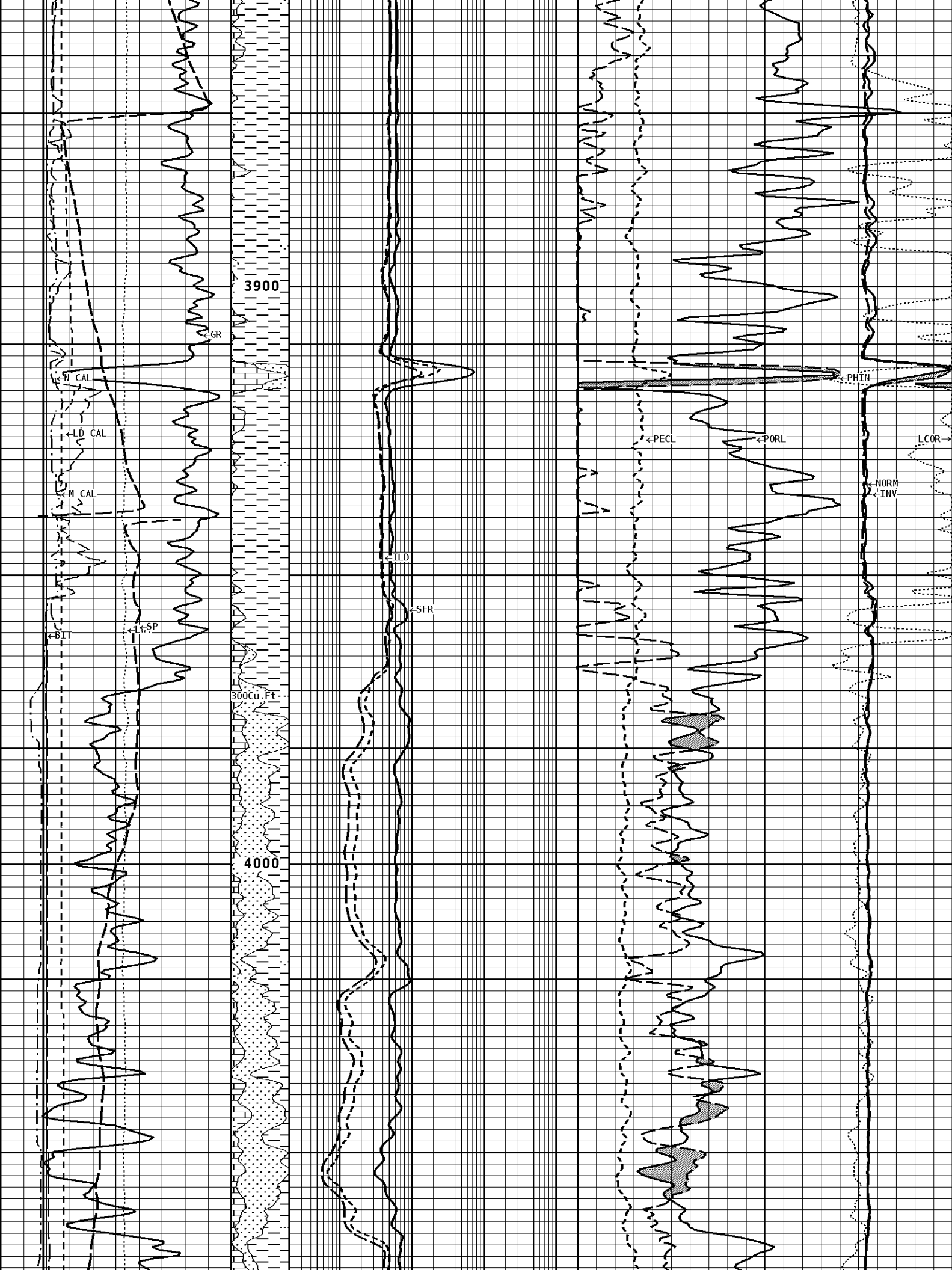
6	16				0	40
NEUTRON (Y) CALIPER INCHES (IN)					INVERSE OHMM	
16	26				0	40
6	16					
DENSITY (X) CALIPER INCHES (IN)		Volume Quartz		DENSITY CORRECTION G/CC		
16	26				-0.75	0.25
6	16					
TENSION LBS		Volume Calcite	SHALLOW FOCUSED RESISTIVITY OHMM	PE CROSS-SECTION BARNS/ELECTRON		
10000	0		0.2	2000.0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

**1:240 MAIN SECTION**









500Cu.Ft

4100

4200





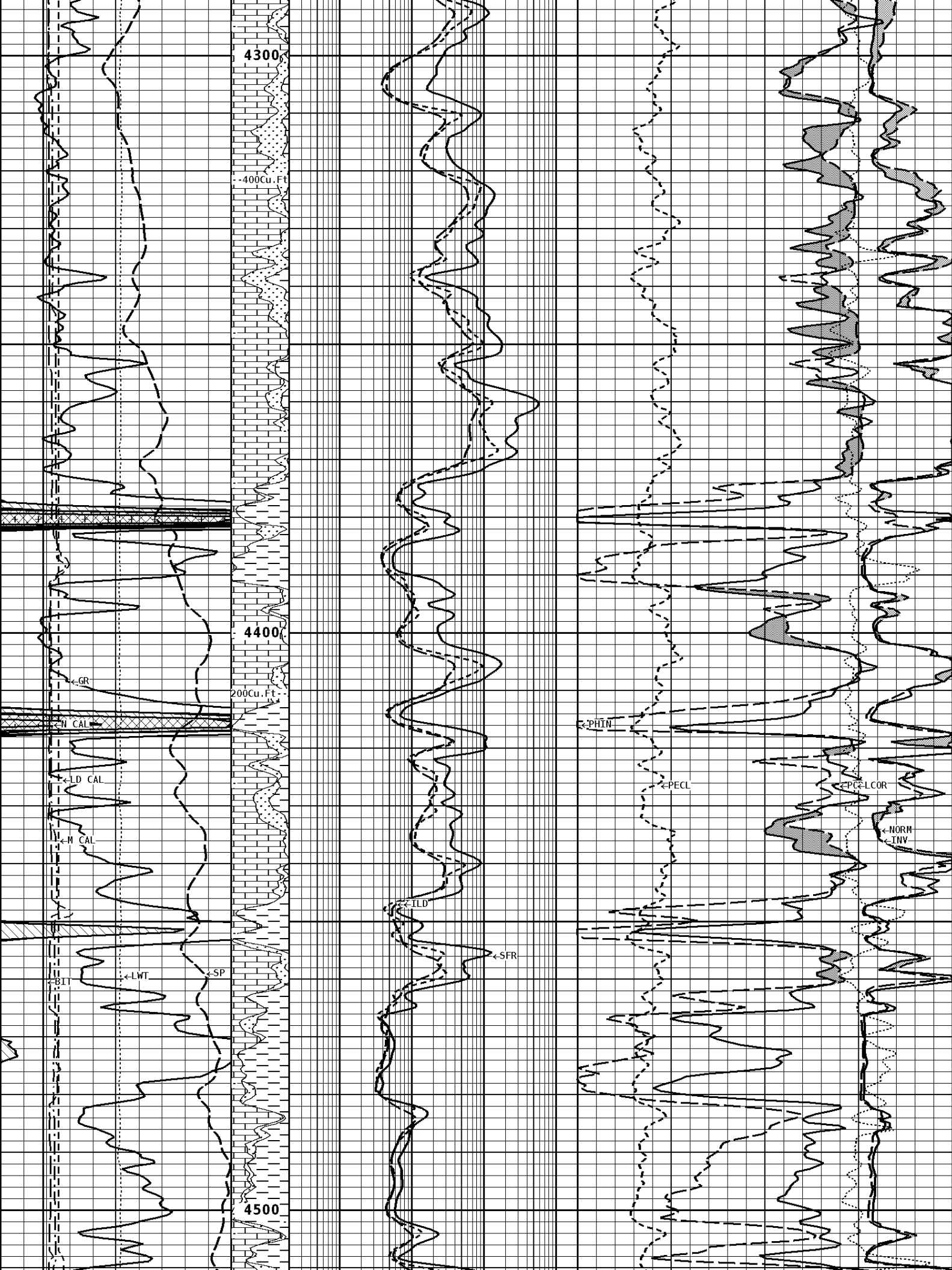
4300

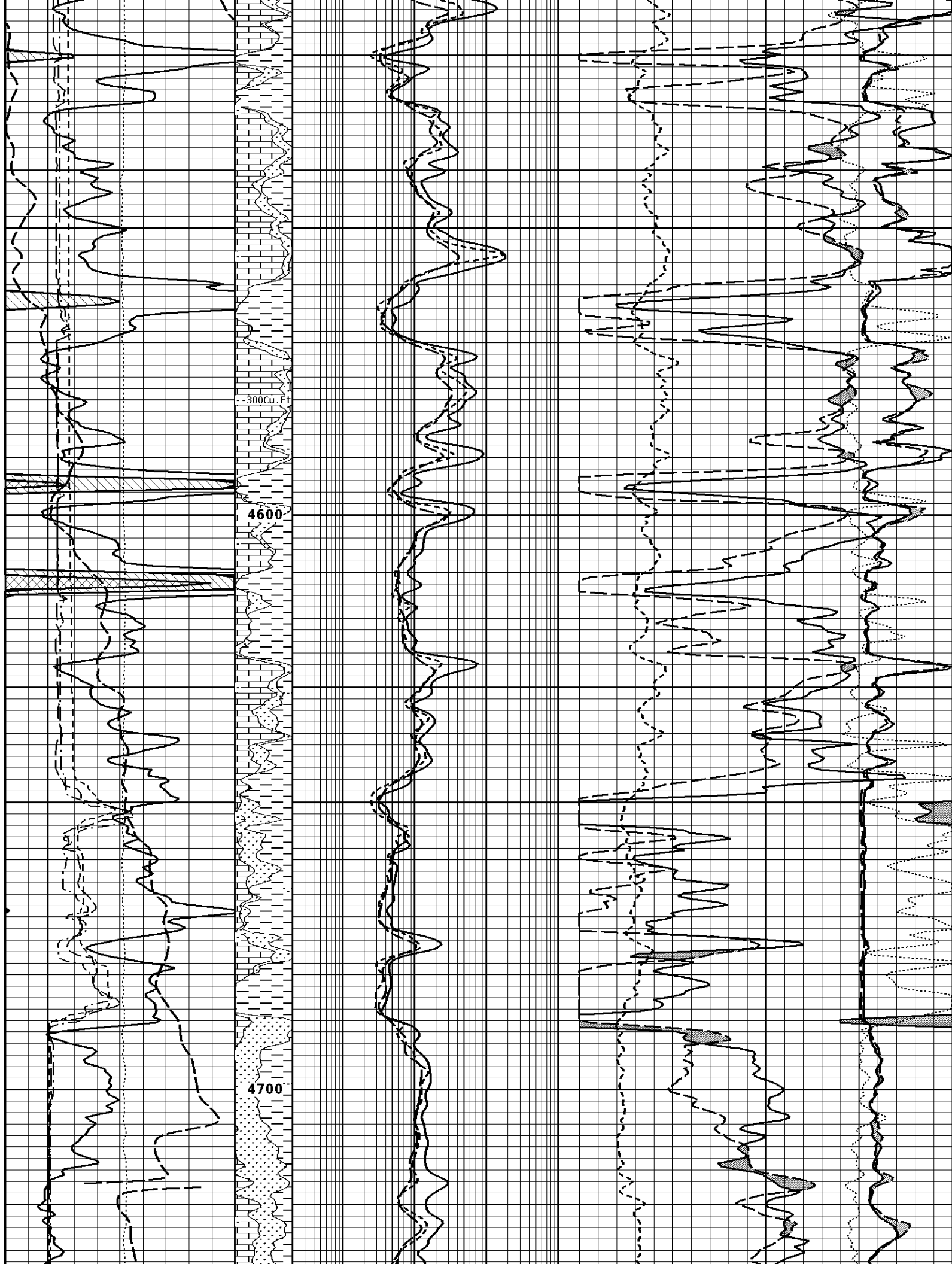
400cu. Ft

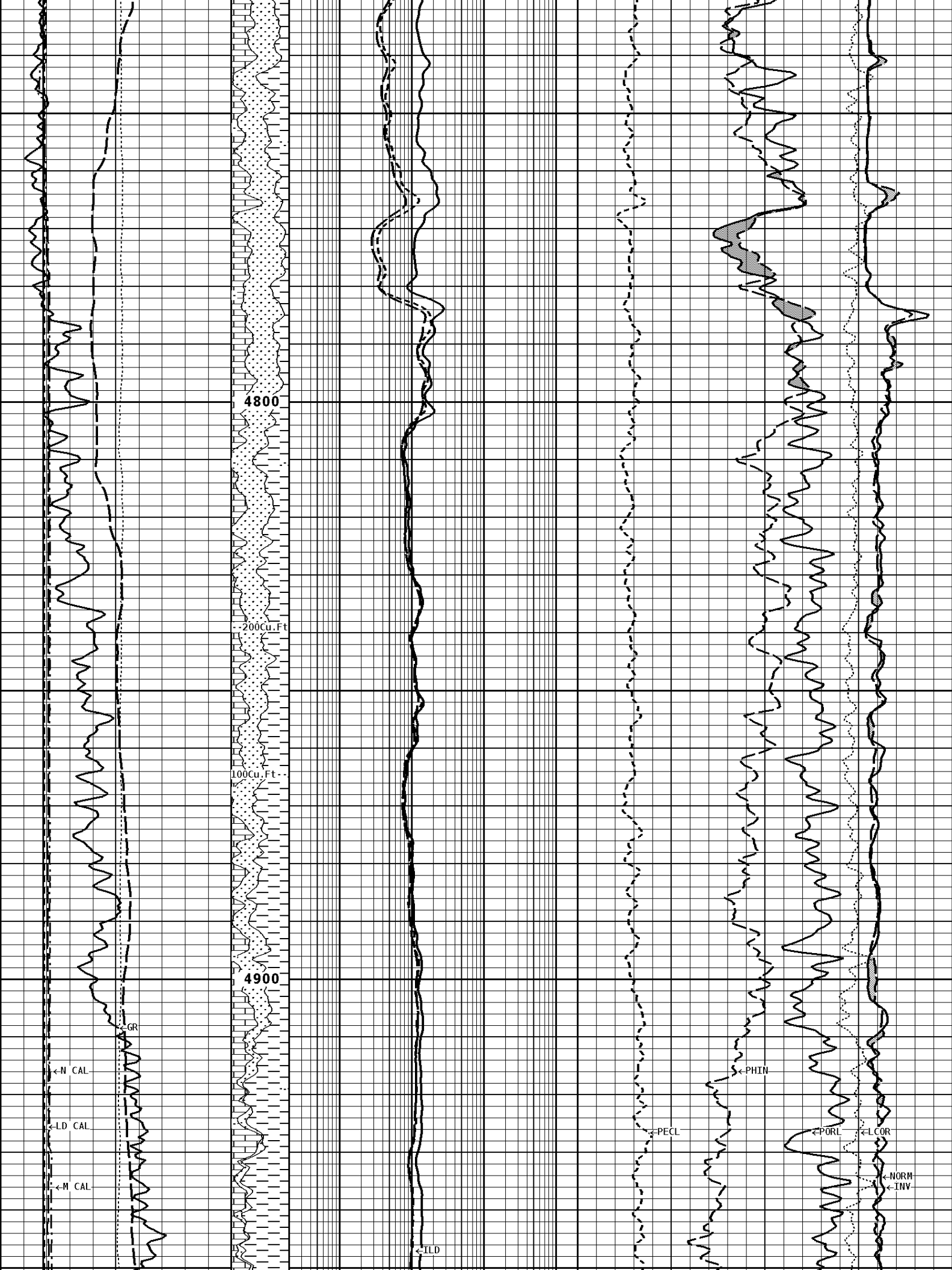
4400

200cu. Ft

4500







4800

200cu. Ft

100cu. Ft

4900

<-N CAL

<-LD CAL

<-M CAL

GR

<-ILD

<-PECL

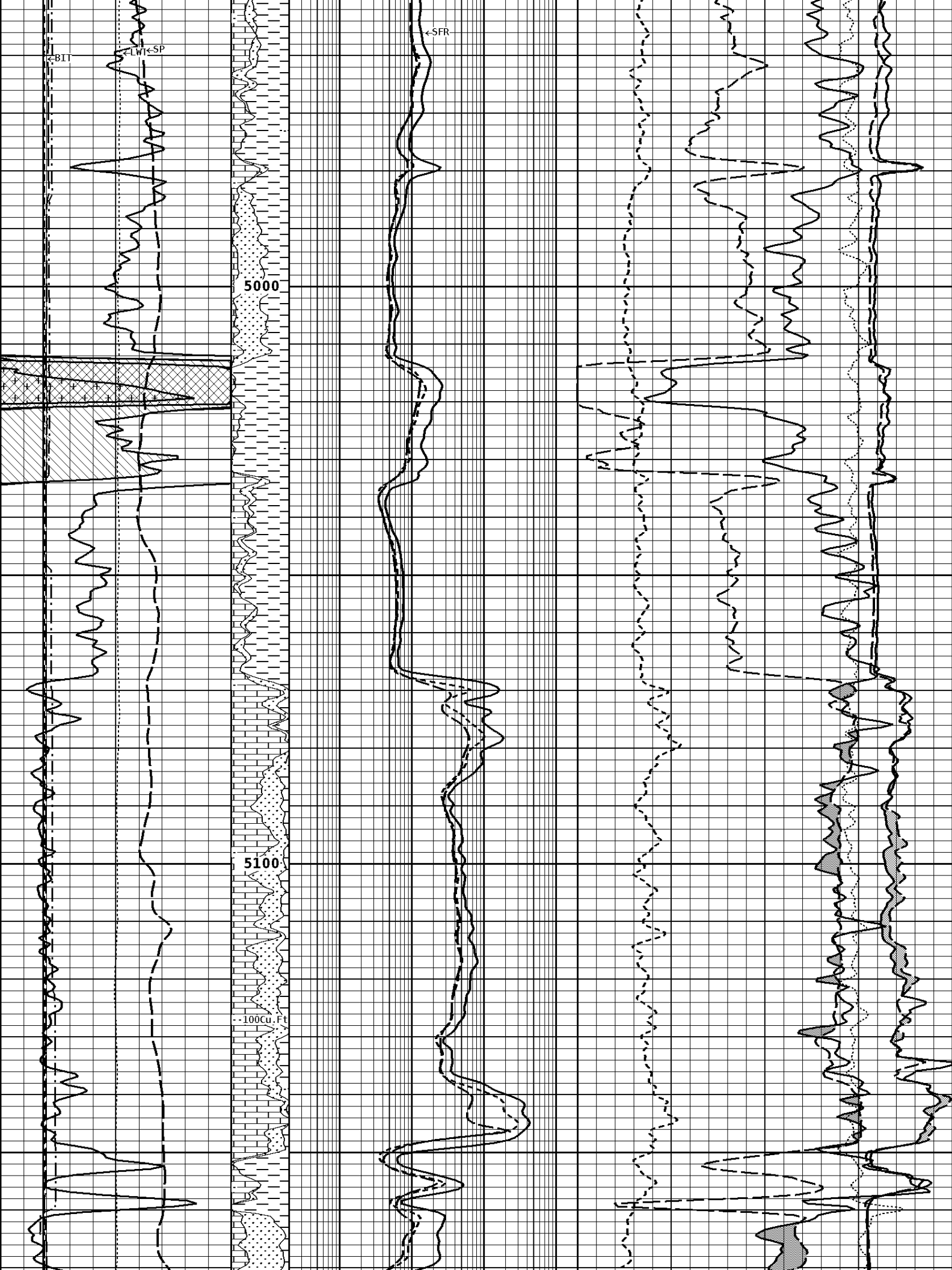
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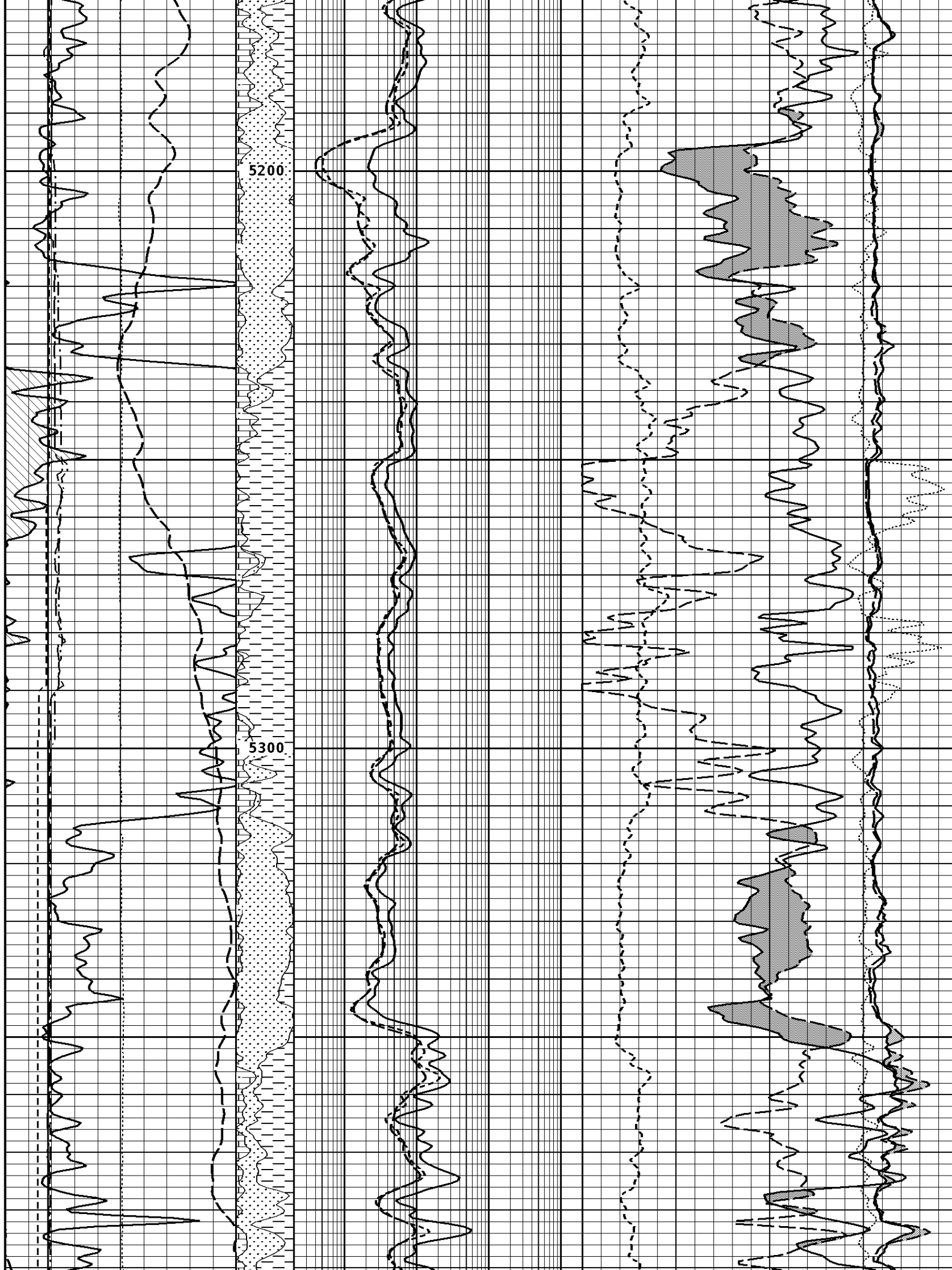
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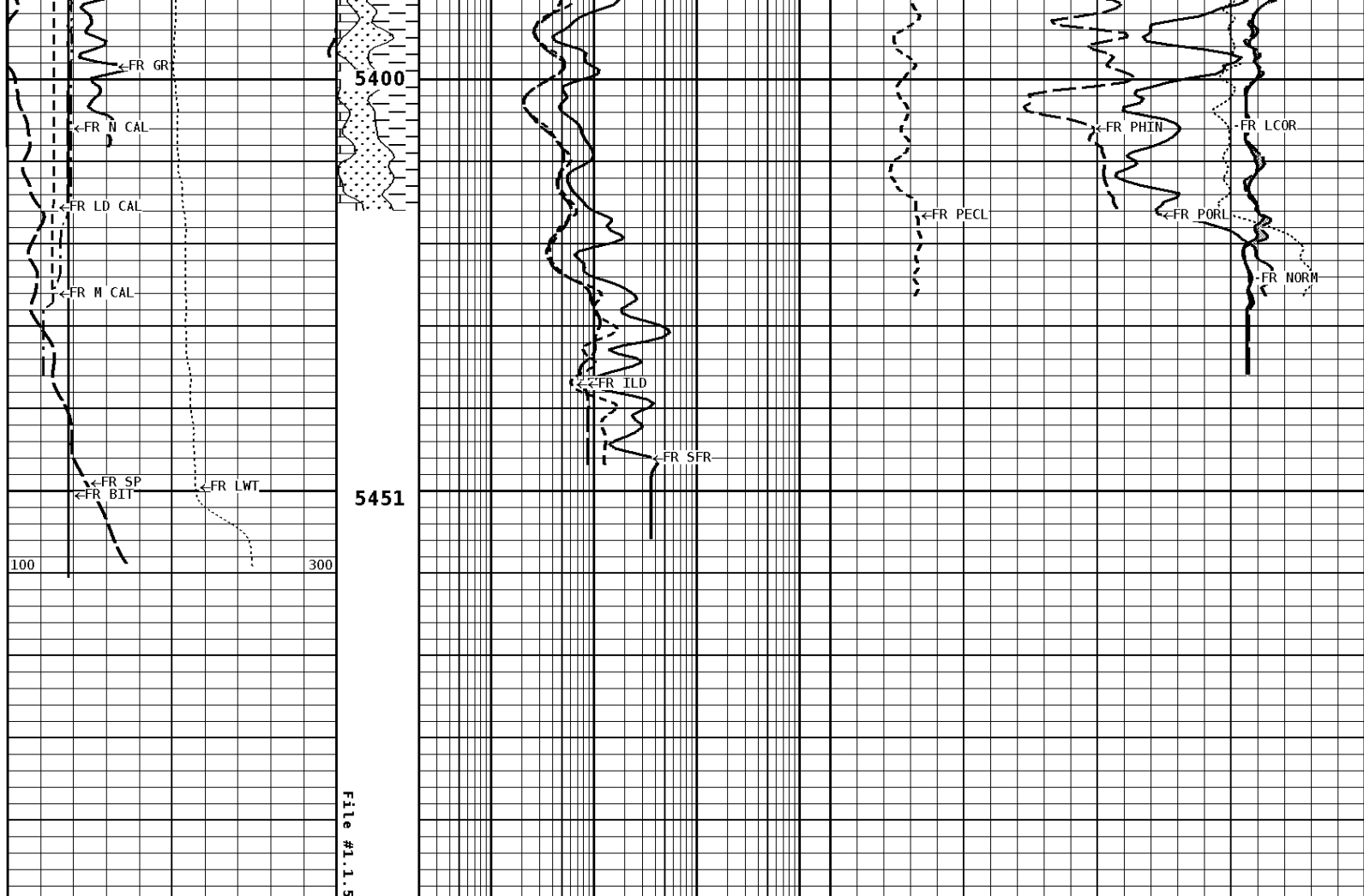
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<-NORM

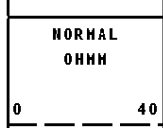
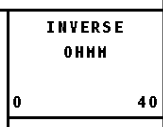
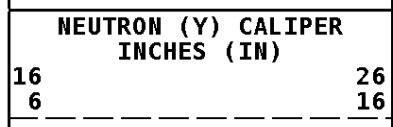
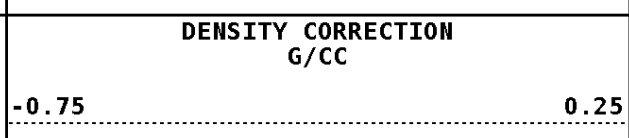
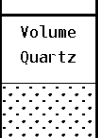
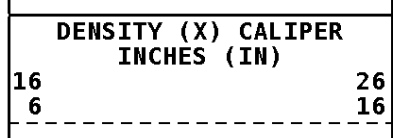
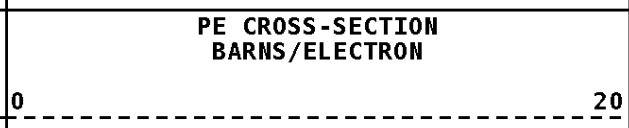
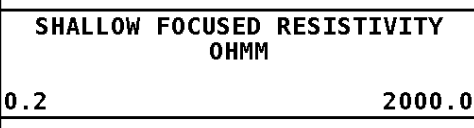
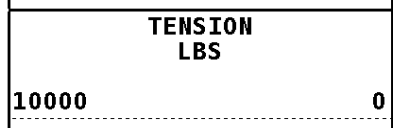
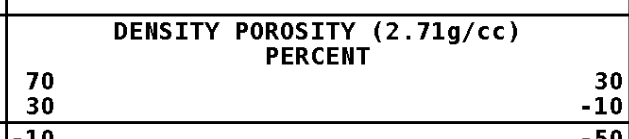
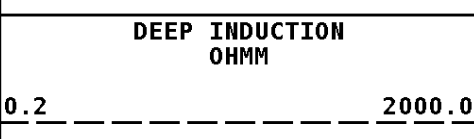
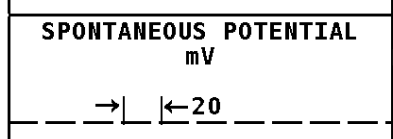
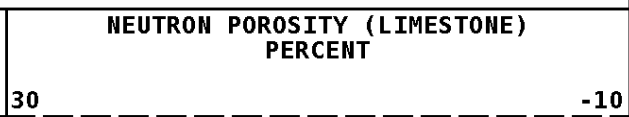
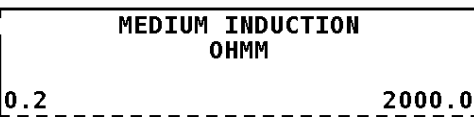
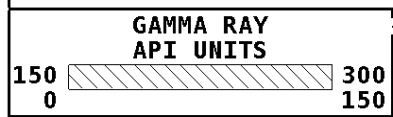
<-INV







**1:240 MAIN SECTION**



16 26  
6 16

**\* Borehole Zone Factors \***

<b>Zone 1 99999.0 to 0.0 Feet</b>		
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	
Hole Substance	Fluid	
BHT Depth	5451.000	ft
Borehole Temperature	132.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	2.000	ohm/m
MSTNG Normal Correction	0.00	ohm/m
MSTNG Inverse Correction	1.50	ohm/m

**Well File:** CHIEFTAIN OIL BLEVINS A SWD 1 JUNE29 MSTK **Scale:** 1:240 **Format:** COMSAT  
**Segment:** V1.D1.S3 Reprocess of REPEAT **Acquired:** 2014-06/29 18:48 3.5.0-12850  
**Reference:** 0 **Processed:** 2014-06/29 18:56 3.5.0-12850

<b>CALIPER MICRO INCHES (IN)</b>	
16	26
6	16

<b>BIT SIZE INCHES (IN)</b>	
6	16

<b>NEUTRON (Y) CALIPER INCHES (IN)</b>	
16	26
6	16

<b>NORMAL OHMM</b>	
0	40
<b>INVERSE OHMM</b>	
0	40

<b>DENSITY (X) CALIPER INCHES (IN)</b>	
16	26
6	16

Volume Quartz

<b>DENSITY CORRECTION G/CC</b>	
-0.75	0.25

<b>TENSION LBS</b>	
10000	0

Volume Calcite

<b>SHALLOW FOCUSED RESISTIVITY OHMM</b>	
0.2	2000.0

<b>PE CROSS-SECTION BARNES/ELECTRON</b>	
0	20

<b>SPONTANEOUS POTENTIAL mV</b>	
→	←20

Volume Dolo/Shale

<b>DEEP INDUCTION OHMM</b>	
0.2	2000.0

<b>DENSITY POROSITY (2.71g/cc) PERCENT</b>	
70	30
30	-10
-10	-50

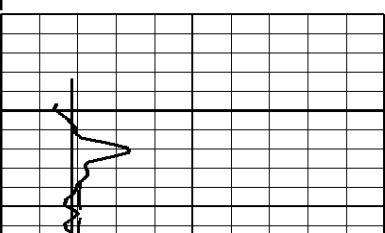
<b>GAMMA RAY API UNITS</b>	
150	300
0	150

BHV AHV CU.FT
---------------

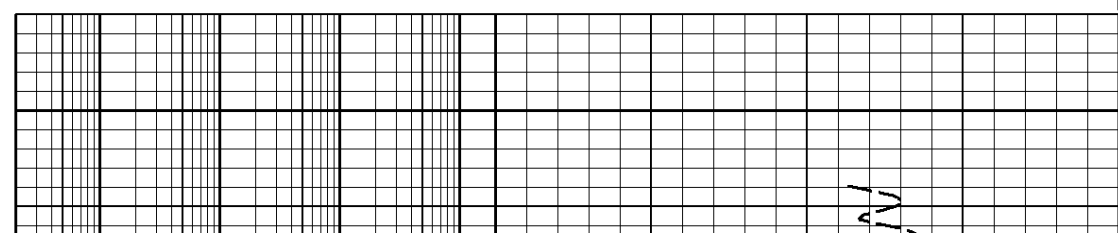
<b>MEDIUM INDUCTION OHMM</b>	
0.2	2000.0

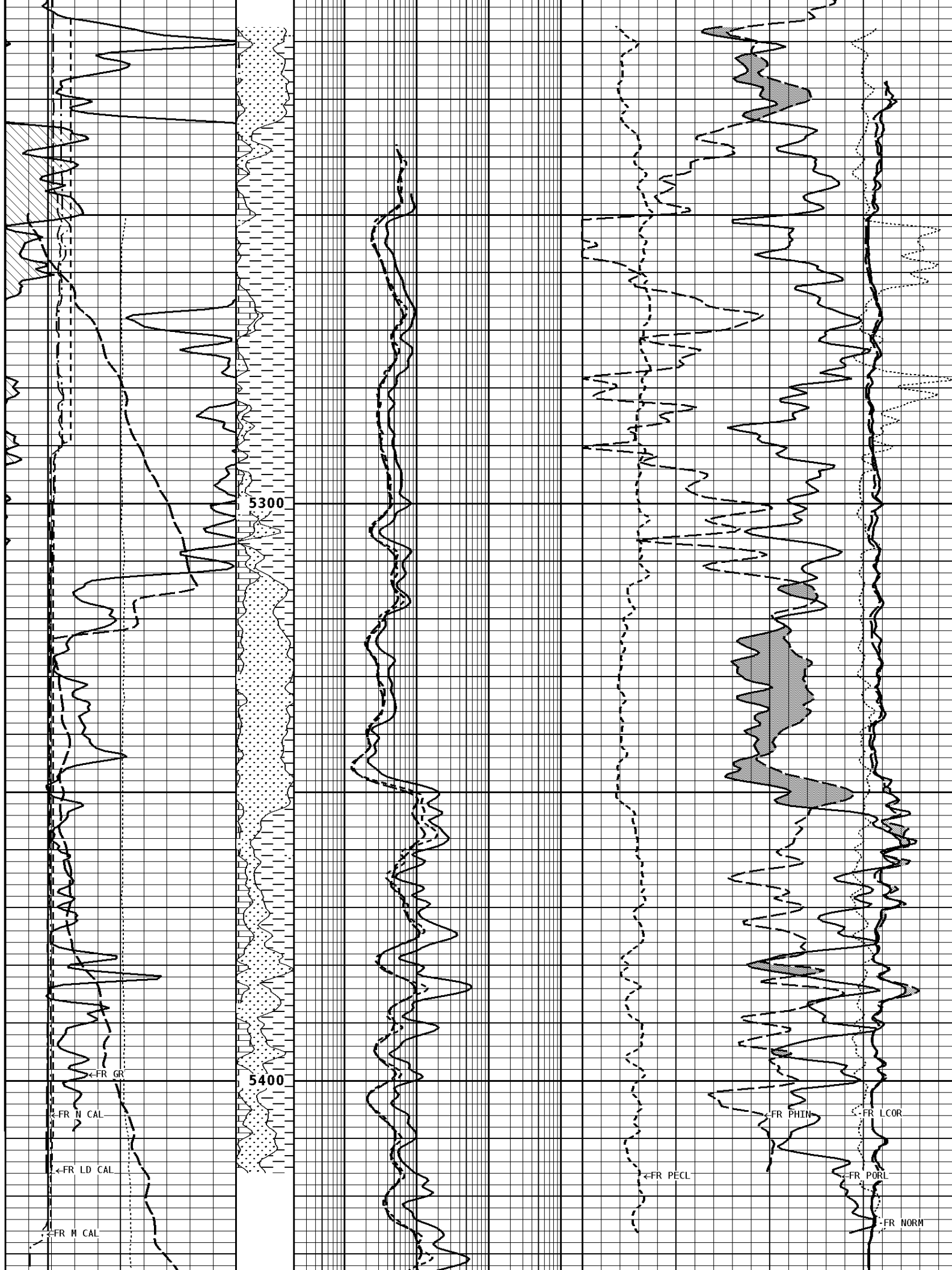
<b>NEUTRON POROSITY (LIMESTONE) PERCENT</b>	
30	-10

**1:240 REPEAT SECTION**



File #1.1.3 5200





5300

5400

←FR GR

←FR N CAL

←FR LD CAL

←FR M CAL

←FR PECL

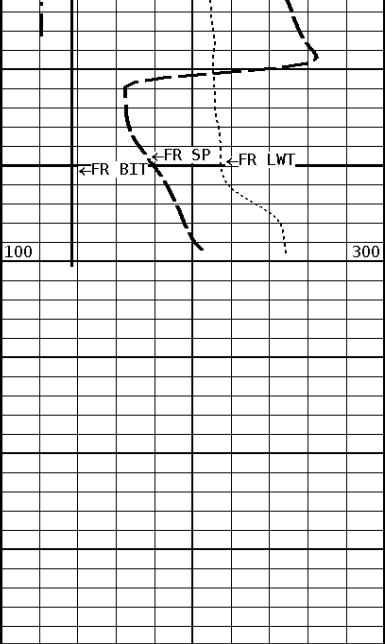
←FR PHIN

←FR L COR

←FR PORL

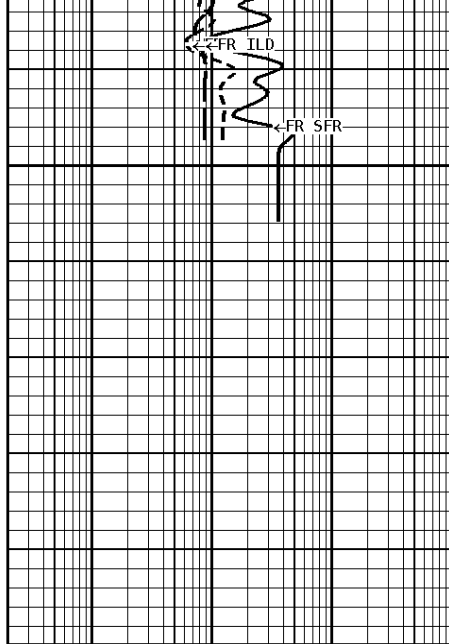
←FR NORM





5451

File #1.1.3



**1:240 REPEAT SECTION**

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

**\* Borehole Zone Factors \***

<b>Zone 1 99999.0 to 0.0 Feet</b>		
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 (PHT N)	_____	Disable

Hole Substance	Fluid
BHT Depth	5451.000 ft
Borehole Temperature	132.0 degF
Temperature Gradient	1.00 DFHF
Resistivity Of Mud	2.000 ohm/m
MSTNG Normal Correction	0.00 ohm/m
MSTNG Inverse Correction	1.50 ohm/m

**\* Calibration Summary \***

<b>Shop Calibration</b>					
<b>GRT-B</b>					
Performed : 27-JUN-2014			Time : 09:08		
Sensor Suite : GR-GR5			ID : GRT-BB-117		
	Measured	Units	Calibrated	Units	
	Background	Jig	Jig		
GR	43	344 CPS	175	GRAPI	

<b>Shop Calibration</b>					
<b>CNT-AA</b>					
Performed : 27-JUN-2014			Time : 10:08		
Sensor Suite : CALI-BCN			ID : NDT-AC-027		
	Jig - Measured		Jig - Calibrated	Units	
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.1	14.7	6.0	12.0	IN.

Performed : 27-Jun-2014			Time : 10:23		
Sensor Suite : BHC NEUT			ID : CNP-AE-42		
Source ID : N-1044					
	Measured	Tank	Verification	Units	
		Calibrated	Jig		
N/F	3.6222	3.6893	3.7132		
Porosity	19.5	20.5	20.9	%	

<b>Shop Calibration</b>					
<b>LDT-DA</b>					
Performed : 27-JUN-2014			Time : 09:30		
Sensor Suite : CALI-LTH			ID : NDT-BB-129		
	Jig - Measured		Jig - Calibrated	Units	
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	7.2	10.6	6.0	12.0	IN.

Performed : 27-Jun-2014			Time : 09:25		
Sensor Suite : BHCPENLNG			ID : LDP-DA-50		
Source ID : CSV-587					
<b>Short Space</b>					
	BKGD	Al	Mg	Al+Fe	Units
LSW1	70	453	727	313	CPS
LSW2	77	540	856	401	CPS
LSW3	287	1334	2063	1158	CPS
LSW4	346	1274	1752	1140	CPS
LSW5	32	41	40	40	CPS
LSW6	96	96	96	95	CPS
LSW7	57	60	58	60	CPS
LSW8	2	2	3	2	CPS
QS	0.257	0.232	0.248	0.231	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC
<b>Long Space</b>					
	BKGD	Al	Mg	Al+Fe	Units
LLW1	104	534	2162	346	CPS
LLW2	115	909	3677	674	CPS
LLW3	426	1813	6565	1589	CPS
LLW4	567	1102	2744	1024	CPS
LLW5	65	69	82	68	CPS
LLW6	172	169	163	168	CPS
LLW7	115	113	108	114	CPS
LLW8	5	6	10	6	CPS
QL	0.199	0.199	0.206	0.193	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

<b>Shop Calibration</b>					
<b>MST-DA</b>					
Performed : 28-MAY-2014			Time : 11:44		
Sensor Suite : CALI-MSN			ID : MST-DA-25		

	Jig - Measured		Jig - Calibrated		Units
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	6.9	12.6	6.0	12.0	IN.

Performed : 28-MAY-2014      Time : 11:44  
 Sensor Suite : MSTDA-NI      ID : MST-DA-25

		Internal				
	Zero	Measured Reference	Units	Zero	Calibrated Reference	Units
INV-V	0.0	30010.6		0.00	1546.00	MV
NOR-V	0.1	30159.6		0.00	1546.00	MV
IN-C	0.0	57334.5		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					55.11	OHMM

**Shop Calibration  
PIT-CA**

Performed : 15-APR-2014      Time : 14:04  
 Sensor Suite : P-IND-T      ID : PIT-CA-062

		Medium				
		Measured R	X	Calibrated R	X	Units
Air		130583	130713	-0.1	-0.1	MMHOS
Zero		131074	131072	27.3	6.4	MMHOS
Reference		253427	250043	5027.3	5006.4	MMHOS
Loop		130592	221688	3823.7	3823.0	MMHOS
Sonde Error				-1.3	-15.8	MMHOS
Cond				5027.3	5006.4	MMHOS

		Deep				
		Measured R	X	Calibrated R	X	Units
Air		129032	131483	-0.0	0.1	MMHOS
Zero		131074	131059	39.8	-17.0	MMHOS
Reference		233823	231658	2039.8	1983.0	MMHOS
Loop		129039	222242	1804.5	1804.3	MMHOS
Sonde Error				-8.5	-8.7	MMHOS
Cond				2039.8	1983.0	MMHOS

		Temperature				
		Measured Low	High	Calibrated Low	High	Units
		16980.0	56920.0	70.0	350.0	DEGF

Performed : 15-Apr-2014      Time : 13:51  
 Sensor Suite : SFL      ID : PIT-CA-062

		Internal				
		Measured Zero	Reference	Calibrated Zero	Reference	Units
Im		32763.3	48949.7	0.0	7028.0	uA
Ib		32767.3	48756.3	0.0	1750.0	mA
MOM1		32726.5	57507.3	0.0	175.0	mV
Equivalent SFL					43.97	OHMM

Performed : 15-Apr-2014      Time : 13:49  
 Sensor Suite : P-SP      ID : PIT-CA-062

		Internal				
		Measured Zero	Reference	Calibrated Zero	Reference	Units
		32765.9	58980.4	0.0	1000.0	mV



Company: CHIEFTAIN OIL CO., INC  
 Well: BLEVINS A SWD #1  
 Location: 1970' FSL & 450' FWL  
 Logged: 06-29-2014  
 K.B. Elev: 1367.0 Ft