Tucker ENERGY SERVICES

MICRO LOG

Company PICKRELL DRILLING CO, INC.
Well COYKENDALL #10
Field SPIVEY-GRABS-BASIL
County KINGMAN
State KANSAS
Country USA
API No. 15-095-22267-00-00

File No : TUL-58233
Company : PICKRELL DRILLING CO, INC.
Well : COYKENDALL #10
Field : SPIVEY-GRABS-BASIL
County : KINGMAN
State : KANSAS
Country : USA
API No : 15-095-22267-00-00

Location :
1980' FSL & 760' FEL
100' W OF NE SE

LSD : **Sect :** 36 **Twp :** 29S **Rge :** 07W

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB** 1469.00	Ft	GRT	MLT
Log Measured From:	KB	**DF** 1468.00	Ft	CNT	PIT
Above Permanent Datum:	10.00 Ft	**GL** 1459.00	Ft	LDT	

Date	2013-01-31			
Run Number	1			
Depth--Driller	4220.0 Ft			
Depth--Logger	4218.0 Ft			
First Reading	2195.0 Ft			
Last Reading	2800.0 Ft			
Casing--Driller	223.0 Ft			
Casing--Logger	223.0 Ft			
Bit Size	7.875 In			
Casing Size	8.625 In			
Hole Fluid Type	WBM			
Density	9.2 LBS/GAL			
Fluid Loss	9.0 CC			
PH/Viscosity	10.0	53.0 SEC		
Sample Source	MEASURED			
RM@Measured Temp.	1.100 @ 65 F			
RMF@Measured Temp	0.940 @ 65 F			
RMC@Measured Temp.	1.270 @ 65 F			
Source RMF/RMC	CALCULATED	CALCULATED		
RM@BHT	0.690 @ 108 F			
Time Circulation Stopped				
Max Recorded Temp.	108 F			
Equipment/Base	TRK 123	TULSA		
Recorded By	Z. HICKMAN			
Witnessed By	R. STOLZLE			

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

Size (In)	Bottom (Ft)
7.875	4220.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	24.00	223.00

Run Number	1	
Date	2013-01-31	
Date/Time On Bottom	2013-01-31 16:00	
Depth to Fluid	0.0 Ft	
Salinity	0.000 PPM	
RMF@BHT	0.580 @ 108 F	
RMC@BHT	0.790 @ 108 F	

Run Number 1

Comments

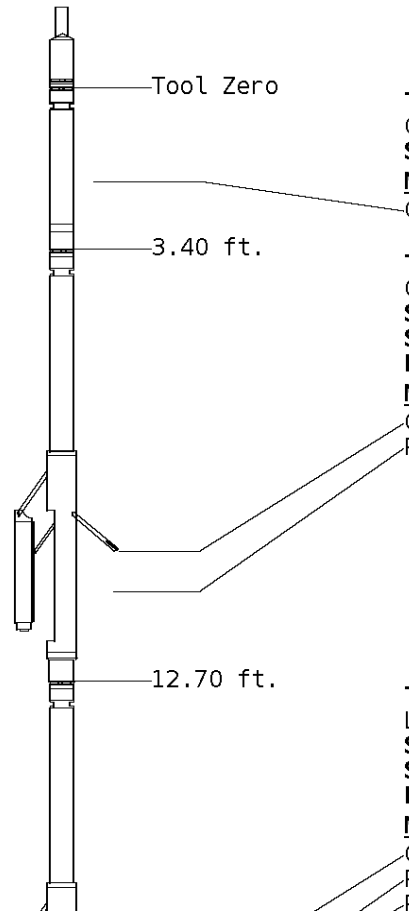
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
GRT, CNT, LDT, MLT, AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 5.50" PRODUCTION CASING.
PHIN IS CALIPER CORRECTED
DETAIL PULLED FROM TD TO 2800'

GRT: GRP.
CNT: PHIN, CLCNIN.
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
MLT: NOR_RF, INV_RF, MSCLPIN.
PIT: ILD, ILM, SPU, SFLAEC, CIRD.

OPERATORS:
D. HOPPER
M. RUBY

Tool String Schematic

Total Tool Length - 53.57 **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-BC-41

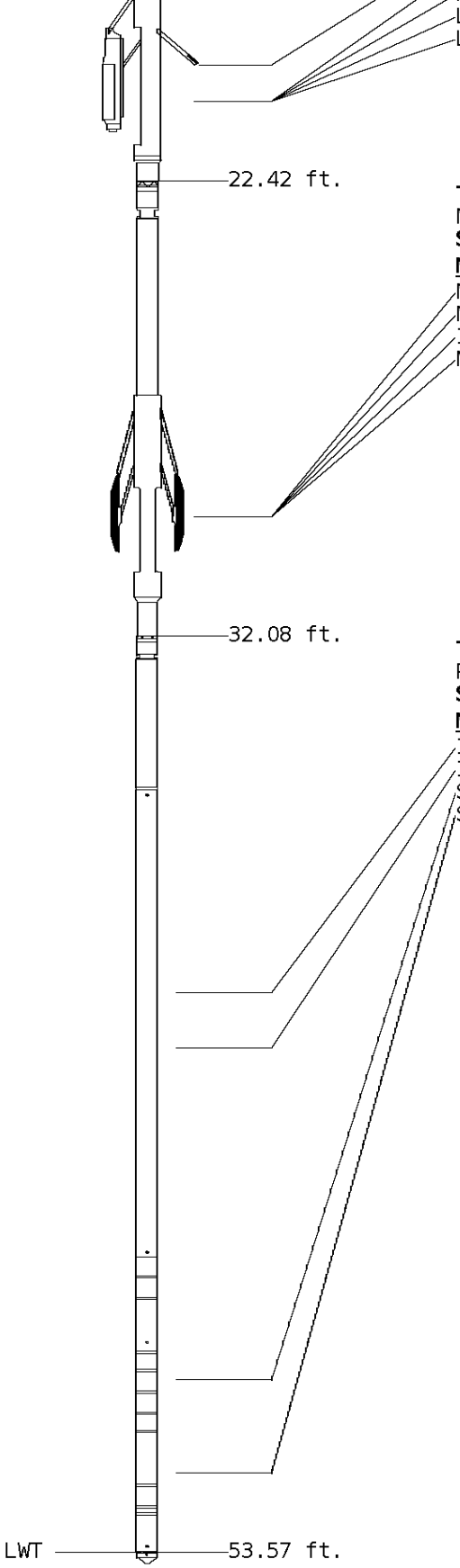
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.57

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BD-123
Source ID :N-1045
Pad ID :CNP-AA-024

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	44.17
PHIN	6.80	10.20	43.37

Tool: LDT-DF **Length:** 9.72 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-F
Sonde ID :PDT-GA-466
Source ID :2991GW
Pad ID :LDP-DA-066

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	19.12	34.45
PEL	7.42	20.12	33.45
PES	7.82	20.52	33.05



LDEN	7.62	20.32	33.25
LCOR	7.62	20.32	33.25

Tool: MST-DA **Length:** 9.66 **ft.** **O.D.** 6.00 **in.**
Micro Spherically Focused (IC)
Sonde ID :MST-DA-36

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	30.02	23.55
MSCLP	7.60	30.02	23.55
INV	7.60	30.02	23.55
NOR	7.60	30.02	23.55

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AB-005

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	41.00	12.56
ILM	10.10	42.18	11.39
SFLU	17.49	49.57	4.00
SP	20.60	52.68	0.88

Well File: PICK_COY_10_JAN_31_MSTK **Scale:** 1:240
Segment: V1.D1.S5 MAIN **Acquired:** 2013-01/31 16:33 3.2.0-11401
Reference: 0 **Processed:** 2013-01/31 18:01 3.2.0-11401

BIT SIZE INCHES (IN)	
6	16
CALIPER MICRO INCHES (IN)	
16	26

16 26
6 16

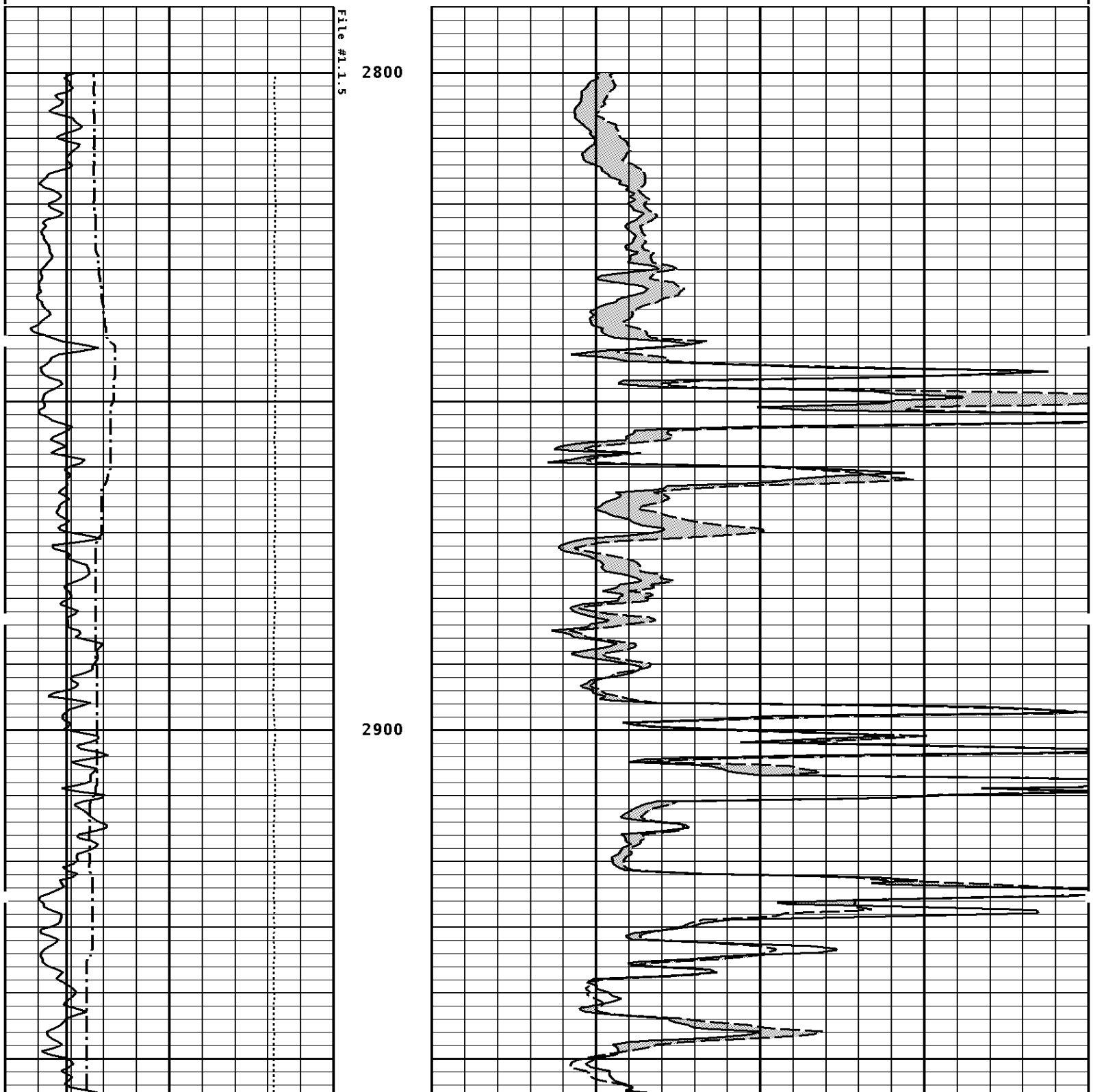
TENSION
LBS
10000 0

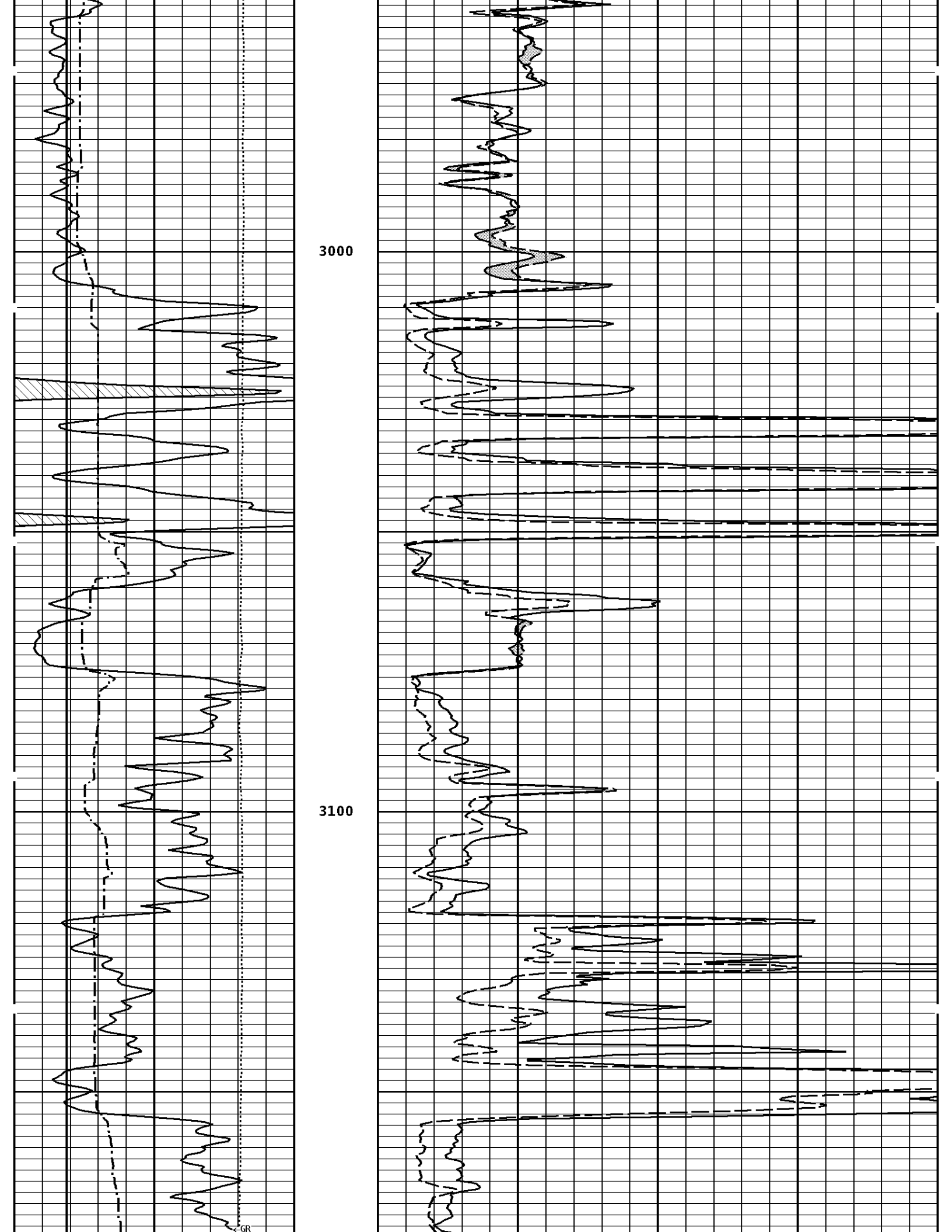
GAMMA RAY
API UNITS
150 300
0 150

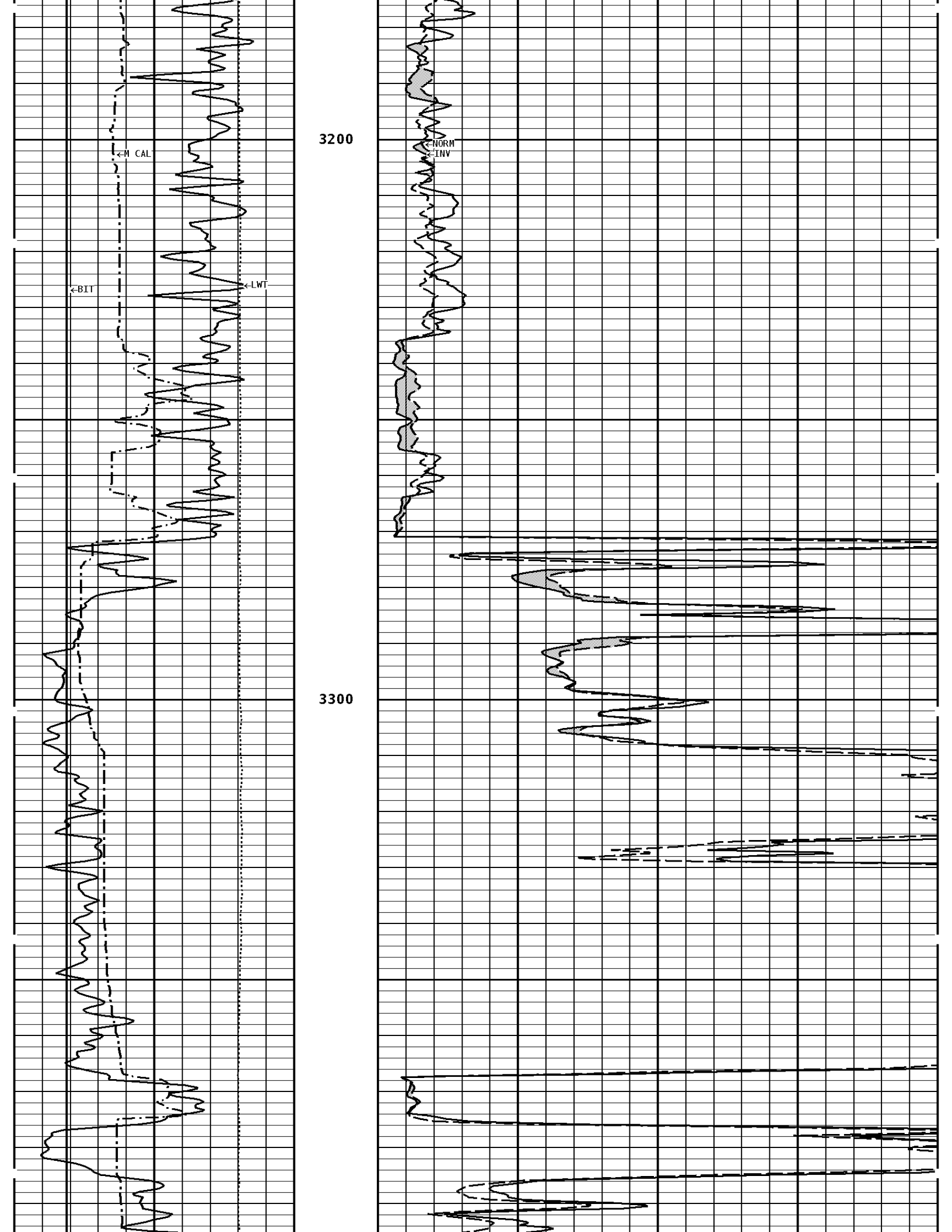
INVERSE
OHMM
0 40

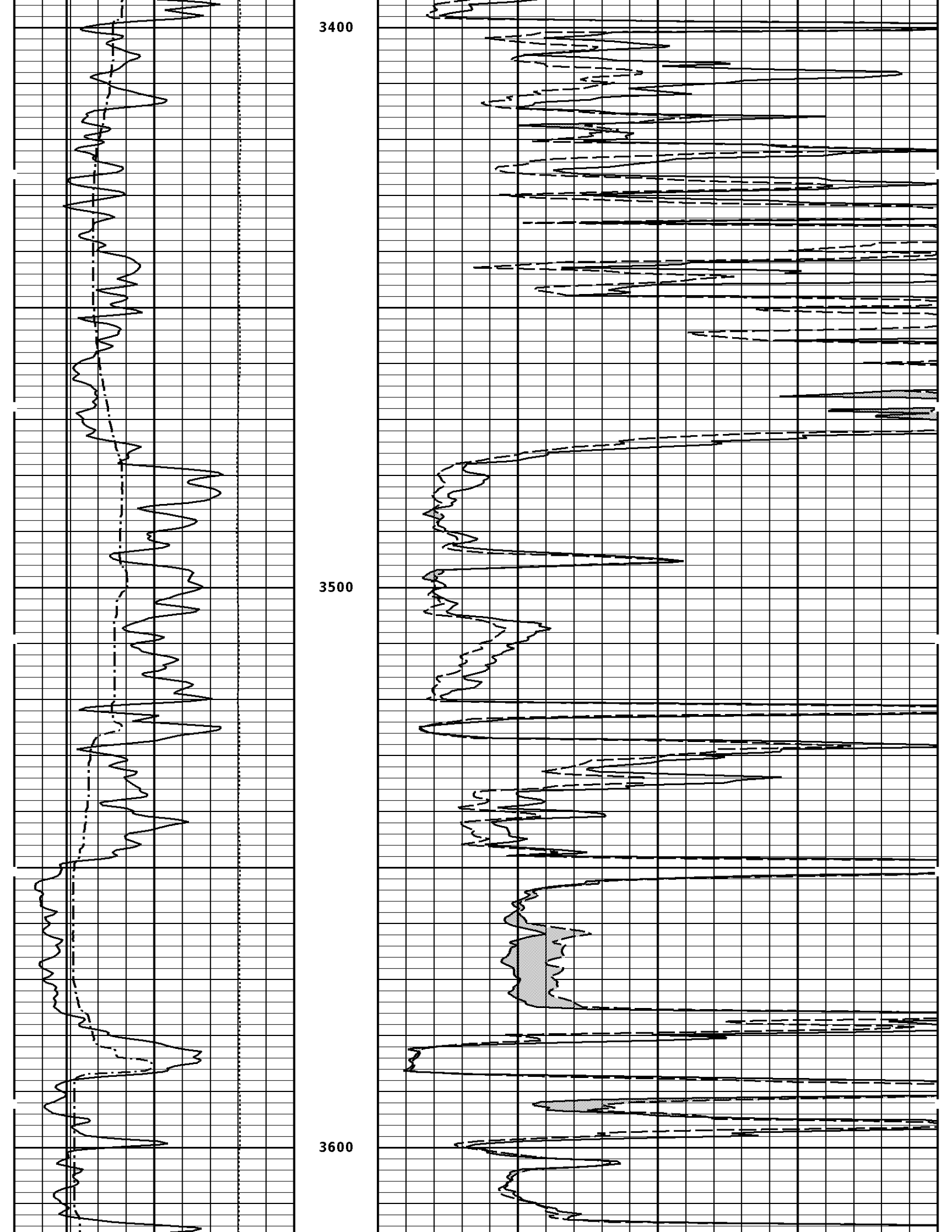
NORMAL
OHMM
0 40

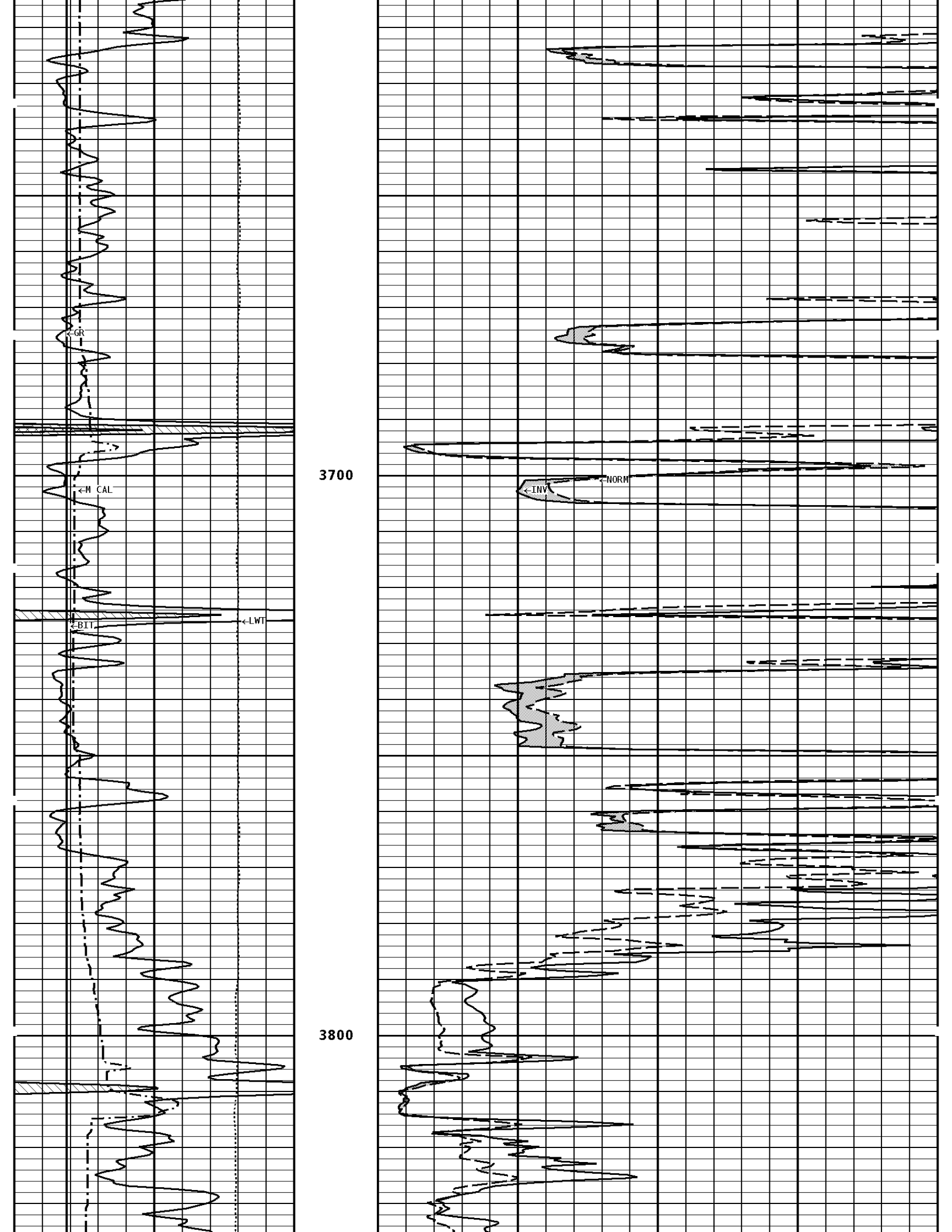
1:240 MAIN SECTION

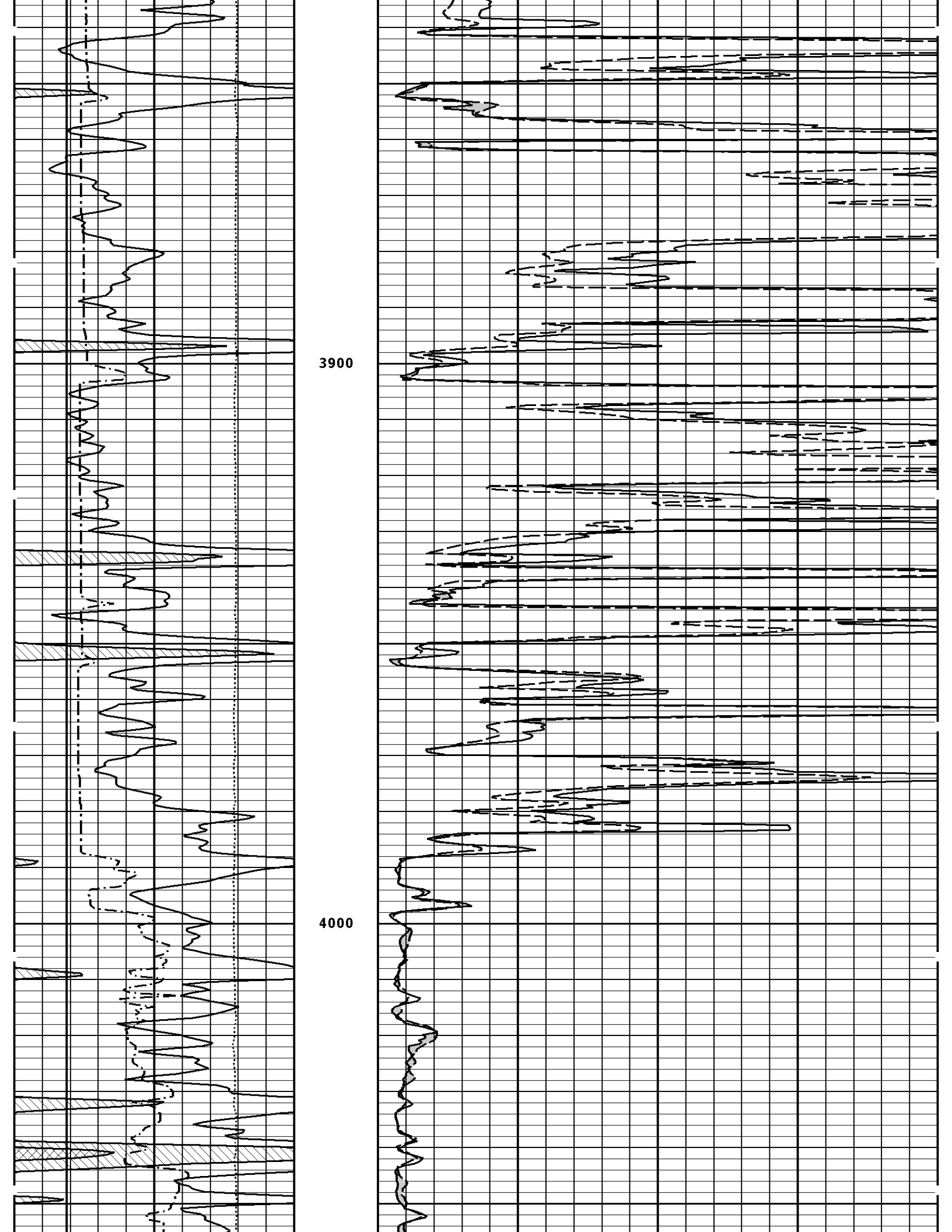


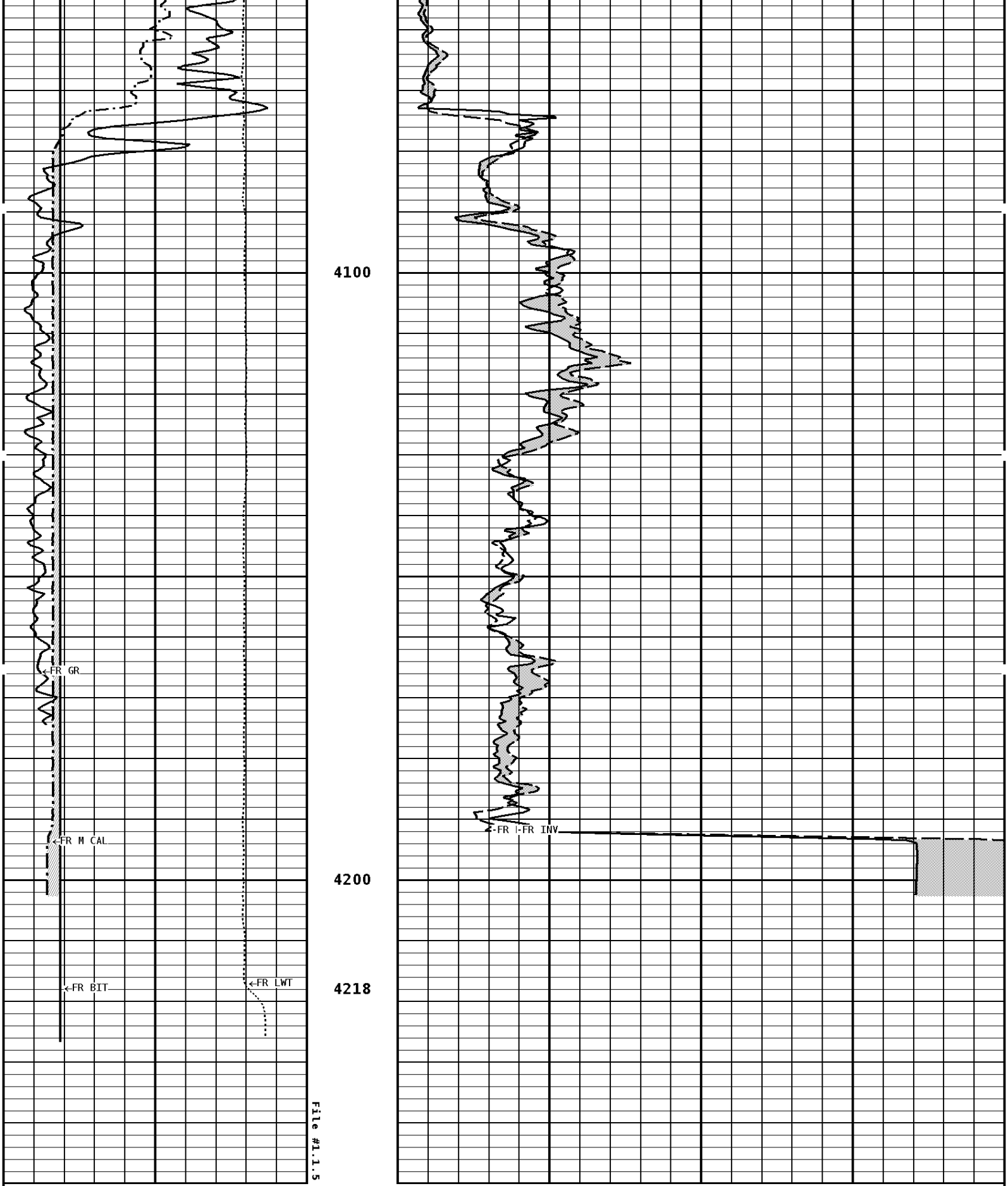

3000
3100
GR


3200
3300
←M CAL
←BIT
←LWT
←NORM
←INV


3400
3500
3600


←GR
←M CAL
←BIT
←LWT
3700
←NORM
←INV
3800


3900
4000



1:240 MAIN SECTION

GAMMA RAY
API UNITS
150 300

NORMAL
OHMM

0 150

TENSION
LBS
10000 0

CALIPER MICRO
INCHES (IN)
16 26
6 16

BIT SIZE
INCHES (IN)
6 16

0 40

INVERSE
OHMM
0 40

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	7.875	in
MSTNG Normal Correction	0.00	ohm/m
MSTNG Inverse Correction	0.00	ohm/m

Well File: PICK_COY_10_JAN_31_MSTK
Segment: V1.D1.S4 REPEAT
Reference: 0

Scale: 1:240
Acquired: 2013-01/31 16:20 3.2.0-11401
Processed: 2013-01/31 18:01 3.2.0-11401

BIT SIZE
INCHES (IN)
6 16

CALIPER MICRO
INCHES (IN)
16 26
6 16

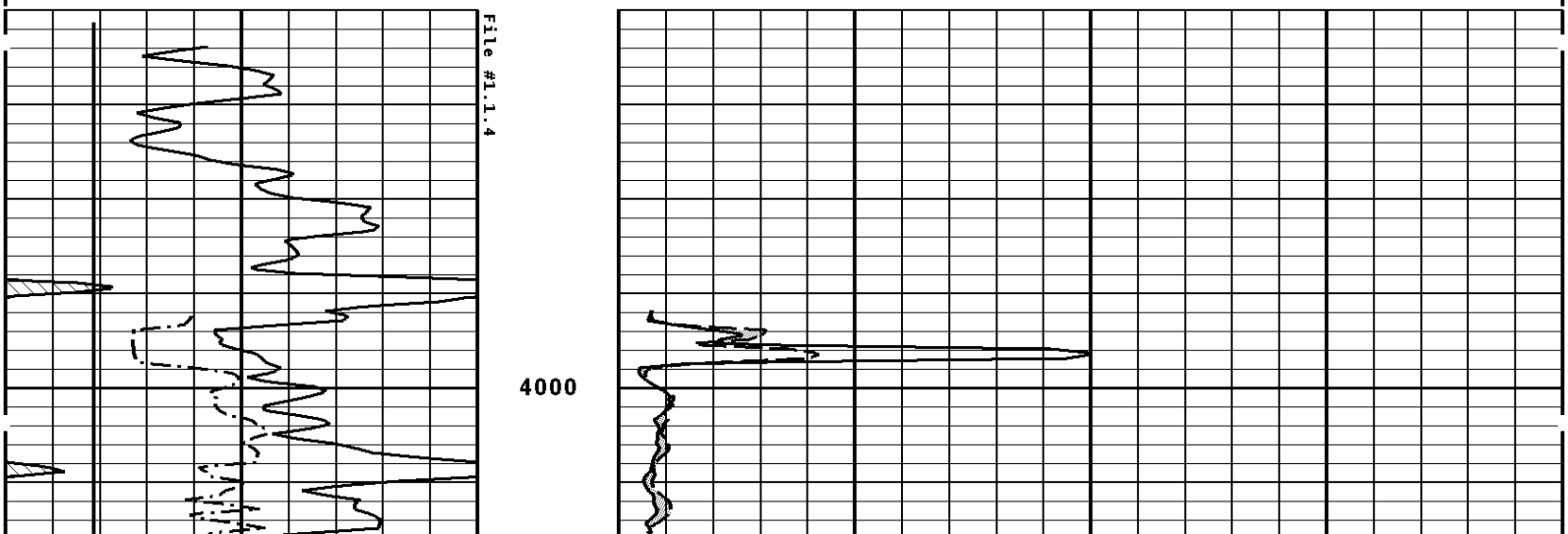
TENSION
LBS
10000 0

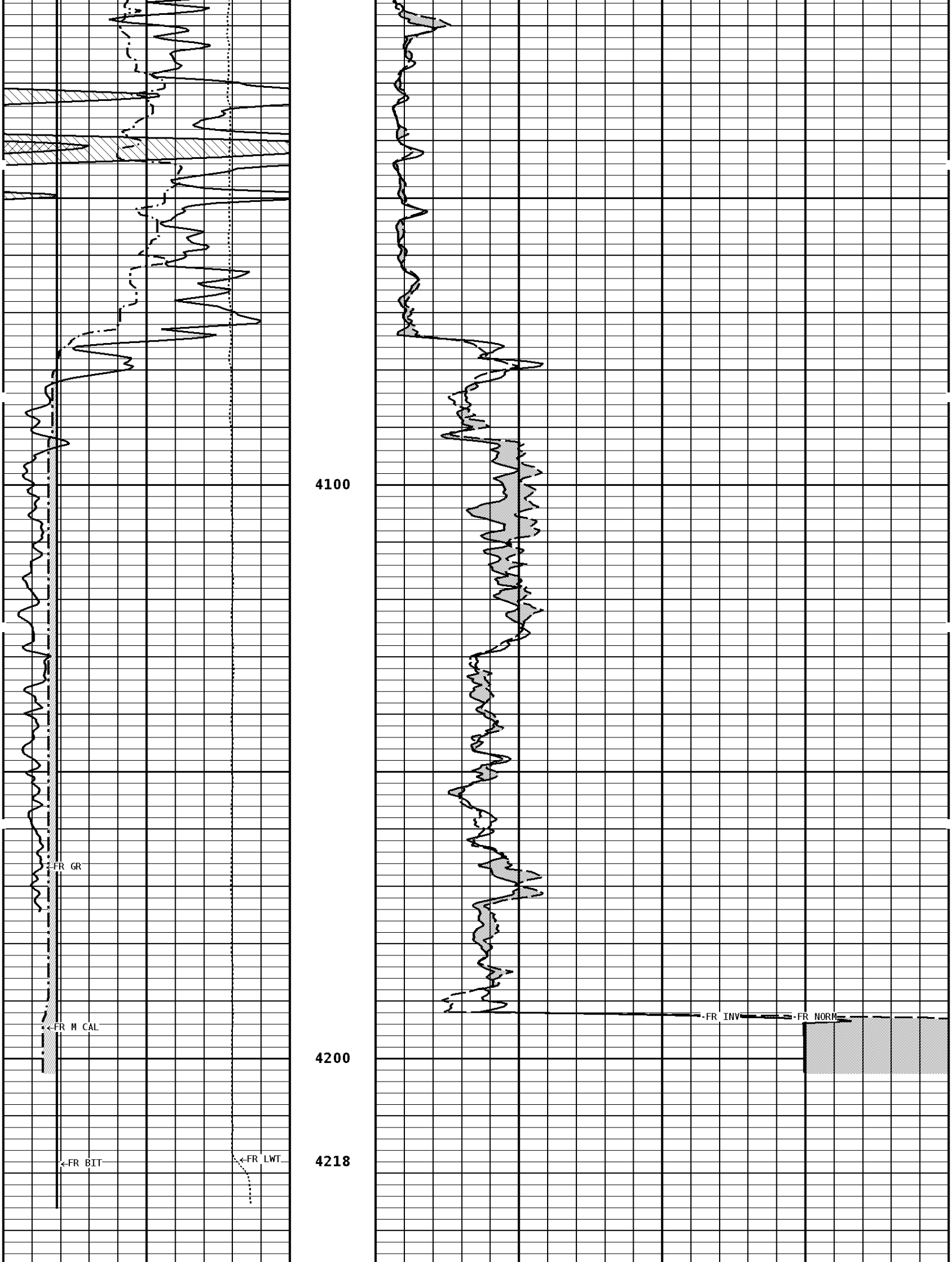
GAMMA RAY
API UNITS
150 300
0 150

INVERSE
OHMM
0 40

NORMAL
OHMM
0 40

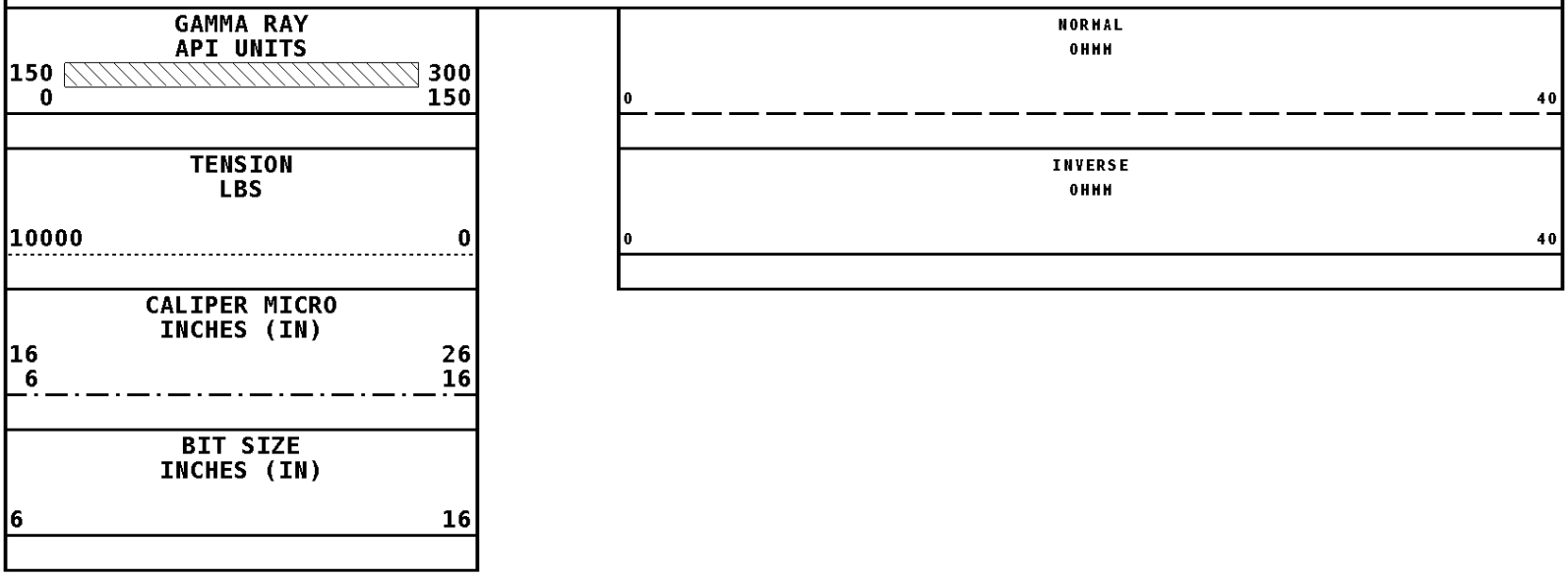
1:240 REPEAT SECTION




4100
4200
4218
FR GR
FR M CAL
FR BIT
FR LWT
FR INV
FR NORM

File #1.1.4

1:240 REPEAT SECTION



* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	7.875	in
MSTNG Normal Correction	0.00	ohm/m
MSTNG Inverse Correction	0.00	ohm/m

* Calibration Summary *

Shop Calibration
GRT-B

Performed : 04-SEP-2012 Time : 19:28
Sensor Suite : GR-GR5 ID : GRT-BC-41

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	46	346	CPS	175	GRAPI

Shop Calibration
MST-DA

Performed : 01-OCT-2012 Time : 10:58
Sensor Suite : CALI-MSN ID : MST-DA-36

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	7.1	11.9	6.0	12.0	IN.

Performed : 01-OCT-2012 Time : 09:18
Sensor Suite : MSTDA-NI ID : MST-DA-36

	Internal Measured Zero	Measured Reference	Units	Calibrated Zero	Calibrated Reference	Units
INV-V	221.0	21282.7		0.00	1946.00	MV
NOR-V	164.0	21140.6		0.00	1546.00	MV
IN-C	157.3	21367.2		0.00	15.46	UA
INV-R					40.71	OHMM
NOR-R					55.11	OHMM

Tucker

Company: PICKRELL DRILLING CO, INC.
Well: COYKENDALL #10
Location: 1080' FSL & 760' FEL

Tucker ENERGY SERVICES

Location: 1980' FSL & 760' FEL

Logged: 2013-01-31

K.B. Elev: 1469.0 Ft