



Tucker
ENERGY SERVICES

MICRO LOG

Company PICKRELL DRILLING CO., INC.
Well MATSON ESTATE #3
Field SPIVEY-GRABS-BASIL
County KINGMAN
State KANSAS
Country USA
API No. 15-095-22269-00-00

File No : TUL-58780
Company : PICKRELL DRILLING CO., INC.
Well : MATSON ESTATE #3
Field : SPIVEY-GRABS-BASIL
County : KINGMAN
State : KANSAS
Country : USA
API No : 15-095-22269-00-00

Location :
660' FSL & 1980' FWL
SE 1/4 SW 1/4

LSD : Sect : 31 Twp : 29S Rge : 06W

Permanent Datum: GL Elevations: KB 1453.00 Ft Services: CNT PIT
Drilling Measured From: KB DF 1452.00 Ft LDT
Log Measured From: KB GL 1443.00 Ft MLT
Above Permanent Datum: 10.00 Ft

Date 2013-02-13

Run Number	1		
Depth--Driller	4220.0	Ft	
Depth--Logger	4220.0	Ft	
First Reading	4197.0	Ft	
Last Reading	2800.0	Ft	
Casing--Driller	217.0	Ft	
Casing--Logger	218.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	WBM		
Density	9.3	LBS/GAL	
Fluid Loss	8.8	CC	
PH/Viscosity	10.5	46.0 SEC	
Sample Source	MEASURED		
RM@Measured Temp.	0.500	@ 55 F	
RMF@Measured Temp	0.430	@ 55 F	
RMC@Measured Temp.	0.580	@ 55 F	
Source RMF/RMC	CALCULATED/CALCULATED		
RM@BHT	0.260	@ 114 F	
Time Circulation Stopped			
Max Recorded Temp.	114	F	
Equipment/Base	TRK 123	TULSA	
Recorded By	R. FRANKLIN		
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		Casing Strings		
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)
7.875	4220.00	8.625	36.00	217.00

Run Number	1	
Date	2013-02-13	
Date/Time On Bottom	2013-02-14 00:15	
Depth to Fluid	0.0 Ft	
Salinity	0.000 PPM	
RMF@BHT	0.220 @ 114 F	
RMC@BHT	0.290 @ 114 F	

Run Number 1

Comments

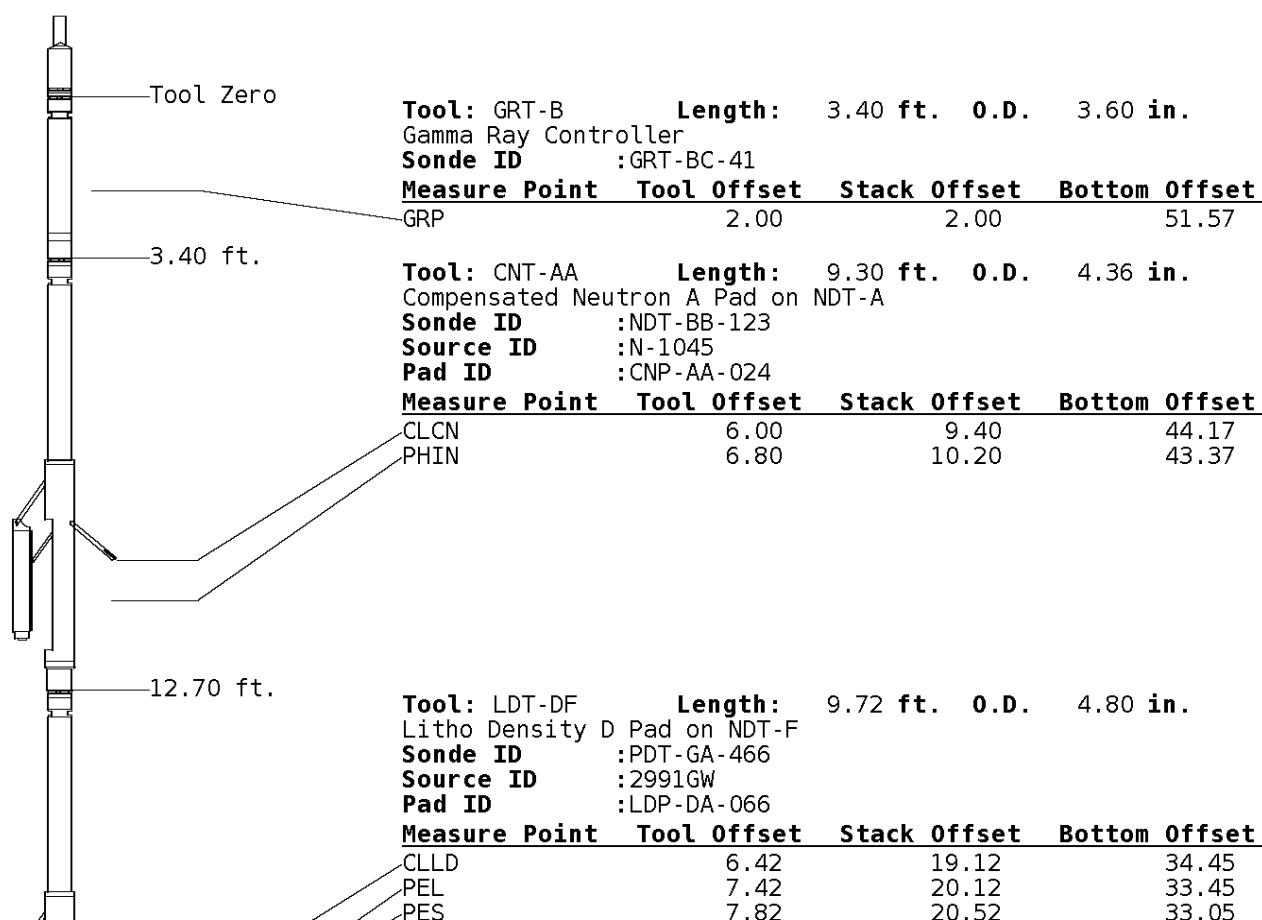
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
 GRT, CNT, LDT, MLT, AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 4.50" PRODUCTION CASING.
 PHIN IS CALIPER CORRECTED
 NO MINERALOGY PRESENTED
 DETAIL PRESENTED FROM 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: S-3.5
 J. KLINE
 D. HOPPER

Tool String Schematic

Total Tool Length - 53.57 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 943.00 lbs.



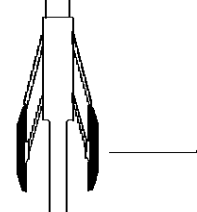


7.62	20.32	33.25
7.62	20.32	33.25

22.42 ft.

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

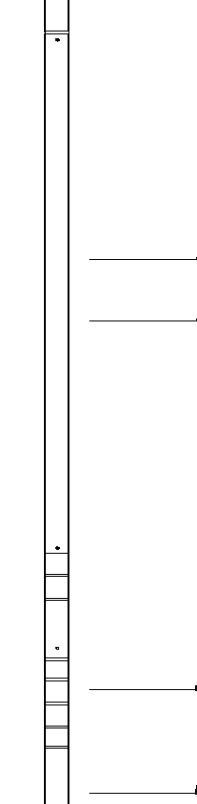
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	30.02	23.55
MSCLP	7.60	30.02	23.55
INV	7.60	30.02	23.55
NOR	7.60	30.02	23.55



32.08 ft.

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



LWT 53.57 ft.

Well File: pic mat 3 feb 13_mstk

Scale: 1:240

Segment: V1.D1.S12 MAIN

Acquired: Not Available

Reference: 0

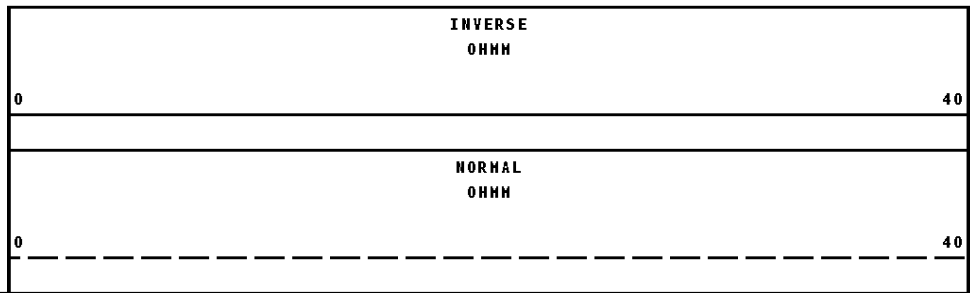
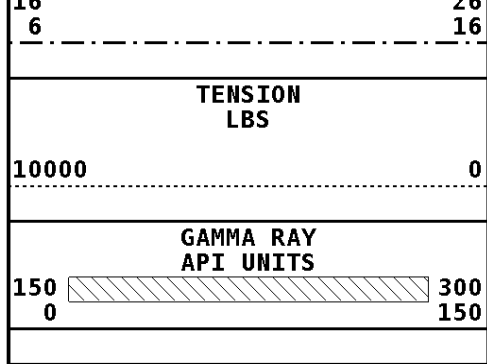
Processed: 2013-02/14 03:33 3.2.0-11401

**BIT SIZE
INCHES (IN)**

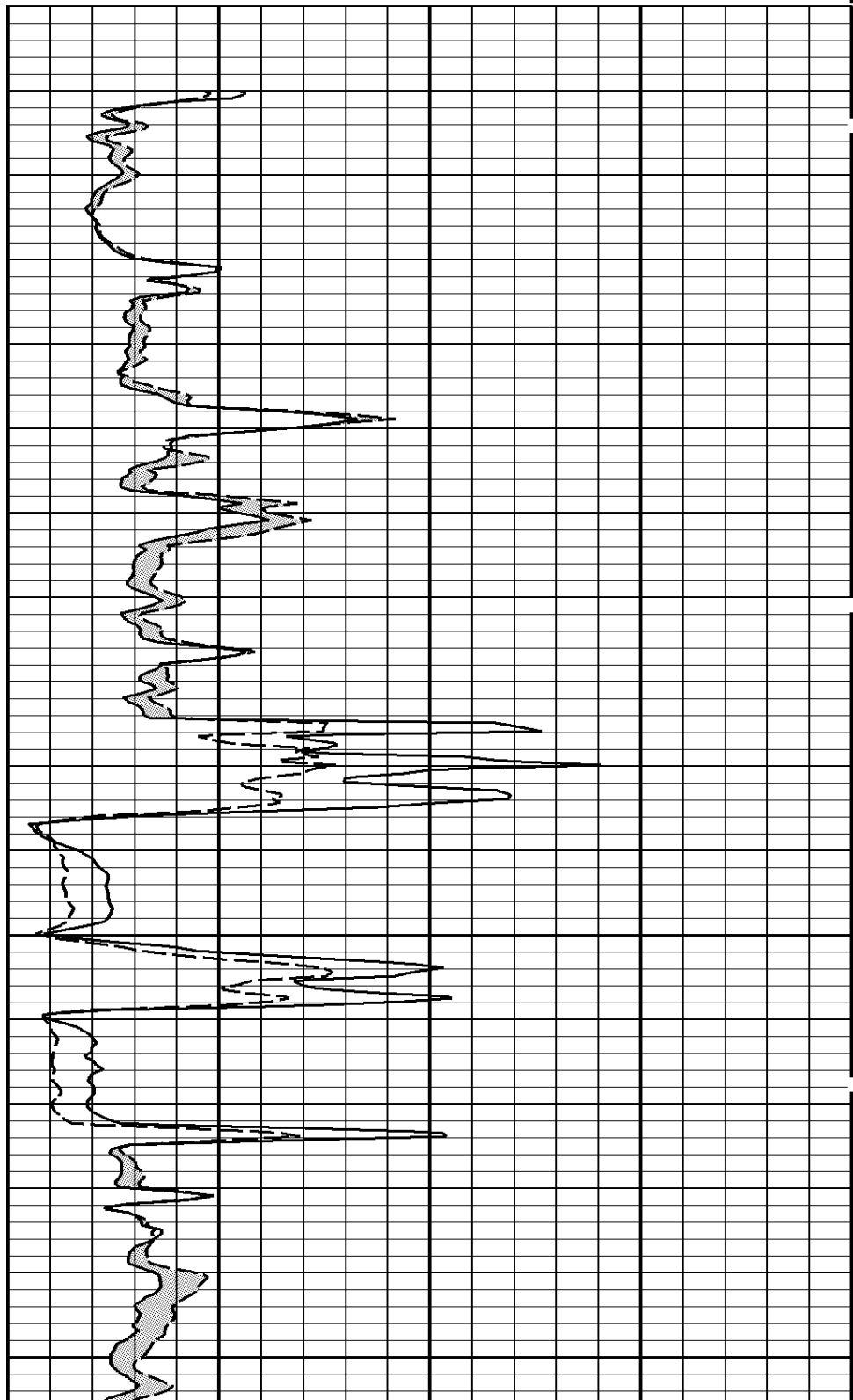
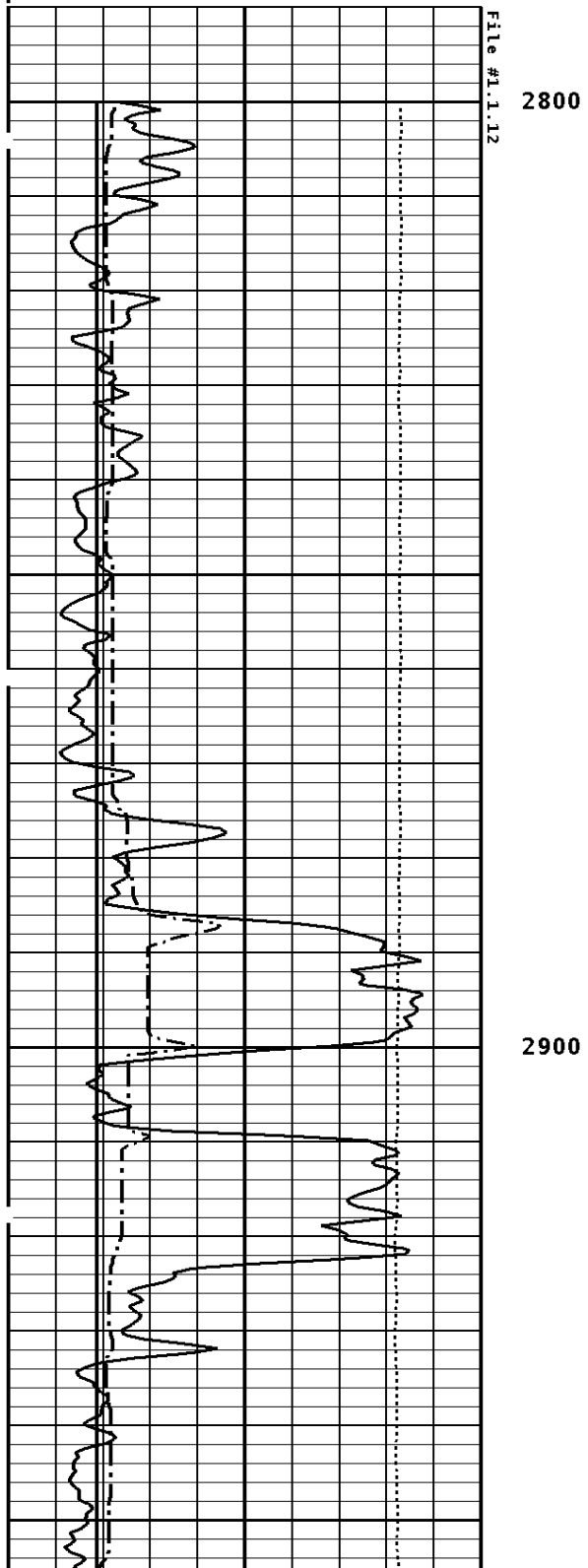
6 16

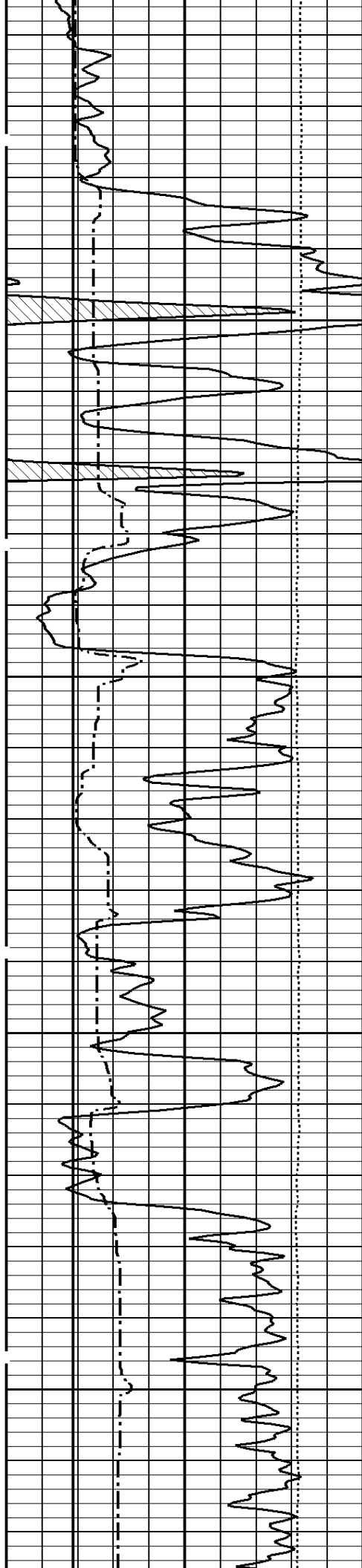
**CALIPER MICRO
INCHES (IN)**

16 26



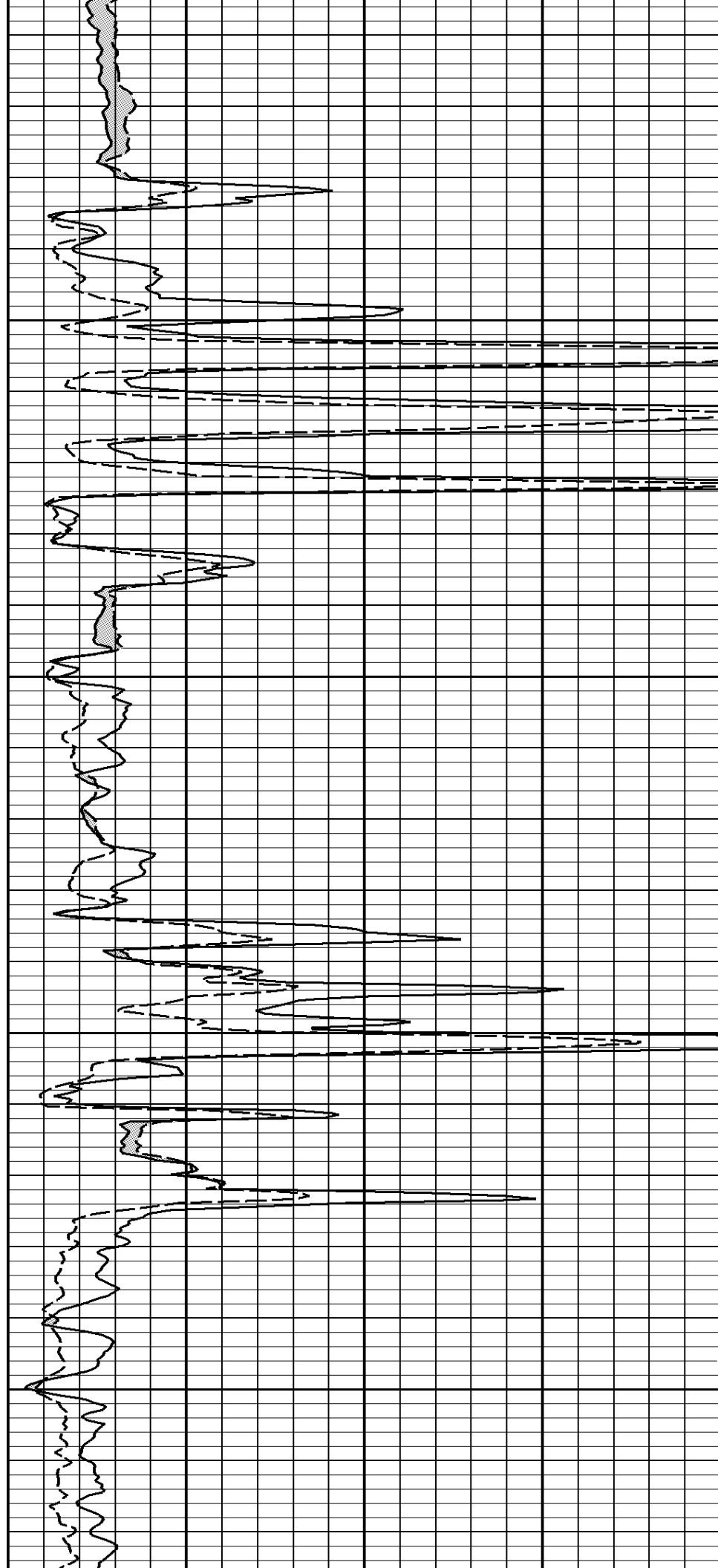
1:240 MAIN SECTION

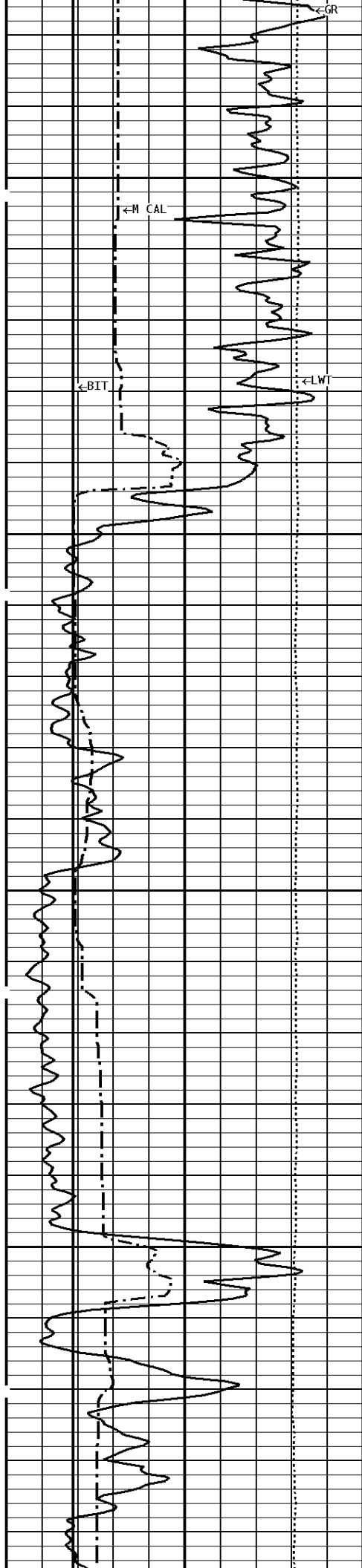




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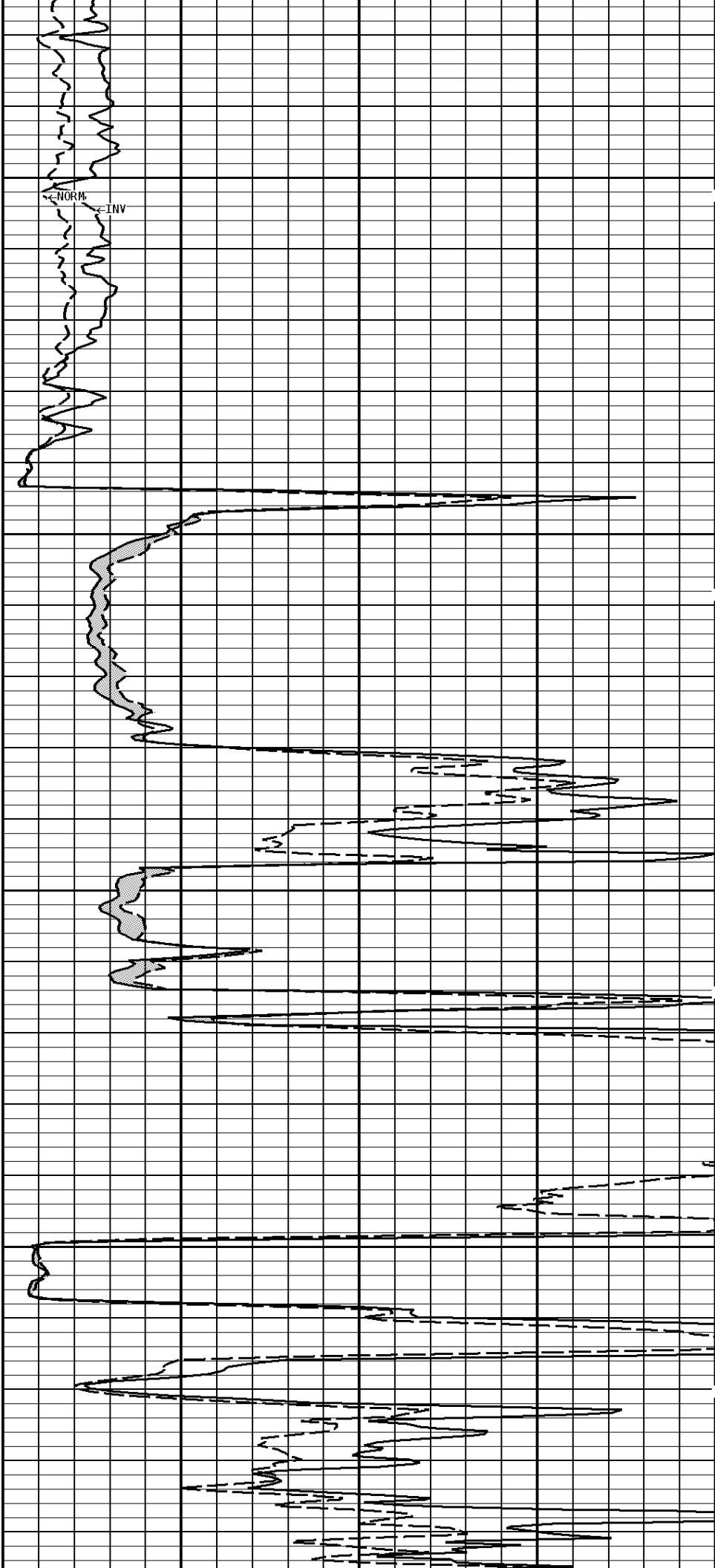
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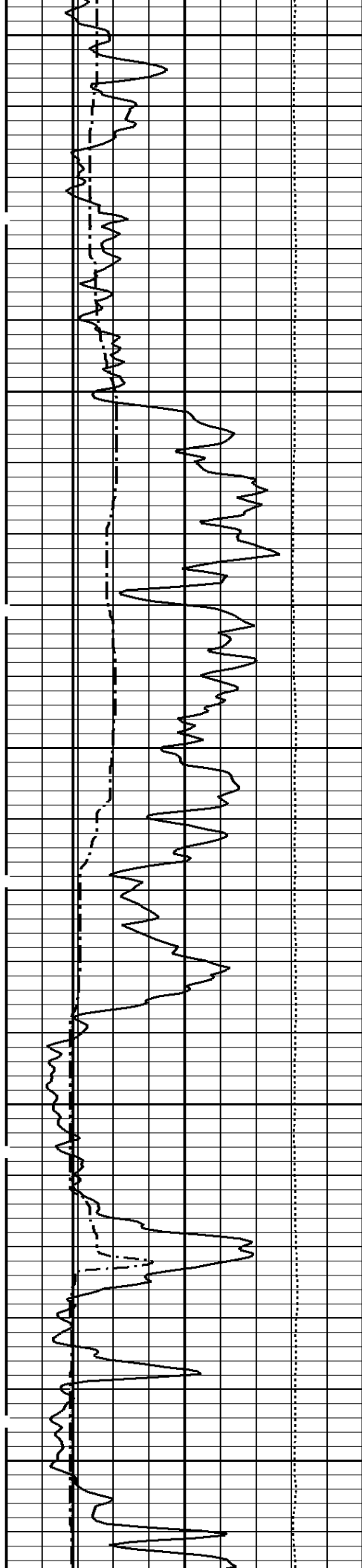




3200

3300

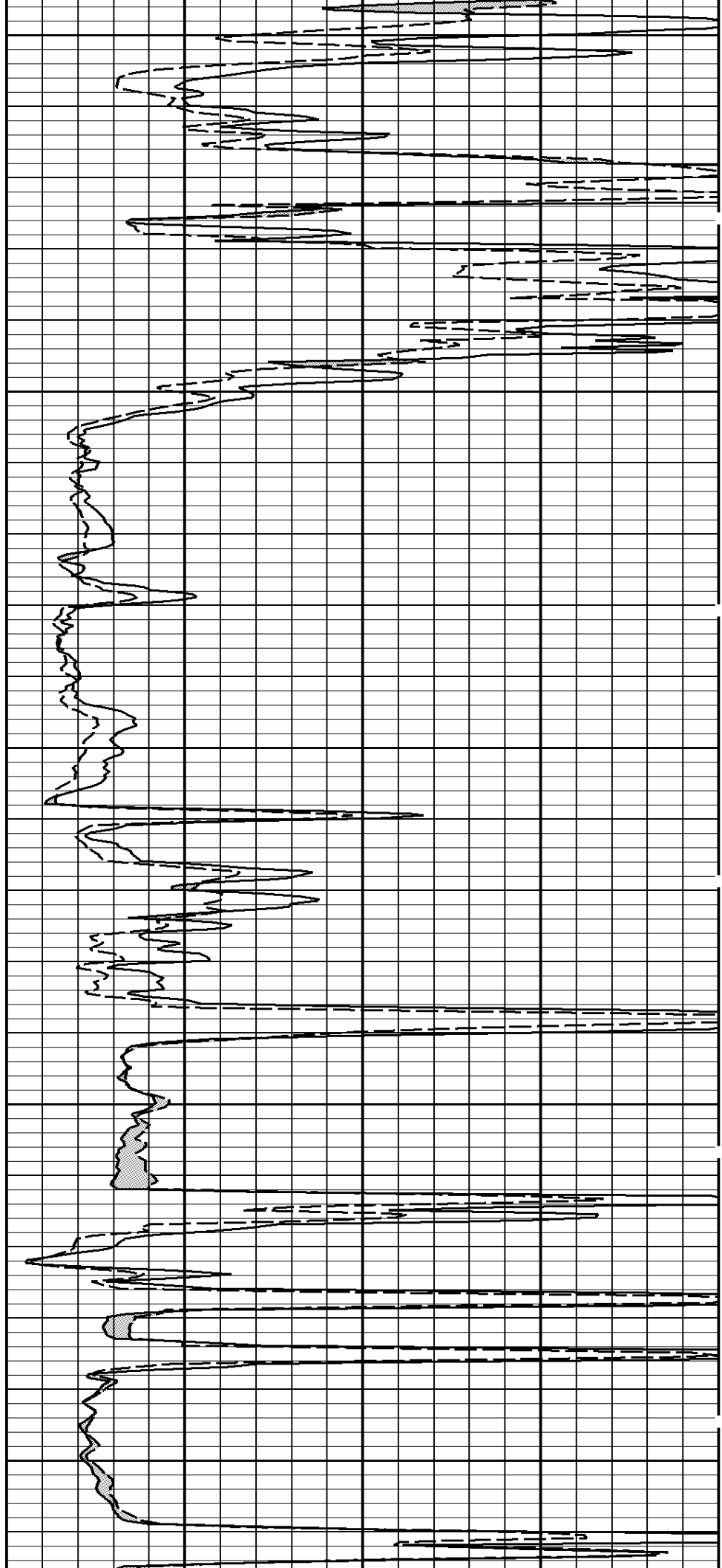


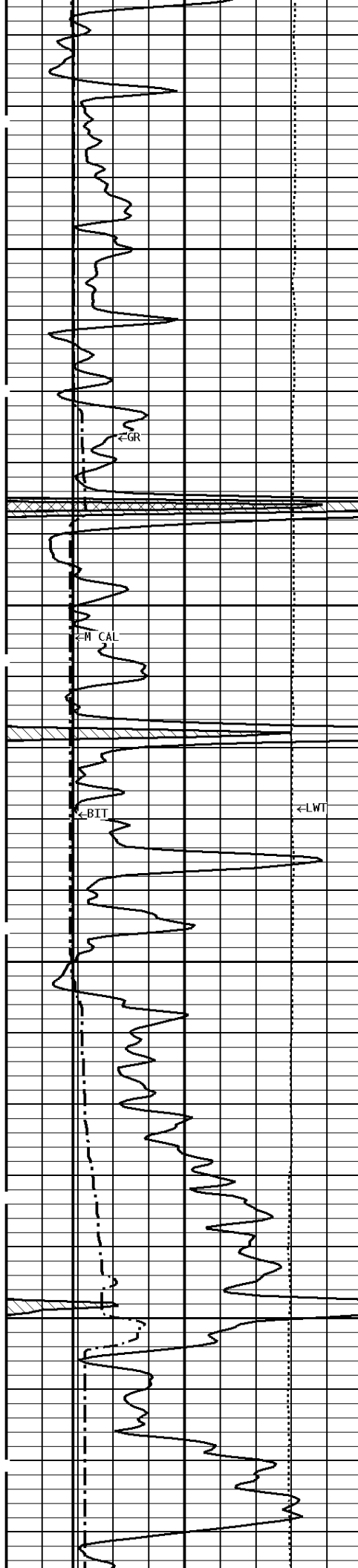


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3500

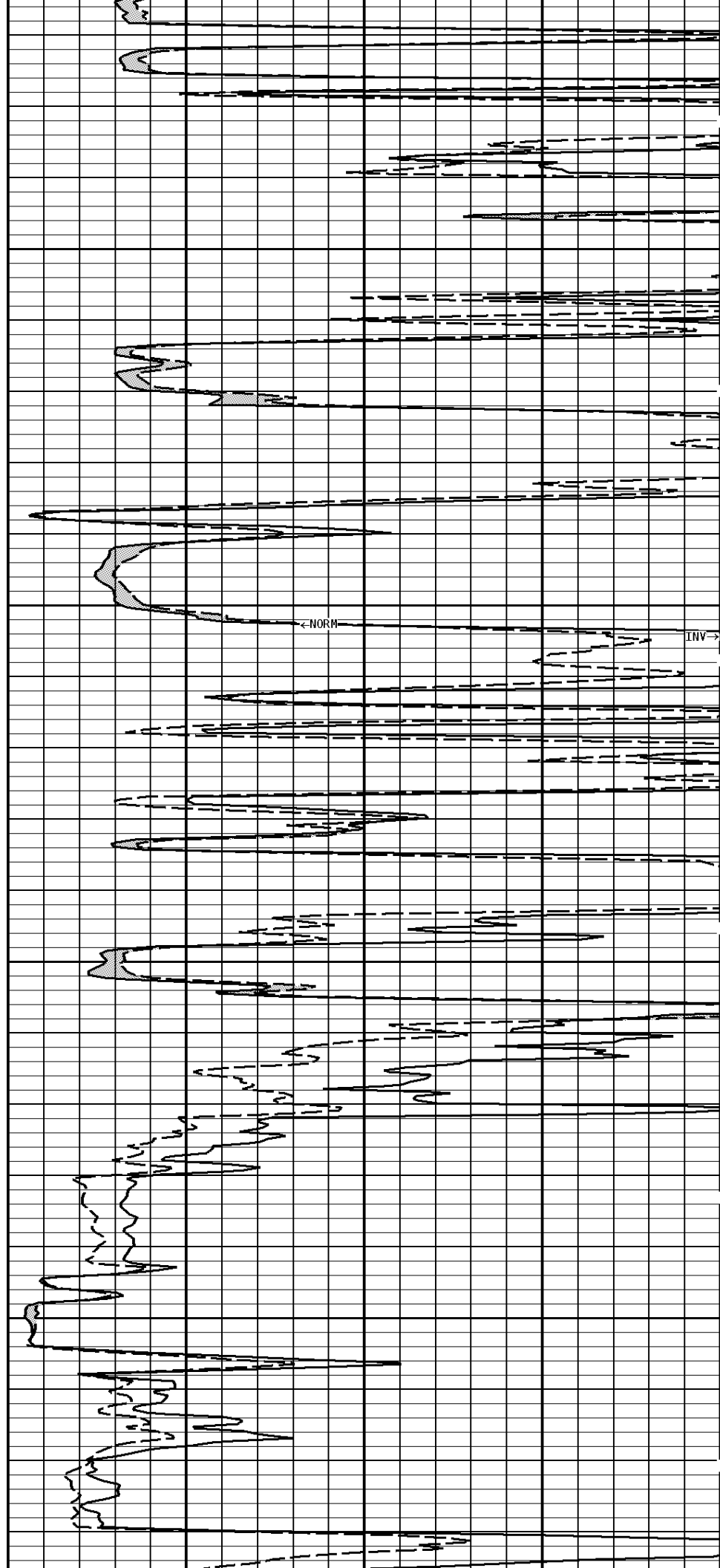
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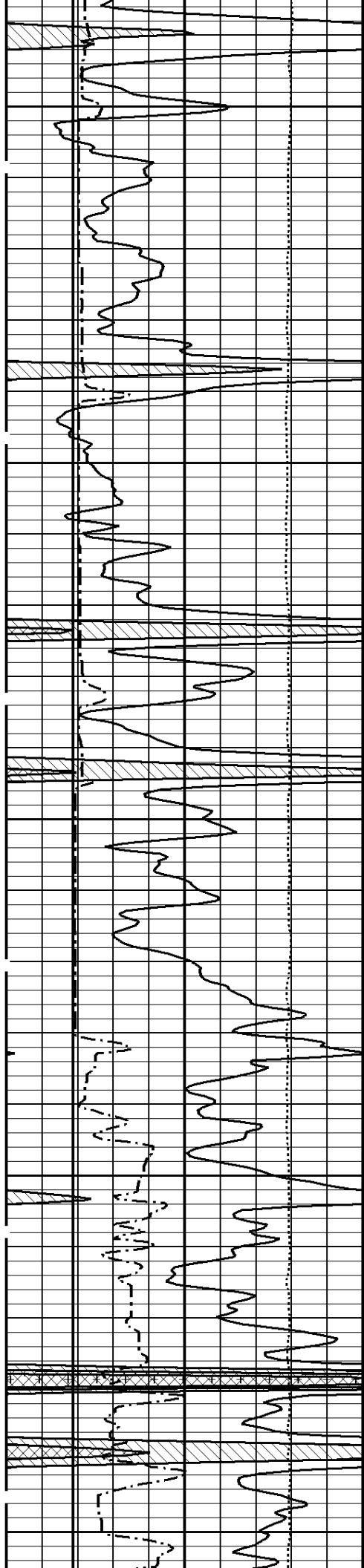




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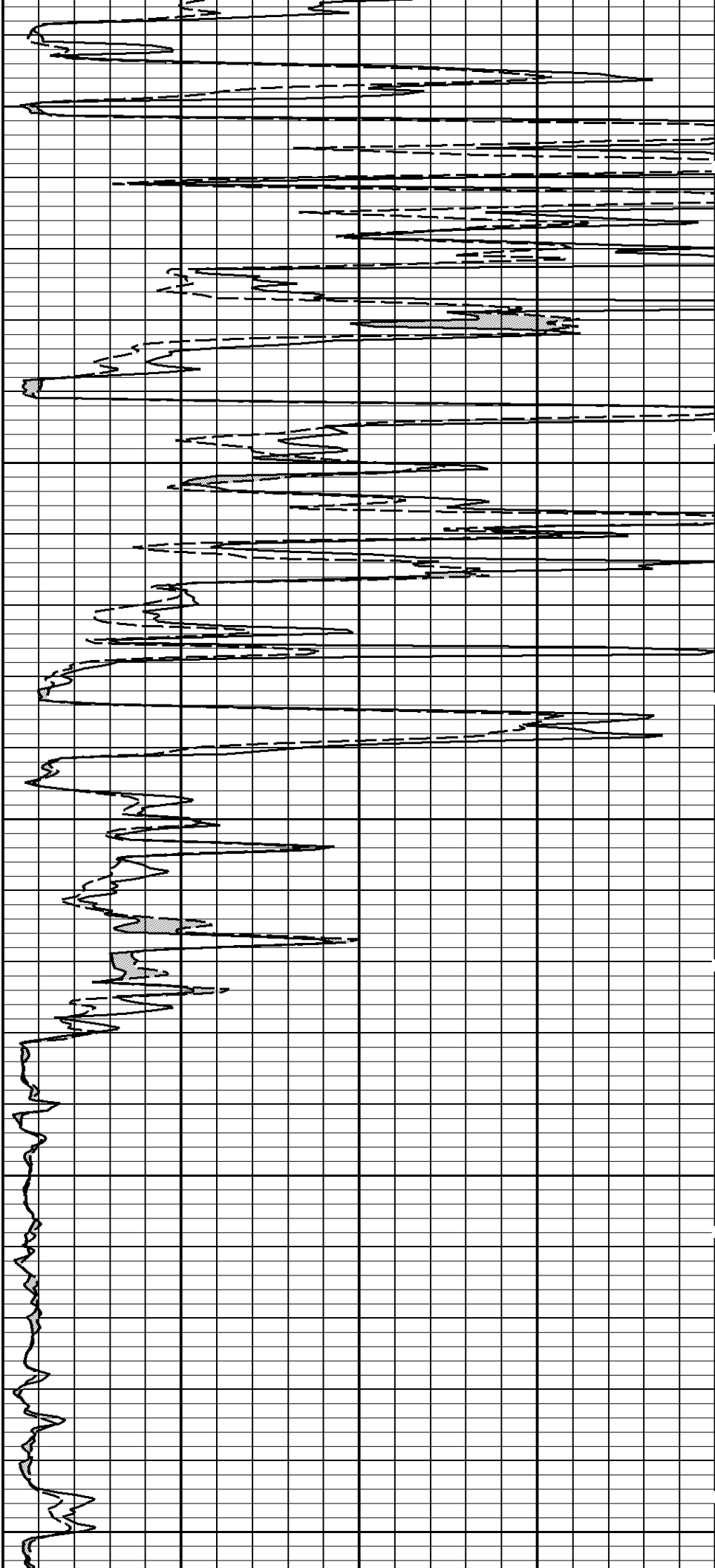
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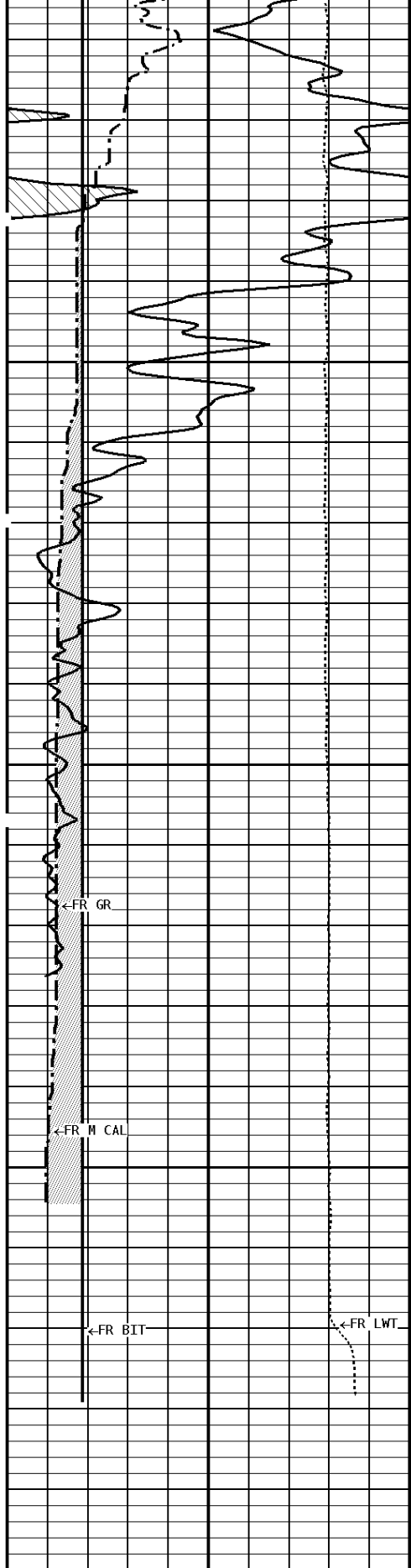




3900

4000

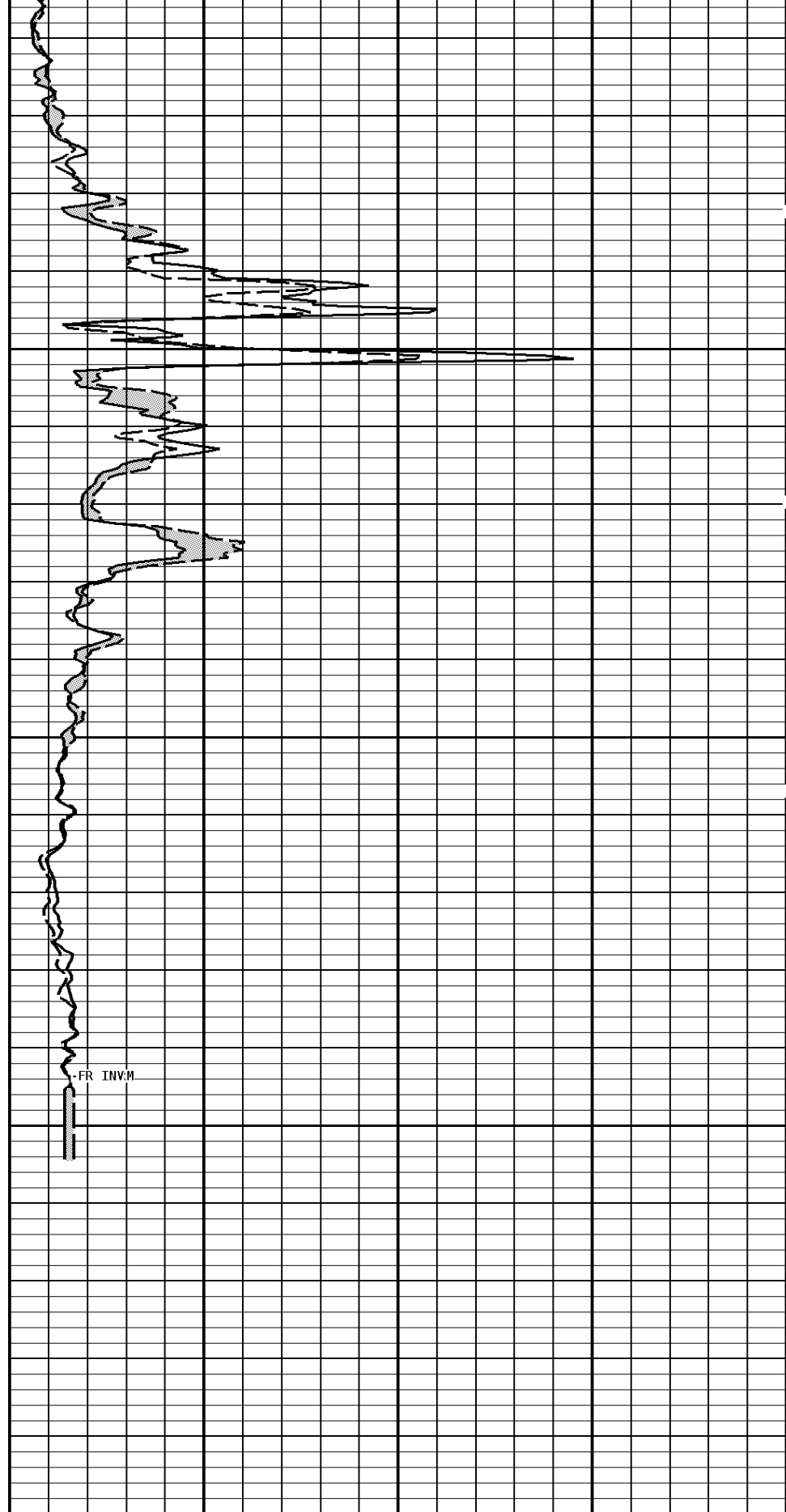




4100

4200

4220



FR INV.M

1:240 MAIN SECTION

GAMMA RAY
API UNITS

150 300

NORMAL
OHMM

0	150
TENSION LBS	
10000	0
CALIPER MICRO INCHES (IN)	
16 6	26 16
BIT SIZE INCHES (IN)	
6	16

0	40
INVERSE OHMM	
0	40

*** Borehole Zone Factors ***

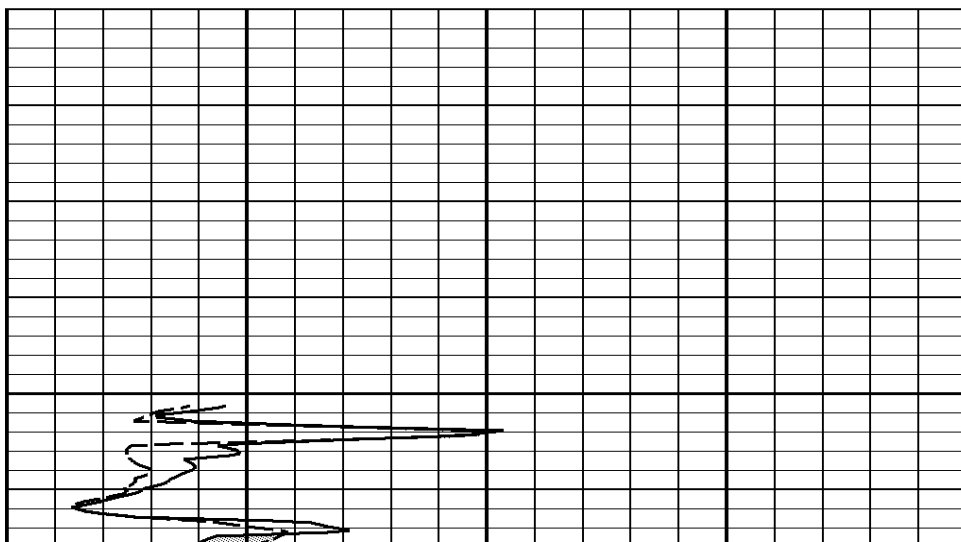
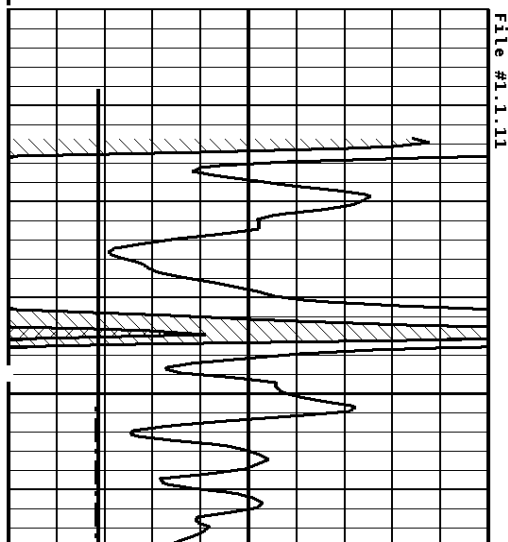
Zone 1 99999.0 to 0.0 Feet	
Drill Bit Size	7.875 in
MSTNG Normal Correction	0.00 ohm/m
MSTNG Inverse Correction	0.00 ohm/m

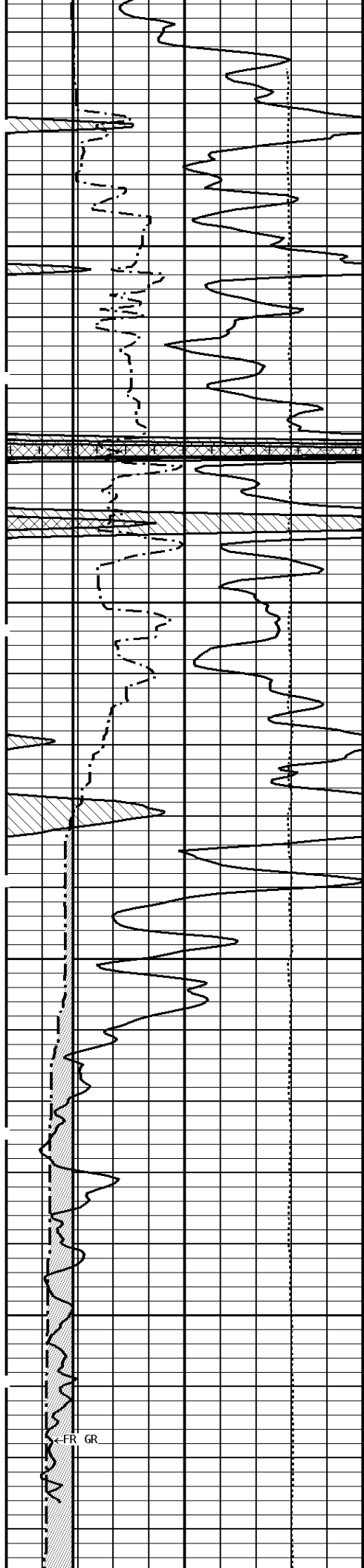
Well File: pic mat 3 feb 13 mstk	Scale: 1:240
Segment: V1.D1.S11 REPEAT	Acquired: 2013-02/14 00:10 3.2.0-11401
Reference: 0	Processed: 2013-02/14 03:33 3.2.0-11401

BIT SIZE INCHES (IN)	
6	16
CALIPER MICRO INCHES (IN)	
16 6	26 16
TENSION LBS	
10000	0
GAMMA RAY API UNITS	
150 0	300 150

INVERSE OHMM	
0	40
NORMAL OHMM	
0	40

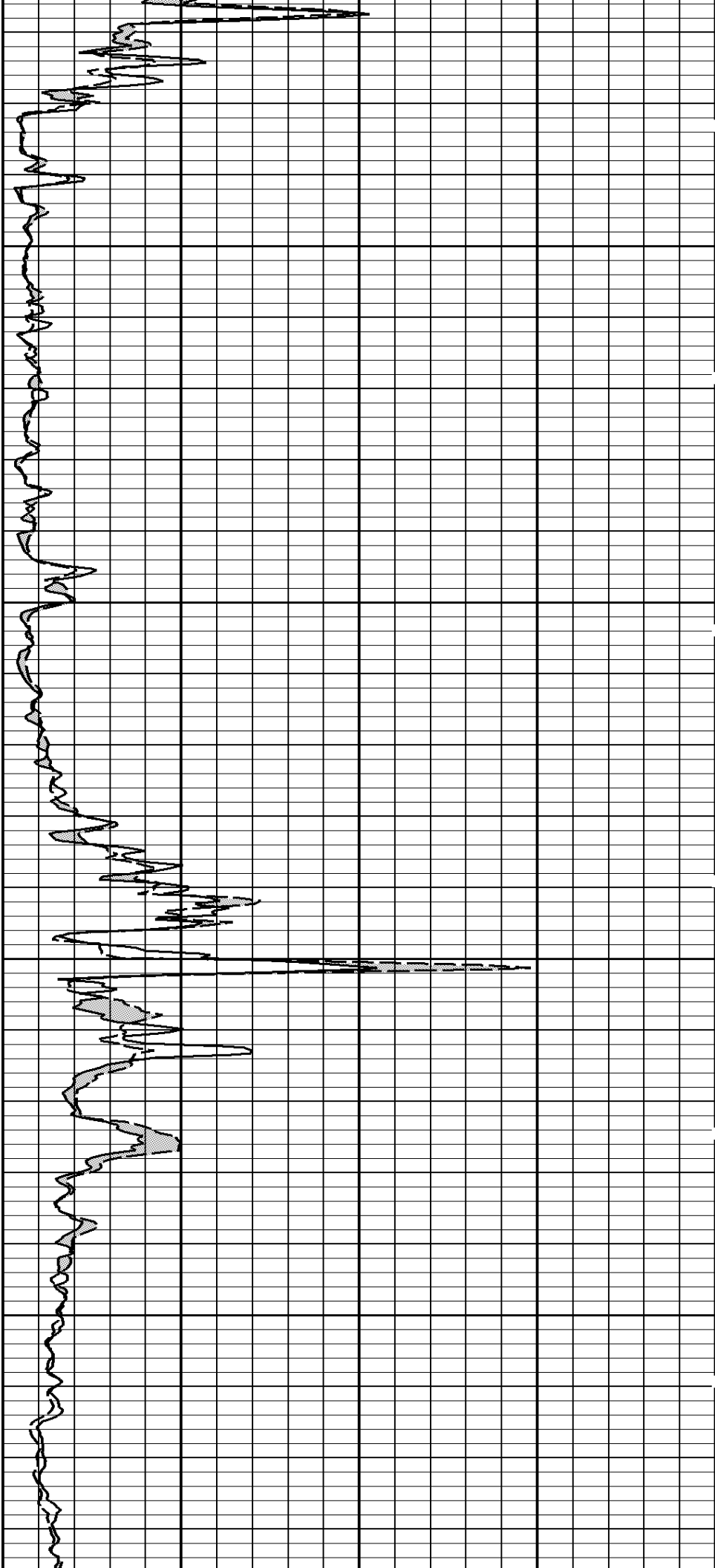
1:240 REPEAT SECTION

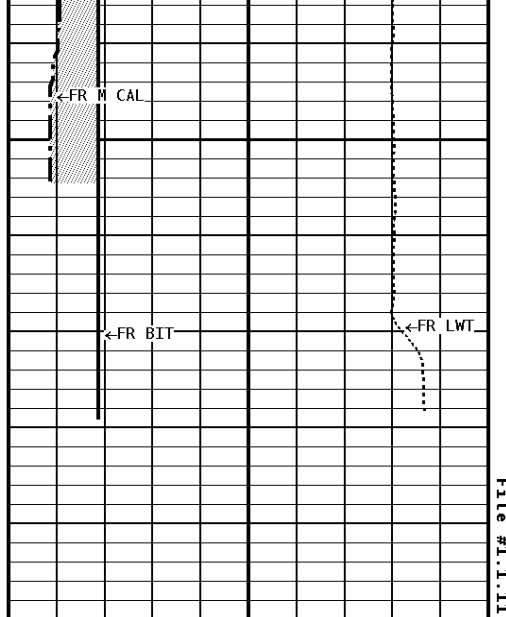




4000

4100

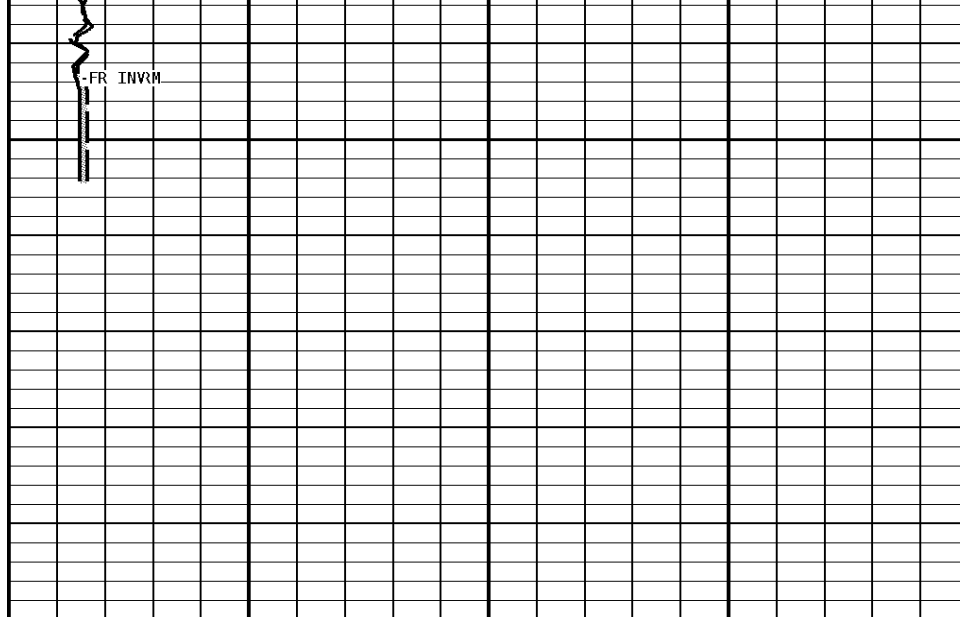




4200

4220

File #1.1.11



1:240 REPEAT SECTION

GAMMA RAY API UNITS	
150 0	300 150
TENSION LBS	
10000	0
CALIPER MICRO INCHES (IN)	
16 6	26 16
BIT SIZE INCHES (IN)	
6	16

NORMAL OHMM	
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

* Calibration Summary *

Shop Calibration GRT-B					
Performed : 04-SEP-2012			Time : 19:28		
Sensor Suite : GR-GR5			ID : GRT-BC-41		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig		
	46	346	175	GRAPI	
Shop Calibration MST-DA					
Performed : 01-OCT-2012			Time : 10:58		
Sensor Suite : CALI-MSN			ID : MST-DA-36		
	Jig - Measured	Units	Jig - Calibrated	Units	
	Ring#1 Ring#2		Ring#1 Ring#2		
CL # 1	7.2 12.0		6.0 12.0	IN.	

Performed : 01-OCT-2012
Sensor Suite : MSTDA-NI

Time : 09:18
ID : MST-DA-36

Internal						
	Measured		Units	Calibrated		Units
	Zero	Reference		Zero	Reference	
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
ENERGY SERVICES

Company: PICKRELL DRILLING CO., INC.

Well: MATSON ESTATE #3

Location: 660' FSL & 1980' FWL

Logged: 2013-02-13

K.B. Elev: 1453.0 Ft