



Tucker
ENERGY SERVICES

MICRO LOG

Company	INDIAN OIL CO., INC.
Well	ACHENBACH #40
Field	HARDTNER
County	BARBER
State	KANSAS
Country	USA
API No.	15-007-24283-0000
File No	TUL-60276
Company	INDIAN OIL CO., INC.
Well	ACHENBACH #40
Field	HARDTNER
County	BARBER
State	KANSAS
Country	USA
API No	15-007-24283-0000
Location	2310' FSL & 1650' FWL NW NE SW
LSD	
Sect	1
Twp	35S
Rge	13W

Date	08-29-2015		
Run Number	1		
Depth--Driller	5420.0	Ft	
Depth--Logger	5420.0	Ft	
First Reading	5367.0	Ft	
Last Reading	298.0	Ft	
Casing--Driller	298.0	Ft	
Casing--Logger	298.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	WBM		
Density	9.4		
Fluid Loss	9.0		
PH/Viscosity	10.5	51.0	
Sample Source	MEASURED		
RM@Measured Temp.	2.000	@ 75 F	
RMF@Measured Temp	1.600	@ 75 F	
RMG@Measured Temp.	2.400	@ 75 F	
Source RMF/RMC	CALCULATED	CALCULATED	
RM@BHT	1.180	@ 131 F	
Time Circulation Stopped	08-29-2015 19:30		
Max Recorded Temp.	131	F	
Equipment/Base	1022	TULSA, OK	
Recorded By	SHELDON TYLER		
Witnessed By	AARON YOUNG		

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	5420.00	8.625	32.00	298.00	0.00

Run Number	1	
Date	08-29-2015	
Date/Time On Bottom	08-29-2015 22:30	
Depth to Fluid	0.0 Ft	
Salinity	6000.000	
RMF@BHT	0.940 @ 131 F	
RMC@BHT	1.420 @ 131 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 CALCULATE POROSITY
ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
PHIN IS CALIPER CORRECTED

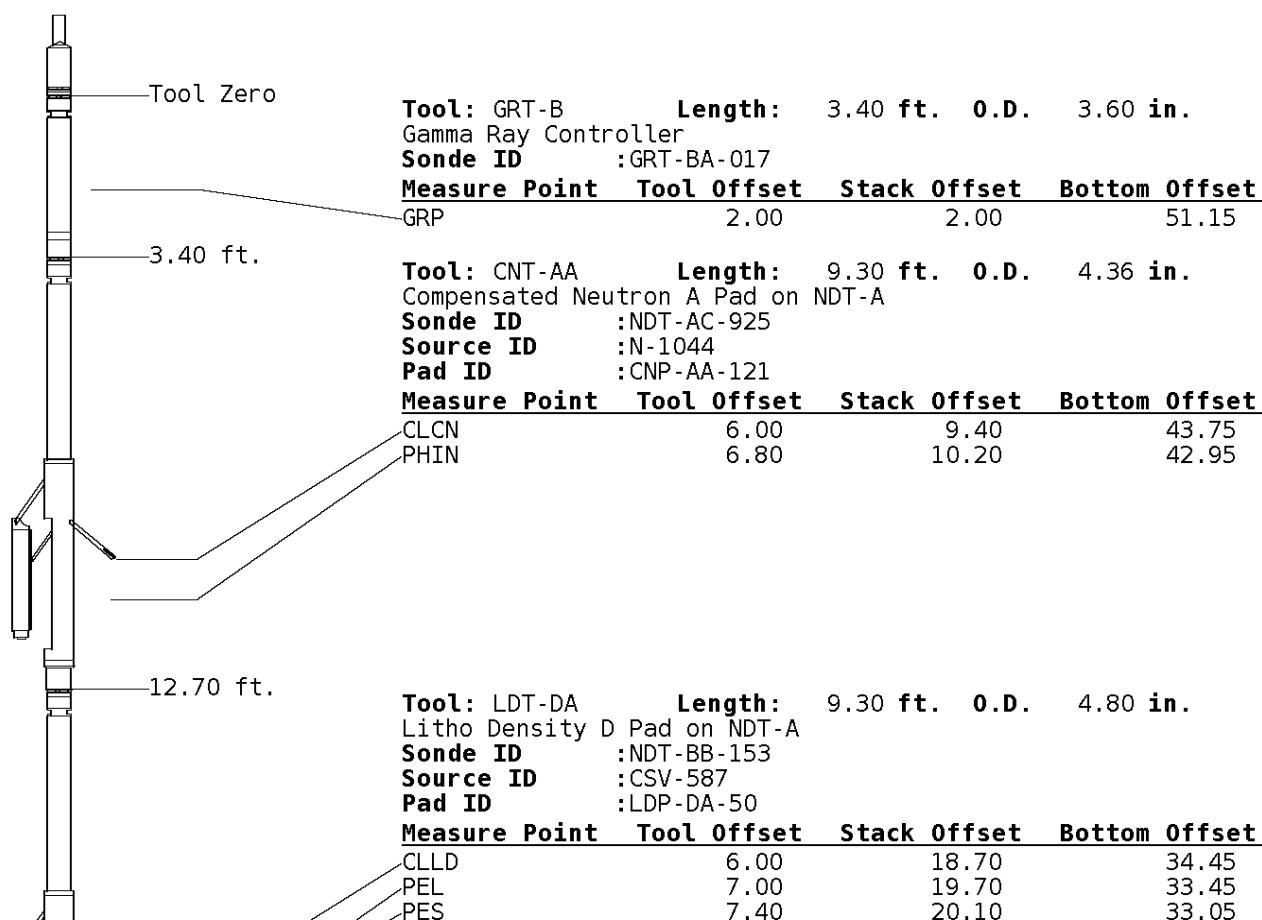
CUSTOMER REQUESTED DETAIL PULLED TO 3800'

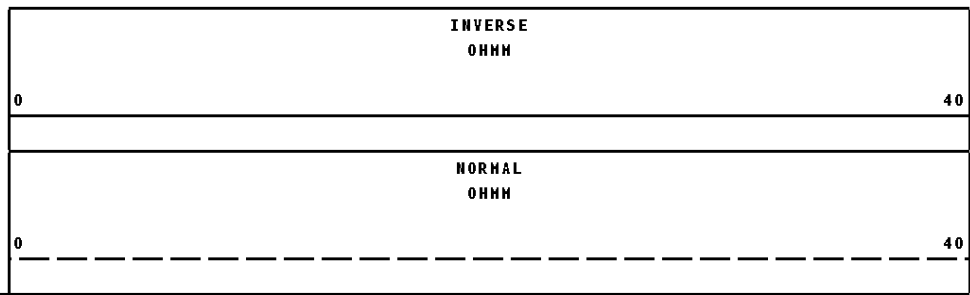
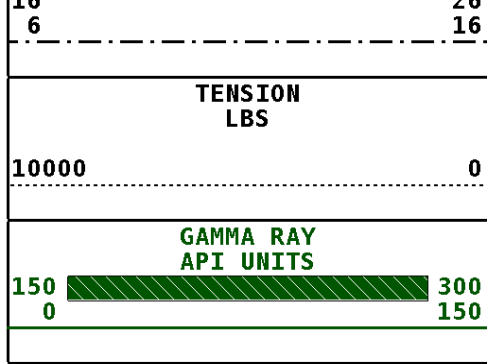
GRT: GRP, GRX
CNT: PHIN, CLCNIN, PHXN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
MLT: NOR_RF, INV_RF, MSCLPIN
PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS: -6 GOOD MARKS DOWN & UP
B.BROWN
J.McCANN

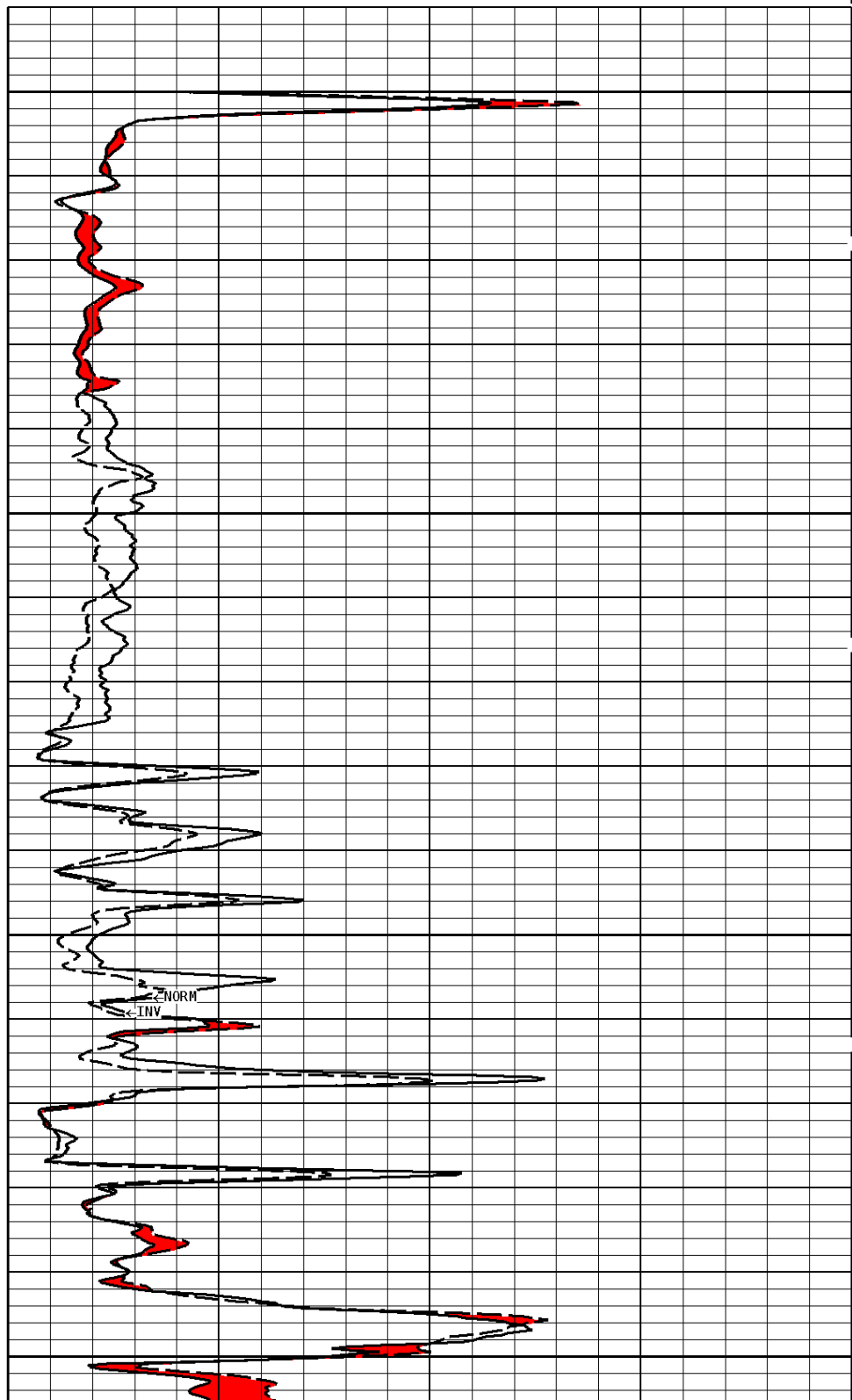
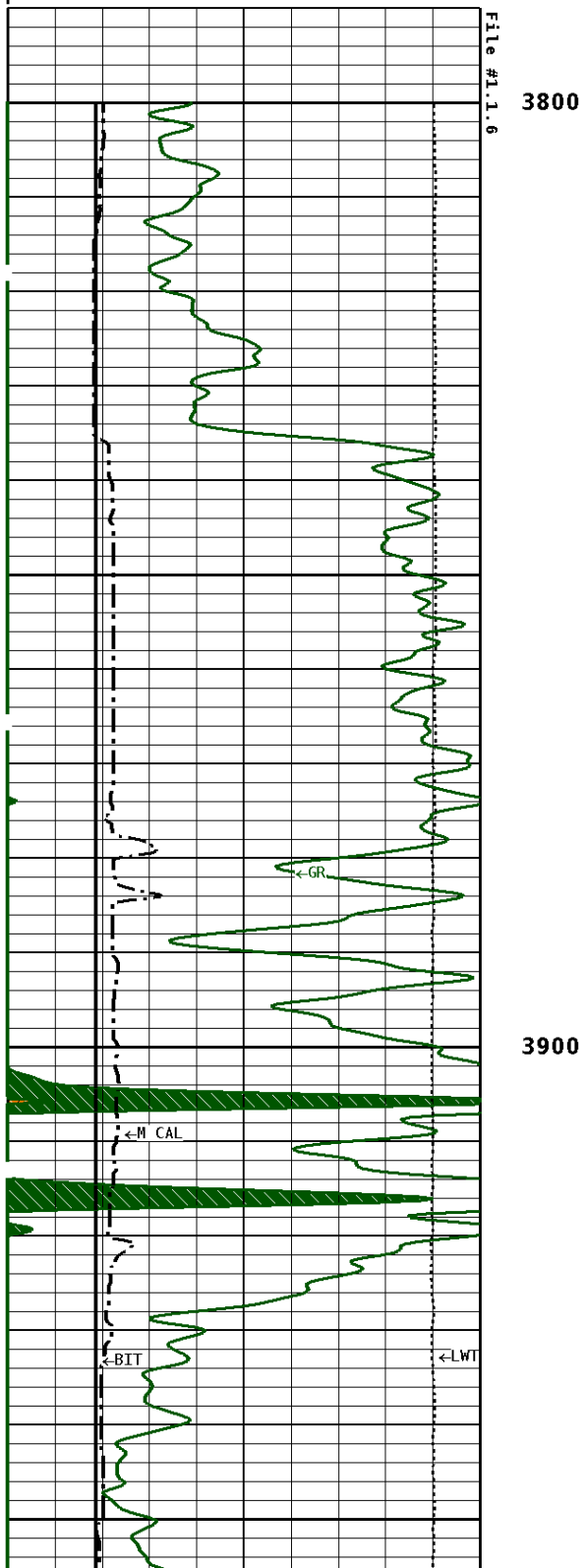
Tool String Schematic

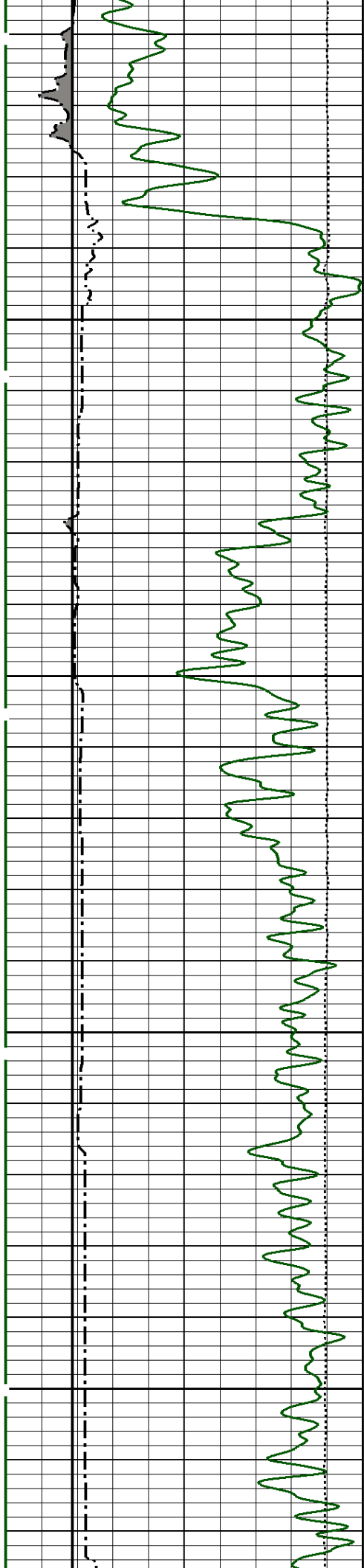
Total Tool Length - 53.15 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 943.00 lbs.





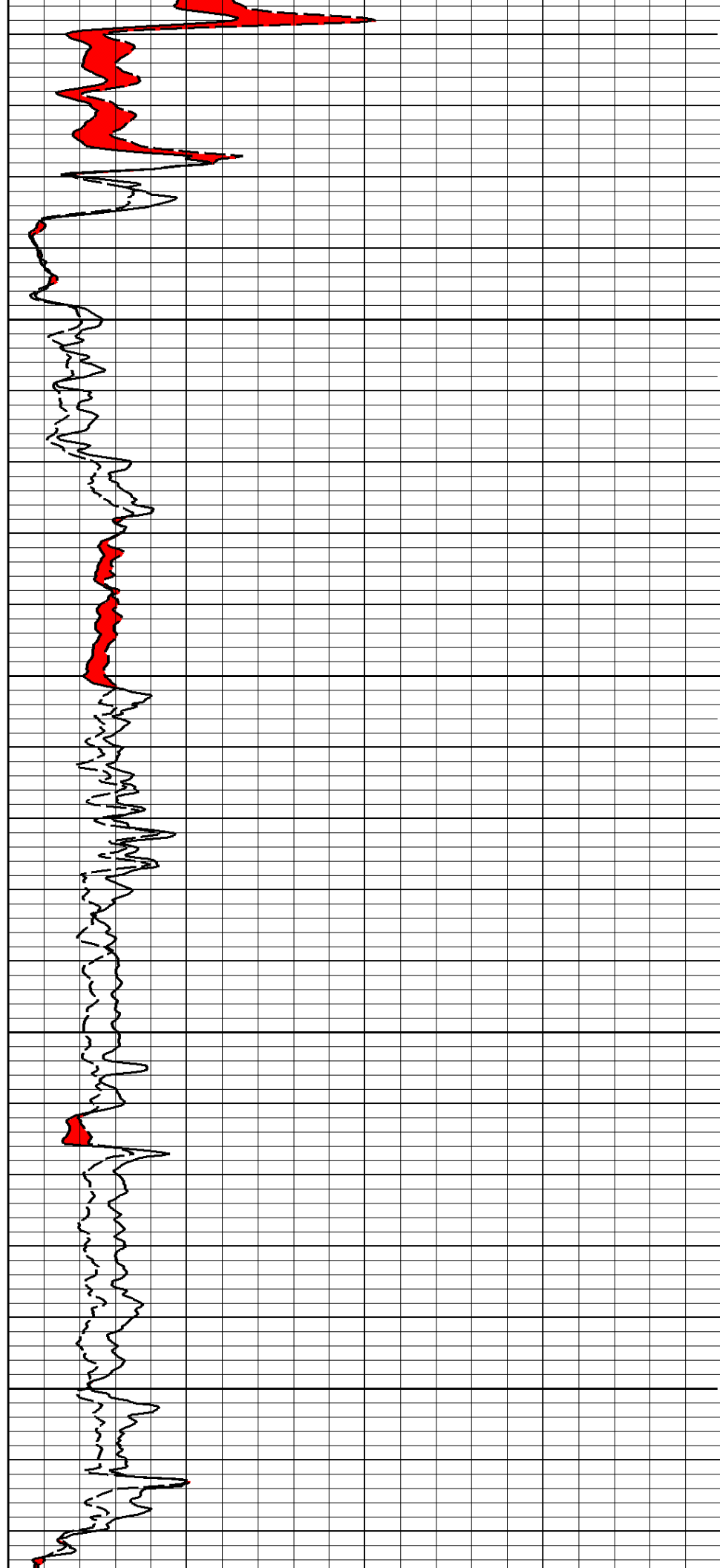
1:240 MAIN SECTION

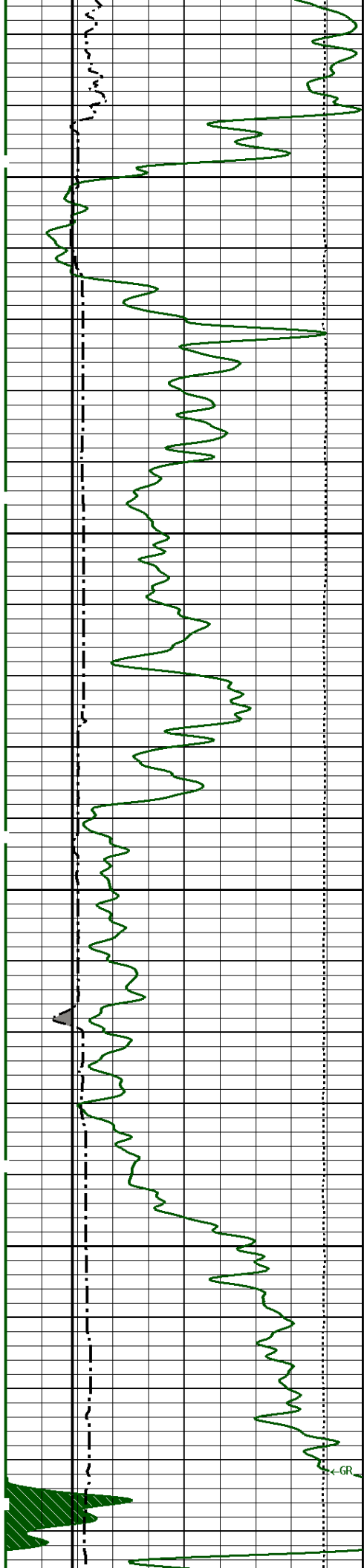




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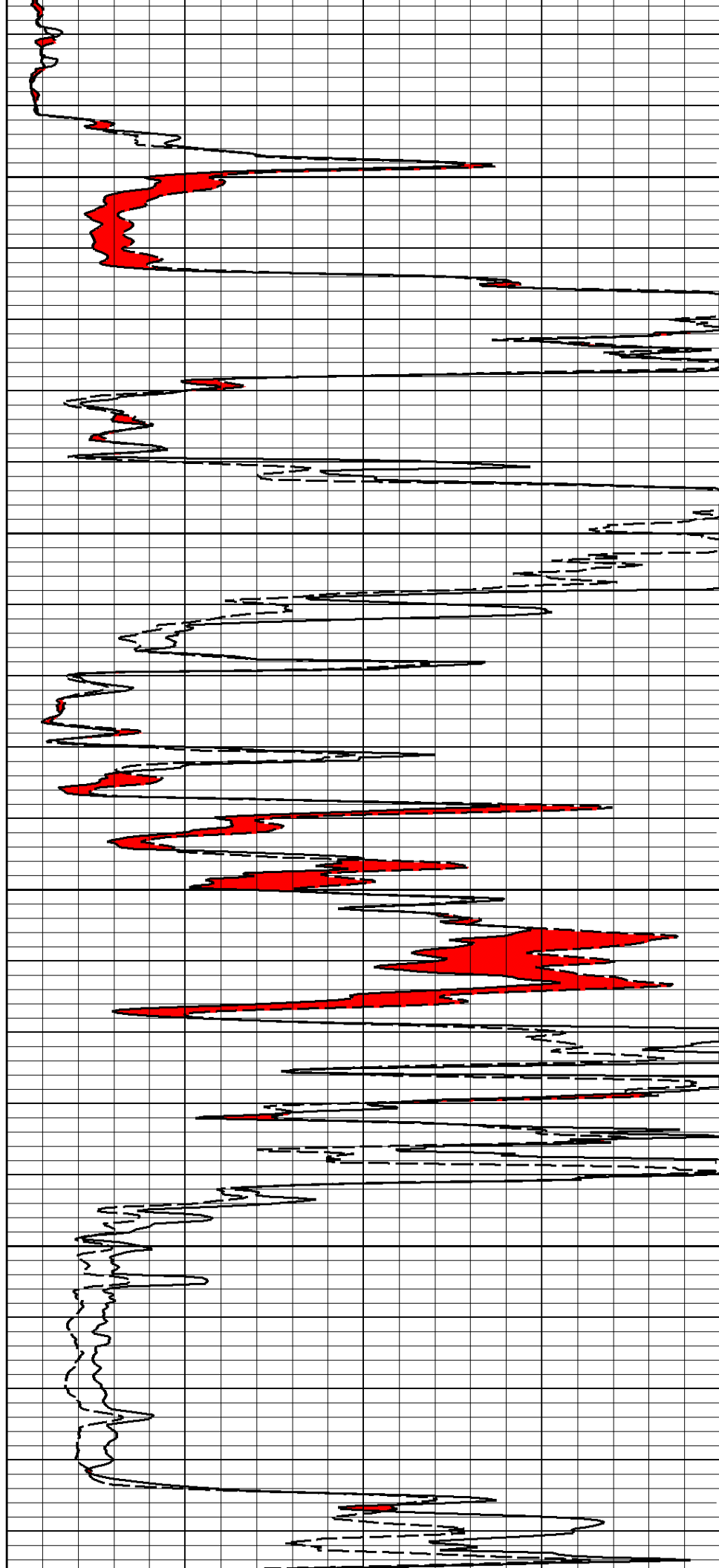
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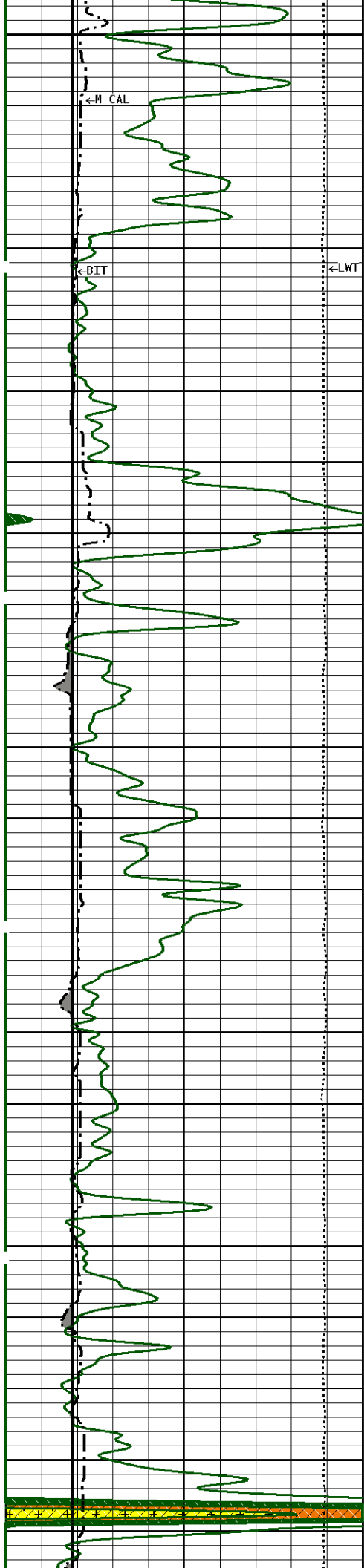




4200

4300

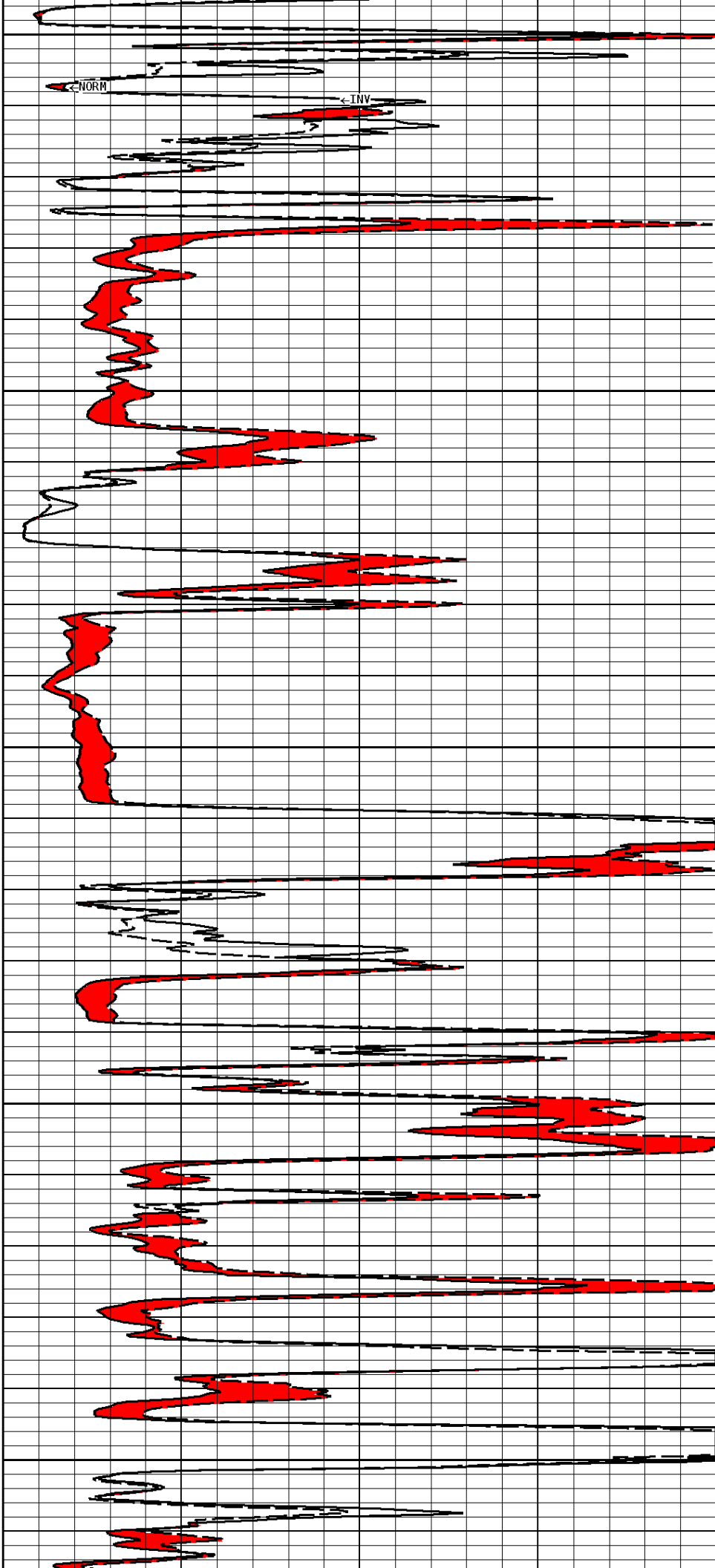


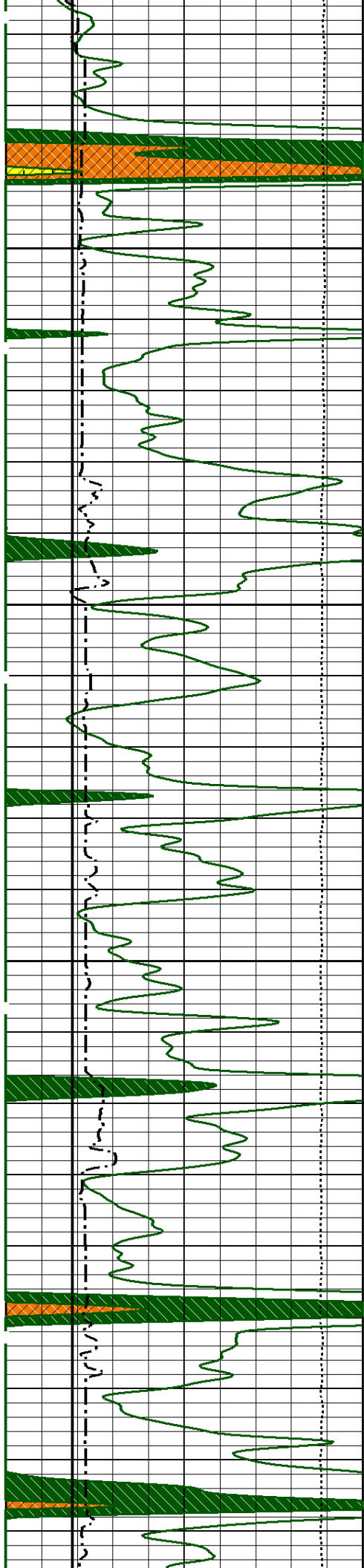


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4500

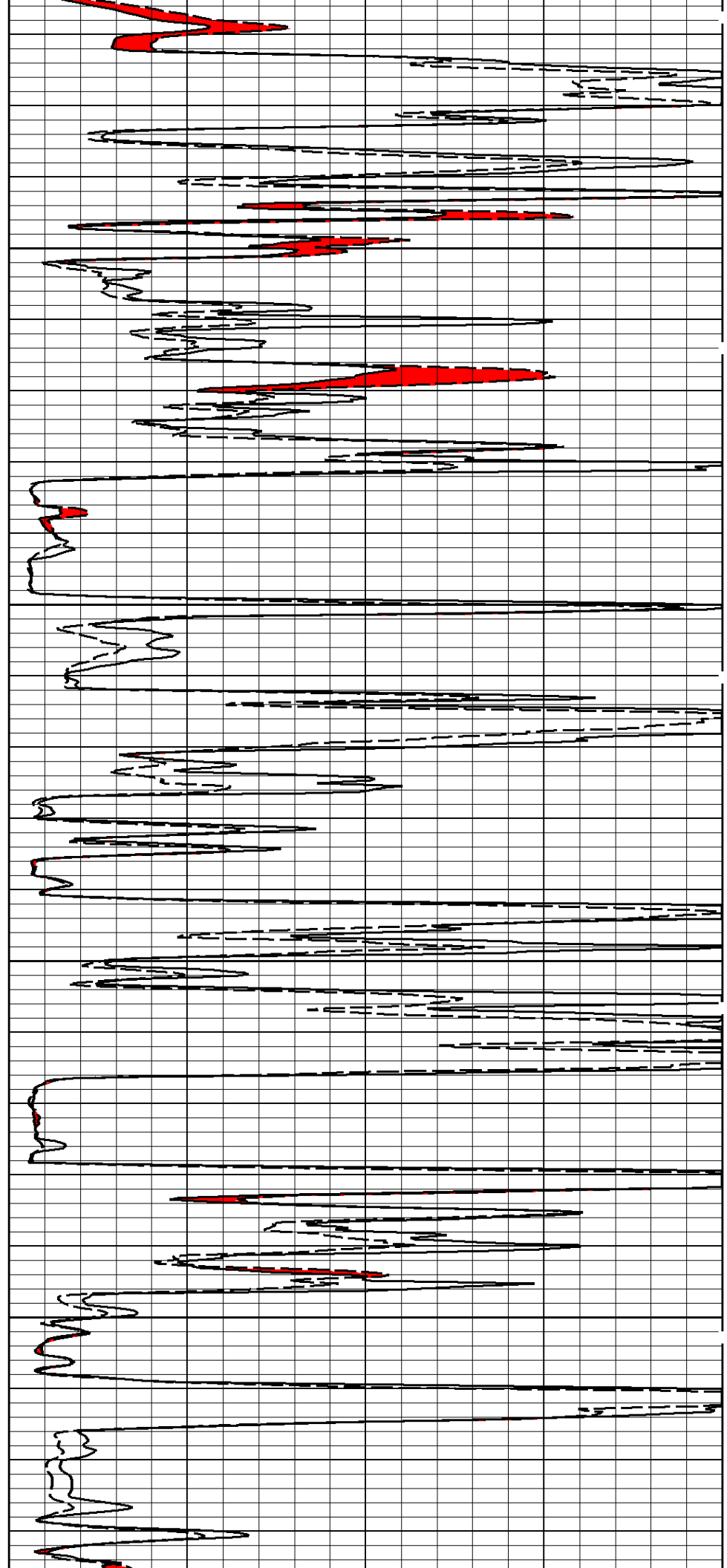
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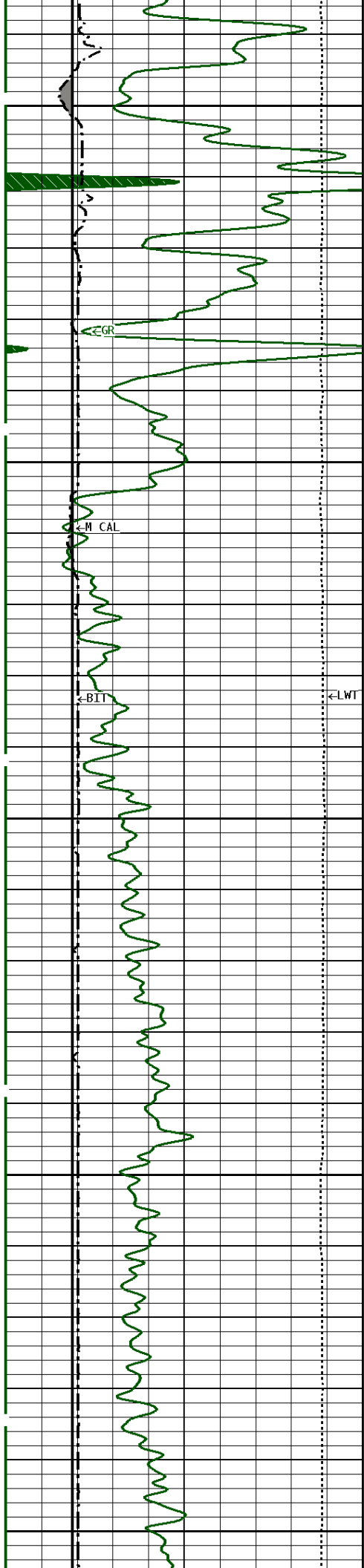




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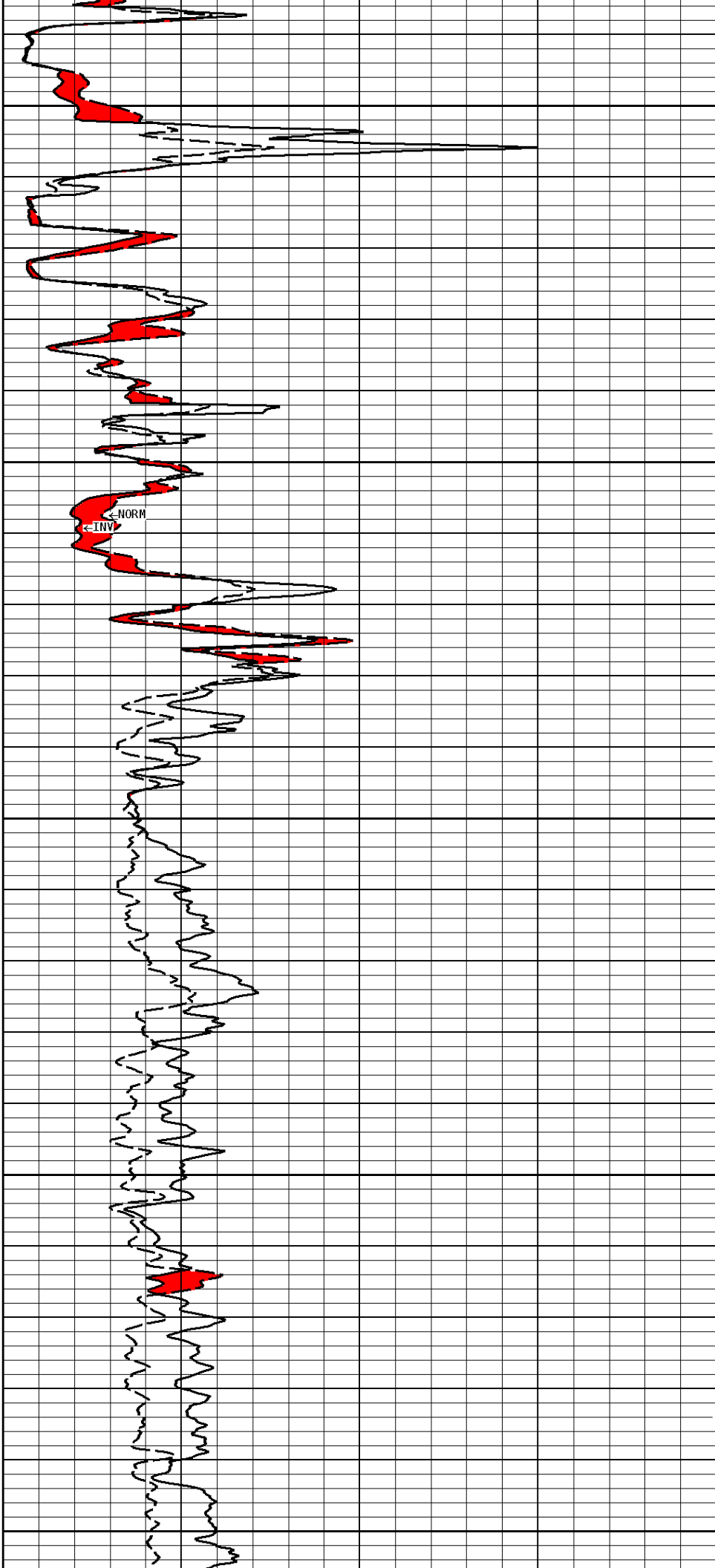
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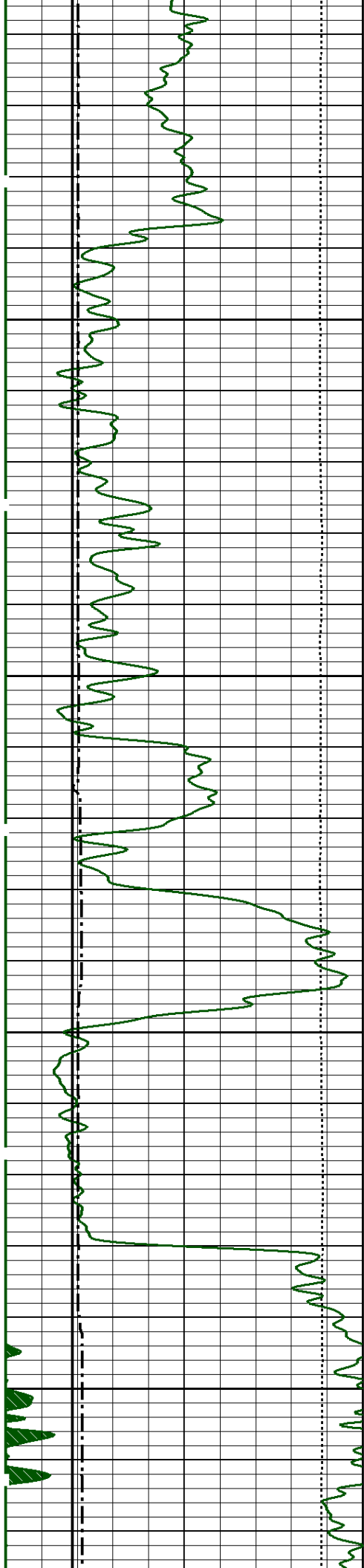




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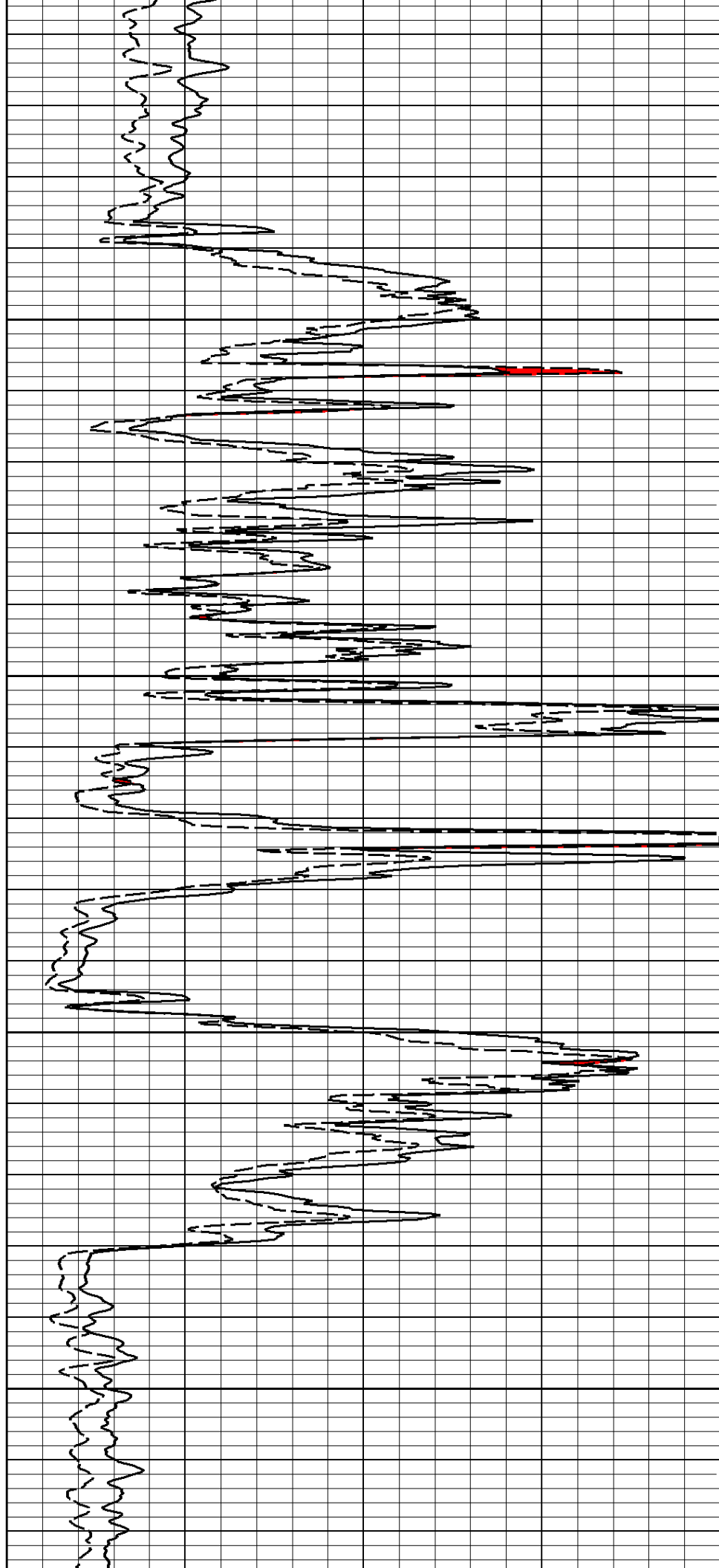
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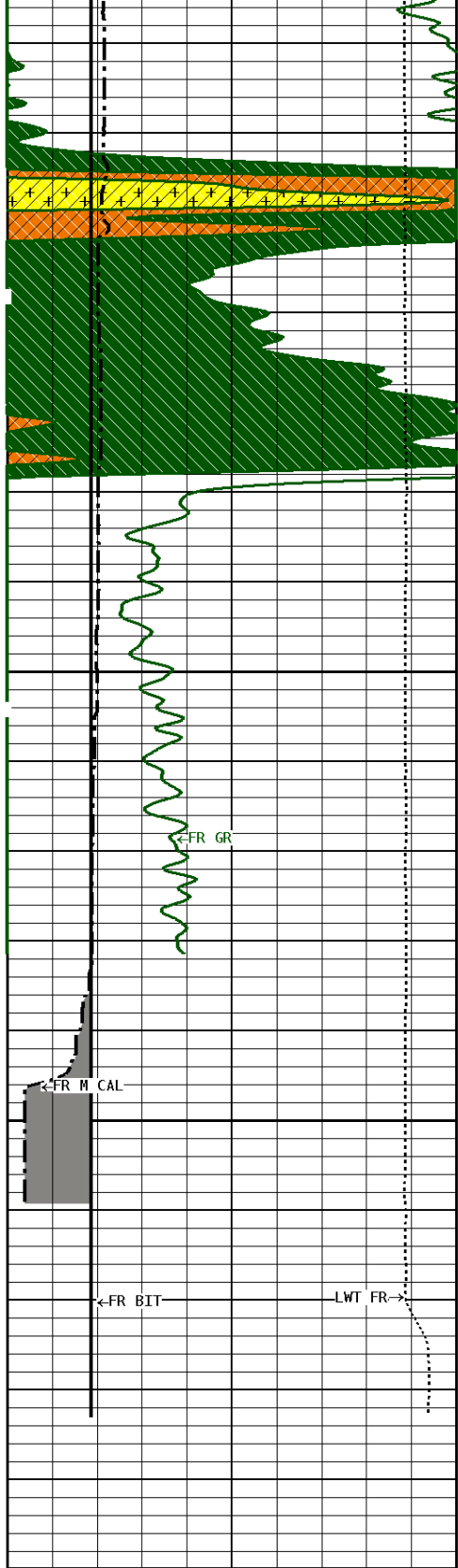




5100

5200





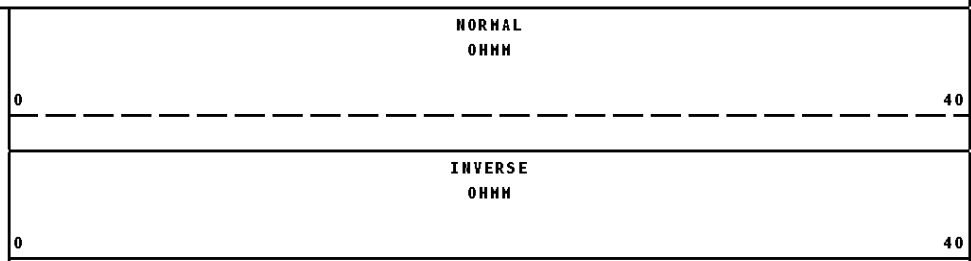
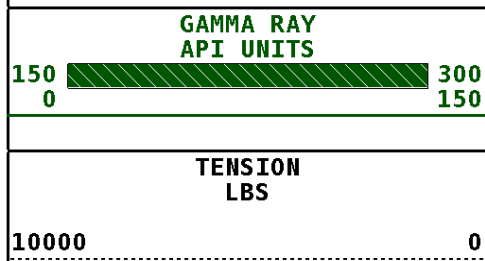
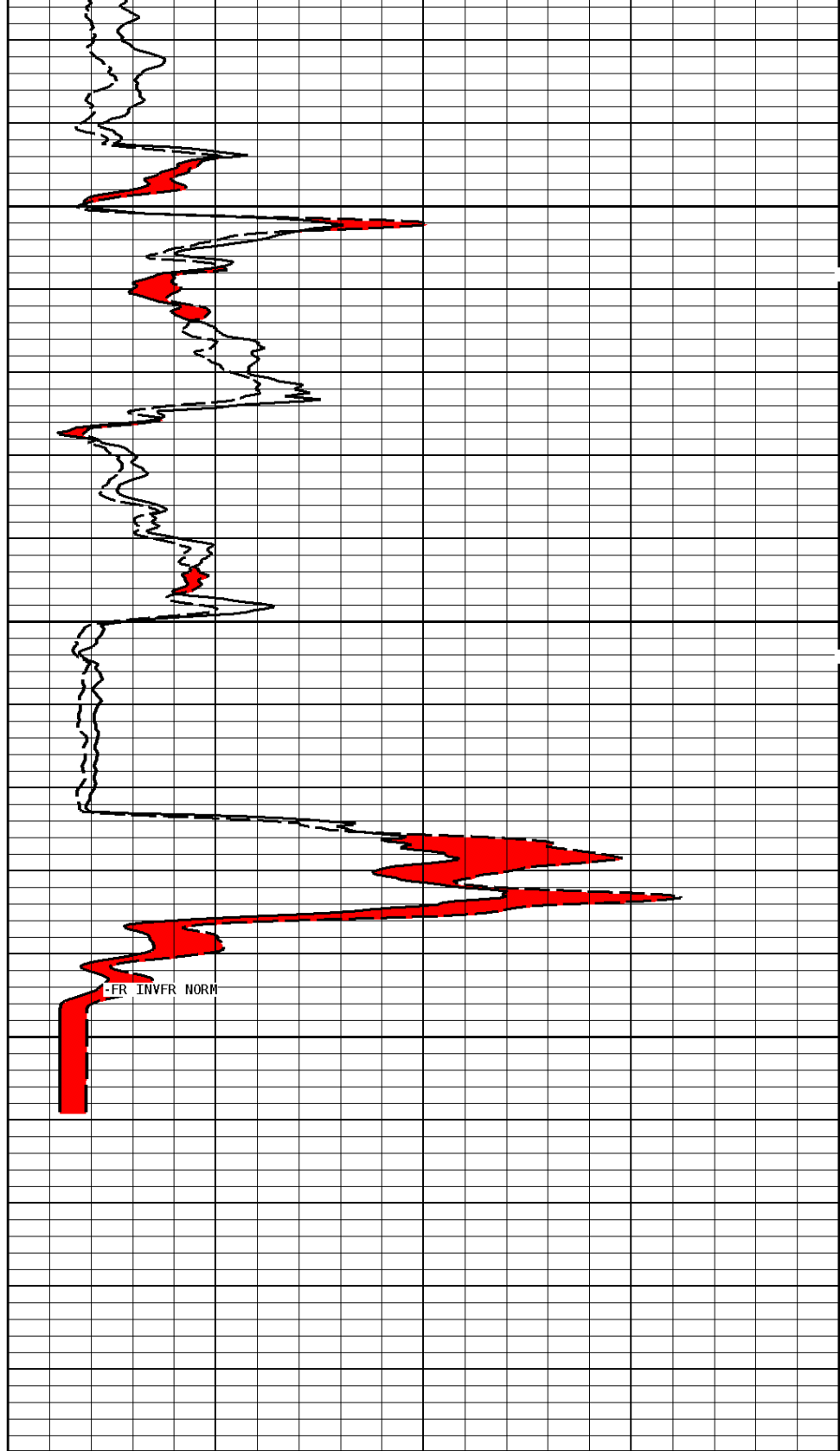
5300

5400

5420

File #1.1.6

1:240 MAIN SECTION



CALIPER MICRO INCHES (IN)	
16	26
6	16

BIT SIZE INCHES (IN)	
6	16

* 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		0.50 ohm/m	

Well File: INDIAN OIL ACHENBACH 40 AUG29_MSTK	Scale: 1:240	Format: MST-240
Segment: V1.D1.S7 AS FINAL REPEAT	Acquired: 2015-08/29 22:25 3.4.0-13487	
Reference: 0	Processed: 2015-08/29 22:37 3.4.0-13487	

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

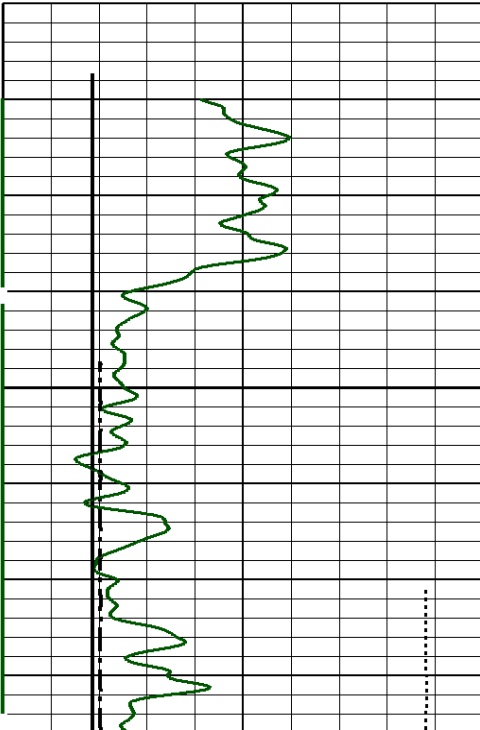
TENSION LBS	
10000	0

GAMMA RAY API UNITS	
150	300
0	150

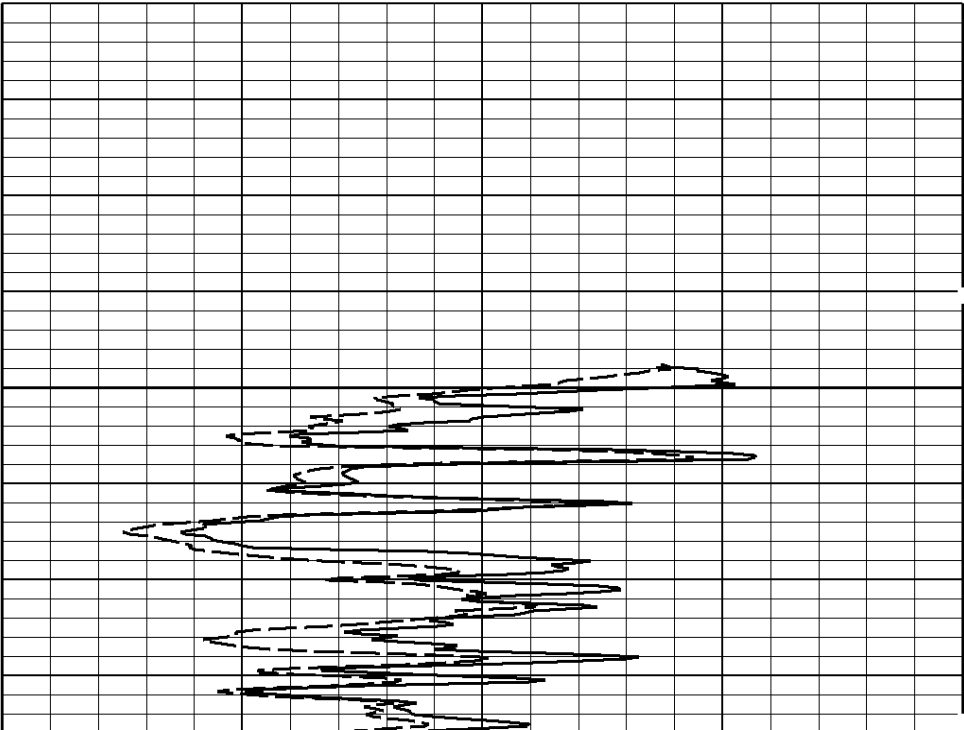
INVERSE OHMM	
0	40

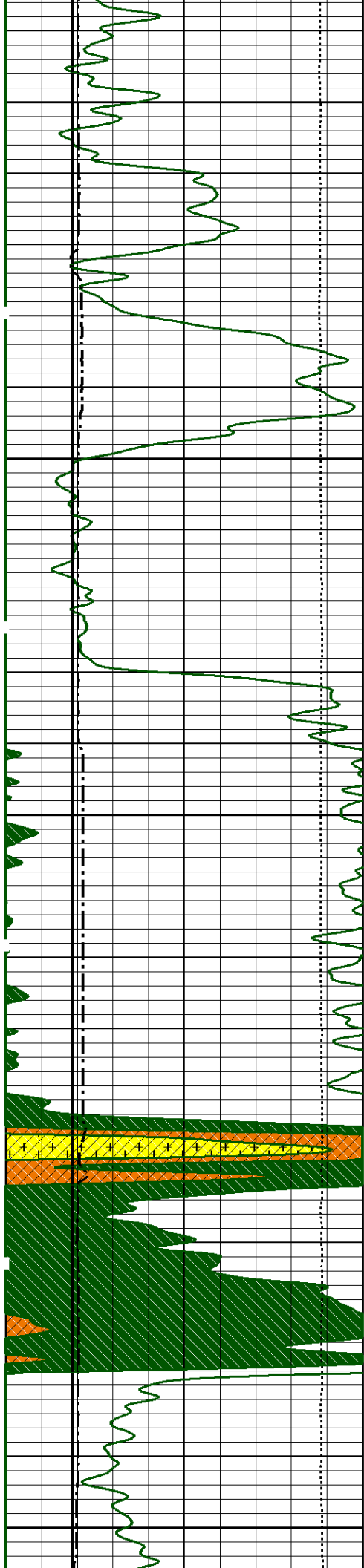
NORMAL OHMM	
0	40

1:240 REPEAT SECTION



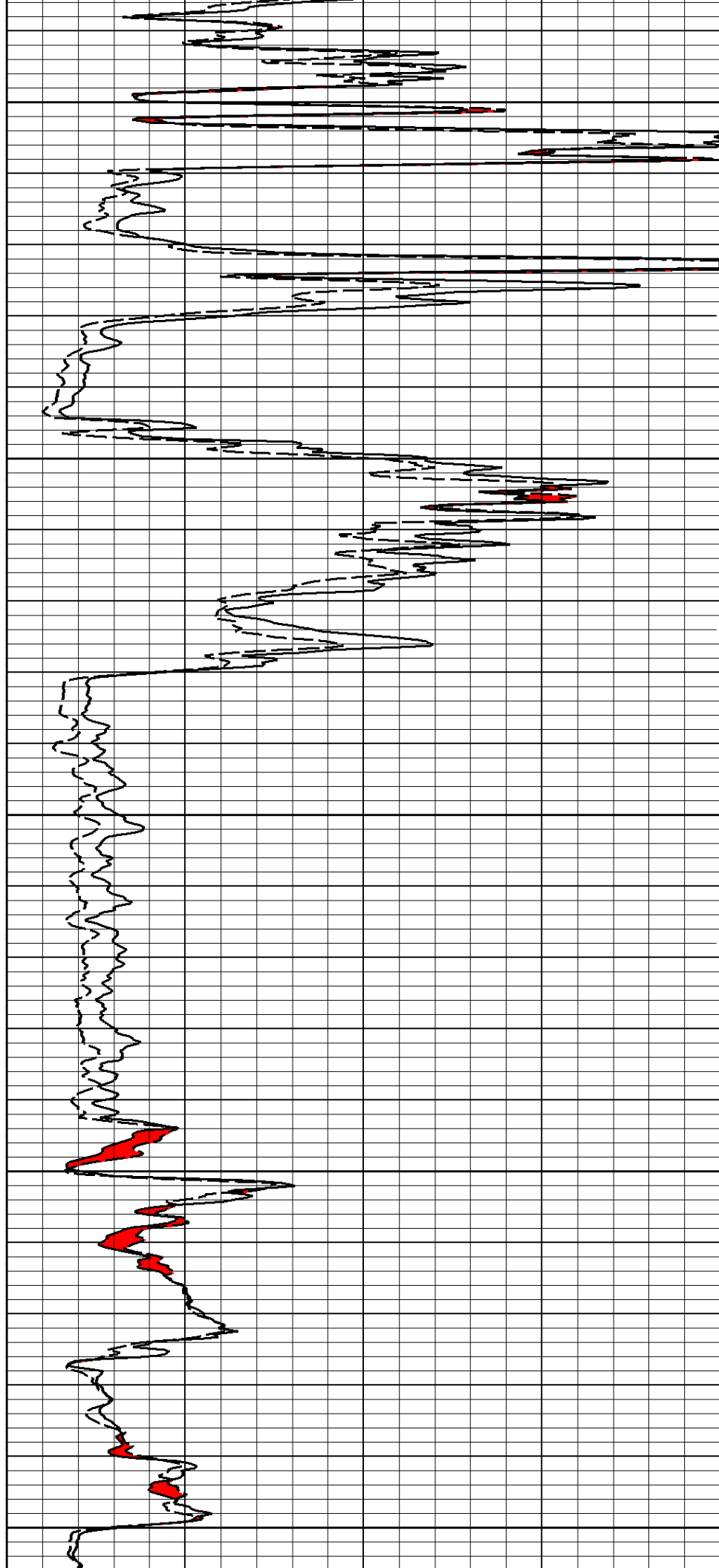
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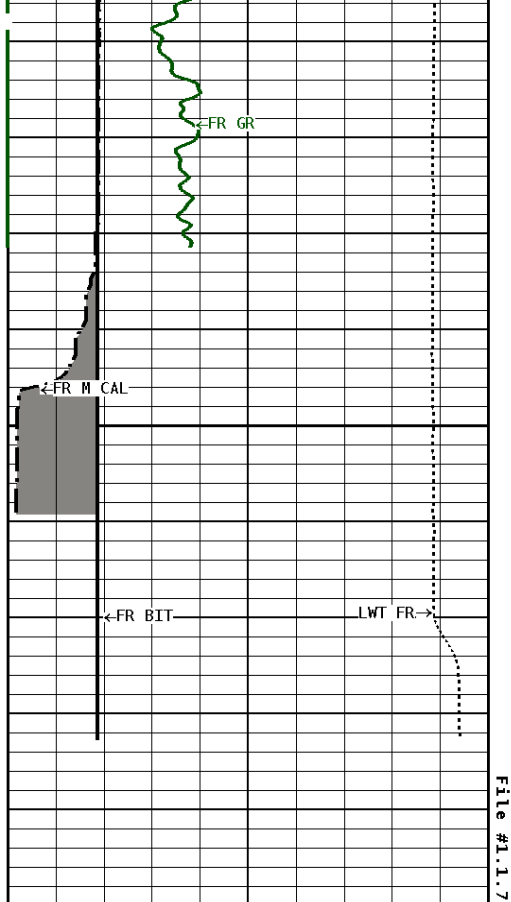




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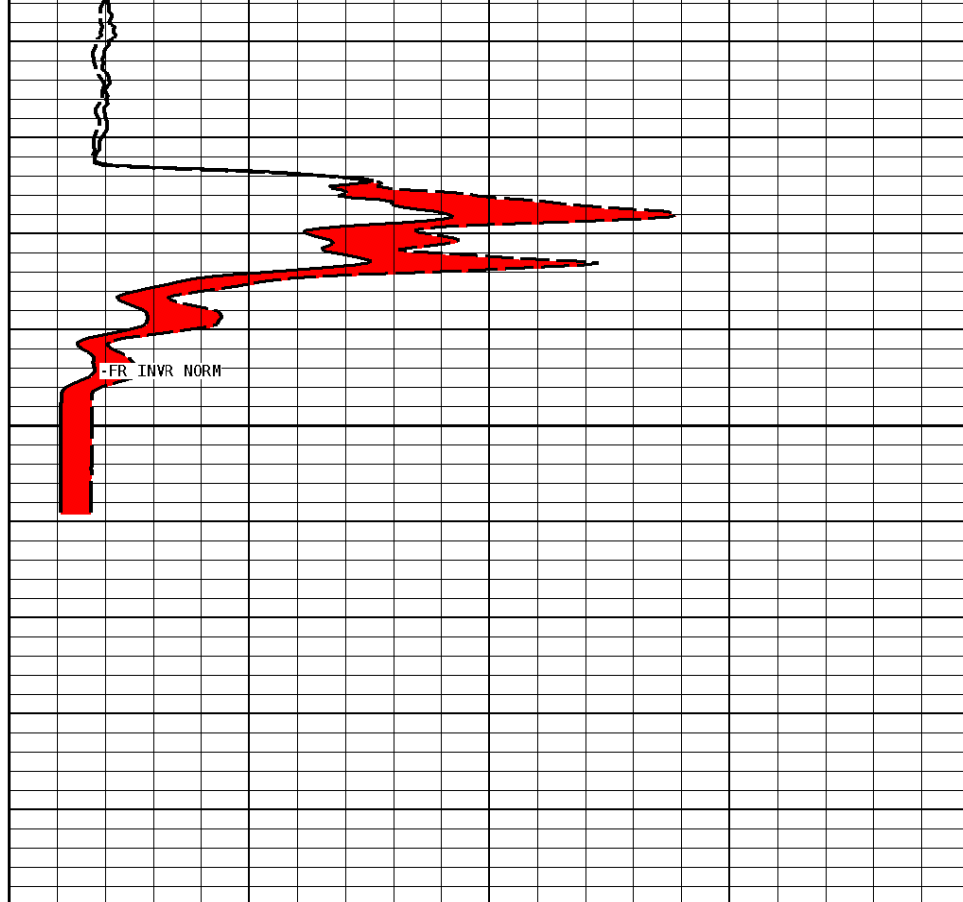
5300





5400

5420



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		0.50	ohm/m

* Calibration Summary *

Shop Calibration GRT-B			
Performed :	19-May-2015	Time :	11:27
Sensor Suite :	GR-GR5	ID :	GRT-BA-017
Measured	Units	Calibrated	Units

GR	Background	Measured	Jig	Units	Calibrated	Jig	Units
	48	355	CPS	175	GRAPI		
Shop Calibration MST-DA Performed : 13-APR-2015 Time : 10:46 Sensor Suite : CALI-MSN ID : MLT-DA-21 Jig - Measured Jig - Calibrated Units Ring#1 Ring#2 Ring#1 Ring#2 CL # 1 8.1 12.5 6.0 12.0 IN.							
Performed : 13-APR-2015 Time : 10:46 Sensor Suite : MSTDA-NI ID : MLT-DA-21 Internal Measured Calibrated Zero Reference Units Zero Reference Units INV-V 0.0 29815.7 0.00 1746.00 MV NOR-V 49.2 30179.6 0.00 1546.00 MV IN-C 0.0 60547.2 0.00 15.46 UA INV-R 36.53 OHMM NOR-R 55.11 OHMM							



Company: INDIAN OIL CO., INC.
 Well: ACHENBACH #40
 Location: 2310' FSL & 1650' FWL
 Logged: 08-29-2015
 K.B. Elev: 1497.0 Ft