



Tucker
ENERGY SERVICES

**MICRO
LOG**

File No : TUL-62054
Company : VAL ENERGY, INC
Well : WERNER #4-31 OWWO
Field :
Country : COWLEY
State : KANSAS
Country : USA
API No : 15-035-19420-0001

Location :
 1650' FWL & 2310' FNL
 SE NW NE

LSD : **Sect** : 31 **Twp** : 32S **Rge** : 6E

Permanent Datum: GL
Drilling Measured From: KB
Log Measured From: KB
Above Permanent Datum: 9.00 Ft
Elevations: KB 1303.00 Ft, DF 1302.00 Ft, GL 1294.00 Ft

Services: CNT, PIT, LDT, MLT

Date	05-10-2018	
Run Number	1	
Depth--Driller	3500.0	Ft
Depth--Logger	3502.0	Ft
First Reading	3479.0	Ft
Last Reading	140.0	Ft
Casing--Driller	140.0	Ft
Casing--Logger	140.0	Ft
Bit Size	7.875	In
Casing Size	8.625	In
Hole Fluid Type	WBM	
Density	8.8	
Fluid Loss	12.8	
PH/Viscosity	10.0	74.0
Sample Source	MEASURED	
RMF@Measured Temp.	2.000	@ 70 F
RMF@Measured Temp	1.600	@ 70 F
RMC@Measured Temp.	2.400	@ 70 F
Source RMF/RMC	CALCULATED/CALCULATED	
RM@BHT	1.300	@ 111 F
Time Circulation Stopped	05-10-2018 04:30	
Max Recorded Temp.	111	F
Equipment/Base	1022	TULSA, OK
Recorded By	SHELDON TYLER	
Witnessed By	TODD ALLAM	

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	3500.00	8.625	32.00	140.00	0.00

Run Number	1
Date	05-10-2018
Date/Time On Bottom	05-10-2018 07:30
Depth to Fluid	0.0 Ft
Salinity	13500.000
RMF@BHT	1.040 @ 111 F
RMC@BHT	1.560 @ 111 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

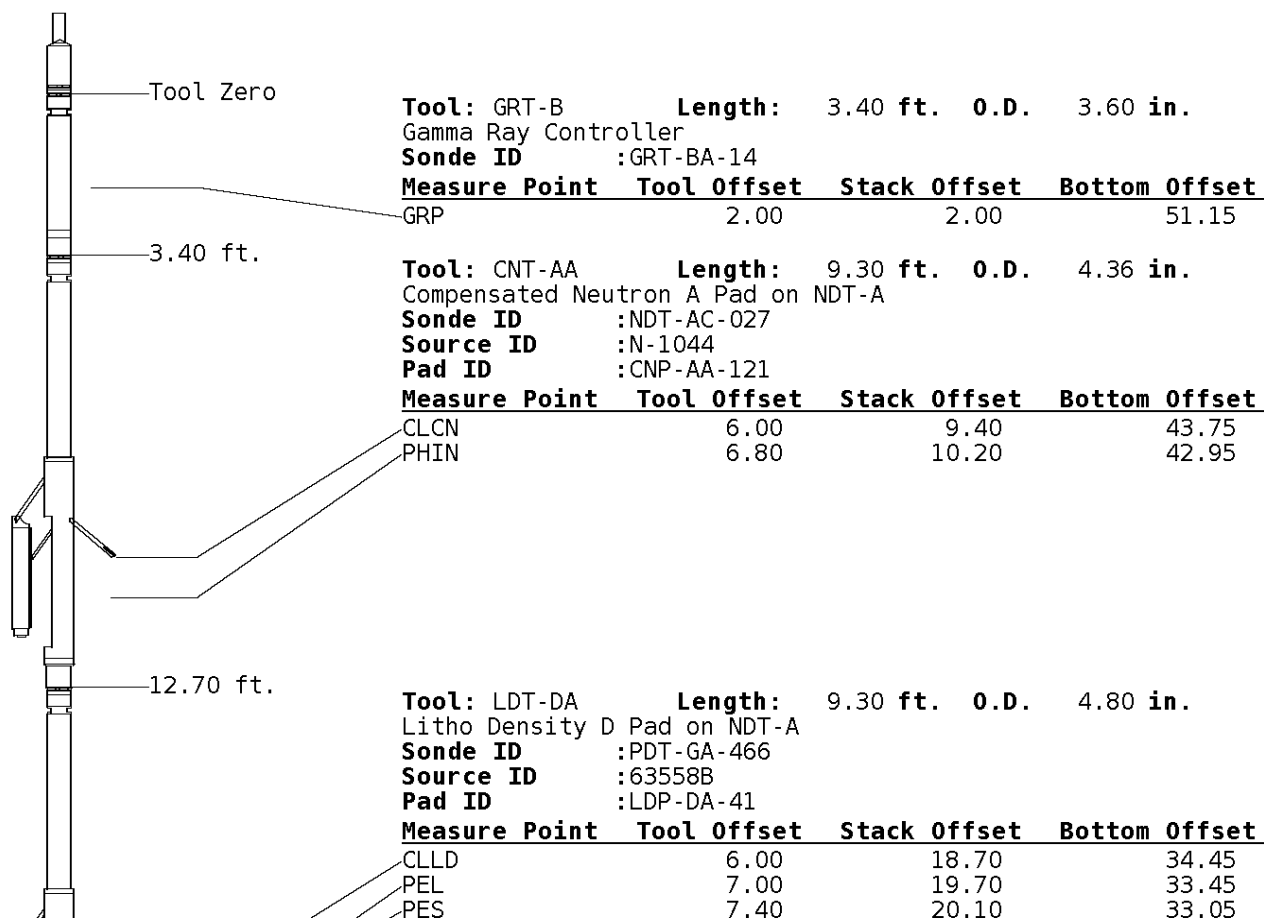
MICRO CALIPER STOPPED WORKING AT 1960'
 CUSTOMER REQUESTED DETAIL TO 1600'

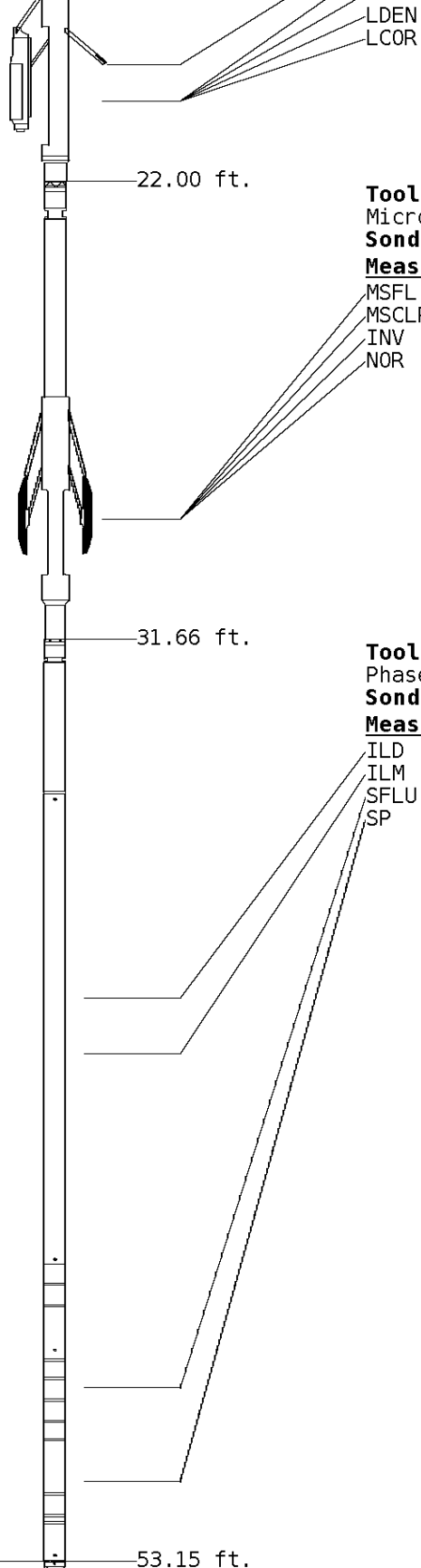
GRT: GRP, GRX
 CNT: PHIN, CLCNIN, PHXN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
 MLT: NOR_RF, INV_RF, MSCLPIN
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

OPERATORS:
 B.BAILEY
 B.BROWN

Tool String Schematic

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





7.20 19.90 33.25
 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-021

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-069

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: VAL ENERGY WERNER 4-310WVO MAY10 MSTK

Segment: V1.D1.S5 Reprocess of MAIN

Reference: 0

Scale: 1:240

Format: MST-240

Acquired: 2018-05/10 07:28 3.4.0-13756

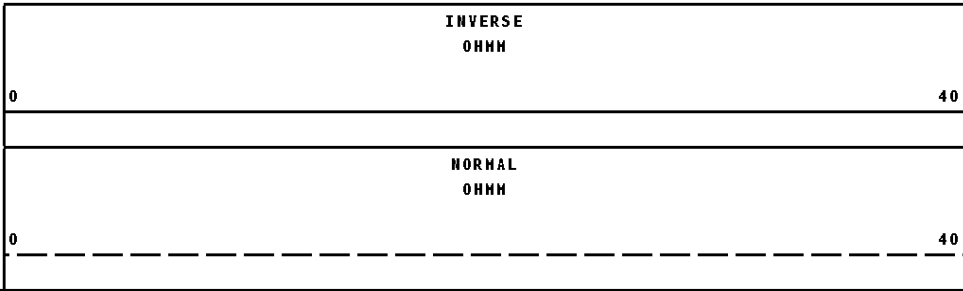
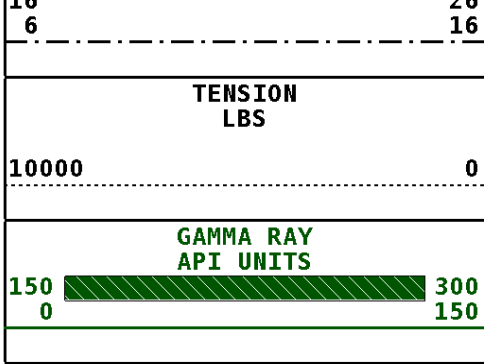
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**BIT SIZE
INCHES (IN)**

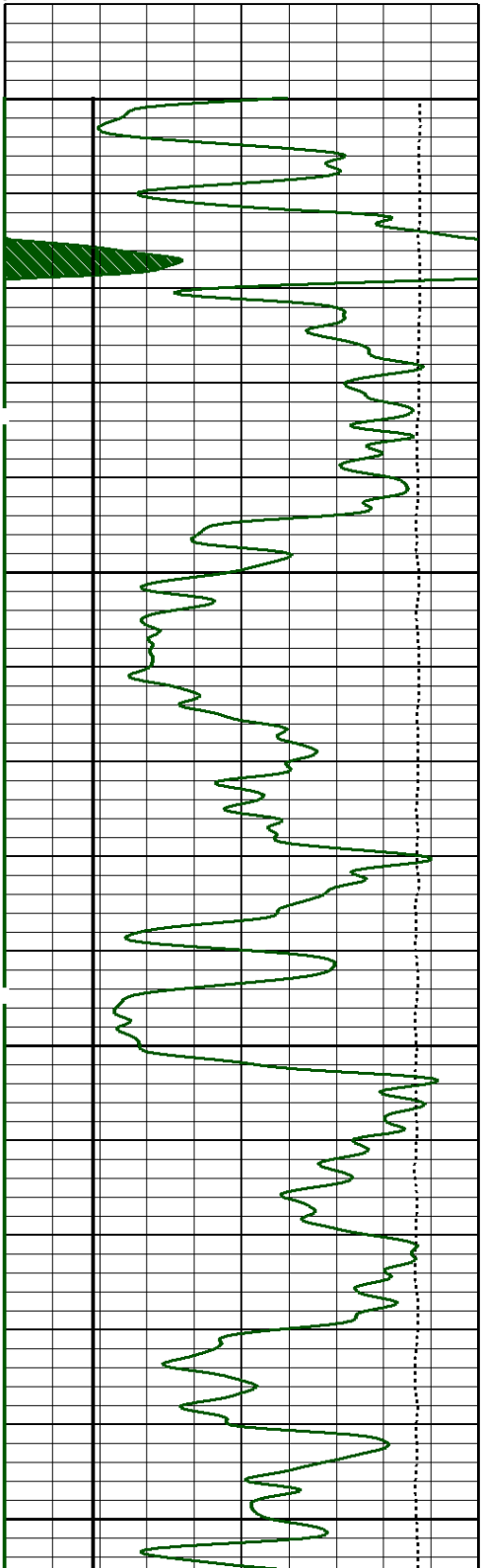
6 16

**CALIPER MICRO
INCHES (IN)**

16 26

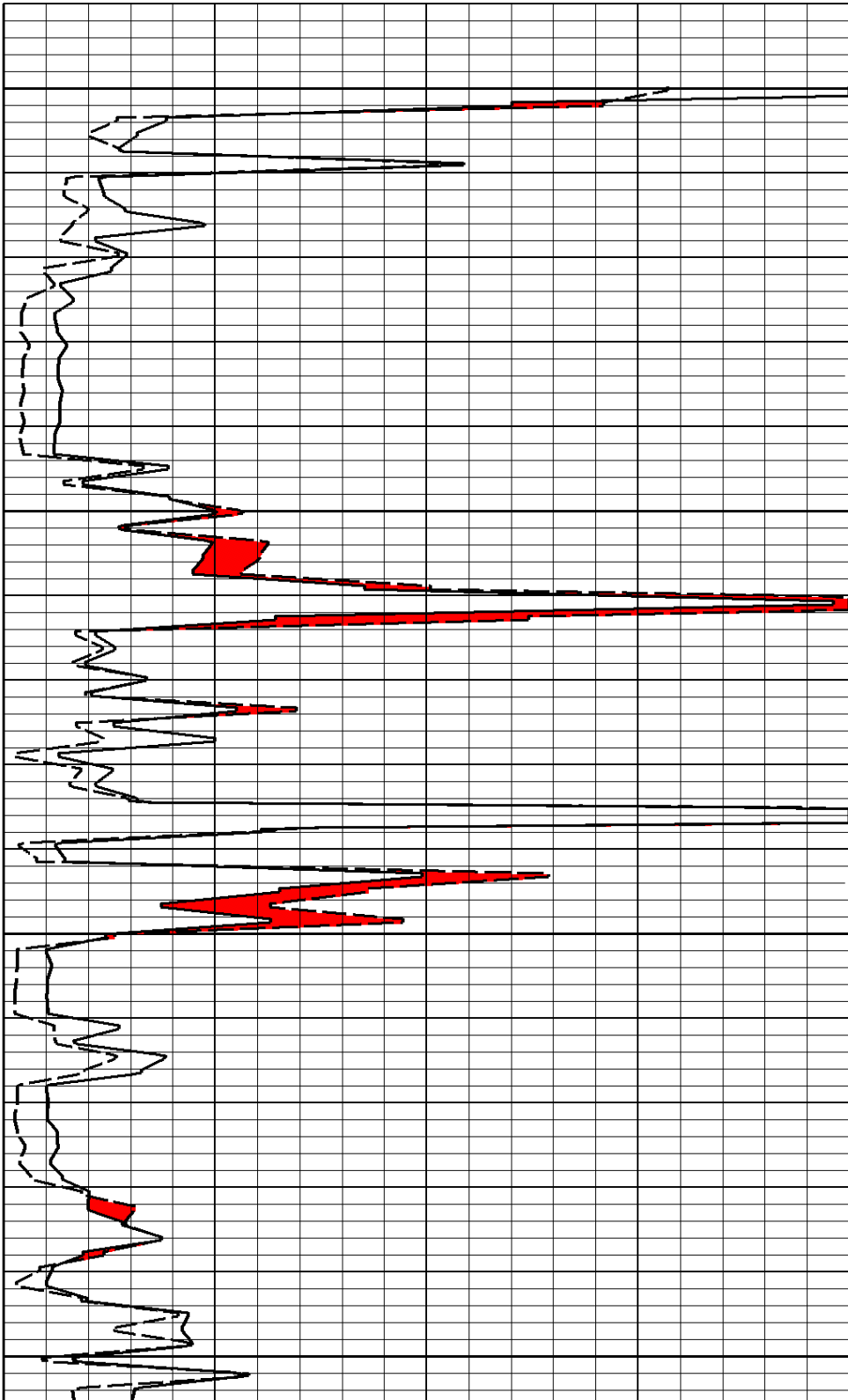


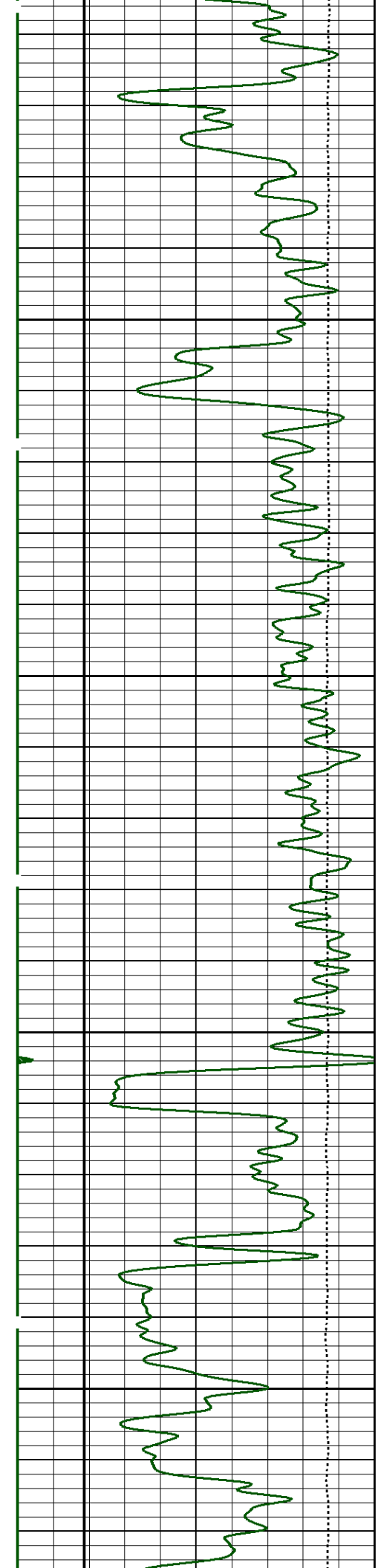
1:240 MAIN SECTION



1600

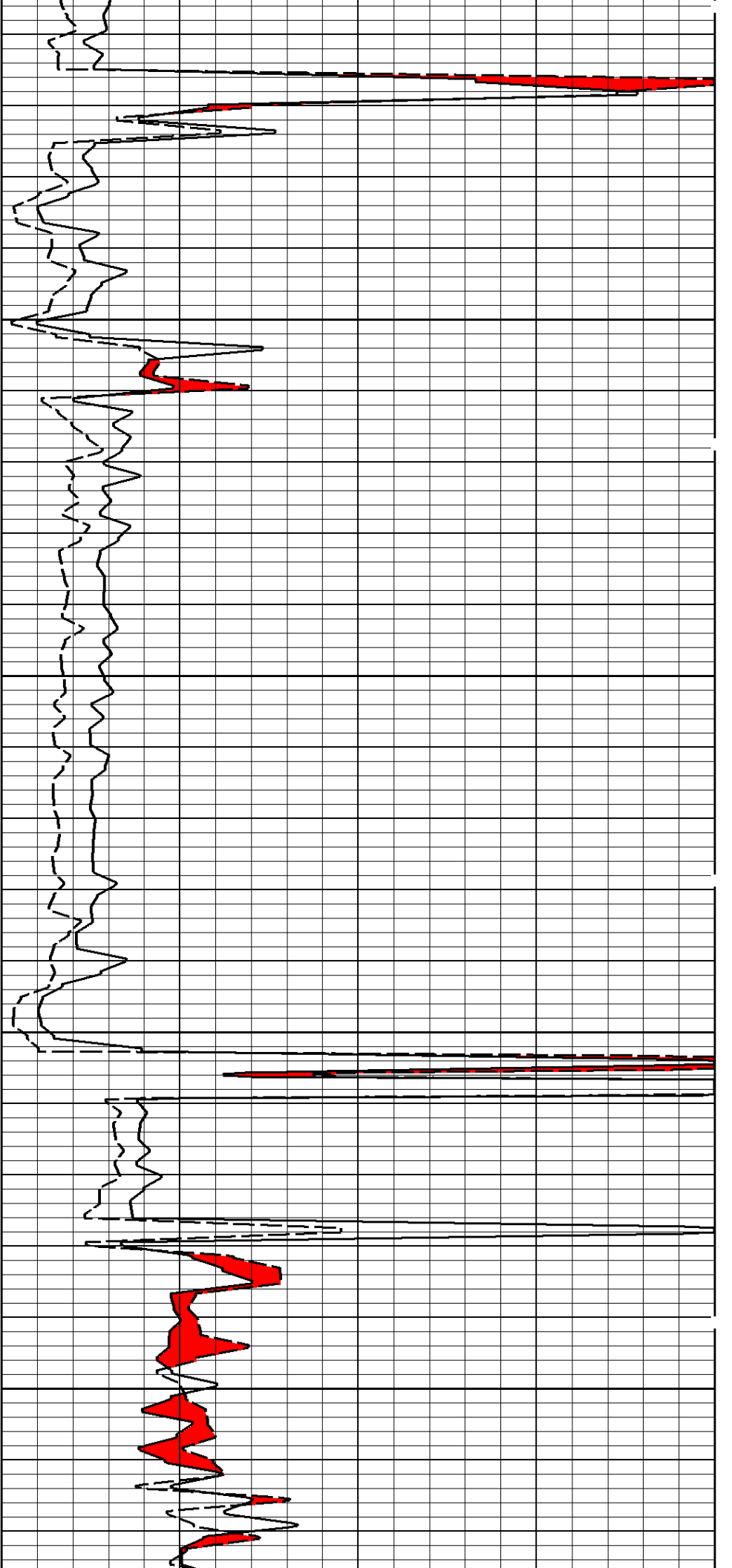
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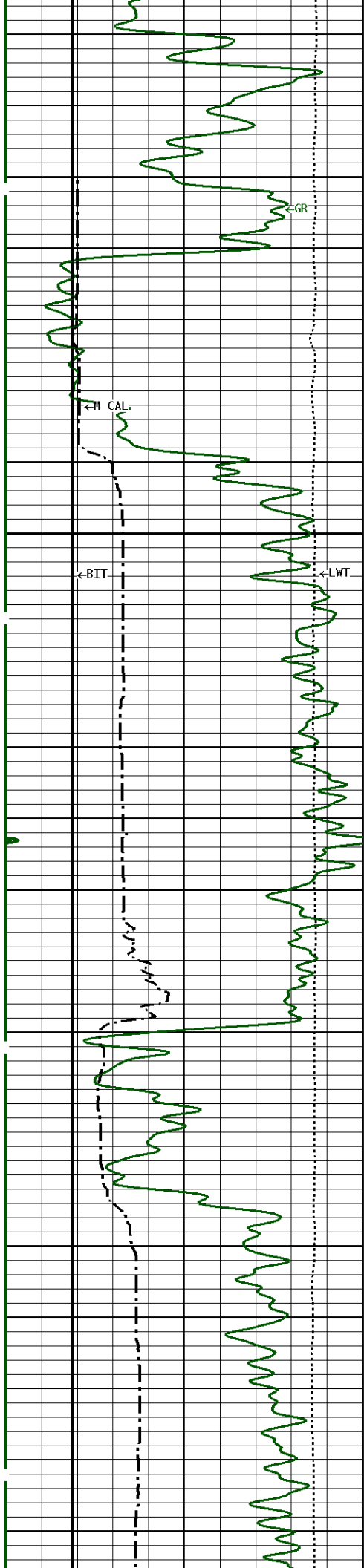




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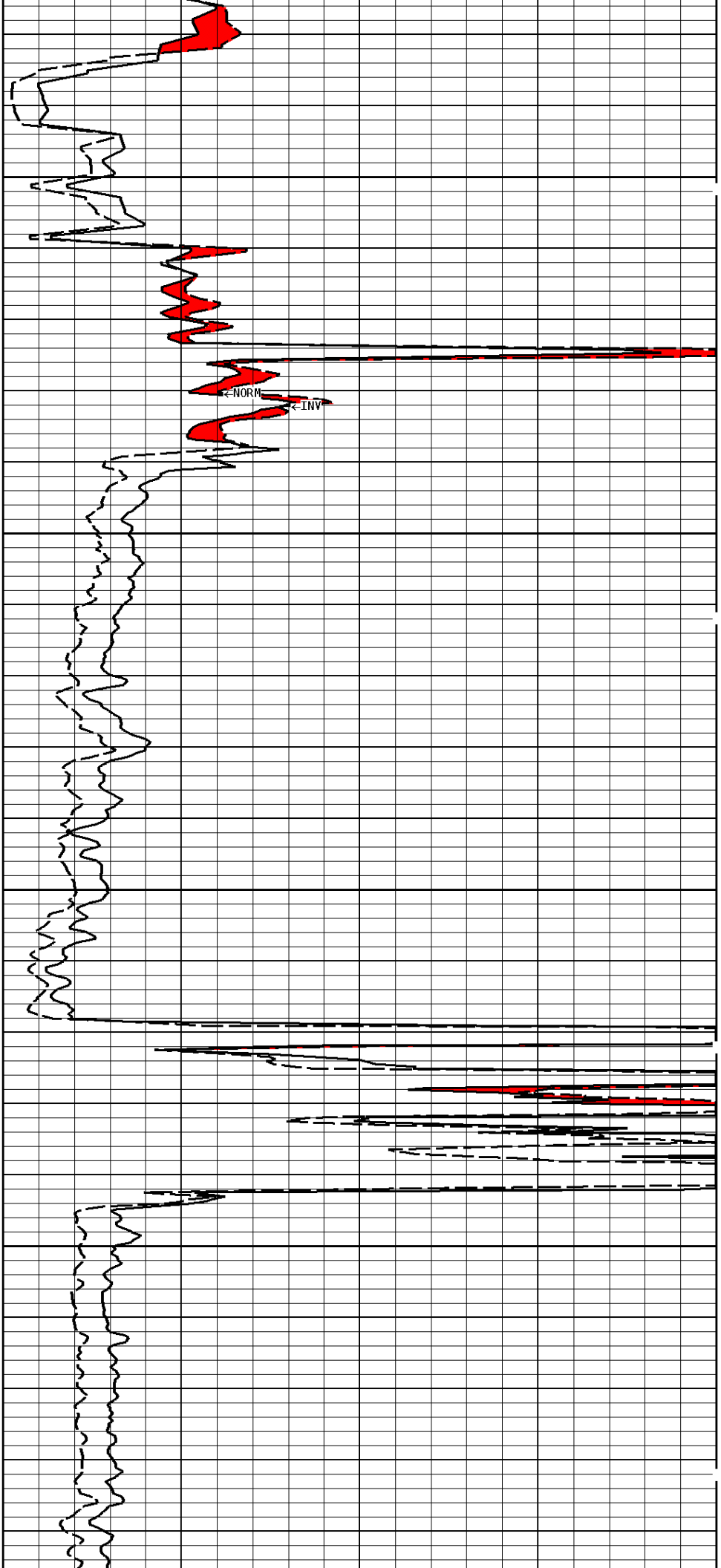
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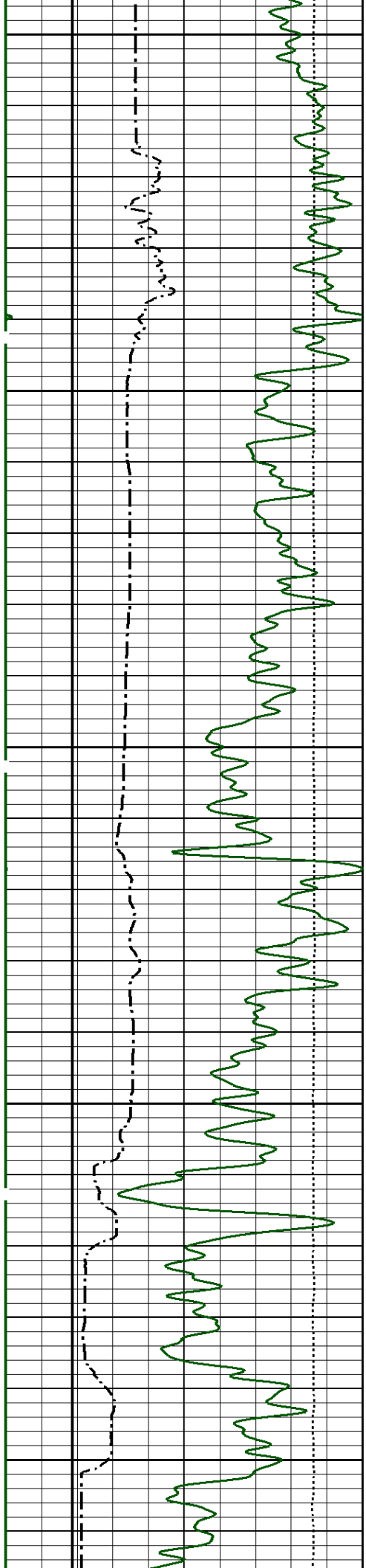




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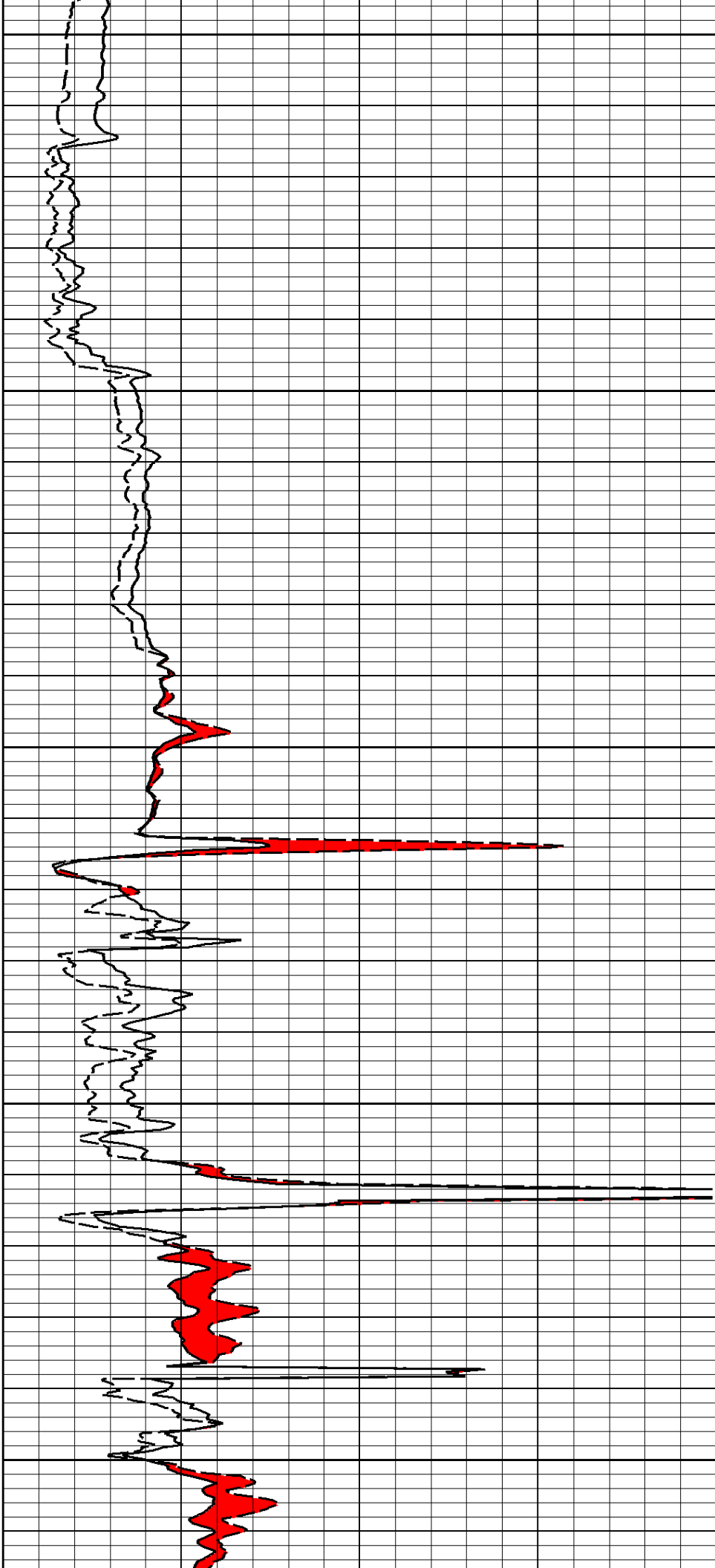
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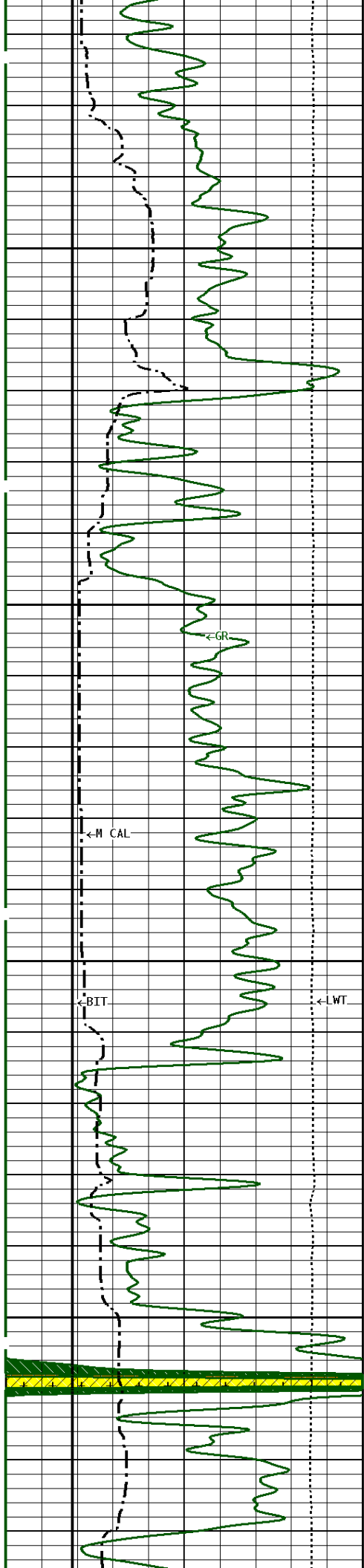




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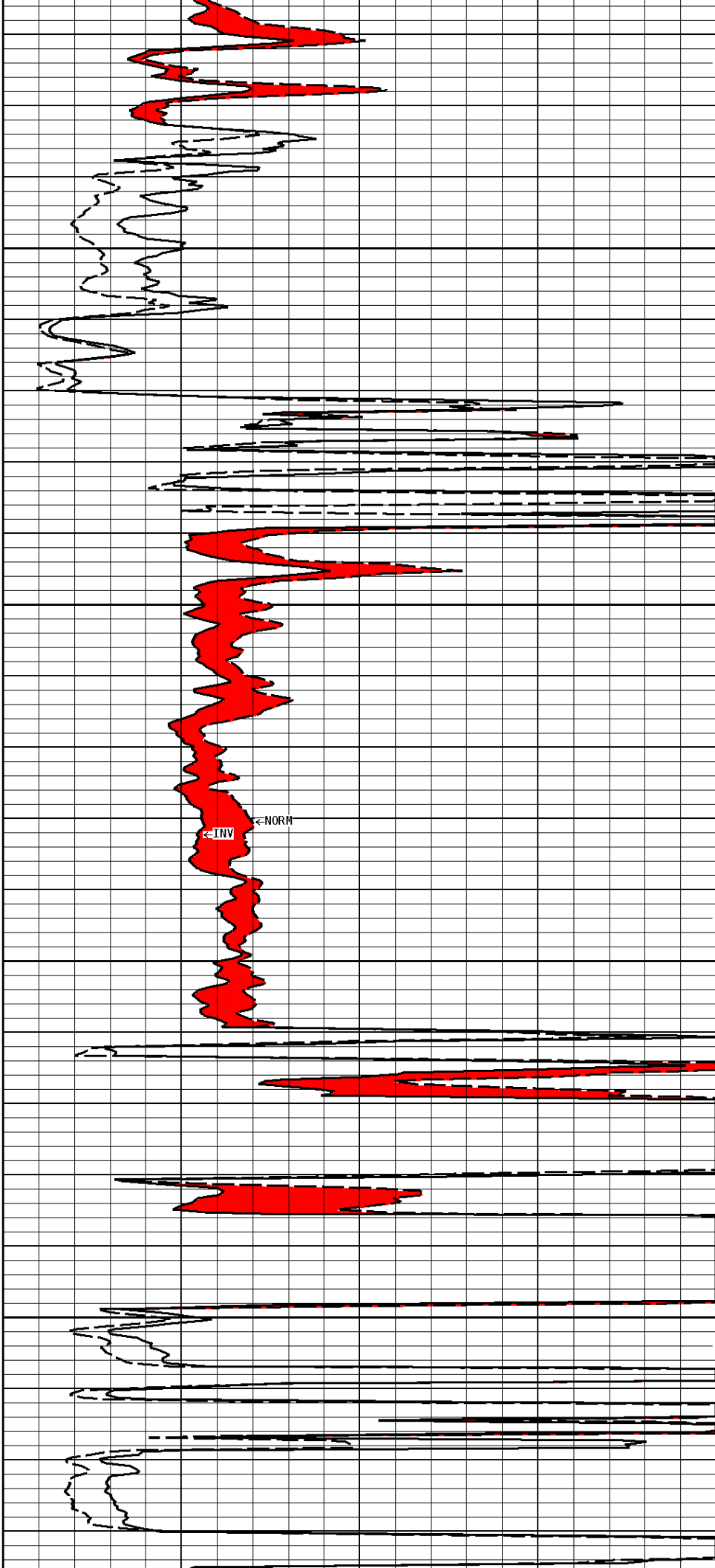
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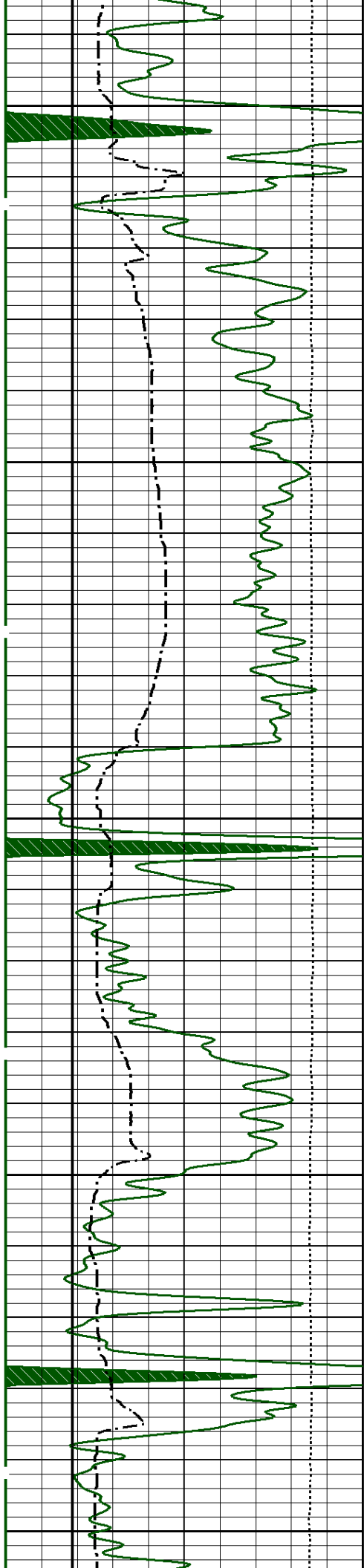


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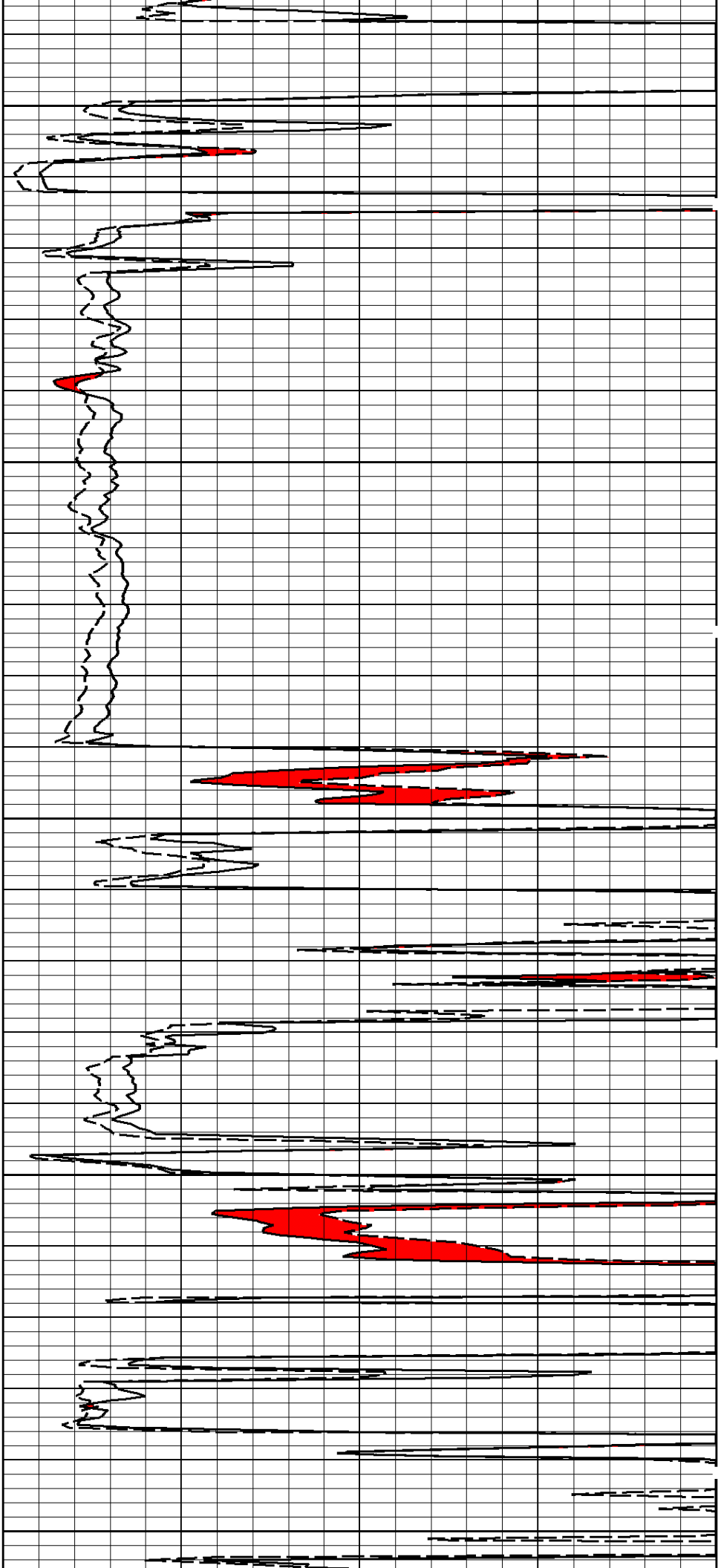
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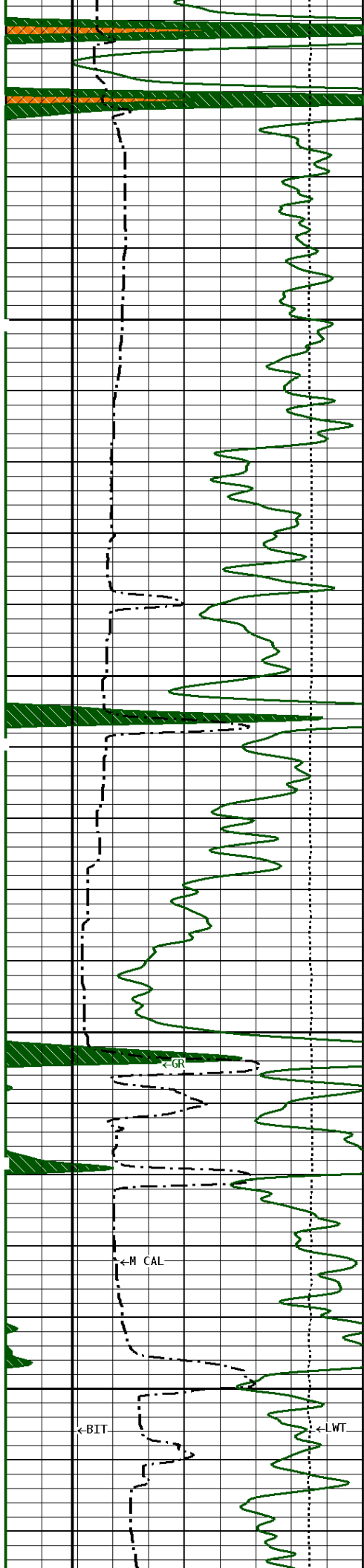


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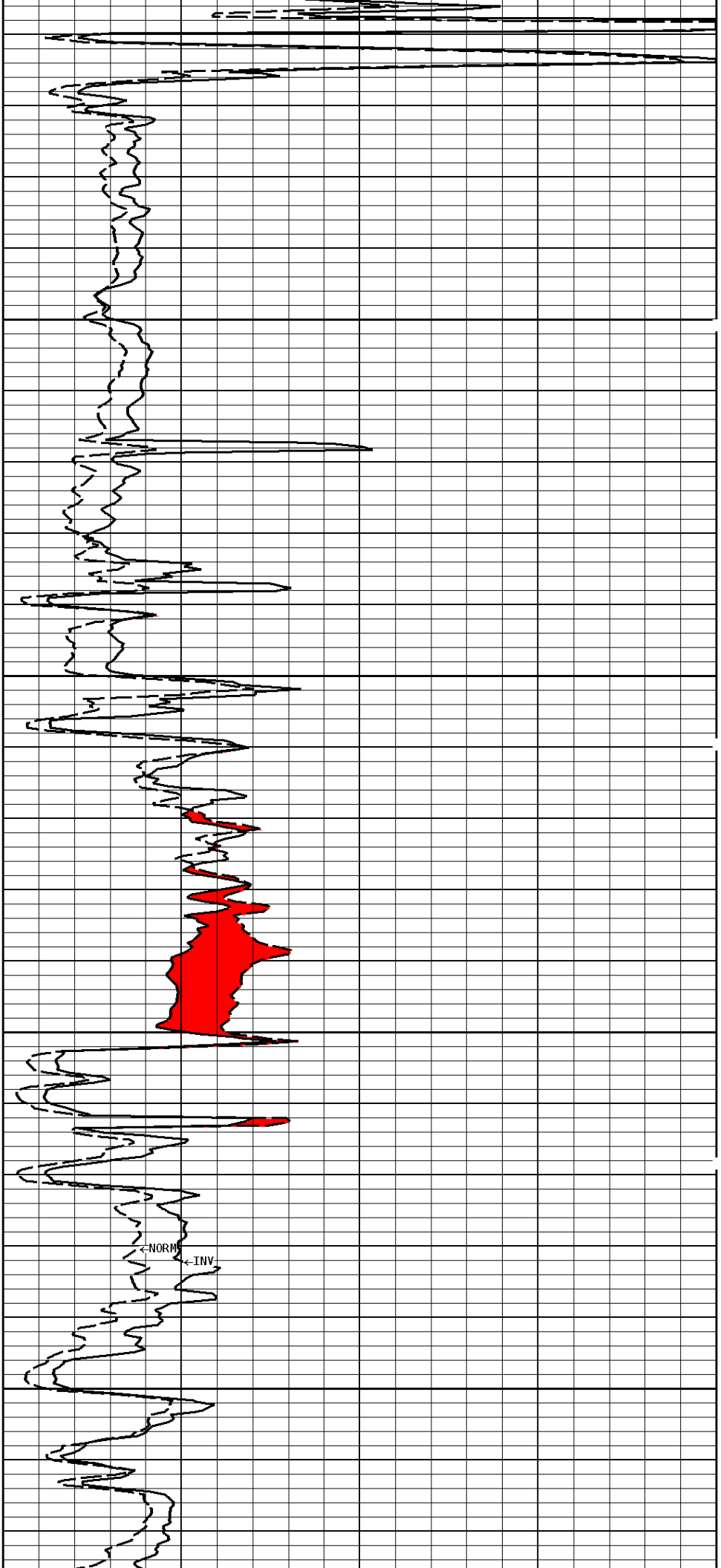
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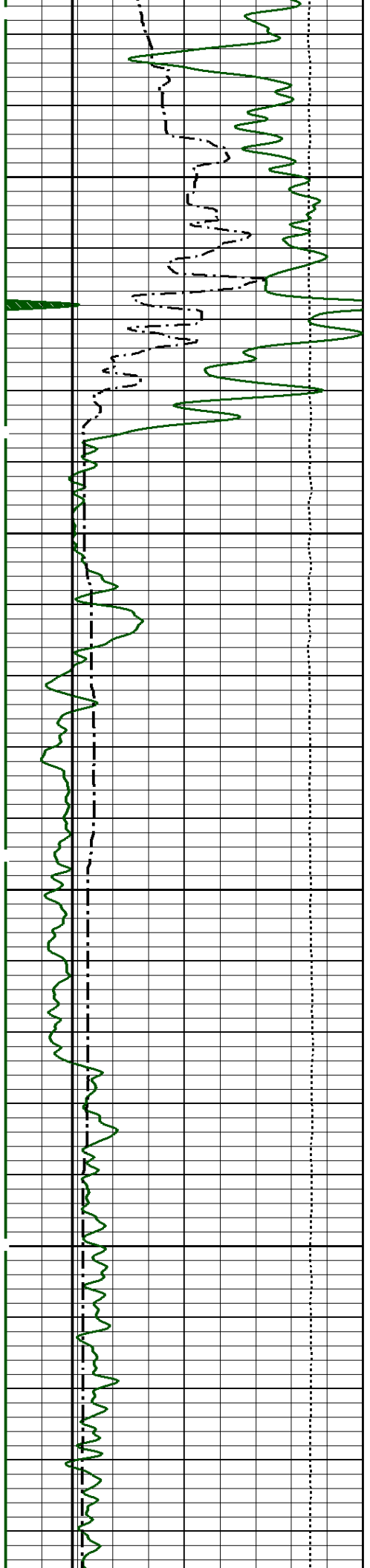




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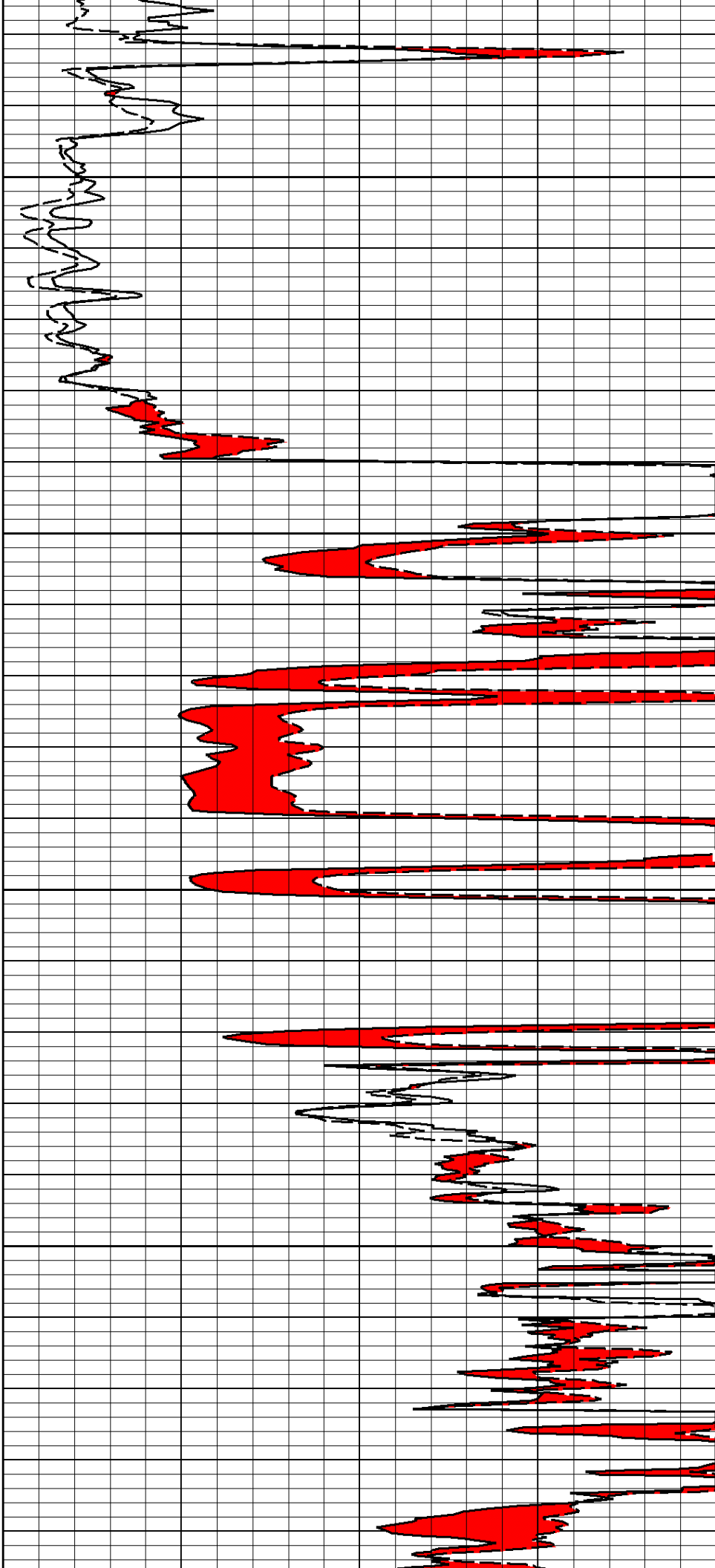
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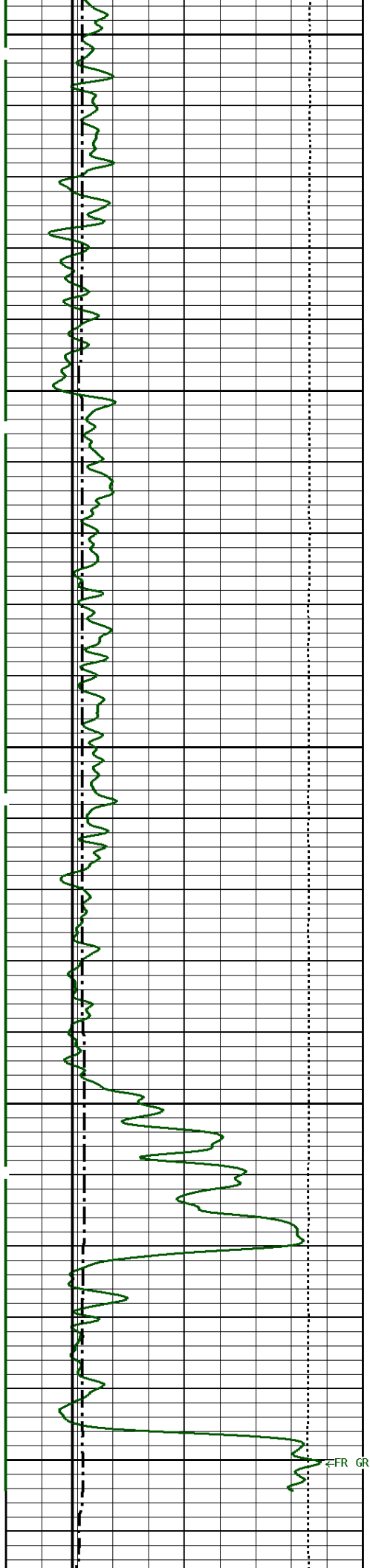




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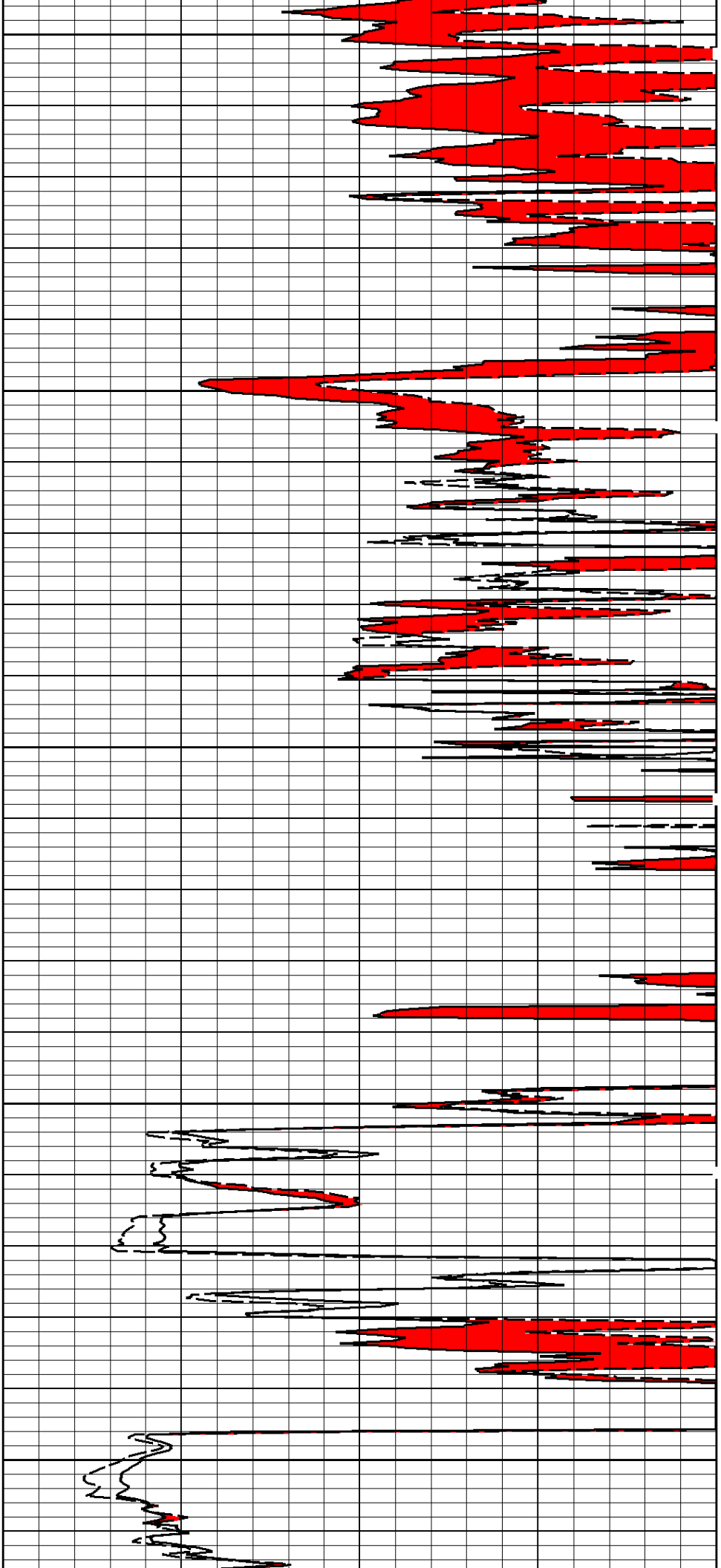
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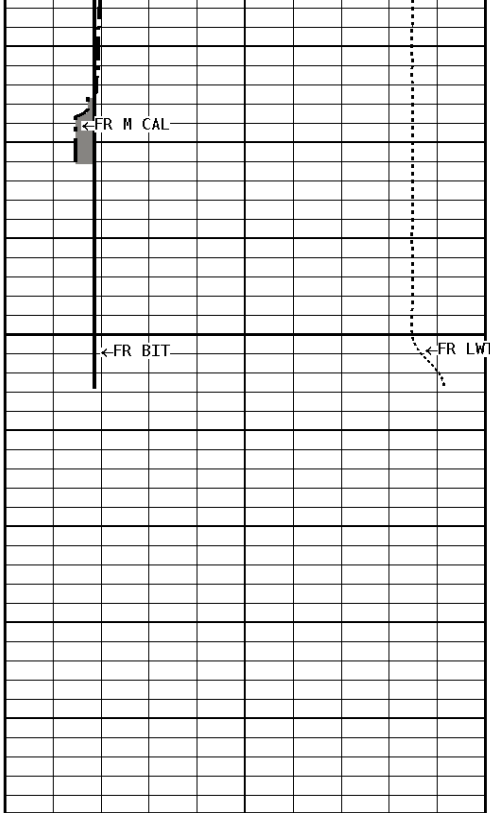




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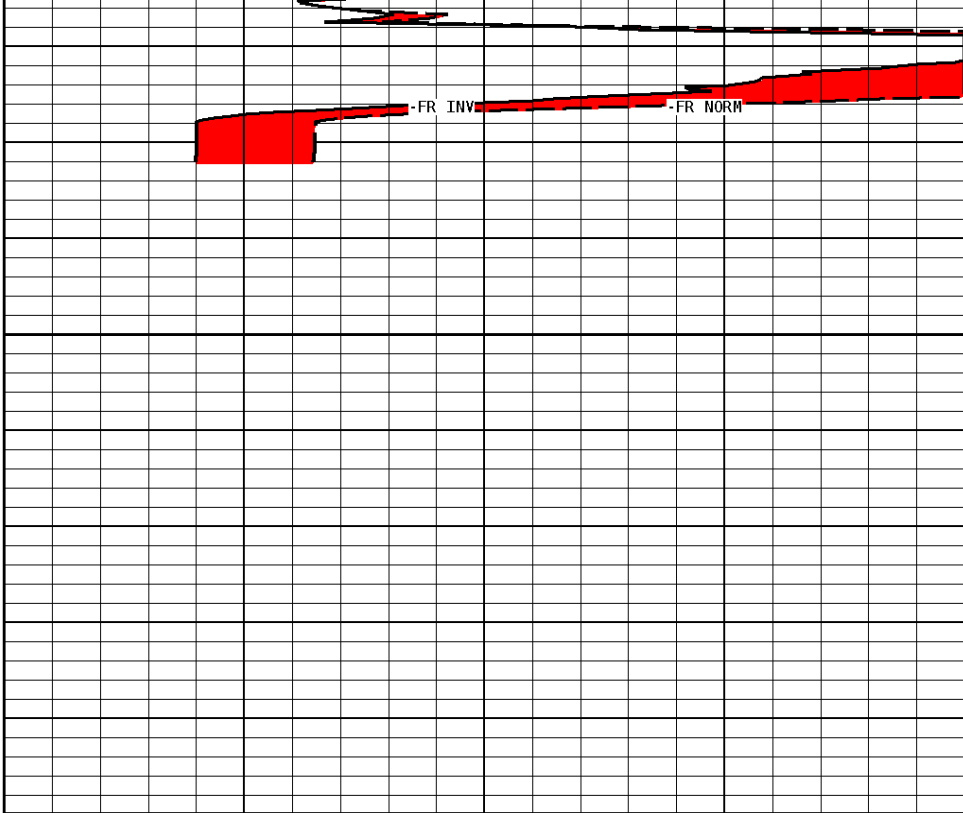
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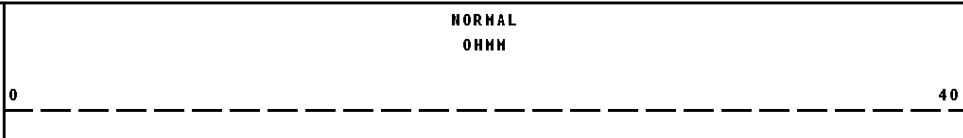
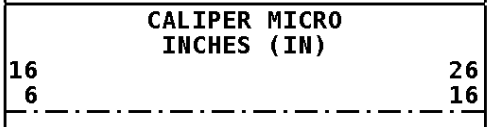
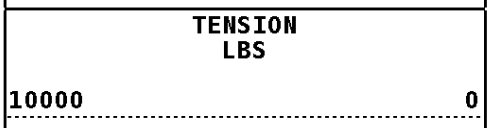
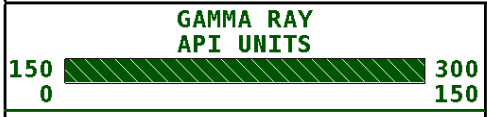


3500
3502

File #1.1.5



1:240 MAIN SECTION

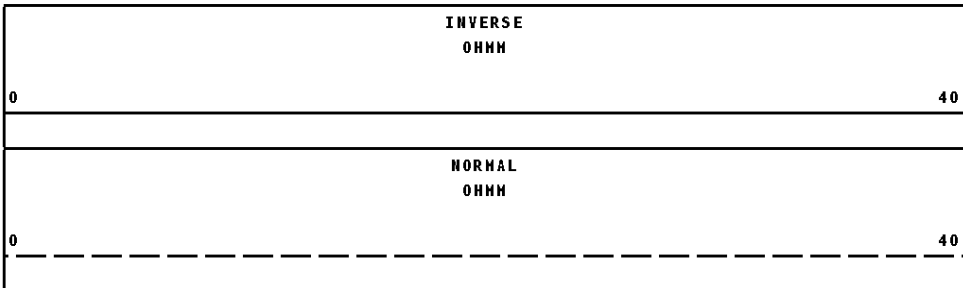
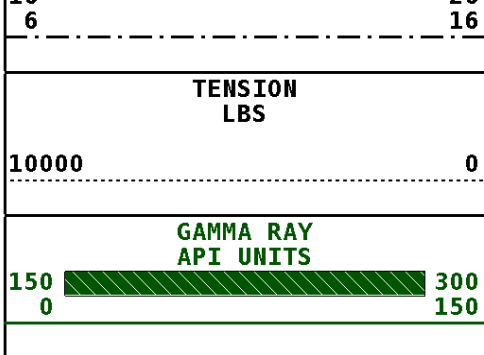


*** Borehole Zone Factors ***

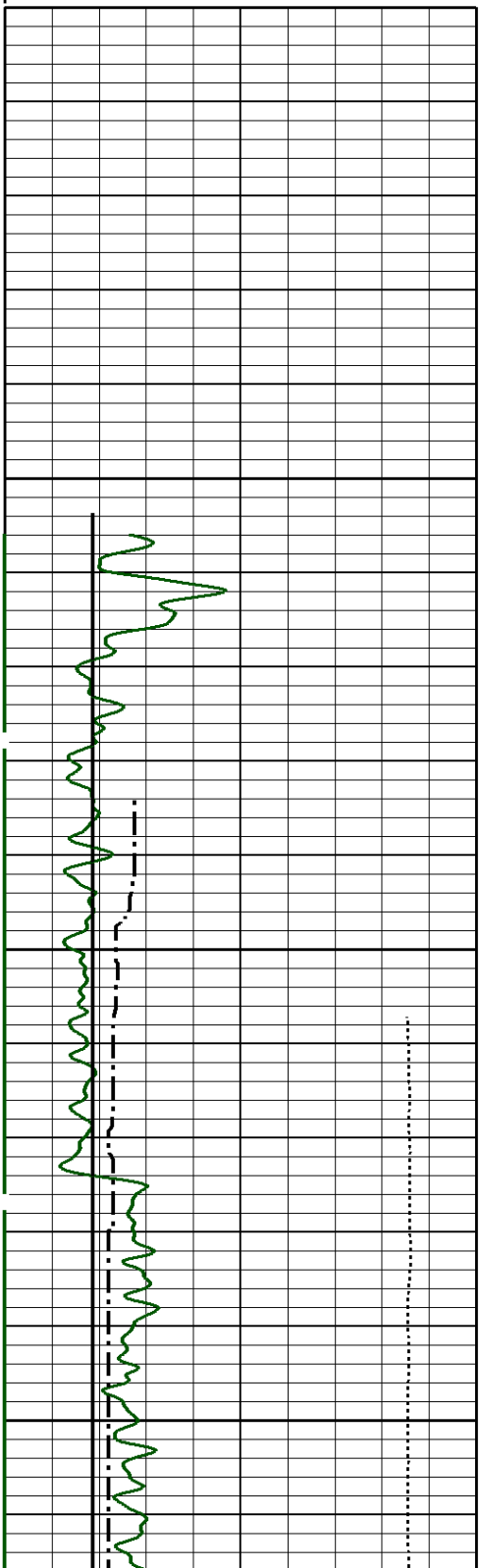
Zone 1	99999.0	to	0.0	Feet
Drill Bit Size			7.875	in
MSTNG Normal Correction			0.00	ohmm
MSTNG Inverse Correction			2.00	ohmm

Well File: VAL ENERGY WERNER_4-310WVO_MAY10_MSTK Scale: 1:240 Format: MST-240
 Segment: V1.D1.S3 Reprocess of REPEAT Acquired: 2018-05/10 07:15 3.4.0-13756
 Reference: 0 Processed: 2018-05/10 07:25 3.4.0-13756



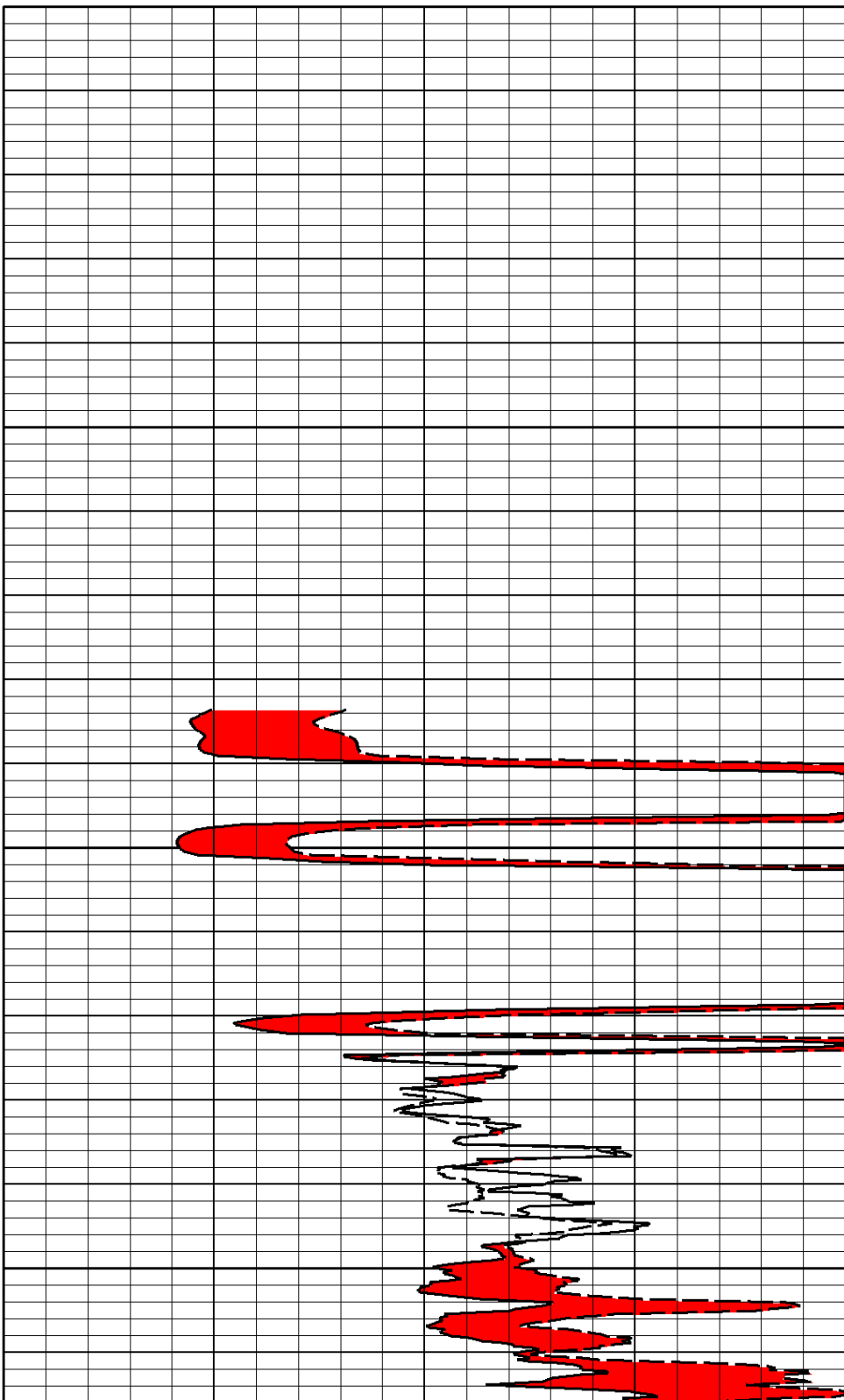


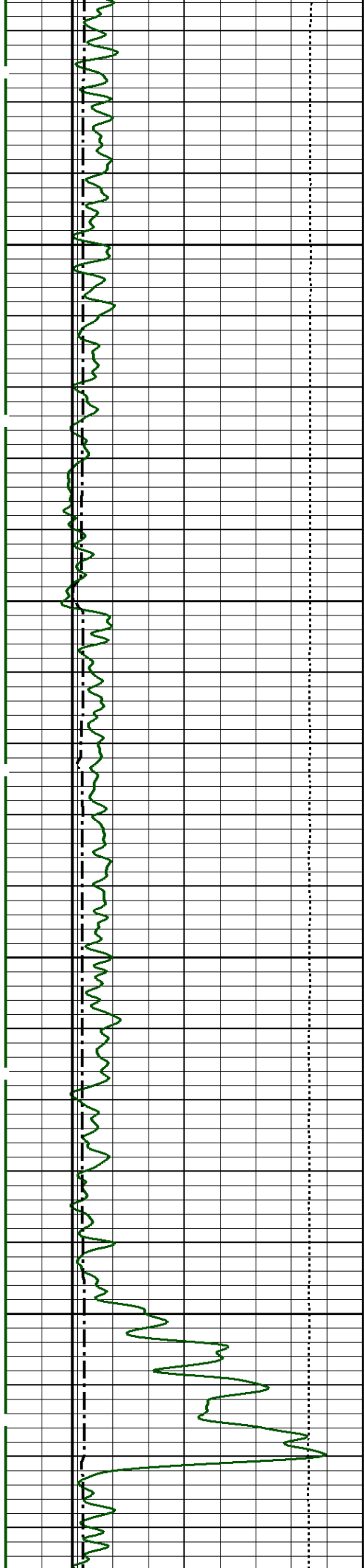
1:240 REPEAT SECTION



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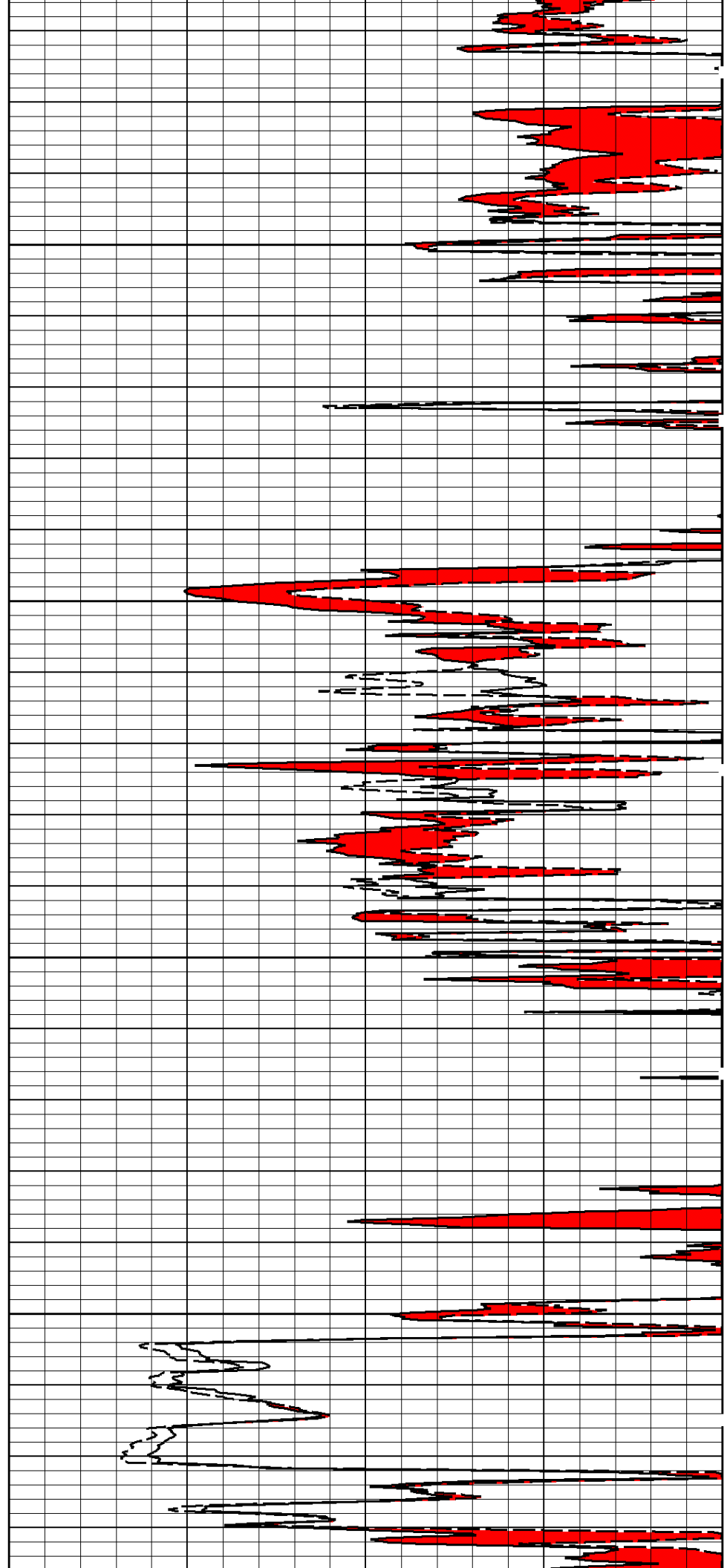
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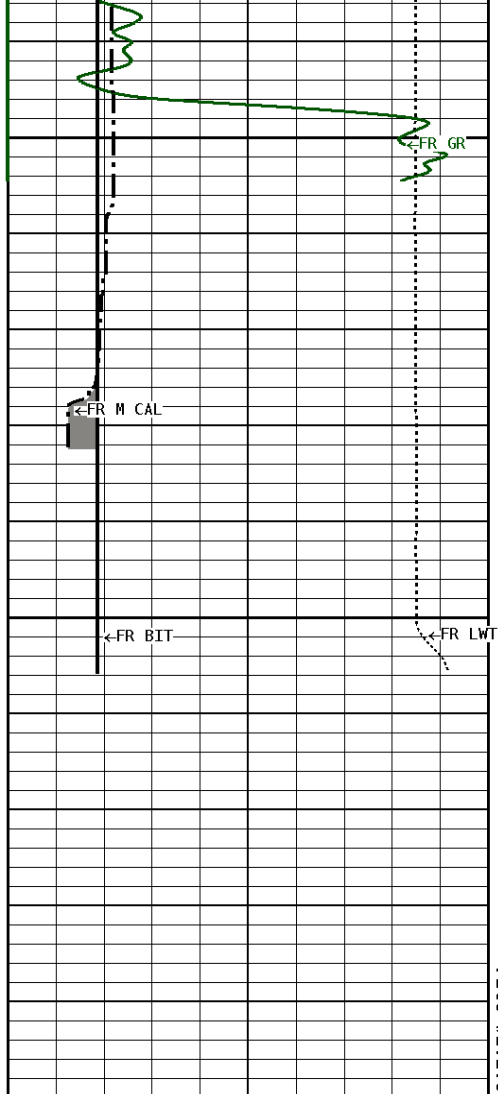




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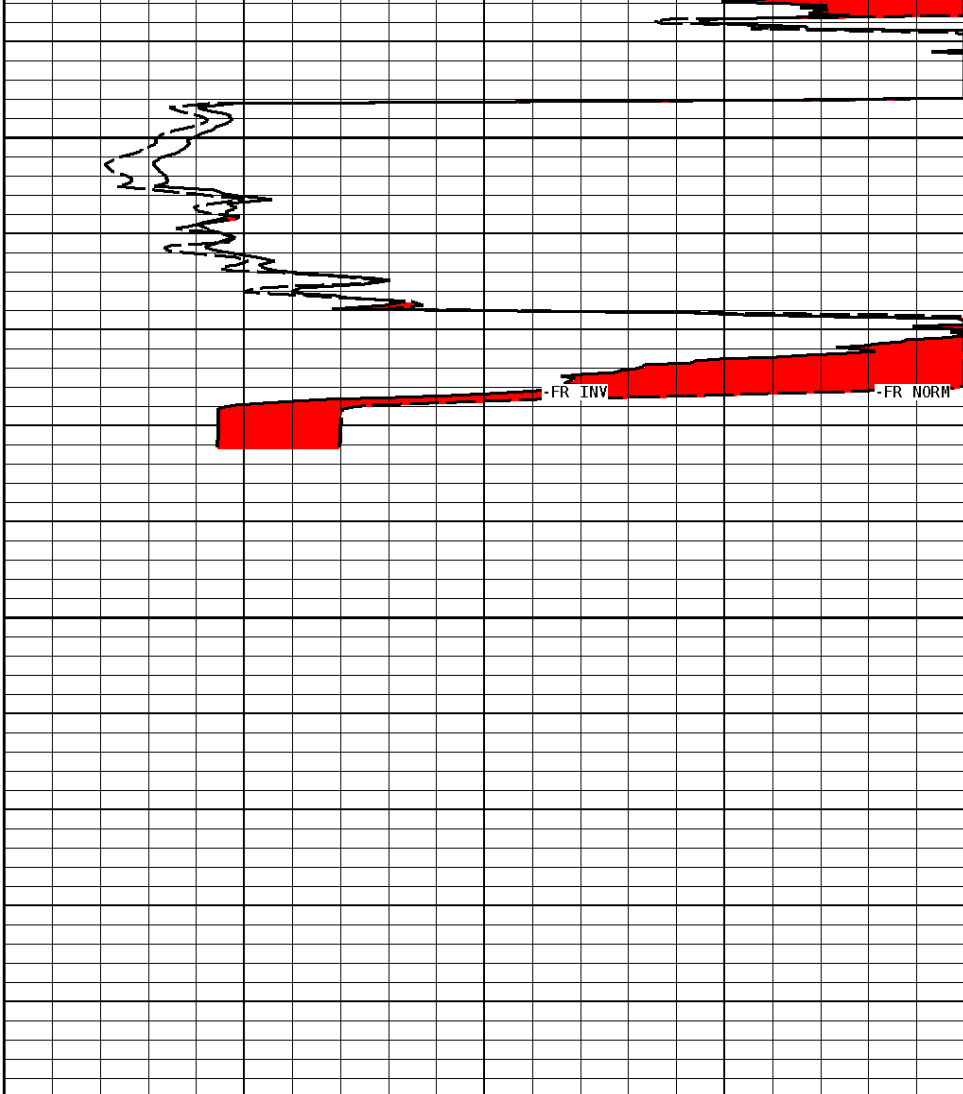
3400





3500
3502

File #1.1.3



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 ohmm
MSTNG Inverse Correction	_____	2.00 ohmm

* Calibration Summary *

Shop Calibration GRT-B						
Performed : 09-Feb-2018			Time : 11:37			
Sensor Suite : GR-GR5			ID : GRT-BA-14			
	Background	Measured Jig	Units	Calibrated Jig	Units	
GR	42	309	CPS	160	GRAPI	
Shop Calibration MST-DA						
Performed : 09-FEB-2018			Time : 11:28			
Sensor Suite : CALI-MSN			ID : MST-DA-021			
	Jig - Measured		Jig - Calibrated		Units	
	Ring#1	Ring#2	Ring#1	Ring#2		
CL # 1	8.4	12.7	6.0	12.0	IN.	
Performed : 09-FEB-2018			Time : 11:11			
Sensor Suite : MSTDA-NI			ID : MST-DA-021			
	Internal		Calibrated		Units	
	Zero	Measured Reference	Units	Zero	Reference	Units
INV-V	0.0	30239.2		0.00	1546.00	MV
NOR-V	3.9	30805.8		0.00	1646.00	MV
IN-C	0.0	29403.5		0.00	15.46	UA
INV-R					32.34	OHMM
NOR-R					58.67	OHMM



Company: VAL ENERGY, INC
 Well: WERNER #4-31 OWWO
 Location: 1650' FWL & 2310' FNL
 Logged: 05-10-2018
 K.B. Elev: 1303.0 Ft