

**Tucker**  
ENERGY SERVICES

PHASED INDUCTION  
SHALLOW FOCUS SP LOG

Company: RUNNING FOXES PETROLEUM  
Well: C. HEIM #2-19 INJ2  
Field: LEAVENWORTH NORTHEAST  
County: LEAVENWORTH  
State: KANSAS  
Country: USA  
API No.: 15-103-21383-0000

File No.: TUL-58371  
Company: RUNNING FOXES PETROLEUM INC.  
Well: C. HEIM #2-19 INJ2  
Field: LEAVENWORTH NORTHEAST  
County: LEAVENWORTH  
State: KANSAS  
Country: USA  
API No.: 15-103-21383-0000

Location:  
660' FNL & 2620' FEL  
W2 W2 NW NE

LSD:                      Sect: 19                      Twp: 8S                      Rge: 22E

Permanent Datum:	GL	Elevations:		Services:	
Drilling Measured From:	GL	KB	0.00	CNT	
Log Measured From:	GL	DF	0.00	LDT	
Above Permanent Datum:	0.00 Ft	GL	875.00	PII	
Date:	10-16-2013				
Run Number:	1				
Depth--Driller	1269.0	Ft			
Depth--Logger	1269.0	Ft			
First Reading	1269.0	Ft			
Last Reading	42.0	Ft			
Casing--Driller	42.0	Ft			
Casing--Logger	42.0	Ft			
Bit Size	6.750	In			
Casing Size	8.625	In			
Hole Fluid Type	CHEM-GEL				
Density	0.0				
Fluid Loss	0.0				
PH/Viscosity	0.0		0.0		
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/RMG	CALCULATED/CALCULATED				
RM@BHT	1.780	@ 85 F			
Time Circulation Stopped	10-16-2013 8:30 am				
Max Recorded Temp.	85	F			
Equipment/Base	127	TULSA			
Recorded By	SHELDON TYLER				
Witnessed By	KURT HODGES				

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)
6.750	1269.00	8.625	32.00	42.00	0.00

Run Number	1
Date	10-16-2013
Date/Time On Bottom	10-16-2013 10:30 am
Depth to Fluid	0.0 Ft
Salinity	0.000
RMF@BHT	1.420 @ 85 F
RMC@BHT	2.140 @ 85 F

Run Number 1

Comments

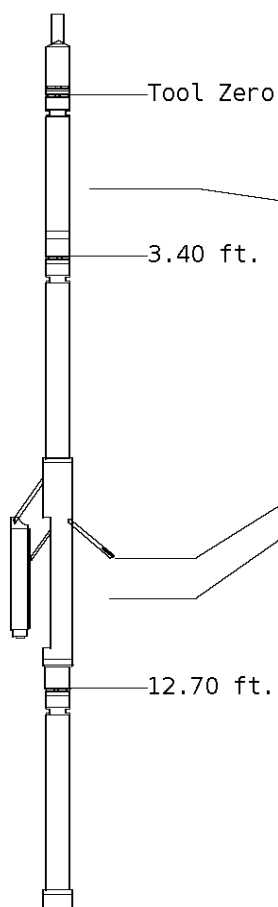
ALL PRESENTATIONS AS PER CUSTOMER REQUEST  
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION.  
 CALIPERS ORIENTED ON X-Y AXIS.  
 2.71 G/CC USED TO CALCULATED POROSITY.  
 ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING.  
 PHIN IS CALIPER CORRECTED.

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:  
 J.JOHNSON  
 D.HOPPER  
 J.ADAMS

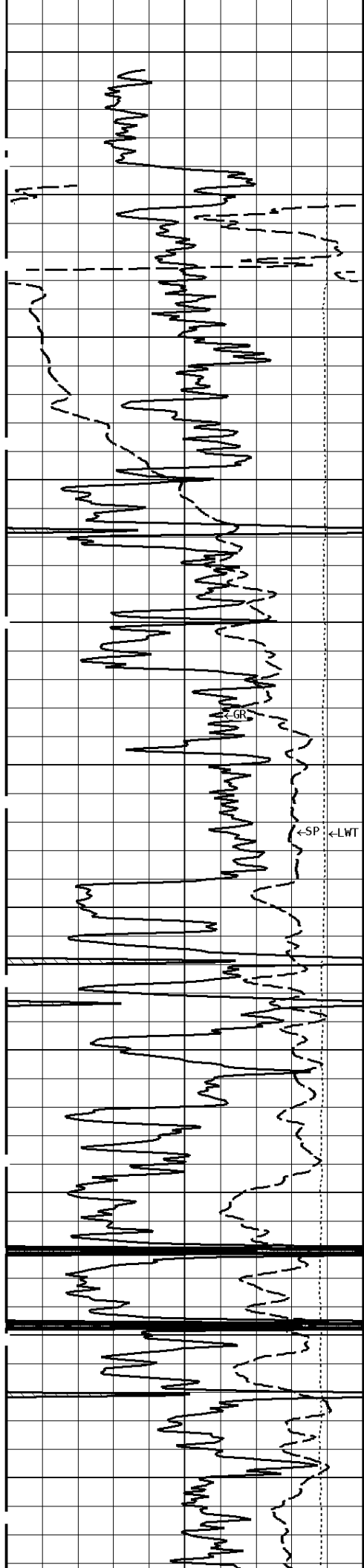
### Tool String Schematic

**Total Tool Length** - 43.49 ft.  
**Maximum Outside diameter** - 4.80 in.  
**Net Weight in Air** - 743.00 lbs.

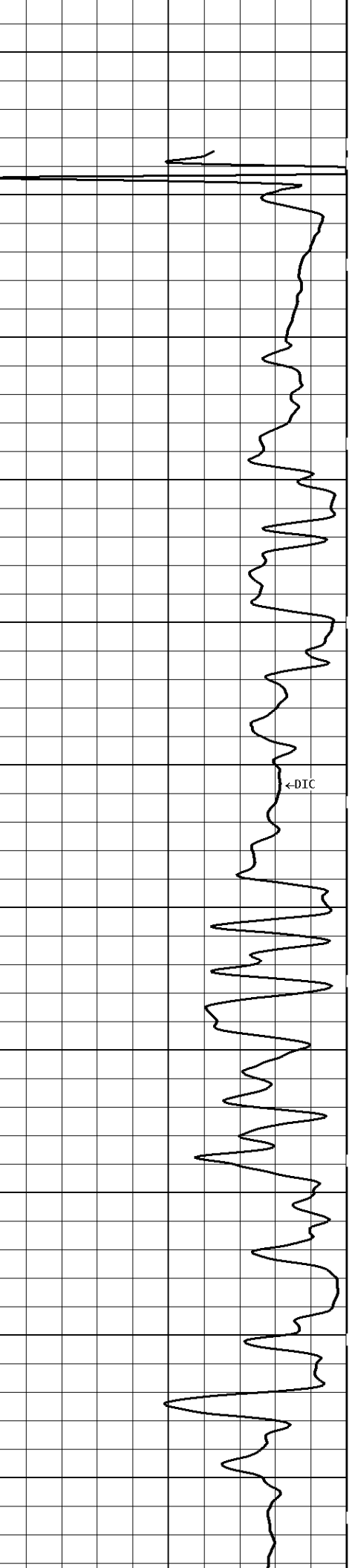
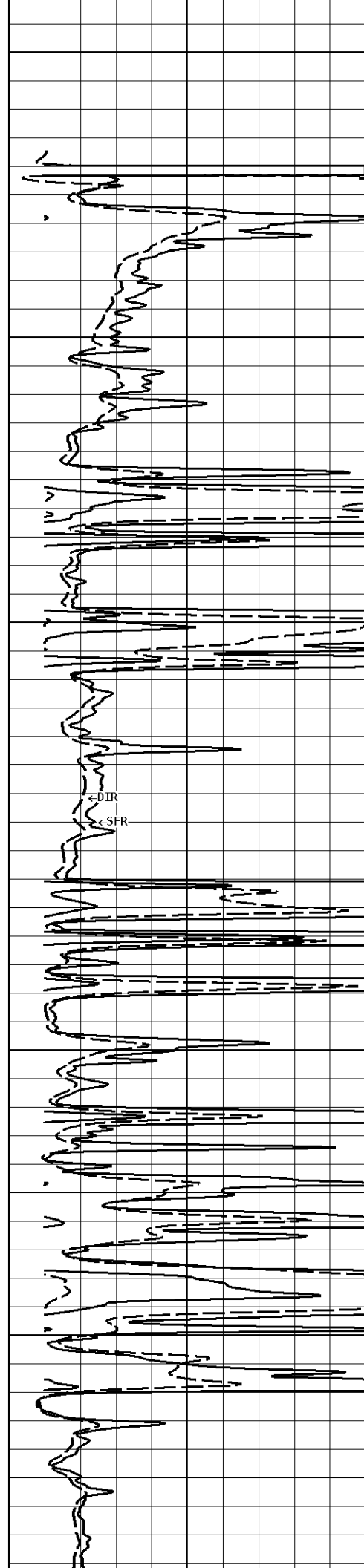


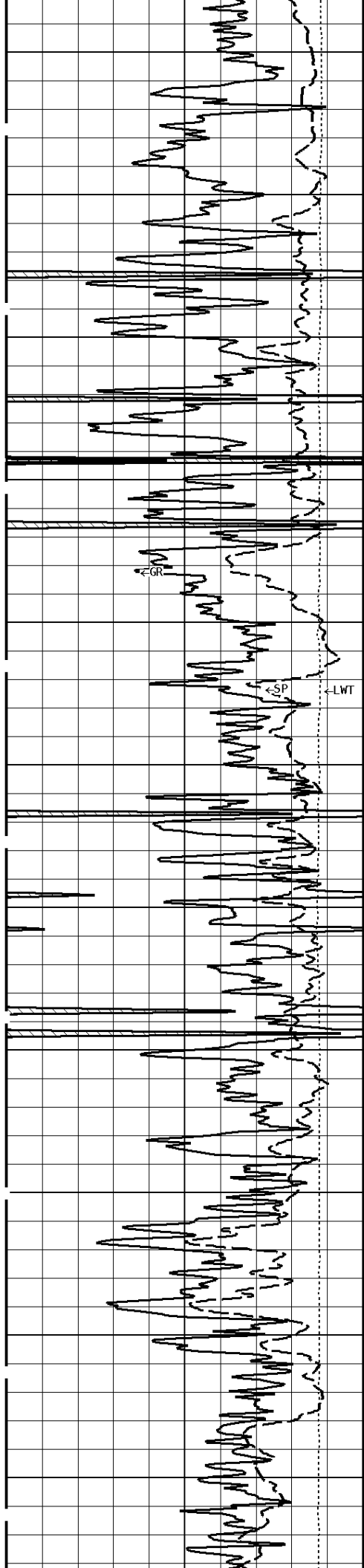
<b>Tool: GRT-B</b>				<b>Length:</b>	3.40 ft.	<b>O.D.</b>	3.60 in.
Gamma Ray Controller							
<b>Sonde ID</b>				:GRT-BB-117			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>				
GRP	2.00	2.00	41.49				
<b>Tool: CNT-AA</b>				<b>Length:</b>	9.30 ft.	<b>O.D.</b>	4.36 in.
Compensated Neutron A Pad on NDT-A							
<b>Sonde ID</b>				:NDT-AC-027			
<b>Source ID</b>				:N-1044			
<b>Pad ID</b>				:CNP-AE-42			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>				
CLCN	6.00	9.40	34.09				
PHIN	6.80	10.20	33.29				
<b>Tool: LDT-DA</b>				<b>Length:</b>	9.30 ft.	<b>O.D.</b>	4.80 in.
Litho Density D Pad on NDT-A							
<b>Sonde ID</b>				:PDT-GA-472			
<b>Source ID</b>				:CSV-587			
<b>Pad ID</b>				:LDP-DA-50			
<b>Measure Point</b>	<b>Tool Offset</b>	<b>Stack Offset</b>	<b>Bottom Offset</b>				
CLLD	6.00	18.70	24.79				
PEL	7.00	19.70	23.79				
PES	7.40	20.10	23.39				





000  
100  
200  
300  
400  
500





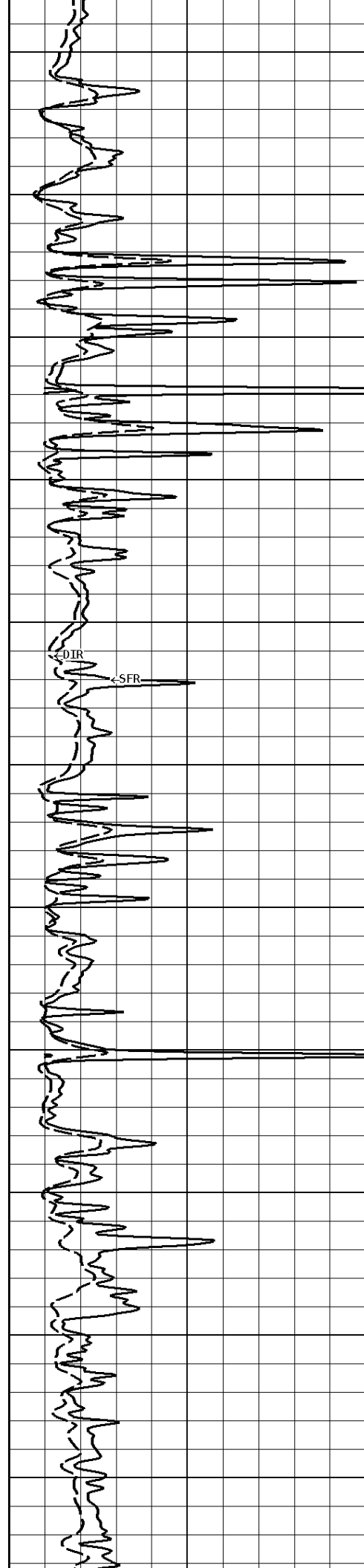
600

700

800

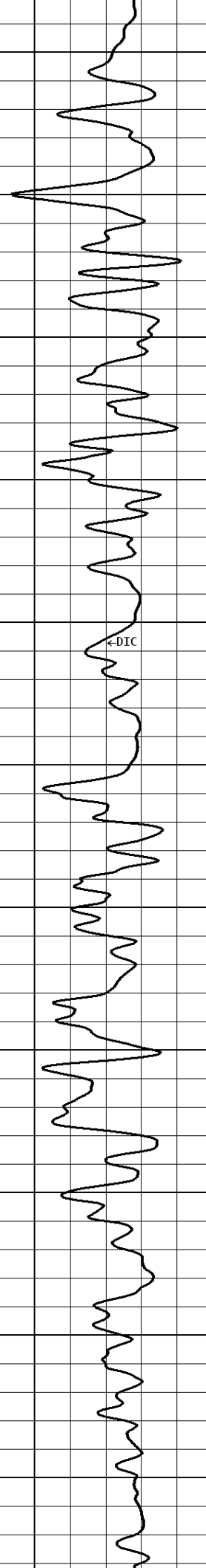
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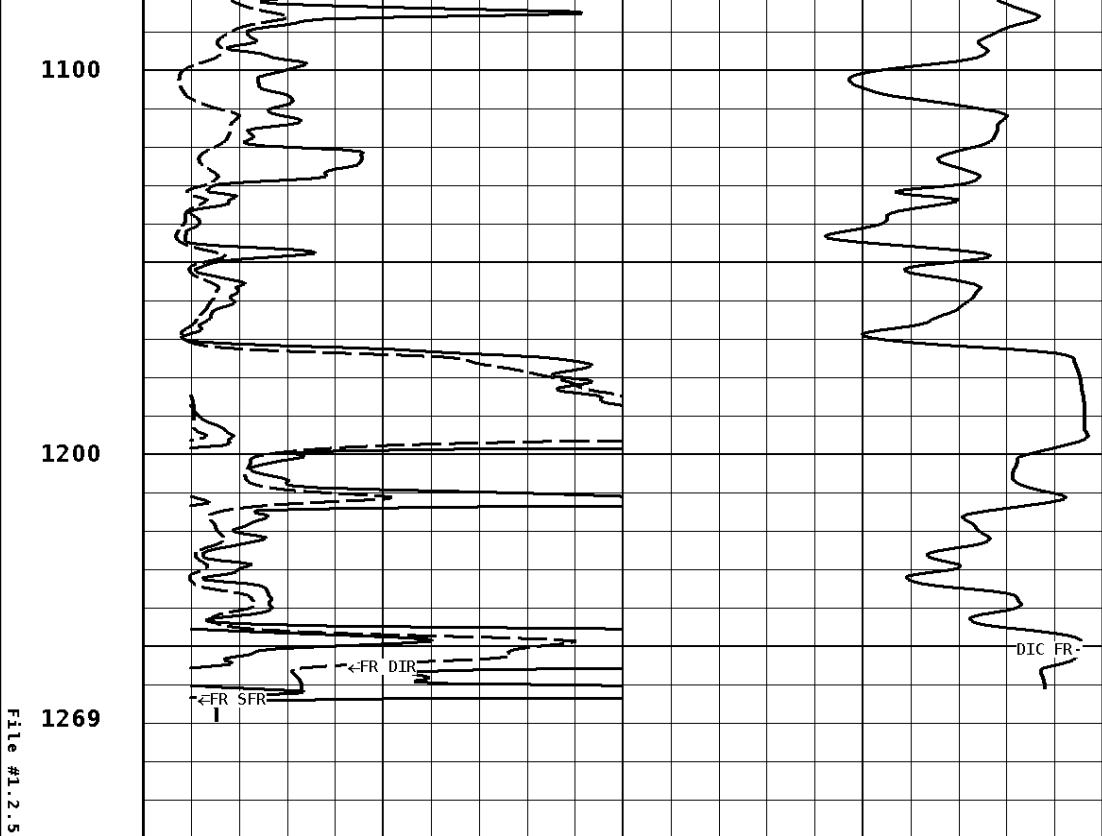
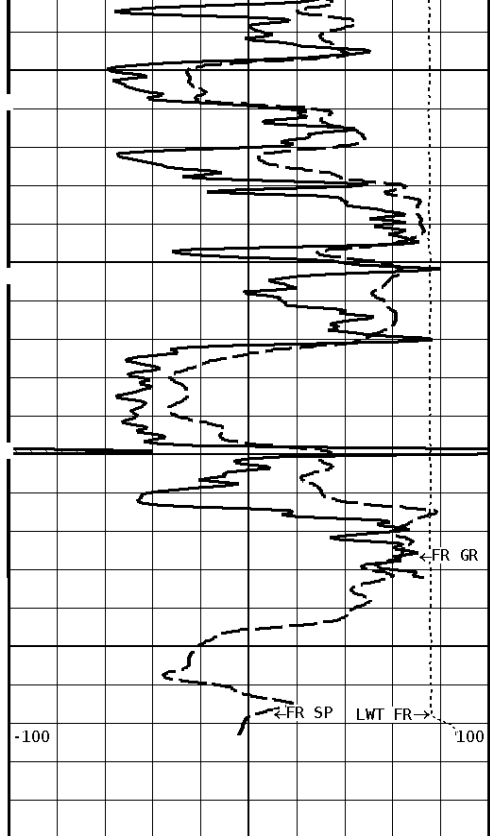


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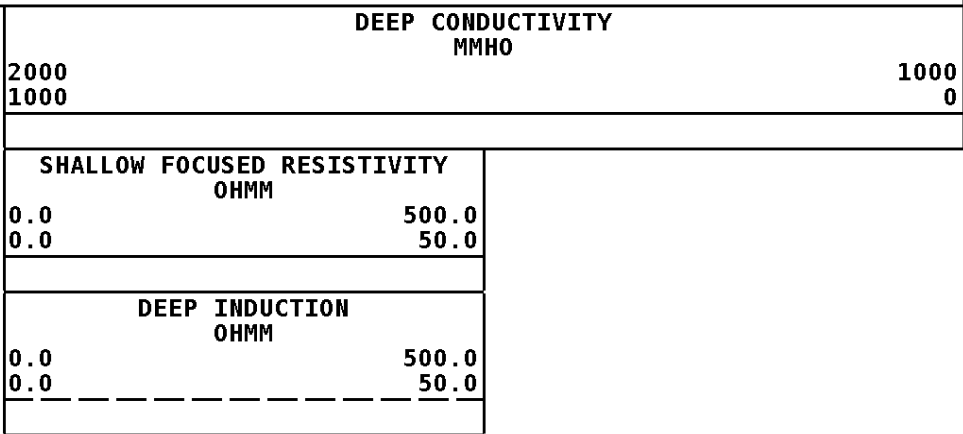
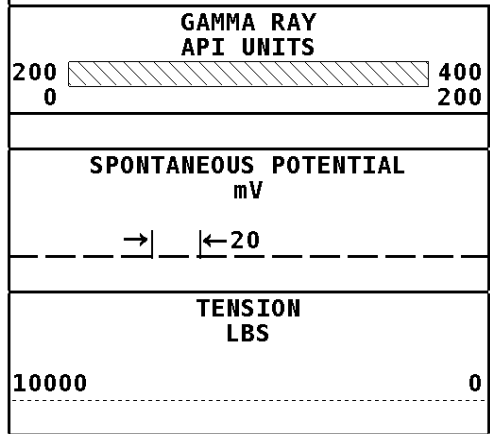
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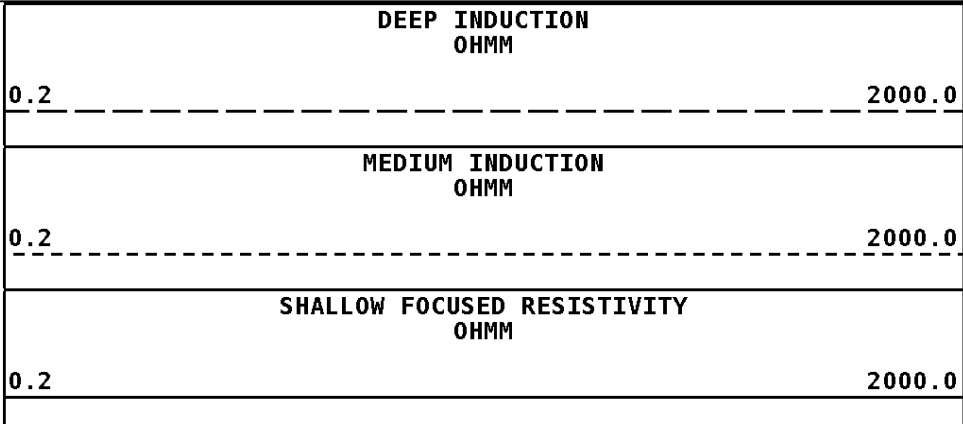
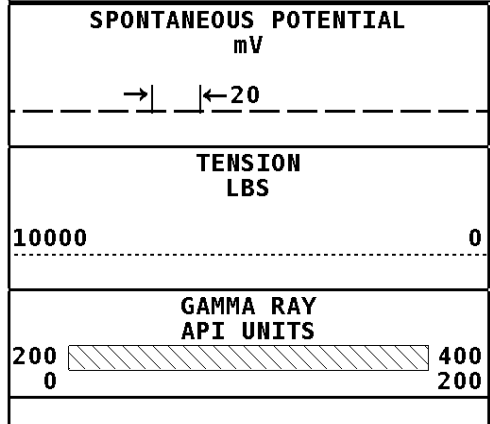
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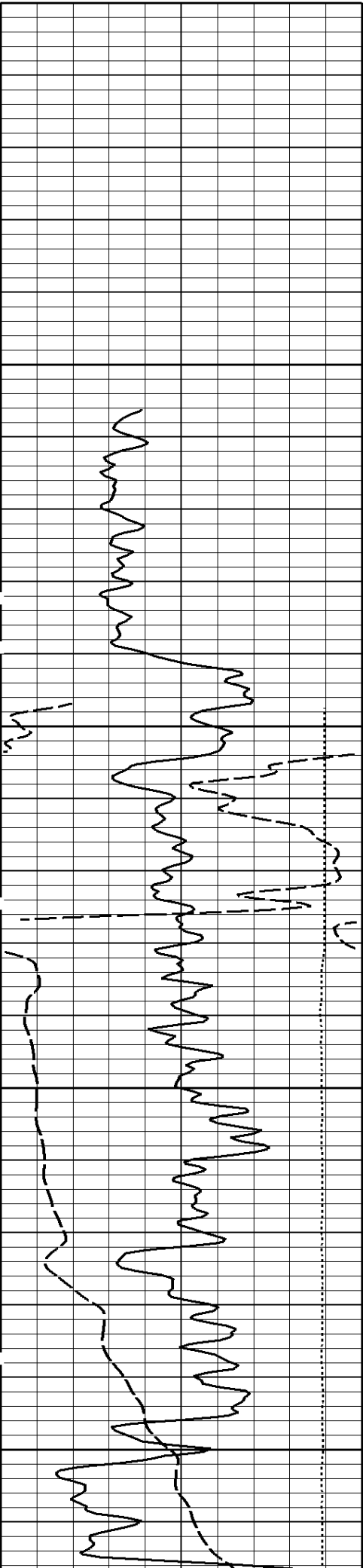
**1:600 MAIN SECTION**



Well File: RUNNING FOXES C HEIM 2-19 OCT16 MSTK Scale: 1:240 Format: DIL-240  
 Segment: V1.D2.S5 Reprocess of MAIN Acquired: 2013-10/16 10:37 3.3.0-12261  
 Reference: 0 Processed: 2013-10/16 11:02 3.3.0-12261

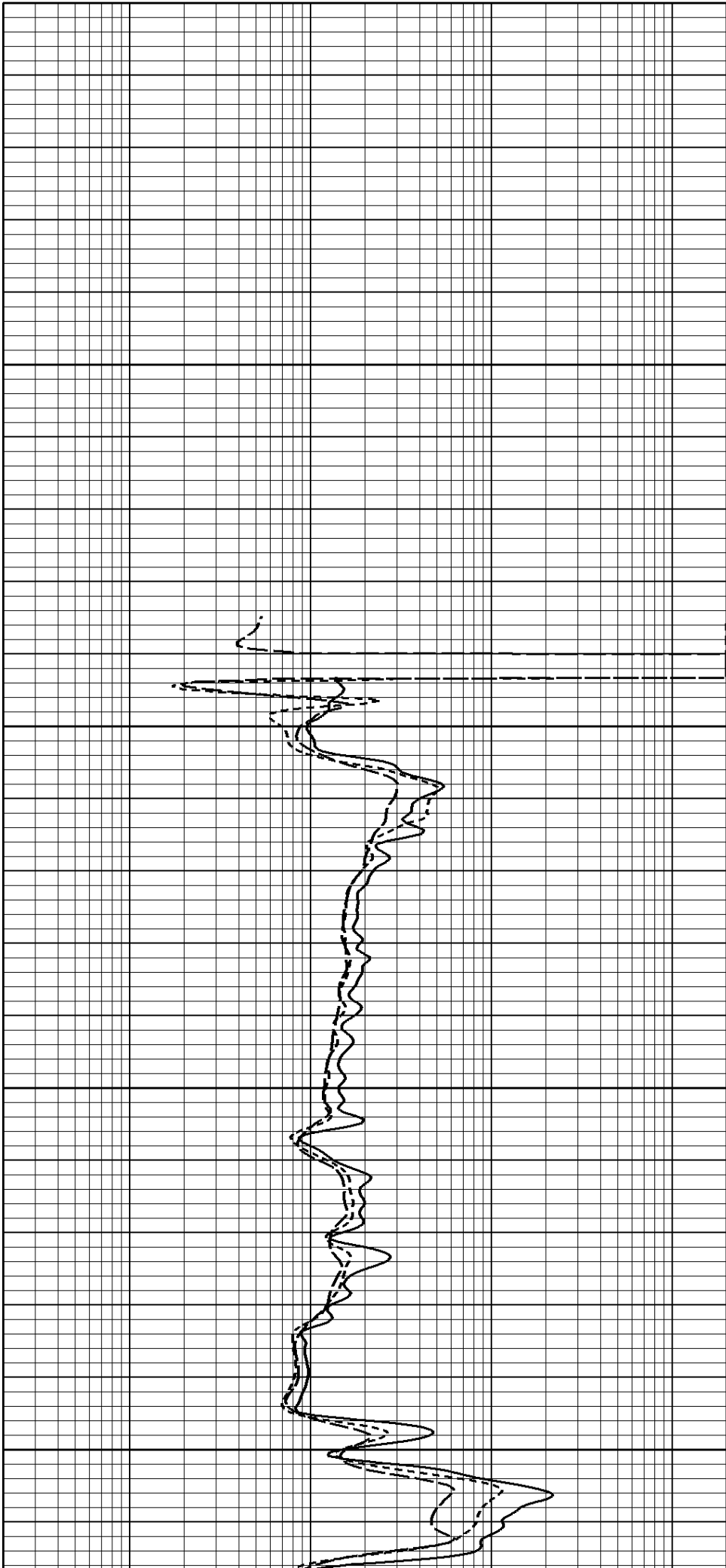


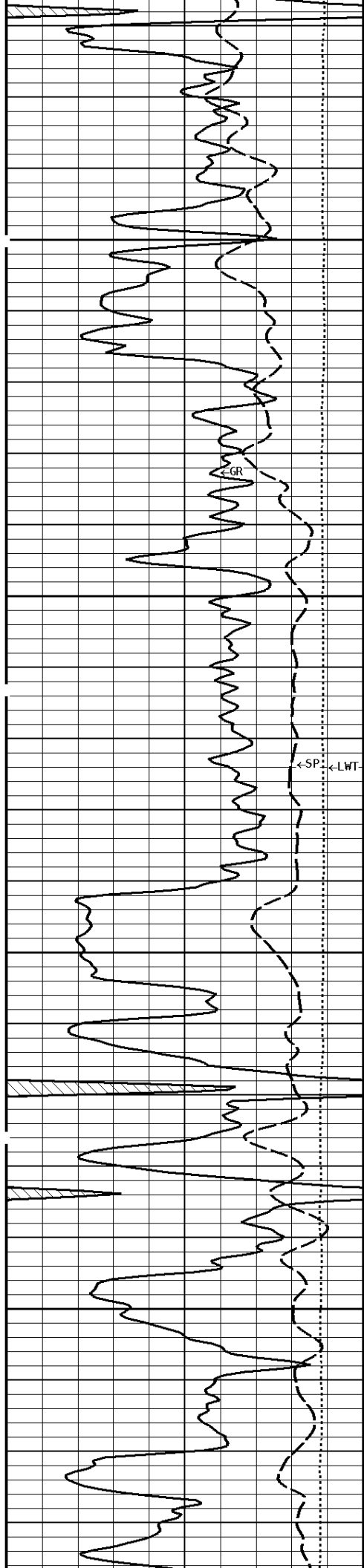
**1:240 MAIN SECTION**



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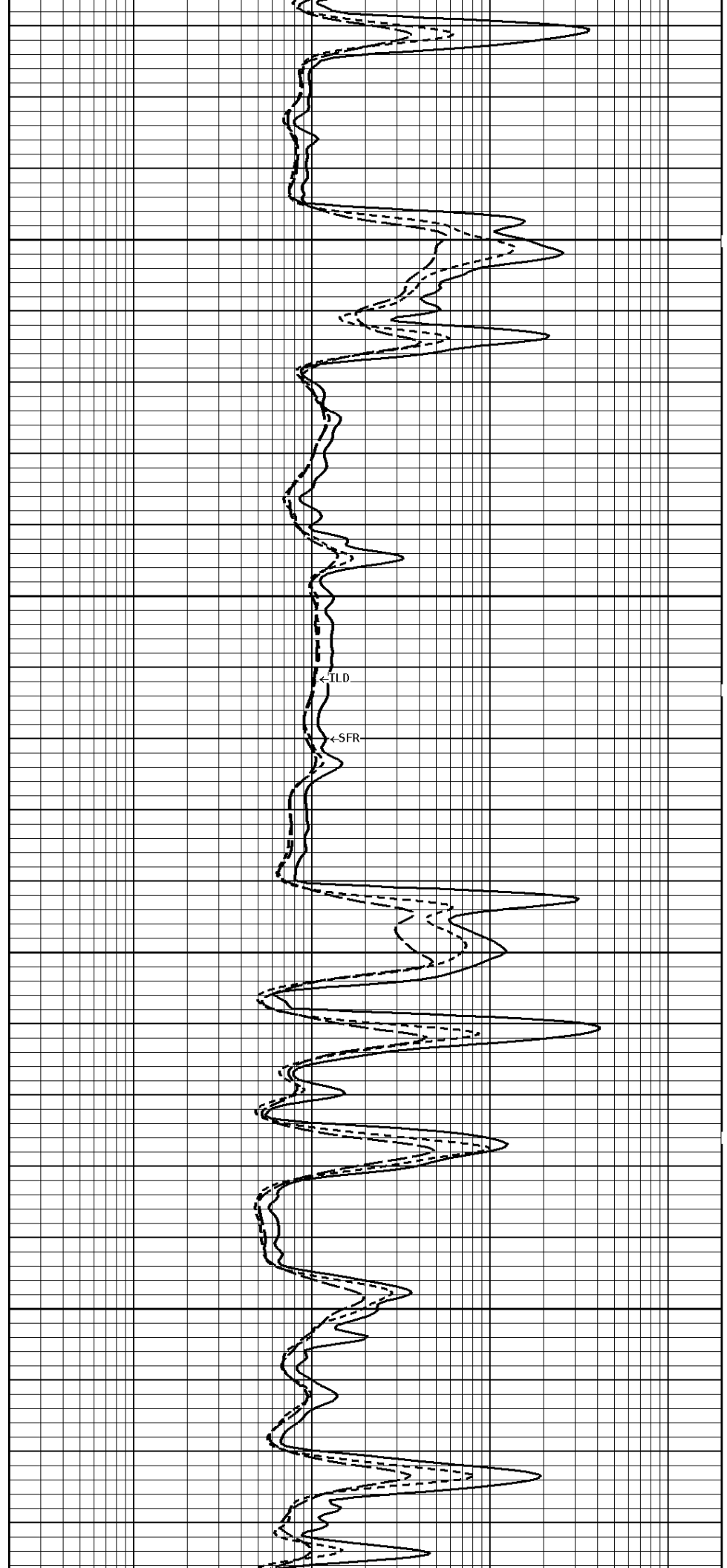
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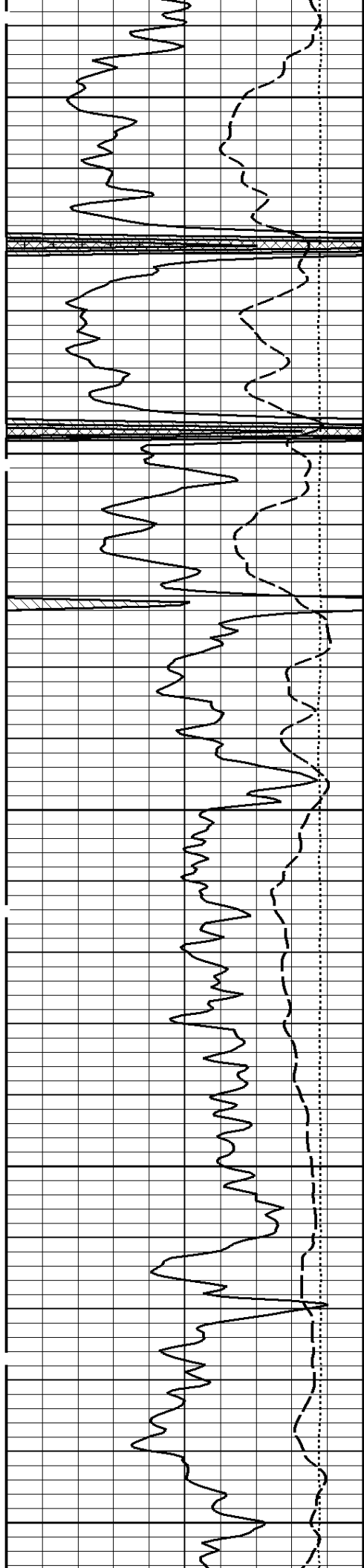




200

300

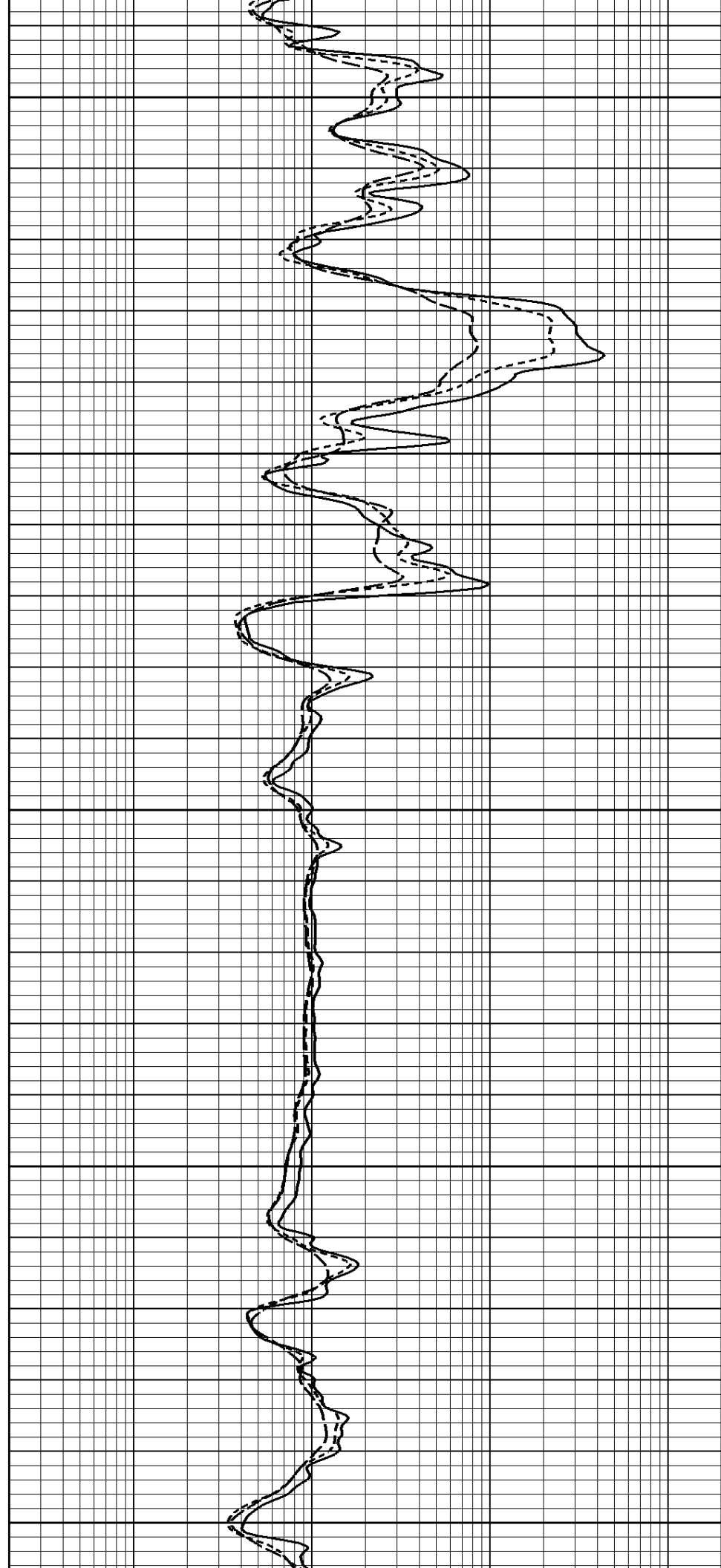


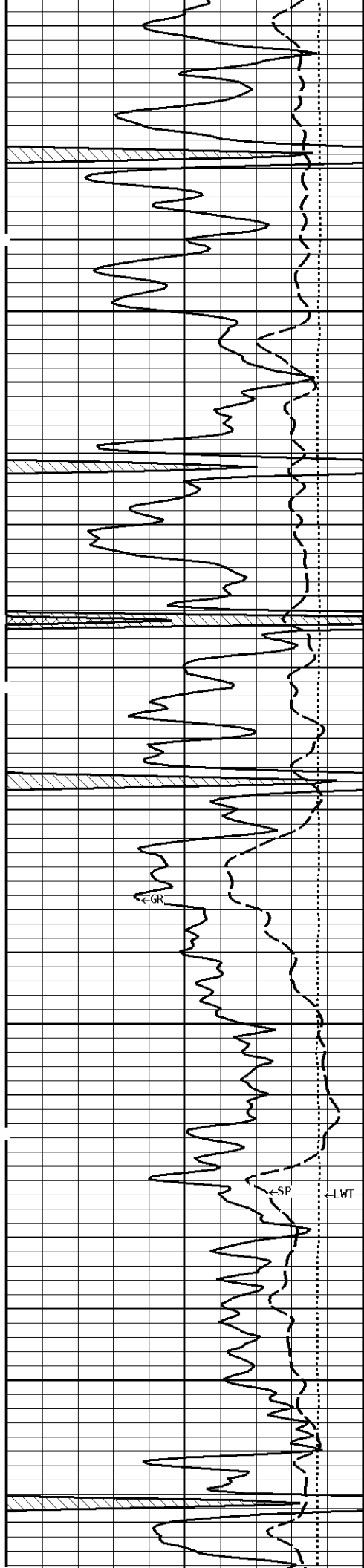


400

500

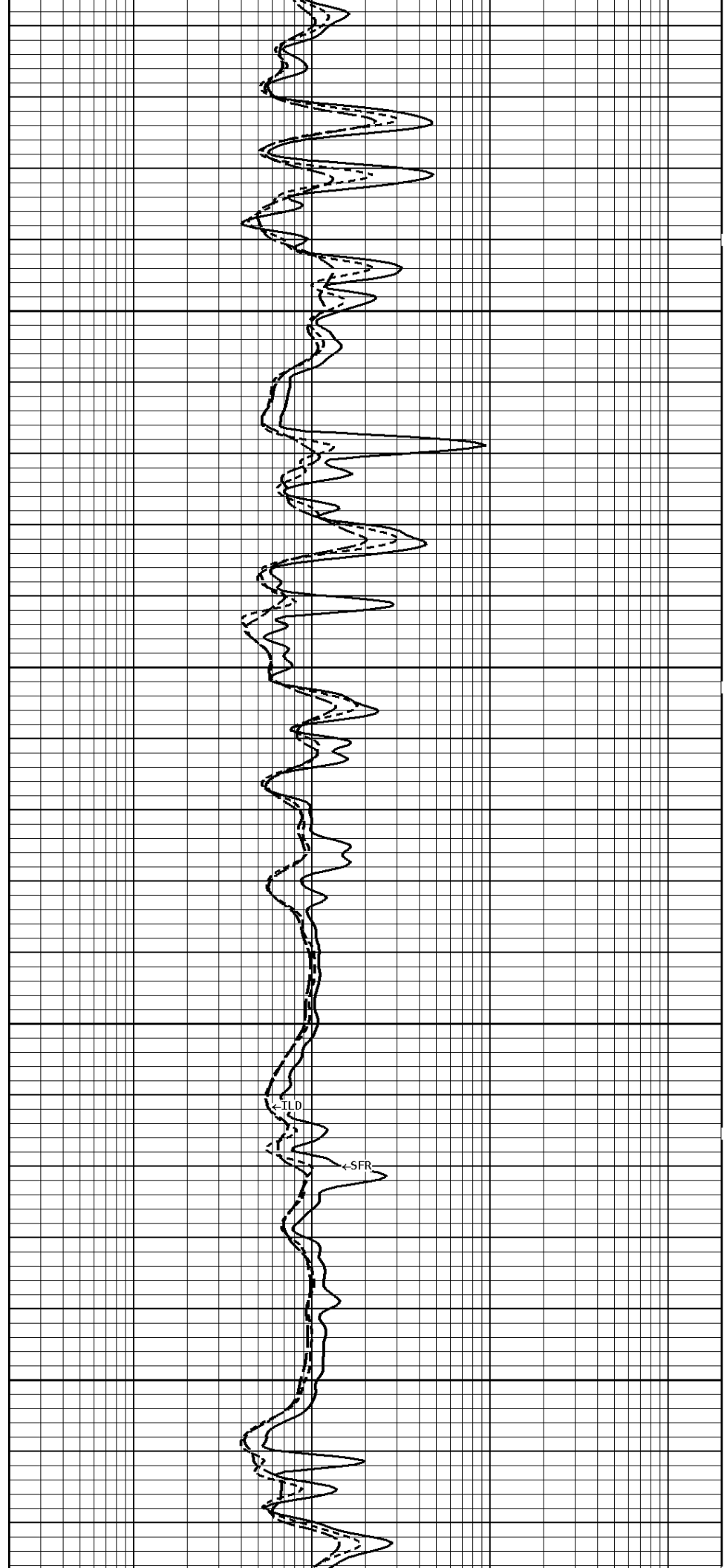
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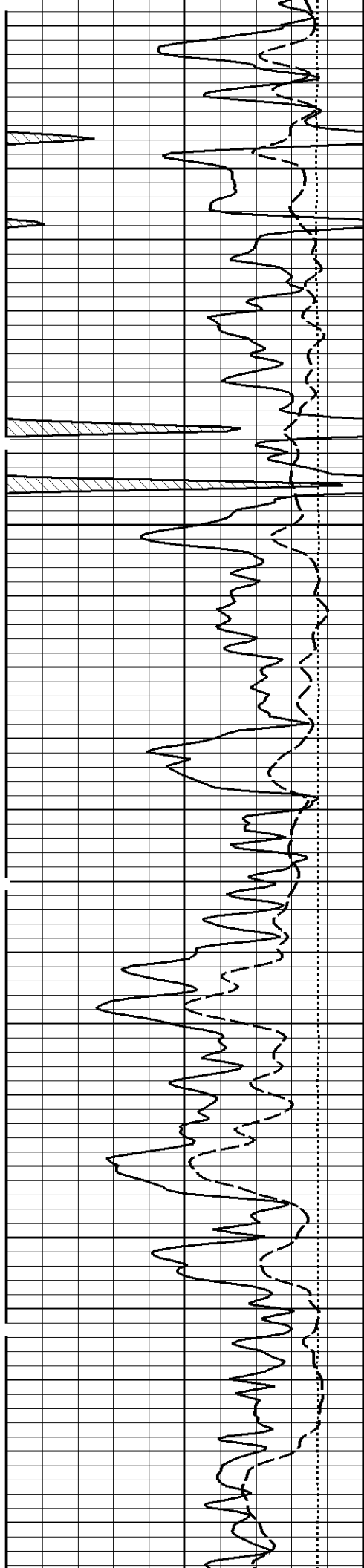




700

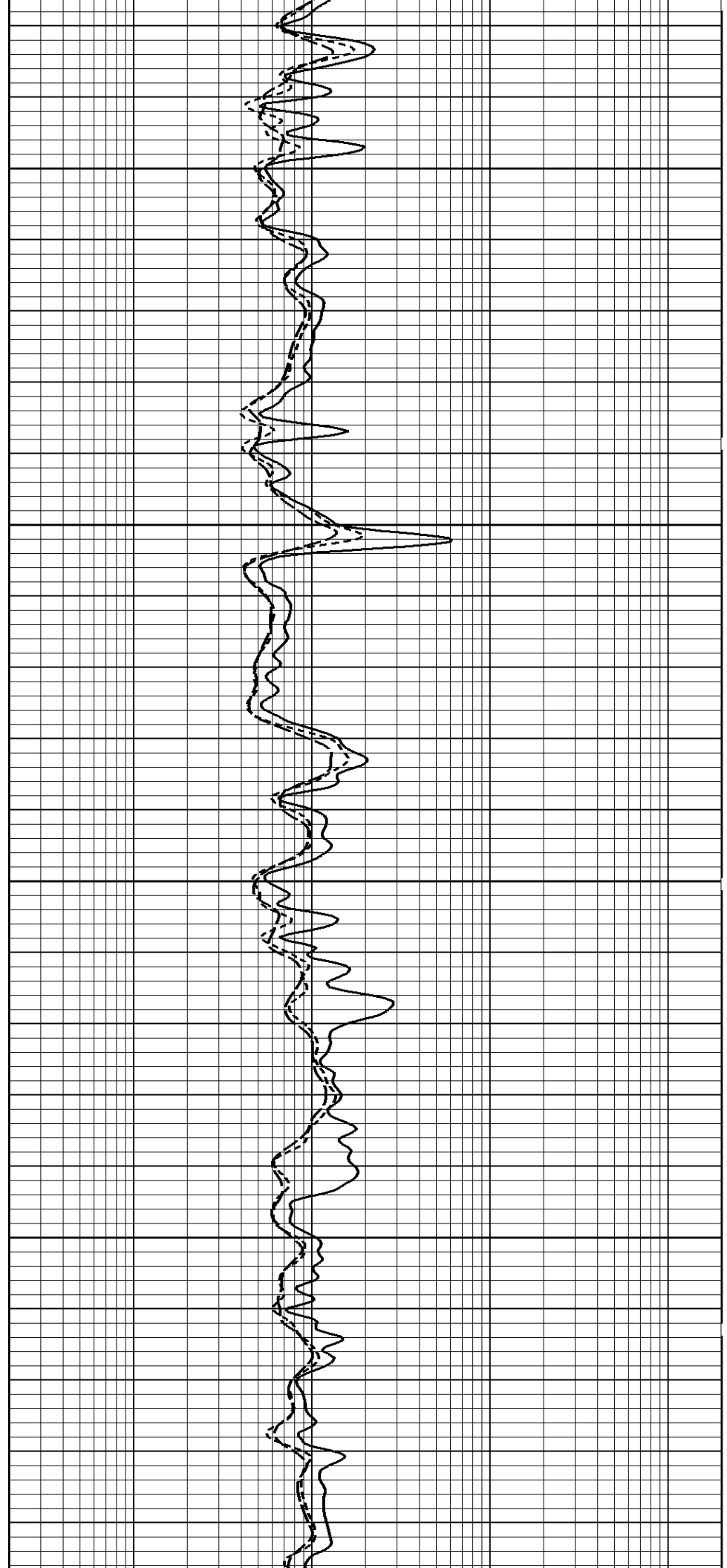
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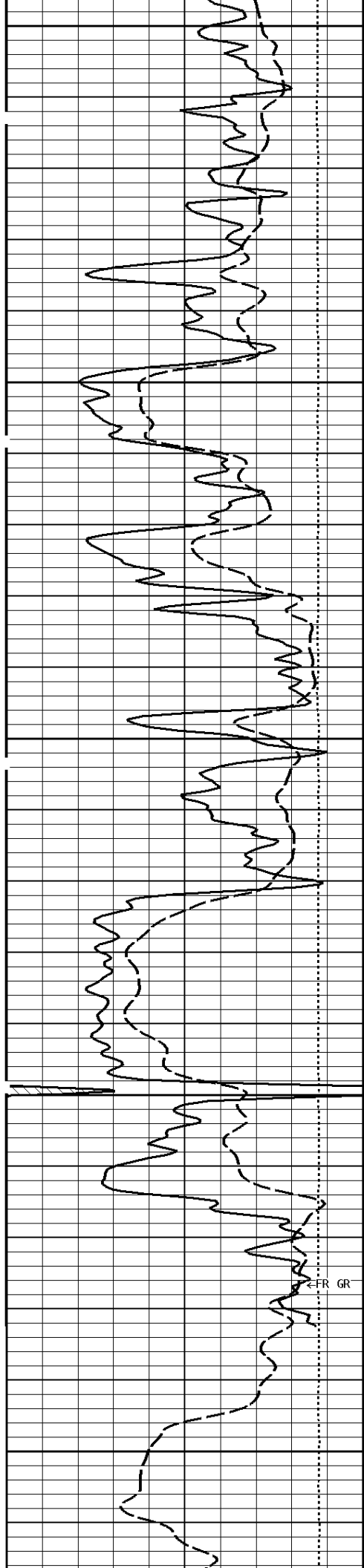




900

1000

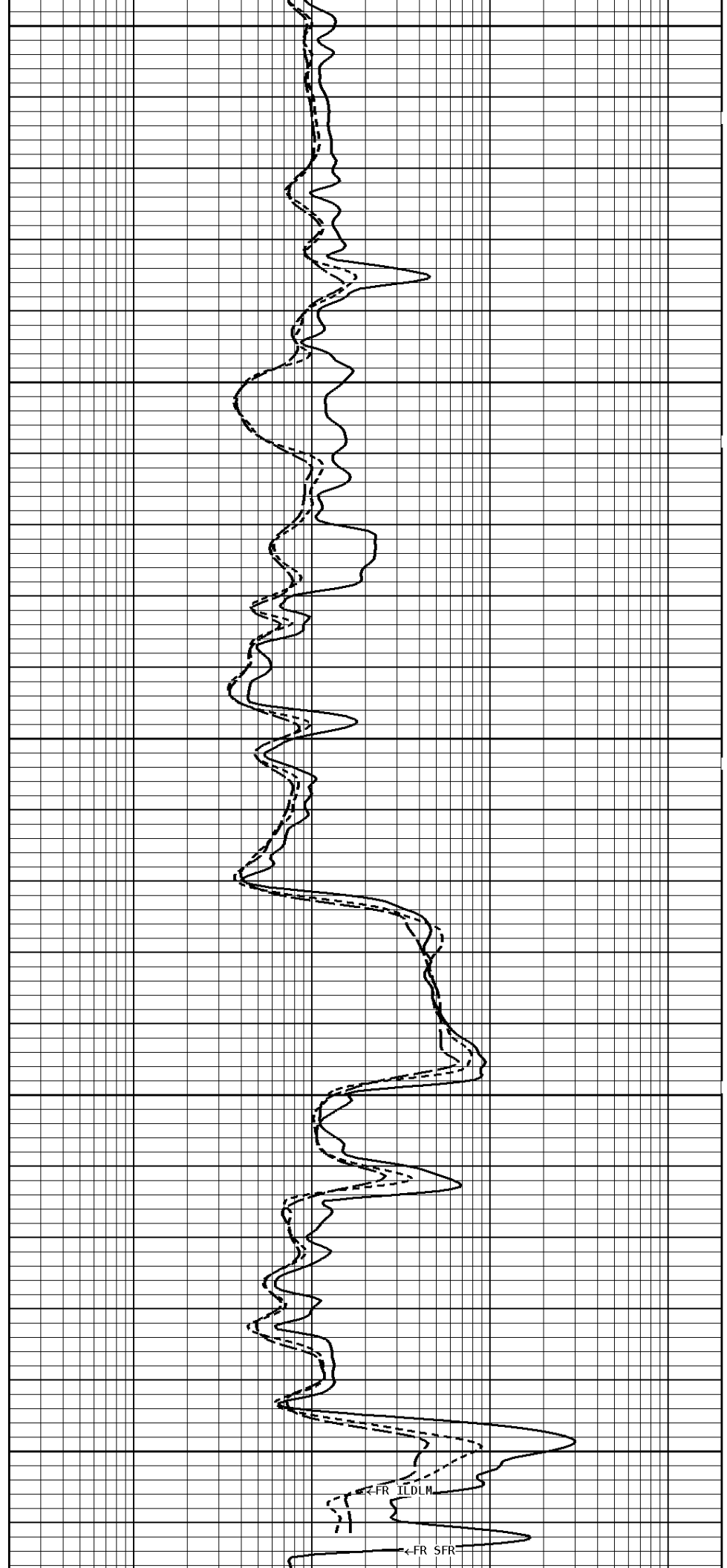




1100

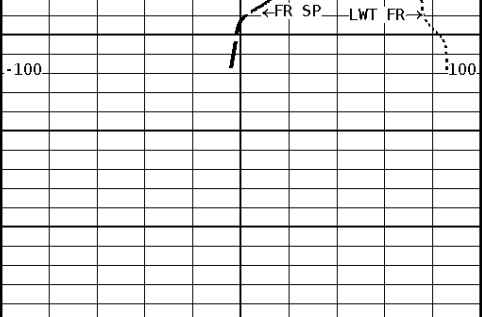
1200

FR GR



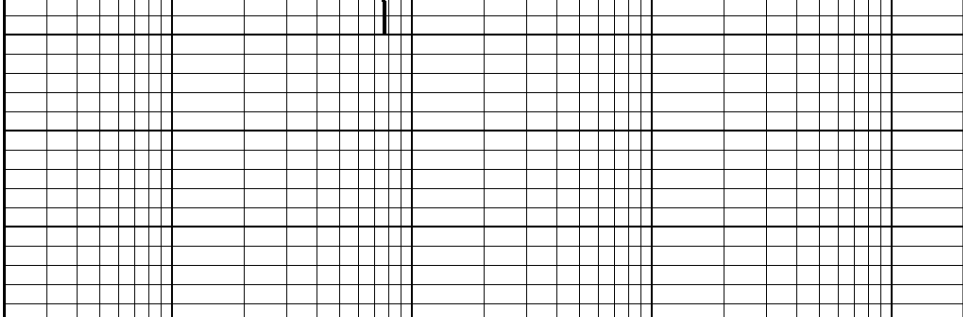
FR ILDLM

FR SFR

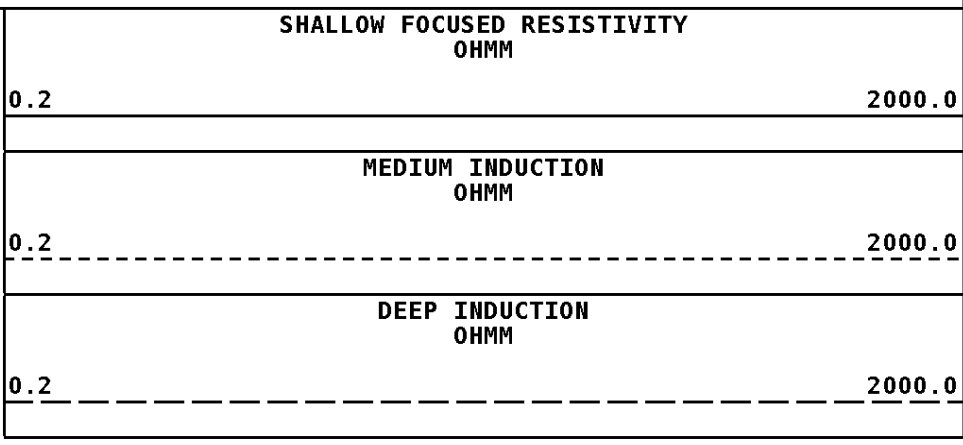
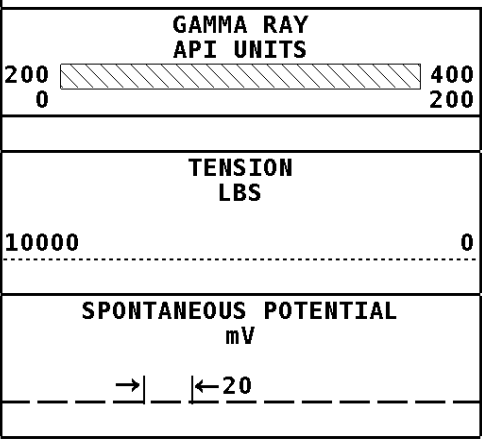


1269

File #1.2.5



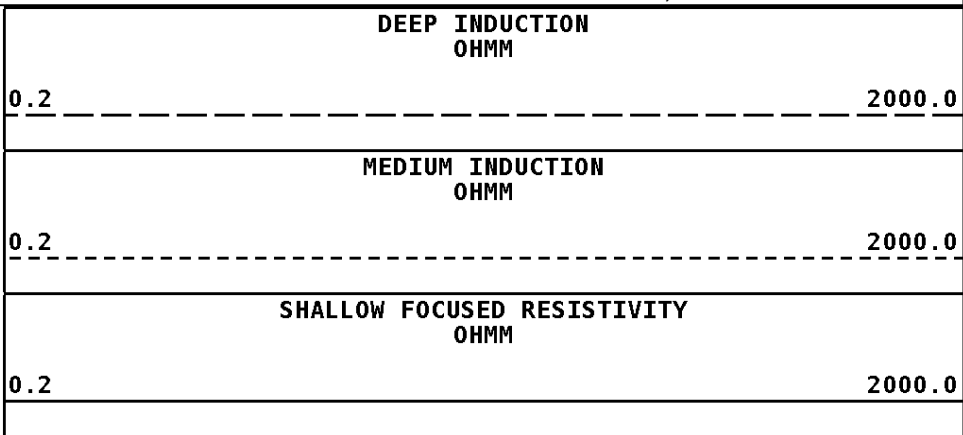
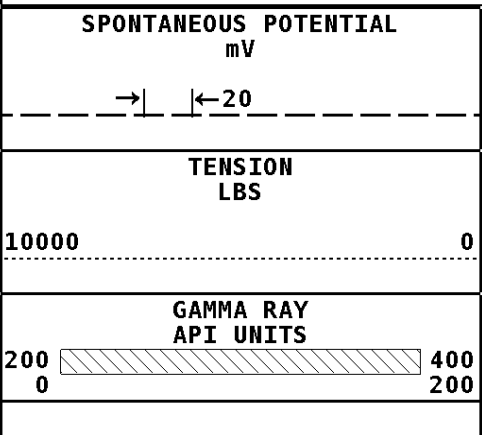
**1:240 MAIN SECTION**



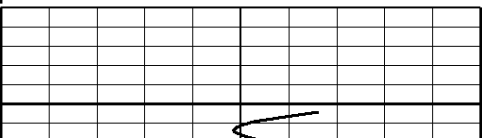
**\* Borehole Zone Factors \***

Zone 1 99999.0 to 0.0 Feet	
Drill Bit Size	6.750 in
Casing Diameter	2.875 in
BHT Depth	1269.000 ft
Borehole Temperature	85.0 degF
Temperature Gradient	1.00 DFHF
Resistivity Of Mud	2.000 ohm/m
Standoff	1.5
Resistivity Of Mud Temperature	75.00 degF

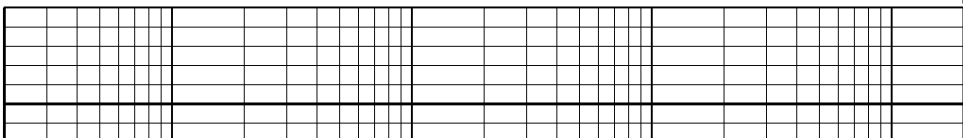
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 Segment: V1.D2.S3 Reprocess of REPEAT Acquired: 2013-10/16 10:27 3.3.0-12261  
 Reference: 0 Processed: 2013-10/16 10:36 3.3.0-12261

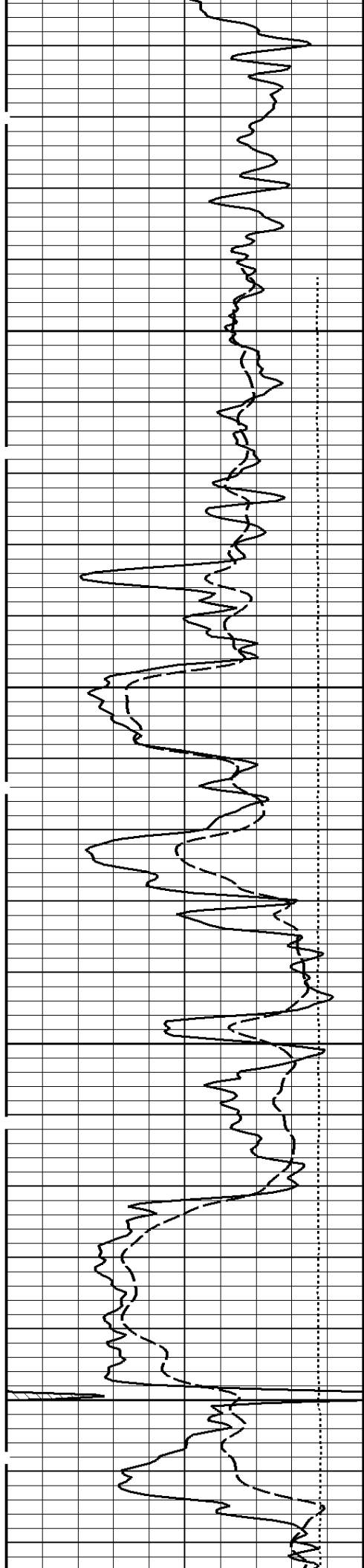


**1:240 REPEAT SECTION**



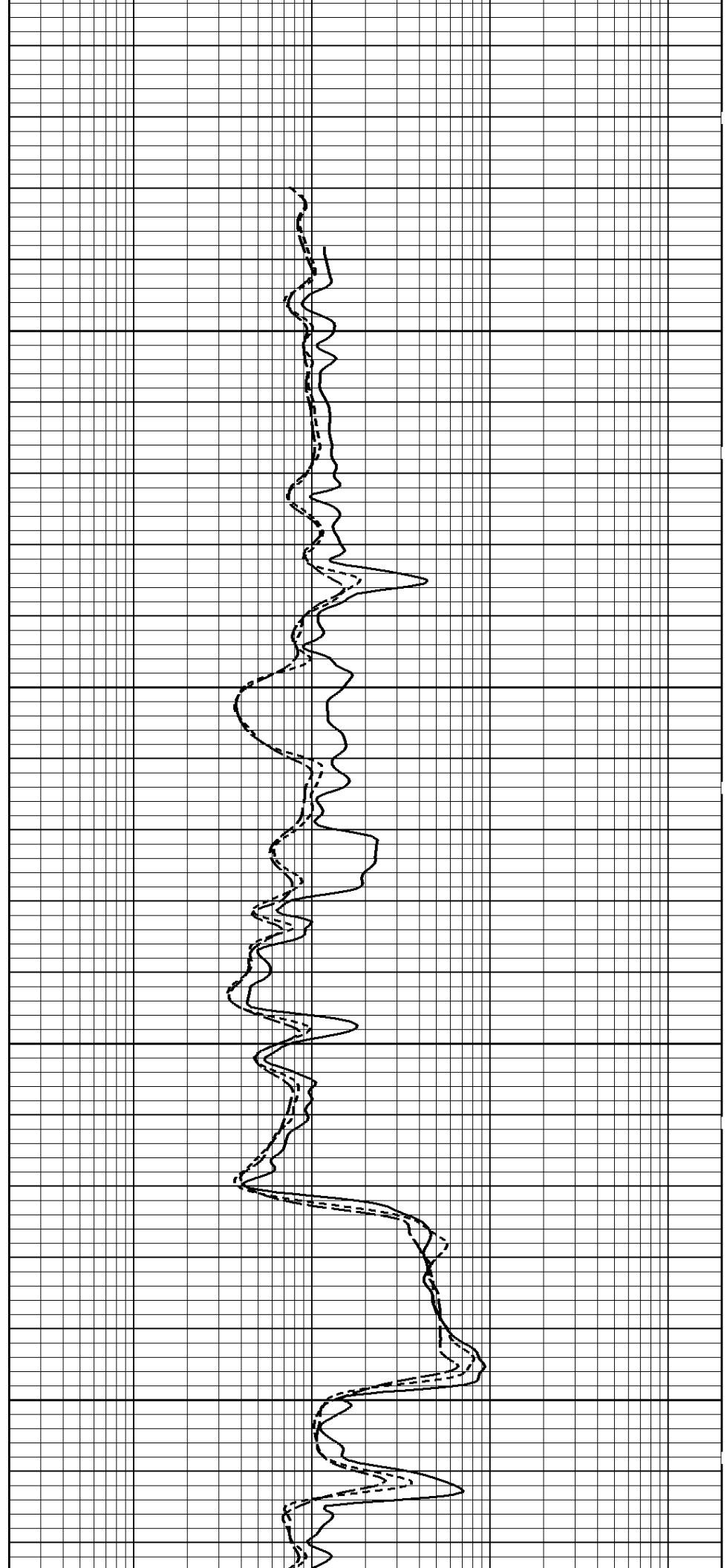
File #1.2.3

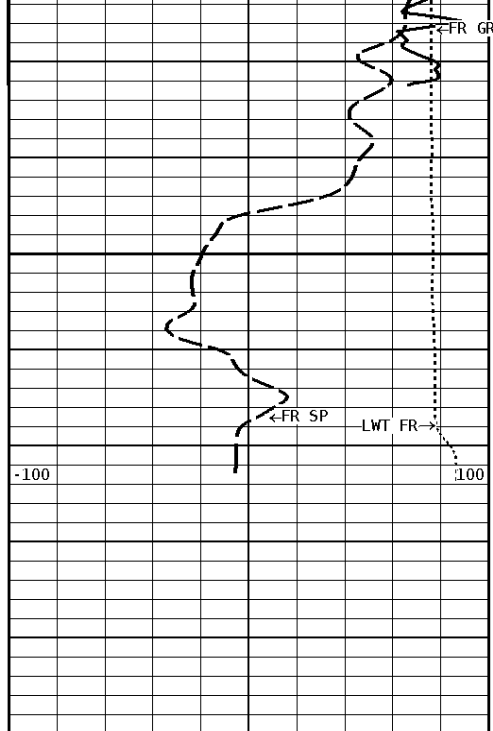




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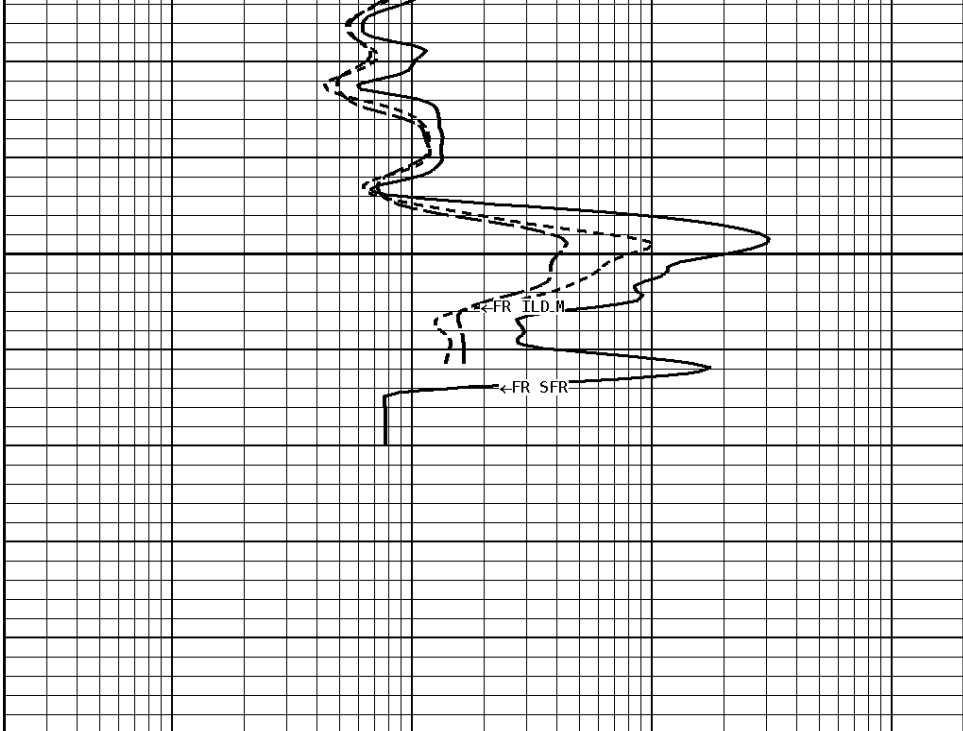
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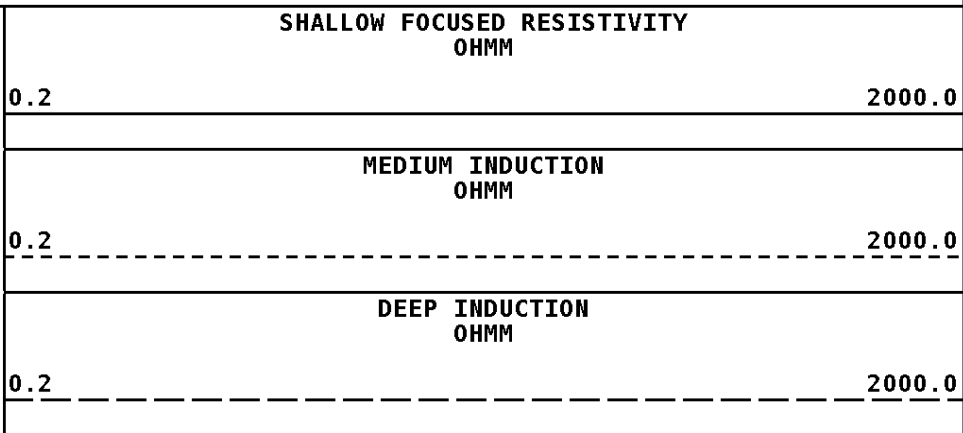
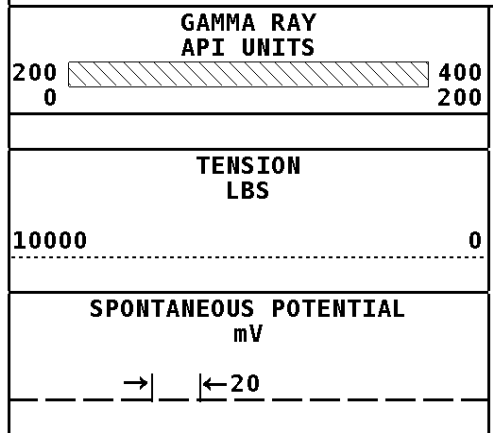


1269

File #1.2.3



**1:240 REPEAT SECTION**



**\* Borehole Zone Factors \***

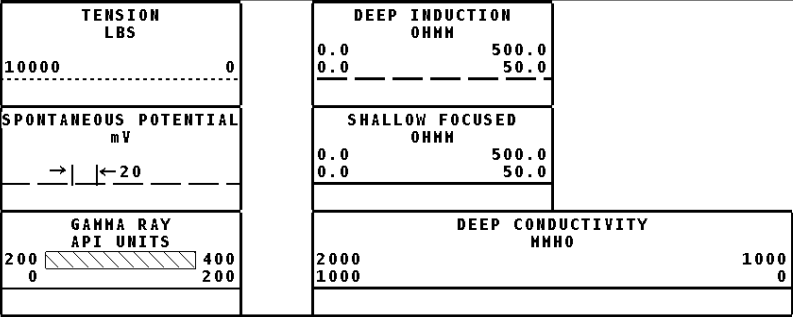
Zone 1		99999.0 to 0.0 Feet	
Drill Bit Size	_____	6.750	in
Casing Diameter	_____	2.875	in
BHT Depth	_____	1269.000	ft
Borehole Temperature	_____	85.0	degF
Temperature Gradient	_____	1.00	DFHF
Resistivity Of Mud	_____	2.000	ohm/m
Standoff	_____	1.5	
Resistivity Of Mud Temperature	_____	75.00	degF

**\* Calibration Summary \***

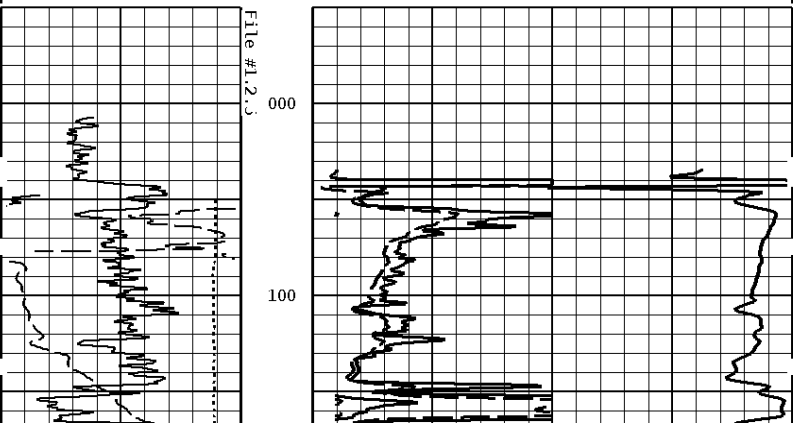
Shop Calibration				
GRT-B				
Performed : 12-SEP-2013		Time : 08:20		
Sensor Suite : GR-GR5		ID : GRT-BB-117		
	Measured	Units	Calibrated	Units
GR	Background	Jig	Jig	
	53	363	175	GRAPI
	CPS			
Shop Calibration				
PIT-CA				
Performed : 19-Aug-2013		Time : 10:08		
Sensor Suite : P-IND-T		ID : PIT-BA-20		

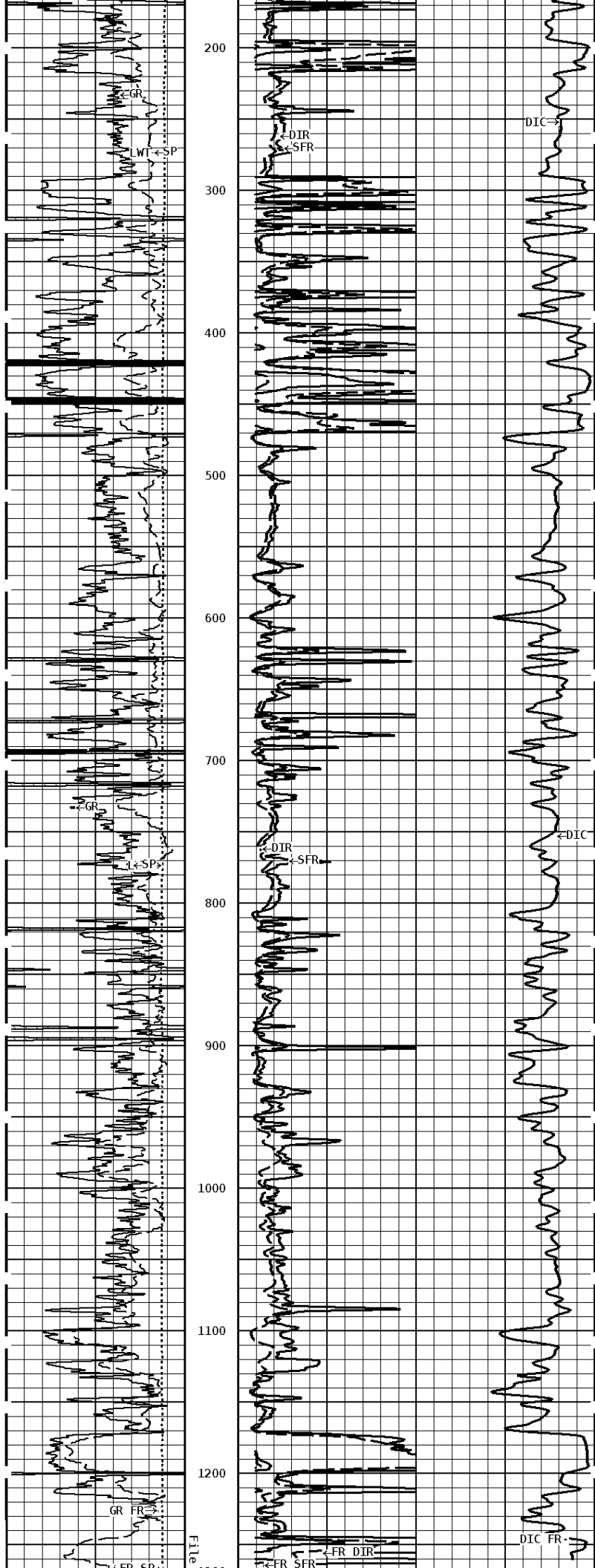
		Measured		Calibrated		Units
		R	X	R	X	
Medium						
Air		131859	129610	0.7	0.6	MMHOS
Zero		131065	131068	-35.6	65.8	MMHOS
Reference		243877	243810	4964.4	5065.8	MMHOS
Loop		129571	210584	3490.5	3693.1	MMHOS
Sonde Error				0.1	1.0	MMHOS
Cond				4964.4	5065.8	MMHOS
Deep						
		Measured		Calibrated		Units
		R	X	R	X	
Air		129079	131604	0.6	-0.3	MMHOS
Zero		131075	131069	43.7	-14.3	MMHOS
Reference		225672	227533	2043.7	1985.7	MMHOS
Loop		125919	212999	1621.4	1754.1	MMHOS
Sonde Error				-2.2	-4.4	MMHOS
Cond				2043.7	1985.7	MMHOS
Temperature						
		Measured		Calibrated		Units
		Low	High	Low	High	
		16980.0	56920.0	70.0	350.0	DEGF
Performed : 19-Aug-2013			Time : 09:53			
Sensor Suite : SFL			ID : PIT-BA-20			
Internal						
		Measured		Calibrated		Units
		Zero	Reference	Zero	Reference	
Im		32777.9	48766.5	0.0	7028.0	uA
Ib		32768.6	48373.8	0.0	1750.0	mA
MOM1		32821.1	55925.3	0.0	175.0	mV
Equivalent SFL					43.97	OHMM
Performed : 19-Aug-2013			Time : 09:46			
Sensor Suite : P-SP			ID : PIT-BA-20			
Internal						
		Measured		Calibrated		Units
		Zero	Reference	Zero	Reference	
		32793.2	58958.6	0.0	1000.0	mV

Well File: RUNNING FOXES C HEIM 2-19 OCT16 MSTK      Scale: 1:1200      Format: DIL1200  
Segment: V1.D2.S5 Reprocess of MAIN      Acquired: 2013-10/16 10:37 3.3.0-12261  
Reference: 0      Processed: 2013-10/16 11:02 3.3.0-12261



1:1200 MAIN SECTION





100 100 1269

# 1:1200 MAIN SECTION

**GAMMA RAY  
API UNITS**

200 400  
0 200



**DEEP CONDUCTIVITY  
MHMO**

2000 1000  
1000 0

**SPONTANEOUS POTENTIAL  
mV**

→ | ← 20

**SHALLOW FOCUSED  
OHMM**

0.0 500.0  
0.0 50.0

**TENSION  
LBS**

10000 0

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**DEEP INDUCTION  
OHMM**

0.0 500.0  
0.0 50.0

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