

**Tucker**  
ENERGY SERVICES

PHASED INDUCTION  
SHALLOW FOCUS SP LOG

Company COLT ENERGY, INC.  
Well CLINE #L-4  
Field ALLEN  
Country KANSAS  
State USA  
Country API No. 15-001-30851-0000

File No : TUL-58398  
Company : COLT ENERGY, INC.  
Well : CLINE #L-4  
Field :  
Country : ALLEN  
State : KANSAS  
Country : KANSAS  
API No : USA  
API No : 15-001-30851-0000

Location :  
2835' FSL & 1082' FEL  
SE

LSD :                      Sect : 16                      Twp : 24S                      Rge : 18E

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	950.00	PLT	
Date	11-23-2013				
Run Number	1				
Depth--Driller	1080.0	Ft			
Depth--Logger	1078.0	Ft			
First Reading	1078.0	Ft			
Last Reading	20.0	Ft			
Casing--Driller	20.0	Ft			
Casing--Logger	20.0	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.	5.000	@ 75 F			
RMF@Measured Temp	4.000	@ 75 F			
RMG@Measured Temp.	6.000	@ 75 F			
Source RMF/RMC	CALCULATED/CALCULATED				
RM@BHT	4.500	@ 0 F			
Time Circulation Stopped	11-23-2013 2:15 pm				
Max Recorded Temp.	0		F		
Equipment/Base	127		TULSA		
Recorded By	SHELDON TYLER				
Witnessed By	REX ASHLOCK				

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	1080.00	8.625	32.00	20.00	0.00

Run Number	1				
Date	11-23-2013				
Date/Time On Bottom	11-23-2013 4:15 pm				
Depth to Fluid	0.0	Ft			
Salinity	0.000				
RMF@BHT	3.600	@ 0	F		
RMC@BHT	5.400	@ 0	F		

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST  
 GRT, CNT, LDT, AND PIT RUN IN COMBINATION.  
 CALIPERS ORIENTED ON X-Y AXIS.  
 2.71 G/CC USED TO CALCULATED POROSITY.  
 ANNULAR HOLE VOLUME CALCULATED USING 4.5" PRODUCTION CASING.  
 PHIN IS CALIPER CORRECTED

CUSTOMER REQUEST NO REPEAT

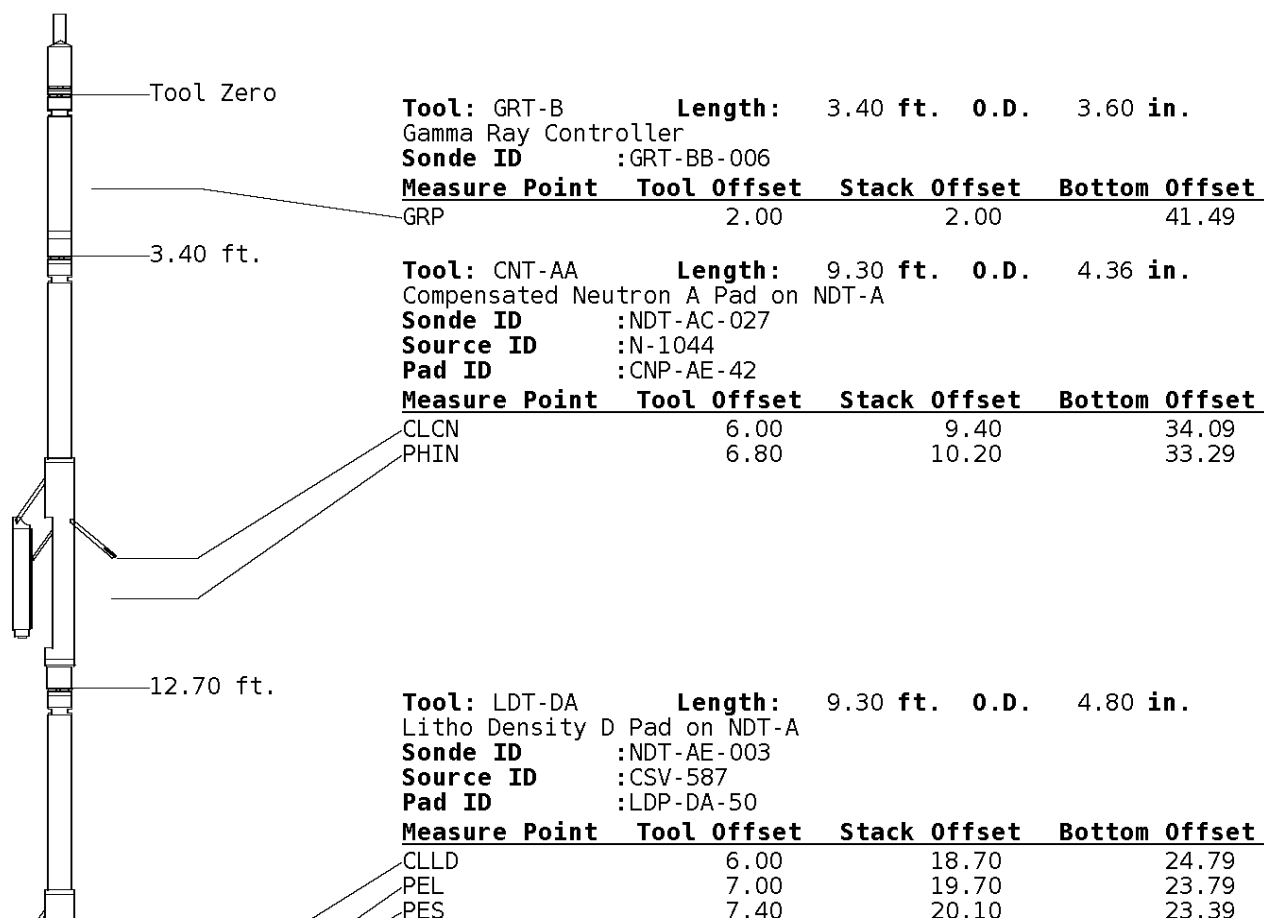
FLUID LEVEL 230

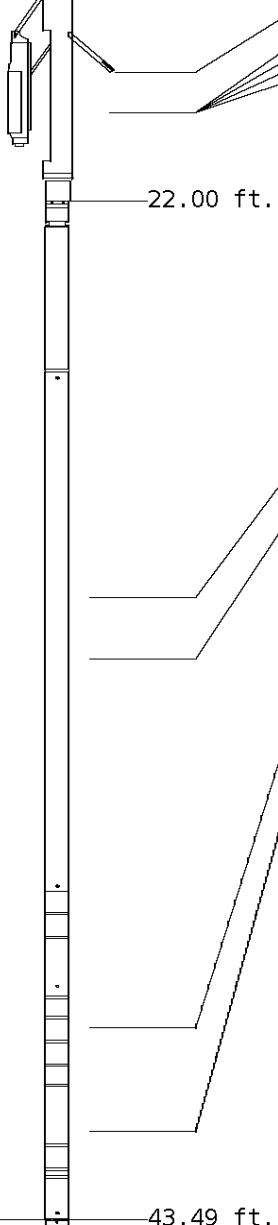
GRT: GRP, GRX  
 CNT: PHIN, CLCNIN, PHXN  
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX  
 PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:  
 A. DJAHO  
 J. JOHNSON

### Tool String Schematic

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





Tool: PIT-CA      Length: 21.49 ft.    O.D.    3.62 in.  
 Phased Dual Induction w/ RM & D  
 Sonde ID            :PIT-BA-20

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	30.92	12.56
ILM	10.10	32.10	11.39
SFLU	17.49	39.49	4.00
SP	20.60	42.60	0.88

LWT ————— 43.49 ft.

Well File: COLT ENERGY CLINE 2-4 NOV23 STK

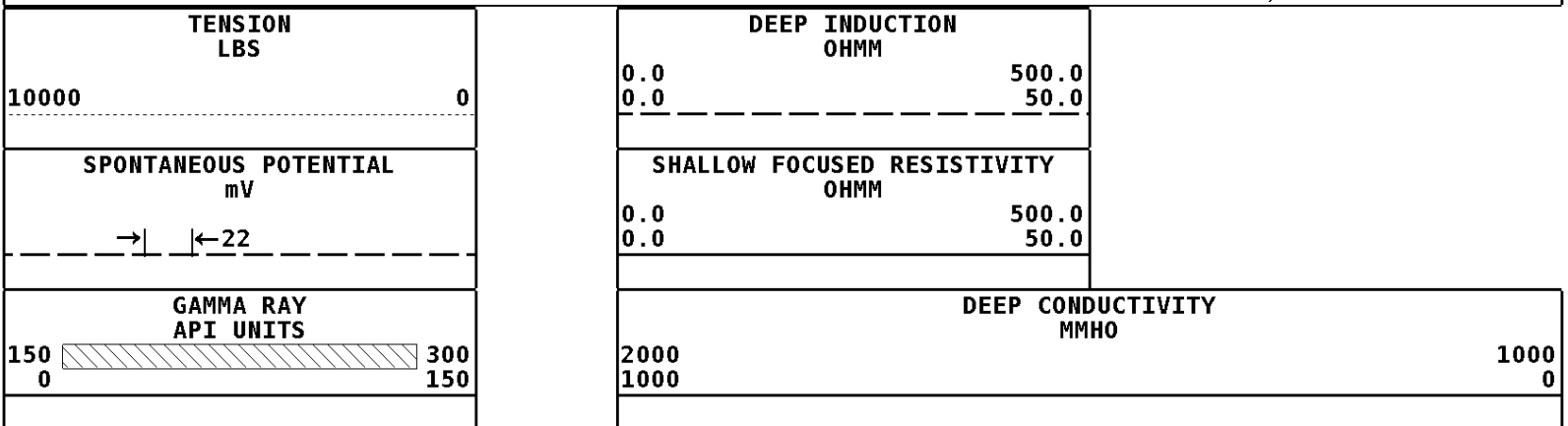
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Segment: V1.D1.S3 Reprocess of MAIN

Acquired: 2013-11/23 16:23 3.3.0-12261

Reference: 0

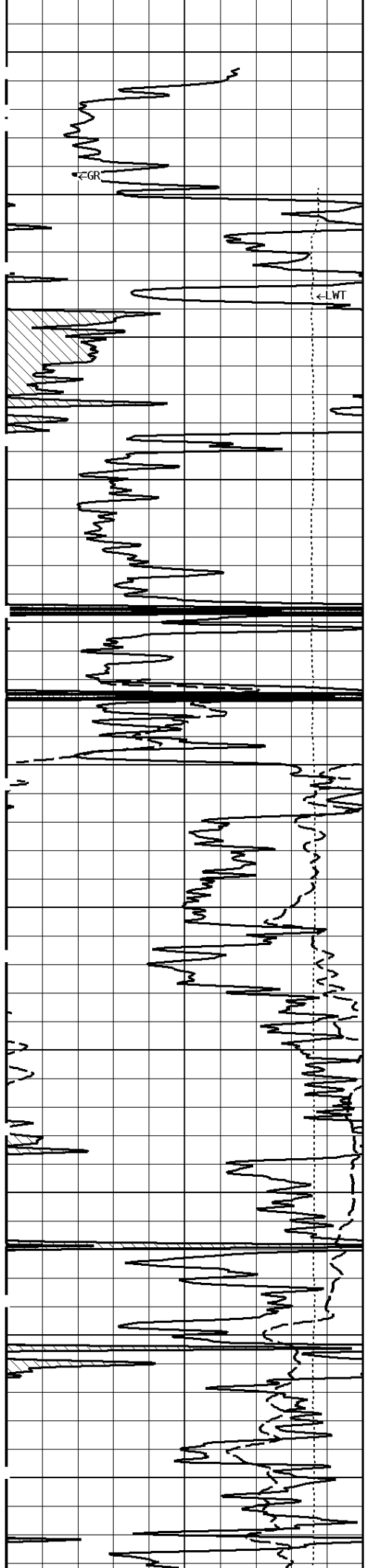
Processed: 2013-11/23 16:59 3.3.0-12261



**1:600 MAIN SECTION**

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File #1.1.1.



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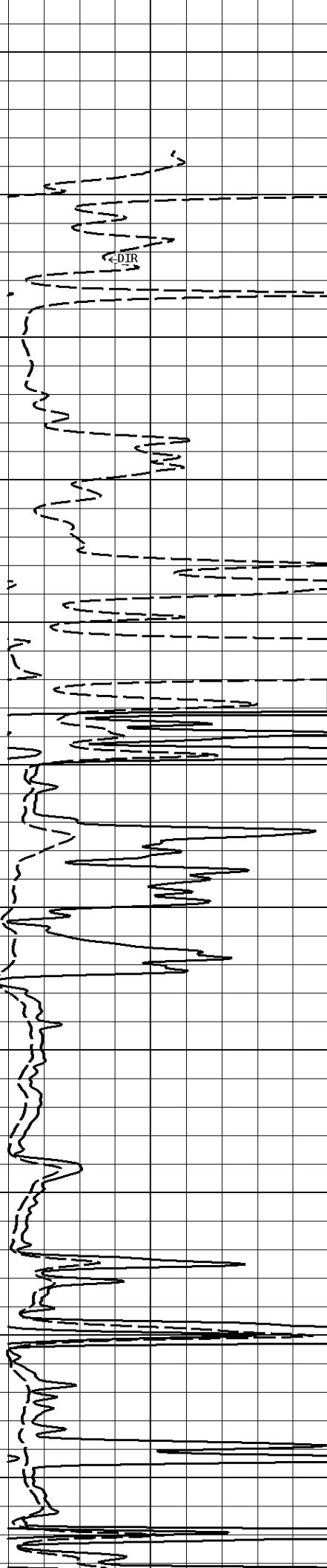
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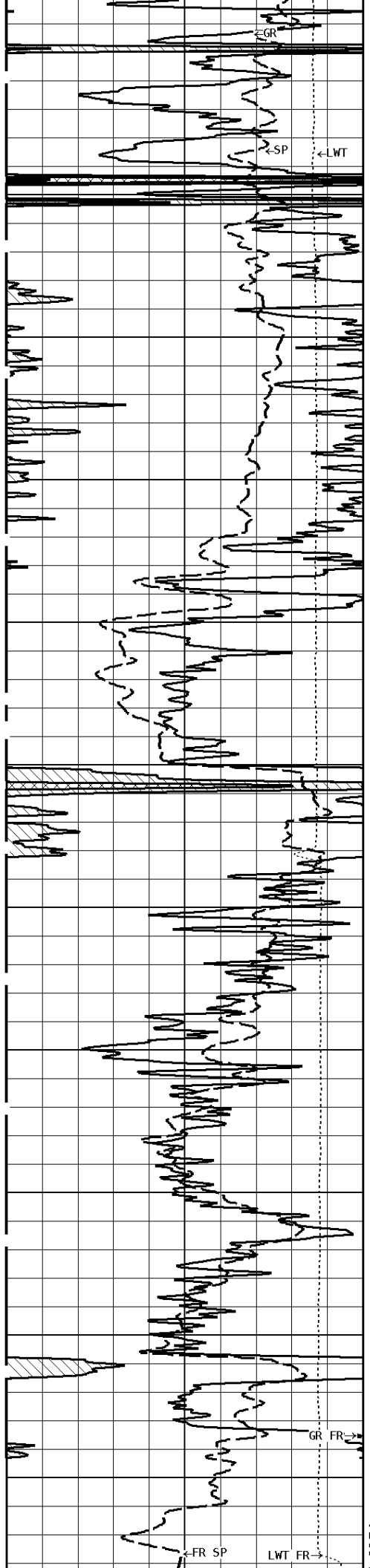
300

400

500



DIR



600

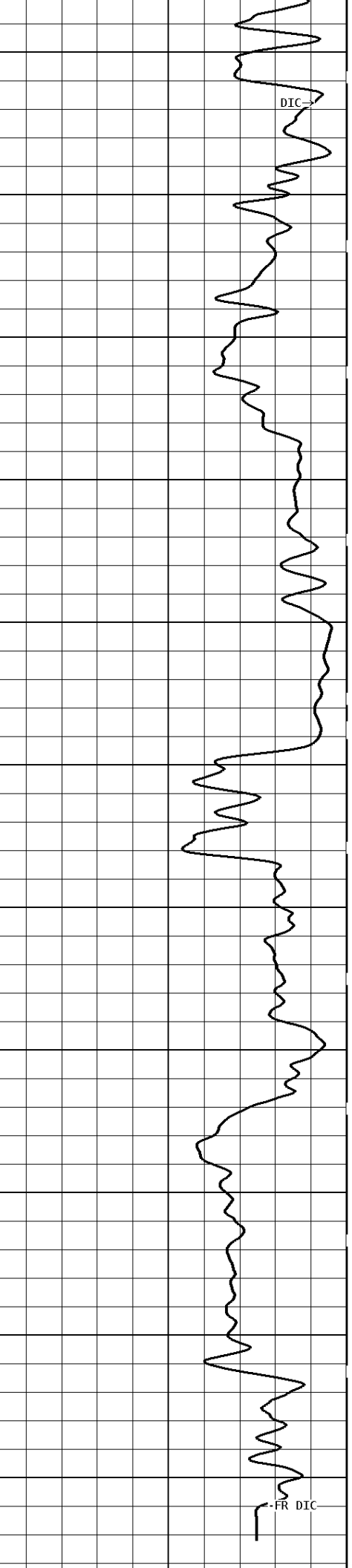
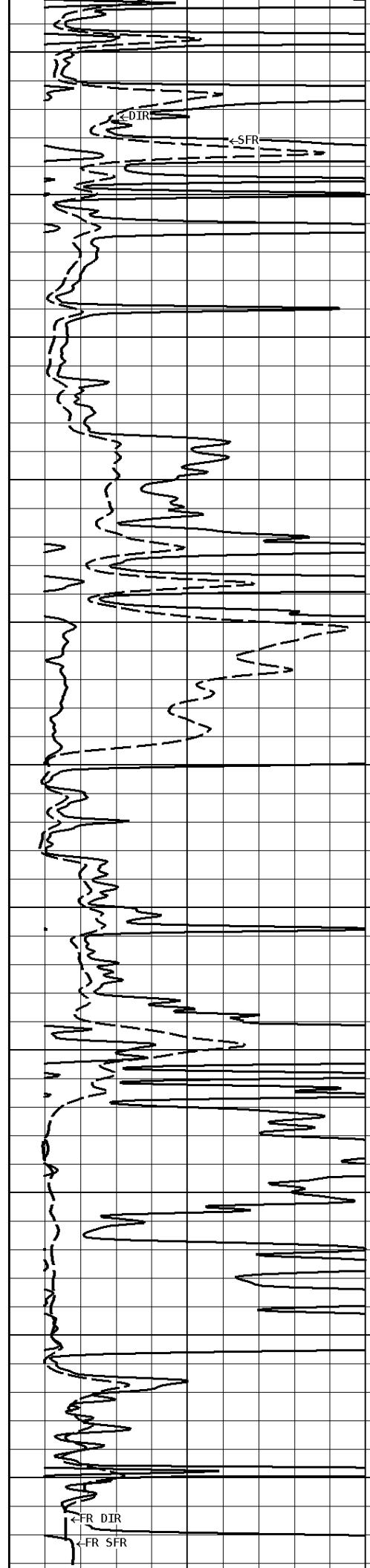
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800

900

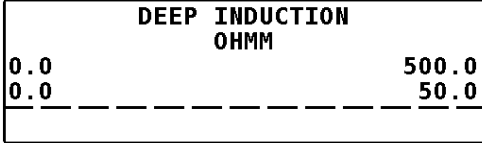
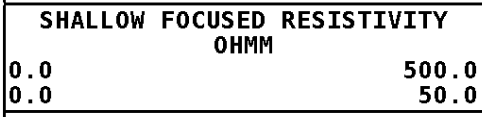
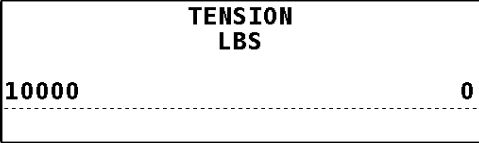
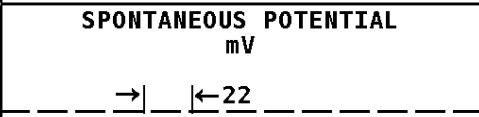
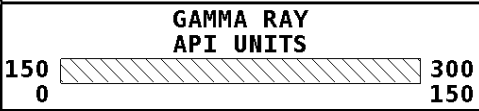
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1078

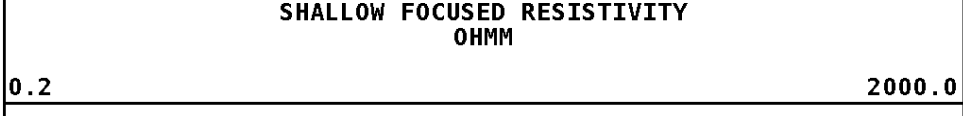
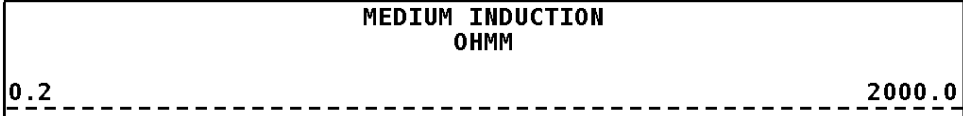
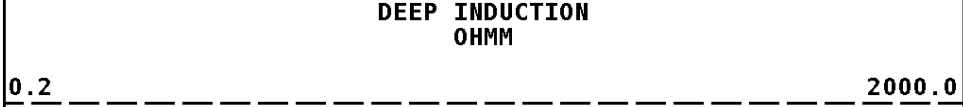
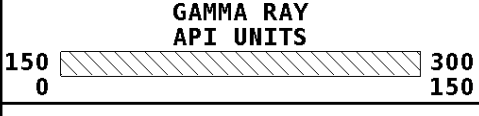
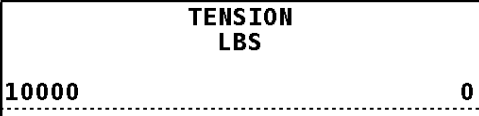
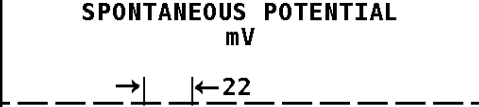


File 1

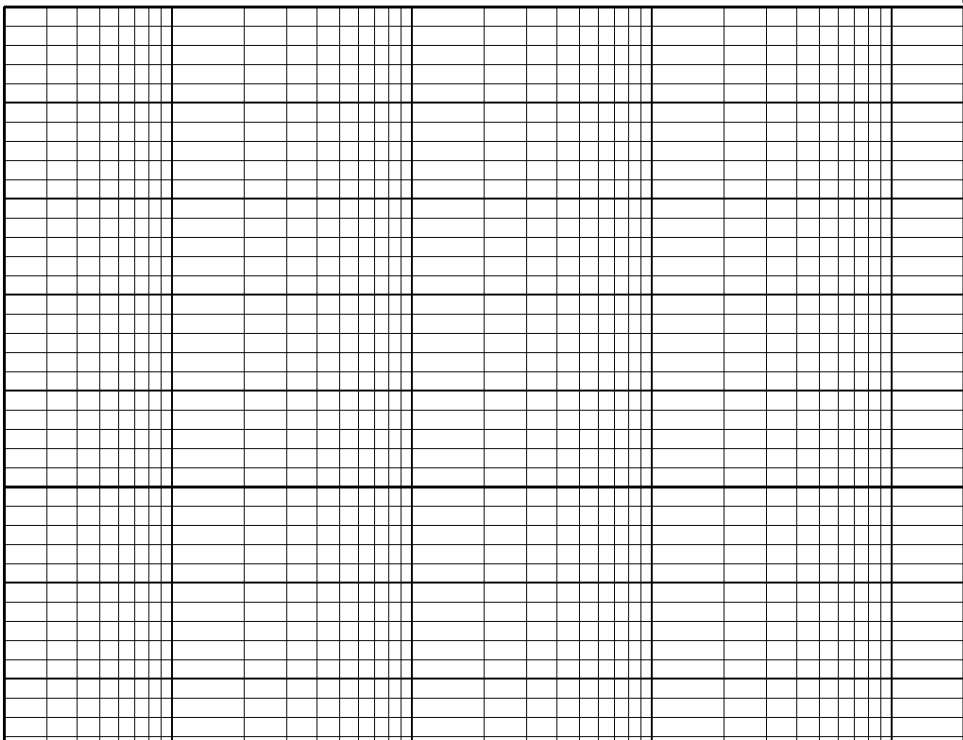
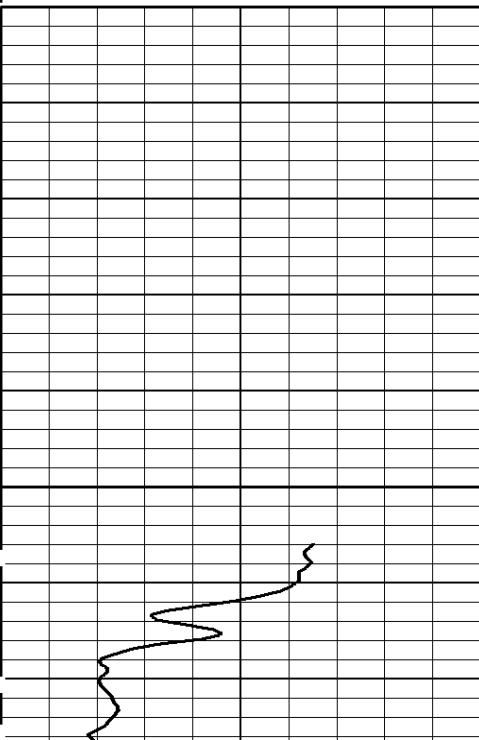
# 1:600 MAIN SECTION



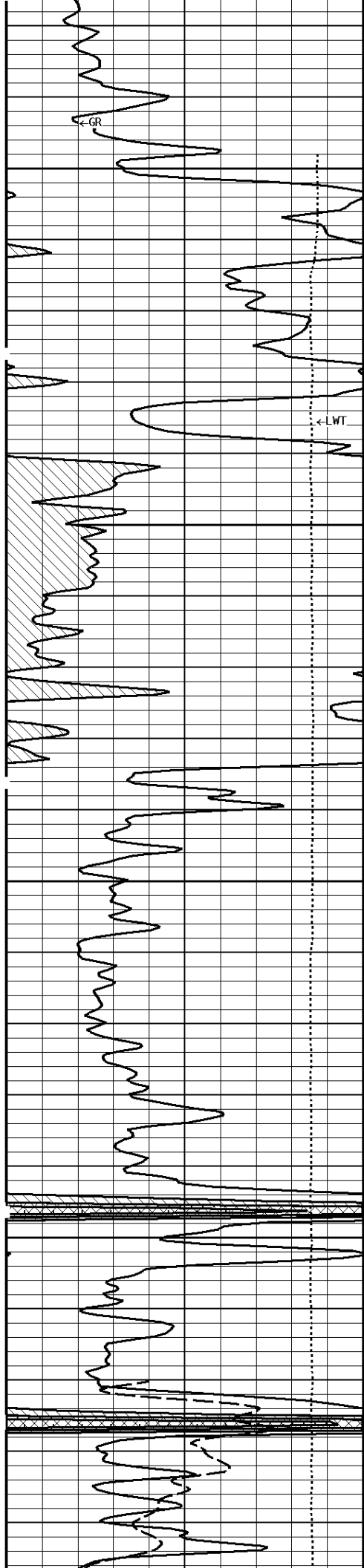
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 Segment: V1.D1.S3 Reprocess of MAIN Acquired: 2013-11/23 16:23 3.3.0-12261  
 Reference: 0 Processed: 2013-11/23 16:59 3.3.0-12261



# 1:240 MAIN SECTION

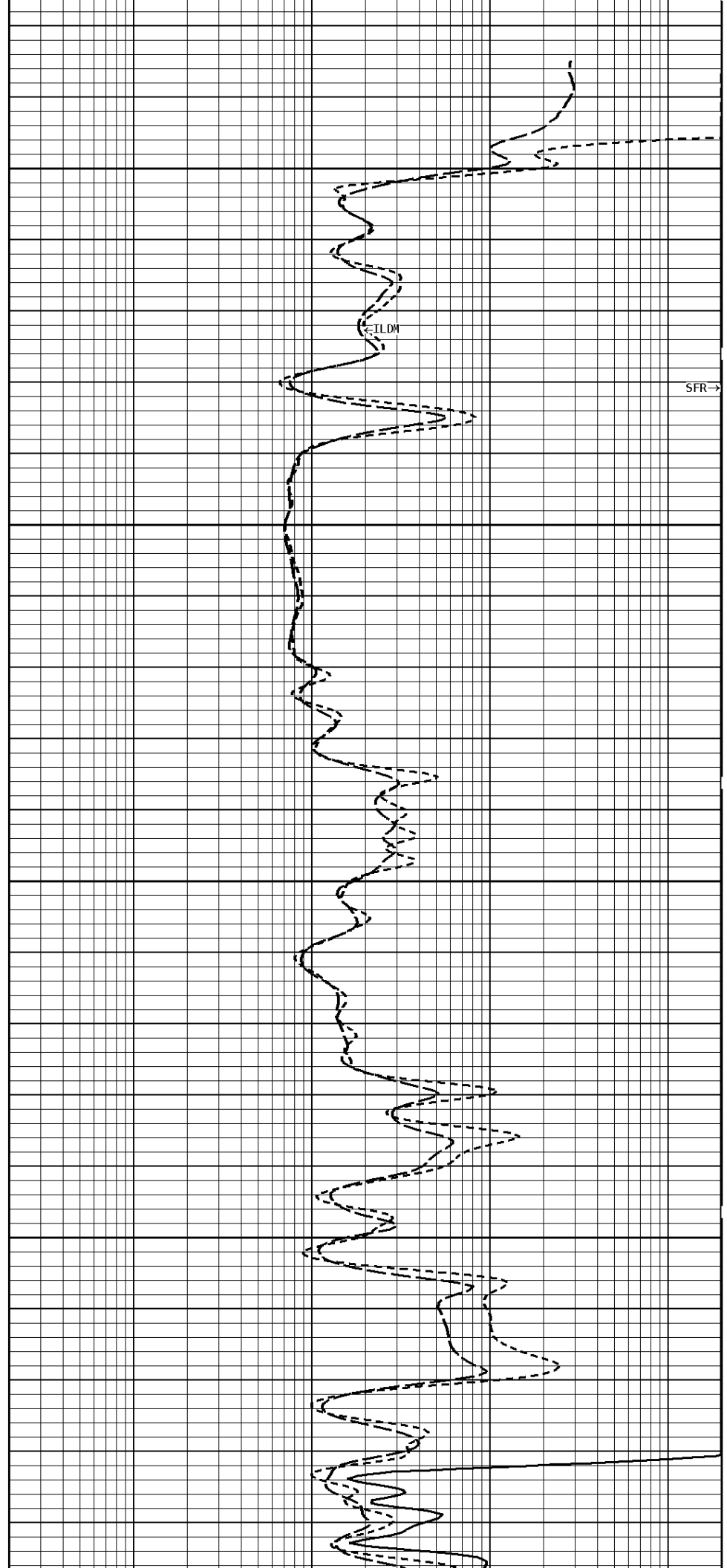


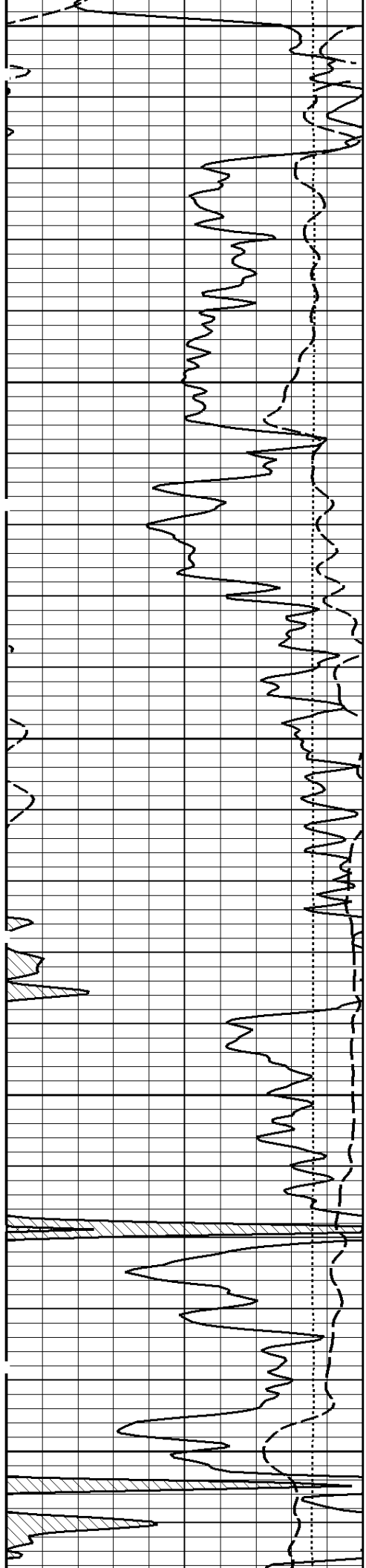
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100

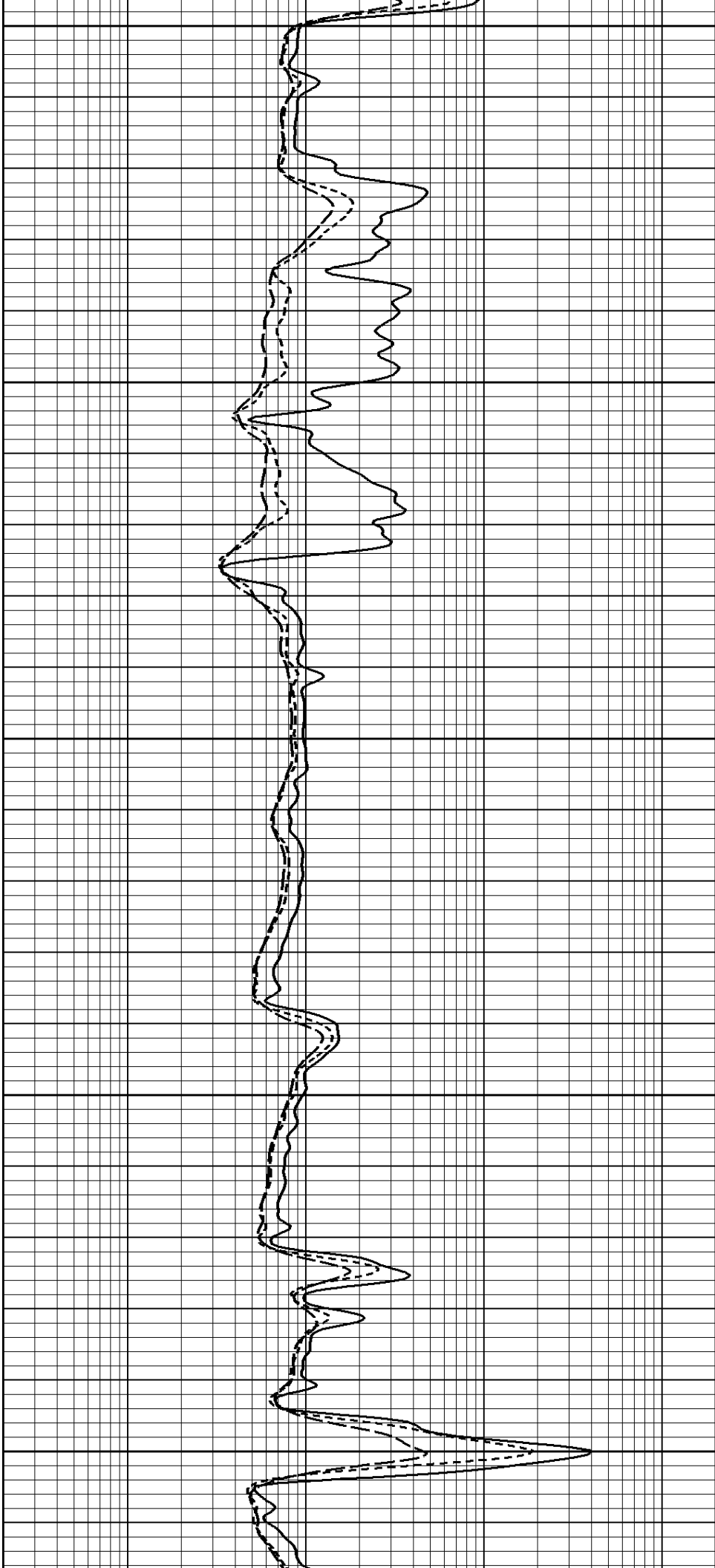
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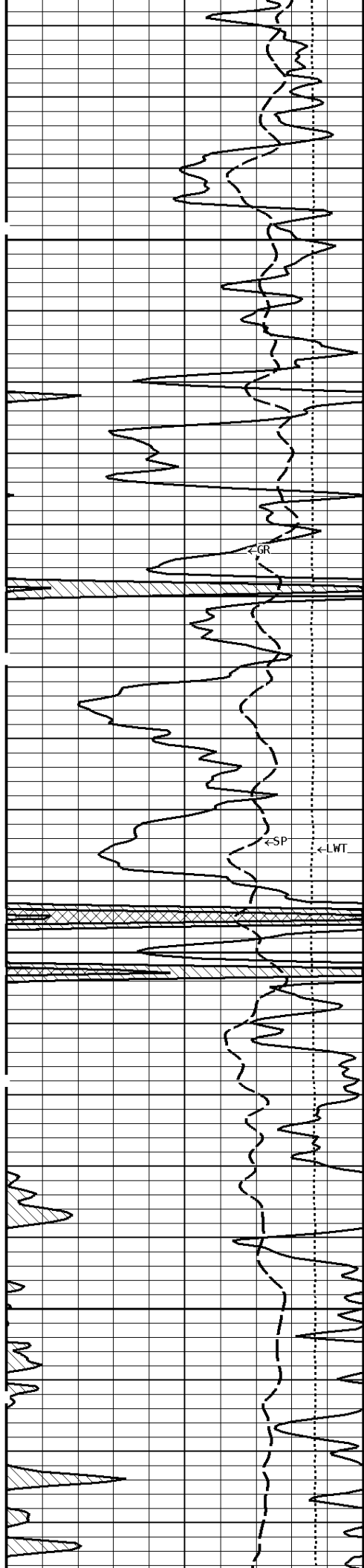


300

400

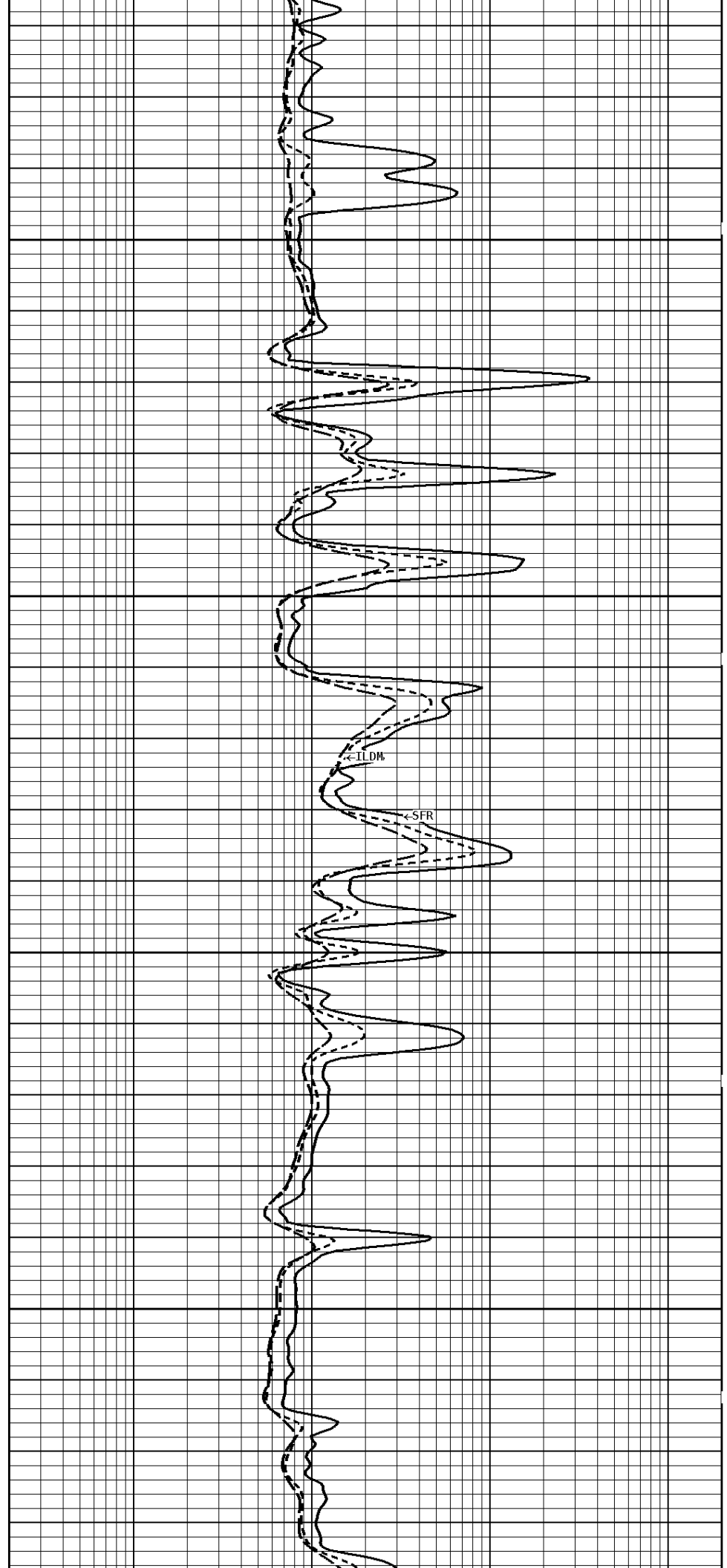


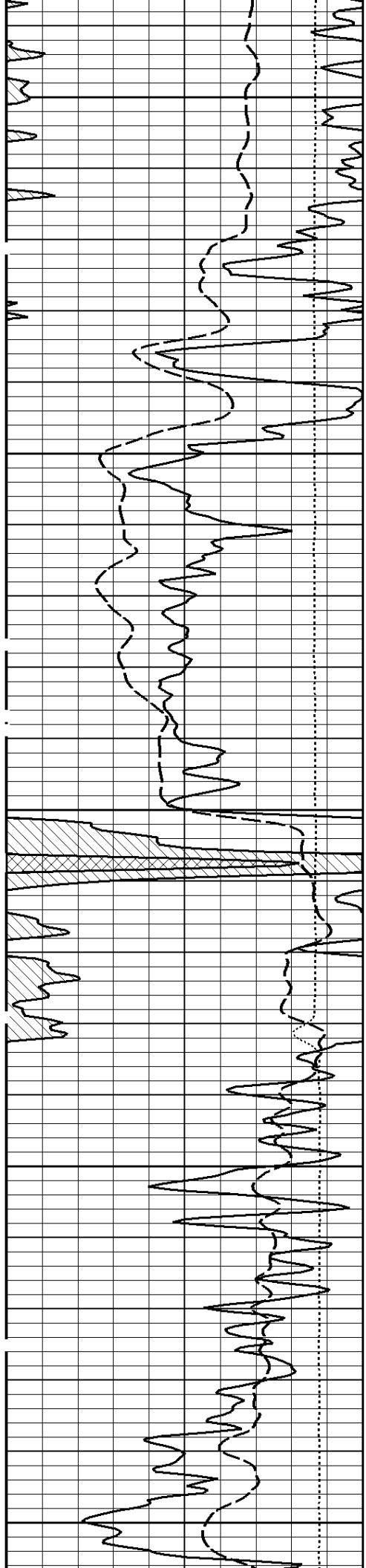




500

600

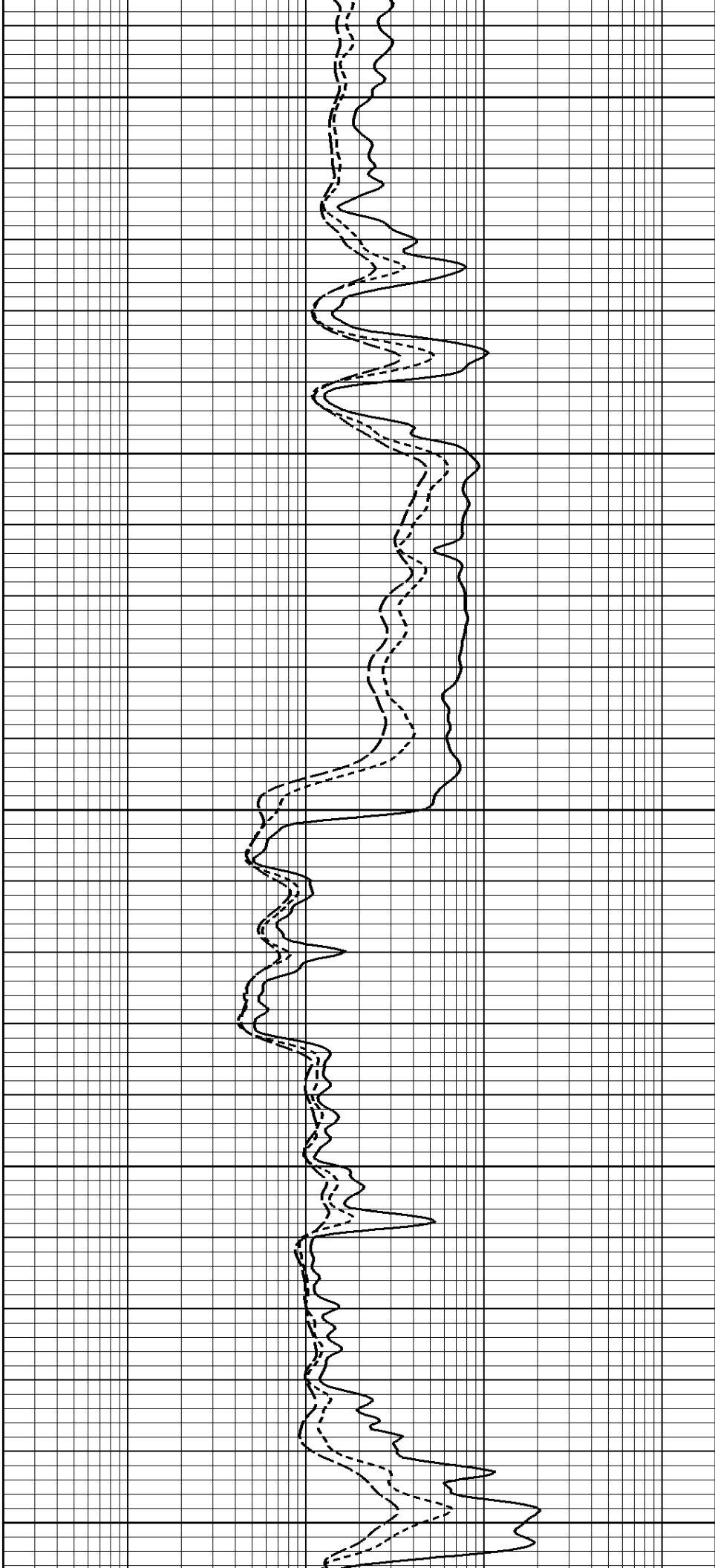


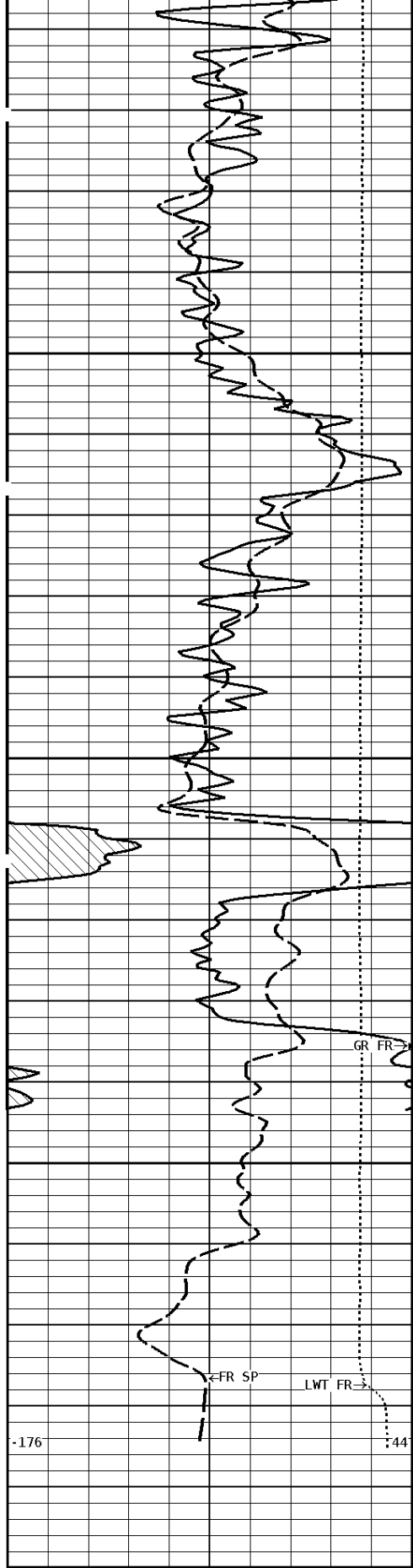


700

800

900



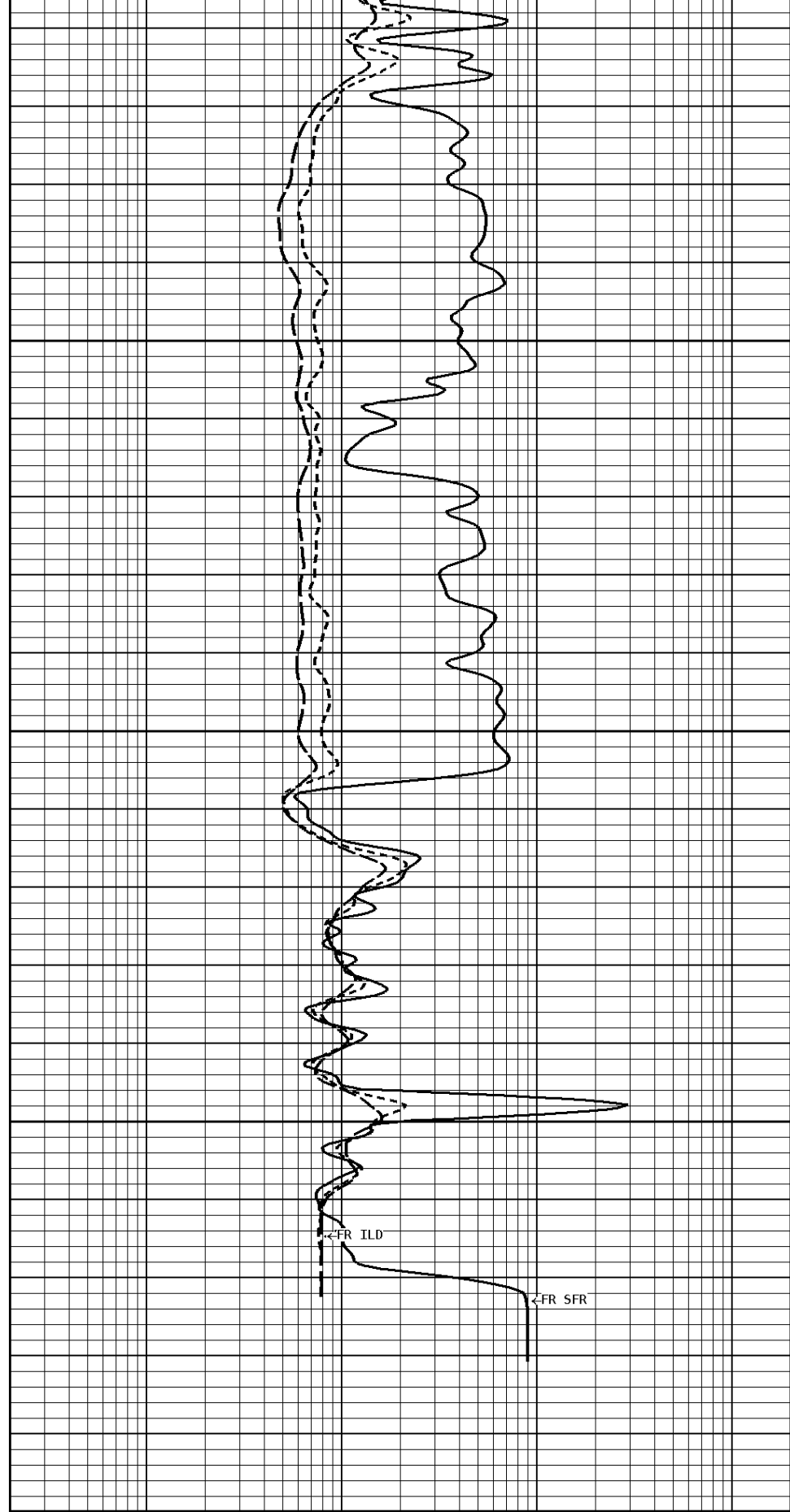


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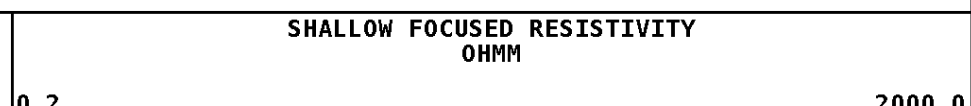
1078

1176

File #1.1.3



**1:240 MAIN SECTION**



<b>TENSION</b> LBS	
10000	0
<b>SPONTANEOUS POTENTIAL</b> mV	
→	←22

<b>MEDIUM INDUCTION</b> OHMM	
0.2	2000.0
<b>DEEP INDUCTION</b> OHMM	
0.2	2000.0

\* Borehole Zone Factors \*

<b>Zone 1 99999.0 to 0.0 Feet</b>		
Drill Bit Size	6.750	in
Casing Diameter	4.500	in
BHT Depth	1080.000	ft
Borehole Temperature	84.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	5.000	ohm/m
Standoff	1.5	
Resistivity Of Mud Temperature	75.00	degF

\* Calibration Summary \*

<b>Shop Calibration</b> <b>GRT-B</b>					
Performed : 30-OCT-2013			Time : 14:06		
Sensor Suite : GR-GR5			ID : GRT-BB-006		
	Measured	Units	Calibrated	Units	
GR	Background Jig	CPS	Jig	GRAPI	
	60	375	175		
<b>Shop Calibration</b> <b>PIT-CA</b>					
Performed : 08-NOV-2013			Time : 09:27		
Sensor Suite : P-IND-T			ID : PIT-BA-20		
Medium					
	Measured		Calibrated		Units
	R	X	R	X	
Air	131860	129614	-5.1	-5.1	MMHOS
Zero	131066	131069	-40.6	60.3	MMHOS
Reference	244057	243603	4959.4	5060.3	MMHOS
Loop	129868	210406	3496.4	3672.8	MMHOS
Sonde Error			0.2	1.1	MMHOS
Cond			4959.4	5060.3	MMHOS
Deep					
	Measured		Calibrated		Units
	R	X	R	X	
Air	129157	131568	-0.1	0.0	MMHOS
Zero	131081	131069	43.1	-14.4	MMHOS
Reference	226048	227321	2043.1	1985.6	MMHOS
Loop	126361	212922	1631.5	1749.4	MMHOS
Sonde Error			-1.5	-6.6	MMHOS
Cond			2043.1	1985.6	MMHOS
Temperature					
	Measured		Calibrated		Units
	Low	High	Low	High	
	16980.0	56920.0	70.0	350.0	DEGF
Performed : 08-Nov-2013			Time : 09:15		
Sensor Suite : SFL			ID : PIT-BA-20		
Internal					
	Measured		Calibrated		Units
	Zero	Reference	Zero	Reference	
Im	32774.8	48759.8	0.0	7028.0	uA
Ib	32766.0	48362.0	0.0	1750.0	mA
MOM1	32803.6	55891.6	0.0	175.0	mV
Equivalent SFL				43.97	OHMM
Performed : 08-Nov-2013			Time : 09:12		
Sensor Suite : P-SP			ID : PIT-BA-20		

Measured		Internal		Calibrated		Units
Zero	Reference	Zero	Reference	Zero	Reference	
32795.0	58951.6	0.0	1000.0	0.0	1000.0	mV

Well File: COLT ENERGY CLINE 2-4 NOV23\_STK

Scale: 1:1200 Format: DIL1200

Segment: V1.D1.S3 Reprocess of MAIN

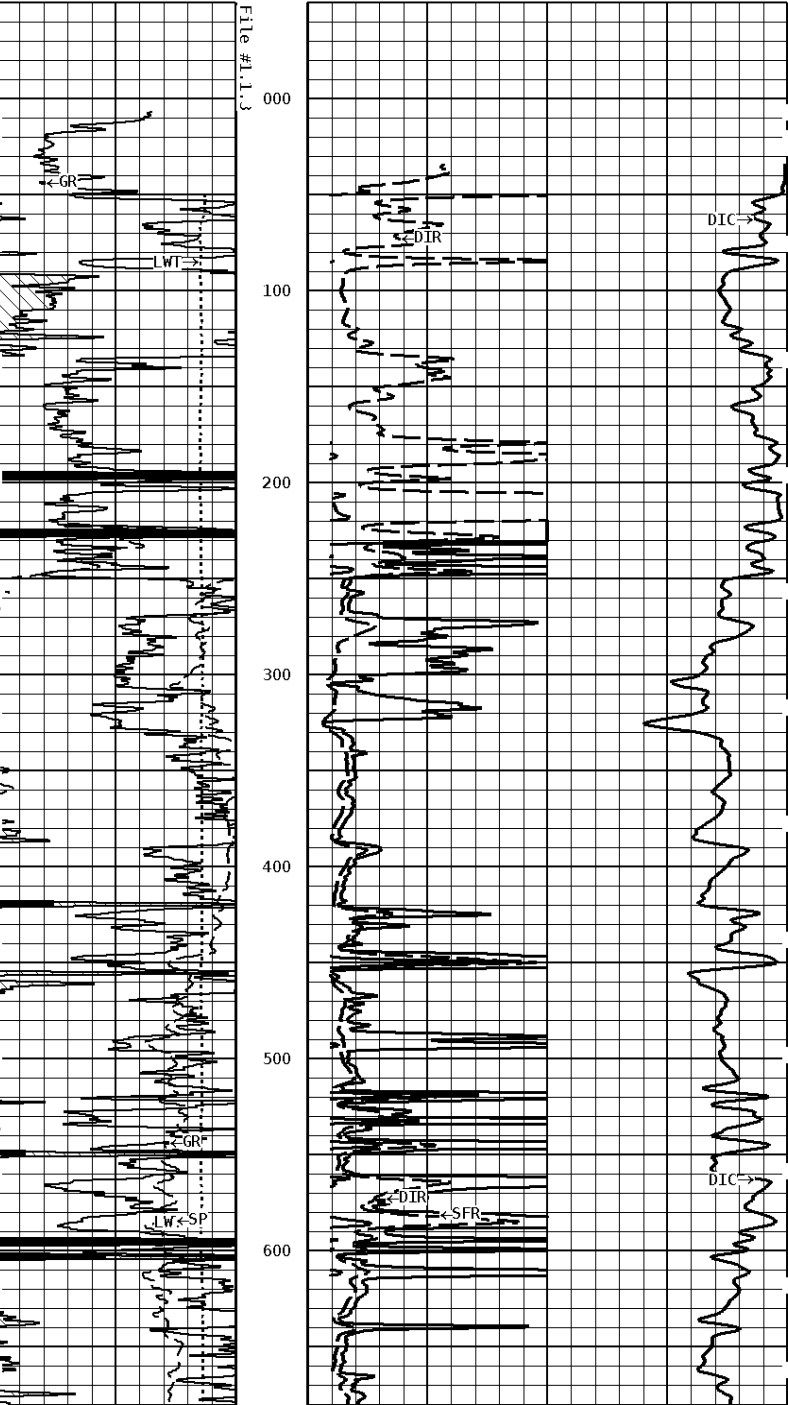
Acquired: 2013-11/23 16:23 3.3.0-12261

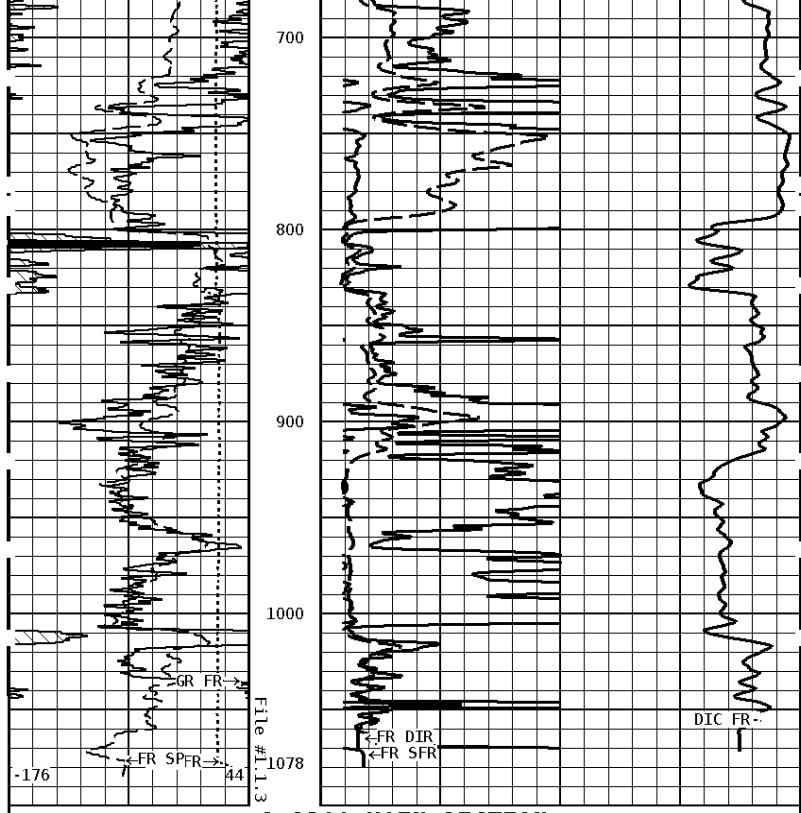
Reference: 0

Processed: 2013-11/23 16:59 3.3.0-12261

<b>TENSION</b> LBS 10000 0	<b>DEEP INDUCTION</b> OHMM 0.0 500.0 0.0 50.0
<b>SPONTANEOUS POTENTIAL</b> mV →   ← 22	<b>SHALLOW FOCUSED</b> OHMM 0.0 500.0 0.0 50.0
<b>GAMMA RAY</b> API UNITS 150 300 0 150	<b>DEEP CONDUCTIVITY</b> MHMO 2000 1000 1000 0

1:1200 MAIN SECTION





**1:1200 MAIN SECTION**

<b>GAMMA RAY</b> <b>API UNITS</b> 150 300 0 150	<b>DEEP CONDUCTIVITY</b> <b>MHO</b> 2000 1000 1000 0
<b>SPONTANEOUS POTENTIAL</b> <b>mV</b> →   ← 22	<b>SHALLOW FOCUSED</b> <b>OHMM</b> 0.0 500.0 0.0 50.0
<b>TENSION</b> <b>LBS</b> 10000 0	<b>DEEP INDUCTION</b> <b>OHMM</b> 0.0 500.0 0.0 50.0



Company: COLT ENERGY, INC.  
 Well: CLINE #L-4  
 Location: 2835' FSL & 1082' FEL  
 Logged: 11-23-2013  
 K.B. Elev: 0.0 Ft