

Tucker

ENERGY SERVICES

PHASED INDUCTION

SHALLOW FOCUS SP LOG

Company LASSO ENERGY LLC Well RENICK #2 Field WILDCAT County GRAY State KANSAS Country USA API No. 15-069-20460-00-00		File No : TUL-59478 Company : LASSO ENERGY LLC Well : RENICK #2 Field : WILDCAT County : GRAY State : KANSAS Country : USA API No : 15-069-20460-00-00	
Location : 680' FNL & 1960' FEL NW SE NW NE		LSD : Sect : 19 Twp : 25 S Rge : 29 W	
Permanent Datum:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 2822.00	CNT
Log Measured From:	KB	DF 2821.00	LDT
Above Permanent Datum:	8.00 Ft	GL 2814.00	XYT
Date	03-03-2014		
Run Number	1		
Depth--Driller	5205.0	Ft	
Depth--Logger	5206.0	Ft	
First Reading	5205.0	Ft	
Last Reading	1790.0	Ft	
Casing--Driller	1785.0	Ft	
Casing--Logger	1790.0	Ft	
Bit Size	7.875	In	
Casing Size	8.625	In	
Hole Fluid Type	GEL / CHEMICAL		
Density	8.8 LBS/GAL		
Fluid Loss	13.2 CC		
PH/Viscosity	11.0	49.0 SEC	
Sample Source	MEASURED		
RMF@Measured Temp.	0.300	@ 44 F	
RMF@Measured Temp	0.264	@ 44 F	
RMF@Measured Temp.	0.363	@ 44 F	
Source RMF/RMC	CALCULATED/CALCULATED		
RM@BHT	0.129 @ 111 F		
Time Circulation Stopped	03-03-2014 7:00 pm		
Max Recorded Temp.	111	F	
Equipment/Base	TRUCK 127	TULSA	
Recorded By	R. KING		
Witnessed By	M. BURTON		

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	5205.00	8.625	24.00	1785.00	0.00

Run Number	1	
Date	03-03-2014	
Date/Time On Bottom	03-04-2014 1:15 am	
Depth to Fluid	0.0 Ft	
Salinity	13600.000 PPM	
RMF@BHT	0.114 @ 111 F	
RMC@BHT	0.156 @ 111 F	

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, MLT, NAV AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED UISING 5.5" PRODUCTION CASING.
 PHIN IS CALIPER CORRECTED.

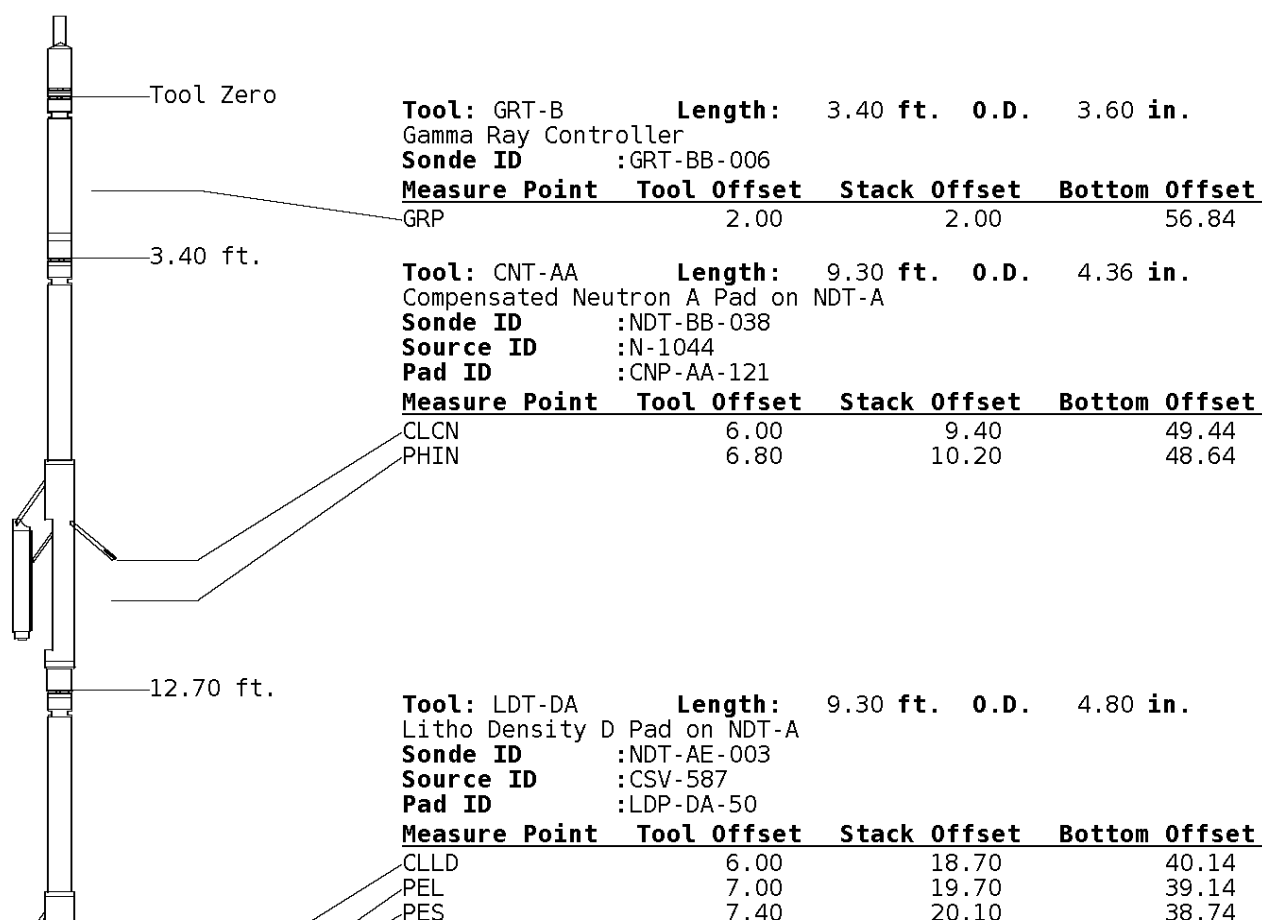
MAGNETIC DECLINATION: 5.98 DEG.

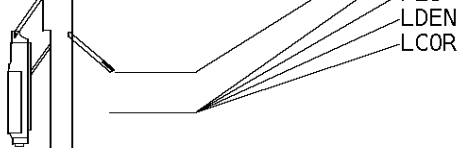
GRT: GRP
 CNT: PHIN, CLCNIN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN
 MLT: NOR_RF, INV_RF, MSCLPIN.
 NAV: CALIBRATED_WOT_AE, WOT_AE_NAVAGATION
 PIT: EIRMDS, VIRDDS, SPU, SFLAEC, CIRD.

OPERATORS:
 C. GONZALES
 A.DJAH

Tool String Schematic

Total Tool Length - 58.84 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 1031.00 lbs.



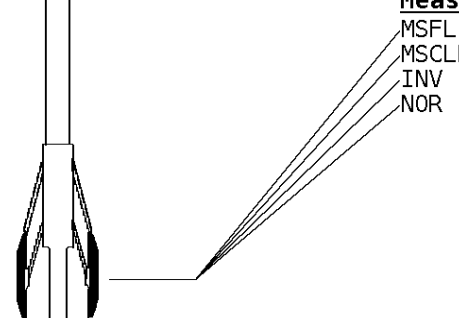


LDEN	7.20	19.90	38.94
LCOR	7.20	19.90	38.94

22.00 ft.

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
 Micro Spherically Focused (IC)
Sonde ID :MST-DA-28

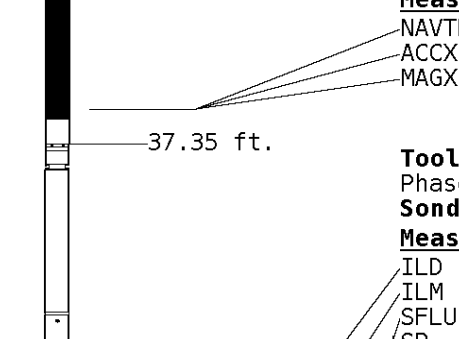
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	29.24
MSCLP	7.60	29.60	29.24
INV	7.60	29.60	29.24
NOR	7.60	29.60	29.24



31.66 ft.

Tool: WOT-AA **Length:** 5.69 ft. **O.D.** 3.50 in.
 Well Orientation Tool
Sonde ID :WGT-001

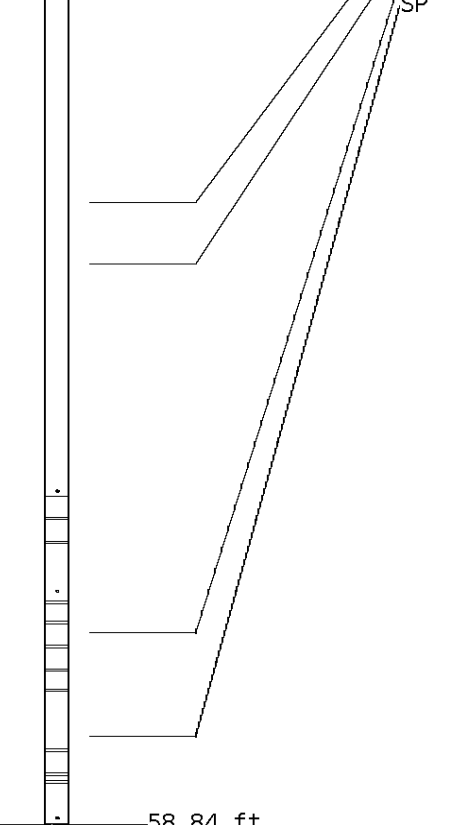
Measure Point	Tool Offset	Stack Offset	Bottom Offset
NAVTEMP	3.00	34.66	24.18
ACCX, ACCY, ACCZ	3.00	34.66	24.18
MAGX, MAGY, MAGZ	3.00	34.66	24.18



37.35 ft.

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

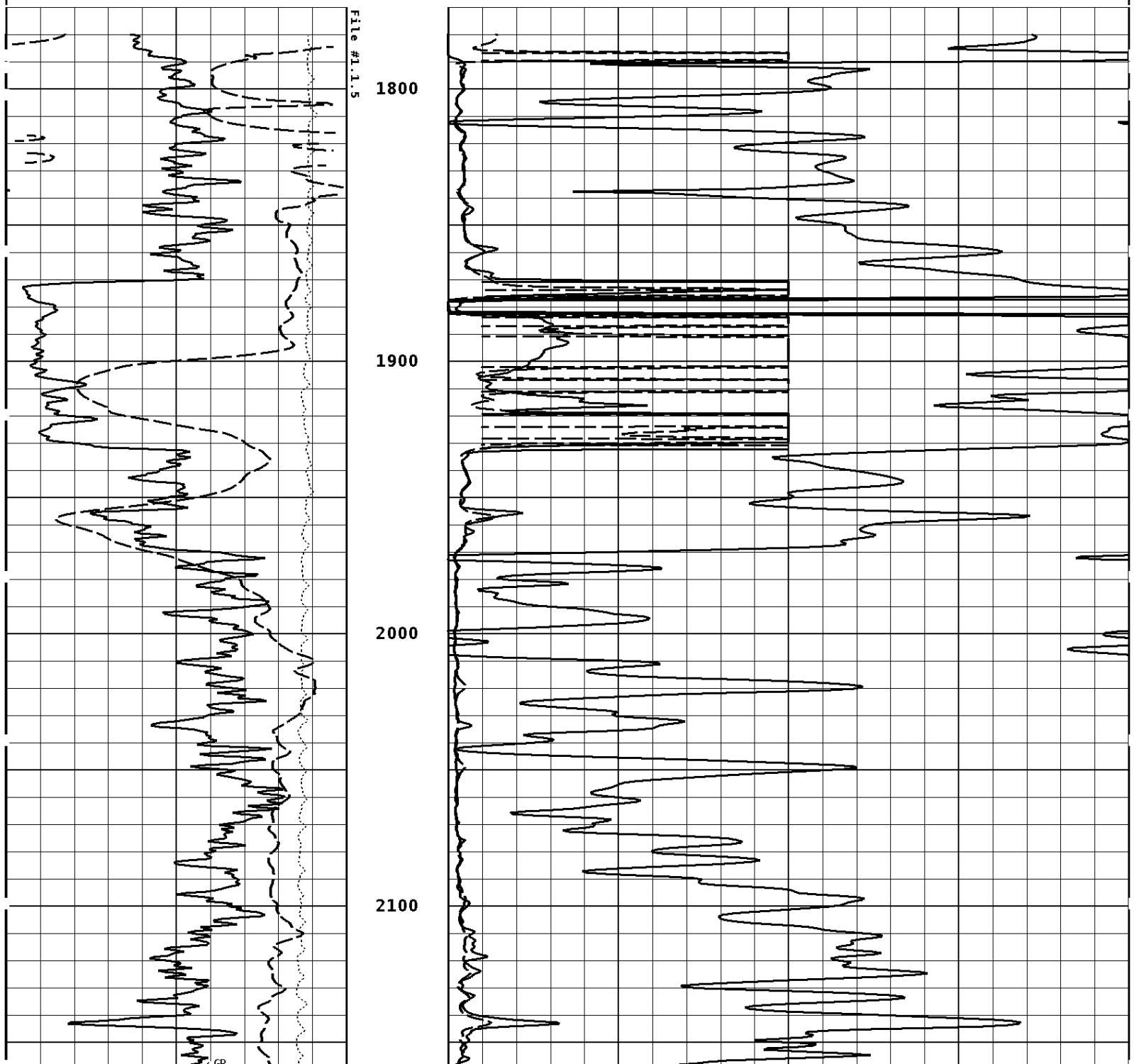
Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	46.27	12.56
ILM	10.10	47.45	11.39
SFLU	17.49	54.84	4.00
SP	20.60	57.95	0.88

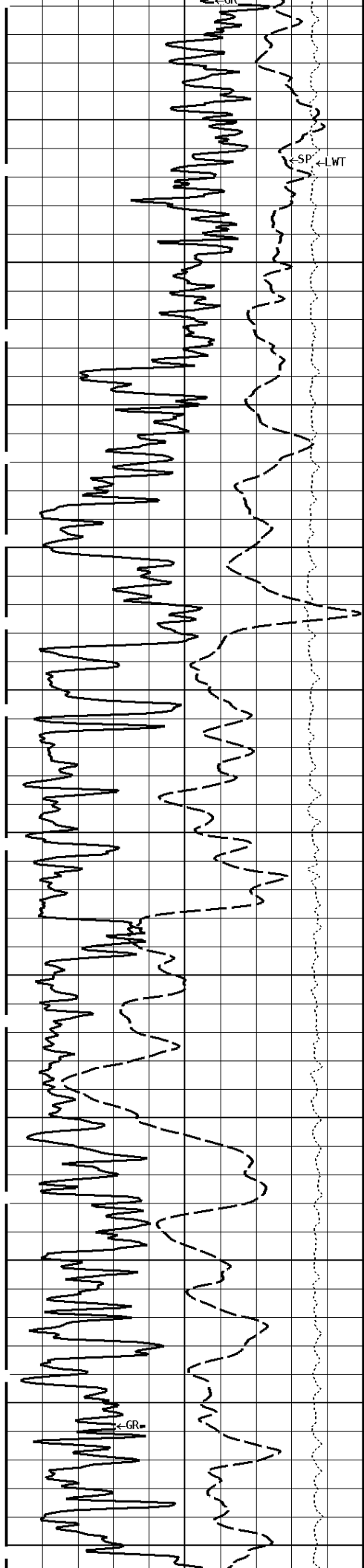


LWT 58.84 ft.

TENSION LBS		DEEP INDUCTION OHMM	
10000	0	0.0	500.0
		0.0	50.0
SPONTANEOUS POTENTIAL mV		SHALLOW FOCUSED RESISTIVITY OHMM	
→ ← 20		0.0	500.0
		0.0	50.0
GAMMA RAY API UNITS		DEEP CONDUCTIVITY MMHO	
150	300	2000	1000
0	150	1000	0

1:600 MAIN SECTION





2200

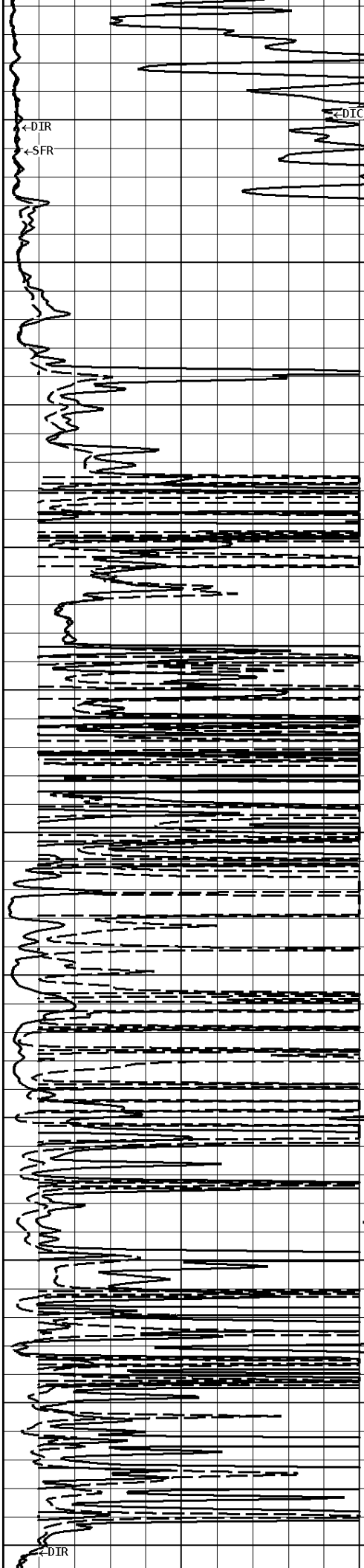
2300

2400

2500

2600

2700



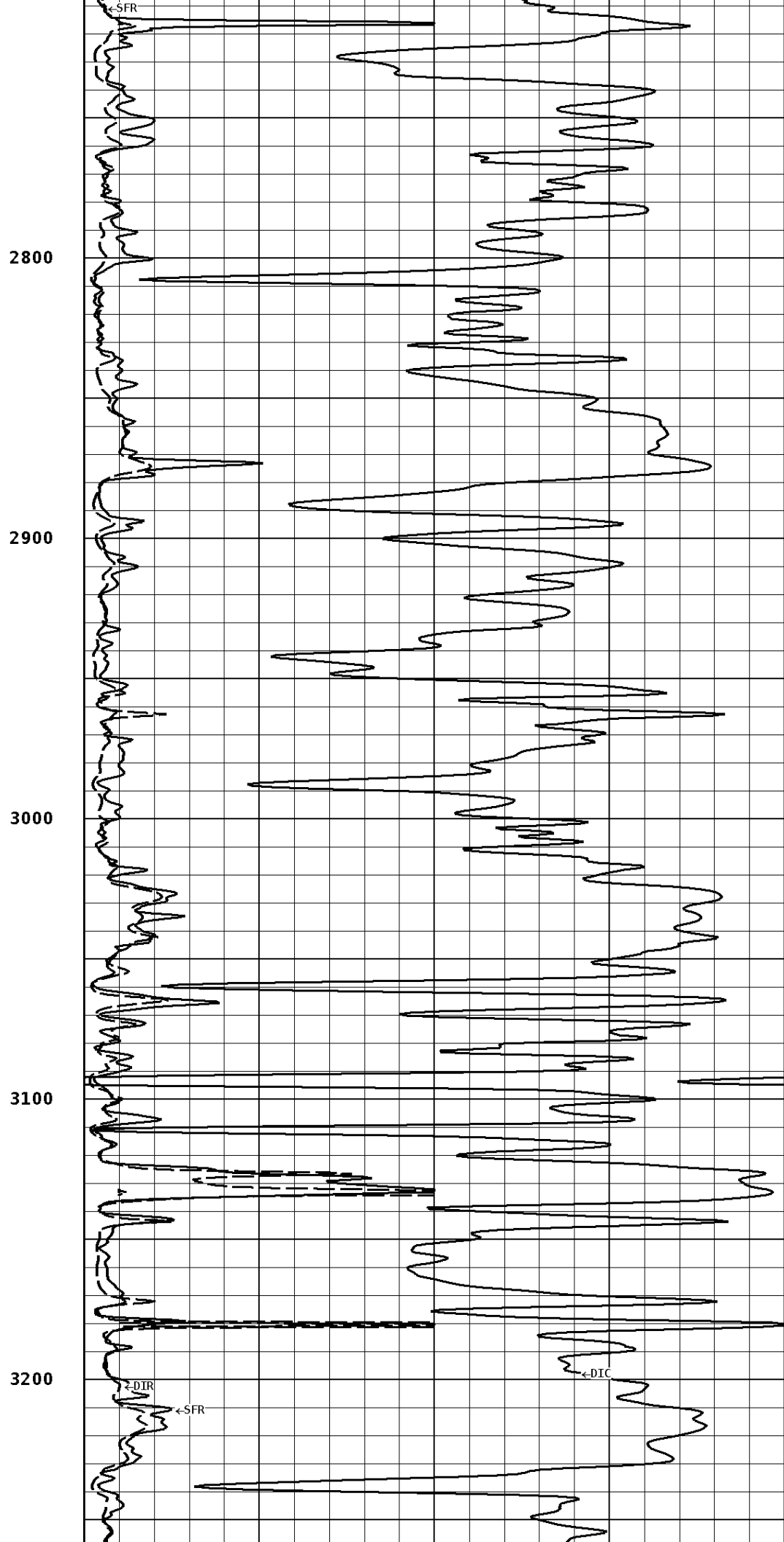
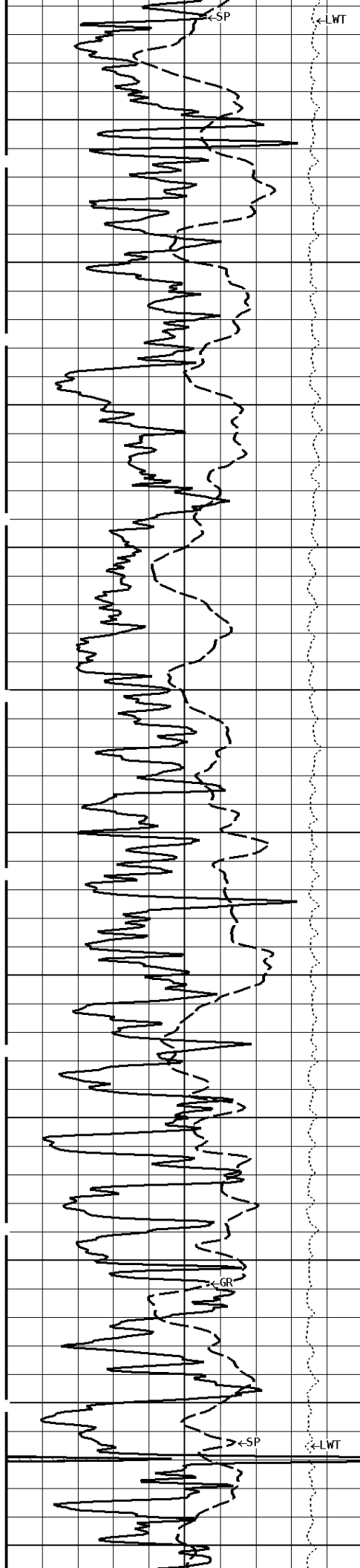
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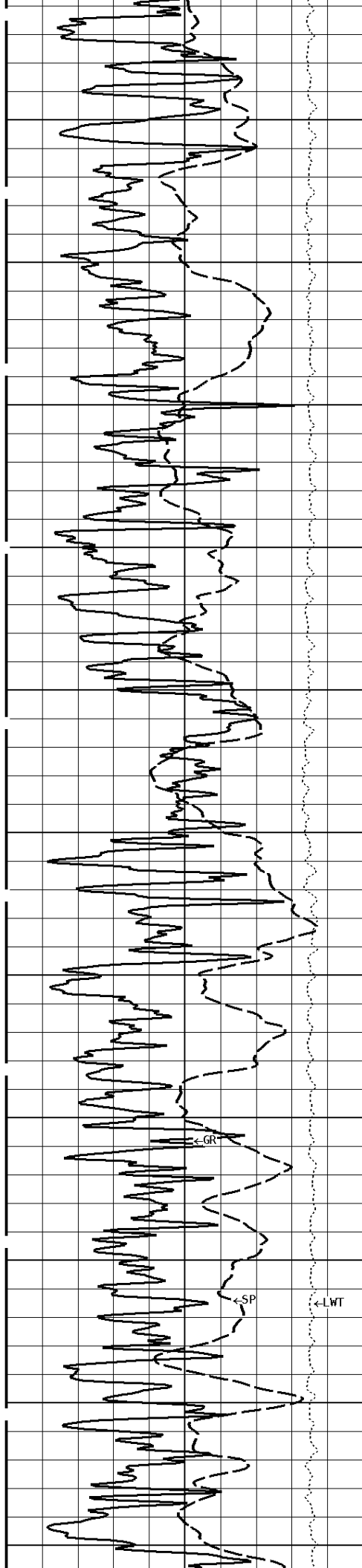
DTR

SFR

DIC

DTR





3300

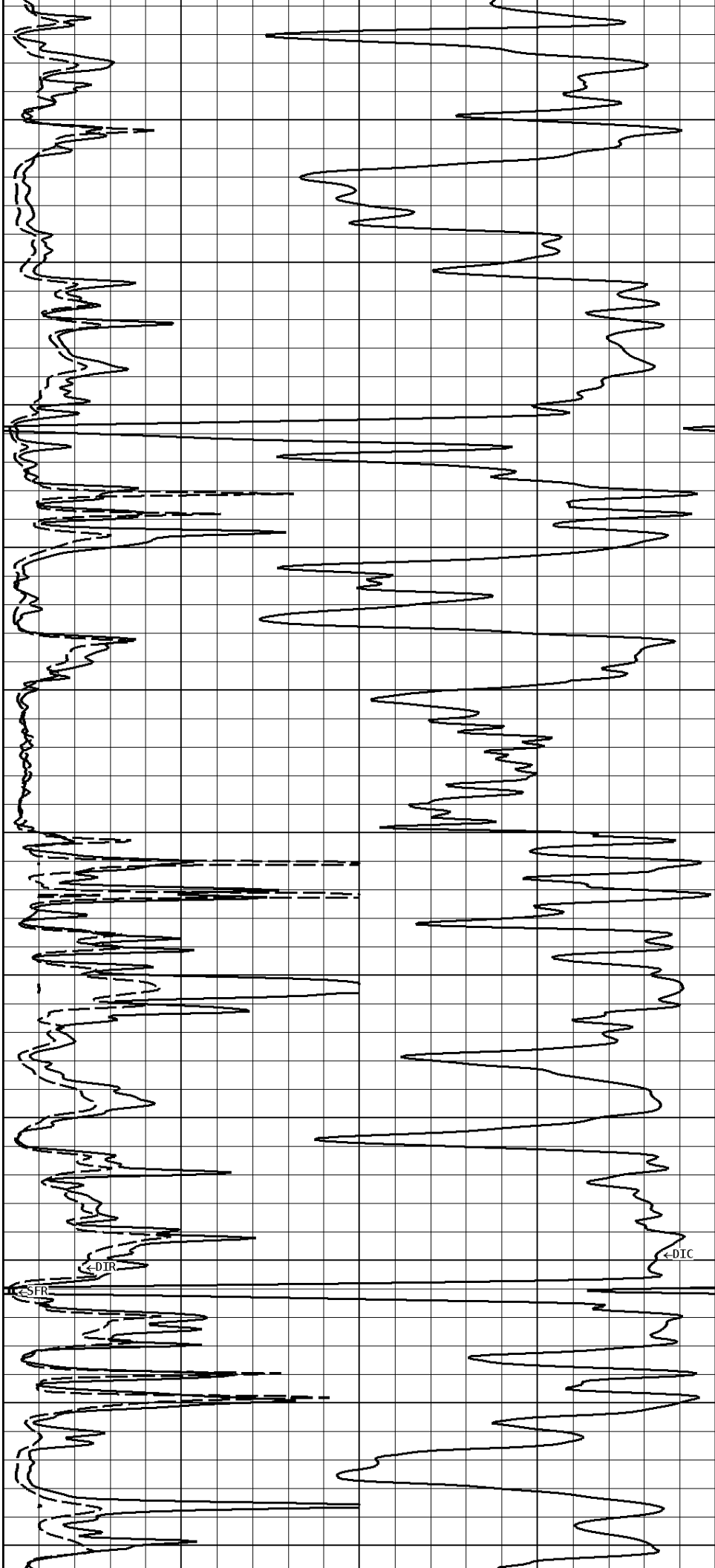
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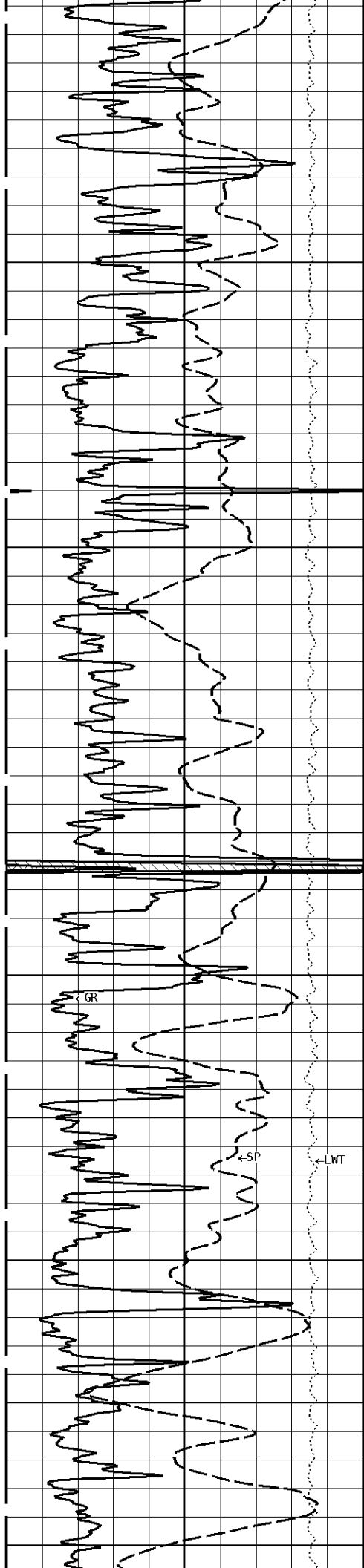
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3600

3700

3800





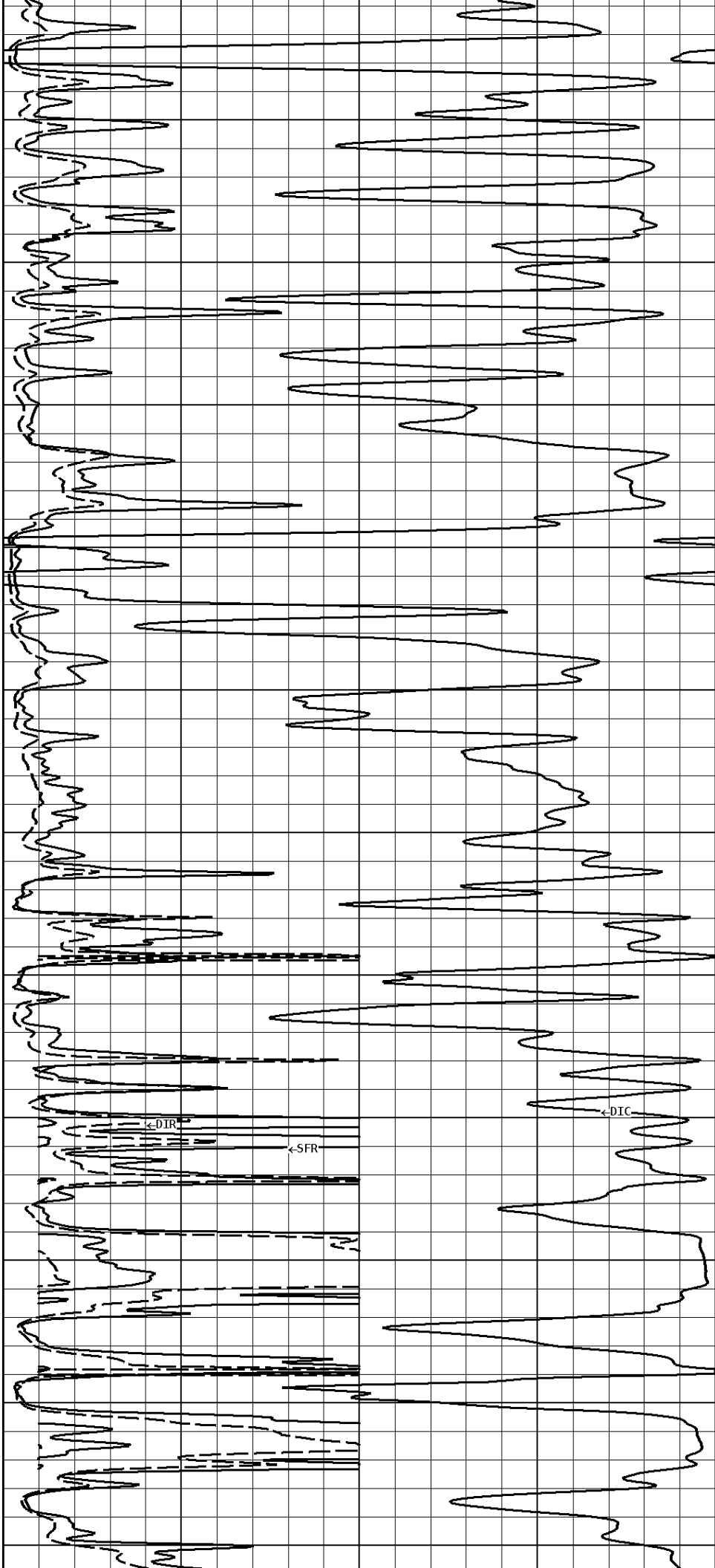
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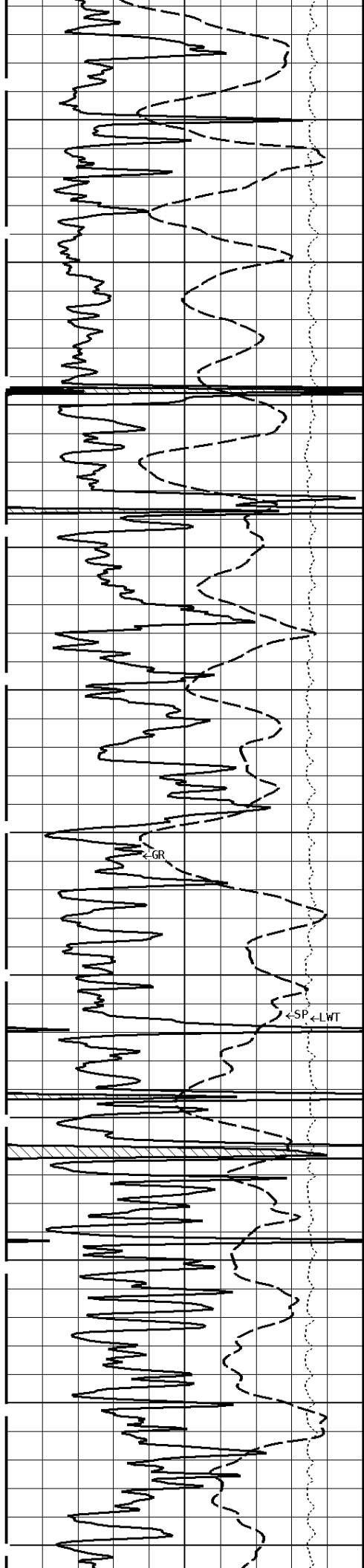
4000

4100

4200

4300





4400

4500

4600

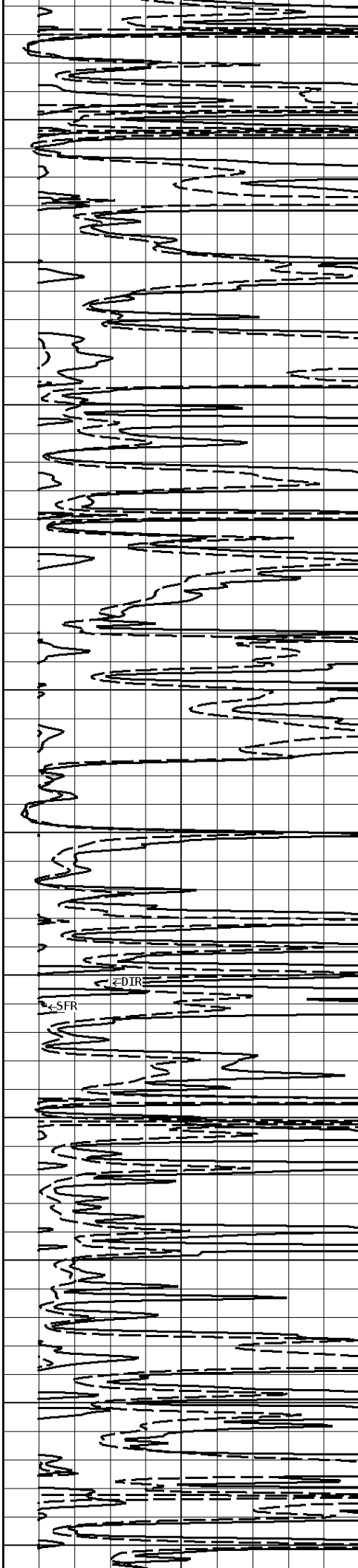
4700

4800

4900

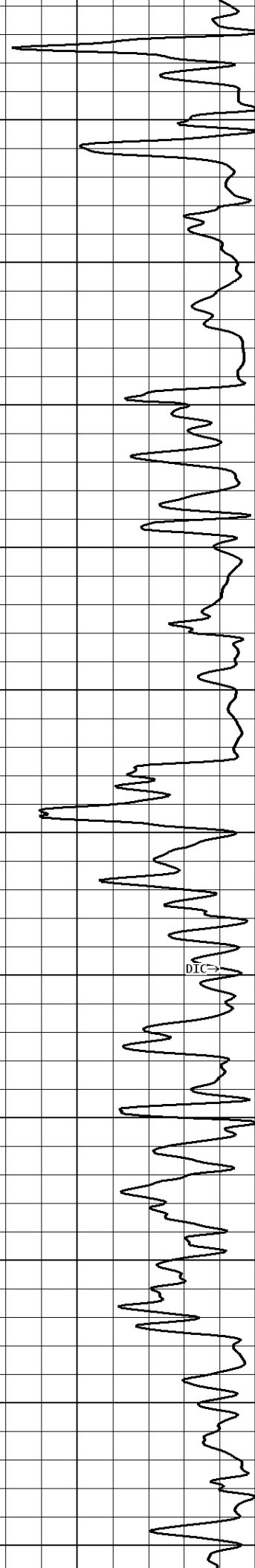
←GR

←SP ←LWT

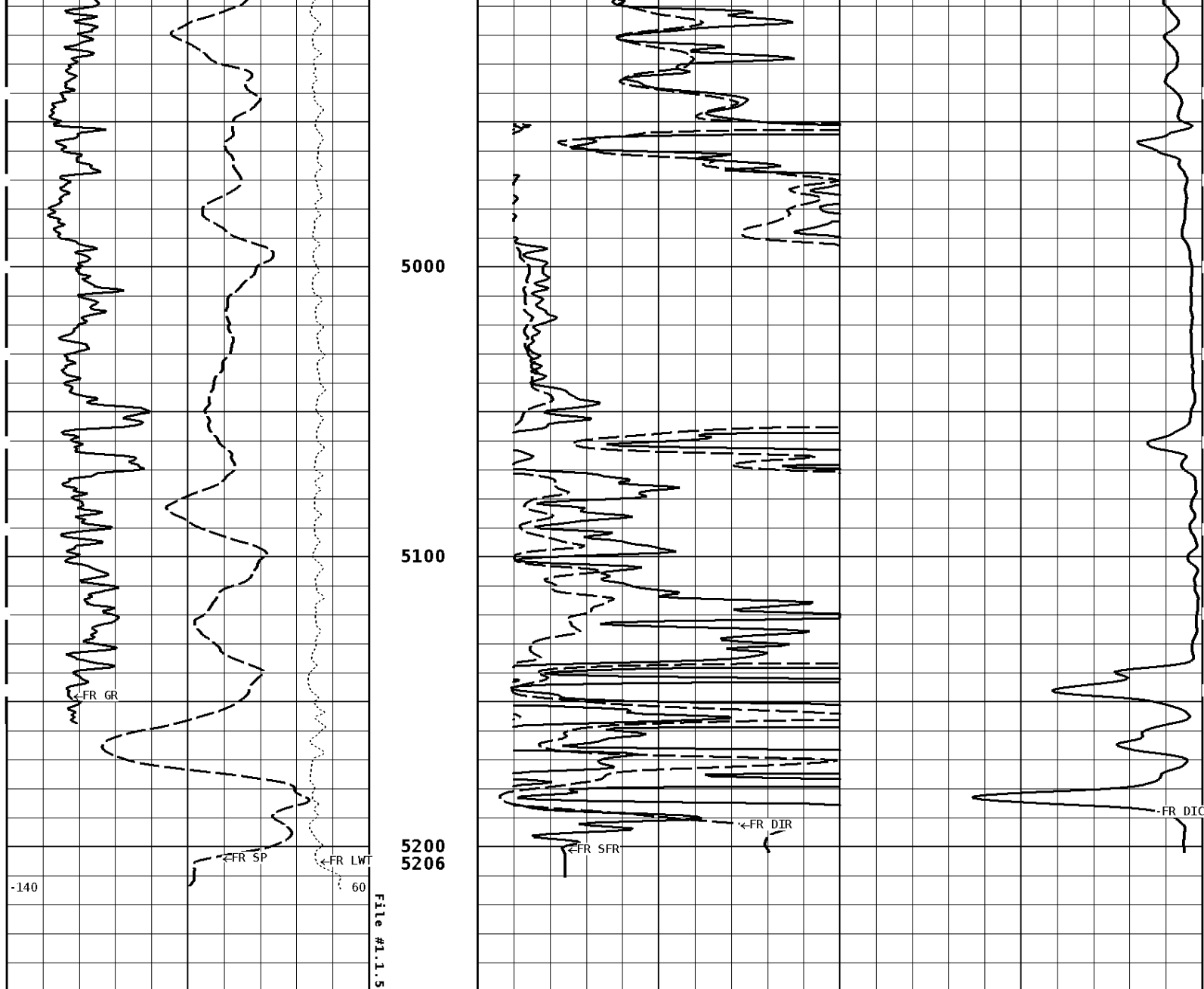


←SFR

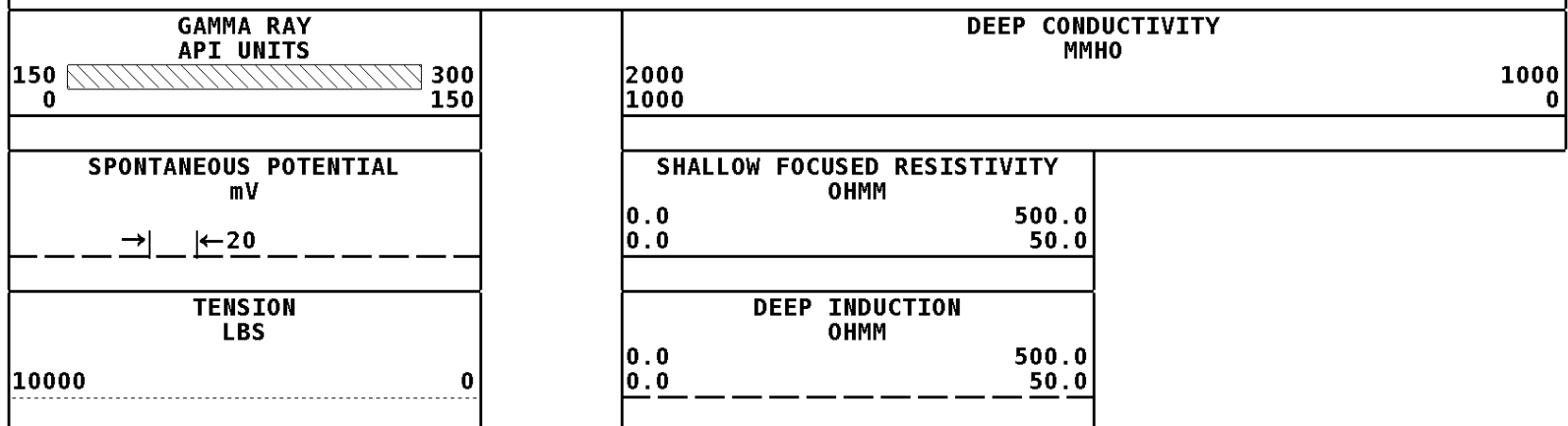
←DIR



DIR



1:600 MAIN SECTION



Well File: LASSO RENICK2 MAR3-MSTK-WOT

Segment: V1.D1.S5 MAIN-RP0

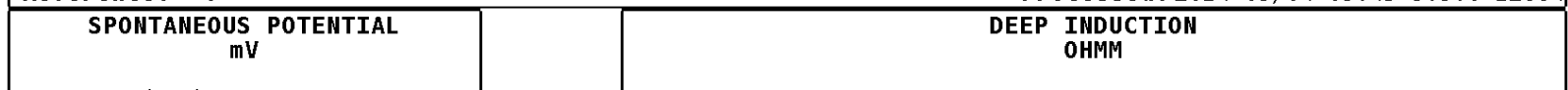
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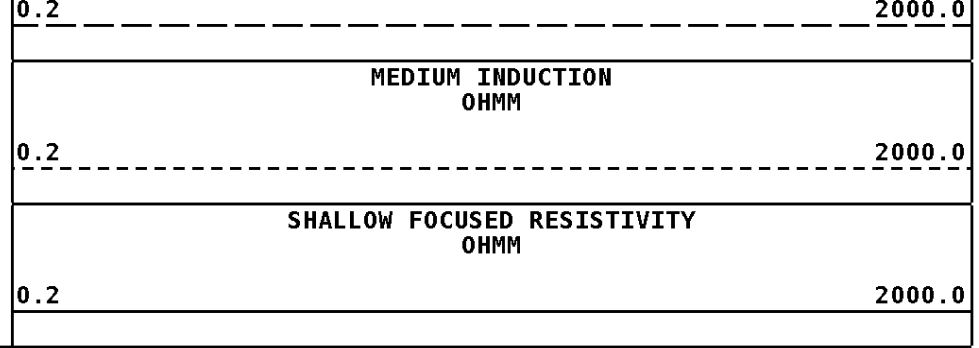
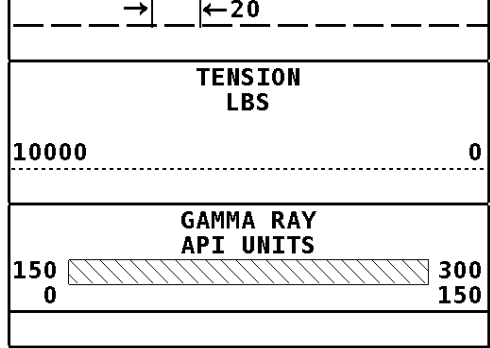
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Format: DIL-240

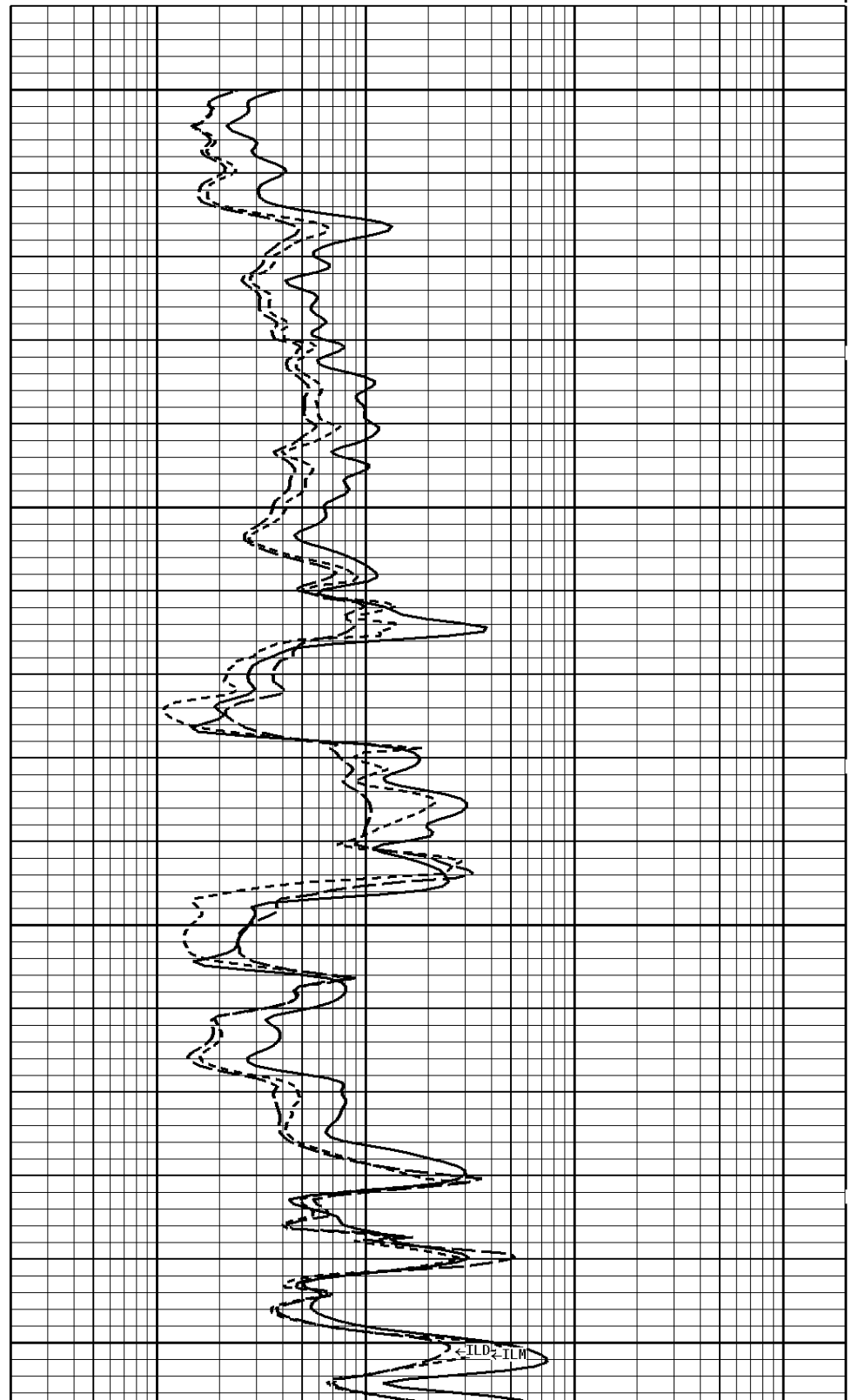
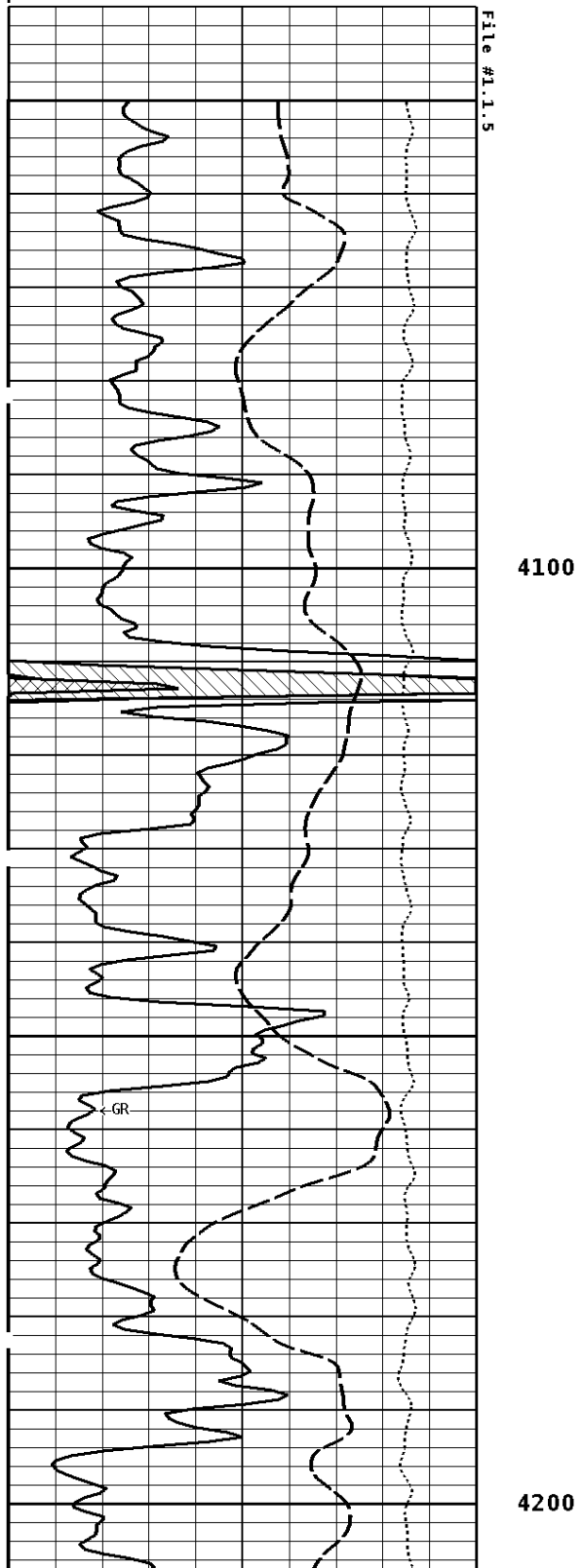
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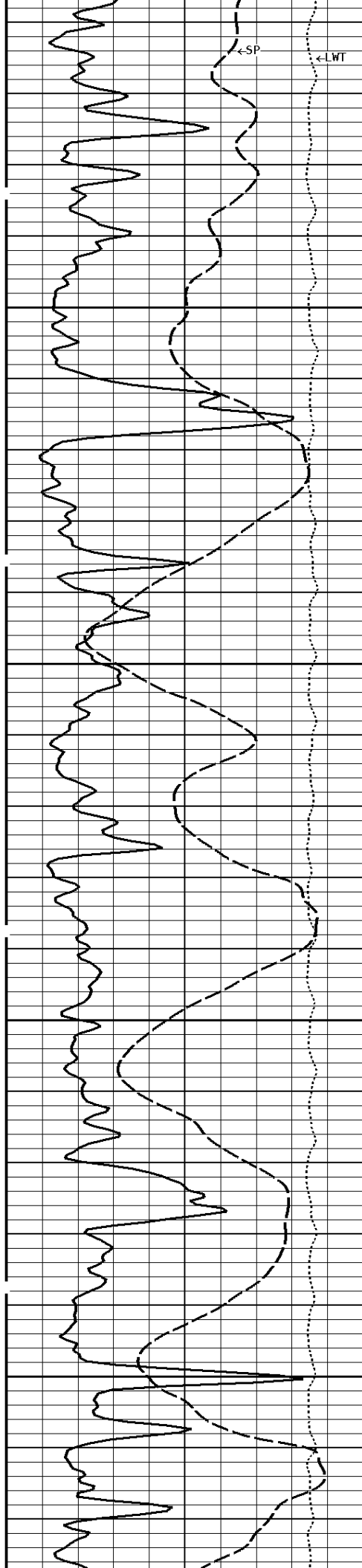
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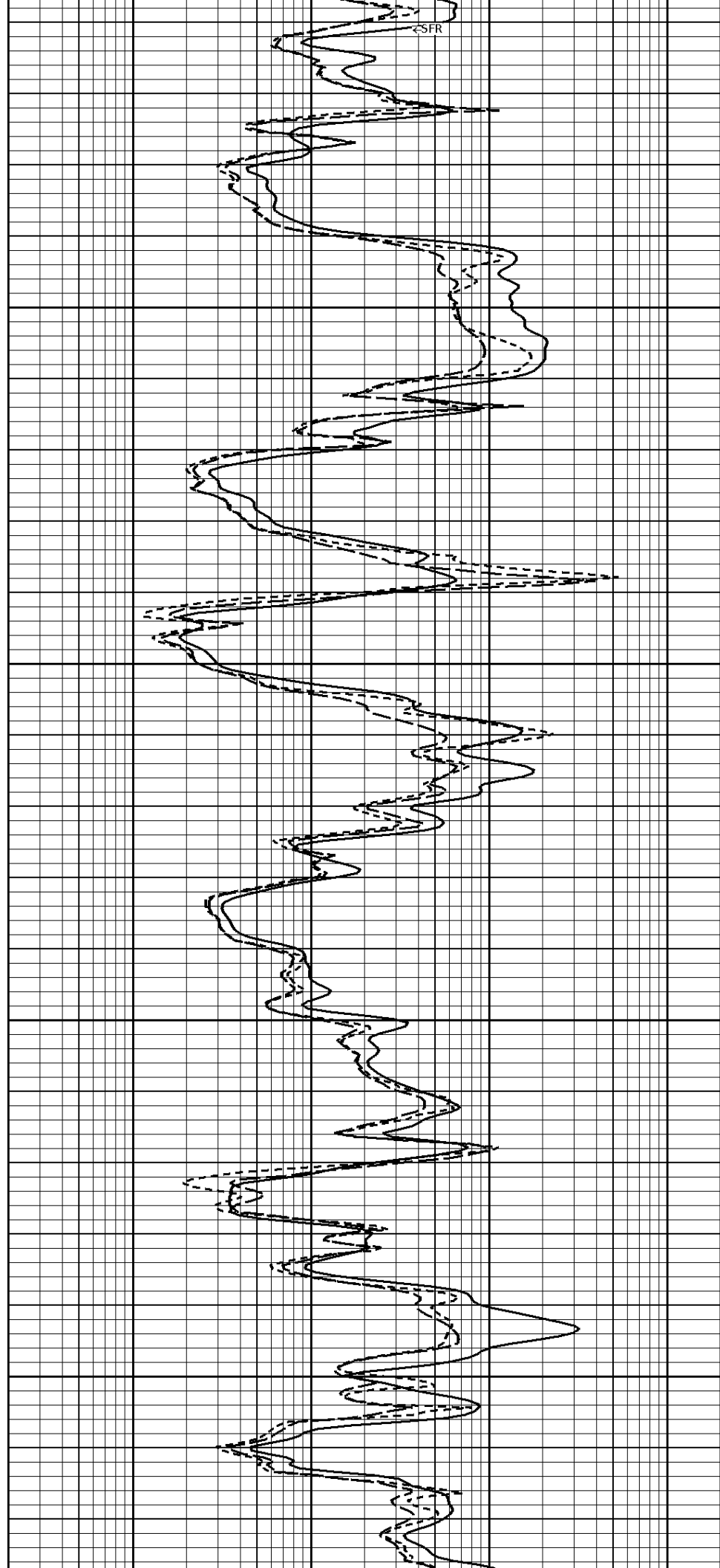
1:240 MAIN SECTION

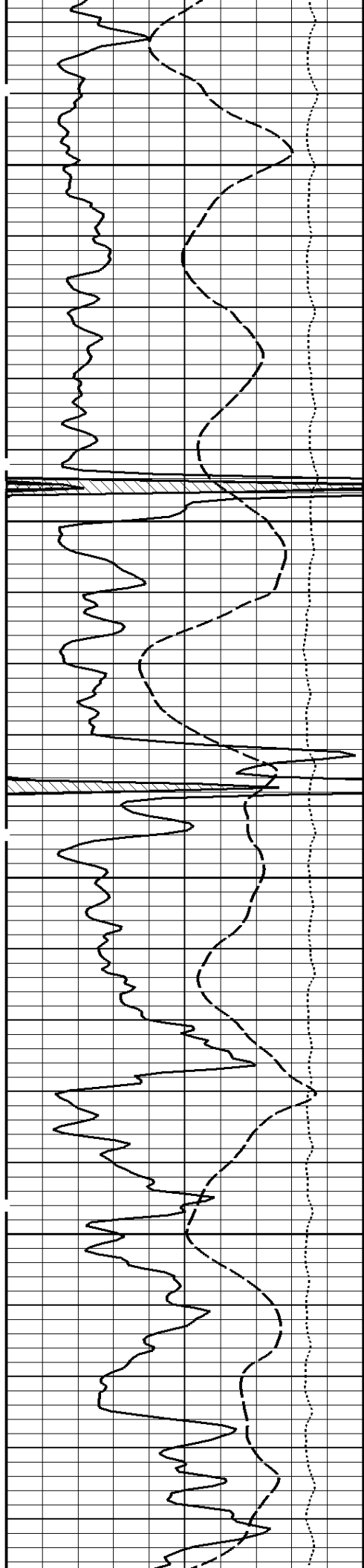




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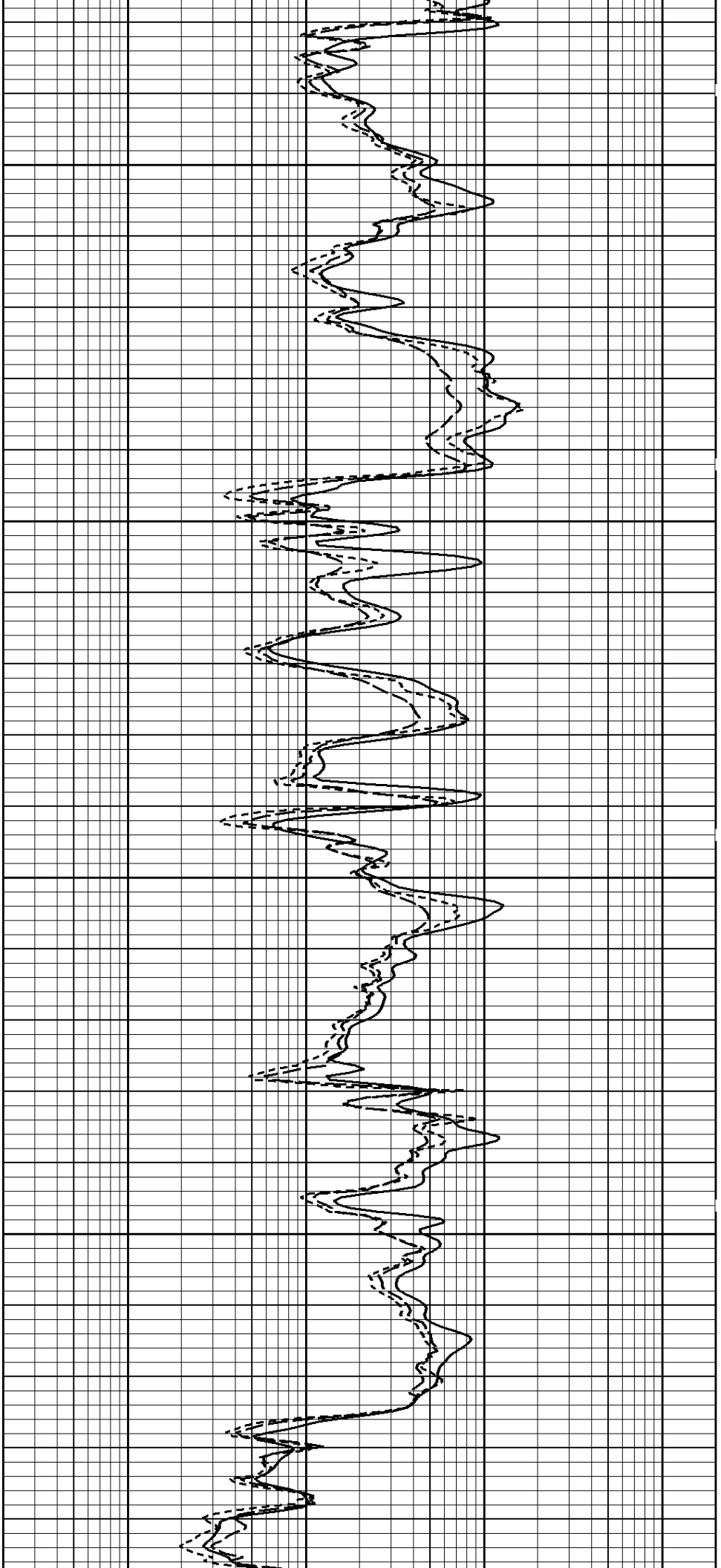
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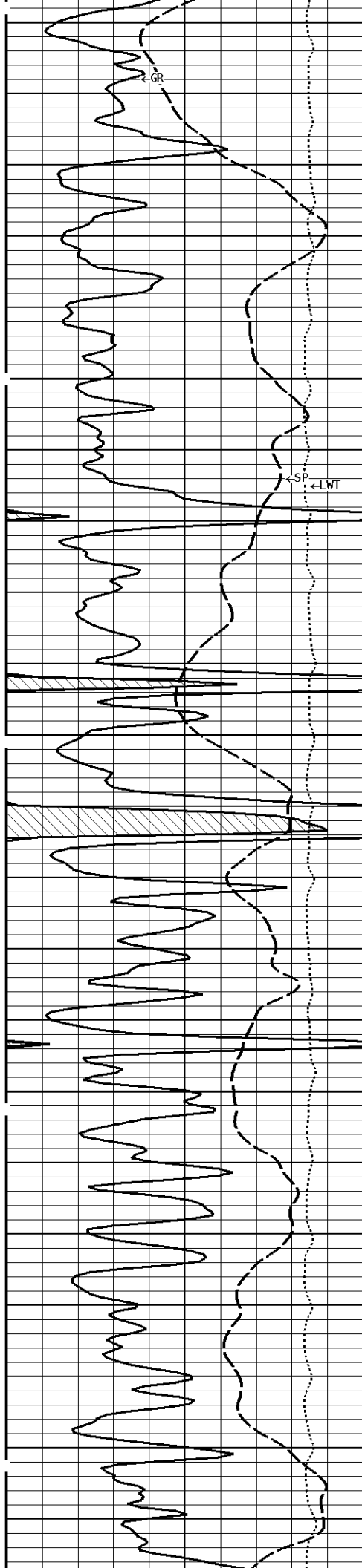




4500

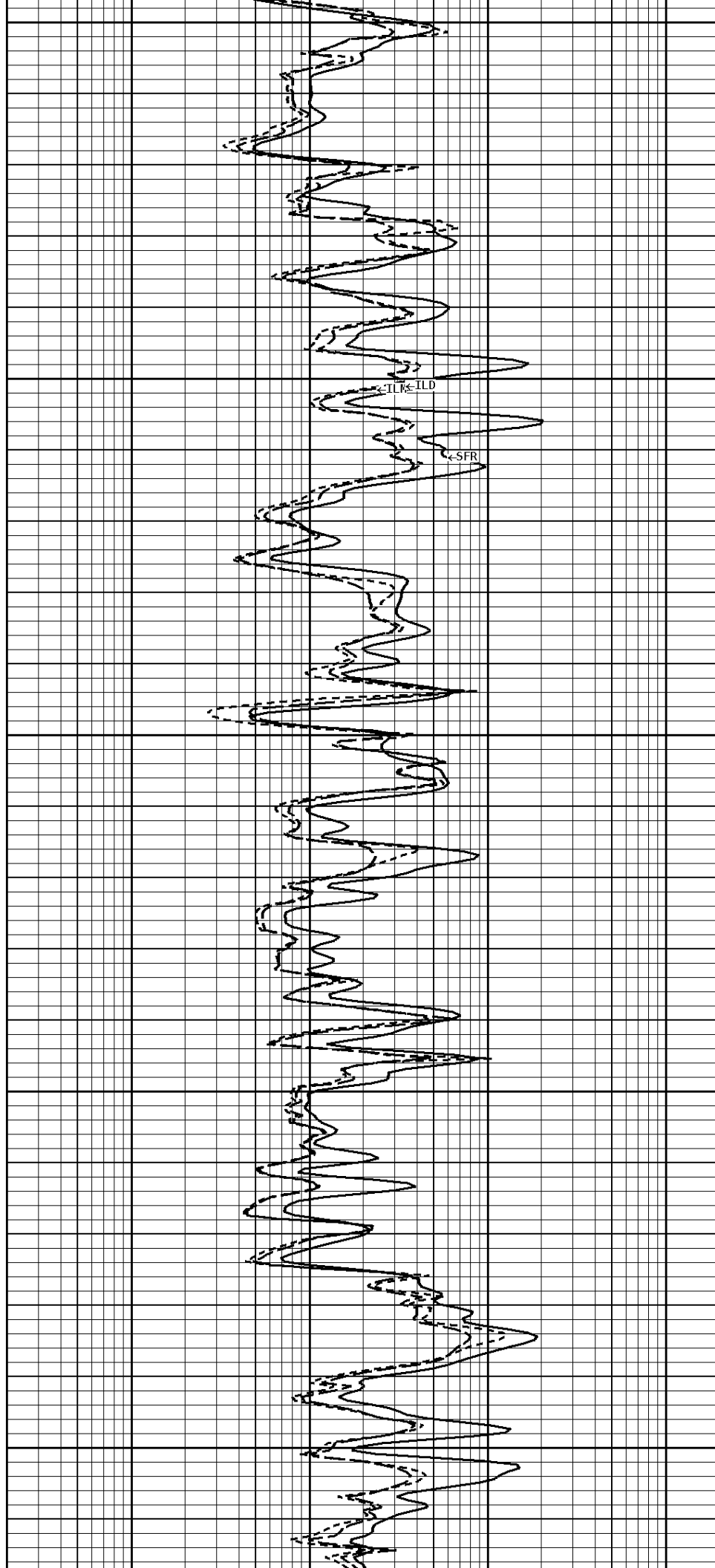
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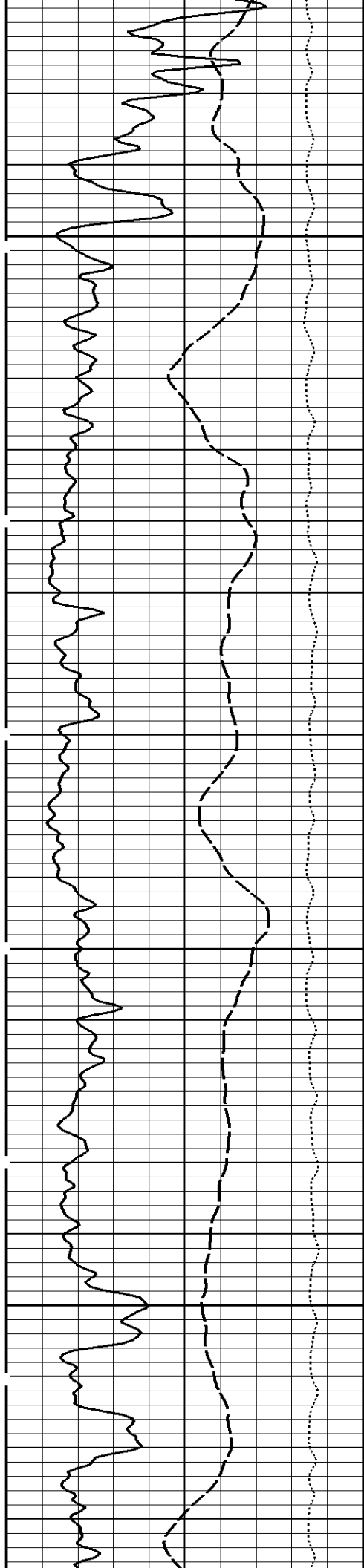




4700

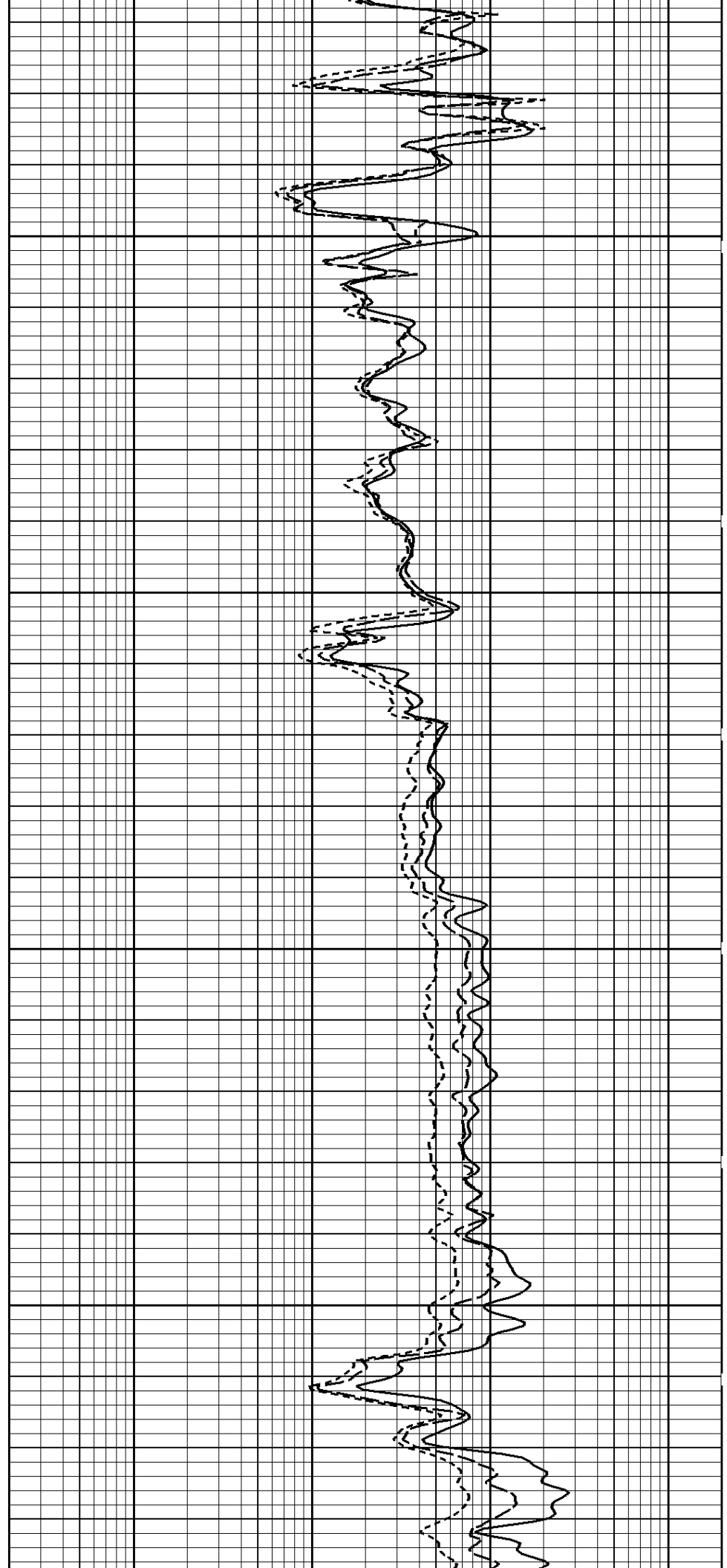
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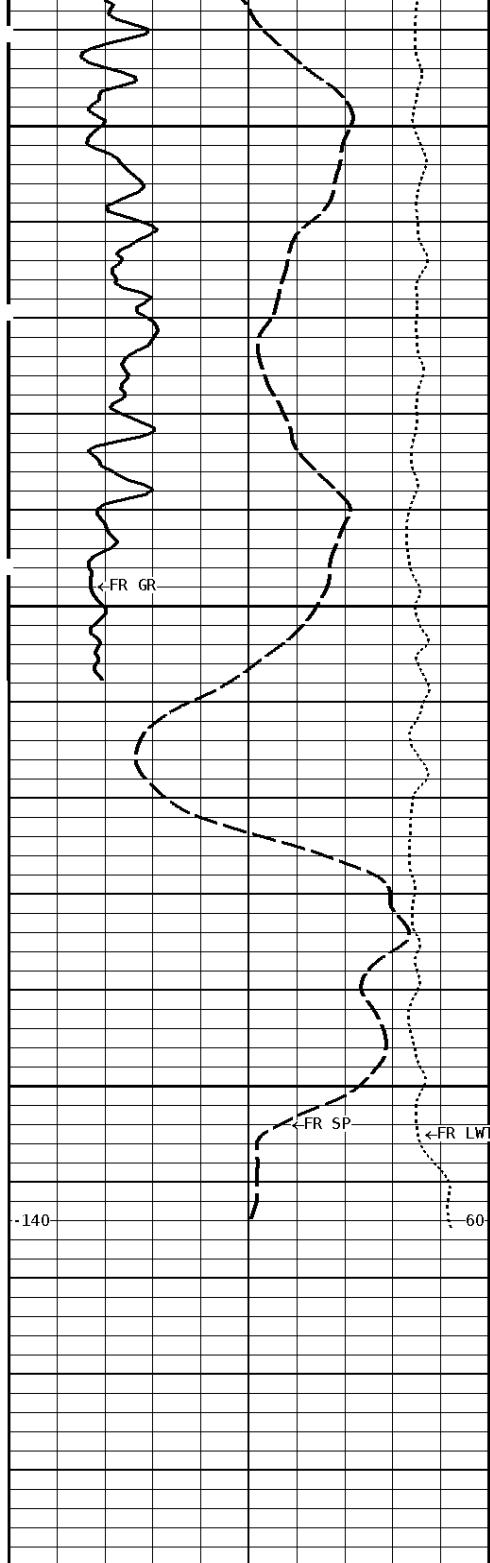




4900

5000

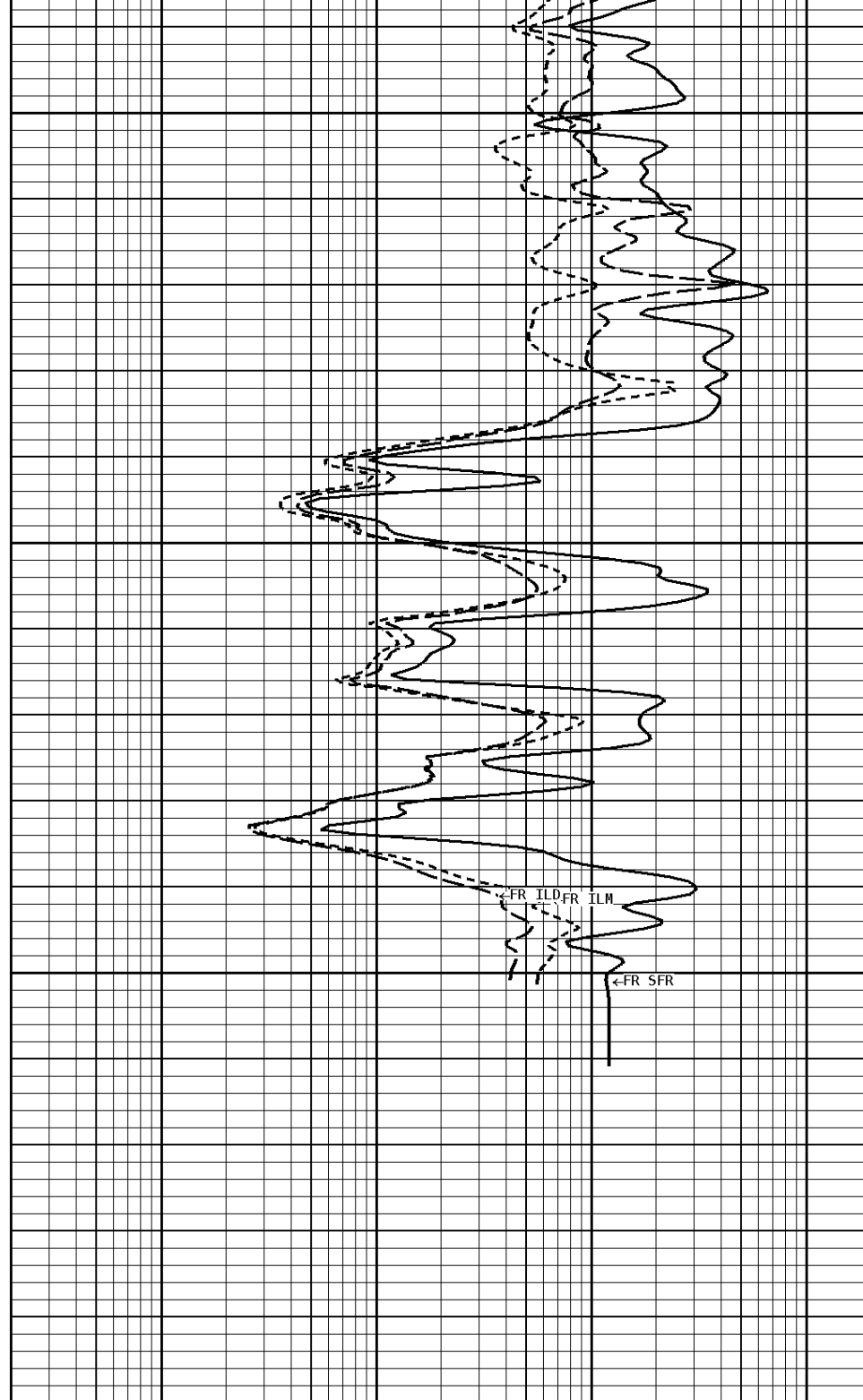




5100

5200

5206



1:240 MAIN SECTION

GAMMA RAY
API UNITS

150 0 300 150

TENSION
LBS

10000 0

SPONTANEOUS POTENTIAL
mV

→ | ← 20

SHALLOW FOCUSED RESISTIVITY
OHMM

0.2 2000.0

MEDIUM INDUCTION
OHMM

0.2 2000.0

DEEP INDUCTION
OHMM

0.2 2000.0

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet		
Drill Bit Size_____	7.875	in
Casing Diameter_____	5.500	in
BHT Depth_____	5206.000	ft
Borehole Temperature_____	111.0	degF
Temperature Gradient_____	1.00	DFHF
Resistivity Of Mud_____	0.300	ohm/m
Standoff_____	1.5	
Resistivity Of Mud Temperature_____	44.00	degF

Well File: LASSO_RENICK2_MAR3-MSTK-WOT

Scale: 1:240

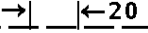
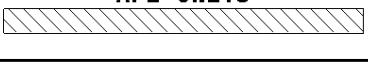
Format: DIL-240

Segment: V1.D1.S4 REPEAT-RP0

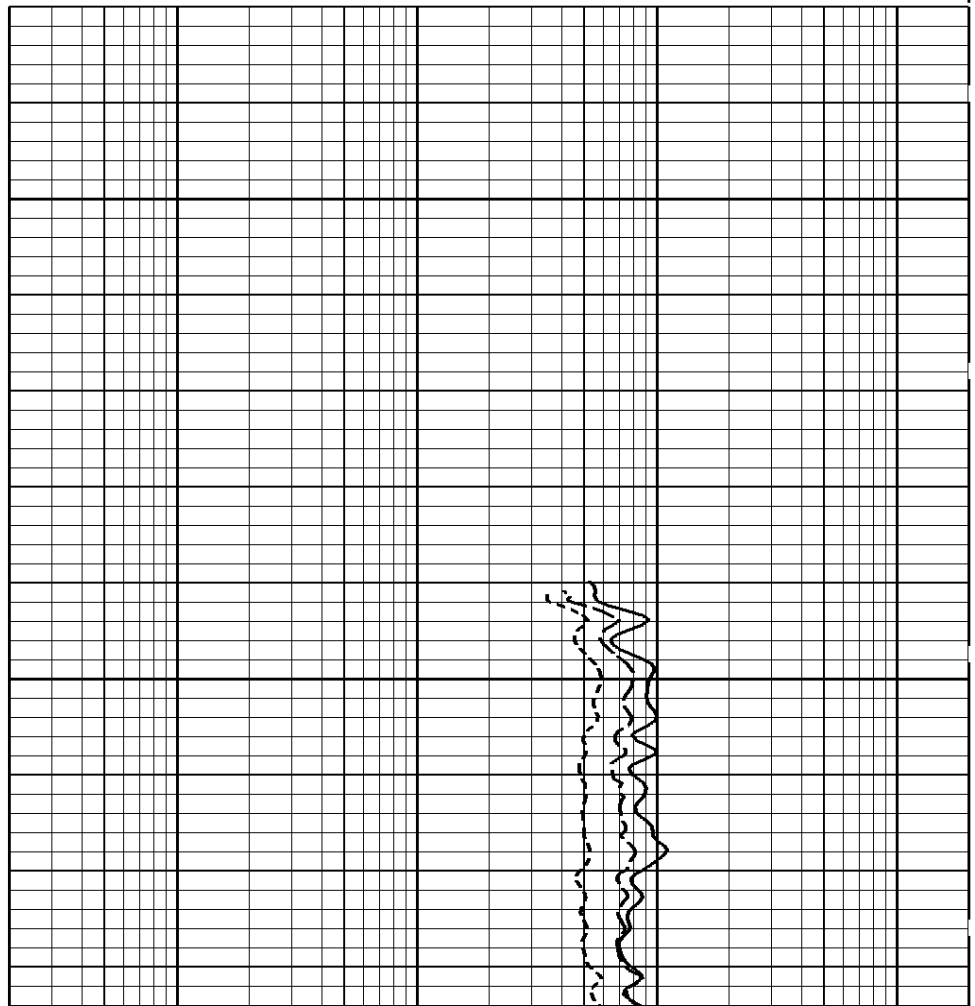
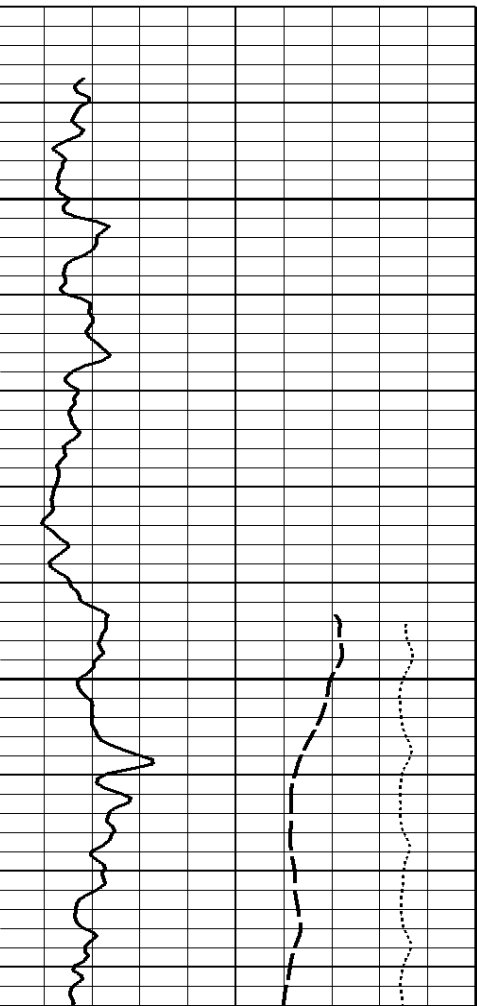
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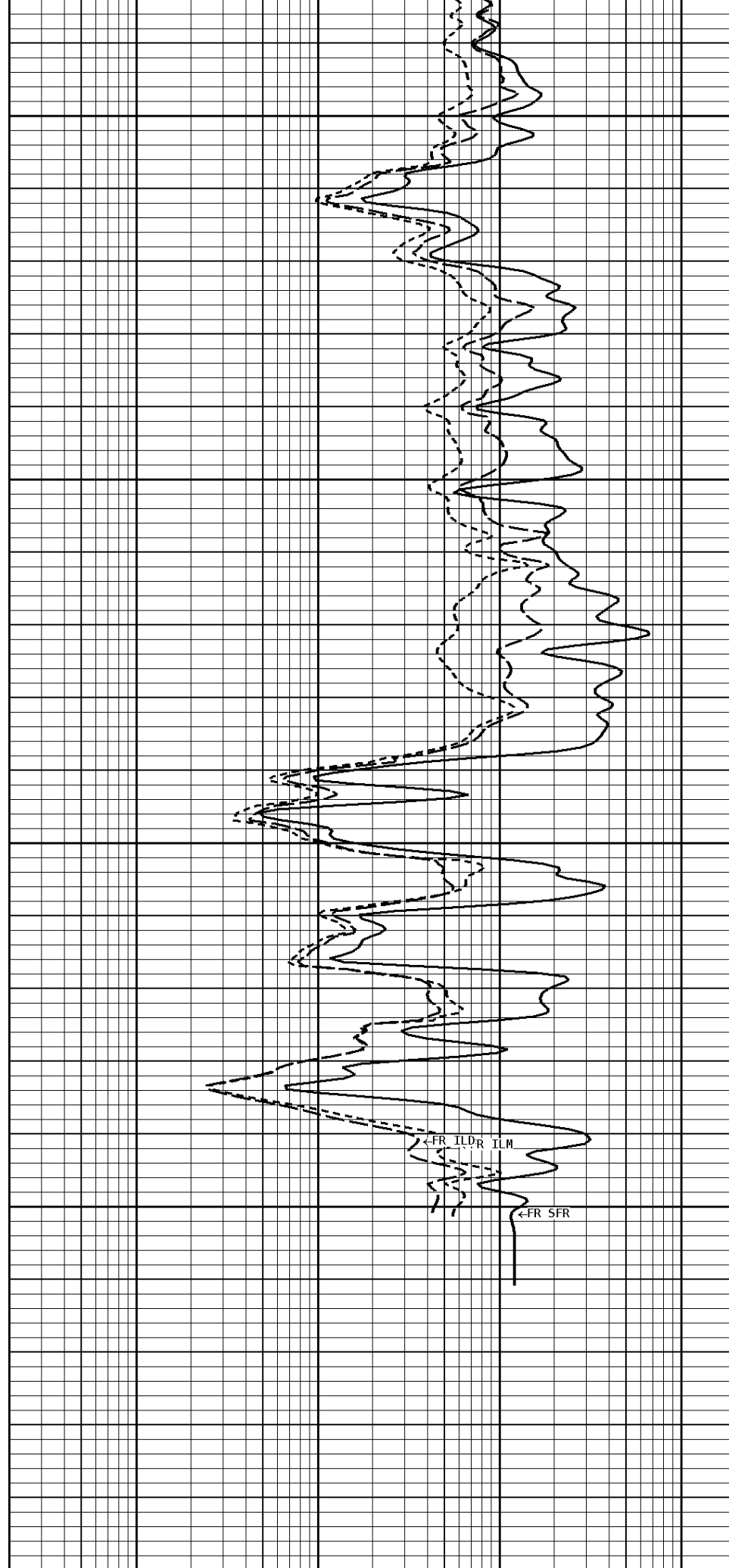
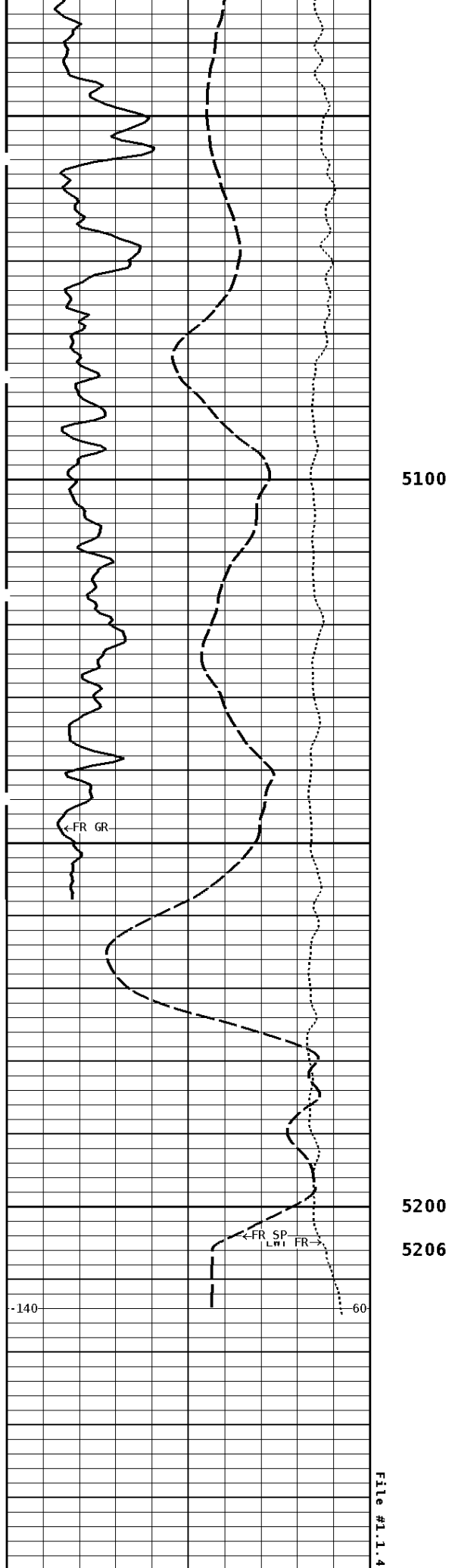
Reference: 0

Processed: 2014-03/04 03:45 3.3.0-12664

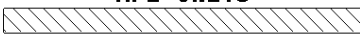
SPONTANEOUS POTENTIAL mV 		DEEP INDUCTION OHMM 0.2 ----- 2000.0	
TENSION LBS 10000 ----- 0		MEDIUM INDUCTION OHMM 0.2 ----- 2000.0	
GAMMA RAY API UNITS 		SHALLOW FOCUSED RESISTIVITY OHMM 0.2 ----- 2000.0	

1:240 REPEAT SECTION





1:240 REPEAT SECTION

GAMMA RAY API UNITS 150  300 0 150		SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0	
TENSION LBS 10000 0		MEDIUM INDUCTION OHMM 0.2 2000.0	
SPONTANEOUS POTENTIAL mV → ← 20		DEEP INDUCTION OHMM 0.2 2000.0	

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet			
Drill Bit Size		7.875	in
Casing Diameter		5.500	in
BHT Depth		5206.000	ft
Borehole Temperature		111.0	degF
Temperature Gradient		1.00	DFHF
Resistivity Of Mud		0.300	ohm/m
Standoff		1.5	
Resistivity Of Mud Temperature		44.00	degF

*** Calibration Summary ***

Shop Calibration GRT-B						
Performed : 23-Jan-2014			Time : 11:12			
Sensor Suite : GR-GR5			ID : GRT-BB-006			
	Measured	Units	Calibrated	Units		
	Background	Jig	Jig			
GR	62	374	CPS	175	GRAPI	

Shop Calibration PIT-CA						
Performed : 20-Jan-2014			Time : 09:50			
Sensor Suite : P-IND-T			ID : PIT-BA-20			
Medium						
	Measured		Calibrated			
	R	X	R	X	Units	
Air	131864	129608	-2.0	-2.0	MMHOS	
Zero	131066	131068	-37.6	63.3	MMHOS	
Reference	244034	243648	4962.4	5063.3	MMHOS	
Loop	129801	210446	3497.0	3679.6	MMHOS	
Sonde Error			0.1	0.7	MMHOS	
Cond			4962.4	5063.3	MMHOS	
Deep						
	Measured		Calibrated			
	R	X	R	X	Units	
Air	129102	131619	0.0	-0.0	MMHOS	
Zero	131075	131069	43.2	-14.4	MMHOS	
Reference	225891	227340	2043.2	1985.6	MMHOS	
Loop	126252	212891	1628.3	1748.5	MMHOS	
Sonde Error			-1.4	-4.6	MMHOS	
Cond			2043.2	1985.6	MMHOS	
Temperature						
	Measured		Calibrated			
	Low	High	Low	High	Units	
	16980.0	56920.0	70.0	350.0	DEGF	

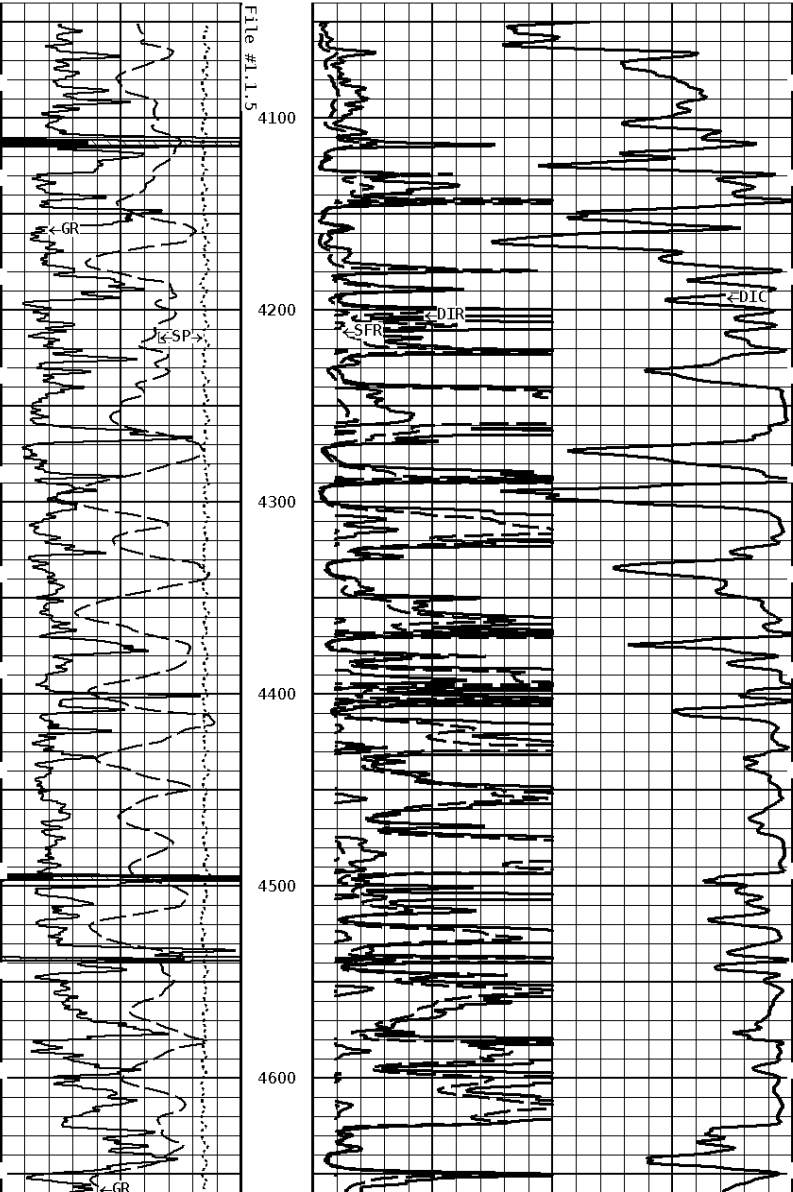
Performed : 20-Jan-2014			Time : 09:41			
Sensor Suite : SFL			ID : PIT-BA-20			
Internal						
	Measured		Calibrated			

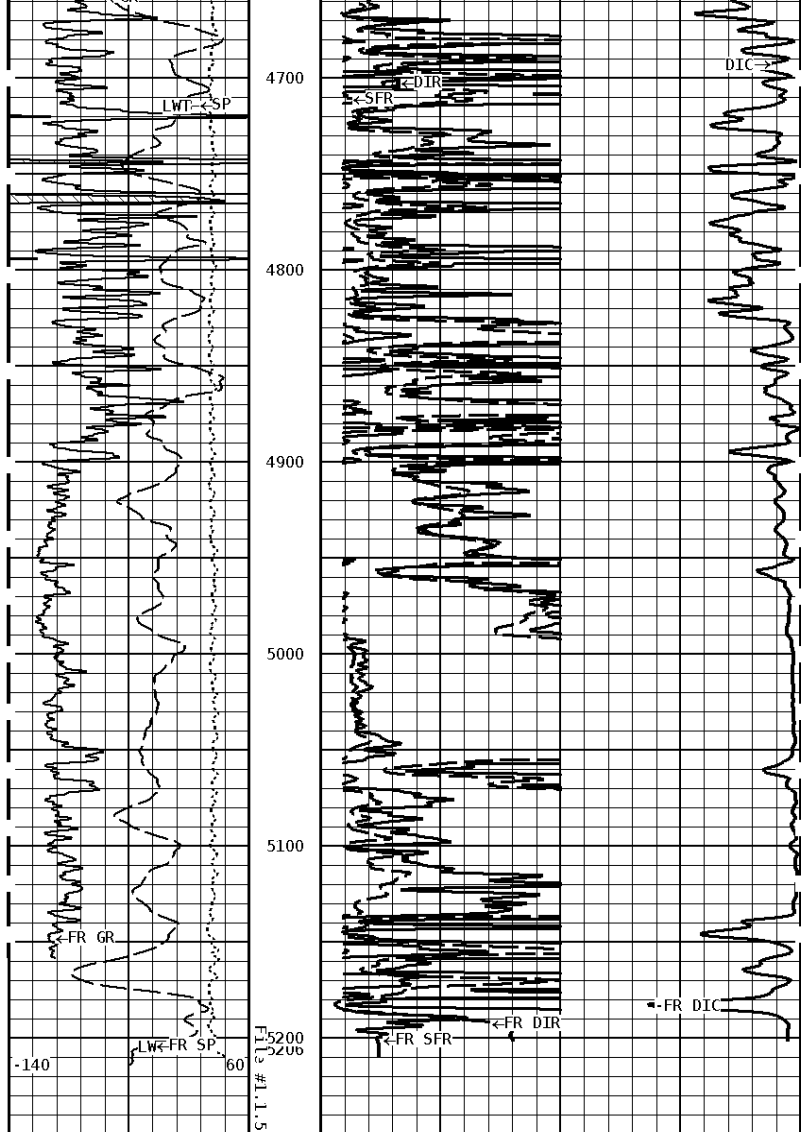
	Zero	Reference	Zero	Reference	Units
Im	32780.0	48700.3	0.0	7028.0	uA
Ib	32769.0	48299.7	0.0	1750.0	mA
MOM1	32807.0	55805.0	0.0	175.0	mV
Equivalent SFL				43.97	OHMM
Performed : 20-Jan-2014			Time : 09:38		
Sensor Suite : P-SP			ID : PIT-BA-20		
Measured			Internal		
Zero			Calibrated		
Reference			Zero		
32794.4			Reference		
58951.3			0.0		
			1000.0		
			Units		
			mV		

Well File: LASSO RENICK2 MAR3-MSTK-WOT	Scale: 1:1200	Format: DIL1200
Segment: V1.D1.S5 MAIN-RP0	Acquired: 2014-03/04 01:32 3.3.0-12664	
Reference: 0	Processed: 2014-03/04 03:45 3.3.0-12664	

TENSION LBS 100000 0	DEEP INDUCTION OHMM 0.0500.0 0.050.0
SPONTANEOUS POTENTIAL mV → ←20	SHALLOW FOCUSED OHMM 0.0500.0 0.050.0
GAMMA RAY API UNITS 150300 0150	DEEP CONDUCTIVITY MHMO 20001000 10000

1:1200 MAIN SECTION





GAMMA RAY API UNITS	
150	300
0	150
SPONTANEOUS POTENTIAL mV	
→	← 20
TENSION LBS	
10000	0

DEEP CONDUCTIVITY MHMO	
2000	1000
1000	0
SHALLOW FOCUSED OHMM	
0.0	500.0
0.0	50.0
DEEP INDUCTION OHMM	
0.0	500.0
0.0	50.0



Tucker

ENERGY SERVICES

Company: LASSO ENERGY LLC

Well: RENICK #2

Location: 680' FNL & 1960' FEL

Logged: 03-03-2014

K.B. Elev: 2822.0 Ft