



Pioneer Energy Services

Dual Induction Log

API No.	Company EMPIRE ENERGY E&P LLC		
	Well DRISCOLL HEIRS # 31-6		
	Field DRISCOLL		
	County	RUSSELL	State KS
	Location	2156' FNL & 1928' FEL NW/SE/SW/NE	
	Sec: 31	Twp: 15 S	Rge: 11 W
	Permanent Datum	GROUND LEVEL	Elevation 1868 FT
	Log Measured From	KELLY BUSHING	13 Ft. Above Perm. Datum
	Drilling Measured From	KELLY BUSHING	K.B. 1881 FT D.F. 1880 FT G.L. 1868 FT
Date	SEPTEMBER 20, 2014		
Run Number	ONE		
Depth Driller	3450 FT		
Depth Logger	3442 FT		
Bottom Logged Interval	3442 FT		
Top Log Interval	726 FT		
Casing Driller	8-5/8" @ 727 FT		
Casing Logger	726 FT		
Bit Size	7-7/8"		
Type Fluid in Hole	CHEM GEL		
Salinity, ppm CL	4,800 ppm		
Density / Viscosity	9.3 ppd	58 s	
pH / Fluid Loss	10.5	9.4 cc	
Source of Sample	Flowline		
Rm @ Meas. Temp	1.7 @ 79 F		
Rmf @ Meas. Temp	1.3 @ 79 F		
Rmc @ Meas. Temp	2.1 @ 79 F		
Source of Rmf / Rmc	Charts		
Rm @ BHT	1.2 @ 107 F		
Operating Rig Time	4 HRS		
Max Rec. Temp. F	107 F		
Equipment Number	H - 20		
Location	Hays		
Recorded By	A. HARTMAN		
Witnessed By	MIKE BAIR		

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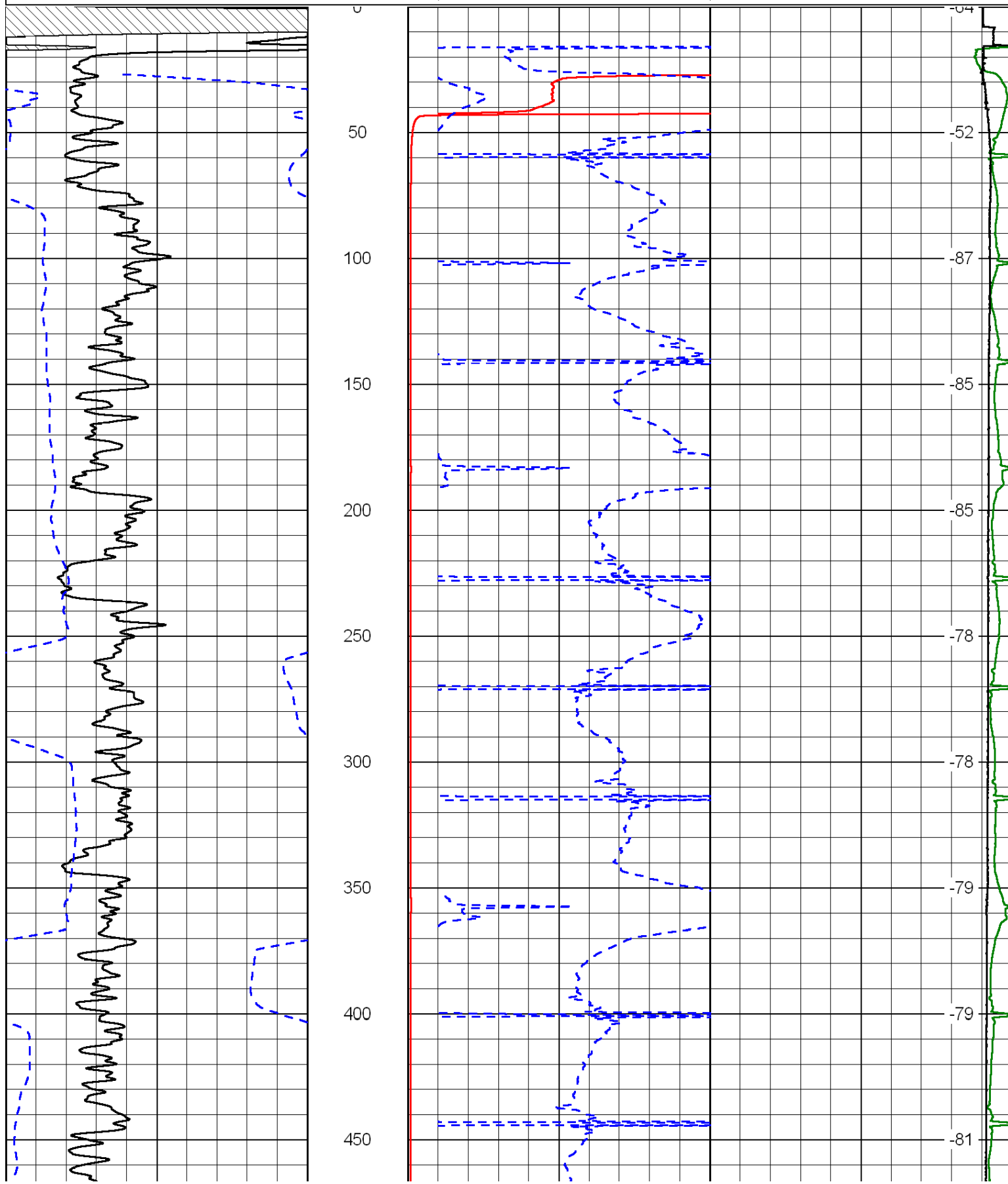
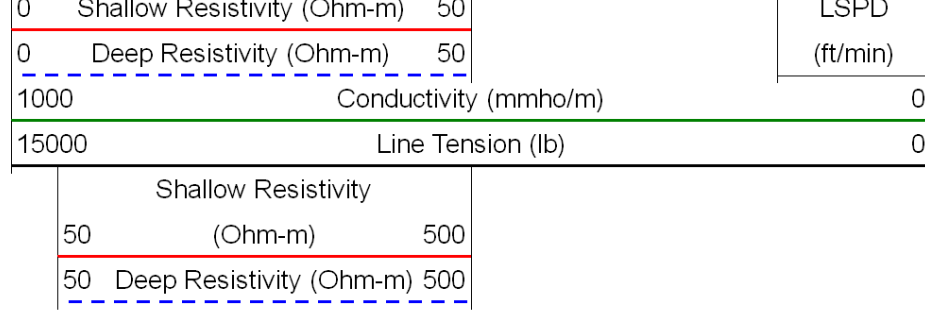
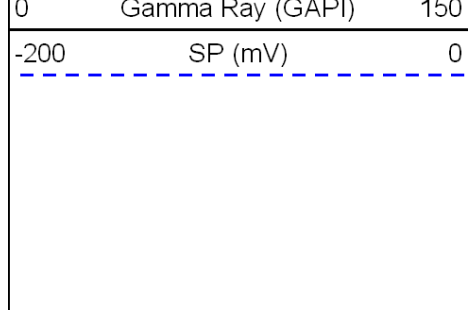
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

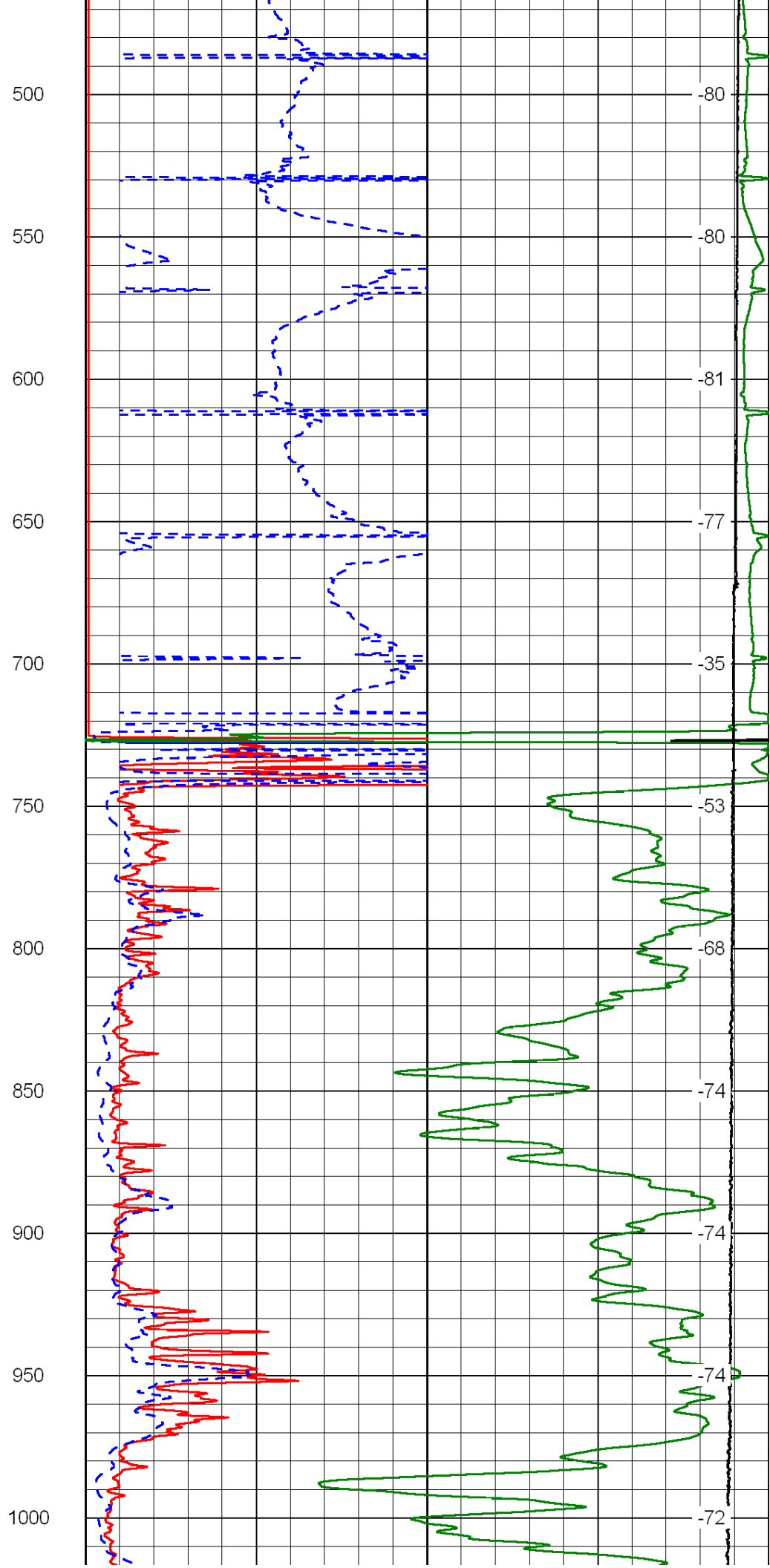
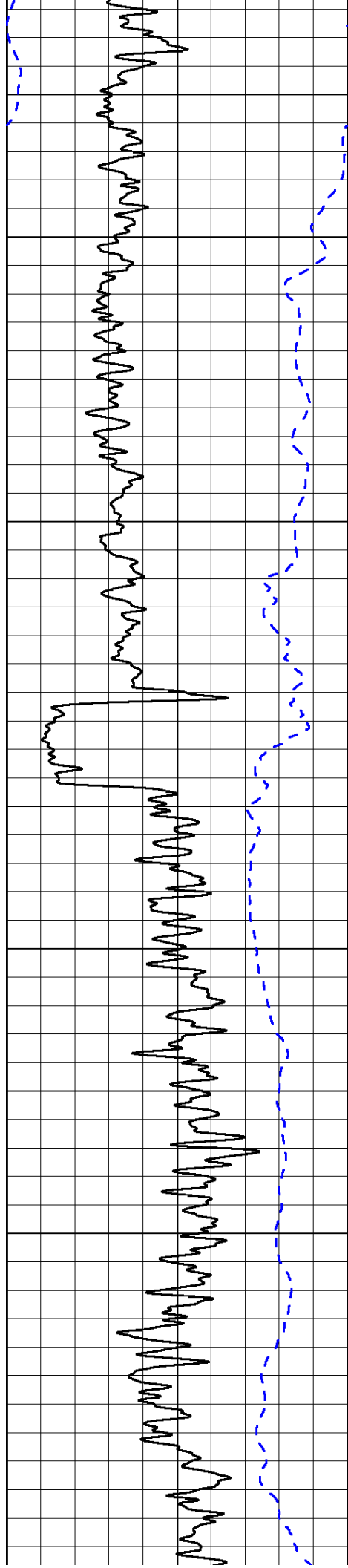
Comments

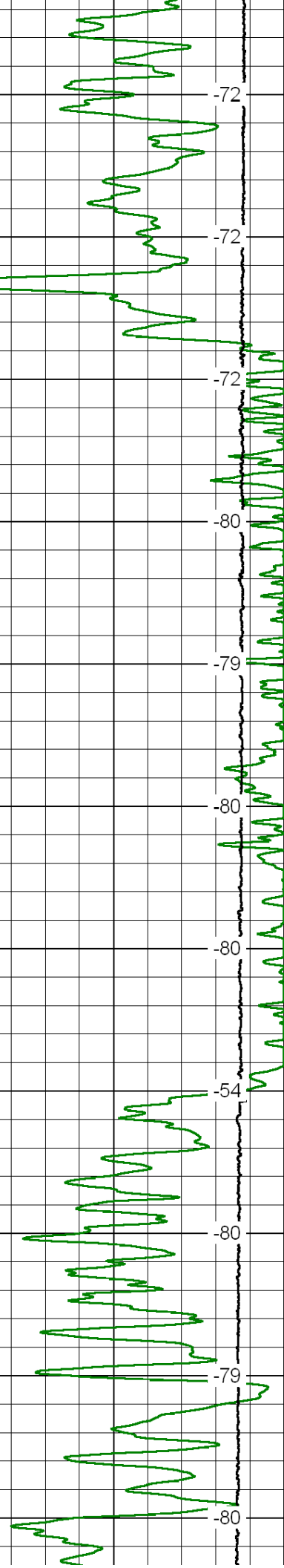
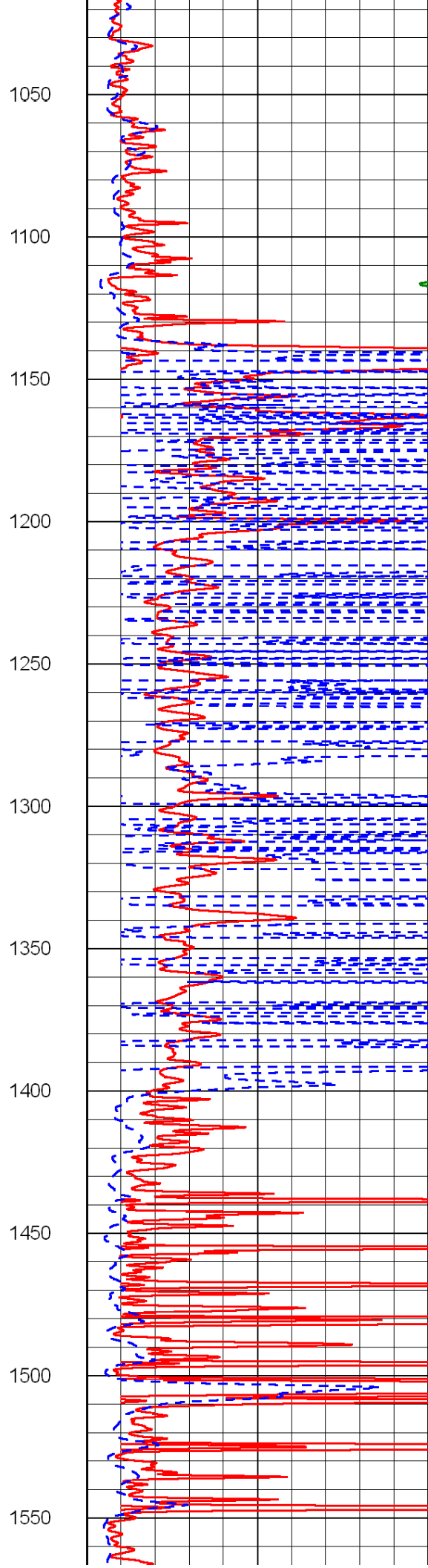
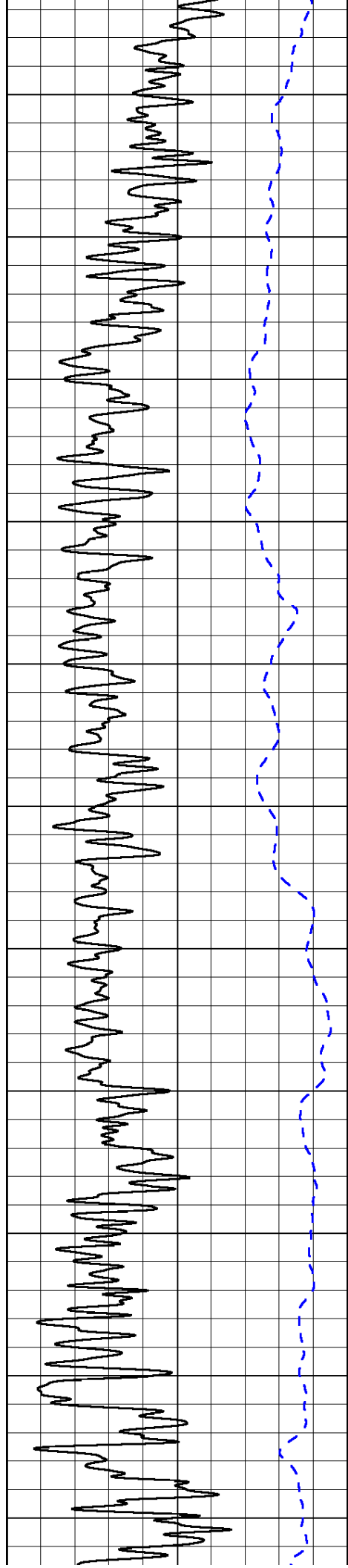
Thank you for using Log-Tech, Inc.
(785) 625-3858

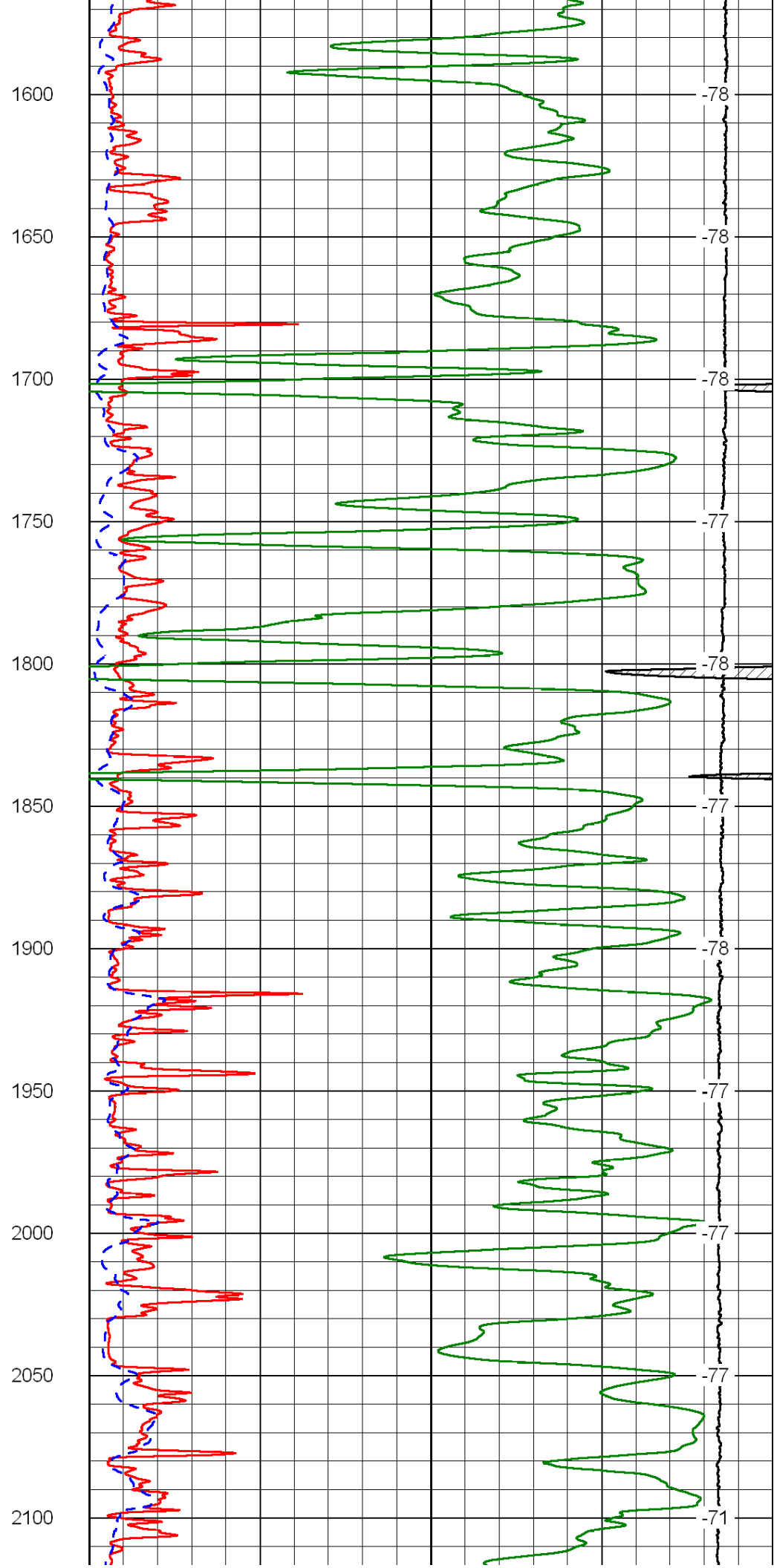
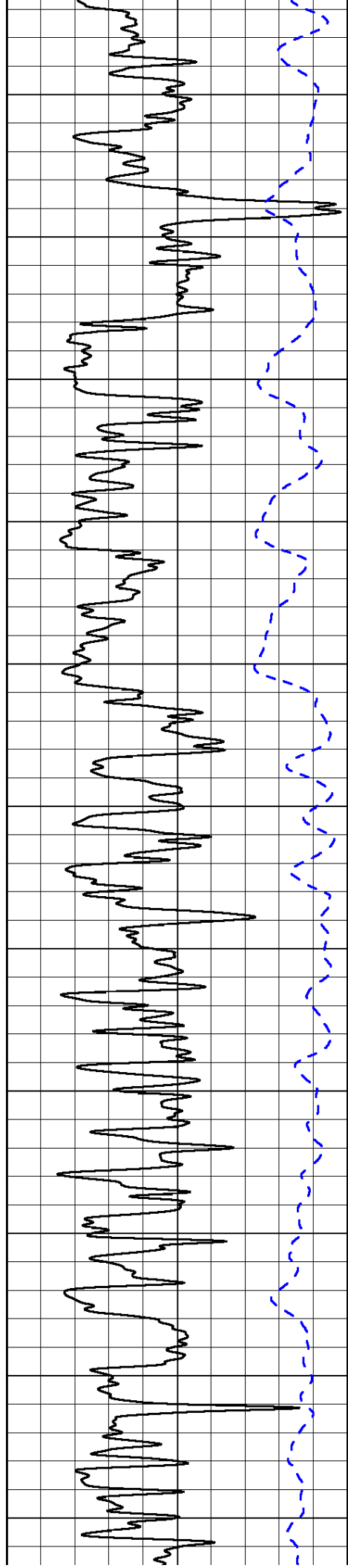
SERVICE ORDER # 12081
POROSITY VALUES BASED ON A LIMESTONE MATRIX. 2.71 g/cc
ANNULAR BOREHOLE VOLUMES CALCULATED FOR 5.5" CASING.

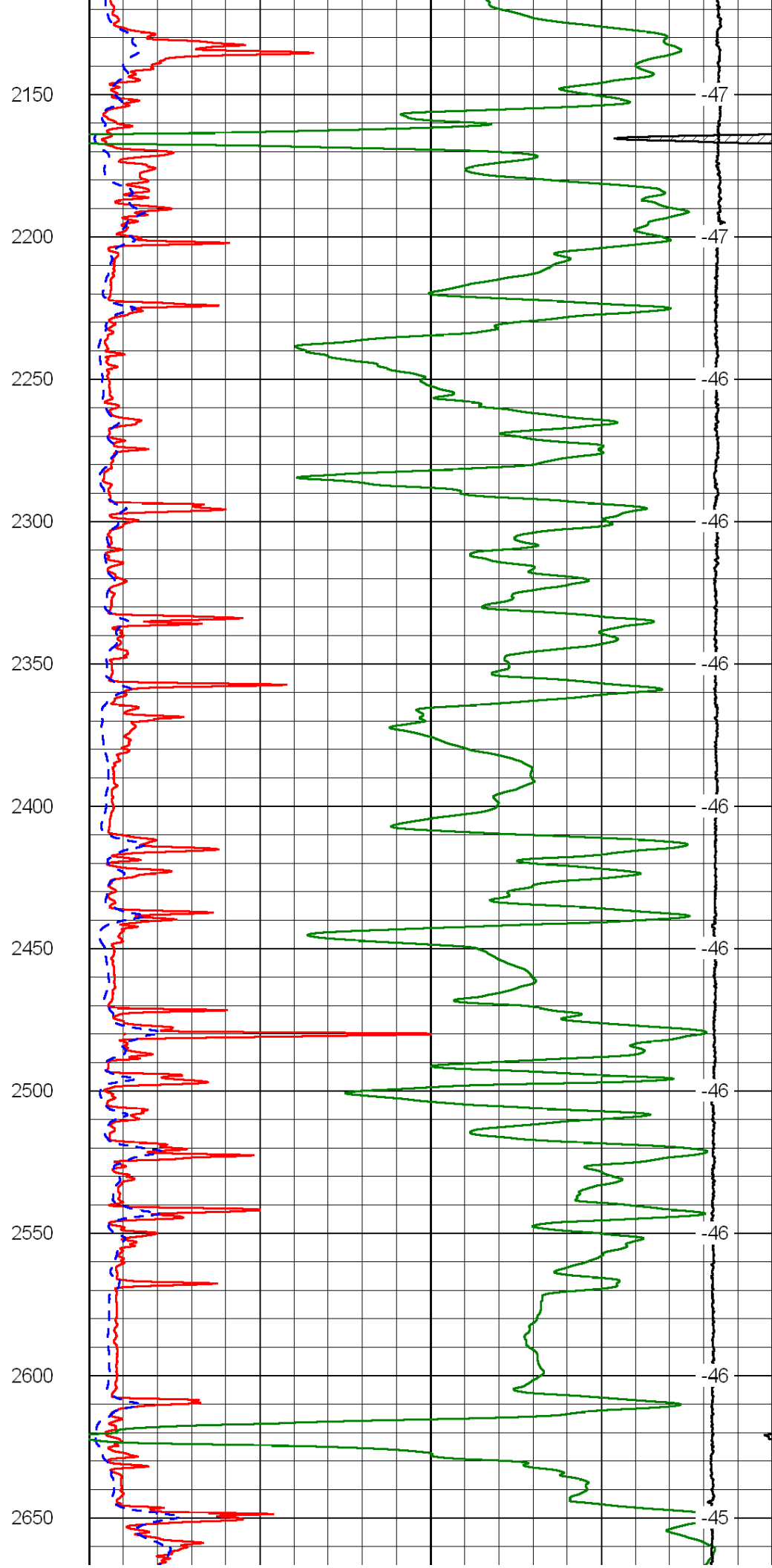
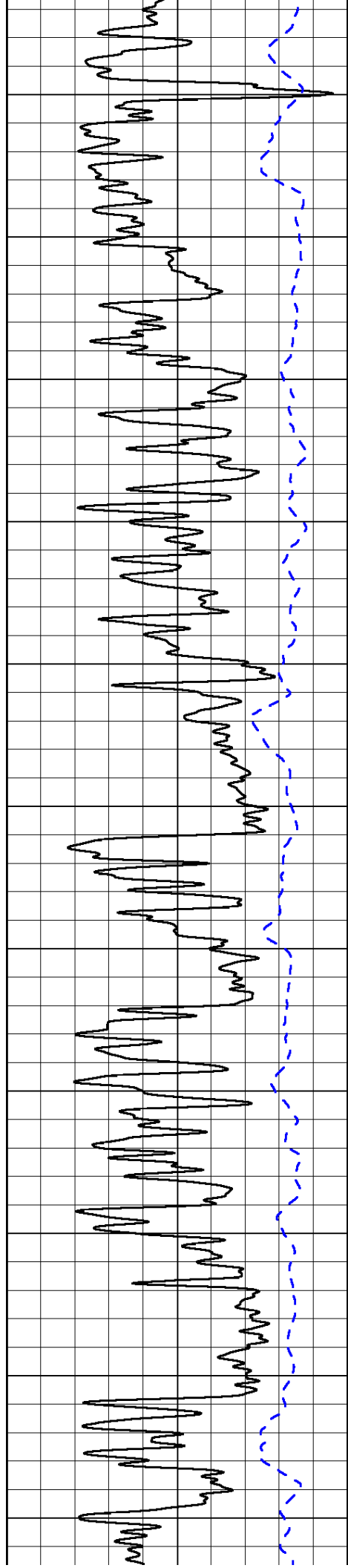
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Charted by: Depth in Feet scaled 1:600

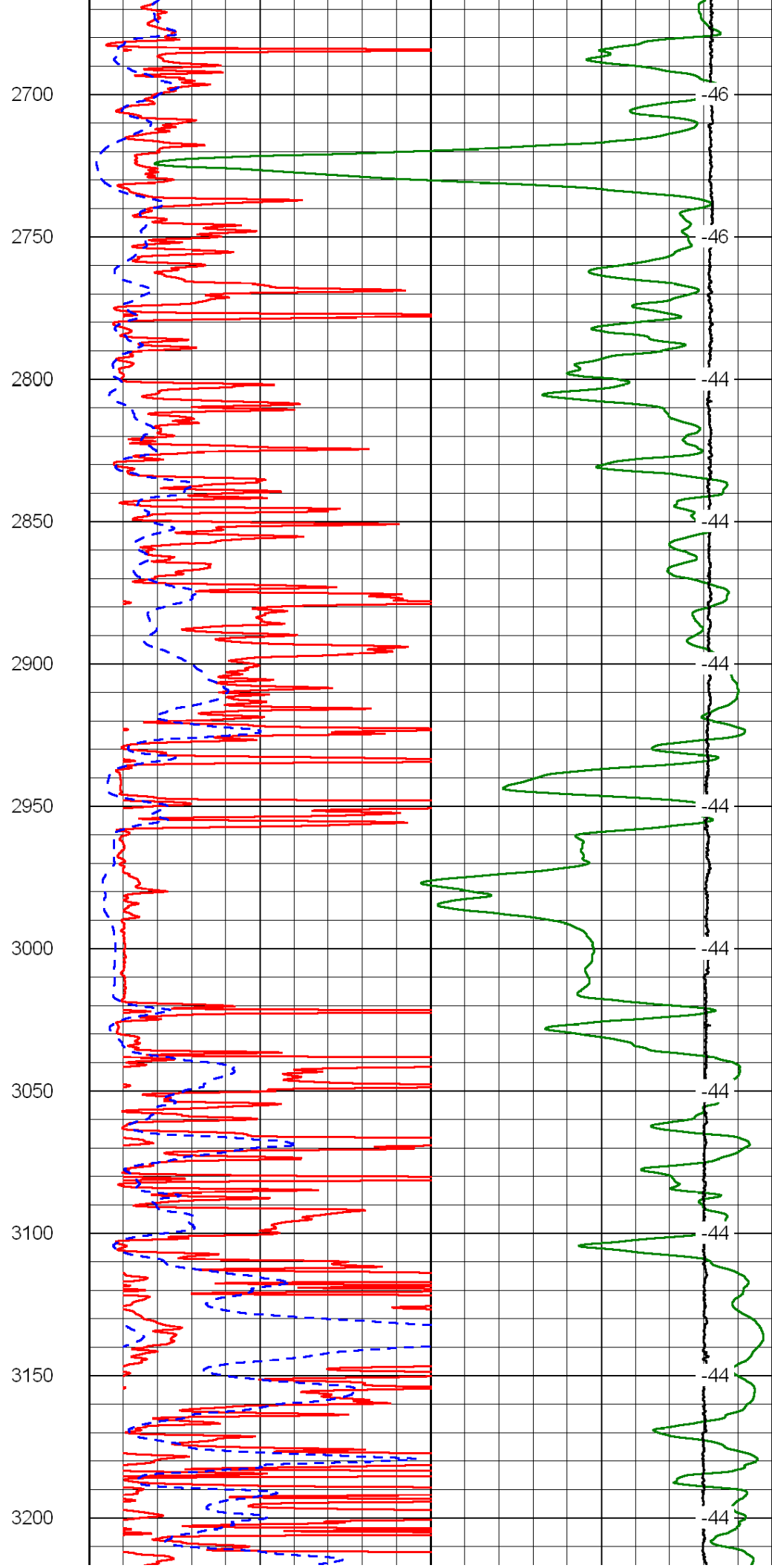
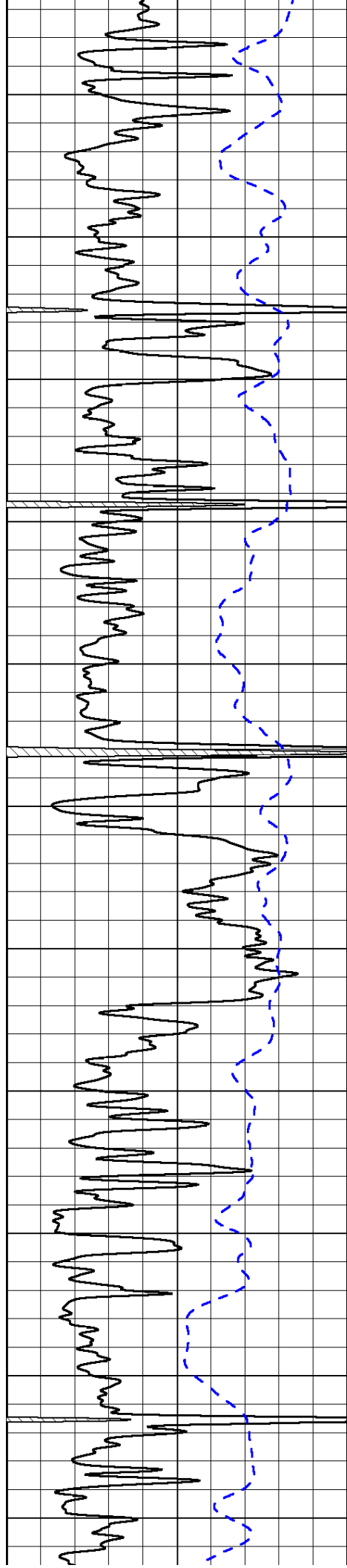


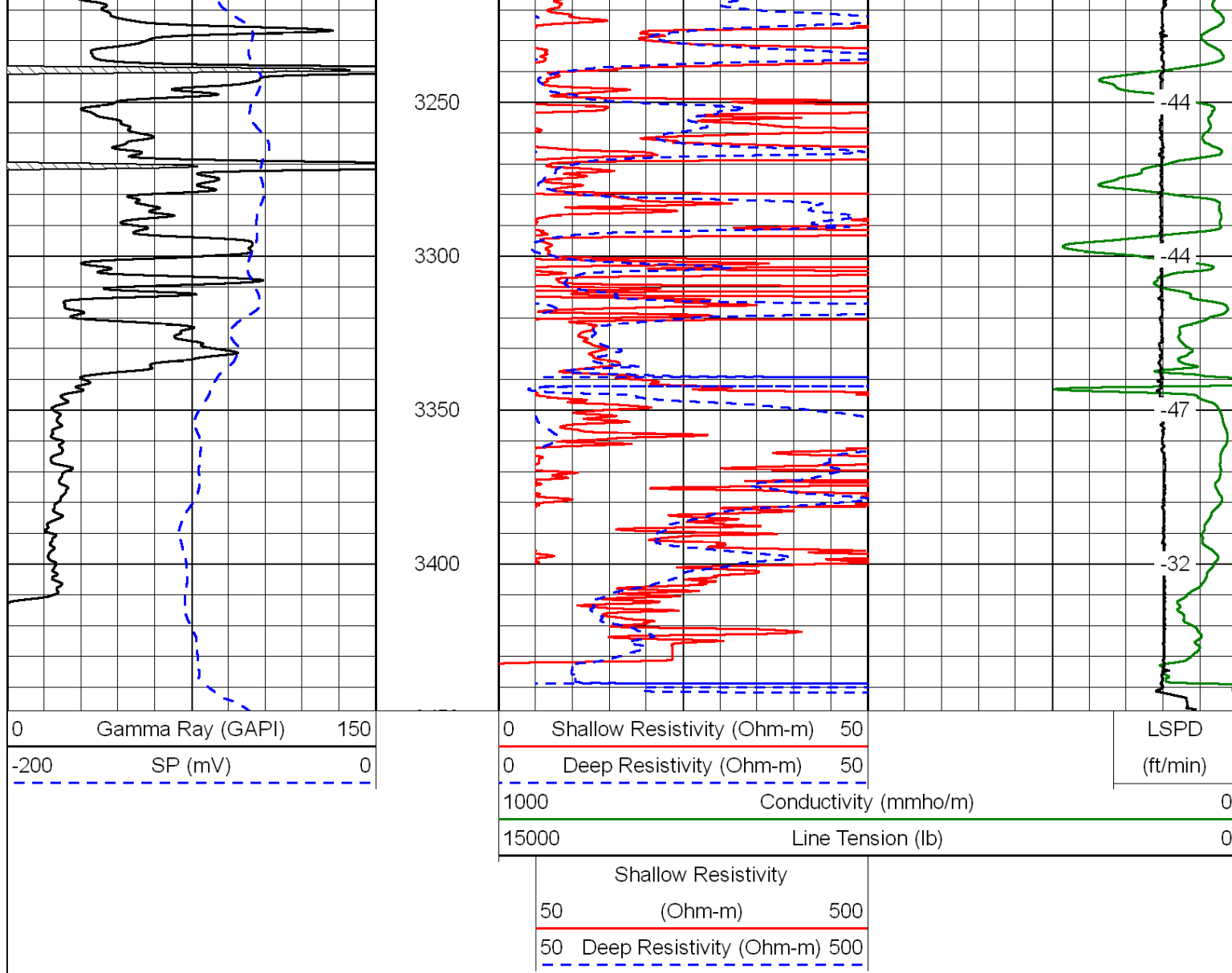




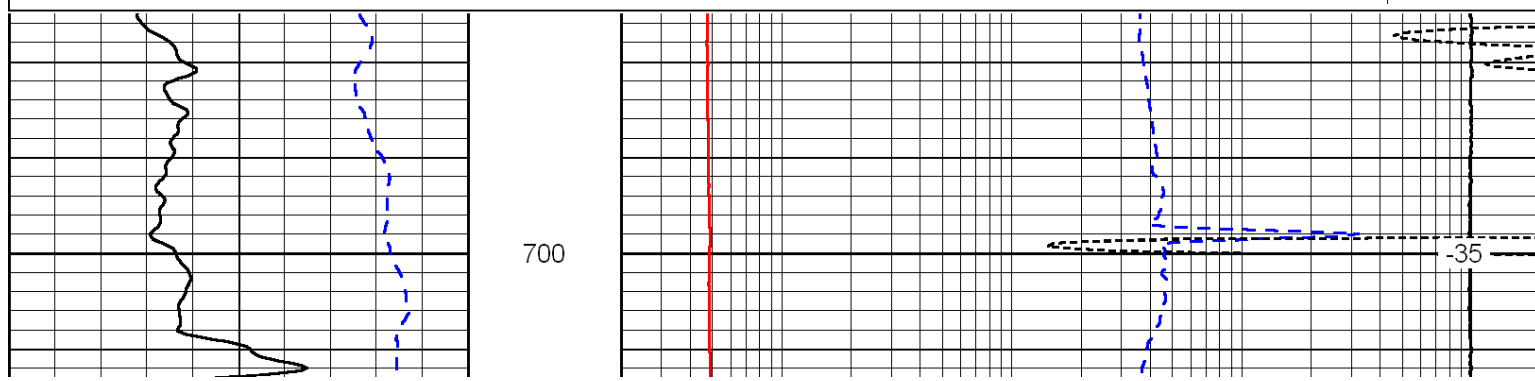
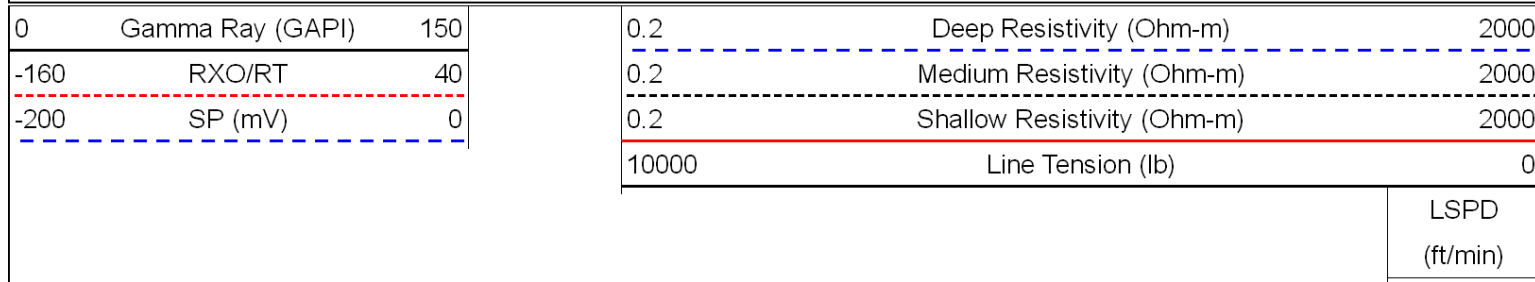


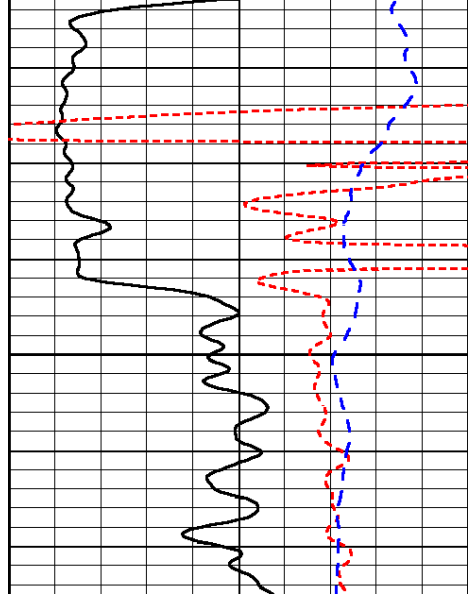






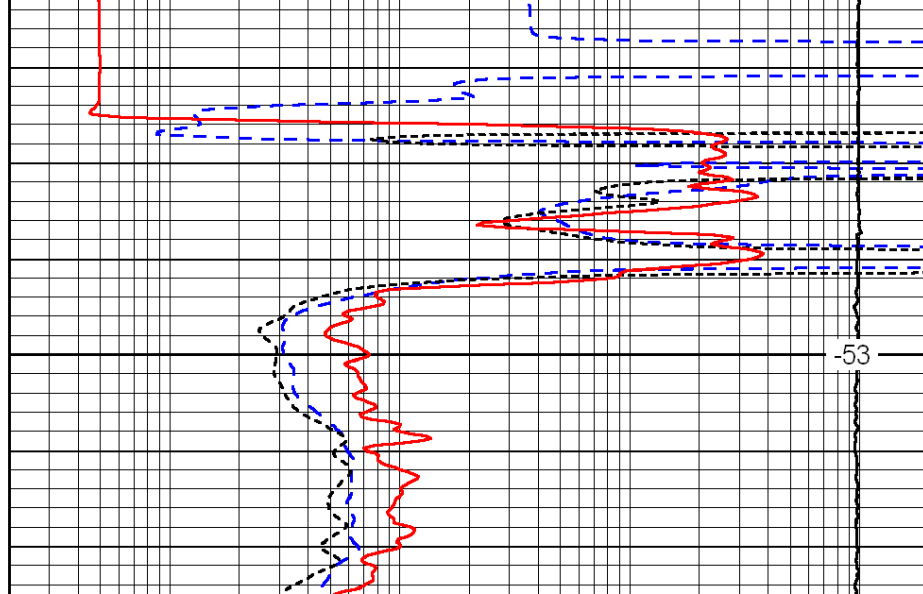
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 Presentation Format: DIL(2)~1
 Dataset Creation: Sat Sep 20 22:10:59 2014 by Log 0
 Charted by: Depth in Feet scaled 1:240





0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

750



0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

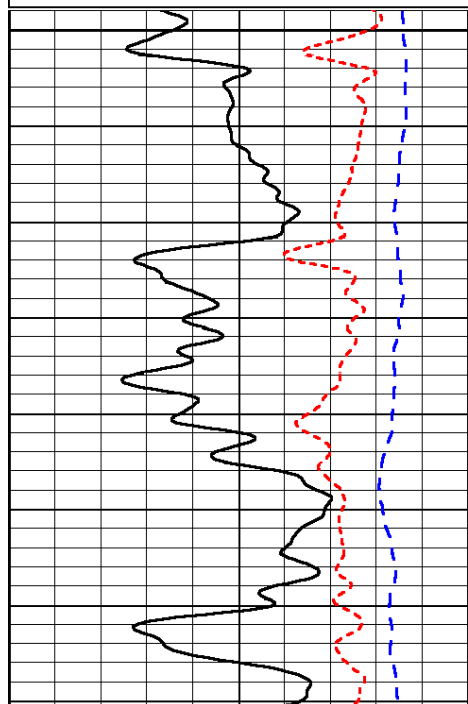
LSPD
(ft/min)

Database File: 12081.db
 Dataset Pathname: pass3
 Presentation Format: DIL(2)~1
 Dataset Creation: Sat Sep 20 22:10:59 2014 by Log 0
 Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

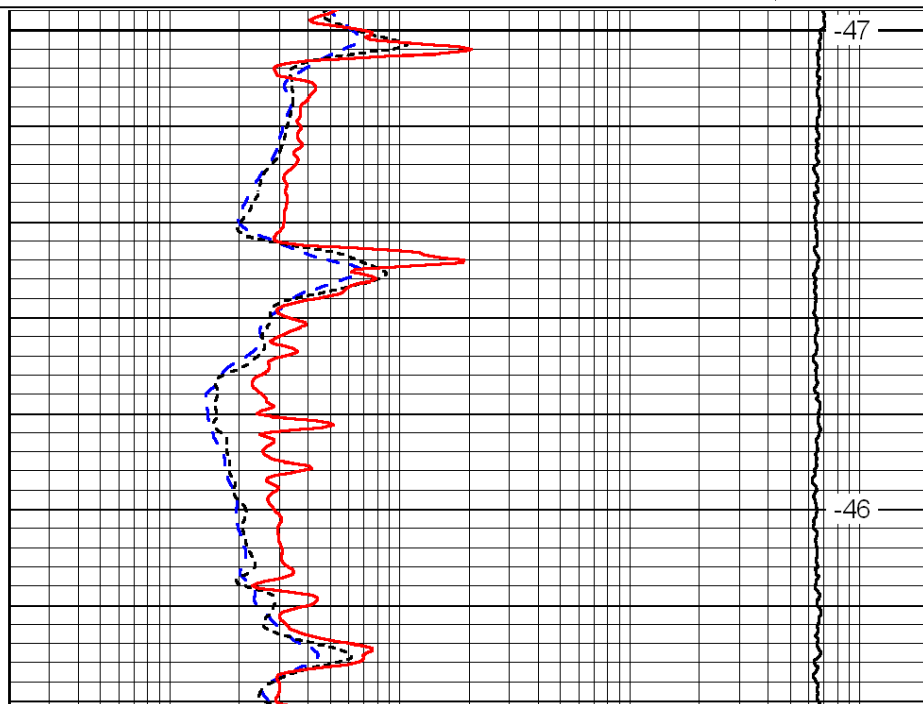
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0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

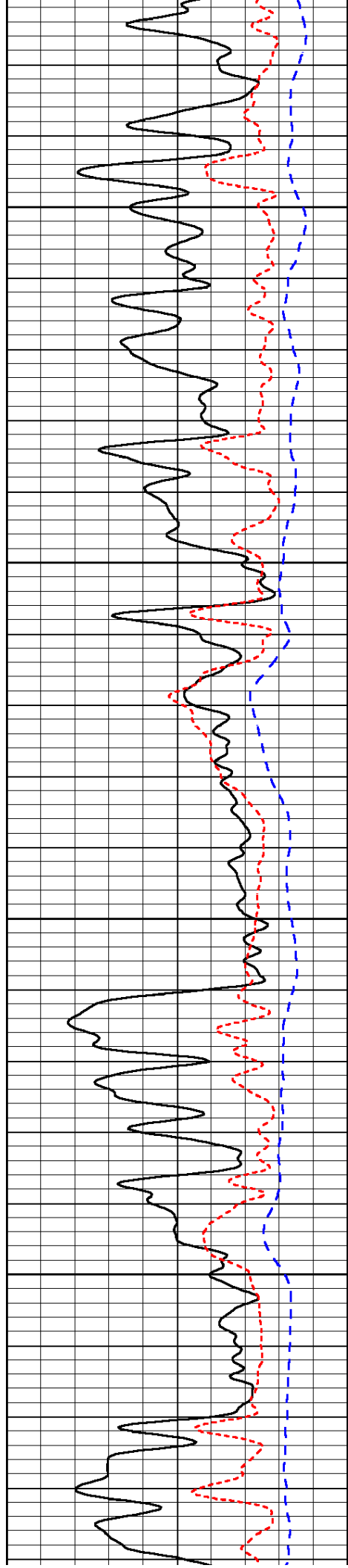
LSPD
(ft/min)



2200

2250



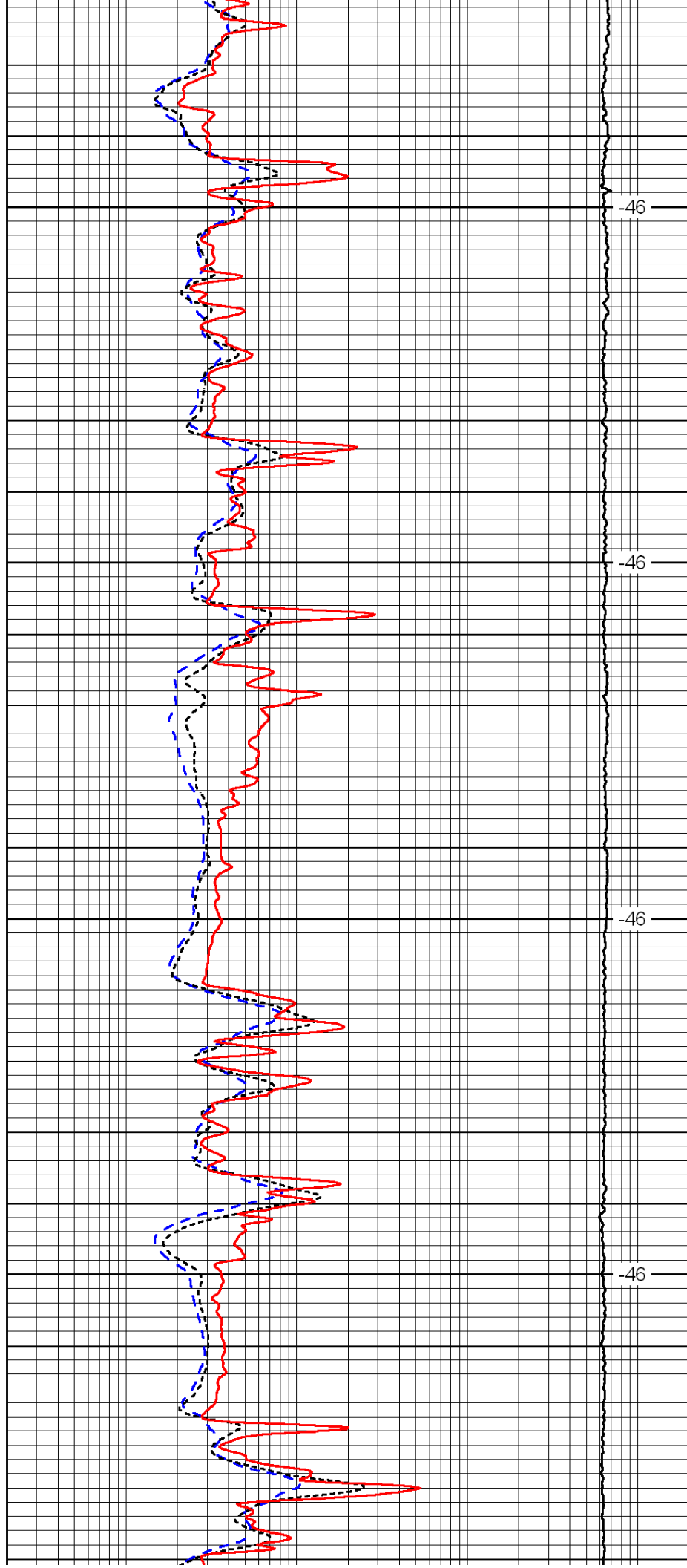


2300

2350

2400

2450

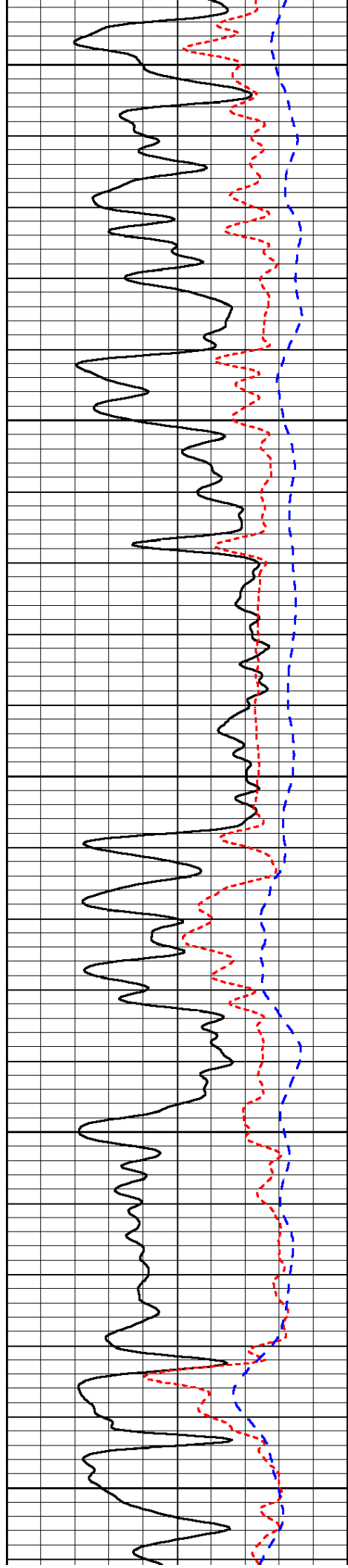


-46

-46

-46

-46



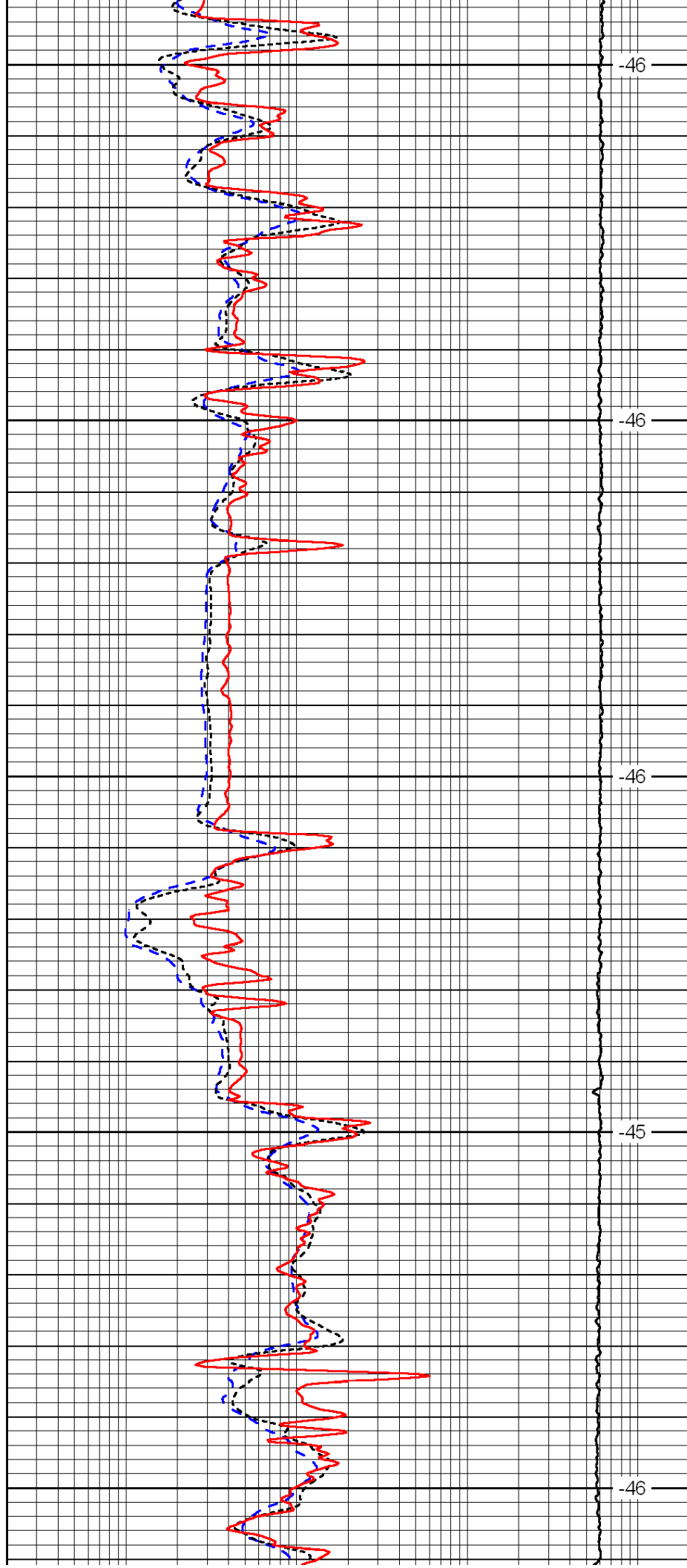
2500

2550

2600

2650

2700



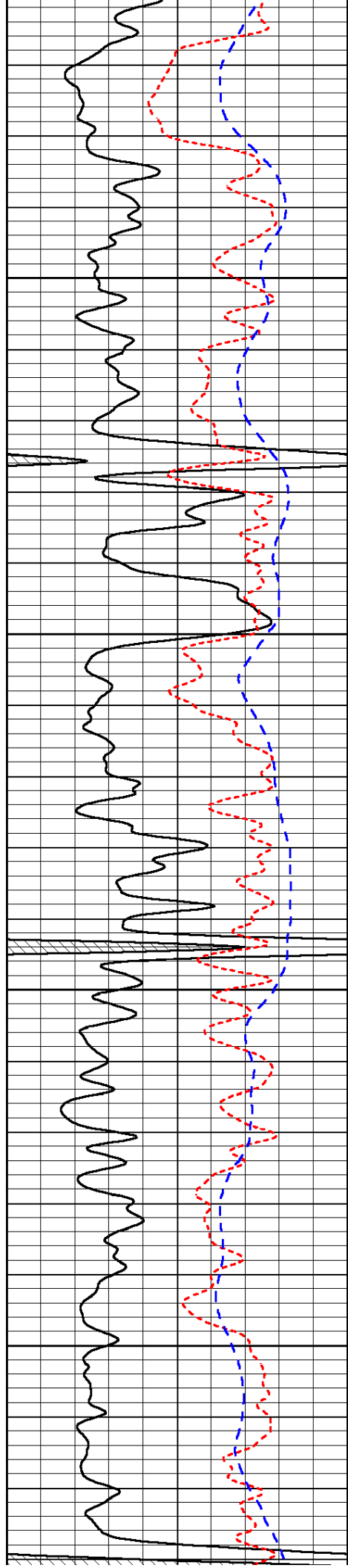
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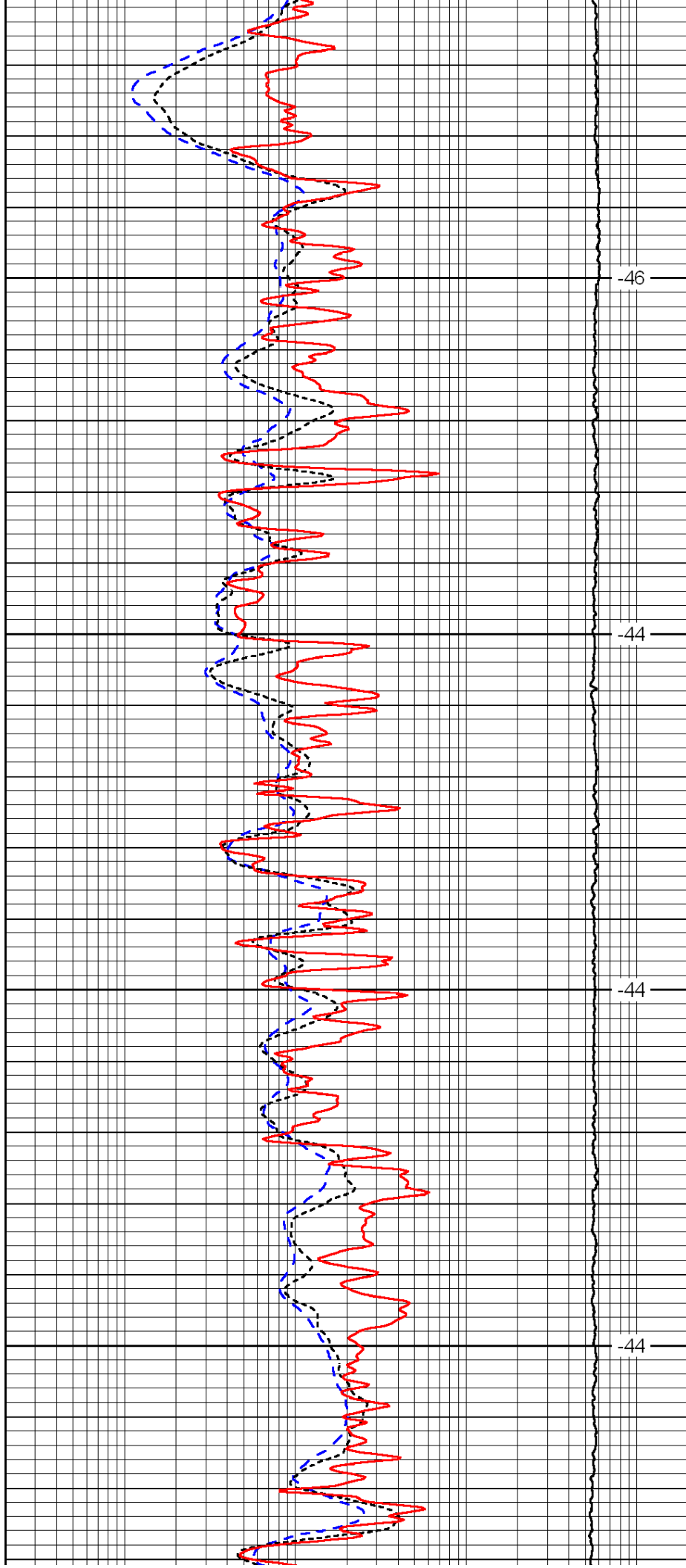


2750

2800

2850

2900

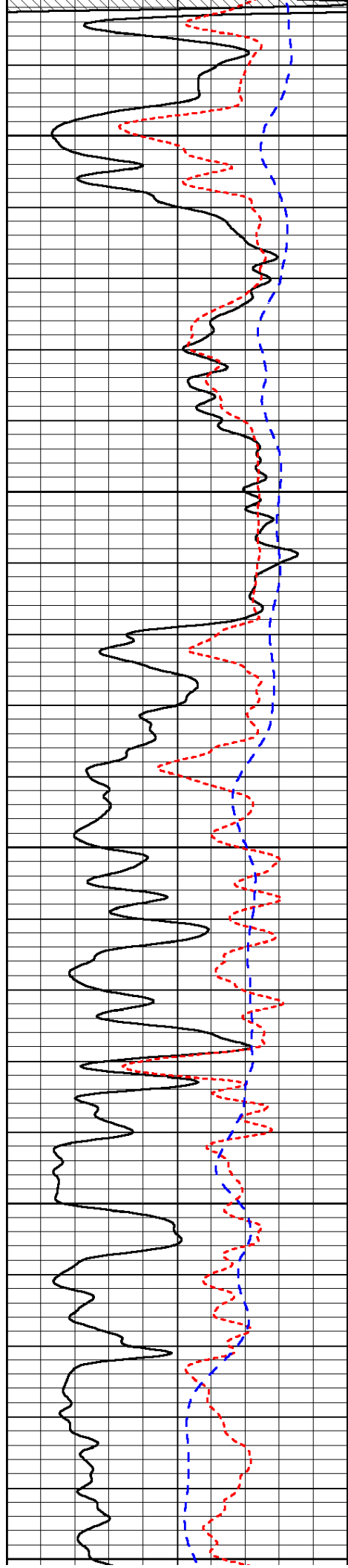


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-44



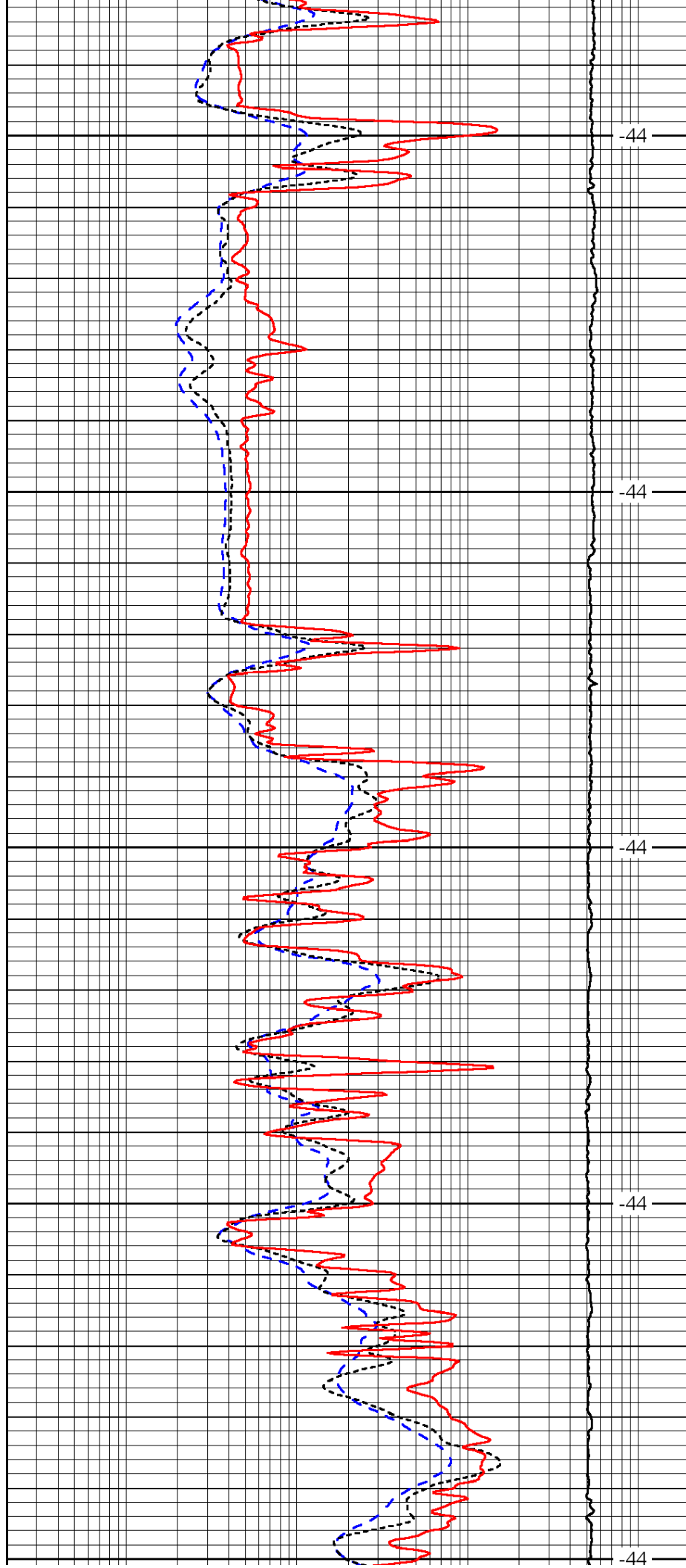
2950

3000

3050

3100

3150



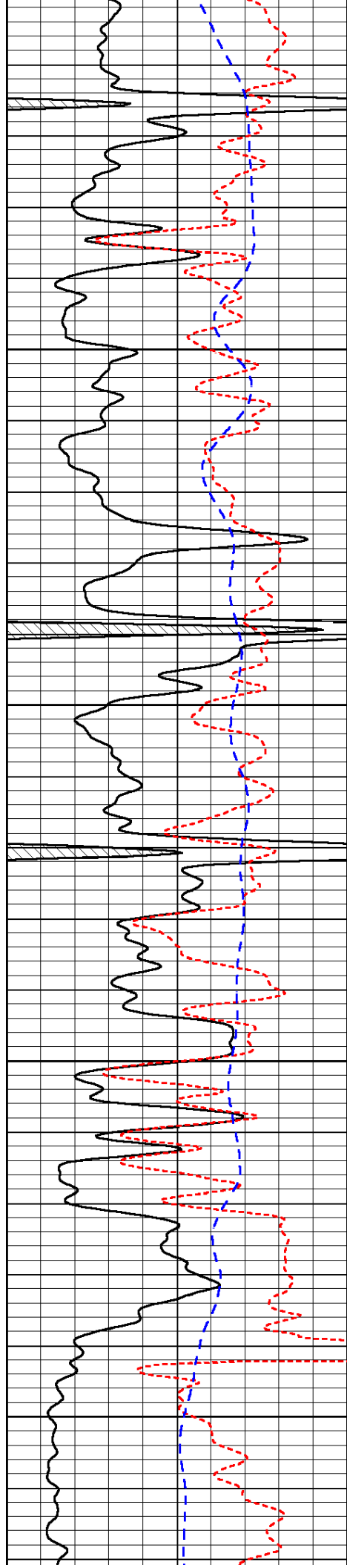
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-44

-44

-44

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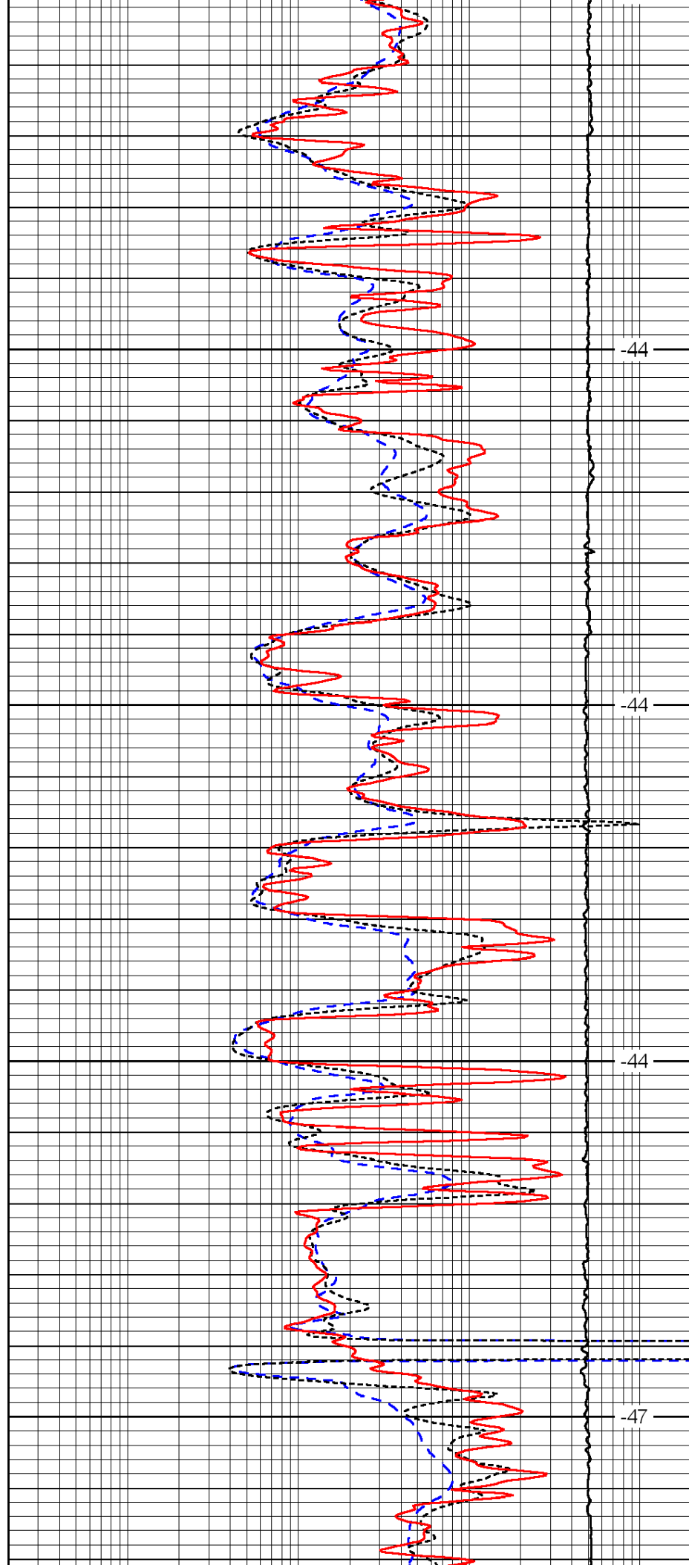


3200

3250

3300

3350

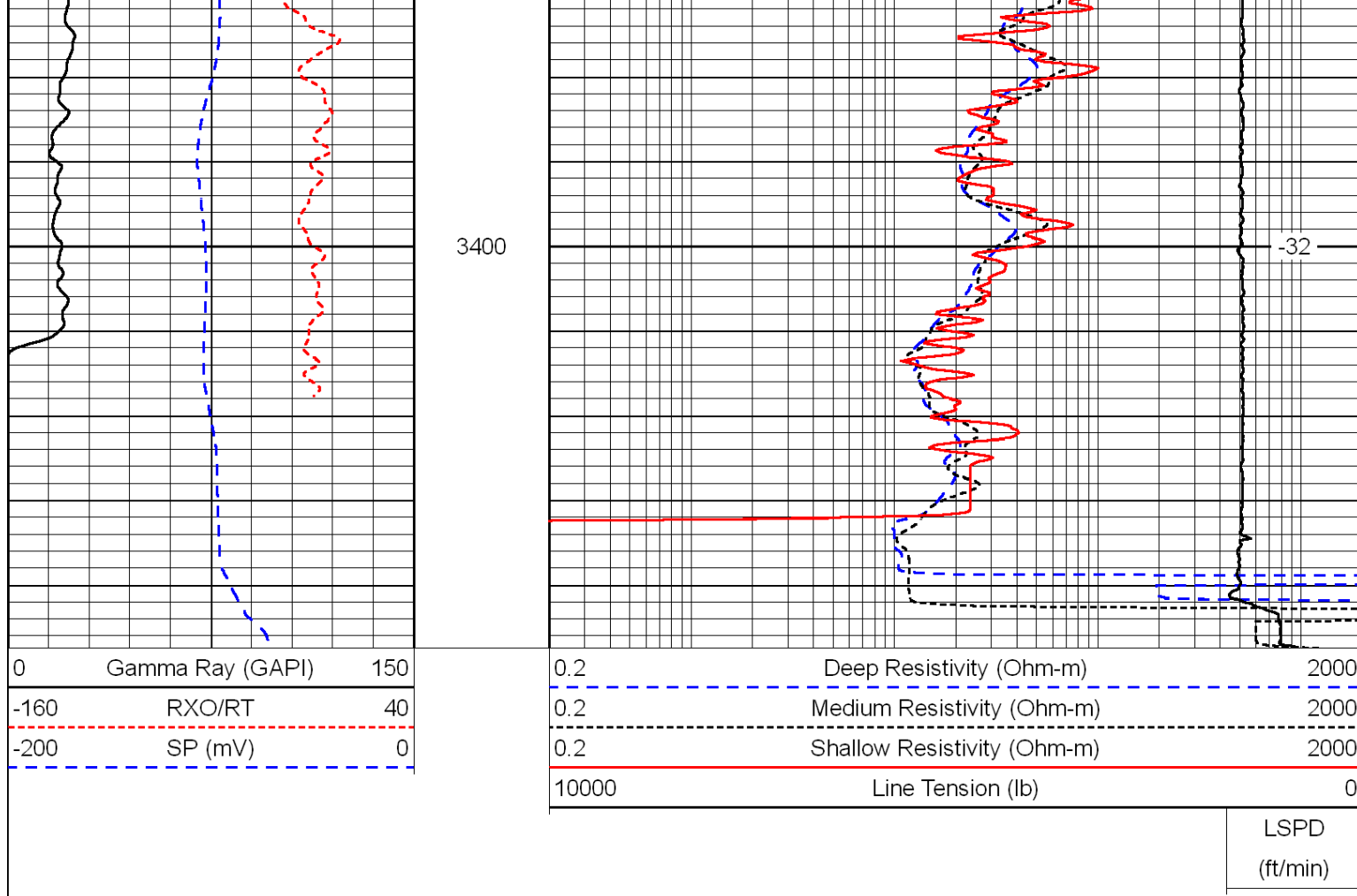


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PIONEER
Pioneer Energy Services

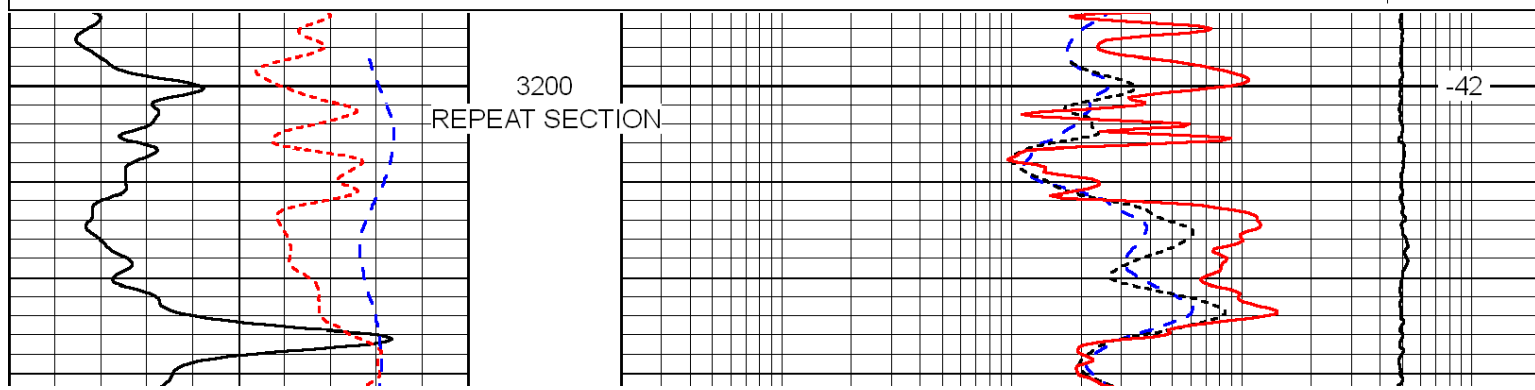
REPEAT SECTION

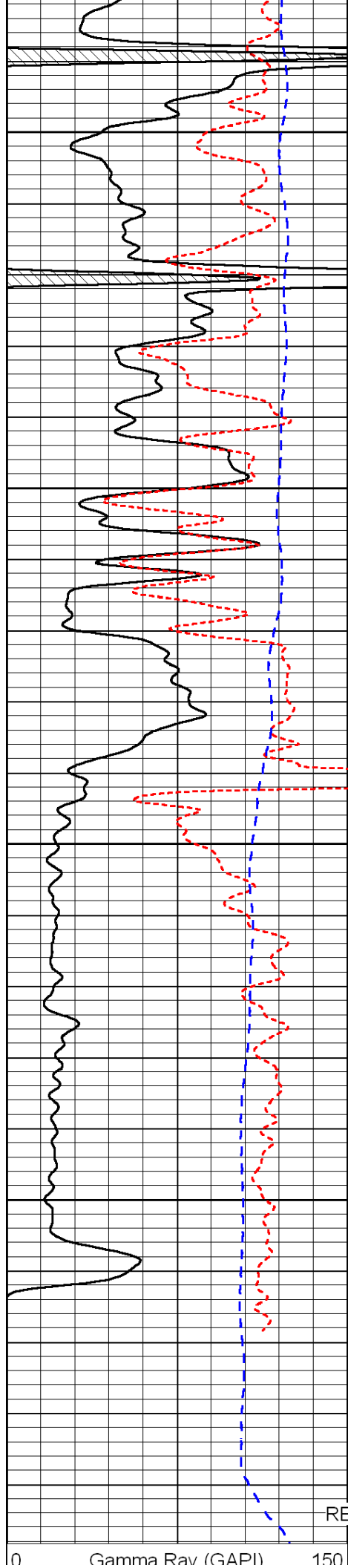
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0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

LSPD
(ft/min)





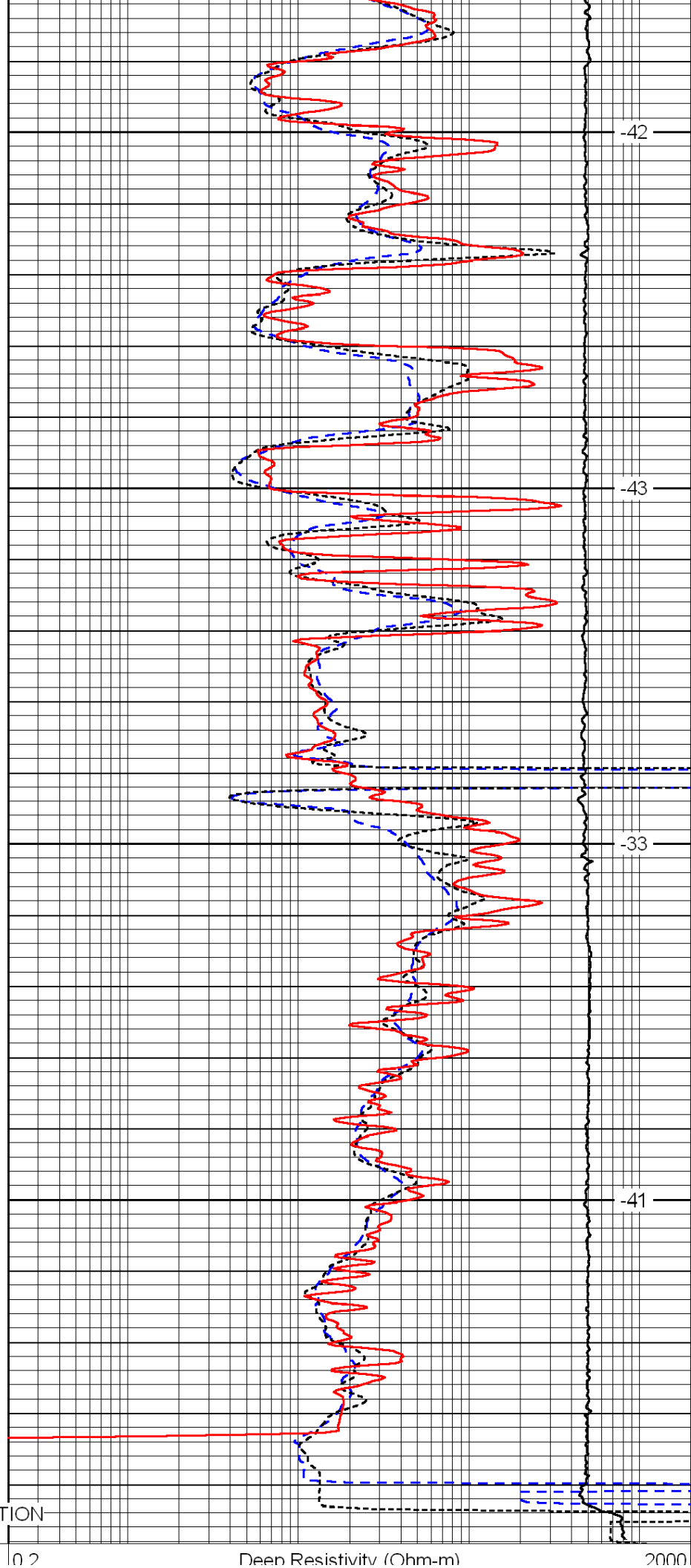
3250

3300

3350

3400

REPEAT SECTION



-42

-43

-33

-41

10

Gamma Ray (GAPI)

150

10 2

Deep Resistivity (Ohm-m)

2000

-160	RXO/RT	40
-200	SP (mV)	0

0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0
		LSPD (ft/min)

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	35.89		GR-PSI (31) GAMMA RAY	3.00	3.50	40.00
CNLSC	32.23		CNT-PSI (908)	5.08	3.50	100.00
CNSSC	31.10					
			ML-PSI (790)	3.10	3.00	40.00
MCAL	26.21		SWN-PSI (0001)	0.08	3.30	100.00
SCAL	26.13					
			CDL-PSI (910) MICROLOG-DENSITY-COMBINATION	8.46	5.50	150.00
LSD	20.17					
MN	19.54					
MI	19.54					
DCAL	19.42					
SWN	19.38					
SSD	19.37					
RLL3	15.50					
CILD	8.52		DIL-PSI (64) SIMPLEC DIFL	17.67	3.75	200.00
CILM	4.80					

SP	0.08						
Dataset: 12081.db: field/well/run1/pass3 Total Length: 37.39 ft Total Weight: 630.00 lb O.D. 5.50 in							

Serial-Model:
Performed:

790-PSI
Thu Sep 18 17:44:15 2014

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	0.0312	0.0000	10.0000	Ohm-m	12368.8000	-0.5000
Inverse	0.0001	0.0436	0.0000	10.0000	Ohm-m	9568.2000	1.0000

Compensated Neutron Calibration Report

Serial Number:		908	
Tool Model:		PSI	
Performed:			
Detector	Readings	Target	Normalization
Short Space	6380.57 cps	11500.00 cps	1.8023
Long Space	454.72 cps	1000.00 cps	2.4616

Gamma Ray Calibration Report

Serial Number:	31
Tool Model:	PSI
Performed:	Tue Oct 16 18:33:28 2007
Calibrator Value:	110.0 GAPI
Background Reading:	42.0 cps
Calibrator Reading:	209.0 cps
Sensitivity:	0.4500 GAPI/cps



Company EMPIRE ENERGY E&P LLC
Well DRISCOLL HEIRS # 31-6
Field DRISCOLL
County RUSSELL
State KS

Country