



DUAL INDUCTION  
COMPENSATED DENSITY  
COMPENSATED NEUTRON  
GAMMA RAY

Pioneer Energy Services

Company Augustus Energy Resources, LLC  
Well Cantrall 34-34 1S44W  
Field Vernon  
County Yuma State Colorado

Location: API #: 05 125 12099 0000

1238' FSL & 1473' FEL  
SWSE

SEC 34 TWP 1S RGE 44W

Permanent Datum GL Elevation 3807  
Log Measured From KB  
Drilling Measured From KB

Other Services  
Dual Induction  
Elevation  
K.B. 3813  
D.F. 3812  
G.L. 3807

Date Aug 05, 2014

Run Number 1

Depth Driller 2351'

Depth Logger 2333'

Bottom Logged Interval 2313'

Top Log Interval 2000'

Casing Driller 478'

Casing Logger 478'

Bit Size 6.25"

Type Fluid in Hole WBM

Density / Viscosity 8.3 / 28

pH / Fluid Loss 8.0 / 7.0

Source of Sample Flowline

Rm @ Meas. Temp 0.27 @ 70 F

Rmf @ Meas. Temp 0.20 @ 70 F

Rmc @ Meas. Temp 0.32 @ 70 F

Source of Rmf / Rmc Calc / Calc

Rm @ BHT 0.17 @ 104 F

Time Circulation Stopped 0400

Time Logger on Bottom 0900

Maximum Recorded Temperature 104 F

Equipment Number 48

Location Ft. Morgan, CO

Recorded By Tracy Crane

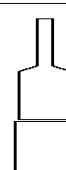
Witnessed By Justin Stone

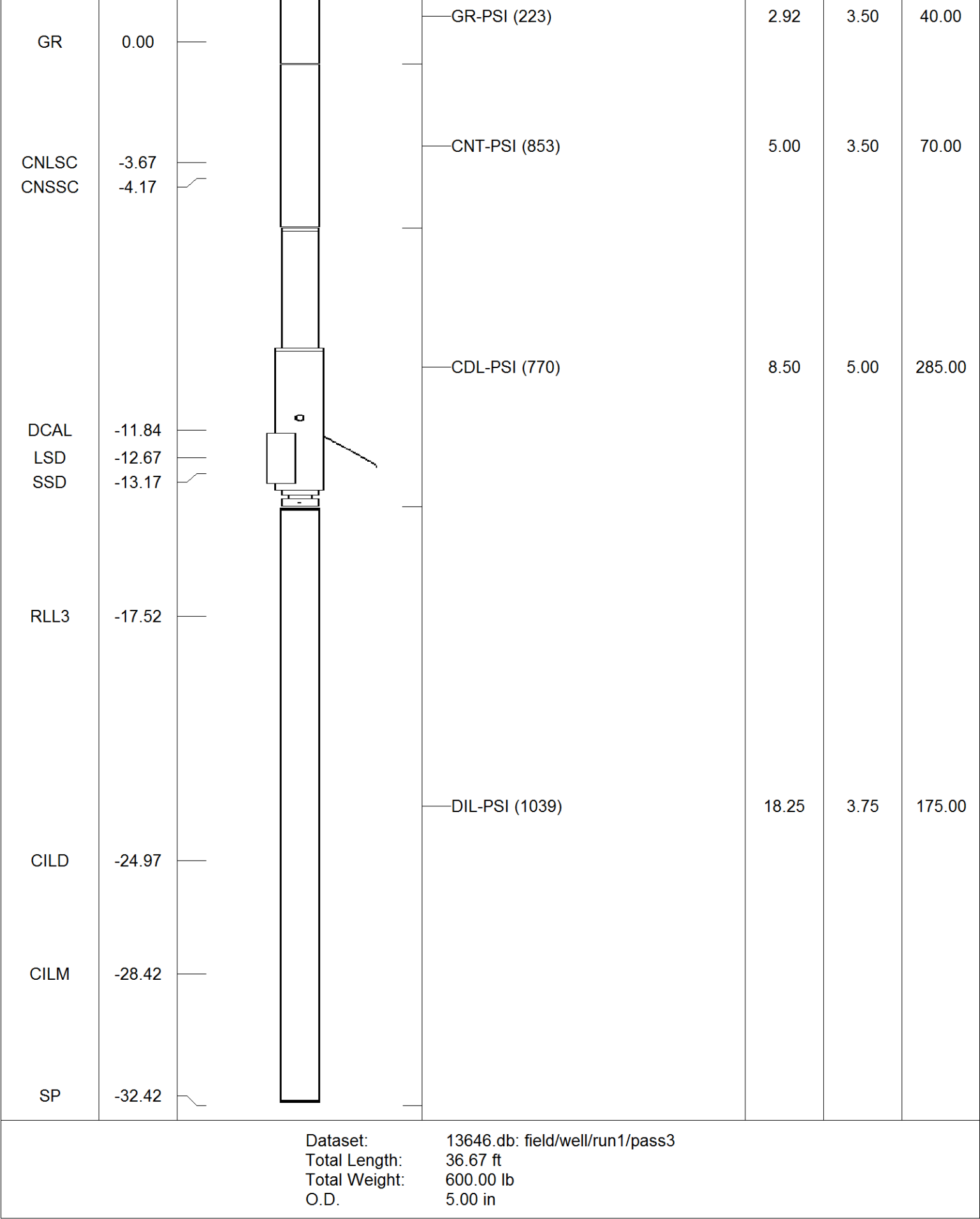
<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

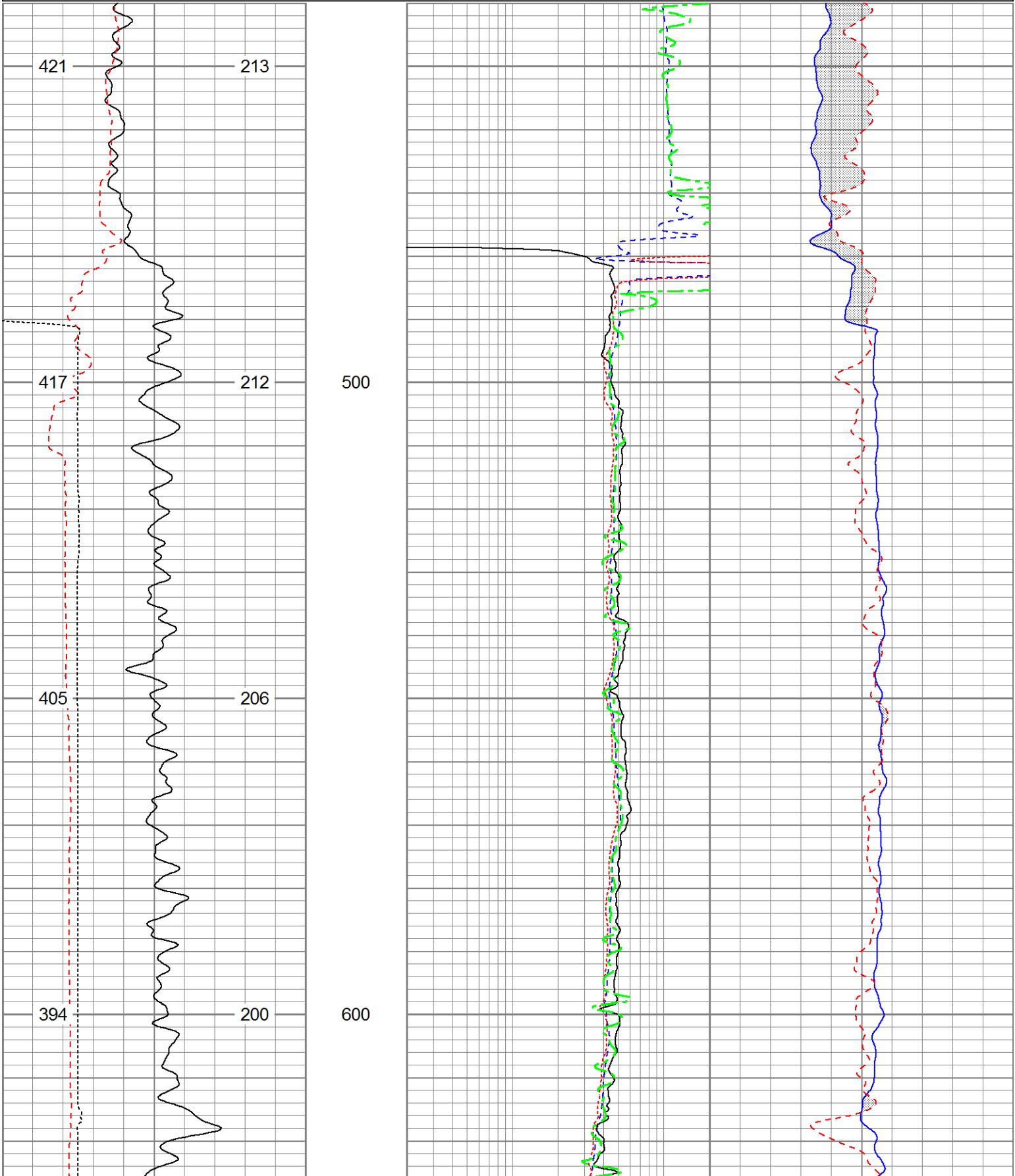
Comments

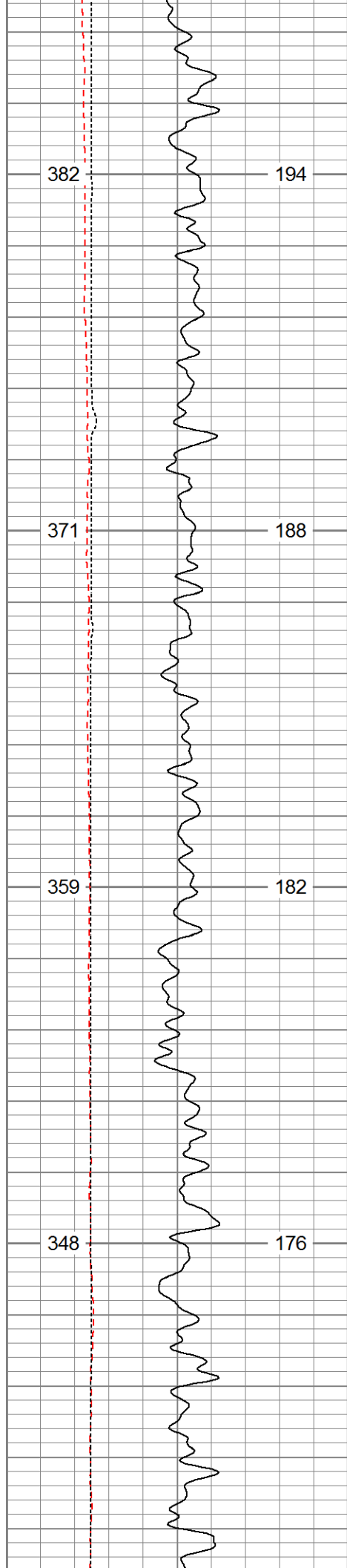
Annular volume calculated for 4.5" casing  
Excell Drilling Rig 2  
Thank you for using Pioneer Energy Services.

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD (~0)	2.00	3.50	30.00



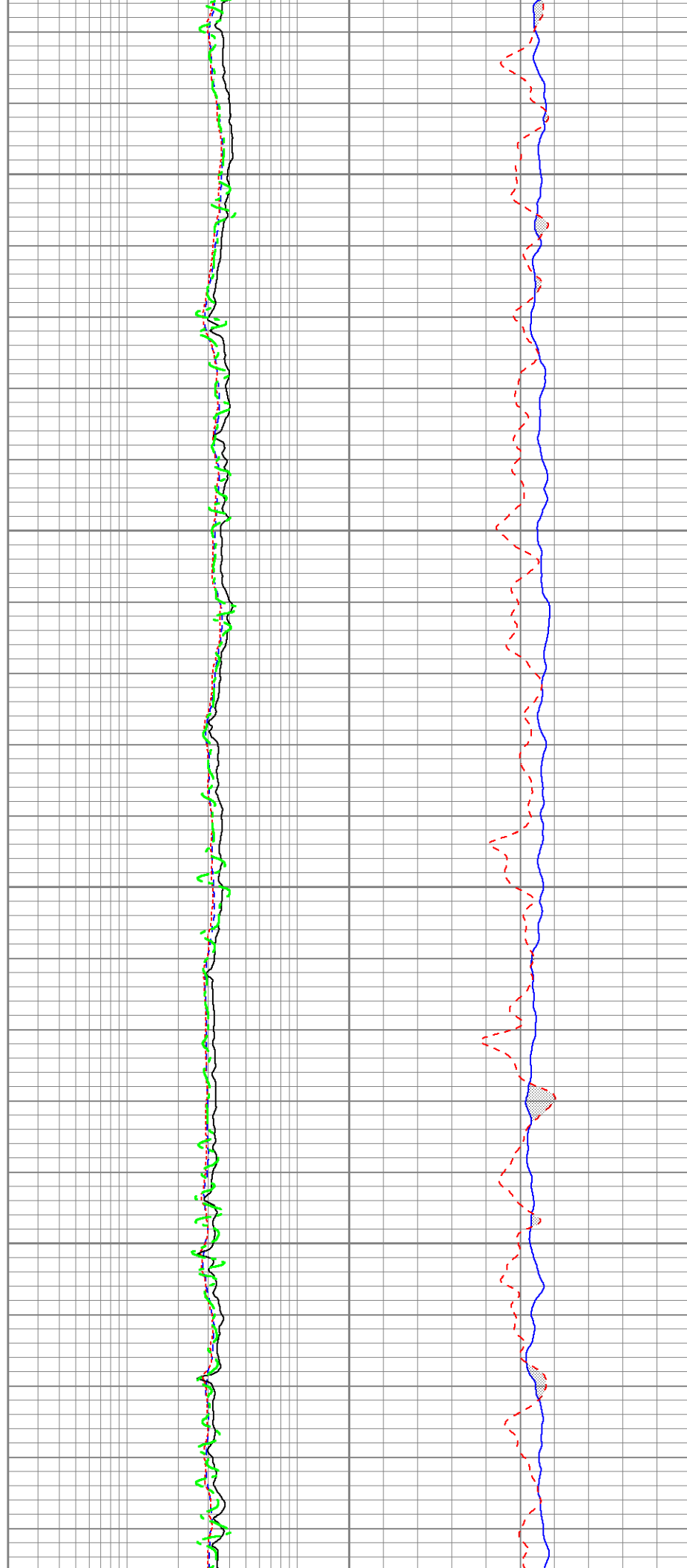
Charted by:			Depth in Feet scaled 1.240					
0	Gamma Ray (GAPI)	200	0.2	Deep Resistivity (Ohm-m)	20	60	Density Porosity (pu)	0
0	SP (mV)	200	0.2	Shallow Resistivity (Ohm-m)	20	60	Neutron Porosity (pu)	0
4	Caliper (in)	14	0.2	Medium Resistivity (Ohm-m)	20			
ABHV (cu. ft.)		ABHV (cu. ft.)	0.2	Rt (Ohm-m)	20			
(ft3)		(ft3)						

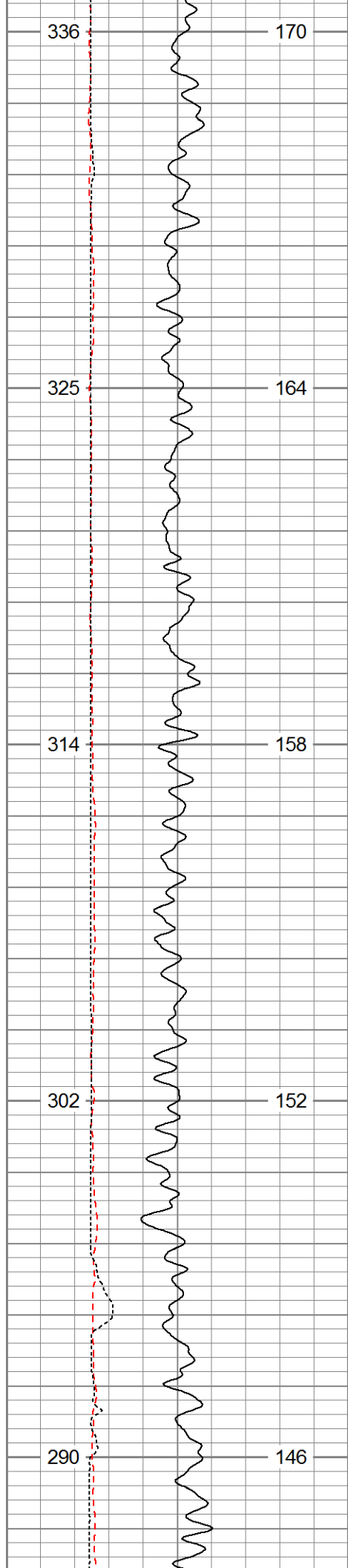




700

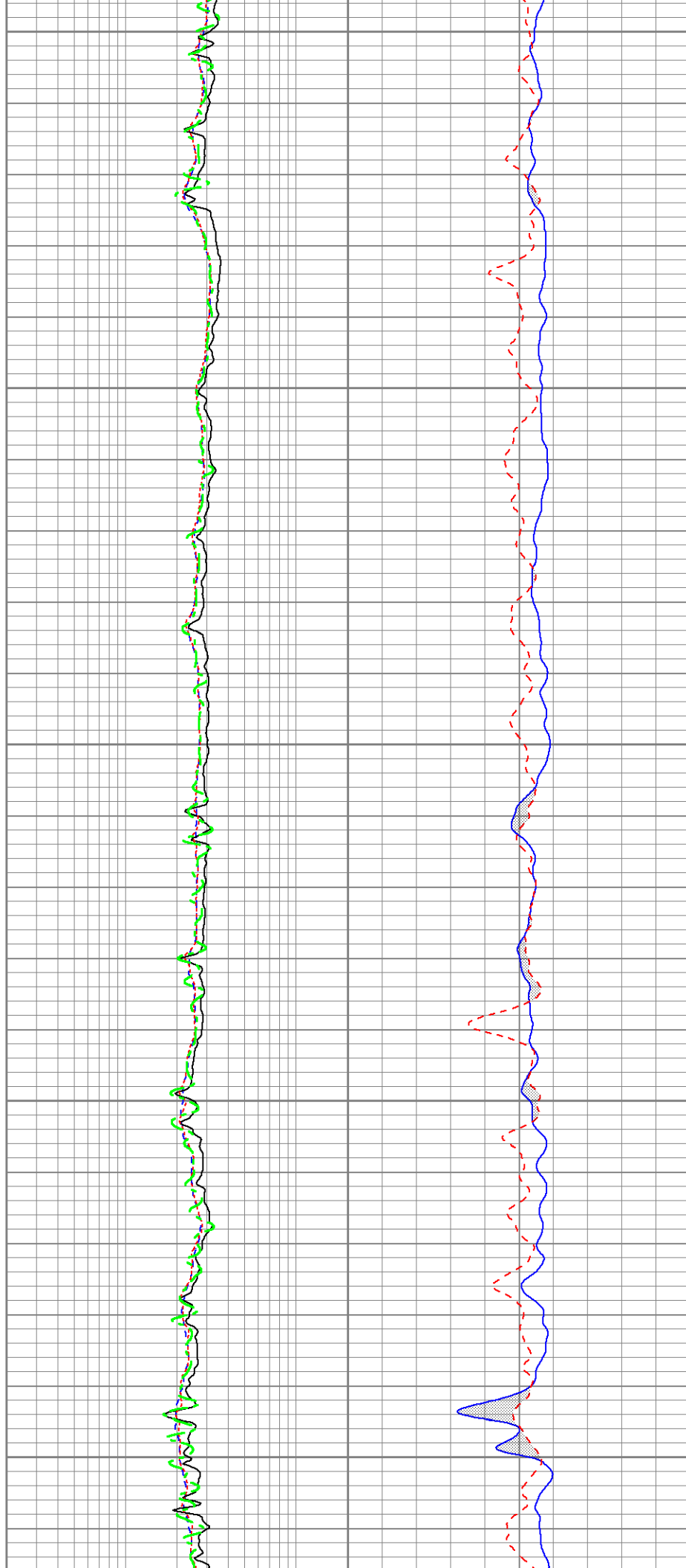
800

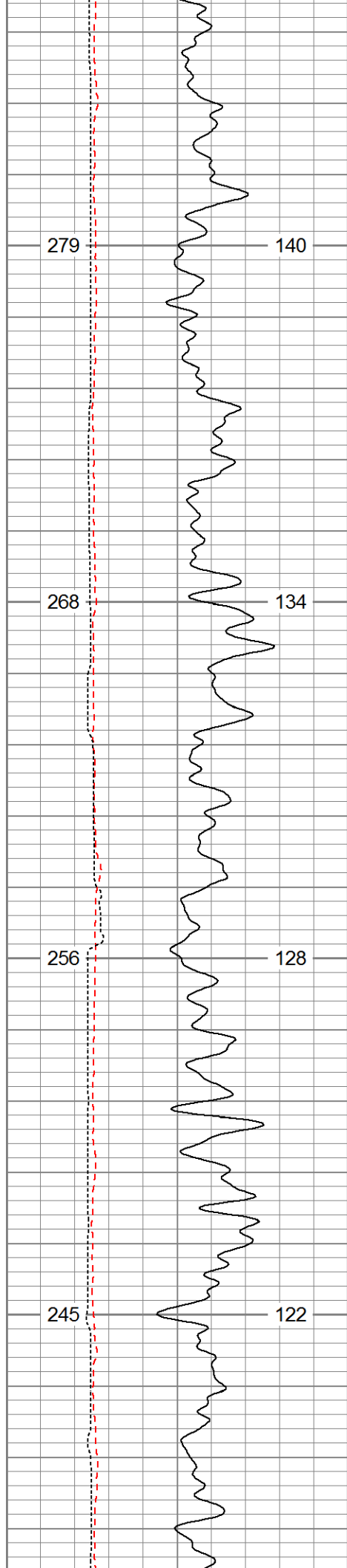




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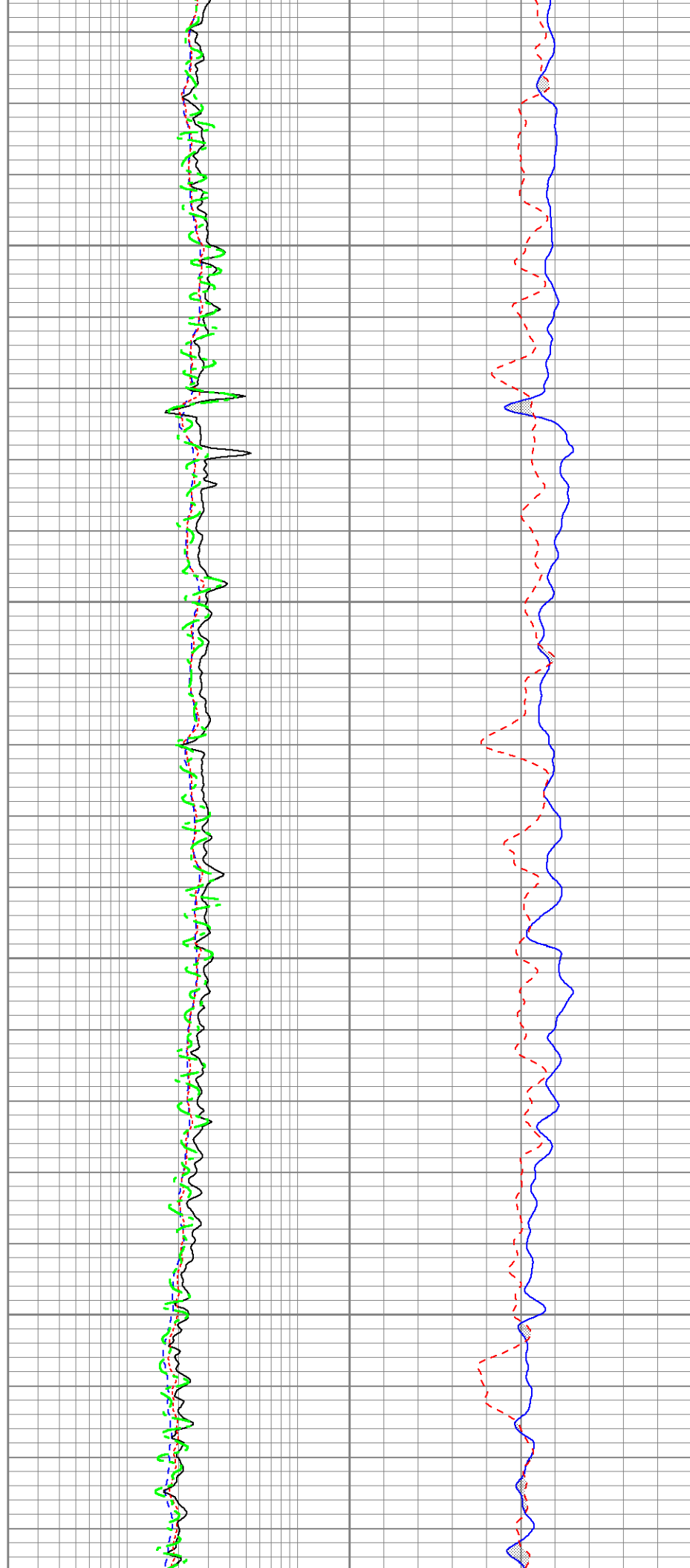
1000

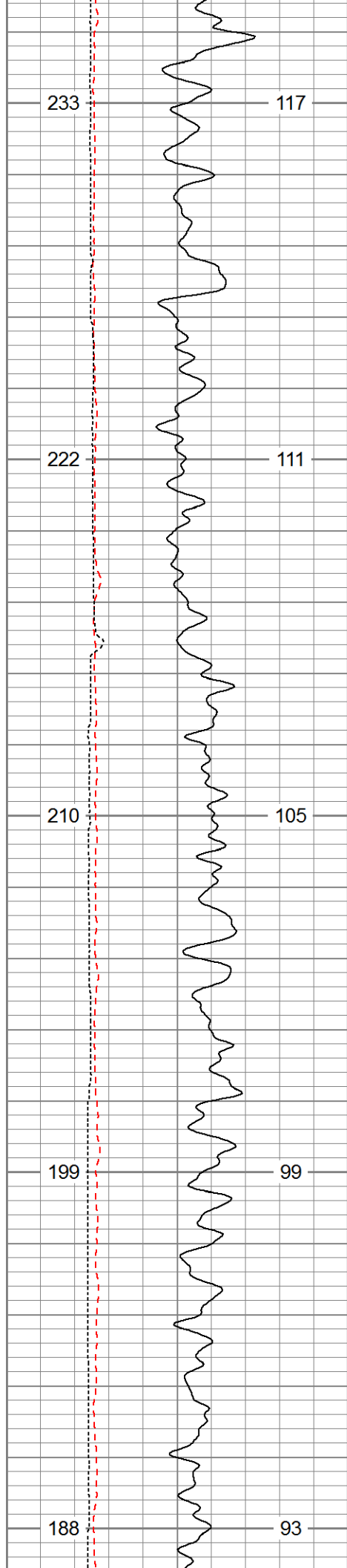




1100

1200

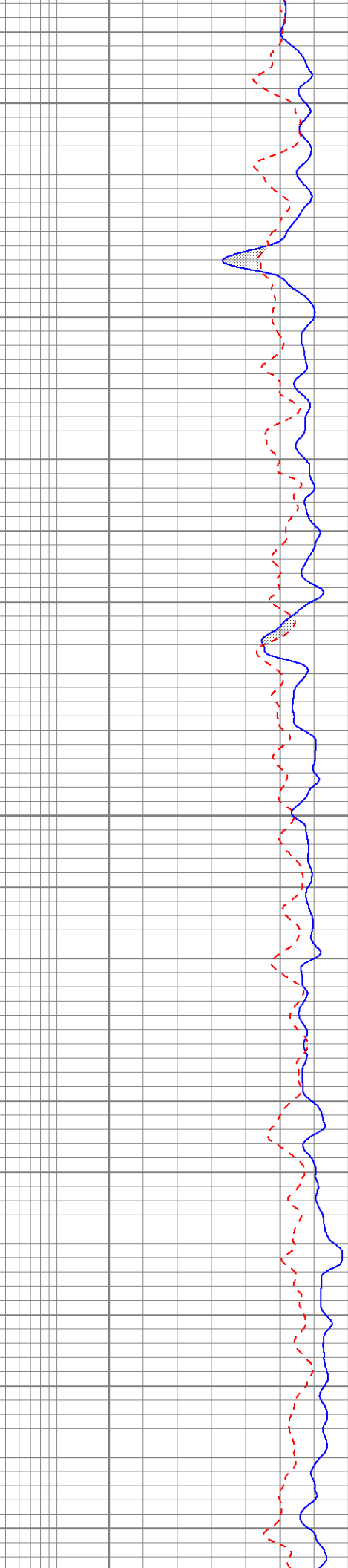
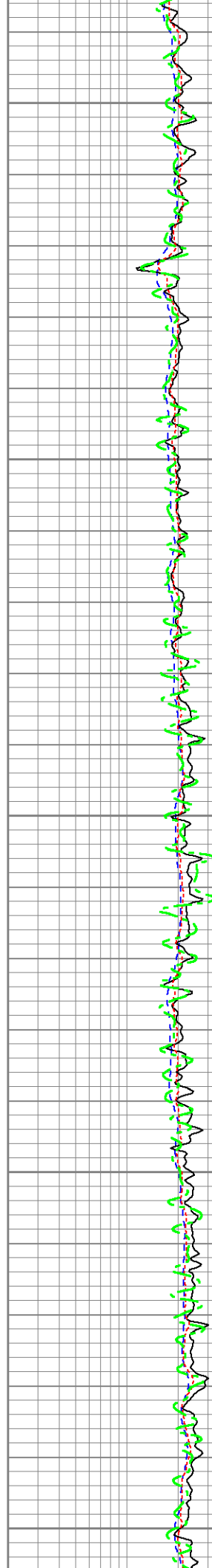


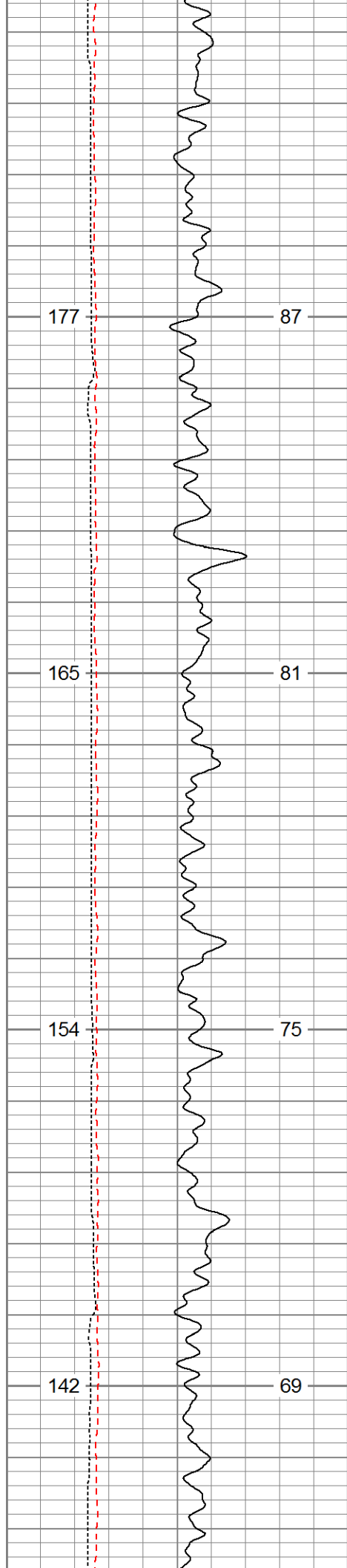


1300

1400

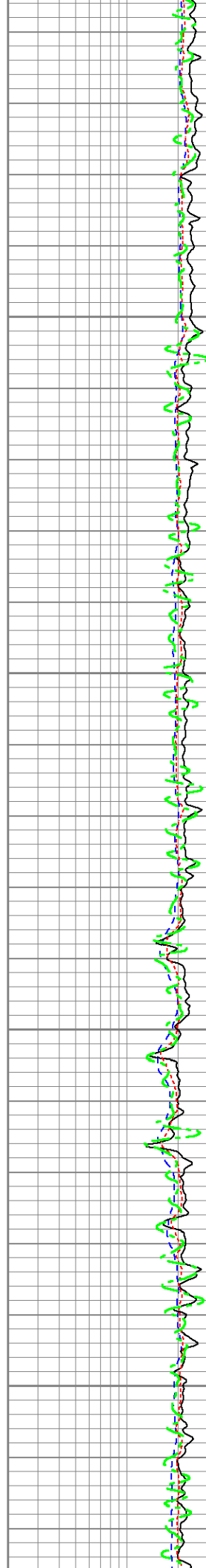
1500





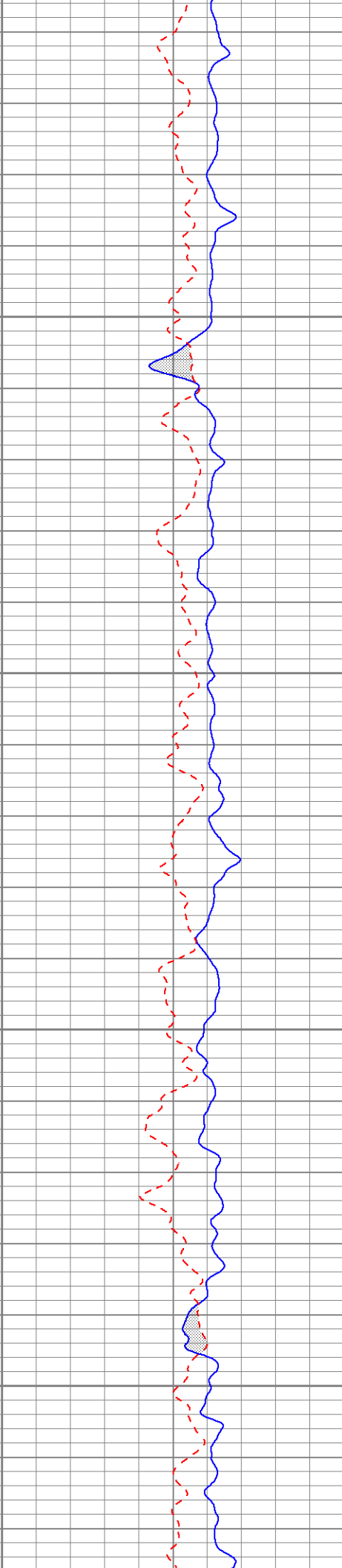
1600

1700

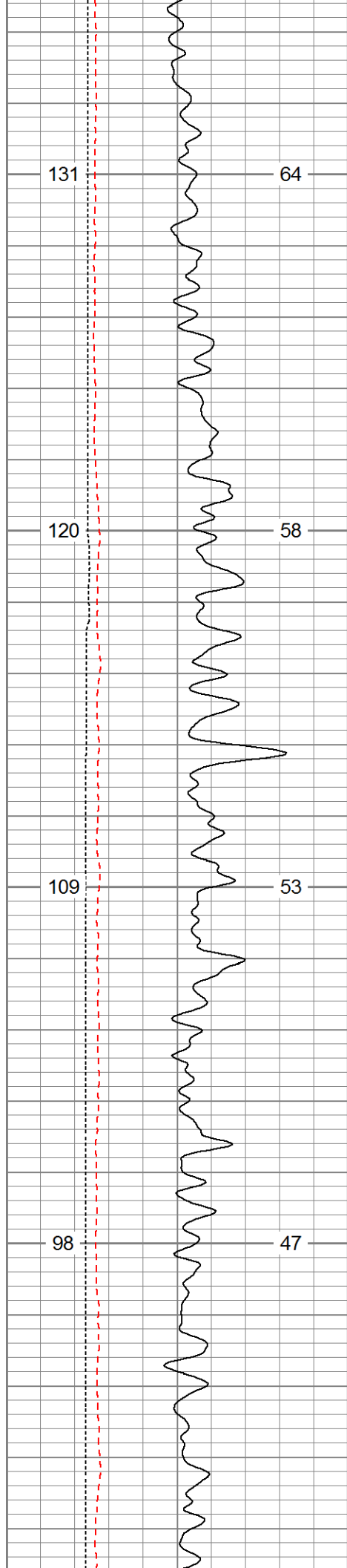


1600

1700

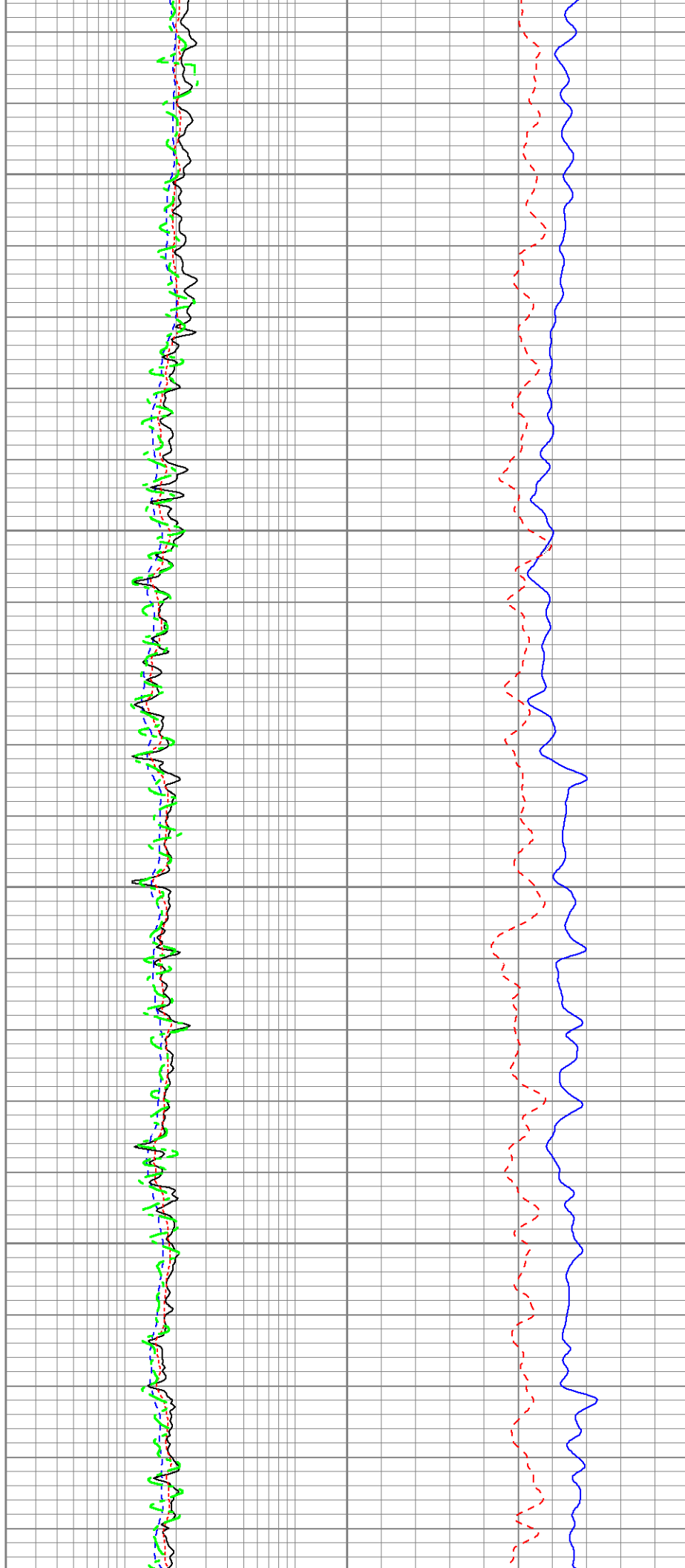


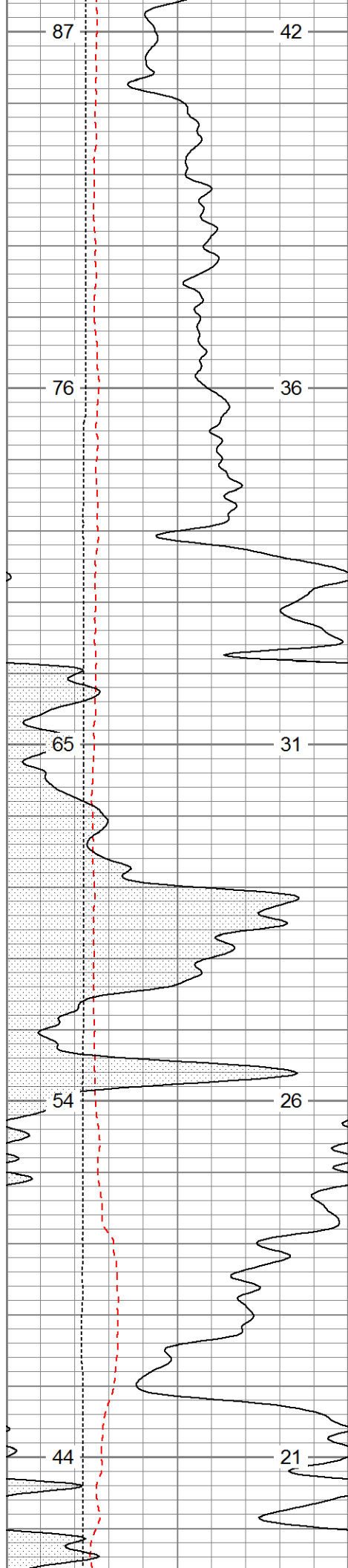




1800

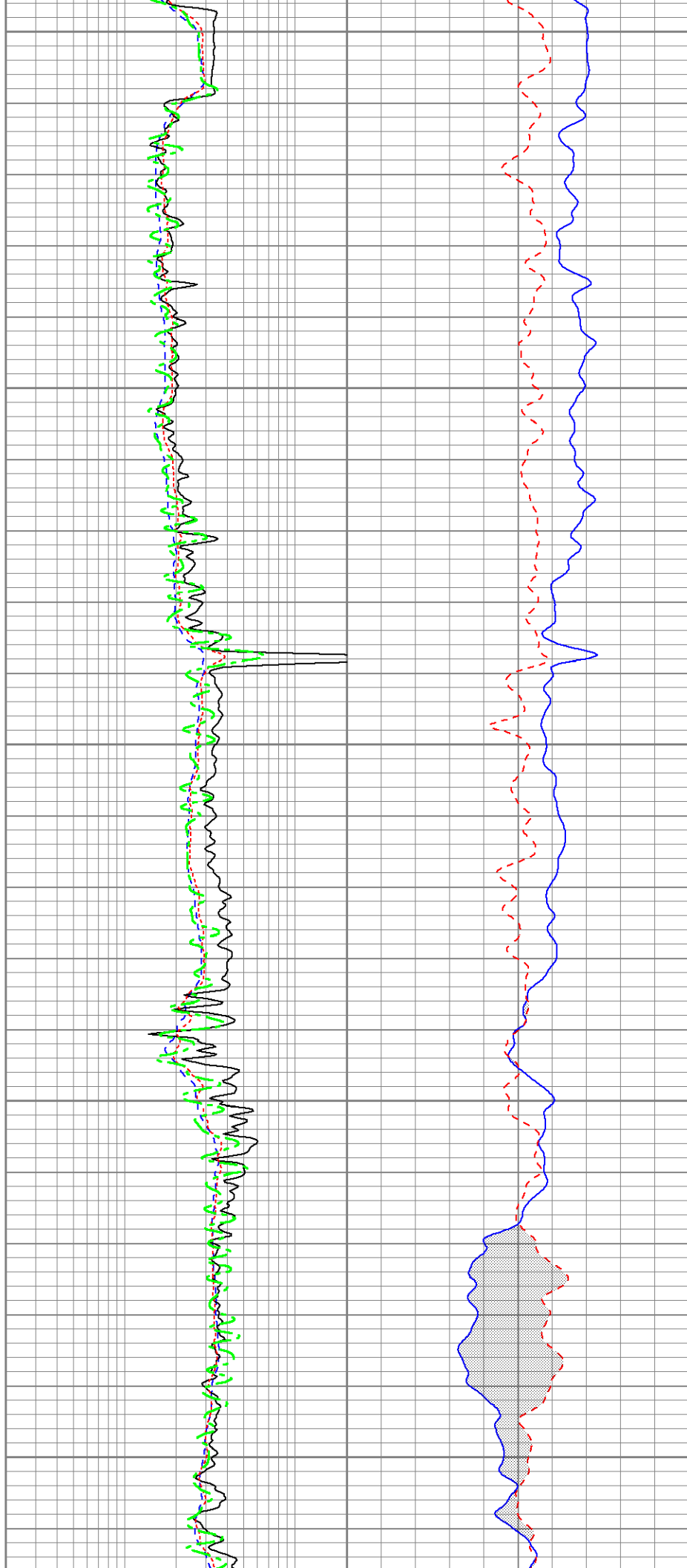
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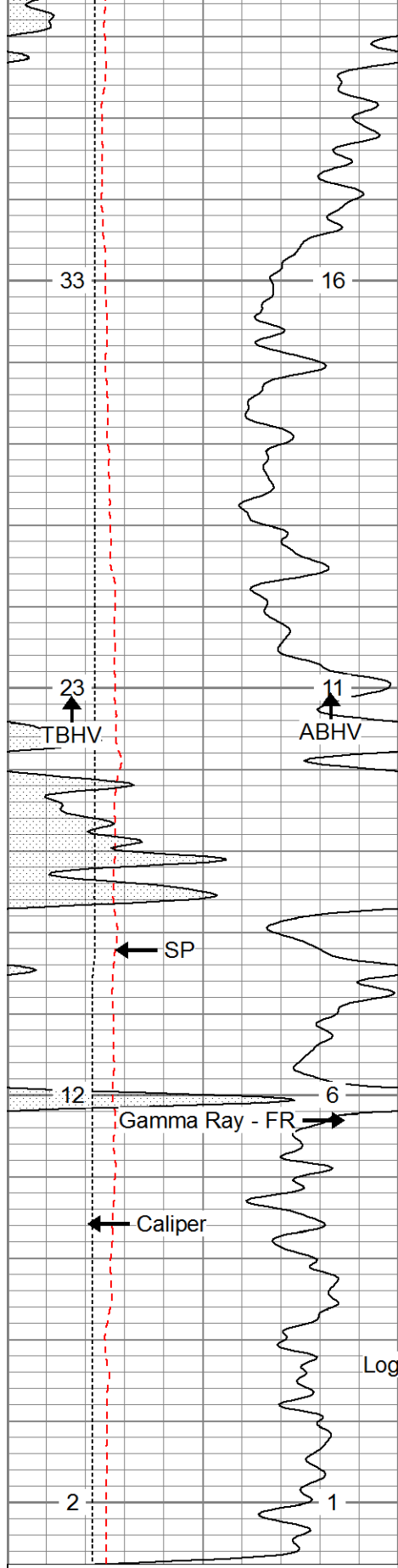




2000

2100



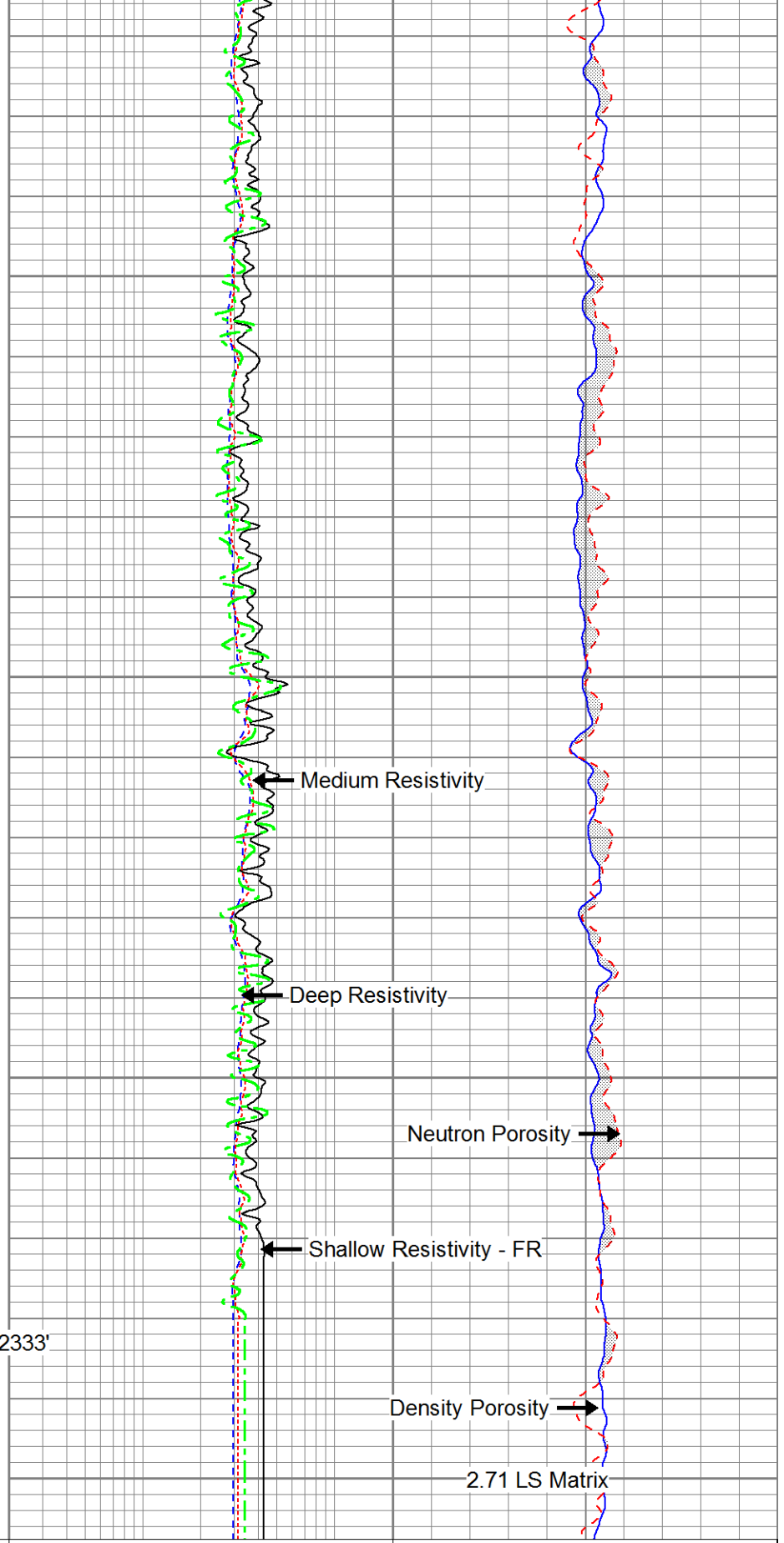


0	Gamma Ray (GAPI)	200
0	SP (mV)	200
4	Caliper (in)	14
TBHV (cu. ft.)	ABHV (cu. ft.)	
(ft3)	(ft3)	

2200

2300

Logger's TD: - 2333'

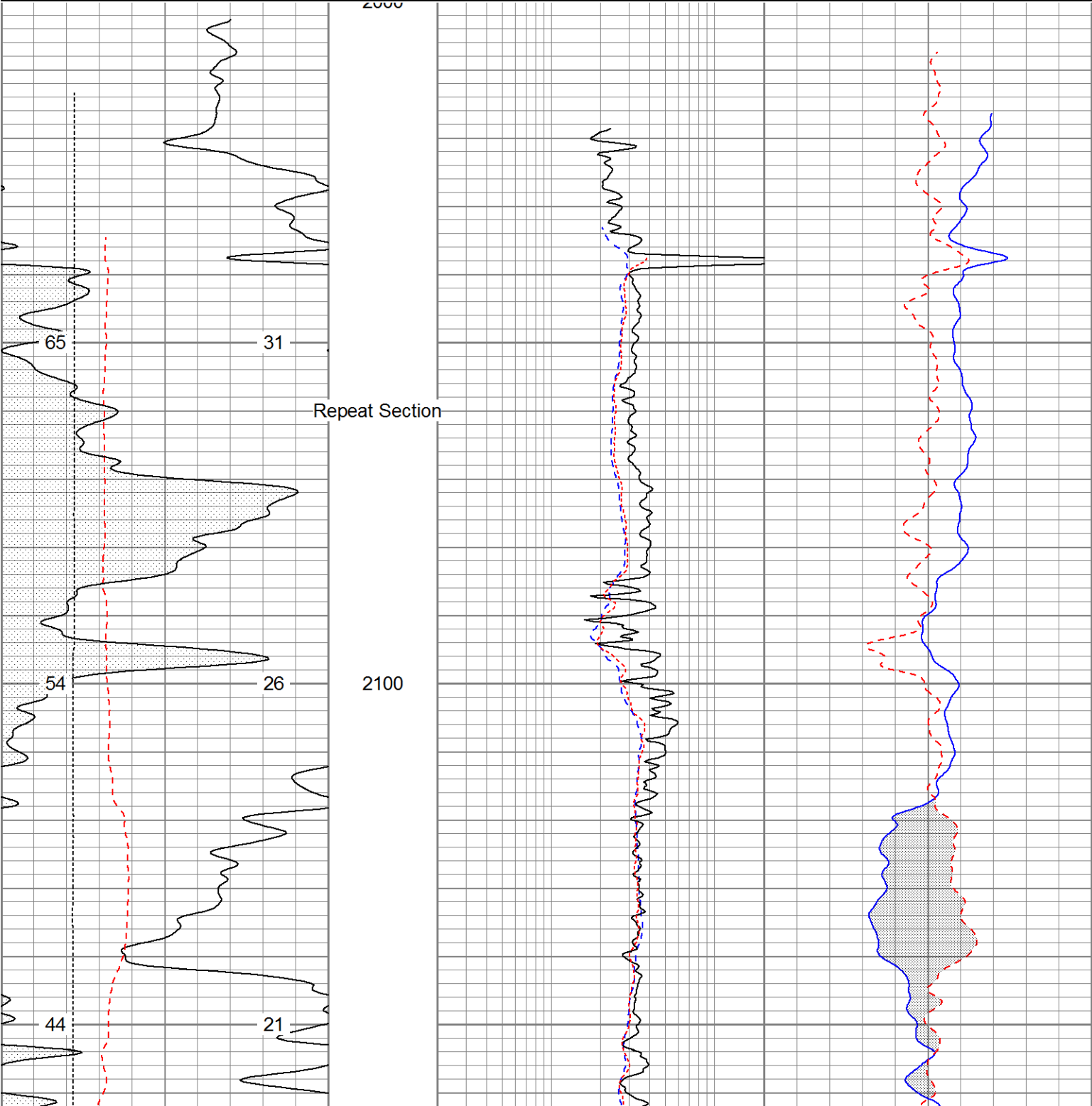


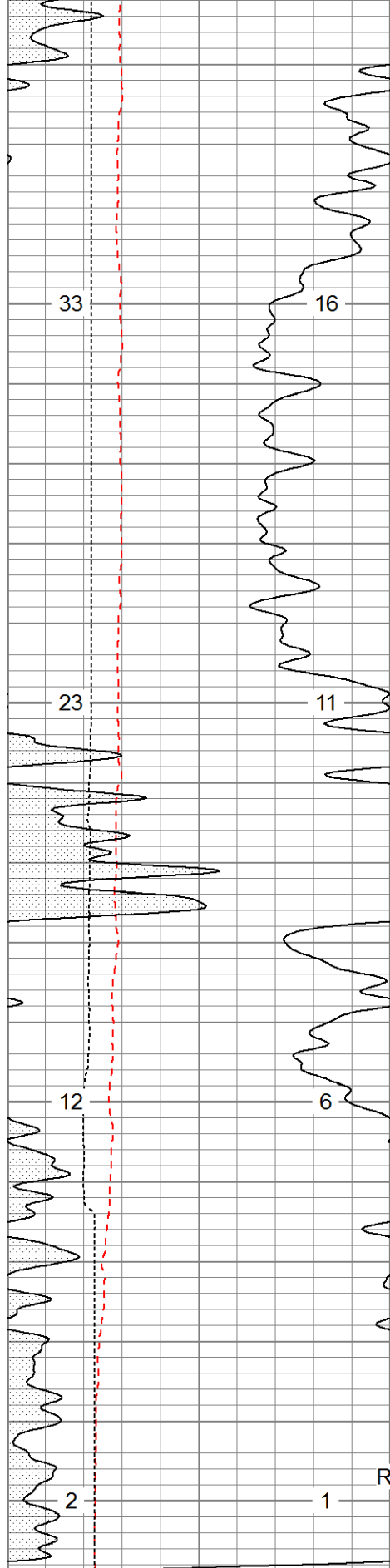
0.2	Deep Resistivity (Ohm-m)	20	60	Density Porosity (pu)	0
0.2	Shallow Resistivity (Ohm-m)	20	60	Neutron Porosity (pu)	0
0.2	Medium Resistivity (Ohm-m)	20			
0.2	Rt (Ohm-m)	20			

Database File: 13646.db  
Dataset Pathname: pass2.2  
Presentation Format: pdce  
Dataset Creation: Tue Aug 05 09:33:23 2014 by Calc 0  
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	200
0	SP (mV)	200
4	Caliper (in)	14
ABHV (cu. ft. (ft3)	ABHV (cu. ft. (ft3)	

0.2	Deep Resistivity (Ohm-m)	20	60	Density Porosity (pu)	0
0.2	Shallow Resistivity (Ohm-m)	20	60	Neutron Porosity (pu)	0
0.2	Medium Resistivity (Ohm-m)	20			



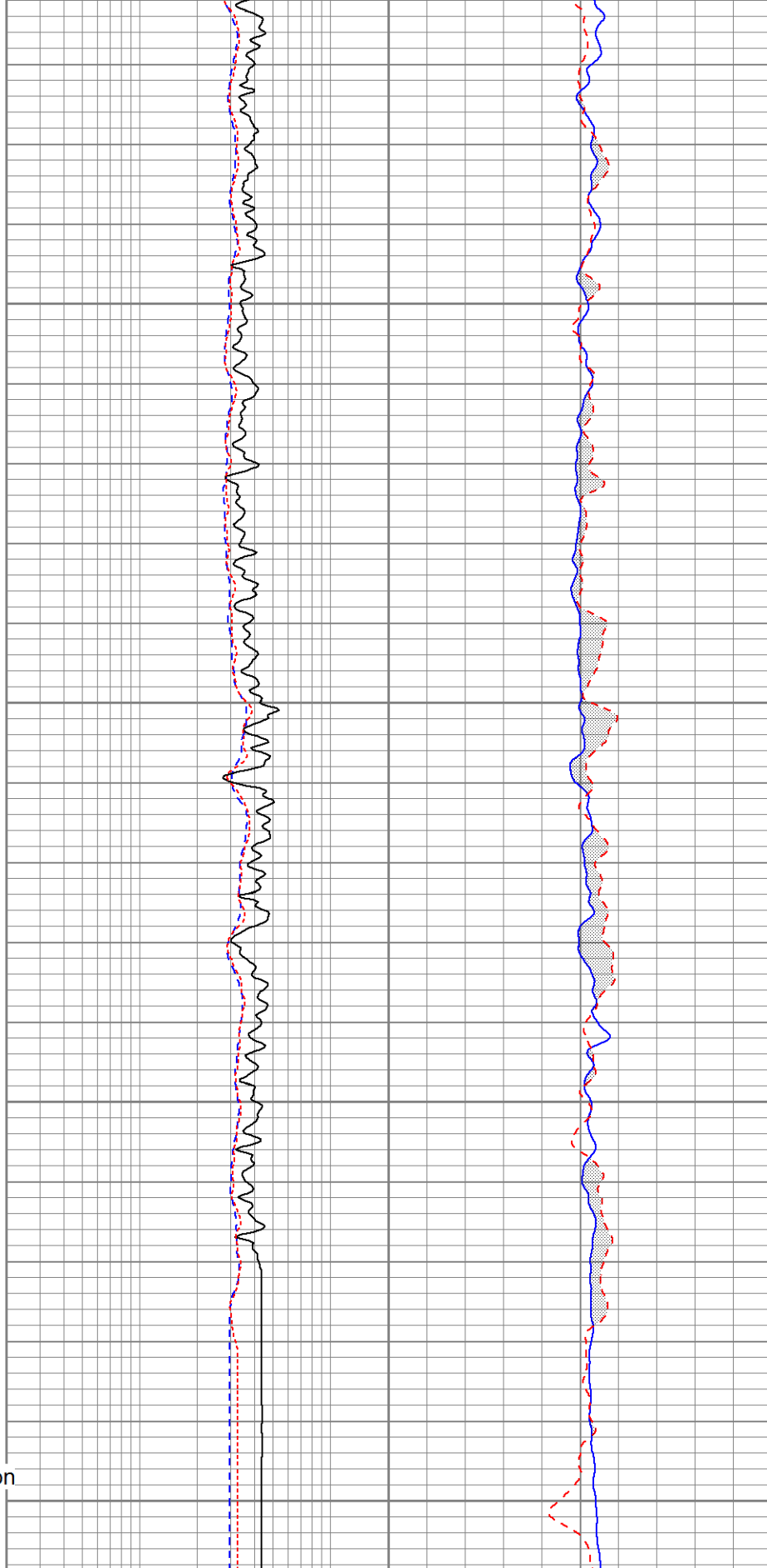


2200

2300

Repeat Section

0	Gamma Ray (GAPI)	200
0	SP (mV)	200
4	Caliper (in)	14
FBHV (cu. ft.)		ABHV (cu. ft.)
(ft3)		(ft3)



0.2	Deep Resistivity (Ohm-m)	20	60	Density Porosity (pu)	0
0.2	Shallow Resistivity (Ohm-m)	20	60	Neutron Porosity (pu)	0
0.2	Medium Resistivity (Ohm-m)	20			

## Calibration Report

Database File: 13646.db  
 Dataset Pathname: pass2  
 Dataset Creation: Tue Aug 05 09:17:06 2014 by Log 0

### Dual Induction Calibration Report

Serial-Model: 1039-PSI  
 Surface Cal Performed:

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	0.000	1.000	0.000	1.000	mmho/m	0.595	-45.000
Medium	0.000	1.000	0.000	1.000	mmho/m	0.475	-40.000

### Compensated Density Calibration Report

Serial-Model: 770-PSI  
 Source / Verifier: 4400 / PSI  
 Master Calibration Performed: Mon Jul 21 02:13:30 2014  
 Before Survey Verification Performed:  
 After Survey Verification Performed:

#### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.750	g/cc	6052.27	9575.17	cps
Aluminum	2.690	g/cc	1090.90	5872.16	cps
Spine Angle = 74.07			Density/Spine Ratio = 0.528		
	Size		Reading		
Small Ring	4.50	in	1.80		
Large Ring	13.00	in	1.46		

### Compensated Neutron Calibration Report

Serial Number: 853  
 Tool Model: PSI

#### CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.9000
Long Space	1.00	cps	1.00	cps	2.0600

### Gamma Ray Calibration Report

Serial Number: 223  
 Tool Model: PSI  
 Performed: Tue Jul 29 05:11:24 2014

Calibrator Value: 253.0      GAPI

Background Reading: 30.0      cps

Calibrator Reading:	380.0	cps
Sensitivity:	0.6300	GAPI/cps

Log Variables

Database: C:\Warrior\Data\13646.db  
Dataset: field/well/run1/pass2

Top - Bottom

SZCOR Off	NPORSEL Limestone	FLUIDDEN g/cc 1	MATRXDEN g/cc 2.71	SPSHIFT mV 0	SNDERRM mmho/m 0	SNDERR mmho/m 0	SRFTEMP degF 0
CASEOD in 4.5	PERFS 0	TDEPTH ft 0	BOTTEMP degF 105	BOREID in 7.875			