

# Compensated Density Neutron Log

Company		Pioneer Natural Resources	
Well		Argon 43-31	
Field		Purgatoire River	
County		Las animas	
State		CO	
Location:		API #: 05 071 09823 0000	
SEC 31 TWP 33S RGE 65W		NE/SE	
Permanent Datum Log Measured From		Ground Level KB	
Drilling Measured From		KB	
Other Services		Elevation	
		K.B. 6543	
		D.F. 6538	
		G.L. 6538	
Date	22 April 11		
Run Number	two		
Depth Driller	925		
Depth Logger	924		
Bottom Logged Interval	922		
Top Log Interval	250		
Casing Driller	258		
Casing Logger	258		
Bit Size	7 7/8		
Type Fluid in Hole	water		
Density / Viscosity	//		
pH / Fluid Loss	//		
Source of Sample	//		
Rm @ Meas. Temp	//		
Rmf @ Meas. Temp	//		
Rmc @ Meas. Temp	//		
Source of Rmf / Rmc	//		
Rm @ BHT	//		
Time Circulation Stopped	6:00 PM		
Time Logger on Bottom	8:00 PM		
Maximum Recorded Temperature	//		
Equipment Number	590		
Location	TR		
Recorded By	Patterson		
Witnessed By	B Vigil		

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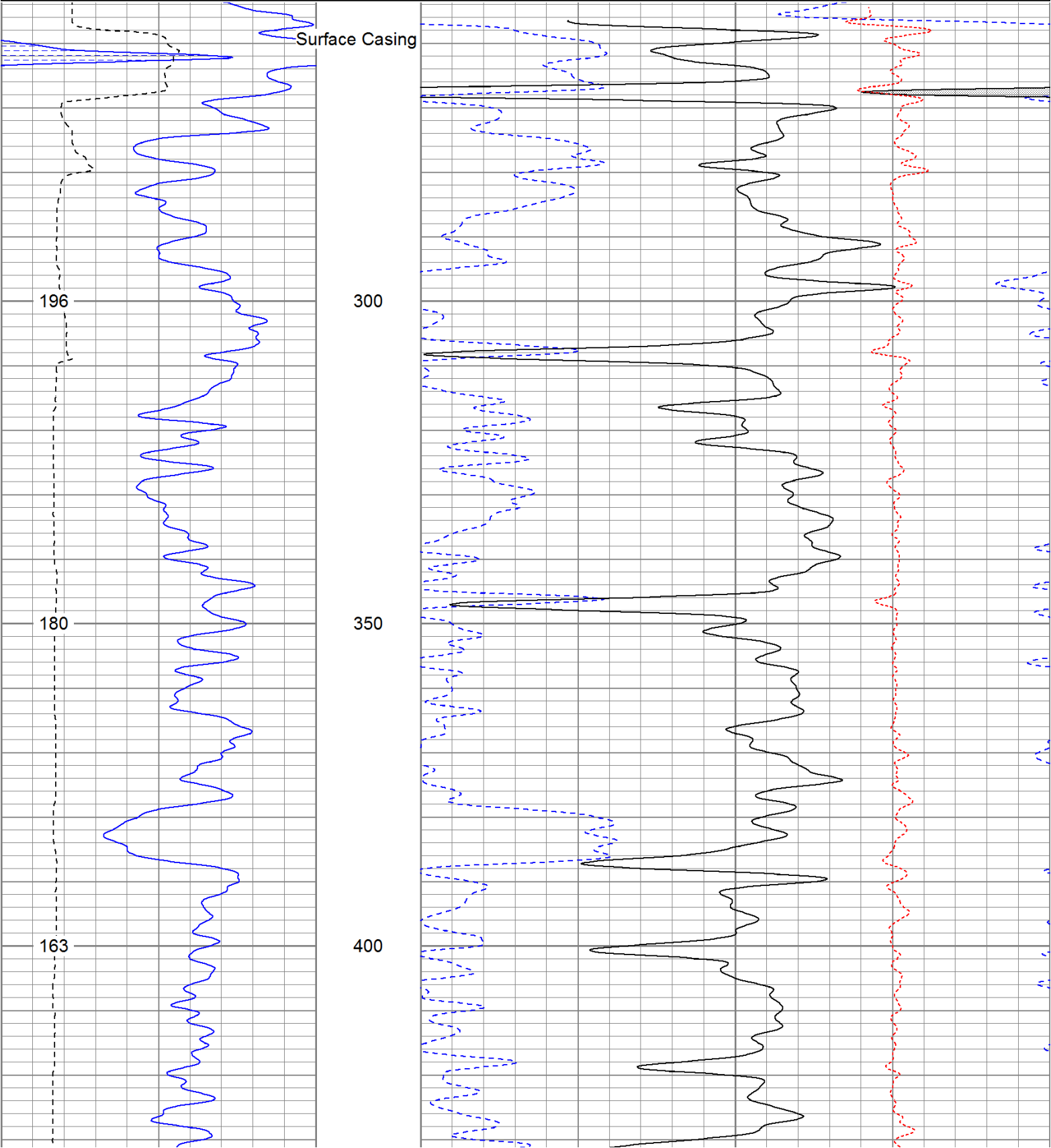
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

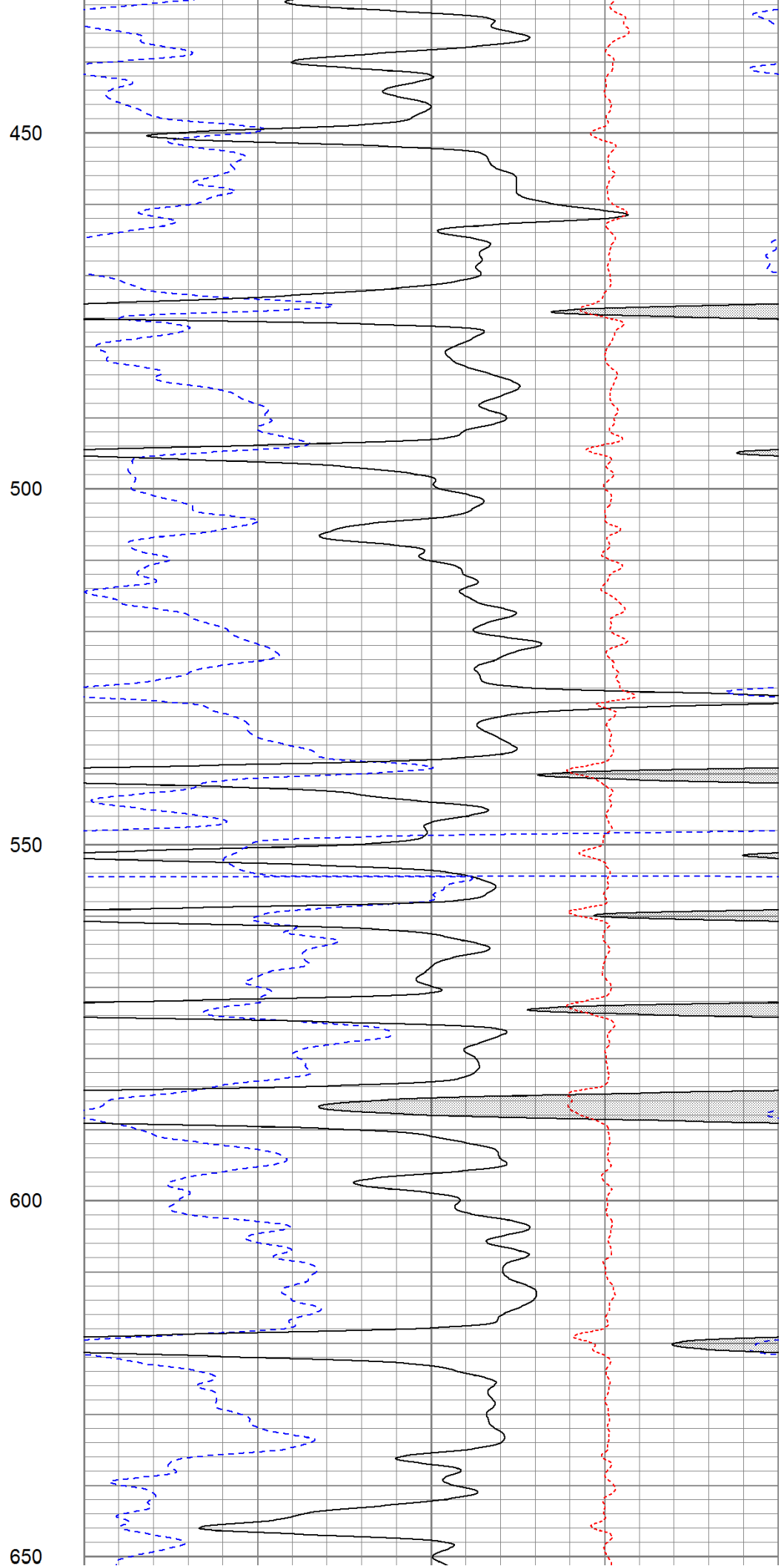
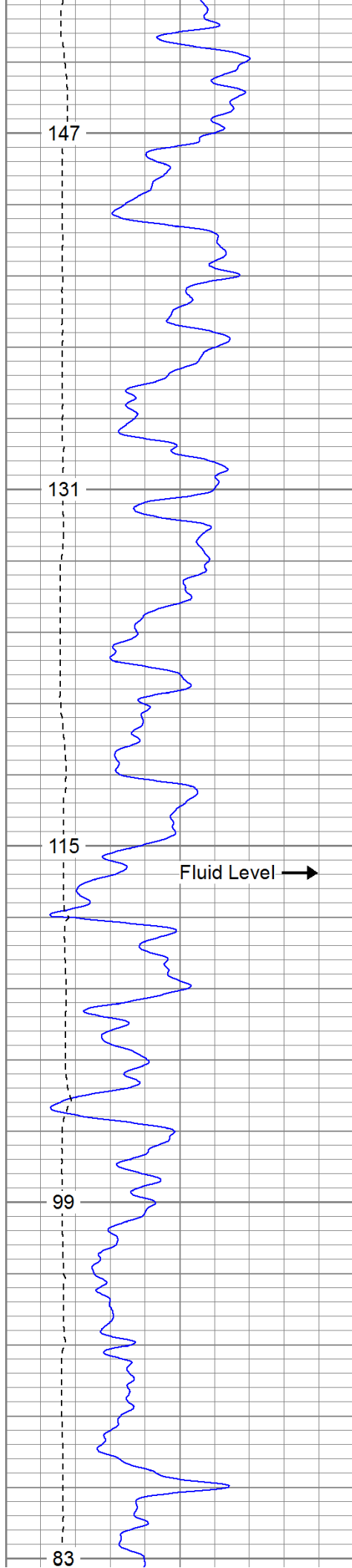
## Comments

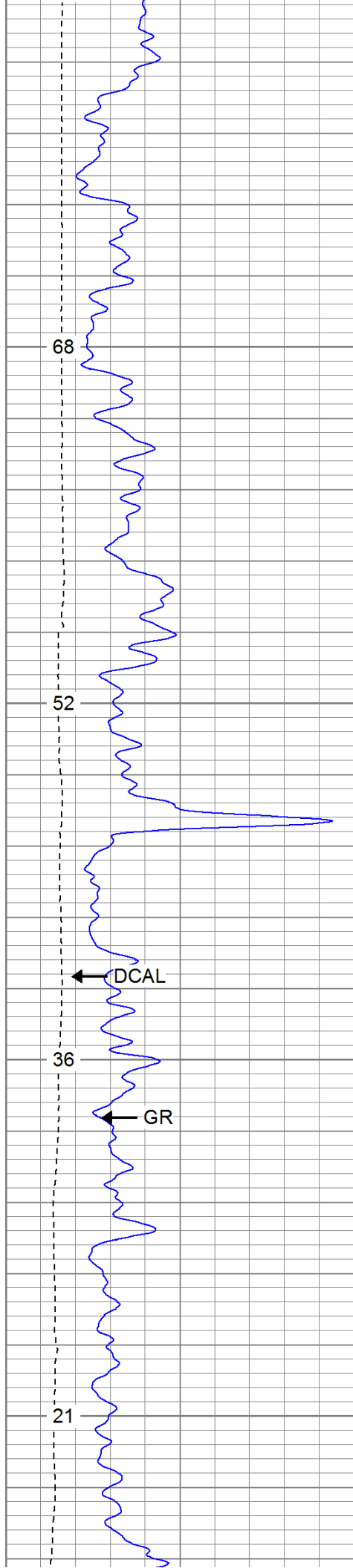
Database File: argon4331.db  
Dataset Pathname: pass3.1  
Presentation Format: cdnl  
Dataset Creation: Sun Apr 24 13:23:40 2011 by Calc Open-Cased 110302  
Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	200
6	DCAL (in)	16
TBHV (ft3)		

30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5





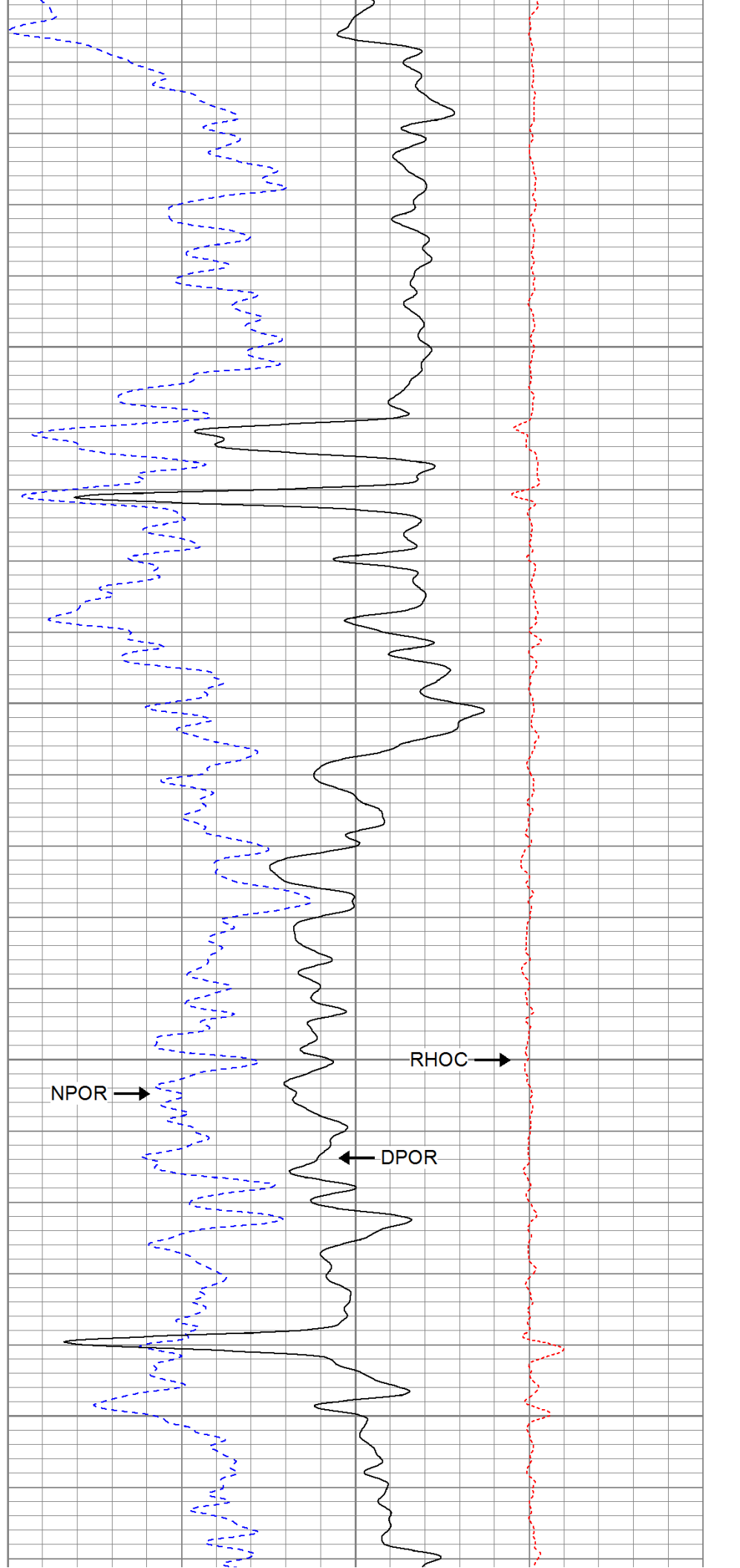


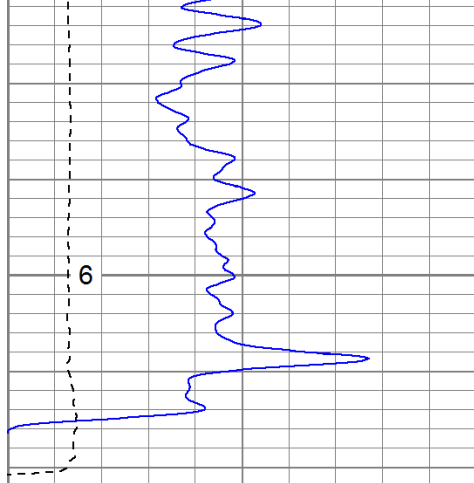
700

750

800

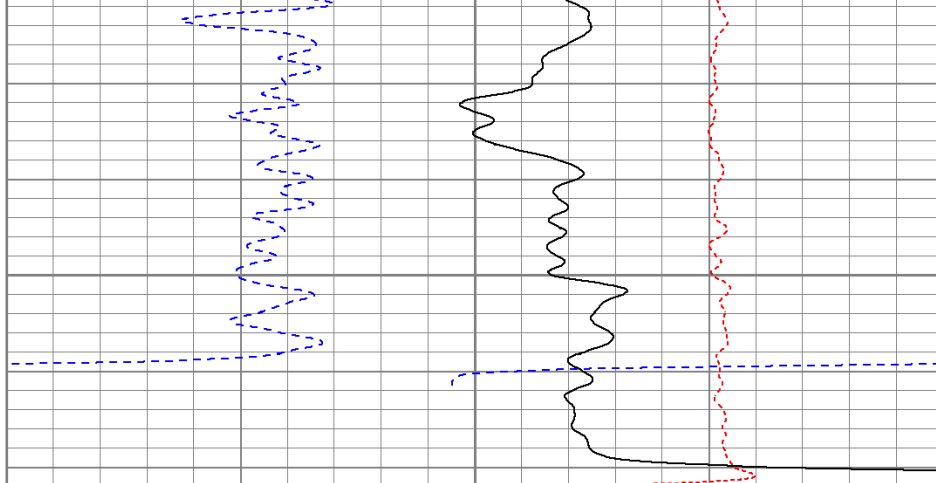
850





0	GR (GAPI)	200
6	DCAL (in)	16
TBHV (ft3)		

900



30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5

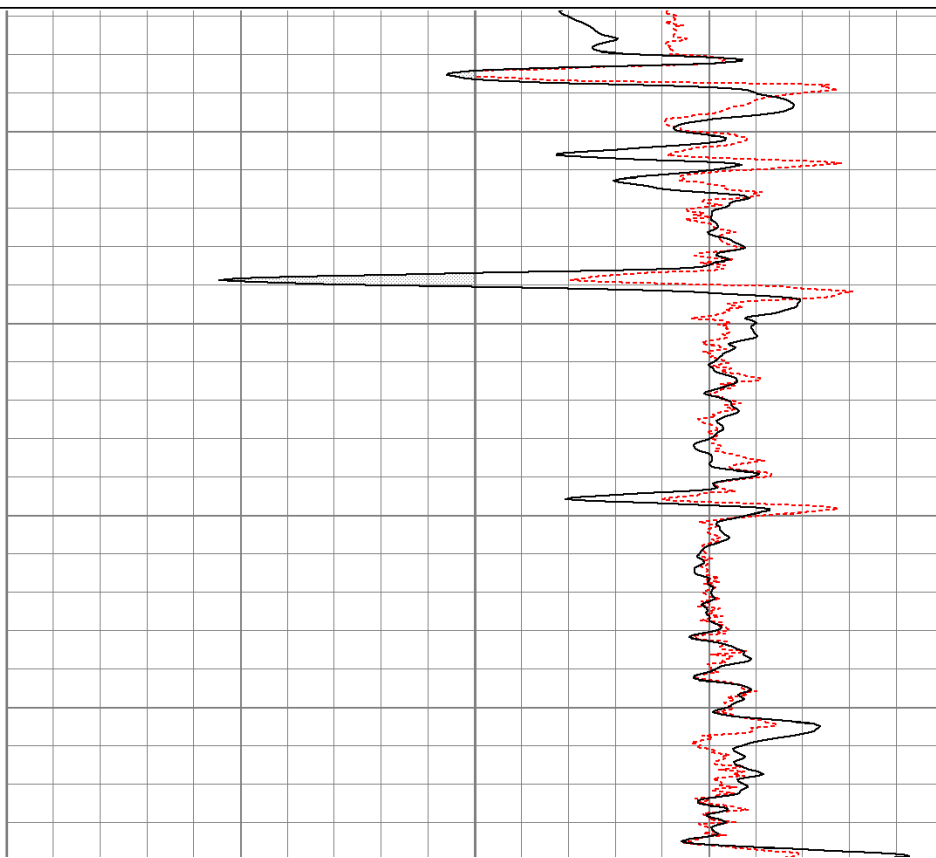
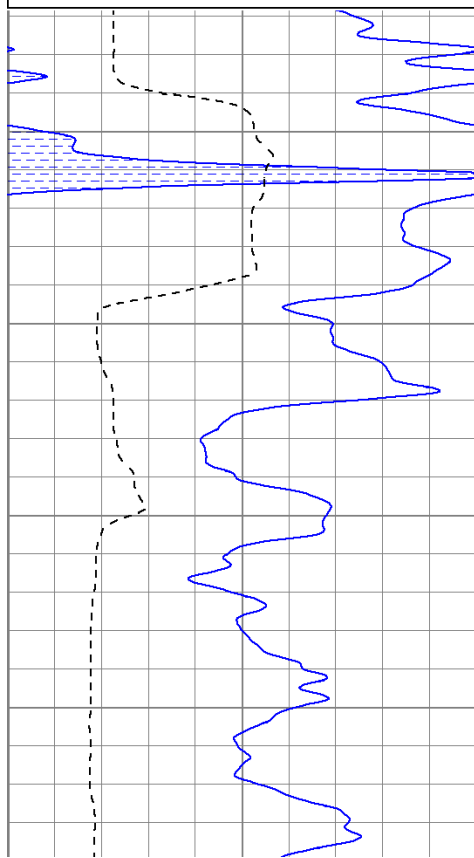


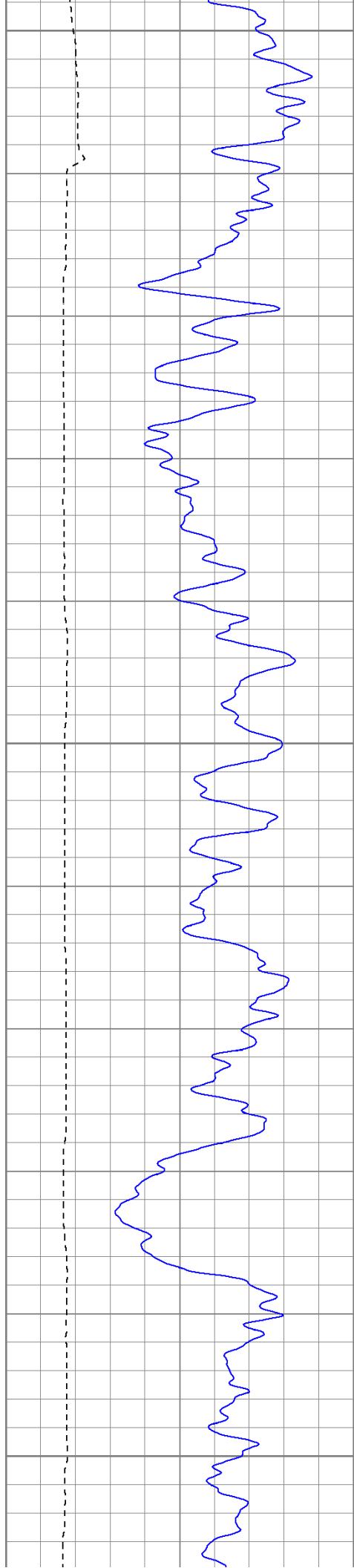
# High Resolution

Database File: argon4331.db  
 Dataset Pathname: pass3.2  
 Presentation Format: cdlhr  
 Dataset Creation: Sun Apr 24 13:33:32 2011 by Calc Open-Cased 110302  
 Charted by: Depth in Feet scaled 1:120

0	GR (GAPI)	200
6	DCAL (in)	16

1	RHOB (g/cc)	3
-0.5	RHOC (g/cc)	0.5

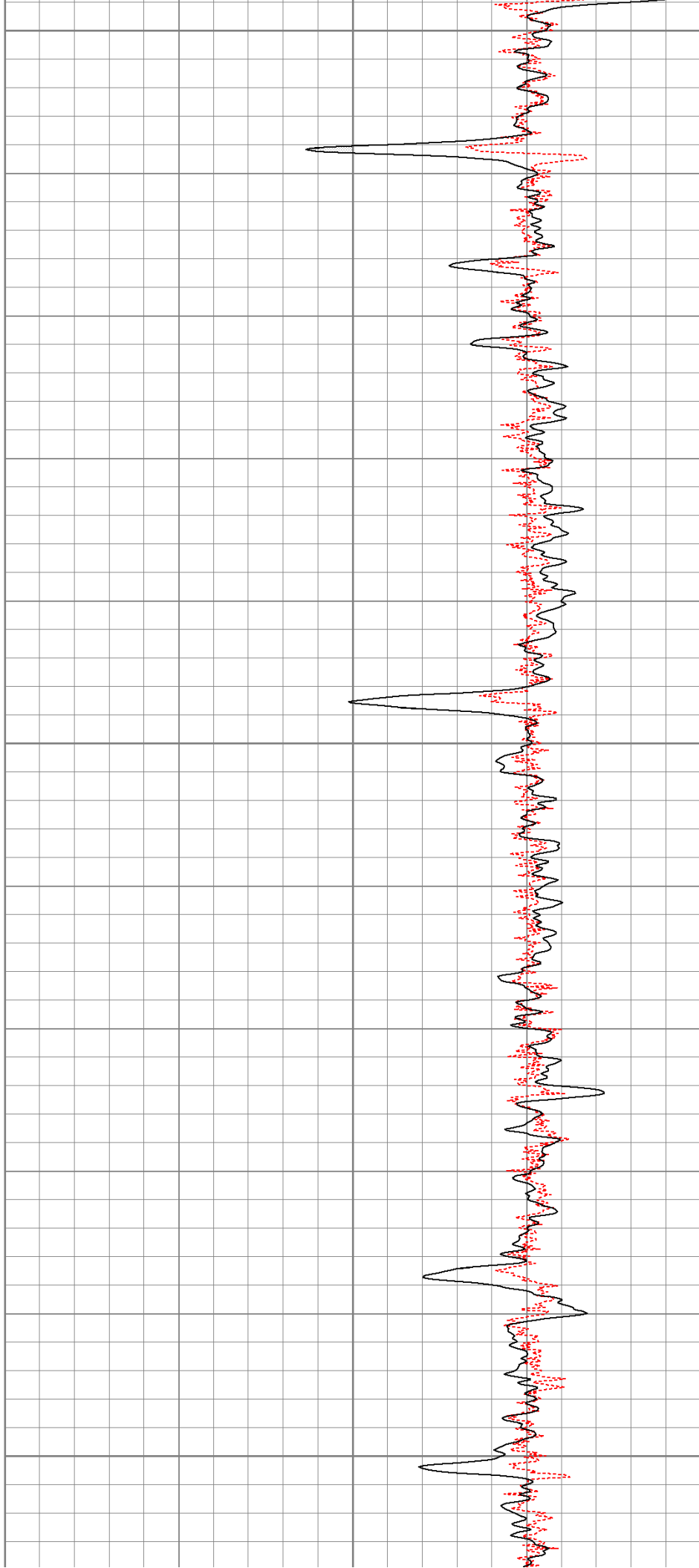


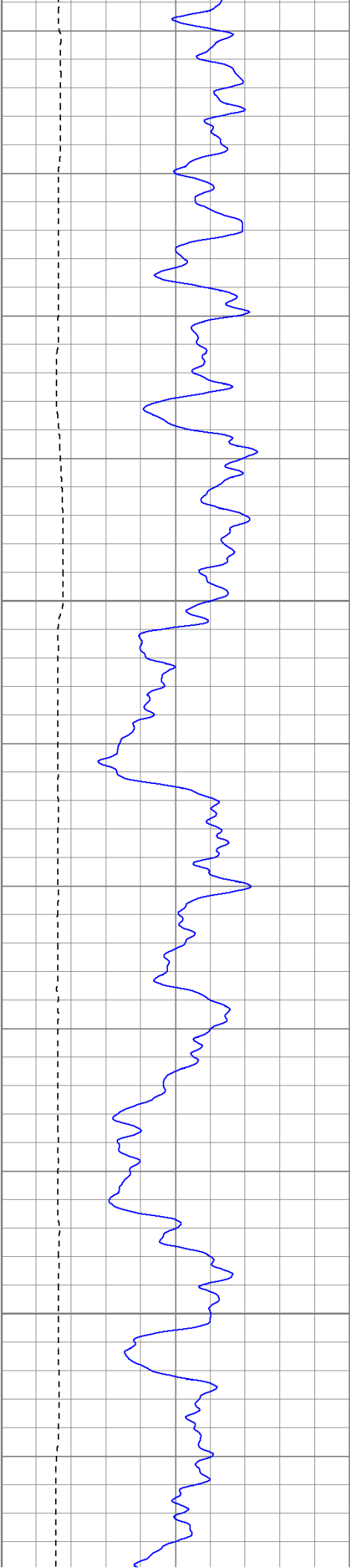


300

350

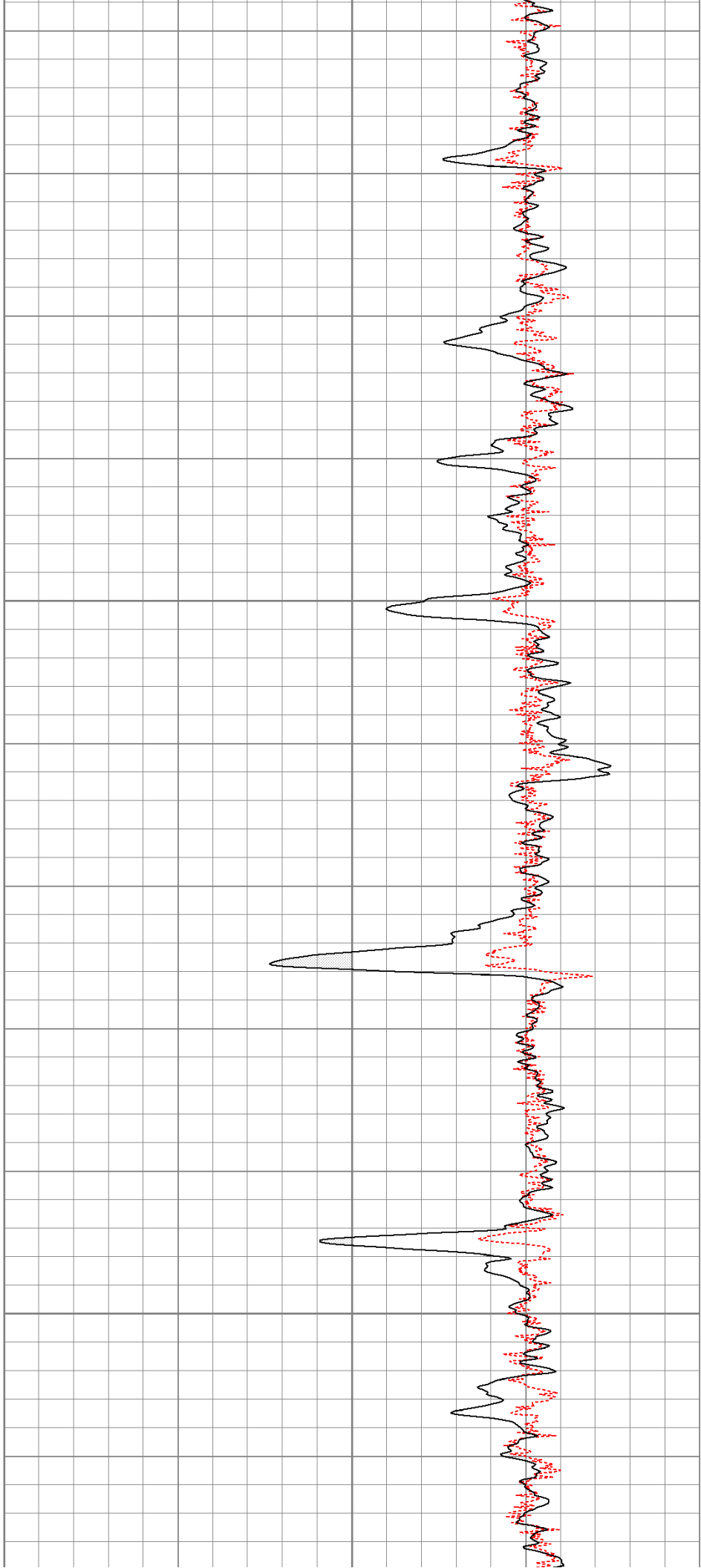
400





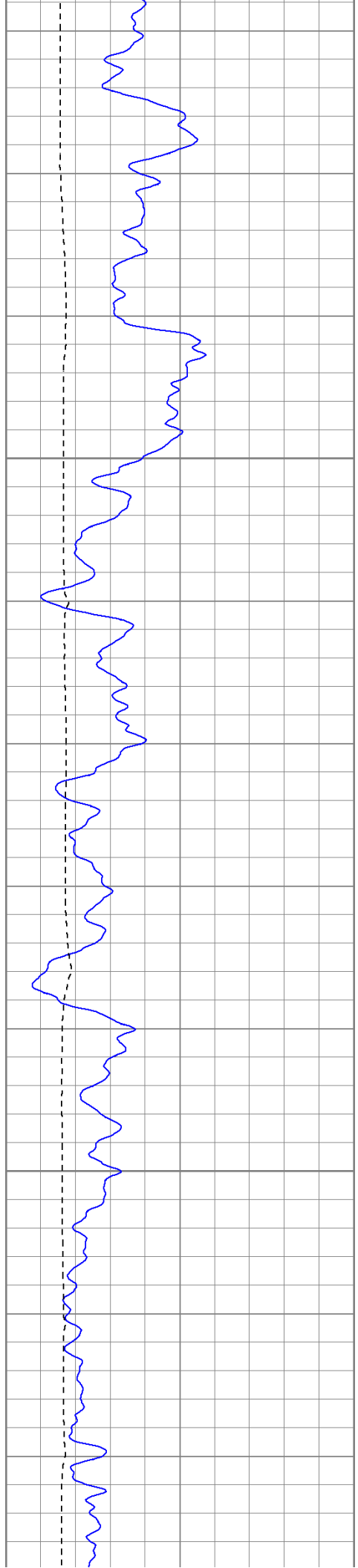
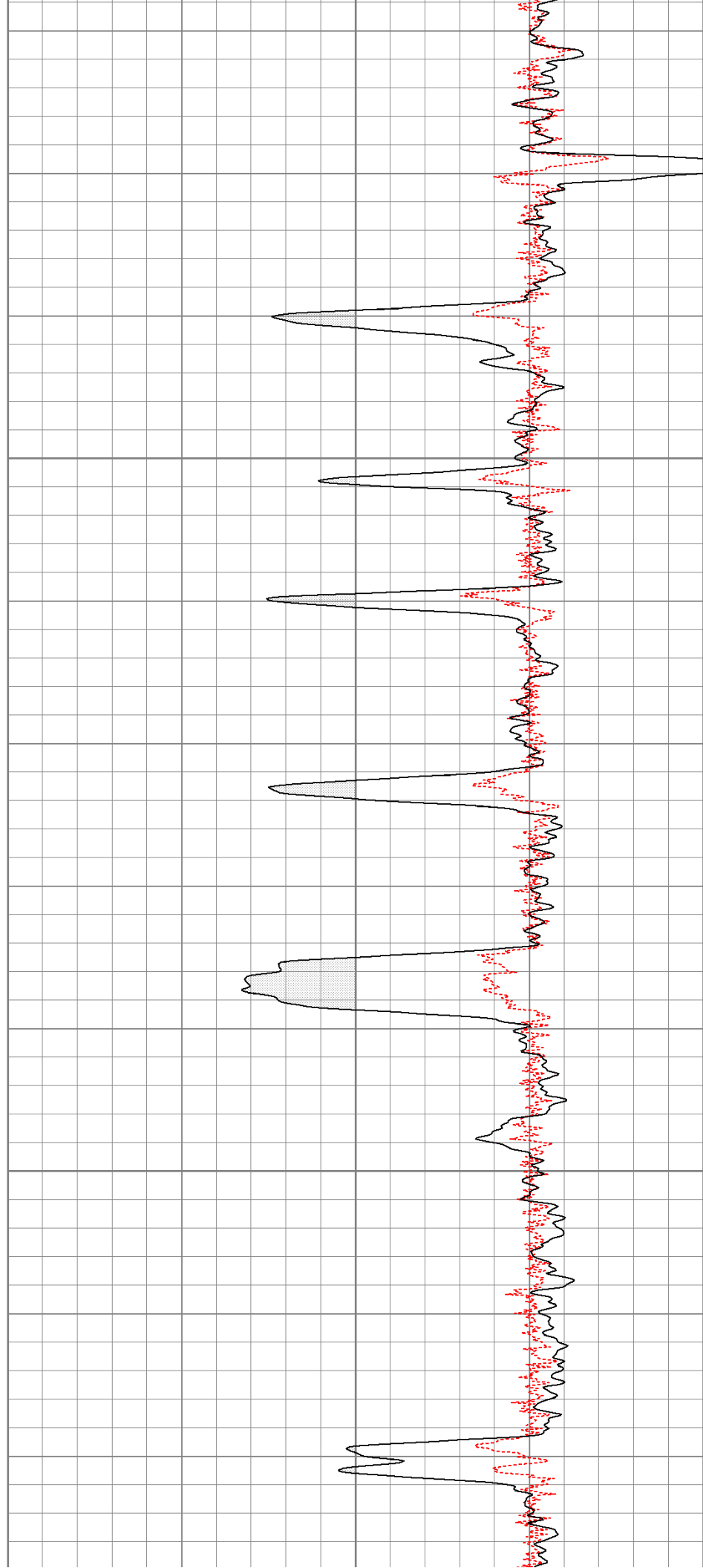
450

500

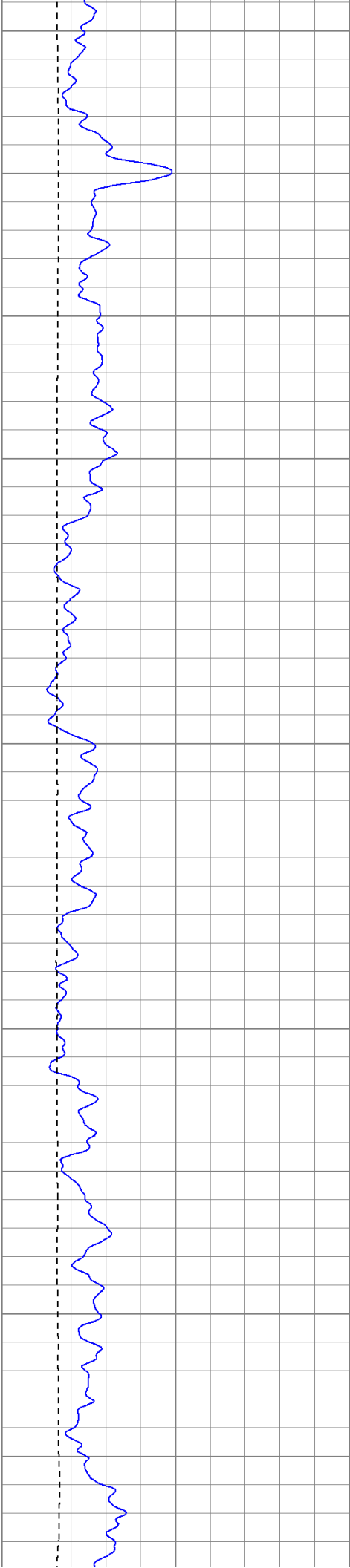


550

600

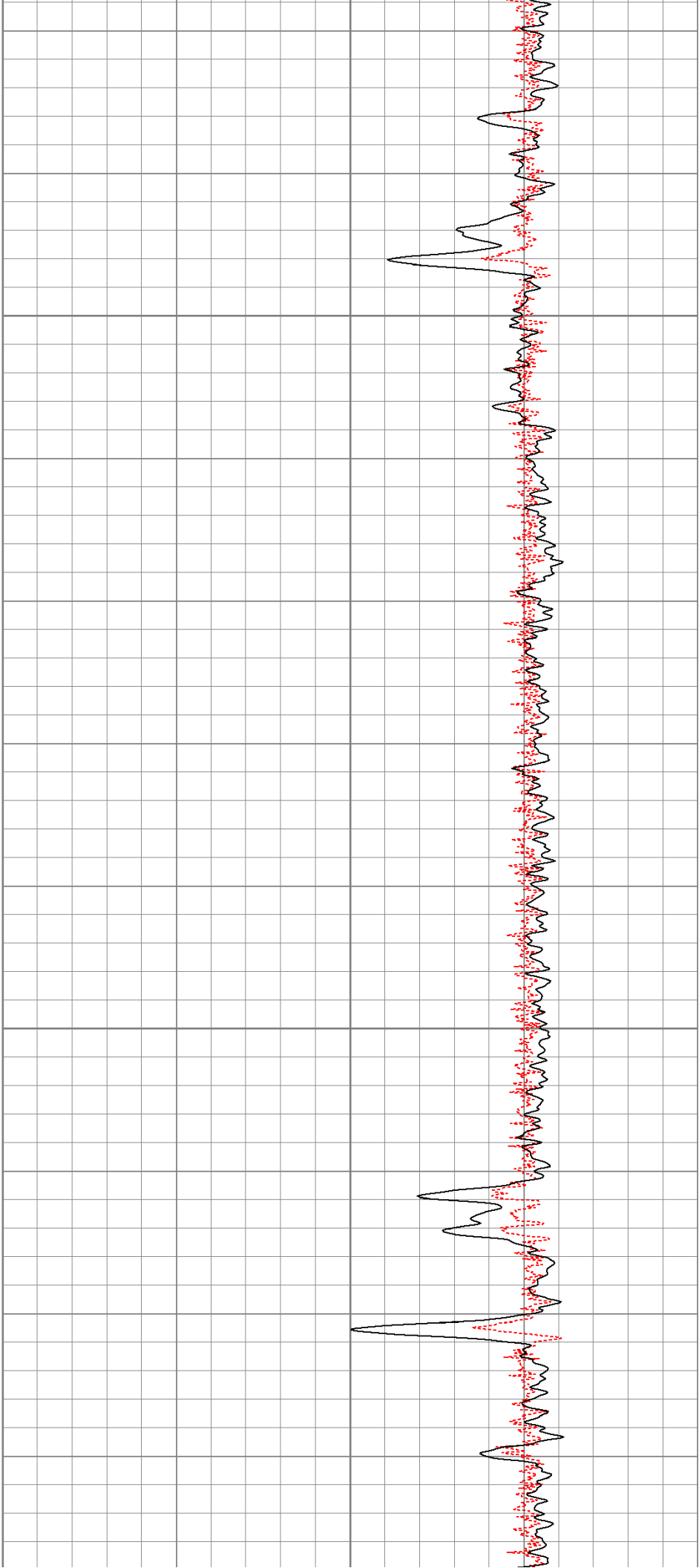


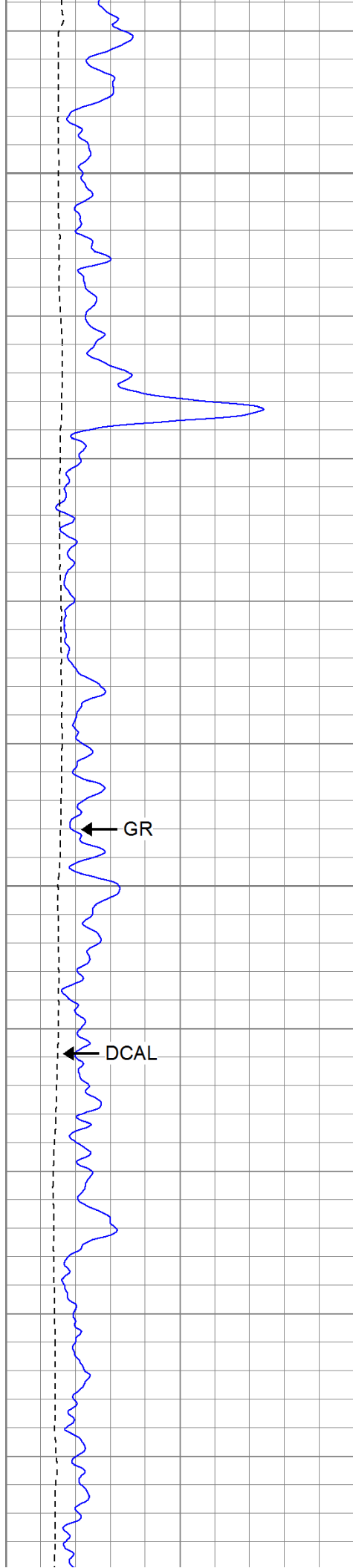




650

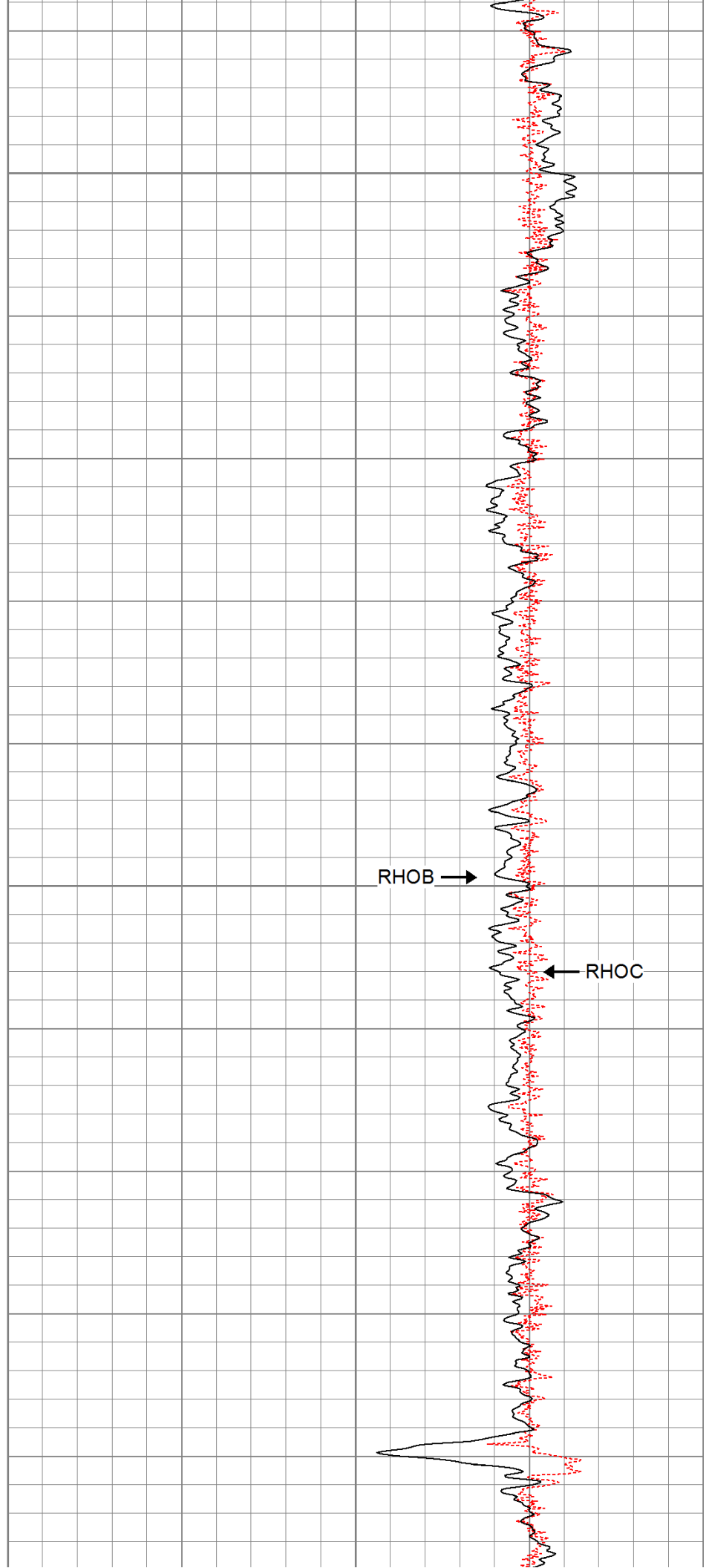
700





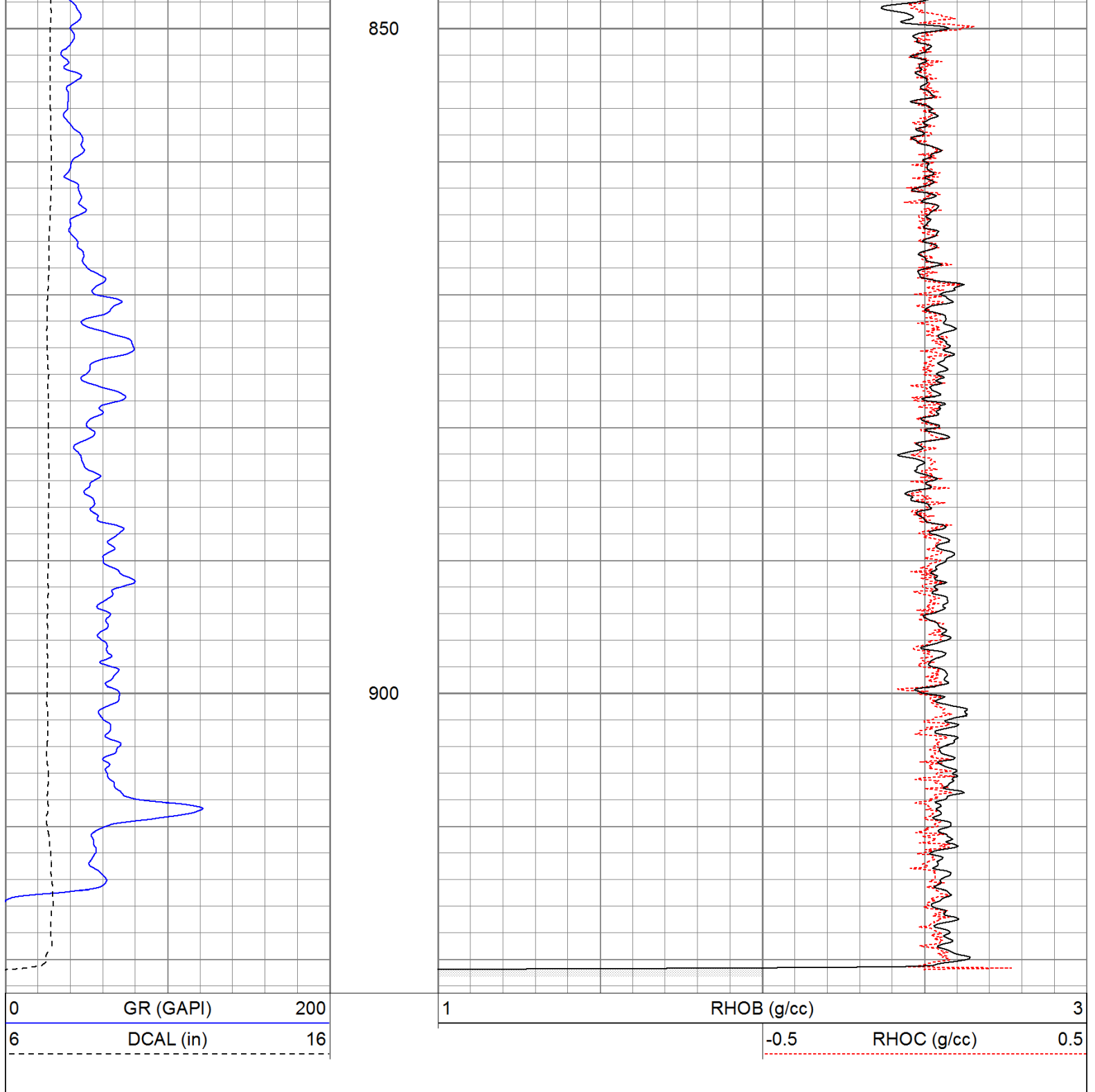
750

800



RHOB →

← RHOC



### Calibration Report

Database File: argon4331.db  
Dataset Pathname: pass3.2  
Dataset Creation: Sun Apr 24 13:33:32 2011 by Calc Open-Cased 110302

### Compensated Density Calibration Report

Serial-Model: 2118-poilex  
Source / Verifier: /  
Master Calibration Performed: Sun Apr 17 12:05:12 2011  
Before Survey Verification Performed:  
After Survey Verification Performed:

Master Calibration

	<u>Density</u>			<u>Far Detector</u>	<u>Near Detector</u>	
Magnesium	1.710	g/cc		1293.24	739.78	cps
Aluminum	2.590	g/cc		100.94	298.43	cps
Spine Angle = 70.41			Density/Spine Ratio = 0.325			
	<u>Size</u>			<u>Reading</u>		
Small Ring	8.00	in		4.52	V	
Large Ring	14.00	in		8.31	V	

Before Survey Verification						
	<u>Target</u>			<u>Measured</u>		
		g/cc			g/cc	
		g/cc			g/cc	
		g/cc			g/cc	

After Survey Verification						
	<u>Target</u>			<u>Measured</u>		
		g/cc			g/cc	
		g/cc			g/cc	
		g/cc			g/cc	

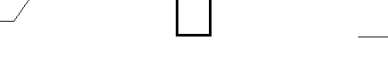
Gamma Ray Calibration Report						
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Serial Number:		2119				
Tool Model:		Oilex				
Performed:		Wed Apr 16 02:17:32 2008				
Calibrator Value:		1.0	GAPI			
Background Reading:		0.0	cps			
Calibrator Reading:		1.0	cps			
Sensitivity:		0.7100	GAPI/cps			

Neutron Calibration Report						
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Serial Number:		5145				
Tool Model:		G				
Performed:		Tue Dec 16 09:41:16 2008				
Calibrator Value:		1200	NAPI			
Calibrator Reading:		1700	cps			
Sensitivity:		0.705882	NAPI/cps			

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
NEU	12.86		NEU-G (5145) Gearhart Epithermal	5.65	3.50	85.00
GR	7.41		GR-Oilex (2119) Oilex	2.83	3.63	74.00
LSD DCAL	1.83 1.42		CDL-poilex (2118)	6.17	4.00	275.00

SSD	1.25				
Dataset: argon4331.db: field/well/run1/pass3.2 Total Length: 14.65 ft Total Weight: 434.00 lb O.D. 4.00 in					