The Perforators LLC

COMPENSATED DENSITY NEUTRON LOG

Company	Pioneer Natural Resources
Well	Sundance 24-28 Tr
Field	Purgatoire River
County	Las Animas
State	Colorado

Company Pioneer Natural Resources

Well Sundance 24-28 Tr

Field Purgatoire River

County Las Animas State Colorado

Location: API #: 05 071 09791-0000

391' FSL & 1538' FWL

SEC 28 TWP 32S RGE 66W

Other Services: SIL

Permanent Datum: Ground Level Elevation 7418'

Log Measured From: Kelly Bushing 4' AGL

Drilling Measured From: Kelly Bushing

Elevation: K.B. 7422' D.F. ----- G.L. 7418'

Date	5-24-11		
Run Number	One		
Depth Driller	1785'		
Depth Logger	1781'		
Bottom Logged Interval	1765'		
Top Log Interval	Surface Casing		
Casing Driller	8 5/8" @ 888'		
Casing Logger	888'		
Bit Size	7 7/8"		
Type Fluid in Hole	Airiated 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	2:30 P.M.		
Time Logger on Bottom	6:30 P.M.		
Maximum Recorded Temperature	96 DEG F		
Equipment Number	T590		
Location	Trinidad		
Recorded By	C. Sisneros		
Witnessed By	Mr. D. Berry		

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Comments

Density Porosity Presented On Sandstone Matrix.
ABHV Calculated For 5.5" Casing.

Directions:
Riley Canyon, straight at Post Office, left at Y,stay on main road and left on C.R. 30.1, right up hill to Cotton Tail Compressor Station, drive thru station, stay straight, second right, dead end on location.

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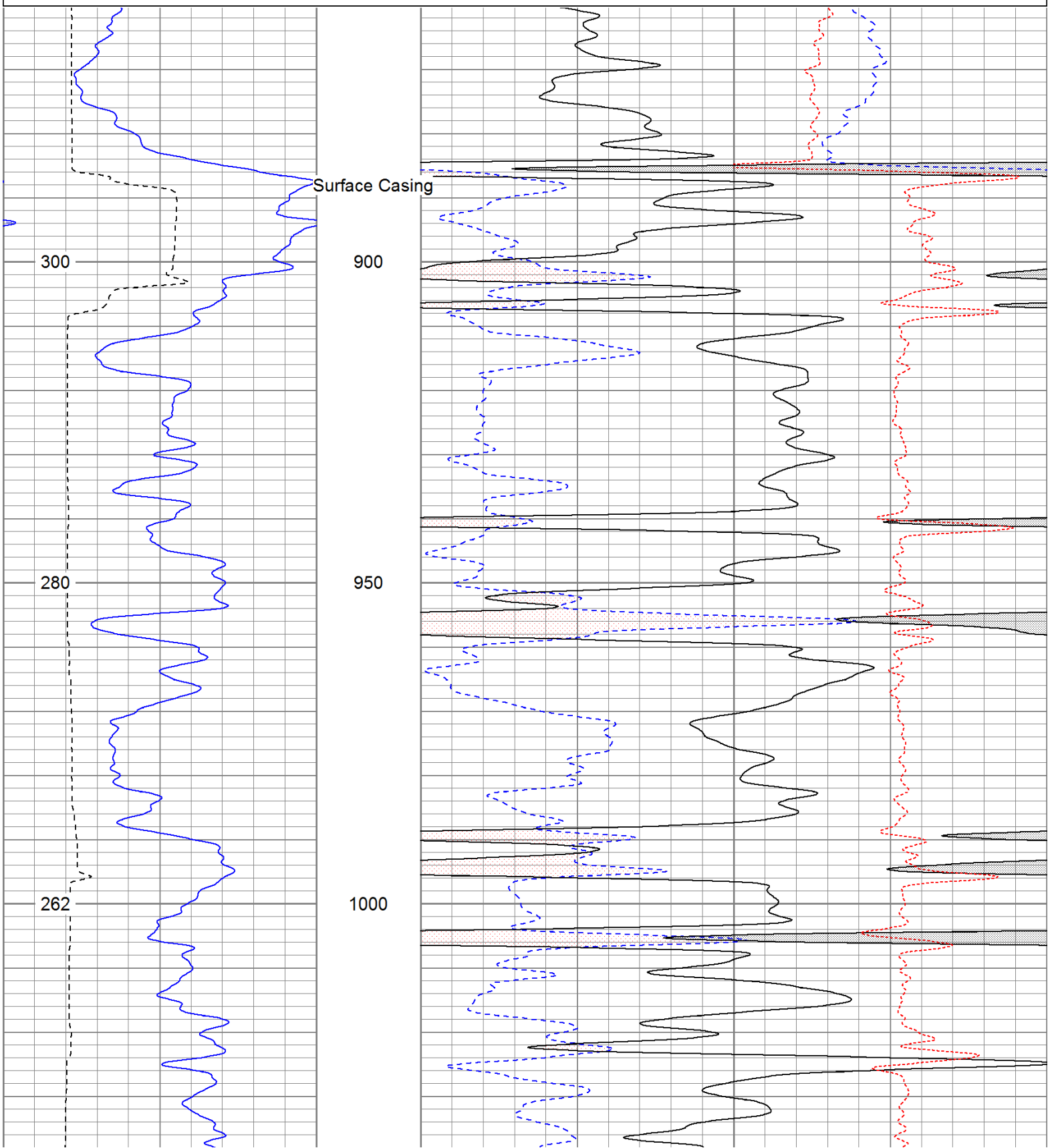
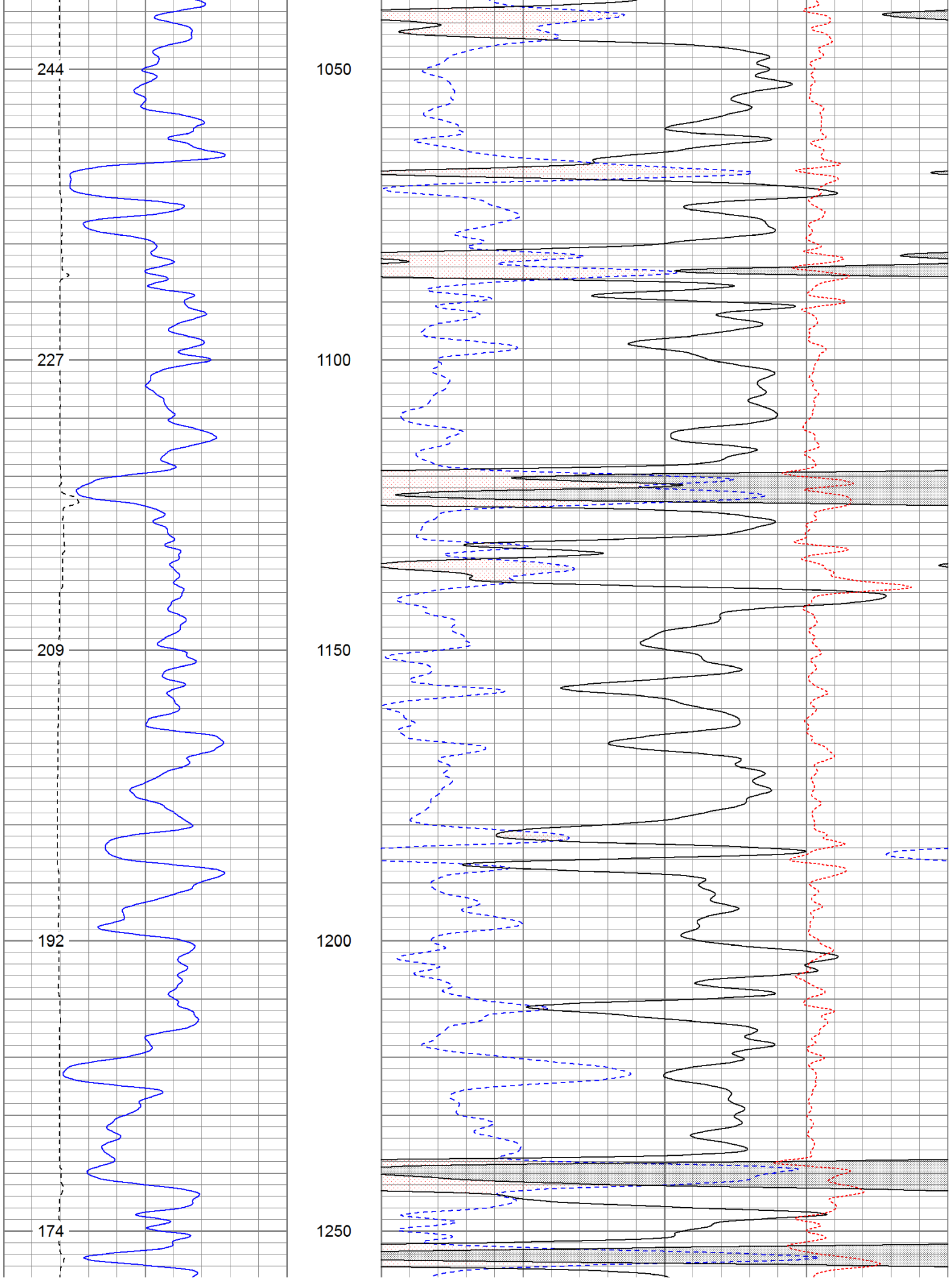
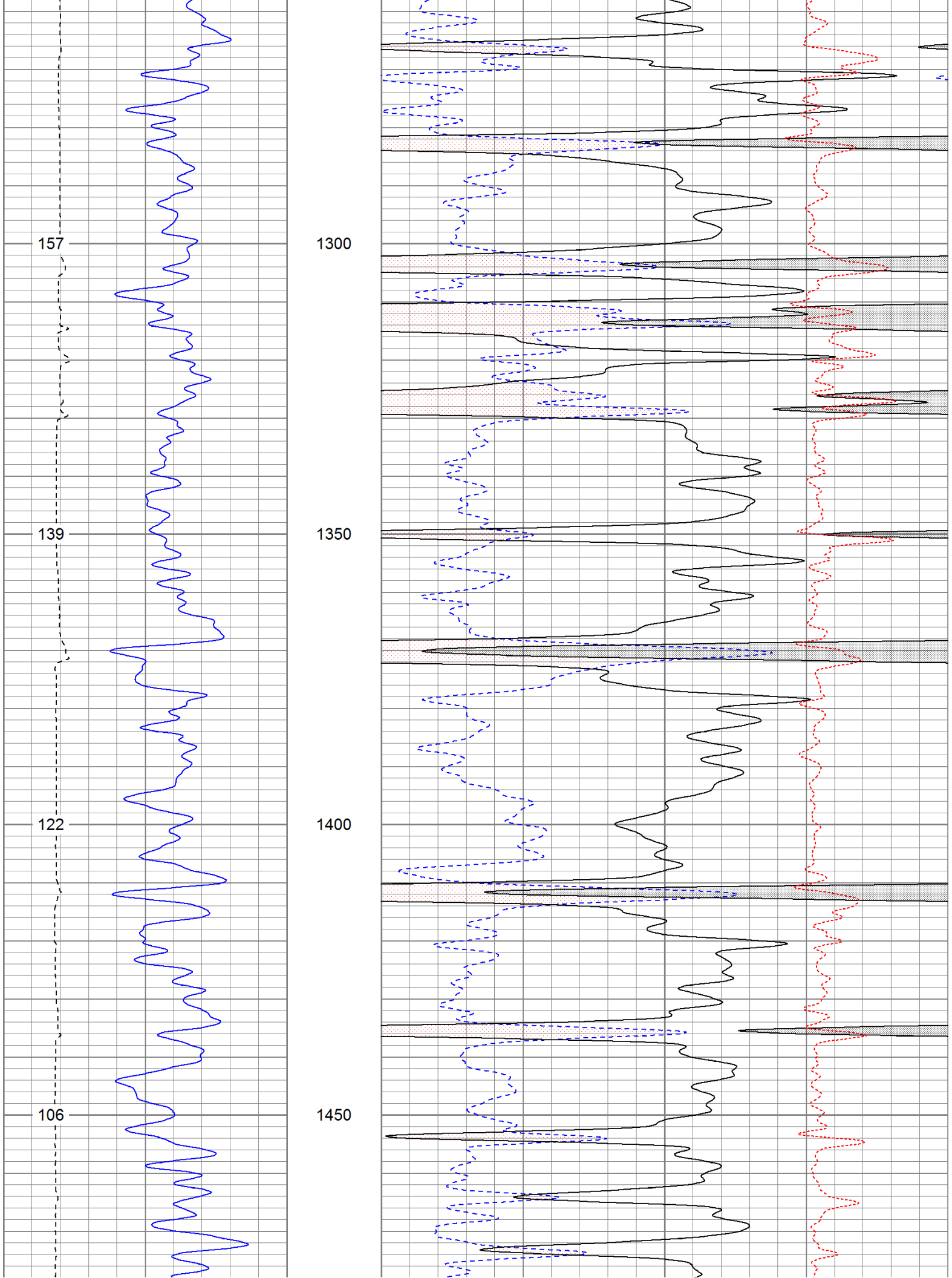
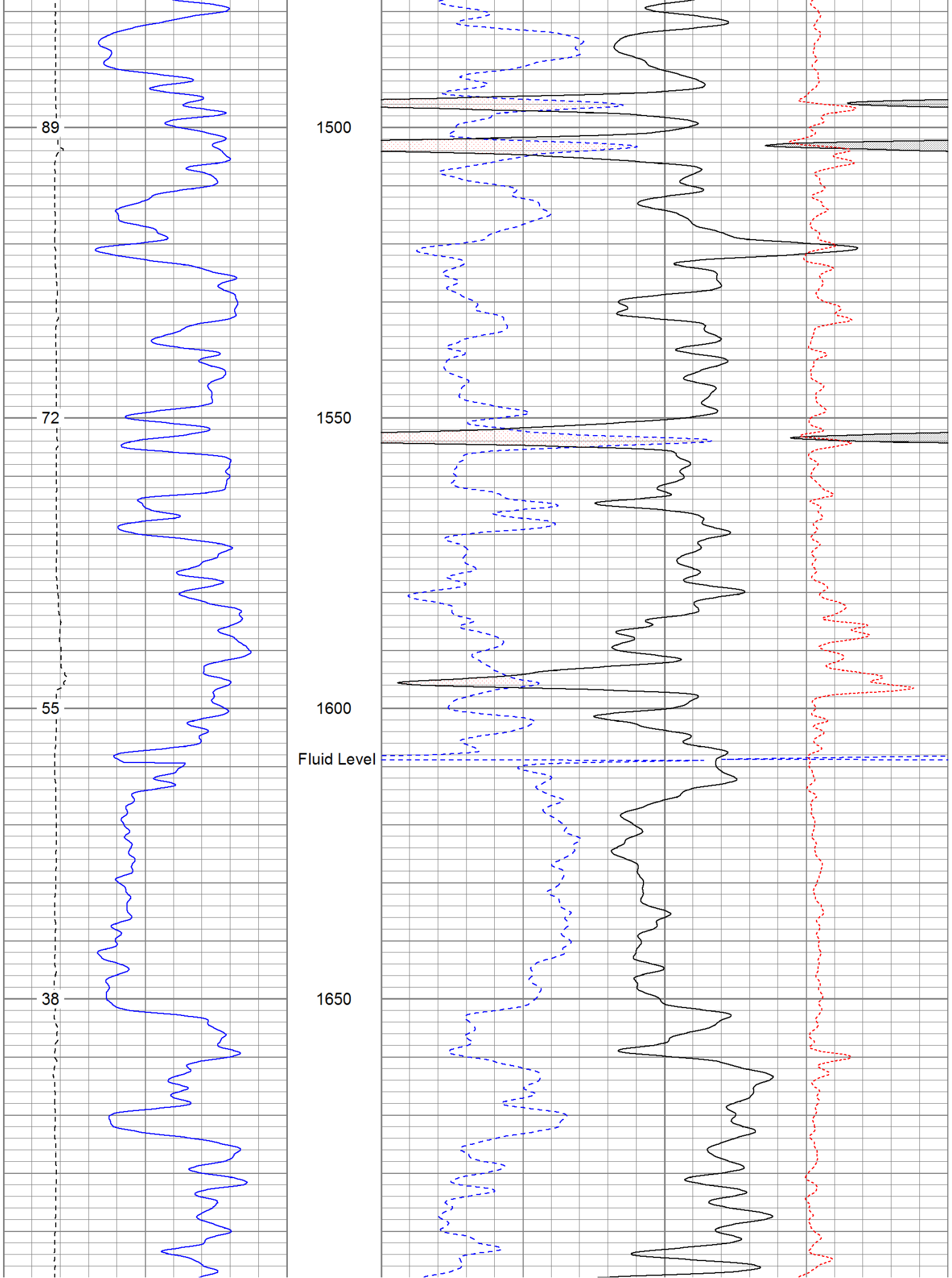
Main Pass

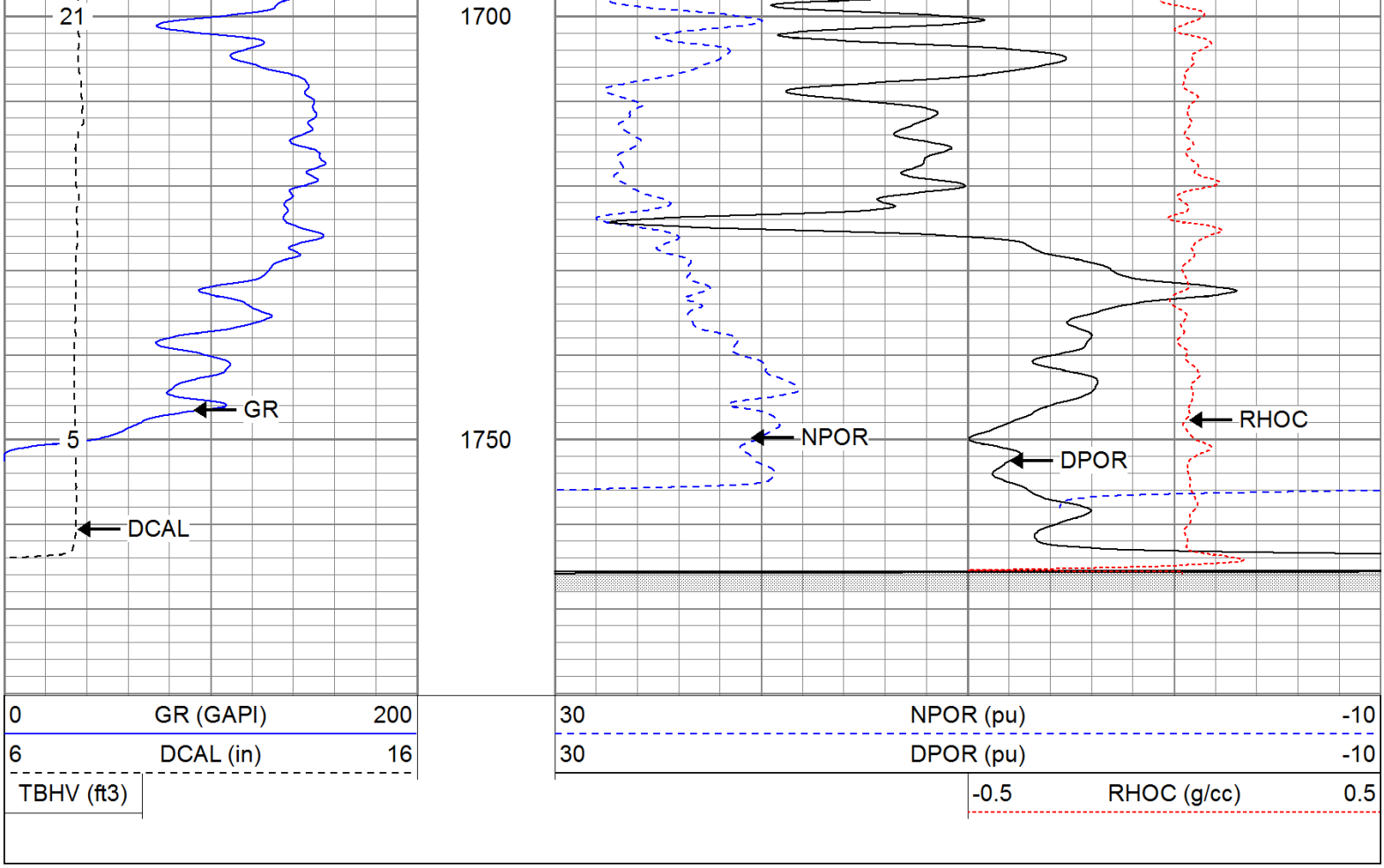
Database File:	sundancetr.db
Dataset Pathname:	pass4.1
Presentation Format:	cdnl
Dataset Creation:	Tue May 24 21:08:11 2011 by Calc Open-Cased 110302
Charted by:	Depth in Feet scaled 1:240




244
227
209
192
174
1050
1100
1150
1200
1250


157
139
122
106
1300
1350
1400
1450


89
72
55
38
1500
1550
1600
Fluid Level
1650



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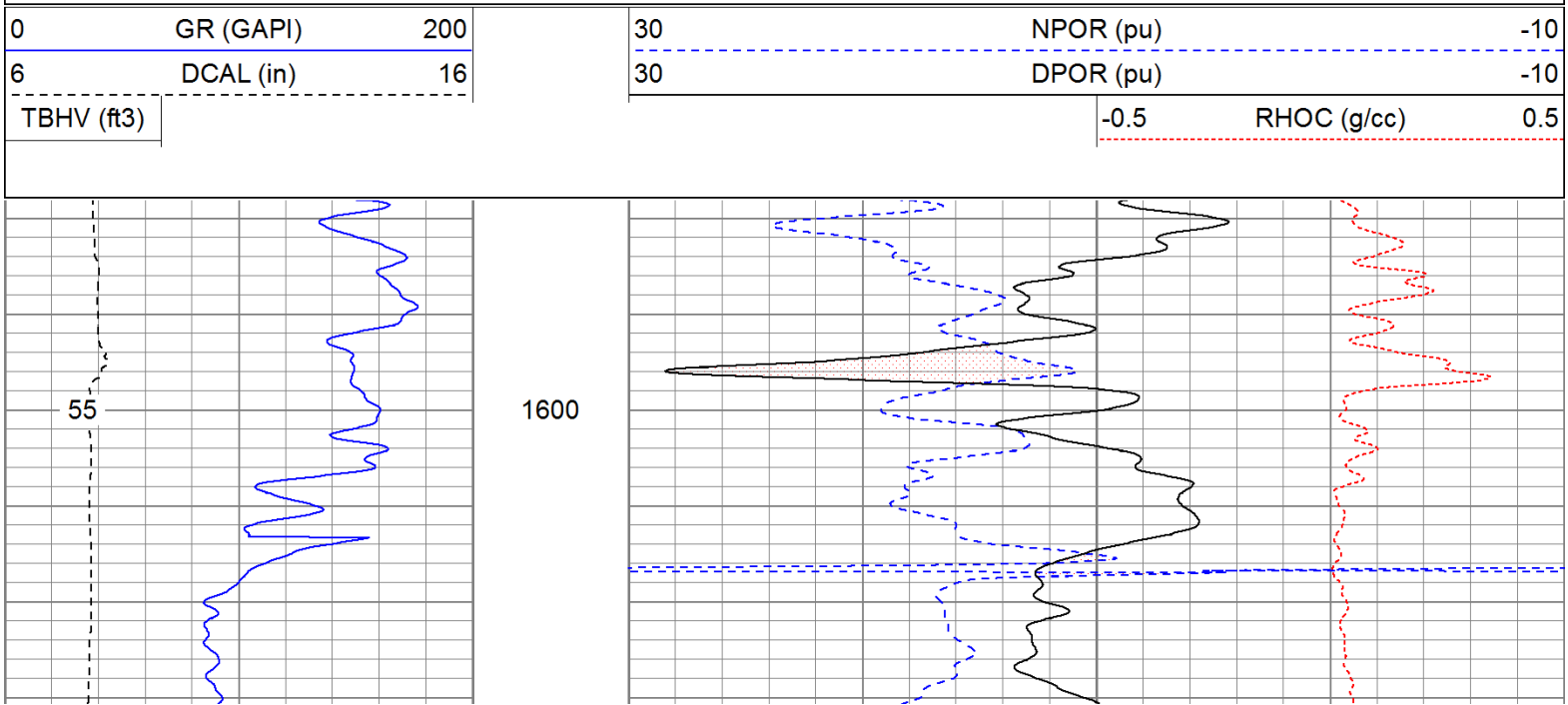
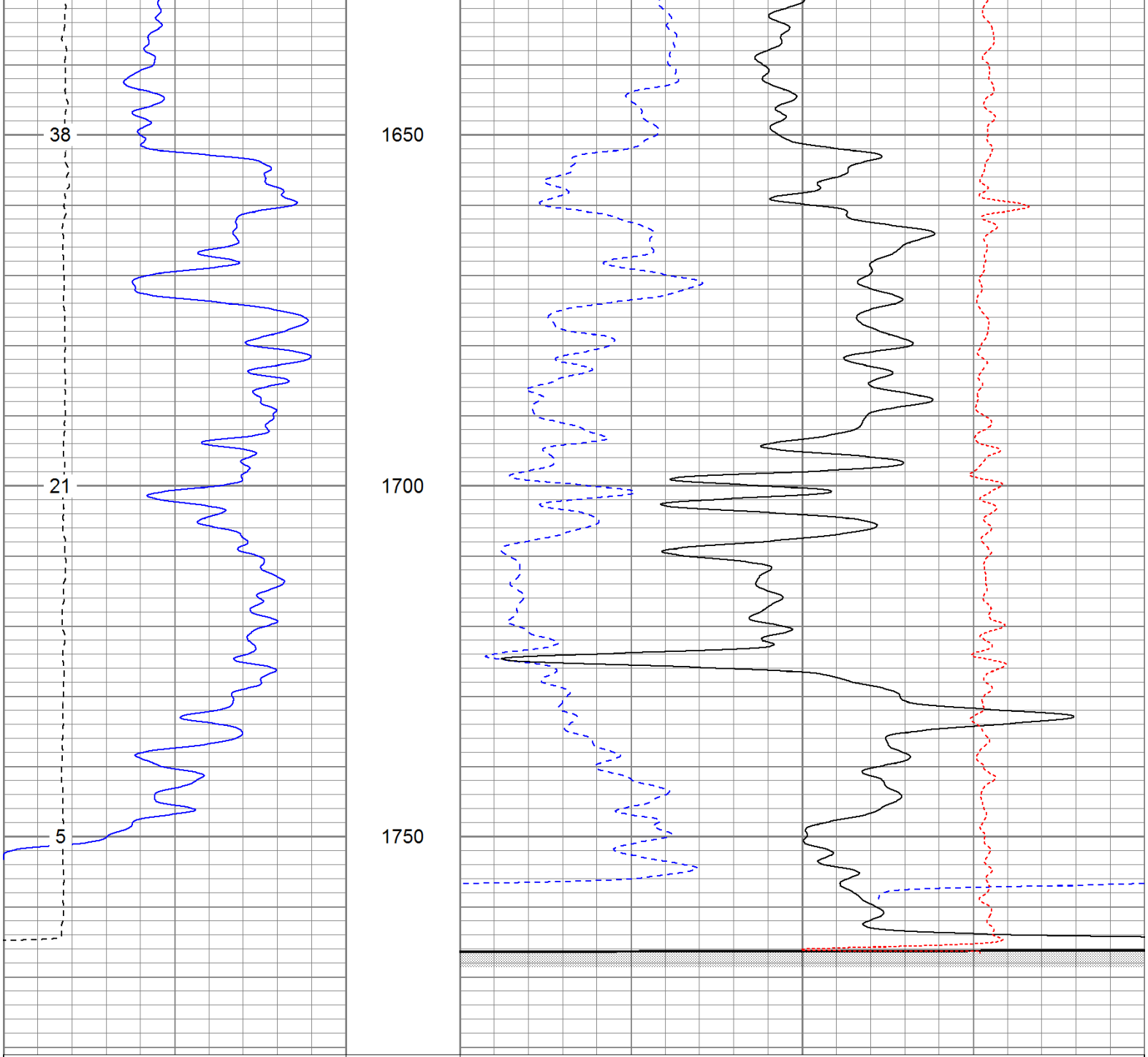
Repeat Section

Database File:	sundancetr.db
Dataset Pathname:	pass3.1
Presentation Format:	cdnl
Dataset Creation:	Tue May 24 21:04:15 2011 by Calc Open-Cased 110302
Charted by:	Depth in Feet scaled 1:240





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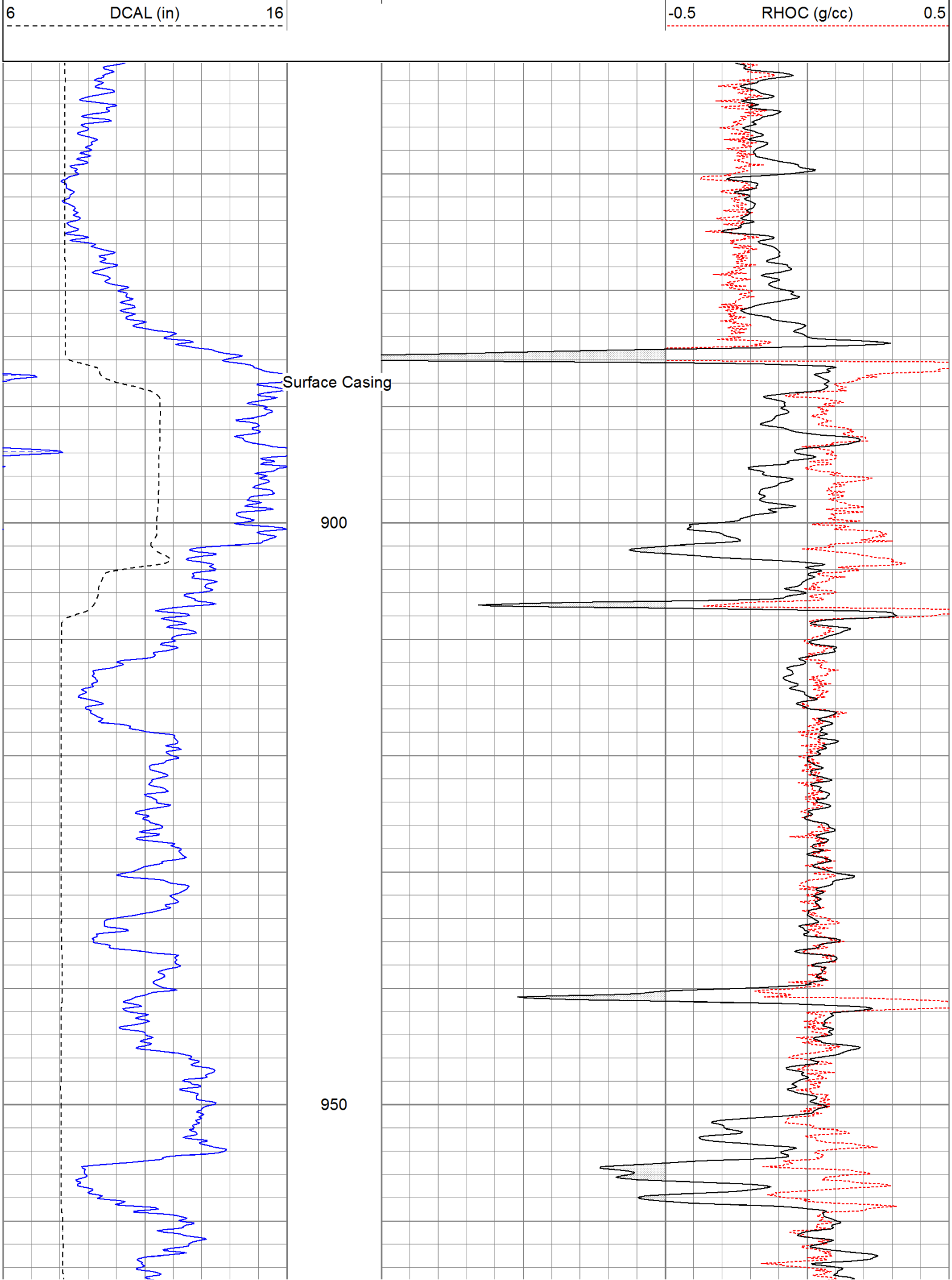
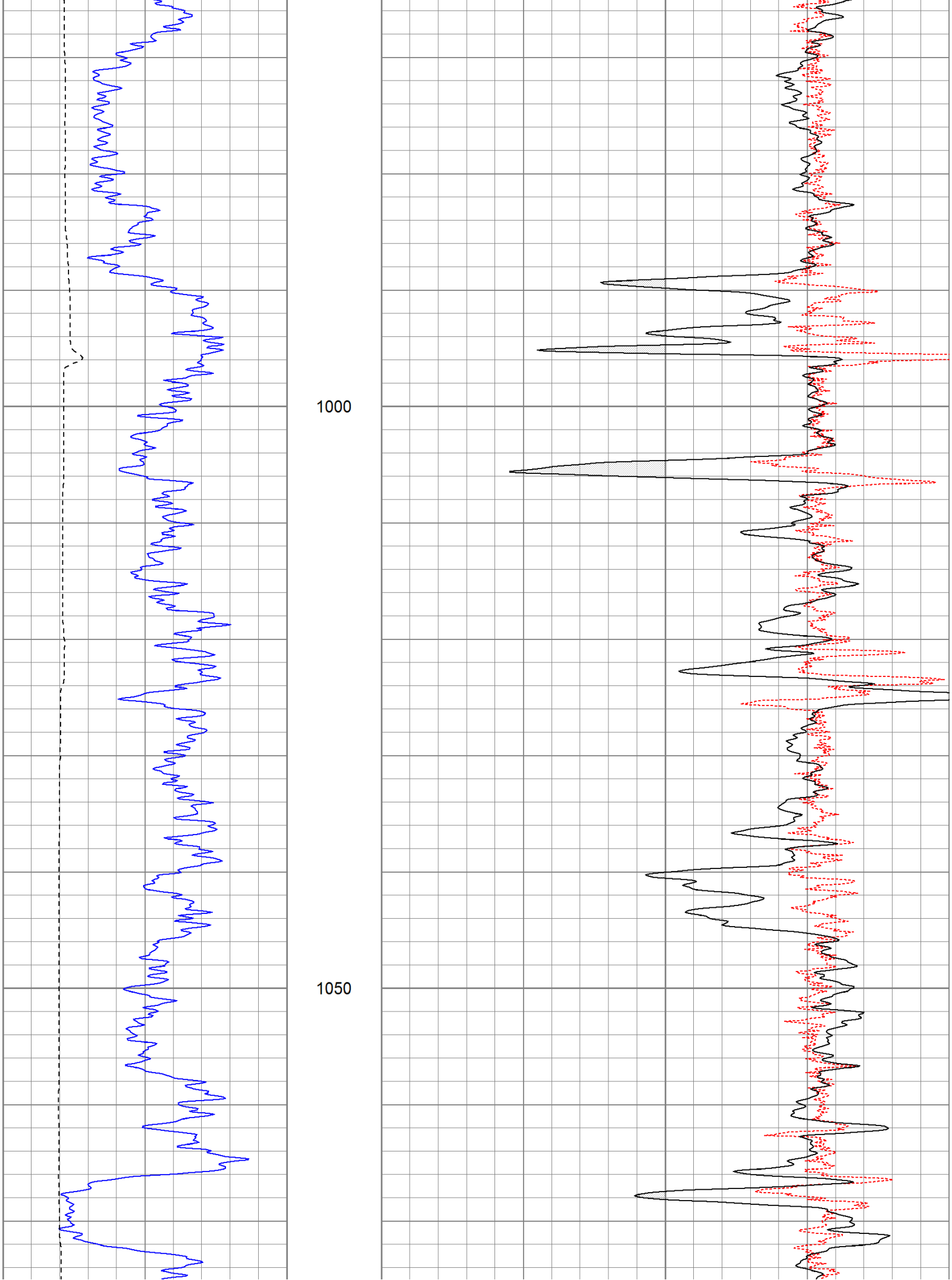
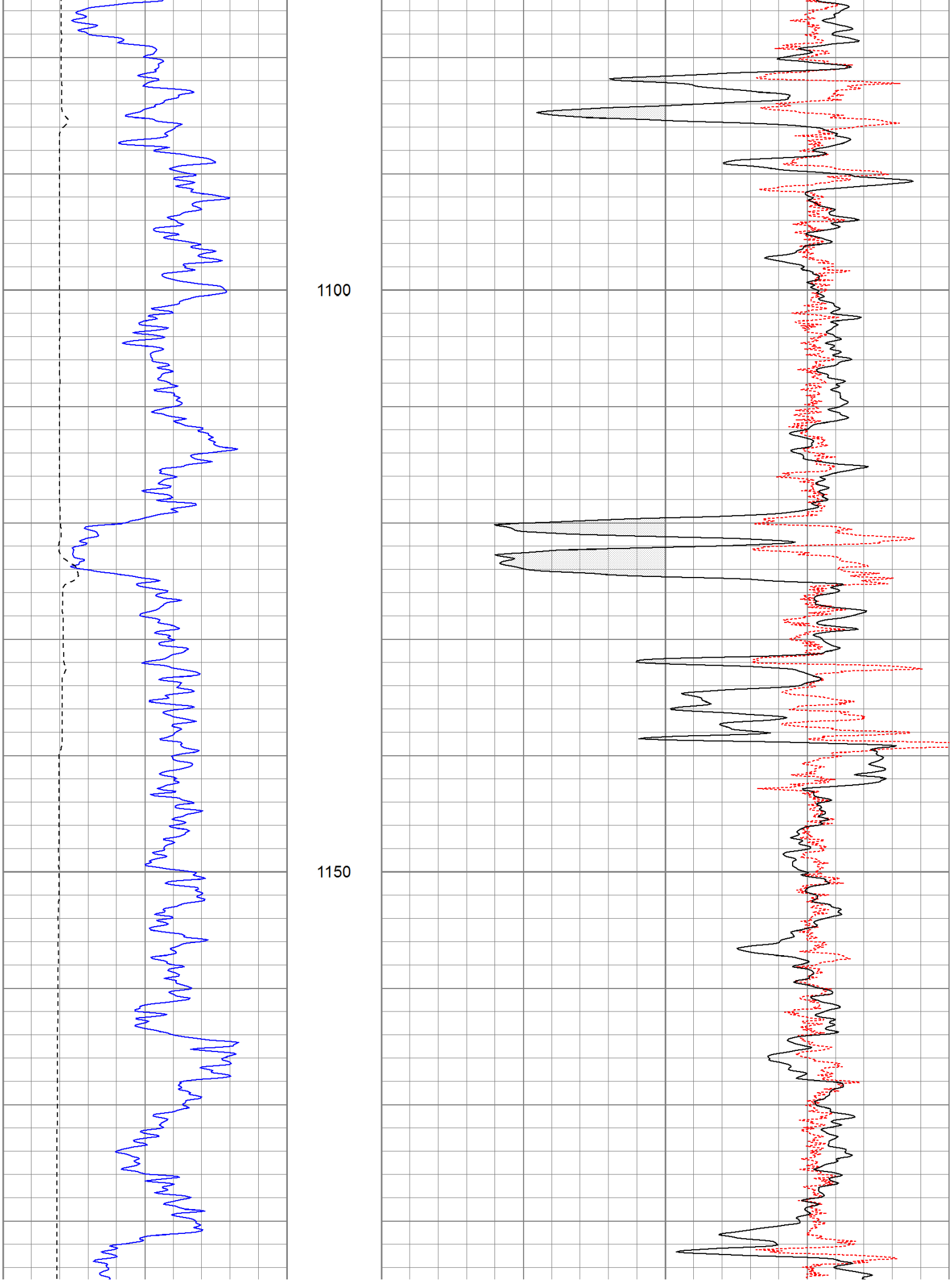
High Resolution Pass

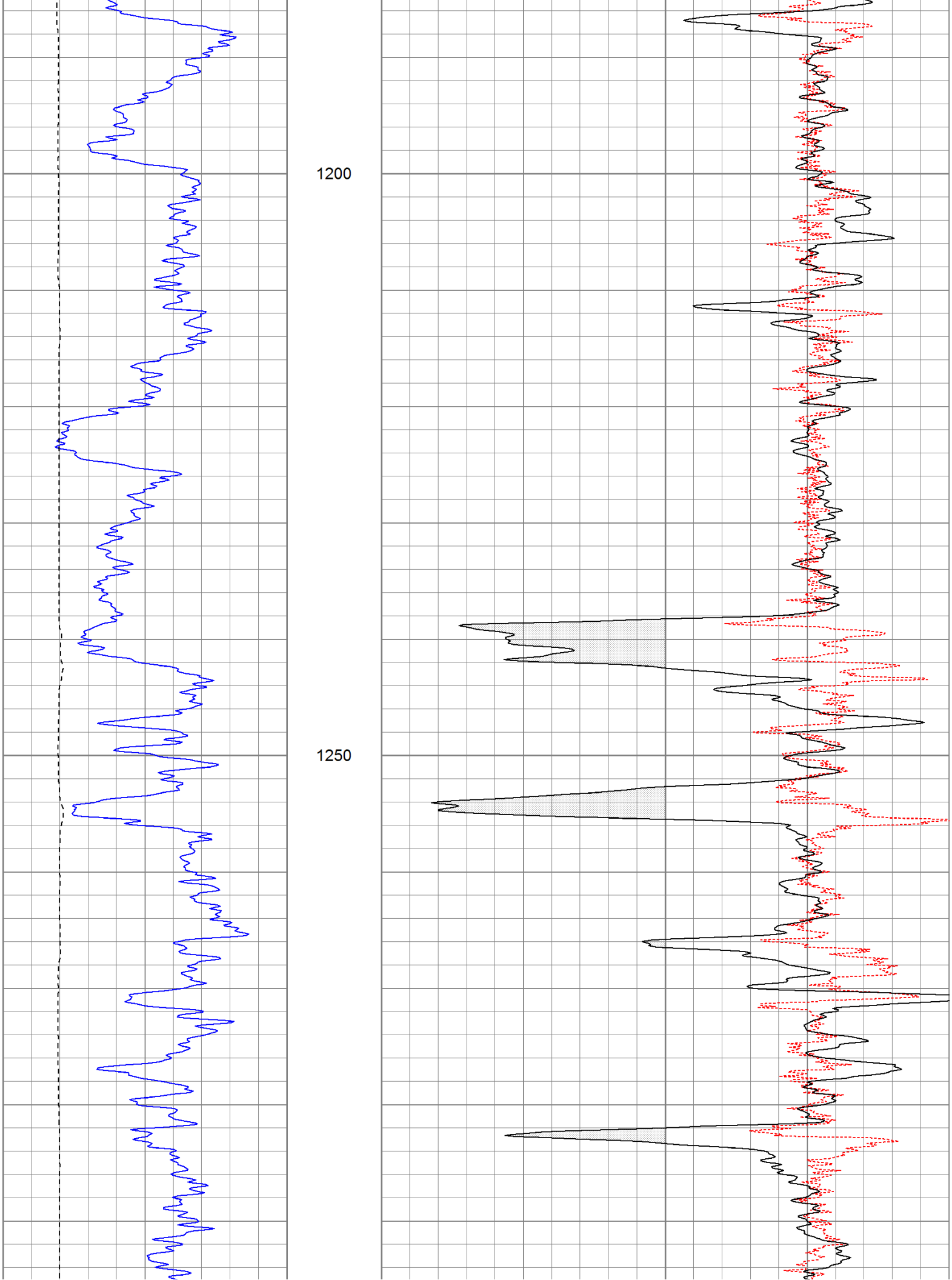
Database File:	sundancetr.db
Dataset Pathname:	pass4.2
Presentation Format:	cdlhr
Dataset Creation:	Tue May 24 21:14:21 2011 by Calc Open-Cased 110302
Charted by:	Depth in Feet scaled 1:120

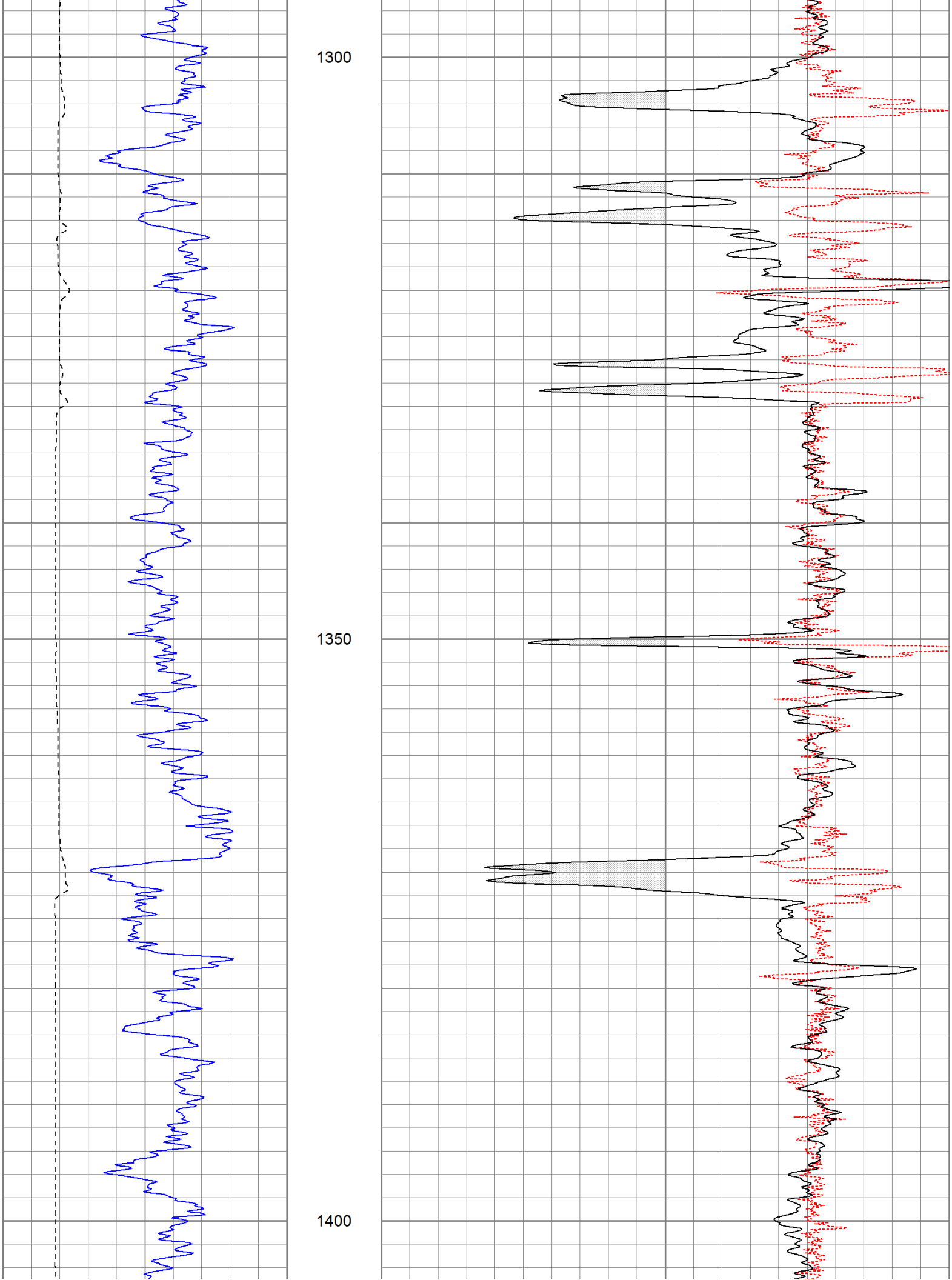
0	GR (GAPI)	200
1	RHOB (g/cc)	3

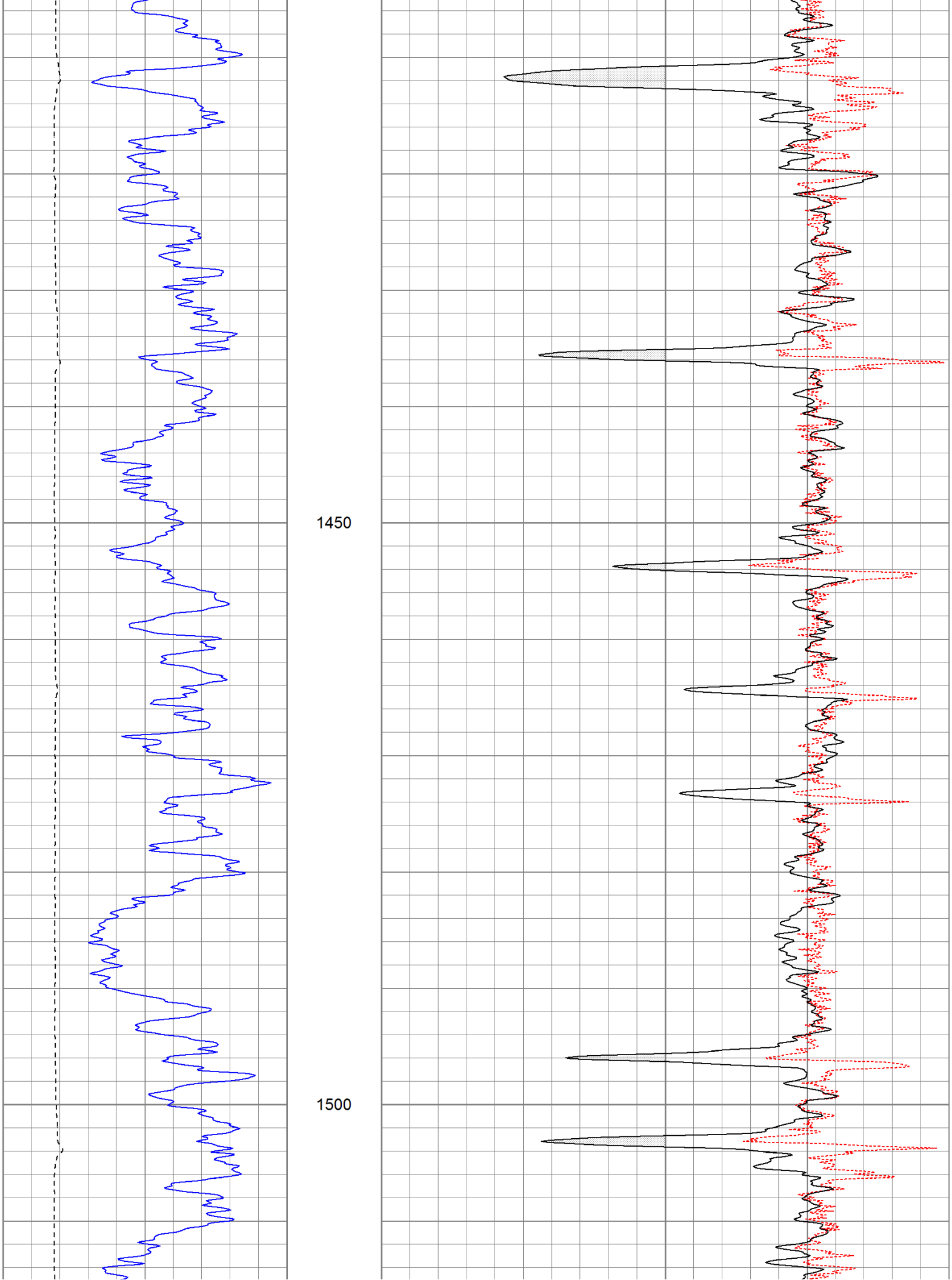

6
DCAL (in)
16
-0.5
RHOC (g/cc)
0.5
Surface Casing
900
950

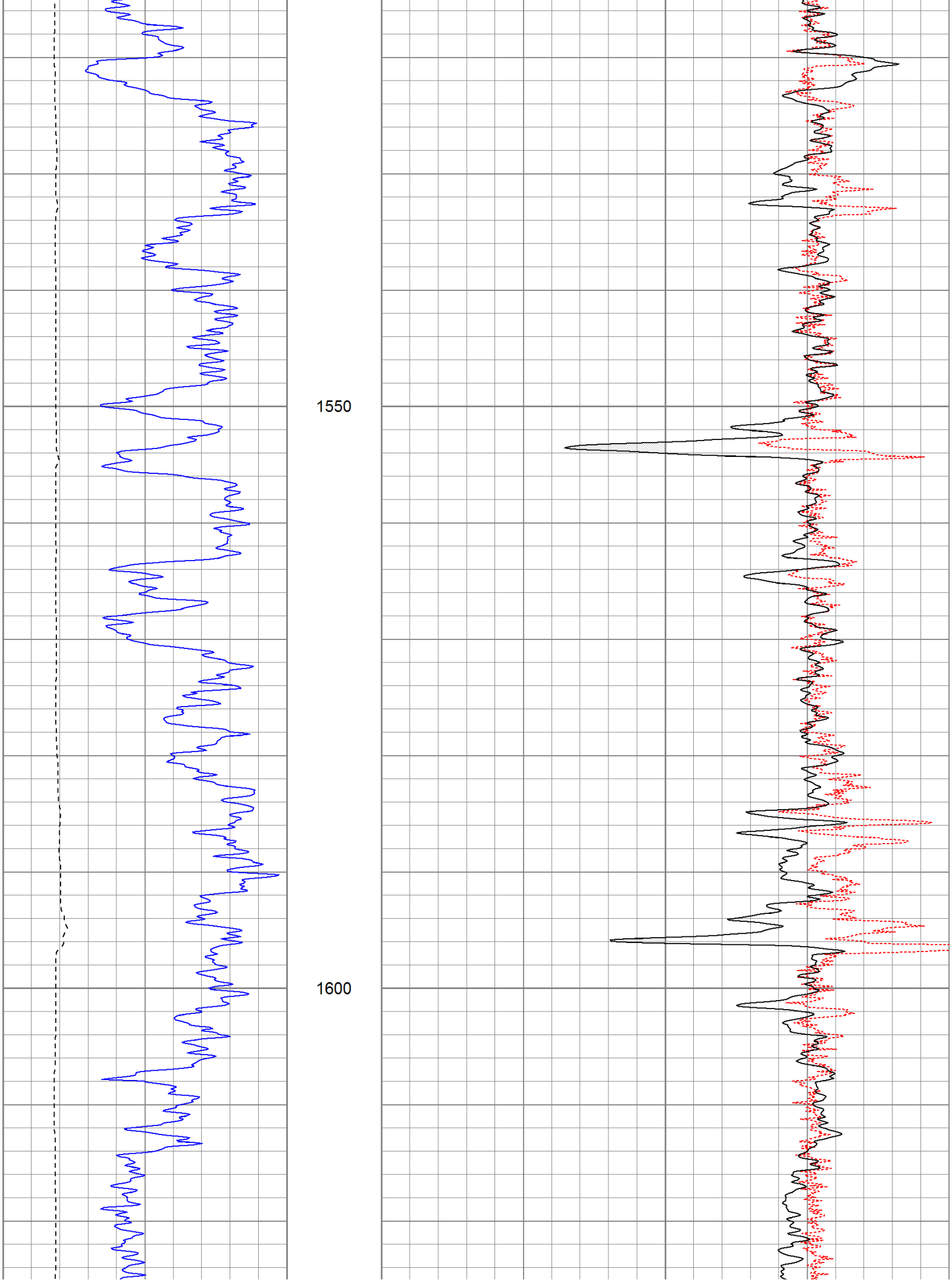

1000
1050

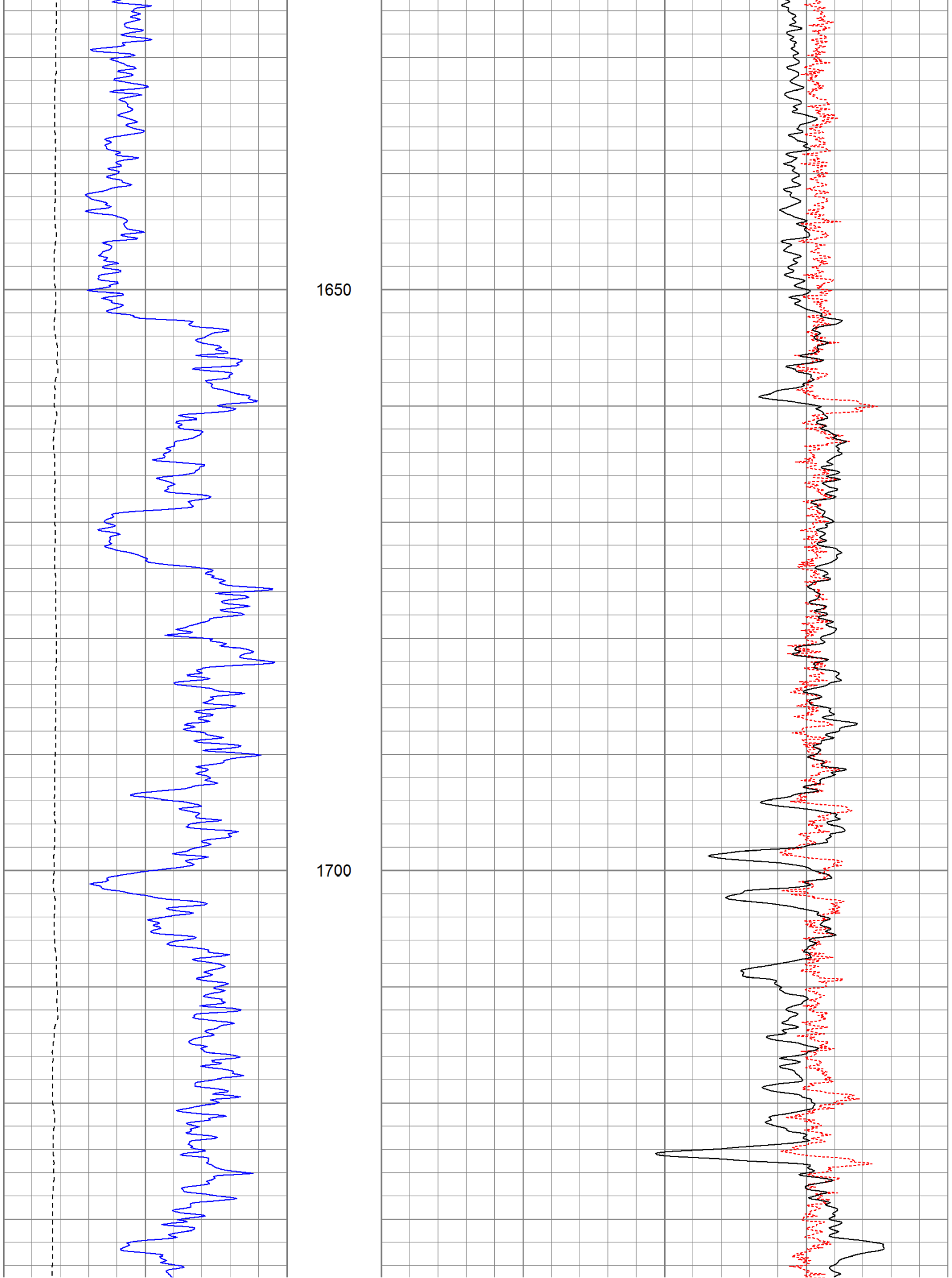

1100
1150

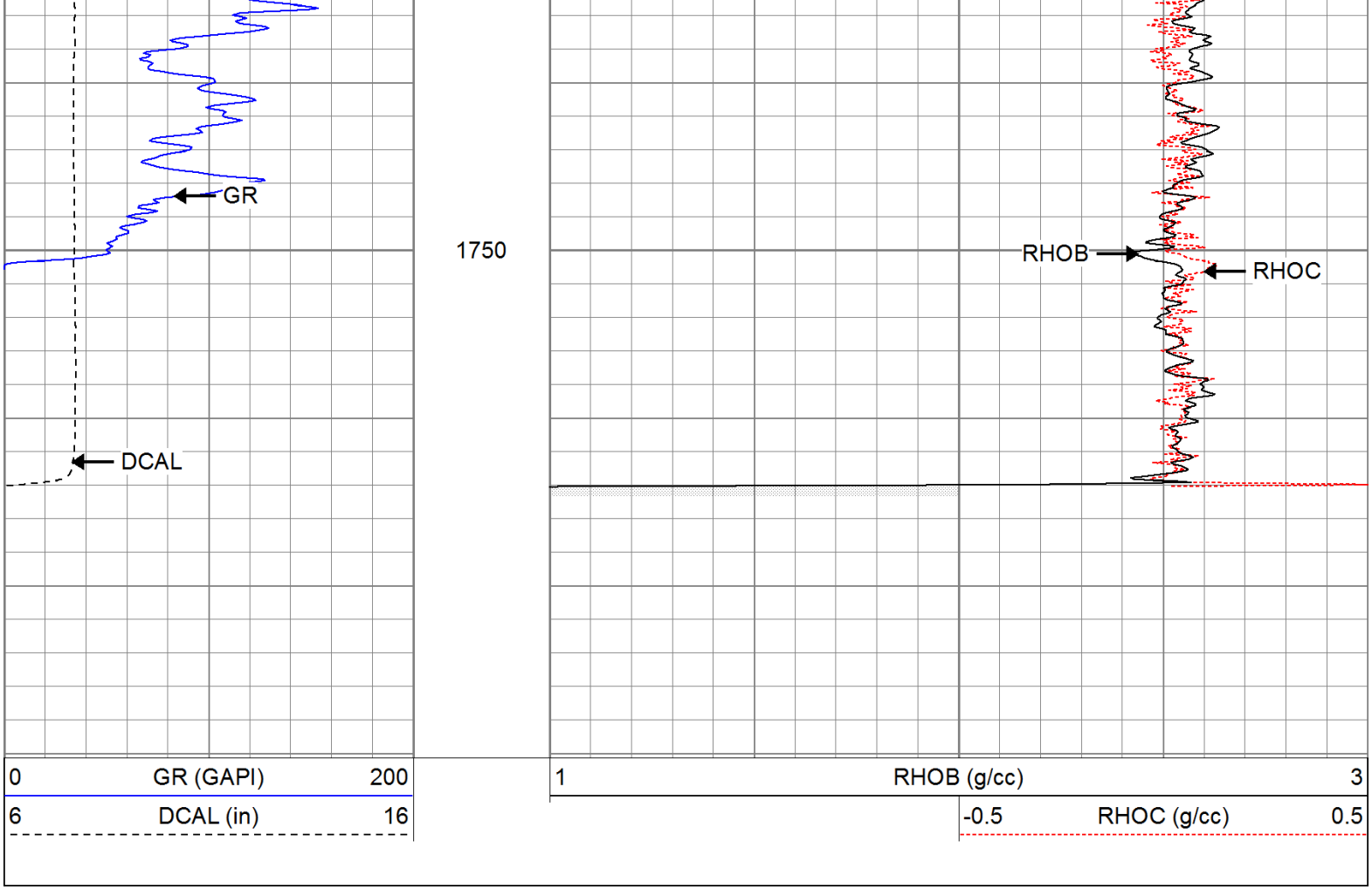

1200
1250


1300
1350
1400


1450
1500


1550
1600


1650
1700



Calibration Report

Database File: sundancetr.db
Dataset Pathname: pass3
Dataset Creation: Tue May 24 18:42:24 2011 by Log Open-Cased 110302

Induction Tool Calibration Report

Serial Number:	701		
Tool Model:	Probe		
Downhole Cal Performed:	Fri May 13 12:26:14 2011		
Surface Cal Performed:	Wed Apr 27 12:27:07 2011		
After Survey Verification Performed:			

Surface Calibration:	Air	Loop	
Conductivity Reference:	0.000	500.000	mmho
Conductivity Reading:	0.006	0.644	V
Internal Reference:	Zero	Cal	
Conductivity Reference:	0.000	500.000	mmho
Conductivity Reading:	0.007	0.643	V

Downhole Calibration:	Internal Zero	Internal Cal	
Conductivity Reference:	0.703	499.163	mmho
Conductivity Reading:	0.000	0.000	V
Short Normal Reference:	0.000	20.000	Ohm-m
Short Normal Reading:	0.005	0.214	V

Results:	Gain	Offset
Loop Conductivity:	783.886	-4.674
Downhole Correction:	1.000	0.000
Short Normal Resistivity:	95.281	-0.432

After Survey Verification	Internal Zero	Internal Cal	
Conductivity Reading:	0.000	0.000	V
Conductivity Result:	0.000	0.000	mmho

Short Normal Reading:	0.000	0.000	V
Short Normal Result:	0.000	0.000	Ohm-m

Compensated Density Calibration Report

Serial-Model:	901-2.75POH
Source / Verifier:	/
Master Calibration Performed:	Tue May 17 10:06:24 2011
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1001.79	578.48	cps
Aluminum	2.590	g/cc	180.36	300.39	cps

Spine Angle = 69.08 Density/Spine Ratio = 0.479

	Size		Reading	
Small Ring	8.00	in	2.50	V
Large Ring	16.00	in	4.57	V

Before Survey Verification

	Target		Measured	
		g/cc		g/cc
		g/cc		g/cc
		g/cc		g/cc

After Survey Verification

	Target		Measured	
		g/cc		g/cc
		g/cc		g/cc
		g/cc		g/cc

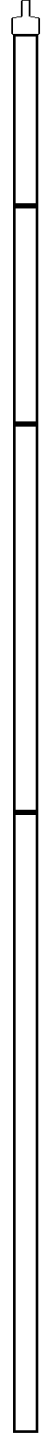
Neutron Calibration Report

Serial Number:	802	
Tool Model:	2.75POH	
Performed:	Tue May 03 12:28:21 2011	
Calibrator Value:	700	NAPI
Calibrator Reading:	1000	cps
Sensitivity:	0.7	NAPI/cps

Gamma Ray Calibration Report

Serial Number:	801	
Tool Model:	2.75POH	
Performed:	Thu May 05 13:29:10 2011	
Calibrator Value:	200.0	GAPI
Background Reading:	8.0	cps
Calibrator Reading:	264.7	cps
Sensitivity:	0.6000	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)



		None	0.75	1.50	5.00
GR	29.58	GR-2.75POH (801) Probe 2.75" Probe Open Hole Gamma Ray	3.73	2.75	43.00
NEU	24.04	NEU-2.75POH (802) Probe Epithermal	4.75	2.75	58.00
		CDL-2.75POH (901) Probe	8.43	2.75	106.00
LSD	16.21				
DCAL	15.94				
SSD	15.69				
		IEL-Probe (701)	13.46	2.75	93.00
DIC	6.24				
SP	2.25				
SN	1.71				

Dataset:	sundancetr.db: field/well/run1/pass1
Total Length:	31.11 ft
Total Weight:	305.00 lb
O.D.	2.75 in