



COMPENSATED DENSITY NEUTRON LOG

Company Castle Resources, Inc.

Well Moran #1

Field Start

County Rush

State KS

Location:

API #: 15 165 22140

1318' FSL & 330' FWL

SEC 7 TWP 17S RGE 20W

Permanent Datum Ground Level Elevation 2156'
Log Measured From KB 5' AGL
Drilling Measured From KB

DIL

Elevation
K.B. 2161'
D.F. 2160'
G.L. 2156'

Date 12-27-16

Run Number One

Depth Driller 4200'

Depth Logger 4202'

Bottom Logged Interval 4179'

Top Log Interval 3400'

Casing Driller 210'

Casing Logger 210'

Bit Size 7 7/8"

Type Fluid in Hole Chemical Mud

Density / Viscosity 9.3/4.1

pH / Fluid Loss 9.0/13.6

Source of Sample Pit

Rm @ Meas. Temp 1.2@60degf

Rmf @ Meas. Temp .9@60degf

Rmc @ Meas. Temp 1.44@60degf

Source of Rmf / Rmc Calculated

Rm @ BHT .64@112degf

Time Circulation Stopped 2:00 p.m.

Time Logger on Bottom 4:00 p.m.

Maximum Recorded Temperature 112 degf

Equipment Number T127

Location Hays, KS.

Recorded By Gus Pfannenstiel

Witnessed By Mr. Jerry Green

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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 Gemini Wireline
785-625-1182



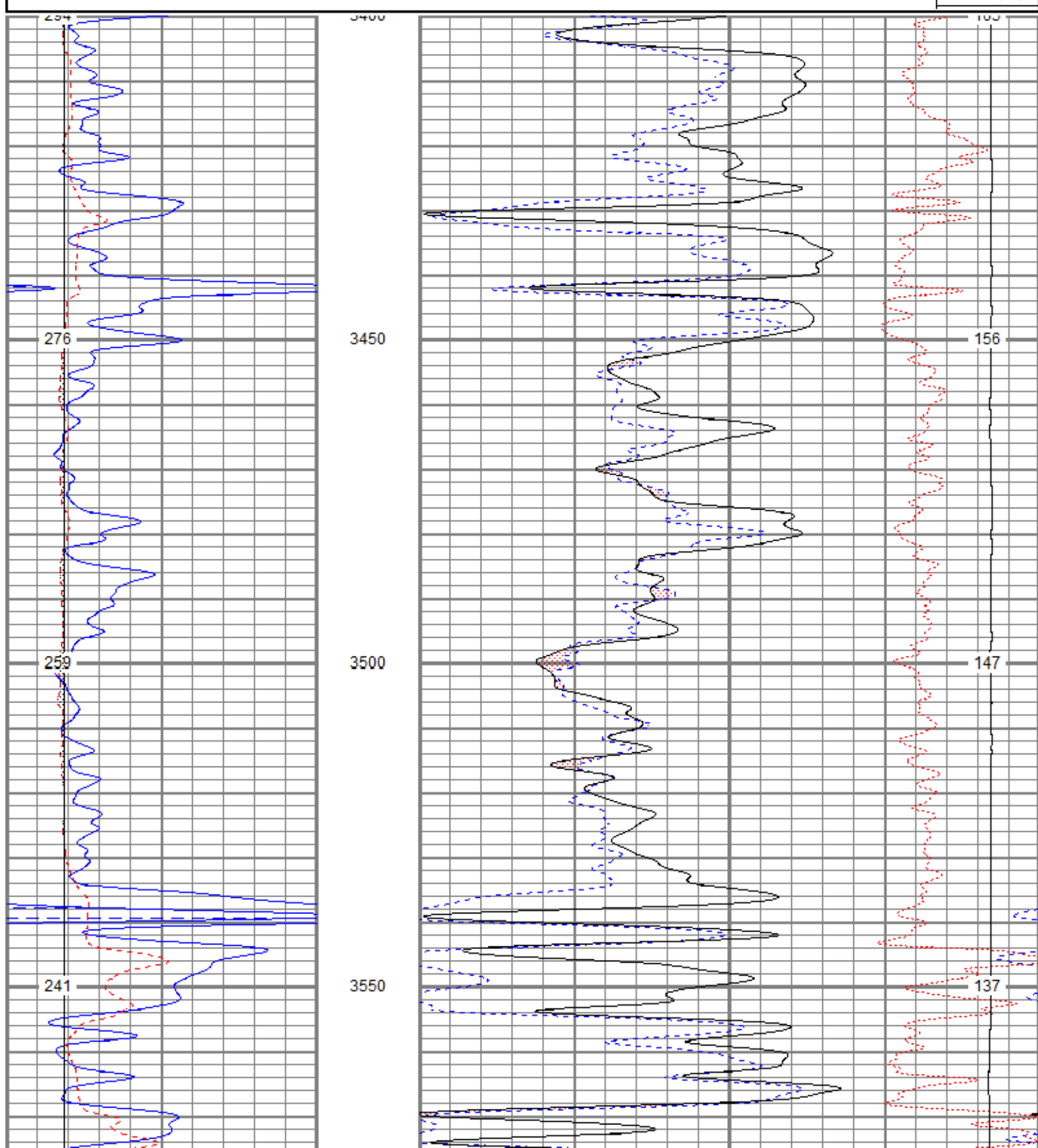
Main Pass

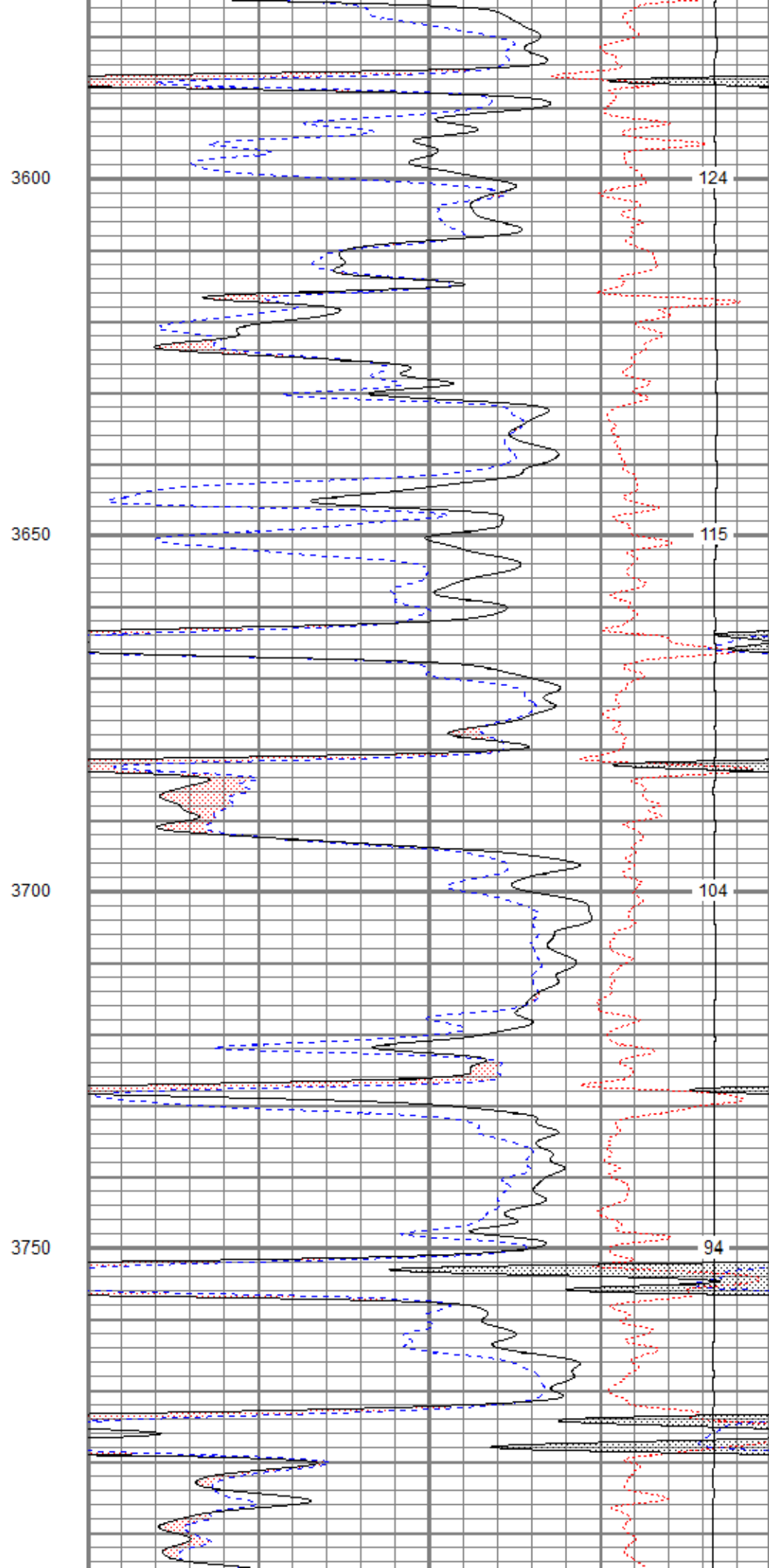
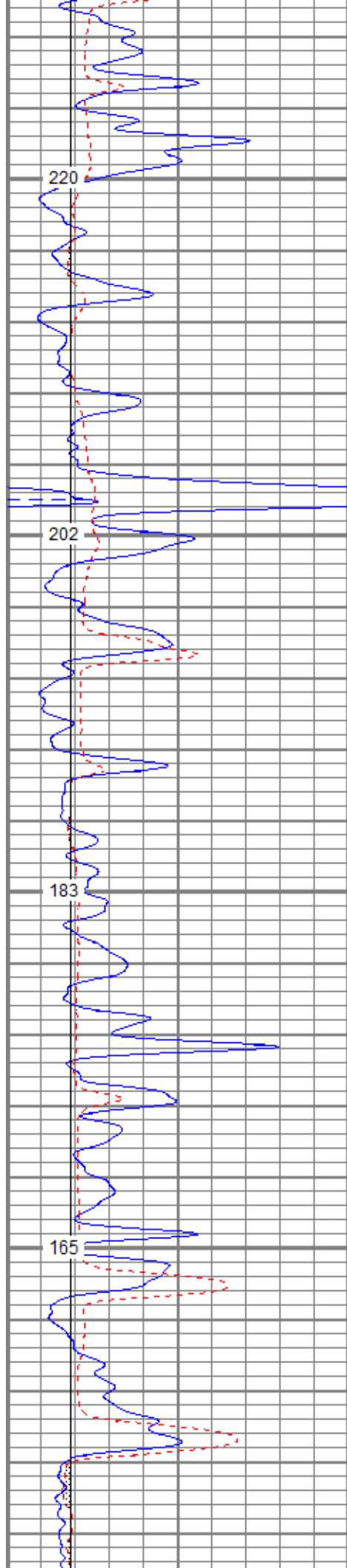
Database File	crmoran#1oh.db
Dataset Pathname	pass2.2
Presentation Format	kcdnl
Dataset Creation	Tue Dec 27 17:08:18 2016
Charted by	Depth in Feet scaled 1:240

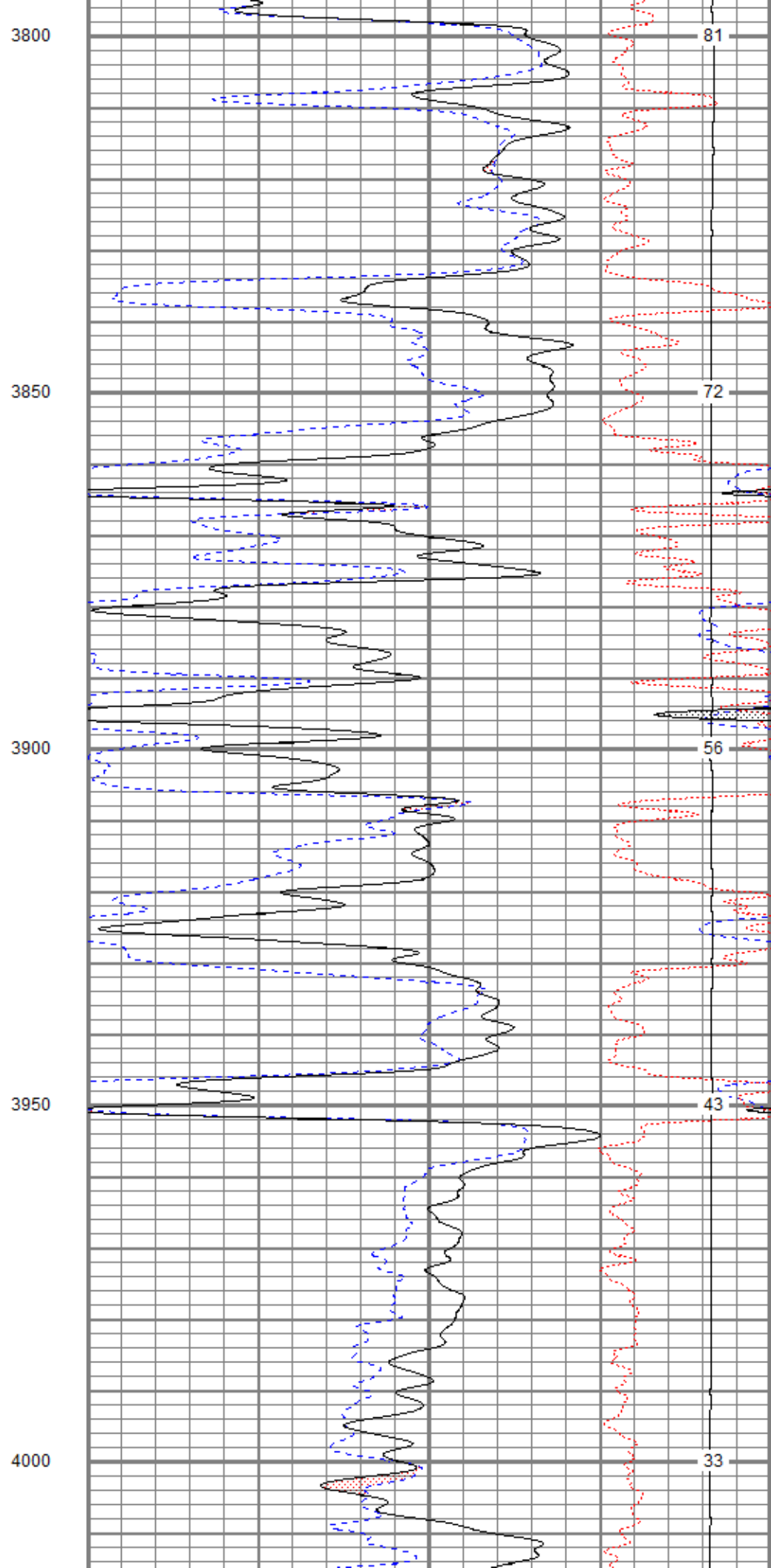
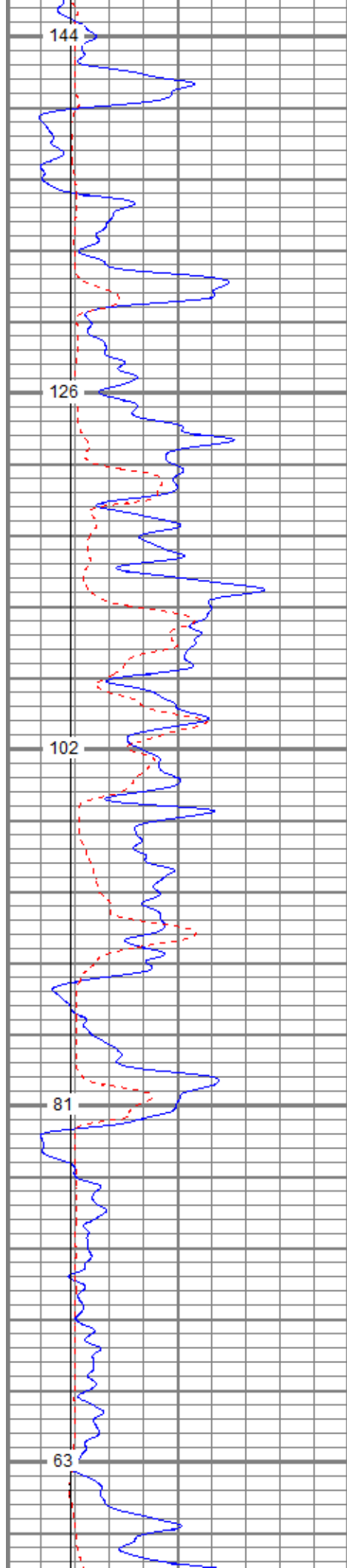
0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16

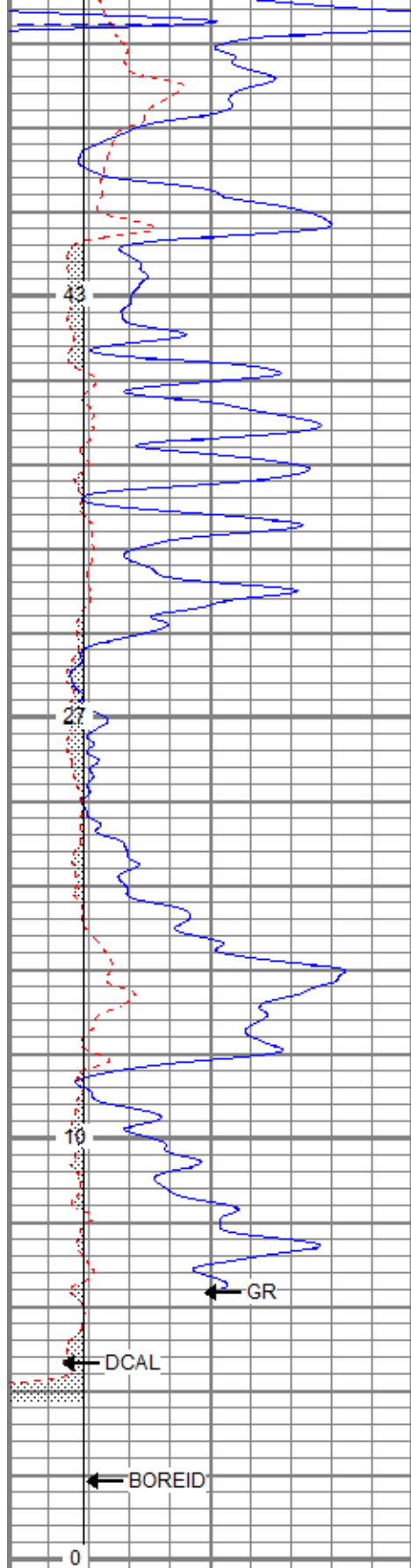
30	NPOR (pu)	-10
30	DPOR (pu)	-10
70	DPOR (pu)	30

TBHV (ft3)	-0.25	RHOC (g/cc)	0.25
	8000	LTEN (lb)	0
			ABHV (ft3)



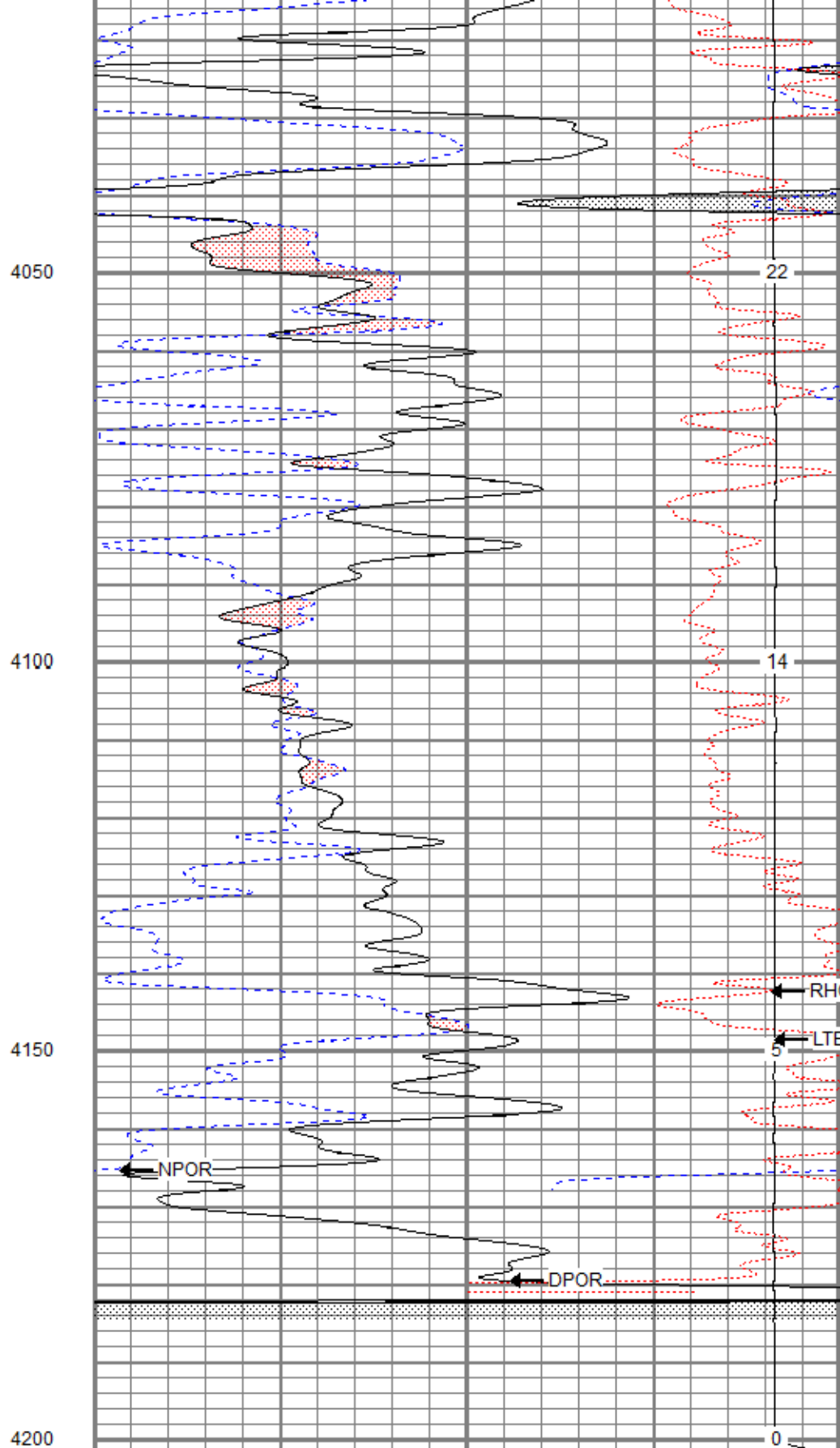






0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16

TBHV (ft3)



30	NPOR (pu)	-10
30	DPOR (pu)	-10
70	DPOR (pu)	30

-0.25	RHOC (g/cc)	0.25
8000	LTEN (lb)	0

ABHV (ft3)



Repeat Pass

Database File crmoran#1oh.db
 Dataset Pathname pass1.1
 Presentation Format kcdnl
 Dataset Creation Tue Dec 27 16:51:23 2016
 Charted by Depth in Feet scaled 1:240

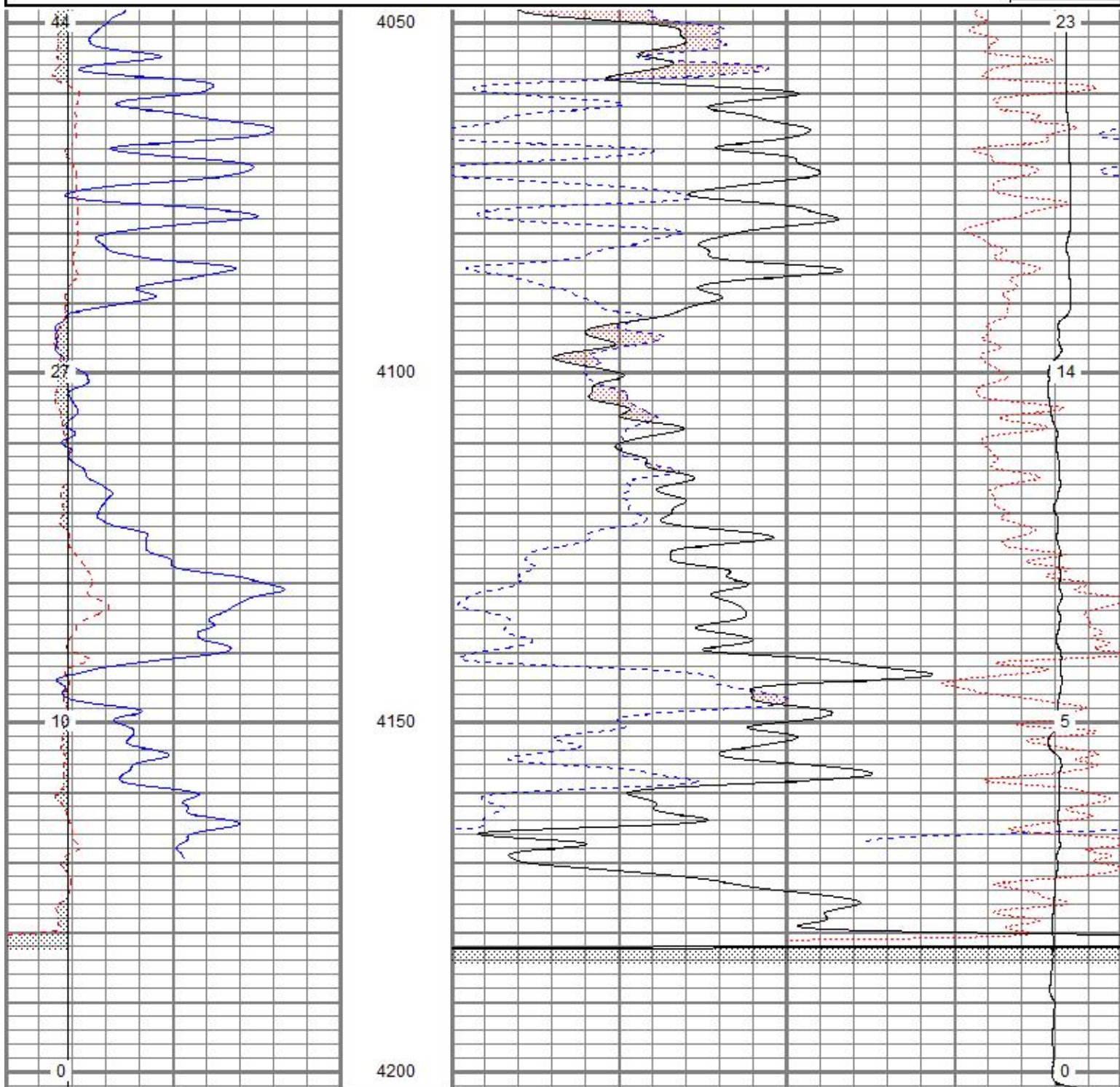
0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16

TBHV (ft3)

30	NPOR (pu)	-10
30	DPOR (pu)	-10
70	DPOR (pu)	30

-0.25	RHOC (g/cc)	0.25
8000	LTEN (lb)	0

ABHV (ft3)



9	GR (GAPI)	150	30	NPOR (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
6	BOREID (in)	16	70	DPOR (pu)	30
TBHV (ft3)			-0.25	RHOC (g/cc)	0.25
			8000	LTEN (lb)	0
				ABHV (ft3)	

Calibration Report									
Database File	crmoran#1oh.db								
Dataset Pathname	pass1.1								
Dataset Creation	Tue Dec 27 16:51:23 2016								
Dual Induction Calibration Report									
Serial-Model:					1989-ADM				
Surface Cal Performed:					Fri Dec 09 04:19:59 2016				
Downhole Cal Performed:					Fri Dec 09 04:20:05 2016				
After Survey Verification Performed:					Fri Dec 09 04:20:08 2016				
Surface Calibration									
Readings				References			Results		
Loop:	Air	Loop		Air	Loop		m	b	
Deep	0.002	0.656	V	0.000	350.000	mmho/m	535.560	-1.118	
Medium	0.003	0.745	V	0.000	400.000	mmho/m	538.828	-1.427	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.002	0.656	V	0.000	350.000	mmho/m	535.220	-1.003	
Medium	0.003	0.745	V	0.000	550.000	mmho/m	741.357	-2.036	
Downhole Calibration									
Readings				References			Results		
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	-0.036	349.993	mmho/m	-0.114	350.108	mmho/m	1.001	-0.078	
Medium	0.039	400.181	mmho/m	0.053	399.799	mmho/m	0.999	0.013	
Shallow	2.503	0.015	V	500.000	2.000	Ohm-m	180.177	-16.046	
After Survey Verification									
Readings				Targets			Results		
Internal:	Zero	Cal		Zero	Cal		m'	b'	
Deep	0.000	0.000	mmho/m	-0.036	349.993	mmho/m	1.001	-0.078	
Medium	0.000	0.000	mmho/m	0.039	400.181	mmho/m	0.999	0.013	
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000	

Compensated Density Calibration Report					
Serial-Model:		2388DHT-DHT			
Source / Verifier:		csv j12 / csv j12			
Master Calibration Performed:		Fri Dec 02 08:19:11 2016			
Before Survey Verification Performed:					
After Survey Verification Performed:					
Master Calibration					
	Density		Far Detector		Near Detector
Magnesium	1.750	g/cc	825.09	253.60	cps
Aluminum	2.680	g/cc	159.18	174.22	cps
Spine Angle = 77.15			Density/Spine Ratio = 0.551		

	Size		Reading
Small Ring	7.85	in	5982.32
Large Ring	15.00	in	10612.00
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

Gamma Ray Calibration Report			
Serial Number:	2000		
Tool Model:	P2000		
Performed:	Sun Dec 13 16:43:47 2015		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.2200	GAPI/cps	
Neutron Calibration Report			
Serial Number:	5108		
Tool Model:	PROBE		
Performed:	Thu Jan 21 09:36:17 2016		
Calibrator Value:	1	NAPI	
Calibrator Reading:	1	cps	
Sensitivity:	1	NAPI/cps	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
NEU	36.60		CHD-None	0.75	1.50	5.00
			NEU-PROBE (5108) Probe	4.92	3.63	85.00
GR	30.81		GR-P2000 (2000)	3.67	3.25	40.00
			CDL-DHT (2388DHT) Digital High Temp CDL Tool	9.69	4.00	201.00
LSD	22.02					
DCAL	21.73					
SSD	21.48					
HEADVOLT	19.71					

SP	10.60	DIL-ADM (1989) Dual Induction	19.71	4.00	300.00
CILD	10.60				
CILM	6.89				
RLL3	1.70				
Dataset: crmoran#1oh.db: field/well/run1/pass1.1 Total length: 38.73 ft Total weight: 631.00 lb O.D.: 4.00 in					