

Company Blackhawk Production Co.  
 Well Frank C, Sanders #13  
 Field Toulon  
 County Ellis  
 State Kansas

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Location: API #: 15 051 26227  
 400' FNL & 1809' FWL  
 SEC 10 TWP 14s RGE 17W  
 Permanent Datum Ground Level Elevation 2003'  
 Log Measured From KB 8' AGL  
 Drilling Measured From KB  
 Other Services  
 DIL  
 CDNL  
 BCS  
 Elevation  
 K.B. 2011'  
 D.F. 2010'  
 G.L. 2003'

Date	11-25-11
Run Number	Two
Depth Driller	3548'
Depth Logger	3544'
Bottom Logged Interval	3530'
Top Log Interval	1250'
Casing Driller	1031'
Casing Logger	1031'
Bit Size	7 7/8"
Type Fluid in Hole	Chemical
Density / Viscosity	9.1/50
pH / Fluid Loss	10.0/8.0
Source of Sample	Pit
Rm @ Meas. Temp	.4@70deg
Rmf @ Meas. Temp	.3@70deg
Rmc @ Meas. Temp	.64@70deg
Source of Rmf / Rmc	Calculated
Rm @ BHT	.28@113deg
Time Circulation Stopped	12:30 a.m.
Time Logger on Bottom	5:15 a.m.
Maximum Recorded Temperature	113
Equipment Number	T045
Location	Hays
Recorded By	L. Smith
Witnessed By	Mr. Tony Richardson

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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.

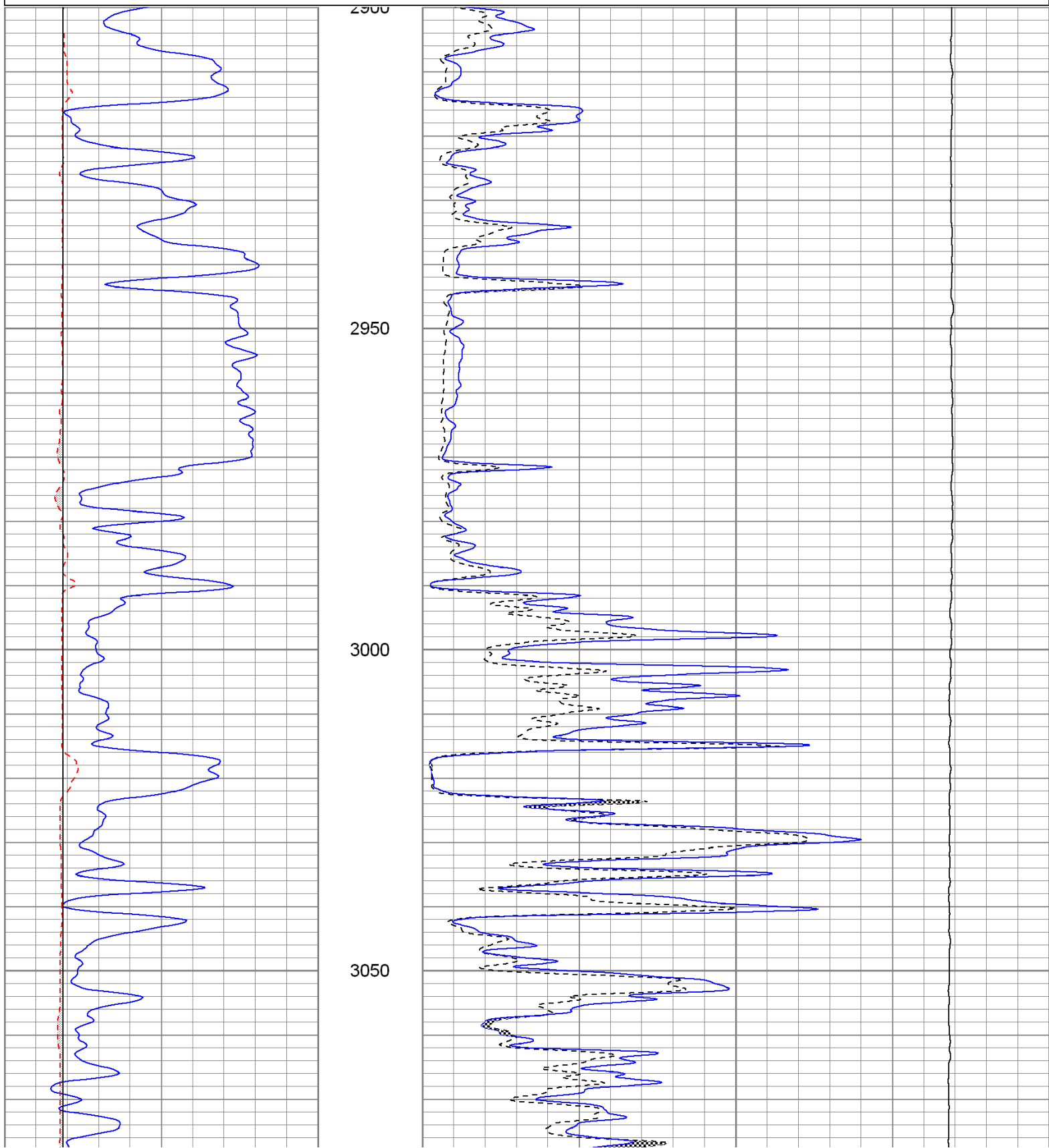
**Comments**

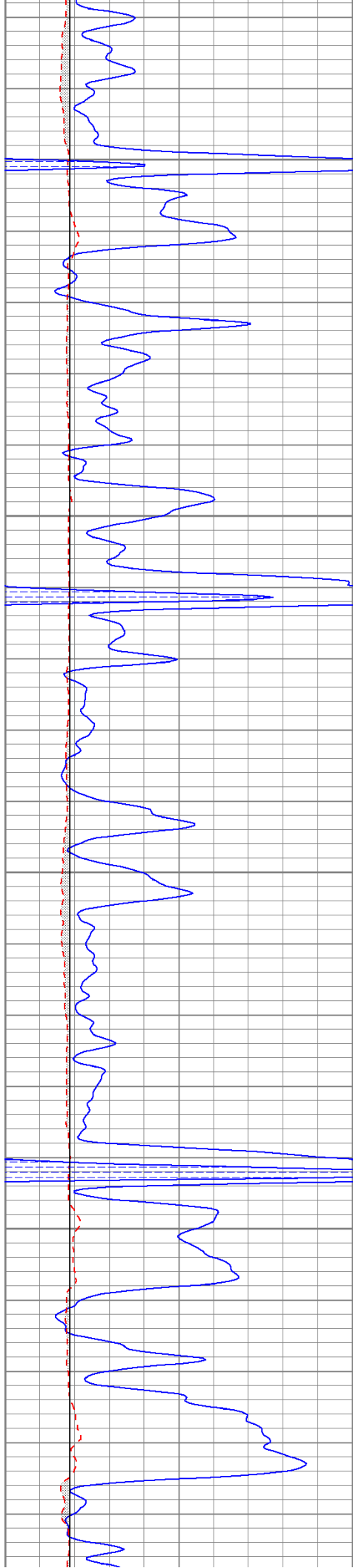
Thank you for using The Perforators LLC  
 Hays, KS 785-621-4604  
 Old 40 E, N 1 mi on 310 Ave, E 1/4, S into.

Database File: bhfrankcsanders#13oh.db  
 Dataset Pathname: pass7  
 Presentation Format: kml  
 Dataset Creation: Fri Nov 25 06:00:39 2011 by Log Open-Cased 100827  
 Charted by: Depth in Feet scaled 1:240

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

0	MN 2" (Ohm-m)	40
0	MI 1" (Ohm-m)	40
10000	LTEN (lb)	0



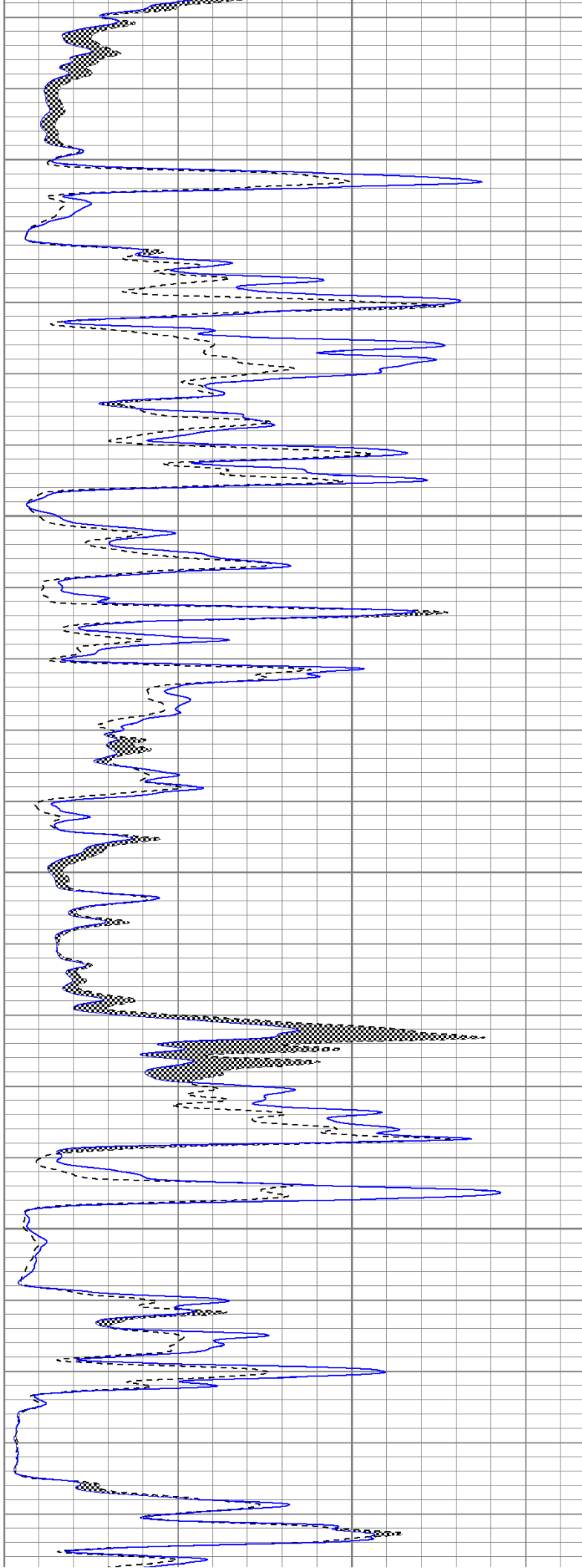


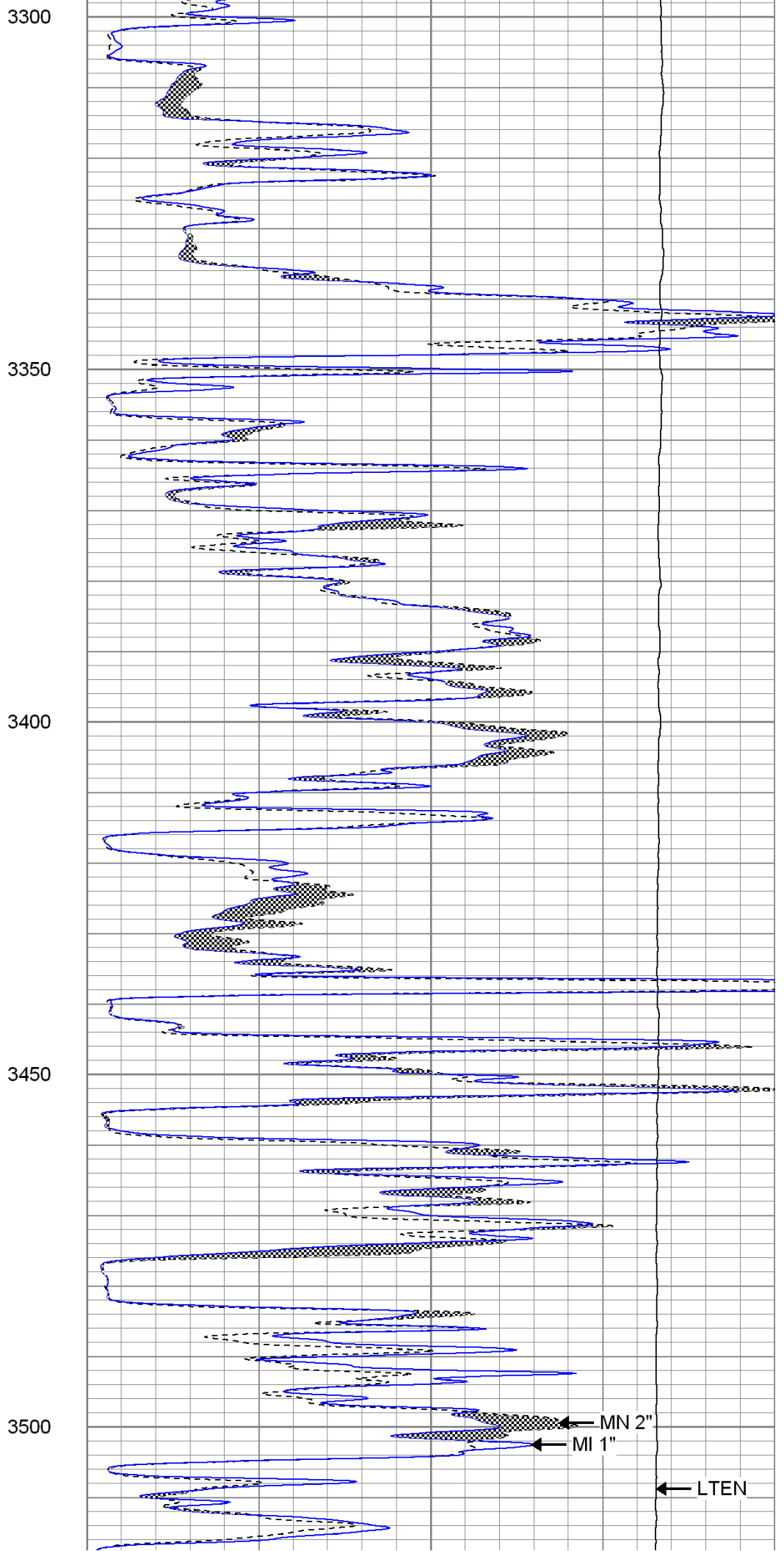
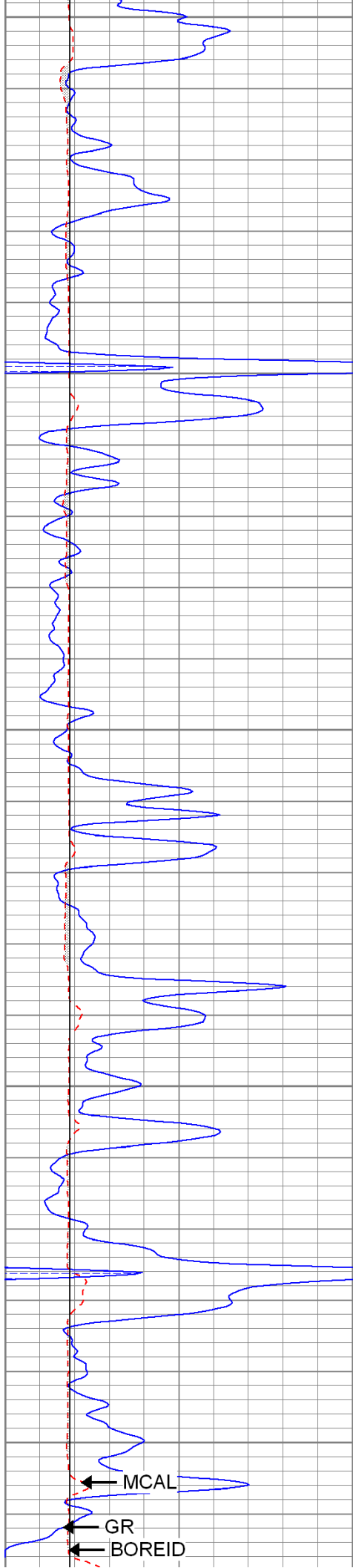
3100

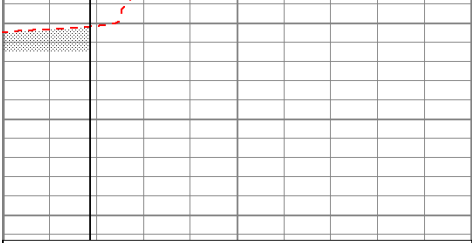
3150

3200

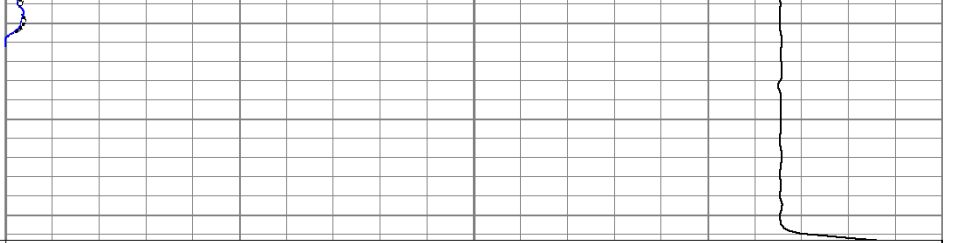
3250







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



0	MN 2" (Ohm-m)	40
0	MI 1" (Ohm-m)	40
10000	LTEN (lb)	0

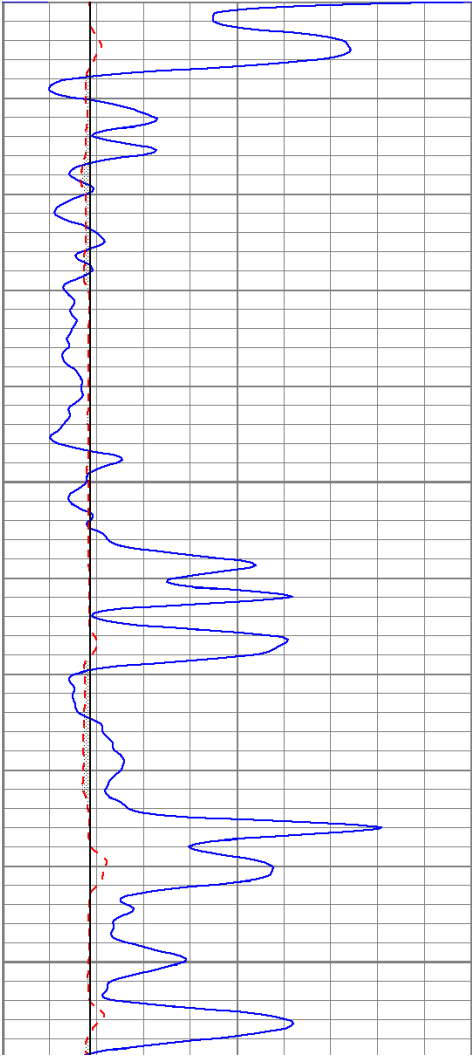


# Repeat Section

Database File: bhfrankcsanders#13oh.db  
 Dataset Pathname: pass6.2  
 Presentation Format: kml  
 Dataset Creation: Fri Nov 25 10:34:54 2011 by Calc Open-Cased 100827  
 Charted by: Depth in Feet scaled 1:240

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

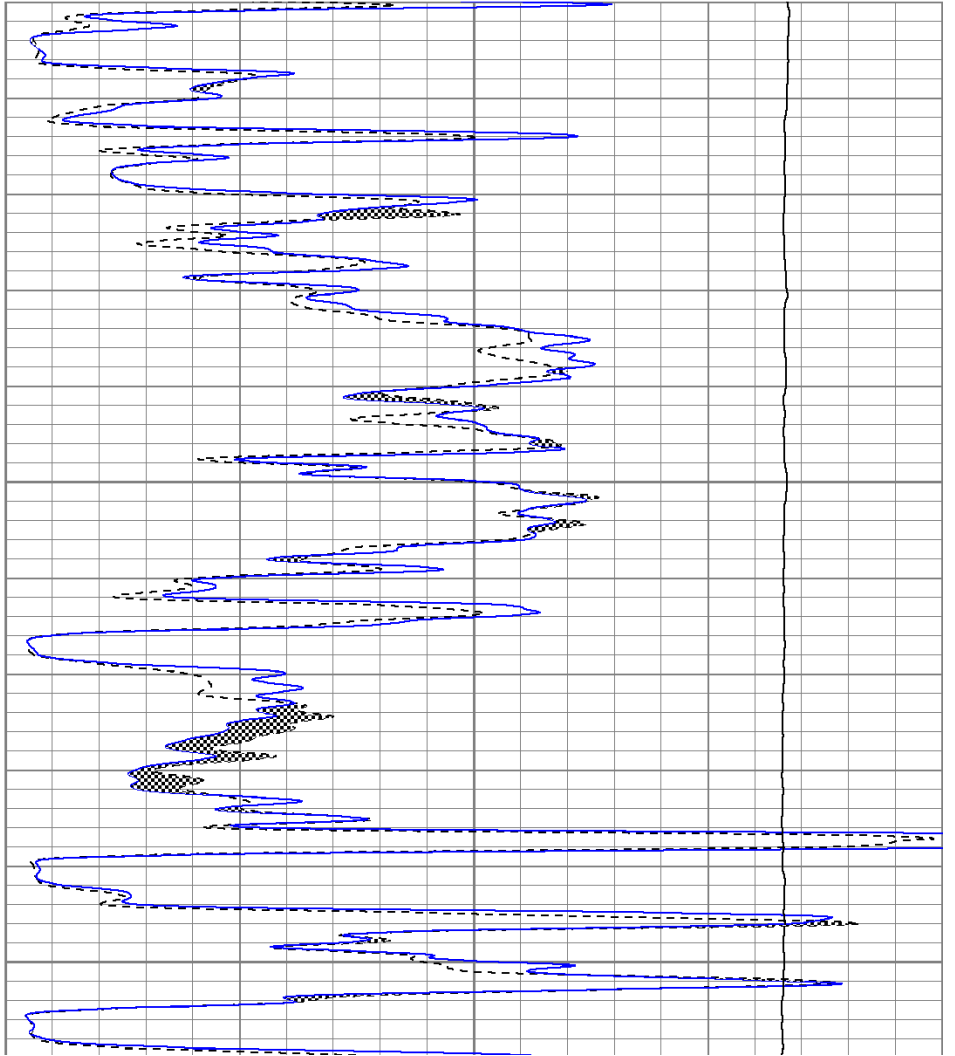
0	MN 2" (Ohm-m)	40
0	MI 1" (Ohm-m)	40
10000	LTEN (lb)	0

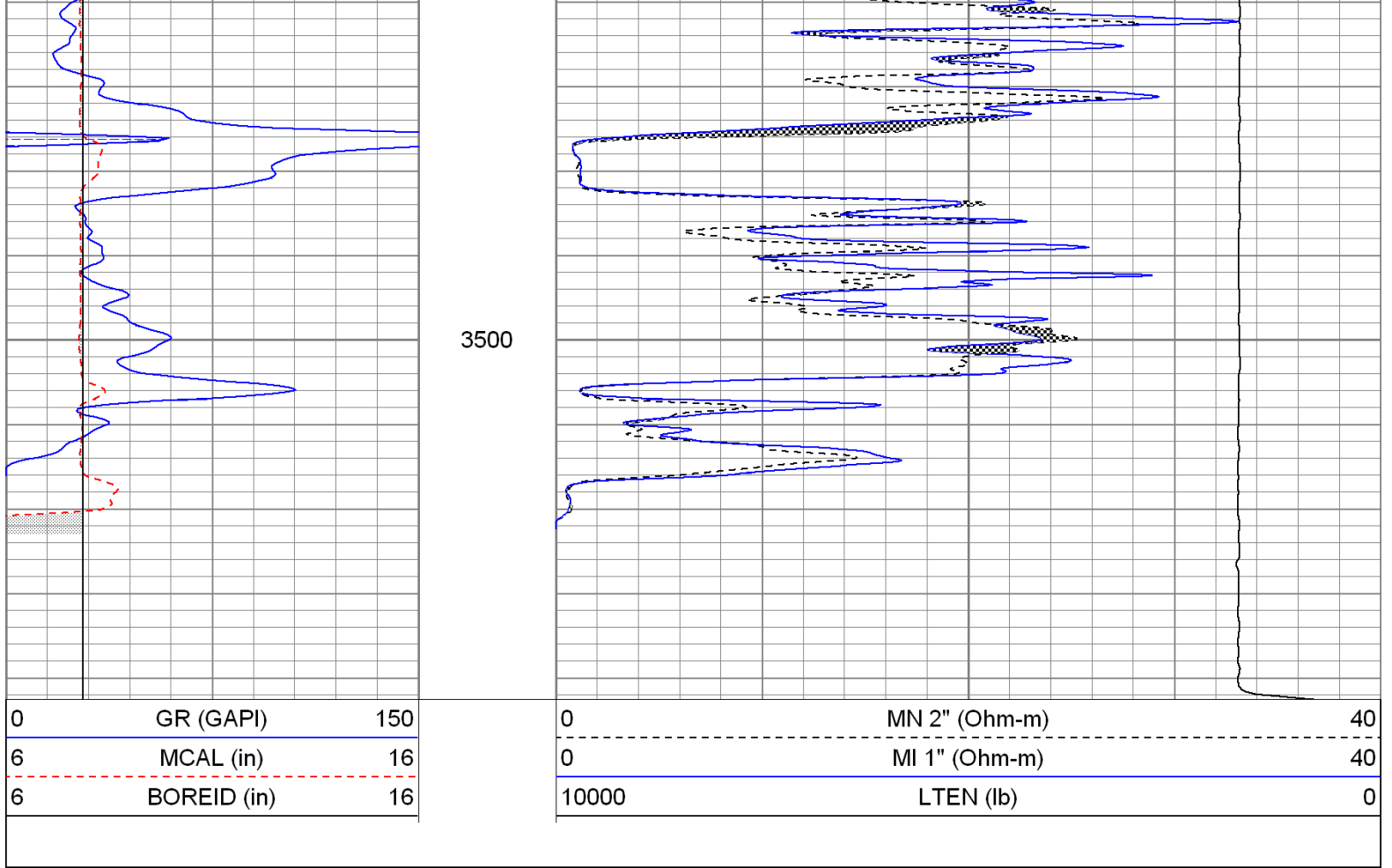


3350

3400

3450





### Calibration Report

Database File: bhfrankcsanders#13oh.db  
 Dataset Pathname: pass6  
 Dataset Creation: Fri Nov 25 05:52:18 2011 by Log Open-Cased 100827

### Microlog Calibration Report

Serial-Model: 012-Pengo  
 Performed: Fri Nov 25 05:50:26 2011

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Normal	0.0019	0.4346	V	0.0000	10.0000	Ohm-m	23.1137	-0.0445
Inverse	0.0024	0.5606	V	0.0000	8.0000	Ohm-m	14.3315	-0.0342
Caliper	3.2460	6.8378	V	8.4000	15.0000	in	1.8375	2.4356

### Gamma Ray Calibration Report

Serial Number: 2000  
 Tool Model: P2000  
 Performed: Sun Oct 23 08:45:30 2011  
  
 Calibrator Value: 1.0      GAPI  
  
 Background Reading: 0.0      cps  
 Calibrator Reading: 1.0      cps  
  
 Sensitivity: 0.2200      GAPI/cps

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

GR	28.30		GR-P2000 (2000)	3.67	3.25	40.00
			ML-Pengo (012)	6.67	3.50	100.00
MN	21.51					
MI	21.51					
MCAL	21.51					
WVF4	14.25					
WVF3	13.25		SLT-G (372) Sonic	15.71	3.50	250.00
WVF2	10.25					
WVF1	9.25					
			OHlong Open Hole long Centralizer	4.50	3.50	50.00

Dataset: bhfrankcsanders#13oh.db: field/well/run1/pass6  
 Total Length: 30.55 ft  
 Total Weight: 440.00 lb  
 O.D. 3.50 in