



**COMPENSATED DENSITY  
NEUTRON  
LOG**

Company Russell Oil, Inc.  
Well Dorothy #21-1  
Field Rumback  
County Logan State Kansas

Location: 2045' FNL & 2310' FWL  
API #: 15 109 21528  
SEC 21 TWP 11S RGE 32W  
Permanent Datum Ground Level Elevation 3037'  
Log Measured From KB 7' AGL  
Drilling Measured From KB  
Other Services  
DIL  
ML  
Elevation  
K.B. 3045'  
D.F. 3044'  
G.L. 3037'

Date	10-30-17
Run Number	One
Depth Driller	4720'
Depth Logger	4720'
Bottom Logged Interval	4698'
Top Log Interval	3700'
Casing Driller	8 5/8" @ 344'
Casing Logger	344'
Bit Size	7 7/8"
Type Fluid in Hole	Chemical
Density / Viscosity	9.1/58
PH / Fluid Loss	10.5/7.6
Source of Sample	Pit
Rm @ Meas. Temp	1.10@72degf
Rmf @ Meas. Temp	0.88@72degf
Rmc @ Meas. Temp	1.41@72degf
Source of Rmf / Rmc	Calculated
Rm @ BHT	0.68@116degf
Time Circulation Stopped	10:00 a.m
Time Logger on Bottom	12:45 p.m
Maximum Recorded Temperature	116degf
Equipment Number	T729
Location	Hays, KS
Recorded By	Casey P.
Witnessed By	Mrs. Kitt Noah

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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**

West of Oakley to 430 Rd.,(West Edge of Golf Course)  
Then South 5 mi. to Porter B Tank Batteries (west Side),  
Then go west through red gate on southwest side of Porter B tank Batteries,  
Then West to North into Location

Open & Shut gate as leaving & going)

Thanks for using Gemini Wireline LLC  
785-625-1182



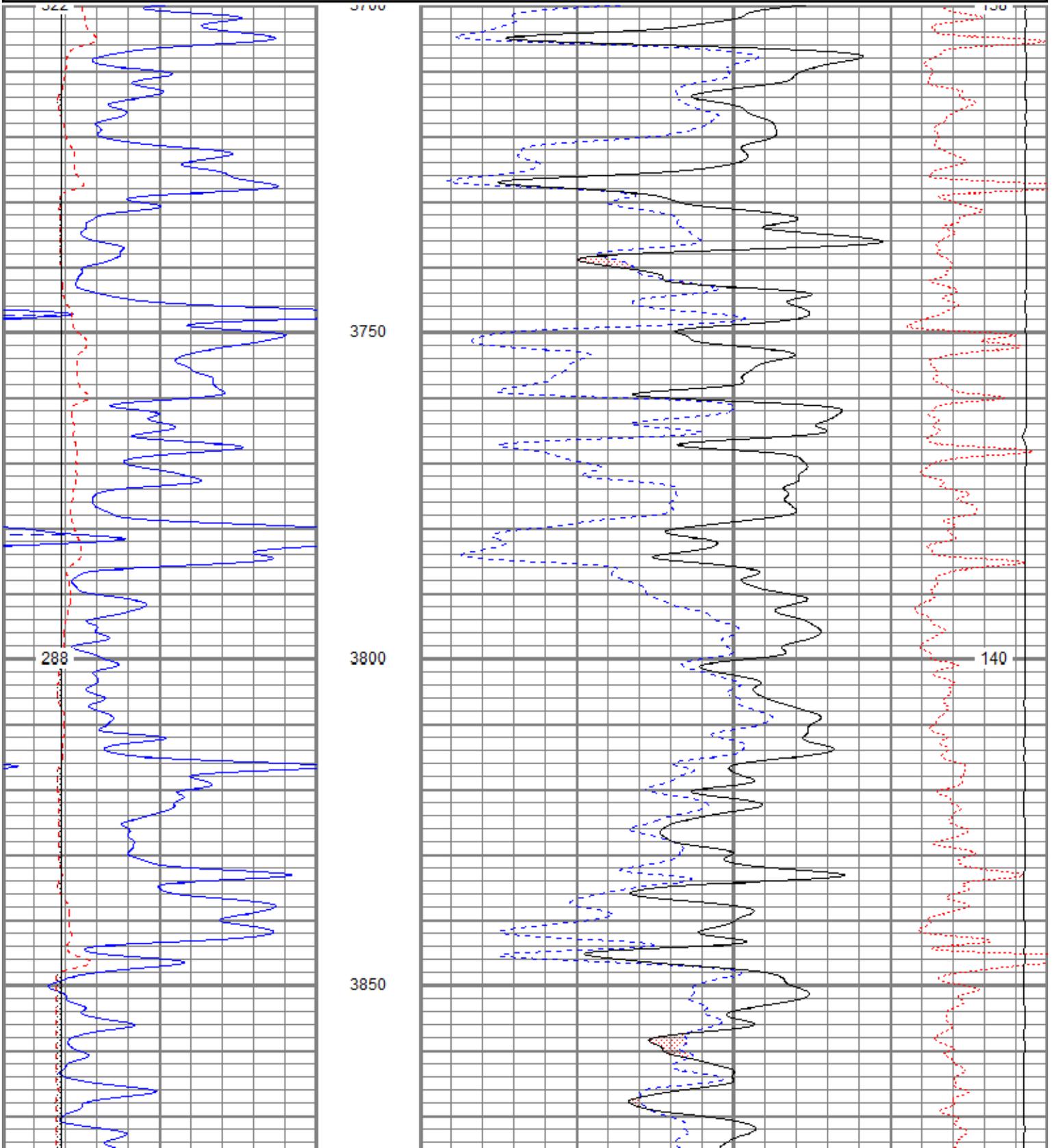
**MAIN PASS**

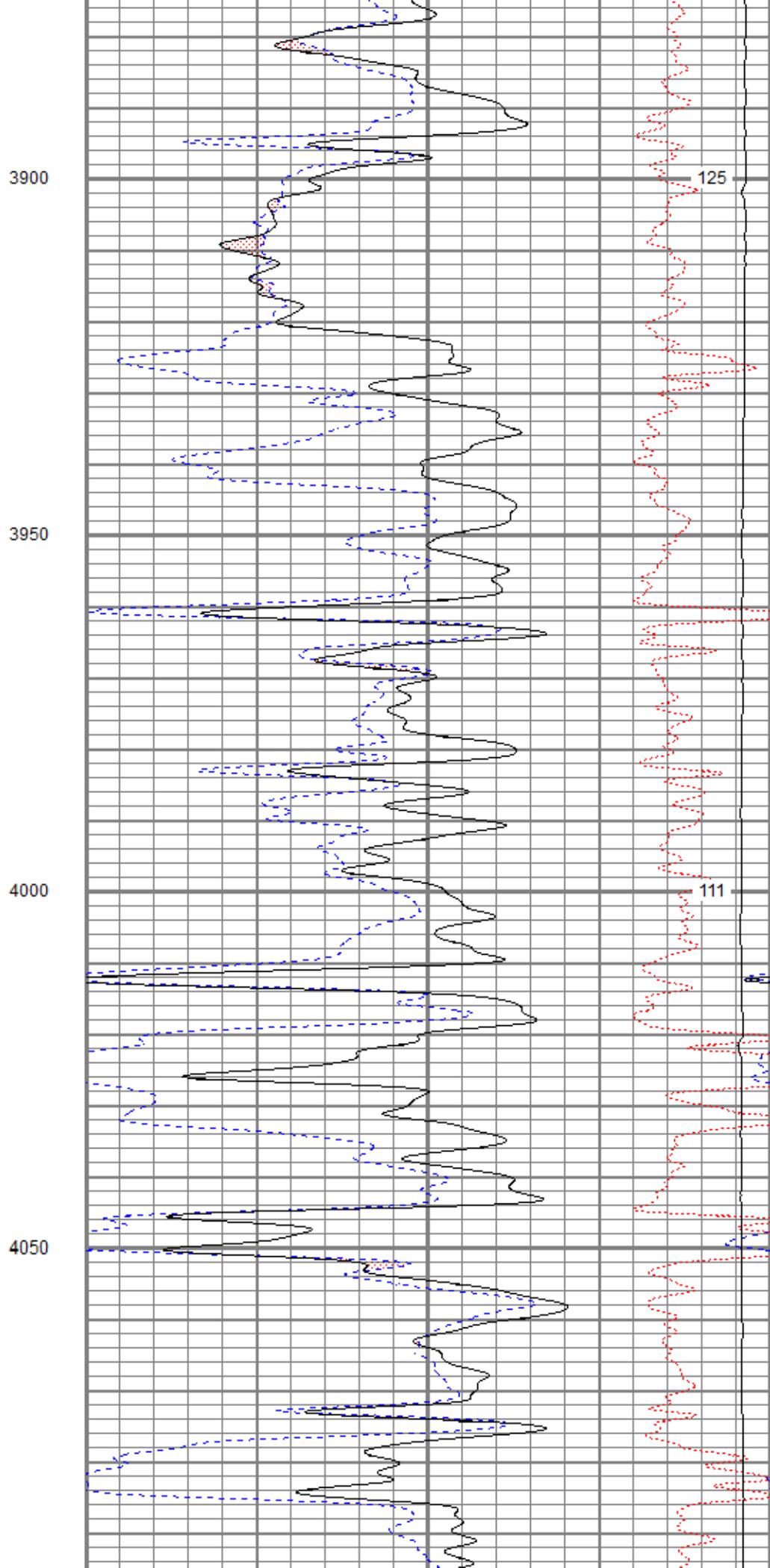
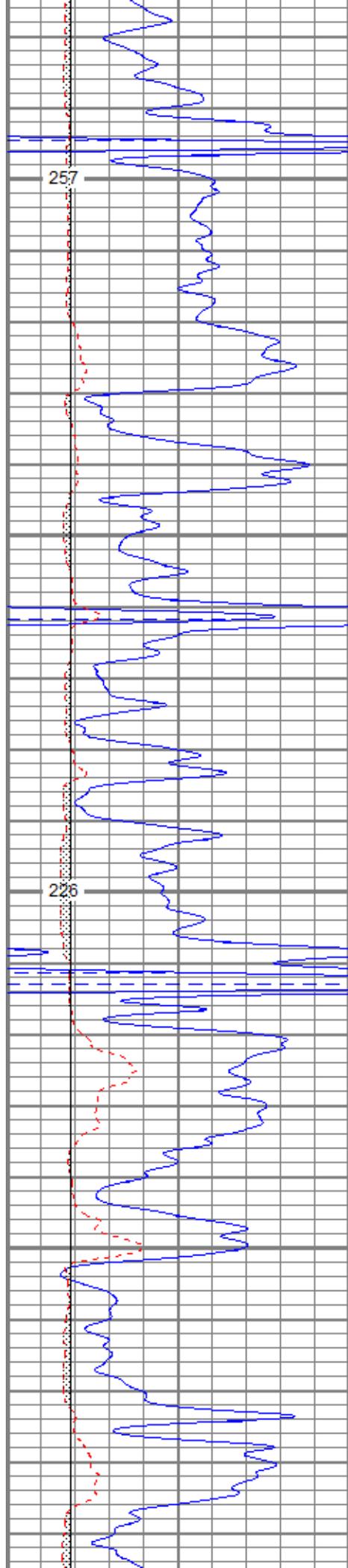
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 Presentation Format kcdnl  
 Dataset Creation Mon Oct 30 13:54:45 2017  
 Charted by Depth in Feet scaled 1:240

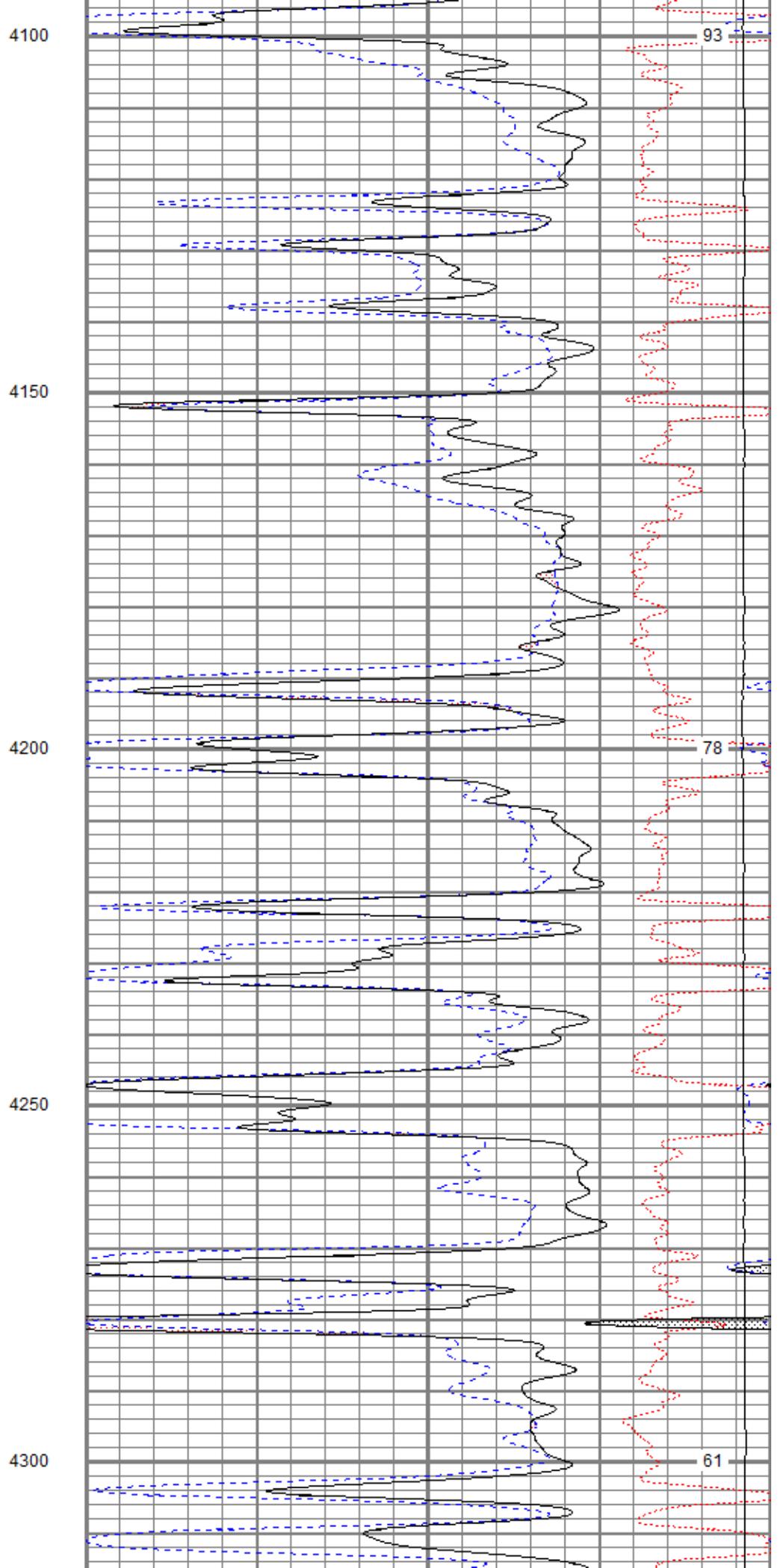
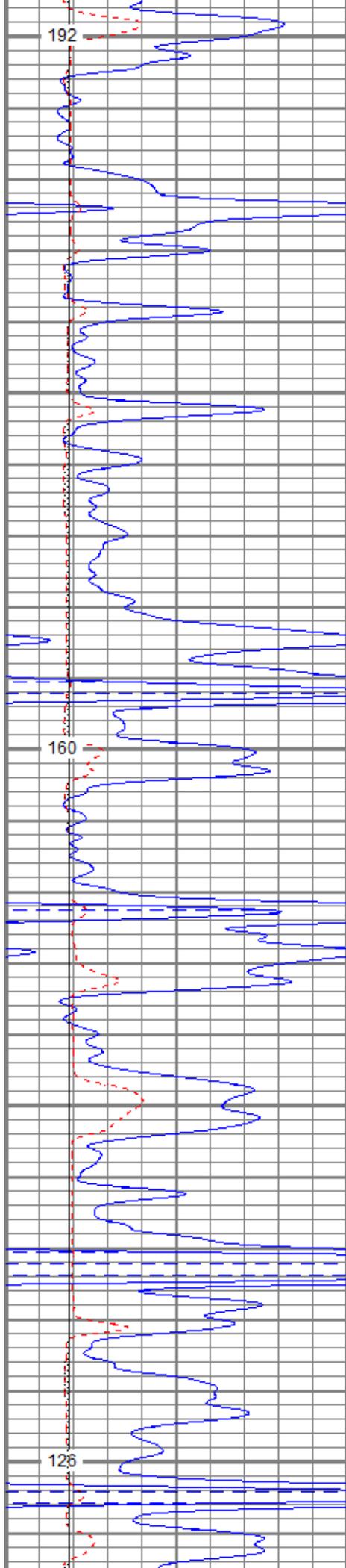
0	GR (GAPI)	150
6	DCAL (in)	16
6	BOREID (in)	16

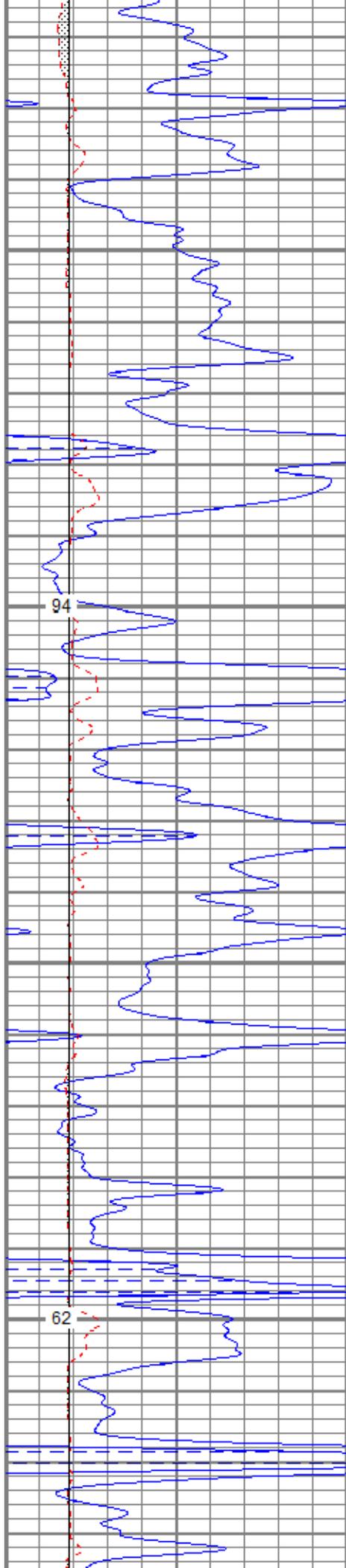
30	NPOR (pu)	-10
30	DPOR (pu)	-10
70	DPOR (pu)	30

TBHV (ft3)	-0.25	RHOC (g/cc)	0.25
	10000	LTEN (lb)	0
		ABHV (ft3)	







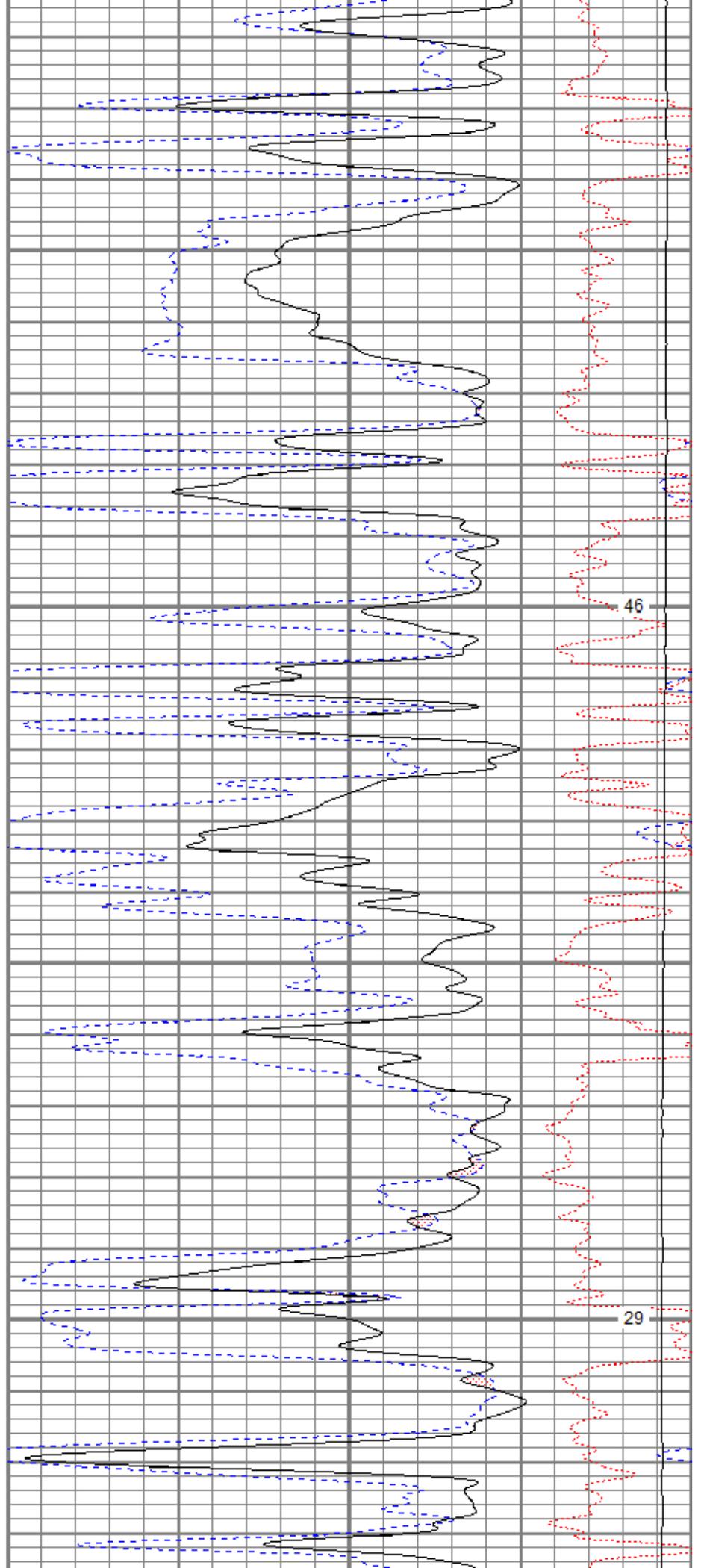


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4400

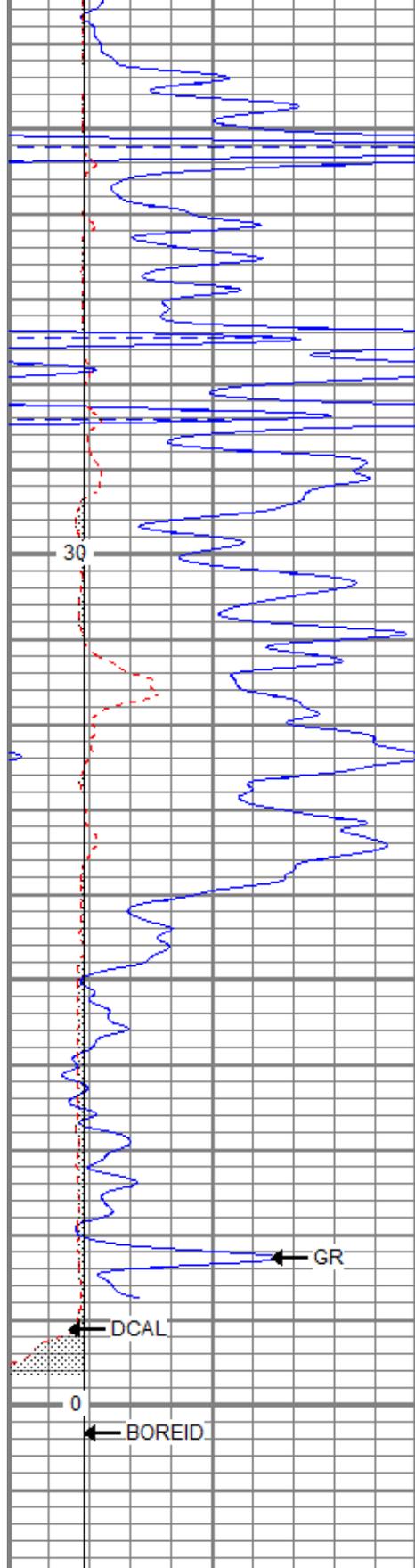
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4500



46

29



4550

4600

4650

4700

30

0

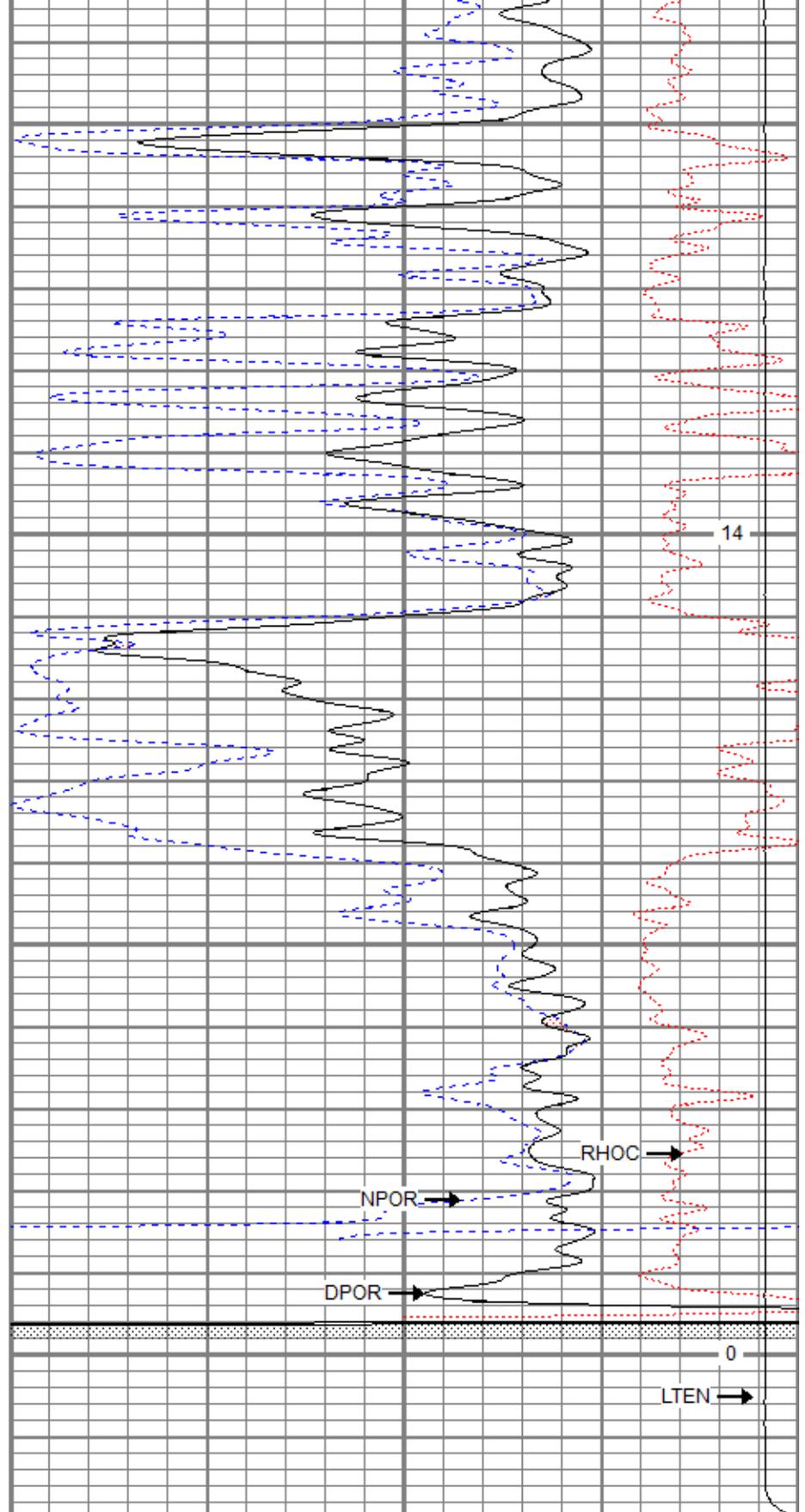
← GR

← DCAL

← BOREID

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

TBHV (ft3)



14

0

← NPOR

← DPOR

← RHOC

← LTEN

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

-0.25	RHOC (g/cc)	0.25
10000	LTEN (lb)	0

ABHV (ft3)



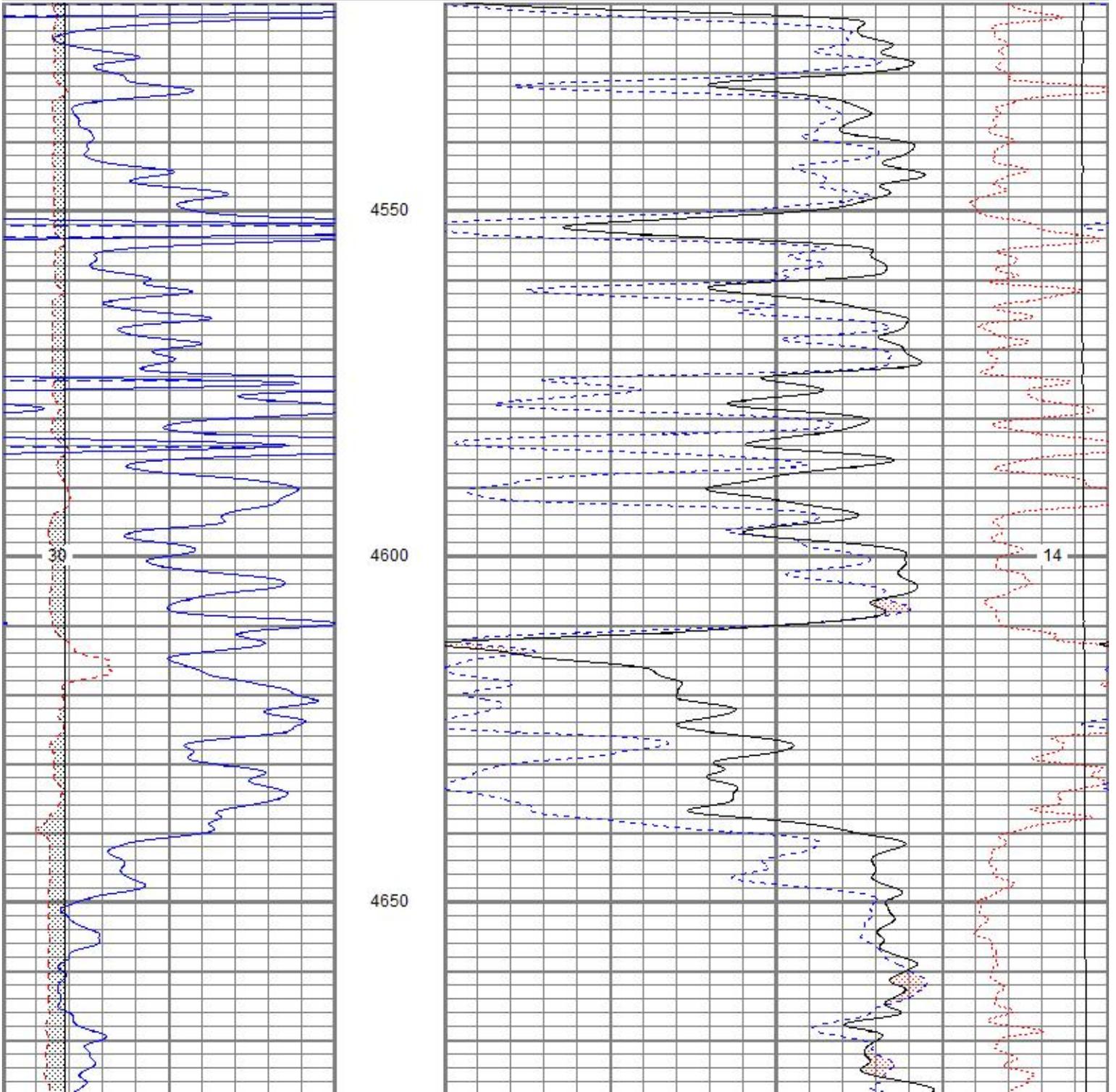
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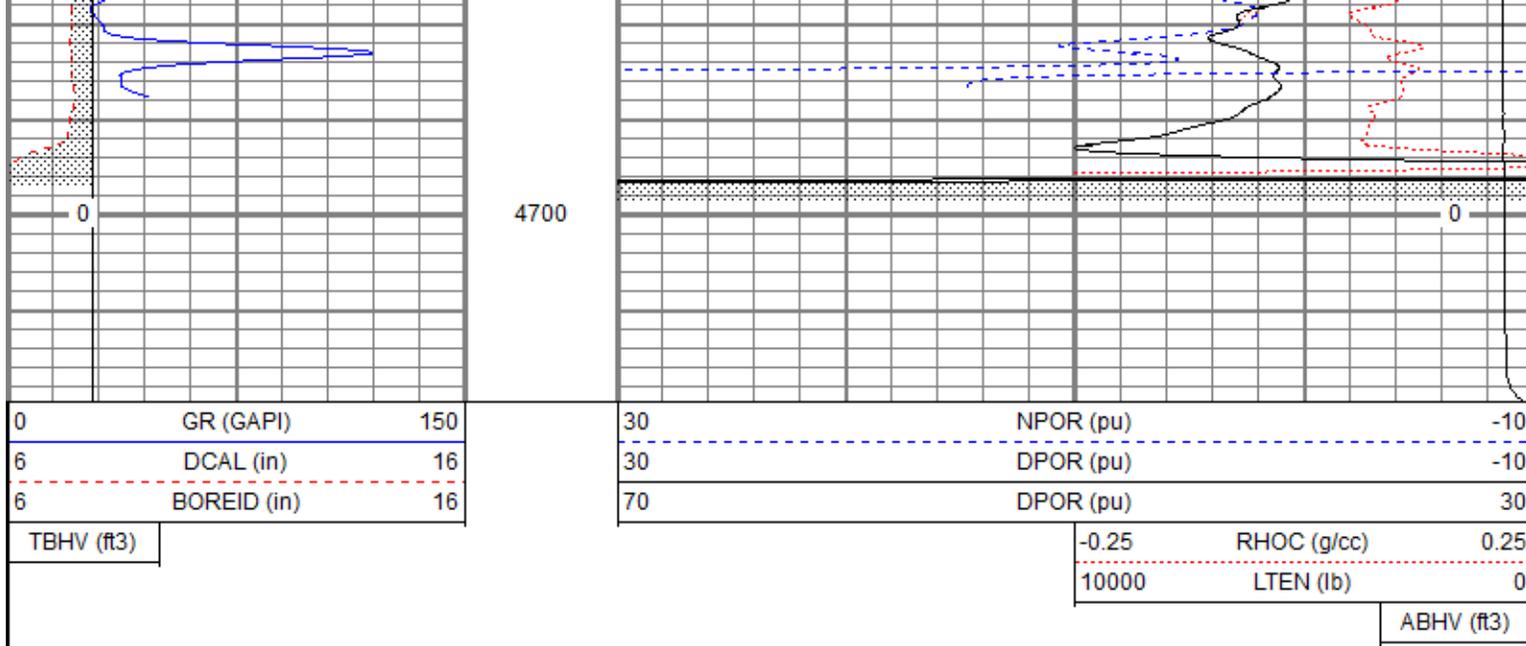
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 Dataset Pathname    pass1.1  
 Presentation Format   kcdnl  
 Dataset Creation    Mon Oct 30 13:22:43 2017  
 Charted by            Depth in Feet scaled 1:240

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
	10000	LTEN (lb)	0
		ABHV (ft3)	





### Calibration Report

Database File: rodorothy21-1oh.db  
 Dataset Pathname: pass2.1  
 Dataset Creation: Mon Oct 30 13:54:45 2017

### Dual Induction Calibration Report

Serial-Model: 5375-G  
 Surface Cal Performed: Tue Aug 15 10:21:23 2017  
 Downhole Cal Performed: Tue Aug 15 10:22:14 2017  
 After Survey Verification Performed: Tue Aug 15 10:22:14 2017

#### Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	-0.003	0.635	V	0.000	350.000	mmho/m	548.445	1.715
Medium	-0.001	0.717	V	0.000	400.000	mmho/m	556.583	0.684
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	-0.003	0.635	V	0.000	350.000	mmho/m	548.268	1.663
Medium	-0.001	0.718	V	0.000	400.000	mmho/m	556.234	0.694

#### Downhole Calibration

Internal:	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Deep	0.131	349.928	mmho/m	0.052	350.165	mmho/m	1.001	-0.079
Medium	-0.084	400.178	mmho/m	-0.010	400.241	mmho/m	1.000	0.073
Shallow	2.425	0.005	V	500.000	2.000	Ohm-m	205.838	0.894

#### After Survey Verification

Internal:	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.131	349.928	mmho/m	1.001	-0.079
Medium	0.000	0.000	mmho/m	-0.084	400.178	mmho/m	1.000	0.073
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

### Compensated Density Calibration Report

Serial-Model:  
 Source / Verifier:  
 Master Calibration Performed:  
 Before Survey Verification Performed:  
 After Survey Verification Performed:

2113TN-Aoilex  
 csv n-20 /  
 Wed Oct 11 14:43:37 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.750	g/cc	466.46	301.08	cps
Aluminum	2.690	g/cc	85.94	195.82	cps
Spine Angle = 75.73			Density/Spine Ratio = 0.539		
	Size		Reading		
Small Ring	9.35	in	1.49	V	
Large Ring	14.00	in	3.25	V	

Before Survey Verification

Target	Measured
	g/cc
	g/cc
	g/cc

After Survey Verification

Target	Measured
	g/cc
	g/cc
	g/cc

Gamma Ray Calibration Report

Serial Number: 2213TN  
 Tool Model: Aoilex  
 Performed: Wed Oct 11 14:43:45 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 1.1000 GAPI/cps

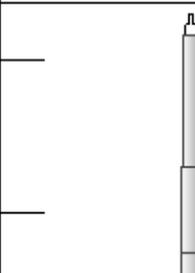
Neutron Calibration Report

Serial Number: 2301AN  
 Tool Model: Oilex  
 Performed: Wed Oct 11 14:43:43 2017

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	34.62		CHD-None	0.75	1.50	5.00
			NEU-Oilex (2301AN) Oilex 100V NEU	4.27	3.50	80.00
GR	29.60		GR-Aoilex (2213TN) Admyr GR	2.84	4.00	50.00

LSD	24.57		CDL-Aoilex (2113TN) Admyr Oilex	6.80	4.00	250.00
DCAL	24.30					
SSD	24.05					
SP	10.60		DIL-G (5375) Gearhart	21.47	4.00	345.00
CILD	10.60					
CILM	6.89					
RLL3	1.70					

Dataset: rodorothy21-1oh.db: field/well/run1/pass2.1  
 Total length: 36.14 ft  
 Total weight: 730.00 lb  
 O.D.: 4.00 in