



**COMPENSATED DENSITY
NEUTRON
LOG**

Company PATERSON ENERGY
 Well MUCHMORE-THORNBURG #1
 Field CHAPMAN
 County GOVE State KANSAS

Location: API #: 15 063 22430
 2310' FNL & 1650' FEL
 SEC 34 TWP 15S RGE 19W
 Permanent Datum Ground Level Elevation 2591
 Log Measured From KB 8' AGL
 Drilling Measured From KB
 Other Services
 ML
 DIL
 Elevation
 K.B. 2599
 D.F. 2597
 G.L. 2591

Date	6/17/23
Run Number	One
Depth Driller	4590
Depth Logger	4594
Bottom Logged Interval	4574
Top Log Interval	3600
Casing Driller	8 5/8"@223'
Casing Logger	223'
Bit Size	7 7/8"
Type Fluid in Hole	Chemical
Density / Viscosity	9.3/51
pH / Fluid Loss	9.5/8.0
Source of Sample	Pit
Rm @ Meas. Temp	1.7@70degf
Rmf @ Meas. Temp	1.3@70degf
Rmc @ Meas. Temp	2.0@70degf
Source of Rmf / Rmc	Calculated
Rm @ BHT	1.0@115degf
Time Circulation Stopped	2:00 AM
Time Logger on Bottom	6:30 AM
Maximum Recorded Temperature	115degf
Equipment Number	T-605
Location	Hays, KS.
Recorded By	COLBY DREILING
Witnessed By	JASON T. ALM

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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

1/2 EAST OF UTICA, 4 NORTH, 2 WEST,
 7/8 MILE NORTH, WEST INTO.

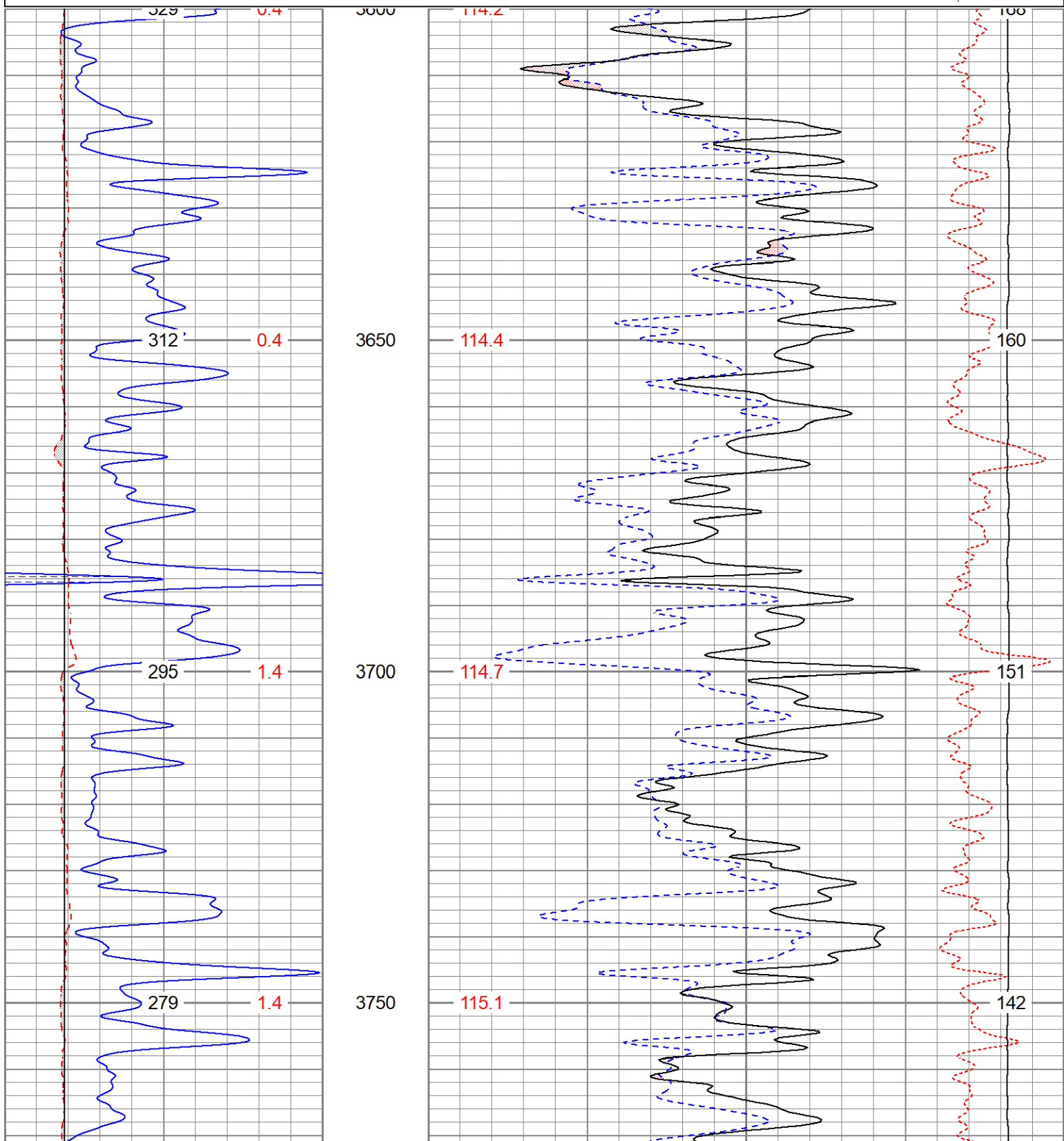
Thanks for using Gemini Wireline LLC
 785-625-1182

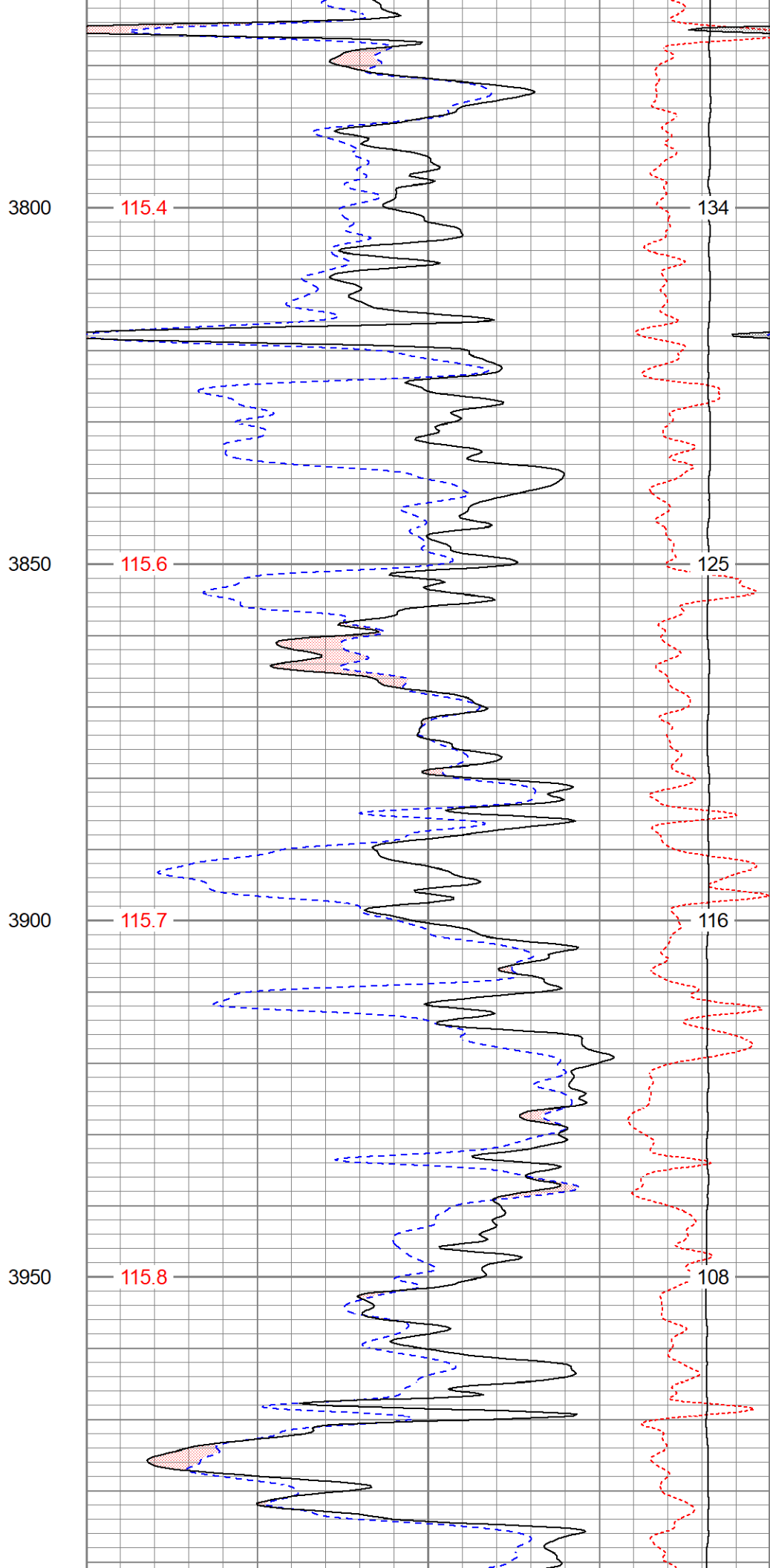
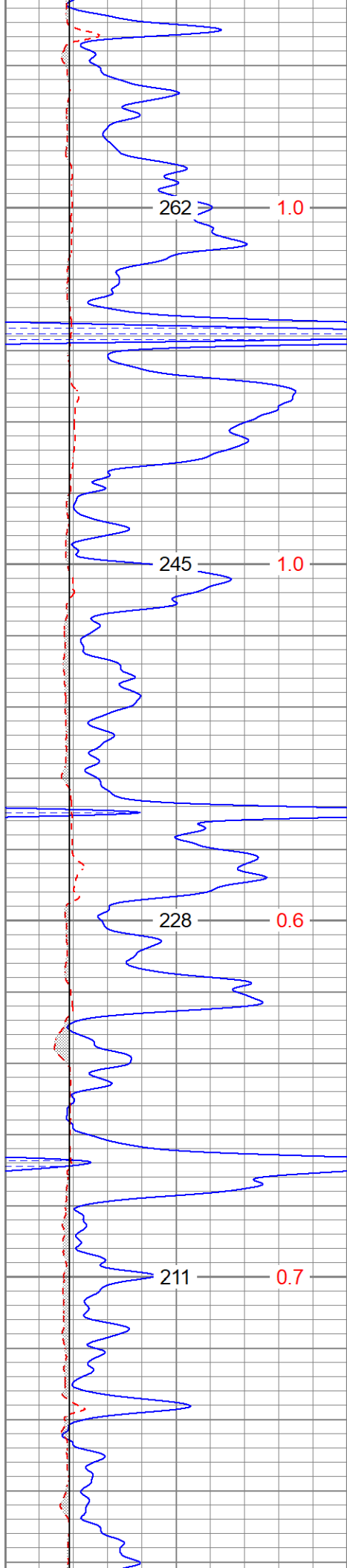


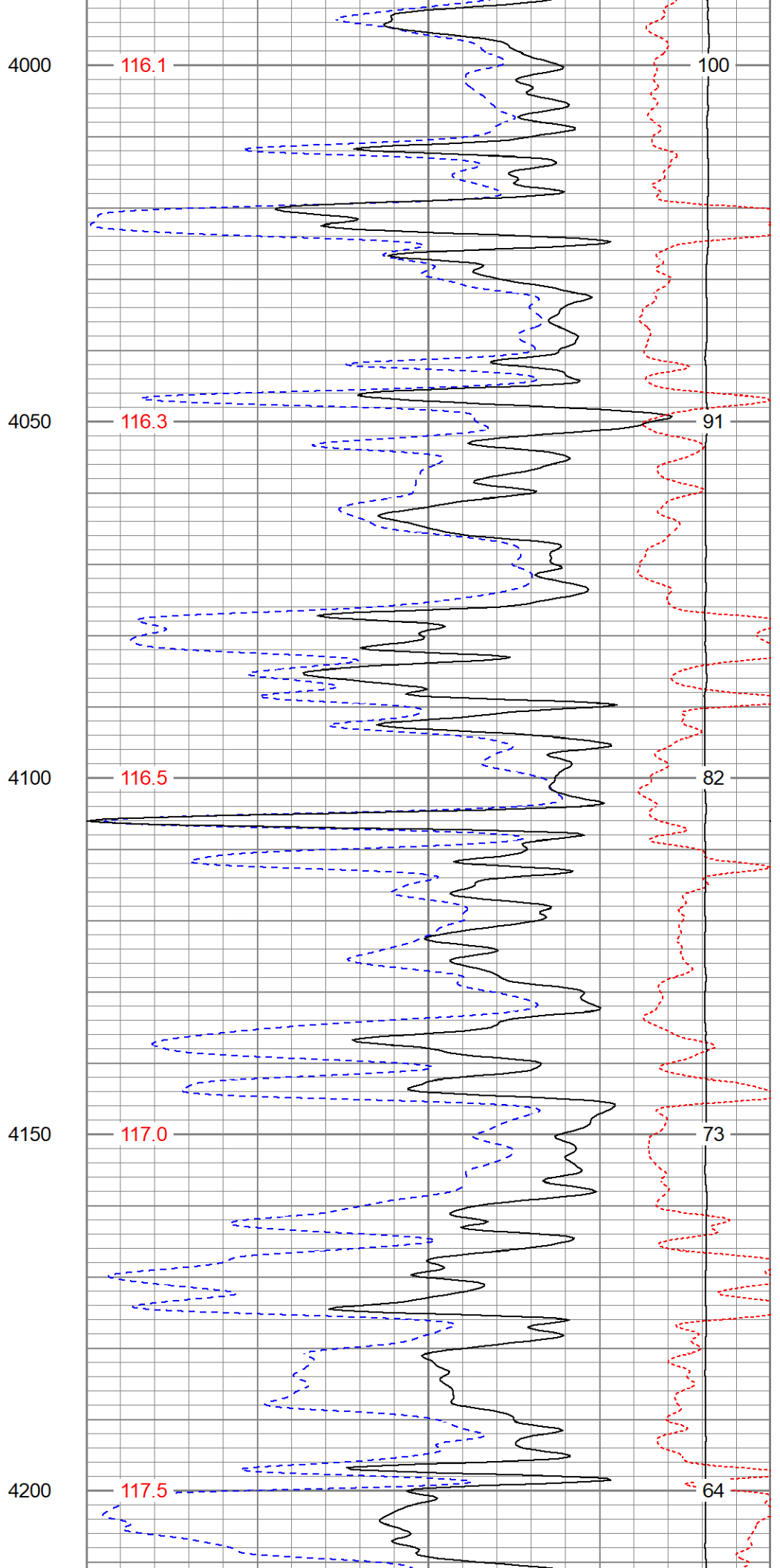
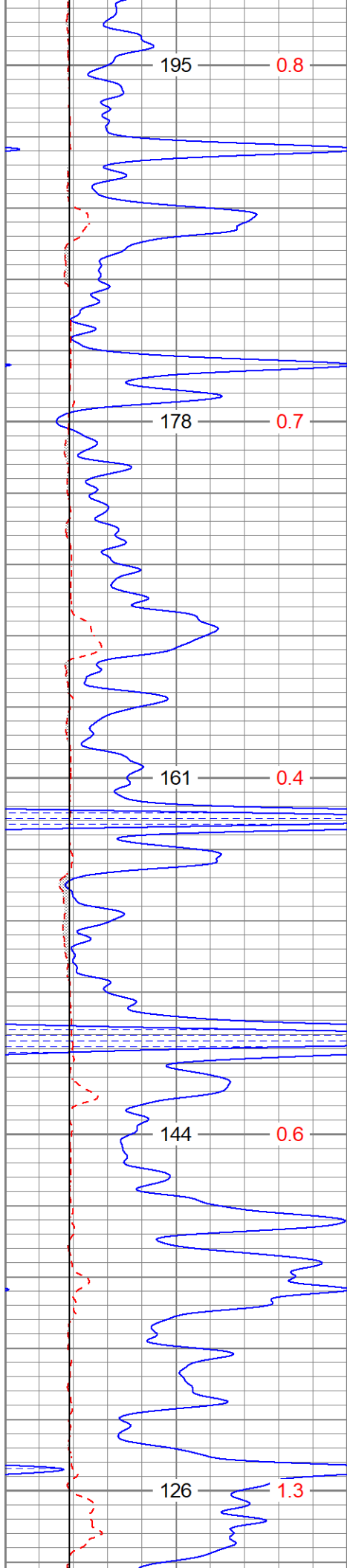
MAIN PASS

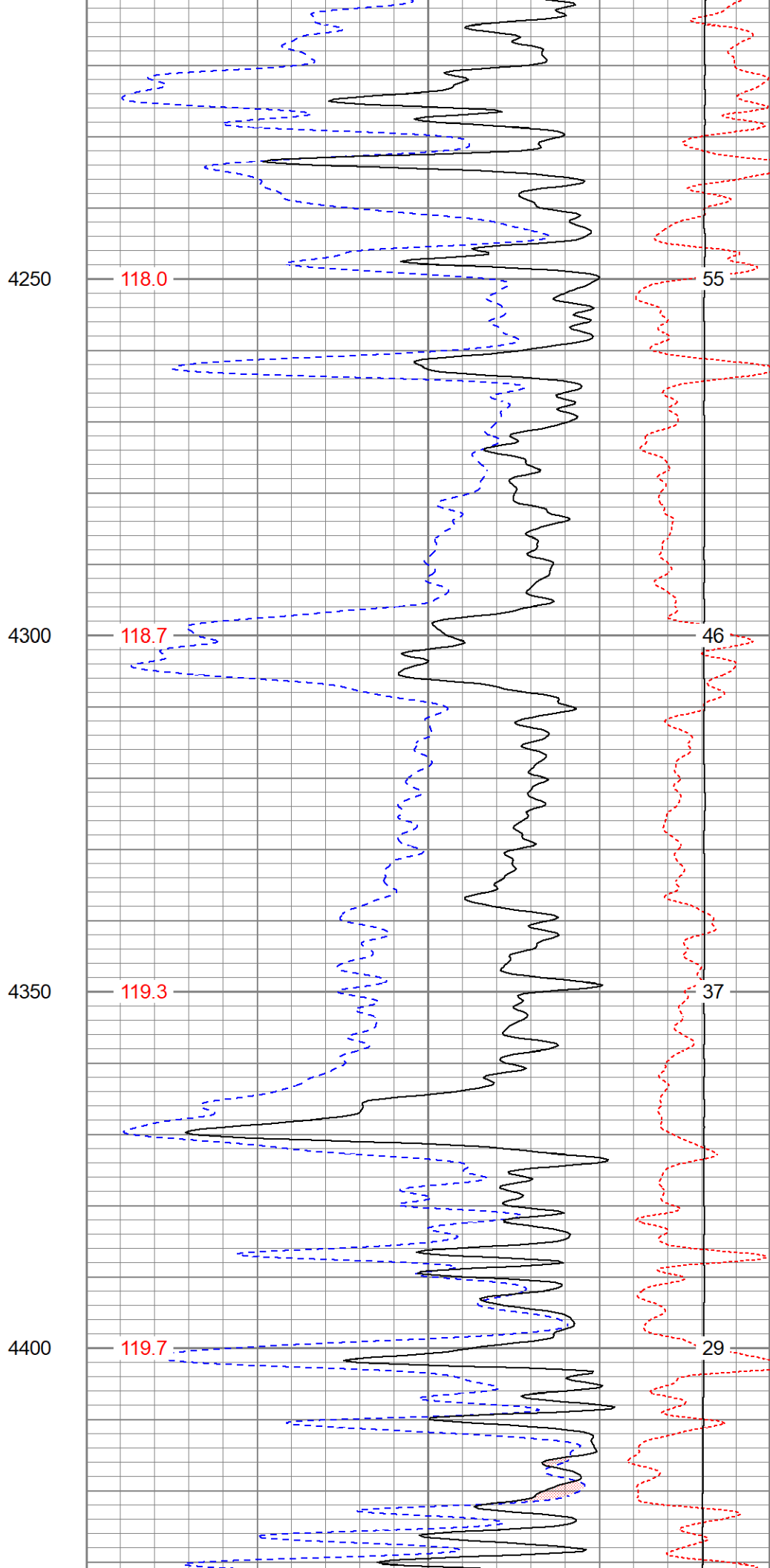
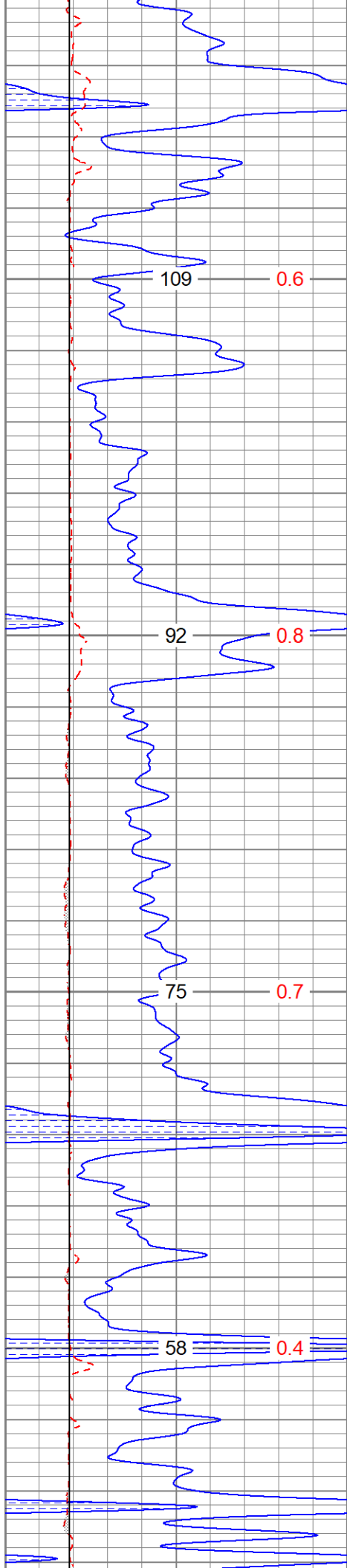
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 Dataset Pathname pass4DT
 Presentation Format digital_kcdnl
 Dataset Creation Sat Jun 17 07:29:10 2023
 Charted by Depth in Feet scaled 1:240

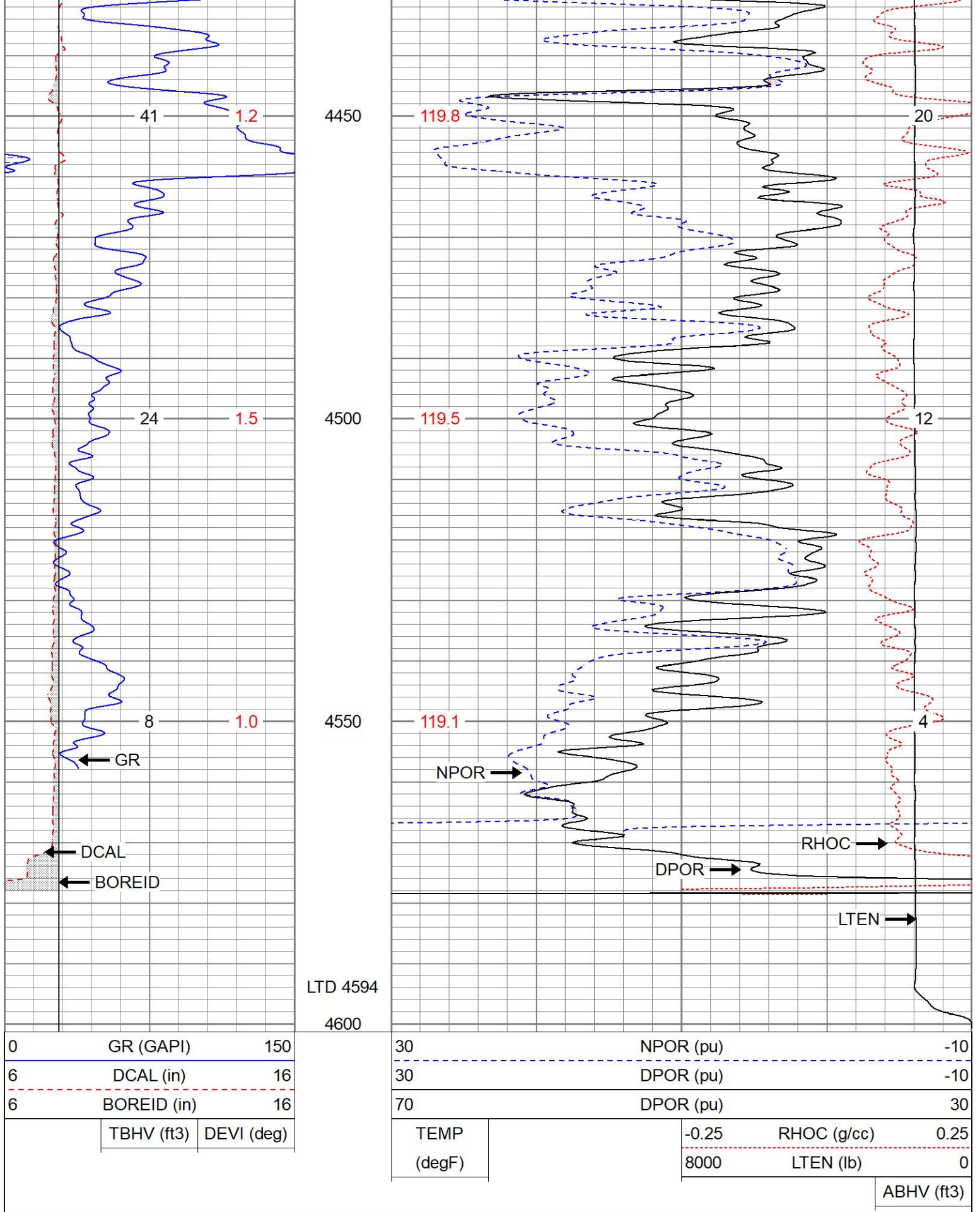
0	GR (GAPI)	150	30	NPOR (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
6	BOREID (in)	16	70	DPOR (pu)	30
	TBHV (ft3)	DEVI (deg)	TEMP (degF)	-0.25	RHOC (g/cc) 0.25
				8000	LTEN (lb) 0
					ABHV (ft3)







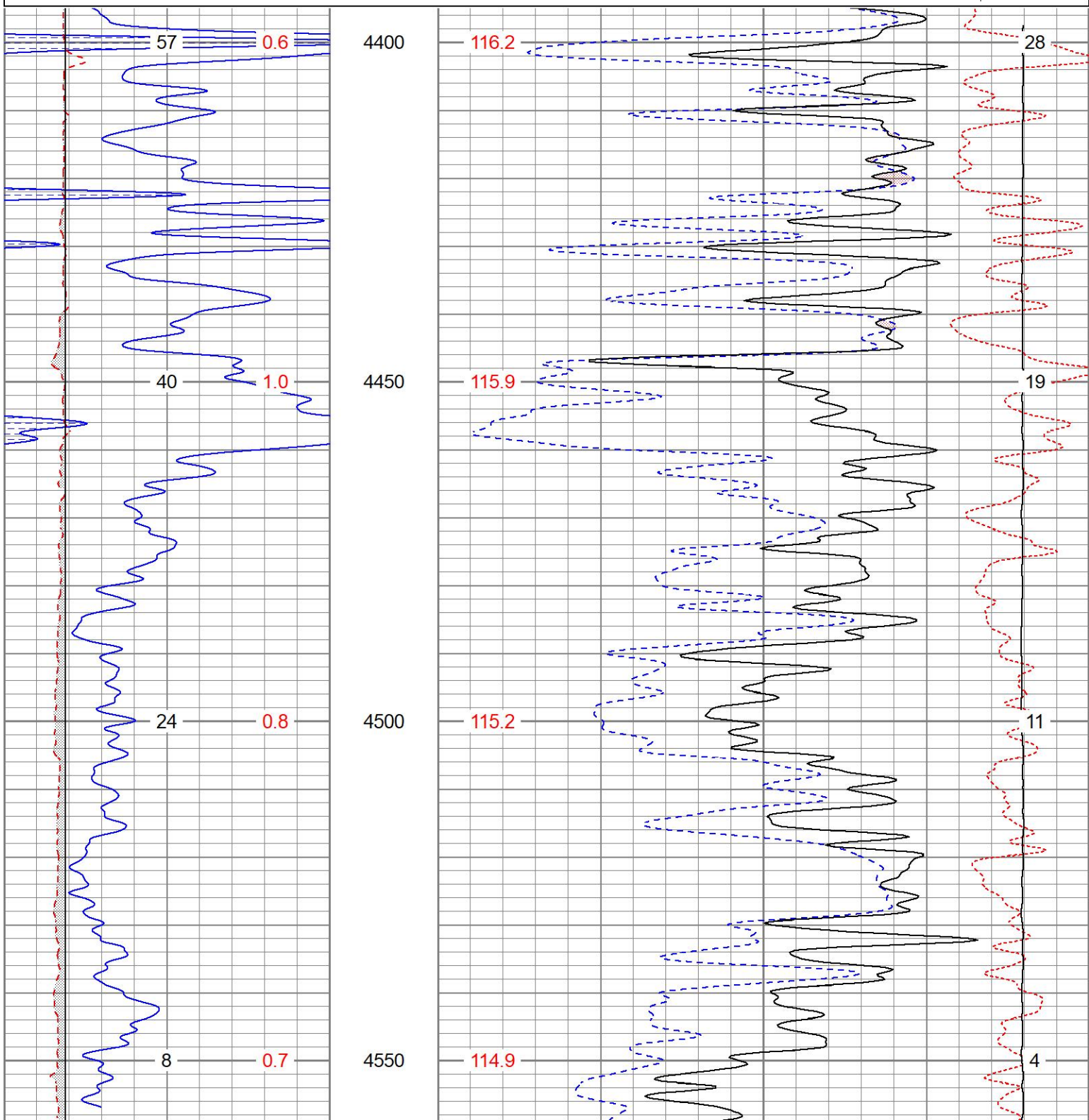


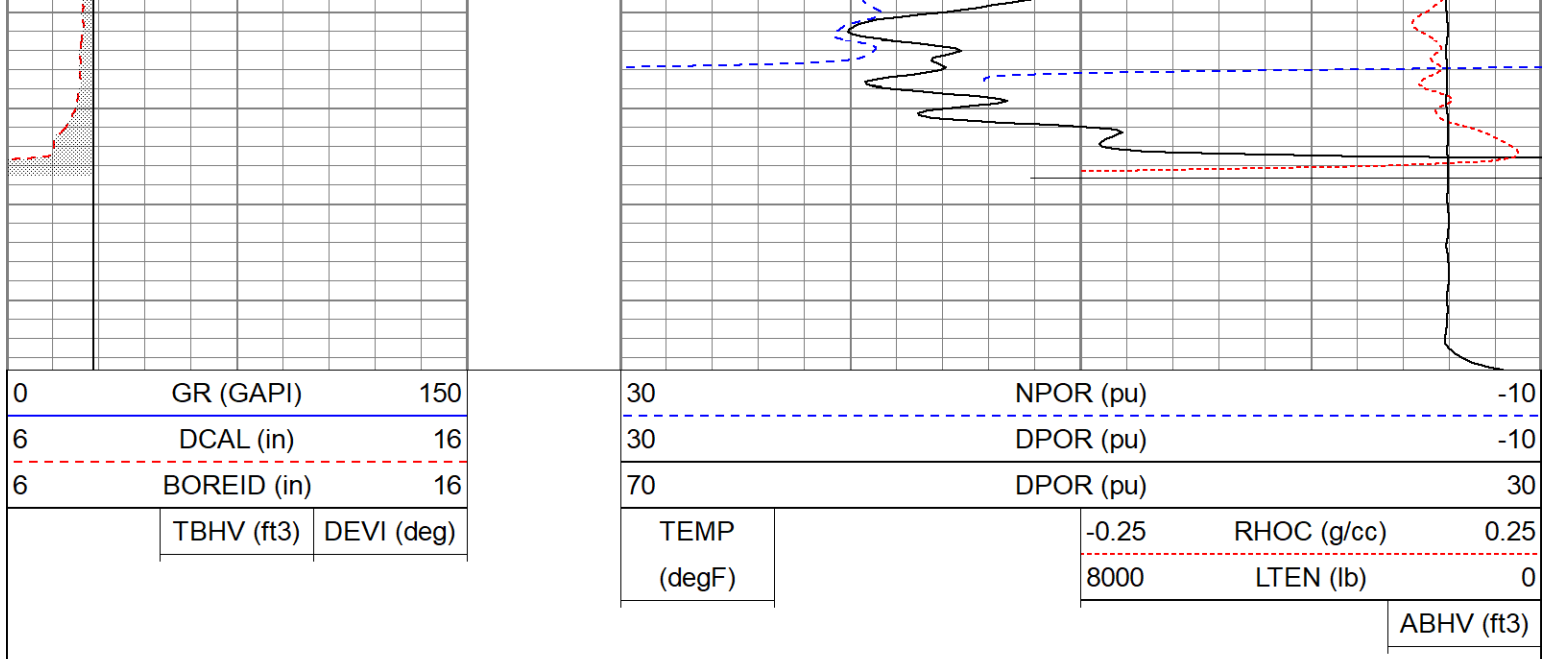


REPEAT SECTION

Database File pemuchmorethornburg#1oh.db
 Dataset Pathname pass2.1
 Presentation Format digital_kcdnl
 Dataset Creation Sat Jun 17 08:16:11 2023
 Charted by Depth in Feet scaled 1:240

0	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)	DEVI (deg)	TEMP (degF)	-0.25	RHOC (g/cc) 0.25
				8000	LTEN (lb) 0
					ABHV (ft3)





Calibration Report

Database File pemuchmorethornburg#1oh.db
 Dataset Pathname pass2.1
 Dataset Creation Sat Jun 17 08:16:11 2023

Dual Induction Calibration Report

Serial-Model: 1842-ADM
 Surface Cal Performed: Mon Sep 20 22:00:42 2021
 Downhole Cal Performed: Mon Sep 20 22:00:24 2021
 After Survey Verification Performed: Mon Sep 20 22:05:52 2021

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	m	b
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.475	-9.896
Medium	0.003	0.769	V	0.000	400.000	mmho/m	522.607	-1.745
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.240	-9.549
Medium	0.003	0.768	V	0.000	550.000	mmho/m	718.637	-2.088

Downhole Calibration

Internal:	Readings			References			Results	
	Zero	Cal	V	Zero	Cal	mmho/m	m	b
Deep	-0.219	349.905	mmho/m	-0.343	349.810	mmho/m	1.000	-3.124
Medium	-0.118	399.722	mmho/m	-0.226	399.745	mmho/m	1.000	-3.108
Shallow	2.536	0.025	V	500.000	2.000	Ohm-m	180.330	-1.504

After Survey Verification

Internal:	Readings			Targets			Results	
	Zero	Cal	mmho/m	Zero	Cal	mmho/m	m'	b'
Deep	0.000	0.000	mmho/m	-0.219	349.905	mmho/m	1.000	-3.124
Medium	0.000	0.000	mmho/m	-0.118	399.722	mmho/m	1.000	-3.108
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Admyr Lithodensity Calibration Report

Serial-Model: 1C-C
 Source: Blue2
 Master Calibration Performed: Tue Aug 30 10:20:37 2022

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.670	g/cc	6362.49	3546.71	cps
Aluminium	2.640	g/cc	1733.54	2362.69	cps
Aluminium+Sleeve	2.617	g/cc	1657.01	2197.69	cps
Spine Angle = 72.65			Density/Spine Ratio = 0.712		
	PE		NLITH	NHARD	
Magnesium	2.000	barn	2520.00	1620.00	cps
Aluminium	3.000	barn	1926.00	1699.00	cps
Aluminium+Sleeve	5.000	barn	915.00	1230.00	cps
M = 0.370			B = -0.079	R = 0.999	
	Size		Reading		
Small Ring	8.00	in	8.61	V	
Large Ring	14.30	in	12.40	V	

Neutron Calibration Report

Serial Number: AD5139
 Tool Model: ADMY5139
 Performed: (Not Performed)

Calibrator Value: 1 NAPI
 Calibrator Reading: 1 cps
 Sensitivity: 1 NAPI/cps

Temperature Calibration Report

Serial Number: WithMC
 Tool Model: WMC
 Performed: Fri Apr 19 12:15:04 2019

	Reference	Reading
Low Reference:	0.00 degF	0.00 degF
High Reference:	1.00 degF	1.00 degF
Gain:	1.00	
Offset:	0.00	
Delta Spacing	1	

Inclinometer Calibration Report

Performed: Wed May 5 19:20:48 2021

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	205.00	1843.00	-1.00	1.00	gee
Y Accelerometer	205.00	1843.00	-1.00	1.00	

Z Accelerometer

205.00

1843.00

-1.00

1.00

gee

gee

Gamma Ray Calibration Report

Serial Number:	WithMC	
Tool Model:	WMC	
Performed:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps