



# DUAL COMP POROSITY LOG

**Company** CARMEN SCHMITT, INC.  
**Well** WERTH NO. 5  
**Field** WILDCAT  
**County** TREGO **State** KANSAS

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**Location:** API #: 15-195-23068-00-00  
 2250' FSL & 2000' FEL  
 SEC 7 TWP 14S RGE 25W  
**Permanent Datum** GROUND LEVEL Elevation 2411'  
**Log Measured From** KELLY BUSHING  
**Drilling Measured From** KELLY BUSHING  
**Other Services** DIL MEL

Date	9/19/2018
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	4338'
Depth Logger	4336'
Bottom Logged Interval	4308'
Top Logged Interval	3400'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	8200
Density	9.3
Level	FULL
Max. Rec. Temp. F	119 DEG/F
Operating Rig Time	2 HOURS
Equipment -- Location	108 HAYS
Recorded By	J. HENRICKSON
Witnessed By	VERN SCHRAG

Borehole Record		Casing Record					
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	218'	8.625"	23#	0	218'
TWO	7.875"	218'					

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

**Comments**  
 N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.  
 COLLYER KANSAS  
 SOUTH TO U ROAD, 1 WEST, NORTH INTO  
  
 Log Measured From: KELLY BUSHING      5 Ft. Above Permanent Datum  
 THANK YOU FOR USING PIONEER ENERGY SERVICES  
 www.pioneerenergy.com      785-625-3858

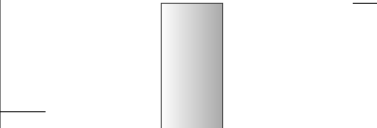
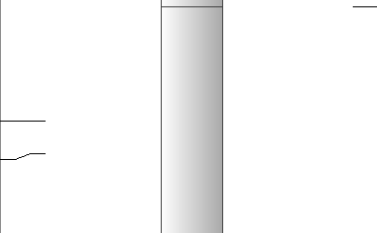
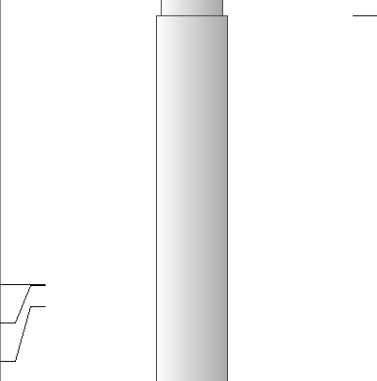
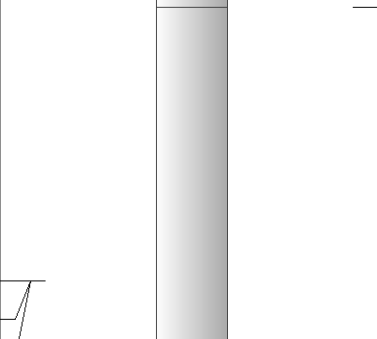
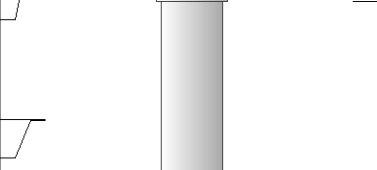
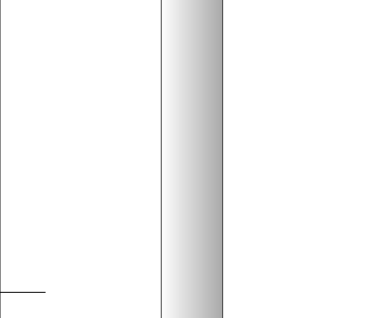
<b>Your Pioneer Energy Services Crew</b> Engineer: J. HENRICKSON Operator: Operator: Operator:	<b>This Log Record Was Witnessed By</b> Primary Witness: VERN SCHRAG Secondary Witness: Secondary Witness: Secondary Witness:
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# Log Variables

DatabaseC:\ProgramData\Warrior\Data\carmen\_schmitt\_werth\_5.db  
Dataset field/well/stackml/pass3.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	119	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	-5	21	-245	91	Off	4336

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (168-130)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (PSI 988)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: carmen\_schmitt\_werth\_5.db: field/well/stackml/pass3.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

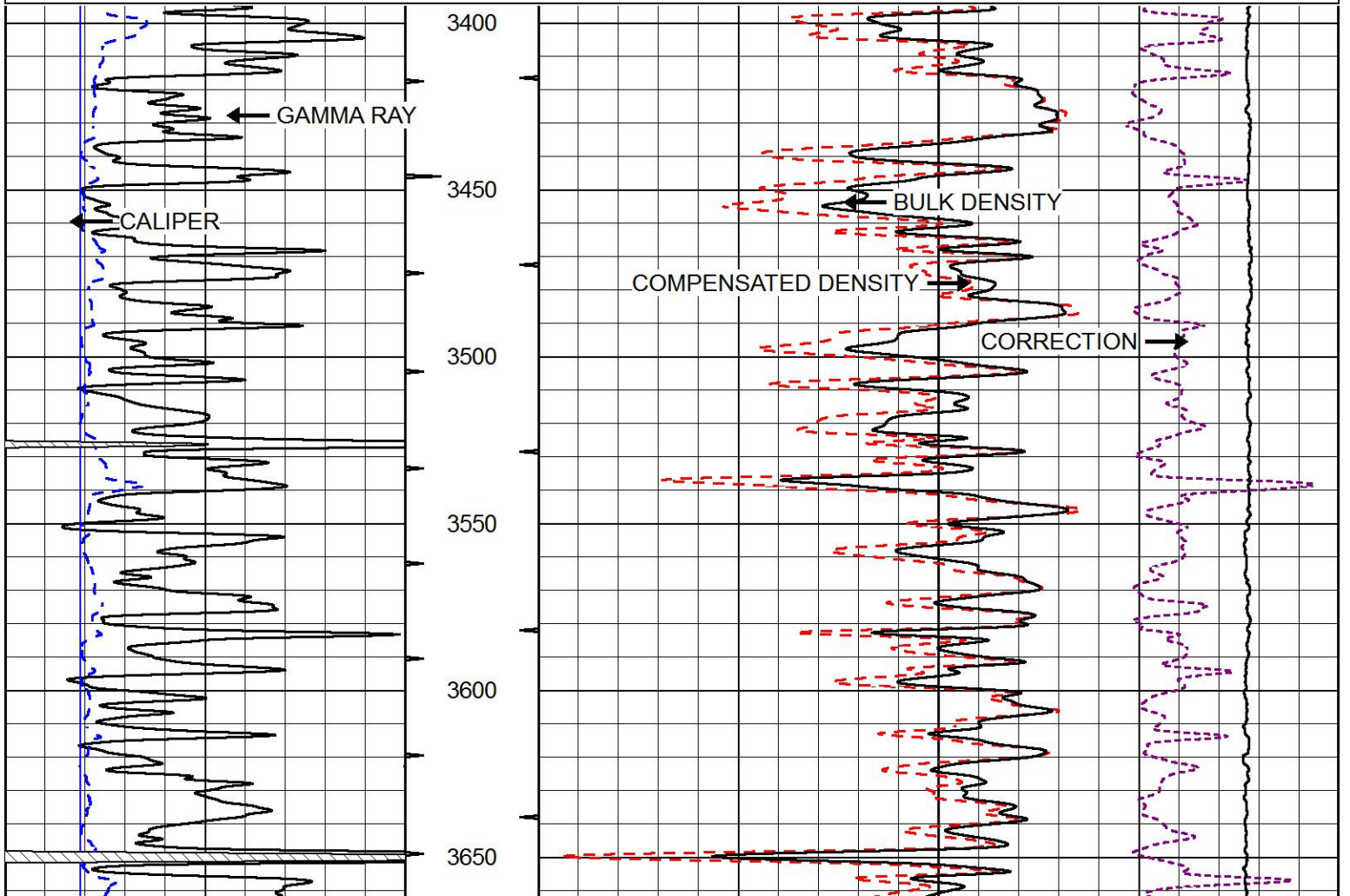


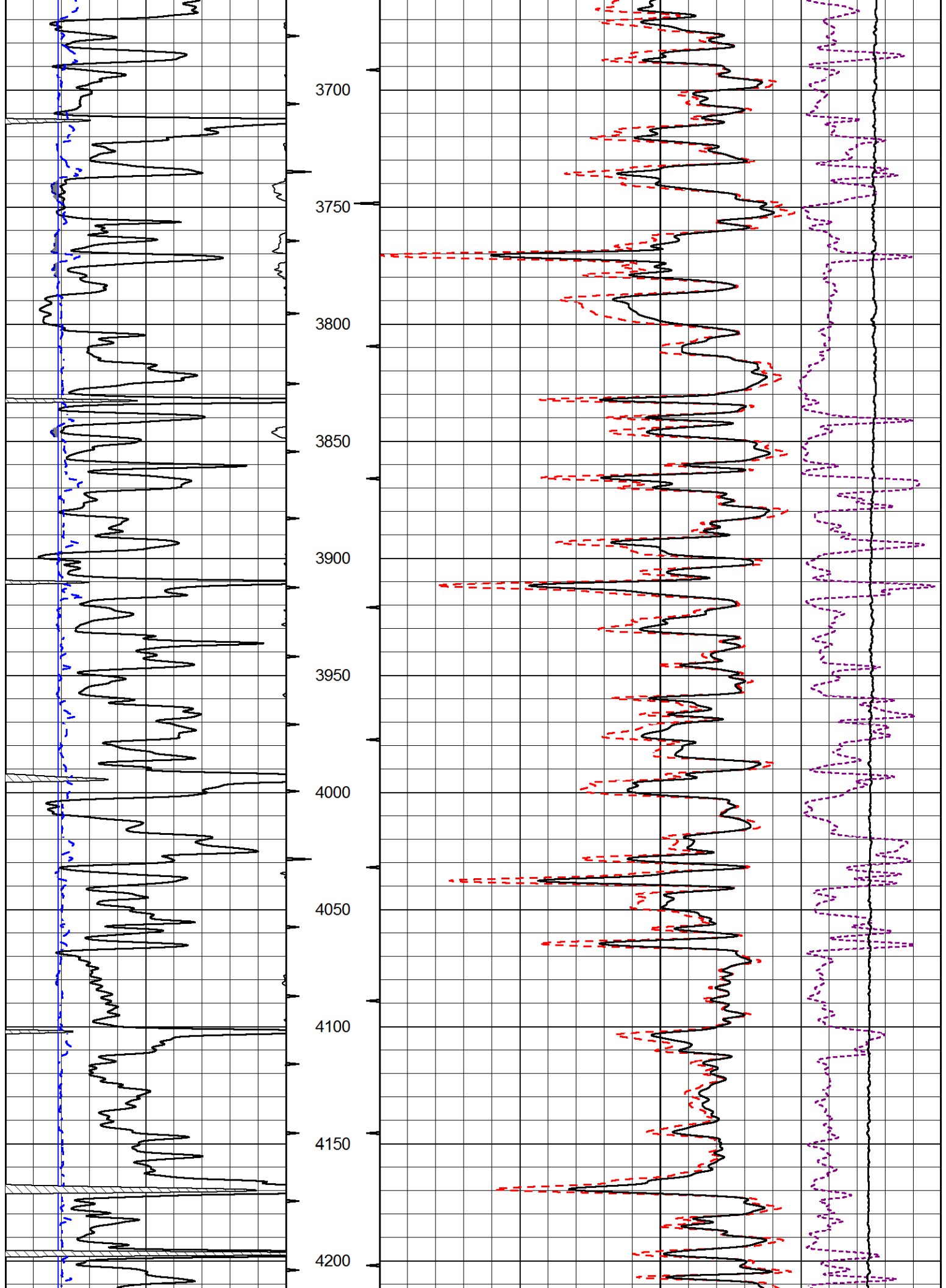
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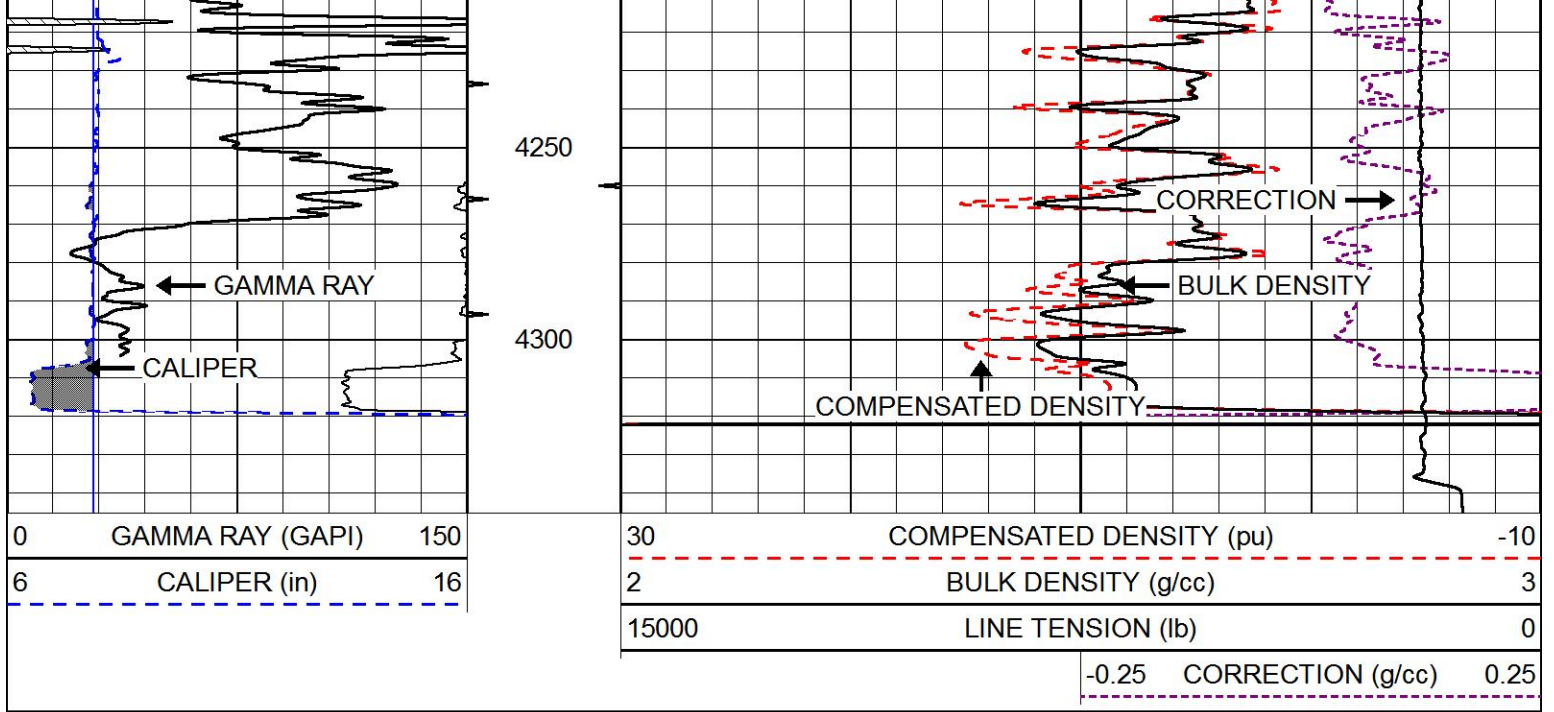
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 Dataset Pathname stackml/pass3.1  
 Presentation Format cdl  
 Dataset Creation Wed Sep 19 18:11:09 2018  
 Charted by Depth in Feet scaled 1:600

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

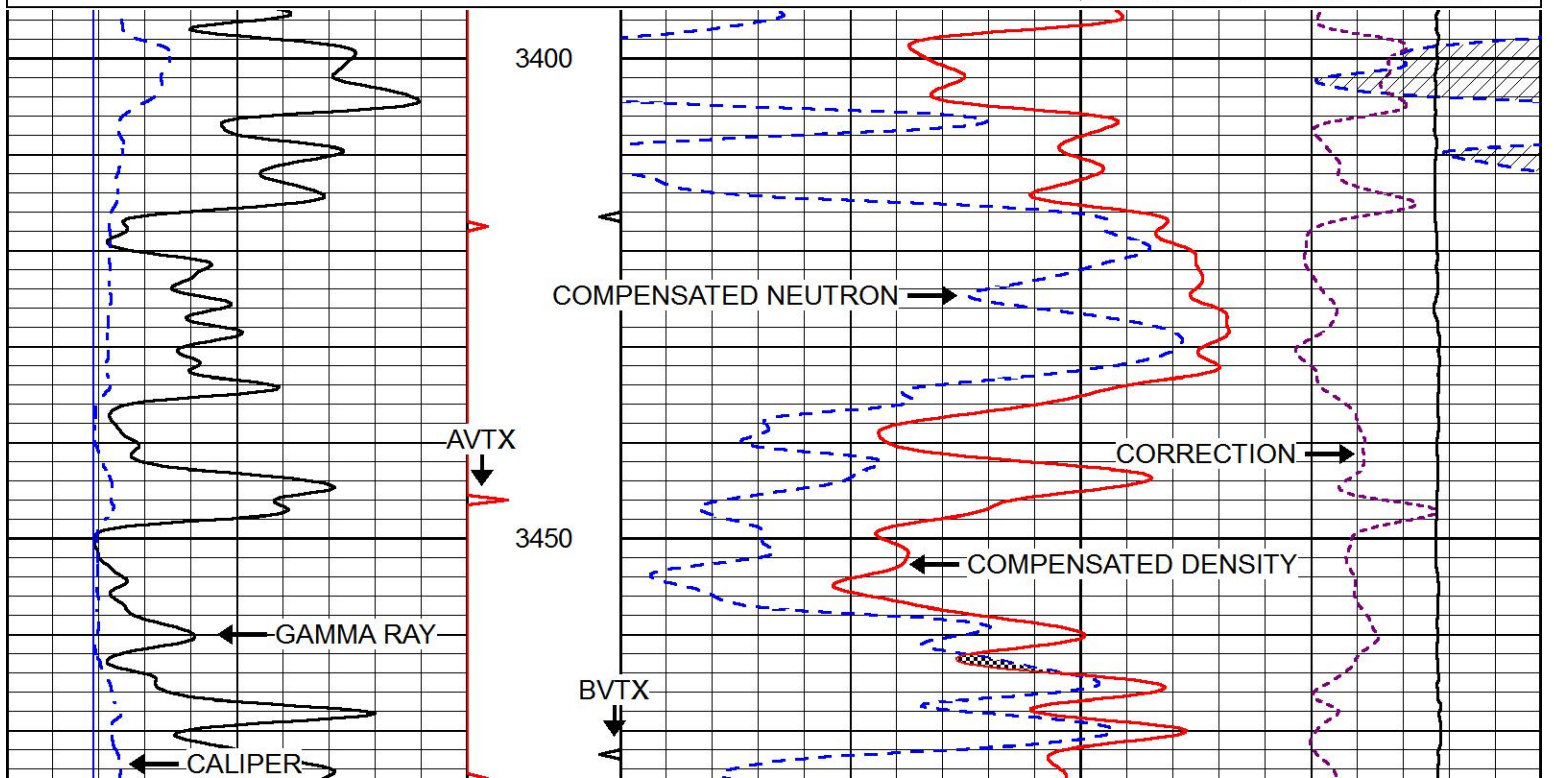
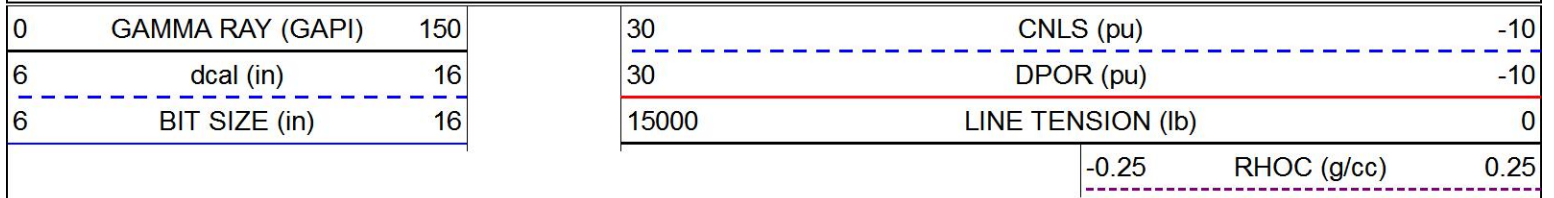


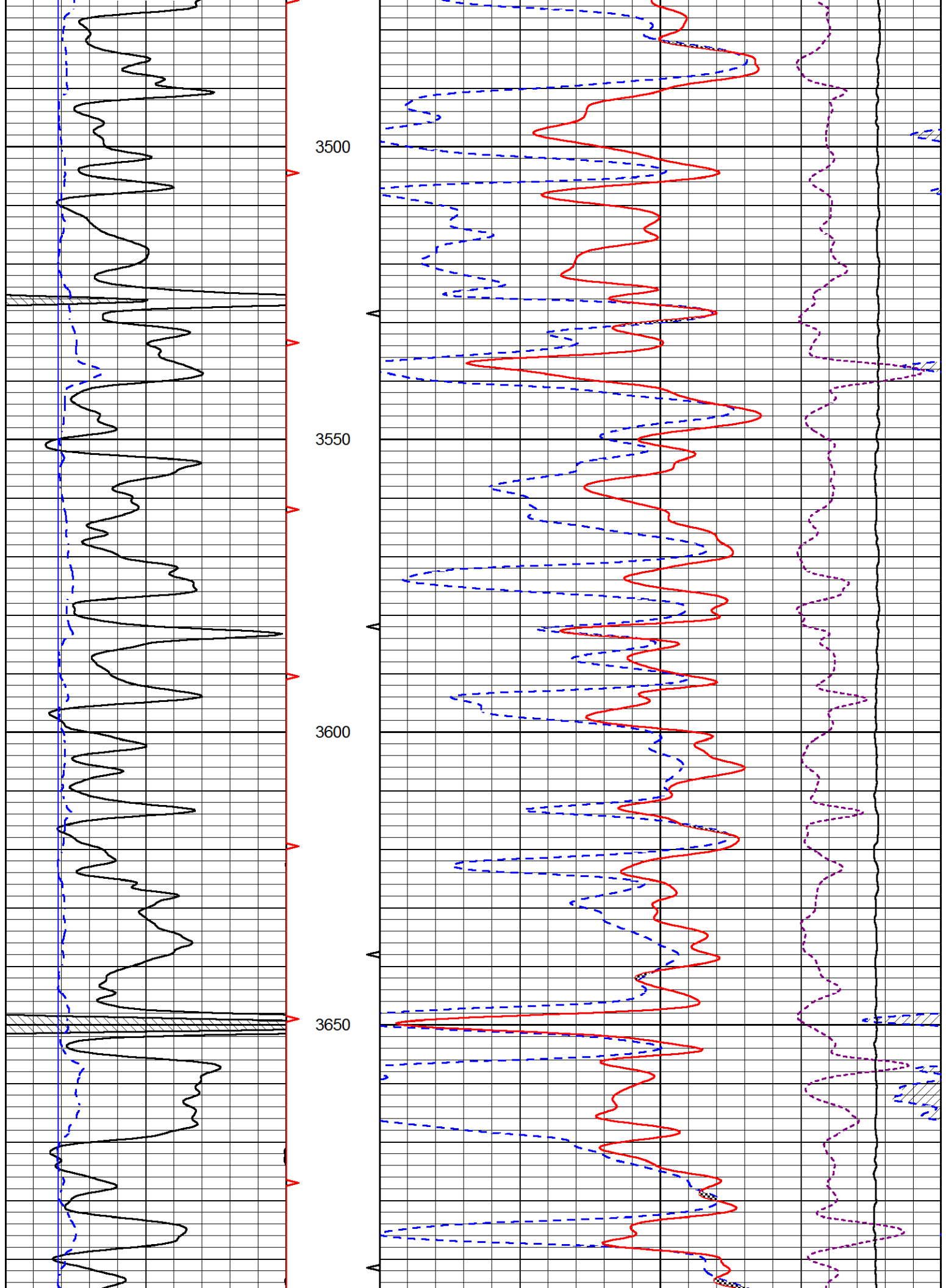


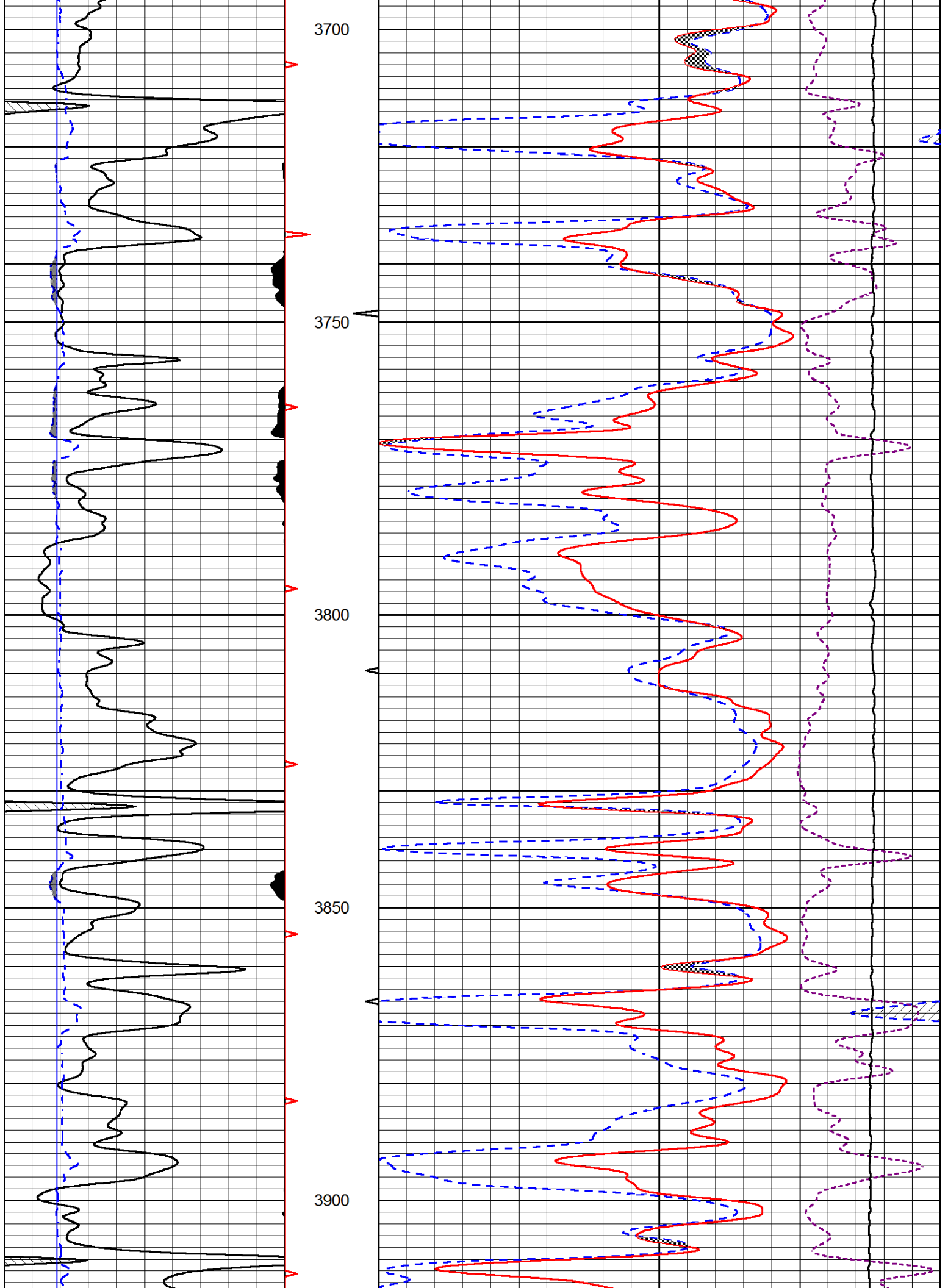


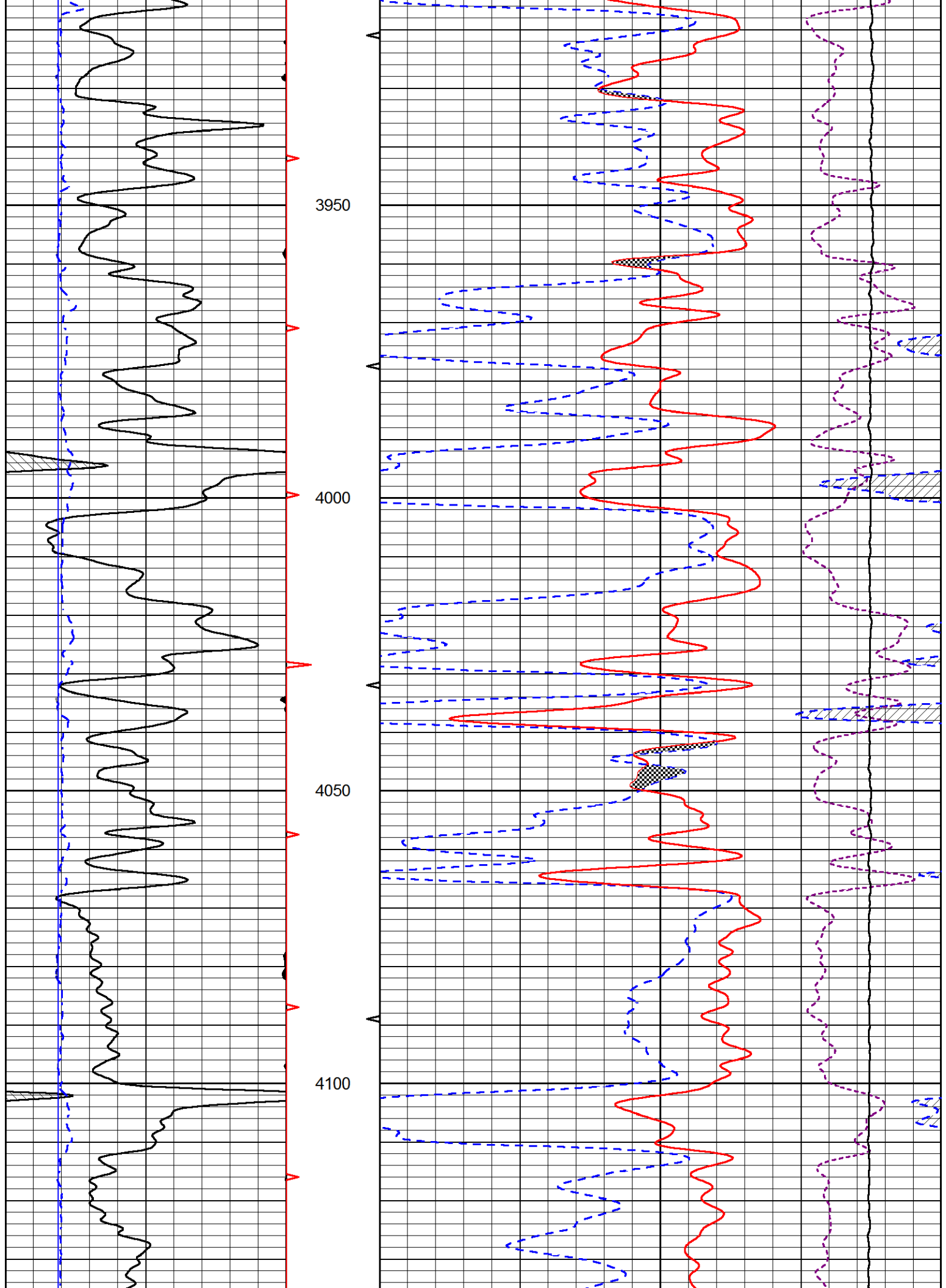
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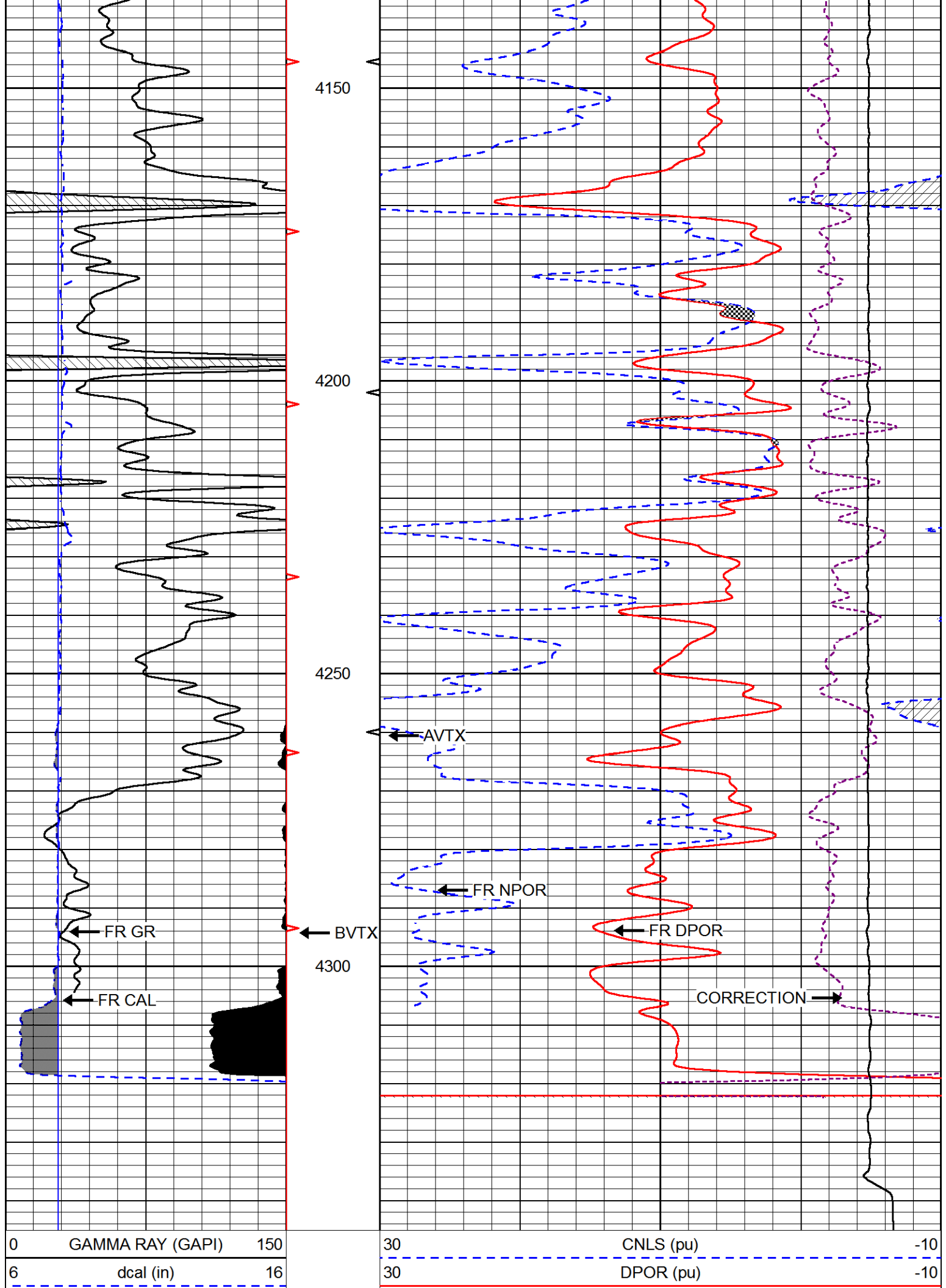
Database File carmen\_schmitt\_werth\_5.db  
 Dataset Pathname stackml/pass3.1  
 Presentation Format cndlspec  
 Dataset Creation Wed Sep 19 18:11:09 2018  
 Charted by Depth in Feet scaled 1:240











6 BIT SIZE (in) 16

15000

LINE TENSION (lb)

0

-0.25 RHOC (g/cc) 0.25

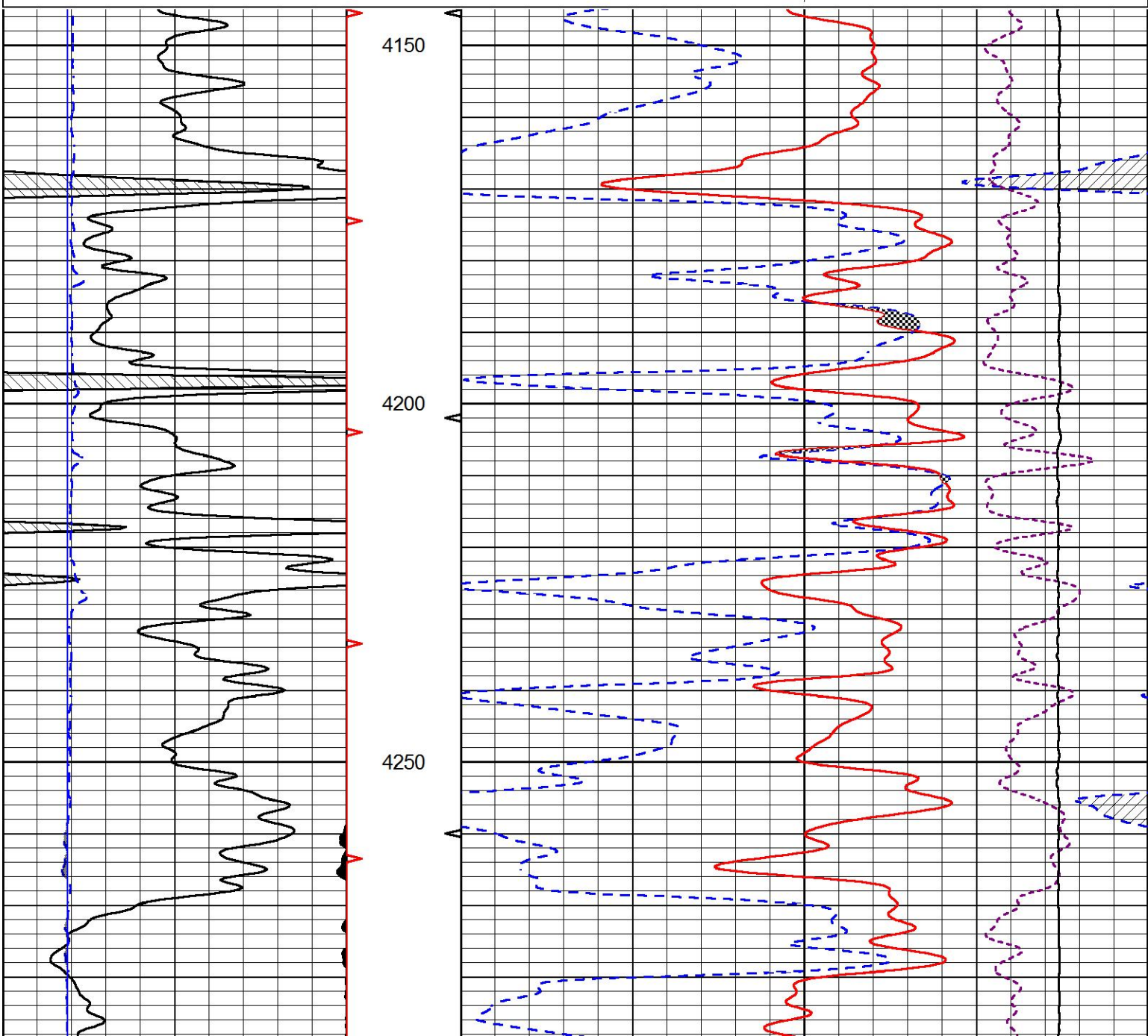


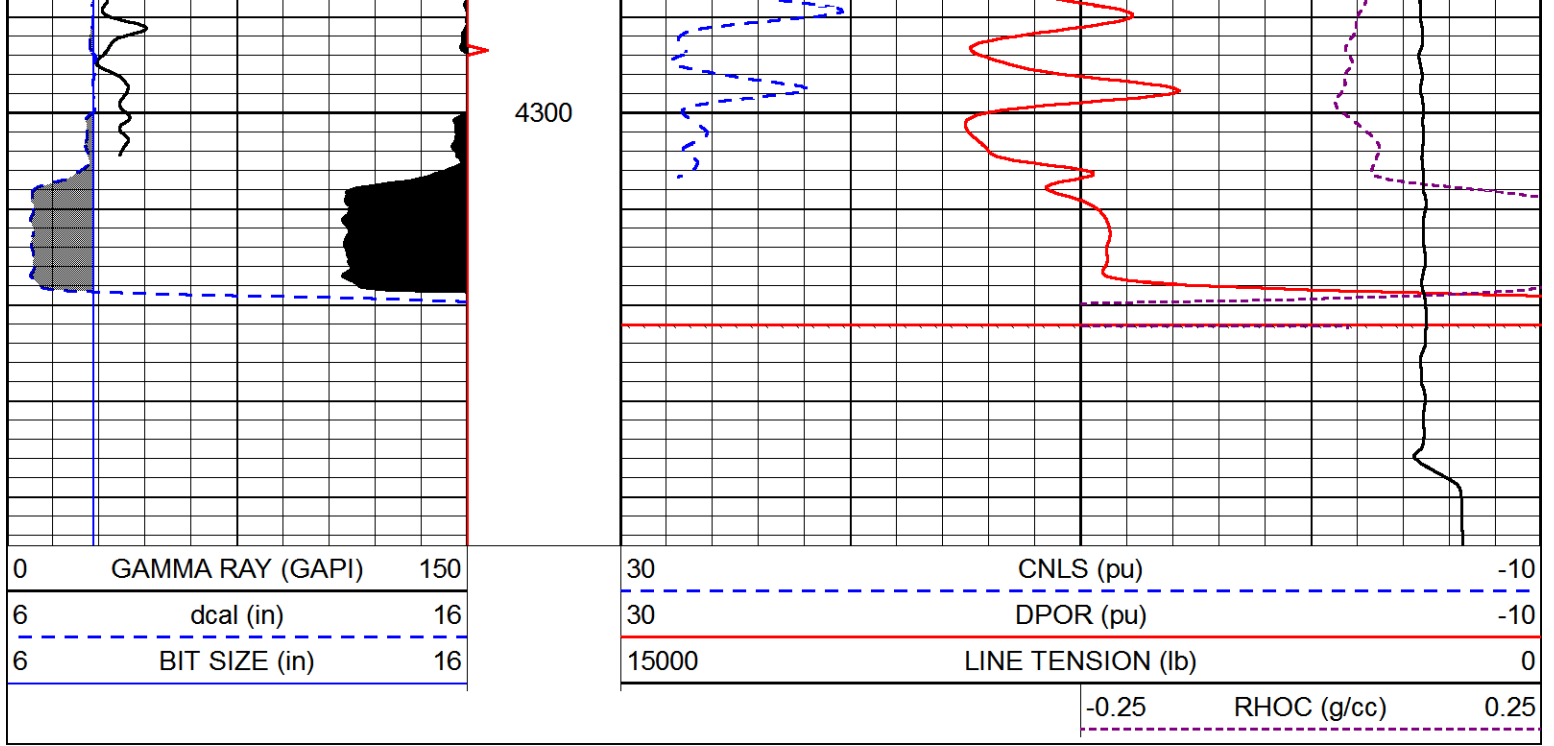
# REPEAT SECTION

Database File carmen\_schmitt\_werth\_5.db  
 Dataset Pathname stackml/pass2.1  
 Presentation Format cndlspec  
 Dataset Creation Wed Sep 19 18:11:19 2018  
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	CNLS (pu)	-10
30	DPOR (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	RHOC (g/cc)	0.25





### Calibration Report

Database File carmen\_schmitt\_werth\_5.db  
 Dataset Pathname stackml/pass3.1  
 Dataset Creation Wed Sep 19 18:11:09 2018

### Dual Induction Calibration Report

Serial-Model: PSI 988-M&W  
 Calibration Performed: Thu Sep 06 14:52:38 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.570	-40.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-37.000

### Microlog Calibration Report

Serial-Model: PSI-01-PSI STKBL ML  
 Performed: Thu Mar 31 18:14:32 2016

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	12500.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	15500.0000	-1.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	86.0000	-80.7000

### Compensated Density Calibration Report

Serial-Model: 168-130-M&W  
 Source / Verifier: /  
 Master Calibration Performed: Thu Aug 09 22:42:28 2018

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4659.47	5064.14	cps
Aluminum	2.680	g/cc	853.93	3180.74	cps
Spine Angle = 74.67			Density/Spine Ratio = 0.526		
	Size		Reading		
Small Ring	4.00	in	0.90		
Large Ring	14.00	in	0.21		

**Compensated Neutron Calibration Report**

Serial Number: tk10-MW  
Tool Model: M&W  
Calibration Performed: Wed Nov 16 11:21:36 2016

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500


**Gamma Ray Calibration Report**

Serial Number: 89-M&W  
Tool Model: M&W  
Calibration Performed: Tue Apr 11 17:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps

 <p><b>PIONEER</b> Pioneer Energy Services</p>	Company	CARMEN SCHMITT, INC.
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	County	TREGO
	State	KANSAS