



PIONEER

Pioneer Energy Services

**DUAL COMP POROSITY
MICRO & DUAL IND LOG**

Company **RITCHIE EXPLORATION, INC.**

Well **#1 BEATON 6D**

Field **WILDCAT**

County **LANE** State **KANSAS**

Location: API #: 15-101-22598-0000

2225' FSL & 2035' FEL

Other Services

SEC 6 TWP 20S RGE 30W

NONE

Permanent Datum GROUND LEVEL Elevation 2901'

Elevation

Log Measured From KELLY BUSHING

K.B. 2909'

Drilling Measured From KELLY BUSHING

D.F. N/A
G.L. 2901'

Date 01/16/2018

Run Number ONE

Type Log CNL/CDL/ML/DIL

Depth Driller 4750'

Depth Logger 4749'

Bottom Logged Interval 4748'

Top Logged Interval 3400'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 3500

Density 9.2

Level FULL

Max. Rec. Temp. F 124

Operating Rig Time 3 HOURS

Equipment -- Location 91 HAYS

Recorded By D. SCHMIDT

Witnessed By MAX LOVELY

Borehole Record

Casing Record

Run No. Bit From To Size Wgt. From To

ONE 12.25" 0' 222' 8.625" 23# 0' 222'

TWO 7.875" 222' TD

<<< Fold Here >>>

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.

DIGHTON,
WEST TO ARAPAHOE ROAD, 9 1/2 SOUTH,
WEST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

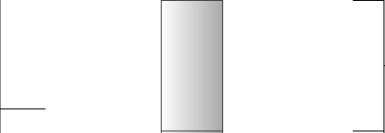
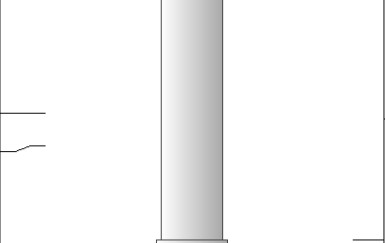
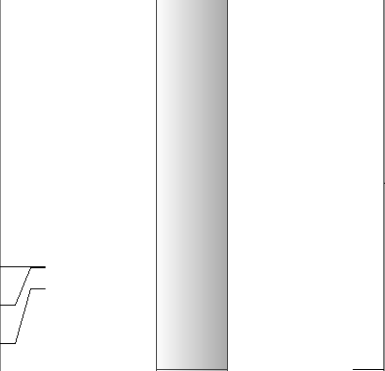
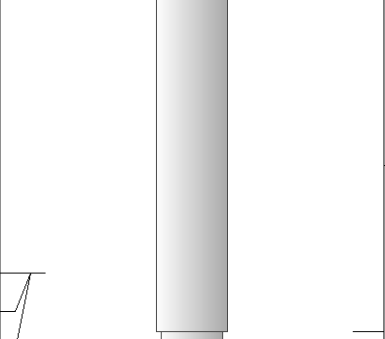
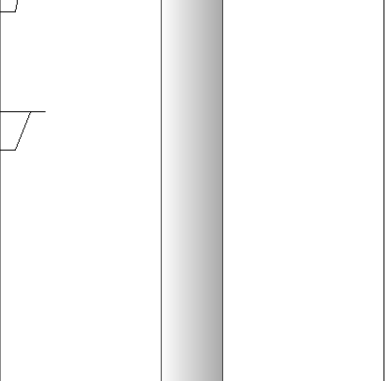
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: MAX LOVELY
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	250	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	1	0	5.5	0	4749	124	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

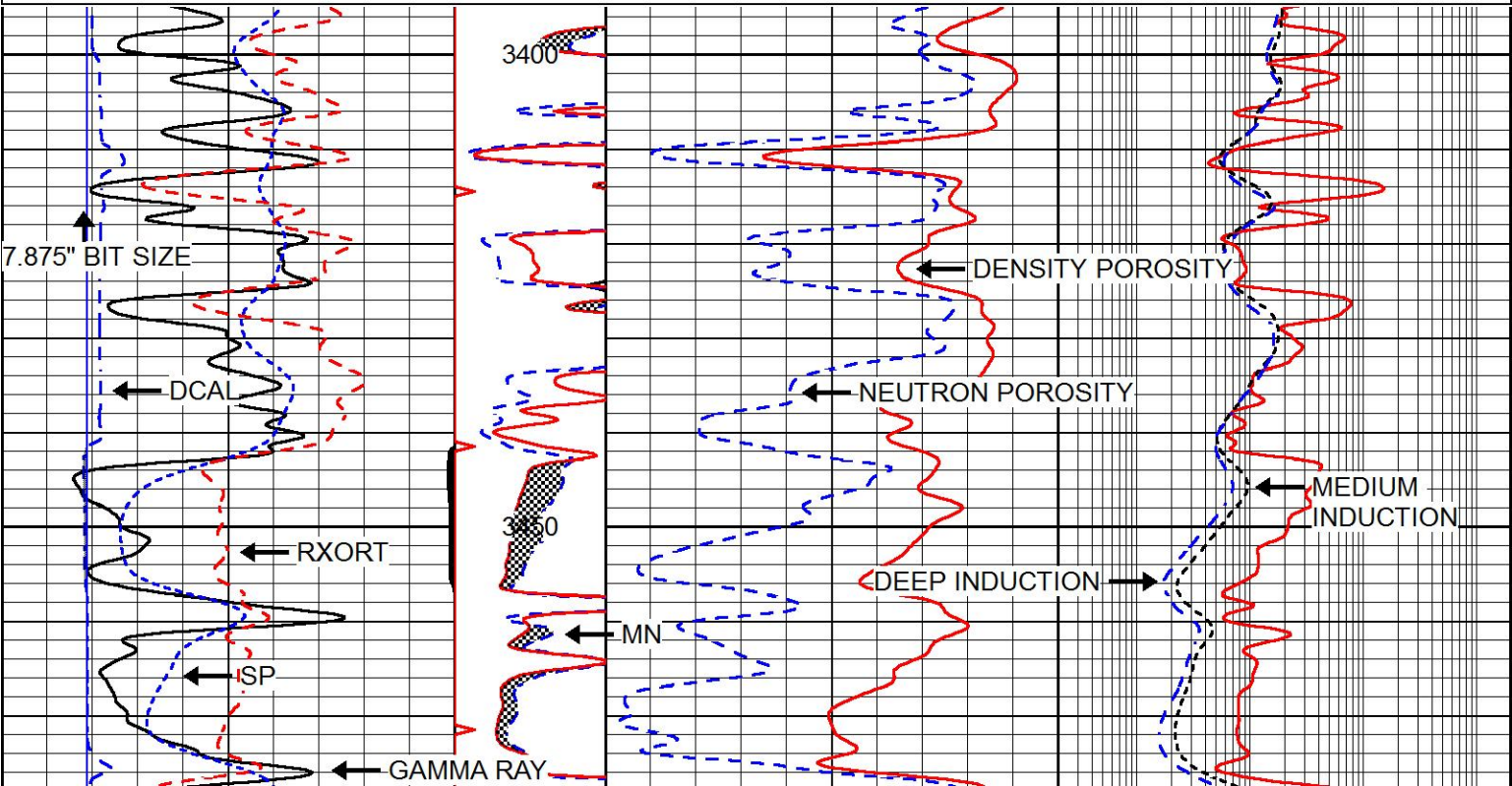
		DIL-M&W (PSI 91)		18.50	3.50	220.00					
CILD	8.00										
CILM	4.70										
SP	0.20										
Dataset: ritchie_#1beaton6d.db: field/well/STKML/pass3.6											
Total length: 43.08 ft											
Total weight: 685.00 lb											
O.D.: 4.00 in											

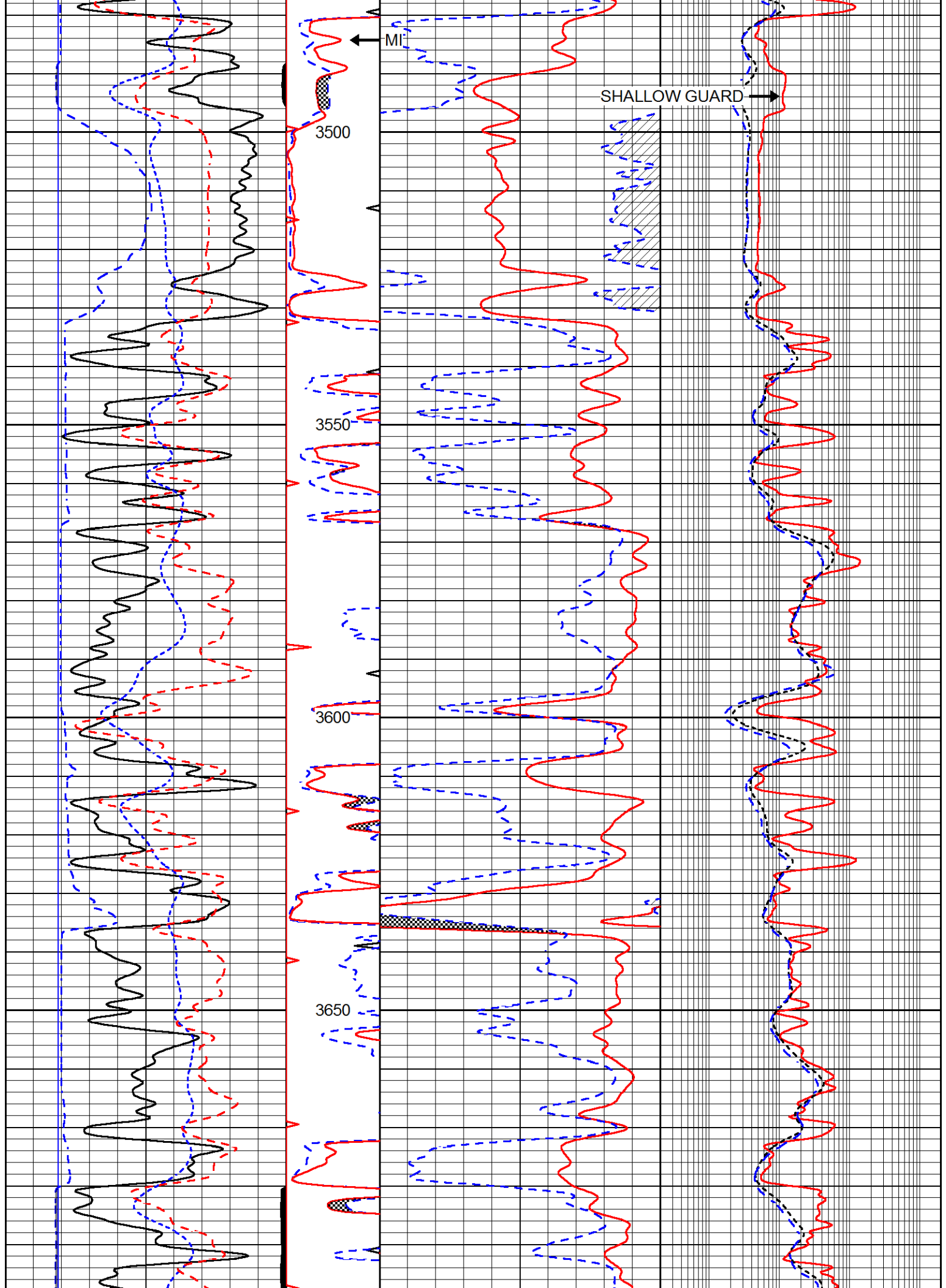


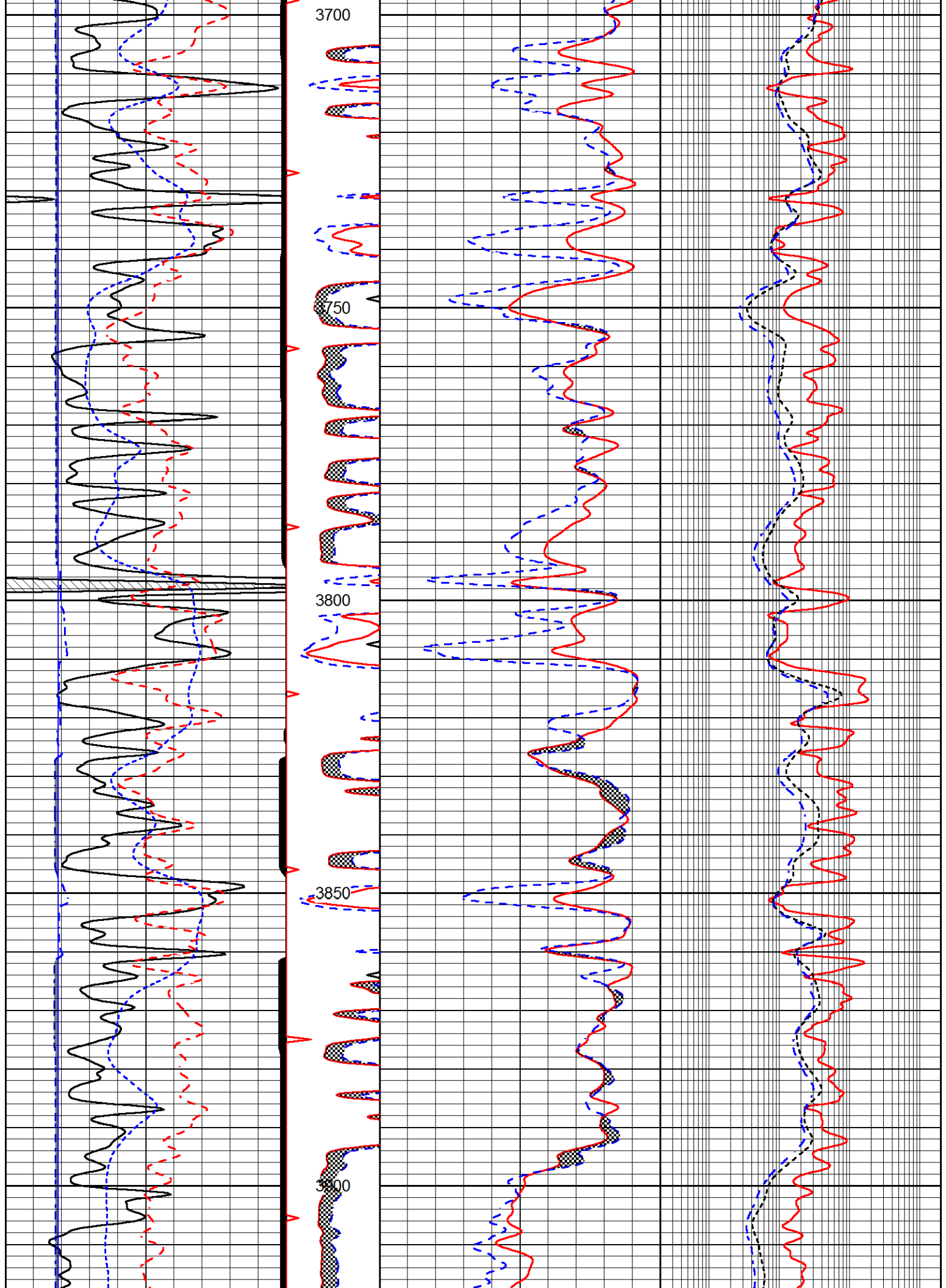
MAIN PASS

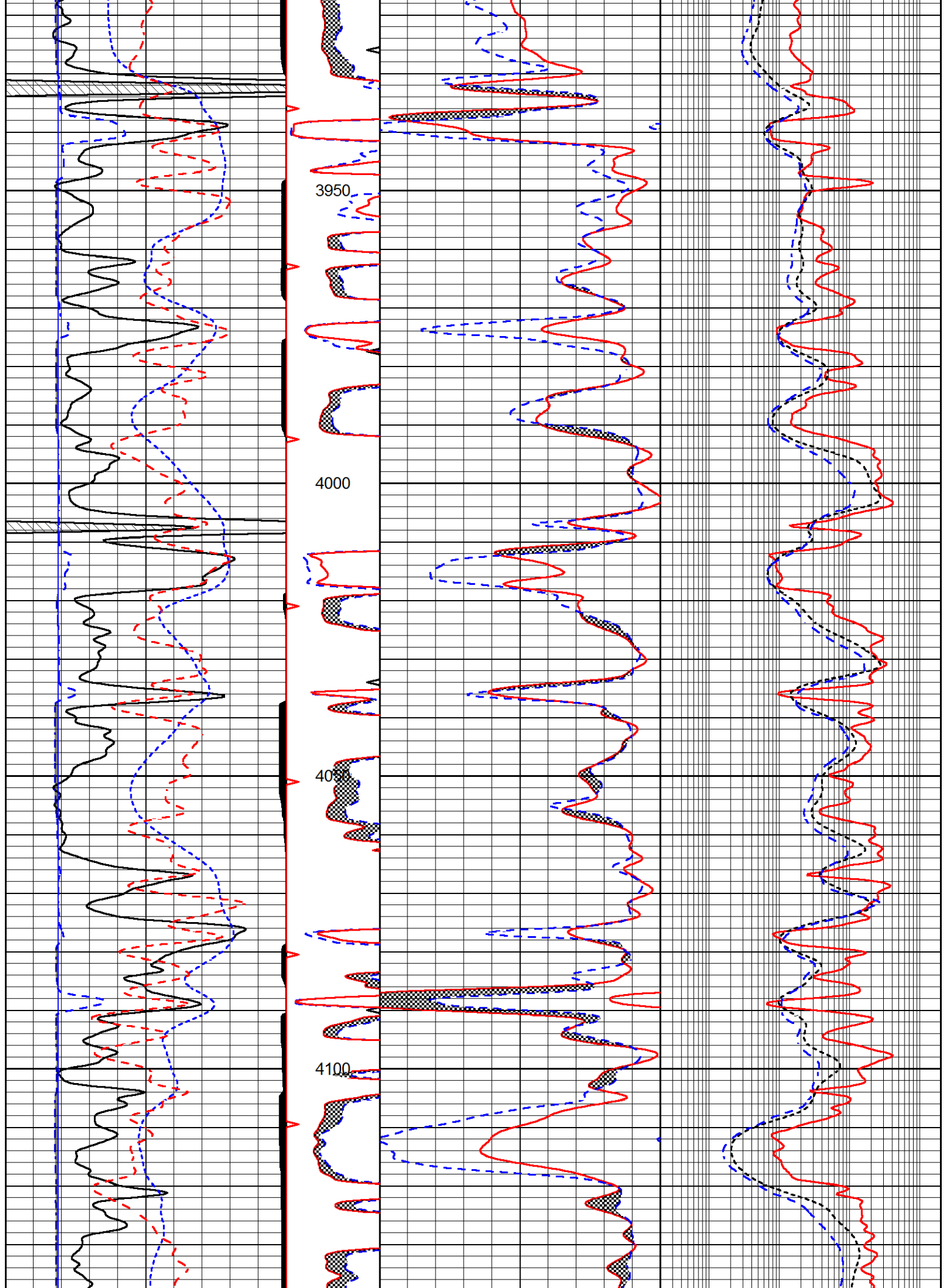
Database File	ritchie_#1beaton6d.db
Dataset Pathname	STKML/pass3.1
Presentation Format	RITCHC~1
Dataset Creation	Tue Jan 16 04:49:43 2018
Charted by	Depth in Feet scaled 1:240

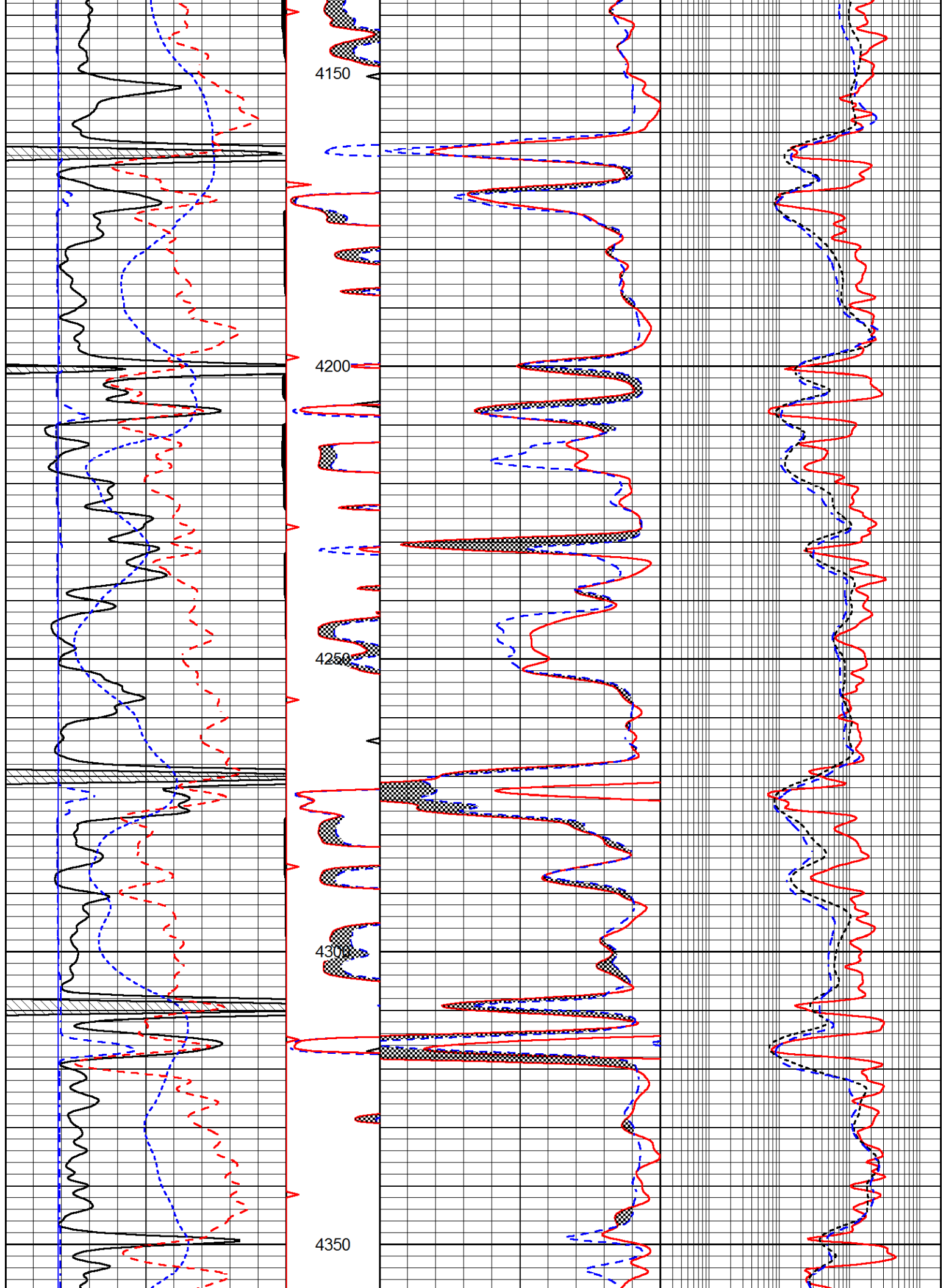
0	Gamma Ray (GAPI)	150	MN (Ohm-m)	30	Density Porosity (pu)	0	0.2	Shallow Guard (Ohm-m)	2000
150	GR (GAPI)	300		30	Neutron Porosity (pu)	0	0.2	Medium Induction (Ohm-m)	2000
6	Caliper (in)	16	0	20					
2.875	DCAL (in)	7.875	MI						
-200	SP (mV)	0	(Ohm-m)						
-160	Rxo/Rt	40	0	20					

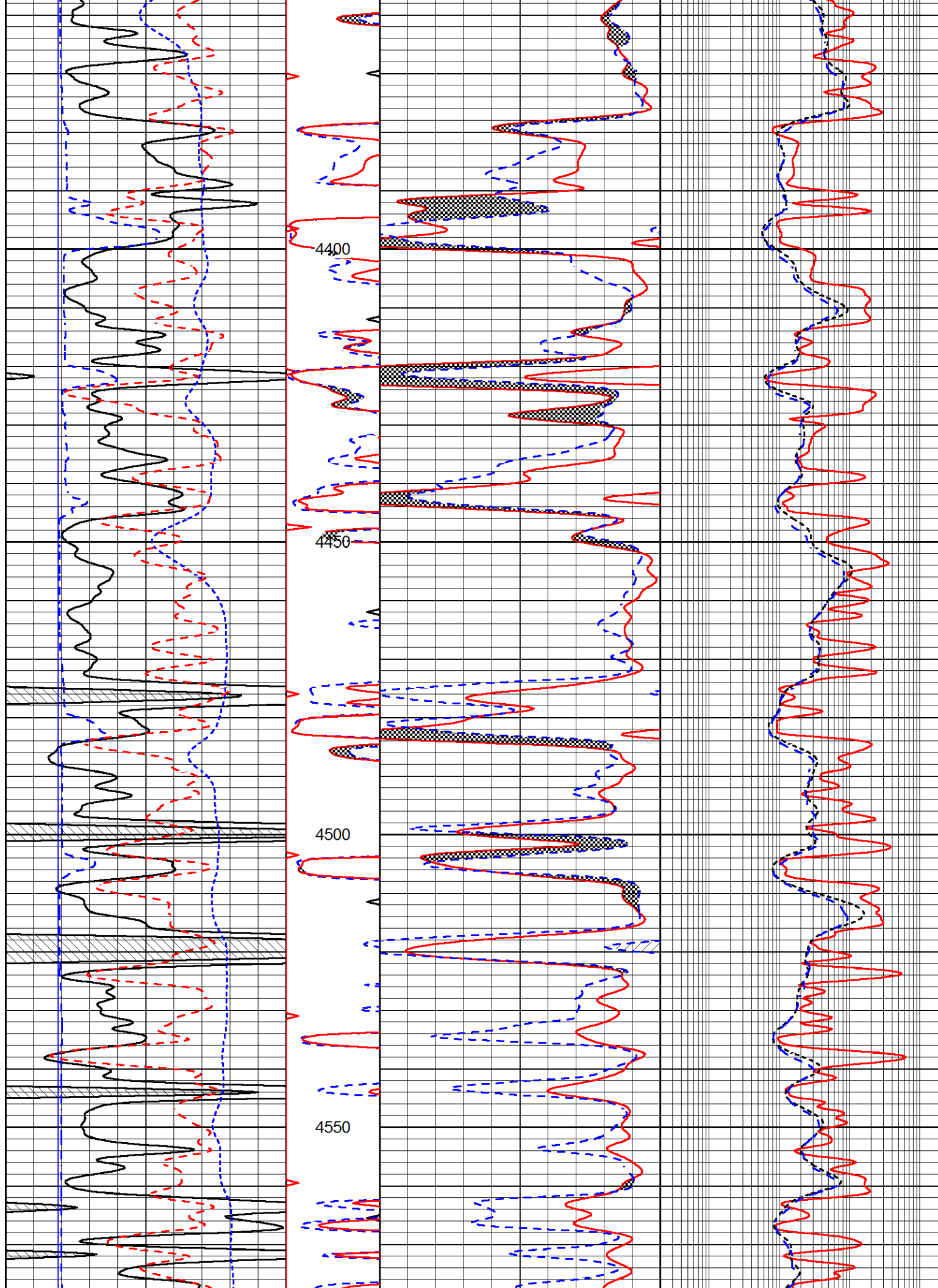


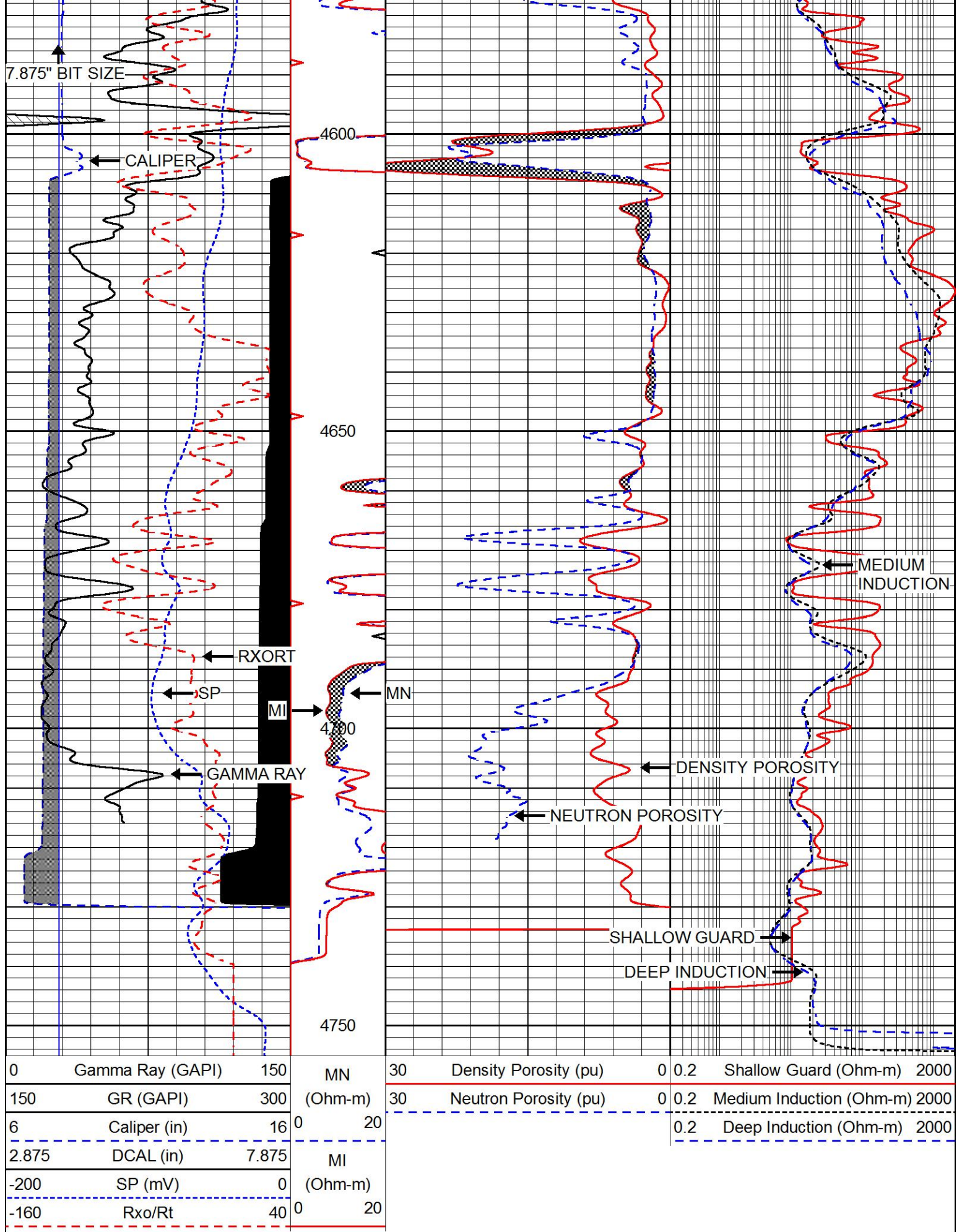






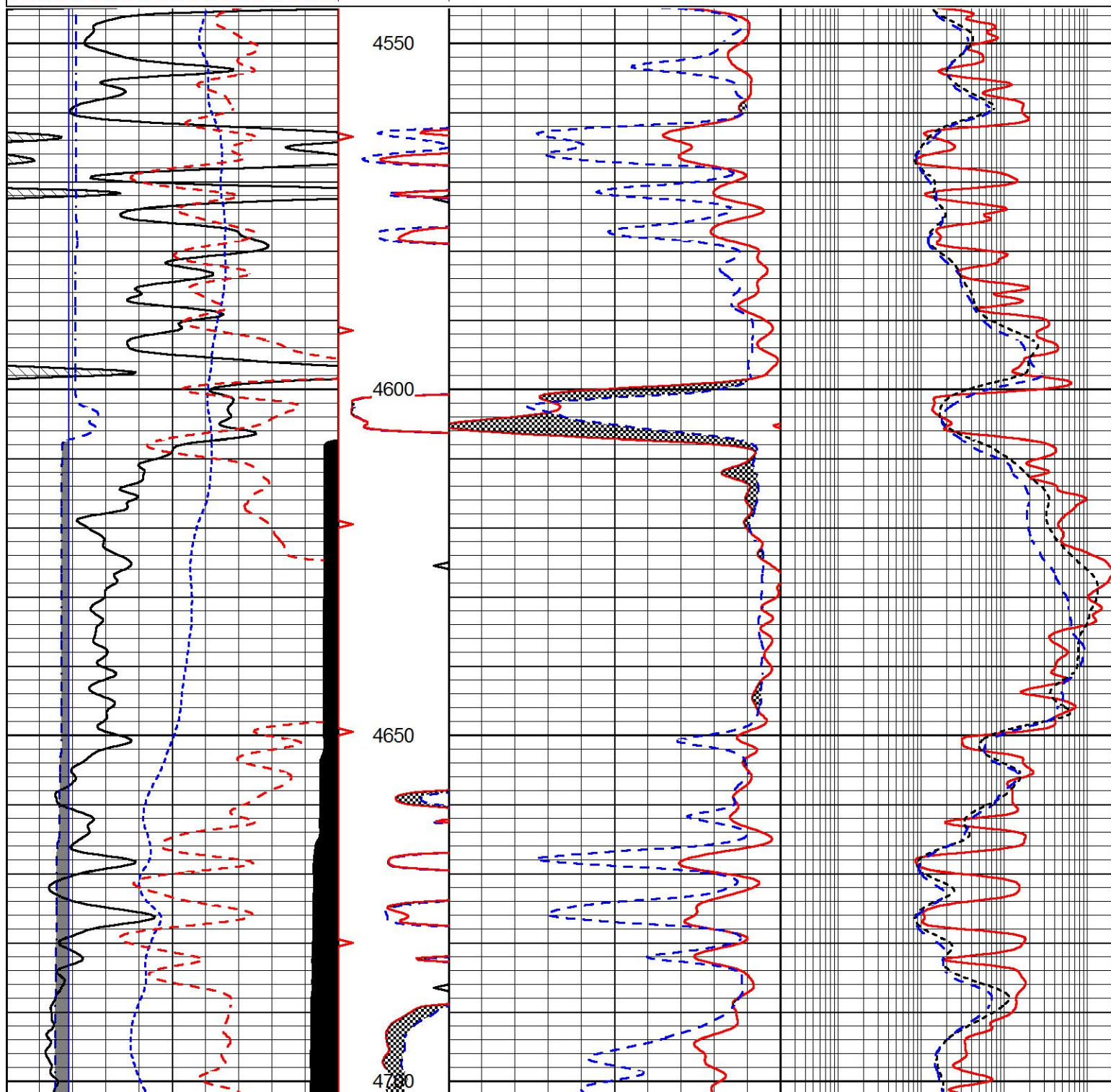


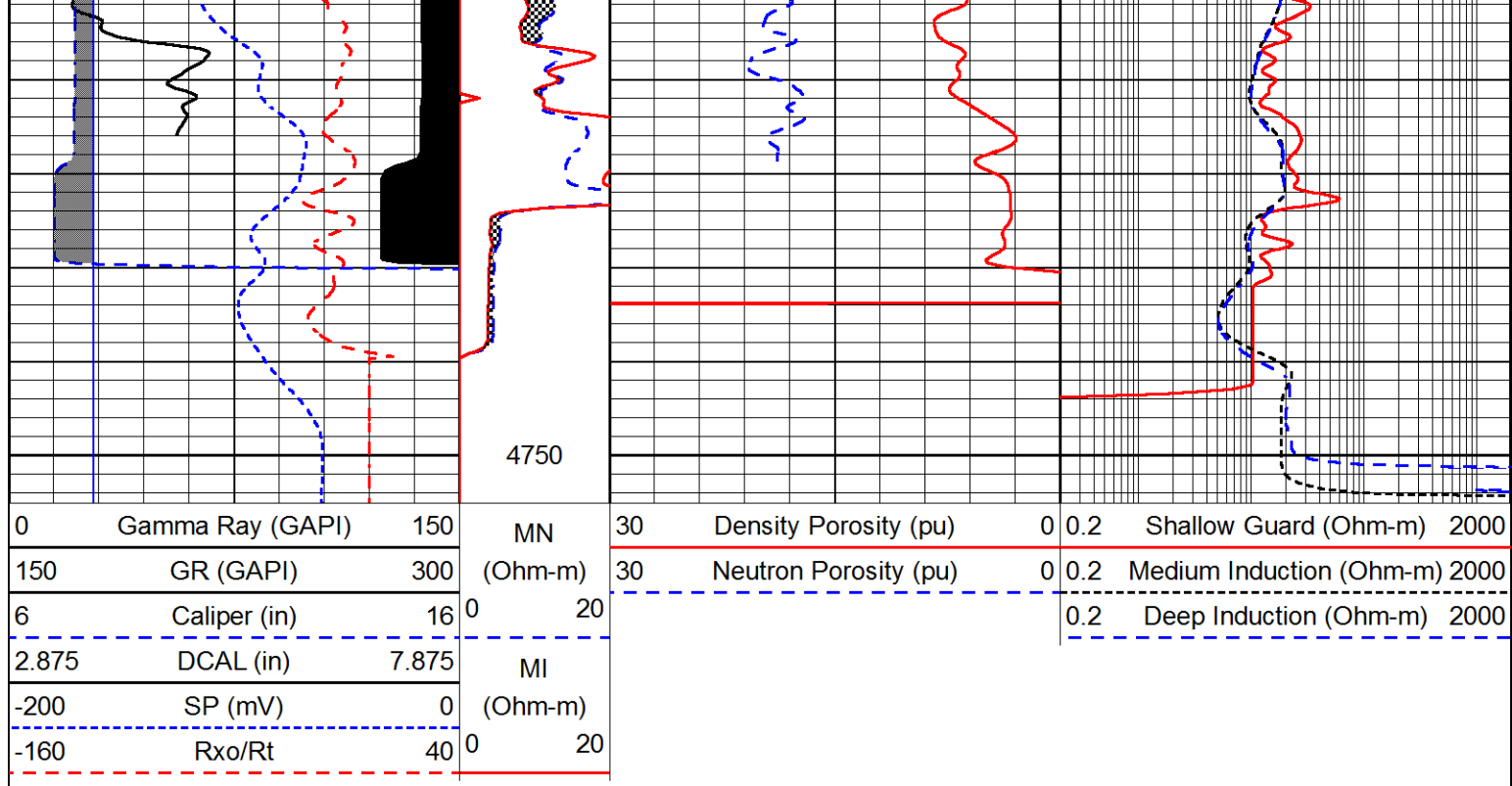




Database File ritchie_#1beaton6d.db
 Dataset Pathname STKML/pass2.4
 Presentation Format RITCHC~1
 Dataset Creation Tue Jan 16 04:13:32 2018
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	MN	30	Density Porosity (pu)	0	0.2	Shallow Guard (Ohm-m)	2000
150	GR (GAPI)	300	(Ohm-m)	30	Neutron Porosity (pu)	0	0.2	Medium Induction (Ohm-m)	2000
6	Caliper (in)	16	0	20			0.2	Deep Induction (Ohm-m)	2000
2.875	DCAL (in)	7.875	MI						
-200	SP (mV)	0	(Ohm-m)						
-160	Rxo/Rt	40	0	20					





Calibration Report

Database File ritchie_#1beaton6d.db
 Dataset Pathname STKML/pass3.6
 Dataset Creation Tue Jan 16 04:17:03 2018

Dual Induction Calibration Report

Serial-Model: PSI 91-M&W
 Calibration Performed: Mon Jan 15 11:19:44 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.565	-16.500
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.390	-39.500

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Mon Jan 15 11:19:55 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	25000.0000	-2.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	31000.0000	-1.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.5000

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Mon Jan 15 11:20:34 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61			Density/Spine Ratio = 0.517		
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: MON JAN 15 10:30:30 2018

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
Tool Model: M&W
Calibration Performed: Mon Jan 15 11:20:44 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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Well #1 BEATON 6D
Field WILDCAT
County LANE
State KANSAS