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DUAL COMP POROSITY LOG

Company PALOMINO PETROLEUM, INC.
Well ROHR NO. 1
Field BROUGHTON NORTH
County LANE
State KANSAS

Location: API #: 15-101-22585-00-00
SW-NE-NW-SE
2088' FSL & 1955' FEL
SEC 4 TWP 16S RGE 27W

Other Services
DIL
MEL

Elevation
K.B. 2611'
D.F. N/A
G.L. 2603'

Permanent Datum GROUND LEVEL Elevation 2603'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Date	2/5/17
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	4636'
Depth Logger	4626'
Bottom Logged Interval	4605'
Top Logged Interval	3500'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	3,600
Density	9.3
Level	FULL
Max. Rec. Temp. F	122 DEG/F
Operating Rig Time	3 1/2 HOURS
Equipment -- Location	108 COLBY
Recorded By	J. HENRICKSON
Witnessed By	ANDREW STENZEL

Borehole Record

Run No.	Bit	From	To
ONE	12.25"	0	211'
TWO	7.875"	211'	TD

Casing Record

Size	Wgt.	From	To
8.625"	23#	0	211'

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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.

PENDENNIS KANSAS
2 NORTH TO 285 ROAD, 1 NORTH/EAST, 1/2 NORTH, WEST INTO

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

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

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: ANDREW STENZEL
Operator: C. PFEIFER	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\palomino_rohr_1.db
Dataset field/well/stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	122	5.5	0	1	2	2.71

NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	-102	0	Off	4626

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	33.00					
CNLSC	29.90		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15					
			CDL-M&W (71-914)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					

CILM	4.70				
SP	0.20				

Dataset: palomino_rohr_1.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

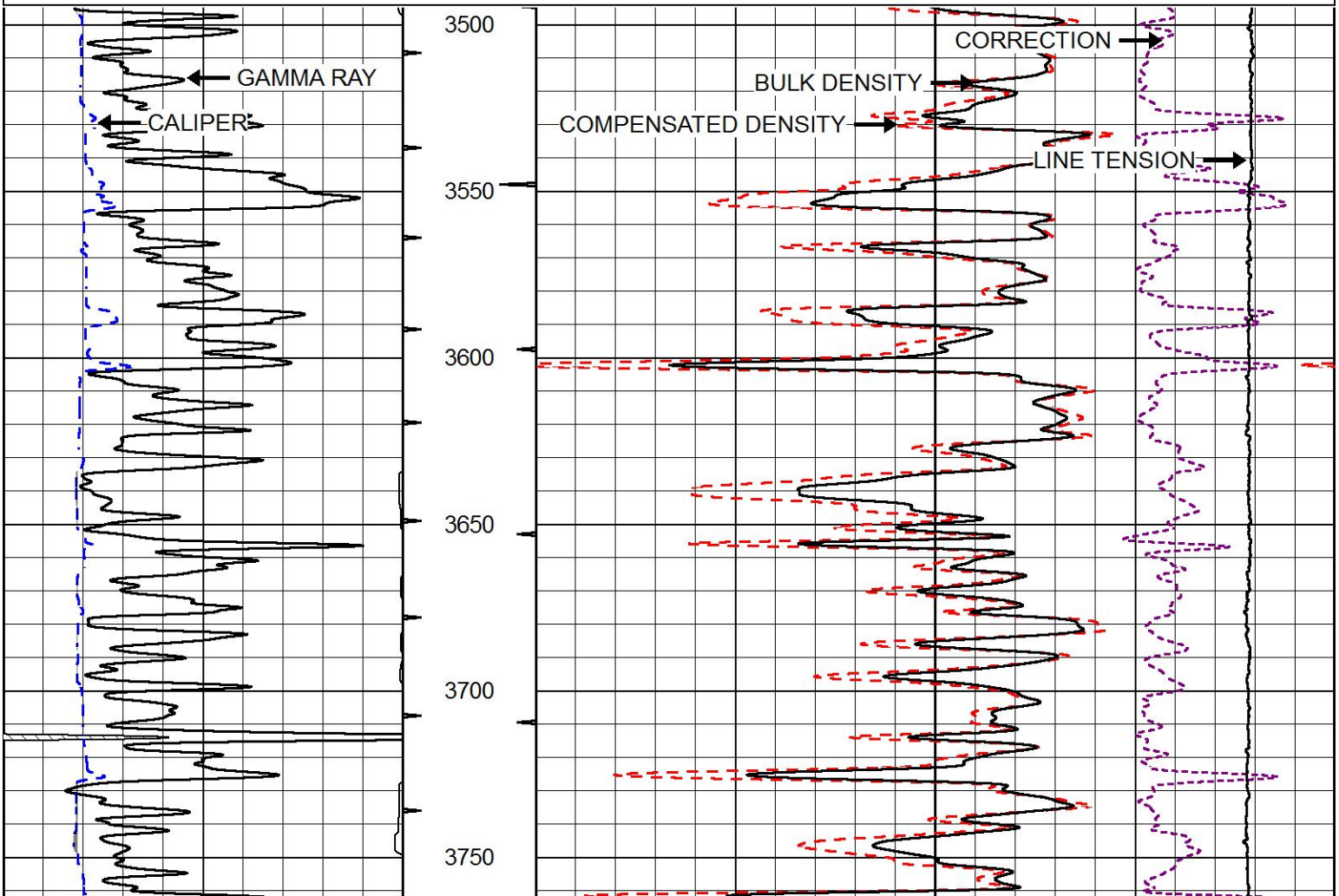
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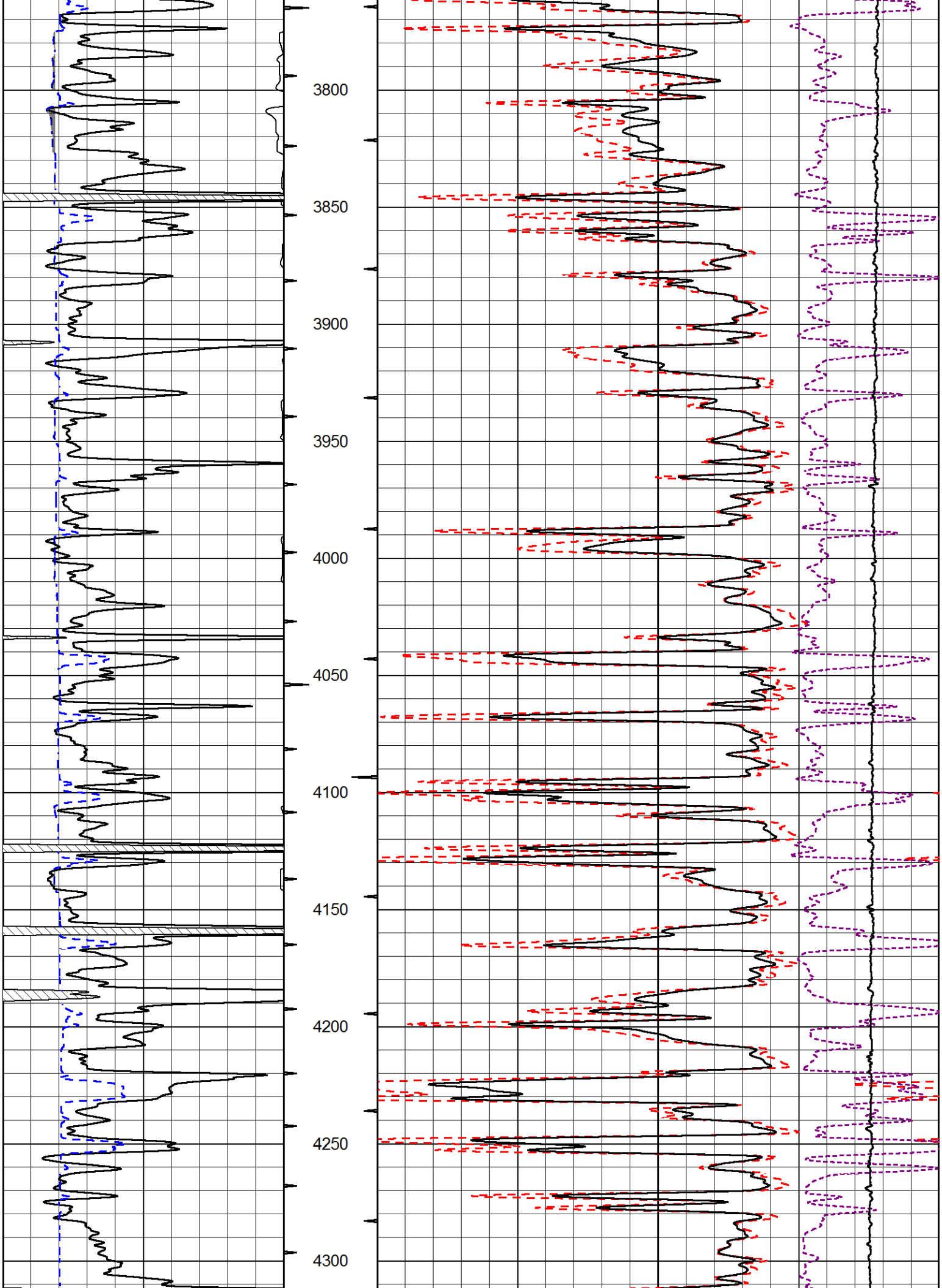
MAIN PASS

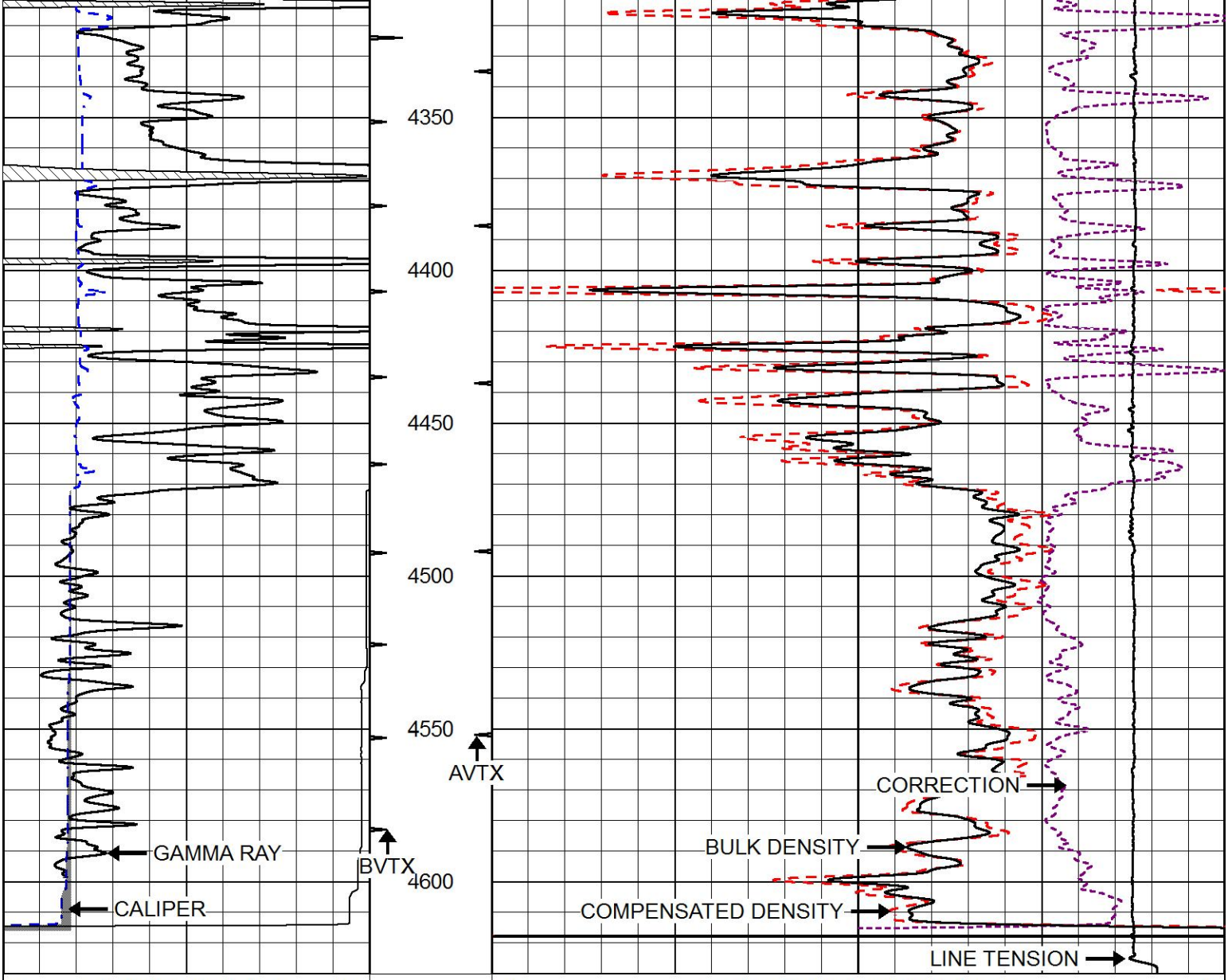
Database File	palomino_rohr_1.db
Dataset Pathname	stack/pass3.1
Presentation Format	cdl
Dataset Creation	Sun Feb 05 15:38:31 2017
Charted by	Depth in Feet scaled 1:600

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




3800
3850
3900
3950
4000
4050
4100
4150
4200
4250
4300



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

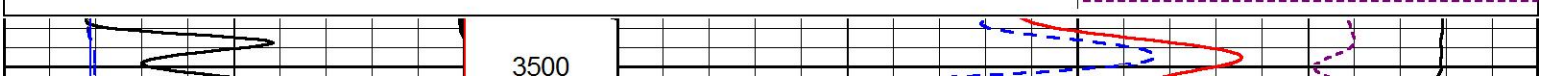
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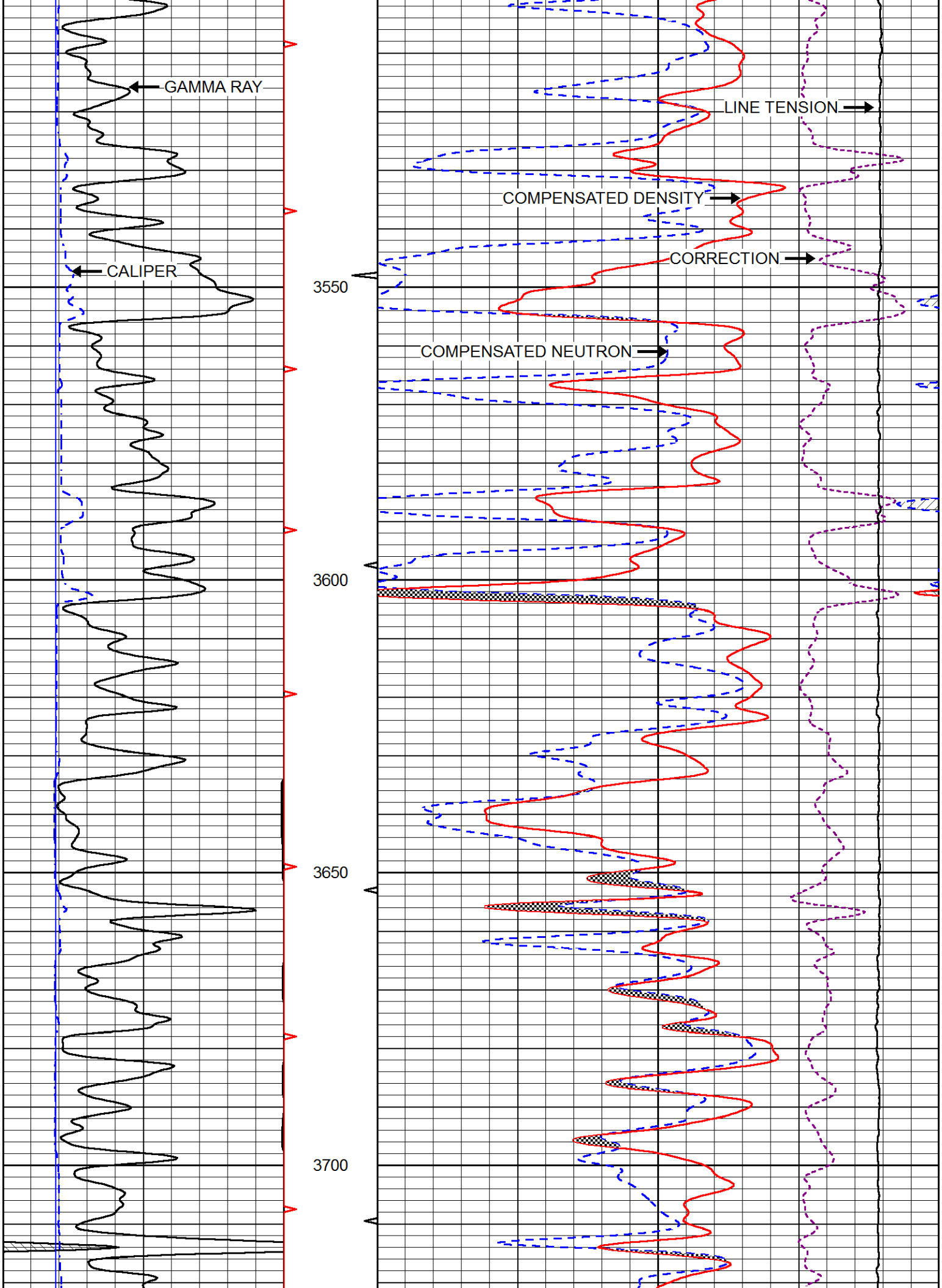
MAIN PASS

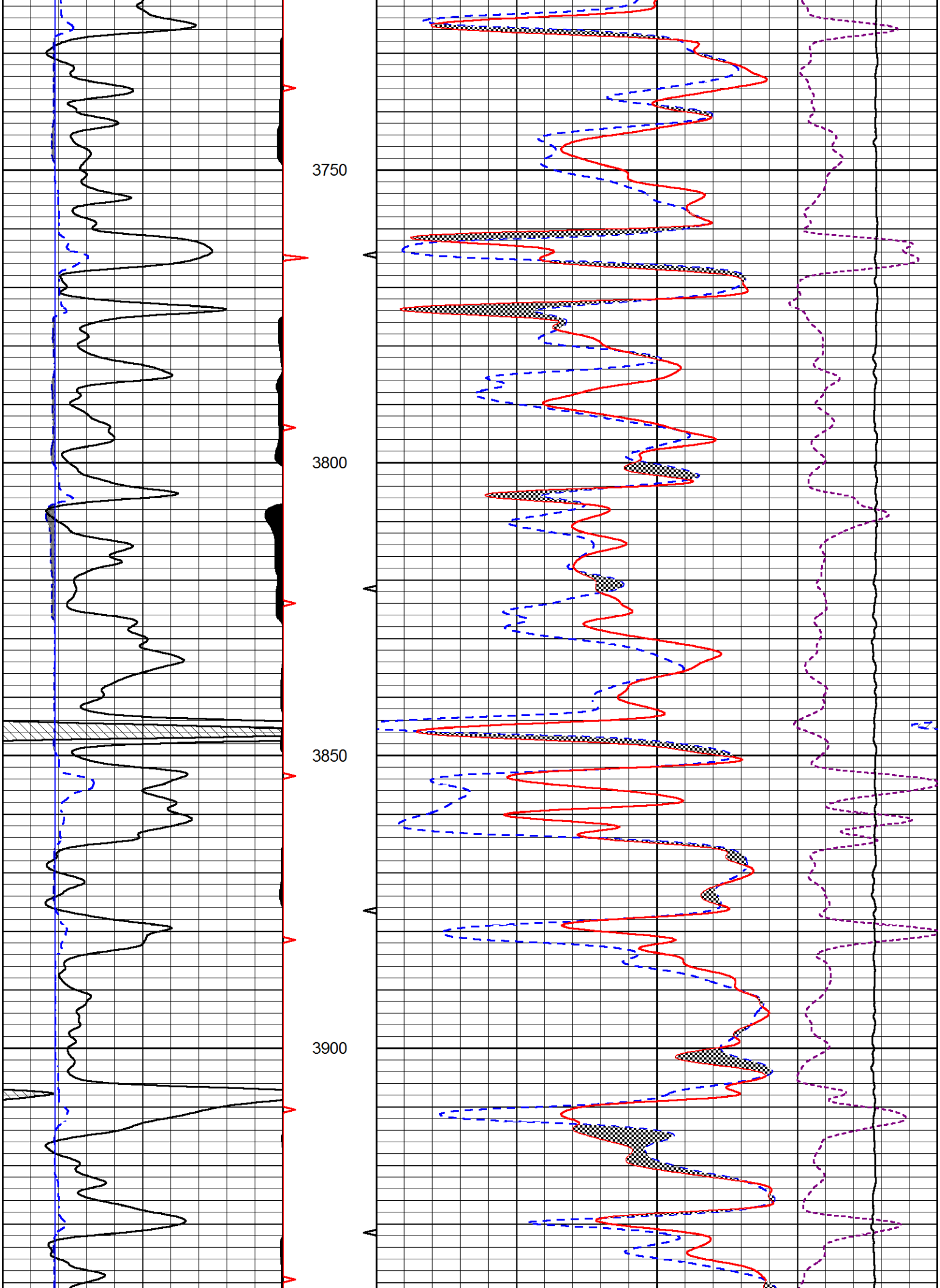
Database File	palomino_rohr_1.db
Dataset Pathname	stack/pass3.1
Presentation Format	cndlspec
Dataset Creation	Sun Feb 05 15:38:31 2017
Charted by	Depth in Feet scaled 1:240

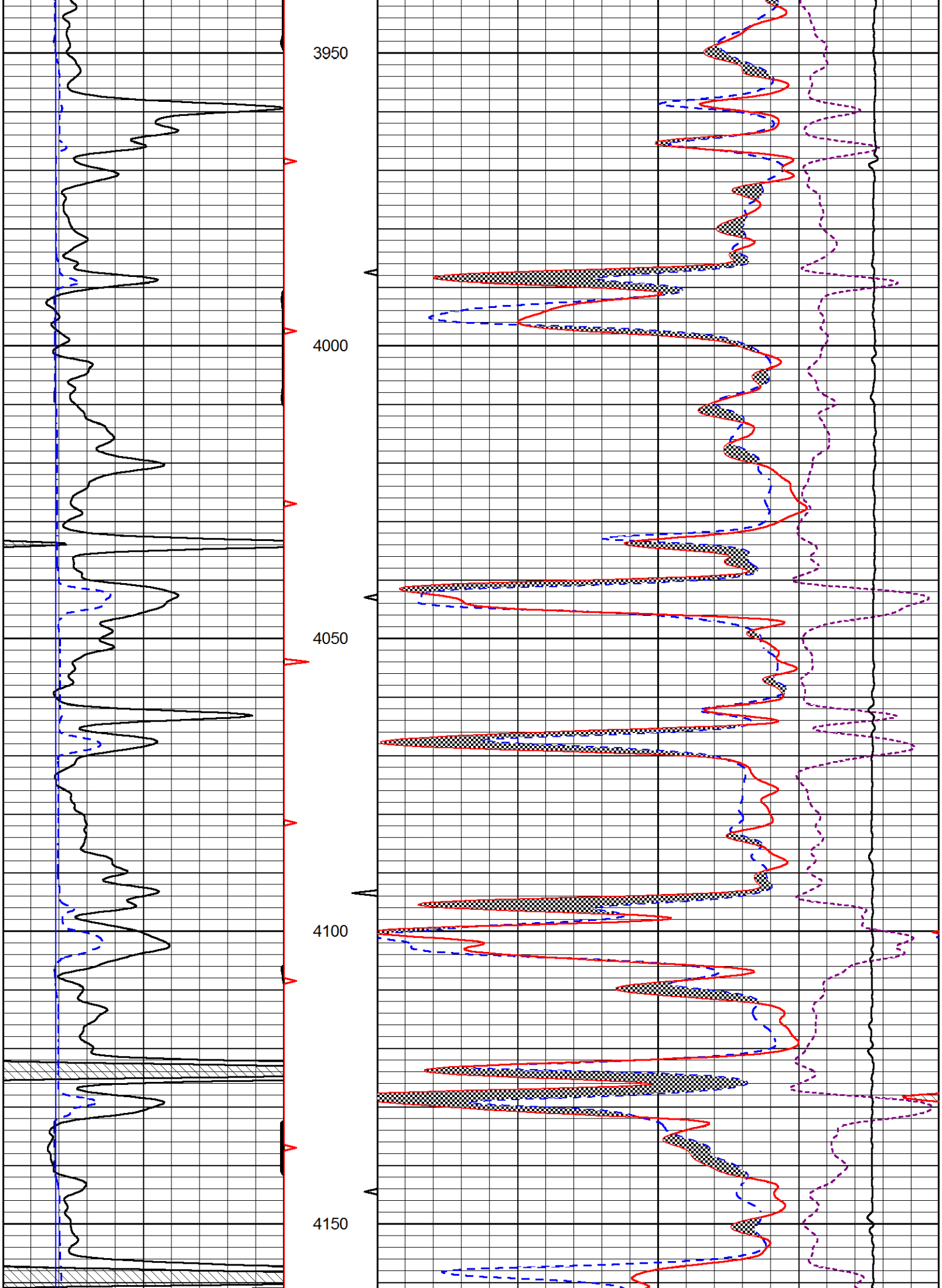
0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

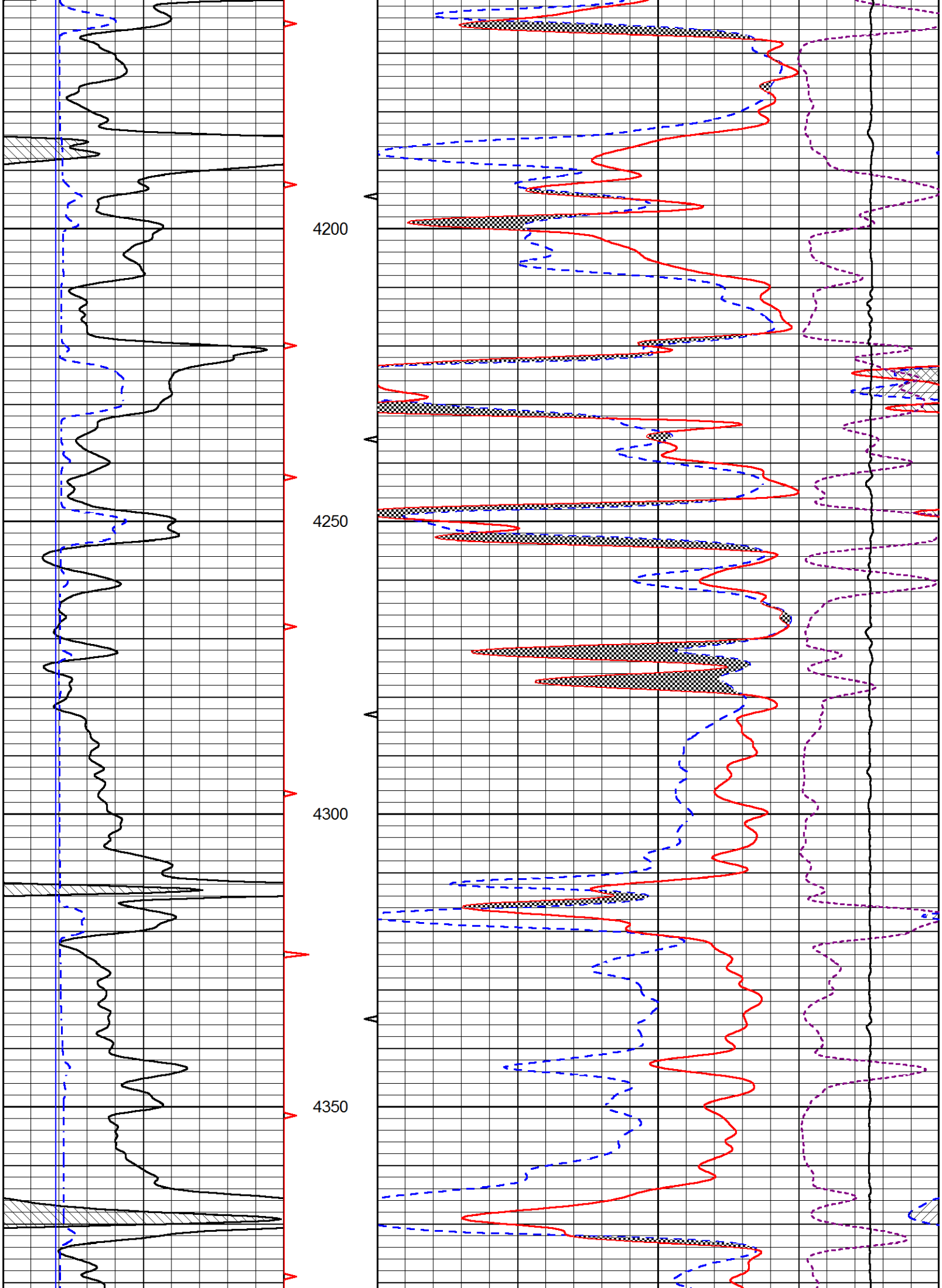
30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

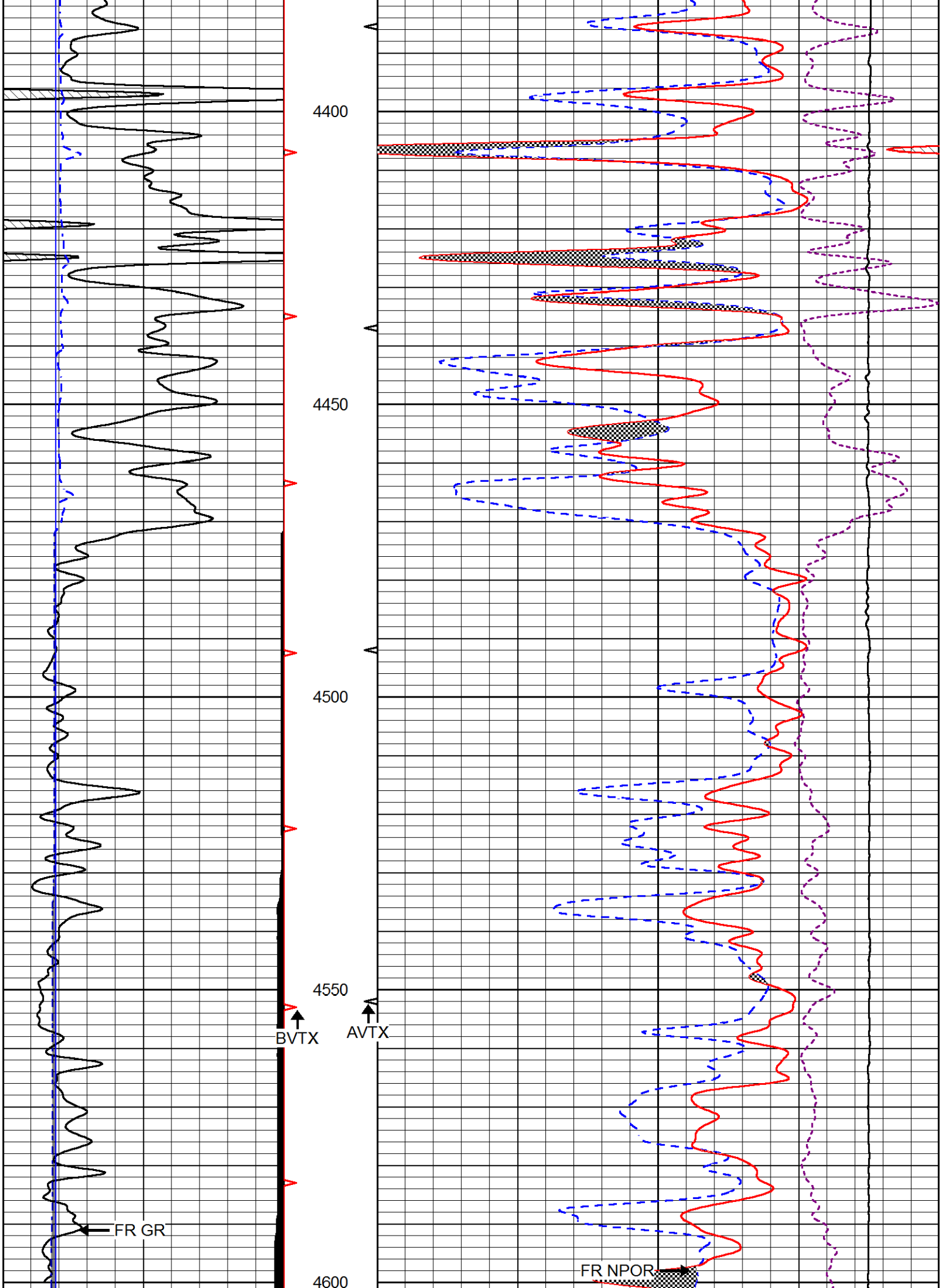



GAMMA RAY
CALIPER
LINE TENSION
COMPENSATED DENSITY
CORRECTION
COMPENSATED NEUTRON
3550
3600
3650
3700


3750
3800
3850
3900


3950
4000
4050
4100
4150


4200
4250
4300
4350


4400
4450
4500
4550
4600
BVTX
AVTX
FR GR
FR NPOR



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

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

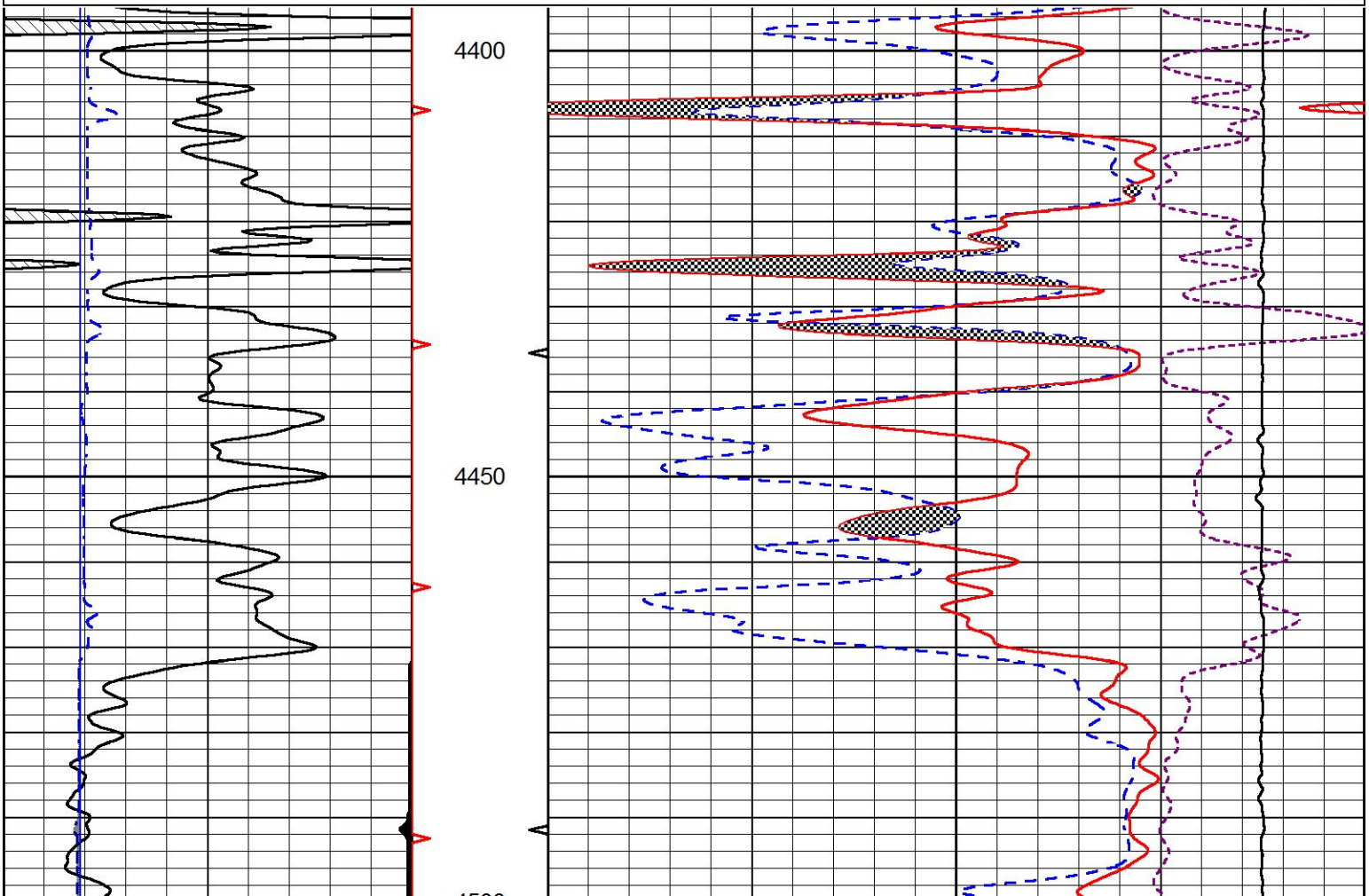
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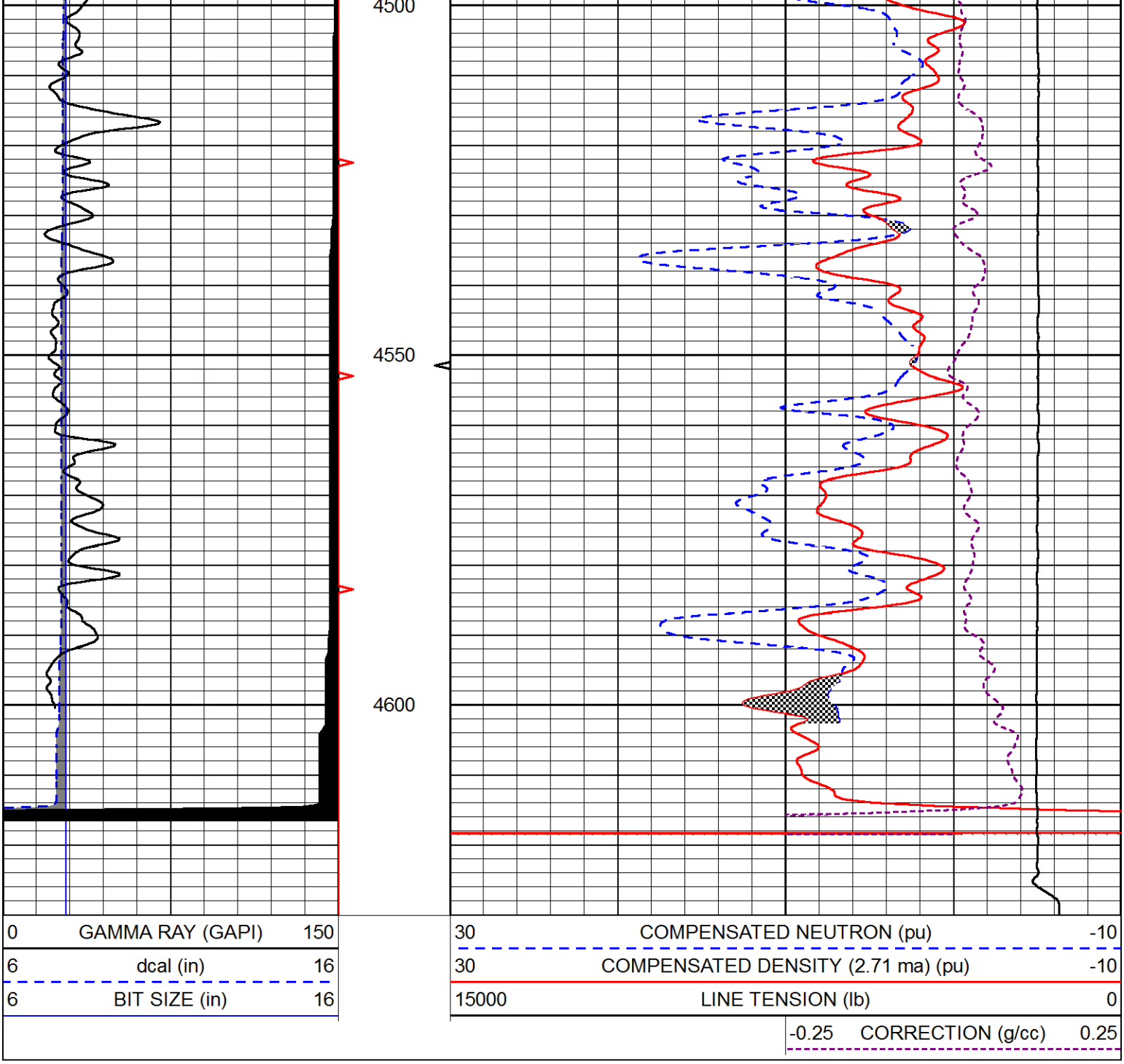
REPEAT SECTION

Database File	palomino_rohr_1.db
Dataset Pathname	stack/pass2.1
Presentation Format	cndlspec
Dataset Creation	Sun Feb 05 15:39:11 2017
Charted by	Depth in Feet scaled 1:240

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

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25





Calibration Report

Database File	palomino_rohr_1.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Sun Feb 05 15:38:31 2017

Dual Induction Calibration Report

Serial-Model:	1987-M&W
Calibration Performed:	Fri Dec 23 14:41:51 2016

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model:	71-914-M&W
Source / Verifier:	/
Master Calibration Performed:	Fri Dec 23 14:42:24 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.675	g/cc	822.19	3456.36	cps

Spine Angle = 75.49 Density/Spine Ratio = 0.537

	Size		Reading
Small Ring	4.00	in	1.16
Large Ring	14.00	in	1.57

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:	Fri Dec 23 14:43:38 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

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Company	PALOMINO PETROLEUM, INC.
Well	ROHR NO. 1
Field	BROUGHTON NORTH
County	LANE
State	KANSAS