PIONEER
Pioneer Energy Services

DUAL COMP POROSITY LOG

Company THOMAS GARNER, INC.
Well GARNER #8
Field LEISS NW
County STAFFORD State KANSAS

Location: API #: 15-185-24037-00-00
NE SW NE
1716' FNL & 1737' FEL
SEC 15 TWP 25S RGE 13W

Other Services
DIL/MEL

Elevation
K.B. 1937'
D.F. N/A
G.L. 1926'

Company	THOMAS GARNER, INC.
Well	GARNER #8
Field	LEISS NW
County	STAFFORD
State	KANSAS
Permanent Datum	GROUND LEVEL
Elevation	1926'
Log Measured From	KELLY BUSHING
	11 Ft. Above Perm. Datum
Drilling Measured From	KELLY BUSHING

Date	11/20/2018	
Run Number	ONE	
Type Log	CNL/CDL	
Depth Driller	4320'	
Depth Logger	4318'	
Bottom Logged Interval	4297'	
Top Logged Interval	3300'	
Type Fluid In Hole	CHEMICAL	
Salinity, PPM CL	6200	
Density	9.0	
Level	FULL	
Max. Rec. Temp. F	119	
Operating Rig Time	3 HOURS	
Equipment -- Location	108 HAYS	
Recorded By	D. SCHMIDT	
Witnessed By	THOMAS GARNER	

Borehole Record

Run No.	Bit	From	To
ONE	12.25"	0'	307'
TWO	7.875"	307'	TD

Casing Record

Size	Wgt.	From	To
8.625"	23#	0'	307'

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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.

ST JOHN,
5 SOUTH, 1/2 EAST,
SOUTH INTO

Log Measured From: KELLY BUSHING 11 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: D. SCHMIDT	Primary Witness: THOMAS GARNER
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

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 (934-5002)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (PSI 988)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					

Dataset: thomas garner_garner 8.db: field/well/STACK/pass3.4
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\thomas garner_garner 8.db
Dataset field/well/STACK/pass3.4/_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	0	0	-230	50	Off	4318

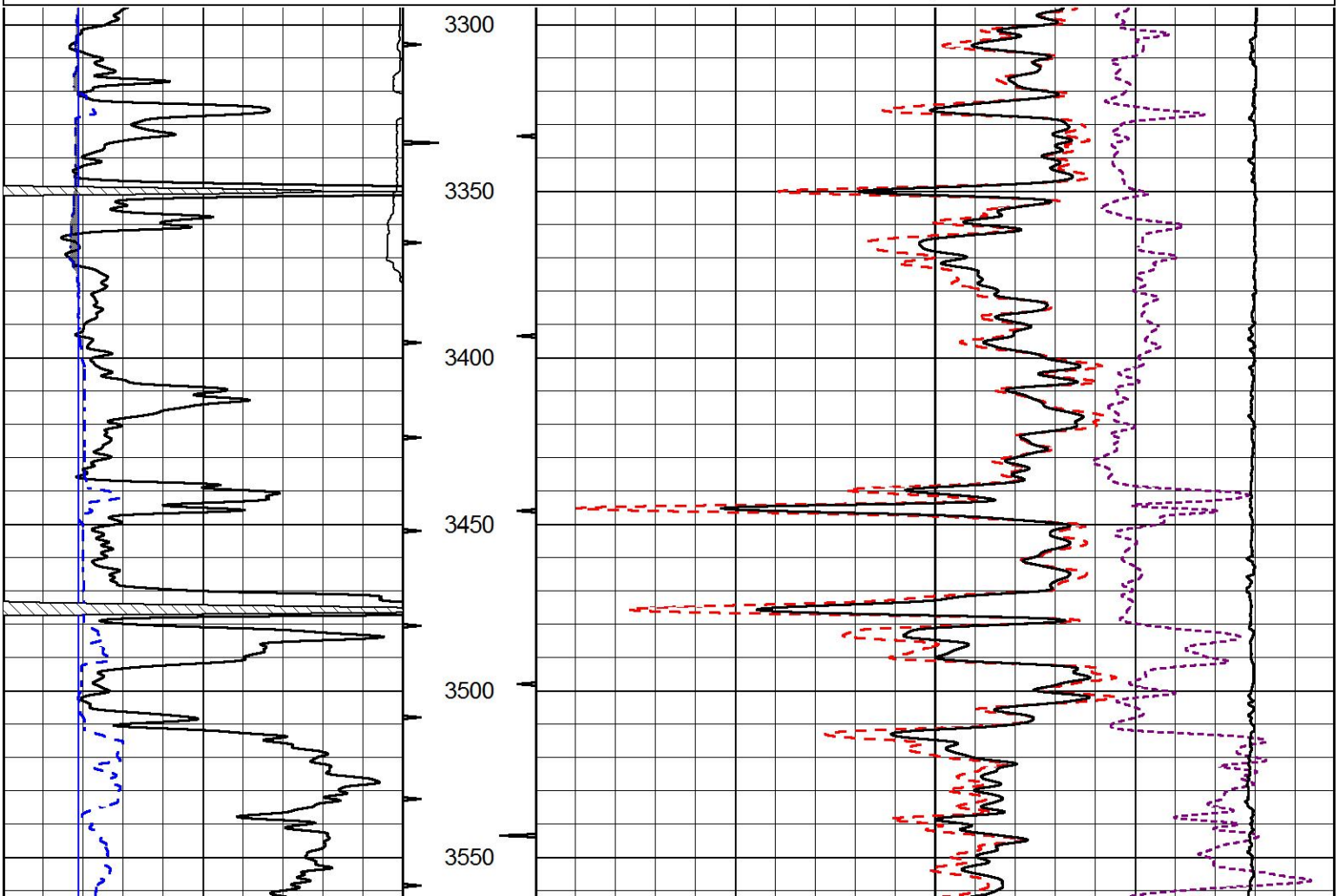
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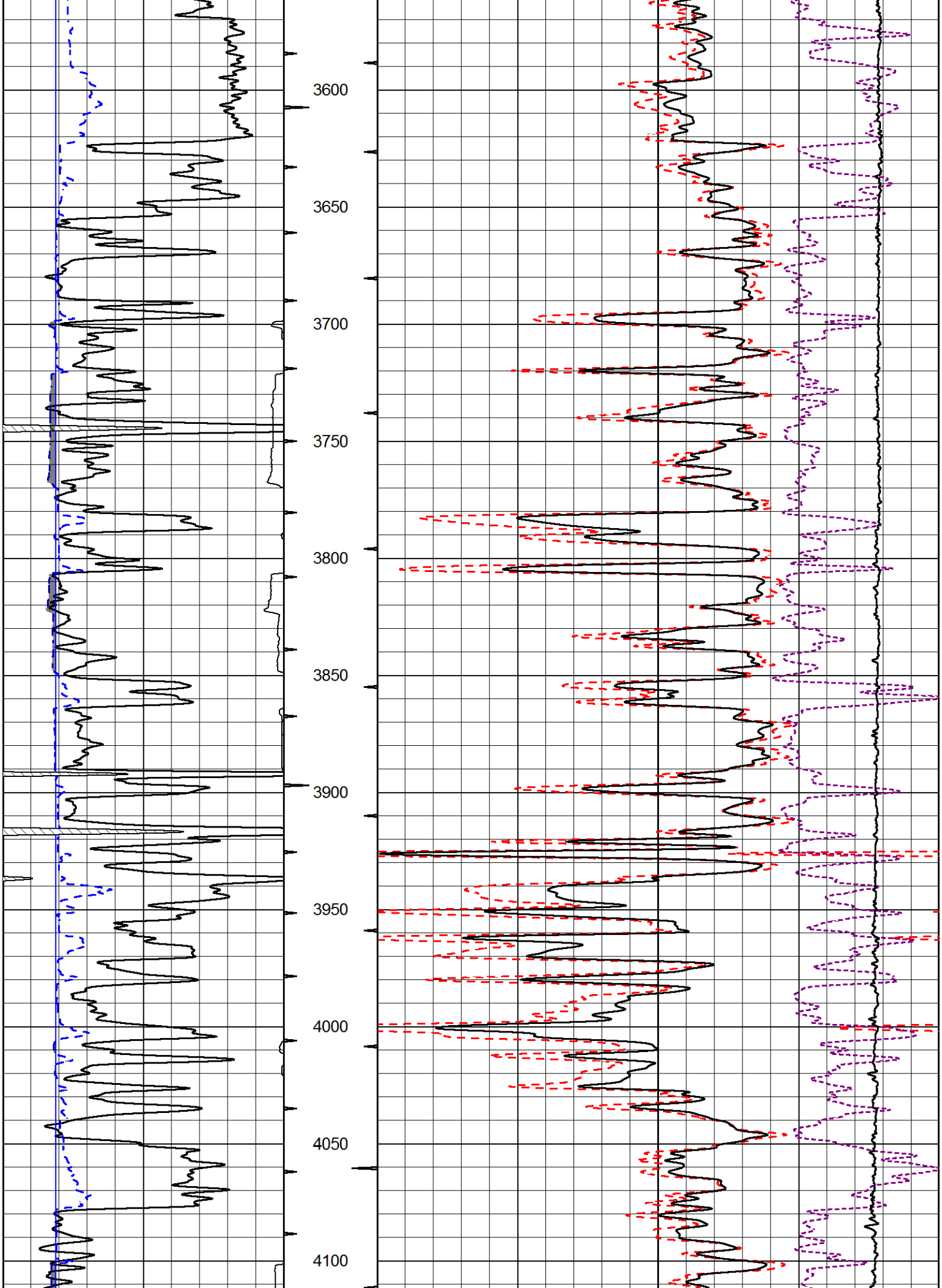
MAIN PASS

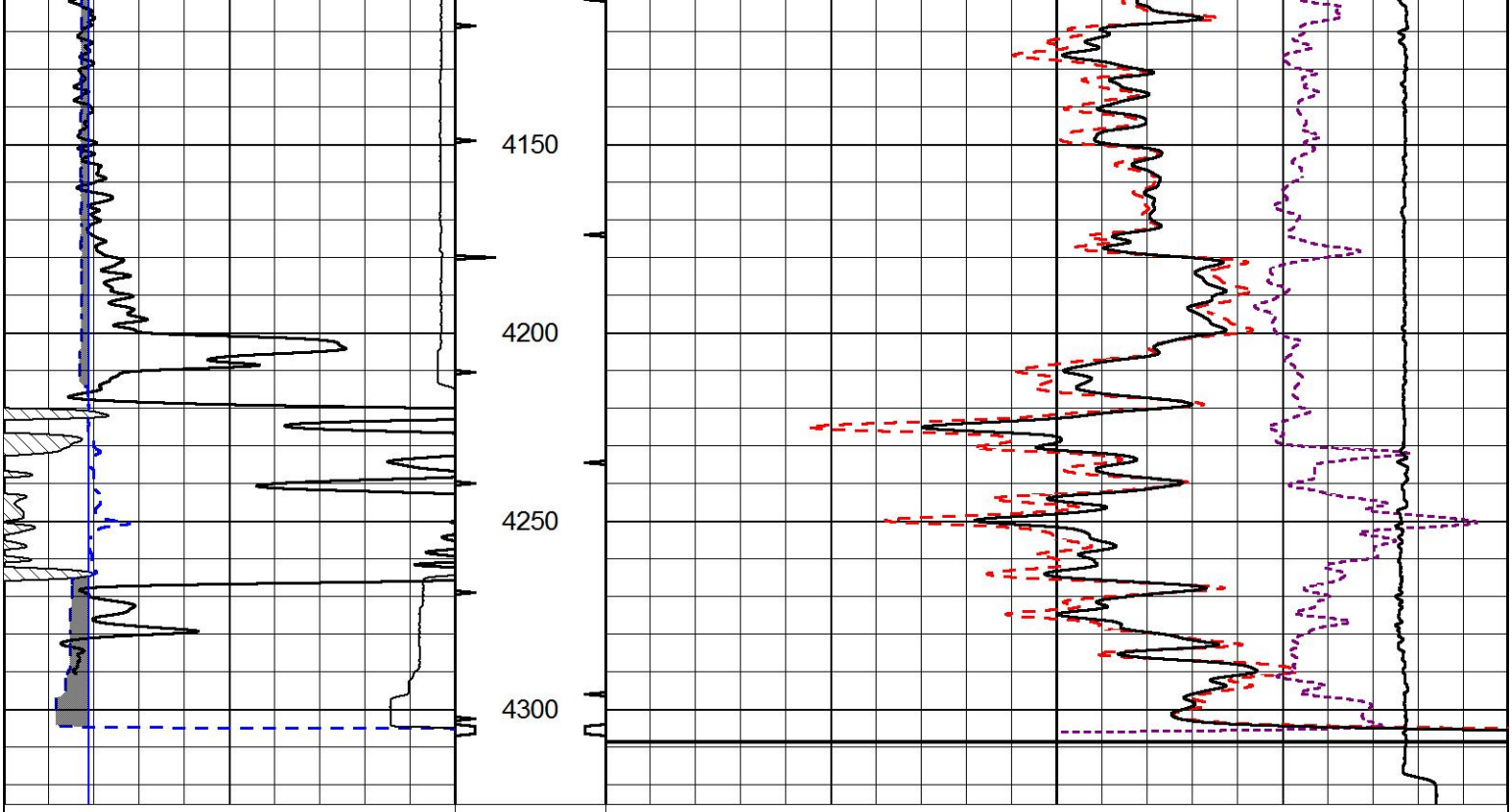
Database File	thomas garner_garner 8.db
Dataset Pathname	STACK/pass3.1
Presentation Format	cdl
Dataset Creation	Tue Nov 20 10:34:38 2018
Charted by	Depth in Feet scaled 1:600

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



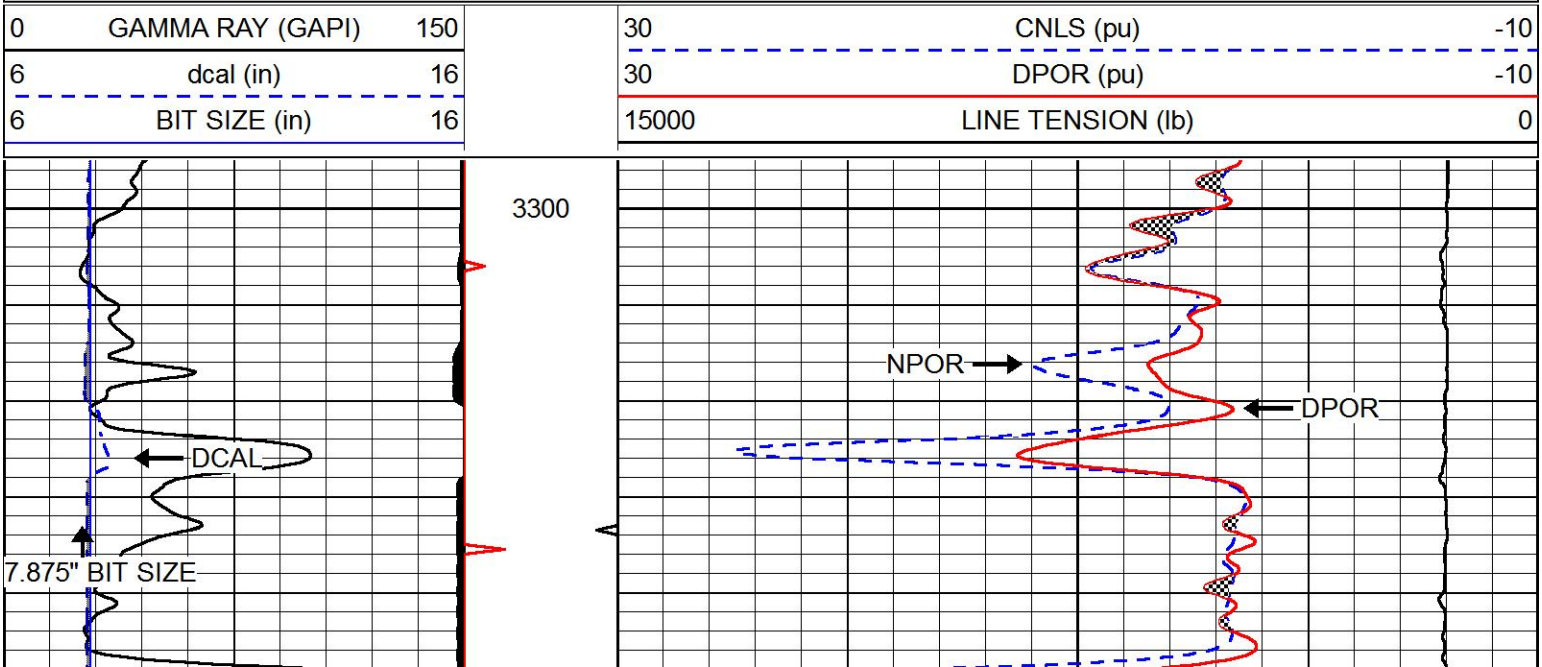

3600
3650
3700
3750
3800
3850
3900
3950
4000
4050
4100

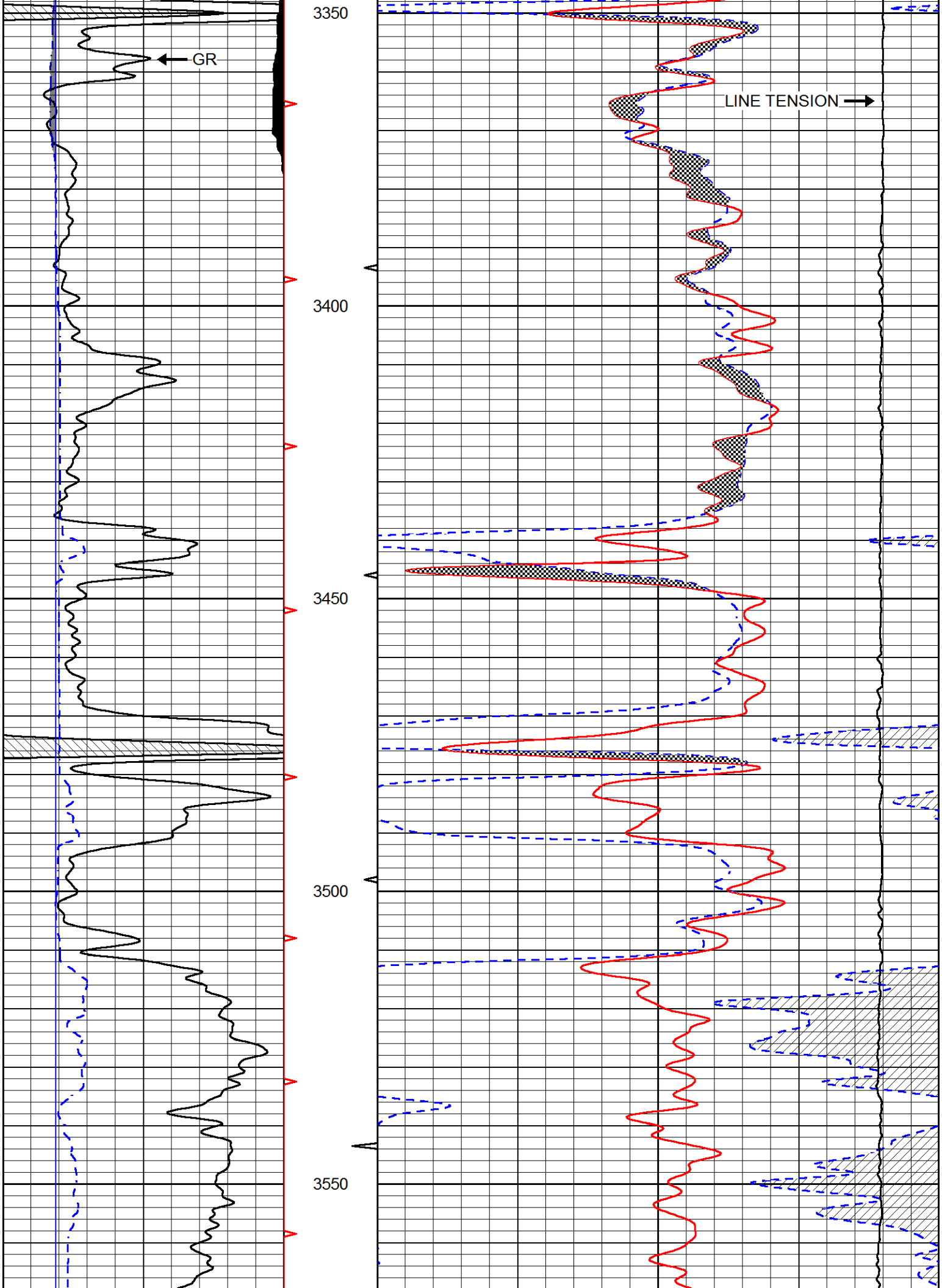


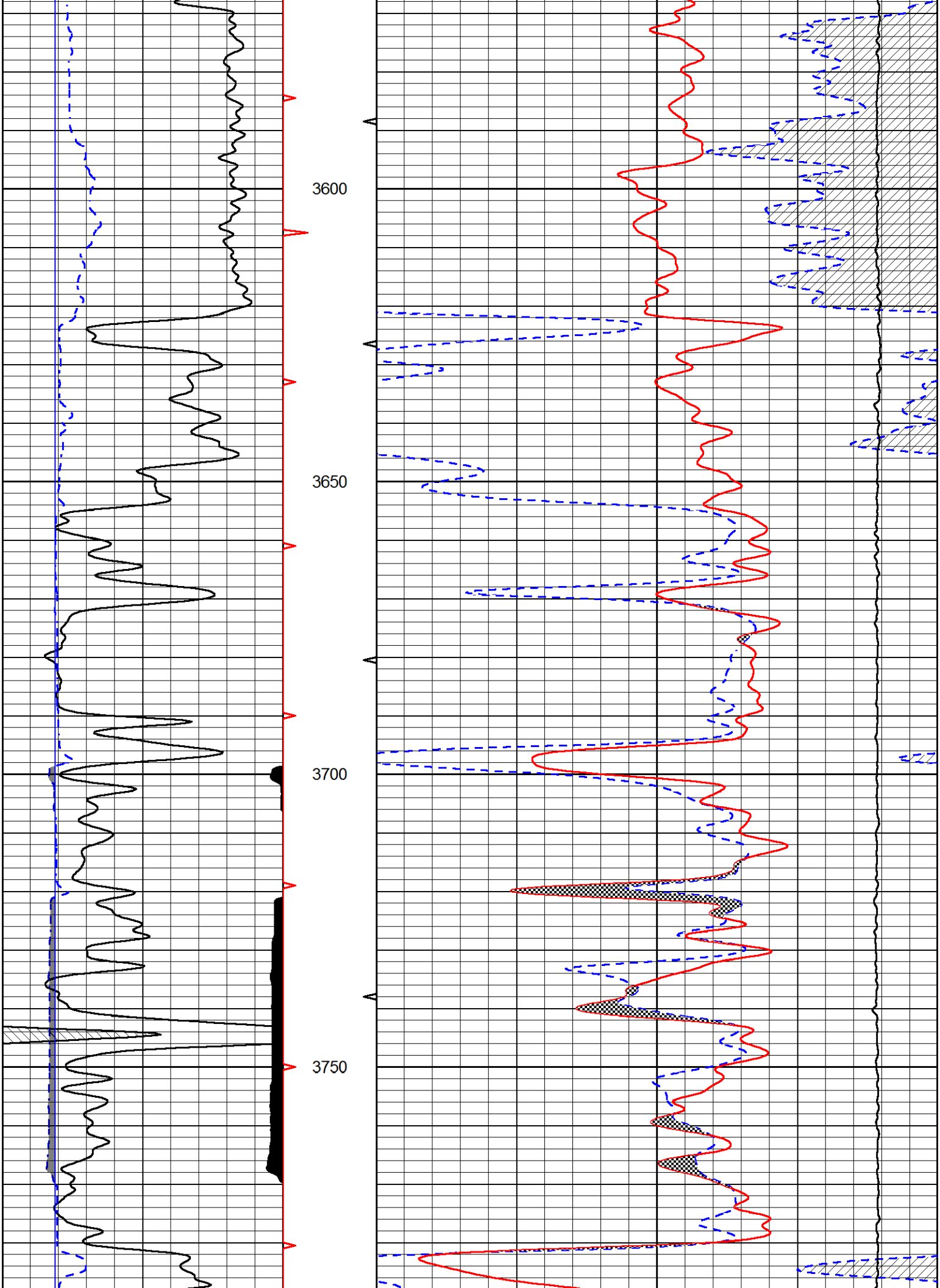
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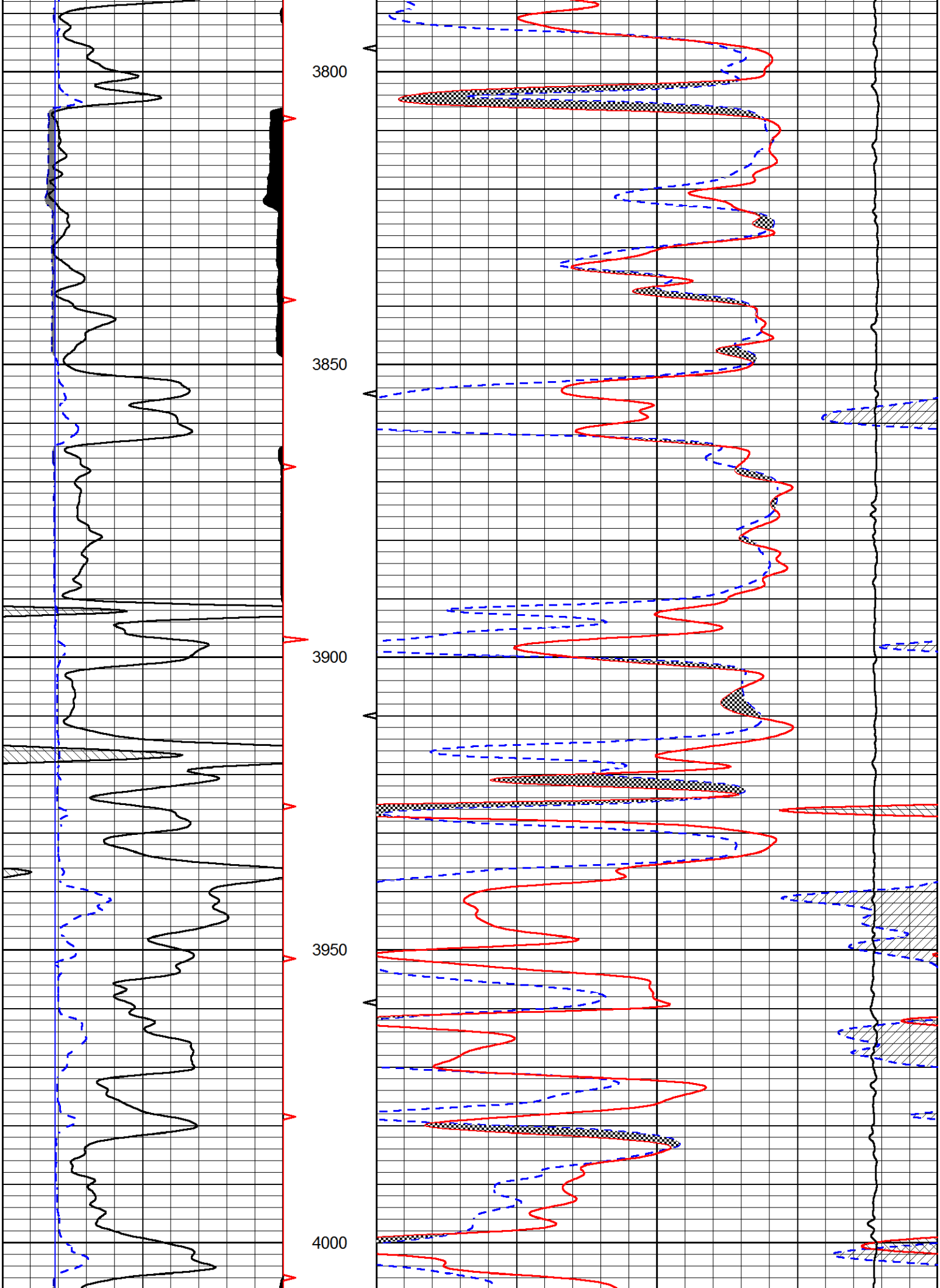
MAIN PASS

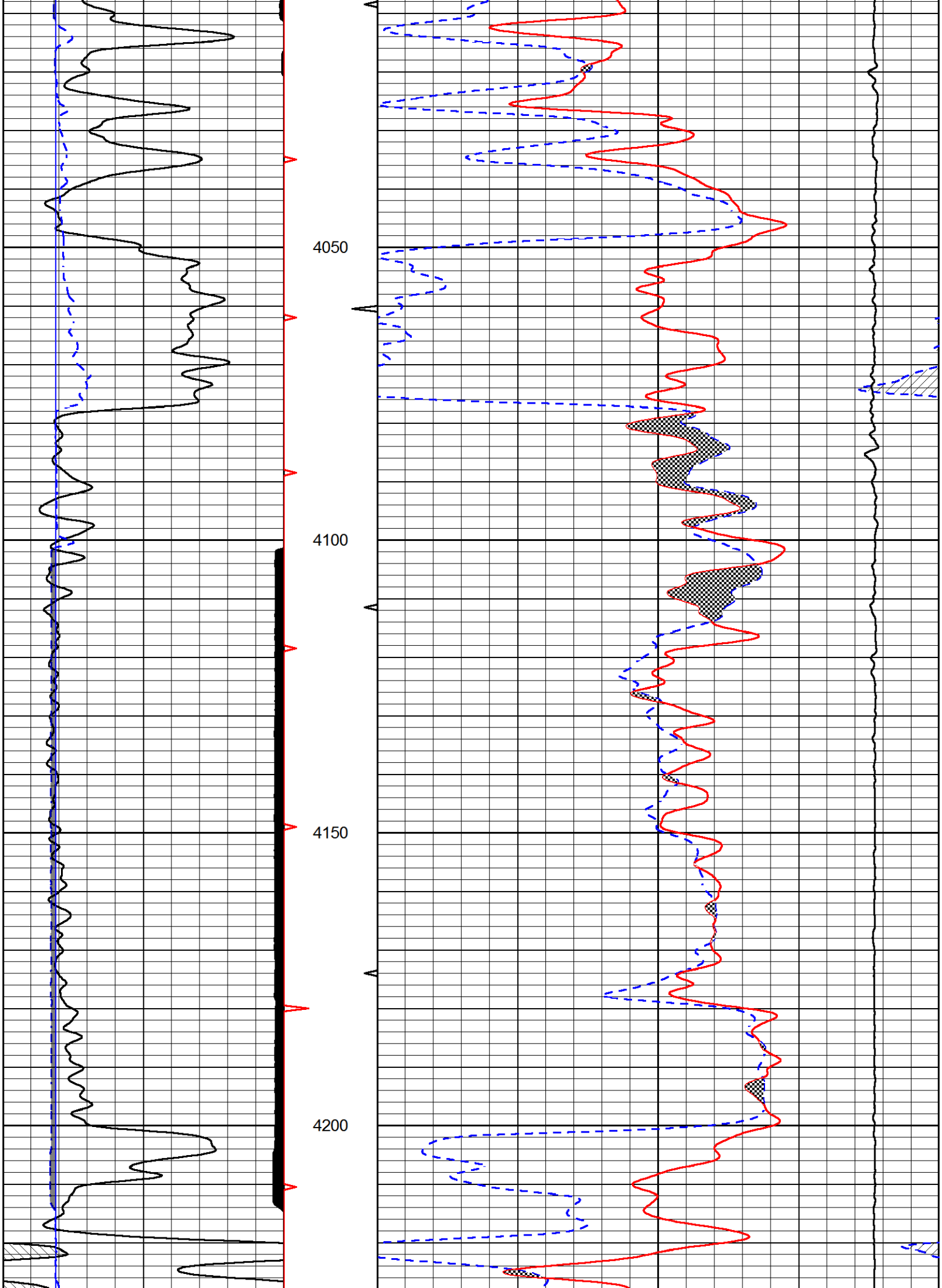
Database File	thomas garner_garner 8.db
Dataset Pathname	STACK/pass3.1
Presentation Format	cndlspec
Dataset Creation	Tue Nov 20 10:34:38 2018
Charted by	Depth in Feet scaled 1:240

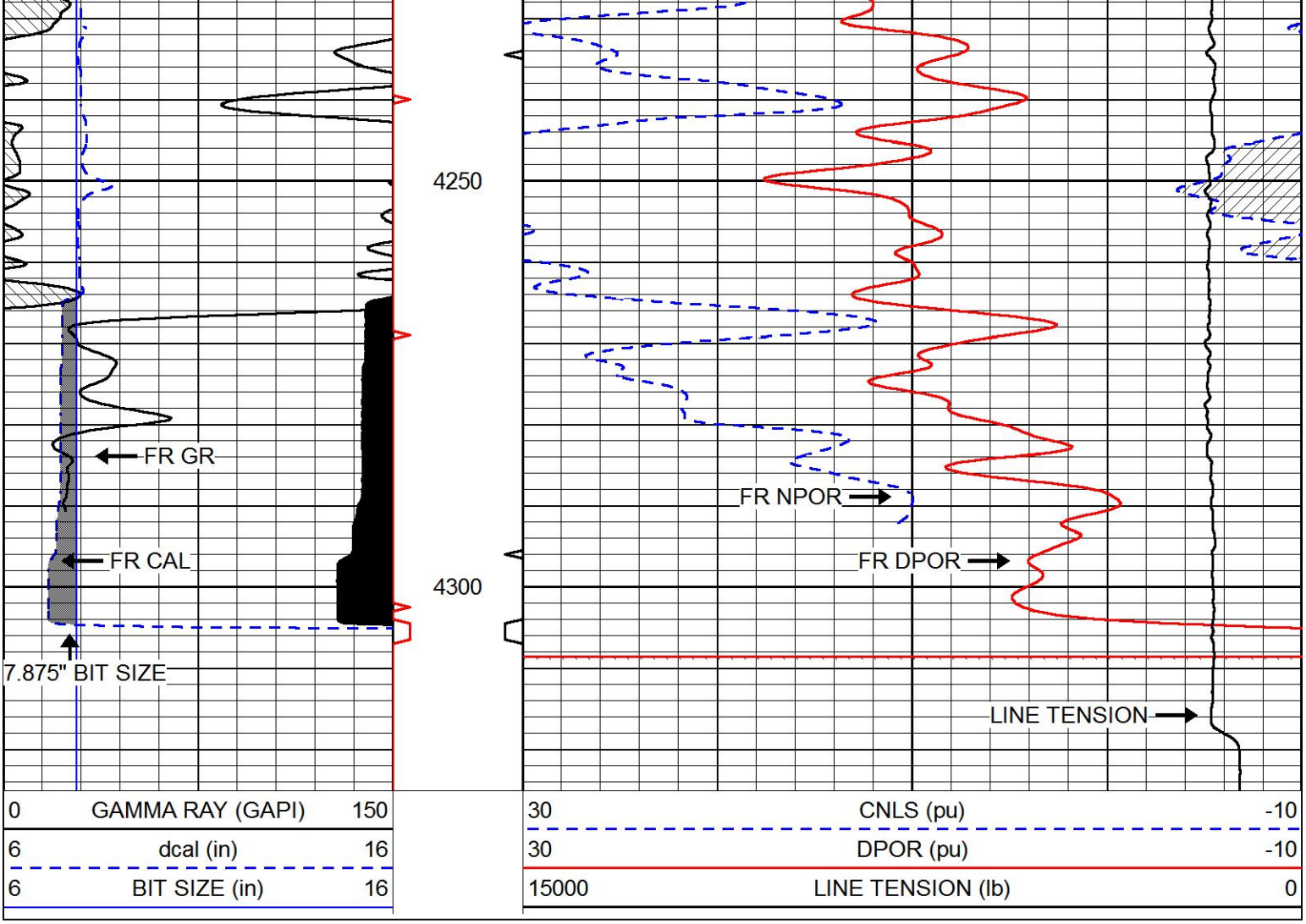



GR
LINE TENSION
3350
3400
3450
3500
3550


3600
3650
3700
3750


3800
3850
3900
3950
4000


4050
4100
4150
4200



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

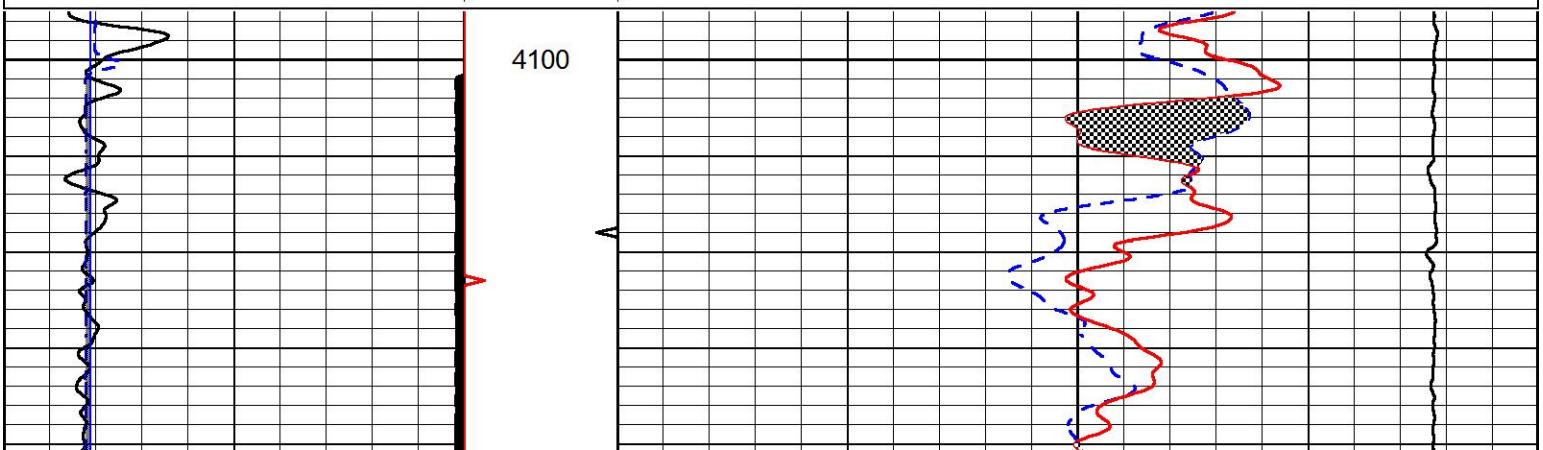
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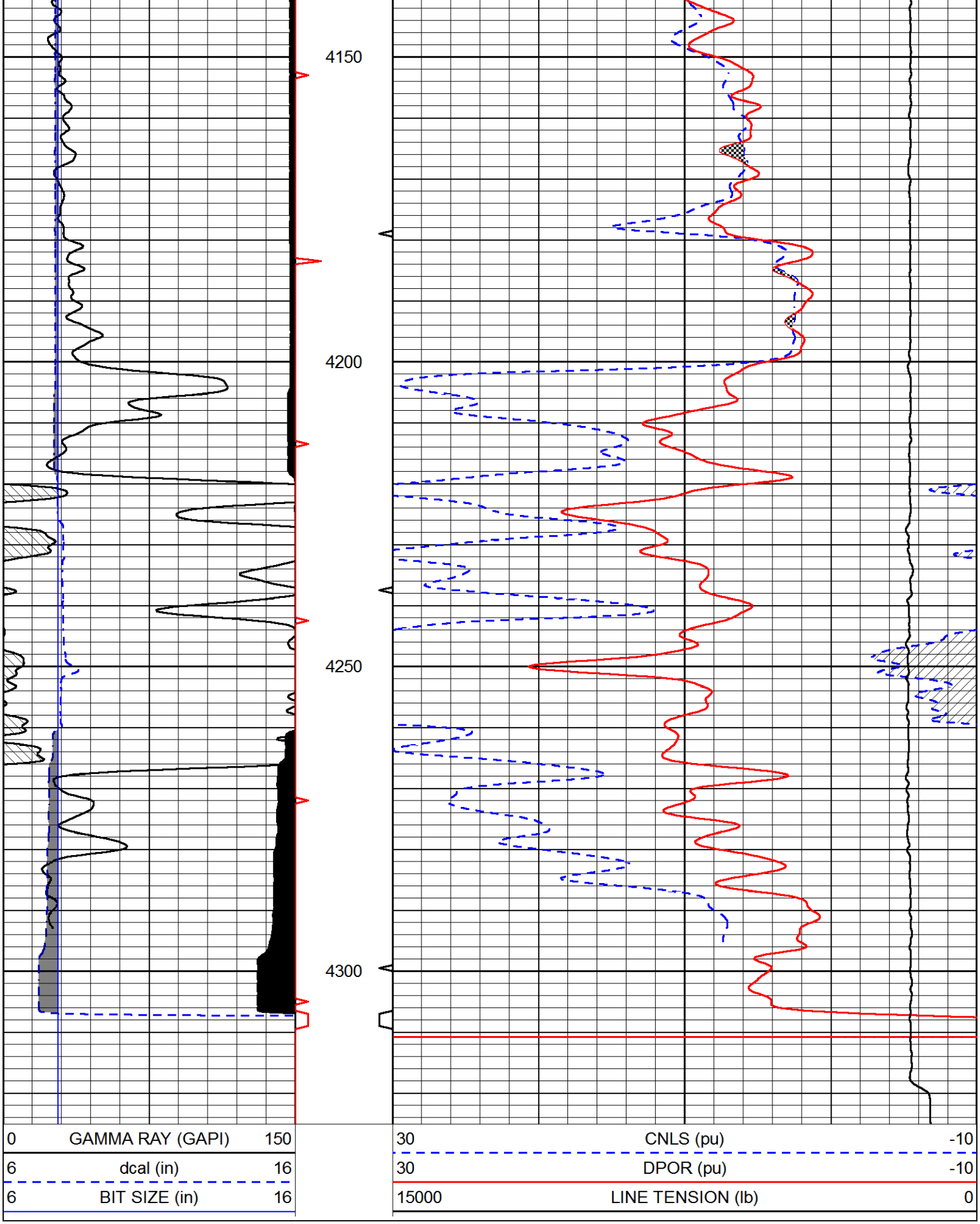
REPEAT SECTION

Database File	thomas garner_garner 8.db
Dataset Pathname	STACK/pass2.6
Presentation Format	cndlspec
Dataset Creation	Tue Nov 20 10:21:14 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





Calibration Report

Database File	thomas garner_garner 8.db
Dataset Pathname	STACK/pass3.4
Dataset Creation	Tue Nov 20 10:18:45 2018

Dual Induction Calibration Report

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

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.525	-44.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.380	-16.500

Compensated Density Calibration Report

Serial-Model: 934-5002-M&W
Source / Verifier: /
Master Calibration Performed: Wed Aug 29 11:03:55 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3720.16	2661.79	cps
Aluminum	2.685	g/cc	696.57	1725.83	cps

Spine Angle = 75.50 Density/Spine Ratio = 0.537

	Size		Reading
Small Ring	4.00	in	1.16
Large Ring	16.00	in	1.01

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

Company THOMAS GARNER, INC.
Well GARNER #8

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Field	LEISS NW
County	STAFFORD
State	KANSAS