



PIONEER
Pioneer Energy Services

DUAL COMP POROSITY LOG

Company **COBALT ENERGY, LLC**
Well **EVELYN A #1-27**
Field **WILDCAT**
County **DECATUR** State **KANSAS**

Location: API #: 15-039-21239-00-00

Other Services

SEC 27 TWP 3S RGE 26W
1361' FSL & 2154' FWL

DIL/MEL

Permanent Datum **GROUND LEVEL** Elevation **2549'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 2554'
D.F. N/A
G.L. 2549'

Company **COBALT ENERGY, LLC**
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County **DECATUR**
State **KANSAS**

Date **6/20/2017**

Run Number **ONE**

Type Log **CNL/CDL**

Depth Driller **4010'**

Depth Logger **4012'**

Bottom Logged Interval **3983'**

Top Logged Interval **3200'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **2000**

Density **9.3**

Level **FULL**

Max. Rec. Temp. F **116**

Operating Rig Time **3 HOURS**

Equipment -- Location **91 HAYS**

Recorded By **D. SCHMIDT**

Witnessed By **LARRY NICHOLSON**

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	213'	8.625"	23#	0'	213'
TWO	7.875"	213'	TD				

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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.

CLAYTON,
1.7 NORTH, 2 1/2 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

Your Pioneer Energy Services Crew

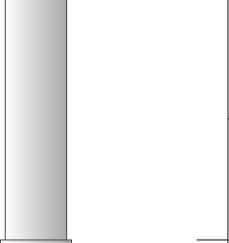
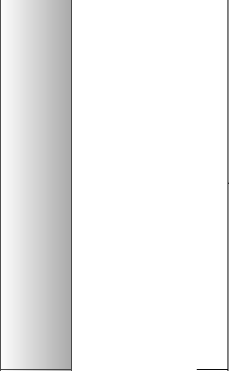
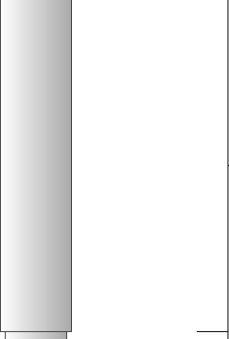
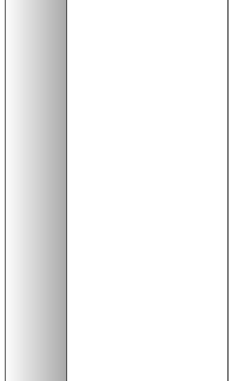
Engineer: **D. SCHMIDT**
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: **LARRY NICHOLSON**
Secondary Witness:
Secondary Witness:
Secondary Witness:

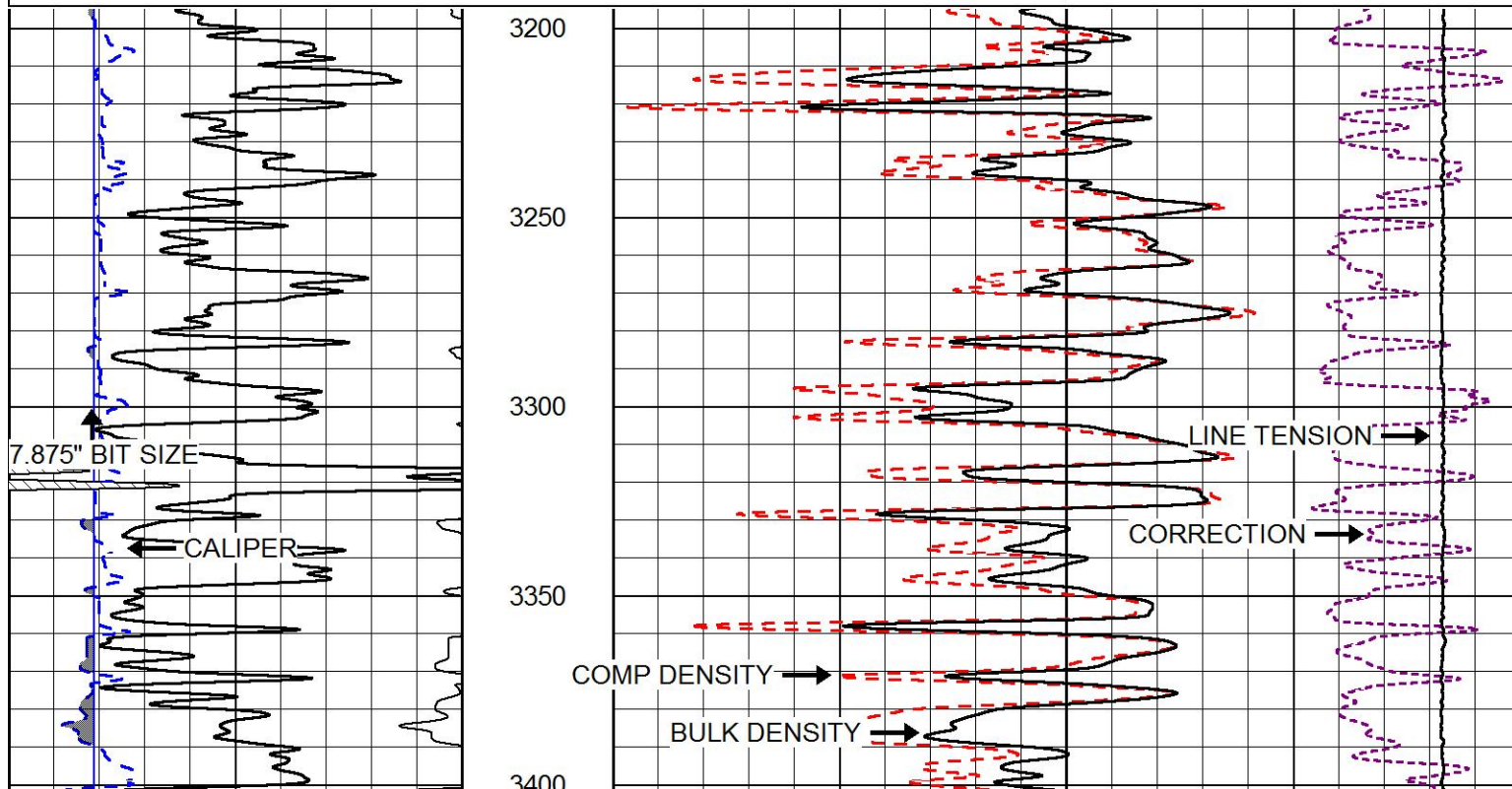
Top - Bottom

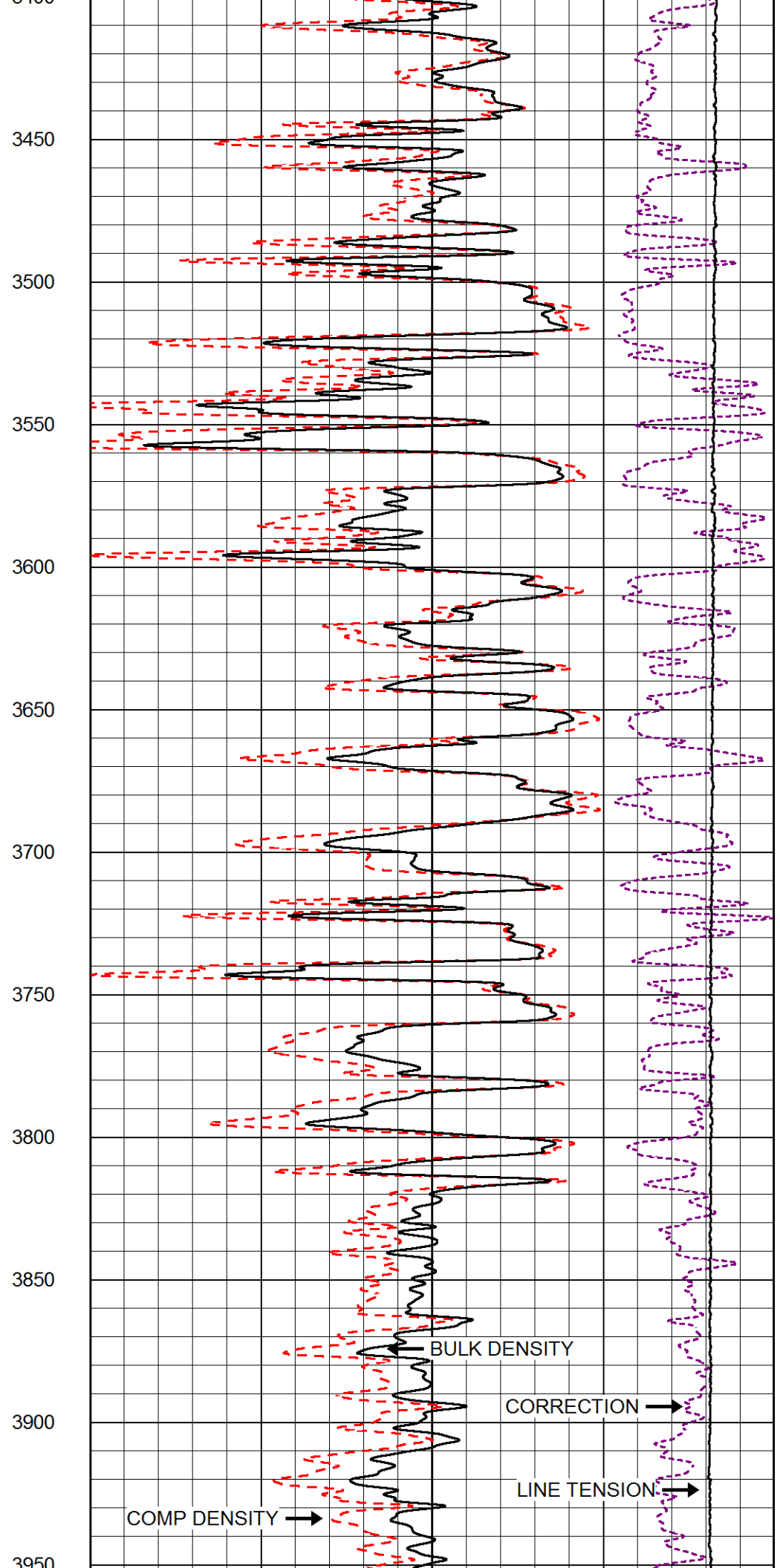
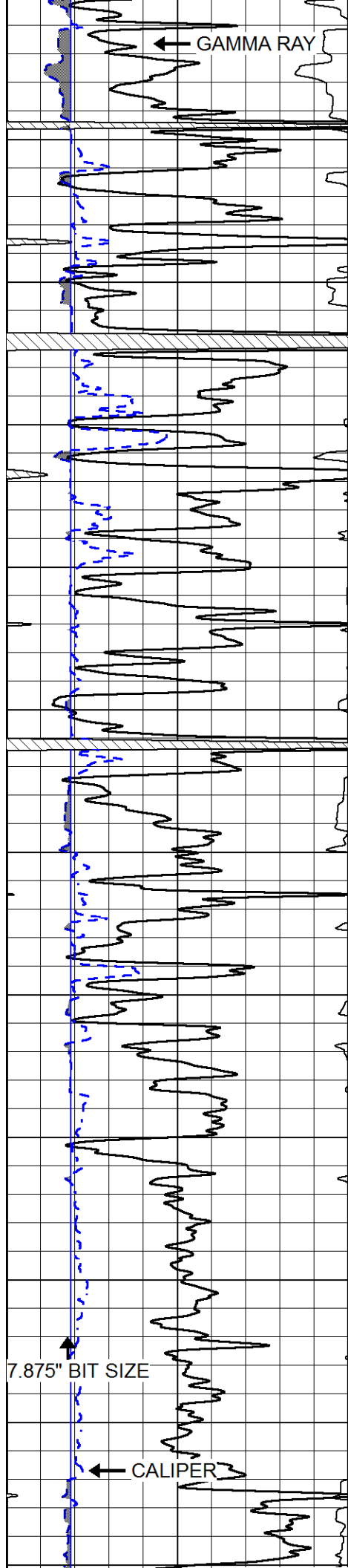
M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	15	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	40	0	5.5	0	4012	116	7.875

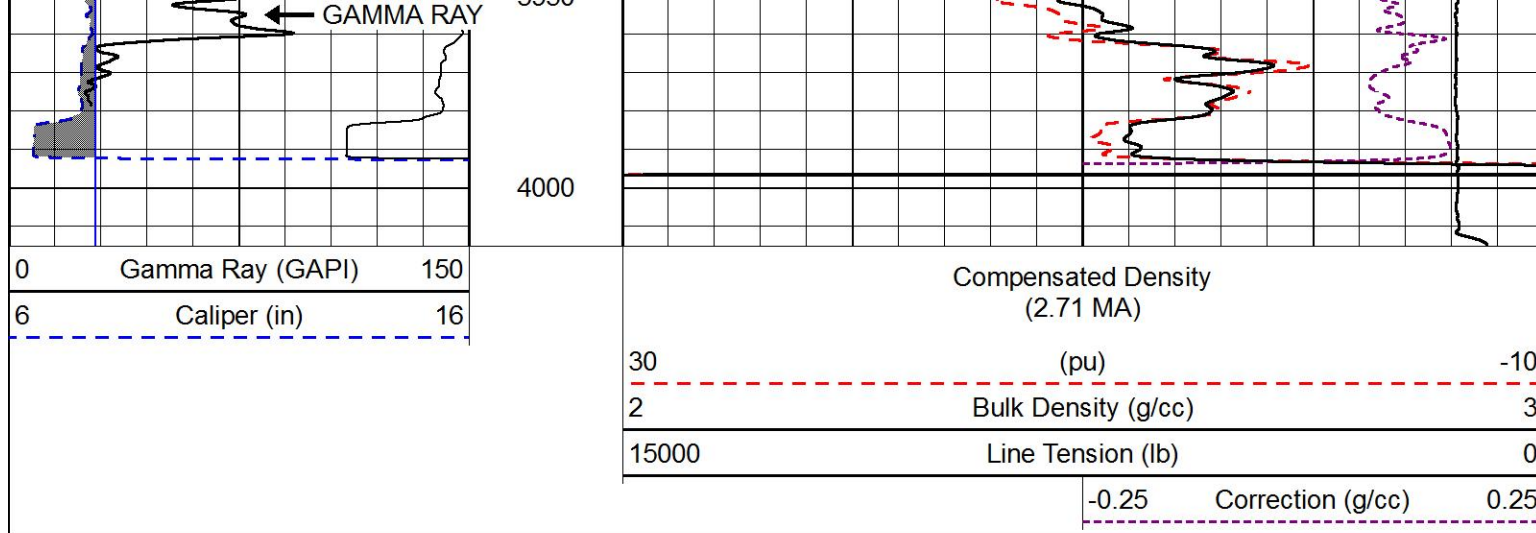
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools 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: cobalt_evelyn a_1-27.db: field/well/STKML/pass3.5 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

			MAIN PASS		
Database File	cobalt_evelyn a_1-27.db				
Dataset Pathname	STKML/pass3.5				
Presentation Format	cdl				
Dataset Creation	Tue Jun 20 21:22:46 2017				
Charted by	Depth in Feet scaled 1:600				
0	Gamma Ray (GAPI)	150			
6	Caliper (in)	16			
			Compensated Density (2.71 MA)		
			(pu)		
			30		-10
			Bulk Density (g/cc)		
			2		3
			Line Tension (lb)		
			15000		0
			Correction (g/cc)		
			-0.25		0.25





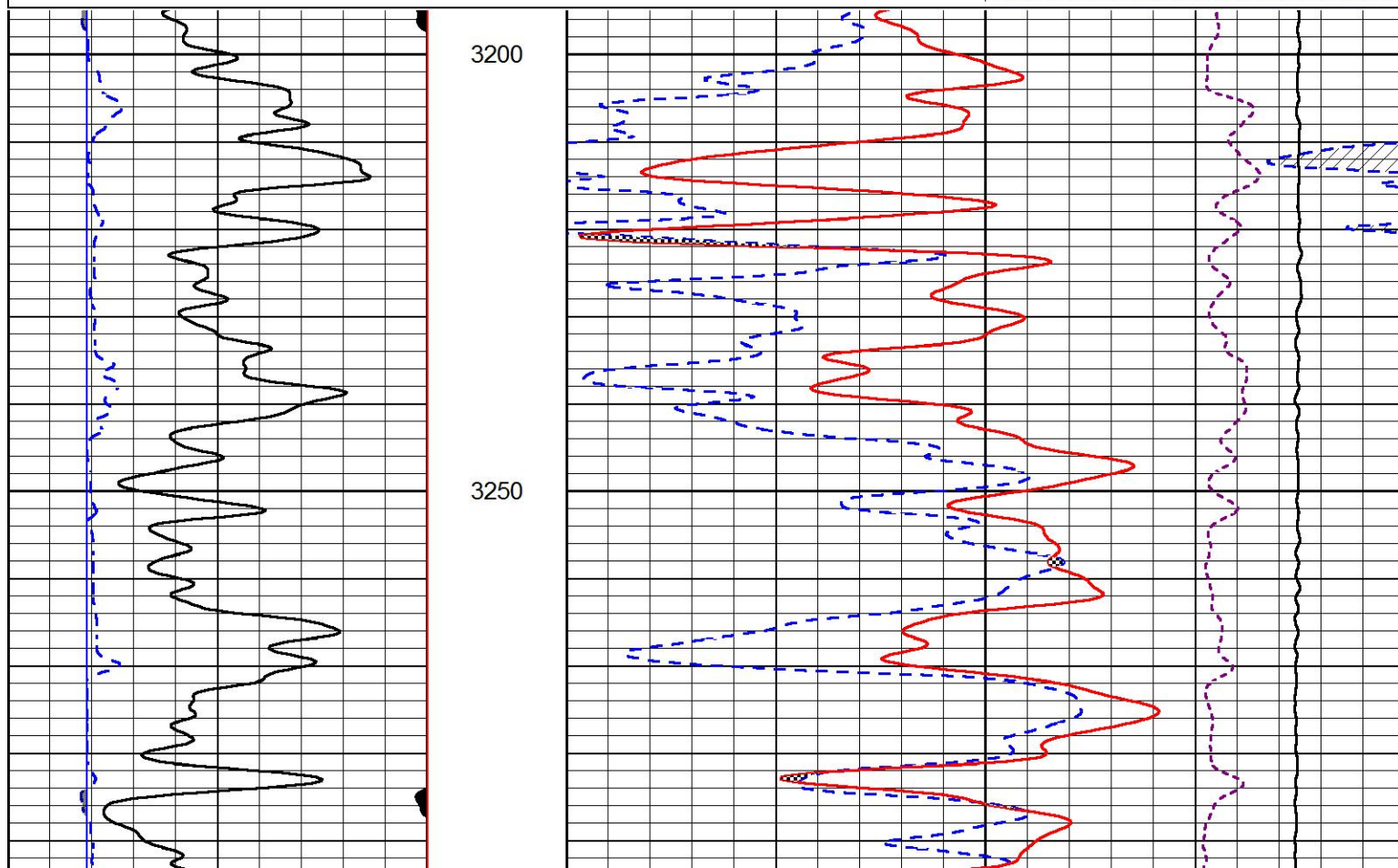
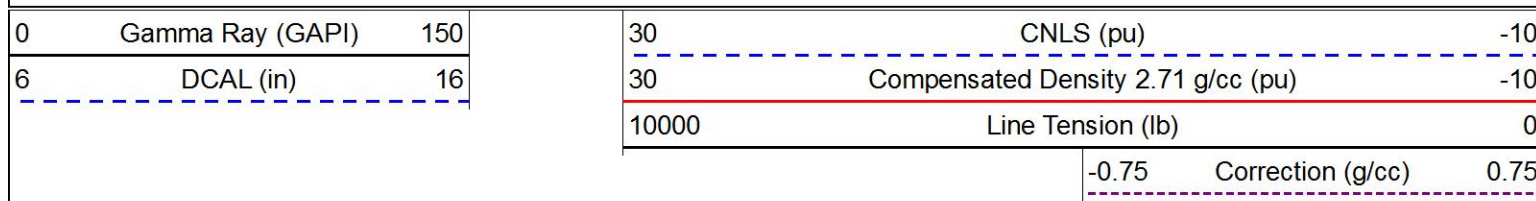


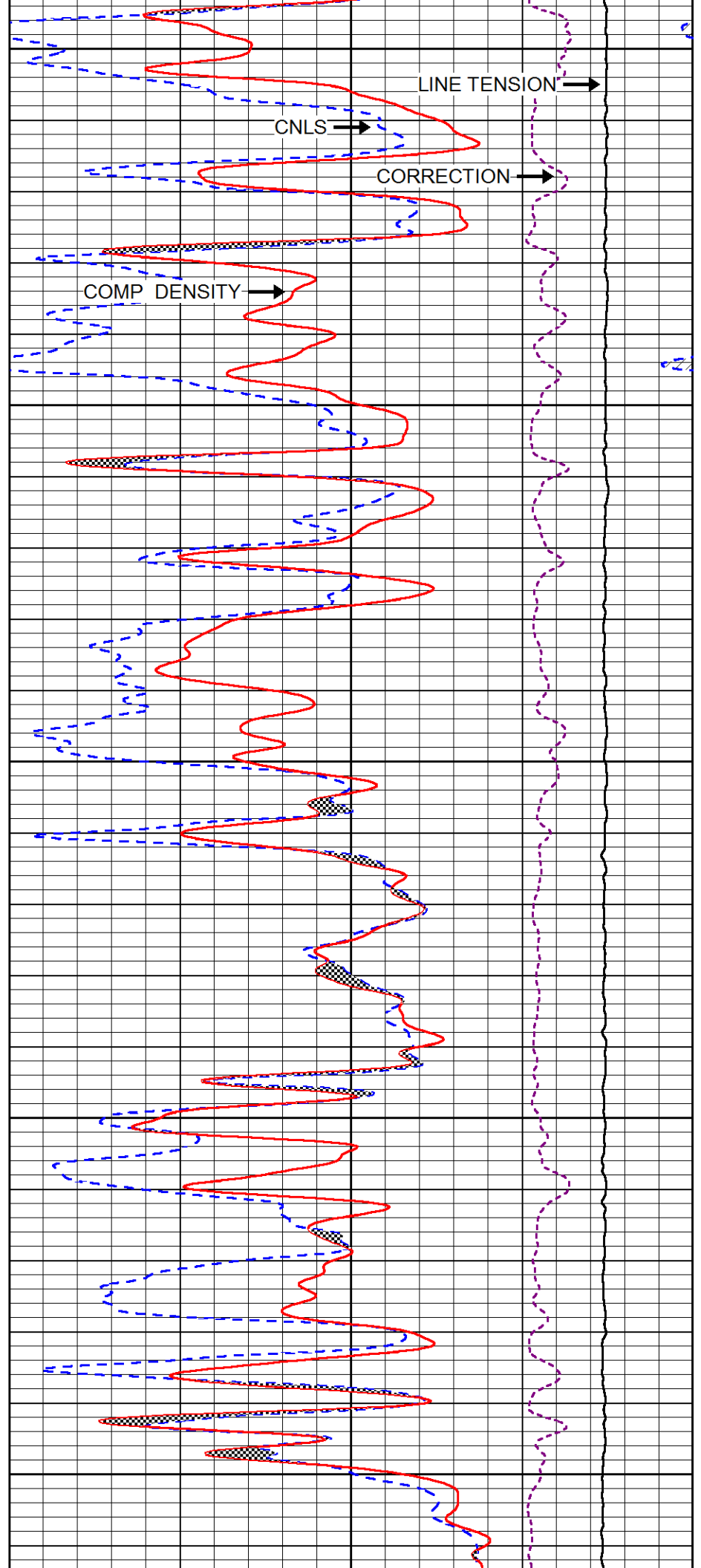
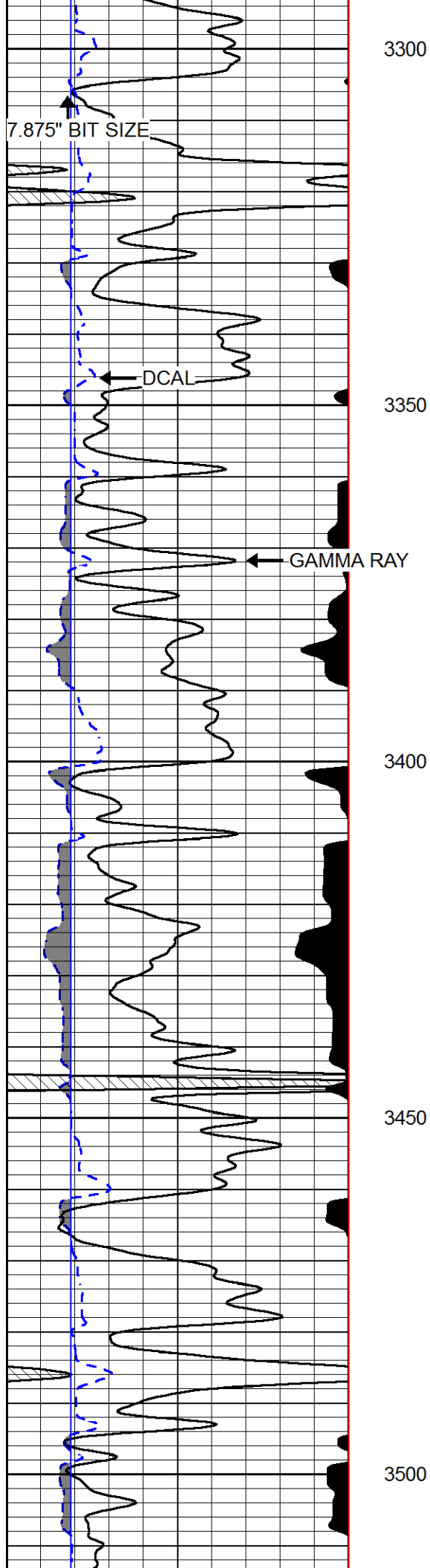


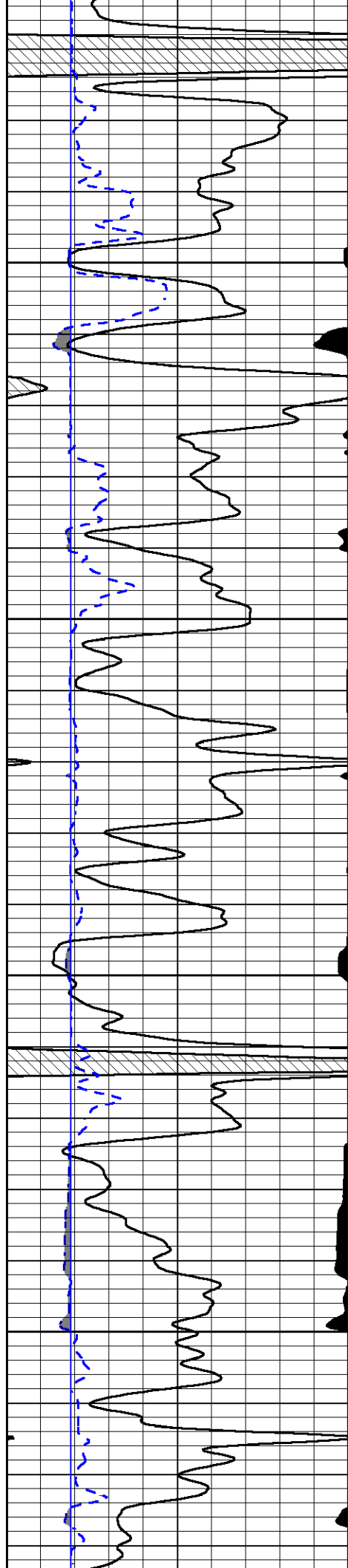
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MAIN PASS

Database File	cobalt_evelyn a_1-27.db
Dataset Pathname	STKML/pass3.5
Presentation Format	cnlspec
Dataset Creation	Tue Jun 20 21:22:46 2017
Charted by	Depth in Feet scaled 1:240





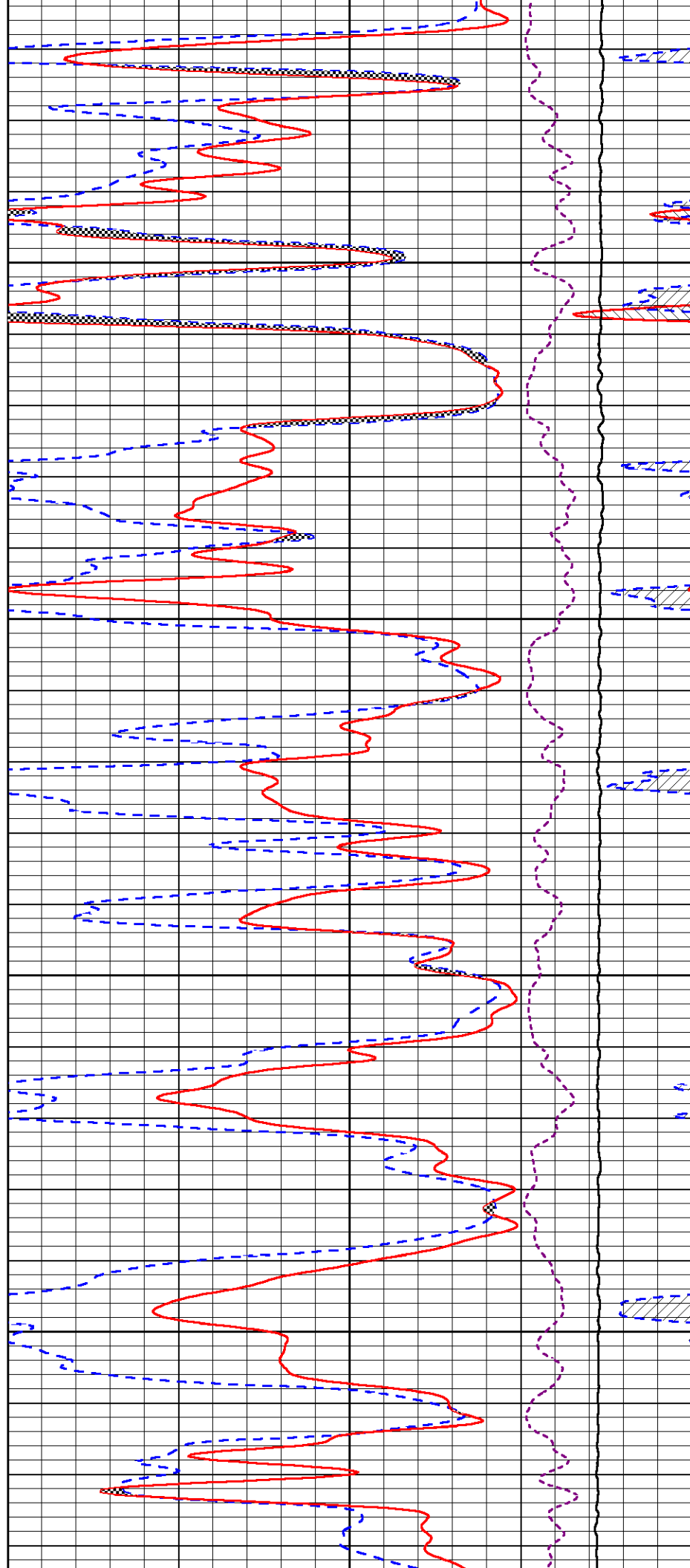


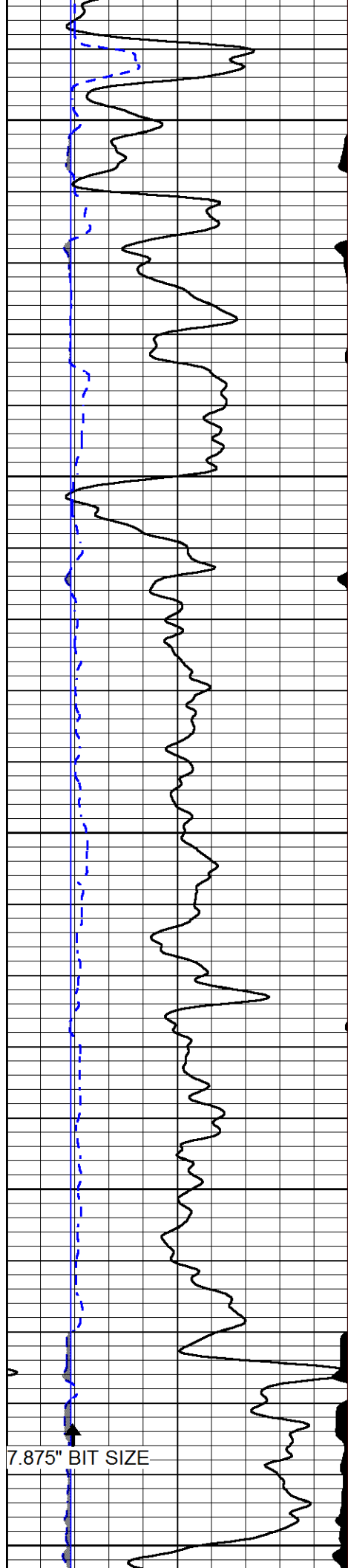
3550

3600

3650

3700





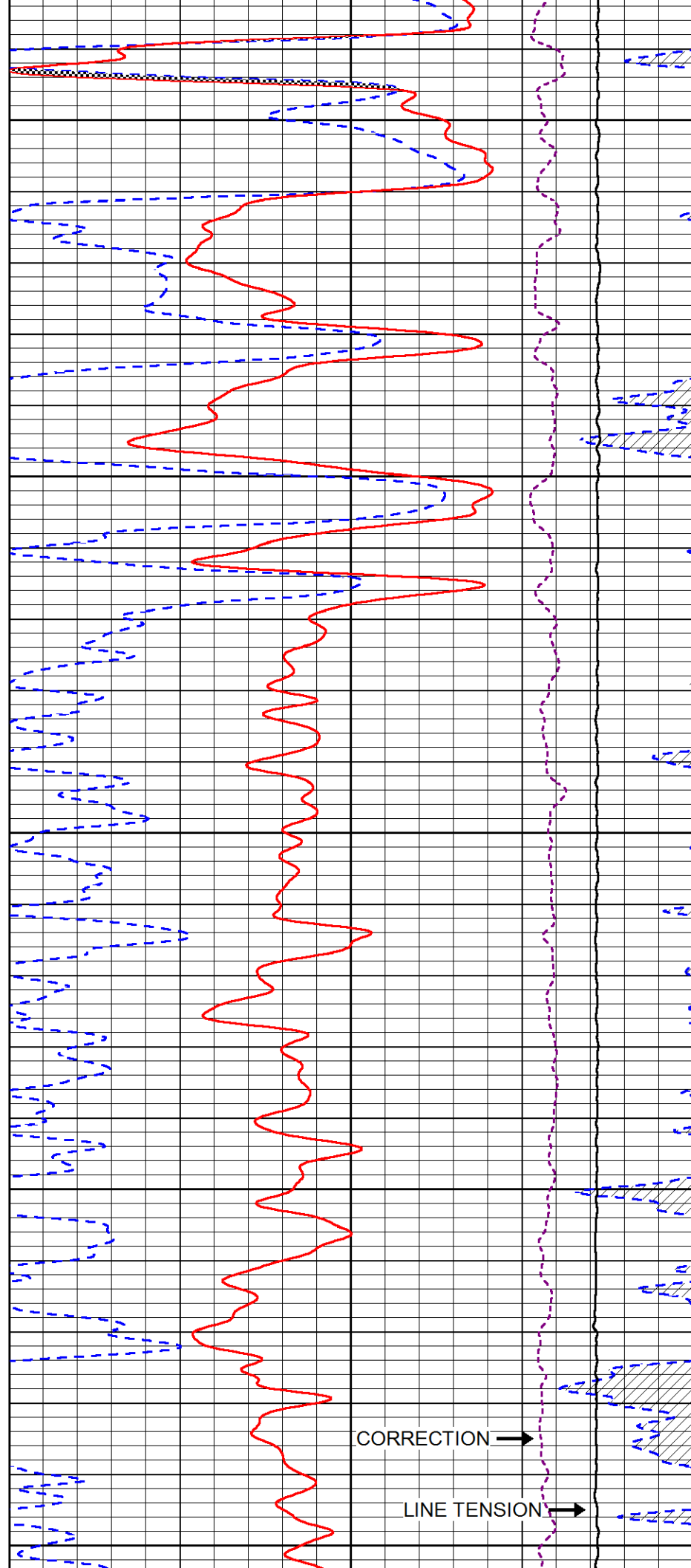
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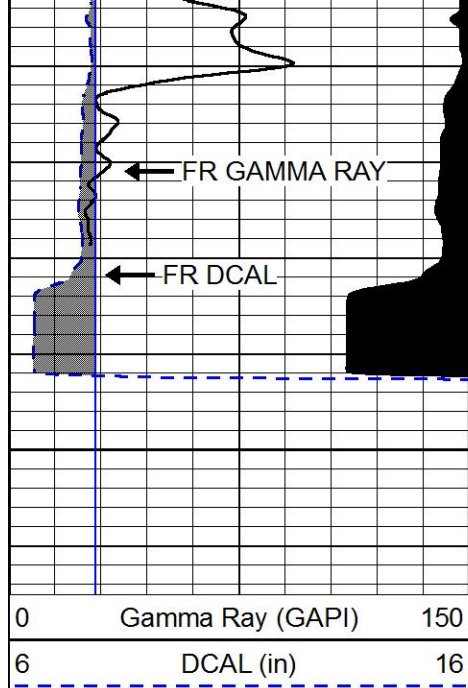
3800

3850

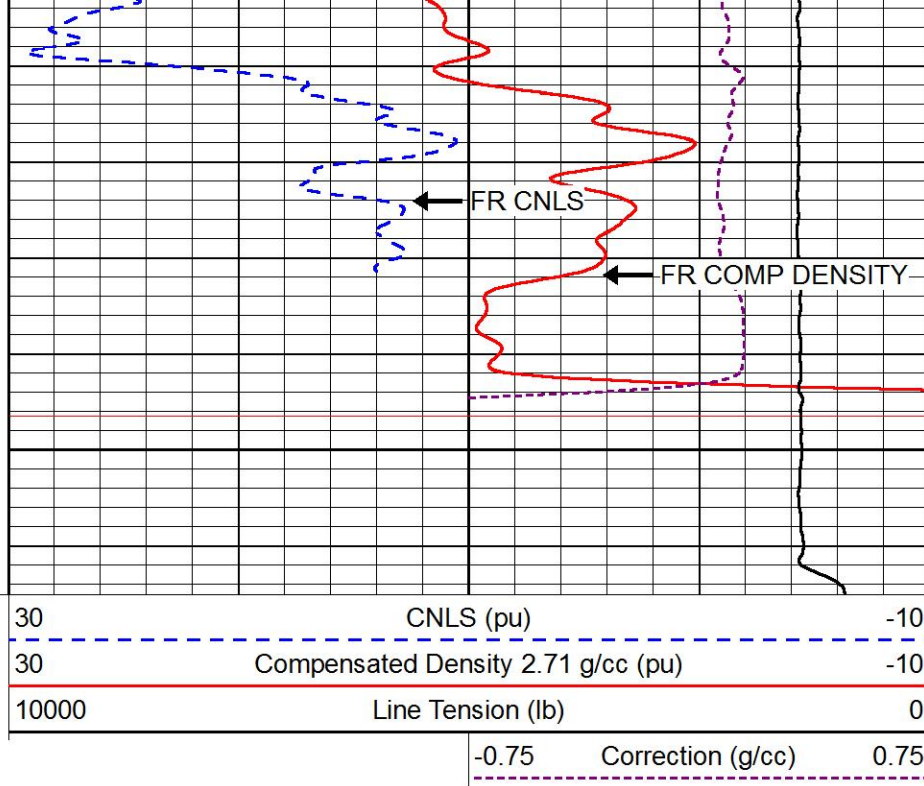
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3950





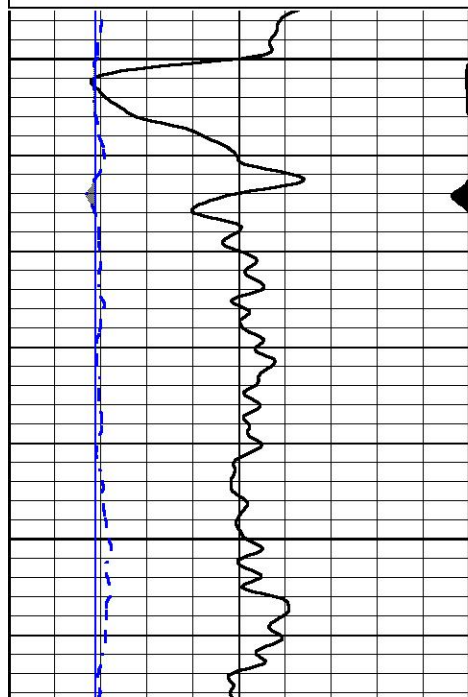
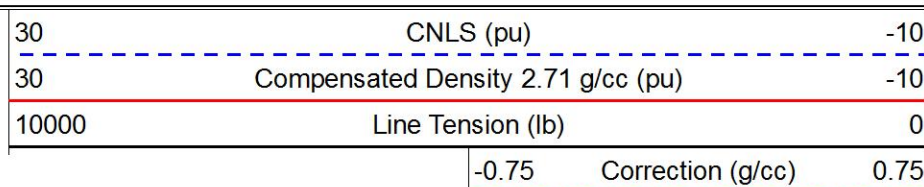
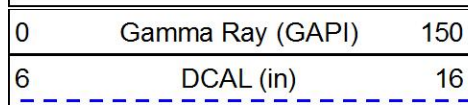
4000



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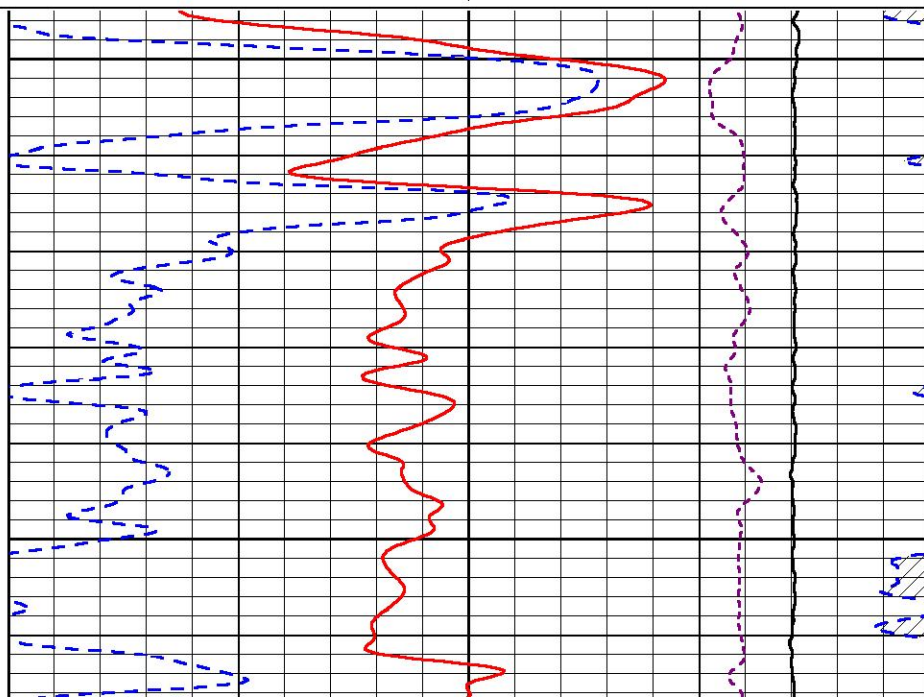
REPEAT SECTION

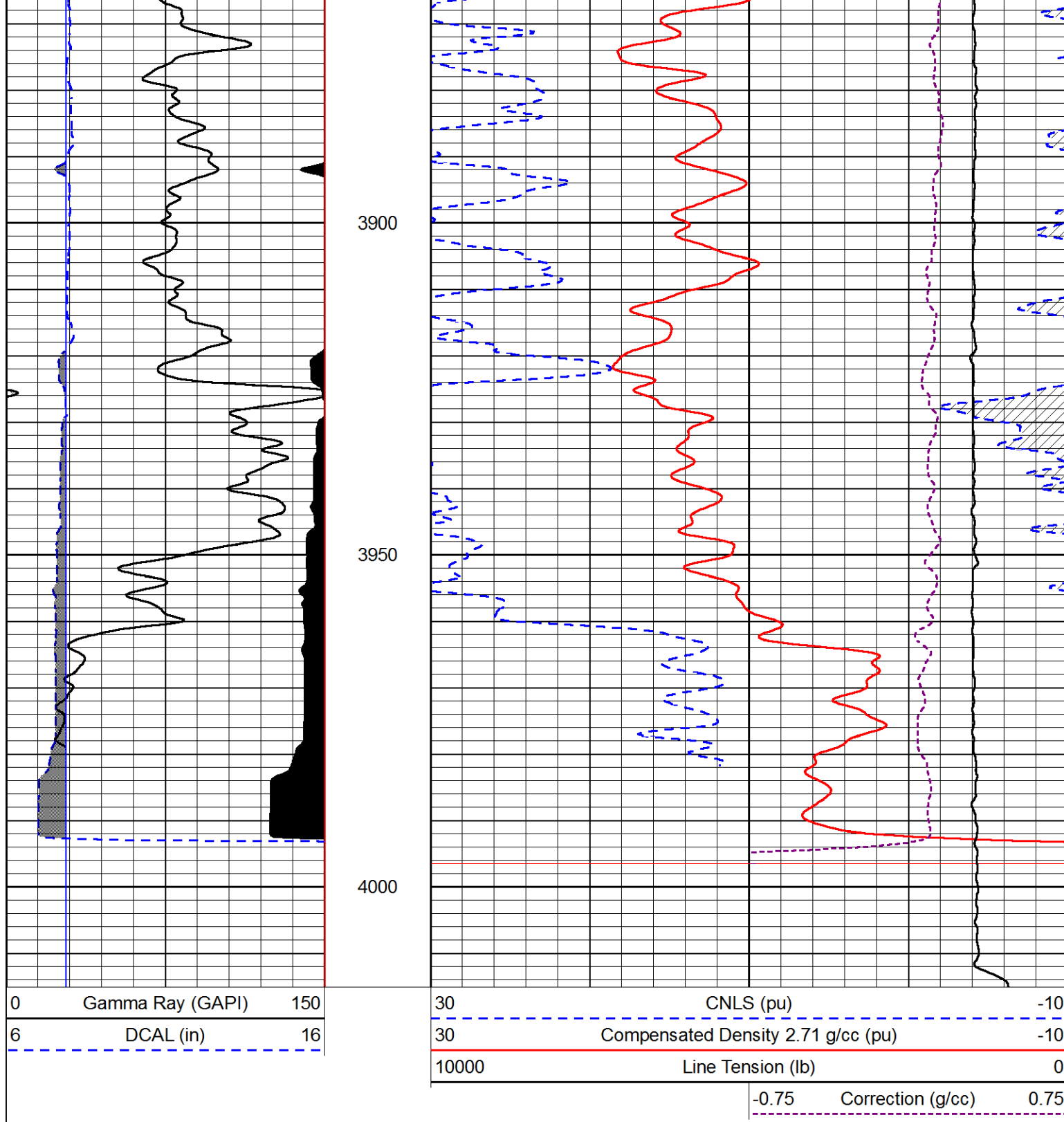
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Dataset Pathname STKML/pass2.2
Presentation Format cndlspec
Dataset Creation Tue Jun 20 21:31:28 2017
Charted by Depth in Feet scaled 1:240



3800

3850





Calibration Report

Database File cobalt_evelyn a_1-27.db
 Dataset Pathname STKML/pass3.5
 Dataset Creation Tue Jun 20 21:22:46 2017

Dual Induction Calibration Report

Serial-Model: PSI 91-M&W
 Calibration Performed: Sat Jun 17 12:42:37 2017

Readings

References

Results

Loop: Air Loop Air Loop Gain Offset

Loop:	Al	Loop	Al	Loop	Gain	Offset	
Deep	166.796	835.089	0.000	255.800	mmho/m	0.420	-31.500
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-31.000
Microlog Calibration Report							
Serial-Model: Performed:			PSI-01-PSIML Sat Jun 17 12:42:28 2017				
	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	32500.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	27000.0000	-0.3000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.1500
Compensated Density Calibration Report							
Serial-Model: Source / Verifier: Master Calibration Performed:			90-1031-M&W 16955B / 2ci Sat Jun 17 12:42:56 2017				
Master Calibration							
	Density		Far Detector		Near Detector		
Magnesium	1.755	g/cc	5174.18	6425.27	cps		
Aluminum	2.665	g/cc	963.17	4037.42	cps		
Spine Angle = 74.55			Density/Spine Ratio = 0.522				
	Size		Reading				
Small Ring	8.00	in	1.84				
Large Ring	22.00	in	1.46				
Compensated Neutron Calibration Report							
Serial Number: Tool Model: Calibration Performed:			207-MW M&W Sat Jun 17 10:30:30 2017				
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: Tool Model: Calibration Performed:		89 M&W Sat Jun 17 12:44:49 2017					
Calibrator Value:		1.0	GAPI				
Background Reading:		0.0	cps				
Calibrator Reading:		1.0	cps				
Sensitivity:		0.6000	GAPI/cps				



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State	KANSAS