



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company **JOHN O. FARMER, INC.**

Well **LANG #3**

Field **POLIFKA**

County **ELLIS** State **KANSAS**

Location: API #: 15-051-26888-00-00

1880' FNL & 330' FEL

Other Services
DIL/MEL

SEC 6 TWP 13S RGE 17W

Permanent Datum **GROUND LEVEL** Elevation **2062'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 2070'
D.F. N/A
G.L. 2062'

Company **JOHN O. FARMER, INC.**

Well **LANG #3**

Field **POLIFKA**

County **ELLIS**

State **KANSAS**

Date **9/6/2017**

Run Number **ONE**

Type Log **CNL/CDL**

Depth Driller **3690'**

Depth Logger **3689'**

Bottom Logged Interval **3660'**

Top Logged Interval **3000'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **11000**

Density **9.1**

Level **FULL**

Max. Rec. Temp. F **113**

Operating Rig Time **3 HOURS**

Equipment -- Location **91 HAYS**

Recorded By **D. SCHMIDT**

Witnessed By **AUSTIN KLAUS**

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	220'	8.625"	23#	0'	220'
TWO	7.875"	220'	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.

HAYS, (I-70 & TOULON)
NORTH TO FEEDLOT RD, 1/2 NORTH,
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

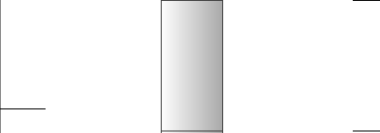
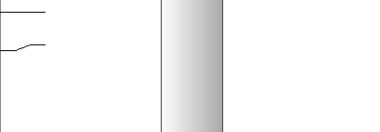
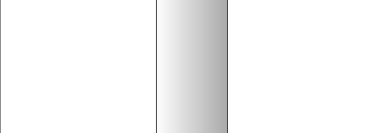
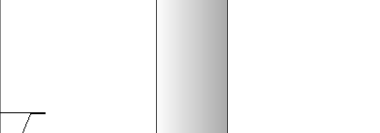
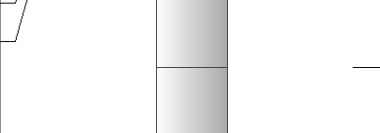
Engineer: **D. SCHMIDT**
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: **AUSTIN KLAUS**
Secondary Witness:
Secondary Witness:
Secondary Witness:

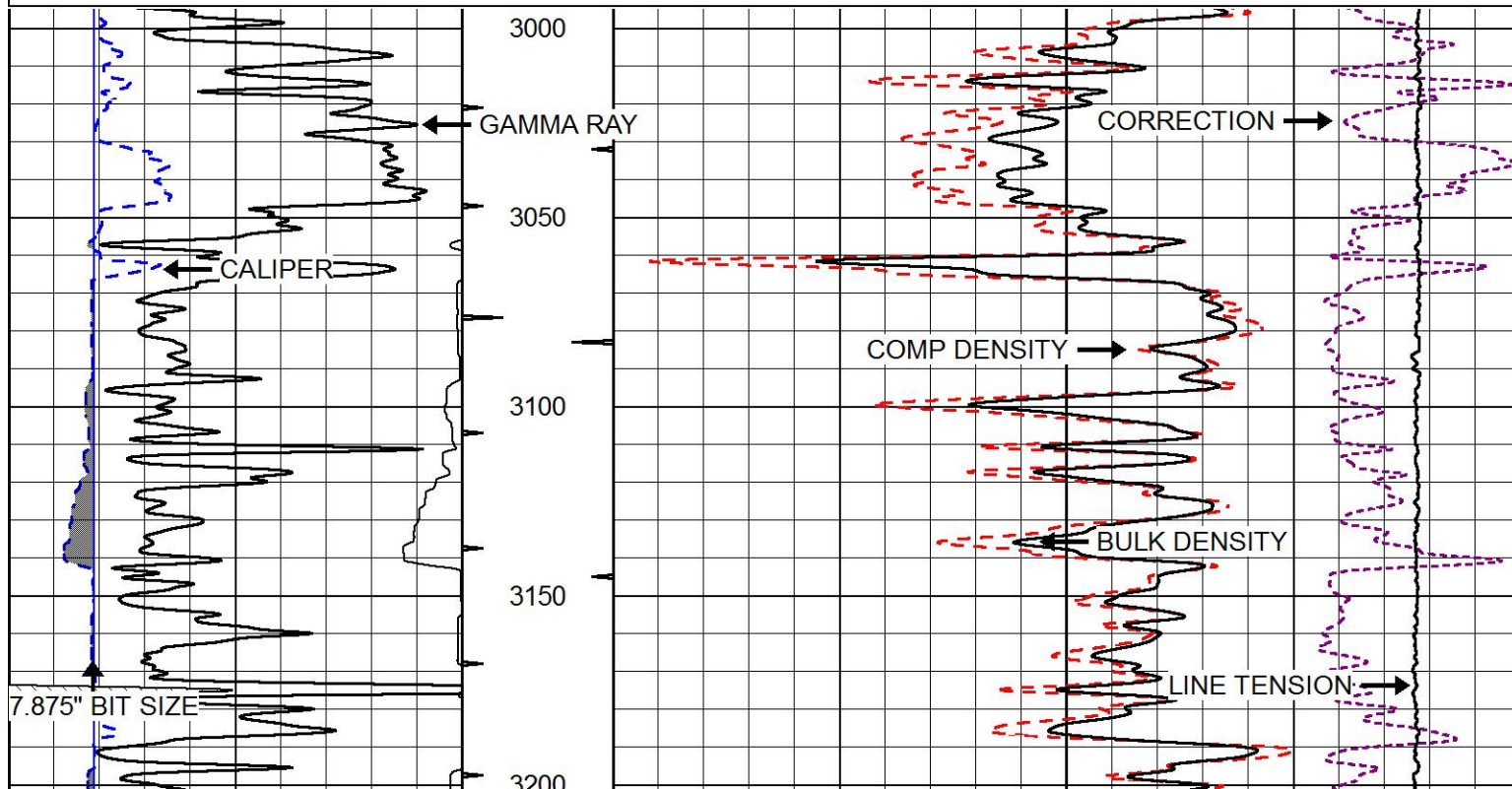
Top - Bottom

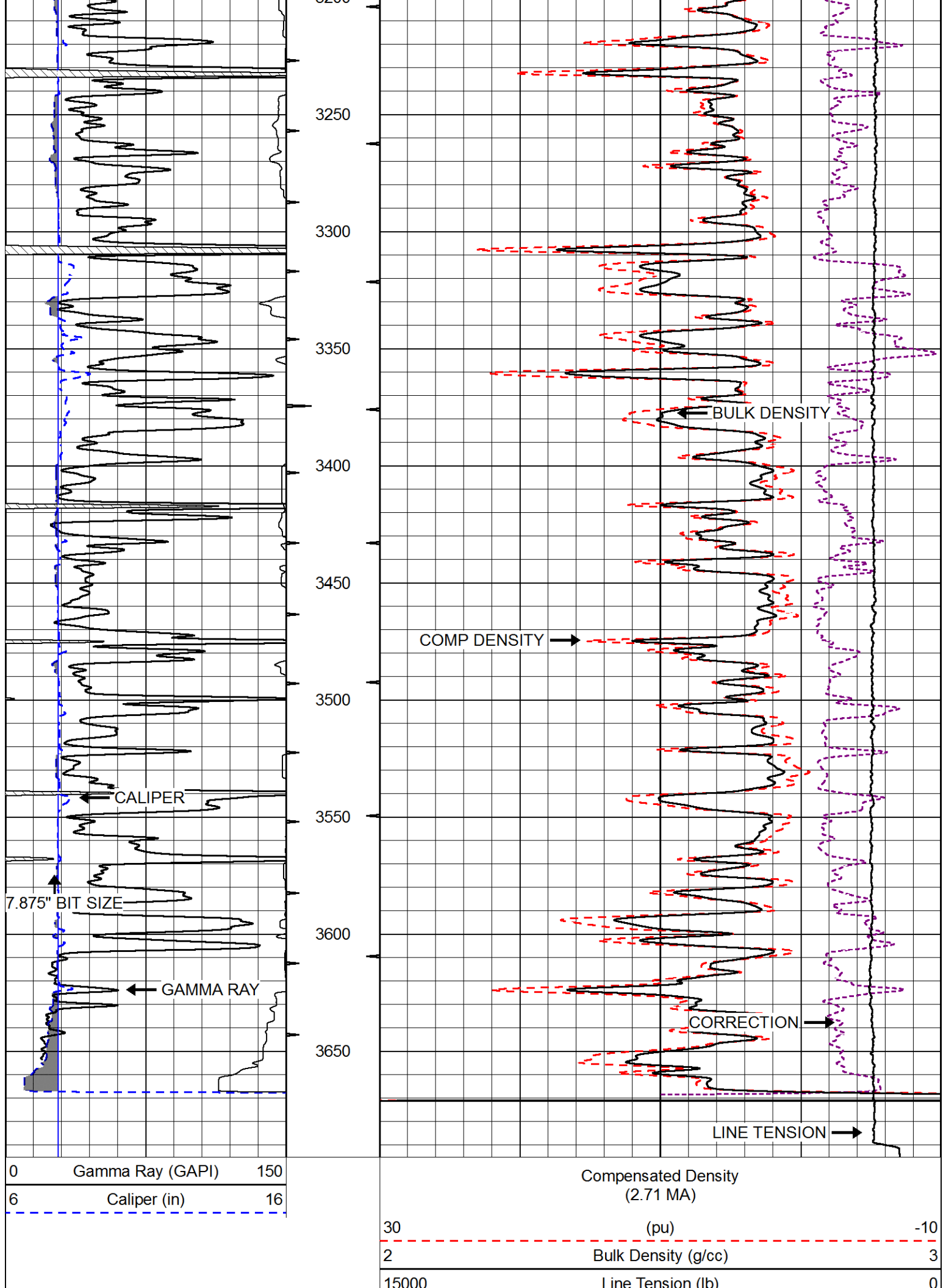
M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	30	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	3689	113	7.875

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: john o farmer_lang 3.db: field/well/STKML/pass3.4 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

		MAIN PASS			
Database File	john o farmer_lang 3.db				
Dataset Pathname	STKML/pass3.4				
Presentation Format	cdl				
Dataset Creation	Wed Sep 06 20:30:41 2017				
Charted by	Depth in Feet scaled 1:600				
0	Gamma Ray (GAPI)	150			
6	Caliper (in)	16			
			Compensated Density (2.71 MA)		
			30	(pu)	-10
			2	Bulk Density (g/cc)	3
			15000	Line Tension (lb)	0
			-0.25	Correction (g/cc)	0.25



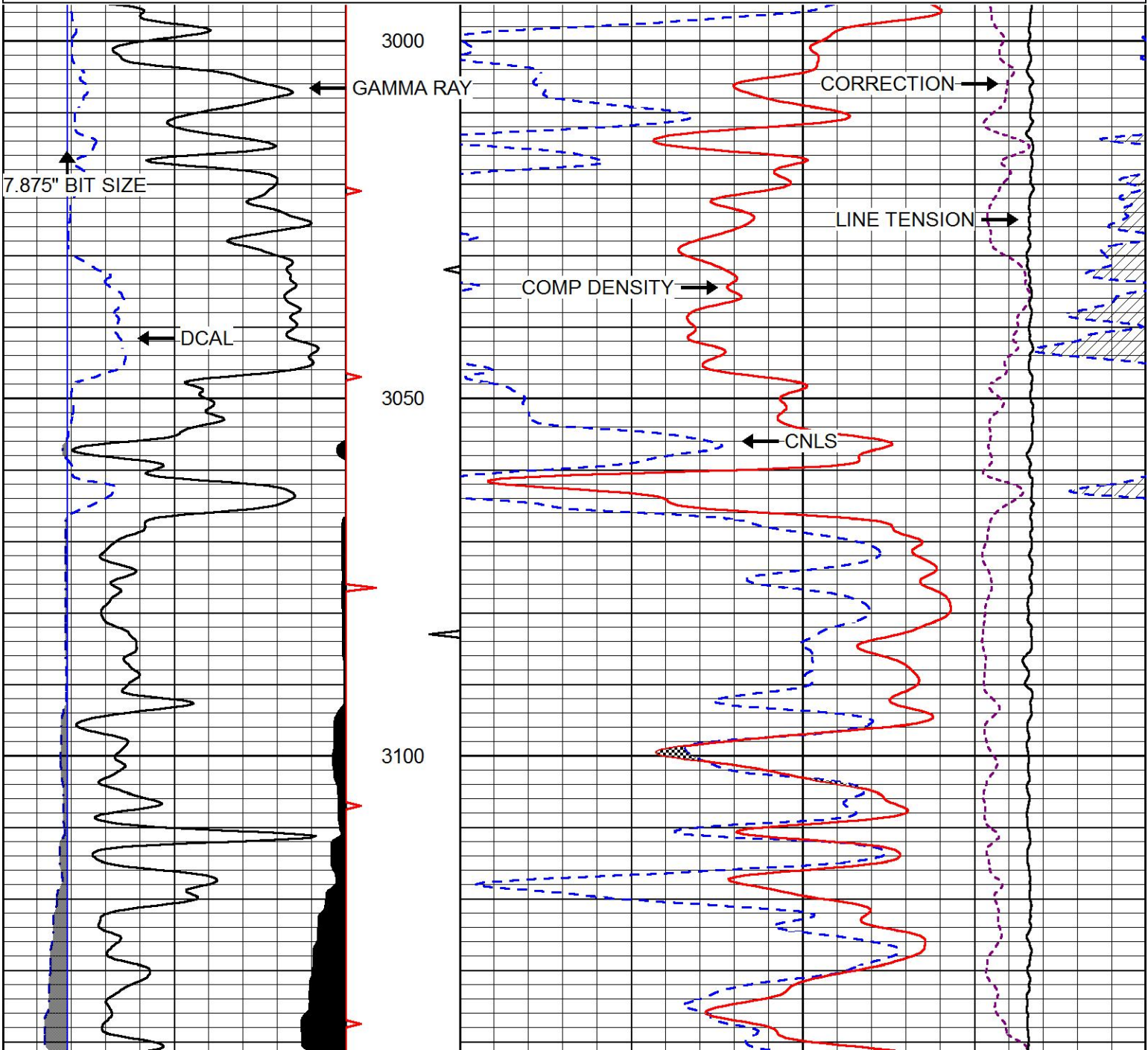


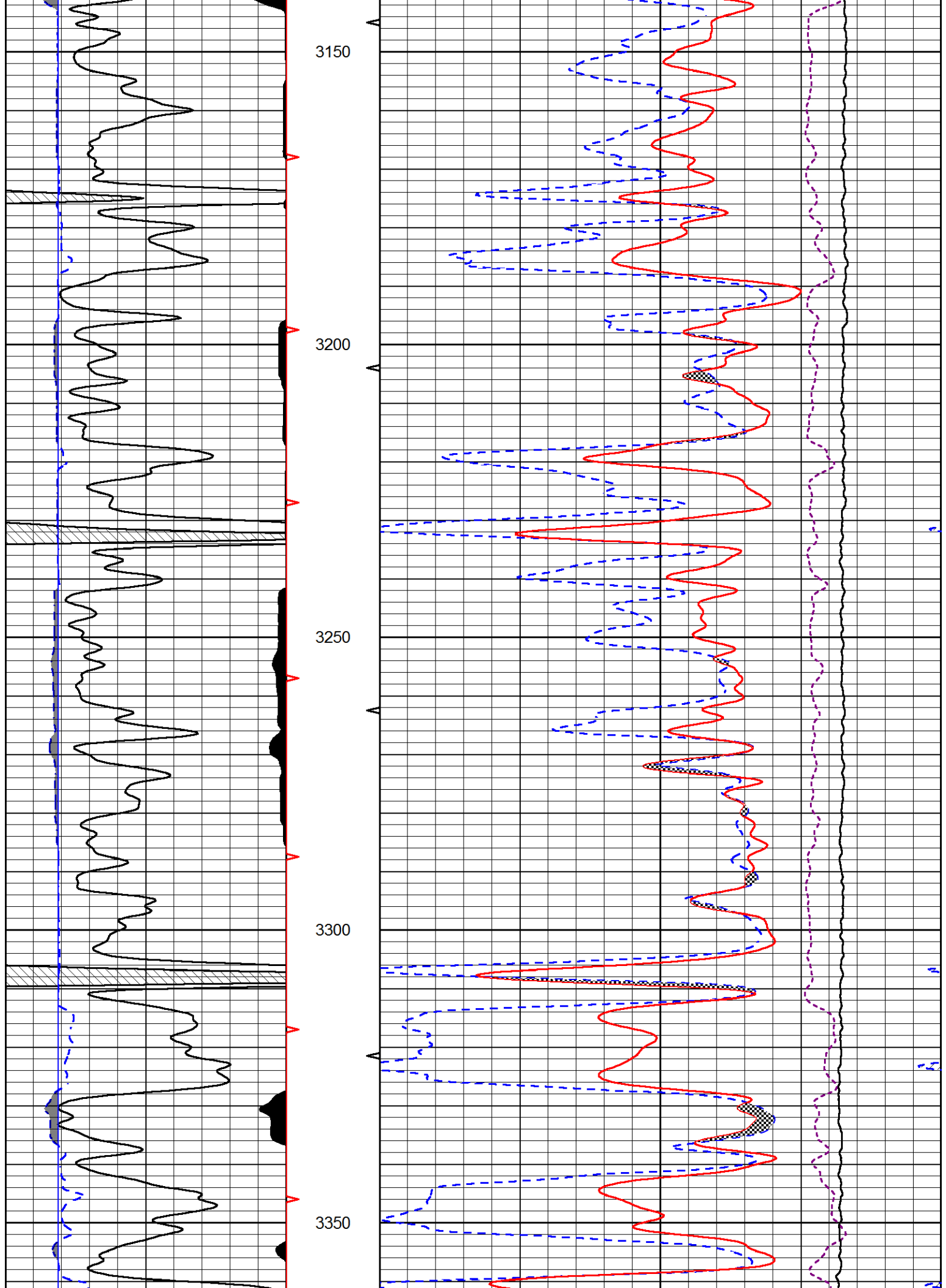


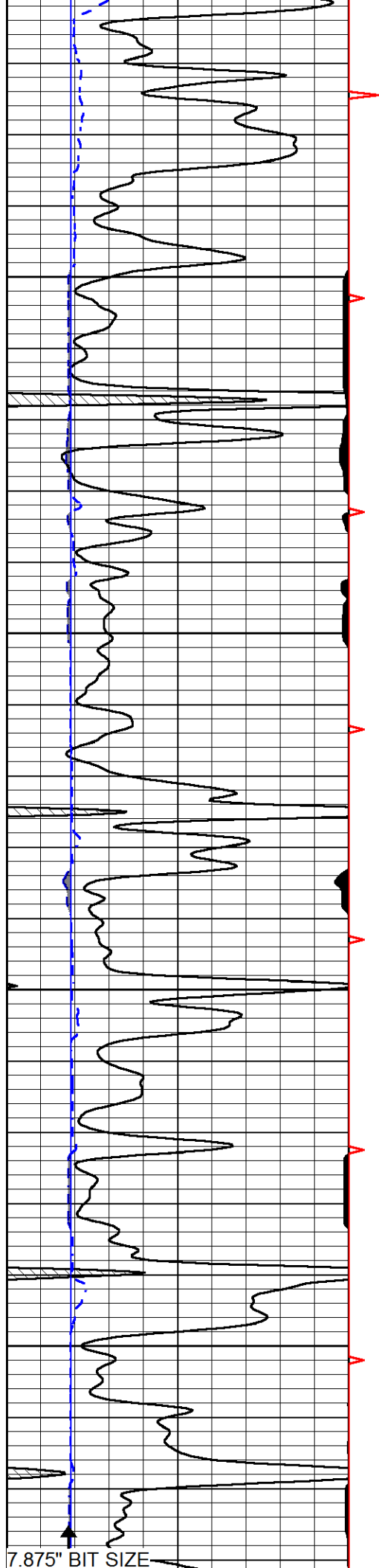
MAIN PASS

Database File	john o farmer_lang 3.db
Dataset Pathname	STKML/pass3.4
Presentation Format	cnlspec
Dataset Creation	Wed Sep 06 20:30:41 2017
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	30	CNLS (pu)		-10
6	DCAL (in)	16	30	Compensated Density 2.71 g/cc (pu)		-10
			10000	Line Tension (lb)		0
				-0.75	Correction (g/cc)	0.75





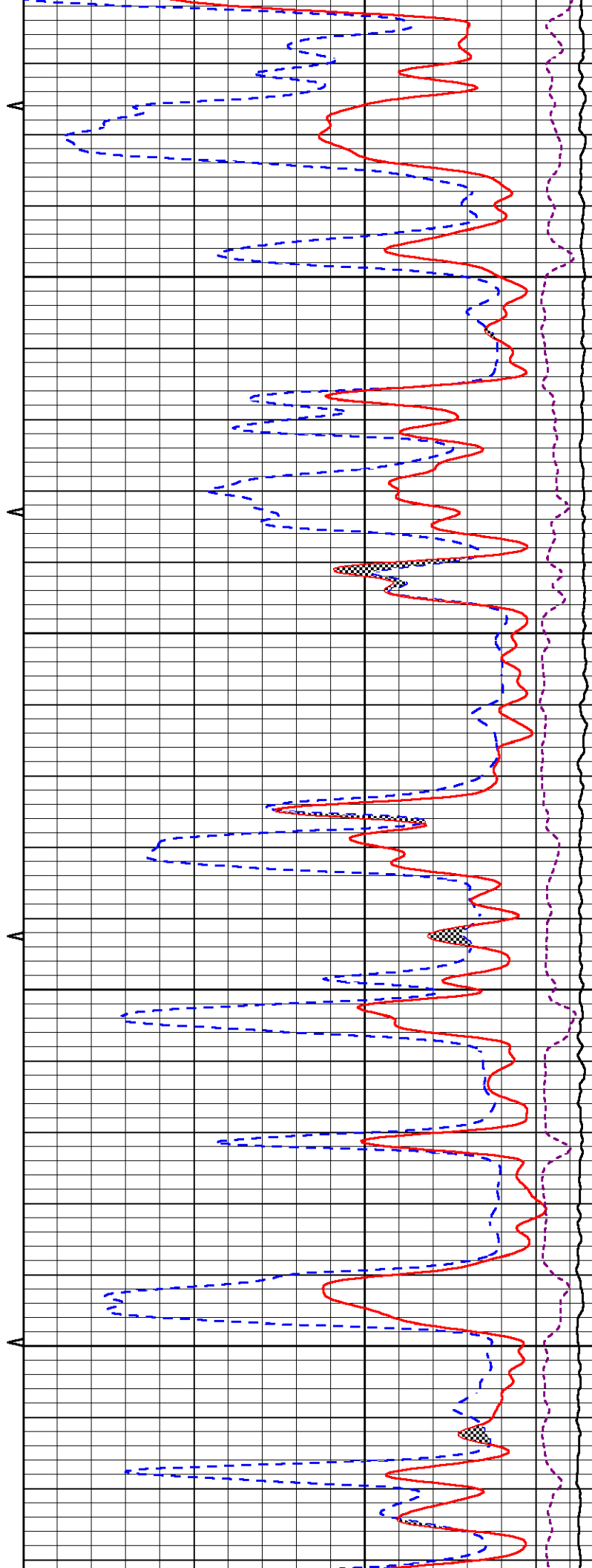


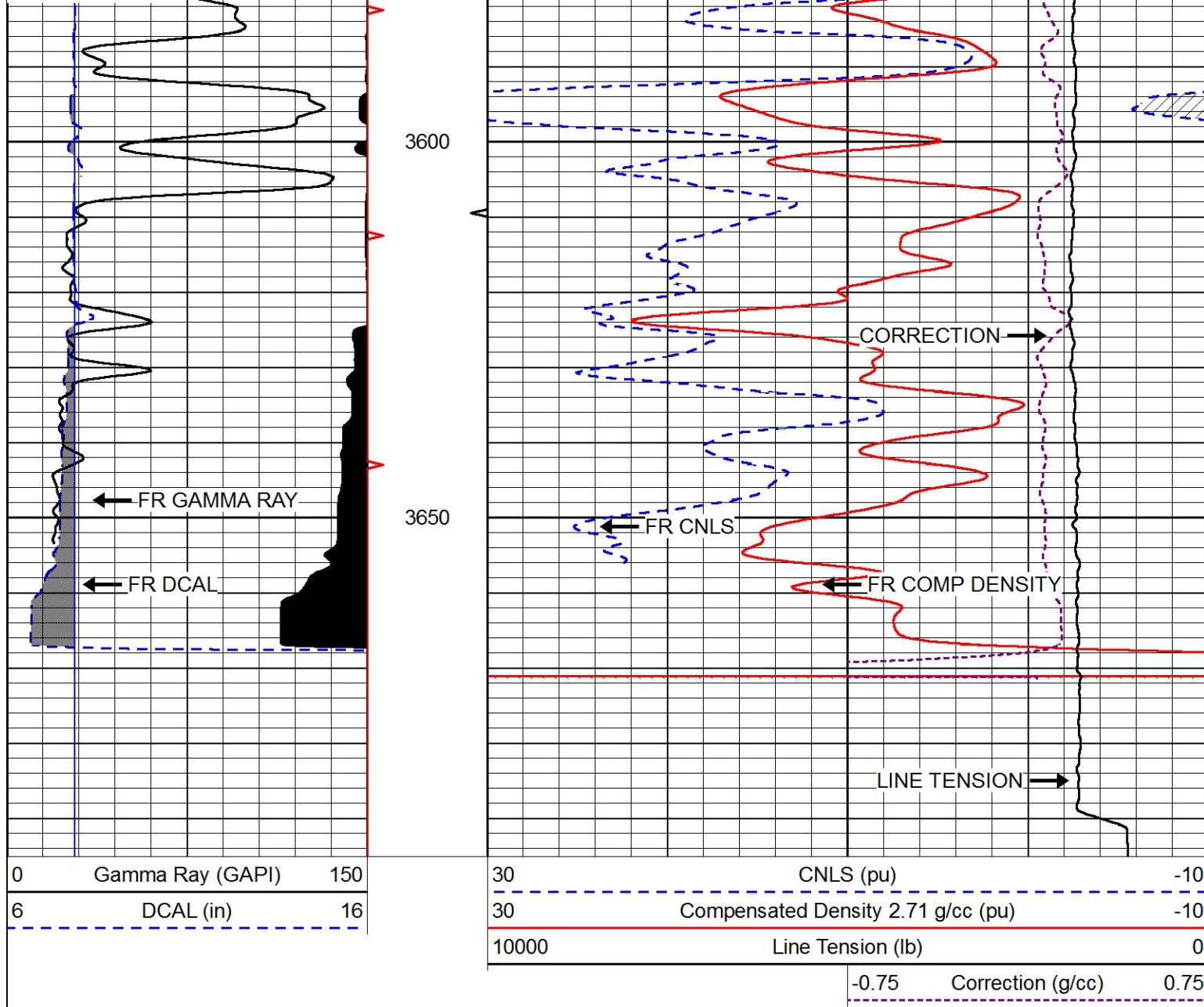
3400

3450

3500

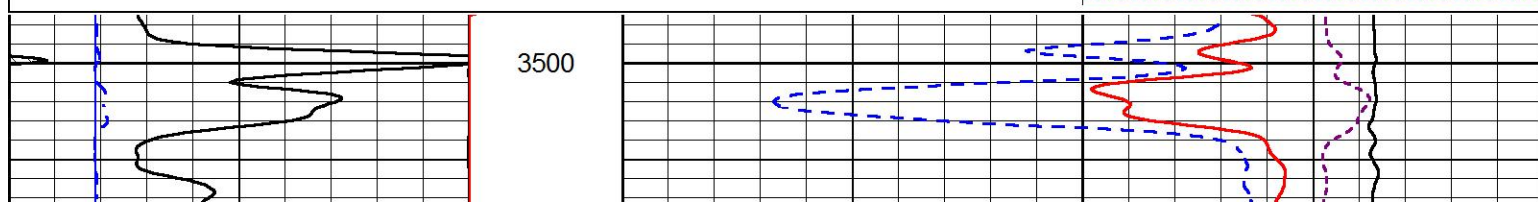
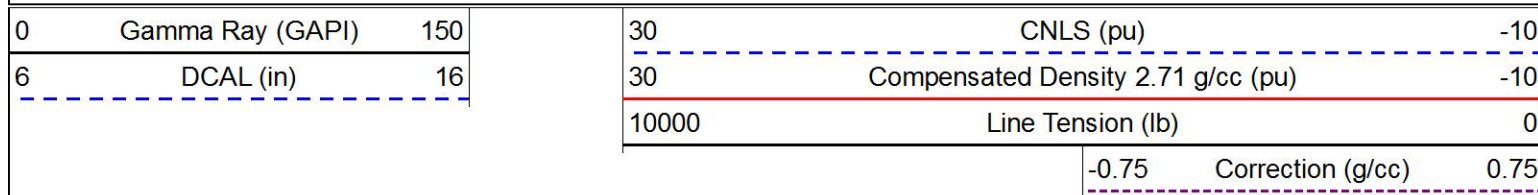
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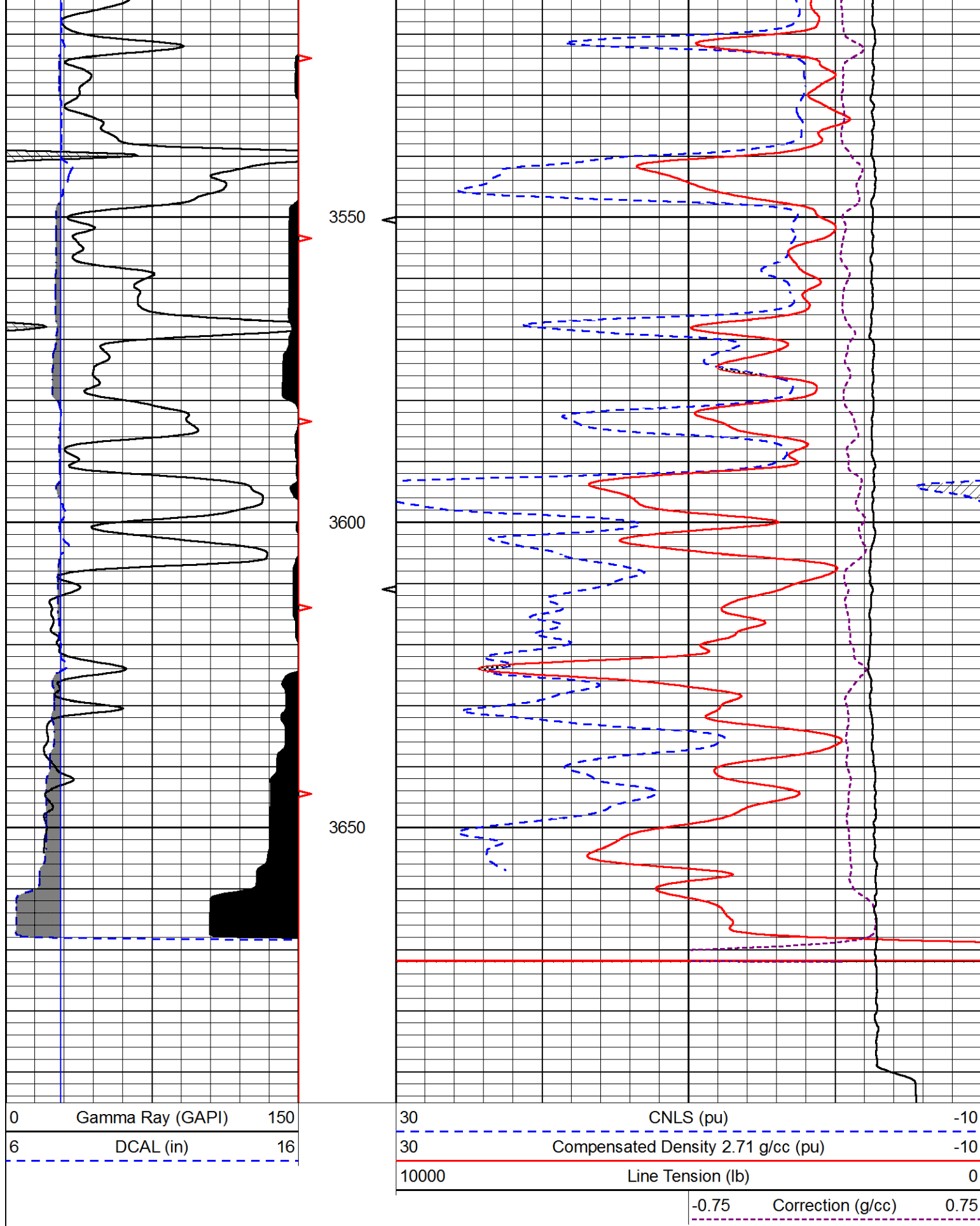




REPEAT SECTION

Database File john o farmer_lang 3.db
 Dataset Pathname STKML/pass2.1
 Presentation Format cndlspec
 Dataset Creation Wed Sep 06 20:37:01 2017
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File john o farmer_lang 3.db
Dataset Pathname STKML/pass3.4
Dataset Creation Wed Sep 06 20:30:41 2017

Dual Induction Calibration Report									
Serial-Model: Calibration Performed:					PSI 91-M&W Wed Sep 06 19:50:36 2017				
ReadingsReferencesResults									
Loop:	Air	Loop		Air	Loop		Gain	Offset	
Deep	166.796	835.089		0.000	255.800	mmho/m	0.430	-32.000	
Medium	142.009	1348.560		0.000	255.800	mmho/m	0.360	-30.000	
Microlog Calibration Report									
Serial-Model: Performed:					PSI-01-PSIML Wed Sep 06 19:50:56 2017				
ReadingsReferencesResults									
	Zero	Cal		Zero	Cal		m	b	
Normal	0.0000	1.0000		0.0000	1.0000	Ohm-m	20000.0000	-0.8000	
Inverse	0.0000	1.0000		0.0000	1.0000	Ohm-m	23000.0000	-0.3000	
Caliper	1.0001	1.1397		6.5000	18.5000	in	100.0000	-97.2500	
Compensated Density Calibration Report									
Serial-Model: Source / Verifier: Master Calibration Performed:					90-1031-M&W 16955B / 2ci Wed Sep 06 19:51:03 2017				
Master Calibration									
	Density			Far Detector		Near Detector			
Magnesium	1.755	g/cc		4903.44		6153.79	cps		
Aluminum	2.685	g/cc		934.50		4021.31	cps		
Spine Angle = 75.61			Density/Spine Ratio = 0.543						
	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 WED SEP 6 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:		89							
Tool Model:		M&W							

Calibration Performed:	Wed Sep 06 19:51:14 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