



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **JOHN O FARMER, INC.**
Well **MCALLISTER UNIT #1**
Field **WALDO NORTHWEST**
County **RUSSELL** State **KANSAS**

Location: API #: 15-167-24084-00-00

Other Services

125' FNL & 2750' FWL
SEC 17 TWP 12S RGE 13W

Permanent Datum **GROUND LEVEL** Elevation **1757'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 1765'
D.F. N/A
G.L. 1757'

Date 11/12/2018

Run Number	ONE		
Depth Driller	3155'		
Depth Logger	3155'		
Bottom Logged Interval	3154'		
Top Log Interval	200'		
Casing Driller	8.625" @ 221'		
Casing Logger	223'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	6000		
Density / Viscosity	9.0 47		
pH / Fluid Loss	9.5 9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.45 @ 55		
Rmt @ Meas. Temp	.34 @ 55		
Rmc @ Meas. Temp	.61 @ 55		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.23 @ 108		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	108 DEGF		
Equipment Number	108		
Location	HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	JASON ALM		

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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.

RUSSELL KANSAS
SOUTH TO LAND ROAD, NORTH AND EAST TO BEATTY ROAD,
3/4 EAST, SOUTH 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: J. HENRICKSON
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: JASON ALM
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 108	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV -30	degF 27	Off	ft 3155

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	37.48			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73						
LSD DCAL SSD	28.43 28.42 27.93			CDL-M&W (817-947)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83			ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79						
CILD	8.00			DIL-M&W (1987)	18.50	3.50	220.00

CILM

4.70

SP

0.20

Dataset: john_o_farmer_mcallister_unit_1.db: field/well/stack/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in



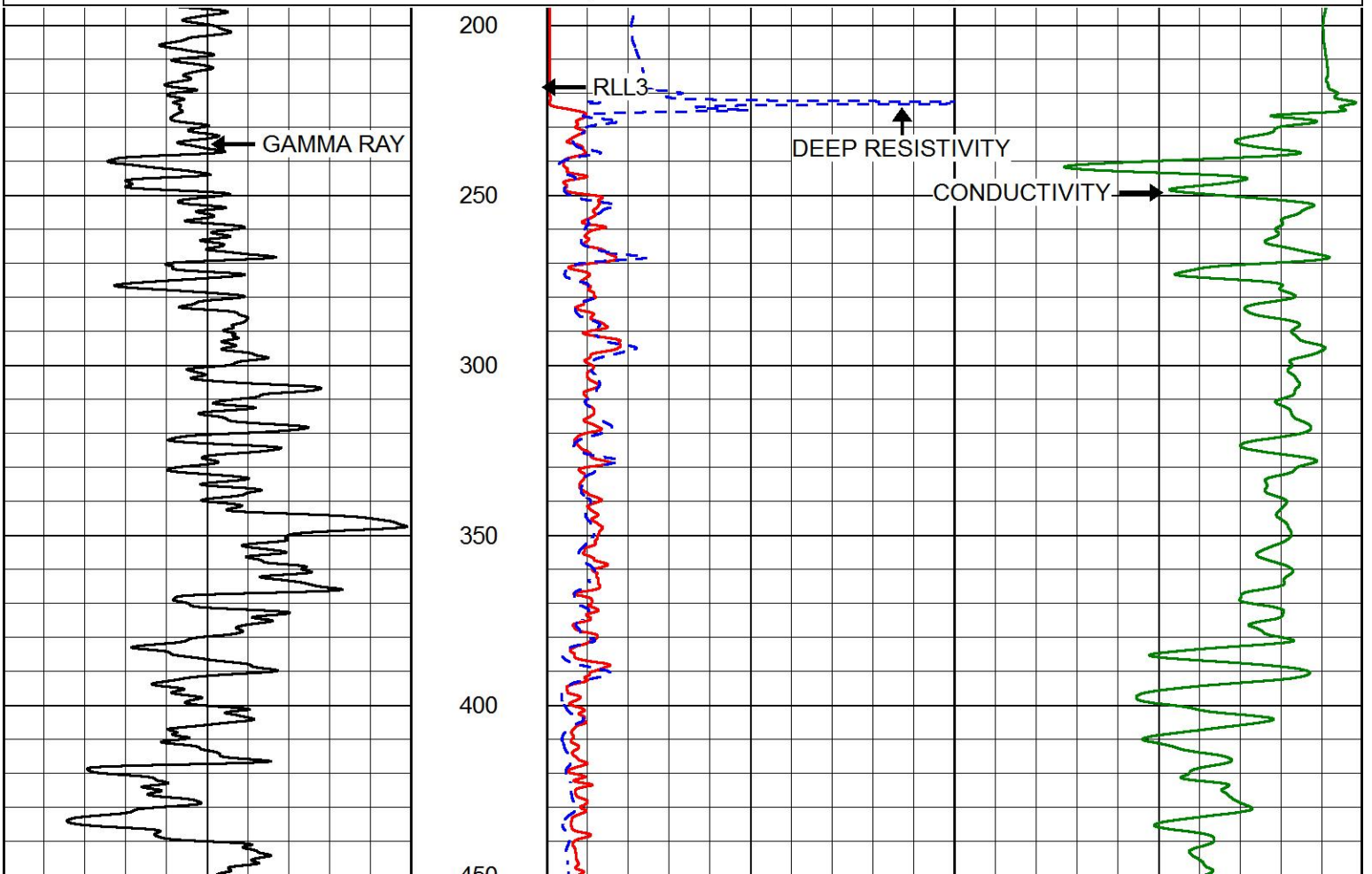
MAIN PASS

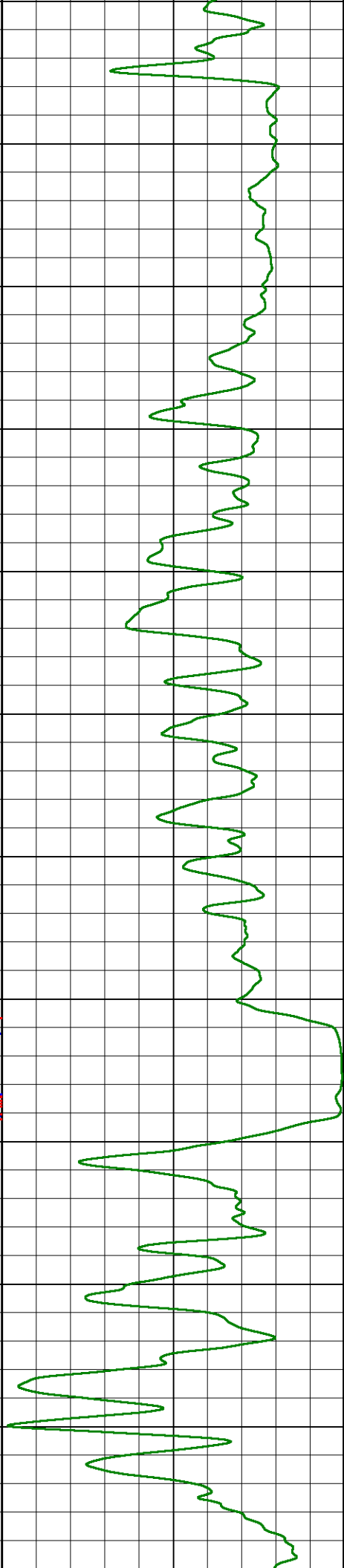
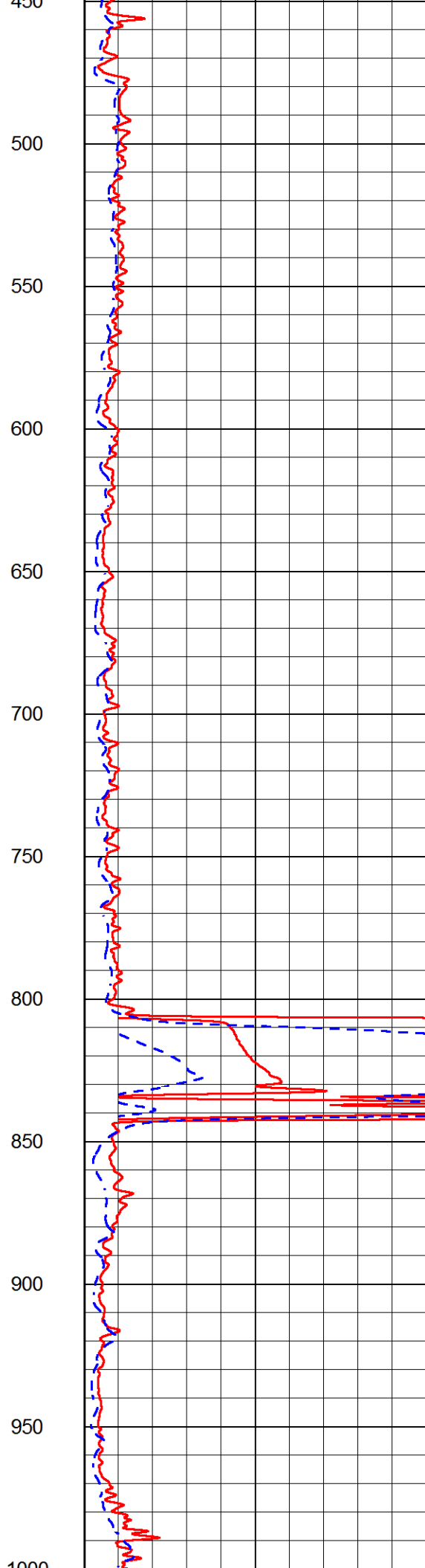
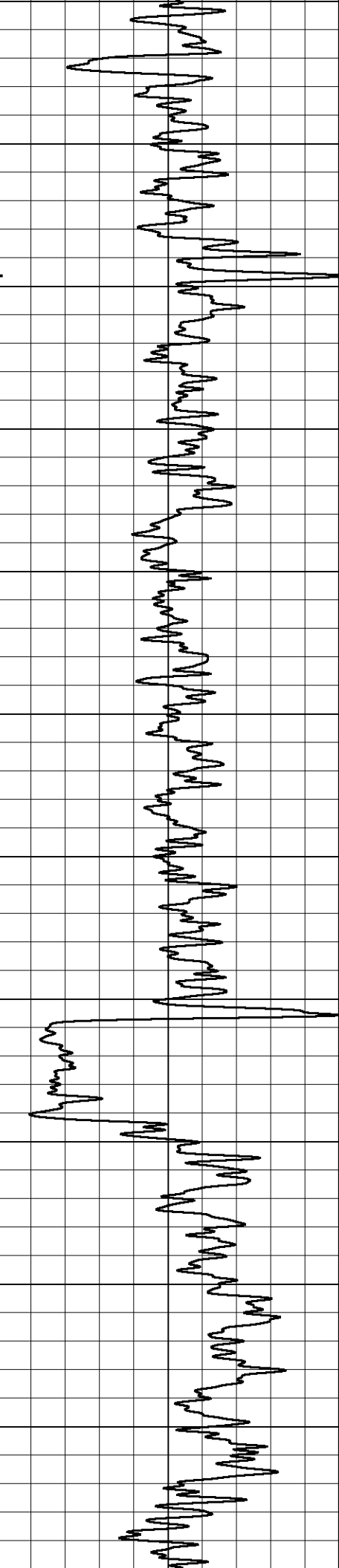
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Dataset Pathname stack/pass3.1
Presentation Format dil2in
Dataset Creation Mon Nov 12 02:56:33 2018
Charted by Depth in Feet scaled 1:600

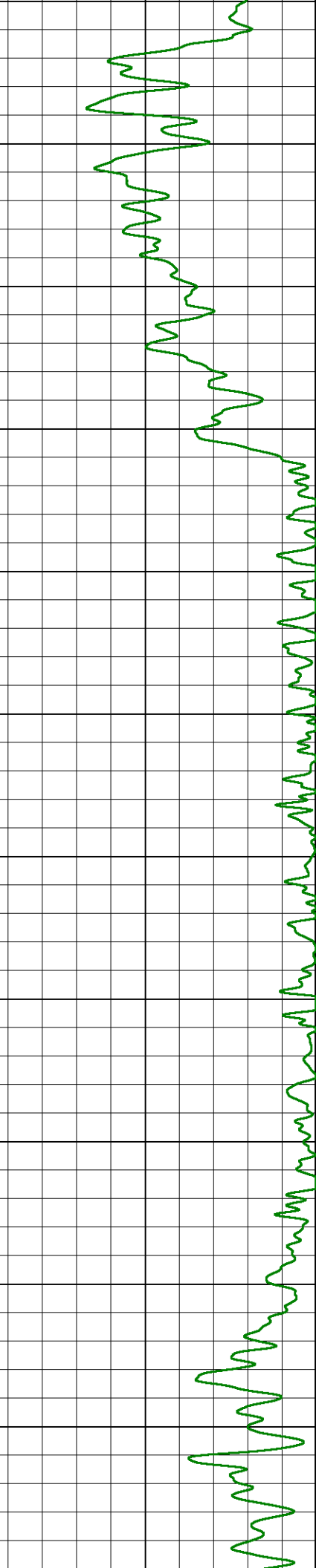
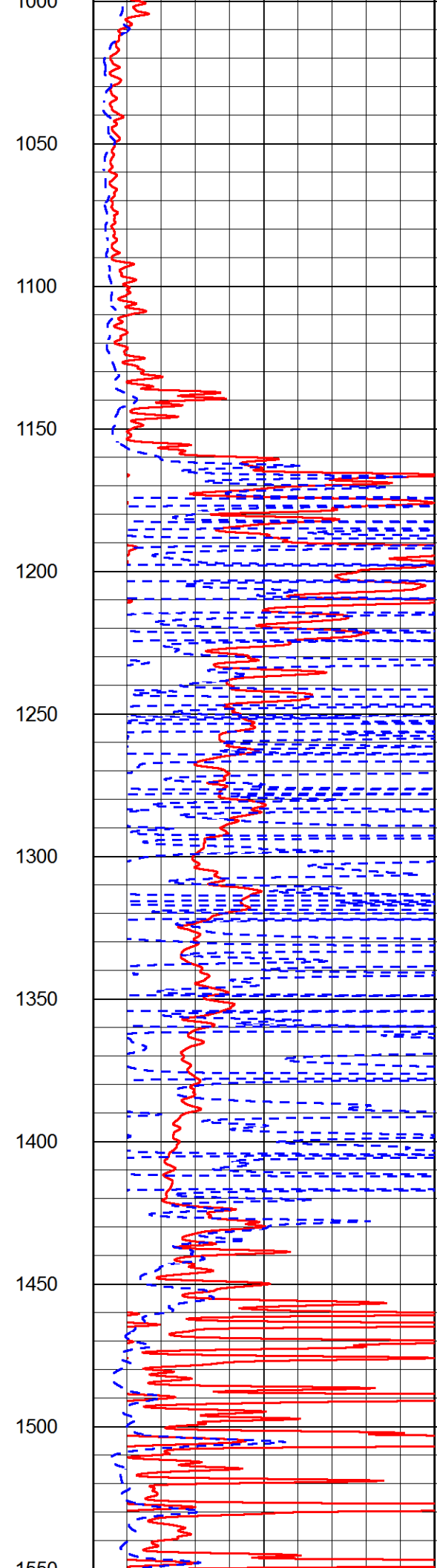
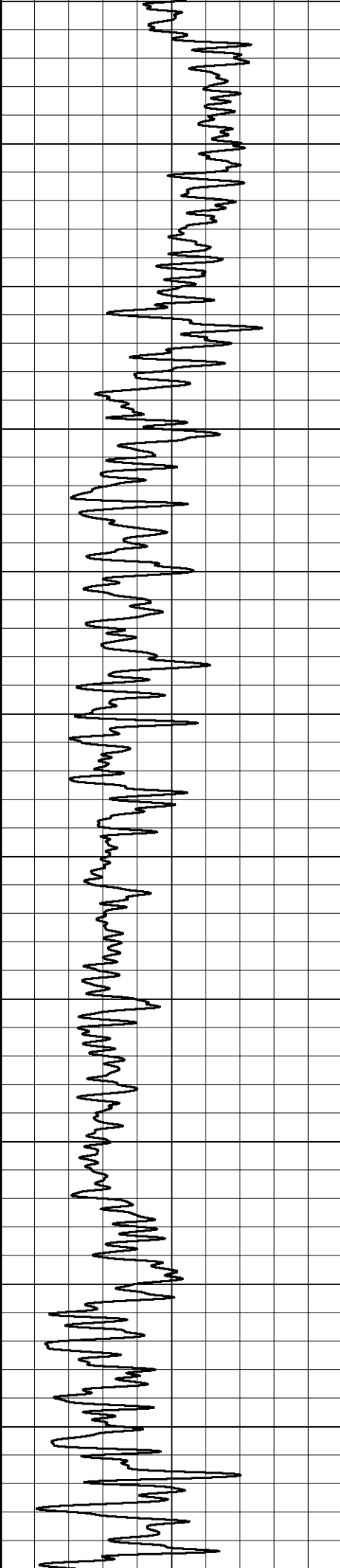
0 GAMMA RAY (GAPI) 150

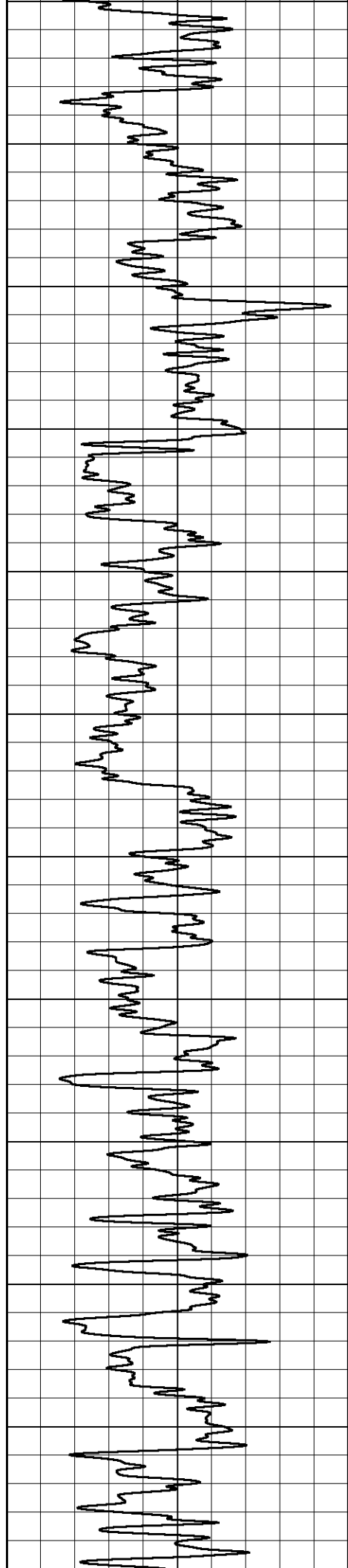
2000 CILD (mmho/m) 0

0	RLL3 (Ohm-m)	50
0	DEEP RESISTIVITY (Ohm-m)	50
50	RLL3 (Ohm-m)	500
50	RILD (Ohm-m)	500

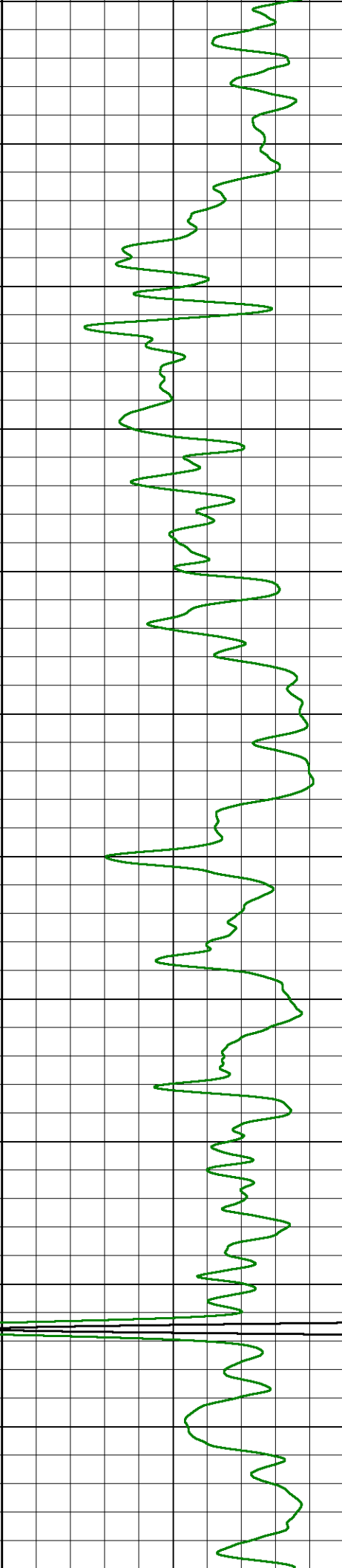
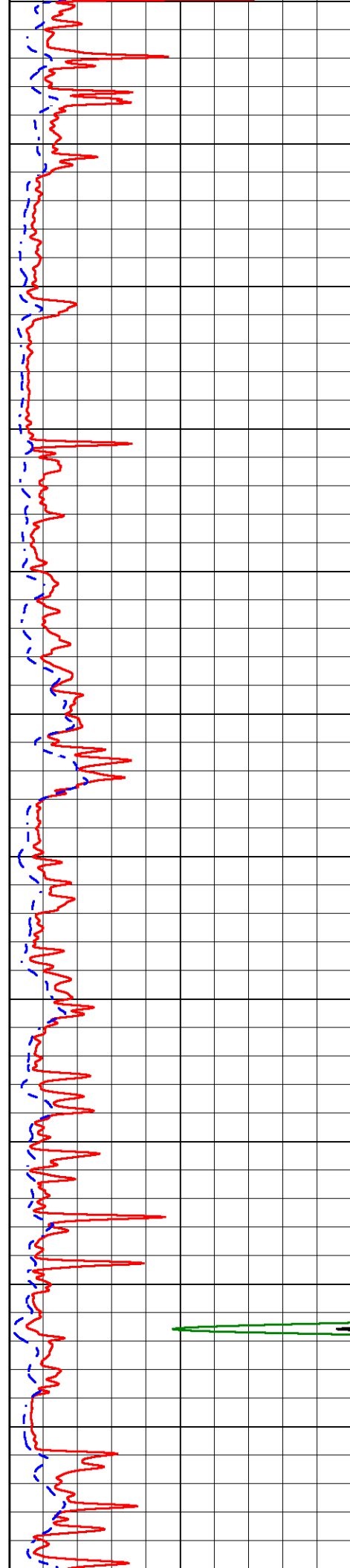


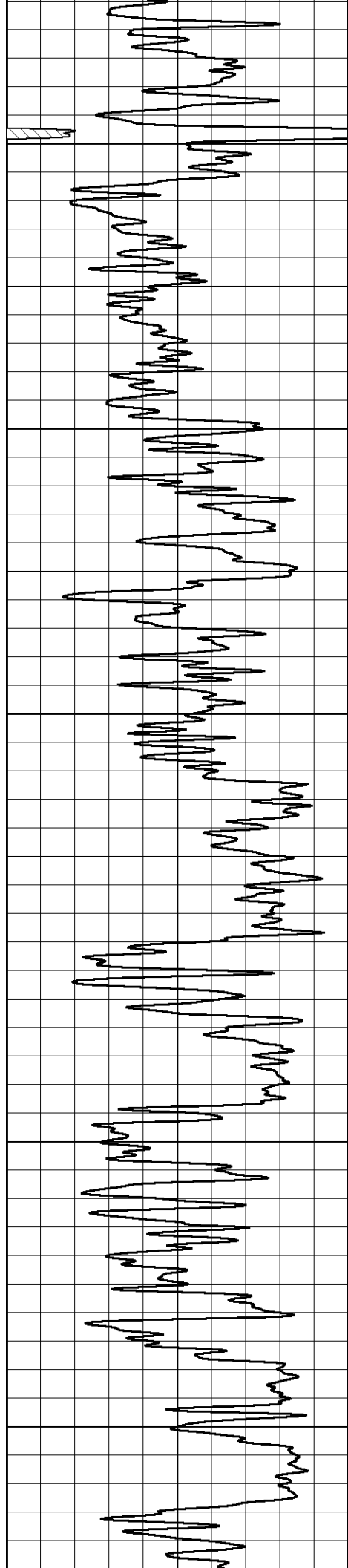




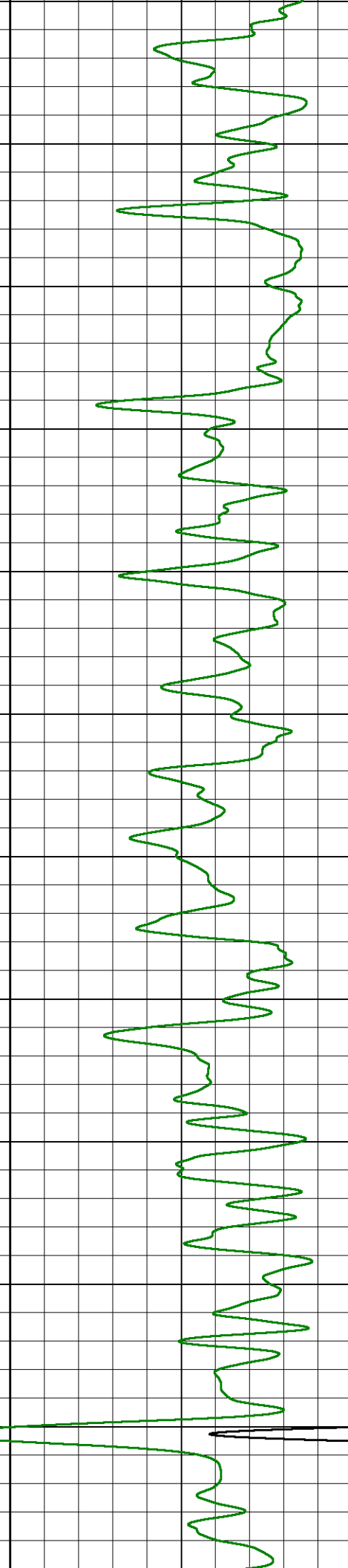
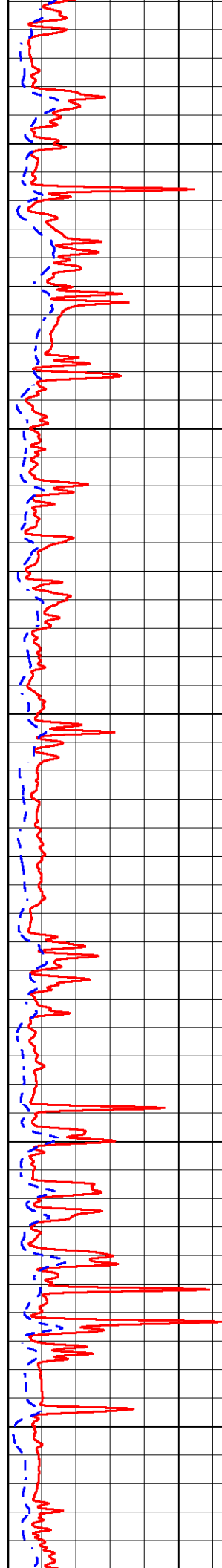


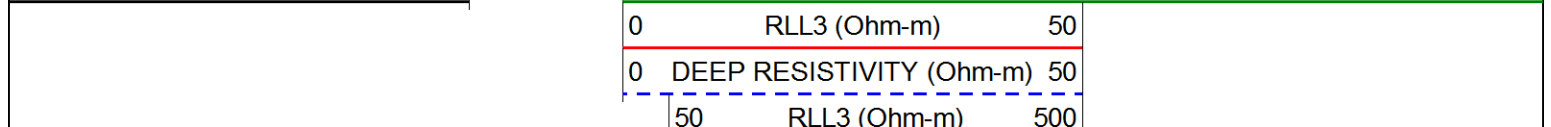
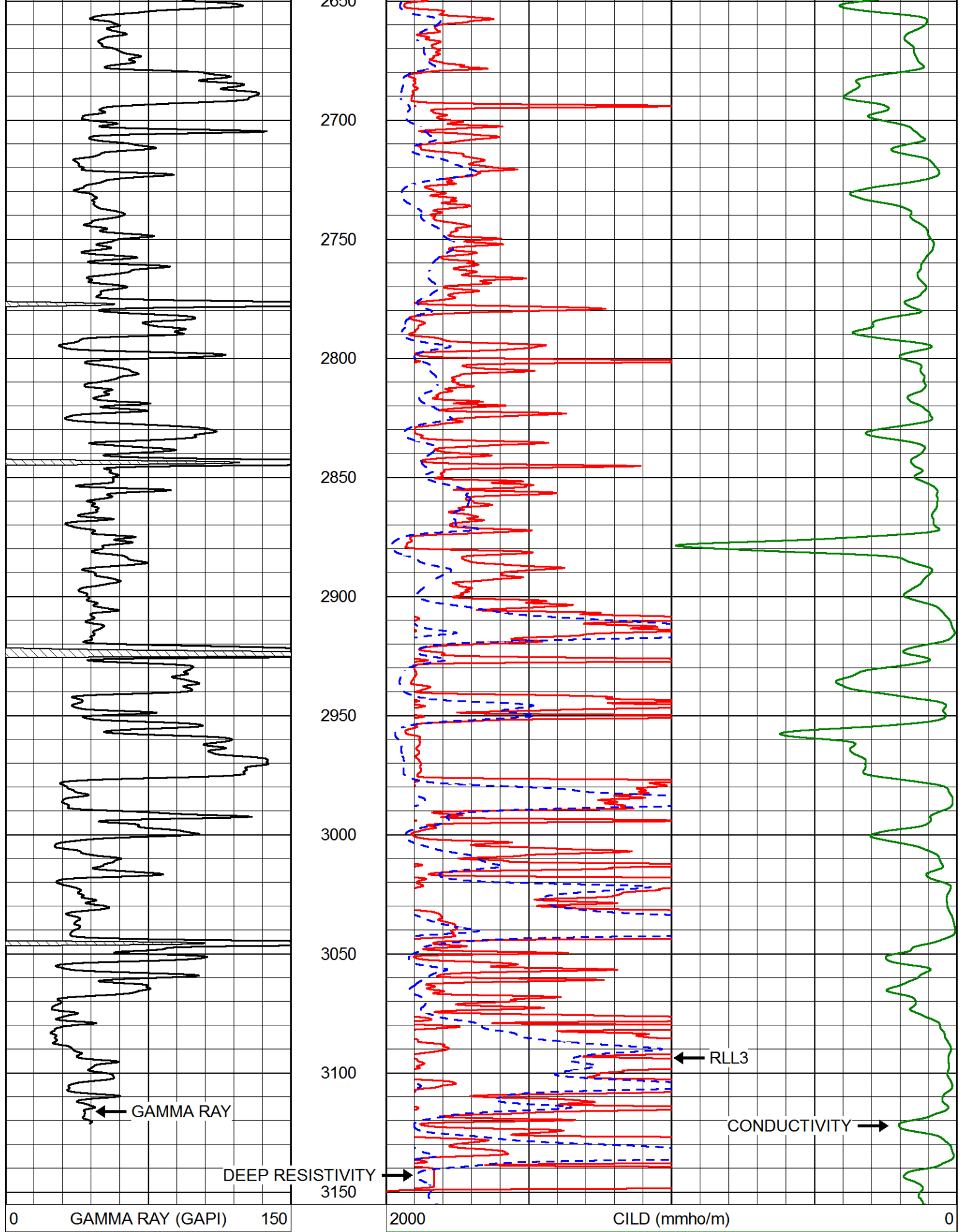
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100





2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600
2650





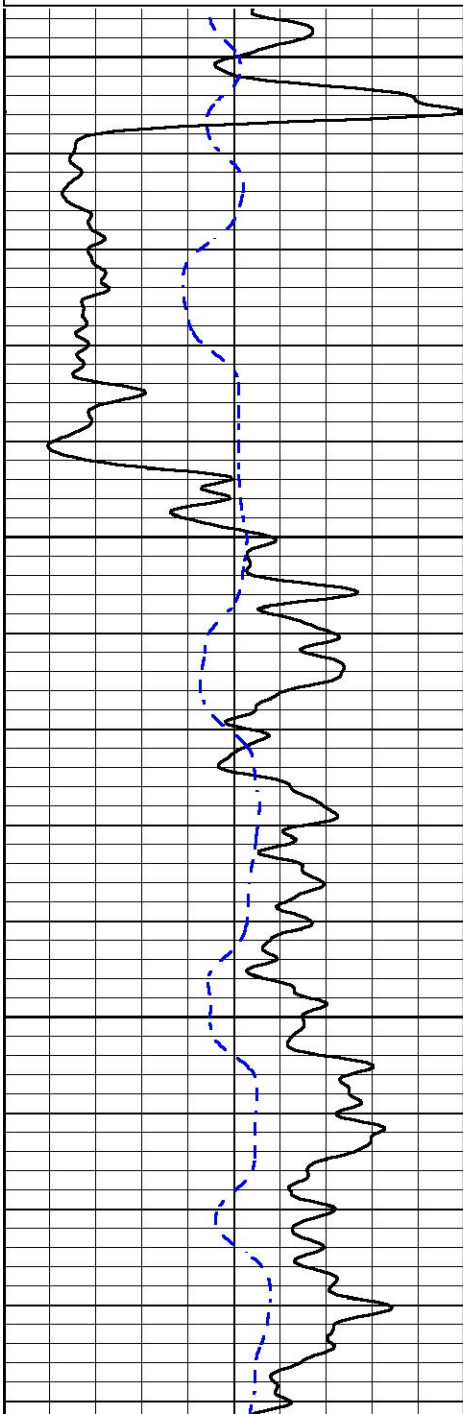


MAIN PASS

Database File john_o_farmer_mcallister_unit_1.db
Dataset Pathname stack/pass3.1
Presentation Format dil
Dataset Creation Mon Nov 12 02:56:33 2018
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

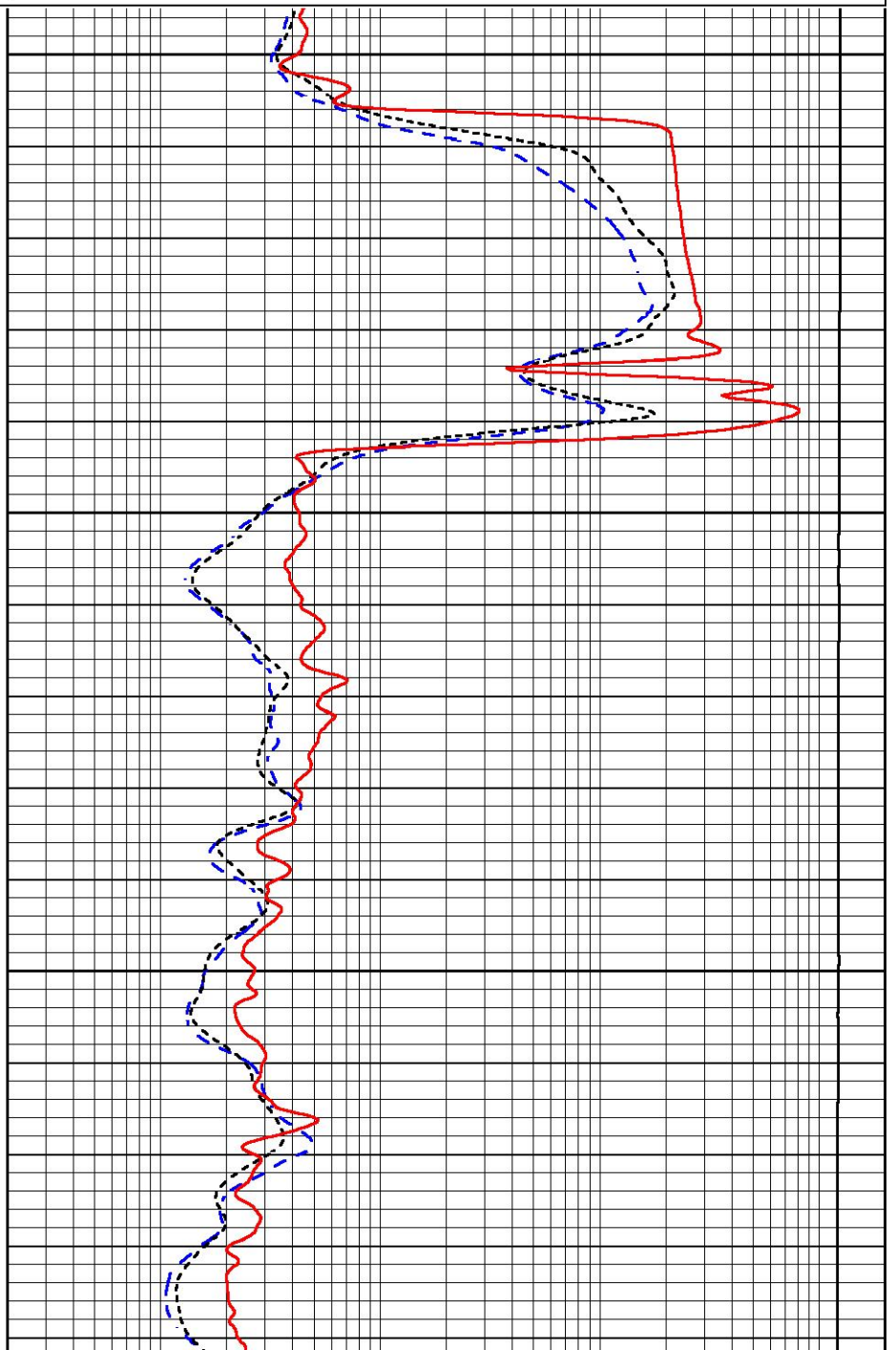
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0

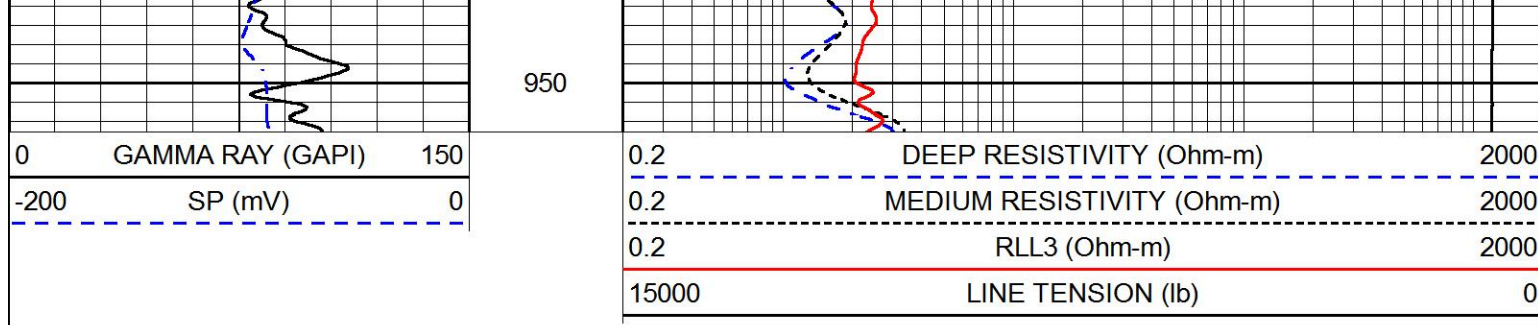


800

850

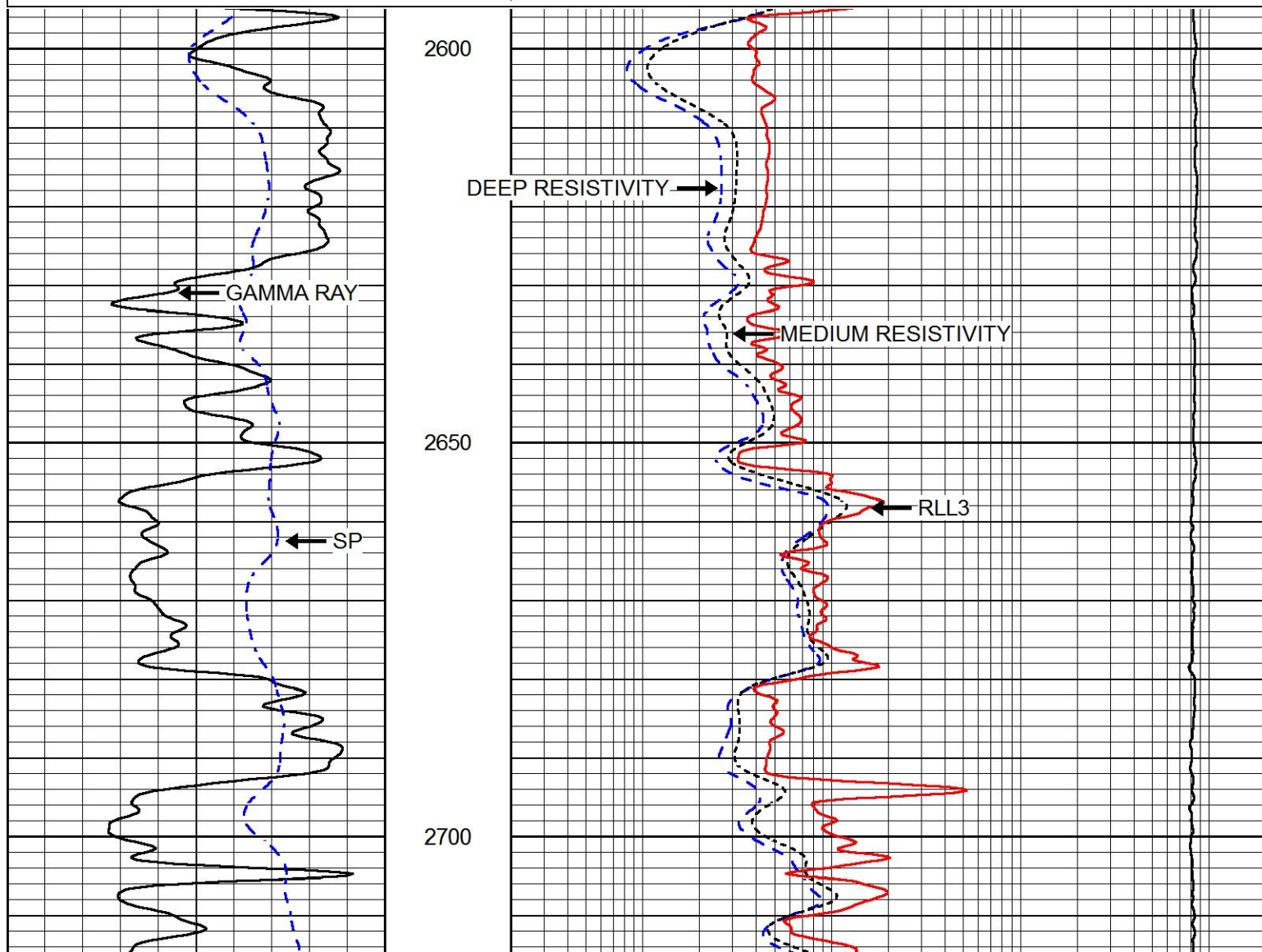
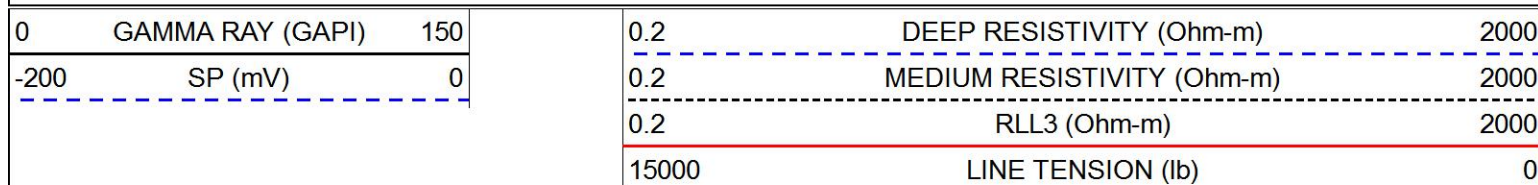
900

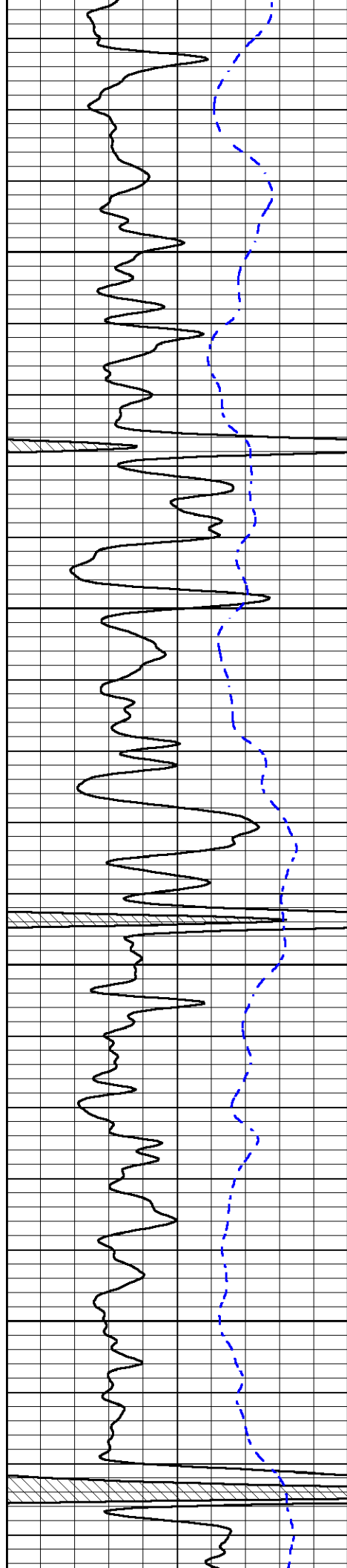




MAIN PASS

Database File john_o_farmer_mcallister_unit_1.db
 Dataset Pathname stack/pass3.1
 Presentation Format dil
 Dataset Creation Mon Nov 12 02:56:33 2018
 Charted by Depth in Feet scaled 1:240



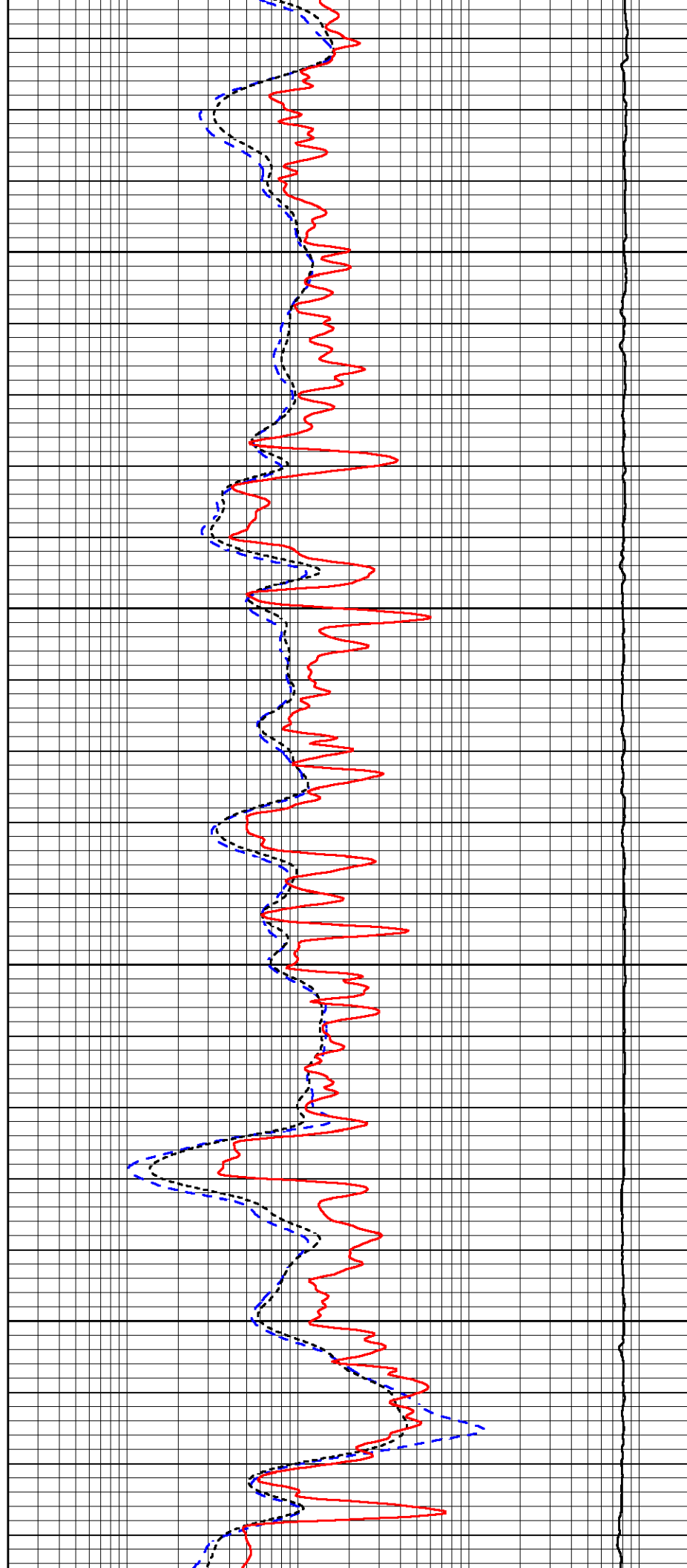


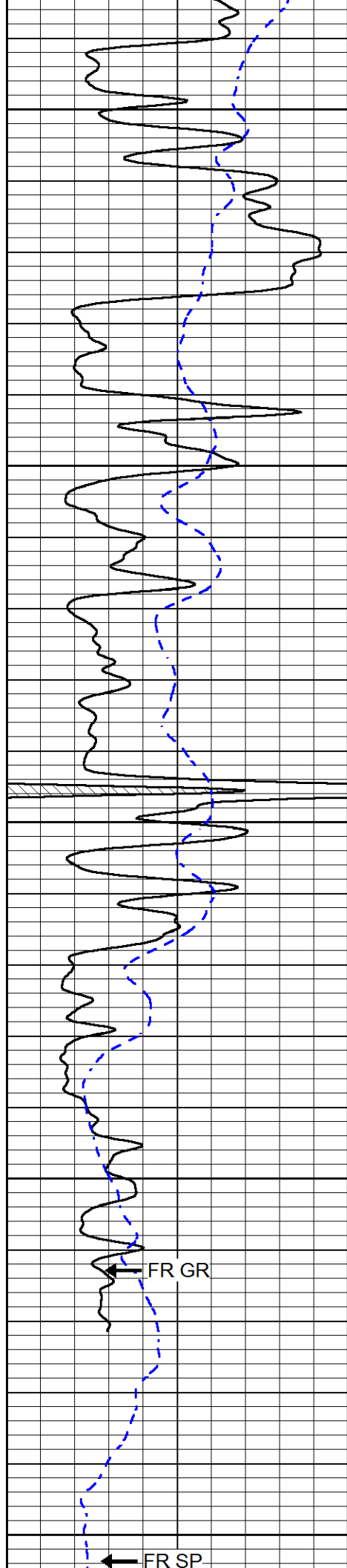
2750

2800

2850

2900





2950

3000

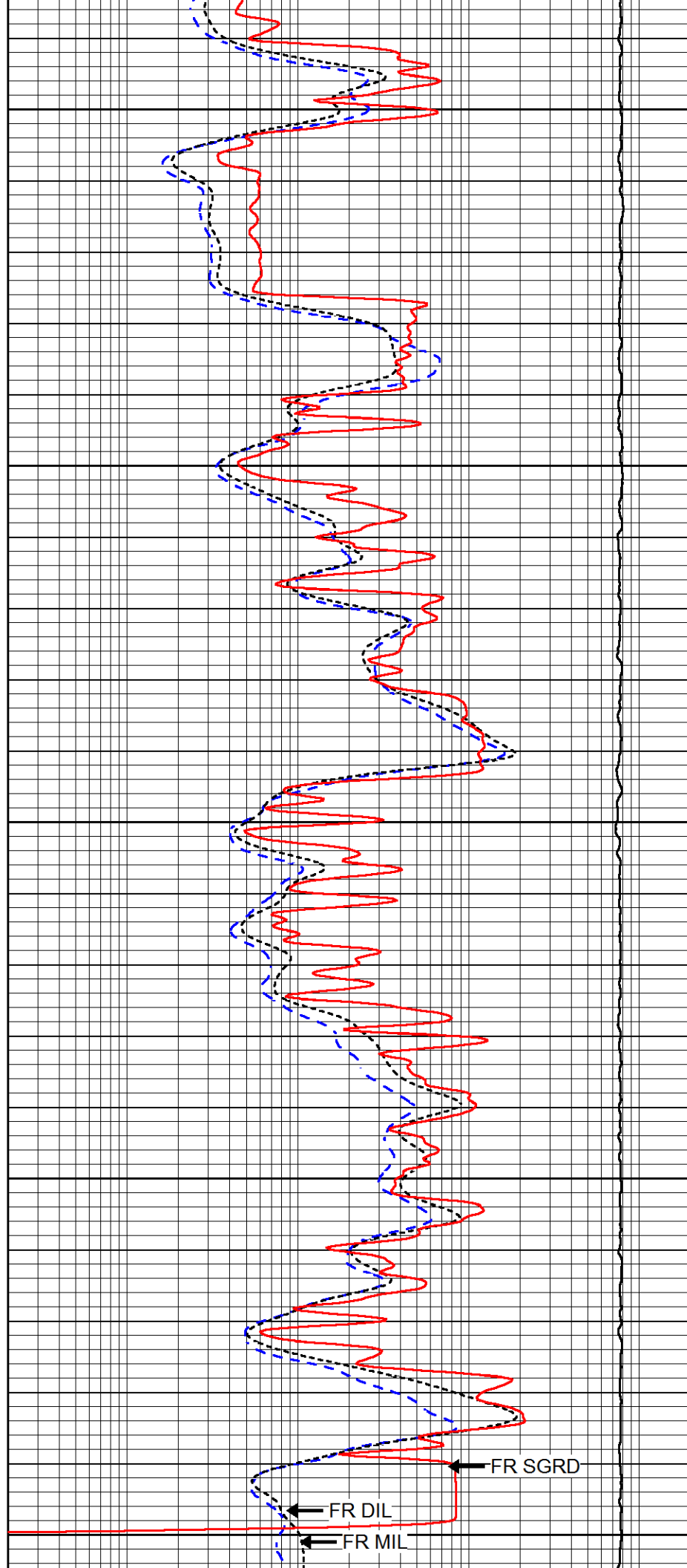
3050

3100

3150

FR GR

FR SP



FR SGRD

FR DIL

FR MIL

0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0

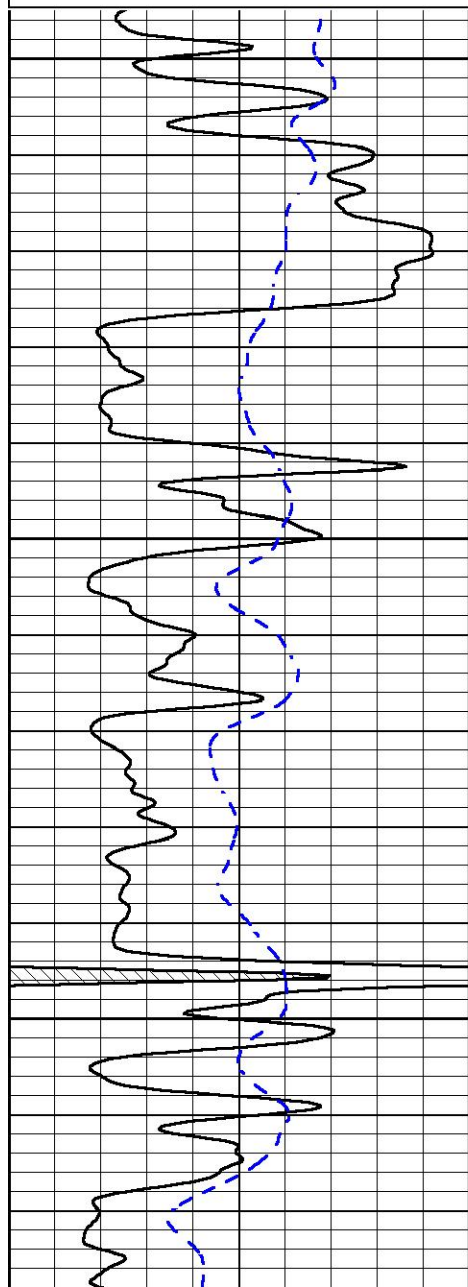


REPEAT SECTION

Database File john_o_farmer_mcallister_unit_1.db
Dataset Pathname stack/pass2.1
Presentation Format dil
Dataset Creation Mon Nov 12 02:56:44 2018
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

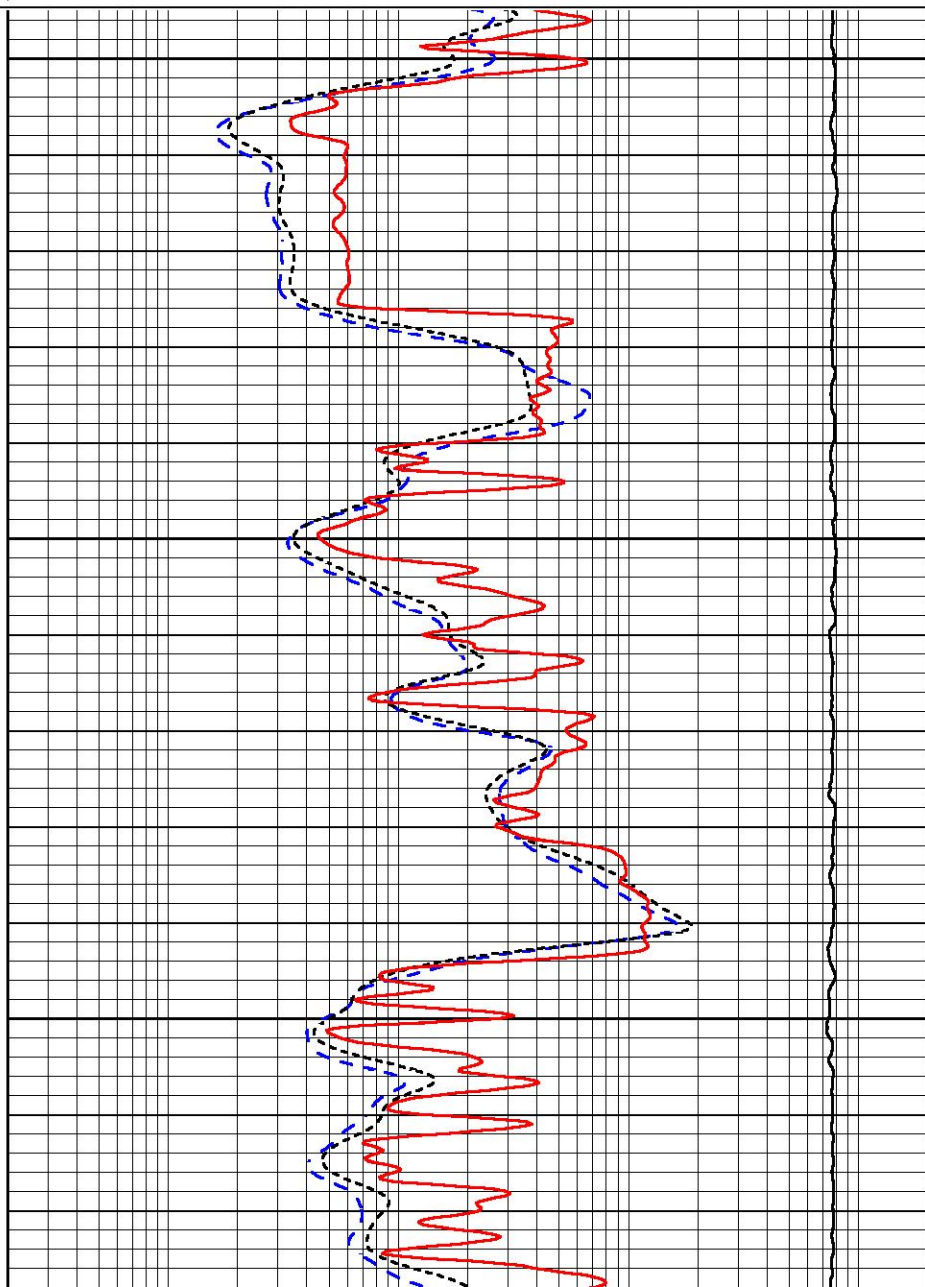
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0

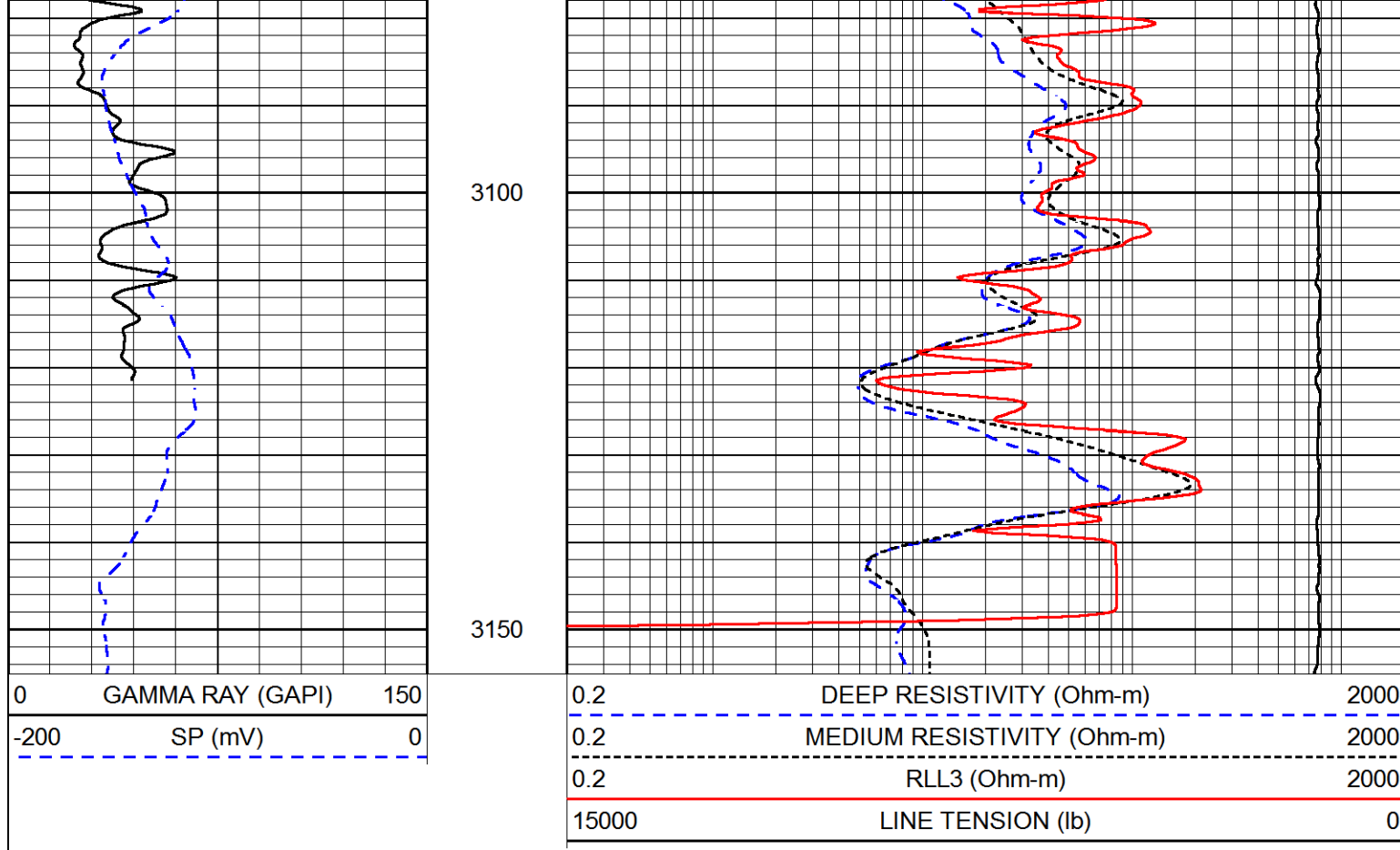


2950

3000

3050





Calibration Report							
Database File	john_o_farmer_mcallister_unit_1.db						
Dataset Pathname	stack/pass3.1						
Dataset Creation	Mon Nov 12 02:56:33 2018						
Dual Induction Calibration Report							
Serial-Model:		1987-M&W					
Calibration Performed:		Thu Aug 09 22:42:18 2018					
Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
	Deep	178.615	710.235	0.000	255.800	mmho/m	0.550
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-110.500
Microlog Calibration Report							
Serial-Model:		PSI-01-PSI STKBL ML					
Performed:		Thu Mar 31 18:14:32 2016					
	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
	Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	33500.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	31500.0000	-1.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	86.0000	-82.4800
Compensated Density Calibration Report							
Serial-Model:		817-947-M&W					

Source / Verifier:
Master Calibration Performed:

/
Thu Nov 08 10:59:41 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5524.90	5328.23	cps
Aluminum	2.675	g/cc	1020.59	3369.54	cps
Spine Angle = 74.82			Density/Spine Ratio = 0.526		
	Size		Reading		
Small Ring	4.00	in	1.02		
Large Ring	14.00	in	1.15		

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



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