



DUAL INDUCTION LOG

MIDWEST WIRELINE

Company Darrah Oil Company, LLC					
Well	Keller #1-31				
Field	Hiss South				
County	Barton				
State	Kansas				
Company Darrah Oil Company, LLC					
Well	Keller #1-31				
Field	Hiss South				
County	Barton				
State	Kansas				
Location:	API #: 15-009-31702-00-00				
1847 FSL & 748 FEL					
SEC 31 TWP 20S RGE 13W	CNL/CDL MEL/BHCS				
Permanent Datum	Ground Level	Elevation	1904	Elevation	Other Services
Log Measured From	Kelly Bushing			K.B.	1914
Drilling Measured From	Kelly Bushing			D.F.	
				G.L.	1904
Date	6/19/2022				
Run Number	One				
Depth Driller	3572				
Depth Logger	3563				
Bottom Logged Interval	3562				
Top Log Interval	400				
Casing Driller	8.625 @ 440				
Casing Logger	435				
Bit Size	7.875				
Type Fluid in Hole	Chemical				
Salinity, ppm CL					
Density / Viscosity					
pH / Fluid Loss					
Source of Sample	FLOWLINE				
Rm @ Meas. Temp	0.19 @ 88				
Rmt @ Meas. Temp	0.14 @ 88				
Rmc @ Meas. Temp	0.26 @ 88				
Source of Rmt / Rmc	CHARTS				
Rm @ BHT	0.15 @ 112				
Operating Rig Time	4 Hours				
Max Rec. Temp. F	112				
Equipment Number	P-108				
Location	HAYS				
Recorded By	D. Schmidt				
Witnessed By	Roger Martin				

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline 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.

Great Bend,
South to 50th, 2 West, 1 3/4 South,
West into

Log Measured From: Kelly Bushing

10 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew

Engineer: D. Schmidt
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Roger Martin
Secondary Witness:
Secondary Witness:
Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\darrah_keller 1-31.db
Dataset field/well/stack/pass3.12/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in	degF	in	in	g/cc	2	g/cc
	7.875	112	5.5	0	1		2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m	mmho/m	mV	degF	Off	ft
		0	0	335	0		3563

Variable Description

A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth

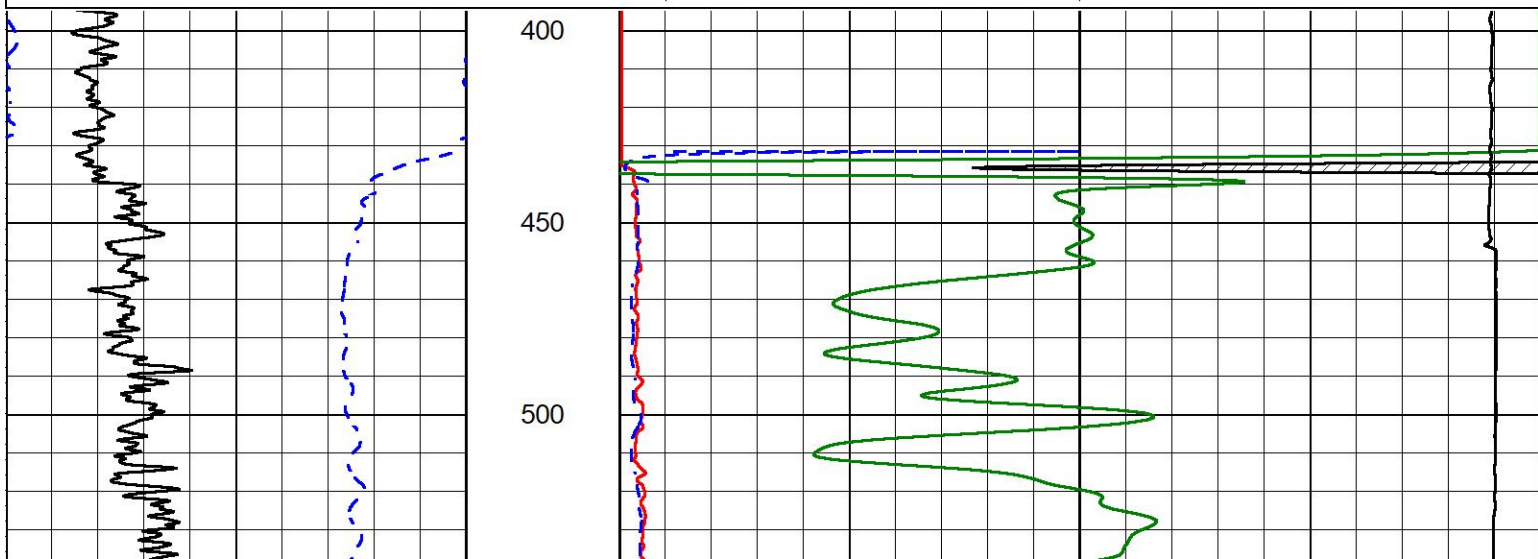


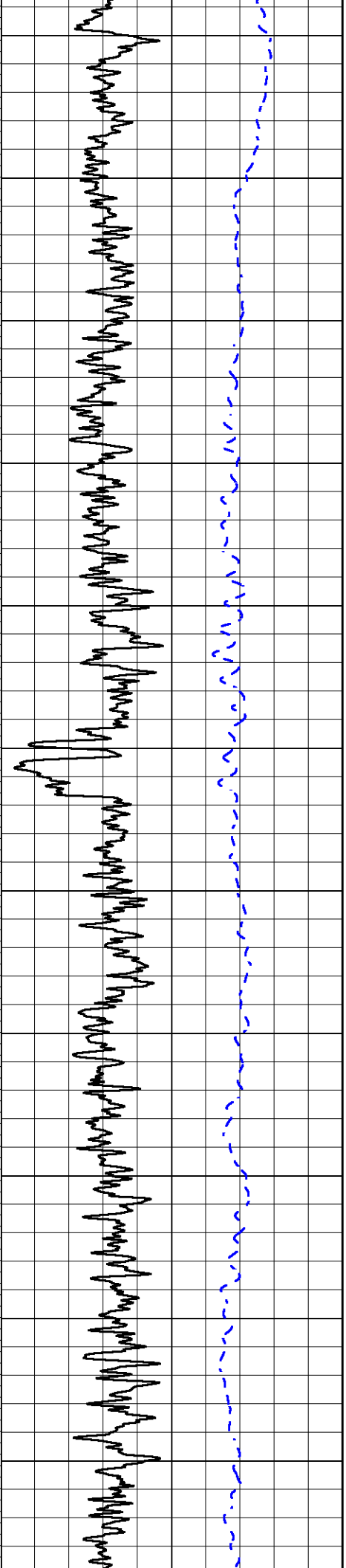
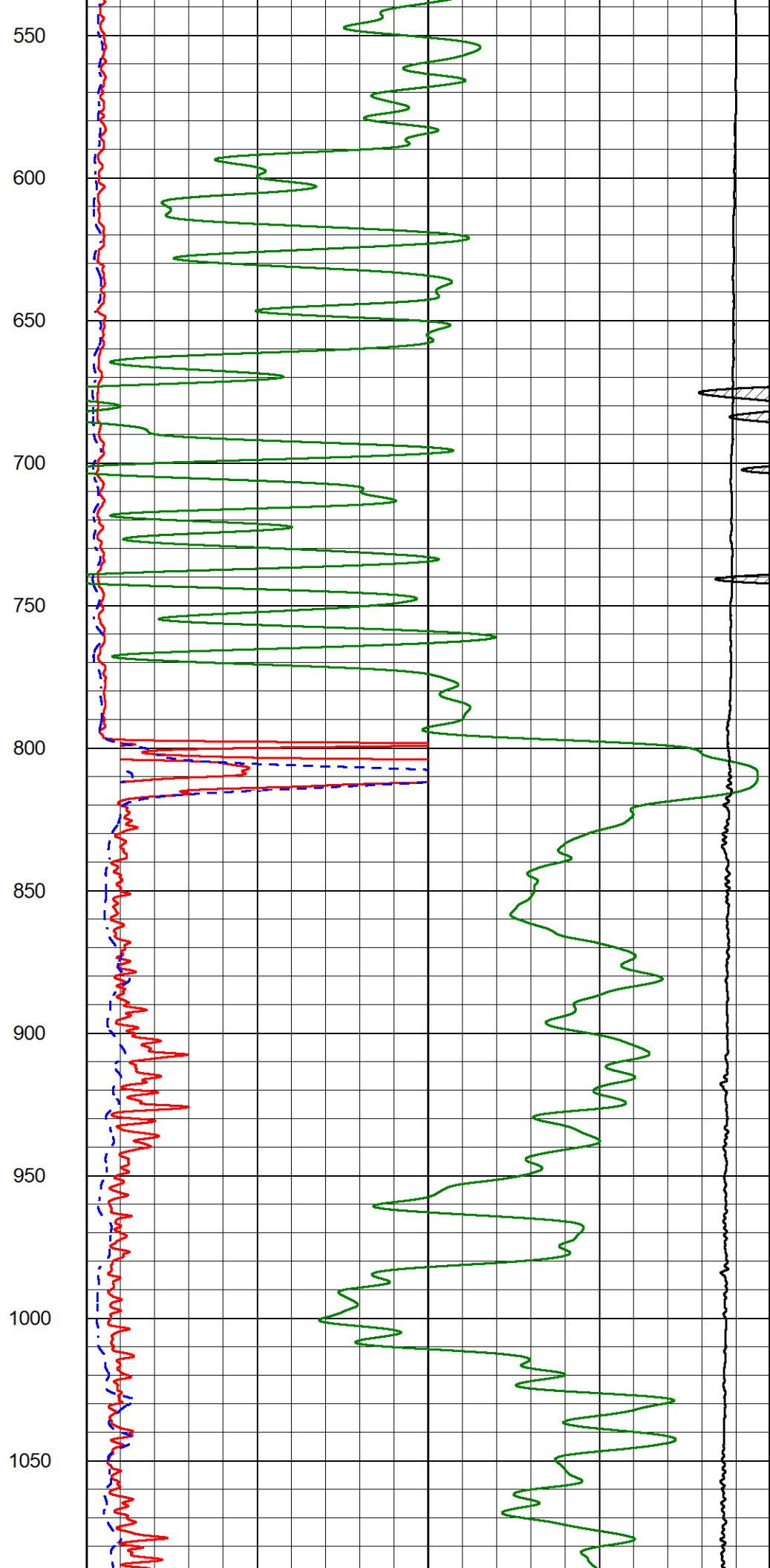
2" SCALE RESISTIVITY

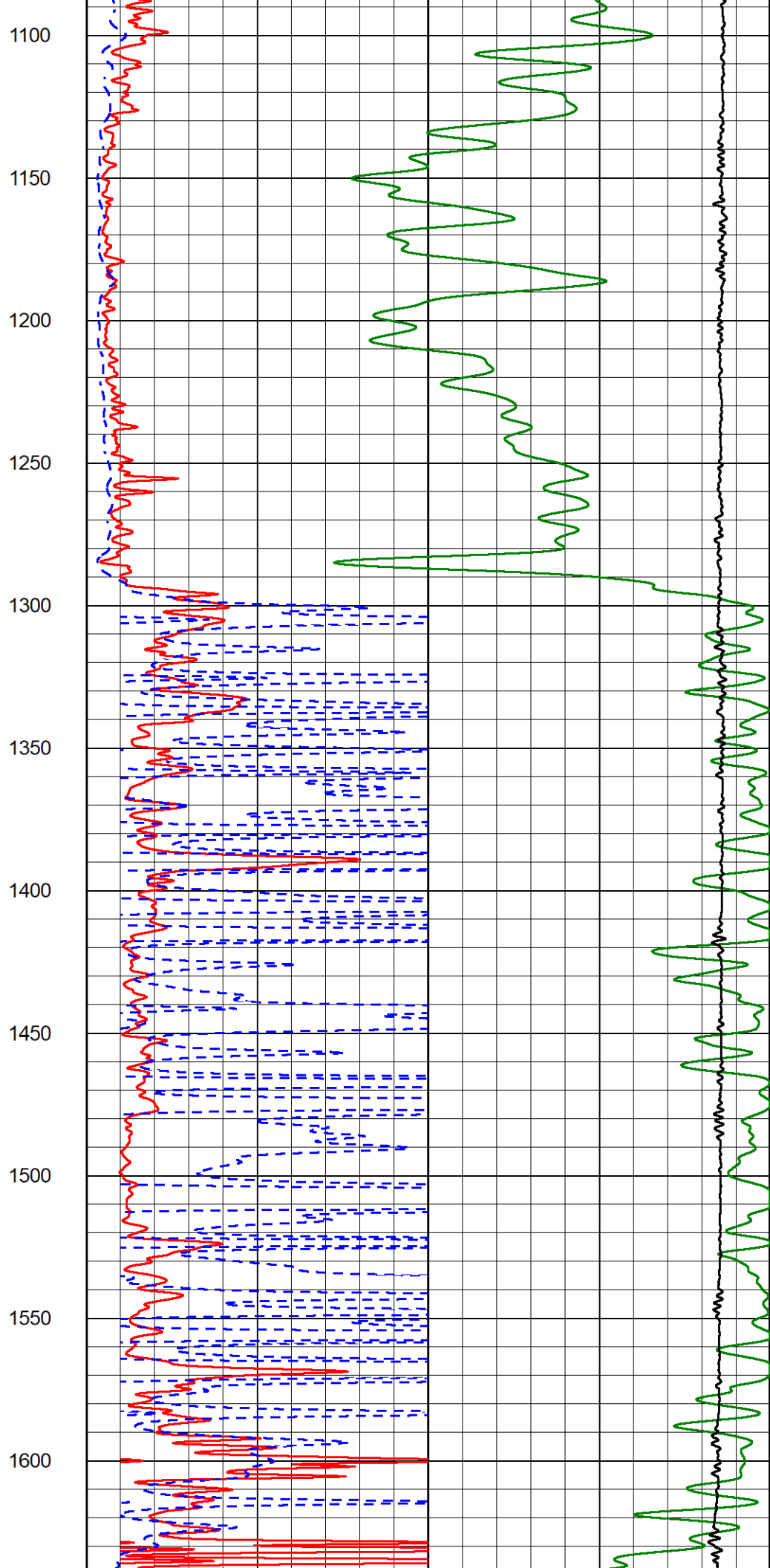
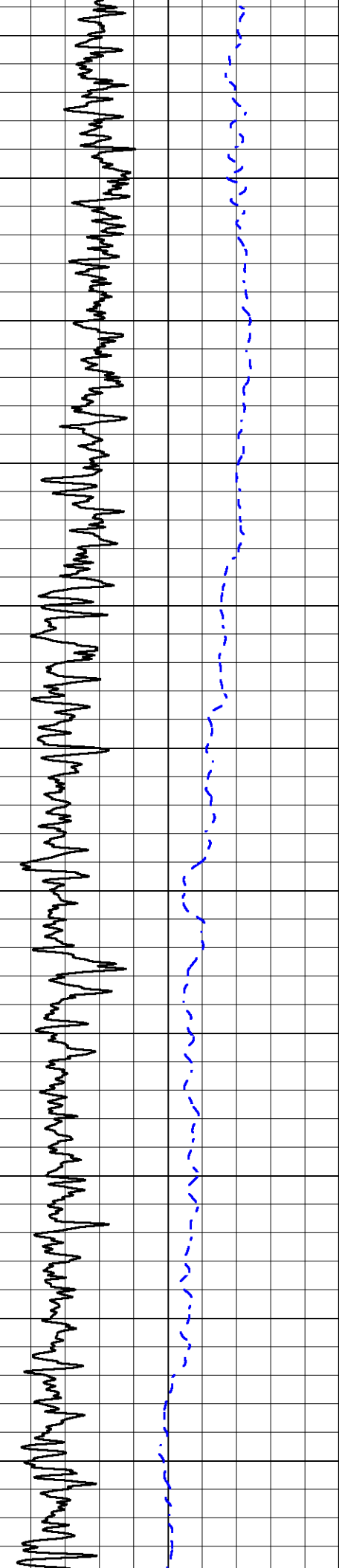
MAIN PASS

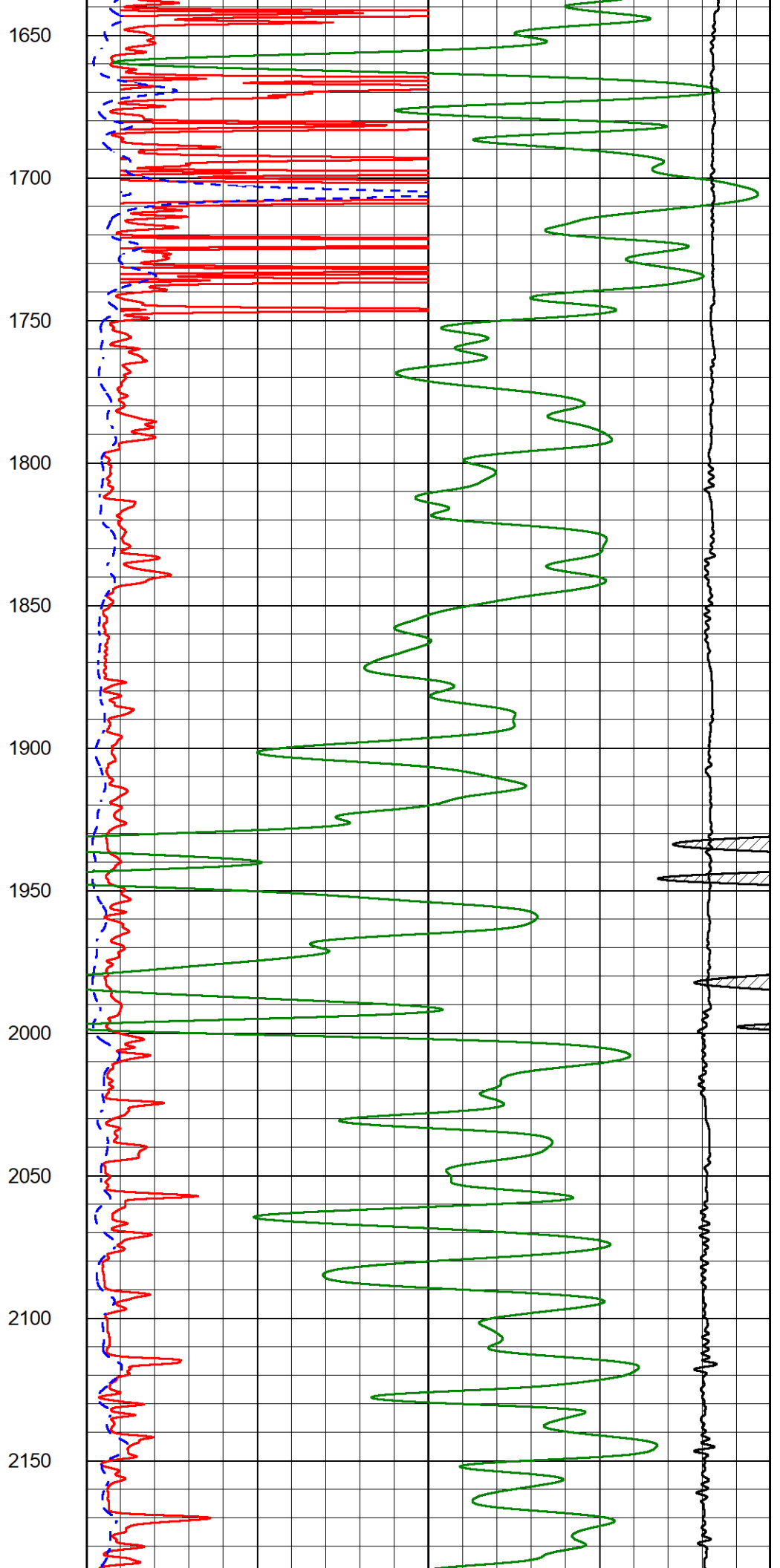
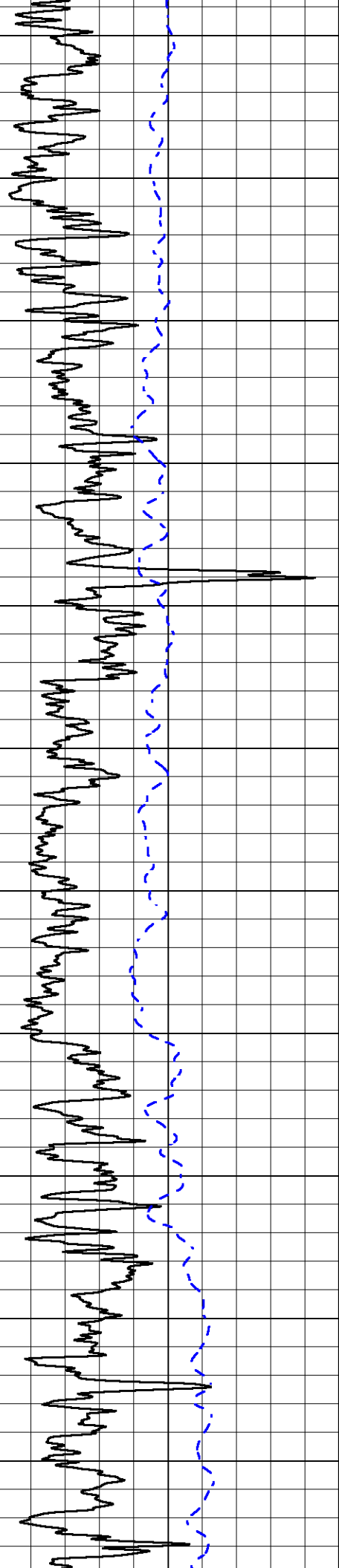
Database File darrah_keller 1-31.db
Dataset Pathname stack/pass3.3
Presentation Format _dil2in
Dataset Creation Sun Jun 19 16:30:10 2022
Charted by Depth in Feet scaled 1:600

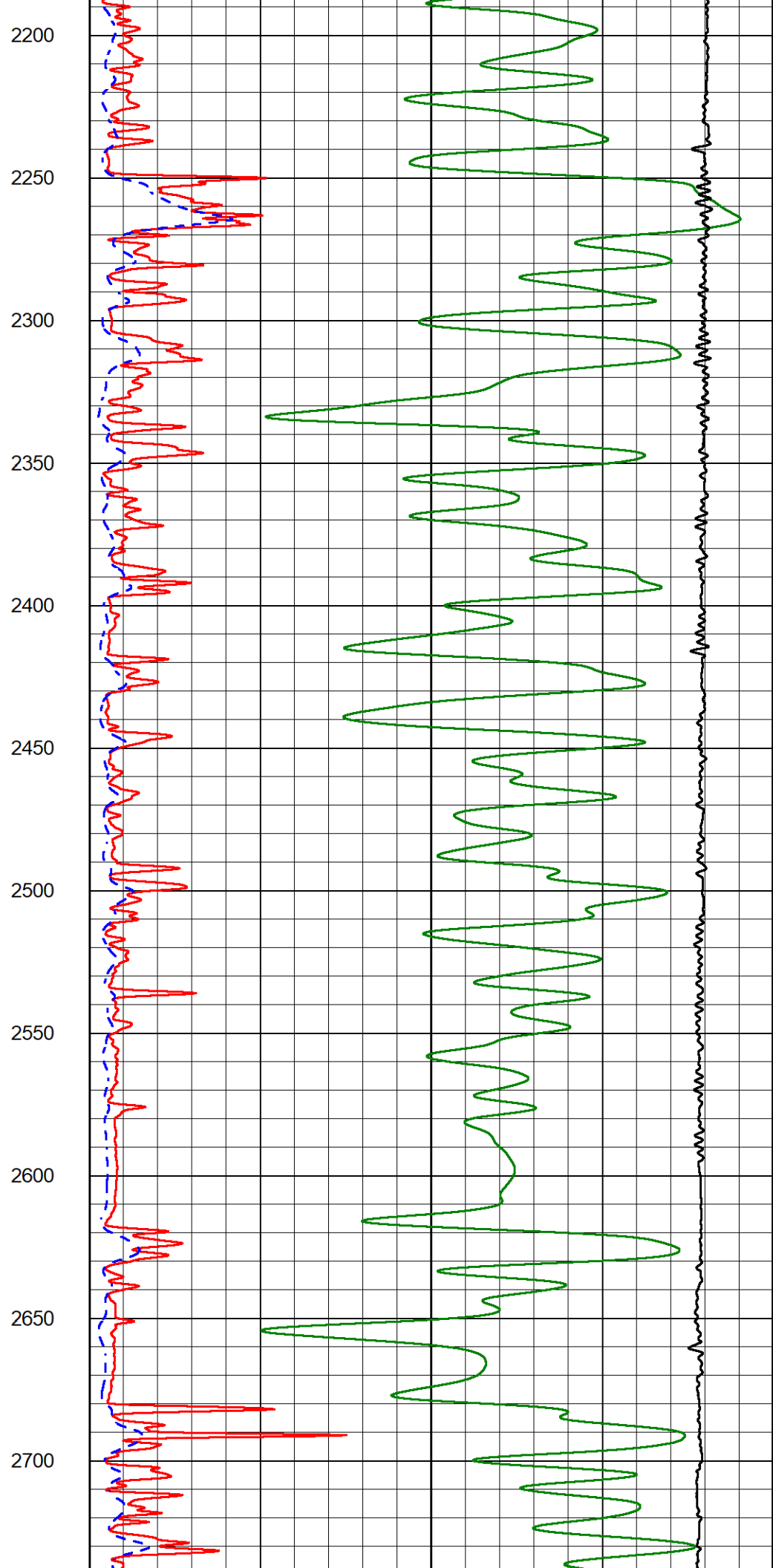
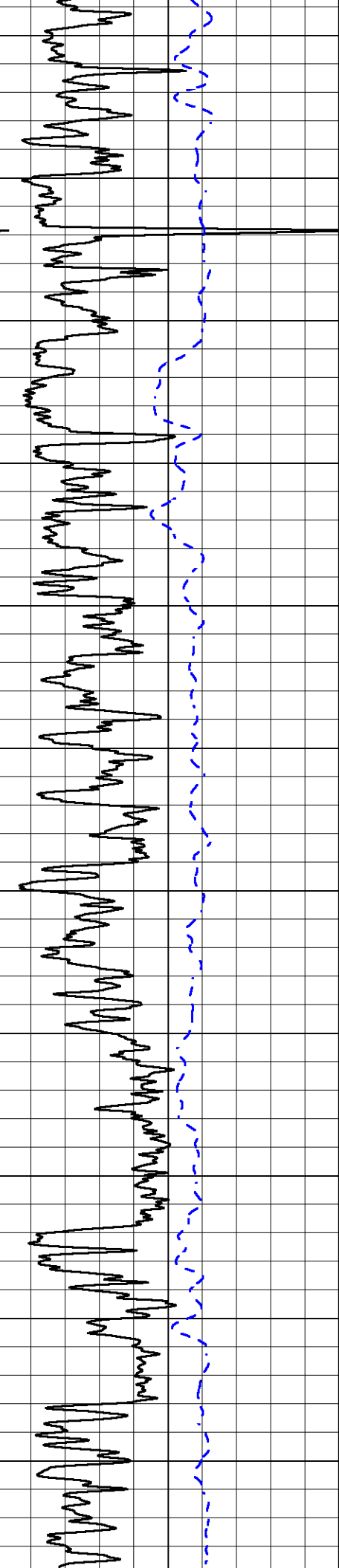
0	Gamma Ray (GAPI)	300	1000	Conductivity (mmho/m)	0
-200	SP (mV)	0	15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			Shallow Resistivity		
			50	(Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200

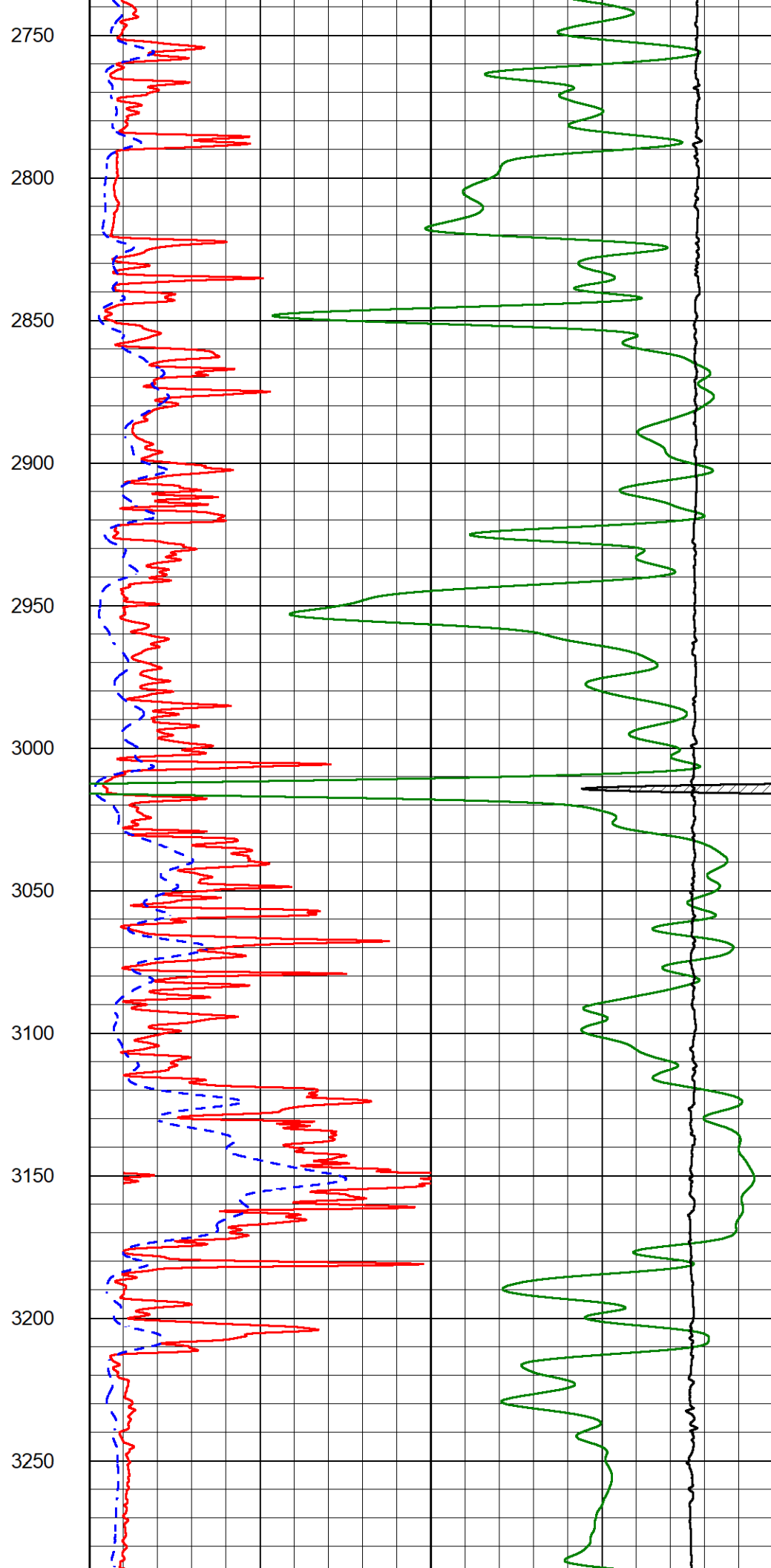
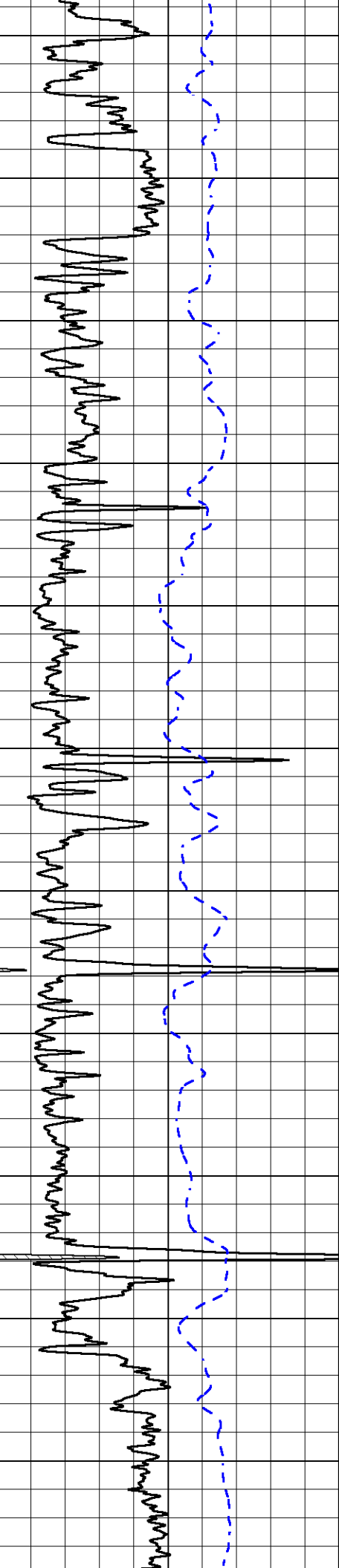


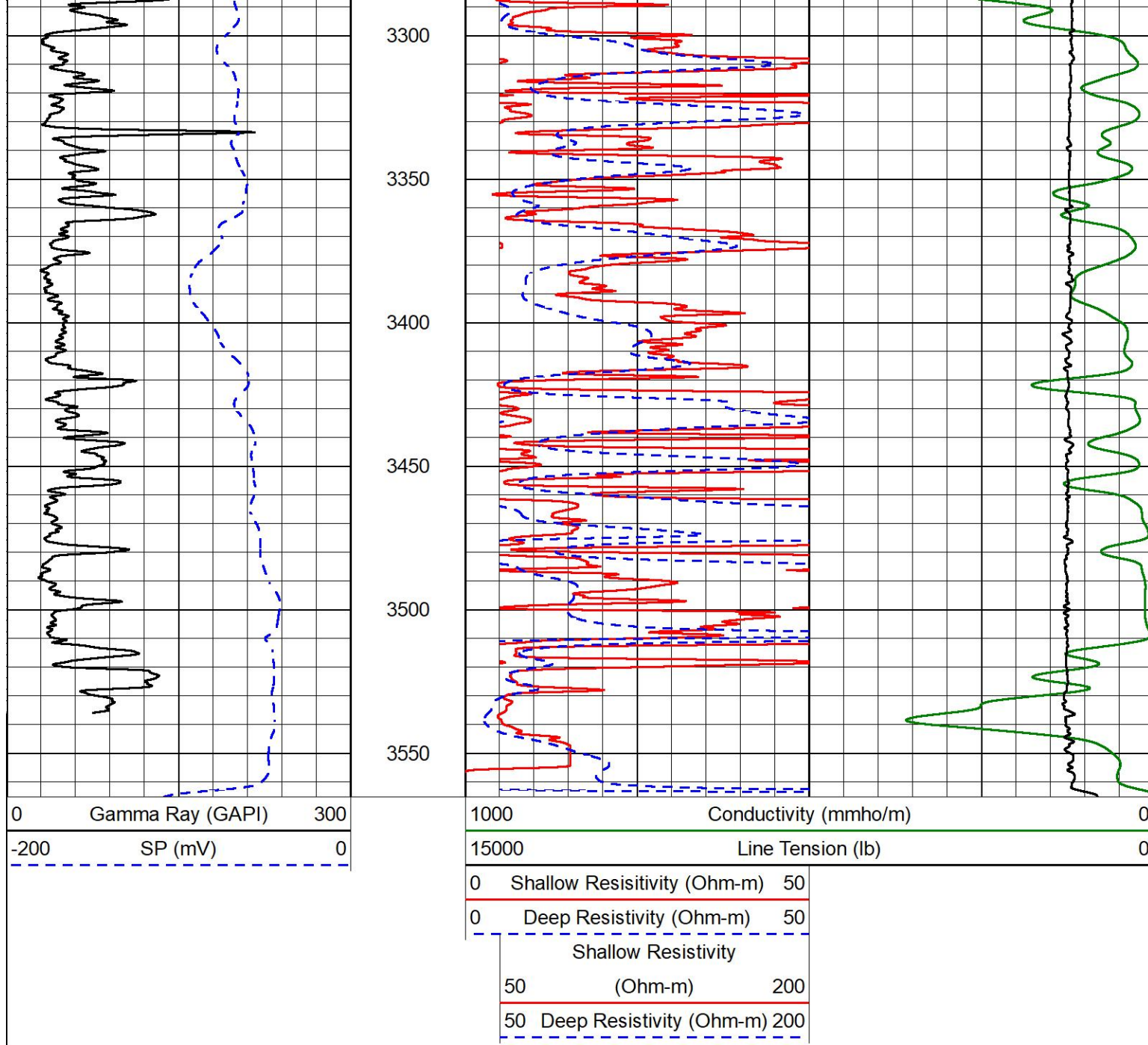












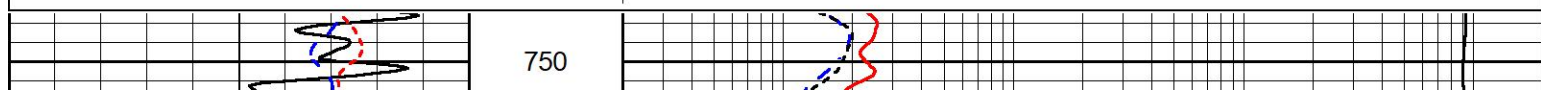
MIDWEST WIRELINE

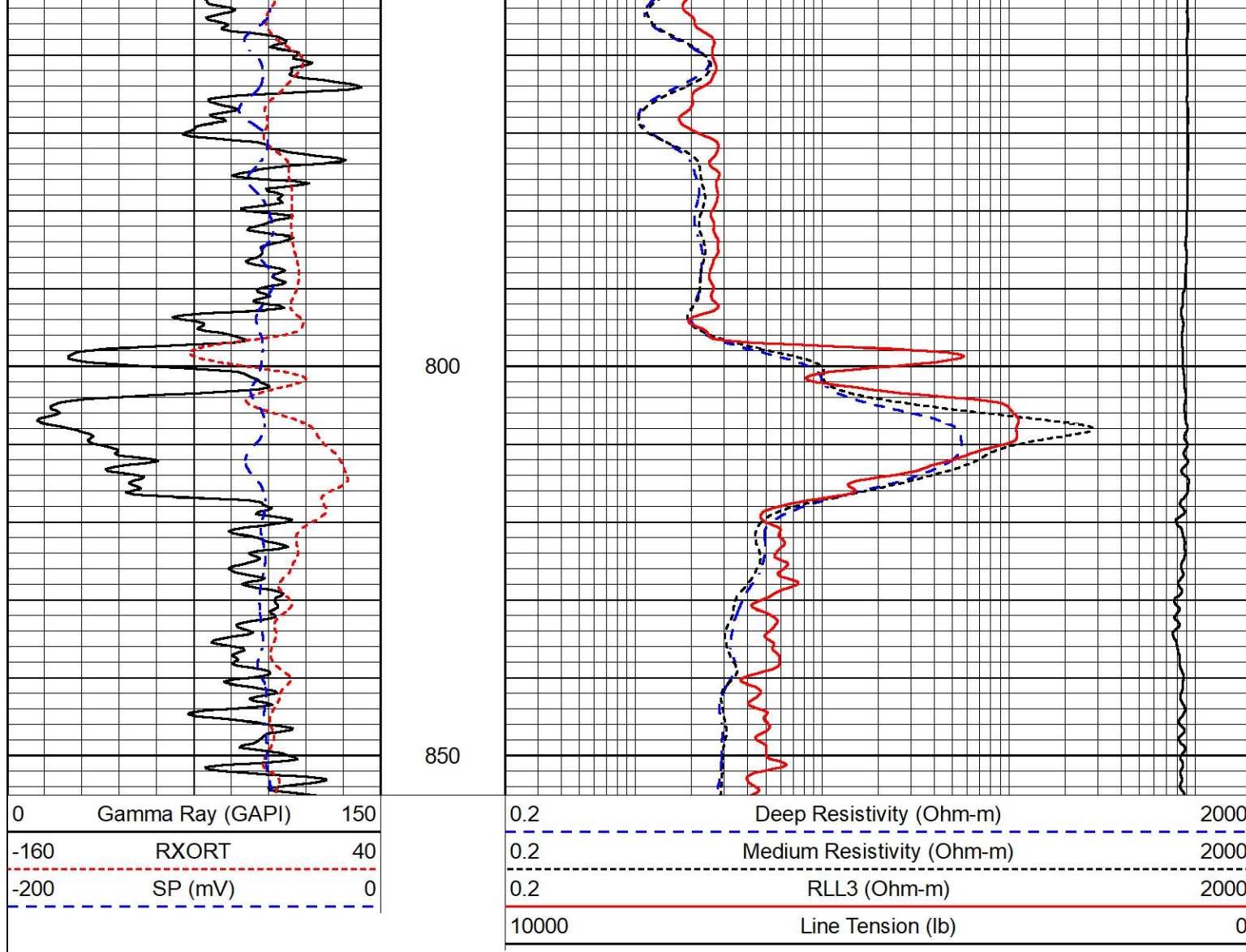
ANHYDRITE SECTION

MAIN PASS

Database File darrah_keller 1-31.db
Dataset Pathname stack/pass3.4
Presentation Format _dil
Dataset Creation Sun Jun 19 16:30:20 2022
Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0.2	Deep Resistivity (Ohm-m)	2000
-160	RXORT	40	0.2	Medium Resistivity (Ohm-m)	2000
-200	SP (mV)	0	0.2	RLL3 (Ohm-m)	2000
			10000	Line Tension (lb)	0



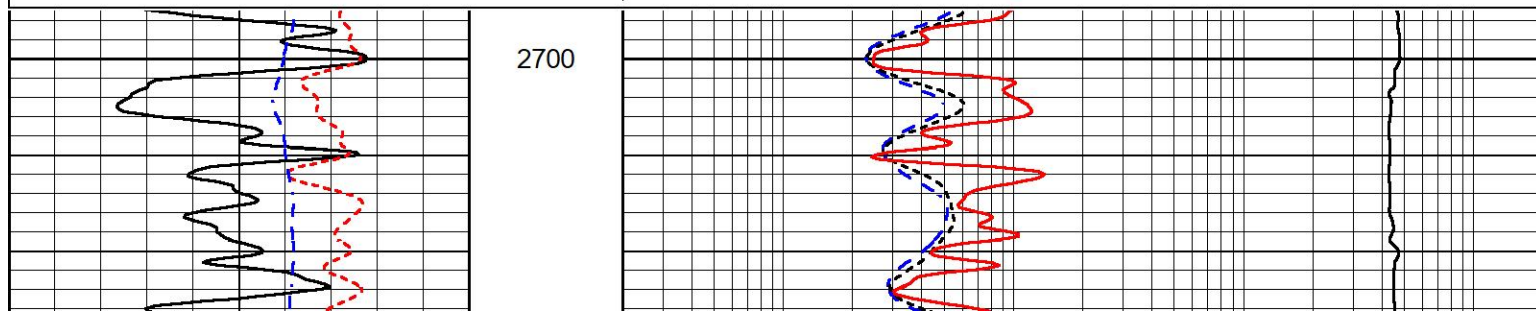
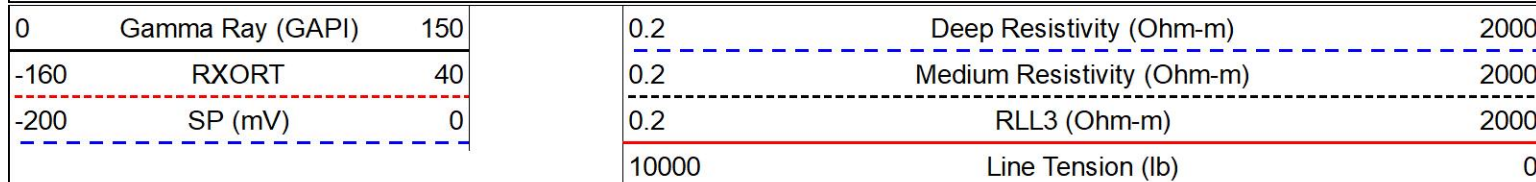


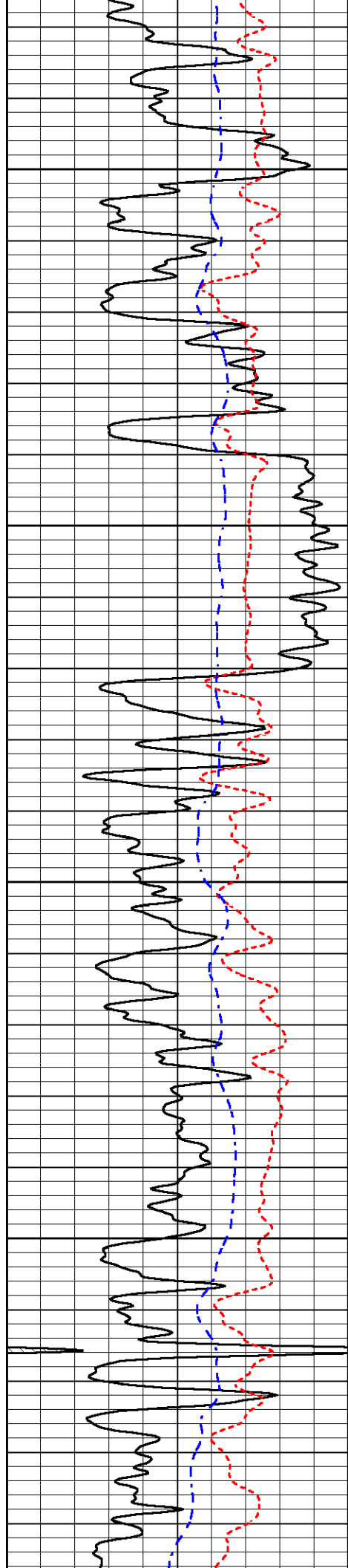
MIDWEST WIRELINE

DETAIL SECTION

MAIN PASS

Database File darrah_keller 1-31.db
 Dataset Pathname stack/pass3.1
 Presentation Format _dil
 Dataset Creation Sun Jun 19 16:29:00 2022
 Charted by Depth in Feet scaled 1:240



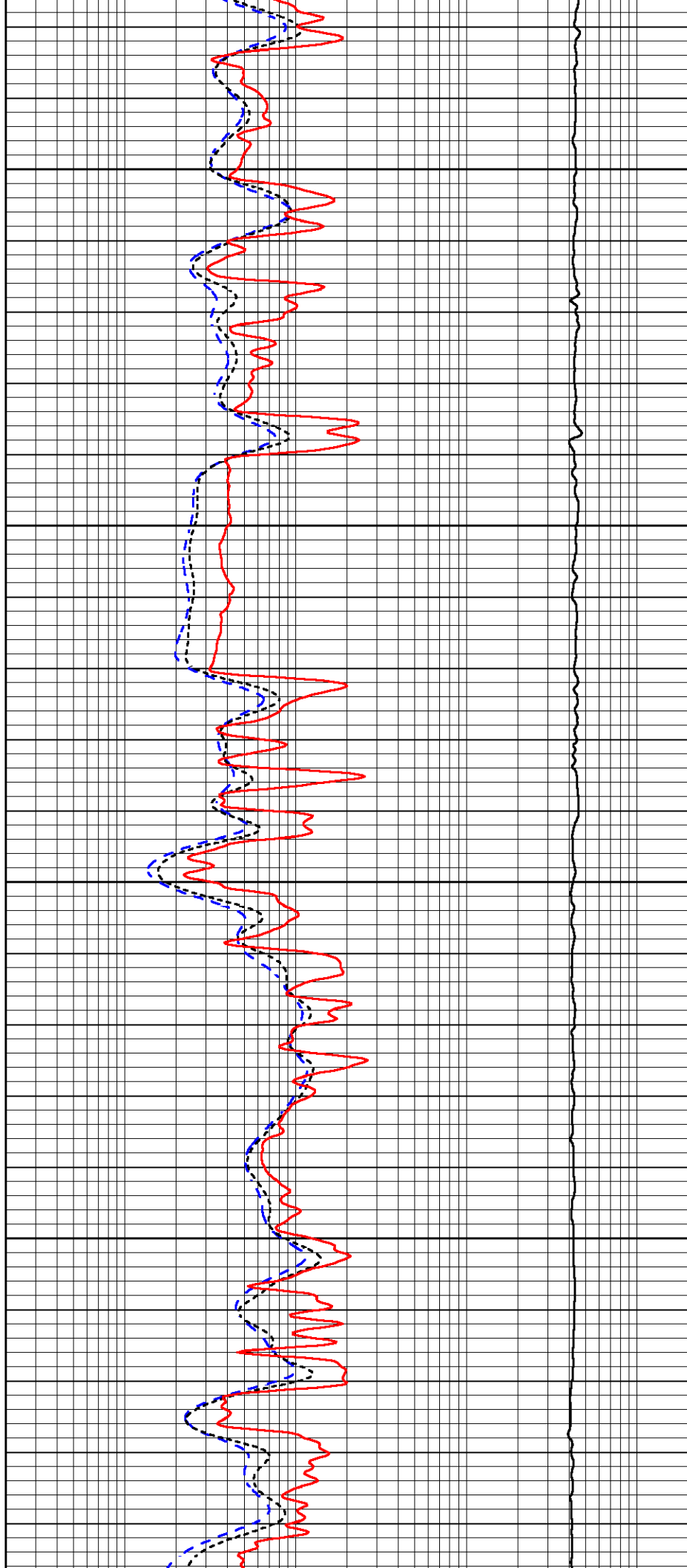


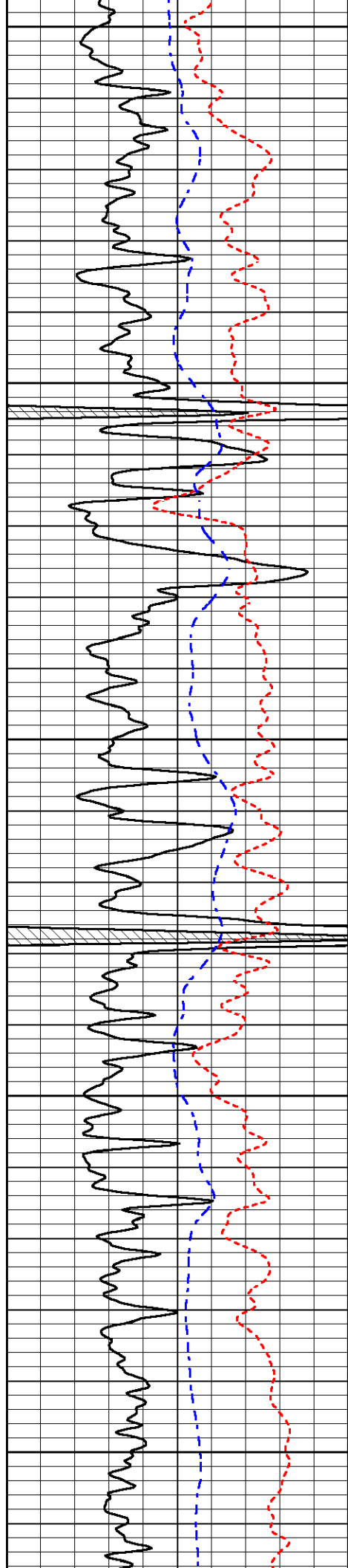
2750

2800

2850

2900





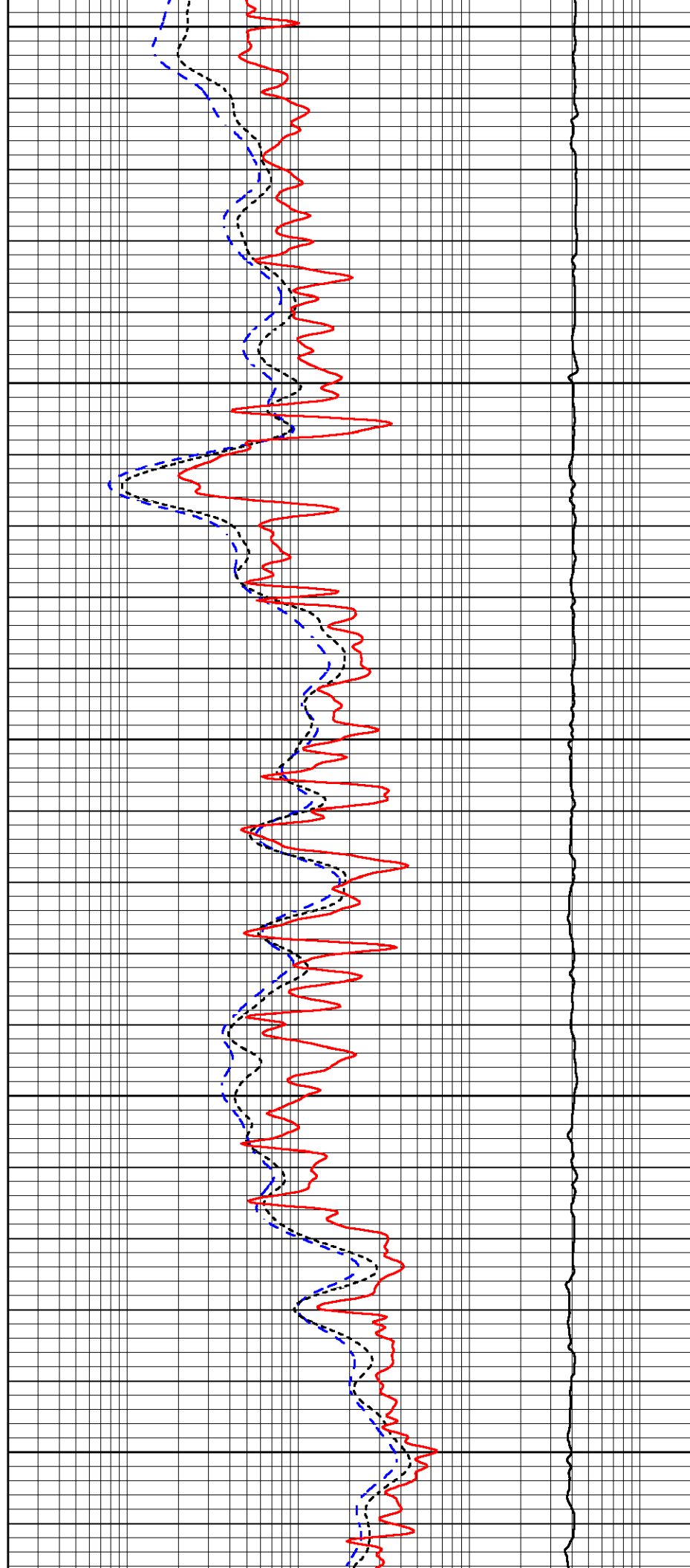
2950

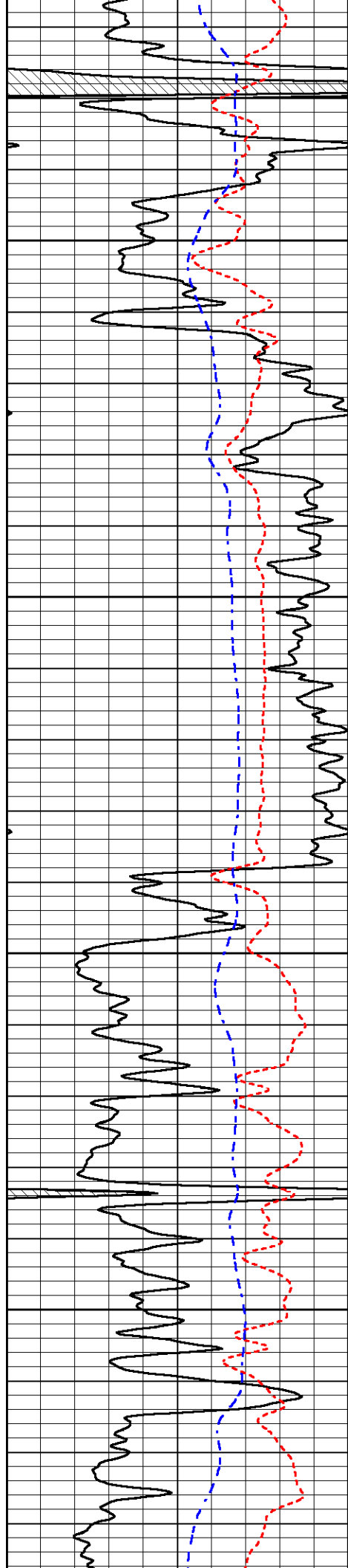
3000

3050

3100

3150



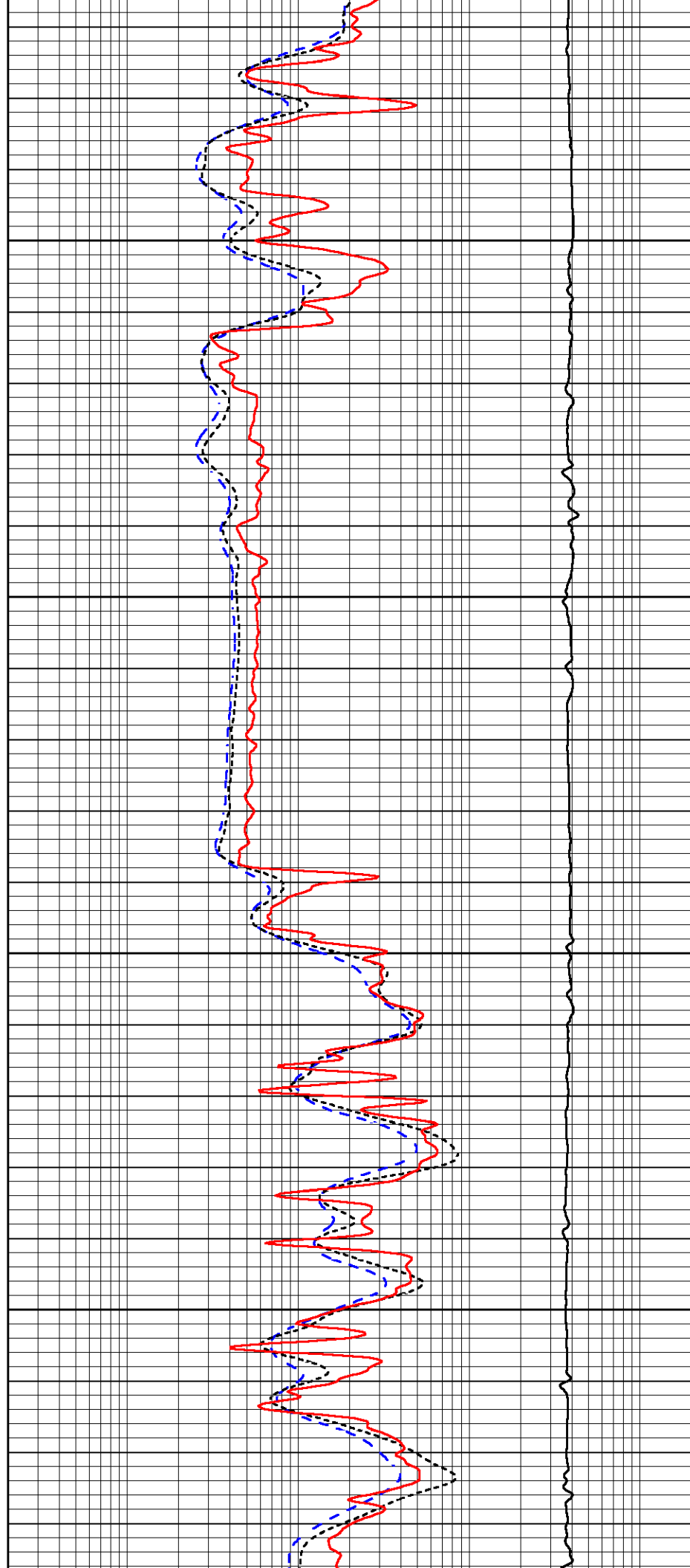


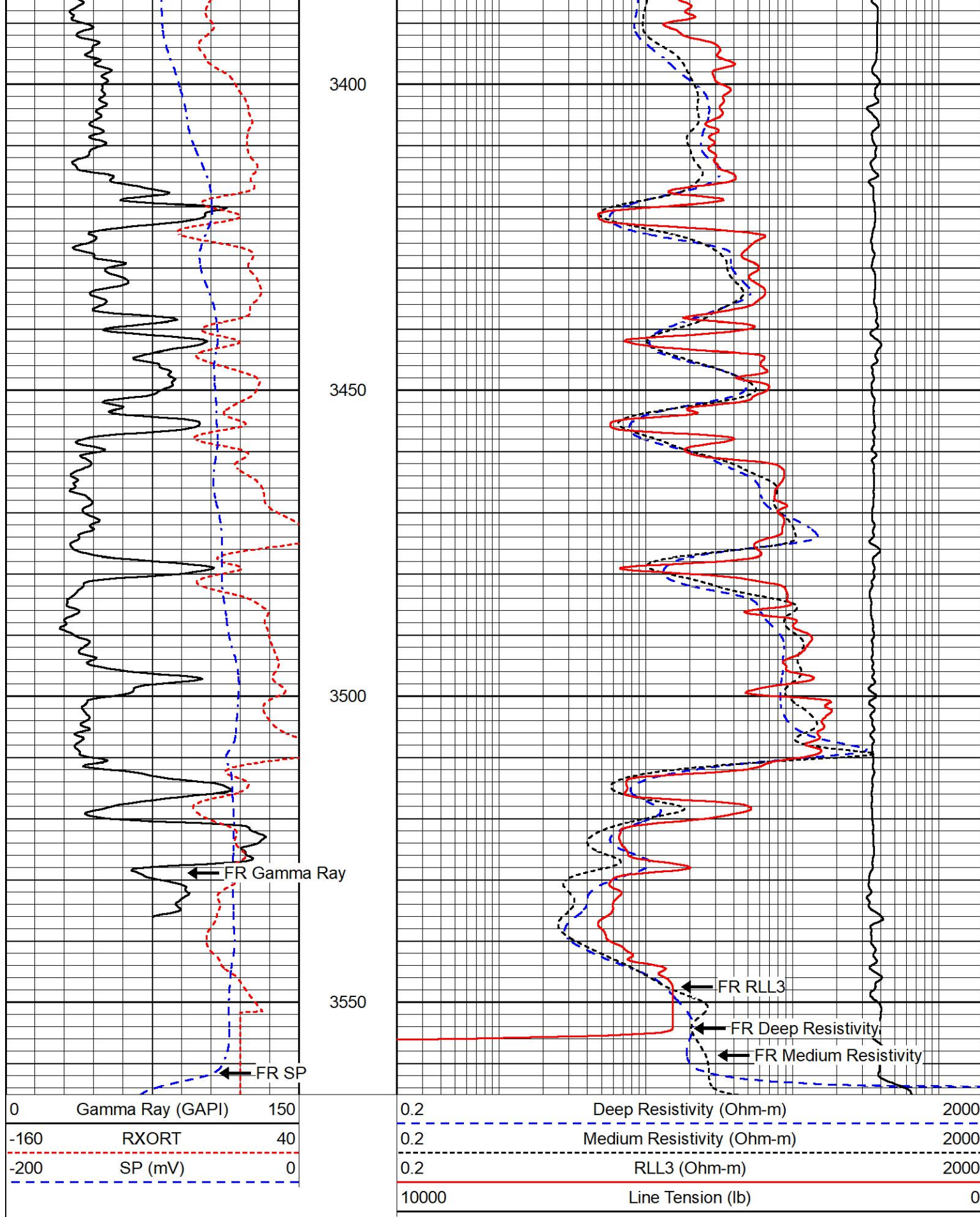
3200

3250

3300

3350





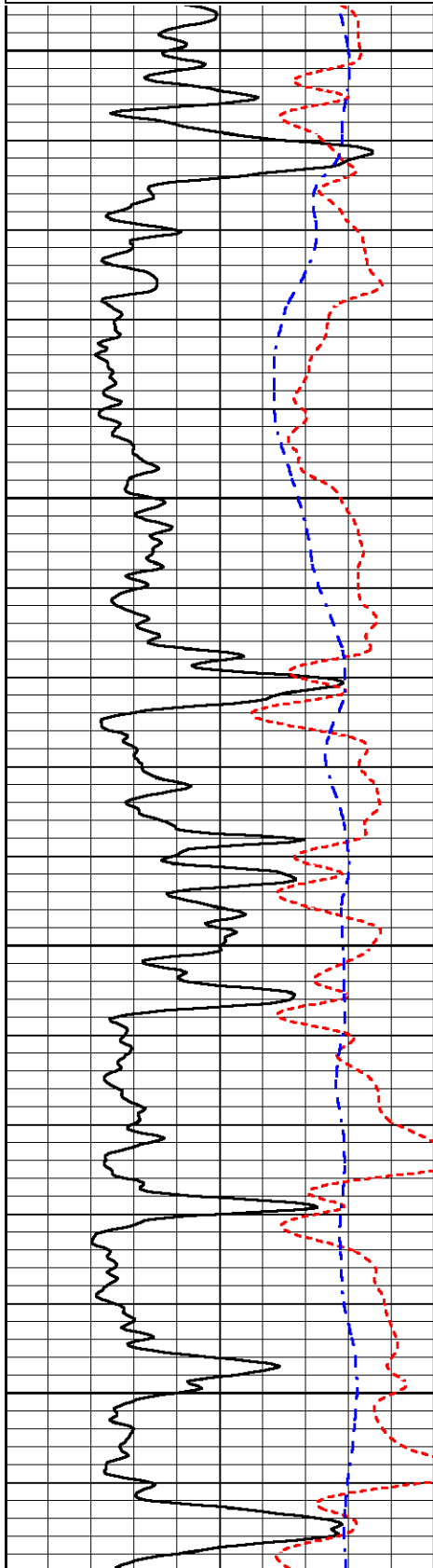
REPEAT SECTION

REPEAT PASS

Database File darrah_keller 1-31.db
Dataset Pathname stack/pass2.1
Presentation Format _dil
Dataset Creation Sun Jun 19 15:56:51 2022
Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXORT	40
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

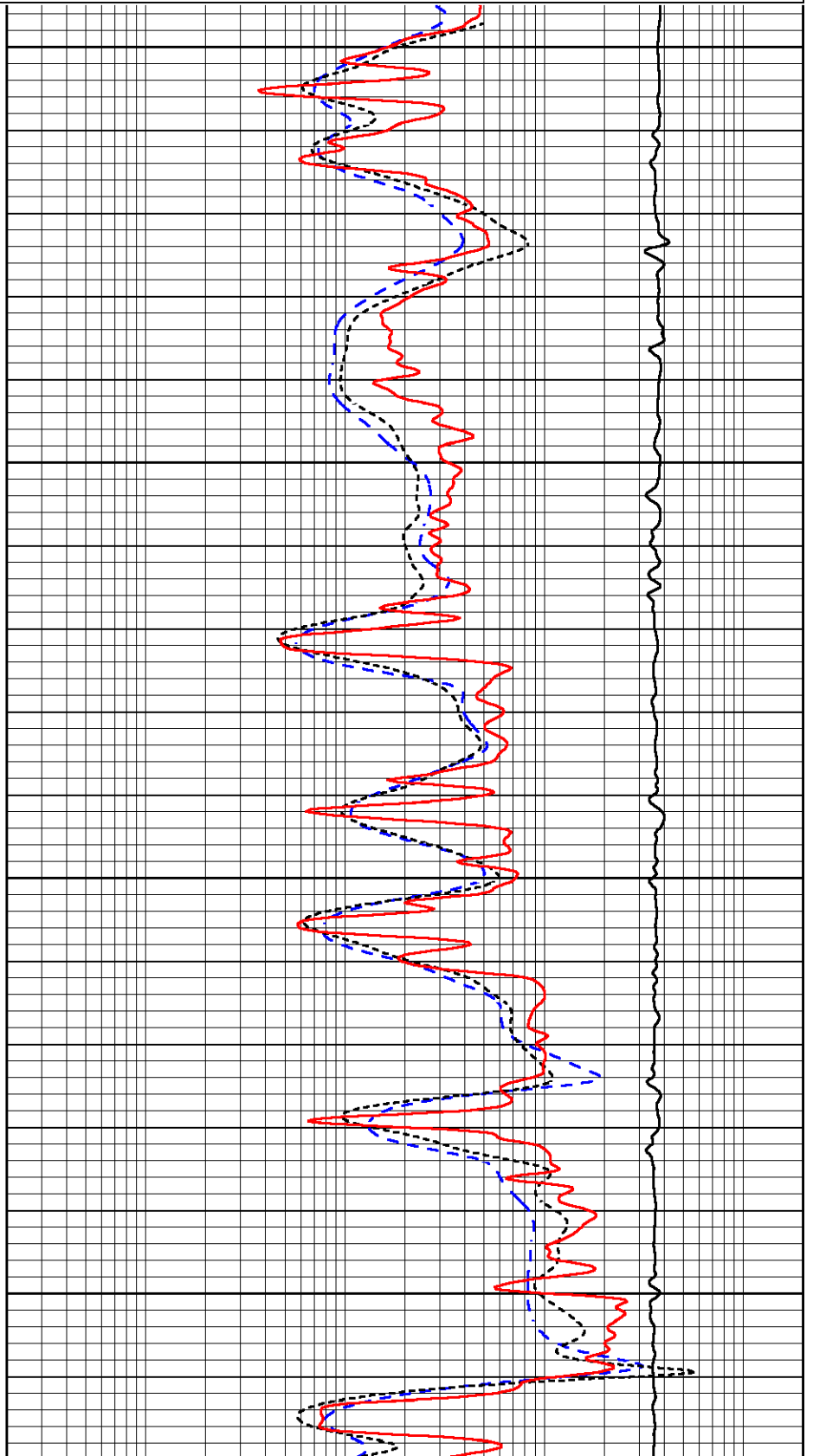


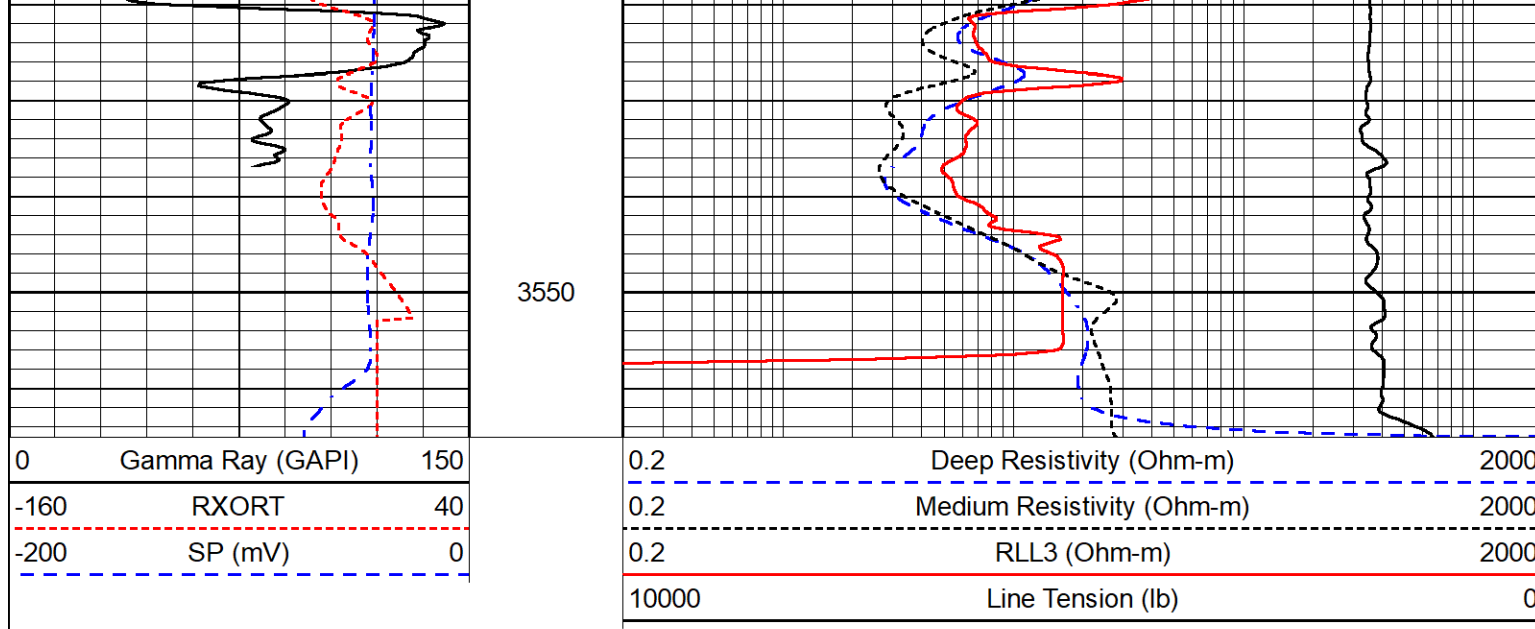
3350

3400

3450

3500





Calibration Report							
Database File	darrah_keller 1-31.db						
Dataset Pathname	stack/pass3.12						
Dataset Creation	Sun Jun 19 15:50:16 2022						
Dual Induction Calibration Report							
Serial-Model:				504 HT-M&W			
Surface Cal Performed:				Thu Dec 16 22:32:49 2021			
		Readings		References		Results	
Loop:	Air	Loop		Air	Loop	m	b
Deep	178.615	710.235		0.000	255.800	mmho/m	0.650
Medium	161.982	1441.110		0.000	255.800	mmho/m	-10.500
							-42.000
Compensated Density Calibration Report							
Serial-Model:				304-04-M&W			
Source #:				21170B			
Master Calibration Performed:				Sun May 29 09:31:45 2022			
Master Calibration							
		Density		Far Detector		Near Detector	
Magnesium		1.755	g/cc	6392.84		8538.69	cps
Aluminum		2.675	g/cc	1184.69		5433.63	cps
		Spine Angle = 74.99		Density/Spine Ratio = 0.527			
		Size		Reading			
Small Ring		4.00	in	1.15			
Large Ring		14.00	in	1.02			
Compensated Neutron Calibration Report							
Serial-Model:				210-M&W			
Source #:				N-1238			

Master Calibration

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:	103	
Tool Model:	M&W	
Performed:	Fri Dec 3 12:13:24 2021	
Calibrator Value:	500.0	GAPI
Background Reading:	28.0	cps
Calibrator Reading:	986.0	cps
Sensitivity:	0.5700	GAPI/cps



MIDWEST WIRELINE

Company	Darrah Oil Company, LLC
Well	Keller #1-31
Field	Hiss South
County	Barton
State	Kansas