



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company CANYON OPERATING, LLC
Well B BAR B NO. 25-1
Field WC
County GRAHAM
State KANSAS

Company CANYON OPERATING, LLC
Well B BAR B NO. 25-1
Field WC
County GRAHAM State KANSAS

Location: API #: 15-065-24158-00-00

Other Services

SEC 25 TWP 8S RGE 23W
1380' FSL & 930' FEL

CNL/CDL
MEL/BHCS

Permanent Datum GROUND LEVEL Elevation 2233'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2238'
D.F. N/A
G.L. 2233'

Date	11/9/2018		
Run Number	ONE		
Depth Driller	3820'		
Depth Logger	3820'		
Bottom Logged Interval	3819'		
Top Log Interval	200'		
Casing Driller	8.625" @ 217'		
Casing Logger	221'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	2000		
Density / Viscosity	9.0 49		
pH / Fluid Loss	10.5 8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.80 @ 67		
Rmt @ Meas. Temp	.60 @ 67		
Rmc @ Meas. Temp	1.08 @ 67		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.47 @ 114		
Operating Rig Time	4 HOURS		
Max Rec. Temp. F	114 DEGF		
Equipment Number	108		
Location	HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	BRUCE ARD		

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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.
HILL CITY KANSAS
3 SOUTH TO NORTH TERRACE, 1 EAST, SOUTH 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: J. HENRICKSON
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: BRUCE ARD
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 100	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 20	mmho/m 0	mV 120	degF 0	Off	ft 0

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	29.90			CNT-M&W (tk10-MW)	5.50	3.50	100.00
	29.15						
LSD DCAL SSD	20.85 20.83 20.35			CDL-M&W (817-947)	8.50	4.00	250.00
RLL3 RLL3F	15.80			DIL-M&W (1987)	18.50	3.50	220.00
	15.79						
CILD	8.00						

CILM 4.70

SP 0.20

Dataset: canyon_b_bar_b_25_1.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in



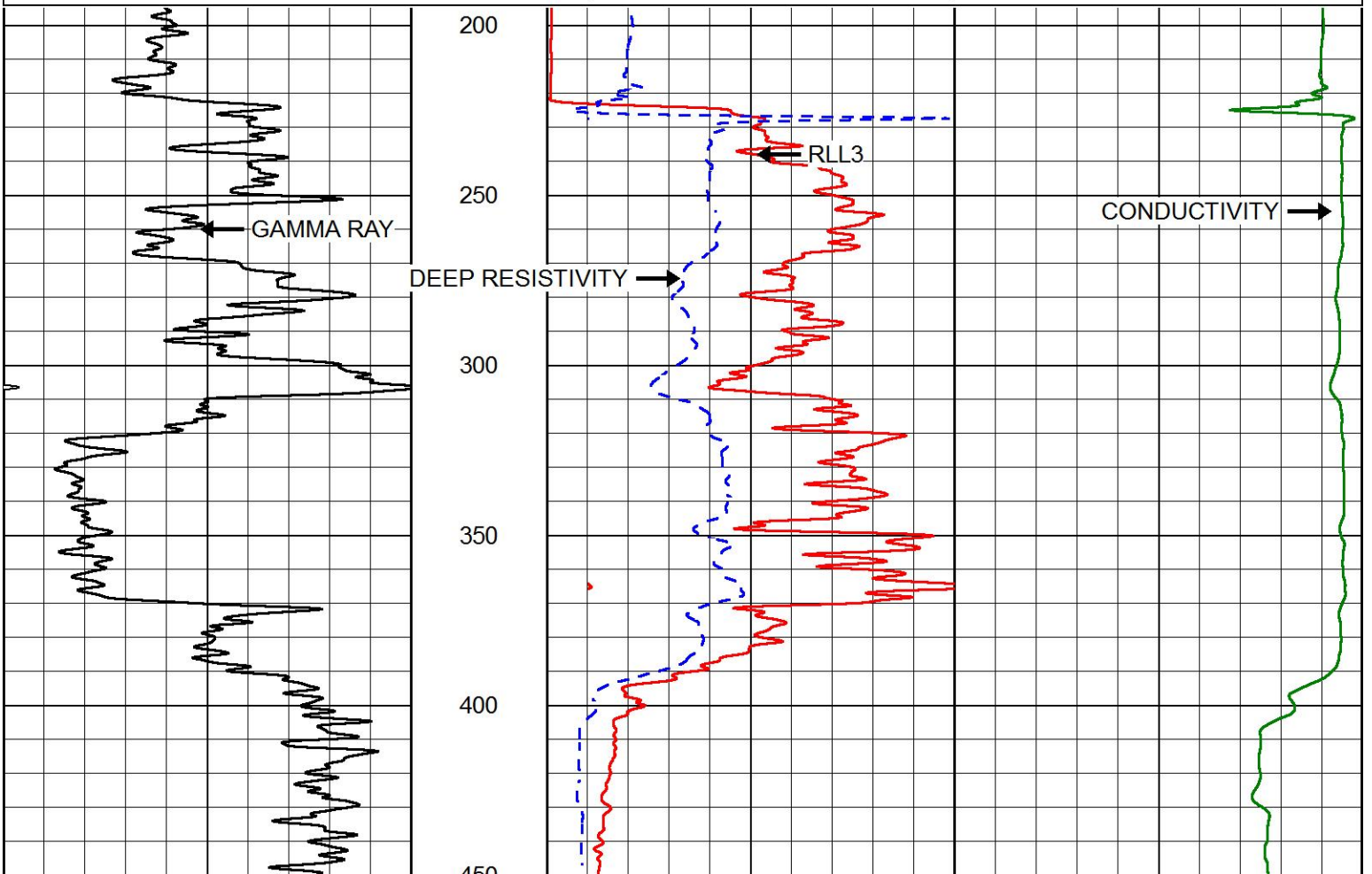
MAIN PASS

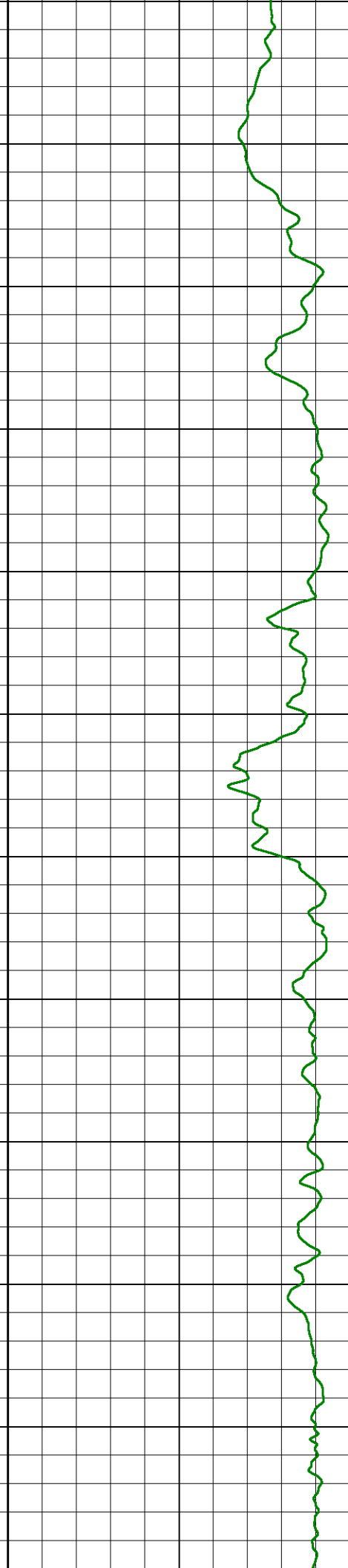
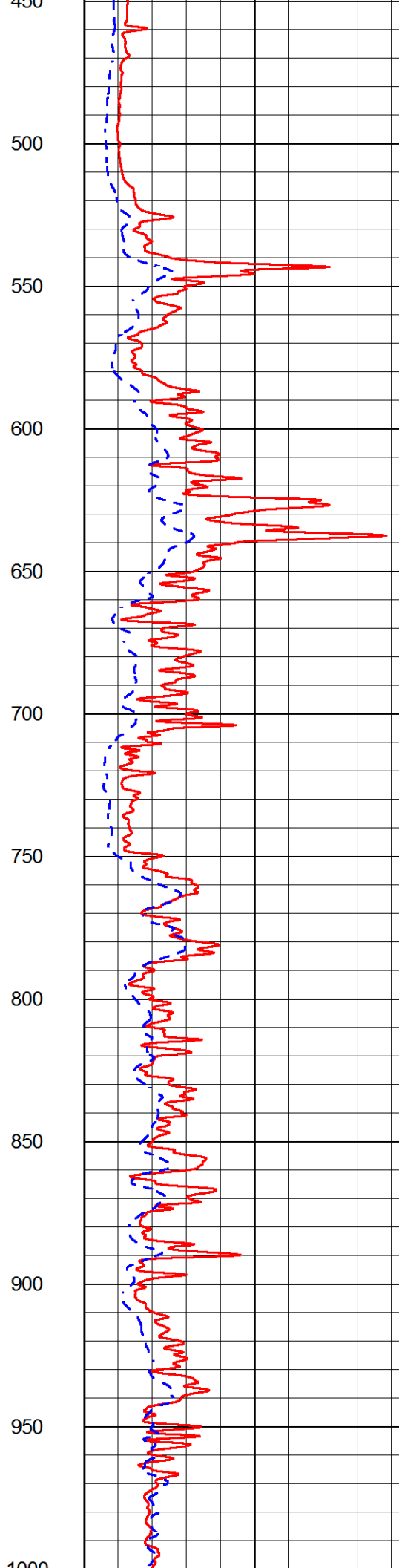
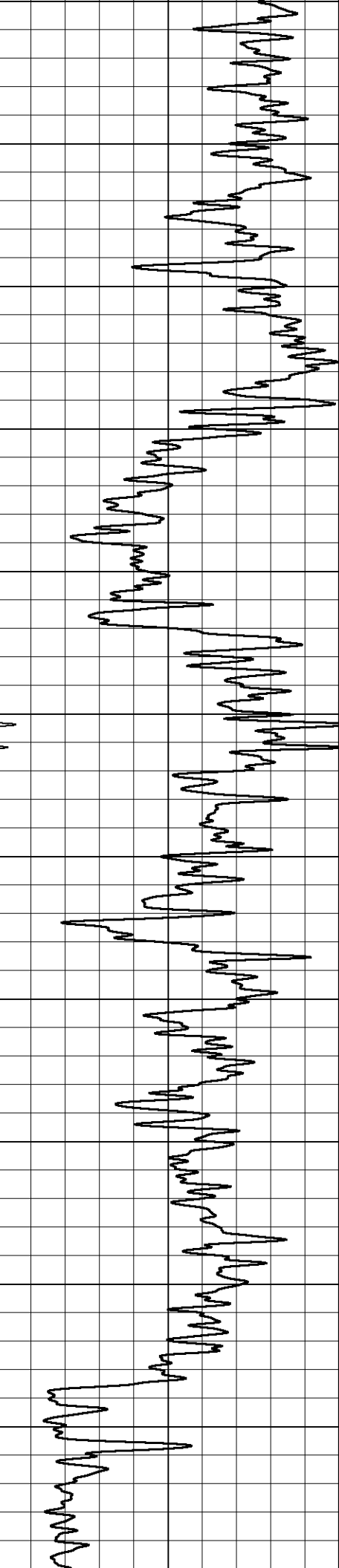
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Presentation Format dil2in
Dataset Creation Fri Nov 09 10:05:32 2018
Charted by Depth in Feet scaled 1:600

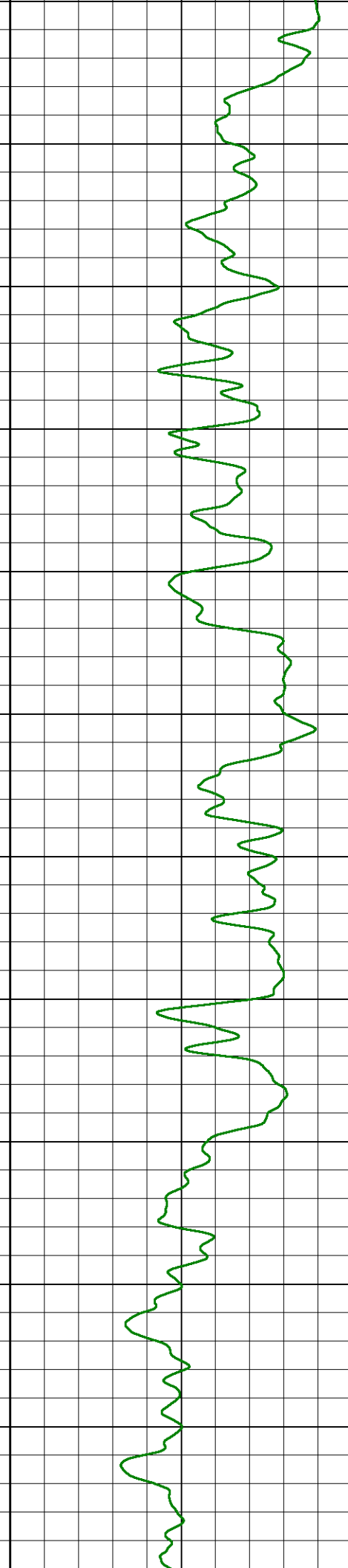
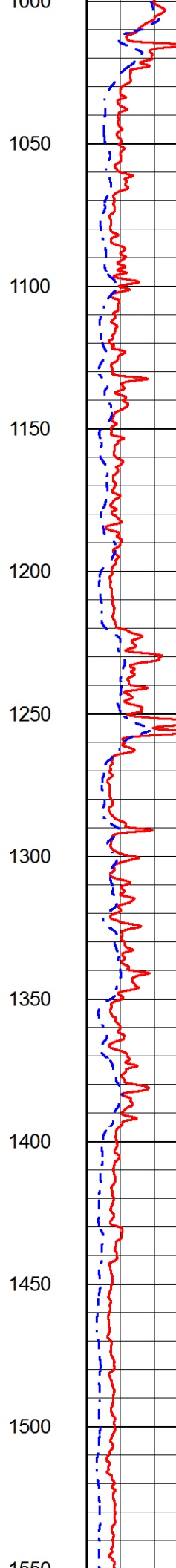
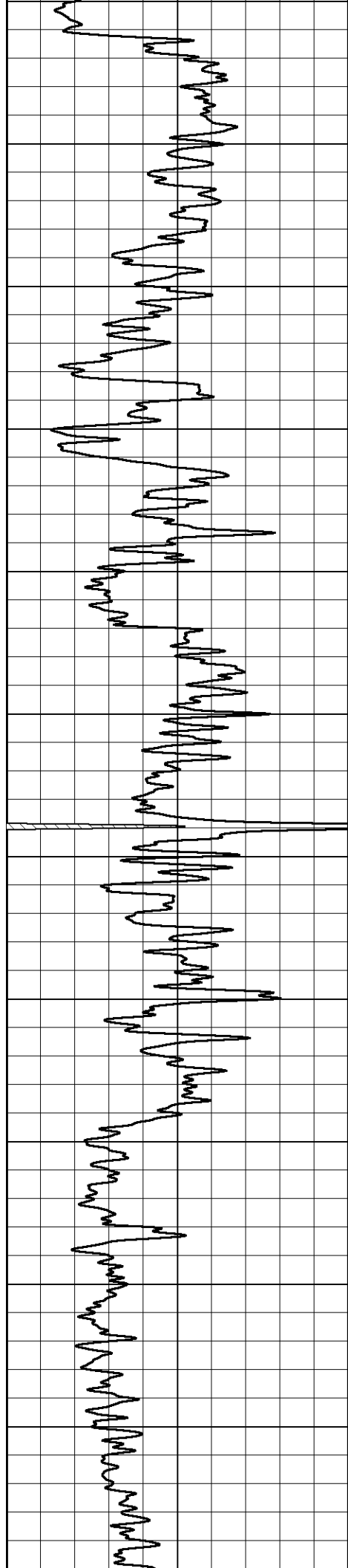
0 GAMMA RAY (GAPI) 150

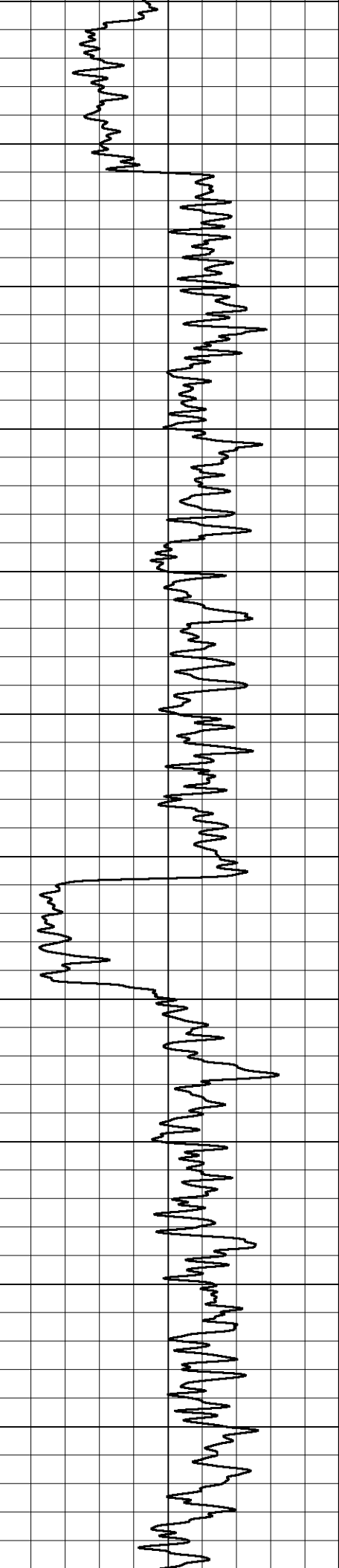
2000 CILD (mmho/m) 0

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

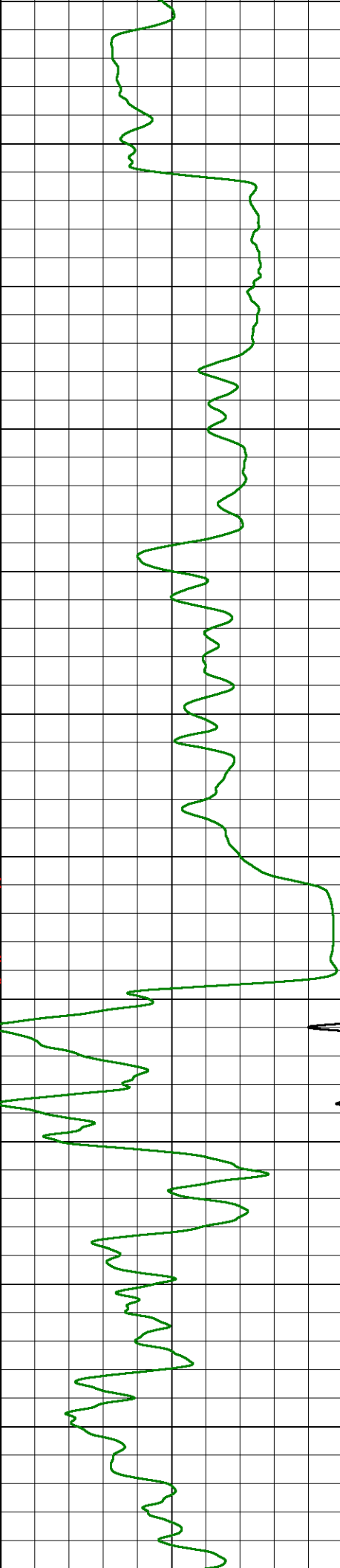
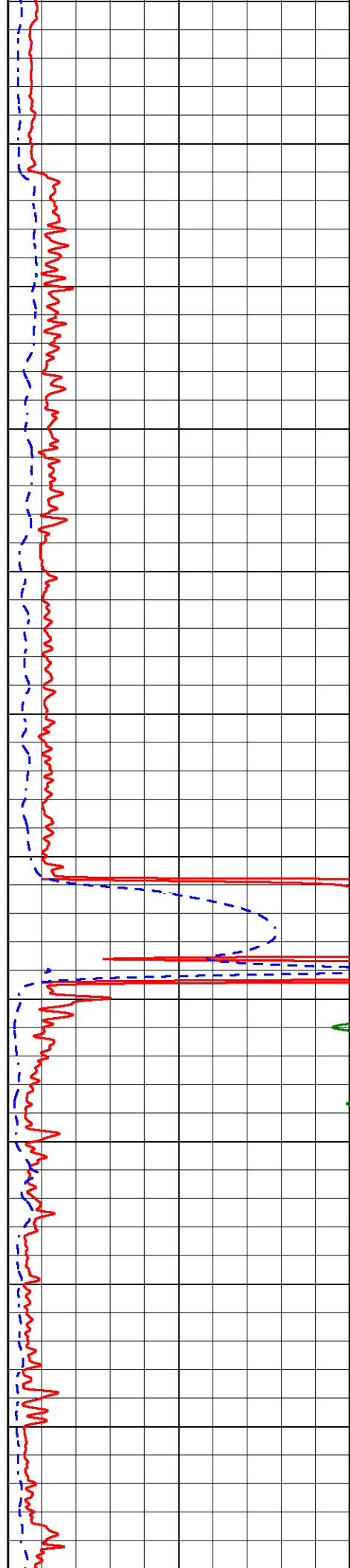


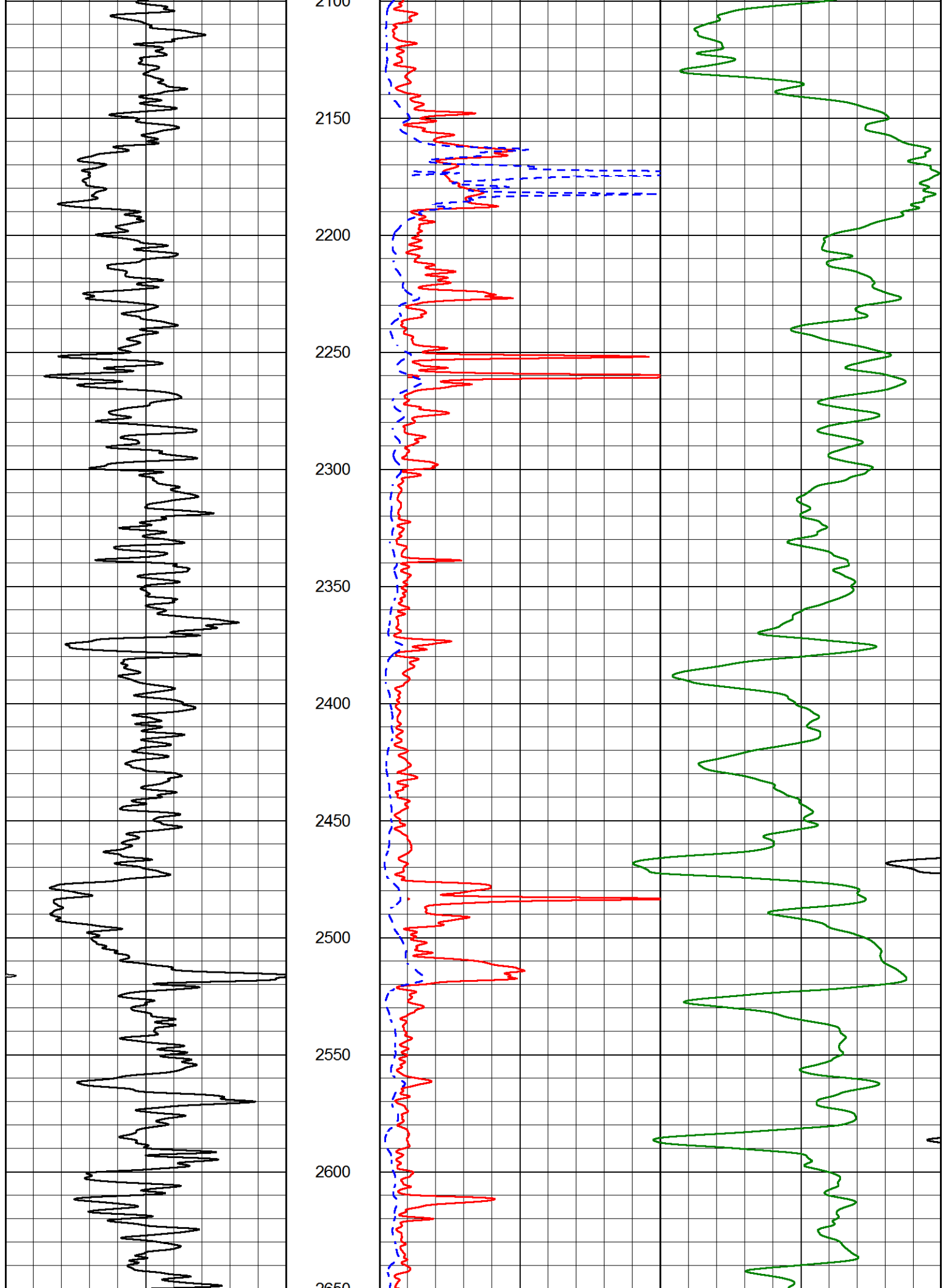


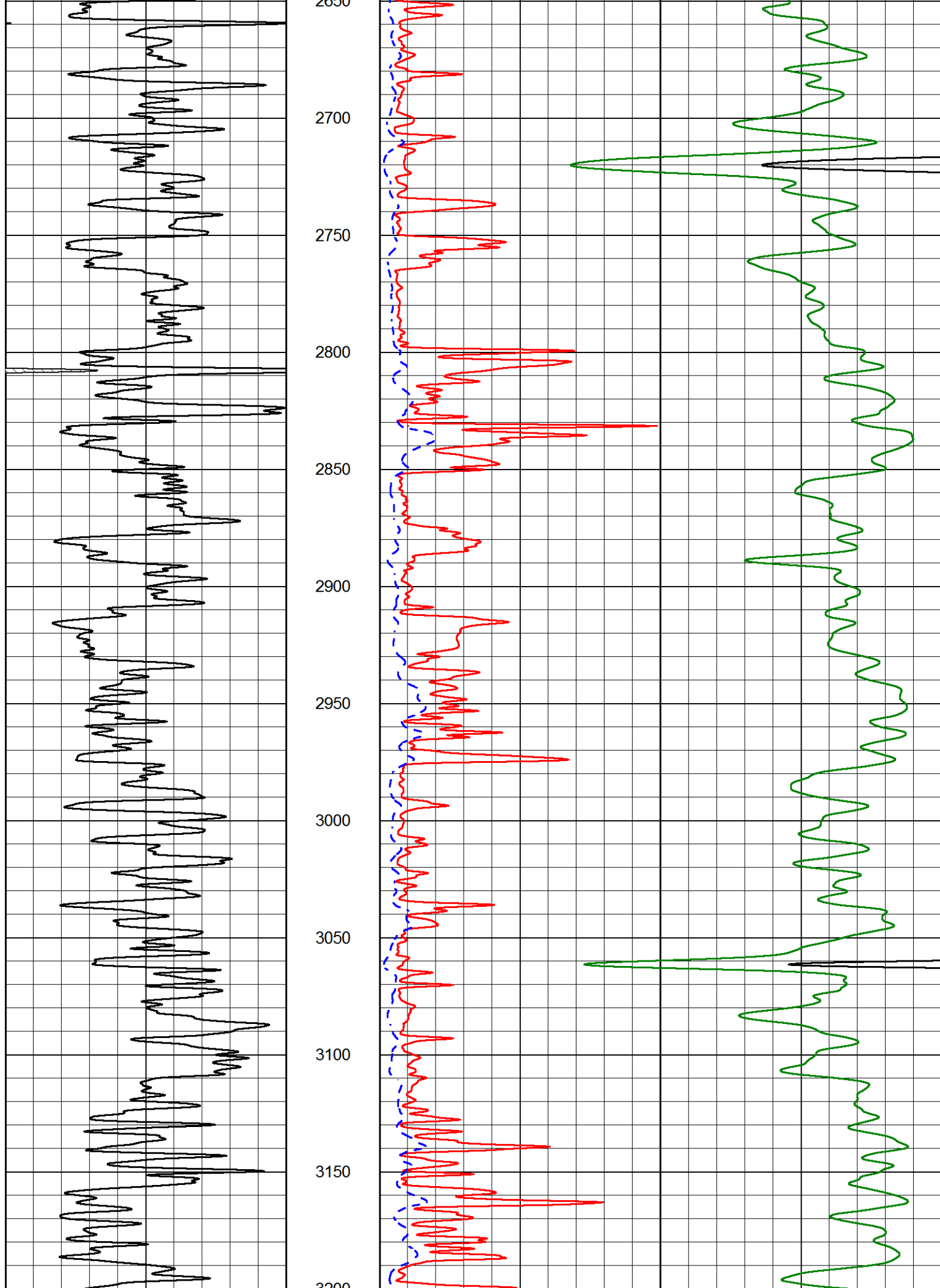


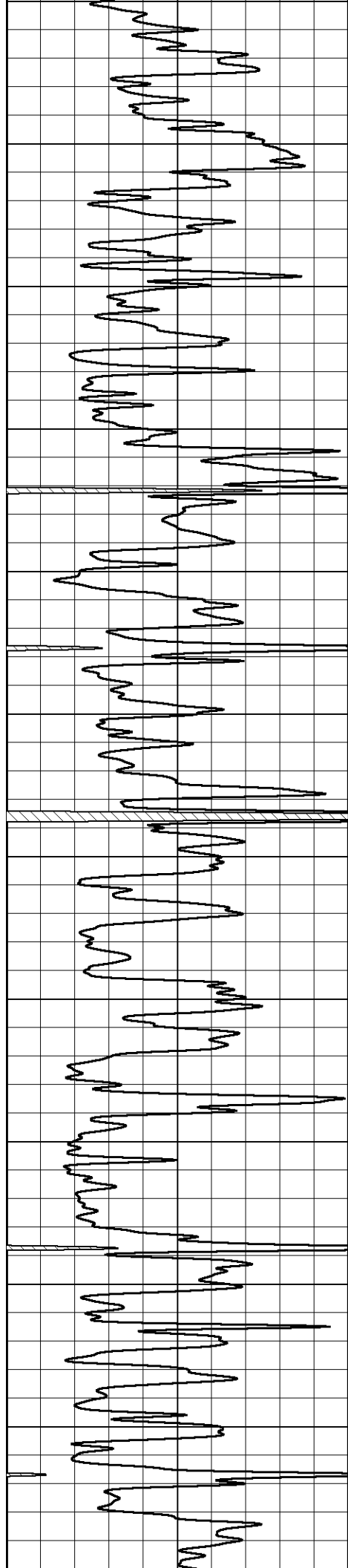


1530
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100

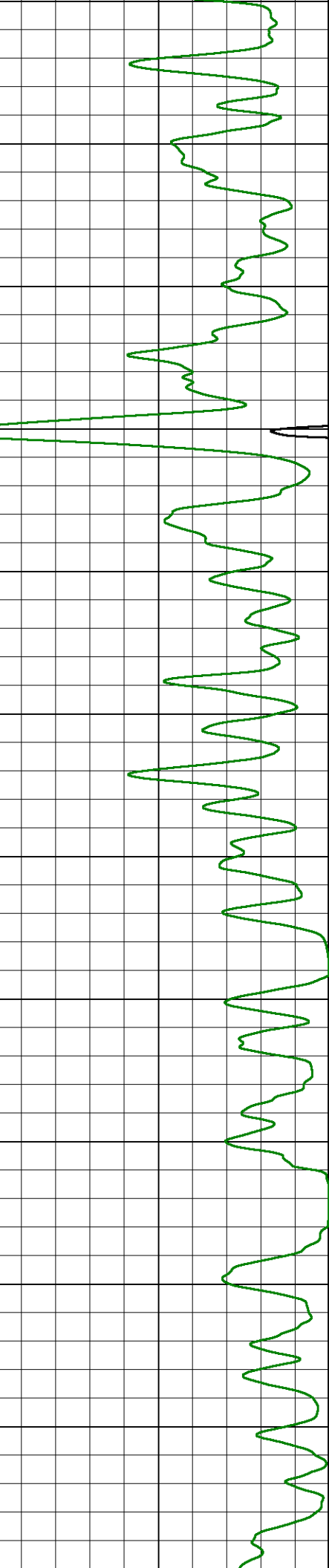
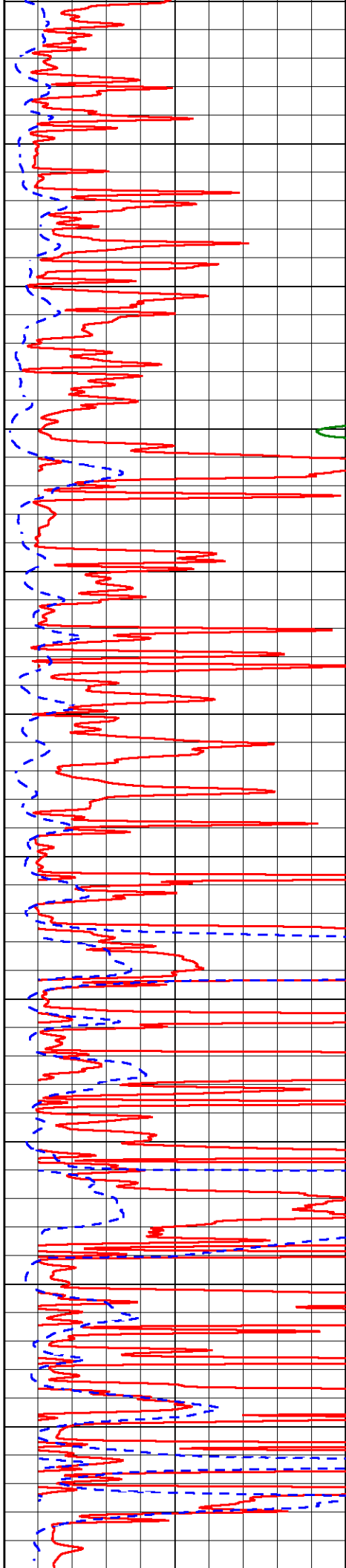


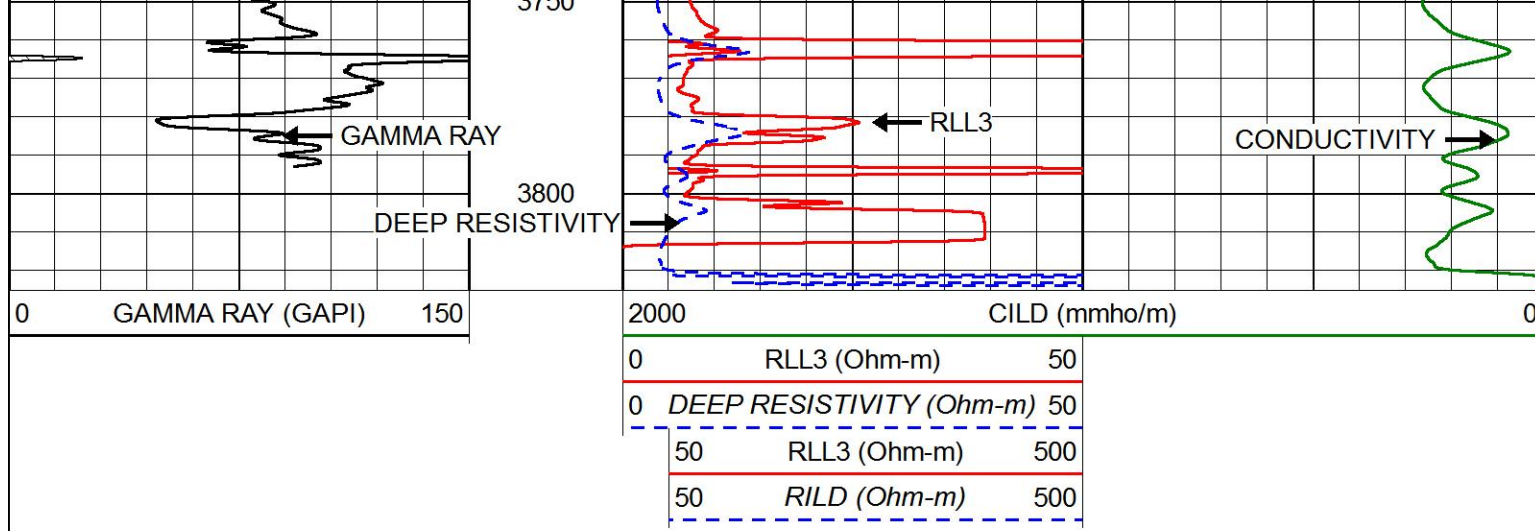






3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700
3750

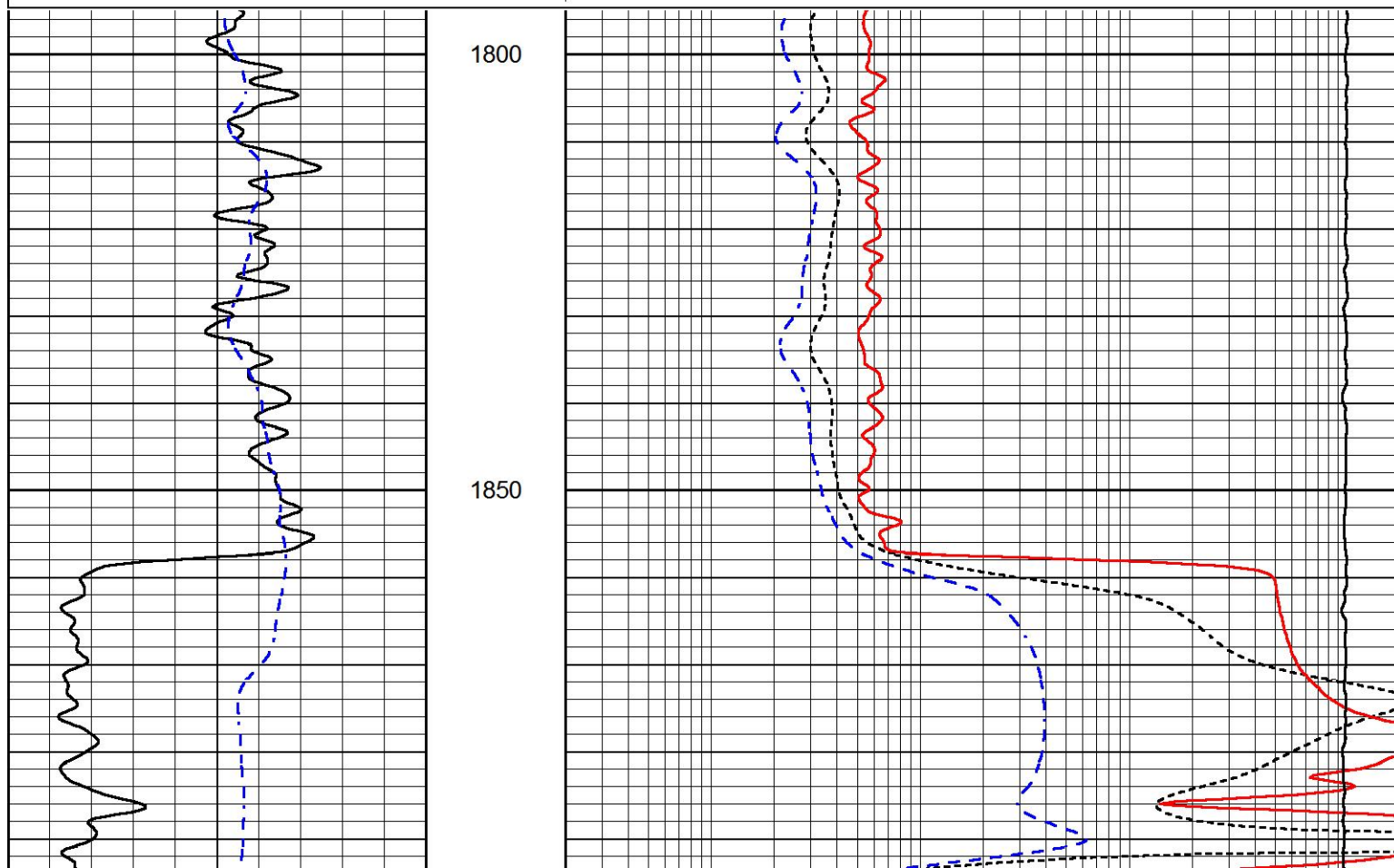


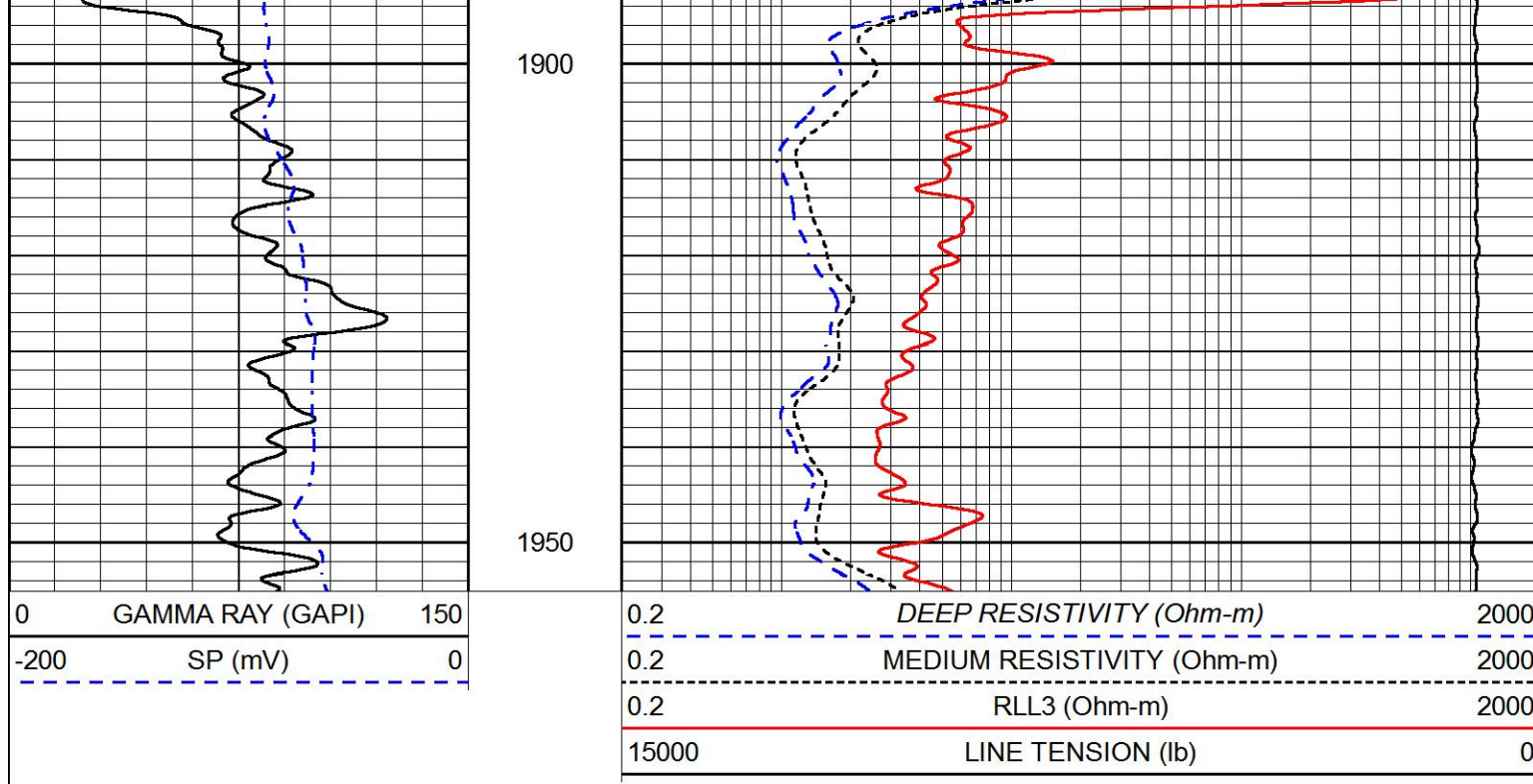


MAIN PASS

Database File canyon_b_bar_b_25_1.db
 Dataset Pathname stack/pass3.1
 Presentation Format dil
 Dataset Creation Fri Nov 09 10:05:32 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



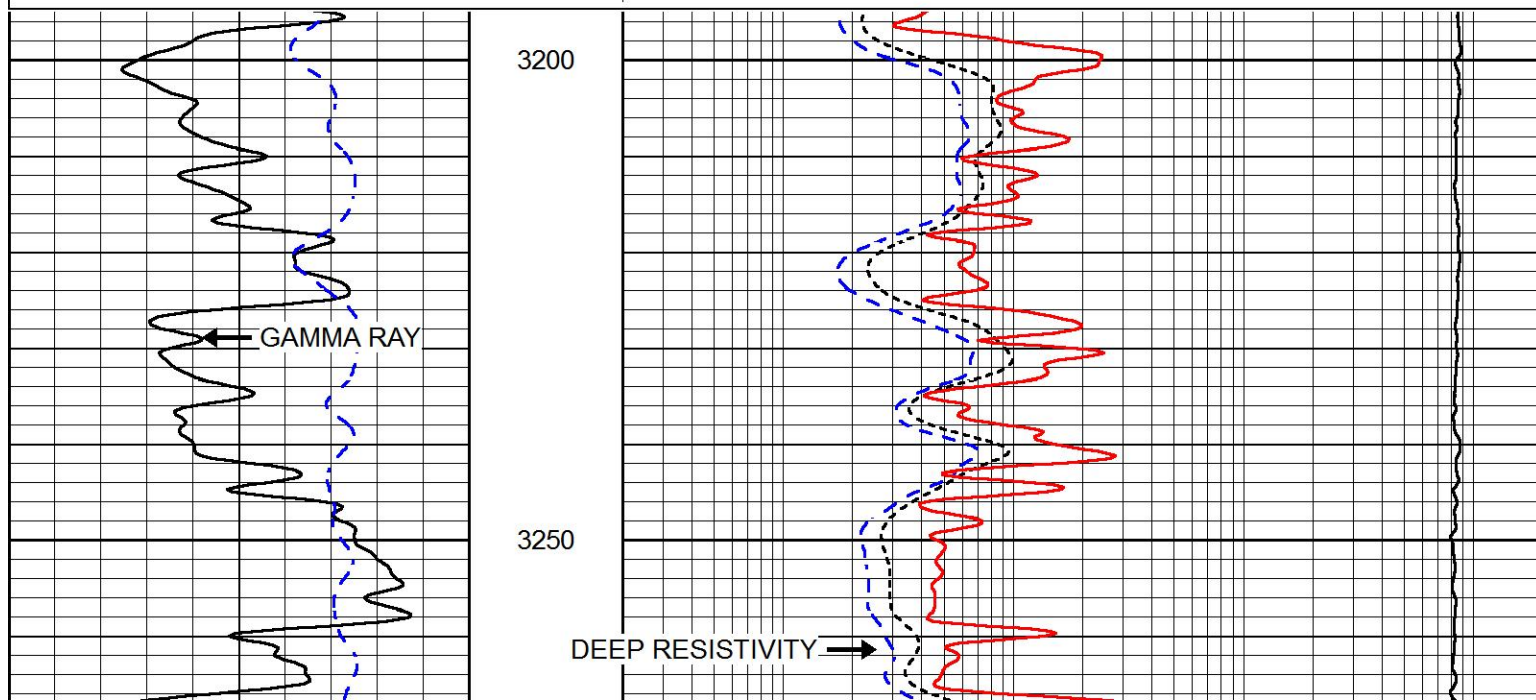
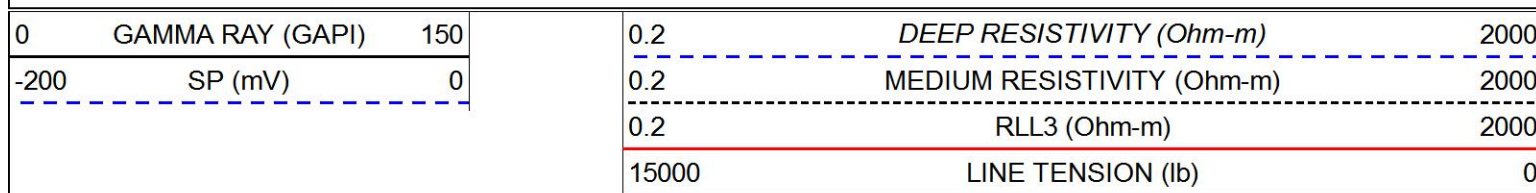


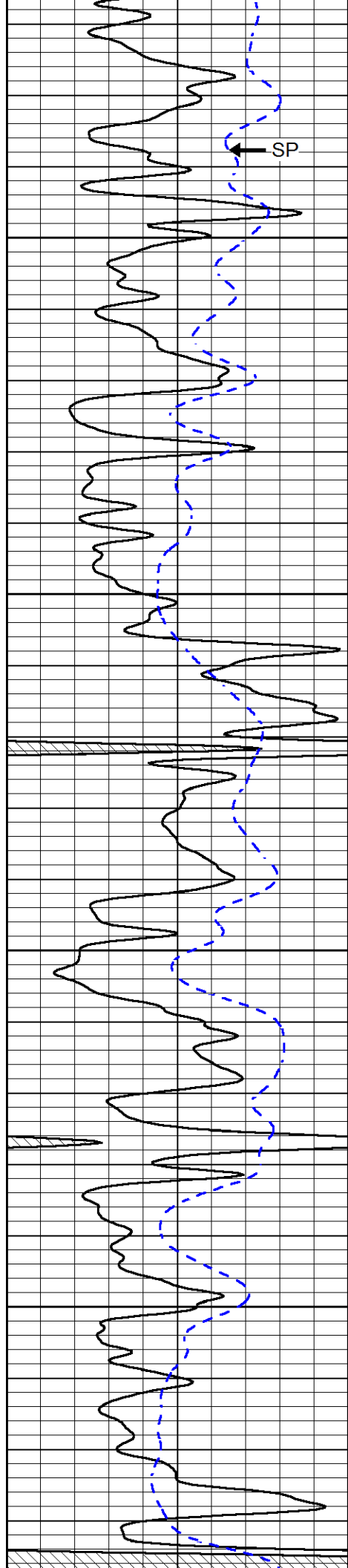


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MAIN PASS

Database File: canyon_b_bar_b_25_1.db
 Dataset Pathname: stack/pass3.1
 Presentation Format: dil
 Dataset Creation: Fri Nov 09 10:05:32 2018
 Charted by: Depth in Feet scaled 1:240



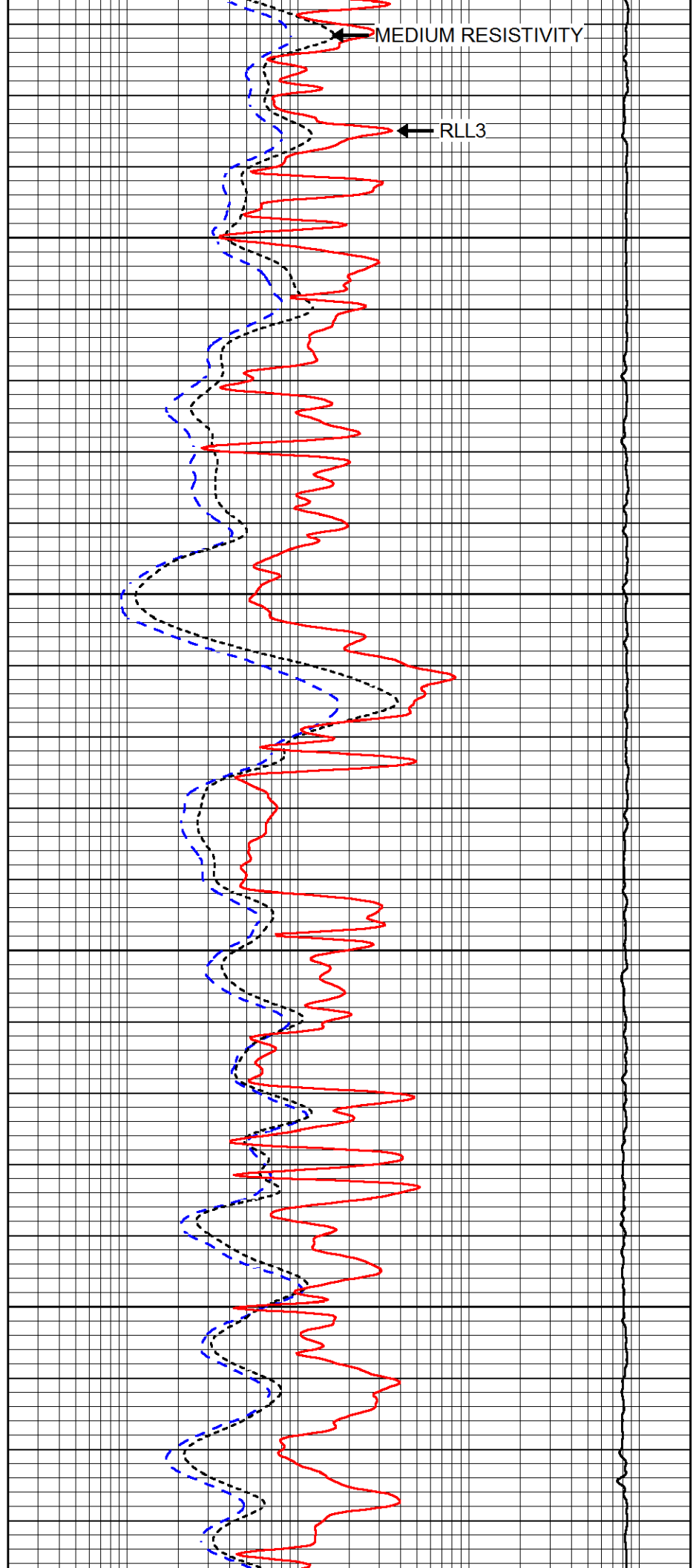


3300

3350

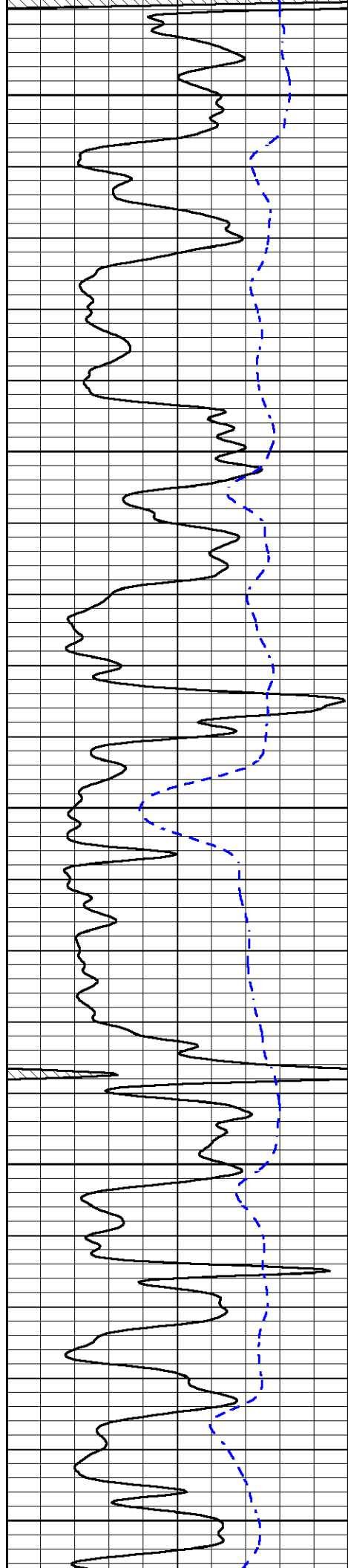
3400

3450



MEDIUM RESISTIVITY

RLL3



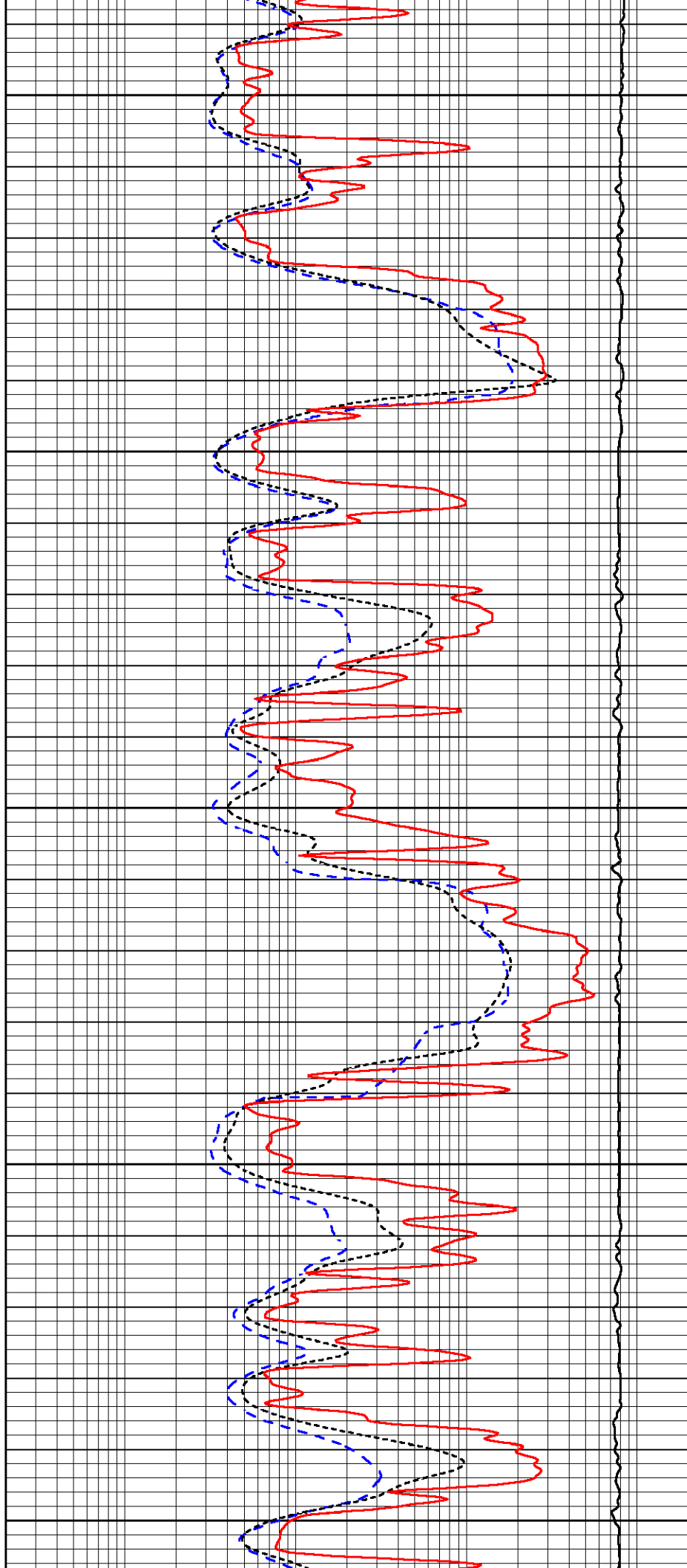
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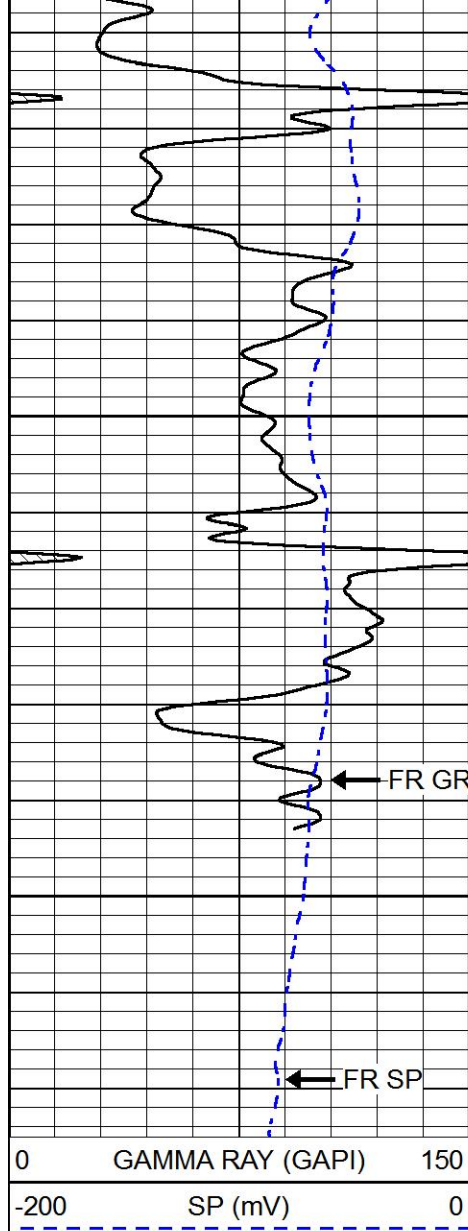
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3600

3650

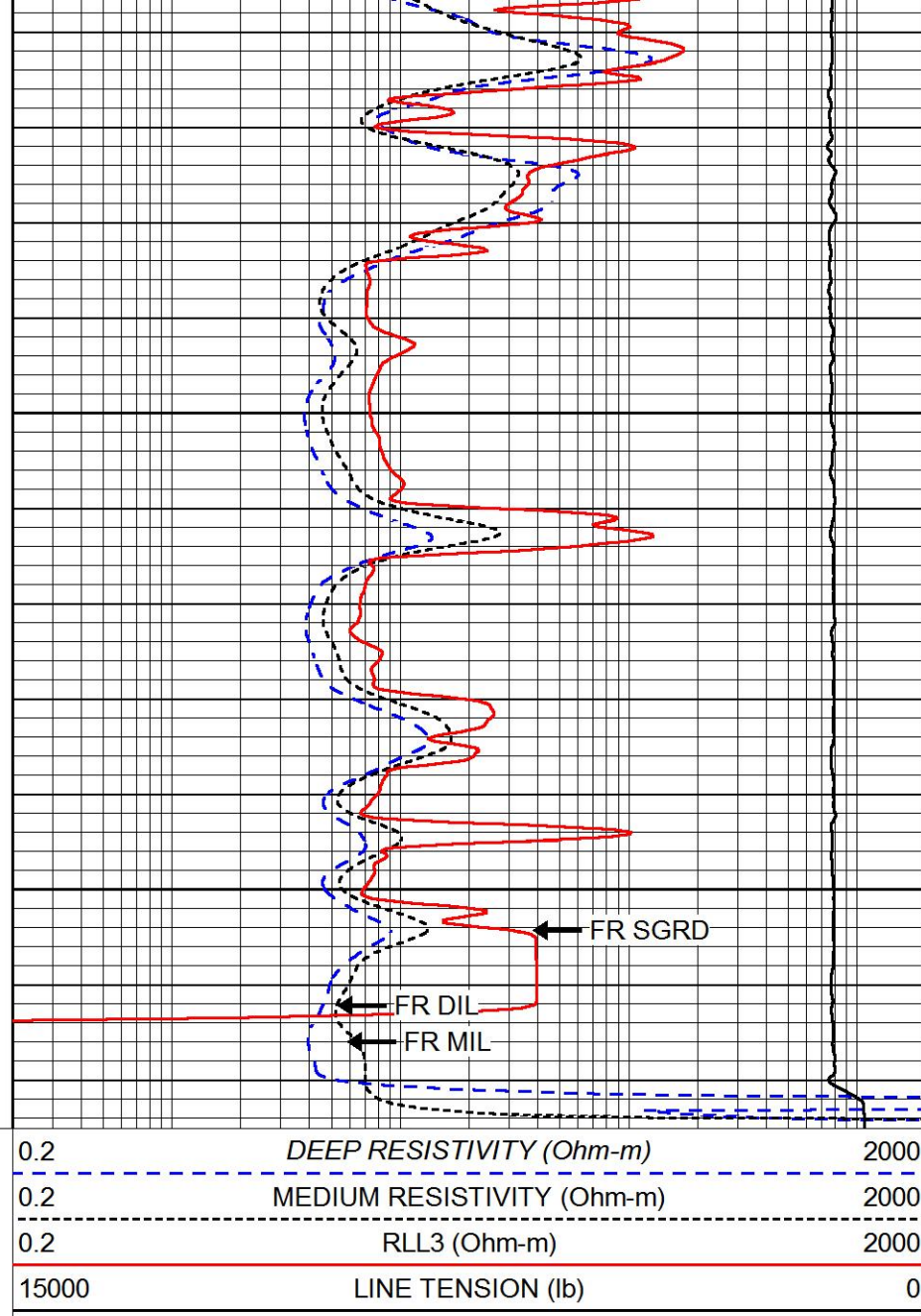
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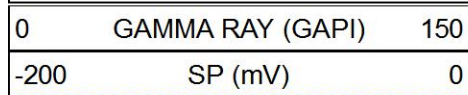
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3800

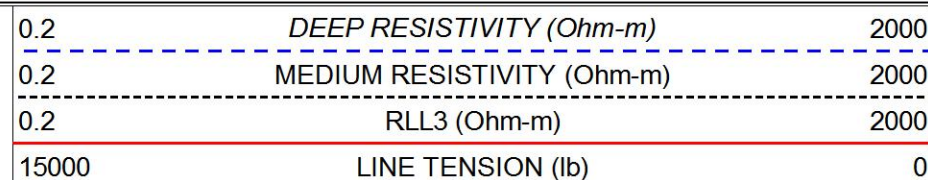


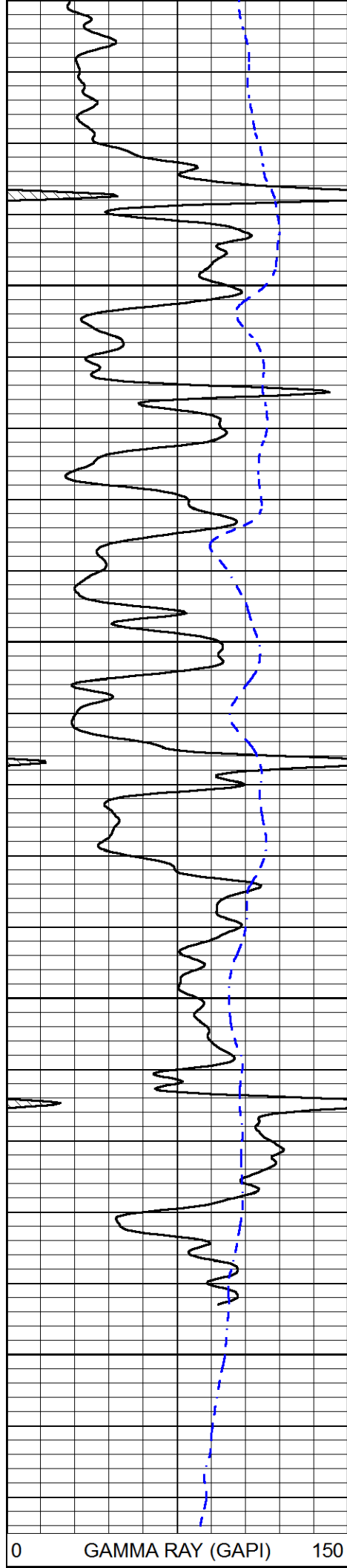
REPEAT SECTION

Database File canyon_b_bar_b_25_1.db
 Dataset Pathname stack/pass2.1
 Presentation Format dil
 Dataset Creation Fri Nov 09 10:05:42 2018
 Charted by Depth in Feet scaled 1:240



3600





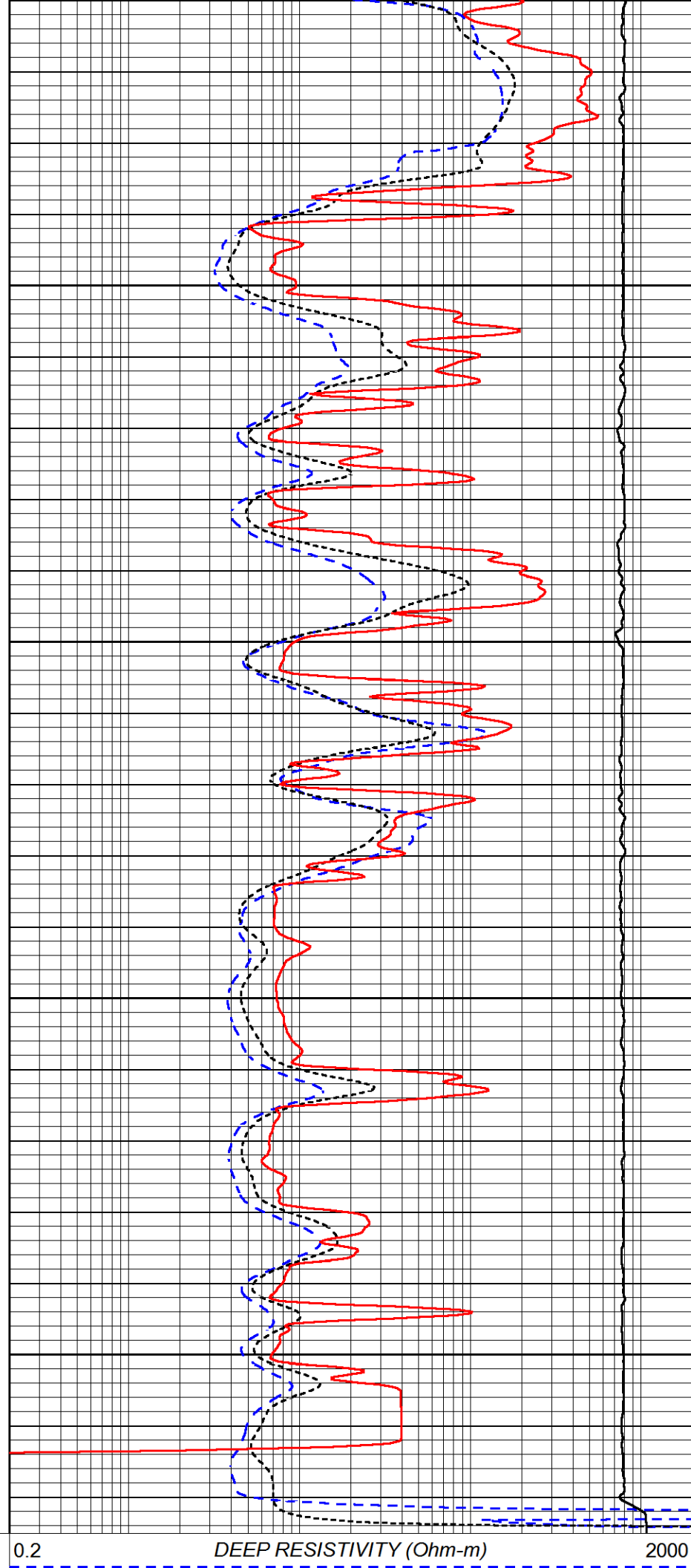
3650

3700

3750

3800

0 GAMMA RAY (GAPI) 150



0.2 DEEP RESISTIVITY (Ohm-m) 2000

-200	SP (mV)	0	0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
			0.2	RLL3 (Ohm-m)	2000
			15000	LINE TENSION (lb)	0

Calibration Report	
Database File	canyon_b_bar_b_25_1.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Fri Nov 09 10:05:32 2018

Dual Induction Calibration Report

Serial-Model:	1987-M&W
Calibration Performed:	Thu Aug 09 22:42:18 2018

Readings			References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.520	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-110.500

Compensated Density Calibration Report
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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
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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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Well	B BAR B NO. 25-1
Field	WC
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State	KANSAS