



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **THOMAS GARNER, INC.**
Well **DIAMOND 'H' #1**
Field **UNKNOWN**
County **STAFFORD** State **KANSAS**

Location: API #: 15-185-24071-00-00

Other Services

SEC 23 TWP 25S RGE 13W
2310' FSL & 810' FWL

CNL/CDL
MEL/BHCS

Permanent Datum GROUND LEVEL Elevation 1923'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1934'
D.F. N/A
G.L. 1923'

Date 8/4/2020

Run Number	ONE	
Depth Driller	4300'	
Depth Logger	4300'	
Bottom Logged Interval	4299'	
Top Log Interval	300'	
Casing Driller	8.625" @ 349'	
Casing Logger	349'	
Bit Size	7.875"	
Type Fluid in Hole	CHEMICAL	
Salinity, ppm CL	8,300	
Density / Viscosity	8.9 79	
pH / Fluid Loss	11.0 9.2	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	.35 @ 73	
Rmt @ Meas. Temp	.26 @ 73	
Rmc @ Meas. Temp	.47 @ 73	
Source of Rmt / Rmc	CHARTS	
Rm @ BHT	.21 @ 119	
Operating Rig Time	4 HOURS	
Max Rec. Temp. F	119 DEGF	
Equipment Number	P-108	
Location	HAYS	
Recorded By	J. HENRICKSON	
Witnessed By	KEITH REAVIS	

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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.

ST. JOHN, KANSAS
SOUTH TO 60 RD, 1 EAST, 1/2 SOUTH,
EAST INTO

Log Measured From: KELLY BUSHING 11 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: KEITH REAVIS
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 119	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 5	mmho/m 5	mV 270	degF 0	Off	ft 4300

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	44.50			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	41.40			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	40.65						
LSD	32.35			CDL-M&W (915-956)	8.50	4.00	250.00
DCAL	32.33						
SSD	31.85						
ML-PSI UDM ML (UDM-01)				Stackable Microlog Tools	11.50	4.00	215.00
MCAL	20.87						
MI	20.87						
MN	20.87						
RLL3	15.80						
RLL3F	15.79						
CILD	8.00			DIL-M&W (55-222)	18.50	3.50	220.00

CILM

4.70

SP

0.20

Dataset: garner_diamond_h_1.db: field/well/stackml/pass3.1
Total length: 47.00 ft
Total weight: 835.00 lb
O.D.: 4.00 in



MAIN PASS

Database File garner_diamond_h_1.db
Dataset Pathname stackml/pass3.1
Presentation Format dil2in
Dataset Creation Tue Aug 04 14:51:04 2020
Charted by Depth in Feet scaled 1:600

0 GAMMA RAY (GAPI) 150

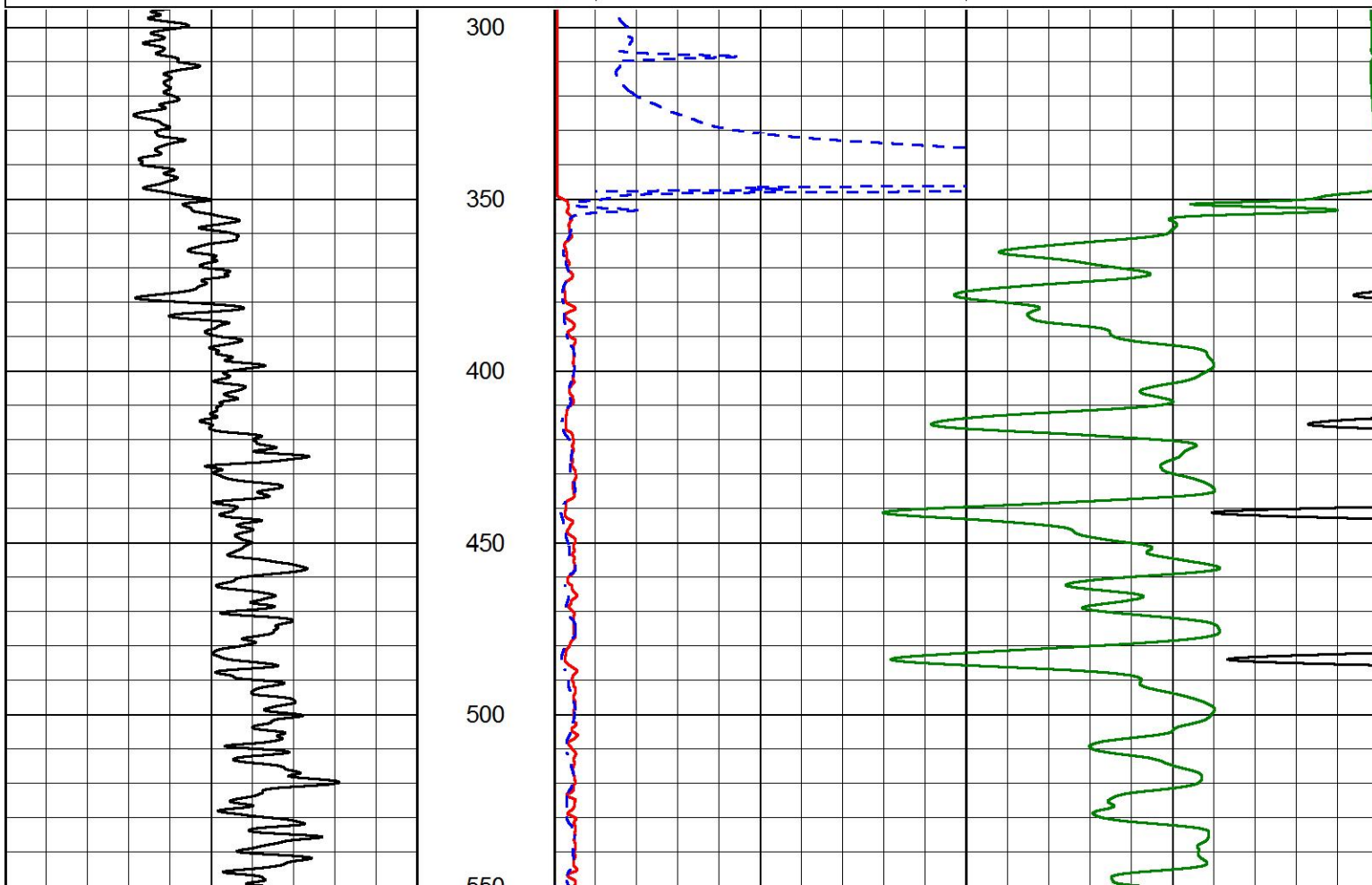
2000 CILD (mmho/m) 0

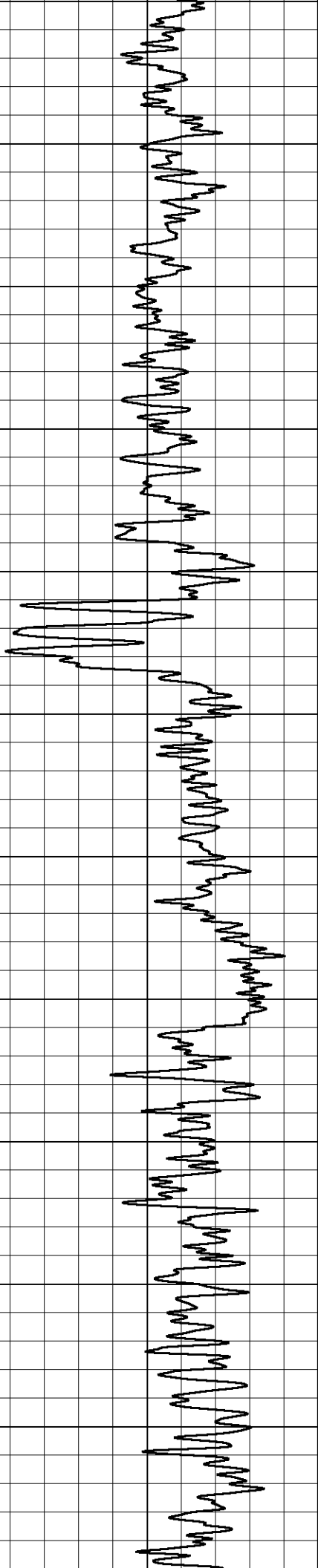
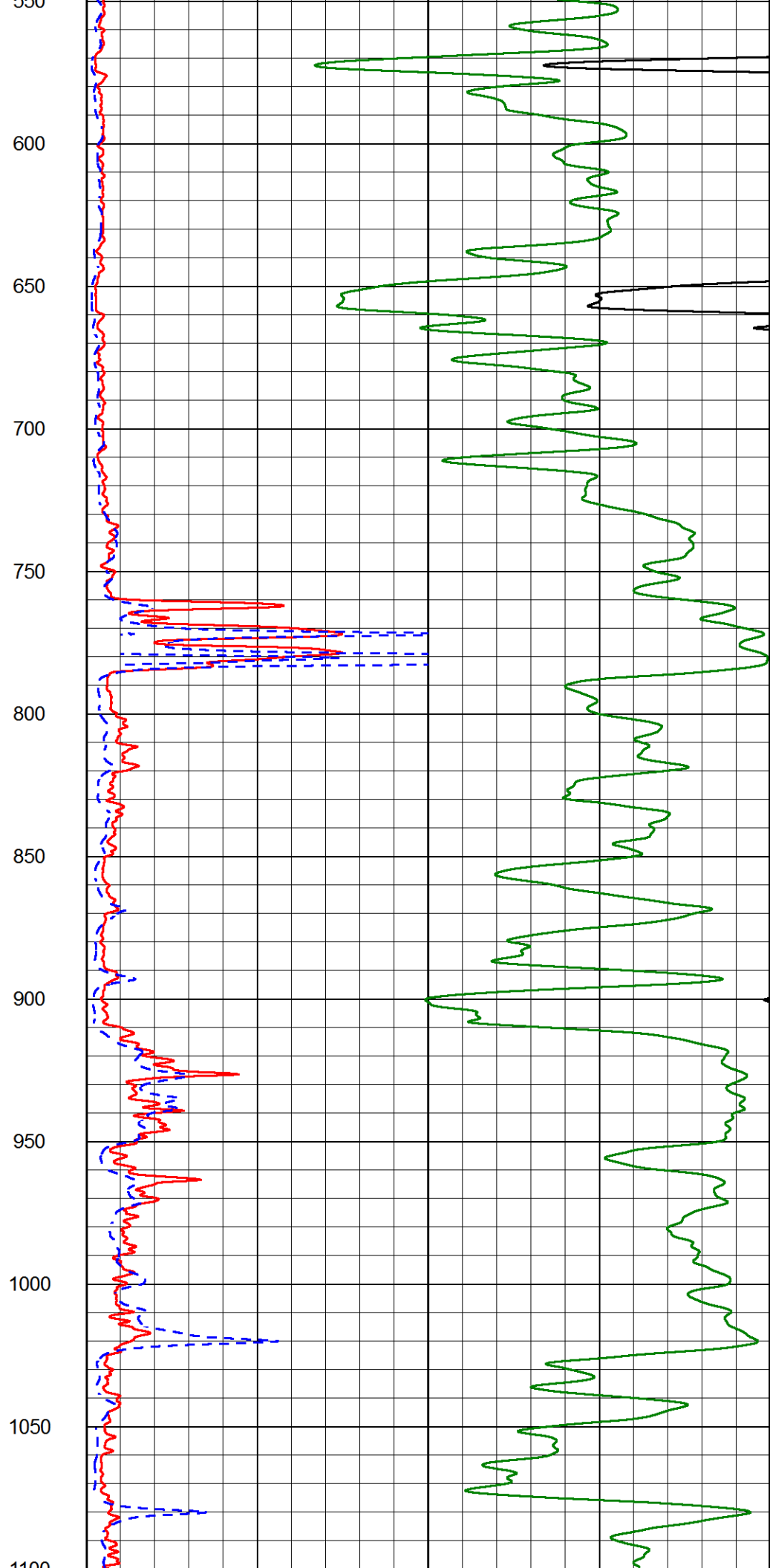
0 RLL3 (Ohm-m) 50

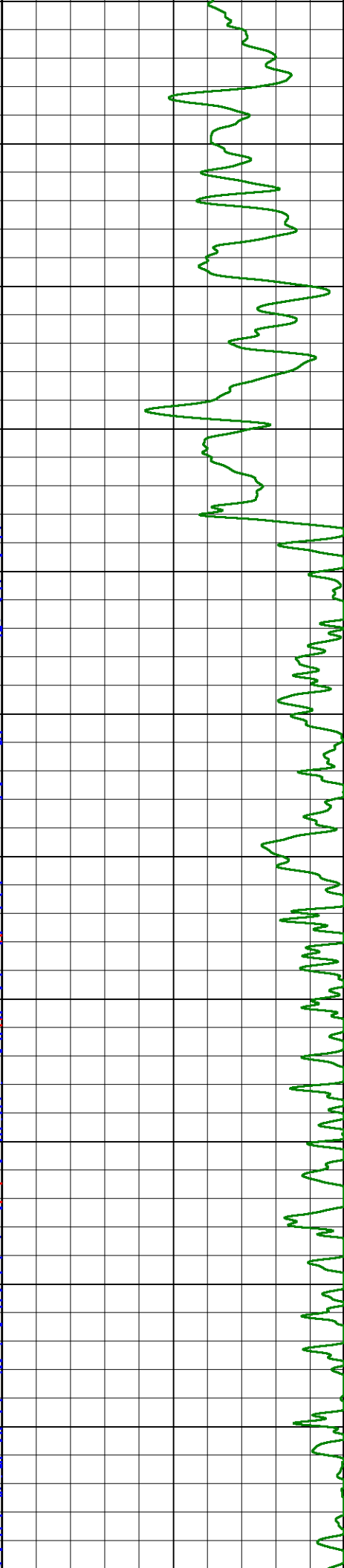
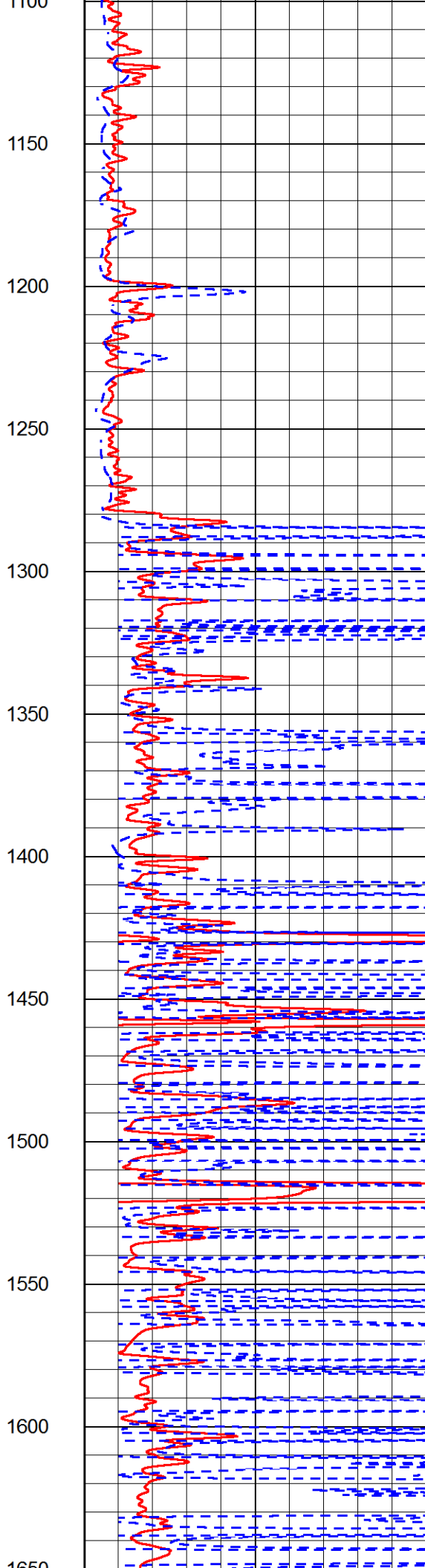
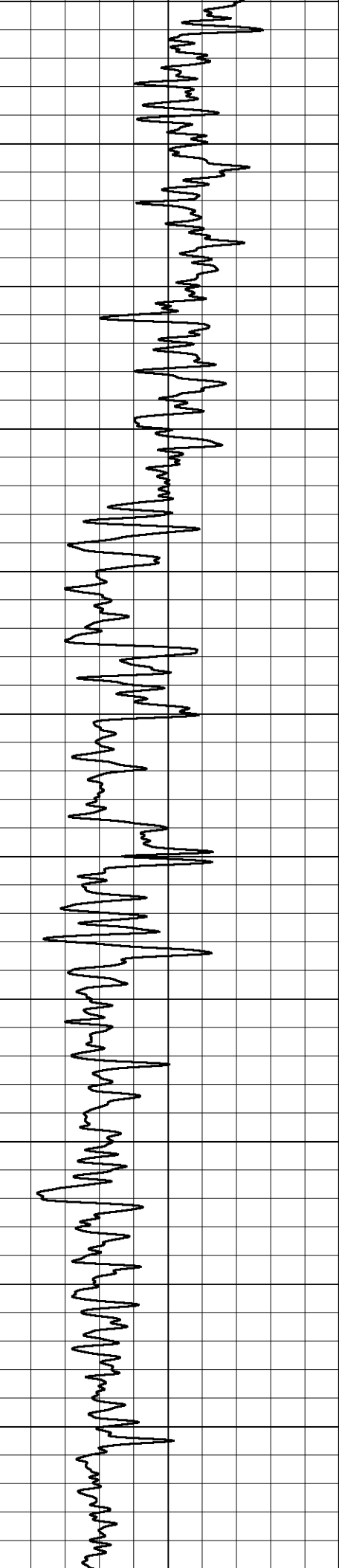
0 DEEP RESISTIVITY (Ohm-m) 50

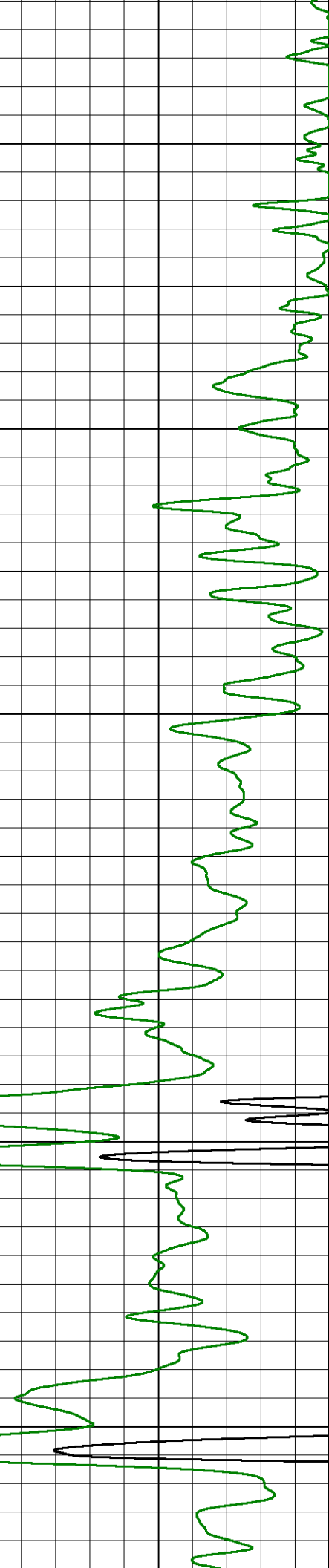
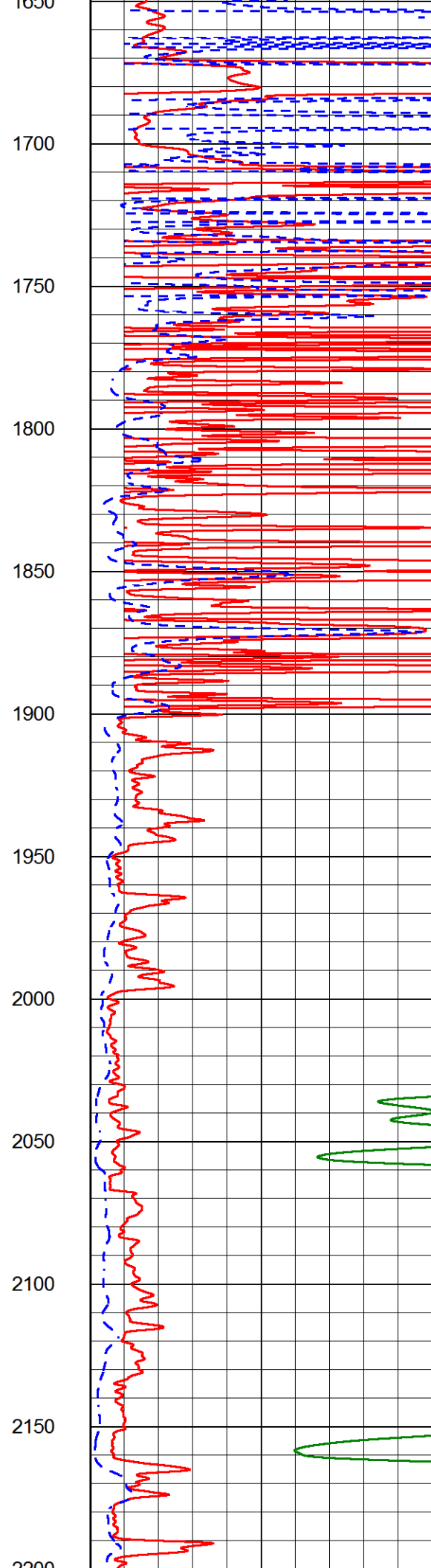
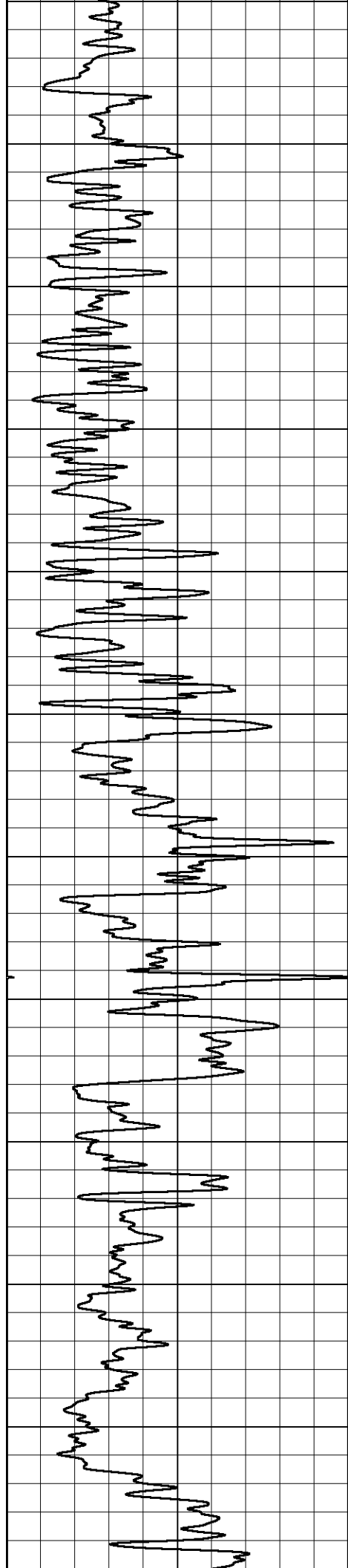
50 RLL3 (Ohm-m) 200

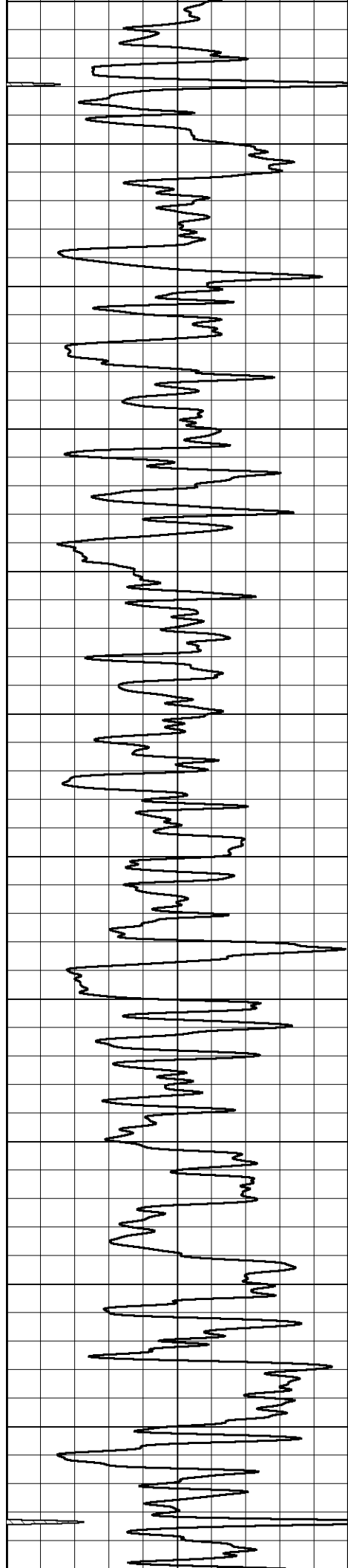
50 RILD (Ohm-m) 200



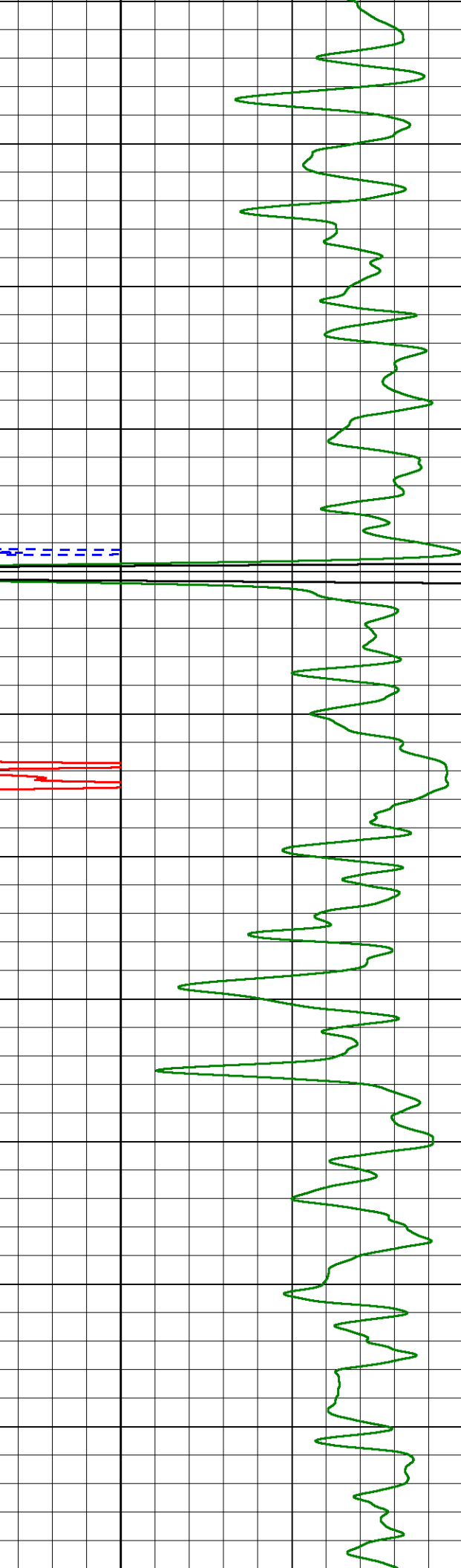
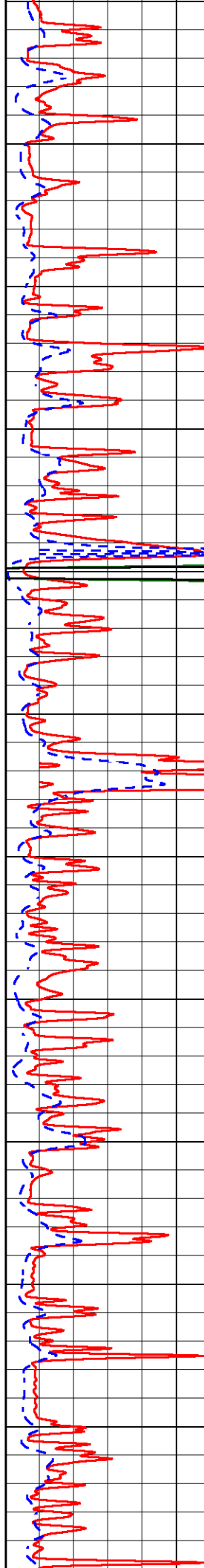


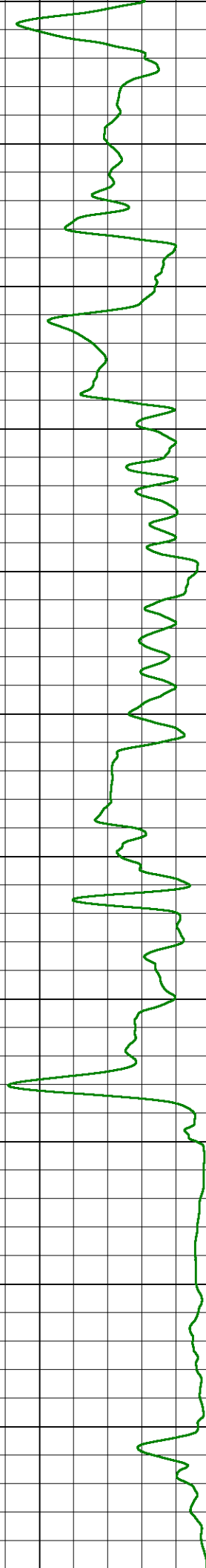
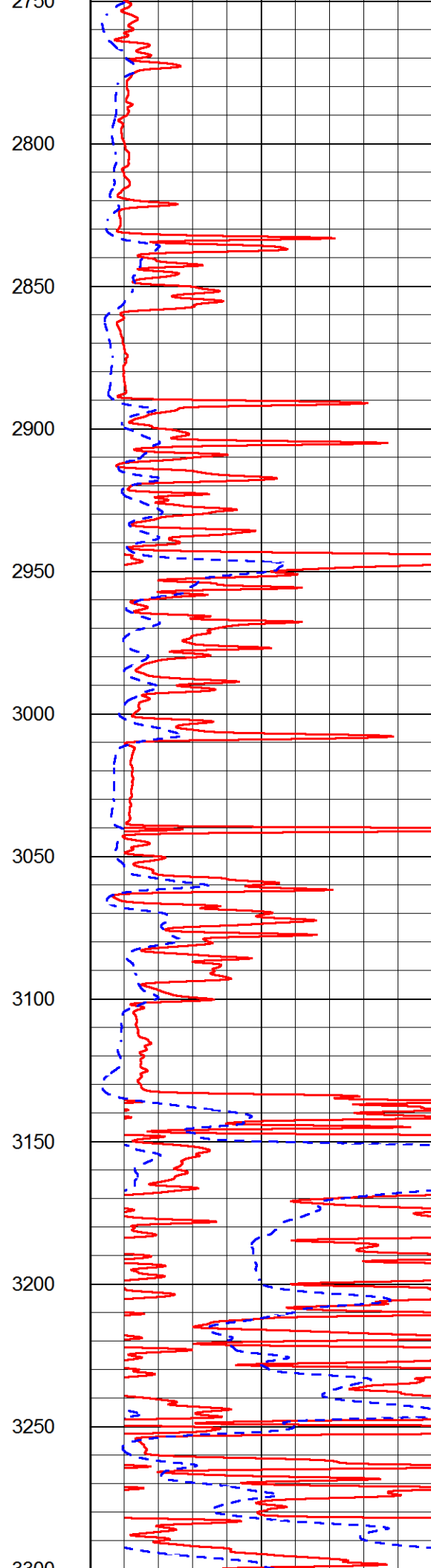
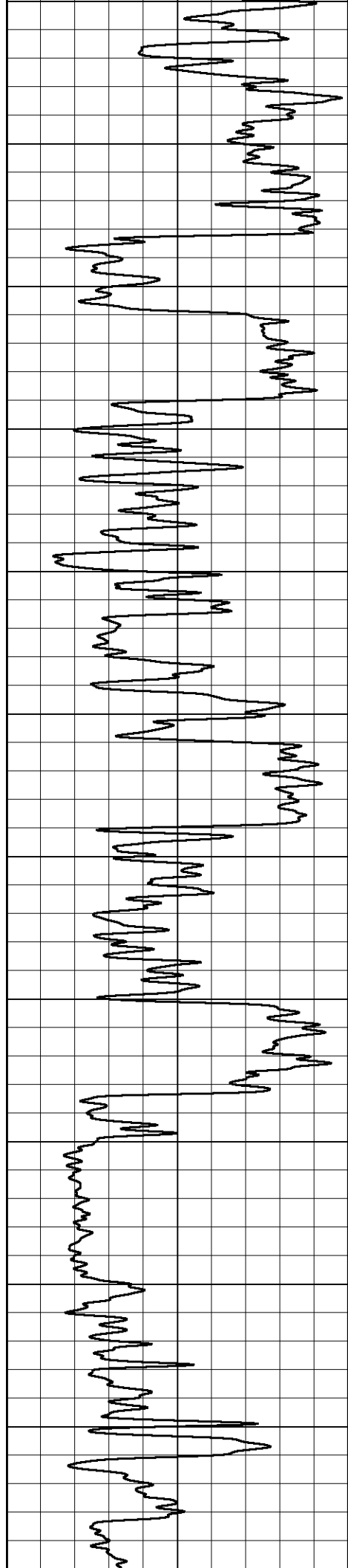


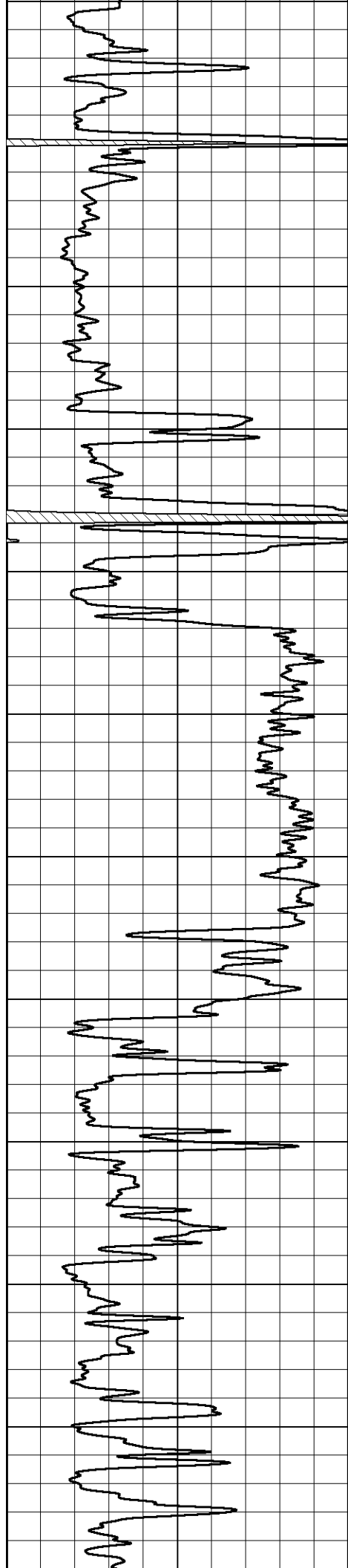




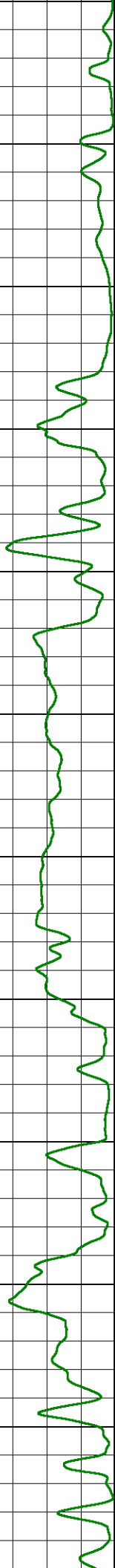
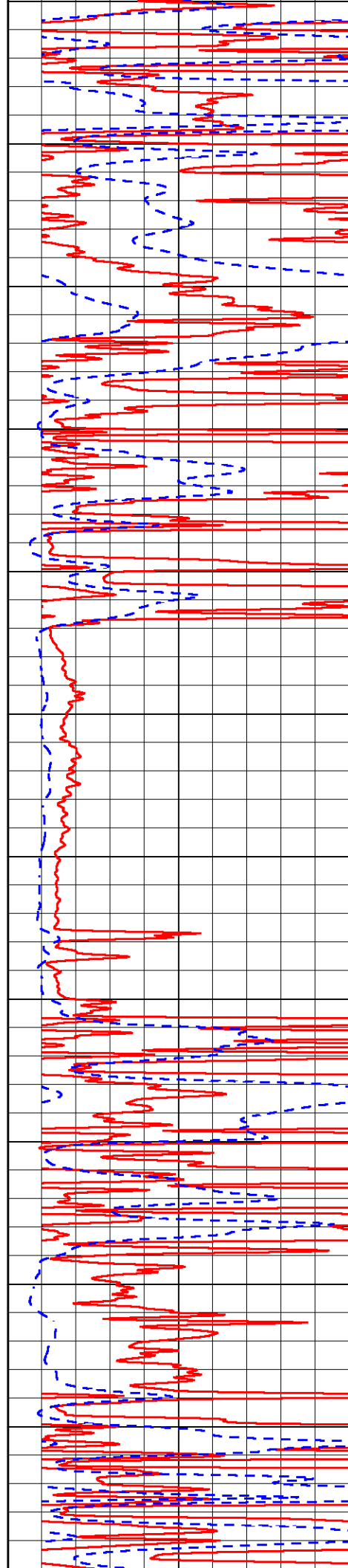
2200
2250
2300
2350
2400
2450
2500
2550
2600
2650
2700
2750

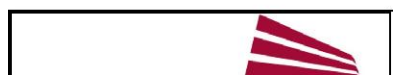
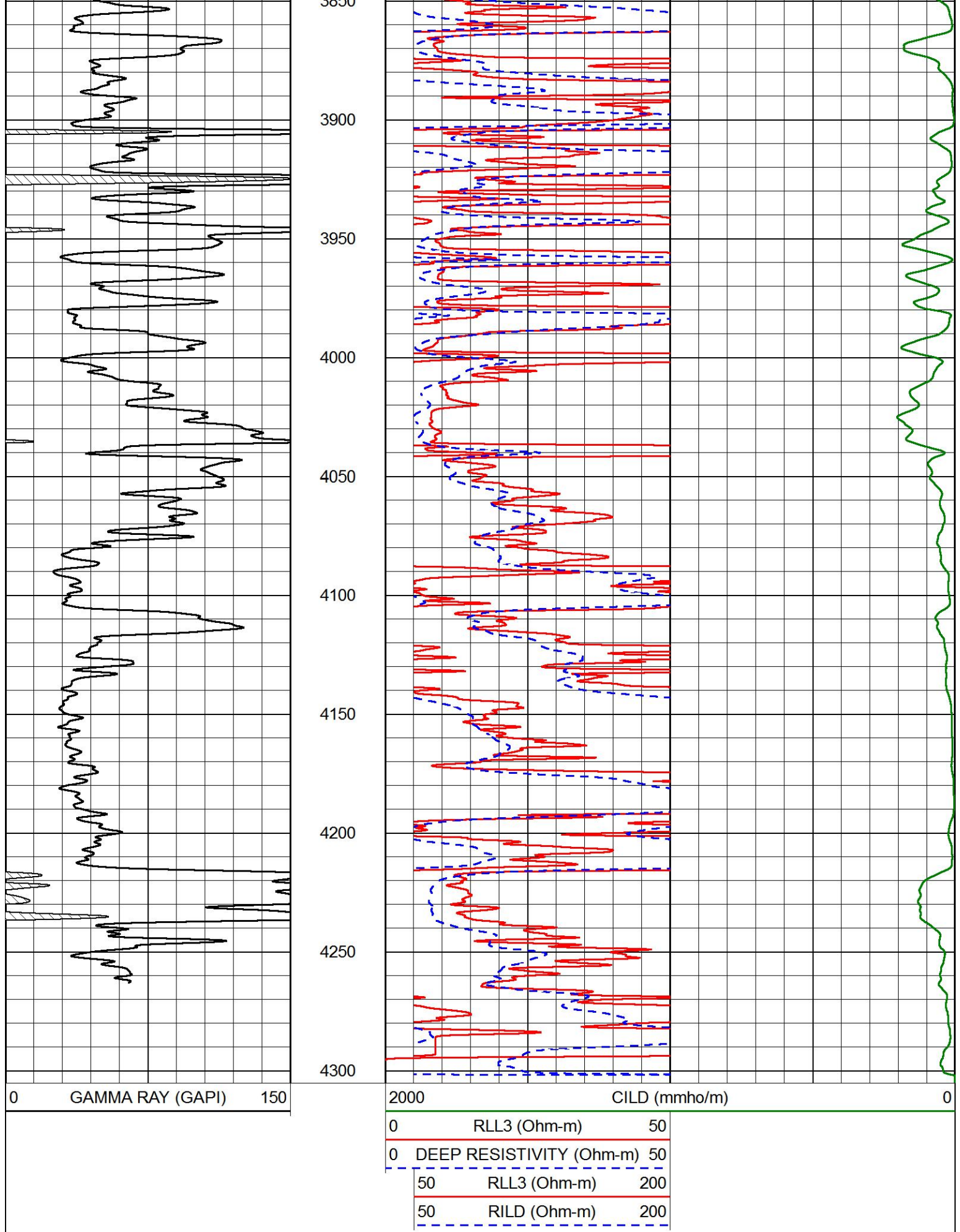






3300
3350
3400
3450
3500
3550
3600
3650
3700
3750
3800
3850

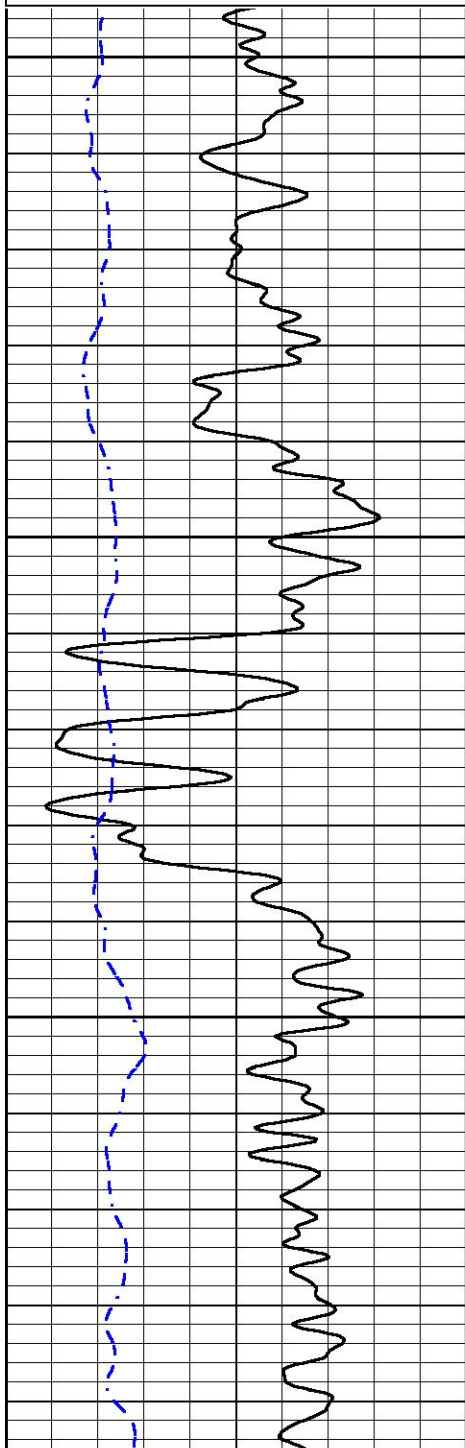




Database File garner_diamond_h_1.db
 Dataset Pathname stackml/pass3.1
 Presentation Format dil
 Dataset Creation Tue Aug 04 14:51:04 2020
 Charted by Depth in Feet scaled 1:240

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

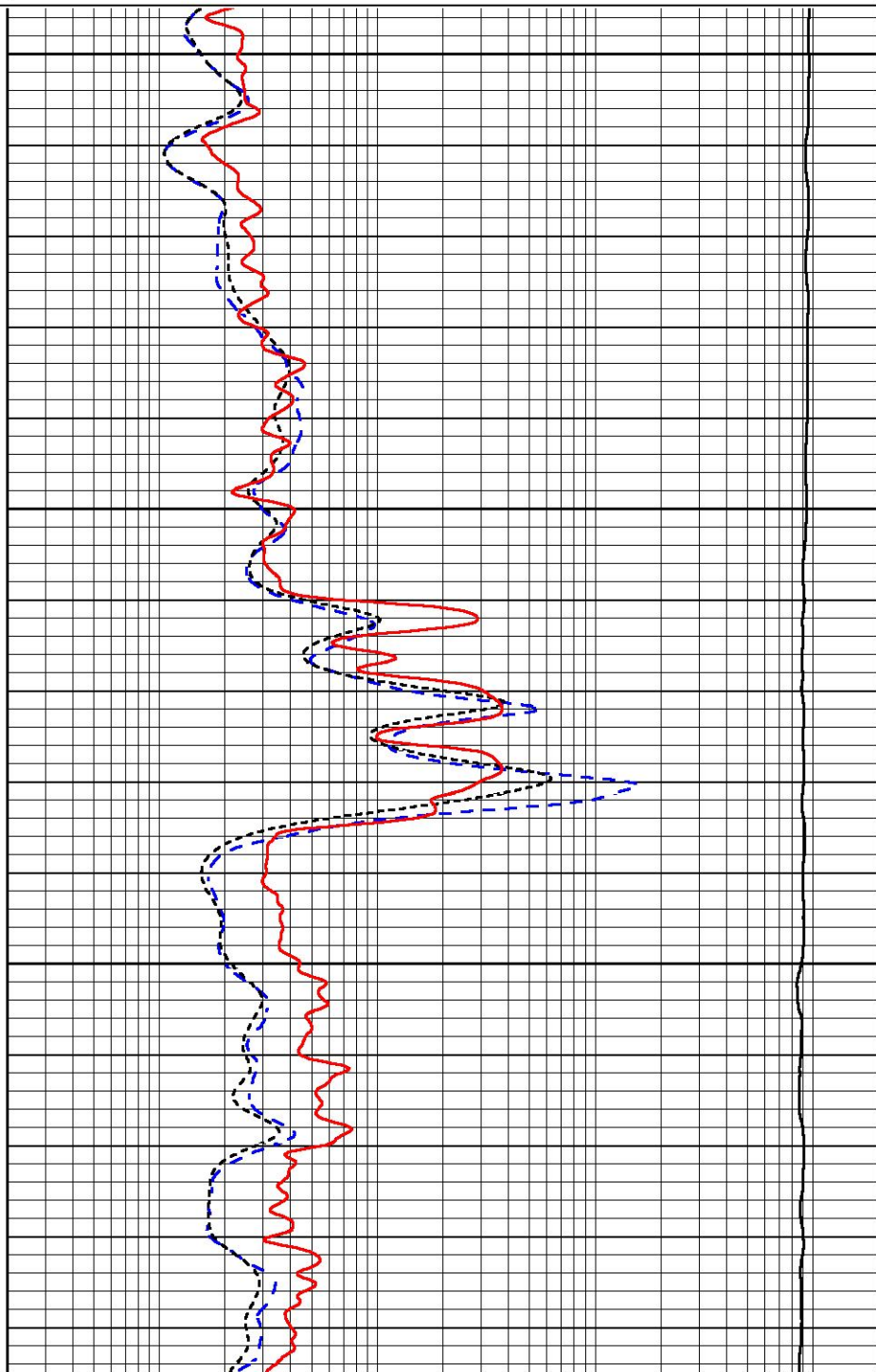
0.2 DEEP RESISTIVITY (Ohm-m) 2000
 0.2 MEDIUM RESISTIVITY (Ohm-m) 2000
 0.2 RLL3 (Ohm-m) 2000
 15000 LINE TENSION (lb) 0



700

750

800



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

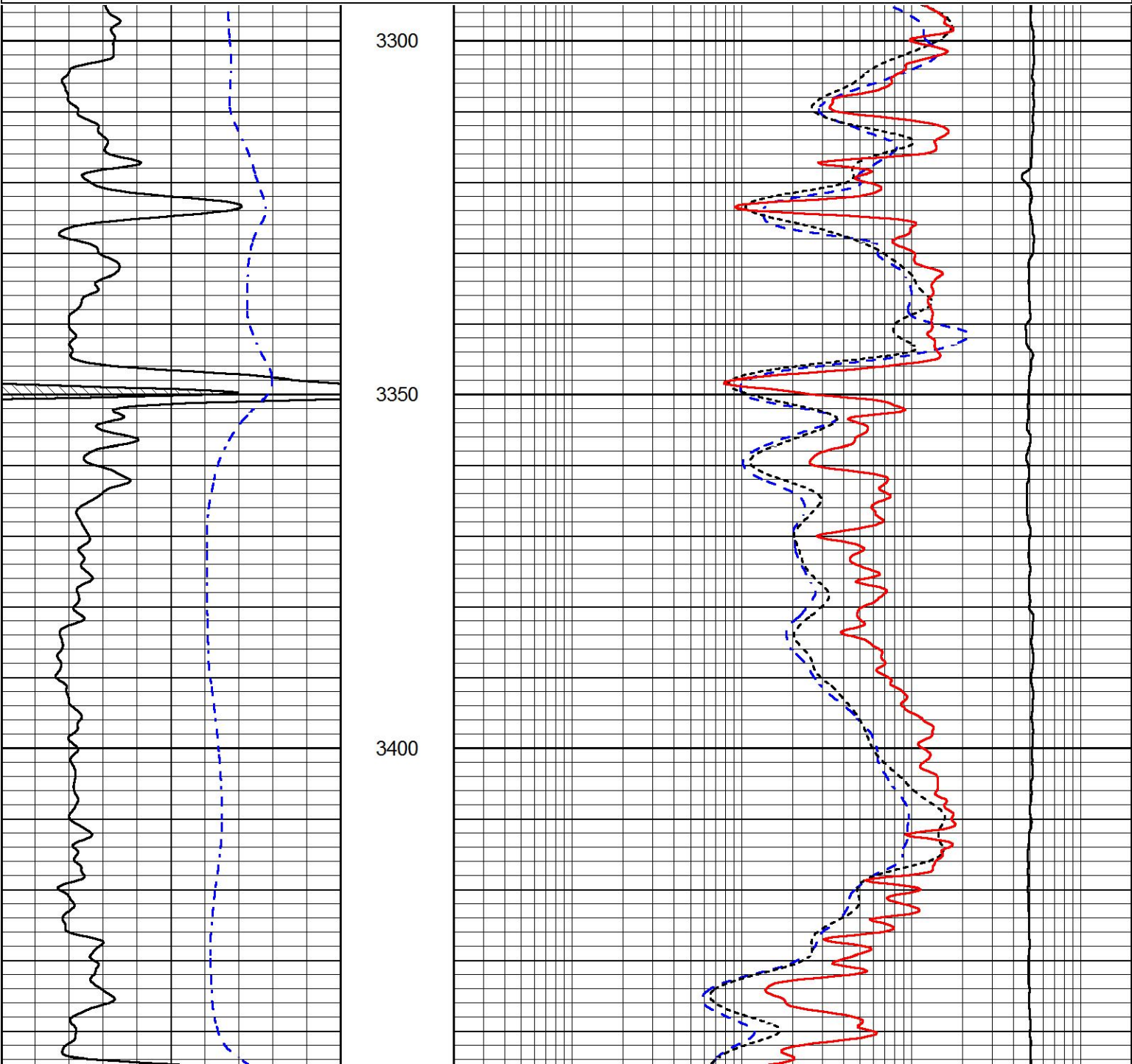
0.2 DEEP RESISTIVITY (Ohm-m) 2000
 0.2 MEDIUM RESISTIVITY (Ohm-m) 2000
 0.2 RLL3 (Ohm-m) 2000
 15000 LINE TENSION (lb) 0

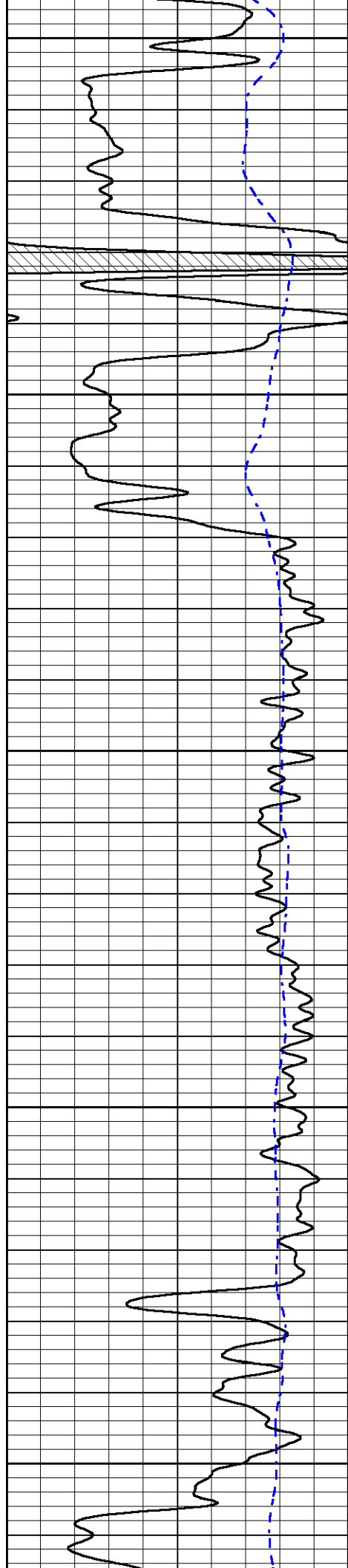


MAIN PASS

Database File	garner_diamond_h_1.db
Dataset Pathname	stackml/pass3.1
Presentation Format	dil
Dataset Creation	Tue Aug 04 14:51:04 2020
Charted by	Depth in Feet scaled 1:240

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





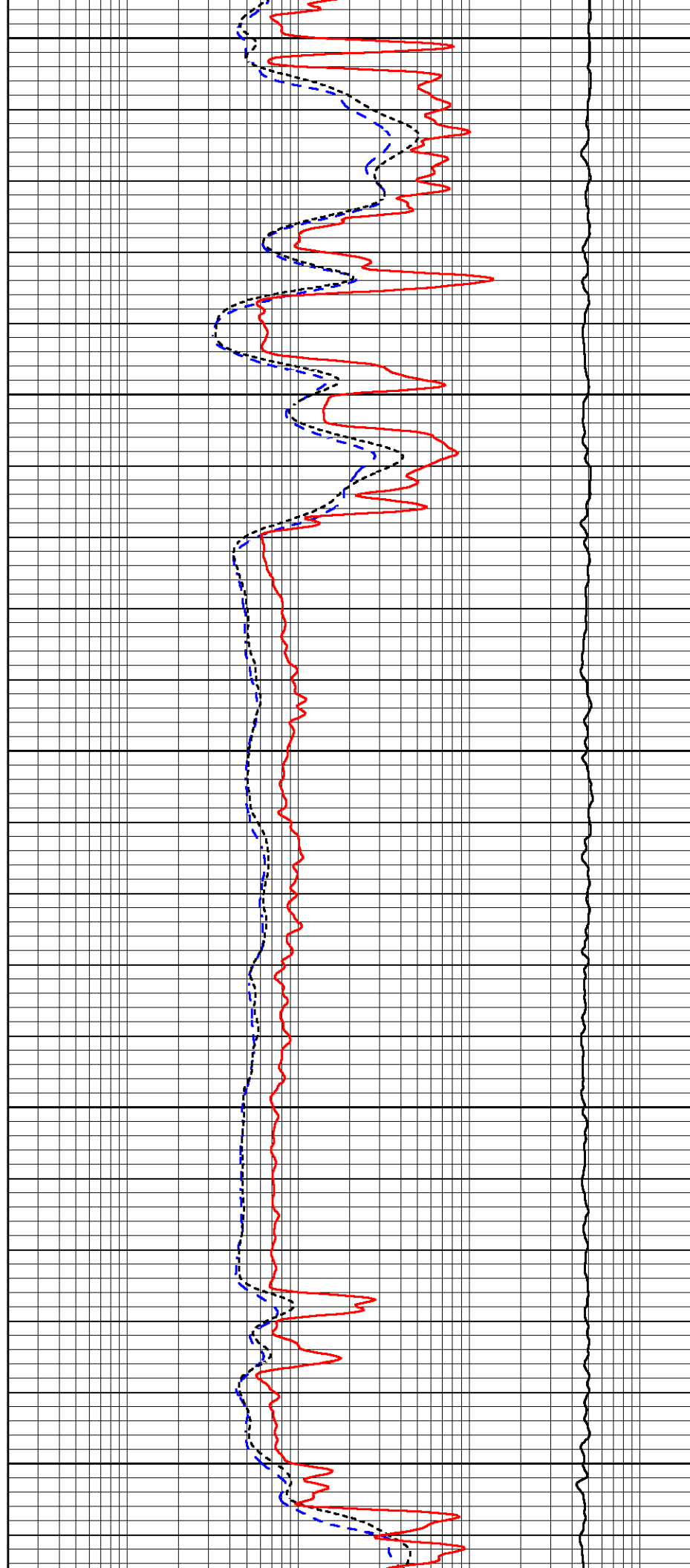
3450

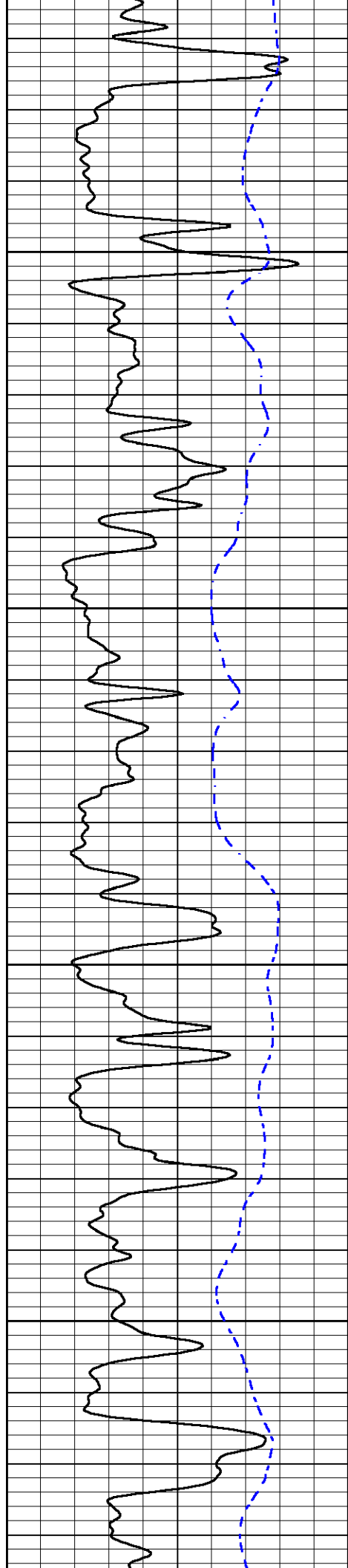
3500

3550

3600

3650



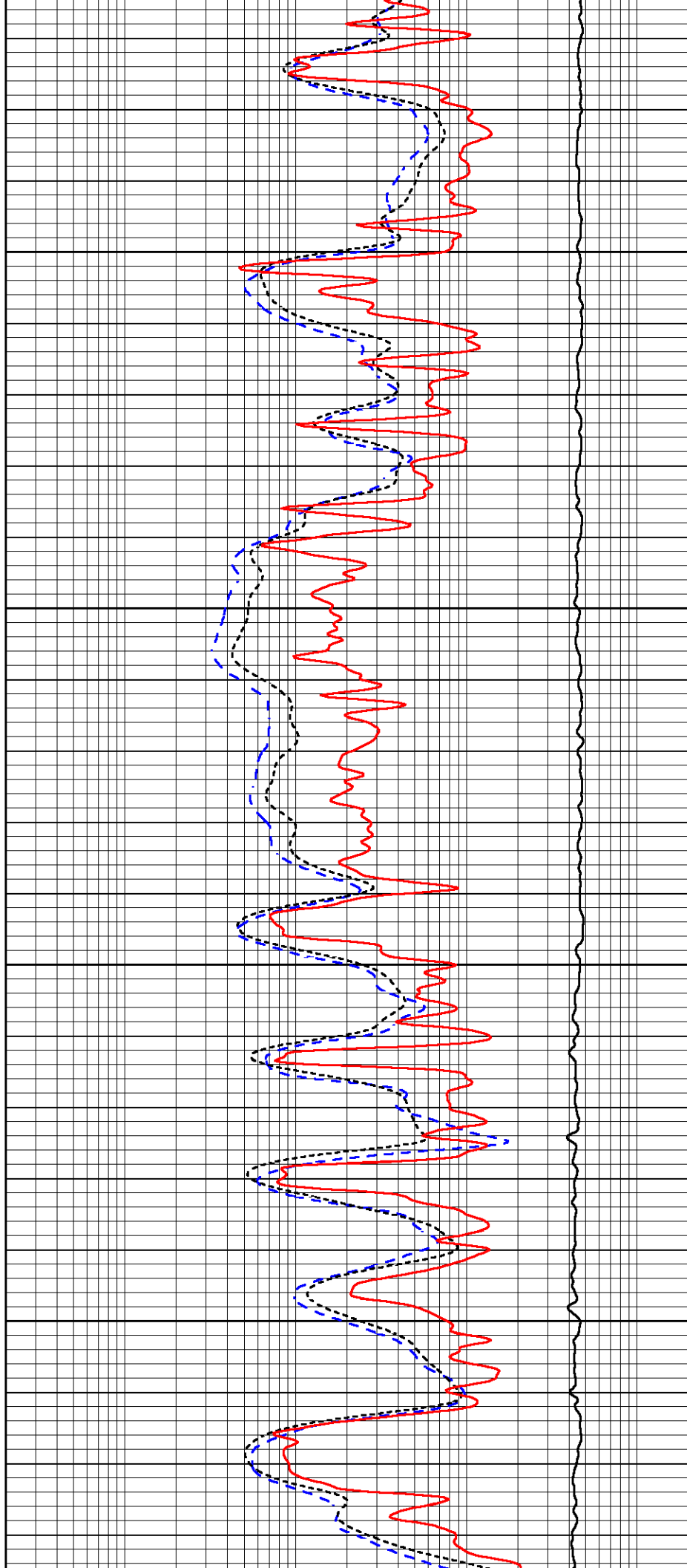


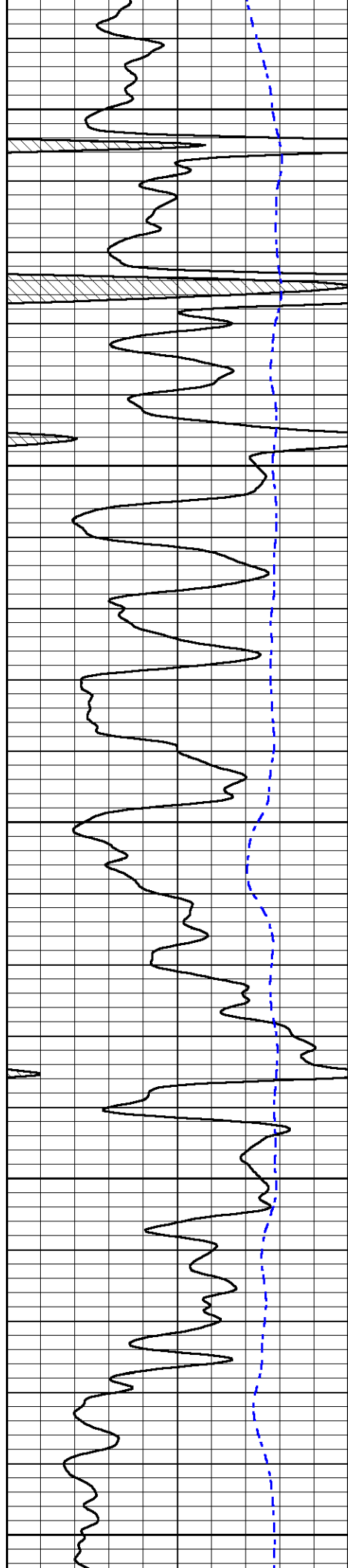
3700

3750

3800

3850





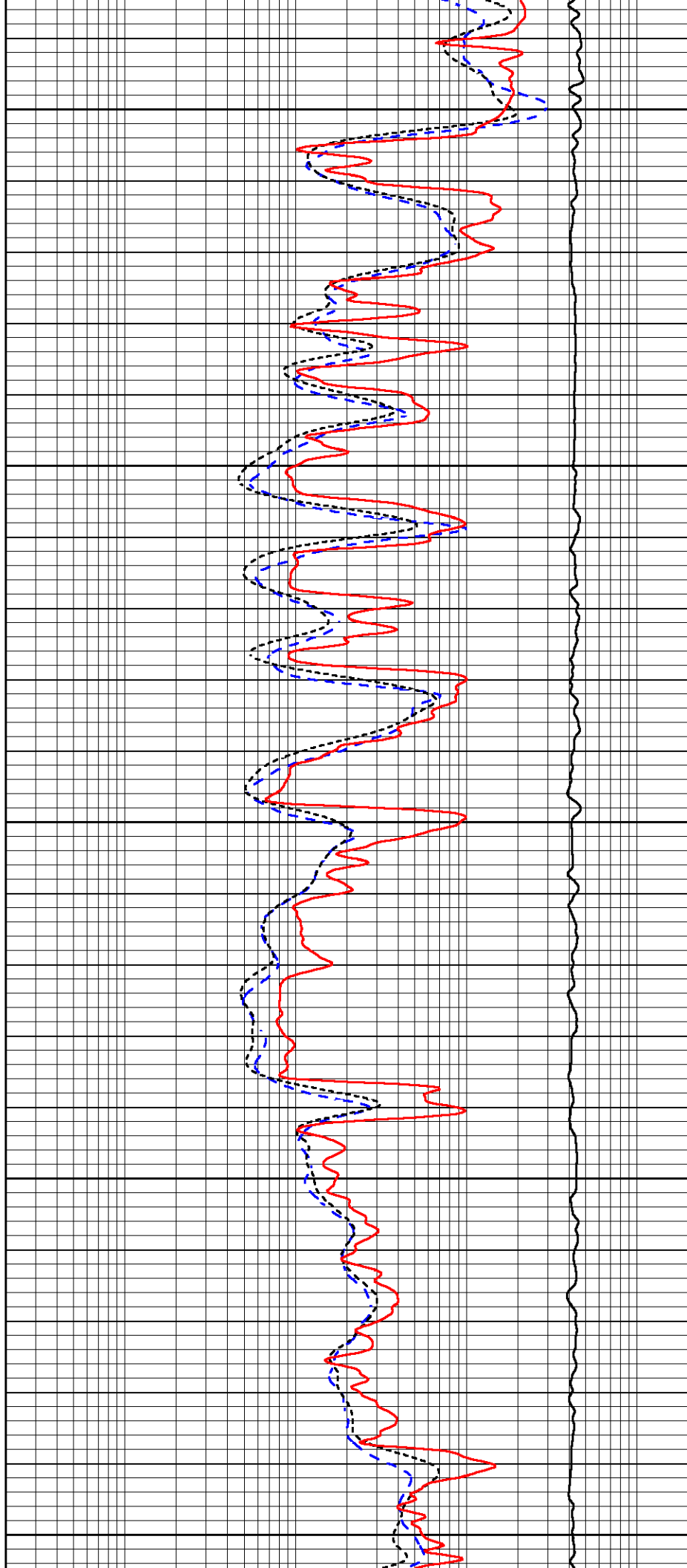
3900

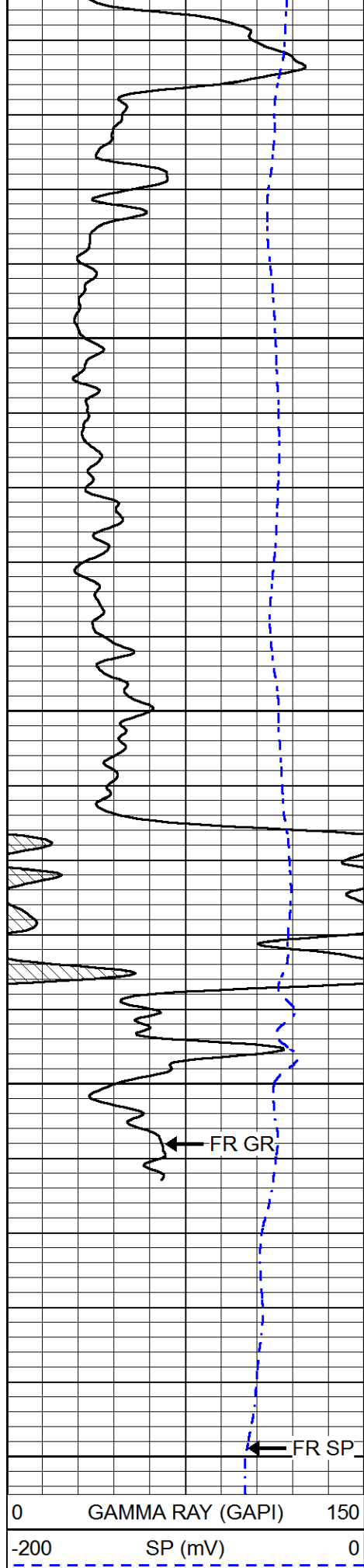
3950

4000

4050

4100



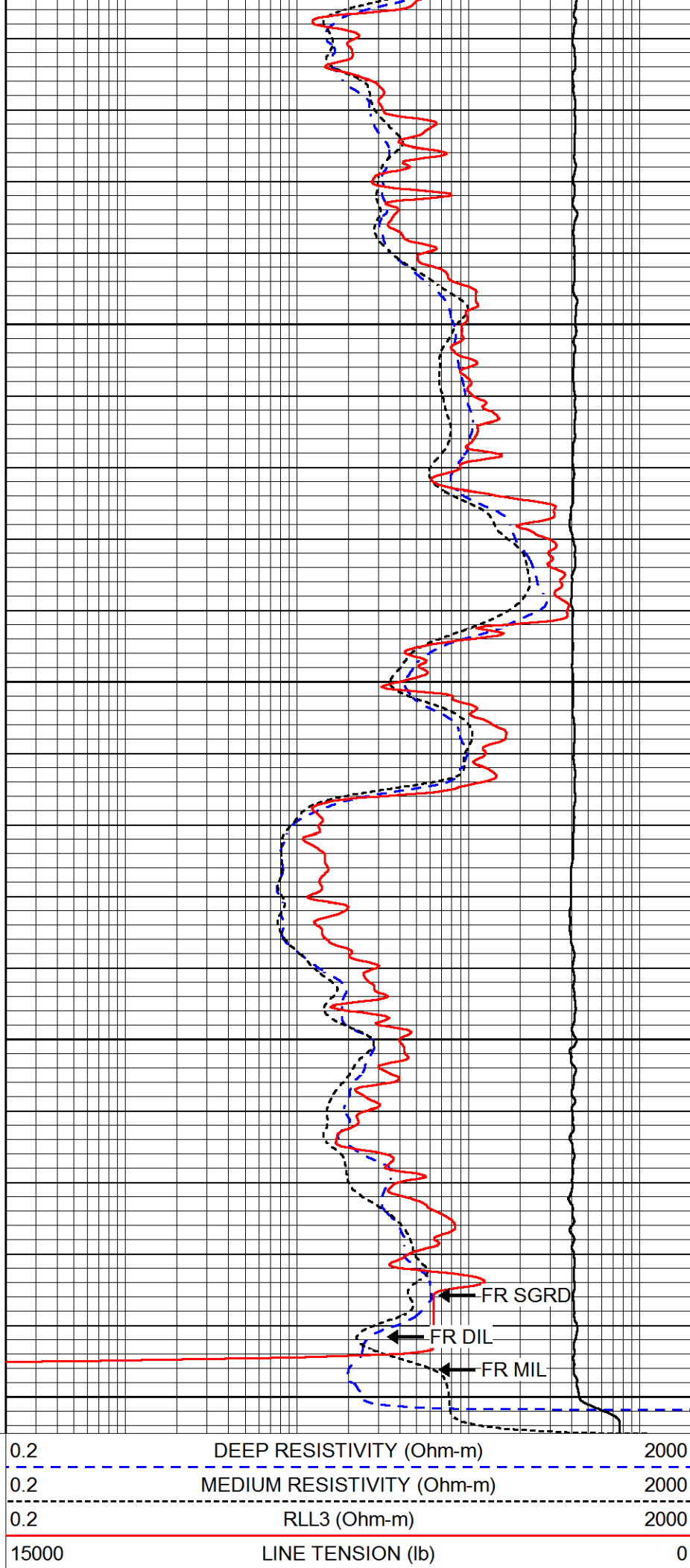


4150

4200

4250

4300

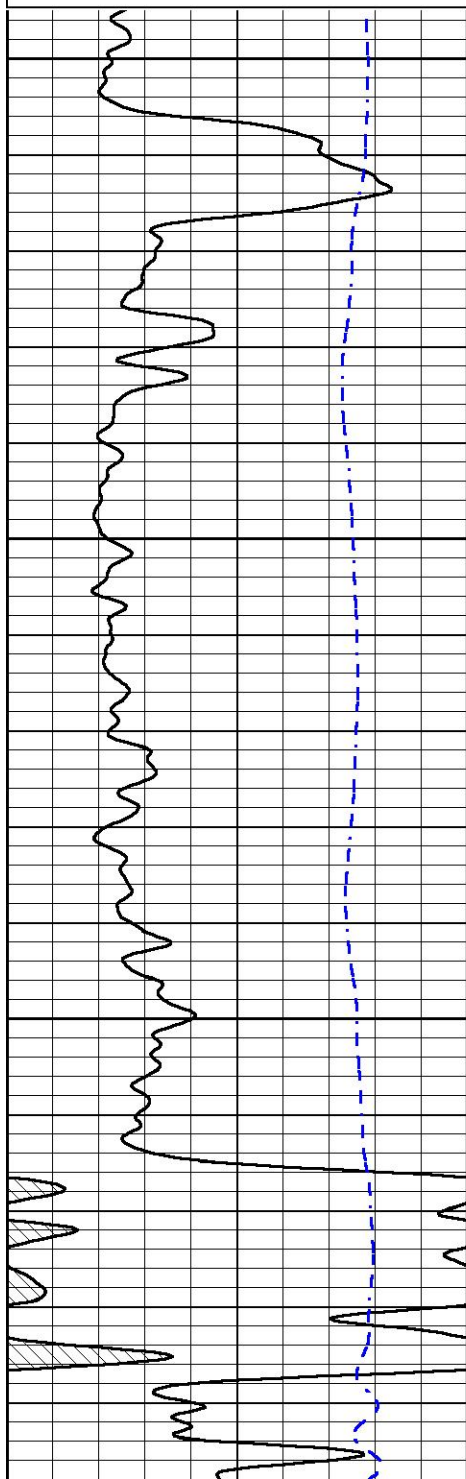


REPEAT SECTION

Database File garner_diamond_h_1.db
 Dataset Pathname stackml/pass2.1
 Presentation Format dil
 Dataset Creation Tue Aug 04 13:57:18 2020
 Charted by Depth in Feet scaled 1:240

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

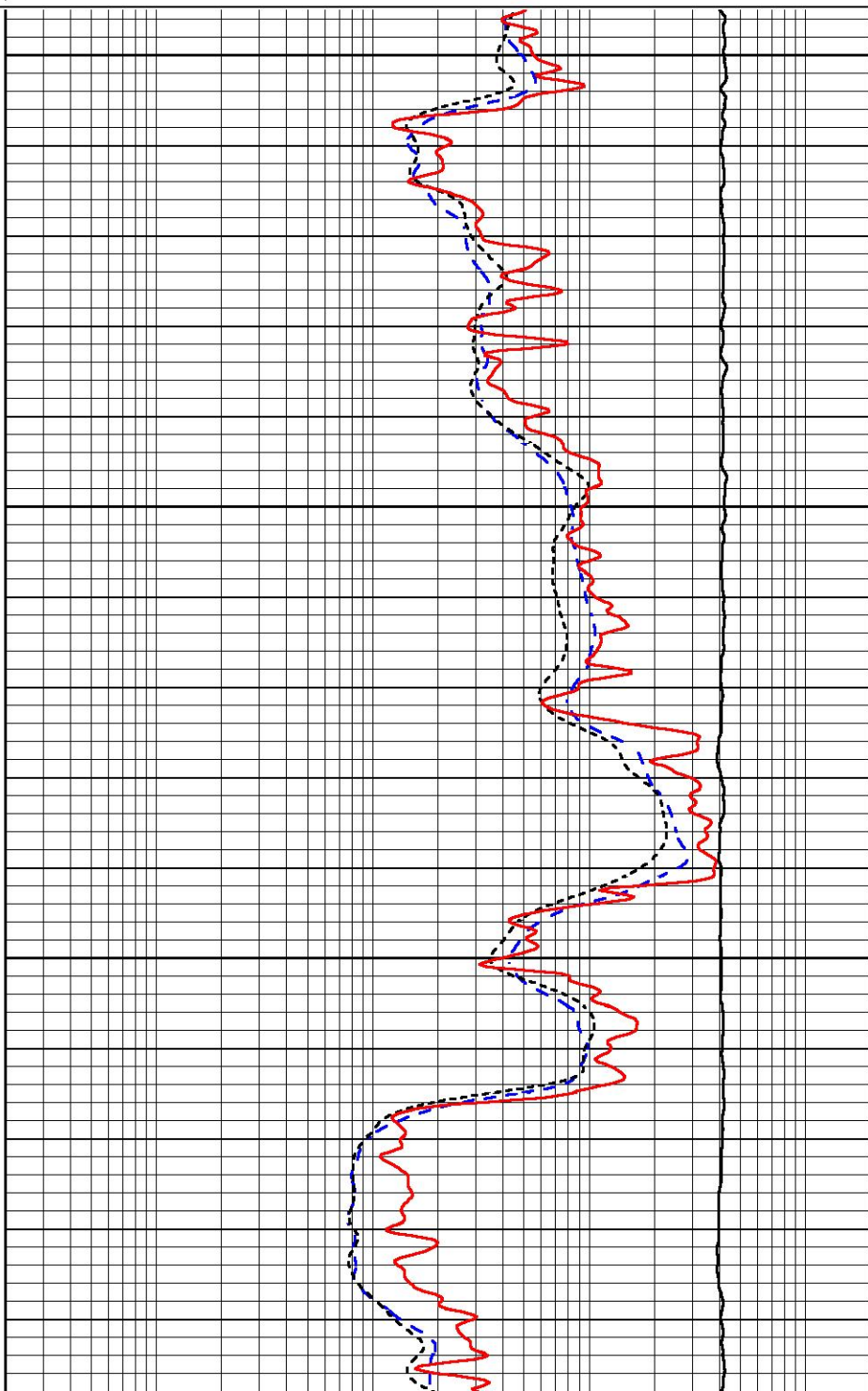
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0

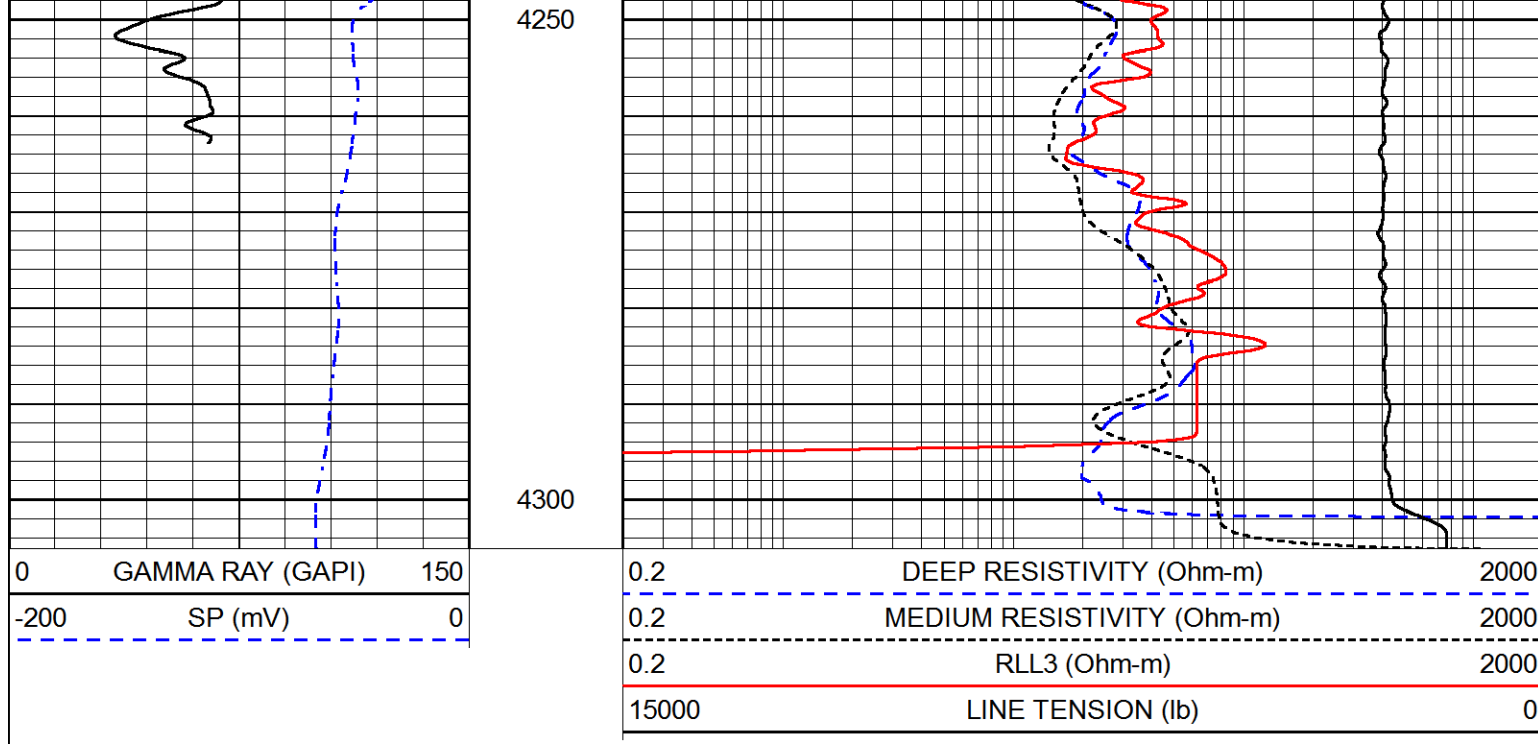


4100

4150

4200





Calibration Report

Database File: garner_diamond_h_1.db
 Dataset Pathname: stackml/pass3.1
 Dataset Creation: Tue Aug 04 14:51:04 2020

Dual Induction Calibration Report

Serial-Model: 55-222-M&W
 Calibration Performed: Tue Dec 10 05:11:10 2019

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.500	-41.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.370	-15.000

Microlog Calibration Report

Serial-Model: UDM-01-PSI UDM ML
 Performed: Fri May 31 06:10:42 2019

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	25000.0000	0.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	25000.0000	0.0000
Caliper	1.3766	1.0818	8.0000	22.0000	in	-47.4839	69.2000

Compensated Density Calibration Report

Serial-Model: 915-956-M&W
 Source / Verifier: /
 Master Calibration Performed: Thu Mar 19 09:21:34 2020

	Density			Far Detector	Near Detector	
Magnesium	1.755	g/cc		3668.53	4669.61	cps
Aluminum	2.675	g/cc		710.88	3056.05	cps
Spine Angle = 75.51			Density/Spine Ratio = 0.543			
	Size			Reading		
Small Ring	4.00	in		1.17		
Large Ring	14.00	in		1.05		

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 Dec 10 05:11:34 2019	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

	Company	THOMAS GARNER, INC.
	Well	DIAMOND 'H' #1
	Field	UNKNOWN
	County	STAFFORD
	State	KANSAS