



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **JOE GERSTNER OIL, LLC**
Well **LLG NO. 1-3**
Field **WILDCAT**
County **RUSH** State **KANSAS**

Location: API #: 15-165-22141-00-00

Other Services

SEC 3 TWP 19S RGE 17W
390' FSL & 1,705' FEL

CNL/CDL
MEL

Permanent Datum GROUND LEVEL Elevation 2092'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2097'
D.F. N/A
G.L. 2092'

Date	12/17/2016		
Run Number	ONE		
Depth Driller	3942'		
Depth Logger	3941'		
Bottom Logged Interval	3940'		
Top Log Interval	1100'		
Casing Driller	8.625" @ 1135'		
Casing Logger	1128'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	13800		
Density / Viscosity	9.4 65		
pH / Fluid Loss	10.0 11.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.50 @ 48		
Rmt @ Meas. Temp	.38 @ 48		
Rmc @ Meas. Temp	.68 @ 48		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.21 @ 115		
Operating Rig Time	2 1/2 HOURS		
Max Rec. Temp. F	115 DEG F.		
Equipment Number	108		
Location	COLBY		
Recorded By	J. LONG		
Witnessed By	ANDREW STENZEL		

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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.

RUSH CENTER, 7 EAST TO 320 ROAD, 3 SOUTH, 1/2 WEST, NORTH AND EAST 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. LONG
Operator: C. PFEIFER
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: ANDREW STENZEL
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 115	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 -235	degF 6	Off	ft 3941

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 (71-914)	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: joegerstneroil_llg_1-3.db: field/well/stackmel/pass3
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

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2" SCALE RESISTIVITY

MAIN PASS

Database File joegerstneroil_llg_1-3.db
Dataset Pathname stackmel/pass3.2
Presentation Format dil2in
Dataset Creation Sat Dec 17 13:40:25 2016
Charted by Depth in Feet scaled 1:600

0 GAMMA RAY (GAPI) 150

1000 CONDUCTIVITY (mmho/m) 0

SHALLOW RESISTIVITY

0 (Ohm-m) 50

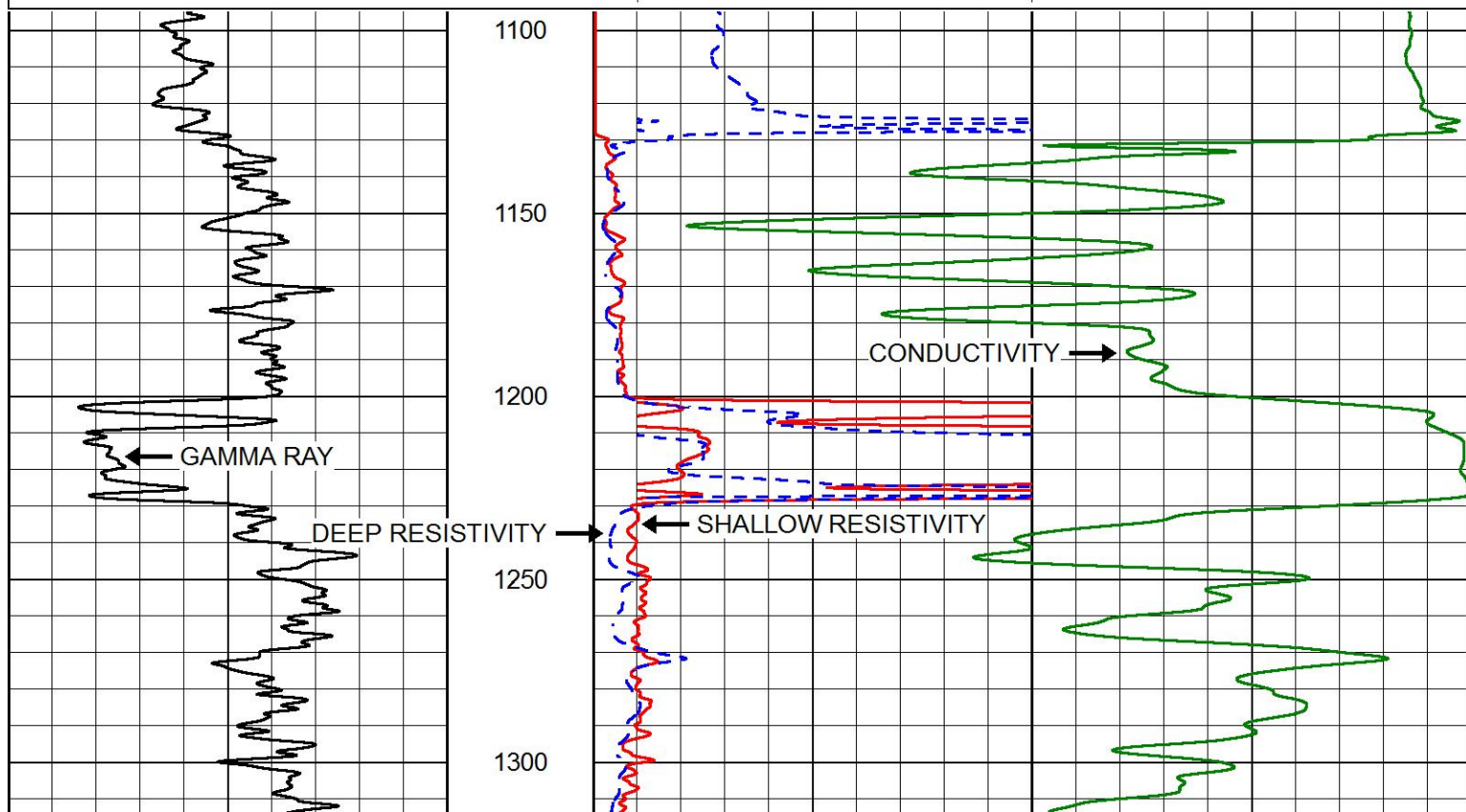
0 DEEP RESISTIVITY (Ohm-m) 50

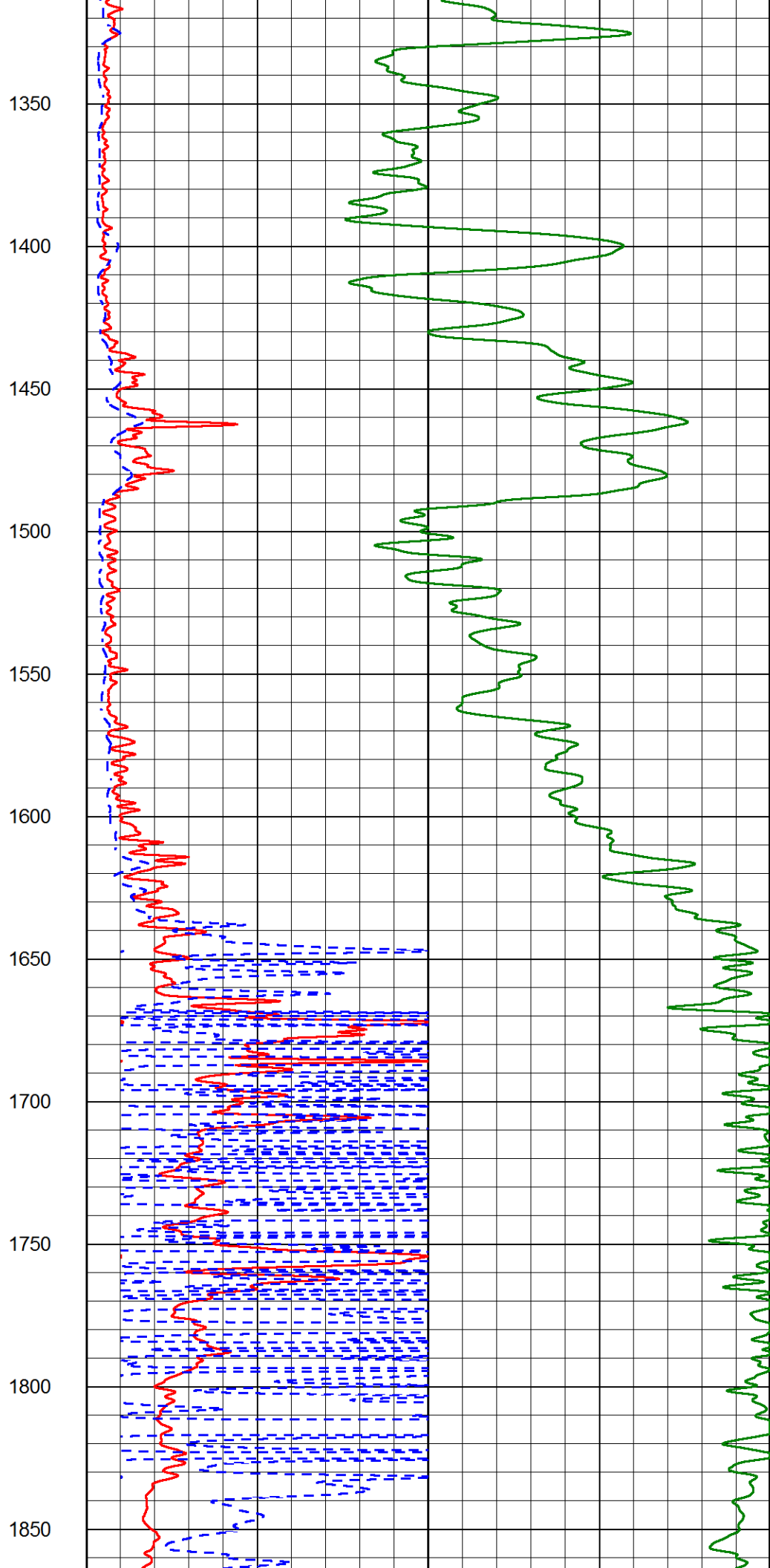
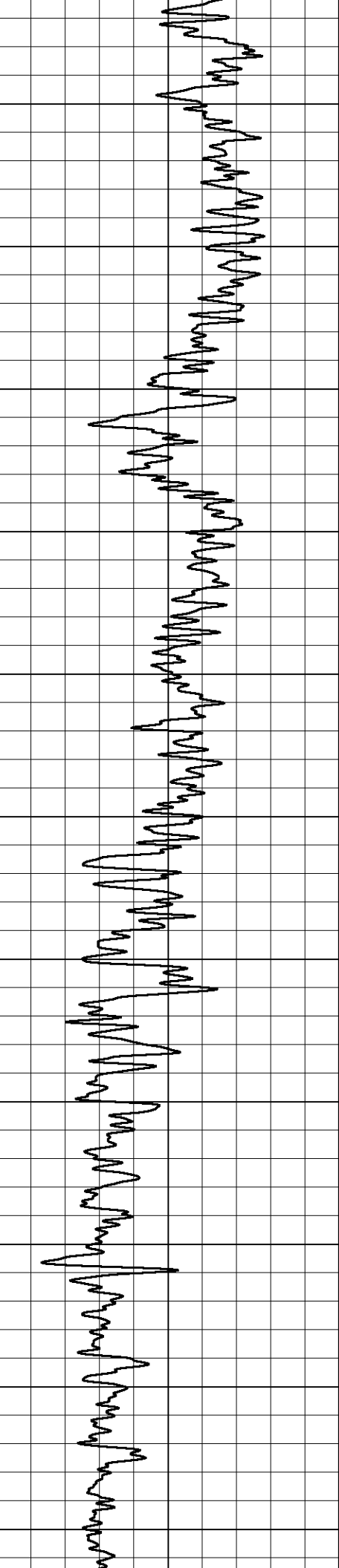
SHALLOW RESISTIVITY

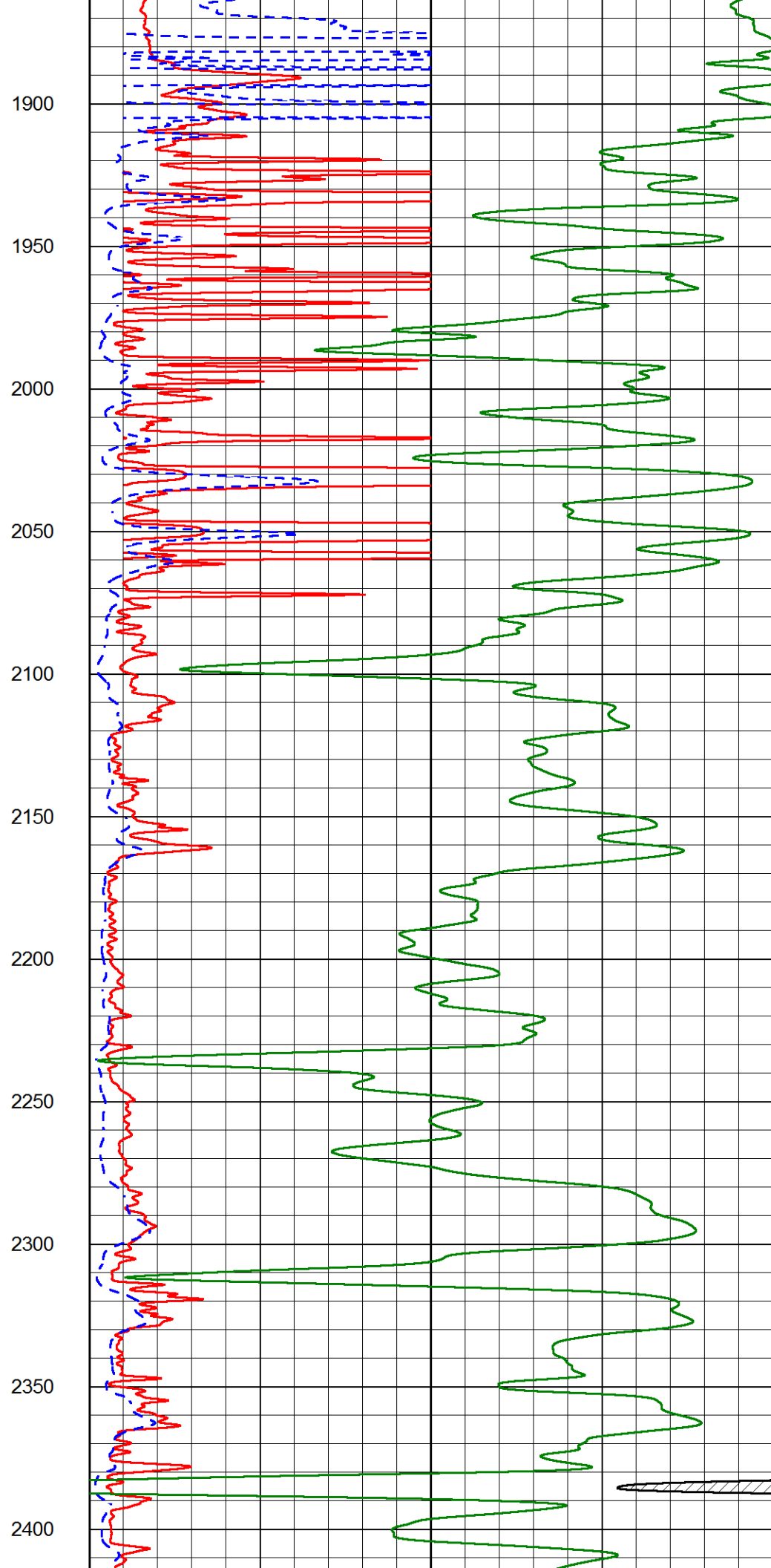
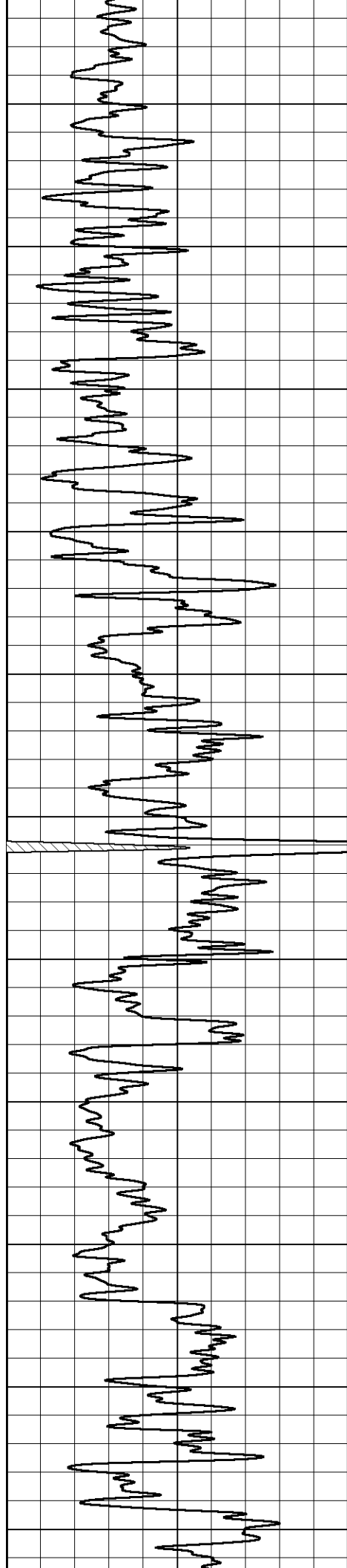
50 (Ohm-m) 500

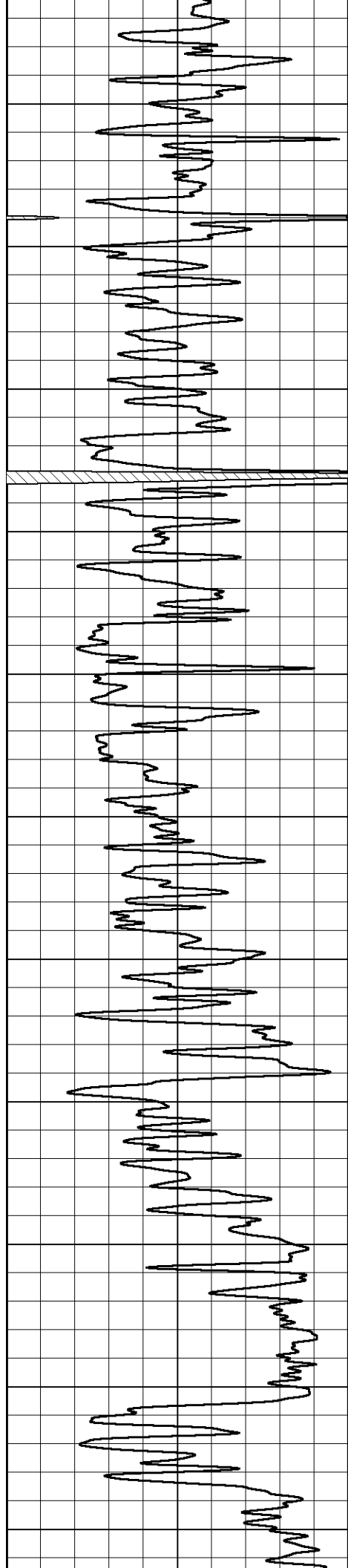
DEEP RESISTIVITY

50 (Ohm-m) 500









2450

2500

2550

2600

2650

2700

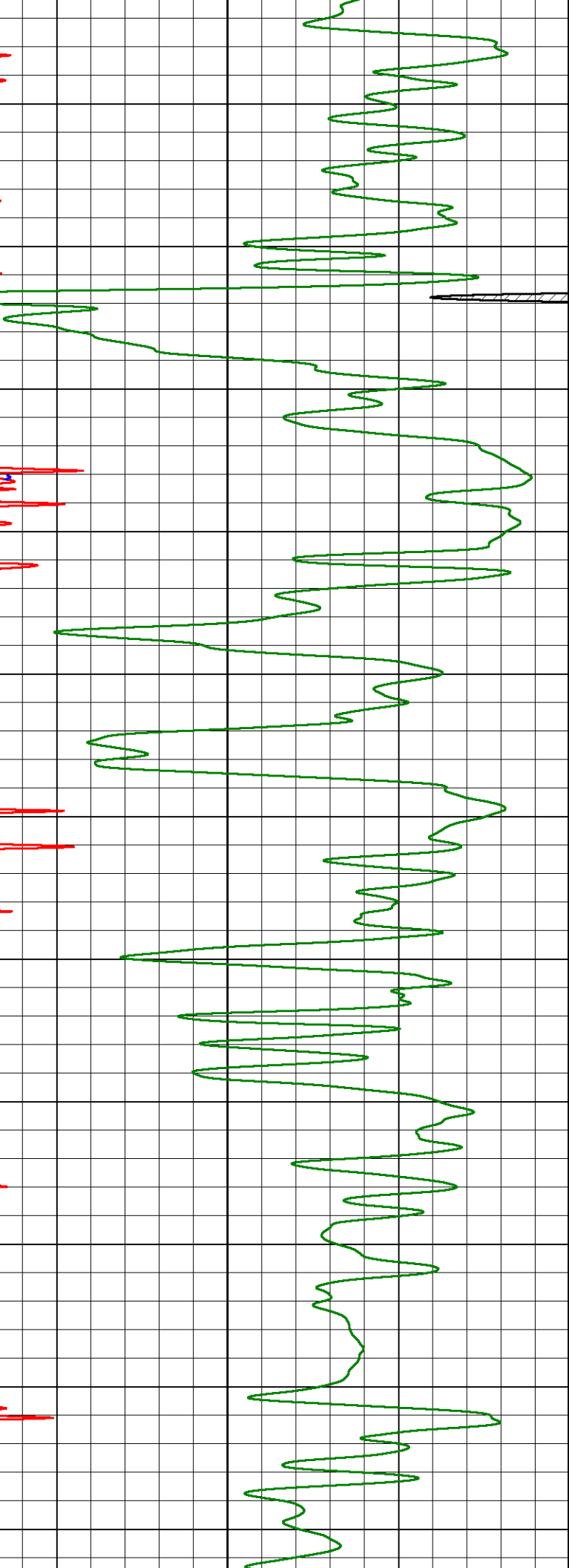
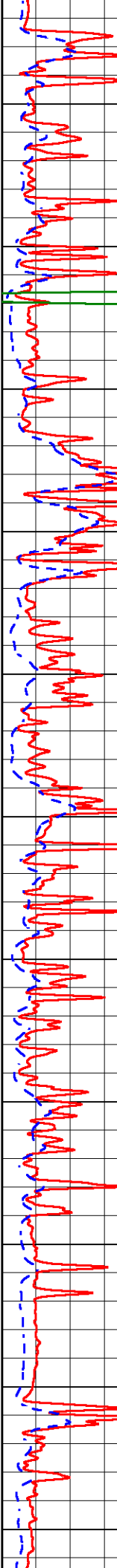
2750

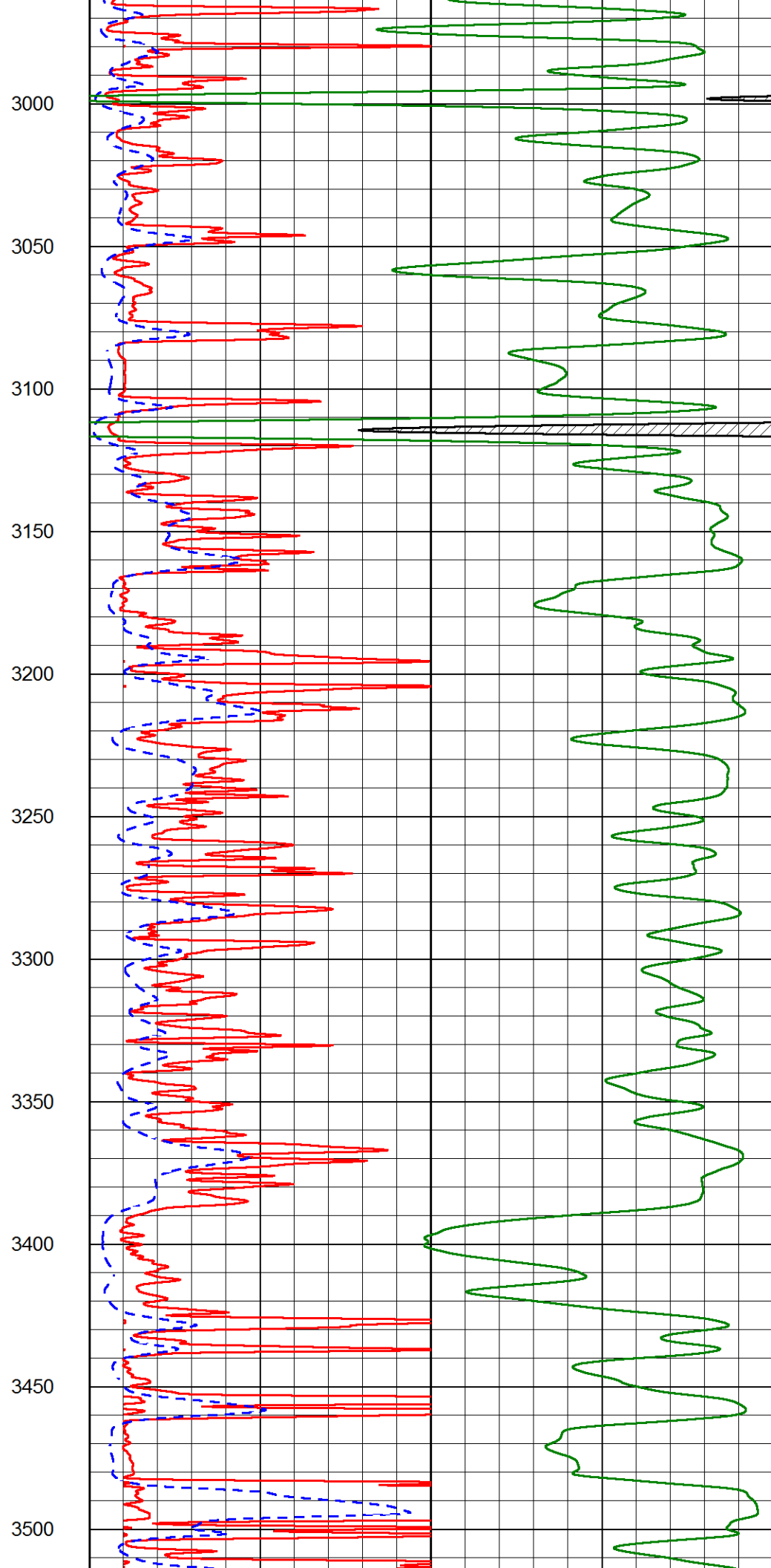
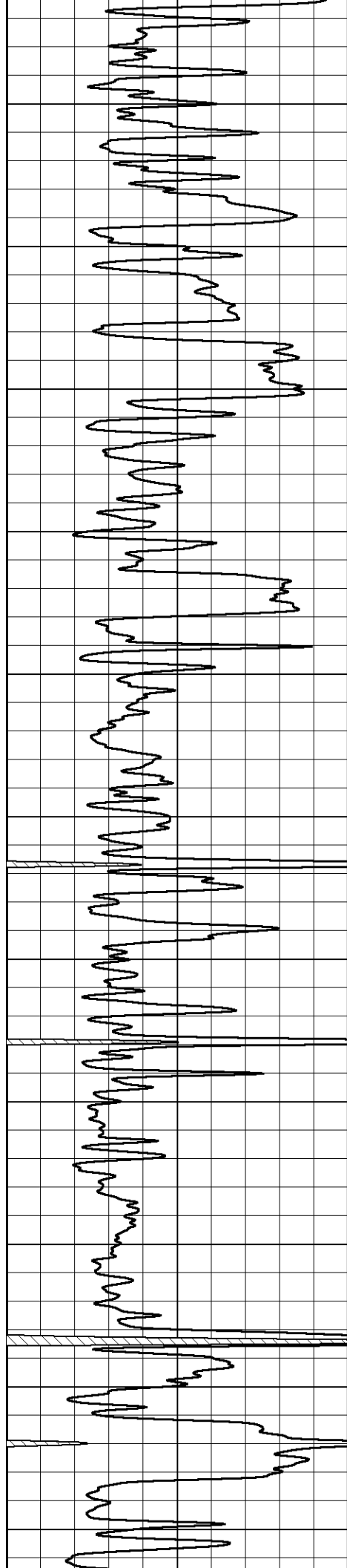
2800

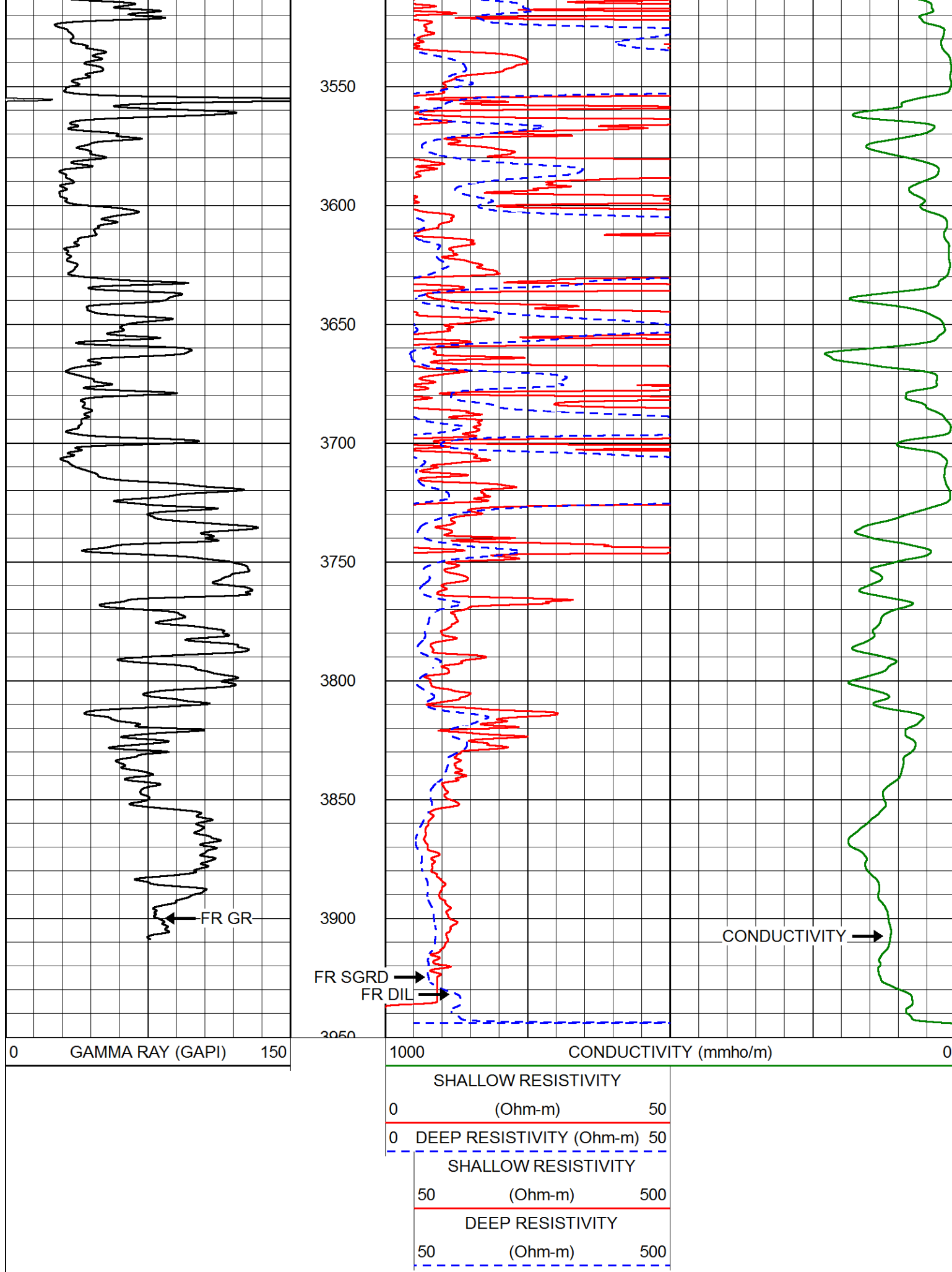
2850

2900

2950







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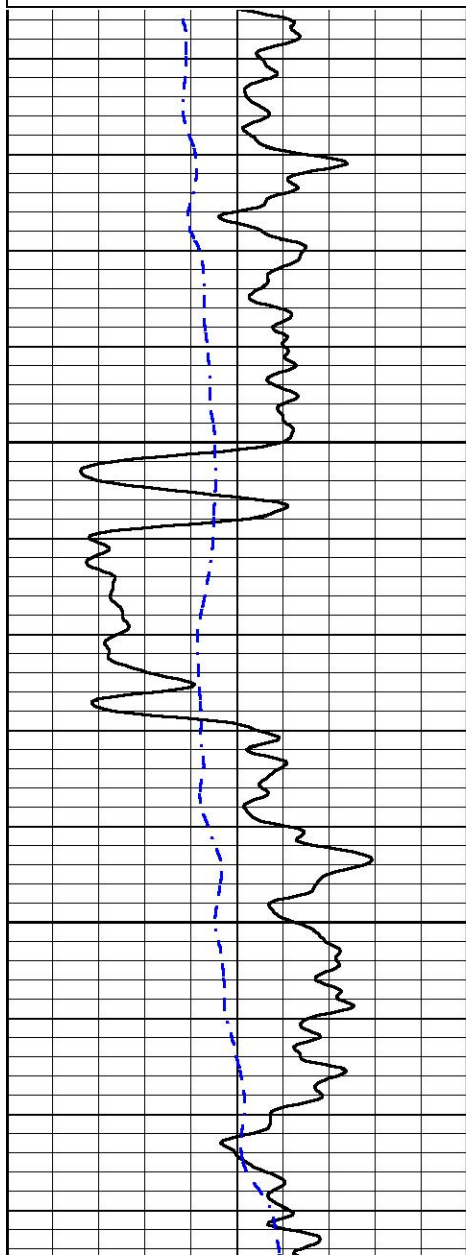
ANHYDRITE SECTION

MAIN PASS

Database File joegerstneroil_llg_1-3.db
Dataset Pathname stackmel/pass3.4
Presentation Format dil
Dataset Creation Sat Dec 17 13:33:04 2016
Charted by Depth in Feet scaled 1:240

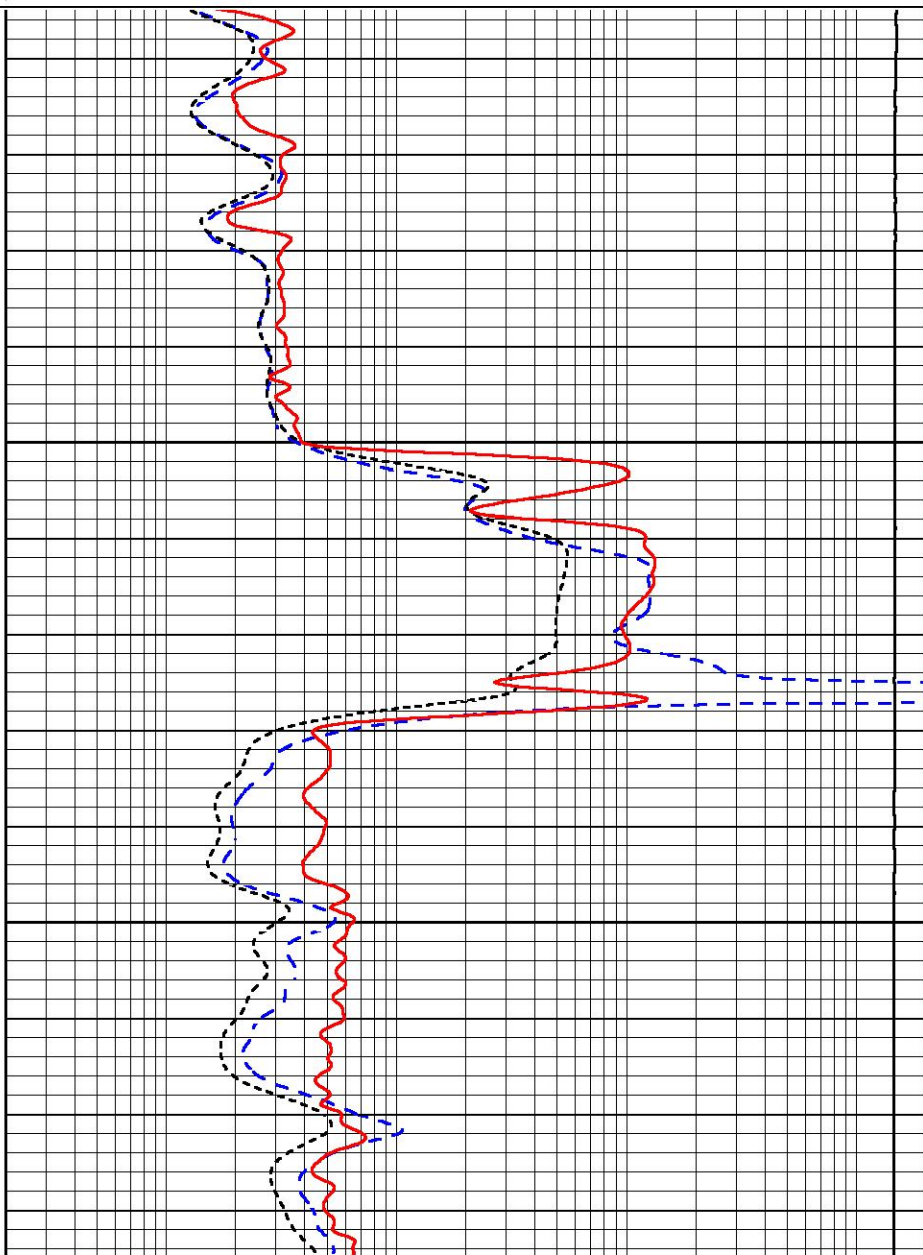
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

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



1200

1250



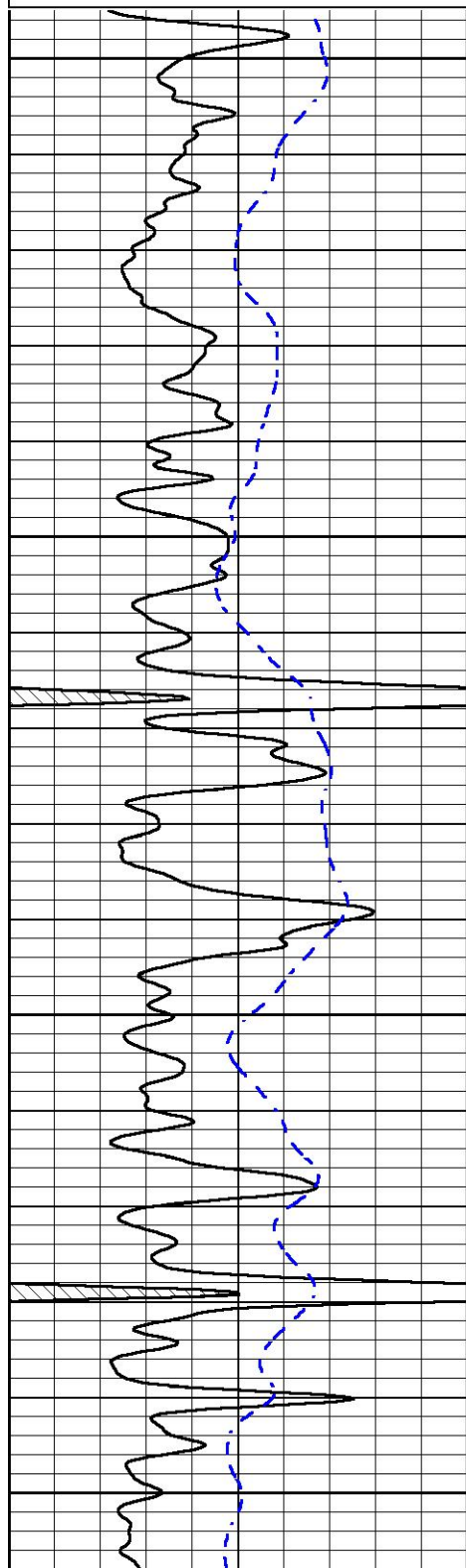
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

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

Database File joegerstneroil_llg_1-3.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format dil
 Dataset Creation Sat Dec 17 13:19:21 2016
 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 SHALLOW RESISTIVITY (Ohm-m) 2000
 15000 LINE TENSION (lb) 0

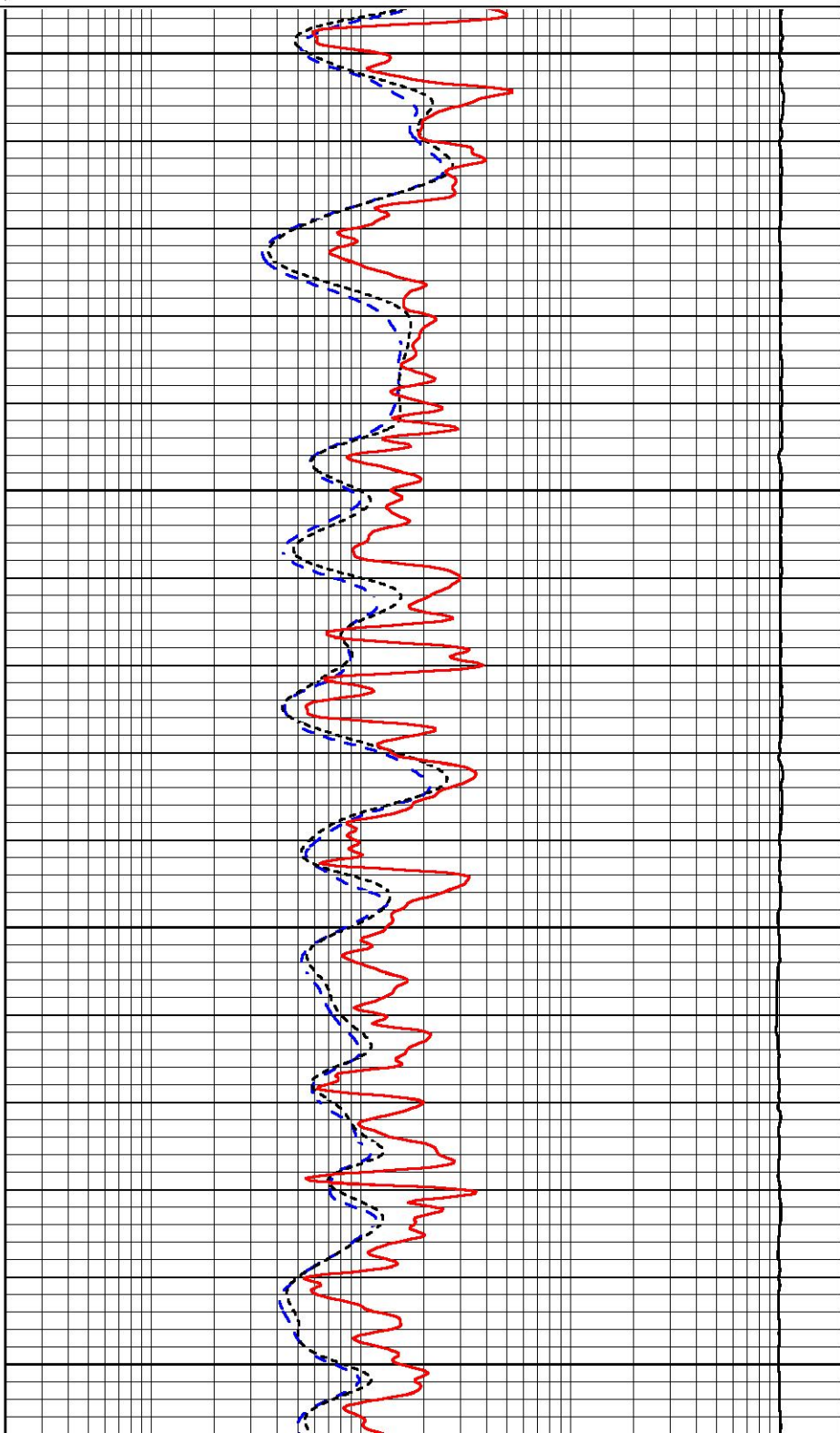


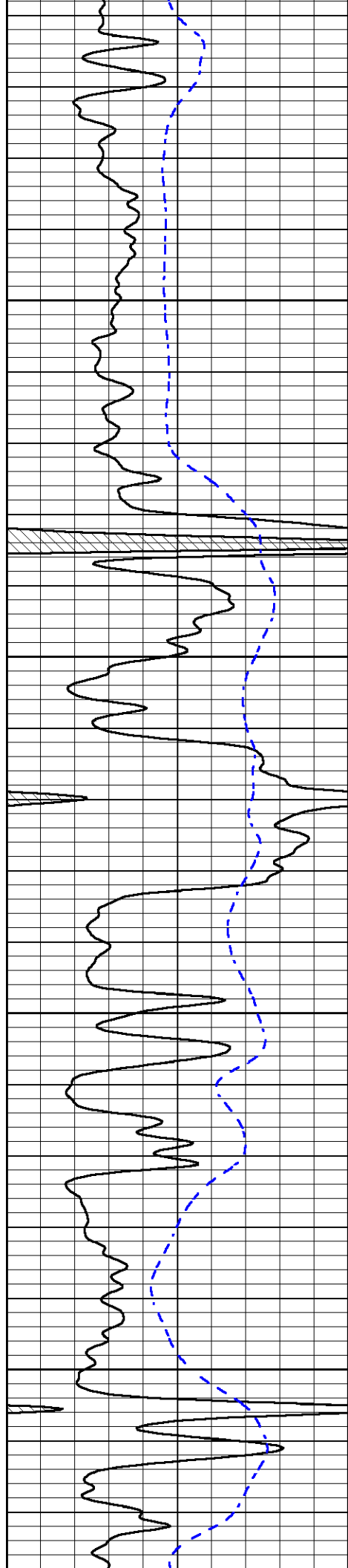
3200

3250

3300

3350



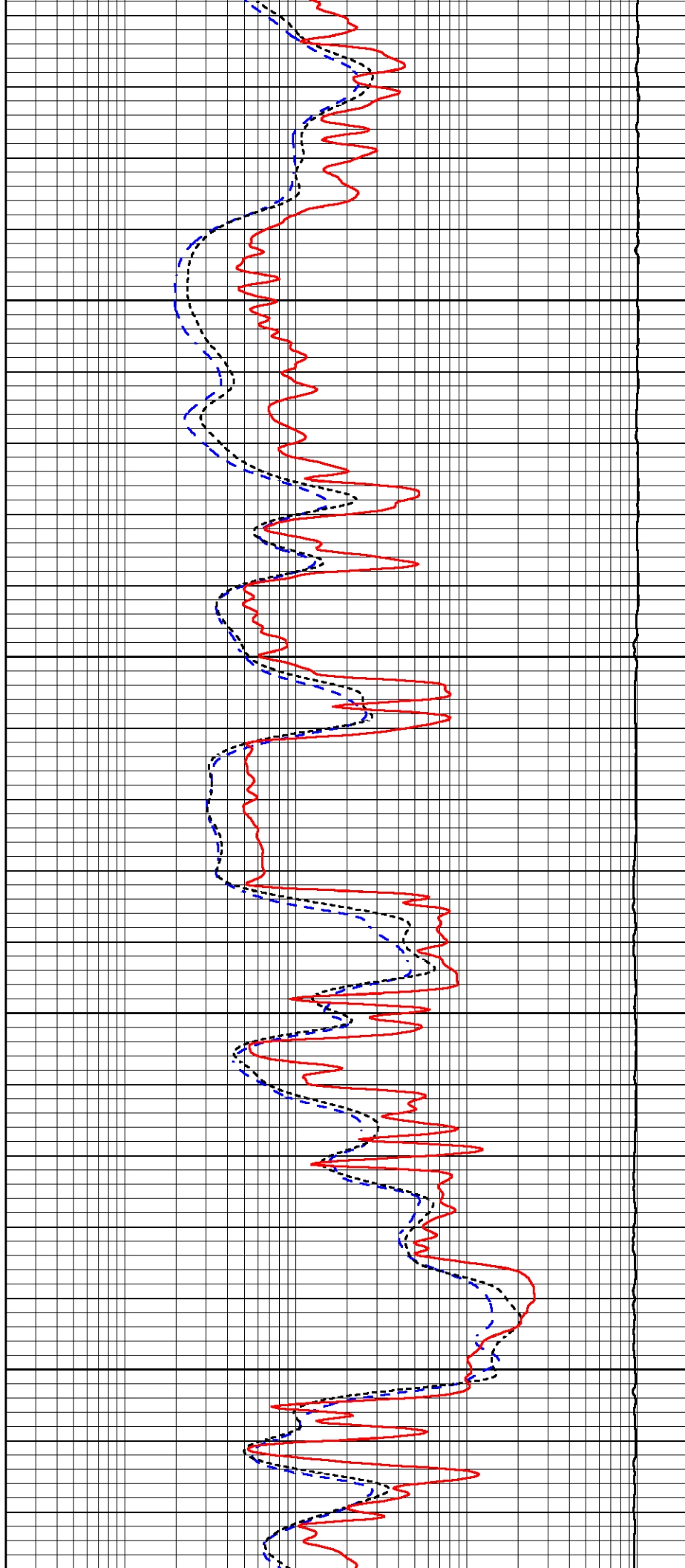


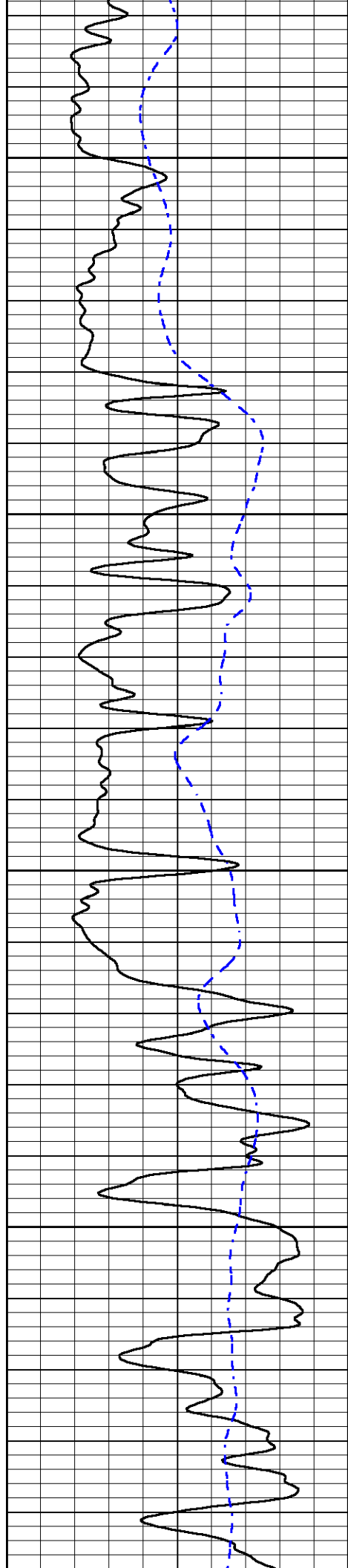
3400

3450

3500

3550



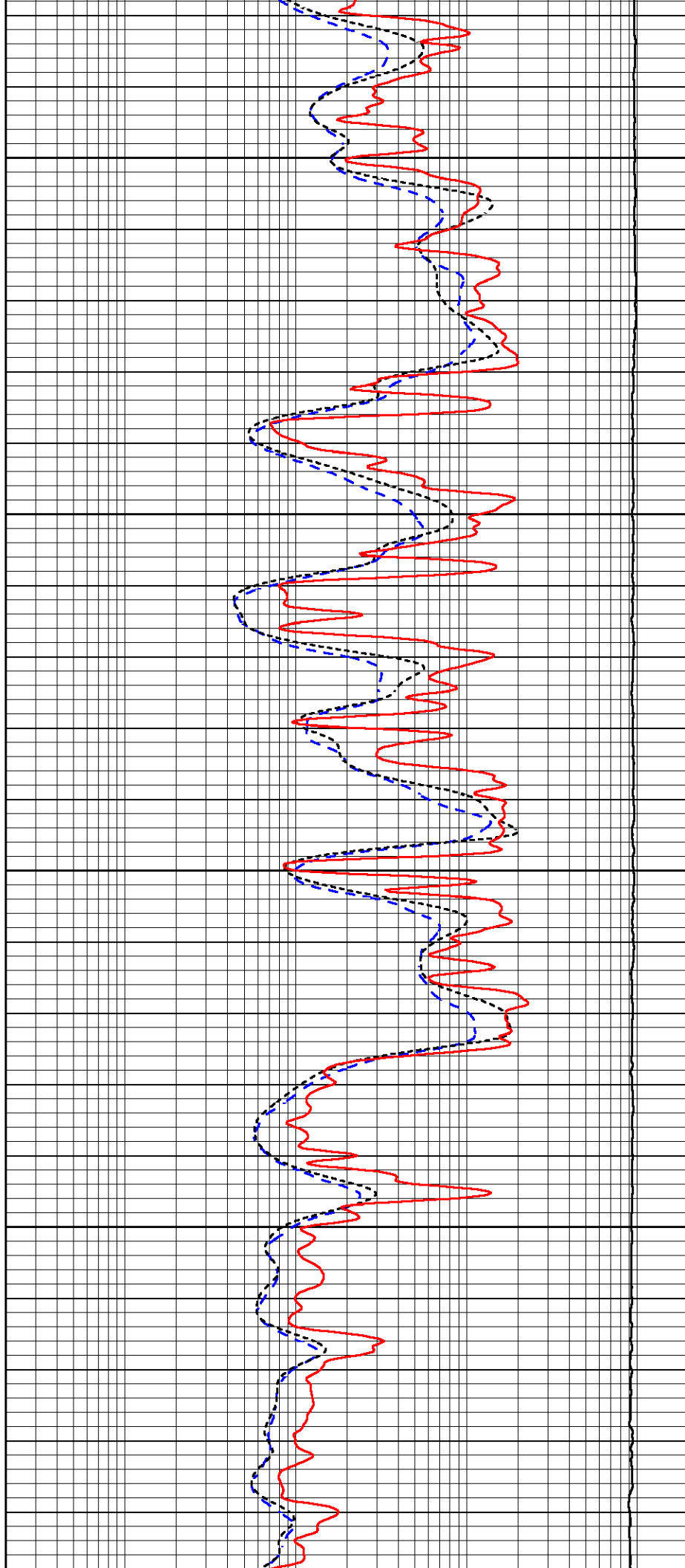


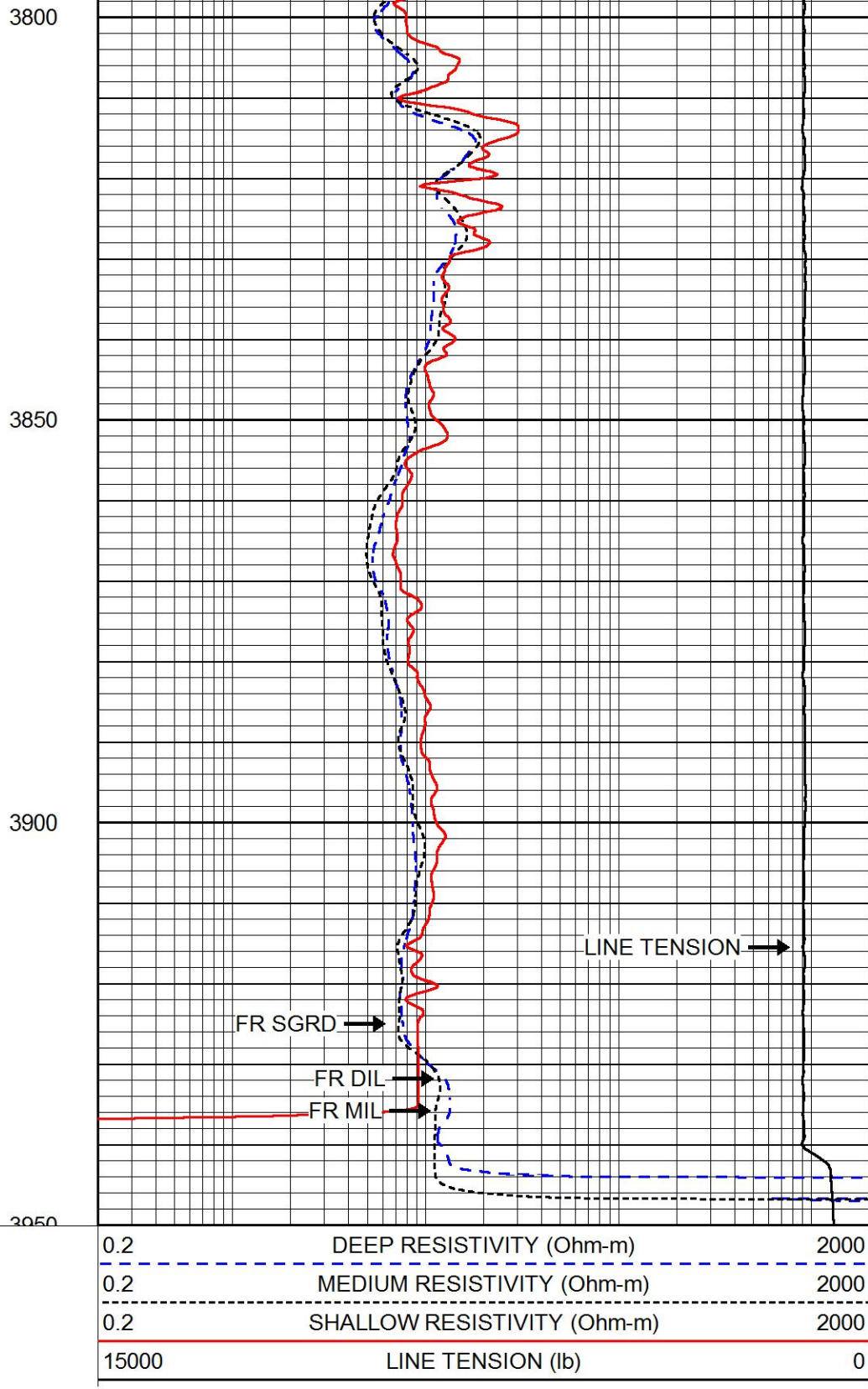
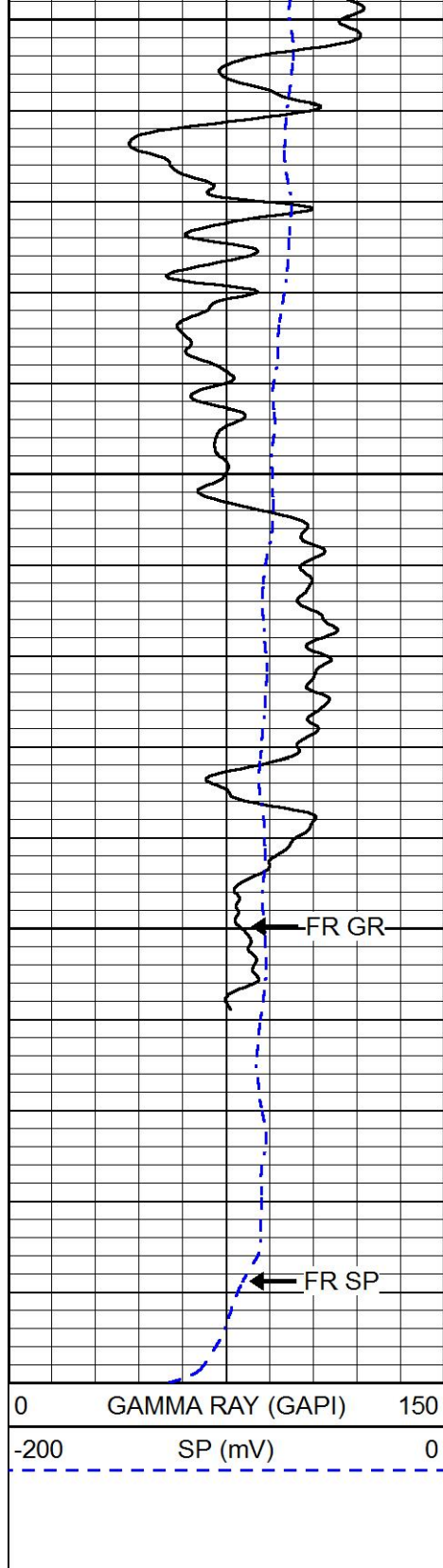
3600

3650

3700

3750





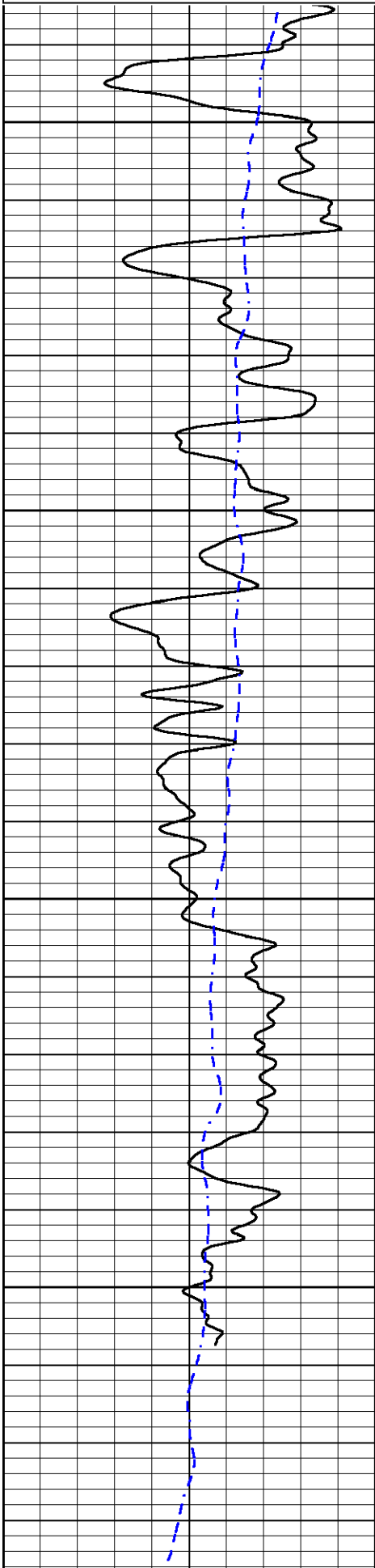
REPEAT SECTION

Database File joegerstneroil_lig_1-3.db
Dataset Pathname stackmel/pass2.1
Presentation Format dil
Dataset Creation Sat Dec 17 13:10:38 2016
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	SHALLOW RESISTIVITY (Ohm-m)	2000
15000	LINE TENSION (lb)	0

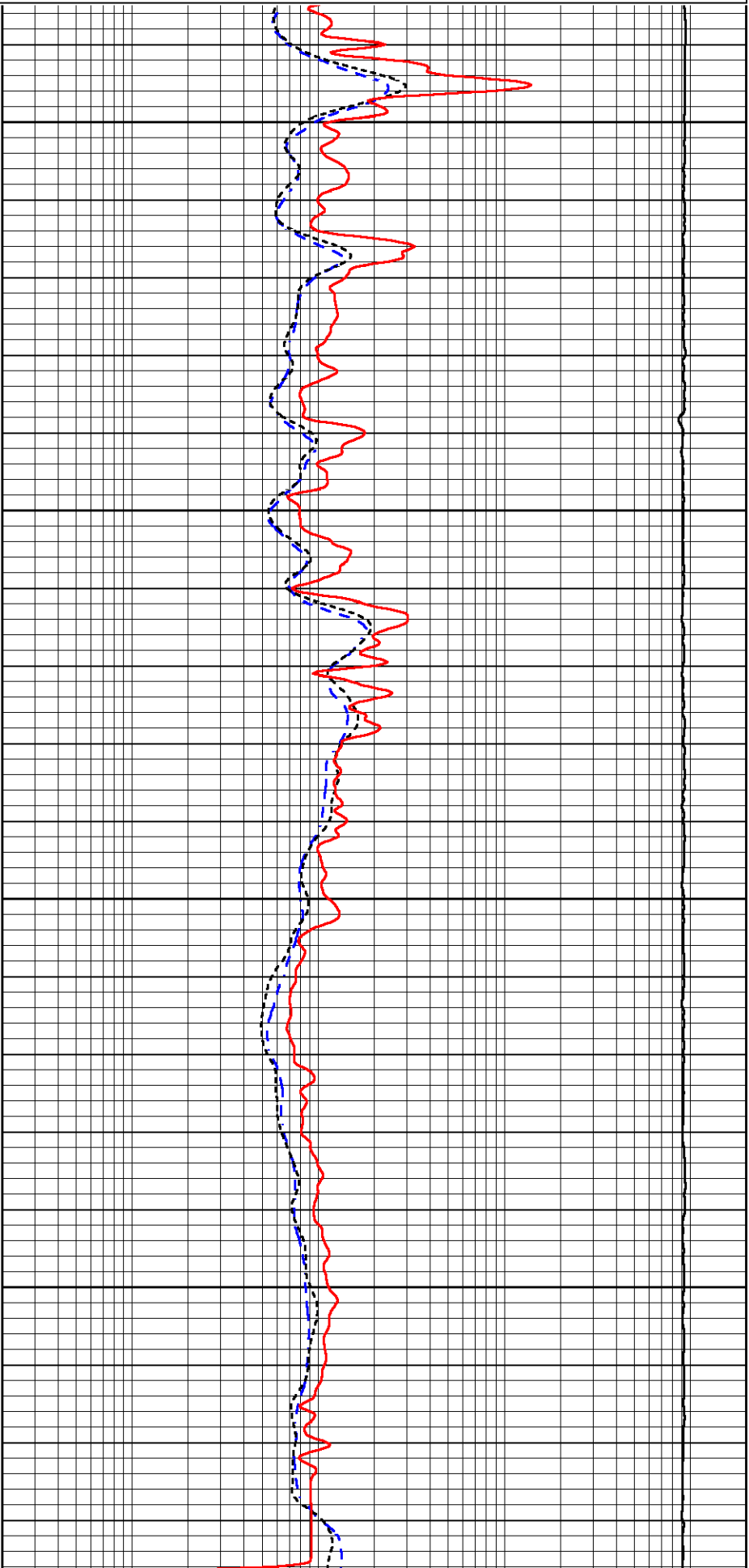


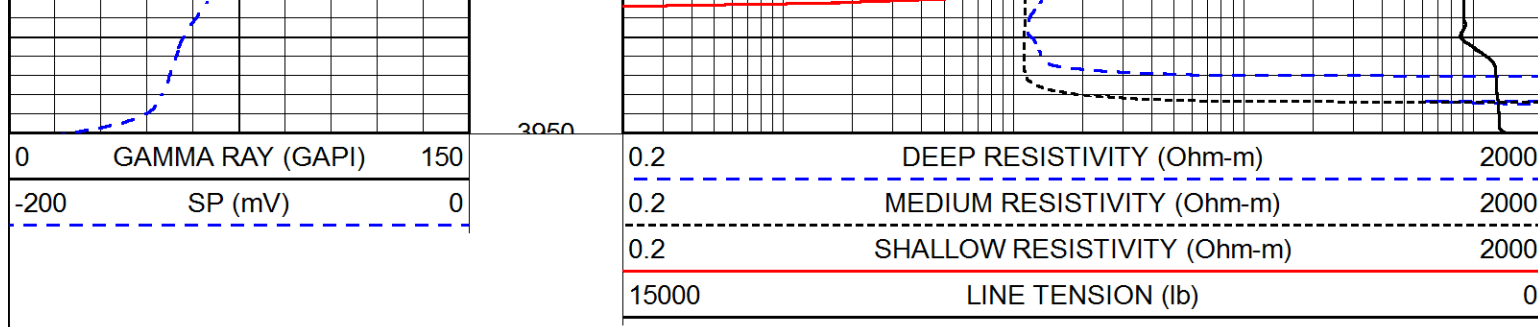
3750

3800

3850

3900





Calibration Report	
Database File	joegerstneroil_llg_1-3.db
Dataset Pathname	stackmel/pass2
Dataset Creation	Sat Dec 17 12:16:50 2016

Dual Induction Calibration Report							
Serial-Model:				1987-M&W			
Calibration Performed:				Thu Nov 17 20:52:56 2016			
Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report	
Serial-Model:	71-914-M&W
Source / Verifier:	/
Master Calibration Performed:	Thu Nov 17 21:42:33 2016

Master Calibration					
	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.675	g/cc	822.19	3456.36	cps
Spine Angle = 75.49			Density/Spine Ratio = 0.537		
	Size		Reading		
Small Ring	4.00	in	1.16		
Large Ring	14.00	in	1.57		

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

Serial Number:	89-M&W	
Tool Model:	M&W	
Calibration Performed:	Thu Nov 17 21:13:32 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps



Company	JOE GERSTNER OIL, LLC
Well	LLG NO. 1-3
Field	WILDCAT
County	RUSH
State	KANSAS