



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company LACHENMAYR OIL, LLC
Well JME FARMS #1
Field UNNAMED
County RUSH State KANSAS

Location: API #: 15-165-22138-00-00

Other Services

330' FNL & 1550' FEL
SEC 17 TWP 17S RGE 19W

CNL/CDL
BHCS

Permanent Datum GROUND LEVEL Elevation 2148'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2156'
D.F. N/A
G.L. 2148'

Date	10/17/2016		
Run Number	ONE		
Depth Driller	3895'		
Depth Logger	3893'		
Bottom Logged Interval	3892'		
Top Log Interval	0'		
Casing Driller	8.625" @ 1349'		
Casing Logger	1341'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	4700		
Density / Viscosity	9.4 62		
pH / Fluid Loss	8.0 9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 74		
Rmt @ Meas. Temp	0.45 @ 74		
Rmc @ Meas. Temp	0.81 @ 74		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	0.39 @ 115		
Operating Rig Time	4 HOURS		
Max Rec. Temp. F	115		
Equipment Number	91		
Location	COLBY		
Recorded By	D. SCHMIDT		
Witnessed By	FRANK MIZE		

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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.

MCCRACKEN,
SOUTH TO CURVE, 7 EAST TO CURVE, 2 NORTH,
WEST & 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: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: FRANK MIZE
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	-85	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	74	0	5.5	0	3893	115	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	29.90 29.15		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	20.85 20.83 20.35		CDL-M&W (90-1031)	8.50	4.00	250.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-M&W (PSI 13)	18.50	3.50	220.00

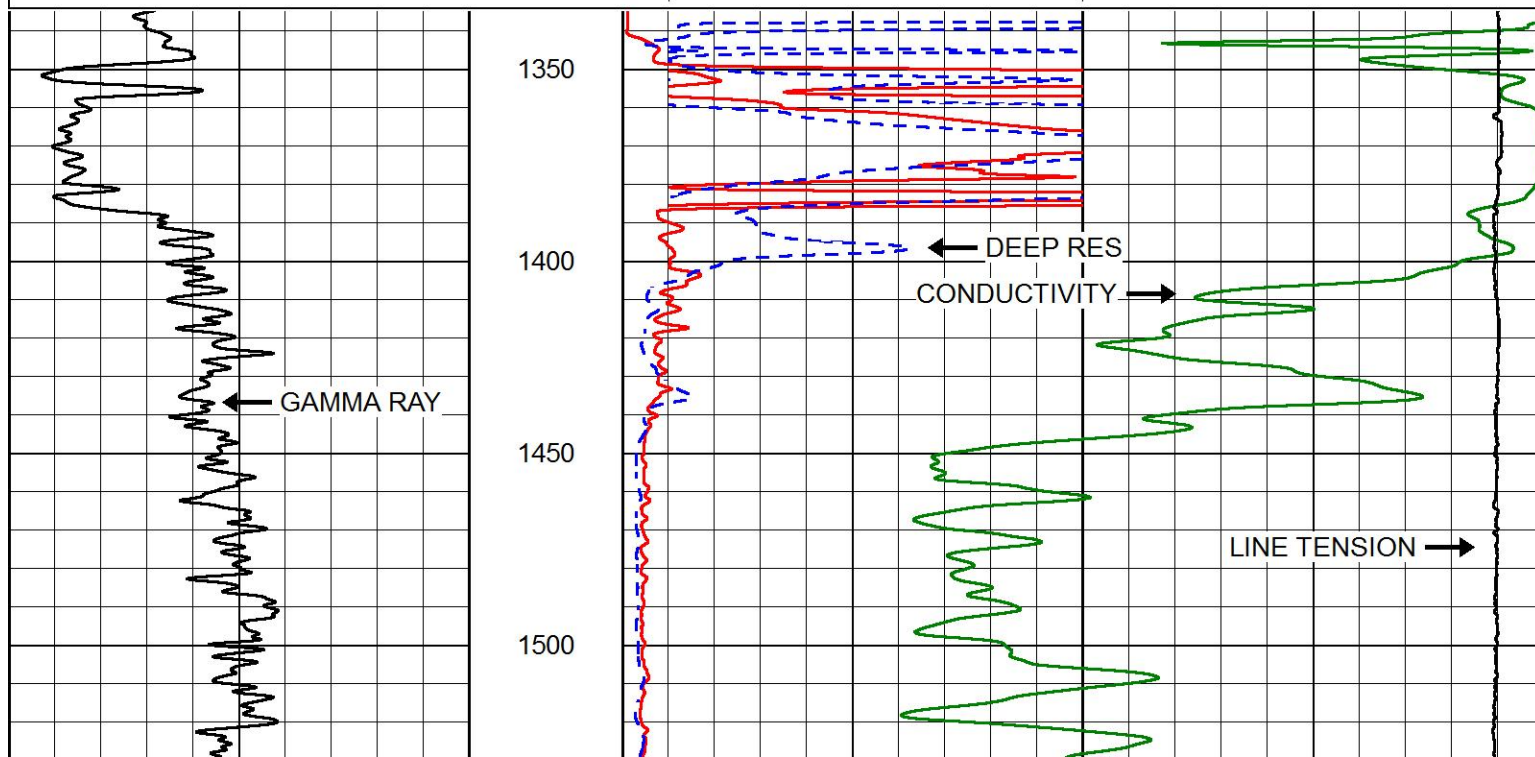
CILM	4.70								
SP	0.20								
Dataset: lachenmayr_jme farms_1.db: field/well/STACK/pass4.1 Total length: 35.50 ft Total weight: 620.00 lb O.D.: 4.00 in									

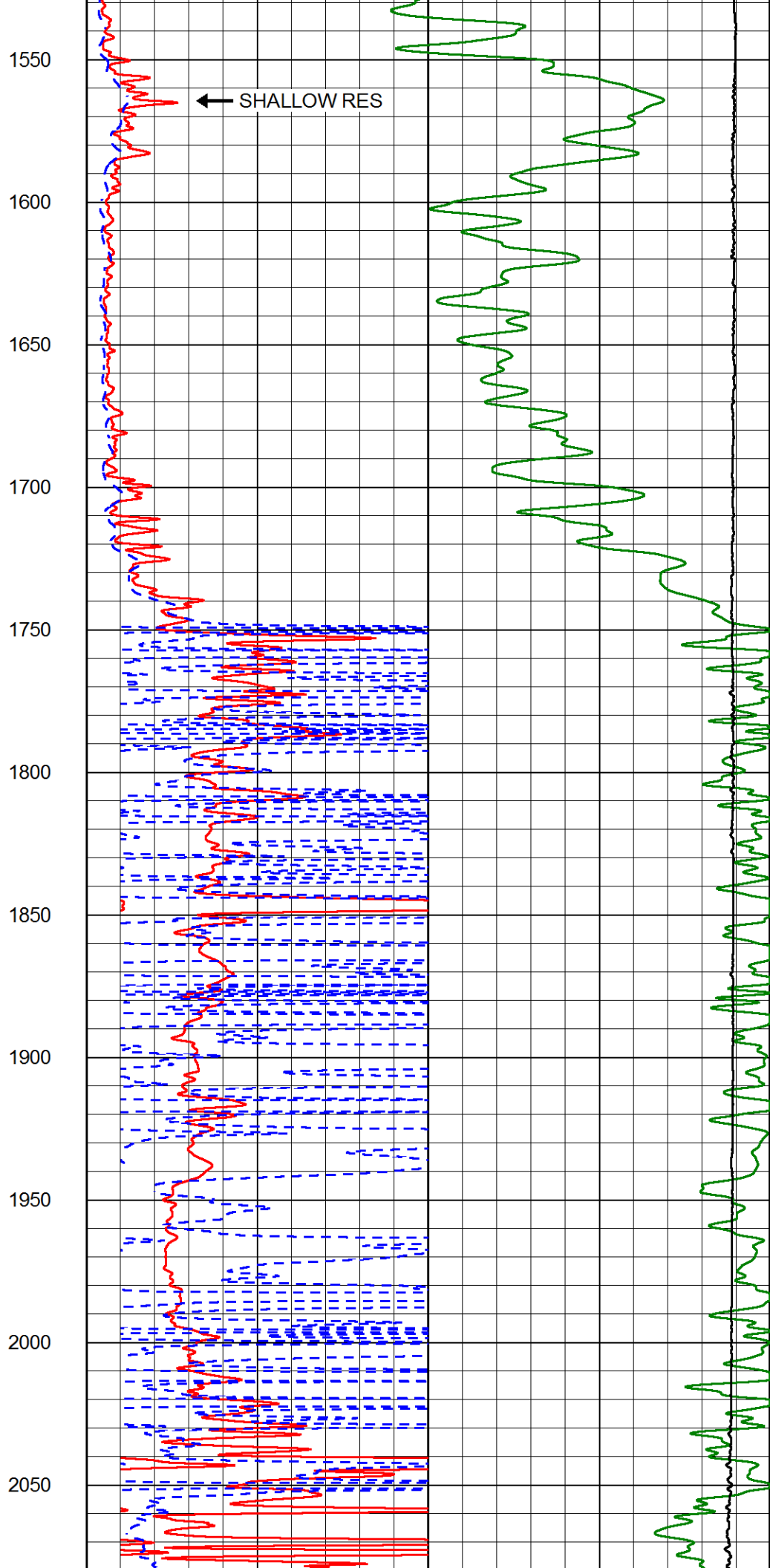
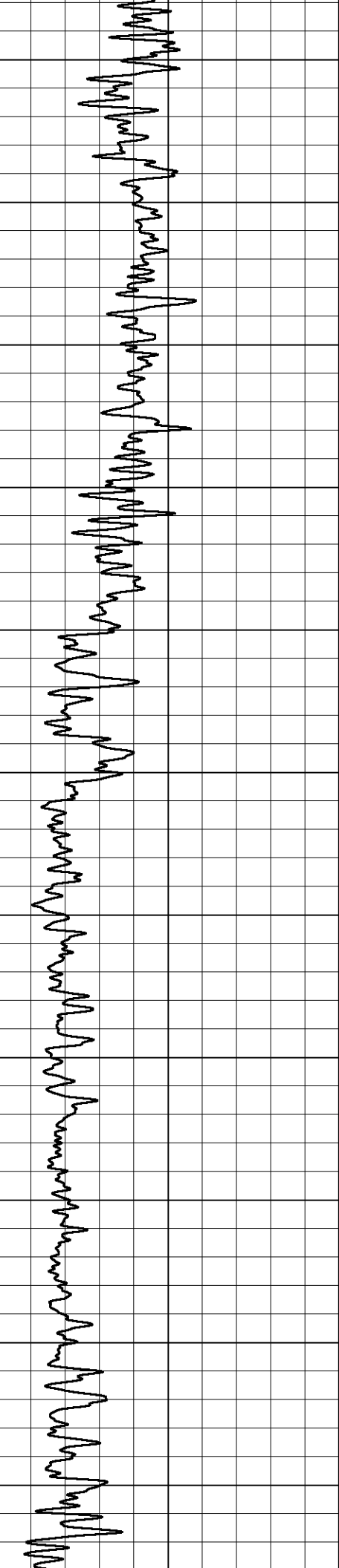


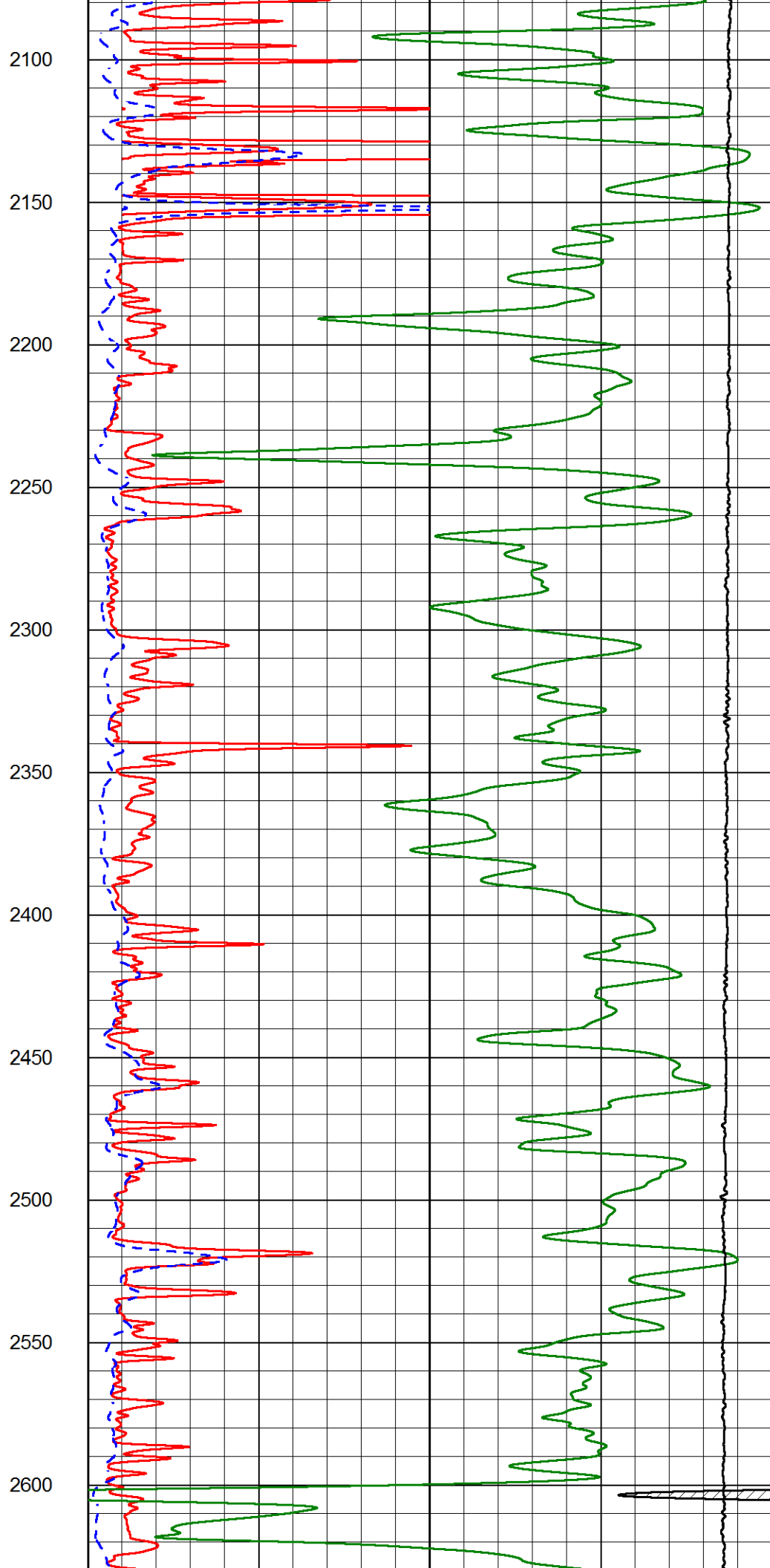
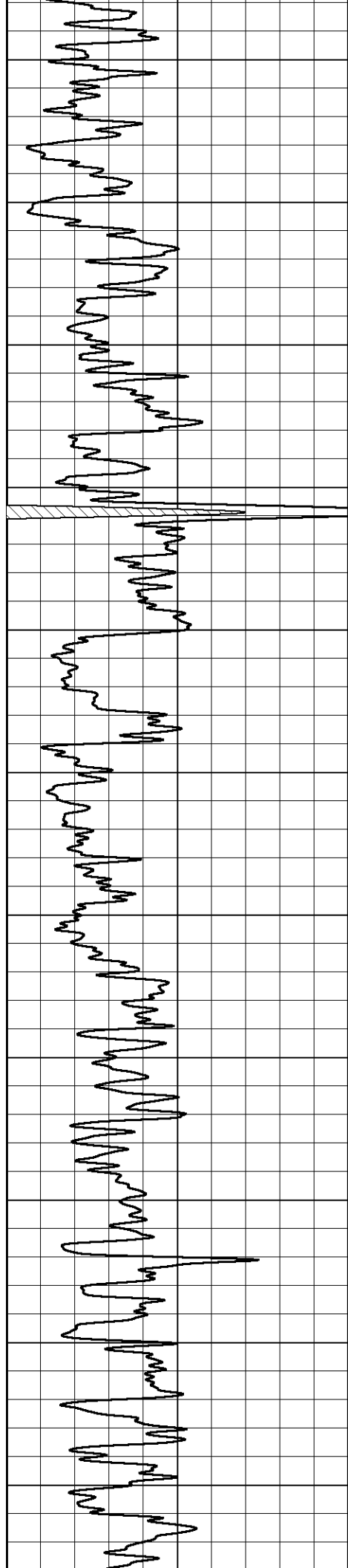
MAIN PASS

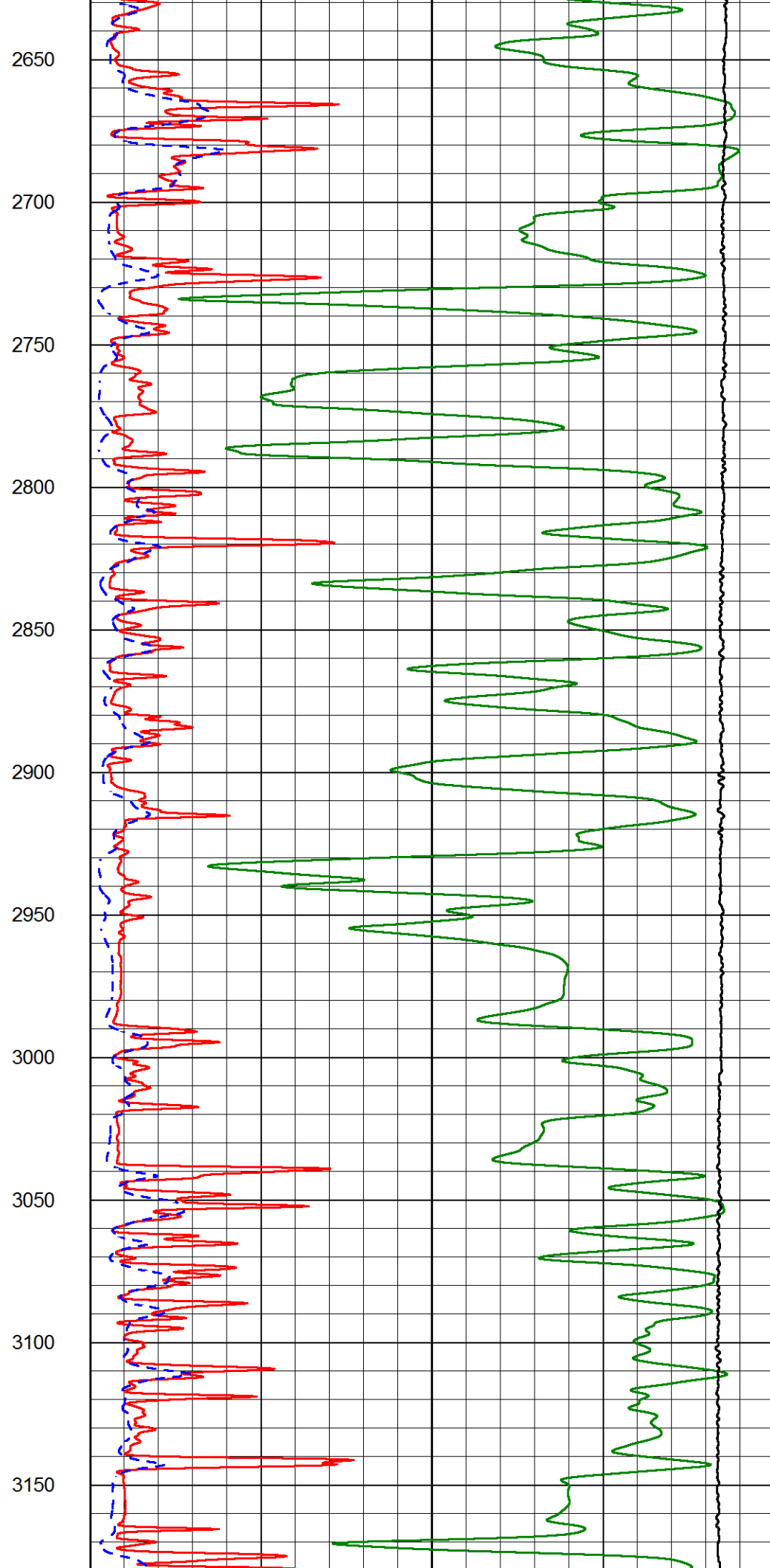
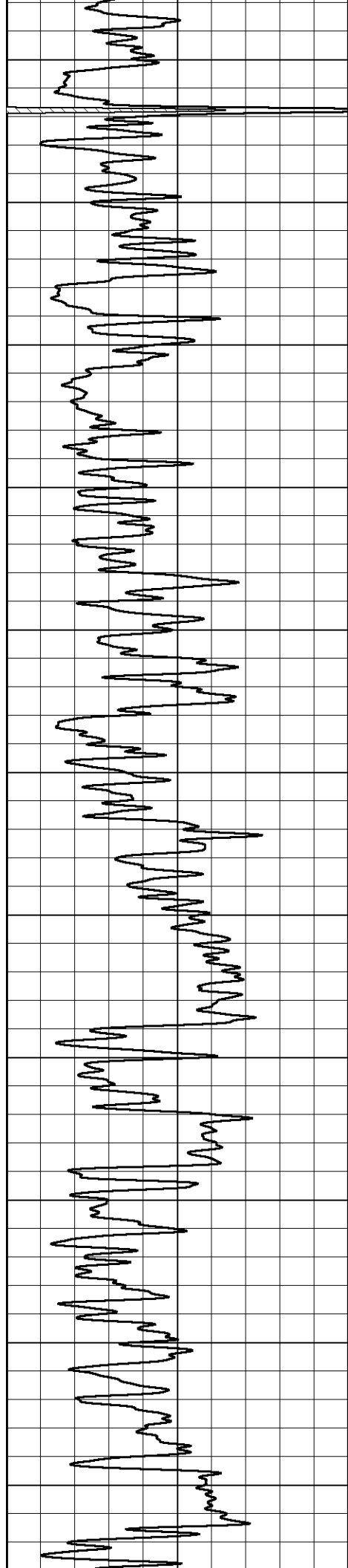
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Dataset Pathname	STACK/pass4.1
Presentation Format	dil2in
Dataset Creation	Mon Oct 17 23:07:38 2016
Charted by	Depth in Feet scaled 1:600

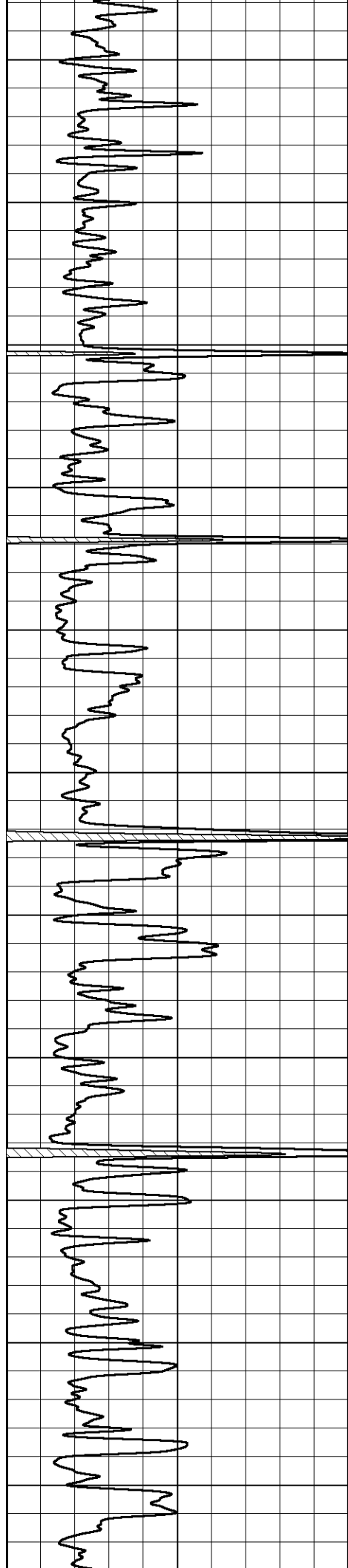
0	Gamma Ray (GAPI)	200	1000	Conductivity (mmho/m)	0
			15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
				Shallow Resistivity	
			50	(Ohm-m)	500
			50	Deep Resistivity (Ohm-m)	500











3200

3250

3300

3350

3400

3450

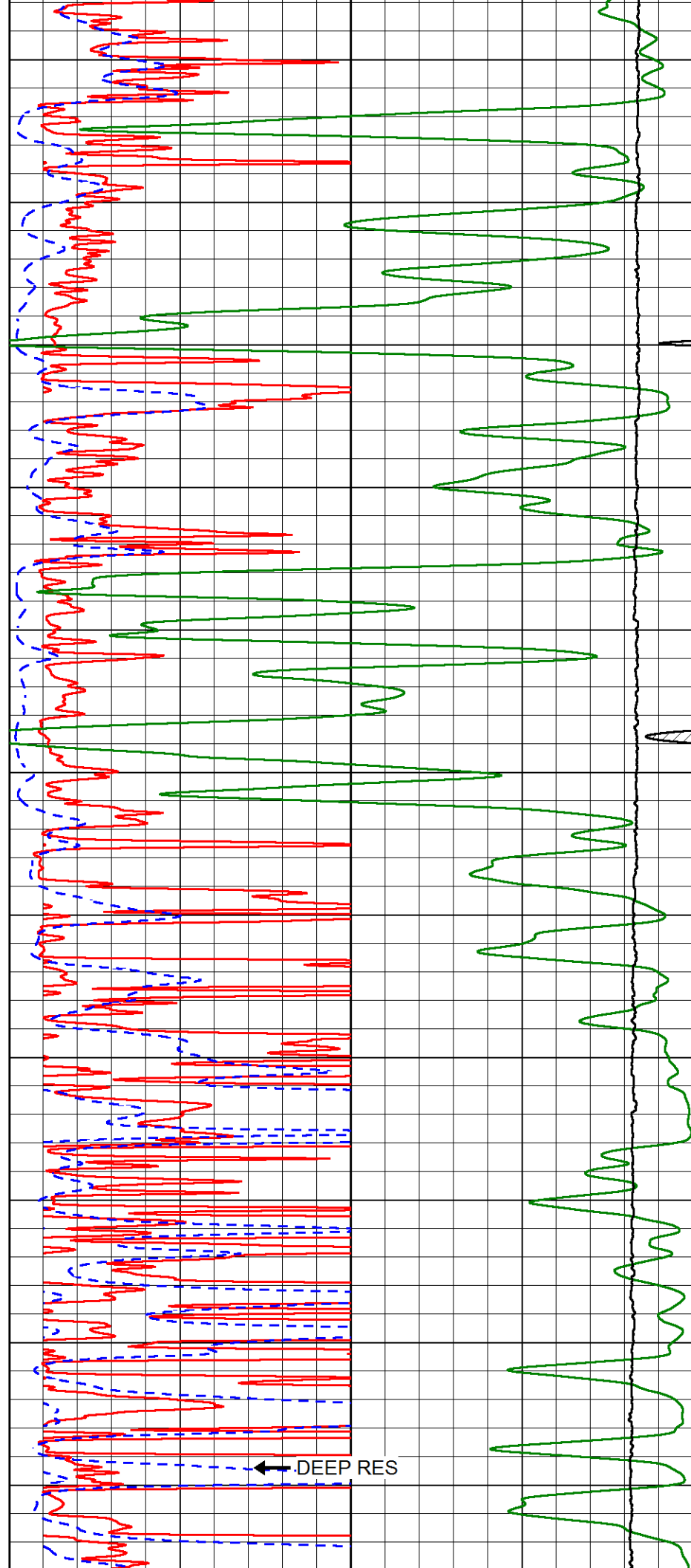
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3550

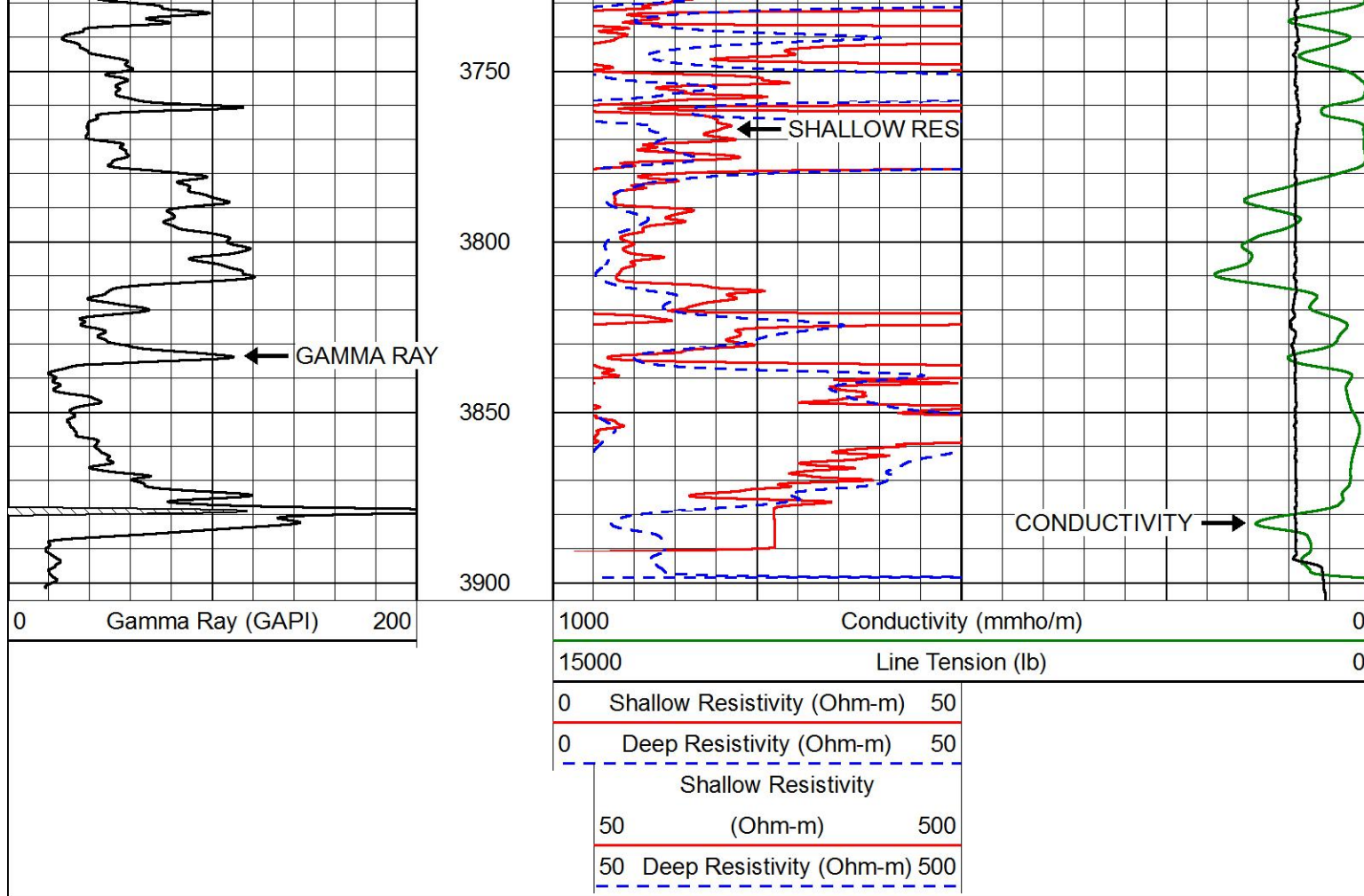
3600

3650

3700



DEEP RES



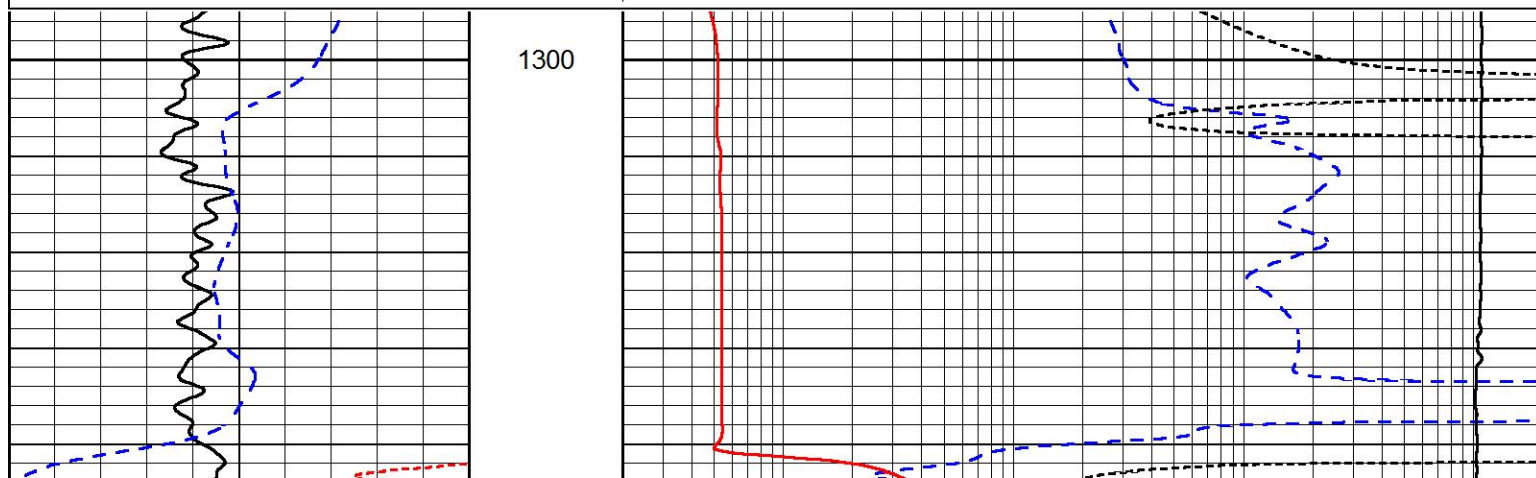


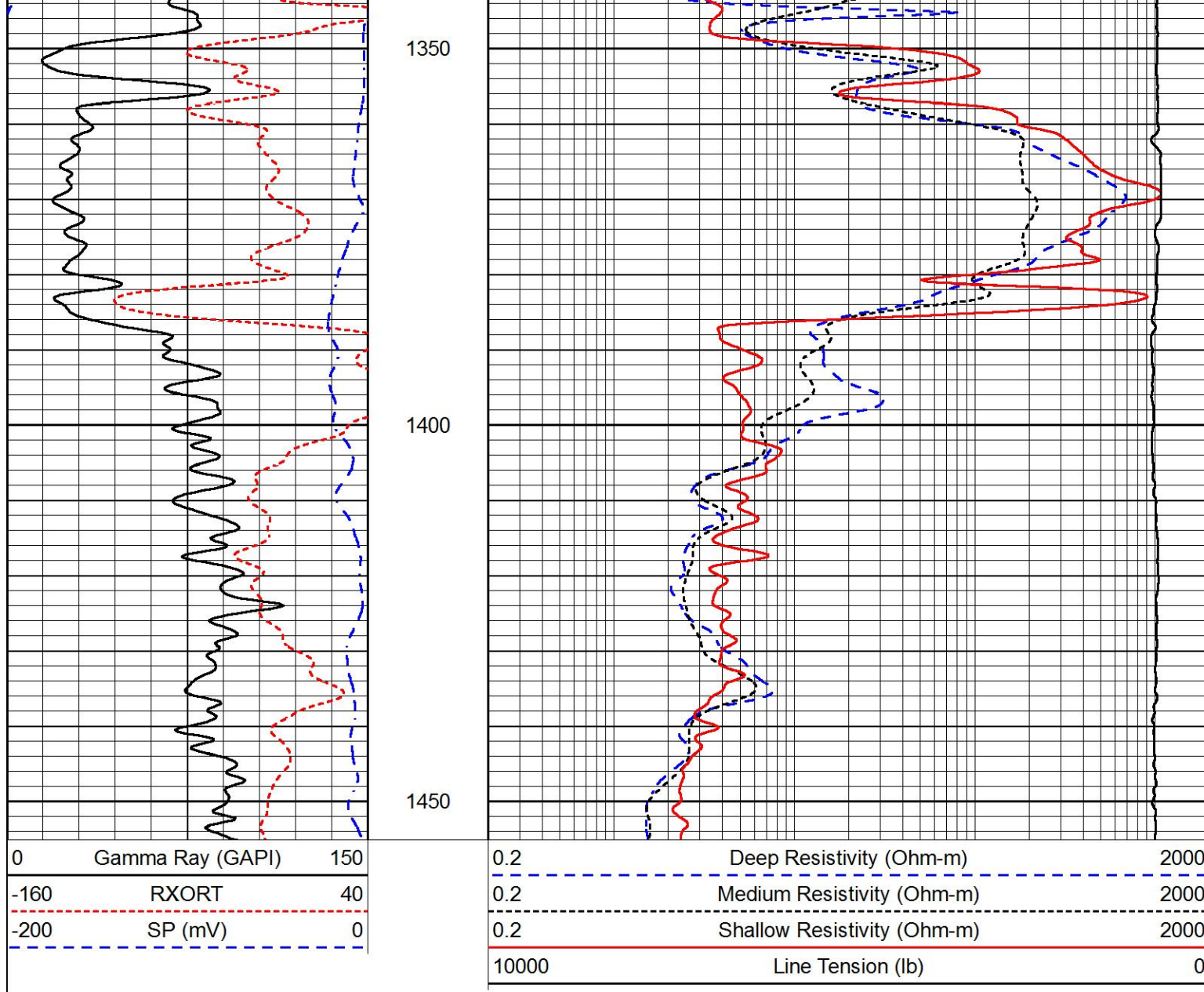
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Database File lachenmayr_jme farms_1.db
 Dataset Pathname STACK/pass4.1
 Presentation Format dil
 Dataset Creation Mon Oct 17 23:07:38 2016
 Charted by Depth in Feet scaled 1:240

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	Shallow Resistivity (Ohm-m)	2000
			10000	Line Tension (lb)	0



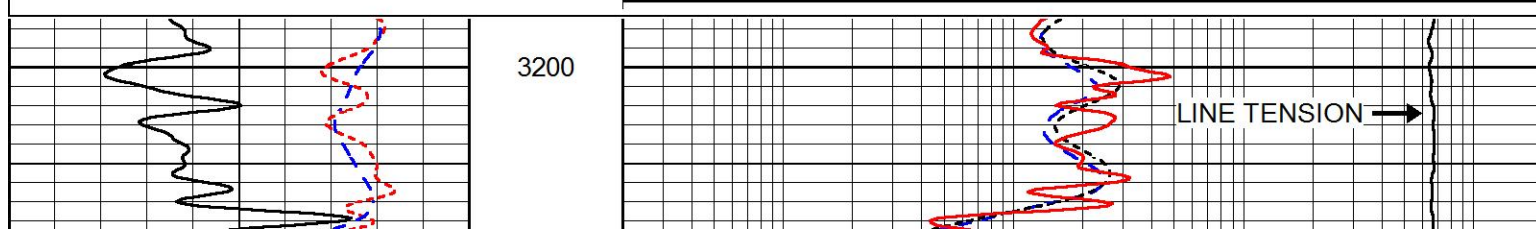


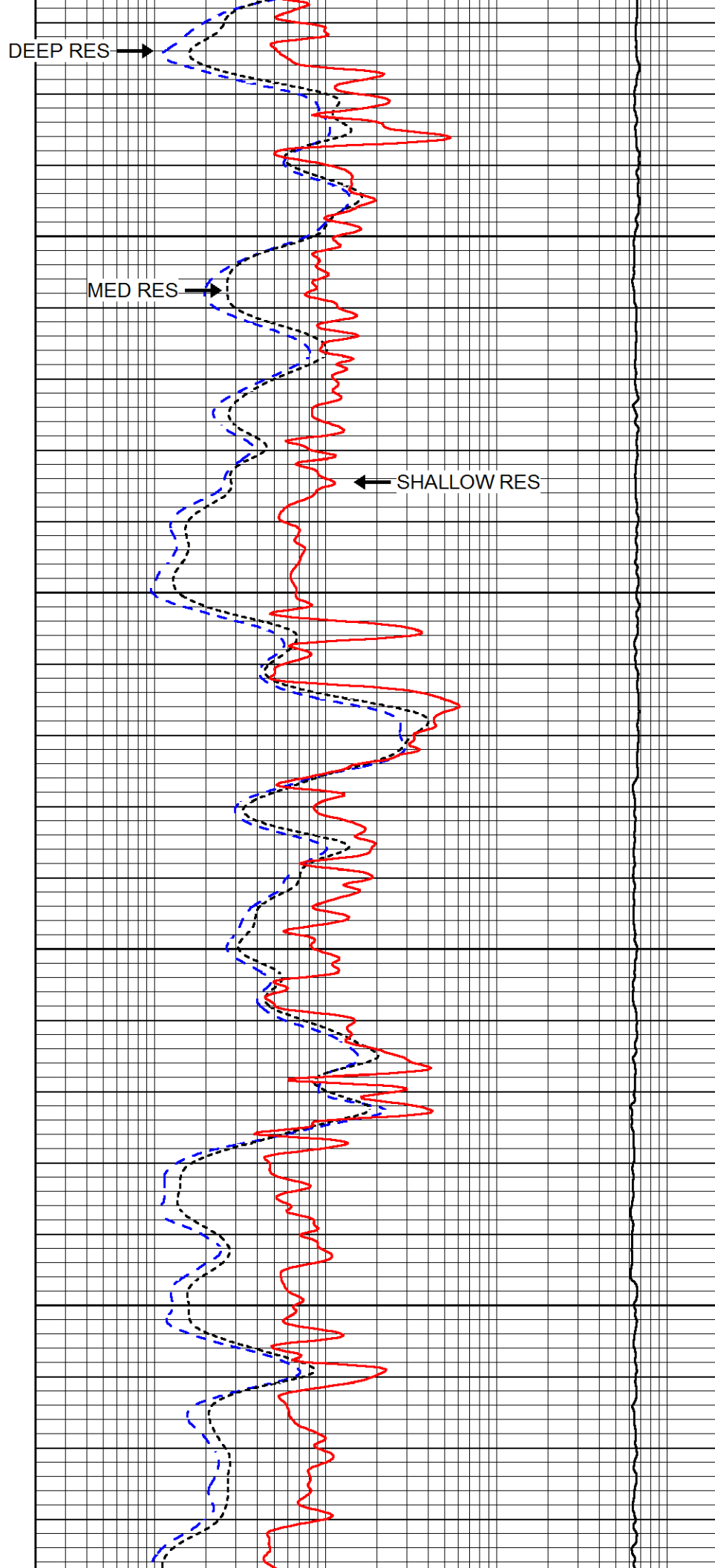
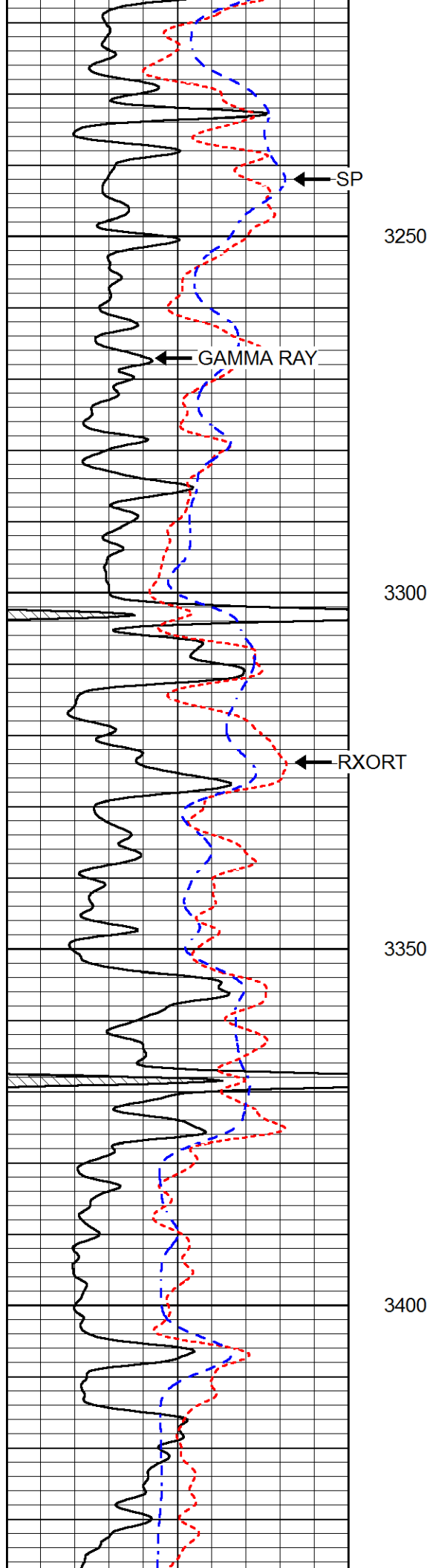


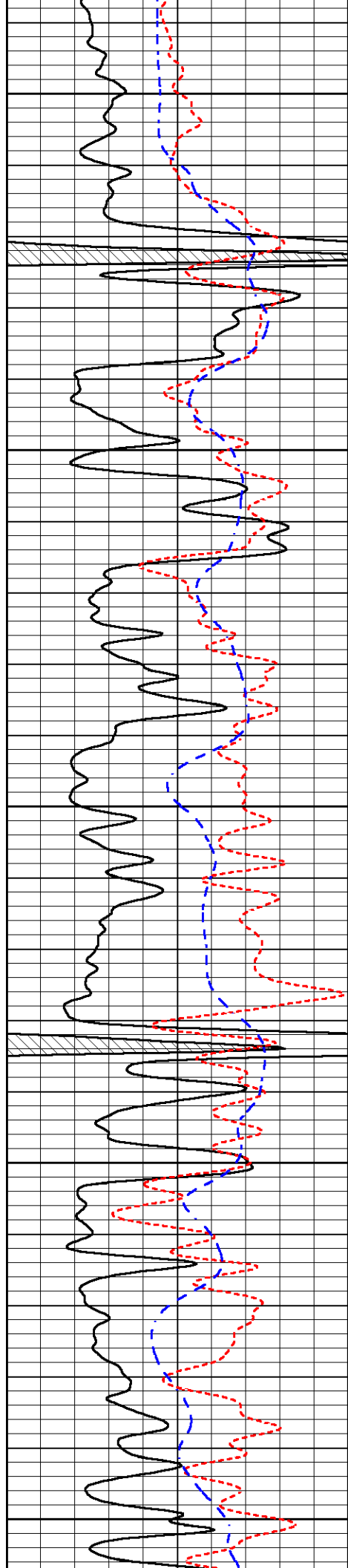
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MAIN PASS

Database File	lachenmayr_jme farms_1.db
Dataset Pathname	STACK/pass4.1
Presentation Format	dil
Dataset Creation	Mon Oct 17 23:07:38 2016
Charted by	Depth in Feet scaled 1:240







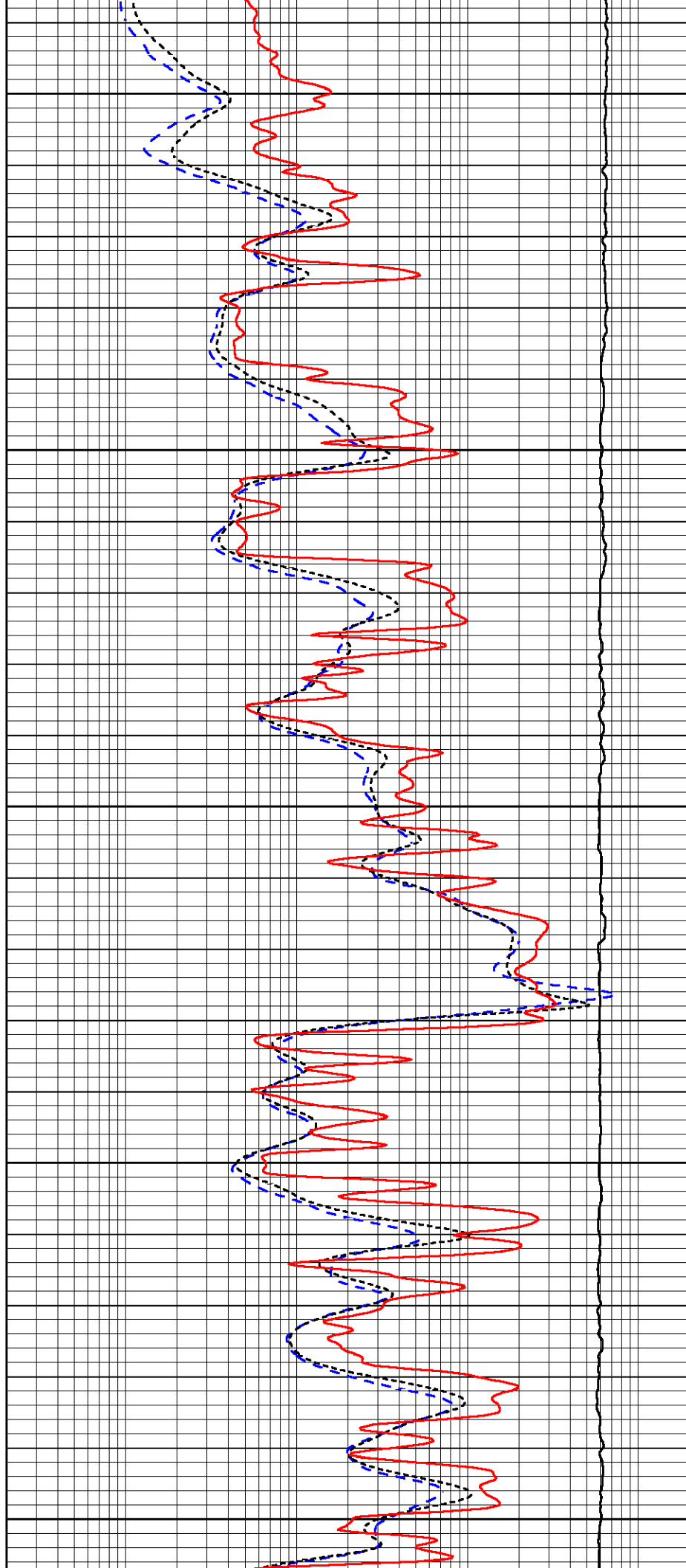
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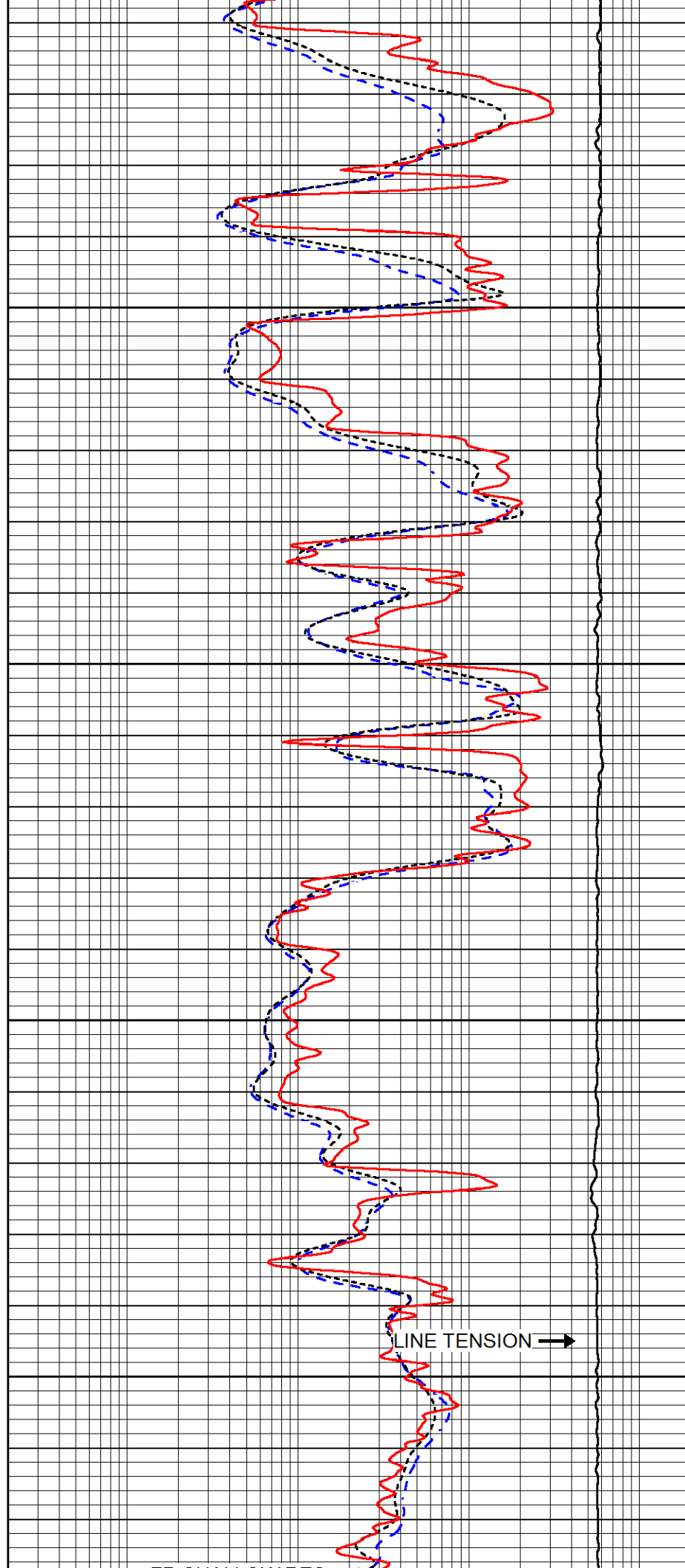
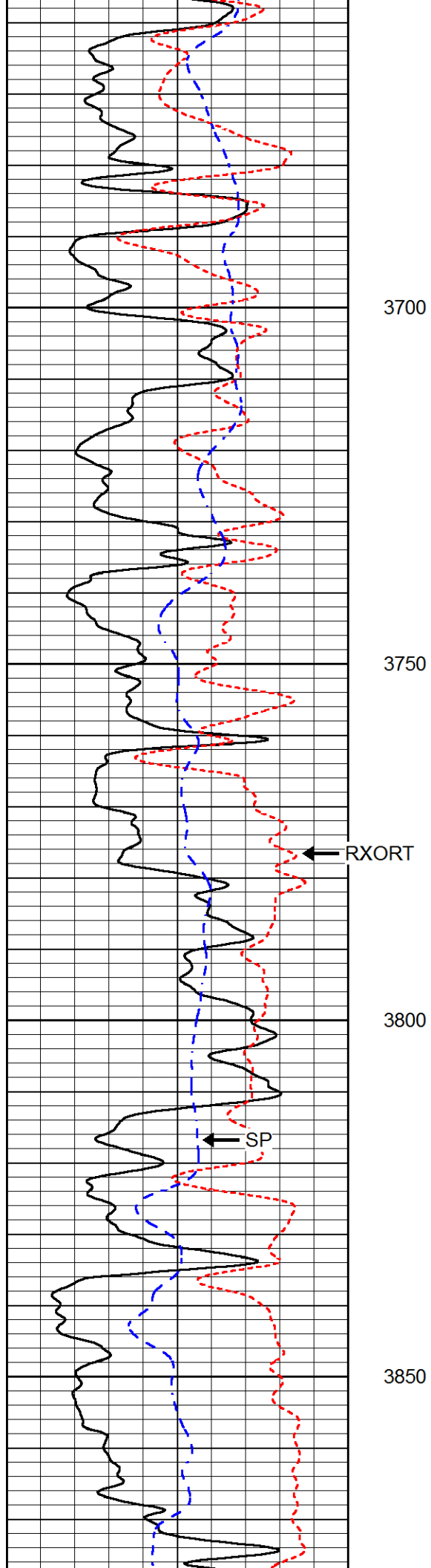
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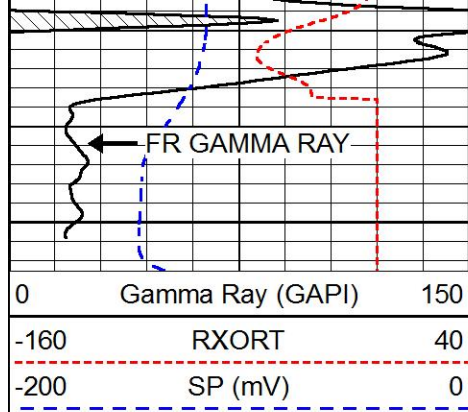
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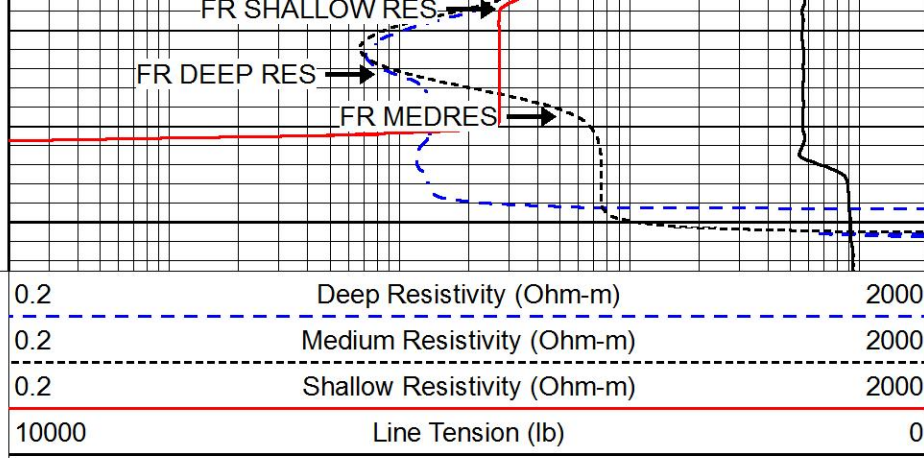
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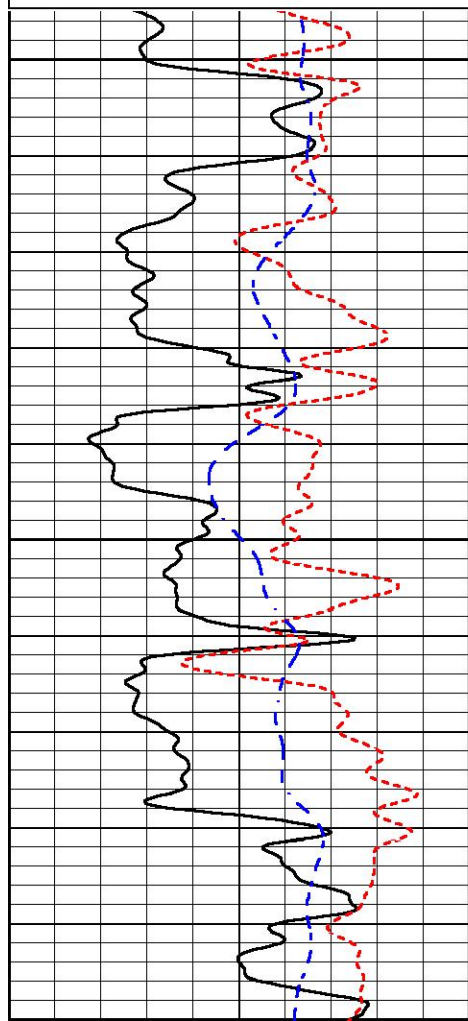
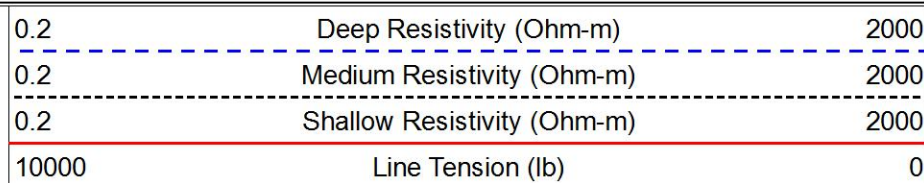
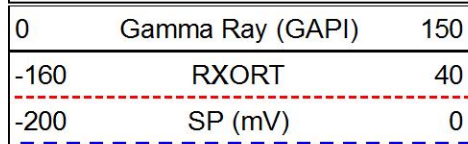


3900



REPEAT SECTION

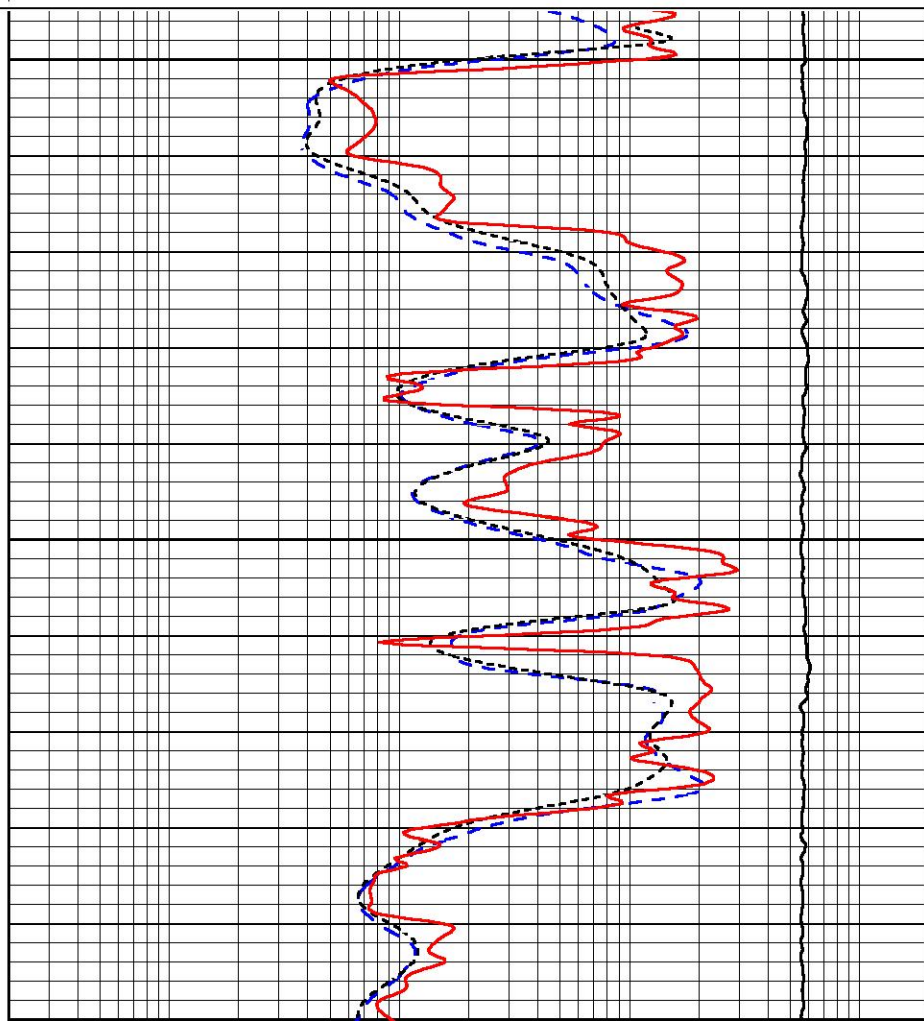
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 Presentation Format dil
 Dataset Creation Mon Oct 17 22:36:26 2016
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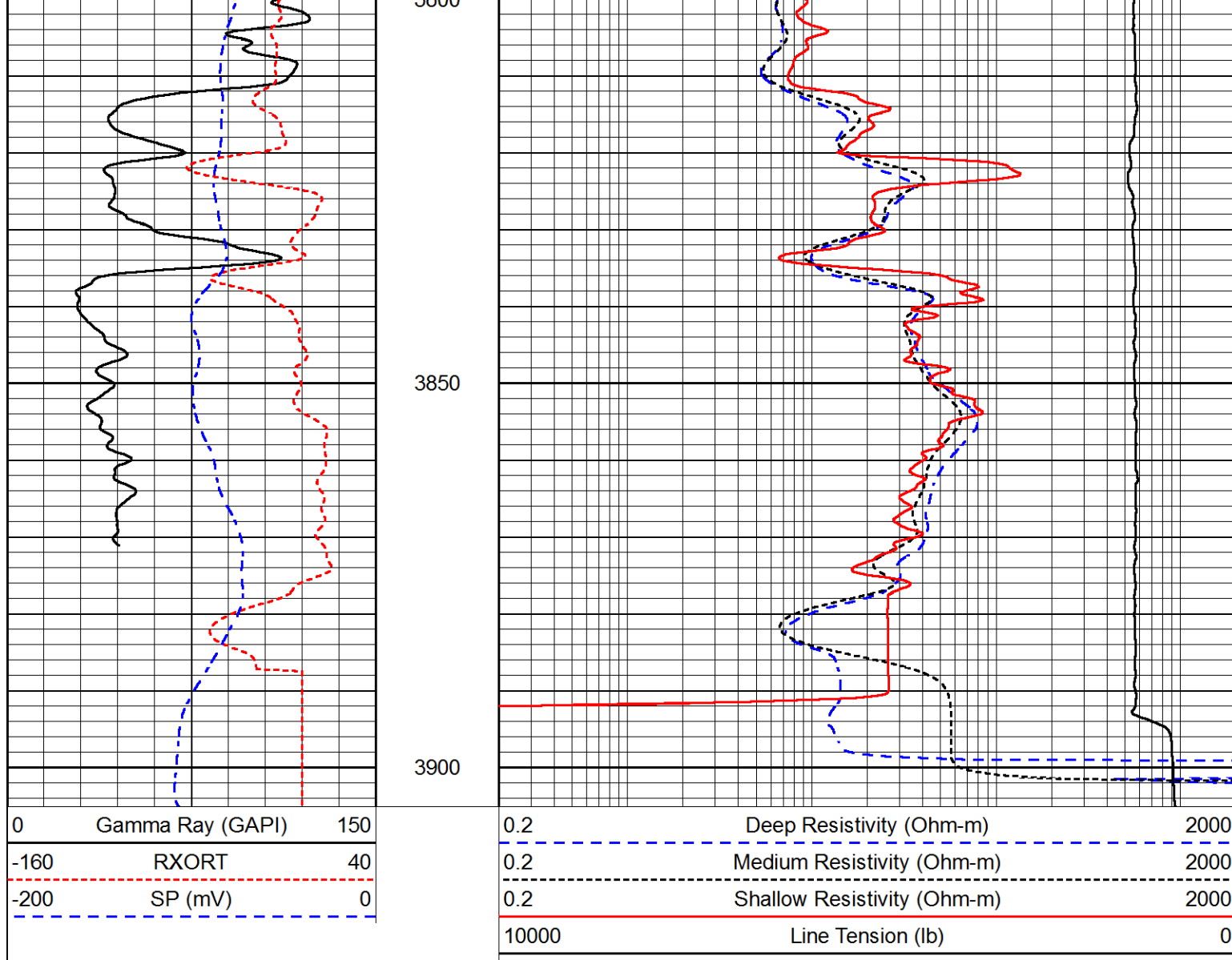


3700

3750

3800





Calibration Report

Database File lachenmayr_jme farms_1.db
 Dataset Pathname STACK/pass4.1
 Dataset Creation Mon Oct 17 23:07:38 2016

Dual Induction Calibration Report

Serial-Model: PSI 13-M&W
 Calibration Performed: Thu Oct 06 06:17:37 2016

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.450	-31.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.370	-26.500

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Thu Sep 29 18:47:07 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5174.18	6425.27	cps
Aluminum	2.665	g/cc	963.17	4037.42	cps
Spine Angle = 74.55			Density/Spine Ratio = 0.522		
	Size		Reading		
Small Ring	6.00	in	1.83		
Large Ring	16.00	in	1.48		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: Wed Sep 28 10:30:30 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
Tool Model: M&W
Calibration Performed: Thu Sep 29 18:47:18 2016

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company LACHENMAYR OIL, LLC
Well JME FARMS #1
Field UNNAMED
County RUSH
State KANSAS