



PIONEER
Pioneer Energy Services

MICRORESISTIVITY 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

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

CNL/CDL
DIL

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	3200'		
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		

<<< Fold Here >>>

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	28.43			CDL-M&W (71-914)	8.50	4.00	250.00
DCAL	28.42			ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
SSD	27.93						
MCAL	19.83						
MI	19.83						
MN	19.83						
RLL3	15.80						
RLL3F	15.79			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00						

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

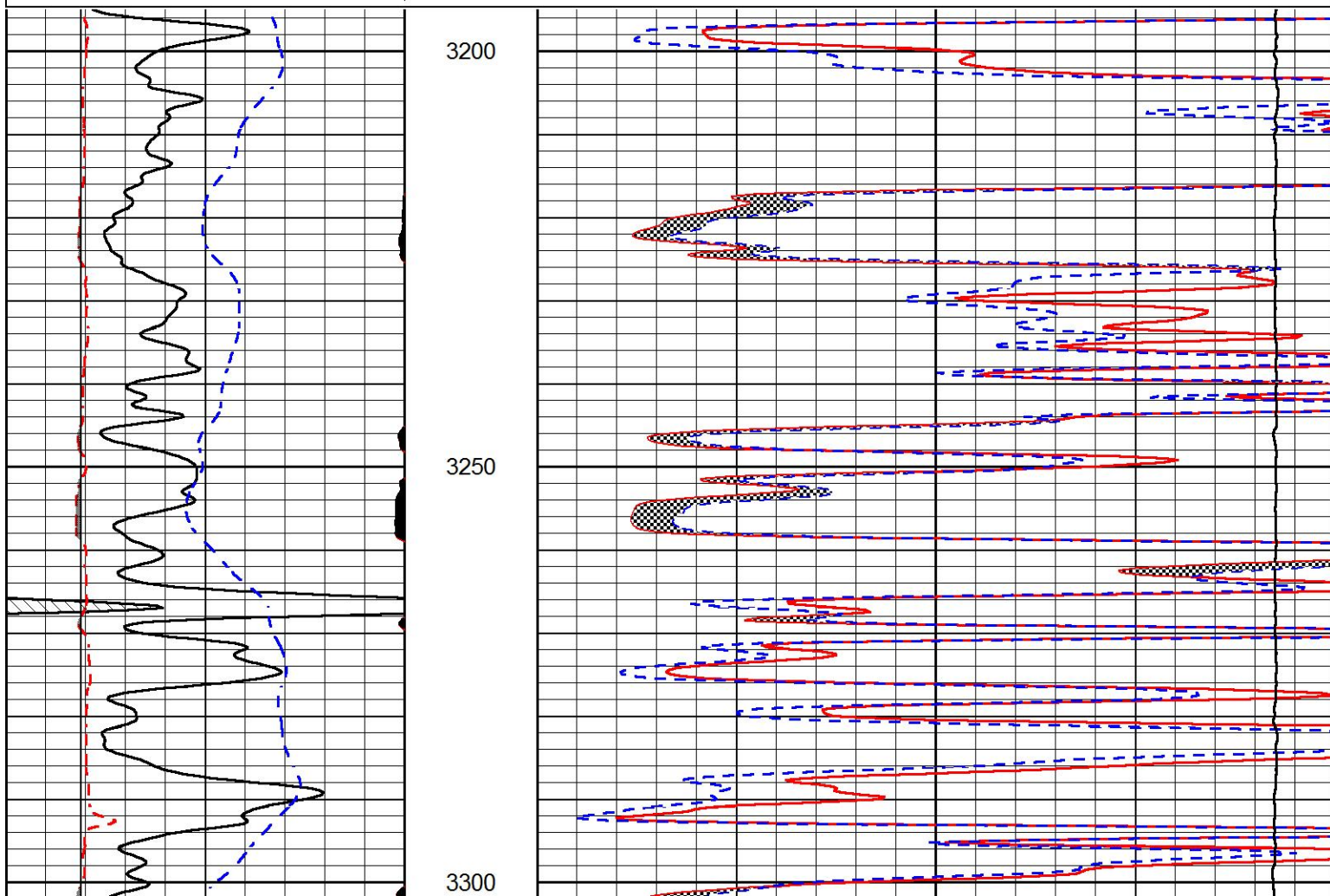


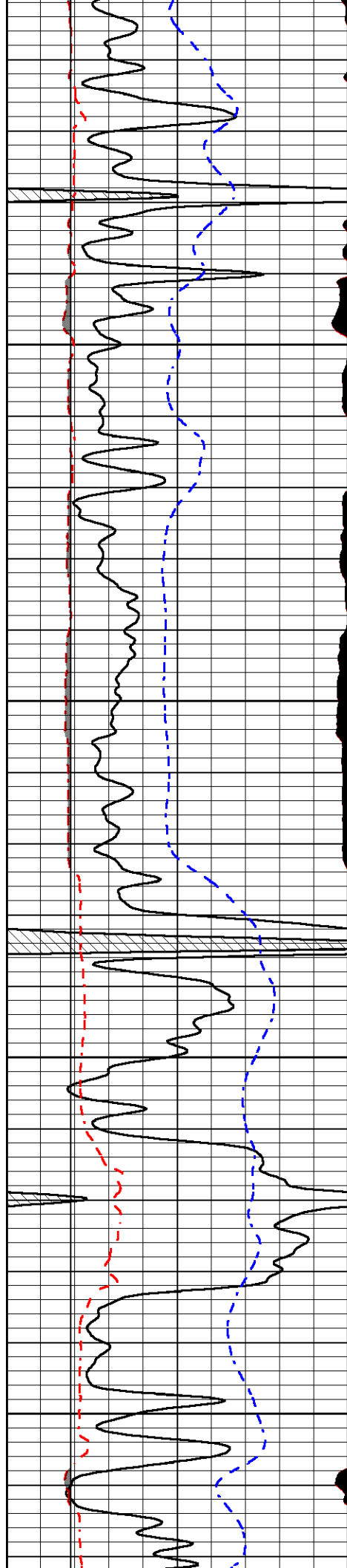
MAIN PASS

Database File joegerstneroil_llg_1-3.db
Dataset Pathname stackmel/pass3.1
Presentation Format micro
Dataset Creation Sat Dec 17 13:19:21 2016
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0



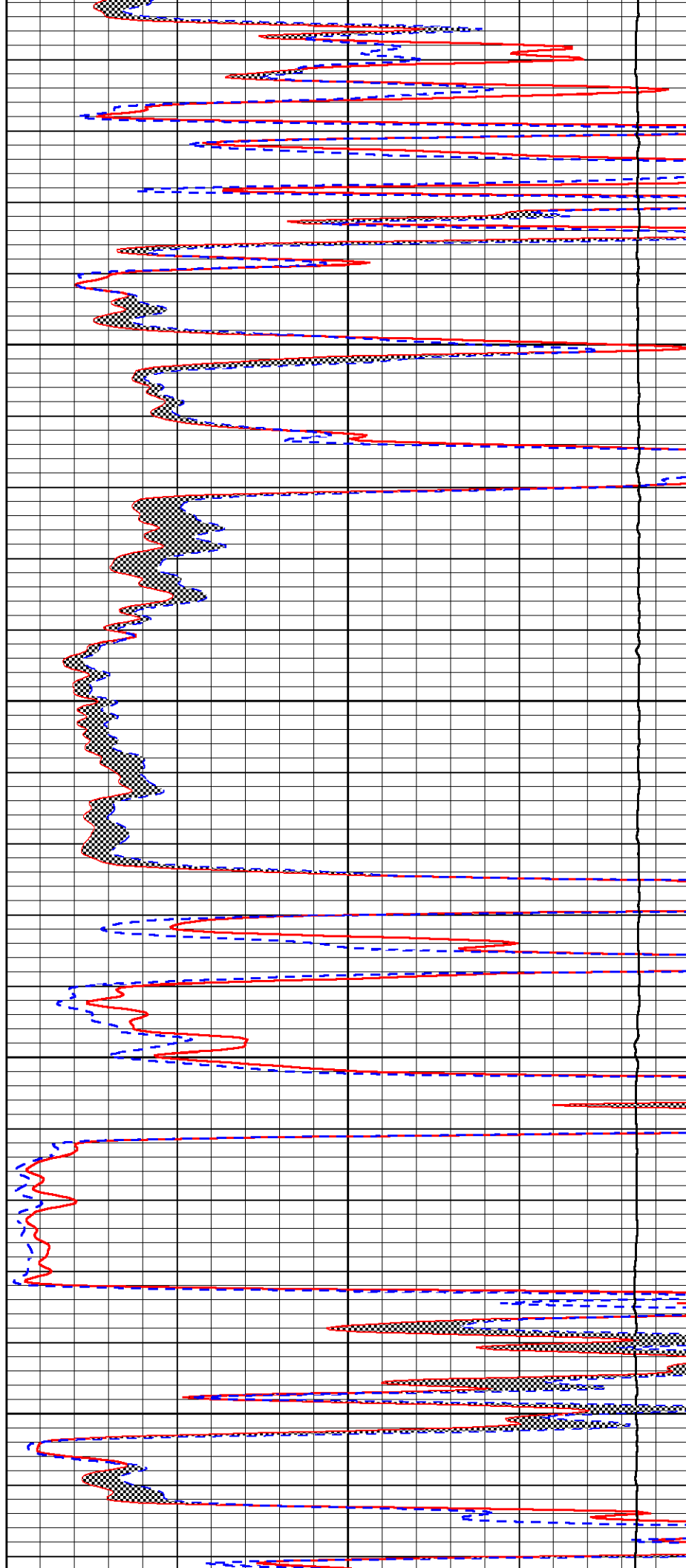


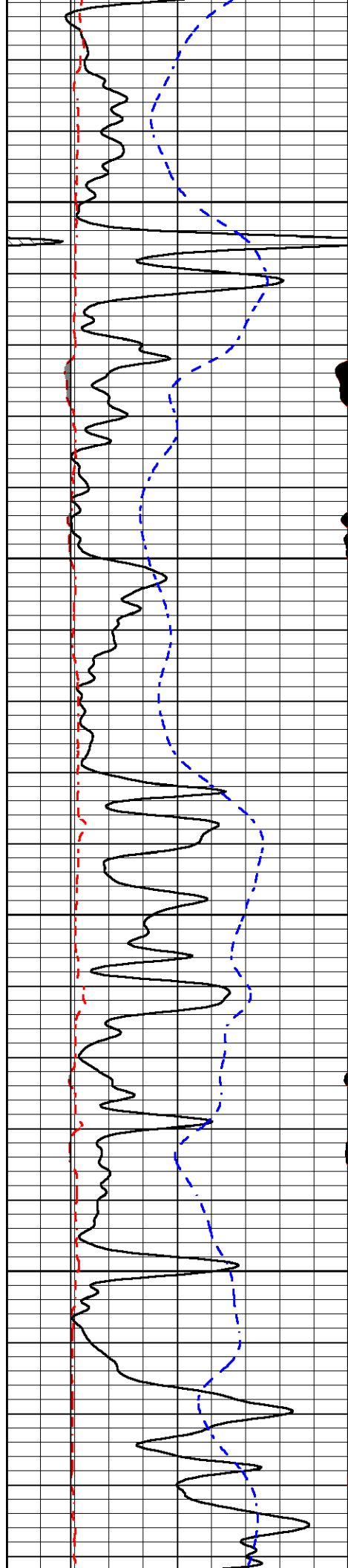
3350

3400

3450

3500



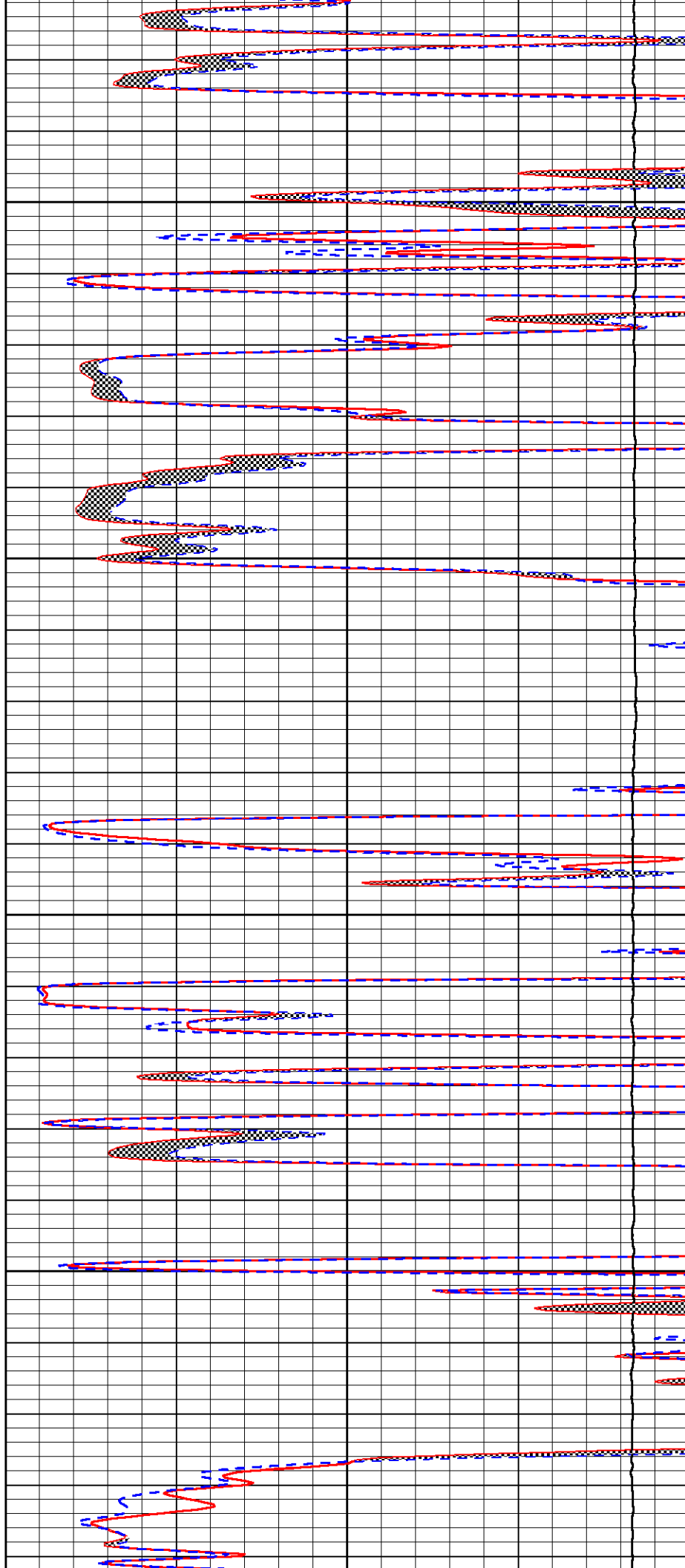


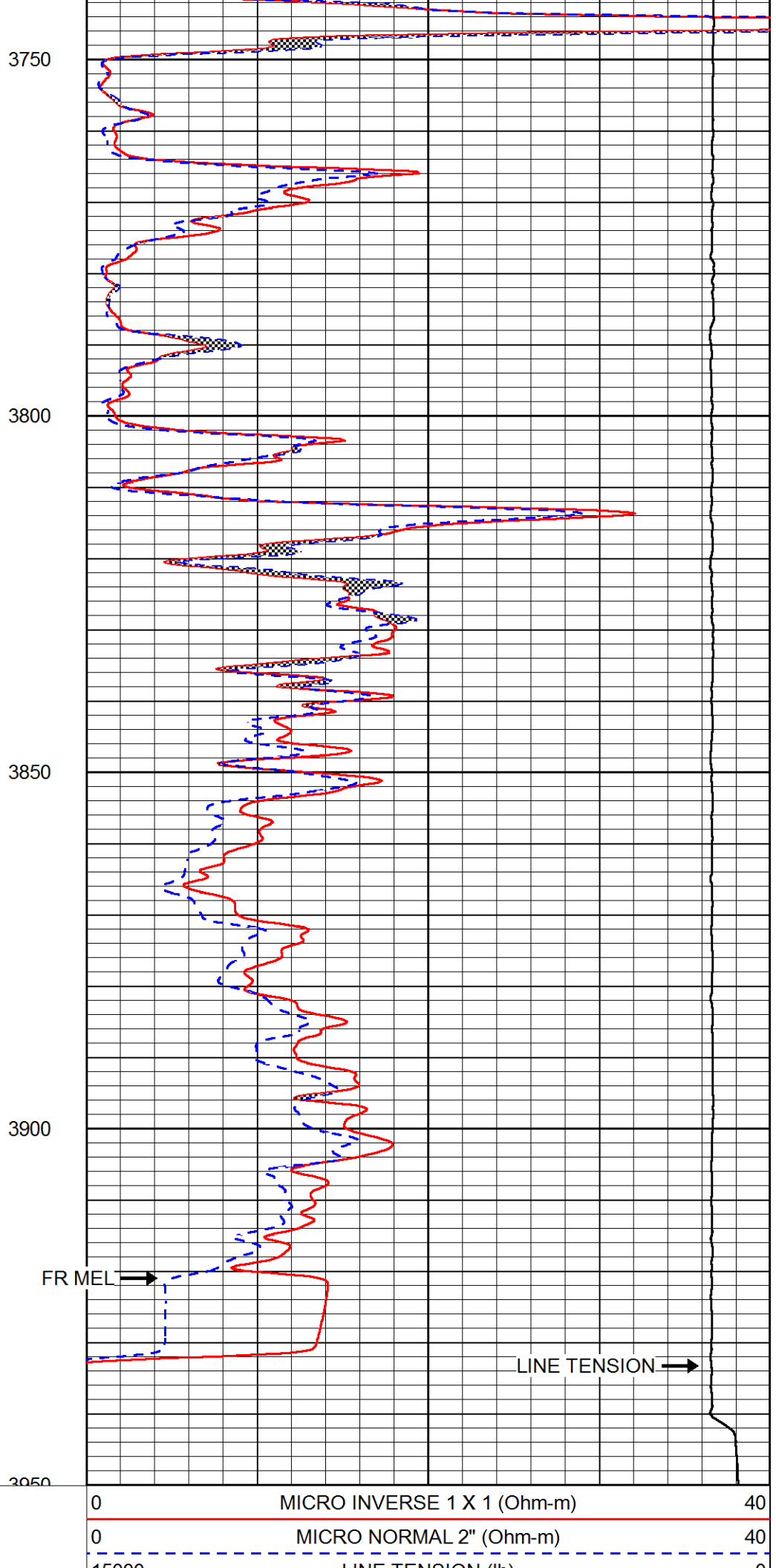
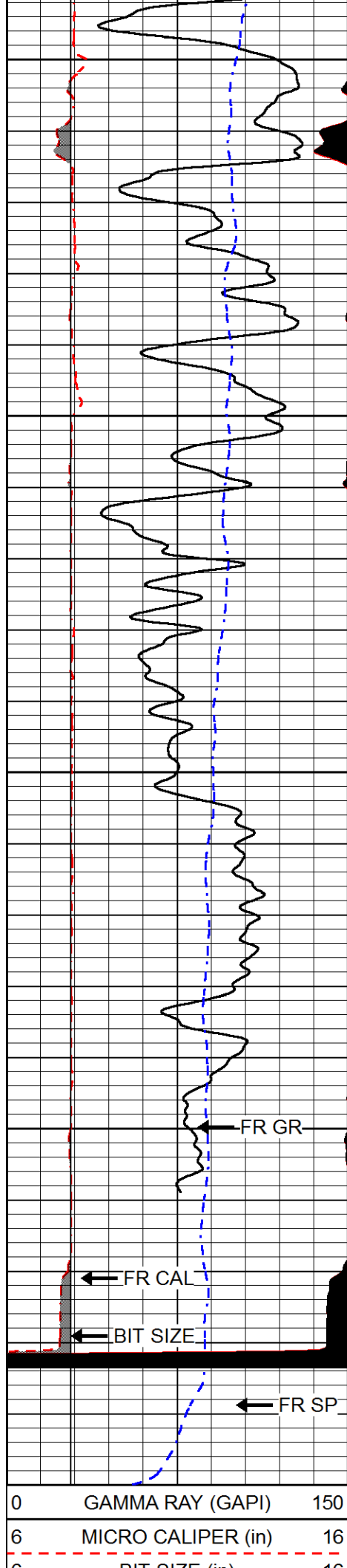
3550

3600

3650

3700





6	BIT SIZE (in)	16
-200	SP (mV)	0

15000	LINE TENSION (lb)	0
-------	-------------------	---

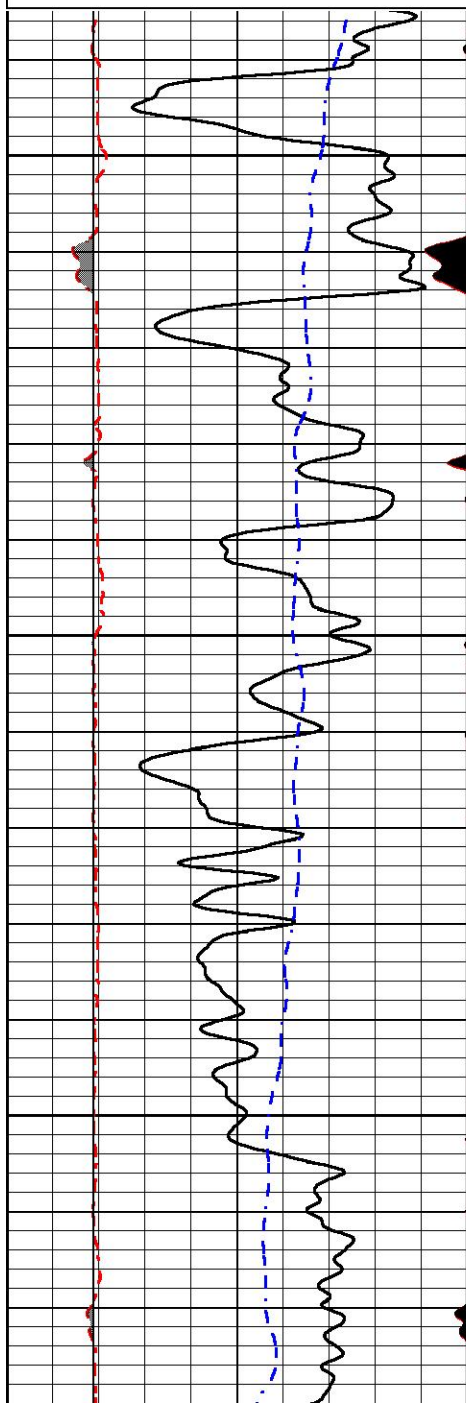


REPEAT SECTION

Database File joegerstneroil_lig_1-3.db
Dataset Pathname stackmel/pass2.1
Presentation Format micro
Dataset Creation Sat Dec 17 13:10:38 2016
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

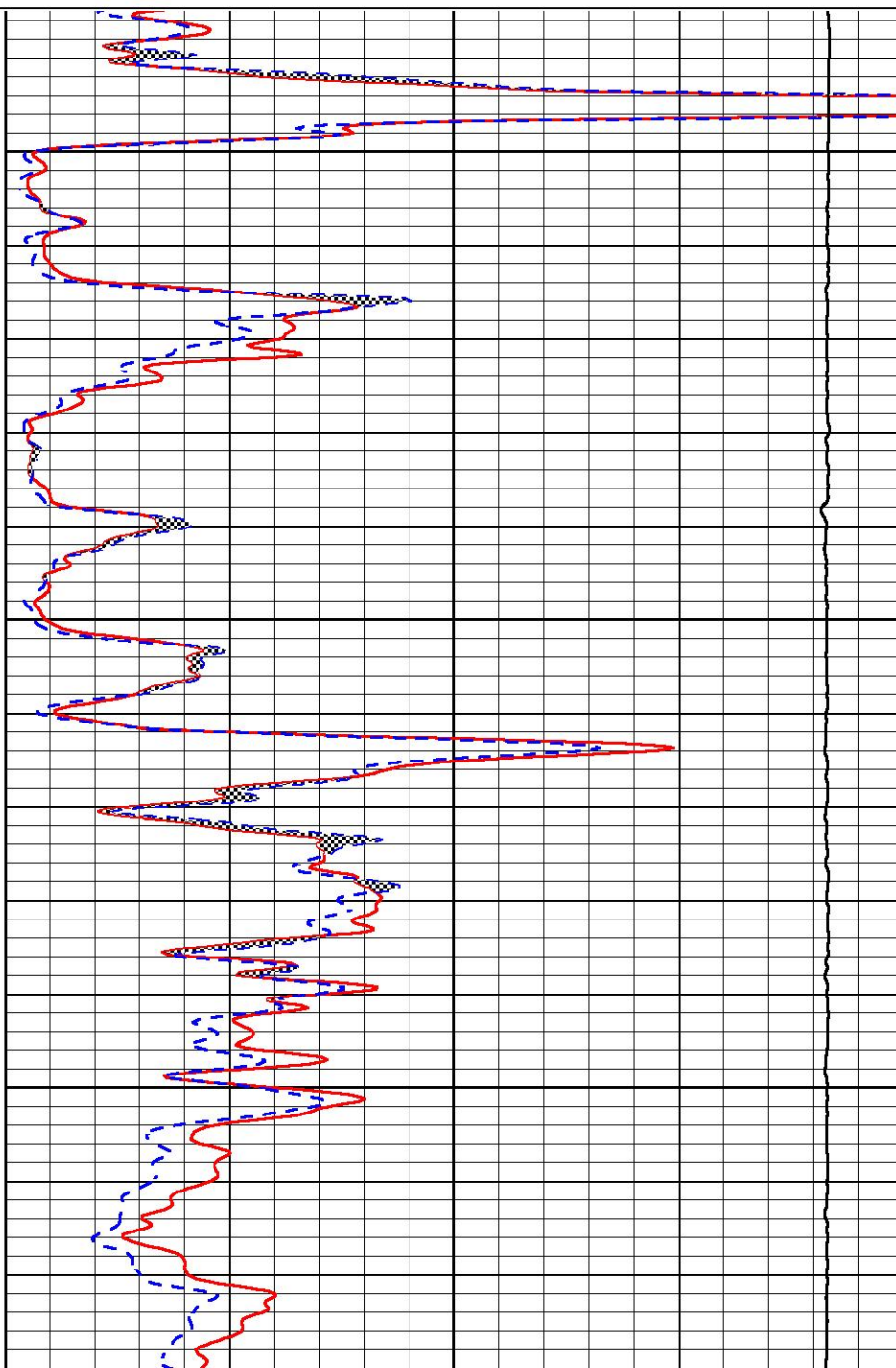
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0

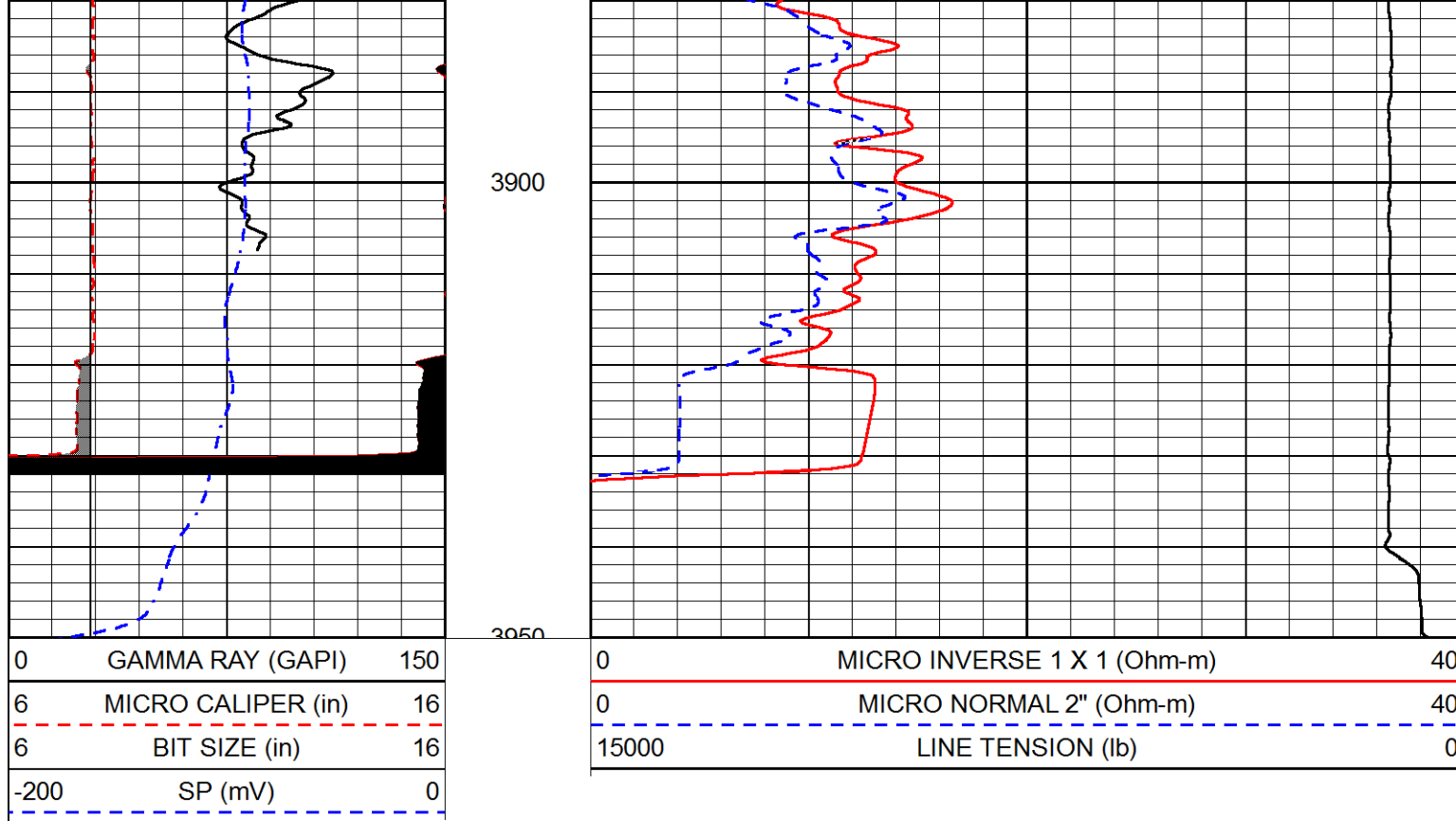


3750

3800

3850





Calibration Report

Database File joegerstneroil_lfg_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

Gamma Ray Calibration Report

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

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