



PIONEER

Pioneer Energy Services

MICRORESISTIVITY LOG

Company BEREXCO, LLC		Well HINKHOUSE NO.8		Field MOREL		County GRAHAM		State KANSAS	
Location:		API #: 15-065-24134-00-00		Other Services					
1370' FNL & 2244' FWL		SEC 14 TWP 9S RGE 21W		CNL/CDL DIL					
Permanent Datum	GROUND LEVEL	Elevation	2205'	K.B.	2213'				
Log Measured From	KELLY BUSHING	D.F.	N/A						
Drilling Measured From	KELLY BUSHING	G.L.	2205'						
Date	6/26/17								
Run Number	TWO								
Depth Driller	3782'								
Depth Logger	3785'								
Bottom Logged Interval	3784'								
Top Log Interval	2900'								
Casing Driller	8.625" @ 250'								
Casing Logger	263'								
Bit Size	7.875"								
Type Fluid in Hole	CHEMICAL								
Salinity, ppm CL	2,000								
Density / Viscosity	9.6 60								
pH / Fluid Loss	8.5 8.8								
Source of Sample	FLOWLINE								
Rm @ Meas. Temp	.78 @ 72								
Rmt @ Meas. Temp	.59 @ 72								
Rmc @ Meas. Temp	1.05 @ 72								
Source of Rmf / Rmc	CHARTS								
Rm @ BHT	.49 @ 114								
Operating Rig Time	4 HOURS								
Max Rec. Temp. F	114 DEGF								
Equipment Number	108								
Location	HAYS								
Recorded By	J. HENRICKSON								
Witnessed By	BRYAN BYNOG								

<<< 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.

PALCO KANSAS

1/2 NORTH OF TOWN TO V ROAD, 3 1/2 WEST, NORTH INTO THROUGH CATTLE GUARD
(LEFT AT T IN ROAD, THEN LEFT AT Y IN ROAD, FOLLOW TO WELL)

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: J. HENRICKSON
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: BRYAN BYNOG
Secondary Witness:
Secondary Witness:
Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\berexco_hinkhouse_8.db
Dataset field/well/stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	110	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	-460	68	Off	3785

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
MCAL	1.00		ML-Armadillo (Armadillo-4) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
MI	1.00					
MN	1.00					

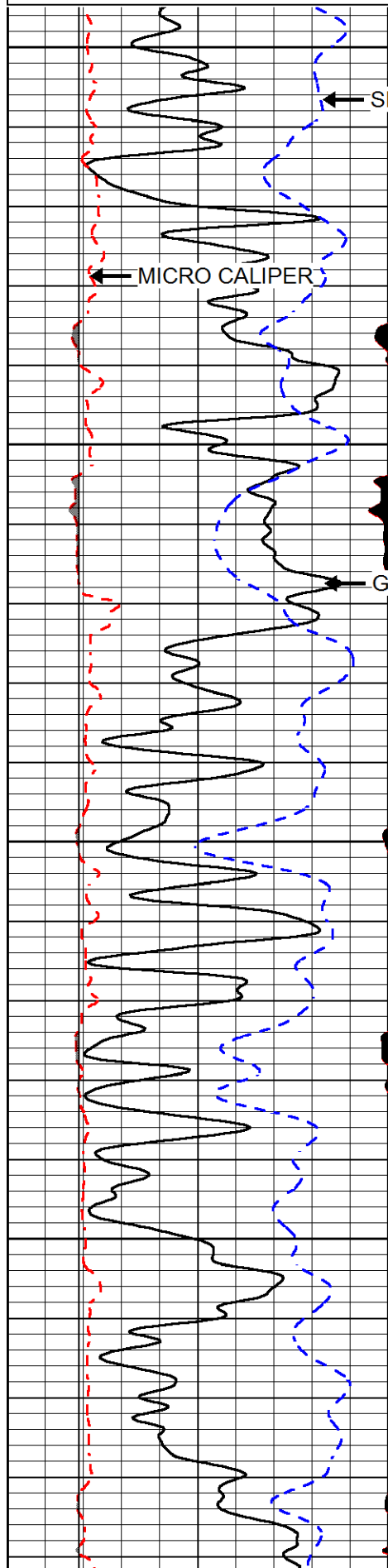
Dataset: berexco_hinkhouse_8.db: field/well/MICRO/pass2
Total length: 5.00 ft
Total weight: 100.00 lb
O.D.: 3.50 in



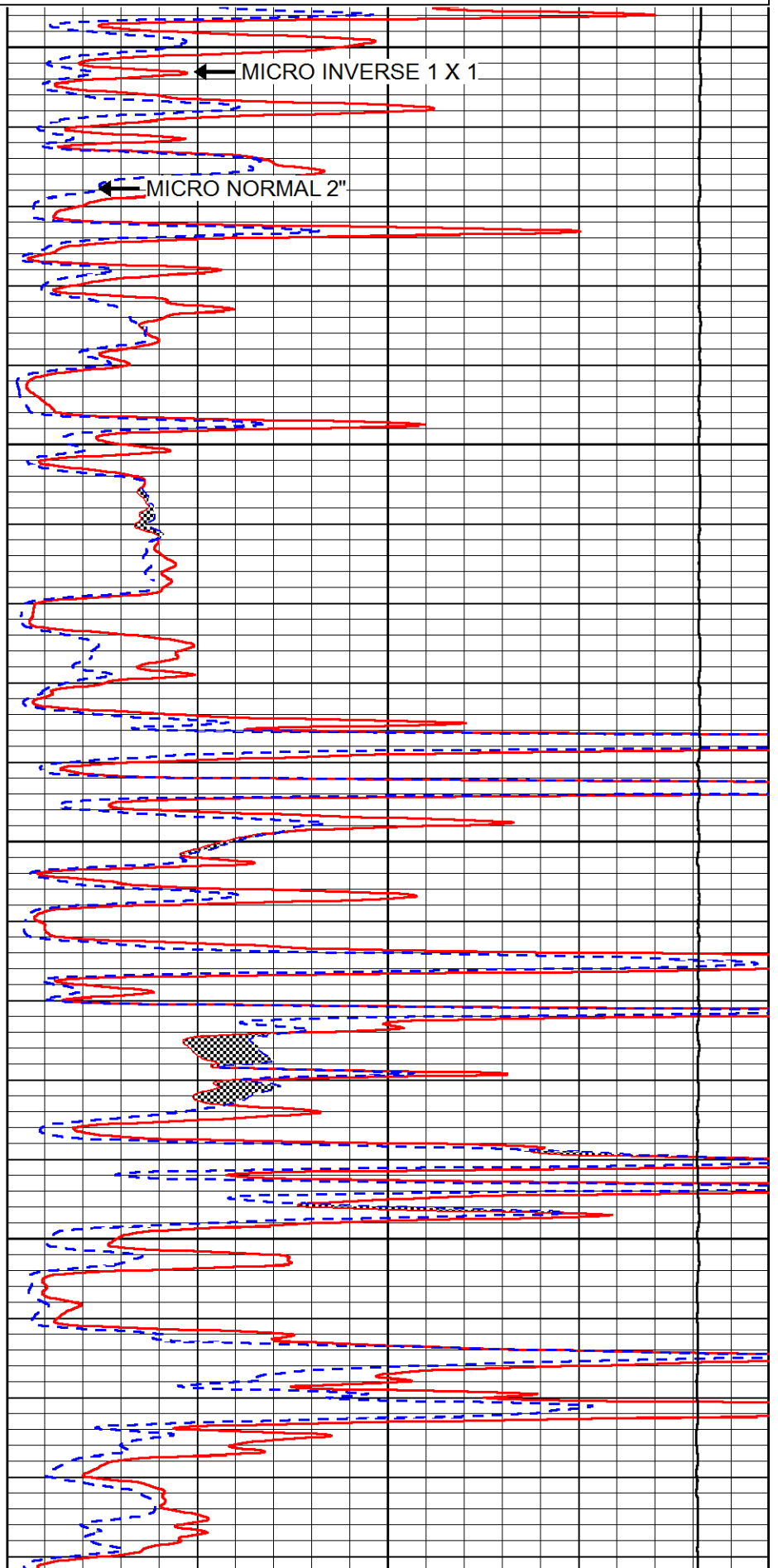
MAIN PASS

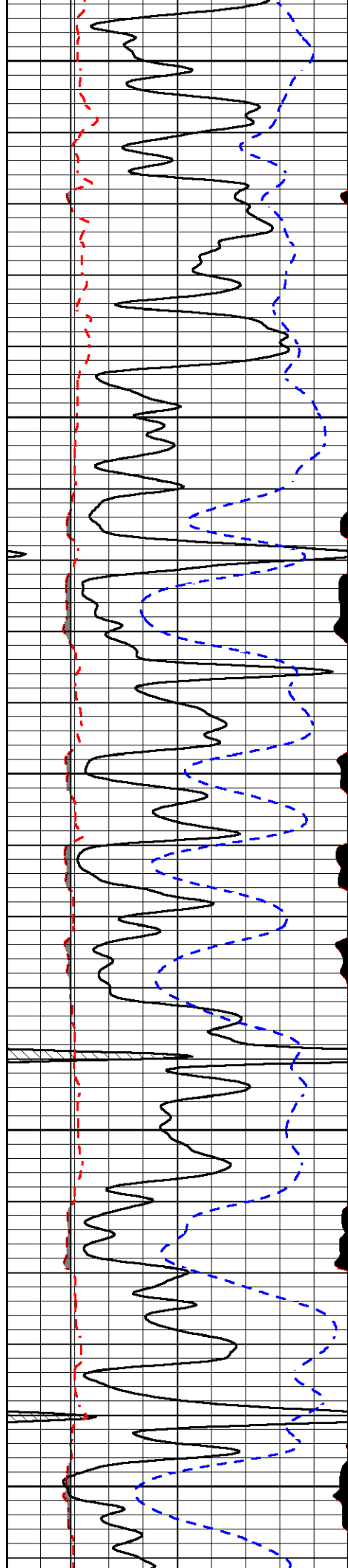
Database File berexco_hinkhouse_8.db
Dataset Pathname stack/pass3.1
Presentation Format micro
Dataset Creation Mon Jun 26 01:46:12 2017
Charted by Depth in Feet scaled 1:240

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





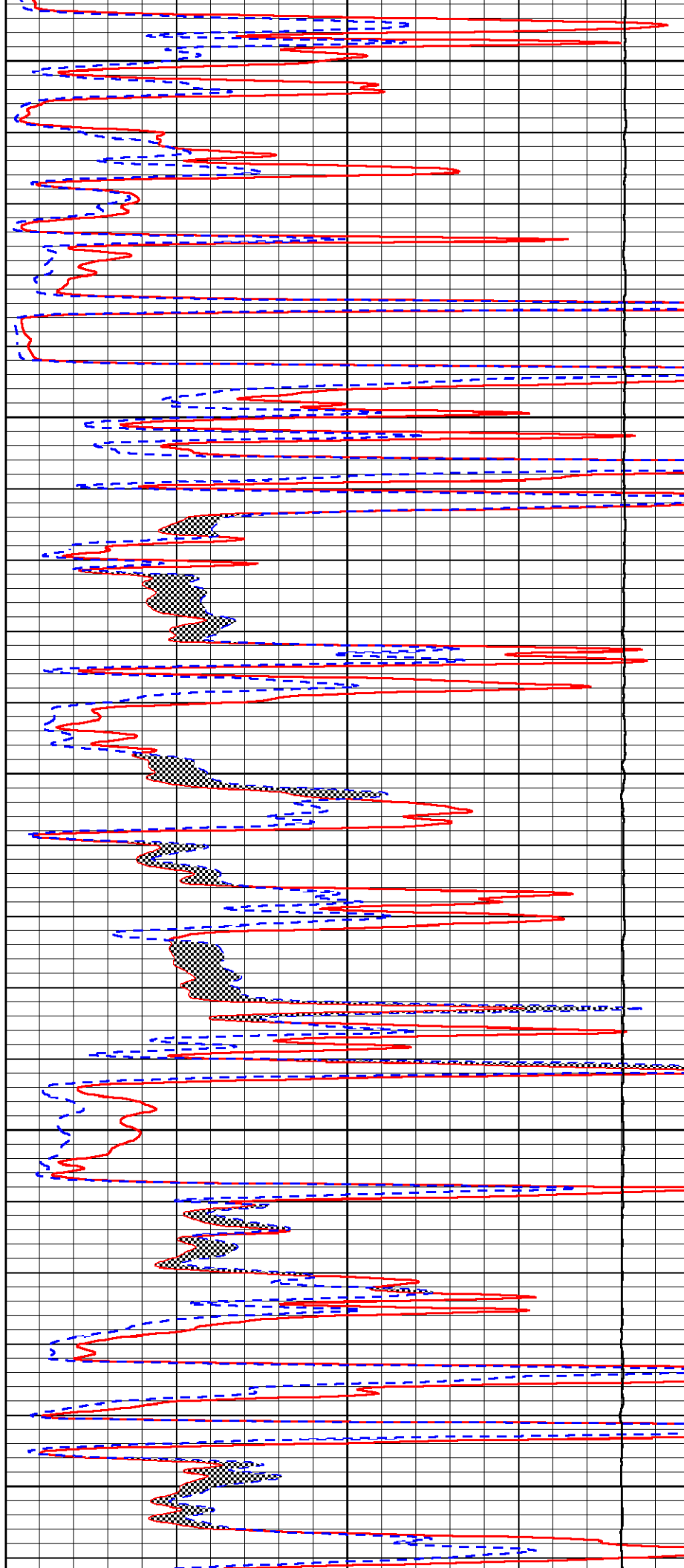
3100

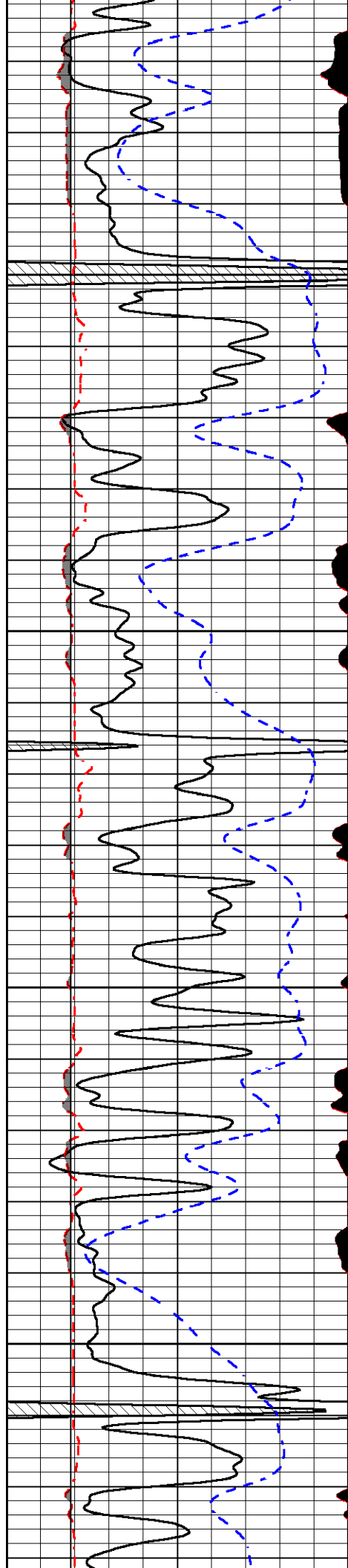
3150

3200

3250

3300



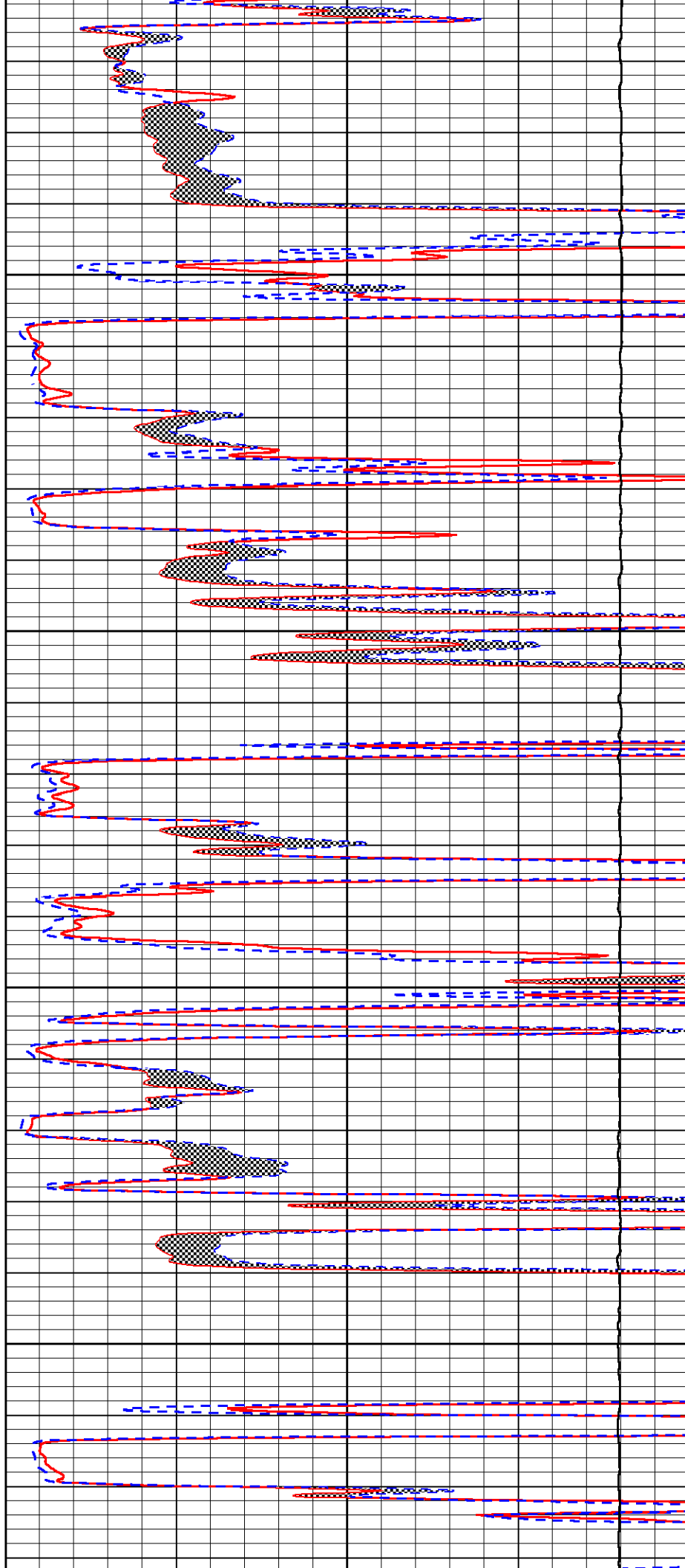


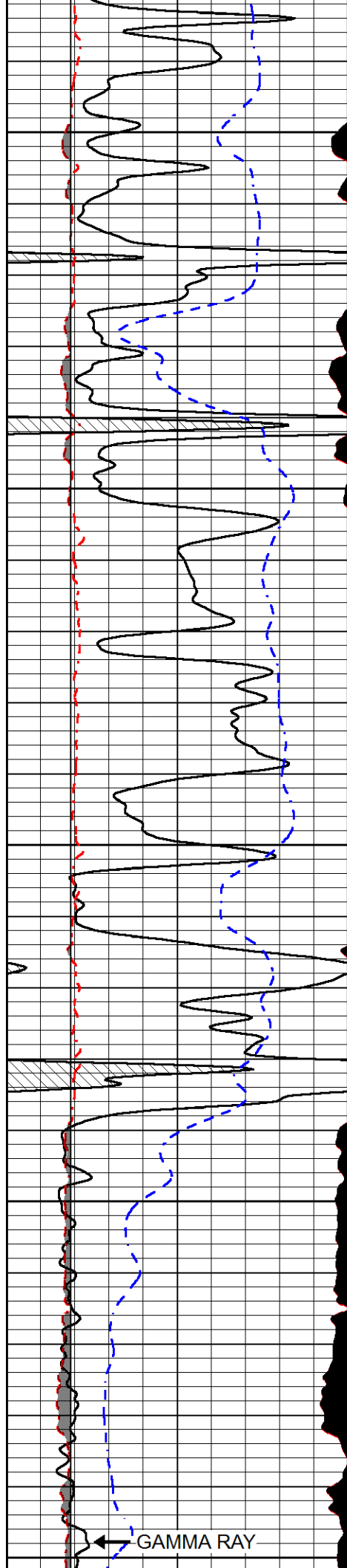
3350

3400

3450

3500





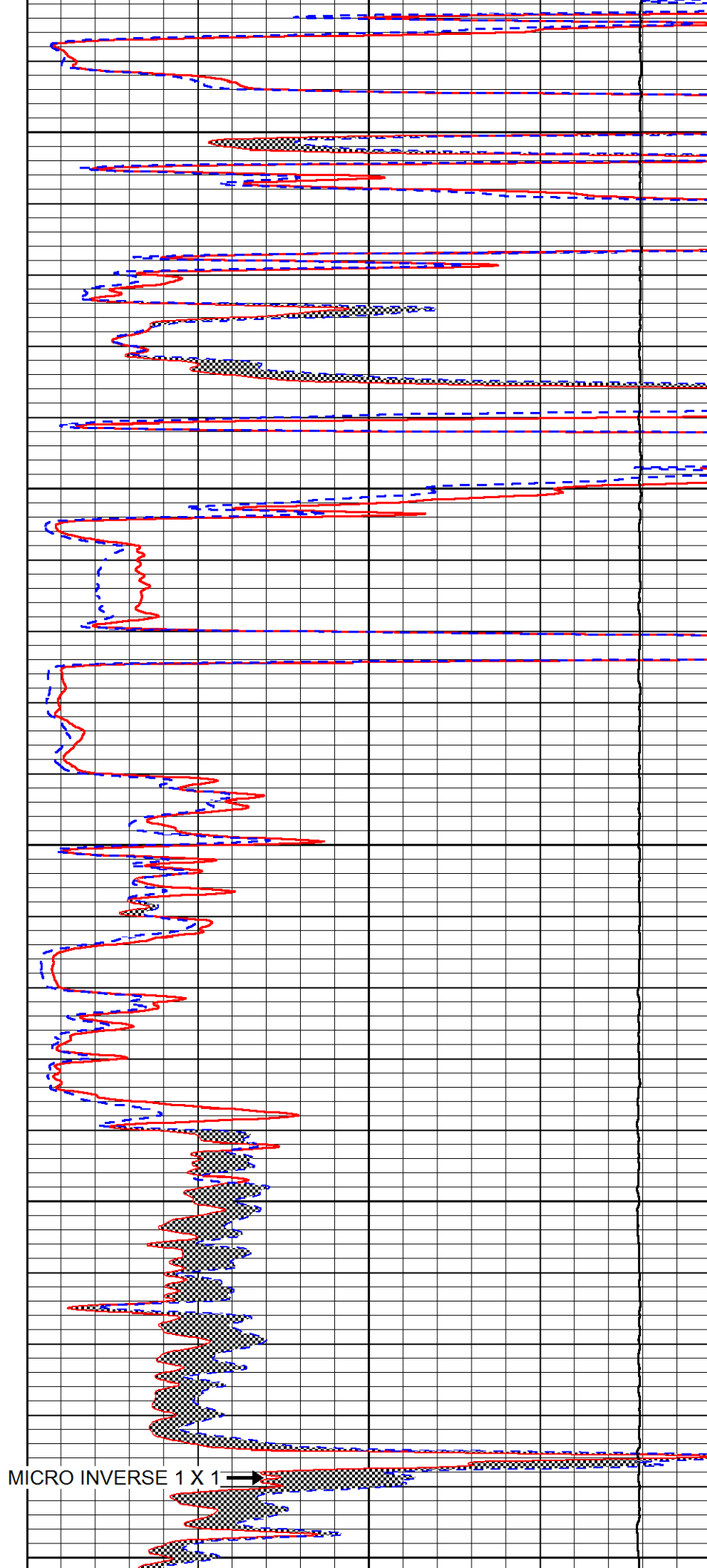
3550

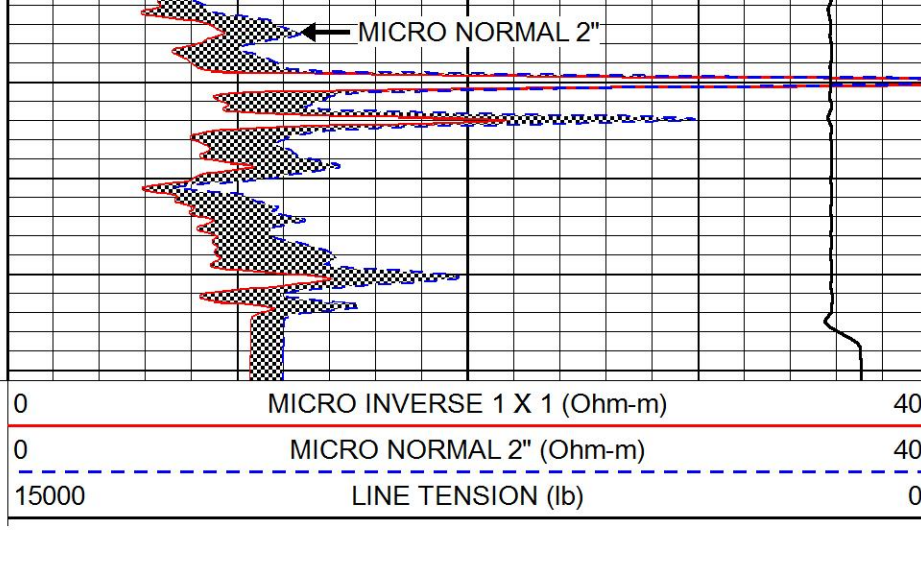
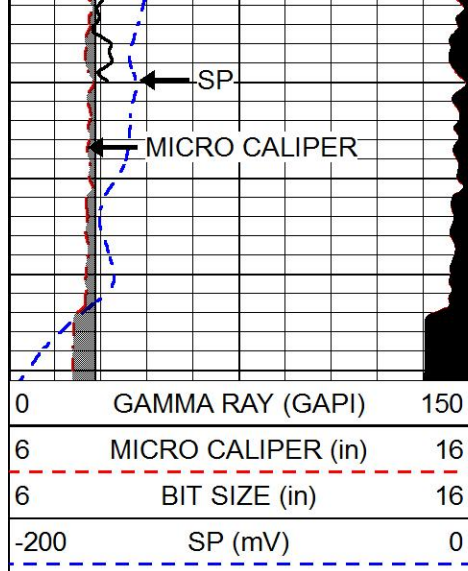
3600

3650

3700

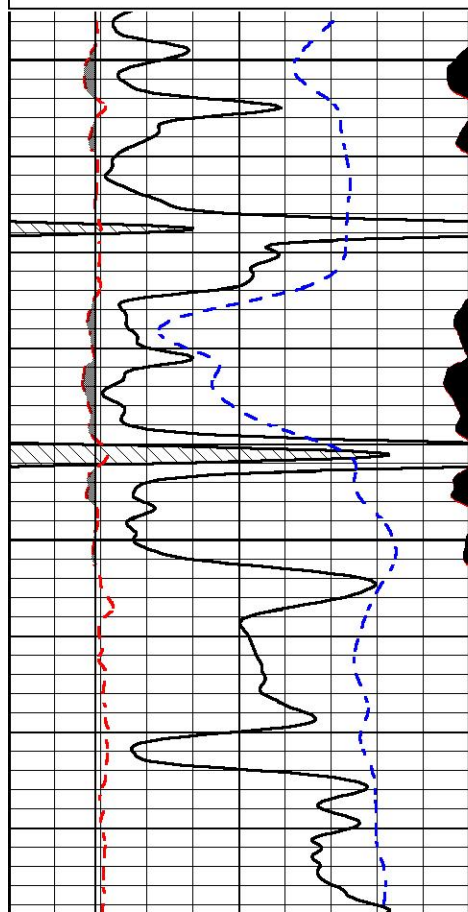
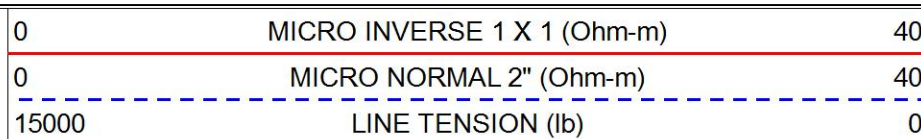
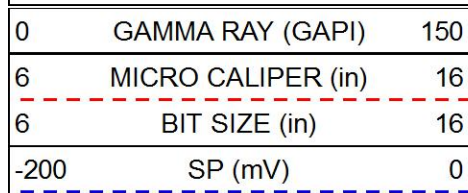
3750





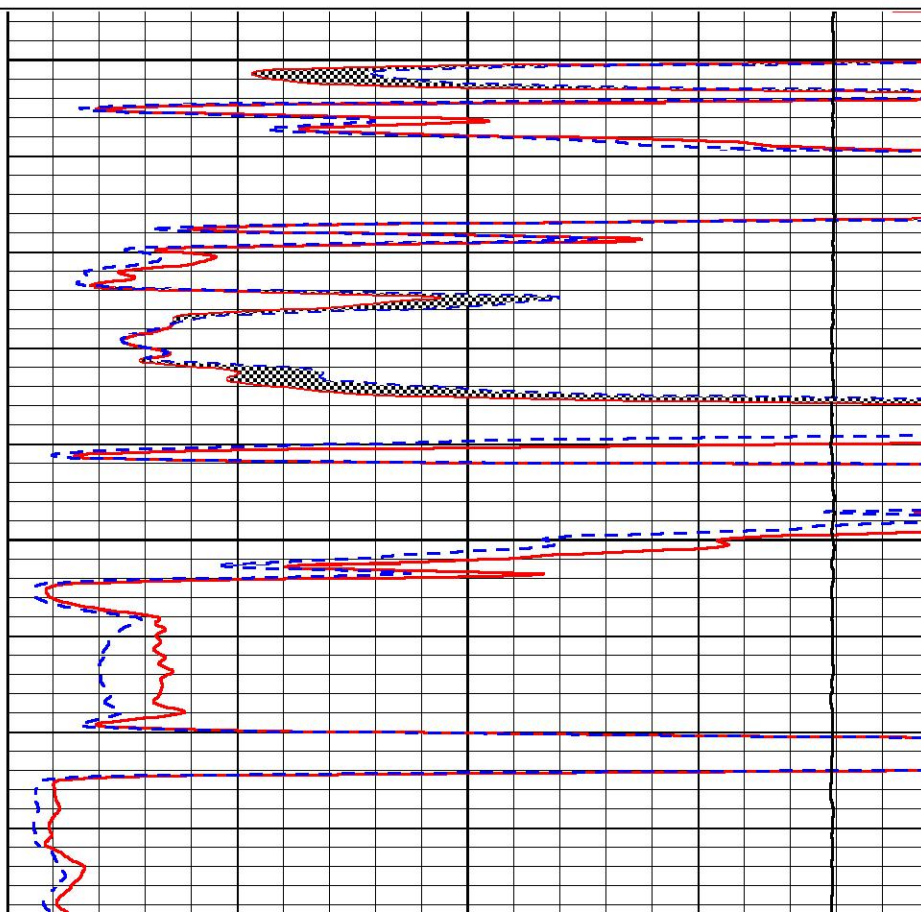
REPEAT SECTION

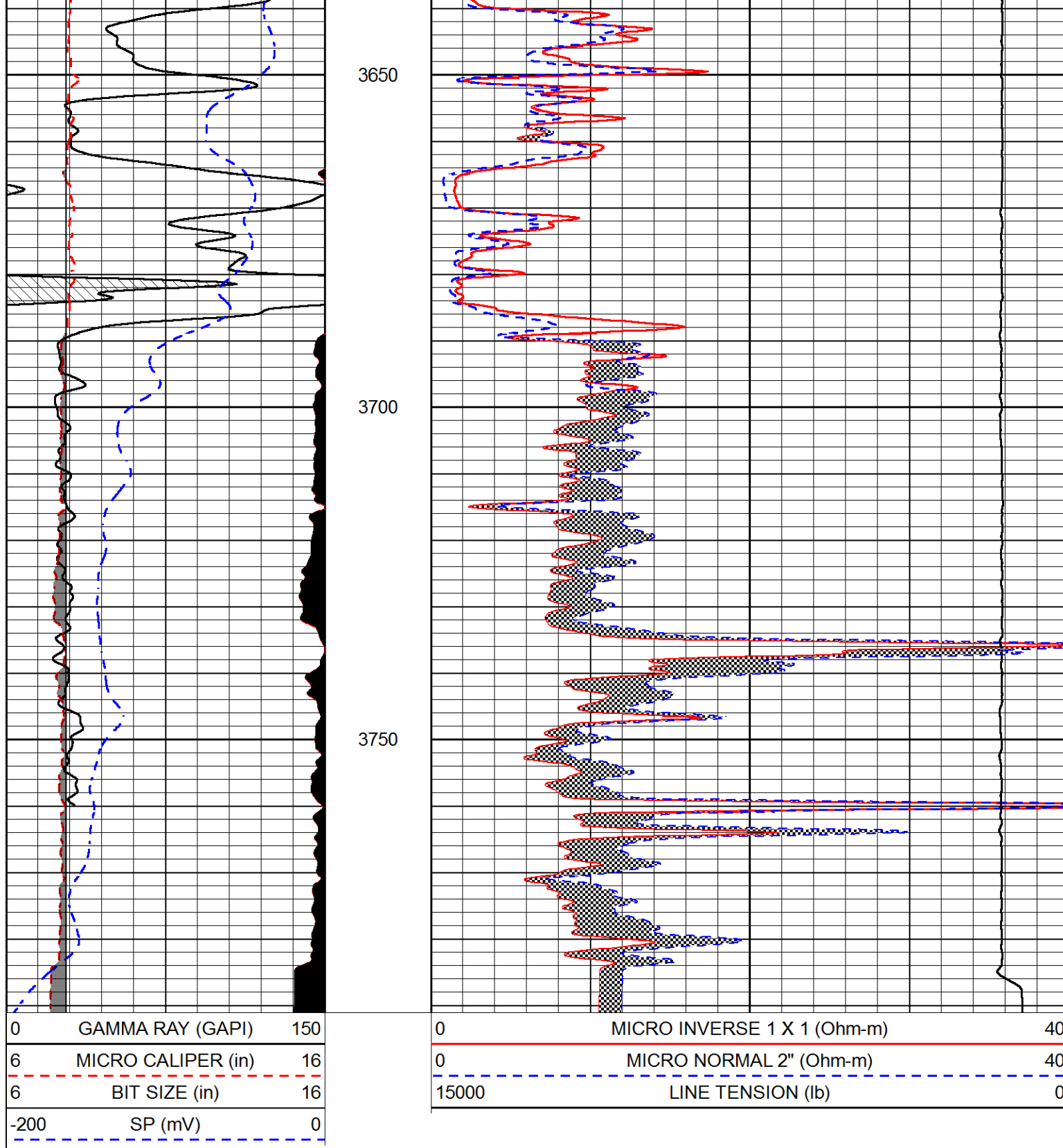
Database File berexco_hinkhouse_8.db
 Dataset Pathname stack/pass2.1
 Presentation Format micro
 Dataset Creation Mon Jun 26 00:54:46 2017
 Charted by Depth in Feet scaled 1:240



3550

3600





Calibration Report

Database File berexco_hinkhouse_8.db
Dataset Pathname stack/pass3.1
Dataset Creation Mon Jun 26 01:46:12 2017

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Tue Apr 11 16:07:38 2017

Readings

References

Results

Loop:	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: 168-986-M&W
 Source / Verifier: /
 Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.523		
	Size		Reading		
Small Ring	4.00	in	1.03		
Large Ring	14.00	in	1.23		

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: Tue Apr 11 16:08:01 2017

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 BEREXCO, LLC
 Well HINKHOUSE NO.8
 Field MOREL
 County GRAHAM
 State KANSAS