



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company	CASINO PETROLEUM, LLC
Well	LARRY #3
Field	CHASE-SILICA
County	BARTON
State	KANSAS
Location:	API #: 15-009-26193-00-00
Permanent Datum	GROUND LEVEL
Log Measured From	KELLY BUSHING
Drilling Measured From	KELLY BUSHING
SEC 18 TWP 20S RGE 11W	810' FNL & 2970' FEL
Elevation	1781'
Other Services	CNL/CDL DIL
K.B.	1791'
D.F.	N/A
G.L.	1781'
Date	11/26/2017
Run Number	ONE
Depth Driller	3405'
Depth Logger	3405'
Bottom Logged Interval	3404'
Top Log Interval	2600'
Casing Driller	8.625" @ 261'
Casing Logger	261'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	5000
Density / Viscosity	9.3 48
pH / Fluid Loss	9.5 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.50 @ 60
Rmf @ Meas. Temp	0.38 @ 60
Rmc @ Meas. Temp	0.68 @ 60
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.27 @ 110
Operating Rig Time	3 HOURS
Max Rec. Temp. F	110
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	TODD MORGENSTERN

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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.

ELLINWOOD,
1 SOUTH TO CURVE, 1/2 WEST TO SE 100 AVE,
1 SOUTH TO NE 30 RD, 1/2 EAST,
SOUTH AND EAST TO LOCATION

Log Measured From: KELLY BUSHING 10 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

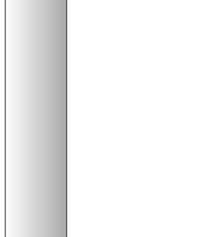
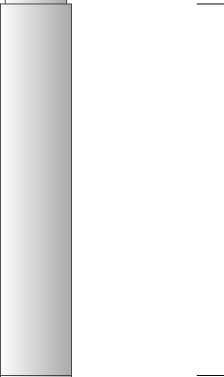
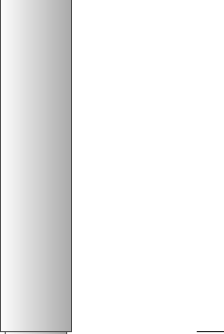
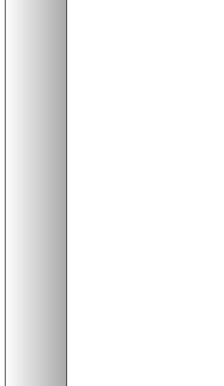
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: TODD MORGENSTERN
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	300	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	60	0	5.5	0	3405	110	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

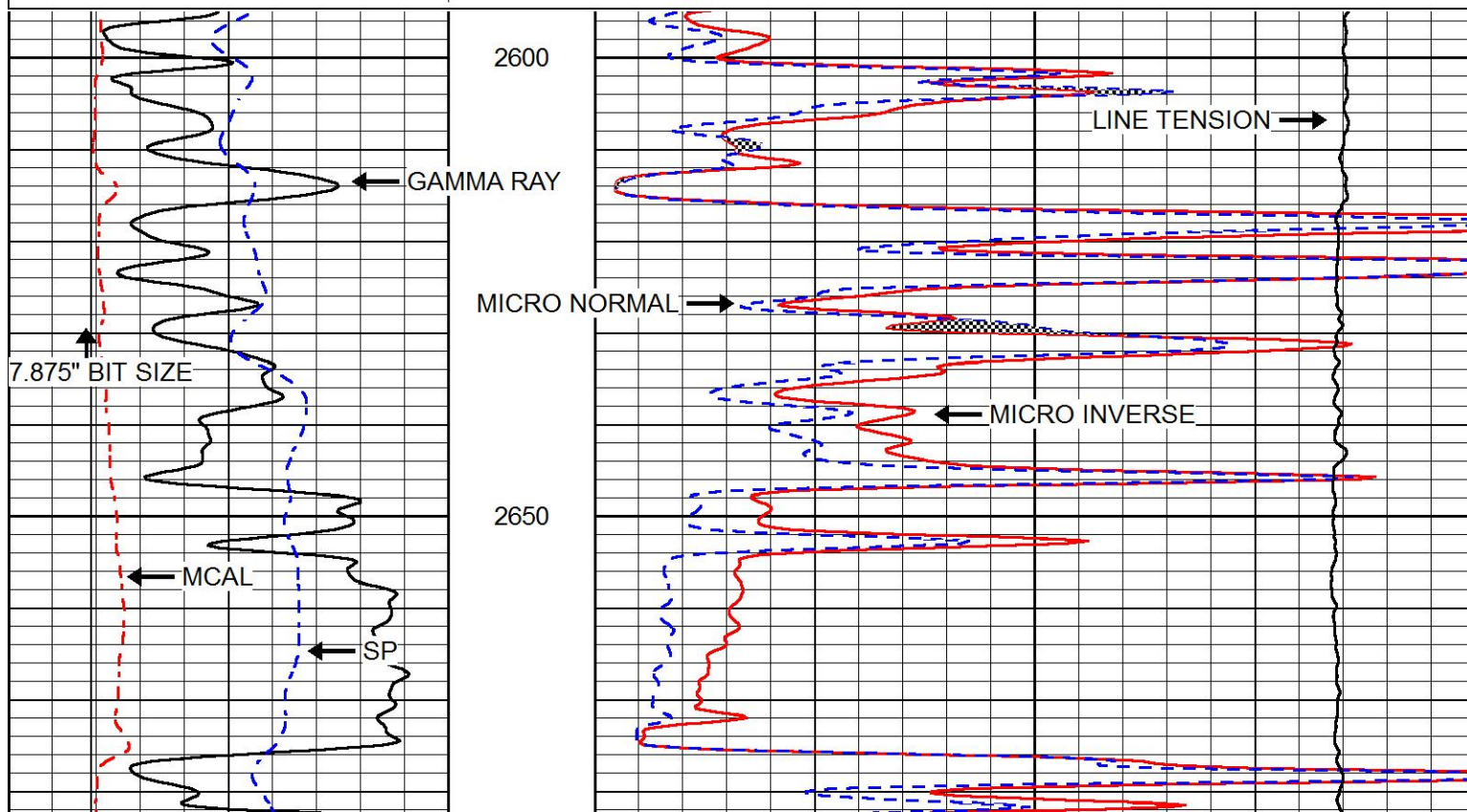
			DIL-M&W (PSI 91)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: casino_larry 3.db: field/well/STKML/pass3.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

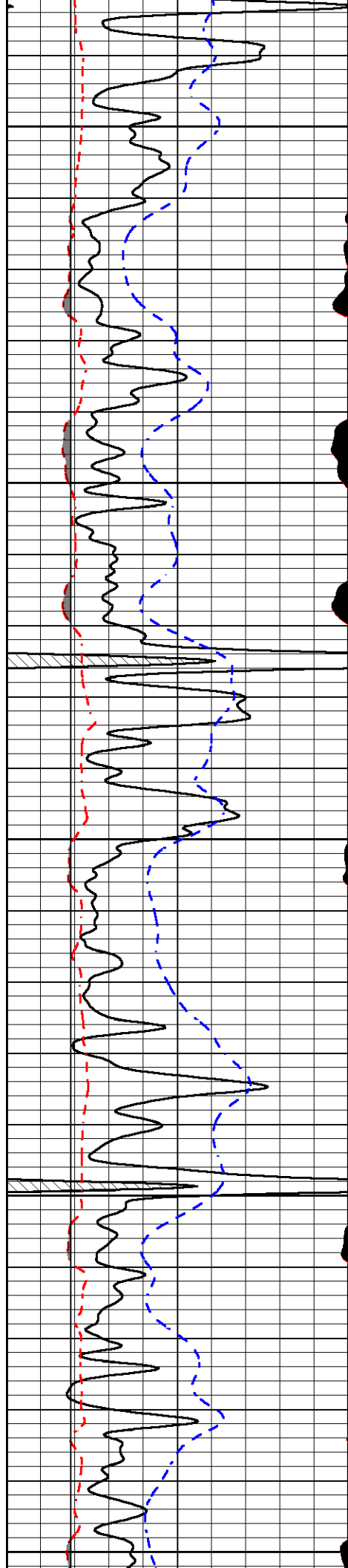


MAIN PASS

Database File	casino_larry 3.db
Dataset Pathname	STKML/pass4.1
Presentation Format	micro
Dataset Creation	Mon Nov 27 00:41:55 2017
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0	Micro Inverse 1 X 1 (Ohm-m)	40
6	MCAL (in)	16	0	Micro Normal 2" (Ohm-m)	40
2.875	mcals (in)	7.875	10000	Line Weight (lb)	0
6	Bit Size (in)	16			
-200	SP (mV)	0			





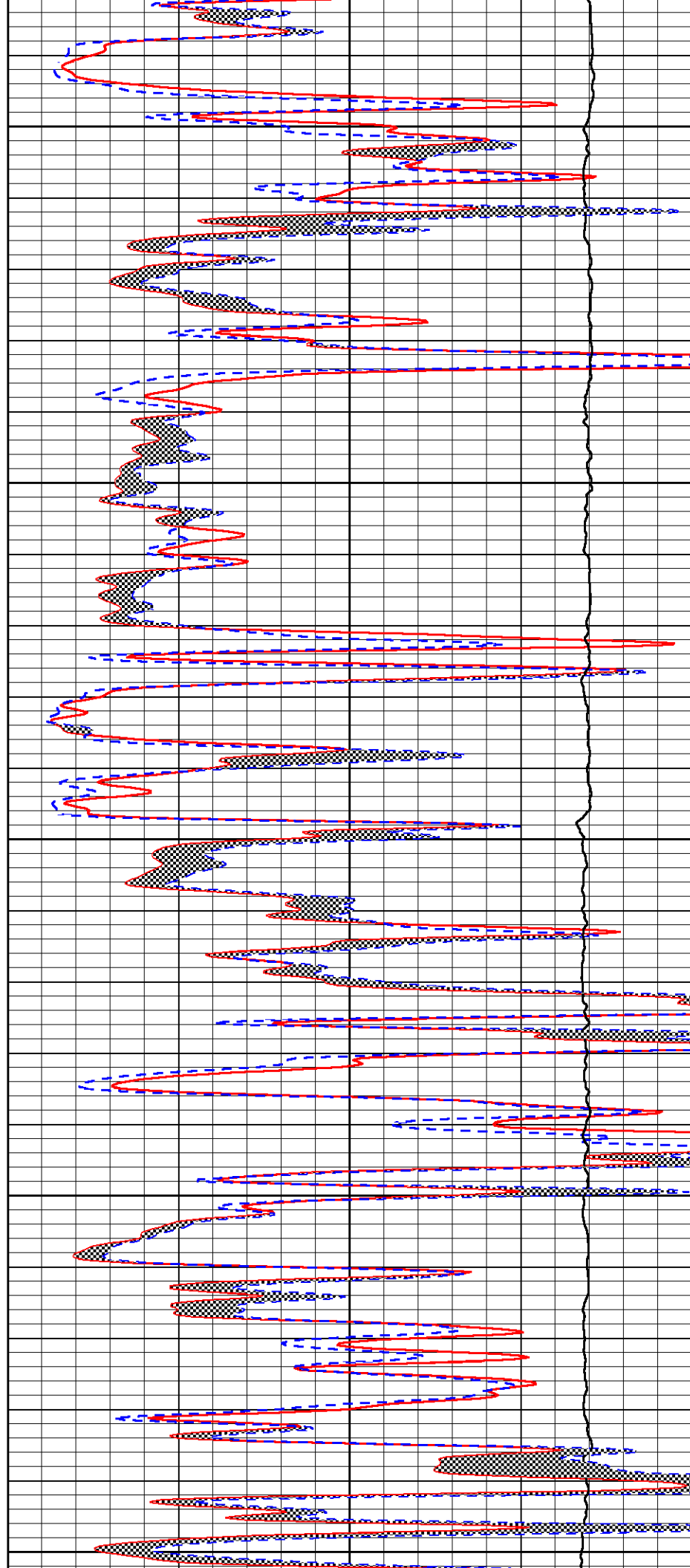
2700

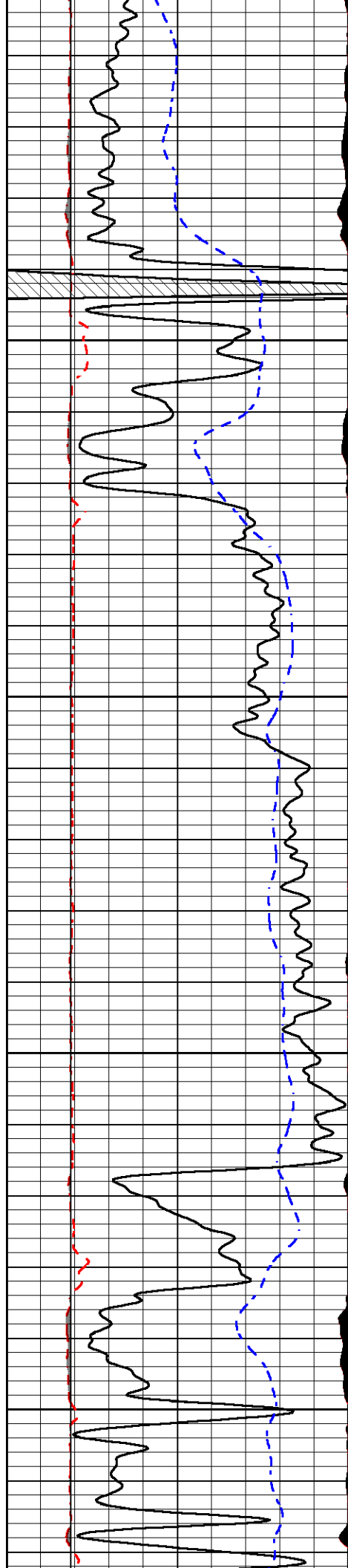
2750

2800

2850

2900



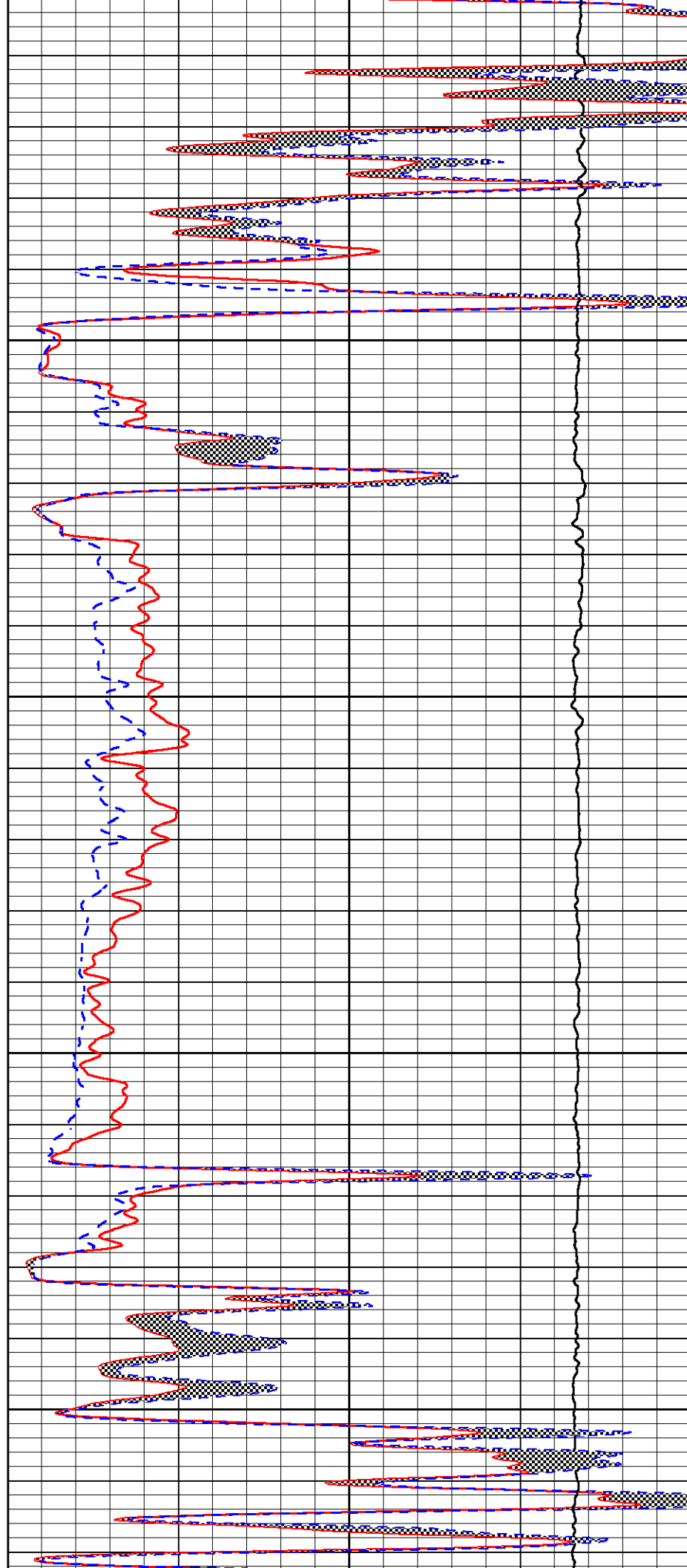


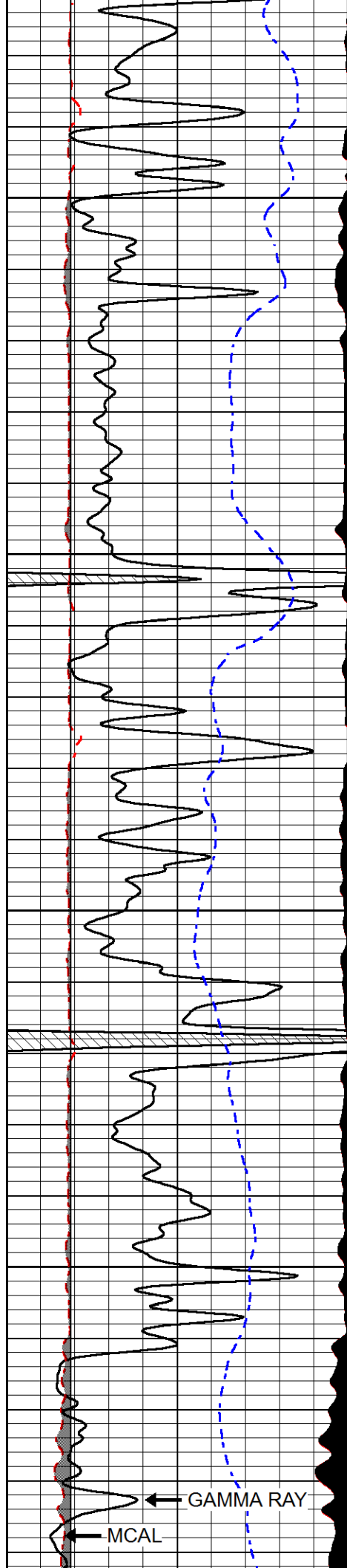
2950

3000

3050

3100



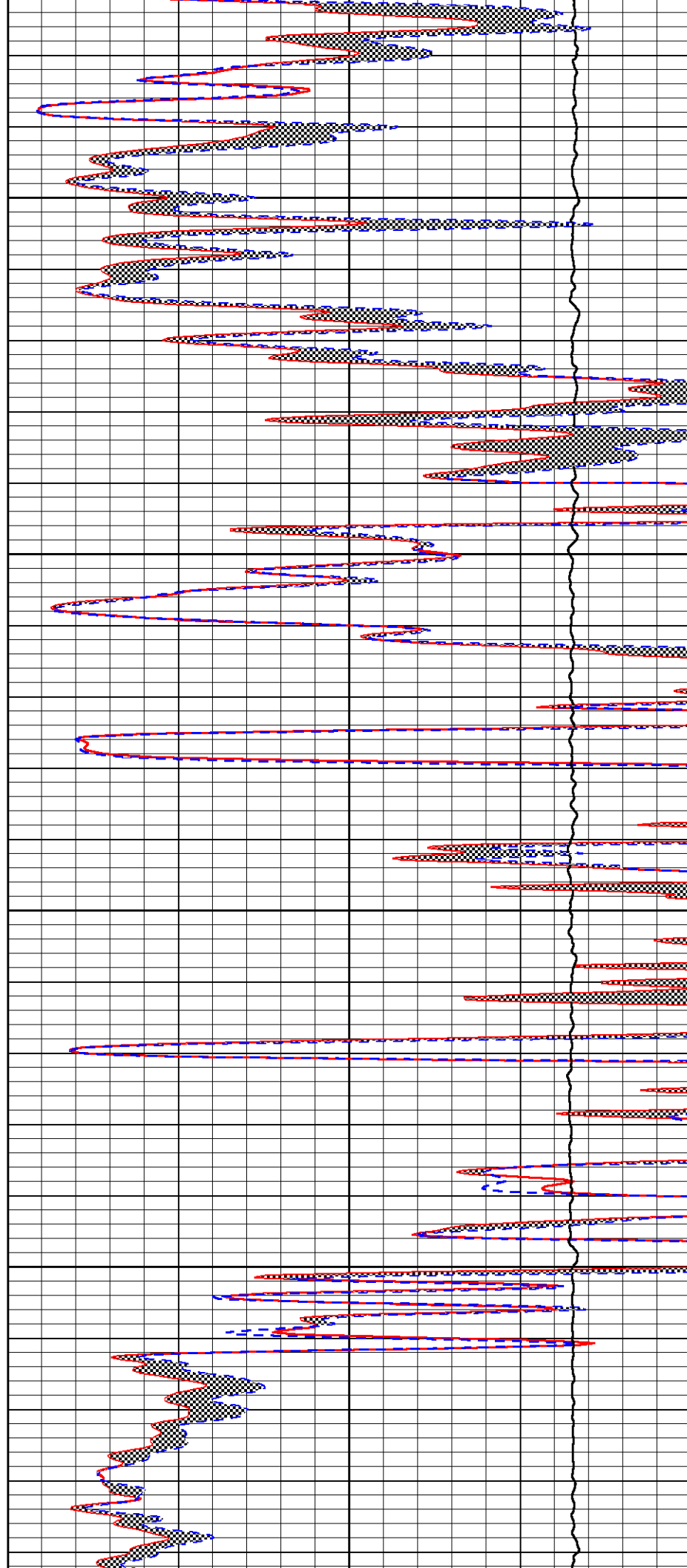


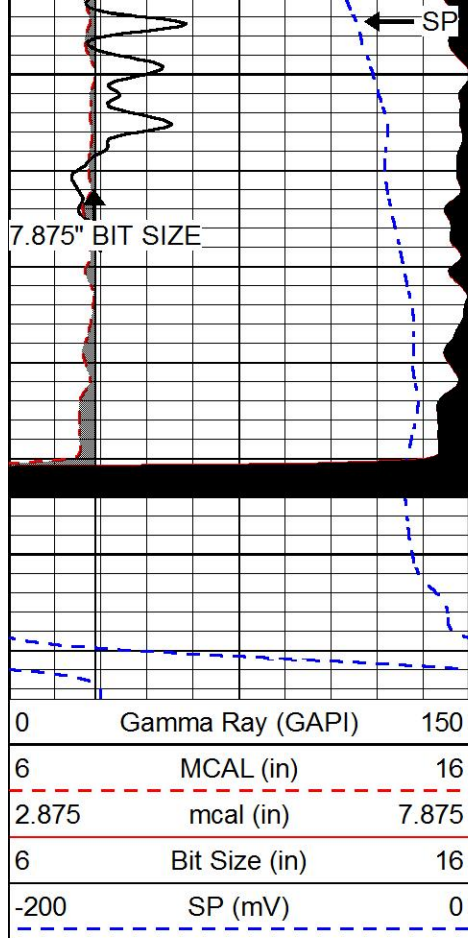
3150

3200

3250

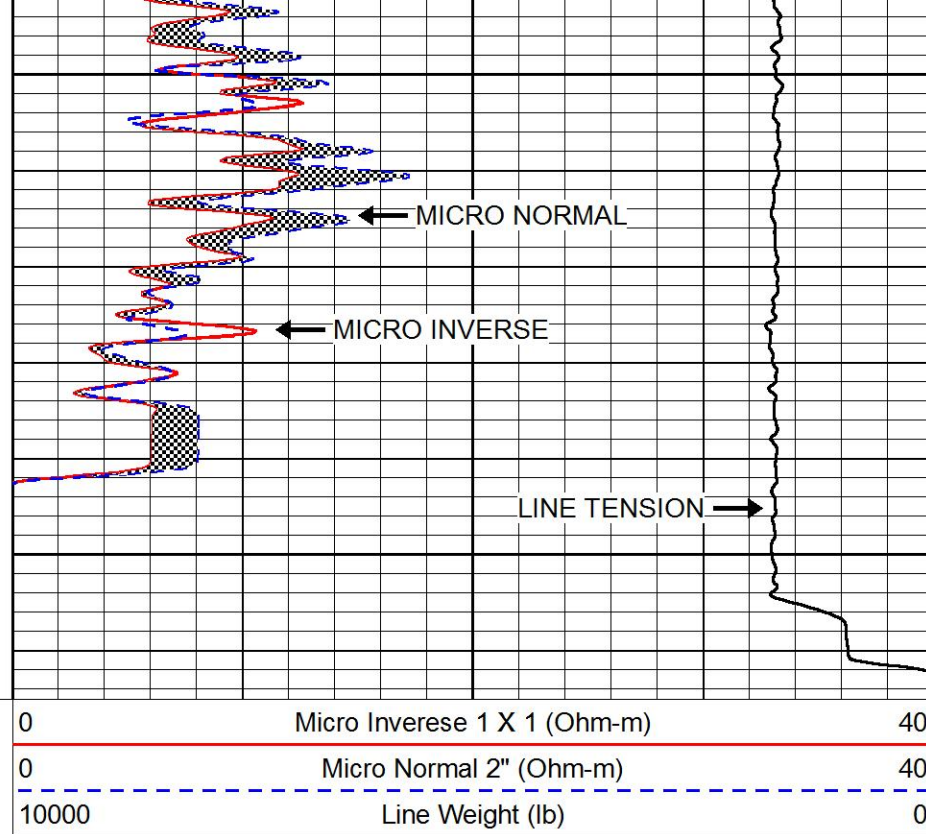
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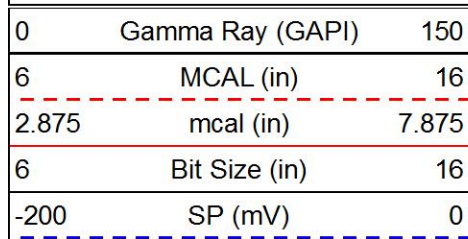
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3400

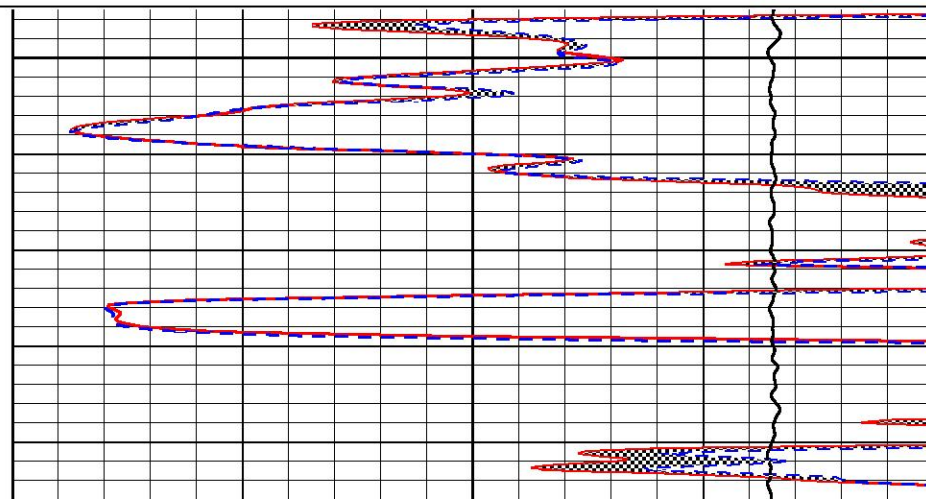
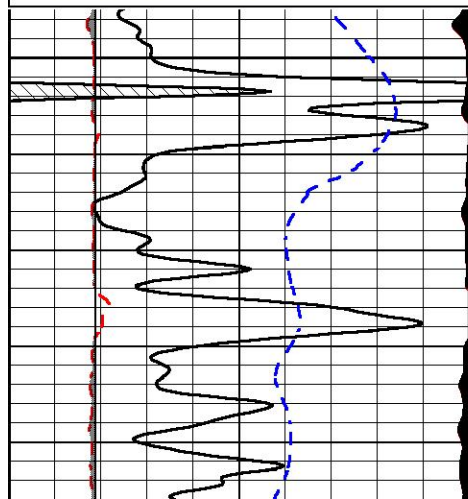
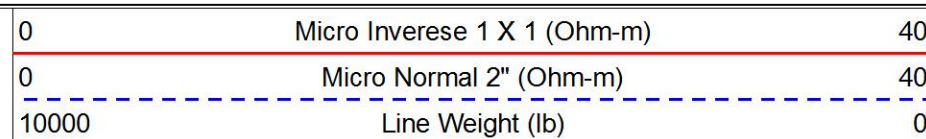


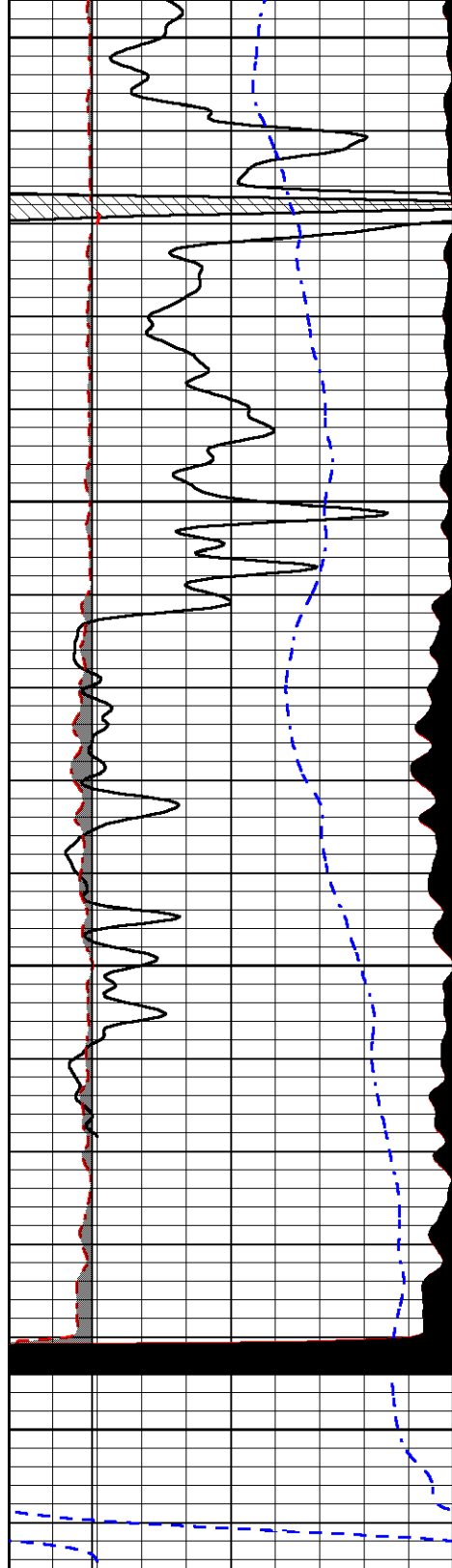
REPEAT SECTION

Database File casino_larry 3.db
 Dataset Pathname STKML/pass3.1
 Presentation Format micro
 Dataset Creation Mon Nov 27 00:32:15 2017
 Charted by Depth in Feet scaled 1:240



3200





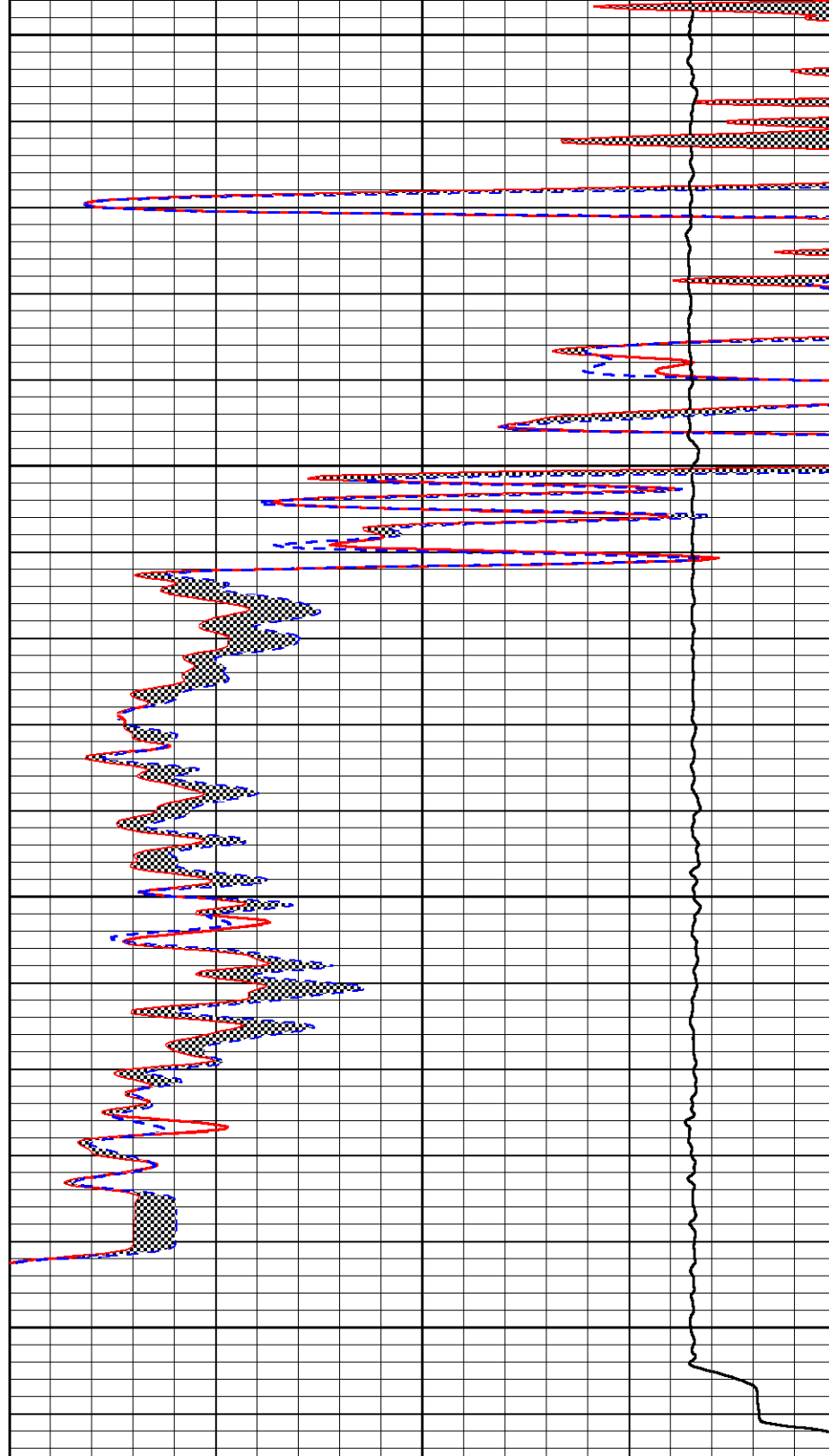
3250

3300

3350

3400

0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
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
10000	Line Weight (lb)	0

Calibration Report

Database File casino_larry 3.db
 Dataset Pathname STKML/pass4.1
 Dataset Creation Mon Nov 27 00:41:55 2017

Dual Induction Calibration Report

Serial-Model:
Calibration Performed:

PSI 91-M&W
Thu Nov 09 00:57:24 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.430	-31.500
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-31.000

Microlog Calibration Report

Serial-Model:
Performed:

PSI-01-PSIML
Wed Nov 08 02:36:52 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	28000.0000	-0.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	35000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.3500

Compensated Density Calibration Report

Serial-Model:
Source / Verifier:
Master Calibration Performed:

90-1031-M&W
16955B / 2ci
Wed Nov 08 23:24:34 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61			Density/Spine Ratio = 0.517		
	Size		Reading		
Small Ring	8.00	in	1.84		
Large Ring	22.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: WED SEP 6 10:30:30 2017

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: Wed Sep 06 19:51:14 2017

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps



Company	CASINO PETROLEUM, LLC
Well	LARRY #3
Field	CHASE-SILICA
County	BARTON
State	KANSAS