



MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company TDI, Inc.
 Well Munsch #15
 Field Schoenchen
 County Ellis State Kansas

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 Well Munsch #15
 Field Schoenchen
 County Ellis
 State Kansas

Location: API #: 15-051-27035-00-00
 NW NW SE SE
 1152 FSL & 1270 FEL
 SEC 9 TWP 15S RGE 18W
 Permanent Datum Ground Level Elevation 2032
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 CNL/CDL
 DIL
 Elevation
 K.B. 2042
 D.F.
 G.L. 2032

Date	9/26/2022
Run Number	One
Depth Driller	3750
Depth Logger	3752
Bottom Logged Interval	3751
Top Log Interval	2900
Casing Driller	8:25 @ 226
Casing Logger	225
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	6000
Density / Viscosity	9.3 52
pH / Fluid Loss	9.0 8.8
Source of Sample	Flowline
Rm @ Meas. Temp	0.8 @ 70
Rmt @ Meas. Temp	0.6 @ 70
Rmc @ Meas. Temp	1.08 @ 70
Source of Rmf / Rmc	Charts
Rm @ BHT	0.49 @ 114
Operating Rig Time	2 Hours
Max Rec. Temp. F	114
Equipment Number	P-24
Location	Hays
Recorded By	T. Martin
Witnessed By	Tom Denning

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline 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.

Hays, KS, 7 S on 183 to Norfolk Rd,
1/4 W, N into

Log Measured From: Kelly Bushing 10 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew	This Log Record Was Witnessed By
Engineer: T. Martin	Primary Witness: Tom Denning
Operator:	Secondary Witness: Herb Deines
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Case	Offset (ft)	Depth	Description	Length (ft)	O.D. (in)	Weight (lb)
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (106)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (307-11)	8.50	4.00	250.00
MCAL MI MN	19.58 19.58 19.58		ML-PSIML (402)	7.58	4.00	65.00
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-M&W (501 HT)	18.25	3.50	220.00
CILM	4.50					
SP	0.20					

Dataset: tdi_munsch #15.db: field/well/StkMI/pass3.1
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\tdi_munsch #15.db
 Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	114	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	610	70	Off	3752

Variable Description

A : Cement Factor (a)
 BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 M : Cement Exp (m)
 MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
 PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth



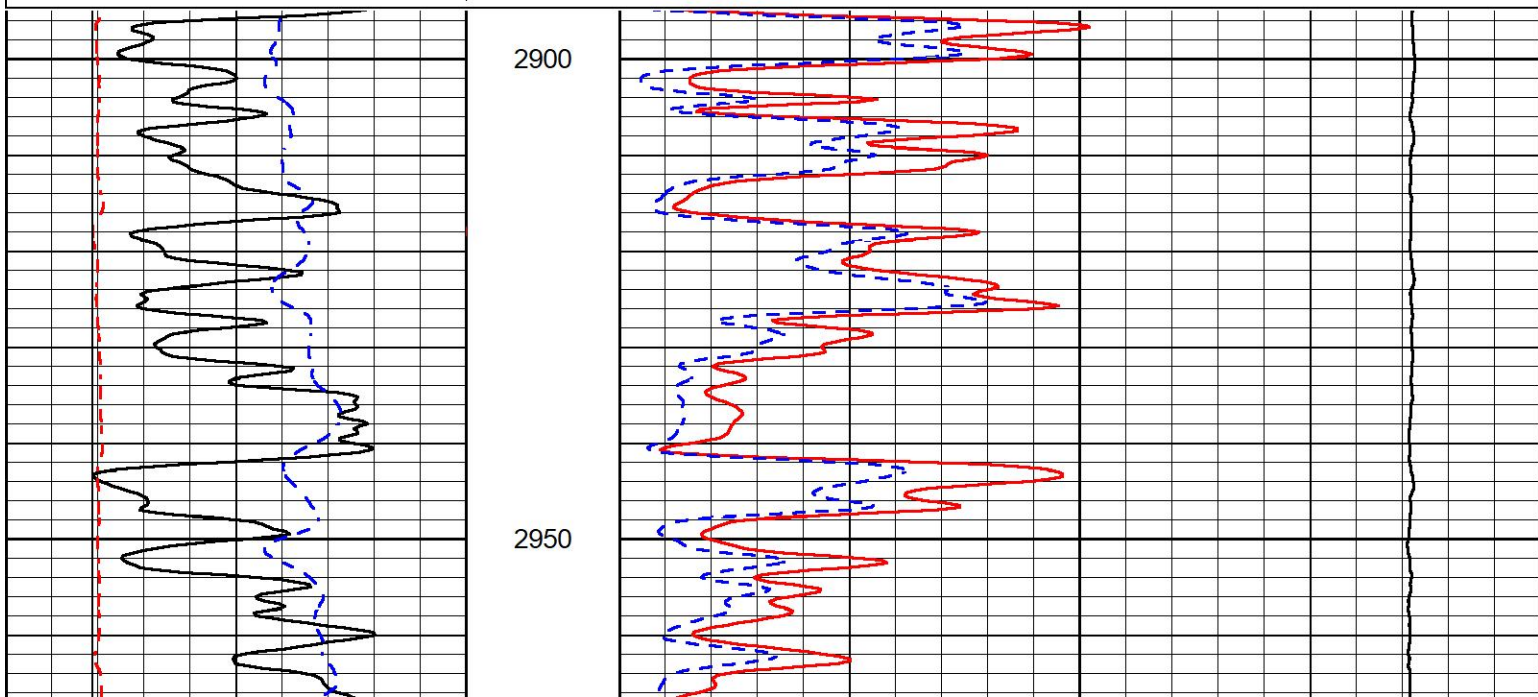
DETAIL SECTION

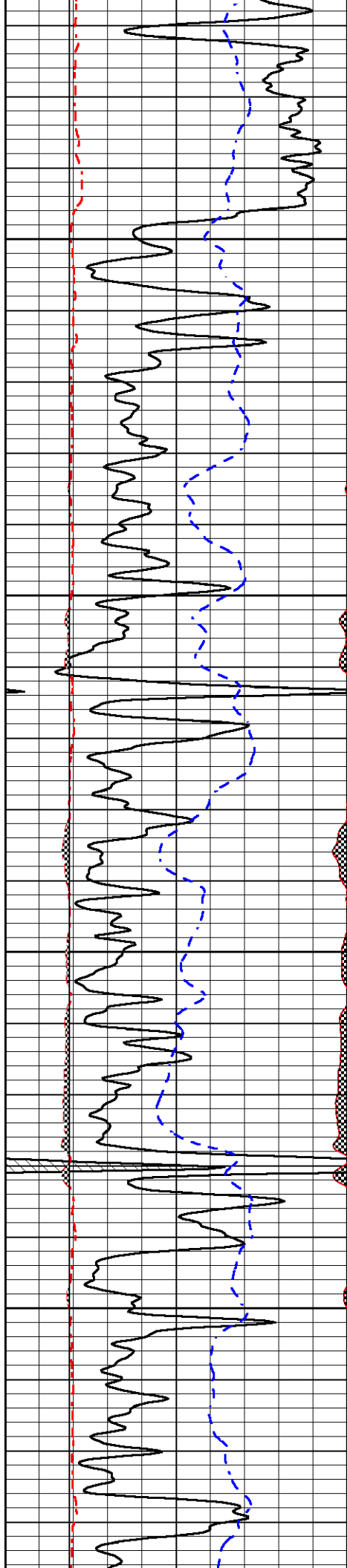
MAIN PASS

Database File tdi_munsch #15.db
 Dataset Pathname StkMI/pass3.1
 Presentation Format _micro
 Dataset Creation Mon Sep 26 13:26:53 2022
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-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



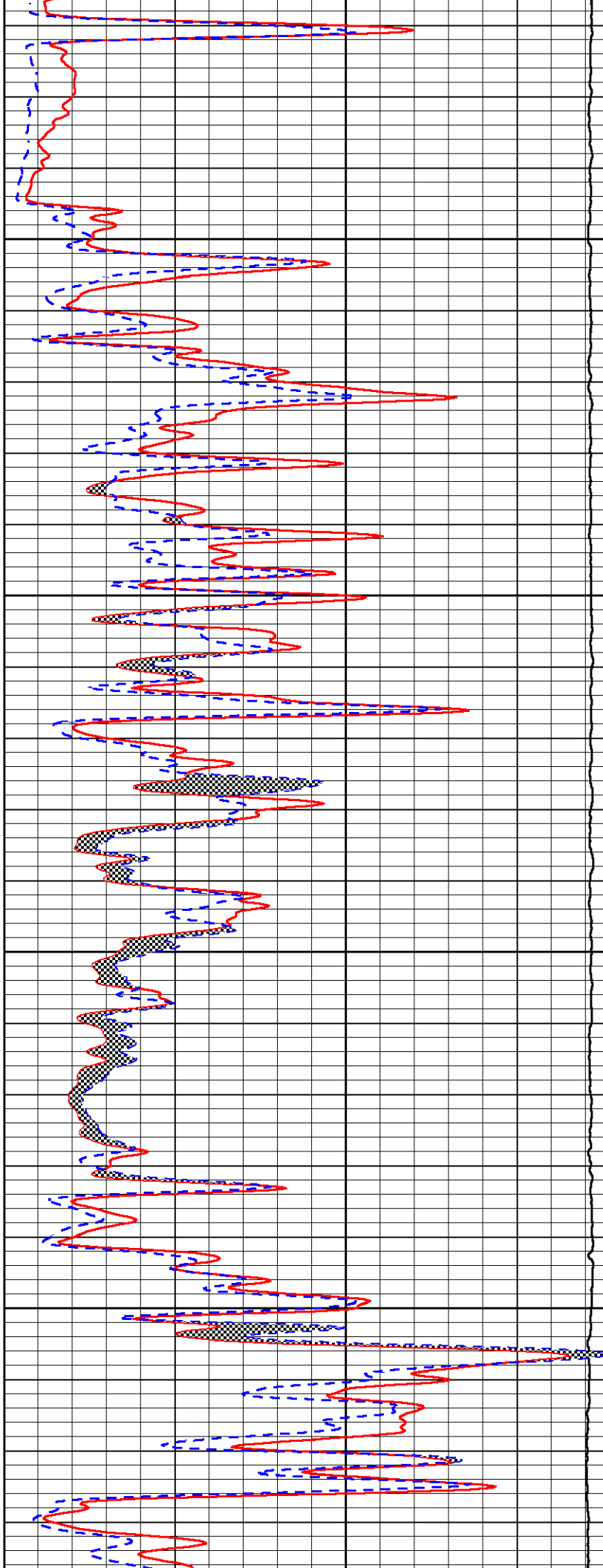


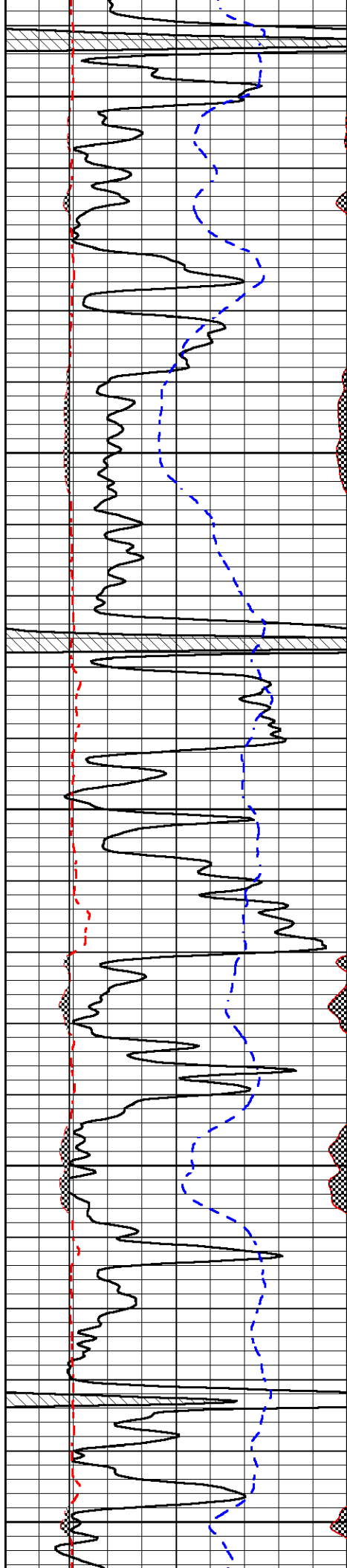
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3050

3100

3150





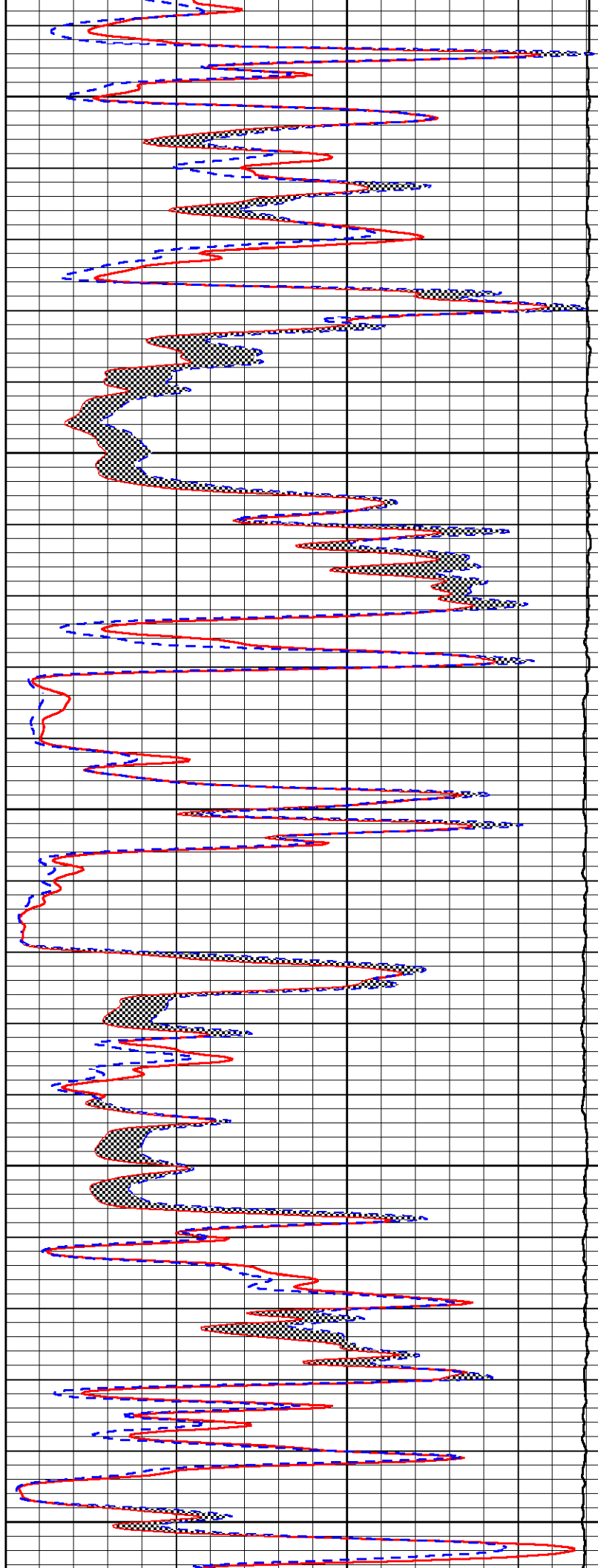
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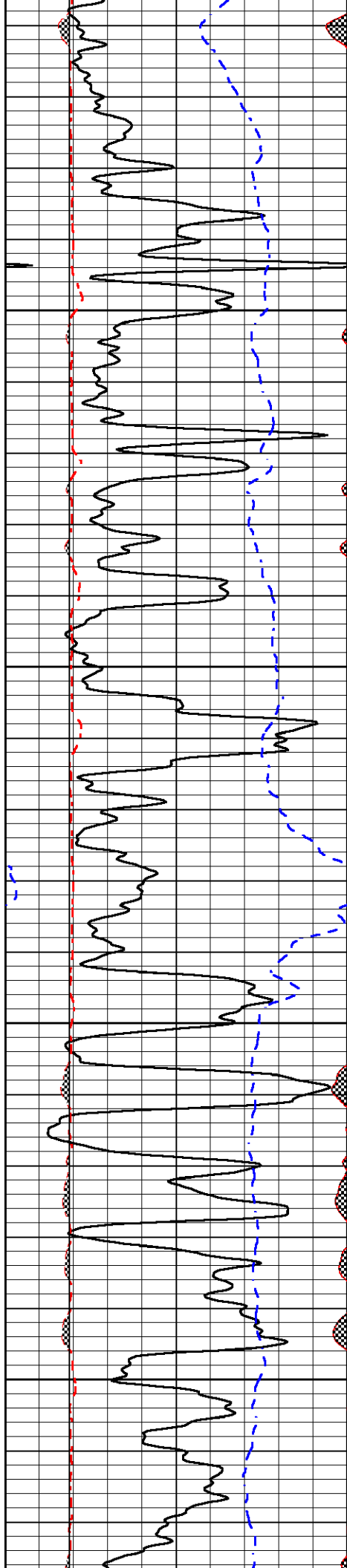
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3300

3350

3400



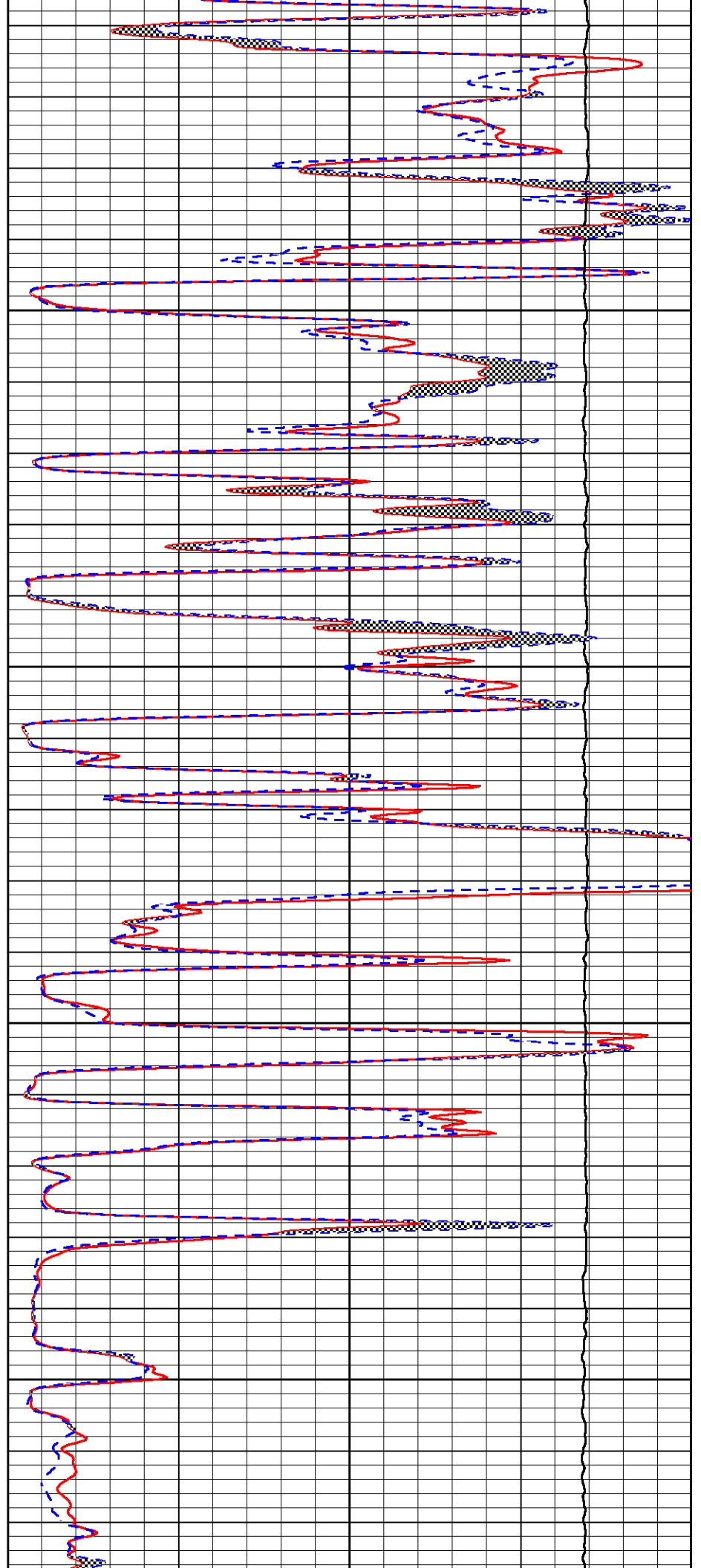


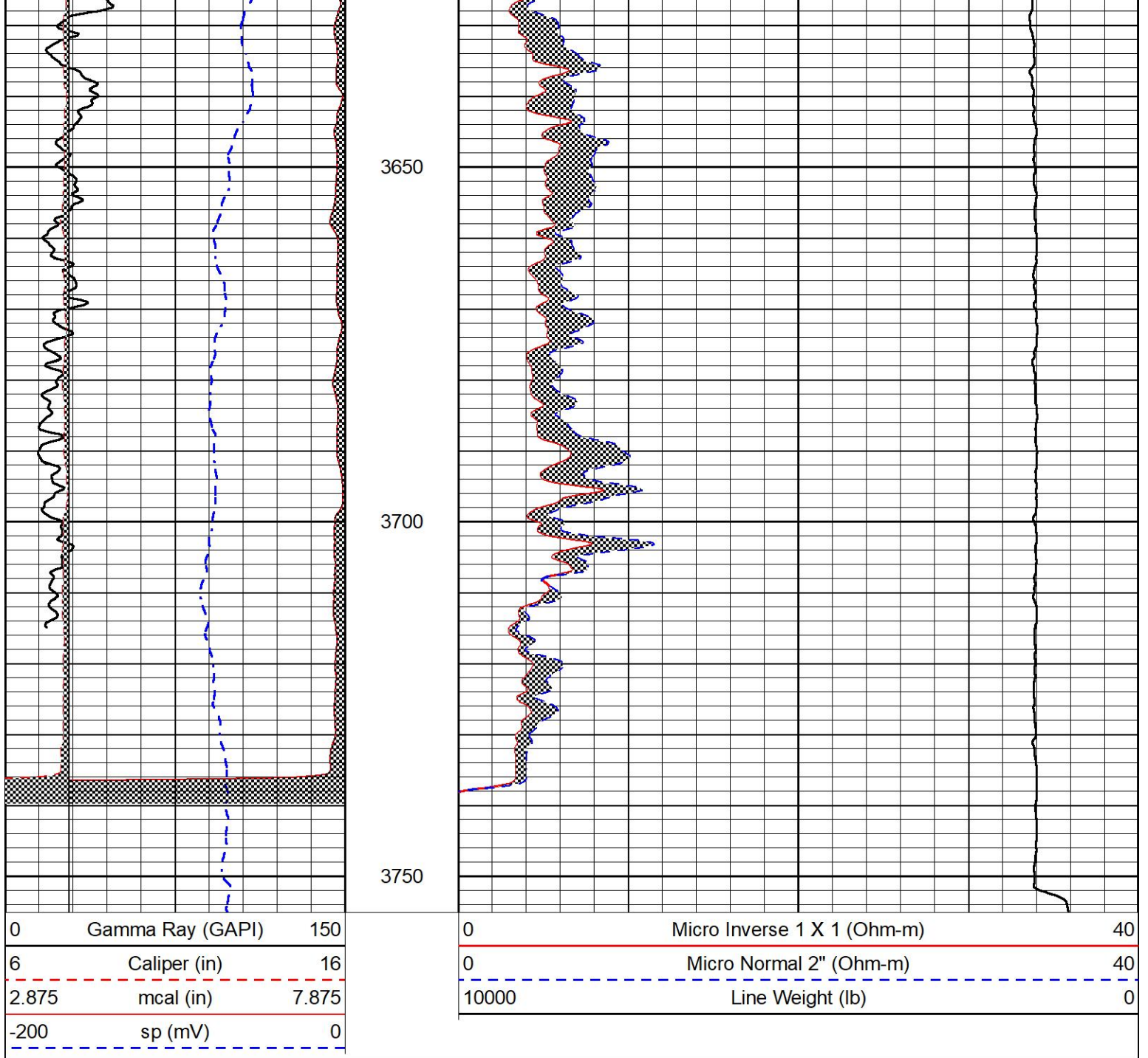
3450

3500

3550

3600

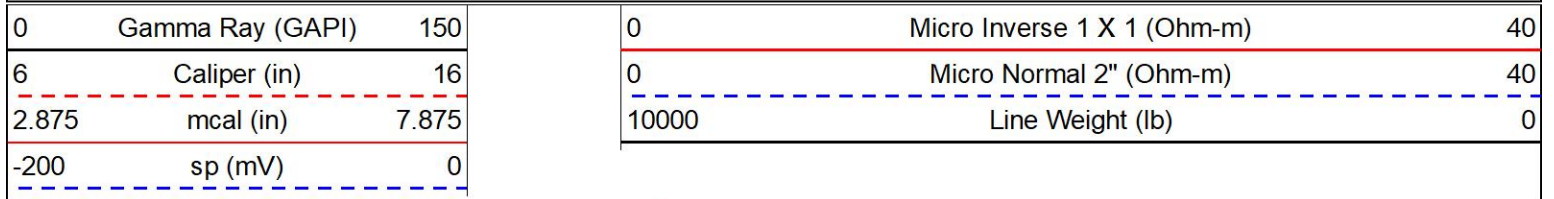


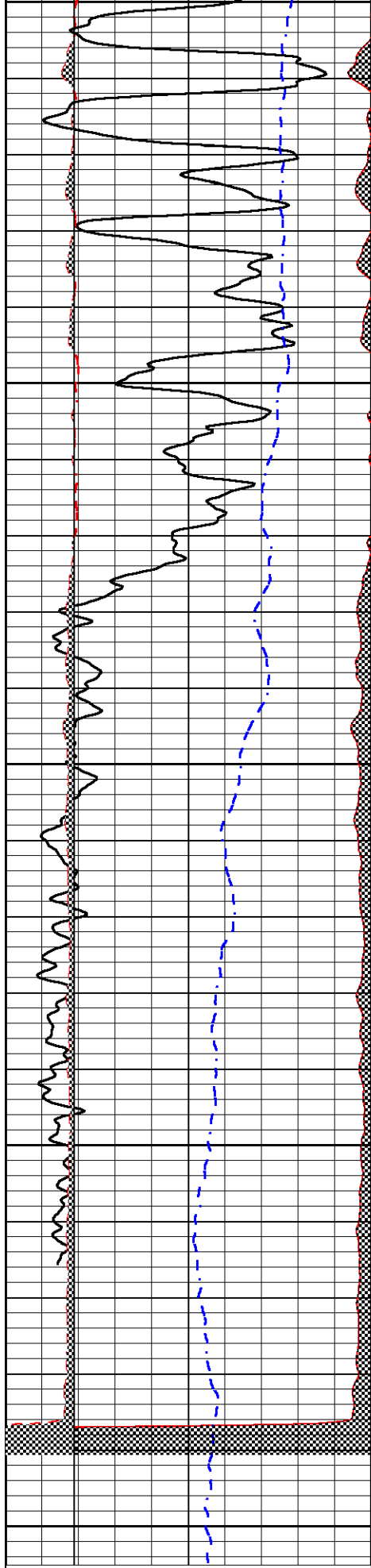


REPEAT SECTION

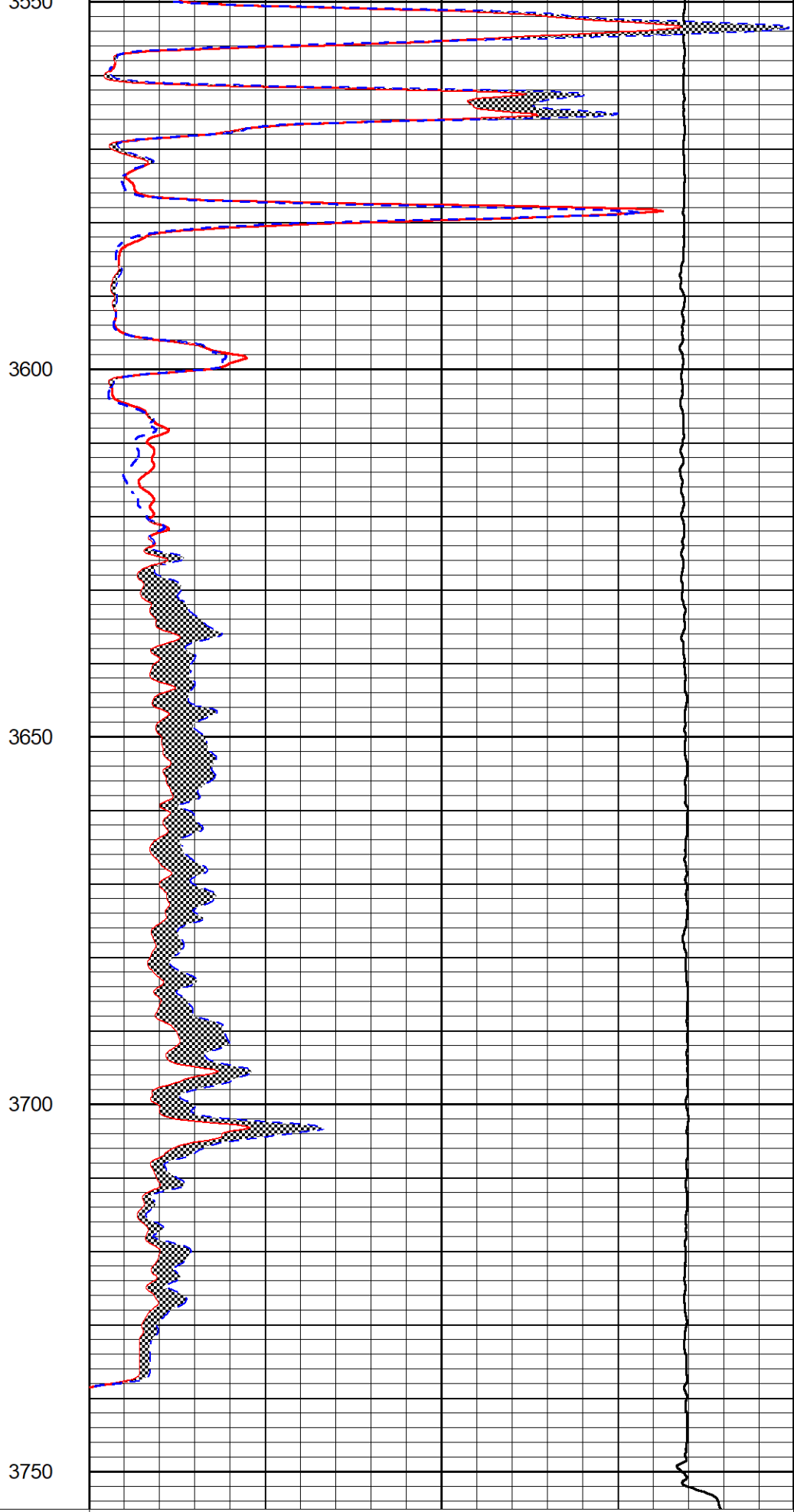
REPEAT PASS

Database File tdi_munsch #15.db
 Dataset Pathname StkMI/pass2.1
 Presentation Format _micro
 Dataset Creation Mon Sep 26 12:49:40 2022
 Charted by Depth in Feet scaled 1:240





0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875



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 tdi_munsch #15.db
 Dataset Pathname StkMI/pass3.1
 Dataset Creation Mon Sep 26 13:26:53 2022

Dual Induction Calibration Report

Serial-Model: 501 HT-M&W
 Surface Cal Performed: Thu Sep 22 17:20:27 2022

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	83.639	487.104	0.000	183.000	mmho/m	0.455	-35.000
Medium	113.335	1585.690	0.000	442.000	mmho/m	0.305	-33.000

Microlog Calibration Report

Serial-Model: 402-PSIML
 Performed: Thu Sep 22 17:20:33 2022

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	12000.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	14000.0000	-0.7000
Caliper	1.0052	1.0858	5.0000	16.5000	in	120.0000	-115.8000

Compensated Density Calibration Report

Serial-Model: 307-11-M&W
 Source #: 20762B
 Master Calibration Performed: Sat Aug 27 10:20:16 2022

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3600.52	4768.22	cps
Aluminum	2.670	g/cc	693.98	3106.20	cps
Spine Angle = 75.41			Density/Spine Ratio = 0.538		
	Size		Reading		
Small Ring	6.00	in	1.16		
Large Ring	18.00	in	1.01		

Compensated Neutron Calibration Report

Serial Number: 207-MW
 Tool Model: M&W

CALIBRATION

Detector	Readings	Target	Normalization
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Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	106	
Tool Model:	M&W	
Performed:	Fri Dec 3 15:10:46 2021	
Calibrator Value:	500.0	GAPI
Background Reading:	24.0	cps
Calibrator Reading:	637.0	cps
Sensitivity:	0.5500	GAPI/cps



Company	TDI, Inc.
Well	Munsch #15
Field	Schoenchen
County	Ellis
State	Kansas