



MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company TDI, Inc.
 Well Munsch #13
 Field Schoenchen
 County Ellis State Kansas

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 Field Schoenchen
 County Ellis
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Location: 1087 FSL & 2032 FEL
 SEC 9 TWP 15S RGE 18W
 API #: 15-051-27013-00-00
 Permanent Datum Ground Level Elevation 2030
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 CNL/CDL
 DIL
 Elevation
 K.B. 2040
 D.F.
 G.L. 2030

Date	11/11/2021
Run Number	One
Depth Driller	3750
Depth Logger	3752
Bottom Logged Interval	3751
Top Log Interval	2900
Casing Driller	8:25 @ 223
Casing Logger	219
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	5600
Density / Viscosity	9.2 58
pH / Fluid Loss	10.0 6.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.55 @ 73
Rmt @ Meas. Temp	.41 @ 73
Rmc @ Meas. Temp	.74 @ 73
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.35 @ 114
Operating Rig Time	3 Hours
Max Rec. Temp. F	114
Equipment Number	P-108
Location	HAYS
Recorded By	J. Henrickson
Witnessed By	Tom Denning
	Herb Deines

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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 Kansas
 South to Norfolk Road, 3/8 West, North 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

Engineer: J. Henrickson
 Operator:
 Operator:
 Operator:

This Log Record Was Witnessed By

Primary Witness: Tom Denning
 Secondary Witness: Herb Deines
 Secondary Witness:
 Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\tdi_munsch_13.db
Dataset field/well/stackml/pass4.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	118	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	580	62	Off	3752

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 CNSSC	37.48 36.73		CNT-M&W (10-PSI)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (915-956)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-PSI HIGH TEMP (959-1032)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: tdi_munsch_13.db: field/well/stackml/pass4.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in



MIDWEST WIRELINE

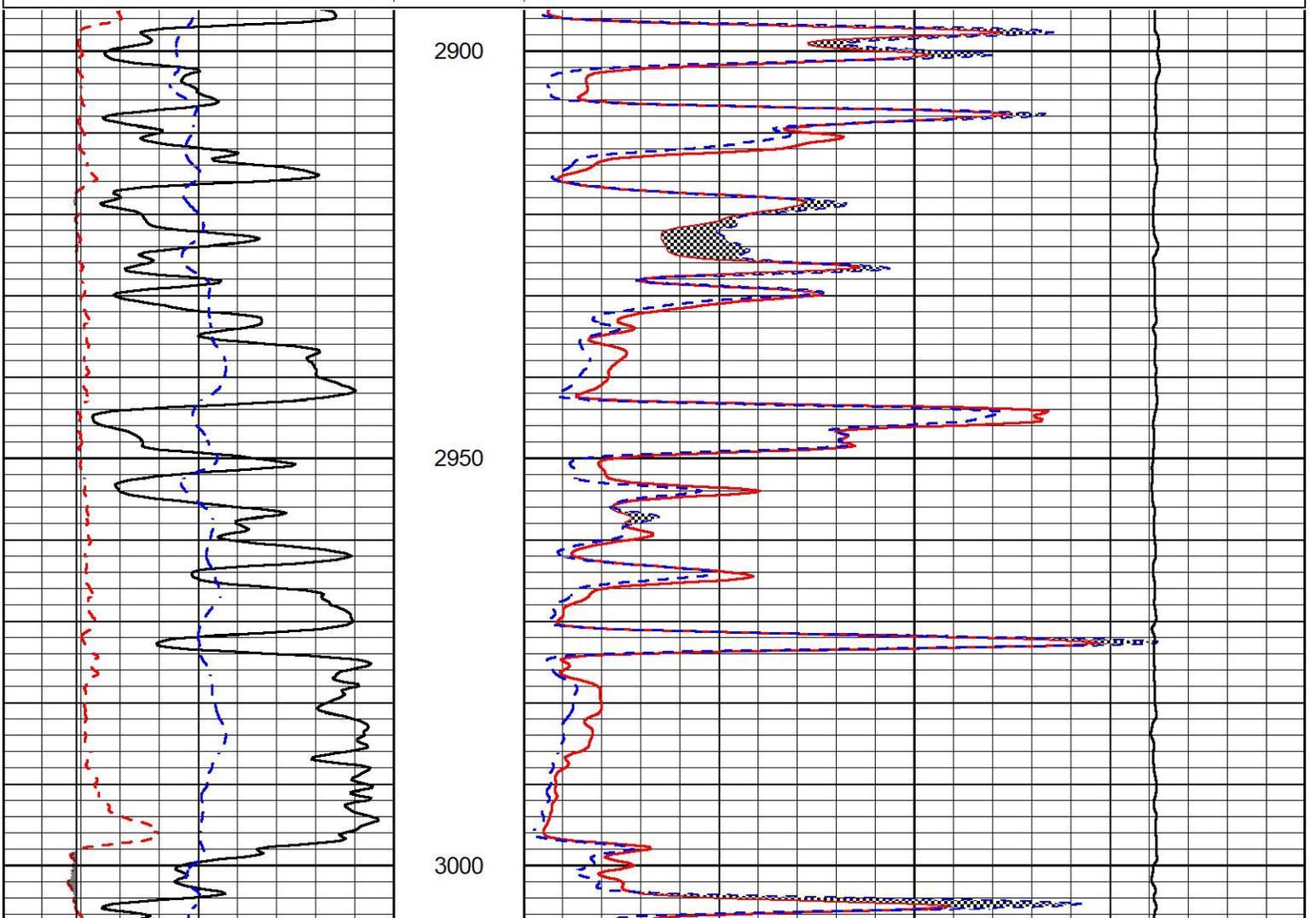
DETAIL SECTION

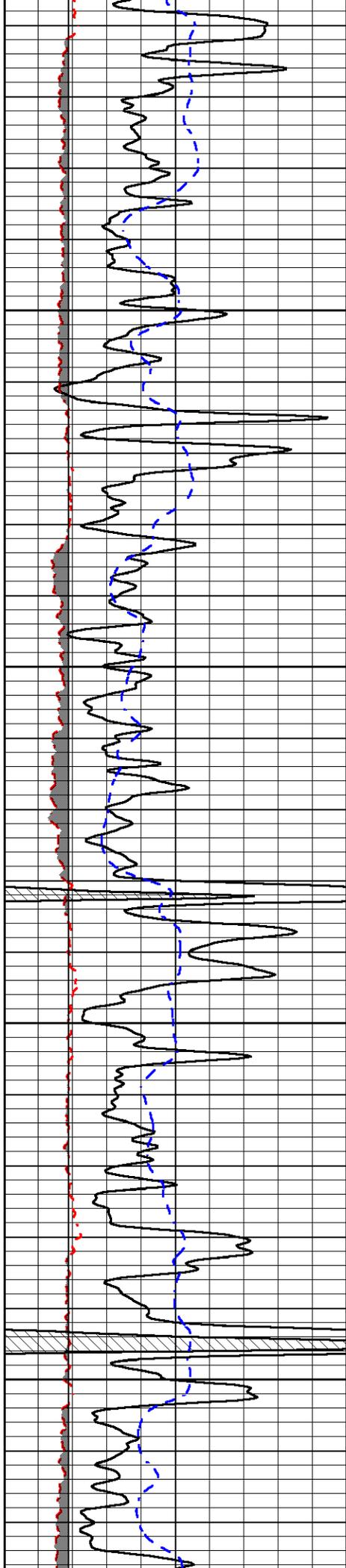
MAIN PASS

Database File tdi_munsch_13.db
 Dataset Pathname stackml/pass4.1
 Presentation Format _micro
 Dataset Creation Thu Nov 11 12:31:05 2021
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	Caliper (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



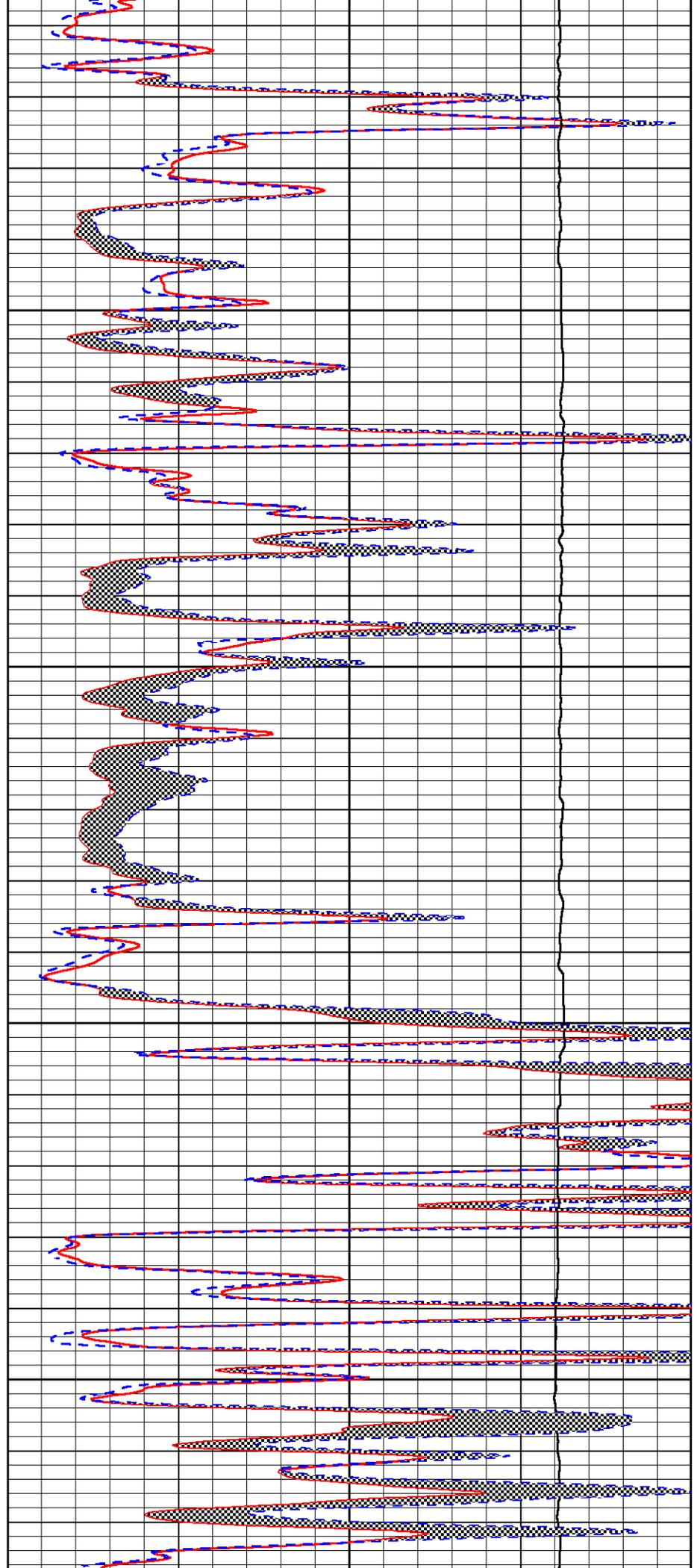


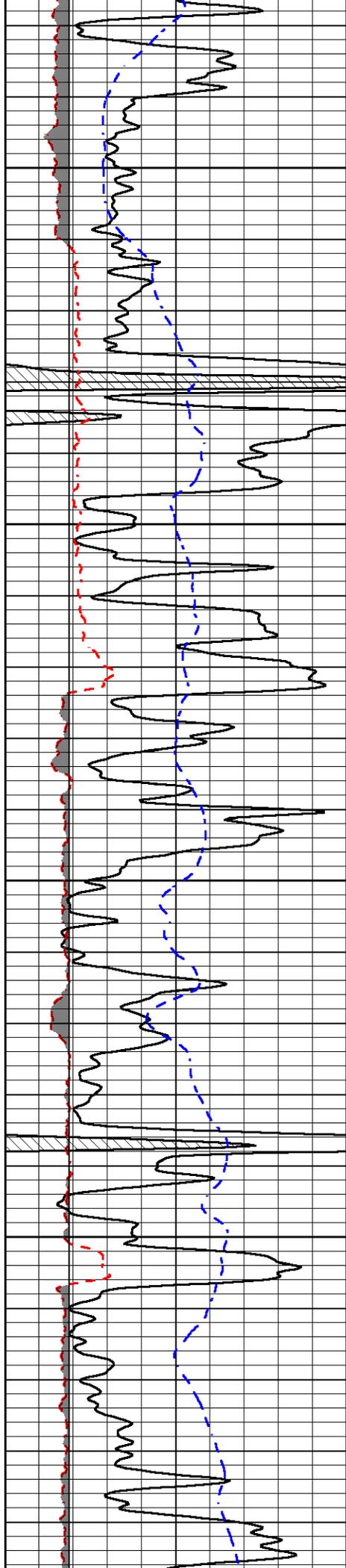
3050

3100

3150

3200



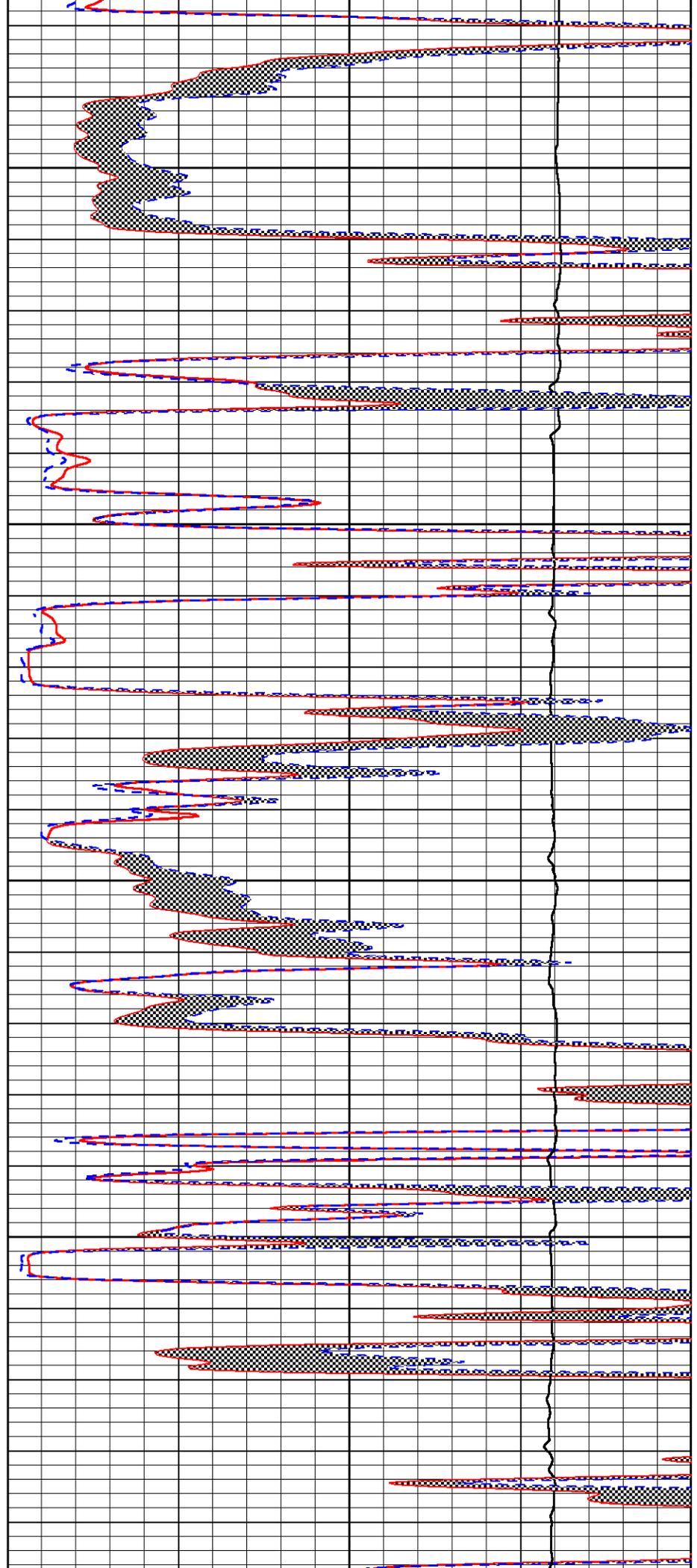


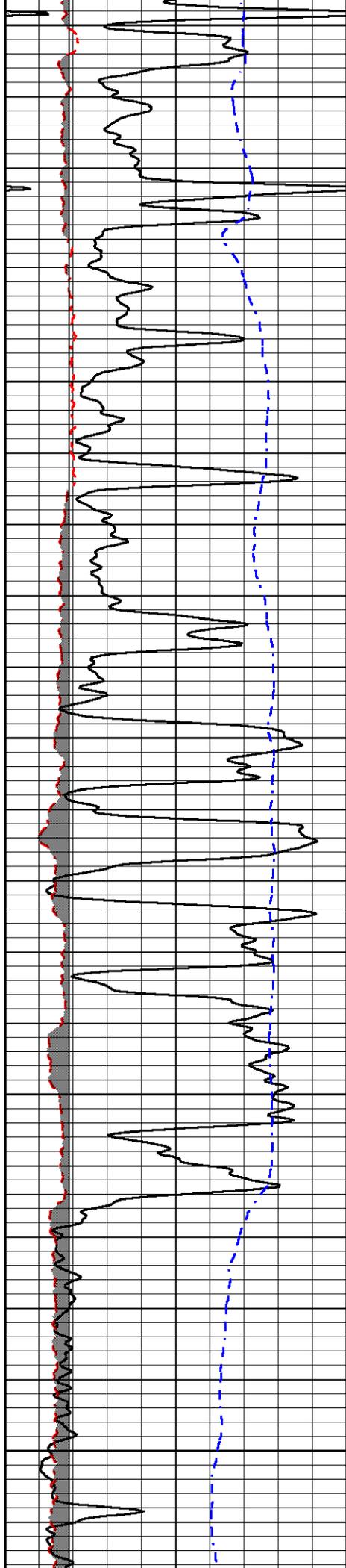
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3300

3350

3400





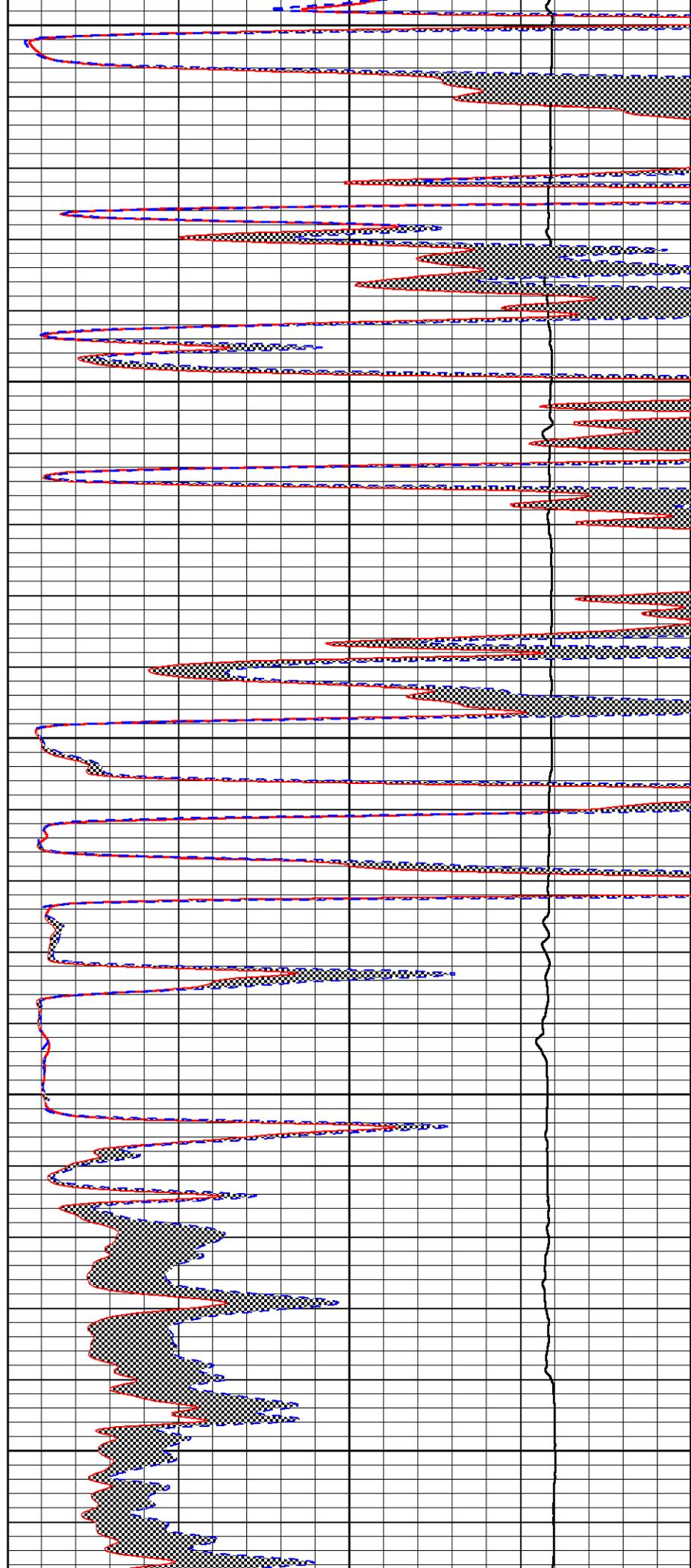
3450

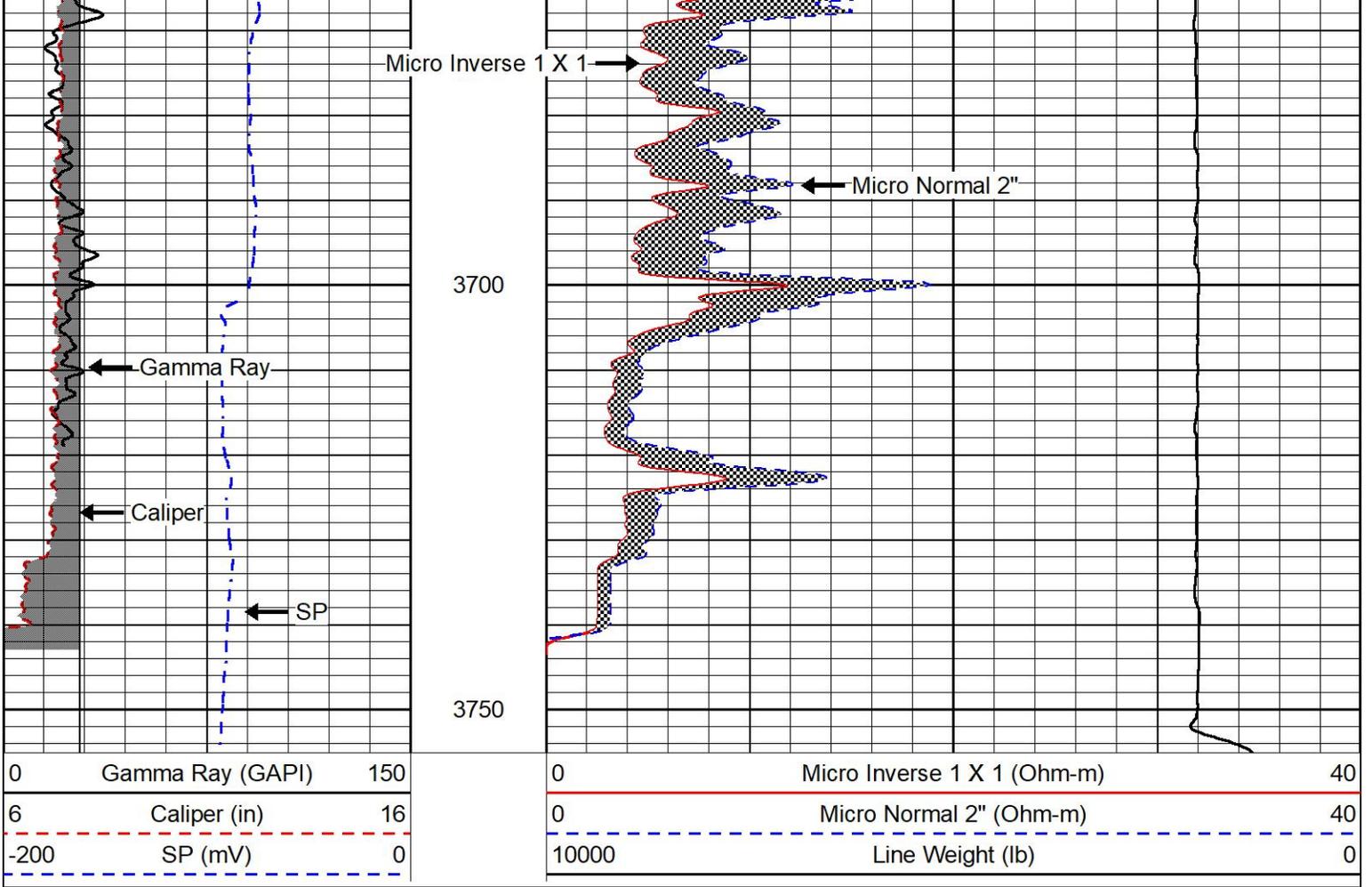
3500

3550

3600

3650





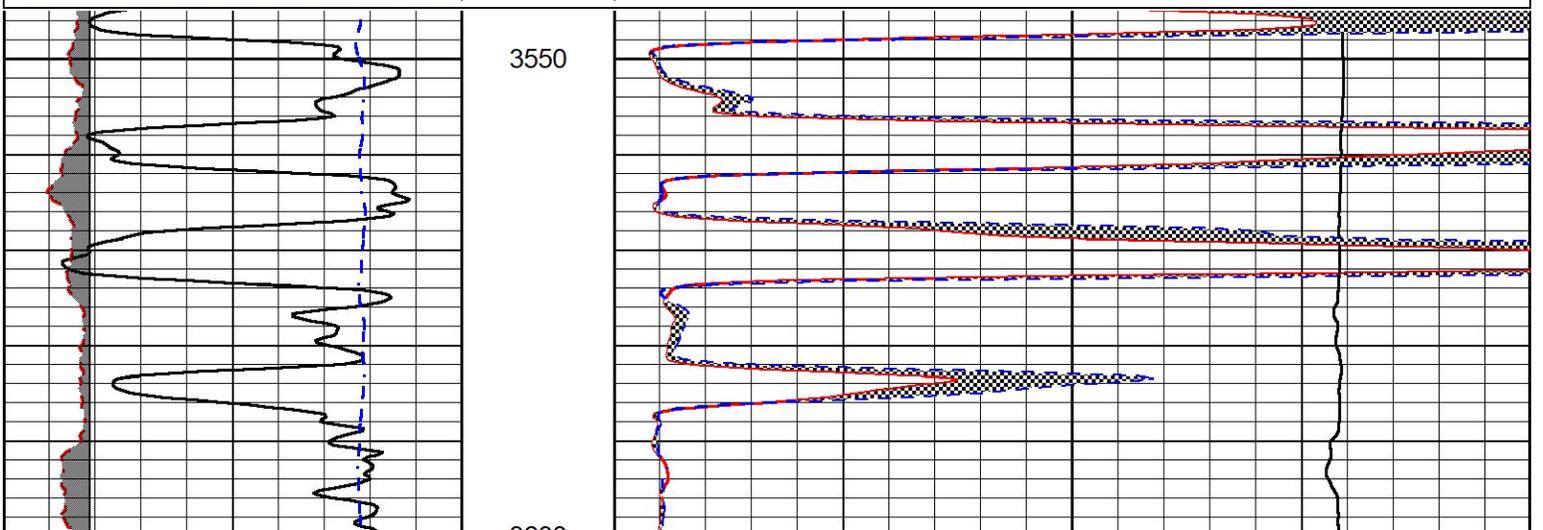
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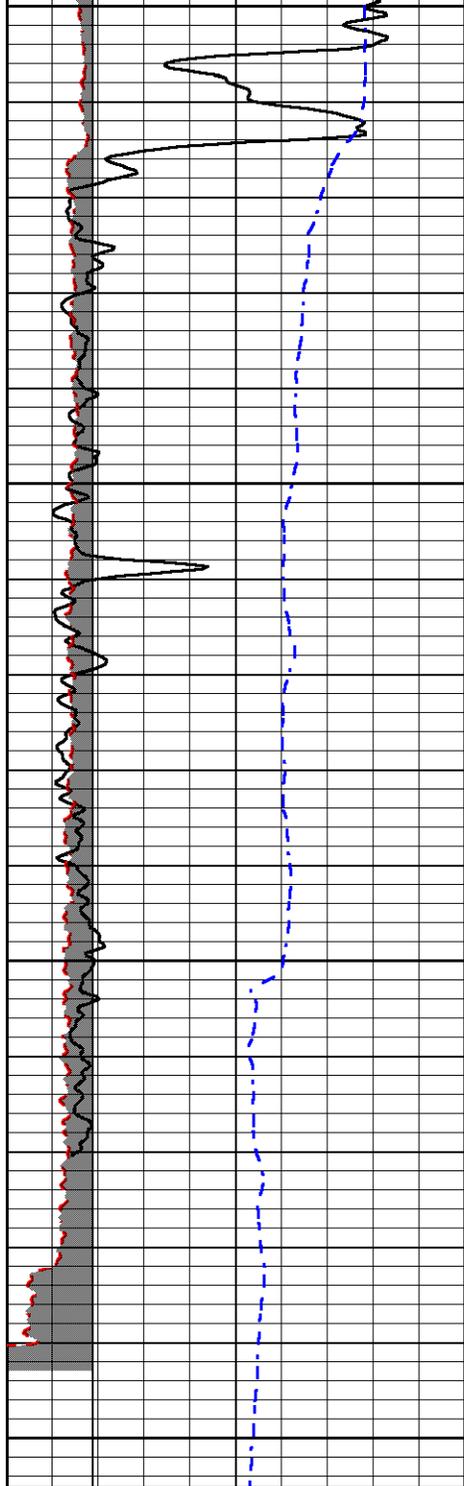
REPEAT SECTION

REPEAT PASS

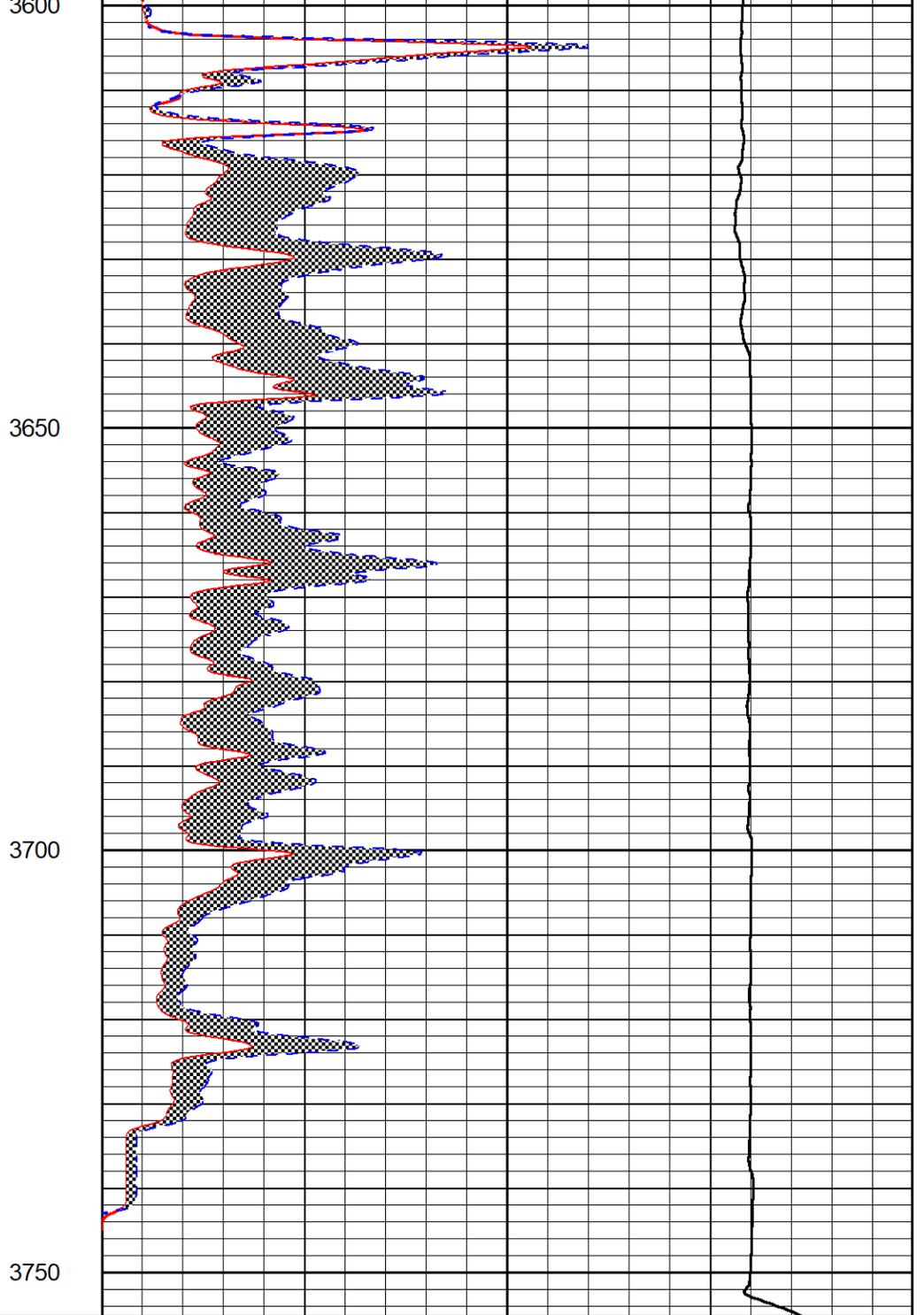
Database File tdi_munsch_13.db
 Dataset Pathname stackml/pass2.1
 Presentation Format _micro
 Dataset Creation Thu Nov 11 12:30:06 2021
 Charted by Depth in Feet scaled 1:240

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





0	Gamma Ray (GAPI)	150
6	Caliper (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