



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company	GULF EXPLORATION, LLC
Well	GRIFFIN TRUST NO. 1-30
Field	UNNAMED
County	OSBORNE
State	KANSAS
Location:	API #: 15-141-20476-00-00 990' FNL & 2310' FEL SEC 30 TWP 8S RGE 15W
Permanent Datum	GROUND LEVEL
Log Measured From	KELLY BUSHING
Drilling Measured From	KELLY BUSHING
Elevation	1976'
K.B.	1981'
D.F.	N/A
G.L.	1976'
Other Services	CNL/CDL DIL
Date	3/4/2018
Run Number	ONE
Depth Driller	3694'
Depth Logger	3691'
Bottom Logged Interval	3690'
Top Log Interval	2000'
Casing Driller	8.625" @ 260'
Casing Logger	258'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	4000
Density / Viscosity	9.1 64
pH / Fluid Loss	11.5 7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.80 @ 54
Rmf @ Meas. Temp	.60 @ 54
Rmc @ Meas. Temp	1.08 @ 54
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.38 @ 113
Operating Rig Time	3 HOURS
Max Rec. Temp. F	113 DEGF
Equipment Number	108
Location	HAYS
Recorded By	J. HENRICKSON
Witnessed By	KEITH REAVIS

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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.

NATOMA KANSAS

10 NORTH TO 160 RD, 1/4 WEST, SOUTH 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. HENRICKSON

Operator:

Operator:

Operator:

This Log Record Was Witnessed By

Primary Witness: KEITH REAVIS

Secondary Witness:

Secondary Witness:

Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 113	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 -217	degF 42	Off	ft 3691

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 DCAL SSD	28.43 28.42 27.93			CDL-M&W (168-986)	8.50	4.00	250.00
ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58				7.58	4.00	65.00
MCAL	19.83						
MI	19.83						
MN	19.83						
RLL3	15.80						
RLL3F	15.79						
CILD	8.00			DIL-M&W (PSI 978)	18.50	3.50	220.00

CILM	4.70								
SP	0.20								
Dataset: gulf_explo_griffin_trust_1_30.db: field/well/stackml/pass3.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in									

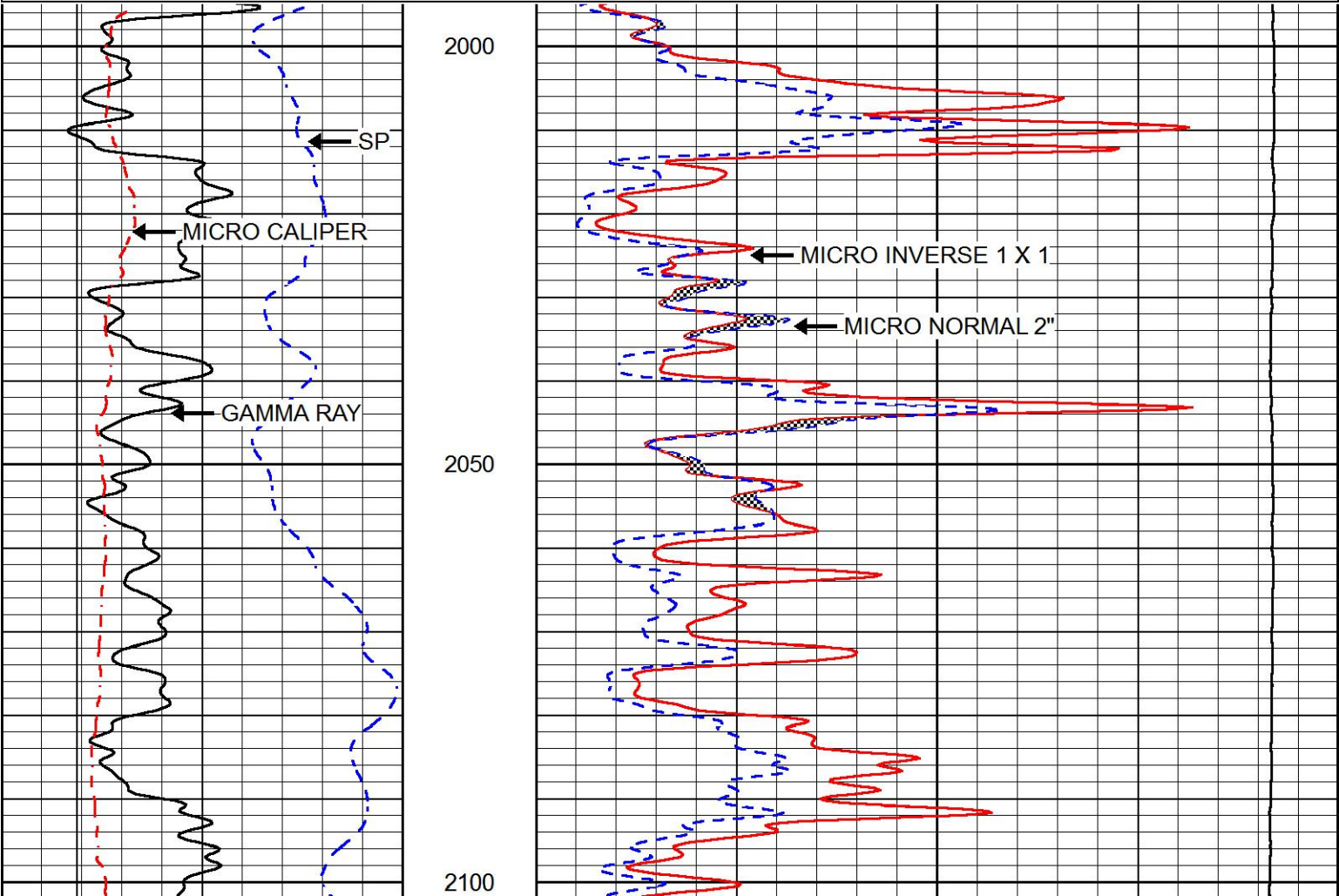


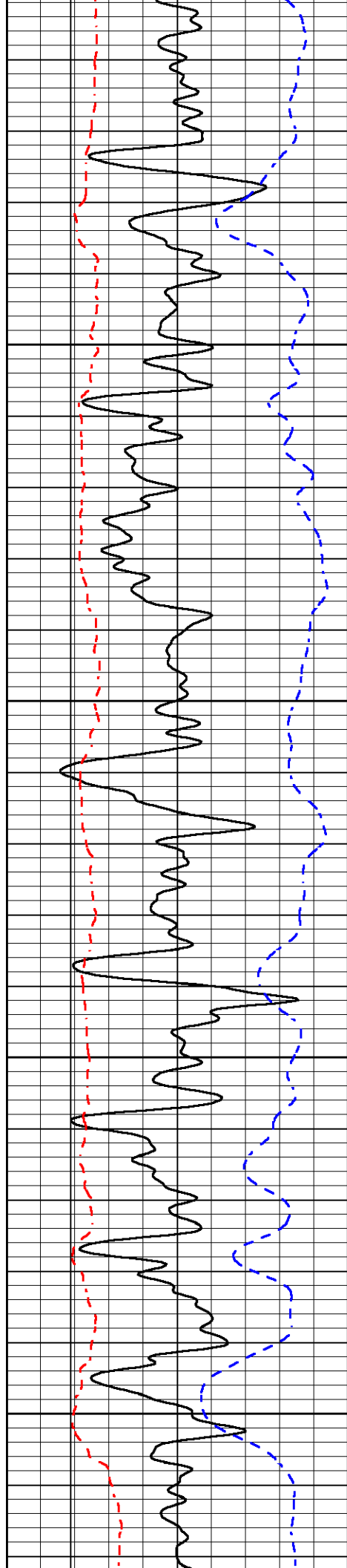
PIONEER
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MAIN PASS

Database File	gulf_explo_griffin_trust_1_30.db
Dataset Pathname	stackml/pass3.1
Presentation Format	micro
Dataset Creation	Sun Mar 04 09:46:18 2018
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0	MICRO INVERSE 1 X 1 (Ohm-m)	40
6	MICRO CALIPER (in)	16	0	MICRO NORMAL 2" (Ohm-m)	40
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
-200	SP (mV)	0			



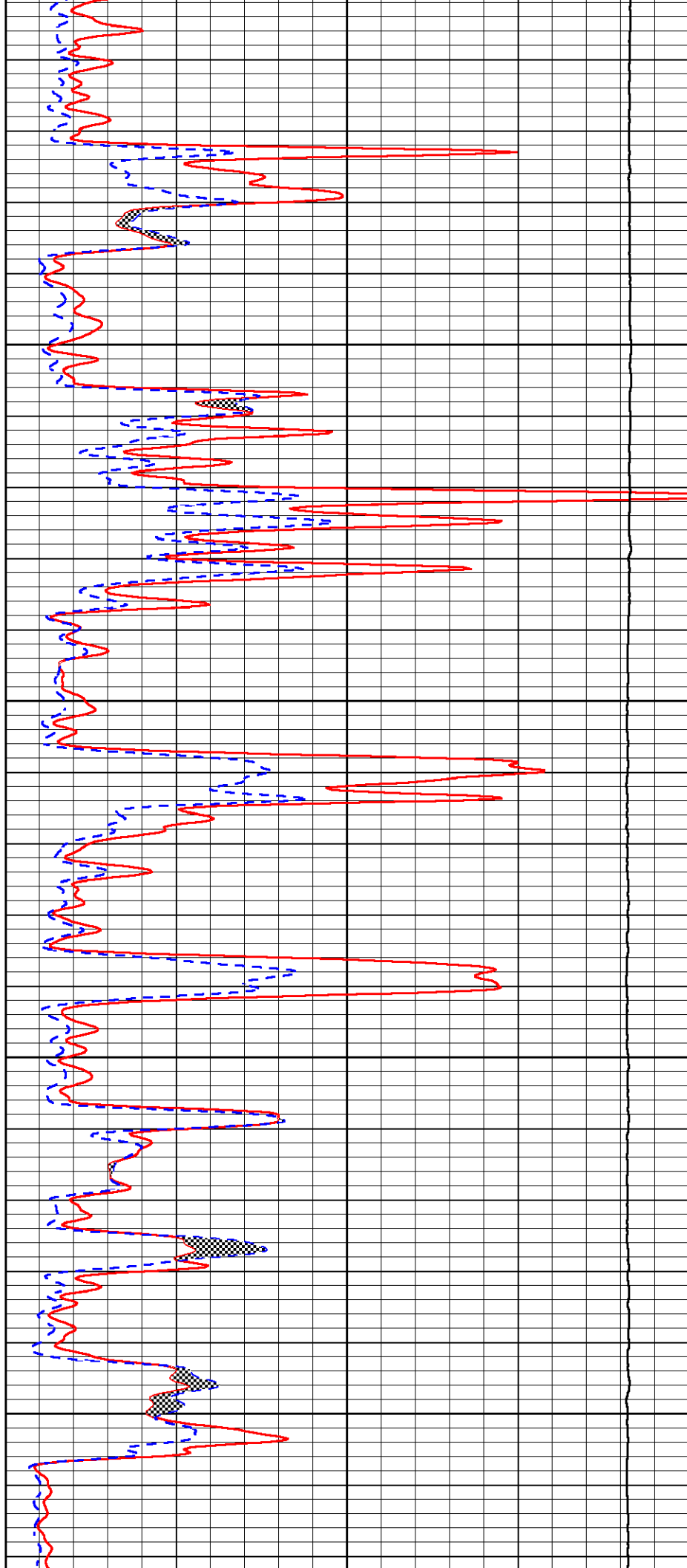


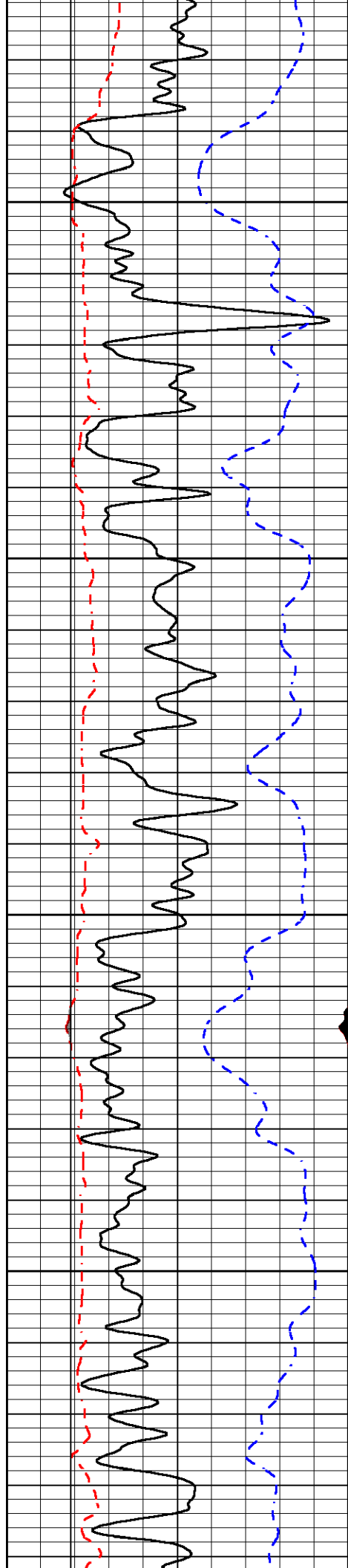
2150

2200

2250

2300



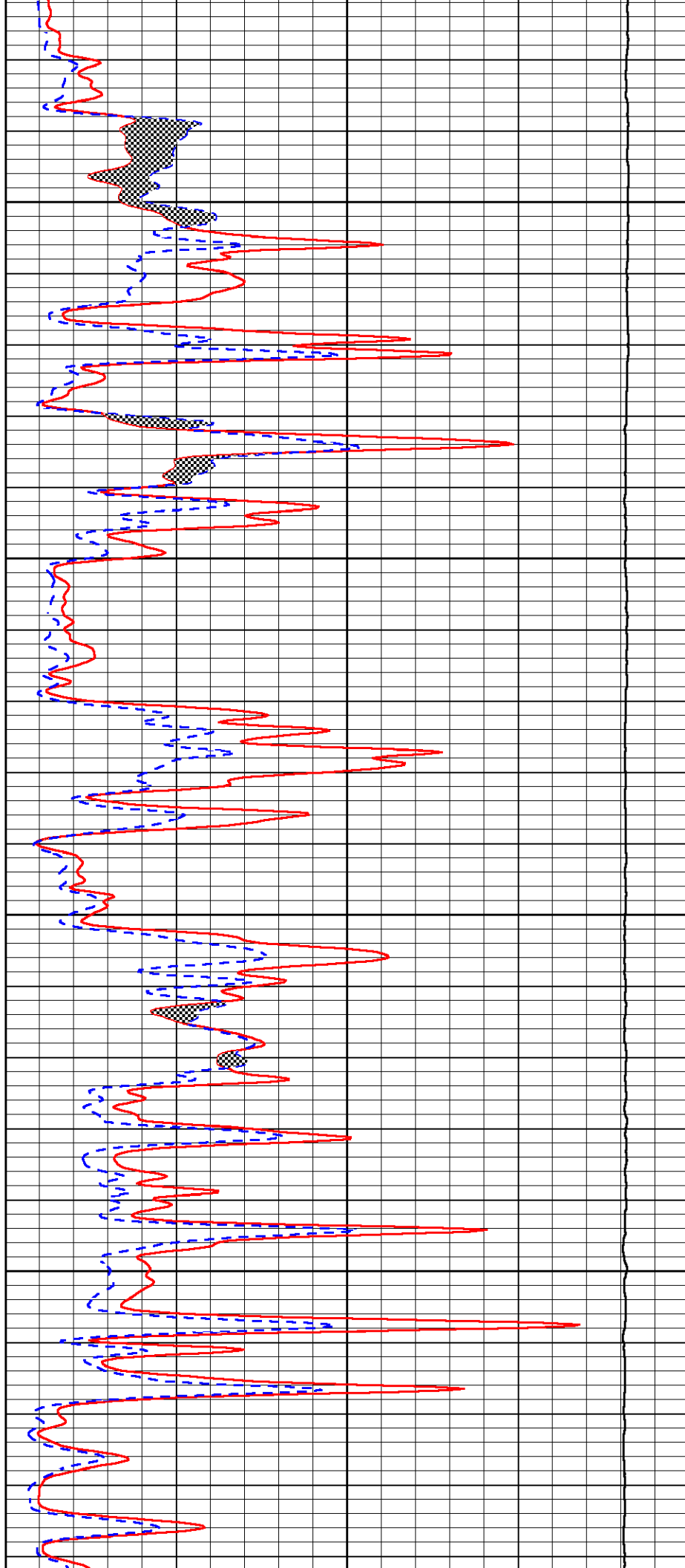


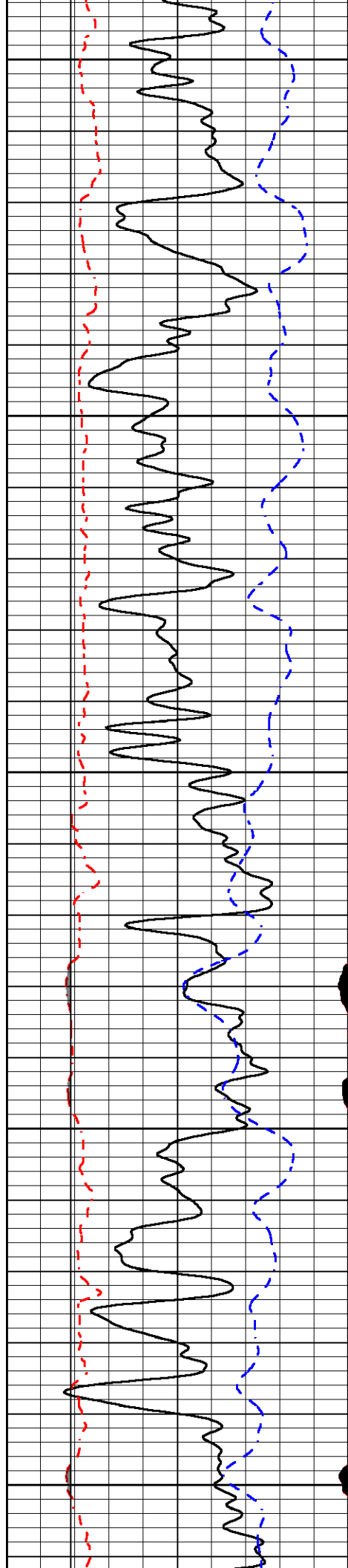
2350

2400

2450

2500





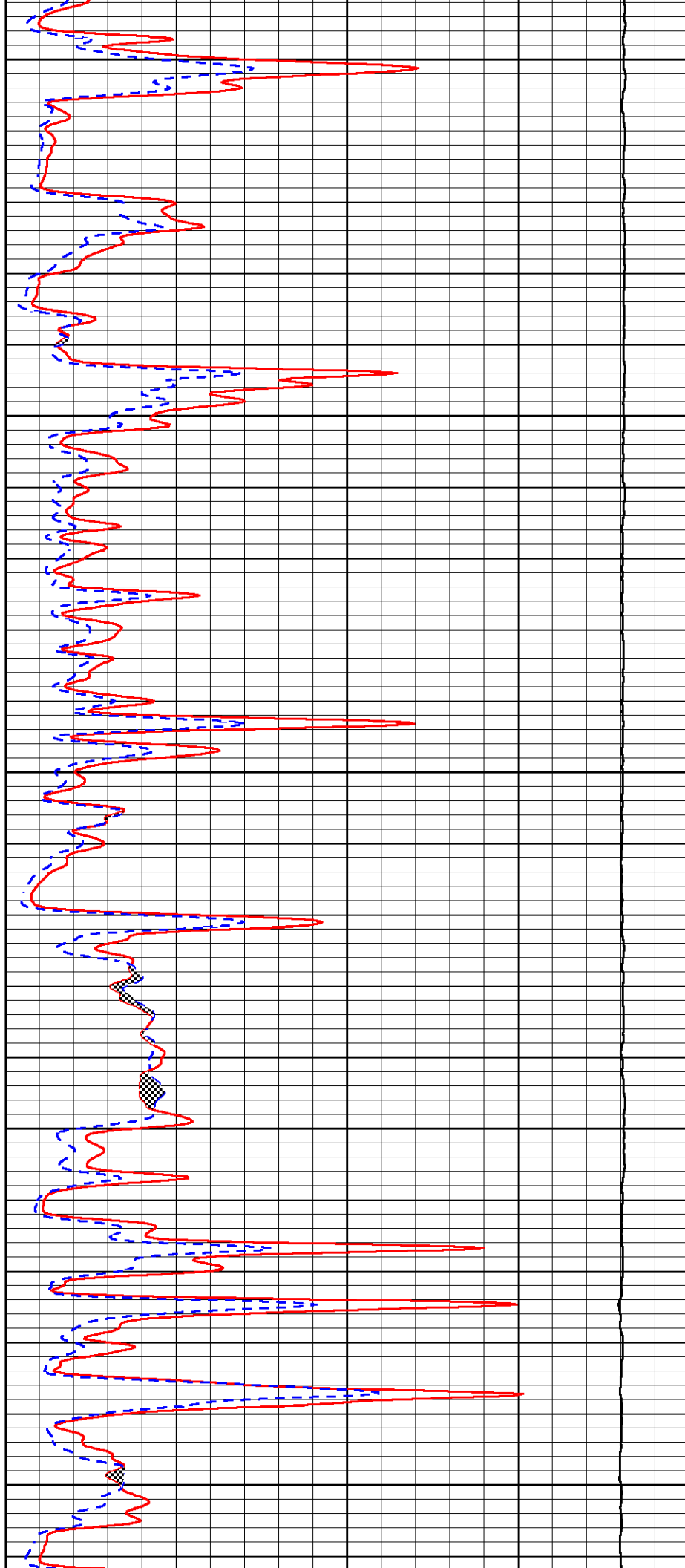
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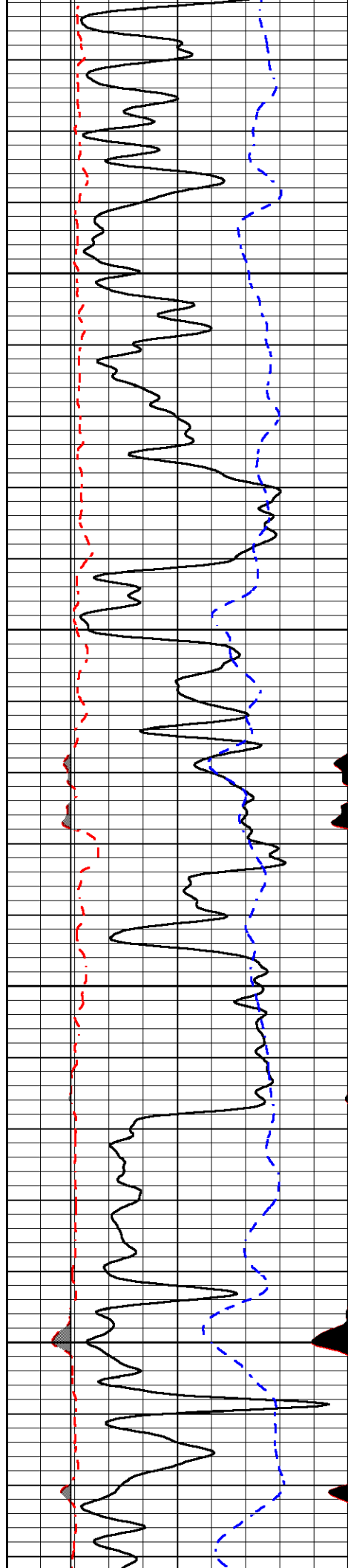
2600

2650

2700

2750



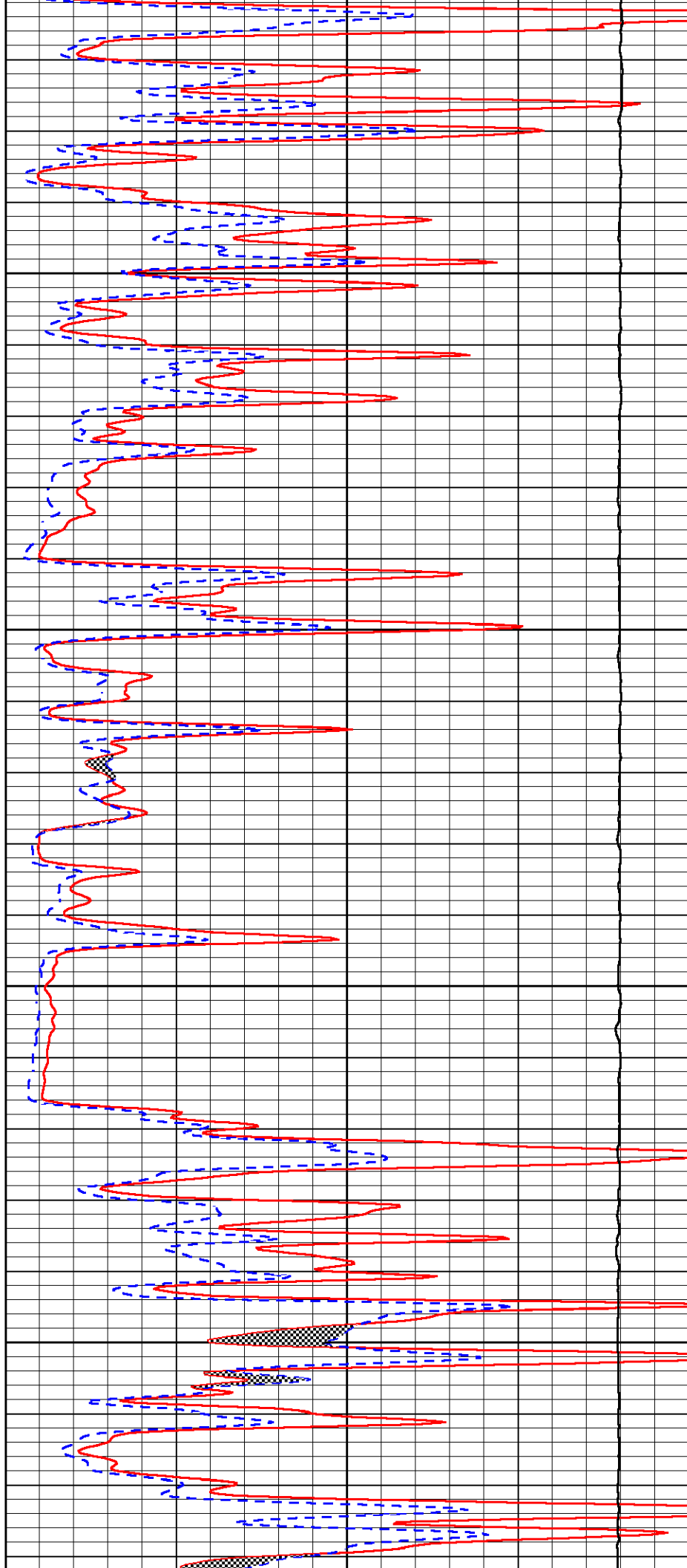


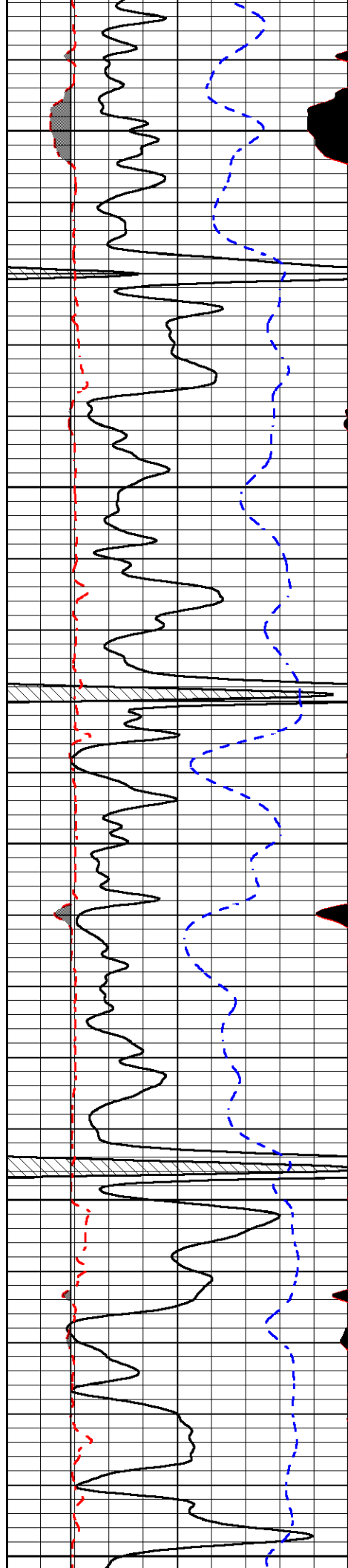
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2850

2900

2950





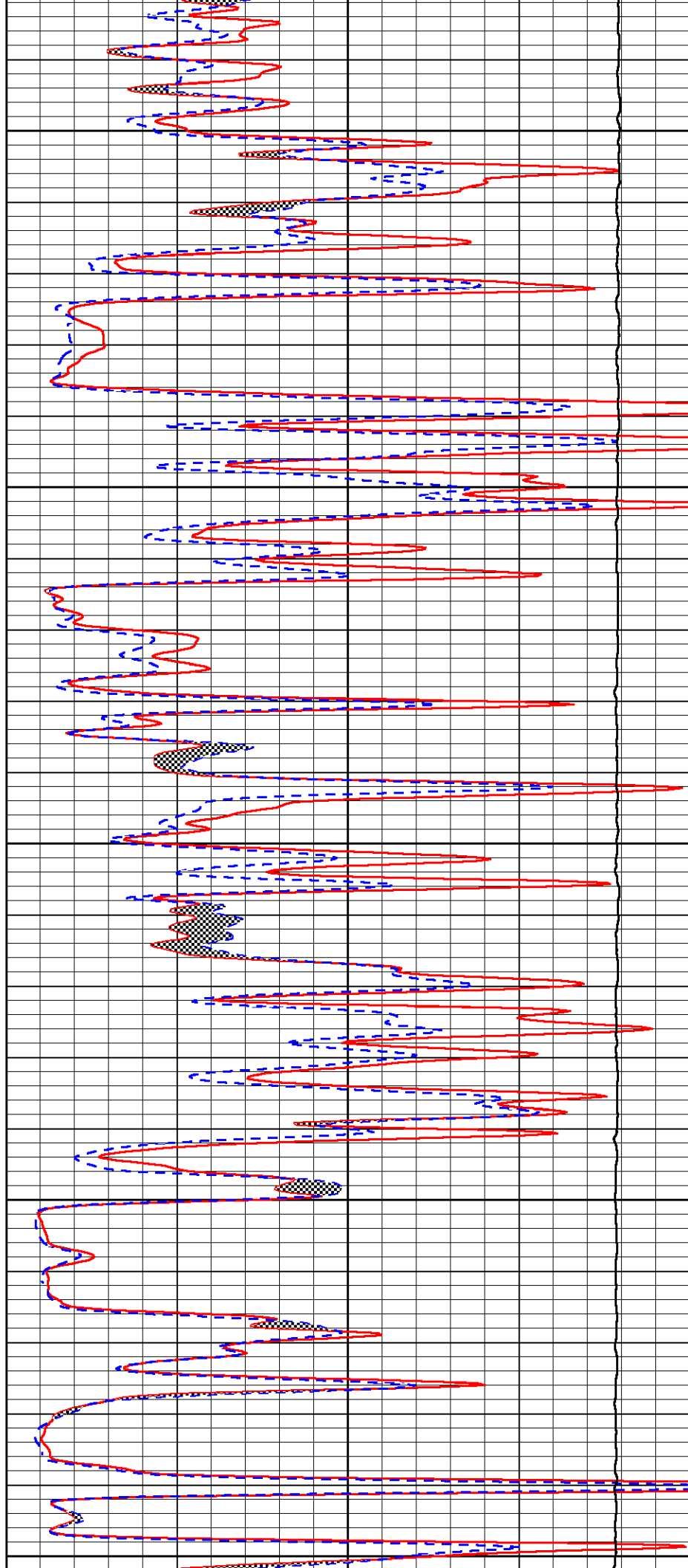
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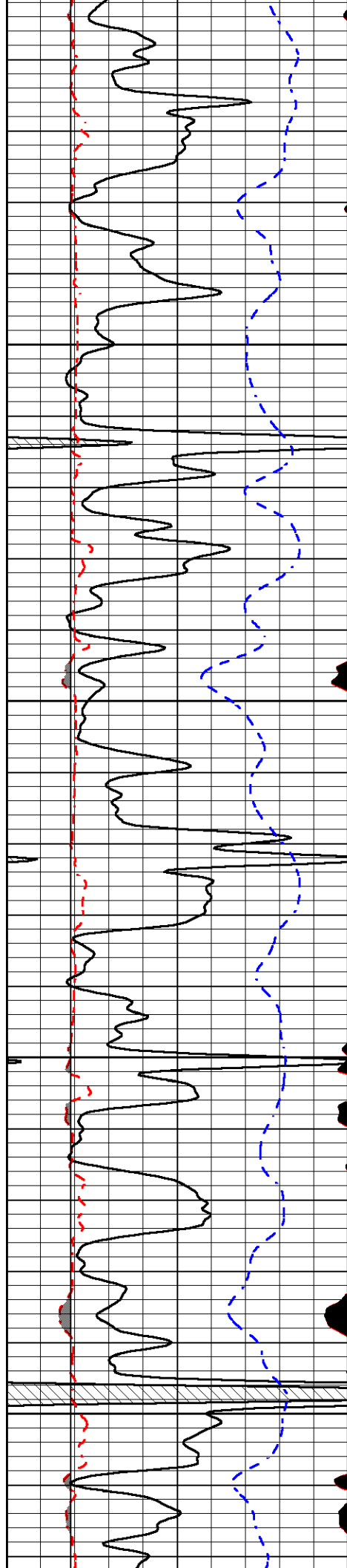
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3100

3150

3200



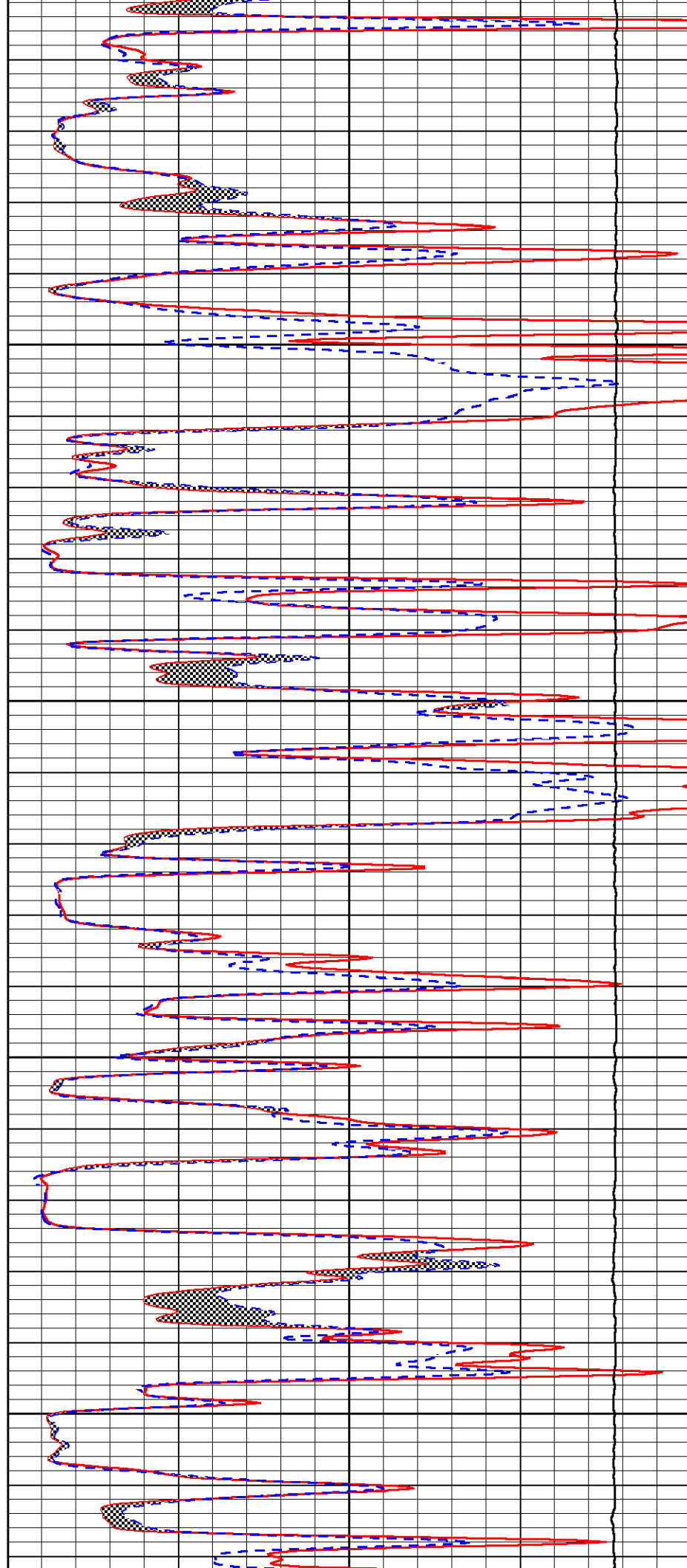


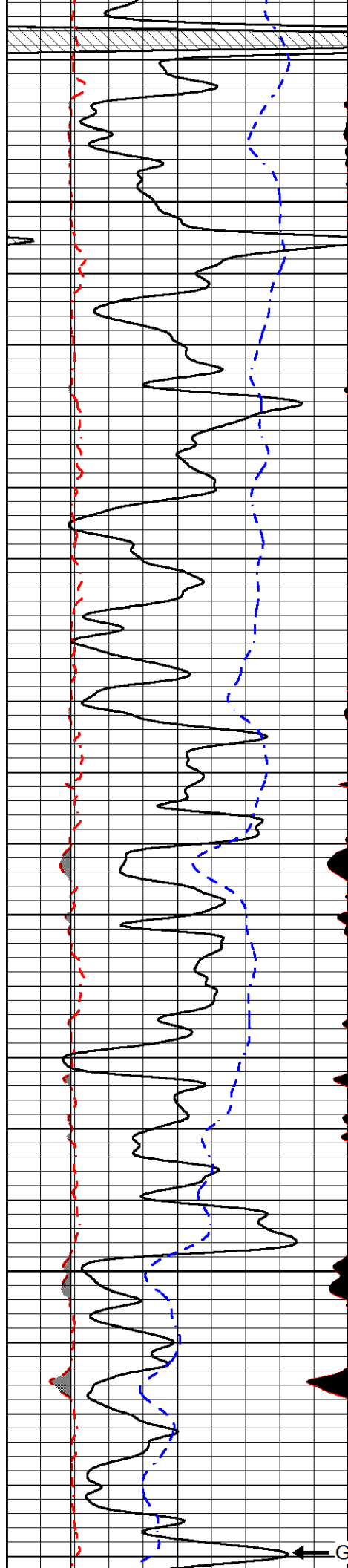
3250

3300

3350

3400





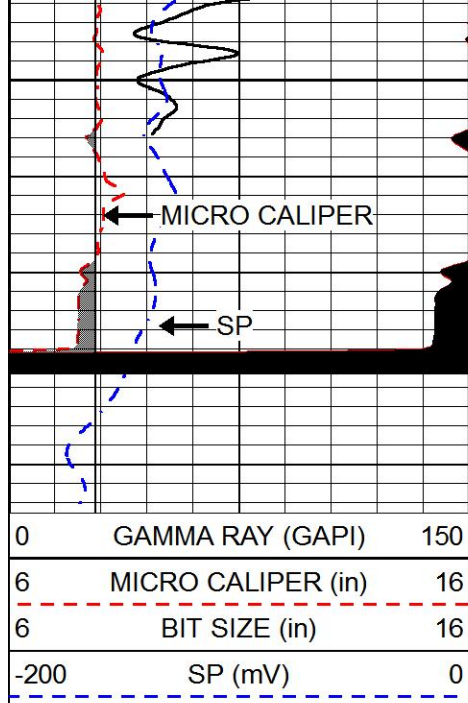
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3500

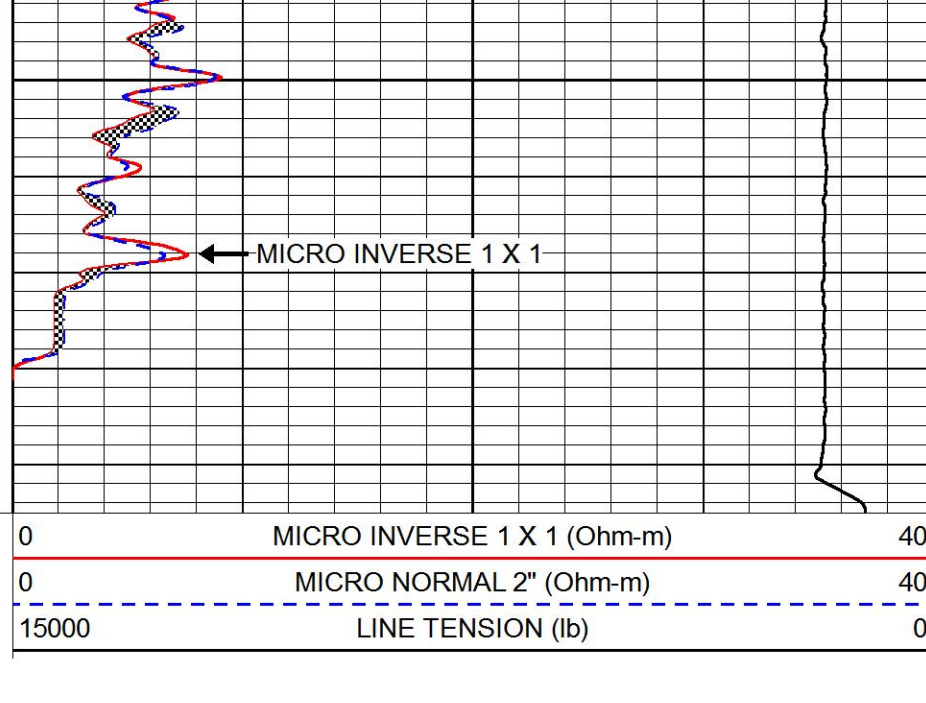
3550

3600

MICRO NORMAL 2"



3650



MICRO INVERSE 1 X 1 (Ohm-m)

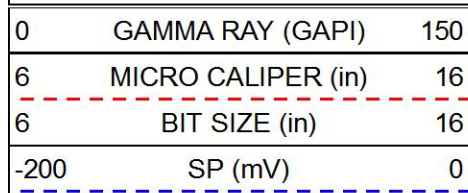
MICRO NORMAL 2" (Ohm-m)

LINE TENSION (lb)

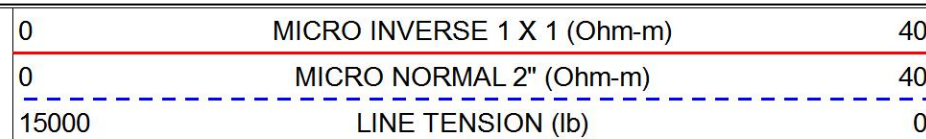


REPEAT SECTION

Database File gulf_explo_griffin_trust_1_30.db
 Dataset Pathname stackml/pass2.1
 Presentation Format micro
 Dataset Creation Sun Mar 04 09:46:29 2018
 Charted by Depth in Feet scaled 1:240



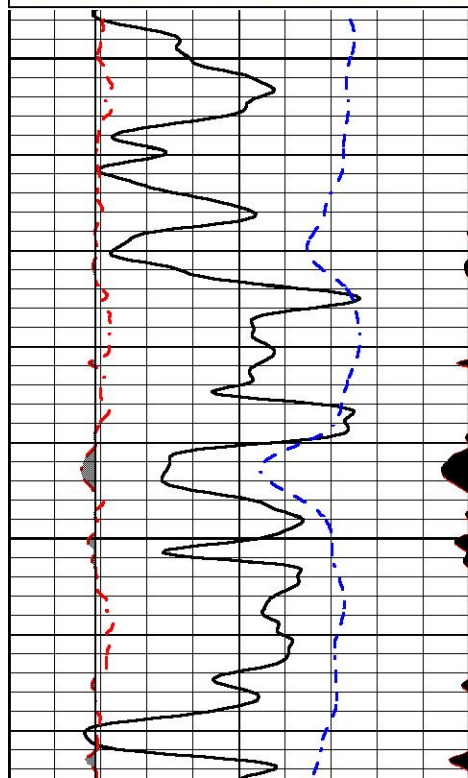
3500



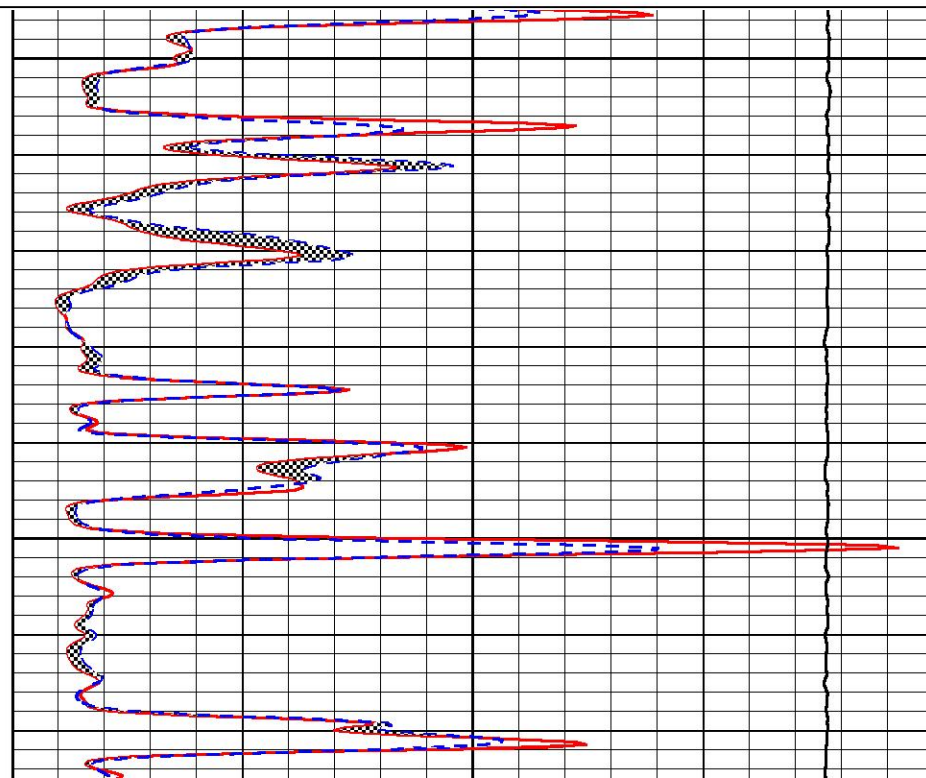
MICRO INVERSE 1 X 1 (Ohm-m)

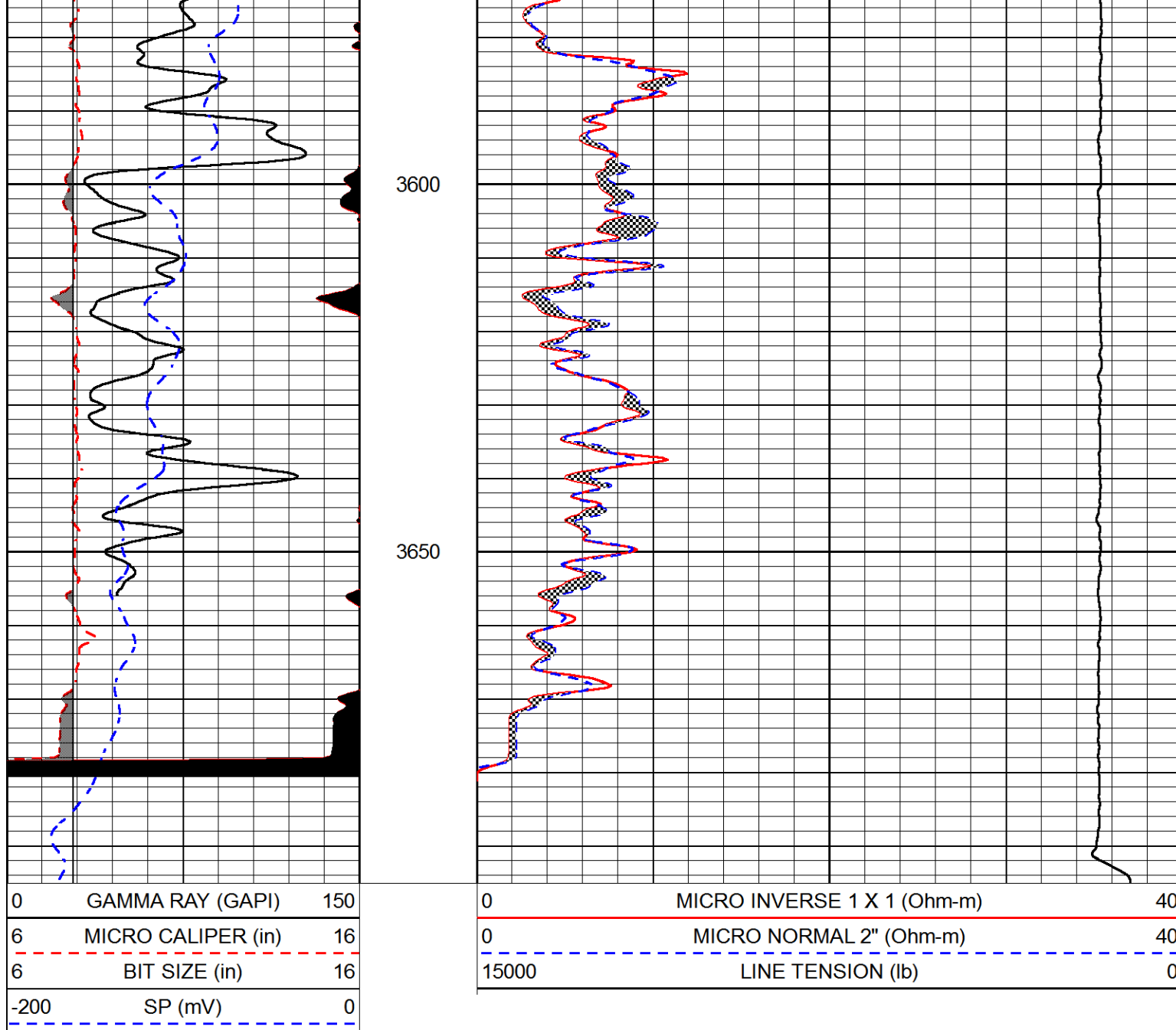
MICRO NORMAL 2" (Ohm-m)

LINE TENSION (lb)



3550





Calibration Report

Database File gulf_explo_griffin_trust_1_30.db
Dataset Pathname stackml/pass3.1
Dataset Creation Sun Mar 04 09:46:18 2018

Dual Induction Calibration Report

Serial-Model: PSI 978-M&W
Calibration Performed: Sun Feb 04 11:50:02 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.570	-40.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-37.000

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML
Performed: Fri Jun 02 04:05:10 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	16000.0000	-0.8000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	12000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	-131.6000

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
Source / Verifier: /
Master Calibration Performed: Tue Apr 11 17:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.700	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.537		
	Size		Reading		
Small Ring	4.00	in	1.00		
Large Ring	14.00	in	1.20		

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 17:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps



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Well GRIFFIN TRUST NO. 1-30
Field UNNAMED
County OSBORNE
State KANSAS

