MIDWEST WIRELINE

# MICRORESISTIVITY LOG

Company Griffin Management
Well Olivia #1
Field Unnamed
County Pratt
State Kansas

Location: API # : 15-151-22541-00-00
2310 FSL & 120 FEL
SEC 30 TWP 29S RGE 15W

Other Services
CNL/CDL
DIL

Permanent Datum Ground Level Elevation 2035
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation
K.B. 2040
D.F.
G.L. 2035

| | | | | |
|---|---|---|---|---|
| Date | 1/26/2022 | | | |
| Run Number | One | | | |
| Depth Driller | 4900 | | | |
| Depth Logger | 4898 | | | |
| Bottom Logged Interval | 4897 | | | |
| Top Log Interval | 2800 | | | |
| Casing Driller | 8.625 @ 252 | | | |
| Casing Logger | 240 | | | |
| Bit Size | 7.875 | | | |
| Type Fluid in Hole | Chemical | | | |
| Salinity,ppm CL | 7000 | | | |
| Density / Viscosity | 9.3 \| 51 | | | |
| pH / Fluid Loss | 10.0 \| 8.8 | | | |
| Source of Sample | FLOWLINE | | | |
| Rm @ Meas. Temp | .55 @ 76 | | | |
| Rmf @ Meas. Temp | .41 @ 76 | | | |
| Rmc @ Meas. Temp | .74 @ 76 | | | |
| Source of Rmf / Rmc | CHARTS | | | |
| Rm @ BHT | .33 @ 125 | | | |
| Operating Rig Time | 2 Hours | | | |
| Max Rec. Temp. F | 125 | | | |
| Equipment Number | P-108 | | | |
| Location | HAYS | | | |
| Recorded By | J. Henrickson | | | |
| Witnessed By | Eli Felts | | | |

<<< Fold Here >>>

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.

Haviland Kansas
East to 140th, 9 1/2 South
West Into

Log Measured From: Kelly Bushing 5 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: J. Henrickson | Primary Witness: Eli Felts |
| Operator: | Secondary Witness: |
| Operator: | Secondary Witness: |
| Operator: | Secondary Witness: |

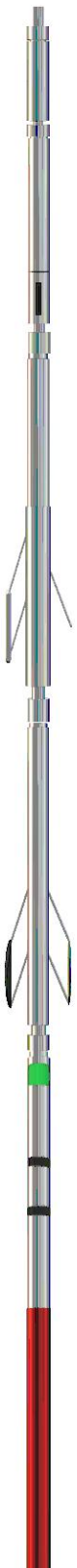
# Log Variables

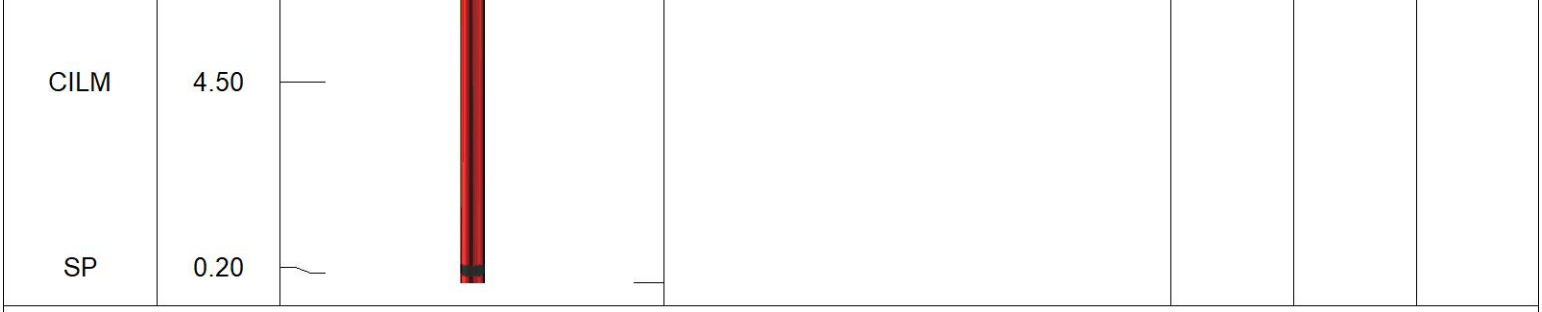
DatabaseC:\ProgramData\Warrior\Data\griffin_olivia_1.db
Dataset field/well/stackml/pass4.1/_vars_

**Top - Bottom**

| A | BOREID in | BOTTEMP degF | CASEOD in | CASETHCK in | FLUIDDEN g/cc | M | MATRXDEN g/cc |
|---|---|---|---|---|---|---|---|
| 1 | 7.875 | 100 | 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 | 560 | 50 | Off | 4898 |

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb |
|---|---|---|---|---|---|---|
| GR | 40.33 |  | GR-M&W (103) | 3.00 | 3.50 | 50.00 |
| CNLSC | 37.23 | | CNT-M&W (210) | 5.00 | 3.50 | 100.00 |
| CNSSC | 36.48 | | | | | |
| | | | CDL-M&W (303-03) | 8.50 | 4.00 | 250.00 |
| LSD | 28.18 | | | | | |
| DCAL | 28.17 | | | | | |
| SSD | 27.68 | | | | | |
| | | | ML-PSI STKBL ML (402) | 7.58 | 4.00 | 65.00 |
| MCAL | 19.58 | | | | | |
| MI | 19.58 | | | | | |
| MN | 19.58 | | | | | |
| RLL3F | 15.50 | | | | | |
| RLL3 | 15.50 | | | | | |
| | | | DIL-M&W (504 HT) | 18.25 | 3.50 | 220.00 |
| CILD | 8.33 | | | | | |




| | |
|---|---|
| Dataset: | griffin_olivia_1.db: field/well/stackml/pass4.1 |
| Total length: | 42.33 ft |
| Total weight: | 685.00 lb |
| O.D.: | 4.00 in |

MIDWEST WIRELINE

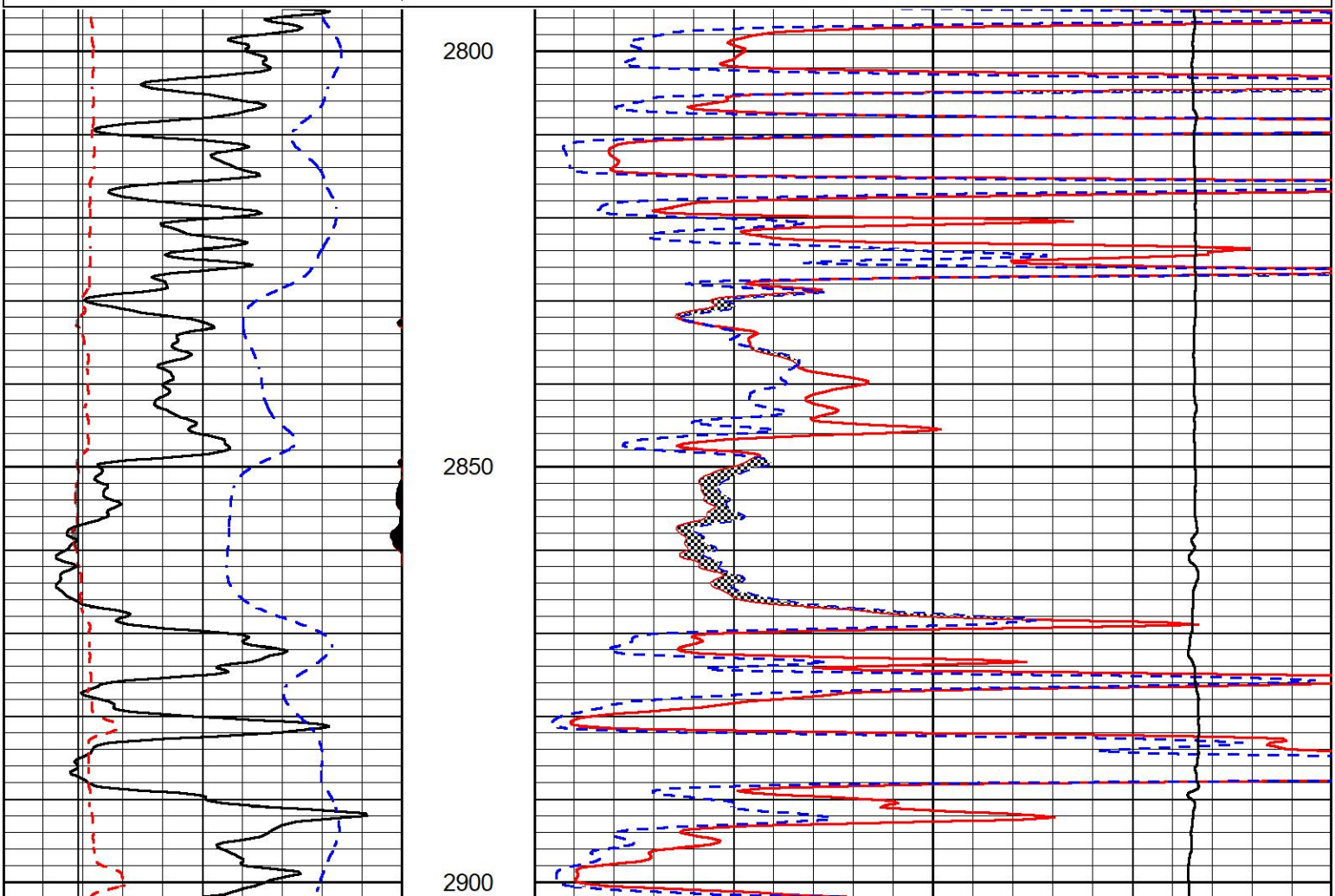
# DETAIL SECTION

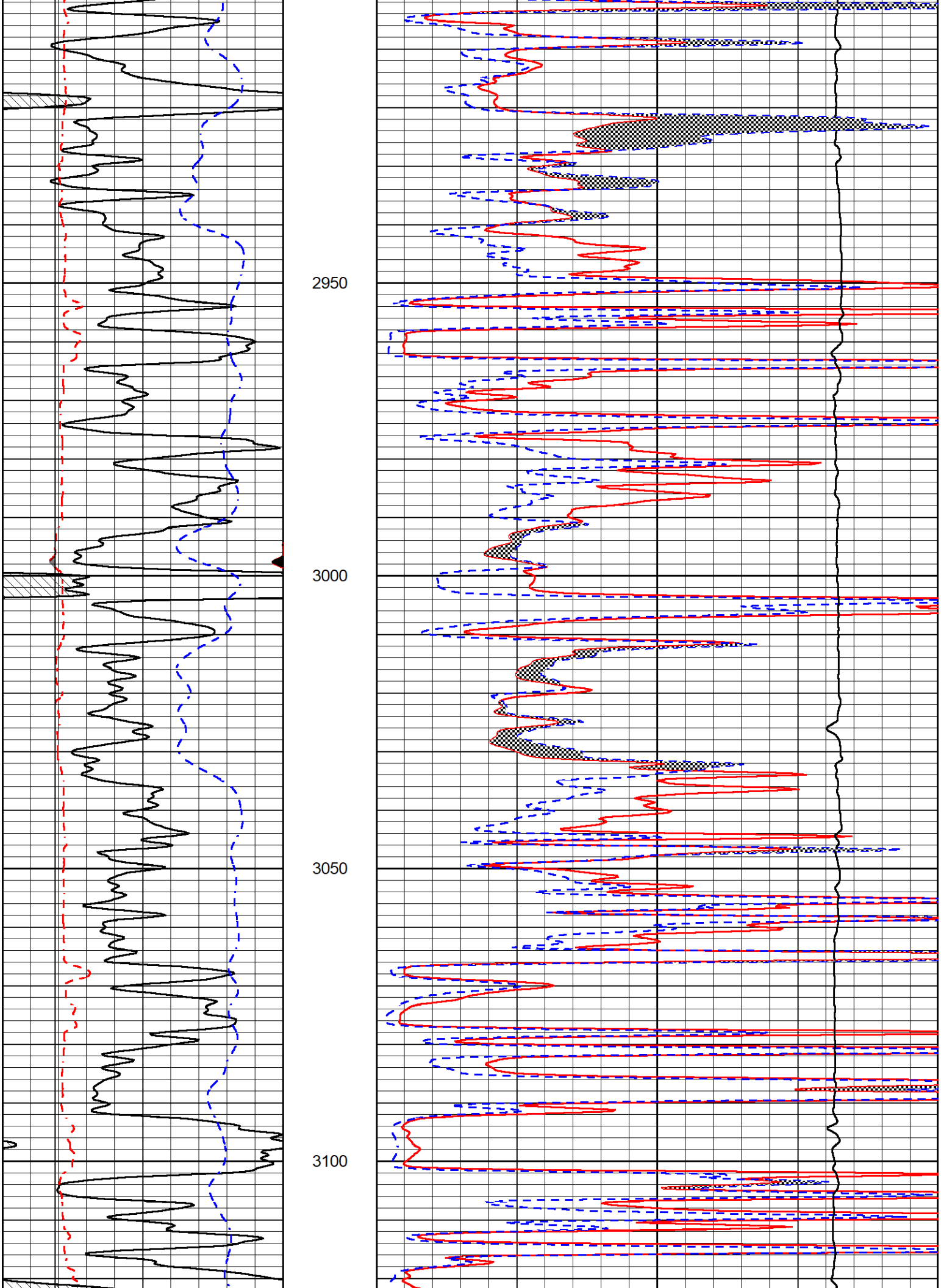
## MAIN PASS

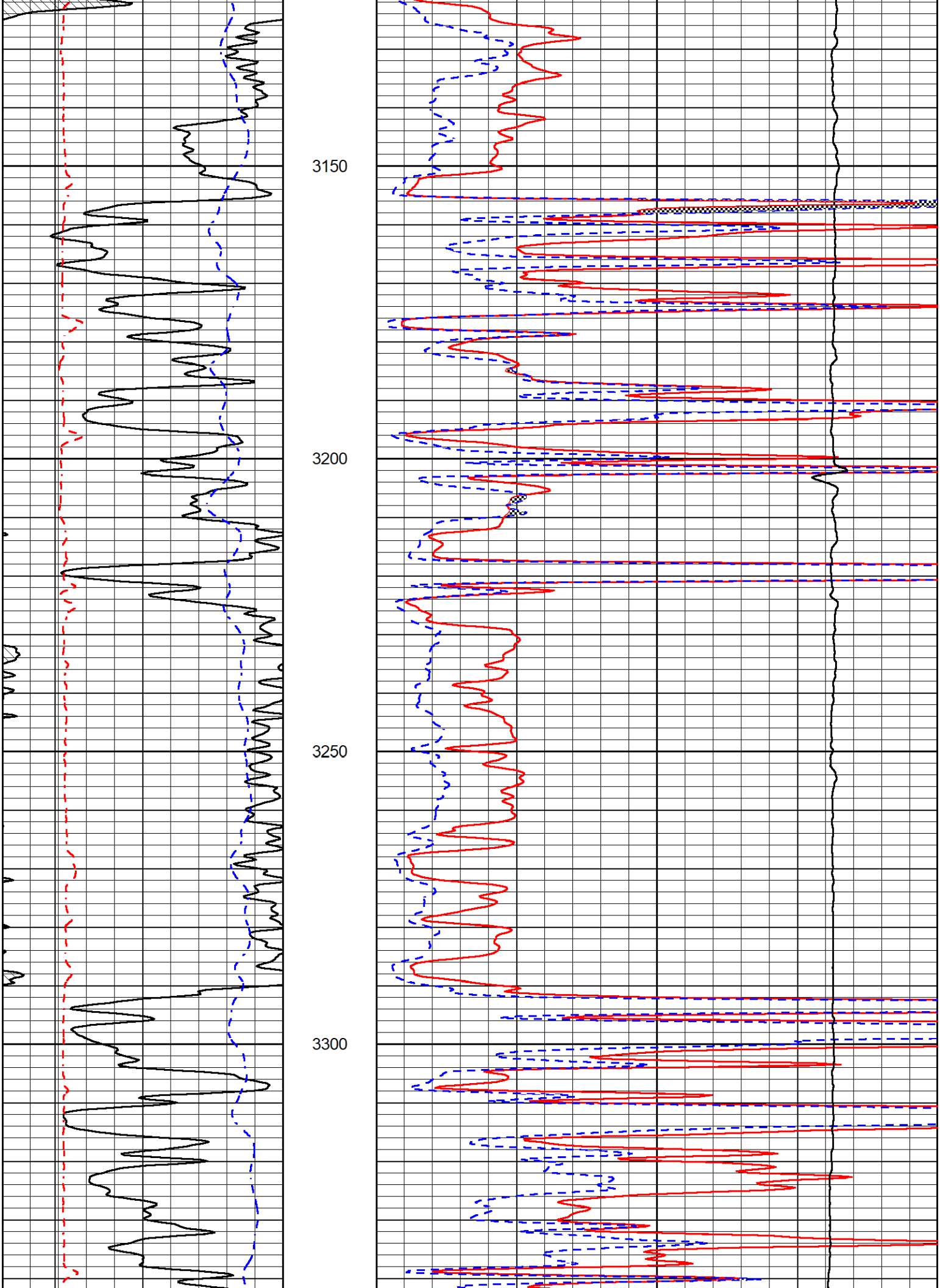
| | |
|---|---|
| Database File | griffin_olivia_1.db |
| Dataset Pathname | stackml/pass4.1 |
| Presentation Format | _micro |
| Dataset Creation | Wed Jan 26 20:14:55 2022 |
| Charted by | Depth in Feet scaled 1:240 |

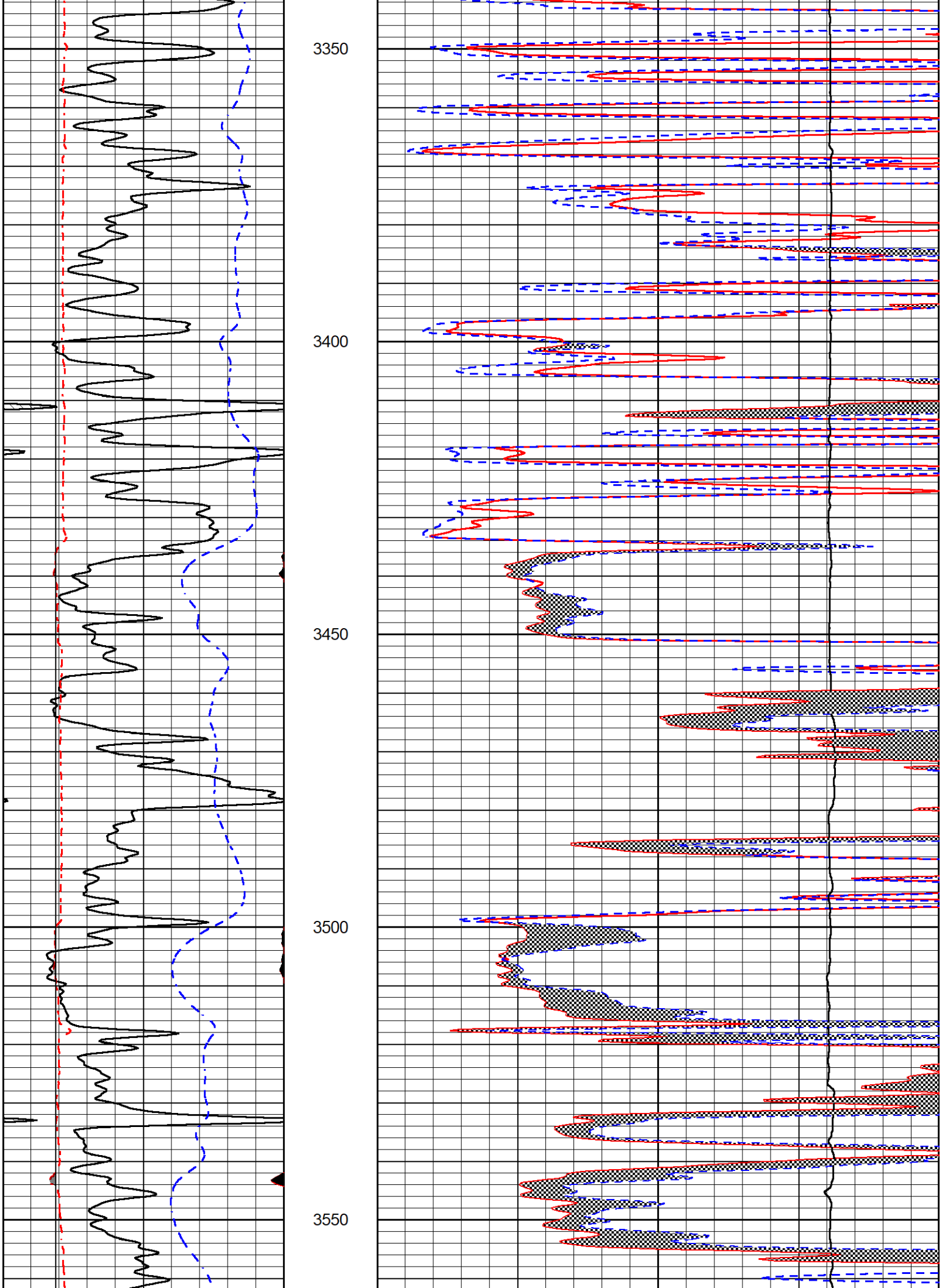
| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |
| 2.875 | mcal (in) | 7.875 |
| -200 | SP (mV) | 0 |

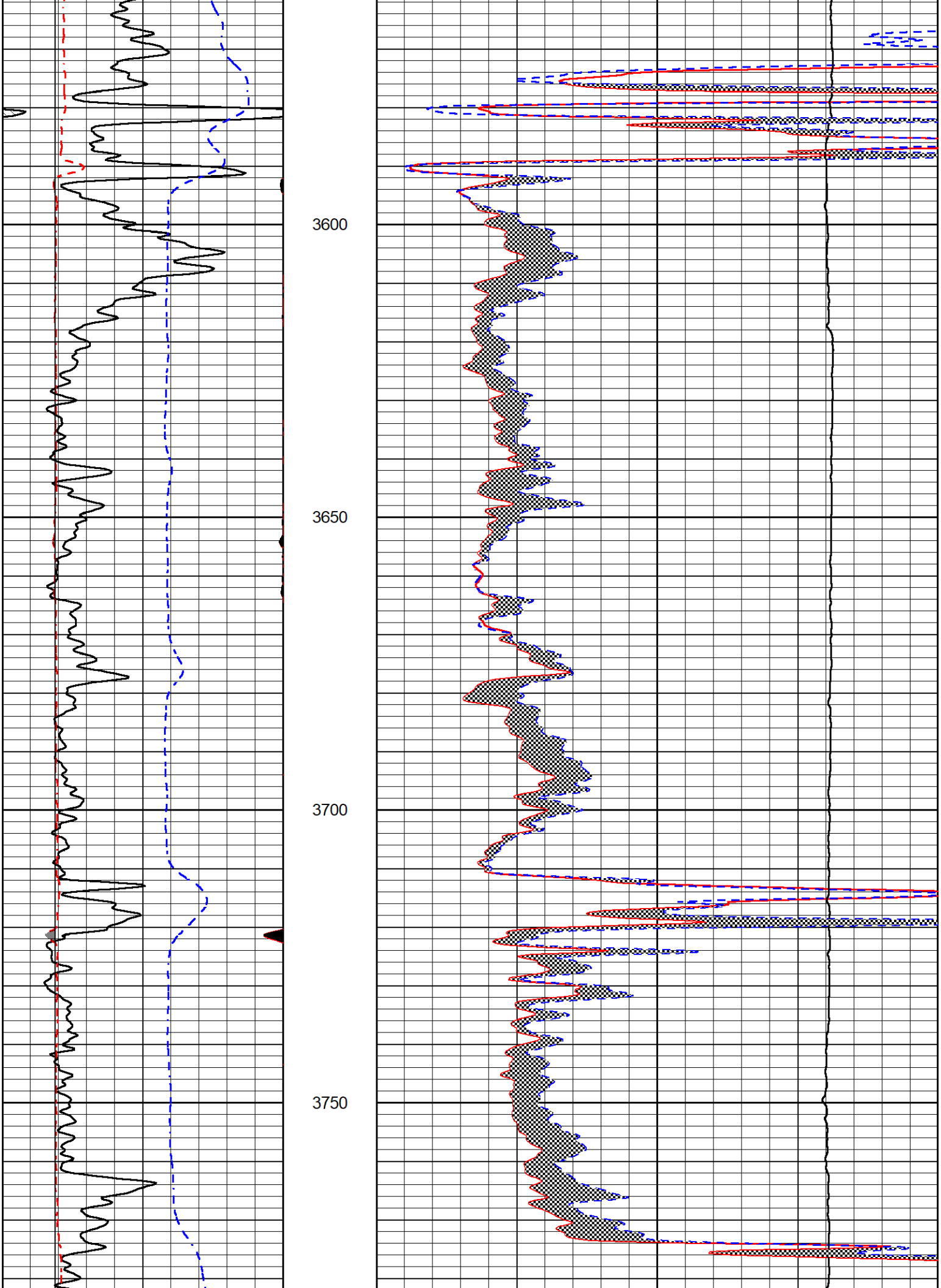
| | | |
|---|---|---|
| 0 | Micro Inverse 1 X 1 (Ohm-m) | 40 |
| 0 | Micro Normal 2" (Ohm-m) | 40 |
| 10000 | Line Weight (lb) | 0 |

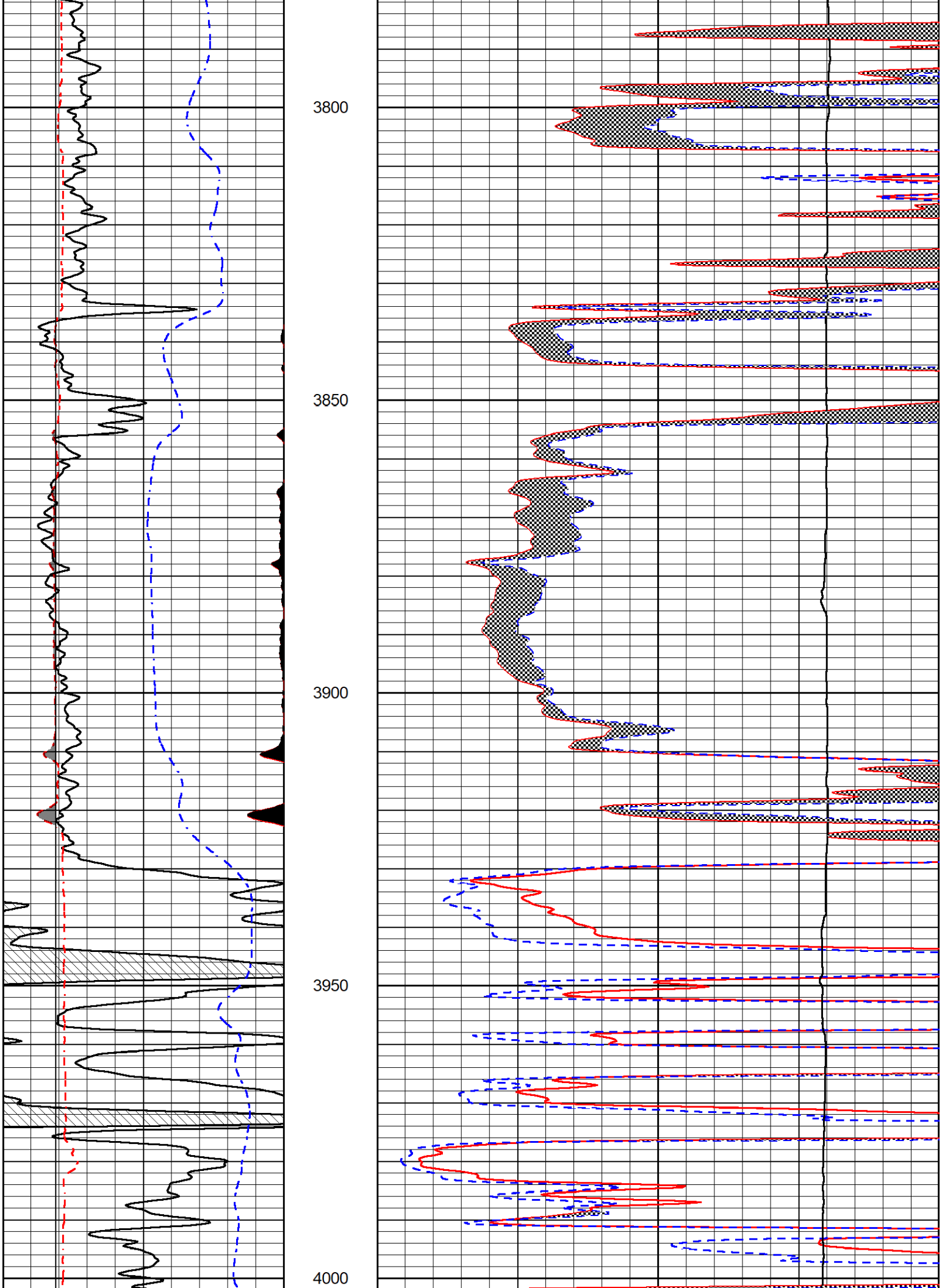


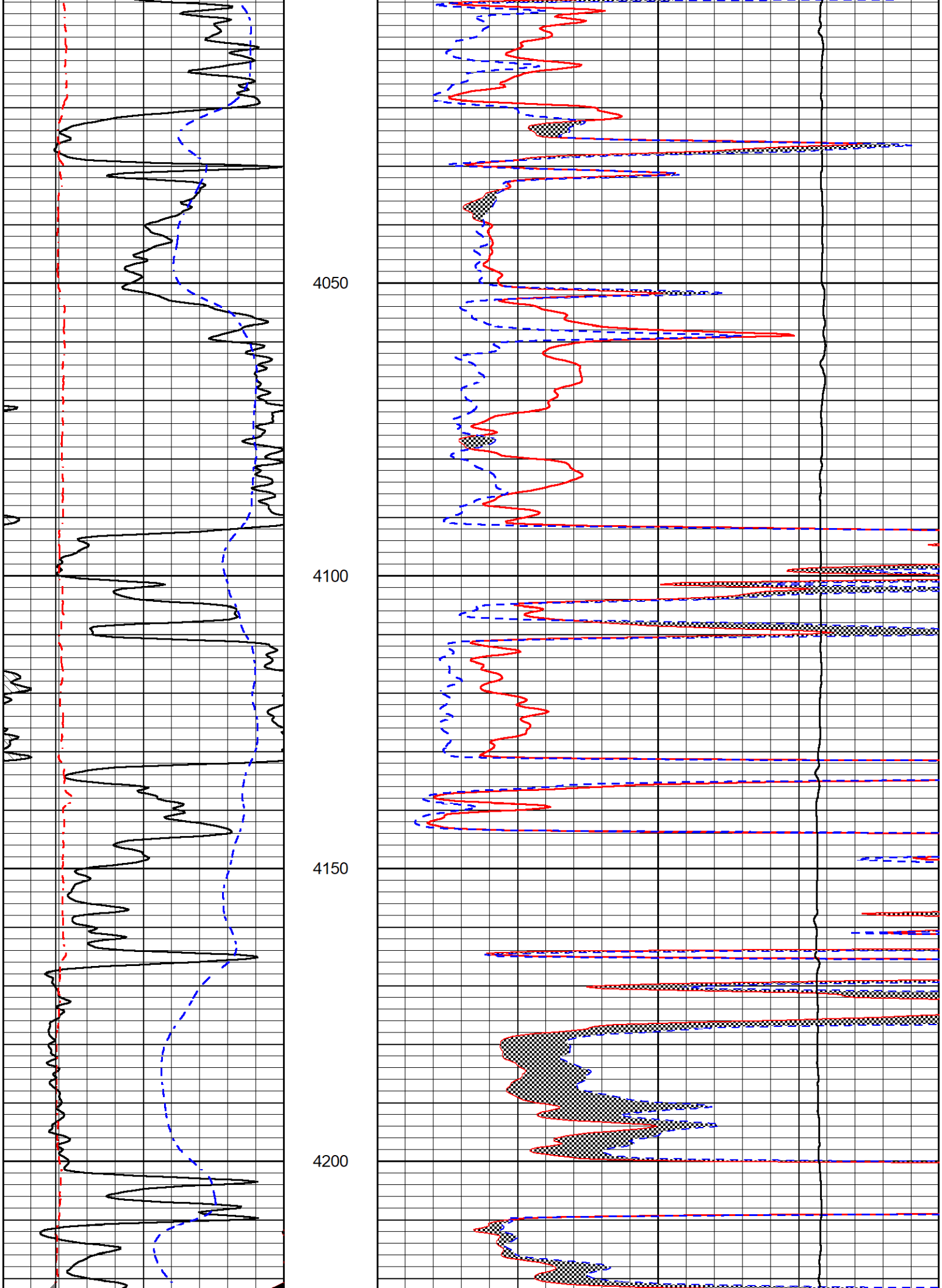

2950
3000
3050
3100

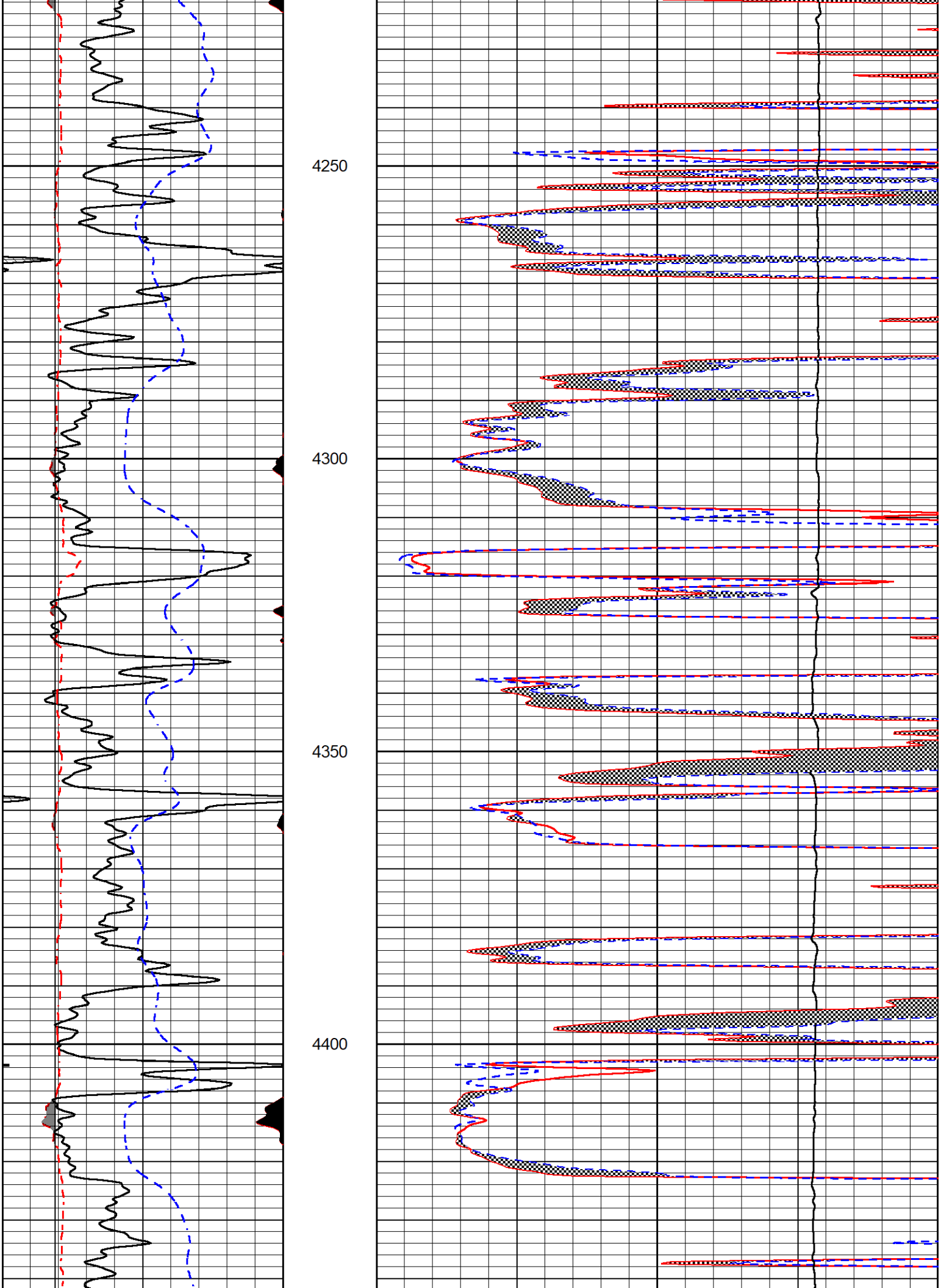

3150
3200
3250
3300

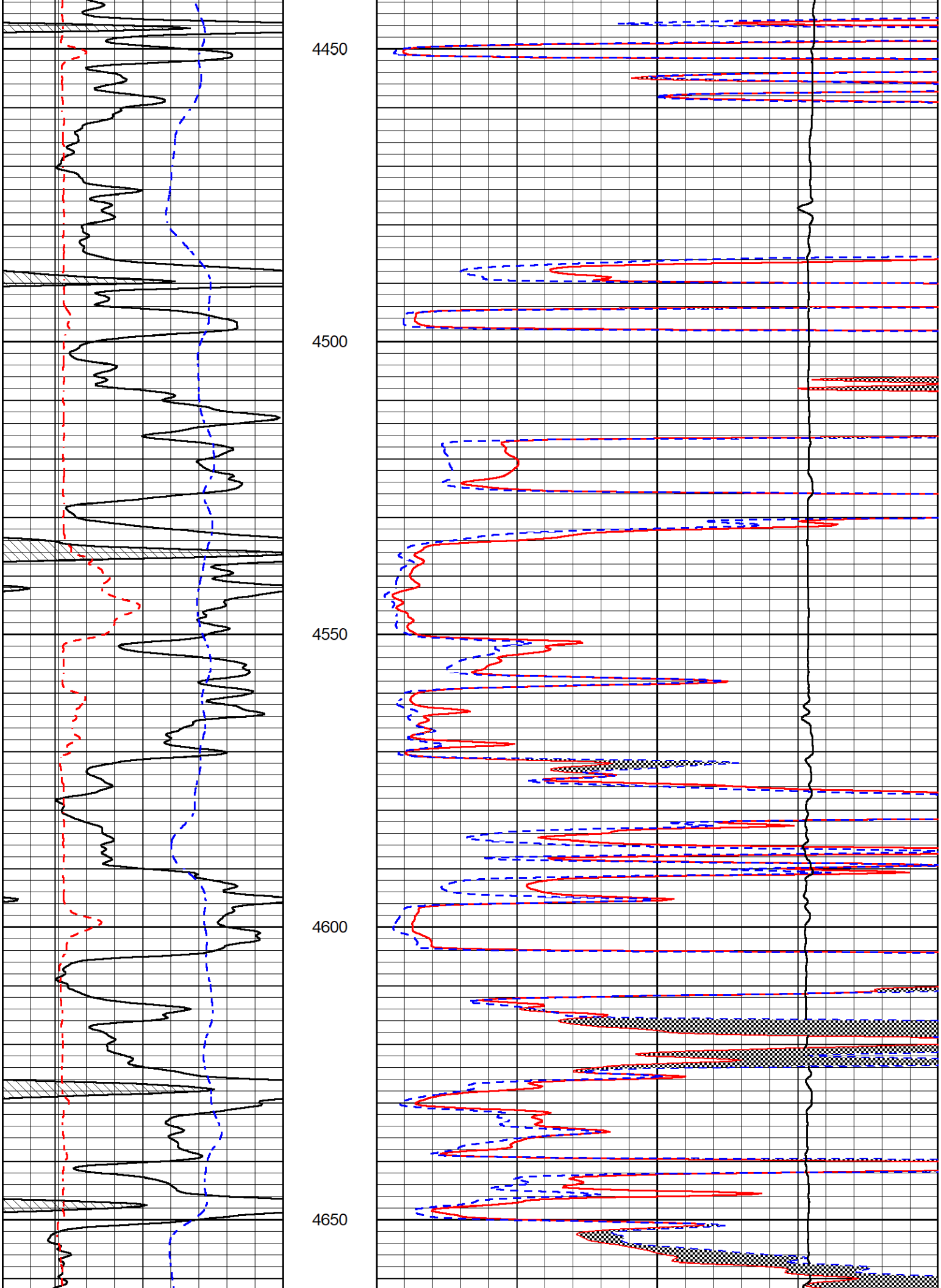

3350
3400
3450
3500
3550

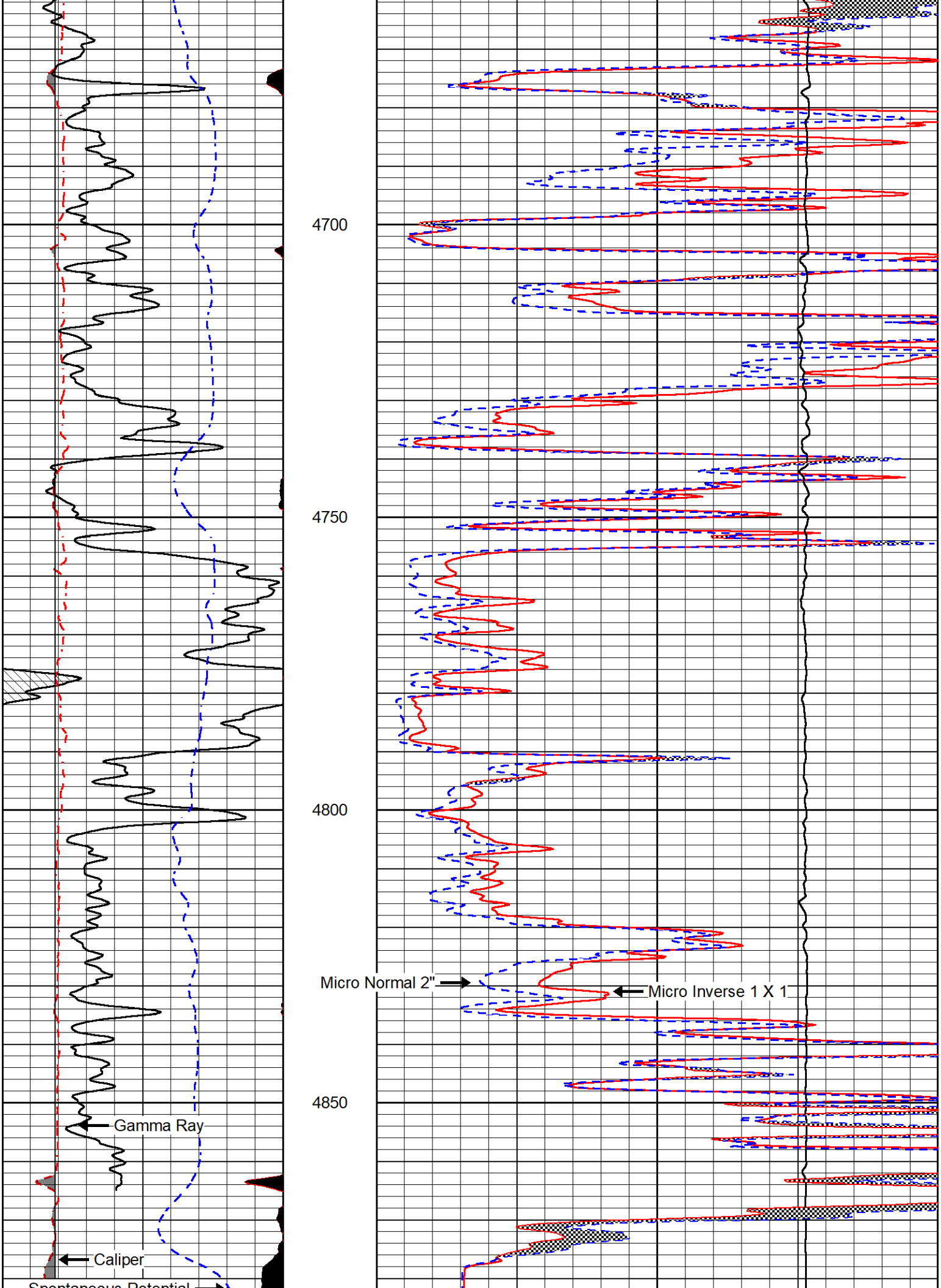

3600
3650
3700
3750

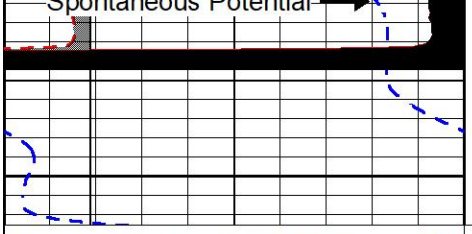

3800
3850
3900
3950
4000

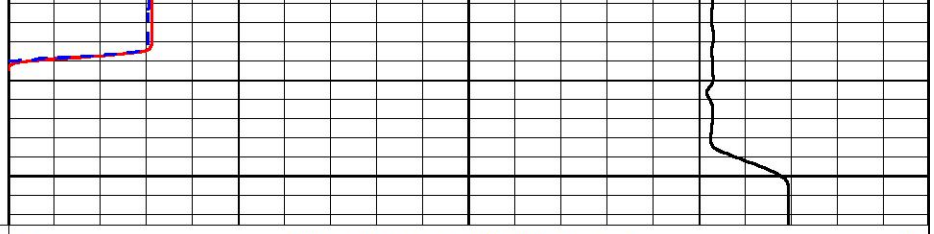

4050
4100
4150
4200


4250
4300
4350
4400


4450
4500
4550
4600
4650


4700
4750
4800
4850
Micro Normal 2"
Micro Inverse 1 X 1
Gamma Ray
Caliper



| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |
| 2.875 | mcal (in) | 7.875 |
| -200 | SP (mV) | 0 |

4900

| | | |
|---|---|---|
| 0 | Micro Inverse 1 X 1 (Ohm-m) | 40 |
| 0 | Micro Normal 2" (Ohm-m) | 40 |
| 10000 | Line Weight (lb) | 0 |

MIDWEST WIRELINE

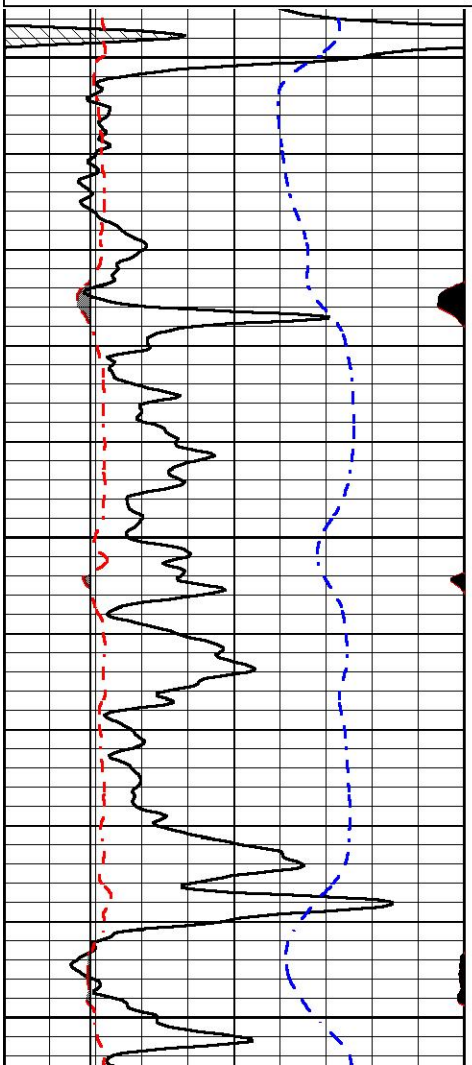
# REPEAT SECTION

## REPEAT PASS

| | |
|---|---|
| Database File | griffin_olivia_1.db |
| Dataset Pathname | stackml/pass2.1 |
| Presentation Format | _micro |
| Dataset Creation | Wed Jan 26 20:14:07 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 |

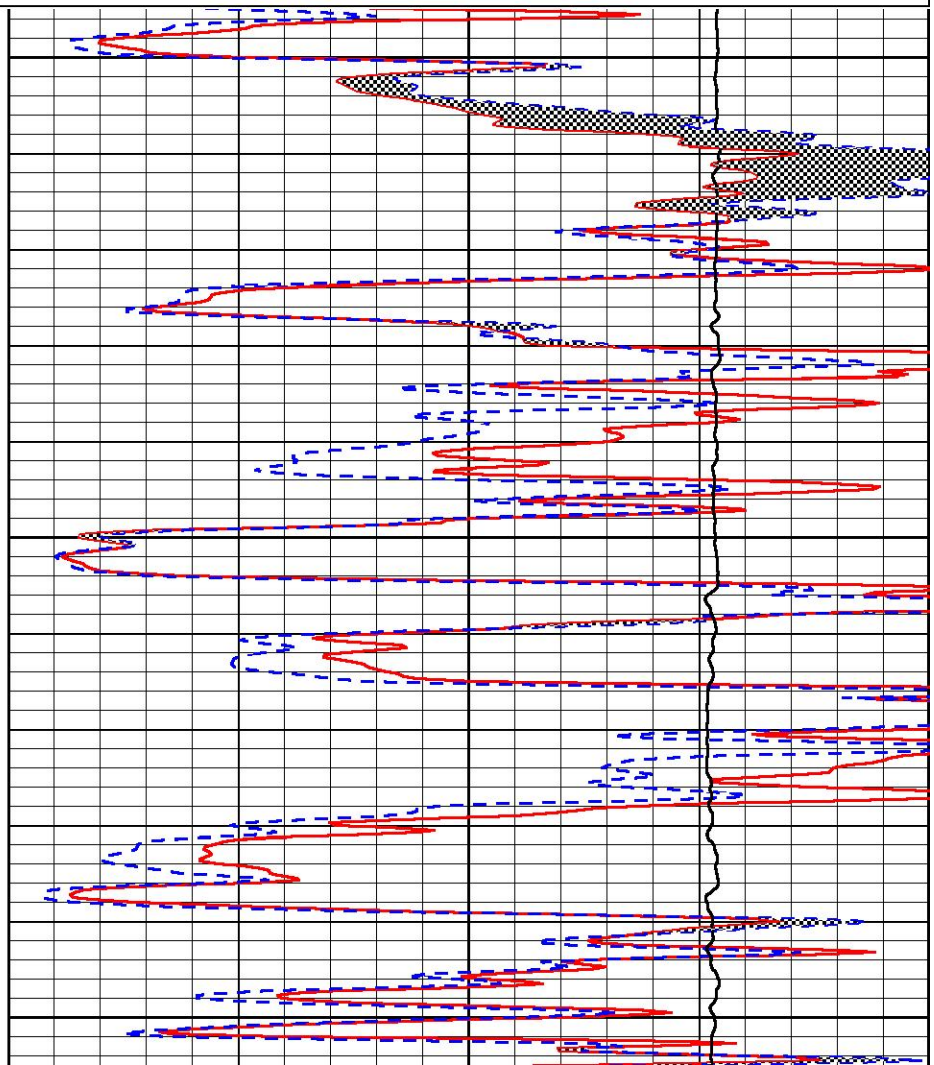
| | | |
|---|---|---|
| 0 | Micro Inverse 1 X 1 (Ohm-m) | 40 |
| 0 | Micro Normal 2" (Ohm-m) | 40 |
| 10000 | Line Weight (lb) | 0 |

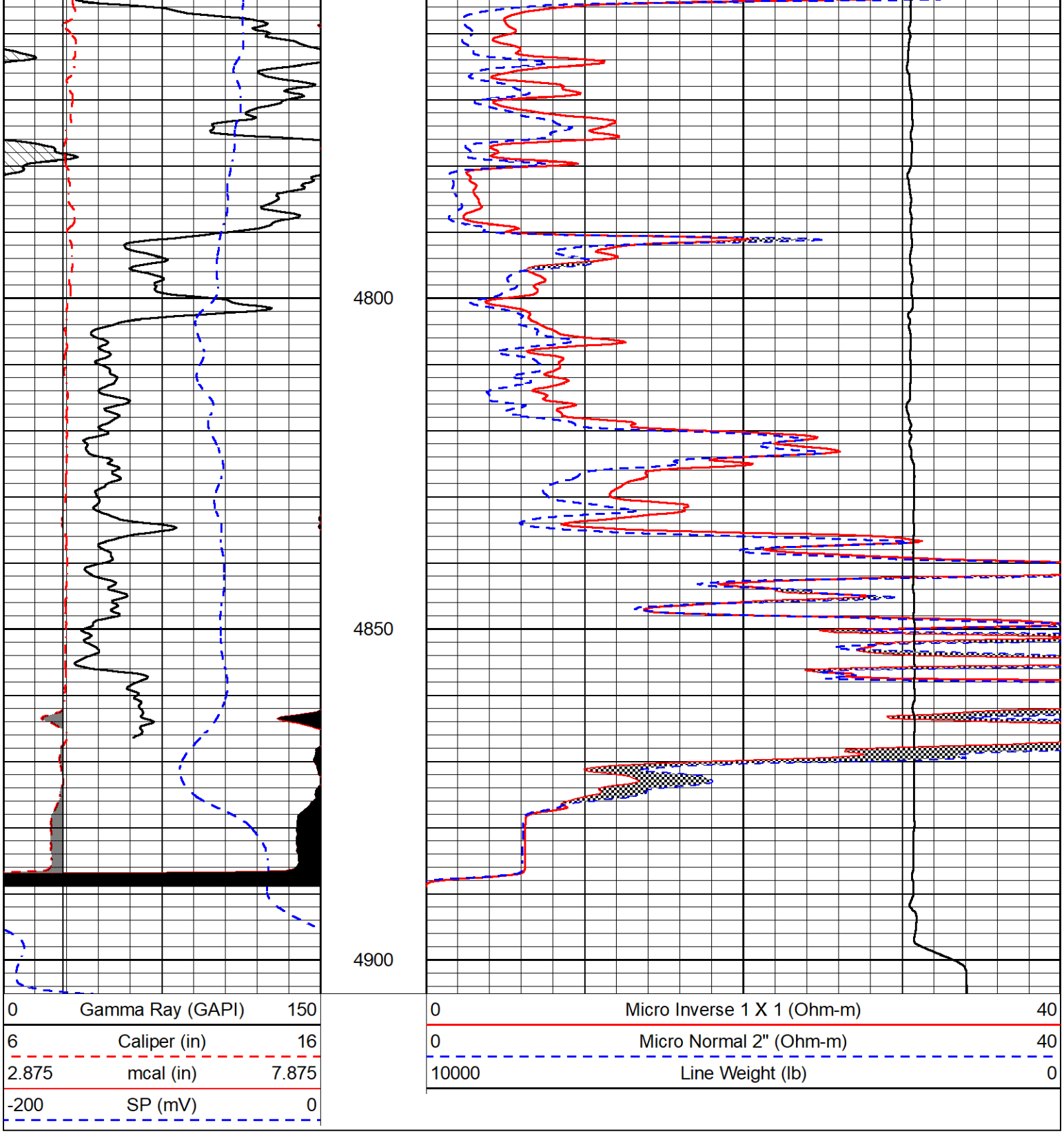


4650

4700

4750






## Calibration Report

| | |
|---|---|
| Database File | griffin_olivia_1.db |
| Dataset Pathname | stackml/pass4.1 |
| Dataset Creation | Wed Jan 26 20:14:55 2022 |

## Dual Induction Calibration Report

| | |
|---|---|
| Serial-Model: | 504 HT-M&W |
| Surface Cal Performed: | Thu Dec 16 22:32:49 2021 |

| Readings | References | Results |
|---|---|---|

| Loop: | Air | Loop | Air | Loop | | m | b |
|---|---|---|---|---|---|---|---|
| Deep | 178.615 | 710.235 | 0.000 | 255.800 | mmho/m | 0.650 | -19.000 |
| Medium | 161.982 | 1441.110 | 0.000 | 255.800 | mmho/m | 0.450 | -45.500 |

## Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML
Performed: Thu Dec 16 22:29:48 2021

| | Readings | | References | | | Results | |
|---|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | | m | b |
| Normal | 0.0037 | 0.0043 | 0.0000 | 10.0000 | Ohm-m | 15000.0000 | -1.0000 |
| Inverse | 0.1208 | 0.0013 | 0.0000 | 10.0000 | Ohm-m | 15000.0000 | 0.0000 |
| Caliper | 1.0020 | 1.0834 | 5.5000 | 16.5000 | in | 135.1520 | -131.2000 |

## Compensated Density Calibration Report

Serial-Model: 303-03-M&W
Source #: 21170B
Master Calibration Performed: Thu Dec 16 23:28:34 2021

### Master Calibration

| | Density | | Far Detector | Near Detector | |
|---|---|---|---|---|---|
| Magnesium | 1.755 | g/cc | 3841.78 | 5151.73 | cps |
| Aluminum | 2.670 | g/cc | 700.98 | 3068.49 | cps |

Spine Angle = 73.06 Density/Spine Ratio = 0.515

| | Size | | Reading |
|---|---|---|---|
| Small Ring | 4.00 | in | 1.17 |
| Large Ring | 14.00 | in | 1.05 |

## Compensated Neutron Calibration Report

Serial-Model: 210-M&W
Source #: N-1238
Master Calibration Performed: Fri Dec 3 09:16:24 2021

### Master Calibration

| 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: 103
Tool Model: M&W
Performed: Fri Dec 3 12:13:24 2021

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps
Calibrator Reading: 986.0 cps

Sensitivity: 0.5700 GAPI/cps




| | |
|---|---|
| Company | Griffin Management |
| Well | Olivia #1 |
| Field | Unnamed |
| County | Pratt |
| State | Kansas |