MIDWEST WIRELINE

# DUAL INDUCTION LOG

Company Griffin Management LLC
Well Brooklyn #1
Field
County Barber State Kansas

Location: SW NE SE NE
1750 FNL & 355 FEL
SEC 6 TWP 30S RGE 15W

API # : 15-007-24459-00-00

Other Services: CNL/CDL, MEL

Permanent Datum: Ground Level Elevation 1994
Log Measured From: Kelly Bushing
Drilling Measured From: Kelly Bushing

Elevation: K.B. 1999, D.F., G.L. 1994

Company: Griffin Management LLC
Well: Brooklyn #1
Field:
County: Barber
State: Kansas

| | | | |
|---|---|---|---|
| Date | 12/19/2022 | | |
| Run Number | One | | |
| Depth Driller | 4911 | | |
| Depth Logger | 4911 | | |
| Bottom Logged Interval | 4910 | | |
| Top Log Interval | 250 | | |
| Casing Driller | 8.625 @ 260 | | |
| Casing Logger | 259 | | |
| Bit Size | 7.875 | | |
| Type Fluid in Hole | Chemical | | |
| Salinity,ppm CL | 4000 | | |
| Density / Viscosity | 9.1 / 57 | | |
| pH / Fluid Loss | 11.5 / 6.8 | | |
| Source of Sample | Flowline | | |
| Rm @ Meas. Temp | 0.9 @ 66 | | |
| Rmf @ Meas. Temp | 0.68 @ 66 | | |
| Rmc @ Meas. Temp | 1.22 @ 66 | | |
| Source of Rmf / Rmc | Charts | | |
| Rm @ BHT | 0.48 @ 125 | | |
| Operating Rig Time | 3 Hours | | |
| Max Rec. Temp. F | 125 | | |
| Equipment Number | P-24 | | |
| Location | Hays | | |
| Recorded By | T. Martin | | |
| 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.

Croft Blktp and SW 110th,
1.3 S, W 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: T. Martin | Primary Witness: Eli Felts |
| Operator: | Secondary Witness: |
| Operator: | Secondary Witness: |
| Operator: | Secondary Witness: |

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb |
|---|---|---|---|---|---|---|

| 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 | 37.23 | | CNT-M&W (207-MW) | 5.00 | 3.50 | 100.00 |
| CNSSC | 36.48 | | | | | |
| | | | CDL-M&W (307-08) | 8.50 | 4.00 | 250.00 |
| LSD | 28.18 | | | | | |
| DCAL | 28.17 | | | | | |
| SSD | 27.68 | | | | | |
| | | | ML-PSIML (401) | 7.58 | 4.00 | 65.00 |
| MCAL | 19.58 | | | | | |
| MI | 19.58 | | | | | |
| MN | 19.58 | | | | | |
| RLL3F | 15.50 | | | | | |
| RLL3 | 15.50 | | | | | |
| | | | DIL-M&W (502 HT) | 18.25 | 3.50 | 220.00 |
| CILD | 8.33 | | | | | |
| CILM | 4.50 | | | | | |
| SP | 0.20 | | | | | |

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

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin_brooklyn #1.db
Dataset field/well/StkMl/pass4.1/_vars_

**Top - Bottom**

| A | BOREID in | BOTTEMP degF | CASEOD in | CASETHCK in | FLUIDDEN g/cc | M | MATRXDEN g/cc |
|---|---|---|---|---|---|---|---|
| 1 | 7.875 | 125 | 5.5 | 0 | 1 | 2 | 2.71 |

| NPORSEL | PERFS | SNDERR mmho/m | SNDERRM mmho/m | SPSHIFT mV | SRFTEMP degF | SZCOR | TDEPTH ft |
|---|---|---|---|---|---|---|---|
| Limestone | No | 0 | 0 | 230 | 40 | Off | 4911 |

**Variable Description**

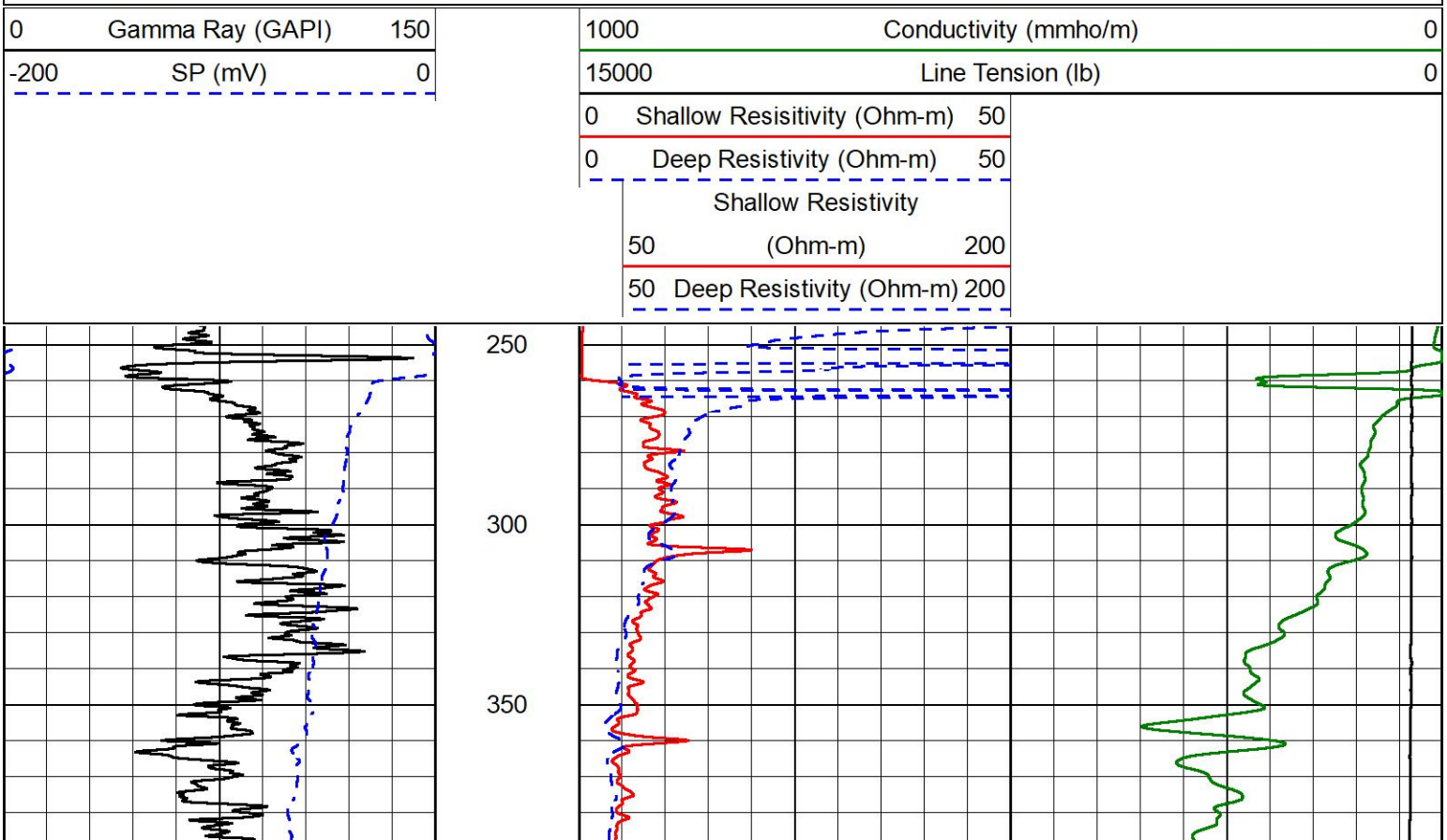
A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth

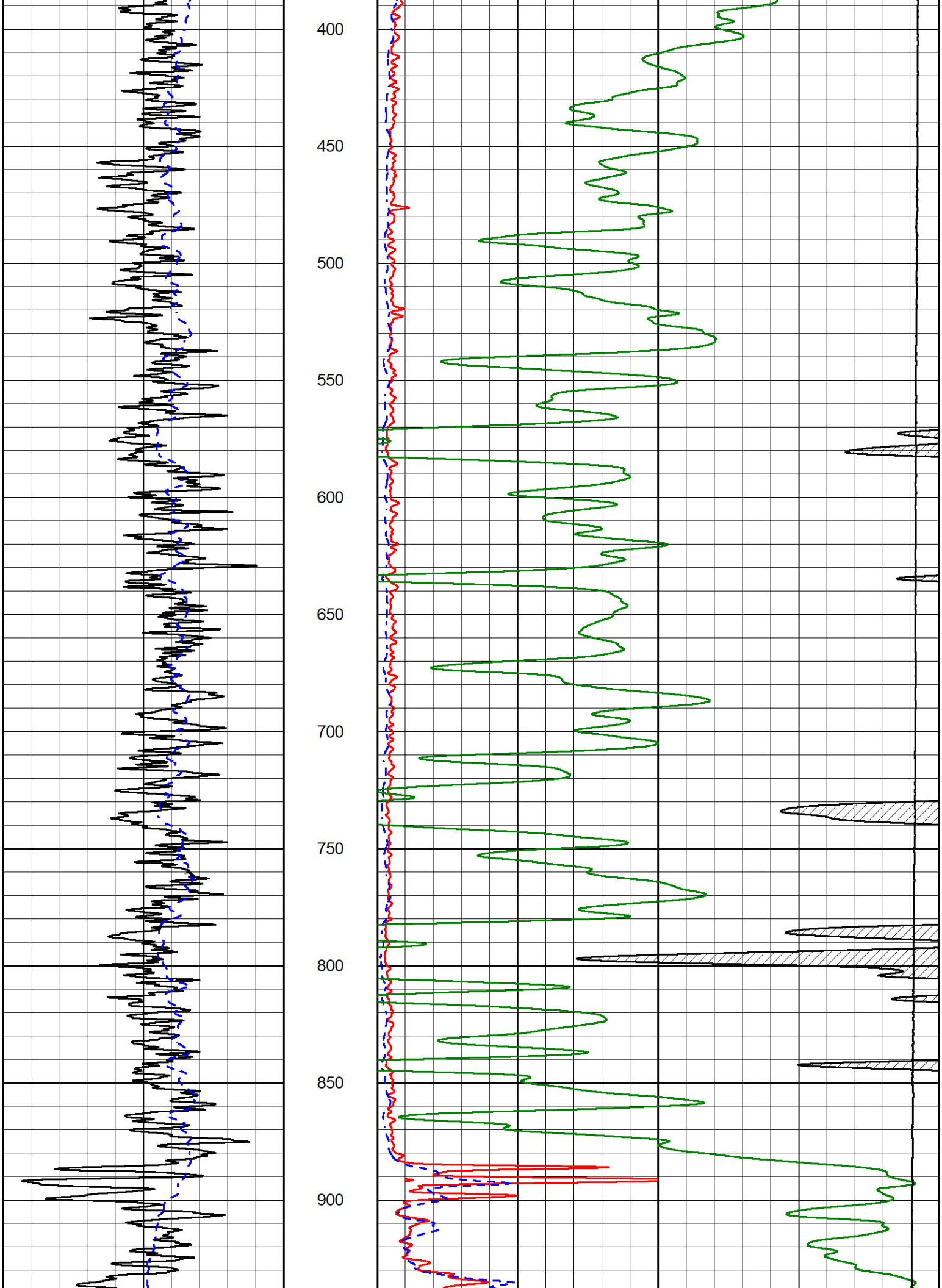
MIDWEST WIRELINE

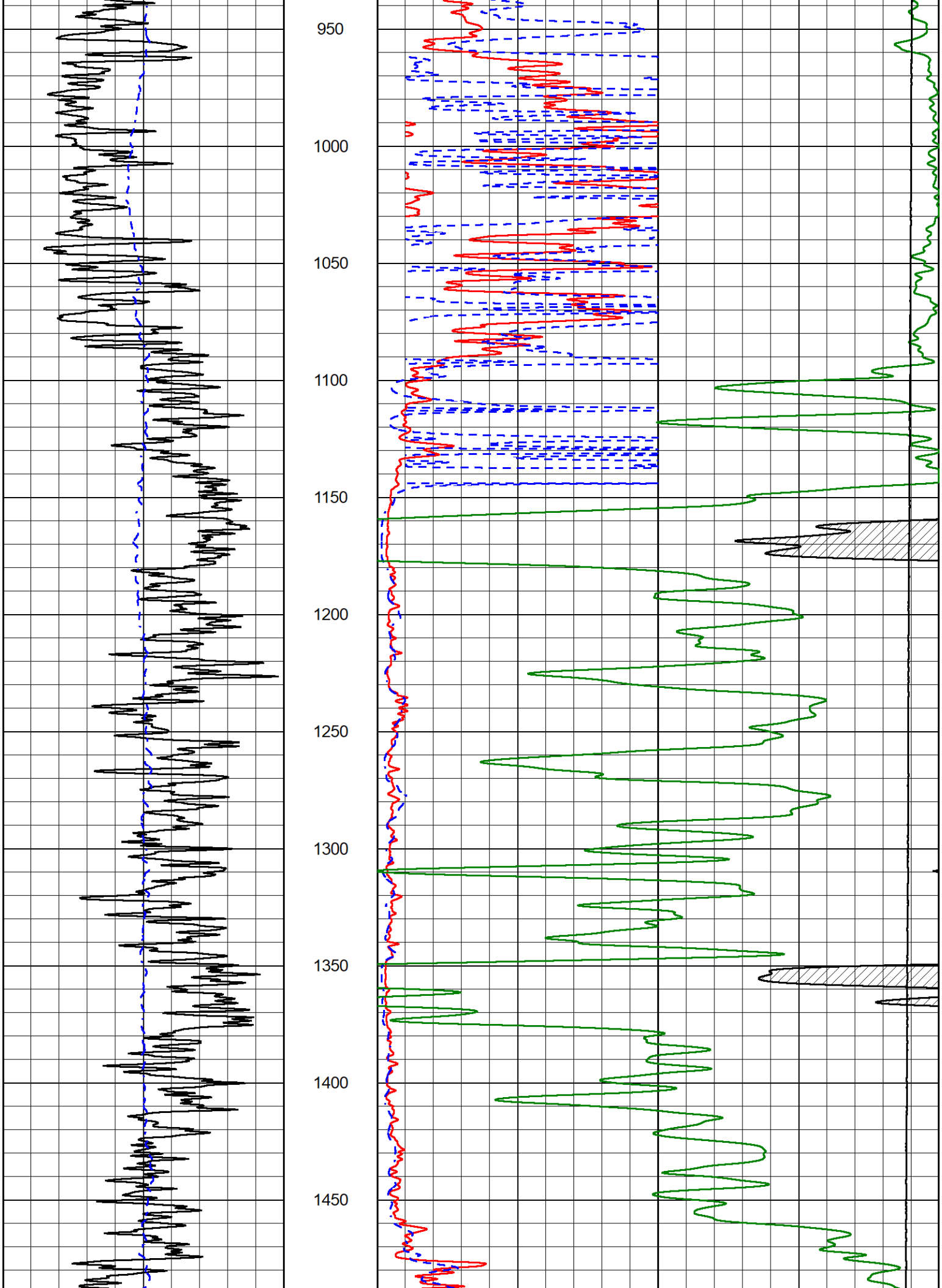
# 2" SCALE RESISTIVITY

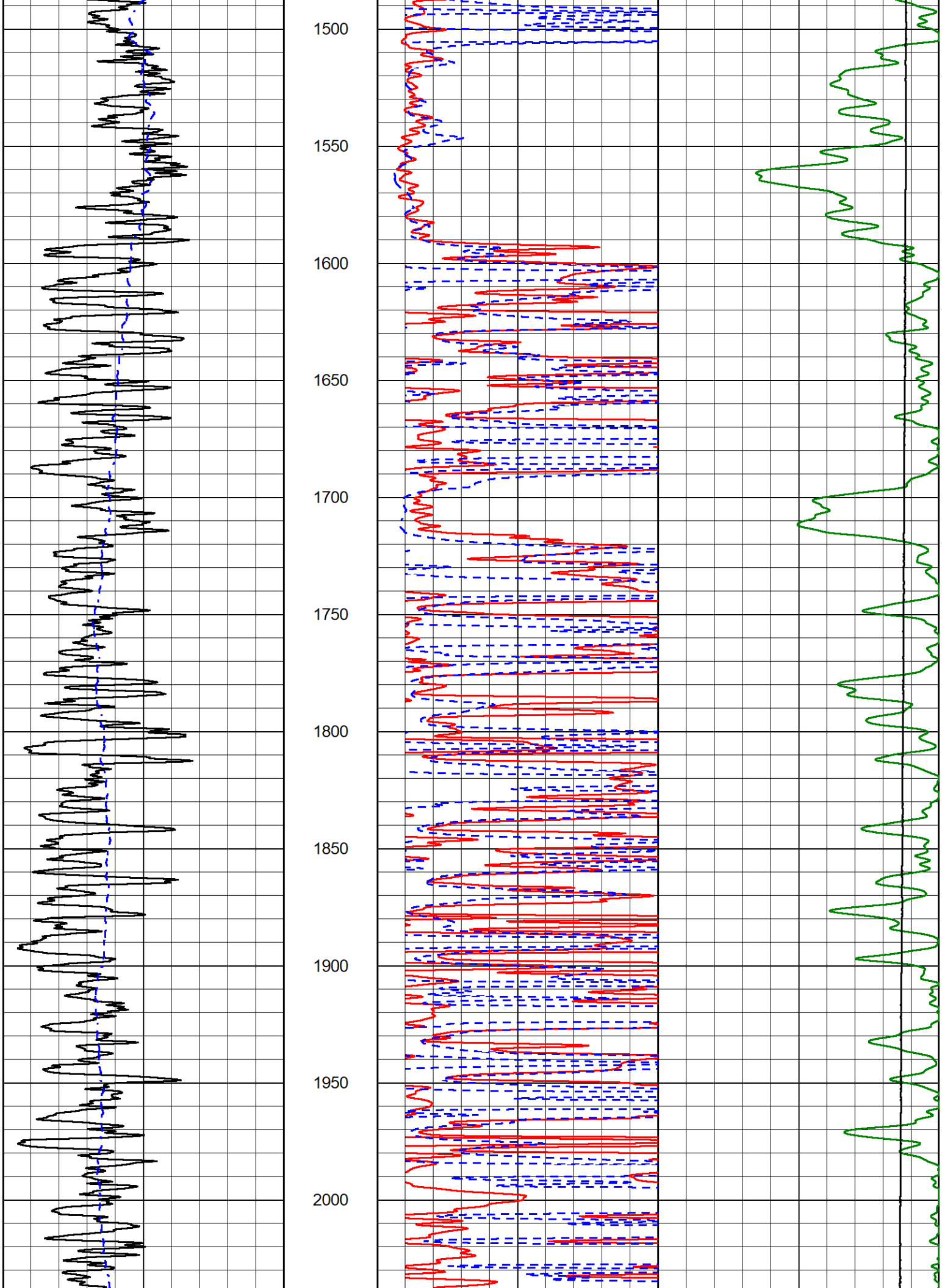
## MAIN PASS

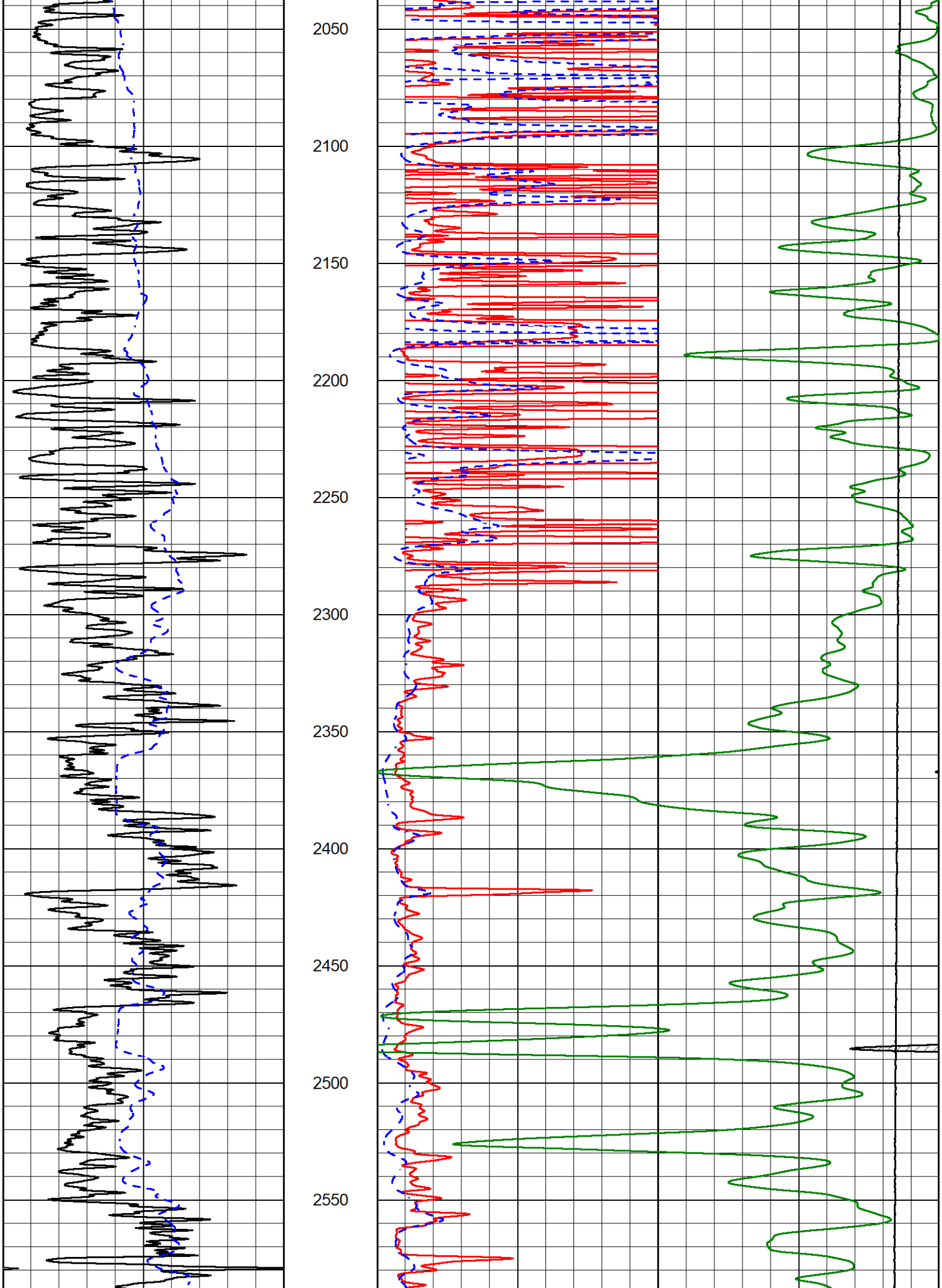
| | |
|---|---|
| Database File | griffin_brooklyn #1.db |
| Dataset Pathname | StkMl/pass4.2 |
| Presentation Format | _dil2in |
| Dataset Creation | Mon Dec 19 06:44:26 2022 |
| Charted by | Depth in Feet scaled 1:600 |

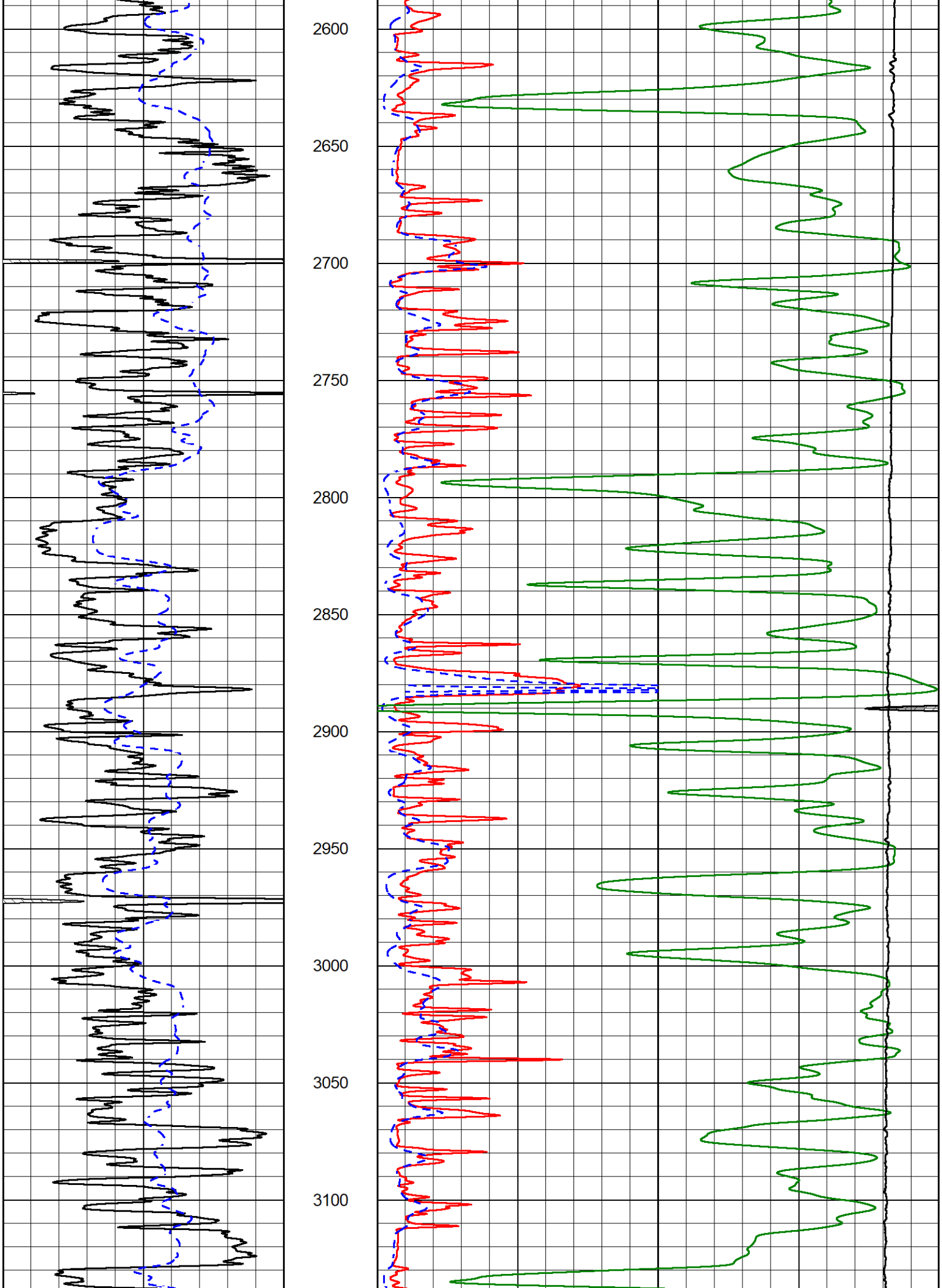


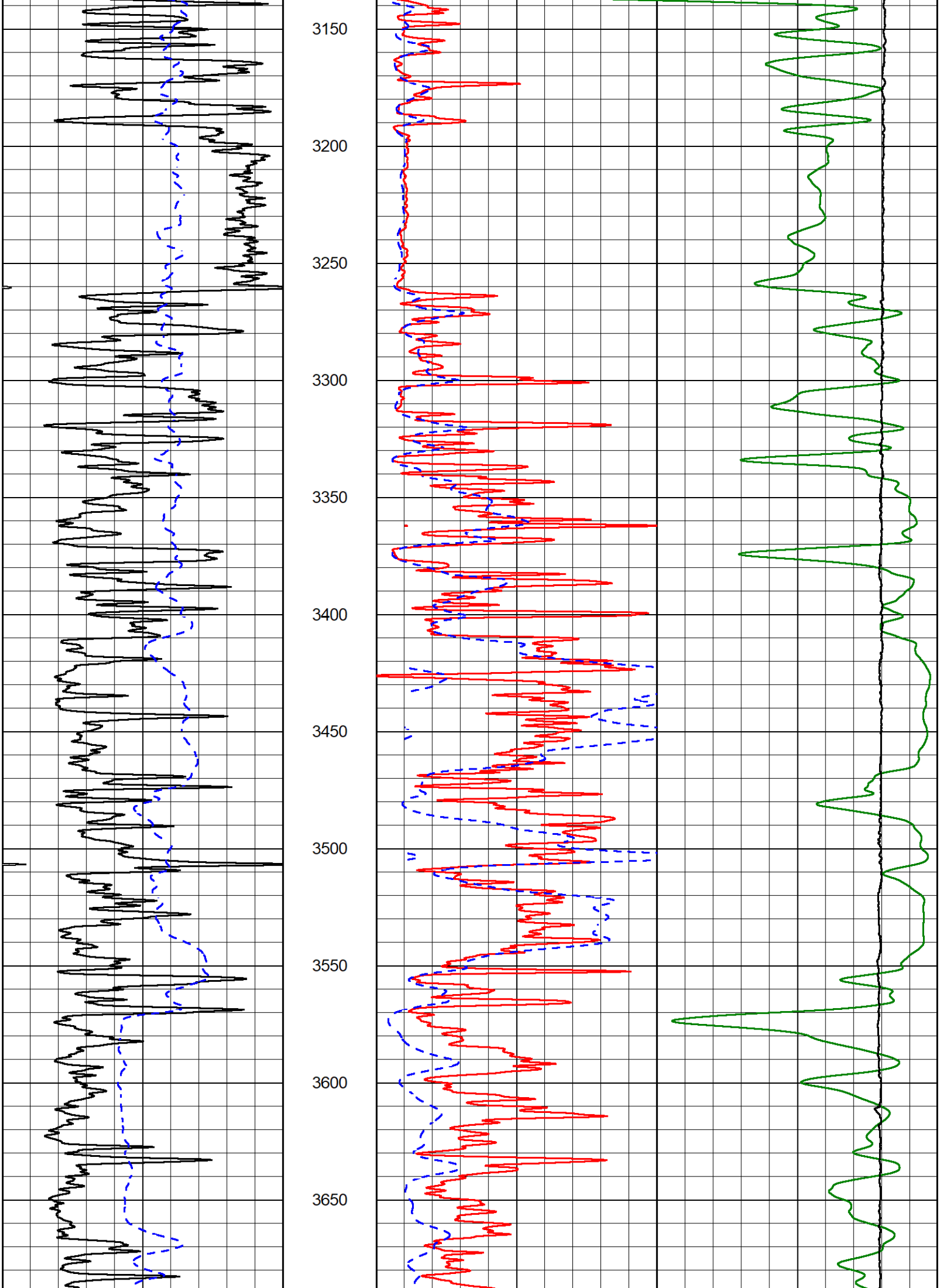

400
450
500
550
600
650
700
750
800
850
900

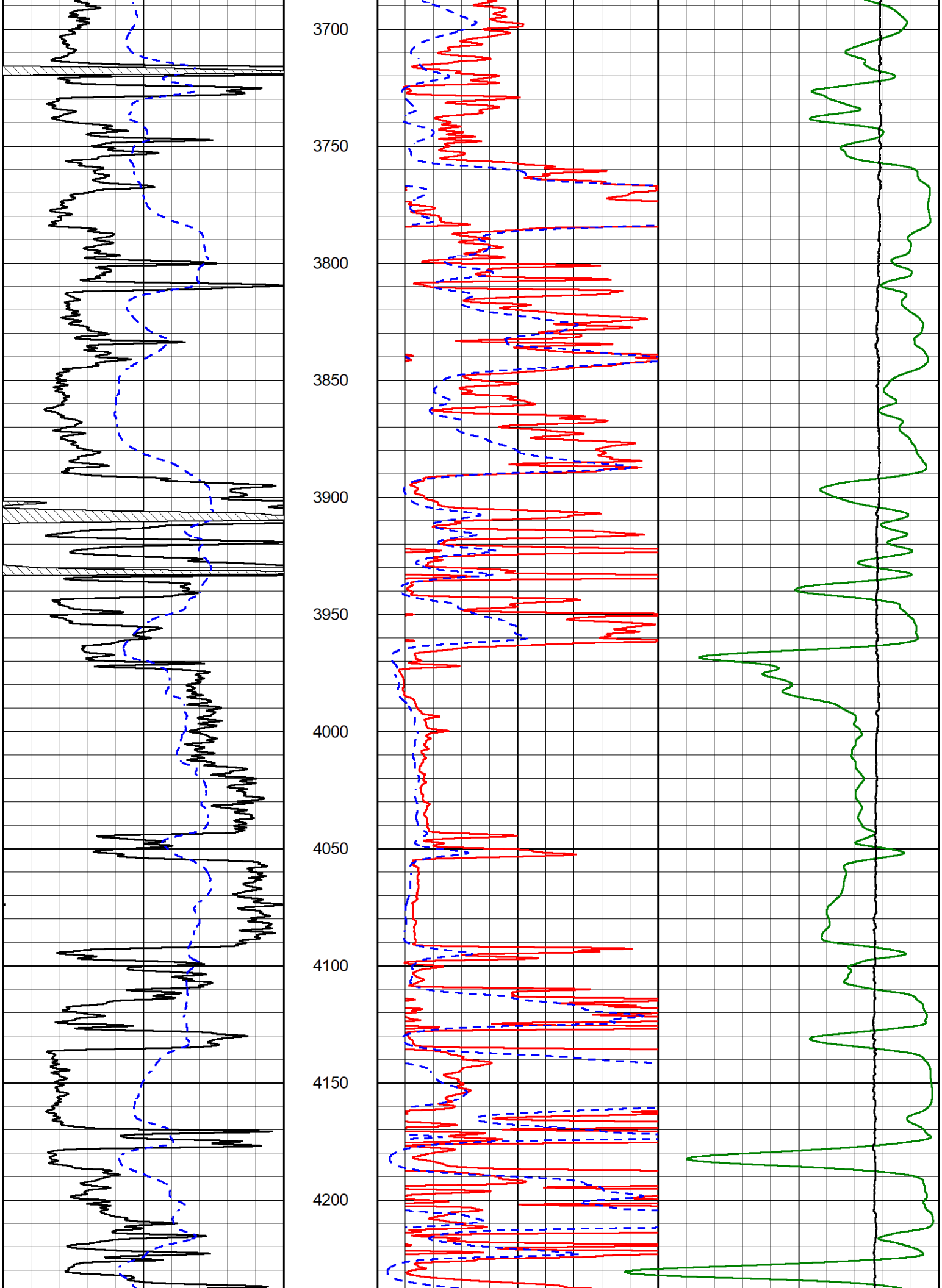

950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450

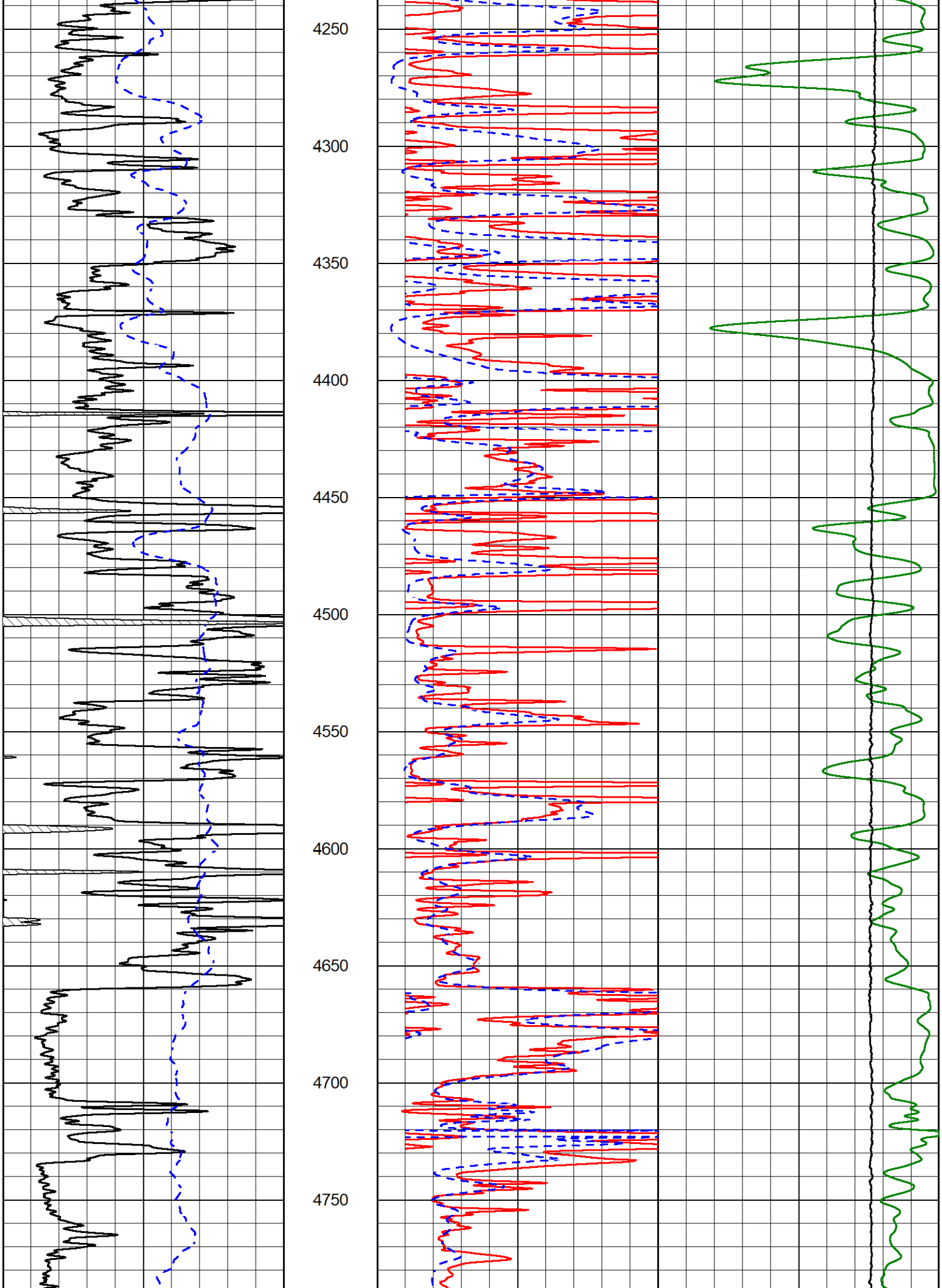

1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000

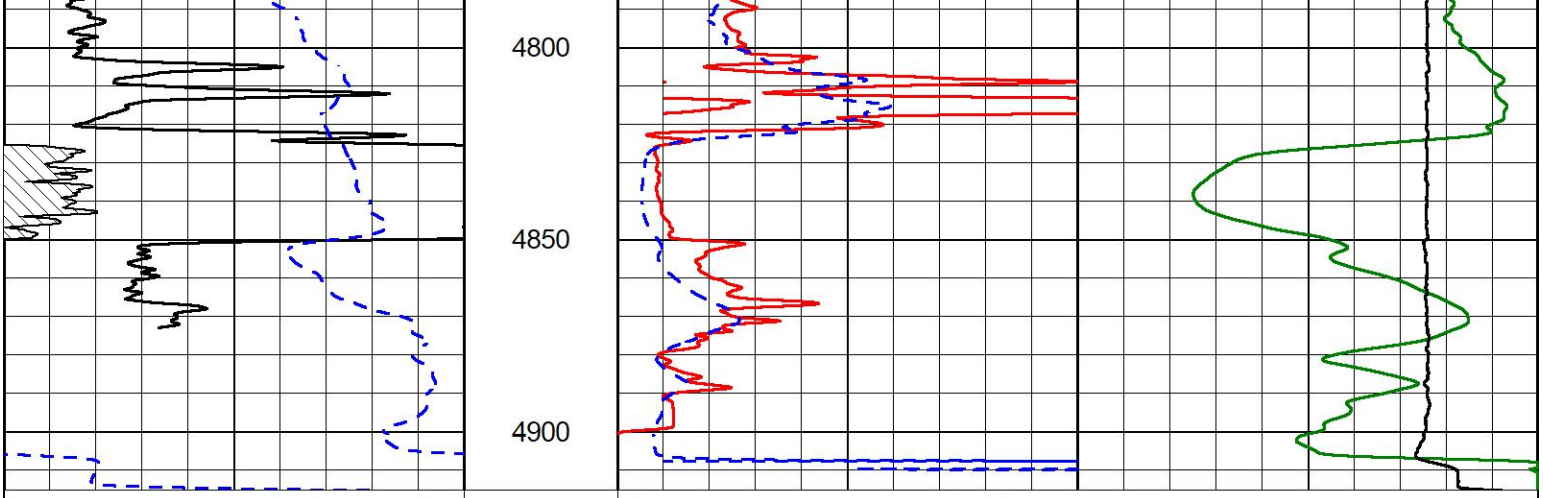

2050
2100
2150
2200
2250
2300
2350
2400
2450
2500
2550


2600
2650
2700
2750
2800
2850
2900
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




| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| -200 | SP (mV) | 0 |

| | | |
|---|---|---|
| 1000 | Conductivity (mmho/m) | 0 |
| 15000 | Line Tension (lb) | 0 |
| 0 | Shallow Resisitivity (Ohm-m) | 50 |
| 0 | Deep Resistivity (Ohm-m) | 50 |
| 50 | Shallow Resistivity (Ohm-m) | 200 |
| 50 | Deep Resistivity (Ohm-m) | 200 |

MIDWEST WIRELINE

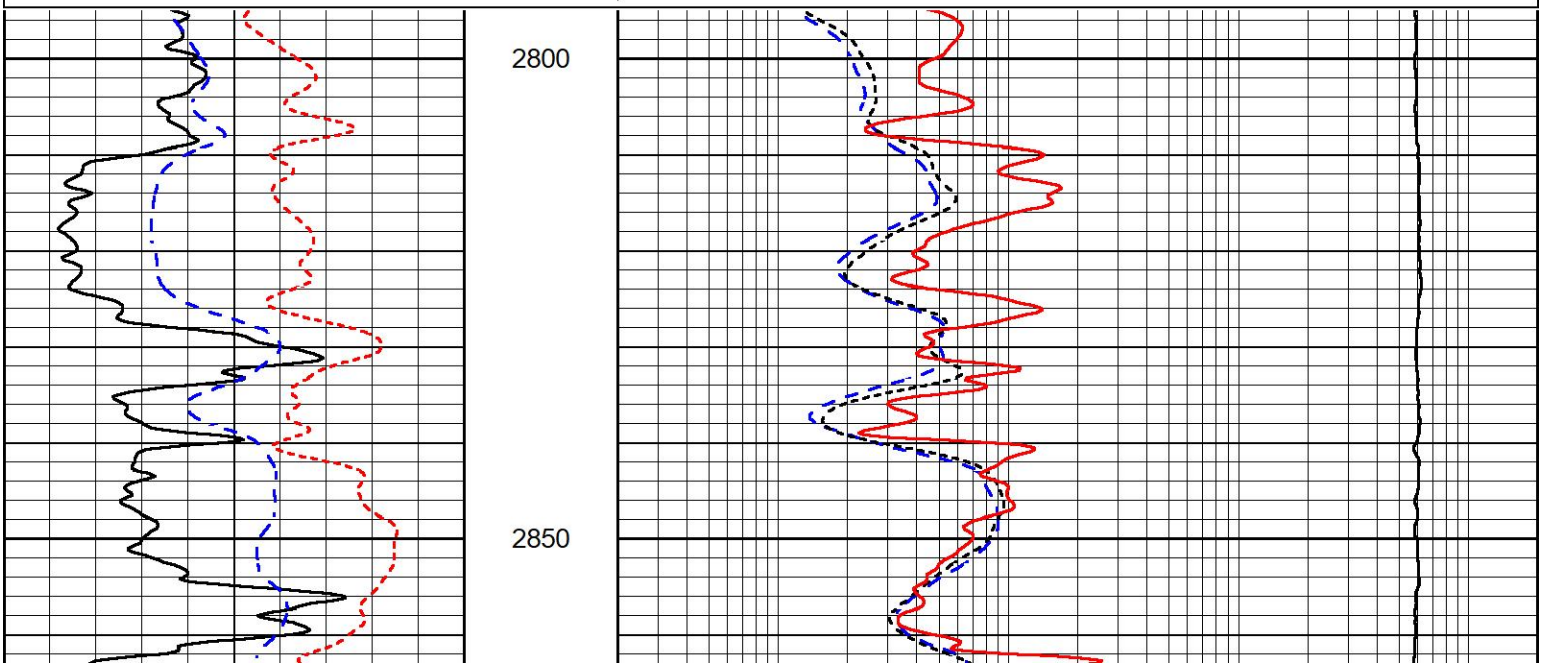
# DETAIL SECTION

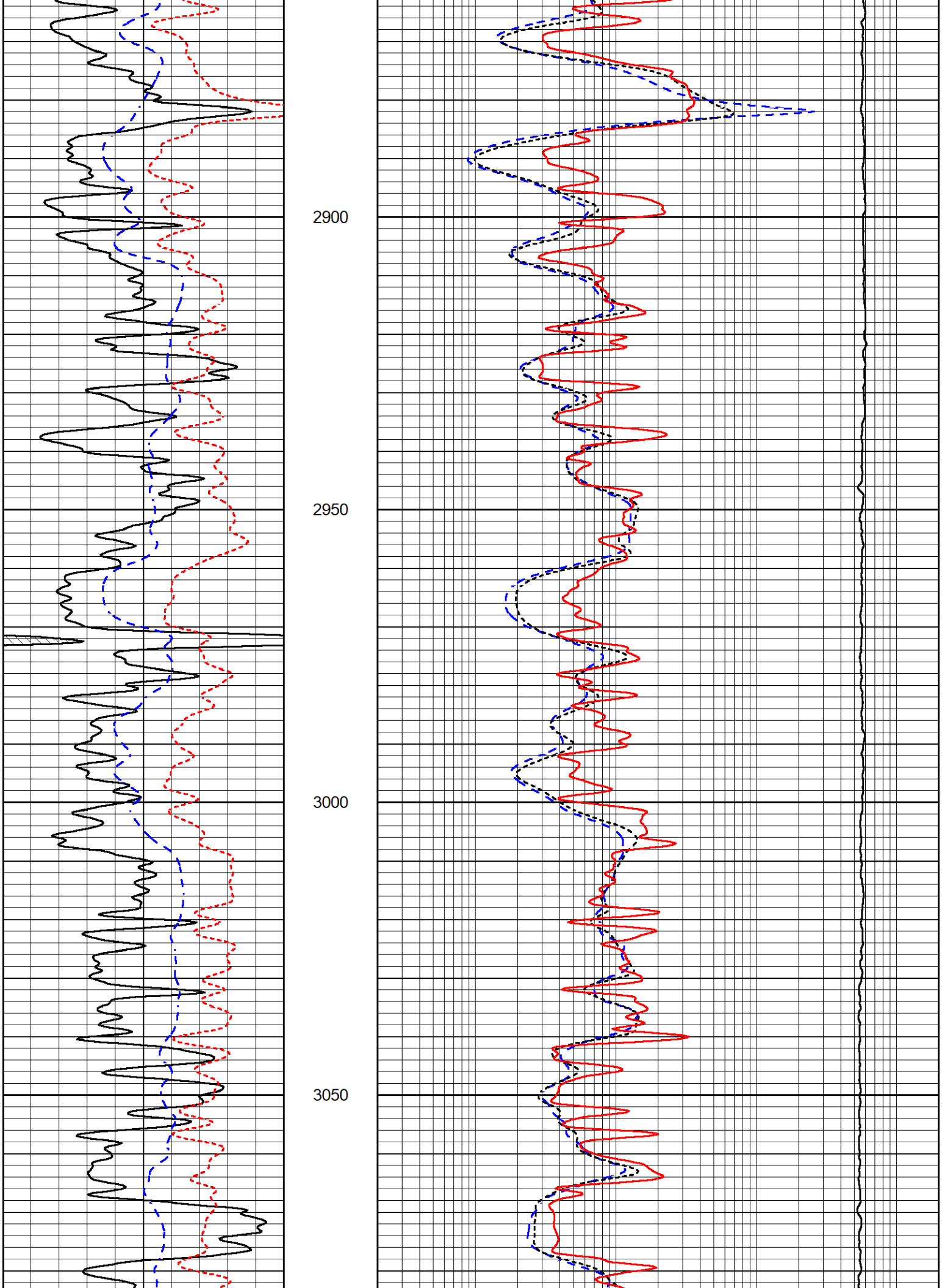
## MAIN PASS

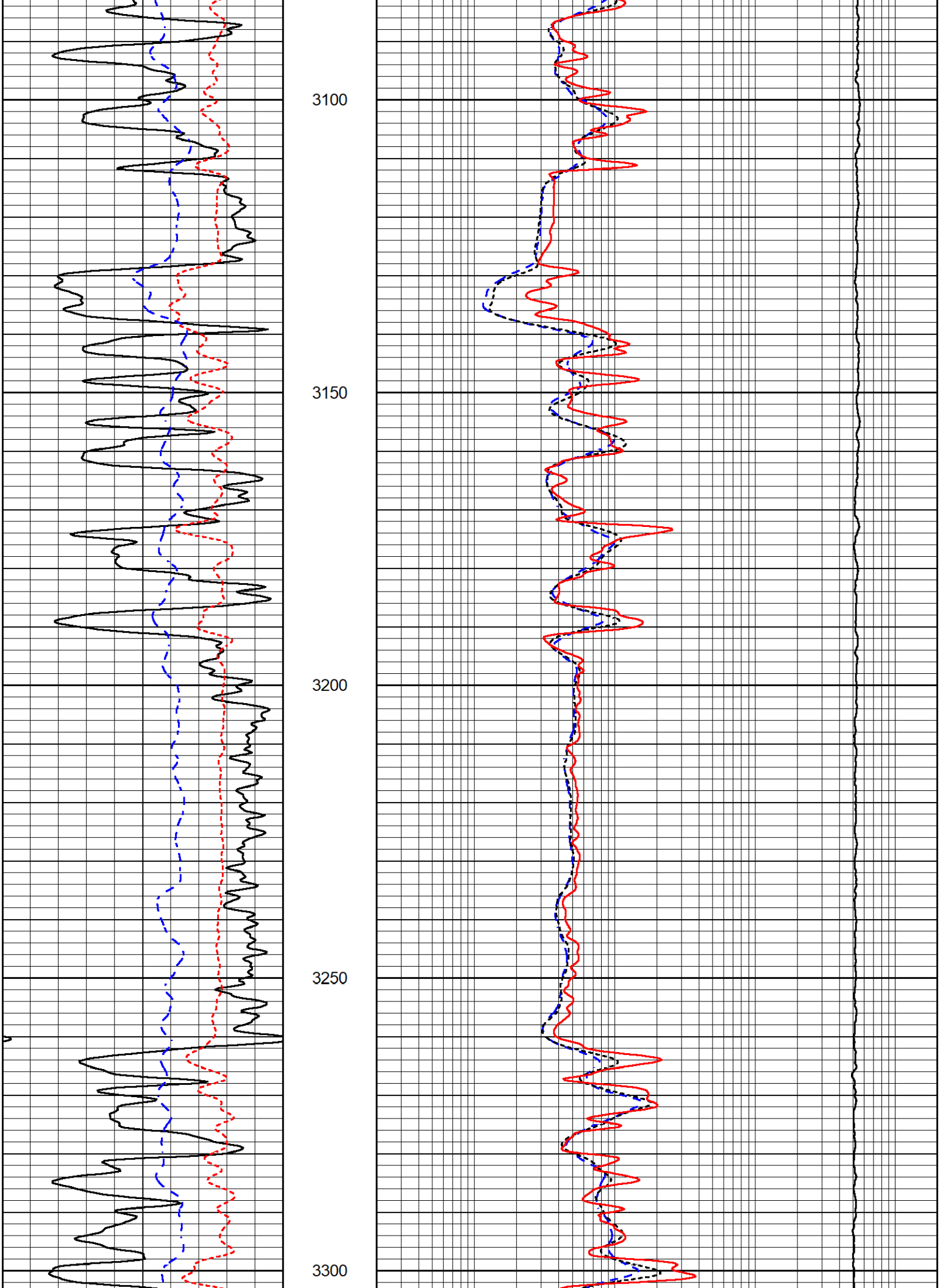
| | |
|---|---|
| Database File | griffin_brooklyn #1.db |
| Dataset Pathname | StkMI/pass4.1 |
| Presentation Format | _dil |
| Dataset Creation | Mon Dec 19 06:44:42 2022 |
| Charted by | Depth in Feet scaled 1:240 |

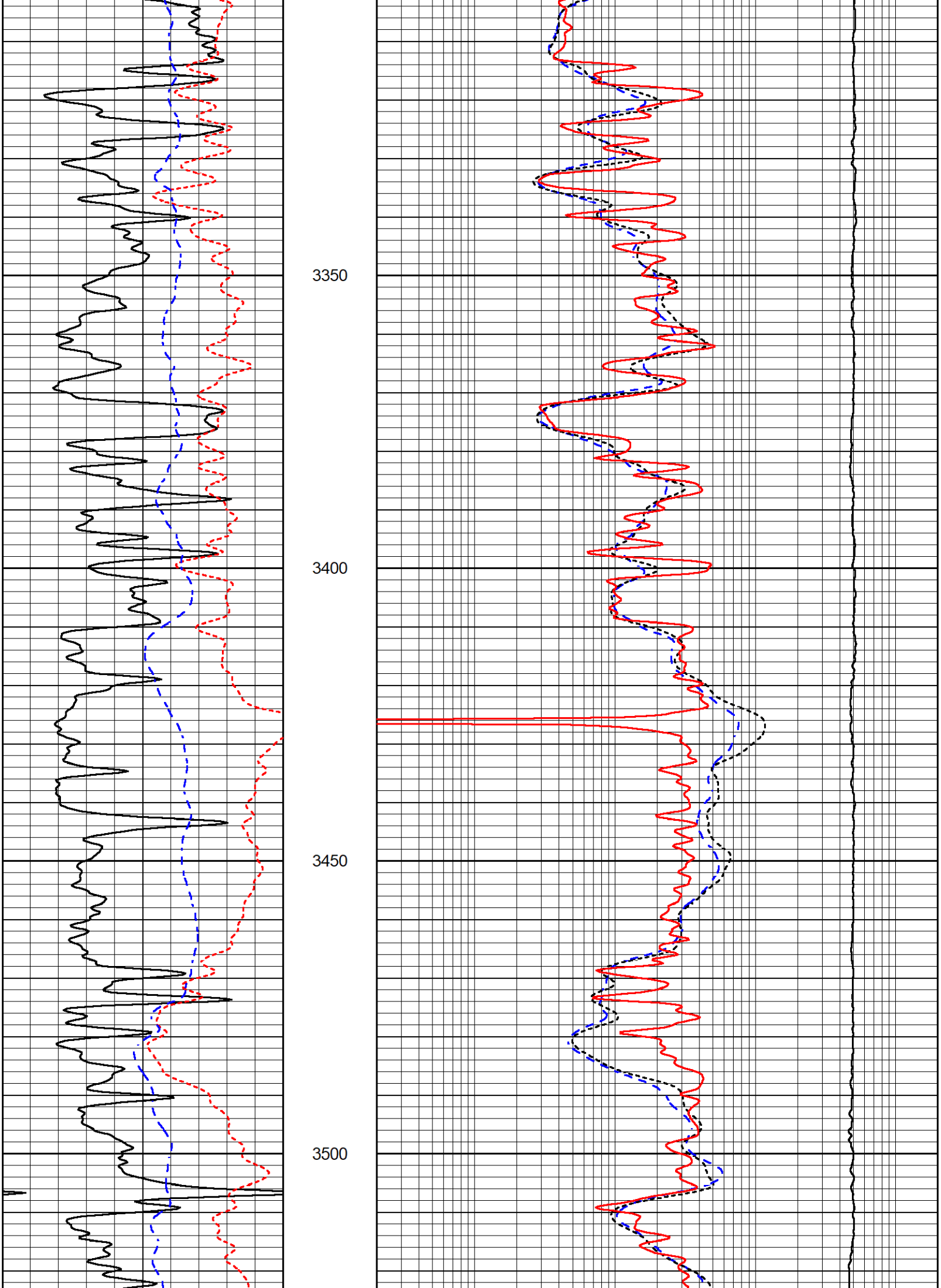
| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| -160 | RXORT | 40 |
| -200 | SP (mV) | 0 |

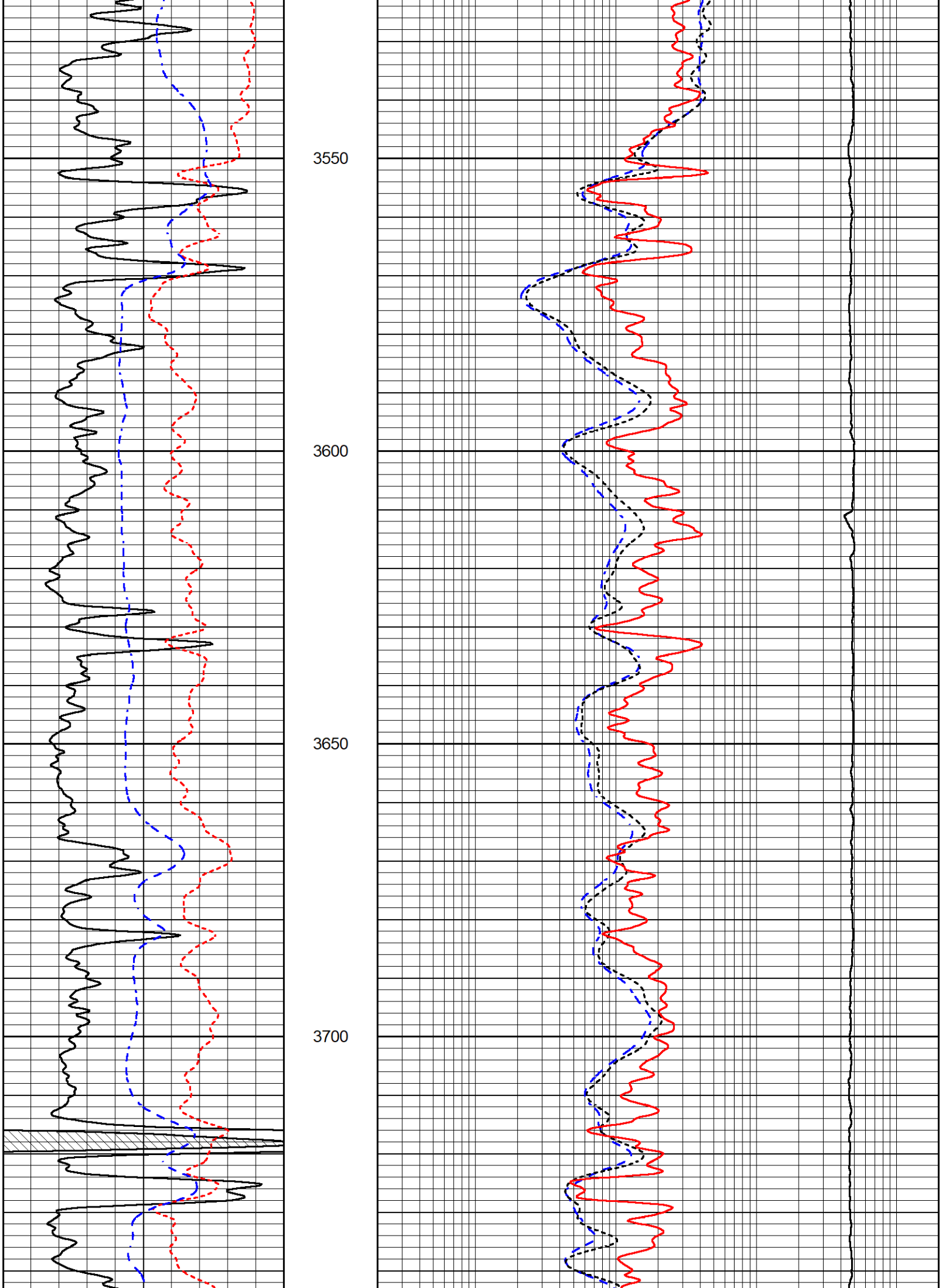
| | | |
|---|---|---|
| 0.2 | Deep Resistivity (Ohm-m) | 2000 |
| 0.2 | Medium Resistivity (Ohm-m) | 2000 |
| 0.2 | RLL3 (Ohm-m) | 2000 |
| 10000 | Line Tension (lb) | 0 |

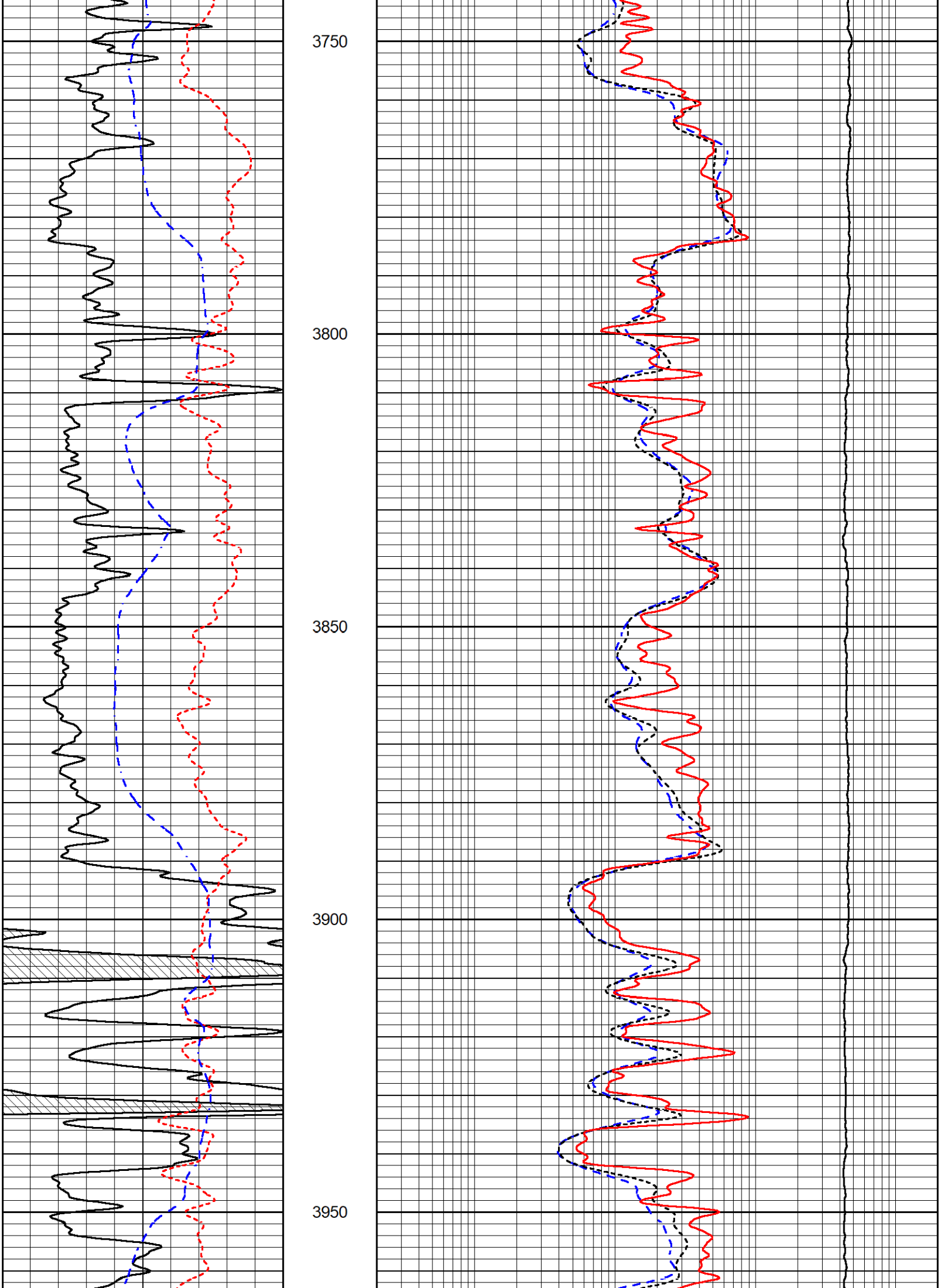


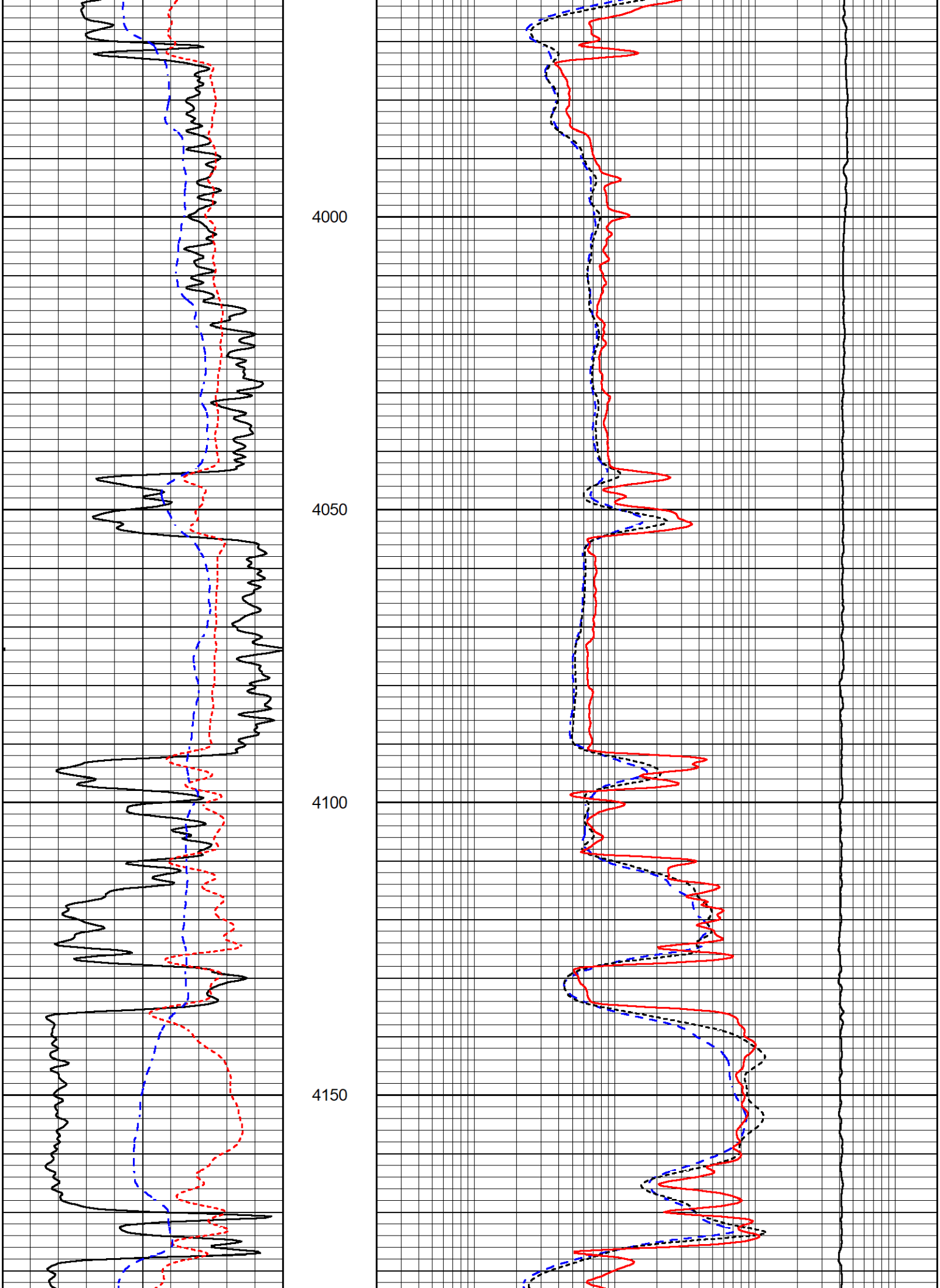

2900
2950
3000
3050

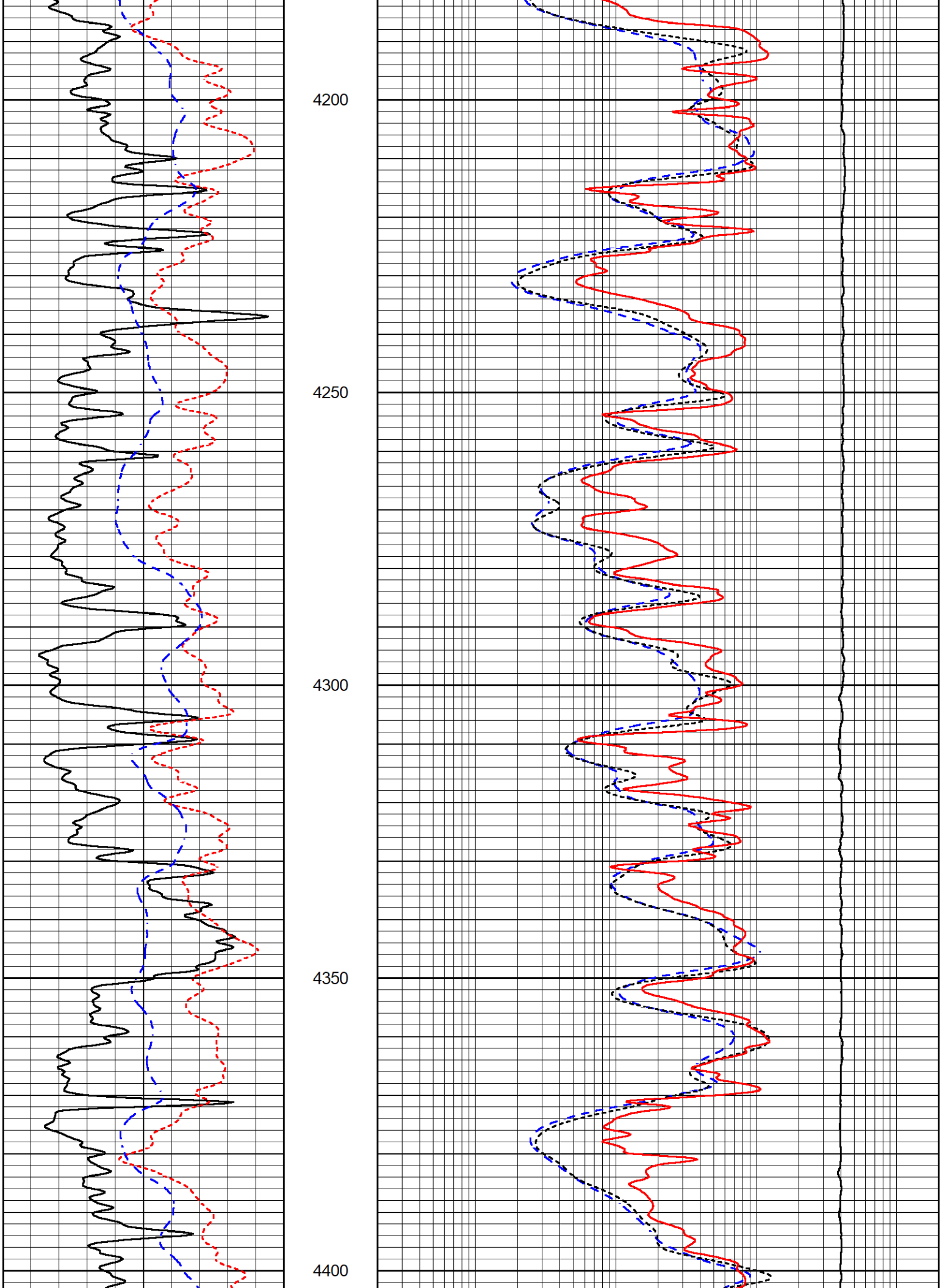

3100
3150
3200
3250
3300

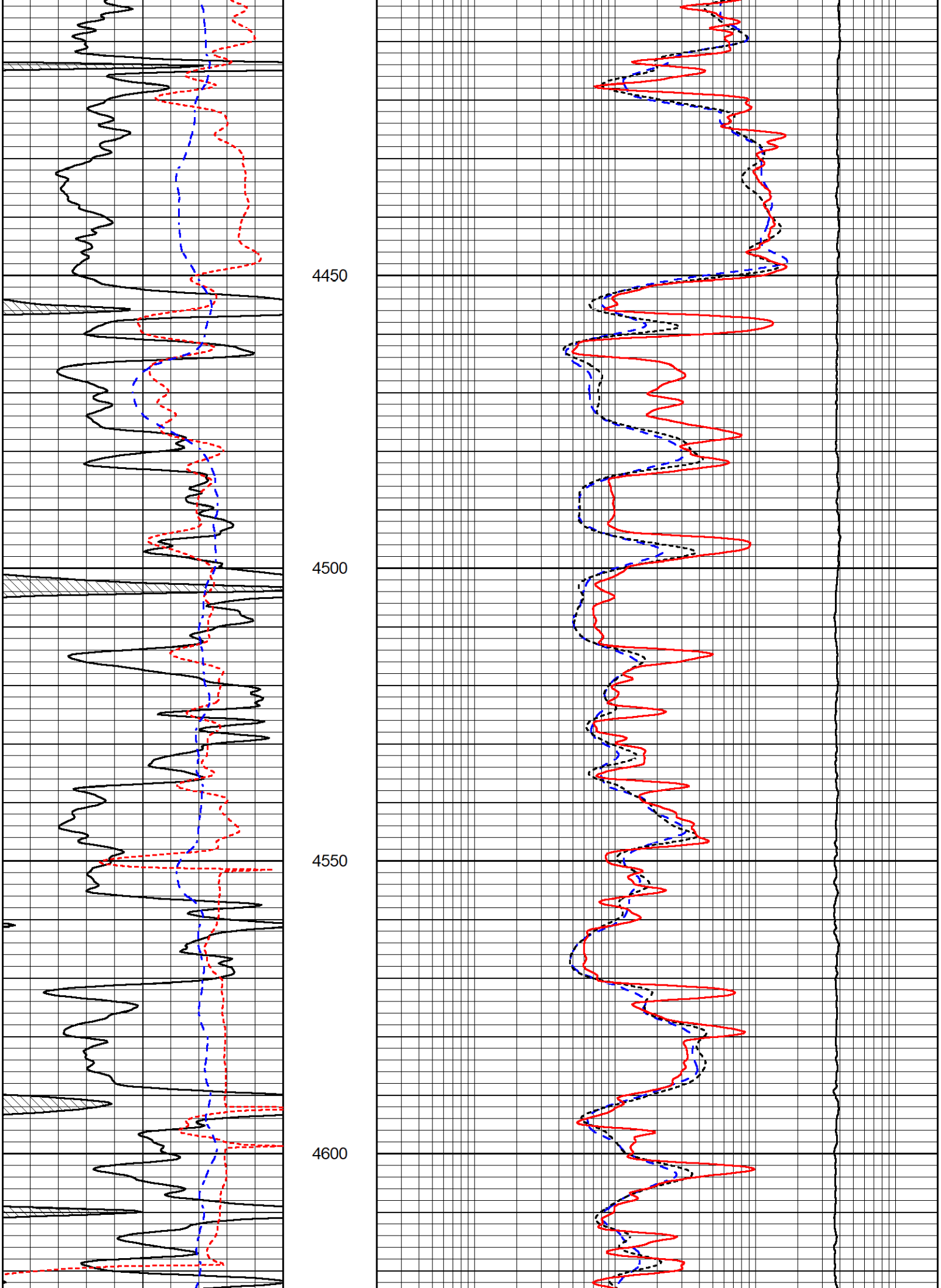

3350
3400
3450
3500

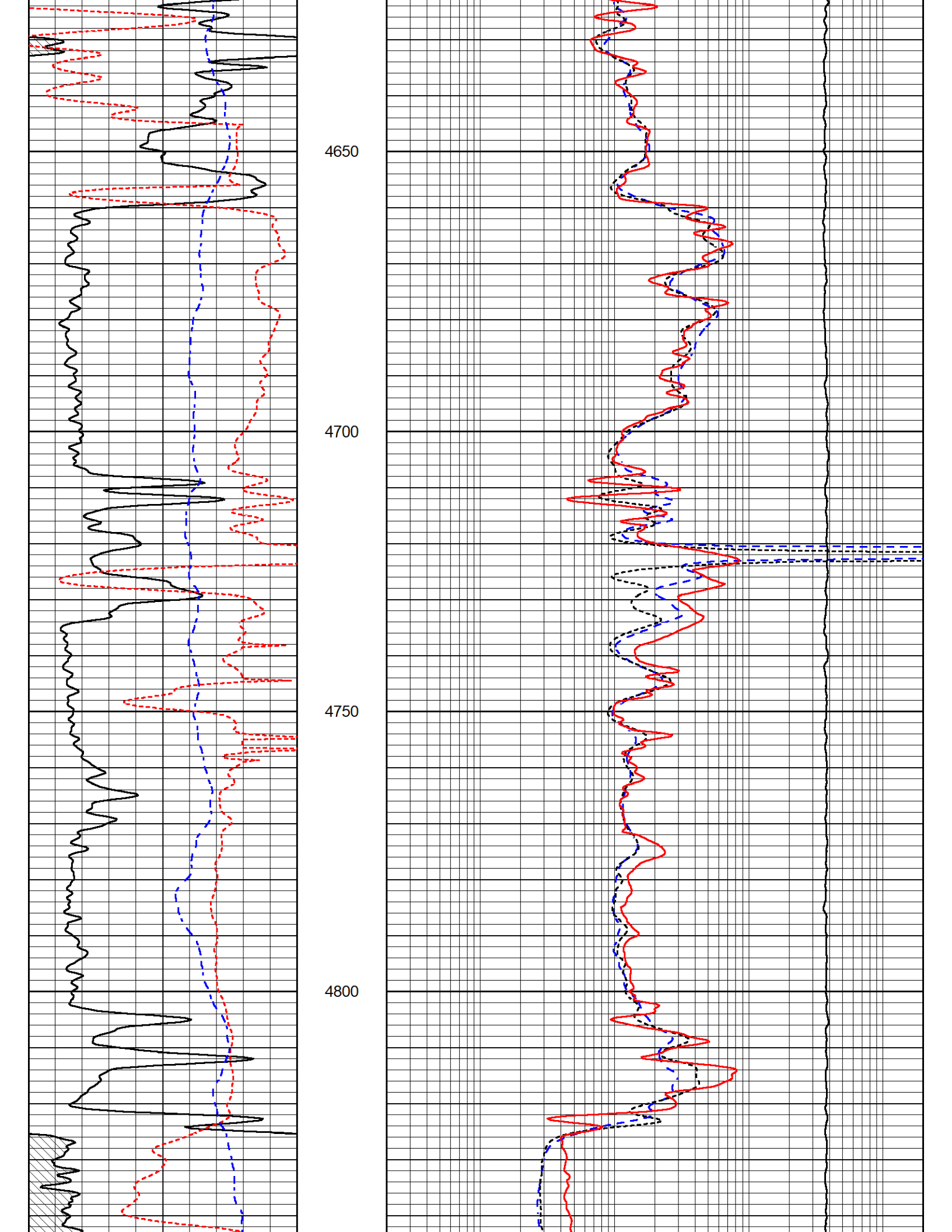

3550
3600
3650
3700

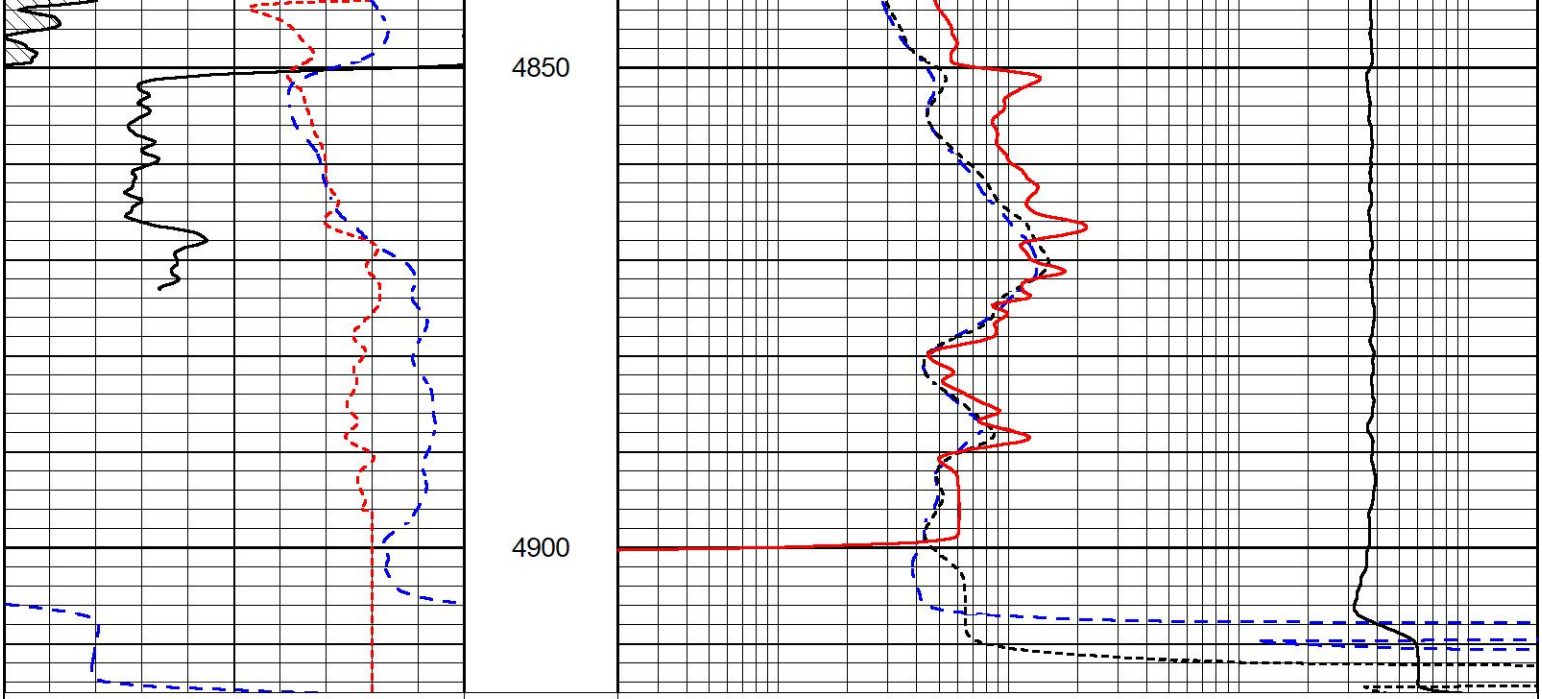

3750
3800
3850
3900
3950


4000
4050
4100
4150


4200
4250
4300
4350
4400


4450
4500
4550
4600


4650
4700
4750
4800




| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| -160 | RXORT | 40 |
| -200 | SP (mV) | 0 |

| | | |
|---|---|---|
| 0.2 | Deep Resistivity (Ohm-m) | 2000 |
| 0.2 | Medium Resistivity (Ohm-m) | 2000 |
| 0.2 | RLL3 (Ohm-m) | 2000 |
| 10000 | Line Tension (lb) | 0 |

MIDWEST WIRELINE

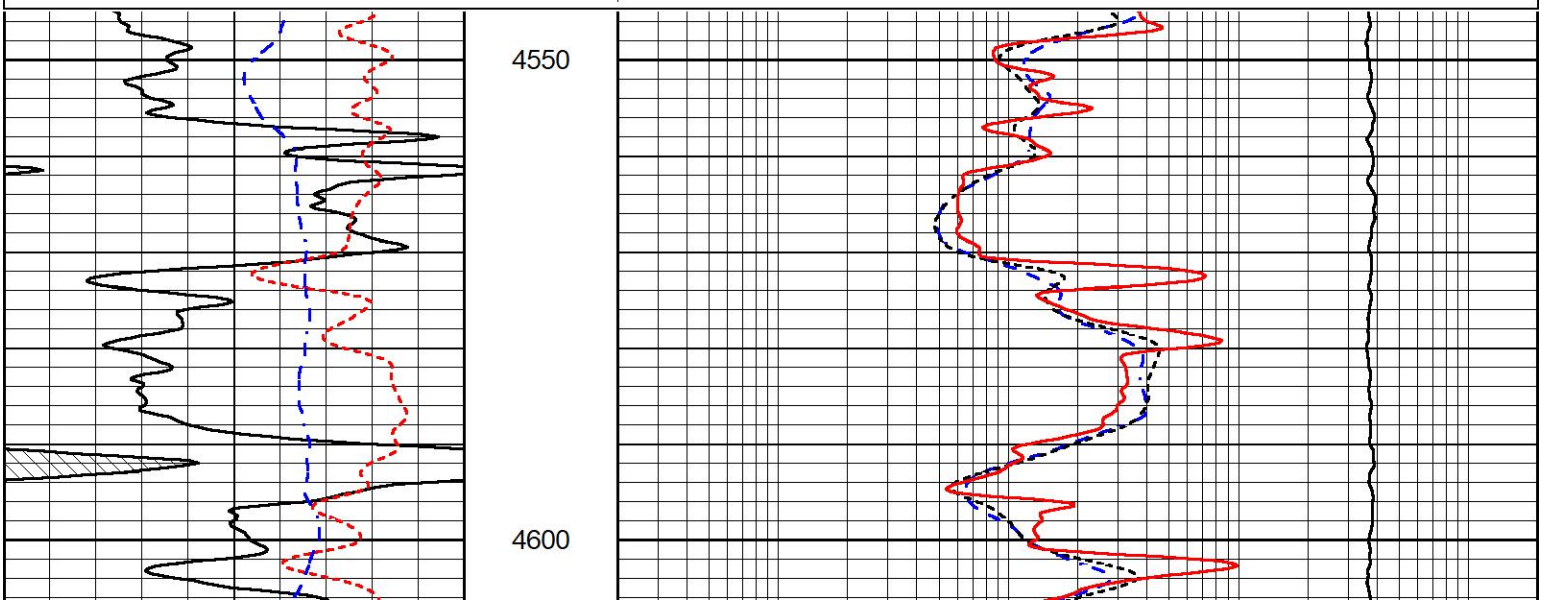
# REPEAT SECTION

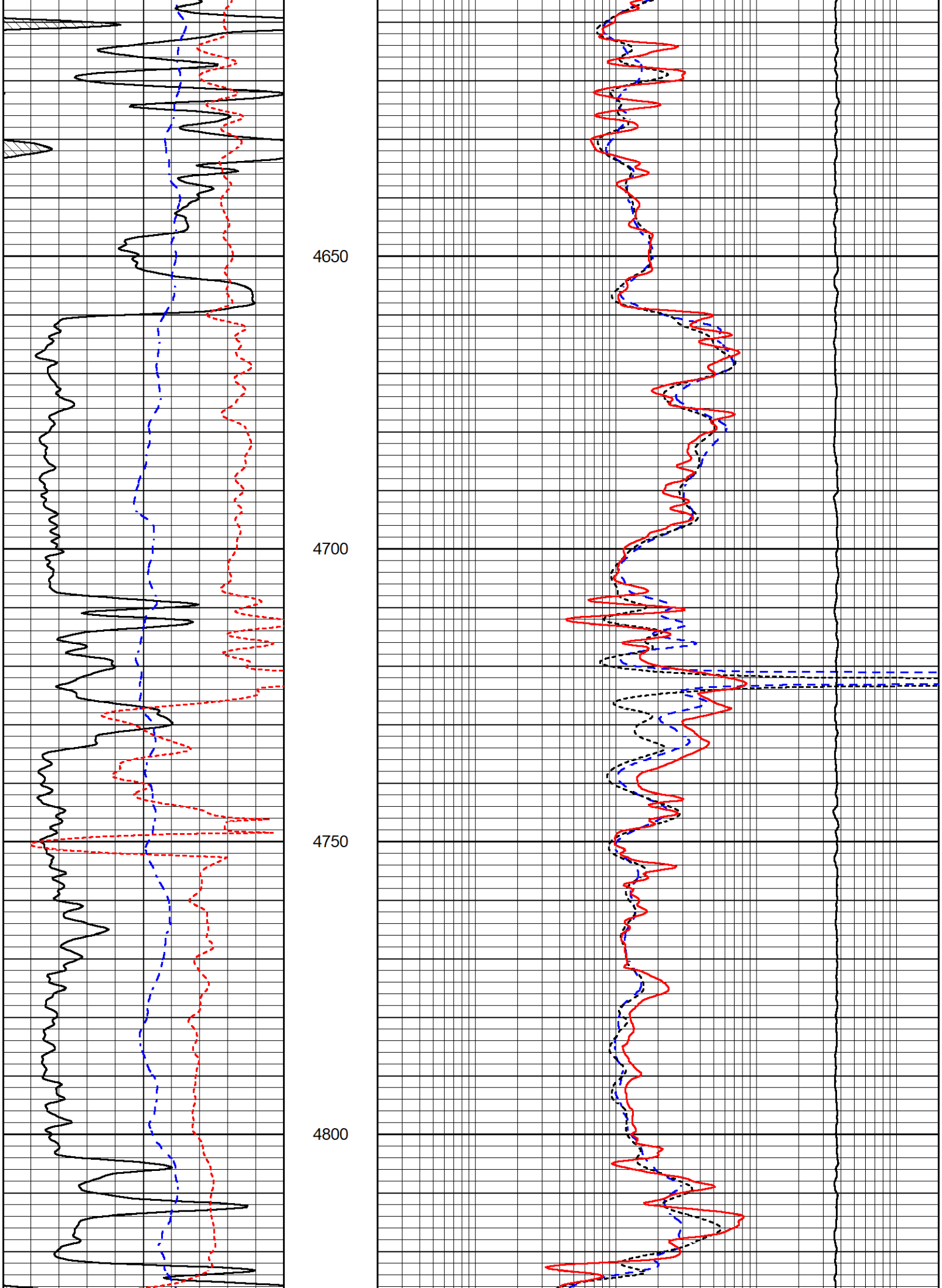
## REPEAT PASS

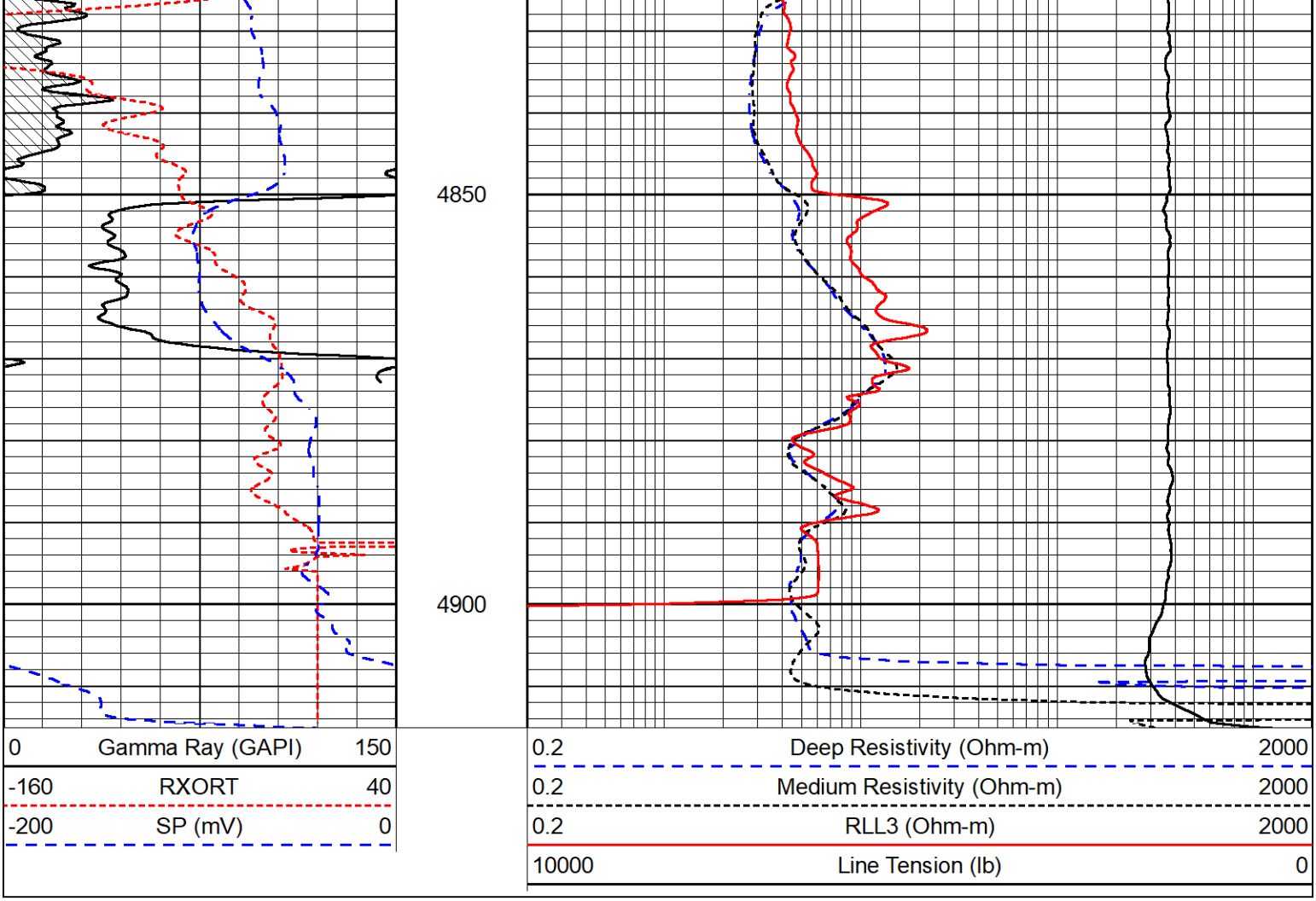
| | |
|---|---|
| Database File | griffin_brooklyn #1.db |
| Dataset Pathname | StkMI/pass2.1 |
| Presentation Format | _dil |
| Dataset Creation | Mon Dec 19 06:10:37 2022 |
| Charted by | Depth in Feet scaled 1:240 |

| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| -160 | RXORT | 40 |
| -200 | SP (mV) | 0 |

| | | |
|---|---|---|
| 0.2 | Deep Resistivity (Ohm-m) | 2000 |
| 0.2 | Medium Resistivity (Ohm-m) | 2000 |
| 0.2 | RLL3 (Ohm-m) | 2000 |
| 10000 | Line Tension (lb) | 0 |




4650
4700
4750
4800




## Calibration Report

| | |
|---|---|
| Database File | griffin_brooklyn #1.db |
| Dataset Pathname | StkMl/pass4.1 |
| Dataset Creation | Mon Dec 19 06:44:42 2022 |

### Dual Induction Calibration Report

| | |
|---|---|
| Serial-Model: | 502 HT-M&W |
| Surface Cal Performed: | Tue Dec 6 09:44:10 2022 |

| | Readings | | References | | | Results | |
|---|---|---|---|---|---|---|---|
| Loop: | Air | Loop | Air | Loop | | m | b |
| Deep | 83.639 | 487.104 | 0.000 | 255.800 | mmho/m | 0.454 | -31.500 |
| Medium | 113.335 | 1585.690 | 0.000 | 255.800 | mmho/m | 0.350 | -10.500 |

### Microlog Calibration Report

| | |
|---|---|
| Serial-Model: | 401-PSIML |
| Performed: | Mon Jun 27 17:53:09 2022 |

| | Readings | | References | | | Results | |
|---|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | | m | b |
| Normal | 0.0000 | 1.0000 | 0.0000 | 1.0000 | Ohm-m | 16500.0000 | -1.2000 |
| Inverse | 0.0000 | 1.0000 | 0.0000 | 1.0000 | Ohm-m | 17000.0000 | -0.5000 |
| Caliper | 1.0052 | 1.0858 | 5.0000 | 16.5000 | in | 142.7190 | -139.3000 |

## Compensated Density Calibration Report

| | |
|---|---|
| Serial-Model: | 307-08-M&W |
| Source #: | 20762B |
| Master Calibration Performed: | Thu Dec 8 14:11:34 2022 |

Master Calibration

| | Density | | Far Detector | Near Detector | |
|---|---|---|---|---|---|
| Magnesium | 1.755 | g/cc | 4131.04 | 5675.82 | cps |
| Aluminum | 2.650 | g/cc | 781.38 | 3576.78 | cps |

Spine Angle = 74.50 Density/Spine Ratio = 0.518

| | 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 |
|---|---|---|---|---|---|
| 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 |

MIDWEST WIRELINE

| | |
|---|---|
| Company | Griffin Management LLC |
| Well | Brooklyn #1 |
| Field | |
| County | Barber |
| State | Kansas |