

## DUAL COMPENSATED POROSITY w/PE

Company Griffin Management, LLC

Well Ethan #2

Field

County Barber State Kansas

Location: API #: 15-007-24498-00-00

API #: 15-00

1625 FSL &amp; 1170 FEL

SEC 16 TWP 30S RGE 15W

| Permanent Datum | Ground Level |
|-----------------|--------------|
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Ground Level

Elevation 1875

K.B. 1884

Drilling Measured From Kelly

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|  | 6/9/2024 |
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| 010 | CNL/CDL |
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| 4869 |  |

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| 4004 |          |
| 4835 | Interval |

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| al | 2800 |
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| 1 | 4500   |

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|  | 9.4 |

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| Full |  |
| 125  |  |

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|  | 3 Hours |
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| ation | 110 | H |
|-------|-----|---|

|            |             |
|------------|-------------|
| D. Collins | Charles Gri |
|------------|-------------|

| Vehicle Record |  |
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| 1011 | 10   |
| 0    | 1010 |

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| 1010 | TD |
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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest 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.

Croft,  
South to 110, 1 East,  
South and East to location

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

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

## Your Midwest Wireline Crew

Engineer: D. Schmidt  
Operator:  
Operator:  
Operator:

This Log Record Was Witnessed By

Primary Witness: Charles Griffin  
Secondary Witness: Eli Felts  
Secondary Witness:  
Secondary Witness:

| Sensor                                                                                                                      | Offset (ft) | Schematic | Description                      | Length (ft) | O.D. (in) | Weight (lb) |
|-----------------------------------------------------------------------------------------------------------------------------|-------------|-----------|----------------------------------|-------------|-----------|-------------|
| GR                                                                                                                          | 40.23       |           | GR-M&W (105)                     | 3.00        | 3.50      | 50.00       |
| CNLSC                                                                                                                       | 37.13       |           | CNT-M&W (210)                    | 5.00        | 3.50      | 100.00      |
| CNSSC                                                                                                                       | 36.38       |           |                                  |             |           |             |
|                                                                                                                             |             |           | MWLith-STEP LITHO Short (701-01) | 8.40        | 5.00      | 250.00      |
| LCAL                                                                                                                        | 28.21       |           | ML-PSI STKBL ML (402)            | 7.58        | 4.00      | 65.00       |
| LLW8N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LLW7N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LLW6N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LLW5N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LLW4N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LLW3N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LLW2N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LLW1N                                                                                                                       | 28.21       |           |                                  |             |           |             |
| LSLOCK                                                                                                                      | 27.96       |           |                                  |             |           |             |
| LLLOCK                                                                                                                      | 27.96       |           | DIL-M&W (508A)                   | 18.25       | 3.50      | 220.00      |
| PELTMPR                                                                                                                     | 27.96       |           |                                  |             |           |             |
| LSHVNG                                                                                                                      | 27.96       |           |                                  |             |           |             |
| LLHVNG                                                                                                                      | 27.96       |           |                                  |             |           |             |
| LSW8N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| LSW7N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| LSW6N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| LSW5N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| LSW4N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| LSW3N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| LSW2N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| LSW1N                                                                                                                       | 27.71       |           |                                  |             |           |             |
| MCAL                                                                                                                        | 19.58       |           |                                  |             |           |             |
| MI                                                                                                                          | 19.58       |           |                                  |             |           |             |
| MN                                                                                                                          | 19.58       |           |                                  |             |           |             |
| RLL3F                                                                                                                       | 15.50       |           |                                  |             |           |             |
| RLL3                                                                                                                        | 15.50       |           |                                  |             |           |             |
| CILD                                                                                                                        | 8.33        |           |                                  |             |           |             |
| CILM                                                                                                                        | 4.50        |           |                                  |             |           |             |
| SP                                                                                                                          | 0.20        |           |                                  |             |           |             |
| Dataset: griffin_ethan 2.db: field/well/stkml/pass3.1<br>Total length: 42.23 ft<br>Total weight: 685.00 lb<br>O.D.: 5.00 in |             |           |                                  |             |           |             |

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin\_ethan 2.db  
Dataset field/well/stkml/pass3.1/\_vars\_

## Top - Bottom

| A         | BOREID      | BOTTEMP     | CASEOD      | CASETHCK  | FLUIDDEN   | M     | MATRXDEN     |
|-----------|-------------|-------------|-------------|-----------|------------|-------|--------------|
| 1         | in<br>7.875 | degF<br>125 | in<br>5.5   | in<br>0   | g/cc<br>1  | 2     | g/cc<br>2.71 |
| NPORSEL   | PERFS       | SNDERR      | SNDERRM     | SPSHIFT   | SRFTEMP    | SZCOR | TDEPTH       |
| Limestone | No          | mmho/m<br>0 | mmho/m<br>0 | mV<br>340 | degF<br>80 | Off   | ft<br>4864   |

## 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

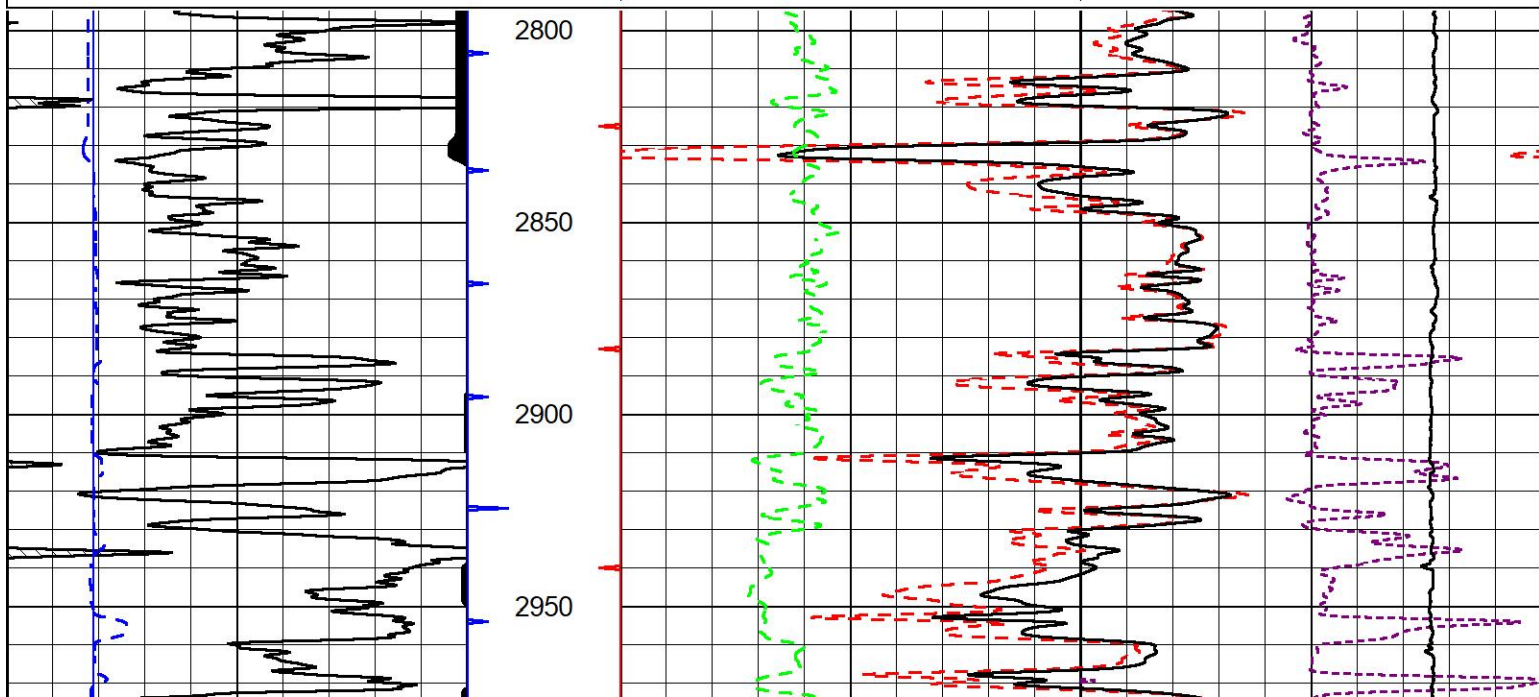


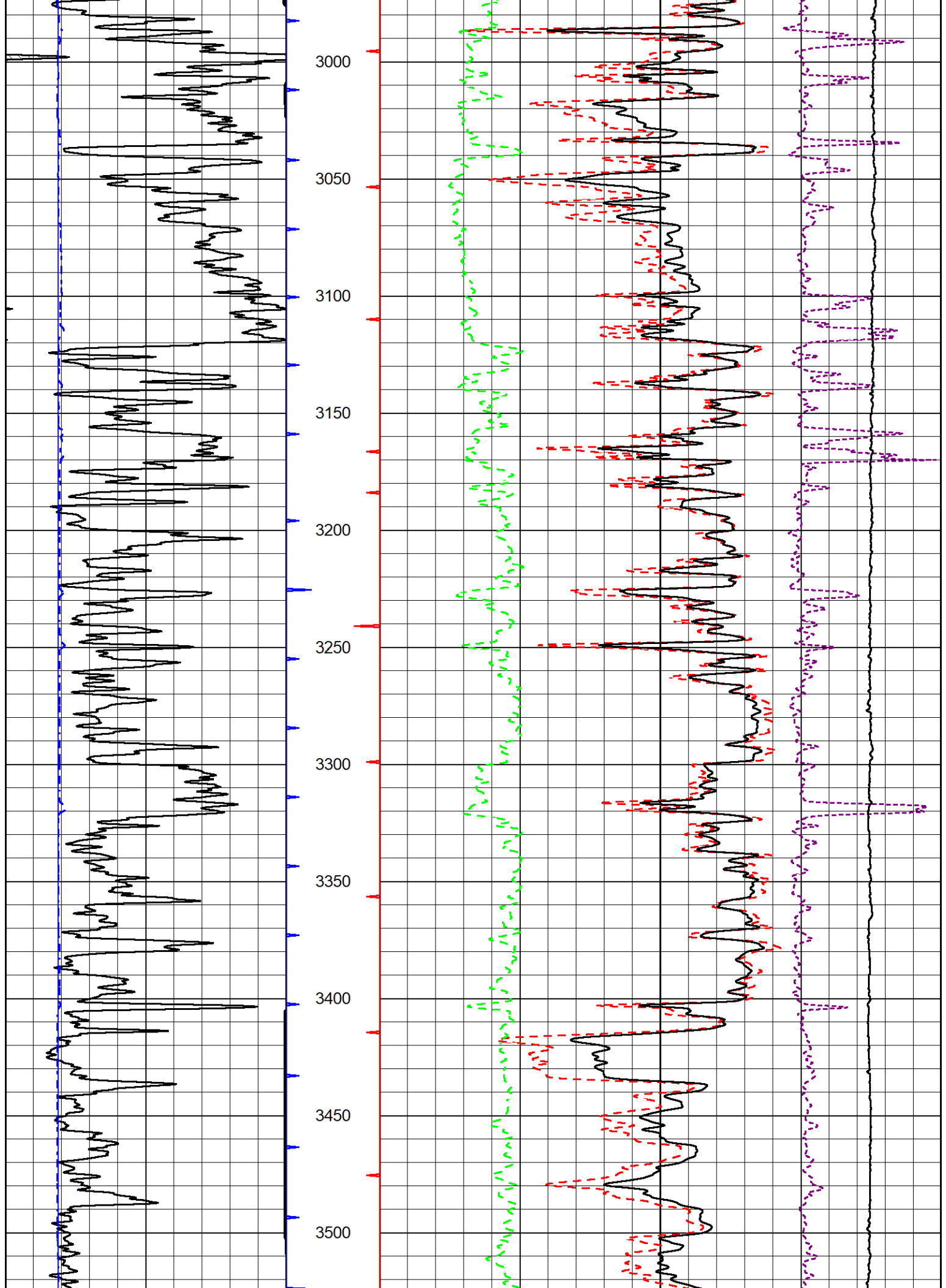
## 2" SCALE BULK DENSITY

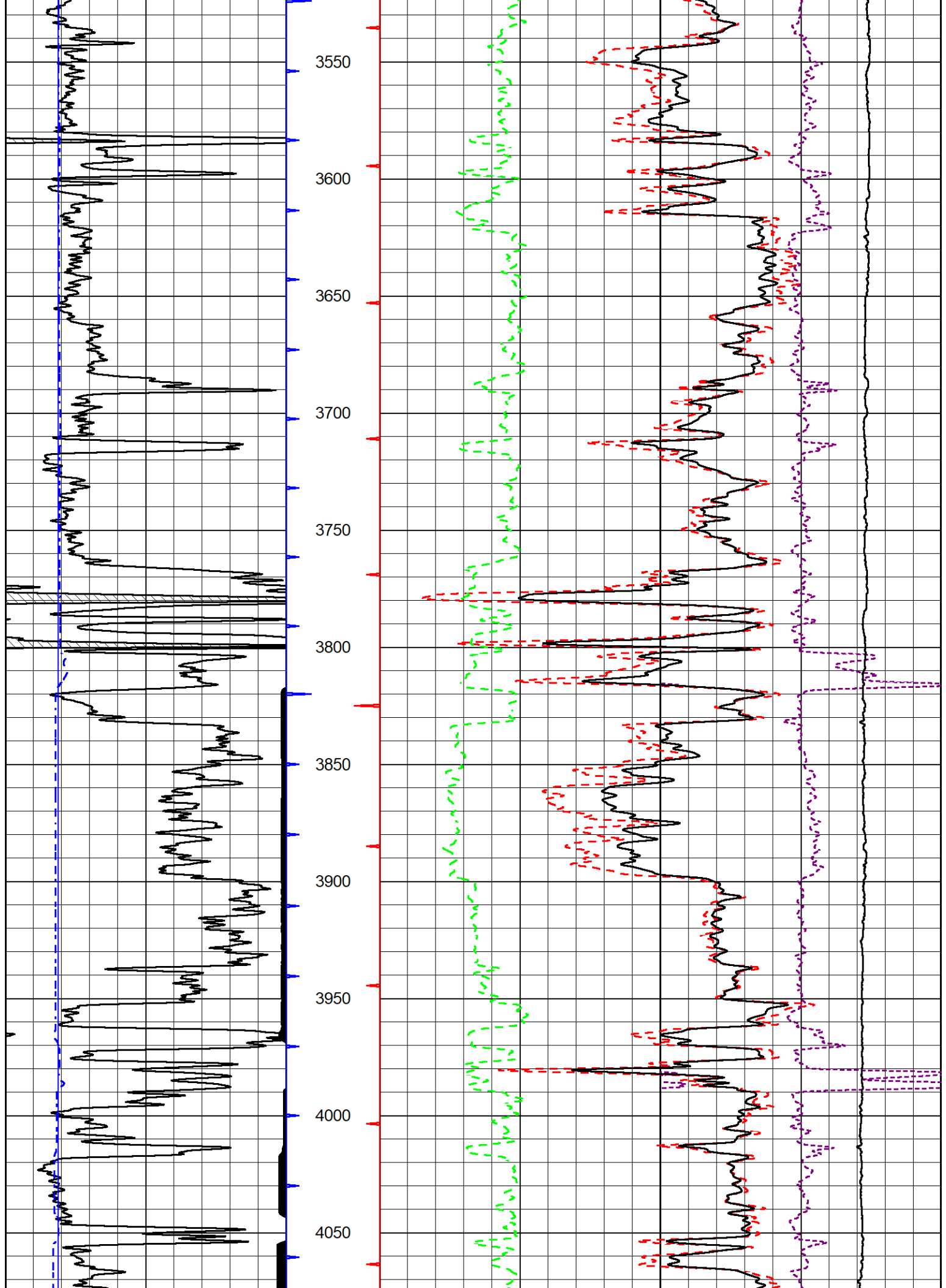
### MAIN PASS

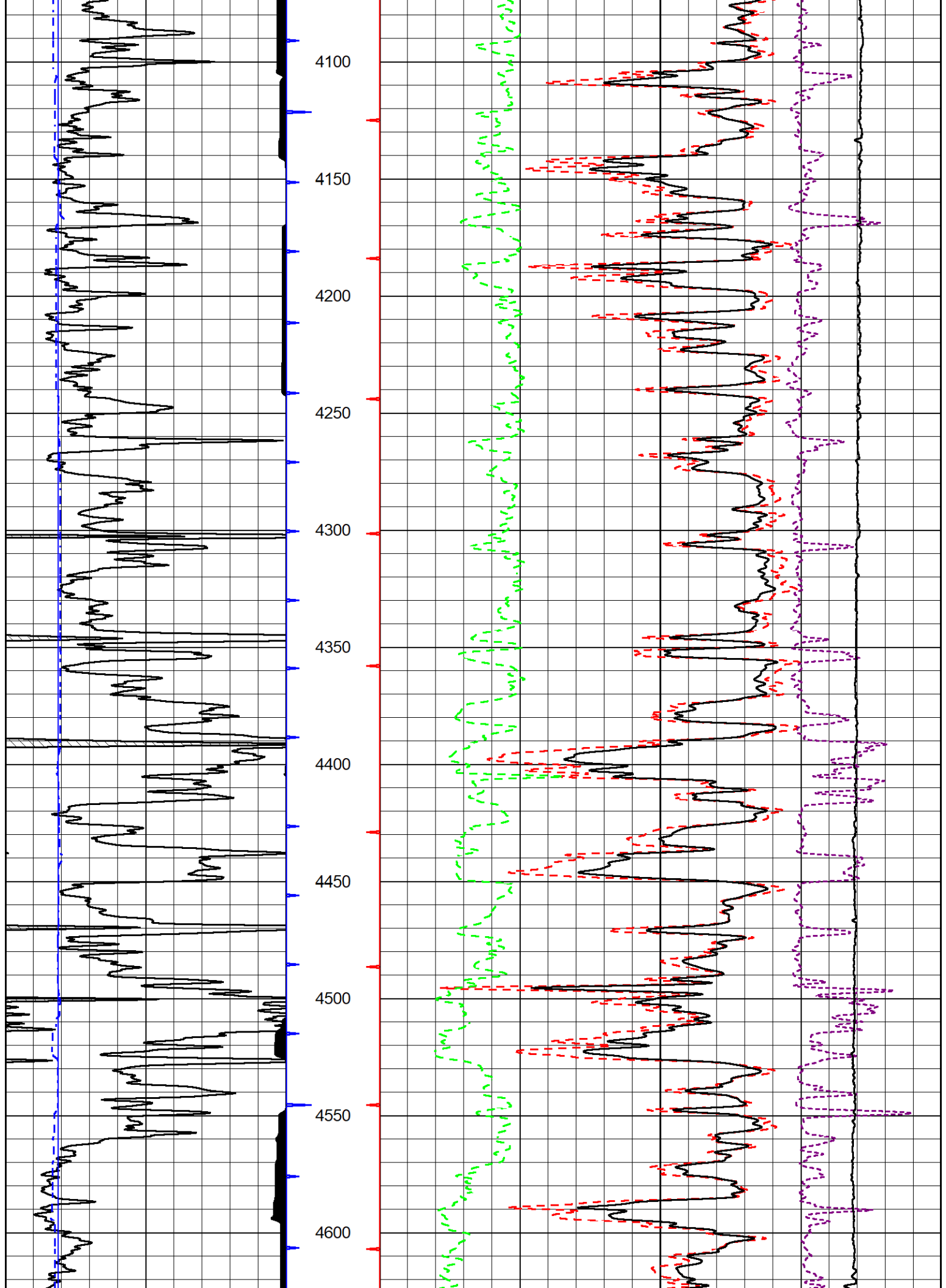
Database File griffin\_ethan 2.db  
Dataset Pathname stkml/pass3.2  
Presentation Format \_cdlpe  
Dataset Creation Sun Jun 09 23:04:57 2024  
Charted by Depth in Feet scaled 1:600

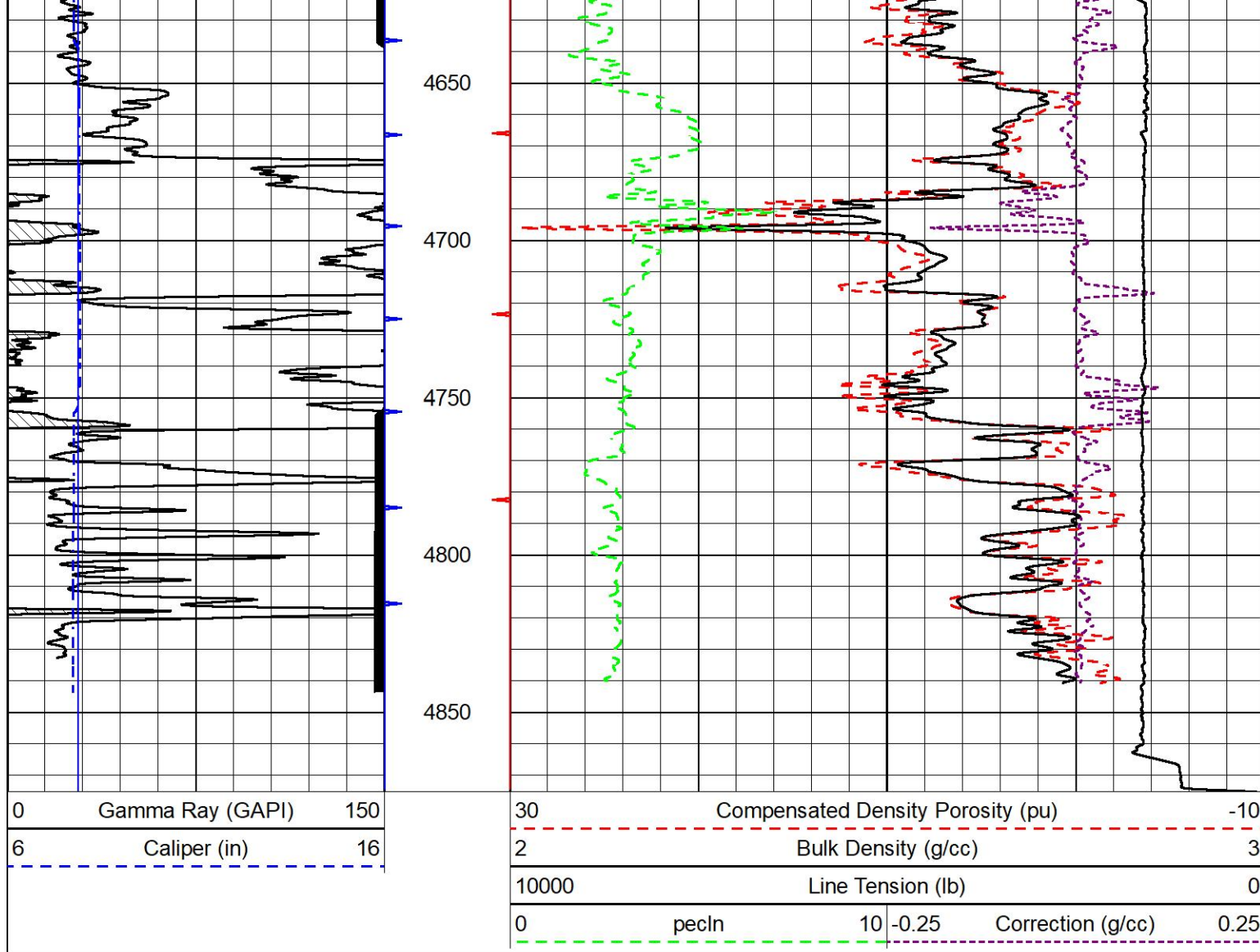
|   |                  |     |       |                                   |      |
|---|------------------|-----|-------|-----------------------------------|------|
| 0 | Gamma Ray (GAPI) | 150 | 30    | Compensated Density Porosity (pu) | -10  |
| 6 | Caliper (in)     | 16  | 2     | Bulk Density (g/cc)               | 3    |
|   |                  |     | 10000 | Line Tension (lb)                 | 0    |
|   |                  |     | 0     | pecln                             | 10   |
|   |                  |     | -0.25 | Correction (g/cc)                 | 0.25 |









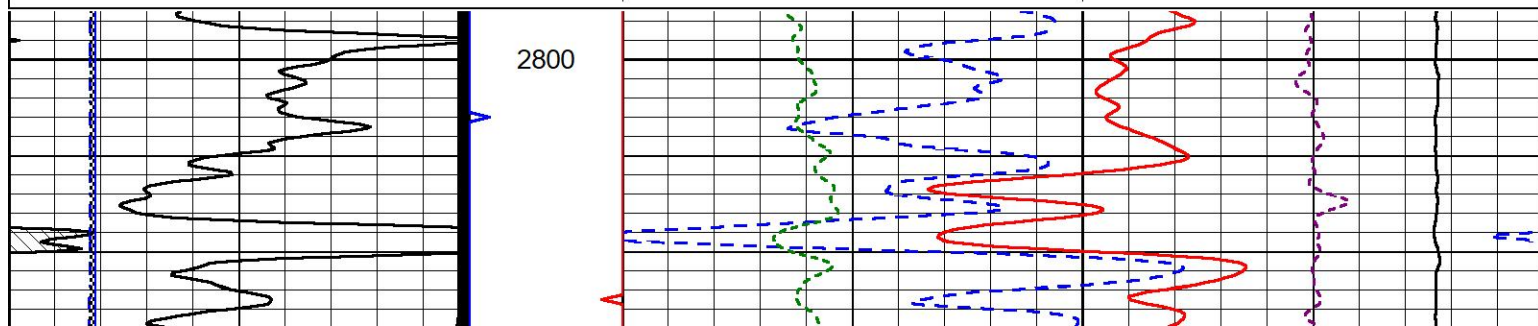
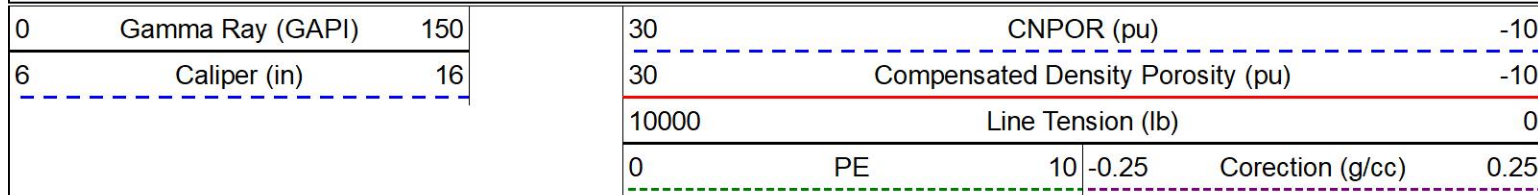


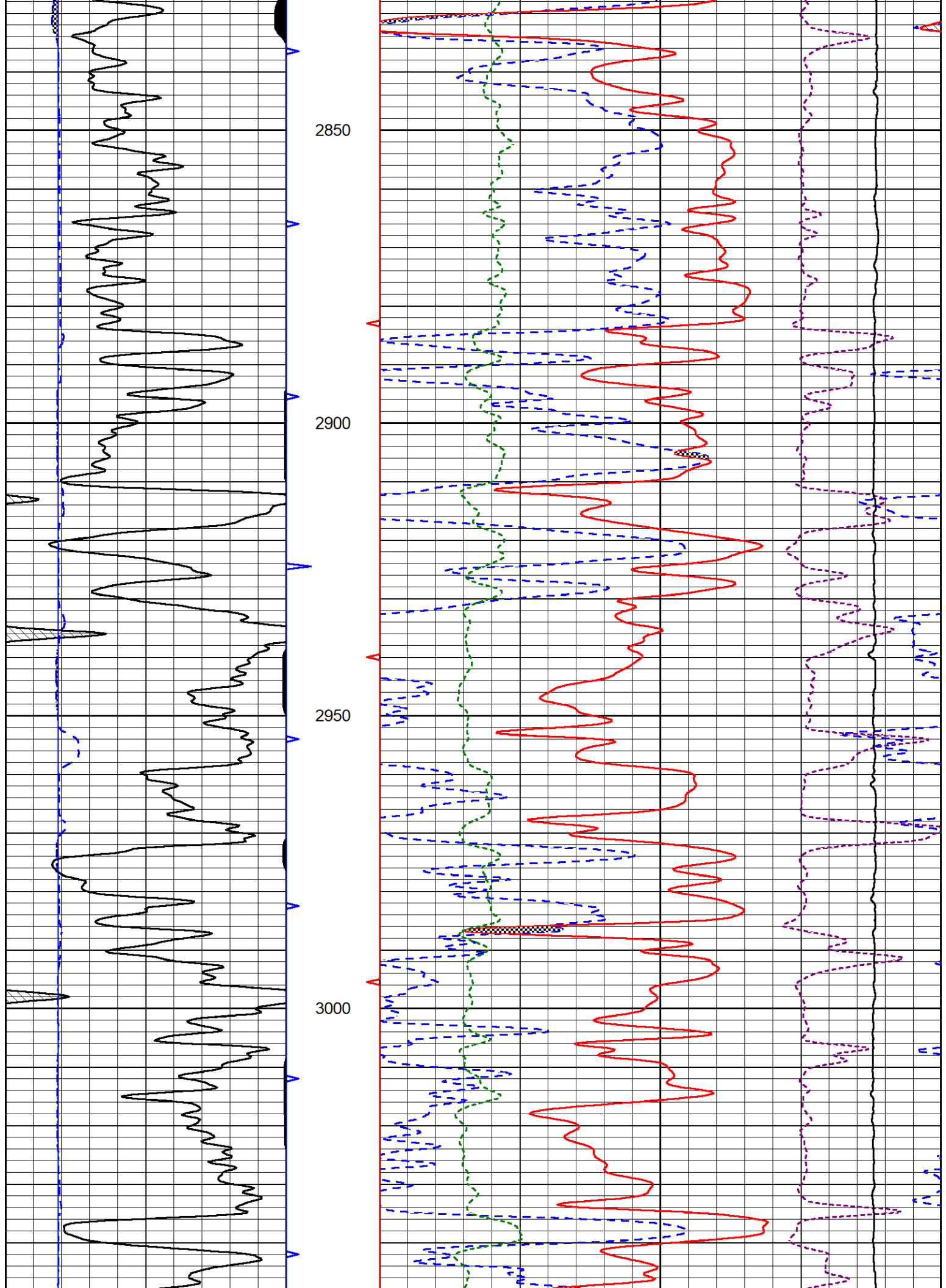
MIDWEST WIRELINE

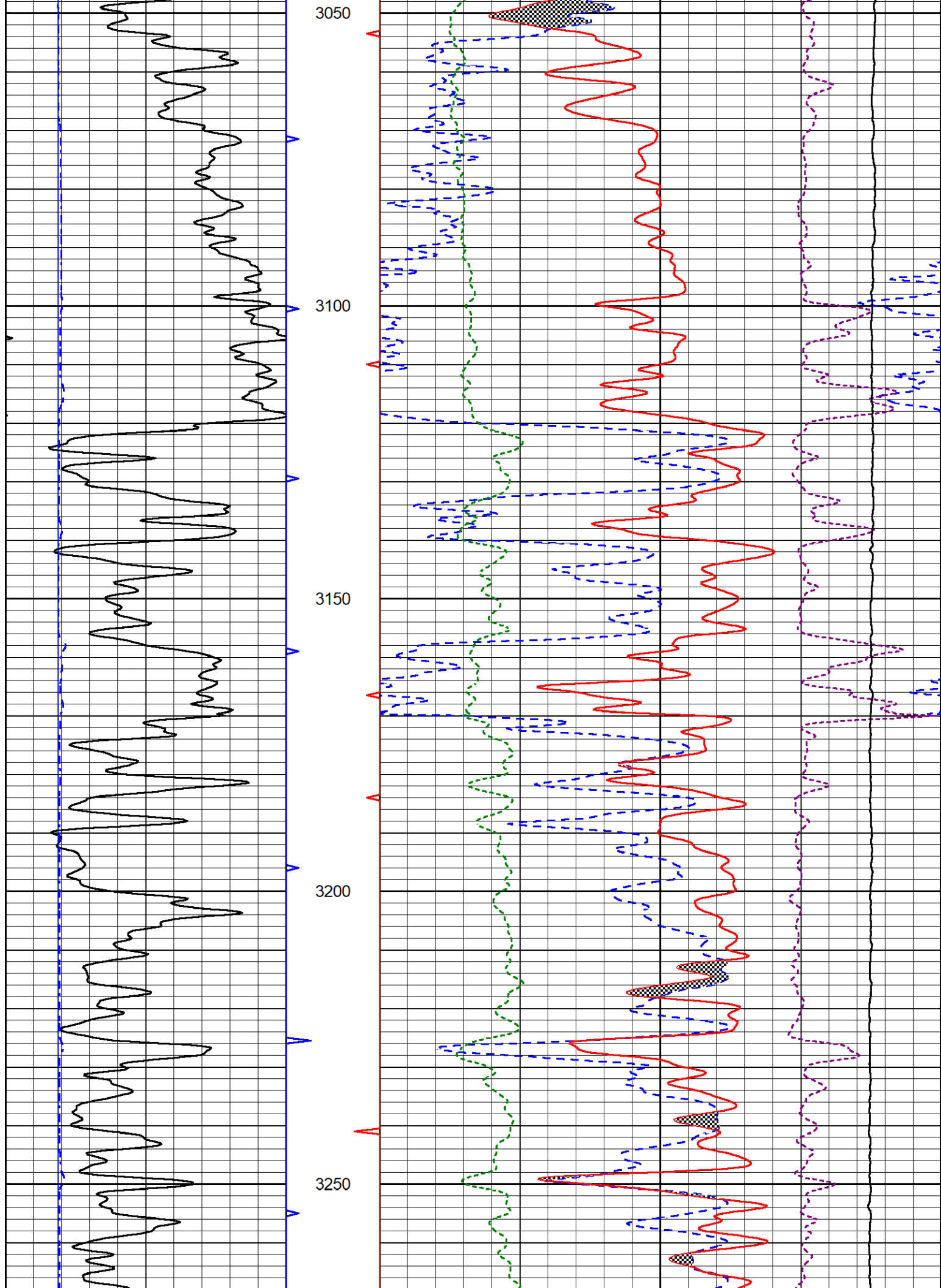
## DETAIL SECTION

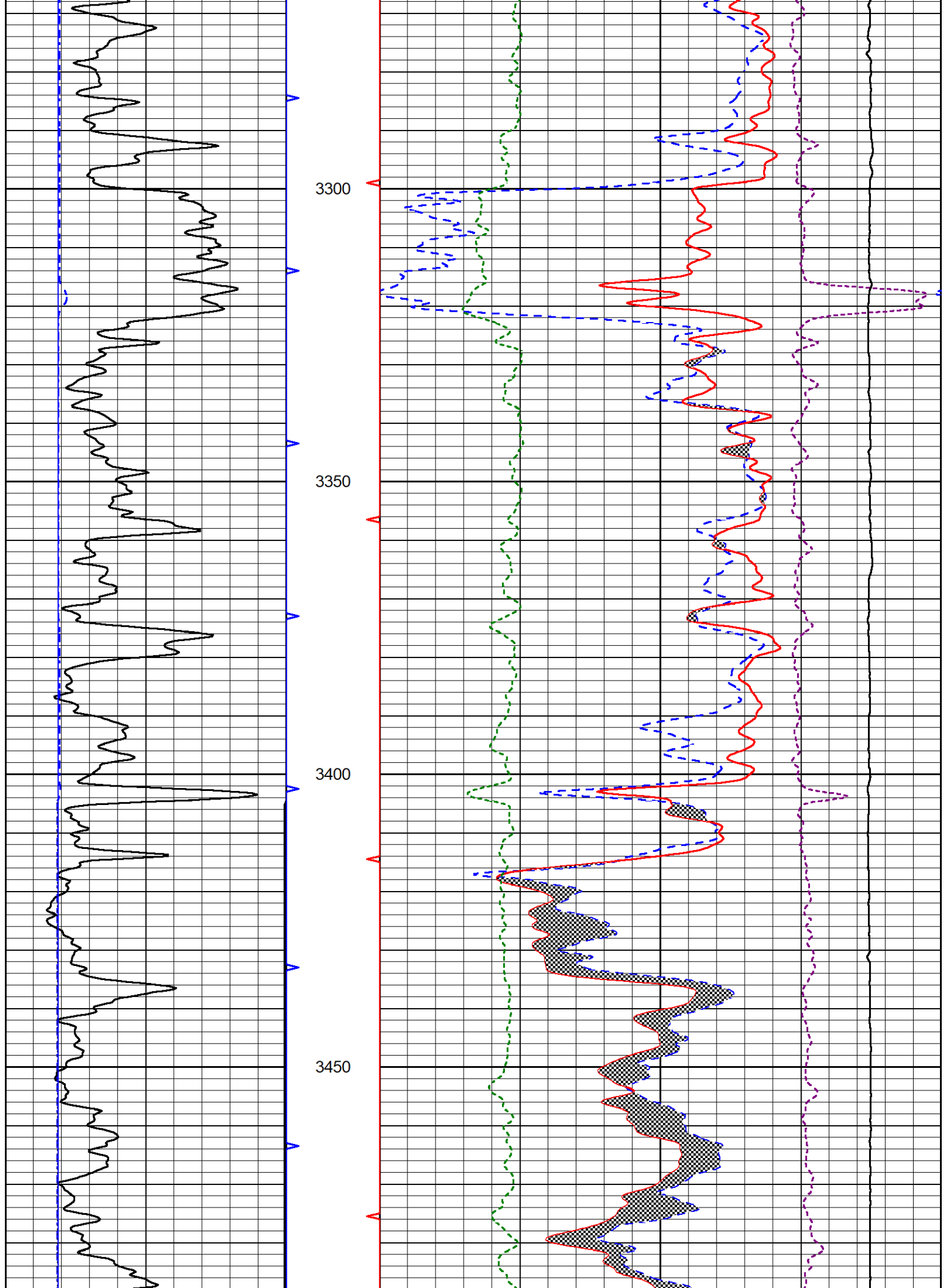
### MAIN PASS

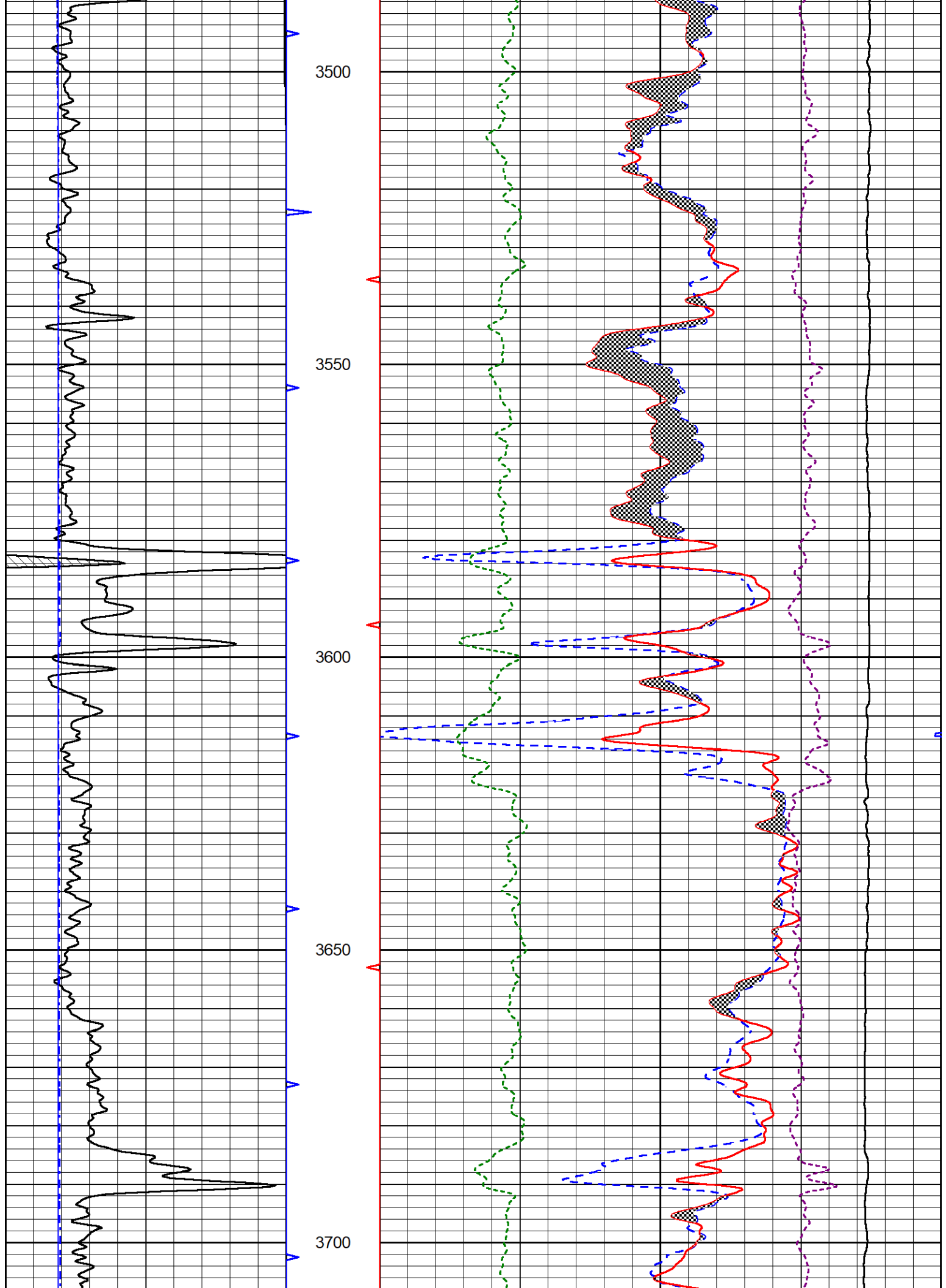
Database File griffin\_ethan 2.db  
 Dataset Pathname stkml/pass3.1  
 Presentation Format \_CNDLS~2  
 Dataset Creation Sun Jun 09 23:01:17 2024  
 Charted by Depth in Feet scaled 1:240

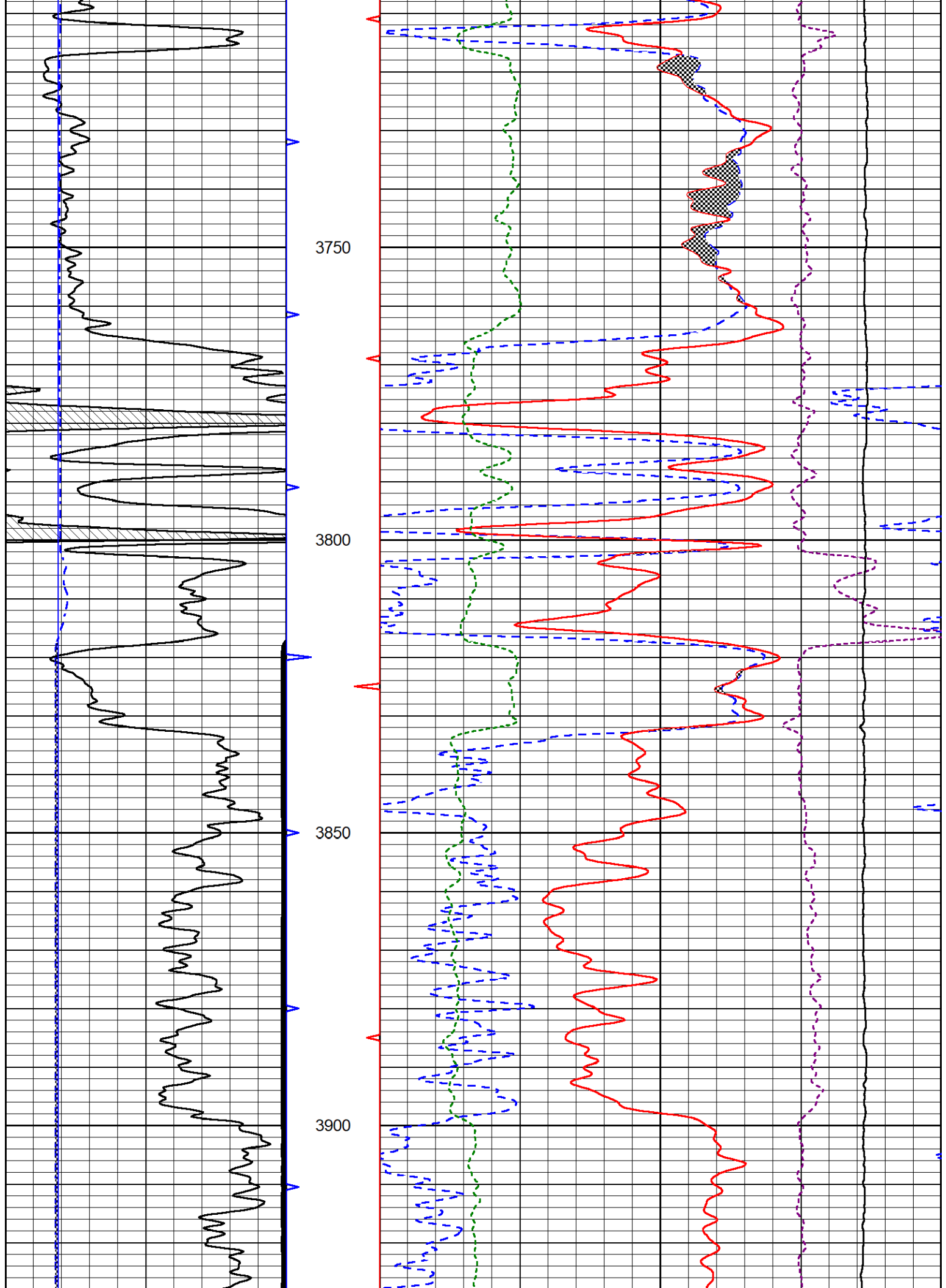


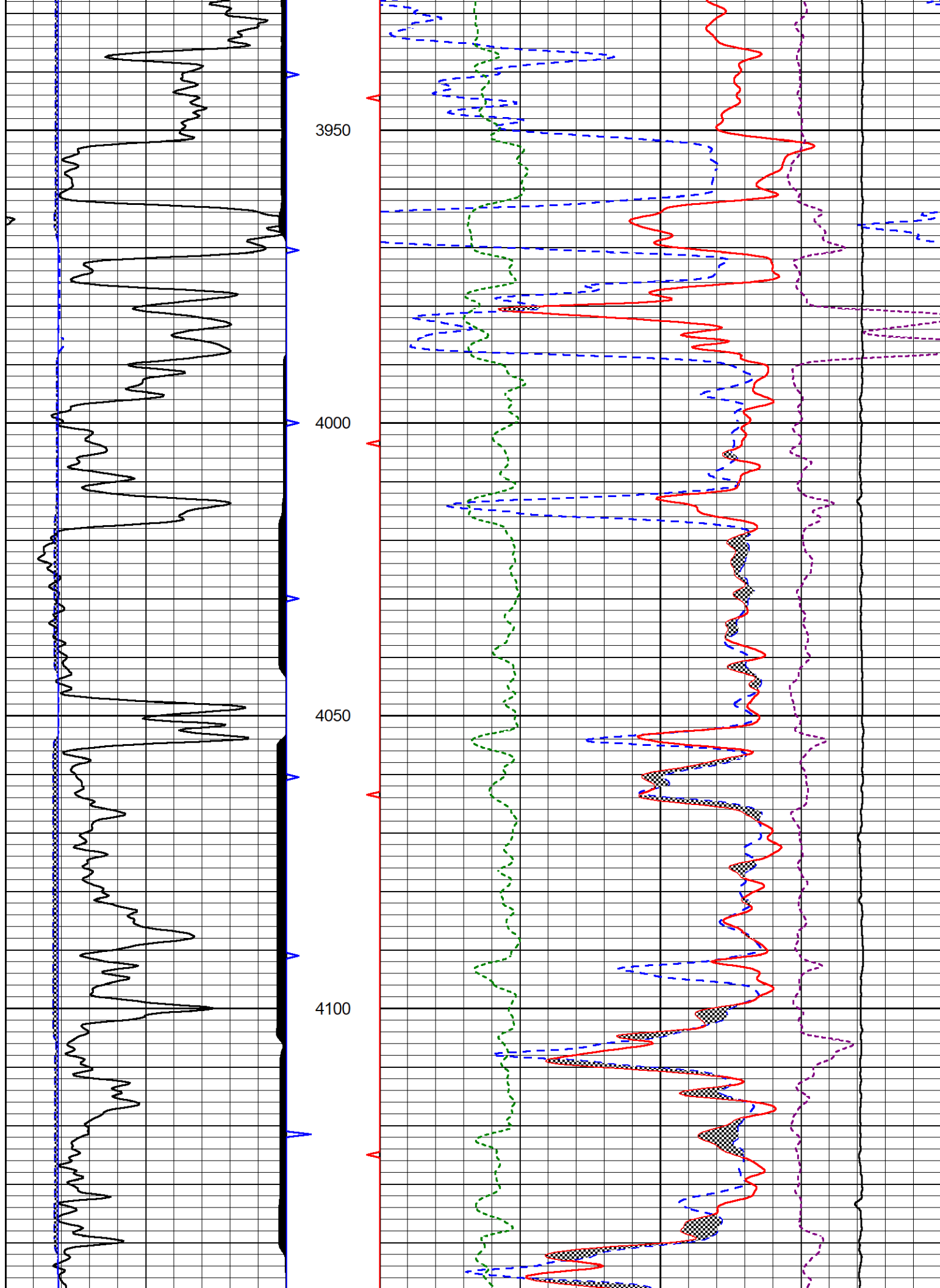


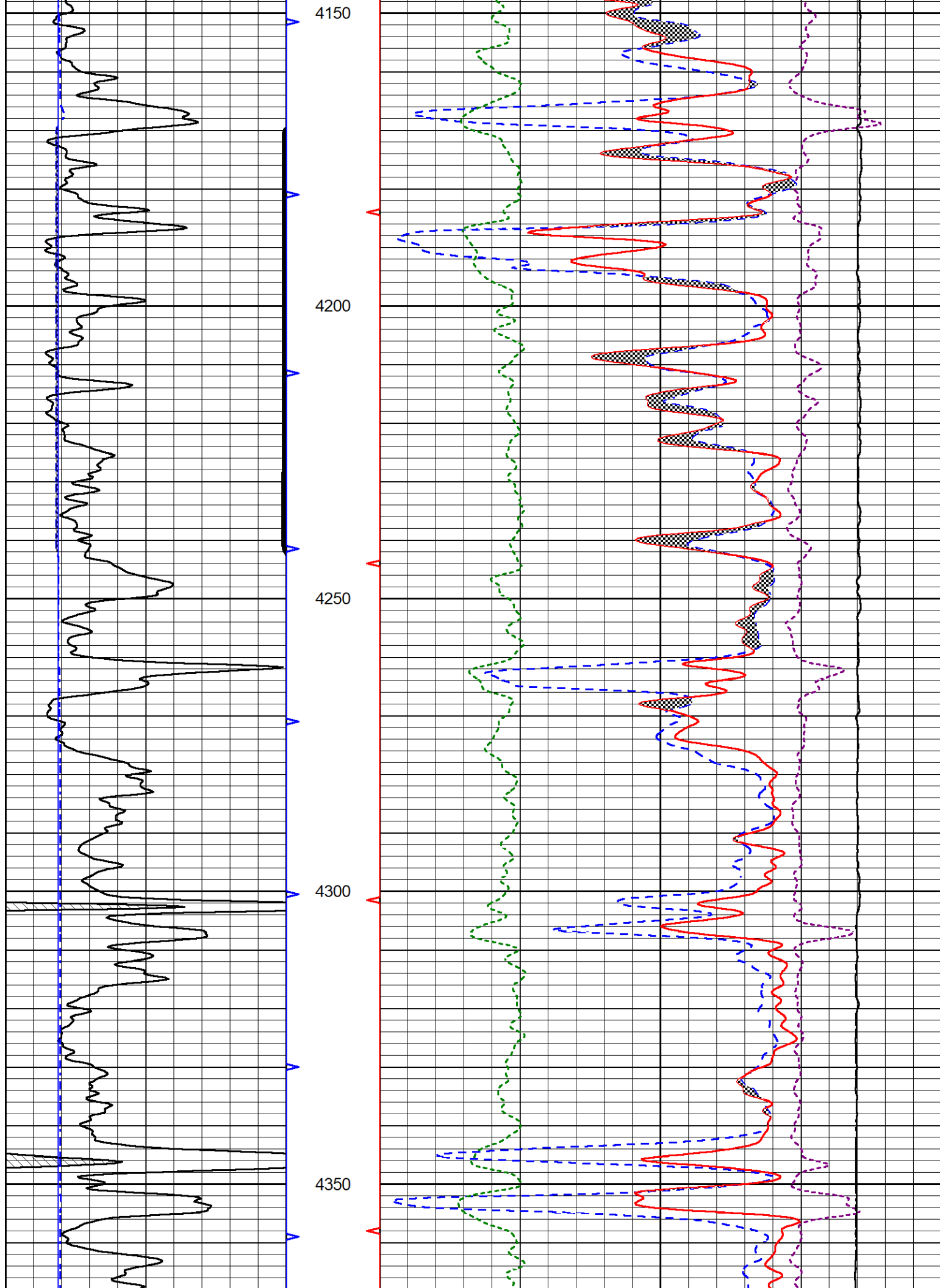


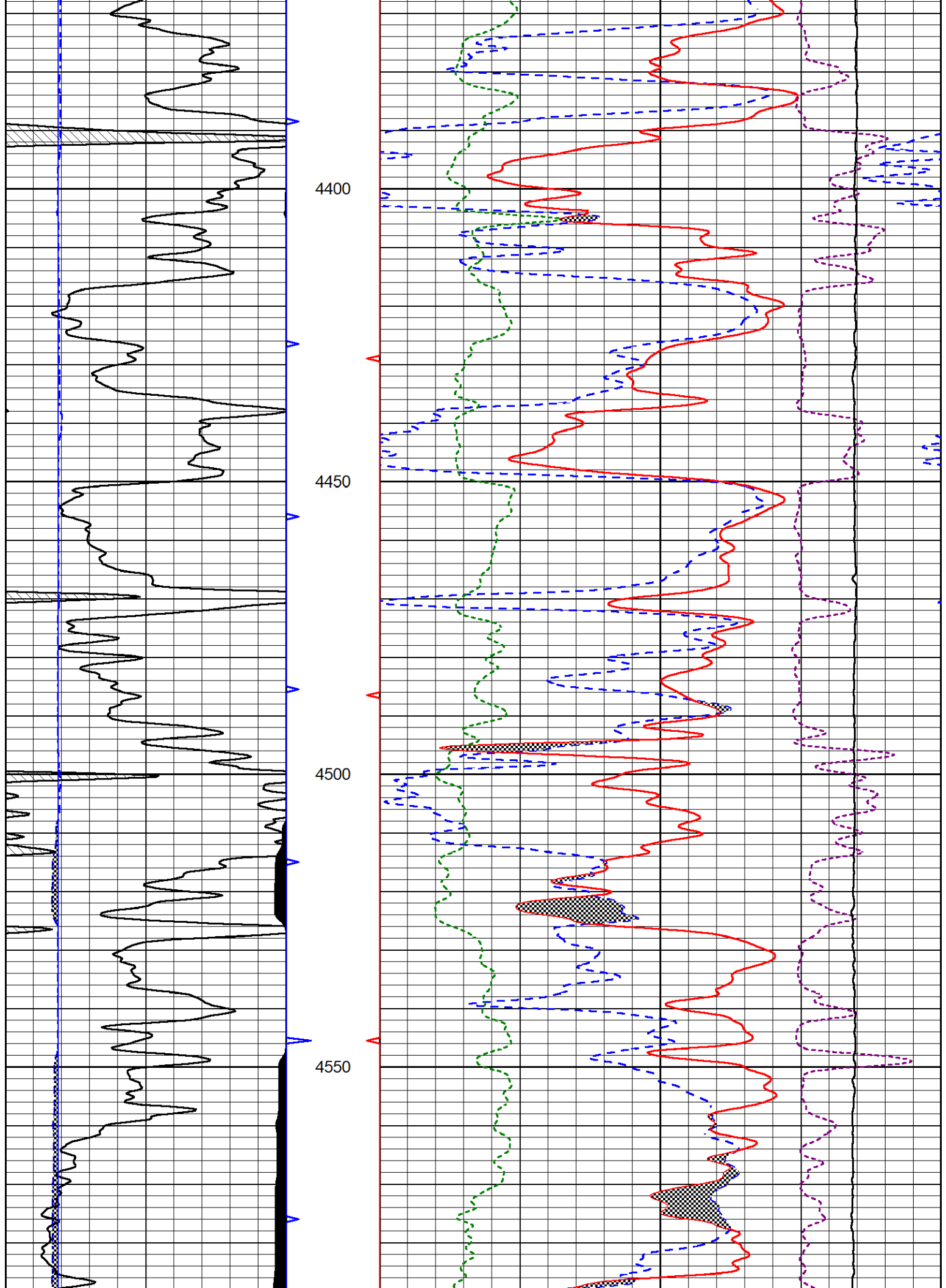


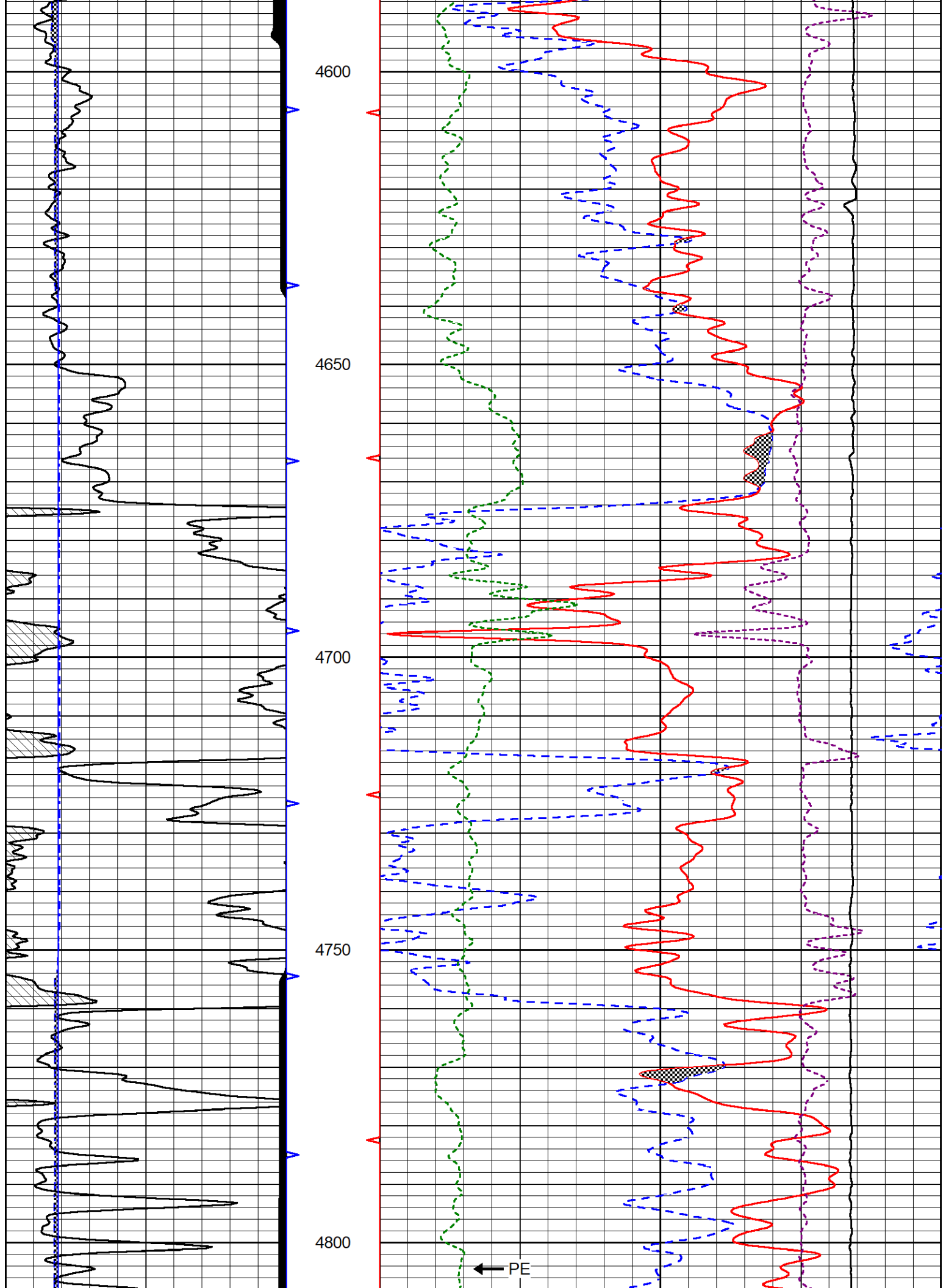


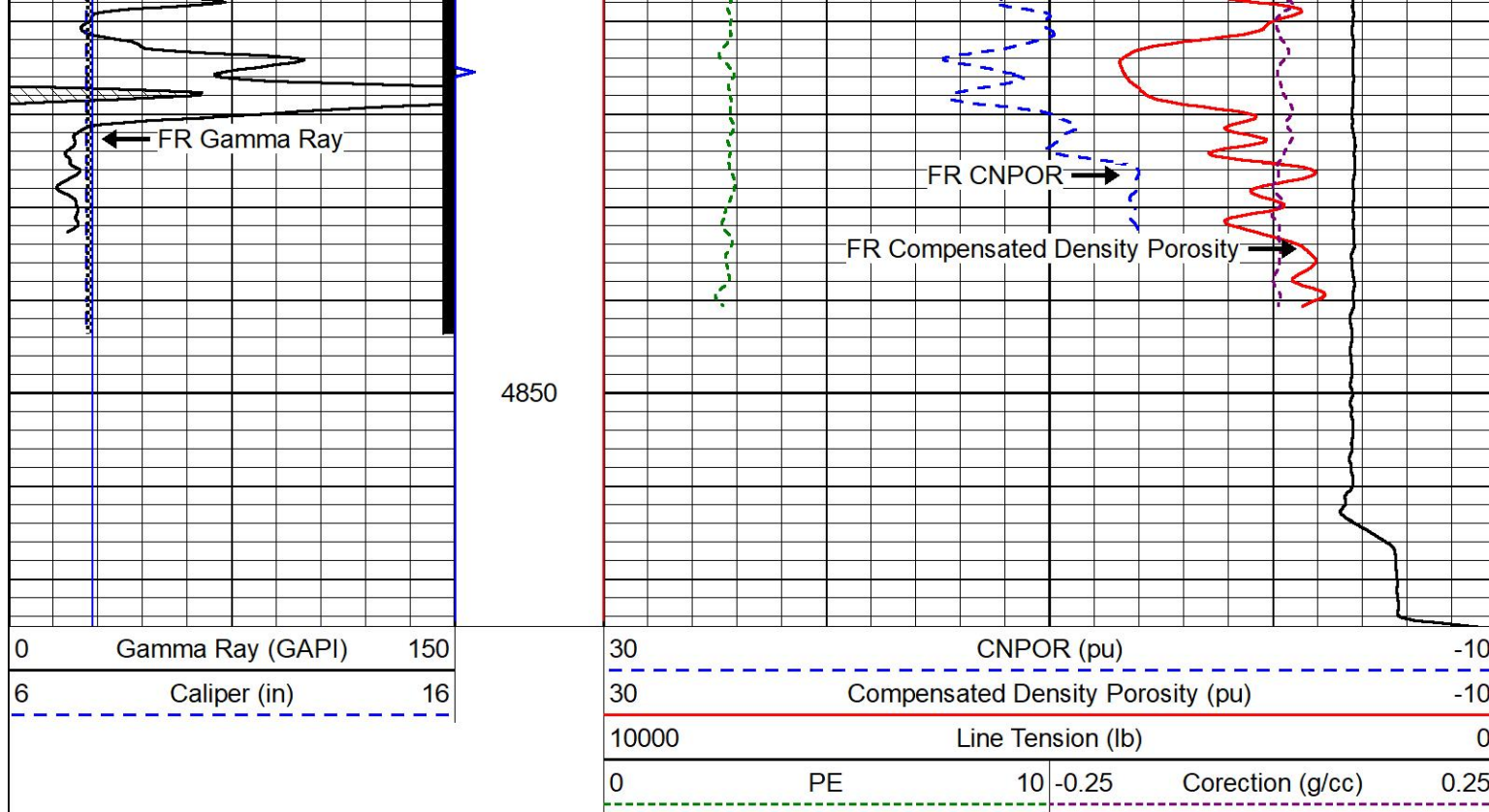










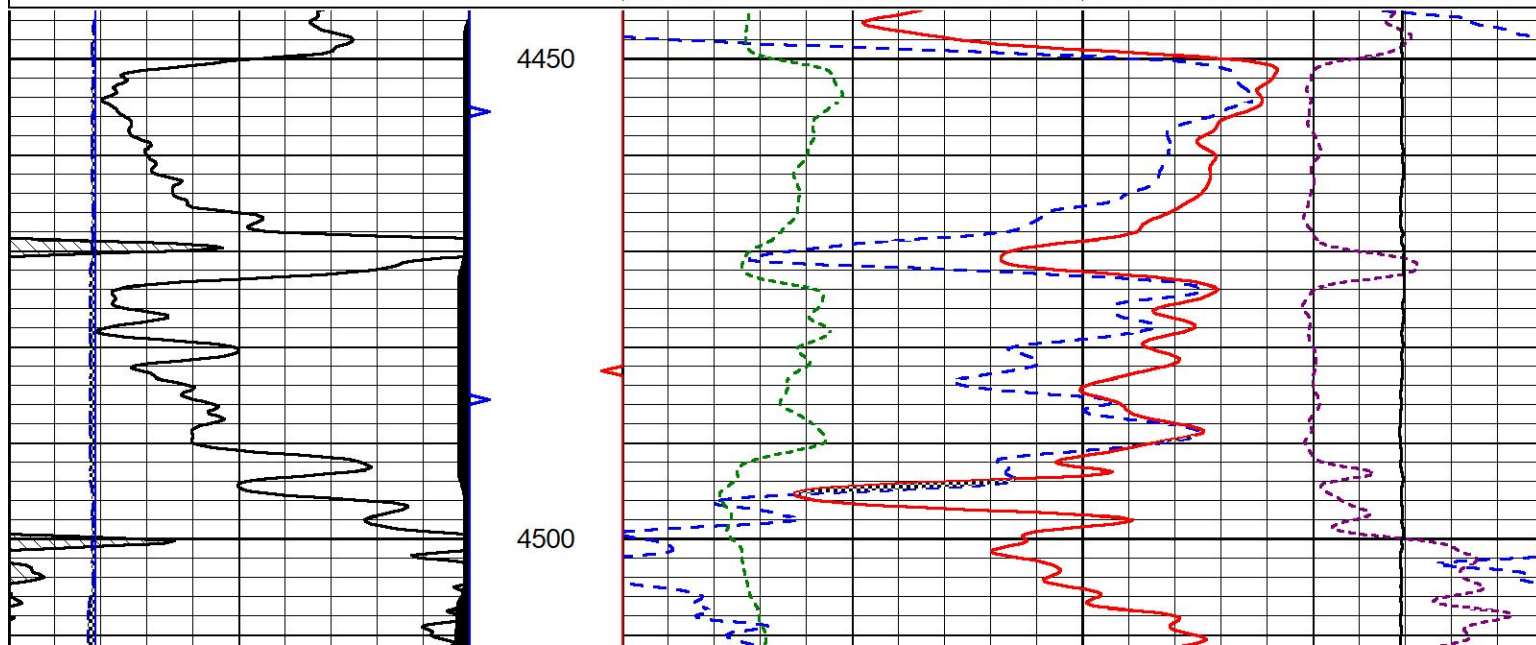
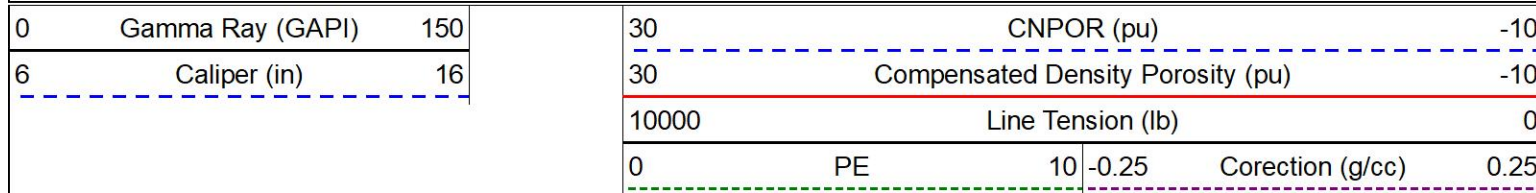


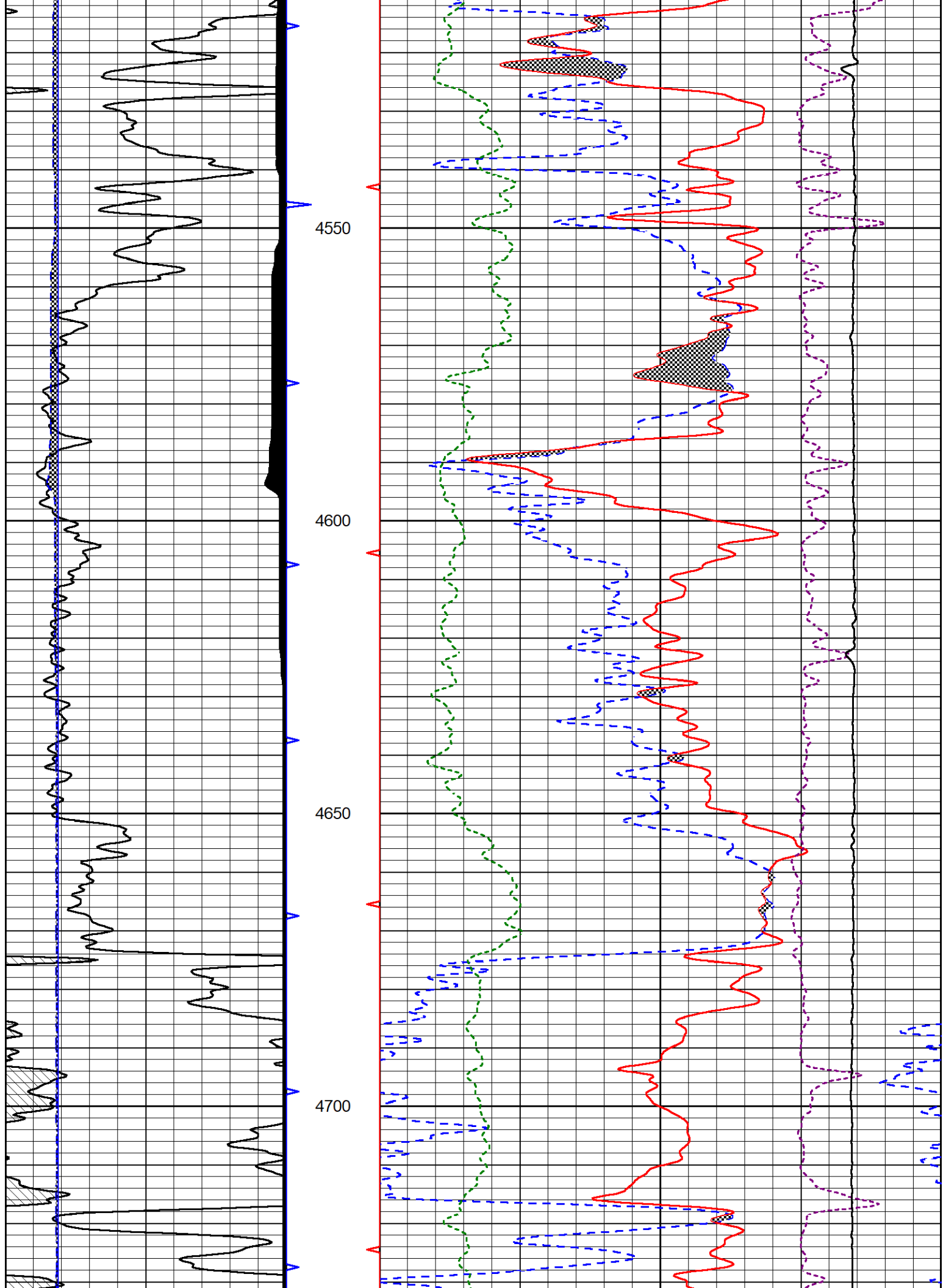
MIDWEST WIRELINE

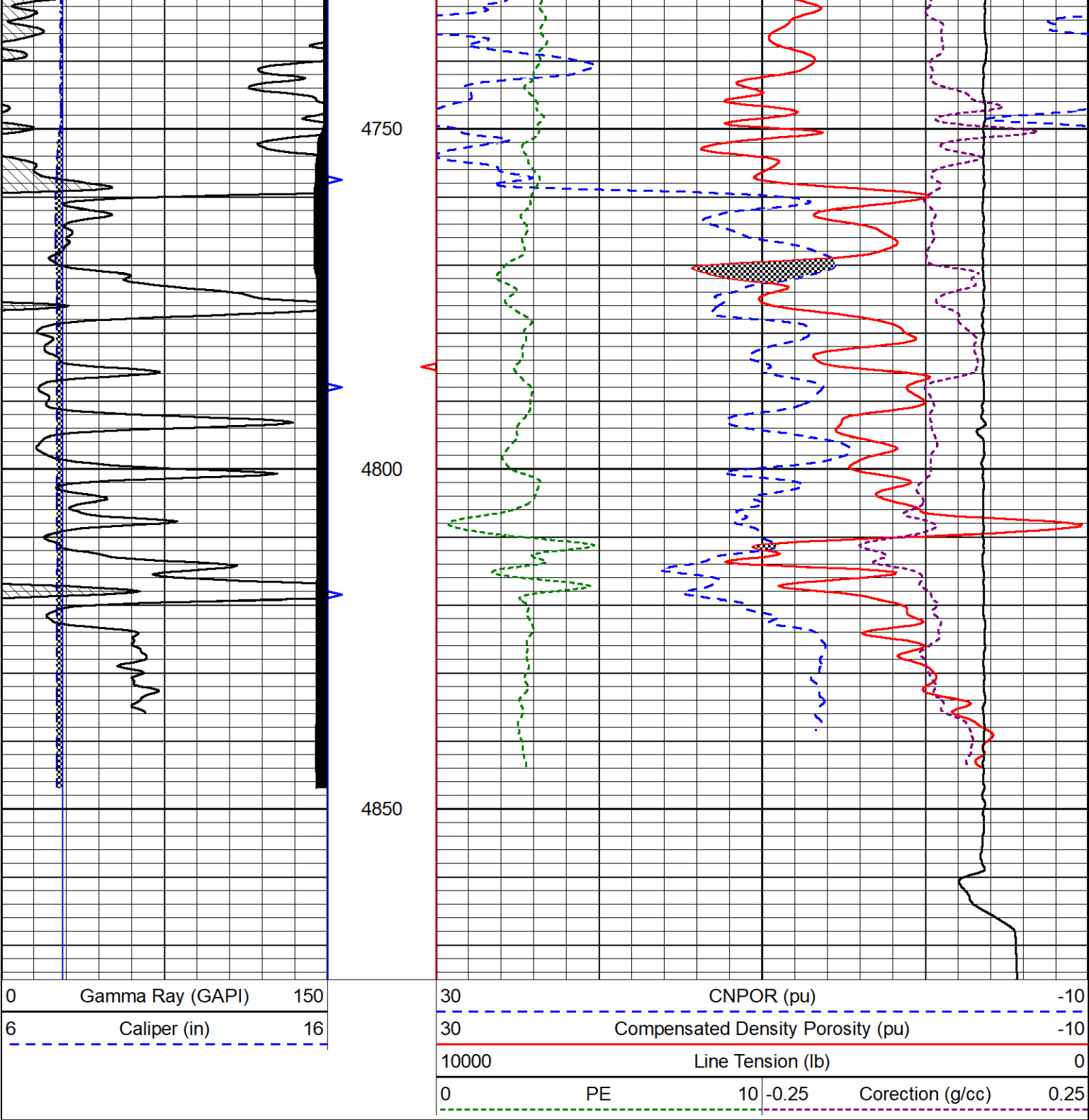
## REPEAT SECTION

### REPEAT PASS

Database File griffin\_ethan 2.db  
 Dataset Pathname stkml/pass2.1  
 Presentation Format \_CNDLS~2  
 Dataset Creation Sun Jun 09 23:12:31 2024  
 Charted by Depth in Feet scaled 1:240







| Calibration Report                |     |                          |            |      |         |   |
|-----------------------------------|-----|--------------------------|------------|------|---------|---|
| Database File                     |     | griffin_ethan 2.db       |            |      |         |   |
| Dataset Pathname                  |     | stkml/pass3.1            |            |      |         |   |
| Dataset Creation                  |     | Sun Jun 09 23:01:17 2024 |            |      |         |   |
| Dual Induction Calibration Report |     |                          |            |      |         |   |
| Serial-Model:                     |     | 508A-M&W                 |            |      |         |   |
| Surface Cal Performed:            |     | Wed Jun 5 03:23:43 2024  |            |      |         |   |
| Readings                          |     |                          | References |      | Results |   |
| Loop:                             | Air | Loop                     | Air        | Loop | m       | b |

|                                        |         |                          |                                              |          |         |            |            |      |     |
|----------------------------------------|---------|--------------------------|----------------------------------------------|----------|---------|------------|------------|------|-----|
| Deep                                   | 84.200  | 428.150                  | 0.000                                        | 255.800  | mmho/m  | 0.485      | -44.000    |      |     |
| Medium                                 | 141.000 | 670.654                  | 0.000                                        | 255.800  | mmho/m  | 0.410      | -43.500    |      |     |
| Microlog Calibration Report            |         |                          |                                              |          |         |            |            |      |     |
| Serial-Model:<br>Performed:            |         |                          | 402-PSI STKBL ML<br>Thu May 30 05:58:00 2024 |          |         |            |            |      |     |
| Readings                               |         |                          | References                                   |          |         | Results    |            |      |     |
|                                        | Zero    | Cal                      |                                              | Zero     | Cal     | m          | b          |      |     |
| Normal                                 | 0.0037  | 0.0043                   |                                              | 0.0000   | 10.0000 | Ohm-m      | 11000.0000 |      |     |
| Inverse                                | 0.1208  | 0.0013                   |                                              | 0.0000   | 10.0000 | Ohm-m      | 14500.0000 |      |     |
| Caliper                                | 1.0046  | 1.1419                   |                                              | 5.5000   | 20.0000 | in         | 50.0000    |      |     |
|                                        |         |                          |                                              |          |         |            | -44.6250   |      |     |
| LITHODENSITY Calibration Report        |         |                          |                                              |          |         |            |            |      |     |
| Serial Number:                         |         | 701-01                   |                                              |          |         |            |            |      |     |
| Tool Model:                            |         | STEP LITHO Short         |                                              |          |         |            |            |      |     |
| Performed:                             |         | Fri May 31 11:21:55 2024 |                                              |          |         |            |            |      |     |
| Source:                                |         |                          |                                              |          |         |            |            |      |     |
|                                        | Win1    | Win2                     | Win3                                         | Win4     | Win5    | Win6       | Win7       | Win8 |     |
| Background:                            |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    | 51      | 53                       | 204                                          | 248      | 24      | 67         | 43         | 1    | cps |
| LS:                                    | 76      | 85                       | 326                                          | 418      | 46      | 135        | 87         | 2    | cps |
| Aluminum:                              |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    | 1068    | 1312                     | 3049                                         | 2764     | 50      | 71         | 47         | 3    | cps |
| LS:                                    | 1190    | 2281                     | 4191                                         | 1907     | 55      | 132        | 82         | 5    | cps |
| Magnesium:                             |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    | 1763    | 2130                     | 5001                                         | 4004     | 56      | 72         | 46         | 5    | cps |
| LS:                                    | 4893    | 9012                     | 16271                                        | 6524     | 121     | 127        | 83         | 16   | cps |
| Aluminum+Iron:                         |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    | 685     | 924                      | 2571                                         | 2406     | 45      | 72         | 47         | 3    | cps |
| LS:                                    | 694     | 1582                     | 3562                                         | 1707     | 54      | 132        | 84         | 4    | cps |
|                                        |         | Density                  |                                              |          | PE      |            |            |      |     |
|                                        |         | Actual                   | Calibrated                                   |          | Actual  | Calibrated | Quality    |      |     |
| Background:                            |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    |         |                          |                                              |          |         |            | 0.222      |      |     |
| LS:                                    |         |                          |                                              |          |         |            | 0.216      |      |     |
| Aluminum:                              |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    |         | 2.6000                   | 2.6000                                       | g/cc     |         |            | 0.201      |      |     |
| LS:                                    |         | 2.6000                   | 2.6000                                       | g/cc     |         |            | 0.230      |      |     |
| Magnesium:                             |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    |         | 1.6800                   | 1.6800                                       | g/cc     | 2.5700  | 2.5700     | 0.223      |      |     |
| LS:                                    |         | 1.6800                   | 1.6800                                       | g/cc     | 2.5700  | 2.5700     | 0.211      |      |     |
| Aluminum+Iron:                         |         |                          |                                              |          |         |            |            |      |     |
| SS:                                    |         |                          |                                              |          |         | 6.1800     | 0.204      |      |     |
| LS:                                    |         |                          |                                              |          |         | 6.1800     | 0.223      |      |     |
| Caliper:                               |         | Reference:               |                                              | Reading: |         |            |            |      |     |
| Small Ring:                            |         | 6.0 in                   |                                              | 0.2      |         |            |            |      |     |
| Large Ring:                            |         | 14.0 in                  |                                              | 0.8      |         |            |            |      |     |
| Gain:                                  |         | 12.765                   |                                              |          |         |            |            |      |     |
| Offset:                                |         | 2.575                    |                                              |          |         |            |            |      |     |
| Compensated Neutron Calibration Report |         |                          |                                              |          |         |            |            |      |     |
| Serial Number:                         |         |                          |                                              | 210      |         |            |            |      |     |
| 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        |

## Gamma Ray Calibration Report

|                     |                          |          |
|---------------------|--------------------------|----------|
| Serial Number:      | 105                      |          |
| Tool Model:         | M&W                      |          |
| Performed:          | Sat Oct 21 23:48:19 2023 |          |
| Calibrator Value:   | 500.0                    | GAPI     |
| Background Reading: | 24.0                     | cps      |
| Calibrator Reading: | 637.0                    | cps      |
| Sensitivity:        | 0.6000                   | GAPI/cps |



|         |                         |
|---------|-------------------------|
| Company | Griffin Management, LLC |
| Well    | Ethan #2                |
| Field   |                         |
| County  | Barber                  |
| State   | Kansas                  |