



MIDWEST WIRELINE

**DUAL COMPENSATED
POROSITY W/PE**

Company Landmark Resources, Inc.

Well Godfrey A #3-32

Field
County Sheridan State Kansas

Location: API #: 15-179-21502-00-00

1018 FNL & 1350 FWL
SEC 32 TWP 6S RGE 28W

Permanent Datum Ground Level Elevation 2783
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Other Services
CNL/CDL
DIL/BHCS

Date 12/11/2023

Run Number One

Type Log CNL/CDL

Depth Driller 4535

Depth Logger 4535

Bottom Logged Interval 4506

Top Logged Interval 3400

Type Fluid In Hole Chemical

Salinity, PPM CL 3000

Density 9.3

Level Full

Max. Rec. Temp. F 121

Operating Rig Time 5 Hours

Equipment -- Location P-108 Hays

Recorded By D. Schmidt

Witnessed By Terry McLeod

Borehole Record

| Run No. | Bit | From | To | Size | Wgt. | From | To |
|---------|-------|------|-----|-------|------|------|-----|
| One | 12.25 | 0 | 305 | 8.625 | 23 | 0 | 305 |
| Two | 7.875 | 305 | TD | | | | |

Casing Record

| Run No. | Bit | From | To | Size | Wgt. | From | To |
|---------|-------|------|-----|-------|------|------|-----|
| One | 12.25 | 0 | 305 | 8.625 | 23 | 0 | 305 |
| Two | 7.875 | 305 | 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.

Hoxie,
6 1/2 North to 70th,
2 West, 3 3/4 North,
East into on north side of fence

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: Terry McLeod
Secondary Witness:
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 CNSSC | 37.13 36.38 | | CNT-M&W (210) | 5.00 | 3.50 | 100.00 |
| | | | MWLith-STEP LITHO Short (701-01) | 8.40 | 5.00 | 250.00 |
| LCAL | 28.21 | | | | | |
| LLW8N | 28.21 | | | | | |
| LLW7N | 28.21 | | | | | |
| LLW6N | 28.21 | | | | | |
| LLW5N | 28.21 | | | | | |
| LLW4N | 28.21 | | | | | |
| LLW3N | 28.21 | | | | | |
| LLW2N | 28.21 | | ML-PSI STKBL ML (402) | 7.58 | 4.00 | 65.00 |
| LLW1N | 28.21 | | | | | |
| LSLOCK | 27.96 | | | | | |
| LLOCK | 27.96 | | | | | |
| 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 | DIL-M&W (504 HT) | 18.25 | 3.50 | 220.00 | |
| MI | 19.58 | | | | | |
| MN | 19.58 | | | | | |
| RLL3F | 15.50 | | | | | |
| RLL3 | 15.50 | | | | | |
| CILD | 8.33 | | | | | |
| CILM | 4.50 | | | | | |
| SP | 0.20 | | | | | |

Dataset: landmark_godfrey a 3-32.db: field/well/stkml/pass4.5
 Total length: 42.23 ft
 Total weight: 685.00 lb
 O.D.: 5.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\landmark_godfrey a 3-32.db
 Dataset field/well/stkml/pass4.5/_vars_

Top - Bottom

| | | | | | | | |
|-----------|--------------|------------------|-------------------|----------------|------------------|-------|------------------|
| A | BOREID in | BOTTEMP degF | CASEOD in | CASETHCK in | FLUIDDEN g/cc | M | MATRXDEN g/cc |
| 1 | 7.875 | 121 | 5.5 | 0 | 1 | 2 | 2.71 |
| NPORSEL | PERFS | SNDERR mmho/m | SNDERRM mmho/m | SPSHIFT mV | SRFTEMP degF | SZCOR | TDEPTH ft |
| Limestone | No | -7.5 | -1 | 640 | 40 | Off | 4535 |

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

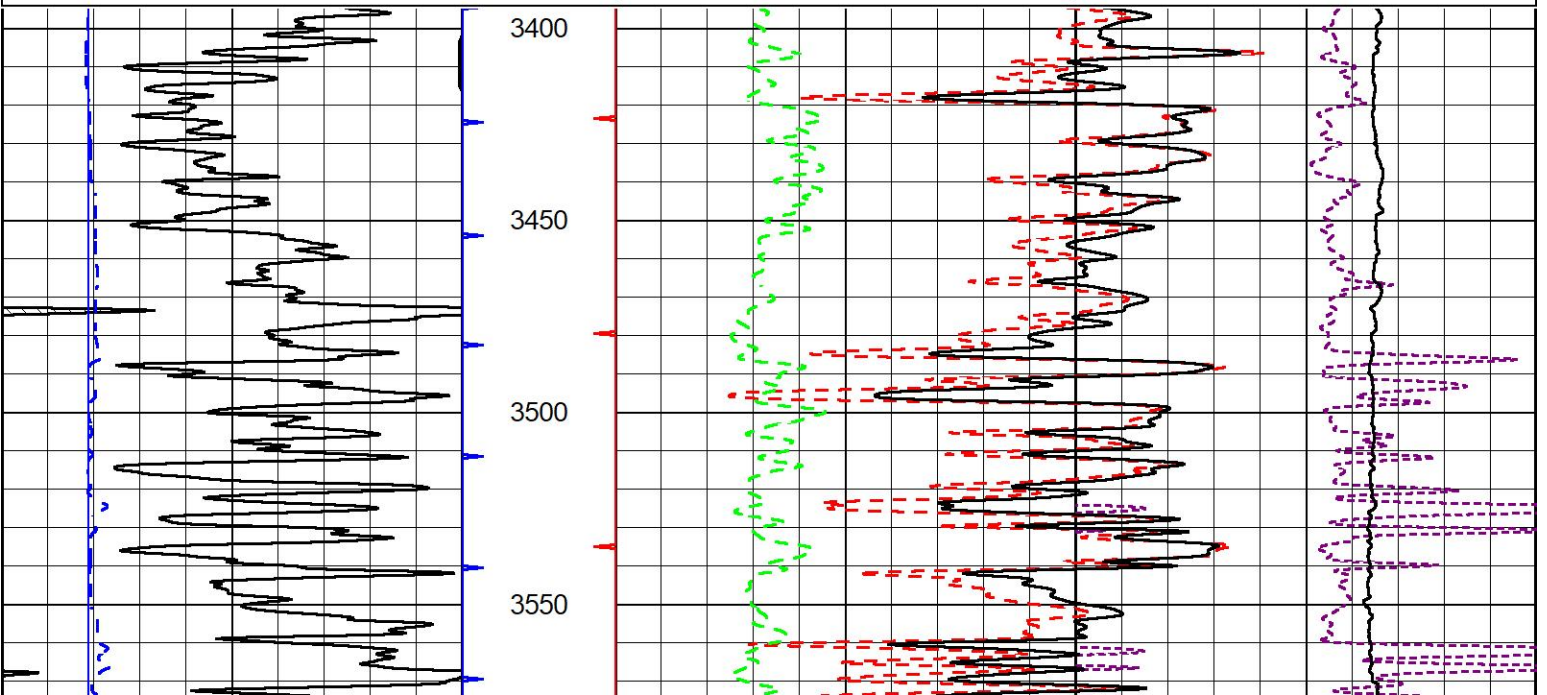


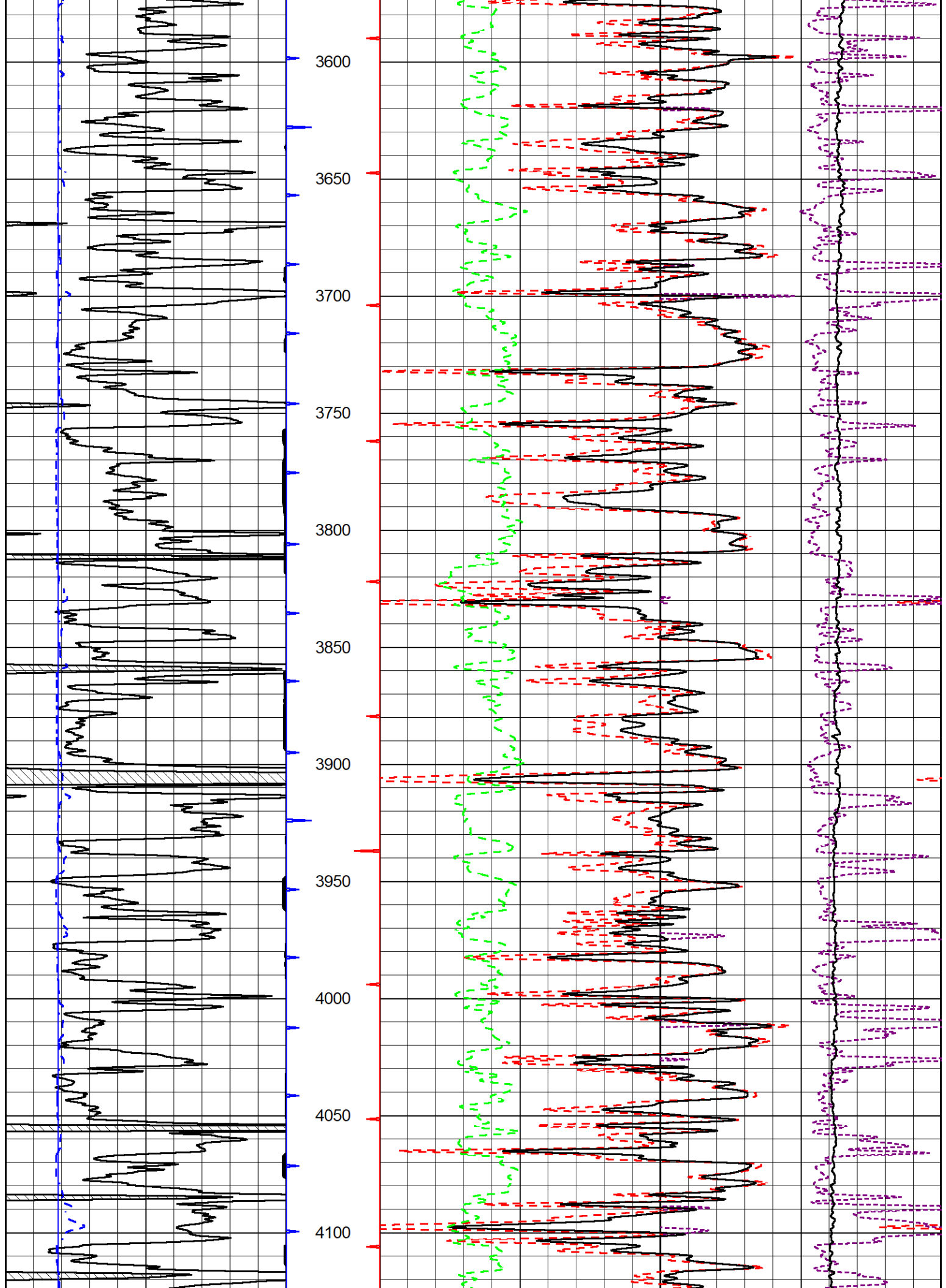
2" SCALE BULK DENSITY

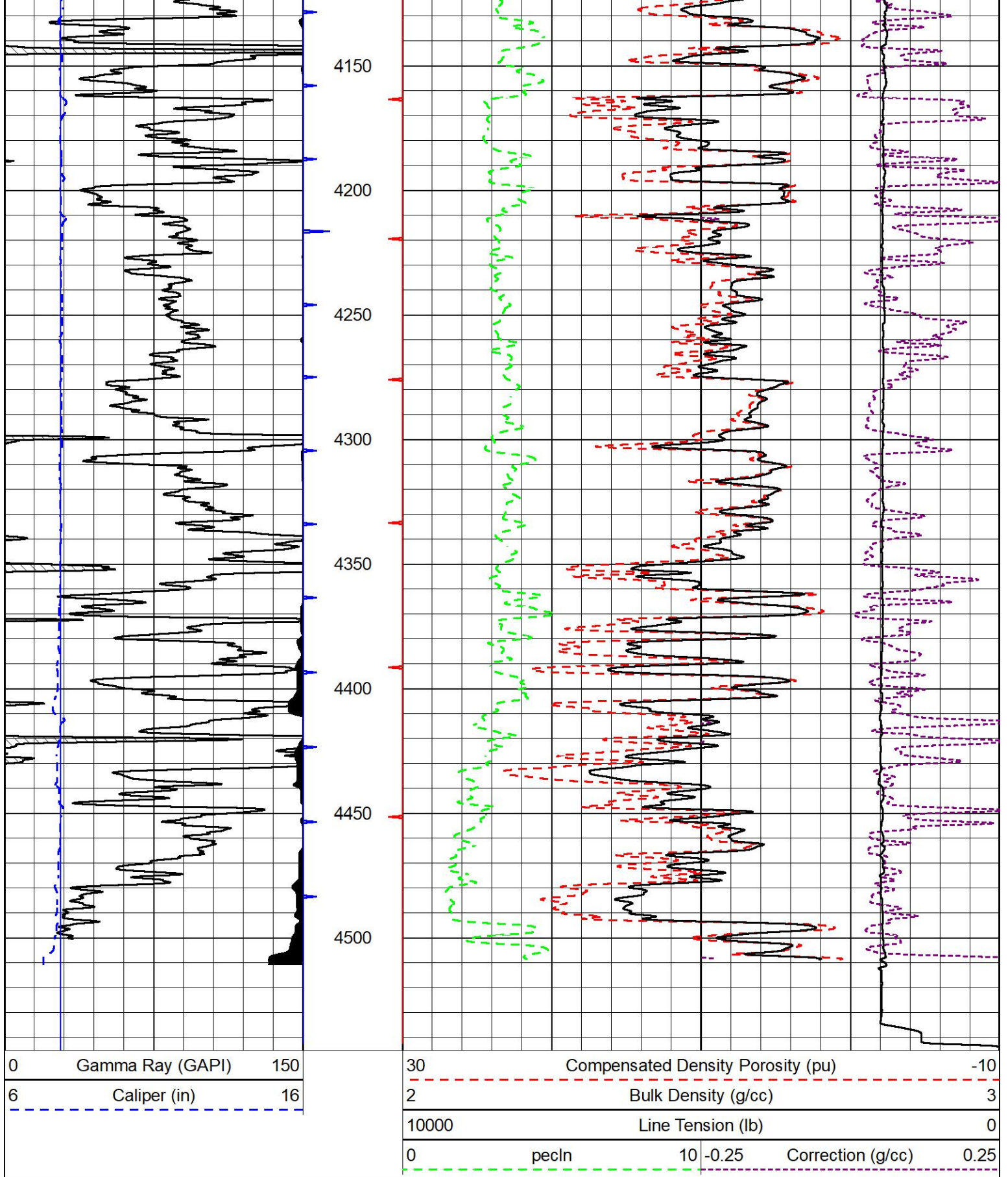
MAIN PASS

Database File landmark_godfrey a 3-32.db
 Dataset Pathname stkml/pass4.2
 Presentation Format _cdlpe
 Dataset Creation Tue Dec 12 01:06:56 2023
 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 |







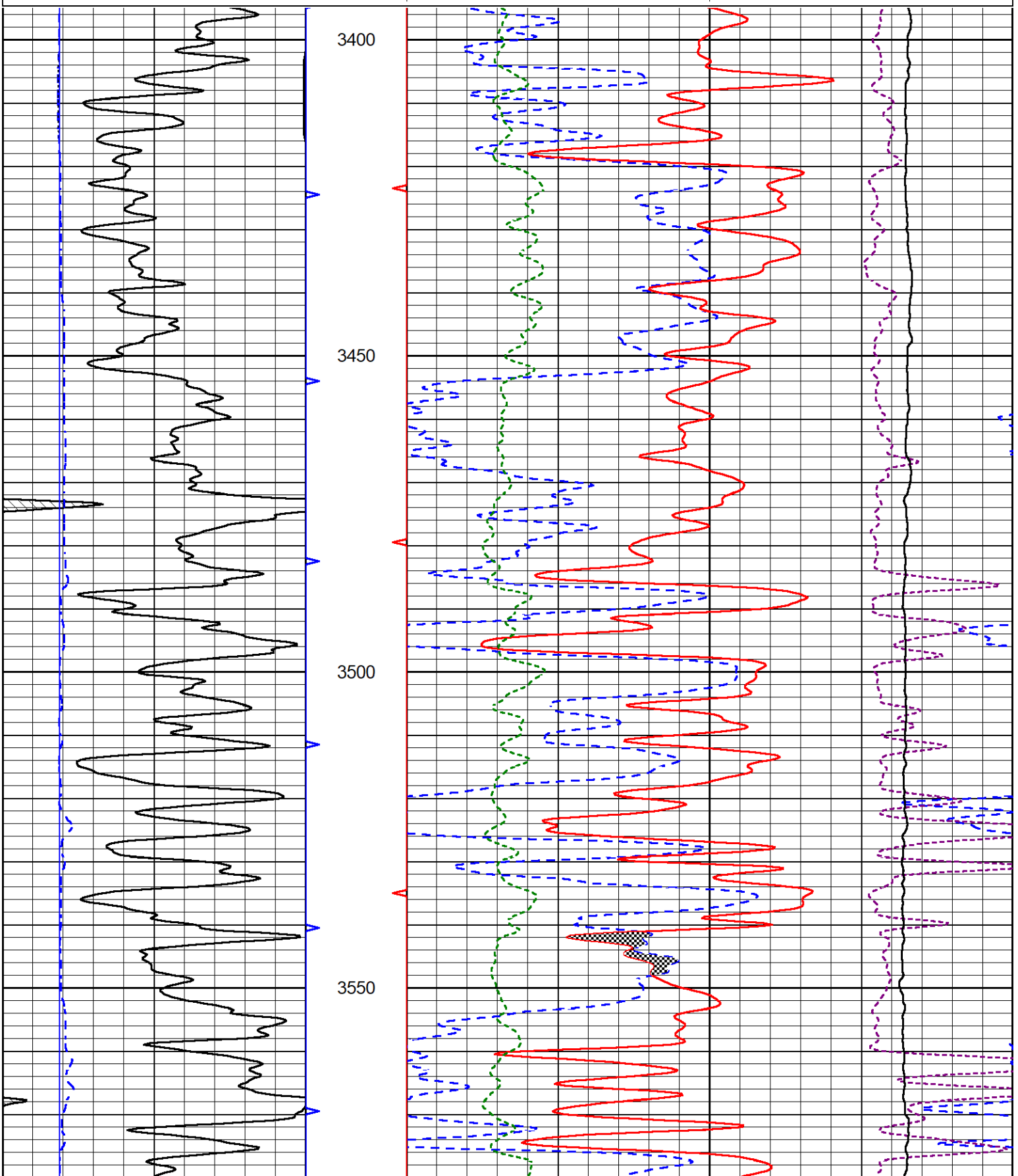
DETAIL SECTION

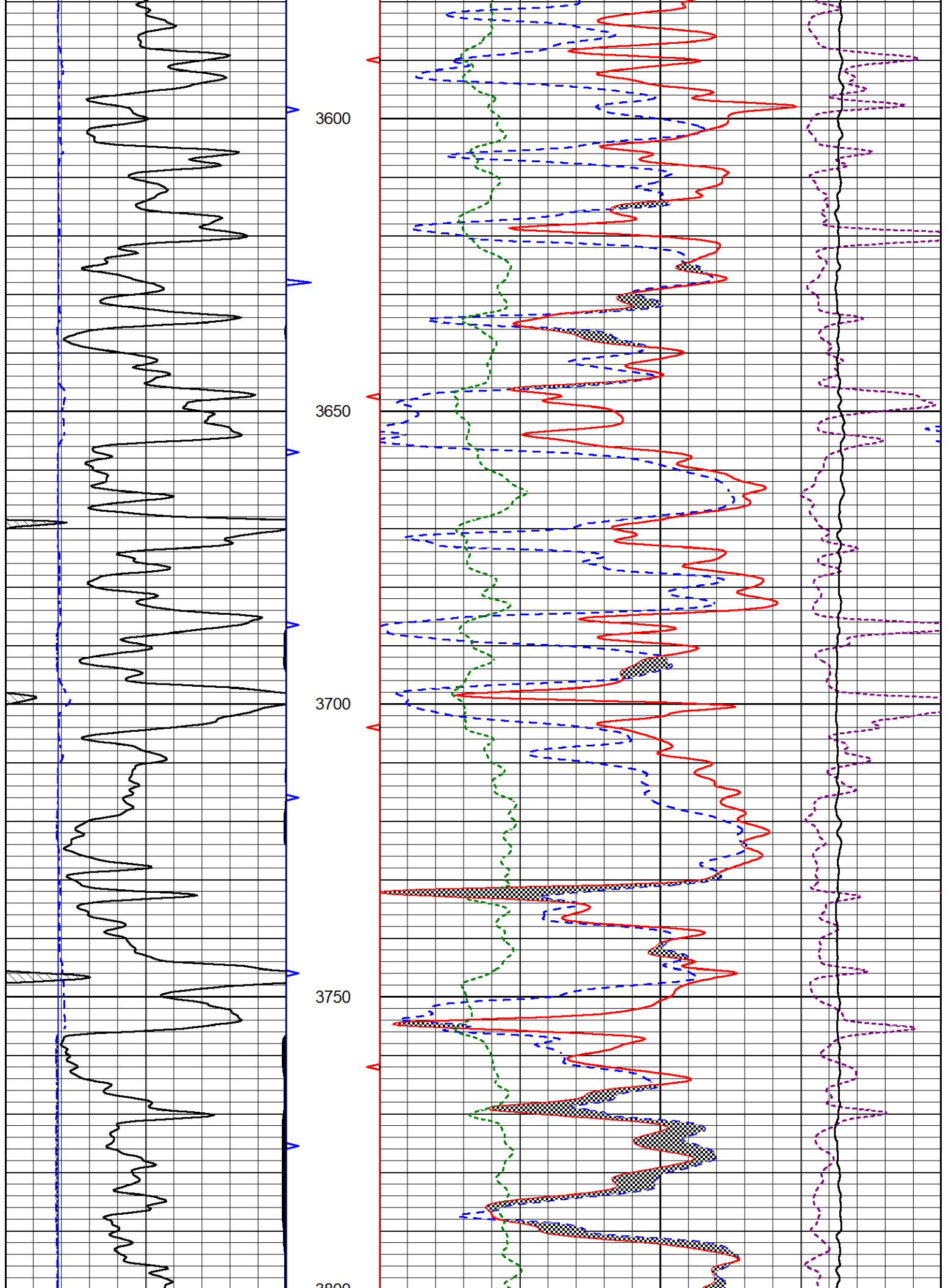
MAIN PASS

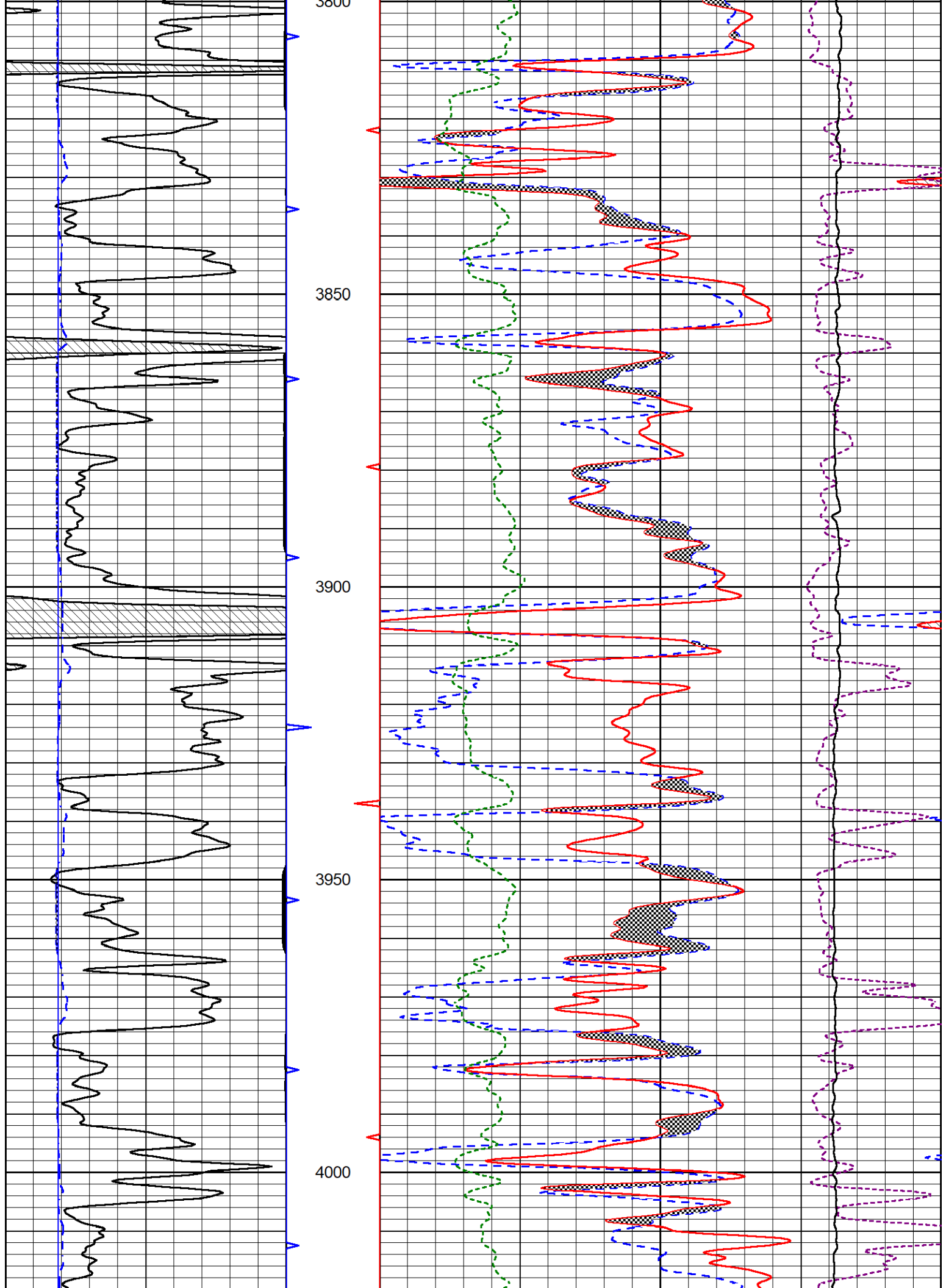
Dataset Pathname: stkml/pass4.5
 Presentation Format: _CNDLS~4
 Dataset Creation: Tue Dec 12 01:17:29 2023
 Charted by: Depth in Feet scaled 1:240

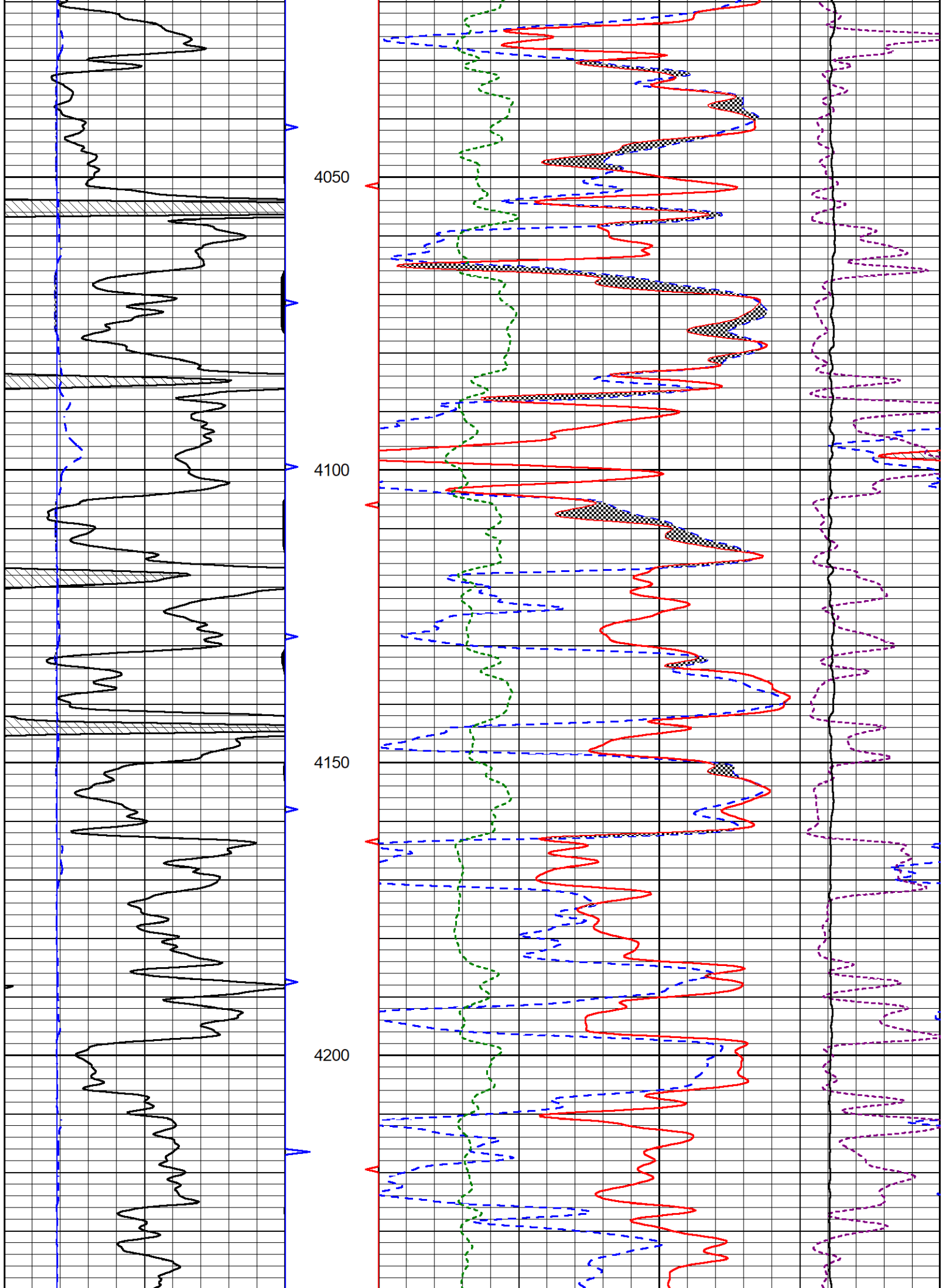
| | | |
|---|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |

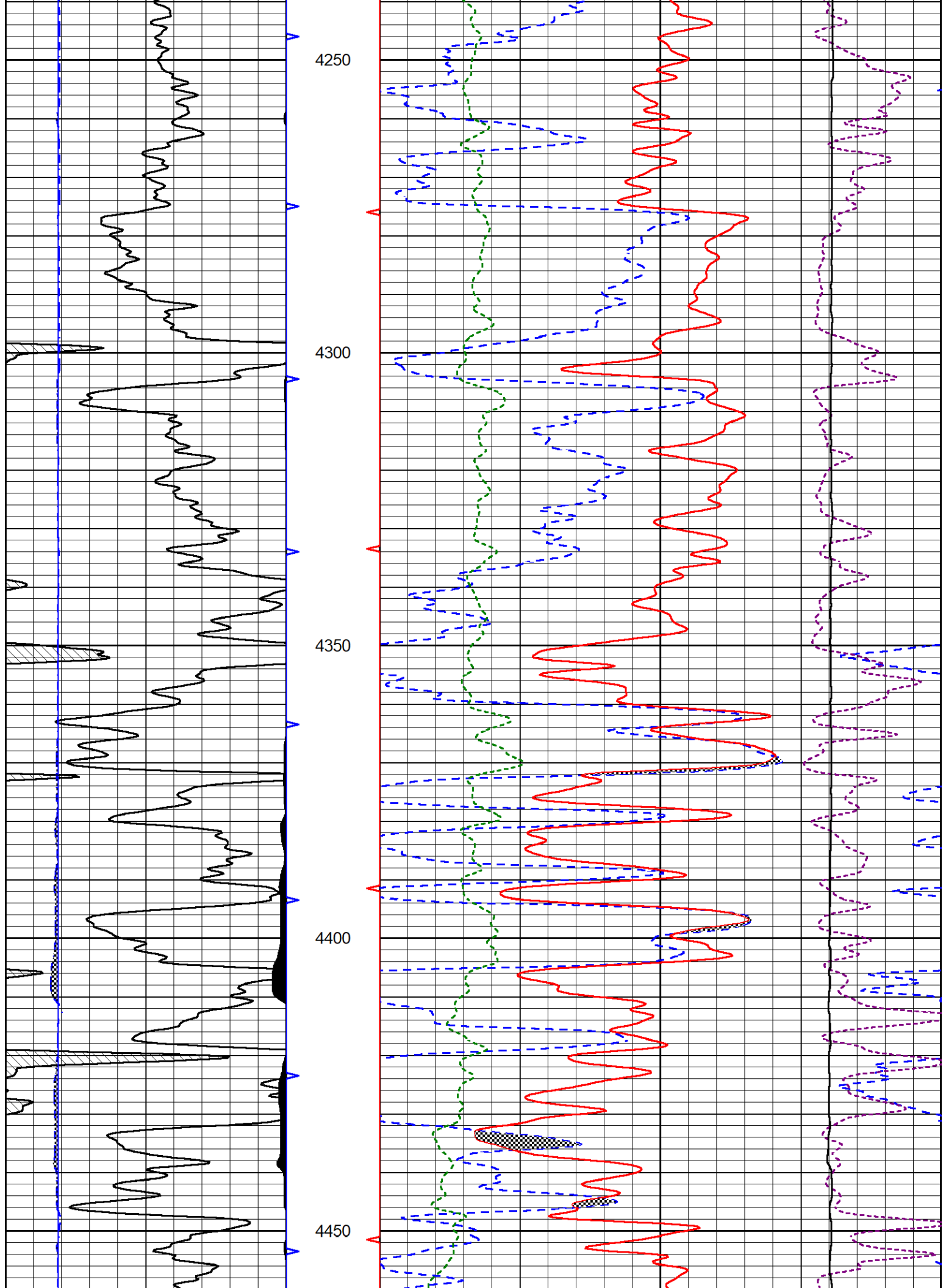
| | | |
|-------|-----------------------------------|------|
| 30 | CNPOR (pu) | -10 |
| 30 | Compensated Density Porosity (pu) | -10 |
| 10000 | Line Tension (lb) | 0 |
| 0 | PE | 10 |
| -0.25 | Corection (g/cc) | 0.25 |

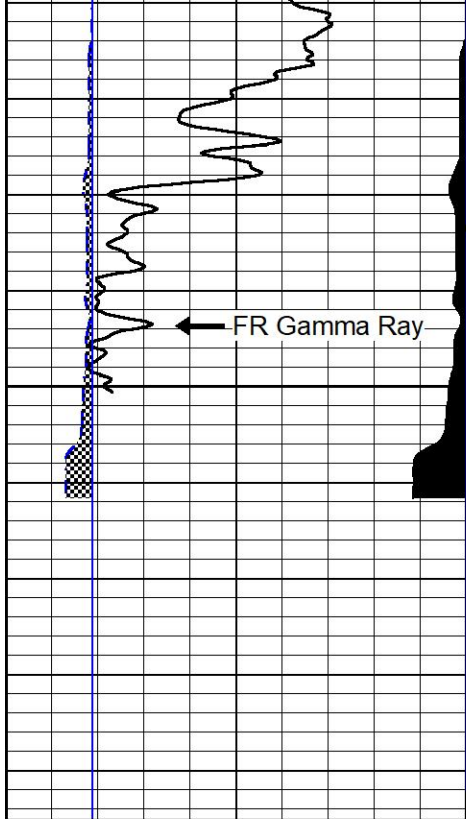








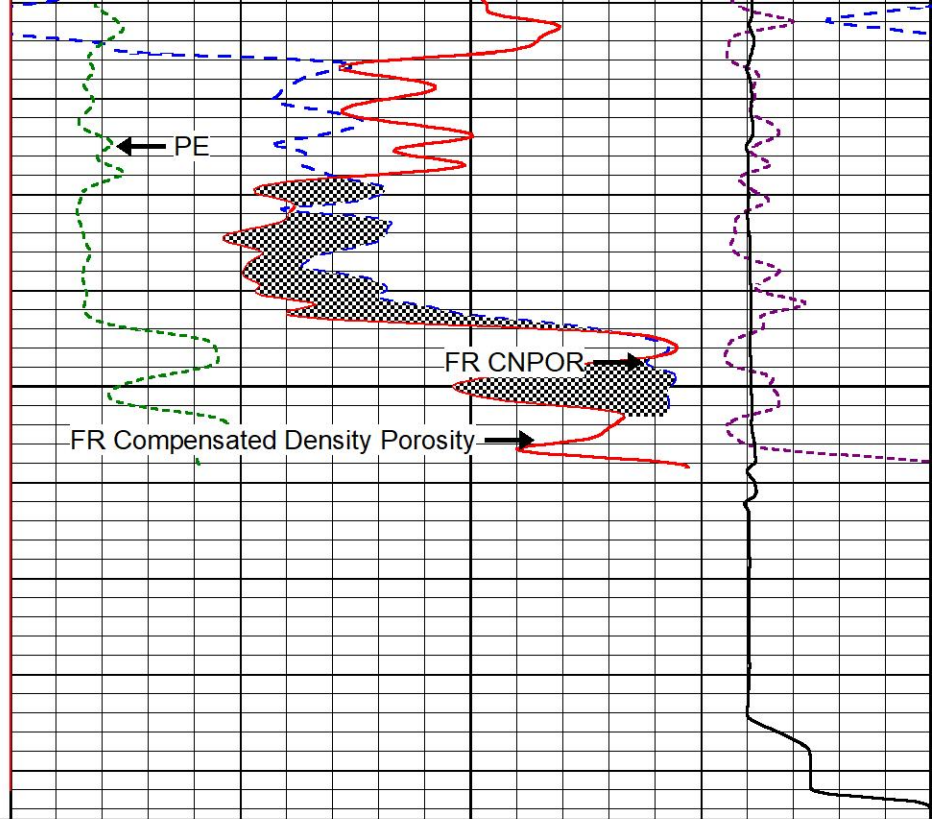




4500

← FR Gamma Ray

| | | |
|---|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |



← PE

FR CNPOR →

FR Compensated Density Porosity →

| | | | |
|-------|-----------------------------------|----------|-----------------------|
| 30 | CNPOR (pu) | | -10 |
| 30 | Compensated Density Porosity (pu) | | -10 |
| 10000 | Line Tension (lb) | | 0 |
| 0 | PE | 10 -0.25 | Corection (g/cc) 0.25 |



MIDWEST WIRELINE

REPEAT SECTION

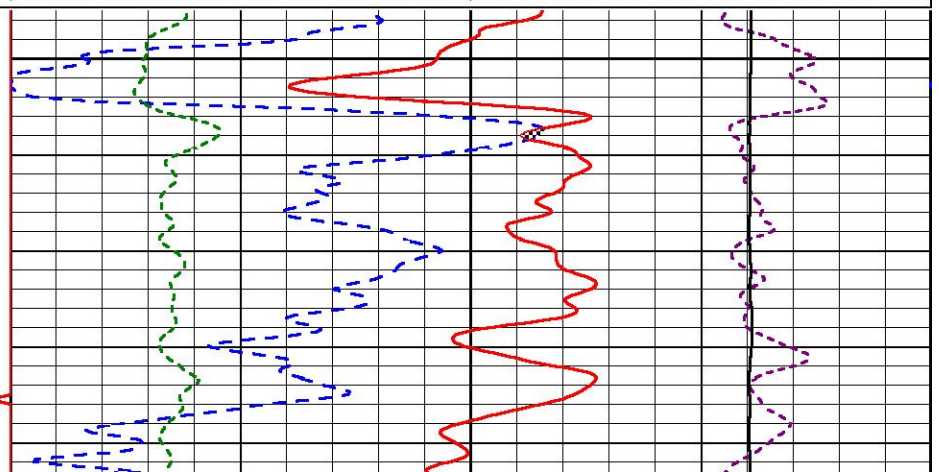
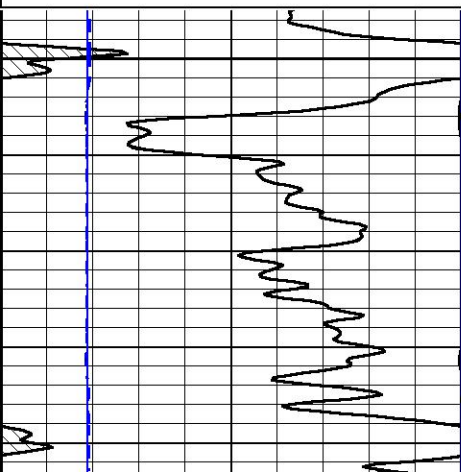
REPEAT PASS

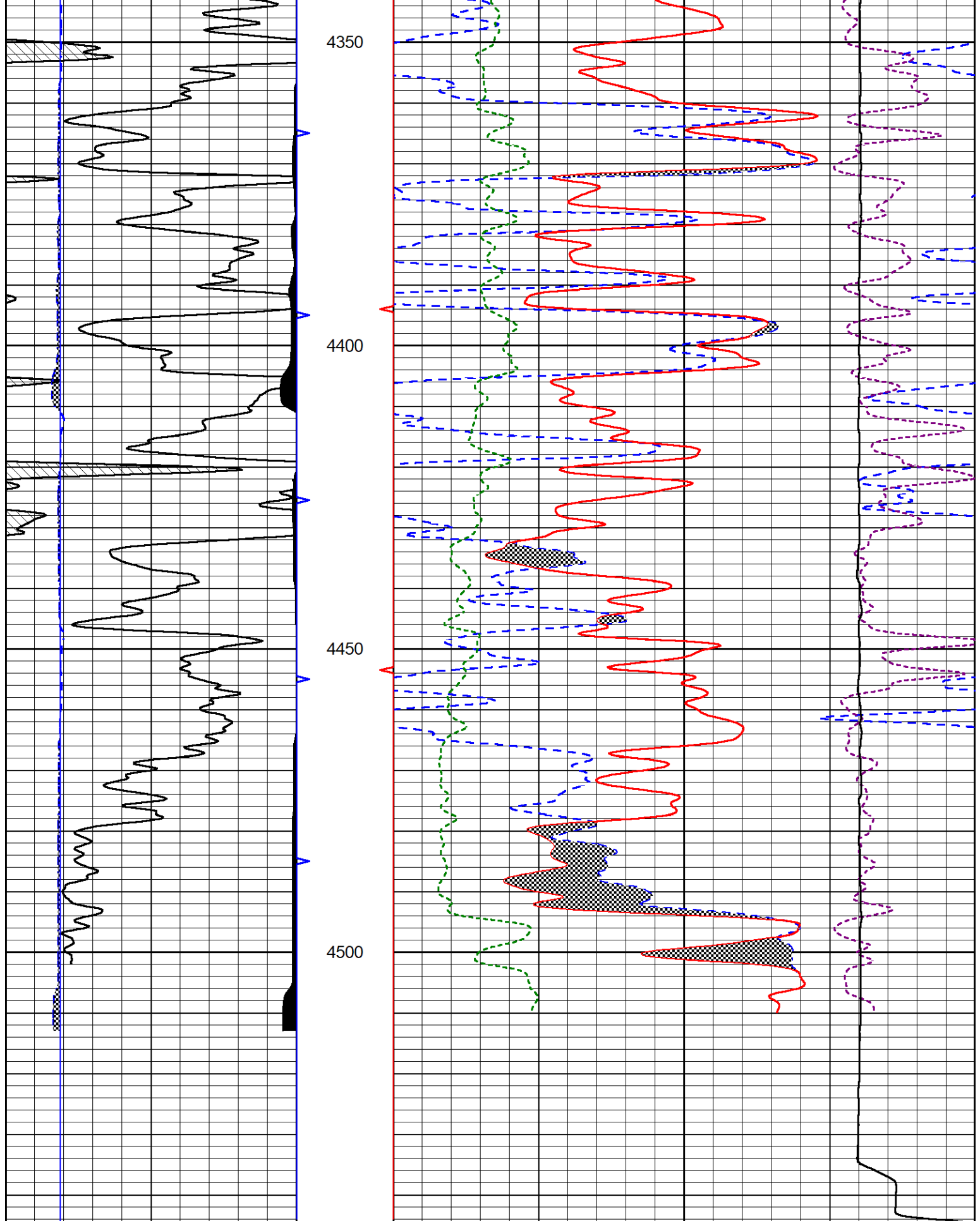
Database File landmark_godfrey a 3-32.db
 Dataset Pathname stkml/pass3.1
 Presentation Format _CNDLS~4
 Dataset Creation Tue Dec 12 00:58:35 2023
 Charted by Depth in Feet scaled 1:240

| | | |
|---|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |

| | | | |
|-------|-----------------------------------|----------|-----------------------|
| 30 | CNPOR (pu) | | -10 |
| 30 | Compensated Density Porosity (pu) | | -10 |
| 10000 | Line Tension (lb) | | 0 |
| 0 | PE | 10 -0.25 | Corection (g/cc) 0.25 |

4300





| | | |
|---|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |

| | | |
|-------|-----------------------------------|-----|
| 30 | CNPOR (pu) | -10 |
| 30 | Compensated Density Porosity (pu) | -10 |
| 10000 | Line Tension (lb) | 0 |

| | | | | | |
|---|----|----|-------|------------------|------|
| 0 | PE | 10 | -0.25 | Corection (g/cc) | 0.25 |
|---|----|----|-------|------------------|------|

Calibration Report

Database File landmark_godfrey a 3-32.db
 Dataset Pathname stkml/pass4.5
 Dataset Creation Tue Dec 12 01:17:29 2023

Dual Induction Calibration Report

Serial-Model: 504 HT-M&W
 Surface Cal Performed: Wed Jun 7 06:28:44 2023

| Loop: | Readings | | References | | | Results | |
|--------|----------|----------|------------|---------|--------|---------|---------|
| | Air | Loop | Air | Loop | | m | b |
| Deep | 178.615 | 710.235 | 0.000 | 255.800 | mmho/m | 1.100 | -4.500 |
| Medium | 161.982 | 1441.110 | 0.000 | 255.800 | mmho/m | 0.750 | -35.000 |

Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML
 Performed: Sat Dec 2 02:32:23 2023

| | Readings | | References | | | Results | |
|---------|----------|--------|------------|---------|-------|------------|----------|
| | Zero | Cal | Zero | Cal | | m | b |
| Normal | 0.0037 | 0.0043 | 0.0000 | 10.0000 | Ohm-m | 22500.0000 | -0.8000 |
| Inverse | 0.1208 | 0.0013 | 0.0000 | 10.0000 | Ohm-m | 21000.0000 | 0.0000 |
| Caliper | 1.0046 | 1.1419 | 5.5000 | 20.0000 | in | 50.0000 | -44.5500 |

LITHODENSITY Calibration Report

Serial Number: 701-01
 Tool Model: STEP LITHO Short
 Performed: Wed Nov 8 15:09:59 2023

Source:

| | Win1 | Win2 | Win3 | Win4 | Win5 | Win6 | Win7 | Win8 | |
|----------------|------|------|-------|------|------|------|------|------|-----|
| Background: | | | | | | | | | |
| SS: | 52 | 54 | 204 | 252 | 23 | 67 | 44 | 1 | cps |
| LS: | 78 | 87 | 326 | 426 | 46 | 135 | 86 | 3 | cps |
| Aluminum: | | | | | | | | | |
| SS: | 790 | 958 | 2239 | 2075 | 45 | 71 | 45 | 2 | cps |
| LS: | 877 | 1656 | 3109 | 1518 | 56 | 132 | 85 | 4 | cps |
| Magnesium: | | | | | | | | | |
| SS: | 1295 | 1558 | 3653 | 2988 | 50 | 71 | 47 | 3 | cps |
| LS: | 3705 | 6851 | 12249 | 4886 | 93 | 127 | 85 | 12 | cps |
| Aluminum+Iron: | | | | | | | | | |
| SS: | 500 | 668 | 1858 | 1761 | 40 | 72 | 47 | 2 | cps |
| LS: | 514 | 1150 | 2612 | 1334 | 53 | 134 | 84 | 4 | cps |

| | Density | | PE | |
|-------------|---------|------------|--------|--------------------|
| | Actual | Calibrated | Actual | Calibrated Quality |
| Background: | | | | |
| SS: | | | | 0.209 |
| LS: | | | | 0.223 |
| Aluminum: | | | | |
| SS: | 2.6000 | 2.6000 | g/cc | 0.229 |
| LS: | 2.6000 | 2.6000 | g/cc | 0.218 |
| Magnesium: | | | | |

| | | | | | | | |
|----------------|-----|--------|--------|------|--------|--------|-------|
| Magnesium: | SS: | 1.6800 | 1.6800 | g/cc | 2.5700 | 2.5700 | 0.203 |
| | LS: | 1.6800 | 1.6800 | g/cc | 2.5700 | 2.5700 | 0.195 |
| Aluminum+Iron: | SS: | | | | 6.1800 | | 0.207 |
| | LS: | | | | 6.1800 | | 0.229 |

| | | |
|-------------|------------|----------|
| Caliper: | Reference: | Reading: |
| Small Ring: | 6.0 in | 0.2 |
| Large Ring: | 16.0 in | 0.8 |
| Gain: | 14.000 | |
| Offset: | 1.800 | |

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 | Landmark Resources, Inc. |
| Well | Godfrey A #3-32 |
| Field | |
| County | Sheridan |
| State | Kansas |