



MIDWEST WIRELINE

DUAL COMP POROSITY LOG

Company Satchell Creek Petroleum, LLC
 Well Worcester "A" #2-34
 Field Last Hope Northeast
 County Graham
 State Kansas

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Location: API #: 15-065-24278
 NE NE SW SE
 1217' FSL & 1448' FEL
 SEC 34 TWP 6S RGE 22W
 Permanent Datum Ground Level Elevation 2267
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 DIL
 MEL/SON
 K.B. 2274
 D.F. 2272
 G.L. 2267

| | | | | | | | |
|------------------------|-------------------|------|------|-------|------|------|-----|
| Date | 8/8/2023 | | | | | | |
| Run Number | One | | | | | | |
| Type Log | CNL/CDL | | | | | | |
| Depth Driller | 3900 | | | | | | |
| Depth Logger | 3878 | | | | | | |
| Bottom Logged Interval | 3858 | | | | | | |
| Top Logged Interval | 3000 | | | | | | |
| Type Fluid In Hole | Chemical | | | | | | |
| Salinity, PPM CL | 1,500 ppm | | | | | | |
| Density | 9.3 | | | | | | |
| Level | Full | | | | | | |
| Max. Rec. Temp. F | 117 | | | | | | |
| Operating Rig Time | 4 Hours | | | | | | |
| Equipment -- Location | P-108 HAYS | | | | | | |
| Recorded By | D. Legleiter | | | | | | |
| Witnessed By | Mr. Sean Deenihan | | | | | | |
| Borehole Record | | | | | | | |
| Run No. | Bit | From | To | Size | Wgt. | From | To |
| 1 | 12.25 | 00 | 220 | 8.625 | 24# | 00 | 220 |
| 2 | 7.875 | 220 | 3900 | | | | |
| Casing Record | | | | | | | |

<<< 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.

Hill City, KS 3 East to Rd.310
 7N to Rd. Y, 3/4 E N Into

Log Measured From: Kelly Bushing 7 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: D. Legleiter | Operator: | Primary Witness: Mr. Sean Deenihan | Secondary Witness: |
| Operator: | Operator: | Secondary Witness: | Secondary Witness: |
| Operator: | | Secondary Witness: | |

| | | | | | | |
|----------|-------------|-----------|-------------|-------------|-----------|-------------|
| Operator | Offset (ft) | Schematic | Description | Length (ft) | C.D. (in) | Weight (lb) |
|----------|-------------|-----------|-------------|-------------|-----------|-------------|

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|--------------------|-------------------------|-----------|------------------|-------------|-----------|-------------|
| GR | 32.75 | | GR-M&W (103) | 3.00 | 3.50 | 50.00 |
| CNLSC CNSSC | 29.65 28.90 | | CNT-M&W (210) | 5.00 | 3.50 | 100.00 |
| LSD DCAL SSD | 20.60 20.58 20.10 | | CDL-M&W (303-03) | 8.50 | 4.00 | 250.00 |
| RLL3F RLL3 | 15.50 15.50 | | DIL-M&W (505 HT) | 18.25 | 3.50 | 220.00 |
| CILD | 8.33 | | | | | |
| CILM | 4.50 | | | | | |
| SP | 0.20 | | | | | |

Dataset: satchell_worcester_a_2-34.db: field/well/Stack/pass4.4
 Total length: 34.75 ft
 Total weight: 620.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\satchell_worcester_a_2-34.db
 Dataset field/well/Stack/pass4.4/_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 | No | 4 | 17 | 210 | 80 | Off | 0 |

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

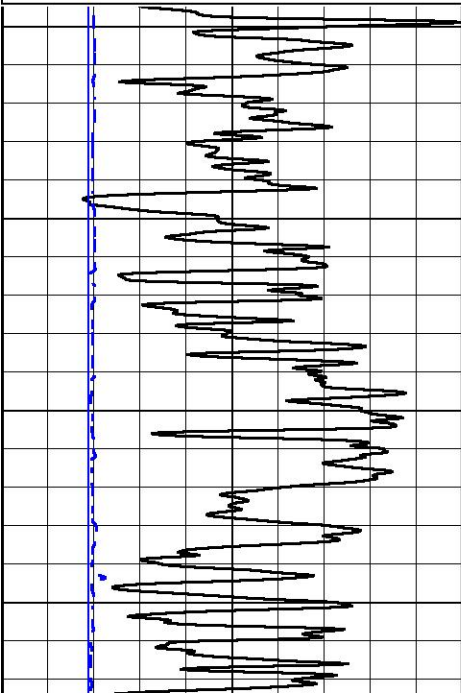


Detail Section

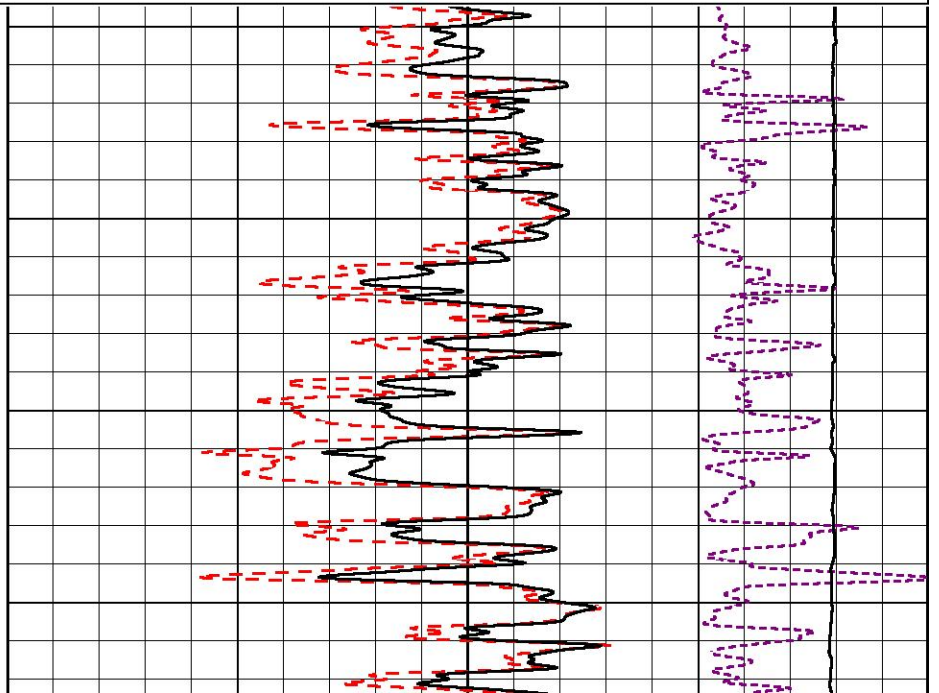
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 Dataset Pathname Stack/pass4.4
 Presentation Format _cdl
 Dataset Creation Tue Aug 08 18:22:38 2023
 Charted by Depth in Feet scaled 1:600

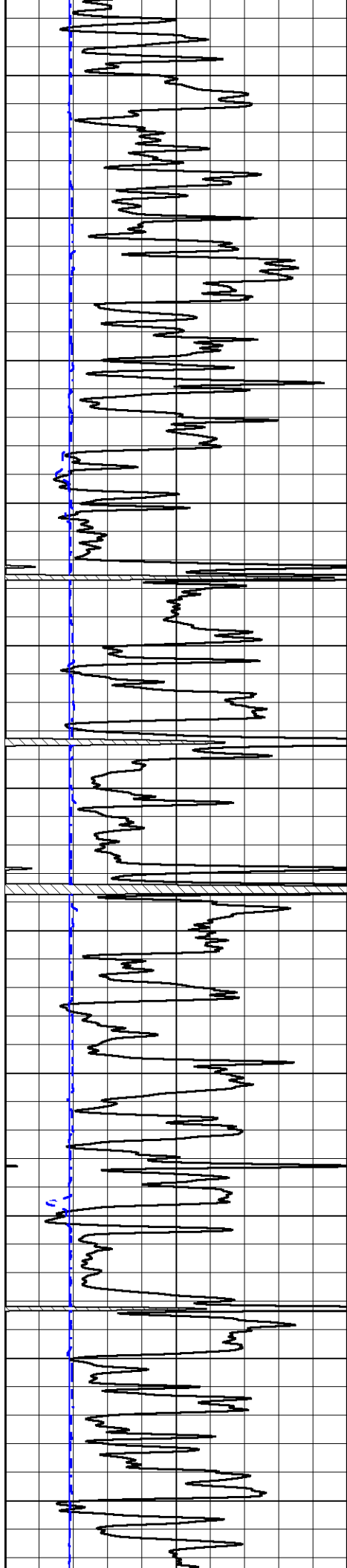
| | | |
|---|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |

| | | |
|-------|--------------------------|------|
| 30 | Compensated Density (pu) | -10 |
| 2 | Bulk Density (g/cc) | 3 |
| 15000 | Line Tension (lb) | 0 |
| -0.25 | Correction (g/cc) | 0.25 |



3000
3050
3100
3150





3200

3250

3300

3350

3400

3450

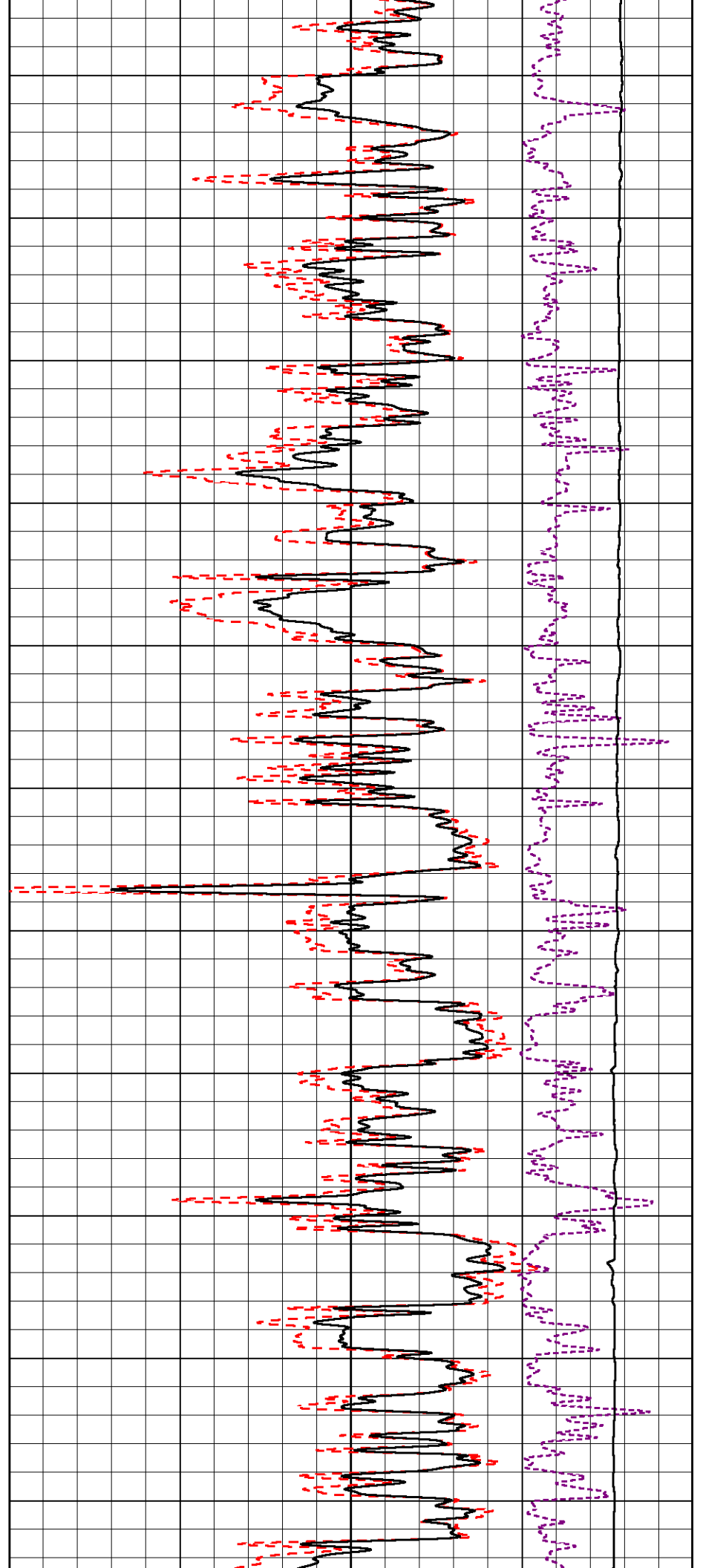
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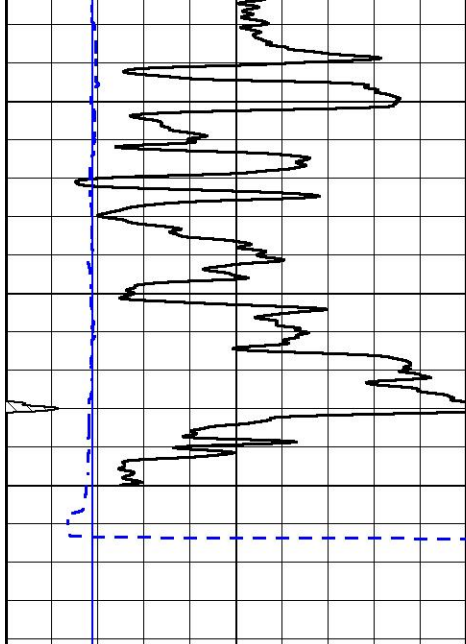
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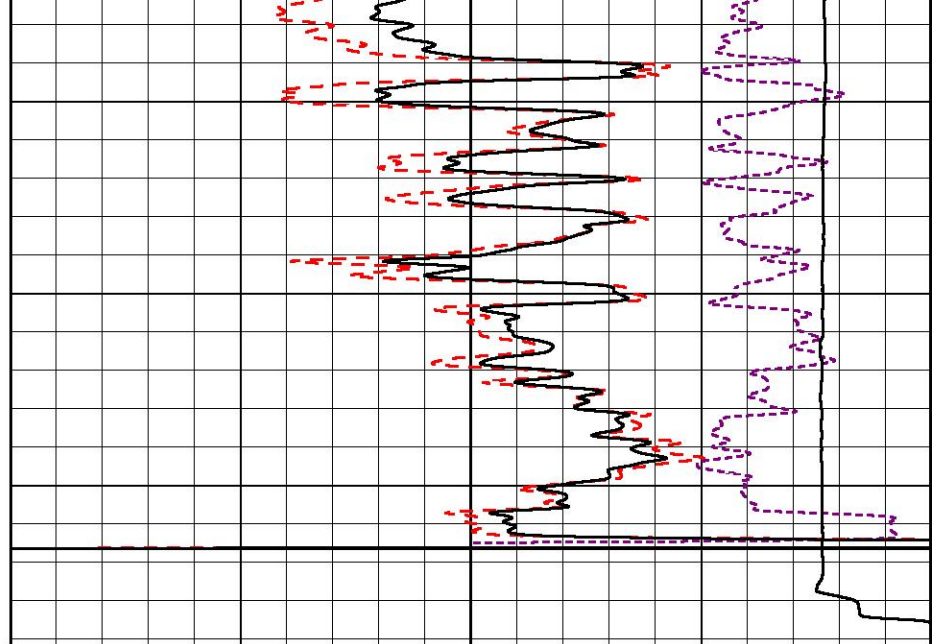
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3700





3750
3800
3850



| | | |
|-------|--------------------------|------|
| 30 | Compensated Density (pu) | -10 |
| 2 | Bulk Density (g/cc) | 3 |
| 15000 | Line Tension (lb) | 0 |
| -0.25 | Correction (g/cc) | 0.25 |

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

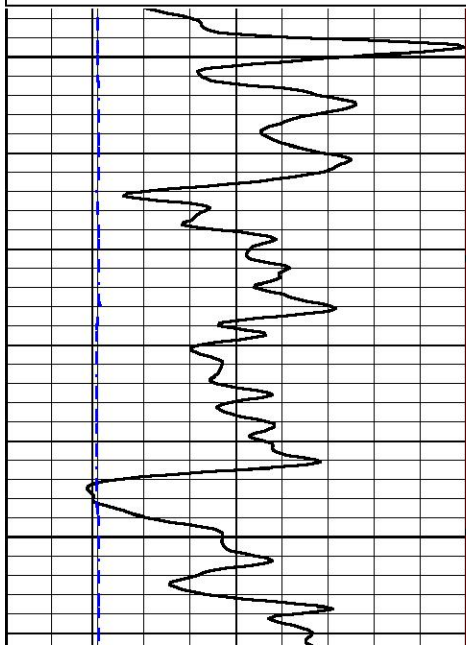


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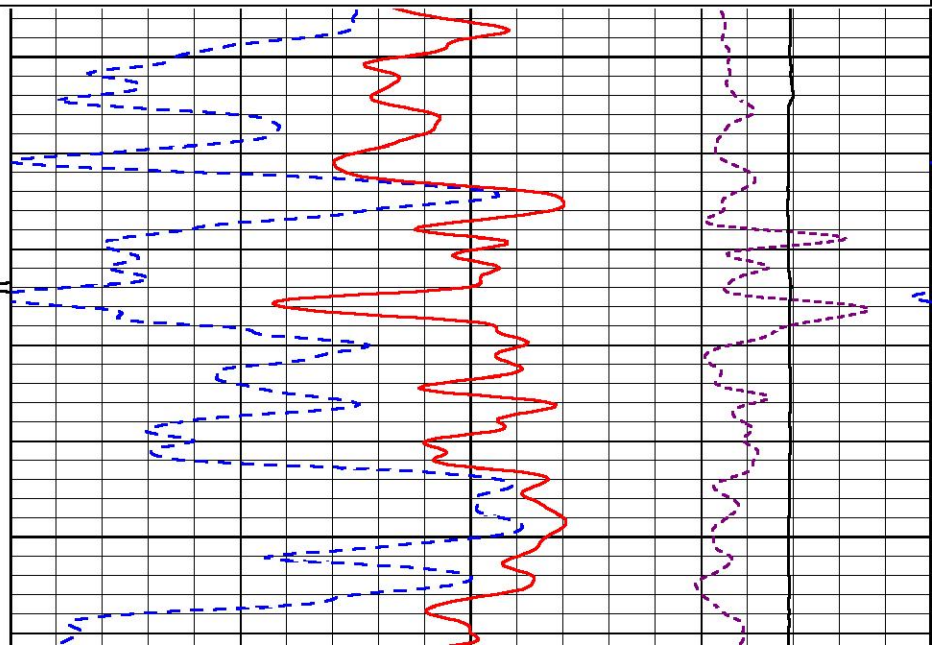
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 Dataset Pathname Stack/pass4.4
 Presentation Format _CNDLS~1
 Dataset Creation Tue Aug 08 18:22:38 2023
 Charted by Depth in Feet scaled 1:240

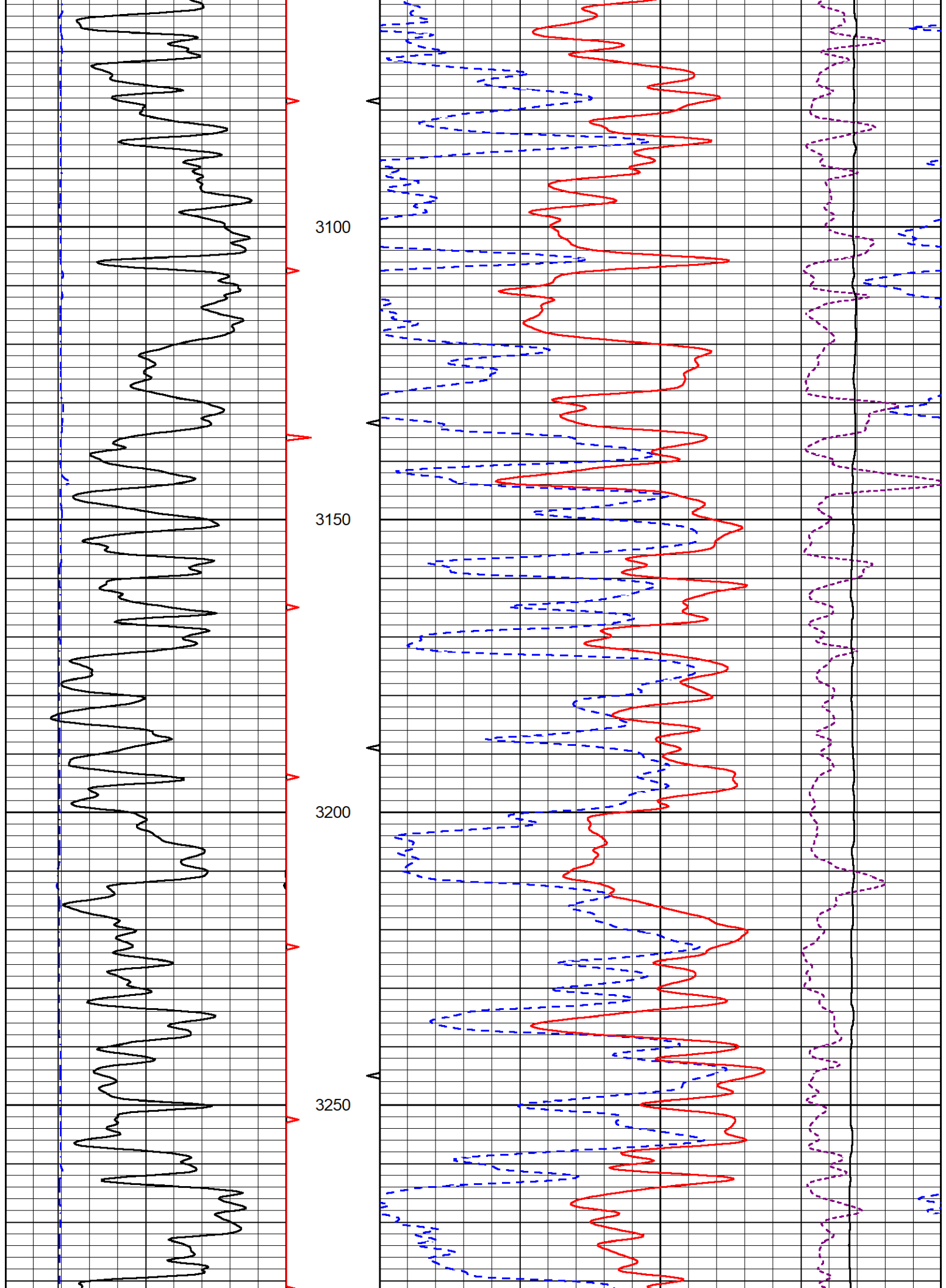
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|---|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| 6 | Caliper (in) | 16 |

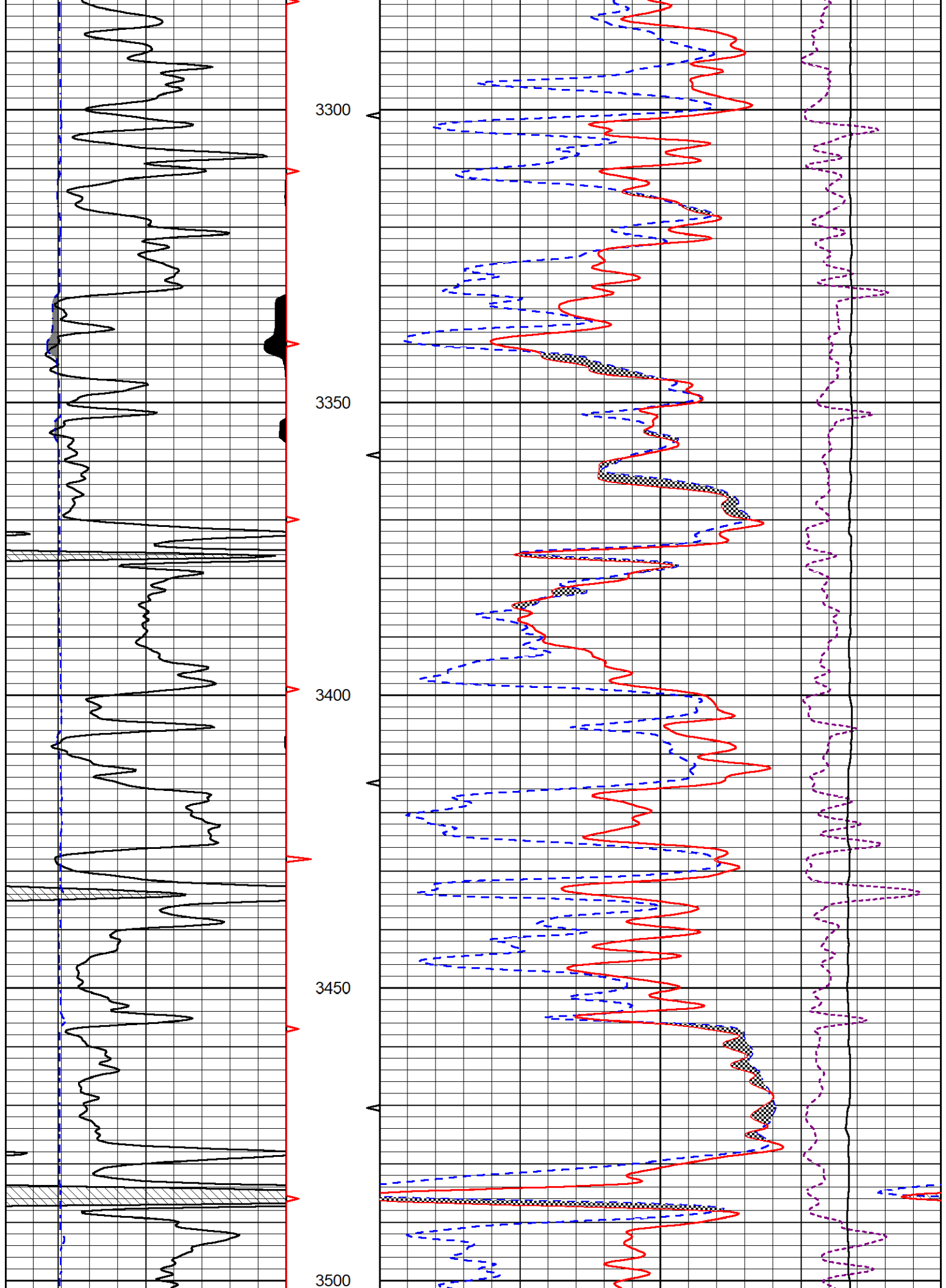
| | | |
|-------|--------------------------|------|
| 30 | Compensated Neutron (pu) | -10 |
| 30 | Compensated Density (pu) | -10 |
| 10000 | Line Tension (lb) | 0 |
| -0.25 | Correction (g/cc) | 0.25 |

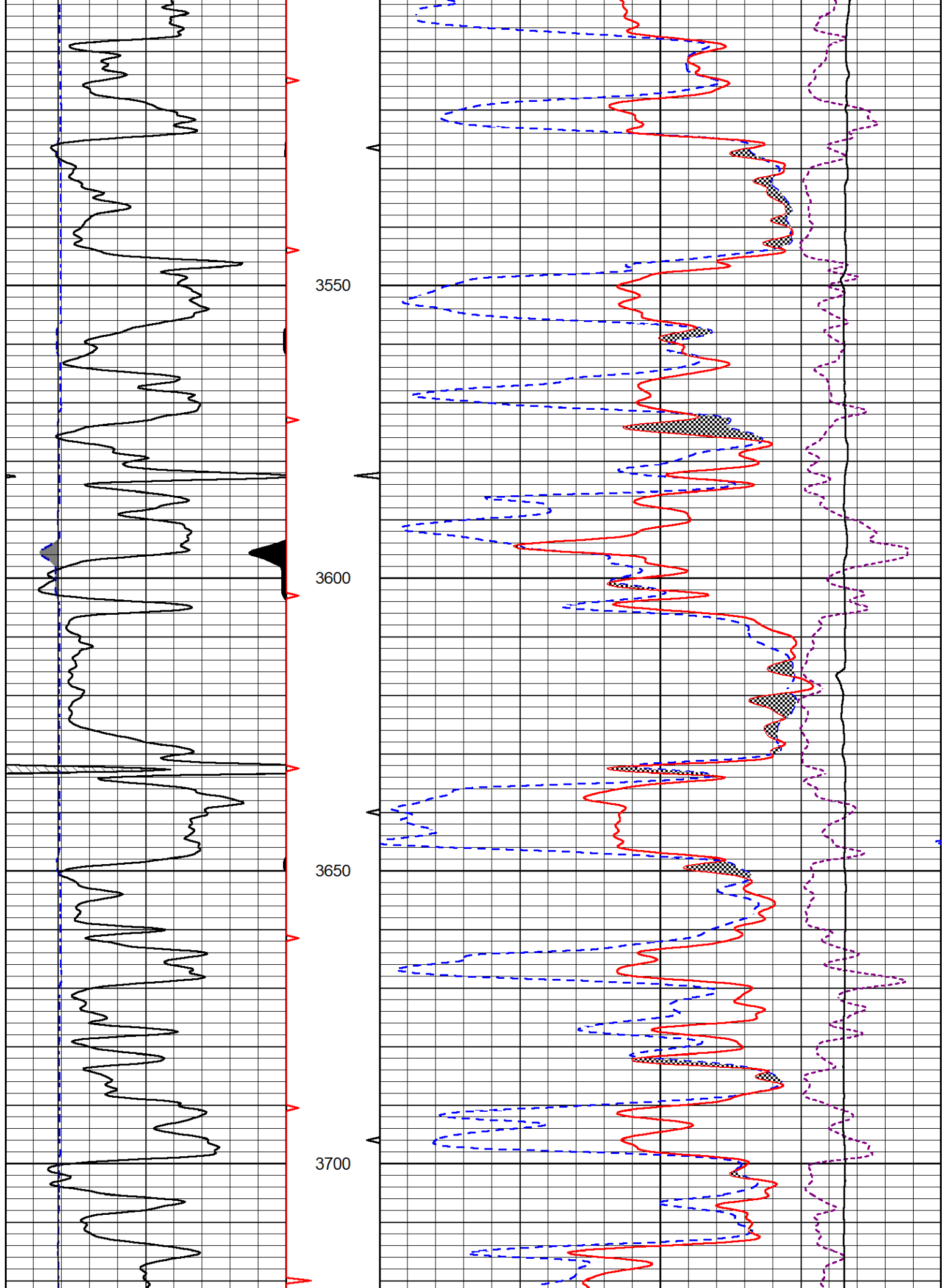


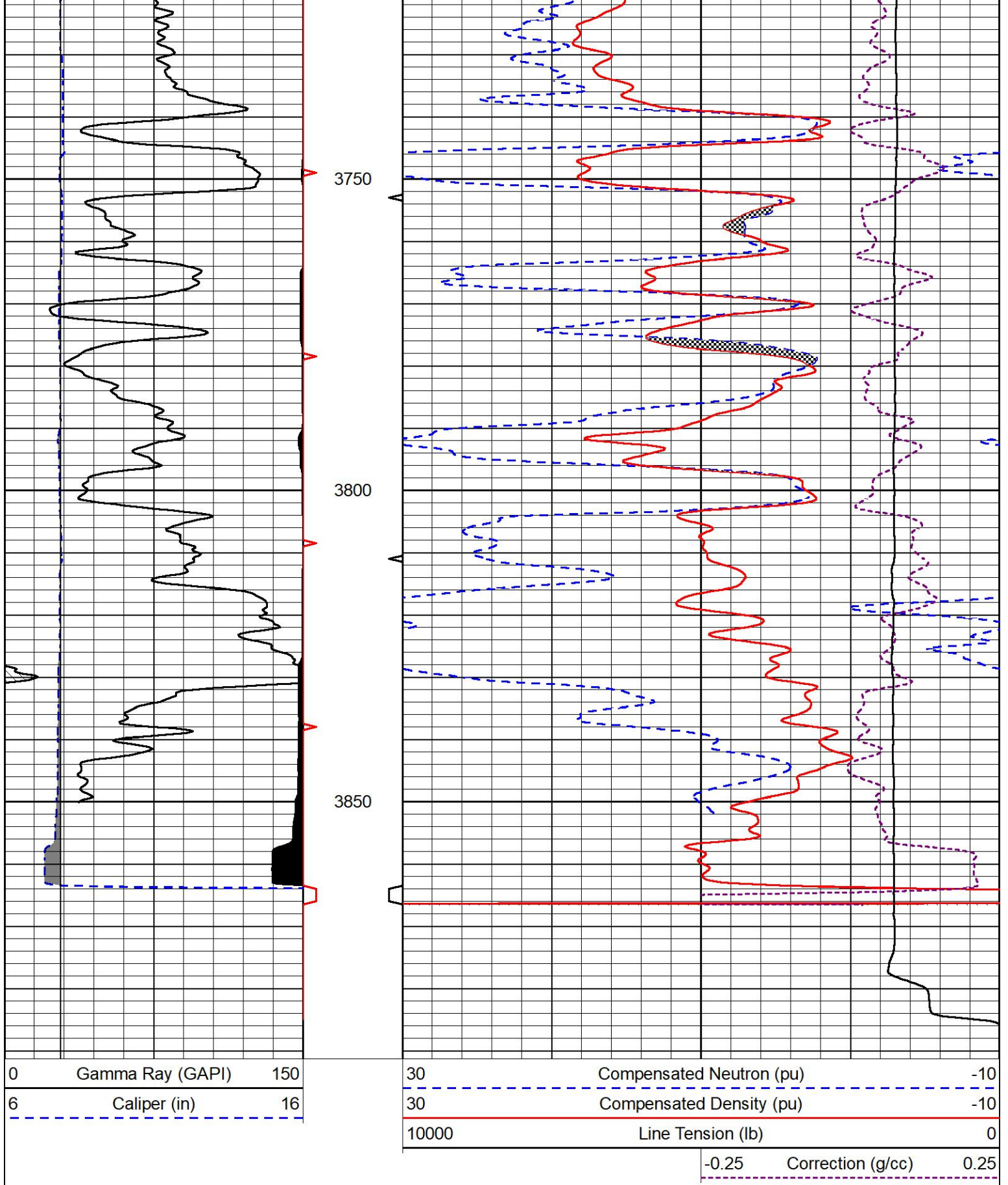
3000
3050







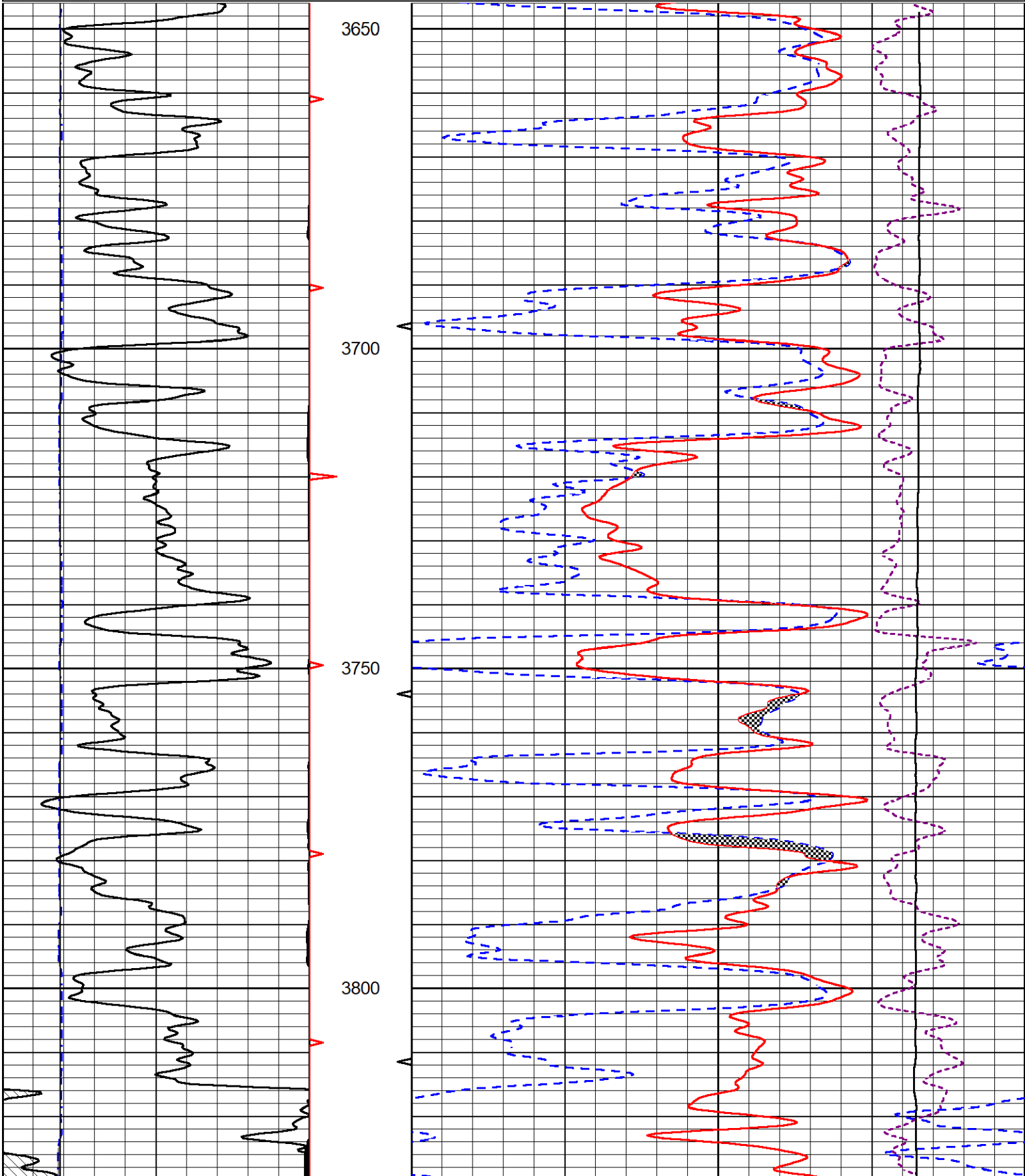


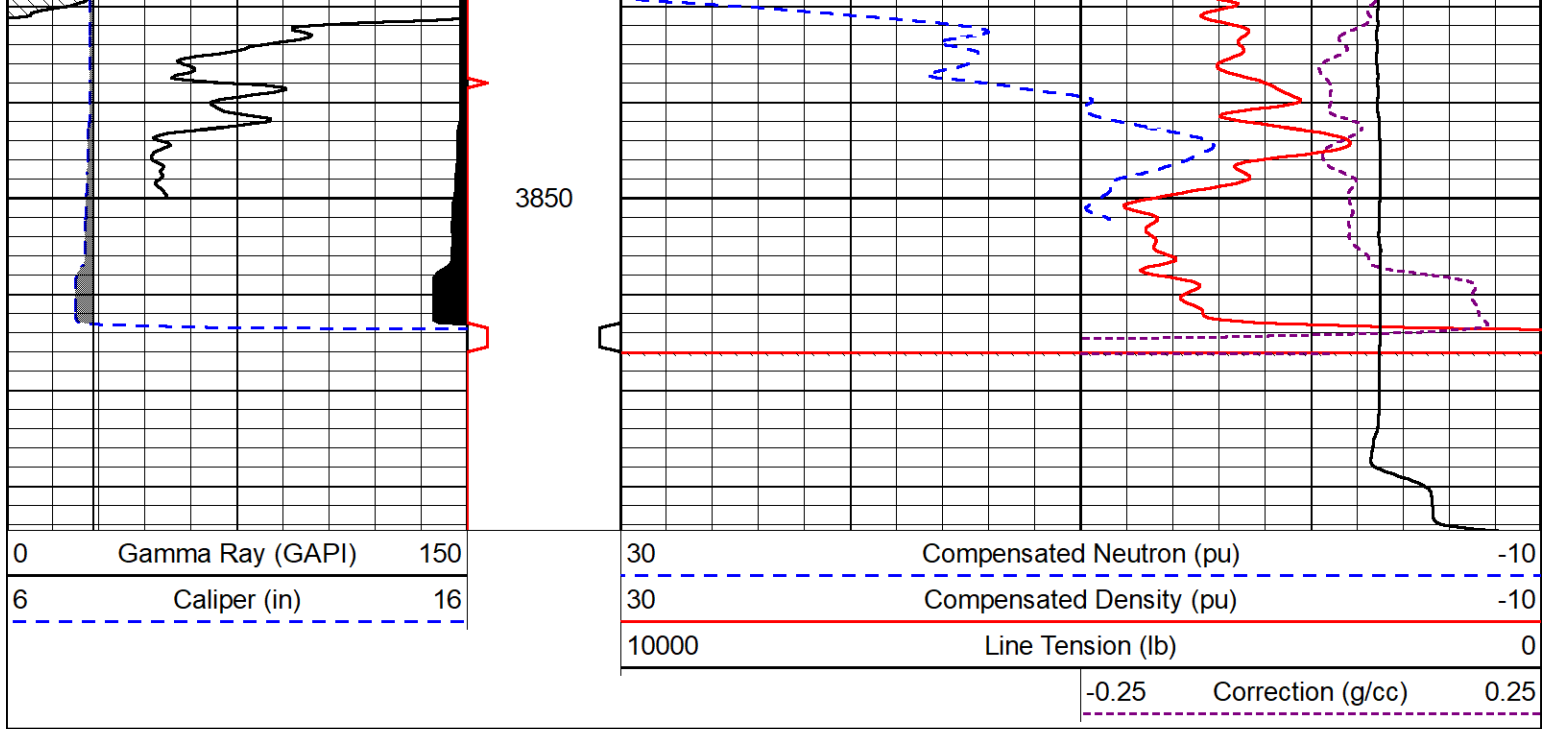


Repeat Section

Dataset Pathname Stack/pass3.5
 Presentation Format _CNDLS~1
 Dataset Creation Tue Aug 08 17:55:40 2023
 Charted by Depth in Feet scaled 1:240

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





Calibration Report

Database File satchell_worcester_a_2-34.db
 Dataset Pathname Stack/pass4.4
 Dataset Creation Tue Aug 08 18:22:38 2023

Dual Induction Calibration Report

Serial-Model: 505 HT-M&W
 Surface Cal Performed: Mon Jul 24 01:33:00 2023

| Loop: | Readings | | References | | Results | | |
|--------|----------|----------|------------|---------|---------|-------|---------|
| | Air | Loop | Air | Loop | m | b | |
| Deep | 167.000 | 835.000 | 0.000 | 255.800 | mmho/m | 0.480 | -55.000 |
| Medium | 1348.000 | 1348.000 | 0.000 | 255.800 | mmho/m | 0.400 | -60.000 |

Compensated Density Calibration Report

Serial-Model: 303-03-M&W
 Source #: 21170B
 Master Calibration Performed: Wed Jun 21 06:11:17 2023

Master Calibration

| | Density | | Far Detector | Near Detector | |
|---------------------|---------|------|-----------------------------|---------------|-----|
| Magnesium | 1.755 | g/cc | 4162.25 | 5570.06 | cps |
| Aluminum | 2.590 | g/cc | 913.18 | 3747.07 | cps |
| Spine Angle = 75.35 | | | Density/Spine Ratio = 0.533 | | |
| | Size | | Reading | | |
| Small Ring | 4.00 | in | 1.17 | | |
| Large Ring | 14.00 | in | 1.07 | | |

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: 103
 Tool Model: M&W
 Performed: Fri May 26 12:04:43 2023

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.5700 GAPI/cps