



**PIONEER**  
Pioneer Energy Services

## DUAL COMP POROSITY LOG

Company LACHENMAYR OIL, LLC  
Well JME FARMS #1  
Field UNNAMED  
County RUSH State KANSAS

Location: API #: 15-165-22138-00-00

Other Services

330' FNL & 1550' FEL  
SEC 17 TWP 17S RGE 19W

DIL/BHCS

Permanent Datum GROUND LEVEL Elevation 2148'  
Log Measured From KELLY BUSHING  
Drilling Measured From KELLY BUSHING

Elevation  
K.B. 2156'  
D.F. N/A  
G.L. 2148'

Company LACHENMAYR OIL, LLC  
Well JME FARMS #1  
Field UNNAMED  
County RUSH  
State KANSAS

Date 10/17/2016

Run Number ONE

Type Log CNL/CDL

Depth Driller 3895'

Depth Logger 3893'

Bottom Logged Interval 3891'

Top Logged Interval 3200'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 4700

Density 9.4

Level FULL

Max. Rec. Temp. F 115

Operating Rig Time 4 HOURS

Equipment -- Location 91 COLBY

Recorded By D. SCHMIDT

Witnessed By FRANK MIZE

Borehole Record

Run No. Bit From To Size Wgt. From To

ONE 12.25" 0' 1349' 8.625" 23# 0' 1349'

TWO 7.875" 1349' TD

<<< Fold Here >>>

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

MCCRACKEN,  
SOUTH TO CURVE, 7 EAST TO CURVE, 2 NORTH,  
WEST & SOUTH INTO

Log Measured From: KELLY BUSHING 8' Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
www.pioneerenergy.com 785-625-3858

### Your Pioneer Energy Services Crew

Engineer: D. SCHMIDT  
Operator:  
Operator:  
Operator:

### This Log Record Was Witnessed By

Primary Witness: FRANK MIZE  
Secondary Witness:  
Secondary Witness:  
Secondary Witness:

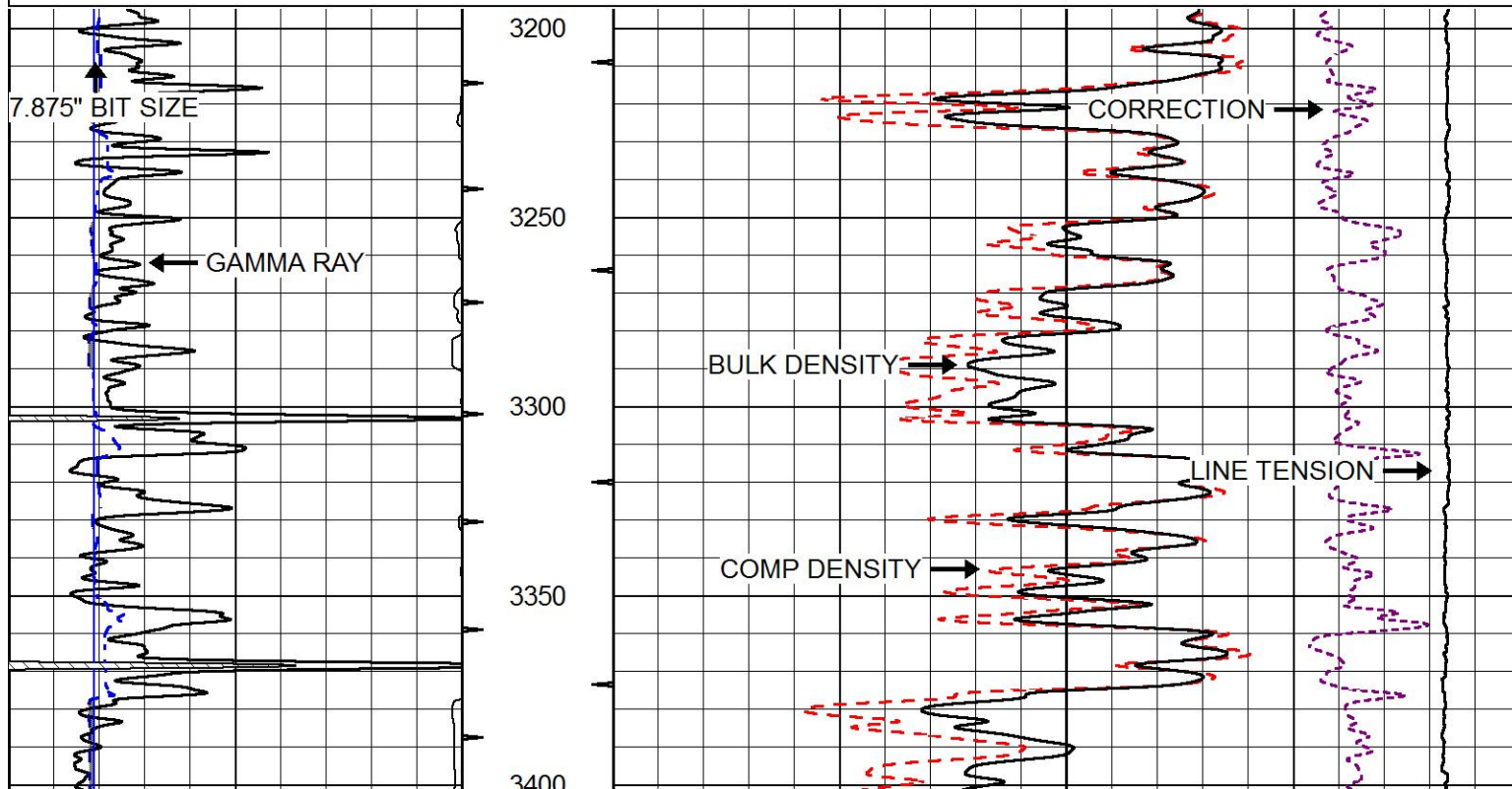
Top - Bottom

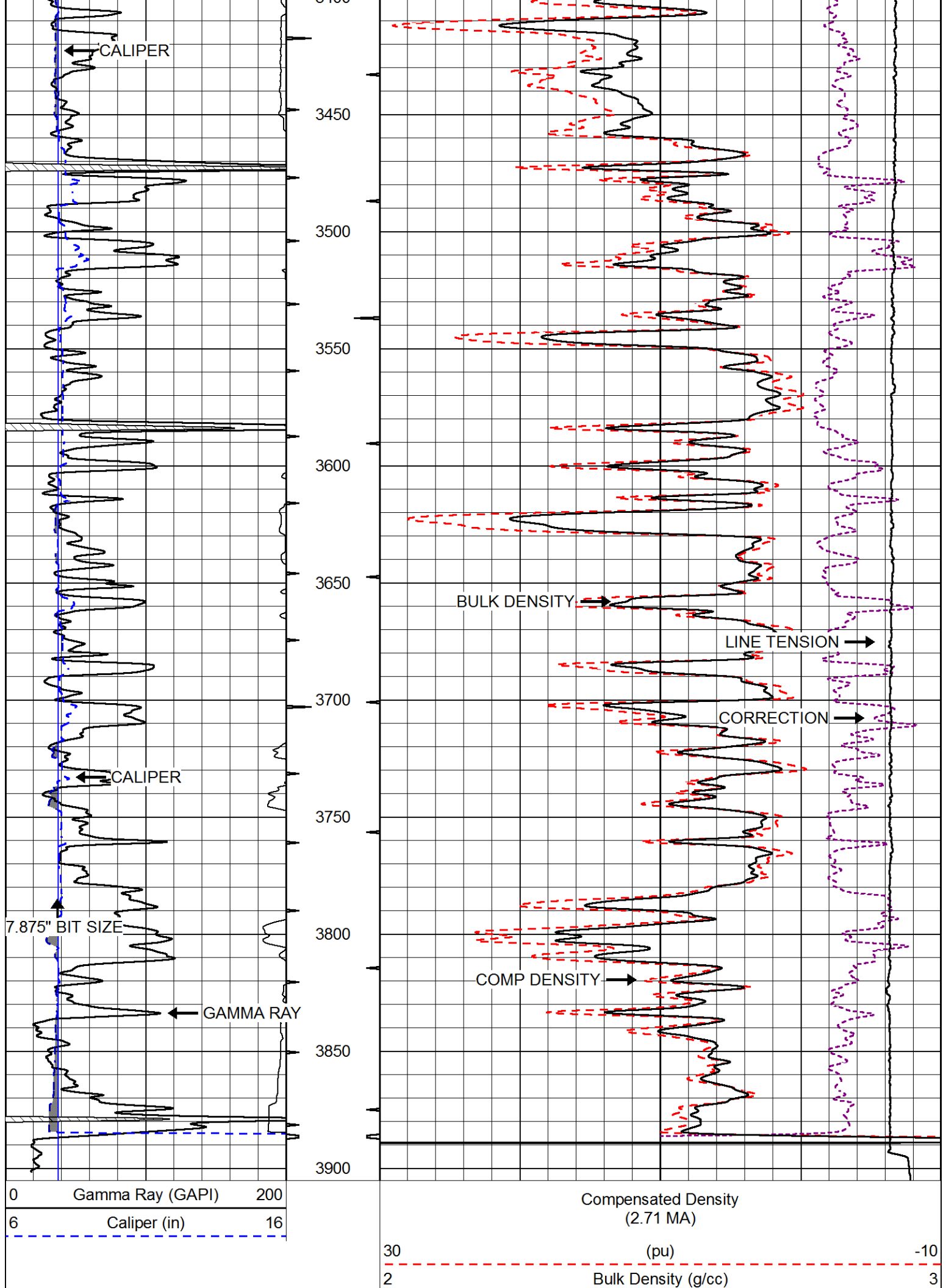
|                  |                 |                |              |                  |                  |                 |                   |
|------------------|-----------------|----------------|--------------|------------------|------------------|-----------------|-------------------|
| M                | A               | SZCOR          | NPORSEL      | FLUIDDEN<br>g/cc | MATRXDEN<br>g/cc | SPSHIFT<br>mV   | SNDERRM<br>mmho/m |
| 2                | 1               | Off            | Limestone    | 1                | 2.71             | -85             | 0                 |
| SNDERR<br>mmho/m | SRFTEMP<br>degF | CASETHCK<br>in | CASEOD<br>in | PERFS            | TDEPTH<br>ft     | BOTTEMP<br>degF | BOREID<br>in      |
| 0                | 74              | 0              | 5.5          | 0                | 3893             | 115             | 7.875             |

| Sensor             | Offset (ft)             | Schematic | Description       | Length (ft) | O.D. (in) | Weight (lb) |
|--------------------|-------------------------|-----------|-------------------|-------------|-----------|-------------|
| GR                 | 33.00                   |           | GR-M&W (89)       | 3.00        | 3.50      | 50.00       |
| CNLSC<br>CNSSC     | 29.90<br>29.15          |           | CNT-M&W (207-MW)  | 5.50        | 3.50      | 100.00      |
| LSD<br>DCAL<br>SSD | 20.85<br>20.83<br>20.35 |           | CDL-M&W (90-1031) | 8.50        | 4.00      | 250.00      |
| RLL3F<br>RLL3      | 15.80<br>15.80          |           |                   |             |           |             |
| CILD               | 8.00                    |           | DIL-M&W (PSI 13)  | 18.50       | 3.50      | 220.00      |

|                                                                                                                                    |      |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------|------|--|--|--|--|--|--|--|--|
| CILM                                                                                                                               | 4.70 |  |  |  |  |  |  |  |  |
| SP                                                                                                                                 | 0.20 |  |  |  |  |  |  |  |  |
| Dataset: lachenmayr_jme farms_1.db: field/well/STACK/pass4.1<br>Total length: 35.50 ft<br>Total weight: 620.00 lb<br>O.D.: 4.00 in |      |  |  |  |  |  |  |  |  |

|                                                                                                                                             |                  |                            |                                                                                                                                                                                     |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <div><br/><b>PIONEER</b><br/>Pioneer Energy Services</div> |                  |                            | <h1>MAIN PASS</h1>                                                                                                                                                                  |  |  |
| Database File                                                                                                                               |                  | lachenmayr_jme farms_1.db  |                                                                                                                                                                                     |  |  |
| Dataset Pathname                                                                                                                            |                  | STACK/pass4.1              |                                                                                                                                                                                     |  |  |
| Presentation Format                                                                                                                         |                  | cdl                        |                                                                                                                                                                                     |  |  |
| Dataset Creation                                                                                                                            |                  | Mon Oct 17 23:07:38 2016   |                                                                                                                                                                                     |  |  |
| Charted by                                                                                                                                  |                  | Depth in Feet scaled 1:600 |                                                                                                                                                                                     |  |  |
| 0                                                                                                                                           | Gamma Ray (GAPI) | 200                        | <div>Compensated Density<br/>(2.71 MA)</div> <div>30 (pu) -10</div> <div>2 Bulk Density (g/cc) 3</div> <div>15000 Line Tension (lb) 0</div> <div>-0.25 Correction (g/cc) 0.25</div> |  |  |
| 6                                                                                                                                           | Caliper (in)     | 16                         |                                                                                                                                                                                     |  |  |
| <div></div>                                                                                                                                 |                  |                            |                                                                                                                                                                                     |  |  |
| <div></div>                                                                                                                                 |                  |                            |                                                                                                                                                                                     |  |  |
| <div></div>                                                                                                                                 |                  |                            |                                                                                                                                                                                     |  |  |







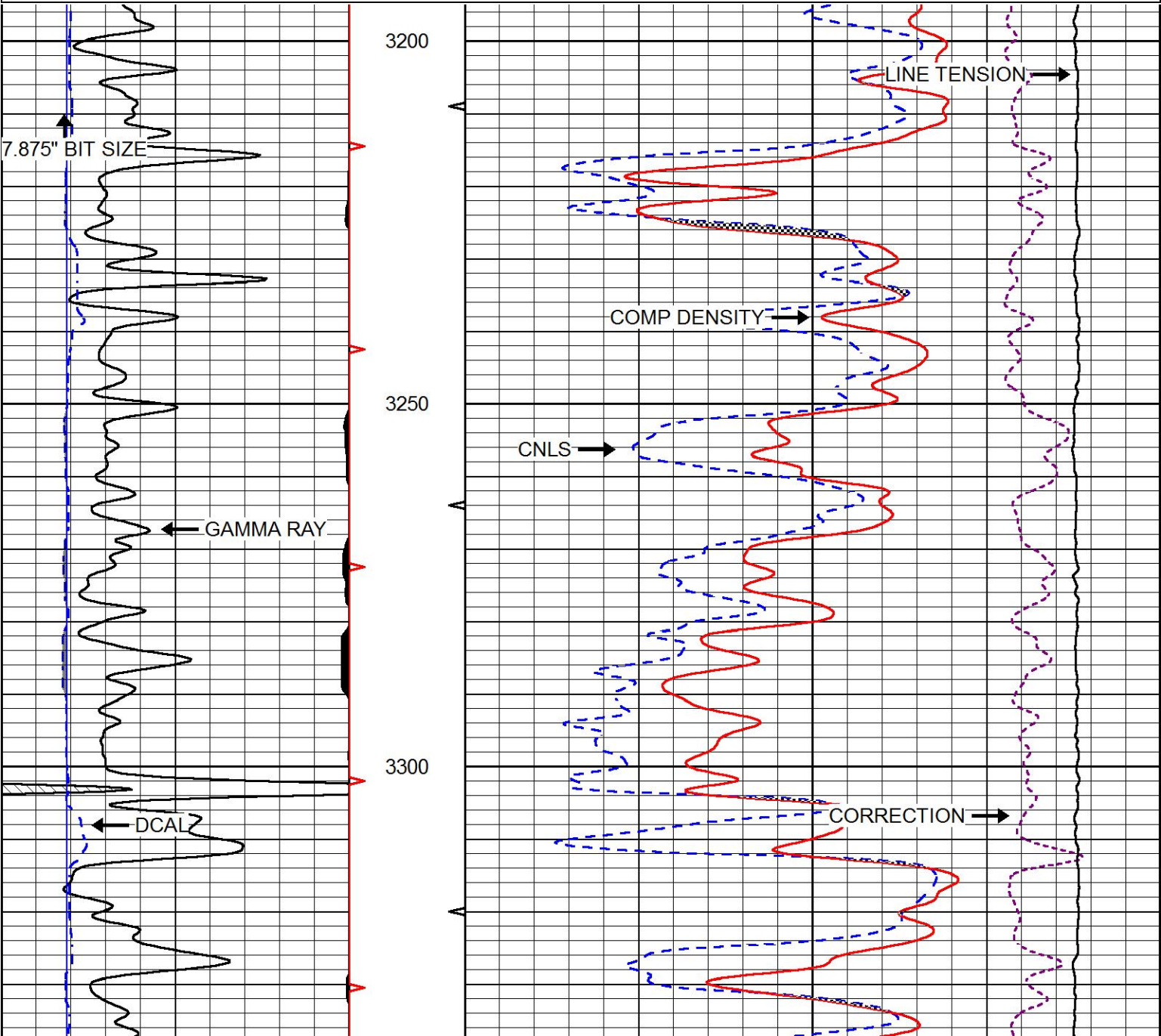
|       |                   |                   |
|-------|-------------------|-------------------|
| 15000 | Line Tension (lb) | 0                 |
|       | -0.25             | Correction (g/cc) |
|       |                   | 0.25              |

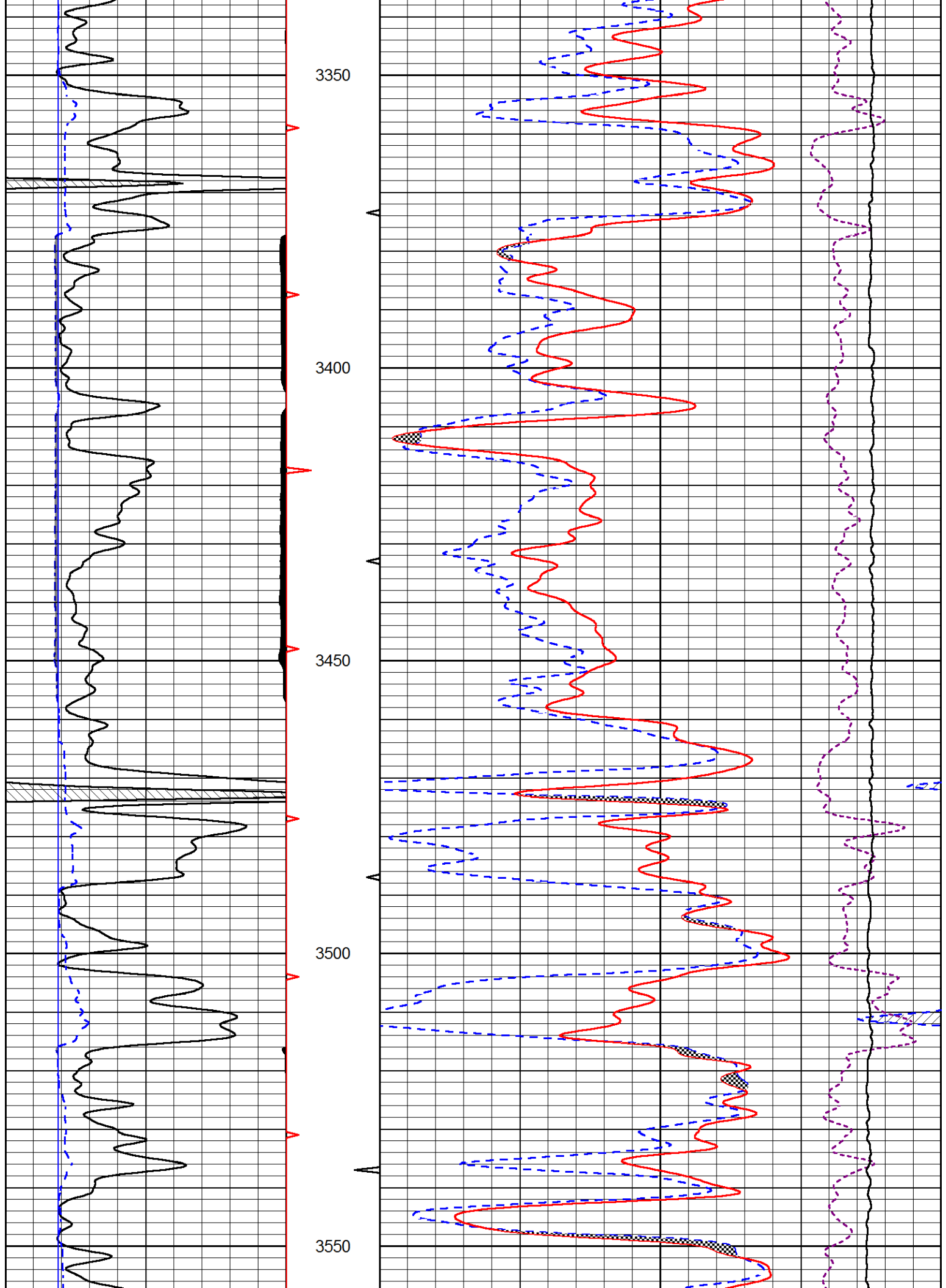


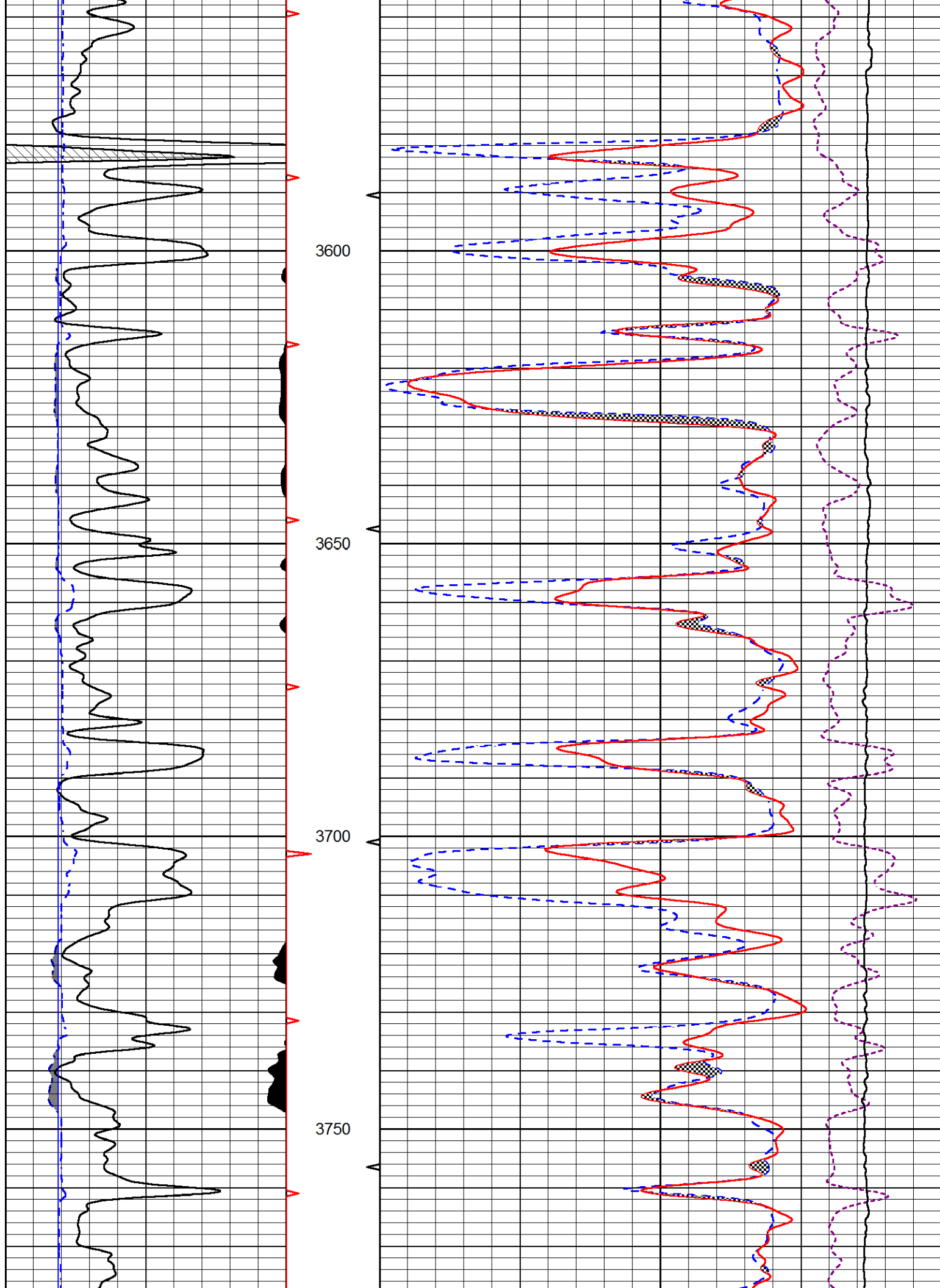
# MAIN PASS

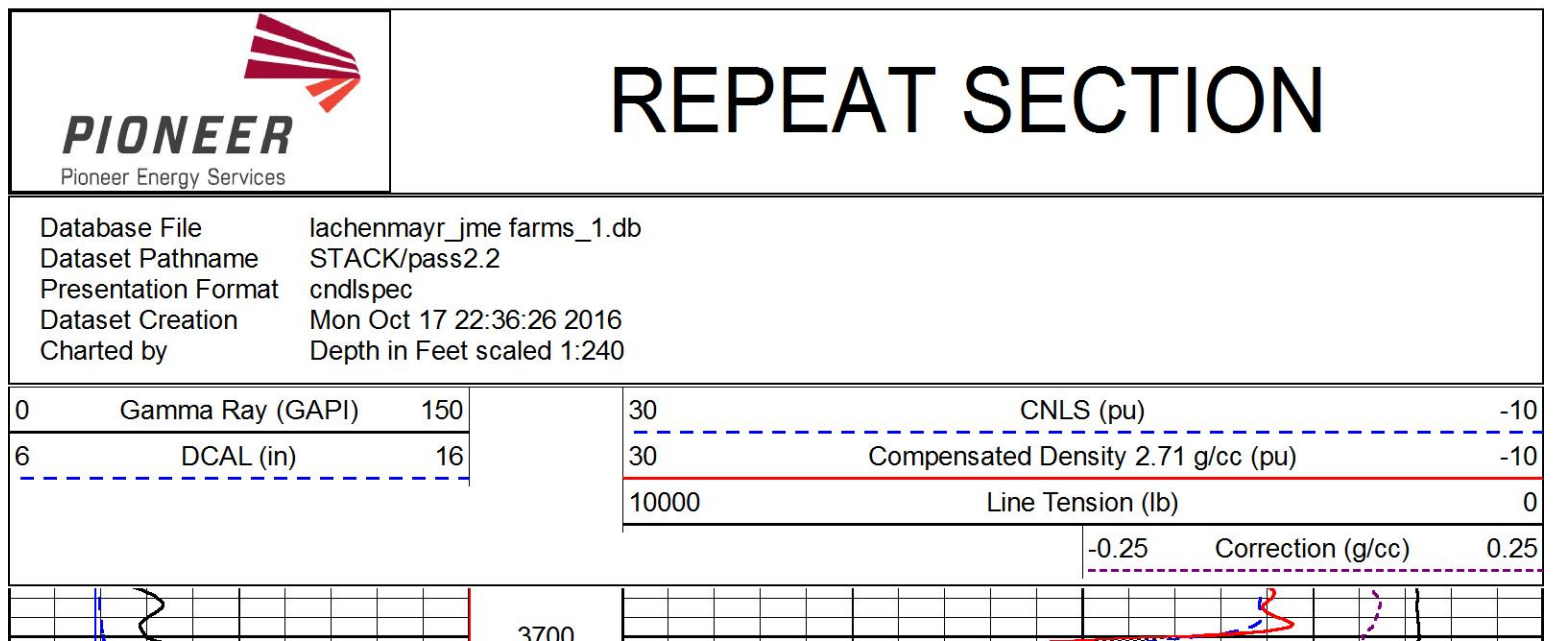
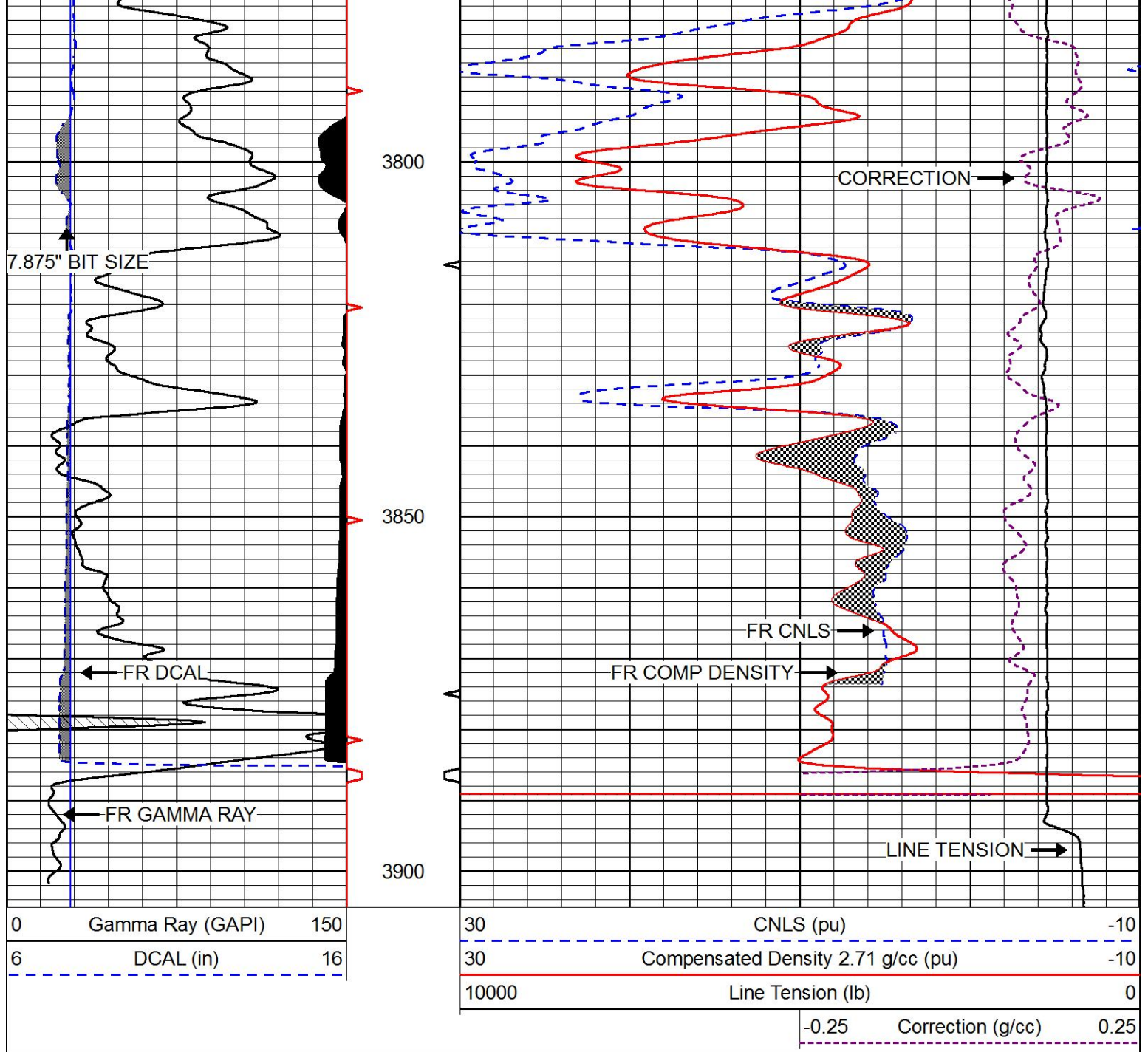
|                     |                            |
|---------------------|----------------------------|
| Database File       | lachenmayr_jme farms_1.db  |
| Dataset Pathname    | STACK/pass4.1              |
| Presentation Format | cnlspec                    |
| Dataset Creation    | Mon Oct 17 23:07:38 2016   |
| Charted by          | Depth in Feet scaled 1:240 |

|   |                  |     |       |                                    |                   |
|---|------------------|-----|-------|------------------------------------|-------------------|
| 0 | Gamma Ray (GAPI) | 150 | 30    | CNLS (pu)                          | -10               |
| 6 | DCAL (in)        | 16  | 30    | Compensated Density 2.71 g/cc (pu) | -10               |
|   |                  |     | 10000 | Line Tension (lb)                  | 0                 |
|   |                  |     |       | -0.25                              | Correction (g/cc) |
|   |                  |     |       |                                    | 0.25              |

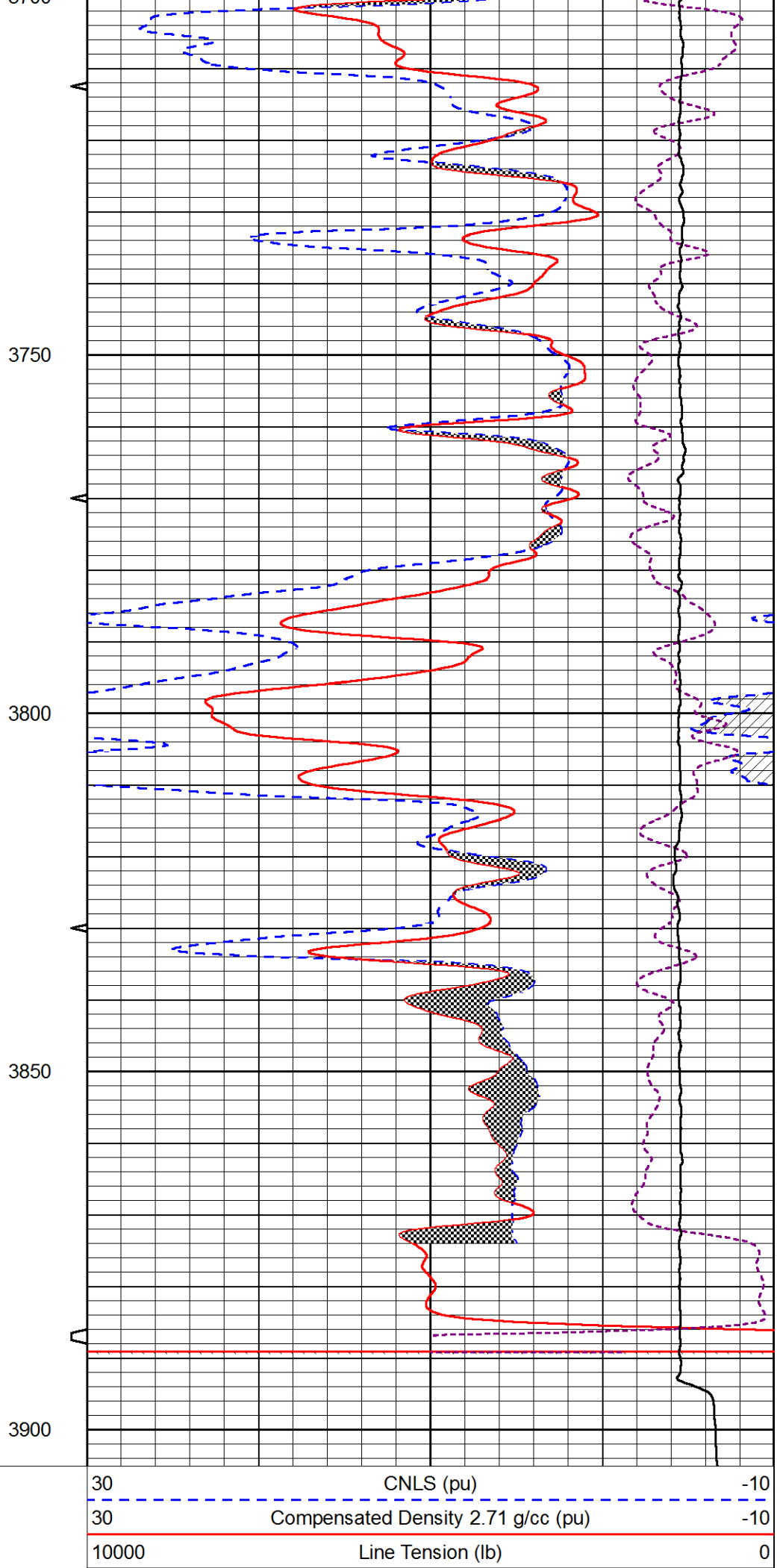
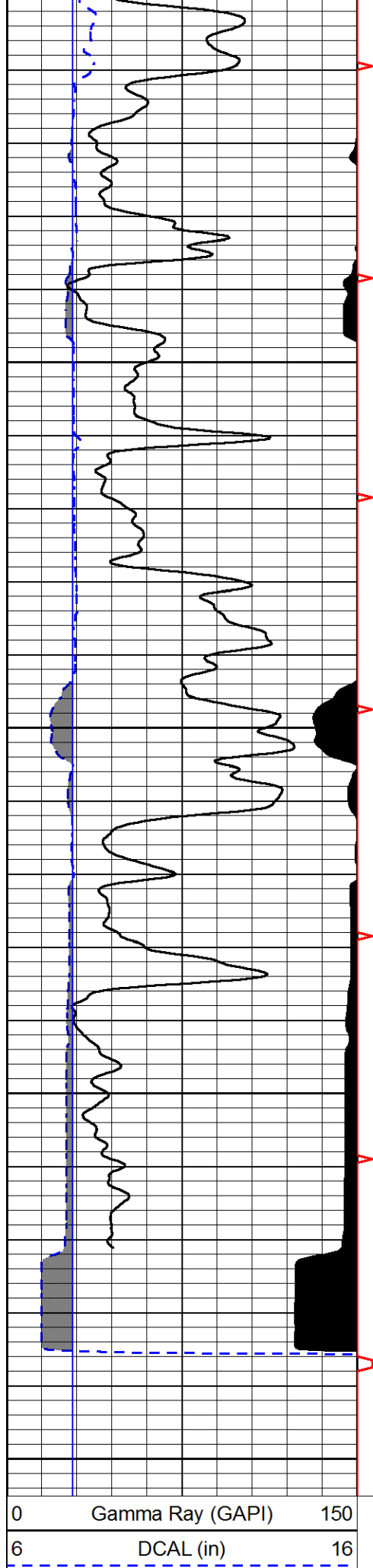












| Calibration Report |                           |
|--------------------|---------------------------|
| Database File      | lachenmayr_jme farms_1.db |
| Dataset Pathname   | STACK/pass4.1             |
| Dataset Creation   | Mon Oct 17 23:07:38 2016  |

### Dual Induction Calibration Report

|                        |                          |
|------------------------|--------------------------|
| Serial-Model:          | PSI 13-M&W               |
| Calibration Performed: | Thu Oct 06 06:17:37 2016 |

| Readings |         |          | References |         |        | Results |         |
|----------|---------|----------|------------|---------|--------|---------|---------|
| Loop:    | Air     | Loop     | Air        | Loop    |        | Gain    | Offset  |
| Deep     | 166.796 | 835.089  | 0.000      | 255.800 | mmho/m | 0.450   | -31.000 |
| Medium   | 142.009 | 1348.560 | 0.000      | 255.800 | mmho/m | 0.370   | -26.500 |

### Compensated Density Calibration Report

|                               |                          |
|-------------------------------|--------------------------|
| Serial-Model:                 | 90-1031-M&W              |
| Source / Verifier:            | 16955B / 2ci             |
| Master Calibration Performed: | Thu Sep 29 18:47:07 2016 |

| Master Calibration  |       |      |                             |               |     |
|---------------------|-------|------|-----------------------------|---------------|-----|
| Density             |       |      | Far Detector                | Near Detector |     |
| Magnesium           | 1.755 | g/cc | 5174.18                     | 6425.27       | cps |
| Aluminum            | 2.665 | g/cc | 963.17                      | 4037.42       | cps |
| Spine Angle = 74.55 |       |      | Density/Spine Ratio = 0.522 |               |     |
| Size                |       |      | Reading                     |               |     |
| Small Ring          | 6.00  | in   | 1.83                        |               |     |
| Large Ring          | 16.00 | in   | 1.48                        |               |     |

### Compensated Neutron Calibration Report

|                        |                          |
|------------------------|--------------------------|
| Serial Number:         | 207-MW                   |
| Tool Model:            | M&W                      |
| Calibration Performed: | Wed Sep 28 10:30:30 2016 |

| 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:         | 89                       |      |
| Tool Model:            | M&W                      |      |
| Calibration Performed: | Thu Sep 29 18:47:18 2016 |      |
| Calibrator Value:      | 1.0                      | GAPI |
| Background Reading:    | 0.0                      | cps  |
| Calibrator Reading:    | 1.0                      | cps  |

Sensitivity:

0.6000

GAPI/cps



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|         |                     |
|---------|---------------------|
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| Well    | JME FARMS #1        |
| Field   | UNNAMED             |
| County  | RUSH                |
| State   | KANSAS              |