

**SPECTRAL DENSITY  
DUAL SPACED NEUTRON  
LOG**

|                 |                                            |
|-----------------|--------------------------------------------|
| COMPANY         | BEREXCO LLC                                |
| WELL            | LENA MAI 3-29                              |
| FIELD/BLOCK     | CONGDON NORTH                              |
| COUNTY          | FINNEY                                     |
| STATE           | KANSAS                                     |
| API No.         | 15-055-22334-00-00                         |
| Location        | (SHL) 1244' FNL & 1743' FEL<br>SW-SE-NW-NE |
| Other Services: | MICROLOG<br>ACRT<br>BSAT                   |
| Sect.           | 29                                         |
| Twp.            | 23S                                        |
| Rge.            | 32W                                        |

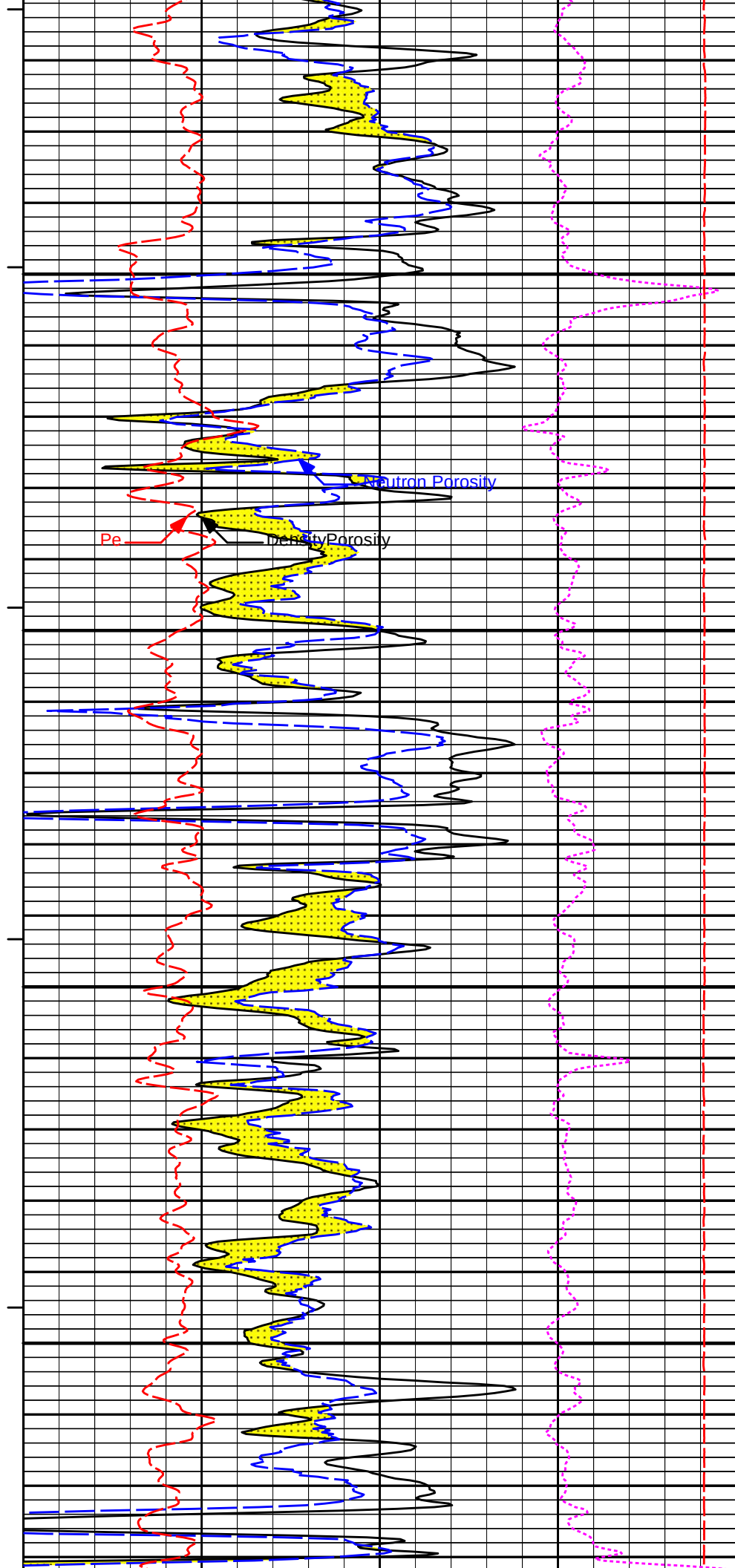
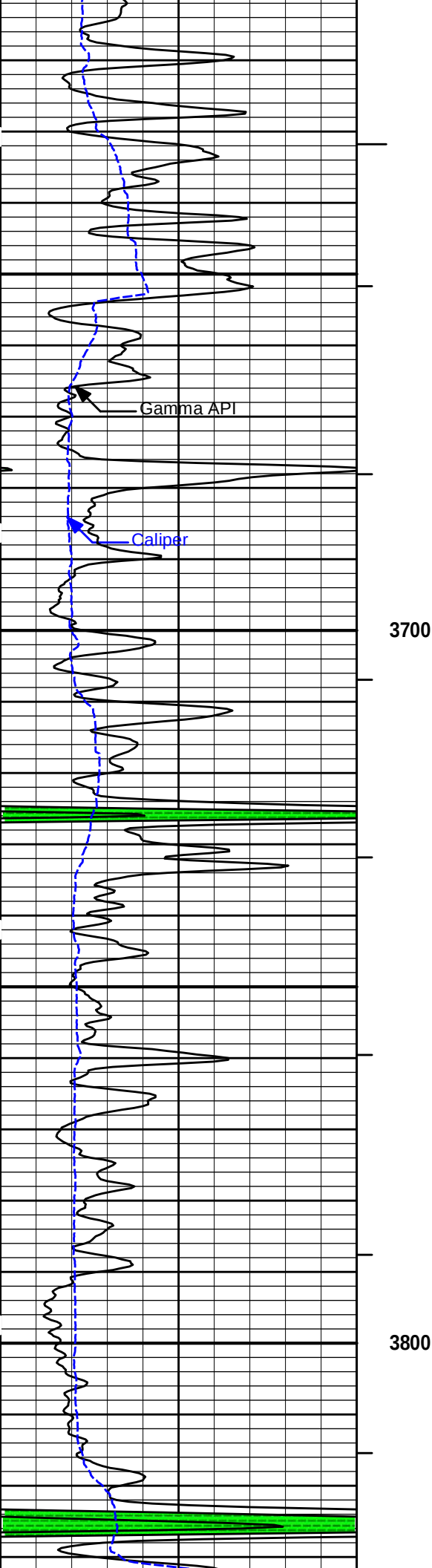
Fold here

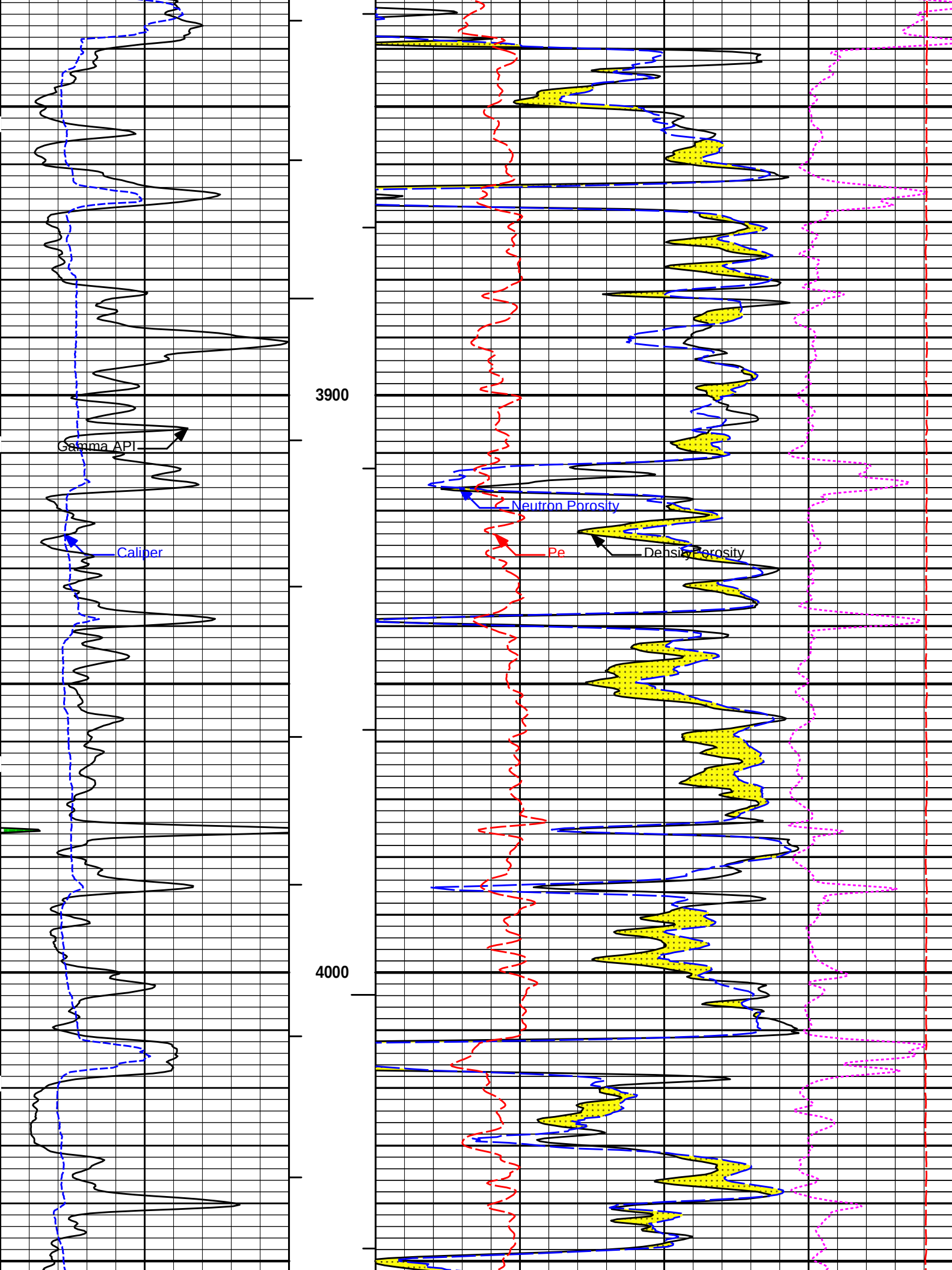
|                                         |            |              |  |                                    |          |                            |                 |                                         |           |                 |  |
|-----------------------------------------|------------|--------------|--|------------------------------------|----------|----------------------------|-----------------|-----------------------------------------|-----------|-----------------|--|
| Service Ticket No.: 901602155           |            |              |  | API Serial No.: 15-055-22334-00-00 |          |                            |                 | PGM Version: WL INSITE R4.2.0 (Build 2) |           |                 |  |
| CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE |            |              |  |                                    |          | RESISTIVITY SCALE CHANGES  |                 |                                         |           |                 |  |
| Date                                    | Sample No. |              |  |                                    |          | Type Log                   | Depth           | Scale Up Hole                           |           | Scale Down Hole |  |
| Depth-Driller                           |            |              |  |                                    |          |                            |                 |                                         |           |                 |  |
| Type Fluid in Hole                      |            |              |  |                                    |          |                            |                 |                                         |           |                 |  |
| Density                                 | Viscosity  |              |  |                                    |          |                            |                 |                                         |           |                 |  |
| Ph                                      | Fluid Loss |              |  |                                    |          |                            |                 |                                         |           |                 |  |
| Source of Sample                        |            |              |  |                                    |          | RESISTIVITY EQUIPMENT DATA |                 |                                         |           |                 |  |
| Rm @ Meas. Temp                         |            | @            |  | @                                  |          | Run No.                    | Tool Type & No. | Pad Type                                | Tool Pos. | Other           |  |
| Rmf @ Meas. Temp.                       |            | @            |  | @                                  |          |                            |                 |                                         |           |                 |  |
| Rmc @ Meas. Temp.                       |            | @            |  | @                                  |          |                            |                 |                                         |           |                 |  |
| Source Rmf                              | Rmc        |              |  |                                    |          |                            |                 |                                         |           |                 |  |
| Rm @ BHT                                |            | @            |  | @                                  |          |                            |                 |                                         |           |                 |  |
| Rmf @ BHT                               |            | @            |  | @                                  |          |                            |                 |                                         |           |                 |  |
| Rmc @ BHT                               |            | @            |  | @                                  |          |                            |                 |                                         |           |                 |  |
| EQUIPMENT DATA                          |            |              |  |                                    |          |                            |                 |                                         |           |                 |  |
| GAMMA                                   |            | ACOUSTIC     |  | DENSITY                            |          | NEUTRON                    |                 |                                         |           |                 |  |
| Run No.                                 | ONE        | Run No.      |  | Run No.                            | ONE      | Run No.                    | ONE             |                                         |           |                 |  |
| Serial No.                              | 11048627   | Serial No.   |  | Serial No.                         | 10865884 | Serial No.                 | 11055304        |                                         |           |                 |  |
| Model No.                               | GTET       | Model No.    |  | Model No.                          | SDLT-I   | Model No.                  | DSNT-I          |                                         |           |                 |  |
| Diameter                                | 3.625"     | No. of Cent. |  | Diameter                           | 4.5"     | Diameter                   | 3.625"          |                                         |           |                 |  |
| Detector Model No.                      | T-102      | Spacing      |  | Log Type                           | GAM-GAM  | Log Type                   | NEU-NEU         |                                         |           |                 |  |
| Type                                    | SCINT      |              |  | Source Type                        | CS137    | Source Type                | AM241BE         |                                         |           |                 |  |
| Length                                  | 8'         | LSA [Y/N]    |  | Serial No.                         | 5168GW   | Serial No.                 | DSN-424         |                                         |           |                 |  |
| Distance to Source                      | 10'        | FWDA [Y/N ]  |  | Strength                           | 1.5 CI   | Strength                   | 15 CI           |                                         |           |                 |  |

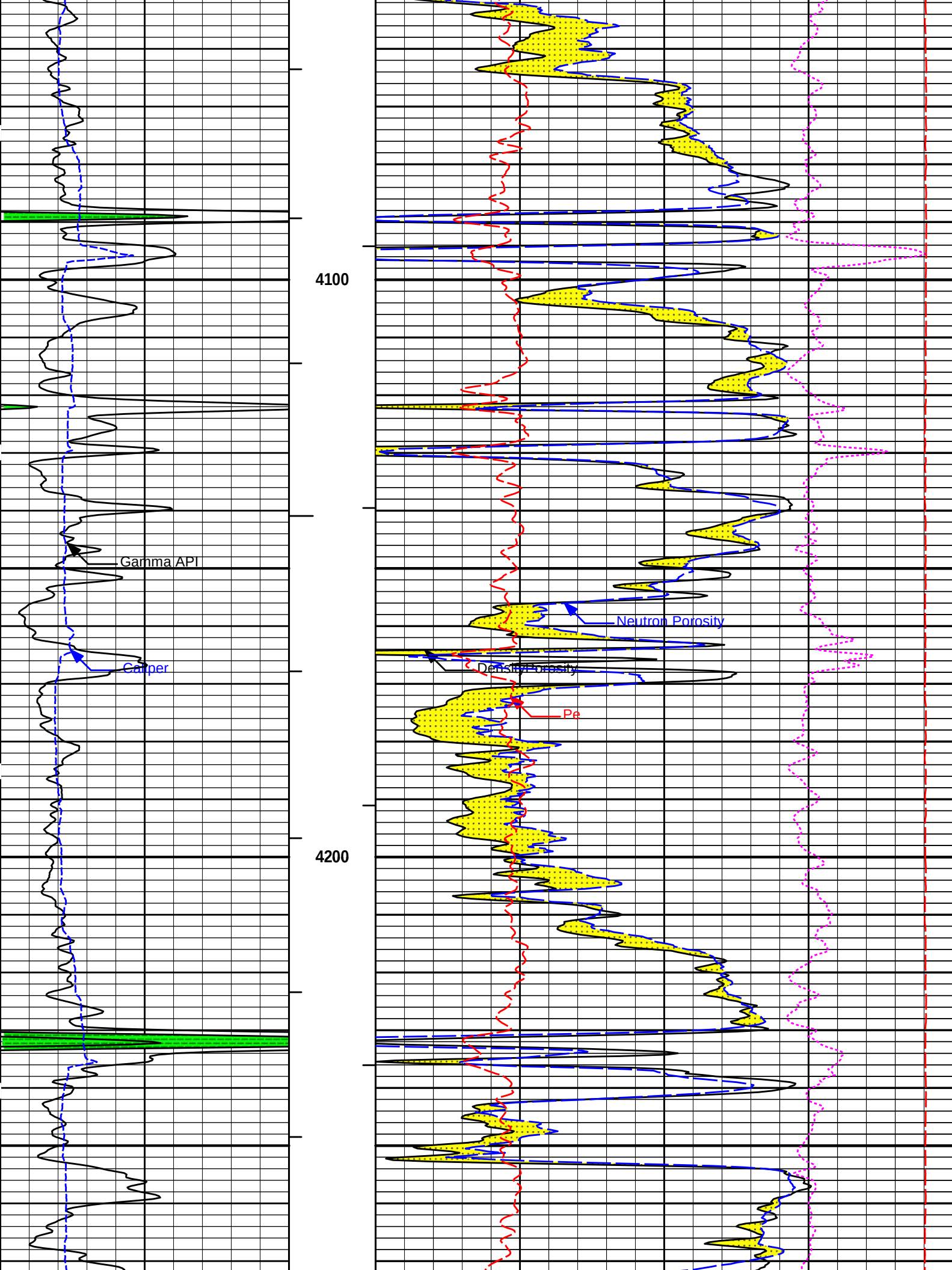
LOGGING DATA

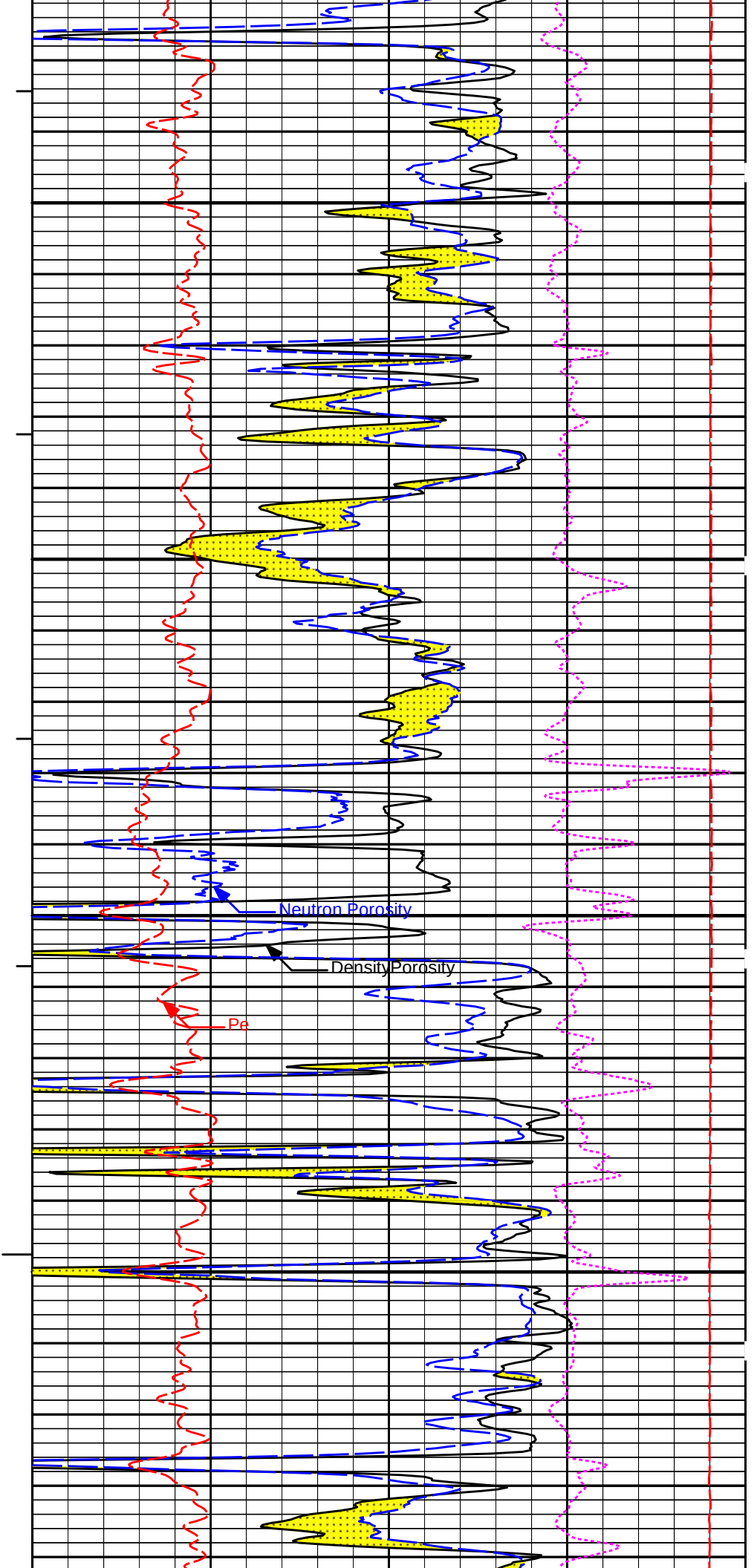
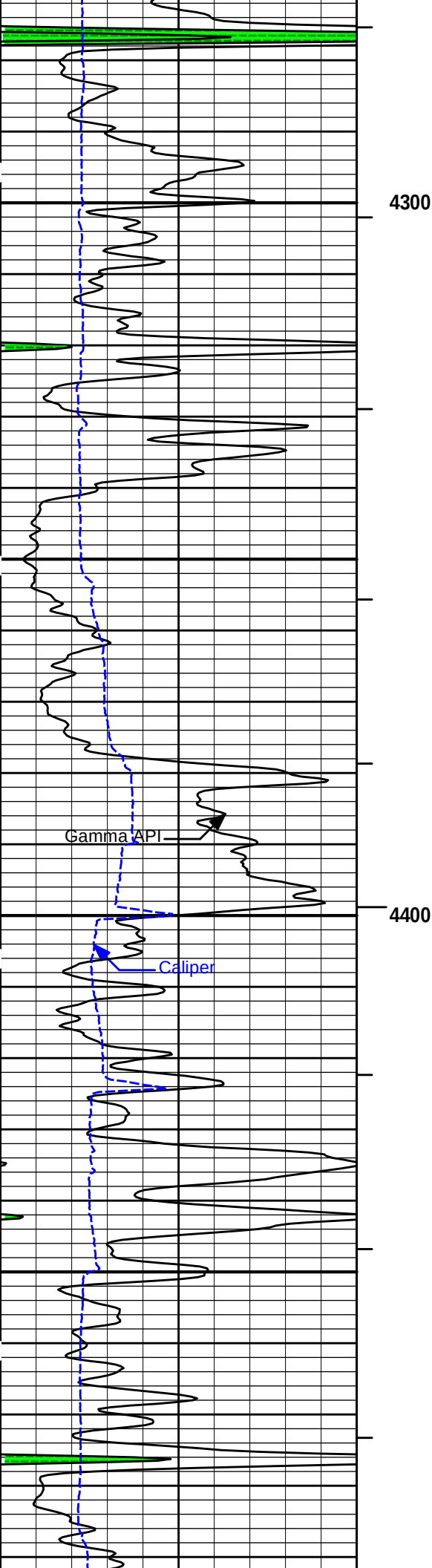
| GENERAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |      |        | GAMMA |     | ACOUSTIC |   |        | DENSITY |     |        | NEUTRON |     |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|--------|-------|-----|----------|---|--------|---------|-----|--------|---------|-----|--------|
| Run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Depth |      | Speed  | Scale |     | Scale    |   | Matrix | Scale   |     | Matrix | Scale   |     | Matrix |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | From  | To   | ft/min | L     | R   | L        | R |        | L       | R   |        | L       | R   |        |
| ONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4928  | 3600 | REC    | 0     | 150 |          |   |        | 30      | -10 | 2.71   | 30      | -10 | LIME   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| DIRECTIONAL INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| Maximum Deviation @                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |      |        |       |     |          |   |        | KOP @   |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5-INCH CASING                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| CHLORIDES REPORTED AT 4,100 PPM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| LCM REPORTED AT 1 LB/BBL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| GTET-DSNT-SDLT-BSAT-ACRT RUN IN COMBINATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| TODAY'S CREW; F. VILLA & M. GRAHAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES LIBERAL, KS. 620-624-8123                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| <p>HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.</p> |       |      |        |       |     |          |   |        |         |     |        |         |     |        |
| HALLIBURTON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |      |        |       |     |          |   |        |         |     |        |         |     |        |

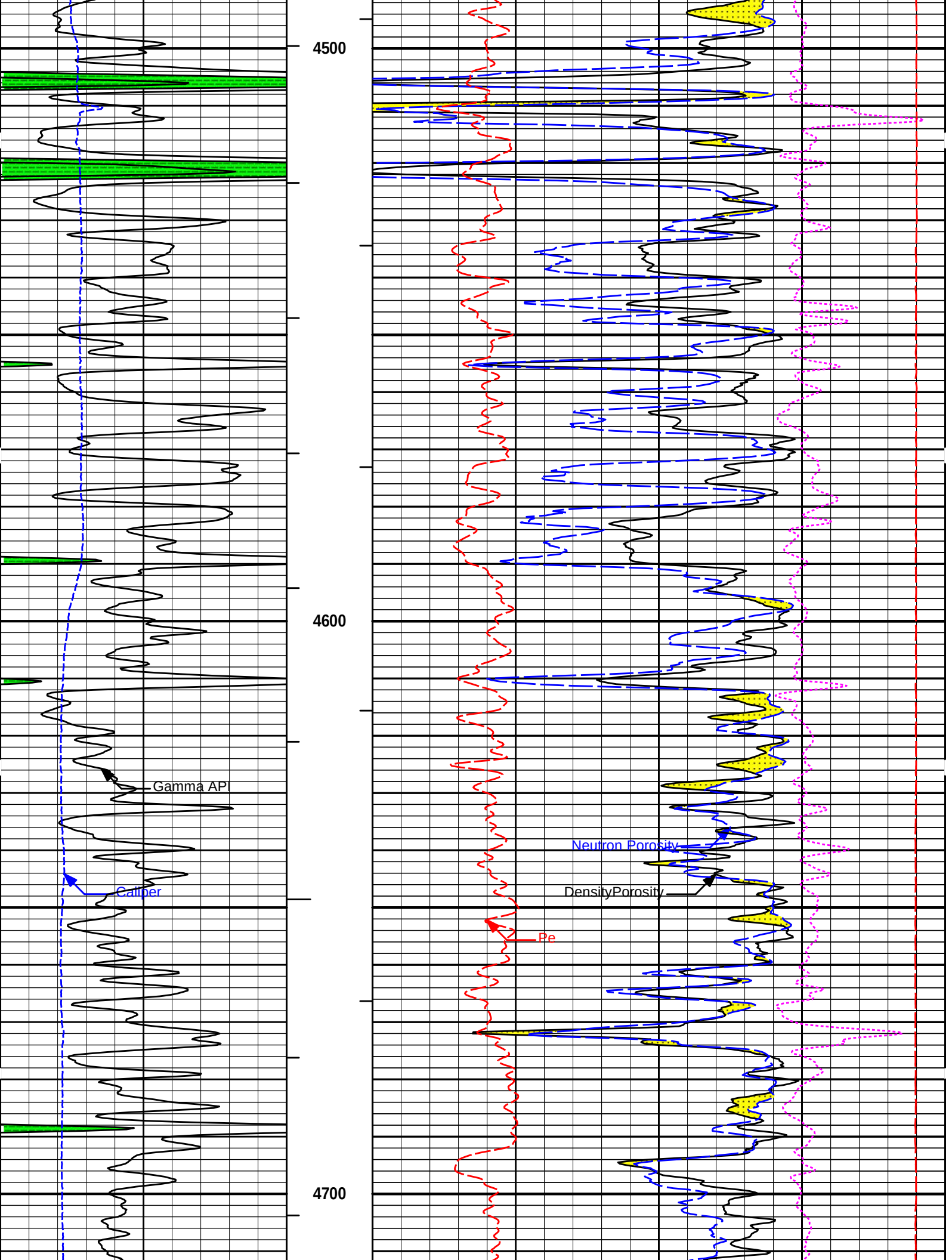
MEASURED DEPTH  
MAIN SECTION 5" PER 100'

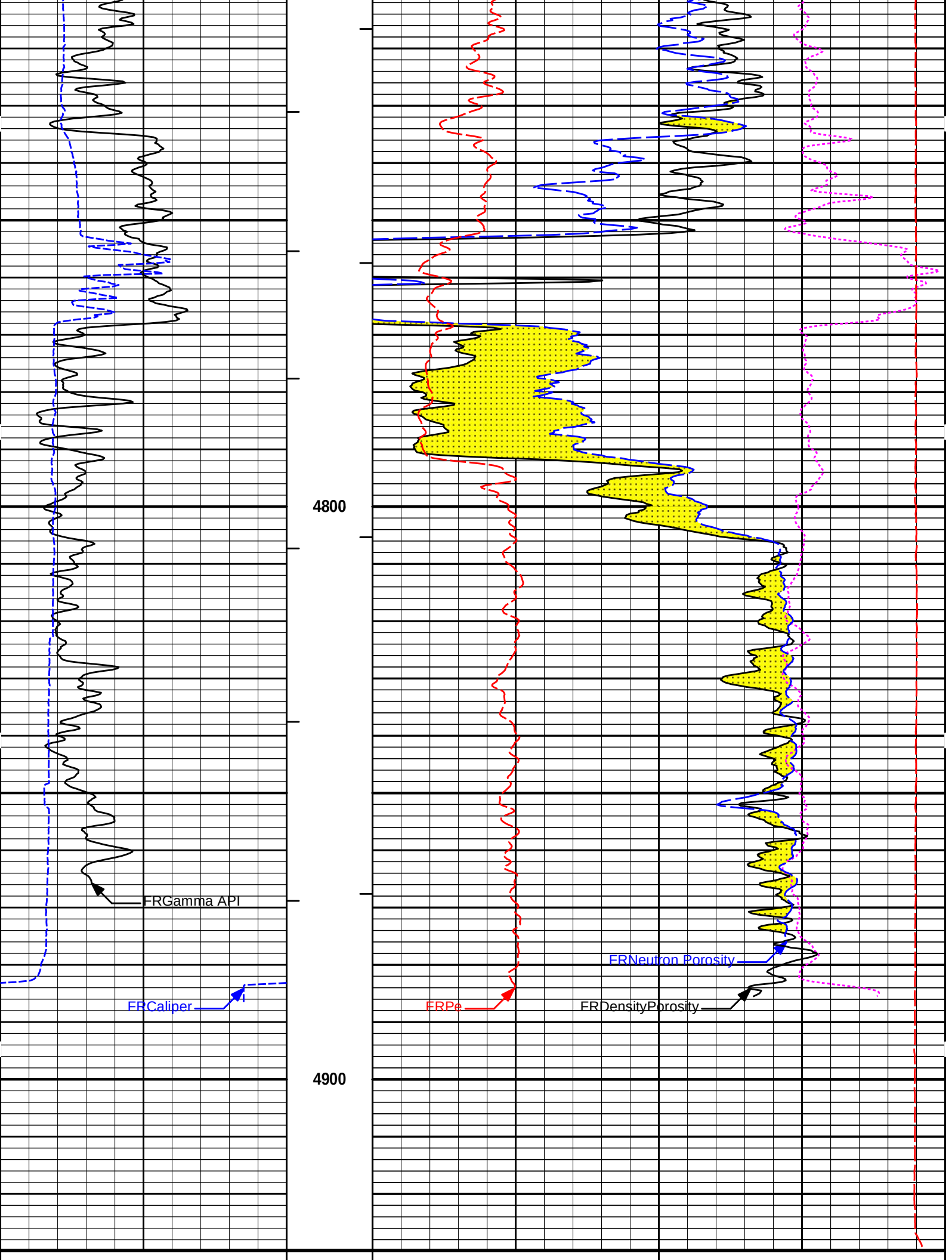






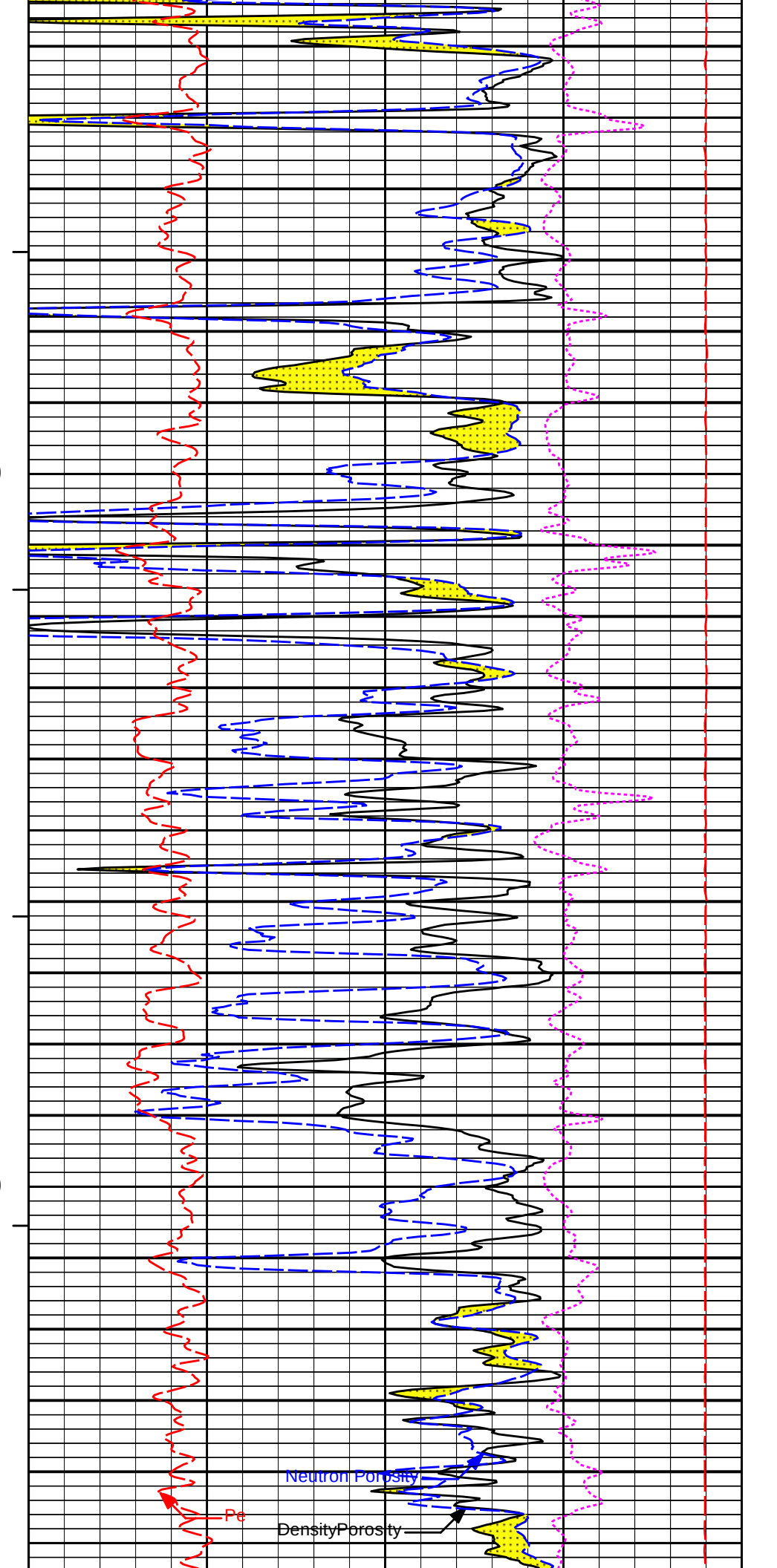
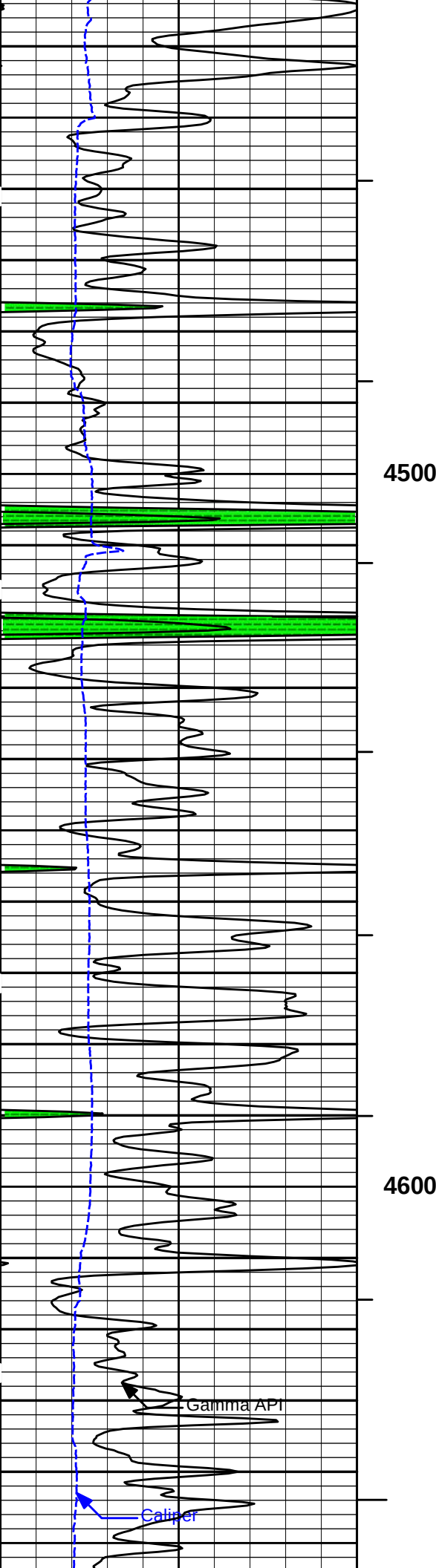


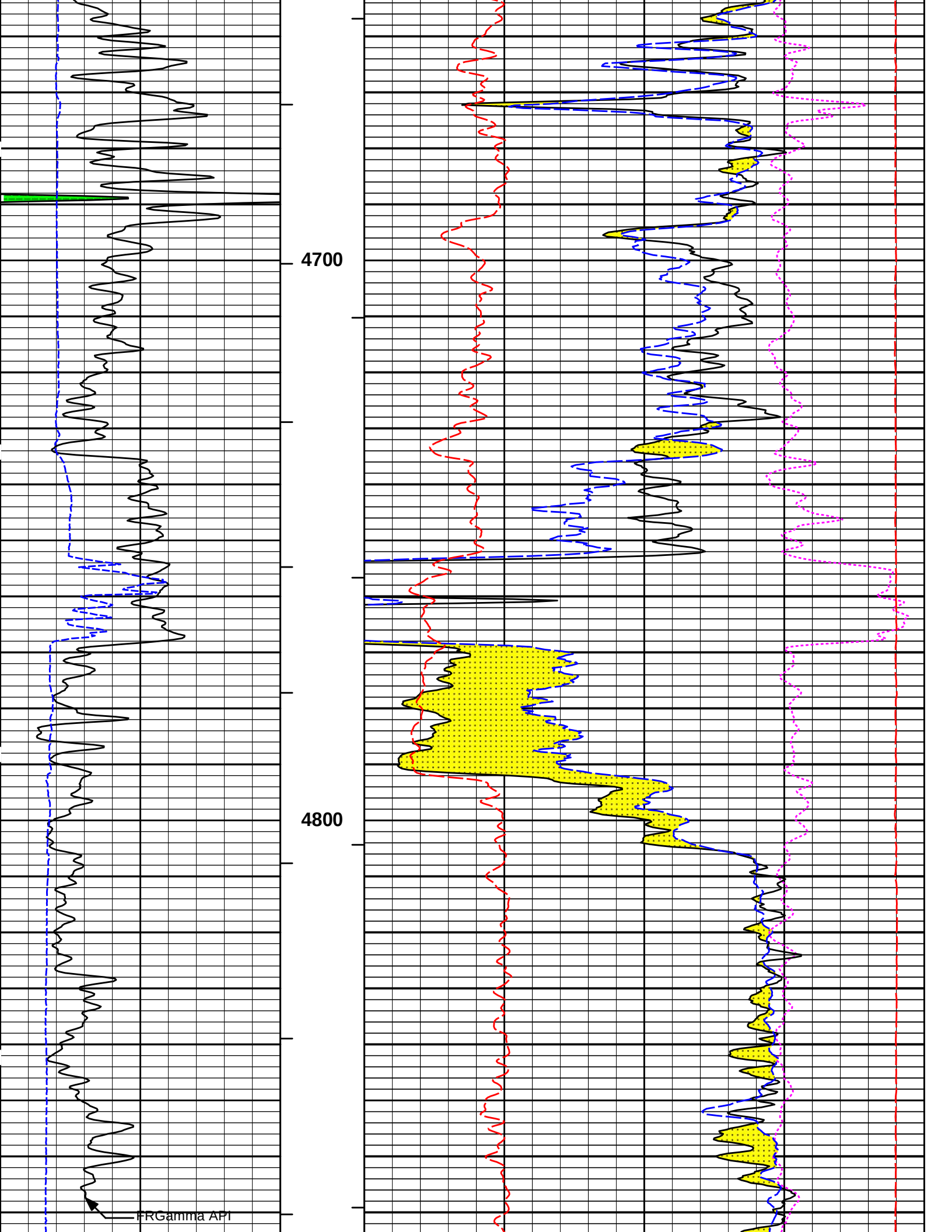


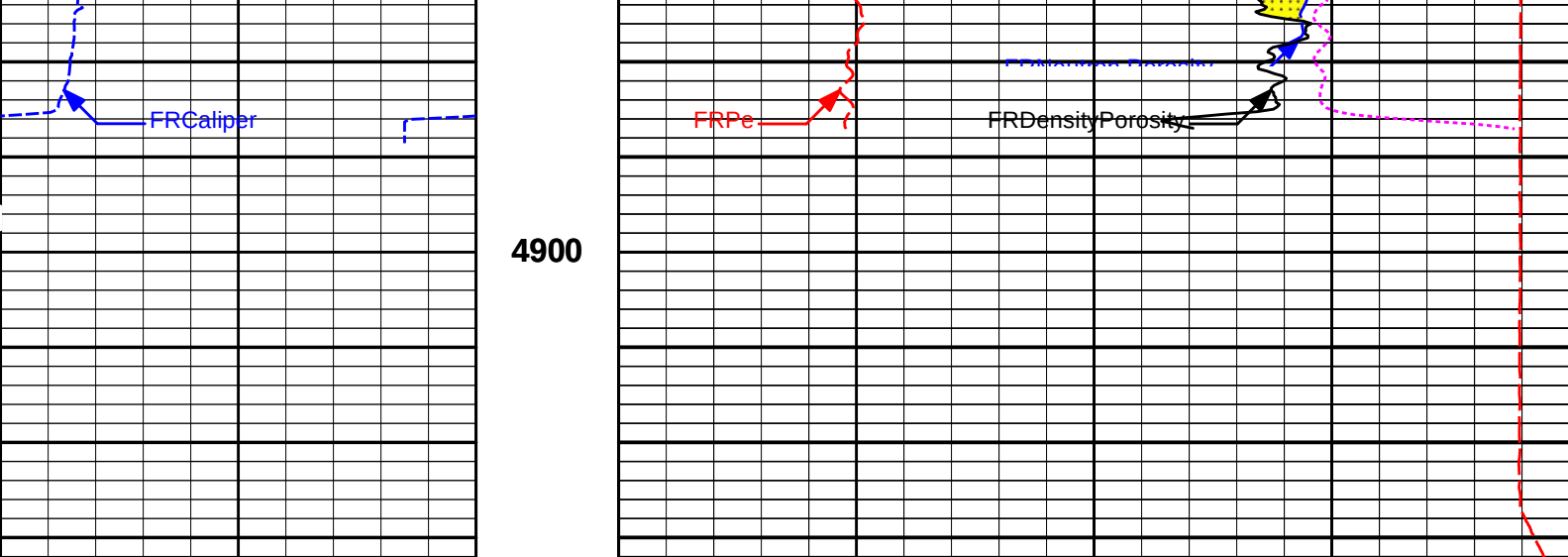












|   |           |     |         |    |                  |    |       |             |      |
|---|-----------|-----|---------|----|------------------|----|-------|-------------|------|
| 6 | Caliper   | 16  | MD      | 0  | Pe               | 10 | -0.25 | DensityCorr | 0.25 |
|   | inches    |     | 1 : 240 |    |                  |    |       | gram per cc |      |
| 0 | Gamma API | 150 | AHVT    |    |                  |    | 15K   | Tension     | 0    |
|   | api       |     |         |    |                  |    |       | pounds      |      |
|   | SHALE     |     | BHVT    | 30 | DensityPorosity  |    |       |             | -10  |
|   |           |     |         |    | %                |    |       |             |      |
|   |           |     |         | 30 | Neutron Porosity |    |       |             | -10  |
|   |           |     |         |    | %                |    |       |             |      |
|   |           |     |         |    | CROSSOVER        |    |       |             |      |

HALLIBURTON

Plot Time: 20-Aug-14 18:57:42  
Plot Range: 4400 ft to 4932.25 ft  
Data: LENA\_MAI\_3-29\Well Based\REPEAT\  
Plot File: \\IPORO\Porosity\_Q\_5\_REP\_LIB

REPEAT SECTION

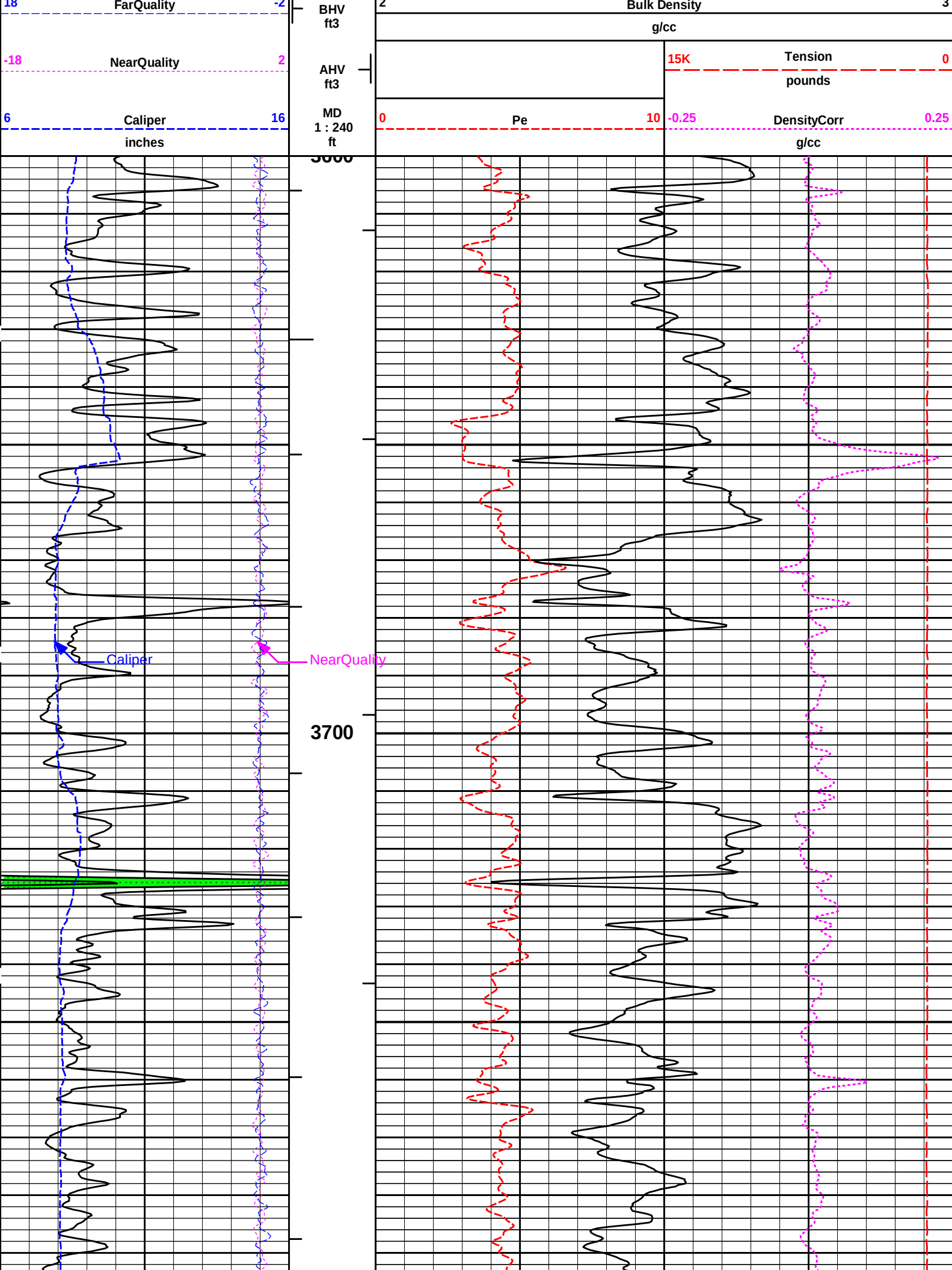
HALLIBURTON

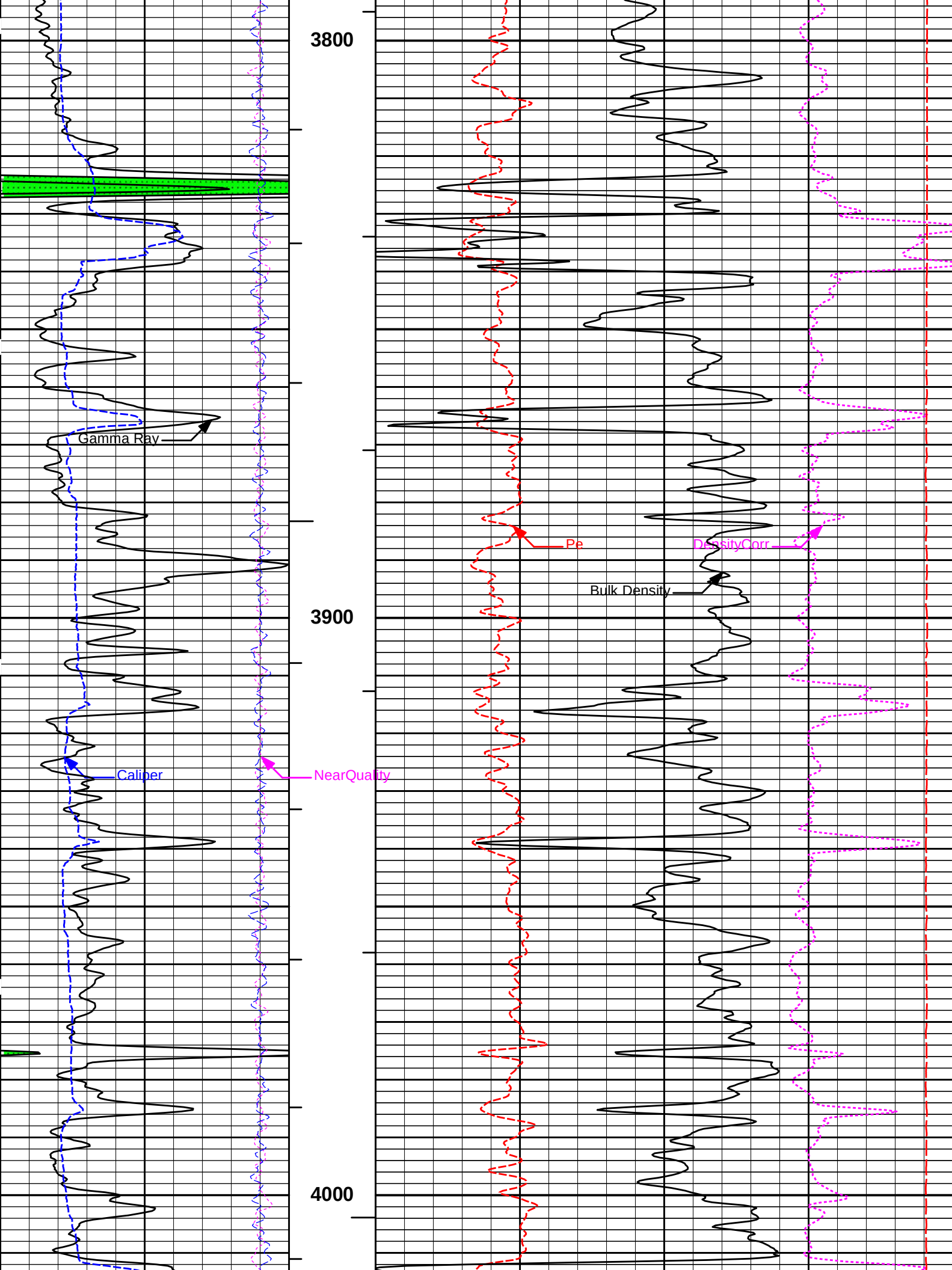
Plot Time: 20-Aug-14 18:57:43  
Plot Range: 3600 ft to 4929.75 ft  
Data: LENA\_MAI\_3-29\Well Based\DETAIL\  
Plot File: \\LOCAL\LENA\_MAI\_3-29\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNIPORO\BULKD\_5\_MAIN\_LIB

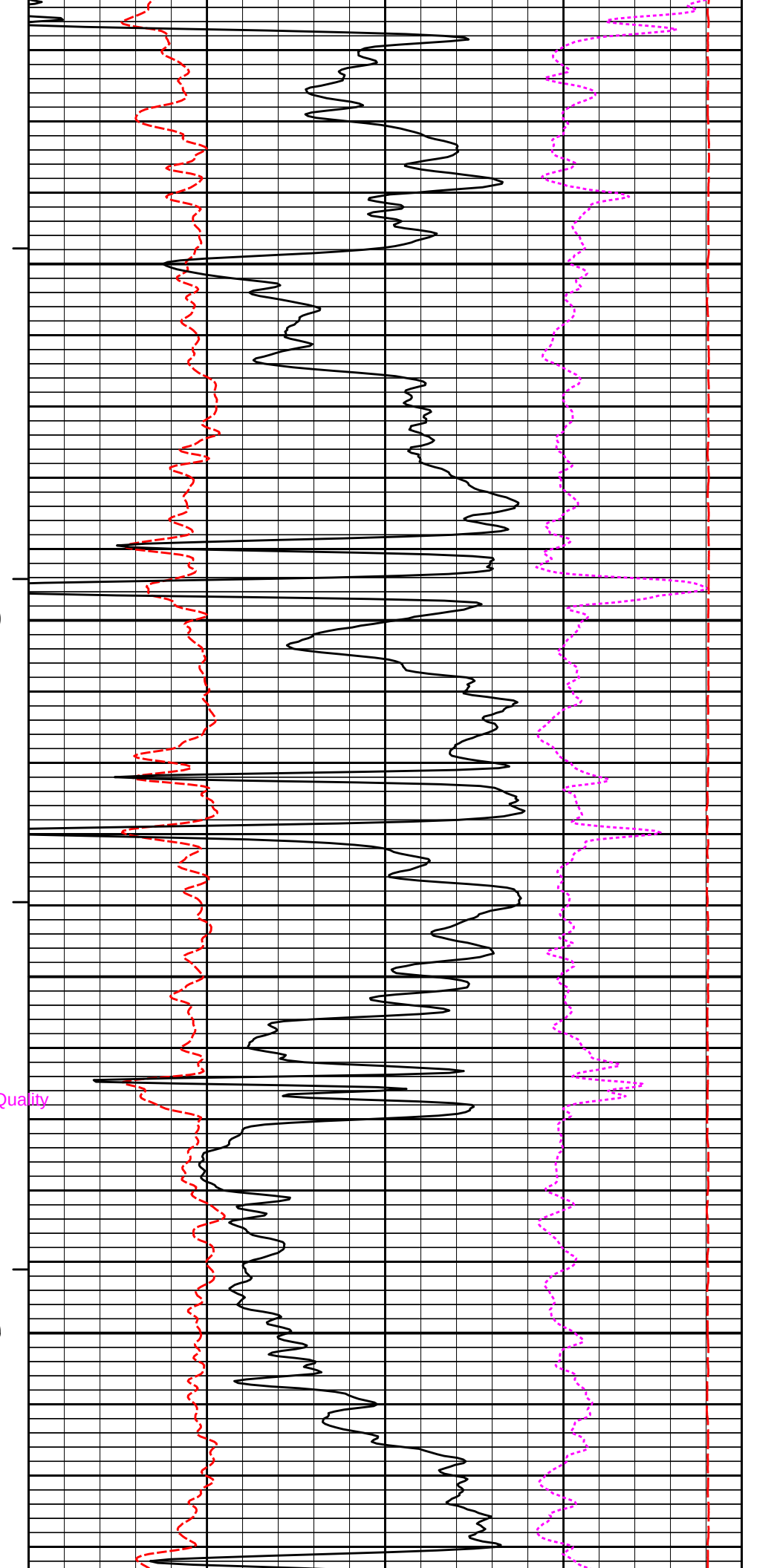
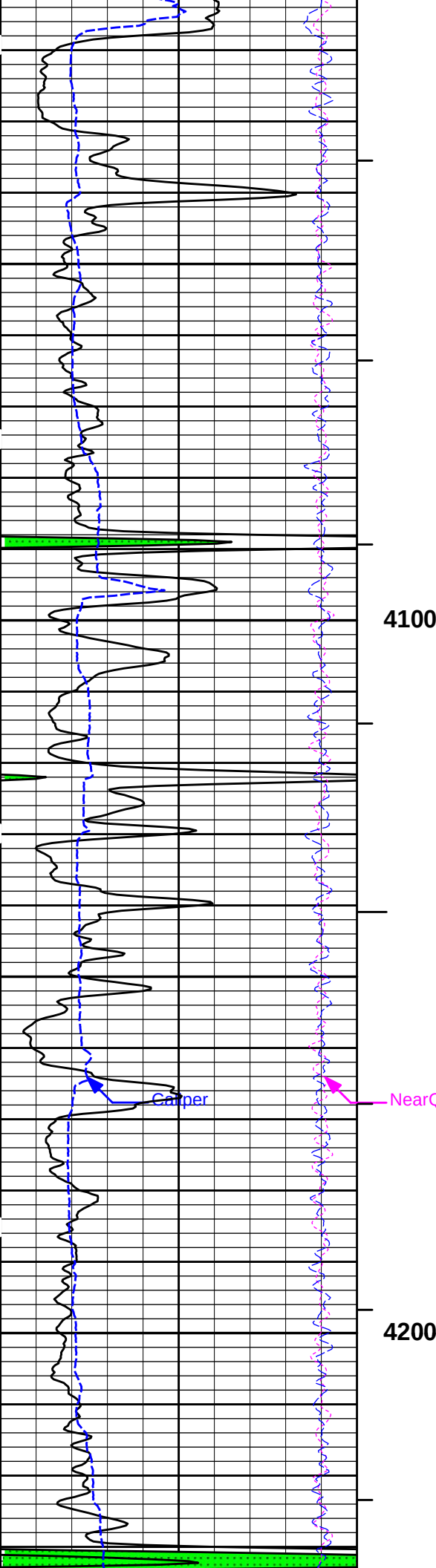
5 INCH MAIN LOG

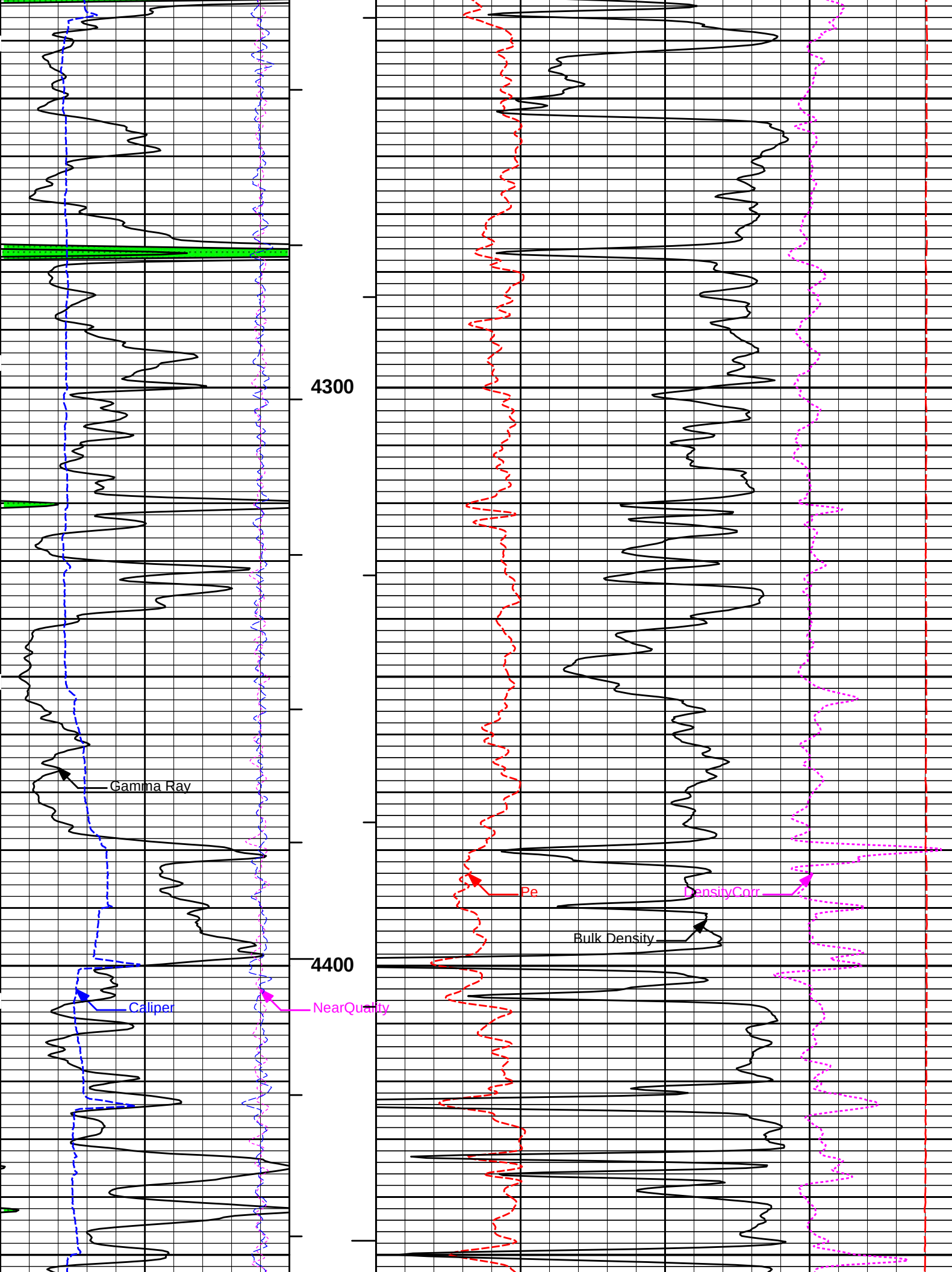
MEASURED DEPTH  
MAIN SECTION 5" PER 100'

|   |           |     |
|---|-----------|-----|
|   | SHALE     |     |
| 0 | Gamma Ray | 150 |
|   | api       |     |

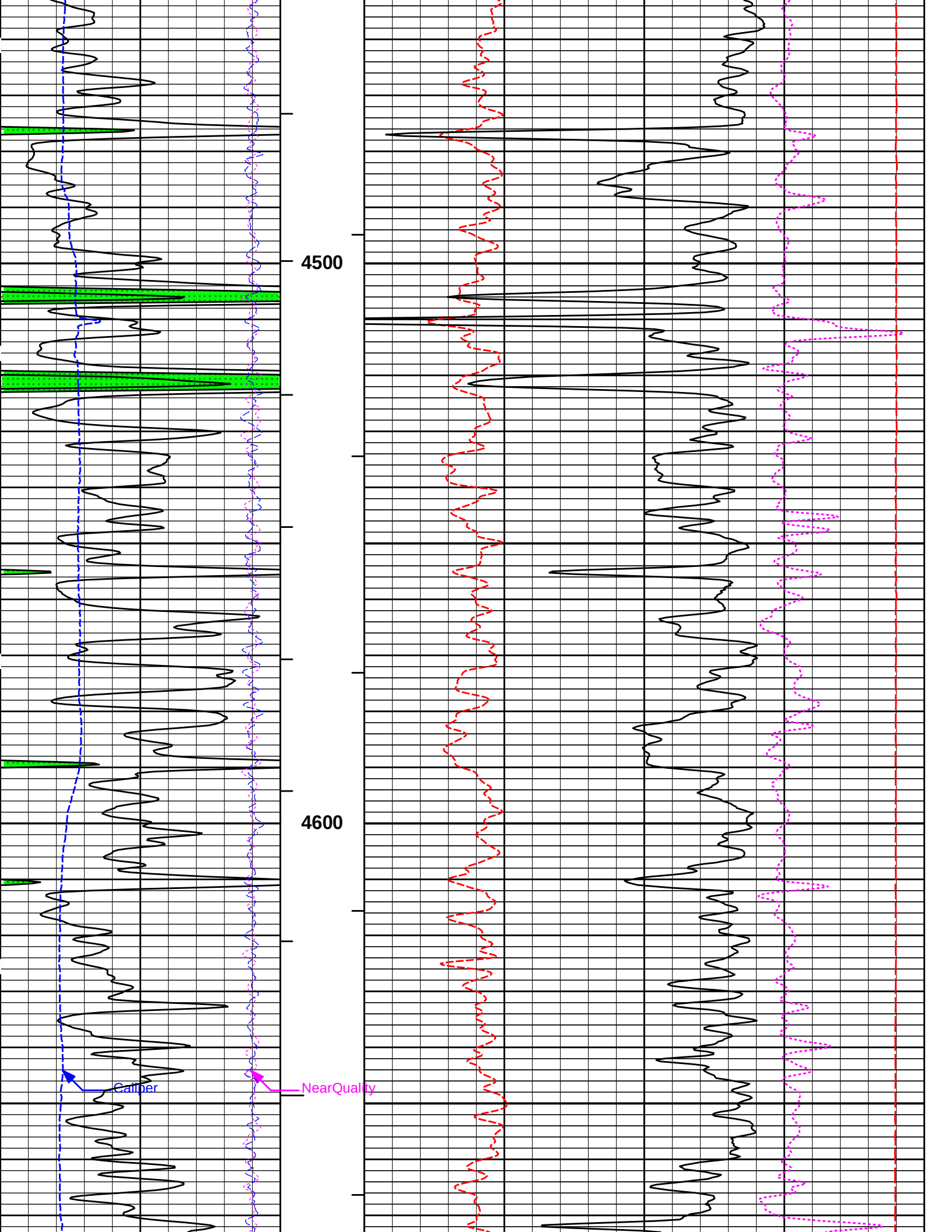


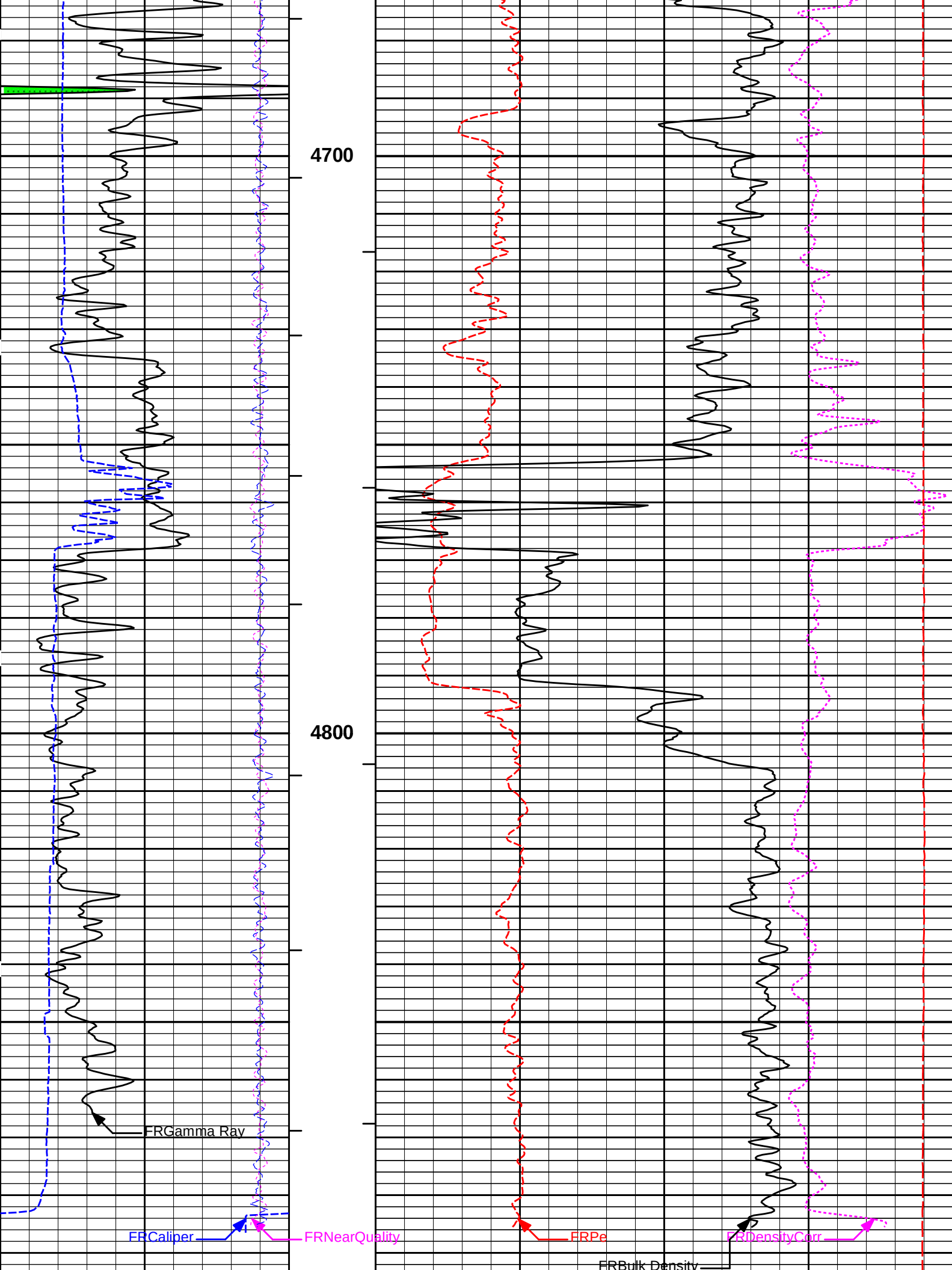












|     |             |     |                     |            |           |   |    |    |       |             |      |  |              |   |
|-----|-------------|-----|---------------------|------------|-----------|---|----|----|-------|-------------|------|--|--------------|---|
| 6   | Caliper     | 16  | MD<br>1 : 240<br>ft | AHV<br>ft3 | BH<br>ft3 | 0 | Pe | 10 | -0.25 | DensityCorr | 0.25 |  |              |   |
|     | inches      |     |                     |            |           |   |    |    |       |             |      |  | g/cc         |   |
| -18 | NearQuality | 2   |                     |            |           |   |    |    | 15K   |             |      |  | Tension      | 0 |
|     |             |     |                     |            |           |   |    |    |       |             |      |  | pounds       |   |
| 18  | FarQuality  | -2  |                     |            |           |   |    |    | 2     |             |      |  | Bulk Density | 3 |
|     |             |     |                     |            |           |   |    |    |       |             | g/cc |  |              |   |
| 0   | Gamma Ray   | 150 |                     |            |           |   |    |    |       |             |      |  |              |   |
|     | api         |     |                     |            |           |   |    |    |       |             |      |  |              |   |
|     | SHALE       |     |                     |            |           |   |    |    |       |             |      |  |              |   |
|     |             |     |                     |            |           |   |    |    |       |             |      |  |              |   |

Plot Time: 20-Aug-14 18:57:45  
Plot Range: 3600 ft to 4929.75 ft  
Data: LENA\_MAI\_3-29\Well Based\DETAIL\  
Plot File: \\LOCAL-LENA\_MAI\_3-29\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNIPORO\BULKD 5 MAIN LIB

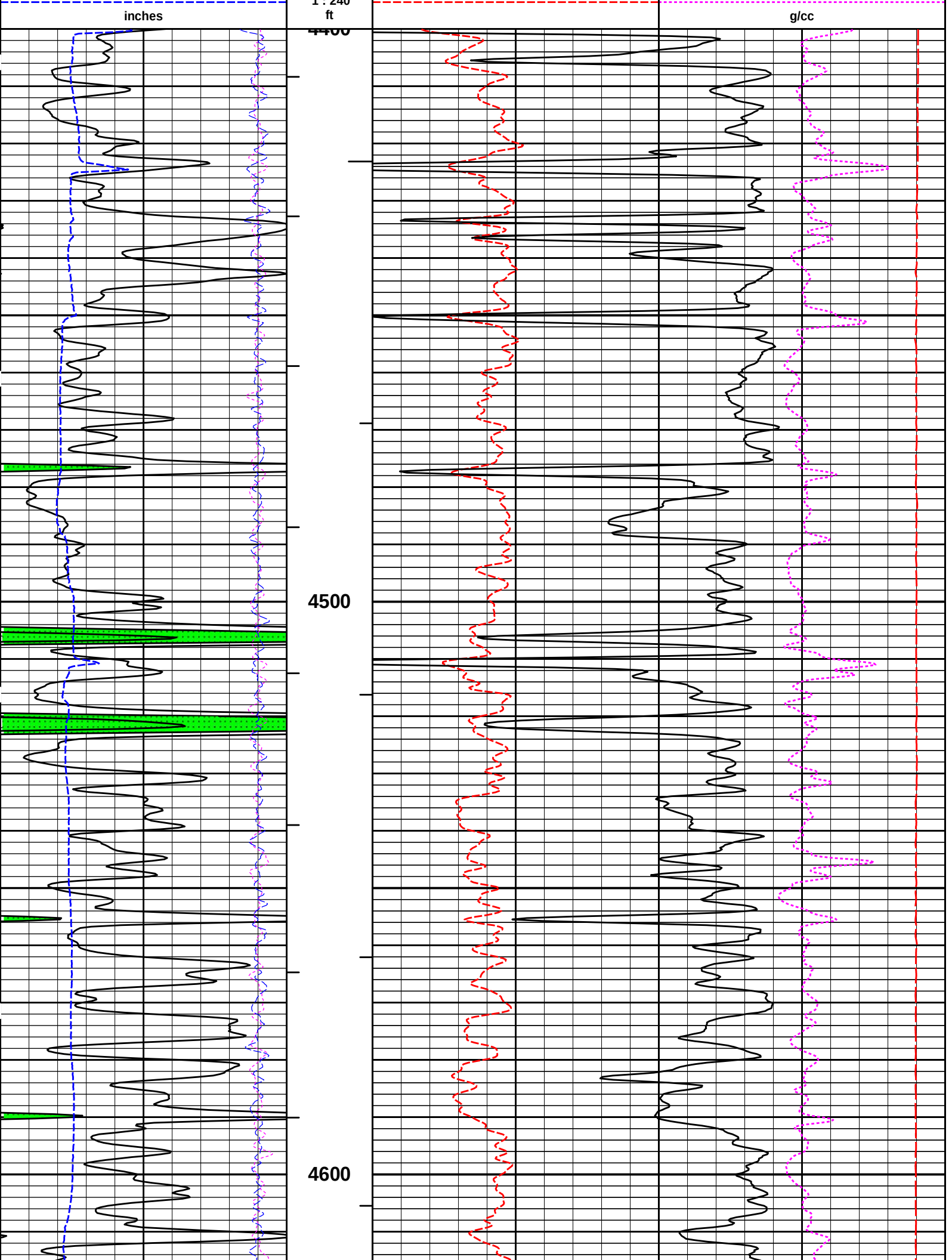
# 5 INCH MAIN LOG

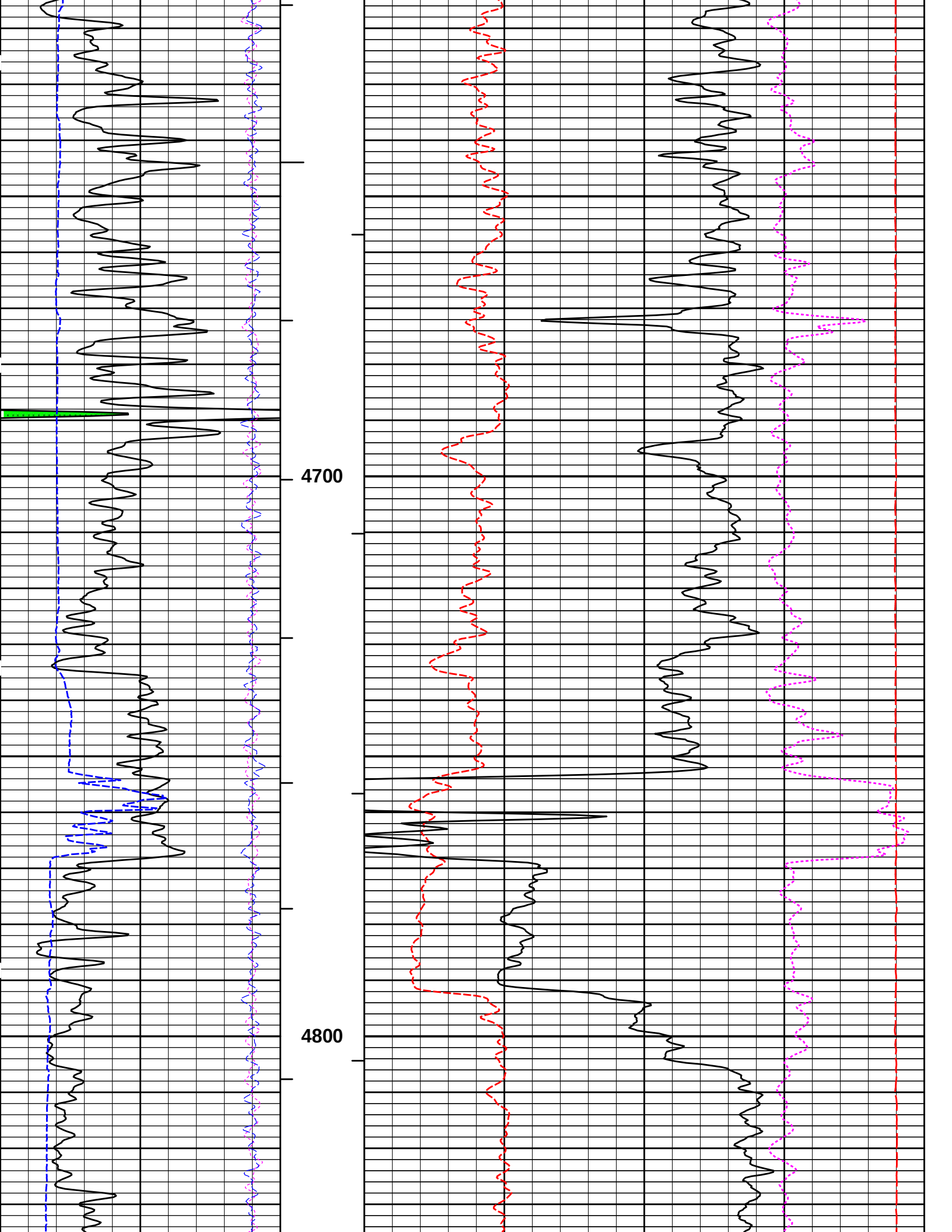
MEASURED DEPTH  
MAIN SECTION 5" PER 100'

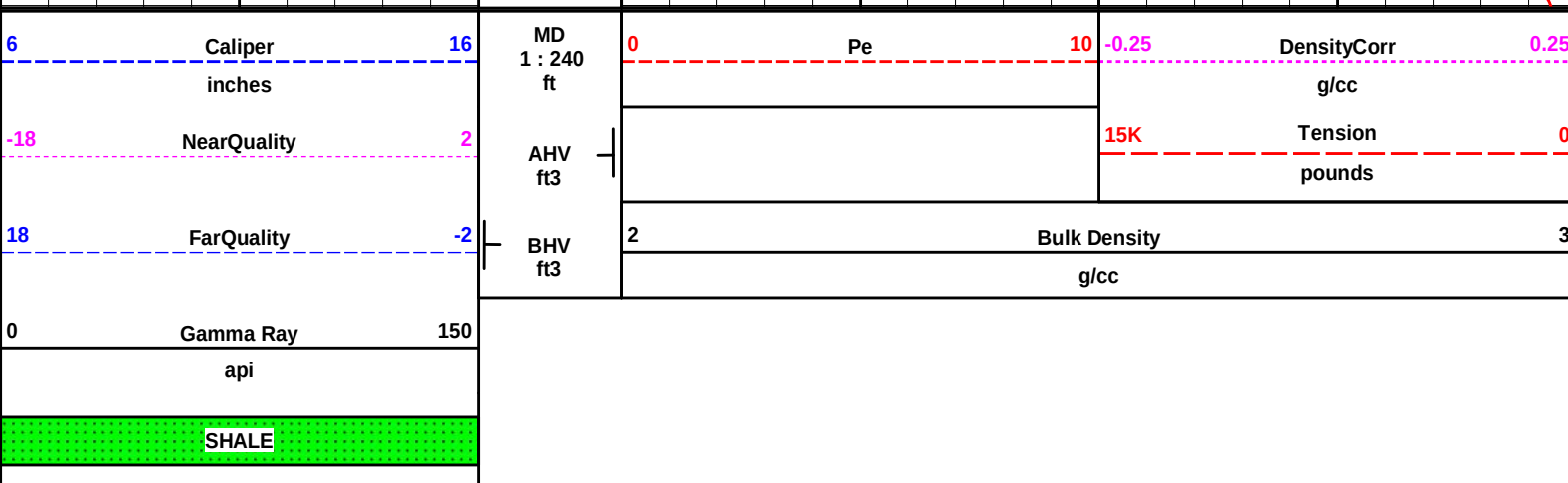
Plot Time: 20-Aug-14 18:57:45  
Plot Range: 4400 ft to 4932.25 ft  
Data: LENA\_MAI\_3-29\Well Based\REPEAT\  
Plot File: \\-LOCAL-\\LENA\_MAI\_3-29\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\PORO\BULKD 5 REP LIB

## REPEAT SECTION

|       |             |     |               |                  |                        |
|-------|-------------|-----|---------------|------------------|------------------------|
|       |             |     |               |                  |                        |
| SHALE |             |     |               |                  |                        |
| 0     | Gamma Ray   | 150 |               |                  |                        |
| api   |             |     |               |                  |                        |
| 18    | FarQuality  | -2  | BHV<br>ft3    | 2 Bulk Density 3 |                        |
|       |             |     | g/cc          |                  |                        |
| -18   | NearQuality | 2   | AHV<br>ft3    | 15K              | Tension 0              |
|       |             |     | pounds        |                  |                        |
| 6     | Caliper     | 16  | MD<br>1 : 240 | 0 Pe 10          | -0.25 DensityCorr 0.25 |







**HALLIBURTON**

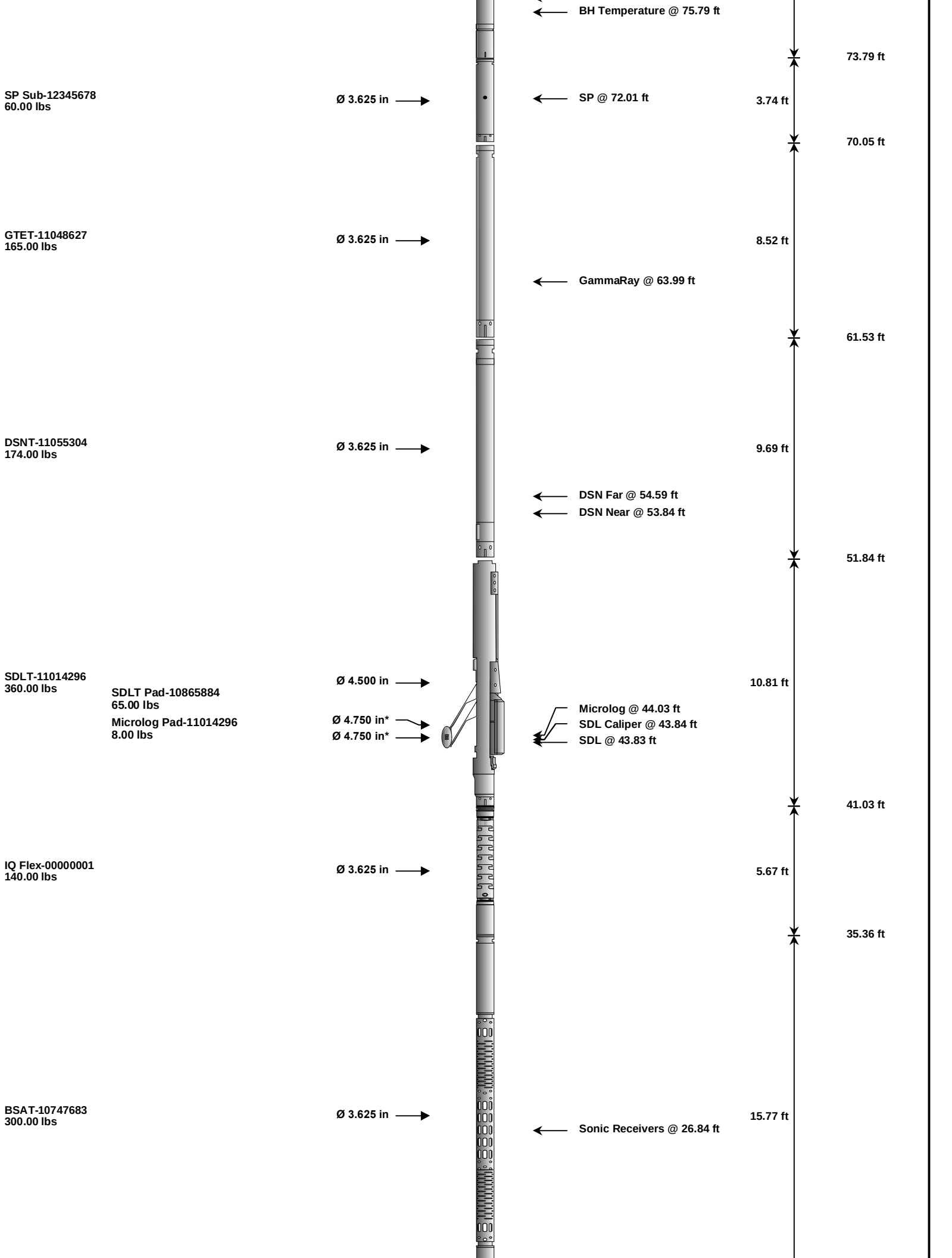
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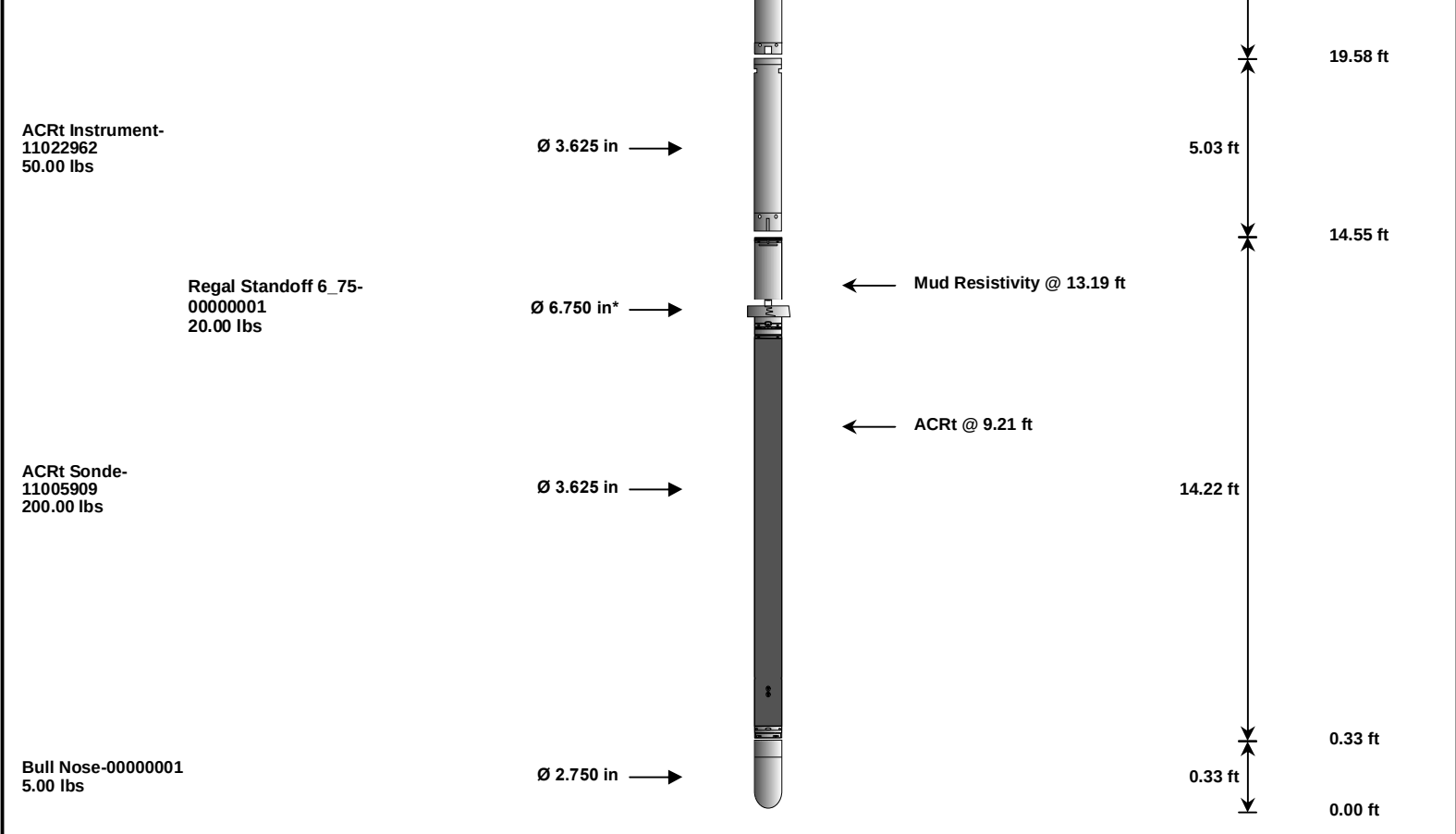
## REPEAT SECTION

# HALLIBURTON

# TOOL STRING DIAGRAM REPORT

| Description                 | Overbody Description | O.D.         | Diagram                                                                             | Sensors @ Delays       | Length    | Accumulated Length |
|-----------------------------|----------------------|--------------|-------------------------------------------------------------------------------------|------------------------|-----------|--------------------|
| RWCH-12156658<br>135.00 lbs |                      | Ø 3.625 in → |  | ← Load Cell @ 76.35 ft | 6.25 ft ↑ | 80.04 ft           |





| Mnemonic | Tool Name                                             | Serial Number | Weight (lbs) | Length (ft) | Accumulated Length (ft) | Max.Log. Speed (fpm) |
|----------|-------------------------------------------------------|---------------|--------------|-------------|-------------------------|----------------------|
| RWCH     | Releasable Wireline Cable Head                        | 12156658      | 135.00       | 6.25        | 73.79                   | 300.00               |
| SP       | SP Sub                                                | 12345678      | 60.00        | 3.74        | 70.05                   | 300.00               |
| GTET     | Gamma Telemetry Tool                                  | 11048627      | 165.00       | 8.52        | 61.53                   | 60.00                |
| DSNT     | Dual Spaced Neutron                                   | 11055304      | 174.00       | 9.69        | 51.84                   | 60.00                |
| SDLT     | Spectral Density Tool                                 | 11014296      | 360.00       | 10.81       | 41.03                   | 60.00                |
| SDLP     | Density Insite Pad                                    | 10865884      | 65.00        | 2.55        | * 43.24                 | 60.00                |
| MICP     | Microlog Pad                                          | 11014296      | 8.00         | 1.00        | * 43.53                 | 60.00                |
| IQF      | IQ Flex tool                                          | 00000001      | 140.00       | 5.67        | 35.36                   | 300.00               |
| BSAT     | Borehole Sonic Array Tool                             | 10747683      | 300.00       | 15.77       | 19.58                   | 60.00                |
| ACRt     | Array Compensated True Resistivity Instrument Section | 11022962      | 50.00        | 5.03        | 14.55                   | 120.00               |
| ACRt     | Array Compensated True Resistivity Sonde Section      | 11005909      | 200.00       | 14.22       | 0.33                    | 120.00               |
| RSOF     | Regal Standoff 6.75in                                 | 00000001      | 20.00        | 0.52        | * 12.25                 | 300.00               |
| BLNS     | Bull Nose                                             | 00000001      | 5.00         | 0.33        | 0.00                    | 300.00               |

|                                                                |                          |       |
|----------------------------------------------------------------|--------------------------|-------|
| Total                                                          | 1,682.00                 | 80.04 |
| * Not included in Total Length and Length Accumulation.        |                          |       |
| Data: LENA_MAI_3-2910001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNIDLE | Date: 20-Aug-14 16:29:50 |       |

HALLIBURTON

CALIBRATION REPORT

NATURAL GAMMA RAY TOOL SHOP CALIBRATION

Tool Name: GTET - 11048627

Engineer: SUHAIL BISHTI

Software Version: WL INSITE R4.2.0 (Build 2)

Reference Calibration Date: 09-Jul-14 10:31:38

Calibration Date: 07-Aug-14 21:30:09

Calibration Version: 1

Calibrator Source S/N: Error

Calibrator API Reference:265.00 api

Equivalent Calibrator API Reference:269.6 api

Measurement

Measured

Calibrated

Units



|                         |       |       |     |
|-------------------------|-------|-------|-----|
| Background              | 53.0  | 53.5  | api |
| Background + Calibrator | 319.9 | 323.2 | api |
| Calibrator              | 266.9 | 269.6 | api |

### NATURAL GAMMA RAY TOOL FIELD CALIBRATION

|                   |                            |                             |                    |
|-------------------|----------------------------|-----------------------------|--------------------|
| Tool Name:        | GTET - 11048627            | Reference Calibration Date: | 07-Aug-14 21:30:09 |
| Engineer:         | J. BOLLUM                  | Calibration Date:           | 18-Aug-14 08:10:26 |
| Software Version: | WL INSITE R4.2.0 (Build 2) | Calibration Version:        | 1                  |

Calibrator Source S/N: Error  
Calibrator API Reference:265.00 api  
Equivalent Calibrator API Reference:269.6 api

| Field Verification      | Shop  | Field | Units |
|-------------------------|-------|-------|-------|
| Background              | 53.5  | 45.2  | api   |
| Background + Calibrator | 323.2 | 313.9 | api   |
| Calibrator              | 269.6 | 268.7 | api   |

| Shop  | Field | Difference | Tolerance |
|-------|-------|------------|-----------|
| 269.6 | 268.7 | 0.9        | +/- 9.00  |

### DUAL SPACED NEUTRON SHOP CALIBRATION

|                   |                            |                             |                    |
|-------------------|----------------------------|-----------------------------|--------------------|
| Tool Name:        | DSNT - 11055304            | Reference Calibration Date: | 07-Aug-14 18:52:00 |
| Engineer:         | SUHAIL BISHTI              | Calibration Date:           | 07-Aug-14 19:08:14 |
| Software Version: | WL INSITE R4.2.0 (Build 2) | Calibration Version:        | 1                  |

Logging Source S/N: DSN-424  
Tank Serial Number: LIBERAL WATER TANK  
Reference value assigned to Tank: 51.680  
Snow Block S/N: 10013313  
Calibration Tank Water Temperature: 85 degF  
Min. Tool Housing Outside Diameter: 3.625 in

| CALIBRATION CONSTANTS |             |           |                            |
|-----------------------|-------------|-----------|----------------------------|
| Measurement           | Prev. Value | New Value | Control Limit On New Value |
| Gain:                 | 0.976       | 0.975     | 0.900 - 1.100              |

| WATER TANK SUMMARY (Horizontal Water Tank) |                                  |                        |        |                         |
|--------------------------------------------|----------------------------------|------------------------|--------|-------------------------|
| Measurement                                | Current Reading (Previous Coef.) | Calibrated (New Coef.) | Change | Control Limit On Change |
| Porosity (decp):                           | 0.2110                           | 0.2110                 | 0.0000 | +/- 0.0020              |
| Calibrated Ratio:                          | 9.73                             | 9.73                   | 0.001  | +/- 0.050               |

| VERIFIER                    |        |                   |
|-----------------------------|--------|-------------------|
| Measurement                 | Value  | Control Limit     |
| Snow-Block Porosity (decp): | 0.0598 | 0.02000 - 0.09000 |

| PASS/FAIL SUMMARY |        |
|-------------------|--------|
| Background Check: | Passed |
| Gain-Range Check: | Passed |
| Snow-Block Check: | Passed |

### DUAL SPACED NEUTRON FIELD CALIBRATION

|            |                 |                             |                    |
|------------|-----------------|-----------------------------|--------------------|
| Tool Name: | DSNT - 11055304 | Reference Calibration Date: | 07-Aug-14 19:08:14 |
|------------|-----------------|-----------------------------|--------------------|

|                                                         |                            |                      |                         |
|---------------------------------------------------------|----------------------------|----------------------|-------------------------|
| Engineer:                                               | J. BOLLUM                  | Calibration Date:    | 20-Aug-14 12:13:25      |
| Software Version:                                       | WL INSITE R4.2.0 (Build 2) | Calibration Version: | 1                       |
| Logging Source S/N: DSN-424<br>Snow Block S/N: 10013313 |                            |                      |                         |
| NEUTRON FIELD-CHECK SUMMARY                             |                            |                      |                         |
|                                                         | Shop                       | Field                | Control Limit On Change |
| Snow-Block Porosity (decp):                             | 0.0598                     | 0.0698               | +/- 0.0150              |
| PASS/FAIL SUMMARY                                       |                            |                      |                         |
| Block Change Check:                                     |                            | Passed               |                         |
| Snow Block Stat Check:                                  |                            | Passed               |                         |
| Temperature Check:                                      |                            | Passed               |                         |

|                                  |                            |                             |                    |
|----------------------------------|----------------------------|-----------------------------|--------------------|
| DENSITY CALIPER SHOP CALIBRATION |                            |                             |                    |
| Tool Name:                       | SDLT - 11014296            | Reference Calibration Date: | 13-Aug-14 11:36:42 |
| Engineer:                        | J. BOLLUM                  | Calibration Date:           | 13-Aug-14 11:40:55 |
| Software Version:                | WL INSITE R4.2.0 (Build 2) | Calibration Version:        | 1                  |
| Host Tool Name:                  | DSNT - 11055304            |                             |                    |

| CALIBRATION COEFFICIENTS                                                                     |                                   |                         |                            |                            |
|----------------------------------------------------------------------------------------------|-----------------------------------|-------------------------|----------------------------|----------------------------|
| Measurement                                                                                  | Previous Value                    | New Value               | Control Limit On New Value |                            |
| Pad Offset                                                                                   | -3753.24                          | -3758.82                | -7000.00 - -1000.00        |                            |
| Pad Gain                                                                                     | 0.0003788                         | 0.0003790               | 0.000200 - 0.000600        |                            |
| Arm Offset                                                                                   | -2802.84                          | -3106.76                | -5000.00 - 3000.00         |                            |
| Arm Gain                                                                                     | 0.0004763                         | 0.0005035               | 0.000300 - 0.000700        |                            |
| Arm Power                                                                                    | -0.000002548                      | -0.000004280            | -0.000010000 - 0.000010000 |                            |
| The ring diameter is computed from: DIAMETER = PAD EXTENSION + ARM EXTENSION + TOOL DIAMETER |                                   |                         |                            |                            |
| Tool Diameter: 4.50 in                                                                       |                                   |                         |                            |                            |
| CALIBRATION RINGS                                                                            |                                   |                         |                            |                            |
| Measurement                                                                                  | Current Reading (Previous Coeff.) | Calibrated (New Coeff.) | Change                     | Control Limit On New Value |
| PAD EXTENSION:                                                                               |                                   |                         |                            |                            |
| Small Ring (in)                                                                              | 2.00                              | 2.00                    | 0.00                       | +/- 0.20                   |
| Medium Ring (in)                                                                             | 3.75                              | 3.75                    | 0.00                       | +/- 0.20                   |
| RING DIAMETER:                                                                               |                                   |                         |                            |                            |
| Small Ring (in)                                                                              | 6.55                              | 6.50                    | -0.05                      | +/- 0.20                   |
| Medium Ring (in)                                                                             | 8.24                              | 8.25                    | 0.01                       | +/- 0.20                   |
| Large Ring (in)                                                                              | 15.00                             | 15.00                   | 0.00                       | +/- 0.20                   |
| PASS/FAIL SUMMARY                                                                            |                                   |                         |                            |                            |
| Calibration-Coefficients Range Check:                                                        |                                   |                         | Passed                     |                            |
| Ring-Measurement Check:                                                                      |                                   |                         | Passed                     |                            |
| PASS/FAIL SUMMARY                                                                            |                                   |                         |                            |                            |
| Calibration-Coefficients Range Check:                                                        |                                   |                         | Passed                     |                            |

|                                |                            |                             |                    |
|--------------------------------|----------------------------|-----------------------------|--------------------|
| SDLT CALIPER FIELD CALIBRATION |                            |                             |                    |
| Tool Name:                     | SDLT - 11014296            | Reference Calibration Date: | 13-Aug-14 11:40:55 |
| Engineer:                      | J. BOLLUM                  | Calibration Date:           | 20-Aug-14 12:10:00 |
| Software Version:              | WL INSITE R4.2.0 (Build 2) | Calibration Version:        | 1                  |

|                         |      |       |        |                  |
|-------------------------|------|-------|--------|------------------|
| MEASURED CALIPER VALUES |      |       |        |                  |
| Measurement             | Shop | Field | Change | Control Limit On |

| Measurement   | Shop | Field | Change | New Value |
|---------------|------|-------|--------|-----------|
| Pad Extension | 3.75 | 3.65  | -0.10  | +/- 0.10  |
| Ring Diameter | 8.25 | 8.10  | -0.15  | +/- 0.15  |

| PASS/FAIL SUMMARY    |        |
|----------------------|--------|
| Pad Extension Check: | Passed |
| Diameter Check:      | Passed |

SPECTRAL DENSITY SHOP CALIBRATION

|                   |                            |                             |                    |
|-------------------|----------------------------|-----------------------------|--------------------|
| Tool Name:        | SDLT Pad - 10865884        | Reference Calibration Date: | 07-Aug-14 20:23:10 |
| Engineer:         | SUHAIL BISHTI              | Calibration Date:           | 07-Aug-14 20:44:57 |
| Software Version: | WL INSITE R4.2.0 (Build 2) | Calibration Version:        | 1                  |

|                                        |                    |           |
|----------------------------------------|--------------------|-----------|
| Logging Source S/N: 5168 GW            |                    |           |
| Aluminum Block S/N: LIBERAL ALUMINUM   | Density: 2.598g/cc | Pe: 3.170 |
| Magnesium Block S/N: LIBERAL MAGNESIUM | Density: 1.684g/cc | Pe: 2.598 |

| DENSITY CALIBRATION SUMMARY |                |           |               |
|-----------------------------|----------------|-----------|---------------|
| Measurement                 | Previous Value | New Value | Control Limit |
| Near Bar Gain               | 1.0535         | 1.0549    | 0.90 - 1.10   |
| Near Dens Gain              | 1.0284         | 1.0243    | 0.90 - 1.10   |
| Near Peak Gain              | 1.0322         | 1.0271    | 0.90 - 1.10   |
| Near Lith Gain              | 0.9822         | 0.9843    | 0.90 - 1.10   |
| Far Bar Gain                | 1.0160         | 1.0149    | 0.90 - 1.10   |
| Far Dens Gain               | 1.0005         | 1.0031    | 0.90 - 1.10   |
| Far Peak Gain               | 0.9956         | 0.9965    | 0.90 - 1.10   |
| Far Lith Gain               | 0.9660         | 0.9658    | 0.90 - 1.10   |
|                             |                |           |               |
| Near Bar Offset             | -0.2707        | -0.2846   | NONE          |
| Near Dens Offset            | -0.0575        | -0.0224   | NONE          |
| Near Peak Offset            | -0.1032        | -0.0589   | NONE          |
| Near Lith Offset            | 0.2824         | 0.2659    | NONE          |
| Far Bar Offset              | 0.0354         | 0.0439    | NONE          |
| Far Dens Offset             | 0.1323         | 0.1075    | NONE          |
| Far Peak Offset             | 0.1222         | 0.1143    | NONE          |
| Far Lith Offset             | 0.2790         | 0.2788    | NONE          |
|                             |                |           |               |
| Near Bar Background         | 800.12         | 795.72    | 700 - 1450    |
| Near Dens Background        | 267.28         | 265.80    | 230 - 480     |
| Near Peak Background        | 116.57         | 116.81    | 100 - 210     |
| Near Lith Background        | 143.06         | 143.11    | 125 - 260     |
| Far Bar Background          | 496.37         | 494.78    | 450 - 900     |
| Far Dens Background         | 193.86         | 193.94    | 175 - 345     |
| Far Peak Background         | 76.32          | 77.45     | 70 - 140      |
| Far Lith Background         | 80.27          | 79.40     | 75 - 145      |

| CALIBRATION BLOCK SUMMARY |                                    |                          |        |                            |
|---------------------------|------------------------------------|--------------------------|--------|----------------------------|
| Measurement               | Current Reading<br>(Previous Coef) | Calibrated<br>(New Coef) | Change | Control Limit<br>On Change |
| MAGNESIUM                 |                                    |                          |        |                            |
| Density (g/cc)            | 1.683                              | 1.683                    | -0.000 | +/- 0.015                  |
| Pe                        | 2.579                              | 2.569                    | -0.010 | +/- 0.150                  |
| ALUMINUM                  |                                    |                          |        |                            |
| Density (g/cc)            | 2.596                              | 2.597                    | 0.002  | +/- 0.01500                |

| TOOL SUMMARY               |               |                |              |                |
|----------------------------|---------------|----------------|--------------|----------------|
| Measurement                | Near Detector |                | Far Detector |                |
|                            | Value         | Control Limits | Value        | Control Limits |
| QUALITY                    |               |                |              |                |
| Background                 | 0.0004        | +/- 0.0110     | 0.0001       | +/- 0.0140     |
| Magnesium Block            | -0.0005       | +/- 0.0110     | -0.0003      | +/- 0.0140     |
| Aluminum Block             | -0.0009       | +/- 0.0110     | 0.0000       | +/- 0.0140     |
| Resolution                 | 8.52          | 6.00 - 11.50   | 8.93         | 6.00 - 11.50   |
| Internal Verifier(B+D+P+L) | 1321          | 1200 - 2700    | 846          | 800 - 1700     |

| PASS/FAIL SUMMARY              |        |
|--------------------------------|--------|
| Background Quality Check:      | Passed |
| Background Range Check:        | Passed |
| Background Resolution Check:   | Passed |
| Background Verification Check: | Passed |
| Magnesium Quality Check:       | Passed |
| Aluminum Quality Check:        | Passed |
| Gains Check:                   | Passed |
| Changes in Calibration Blocks: | Passed |

SPECTRAL DENSITY FIELD CHECK

|                   |                            |                             |                    |
|-------------------|----------------------------|-----------------------------|--------------------|
| Tool Name:        | SDLT Pad - 10865884        | Reference Calibration Date: | 07-Aug-14 20:44:57 |
| Engineer:         | J. BOLLLOM                 | Calibration Date:           | 20-Aug-14 06:30:23 |
| Software Version: | WL INSITE R4.2.0 (Build 2) | Calibration Version:        | 1                  |

Pad Temperature: 82.3 degF

| DENSITY FIELD CALIBRATION SUMMARY |          |          |        |                   |
|-----------------------------------|----------|----------|--------|-------------------|
| Measurement                       | Shop     | Field    | Change | Control Limit +/- |
| Near (B+D+P+L) cps                | 1321.442 | 1325.541 | 4.099  | 14.709            |
| Far (B+D+P+L) cps                 | 845.568  | 847.575  | 2.007  | 15.966            |
| Near Resolution                   | 8.52     | 8.52     | 0.000  | 0.50              |
| Far Resolution                    | 8.93     | 9.03     | 0.100  | 1.00              |

| PASS/FAIL SUMMARY       |        |
|-------------------------|--------|
| Bkg Quality Check:      | Passed |
| Bkg Resolution Check:   | Passed |
| Bkg Verification Check: | Passed |

CALIBRATION SUMMARY

| Sensor               | Shop     | Field    | Post  | Difference | Tolerance  | Units |
|----------------------|----------|----------|-------|------------|------------|-------|
| GTET-11048627        |          |          |       |            |            |       |
| Gamma Ray Calibrator | 269.6    | 268.7    | ----- | 0.9        | +/- 9.00   | api   |
| DSNT-11055304        |          |          |       |            |            |       |
| Snow-Block Porosity  | 0.0598   | 0.0698   | ----- | -0.0100    | +/- 0.0150 | decP  |
| SDLT-11014296        |          |          |       |            |            |       |
| Pad Extension        | 3.75     | 3.65     | ----- | 0.10       | +/-0.10    | in    |
| Ring Diameter        | 8.25     | 8.10     | ----- | 0.15       | +/-0.15    | in    |
| SDLT Pad-10865884    |          |          |       |            |            |       |
| Near(B+D+P+L)        | 1321.442 | 1325.541 | ----- | -4.099     | +/-14.709  | cps   |
| Far (B+D+P+L)        | 845.568  | 847.575  | ----- | 2.007      | +/-15.966  | cps   |

|                                                                     |                    |          |                                                       |            |           |                          |
|---------------------------------------------------------------------|--------------------|----------|-------------------------------------------------------|------------|-----------|--------------------------|
| Far(B+D+P+L)                                                        | 845.568            | 847.575  | -----                                                 | -2.007     | +/-15.966 | cps                      |
| Data: I ENA MAI 3-2910001 SP-GTET-DSN-SDI -FL EX-BSAT-ACRT-RNUI D F |                    |          |                                                       |            |           | Date: 20-Aug-14 16:31:37 |
| HALLIBURTON                                                         |                    |          |                                                       |            |           |                          |
| PARAMETERS REPORT                                                   |                    |          |                                                       |            |           |                          |
| Depth<br>(ft)                                                       | Tool Name          | Mnemonic | Description                                           | Value      | Units     |                          |
| TOP                                                                 |                    |          |                                                       |            |           |                          |
|                                                                     | SHARED             | BS       | Bit Size                                              | 7.875      | in        |                          |
|                                                                     | SHARED             | UBS      | Use Bit Size instead of Caliper for all applications. | No         |           |                          |
|                                                                     | SHARED             | MDBS     | Mud Base                                              | Water      |           |                          |
|                                                                     | SHARED             | MDWT     | Borehole Fluid Weight                                 | 9.200      | ppg       |                          |
|                                                                     | SHARED             | WAGT     | Weighting Agent                                       | Natural    |           |                          |
|                                                                     | SHARED             | BSAL     | Borehole salinity                                     | 0.00       | ppm       |                          |
|                                                                     | SHARED             | FSAL     | Formation Salinity NaCl                               | 0.00       | ppm       |                          |
|                                                                     | SHARED             | KPCT     | Percent K in Mud by Weight?                           | 0.00       | %         |                          |
|                                                                     | SHARED             | RMUD     | Mud Resistivity                                       | 2.000      | ohmm      |                          |
|                                                                     | SHARED             | TRM      | Temperature of Mud                                    | 75.0       | degF      |                          |
|                                                                     | SHARED             | CSD      | Logging Interval is Cased?                            | No         |           |                          |
|                                                                     | SHARED             | ICOD     | AHV Casing OD                                         | 5.500      | in        |                          |
|                                                                     | SHARED             | ST       | Surface Temperature                                   | 75.0       | degF      |                          |
|                                                                     | SHARED             | TD       | Total Well Depth                                      | 4930.00    | ft        |                          |
|                                                                     | SHARED             | BHT      | Bottom Hole Temperature                               | 200.0      | degF      |                          |
|                                                                     | SHARED             | SVTM     | Navigation and Survey Master Tool                     | NONE       |           |                          |
|                                                                     | SHARED             | AZTM     | High Res Z Accelerometer Master Tool                  | GTET       |           |                          |
|                                                                     | SHARED             | TEMM     | Temperature Master Tool                               | NONE       |           |                          |
|                                                                     | Rwa /<br>CrossPlot | XPOK     | Process Crossplot?                                    | Yes        |           |                          |
|                                                                     | Rwa /<br>CrossPlot | FCHO     | Select Source of F                                    | Automatic  |           |                          |
|                                                                     | Rwa /<br>CrossPlot | AFAC     | Archie A factor                                       | 0.6200     |           |                          |
|                                                                     | Rwa /<br>CrossPlot | MFAC     | Archie M factor                                       | 2.1500     |           |                          |
|                                                                     | Rwa /<br>CrossPlot | RMFR     | Rmf Reference                                         | 0.10       | ohmm      |                          |
|                                                                     | Rwa /<br>CrossPlot | TMFR     | Rmf Ref Temp                                          | 75.00      | degF      |                          |
|                                                                     | Rwa /<br>CrossPlot | RWA      | Resistivity of Formation Water                        | 0.05       | ohmm      |                          |
|                                                                     | Rwa /<br>CrossPlot | ADP      | Use Air Porosity to calculate CrossplotPhi            | No         |           |                          |
|                                                                     | Rwa /<br>CrossPlot | BHSM     | Borehole Size Source Tool                             | SDLT       |           |                          |
|                                                                     | GTET               | GROK     | Process Gamma Ray?                                    | Yes        |           |                          |
|                                                                     | GTET               | GRSO     | Gamma Tool Standoff                                   | 0.000      | in        |                          |
|                                                                     | GTET               | GEOK     | Process Gamma Ray EVR?                                | No         |           |                          |
|                                                                     | GTET               | TPOS     | Tool Position for Gamma Ray Tools.                    | Eccentered |           |                          |
|                                                                     | GTET               | BHSM     | Borehole Size Source Tool                             | SDLT       |           |                          |
|                                                                     | DSNT               | DNOK     | Process DSN?                                          | Yes        |           |                          |
|                                                                     | DSNT               | DEOK     | Process DSN EVR?                                      | No         |           |                          |
|                                                                     | DSNT               | NLIT     | Neutron Lithology                                     | Limestone  |           |                          |
|                                                                     | DSNT               | DNSO     | DSN Standoff - 0.25 in (6.35 mm) Recommended          | 0.250      | in        |                          |
|                                                                     | DSNT               | DNTP     | Temperature Correction Type                           | None       |           |                          |
|                                                                     | DSNT               | DPRS     | DSN Pressure Correction Type                          | None       |           |                          |
|                                                                     | DSNT               | SHCO     | View More Correction Options                          | No         |           |                          |
|                                                                     | DSNT               | UTVD     | Use TVD for Gradient Corrections?                     | No         |           |                          |
|                                                                     | DSNT               | LHWT     | Logging Horizontal Water Tank?                        | No         |           |                          |
|                                                                     | DSNT               | BHSM     | Borehole Size Source Tool                             | SDLT       |           |                          |

|                                                                |      |                                   |                |                          |
|----------------------------------------------------------------|------|-----------------------------------|----------------|--------------------------|
| DSNT                                                           | BHSM | Borehole Size Source Tool         | SDLT           |                          |
| SDLT                                                           | CLOK | Process Caliper Outputs?          | Yes            |                          |
| SDLT Pad                                                       | DNOK | Process Density?                  | Yes            |                          |
| SDLT Pad                                                       | DNOK | Process Density EVR?              | No             |                          |
| SDLT Pad                                                       | CB   | Logging Calibration Blocks?       | No             |                          |
| SDLT Pad                                                       | SPVT | SDLT Pad Temperature Valid?       | Yes            |                          |
| SDLT Pad                                                       | DTWN | Disable temperature warning       | No             |                          |
| SDLT Pad                                                       | DMA  | Formation Density Matrix          | 2.710          | g/cc                     |
| SDLT Pad                                                       | DFL  | Formation Density Fluid           | 1.000          | g/cc                     |
| SDLT Pad                                                       | BHSM | Borehole Size Source Tool         | SDLT           |                          |
| Microlog Pad                                                   | MLOK | Process MicroLog Outputs?         | Yes            |                          |
| BSAT                                                           | MBOK | Compute BCAS Results?             | Yes            |                          |
| BSAT                                                           | FLLO | Frequency Filter Low Pass Value?  | 5000           | Hz                       |
| BSAT                                                           | FLHI | Frequency Filter High Pass Value? | 27000          | Hz                       |
| BSAT                                                           | DTFL | Delta -T Fluid                    | 189.00         | uspf                     |
| BSAT                                                           | DTMT | Delta -T Matrix Type              | User define    |                          |
| BSAT                                                           | DTMA | Delta -T Matrix                   | 47.60          | uspf                     |
| BSAT                                                           | DTSH | Delta -T Shale                    | 100.00         | uspf                     |
| BSAT                                                           | SPEQ | Acoustic Porosity Equation        | Wylie          |                          |
| ACRt Sonde                                                     | RTOK | Process ACRt?                     | Yes            |                          |
| ACRt Sonde                                                     | MNSO | Minimum Tool Standoff             | 1.50           | in                       |
| ACRt Sonde                                                     | TCS1 | Temperature Correction Source     | FP Lwr & FP Up |                          |
| ACRt Sonde                                                     | TPOS | Tool Position                     | Free Hanging   |                          |
| ACRt Sonde                                                     | RMOP | Rmud Source                       | Mud Cell       |                          |
| ACRt Sonde                                                     | RMIN | Minimum Resistivity for MAP       | 0.20           | ohmm                     |
| ACRt Sonde                                                     | RMIN | Maximum Resistivity for MAP       | 200.00         | ohmm                     |
| ACRt Sonde                                                     | THQY | Threshold Quality                 | 0.50           |                          |
| ACRt Sonde                                                     | MRFX | Fixed mud resistivity             | 2000           | ohmm                     |
| ACRt Sonde                                                     | BHSM | Borehole Size Source Tool         | SDLT           |                          |
| BOTTOM_____                                                    |      |                                   |                |                          |
| Data: LENA_MAI_3-29I0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BNIDLE |      |                                   |                | Date: 20-Aug-14 16:30:39 |

HALLIBURTON

INPUTS, DELAYS AND FILTERS TABLE

| Mnemonic        | Input Description            | Delay (ft) | Filter Type | Filter Length (ft) |
|-----------------|------------------------------|------------|-------------|--------------------|
| Depth Panel     |                              |            |             |                    |
| TENS            | Tension                      | 0.00       | NO          |                    |
| Rwa / CrossPlot |                              |            |             |                    |
| TPUL            | Tension Pull                 | 80.04      | NO          |                    |
| BS              | Bit Size                     | 80.04      | NO          |                    |
| HDIA            | Measured Hole Diameter       | 0.00       | NO          |                    |
| RWCH            |                              |            |             |                    |
| DHTN            | DownholeTension              | 0.00       | BLK         | 0.000              |
| SP Sub          |                              |            |             |                    |
| PLTC            | Plot Control Mask            | 72.01      | NO          |                    |
| SP              | Spontaneous Potential        | 72.01      | BLK         | 1.250              |
| SPR             | Raw Spontaneous Potential    | 72.01      | NO          |                    |
| SPO             | Spontaneous Potential Offset | 72.01      | NO          |                    |

| GTET       |                                                         |       |     |               |
|------------|---------------------------------------------------------|-------|-----|---------------|
| TPUL       | Tension Pull                                            | 63.99 | NO  |               |
| GR         | Natural Gamma Ray API                                   | 63.99 | TRI | 1.750         |
| GRU        | Unfiltered Natural Gamma Ray API                        | 63.99 | NO  |               |
| EGR        | Natural Gamma Ray API with Enhanced Vertical Resolution | 63.99 | W   | 1.416 , 0.750 |
| HDIA       | Measured Hole Diameter                                  | 0.00  | NO  |               |
| ACCZ       | Accelerometer Z                                         | 0.00  | BLK | 0.083         |
| DEVI       | Inclination                                             | 0.00  | NO  |               |
| DSNT       |                                                         |       |     |               |
| TPUL       | Tension Pull                                            | 53.74 | NO  |               |
| RNDS       | Near Detector Telemetry Counts                          | 53.84 | BLK | 1.417         |
| RFDS       | Far Detector Telemetry Counts                           | 54.59 | TRI | 0.583         |
| DNTT       | DSN Tool Temperature                                    | 53.84 | NO  |               |
| DSNS       | DSN Tool Status                                         | 53.74 | NO  |               |
| ERND       | Near Detector Telemetry Counts EVR                      | 53.84 | BLK | 0.000         |
| ERFD       | Far Detector Telemetry Counts EVR                       | 54.59 | BLK | 0.000         |
| ENTM       | DSN Tool Temperature EVR                                | 53.84 | NO  |               |
| HDIA       | Measured Hole Diameter                                  | 0.00  | NO  |               |
| SDLT       |                                                         |       |     |               |
| TPUL       | Tension Pull                                            | 43.84 | NO  |               |
| PCAL       | Pad Caliper                                             | 43.84 | TRI | 0.250         |
| ACAL       | Arm Caliper                                             | 43.84 | TRI | 0.250         |
| BSAT       |                                                         |       |     |               |
| TPUL       | Tension Pull                                            | 26.84 | NO  |               |
| STAT       | Status                                                  | 26.84 | NO  |               |
| DLYT       | Delay Time                                              | 26.84 | NO  |               |
| SI         | Sample Interval                                         | 26.84 | NO  |               |
| TXRX       | Raw Telemetry 10 Receivers                              | 26.84 | NO  |               |
| FRMC       | Tool Frame Count                                        | 26.84 | NO  |               |
| GMOD       | Gain processing mode                                    | 19.58 | NO  |               |
| ACRt Sonde |                                                         |       |     |               |
| TPUL       | Tension Pull                                            | 2.73  | NO  |               |
| F1R1       | ACRT 12KHz - 80in R value                               | 8.98  | BLK | 0.000         |
| F1X1       | ACRT 12KHz - 80in X value                               | 8.98  | BLK | 0.000         |
| F1R2       | ACRT 12KHz - 50in R value                               | 6.48  | BLK | 0.000         |
| F1X2       | ACRT 12KHz - 50in X value                               | 6.48  | BLK | 0.000         |
| F1R3       | ACRT 12KHz - 29in R value                               | 4.98  | BLK | 0.000         |
| F1X3       | ACRT 12KHz - 29in X value                               | 4.98  | BLK | 0.000         |
| F1R4       | ACRT 12KHz - 17in R value                               | 3.98  | BLK | 0.000         |
| F1X4       | ACRT 12KHz - 17in X value                               | 3.98  | BLK | 0.000         |
| F1R5       | ACRT 12KHz - 10in R value                               | 3.48  | BLK | 0.000         |
| F1X5       | ACRT 12KHz - 10in X value                               | 3.48  | BLK | 0.000         |
| F1R6       | ACRT 12KHz - 6in R value                                | 3.23  | BLK | 0.000         |
| F1X6       | ACRT 12KHz - 6in X value                                | 3.23  | BLK | 0.000         |
| F2R1       | ACRT 36KHz - 80in R value                               | 8.98  | BLK | 0.000         |
| F2X1       | ACRT 36KHz - 80in X value                               | 8.98  | BLK | 0.000         |
| F2R2       | ACRT 36KHz - 50in R value                               | 6.48  | BLK | 0.000         |
| F2X2       | ACRT 36KHz - 50in X value                               | 6.48  | BLK | 0.000         |
| F2R3       | ACRT 36KHz - 29in R value                               | 4.98  | BLK | 0.000         |
| F2X3       | ACRT 36KHz - 29in X value                               | 4.98  | BLK | 0.000         |
| F2R4       | ACRT 36KHz - 17in R value                               | 3.98  | BLK | 0.000         |
| F2X4       | ACRT 36KHz - 17in X value                               | 3.98  | BLK | 0.000         |

|          |                                               |       |     |       |
|----------|-----------------------------------------------|-------|-----|-------|
| F2R5     | ACRT 36KHz - 10in R value                     | 3.48  | BLK | 0.000 |
| F2X5     | ACRT 36KHz - 10in X value                     | 3.48  | BLK | 0.000 |
| F2R6     | ACRT 36KHz - 6in R value                      | 3.23  | BLK | 0.000 |
| F2X6     | ACRT 36KHz - 6in X value                      | 3.23  | BLK | 0.000 |
| F3R1     | ACRT 72KHz - 80in R value                     | 8.98  | BLK | 0.000 |
| F3X1     | ACRT 72KHz - 80in X value                     | 8.98  | BLK | 0.000 |
| F3R2     | ACRT 72KHz - 50in R value                     | 6.48  | BLK | 0.000 |
| F3X2     | ACRT 72KHz - 50in X value                     | 6.48  | BLK | 0.000 |
| F3R3     | ACRT 72KHz - 29in R value                     | 4.98  | BLK | 0.000 |
| F3X3     | ACRT 72KHz - 29in X value                     | 4.98  | BLK | 0.000 |
| F3R4     | ACRT 72KHz - 17in R value                     | 3.98  | BLK | 0.000 |
| F3X4     | ACRT 72KHz - 17in X value                     | 3.98  | BLK | 0.000 |
| F3R5     | ACRT 72KHz - 10in R value                     | 3.48  | BLK | 0.000 |
| F3X5     | ACRT 72KHz - 10in X value                     | 3.48  | BLK | 0.000 |
| F3R6     | ACRT 72KHz - 6in R value                      | 3.23  | BLK | 0.000 |
| F3X6     | ACRT 72KHz - 6in X value                      | 3.23  | BLK | 0.000 |
| RMUD     | Mud Resistivity                               | 12.52 | BLK | 0.000 |
| F1RT     | Transmitter Reference 12 KHz Real Signal      | 2.73  | BLK | 0.000 |
| F1XT     | Transmitter Reference 12 KHz Imaginary Signal | 2.73  | BLK | 0.000 |
| F2RT     | Transmitter Reference 36 KHz Real Signal      | 2.73  | BLK | 0.000 |
| F2XT     | Transmitter Reference 36 KHz Imaginary Signal | 2.73  | BLK | 0.000 |
| F3RT     | Transmitter Reference 72 KHz Real Signal      | 2.73  | BLK | 0.000 |
| F3XT     | Transmitter Reference 72 KHz Imaginary Signal | 2.73  | BLK | 0.000 |
| TFPU     | Upper Feedpipe Temperature Calculated         | 2.73  | BLK | 0.000 |
| TFPL     | Lower Feedpipe Temperature Calculated         | 2.73  | BLK | 0.000 |
| ITMP     | Instrument Temperature                        | 2.73  | BLK | 0.000 |
| TCVA     | Temperature Correction Values Loop Off        | 2.73  | NO  |       |
| TIDV     | Instrument Temperature Derivative             | 2.73  | NO  |       |
| TUDV     | Upper Temperature Derivative                  | 2.73  | NO  |       |
| TLDV     | Lower Temperature Derivative                  | 2.73  | NO  |       |
| TRBD     | Receiver Board Temperature                    | 2.73  | NO  |       |
| HDIA     | Measured Hole Diameter                        | 0.00  | NO  |       |
| SDLT Pad |                                               |       |     |       |
| TPUL     | Tension Pull                                  | 43.83 | NO  |       |
| NAB      | Near Above                                    | 43.66 | BLK | 0.920 |
| NHI      | Near Cesium High                              | 43.66 | BLK | 0.920 |
| NLO      | Near Cesium Low                               | 43.66 | BLK | 0.920 |
| NVA      | Near Valley                                   | 43.66 | BLK | 0.920 |
| NBA      | Near Barite                                   | 43.66 | BLK | 0.920 |
| NDE      | Near Density                                  | 43.66 | BLK | 0.920 |
| NPk      | Near Peak                                     | 43.66 | BLK | 0.920 |
| NLI      | Near Lithology                                | 43.66 | BLK | 0.920 |
| NBAU     | Near Barite Unfiltered                        | 43.66 | BLK | 0.250 |
| NLIU     | Near Lithology Unfiltered                     | 43.66 | BLK | 0.250 |
| FAB      | Far Above                                     | 44.01 | BLK | 0.250 |
| FHI      | Far Cesium High                               | 44.01 | BLK | 0.250 |
| FLO      | Far Cesium Low                                | 44.01 | BLK | 0.250 |
| FVA      | Far Valley                                    | 44.01 | BLK | 0.250 |
| FBA      | Far Barite                                    | 44.01 | BLK | 0.250 |
| FDE      | Far Density                                   | 44.01 | BLK | 0.250 |
| FPK      | Far Peak                                      | 44.01 | BLK | 0.250 |
| FLI      | Far Lithology                                 | 44.01 | BLK | 0.250 |
| PTMP     | Pad Temperature                               | 43.84 | BLK | 0.920 |
| NHV      | Near Detector High Voltage                    | 43.24 | NO  |       |



|      |                           |       |    |
|------|---------------------------|-------|----|
| FHV  | Far Detector High Voltage | 43.24 | NO |
| ITMP | Instrument Temperature    | 43.24 | NO |
| DDHV | Detector High Voltage     | 43.24 | NO |
| HDIA | Measured Hole Diameter    | 0.00  | NO |

| Microlog Pad |                  |       |     |       |
|--------------|------------------|-------|-----|-------|
| TPUL         | Tension Pull     | 44.03 | NO  |       |
| MINV         | Microlog Lateral | 44.03 | BLK | 0.750 |
| MNOR         | Microlog Normal  | 44.03 | BLK | 0.750 |

Data: LENA\_MAI\_3-29\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\IDLE

Date: 20-Aug-14 16:30:21

**HALLIBURTON**

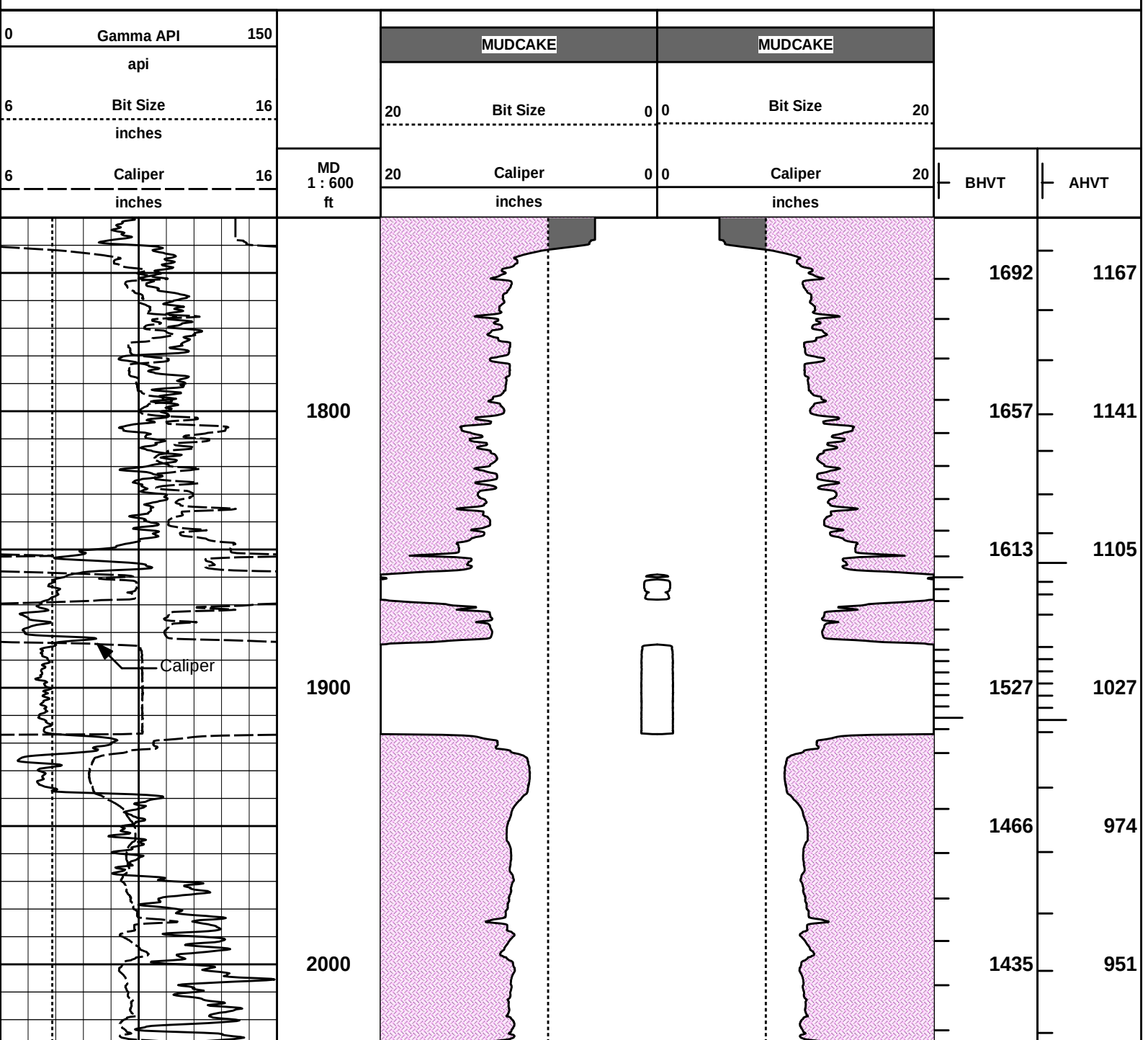
Plot Time: 20-Aug-14 18:57:47

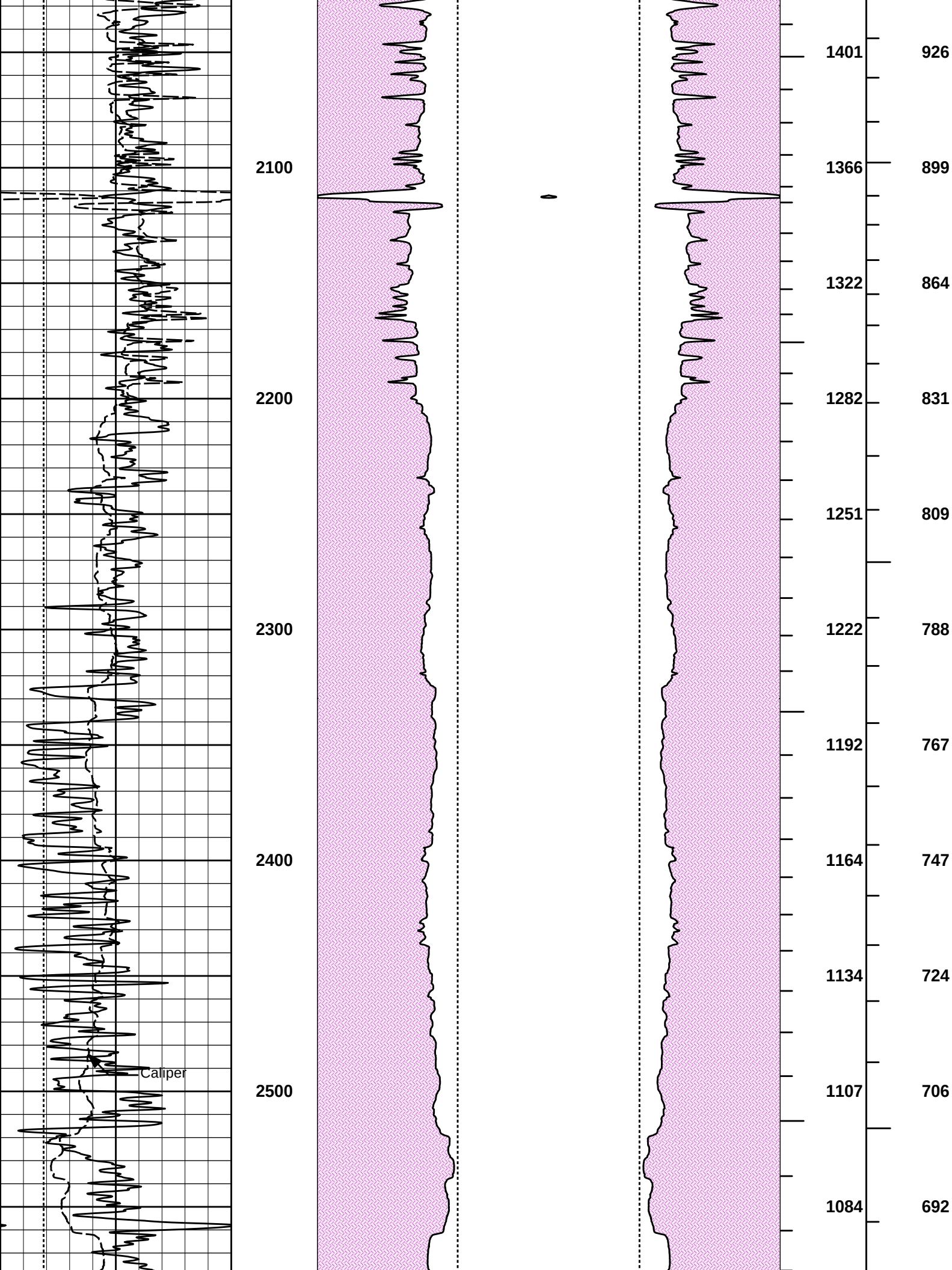
Plot Range: 1730 ft to 4929.75 ft

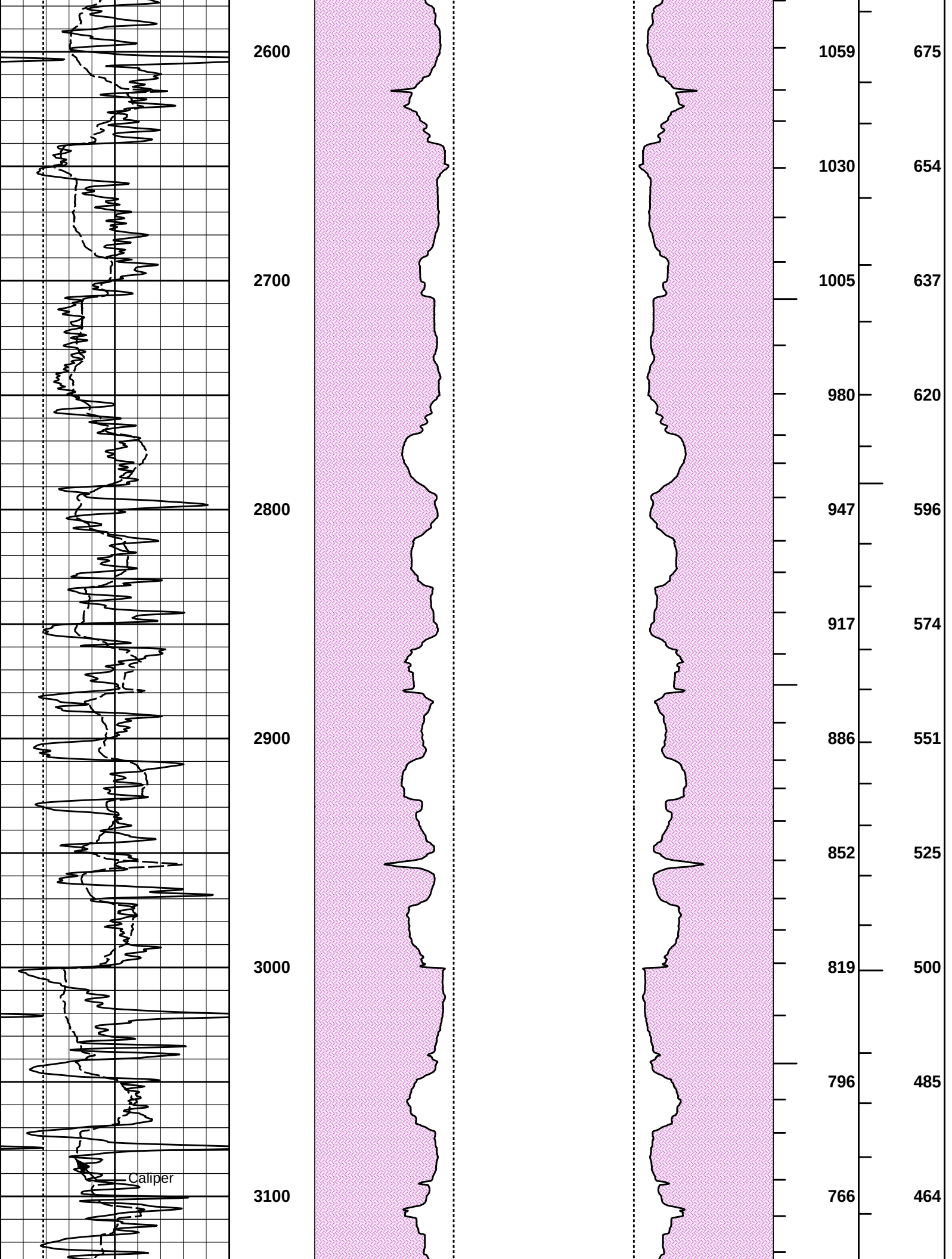
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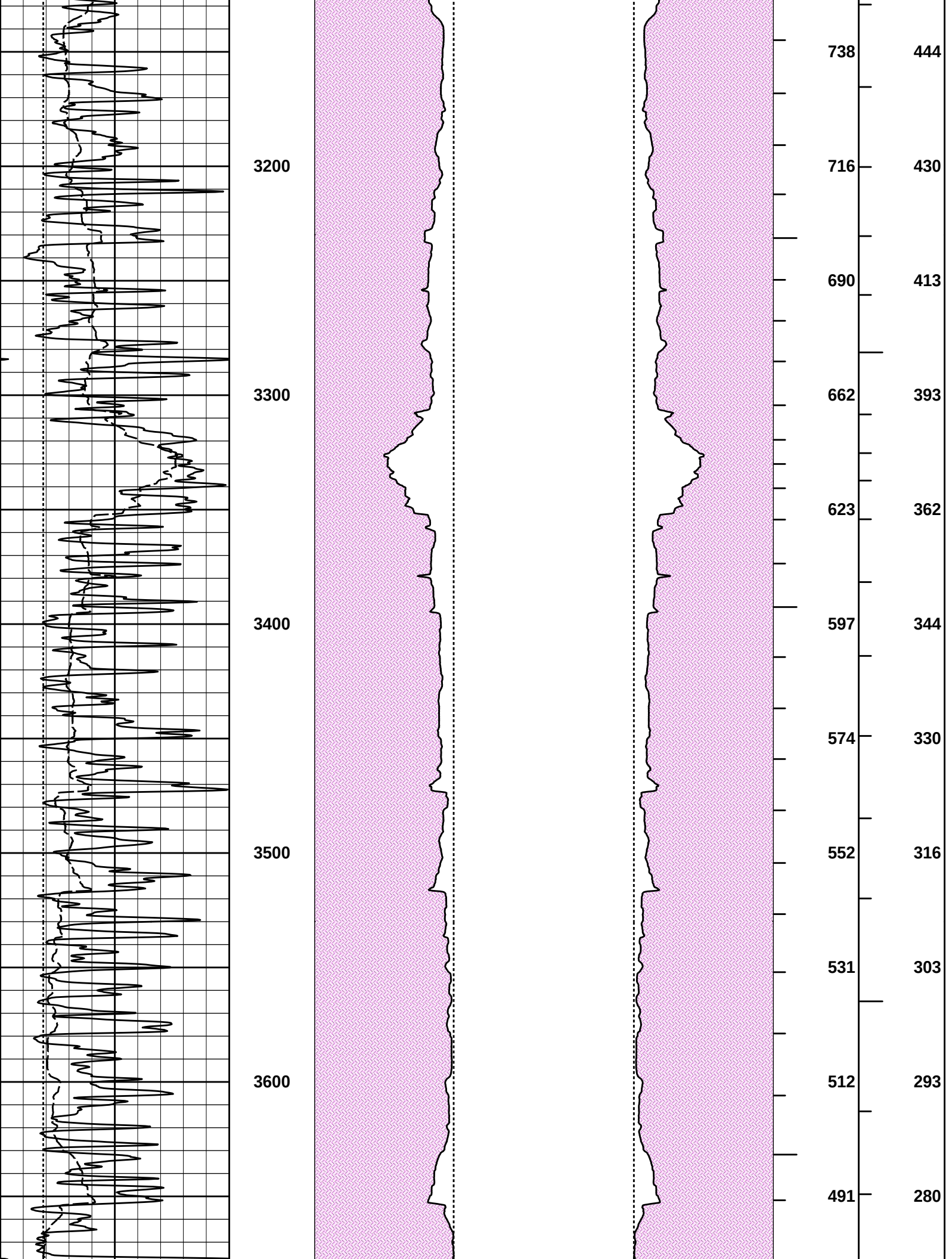
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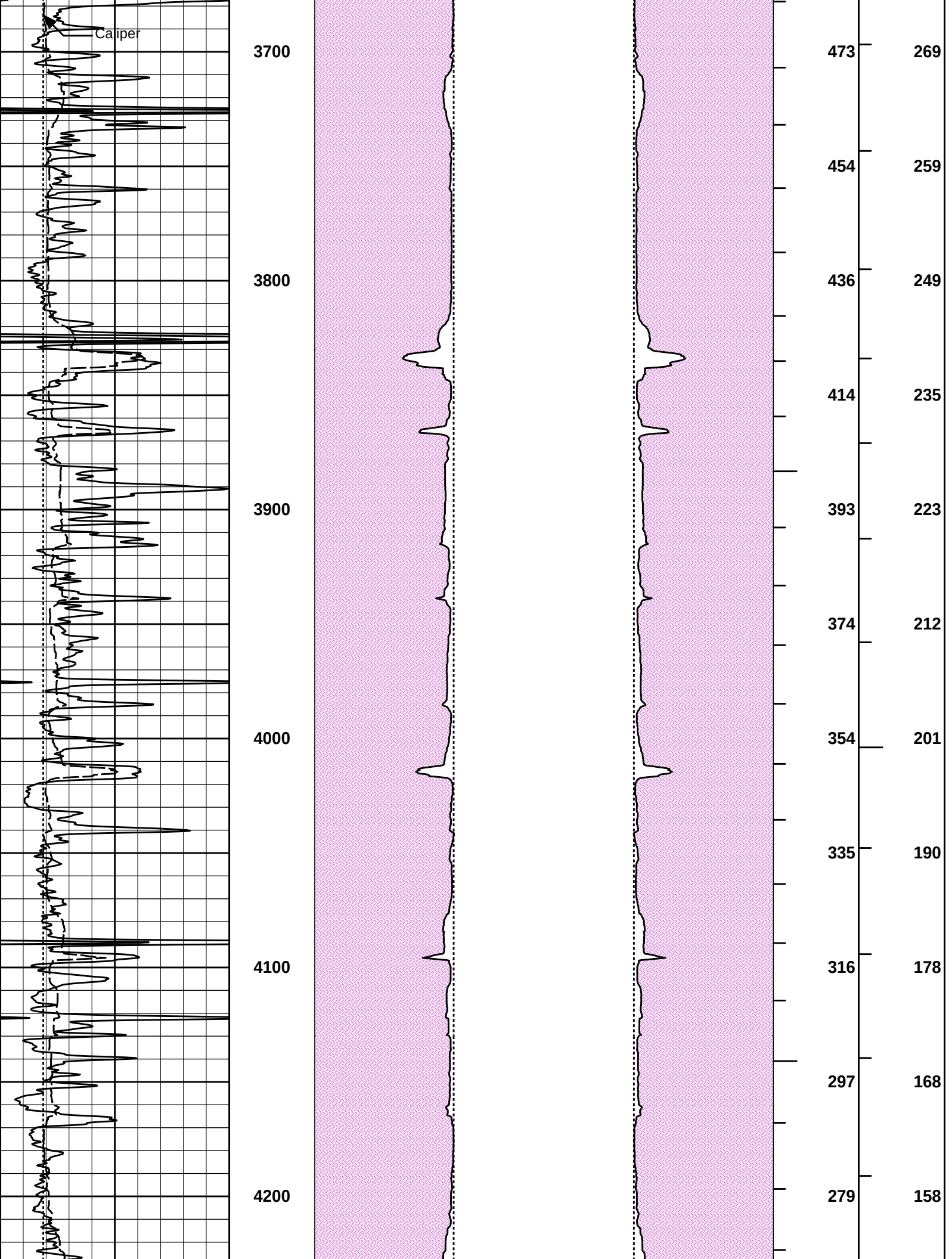
## ANNULAR HOLE VOLUME PLOT

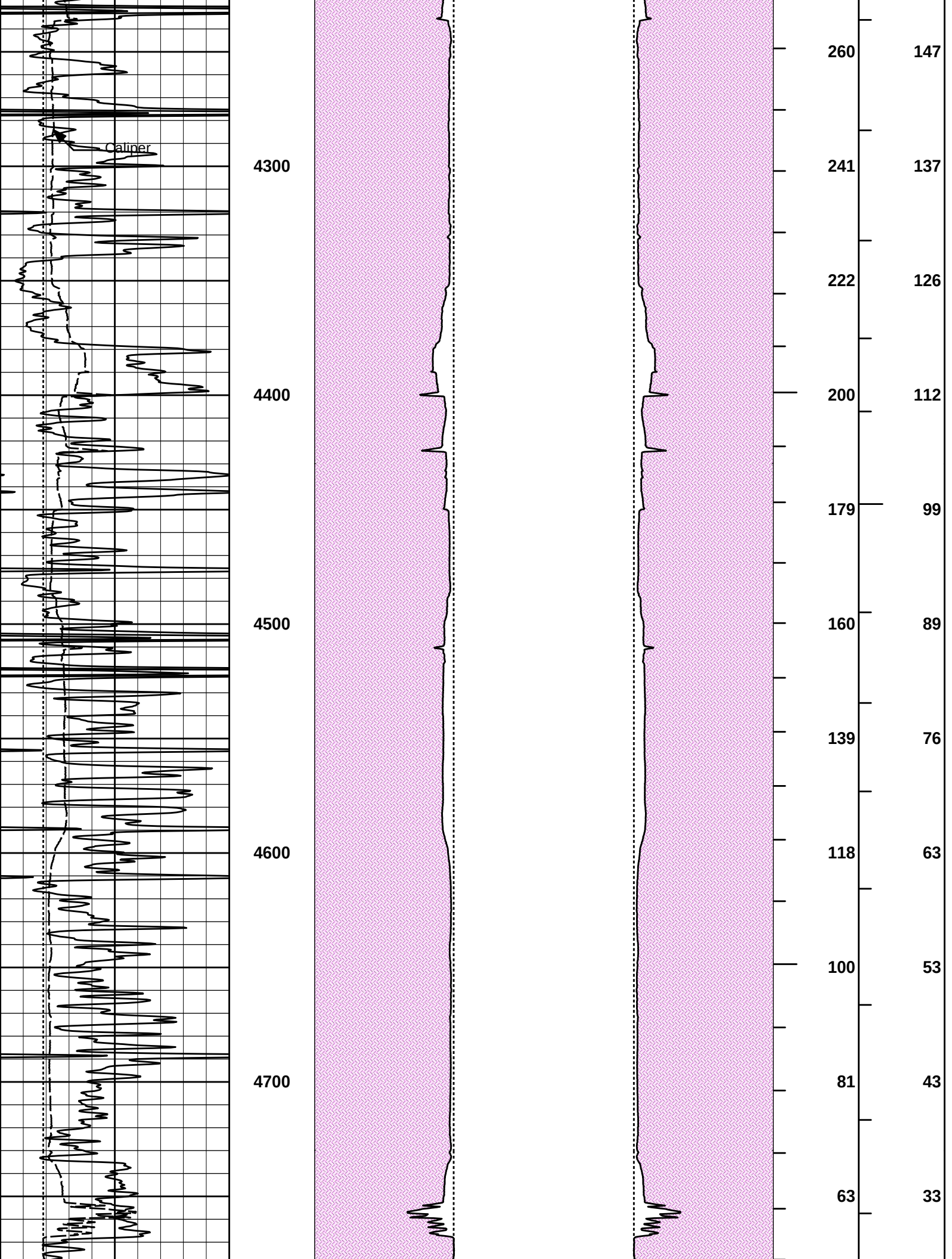


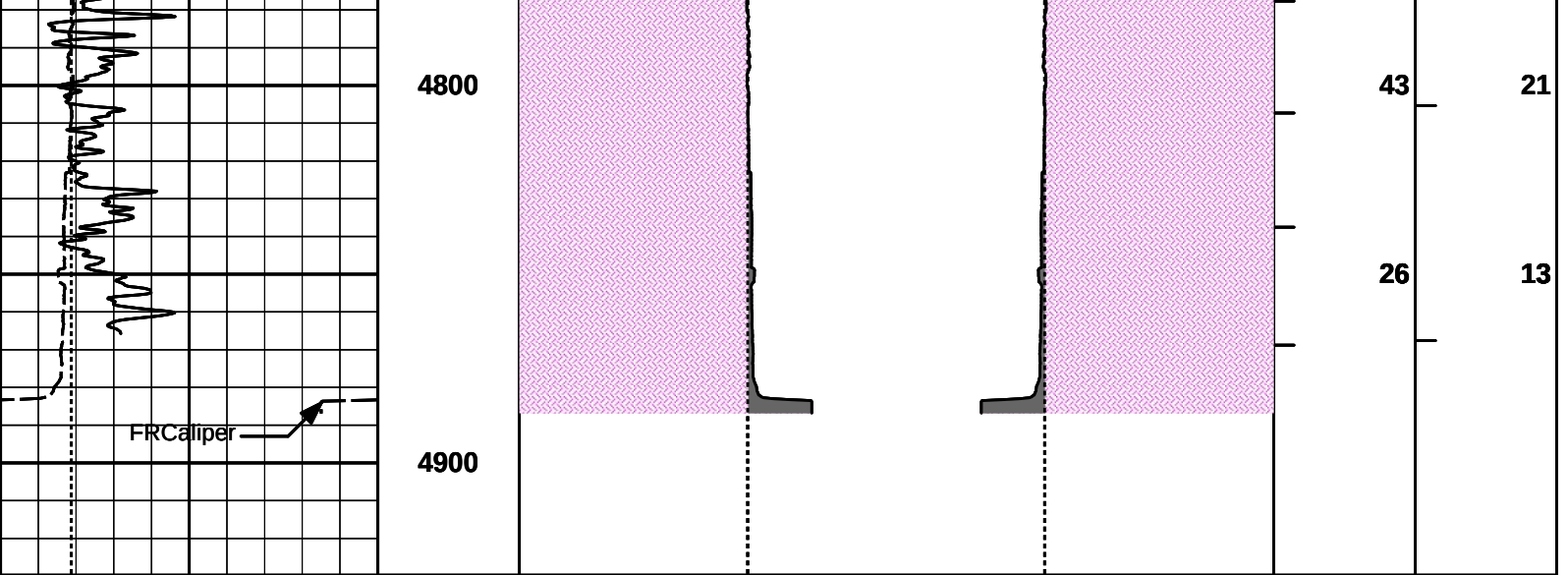












|   |           |     |                     |    |          |   |   |          |        |      |      |
|---|-----------|-----|---------------------|----|----------|---|---|----------|--------|------|------|
| 6 | Caliper   | 16  | MD<br>1 : 600<br>ft | 20 | Caliper  | 0 | 0 | Caliper  | 20     | BHVT | AHVT |
|   | inches    |     |                     |    | inches   |   |   |          | inches |      |      |
| 6 | Bit Size  | 16  |                     | 20 | Bit Size | 0 | 0 | Bit Size | 20     |      |      |
|   | inches    |     |                     |    |          |   |   |          |        |      |      |
| 0 | Gamma API | 150 |                     |    | MUDCAKE  |   |   | MUDCAKE  |        |      |      |
|   | api       |     |                     |    |          |   |   |          |        |      |      |

**HALLIBURTON**

Plot Time: 20-Aug-14 18:57:49  
Plot Range: 1730 ft to 4929.75 ft  
Data: LENA\_MAI\_3-29\Well Based\CASING\  
Plot File: \\LOCAL-LENA\_MAI\_3-29\0001 SP-GTET-DSN-SDL-FLEX-BSAT-ACRT-BN\PORO\AHV\_2\_IQ\_LIB

**ANNULAR HOLE VOLUME PLOT**

|                    |               |       |                                                |  |  |
|--------------------|---------------|-------|------------------------------------------------|--|--|
| COMPANY            | BEREXCO LLC   |       |                                                |  |  |
| WELL               | LENA MAI 3-29 |       |                                                |  |  |
| FIELD              | CONGDON NORTH |       |                                                |  |  |
| COUNTY             | FINNEY        | STATE | KANSAS                                         |  |  |
| <b>HALLIBURTON</b> |               |       | SPECTRAL DENSITY<br>DUAL SPACED NEUTRON<br>LOG |  |  |