



**Casedhole  
Solutions**

**COMPENSATED  
DENSITY/NEUTRON  
LOG**

|                              |                                                    |                        |                                    |
|------------------------------|----------------------------------------------------|------------------------|------------------------------------|
| Company                      | SHELBY RESOURCES, LLC.                             |                        |                                    |
| Well                         | L-S UNIT #1-15                                     |                        |                                    |
| Field                        |                                                    |                        |                                    |
| County                       | BARTON                                             | State                  | KANSAS                             |
| Company                      | SHELBY RESOURCES, LLC.                             | Well                   | L-S UNIT #1-15                     |
| Field                        |                                                    | County                 | BARTON                             |
| County                       | BARTON                                             | State                  | KANSAS                             |
| Location:                    | AP1 # : 15-009-26134-0000<br>1740' FNL & 2600' FEL |                        | Other Services<br>DIL/MEL<br>SONIC |
| Permanent Datum              | SEC 15 TWP 18S RGE 14W                             | Elevation              |                                    |
| Log Measured From            | GROUND LEVEL                                       | Elevation              | 1923                               |
| Drilling Measured From       | KELLY BUSHING 11' A.G.L.<br>KELLY BUSHING          | D.F. 1932<br>G.L. 1923 |                                    |
| Date                         | 12/6/15                                            |                        |                                    |
| Run Number                   | ONE                                                |                        |                                    |
| Depth Driller                | 3560                                               |                        |                                    |
| Depth Logger                 | 3559                                               |                        |                                    |
| Bottom Logged Interval       | 3535                                               |                        |                                    |
| Top Log Interval             | 2800                                               |                        |                                    |
| Casing Driller               | 8 5/8" @ 896'                                      |                        |                                    |
| Casing Logger                | 894'                                               |                        |                                    |
| Bit Size                     | 7 7/8"                                             |                        |                                    |
| Type Fluid in Hole           | CHEMICAL MUD                                       | CHLORIDES 6500 PPM     |                                    |
| Density / Viscosity          | 9.0/72                                             |                        |                                    |
| pH / Fluid Loss              | 9.5/10.0                                           |                        |                                    |
| Source of Sample             | FLOWLINE                                           |                        |                                    |
| Rm @ Meas. Temp              | .75 @ 50F                                          |                        |                                    |
| Rmt @ Meas. Temp             | .56 @ 50F                                          |                        |                                    |
| Rmc @ Meas. Temp             | .90 @ 50F                                          |                        |                                    |
| Source of Rmt / Rmc          | MEASUREMENT                                        |                        |                                    |
| Rm @ BHT                     | .30 @ 112F                                         |                        |                                    |
| Time Circulation Stopped     | 2 HOURS                                            |                        |                                    |
| Time Logger on Bottom        |                                                    |                        |                                    |
| Maximum Recorded Temperature | 112F                                               |                        |                                    |
| Equipment Number             | 4010                                               |                        |                                    |
| Location                     | HAYS, KANSAS                                       |                        |                                    |
| Recorded By                  | JASON CAPELLUCCI                                   |                        |                                    |
| Witnessed By                 | JEREMY SCHWARTZ                                    |                        |                                    |

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

THANK YOU FOR USING CASEDHOLE SOLUTIONS, HAYS, KS. (785) 628-6395  
DIRECTIONS:  
AT INTERSECTION OF HWY 4 & HWY 281 - 3 SOUTH TO 90 RD. - 1/2 WEST  
SOUTH INTO

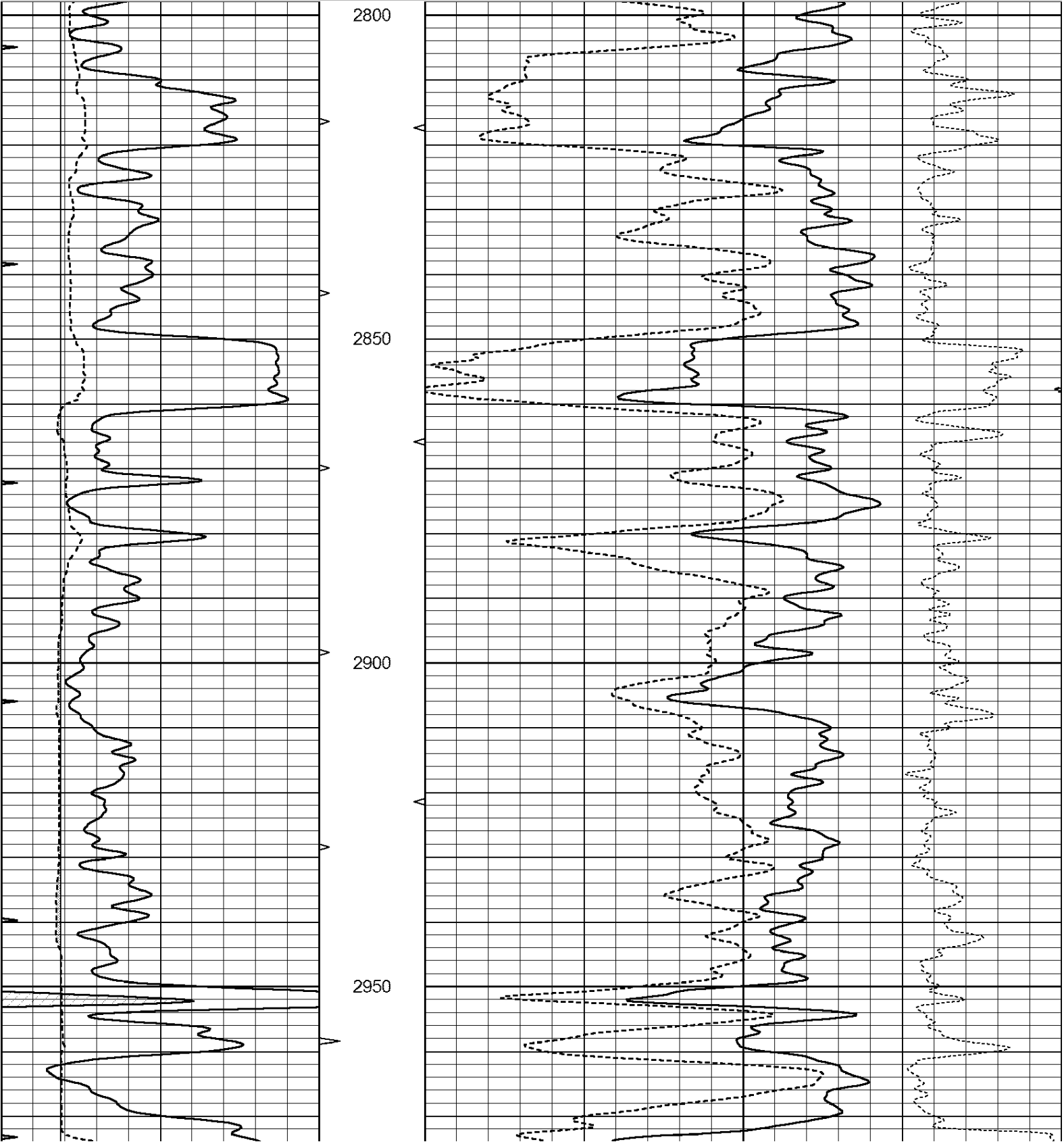


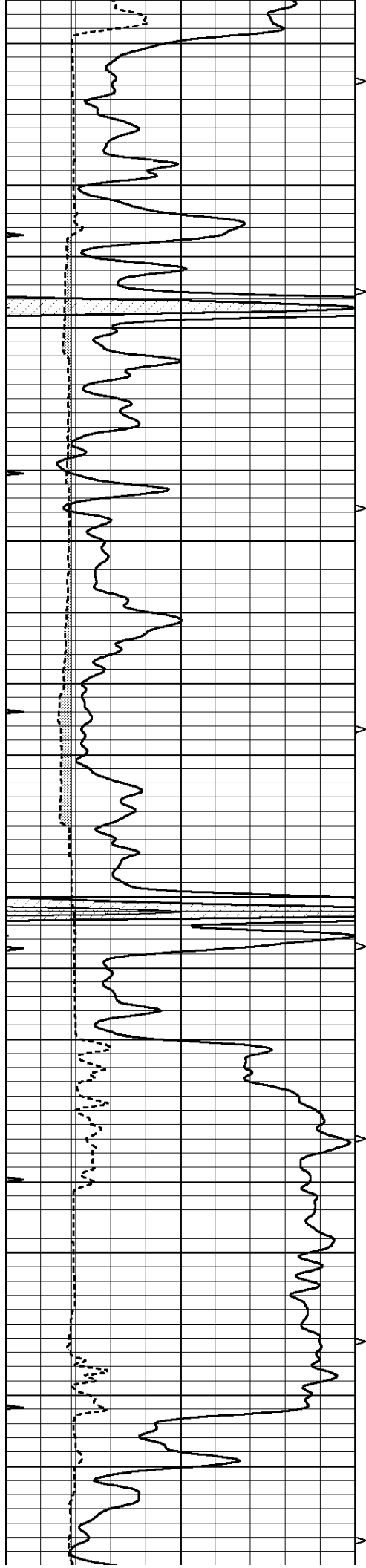
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**MAIN SECTION**

Database File: 30886ddn.db  
Dataset Pathname: pass3.1  
Presentation Format: den\_neu  
Dataset Creation: Sun Dec 06 14:44:02 2015 by Calc Open-Cased 090629  
Charted by: Depth in Feet scaled 1:240

|   |                  |     |          |      |                          |      |
|---|------------------|-----|----------|------|--------------------------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV     | 30   | COMPENSATED DENSITY (pu) | -10  |
| 6 | CALIPER (in)     | 16  | 10 (ft3) | 0 30 | COMPENSATED NEUTRON (pu) | -10  |
| 0 | MINMK            | 20  | TBHV     |      | -0.25 CORRECTION (g/cc)  | 0.25 |
|   |                  |     | 0 (ft3)  | 10   |                          |      |



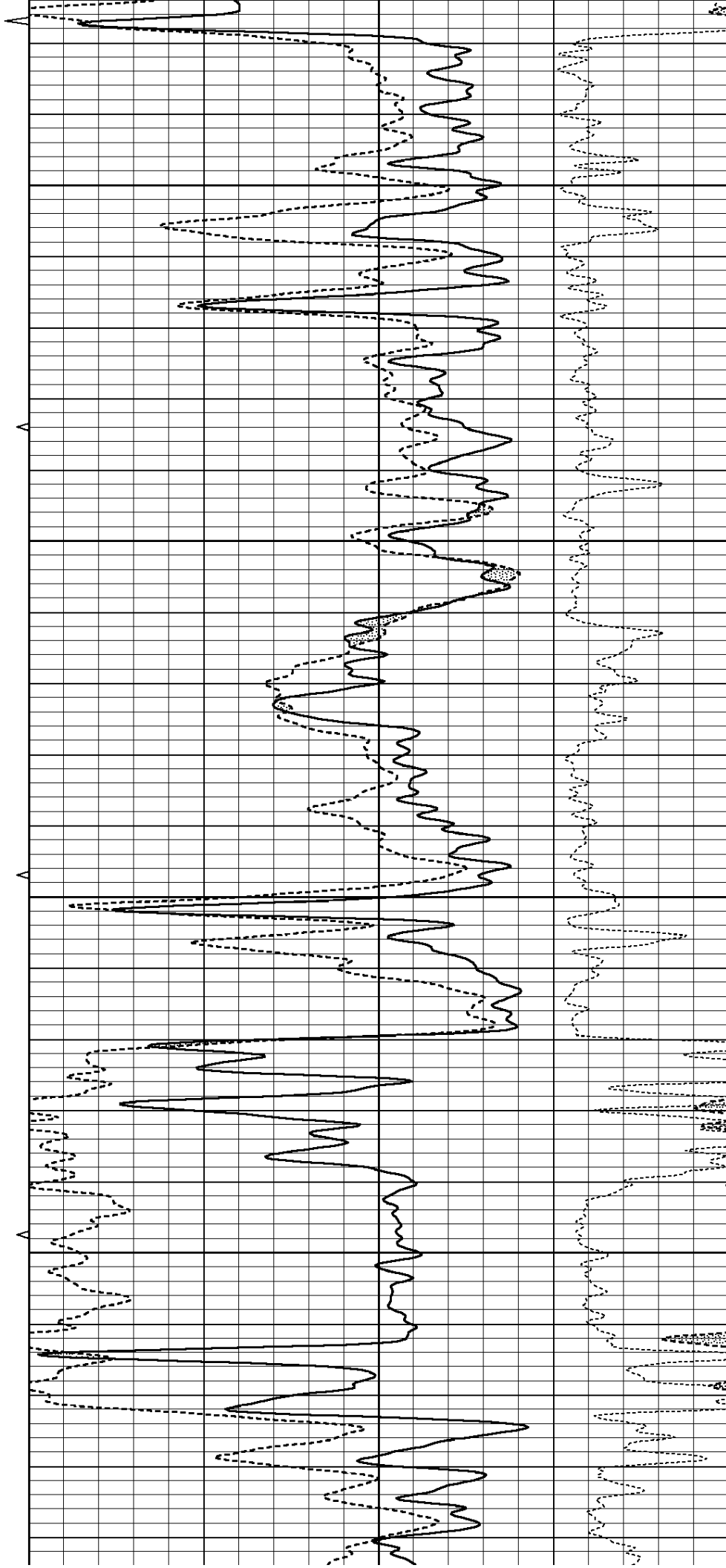


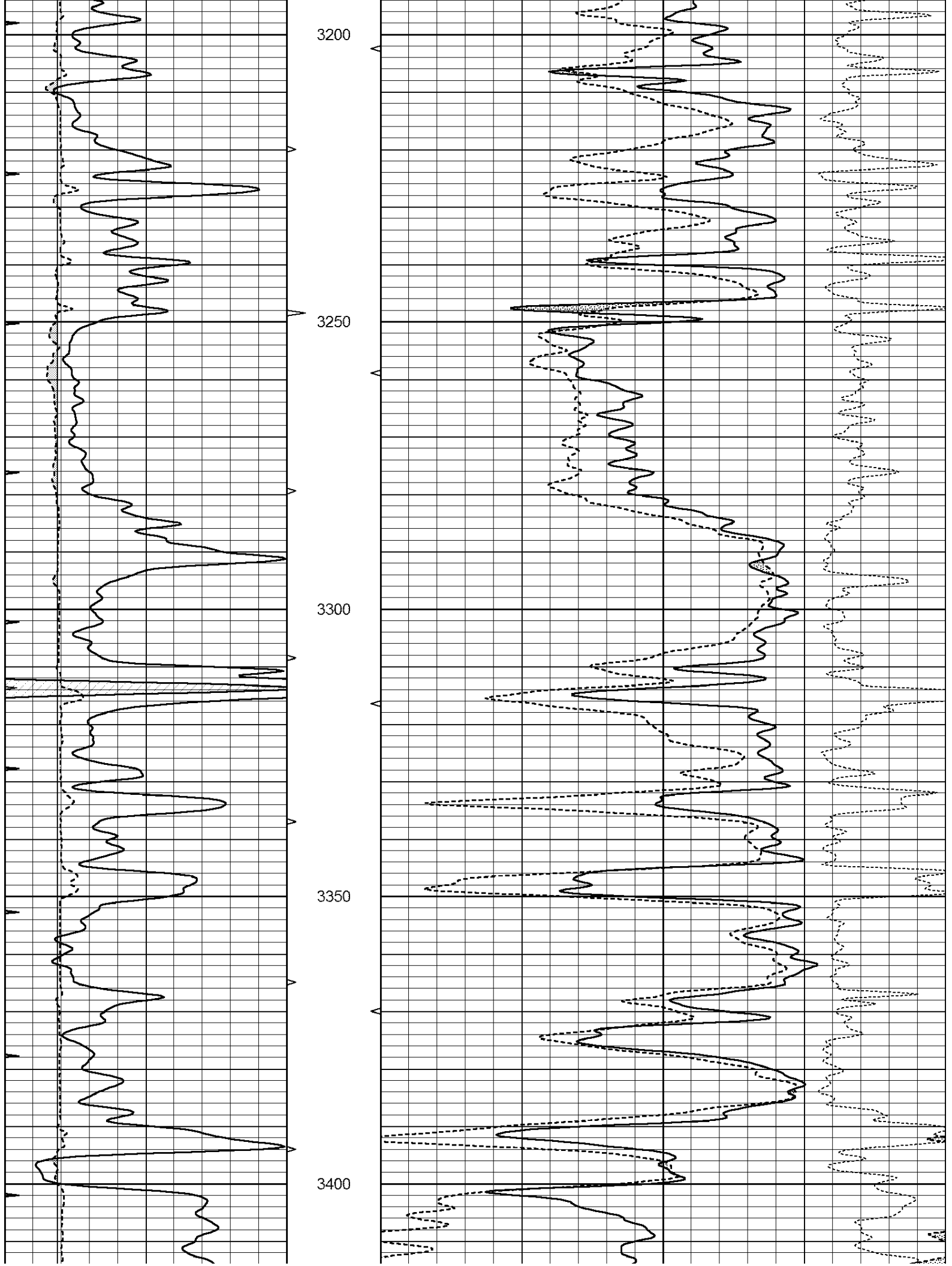
3000

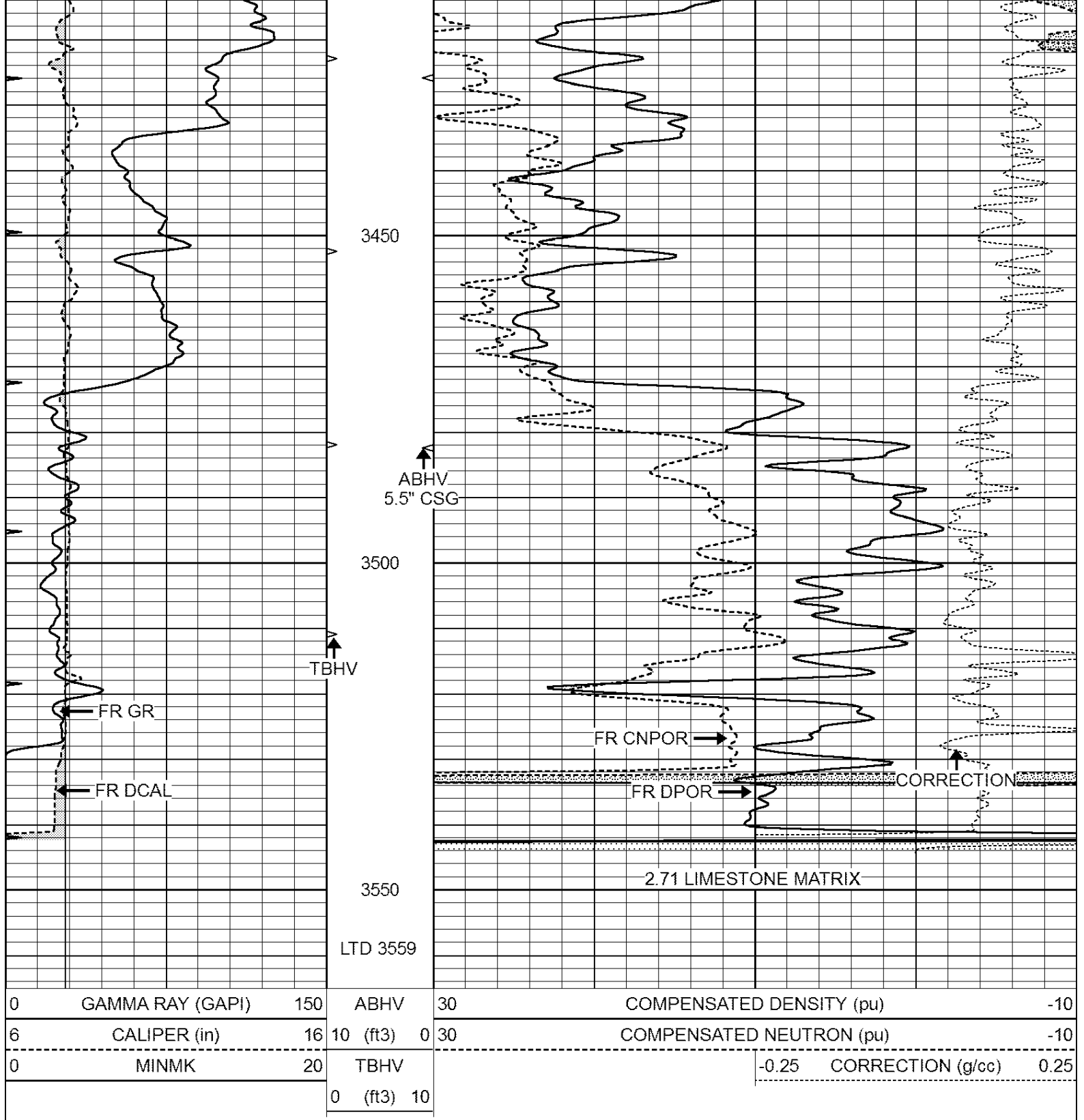
3050

3100

3150



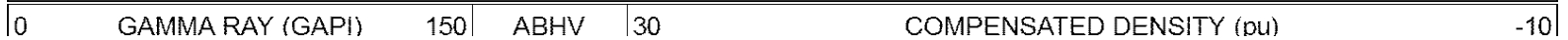




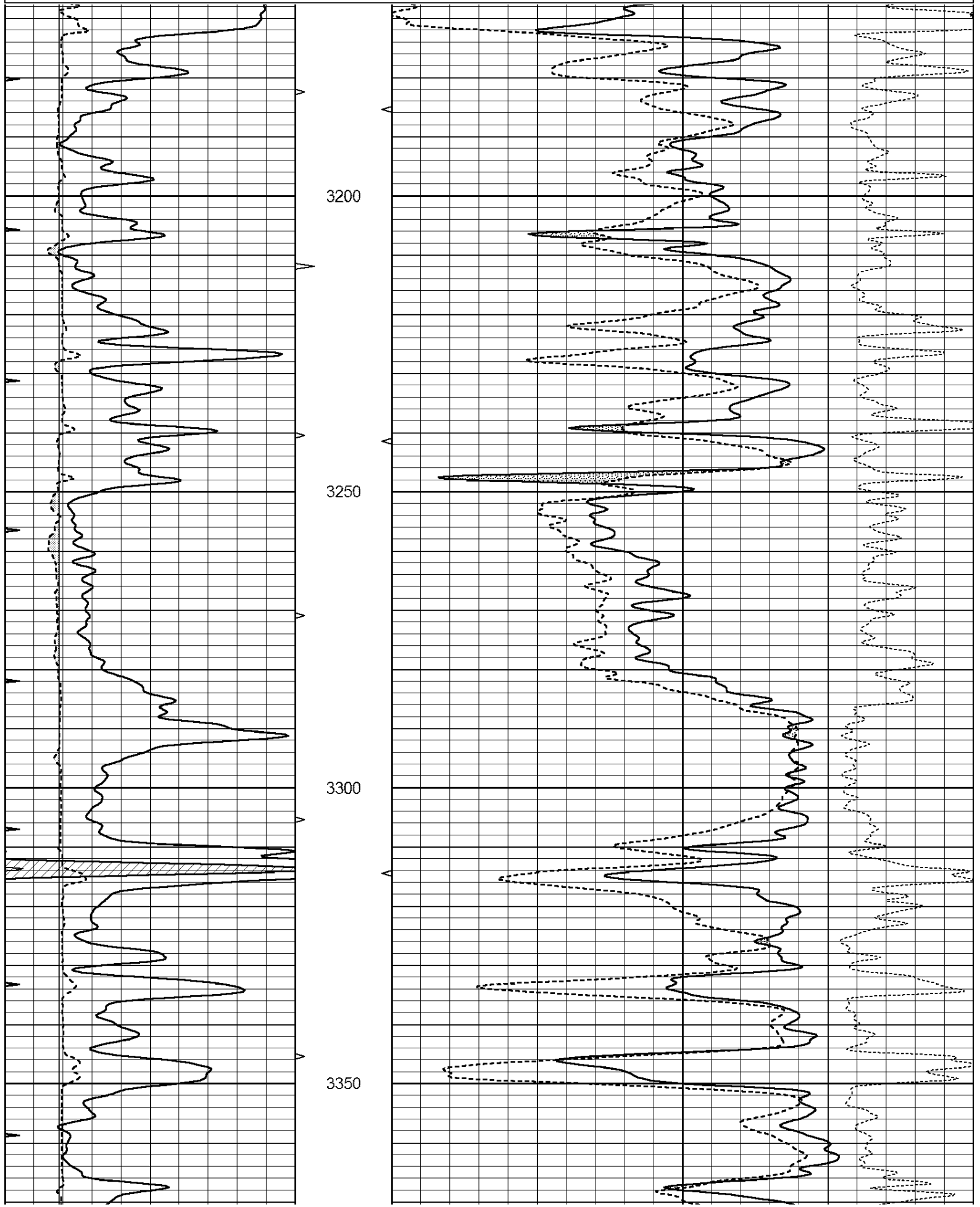
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Solutions**

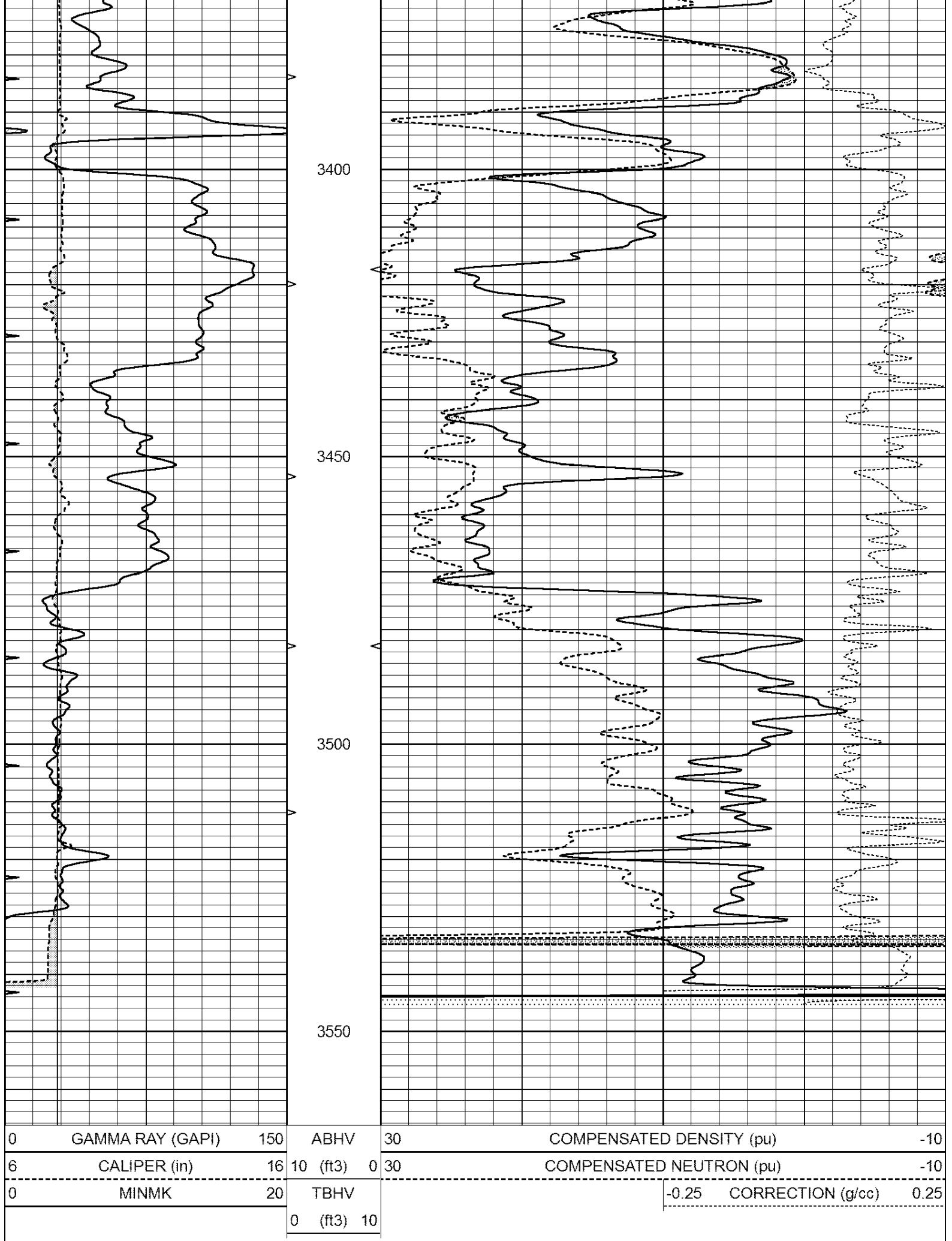
# REPEAT SECTION

Database File: 30886ddn.db  
Dataset Pathname: pass2.1.1  
Presentation Format: den\_neu  
Dataset Creation: Sun Dec 06 14:33:34 2015 by Calc Open-Cased 090629  
Charted by: Depth in Feet scaled 1:240



|   |              |    |          |    |    |                          |                   |  |      |
|---|--------------|----|----------|----|----|--------------------------|-------------------|--|------|
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0  | 30 | COMPENSATED NEUTRON (pu) |                   |  | -10  |
| 0 | MINMK        | 20 | TBHV     |    |    | -0.25                    | CORRECTION (g/cc) |  | 0.25 |
|   |              |    | 0 (ft3)  | 10 |    |                          |                   |  |      |





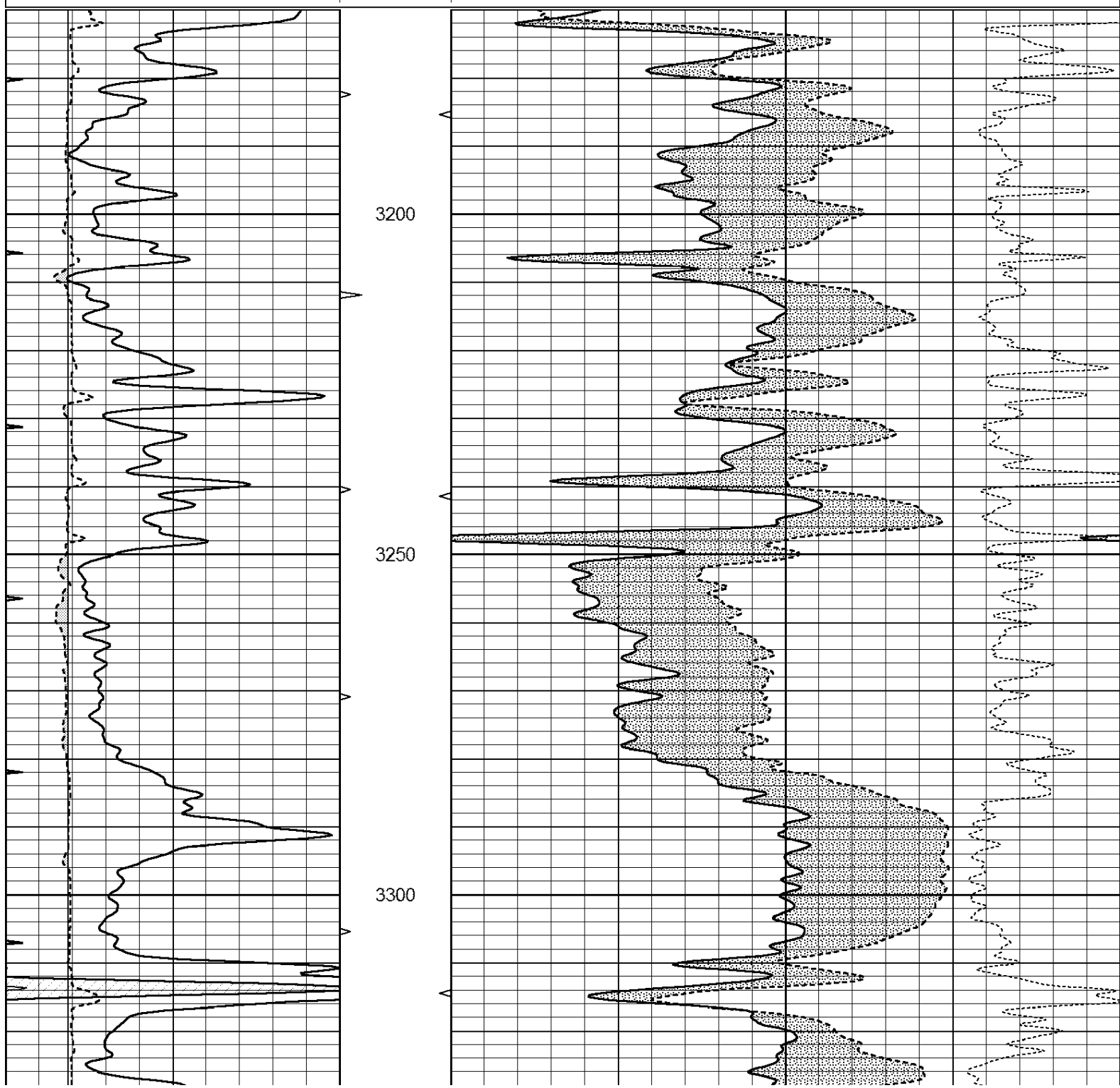


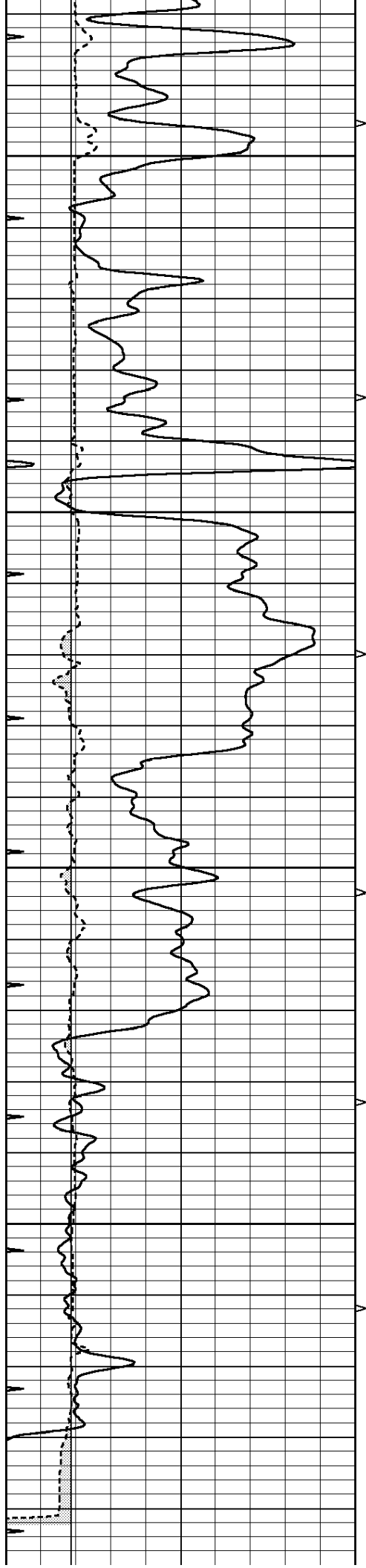
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# DOLOMITE MATRIX

Database File: 30886ddn.db  
Dataset Pathname: pass2.2  
Presentation Format: den\_neu  
Dataset Creation: Sun Dec 06 14:23:58 2015  
Charted by: Depth in Feet scaled 1:240

|   |                  |     |          |    |                          |      |
|---|------------------|-----|----------|----|--------------------------|------|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV     | 30 | COMPENSATED DENSITY (pu) | -10  |
| 6 | CALIPER (in)     | 16  | 10 (ft3) | 0  | COMPENSATED NEUTRON (pu) | -10  |
| 0 | MINMK            | 20  | TBHV     |    | -0.25 CORRECTION (g/cc)  | 0.25 |
|   |                  |     | 0 (ft3)  | 10 |                          |      |



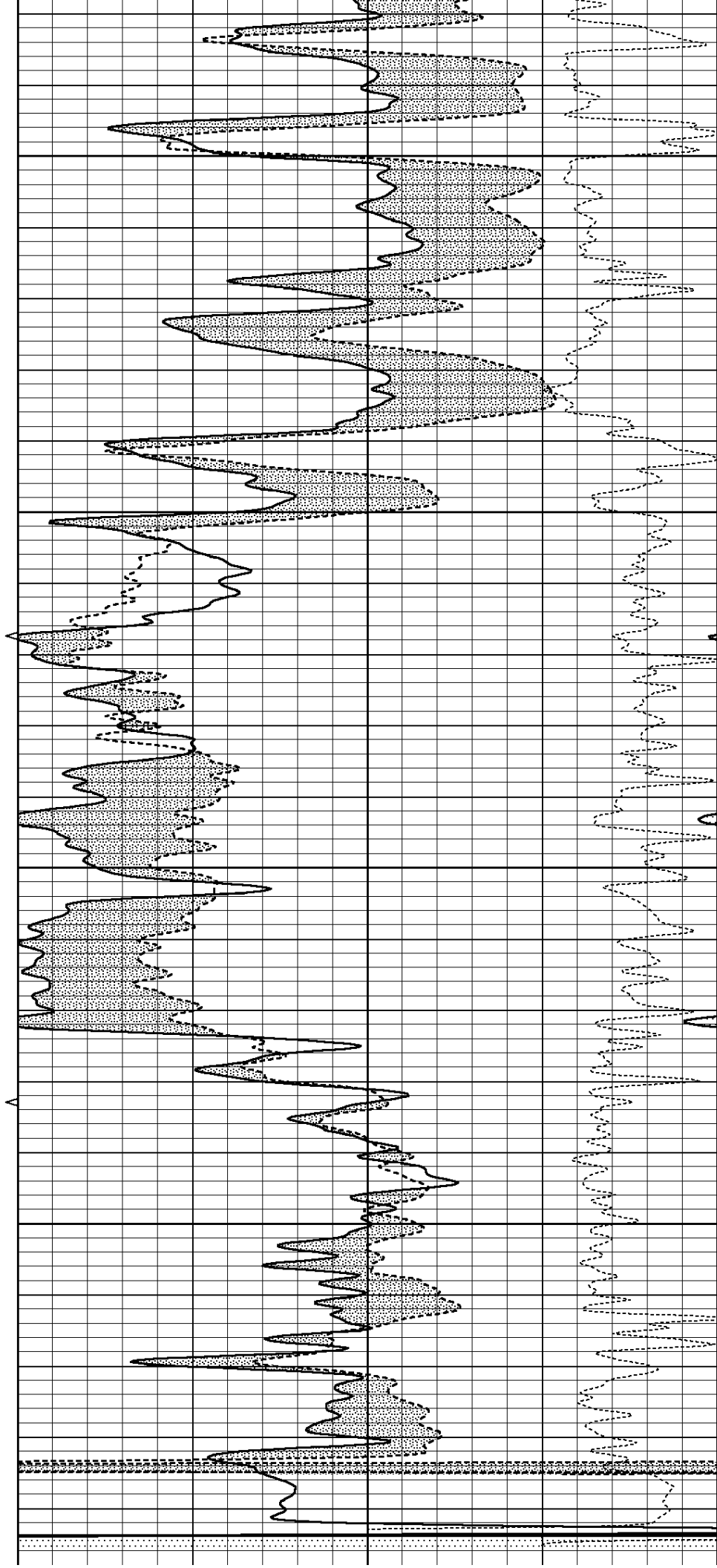


3350

3400

3450

3500





|                    |  |                     |      |                             |  |                      |
|--------------------|--|---------------------|------|-----------------------------|--|----------------------|
| Master Calibration |  |                     |      |                             |  |                      |
|                    |  | <u>Density</u>      |      | <u>Far Detector</u>         |  | <u>Near Detector</u> |
| Magnesium          |  | 1.710               | g/cc | 798.83                      |  | 465.02 cps           |
| Aluminum           |  | 2.570               | g/cc | 178.16                      |  | 323.19 cps           |
|                    |  | Spine Angle = 76.37 |      | Density/Spine Ratio = 0.557 |  |                      |
|                    |  | <u>Size</u>         |      | <u>Reading</u>              |  |                      |
| Small Ring         |  | 7.00                | in   | 1.47                        |  | V                    |
| Large Ring         |  | 14.00               | in   | 3.01                        |  | V                    |

|                            |  |               |  |                 |  |  |
|----------------------------|--|---------------|--|-----------------|--|--|
| Before Survey Verification |  |               |  |                 |  |  |
|                            |  | <u>Target</u> |  | <u>Measured</u> |  |  |
|                            |  | g/cc          |  | g/cc            |  |  |
|                            |  | g/cc          |  | g/cc            |  |  |
|                            |  | g/cc          |  | g/cc            |  |  |

|                           |  |               |  |                 |  |  |
|---------------------------|--|---------------|--|-----------------|--|--|
| After Survey Verification |  |               |  |                 |  |  |
|                           |  | <u>Target</u> |  | <u>Measured</u> |  |  |
|                           |  | g/cc          |  | g/cc            |  |  |
|                           |  | g/cc          |  | g/cc            |  |  |
|                           |  | g/cc          |  | g/cc            |  |  |

|                                        |  |                |  |    |  |  |
|----------------------------------------|--|----------------|--|----|--|--|
| Compensated Neutron Calibration Report |  |                |  |    |  |  |
|                                        |  | Serial Number: |  | 6I |  |  |
|                                        |  | Tool Model:    |  | G  |  |  |

|             |  |          |     |        |     |               |
|-------------|--|----------|-----|--------|-----|---------------|
| CALIBRATION |  |          |     |        |     |               |
| Detector    |  | Readings |     | Target |     | Normalization |
| Short Space |  | 1.00     | cps | 1.00   | cps | 1.0000        |
| Long Space  |  | 1.00     | cps | 1.00   | cps | 1.0000        |

|                         |             |          |  |          |    |        |
|-------------------------|-------------|----------|--|----------|----|--------|
| PRE-SURVEY VERIFICATION |             |          |  |          |    |        |
| Detector                |             | Readings |  | Measured |    | Target |
| 1)                      | Short Space | cps      |  |          |    |        |
|                         | Long Space  | cps      |  | pu       | pu |        |
| 2)                      | Short Space | cps      |  |          |    |        |
|                         | Long Space  | cps      |  | pu       |    |        |
| 3)                      | Short Space | cps      |  |          |    |        |
|                         | Long Space  | cps      |  | pu       |    |        |

|                          |             |          |  |          |    |        |
|--------------------------|-------------|----------|--|----------|----|--------|
| POST-SURVEY VERIFICATION |             |          |  |          |    |        |
| Detector                 |             | Readings |  | Measured |    | Target |
| 1)                       | Short Space | cps      |  |          |    |        |
|                          | Long Space  | cps      |  | pu       | pu |        |
| 2)                       | Short Space | cps      |  |          |    |        |
|                          | Long Space  | cps      |  | pu       | pu |        |
| 3)                       | Short Space | cps      |  |          |    |        |
|                          | Long Space  | cps      |  | pu       | pu |        |

|                              |  |  |  |  |  |  |
|------------------------------|--|--|--|--|--|--|
| Gamma Ray Calibration Report |  |  |  |  |  |  |
|------------------------------|--|--|--|--|--|--|

|                |                          |
|----------------|--------------------------|
| Serial Number: | GR6                      |
| Tool Model:    | OPEN                     |
| Performed:     | Thu Nov 12 05:47:01 2015 |

|                   |       |      |
|-------------------|-------|------|
| Calibrator Value: | 150.0 | GAPI |
|-------------------|-------|------|

|                     |       |     |
|---------------------|-------|-----|
| Background Reading: | 0.0   | cps |
| Calibrator Reading: | 276.0 | cps |

|              |        |          |
|--------------|--------|----------|
| Sensitivity: | 0.4500 | GAPI/cps |
|--------------|--------|----------|