



# LITHO DENSITY NEUTRON LOG

|                        |                        |                              |                                        |
|------------------------|------------------------|------------------------------|----------------------------------------|
| Company                | Palomino Petroleum     | Company                      | Palomino Petroleum                     |
| Well                   | Dorothy #1             | Well                         | Dorothy #1                             |
| Field                  | Unice Northeast        | Field                        | Unice Northeast                        |
| County                 | Ness                   | County                       | Ness                                   |
| State                  | Kansas                 | State                        | Kansas                                 |
| Location:              | API # : 15 135 26043   | Other Services               | DIL<br>ML                              |
| Permanent Datum        | SEC 10 TWP 16S RGE 26W | Elevation                    |                                        |
| Log Measured From      | Ground Level           | Elevation                    | 2628'                                  |
| Drilling Measured From | KB 5' AGL              | Elevation                    | K.B. 2633'<br>D.F. 2632'<br>G.L. 2628' |
| Date                   | 2-26-19                | Run Number                   | One                                    |
| Depth Driller          | 4645'                  | Depth Logger                 | 4652'                                  |
| Bottom Logged Interval | 4630'                  | Top Log Interval             | 3600'                                  |
| Casing Driller         | 8 5/8" @ 218'          | Casing Logger                | 218'                                   |
| Bit Size               | 7 7/8"                 | Type Fluid in Hole           | Chemical                               |
| Density / Viscosity    | 9.35/47                | pH / Fluid Loss              | 9.0/8.4                                |
| Source of Sample       | Pit                    | Chlorides 5200 PPM           |                                        |
| Rm @ Meas. Temp        | 1.2@68degf             | Rmf @ Meas. Temp             | 0.9@68degf                             |
| Rmc @ Meas. Temp       | 1.44@68degf            | Source of Rmf / Rmc          | Calculated                             |
| Rm @ BHT               | 0.74@110degf           | Time Circulation Stopped     | 2.15 p.m                               |
| Time Logger on Bottom  | 4.50 p.m               | Maximum Recorded Temperature | 110degf                                |
| Equipment Number       | T-605                  | Location                     | Hays, KS                               |
| Recorded By            | C. Patterson           | Witnessed By                 | Mr. Andrew Stenzel                     |

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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

Utica, KS, West Side of Utica D RD(Jackson Ave.),  
North On D RD (Jackson Ave.) 3 mi. to 290 RD.,  
Then West on 290 RD. for 1 mi. to C RD.,  
South Into Location

Thanks for using Gemini Wireline LLC  
785-625-1182

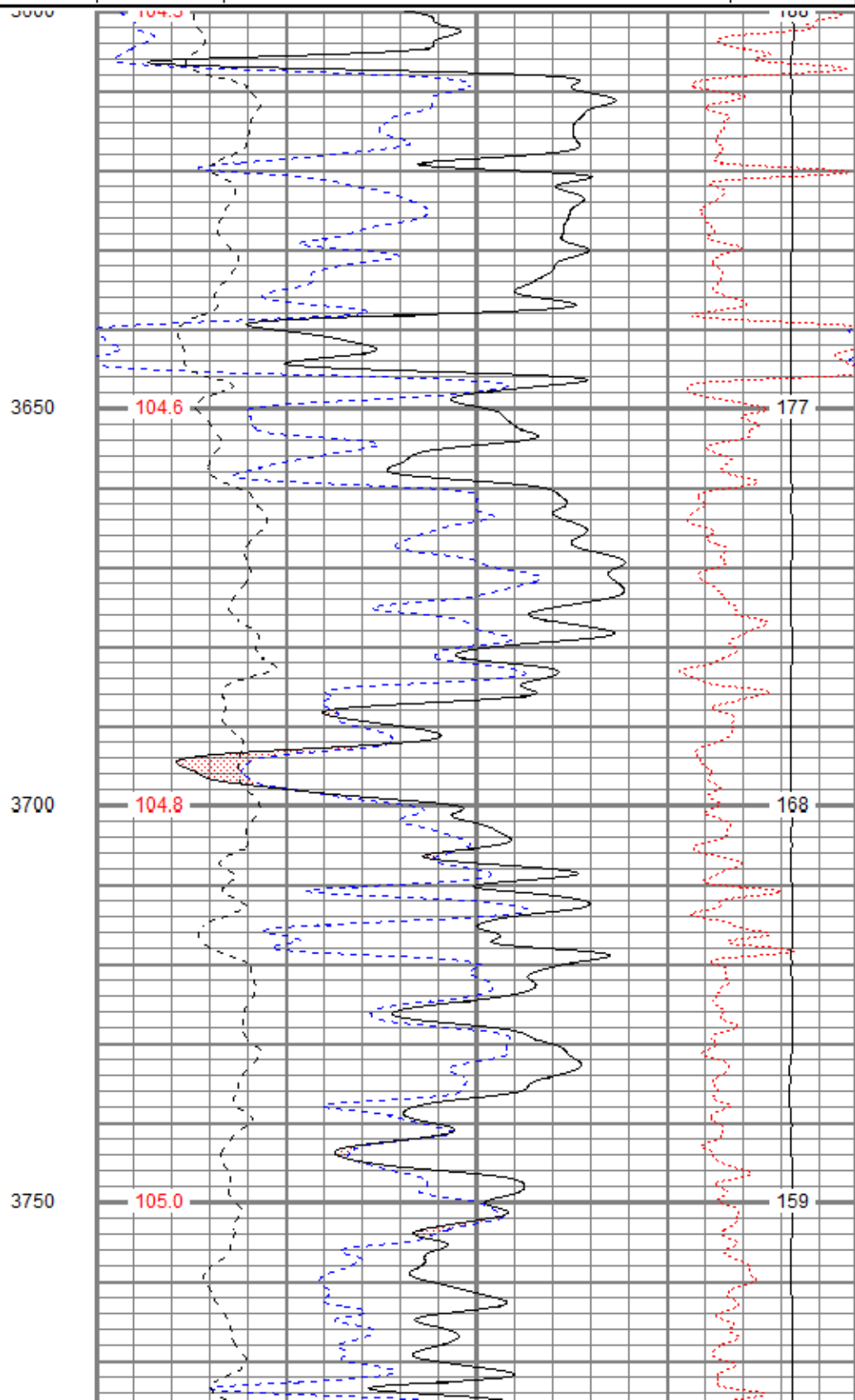
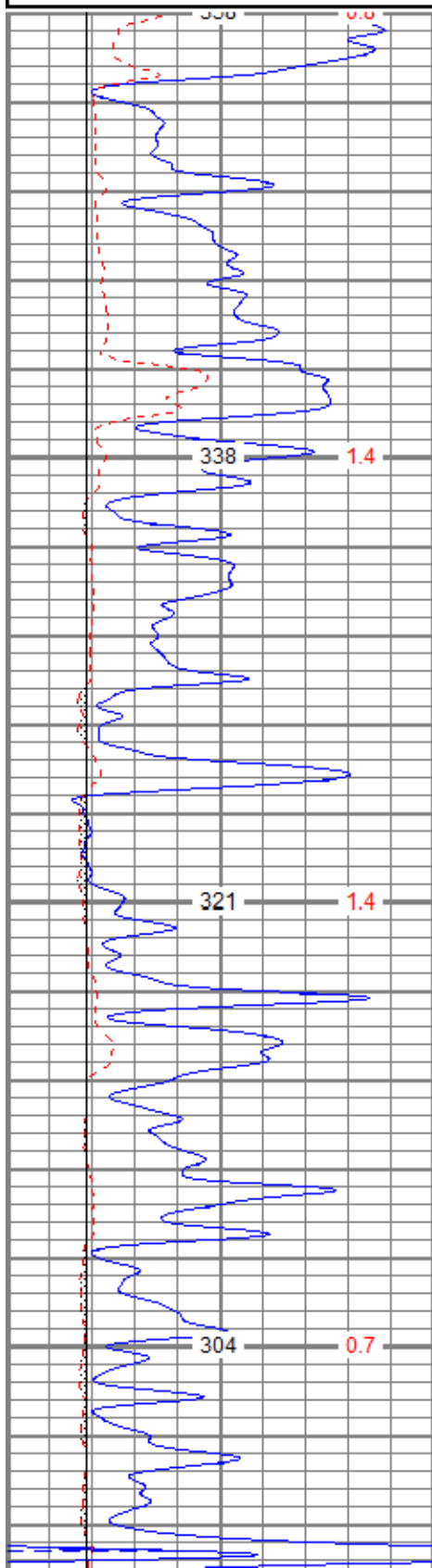


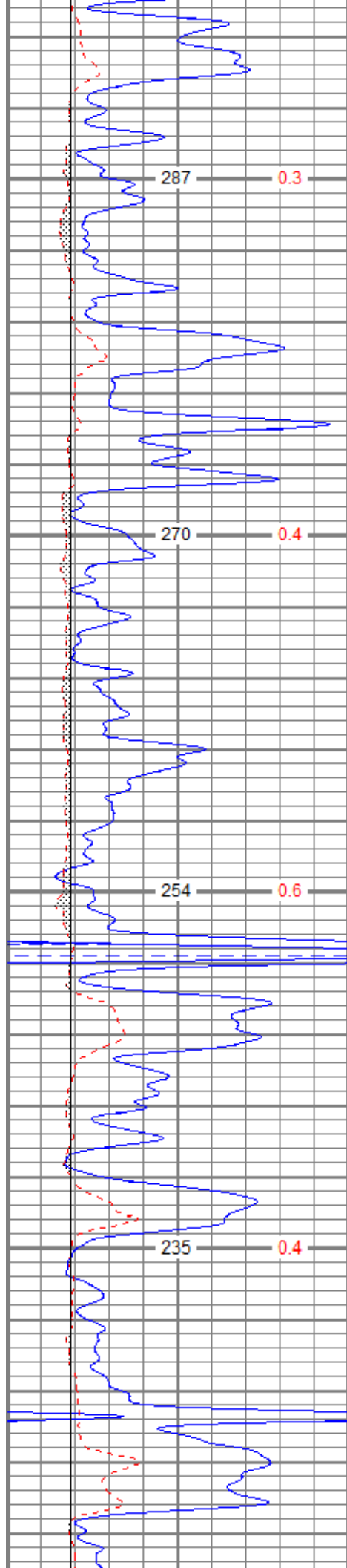
# MAIN PASS

Database File ppdorothy#1oh.db  
 Dataset Pathname pass2  
 Presentation Format digital\_kcdnl  
 Dataset Creation Tue Feb 26 17:08:02 2019  
 Charted by Depth in Feet scaled 1:240

|   |             |            |
|---|-------------|------------|
| 0 | GR (GAPI)   | 150        |
| 6 | DCAL (in)   | 16         |
| 6 | BOREID (in) | 16         |
|   | TBHV (ft3)  | DEVI (deg) |

|                |           |           |            |             |      |
|----------------|-----------|-----------|------------|-------------|------|
| 30             |           | NPOR (pu) |            | -10         |      |
| 30             |           | DPOR (pu) |            | -10         |      |
| 70             |           | DPOR (pu) |            | 30          |      |
| 0              | Pe (barn) | 10        | -0.25      | RHOC (g/cc) | 0.25 |
| TEMP<br>(degF) |           | 8000      | LTEN (lb)  |             | 0    |
|                |           |           | ABHV (ft3) |             |      |





3800

105.2

150

3850

105.3

141

3900

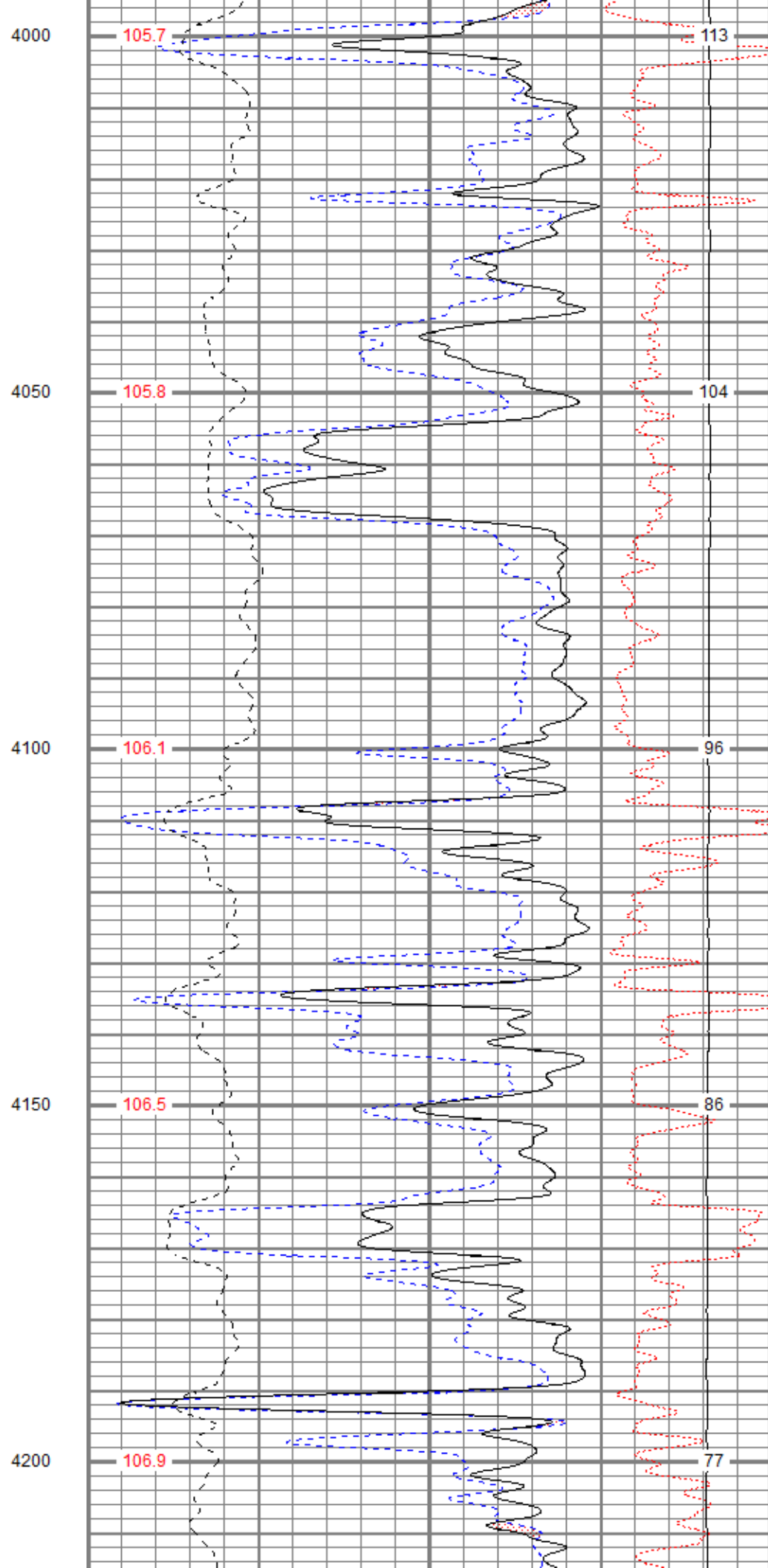
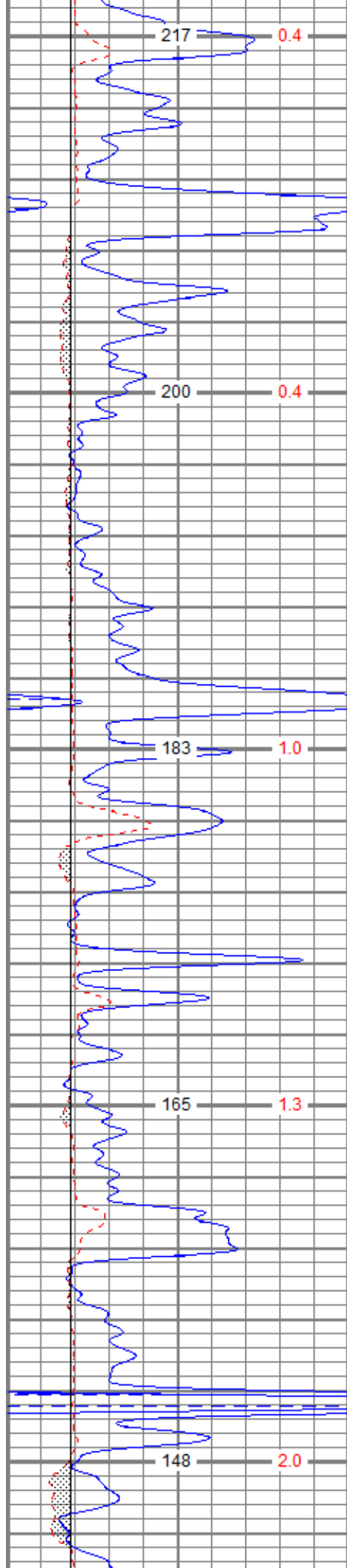
105.3

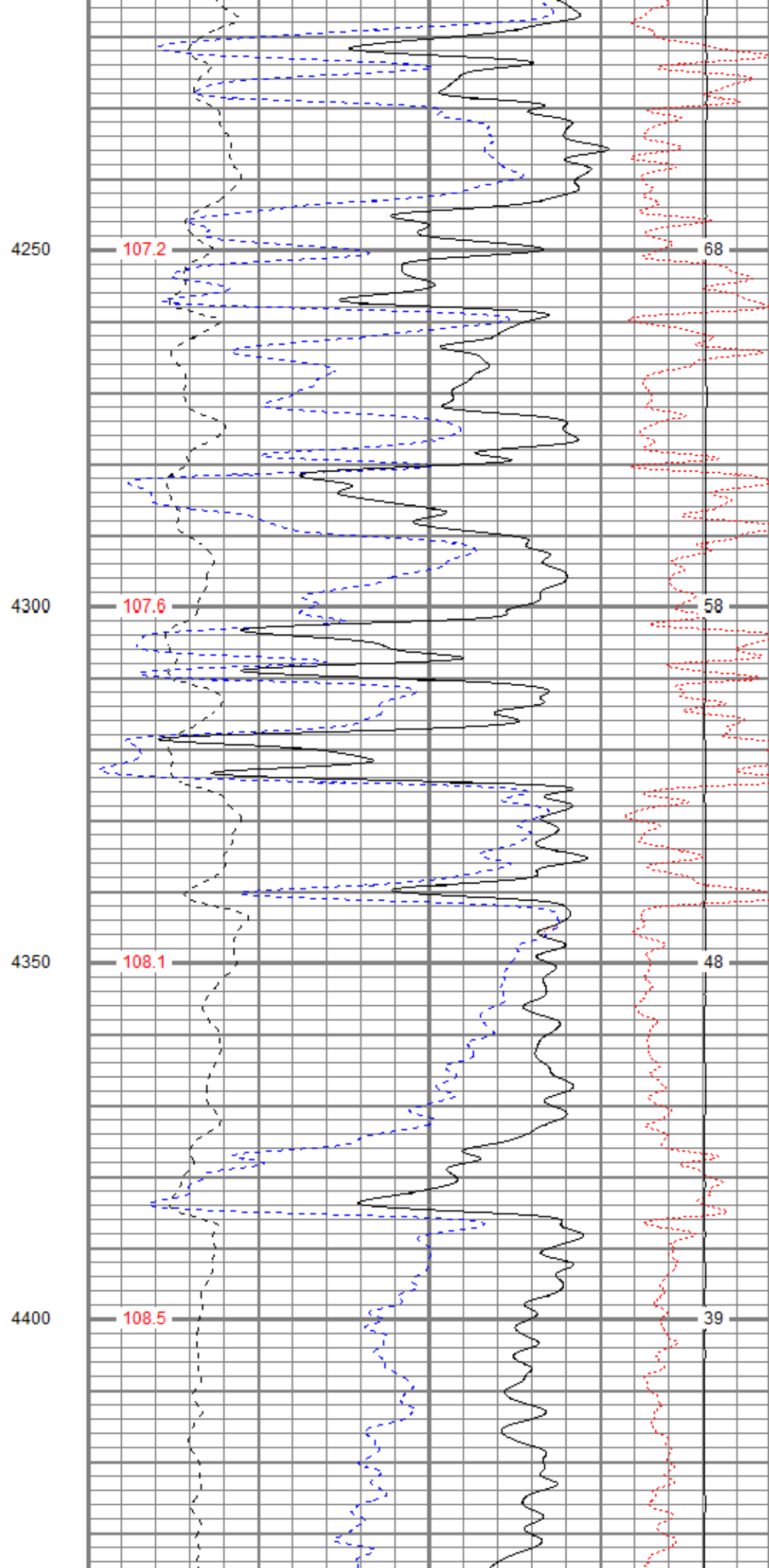
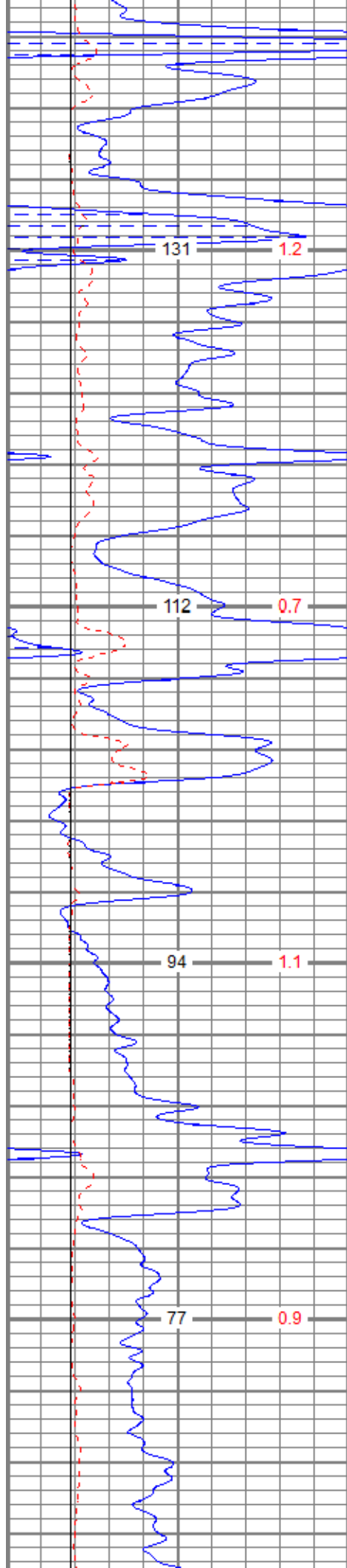
133

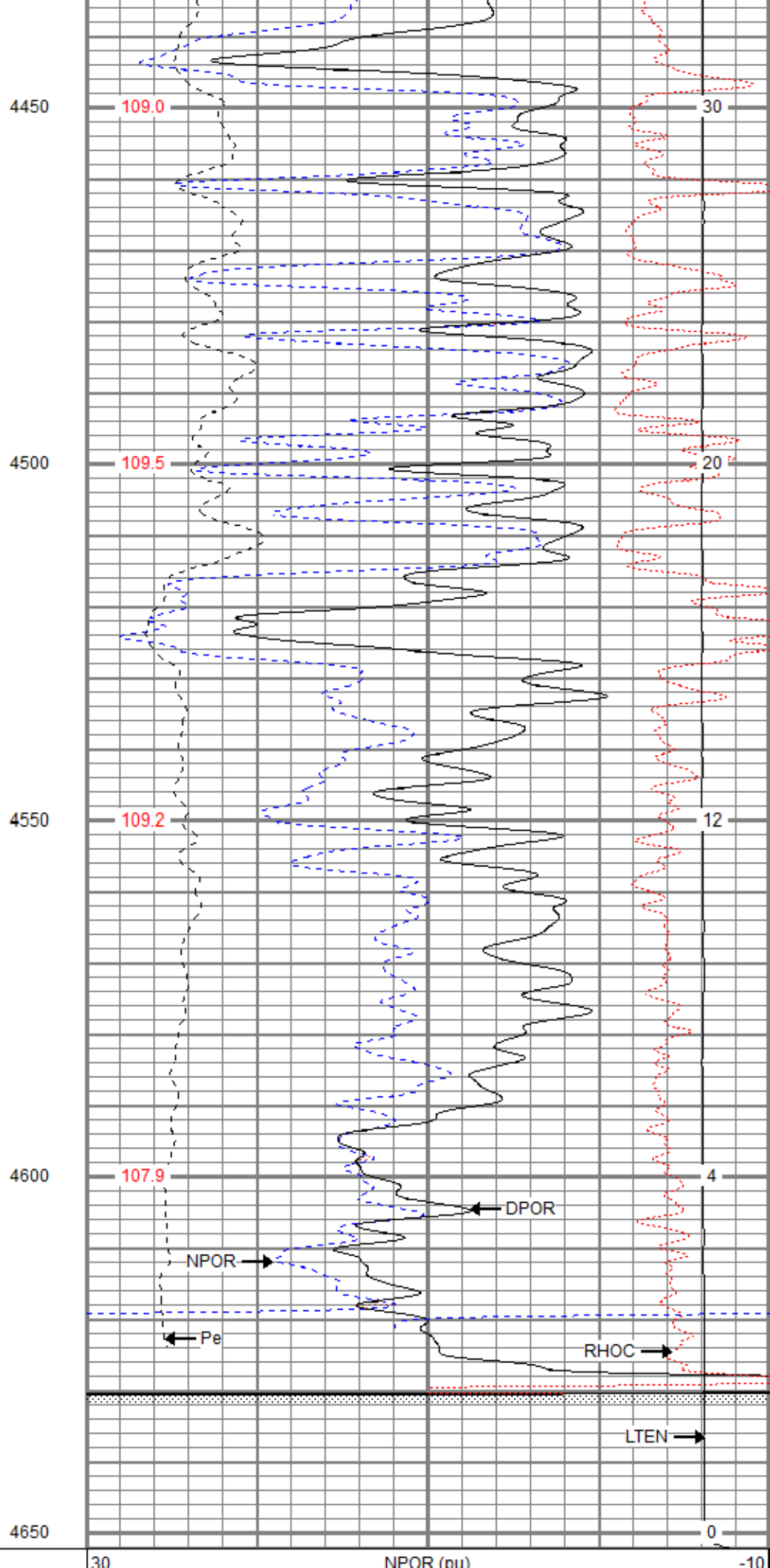
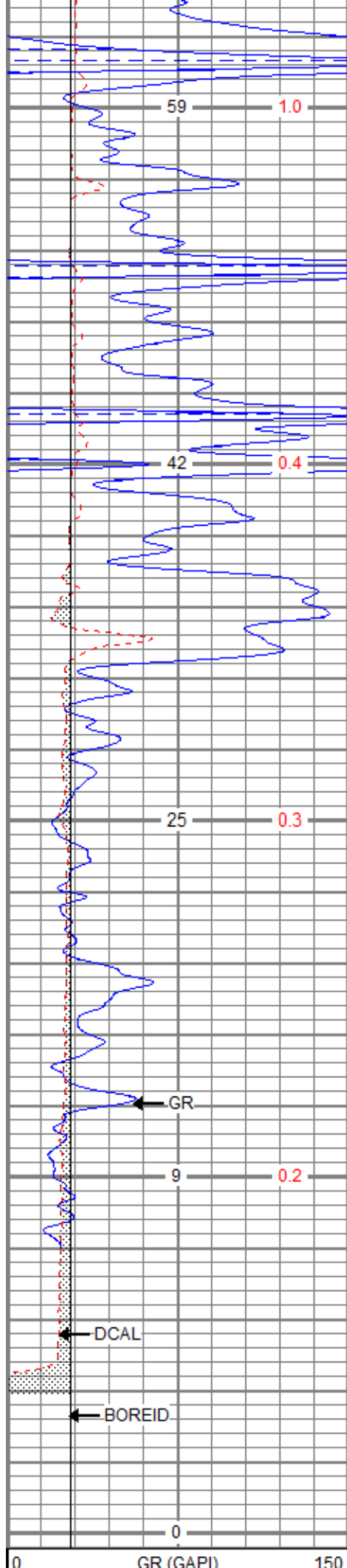
3950

105.5

123







|   |             |            |
|---|-------------|------------|
| 6 | DCAL (in)   | 16         |
| 6 | BOREID (in) | 16         |
|   | TBHV (ft3)  | DEVI (deg) |

|    |             |             |
|----|-------------|-------------|
| 30 | DPOR (pu)   | -10         |
| 70 | DPOR (pu)   | 30          |
| 0  | Pe (barn)   | 10          |
|    | TEMP (degF) | 8000        |
|    |             | RHOC (g/cc) |
|    |             | LTEN (lb)   |
|    |             | ABHV (ft3)  |

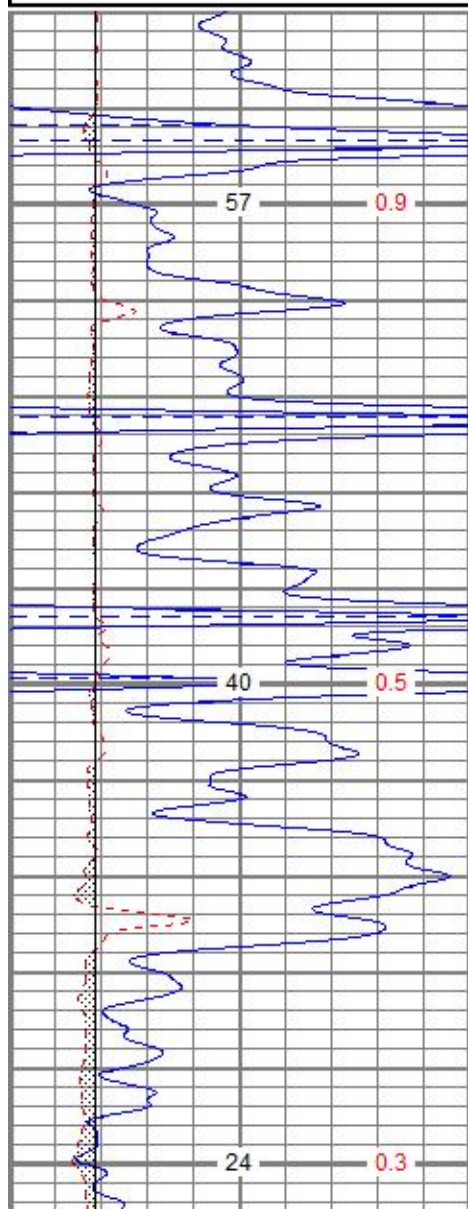


# REPEAT SECTION

Database File ppdorothy#1oh.db  
Dataset Pathname pass1.1  
Presentation Format digital\_kcdnl  
Dataset Creation Tue Feb 26 17:59:30 2019  
Charted by Depth in Feet scaled 1:240

|   |             |            |
|---|-------------|------------|
| 0 | GR (GAPI)   | 150        |
| 6 | DCAL (in)   | 16         |
| 6 | BOREID (in) | 16         |
|   | TBHV (ft3)  | DEVI (deg) |

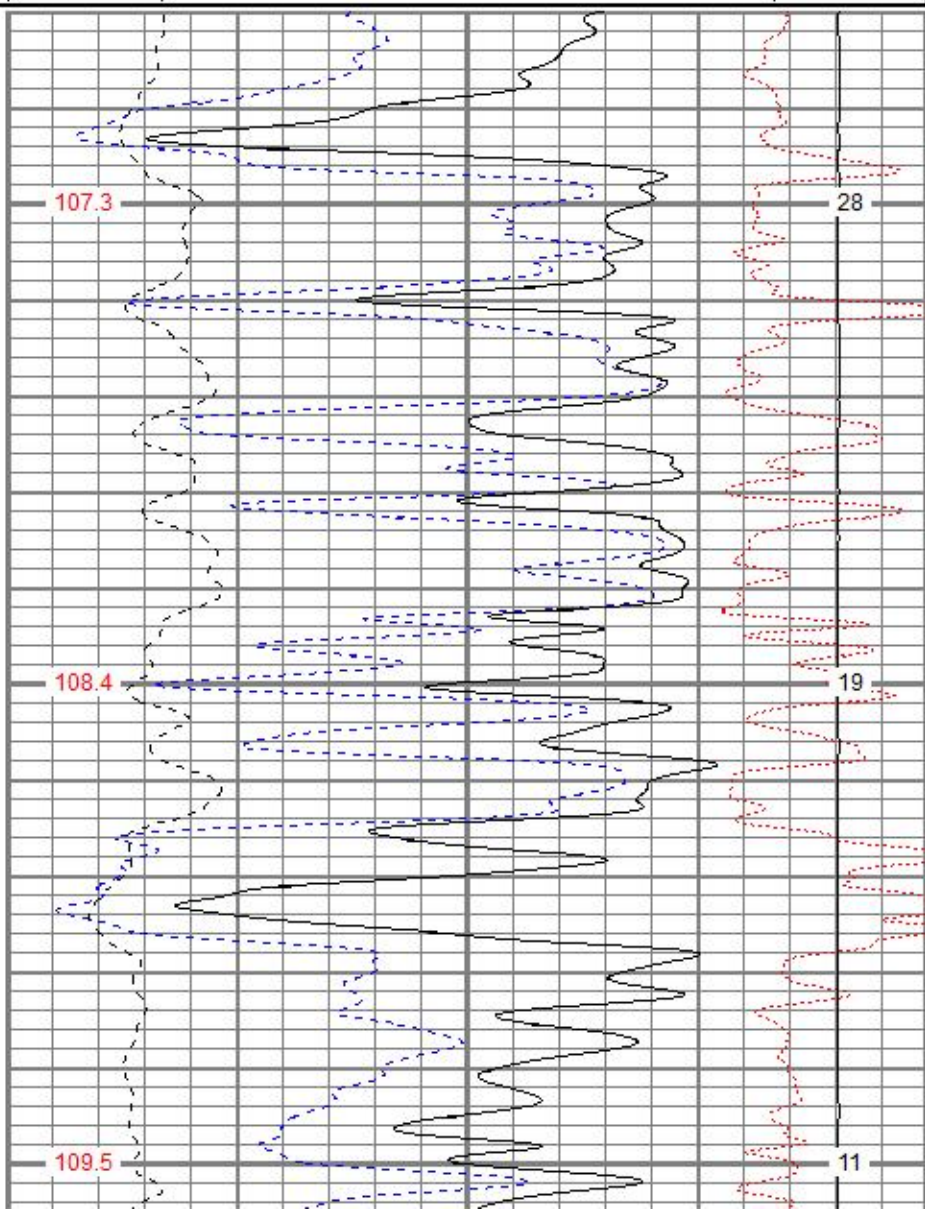
|    |             |             |
|----|-------------|-------------|
| 30 | NPOR (pu)   | -10         |
| 30 | DPOR (pu)   | -10         |
| 70 | DPOR (pu)   | 30          |
| 0  | Pe (barn)   | 10          |
|    | TEMP (degF) | 8000        |
|    |             | RHOC (g/cc) |
|    |             | LTEN (lb)   |
|    |             | ABHV (ft3)  |

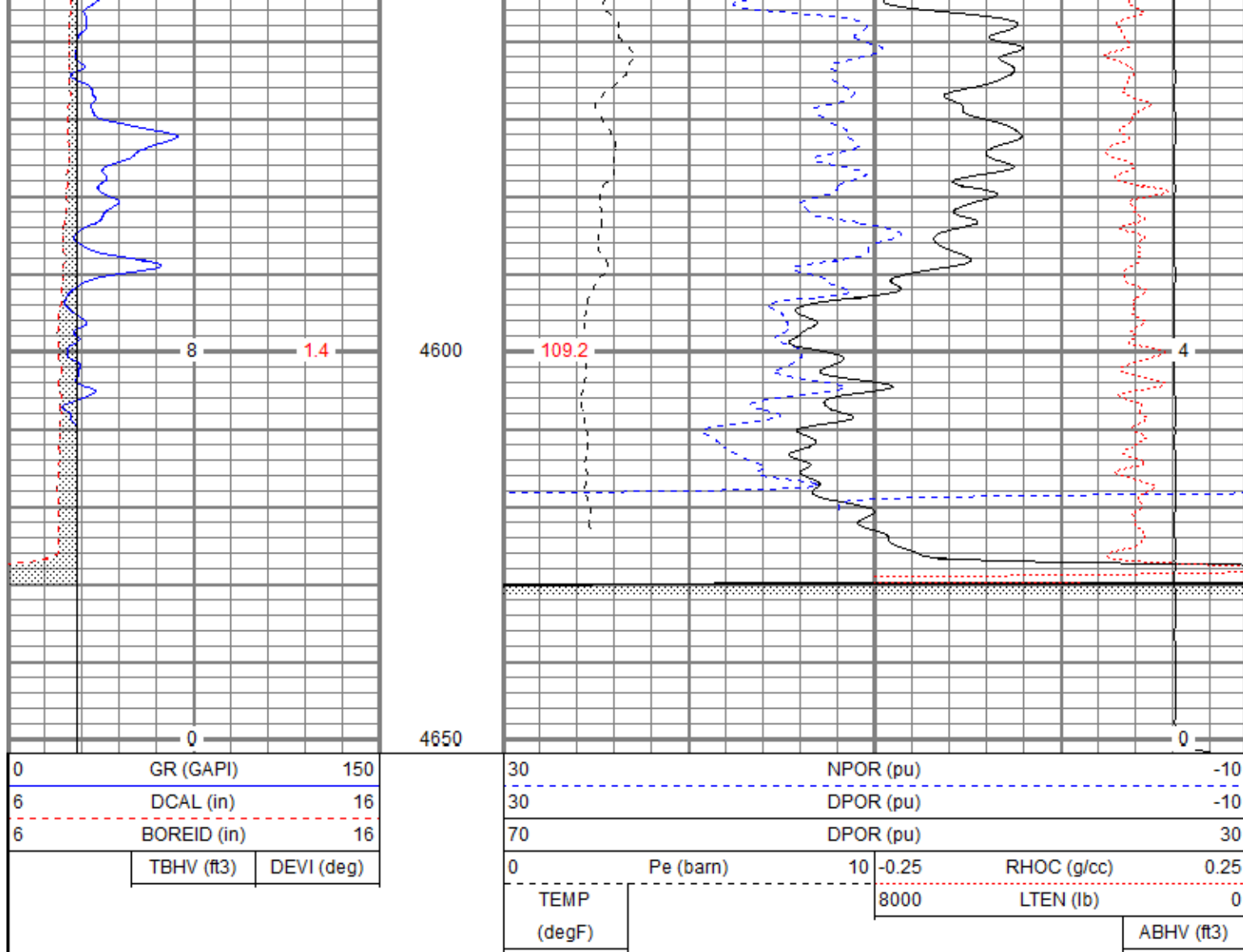


4450

4500

4550





| Calibration Report                   |                          |                          |   |       |            |        |         |        |  |
|--------------------------------------|--------------------------|--------------------------|---|-------|------------|--------|---------|--------|--|
| Database File                        | ppdorothy#1oh.db         |                          |   |       |            |        |         |        |  |
| Dataset Pathname                     | pass2                    |                          |   |       |            |        |         |        |  |
| Dataset Creation                     | Tue Feb 26 17:08:02 2019 |                          |   |       |            |        |         |        |  |
| Dual Induction Calibration Report    |                          |                          |   |       |            |        |         |        |  |
| Serial-Model:                        |                          | 5375-G                   |   |       |            |        |         |        |  |
| Surface Cal Performed:               |                          | Tue Jan 22 08:45:42 2019 |   |       |            |        |         |        |  |
| Downhole Cal Performed:              |                          | Tue Jan 22 08:46:17 2019 |   |       |            |        |         |        |  |
| After Survey Verification Performed: |                          | Tue Jan 22 08:46:17 2019 |   |       |            |        |         |        |  |
| Surface Calibration                  |                          |                          |   |       |            |        |         |        |  |
|                                      |                          | Readings                 |   |       | References |        | Results |        |  |
| Loop:                                | Air                      | Loop                     |   | Air   | Loop       |        | m       | b      |  |
| Deep                                 | 0.002                    | 0.642                    | V | 0.000 | 350.000    | mmho/m | 547.166 | -1.056 |  |
| Medium                               | 0.004                    | 0.724                    | V | 0.000 | 400.000    | mmho/m | 555.498 | -2.413 |  |
| Internal:                            | Zero                     | Cal                      |   | Zero  | Cal        |        | m       | b      |  |
| Deep                                 | 0.002                    | 0.642                    | V | 0.000 | 350.000    | mmho/m | 547.349 | -1.170 |  |
| Medium                               | 0.004                    | 0.725                    | V | 0.000 | 550.000    | mmho/m | 763.497 | -3.249 |  |
| Downhole Calibration                 |                          |                          |   |       |            |        |         |        |  |
|                                      |                          | Readings                 |   |       | References |        | Results |        |  |

| Internal:                 | Zero   | Cal     |         | Zero    | Cal     |         | m       | b      |
|---------------------------|--------|---------|---------|---------|---------|---------|---------|--------|
| Deep                      | 0.089  | 349.955 | mmho/m  | 0.113   | 349.997 | mmho/m  | 1.000   | 0.024  |
| Medium                    | -0.171 | 400.157 | mmho/m  | -0.049  | 400.115 | mmho/m  | 1.000   | 0.122  |
| Shallow                   | 2.429  | 0.011   | V       | 500.000 | 2.000   | Ohm-m   | 205.929 | -0.282 |
| After Survey Verification |        |         |         |         |         |         |         |        |
| Readings                  |        |         | Targets |         |         | Results |         |        |
| Internal:                 | Zero   | Cal     |         | Zero    | Cal     |         | m'      | b'     |
| Deep                      | 0.000  | 0.000   | mmho/m  | 0.089   | 349.955 | mmho/m  | 1.000   | 0.024  |
| Medium                    | 0.000  | 0.000   | mmho/m  | -0.171  | 400.157 | mmho/m  | 1.000   | 0.122  |
| Shallow                   | 0.000  | 0.000   | Ohm-m   | 500.000 | 2.000   | Ohm-m   | 1.000   | 0.000  |

|                            |  |  |                 |          |  |  |  |  |
|----------------------------|--|--|-----------------|----------|--|--|--|--|
| Neutron Calibration Report |  |  |                 |          |  |  |  |  |
| Serial Number:             |  |  | AD5139          |          |  |  |  |  |
| Tool Model:                |  |  | ADMY5139        |          |  |  |  |  |
| Performed:                 |  |  | (Not Performed) |          |  |  |  |  |
| Calibrator Value:          |  |  | 1               | NAPI     |  |  |  |  |
| Calibrator Reading:        |  |  | 1               | cps      |  |  |  |  |
| Sensitivity:               |  |  | 1               | NAPI/cps |  |  |  |  |

| Temperature Calibration Report |  |                          |      |         |      |
|--------------------------------|--|--------------------------|------|---------|------|
| Serial Number:                 |  | WithMC                   |      |         |      |
| Tool Model:                    |  | WMC                      |      |         |      |
| Performed:                     |  | Wed Dec 05 04:54:01 2018 |      |         |      |
|                                |  | Reference                |      | Reading |      |
| Low Reference:                 |  | 0.00                     | degF | 0.00    | degF |
| High Reference:                |  | 1.00                     | degF | 1.00    | degF |
| Gain:                          |  | 1.00                     |      |         |      |
| Offset:                        |  | 0.00                     |      |         |      |
| Delta Spacing                  |  | 1                        |      |         |      |

|                                 |  |  |                          |            |          |           |     |  |
|---------------------------------|--|--|--------------------------|------------|----------|-----------|-----|--|
| Inclinometer Calibration Report |  |  |                          |            |          |           |     |  |
| Performed:                      |  |  | Wed Dec 05 04:53:48 2018 |            |          |           |     |  |
|                                 |  |  | Low Read.                | High Read. | Low Ref. | High Ref. |     |  |
| X Accelerometer                 |  |  | 205.00                   | 1843.00    | -1.00    | 1.00      | gee |  |
| Y Accelerometer                 |  |  | 205.00                   | 1843.00    | -1.00    | 1.00      | gee |  |
| Z Accelerometer                 |  |  |                          |            |          |           | gee |  |

|                              |  |  |                          |          |  |  |  |  |
|------------------------------|--|--|--------------------------|----------|--|--|--|--|
| Gamma Ray Calibration Report |  |  |                          |          |  |  |  |  |
| Serial Number:               |  |  | WithMC                   |          |  |  |  |  |
| Tool Model:                  |  |  | WMC                      |          |  |  |  |  |
| Performed:                   |  |  | Wed Dec 05 04:58:30 2018 |          |  |  |  |  |
| Calibrator Value:            |  |  | 1.0                      | GAPI     |  |  |  |  |
| Background Reading:          |  |  | 0.0                      | cps      |  |  |  |  |
| Calibrator Reading:          |  |  | 1.0                      | cps      |  |  |  |  |
| Sensitivity:                 |  |  | 1.0000                   | GAPI/cps |  |  |  |  |

[illegible]