



**COMPENSATED DENSITY  
NEUTRON  
LOG**

Company James P. Williams, Inc.  
Well Roll Williams #1  
Field Williams  
County Rooks  
State Kansas

Company James P. Williams, Inc.  
Well Roll Williams #1  
Field Williams  
County Rooks State Kansas

Location: API #: 15 163 24411  
986' FNL & 911' FWL  
SEC 9 TWP 10S RGE 18W  
Permanent Datum Ground Level Elevation 2185'  
Log Measured From KB 8' AGL  
Drilling Measured From KB  
Other Services  
ML  
DIL  
Elevation  
K.B. 2193'  
D.F. 2192'  
G.L. 2185'

|                              |                 |
|------------------------------|-----------------|
| Date                         | 3/21/20         |
| Run Number                   | One             |
| Depth Driller                | 3850'           |
| Depth Logger                 | 3848'           |
| Bottom Logged Interval       | 3826'           |
| Top Log Interval             | 3100'           |
| Casing Driller               | 8 5/8" @ 221'   |
| Casing Logger                | 221'            |
| Bit Size                     | 7 7/8"          |
| Type Fluid in Hole           | Chemical        |
| Density / Viscosity          | 9.0/54          |
| pH / Fluid Loss              | 10.0/7.2        |
| Source of Sample             | CALCULATED      |
| Rm @ Meas. Temp              | 1.3@70degf      |
| Rmf @ Meas. Temp             | 1.0@70degf      |
| Rmc @ Meas. Temp             | 1.7@70degf      |
| Source of Rmf / Rmc          | Calculated      |
| Rm @ BHT                     | 0.95@96degf     |
| Time Circulation Stopped     | 1:30 a.m        |
| Time Logger on Bottom        | 3:45 a.m        |
| Maximum Recorded Temperature | 96degf          |
| Equipment Number             | T-605           |
| Location                     | Hays, KS.       |
| Recorded By                  | Casey Patterson |
| Witnessed By                 | Mr. Jason T Alm |

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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**

South of Plainville,KS to AA RD, Then west on AA RD. to 15 Rd.,  
Then on 15 RD. North 3/4 mile  
Then East into Location

Thanks for using Gemini Wireline LLC  
785-625-1182



**MAIN PASS**

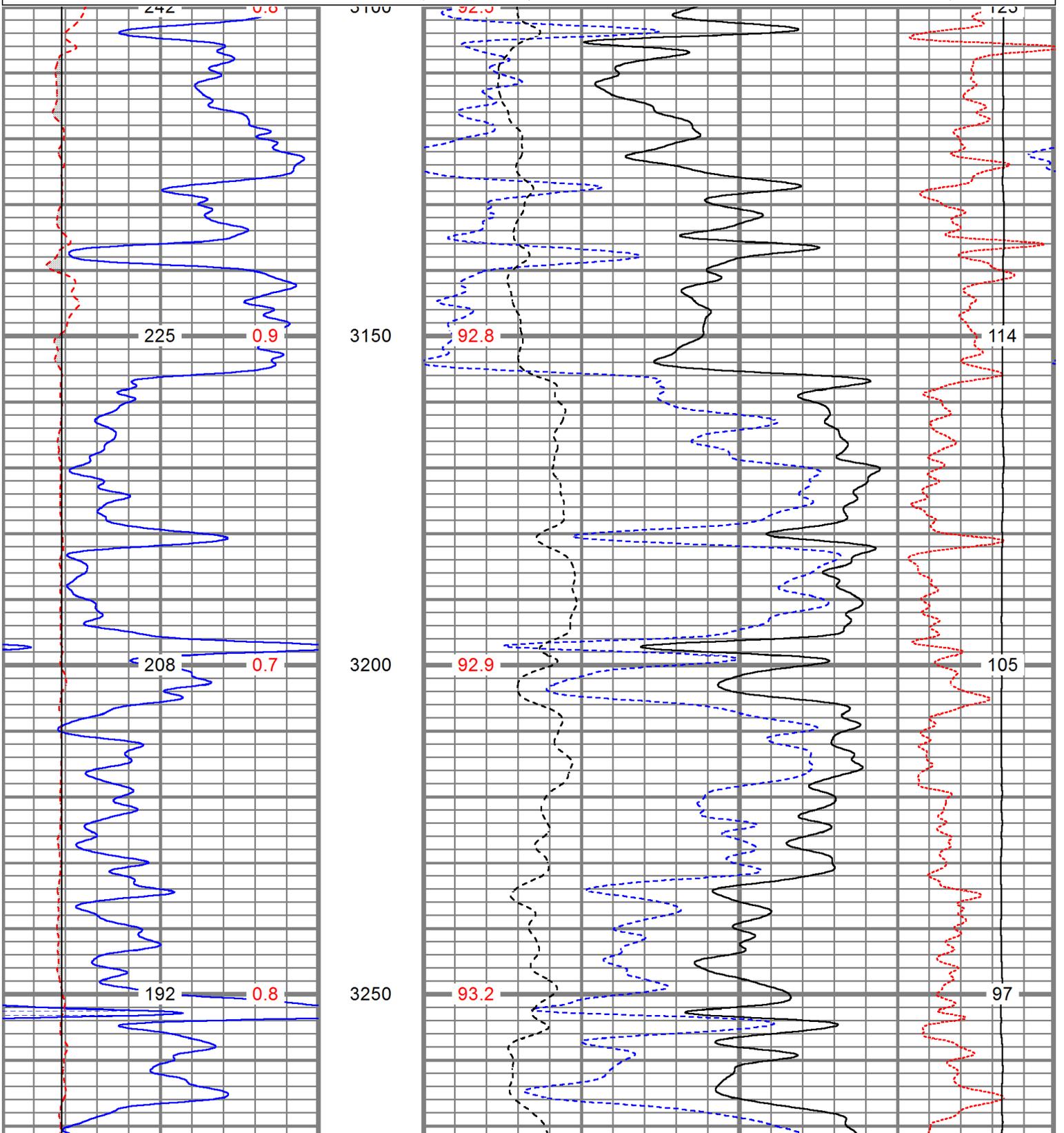
Database File jpwrollwilliams#1oh.db  
 Dataset Pathname pass2  
 Presentation Format digital\_kcdnl  
 Dataset Creation Sat Mar 21 04:02:32 2020  
 Charted by Depth in Feet scaled 1:240

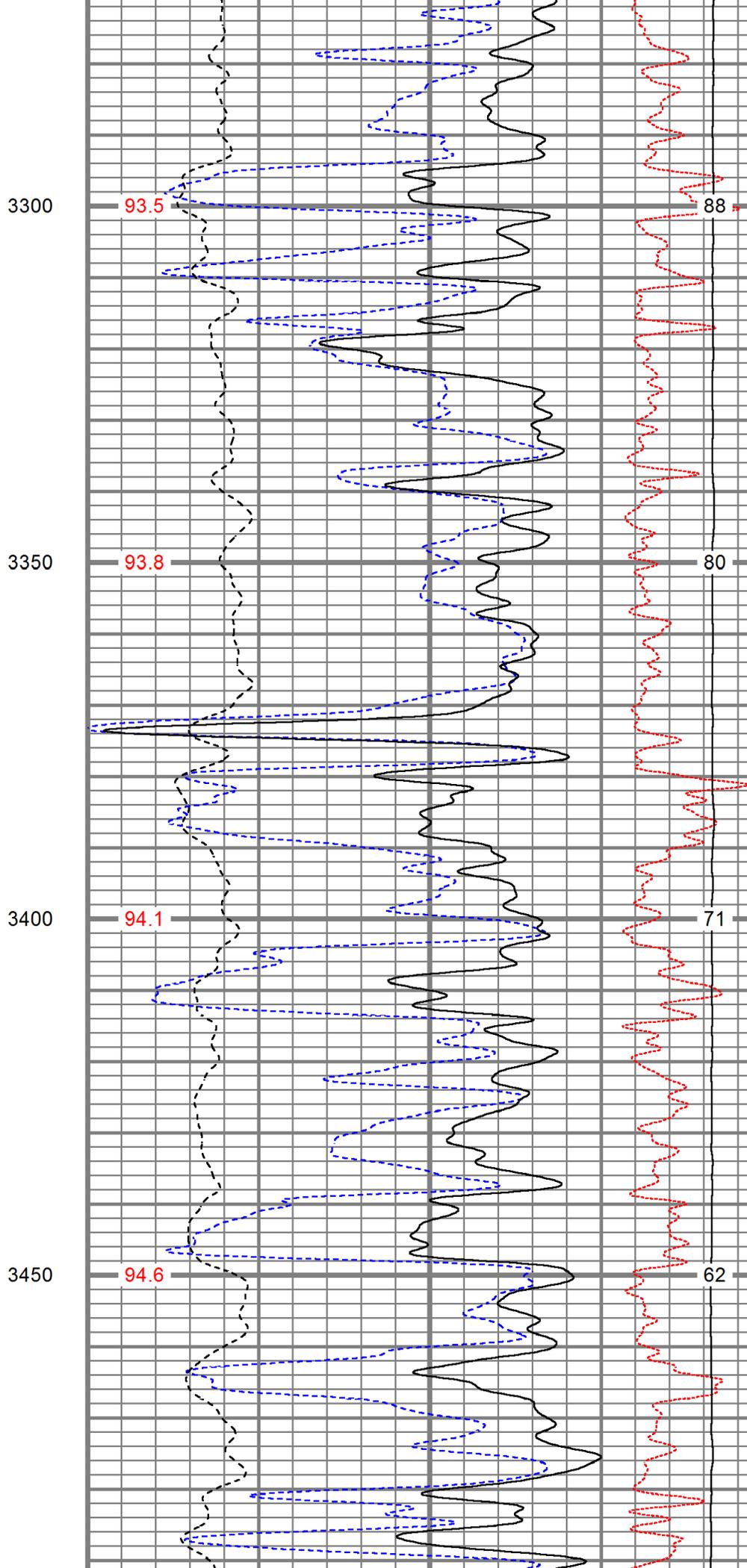
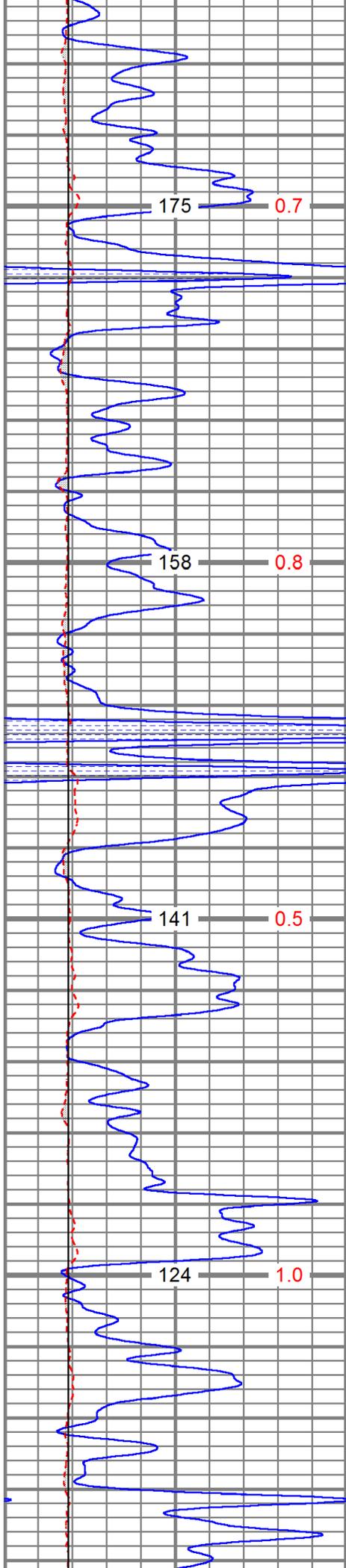
|   |             |     |
|---|-------------|-----|
| 0 | GR (GAPI)   | 150 |
| 6 | DCAL (in)   | 16  |
| 6 | BOREID (in) | 16  |

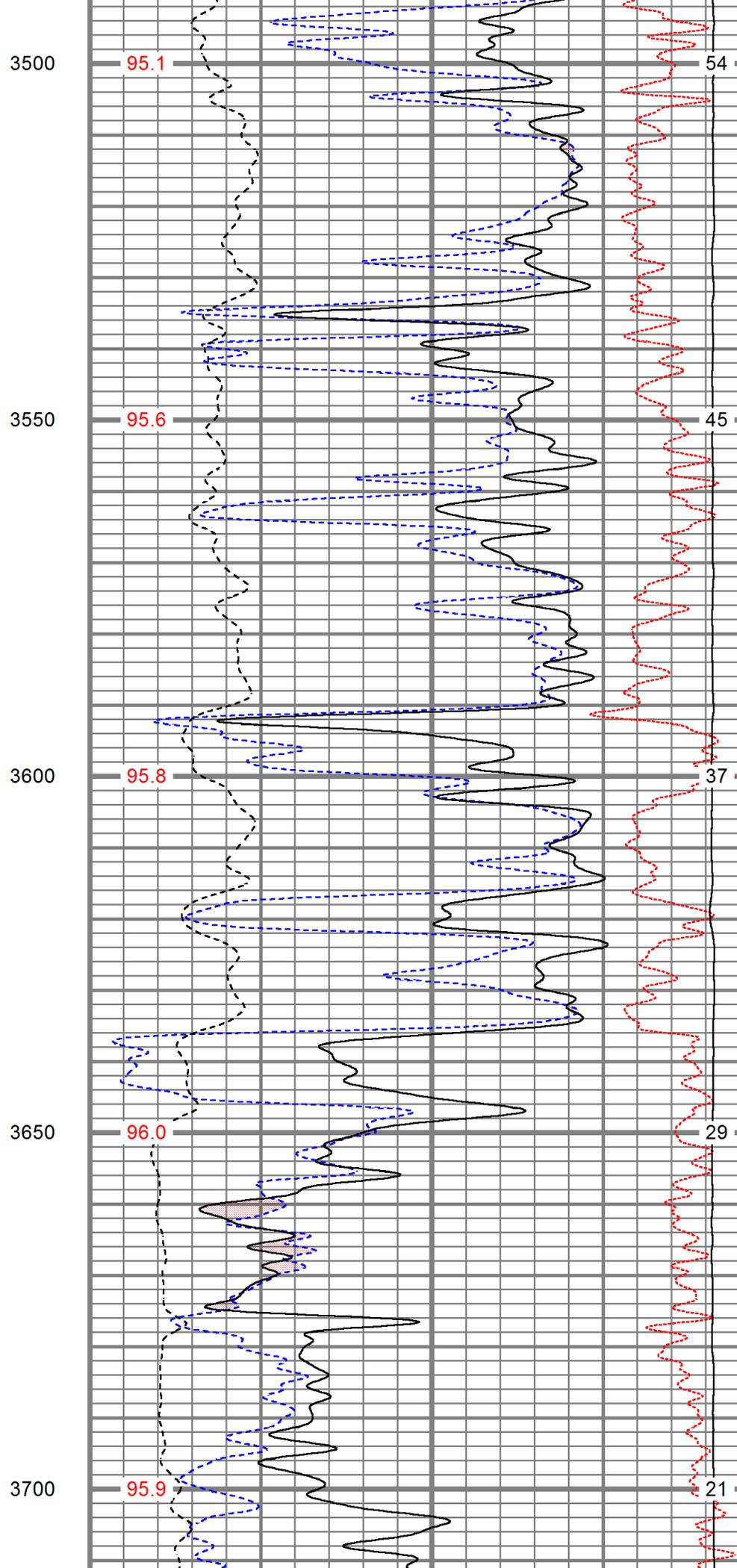
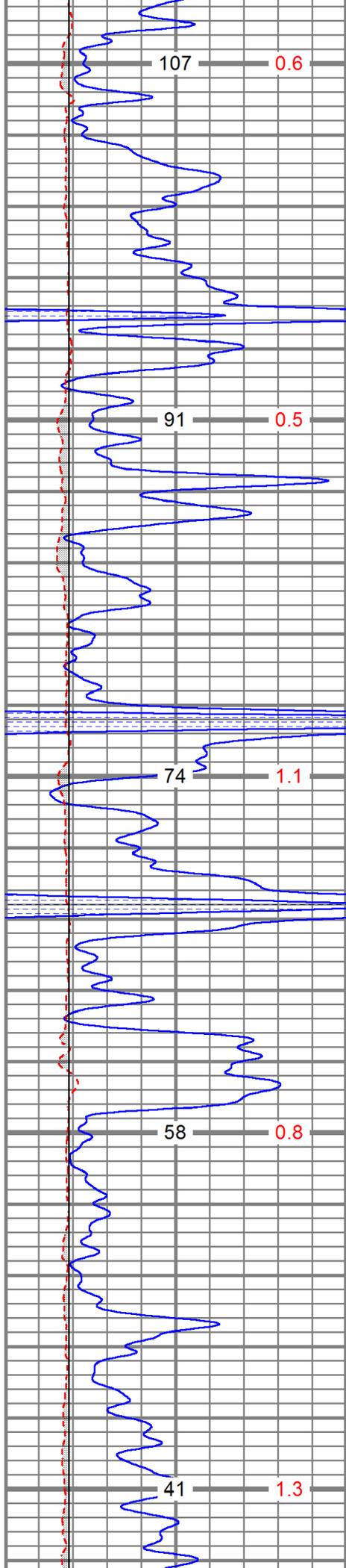
|    |           |     |
|----|-----------|-----|
| 30 | NPOR (pu) | -10 |
| 30 | DPOR (pu) | -10 |
| 70 | DPOR (pu) | 30  |

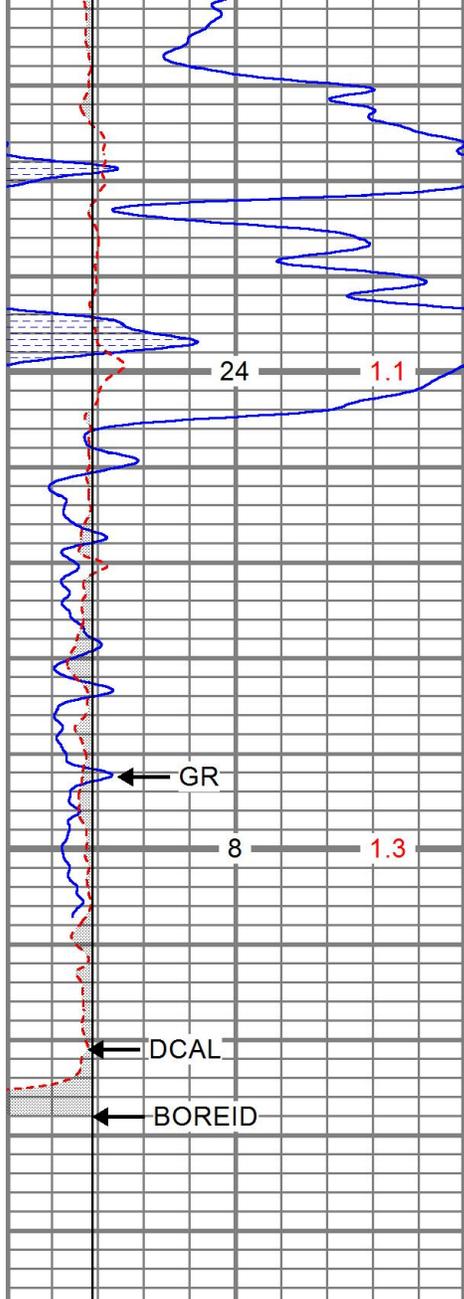
|            |            |
|------------|------------|
| TBHV (ft3) | DEVI (deg) |
|------------|------------|

|             |           |           |       |             |      |
|-------------|-----------|-----------|-------|-------------|------|
| 0           | Pe (barn) | 10        | -0.25 | RHOC (g/cc) | 0.25 |
| TEMP (degF) | 8000      | LTEN (lb) | 0     | ABHV (ft3)  |      |



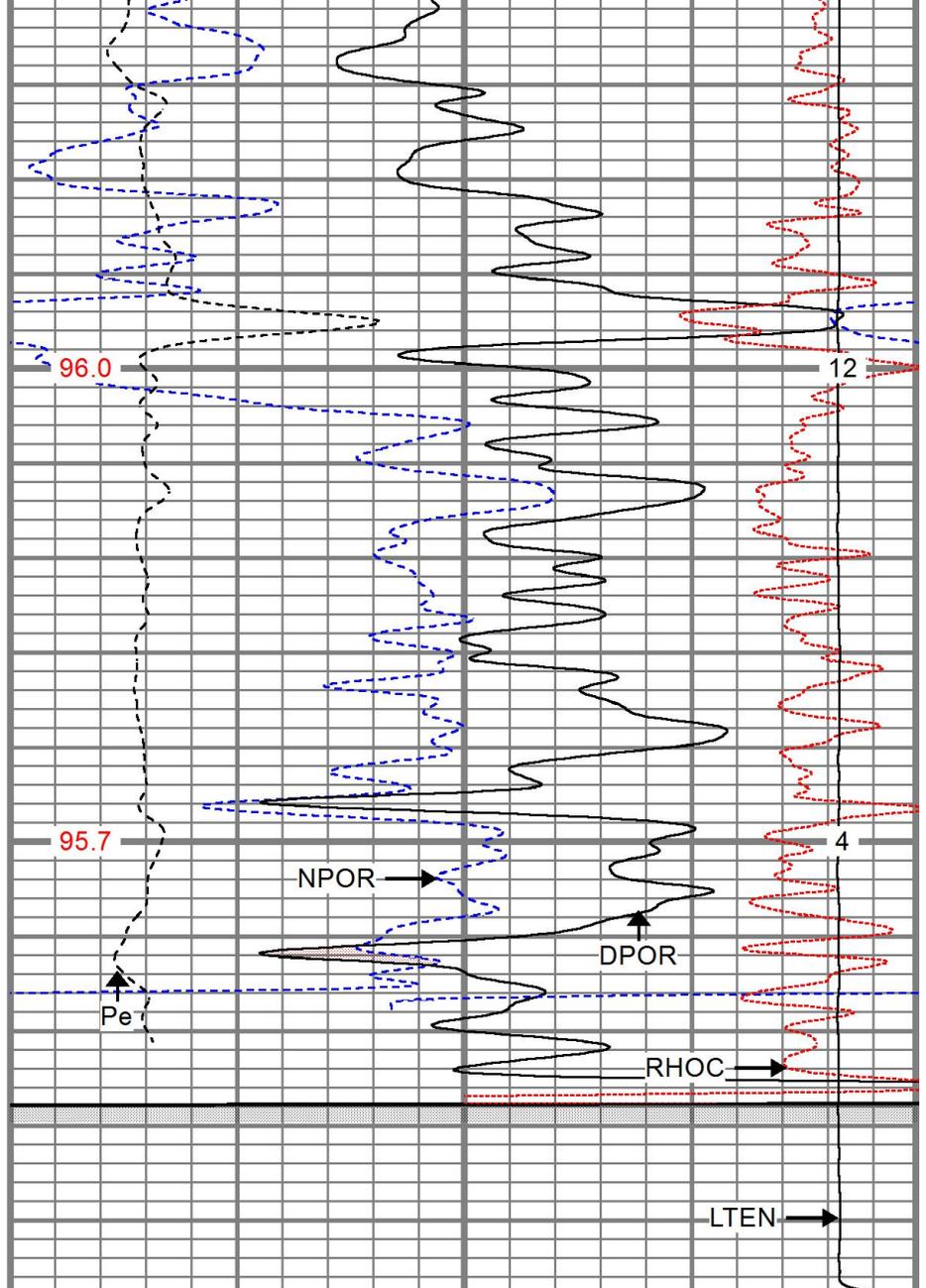






3750

3800



|   |             |            |
|---|-------------|------------|
| 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) | 0.25 |
|    | LTEN (lb)   | 0    |
|    | ABHV (ft3)  |      |



# REPEAT SECTION

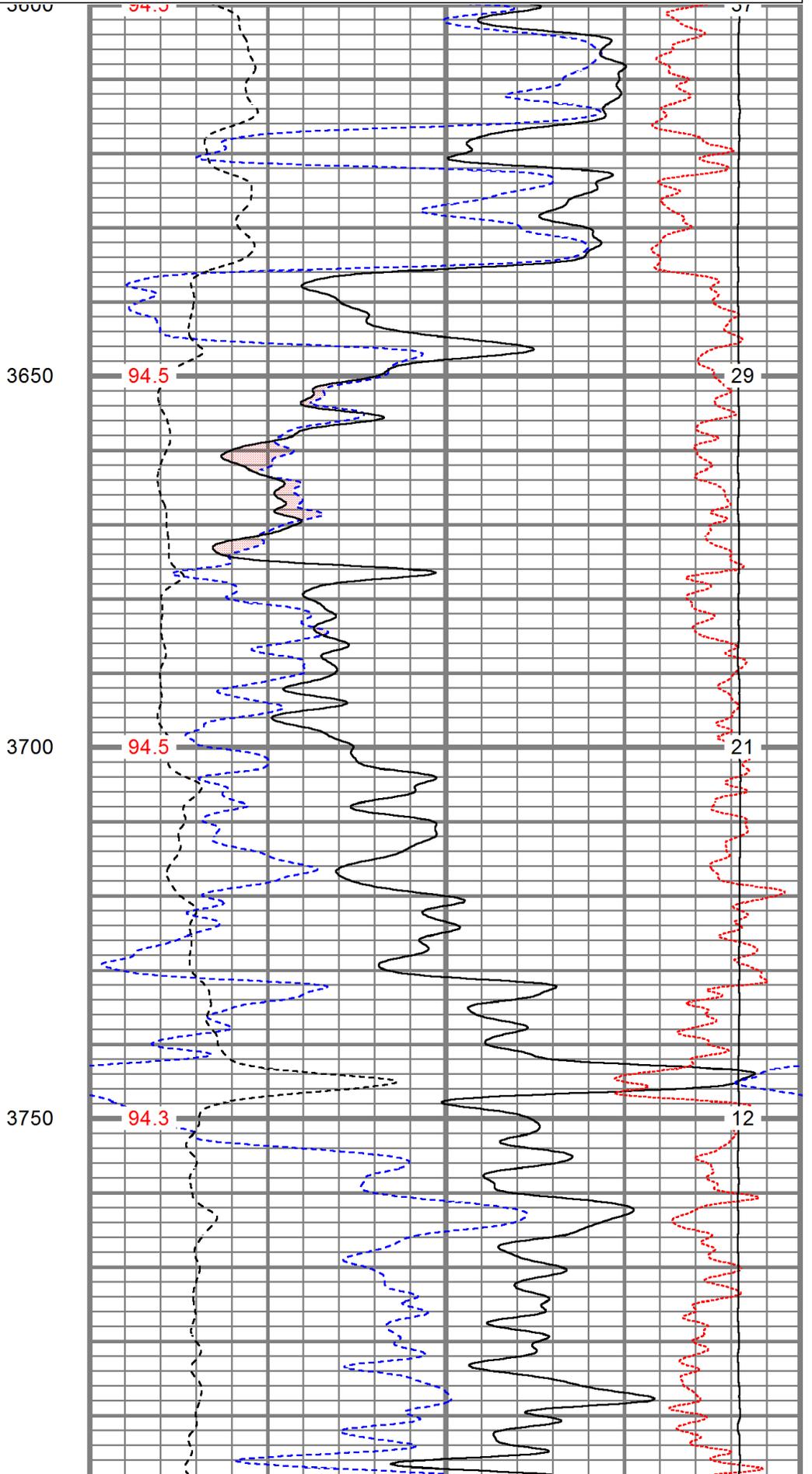
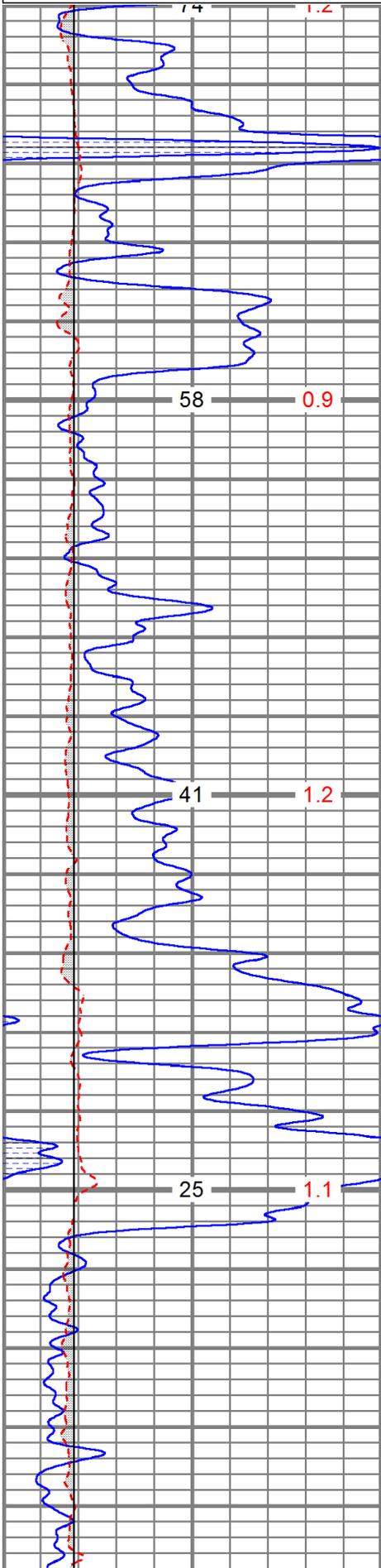
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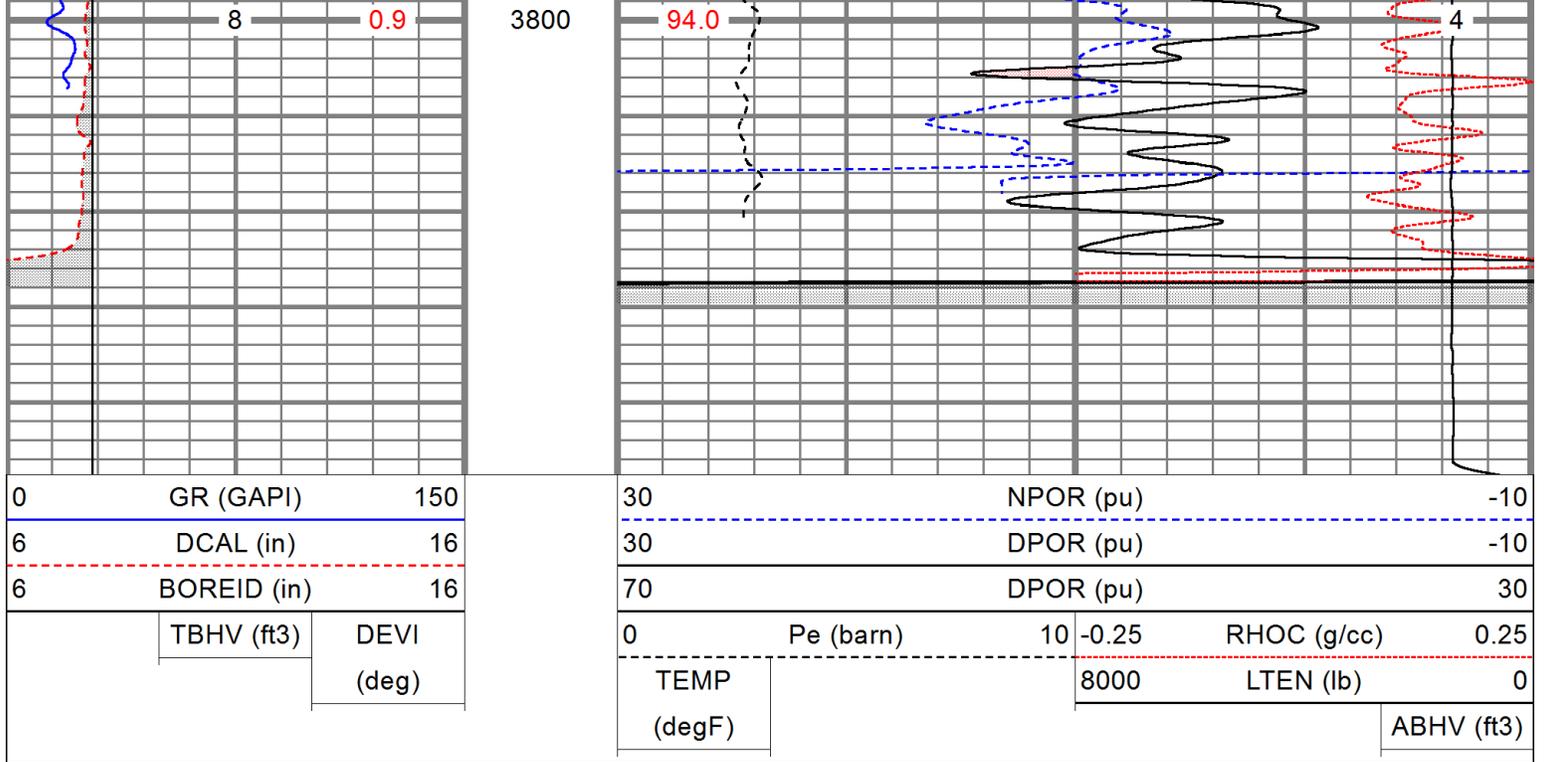
|   |           |     |
|---|-----------|-----|
| 0 | GR (GAPI) | 150 |
| 6 | DCAL (in) | 16  |

|    |           |     |
|----|-----------|-----|
| 30 | NPOR (pu) | -10 |
| 30 | DPOR (pu) | -10 |

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

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





### Calibration Report

Database File jpwrollwilliams#1oh.db  
 Dataset Pathname pass2  
 Dataset Creation Sat Mar 21 04:02:32 2020

### Dual Induction Calibration Report

Serial-Model: 1989-ADM  
 Surface Cal Performed: Tue Feb 04 16:04:10 2020  
 Downhole Cal Performed: Wed Jun 06 19:34:10 2018  
 After Survey Verification Performed: Wed Jun 06 19:34:10 2018

#### Surface Calibration

| Loop:     | Readings |       |   |       | References |        |         | Results |   |
|-----------|----------|-------|---|-------|------------|--------|---------|---------|---|
|           | Air      | Loop  |   |       | Air        | Loop   |         | m       | b |
| Deep      | -0.012   | 0.665 | V | 0.000 | 350.000    | mmho/m | 516.748 | 6.134   |   |
| Medium    | -0.013   | 0.752 | V | 0.000 | 400.000    | mmho/m | 522.482 | 6.987   |   |
| Internal: | Zero     | Cal   |   | Zero  | Cal        |        | m       | b       |   |
| Deep      | -0.011   | 0.668 | V | 0.000 | 350.000    | mmho/m | 515.730 | 5.704   |   |
| Medium    | -0.015   | 0.752 | V | 0.000 | 550.000    | mmho/m | 716.653 | 10.787  |   |

#### Downhole Calibration

| Internal: | Readings |       |        |         | References |        |         | Results |   |
|-----------|----------|-------|--------|---------|------------|--------|---------|---------|---|
|           | Zero     | Cal   |        |         | Zero       | Cal    |         | m       | b |
| Deep      | 0.000    | 0.000 | mmho/m | 0.419   | 351.110    | mmho/m | 1.000   | 0.000   |   |
| Medium    | 0.000    | 0.000 | mmho/m | -0.877  | 400.105    | mmho/m | 1.000   | 0.000   |   |
| Shallow   | 2.502    | 0.040 | V      | 500.000 | 2.000      | Ohm-m  | 190.323 | -0.126  |   |

#### After Survey Verification

| Internal: | Readings |     |  |  | Targets |     | Results |    |
|-----------|----------|-----|--|--|---------|-----|---------|----|
|           | Zero     | Cal |  |  | Zero    | Cal | m'      | b' |

|         |       |       |        |         |       |        |       |       |
|---------|-------|-------|--------|---------|-------|--------|-------|-------|
| Deep    | 0.000 | 0.000 | mmho/m | 0.000   | 0.000 | mmho/m | 1.000 | 0.000 |
| Medium  | 0.000 | 0.000 | mmho/m | 0.000   | 0.000 | mmho/m | 1.000 | 0.000 |
| 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: WithOutMC  
 Tool Model: WOMC  
 Performed: (Not Performed)

|                 | 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: Thu Oct 25 16:29:34 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 |

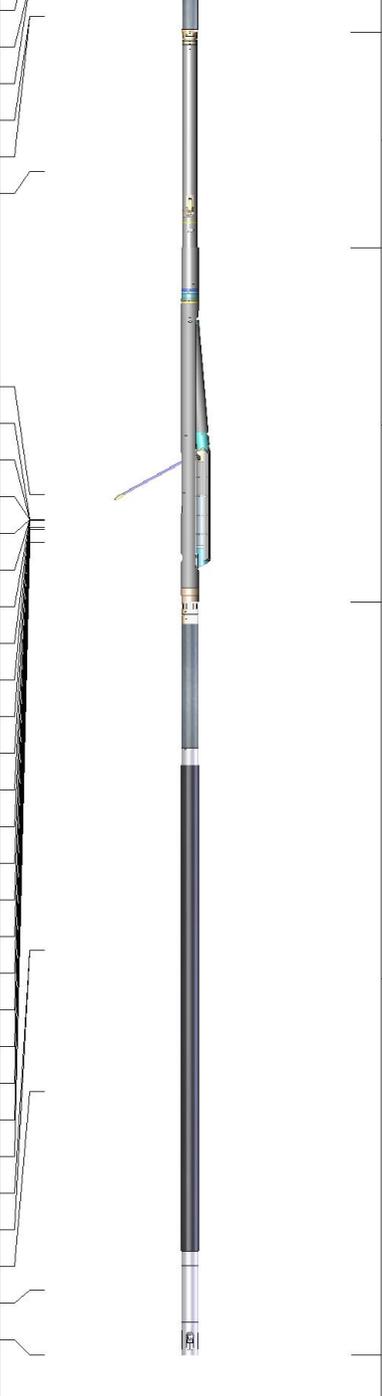
### Gamma Ray Calibration Report

Serial Number: WithOutMC  
 Tool Model: WOMC  
 Performed: Wed Dec 06 22:30:58 2017

Calibrator Value: 1.0 GAPI  
 Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps  
 Sensitivity: 1.0000 GAPI/cps

| Sensor | Offset (ft) | Schematic | Description                | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|-----------|----------------------------|-------------|-----------|-------------|
| GR     | 38.31       |           | CHD-STD                    | 0.50        | 1.69      | 1.00        |
| ACCY   | 37.15       |           | ADT-WOMC (WithOutMC)       | 4.58        | 3.50      | 120.00      |
| ACCX   | 37.15       |           | Telemetry Without Mud Cell |             |           |             |

SSTAT 36.73  
 PSTAT 35.90  
 ASTAT 35.90  
 GRD 35.06  
 TEMP 35.06  
 NEU 31.00  
  
 LStat 22.54  
 LS8 21.88  
 LS7 21.88  
 LS6 21.88  
 LS5 21.88  
 LS4 21.88  
 LS3 21.88  
 LS2 21.88  
 LS1 21.88  
 LSV 21.88  
 LSD 21.86  
 SSV 21.67  
 SS8 21.67  
 SS7 21.67  
 SS6 21.67  
 SS5 21.67  
 SS4 21.67  
 SS3 21.67  
 SS2 21.67  
 SS1 21.67  
 DCAL 21.61  
 SSD 21.27  
 SP 10.60  
 CILD 10.60  
 CILM 6.89  
 RLL3 1.70  
 TR\_Mon 0.00



NEU-ADMY5139 (AD5139)  
Admyr NEU DIGITAL

ADT1LITH-A (1)  
Admyr Litho Density Tool

DIL-ADM (1989)  
Dual Induction

|       |      |        |
|-------|------|--------|
| 5.65  | 3.50 | 50.00  |
| 9.29  | 3.50 | 240.00 |
| 19.71 | 4.00 | 300.00 |

Dataset: jpwrollwilliams#1oh.db: field/well/run1/pass2  
 Total length: 39.73 ft  
 Total weight: 711.00 lb  
 O.D.: 4.00 in