



**COMPENSATED DENSITY
NEUTRON
LOG**

Company John O. Farmer, Inc.

Well Wolf #1

Field Polifka South

County Ellis

State KS

Location: API #: 15 051 26932

SEC 18 TWP 13S RGE 17W

Permanent Datum Ground Level Elevation 2133'

Log Measured From KB 8' AGL

Drilling Measured From KB

**Other Services
ML
DIL
Elevation**

**K.B. 2141'
D.F. 2140'
G.L. 2133'**

| | | | |
|------------------------------|------------------|--------------------|--|
| Date | 9-27-18 | | |
| Run Number | One | | |
| Depth Driller | 3740' | | |
| Depth Logger | 3739' | | |
| Bottom Logged Interval | 3717' | | |
| Top Log Interval | 3100' | | |
| Casing Driller | 8 5/8" @ 221' | | |
| Casing Logger | 221' | | |
| Bit Size | 7 7/8" | | |
| Type Fluid in Hole | Chemical Mud | Chlorides 5000 PPM | |
| Density / Viscosity | 9.1/50 | | |
| PH / Fluid Loss | 9.0/10.8 | | |
| Source of Sample | Pit | | |
| Rm @ Meas. Temp | 1.2@72degf | | |
| Rmf @ Meas. Temp | 0.9@72degf | | |
| Rmc @ Meas. Temp | 1.44@72degf | | |
| Source of Rmf / Rmc | Calculated | | |
| Rm @ BHT | 0.84@103degf | | |
| Time Circulation Stopped | 1:30 a.m | | |
| Time Logger on Bottom | 3:50 a.m | | |
| Maximum Recorded Temperature | 103degf | | |
| Equipment Number | T127 | | |
| Location | Hays, KS. | | |
| Recorded By | C.Patterson | | |
| Witnessed By | Mr. Austin Klaus | | |

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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

**North On Toulon Ave. to Catherine Rd., West on Catherine Rd Approx 500 Ft.,
South to West Into Location**

**Thank you for using Gemini Wireline
785-625-1182**



MAIN PASS

Database File jofwolf#10h.db
 Dataset Pathname pass4.1
 Presentation Format digital_kcdnl
 Dataset Creation Thu Sep 27 05:42:38 2018
 Charted by Depth in Feet scaled 1:240

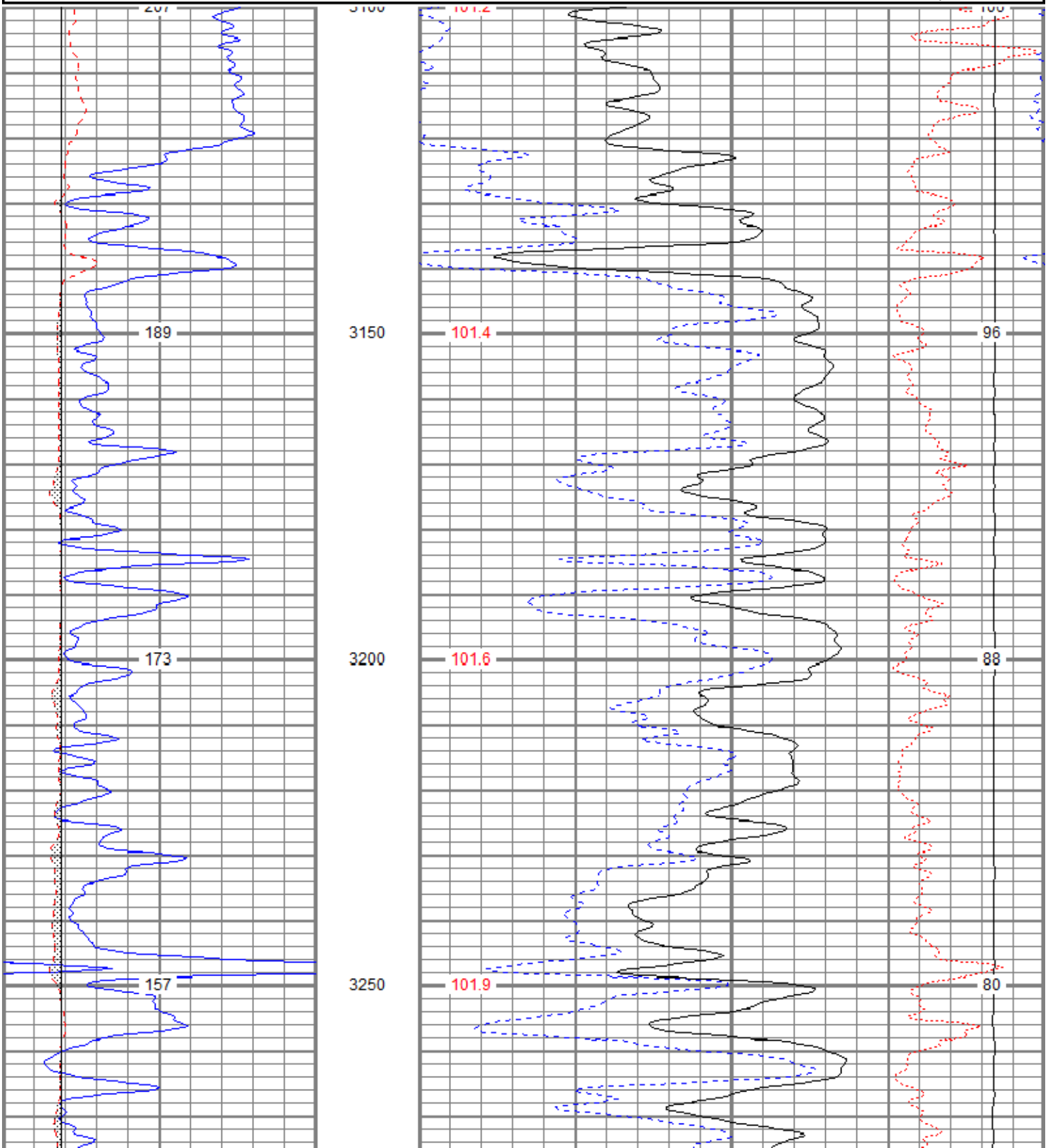
| | | |
|---|-------------|-----|
| 0 | GR (GAPI) | 150 |
| 6 | DCAL (in) | 16 |
| 6 | BOREID (in) | 16 |

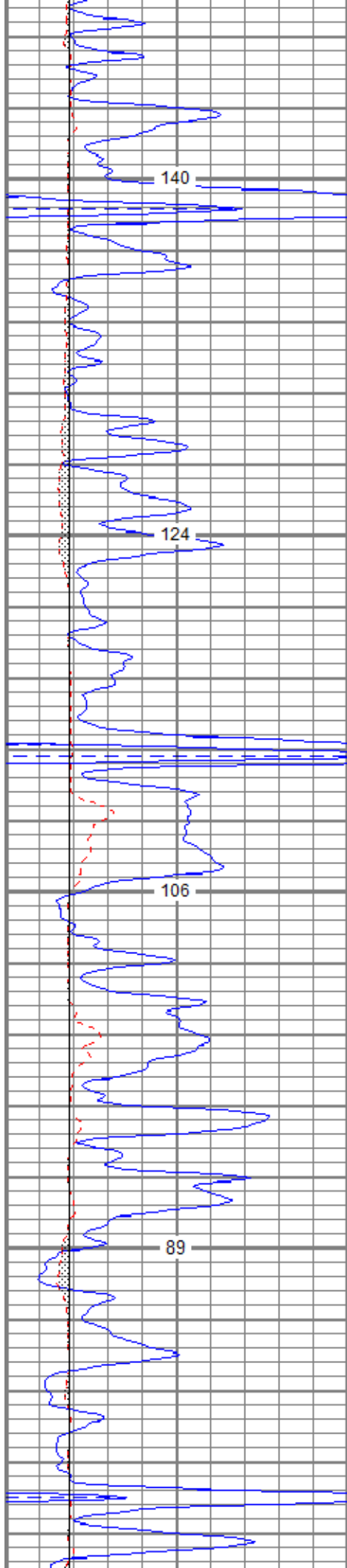
| | | |
|----|-----------|-----|
| 30 | NPOR (pu) | -10 |
| 30 | DPOR (pu) | -10 |
| 70 | DPOR (pu) | 30 |

TBHV (ft3)

| | | | |
|----------------|-------|-------------|------|
| TEMP (degF) | -0.25 | RHOC (g/cc) | 0.25 |
| | 8000 | LTEN (lb) | 0 |

ABHV (ft3)





3300

102.3

71

3350

102.6

63

3400

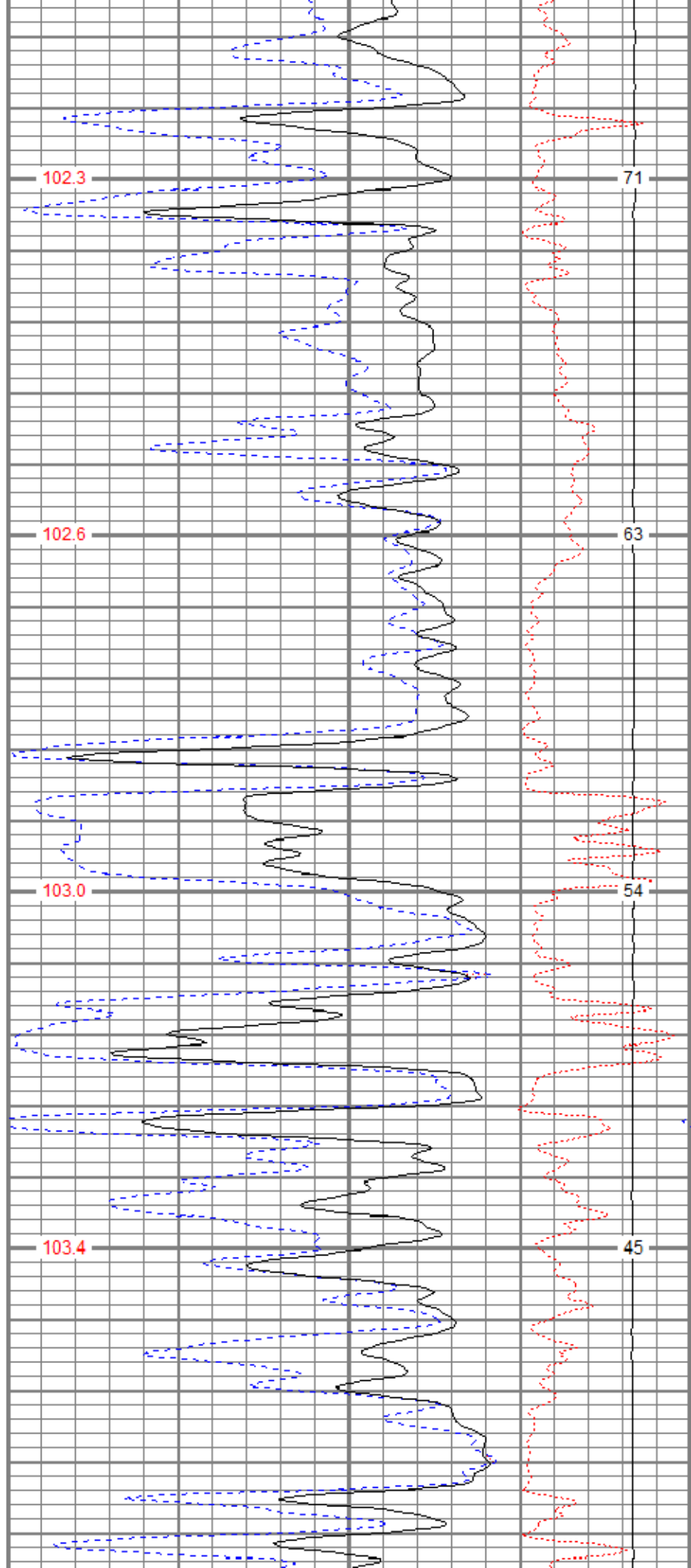
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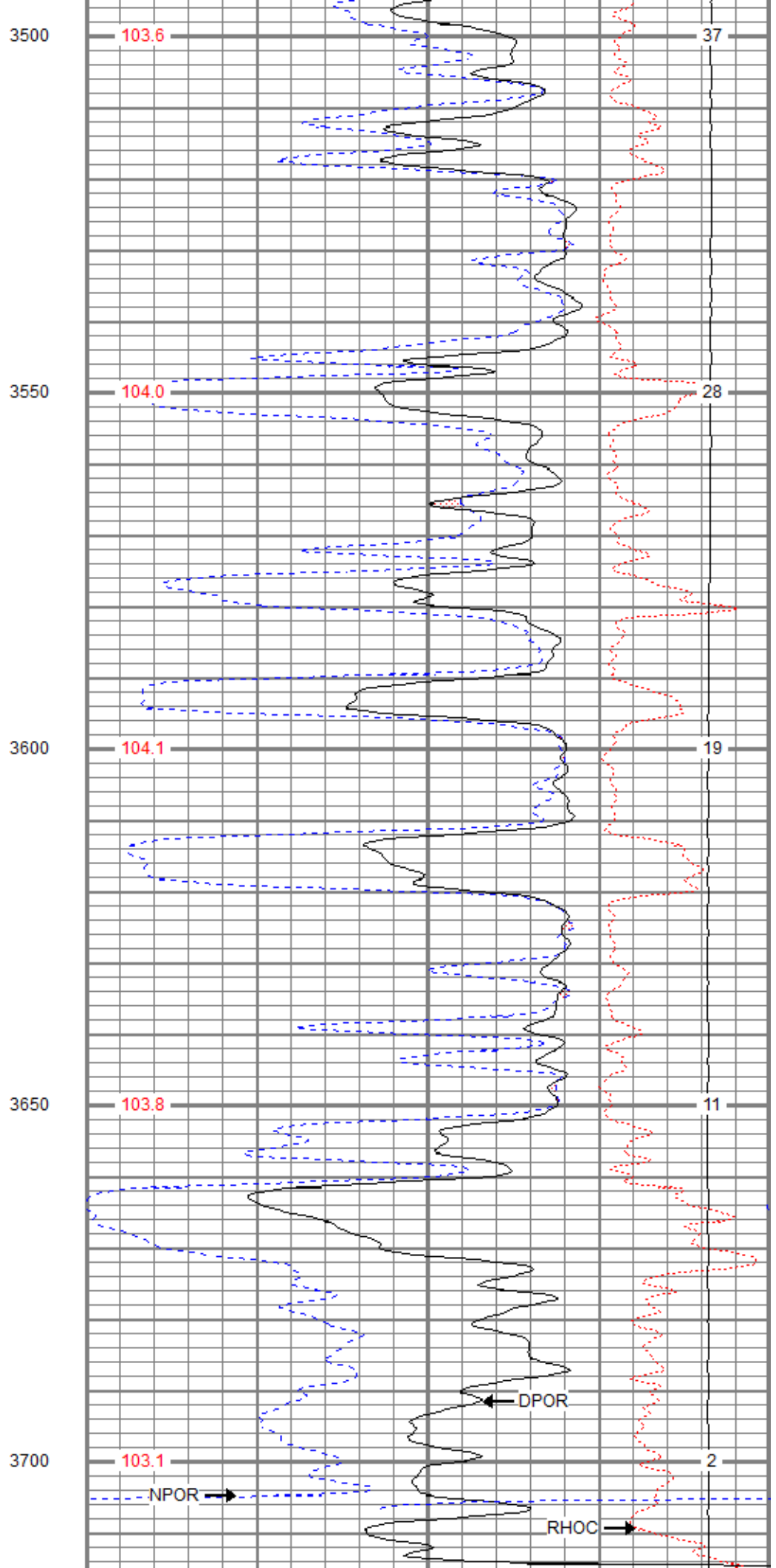
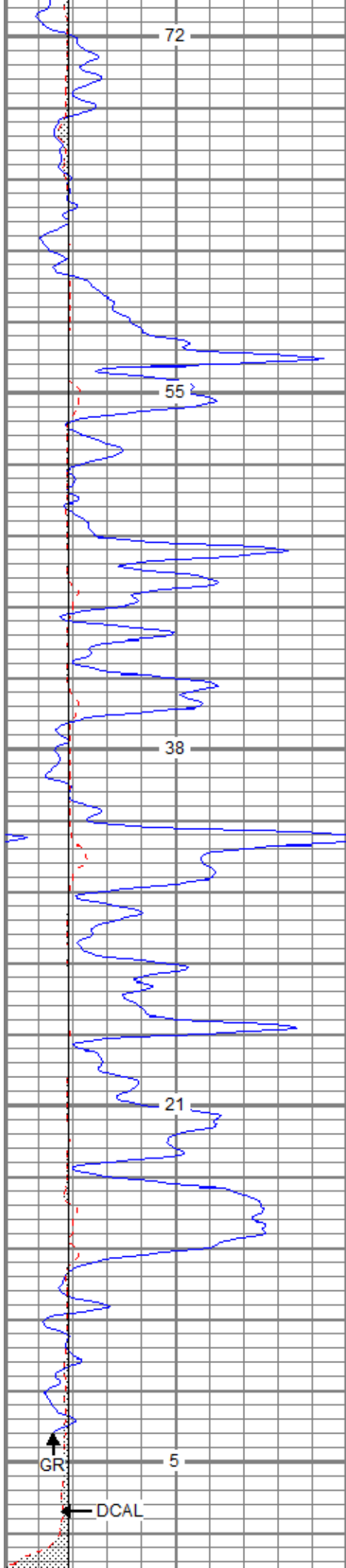
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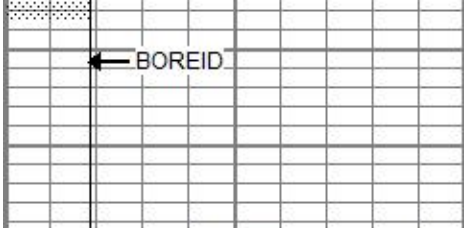
3450

103.4

45

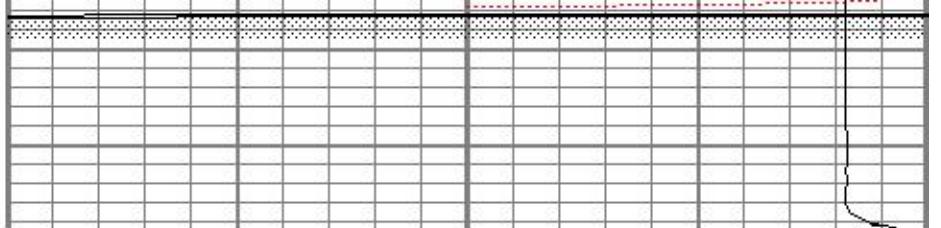






| | | |
|---|-------------|-----|
| 0 | GR (GAPI) | 150 |
| 6 | DCAL (in) | 16 |
| 6 | BOREID (in) | 16 |

TBHV (ft3)



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

| | | | |
|-------------|-------|-------------|------|
| TEMP (degF) | -0.25 | RHOC (g/cc) | 0.25 |
| | 8000 | LTEN (lb) | 0 |

ABHV (ft3)



REPEAT SECTION

Database File jofwolf#1oh.db
 Dataset Pathname pass3.1
 Presentation Format digital_kcdnl
 Dataset Creation Thu Sep 27 05:13:33 2018
 Charted by Depth in Feet scaled 1:240

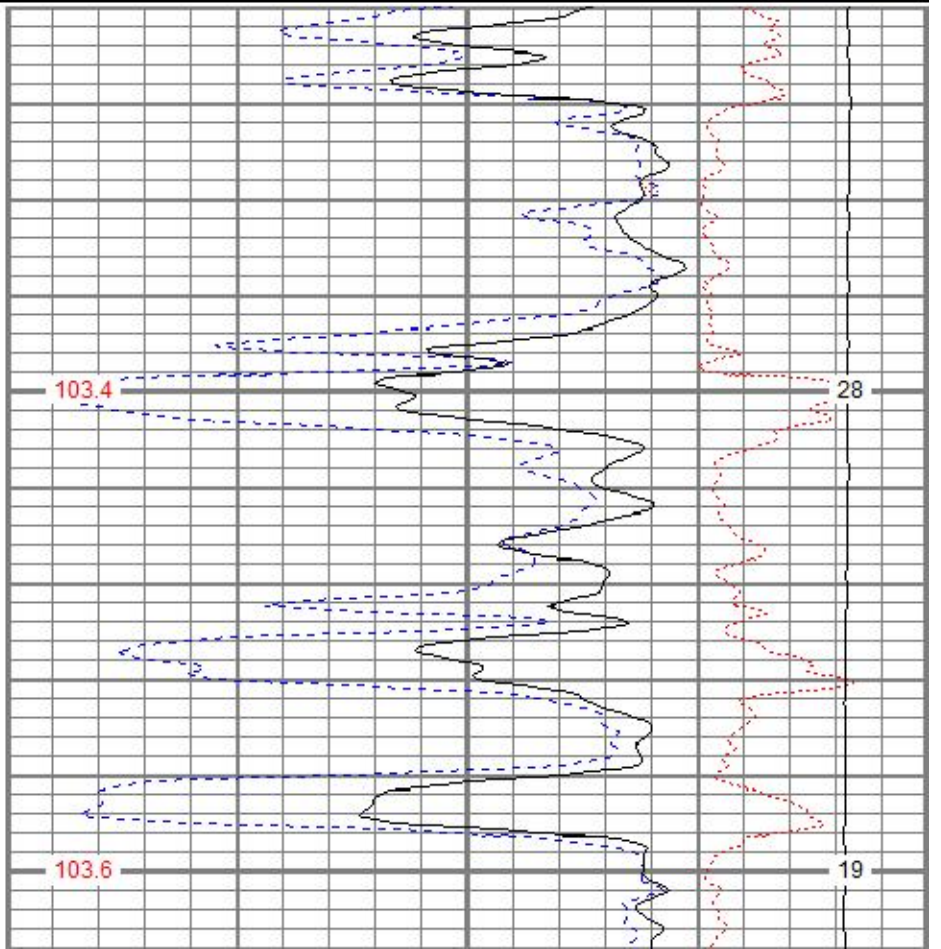
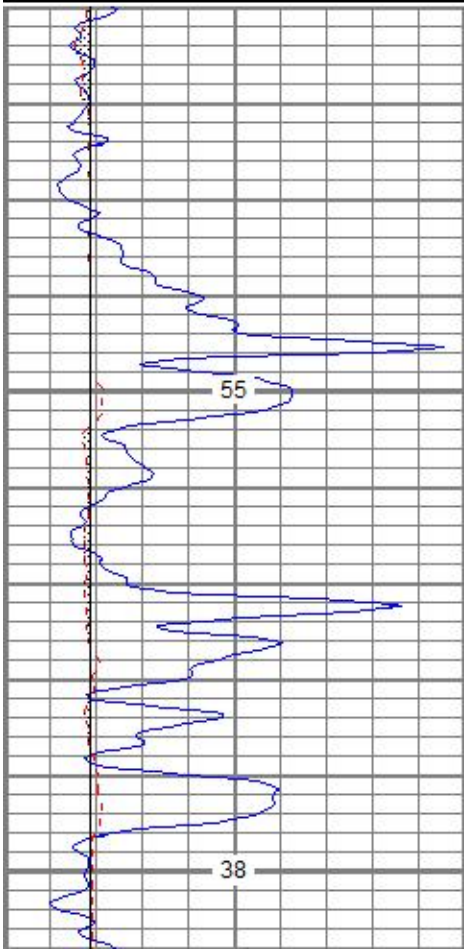
| | | |
|---|-------------|-----|
| 0 | GR (GAPI) | 150 |
| 6 | DCAL (in) | 16 |
| 6 | BOREID (in) | 16 |

TBHV (ft3)

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

| | | | |
|-------------|-------|-------------|------|
| TEMP (degF) | -0.25 | RHOC (g/cc) | 0.25 |
| | 8000 | LTEN (lb) | 0 |

ABHV (ft3)



| | | | | | | | | |
|-----------|-------|-------|---|-------|---------|--------|---------|--------|
| Deep | 0.007 | 0.642 | V | 0.000 | 350.000 | mmho/m | 556.531 | -5.310 |
| Medium | 0.010 | 0.728 | V | 0.000 | 400.000 | mmho/m | 556.531 | -5.391 |
| Internal: | Zero | Cal | | Zero | Cal | | m | b |
| Deep | 0.007 | 0.642 | V | 0.000 | 350.000 | mmho/m | 550.717 | -3.768 |
| Medium | 0.010 | 0.729 | V | 0.000 | 550.000 | mmho/m | 764.510 | -7.354 |

| | | | | | | | | |
|----------------------|----------|---------|--------|------------|---------|--------|---------|--------|
| Downhole Calibration | | | | | | | | |
| | Readings | | | References | | | Results | |
| Internal: | Zero | Cal | | Zero | Cal | | m | b |
| Deep | 0.145 | 350.239 | mmho/m | -0.044 | 350.323 | mmho/m | 1.001 | -0.189 |
| Medium | 0.435 | 400.472 | mmho/m | -0.037 | 400.340 | mmho/m | 1.001 | -0.473 |
| Shallow | 2.440 | 0.018 | V | 500.000 | 2.000 | Ohm-m | 185.000 | 1.324 |

| | | | | | | | | |
|---------------------------|----------|-------|--------|---------|---------|--------|---------|--------|
| After Survey Verification | | | | | | | | |
| | Readings | | | Targets | | | Results | |
| Internal: | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | 0.000 | 0.000 | mmho/m | 0.145 | 350.239 | mmho/m | 1.001 | -0.189 |
| Medium | 0.000 | 0.000 | mmho/m | 0.435 | 400.472 | mmho/m | 1.001 | -0.473 |
| Shallow | 0.000 | 0.000 | Ohm-m | 500.000 | 2.000 | Ohm-m | 1.000 | 0.000 |

| | | | | | | | | |
|----------------------------|-----------------|--|--|----------|--|--|--|--|
| Neutron Calibration Report | | | | | | | | |
| Serial Number: | ADM5139 | | | | | | | |
| Tool Model: | Admyr | | | | | | | |
| 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: | (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: | Mon Aug 07 11:02:07 2017 | | | | | | | |
| | 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 | | |

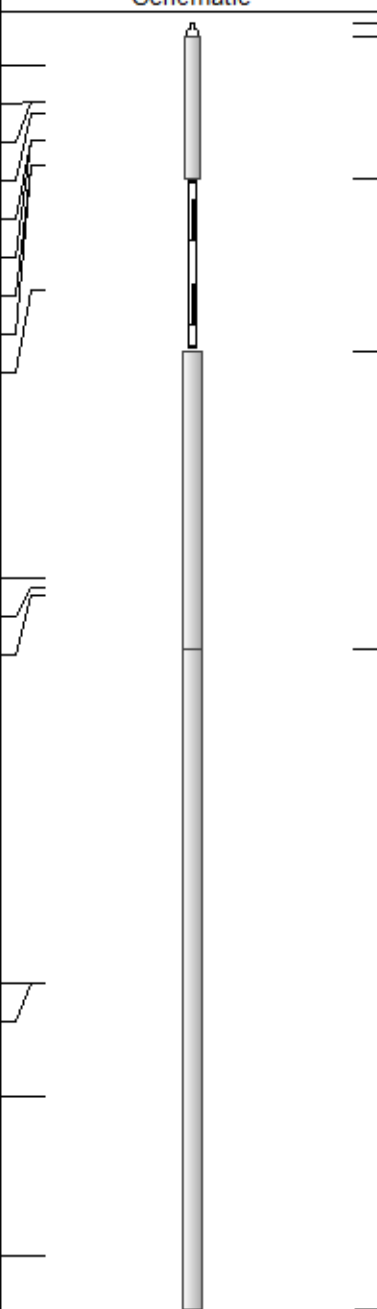
| | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|
| Gamma Ray Calibration Report | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|

Serial Number: WithMC
 Tool Model: WMC
 Performed: Mon Aug 07 11:03:41 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.9000 GAPI/cps

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|--|------------------------------|-------------|-----------|-------------|
| | |  | CHD-STD | 0.50 | 1.69 | 1.00 |
| GR | 40.47 | | | | | |
| ACCY | 39.30 | | ADT-WMC (WithMC) | 4.58 | 3.50 | 120.00 |
| ACCX | 39.30 | | Admyr Telemetry With Mudcell | | | |
| SSTAT | 38.89 | | | | | |
| PSTAT | 38.05 | | | | | |
| ASTAT | 38.05 | | NEU-Admyr (ADM5139) | 5.65 | 3.50 | 85.00 |
| GRD | 37.22 | | | | | |
| TEMP | 37.22 | | | | | |
| NEU | 33.15 | | | | | |
| | | | CDL-GEARHART (2501) | 9.69 | 4.00 | 240.00 |
| LSD | 23.78 | | | | | |
| DCAL | 23.49 | | | | | |
| SSD | 23.24 | | | | | |
| | | | DIL-G (5375) | 21.47 | 4.00 | 345.00 |
| SP | 10.60 | | Gearhart | | | |
| CILD | 10.60 | | | | | |
| CILM | 6.89 | | | | | |
| RLL3 | 1.70 | | | | | |

Dataset: jofwolf#1oh.db: field/well/run1/pass4.1
 Total length: 41.89 ft
 Total weight: 791.00 lb
 O.D.: 4.00 in