



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company **Castle Resources, Inc.**
 Well **Hund #1**
 Field **Newberry**
 County **Wabaunsee** State **Kansas**

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 Well **Hund #1**
 Field **Newberry**
 County **Wabaunsee**
 State **Kansas**

Location: **2260 FNL & 1300 FEL**
SEC 2 TWP 11S RGE 11E
 Permanent Datum **Ground Level** Elevation **1133**
 Log Measured From **Kelly Bushing**
 Drilling Measured From **Kelly Bushing**
 Other Services **CNL/CDL MEL/BHCS**
 Elevation **1138**
 D.F. **1133**
 G.L.

| | |
|------------------------|-------------|
| Date | 3/28/2023 |
| Run Number | One |
| Depth Driller | 3203 |
| Depth Logger | 3205 |
| Bottom Logged Interval | 3204 |
| Top Log Interval | 300 |
| Casing Driller | 8.625 @ 300 |
| Casing Logger | 286 345 |
| Bit Size | 7.875 |
| Type Fluid in Hole | Chemical |
| Salinity, ppm CL | 4000 |
| Density / Viscosity | 9.6 43 |
| pH / Fluid Loss | 9.6 9.6 |
| Source of Sample | FLOWLINE |
| Rm @ Meas. Temp | 0.50 @ 68 |
| Rmt @ Meas. Temp | 0.38 @ 68 |
| Rmc @ Meas. Temp | 0.31 @ 68 |
| Source of Rmf / Rmc | CHARTS |
| Rm @ BHT | 0.31 @ 108 |
| Operating Rig Time | 4 Hours |
| Max Rec. Temp. F | 108 |
| Equipment Number | P-108 |
| Location | HAYS |
| Recorded By | D. Schmidt |
| Witnessed By | Jerry Green |

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

I-70 and Paxico Rd,
 5 North to Homestead Rd, 1 East,
 1/4 North, West and North to location

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
 785-625-3858

| | | | |
|----------------------------|-----------|----------------------------------|--------------------|
| Your Midwest Wireline Crew | | This Log Record Was Witnessed By | |
| Engineer: D. Schmidt | Operator: | Primary Witness: Jerry Green | Secondary Witness: |
| Operator: | Operator: | Secondary Witness: | Secondary Witness: |
| Operator: | | Secondary Witness: | |

| | | | | | | |
|----------|-------------|-----------|-------------|-------------|-----------|-------------|
| Operator | Offset (ft) | Substrate | Description | Length (ft) | O.D. (in) | Weight (lb) |
|----------|-------------|-----------|-------------|-------------|-----------|-------------|

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|--------------------|-------------------------|-----------|-----------------------|-------------|-----------|-------------|
| GR | 40.33 | | GR-M&W (103) | 3.00 | 3.50 | 50.00 |
| CNLSC CNSSC | 37.23 36.48 | | CNT-M&W (210) | 5.00 | 3.50 | 100.00 |
| LSD DCAL SSD | 28.18 28.17 27.68 | | CDL-M&W (303-03) | 8.50 | 4.00 | 250.00 |
| MCAL MI MN | 19.58 19.58 19.58 | | ML-PSI STKBL ML (402) | 7.58 | 4.00 | 65.00 |
| RLL3F RLL3 | 15.50 15.50 | | | | | |
| CILD | 8.33 | | DIL-M&W (505 HT) | 18.25 | 3.50 | 220.00 |
| CILM | 4.50 | | | | | |
| SP | 0.20 | | | | | |

Dataset: castle_hund1.db: field/well/stkml/pass3.1
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\castle_hund1.db
 Dataset field/well/stkml/pass3.1/_vars_

Top - Bottom

| | | | | | | | |
|-----------|--------------|------------------|-------------------|----------------|------------------|-------|------------------|
| A | BOREID in | BOTTEMP degF | CASEOD in | CASETHCK in | FLUIDDEN g/cc | M | MATRXDEN g/cc |
| 1 | 7.875 | 108 | 5.5 | 0 | 1 | 2 | 2.71 |
| NPORSEL | PERFS | SNDERR mmho/m | SNDERRM mmho/m | SPSHIFT mV | SRFTEMP degF | SZCOR | TDEPTH ft |
| Limestone | No | -8 | -0.2 | 250 | 50 | Off | 3203 |

Variable Description

A : Cement Factor (a)
 BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 M : Cement Exp (m)
 MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
 PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth

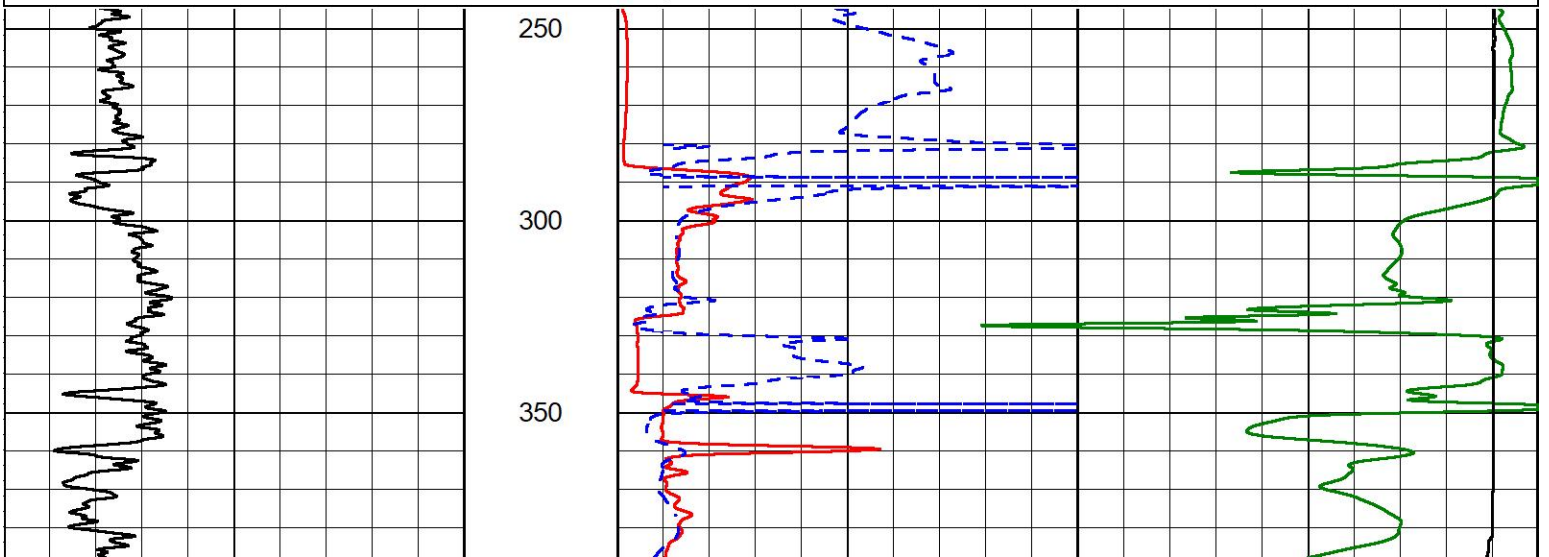


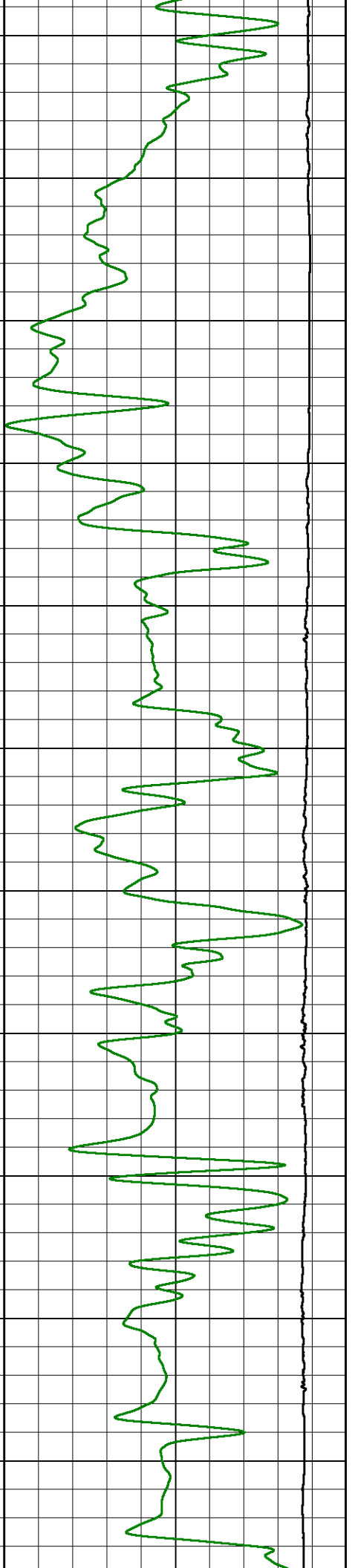
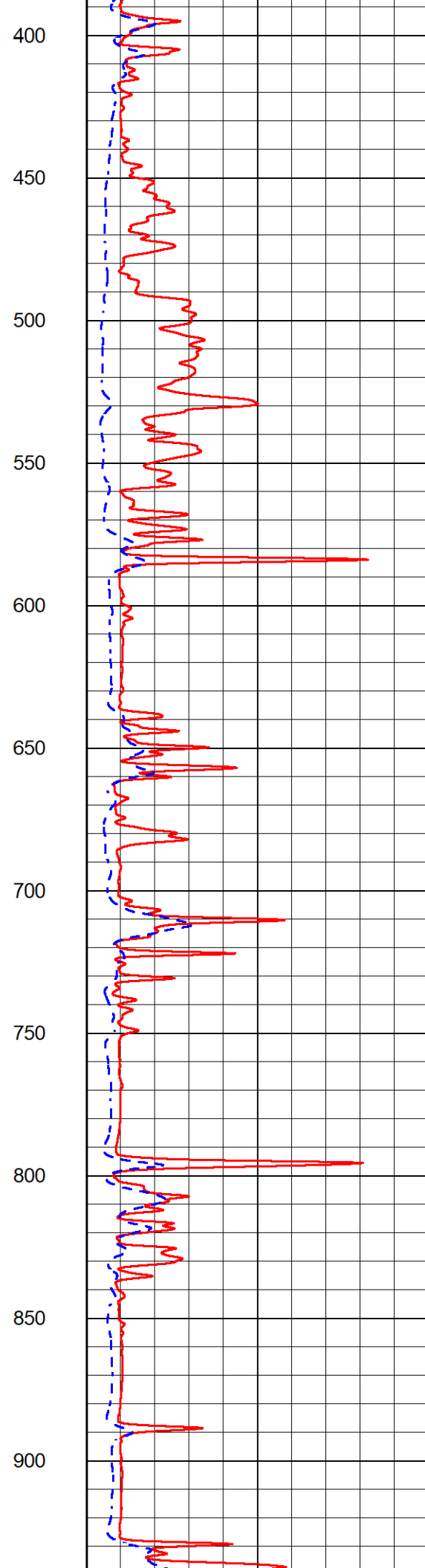
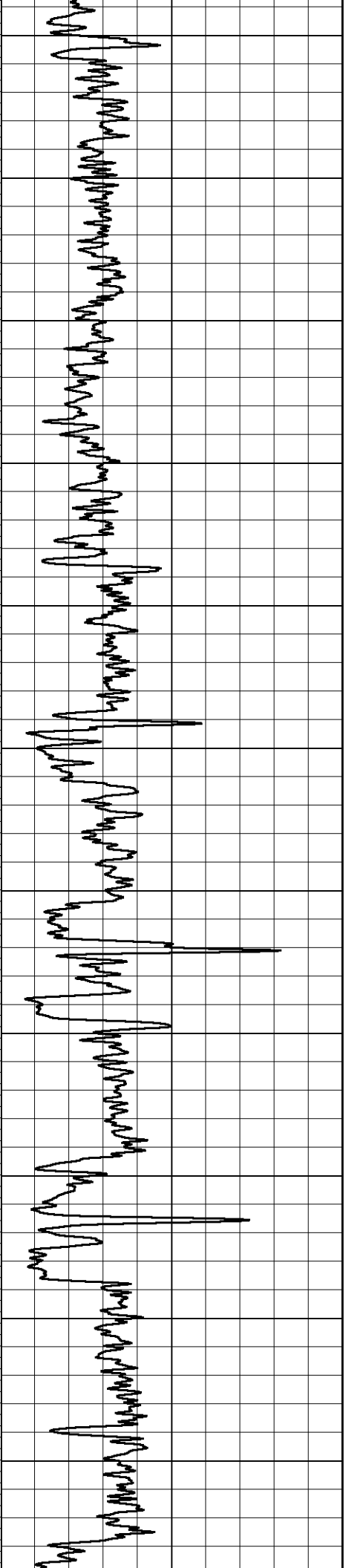
2" SCALE RESISTIVITY

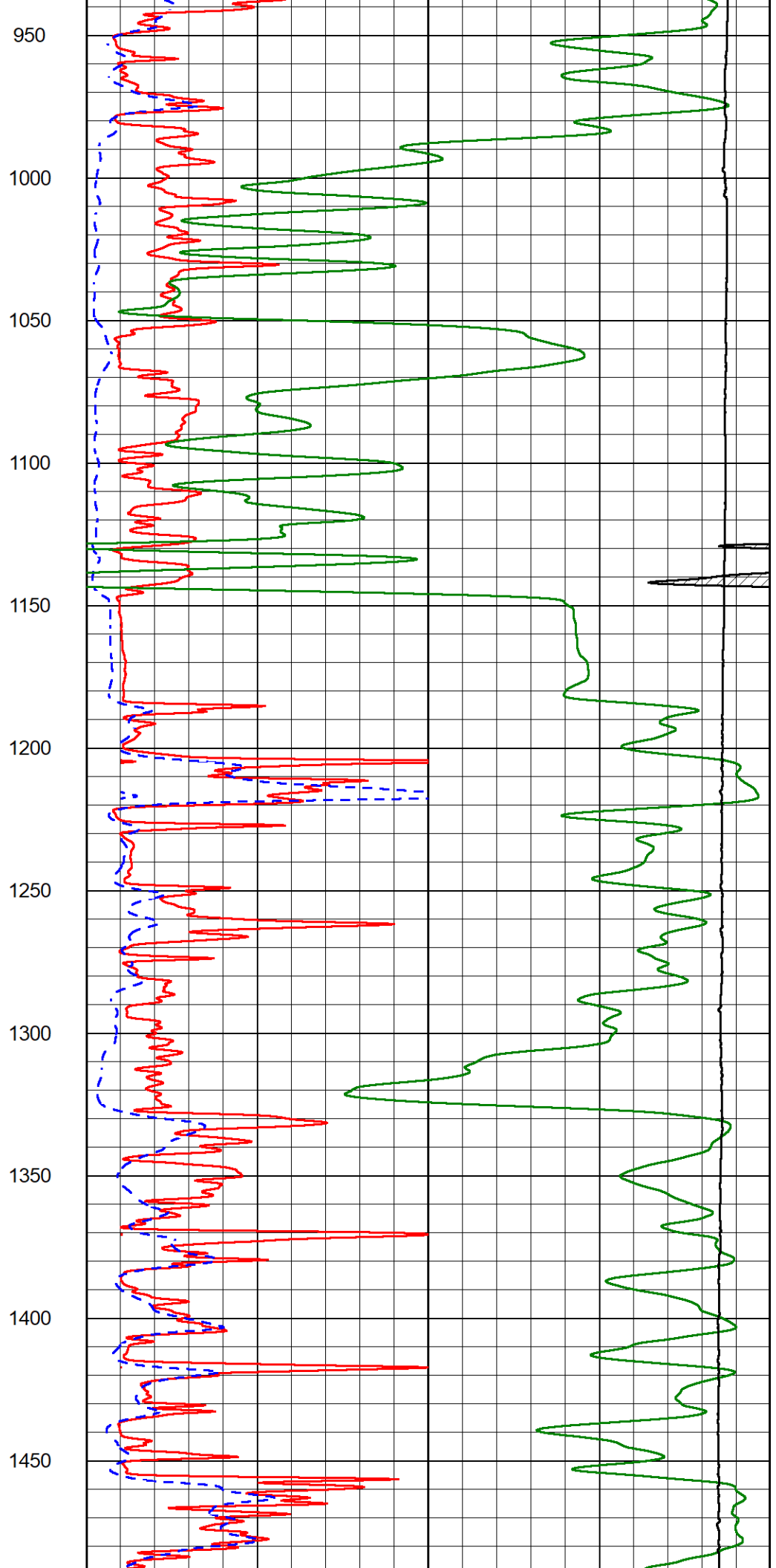
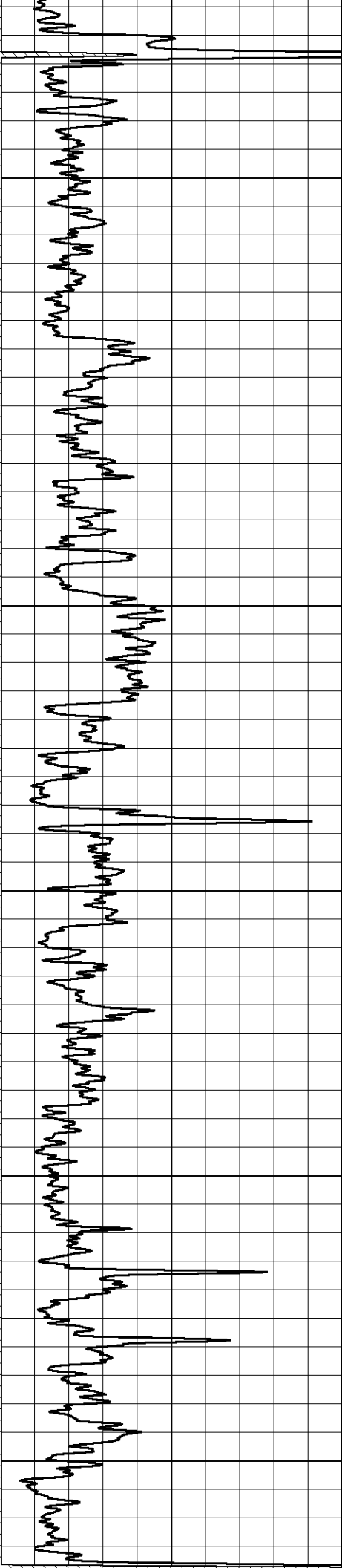
MAIN PASS

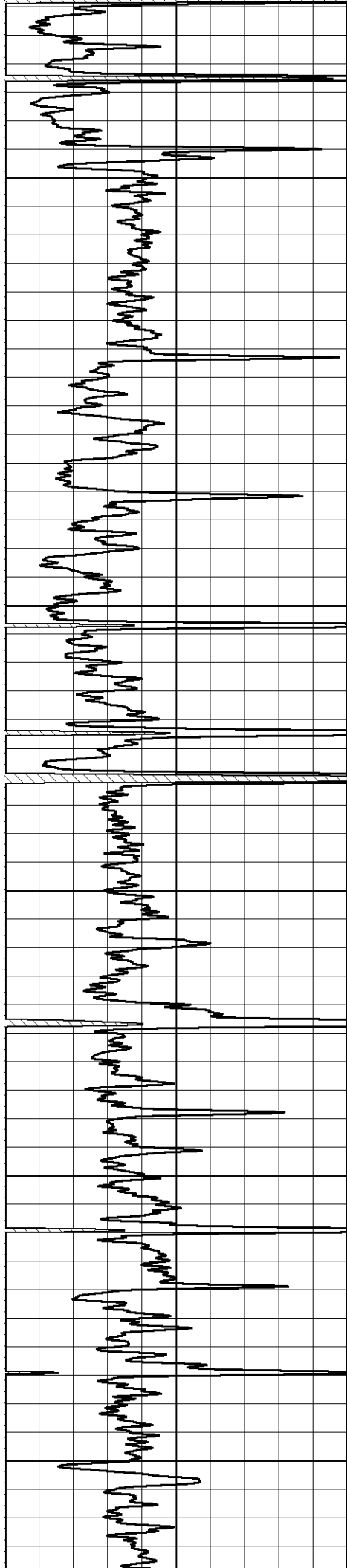
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 Dataset Pathname stkml/pass3.3
 Presentation Format _dil2in
 Dataset Creation Tue Mar 28 19:51:20 2023
 Charted by Depth in Feet scaled 1:600

| | | | | | |
|----|-----------------------------|-----|-------|-----------------------|---|
| 0 | Gamma Ray (GAPI) | 300 | 1000 | Conductivity (mmho/m) | 0 |
| | | | 15000 | Line Tension (lb) | 0 |
| 0 | Shallow Resistivity (Ohm-m) | 50 | | | |
| 0 | Deep Resistivity (Ohm-m) | 50 | | | |
| | Shallow Resistivity | | | | |
| 50 | (Ohm-m) | 200 | | | |
| 50 | Deep Resistivity (Ohm-m) | 200 | | | |

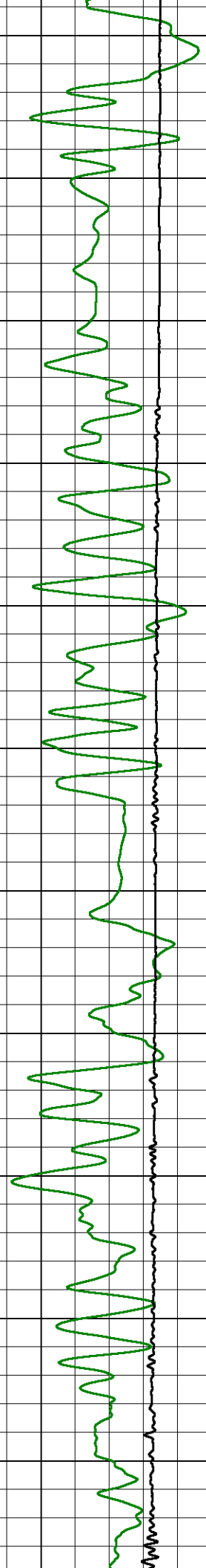
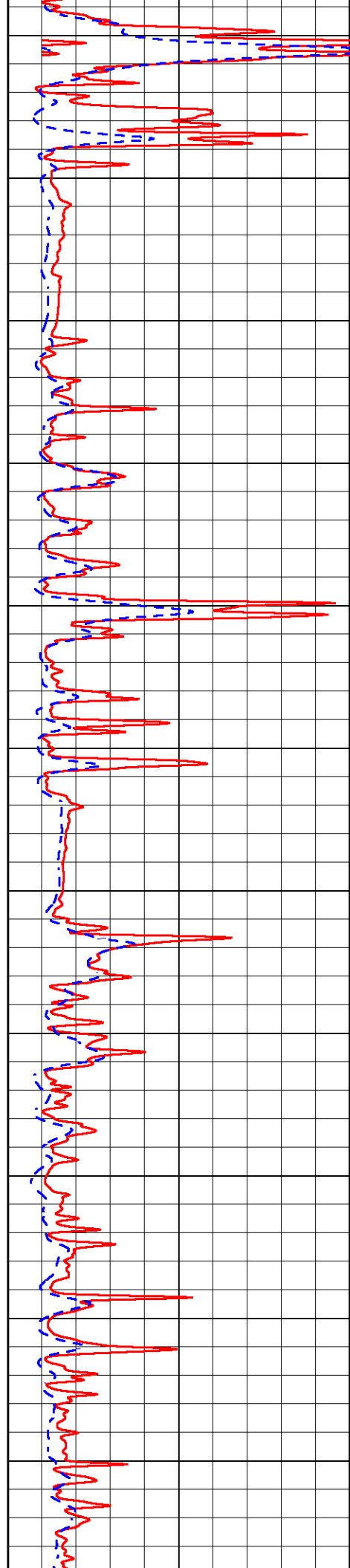


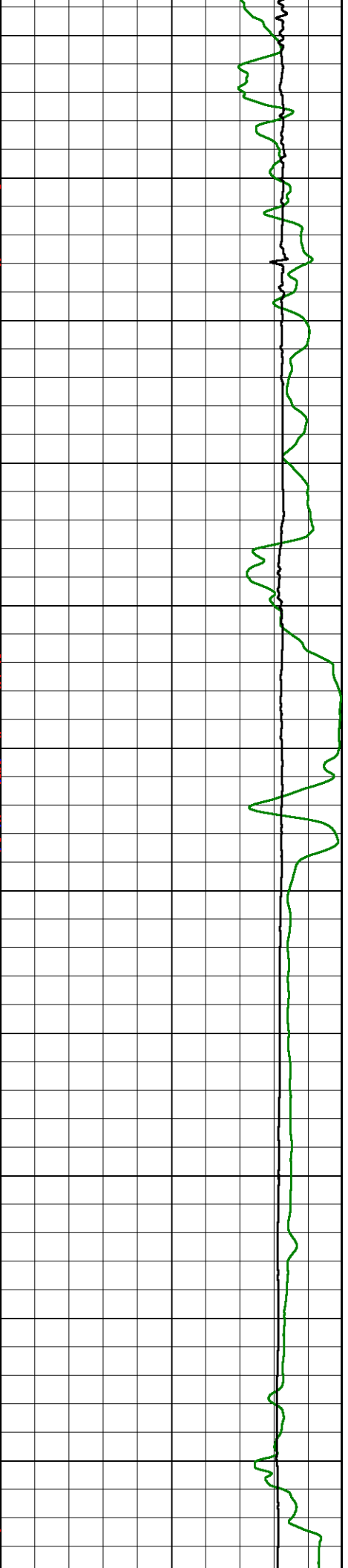
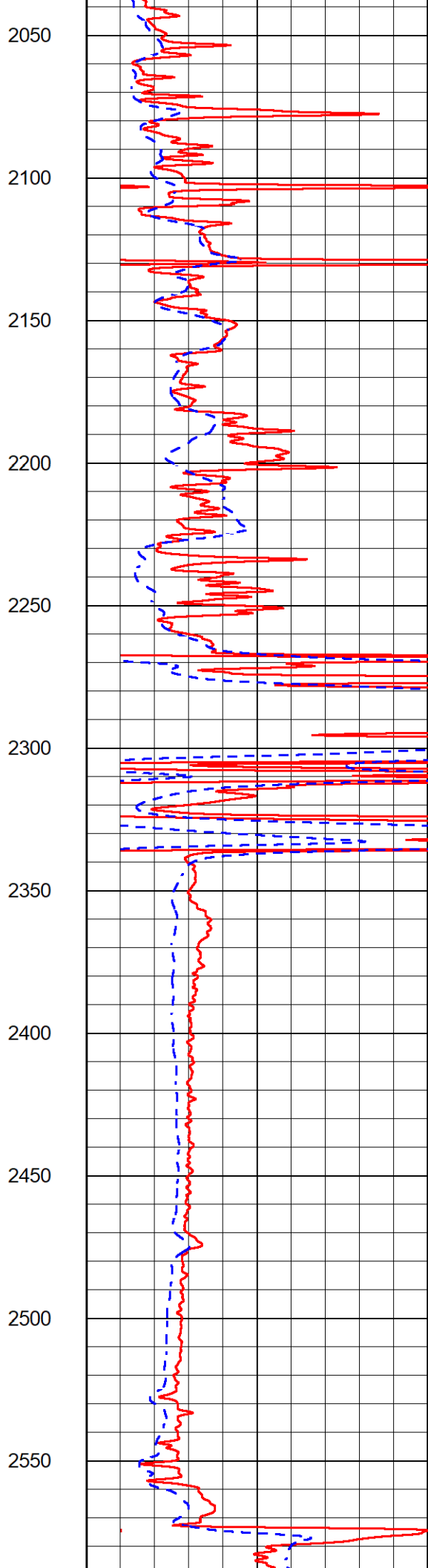
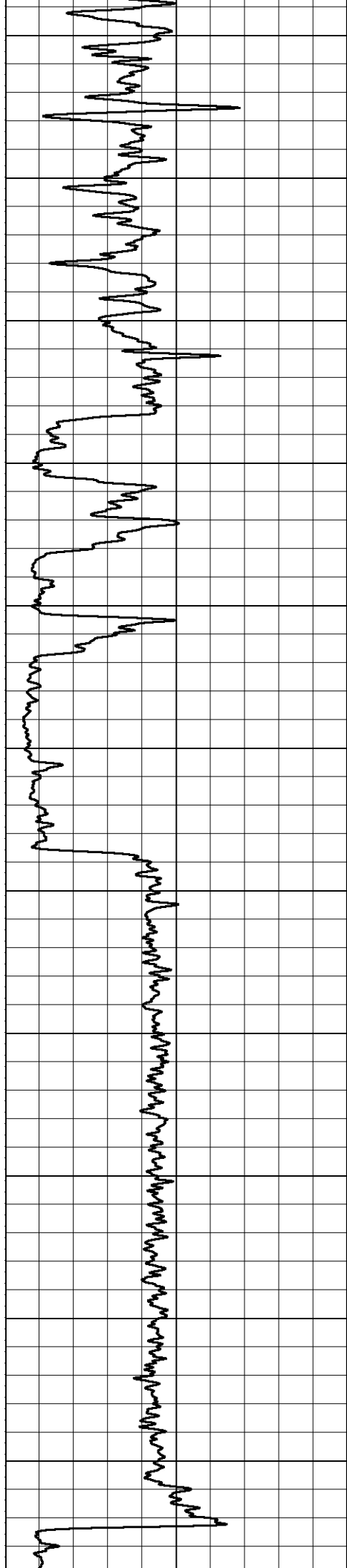


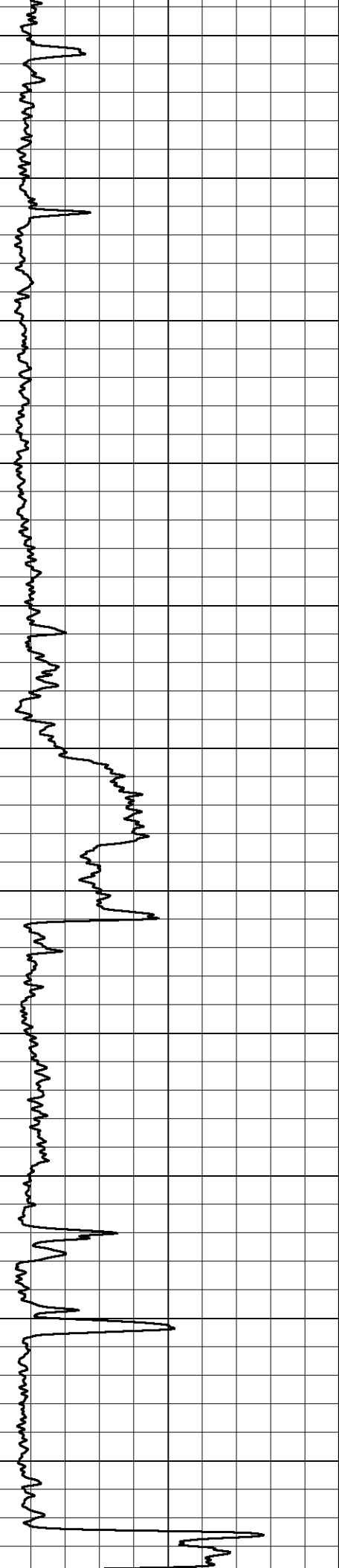




1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000







2600

2650

2700

2750

2800

2850

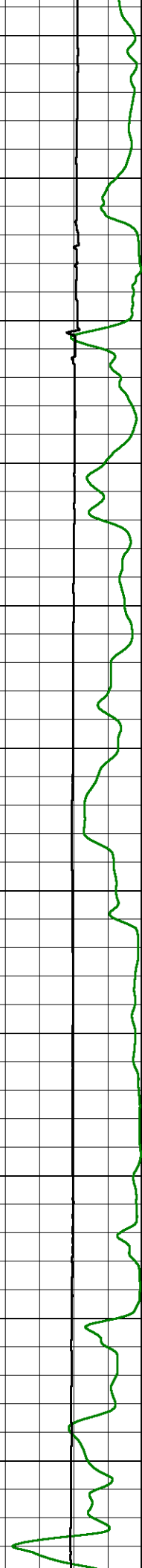
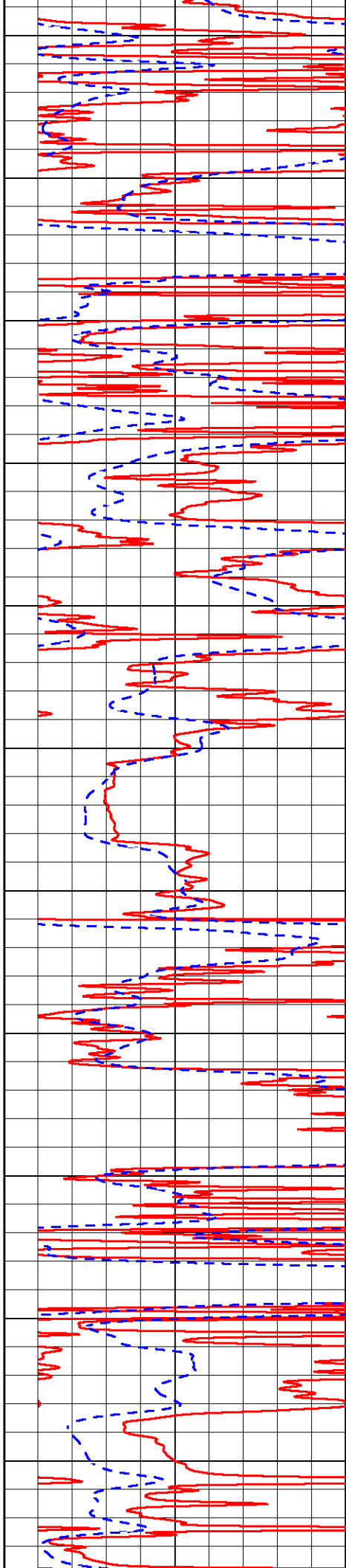
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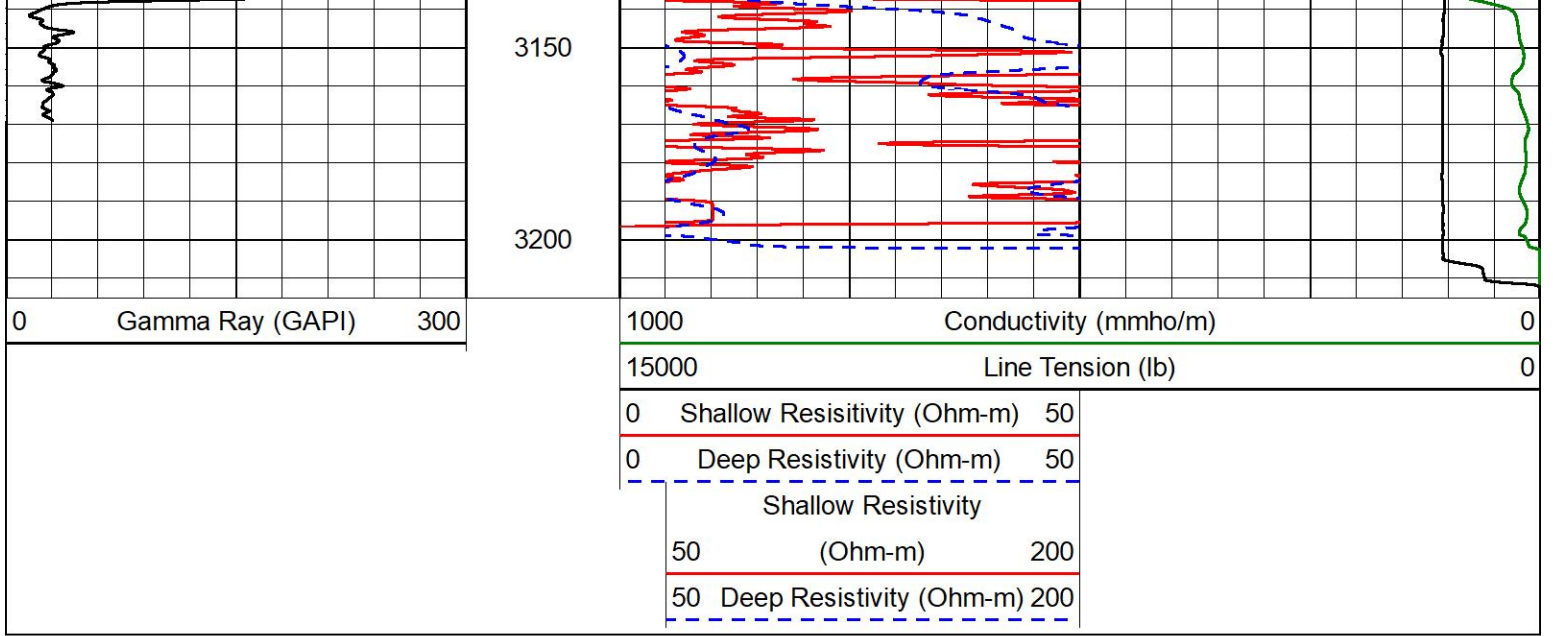
2950

3000

3050

3100





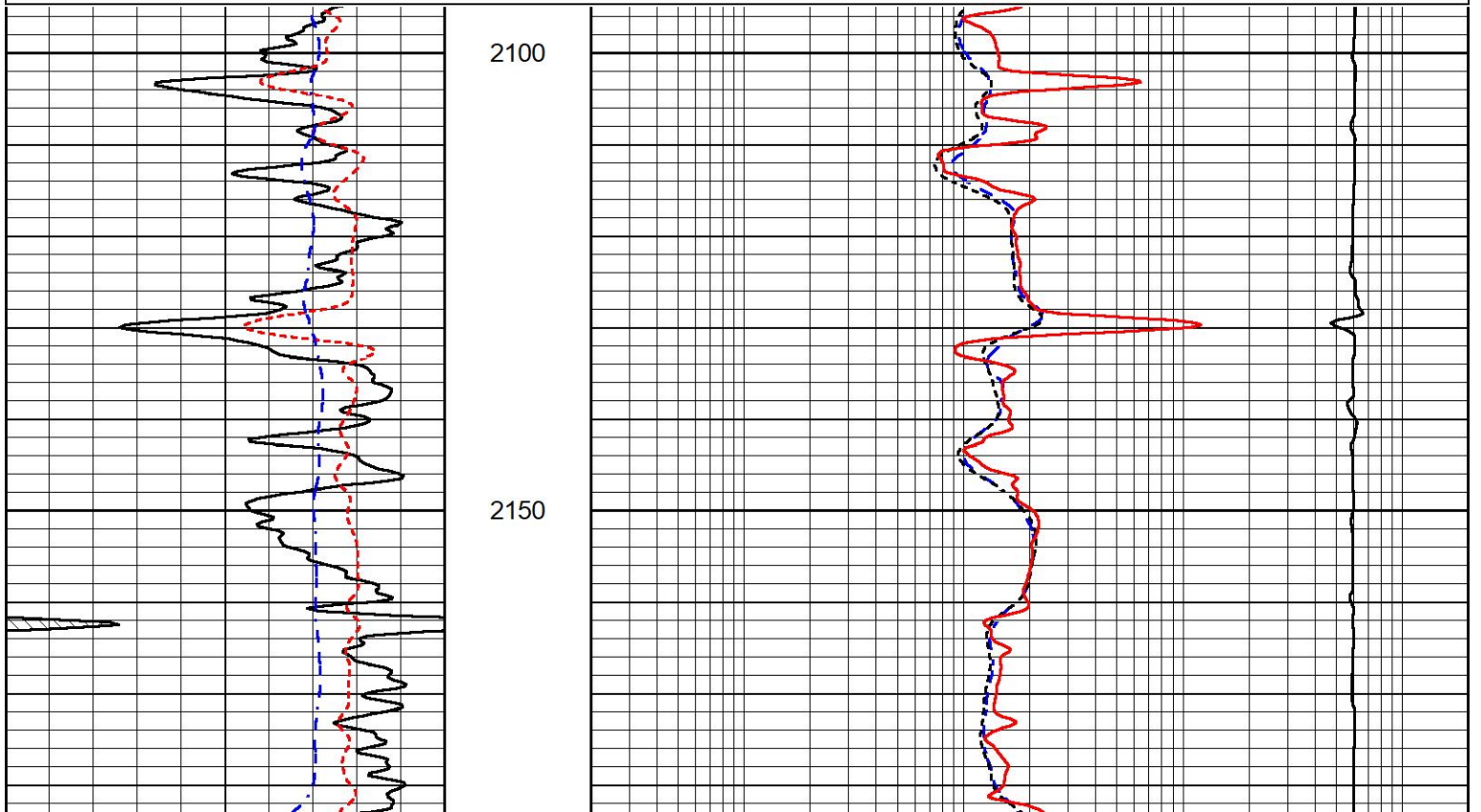
MIDWEST WIRELINE

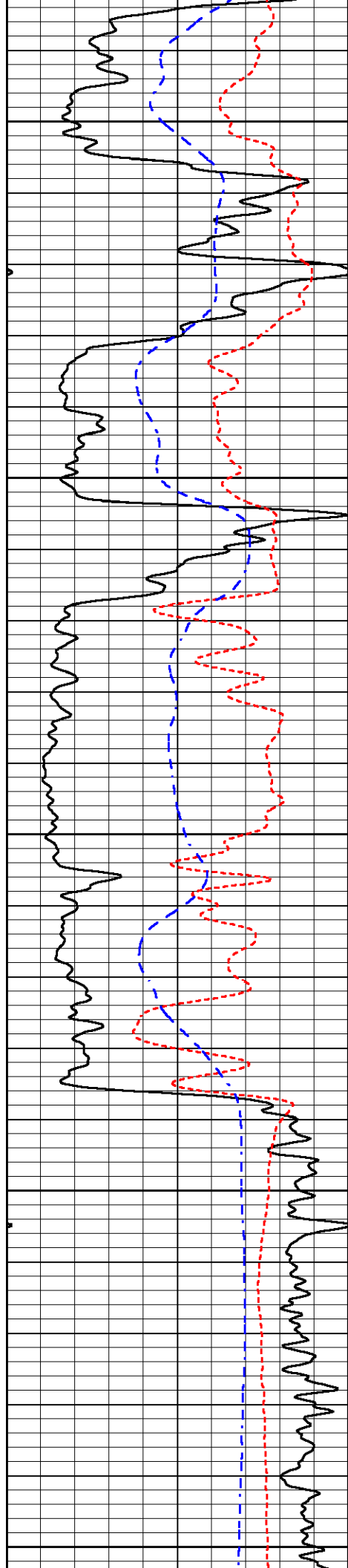
DETAIL SECTION

MAIN PASS

Database File castle_hund1.db
 Dataset Pathname stkml/pass3.1
 Presentation Format _dil
 Dataset Creation Tue Mar 28 19:45:01 2023
 Charted by Depth in Feet scaled 1:240

| | | | | | |
|------|------------------|-----|-------|----------------------------|------|
| 0 | Gamma Ray (GAPI) | 150 | 0.2 | Deep Resistivity (Ohm-m) | 2000 |
| -160 | RXORT | 40 | 0.2 | Medium Resistivity (Ohm-m) | 2000 |
| -200 | SP (mV) | 0 | 0.2 | RLL3 (Ohm-m) | 2000 |
| | | | 10000 | Line Tension (lb) | 0 |





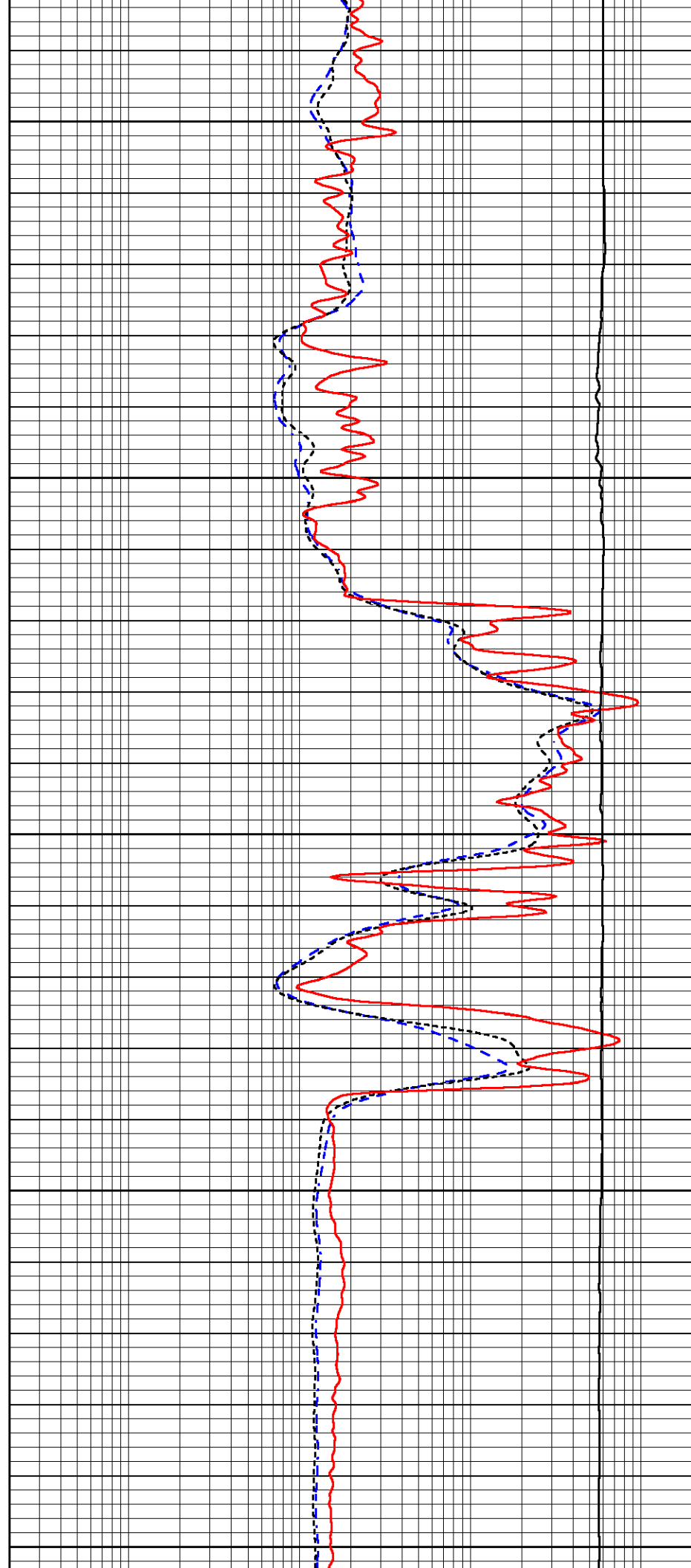
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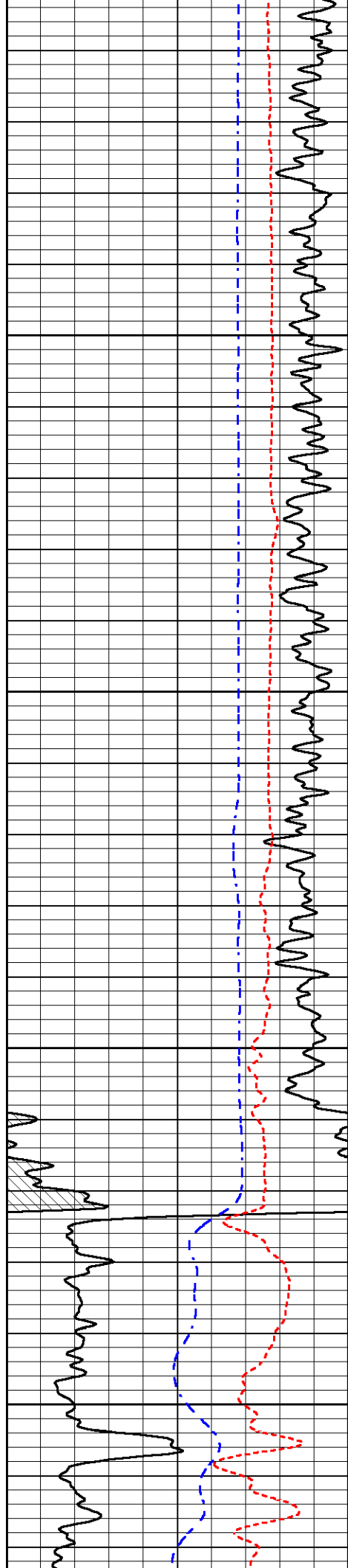
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2300

2350

2400



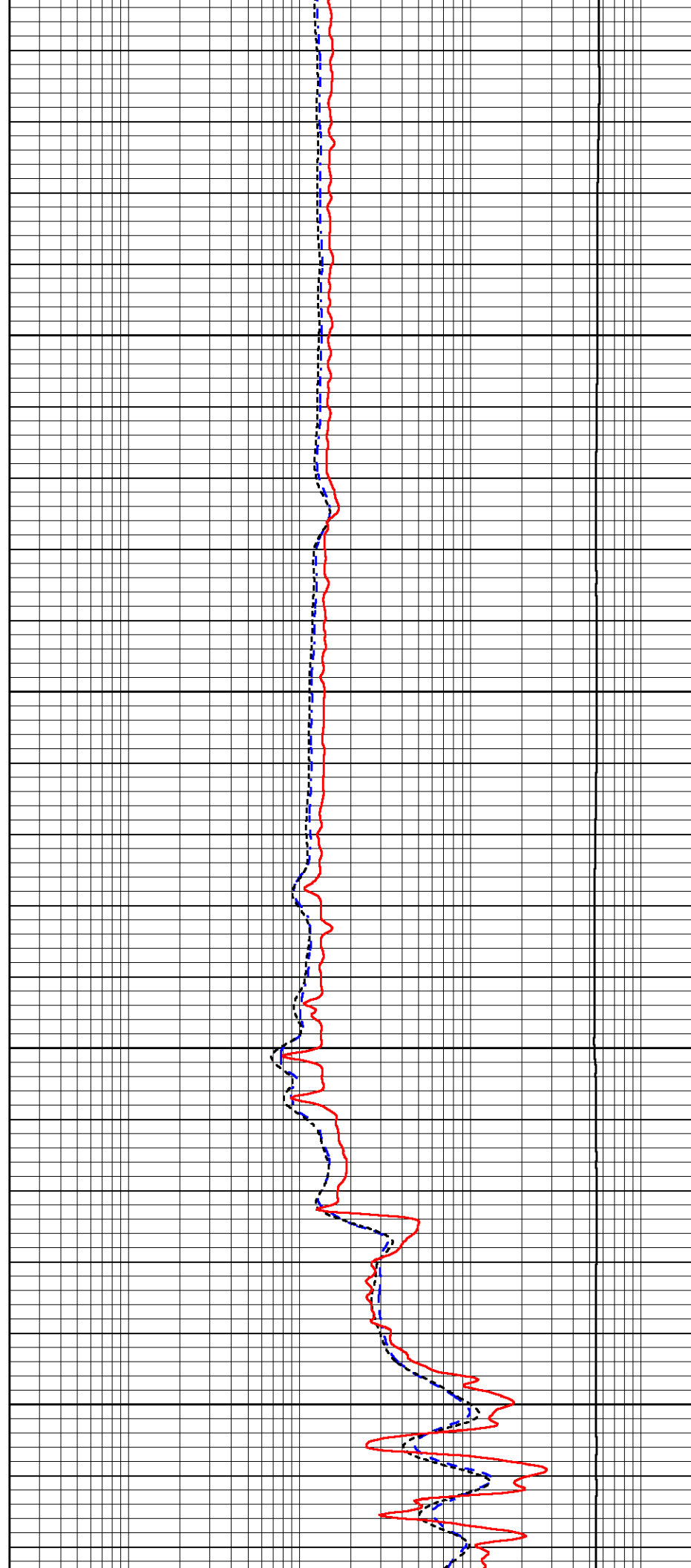


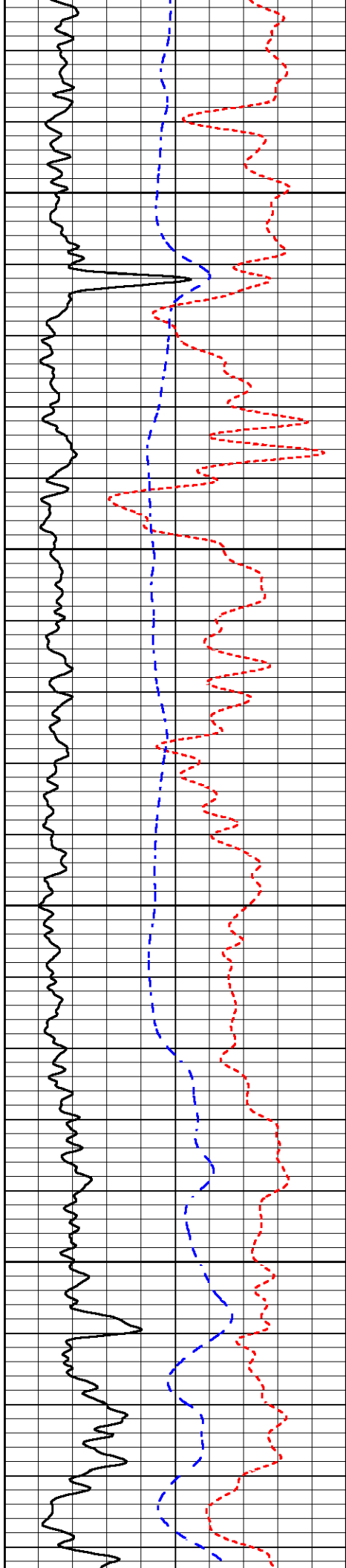
2450

2500

2550

2600



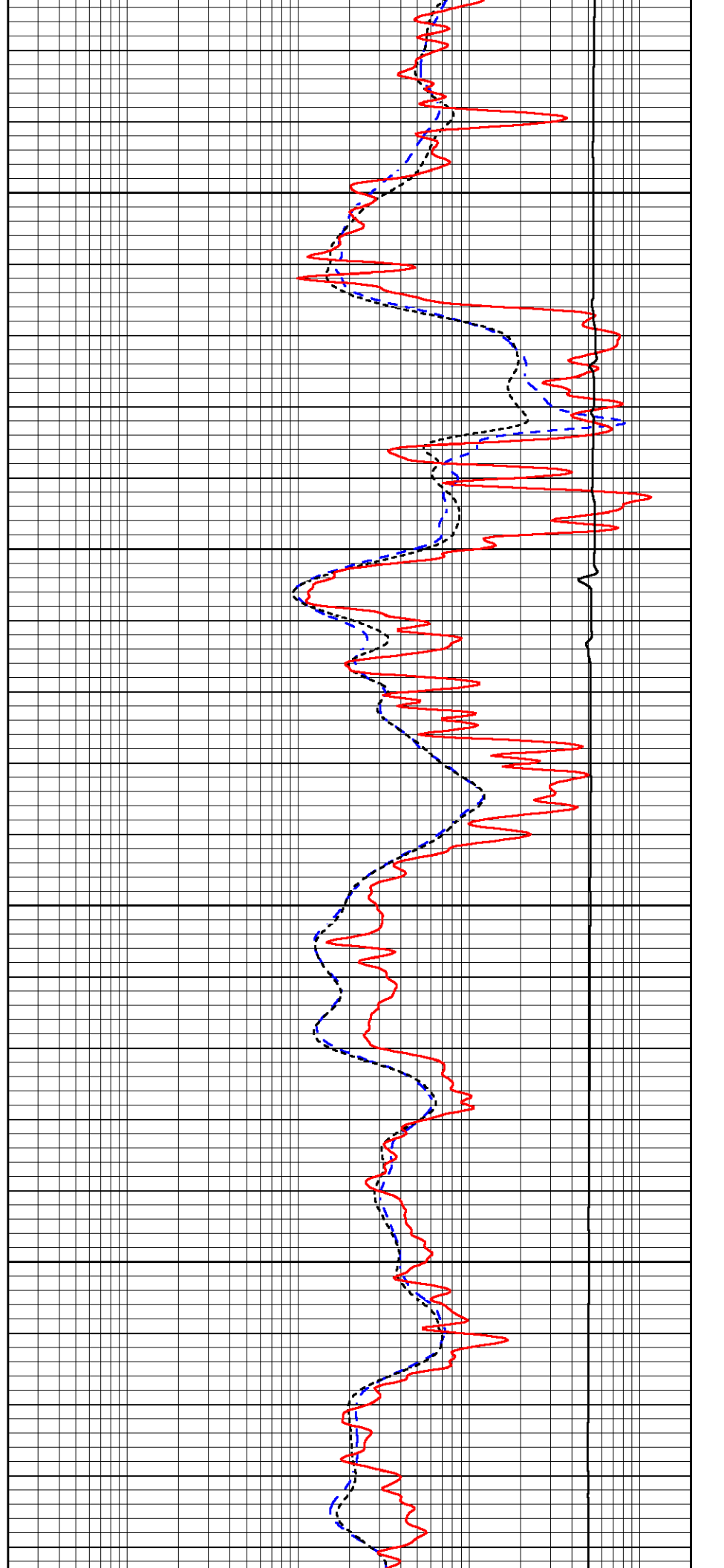


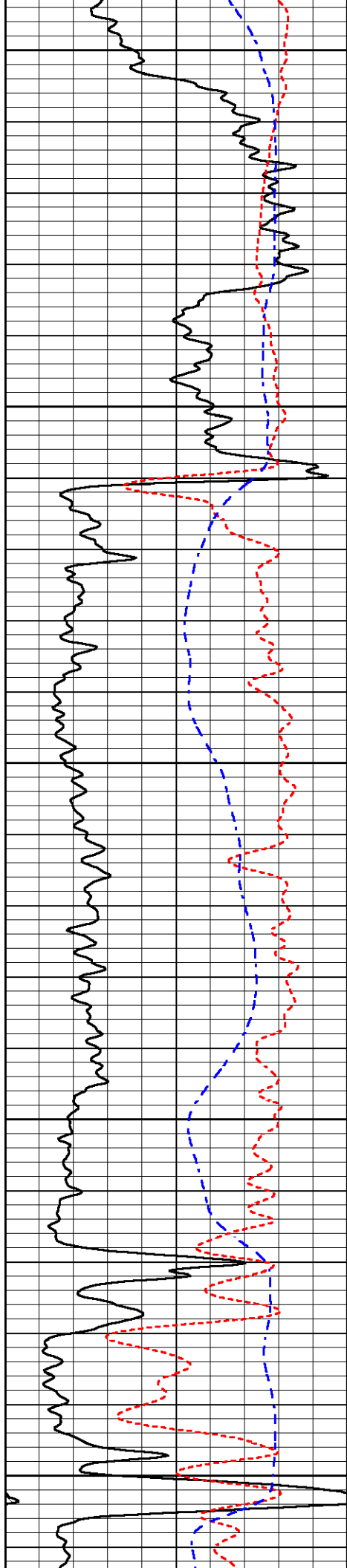
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2700

2750

2800





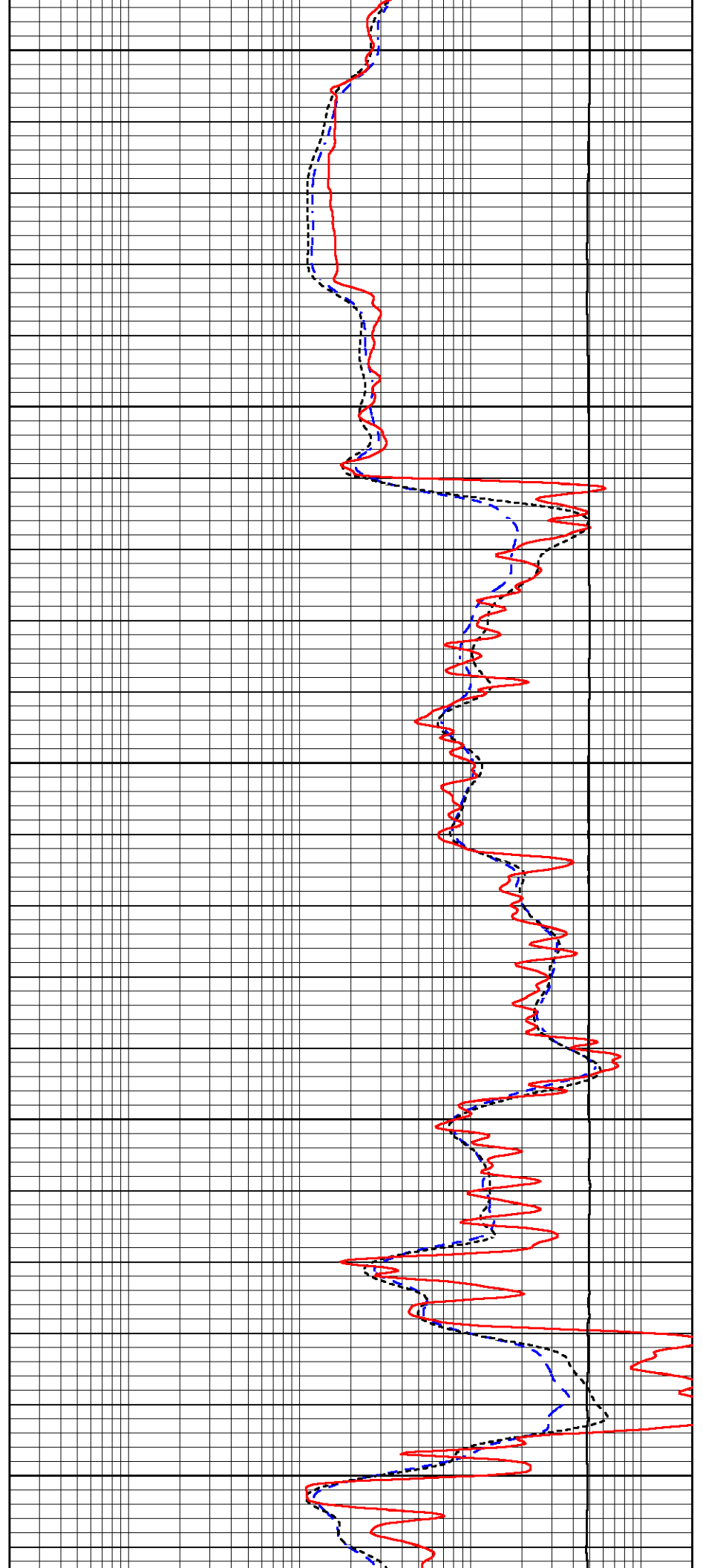
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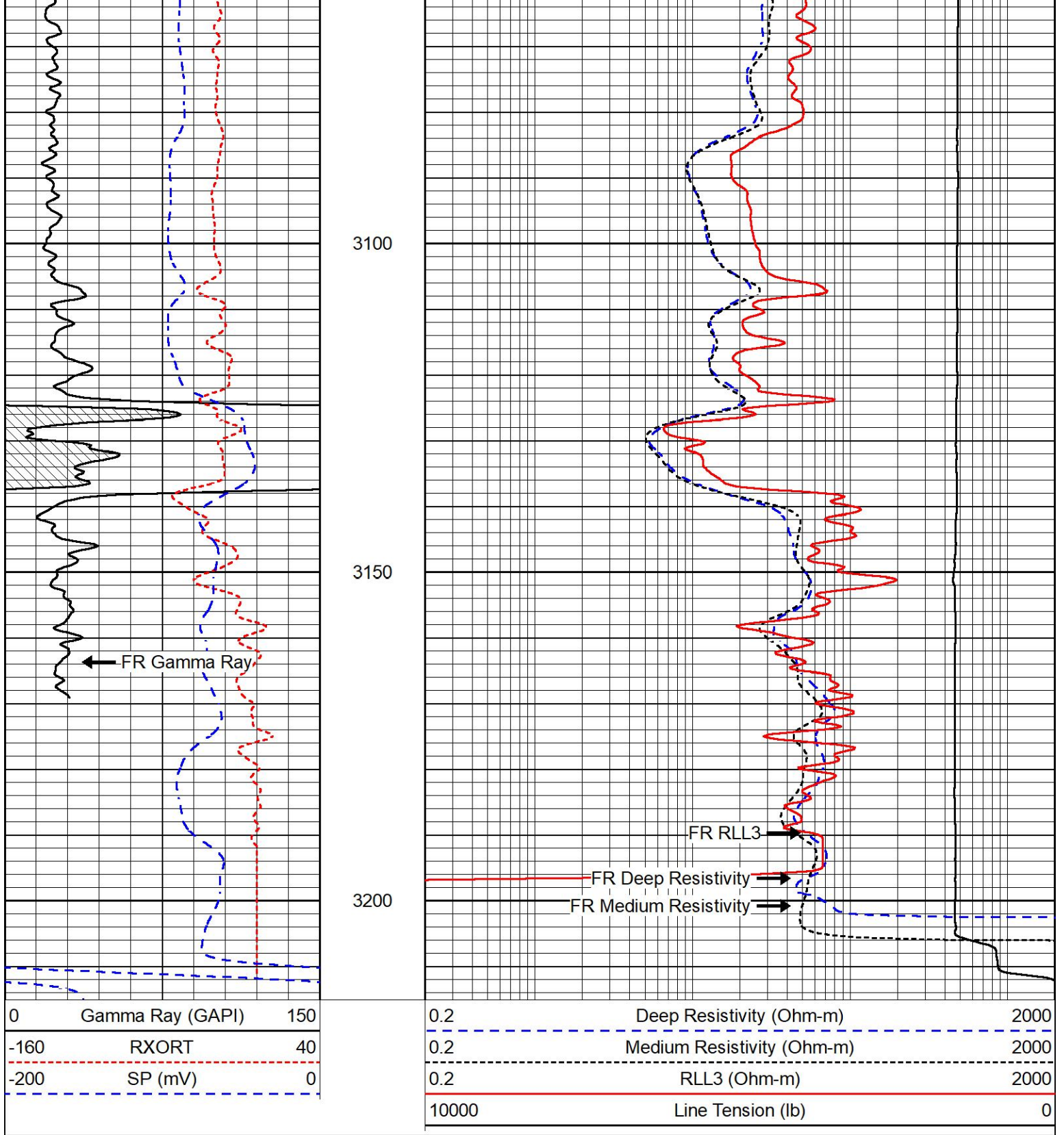
2900

2950

3000

3050





MIDWEST WIRELINE

REPEAT SECTION

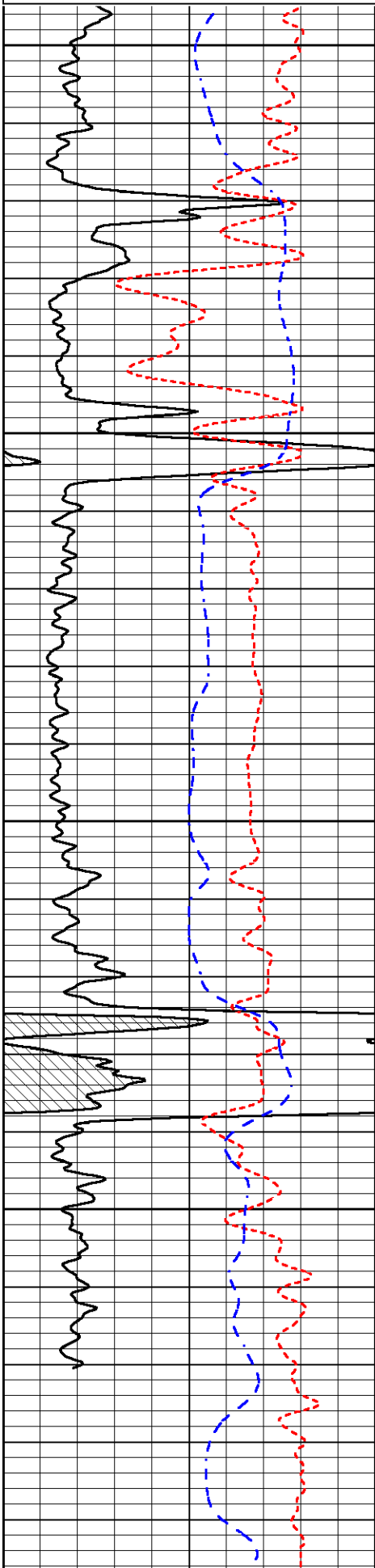
REPEAT PASS

Database File castle_hund1.db
 Dataset Pathname stkml/pass2.1
 Presentation Format _dil
 Dataset Creation Tue Mar 28 19:39:18 2023
 Charted by Depth in Feet scaled 1:240

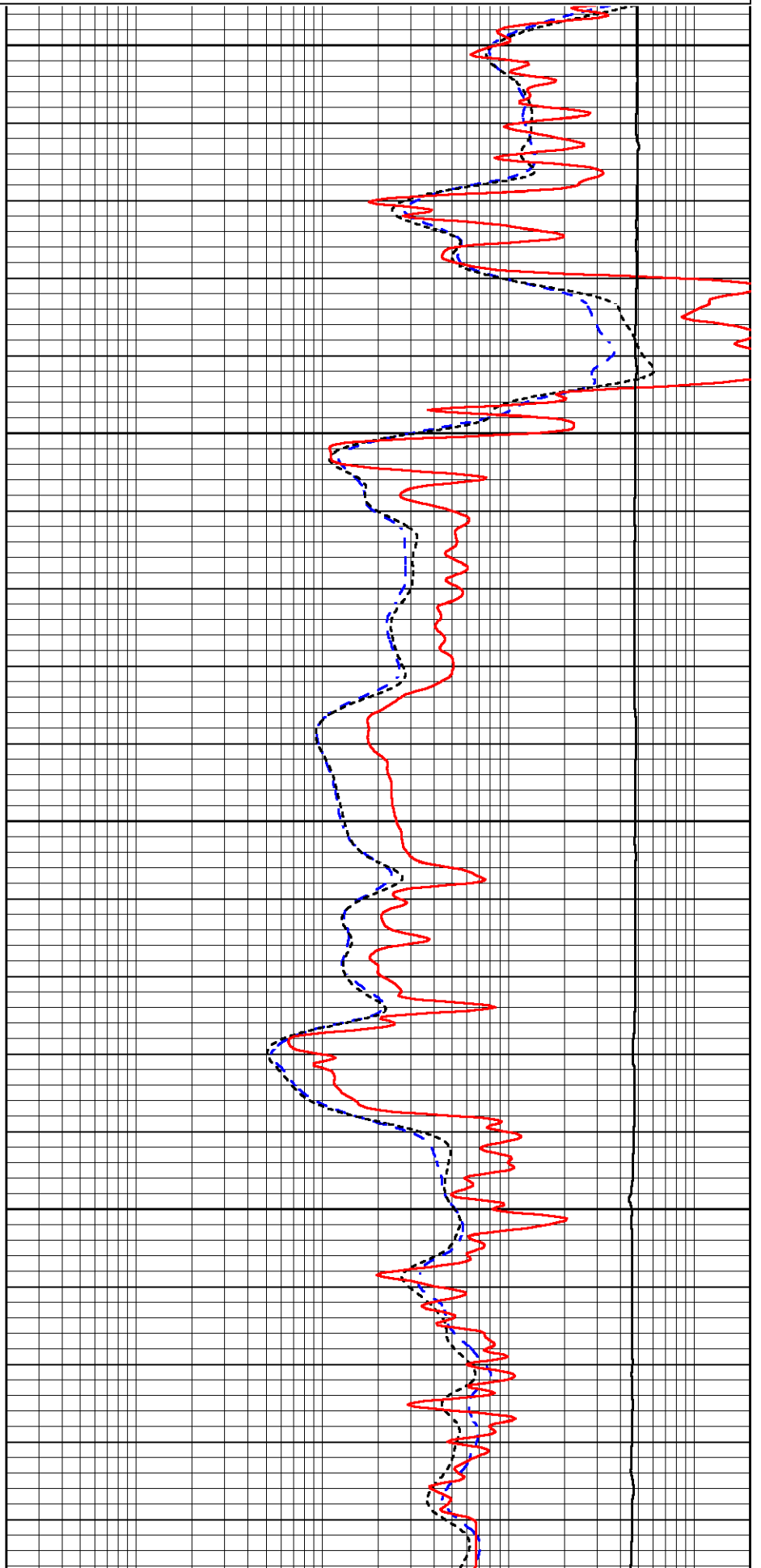


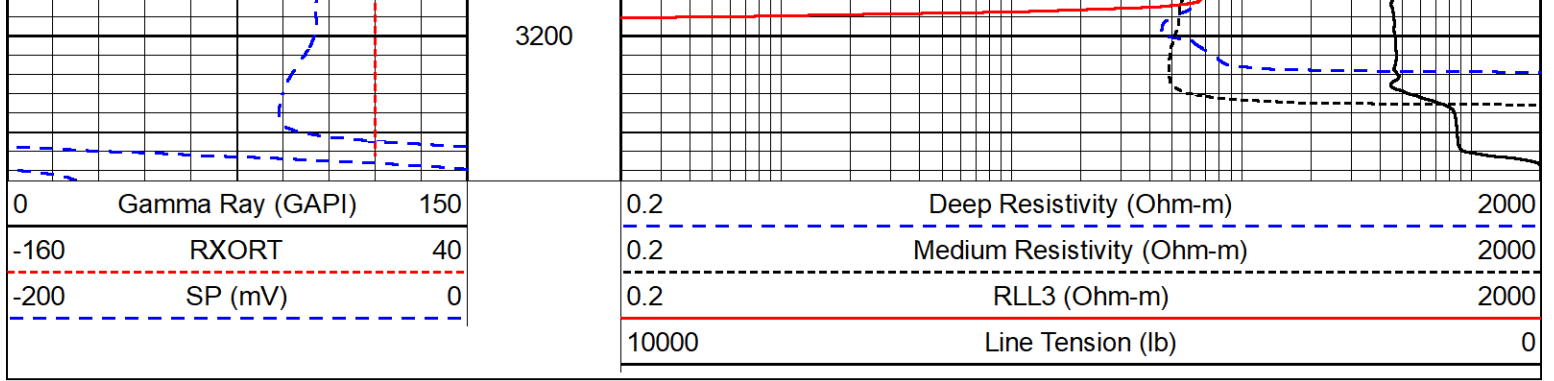
| | | |
|------|------------------|-----|
| 0 | Gamma Ray (GAPI) | 150 |
| -160 | RXORT | 40 |
| -200 | SP (mV) | 0 |

| | | |
|-------|----------------------------|------|
| 0.2 | Deep Resistivity (Ohm-m) | 2000 |
| 0.2 | Medium Resistivity (Ohm-m) | 2000 |
| 0.2 | RLL3 (Ohm-m) | 2000 |
| 10000 | Line Tension (lb) | 0 |



3000
3050
3100
3150





| Calibration Report | |
|--------------------|--------------------------|
| Database File | castle_hund1.db |
| Dataset Pathname | stkml/pass3.1 |
| Dataset Creation | Tue Mar 28 19:45:01 2023 |

| Dual Induction Calibration Report | |
|-----------------------------------|--------------------------|
| Serial-Model: | 505 HT-M&W |
| Surface Cal Performed: | Mon Mar 20 13:26:49 2023 |

| Loop: | Readings | | References | | | Results | |
|--------|----------|----------|------------|---------|--------|---------|---------|
| | Air | Loop | Air | Loop | | m | b |
| Deep | 167.000 | 835.000 | 0.000 | 255.800 | mmho/m | 0.475 | -43.000 |
| Medium | 1348.000 | 1348.000 | 0.000 | 255.800 | mmho/m | 0.410 | -52.000 |

| Microlog Calibration Report | |
|-----------------------------|--------------------------|
| Serial-Model: | 402-PSI STKBL ML |
| Performed: | Wed Jan 25 21:26:04 2023 |

| | Readings | | References | | | Results | |
|---------|----------|--------|------------|---------|-------|------------|----------|
| | Zero | Cal | Zero | Cal | | m | b |
| Normal | 0.0037 | 0.0043 | 0.0000 | 10.0000 | Ohm-m | 11000.0000 | -1.5000 |
| Inverse | 0.1208 | 0.0013 | 0.0000 | 10.0000 | Ohm-m | 12000.0000 | -1.0000 |
| Caliper | 1.0046 | 1.1419 | 5.5000 | 20.0000 | in | 50.0000 | -44.7500 |

| Compensated Density Calibration Report | |
|--|--------------------------|
| Serial-Model: | 303-03-M&W |
| Source #: | 21170B |
| Master Calibration Performed: | Mon Mar 20 13:27:55 2023 |

| Master Calibration | | | |
|---------------------|------------|-----------------------------|---------------|
| | Density | Far Detector | Near Detector |
| Magnesium | 1.755 g/cc | 3841.78 | 5151.73 cps |
| Aluminum | 2.655 g/cc | 700.98 | 3068.49 cps |
| Spine Angle = 73.06 | | Density/Spine Ratio = 0.506 | |
| | Size | Reading | |
| Small Ring | 4.00 in | 1.17 | |
| Large Ring | 16.00 in | 1.03 | |

Compensated Neutron Calibration Report

| | |
|-------------------------------|-------------------------|
| Serial-Model: | 210-M&W |
| Source #: | N-1238 |
| Master Calibration Performed: | Fri Dec 3 09:16:24 2021 |

Master Calibration

| Detector | Readings | Target | Normalization |
|-------------|-------------|-------------|---------------|
| Short Space | 6240.00 cps | 1000.00 cps | 1.6025 |
| Long Space | 460.00 cps | 1000.00 cps | 1.9500 |

Gamma Ray Calibration Report

| | | |
|---------------------|--------------------------|----------|
| Serial Number: | 103 | |
| Tool Model: | M&W | |
| Performed: | Wed Jan 25 21:25:33 2023 | |
| Calibrator Value: | 500.0 | GAPI |
| Background Reading: | 28.0 | cps |
| Calibrator Reading: | 986.0 | cps |
| Sensitivity: | 0.5700 | GAPI/cps |



| | |
|----------------|------------------------|
| Company | Castle Resources, Inc. |
| Well | Hund #1 |
| Field | Newberry |
| County | Wabaunsee |
| State | Kansas |