# DUAL INDUCTION LOG

Company ABERCROMBIE ENERGY, LLC.
Well #1-6 VASQUEZ
Field UNNAMED
County TREGO State KANSAS

Location: API # : 15-195-23145-0000
770' FSL & 1010' FEL
SW - NW - SE - SE
SEC 6 TWP 13S RGE 23W

Other Services
CDL/CNL/PE
MEL

Permanent Datum GROUND LEVEL Elevation 2453
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2458
D.F. 2456
G.L. 2453

| | | | |
|---|---|---|---|
| Date | 8/16/22 | | |
| Run Number | ONE | | |
| Depth Driller | 4400 | | |
| Depth Logger | 4400 | | |
| Bottom Logged Interval | 4398 | | |
| Top Log Interval | 00 | | |
| Casing Driller | 8 5/8"@218' | | |
| Casing Logger | 218 | | |
| Bit Size | 7 7/8" | | |
| Type Fluid in Hole | CHEMICAL MUD | CHLORIDES 4,400 PPM | |
| Density / Viscosity | 9.1/55 | | |
| pH / Fluid Loss | 10.0/6.0 | | |
| Source of Sample | FLOWLINE | | |
| Rm @ Meas. Temp | .900@84F | | |
| Rmf @ Meas. Temp | .675@84F | | |
| Rmc @ Meas. Temp | 1.08@84F | | |
| Source of Rmf / Rmc | MEASUREMENT | | |
| Rm @ BHT | .630@120F | | |
| Time Circulation Stopped | 2 HOURS | | |
| Time Logger on Bottom | 3:00 P.M. | | |
| Maximum Recorded Temperature | 120F | | |
| Equipment Number | 922339 | | |
| Location | HAYS, KANSAS | | |
| Recorded By | JEFF LUEBBERS | | |
| Witnessed By | KEVIN KESSLER | | |

Company ABERCROMBIE ENERGY, LLC.
Well #1-6 VASQUEZ
Field UNNAMED
County TREGO
State KANSAS

<<< Fold Here >>>



Comments

15-195-23145-0000

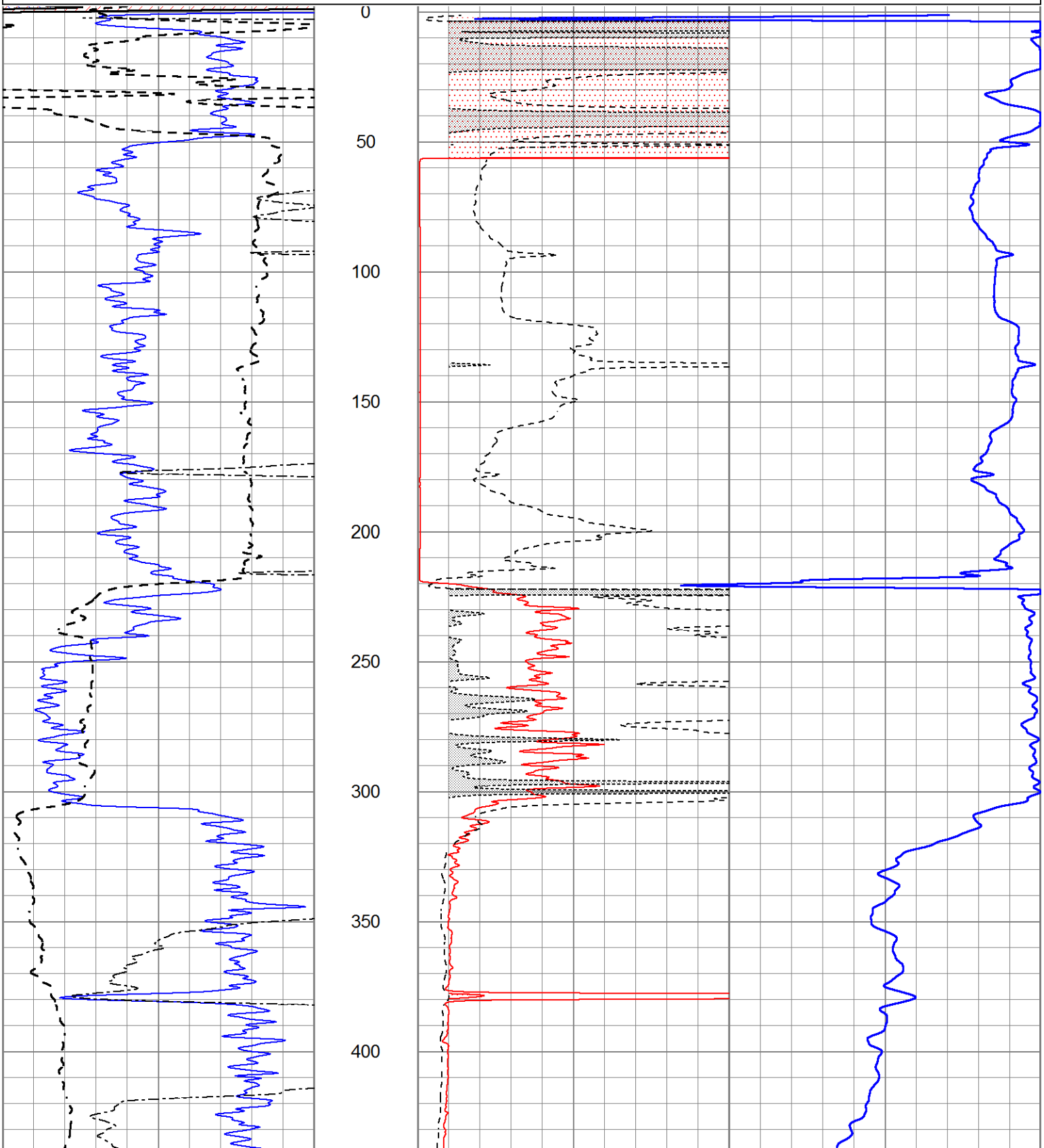
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
WAKEENEY, KS.(I-70 & HWY 283) 5S. ON HWY 283, 1 1/4W., N. INTO

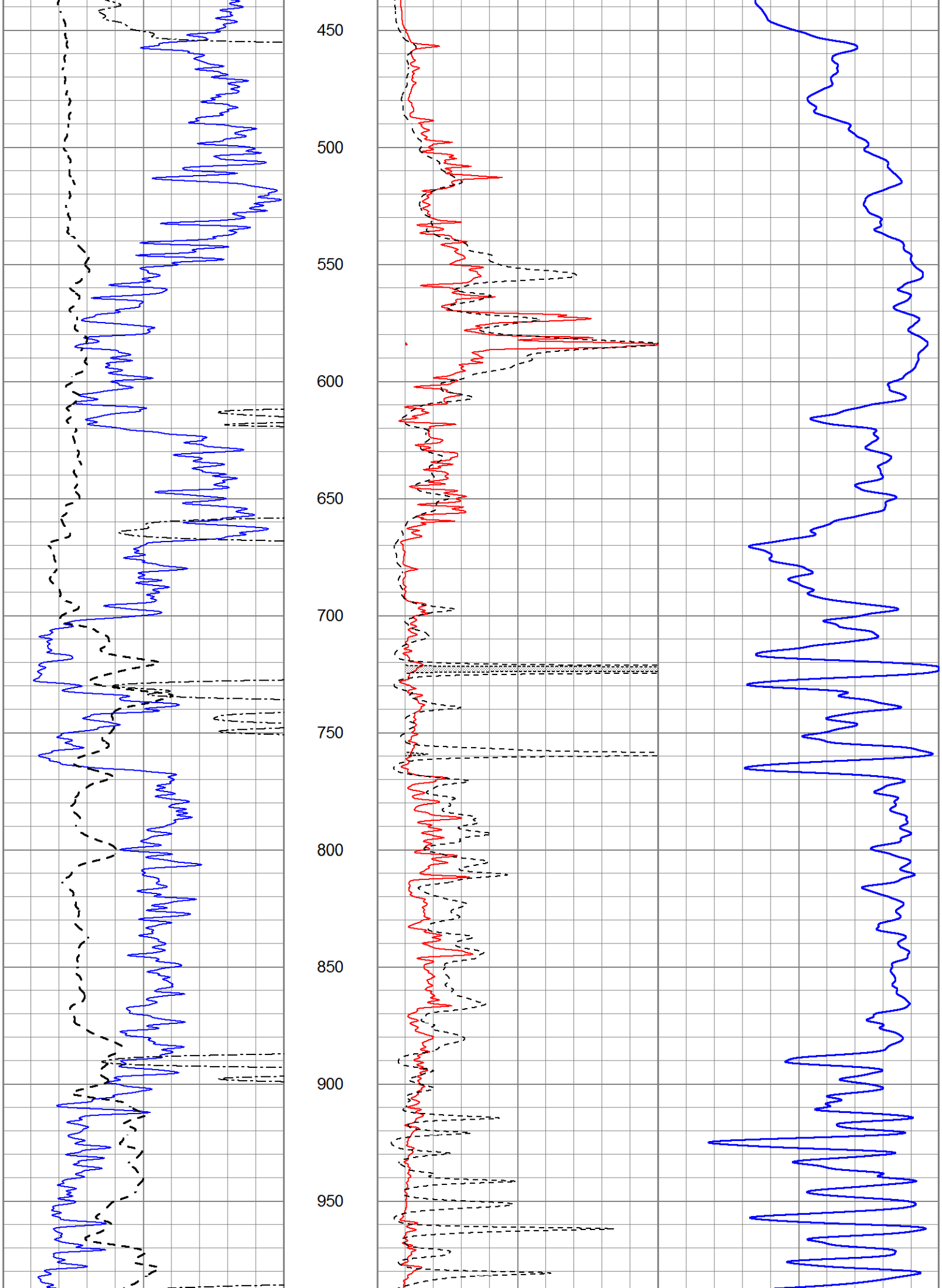
MAIN SECTION

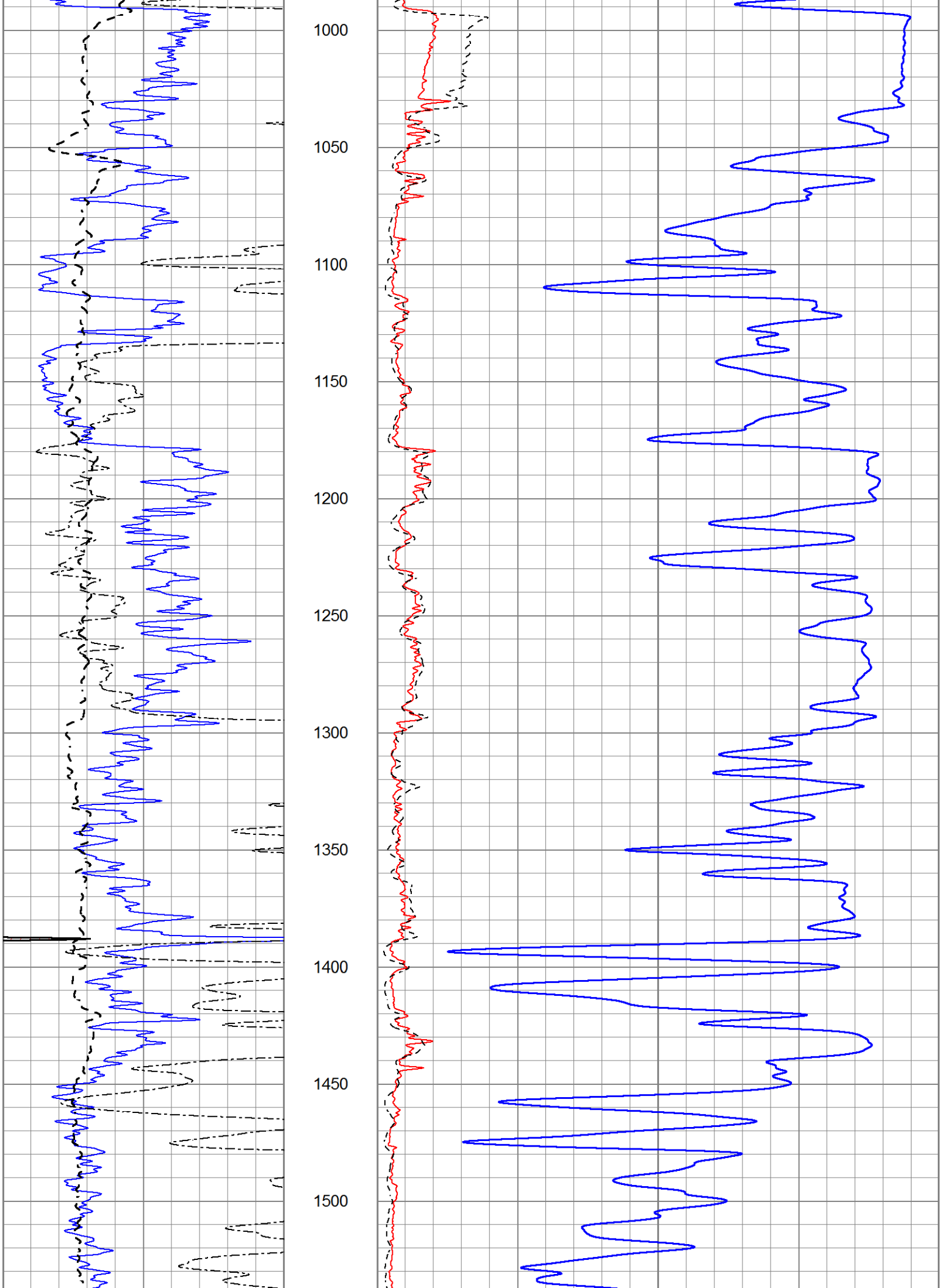
| | |
|---|---|
| Database File | 6903pe.db |
| Dataset Pathname | pass4.1M |
| Presentation Format | _dil2 |
| Dataset Creation | Tue Aug 16 16:35:52 2022 |
| Charted by | Depth in Feet scaled 1:600 |

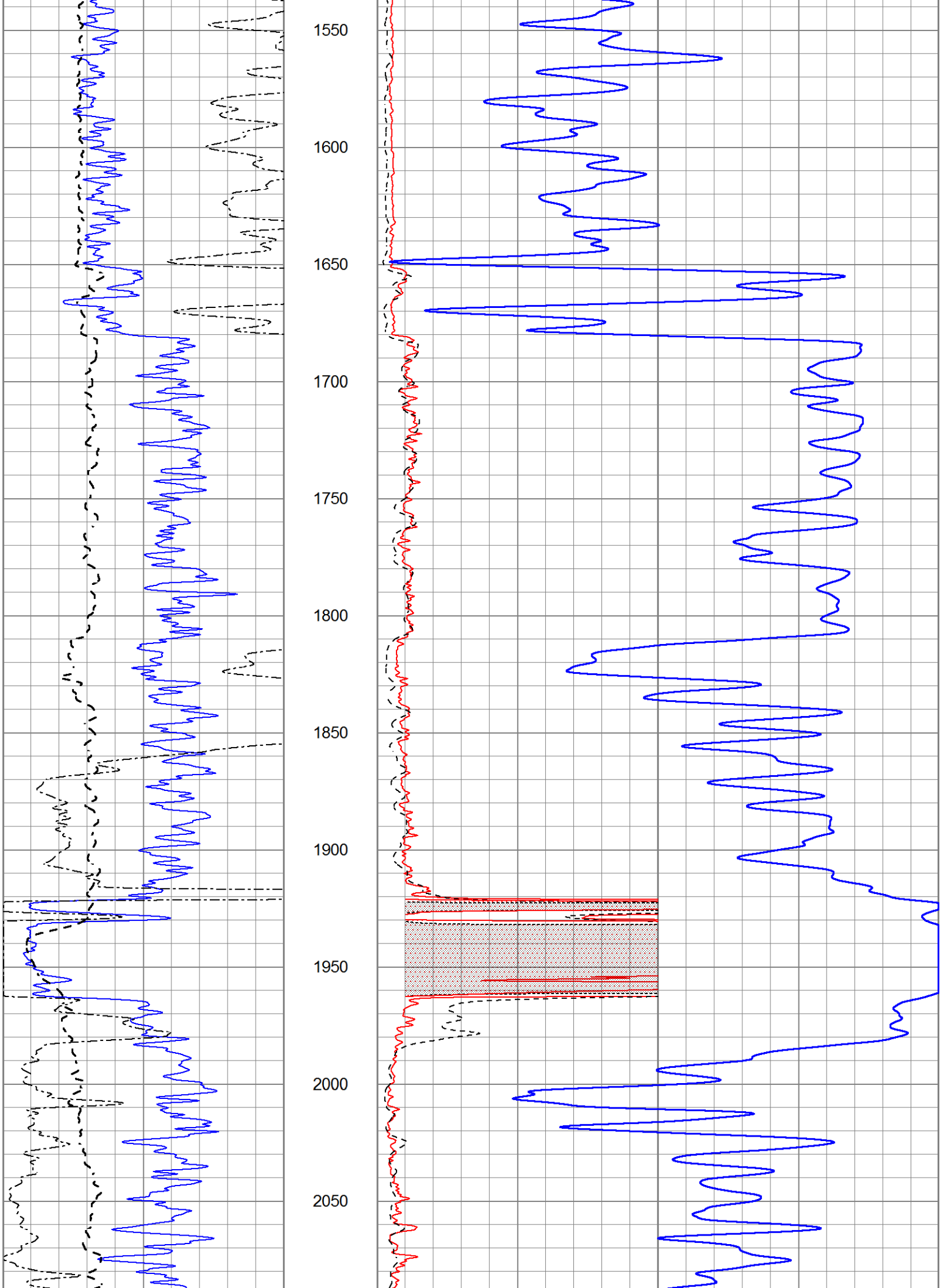
| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| 0 | RWA (Ohm-m) | 1 |

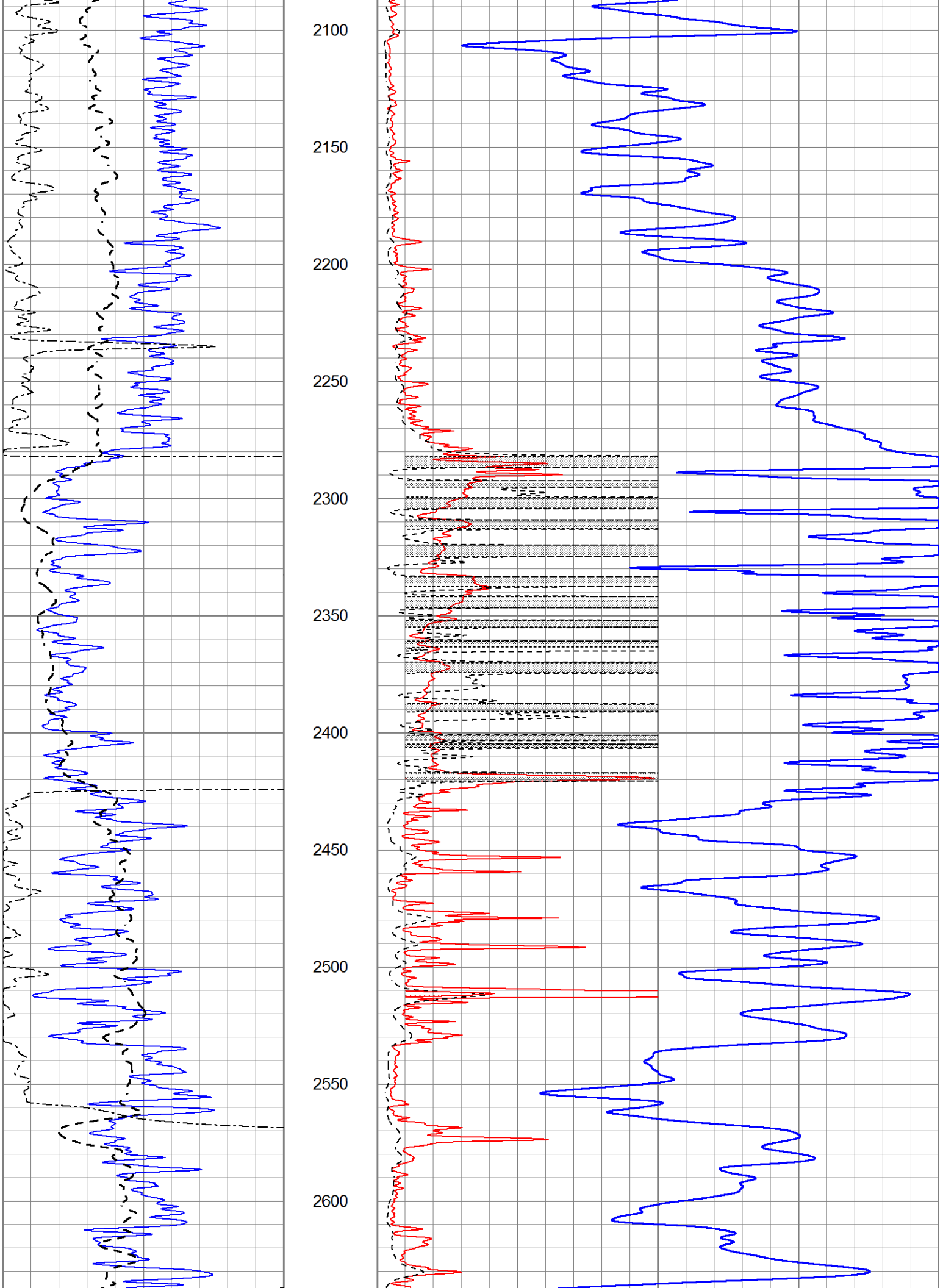
| | | |
|---|---|---|
| 1000 | CILD (mmho/m) | 0 |
| 0 | RLL3 (Ohm-m) | 50 |
| 0 | RILD (Ohm-m) | 50 |
| 50 | RILD X10 (Ohm-m) | 500 |
| 50 | RLL3 X10 (Ohm-m) | 500 |

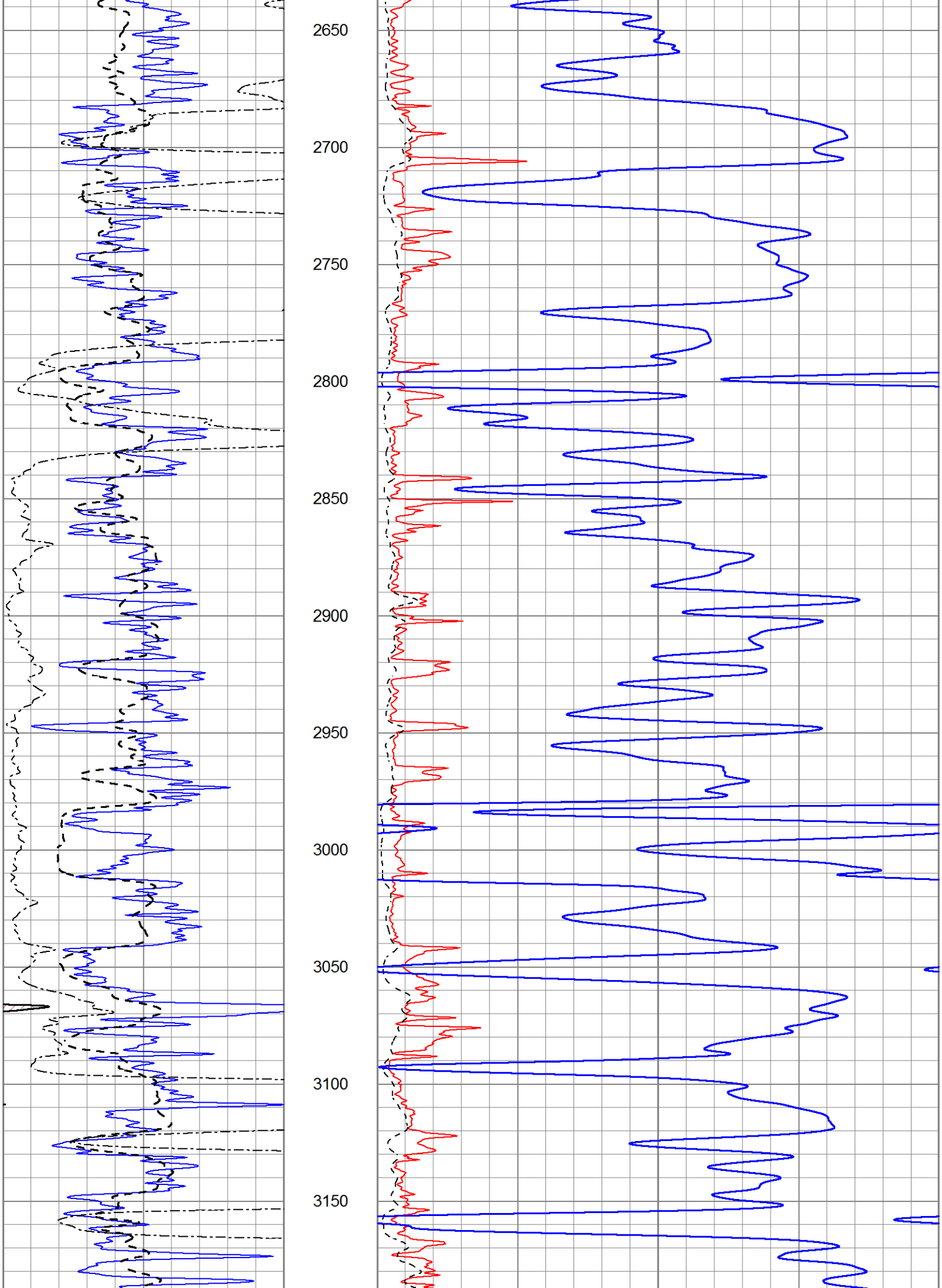


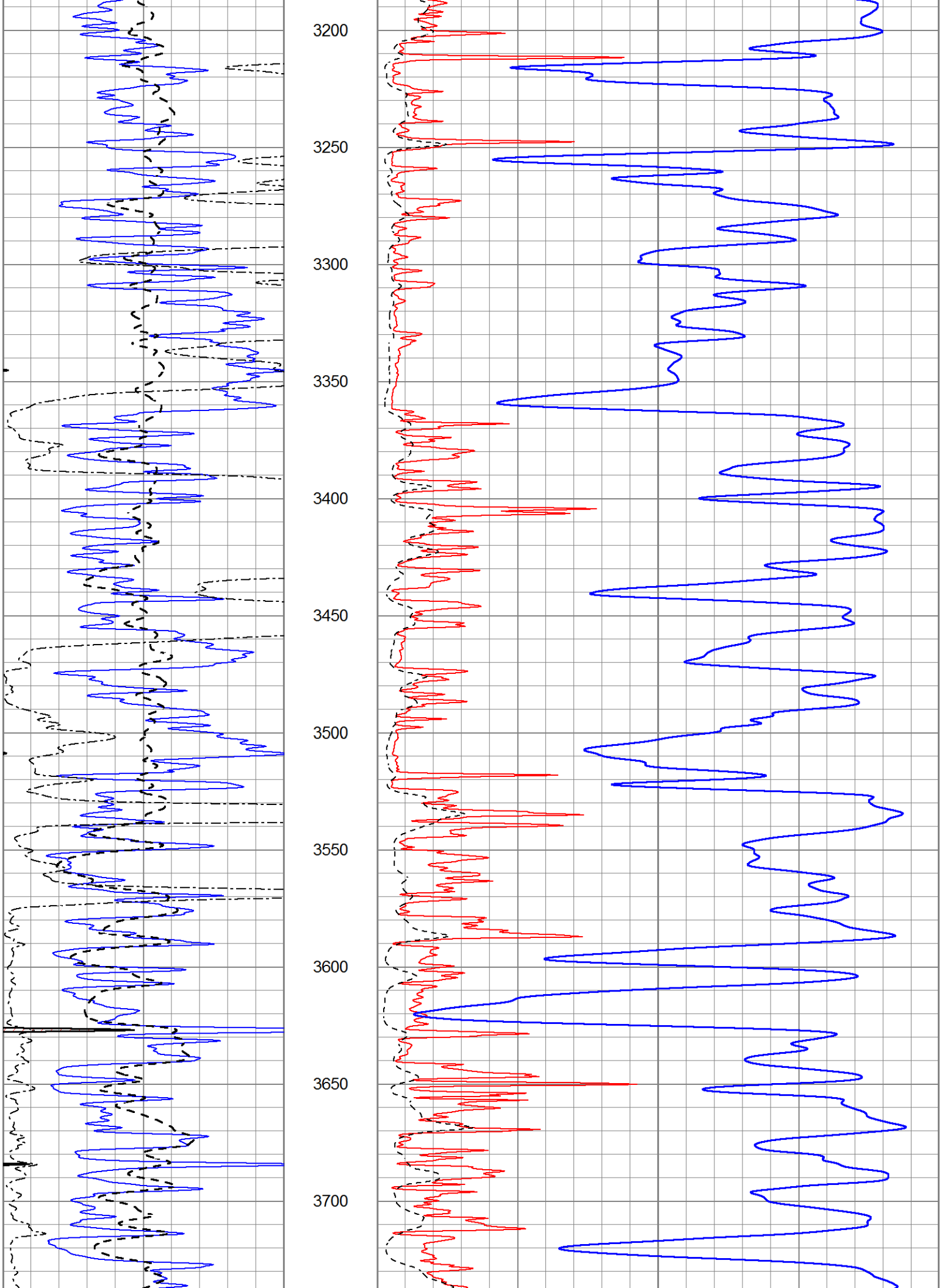

450
500
550
600
650
700
750
800
850
900
950

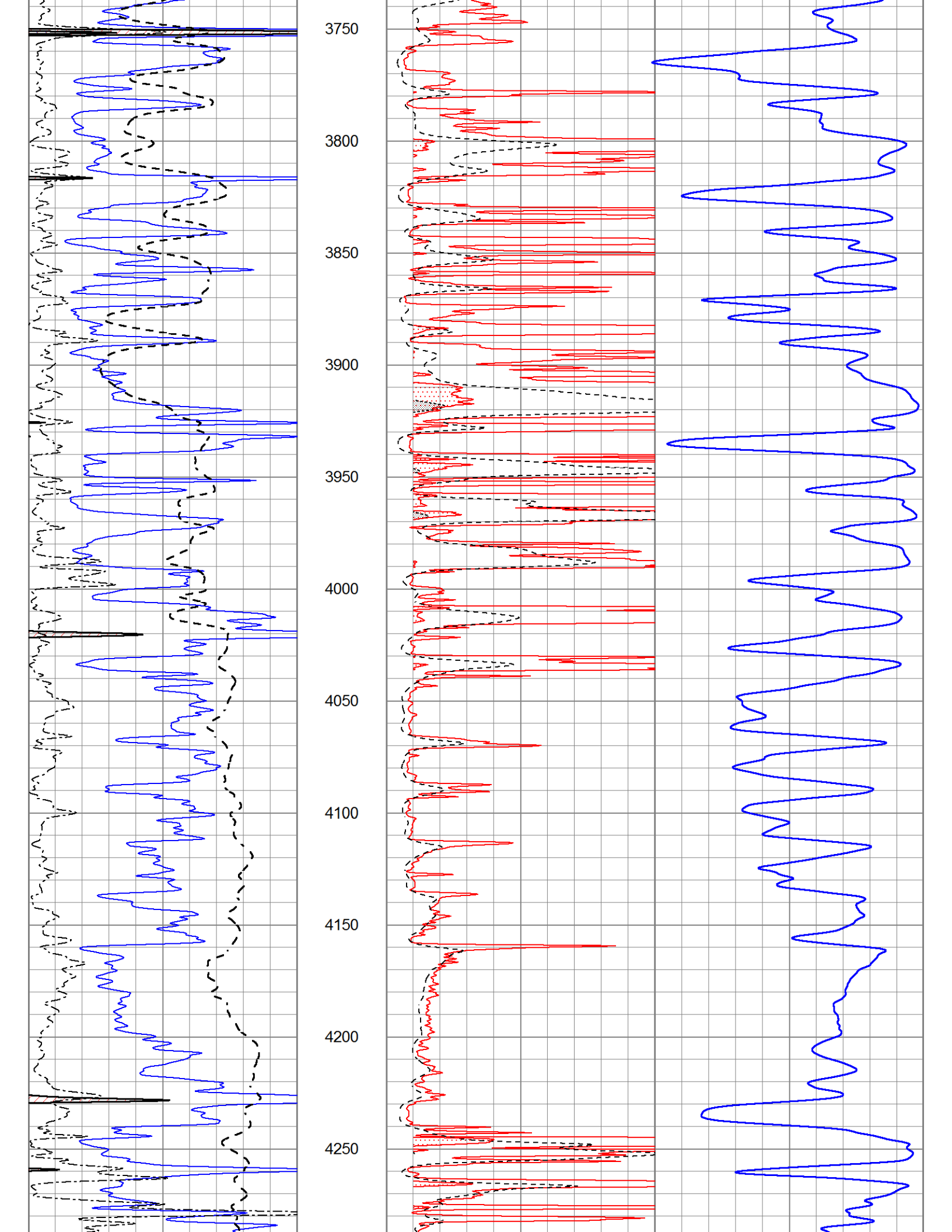

1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

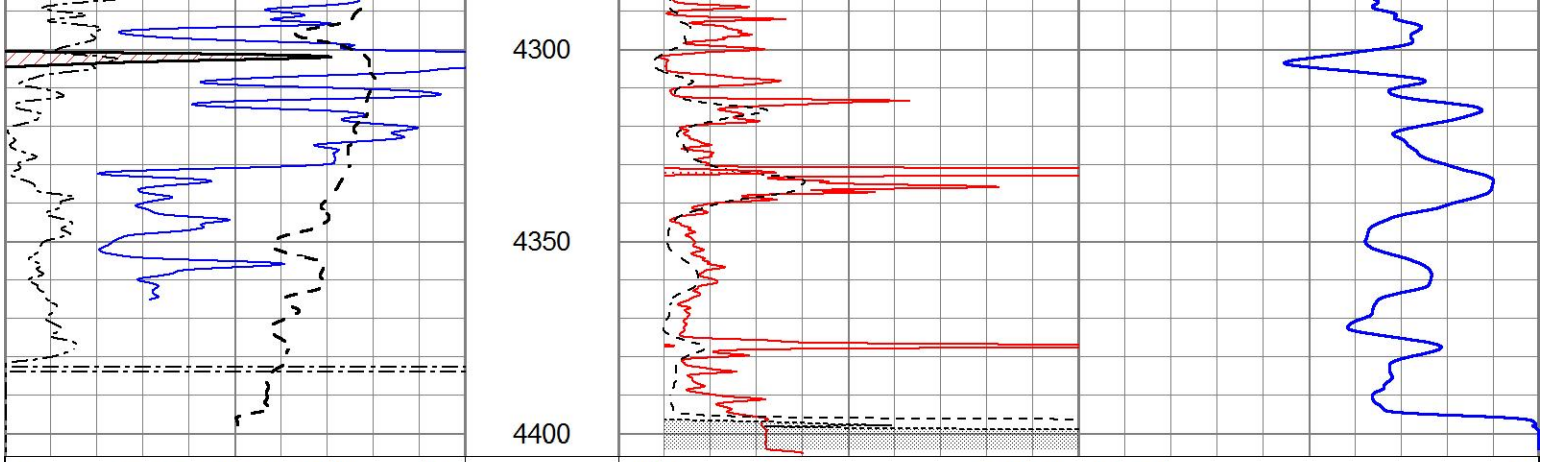

1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050


2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600


2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150


3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700


3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250




| | | |
|---|---|---|
| 0 | Gamma Ray (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| 0 | RWA (Ohm-m) | 1 |

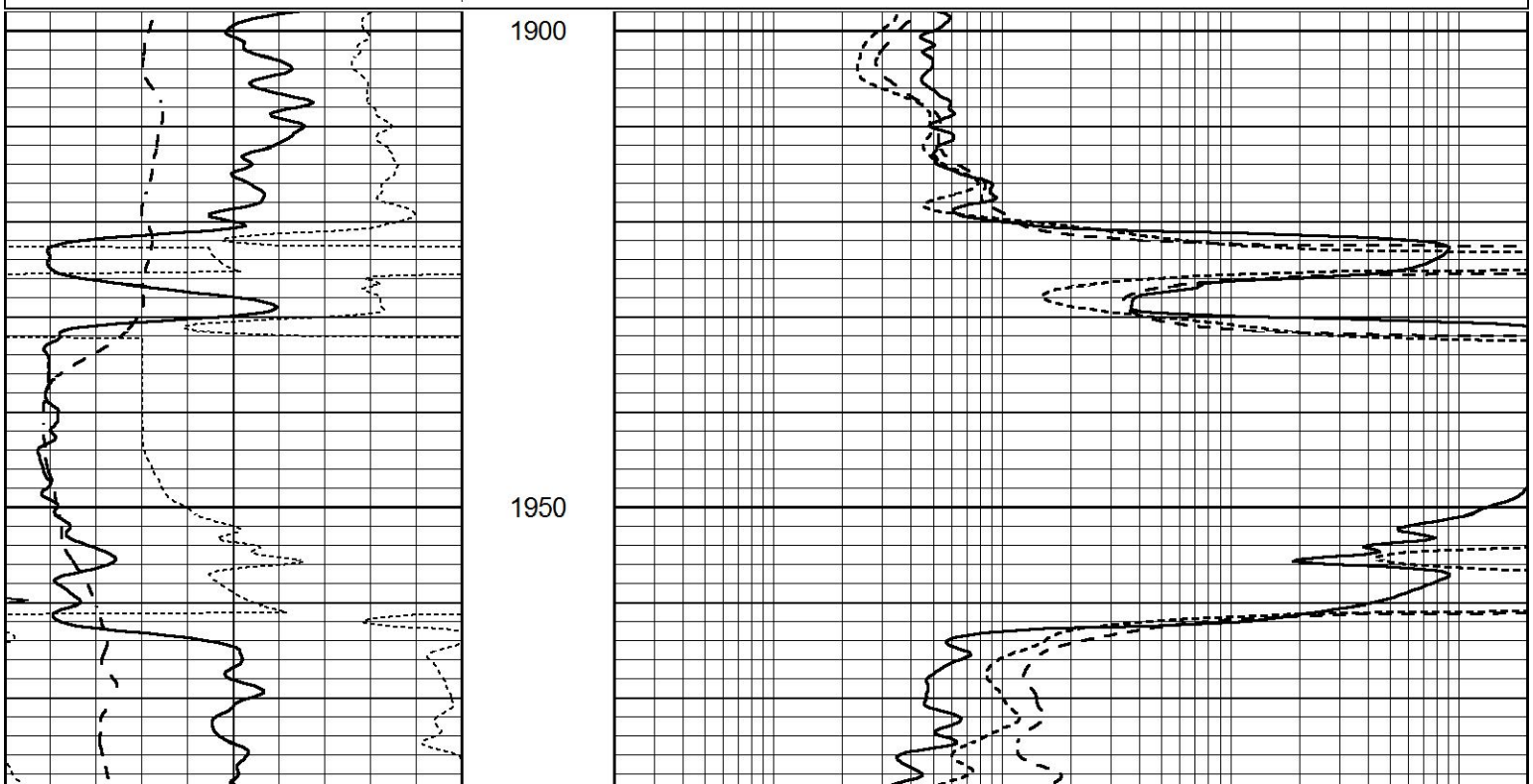
| | | |
|---|---|---|
| 1000 | CILD (mmho/m) | 0 |
| 0 | RLL3 (Ohm-m) | 50 |
| 0 | RILD (Ohm-m) | 50 |
| 50 | RILD X10 (Ohm-m) | 500 |
| 50 | RLL3 X10 (Ohm-m) | 500 |

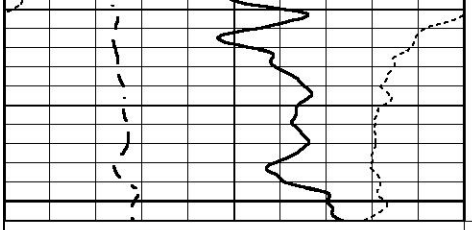
# ANHYDRITE

| | |
|---|---|
| Database File | 6903pe.db |
| Dataset Pathname | pass4.1A |
| Presentation Format | _dil |
| Dataset Creation | Tue Aug 16 16:36:12 2022 |
| Charted by | Depth in Feet scaled 1:240 |

| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

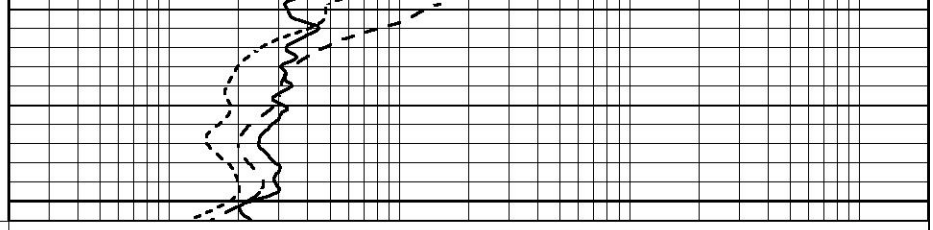
| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |





2000

| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |



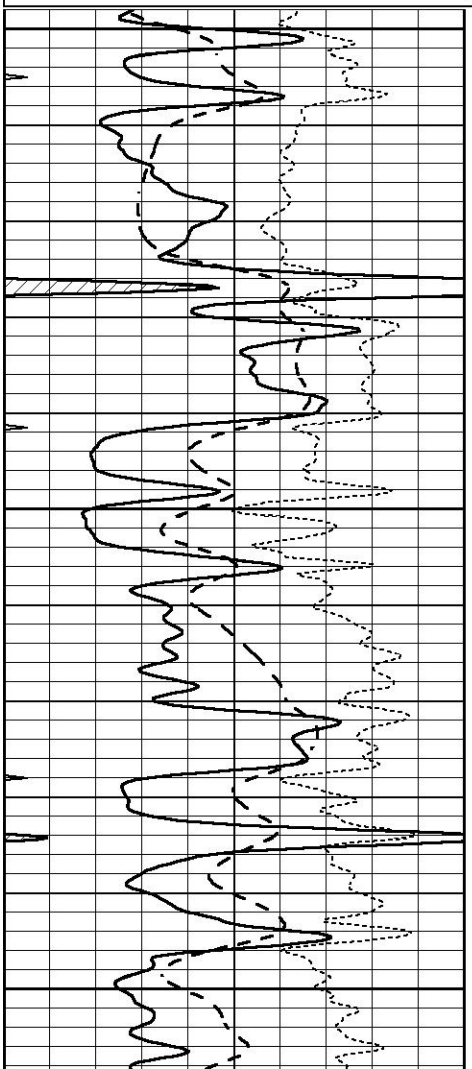
| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

# MAIN SECTION

| | |
|---|---|
| Database File | 6903pe.db |
| Dataset Pathname | pass4.1M |
| Presentation Format | _dil |
| Dataset Creation | Tue Aug 16 16:35:52 2022 |
| Charted by | Depth in Feet scaled 1:240 |

| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

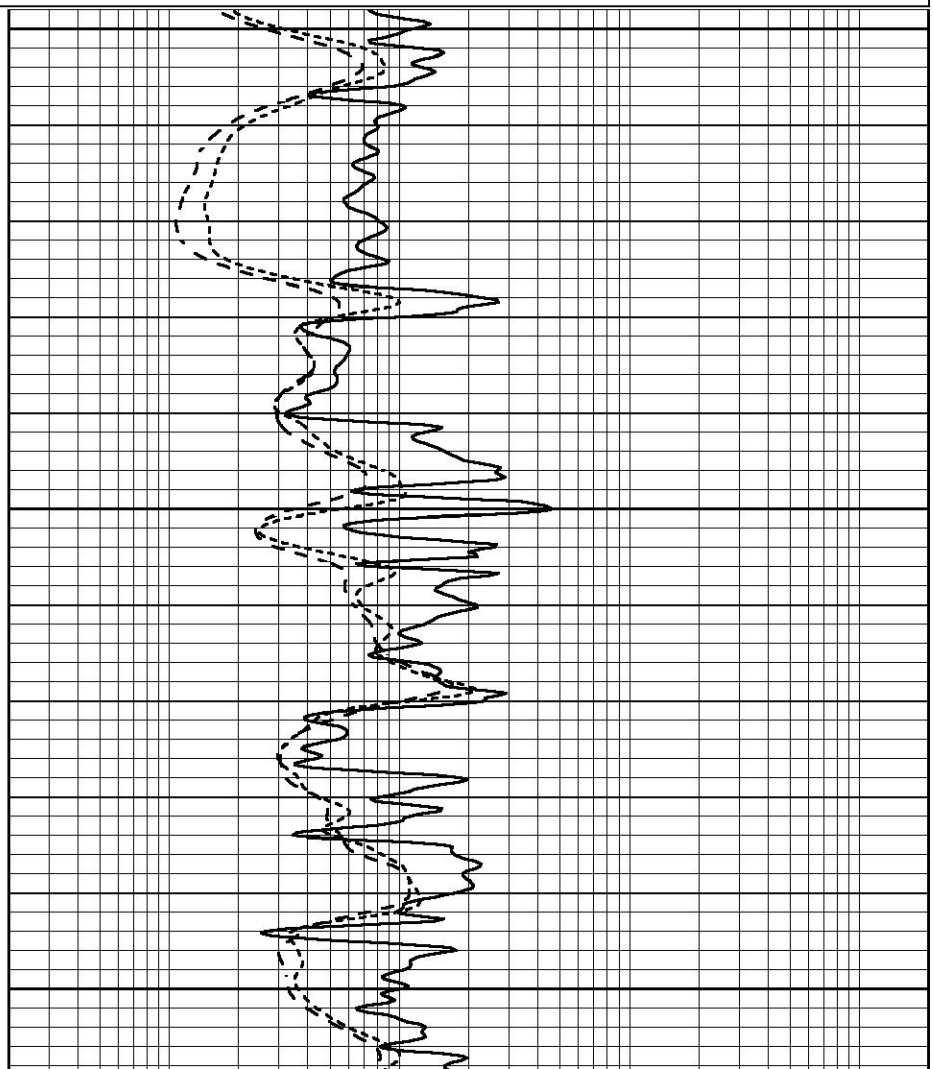
| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

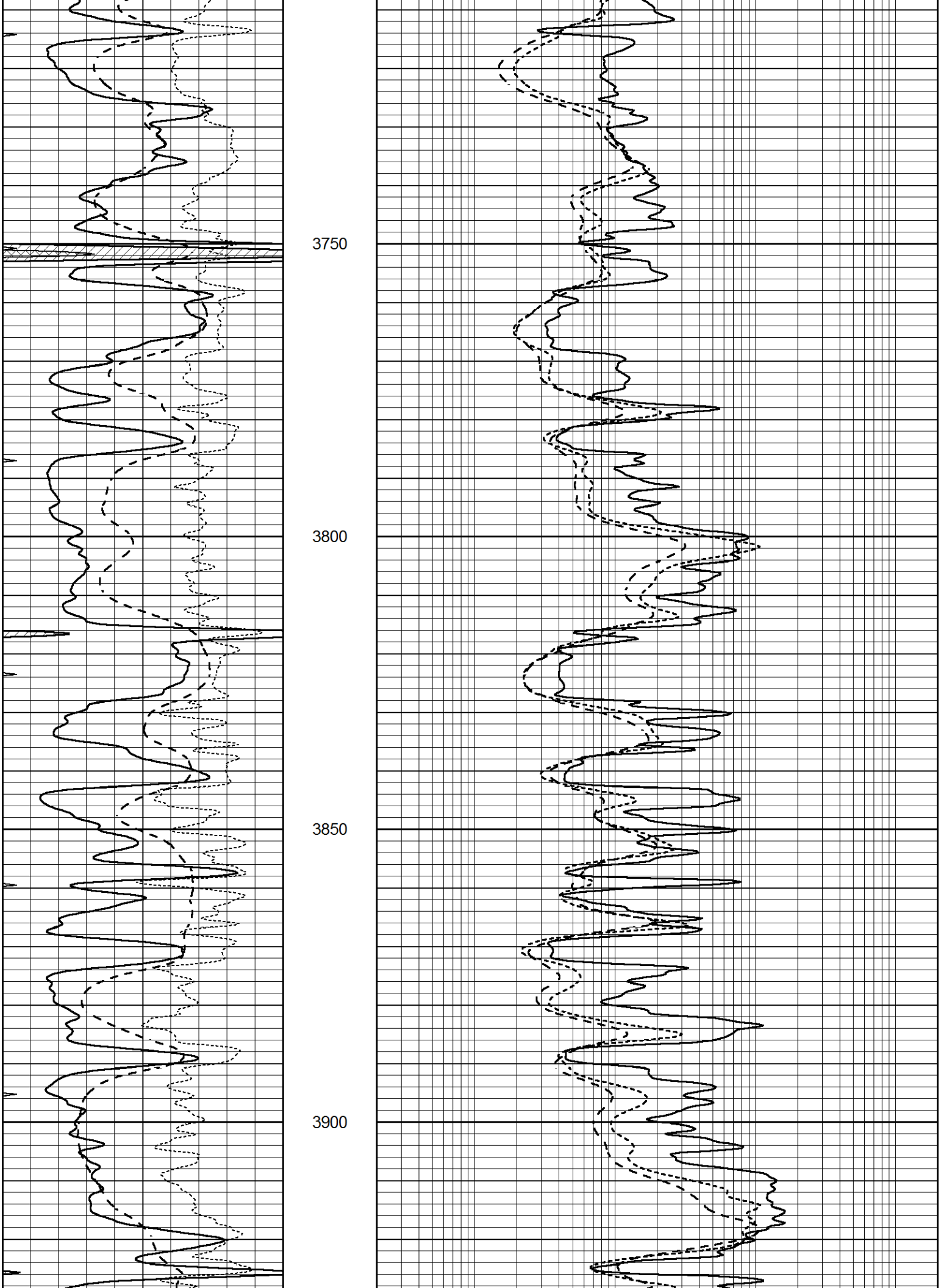


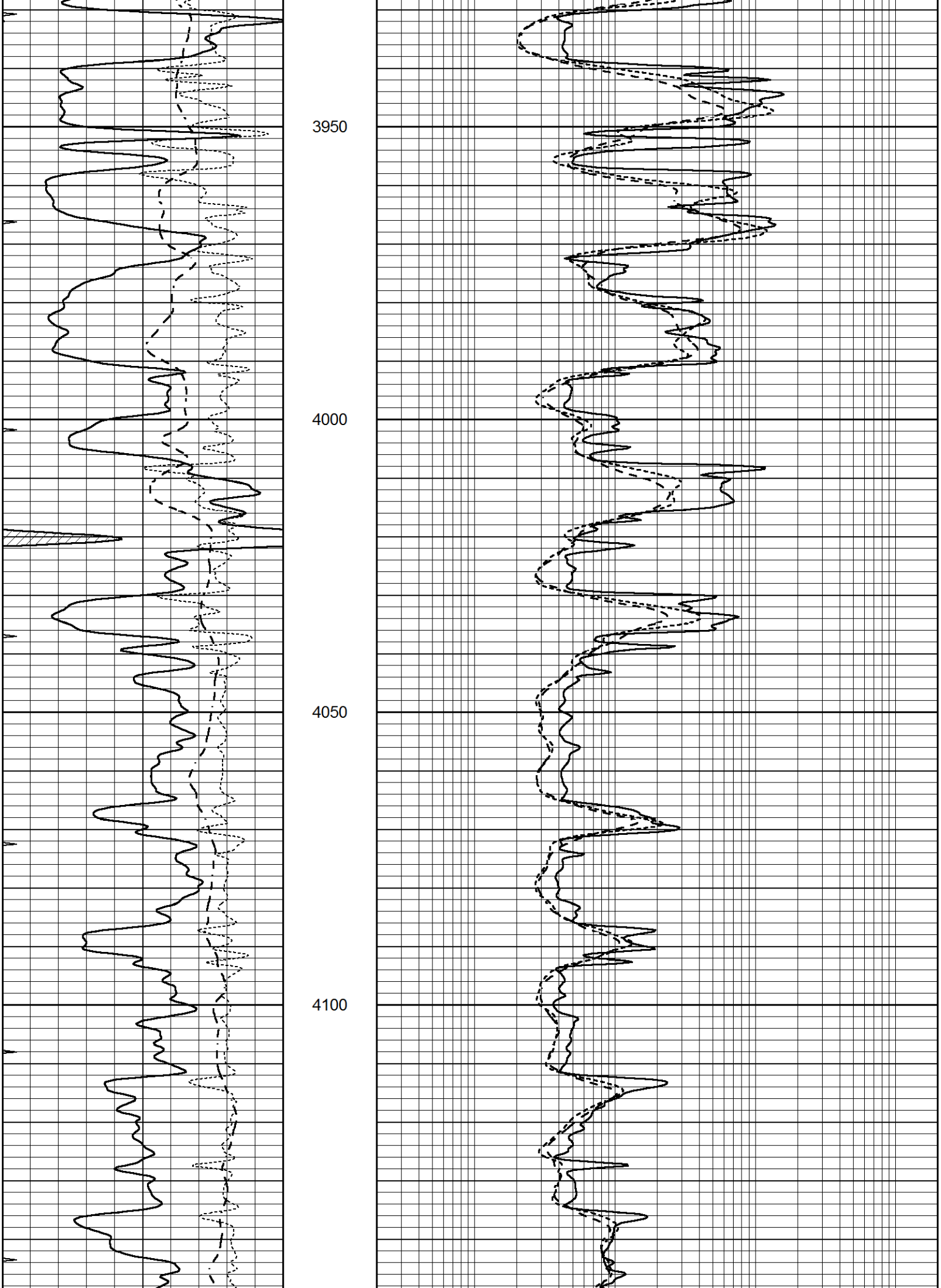
3600

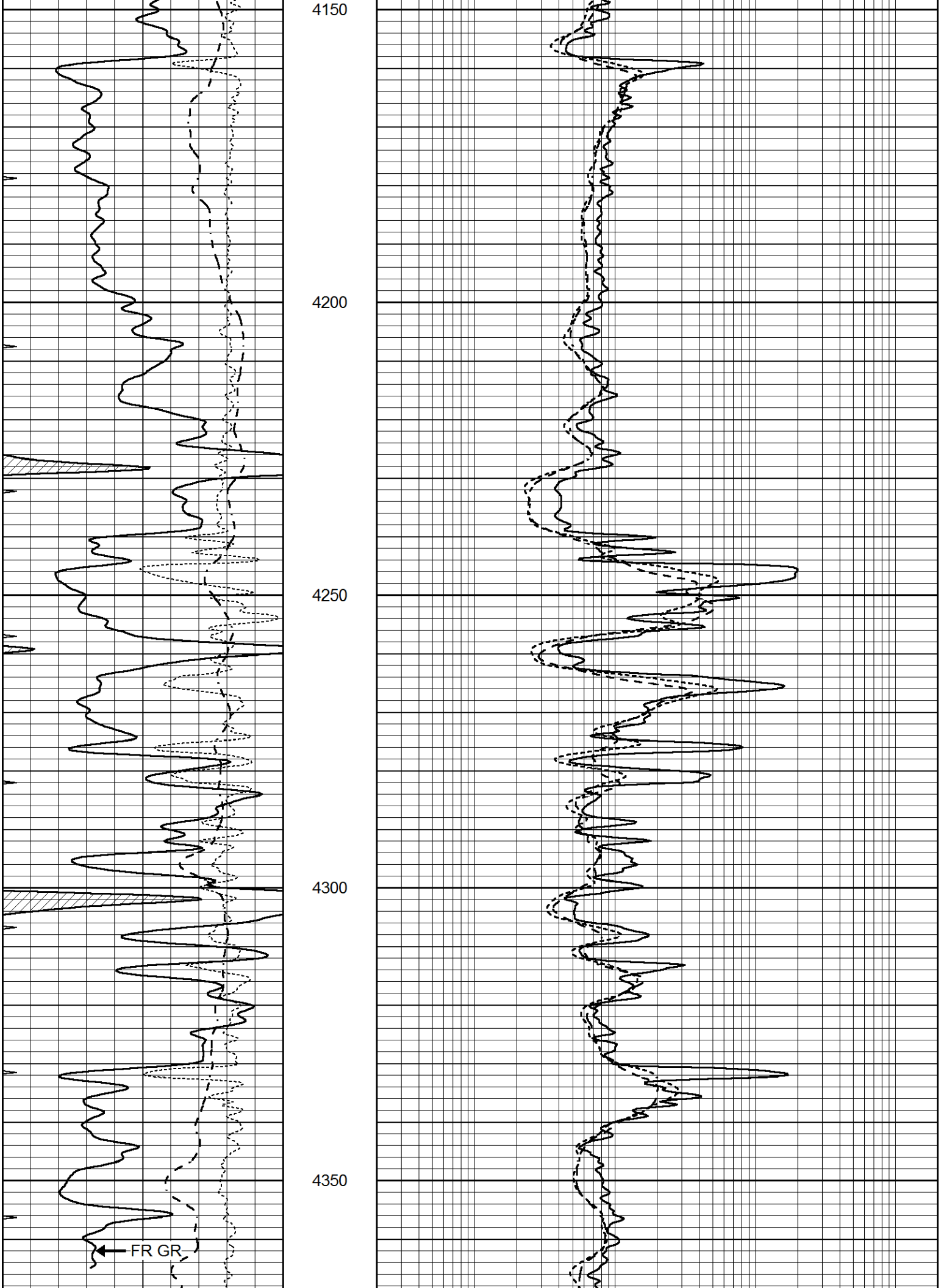
3650

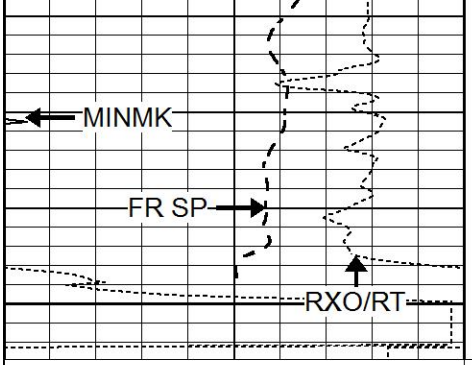
3700



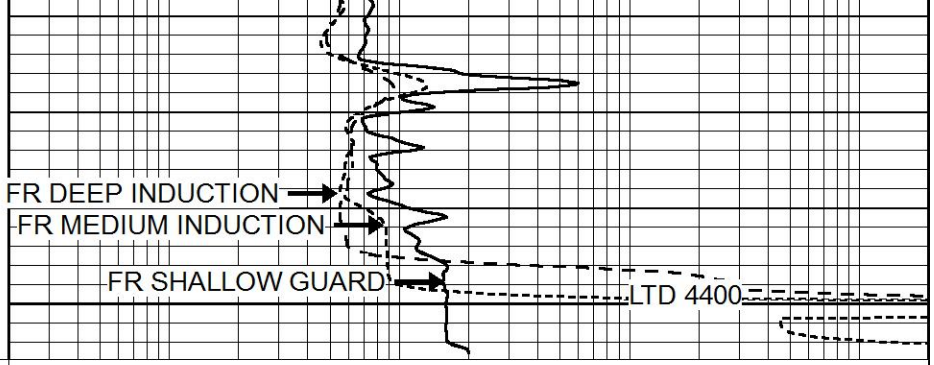

3750
3800
3850
3900


3950
4000
4050
4100


4150
4200
4250
4300
4350
FR GR




4400




| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

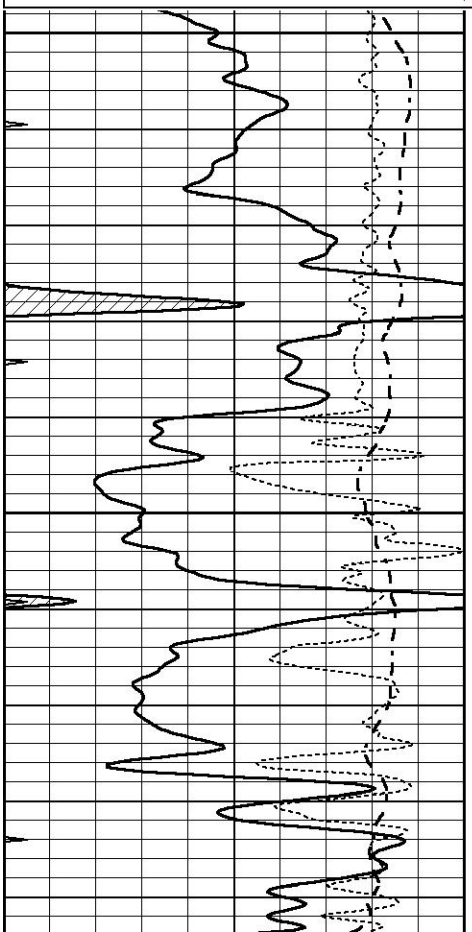
# REPEAT SECTION

| | |
|---|---|
| Database File | 6903pe.db |
| Dataset Pathname | pass3.1R |
| Presentation Format | _dil |
| Dataset Creation | Tue Aug 16 16:38:00 2022 |
| Charted by | Depth in Feet scaled 1:240 |

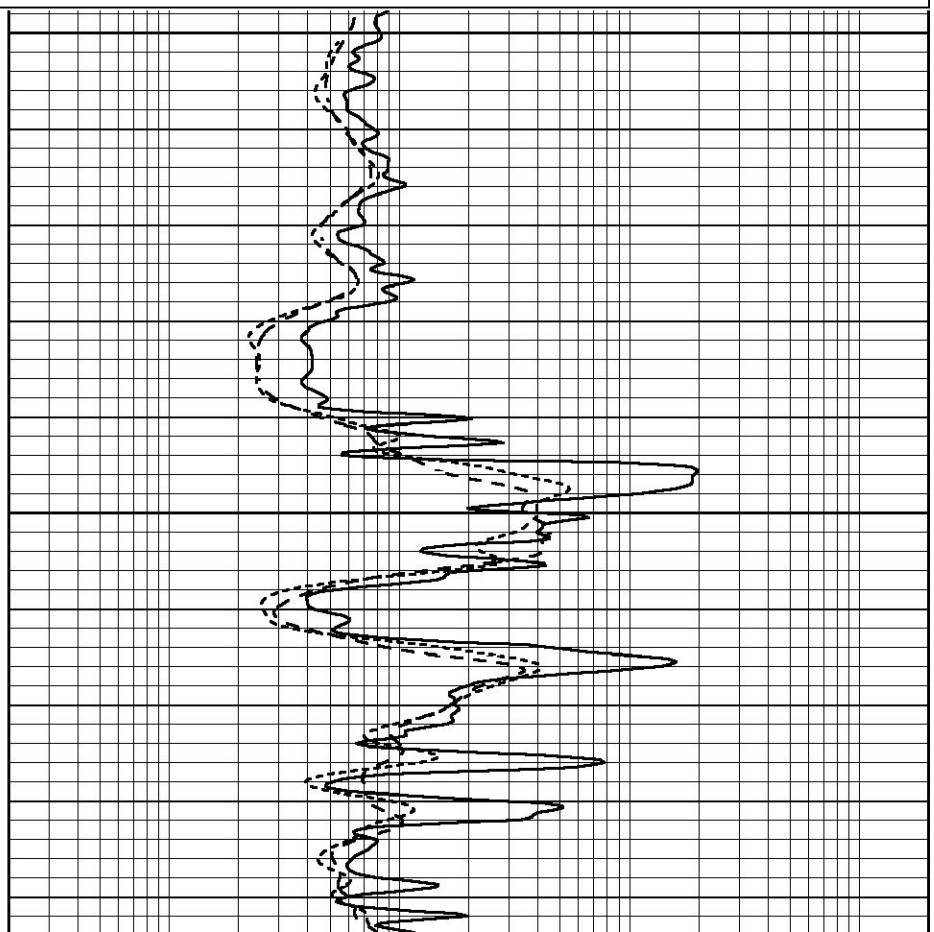
| | | |
|---|---|---|
| 0 | GAMMA RAY (GAPI) | 150 |
| -100 | SP (mV) | 100 |
| -250 | Rxo/Rt | 50 |
| 0 | MINMK | 20 |

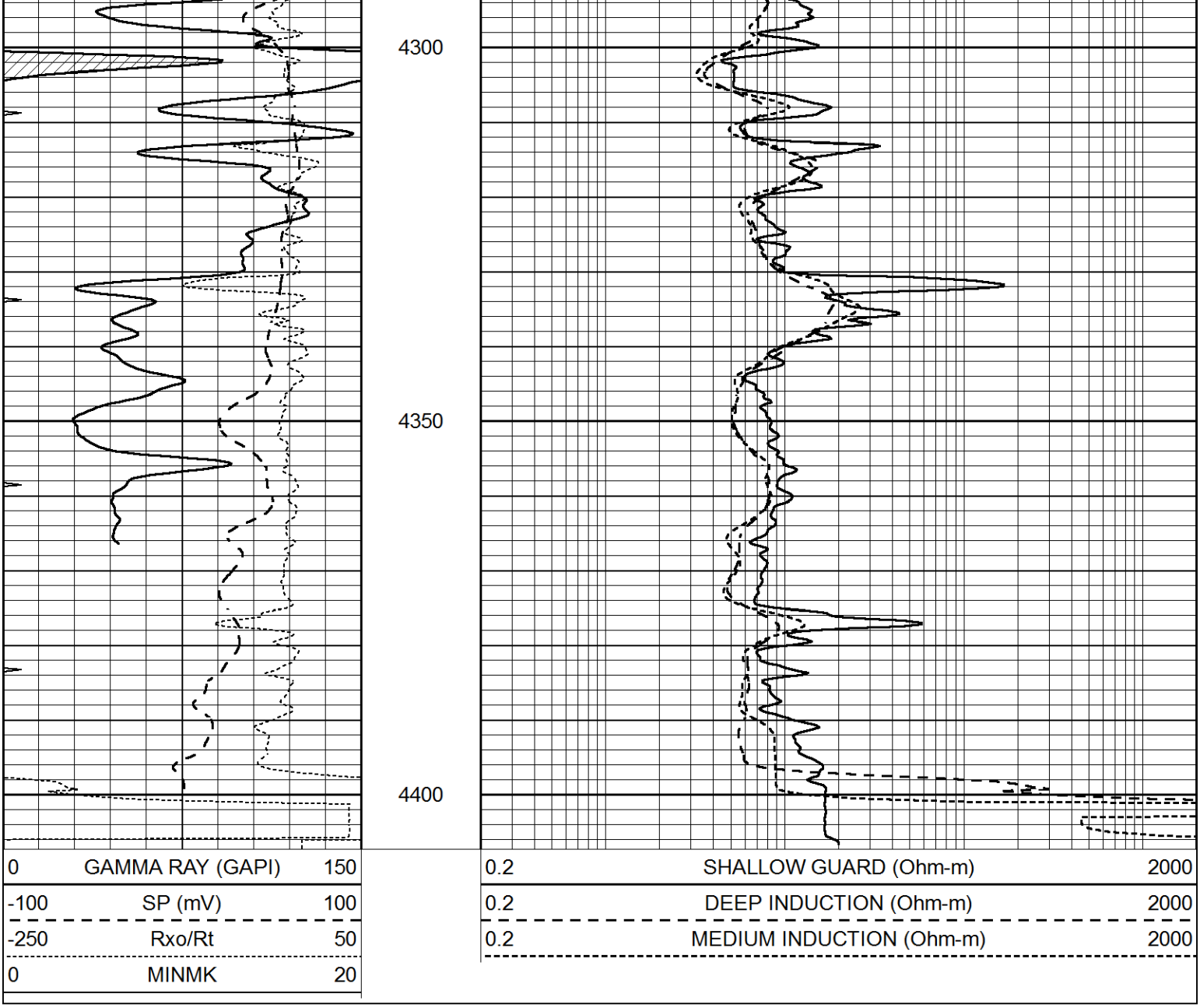
| | | |
|---|---|---|
| 0.2 | SHALLOW GUARD (Ohm-m) | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m) | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

4200



4250






## Calibration Report

| | |
|---|---|
| Database File | 6903pe.db |
| Dataset Pathname | pass4.1M |
| Dataset Creation | Tue Aug 16 16:35:52 2022 |

## Dual Induction Calibration Report

| | |
|---|---|
| Serial-Model: | PROBE8-DILG |
| Surface Cal Performed: | Sat Aug 13 16:07:30 2022 |
| Downhole Cal Performed: | Mon Jul 28 11:08:27 2008 |
| After Survey Verification Performed: | Mon Jul 28 11:08:27 2008 |

### Surface Calibration

| | Readings | | | References | | | Results | |
|---|---|---|---|---|---|---|---|---|
| Loop: | Air | Loop | | Air | Loop | | m | b |
| Deep | 0.015 | 0.648 | V | 0.000 | 400.000 | mmho/m | 640.000 | -4.000 |
| Medium | 0.029 | 0.796 | V | 0.000 | 464.000 | mmho/m | 630.000 | -13.000 |
| Internal: | Zero | Cal | | Zero | Cal | | m | b |
| Deep | 0.017 | 0.657 | V | 0.000 | 400.000 | mmho/m | 625.153 | -10.619 |
| Medium | 0.016 | 0.757 | V | 0.000 | 464.000 | mmho/m | 625.992 | -9.739 |

Downhole Calibration

| | Readings | | | References | | | Results | |
|---|---|---|---|---|---|---|---|---|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | 0.000 | 0.000 | mmho/m | 2.011 | 405.777 | mmho/m | 1.000 | 0.000 |
| Medium | 0.000 | 0.000 | mmho/m | 7.590 | 503.393 | mmho/m | 1.000 | 0.000 |
| LL3 | | 7.500 | V | | 1500.000 | Ohm-m | | |
| | | 0.000 | V | | 20.000 | Ohm-m | | |
| | | -7.200 | V | | 3800.000 | mmho-m | | |

After Survey Verification

| | Readings | | | Targets | | | Results | |
|---|---|---|---|---|---|---|---|---|
| | Zero | Cal | | Zero | Cal | | m' | b' |
| Deep | 0.000 | 0.000 | mmho/m | 0.000 | 0.000 | mmho/m | 0.000 | 0.000 |
| Medium | 0.000 | 0.000 | mmho/m | 0.000 | 0.000 | mmho/m | 0.000 | 0.000 |
| LL3 | | 1.000 | Ohm-m | | 1.000 | Ohm-m | | |
| | | 0.000 | Ohm-m | | 0.000 | Ohm-m | | |
| | | 1.000 | mmho-m | | 1.000 | mmho-m | | |

# Litho Density Calibration Report

Serial: 004 Model: PRB

Master Calibration — Performed Tue Aug 02 11:29:35 2022

| | Background | Magnesium | Aluminum | Aluminum+Fe | |
|---|---|---|---|---|---|
| Window 1 | 1154.2 | 10019.5 | 3137.9 | 2795.6 | cps |
| Window 2 | 1054.4 | 8597.6 | 2733.4 | 2469.5 | cps |
| Window 3 | 902.3 | 5241.4 | 1832.1 | 1719.3 | cps |
| Window 4 | 251.9 | 261.1 | 255.8 | 252.9 | cps |
| Long Space | 0.0 | 7543.2 | 1679.0 | 1415.0 | cps |
| Short Space | 4.4 | 2049.3 | 1321.7 | 1116.8 | cps |
| Rho | | 1.7100 | 2.5900 | 0.0000 | g/cc |
| Pe | | 2.0000 | 2.7500 | 5.7900 | |

| | | | | | |
|---|---|---|---|---|---|
| Rib Angle | : 43.7 | Rib Slope | : 0.957 | Density/Spine Ratio | : 0.562 |
| Spine Angle | : 73.7 | Spine Slope | : 3.426 | Spine Intercept | : -17.2 |

Before Survey Verification — Performed Wed Dec 31 18:00:00 1969

| | | | | | |
|---|---|---|---|---|---|
| Window 1 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Window 2 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Window 3 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Window 4 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Long Space | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Short Space | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Measured Rho | | 0.0000 | 0.0000 | 0.0000 | g/cc |
| Measured Correction | | 0.0000 | 0.0000 | 0.0000 | g/cc |
| Measured Pe | | | 0.0000 | 0.0000 | |

After Survey Verification — Performed Wed Dec 31 18:00:00 1969

| | | | | | |
|---|---|---|---|---|---|
| Window 1 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Window 2 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Window 3 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Window 4 | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Long Space | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Short Space | 0.0 | 0.0 | 0.0 | 0.0 | cps |
| Measured Rho | | 0.0000 | 0.0000 | 0.0000 | g/cc |

| | | | | |
|---|---|---|---|---|
| Measured Correction | 0.0000 | 0.0000 | 0.0000 | g/cc |
| Measured Pe | | 0.0000 | 0.0000 | |

## Compensated Neutron Calibration Report

Serial Number: 070808PMC
Tool Model: NABORS

### PRE-SURVEY VERIFICATION

| Detector | Readings | Measured | Target |
|---|---|---|---|
| Short Space | cps | | |
| Long Space | cps | pu | pu |

### POST-SURVEY VERIFICATION

| Detector | Readings | Measured | Target |
|---|---|---|---|
| Short Space | cps | | |
| Long Space | cps | pu | pu |

## Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | 070558 | |
| Tool Model: | OPEN_GR | |
| Performed: | Tue Aug 16 14:40:27 2022 | |
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 0.3000 | GAPI/cps |