



# NABORS

**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**DUAL  
INDUCTION  
LOG**

|                                                                |                                                                         |                    |                                                  |
|----------------------------------------------------------------|-------------------------------------------------------------------------|--------------------|--------------------------------------------------|
| Company                                                        | ANDERSON ENERGY, INC.                                                   |                    |                                                  |
| Well                                                           | GRABBE #2                                                               |                    |                                                  |
| Field                                                          | POOL EXTENSION                                                          |                    |                                                  |
| County                                                         | ELLIS                                                                   | State              | KANSAS                                           |
| Location:                                                      | API # : 15-051-26597-00-00<br>2118' FNL & 921' FWL<br>NW - SE - SW - NW |                    | Other Services<br>CDL/CNL<br>MEL                 |
| Permanent Datum<br>Log Measured From<br>Drilling Measured From | GROUND LEVEL<br>KELLY BUSHING 9' A.G.L.<br>KELLY BUSHING                |                    | Elevation<br>K.B. 2000<br>D.F. 1998<br>G.L. 1991 |
| Date                                                           | 1-17-14                                                                 |                    |                                                  |
| Run Number                                                     | ONE                                                                     |                    |                                                  |
| Depth Driller                                                  | 3780                                                                    |                    |                                                  |
| Depth Logger                                                   | 3782                                                                    |                    |                                                  |
| Bottom Logged Interval                                         | 3780                                                                    |                    |                                                  |
| Top Log Interval                                               | 0                                                                       |                    |                                                  |
| Casing Driller                                                 | 8 5/8 @ 1186'                                                           |                    |                                                  |
| Casing Logger                                                  | 1185'                                                                   |                    |                                                  |
| Bit Size                                                       | 7.875                                                                   |                    |                                                  |
| Type Fluid in Hole                                             | CHEMICAL MUD                                                            | CHLORIDES 3500 PPM |                                                  |
| Density / Viscosity                                            | 9.0 / 57                                                                |                    |                                                  |
| pH / Fluid Loss                                                | 10.5 / 9.8                                                              |                    |                                                  |
| Source of Sample                                               | FLOWLINE                                                                |                    |                                                  |
| Rim @ Meas. Temp                                               | 0.80 @ 36F                                                              |                    |                                                  |
| Rmf @ Meas. Temp                                               | 0.60 @ 36F                                                              |                    |                                                  |
| Rmc @ Meas. Temp                                               | 0.96 @ 36F                                                              |                    |                                                  |
| Source of Rmf / Rmc                                            | MEASURED                                                                |                    |                                                  |
| Rim @ BHT                                                      | 0.25 @ 114F                                                             |                    |                                                  |
| Time Circulation Stopped                                       | 2 HOURS                                                                 |                    |                                                  |
| Time Logger on Bottom                                          |                                                                         |                    |                                                  |
| Maximum Recorded Temperature                                   | 114F                                                                    |                    |                                                  |
| Equipment Number                                               | 860                                                                     |                    |                                                  |
| Location                                                       | HAYS, KS.                                                               |                    |                                                  |
| Recorded By                                                    | JEFF GRONEWEG                                                           |                    |                                                  |
| Witnessed By                                                   | ROGER MARTIN                                                            |                    |                                                  |

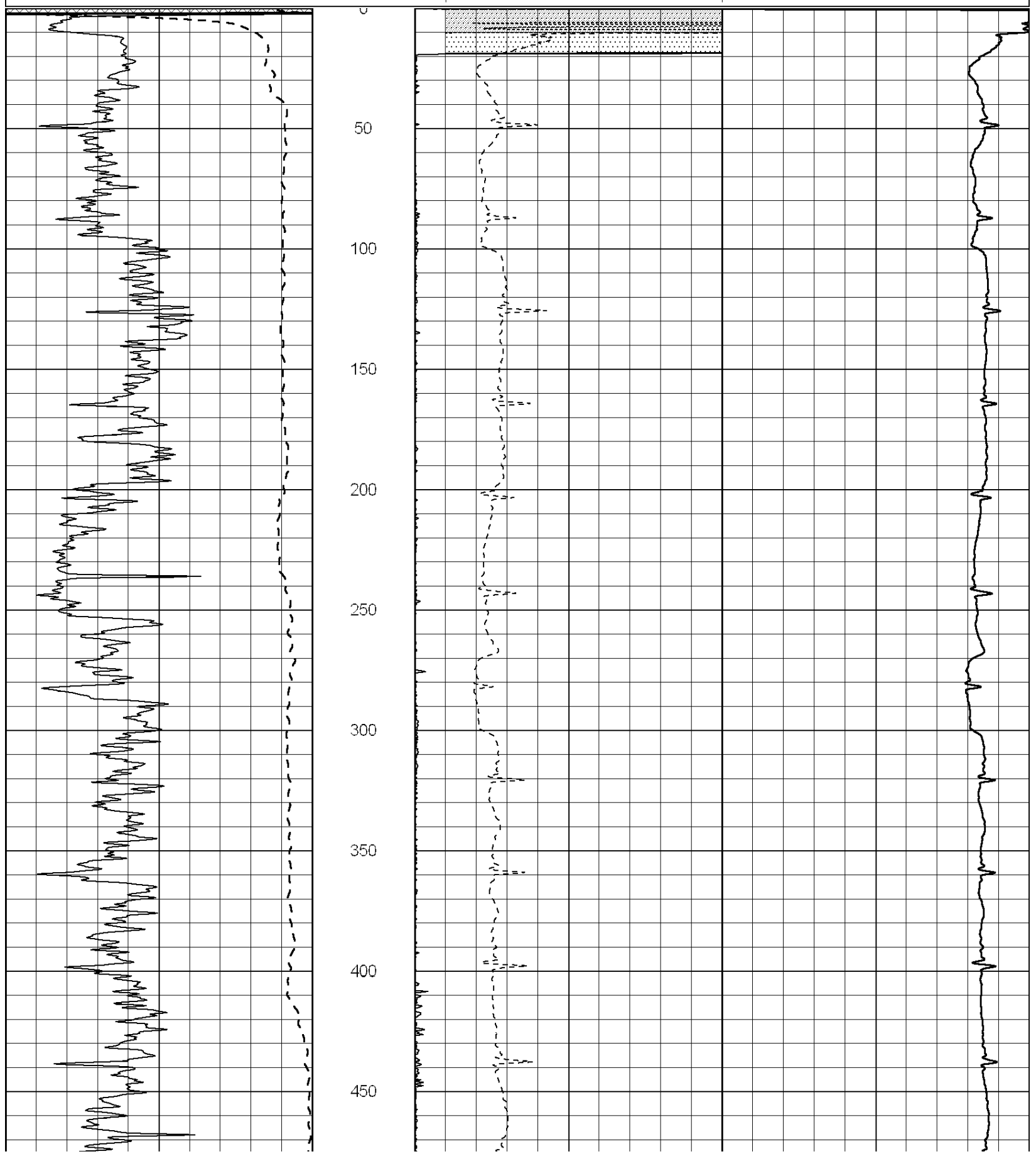
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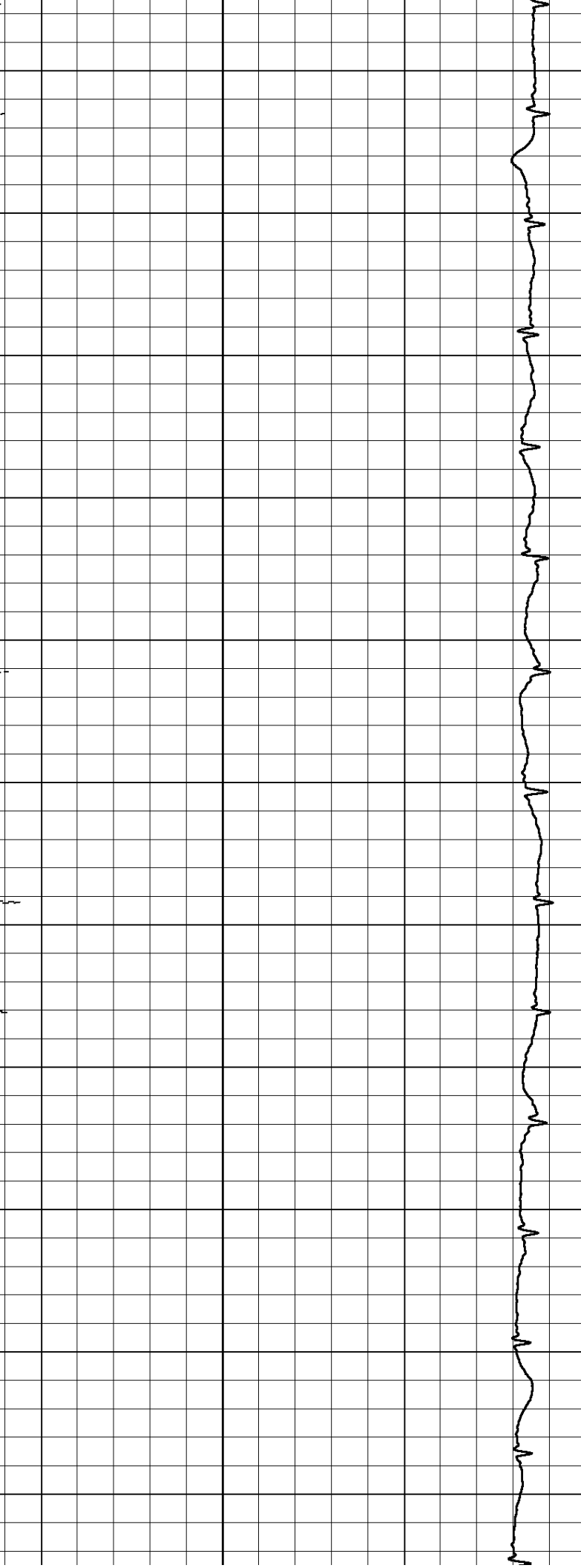
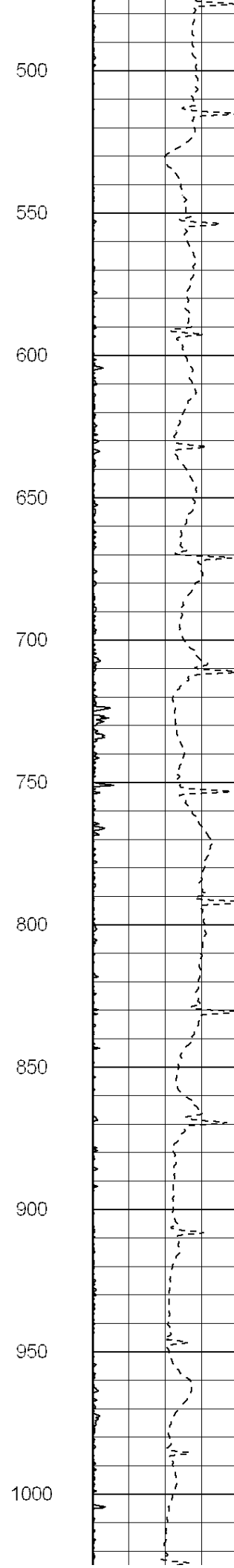
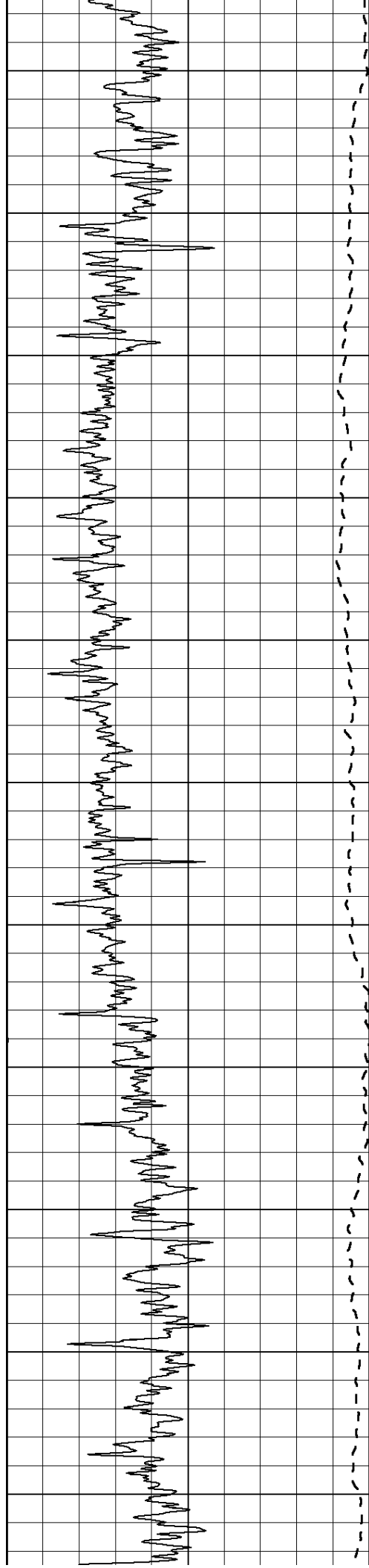
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

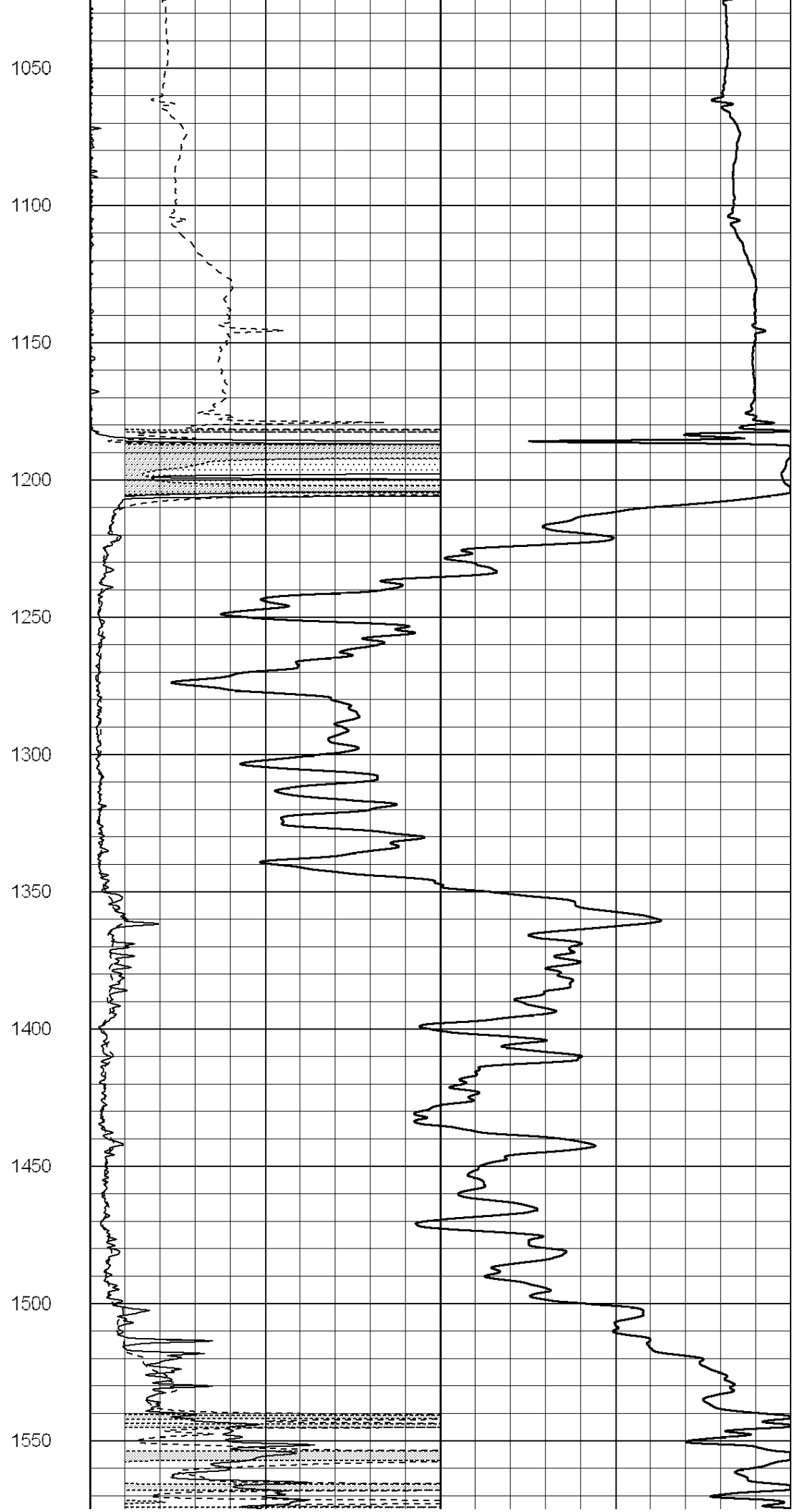
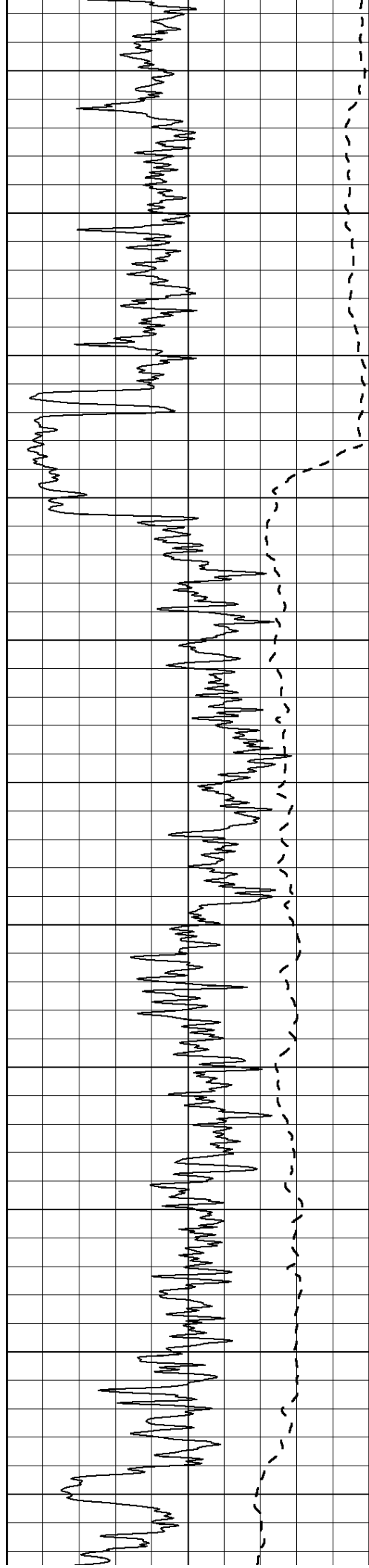
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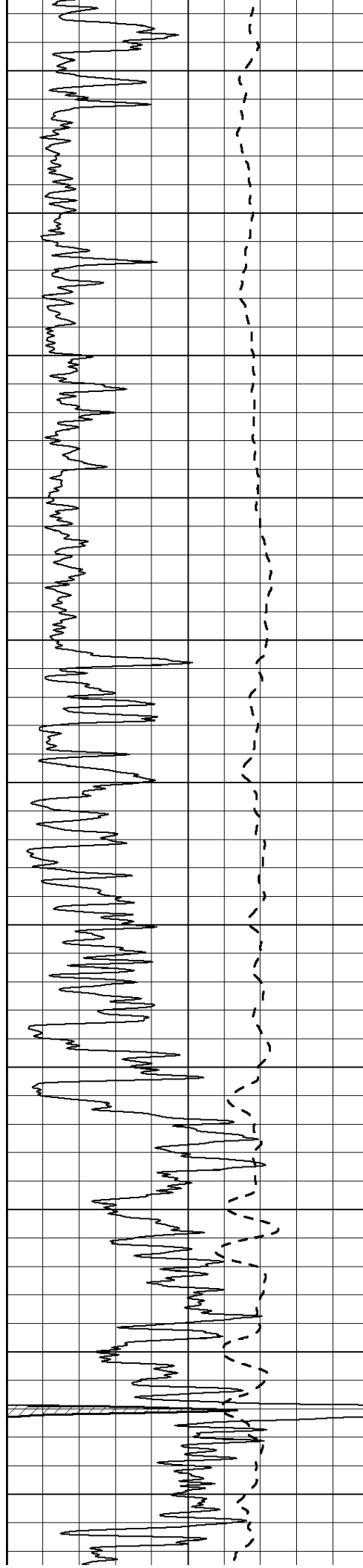
NABORS COMPLETION & PRODUCTION SERVICES  
785-628-6395  
THANK YOU FOR YOUR BUSINESS  
DIRECTIONS: HAYS, KS - 9 MILES SOUTH TO SMOKEY HILL RIVER RD  
3 MILES WEST - 1/2 MILE NORTH - EAST INTO

|   |                  |     |      |                        |               |   |
|---|------------------|-----|------|------------------------|---------------|---|
| 0 | Gamma Ray (GAPI) | 150 | 0    | RLL3 (Ohm-m)           | 50            |   |
|   |                  |     | 0    | Deep Induction (Ohm-m) | 50            |   |
|   |                  |     | 1000 |                        | CILD (mmho/m) | 0 |
|   |                  |     | 50   | RILD X10 (Ohm-m)       | 500           |   |
|   |                  |     | 50   | RLL3 X10 (Ohm-m)       | 500           |   |









1600

1650

1700

1750

1800

1850

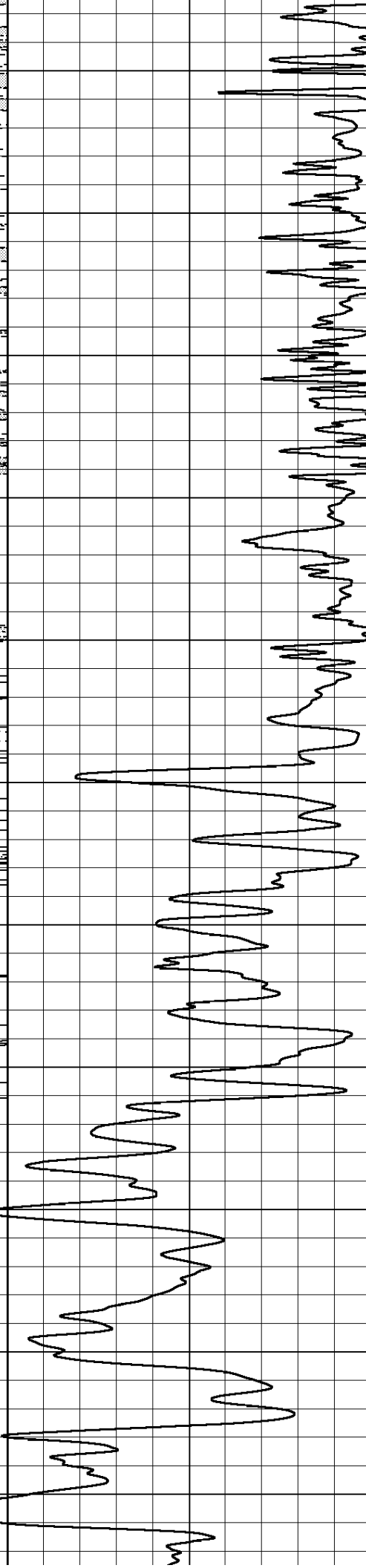
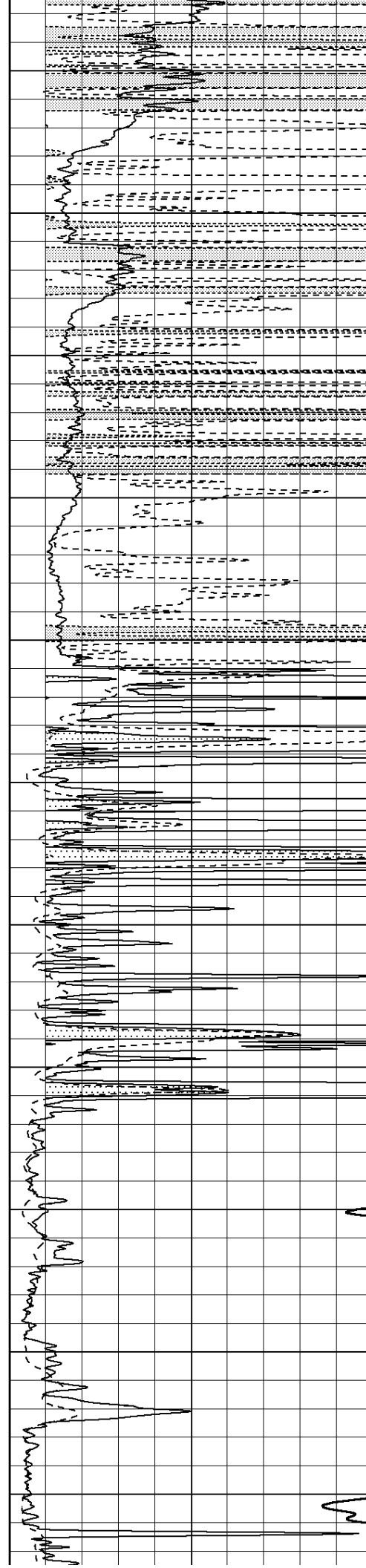
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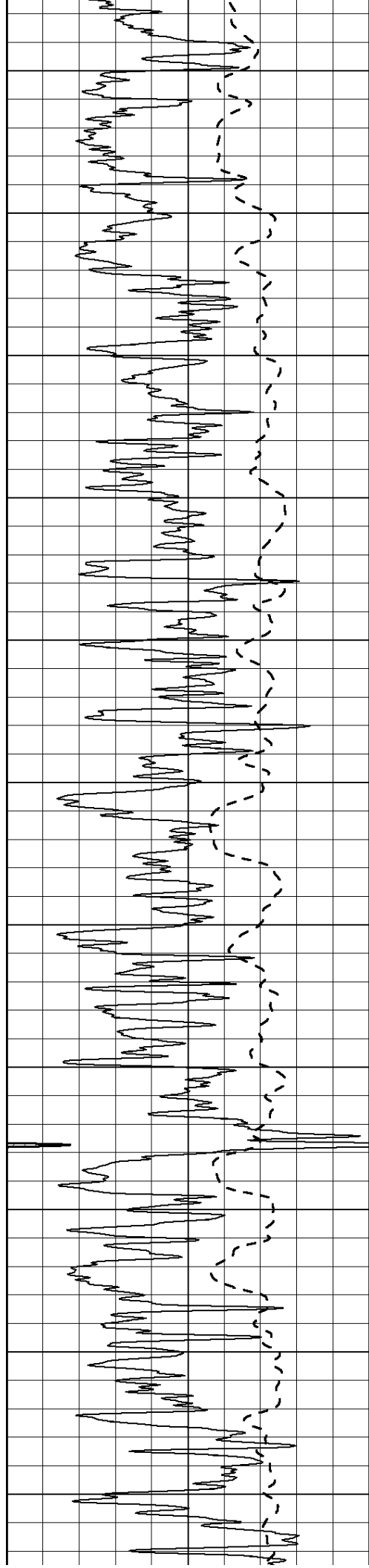
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2000

2050

2100





2150

2200

2250

2300

2350

2400

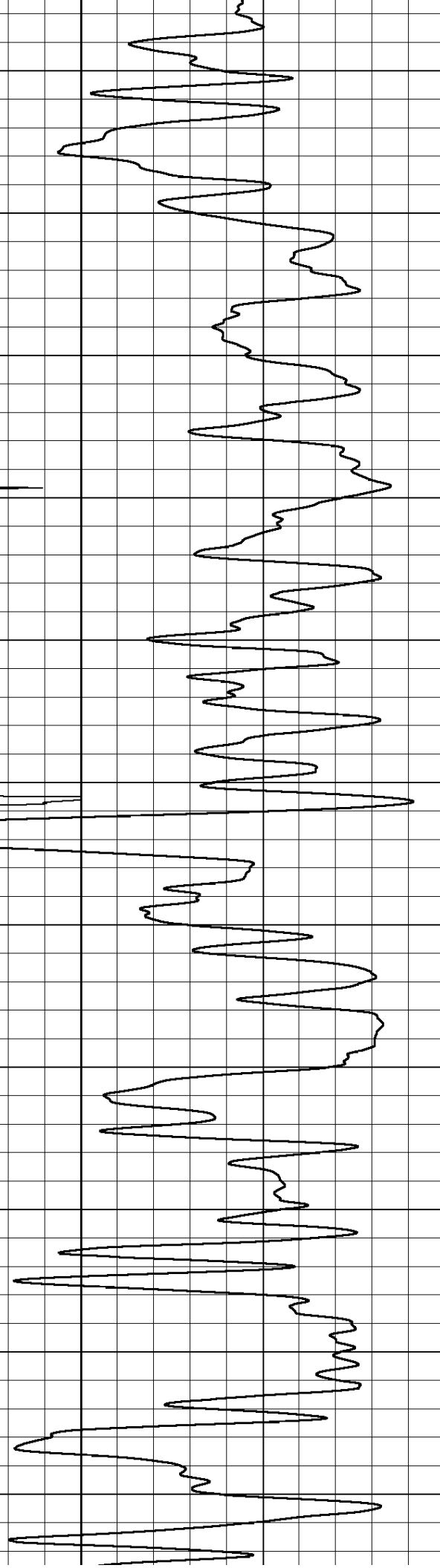
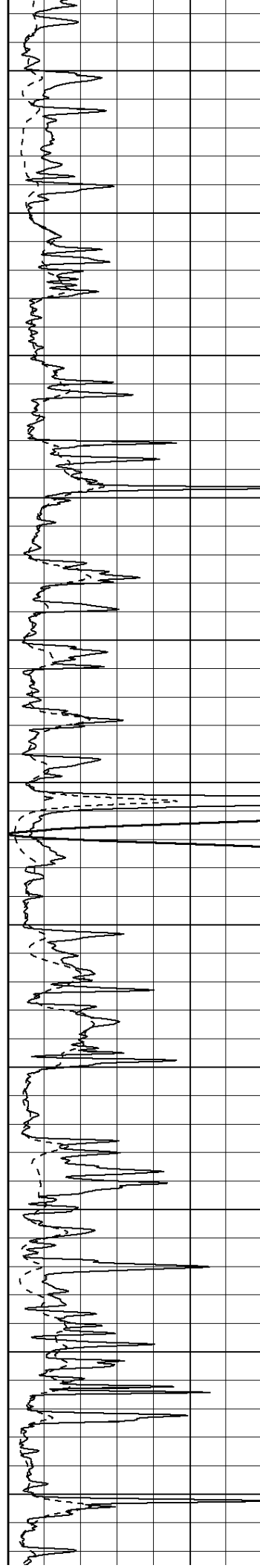
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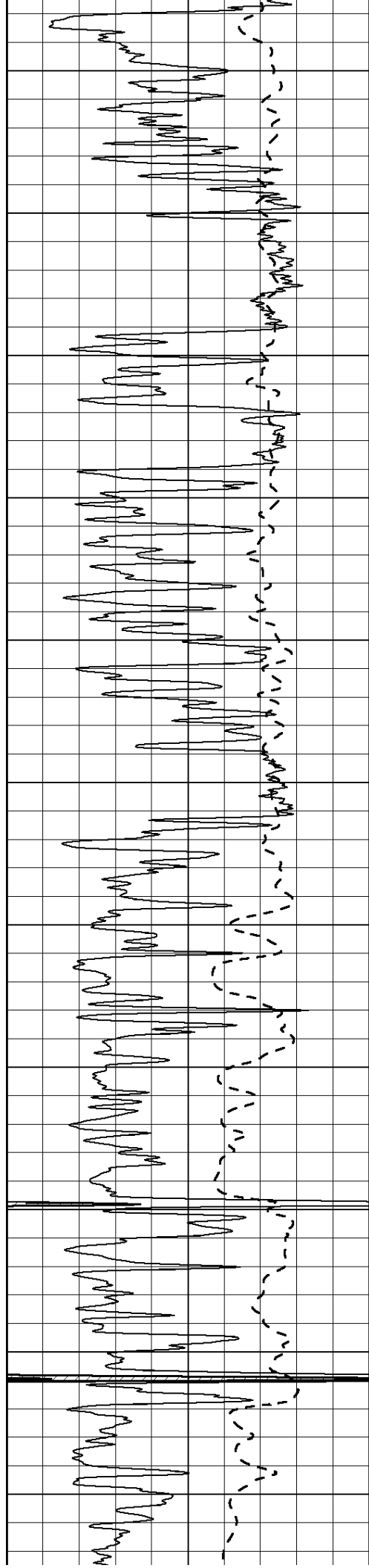
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2550

2600

2650





2700

2750

2800

2850

2900

2950

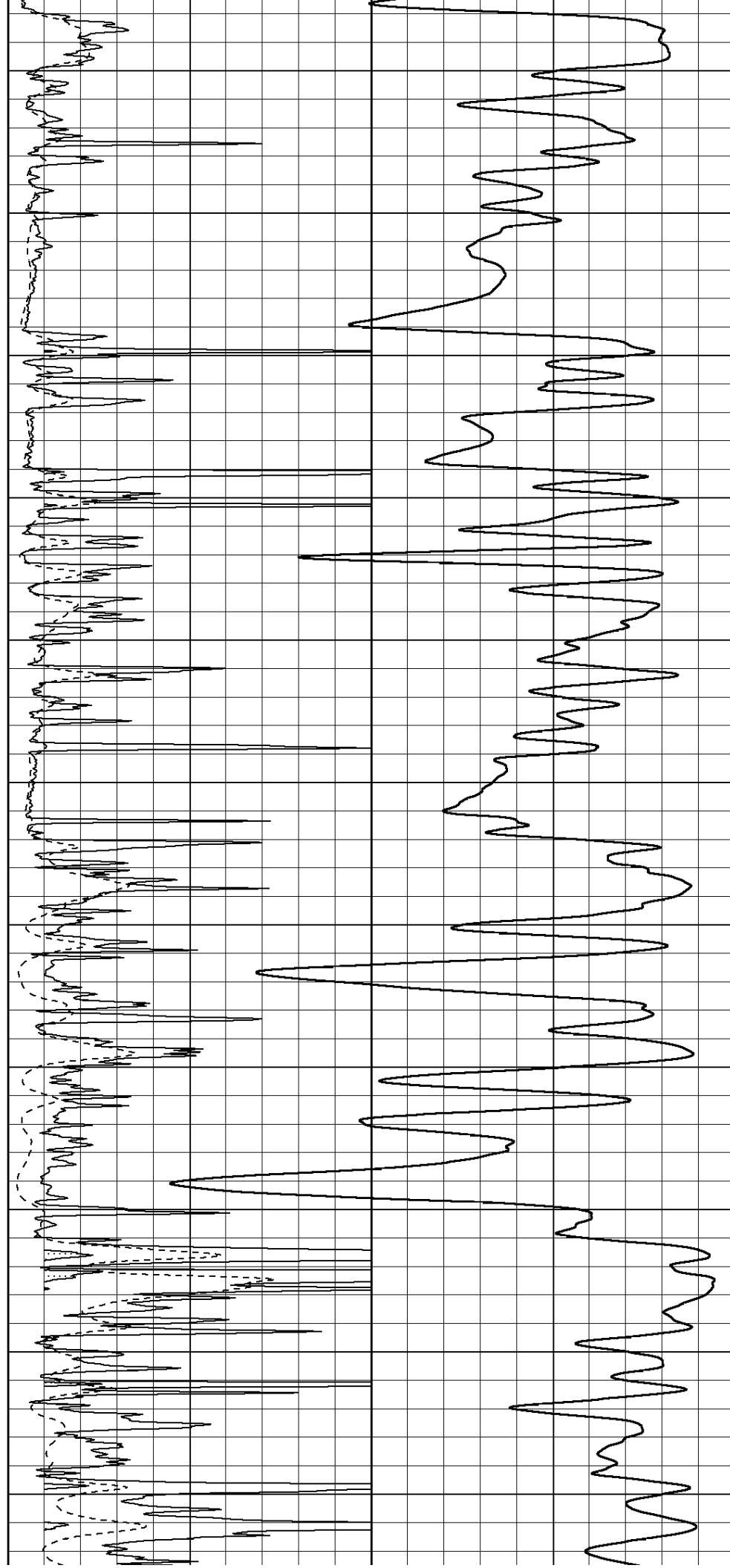
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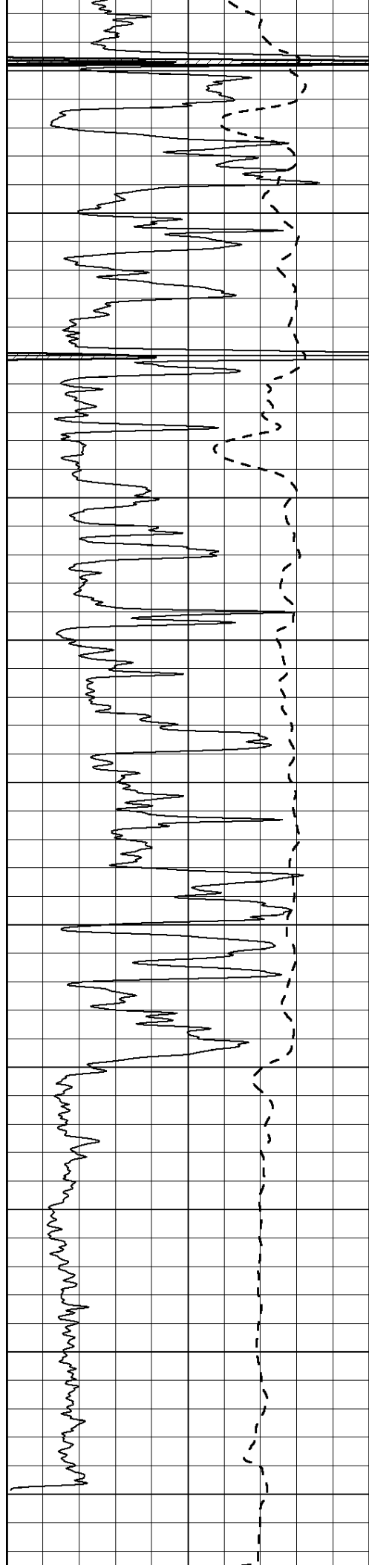
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3100

3150

3200





3250

3300

3350

3400

3450

3500

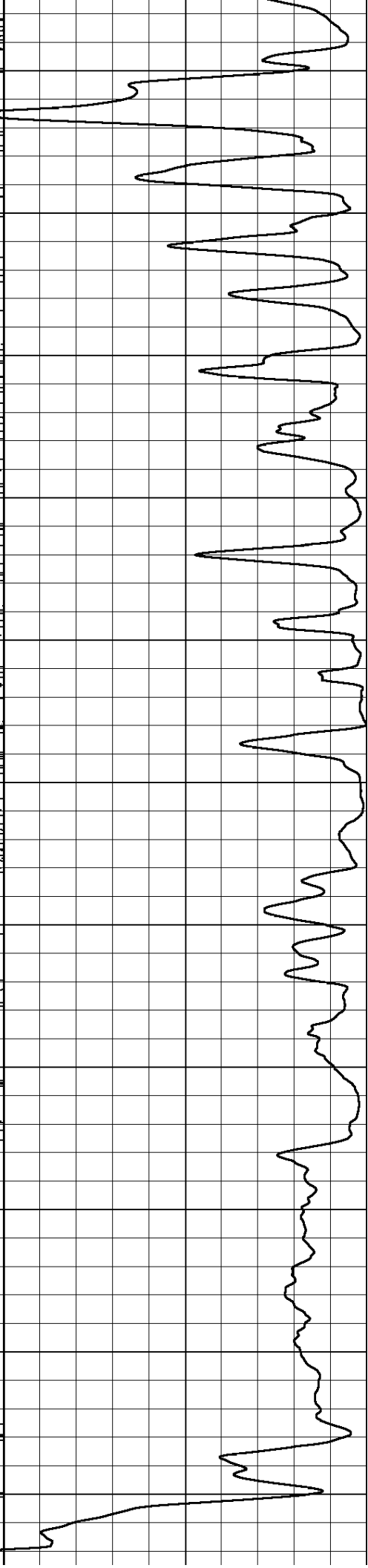
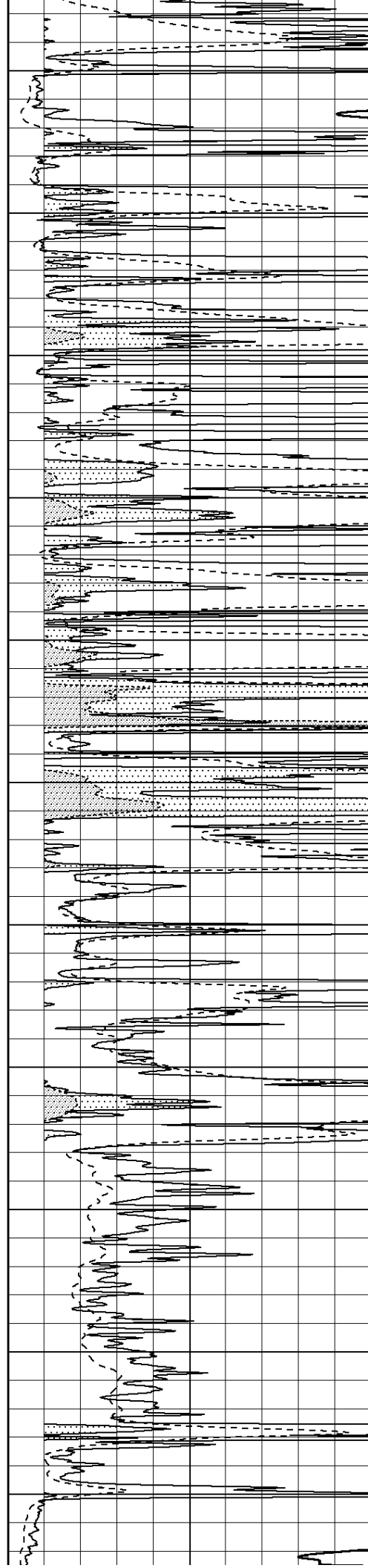
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3700

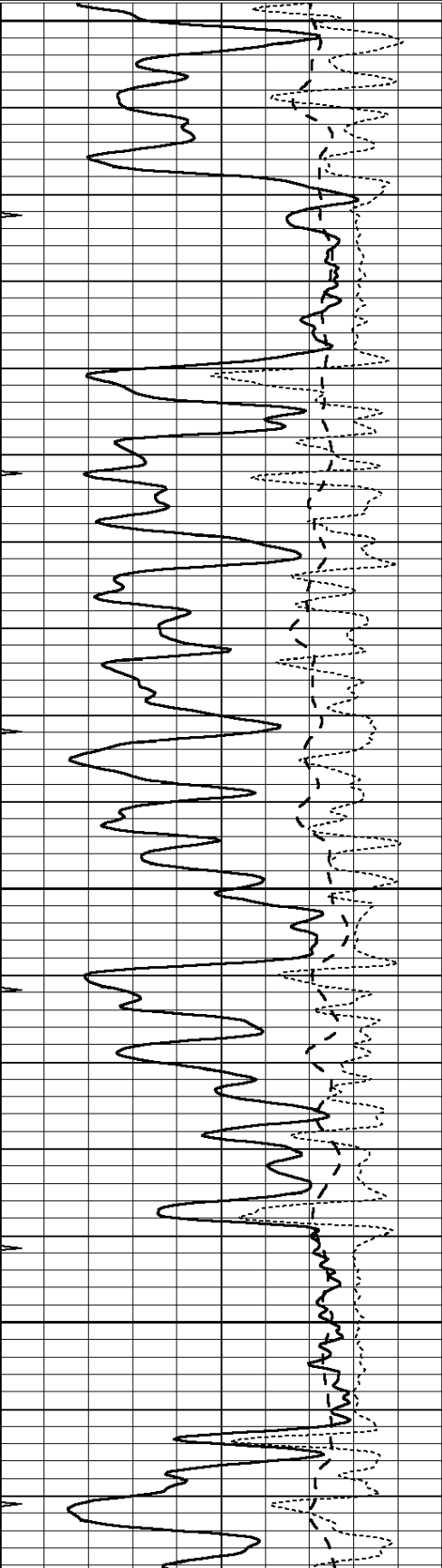
3750





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

|     |                          |      |
|-----|--------------------------|------|
| 0.2 | RLL3 (Ohm-m)             | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m)   | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |

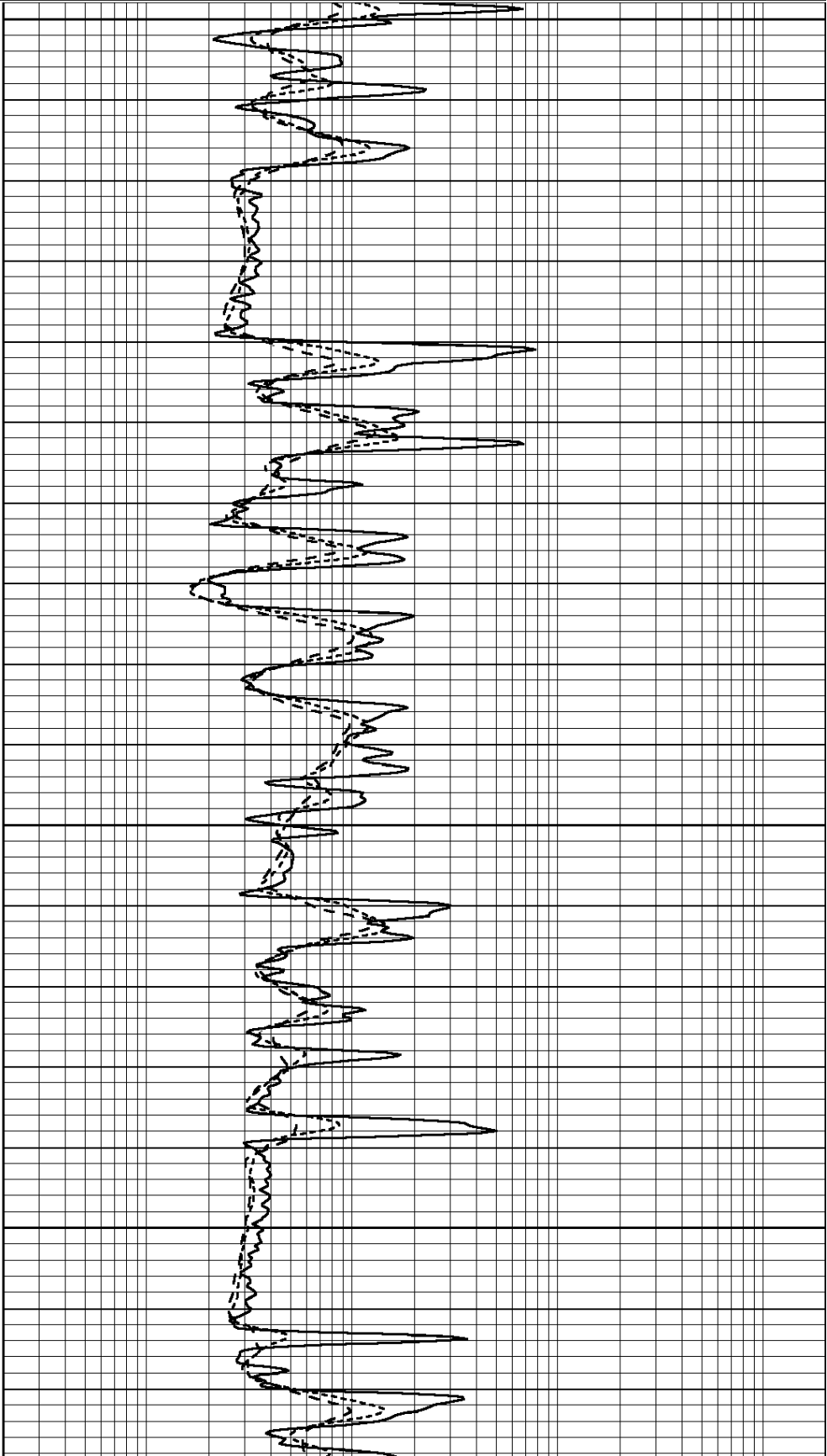


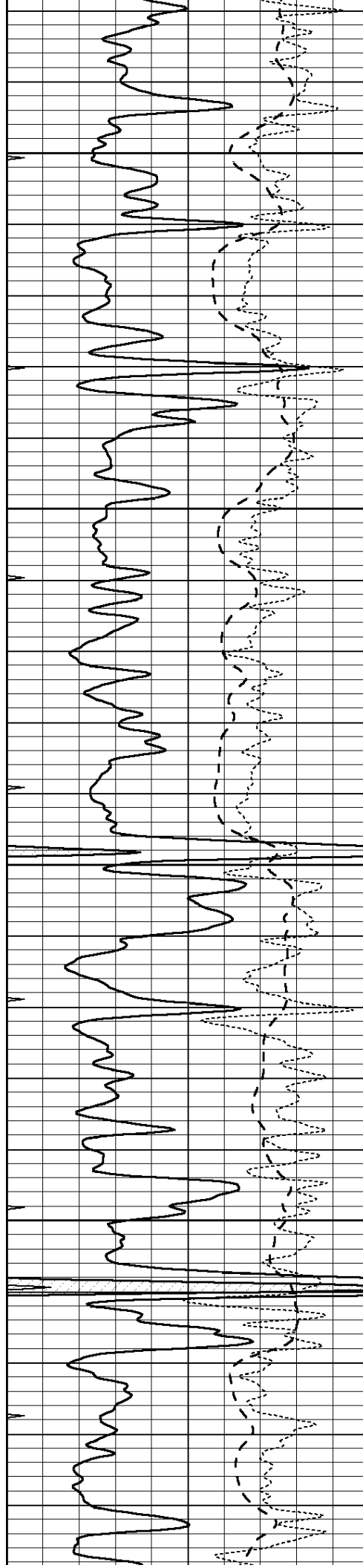
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2900

2950



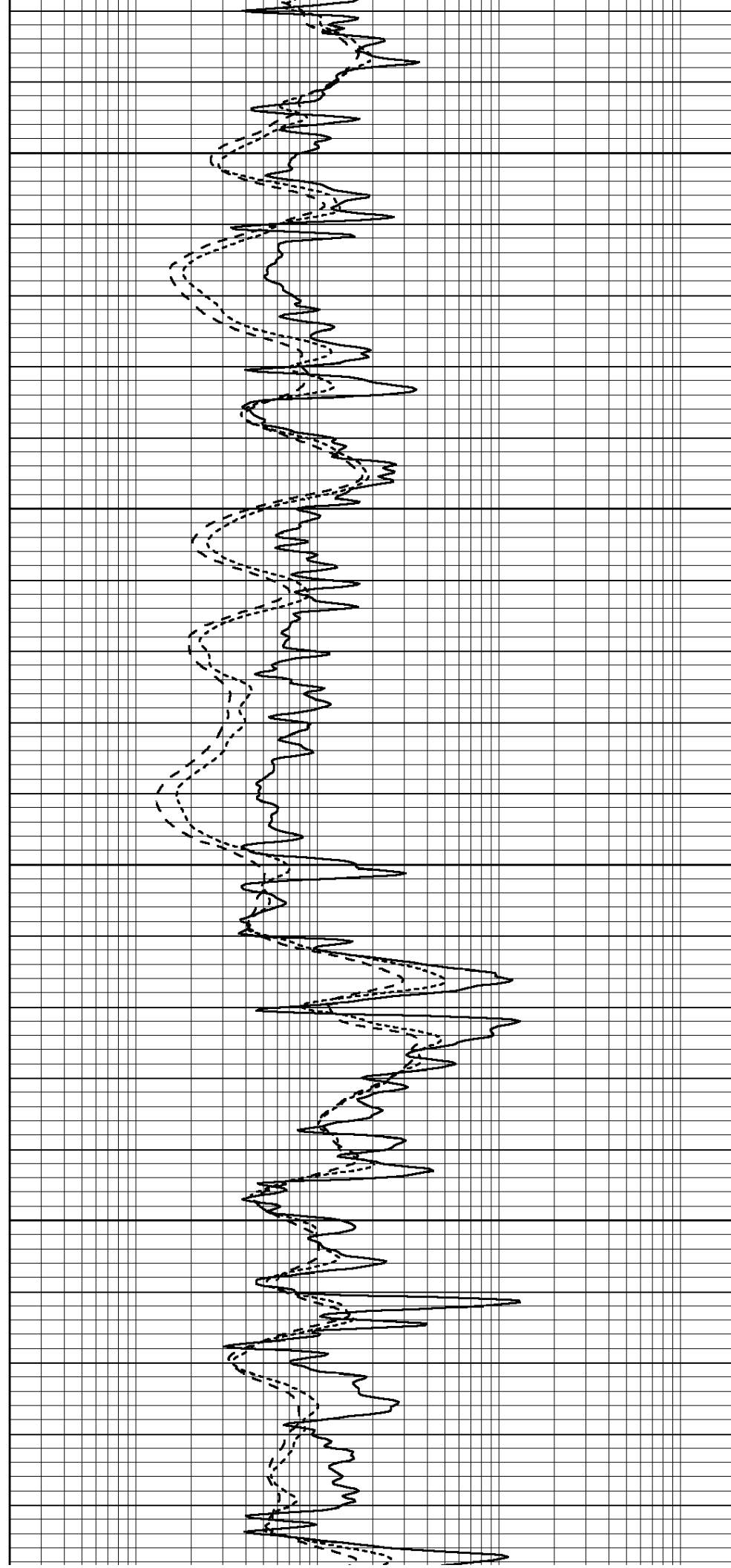


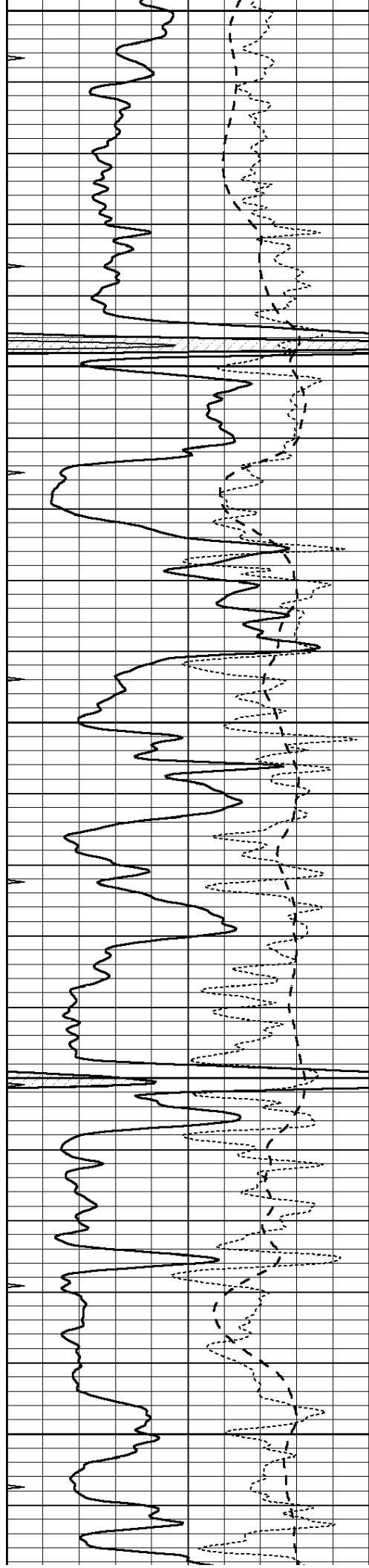
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3050

3100

3150





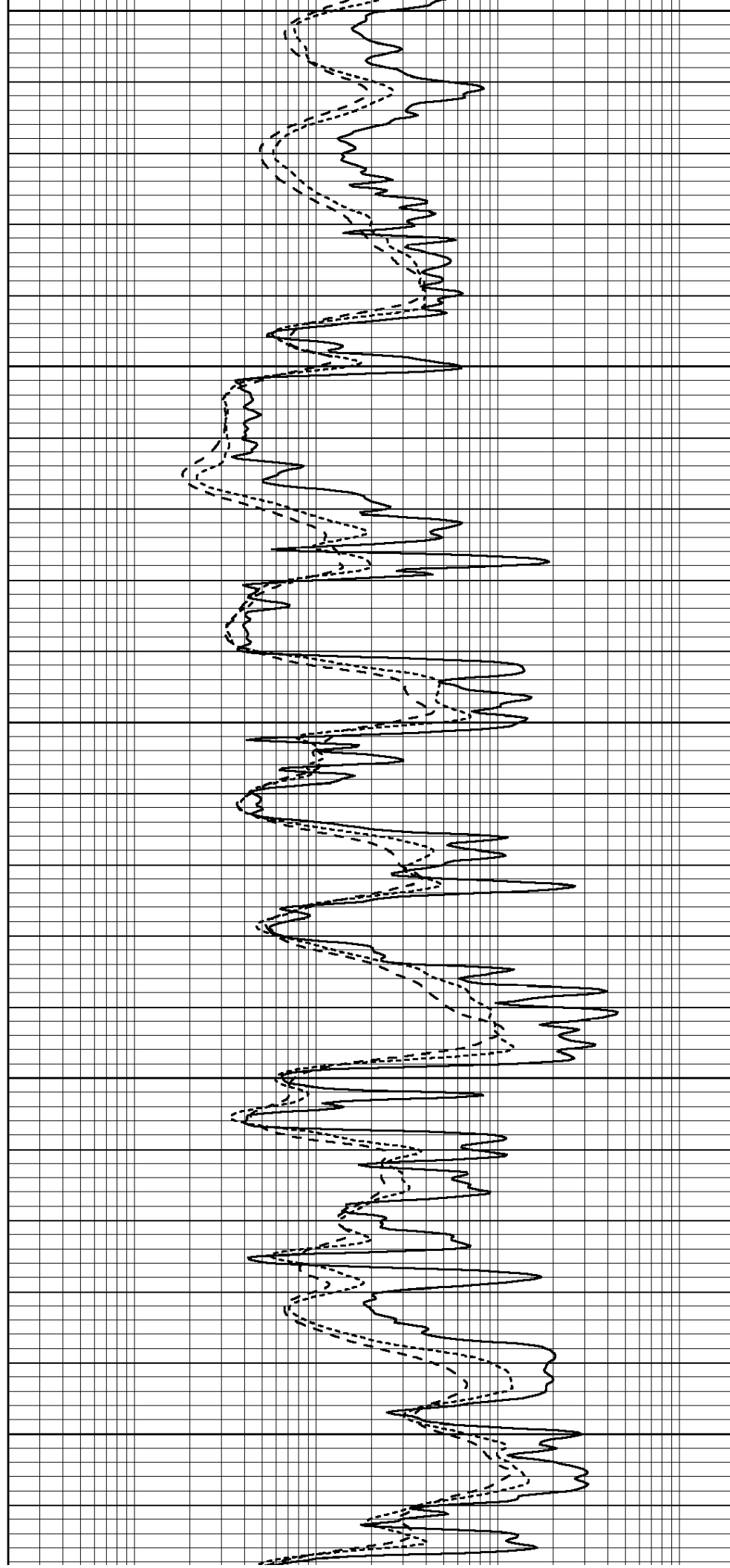
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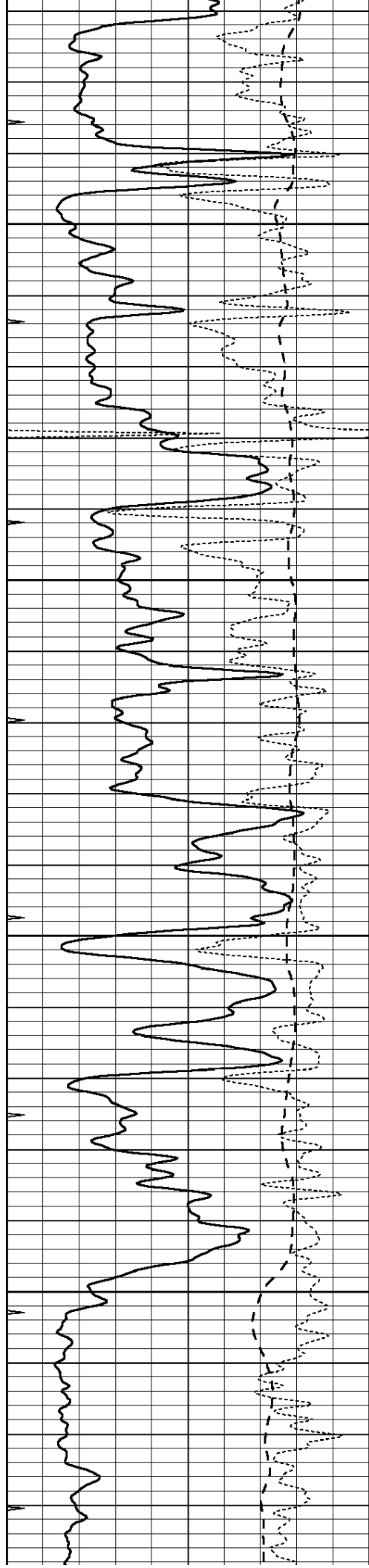
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3300

3350

3400



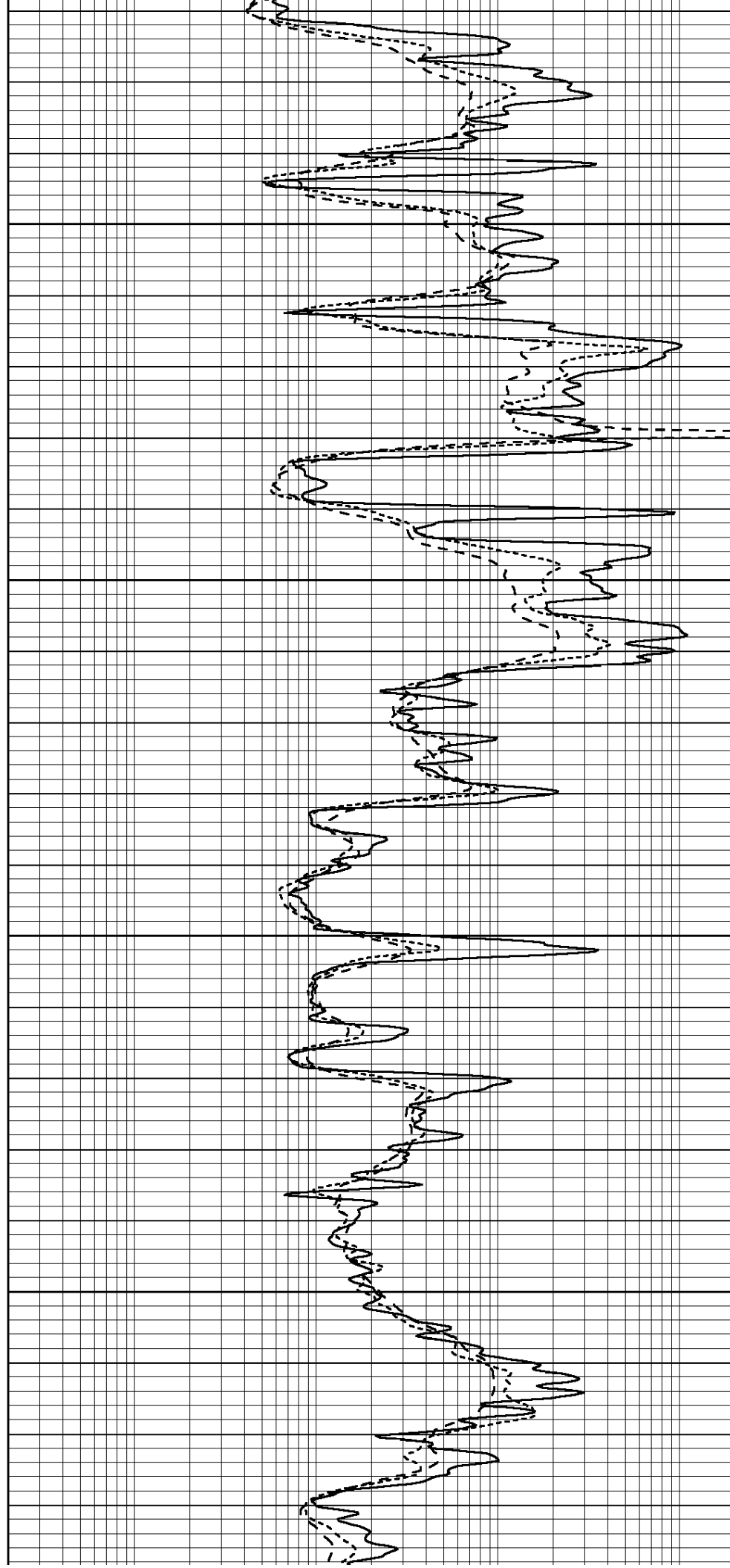


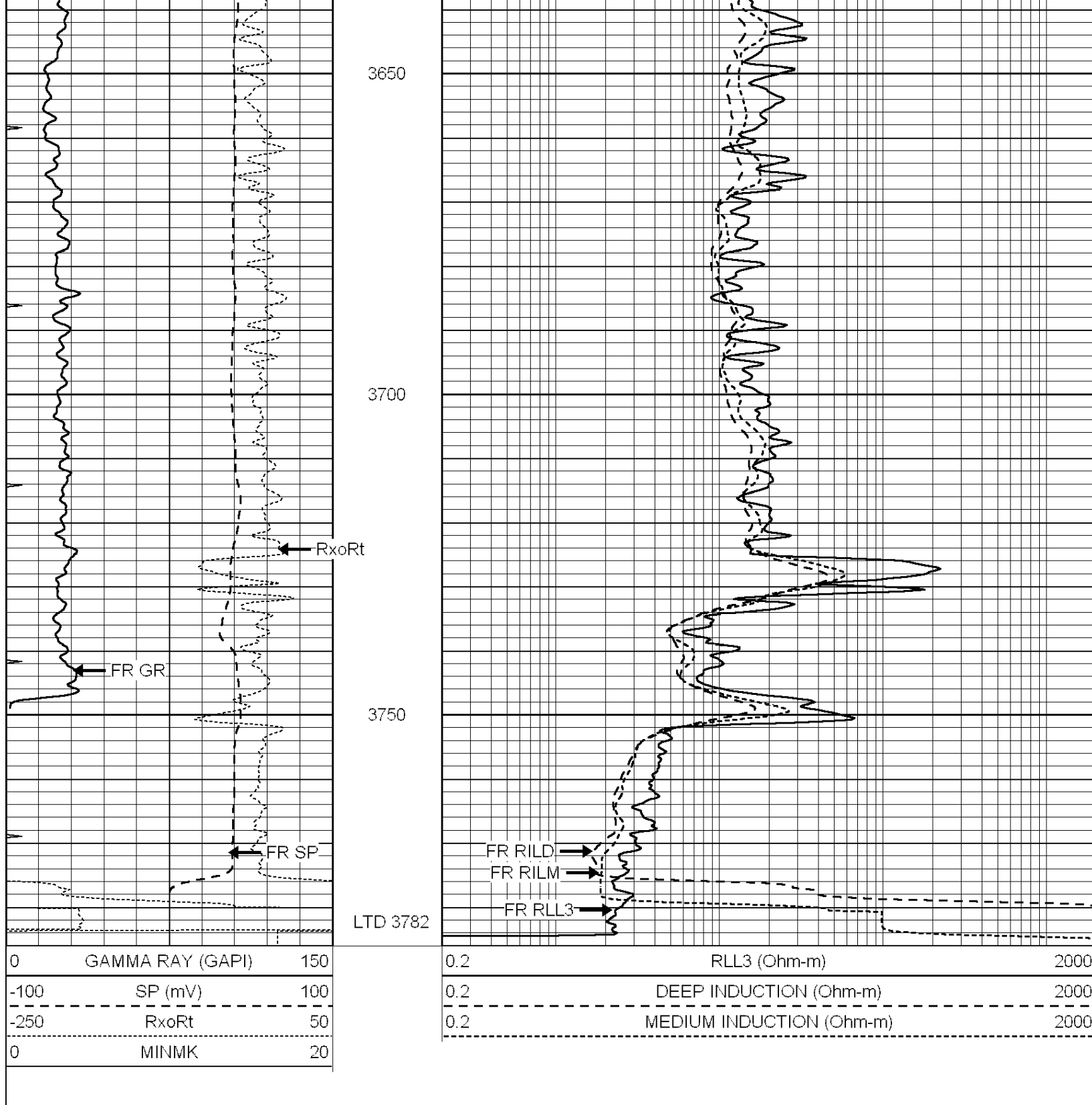
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3500

3550

3600

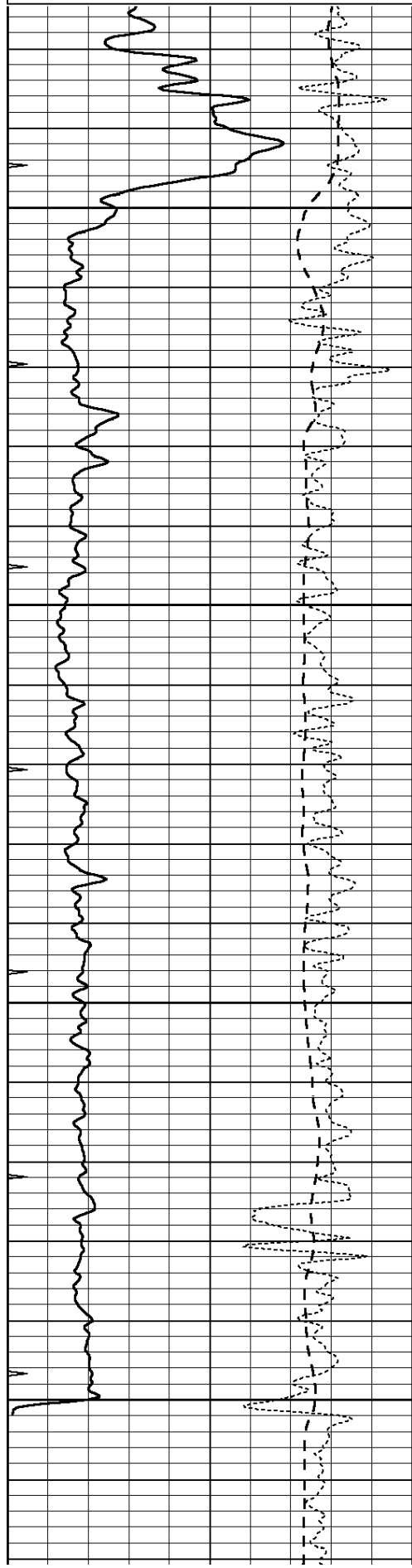




# REPEAT SECTION

Database File: 22217ddn.db  
Dataset Pathname: pass2.5  
Presentation Format: \_dil  
Dataset Creation: Fri Jan 17 05:20:09 2014 by Calc Open-Cased 090629  
Charted by: Depth in Feet scaled 1:240

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



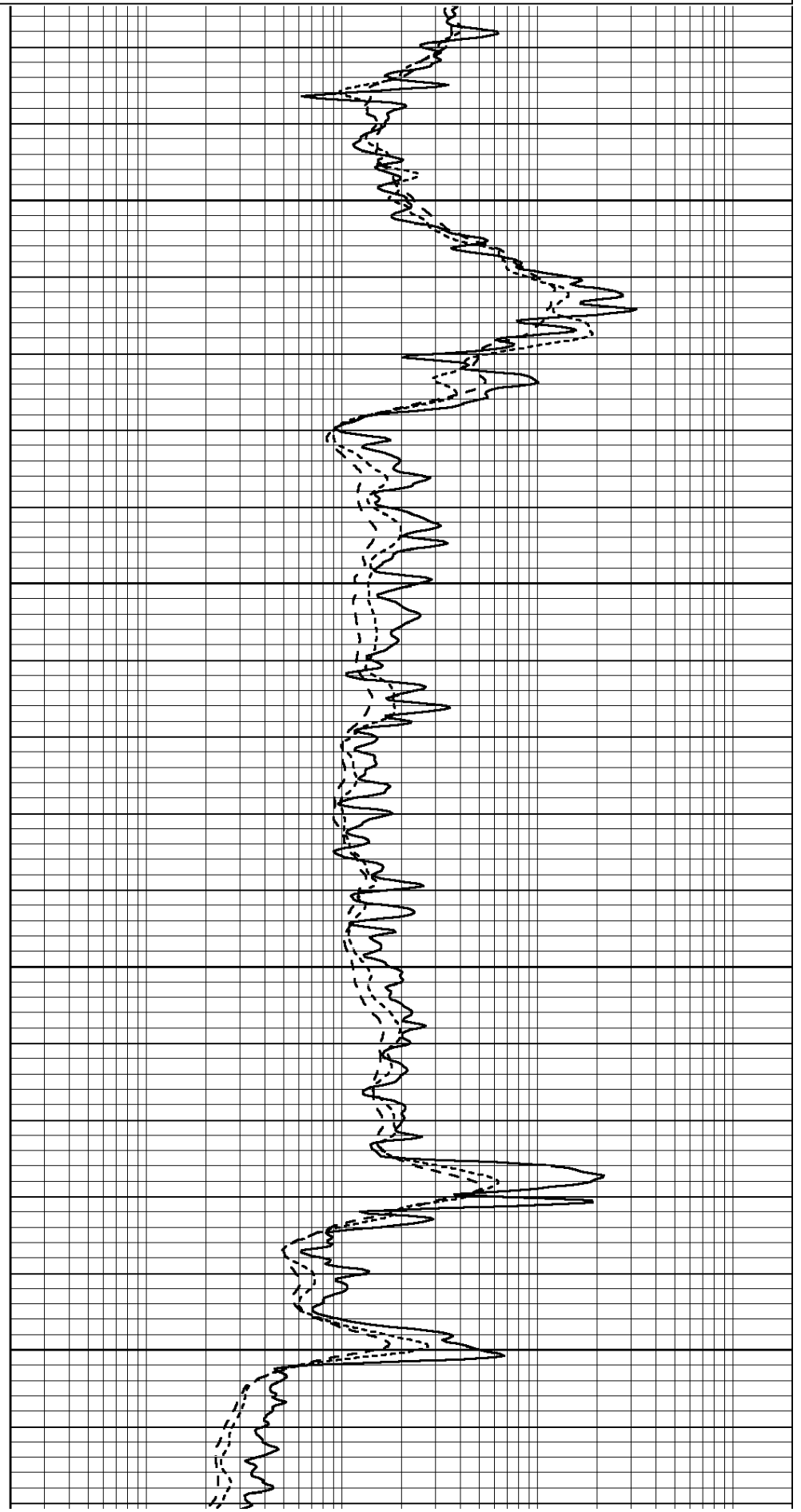
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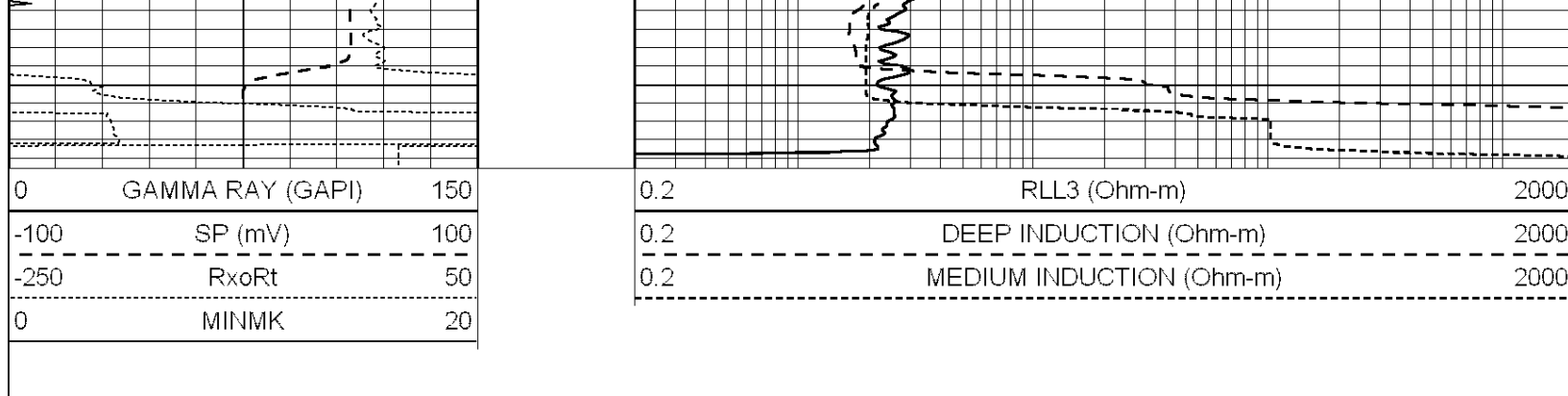
3650

3700

3750

|     |                          |      |
|-----|--------------------------|------|
| 0.2 | RLL3 (Ohm-m)             | 2000 |
| 0.2 | DEEP INDUCTION (Ohm-m)   | 2000 |
| 0.2 | MEDIUM INDUCTION (Ohm-m) | 2000 |





**Calibration Report**

Database File: 22217ddn.db  
 Dataset Pathname: pass3.5  
 Dataset Creation: Fri Jan 17 06:11:17 2014 by Calc Open-Cased 090629

| Dual Induction Calibration Report |       |       |                                       |       |         |         |         |        |
|-----------------------------------|-------|-------|---------------------------------------|-------|---------|---------|---------|--------|
| Serial-Model:<br>Performed:       |       |       | DIL3-GEAR<br>Sat Jan 04 10:54:27 2014 |       |         |         |         |        |
| Readings                          |       |       | References                            |       |         | Results |         |        |
| Loop:                             | Air   | Loop  | Air                                   | Loop  |         | m       | b       |        |
| Deep                              | 0.011 | 0.656 | V                                     | 0.000 | 400.000 | mmho/m  | 500.000 | 2.000  |
| Medium                            | 0.013 | 0.740 | V                                     | 0.000 | 462.500 | mmho/m  | 580.000 | 3.000  |
| Internal:                         | Zero  | Cal   | Zero                                  | Cal   |         | m       | b       |        |
| Deep                              | 0.002 | 0.645 | V                                     | 0.000 | 400.000 | mmho/m  | 560.000 | -1.071 |
| Medium                            | 0.007 | 0.740 | V                                     | 0.000 | 462.500 | mmho/m  | 540.000 | -4.000 |

| Compensated Density Calibration Report |         |      |                             |        |               |  |
|----------------------------------------|---------|------|-----------------------------|--------|---------------|--|
| Serial-Model:                          |         |      | GEAR2-GEARHART              |        |               |  |
| Source / Verifier:                     |         |      | 147 / 147                   |        |               |  |
| Master Calibration Performed:          |         |      | Fri Nov 08 12:50:12 2013    |        |               |  |
| Master Calibration                     |         |      |                             |        |               |  |
|                                        | Density |      | Far Detector                |        | Near Detector |  |
| Magnesium                              | 1.710   | g/cc | 923.76                      | 475.45 | cps           |  |
| Aluminum                               | 2.580   | g/cc | 205.31                      | 331.69 | cps           |  |
| Spine Angle = 76.54                    |         |      | Density/Spine Ratio = 0.563 |        |               |  |
|                                        | Size    |      | Reading                     |        |               |  |
| Small Ring                             | 8.40    | in   | 3.59                        | V      |               |  |
| Large Ring                             | 14.00   | in   | 5.47                        | V      |               |  |

**Compensated Neutron Calibration Report**

Serial Number: 080620  
 Tool Model: Probe

| 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:               | 7                        |          |  |
| Tool Model:                  | Probe1                   |          |  |
| Performed:                   | Sat Jan 04 10:53:32 2014 |          |  |
| Calibrator Value:            | 1.0                      | GAPI     |  |
| Background Reading:          | 0.0                      | cps      |  |
| Calibrator Reading:          | 1.0                      | cps      |  |
| Sensitivity:                 | 0.5000                   | GAPI/cps |  |