



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**MICRO
LOG**

| | | | |
|------------------------------|-----------------------------|-----------------------------|----------------|
| Company | | MULL DRILLING COMPANY, INC. | |
| Well | APC - BETTY #1-27 | | |
| Field | | | |
| County | CHEYENNE | State | COLORADO |
| Location: | APL # : 05-017-07779-0000 | | Other Services |
| | 865' FSL & 1878' FEL | | CDL/CNL/PE |
| | SW/4 - SE/4 | | DIL/SON |
| Permanent Datum | SEC 27 | TWP 16S | RGE 45W |
| Log Measured From | GROUND LEVEL Elevation 4227 | | |
| Drilling Measured From | KELLY BUSHING 11' A.G.L. | | |
| | KELLY BUSHING | | |
| | Elevation | | |
| | K.B. 4238 | | |
| | D.F. 4236 | | |
| | G.L. 4227 | | |
| Date | 1/23/14 | | |
| Run Number | TWO | | |
| Depth Driller | 5490 | | |
| Depth Logger | 5494 | | |
| Bottom Logged Interval | 5476 | | |
| Top Log Interval | 3600 | | |
| Casing Driller | 8 5/8" @ 343 | | |
| Casing Logger | 339 | | |
| Bit Size | 7 7/8" | | |
| Type Fluid in Hole | CHEMICAL MUD | | |
| Density / Viscosity | 9.3/58 | | |
| pH / Fluid Loss | 10.5/8.0 | | |
| Source of Sample | FLOWLINE | | |
| Rm @ Meas. Temp | .75 @ 72F | | |
| Rmt @ Meas. Temp | .56 @ 72F | | |
| Rmc @ Meas. Temp | .89 @ 72F | | |
| Source of Rmt / Rmc | MEASUREMENT | | |
| Rm @ BHT | .42 @ 129F | | |
| Time Circulation Stopped | 2 HOURS | | |
| Time Logger on Bottom | | | |
| Maximum Recorded Temperature | 129F | | |
| Equipment Number | 4010 | | |
| Location | HAYS, KANSAS | | |
| Recorded By | JEFF GRONEWEG | | |
| Witnessed By | PHIL ASKEY | | |

<<< Fold Here >>>

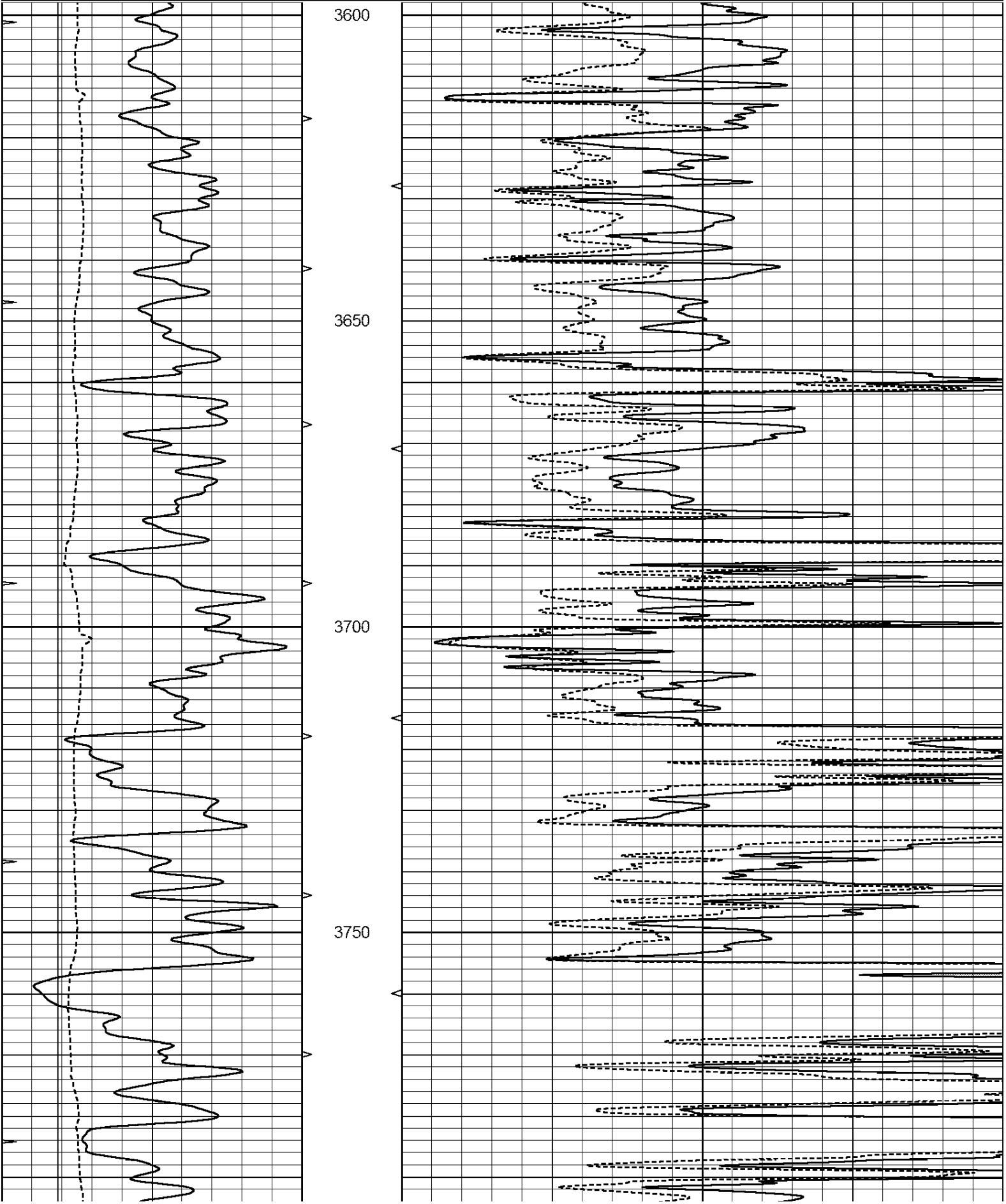
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

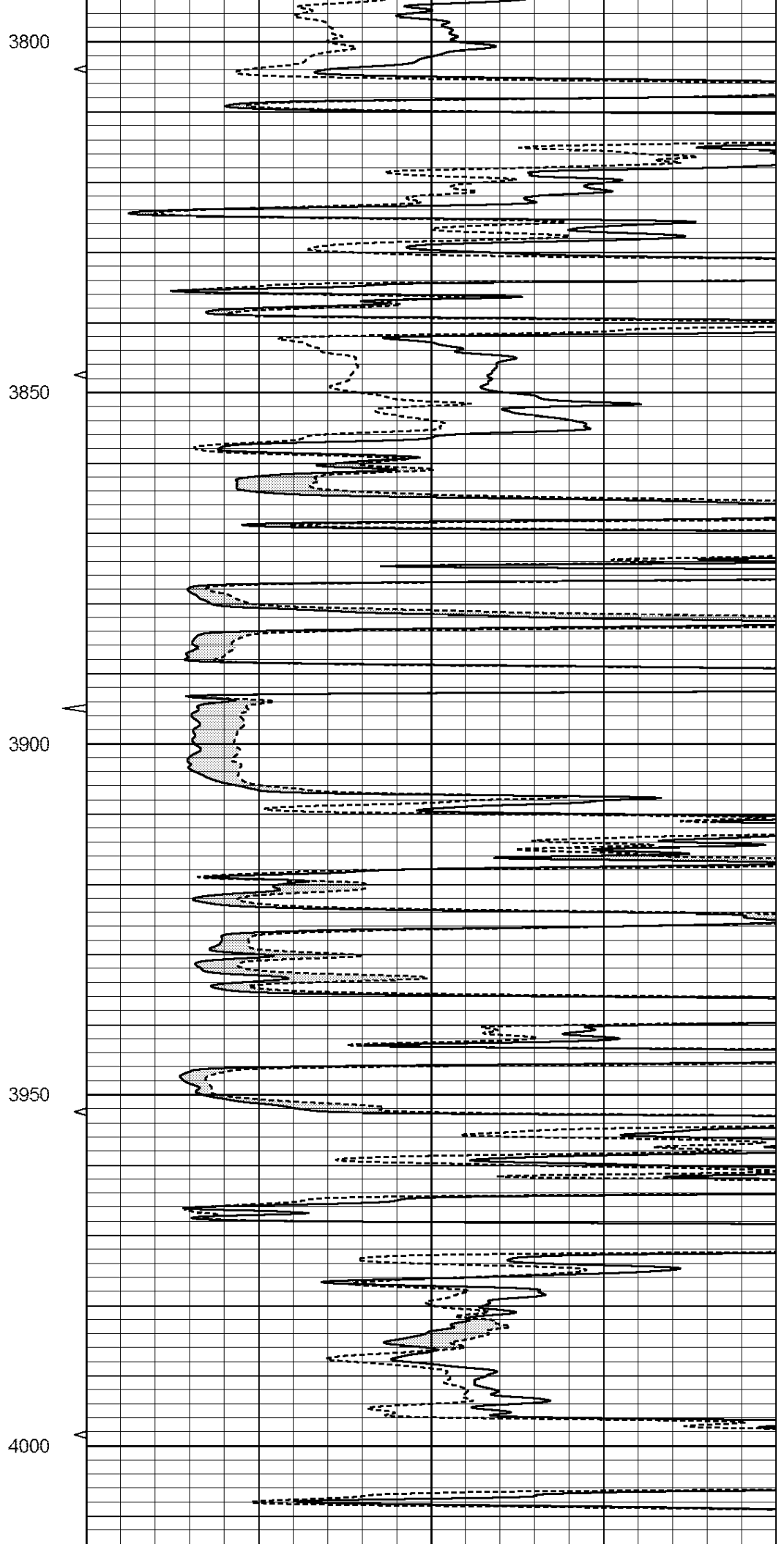
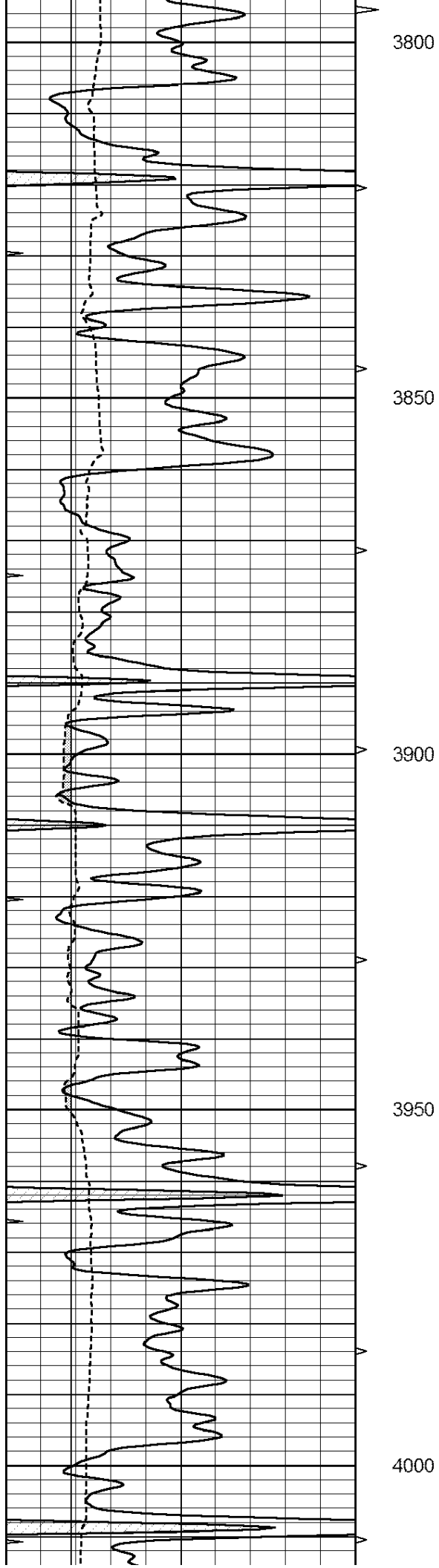
Comments

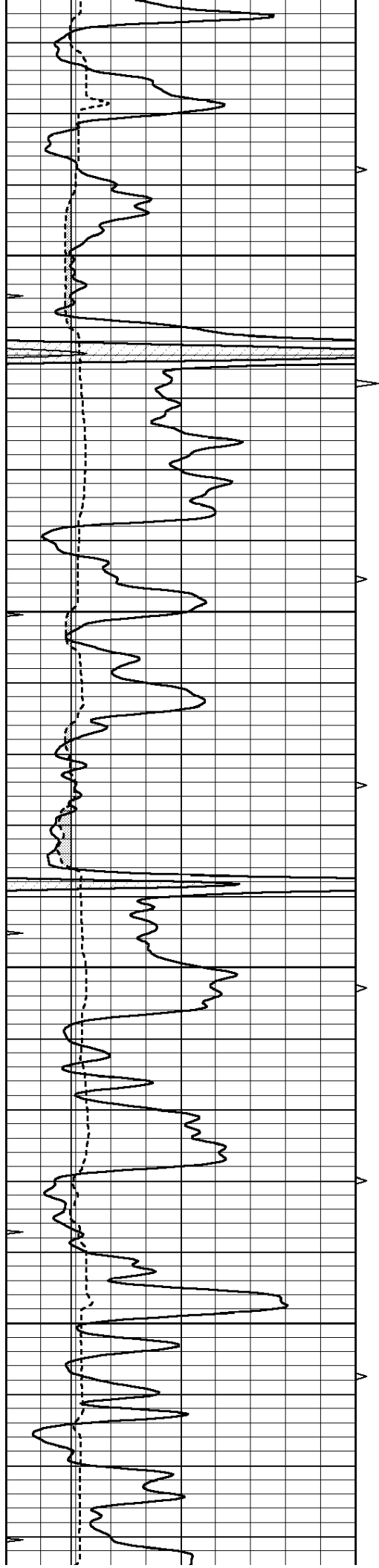
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
 DIRECTIONS:
 CHEYENNE WELLS, COLORADO - 14 MILES SOUTH ON HWY 385 TO RD C
 6 MILES WEST TO T IN ROAD - 1/2 MILE SOUTH - WEST INTO

Database File: 23879pe.db
 Dataset Pathname: pass7.1
 Presentation Format: _micro
 Dataset Creation: Thu Jan 23 14:59:11 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

| | | | | | | |
|-------------------|------------------|-----|-----------------------------|---|----------------|----|
| Charted by: _____ | | | Depth in Feet scaled 1:2.10 | | | |
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 0 | MEL1.5 (Ohm-m) | 40 |
| 6 | CALIPER (in) | 16 | | 0 | MEL2.0 (Ohm-m) | 40 |
| ----- | | | | | | |
| 0 | MINMK | 20 | TBHV | | | |
| | | | 0 (ft3) 10 | | | |





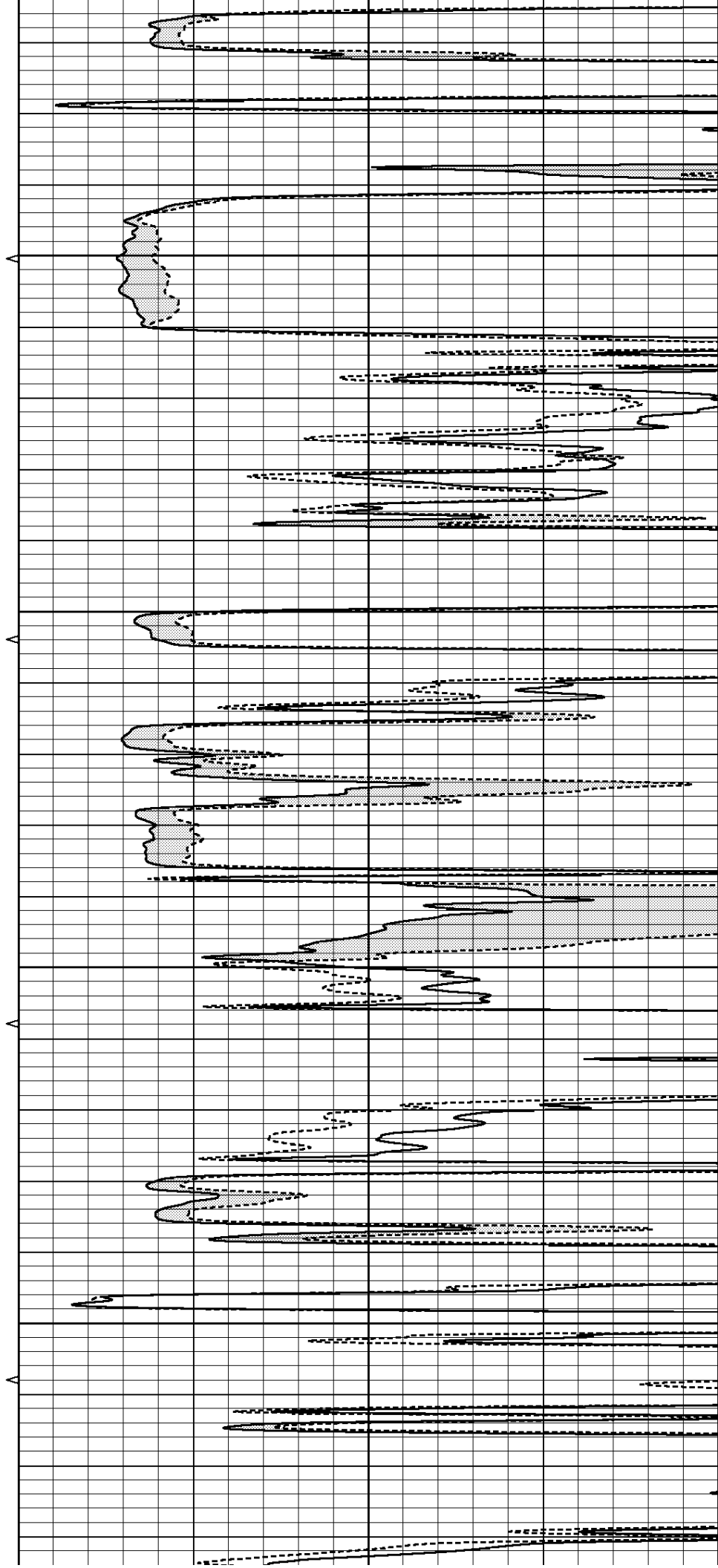


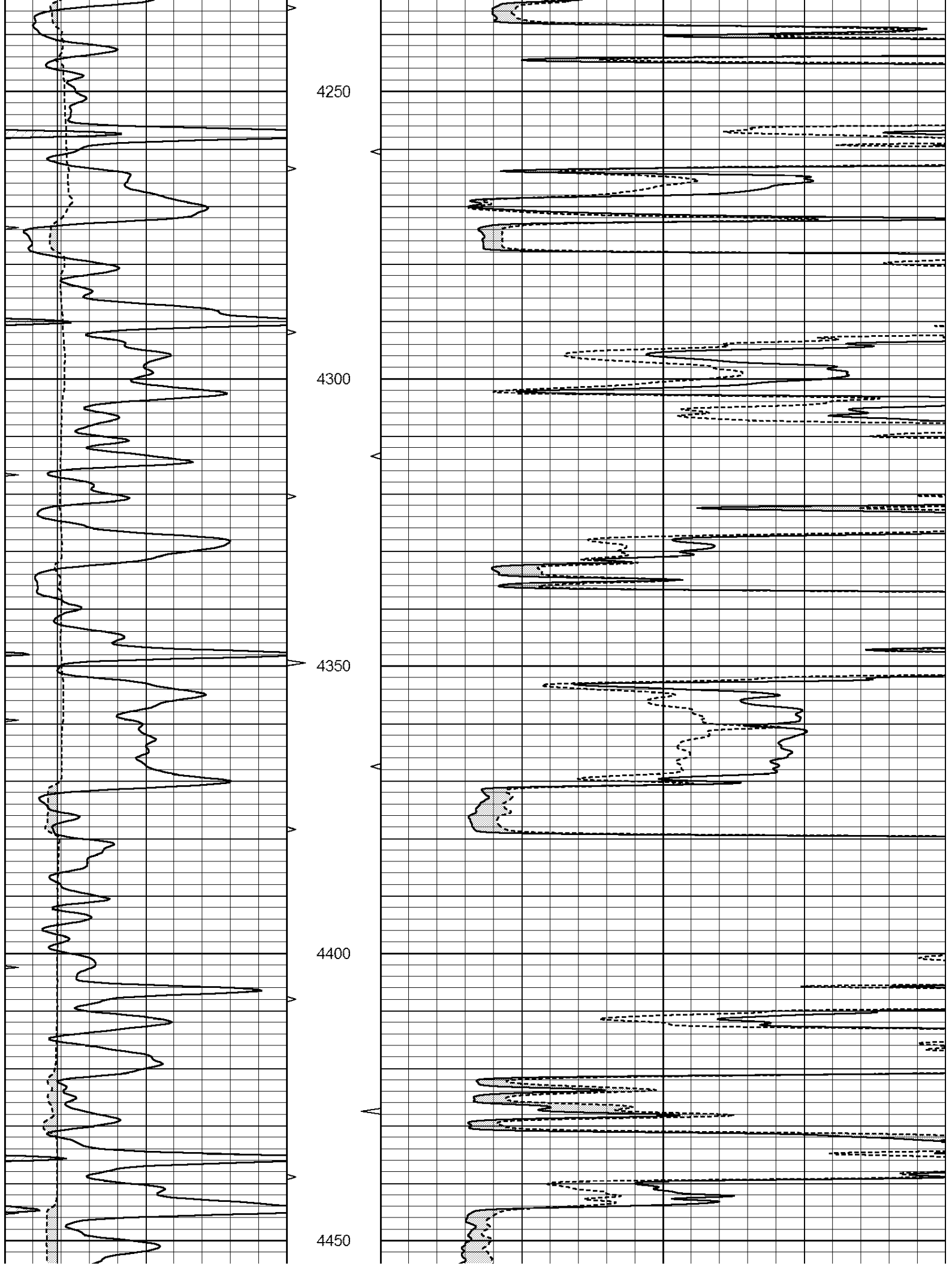
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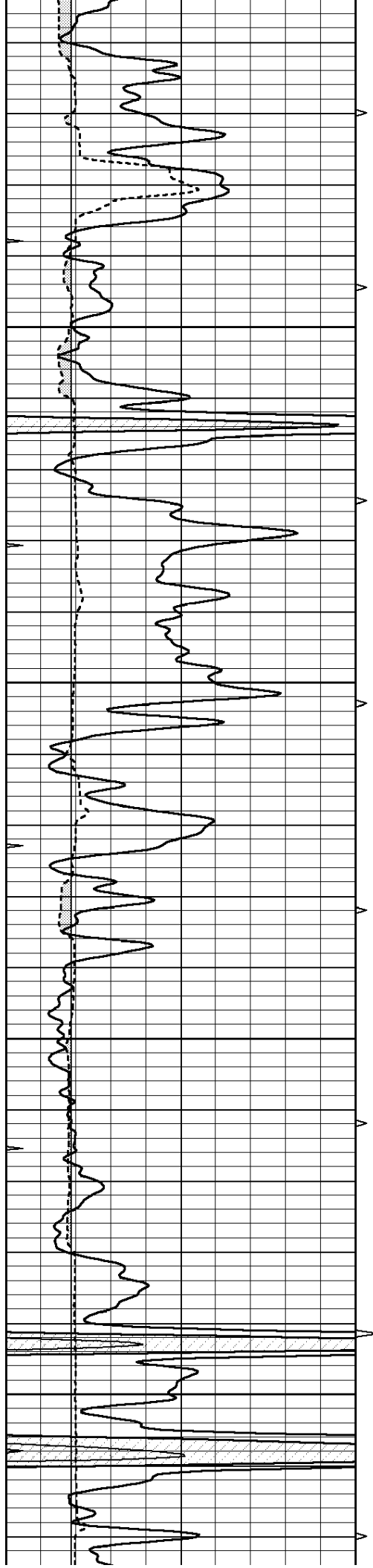
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4150

4200





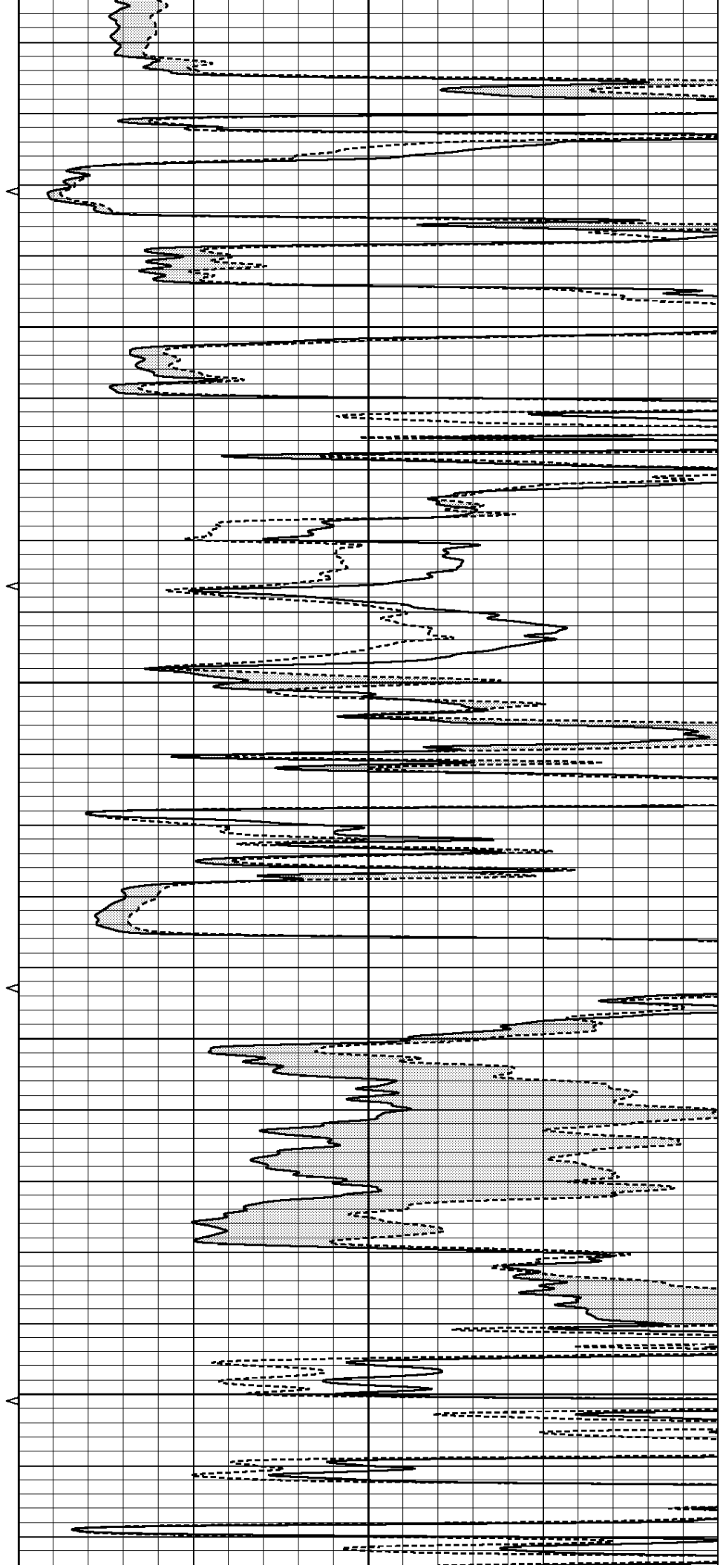


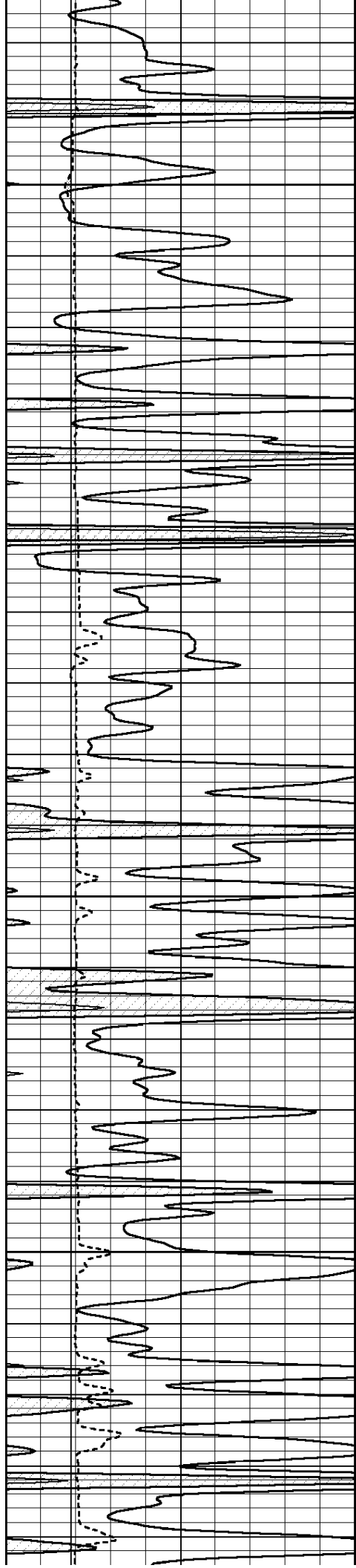
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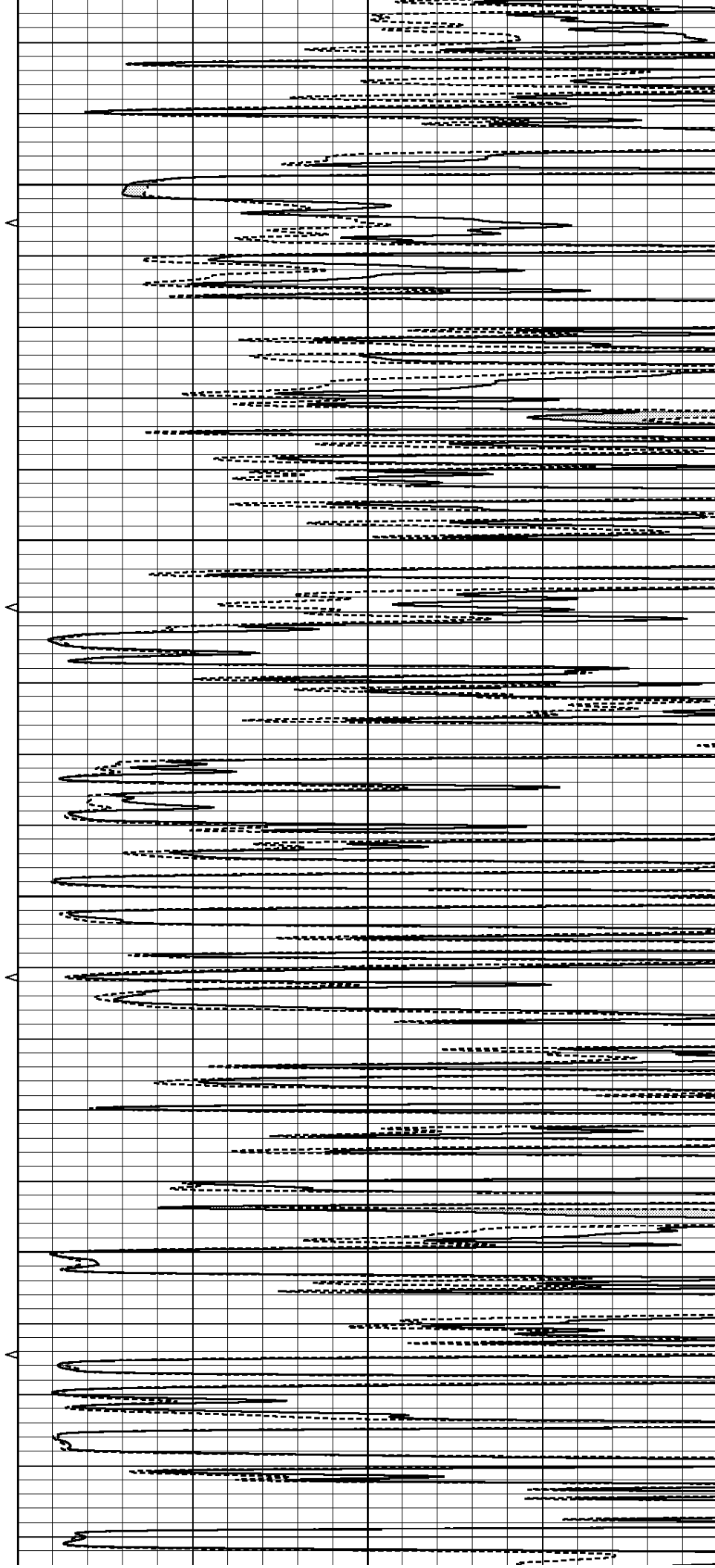


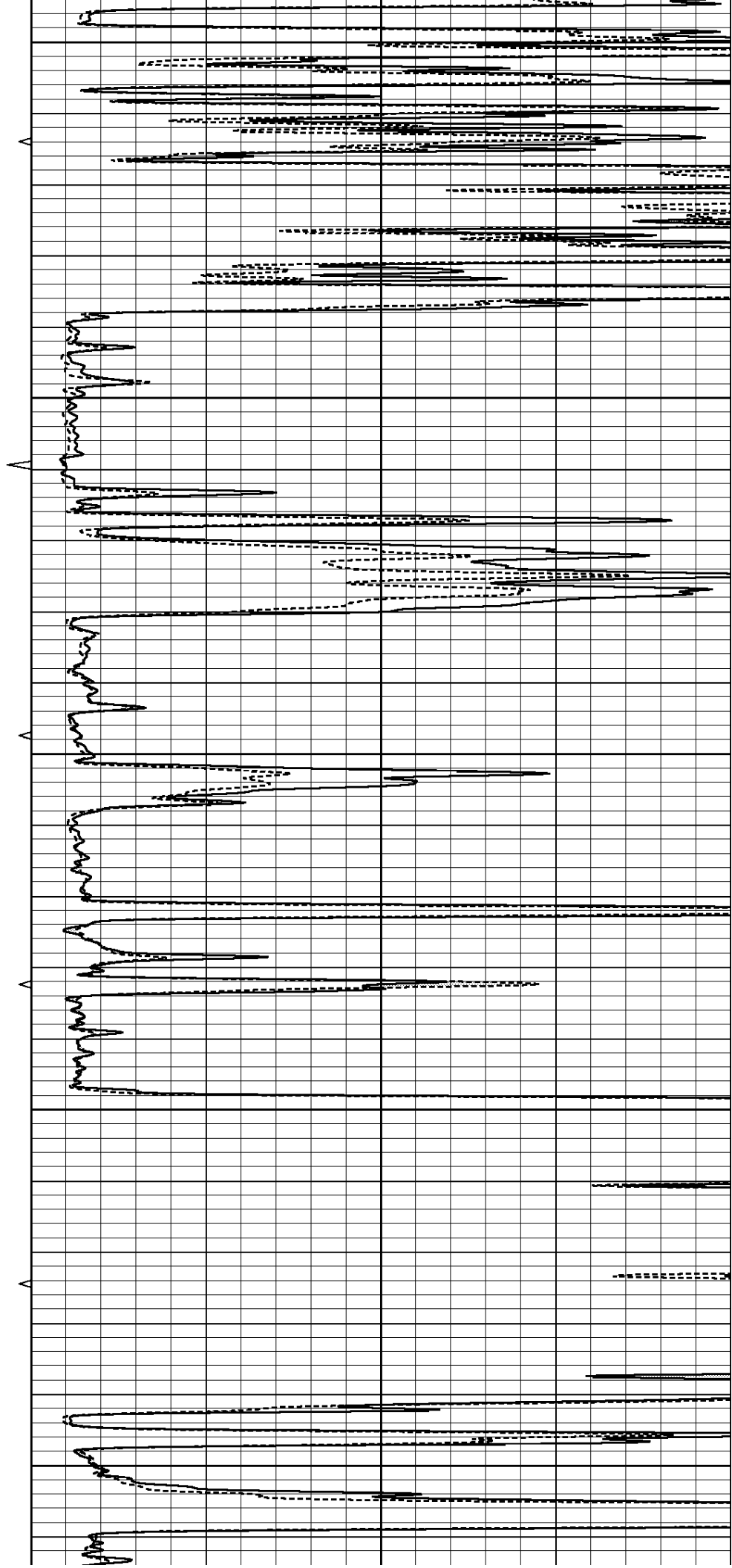
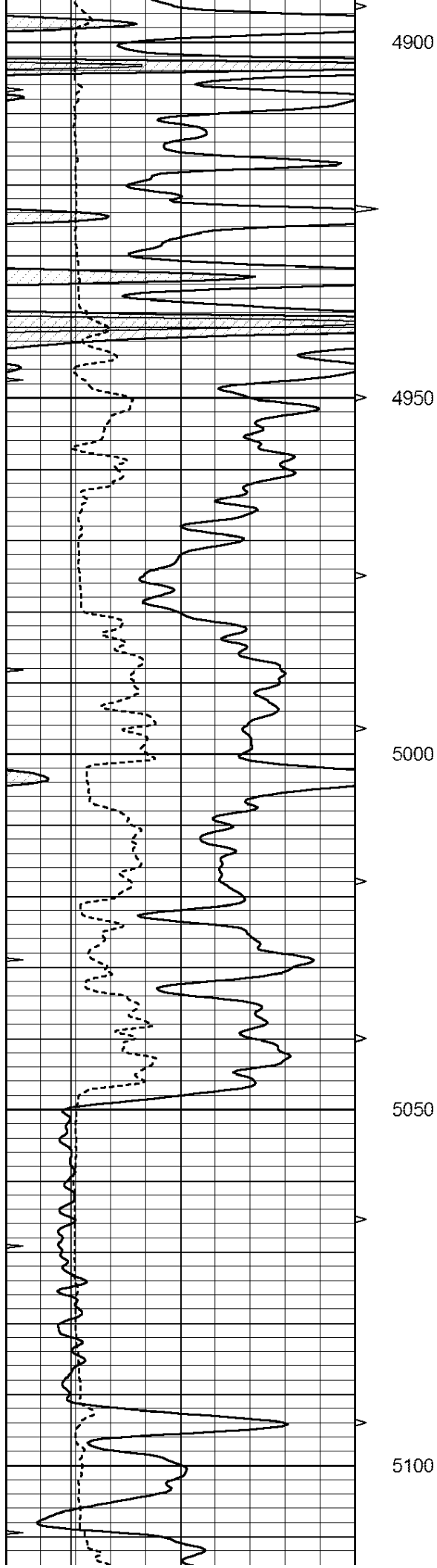
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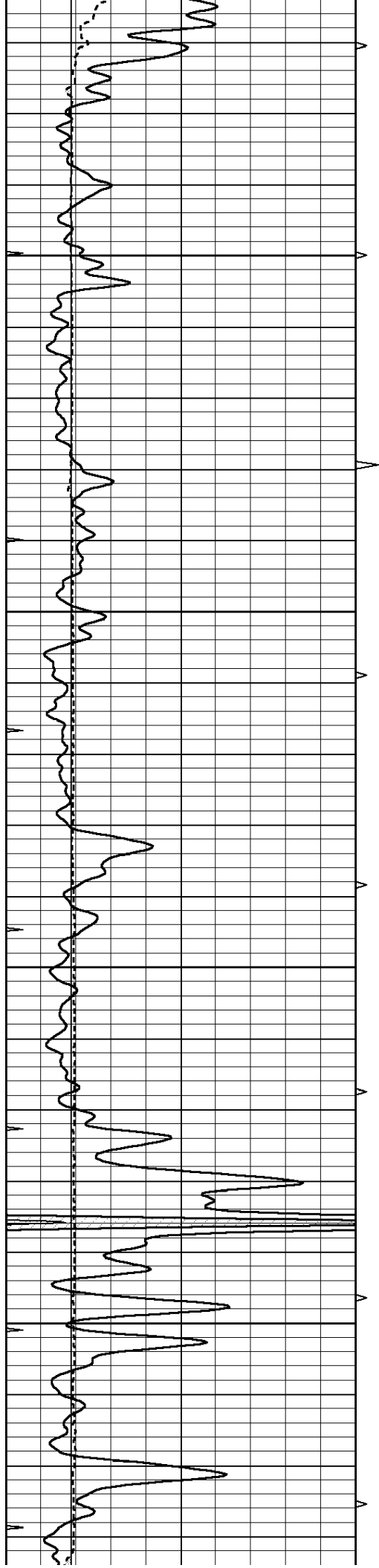
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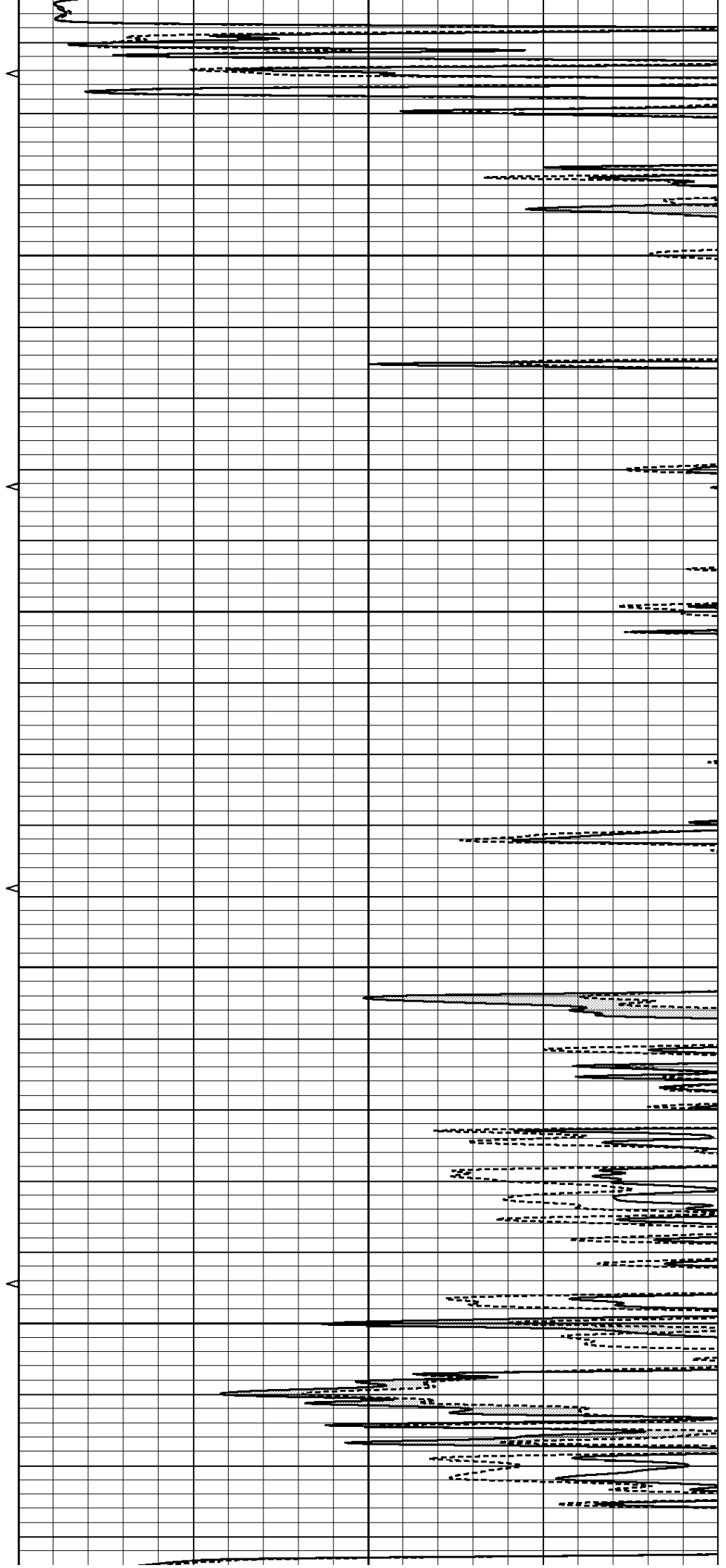


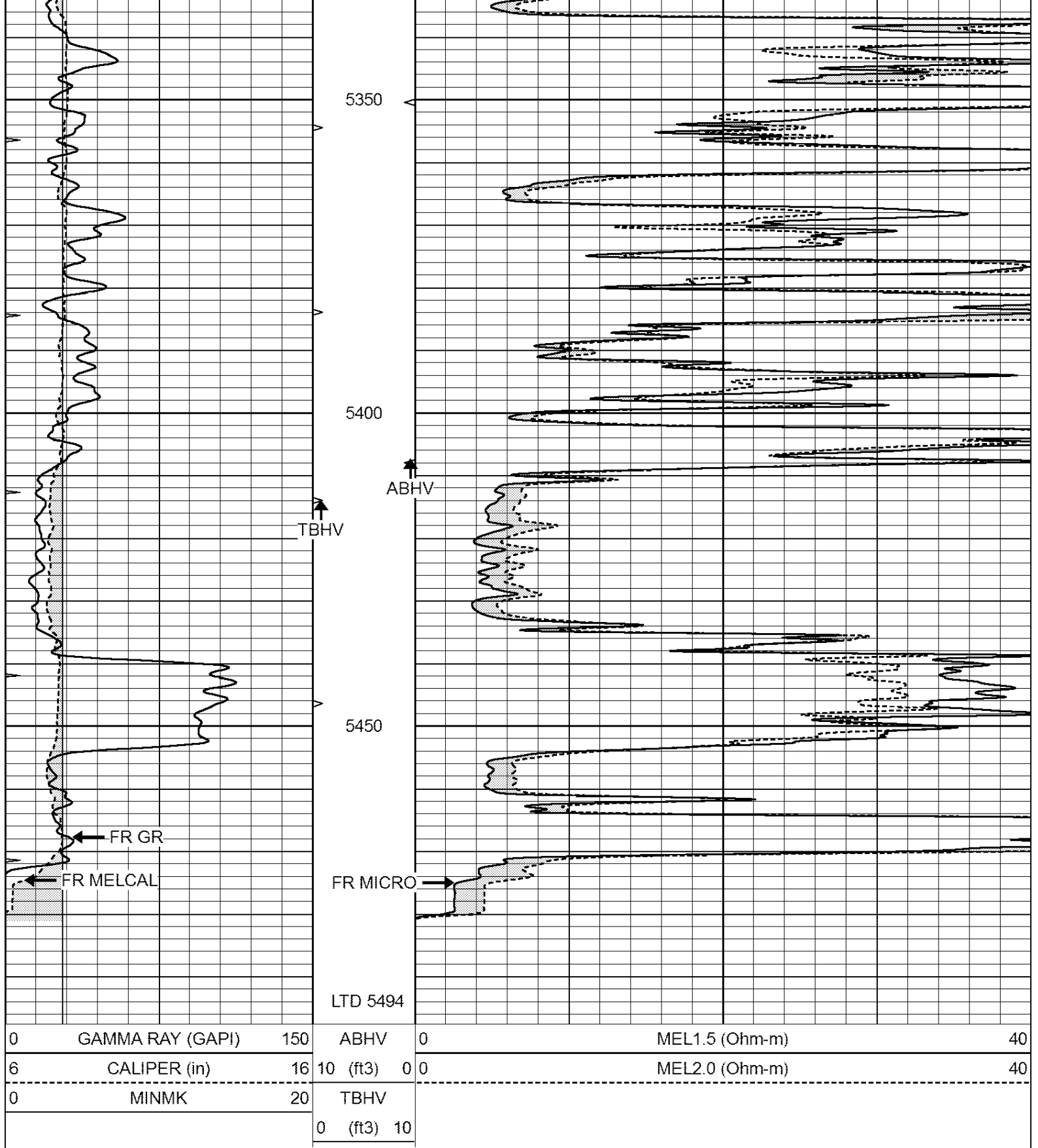
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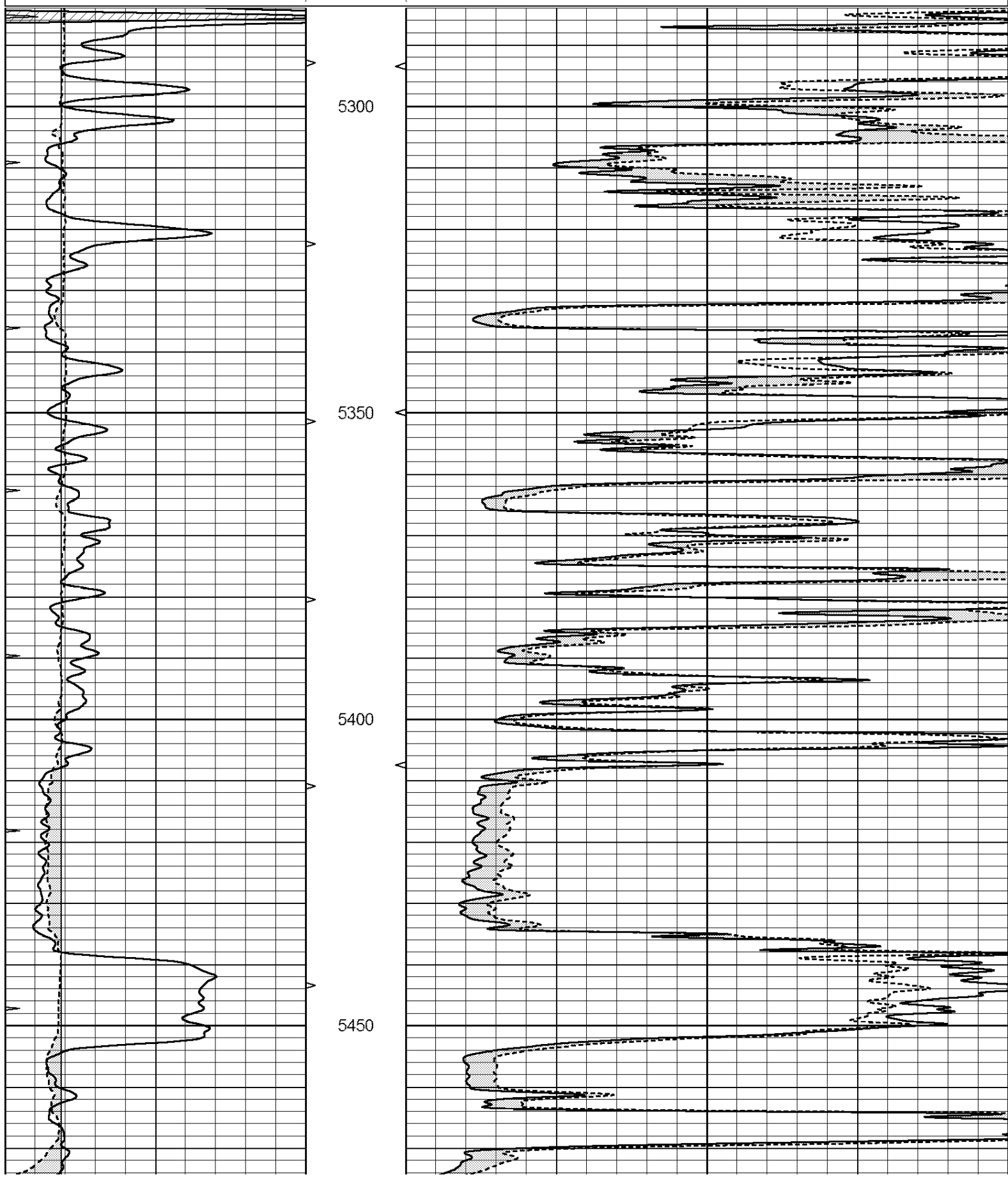
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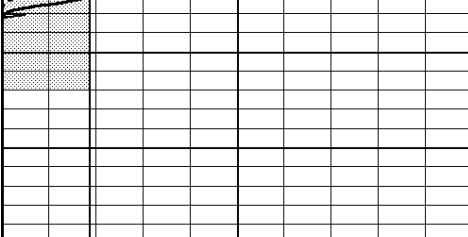
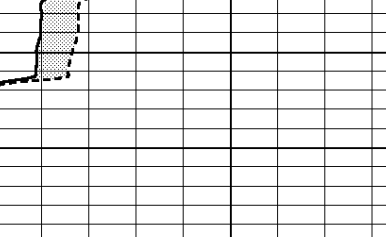
5300





| | | | | | | |
|---|------------------|-----|----------|-----|----------------|----|
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 0 | MEL1.5 (Ohm-m) | 40 |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 0 | MEL2.0 (Ohm-m) | 40 |
| 0 | MINMK | 20 | TBHV | | | |
| | | | 0 (ft3) | 10 | | |



| | | | | | | |
|--|------------------|-----|--|----|----------------|----|
|  | | |  | | | |
| 5500 | | | | | | |
| 0 | GAMMA RAY (GAPI) | 150 | ABHV | 0 | MEL1.5 (Ohm-m) | 40 |
| 6 | CALIPER (in) | 16 | 10 (ft3) | 0 | MEL2.0 (Ohm-m) | 40 |
| 0 | MINMK | 20 | TBHV | | | |
| | | | 0 (ft3) | 10 | | |

| Calibration Report | | | |
|------------------------------|--|---------------|--|
| Database File: | 23879pe.db | | |
| Dataset Pathname: | pass7.1 | | |
| Dataset Creation: | Thu Jan 23 14:59:11 2014 by Calc Open-Cased 090629 | | |
| MICRO Calibration Report | | | |
| Serial Number: | MICRO6 | | |
| Tool Model: | PROBE | | |
| Performed: | Thu Jan 02 15:52:11 2014 | | |
| Caliper Calibration: | Gain=5.542 | Offset=-0.920 | |
| | Low Cal | High Cal | |
| References | 8.000 | 14.000 | |
| Readings | 1.431 | 2.513 | |
| 1.5" Calibration: | Gain=38.075 | Offset=0.000 | |
| | Low Cal | High Cal | |
| References | 0.000 | 20.000 | |
| Readings | 0.004 | 1.196 | |
| 2" Calibration: | Gain=39.041 | Offset=0.000 | |
| | Low Cal | High Cal | |
| References | 0.000 | 20.000 | |
| Readings | 0.006 | 0.913 | |
| Gamma Ray Calibration Report | | | |
| Serial Number: | GR6 | | |
| Tool Model: | OPEN | | |
| Performed: | Fri Nov 29 08:34:37 2013 | | |
| Calibrator Value: | 150.0 | GAPI | |
| Background Reading: | 0.0 | cps | |
| Calibrator Reading: | 276.0 | cps | |
| Sensitivity: | 0.6035 | GAPI/cps | |