



**PIONEER**

Pioneer Energy Services

## CEMENT BOND LOG WITH GAMMA RAY

Company **HARTMAN OIL COMPANY, INC.**

Well **DAMME #37**

Field **DAMME**

County **FINNEY**

State **KANSAS**

Location: **660' FNL & 1820' FEL**

Other Services

SEC 21 TWP 22S RGE 33W

PERFORATE

Permanent Datum **GROUND LEVEL** Elevation **2879'**

Log Measured From **KELLY BUSHING 8' Above GL**

Drilling Measured From **KELLY BUSHING**

Elevation  
K.B. 2887'  
D.F. N/A  
G.L. 2879'

Comp. **HARTMAN OIL COMPANY, INC.**  
Well **DAMME #37**  
Field **DAMME**  
Co. **FINNEY**  
State **KANSAS**

Date of Service **03/20/2018**

Run Number **ONE**

Depth Driller or PBTD **4828'**

Depth Logger **4806'**

Bottom Log Interval **4804'**

Top Log Interval **3300'**

Open Hole Size **7.875"**

Type Fluid **WATER**

Fluid Level **FULL**

Fluid Density **N/A**

Max. Recorded Temperature **124 DEG F**

Max. Wellhead Pressure **0 PSI**

Wellhead Connection **N/A**

Estimated Cement Top **3500'**

Unit Number **T-18**

Wireline Size **5/16"**

Location **COLBY, KS**

Recorded By **D.WALKER**

Witnessed By **KENT STRUBE**

Size **Wt/Ft**

Top

Bottom

Tubing Record

Surface Casing

Production Casing

Liner Record

### Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.  
SCOTT CITY, KANSAS  
SOUTH TO BARLOW ROAD,  
3.5 WEST, SOUTH AND EAST INTO

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew

Engineer: D.WALKER  
Operator: M.HISS  
Operator:  
Operator:

Tool Data - Services

Serial Number

Top - Bottom

|                  |                           |                        |                       |                         |                       |                     |                     |
|------------------|---------------------------|------------------------|-----------------------|-------------------------|-----------------------|---------------------|---------------------|
| PPT<br>usec<br>0 | CASEWGHT<br>lb/ft<br>15.5 | MAXAMPL<br>mV<br>0     | MINAMPL<br>mV<br>1    | MINATTN<br>db/ft<br>0.8 | SRFTEMP<br>degF<br>30 | CASETHCK<br>in<br>0 | CASEOD<br>in<br>5.5 |
| PERFS<br><br>0   | TDEPTH<br>ft<br>4828      | BOTTEMP<br>degF<br>123 | BOREID<br>in<br>7.875 |                         |                       |                     |                     |

| Sensor | Offset (ft) | Schematic | Description                                                           | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|-----------|-----------------------------------------------------------------------|-------------|-----------|-------------|
|        |             |           | CENT-Probe<br>Probe Centralizer                                       | 2.83        | 2.75      | 20.00       |
| WVFS8  | 11.63       |           | RBT-Probe (4.5040904)<br>Probe Radii Bond Tool with Digital Telemetry | 8.75        | 2.75      | 107.00      |
| WVFS7  | 11.63       |           |                                                                       |             |           |             |
| WVFS6  | 11.63       |           |                                                                       |             |           |             |
| WVFS5  | 11.63       |           |                                                                       |             |           |             |
| WVFS4  | 11.63       |           |                                                                       |             |           |             |
| WVFS3  | 11.63       |           |                                                                       |             |           |             |
| WVFS2  | 11.63       |           |                                                                       |             |           |             |
| WVFS1  | 11.63       |           |                                                                       |             |           |             |
| WVFCAL | 11.63       |           |                                                                       |             |           |             |
| WVF3FT | 11.63       |           |                                                                       |             |           |             |
| WVF5FT | 10.63       |           |                                                                       |             |           |             |
|        |             |           | CENT-Probe<br>Probe Centralizer                                       | 2.83        | 2.75      | 20.00       |
|        |             |           |                                                                       |             |           |             |
| CCL    | 3.63        |           |                                                                       |             |           |             |

|                                                                                                                                 |      |                                                                                 |                           |      |      |       |
|---------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------|---------------------------|------|------|-------|
| GR                                                                                                                              | 2.30 |  | GR_CCL-Tiger (TigerProbe) | 4.54 | 2.75 | 50.00 |
| Dataset: hartman_damme_37_grcbl.db: field/well/run1/pass8<br>Total length: 18.96 ft<br>Total weight: 197.00 lb<br>O.D.: 2.75 in |      |                                                                                 |                           |      |      |       |

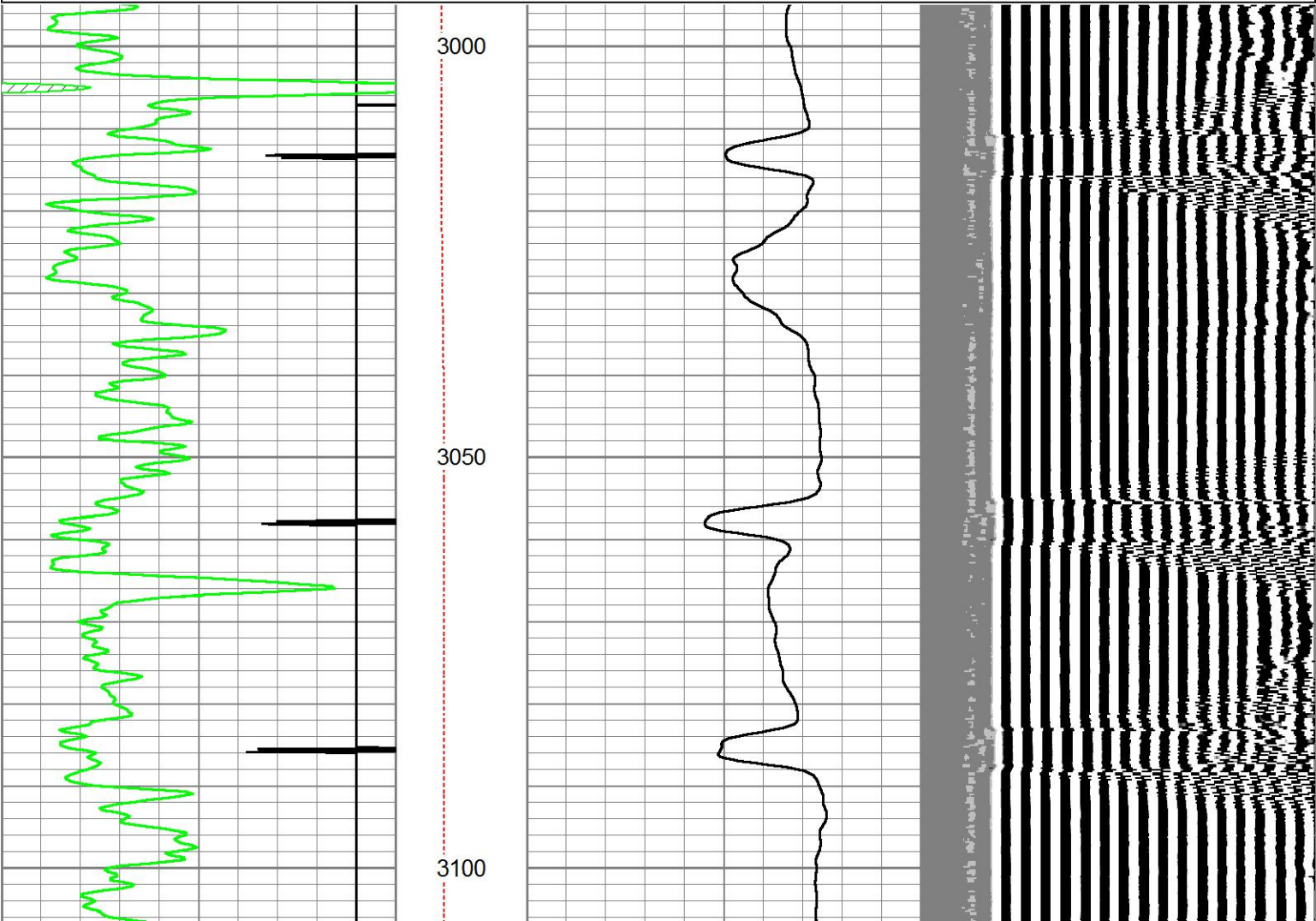


# FREE PIPE SECTION

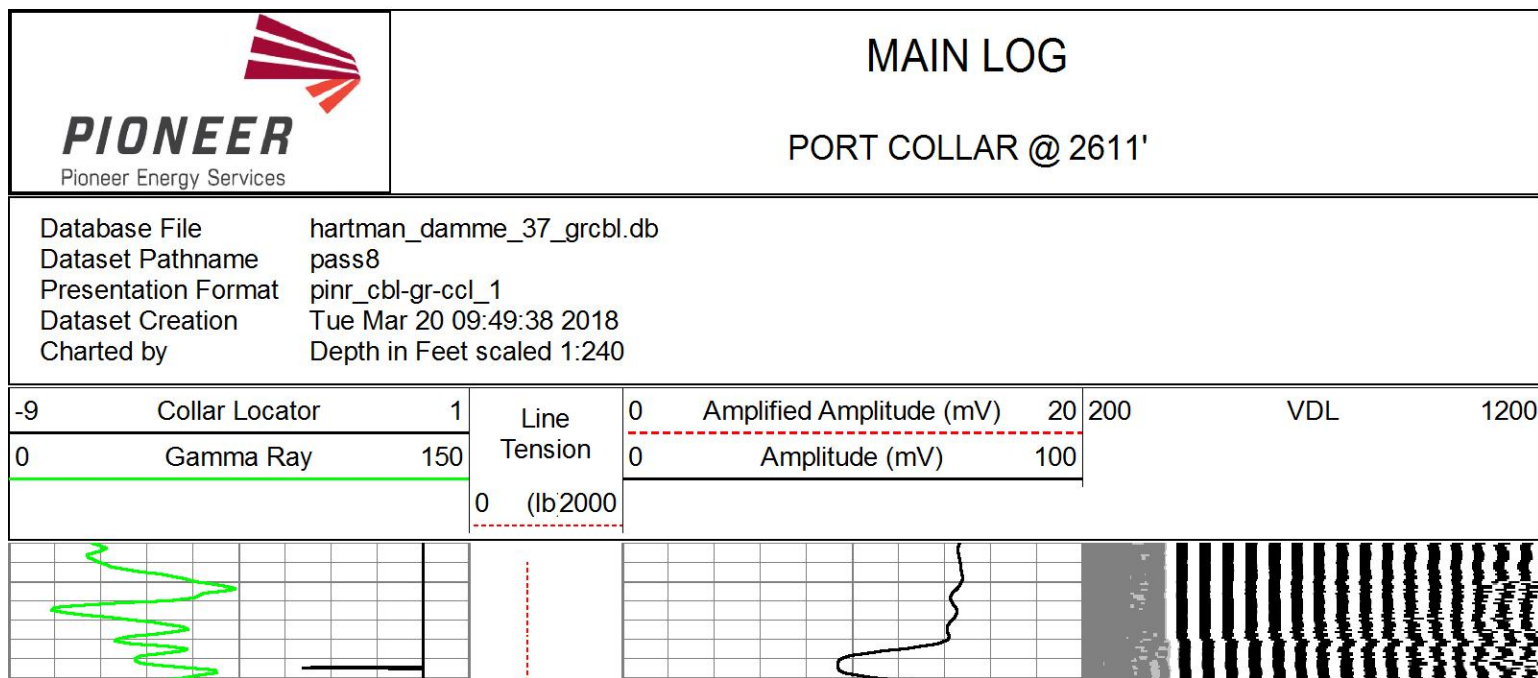
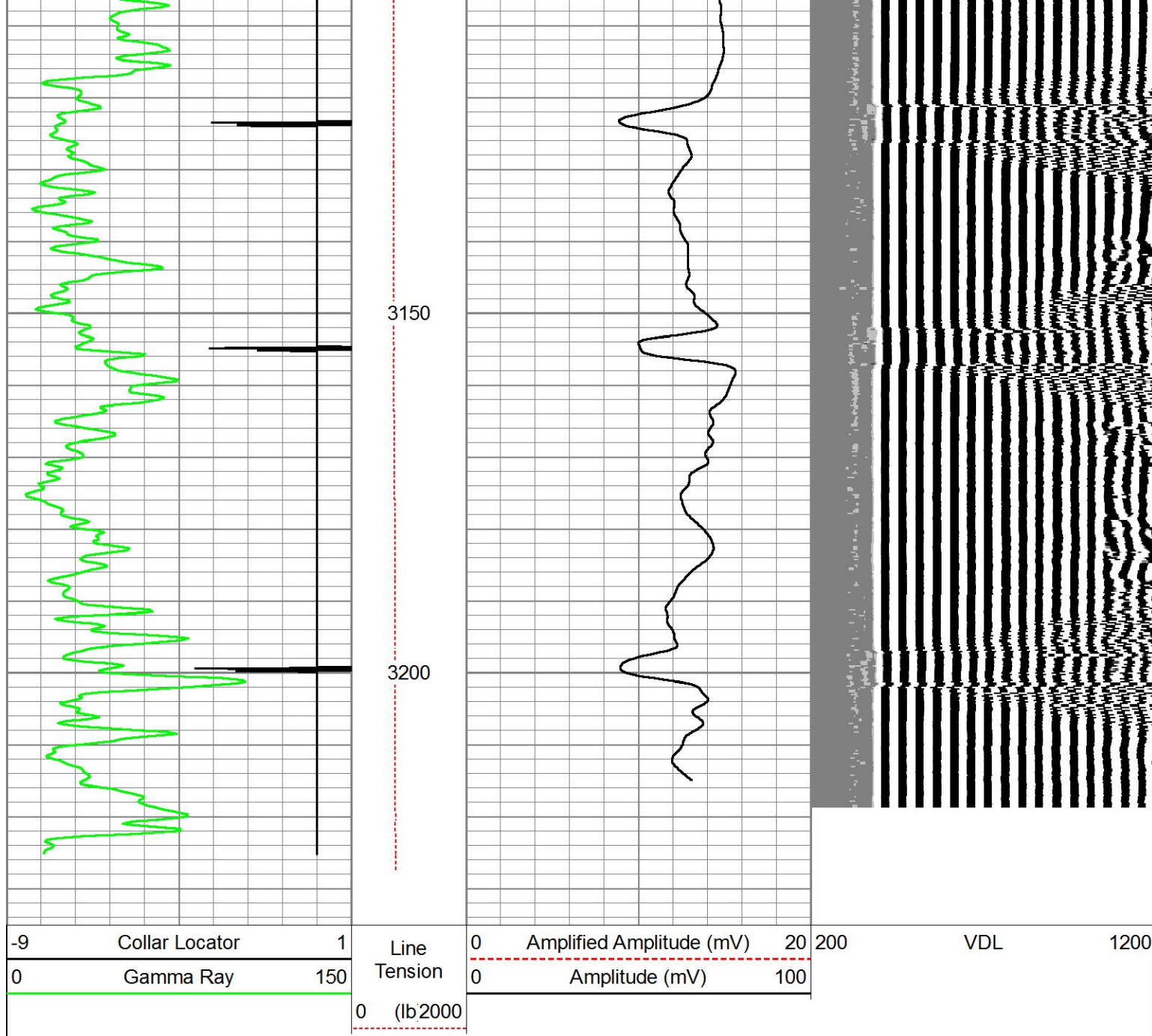
## ZERO PSI APPLIED AT SURFACE

|                     |                            |
|---------------------|----------------------------|
| Database File       | hartman_damme_37_grcbl.db  |
| Dataset Pathname    | pass2                      |
| Presentation Format | pinr_cbl-gr-ccl_1          |
| Dataset Creation    | Tue Mar 20 08:48:36 2018   |
| Charted by          | Depth in Feet scaled 1:240 |

|    |                |     |             |   |                          |     |     |     |      |
|----|----------------|-----|-------------|---|--------------------------|-----|-----|-----|------|
| -9 | Collar Locator | 1   | Line        | 0 | Amplified Amplitude (mV) | 20  | 200 | VDL | 1200 |
| 0  | Gamma Ray      | 150 | Tension     | 0 | Amplitude (mV)           | 100 |     |     |      |
|    |                |     | 0 (lb/2000) |   |                          |     |     |     |      |



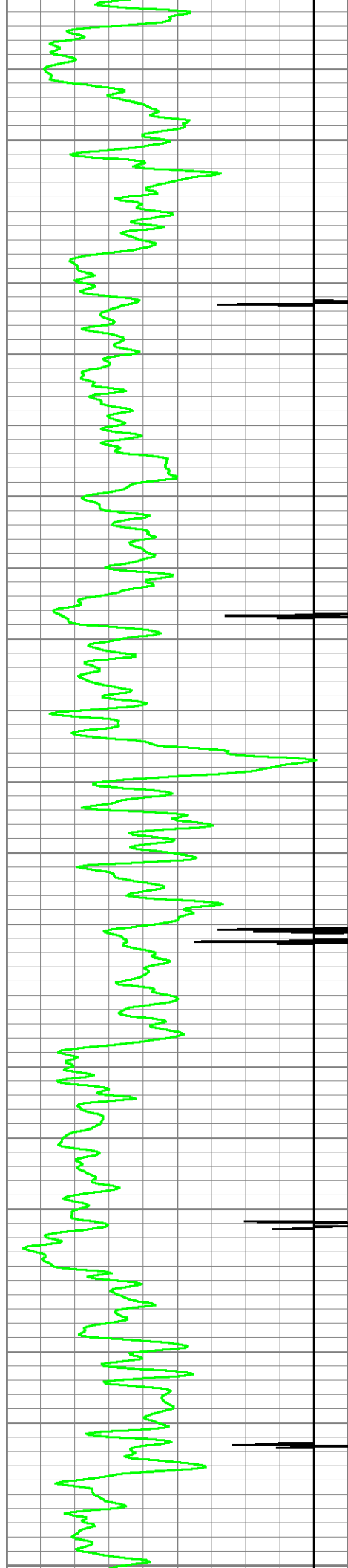




## MAIN LOG

PORT COLLAR @ 2611'

Database File hartman\_damme\_37\_grcbl.db  
 Dataset Pathname pass8  
 Presentation Format pinr\_cbl-gr-ccl\_1  
 Dataset Creation Tue Mar 20 09:49:38 2018  
 Charted by Depth in Feet scaled 1:240



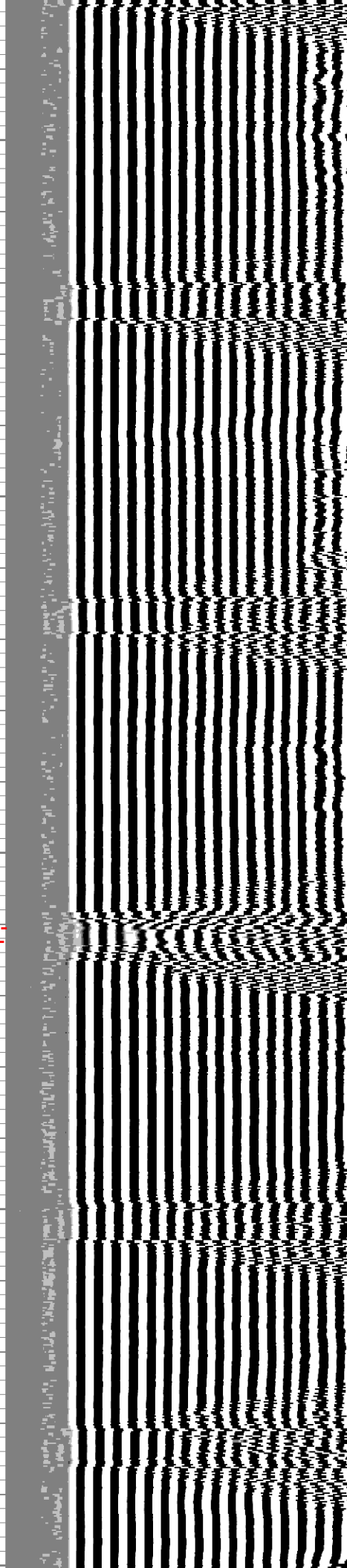
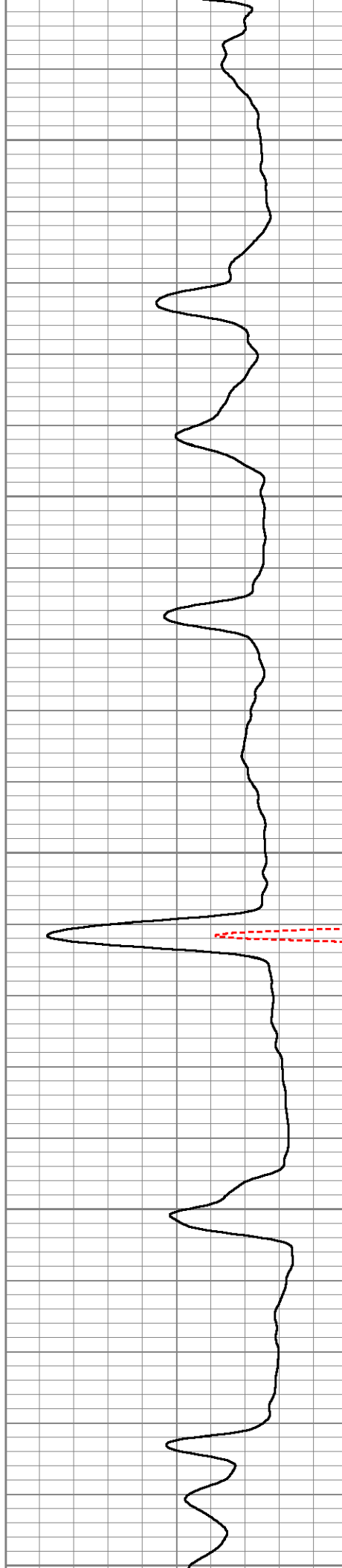
2500

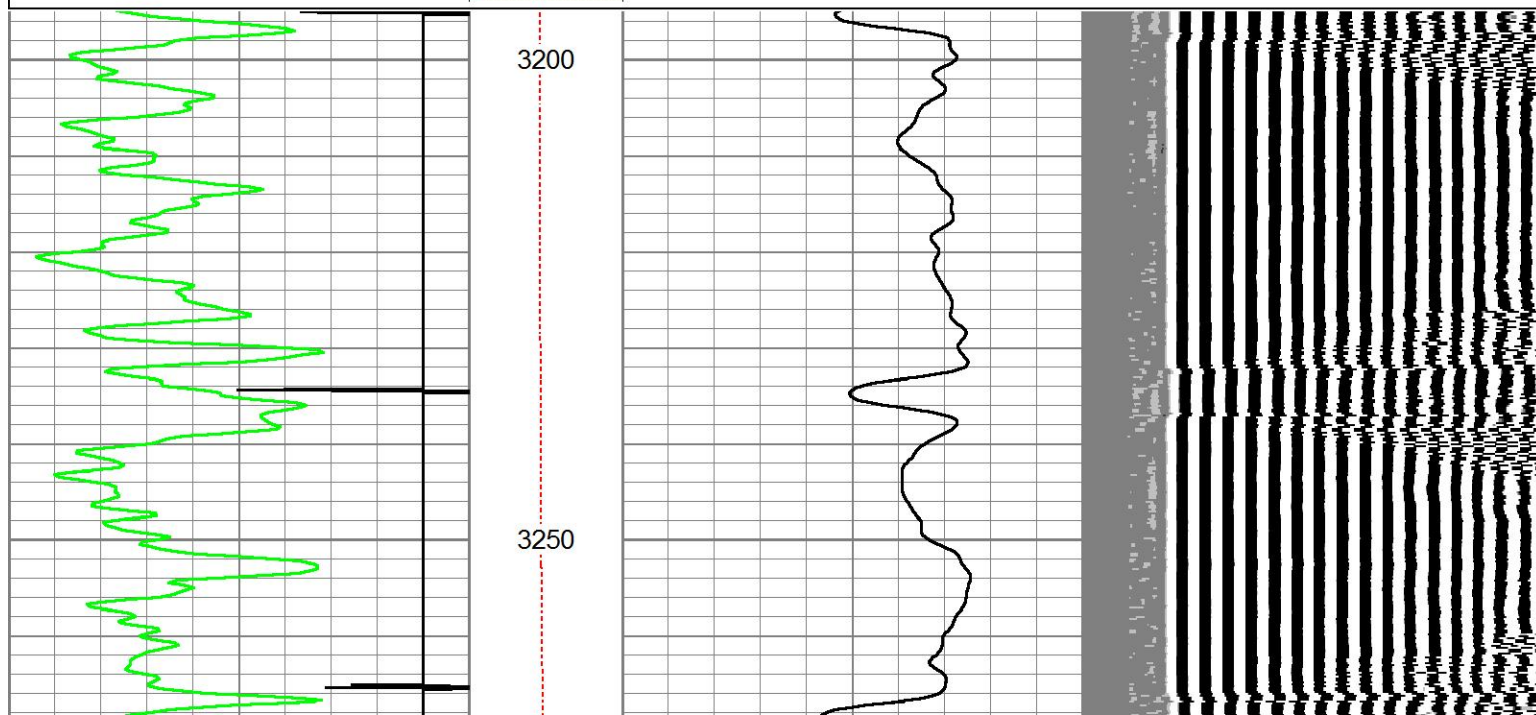
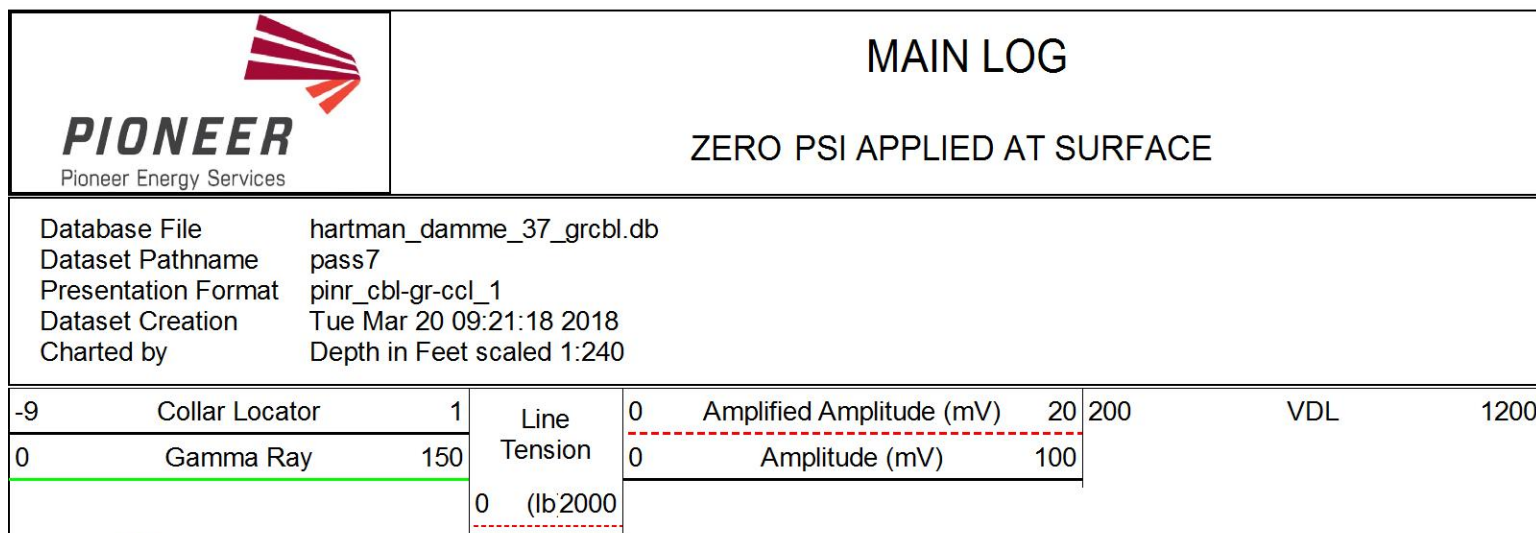
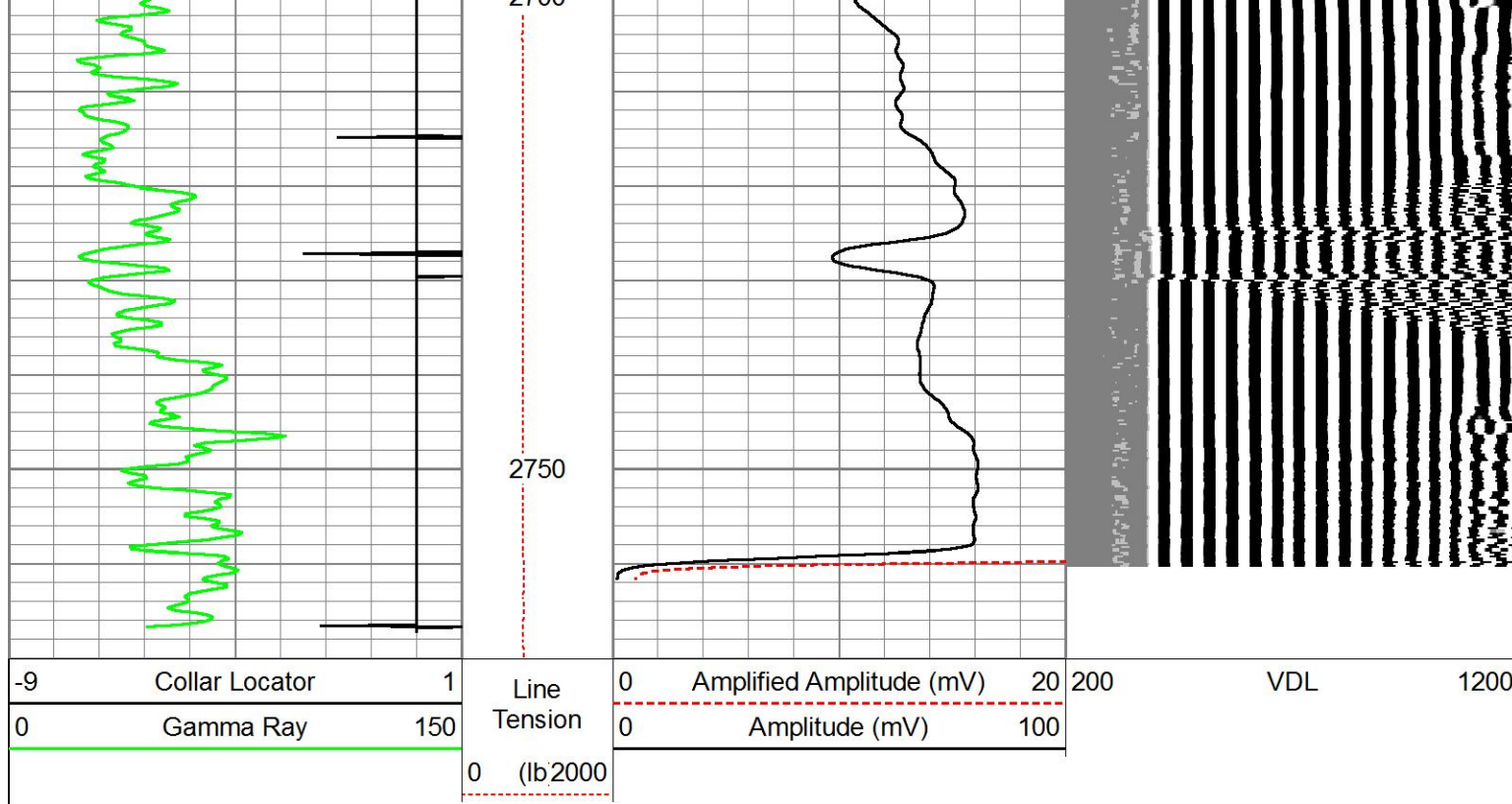
2550

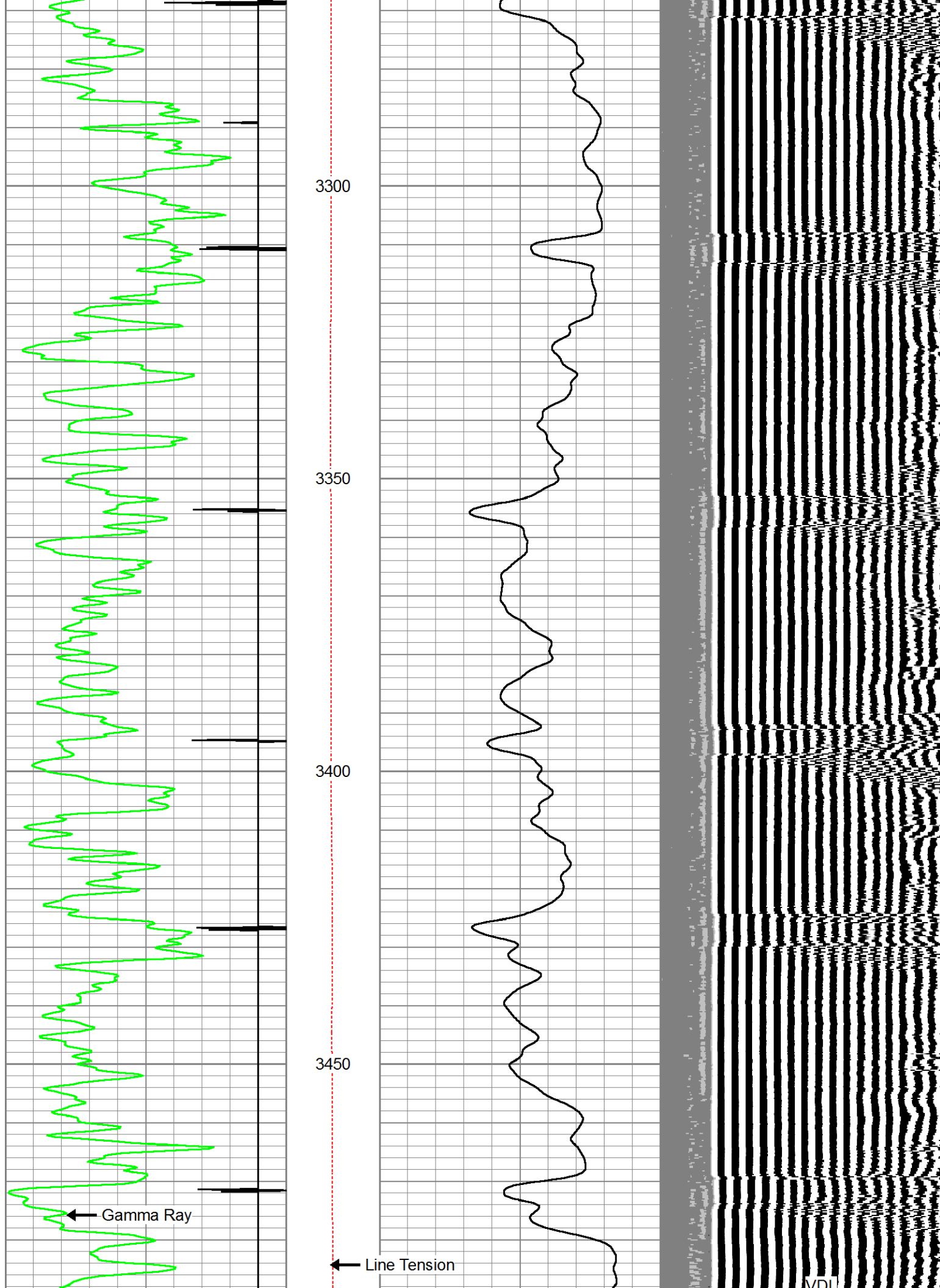
2600

2650

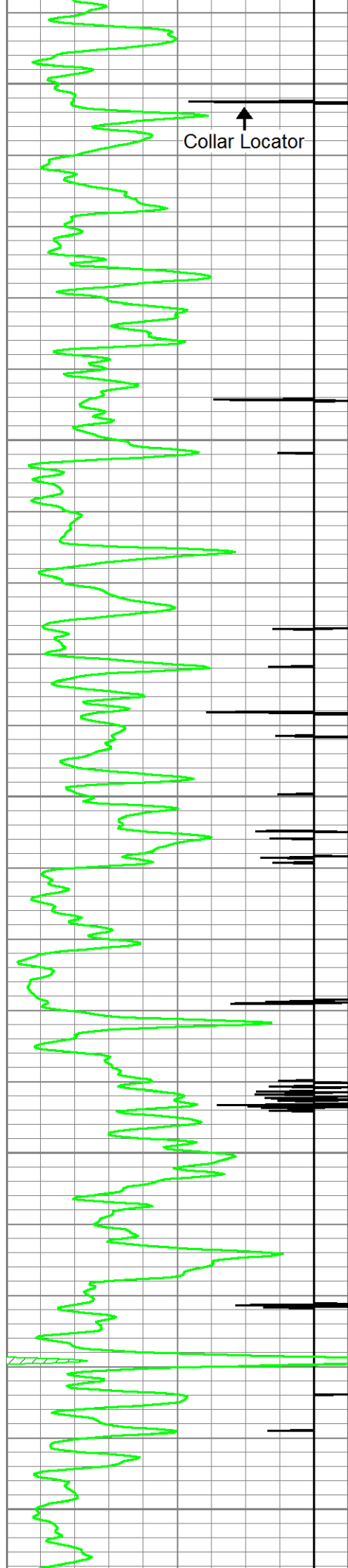
2700











3500

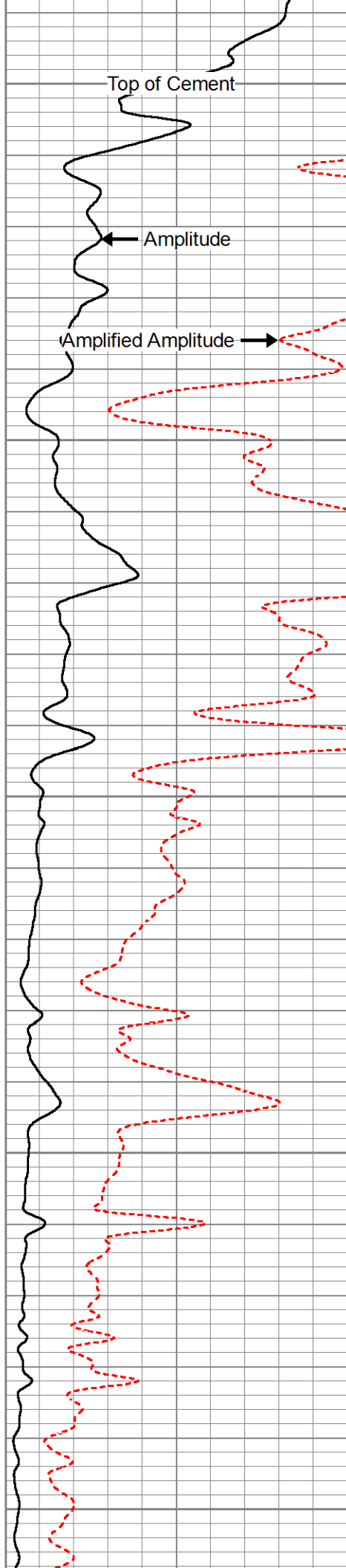
Collar Locator

3550

3600

3650

3700

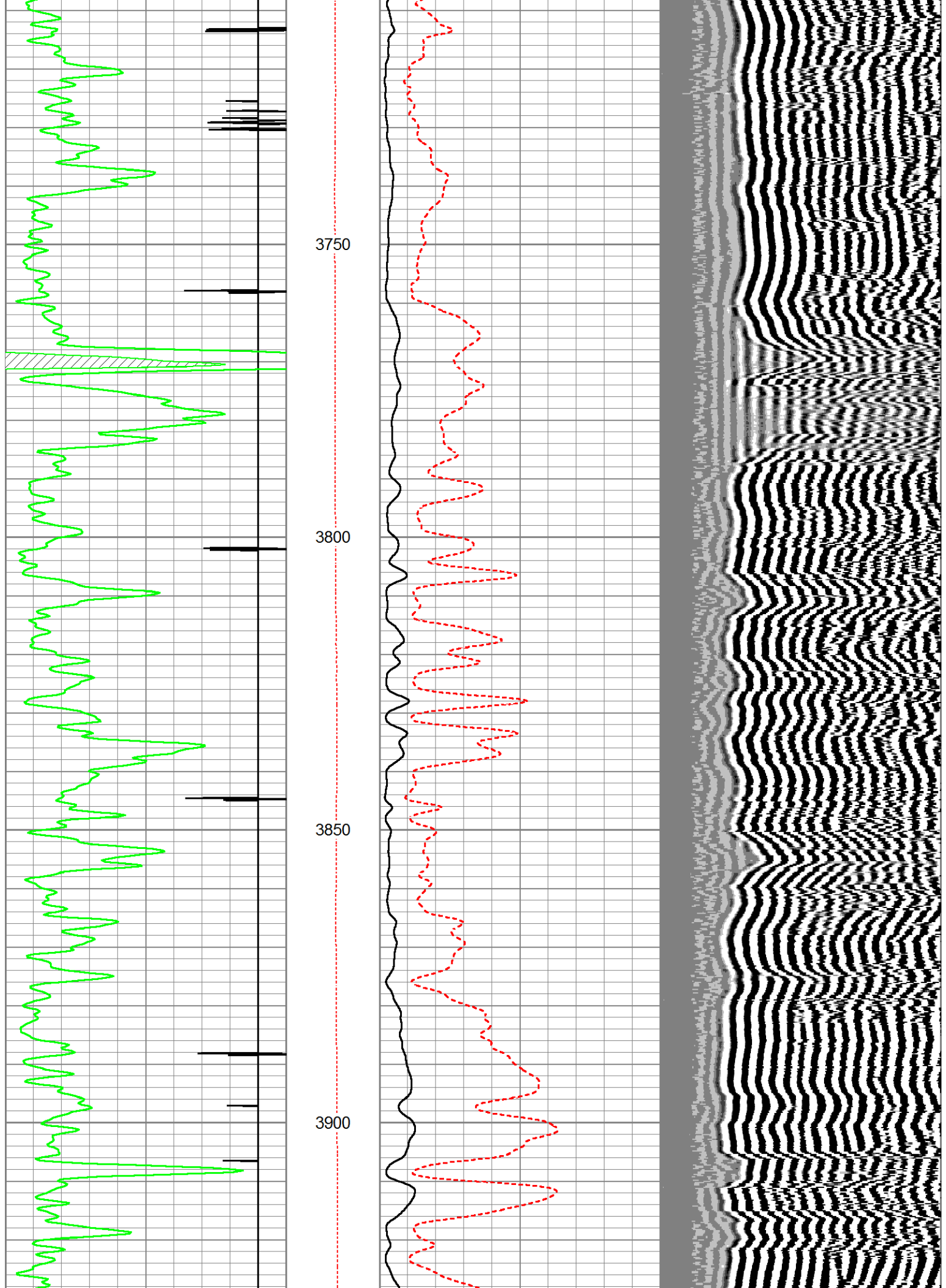


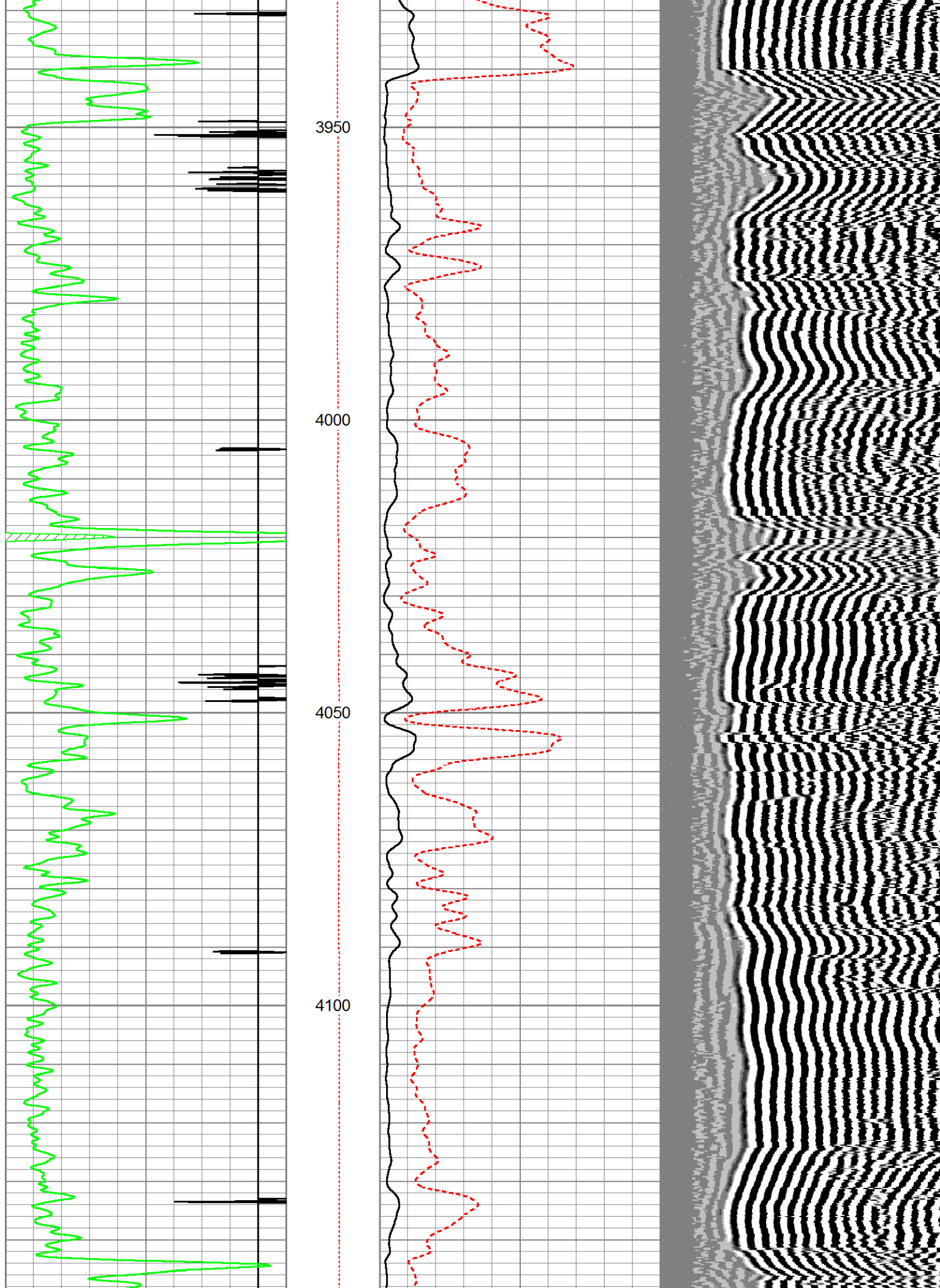
Top of Cement

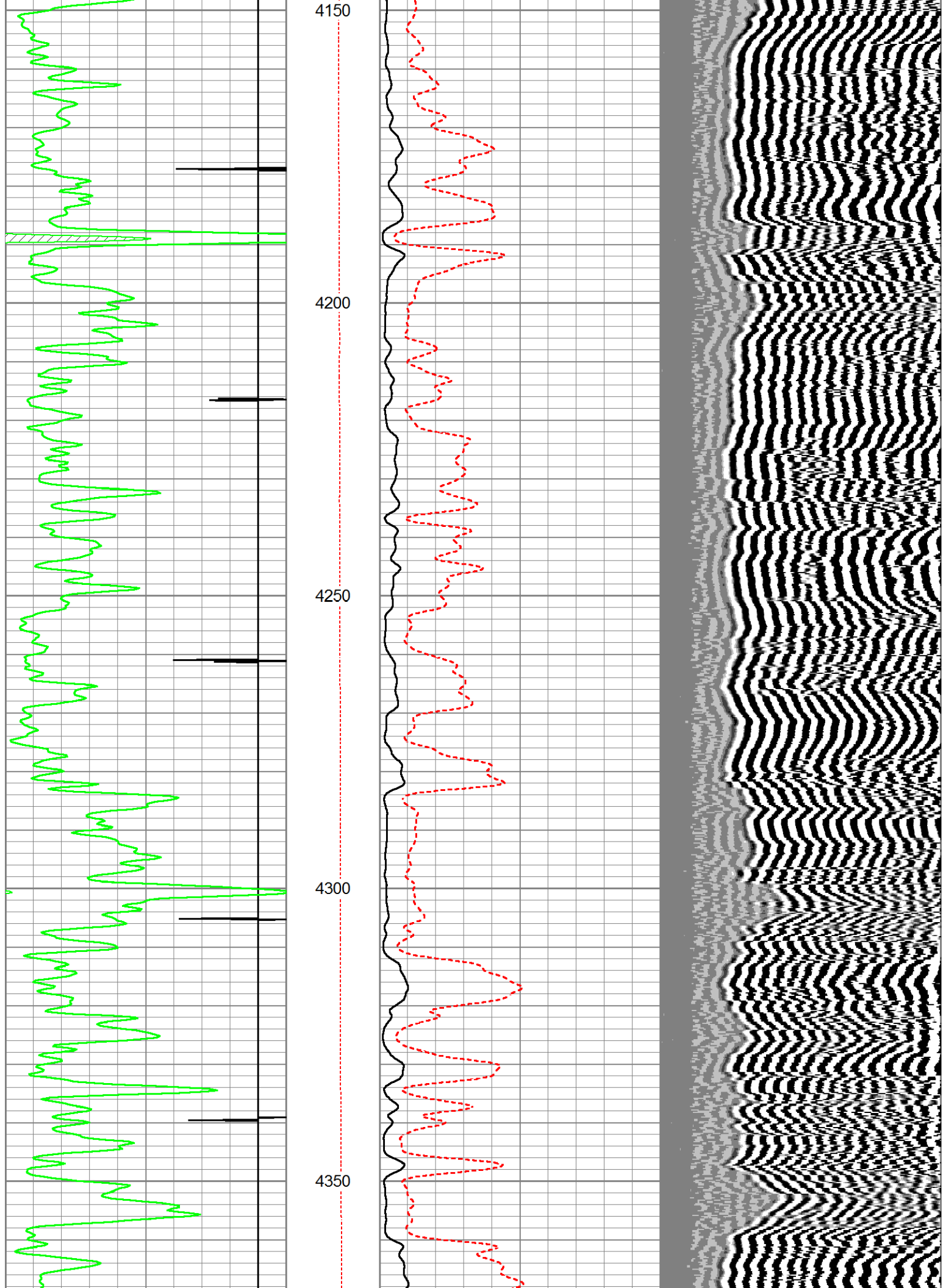
Amplitude

Amplified Amplitude

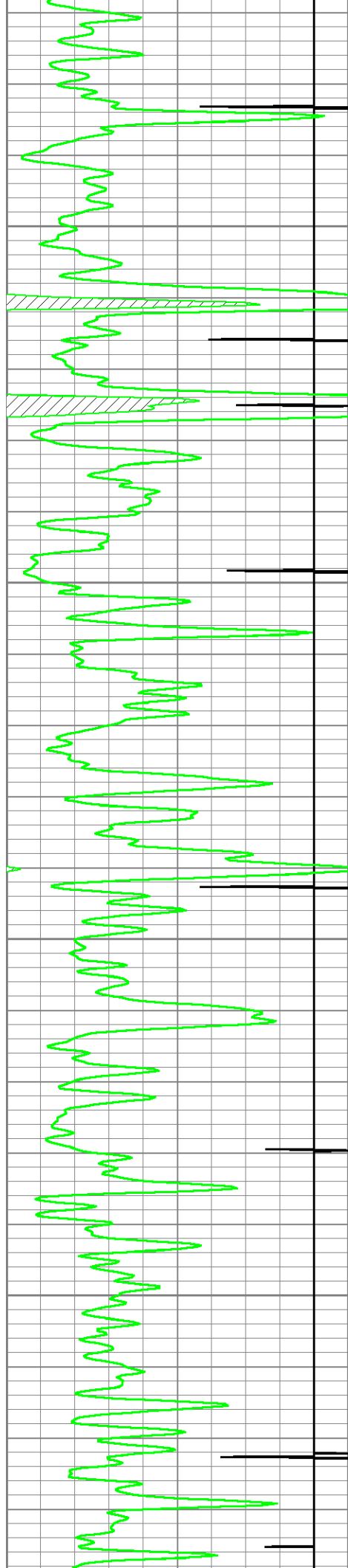










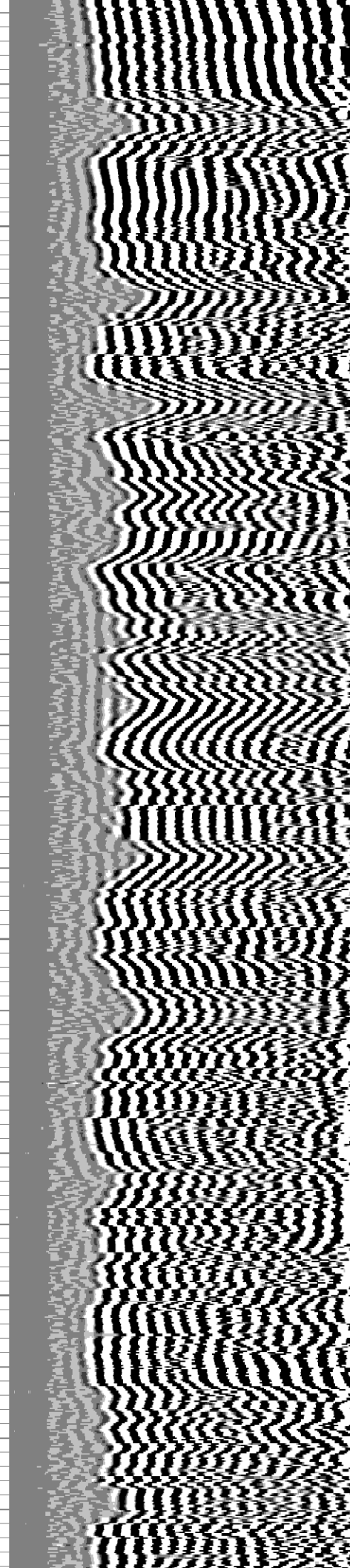
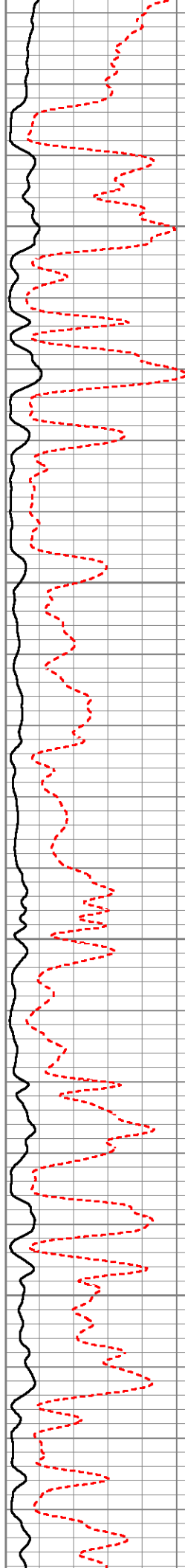


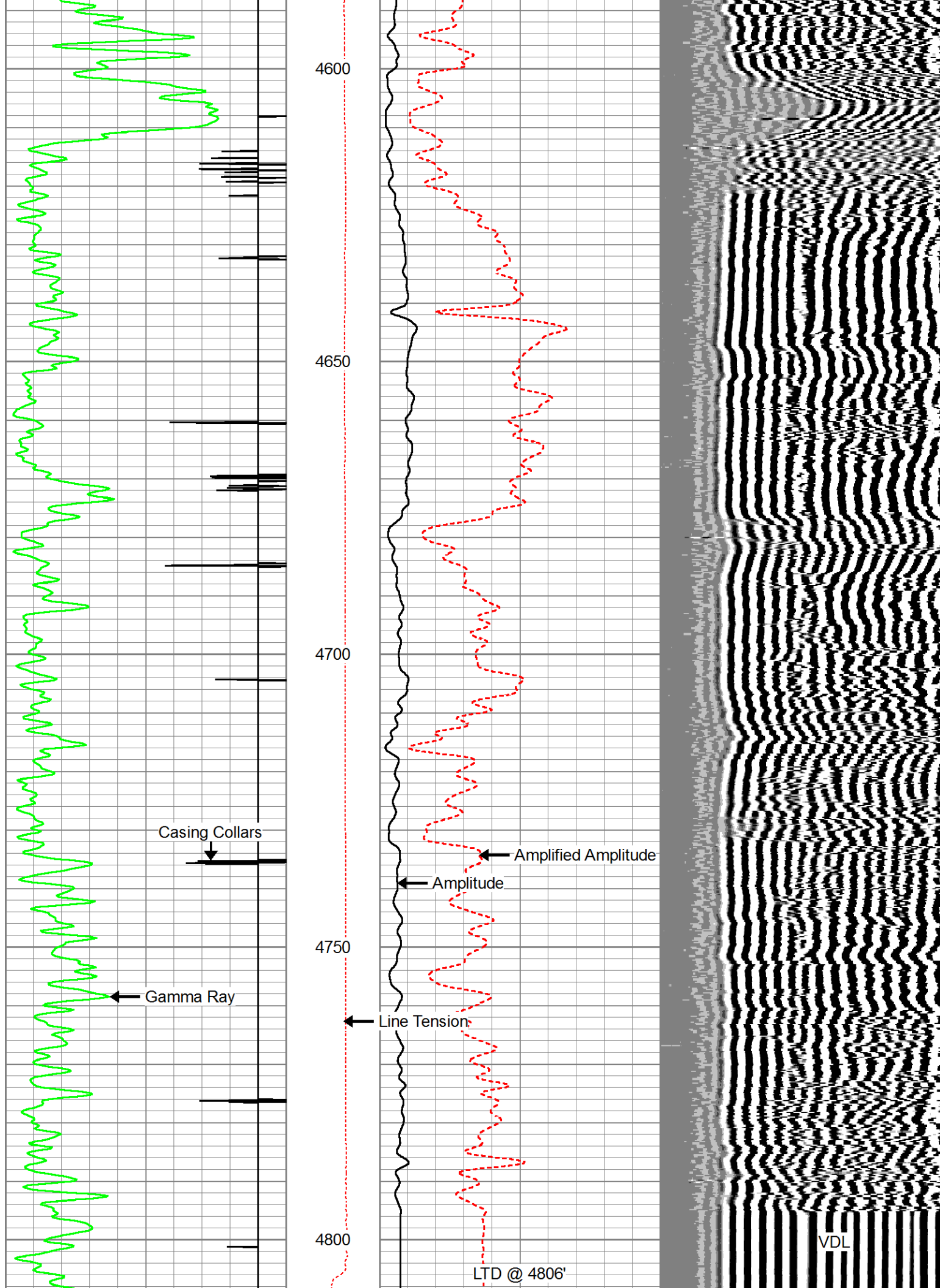
4400

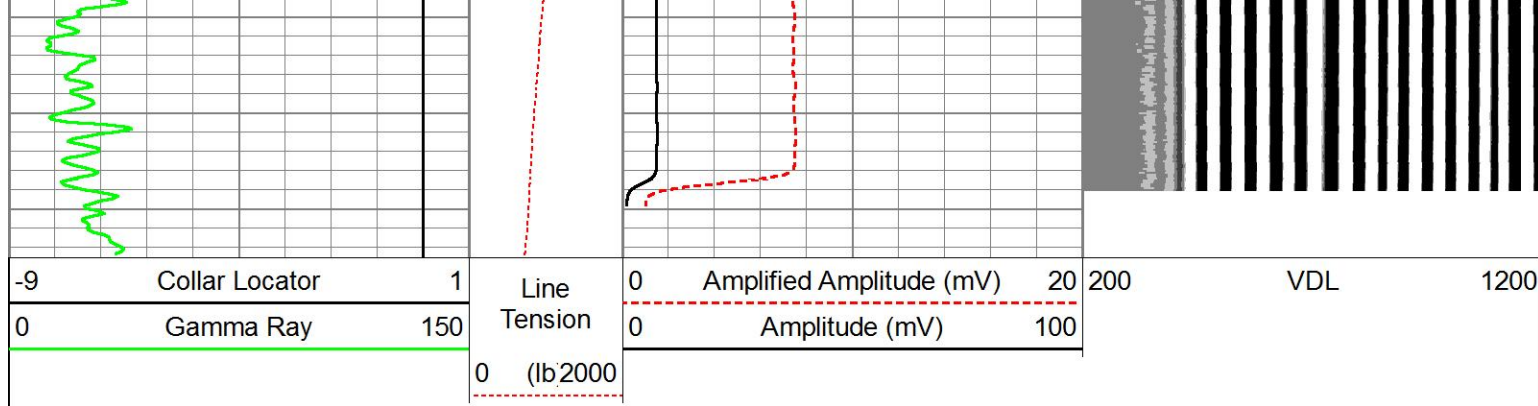
4450

4500

4550



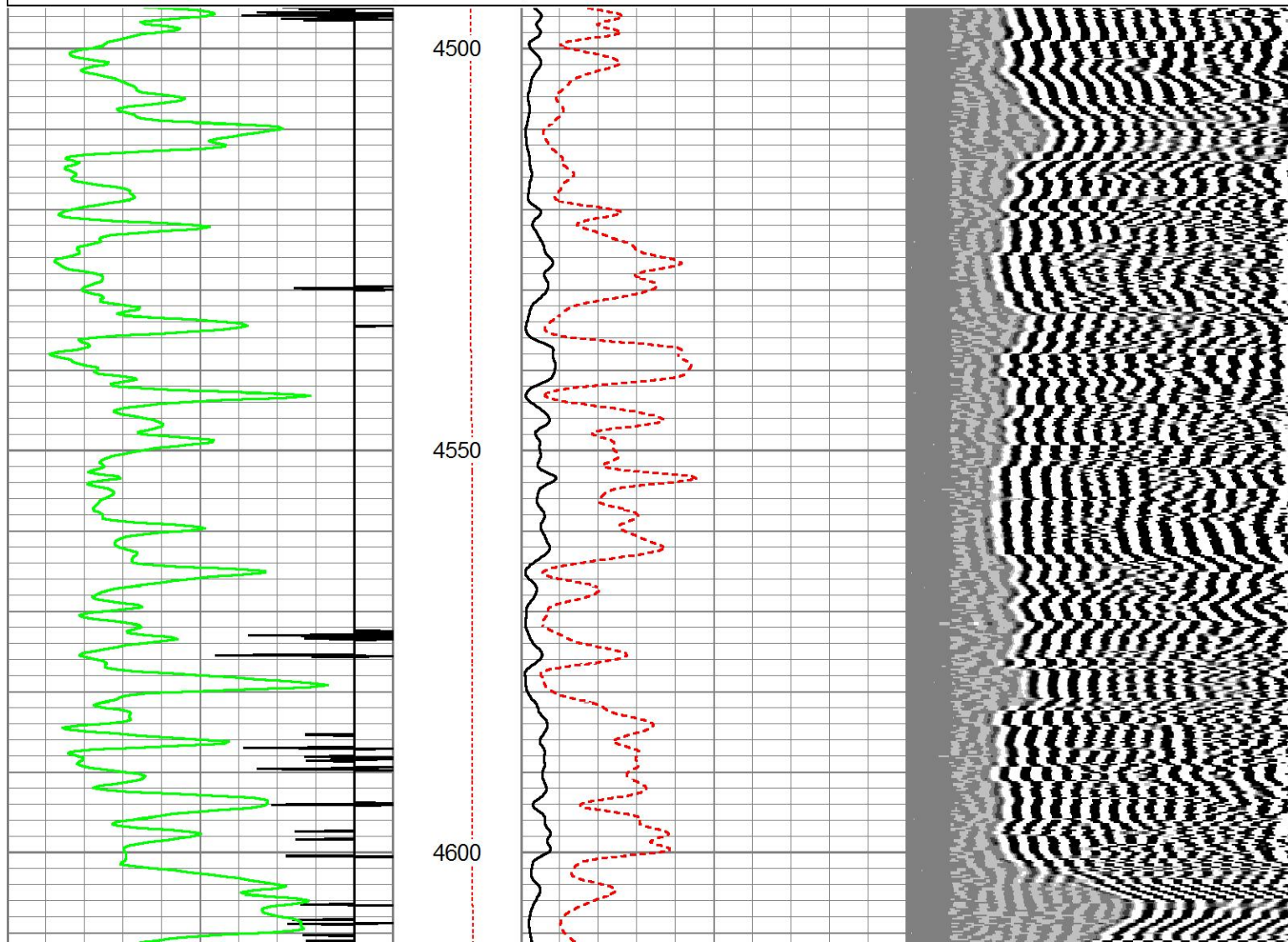
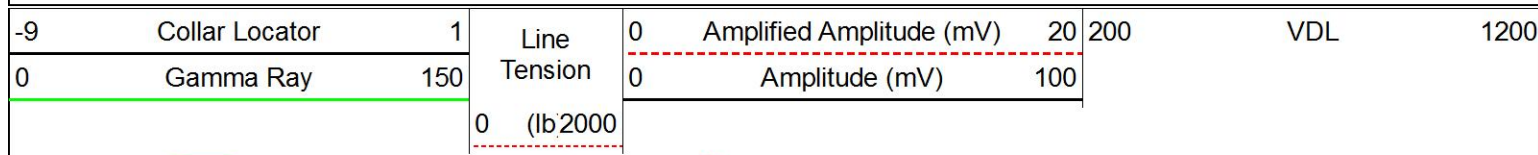




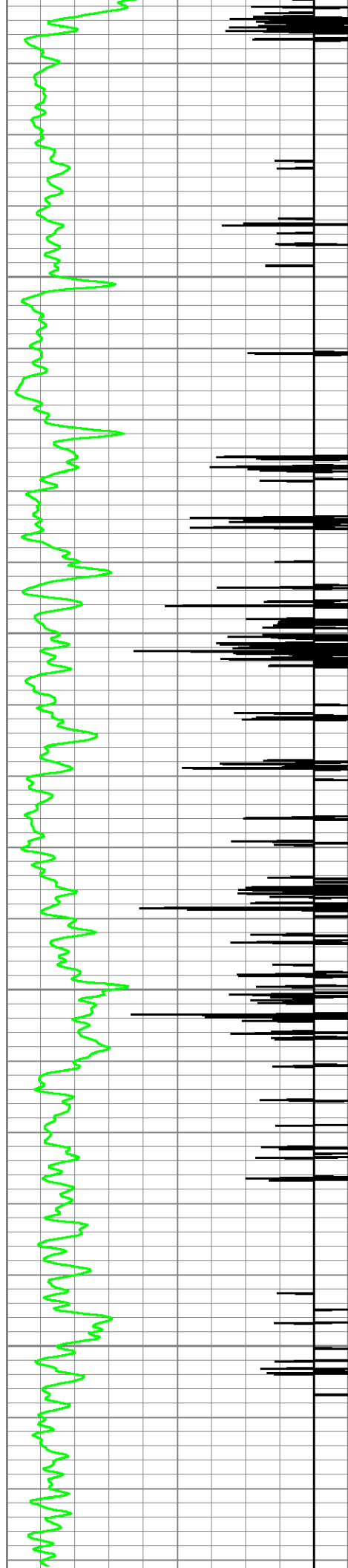
## REPEAT SECTION

ZERO PSI APPLIED AT SURFACE

Database File hartman\_damme\_37\_grcbl.db  
 Dataset Pathname pass4  
 Presentation Format pinr\_cbl-gr-ccl\_1  
 Dataset Creation Tue Mar 20 09:00:27 2018  
 Charted by Depth in Feet scaled 1:240





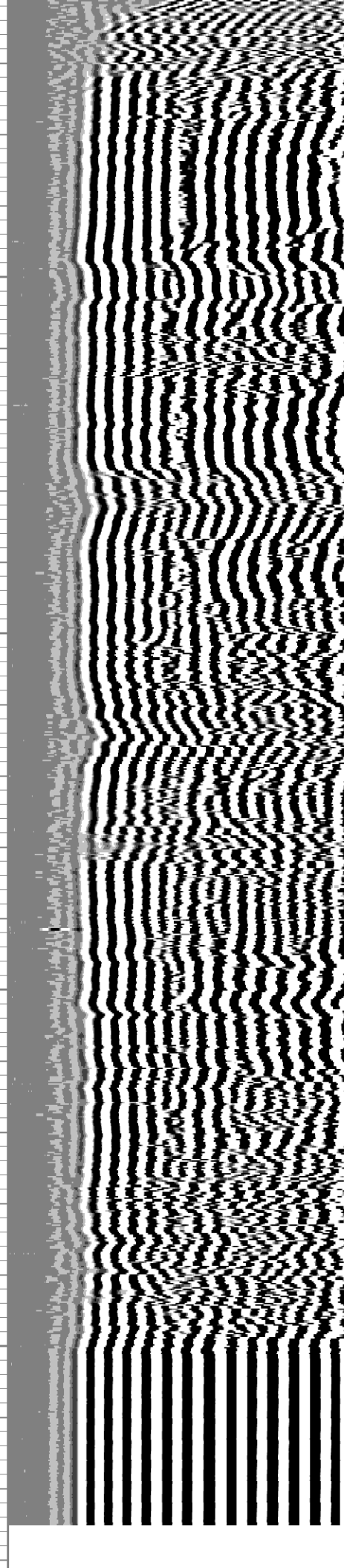
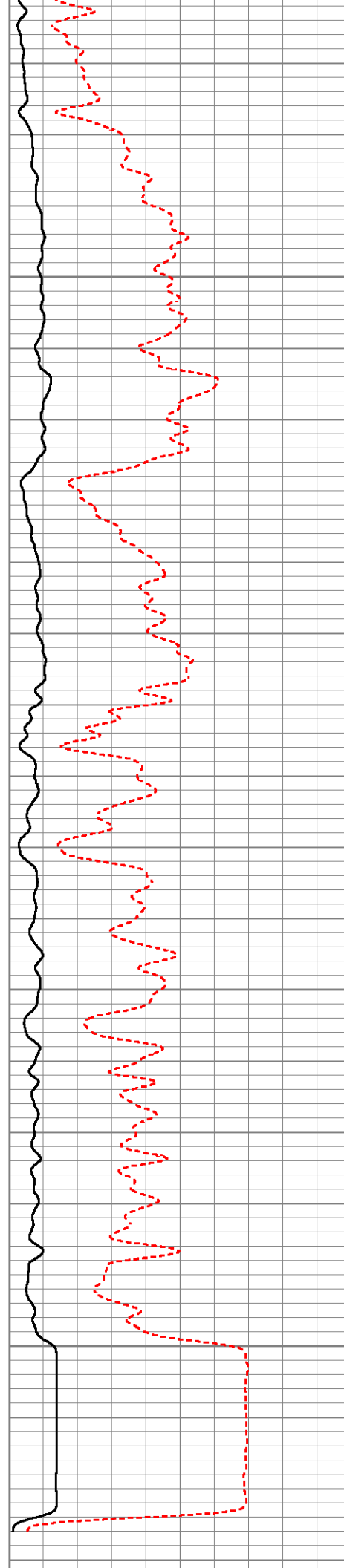


4650

4700

4750

4800





|    |                |     |             |   |                          |     |     |     |      |
|----|----------------|-----|-------------|---|--------------------------|-----|-----|-----|------|
| -9 | Collar Locator | 1   | Line        | 0 | Amplified Amplitude (mV) | 20  | 200 | VDL | 1200 |
| 0  | Gamma Ray      | 150 | Tension     | 0 | Amplitude (mV)           | 100 |     |     |      |
|    |                |     | 0 (lb/2000) |   |                          |     |     |     |      |

| Calibration Report |                           |  |  |  |  |  |  |  |  |
|--------------------|---------------------------|--|--|--|--|--|--|--|--|
| Database File      | hartman_damme_37_grcbl.db |  |  |  |  |  |  |  |  |
| Dataset Pathname   | pass8                     |  |  |  |  |  |  |  |  |
| Dataset Creation   | Tue Mar 20 09:49:38 2018  |  |  |  |  |  |  |  |  |

| Gamma Ray Calibration Report |                          |      |  |  |  |  |  |  |  |
|------------------------------|--------------------------|------|--|--|--|--|--|--|--|
| Serial Number:               | TigerProbe               |      |  |  |  |  |  |  |  |
| Tool Model:                  | Tiger                    |      |  |  |  |  |  |  |  |
| Performed:                   | Thu Mar 08 11:30:48 2018 |      |  |  |  |  |  |  |  |
| Calibrator Value:            | 1.0                      |      |  |  |  |  |  |  |  |
| Background Reading:          | 0.0                      | cps  |  |  |  |  |  |  |  |
| Calibrator Reading:          | 1.0                      | cps  |  |  |  |  |  |  |  |
| Sensitivity:                 | 1.2000                   | /cps |  |  |  |  |  |  |  |

| Segmented Cement Bond Log Calibration Report |           |    |  |  |  |  |  |  |  |
|----------------------------------------------|-----------|----|--|--|--|--|--|--|--|
| Serial Number:                               | 4.5040904 |    |  |  |  |  |  |  |  |
| Tool Model:                                  | Probe     |    |  |  |  |  |  |  |  |
| Calibration Casing Diameter:                 | 5.500     | in |  |  |  |  |  |  |  |
| Calibration Depth:                           | 3119.847  | ft |  |  |  |  |  |  |  |

| Master Calibration, performed Tue Mar 20 08:47:47 2018: |         |       |                 |         |         |        |
|---------------------------------------------------------|---------|-------|-----------------|---------|---------|--------|
|                                                         | Raw (v) |       | Calibrated (mv) |         | Results |        |
|                                                         | Zero    | Cal   | Zero            | Cal     | Gain    | Offset |
| 3'                                                      | -0.007  | 1.532 | 0.700           | 71.921  | 46.265  | 1.029  |
| CAL                                                     | -0.006  | 2.169 |                 |         |         |        |
| 5'                                                      | -0.006  | 1.875 | 0.700           | 71.921  | 37.862  | 0.944  |
| SUM                                                     |         |       |                 |         |         |        |
| S1                                                      | -0.007  | 1.683 | 0.000           | 100.000 | 59.166  | 0.395  |
| S2                                                      | -0.007  | 1.587 | 0.000           | 100.000 | 62.730  | 0.438  |
| S3                                                      | -0.007  | 1.409 | 0.000           | 100.000 | 70.634  | 0.465  |
| S4                                                      | -0.007  | 1.266 | 0.000           | 100.000 | 78.531  | 0.563  |
| S5                                                      | -0.007  | 1.279 | 0.000           | 100.000 | 77.769  | 0.530  |
| S6                                                      | -0.007  | 1.448 | 0.000           | 100.000 | 68.696  | 0.495  |
| S7                                                      | -0.007  | 1.668 | 0.000           | 100.000 | 59.695  | 0.403  |
| S8                                                      | -0.007  | 1.738 | 0.000           | 100.000 | 57.308  | 0.378  |

| Air Zero Calibration, performed Thu Mar 15 16:46:45 2018: |             |                |               |
|-----------------------------------------------------------|-------------|----------------|---------------|
|                                                           | Raw (v)     | Calibrated (v) | Results       |
|                                                           | <u>Zero</u> | <u>Zero</u>    | <u>Offset</u> |
| 3'                                                        | 0.000       | 0.000          | 0.000         |
| 5'                                                        | 0.000       | 0.000          | 0.000         |
| SUM                                                       |             |                |               |
| S1                                                        | 0.000       | 0.000          | 0.000         |
| S2                                                        | 0.000       | 0.000          | 0.000         |
| S3                                                        | 0.000       | 0.000          | 0.000         |
| S4                                                        | 0.000       | 0.000          | 0.000         |

|    |       |       |       |
|----|-------|-------|-------|
| S5 | 0.000 | 0.000 | 0.000 |
| S6 | 0.000 | 0.000 | 0.000 |
| S7 | 0.000 | 0.000 | 0.000 |
| S8 | 0.000 | 0.000 | 0.000 |



**PIONEER**

Pioneer Energy Services

|         |                           |
|---------|---------------------------|
| Company | HARTMAN OIL COMPANY, INC. |
| Well    | DAMME #37                 |
| Field   | DAMME                     |
| County  | FINNEY                    |
| State   | KANSAS                    |