

HALLIBURTON

ARRAY COMPENSATED  
TRUE RESISTIVITY  
LOG

|                          |  |  |  |                         |  |            |  |
|--------------------------|--|--|--|-------------------------|--|------------|--|
| COMPANY                  |  |  |  | VAL ENERGY INC.         |  |            |  |
| WELL                     |  |  |  | EAST MADDIX 1-2         |  |            |  |
| FIELD                    |  |  |  | NURSE NORTHWEST         |  |            |  |
| COUNTY                   |  |  |  | BARBER                  |  |            |  |
| STATE                    |  |  |  | KANSAS                  |  |            |  |
| Permanent Datum          |  |  |  | GL                      |  |            |  |
| Log measured from        |  |  |  | KB                      |  |            |  |
| Drilling measured from   |  |  |  | KB                      |  |            |  |
| Date                     |  |  |  | 14-Aug-11               |  |            |  |
| Run No.                  |  |  |  | 1                       |  |            |  |
| Depth - Driller          |  |  |  | 4690.00 ft              |  |            |  |
| Depth - Logger           |  |  |  | 4682.0 ft               |  |            |  |
| Bottom - Logged Interval |  |  |  | 4673.0 ft               |  |            |  |
| Top - Logged Interval    |  |  |  | 224.0 ft                |  |            |  |
| Casing - Driller         |  |  |  | 8.625 in @ 226.0 ft     |  |            |  |
| Casing - Logger          |  |  |  | 224.0 ft                |  |            |  |
| Bit Size                 |  |  |  | 7.875 in                |  |            |  |
| Type Fluid in Hole       |  |  |  | WATER BASED MUD         |  |            |  |
| Density                  |  |  |  | 9.4 ppq                 |  | 49.00 s/qt |  |
| PH                       |  |  |  | 11.00 pH                |  | 9.2 cp/m   |  |
| Source of Sample         |  |  |  | FLOW LINE               |  |            |  |
| Rm @ Meas. Temperature   |  |  |  | 0.370 ohmm @ 85.00 degF |  | @          |  |
| Rmf @ Meas. Temperature  |  |  |  | 0.30 ohmm @ 80.00 degF  |  | @          |  |
| Rmc @ Meas. Temperature  |  |  |  | 0.440 ohmm @ 80.00 degF |  | @          |  |
| Source Rmf               |  |  |  | MEAS. Rmc               |  | MEAS.      |  |
| Rm @ BHT                 |  |  |  | 0.23 ohmm @ 120.0 degF  |  | @          |  |
| Time Since Circulation   |  |  |  | 3.0 hr                  |  |            |  |
| Time on Bottom           |  |  |  | 14-Aug-11 00:55         |  |            |  |
| Max. Rec. Temperature    |  |  |  | 120.0 degF @ 4682.0 ft  |  | @          |  |
| Equipment                |  |  |  | 10546696                |  | LIBERAL    |  |
| Recorded By              |  |  |  | J.BOSH                  |  |            |  |
| Witnessed By             |  |  |  | Z STEWART               |  |            |  |

|                 |  |  |  |                       |  |  |  |
|-----------------|--|--|--|-----------------------|--|--|--|
| COMPANY         |  |  |  | VAL ENERGY INC.       |  |  |  |
| WELL            |  |  |  | EAST MADDIX 1-2       |  |  |  |
| FIELD           |  |  |  | NURSE NORTHWEST       |  |  |  |
| COUNTY          |  |  |  | BARBER                |  |  |  |
| STATE           |  |  |  | KANSAS                |  |  |  |
| API No.         |  |  |  | 15-007-23737          |  |  |  |
| Location        |  |  |  | 1355' FSL & 1270' FWL |  |  |  |
| Other Services: |  |  |  | DSN/SDL<br>MICRO      |  |  |  |
| Elev.: K.B.     |  |  |  | 1737.0 ft             |  |  |  |
| D.F.            |  |  |  | 1736.0 ft             |  |  |  |
| G.L.            |  |  |  | 1726.0 ft             |  |  |  |

|                 |                       |
|-----------------|-----------------------|
| COMPANY         | VAL ENERGY INC.       |
| WELL            | EAST MADDIX 1-2       |
| FIELD           | NURSE NORTHWEST       |
| COUNTY          | BARBER                |
| STATE           | KANSAS                |
| API No.         | 15-007-23737          |
| Location        | 1355' FSL & 1270' FWL |
| Other Services: | DSN/SDL<br>MICRO      |

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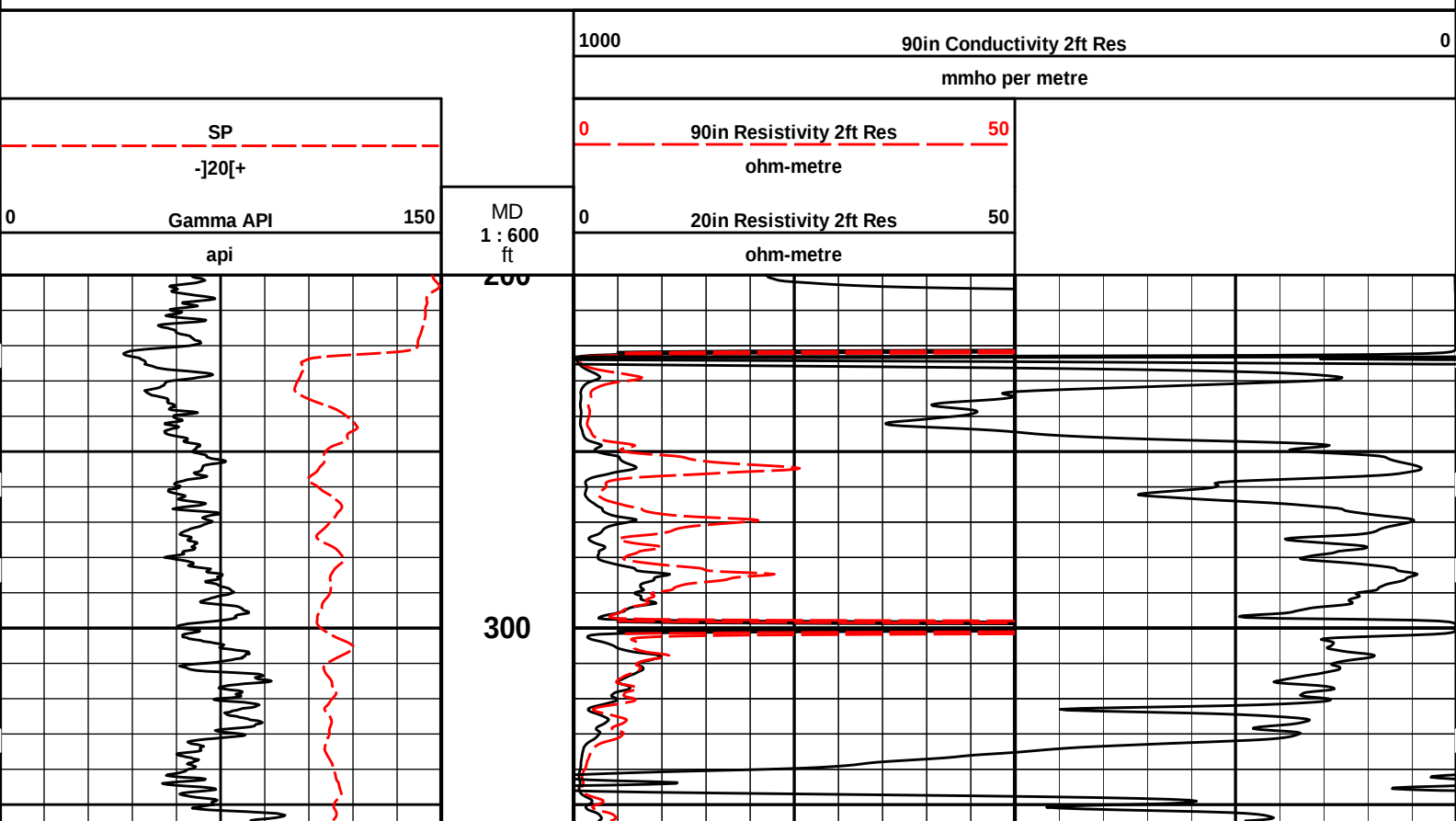
|                                         |            |   |              |          |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
|-----------------------------------------|------------|---|--------------|----------|--|------------------------------|-----------------|---------------------------|--|-------------|--|-----------------------------------------|--|--|--|--|--|
| Service Ticket No.: 8378589             |            |   |              |          |  | API Serial No.: 15-007-23737 |                 |                           |  |             |  | PGM Version: WL INSITE R3.2.1 (Build 7) |  |  |  |  |  |
| CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE |            |   |              |          |  |                              |                 | RESISTIVITY SCALE CHANGES |  |             |  |                                         |  |  |  |  |  |
| Date                                    | Sample No. |   |              |          |  | Type Log                     | Depth           | Scale Up Hole             |  |             |  | Scale Down Hole                         |  |  |  |  |  |
| Depth-Driller                           |            |   |              |          |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Type Fluid in Hole                      |            |   |              |          |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Density                                 | Viscosity  |   |              |          |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Ph                                      | Fluid Loss |   |              |          |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Source of Sample                        |            |   |              |          |  | RESISTIVITY EQUIPMENT DATA   |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Rm @ Meas. Temp                         |            | @ |              | @        |  | Run No.                      | Tool Type & No. | Pad Type                  |  | Tool Pos.   |  | Other                                   |  |  |  |  |  |
| Rmf @ Meas. Temp.                       |            | @ |              | @        |  | ONE                          | ACRT S909       | N/A                       |  | 1.5" S.O.   |  | N/A                                     |  |  |  |  |  |
| Rmc @ Meas. Temp.                       |            | @ |              | @        |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Source Rmf                              | Rmc        |   |              |          |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Rm @ BHT                                |            | @ |              | @        |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Rmf @ BHT                               |            | @ |              | @        |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| Rmc @ BHT                               |            | @ |              | @        |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| EQUIPMENT DATA                          |            |   |              |          |  |                              |                 |                           |  |             |  |                                         |  |  |  |  |  |
| GAMMA                                   |            |   |              | ACOUSTIC |  |                              |                 | DENSITY                   |  |             |  | NEUTRON                                 |  |  |  |  |  |
| Run No.                                 | ONE        |   | Run No.      |          |  |                              | Run No.         |                           |  | Run No.     |  |                                         |  |  |  |  |  |
| Serial No.                              | 11048657   |   | Serial No.   |          |  |                              | Serial No.      |                           |  | Serial No.  |  |                                         |  |  |  |  |  |
| Model No.                               | GTET       |   | Model No.    |          |  |                              | Model No.       |                           |  | Model No.   |  |                                         |  |  |  |  |  |
| Diameter                                | 3.625      |   | No. of Cent. |          |  |                              | Diameter        |                           |  | Diameter    |  |                                         |  |  |  |  |  |
| Detector Model No.                      | T-102      |   | Spacing      |          |  |                              | Log Type        |                           |  | Log Type    |  |                                         |  |  |  |  |  |
| Type                                    | SCINT      |   |              |          |  |                              | Source Type     |                           |  | Source Type |  |                                         |  |  |  |  |  |
| Length                                  | 8"         |   | LSA [Y/N]    |          |  |                              | Serial No.      |                           |  | Serial No.  |  |                                         |  |  |  |  |  |
| Distance to Source                      | 10'        |   | FWDA [Y/N ]  |          |  |                              | Strength        |                           |  | Strength    |  |                                         |  |  |  |  |  |

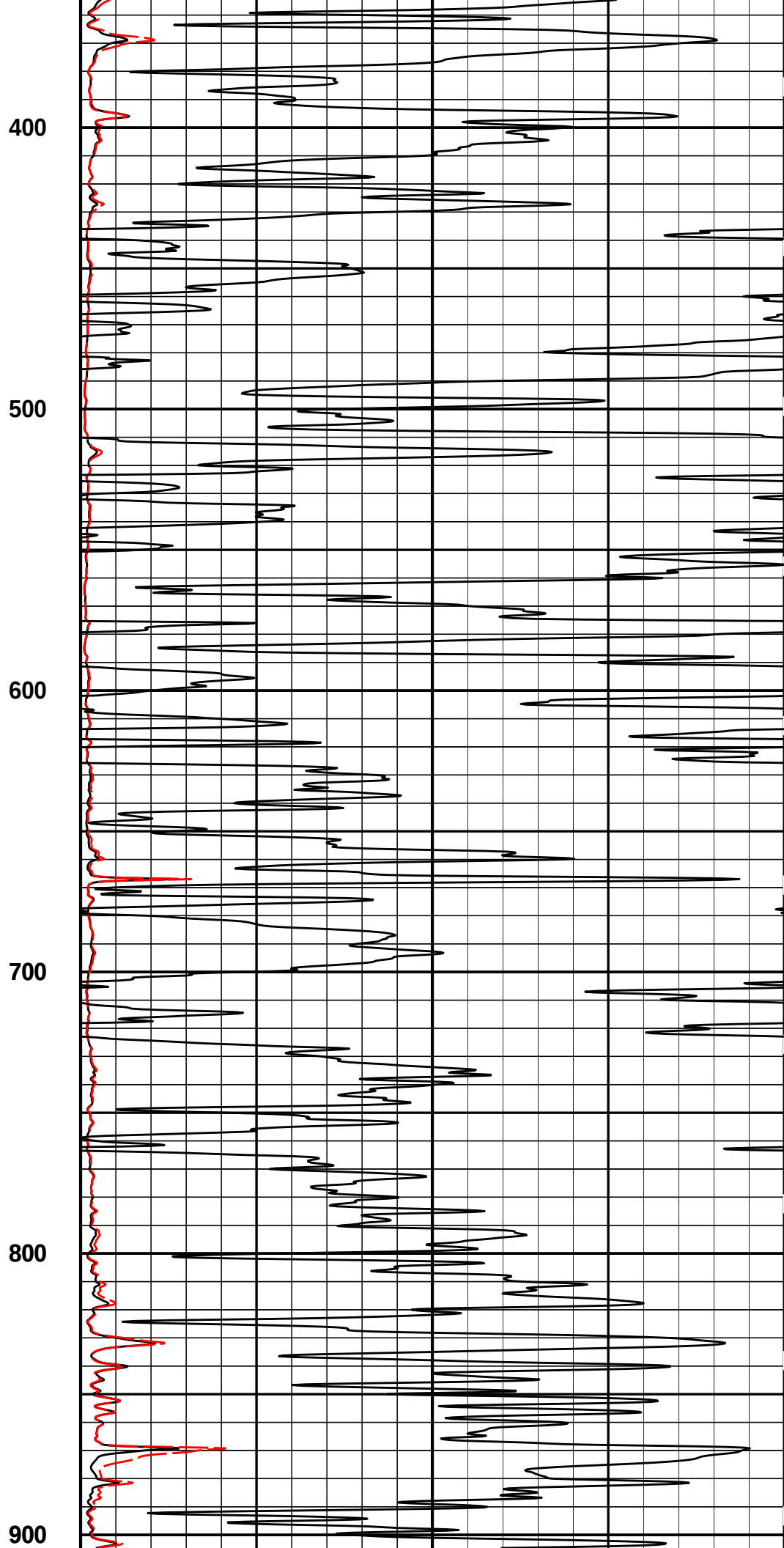
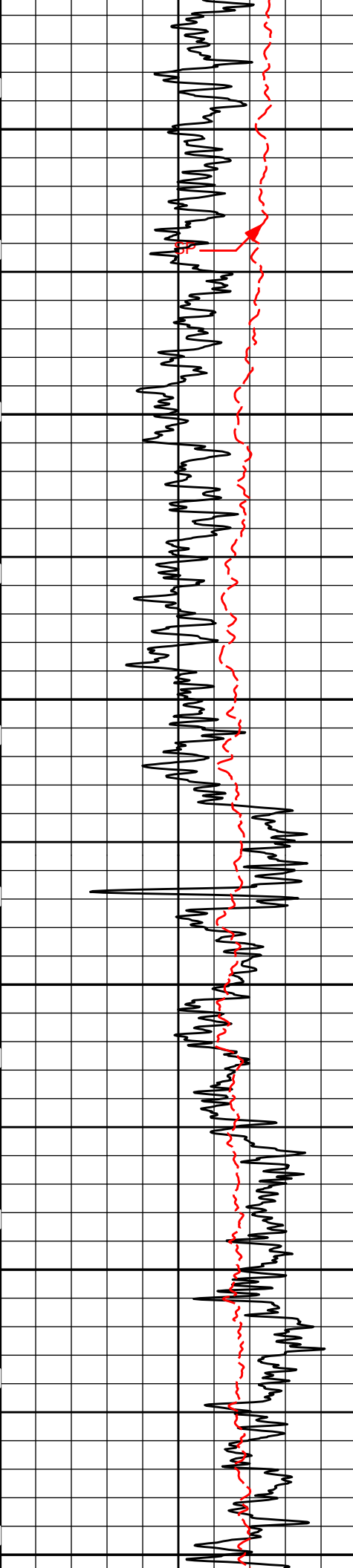
| GENERAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |     | GAMMA  |       | ACOUSTIC |       | DENSITY |        | NEUTRON |   |        |       |   |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|--------|-------|----------|-------|---------|--------|---------|---|--------|-------|---|--------|
| Run                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Depth |     | Speed  | Scale |          | Scale |         | Matrix | Scale   |   | Matrix | Scale |   | Matrix |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | From  | To  | ft/min | L     | R        | L     | R       |        | L       | R |        | L     | R |        |
| ONE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | TD    | CSG | REC    | 0     | 150      |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| DIRECTIONAL INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| Maximum Deviation @                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |     |        |       |          |       |         | KOP @  |         |   |        |       |   |        |
| Remarks: ANNULAR HOLE VOLUME CALCULATED FOR 5.5 INCH CASING                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| CHLORIDES: 6000 PPM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| GPS COORDINATES: LAT: 37.22 N LONG: 98.42 W                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| TODAY'S CREW: K. KING, V. JAIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES, LIBERAL, KS 620-624-6123                                                                                                                                                                                                                                                                                                                                                                                                                            |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF. |       |     |        |       |          |       |         |        |         |   |        |       |   |        |
| HALLIBURTON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |     |        |       |          |       |         |        |         |   |        |       |   |        |

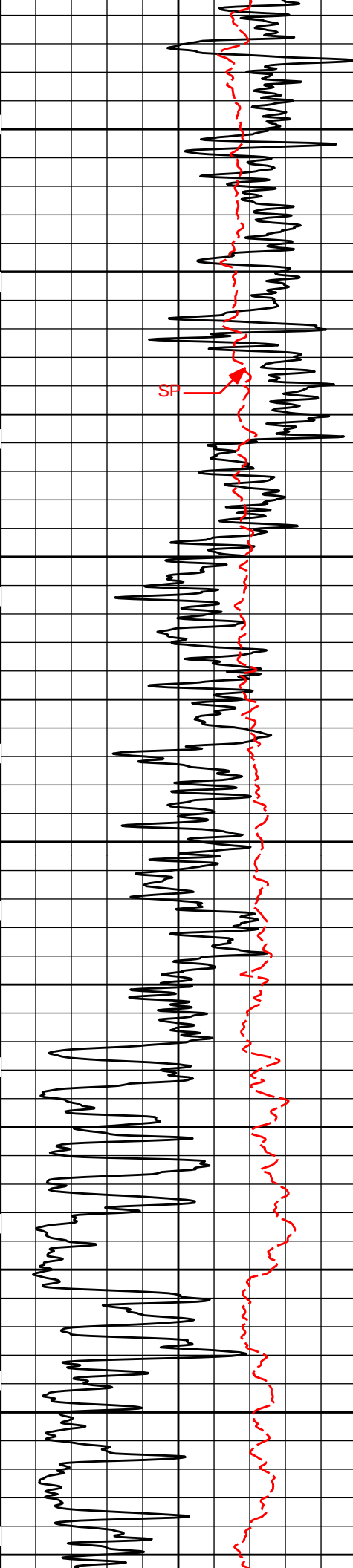
**HALLIBURTON**

Plot Time: 14-Aug-11 10:45:58  
Plot Range: 200 ft to 4685.58 ft  
Data: EAST\_MADDIX\_1\_2\Well Based\DAQ-0001-005\  
Plot File: \\-LOCAL-\\EAST\_MADDIX\_1\_2\Well Based\ACRT\ACRT\_2.lib

## 2 INCH MAIN LOG







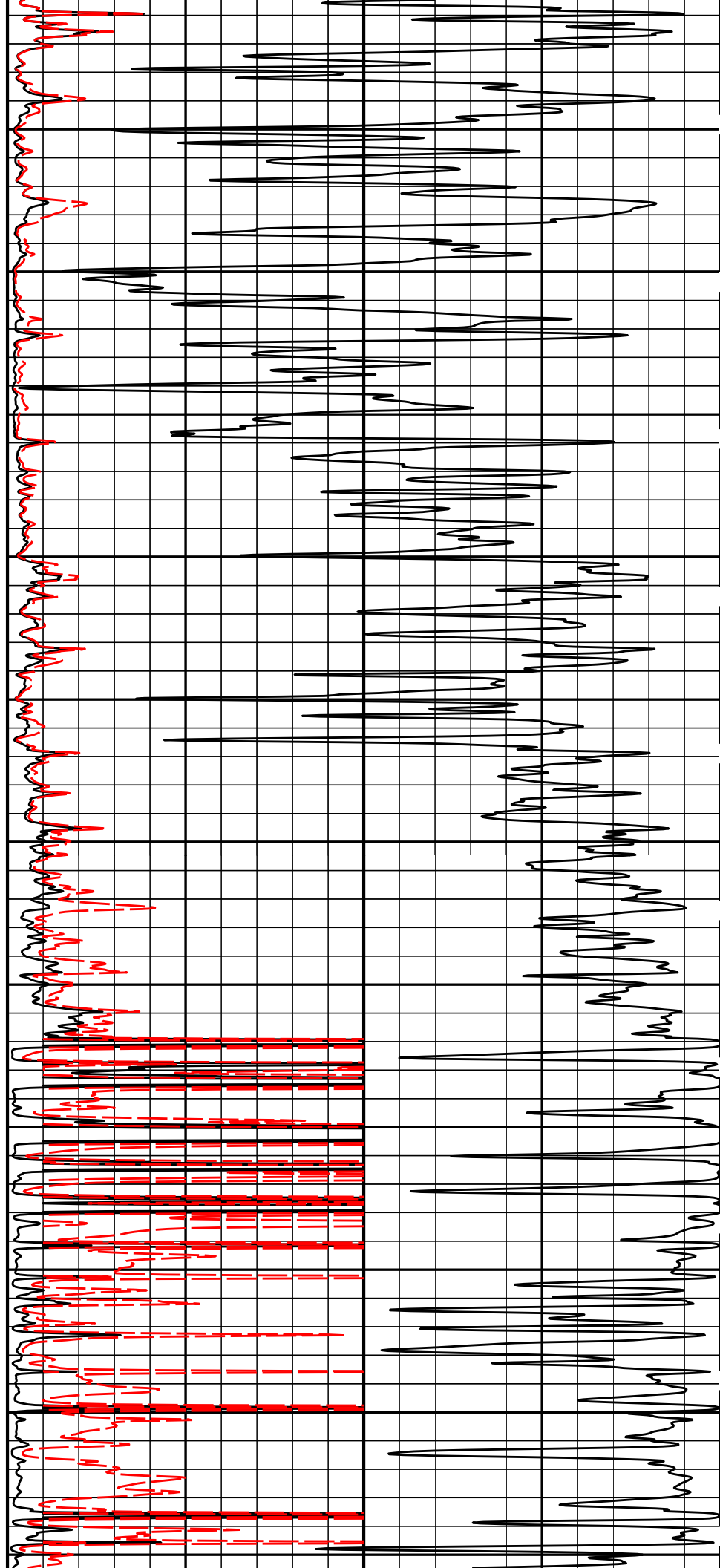
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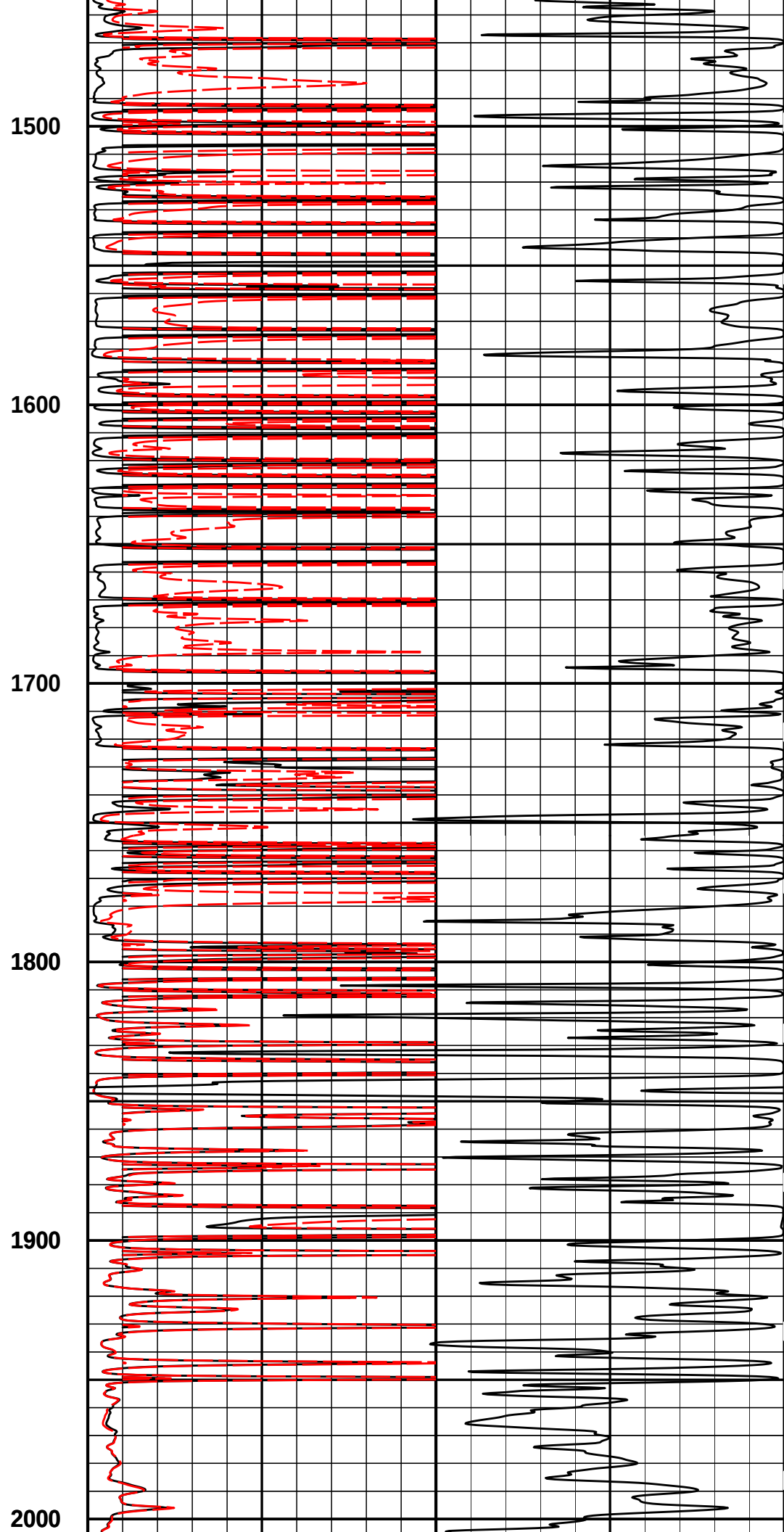
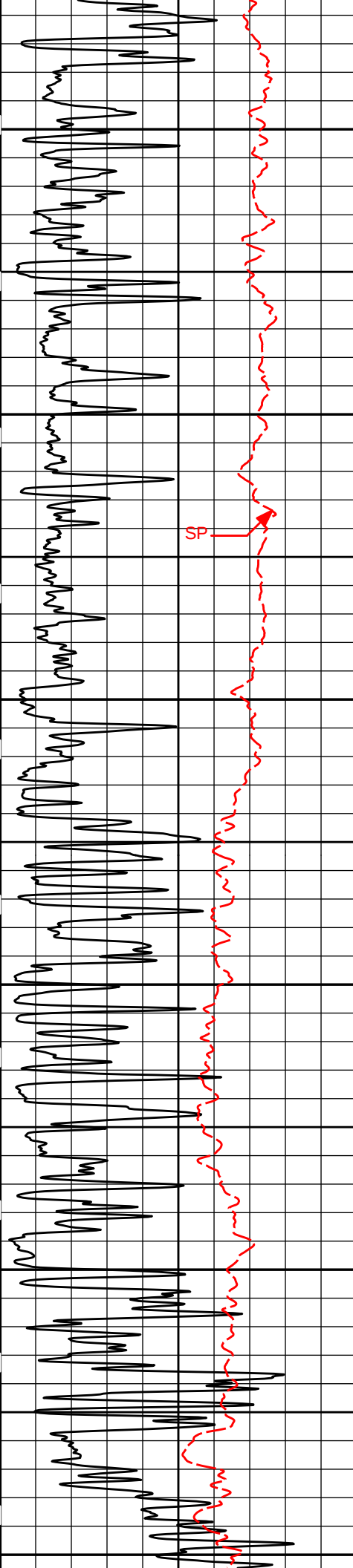
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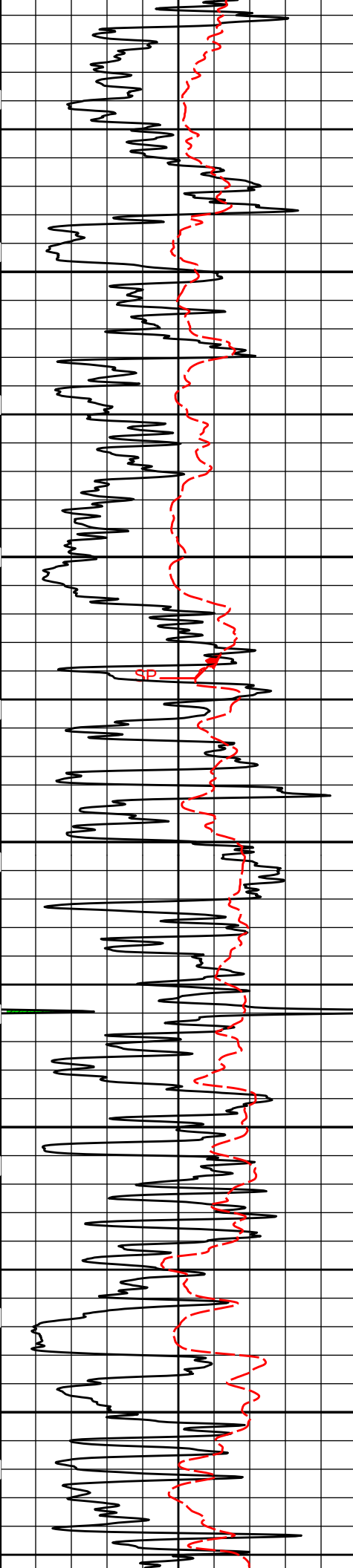
1200

1300

1400







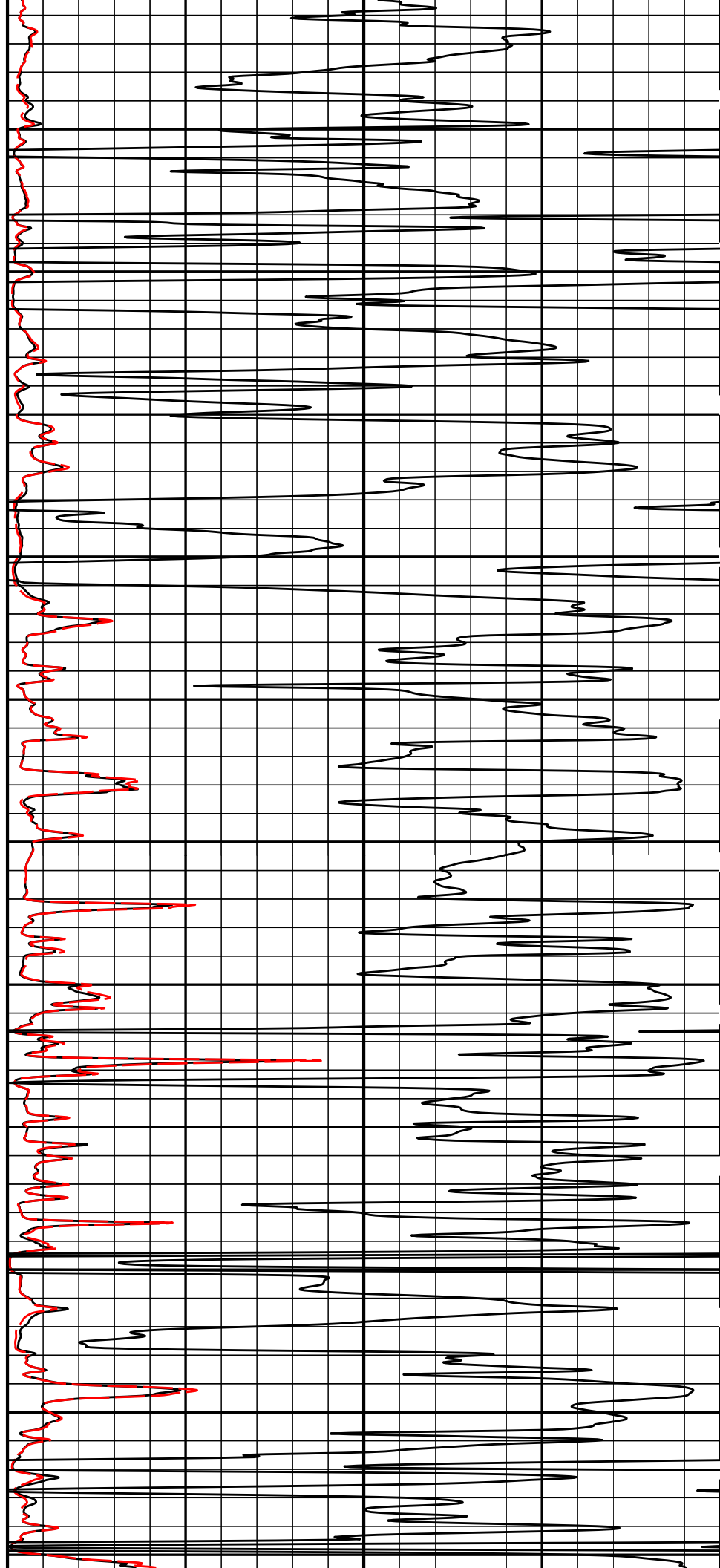
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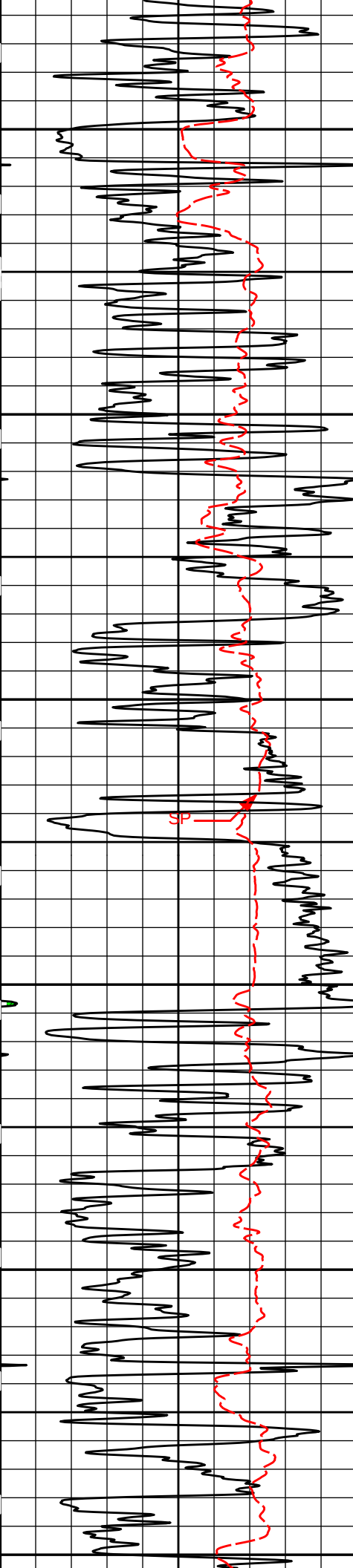
2200

2300

2400

2500





2600

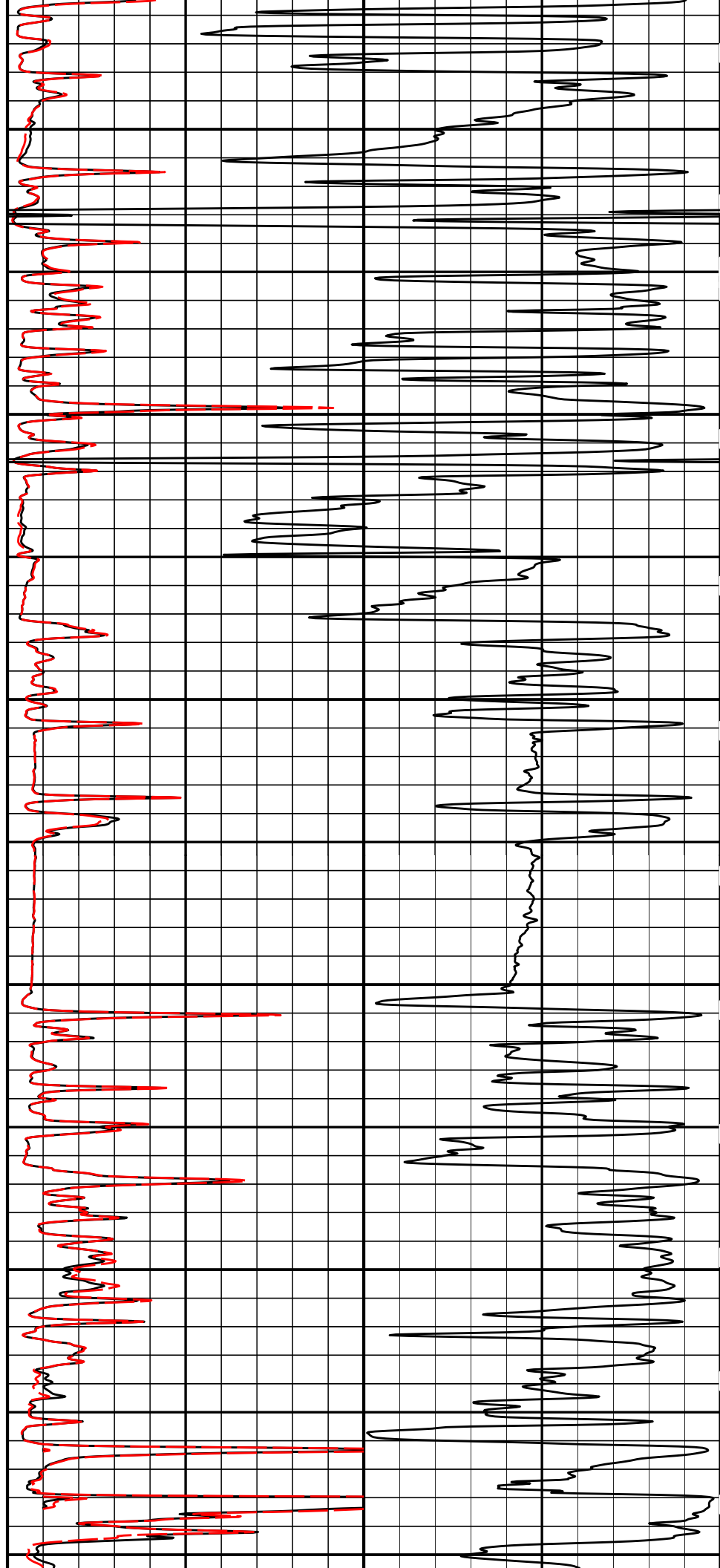
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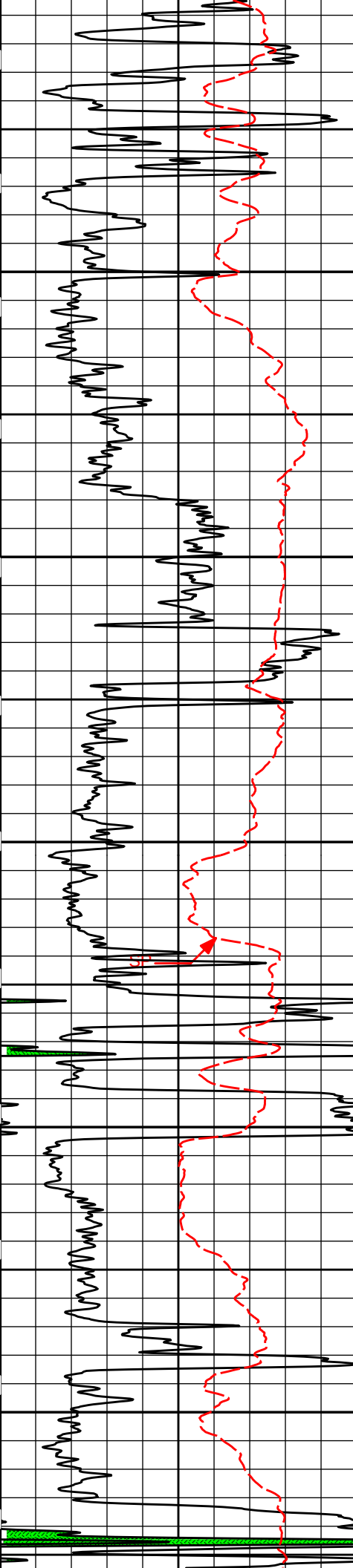
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2900

3000

3100





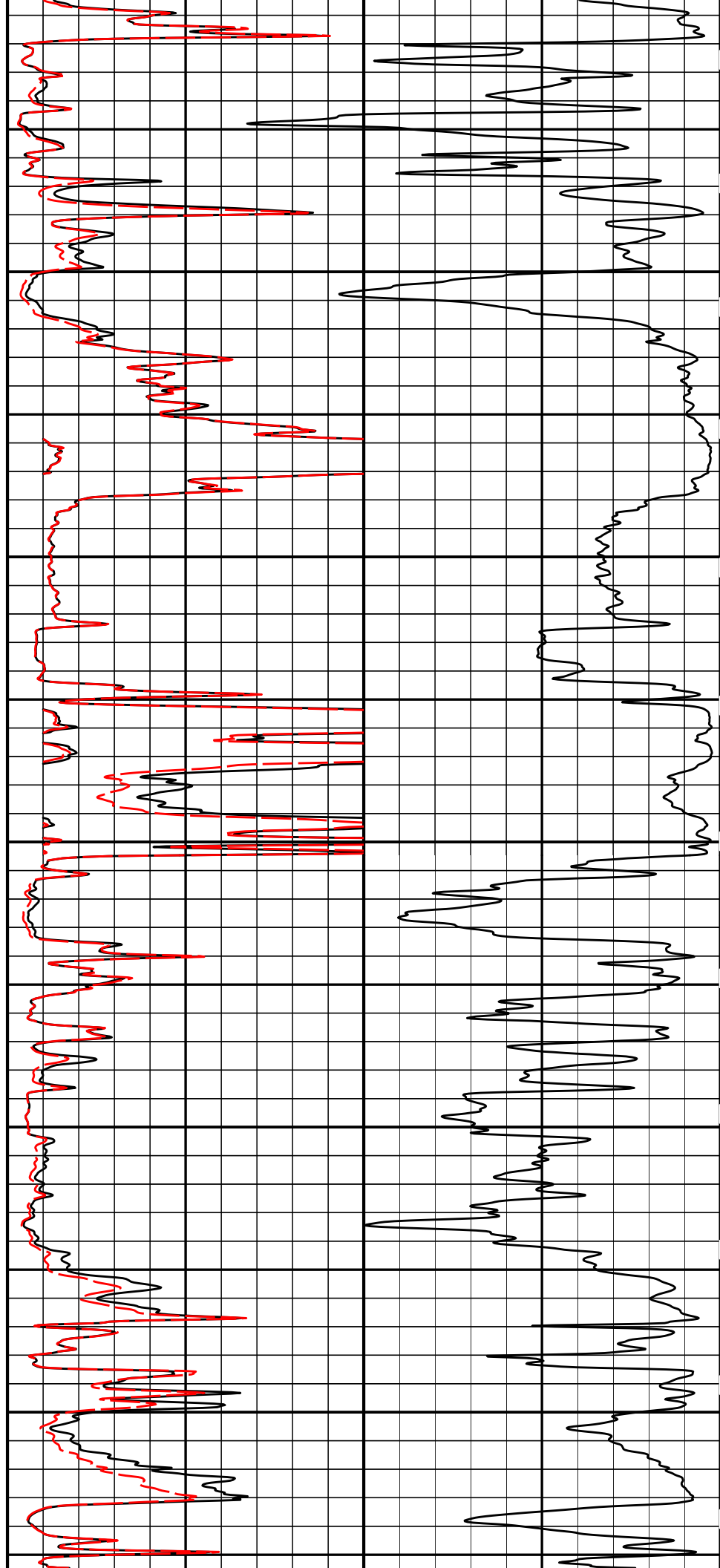
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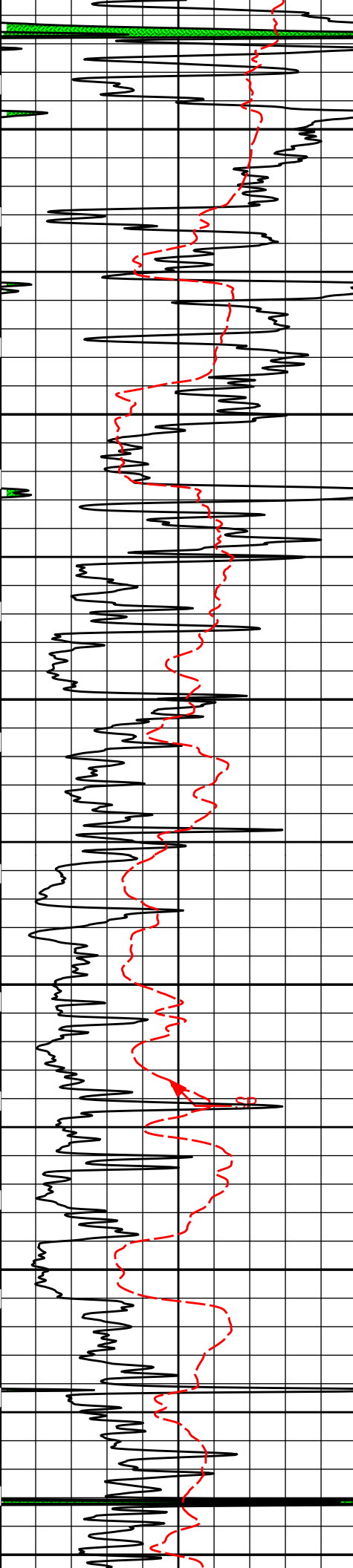
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3400

3500

3600





3700

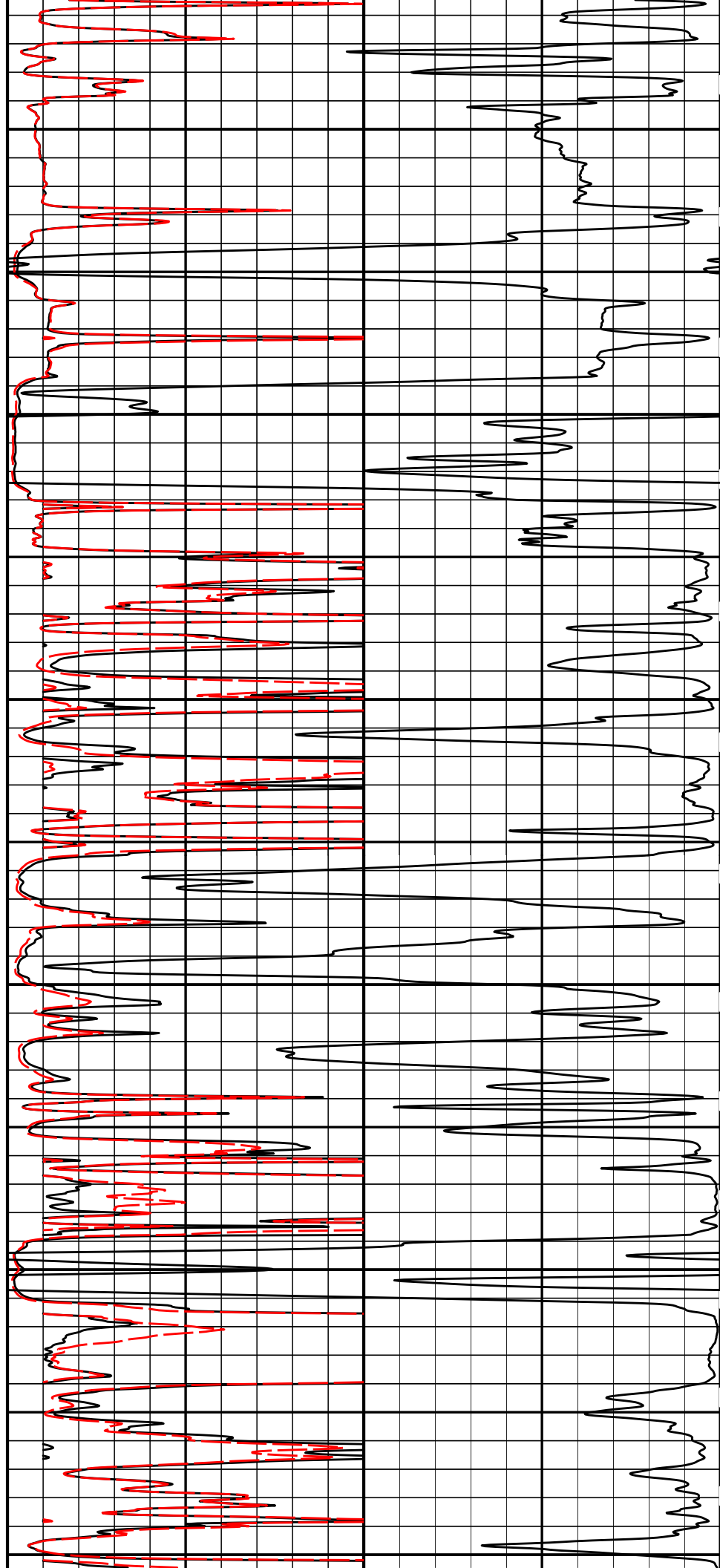
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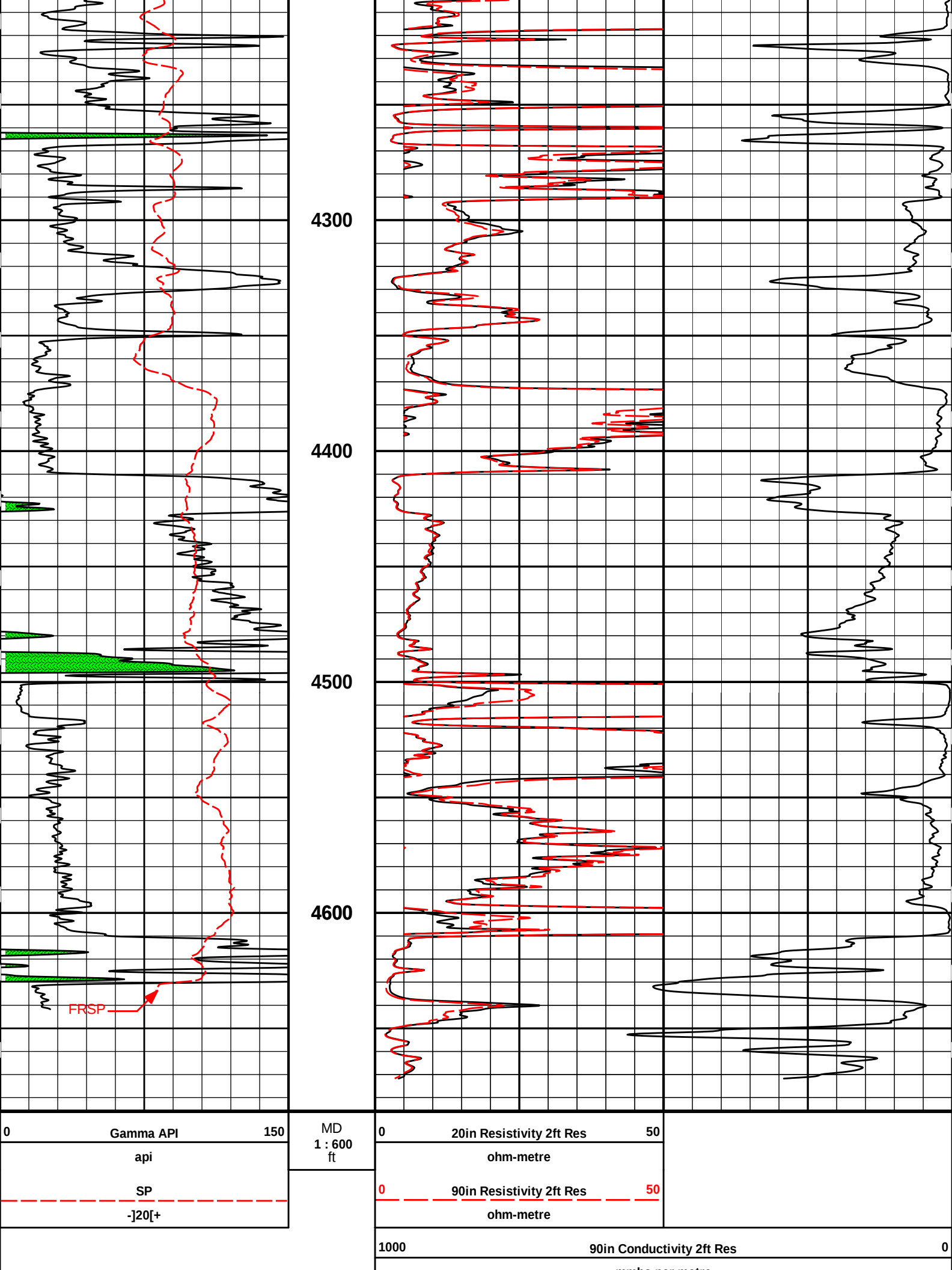
3900

4000

4100

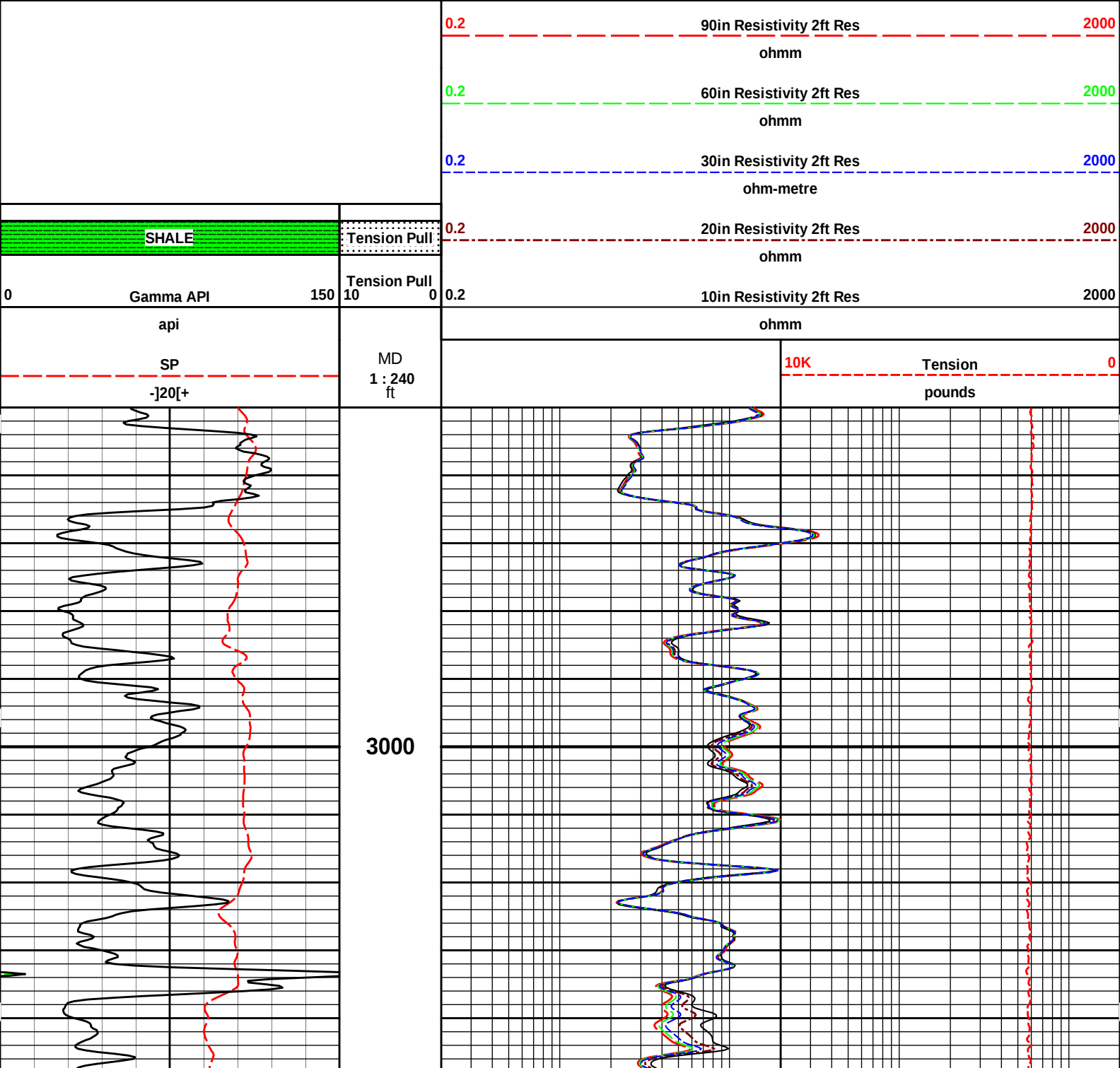
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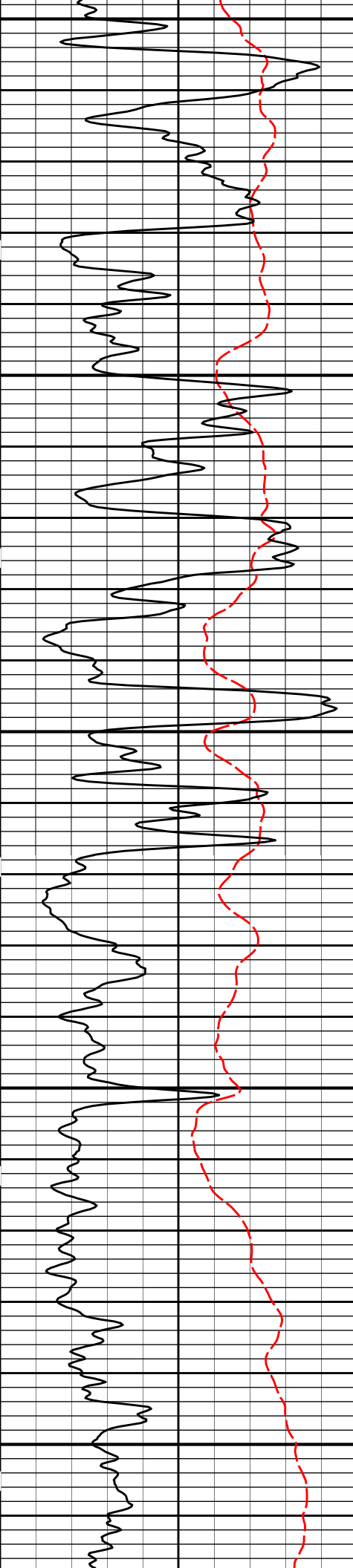




2 INCH MAIN LOG

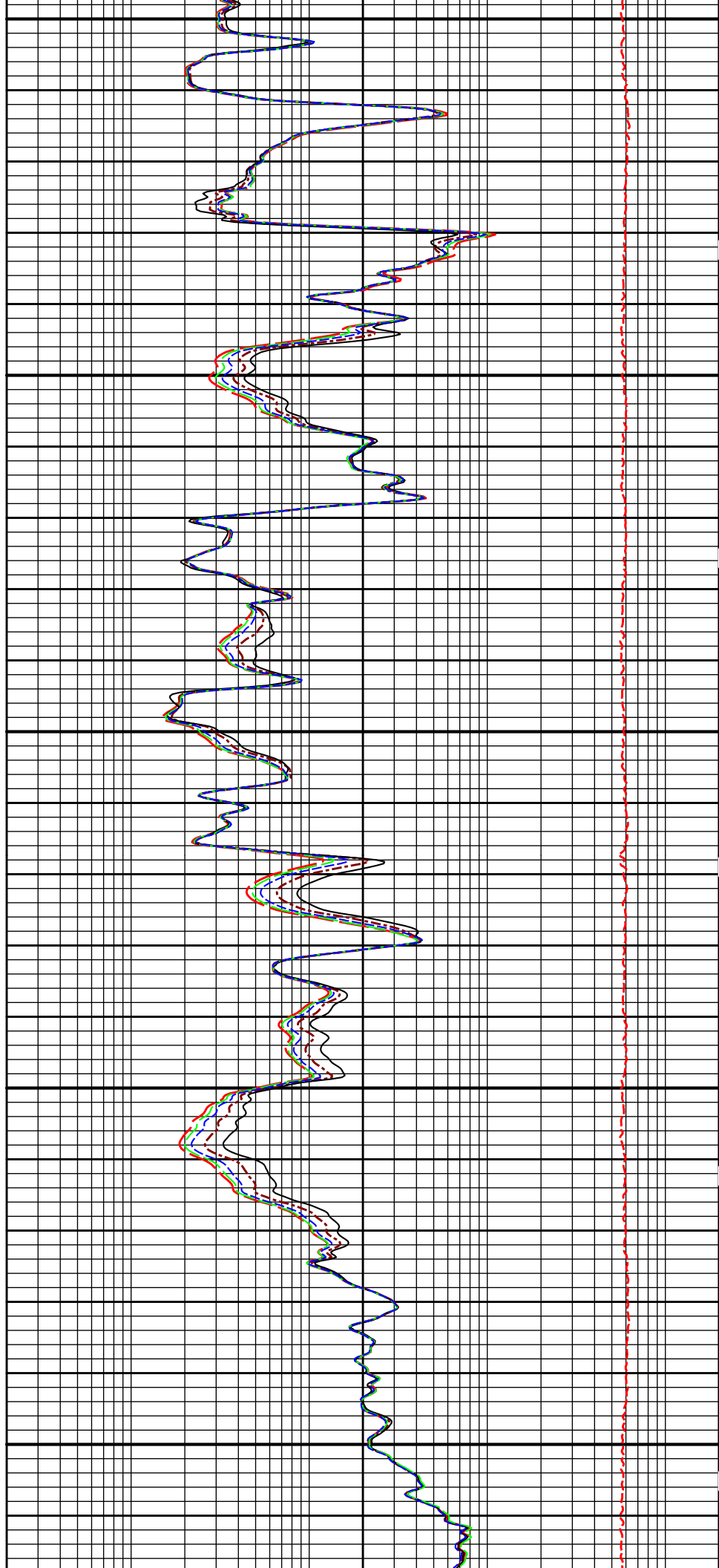
5 INCH MAIN LOG

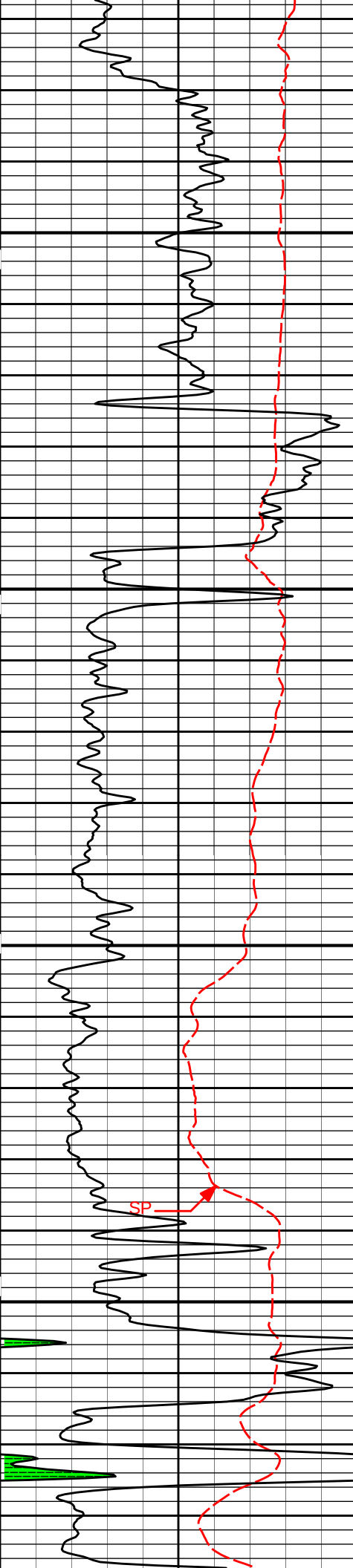




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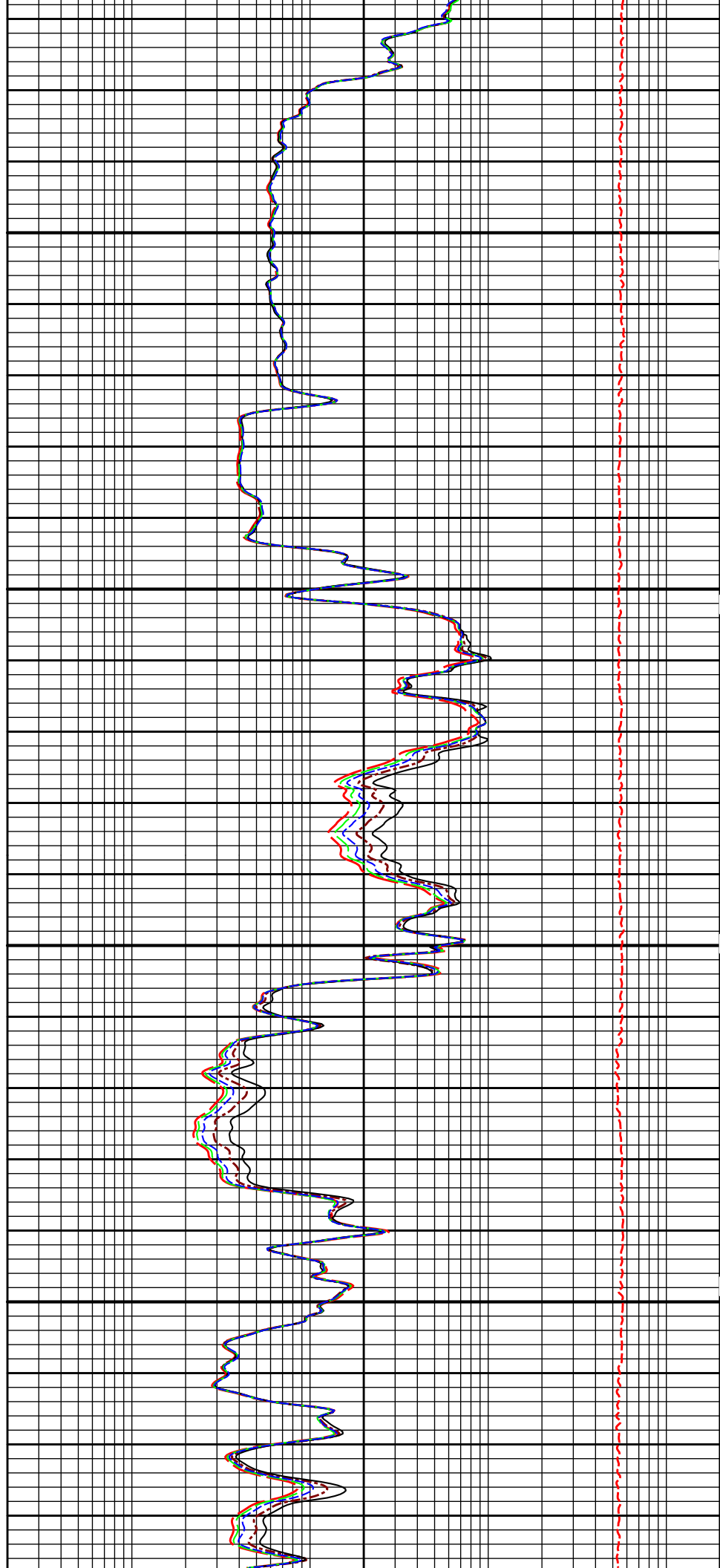
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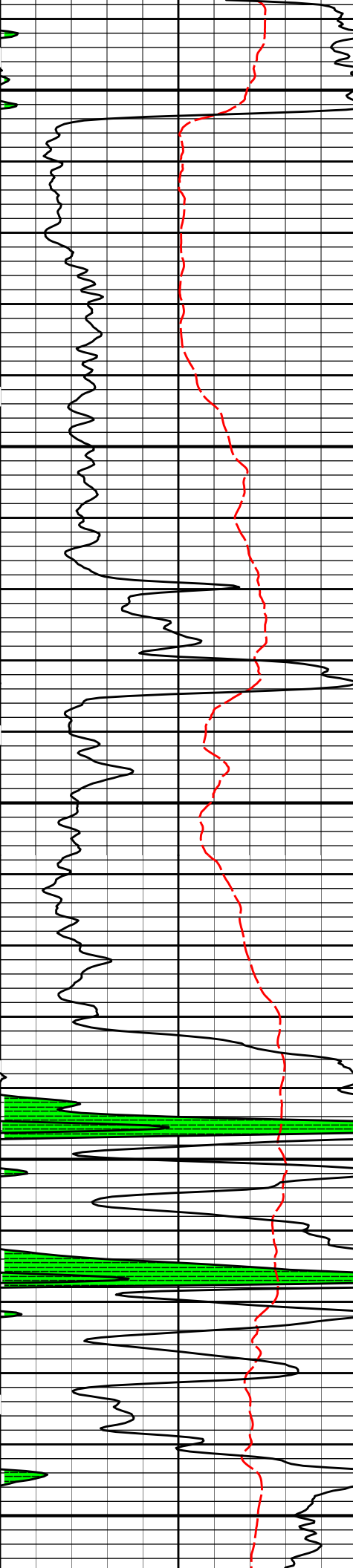




3300

3400

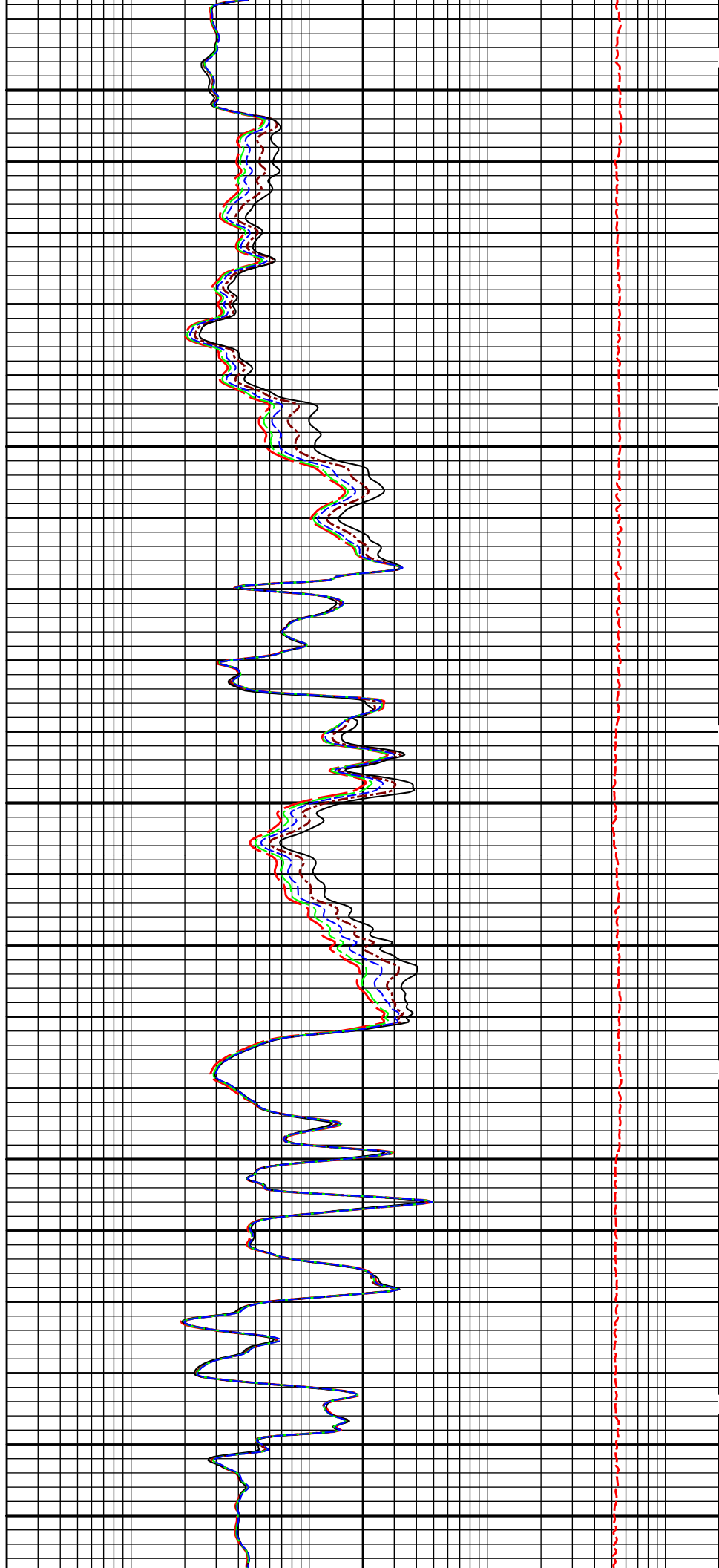




3500

3600

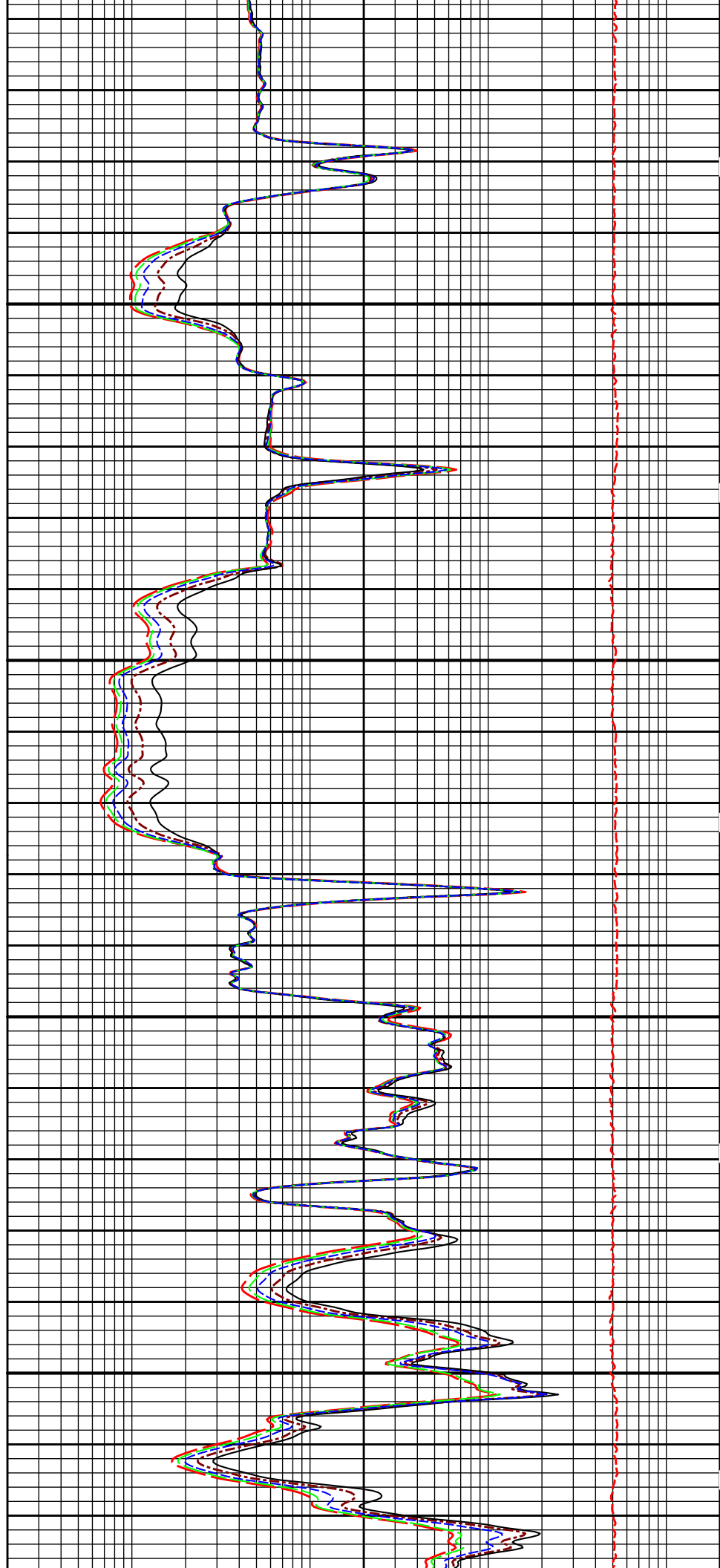
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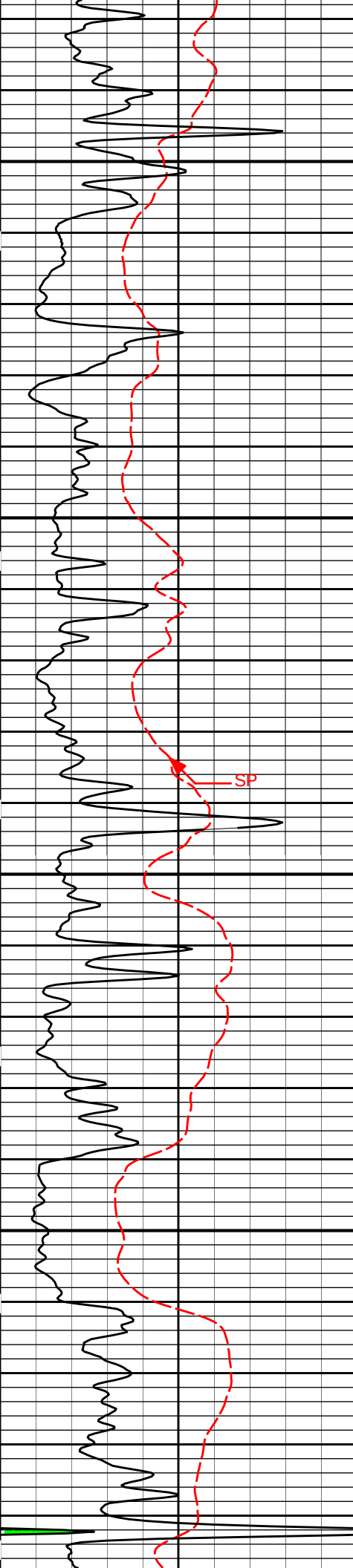




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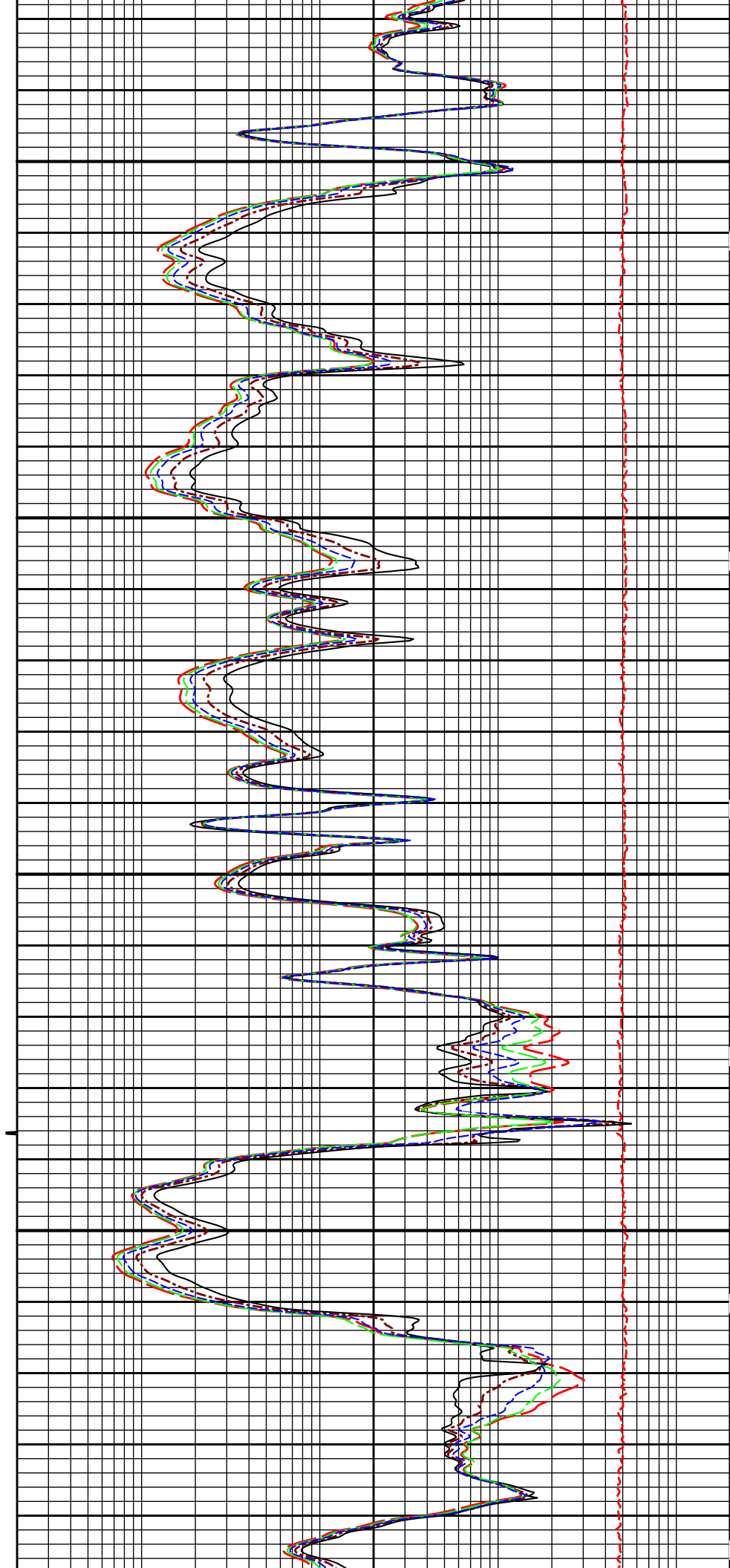
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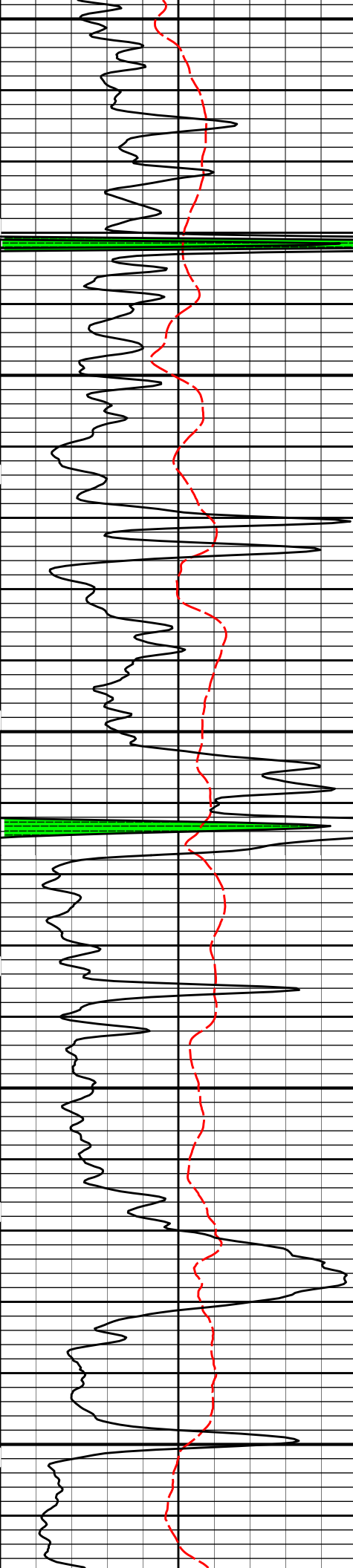




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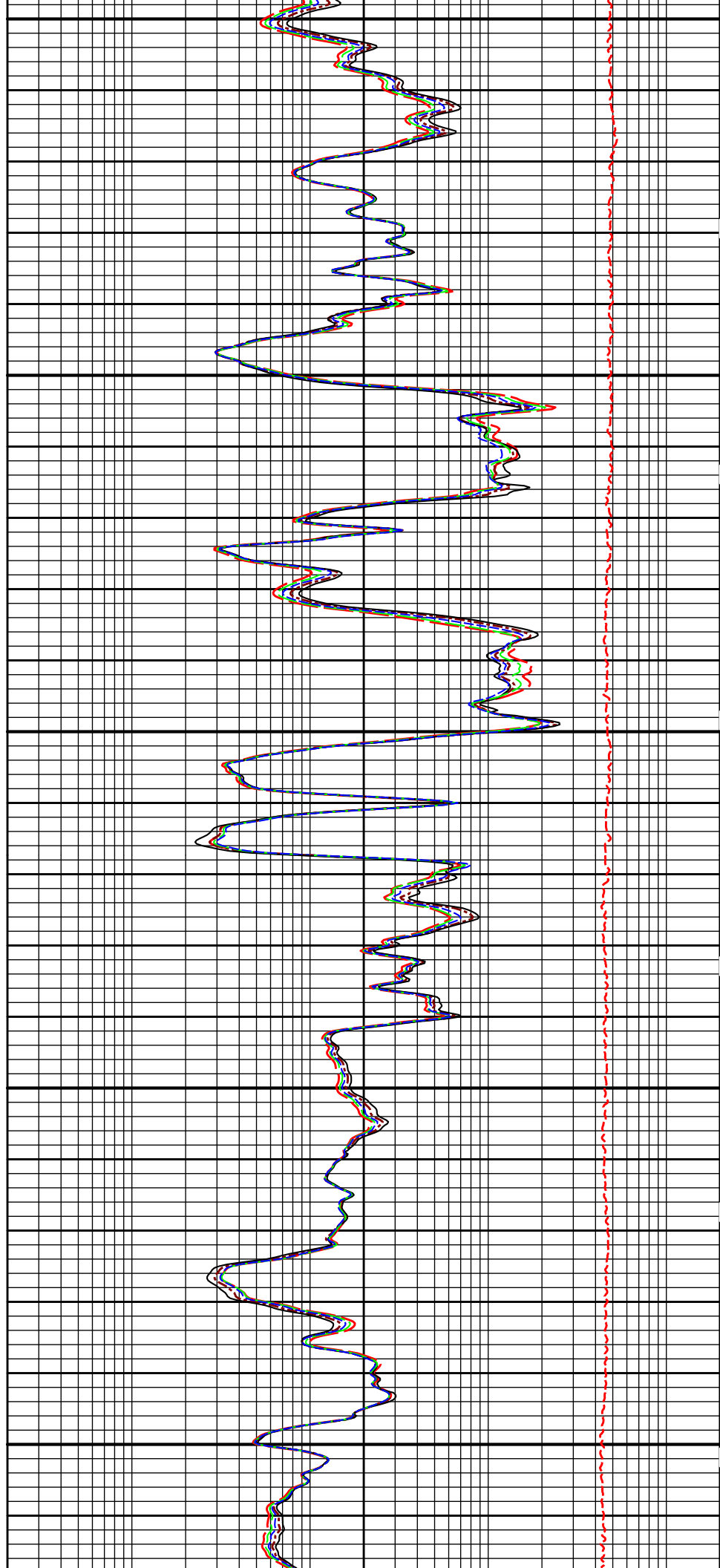
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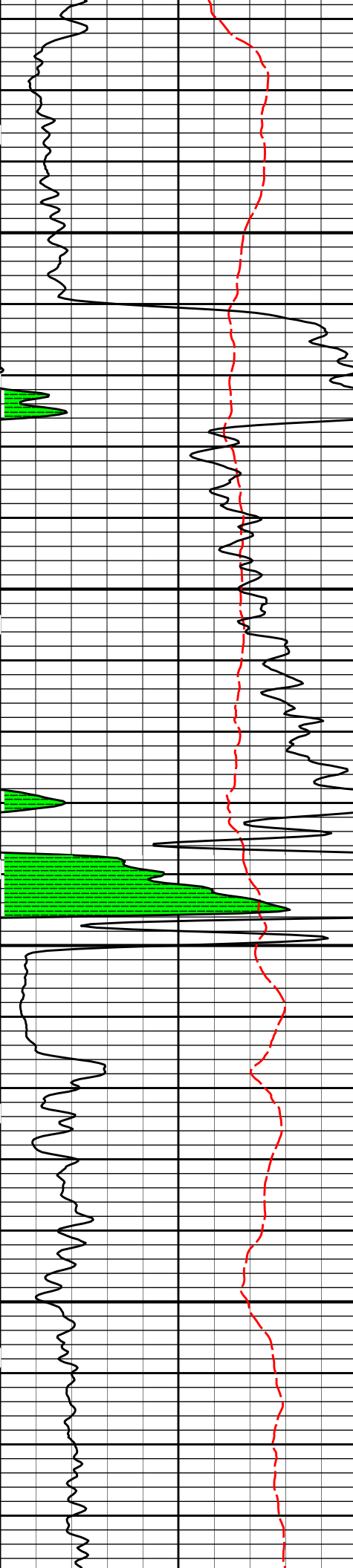




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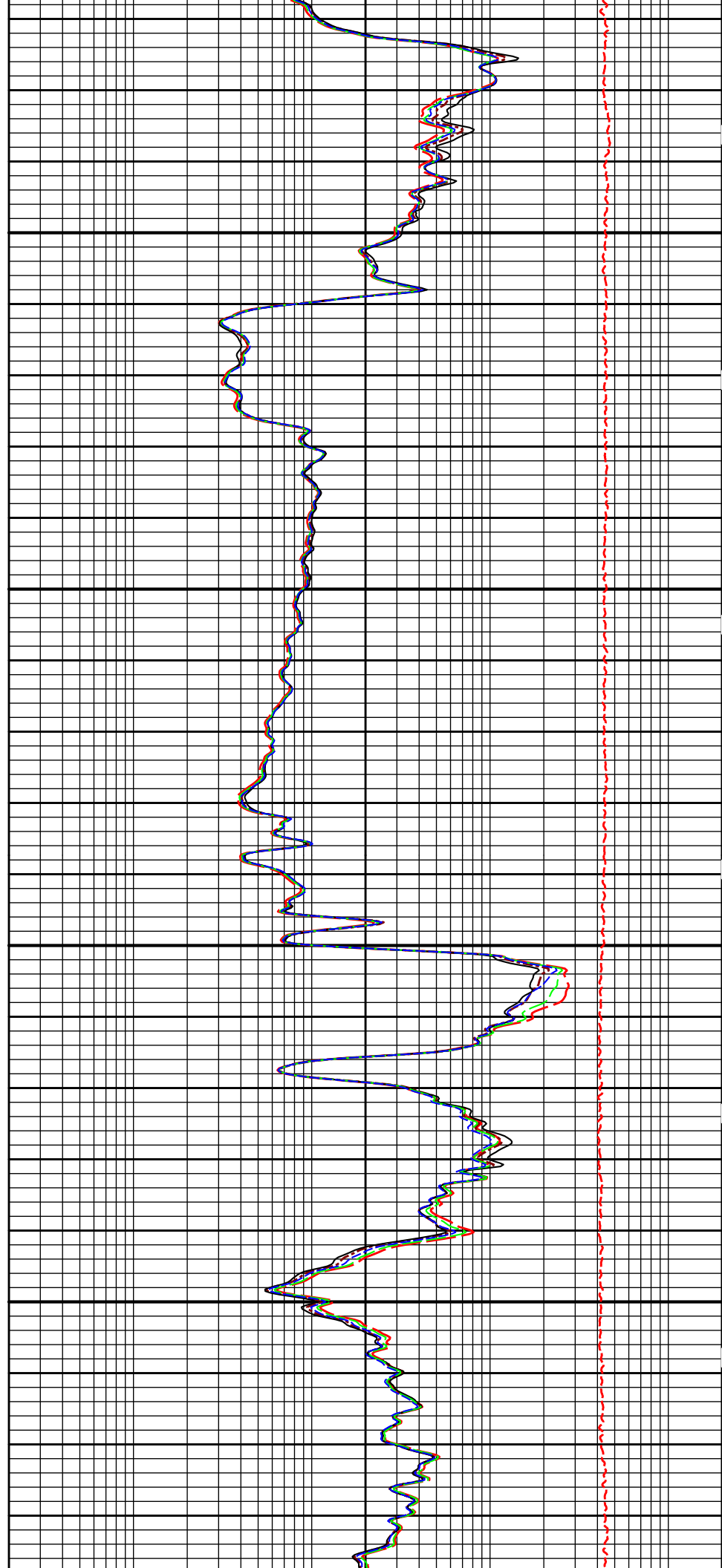
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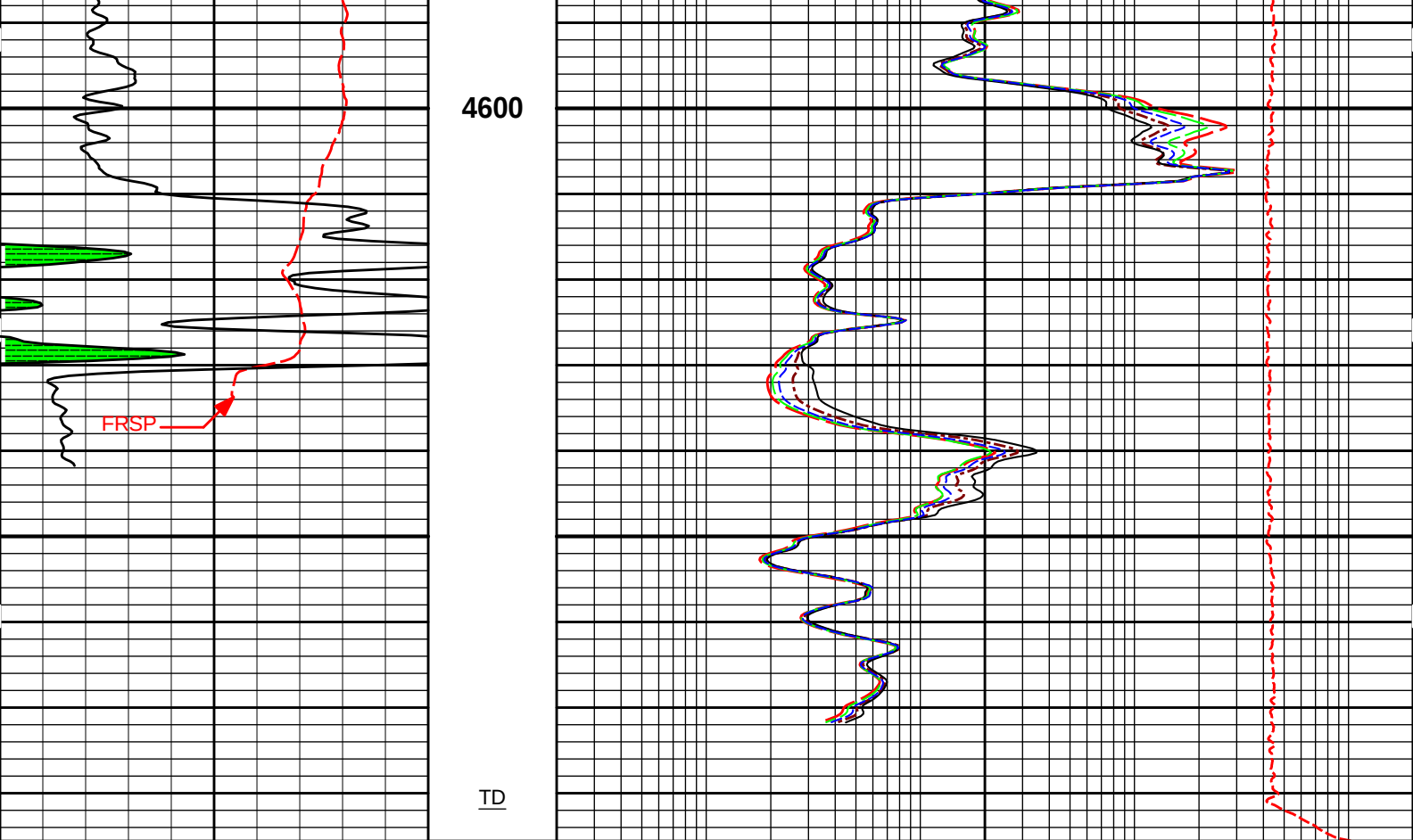




4400

4500





|              |                     |     |                          |      |
|--------------|---------------------|-----|--------------------------|------|
| SP<br>-]20[+ | MD<br>1 : 240<br>ft | 10K | Tension<br>pounds        | 0    |
| 0            | Gamma API           | 150 | Tension Pull             | 0    |
| api          |                     | 0.2 | 10in Resistivity 2ft Res | 2000 |
| SHALE        | Tension Pull        | 0.2 | 20in Resistivity 2ft Res | 2000 |
|              |                     | 0.2 | 30in Resistivity 2ft Res | 2000 |
|              |                     | 0.2 | 60in Resistivity 2ft Res | 2000 |
|              |                     | 0.2 | 90in Resistivity 2ft Res | 2000 |

**HALLIBURTON**

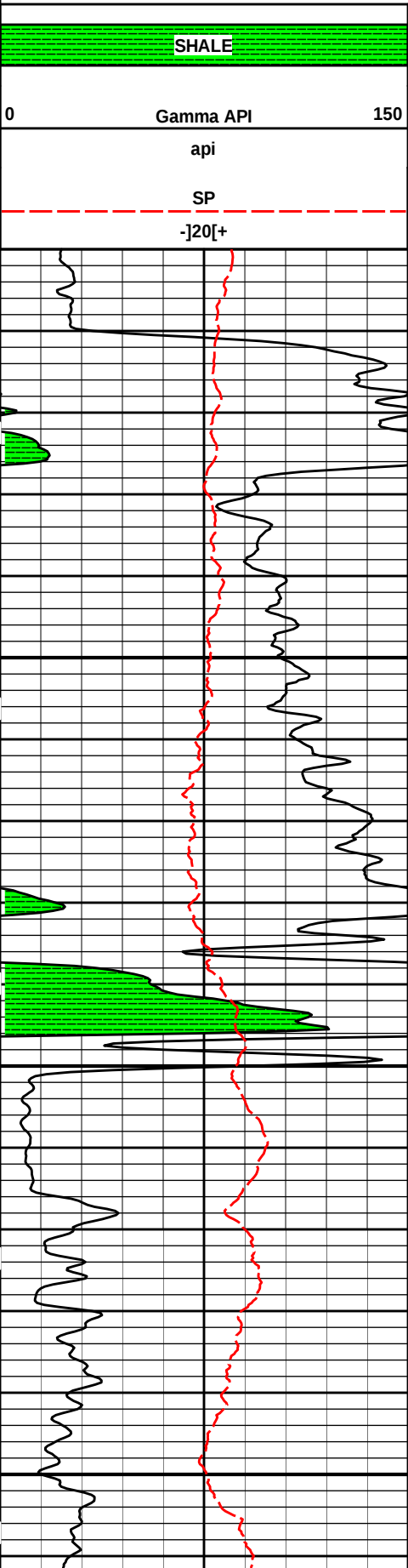
Plot Time: 14-Aug-11 10:46:17  
Plot Range: 2950 ft to 4685.58 ft  
Data: EAST\_MADDIX\_1\_2\Well Based\DAQ-0001-005\  
Plot File: \\LOCAL-IEAST\_MADDIX\_1\_2\Well Based\ACRT\ACRT\_5\_main\_lib

## 5 INCH MAIN LOG

**HALLIBURTON**

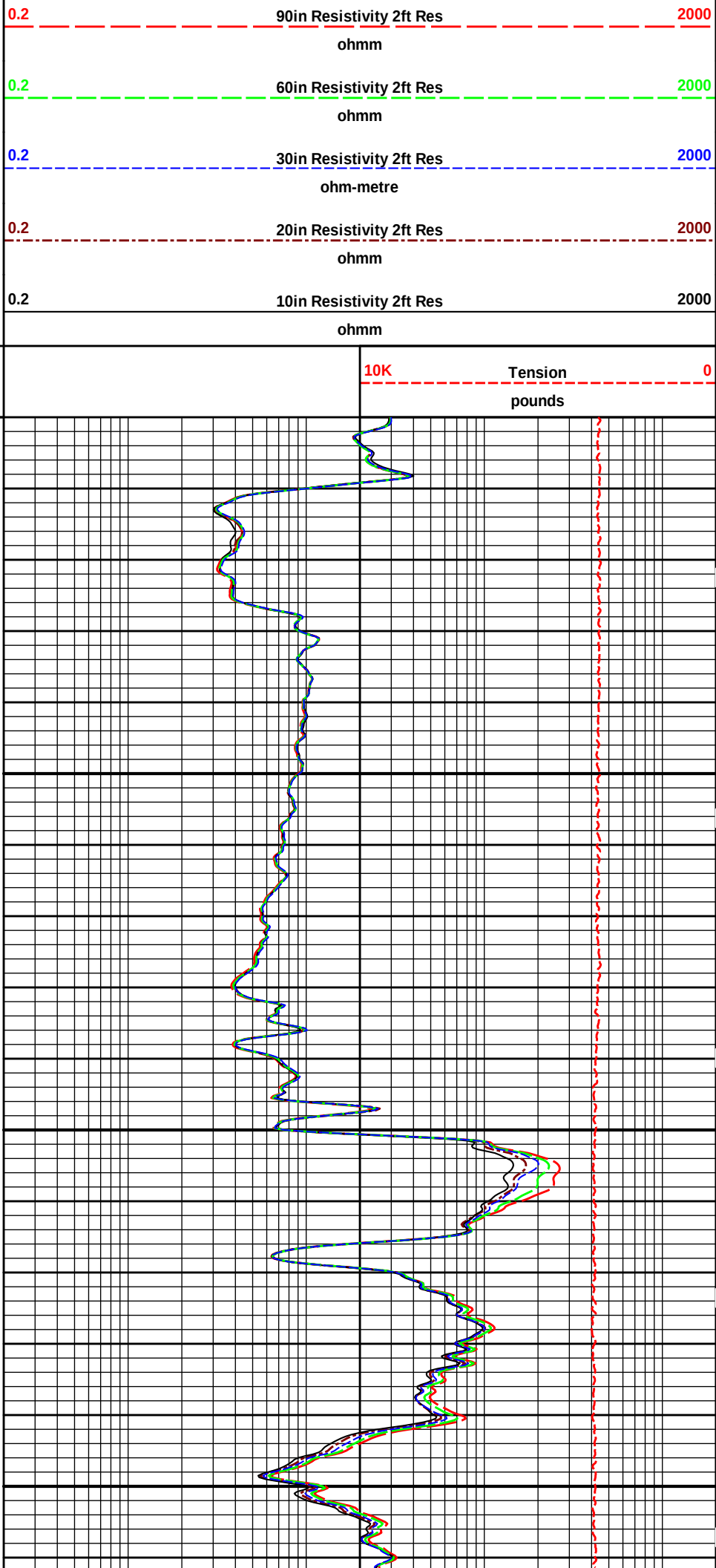
Plot Time: 14-Aug-11 10:46:18  
Plot Range: 4400 ft to 4686.58 ft  
Data: EAST\_MADDIX\_1\_2\Well Based\DAQ-0001-003\  
Plot File: \\LOCAL-IEAST\_MADDIX\_1\_2\Well Based\ACRT\ACRT\_5\_repeat\_lib

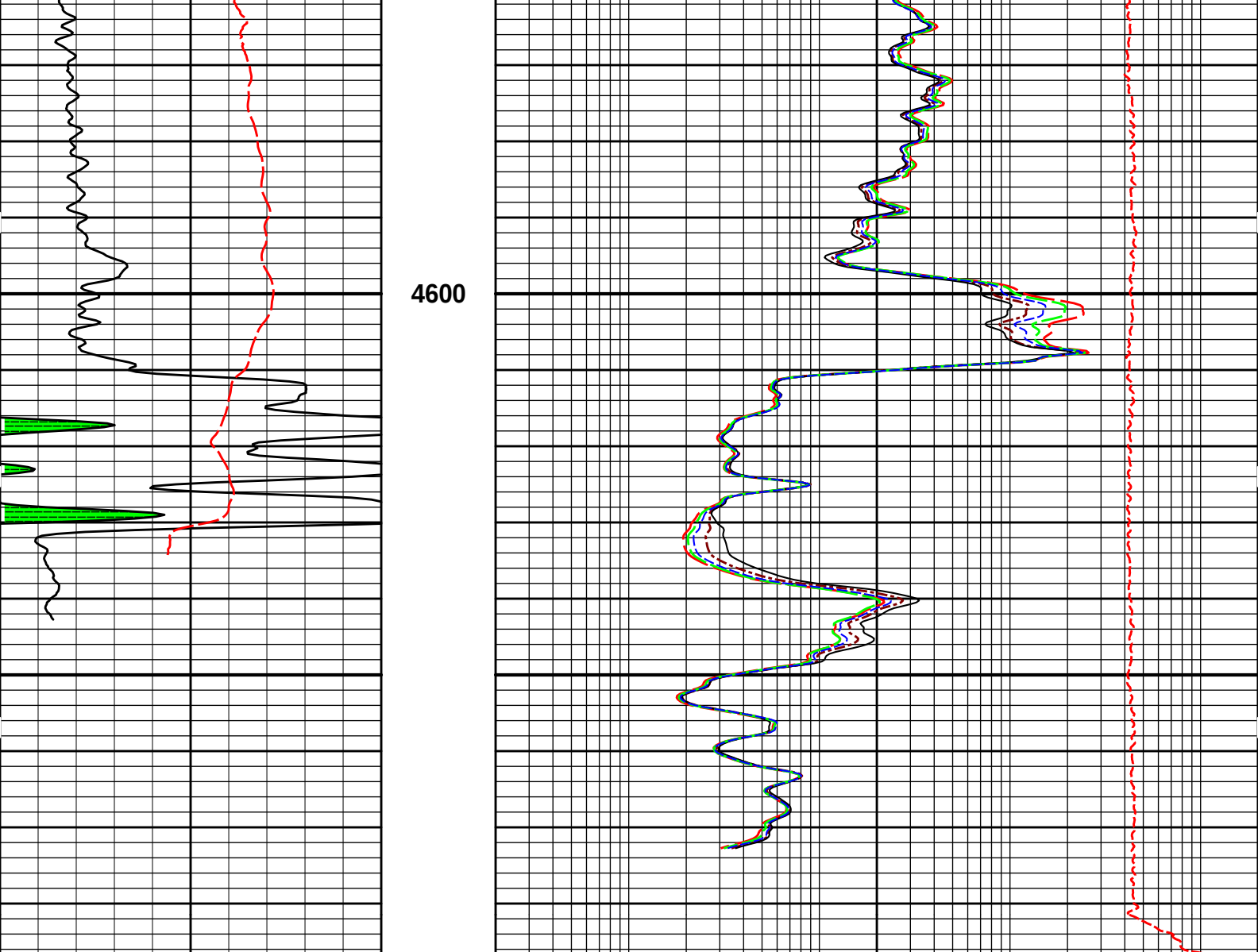
## REPEAT SECTION



MD  
1 : 240  
ft

4500





|              |           |                     |  |     |                          |      |
|--------------|-----------|---------------------|--|-----|--------------------------|------|
| SP<br>-]20[+ |           | MD<br>1 : 240<br>ft |  | 10K | Tension                  | 0    |
|              |           |                     |  |     | pounds                   |      |
| 0            | Gamma API | 150                 |  | 0.2 | 10in Resistivity 2ft Res | 2000 |
| api          |           |                     |  |     | ohmm                     |      |
| SHALE        |           |                     |  | 0.2 | 20in Resistivity 2ft Res | 2000 |
|              |           |                     |  |     | ohmm                     |      |
|              |           |                     |  | 0.2 | 30in Resistivity 2ft Res | 2000 |
|              |           |                     |  |     | ohm-metre                |      |
|              |           |                     |  | 0.2 | 60in Resistivity 2ft Res | 2000 |
|              |           |                     |  |     | ohmm                     |      |
|              |           |                     |  | 0.2 | 90in Resistivity 2ft Res | 2000 |
|              |           |                     |  |     | ohmm                     |      |

HALLIBURTON

Plot Time: 14-Aug-11 10:46:20  
Plot Range: 4400 ft to 4686.58 ft  
Data: EAST\_MADDIX\_1\_2\Well Based\DAQ-0001-003\  
Plot File: \\LOCAL-IEAST\_MADDIX\_1\_2\Well Based\ACRT\ACRT\_5\_repeat\_lib

REPEAT SECTION

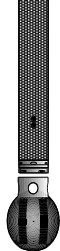
HALLIBURTON

# TOOL STRING DIAGRAM REPORT

| Description                                | Overbody Description | O.D.          | Diagram | Sensors @ Delays                                                    | Length   | Accumulated Length |
|--------------------------------------------|----------------------|---------------|---------|---------------------------------------------------------------------|----------|--------------------|
| Cable Head-<br>PROT01<br>30.00 lbs         |                      | Ø 3.625 in →  |         | 1.92 ft                                                             | 54.51 ft |                    |
| SP Sub-001<br>60.00 lbs                    |                      | Ø 3.625 in →  |         | ← SP @ 50.81 ft                                                     | 3.74 ft  | 52.59 ft           |
| GTET-11048627<br>165.00 lbs                |                      | Ø 3.625 in →  |         | ← GammaRay @ 42.79 ft                                               | 8.52 ft  | 48.85 ft           |
| DSN Decentralizer-<br>11005605<br>6.60 lbs |                      | Ø 3.625 in* → |         |                                                                     |          | 40.33 ft           |
| DSNT-11019643<br>174.00 lbs                |                      | Ø 3.625 in →  |         | ← DSN Far @ 33.39 ft<br>← DSN Near @ 32.64 ft                       | 9.69 ft  | 30.64 ft           |
| SDLT-I43_P81<br>360.00 lbs                 |                      | Ø 4.500 in →  |         | SDL Microlog @ 22.83 ft<br>SDL Caliper @ 22.65 ft<br>SDL @ 22.64 ft | 10.81 ft | 19.83 ft           |
|                                            |                      | Ø 4.750 in →  |         | ← Mud Resistivity @ 13.44 ft                                        |          | 9.46 ft            |
| ACRt-I962_S909<br>250.00 lbs               |                      | Ø 3.625 in →  |         | ← ACRt @ 9.46 ft                                                    | 19.25 ft |                    |

Cabbage Head-  
TRK696  
10.00 lbs

Ø 3.625 in  
Ø 6.000 in



0.58 ft  
0.58 ft  
0.00 ft

| Mnemonic                                                |                                    | Tool Name | Serial Number | Weight (lbs) | Length (ft) | Accumulated Length (ft) | Max.Log. Speed (fpm) |
|---------------------------------------------------------|------------------------------------|-----------|---------------|--------------|-------------|-------------------------|----------------------|
| CH                                                      | Standard OH Cable Head             |           | PROT01        | 30.00        | 1.92        | 52.59                   | 300.00               |
| SP                                                      | SP Sub                             |           | 001           | 60.00        | 3.74        | 48.85                   | 300.00               |
| GTET                                                    | Gamma Telemetry Tool               |           | 11048627      | 165.00       | 8.52        | 40.33                   | 60.00                |
| DSNT                                                    | Dual Spaced Neutron                |           | 11019643      | 174.00       | 9.69        | 30.64                   | 60.00                |
| DCNT                                                    | DSN Decentralizer                  |           | 11005605      | 6.60         | 5.13        | *                       | 33.97                |
| SDLT                                                    | Spectral Density Tool              |           | I43_P81       | 360.00       | 10.81       | 19.83                   | 60.00                |
| ACRt                                                    | Array Compensated True Resistivity |           | I962 S909     | 250.00       | 19.25       | 0.58                    | 300.00               |
| CBHD                                                    | Cabbage Head                       |           | TRK696        | 10.00        | 0.58        | 0.00                    | 300.00               |
| Total                                                   |                                    |           |               | 1,055.60     | 54.51       |                         |                      |
| * Not included in Total Length and Length Accumulation. |                                    |           |               |              |             |                         |                      |
| Data: EAST_MADDIX_1_2I0001 SP-GTET-DSN-SDL-ACRT-CHIDLE  |                                    |           |               |              |             |                         |                      |
| Date: 14-Aug-11 01:04:07                                |                                    |           |               |              |             |                         |                      |

HALLIBURTON

CALIBRATION REPORT

ARRAY COMPENSATED TRUE RESISTIVITY SHOP CALIBRATION

|                   |                            |                             |                    |
|-------------------|----------------------------|-----------------------------|--------------------|
| Tool Name:        | ACRt - I962_S909           | Reference Calibration Date: | 14-Jun-11 12:22:56 |
| Engineer:         | C. HAVERKAMP               | Calibration Date:           | 20-Jul-11 15:48:20 |
| Software Version: | WL INSITE R3.2.0 (Build 7) | Calibration Version:        | 1                  |

| TYPICAL GAIN RANGE |        |          |       |        |          |       |        |          |       |
|--------------------|--------|----------|-------|--------|----------|-------|--------|----------|-------|
| Subarray           | R12KHz |          |       | R36KHz |          |       | R72KHz |          |       |
|                    | Lower  | (mmho/m) | Upper | Lower  | (mmho/m) | Upper | Lower  | (mmho/m) | Upper |
| A1 (80")           | 0.95   | 1.0107   | 1.05  | 0.95   | 1.0172   | 1.05  | 0.95   | 1.0171   | 1.05  |
| A2 (50")           | 0.95   | 1.0124   | 1.05  | 0.95   | 1.0204   | 1.05  | 0.95   | 1.0215   | 1.05  |
| A3 (29")           | 0.95   | 0.9998   | 1.05  | 0.95   | 1.0060   | 1.05  | 0.95   | 1.0052   | 1.05  |
| A4 (17")           | 0.95   | 1.0040   | 1.05  | 0.95   | 1.0091   | 1.05  | 0.95   | 1.0098   | 1.05  |
| A5 (10")           | N/A    | N/A      | N/A   | 0.95   | 1.0317   | 1.05  | 0.95   | 1.0319   | 1.05  |
| A6 (6")            | N/A    | N/A      | N/A   | 0.95   | 0.9969   | 1.05  | 0.95   | 0.9969   | 1.05  |

| TYPICAL SONDE OFFSET RANGE |        |          |       |        |          |       |        |          |       |
|----------------------------|--------|----------|-------|--------|----------|-------|--------|----------|-------|
| Subarray                   | R12KHz |          |       | R36KHz |          |       | R72KHz |          |       |
|                            | Lower  | (mmho/m) | Upper | Lower  | (mmho/m) | Upper | Lower  | (mmho/m) | Upper |
| A1 (80")                   | -5     | -0.382   | 2     | -6     | -3.476   | -2    | -8     | -4.436   | -2    |
| A2 (50")                   | -7     | -1.306   | -1    | -6     | -3.218   | -2    | -7     | -3.980   | -2    |
| A3 (29")                   | -27    | -14.734  | -9    | -9     | -4.266   | -3    | -7     | -2.560   | -1    |
| A4 (17")                   | -180   | -102.008 | -60   | -45    | -31.229  | -15   | -39    | -26.301  | -13   |
| A5 (10")                   | N/A    | N/A      | N/A   | -150   | -101.389 | -50   | -80    | -46.248  | -10   |
| A6 (6")                    | N/A    | N/A      | N/A   | 175    | 286.509  | 525   | 90     | 150.240  | 270   |

| TRANSMITTER CURRENT GAIN |       |   |       |  | R-MUD VERIFICATION |               |                  |               |
|--------------------------|-------|---|-------|--|--------------------|---------------|------------------|---------------|
| Signal                   | Lower | R | Upper |  | Signal             | Lower (ohm-m) | Measured (ohm-m) | Upper (ohm-m) |

|                                                        |       |        |       |                          |           |       |      |
|--------------------------------------------------------|-------|--------|-------|--------------------------|-----------|-------|------|
| 12K                                                    | 0.6   | 0.9322 | 1.3   | Mud Cell                 | 0.95      | 1.002 | 1.05 |
| 36K                                                    | 1.0   | 1.3651 | 2.0   |                          |           |       |      |
| 72K                                                    | 1.0   | 1.5783 | 2.0   |                          |           |       |      |
| CALIBRATION SUMMARY                                    |       |        |       |                          |           |       |      |
| Sensor                                                 | Shop  | Field  | Post  | Difference               | Tolerance | Units |      |
| ACRt-I962_S909                                         |       |        |       |                          |           |       |      |
| Mud Cell                                               | 1.002 | -----  | ----- | 0.000                    | -----     | ohm-m |      |
| Data: EAST_MADDIX_1_2I0001 SP-GTET-DSN-SDL-ACRT-CHIDLE |       |        |       | Date: 14-Aug-11 01:05:05 |           |       |      |



# PARAMETERS REPORT

| Depth (ft) | Tool Name | Mnemonic | Description                                           | Value     | Units |
|------------|-----------|----------|-------------------------------------------------------|-----------|-------|
| TOP        |           |          |                                                       |           |       |
|            | DSNT      | DNOK     | Process DSN?                                          | No        |       |
|            | SDLT      | DNOK     | Process Density?                                      | No        |       |
|            | SDLT      | MLOK     | Process MicroLog Outputs?                             | No        |       |
| 2940.00    |           |          |                                                       |           |       |
|            | SHARED    | BS       | Bit Size                                              | 7.875     | in    |
|            | SHARED    | UBS      | Use Bit Size instead of Caliper for all applications. | No        |       |
|            | SHARED    | MDBS     | Mud Base                                              | Water     |       |
|            | SHARED    | MDWT     | Borehole Fluid Weight                                 | 9.400     | ppg   |
|            | SHARED    | WAGT     | Weighting Agent                                       | Barite    |       |
|            | SHARED    | BSAL     | Borehole salinity                                     | 0.00      | ppm   |
|            | SHARED    | FSAL     | Formation Salinity NaCl                               | 0.00      | ppm   |
|            | SHARED    | KPCT     | Percent K in Mud by Weight?                           | 0.00      | %     |
|            | SHARED    | RMUD     | Mud Resistivity                                       | 0.370     | ohmm  |
|            | SHARED    | TRM      | Temperature of Mud                                    | 75.0      | degF  |
|            | SHARED    | CSD      | Logging Interval is Cased?                            | No        |       |
|            | SHARED    | ICOD     | AHV Casing OD                                         | 5.500     | in    |
|            | SHARED    | ST       | Surface Temperature                                   | 75.0      | degF  |
|            | SHARED    | TD       | Total Well Depth                                      | 4690.00   | ft    |
|            | SHARED    | BHT      | Bottom Hole Temperature                               | 120.0     | degF  |
|            | SHARED    | SVTM     | Navigation and Survey Master Tool                     | NONE      |       |
|            | SHARED    | AZTM     | High Res Z Accelerometer Master Tool                  | GTET      |       |
|            | SHARED    | TEMM     | Temperature Master Tool                               | NONE      |       |
|            | SHARED    | BHSM     | Borehole Size Master Tool                             | NONE      |       |
|            | GTET      | GROK     | Process Gamma Ray?                                    | Yes       |       |
|            | GTET      | GRSO     | Gamma Tool Standoff                                   | 0.000     | in    |
|            | GTET      | GEOK     | Process Gamma Ray EVR?                                | No        |       |
|            | GTET      | TPOS     | Tool Position                                         | Centered  |       |
|            | DSNT      | DNOK     | Process DSN?                                          | Yes       |       |
|            | DSNT      | DEOK     | Process DSN EVR?                                      | No        |       |
|            | DSNT      | NLIT     | Neutron Lithology                                     | Limestone |       |
|            | DSNT      | DNSO     | DSN Standoff - 0.25 in (6.35 mm) Recommended          | 0.250     | in    |
|            | DSNT      | DNTP     | Temperature Correction Type                           | None      |       |
|            | DSNT      | DPRS     | DSN Pressure Correction Type                          | None      |       |
|            | DSNT      | SHCO     | View More Correction Options                          | No        |       |
|            | DSNT      | UTVD     | Use TVD for Gradient Corrections?                     | No        |       |
|            | DSNT      | LHWT     | Logging Horizontal Water Tank?                        | No        |       |

|                                                        |      |                               |                          |      |
|--------------------------------------------------------|------|-------------------------------|--------------------------|------|
| SDLT                                                   | DNOK | Process Density?              | Yes                      |      |
| SDLT                                                   | DNOK | Process Density EVR?          | No                       |      |
| SDLT                                                   | CB   | Logging Calibration Blocks?   | No                       |      |
| SDLT                                                   | SPVT | SDLT Pad Temperature Valid?   | Yes                      |      |
| SDLT                                                   | DTWN | Disable temperature warning   | No                       |      |
| SDLT                                                   | DMA  | Formation Density Matrix      | 2.710                    | g/cc |
| SDLT                                                   | DFL  | Formation Density Fluid       | 1.000                    | g/cc |
| SDLT                                                   | CLOK | Process Caliper Outputs?      | Yes                      |      |
| SDLT                                                   | MLOK | Process MicroLog Outputs?     | Yes                      |      |
| ACRt                                                   | RTOK | Process ACRt?                 | Yes                      |      |
| ACRt                                                   | MNSO | Minimum Tool Standoff         | 1.50                     | in   |
| ACRt                                                   | TCS1 | Temperature Correction Source | FP Lwr & FP Up           |      |
| ACRt                                                   | TPOS | Tool Position                 | Free Hanging             |      |
| ACRt                                                   | RMOP | Rmud Source                   | Mud Cell                 |      |
| ACRt                                                   | RMIN | Minimum Resistivity for MAP   | 0.20                     | ohmm |
| ACRt                                                   | RMIN | Maximum Resistivity for MAP   | 200.00                   | ohmm |
| ACRt                                                   | THQY | Threshold Quality             | 0.50                     |      |
| BOTTOM                                                 |      |                               |                          |      |
| Data: EAST_MADDIX_1_2I0001 SP-GTET-DSN-SDL-ACRT-CHIDLE |      |                               | Date: 14-Aug-11 09:08:09 |      |

| <div> <div>HALLIBURTON</div> <div> <div></div> <div> <div>INPUTS, DELAYS AND FILTERS TABLE</div> </div> </div> </div> |                                                         |            |             |                    |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------|-------------|--------------------|
| Mnemonic                                                                                                              | Input Description                                       | Delay (ft) | Filter Type | Filter Length (ft) |
| Depth Panel                                                                                                           |                                                         |            |             |                    |
| TENS                                                                                                                  | Tension                                                 | 0.00       | NO          |                    |
| SP Sub                                                                                                                |                                                         |            |             |                    |
| PLTC                                                                                                                  | Plot Control Mask                                       | 50.81      | NO          |                    |
| SP                                                                                                                    | Spontaneous Potential                                   | 50.81      | BLK         | 1.250              |
| SPR                                                                                                                   | Raw Spontaneous Potential                               | 50.81      | NO          |                    |
| SPO                                                                                                                   | Spontaneous Potential Offset                            | 50.81      | NO          |                    |
| GTET                                                                                                                  |                                                         |            |             |                    |
| TPUL                                                                                                                  | Tension Pull                                            | 42.79      | NO          |                    |
| GR                                                                                                                    | Natural Gamma Ray API                                   | 42.79      | TRI         | 1.750              |
| GRU                                                                                                                   | Unfiltered Natural Gamma Ray API                        | 42.79      | NO          |                    |
| EGR                                                                                                                   | Natural Gamma Ray API with Enhanced Vertical Resolution | 42.79      | W           | 1.416 , 0.750      |
| ACCZ                                                                                                                  | Accelerometer Z                                         | 0.00       | BLK         | 0.083              |
| DEVI                                                                                                                  | Inclination                                             | 0.00       | NO          |                    |
| DSNT                                                                                                                  |                                                         |            |             |                    |
| TPUL                                                                                                                  | Tension Pull                                            | 32.54      | NO          |                    |
| RNDS                                                                                                                  | Near Detector Telemetry Counts                          | 32.64      | BLK         | 1.417              |
| RFDS                                                                                                                  | Far Detector Telemetry Counts                           | 33.39      | TRI         | 0.583              |
| DNTT                                                                                                                  | DSN Tool Temperature                                    | 32.64      | NO          |                    |
| DSNS                                                                                                                  | DSN Tool Status                                         | 32.54      | NO          |                    |
| ERND                                                                                                                  | Near Detector Telemetry Counts EVR                      | 32.64      | BLK         | 0.000              |
| ERFD                                                                                                                  | Far Detector Telemetry Counts EVR                       | 33.39      | BLK         | 0.000              |
| ENTM                                                                                                                  | DSN Tool Temperature EVR                                | 32.64      | NO          |                    |
| SDLT                                                                                                                  |                                                         |            |             |                    |
| TPUL                                                                                                                  | Tension Pull                                            | 22.64      | NO          |                    |
| NAB                                                                                                                   | Near Above                                              | 22.46      | BLK         | 0.920              |

|      |                            |       |     |       |
|------|----------------------------|-------|-----|-------|
| NHI  | Near Cesium High           | 22.46 | BLK | 0.920 |
| NLO  | Near Cesium Low            | 22.46 | BLK | 0.920 |
| NVA  | Near Valley                | 22.46 | BLK | 0.920 |
| NBA  | Near Barite                | 22.46 | BLK | 0.920 |
| NDE  | Near Density               | 22.46 | BLK | 0.920 |
| NPK  | Near Peak                  | 22.46 | BLK | 0.920 |
| NLI  | Near Lithology             | 22.46 | BLK | 0.920 |
| NBAU | Near Barite Unfiltered     | 22.46 | BLK | 0.250 |
| NLIU | Near Lithology Unfiltered  | 22.46 | BLK | 0.250 |
| FAB  | Far Above                  | 22.81 | BLK | 0.250 |
| FHI  | Far Cesium High            | 22.81 | BLK | 0.250 |
| FLO  | Far Cesium Low             | 22.81 | BLK | 0.250 |
| FVA  | Far Valley                 | 22.81 | BLK | 0.250 |
| FBA  | Far Barite                 | 22.81 | BLK | 0.250 |
| FDE  | Far Density                | 22.81 | BLK | 0.250 |
| FPK  | Far Peak                   | 22.81 | BLK | 0.250 |
| FLI  | Far Lithology              | 22.81 | BLK | 0.250 |
| PTMP | Pad Temperature            | 22.65 | BLK | 0.920 |
| NHV  | Near Detector High Voltage | 19.83 | NO  |       |
| FHV  | Far Detector High Voltage  | 19.83 | NO  |       |
| ITMP | Instrument Temperature     | 19.83 | NO  |       |
| DDHV | Detector High Voltage      | 19.83 | NO  |       |
| TPUL | Tension Pull               | 22.65 | NO  |       |
| PCAL | Pad Caliper                | 22.65 | TRI | 0.250 |
| ACAL | Arm Caliper                | 22.65 | TRI | 0.250 |
| TPUL | Tension Pull               | 22.83 | NO  |       |
| MINV | Microlog Lateral           | 22.83 | BLK | 0.750 |
| MNOR | Microlog Normal            | 22.83 | BLK | 0.750 |
| ACRt |                            |       |     |       |
| TPUL | Tension Pull               | 2.97  | NO  |       |
| F1R1 | ACRT 12KHz - 80in R value  | 9.22  | BLK | 0.000 |
| F1X1 | ACRT 12KHz - 80in X value  | 9.22  | BLK | 0.000 |
| F1R2 | ACRT 12KHz - 50in R value  | 6.72  | BLK | 0.000 |
| F1X2 | ACRT 12KHz - 50in X value  | 6.72  | BLK | 0.000 |
| F1R3 | ACRT 12KHz - 29in R value  | 5.22  | BLK | 0.000 |
| F1X3 | ACRT 12KHz - 29in X value  | 5.22  | BLK | 0.000 |
| F1R4 | ACRT 12KHz - 17in R value  | 4.22  | BLK | 0.000 |
| F1X4 | ACRT 12KHz - 17in X value  | 4.22  | BLK | 0.000 |
| F1R5 | ACRT 12KHz - 10in R value  | 3.72  | BLK | 0.000 |
| F1X5 | ACRT 12KHz - 10in X value  | 3.72  | BLK | 0.000 |
| F1R6 | ACRT 12KHz - 6in R value   | 3.47  | BLK | 0.000 |
| F1X6 | ACRT 12KHz - 6in X value   | 3.47  | BLK | 0.000 |
| F2R1 | ACRT 36KHz - 80in R value  | 9.22  | BLK | 0.000 |
| F2X1 | ACRT 36KHz - 80in X value  | 9.22  | BLK | 0.000 |
| F2R2 | ACRT 36KHz - 50in R value  | 6.72  | BLK | 0.000 |
| F2X2 | ACRT 36KHz - 50in X value  | 6.72  | BLK | 0.000 |
| F2R3 | ACRT 36KHz - 29in R value  | 5.22  | BLK | 0.000 |
| F2X3 | ACRT 36KHz - 29in X value  | 5.22  | BLK | 0.000 |
| F2R4 | ACRT 36KHz - 17in R value  | 4.22  | BLK | 0.000 |
| F2X4 | ACRT 36KHz - 17in X value  | 4.22  | BLK | 0.000 |
| F2R5 | ACRT 36KHz - 10in R value  | 3.72  | BLK | 0.000 |
| F2X5 | ACRT 36KHz - 10in X value  | 3.72  | BLK | 0.000 |
| F2R6 | ACRT 36KHz - 6in R value   | 3.47  | BLK | 0.000 |
| F2X6 | ACRT 36KHz - 6in X value   | 3.47  | BLK | 0.000 |
| F3R1 | ACRT 72KHz - 80in R value  | 9.22  | BLK | 0.000 |

|                                                         |                                               |       |                          |       |
|---------------------------------------------------------|-----------------------------------------------|-------|--------------------------|-------|
| F3X1                                                    | ACRT 72KHz - 80in X value                     | 9.22  | BLK                      | 0.000 |
| F3R2                                                    | ACRT 72KHz - 50in R value                     | 6.72  | BLK                      | 0.000 |
| F3X2                                                    | ACRT 72KHz - 50in X value                     | 6.72  | BLK                      | 0.000 |
| F3R3                                                    | ACRT 72KHz - 29in R value                     | 5.22  | BLK                      | 0.000 |
| F3X3                                                    | ACRT 72KHz - 29in X value                     | 5.22  | BLK                      | 0.000 |
| F3R4                                                    | ACRT 72KHz - 17in R value                     | 4.22  | BLK                      | 0.000 |
| F3X4                                                    | ACRT 72KHz - 17in X value                     | 4.22  | BLK                      | 0.000 |
| F3R5                                                    | ACRT 72KHz - 10in R value                     | 3.72  | BLK                      | 0.000 |
| F3X5                                                    | ACRT 72KHz - 10in X value                     | 3.72  | BLK                      | 0.000 |
| F3R6                                                    | ACRT 72KHz - 6in R value                      | 3.47  | BLK                      | 0.000 |
| F3X6                                                    | ACRT 72KHz - 6in X value                      | 3.47  | BLK                      | 0.000 |
| RMUD                                                    | Mud Resistivity                               | 12.76 | BLK                      | 0.000 |
| F1RT                                                    | Transmitter Reference 12 KHz Real Signal      | 2.97  | BLK                      | 0.000 |
| F1XT                                                    | Transmitter Reference 12 KHz Imaginary Signal | 2.97  | BLK                      | 0.000 |
| F2RT                                                    | Transmitter Reference 36 KHz Real Signal      | 2.97  | BLK                      | 0.000 |
| F2XT                                                    | Transmitter Reference 36 KHz Imaginary Signal | 2.97  | BLK                      | 0.000 |
| F3RT                                                    | Transmitter Reference 72 KHz Real Signal      | 2.97  | BLK                      | 0.000 |
| F3XT                                                    | Transmitter Reference 72 KHz Imaginary Signal | 2.97  | BLK                      | 0.000 |
| TFPU                                                    | Upper Feedpipe Temperature Calculated         | 2.97  | BLK                      | 0.000 |
| TFPL                                                    | Lower Feedpipe Temperature Calculated         | 2.97  | BLK                      | 0.000 |
| ITMP                                                    | Instrument Temperature                        | 2.97  | BLK                      | 0.000 |
| TCVA                                                    | Temperature Correction Values Loop Off        | 2.97  | NO                       |       |
| TIDV                                                    | Instrument Temperature Derivative             | 2.97  | NO                       |       |
| TUDV                                                    | Upper Temperature Derivative                  | 2.97  | NO                       |       |
| TLDV                                                    | Lower Temperature Derivative                  | 2.97  | NO                       |       |
| TRBD                                                    | Receiver Board Temperature                    | 2.97  | NO                       |       |
| Data: EAST_MADDIX_1_2\0001 SP-GTET-DSN-SDL-ACRT-CH\IDLE |                                               |       | Date: 14-Aug-11 01:06:26 |       |

|             |                 |                                              |        |
|-------------|-----------------|----------------------------------------------|--------|
| COMPANY     | VAL ENERGY INC. |                                              |        |
| WELL        | EAST MADDIX 1-2 |                                              |        |
| FIELD       | NURSE NORTHWEST |                                              |        |
| COUNTY      | BARBER          | STATE                                        | KANSAS |
| HALLIBURTON |                 | ARRAY COMPENSATED<br>TRUE RESISTIVITY<br>LOG |        |

|                                                                |               |                          |                             |
|----------------------------------------------------------------|---------------|--------------------------|-----------------------------|
| HALLIBURTON                                                    |               |                          |                             |
| Plot Time: 14-Aug-11 10:46:20                                  |               |                          |                             |
| Plot Range: 200 ft to 4671.75 ft                               |               |                          |                             |
| Data: EAST_MADDIX_1_2\Well Based\DAQ-0001-005\                 |               |                          |                             |
| Plot File: \\LOCAL-IEAST_MADDIX_1_2\Well Based\ACRT\ACRT_1_lib |               |                          |                             |
| 1 INCH MAIN LOG                                                |               |                          |                             |
|                                                                |               | 1000                     | 90in Conductivity 2ft Res 0 |
|                                                                |               | mmho per metre           |                             |
| SP                                                             |               | 90in Resistivity 2ft Res |                             |
| - 20 +                                                         |               | 0 50                     |                             |
|                                                                |               | ohm-metre                |                             |
| 0                                                              | Gamma API 150 | MD                       | 20in Resistivity 2ft Res    |
|                                                                |               | 1 : 1200                 | 0 50                        |
|                                                                | api           | ft                       | ohm-metre                   |

