



# Baker Atlas

## RESERVOIR PERFORMANCE MONITOR

|   |  |   |  |
|---|--|---|--|
| File No:<br>CH070848  | Company<br>Well<br>Field<br>County                             | WPX ENERGY<br>HOEPPLI RWF 532-36<br>RULISON<br>GARFIELD | State<br>COLORADO                            |
| API No:<br>05045215500000   |  |   |  |
| Location<br>SHL: 2567' FNL, 2567' FEL<br>BHL: 2158' FNL, 2016' FEL<br>SEC 36 TWP 6S RGE 94W | Other Services<br>BOND LOG                                     |   |  |
| Permanent Datum<br>Log Measured From<br>Drill Measured From                                 | GL<br>KB<br>Elevation<br>26 ft<br>Above P. D.<br>KELLY BUSHING |   | Elevations<br>KB 6554 ft<br>DF<br>GL 6528 ft |

|                              |                       |           |
|------------------------------|-----------------------|-----------|
| Date                         | 12/APR/13             |           |
| Run                          | ONE                   |           |
| Service Order                | US575104              |           |
| Depth Driller                | 8896 ft               |           |
| Depth Logger                 | 8890 ft               |           |
| Bottom Logged Interval       | 8870 ft               |           |
| Top Logged Interval          | 4785 ft               |           |
| Time Started                 | 1100                  |           |
| Time Finished                | 1730                  |           |
| Operator Rig Time            | 5.5 HRS               |           |
| Type of Fluid in Hole        | WATER                 |           |
| Fluid Density                | NA                    |           |
| Salinity                     | NA                    |           |
| Fluid Level                  | 83 ft                 |           |
| Logged Cement Top            | NA                    |           |
| Wellhead Pressure            | 0 psi                 |           |
| Maximum Hole Deviation       | NA                    |           |
| Nominal Logging Speed        | 10 fpm                |           |
| Maximum Recorded Temperature | 233 degF              |           |
| Reference Log                | BAKER HUGHES BOND LOG |           |
| Reference Log Date           | 14/MAR/2015           |           |
| Equipment No.                | 4271                  | GRAND JCT |
| Recorded By                  | FLOYD RENEAU          |           |
| Witnessed By                 | BOB CADY              |           |

- FOLD HERE

In making interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any interpretation made by any of our employees.

| Borehole Record |         |         |
|-----------------|---------|---------|
| Bit Size        | From    | To      |
| 13.5 In         | 0 ft    | 1105 ft |
| 8.75 In         | 1105 ft | 8896 ft |

| Casing Record |             |       |      |         |
|---------------|-------------|-------|------|---------|
| Size          | Weight      | Grade | From | To      |
| 9.825 In      | 32.3 lbm/ft | H-40  | 0 ft | 1100 ft |
| 4.5 In        | 11.8 lbm/ft | I-80  | 0 ft | 8896 ft |

|   |
|---|
| Remarks   |
| All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 3/14/2013 at the client's request. |
| The amount of linear shift is -3 feet.  |
| Logged in PNC-3D mode.  |
| BHT = 233°F   |
| SJ = 5382'-5403'  |

| Equipment Data |      |         |               |               |          |
|----------------|------|---------|---------------|---------------|----------|
| Run            | Trip | Tool    | Series Number | Serial Number | Position |
| 1              | 1    | RPM     | 8281FA        | 10423689      | FREE     |
| 1              | 1    | RPM     | 8281PA        | 10414345      | FREE     |
| 1              | 1    | RPM     | 8281EA        | 10294755      | FREE     |
| 1              | 1    | GR      | 8262XA        | Z151217       | FREE     |
| 1              | 1    | TEL/CCL | 8248ED        | 10296408      | FREE     |
| 1              | 1    | PCM     | 8250EA        | 10397894      | FREE     |

# *MAIN SECTION* *PNC 3-D MODE*

| SPL PROCESSING   |               |                |       |          |          |
|------------------|---------------|----------------|-------|----------|----------|
| MEASUREMENT TYPE | PARAMETER     | VALUE          | UNITS | TOP      | BOTTOM   |
| PNC Porosity     | Borehole      | Cased          |       | 4771.660 | 8882.811 |
| PNC Porosity     | Borehole Size | 7.875          | inch  | 4771.660 | 8882.811 |
| PNC Porosity     | Casing Size   | 4.500          | inch  | 4771.660 | 8882.811 |
| PNC Porosity     | Gas Filled    | Non Gas Filled |       | 4771.660 | 8882.811 |
| PNC Porosity     | Matrix        | Sandstone      |       | 4771.660 | 8882.811 |

| DEPTH OFFSETS         |              |                 |        |        |        |      |        |
|-----------------------|--------------|-----------------|--------|--------|--------|------|--------|
| (for Acquired Curves) |              |                 |        |        |        |      |        |
| SERIES                | DEPTH OFFSET | ACQUIRED CURVES |        |        |        |      |        |
| 8248ED                | -15.320      | FLTM            |        |        |        |      |        |
| 8248ED                | -13.320      | CCL             | CHV    |        |        |      |        |
| 8262XA                | -10.189      | GR              |        |        |        |      |        |
| 8281XA                | -0.662       | HVC3Q0          | SEQ3   | AMA3   | AML3   | BKX  | CXS    |
|                       |              | CPT3Q0          | CPT3Q2 | CPT3Q3 | CPT3Q4 | ET3  | IXS    |
|                       |              | MCS3            | MCS3Q0 | QCAL3  | RGN3   | RICX | SDA3   |
|                       |              | SDL3            | SGA3   | SGL3   | STA3   | XS   | ASPEC3 |
|                       |              | AMB3            | AMF3   | CHF3   | IXSC   | IXSN | RAT023 |
|                       |              | FLX30           | FLX130 | FLX07  | FLX30  | QD30 | QD30   |

|        |        |         |         |        |        |        |         |
|--------|--------|---------|---------|--------|--------|--------|---------|
|        |        | RICXC   | RTN13C  | RIN23  | RTN23C | SD3D   | SG3D    |
|        |        | SGB3    | SGF3    | WDTH3  | CXSR   | IXSR   | XSR     |
|        |        | RICXR   |         |        |        |        |         |
| 8281XA | -0.250 | HVC2Q0  | SEQ2    | AMA2   | AMB2   | AMF2   | AML2    |
|        |        | BKL     | CHF2    | CLS    | CPT2Q0 | CPT2Q2 | CPT2Q3  |
|        |        | CPT2Q4  | ET2     | ILS    | LS     | MCS2   | MCS2Q0  |
|        |        | QCAL2   | RGN2    | RICL   | RONE23 | RTW023 | SDA2    |
|        |        | SDL2    | SGA2    | SGB2   | SGF2   | SGK2   | SGL2    |
|        |        | STA2    | ASPEC2  | ILSC   | ILSN   | WDTH2  | RICLC   |
|        |        | CLSR    | ILSR    | LSR    | RICLR  |        |         |
| 8281XA | 0.000  | CPRS    | HVC1Q0  | MV     | SEQ    | SEQ1   | AMA1    |
|        |        | AMB1    | AME1    | AMF1   | AML1   | BKS    | CHF1    |
|        |        | CSS     | CORB    | CORF   | CPT1Q0 | CPT1Q2 | CPT1Q2A |
|        |        | CPT1Q2B | CPT1Q2C | CPT1Q3 | CPT1Q4 | CPT1Q5 | ET1     |
|        |        | G1      | G2      | GE1S   | GE2S   | ISS    | MCS1    |
|        |        | MCS1Q0  | QA1     | QCAL1  | QM1    | RAT0   | RAT013  |
|        |        | RBOR    | RGN1    | RICS   | RIN    | RONE   | RPOR    |
|        |        | RTW0    | RIN13   | RONE13 | RTW013 | SALB   | SC1     |
|        |        | SDA1    | SDL1    | SGA1   | SGB1   | SGBC   | SGE1    |
|        |        | SGF1    | SGFC    | SGK1   | SGL1   | SS     | SS2     |
|        |        | STA1    | PD1S    | PD2S   | PD3S   | MD1S   | MD2S    |
|        |        | MD3S    | DG1S    | DG2S   | DG3S   | PD1M   | PD2M    |
|        |        | PD3M    | MD1M    | MD2M   | MD3M   | DG1M   | DG2M    |
|        |        | DG3M    | MVS     | MA     | MVM    | FILV   | IAM     |
|        |        | TA      | PVM     | PVS    | IAS    | SSTAT  | QPD1    |
|        |        | QPD2    | QPD3    | QMD1   | QMD2   | QMD3   | QDG1    |
|        |        | QDG2    | QDG3    | QMA    | QTA    | QFILV  | QMV     |
|        |        | QPV     | QIA     | DERR   | DCNT   | QPK1   | QSA1    |
|        |        | PKS1    | ASPEC1  | HOC    | FE2XC  | ISSC   | RINC    |
|        |        | ISSN    | RDEN    | WDTH1  | RICSC  | CSSR   | G1R     |
|        |        | G2R     | ISSR    | SSR    | SS2R   | RATOR  | RAT013R |
|        |        | RBORR   | RICSR   | RINR   | RIN13R | RONER  | RPORR   |
|        |        | RTWOR   |         |        |        |        |         |
| SYSTEM | 0.000  | TEN     | TTEN    |        |        |        |         |

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

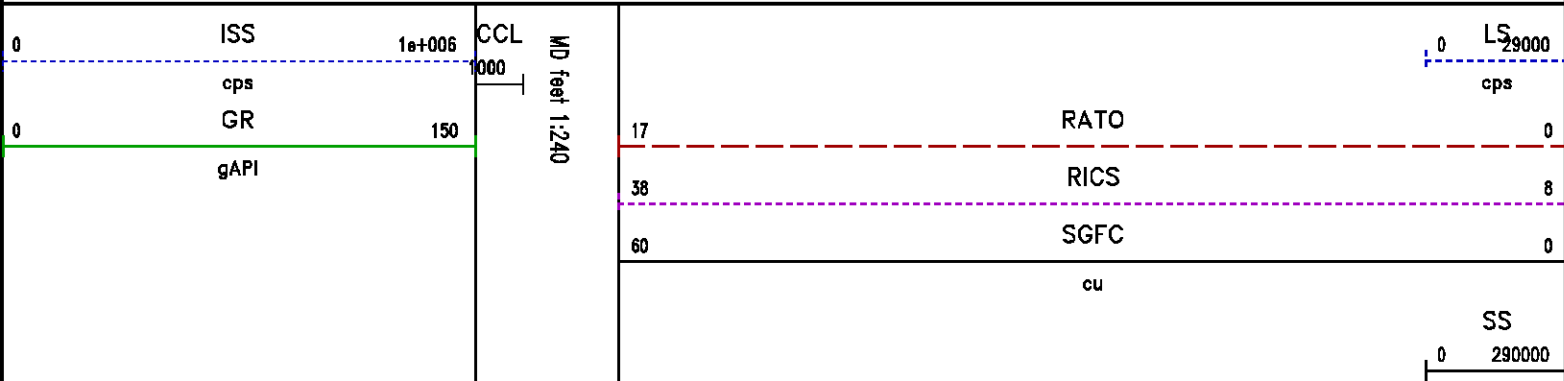
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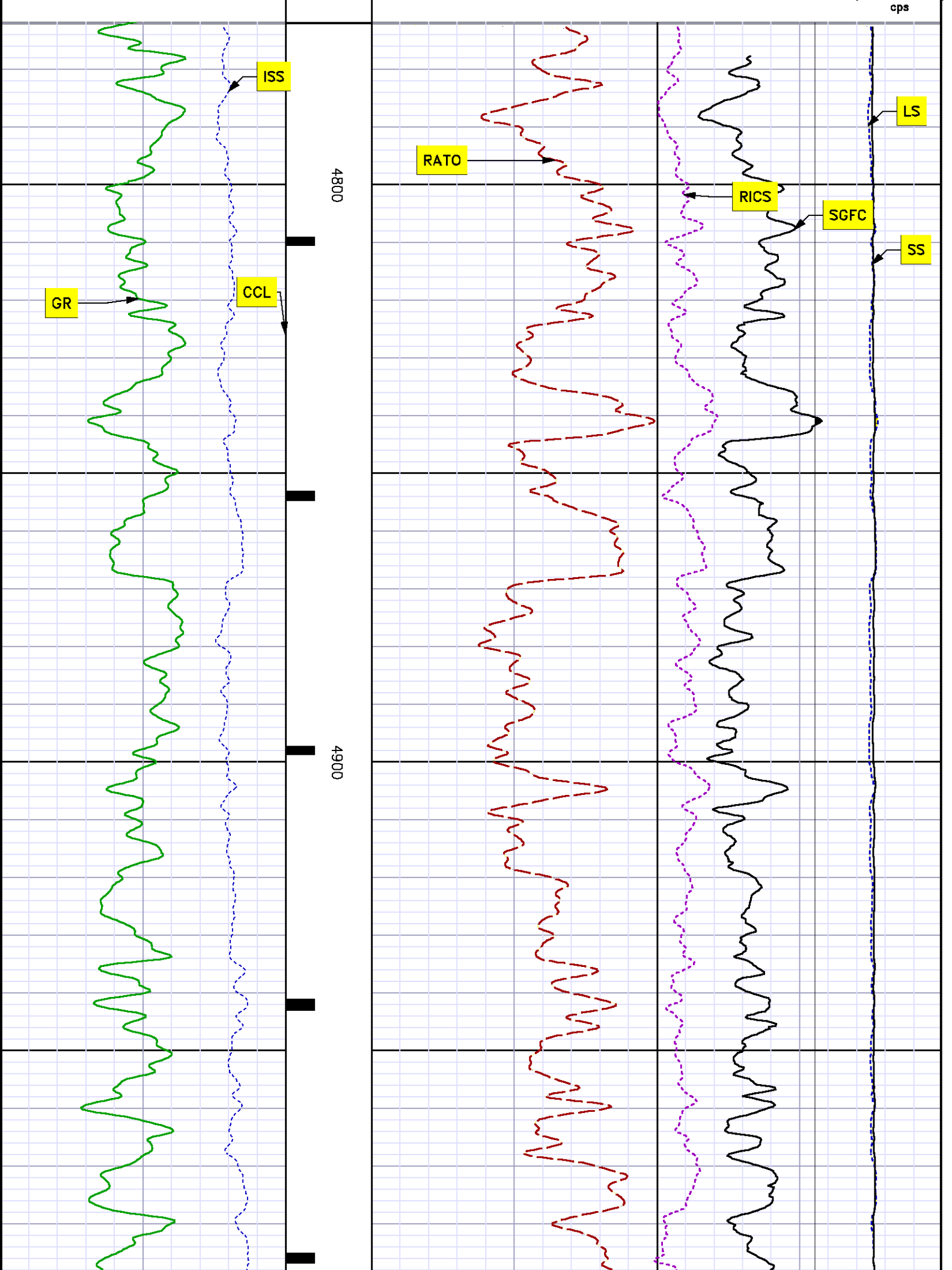
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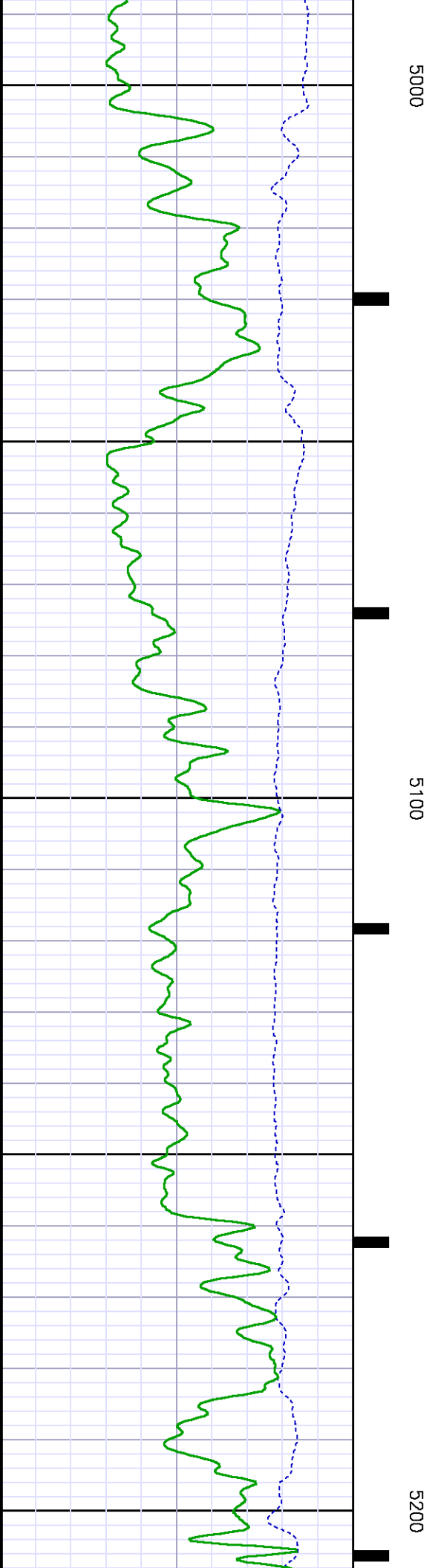
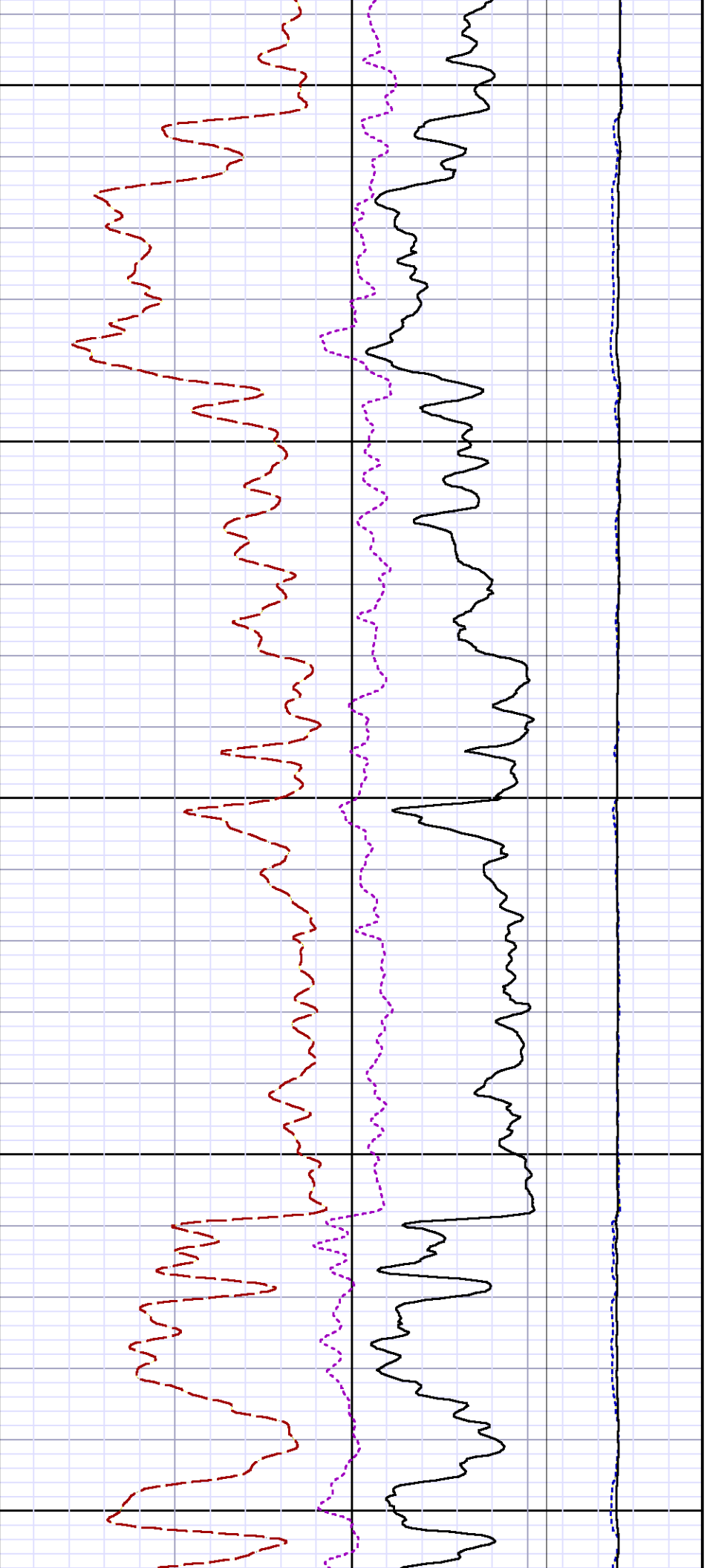
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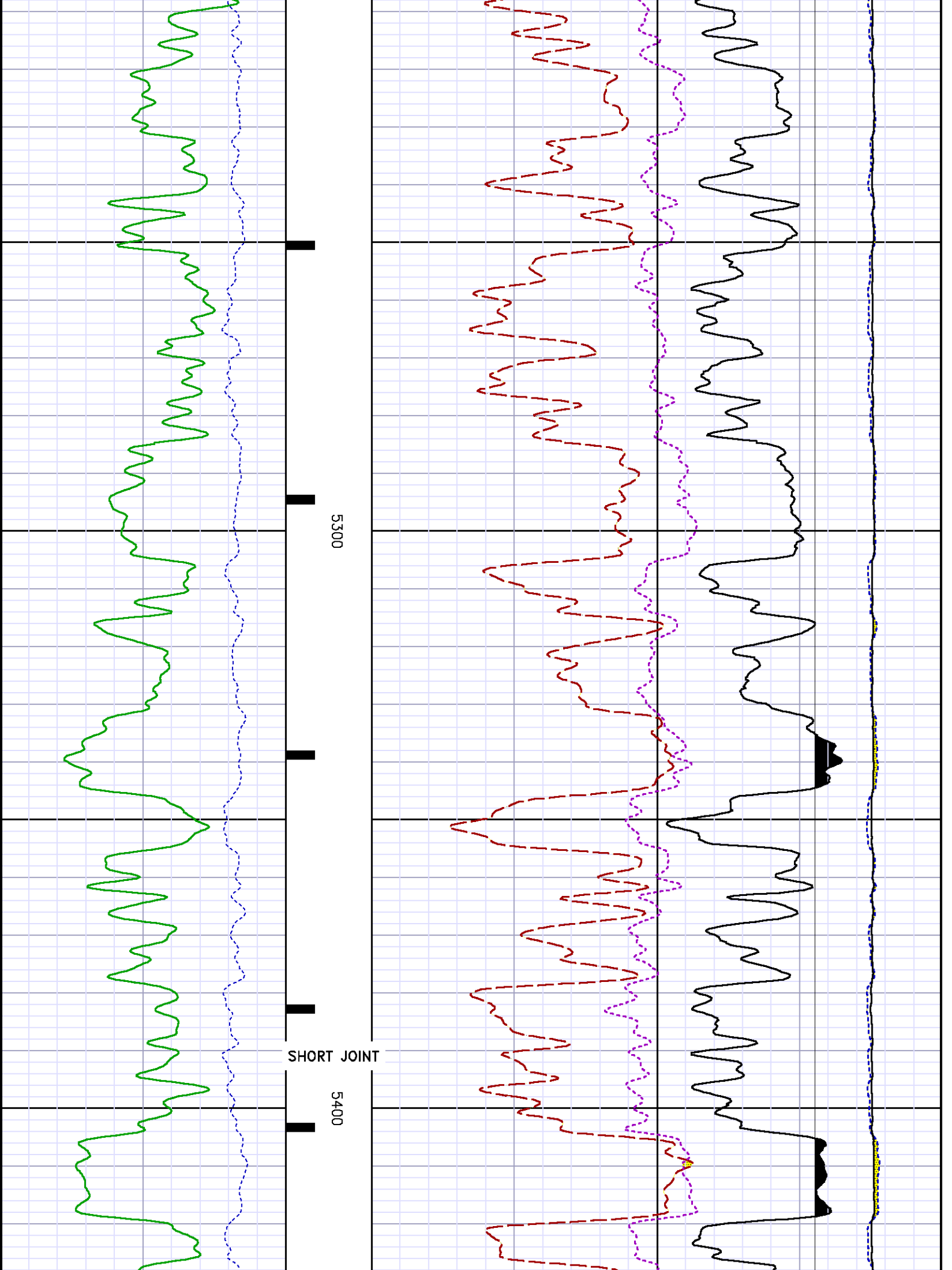
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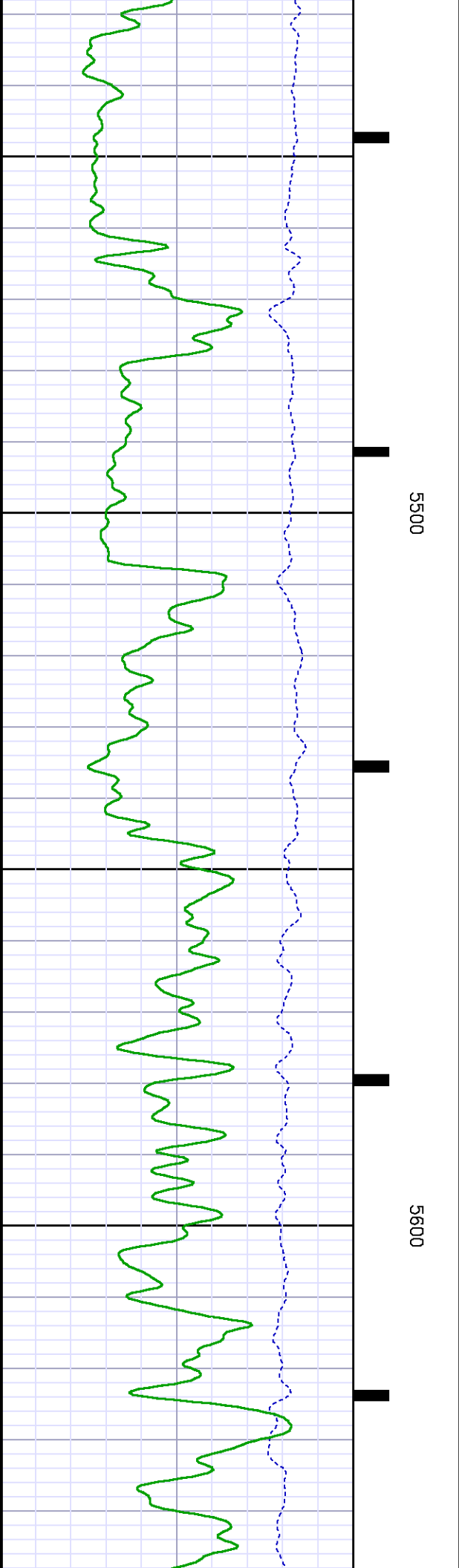
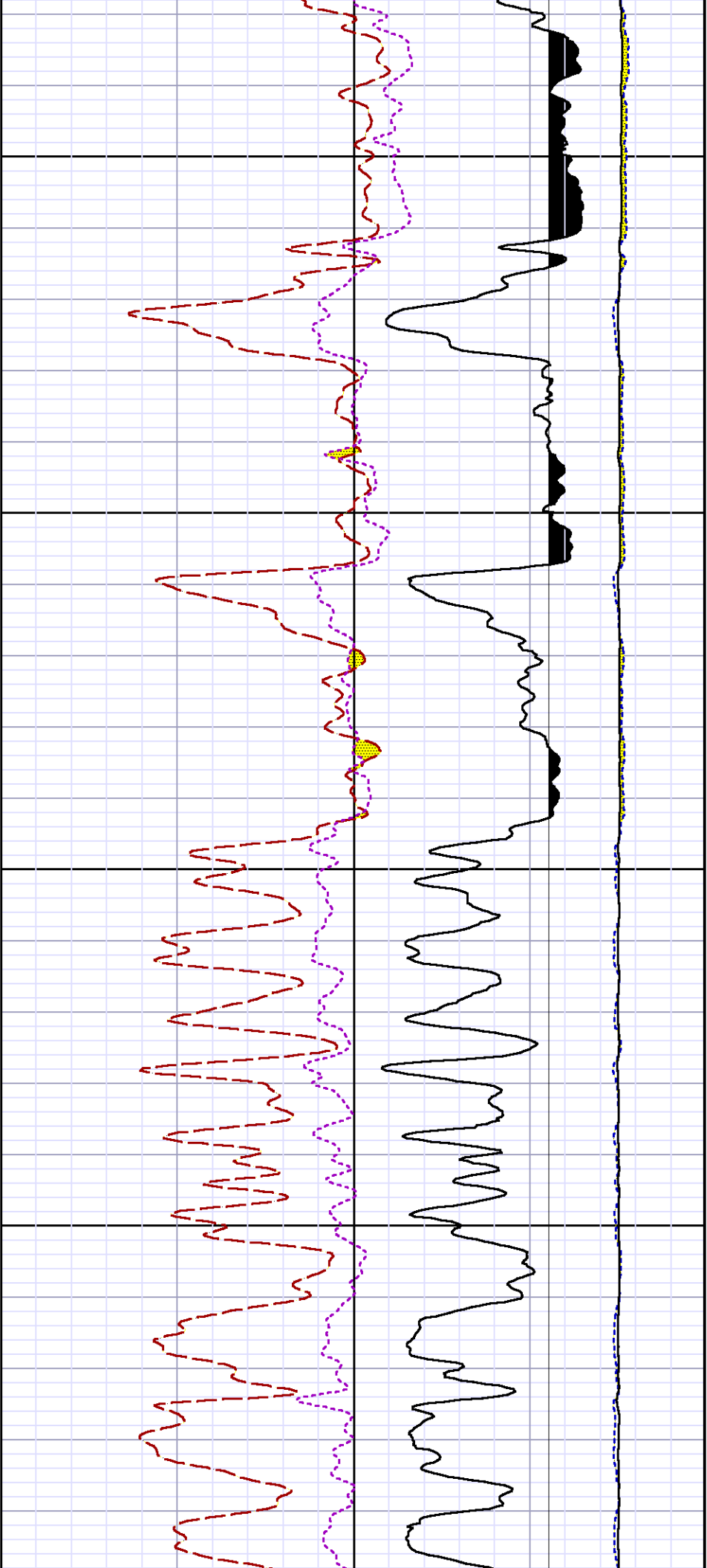
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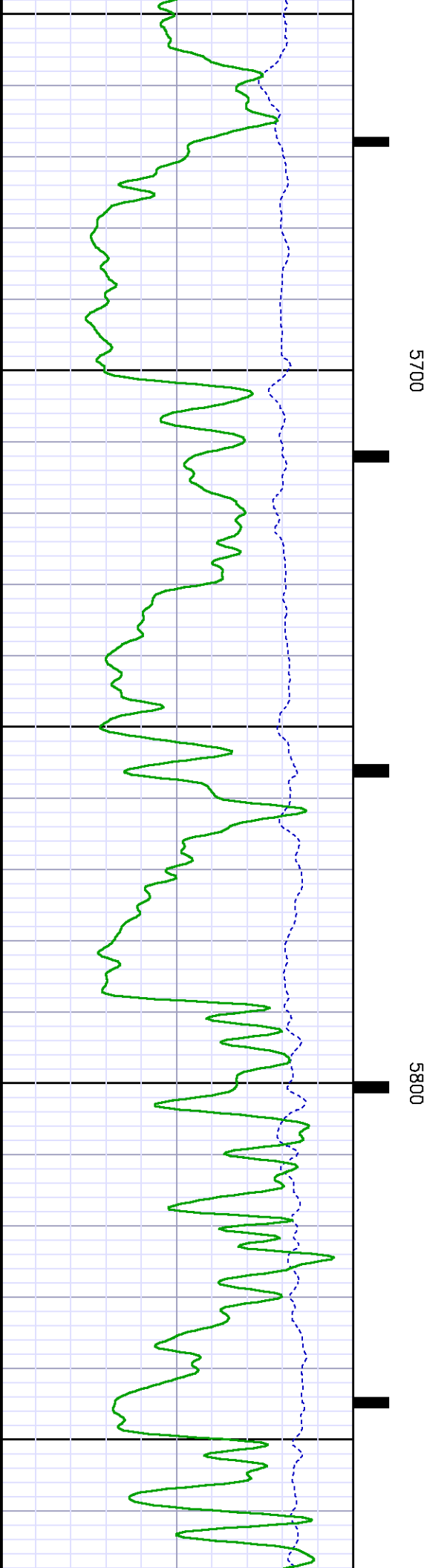
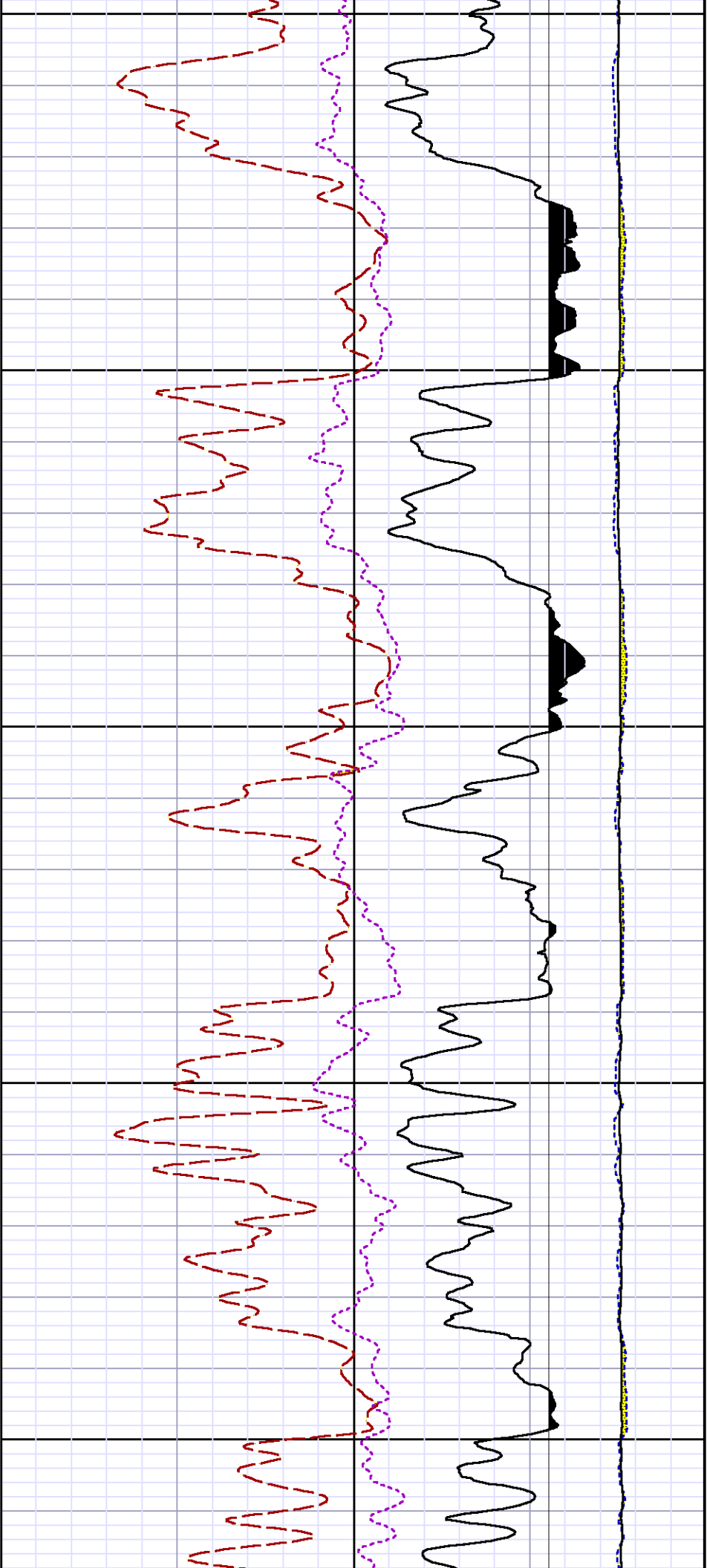




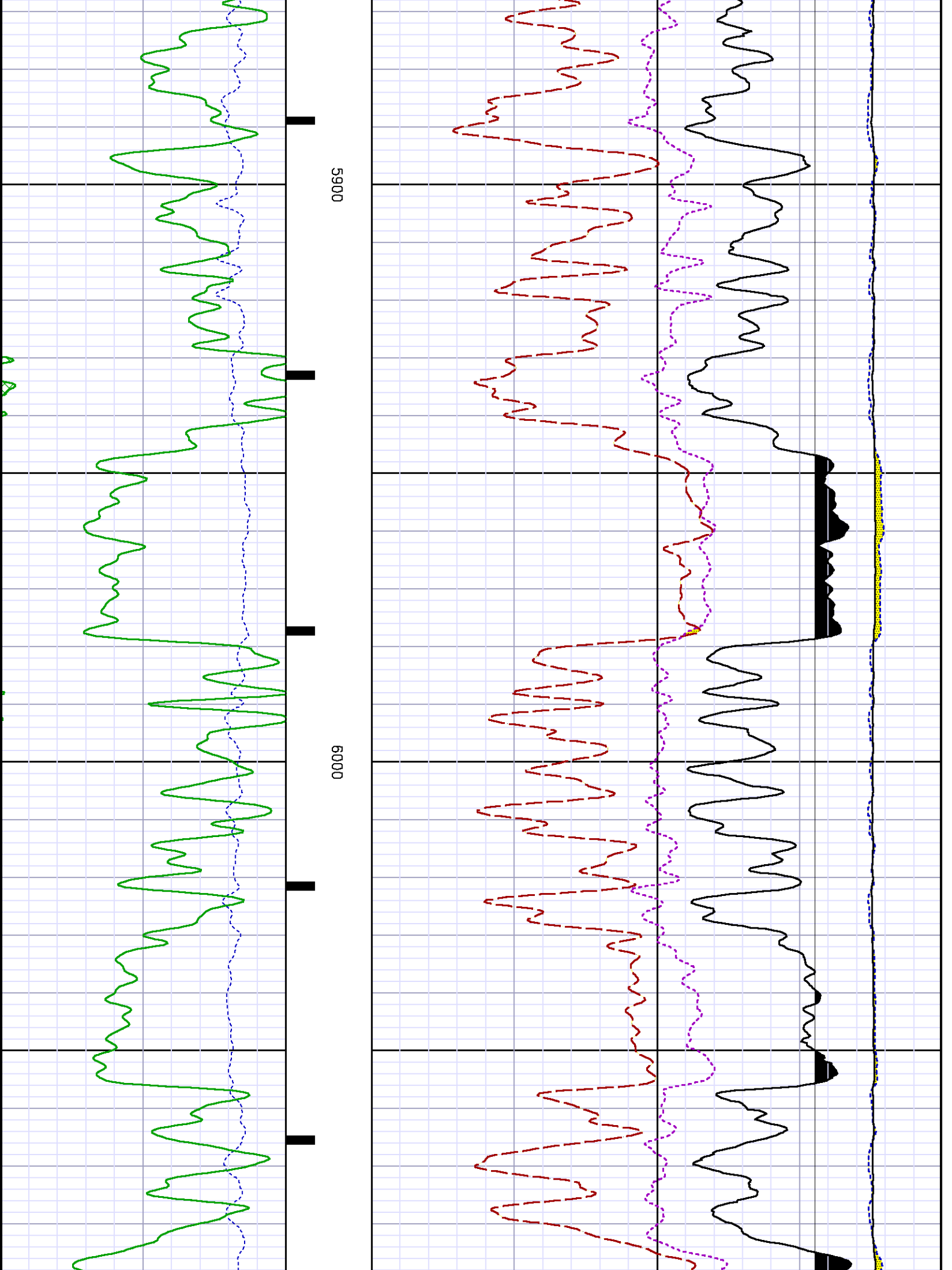


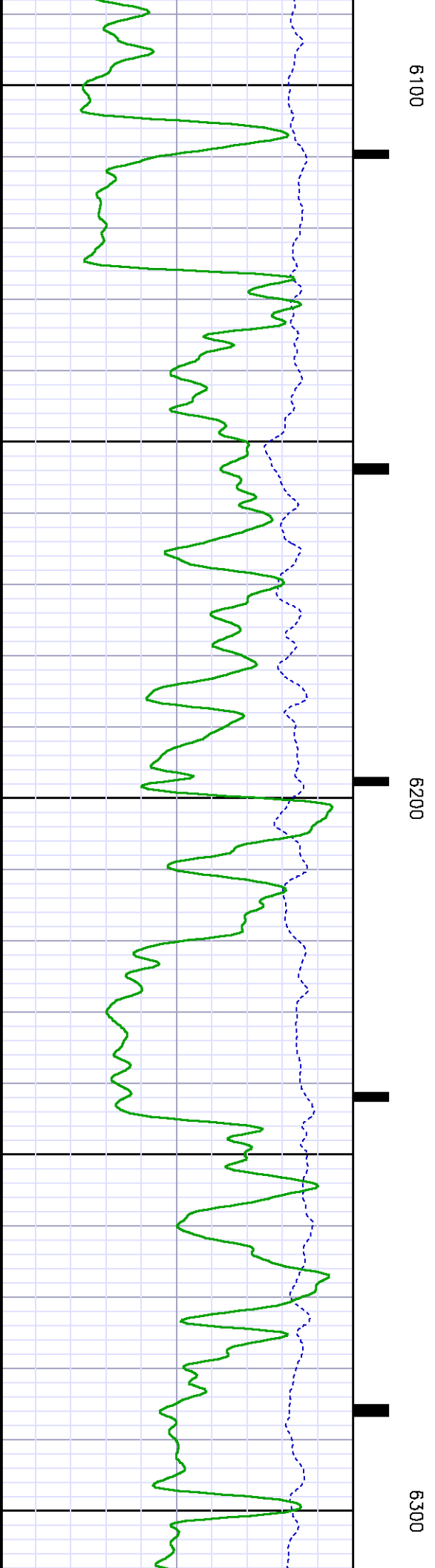
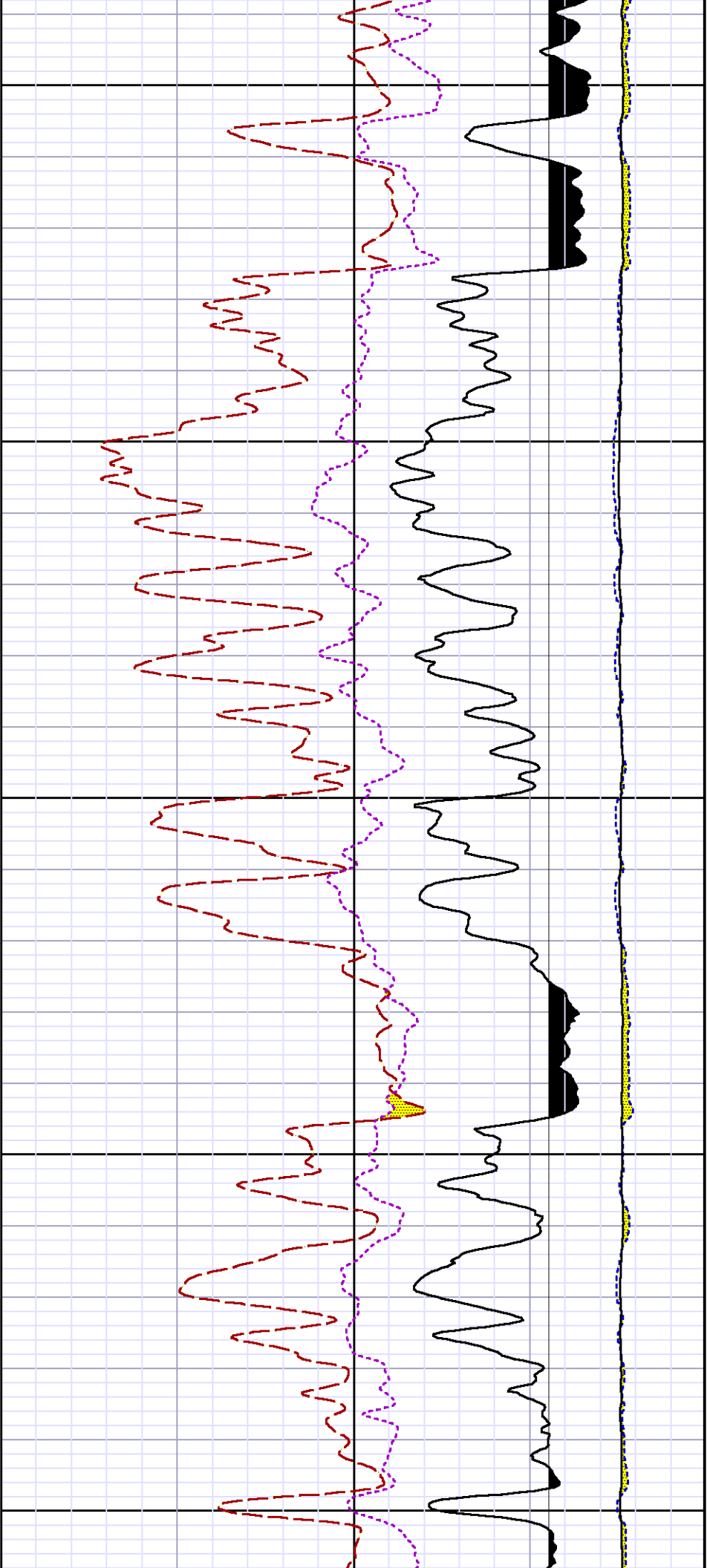


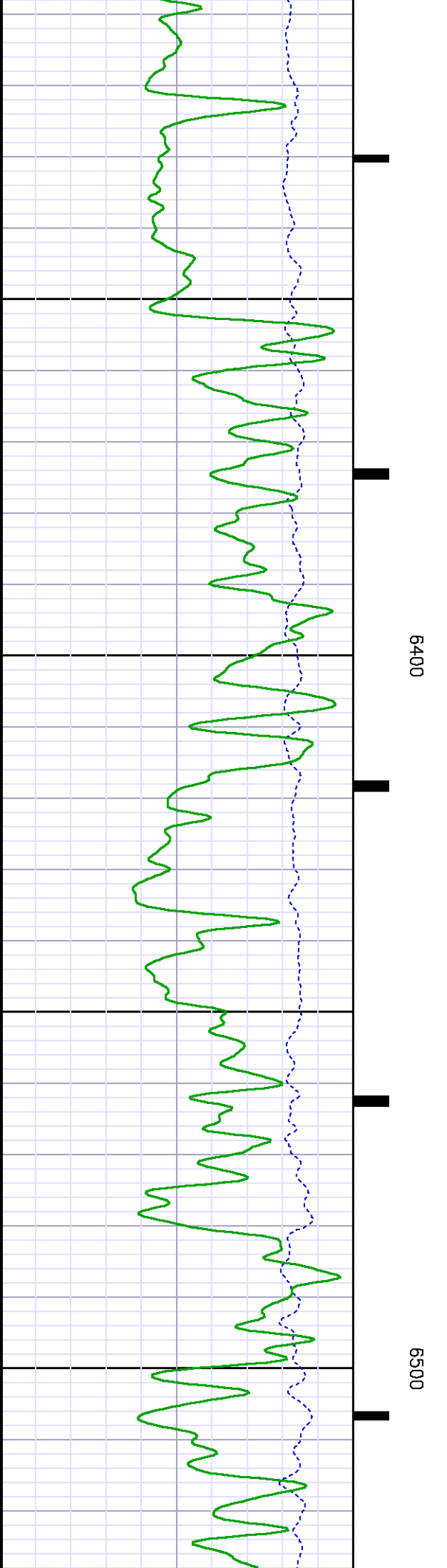
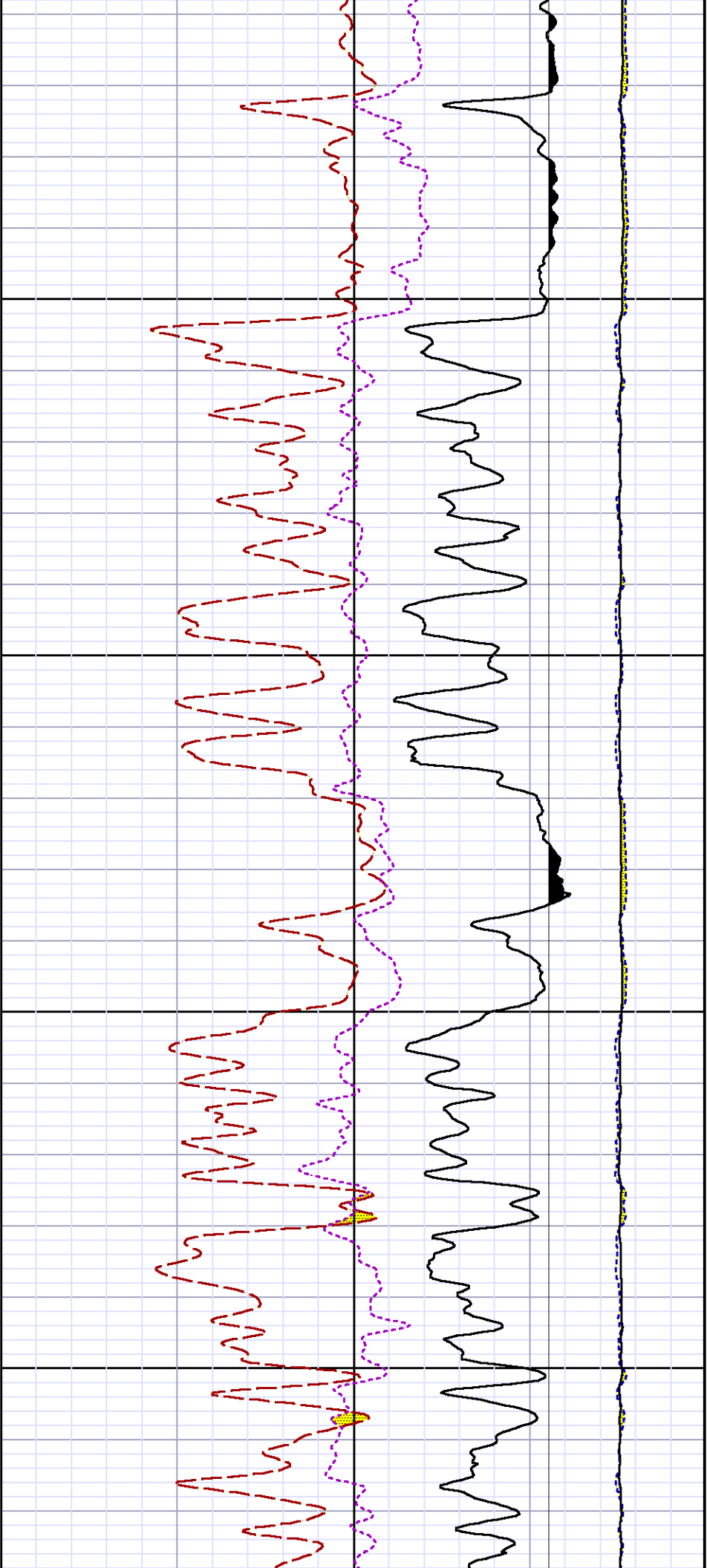


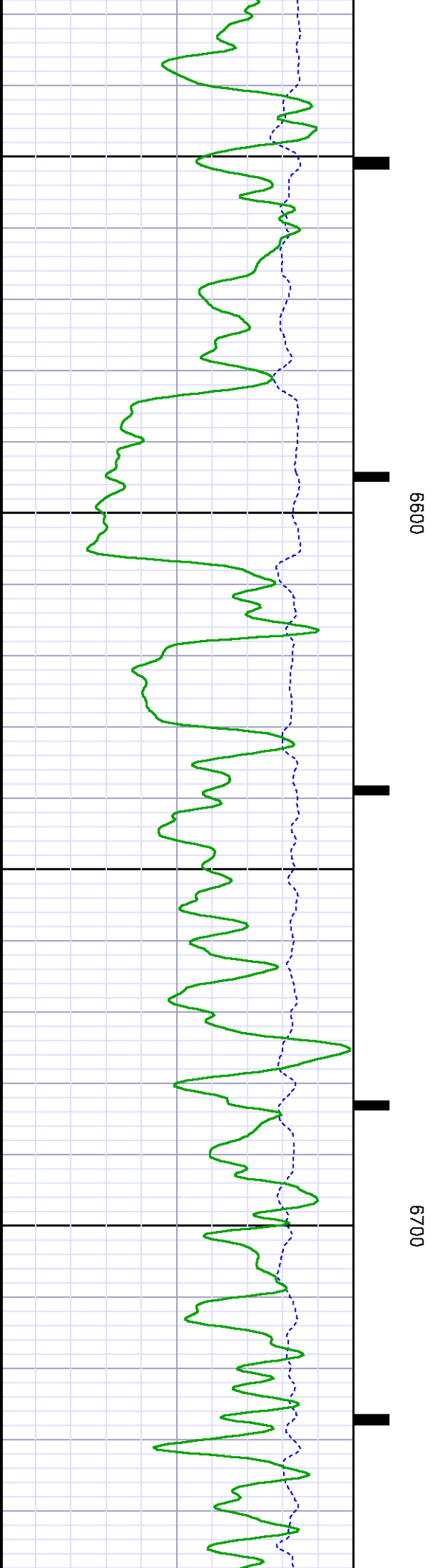
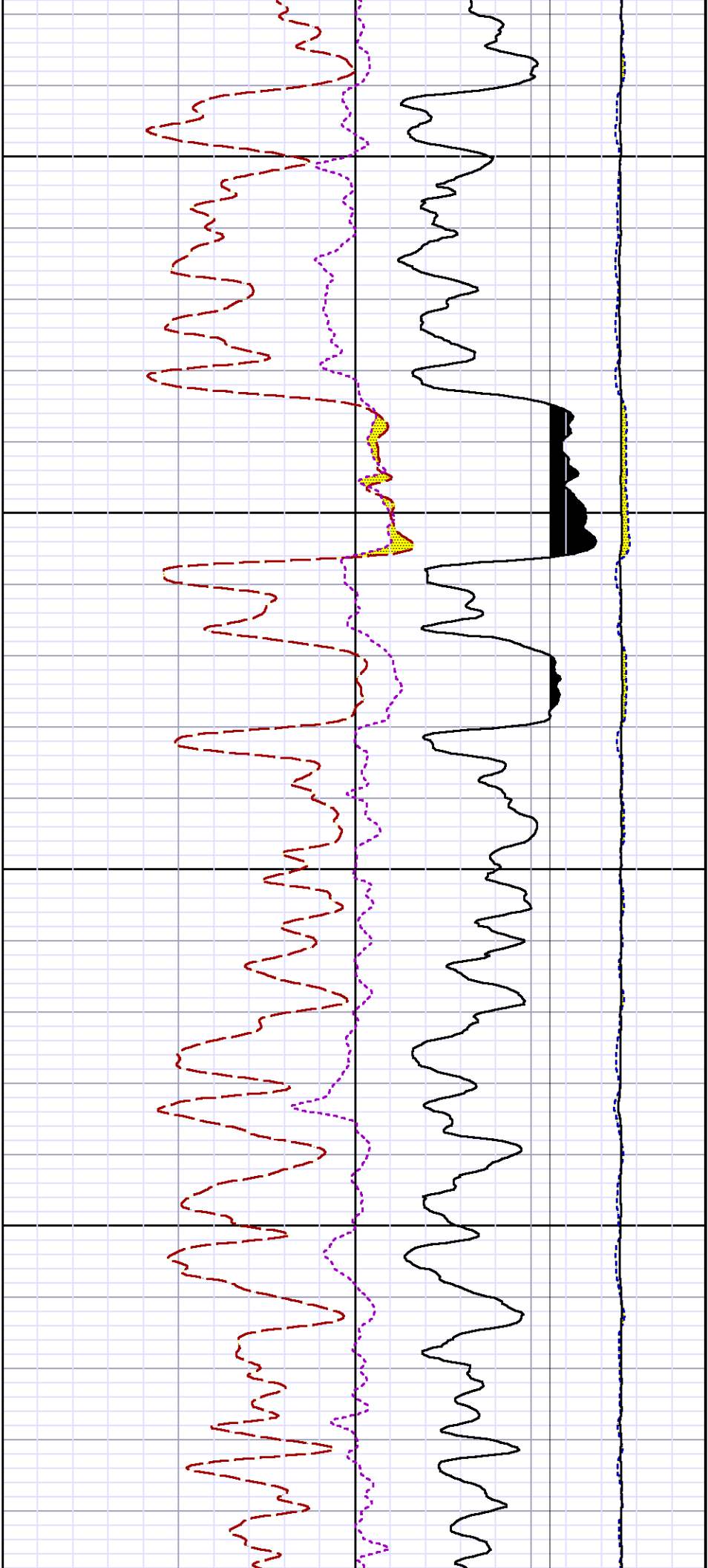


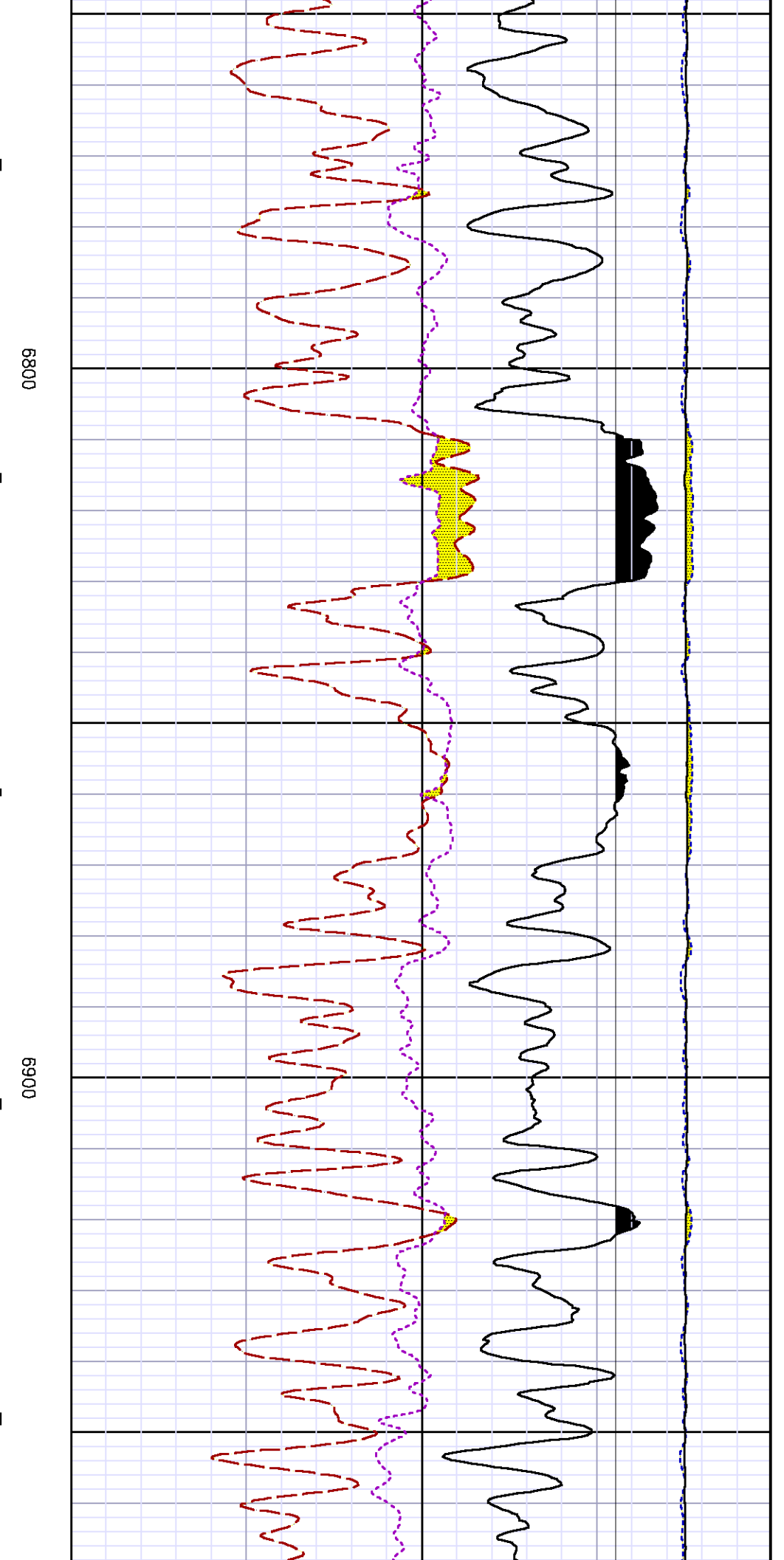
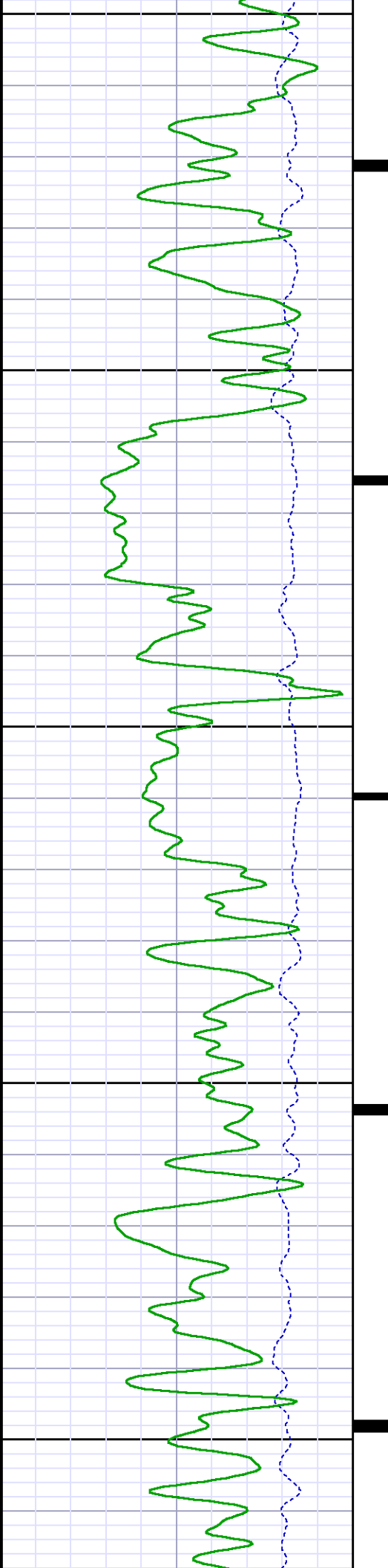


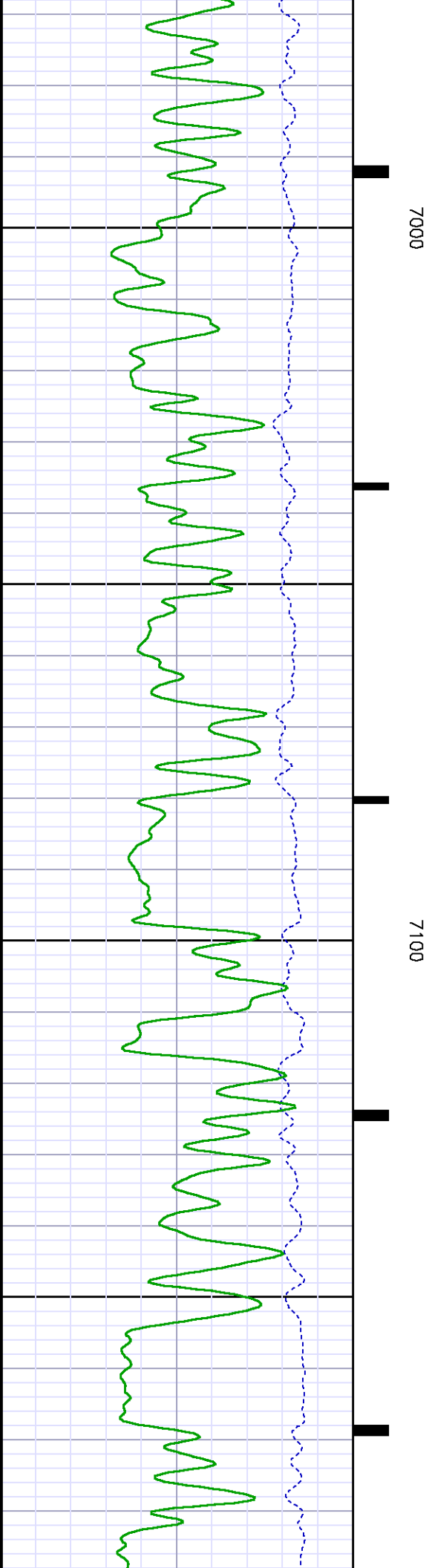
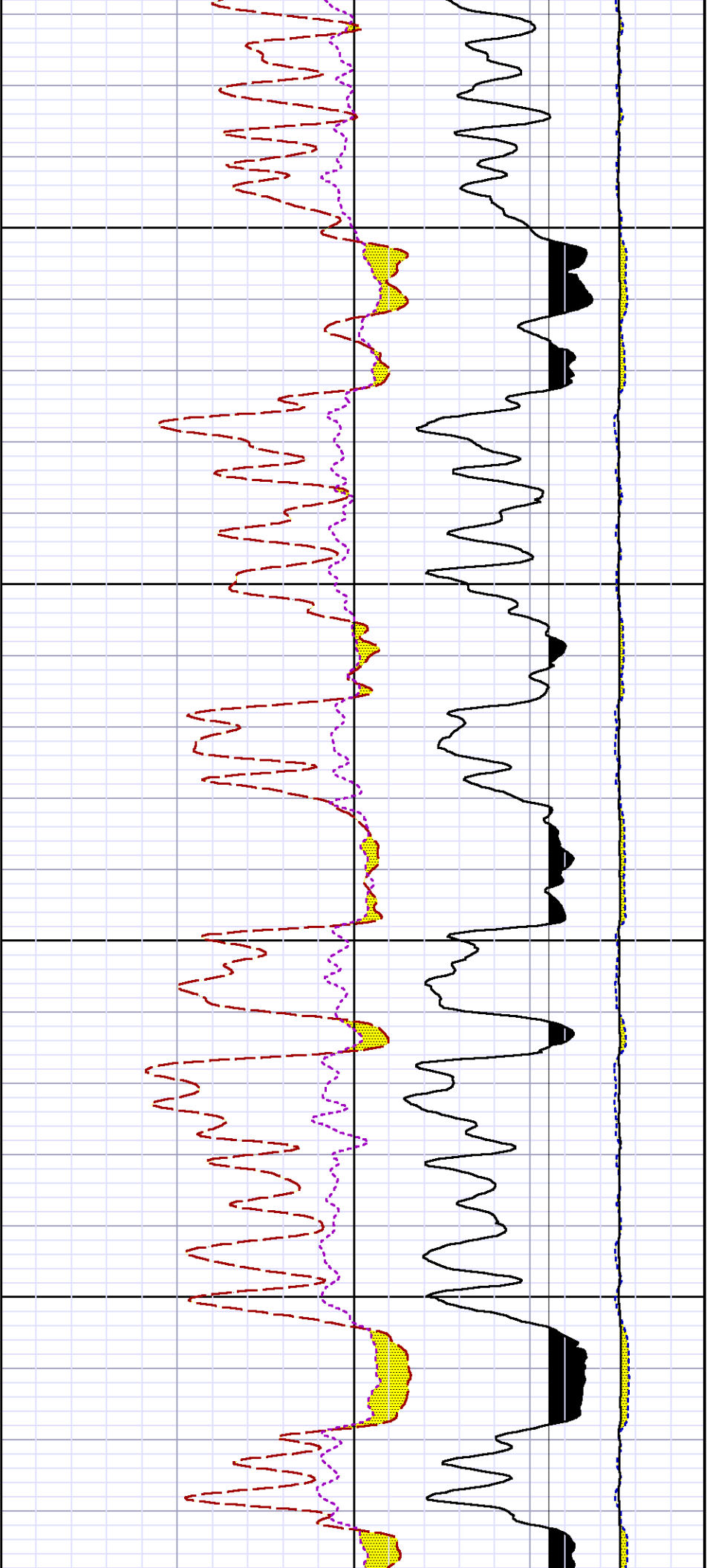


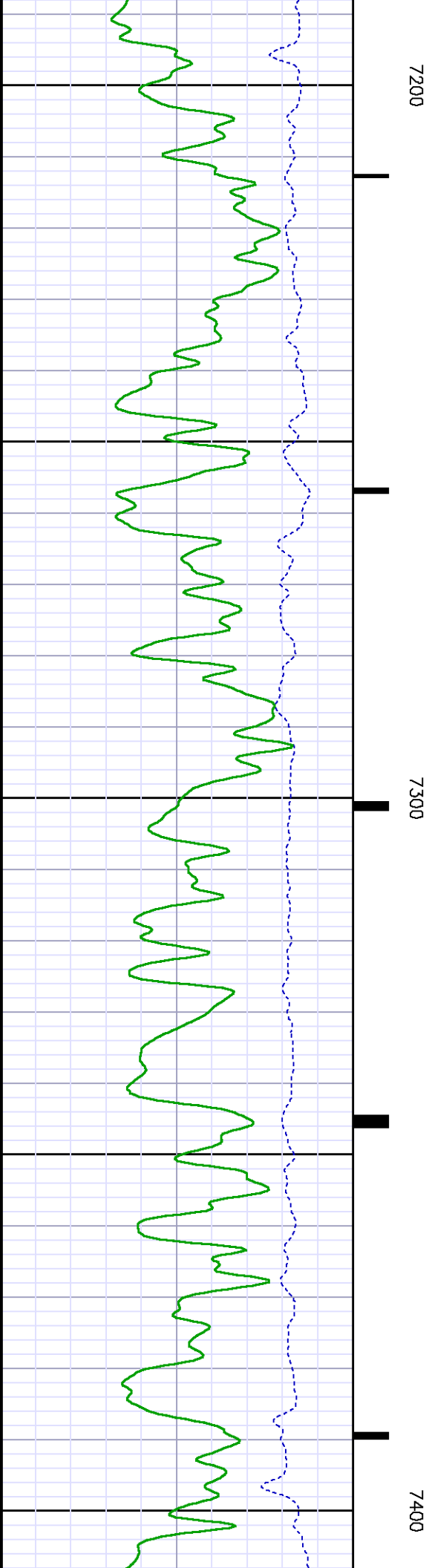
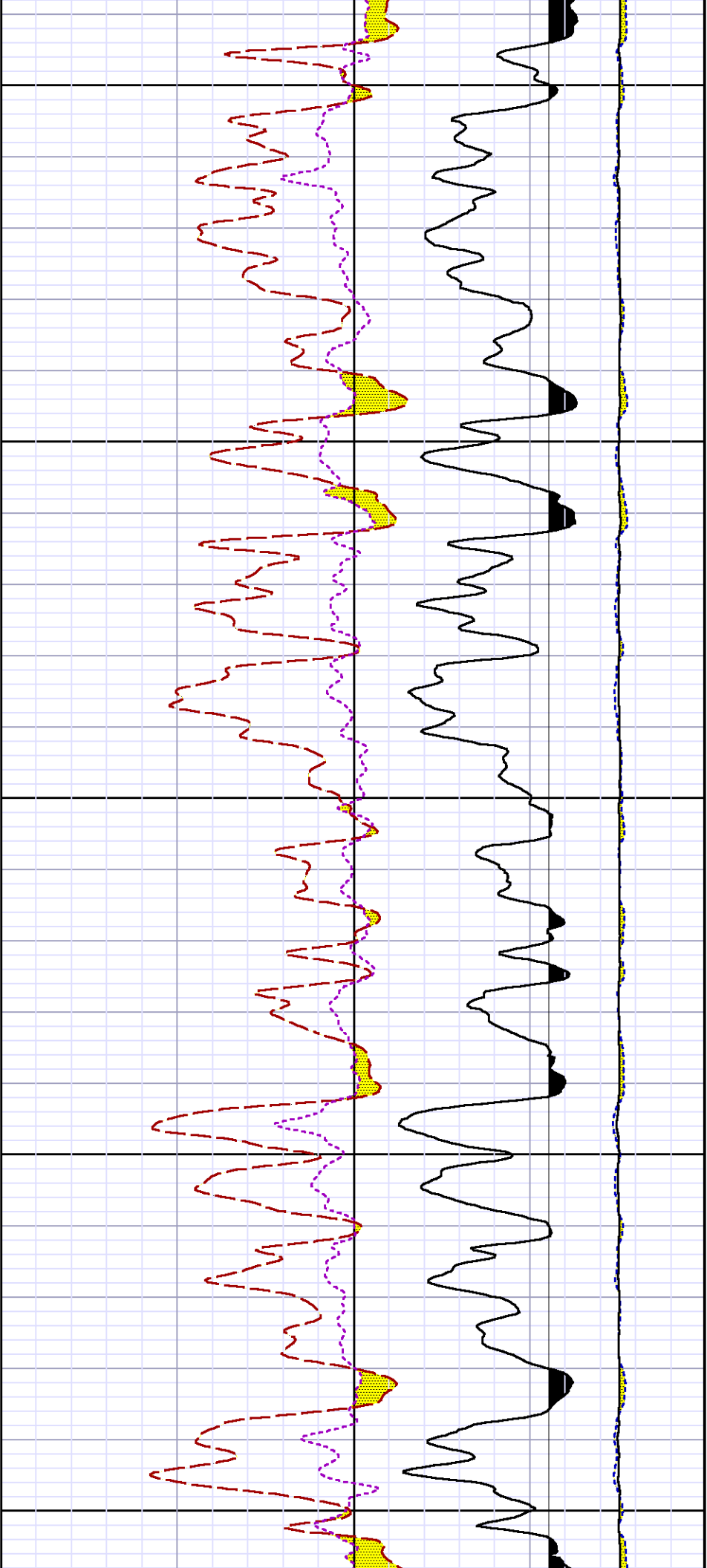


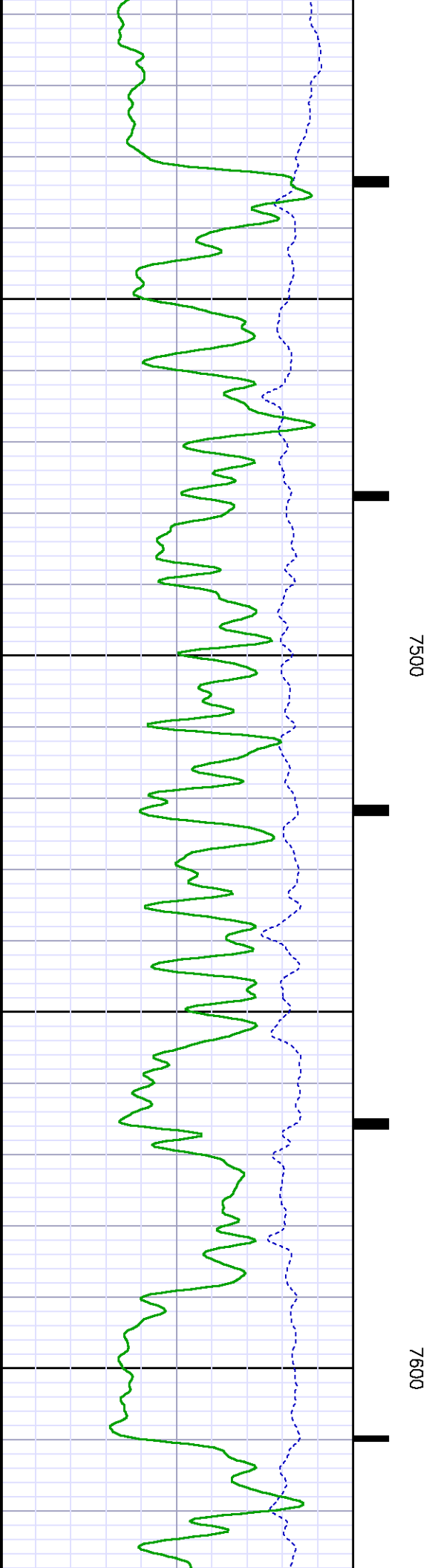
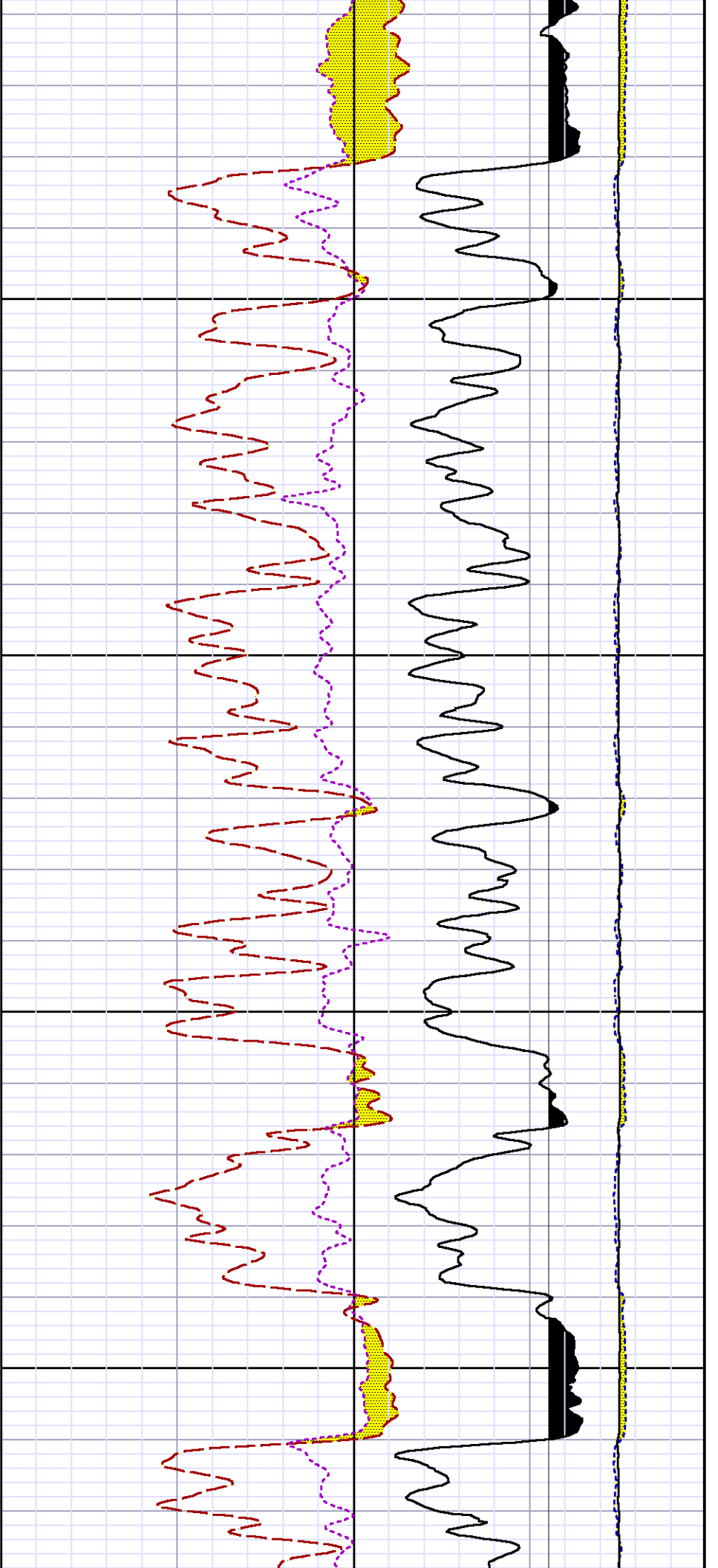




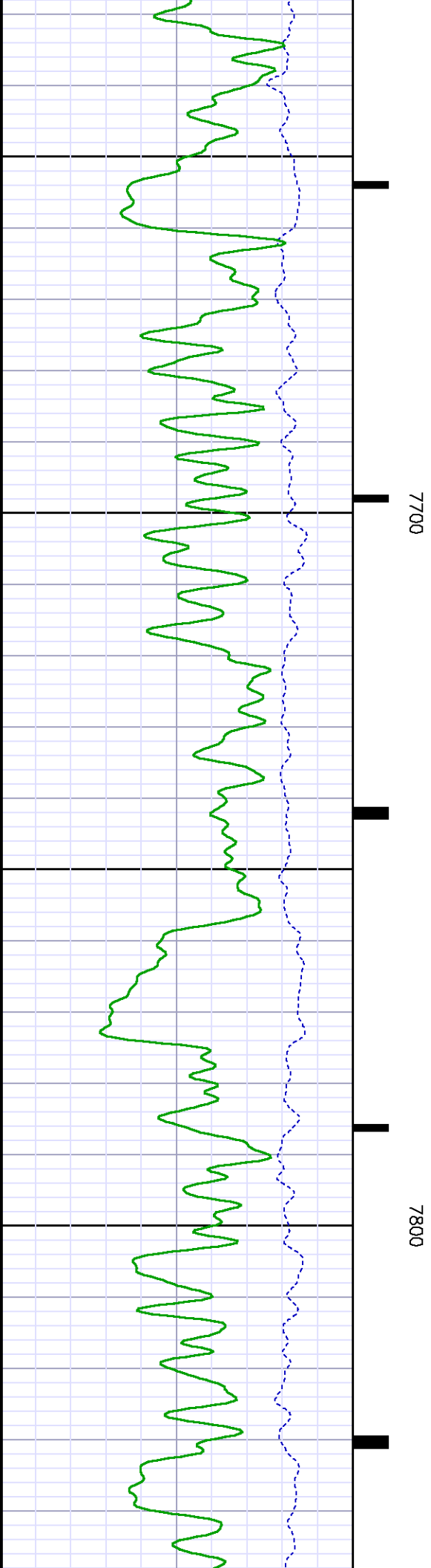
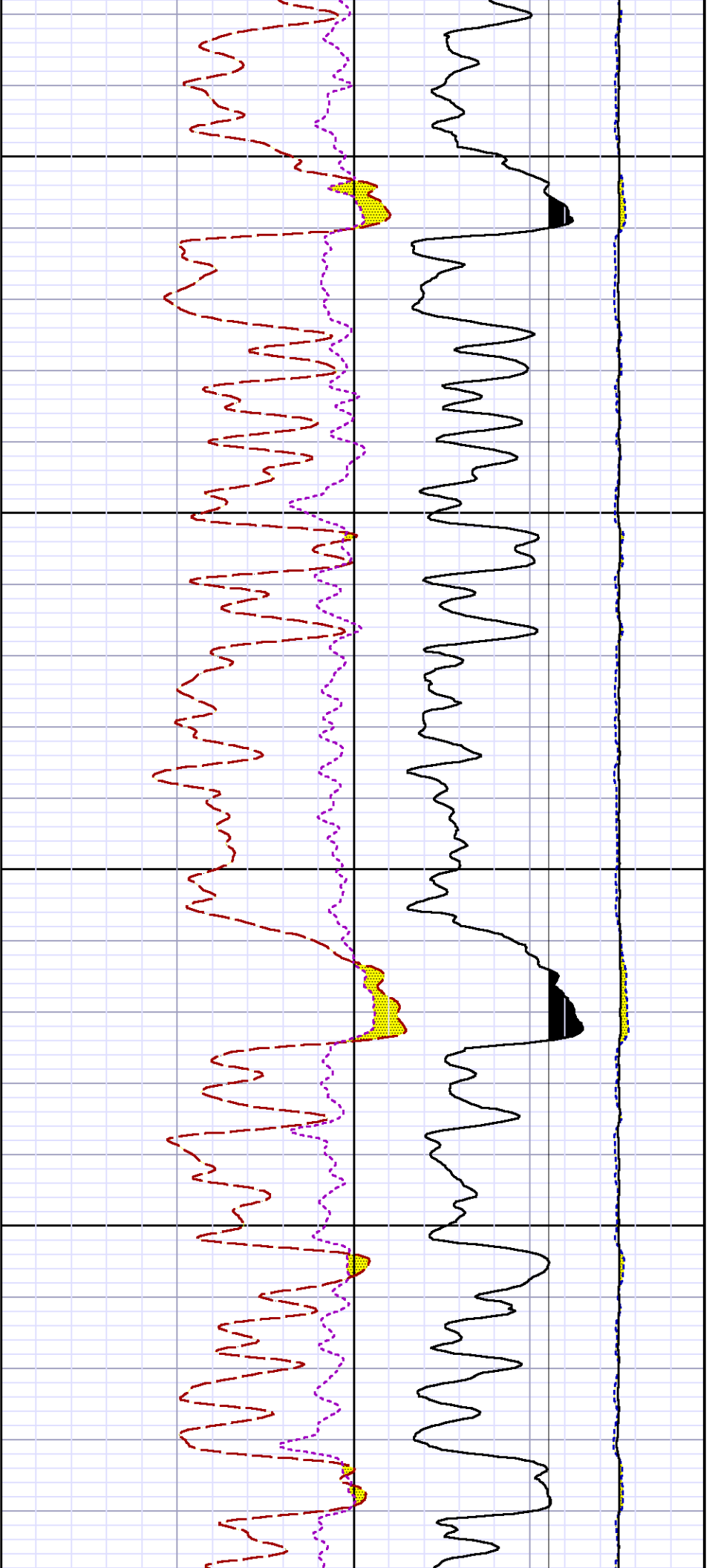


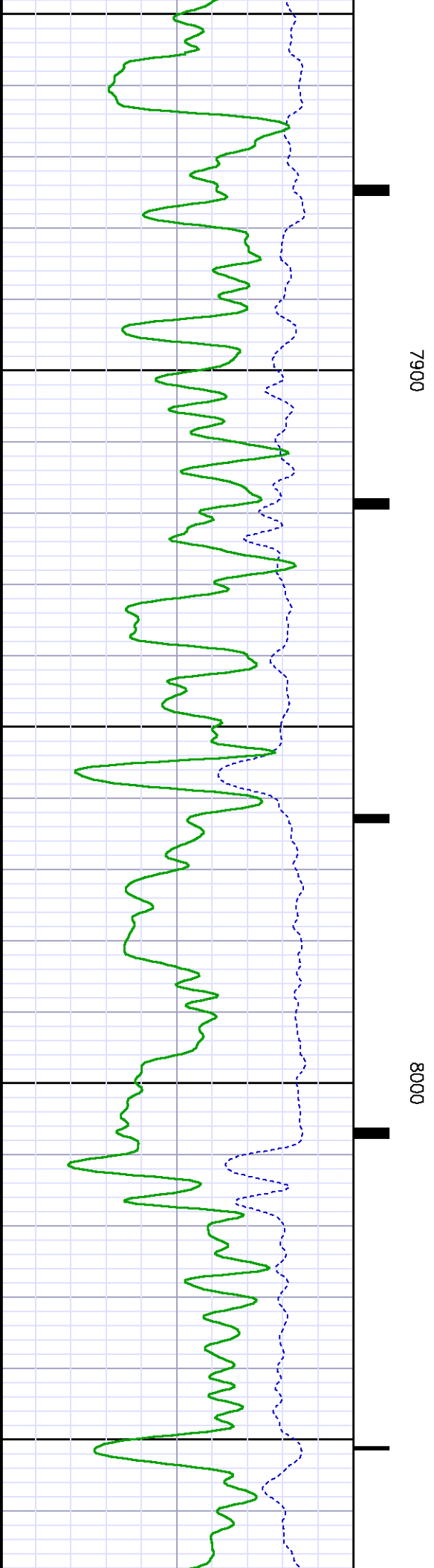
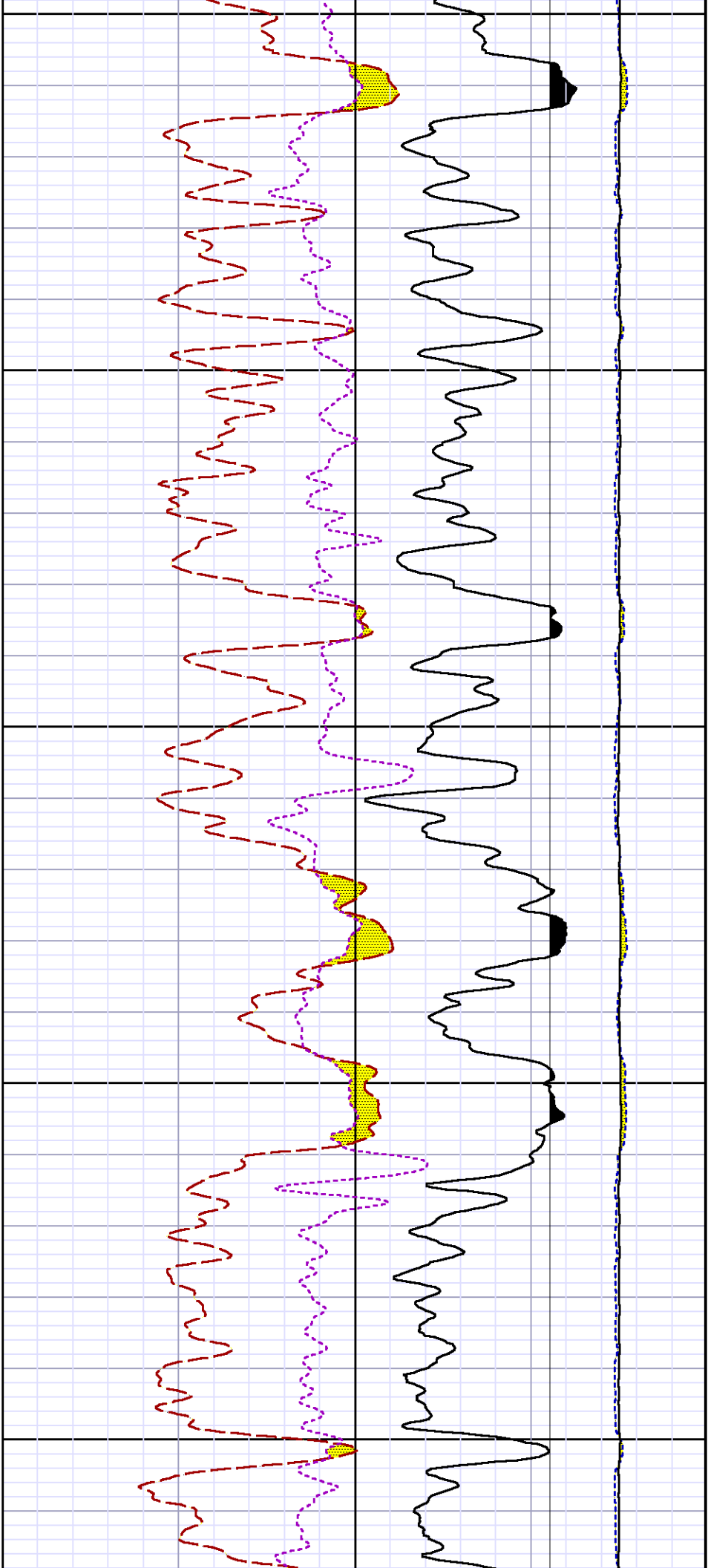


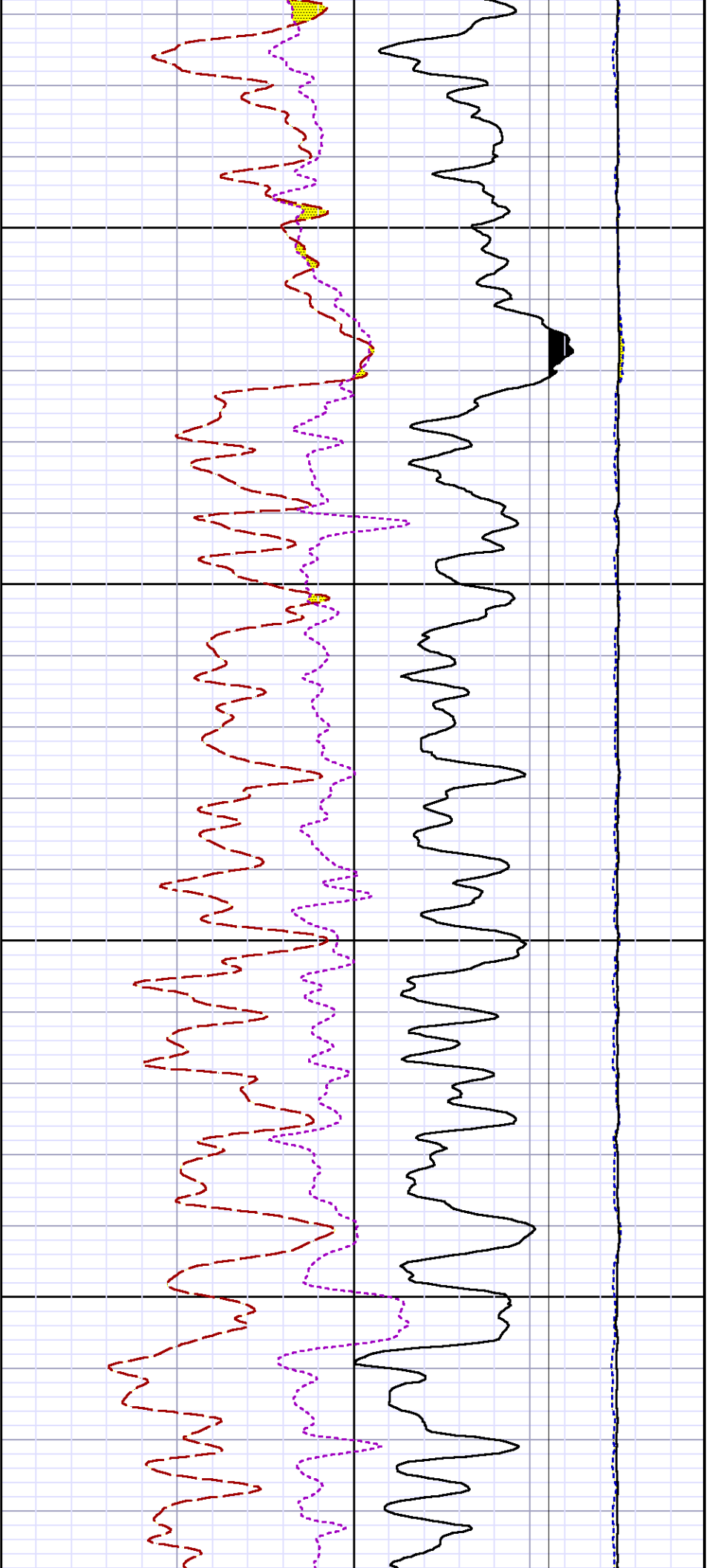






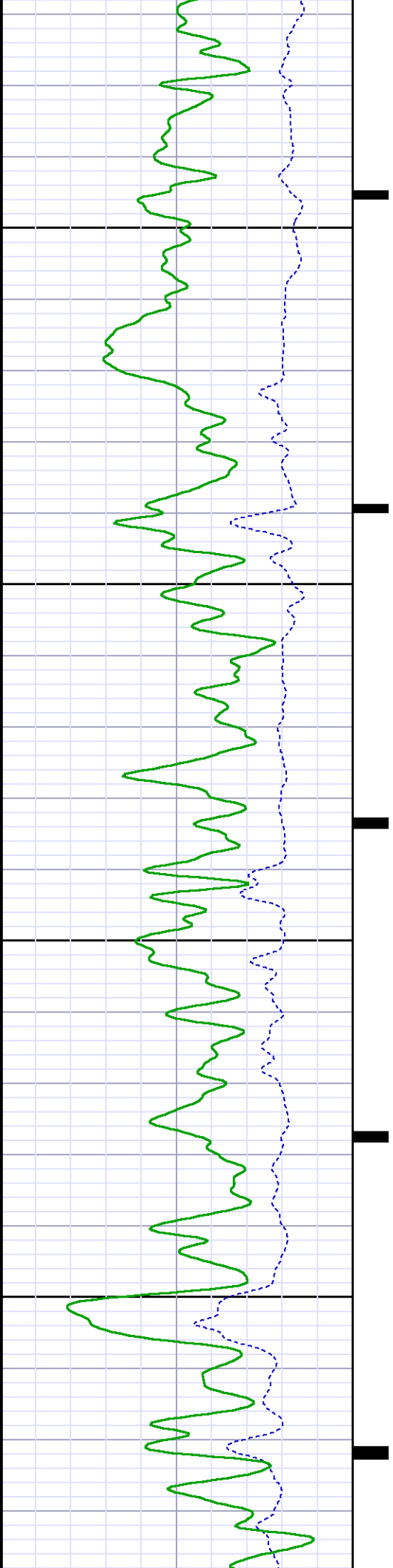


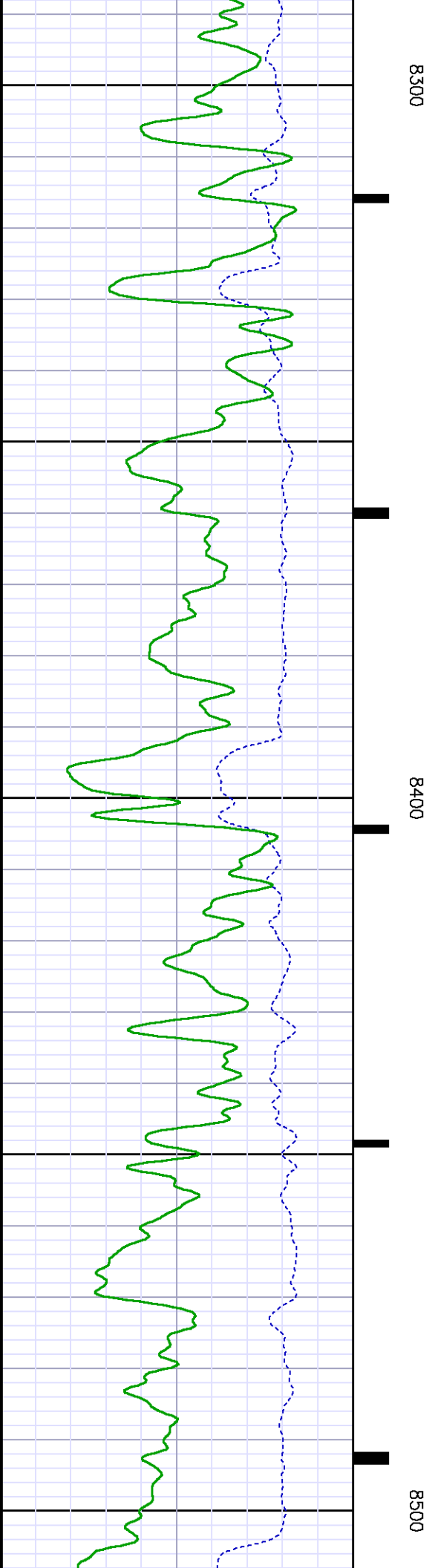
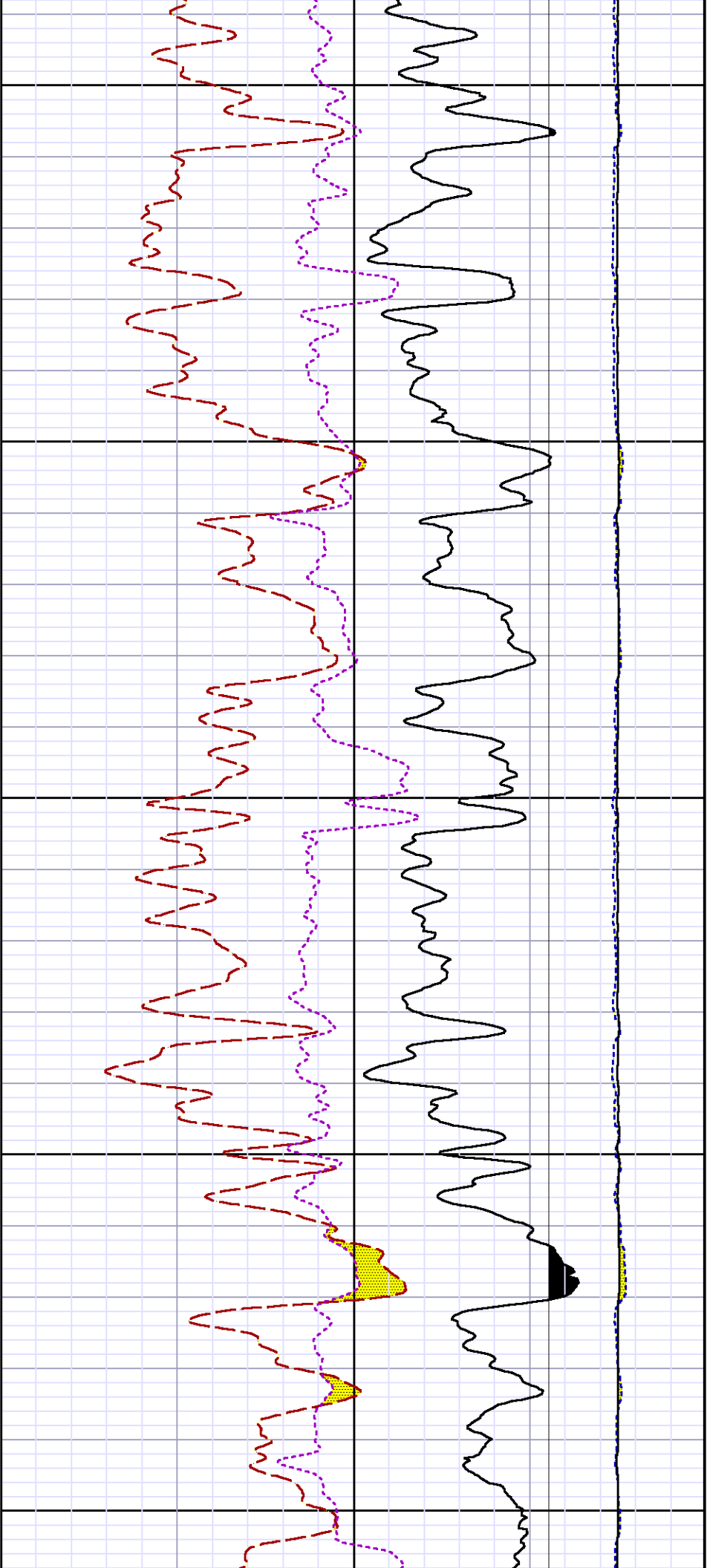


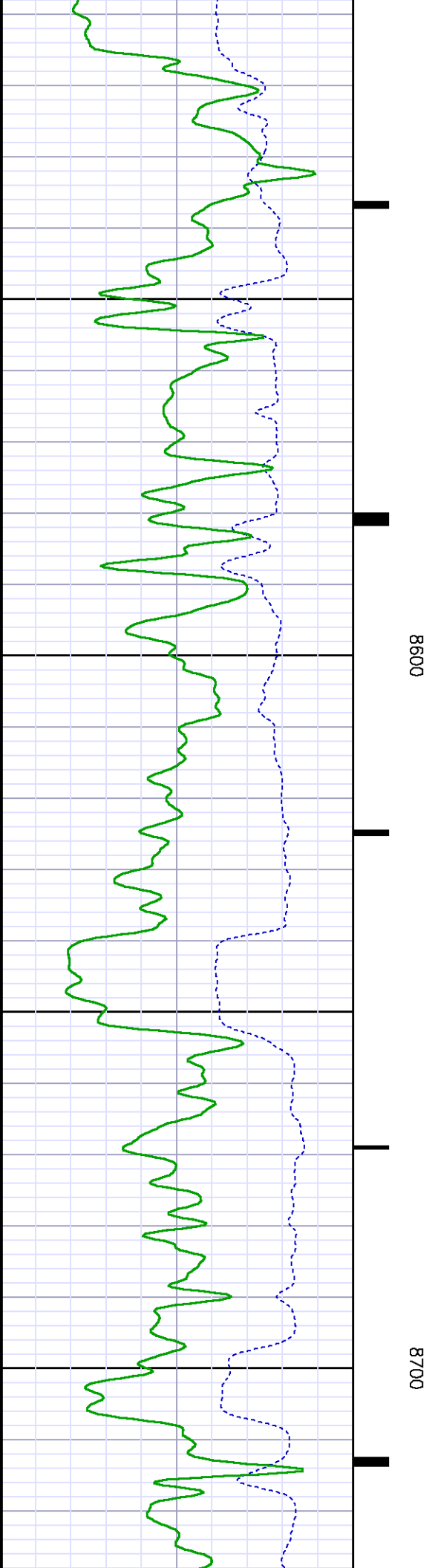
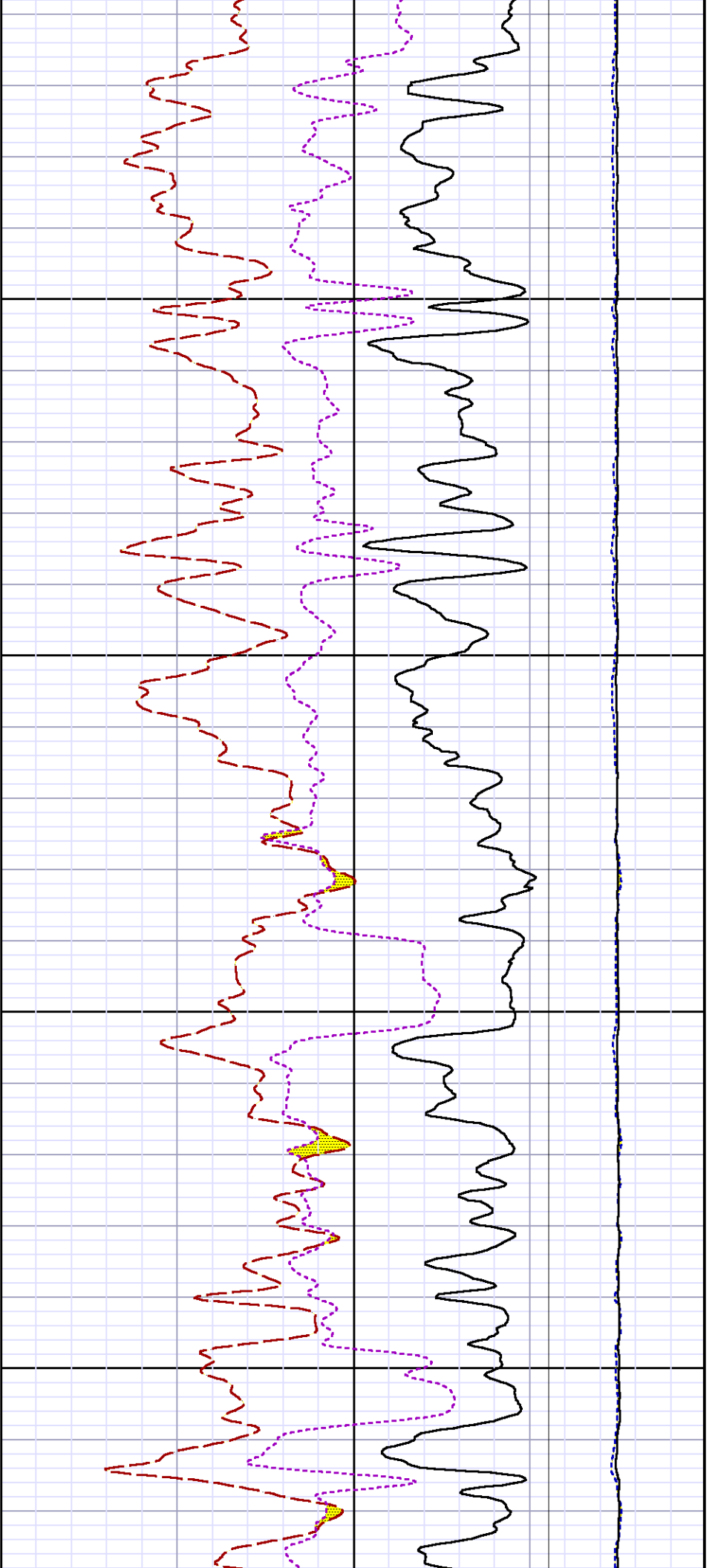


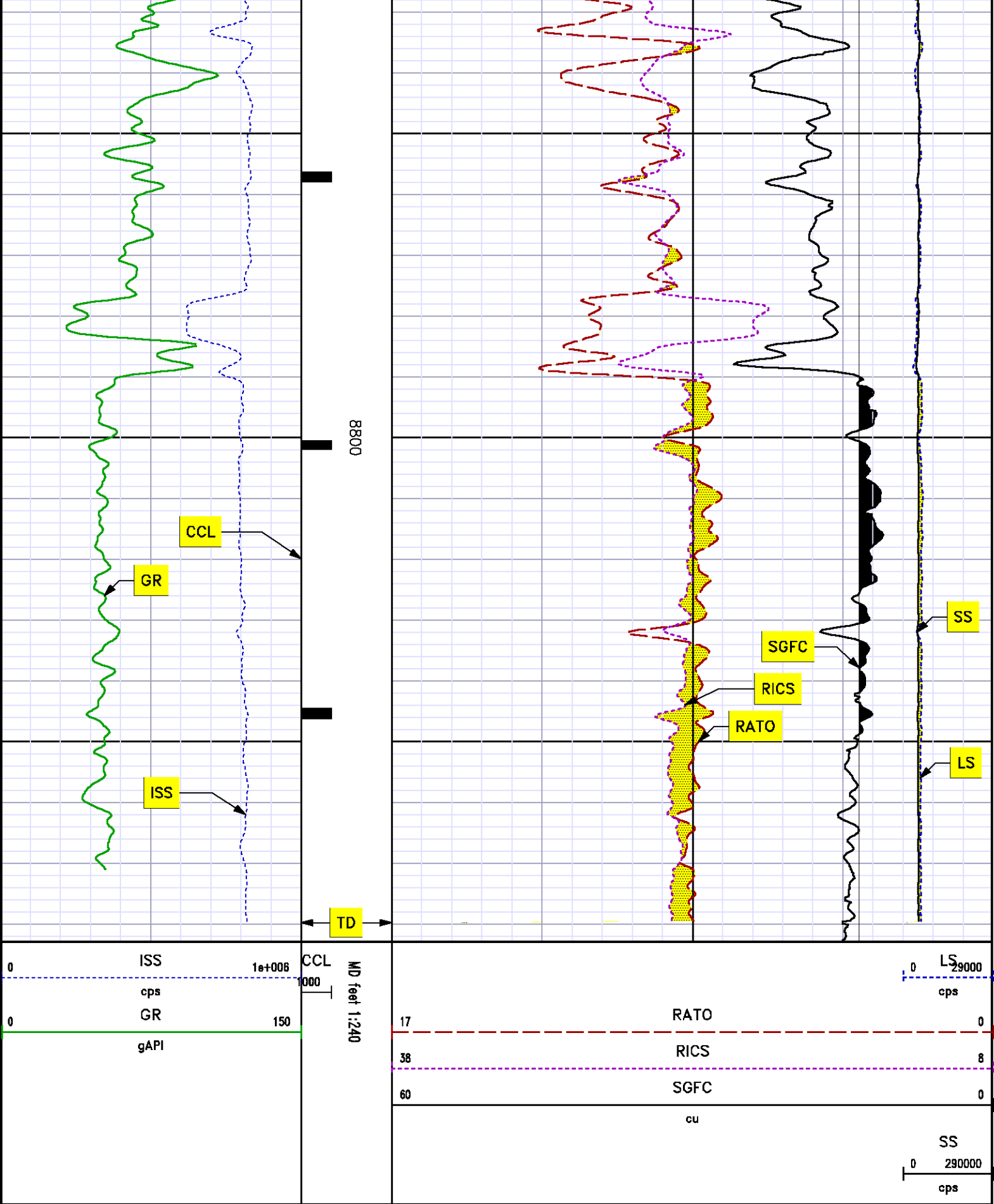
8100

8200









REPEAT SECTION



|        |        |       |        |       |         |
|--------|--------|-------|--------|-------|---------|
| SDA1   | SDL1   | SGA1  | SGB1   | SGBC  | SGE1    |
| SGF1   | SGFC   | SGK1  | SGL1   | SS    | SS2     |
| STA1   | PD1S   | PD2S  | PD3S   | MD1S  | MD2S    |
| MD3S   | DG1S   | DG2S  | DG3S   | PD1M  | PD2M    |
| PD3M   | MD1M   | MD2M  | MD3M   | DG1M  | DG2M    |
| DG3M   | MVS    | MA    | MVM    | FILV  | IAM     |
| TA     | PVM    | PVS   | IAS    | SSTAT | QPD1    |
| QPD2   | QPD3   | QMD1  | QMD2   | QMD3  | QDG1    |
| QDG2   | QDG3   | QMA   | QTA    | QFILV | QMV     |
| QPV    | QIA    | DERR  | DCNT   | QPK1  | QSA1    |
| PKS1   | ASPEC1 | HOC   | FE2XC  | ISSC  | RINC    |
| ISSN   | RDEN   | WDTH1 | RICSC  | CSSR  | G1R     |
| G2R    | ISSR   | SSR   | SS2R   | RATOR | RATO13R |
| RBORR  | RICSR  | RINR  | RIN13R | RONER | RPORR   |
| RTWOR  |        |       |        |       |         |
| SYSTEM | 0.000  | TEN   | TTEN   |       |         |

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

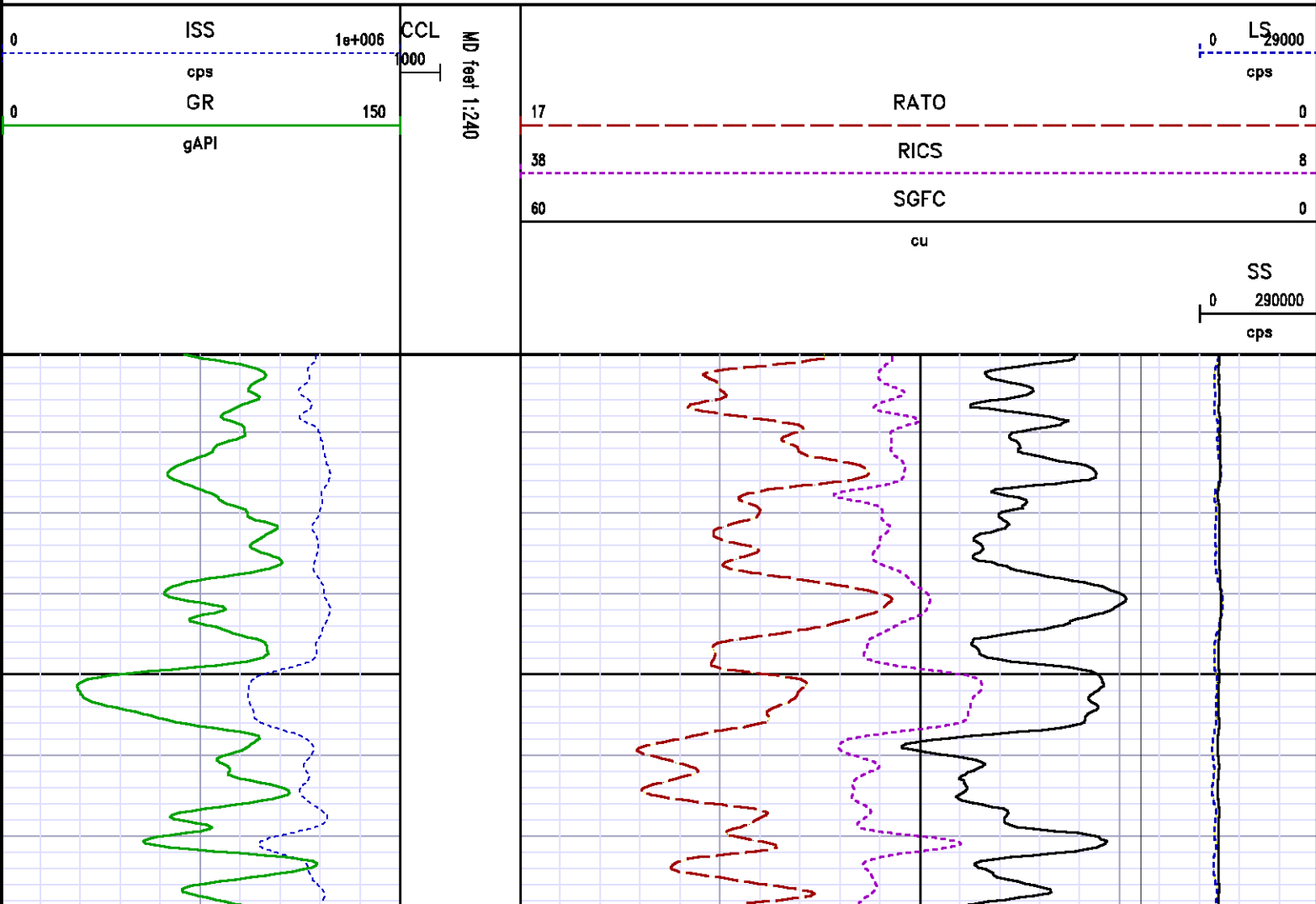
Well : HOEPPLI RWF 532-36

File Name : d:\welldata\wpx energy\rwf 532-36\532rpm\repeat.xtf

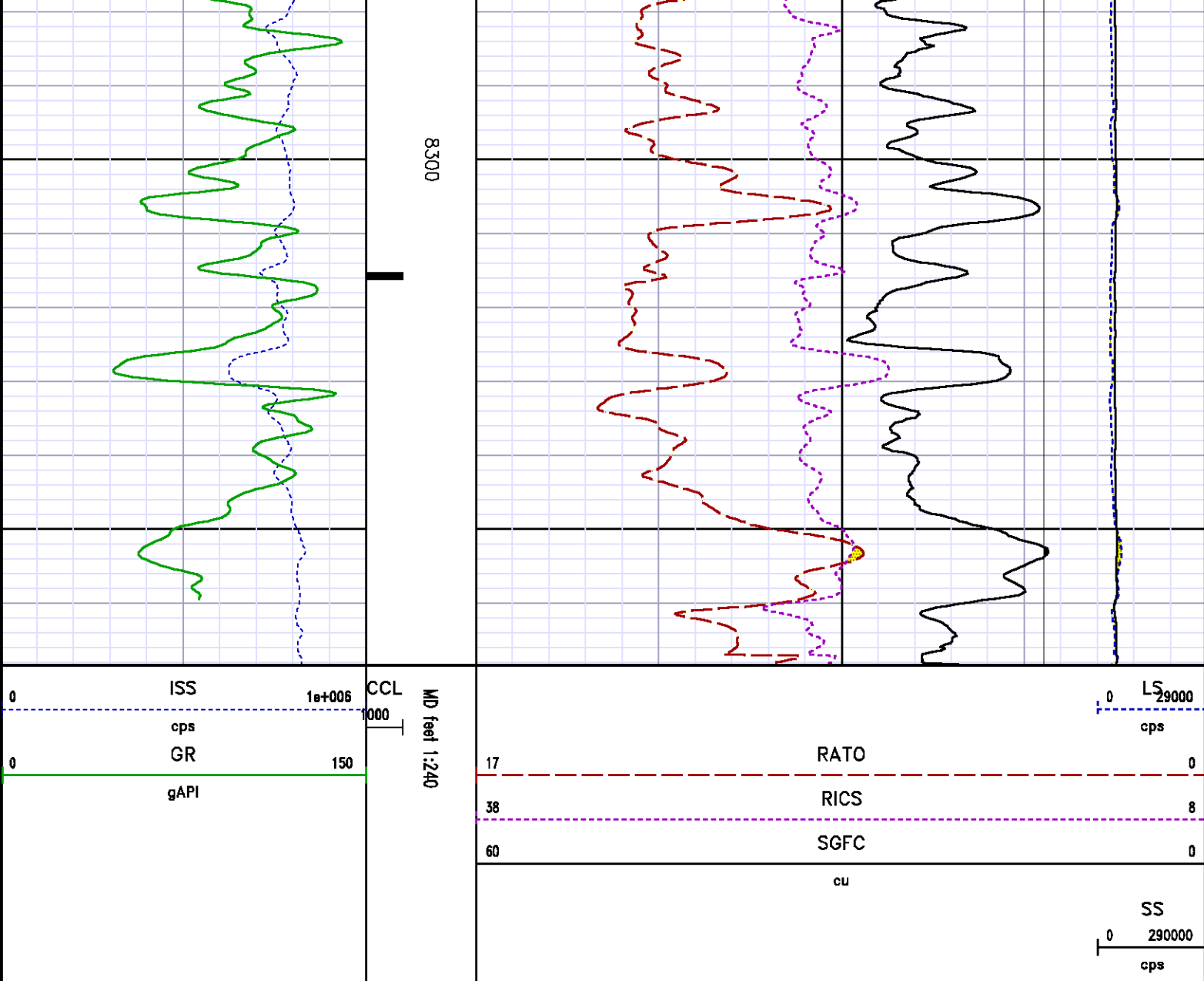
Mode : PlotMgr 5.4.504

Interval : 8210.38 - 8368.38 feet UP

Created : 4/12/2013 11:55:01 AM







## CALIBRATION SUMMARY

PNC

Calibration File: C:\case\calver\PNC\345A1.cal

### PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Apr 11 13:13:27 2013 TOOL SERIES: 8281XA ASSET: 345 SEQ: A1

Calibrator #

Source #

C. L. SHOR

8281XA 10149476

|              | ISS     | Mtr Vltz<br>(V) | SS Gain | LS Gain | XLS Gain | EA Temp<br>(degF) | Sync Delay<br>(usec) | RCAL   |
|--------------|---------|-----------------|---------|---------|----------|-------------------|----------------------|--------|
| Raw Data     | 819781  | 120.00          | 2266.00 | 2256.00 | 2263.00  | 104.57            | 7.00                 | 1.0020 |
| Interpolated | 1300000 | 139.82          | 2252.58 | 2250.54 | 2259.49  |                   |                      |        |

|          | ISS    | BKS     | BKL     | BKX    | SGA1        | SDA1      | SGA2        | SDA2      |
|----------|--------|---------|---------|--------|-------------|-----------|-------------|-----------|
| Raw Data | 819781 | 6413.62 | 1027.31 | 151.47 | 25.81       | 0.14      | 24.20       | 0.27      |
|          |        |         |         |        | 25.35 26.40 | 0.00 0.20 | 23.60 24.80 | 0.00 0.40 |

|               | ISS    | ILS       | IXS      | SS       | SS2      | LS      | CSS      | CLS      |
|---------------|--------|-----------|----------|----------|----------|---------|----------|----------|
| Raw Data      | 819781 | 177449.06 | 27584.03 | 91479.44 | 32556.03 | 8662.85 | 55318.64 | 13870.90 |
| Fit Quality % |        | 0.39      | 0.29     | 0.47     | 0.44     | 0.44    | 0.43     | 0.48     |

|               | ISS     | RBOR      | RIN<br>ISS/ILS | RIN13<br>ISS/IXS | RICS<br>ISS/CSS | RATO<br>SS/LS | RTWO<br>SS2/LS | RONE<br>CSS/CLS |
|---------------|---------|-----------|----------------|------------------|-----------------|---------------|----------------|-----------------|
| Raw Data      | 819781  | 1.43      | 4.62           | 29.72            | 14.82           | 10.56         | 3.76           | 3.99            |
|               |         | 1.42 1.45 | 3.55 5.52      | 22.20 32.70      | 10.99 16.34     | 10.06 11.10   | 3.57 3.95      | 3.76 4.22       |
| Fit Quality % |         | 0.02      | 0.51           | 0.50             | 0.48            | 0.16          | 0.15           | 0.14            |
| Reduced       | 1405428 | 1.43      | 4.65           | 29.85            | 14.91           | 10.55         | 3.75           | 3.99            |
|               |         | 1.42 1.45 | 4.33 5.52      | 27.60 32.70      | 13.70 16.34     | 10.06 11.10   | 3.57 3.95      | 3.76 4.22       |

## GAMMA RAY

Calibration File: C:\case\calver\GR\217M2.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Mar 22 14:41:53 2013 TOOL SERIES: 8262XA ASSET: 217 SEQ: M2

| Calibrator # | Background<br>[cps] | Calibrator On<br>[cps] | Multiplicative | Background<br>[api] | Calibrator On<br>[api] | Differential<br>[api] |
|--------------|---------------------|------------------------|----------------|---------------------|------------------------|-----------------------|
| SHOP JIG     | 100.22              | 431.33                 | 0.544          | 54.48               | 234.48                 | 180.00                |

Verification File: C:\case\calver\GR\217M2.VP

### PRIMARY VERIFICATION

DATE/TIME PERFORMED: Fri Mar 22 14:45:20 2013 TOOL SERIES: 8262XA ASSET: 217 SEQ: M2

| Calibrator # | Background<br>[cps] | Calibrator On<br>[cps] | Multiplicative | Background<br>[api] | Calibrator On<br>[api] | Differential<br>[api] |
|--------------|---------------------|------------------------|----------------|---------------------|------------------------|-----------------------|
| SHOP JIG     | 102.13              | 435.82                 | 0.544          | 55.52               | 236.92                 | 181.40                |

# TOOL DIAGRAM

## OTA SHORT CABLE HEAD

### PCM POWER SUPPLY

Series 8250EA  
Mnemonic PCM  
Diameter 1.70"  
Weight 18.00 lb  
Length 3.86'  
Temp Rating 350.00 °F

### TELEMETRY / CCL

Series 8248EA  
Mnemonic PCM  
Diameter 1.70"  
Weight 20.00 lb  
Length 4.46'  
Measure Point 1.00' CCL MP  
Temp Rating 350.00 °F  
Press Rating 15000.00 PSI

### GAMMA RAY

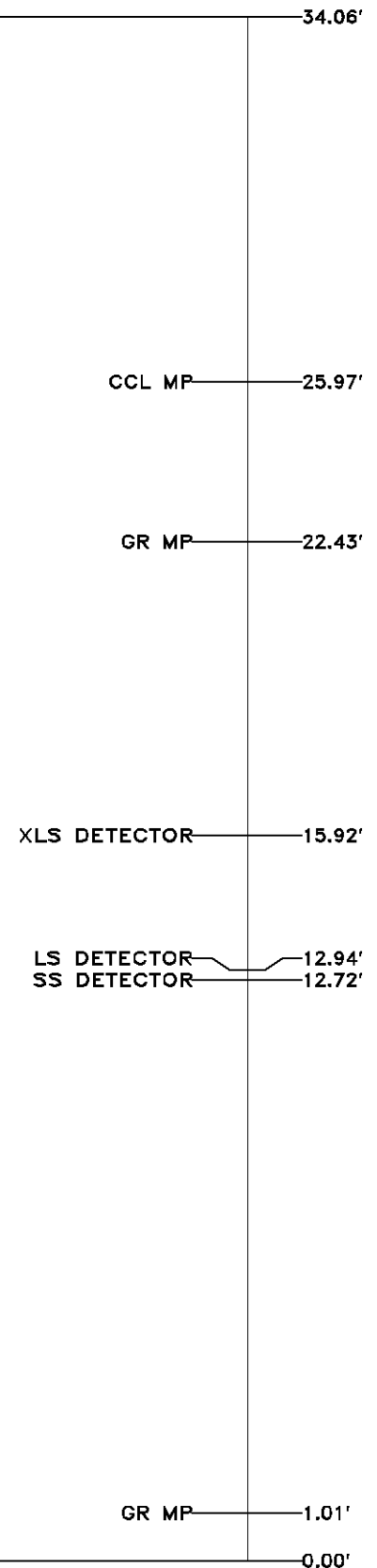
Series 8262XA  
Mnemonic GR  
Diameter 1.70"  
Weight 15.00 lb  
Length 3.17'

## RESERVOIR PERFORMANCE MONITOR

Series 8281XA  
Mnemonic RPM  
Diameter 1.70"  
Weight 75.00 lb  
Length 18.58'  
Measure Point 9.49' SS DETECTOR  
Measure Point 9.72' LS DETECTOR  
Measure Point 12.69' XLS DETECTOR  
Temp Rating 350.00 °F  
Press Rating 20000.00 PSI

### GAMMA RAY

Series 8262XX  
Mnemonic GR  
Diameter 1.70"  
Weight 15.00 lb  
Length 3.02'



Total Length: 34.06'  
Total Weight: Not Available  
Max Diameter: 0' 1.70"



Baker Atlas

CASE

|                           |                    |       |            |          |                |
|---------------------------|--------------------|-------|------------|----------|----------------|
| Company                   | WPX ENERGY         |       |            | File No: | CH070848       |
| Well                      | HOEPPLI RWF 532-36 |       |            | API No:  | 05045215500000 |
| Field                     | RULISON            |       |            |          |                |
| County                    | GARFIELD           | State | COLORADO   |          |                |
| Location                  |                    |       | Elevations |          |                |
| SHL: 2567' FNL, 2567' FEL |                    |       | KB         | 6554 ft  | 36 6S 94W      |
| BHL: 2158' FNL, 2016' FEL |                    |       | DF         |          | RWF 33-36 PAD  |
|                           |                    |       | GL         | 6528 ft  | NABORS 576     |
| SEC                       | 36                 | TWP   | 6S         | RGE      | 94W            |