



Baker Atlas

RESERVOIR PERFORMANCE MONITOR

| | | | |
|---|--|--|--|
| File No: CH03984 | Company Well Field County | WPX ENERGY FEDERAL RU 13-5 RULISON GARFIELD | State CO |
| API No: 05045217690000 | Location | Other Services | |
| 5 7S 93W RU 23-5 PAD NABORS 576 | SHL: 228' FNL & 2606' FWL BHL: 1242' FNL & 575' FWL SEC 5 TWP 7S RGE 93W | BOND LOG | |
| Permanent Datum Log Measured From Drill Measured From | GL KB KB | Elevation 26 ft Above P. D. | Elevations KB 7628 ft DF GL 7602 ft |

| | | |
|------------------------------|-----------------------|------------|
| Date | 29/DEC/13 | |
| Run | ONE | |
| Service Order | US625078 | |
| Depth Driller | 10243 ft | |
| Depth Logger | 10214 ft | |
| Bottom Logged Interval | 10204 ft | |
| Top Logged Interval | 8216 ft | |
| Time Started | 12:30 | |
| Time Finished | 19:30 | |
| Operator Rig Time | 7 HOURS | |
| Type of Fluid in Hole | WATER | |
| Fluid Density | NA | |
| Salinity | NA | |
| Fluid Level | 80 ft | |
| Logged Cement Top | NA | |
| Wellhead Pressure | 0 psi | |
| Maximum Hole Deviation | NA | |
| Nominal Logging Speed | 10 fpm | |
| Maximum Recorded Temperature | 245 degF | |
| Reference Log | BAKER HUGHES BOND LOG | |
| Reference Log Date | 29/DEC/13 | |
| Equipment No. | 4271 | GRAND JCT. |
| Recorded By | NEWELL | |
| Witnessed By | JEFF DUCY | |

- 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 | 1141 ft |
| 8.75 In | 1141 ft | 10318 ft |

| Casing Record | | | | |
|---------------|-------------|-------|------|----------|
| Size | Weight | Grade | From | To |
| 9.625 In | | | 0 ft | 1141 ft |
| 4.5 In | 11.6 lbm/ft | | 0 ft | 10318 ft |

| |
|--|
| Remarks |
| All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 12/29/2013 at the client's request. |
| The amount of linear shift is 2 feet. |
| Logged in PNC-3D mode. |
| BHT = 245 °F |

| Equipment Data | | | | | |
|----------------|------|---------|---------------|---------------|----------|
| Run | Trip | Tool | Series Number | Serial Number | Position |
| 2 | 1 | PCM | 8250EA | 10408796 | FREE |
| 2 | 1 | TEL/CCL | 8248ED | 10590814 | FREE |
| 2 | 1 | GR | 2812LA | 10274385 | FREE |
| 2 | 1 | RPM | 8281EA | 10190984 | FREE |
| 2 | 1 | RPM | 8283PA | 10466231 | FREE |
| 2 | 1 | RPM | 8281FA | 10460082 | FREE |

MAIN SECTION
PNC 3-D MODE

SPL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | TOP | BOTTOM |
|------------------|---------------|----------------|-------|----------|-----------|
| PNC Porosity | Borehole | Cased | | 6174.750 | 10224.624 |
| PNC Porosity | Borehole Size | 8.750 | inch | 6174.750 | 10224.624 |
| PNC Porosity | Casing Size | 4.500 | inch | 6174.750 | 10224.624 |
| PNC Porosity | Gas Filled | Non Gas Filled | | 6174.750 | 10224.624 |
| PNC Porosity | Matrix | Sandstone | | 6174.750 | 10224.624 |

DEPTH OFFSETS
(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES | | | | | |
|--------|--------------|-----------------|--------|--------|--------|------|--------|
| 8248ED | -14.478 | FLTM | | | | | |
| 8248ED | -12.478 | CCL CHV | | | | | |
| 2812LA | -9.928 | 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 |
| | | DLOYO | DUN3Q | DUN03 | DUN3Q | GR3D | SO3D |

8281XA

-0.250

| | | | | | |
|--------|--------|-------|--------|--------|--------|
| RTXC | RTN13C | RTN23 | RTN23C | SD3D | SG3D |
| SGB3 | SGF3 | WDTH3 | CXSR | IXSR | XSR |
| RICXR | | | | | |
| 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 | MM | 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 | RAT0R | RAT013R |
| RBORR | RICSR | RINR | RIN13R | RONER | RPORR |

SYSTEM

0.000

| | | |
|-------|-----|------|
| RTWOR | TEN | TTEN |
|-------|-----|------|

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

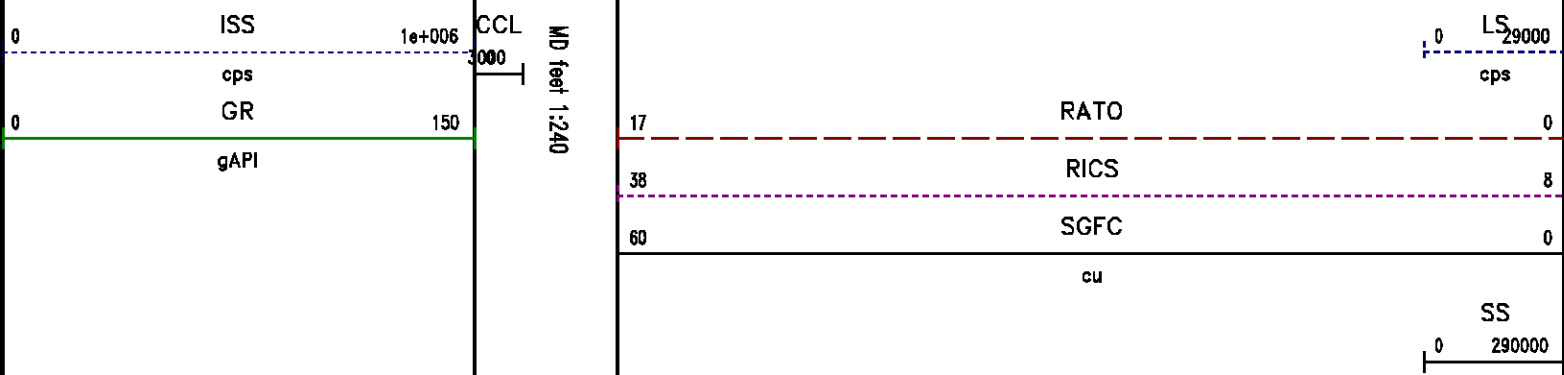
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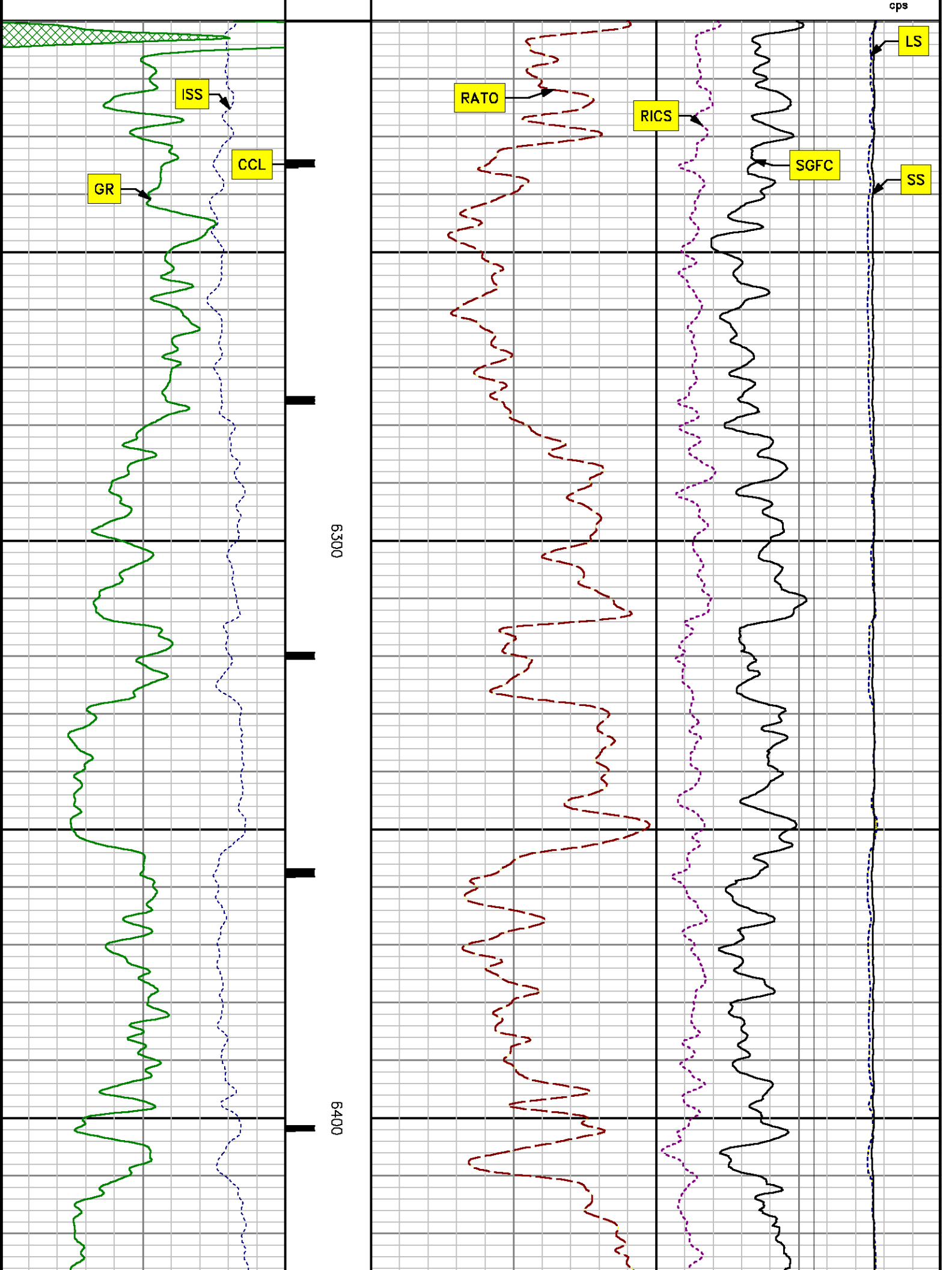
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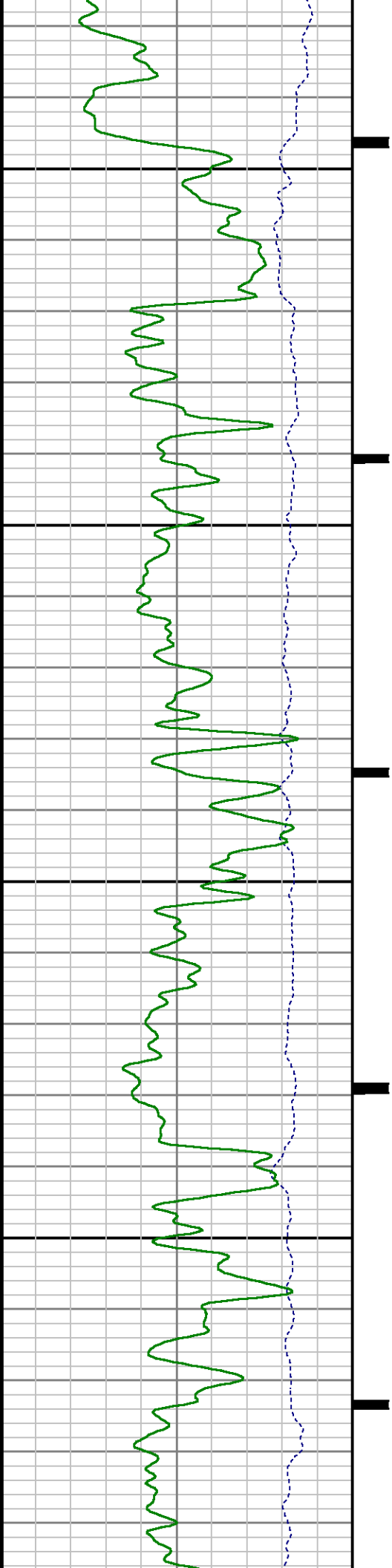
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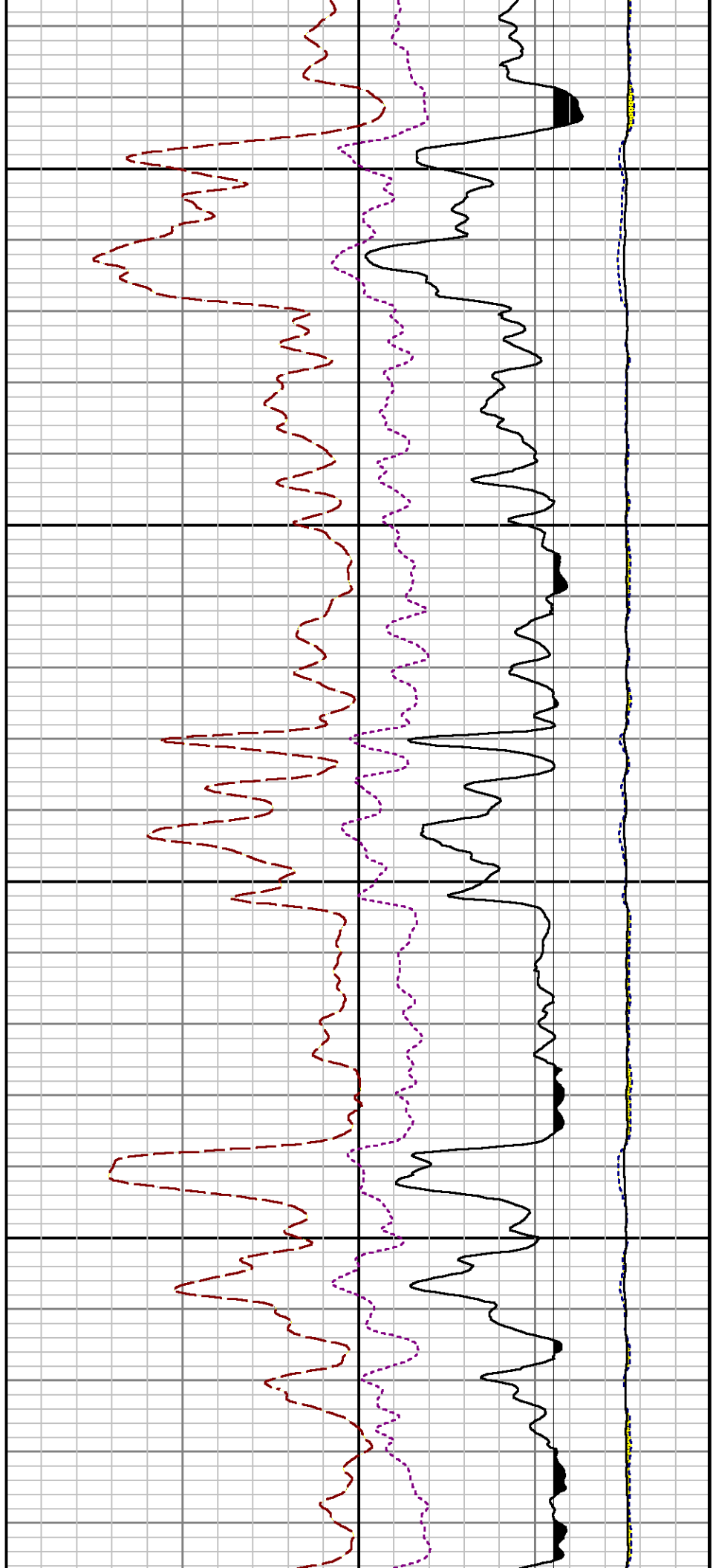


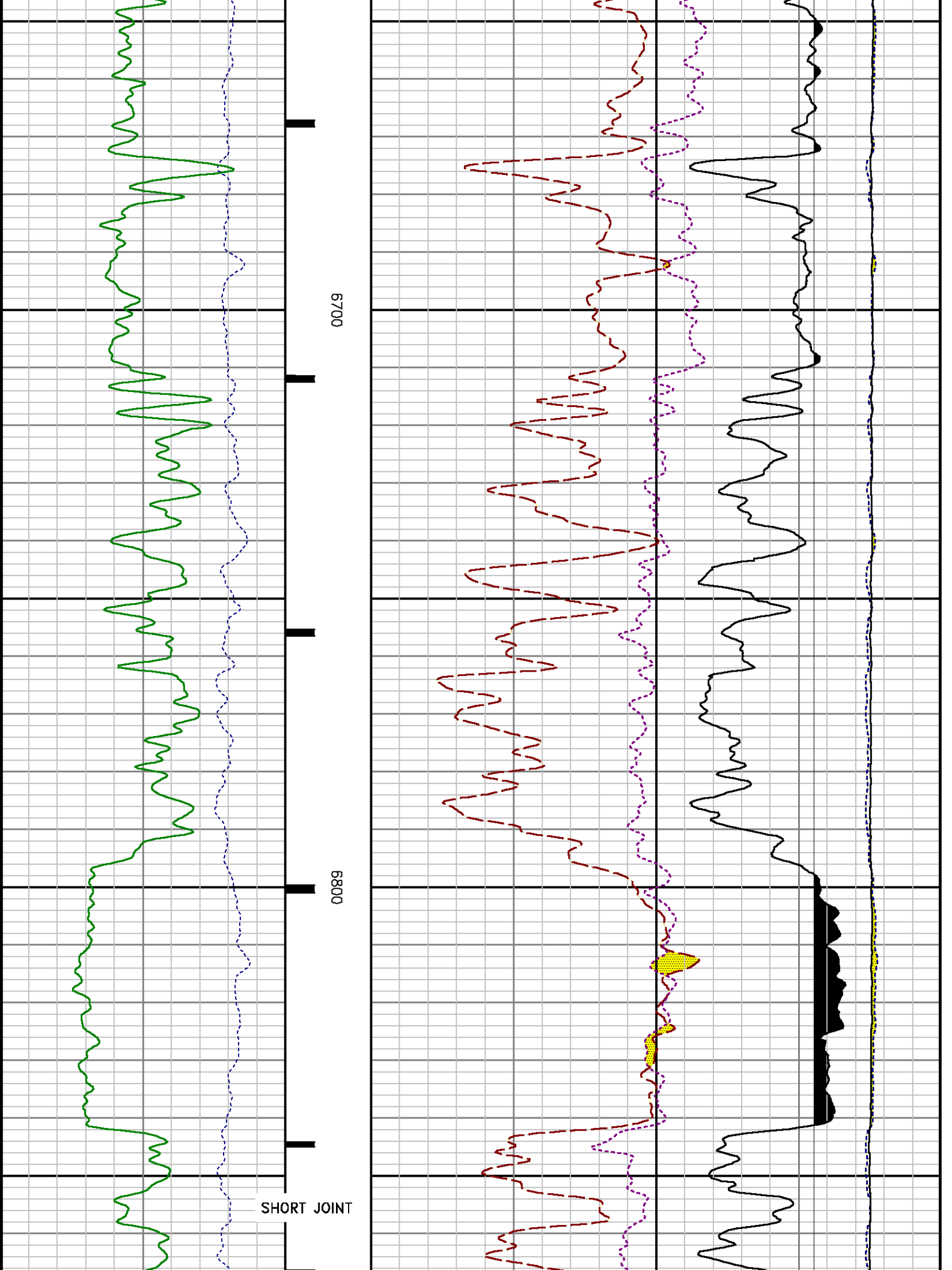


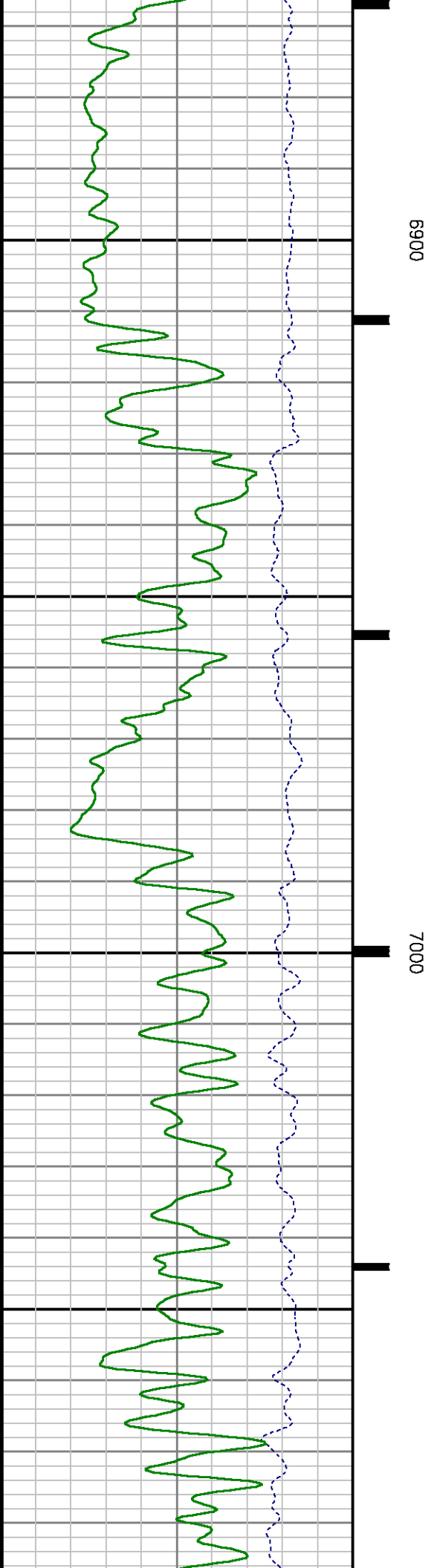
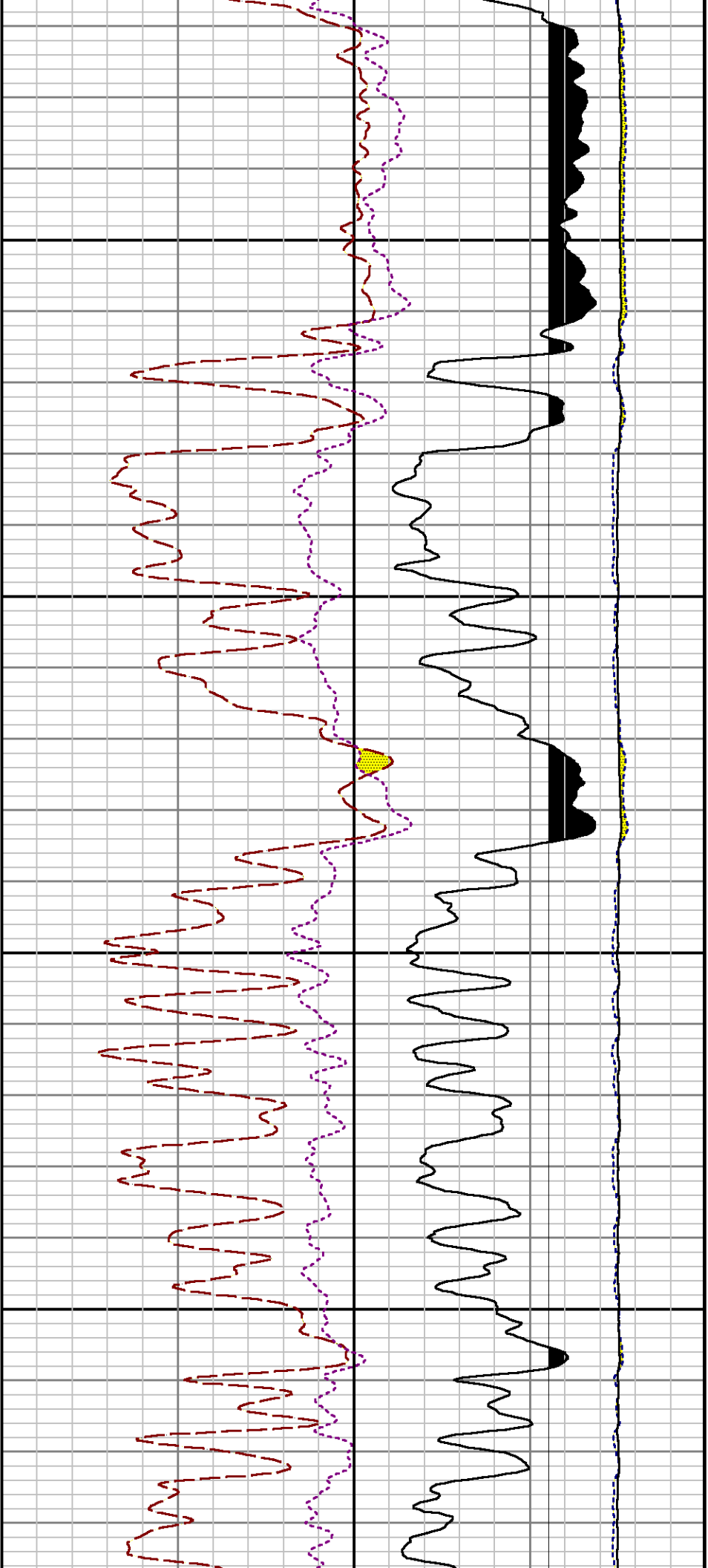


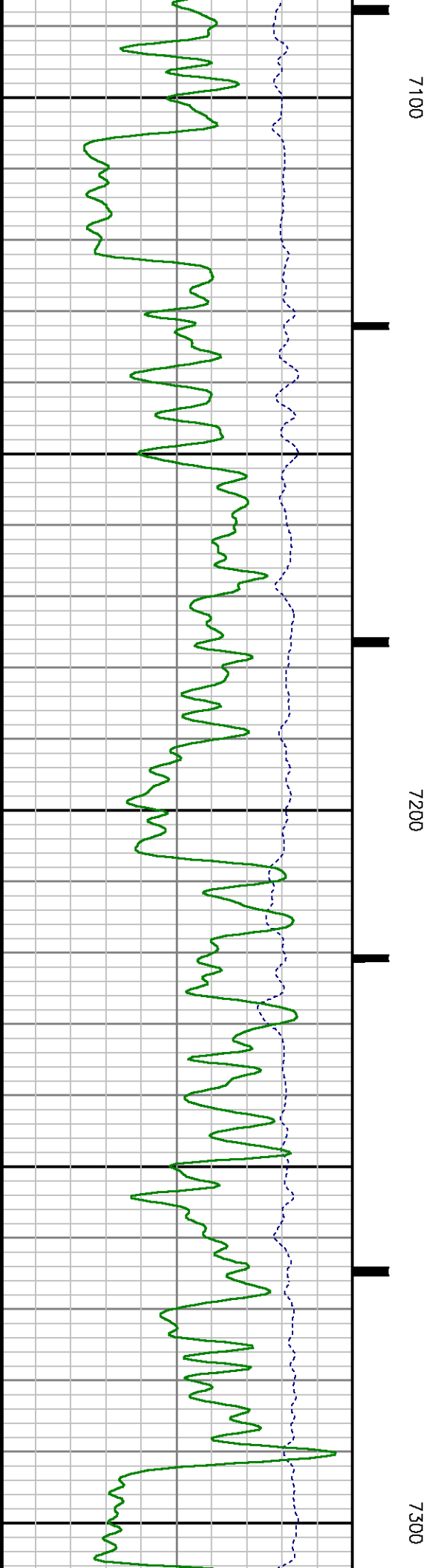
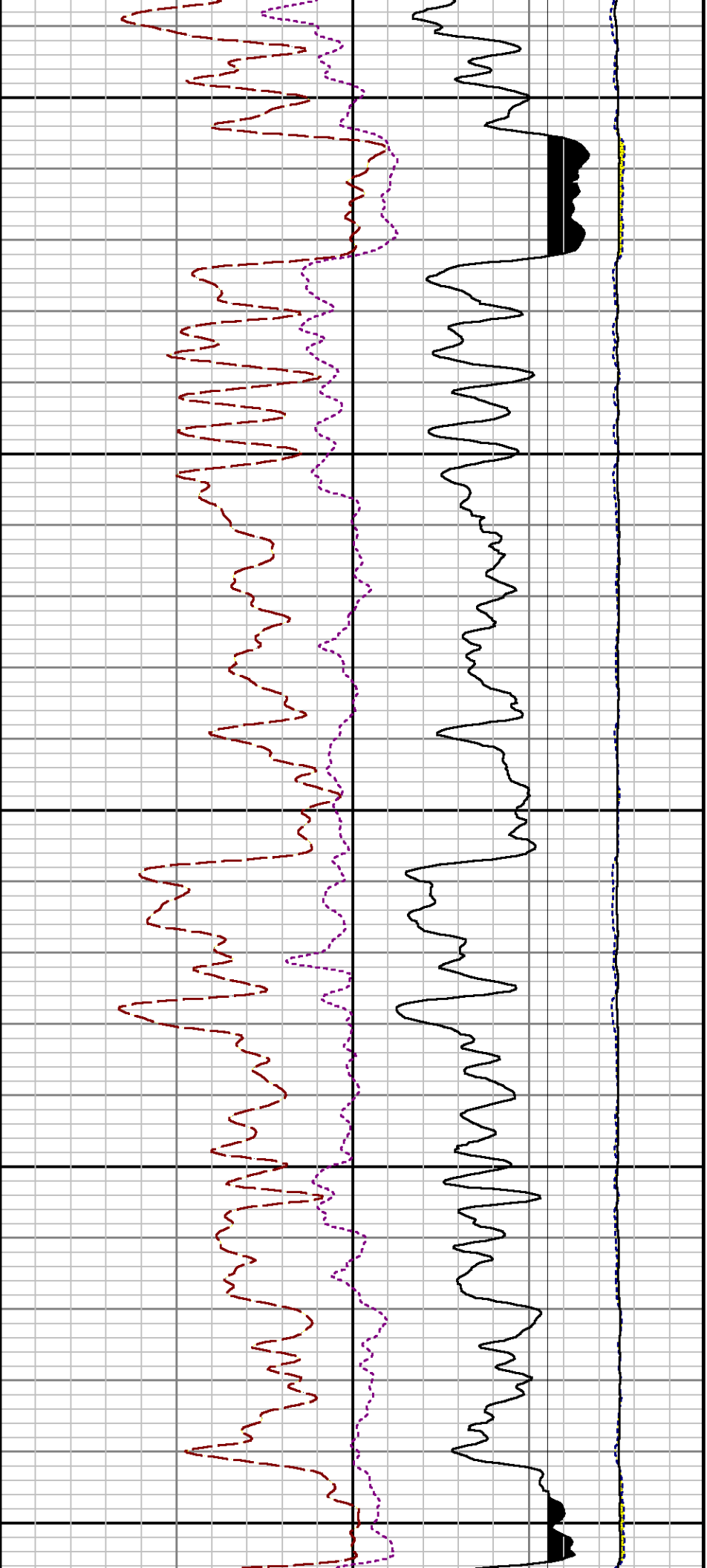
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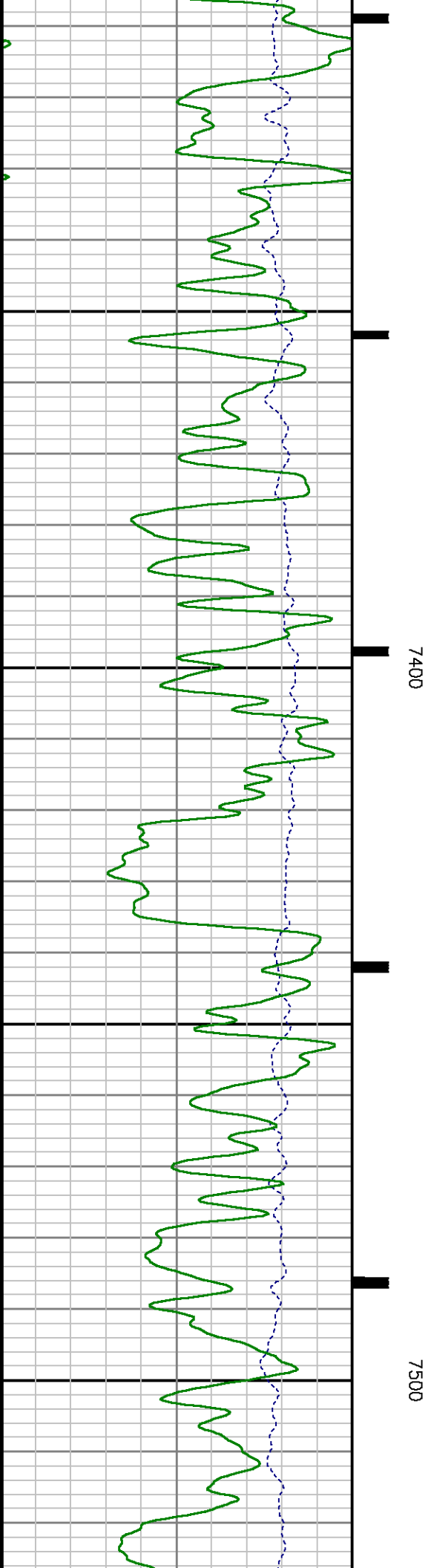
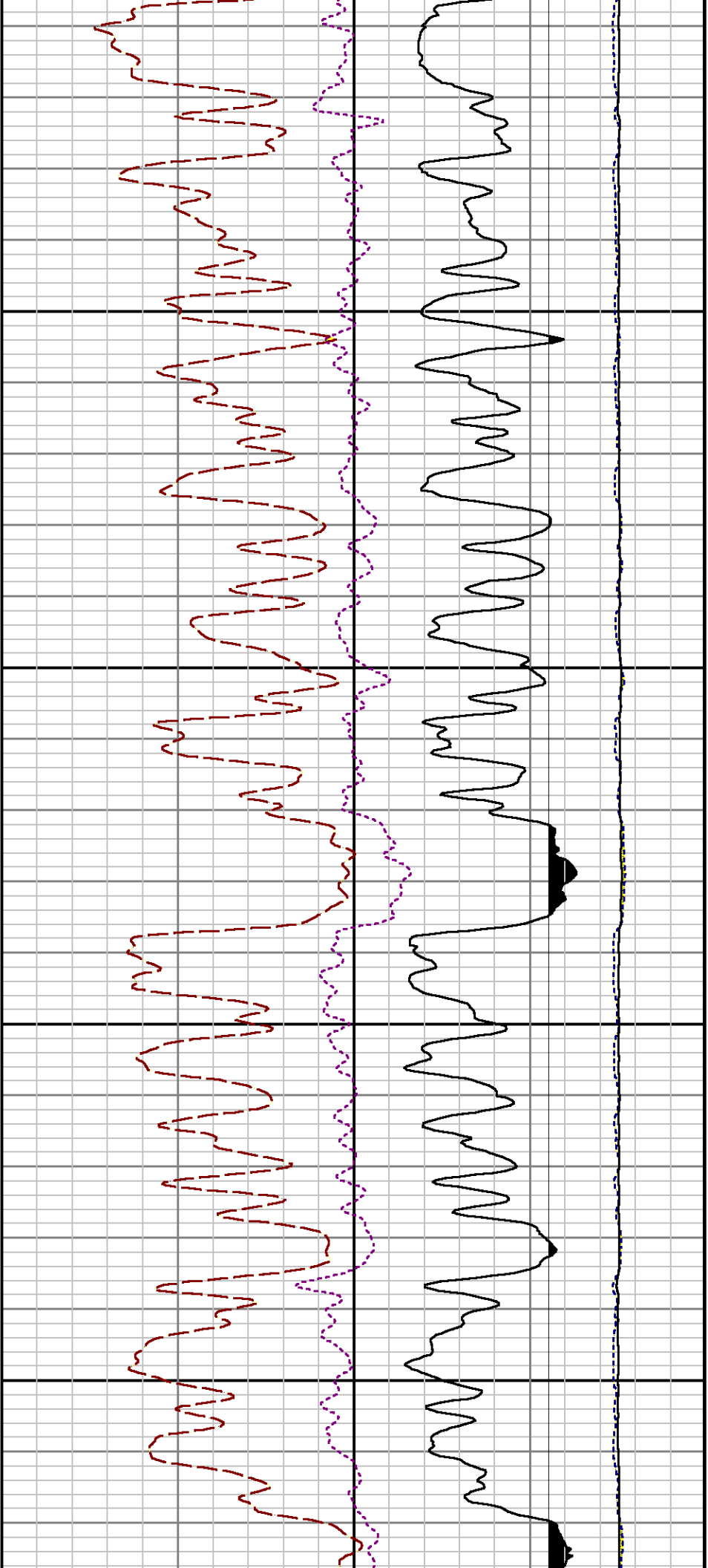
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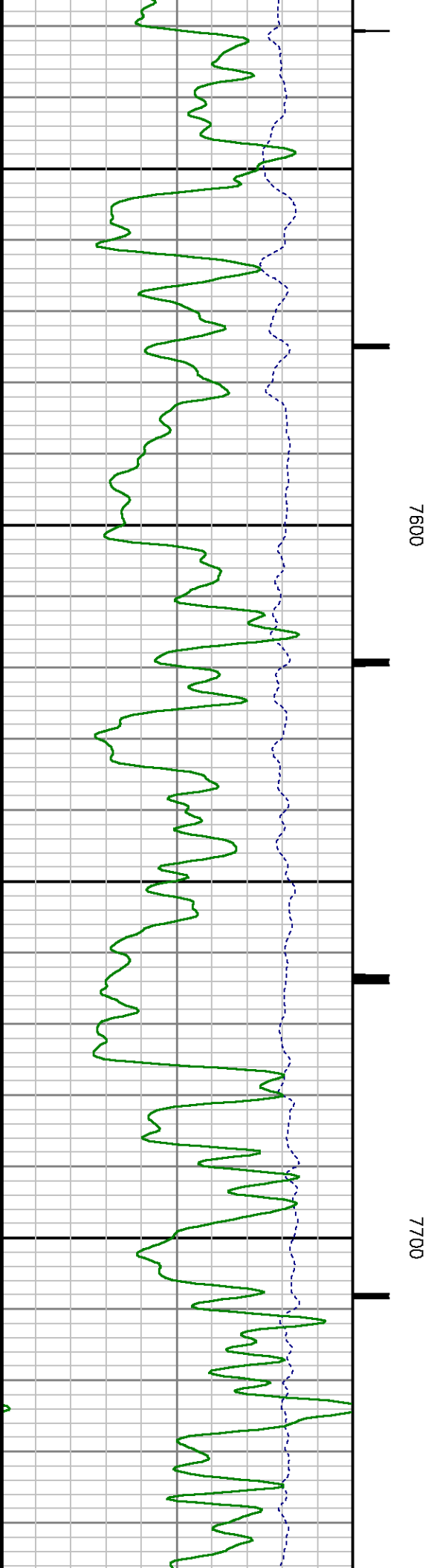
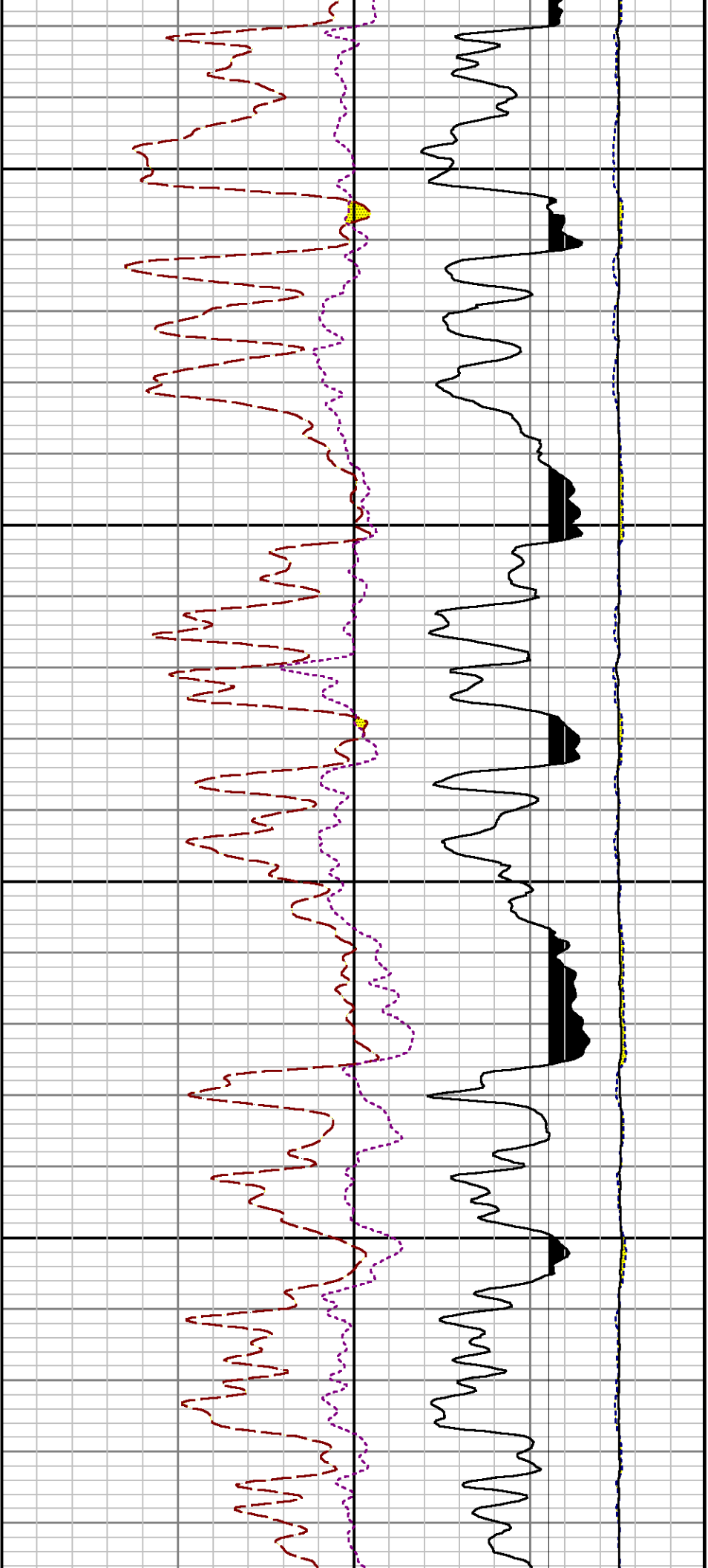


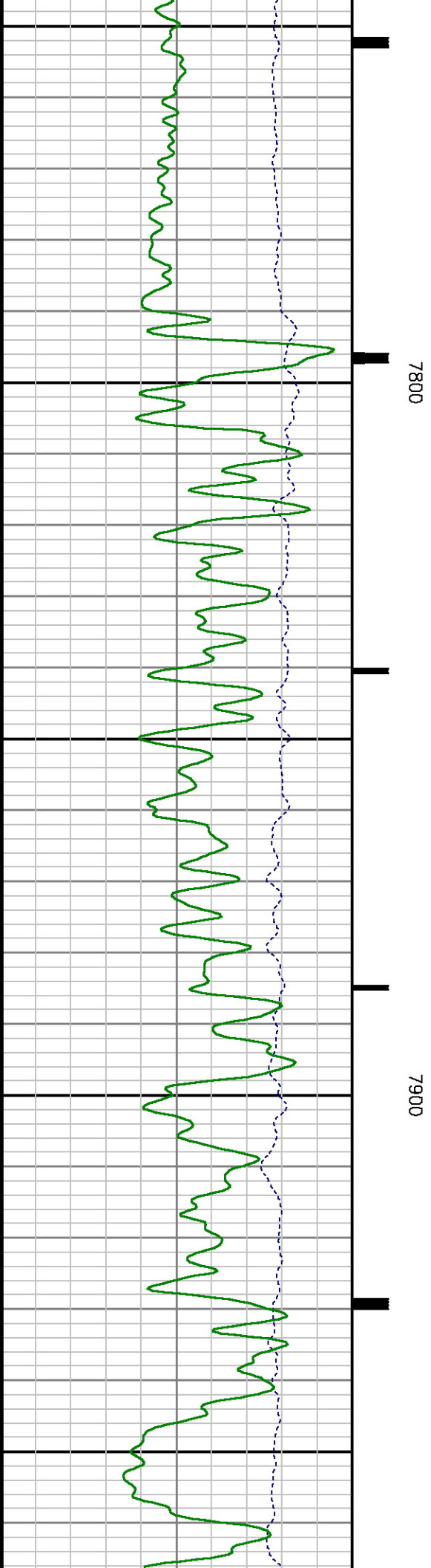
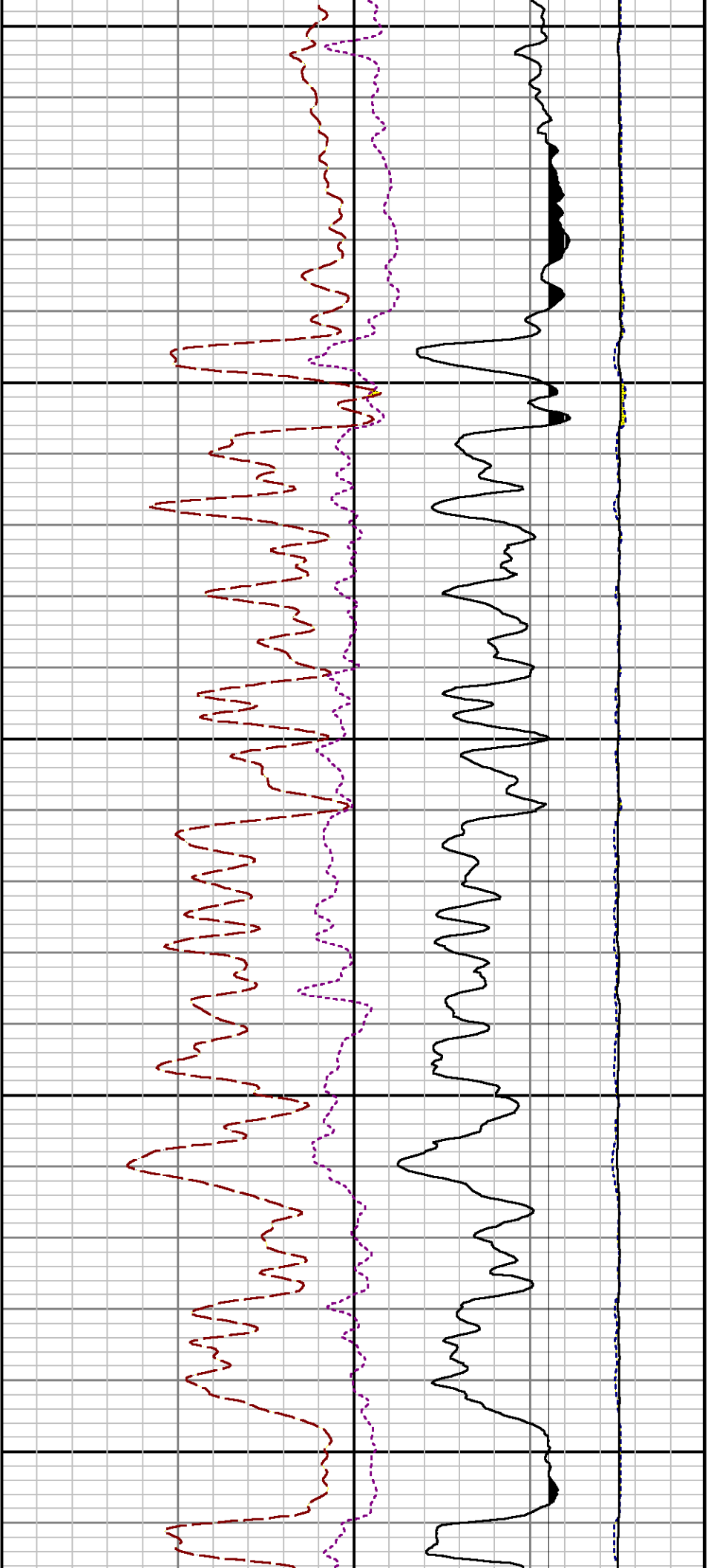


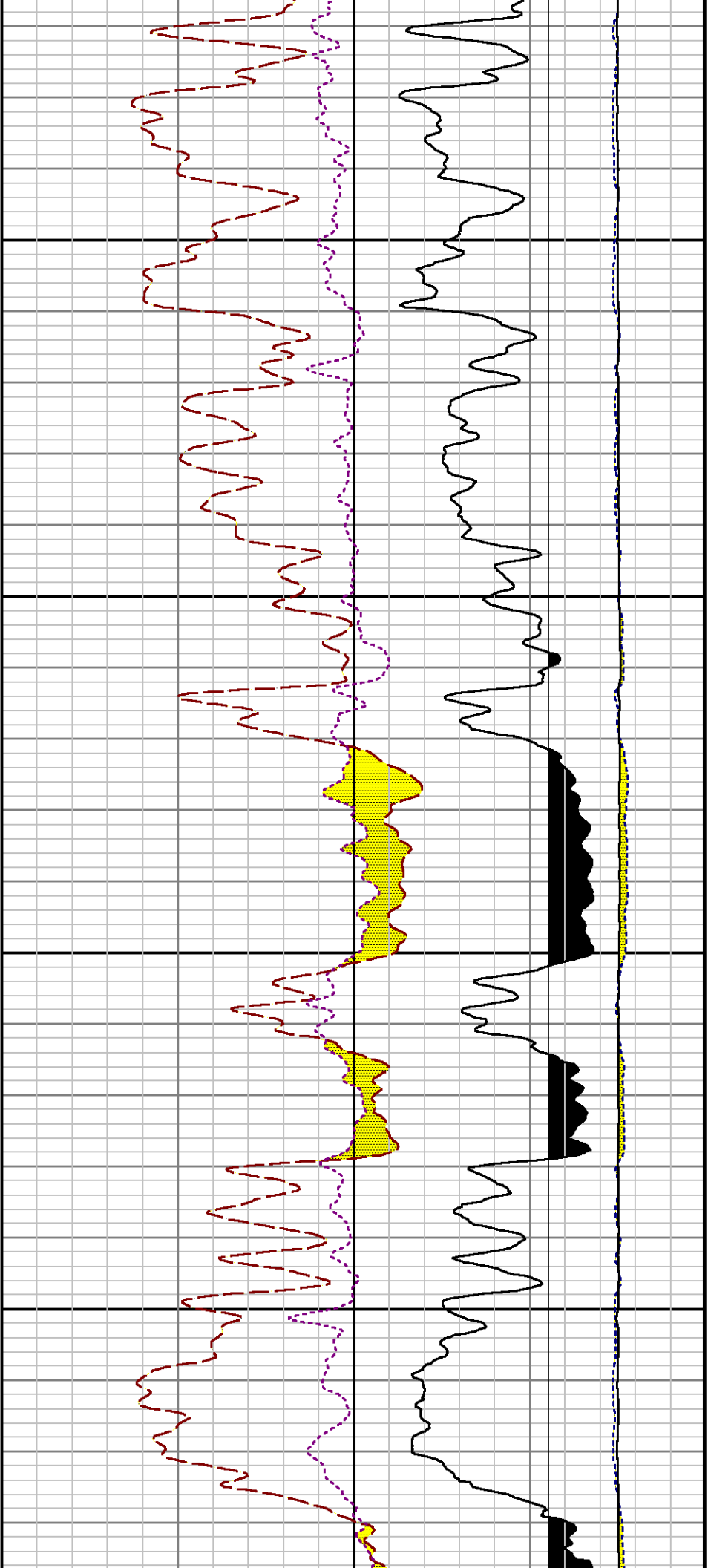






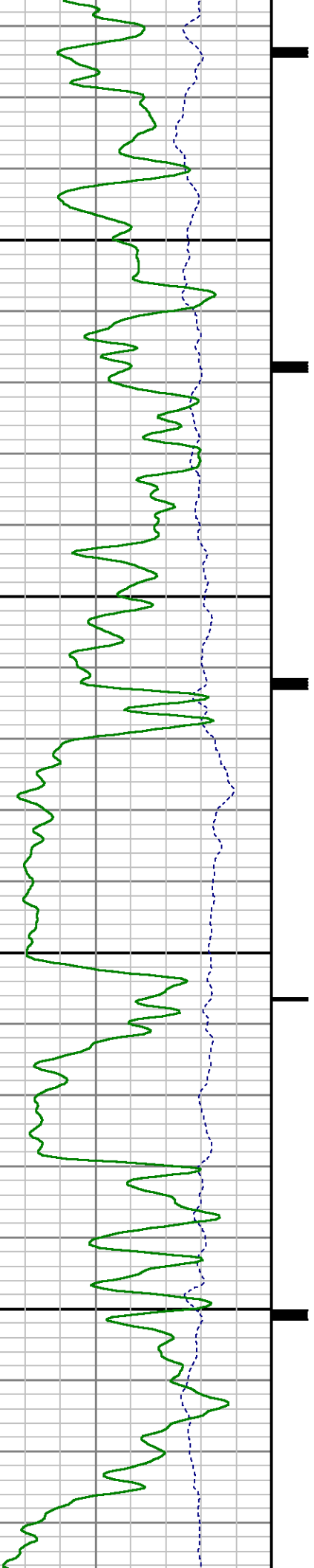


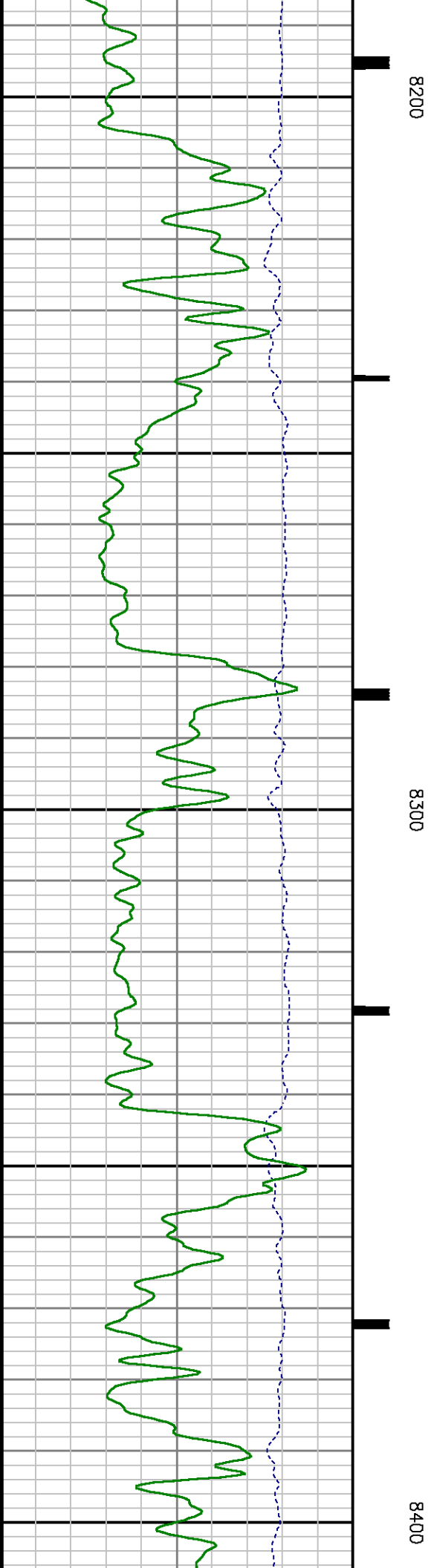
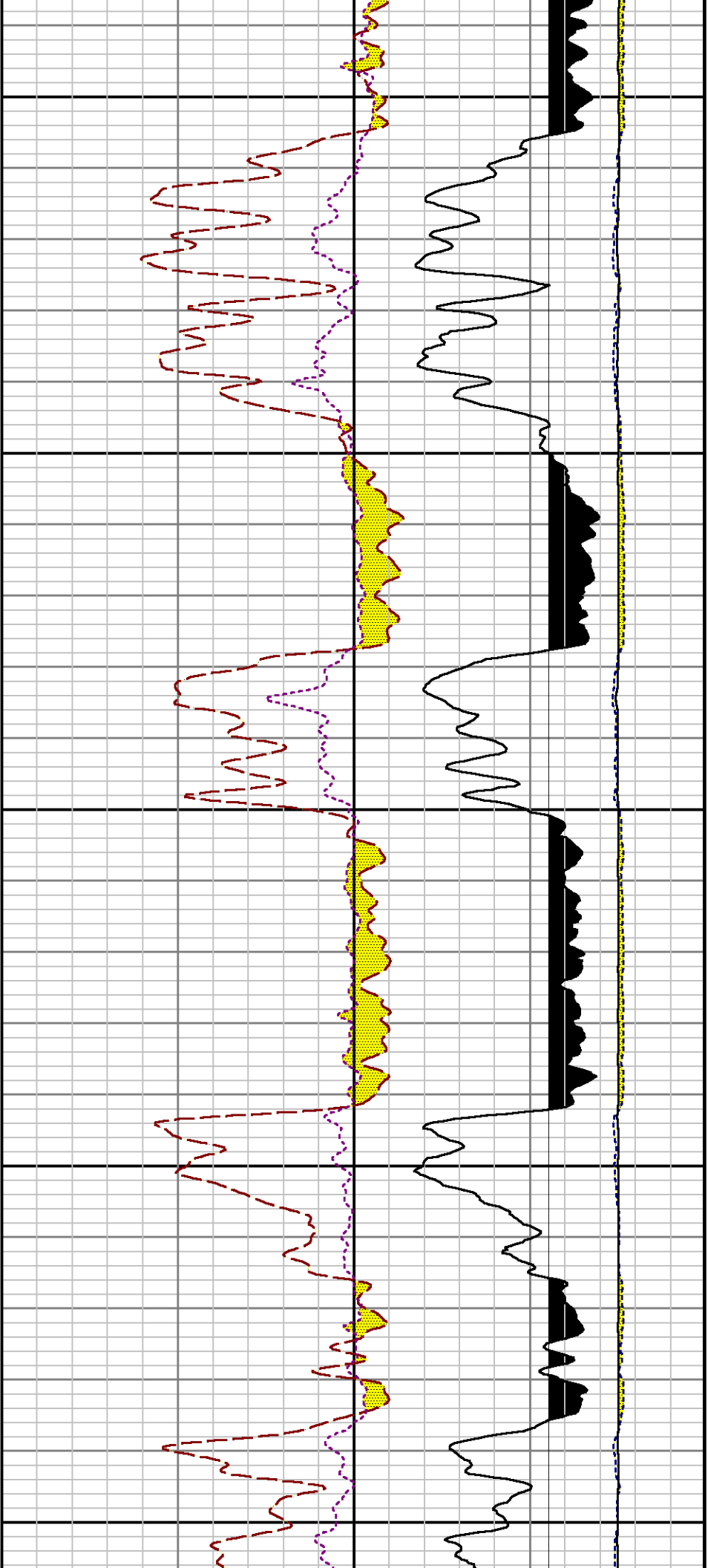


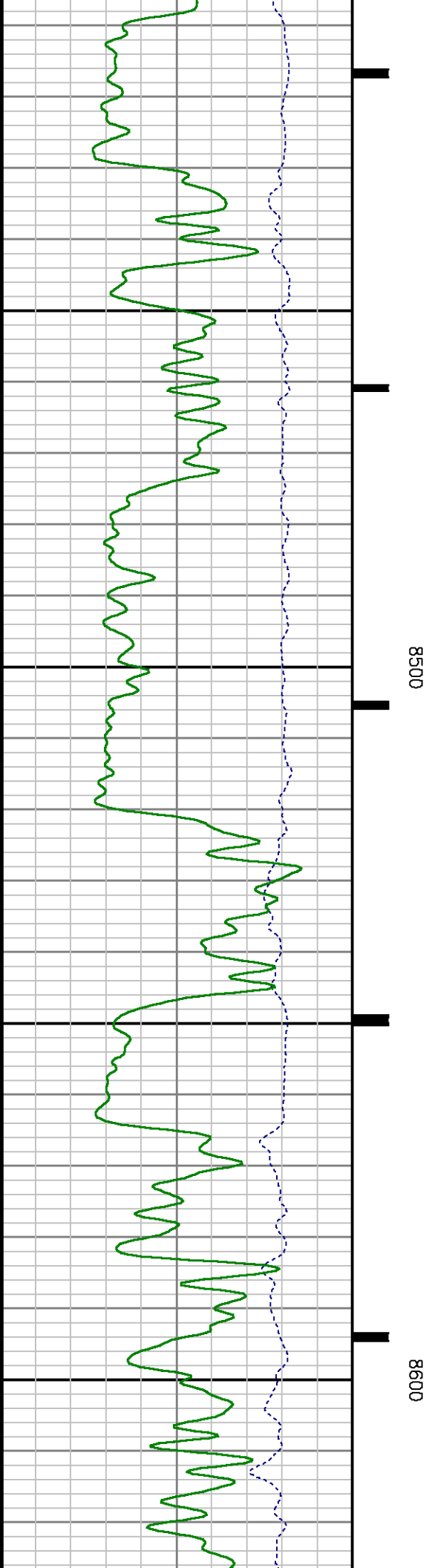
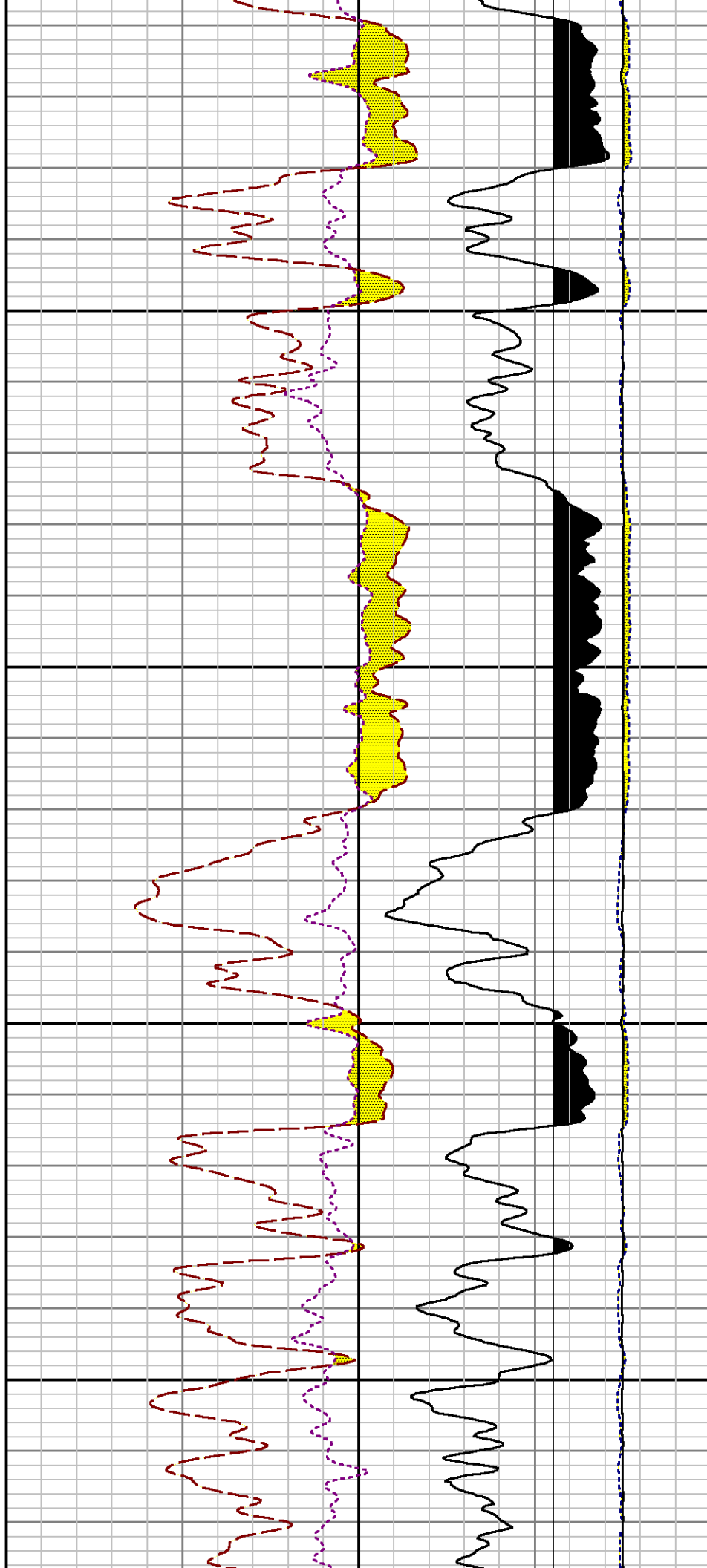


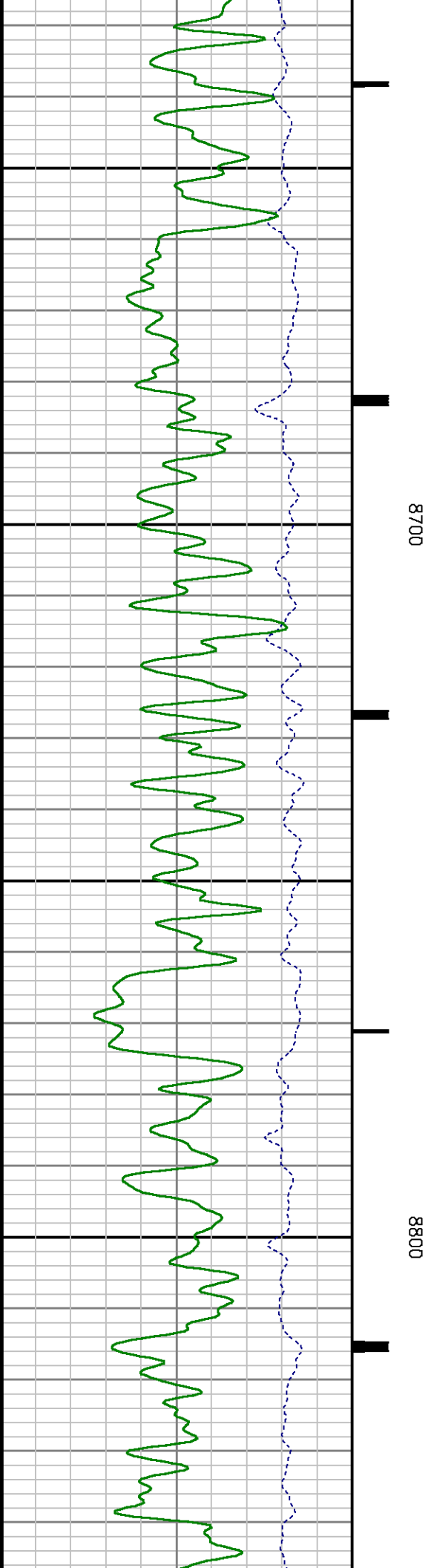
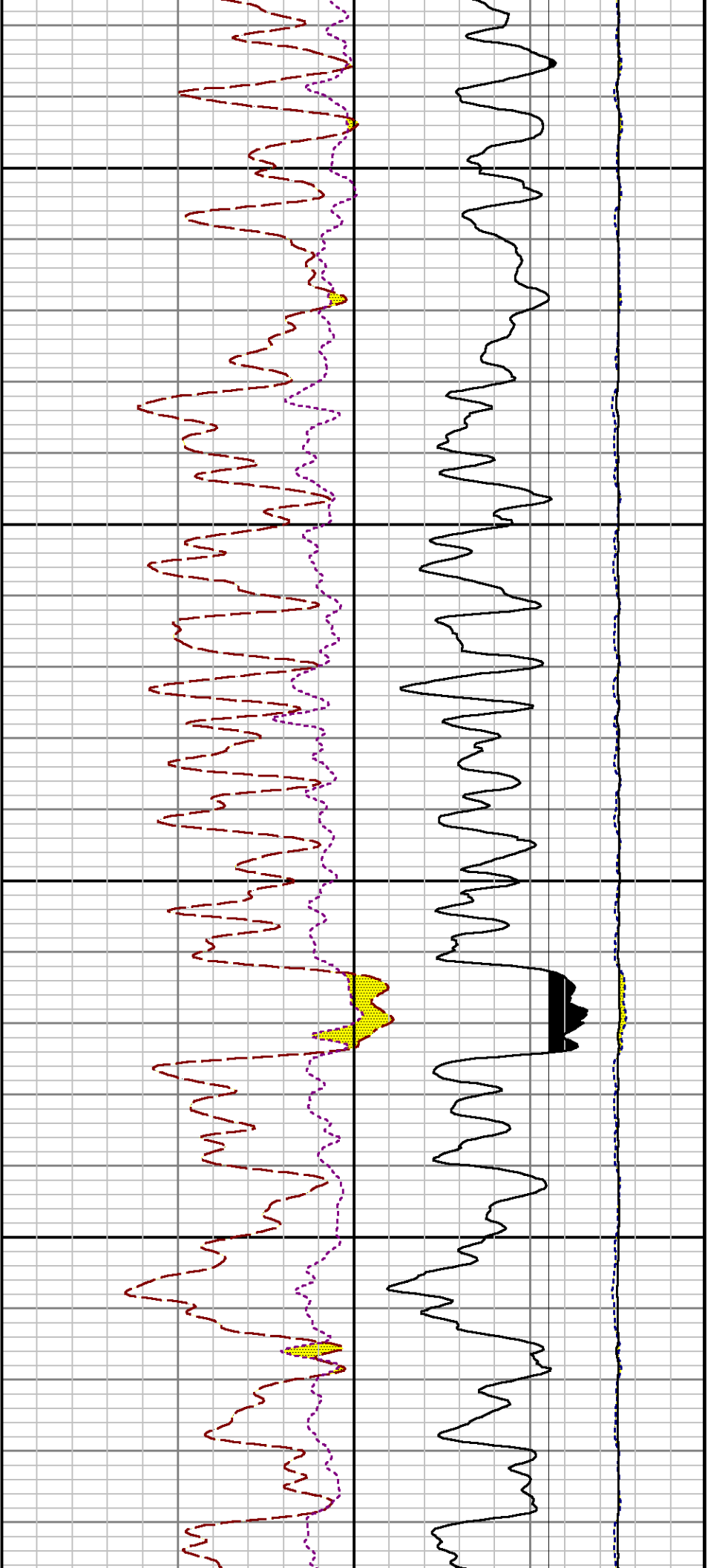
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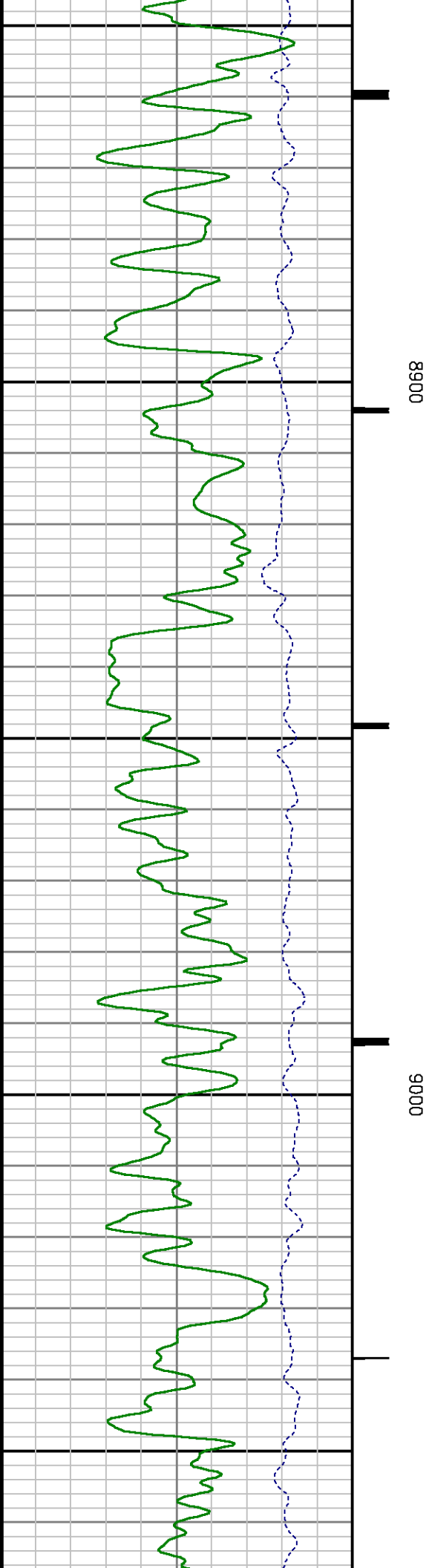
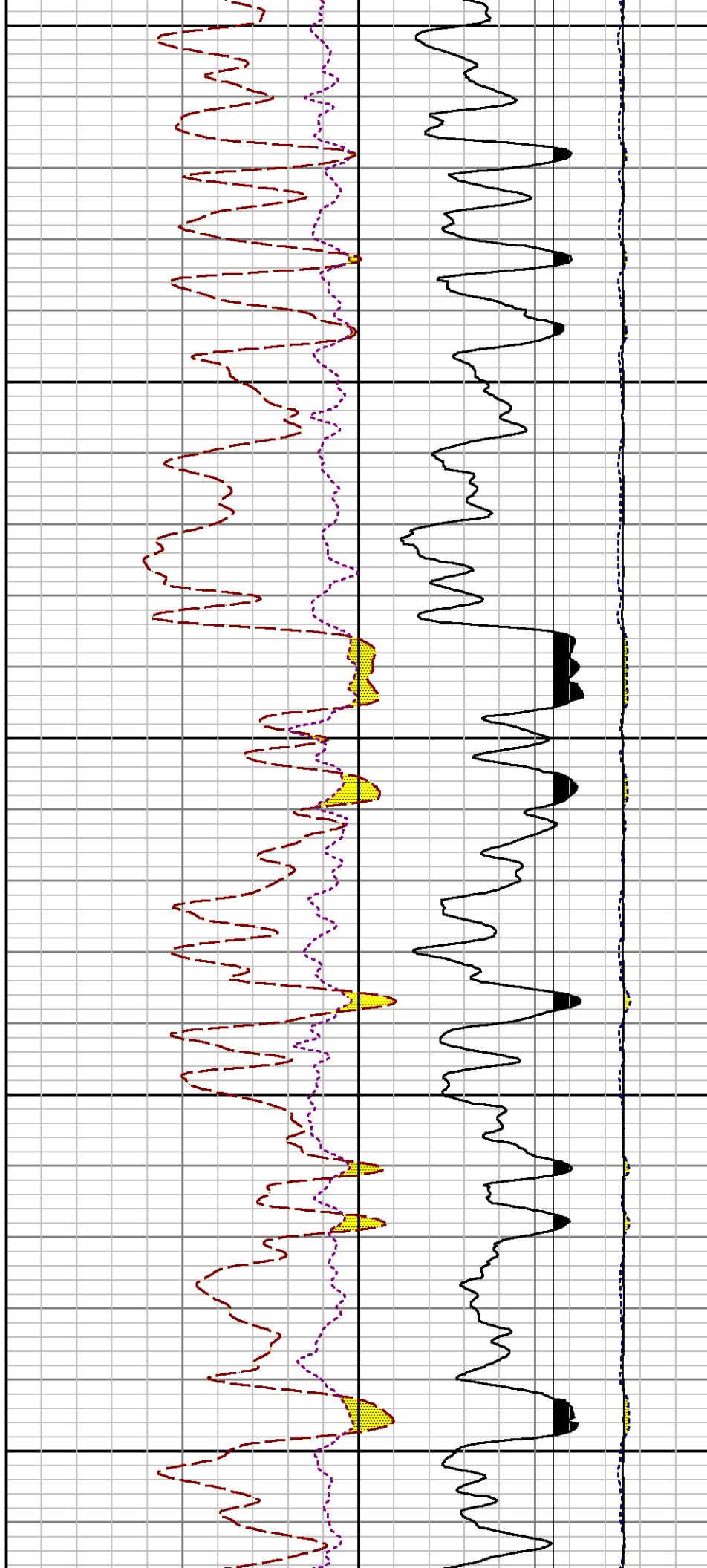
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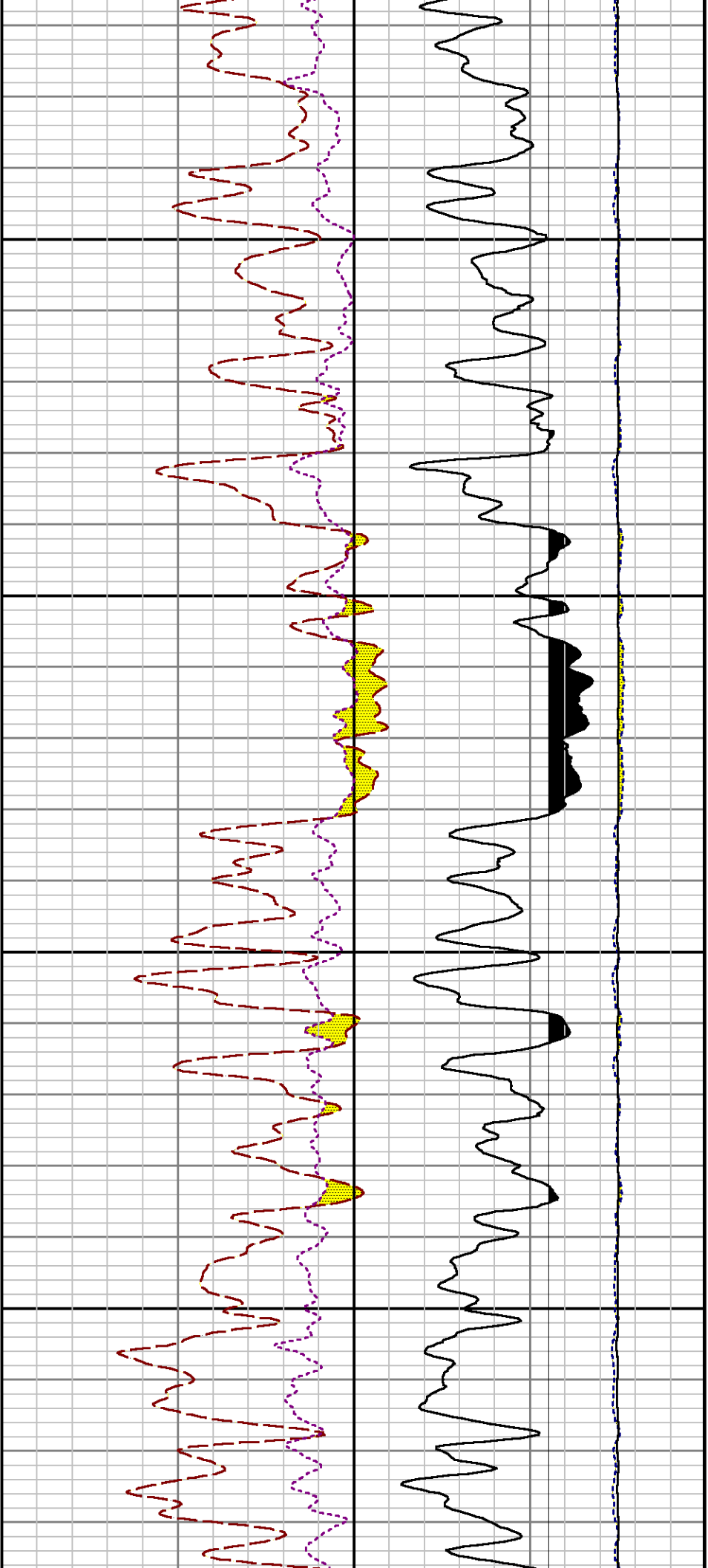






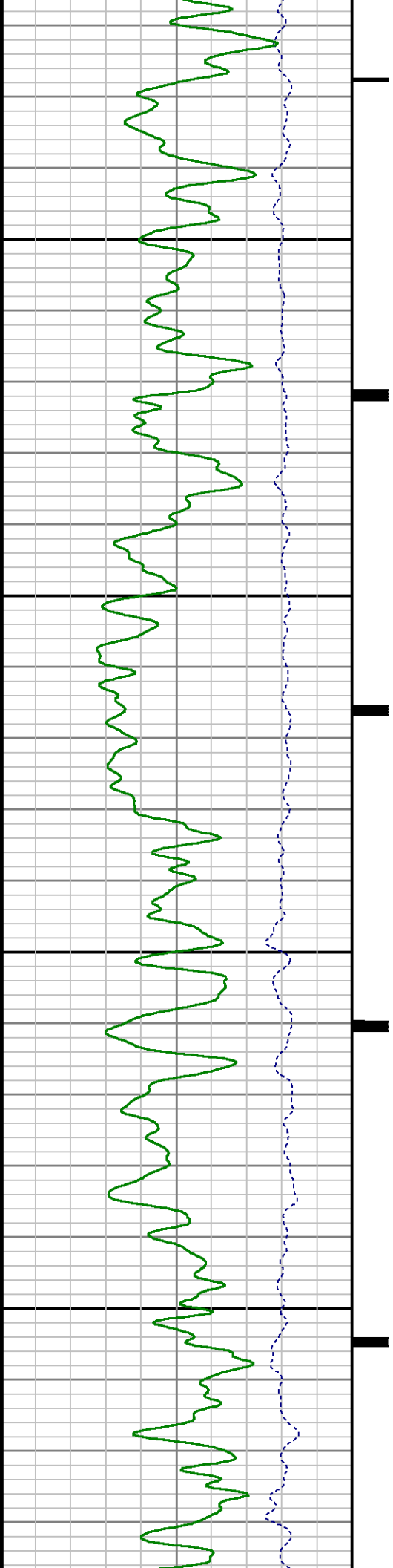


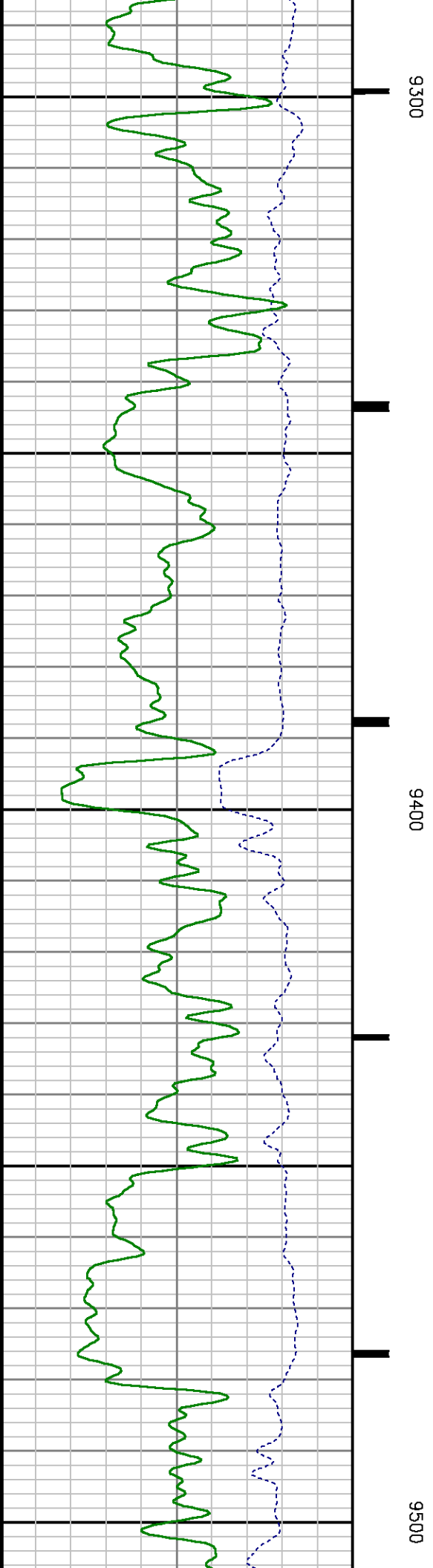
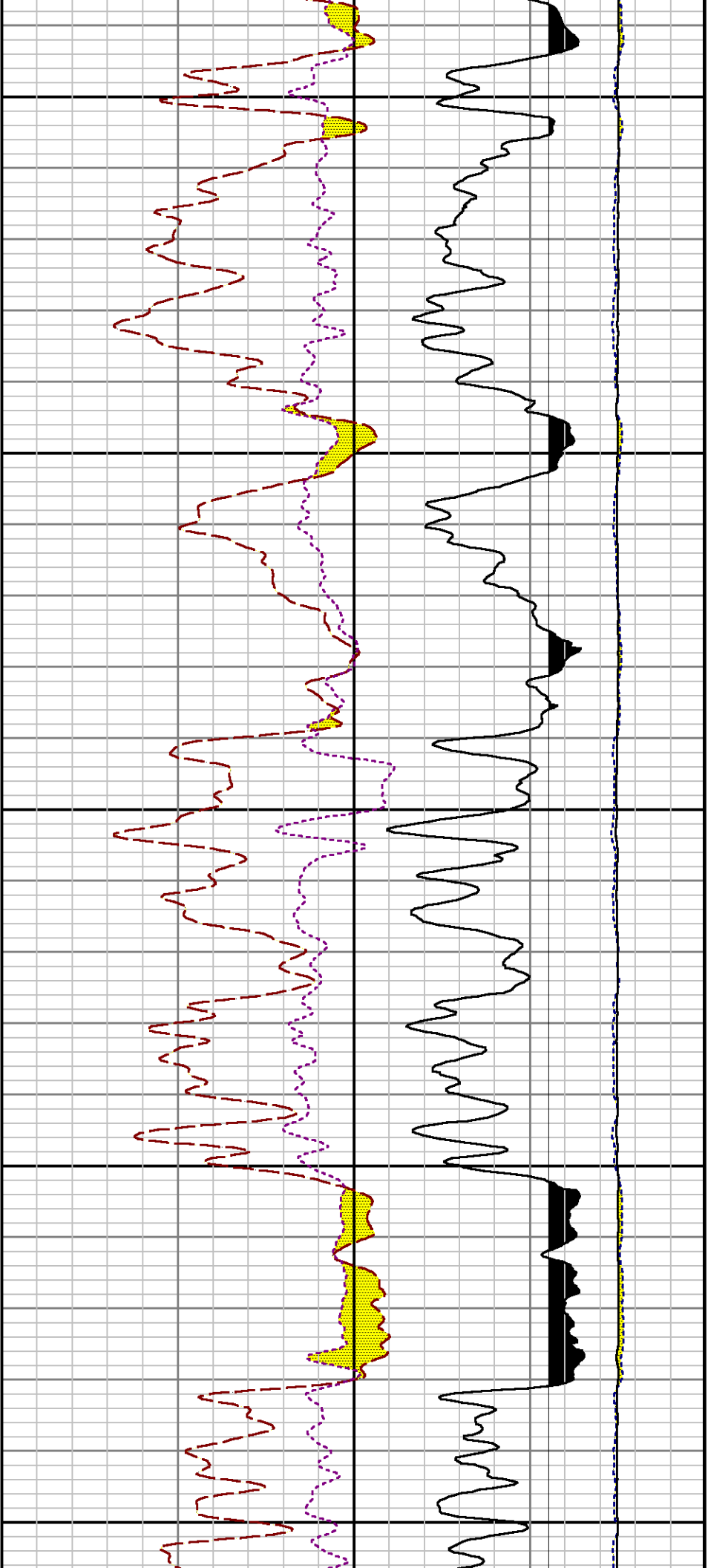


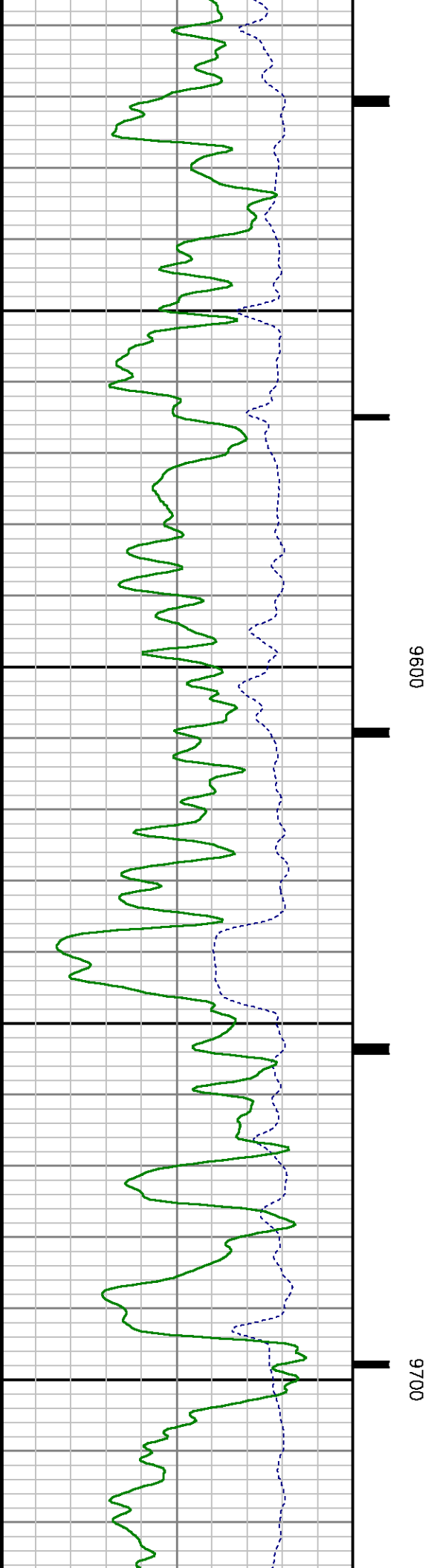
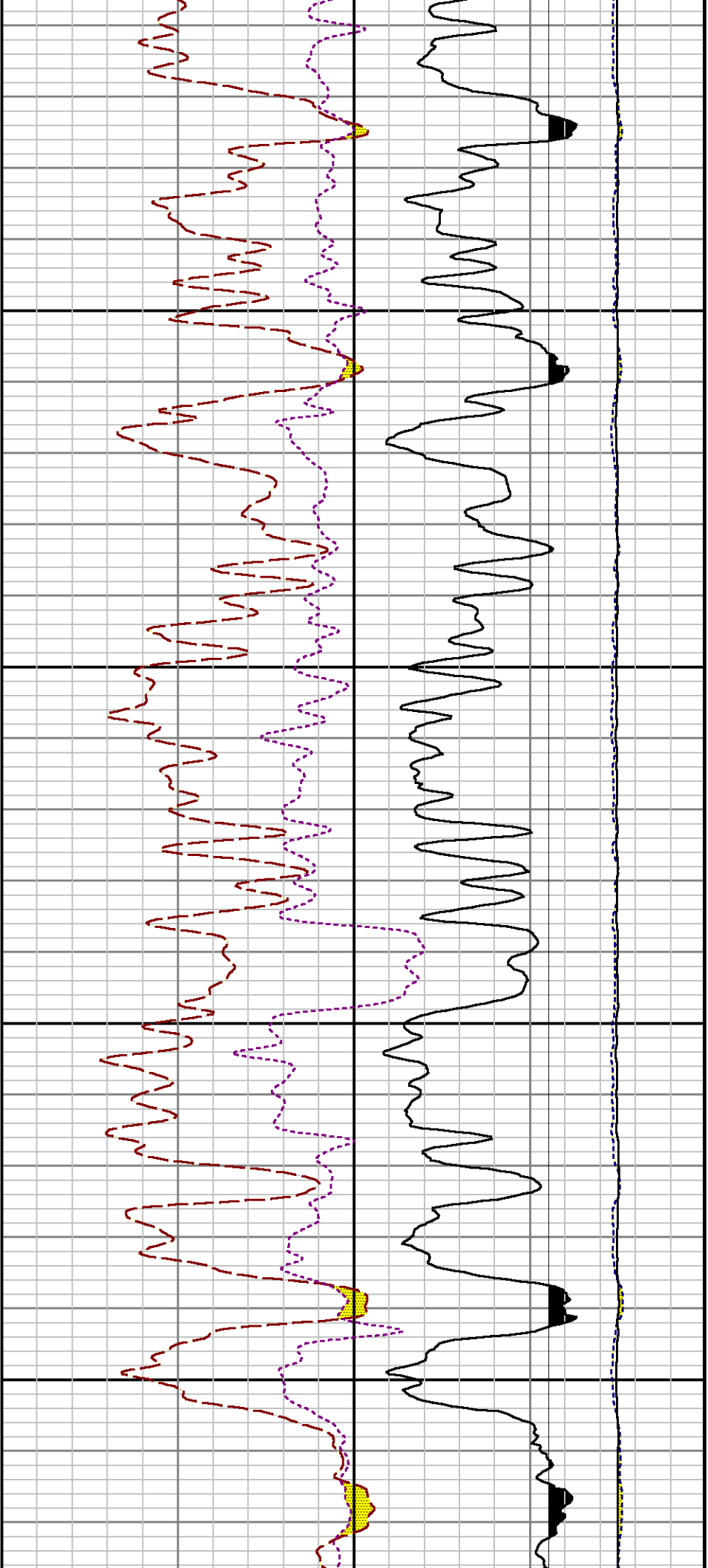


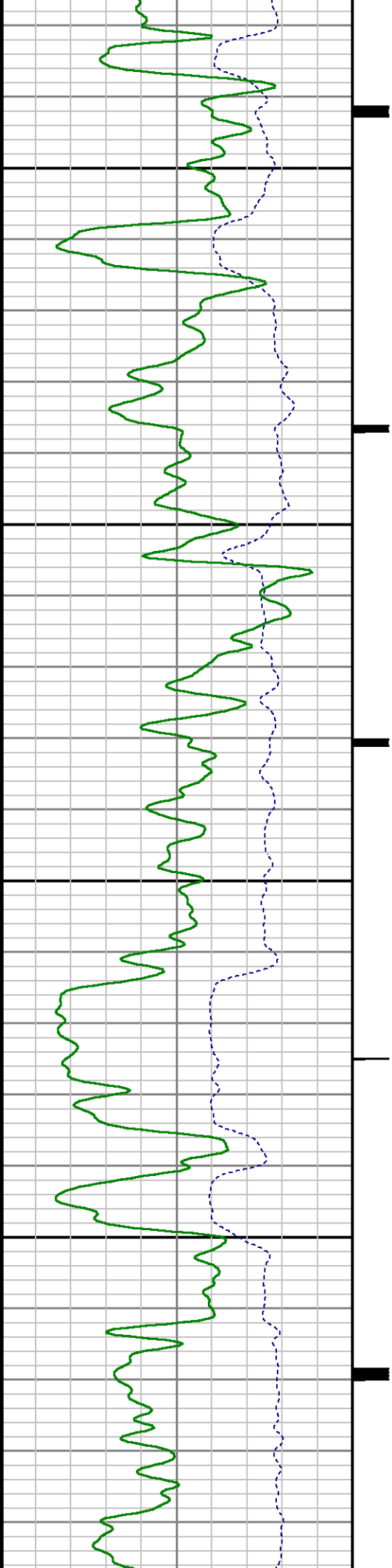
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9200



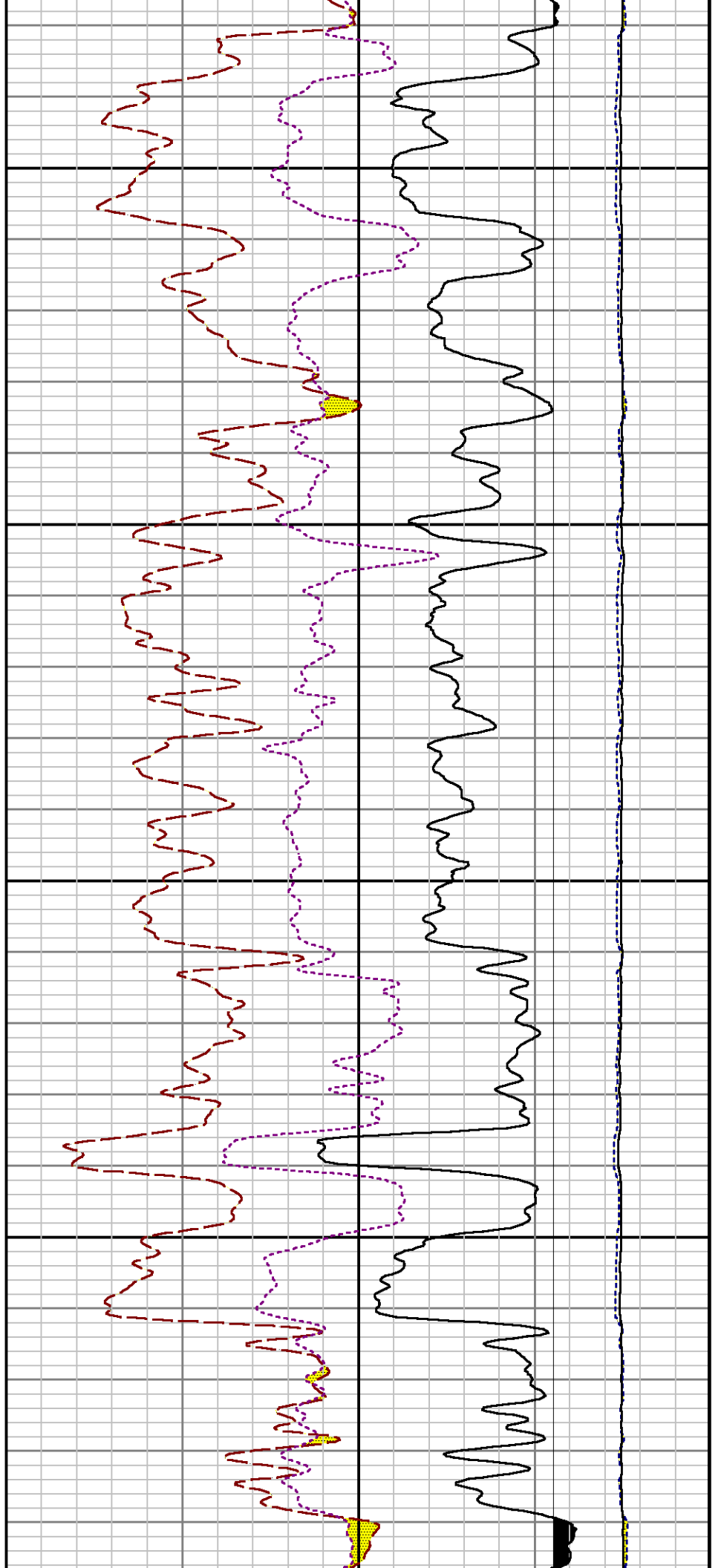


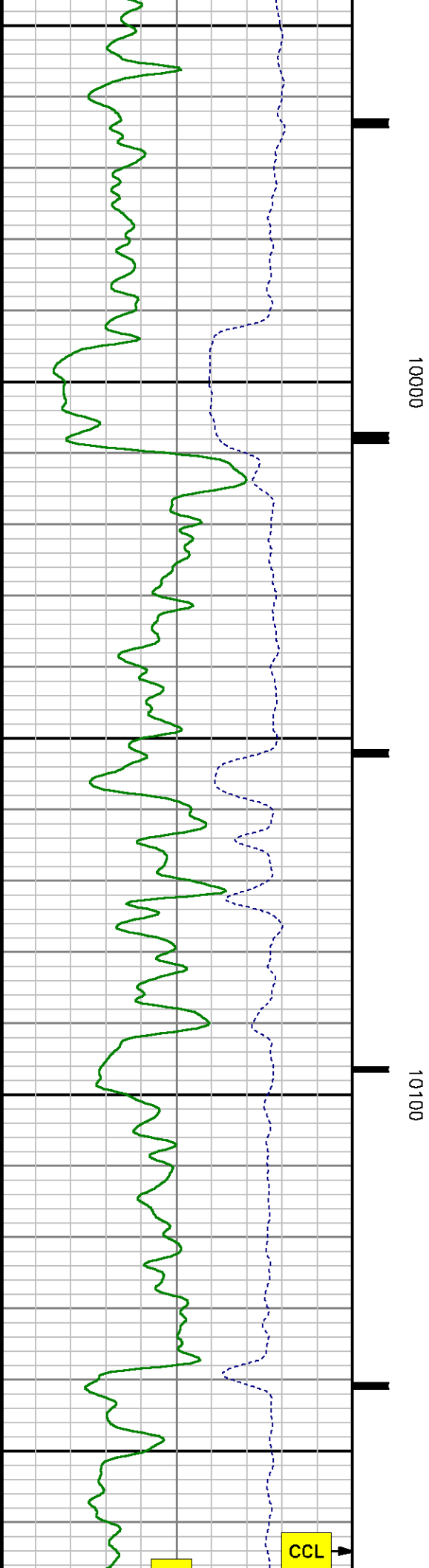
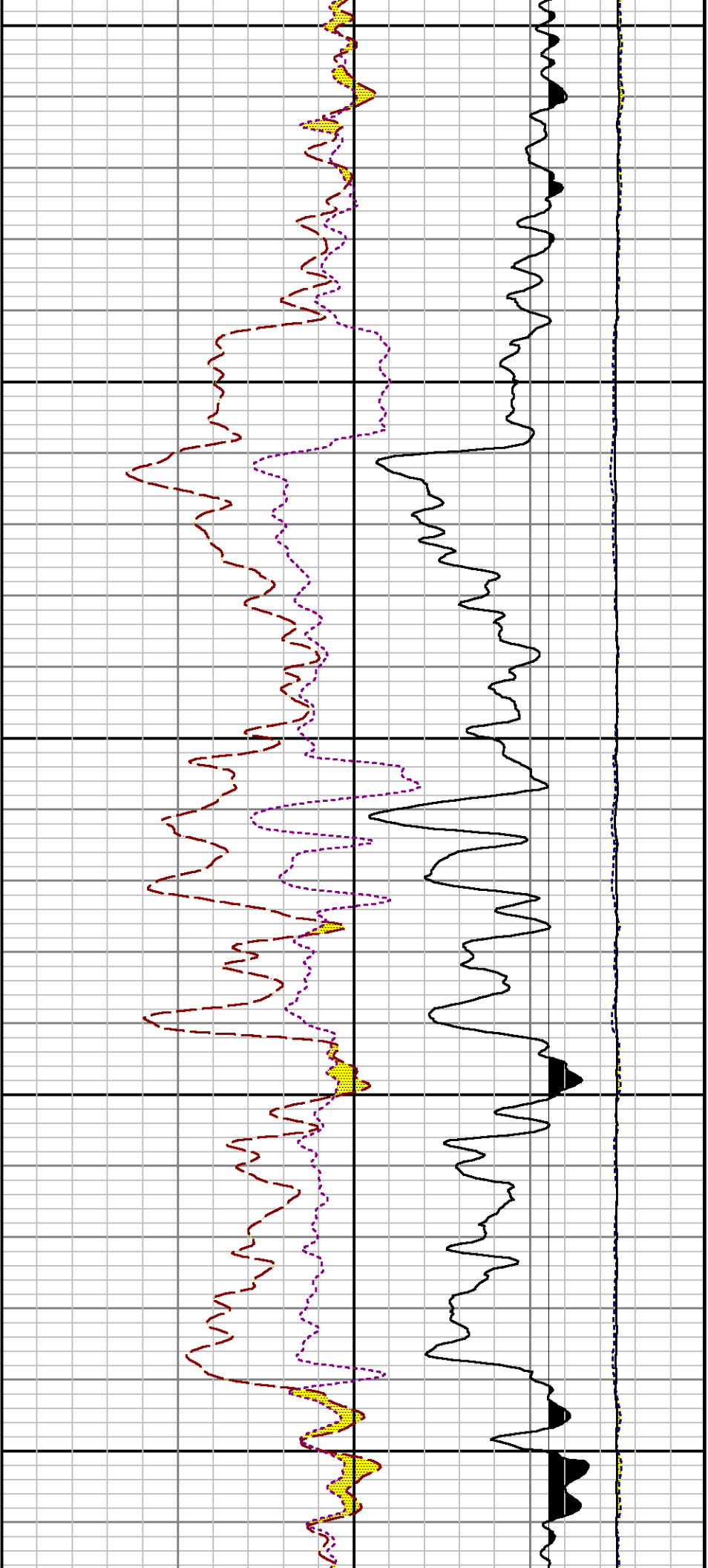


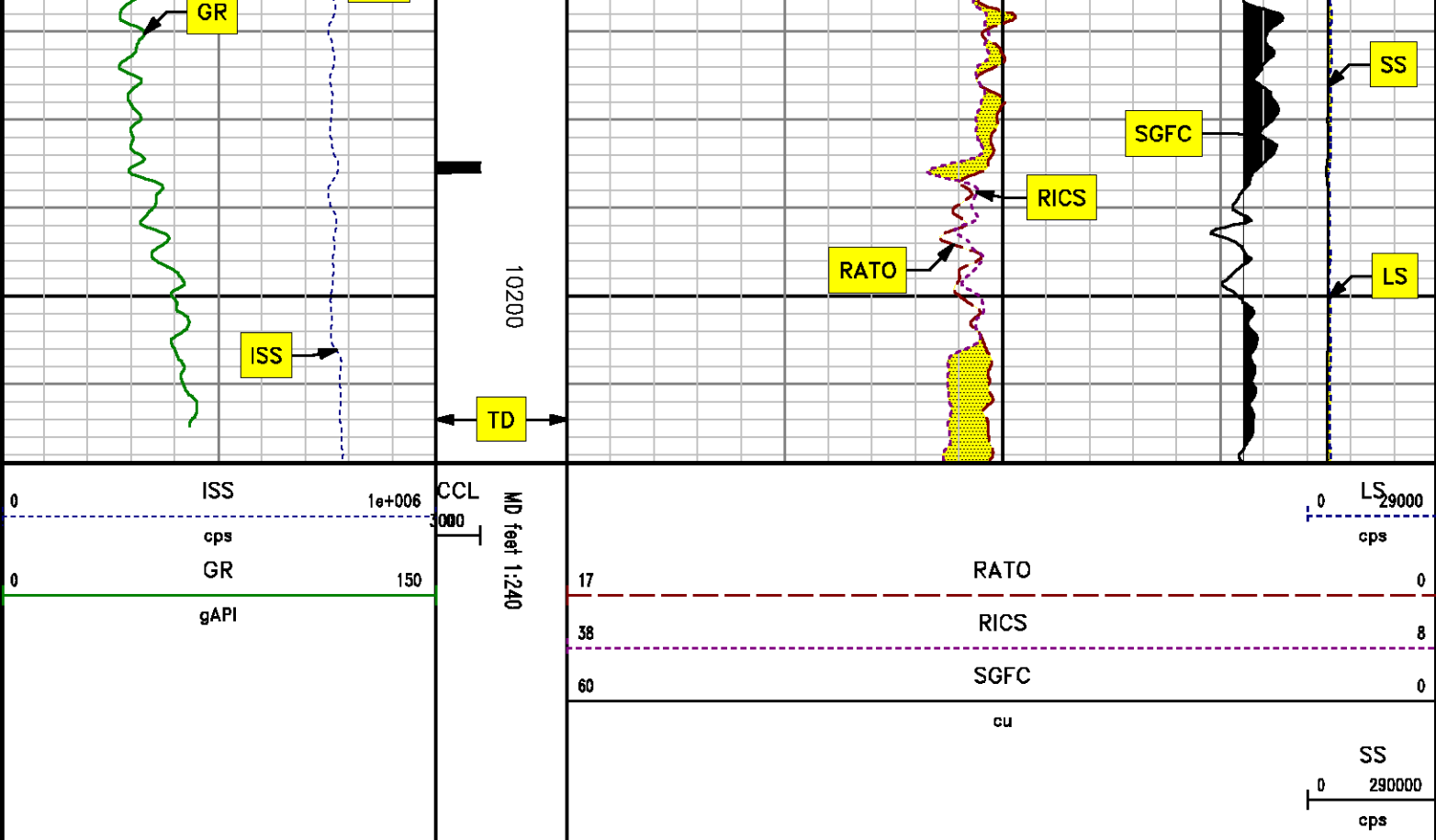


0086

0066







REPEAT SECTION PNC 3-D MODE

SPL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | TOP | BOTTOM |
|------------------|---------------|----------------|-------|----------|----------|
| PNC Porosity | Borehole | Cased | | 9370.660 | 9695.097 |
| PNC Porosity | Borehole Size | 8.750 | inch | 9370.660 | 9695.097 |
| PNC Porosity | Casing Size | 4.500 | inch | 9370.660 | 9695.097 |
| PNC Porosity | Gas Filled | Non Gas Filled | | 9370.660 | 9695.097 |
| PNC Porosity | Matrix | Sandstone | | 9370.660 | 9695.097 |

DEPTH OFFSETS

(feet and inches)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES | | | | | |
|--------|--------------|-----------------|---------|--------|--------|--------|---------|
| 8248ED | -14.478 | FLTM | | | | | |
| 8248ED | -12.478 | CCL | CHV | | | | |
| 2812LA | -9.928 | 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 |
| | | RICXC | RIN13C | RIN23 | RIN23C | SD3D | SG3D |
| | | SGB3 | SGF3 | WDTH3 | CXSR | IXSR | XSR |
| | | RICXR | | | | | |
| | | HVC2Q0 | SEQ2 | AMA2 | AMB2 | AMF2 | AML2 |
| | | BKL | CHF2 | CLS | CPT2Q0 | CPT2Q2 | CPT2Q3 |
| | | CPT2Q4 | ET2 | ILS | LS | MCS2 | MCS2Q0 |
| | | QCAL2 | RGN2 | RICL | RONE23 | RTW023 | SDA2 |
| 8281XA | 0.000 | SDL2 | SGA2 | SGB2 | SGF2 | SGK2 | SGL2 |
| | | STA2 | ASPEC2 | ILSC | ILSN | WDTH2 | RICLC |
| | | CLSR | ILSR | LSR | RICLR | | |
| | | 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 |
| SYSTEM | 0.000 | 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 |
| SYSTEM | 0.000 | RBORR | RICSR | RINR | RIN13R | RONER | RPORR |
| | | RTWOR | | | | | |
| SYSTEM | 0.000 | TEN | TEN | TEN | TEN | TEN | TEN |

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

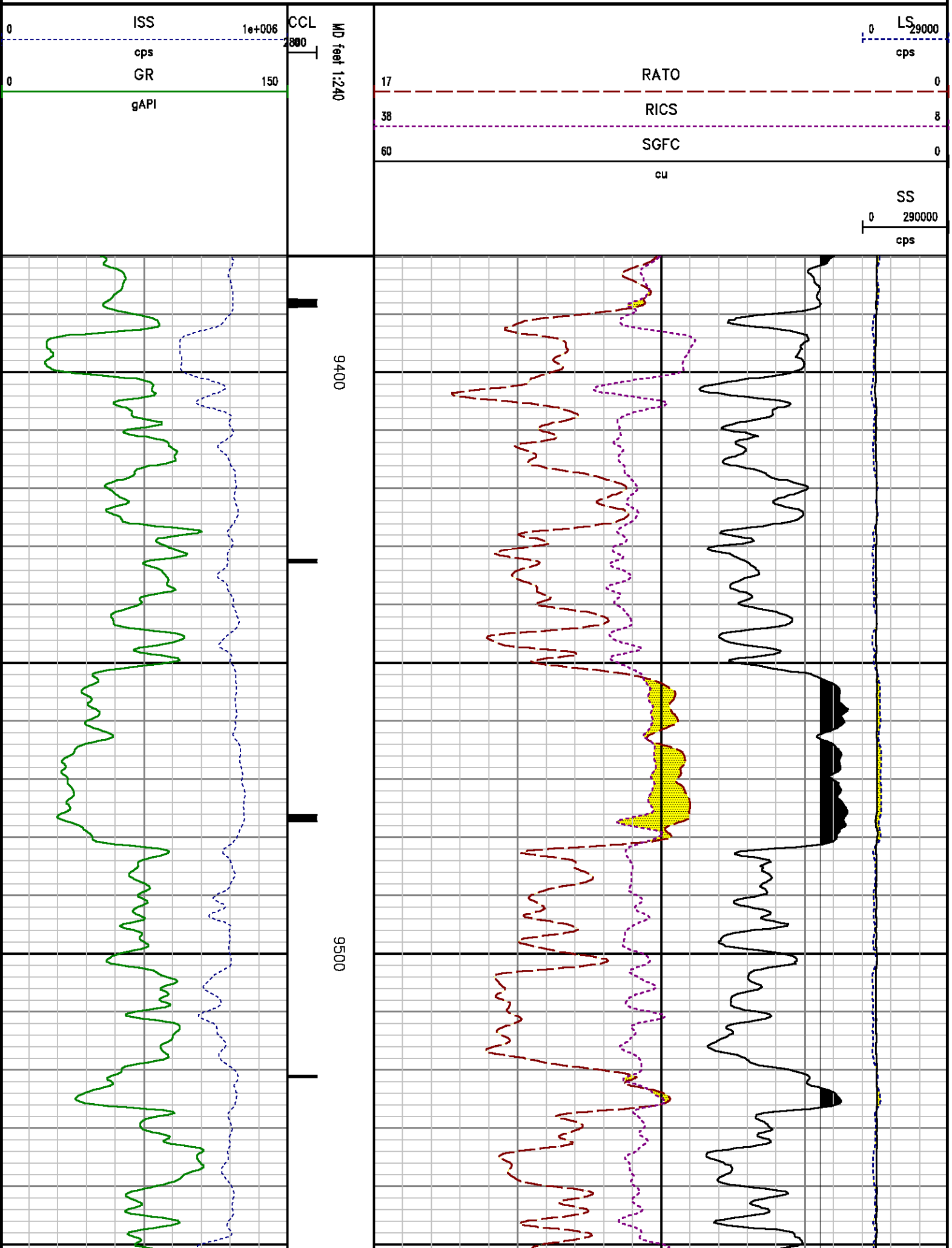
Company : WPX ENERGY

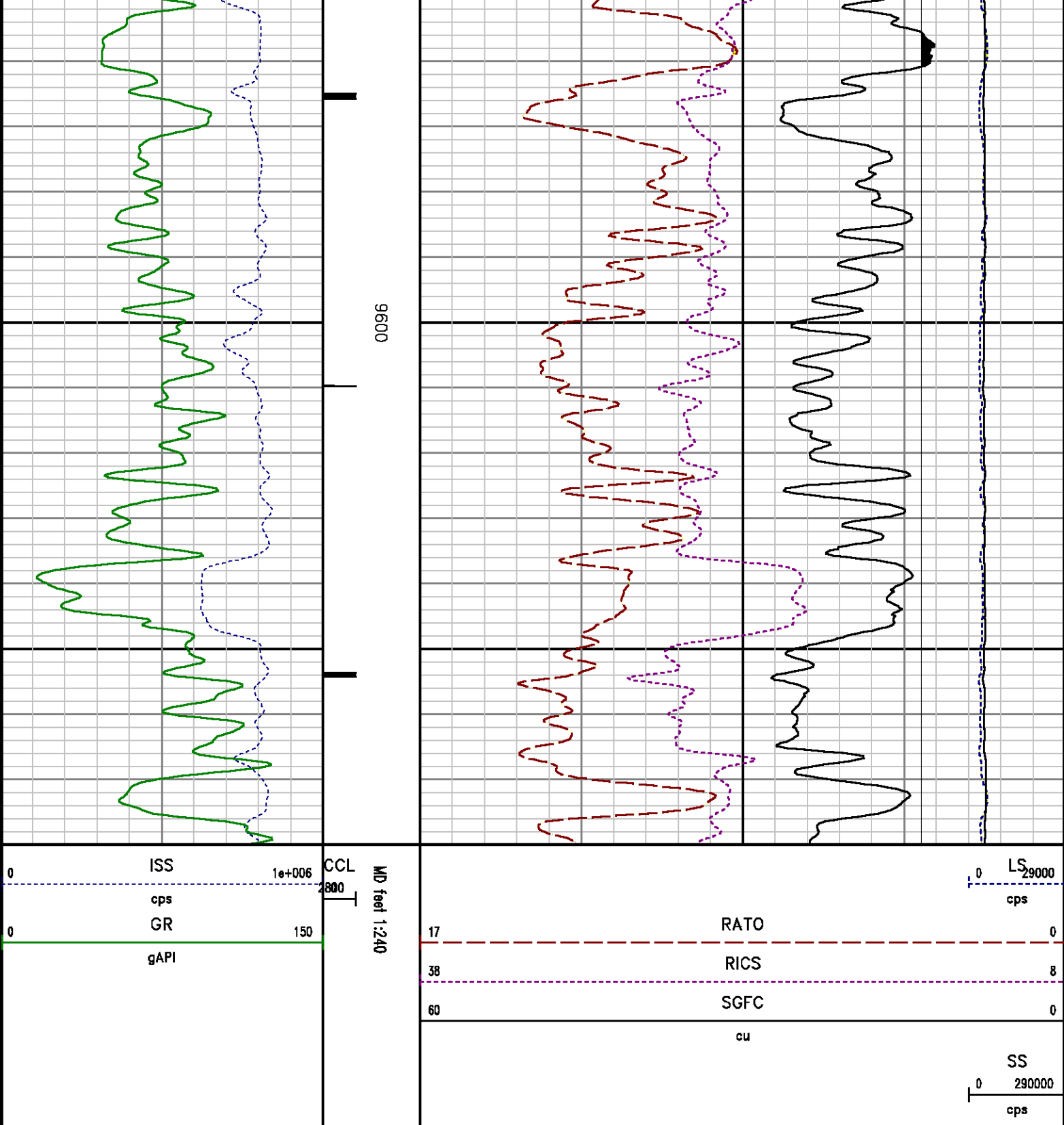
Well : FEDERAL RU 13-5

File Name : d:\welldata\wp\ federal ru 13-5\rpm13\repeat.xtf

Mode : PlotMgr 5.4.504

Interval : 0.750 00 - 0.650 00 feet UP





CALIBRATION SUMMARY

GAMMA RAY

GAMMA RAY

Calibration File: C:\case\calver\GR\38512.cal

CALIBRATION SUMMARY

| | | | | | | | | |
|---|---------------------|------------------------|---------------------|---------------------|------------------------|-----------------------|---------|--|
| DATE/TIME PERFORMED: Thu Dec 12 11:59:28 2013 | | | TOOL SERIES: 2812LA | | ASSET: 385 | | SEQ: 12 | |
| Calibrator # | Background [cps] | Calibrator On [cps] | Multiplicative | Background [api] | Calibrator On [api] | Differential [api] | | |
| S2K WA-612 | 64.62 | 298.40 | 0.898 | 58.05 | 268.05 | 210.00 | | |

Verification File: C:\case\calver\GR\38512.VP

PRIMARY VERIFICATION

| | | | | | | | | |
|---|---------------------|------------------------|---------------------|---------------------|------------------------|-----------------------|---------|--|
| DATE/TIME PERFORMED: Thu Dec 12 12:07:31 2013 | | | TOOL SERIES: 2812LA | | ASSET: 385 | | SEQ: 12 | |
| Calibrator # | Background [cps] | Calibrator On [cps] | Multiplicative | Background [api] | Calibrator On [api] | Differential [api] | | |
| S2K WA-612 | 64.02 | 300.02 | 0.898 | 57.51 | 269.51 | 212.00 | | |

PNC

Calibration File: C:\case\calver\PNC\23112.cal

PNC 3D CALIBRATION SUMMARY

| | | | | | | | | |
|---|--|--|---------------------|--|------------|--|---------|--|
| DATE/TIME PERFORMED: Thu Dec 12 10:41:14 2013 | | | TOOL SERIES: 8281XA | | ASSET: 231 | | SEQ: 12 | |
|---|--|--|---------------------|--|------------|--|---------|--|

Calibrator #

2437XB 112674

Source #

8281AA 11724361

| | ISS | Mtr Vlt (V) | SS Gain | LS Gain | XLS Gain | EA Temp (degF) | Sync Delay (usec) | RCAL |
|--------------|---------|----------------|---------|---------|----------|-------------------|----------------------|--------|
| Raw Data | 811900 | 120.00 | 2267.00 | 2286.00 | 2288.00 | 99.68 | 7.00 | 0.9602 |
| Interpolated | 1300000 | 142.37 | 2244.93 | 2279.67 | 2285.27 | | | |

| | ISS | BKS | BKL | BKX | SGA1 | SDA1 | SGA2 | SDA2 |
|----------|--------|---------|---------|--------|-------------|-----------|-------------|-----------|
| Raw Data | 811900 | 7055.65 | 1066.31 | 144.49 | 25.87 | 0.14 | 24.13 | 0.28 |
| | | | | | 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 | 811900 | 172191.48 | 26448.88 | 91491.49 | 32544.21 | 8342.89 | 55348.96 | 13362.00 |
| Fit Quality % | | 1.37 | 1.57 | 1.11 | 1.12 | 1.50 | 0.98 | 1.52 |

| | ISS | RBOR | RIN ISS/ILS | RIN13 ISS/IXS | RICS ISS/CSS | RATO SS/LS | RTWO SS2/LS | RONE CSS/CLS |
|----------|--------|------|----------------|------------------|-----------------|---------------|----------------|-----------------|
| Raw Data | 811900 | 1.43 | 4.72 | 30.70 | 14.67 | 10.97 | 3.90 | 4.14 |

Raw Data

Fit Quality %

Reduced

| | | | | | | | | | | | | | | |
|---------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| 811588 | 1.43 | | 4.72 | | 30.78 | | 14.97 | | 10.97 | | 3.58 | | 4.14 | |
| | 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 |
| | 0.00 | | 0.03 | | 0.11 | | 0.19 | | 0.26 | | 0.26 | | 0.28 | |
| 1392104 | 1.43 | | 4.73 | | 30.86 | | 14.73 | | 10.98 | | 3.90 | | 4.14 | |
| | 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 |

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

SONDEX GAMMA RAY

Series 2812LA
 Mnemonic SNDX
 Diameter 1.69"

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

29.93'

CCL MP 21.84'

MP 19.40'

XLS DETECTOR 12.78'

LS DETECTOR 9.80'
 SS DETECTOR 9.58'

Total Length: 29.93'
Total Weight: Not Available
Max Diameter: 0' 1.70"



Baker Atlas



| | | | |
|---------|-----------------|-------|----|
| Company | WPX ENERGY | | |
| Well | FEDERAL RU 13-5 | | |
| Field | RULISON | | |
| County | GARFIELD | State | CO |

| |
|----------------|
| File No: |
| CH80984 |
| API No: |
| 05045217690000 |

Location

SHL: 228' FNL & 2606' FWL
BHL: 1242' FNL & 575' FWL

Elevations

KB 7628 ft
DF
GL 7602 ft

5 7S 93W
RU 23-5 PAD
NABORS 576

SEC 5 TWP 7S RGE 93W