



Baker Atlas

RESERVOIR PERFORMANCE MONITOR

File No: **Company** **WPX ENERGY**

CH091482 **Well** **AP 323-17-695**

API No: **Field** **PARACHUTE**

05045213840000 **County** **GARFIELD** **State** **CO**

17 6S 95W **Location**

AP 21-20-695 PAD SHL: 16' FNL & 2495' FWL (20 6S 95W)

NABORS 673 BHL: 2268' FSL & 2177' FWL (17 6S 95W)

SEC 17 TWP 6S RGE 95W

Other Services

BOND LOG

Permanent Datum GL Elevation 6909

Log Measured From KB 26 Above P. D.

Drill Measured From KB Elevations KB 6935 DF GL 6909

| | | |
|------------------------------|-----------------------|----------------|
| Date | 12/OCT/14 | |
| Run | ONE | |
| Service Order | US091482J | |
| Depth Driller | 9966 | |
| Depth Logger | 9940 | |
| Bottom Logged Interval | 9930 | |
| Top Logged Interval | 6142 | |
| Time Started | 17:30 | |
| Time Finished | 23:30 | |
| Operator Rig Time | 6 HOURS | |
| Type of Fluid in Hole | WATER | |
| Fluid Density | NA | |
| Salinity | NA | |
| Fluid Level | 80 | |
| Logged Cement Top | NA | |
| Wellhead Pressure | 0 | |
| Maximum Hole Deviation | NA | |
| Nominal Logging Speed | 10 | |
| Maximum Recorded Temperature | 266 | |
| Reference Log | BAKER HUGHES BOND LOG | |
| Reference Log Date | 12/OCT/14 | |
| Equipment No. | Location | GRAND JUNCTION |
| Recorded By | FLYND RENEAU | |
| Witnessed By | GRAN JACOBS | |

- 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 | 0 | 2625 |
| 8.75 | 2625 | 9966 |

| Casing Record | | | | |
|---------------|--------|-------|------|------|
| Size | Weight | Grade | From | To |
| 9.625 | | | 0 | 2625 |
| 4.5 | 11.6 | 1-80 | 0 | 9966 |

| Remarks |
|---|
| All data on this log is shifted and depth matched using the Gamma Ray curve to the Baker Hughes bond log dated 12/OCT/2014 at the client's request. |
| The depth matching process creates potential for collar lengths to vary from those recorded on other cased hole wireline units without a Gamma Ray reference. |
| The amount of linear shift is 3 feet. |

Logged in PNC-3D mode.

BHT = 266 °F

SJ = 6560' - 6583'

| Equipment Data | | | | | |
|----------------|------|---------|---------------|---------------|----------|
| Run | Trip | Tool | Series Number | Serial Number | Position |
| 1 | 1 | PCM | 8250EA | 10397894 | FREE |
| 1 | 1 | TEL/CCL | 8248ED | 10296408 | FREE |
| 1 | 1 | GR | 2812LA | 10274382 | FREE |
| 1 | 1 | RPM | 8281EA | 10273848 | FREE |
| 1 | 1 | RPM | 8283PA | 10585555 | FREE |
| 1 | 1 | RPM | 8281FA | 10191667 | FREE |
| 1 | 1 | TEMP | 8255XA | 2120516 | FREE |

MAIN SECTION
PNC 3-D MODE

SPL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | TOP | BOTTOM |
|------------------|--------------------------|----------------|-------|----------|----------|
| PNC Porosity | Borehole | Cased | | 6125.624 | 9951.905 |
| PNC Porosity | Borehole Size | 8.750 | inch | 6125.624 | 9951.905 |
| PNC Porosity | Casing Size | 4.500 | inch | 6125.624 | 9951.905 |
| PNC Porosity | Gas Filled | Non Gas Filled | | 6125.624 | 9951.905 |
| PNC Porosity | Matrix | Sandstone | | 6125.624 | 9951.905 |
| TPS Pressure | Temperature Corr. Source | Fixed (72.00) | degF | 6125.624 | 9951.905 |

DEPTH OFFSETS
(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES |
|--------|--------------|-----------------|
| 8248ED | -26.519 | FLTM |
| 8248ED | -24.519 | CCL CHV |

| | | |
|--------|---------|--|
| 2812LA | -21.969 | GR |
| 8281XA | -12.702 | 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 RATO23 RICXC RIN13C RIN23 RIN23C SD3D SG3D SGB3 SGF3 WDT3 CXSR IXSR XSR RICXR |
| 8281XA | -12.291 | HVC2Q0 SEQ2 AMA2 AMB2 AMF2 AML2 BKL CHF2 CLS CPT2Q0 CPT2Q2 CPT2Q3 CPT2Q4 ET2 ILS LS MCS2 MCS2Q0 QCAL2 RGN2 RICL RONE23 RTWO23 SDA2 SDL2 SGA2 SGB2 SGF2 SGK2 SGL2 STA2 ASPEC2 ILSC ILSN WDT2 RICLC CLSR ILSR LSR RICLR |
| 8281XA | -12.041 | 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 RATO RATO13 RBOR RGN1 RICS RIN RONE RPOR RTWO RIN13 RONE13 RTWO13 SALB SC1 SDA1 SDL1 SGA1 SGB1 SGBS 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 H0C FE2XC ISSC RINC ISSN RDEN WDT1 RICSC CSSR G1R G2R ISSR SSR SS2R RATOR RATO13R RBORR RICSR RINR RIN13R RONE RPORR RTWOR |
| 8255XA | -0.792 | PTFS PTMS |
| 8255XA | -0.775 | SPF1 SPFQ TSCP TSDP |
| 8255XA | 0.000 | DTEM TEMP TNF |
| SYSTEM | 0.000 | TEN TTEN |

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

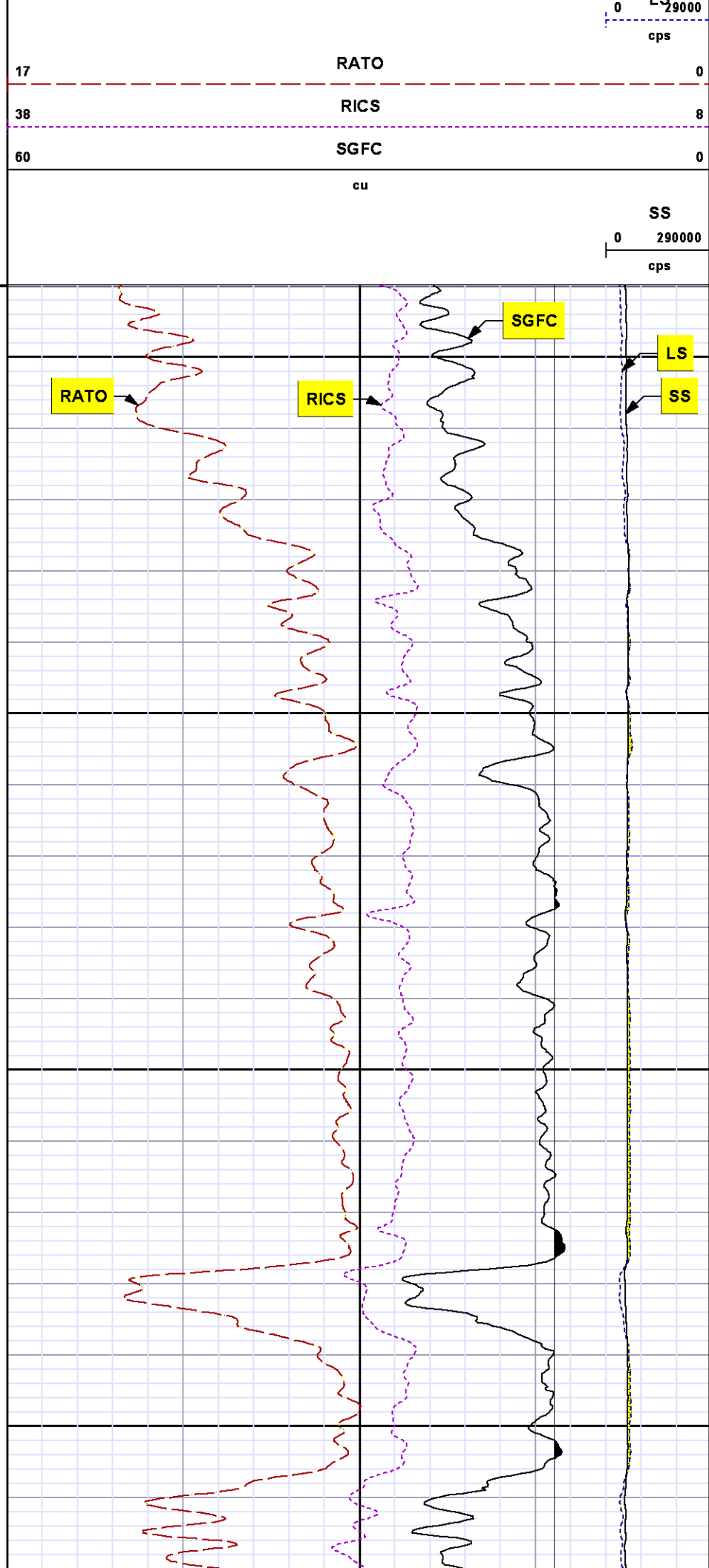
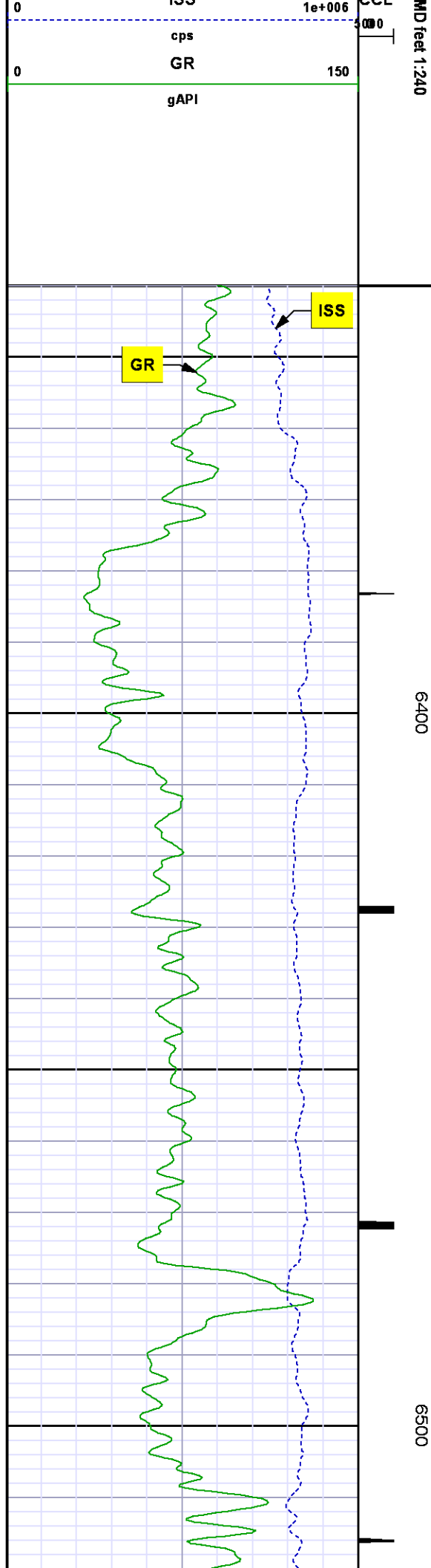
Well : AP 323-17-695

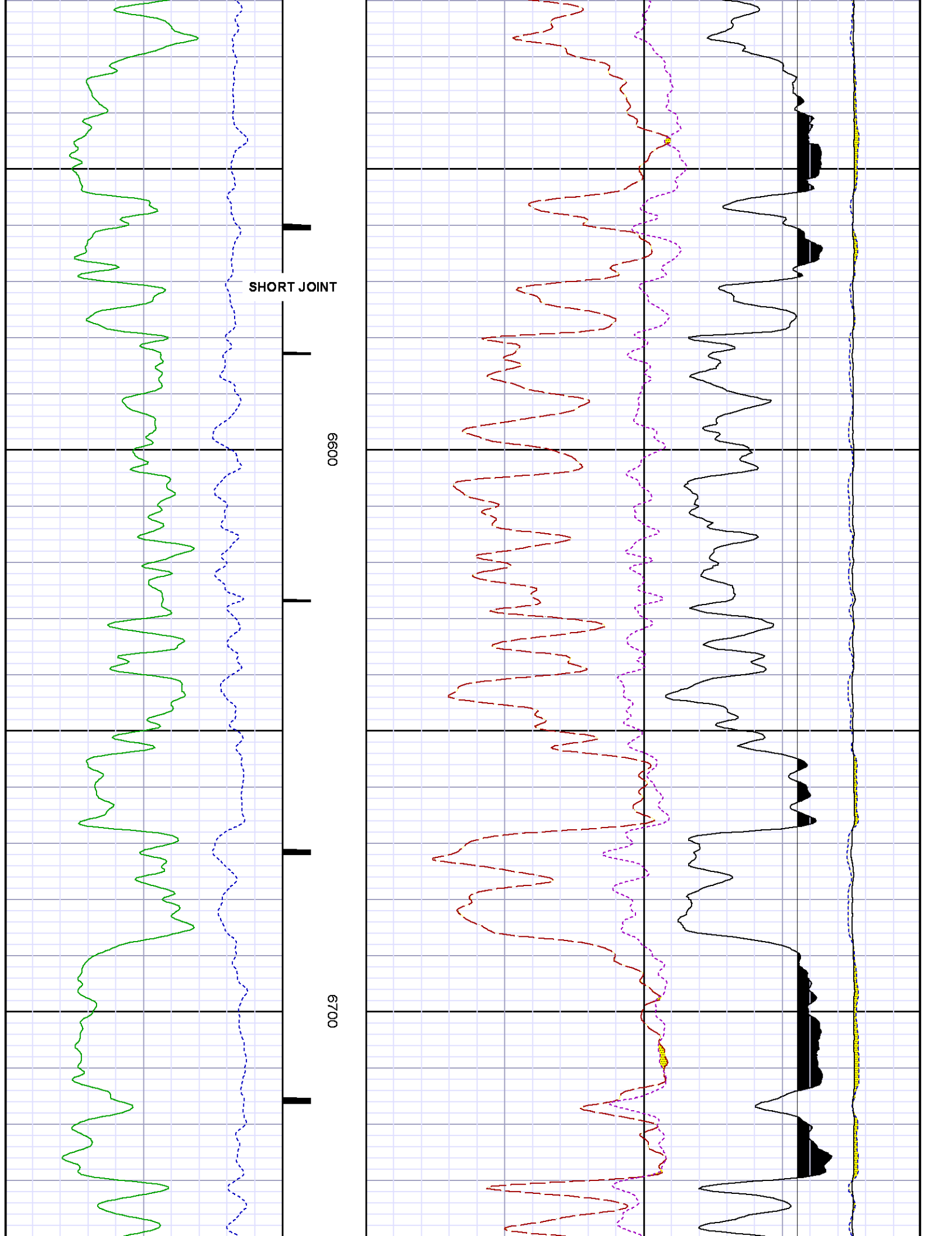
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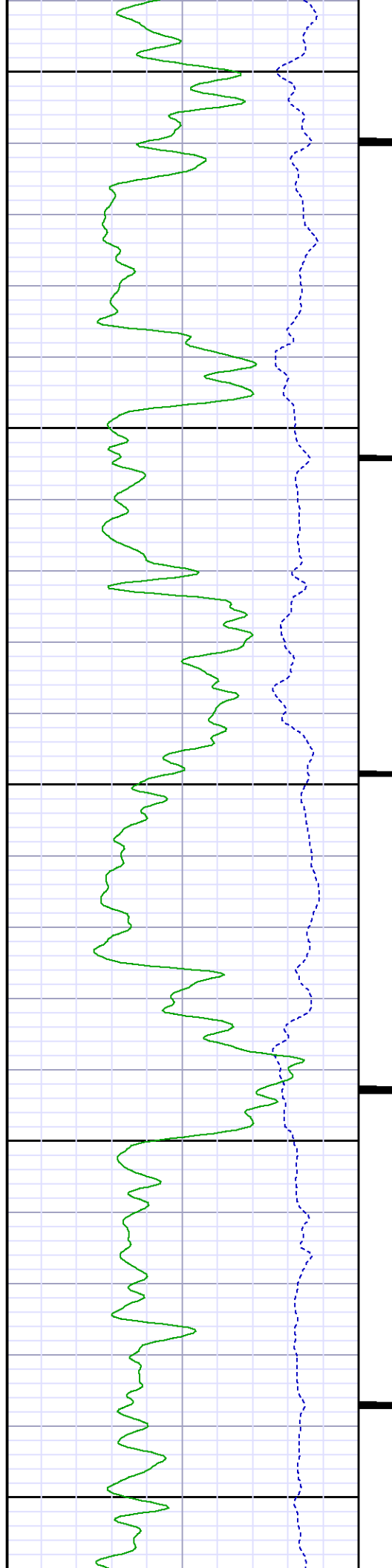
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Interval : 6340.00 - 9945.00 feet UP

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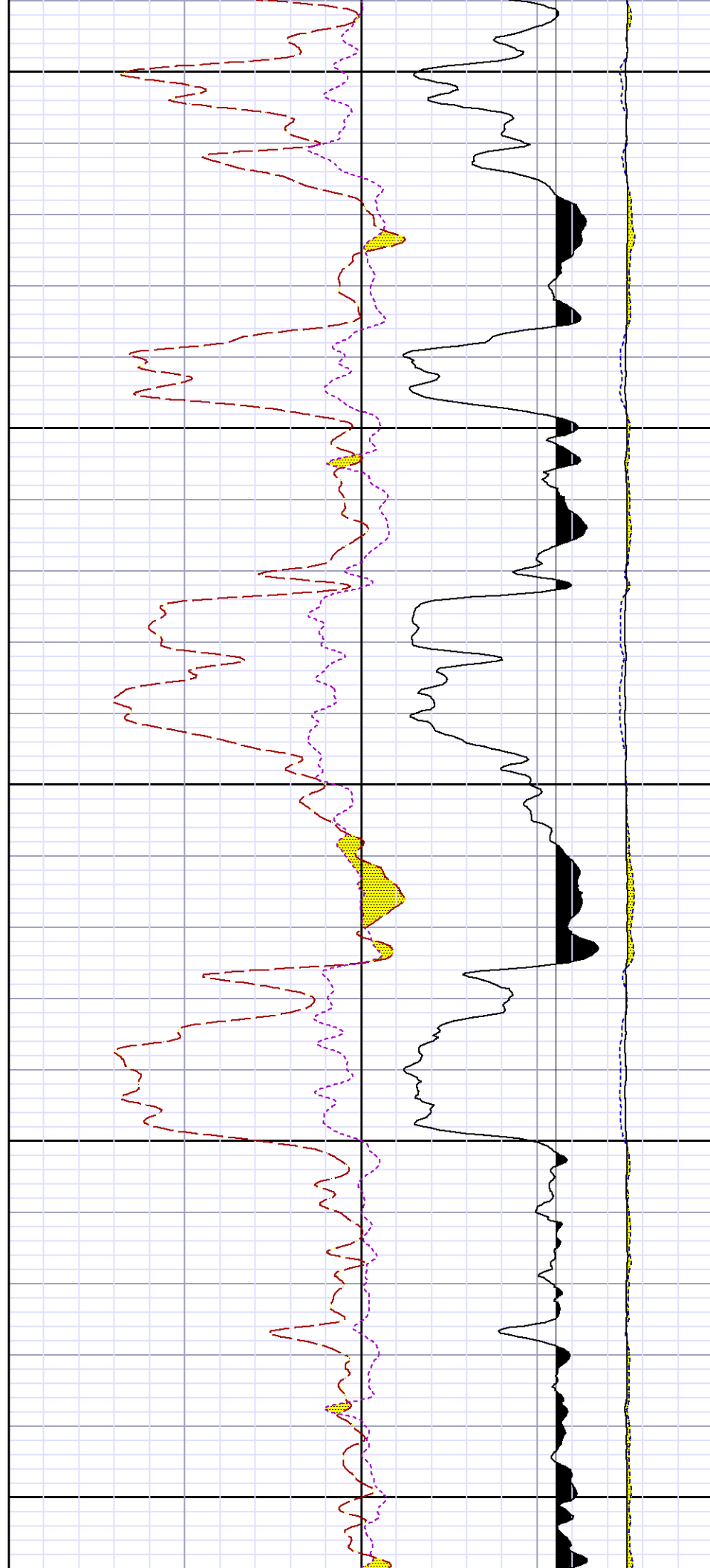


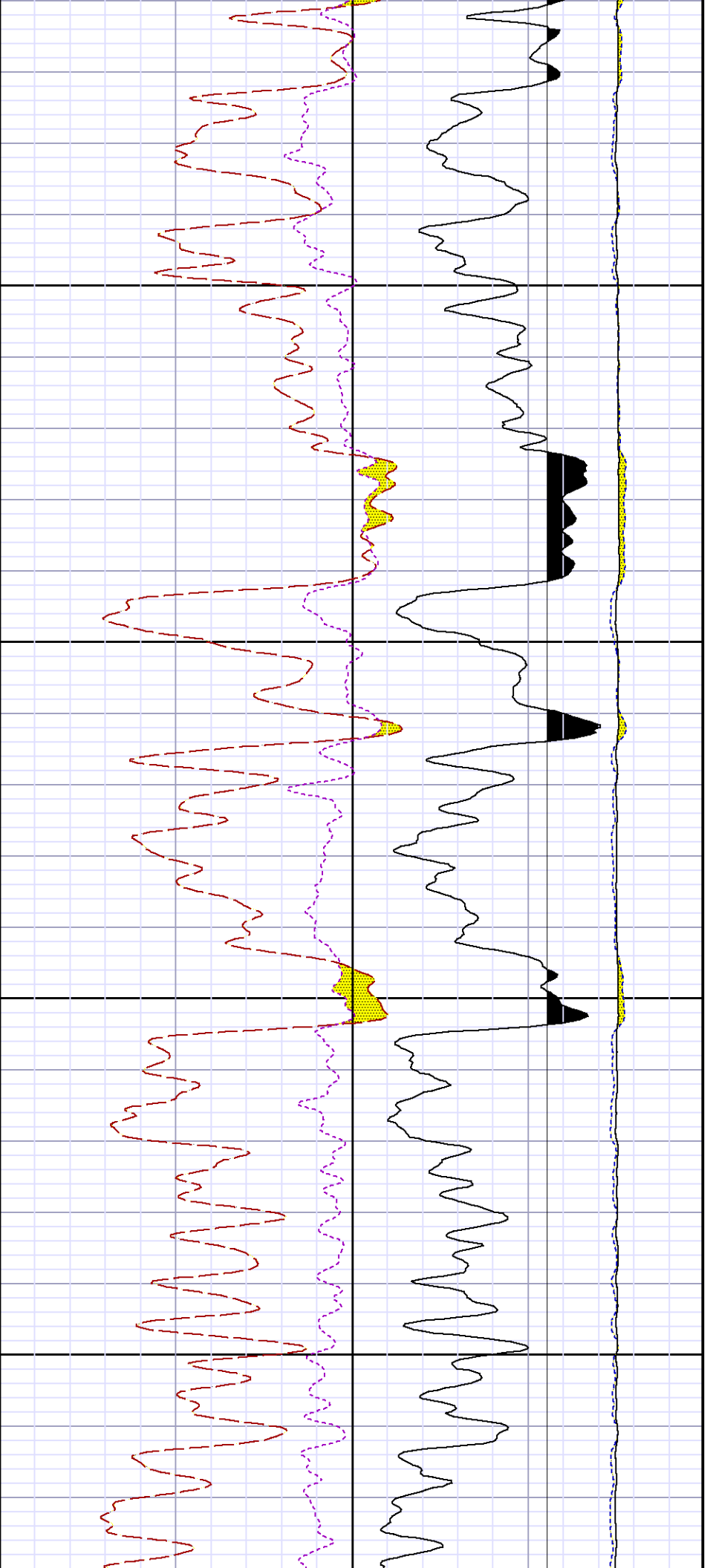




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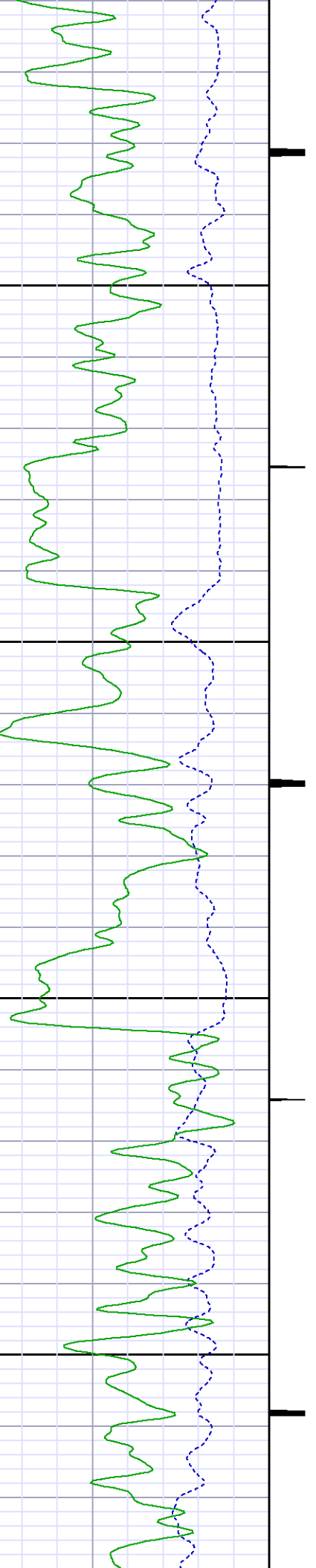
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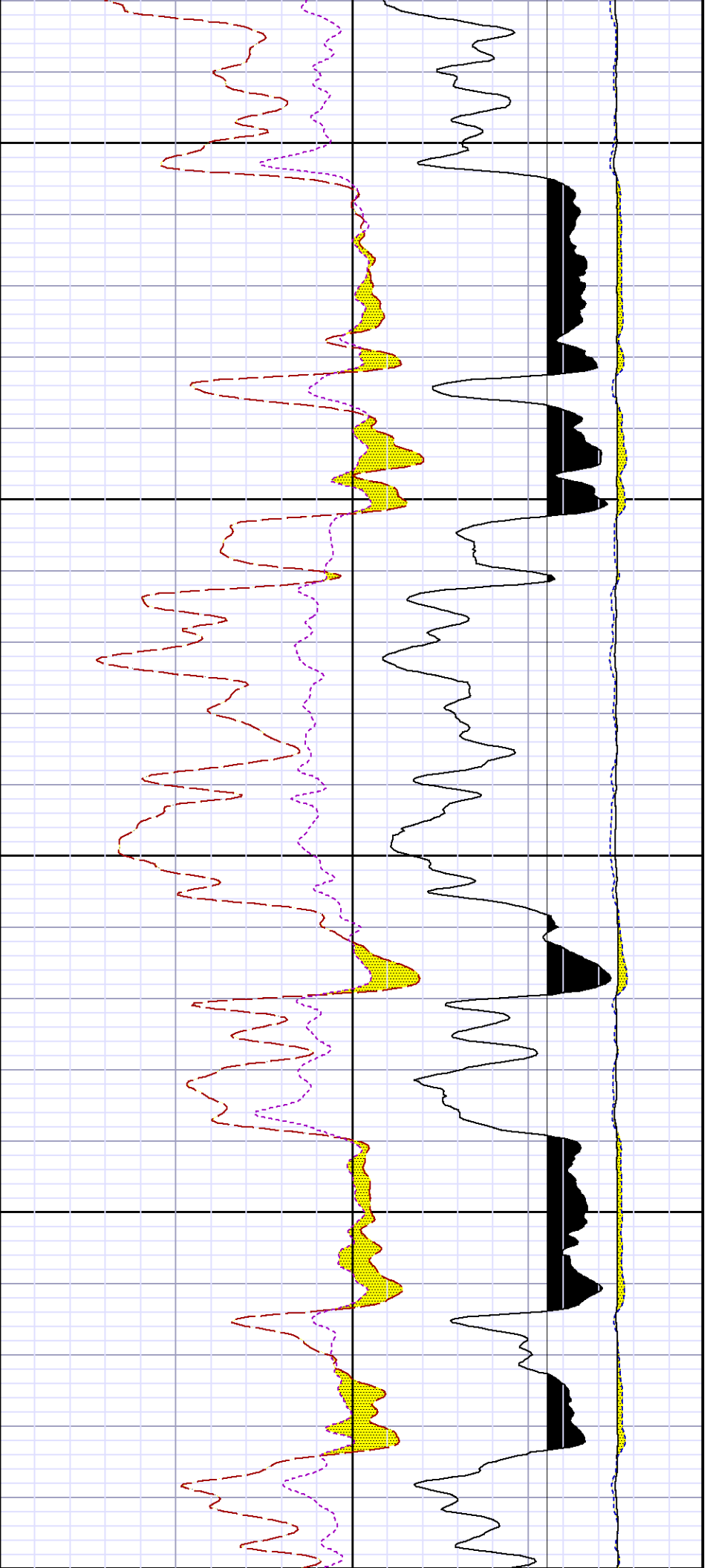




7000

7100

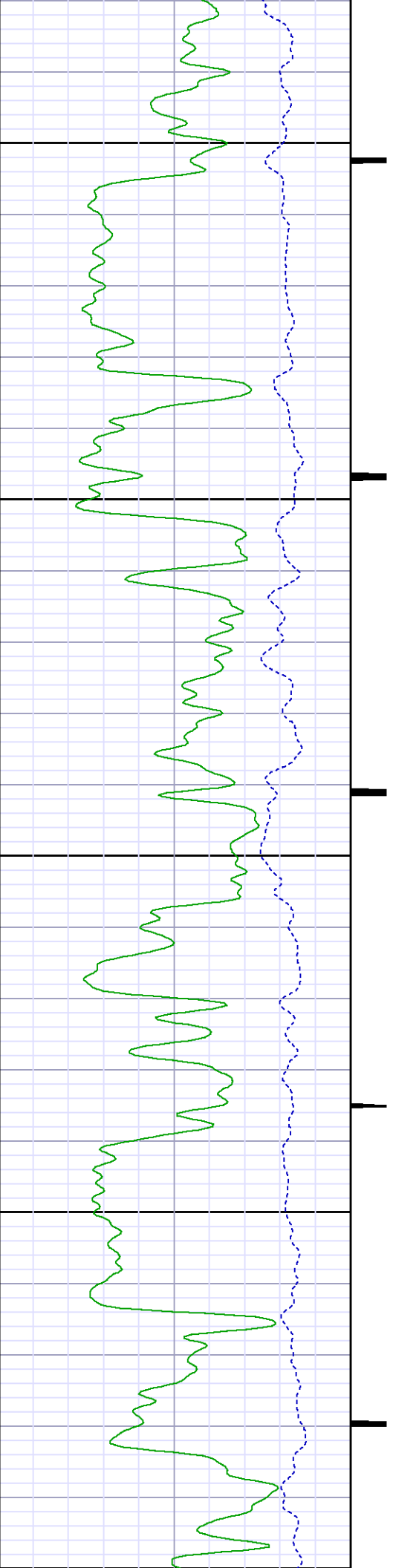


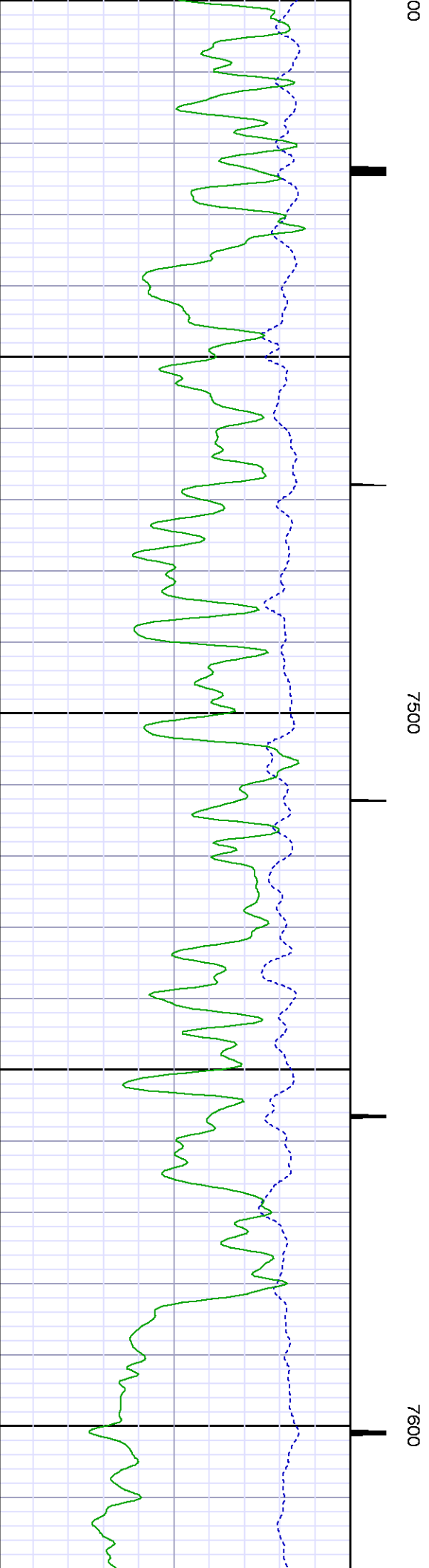
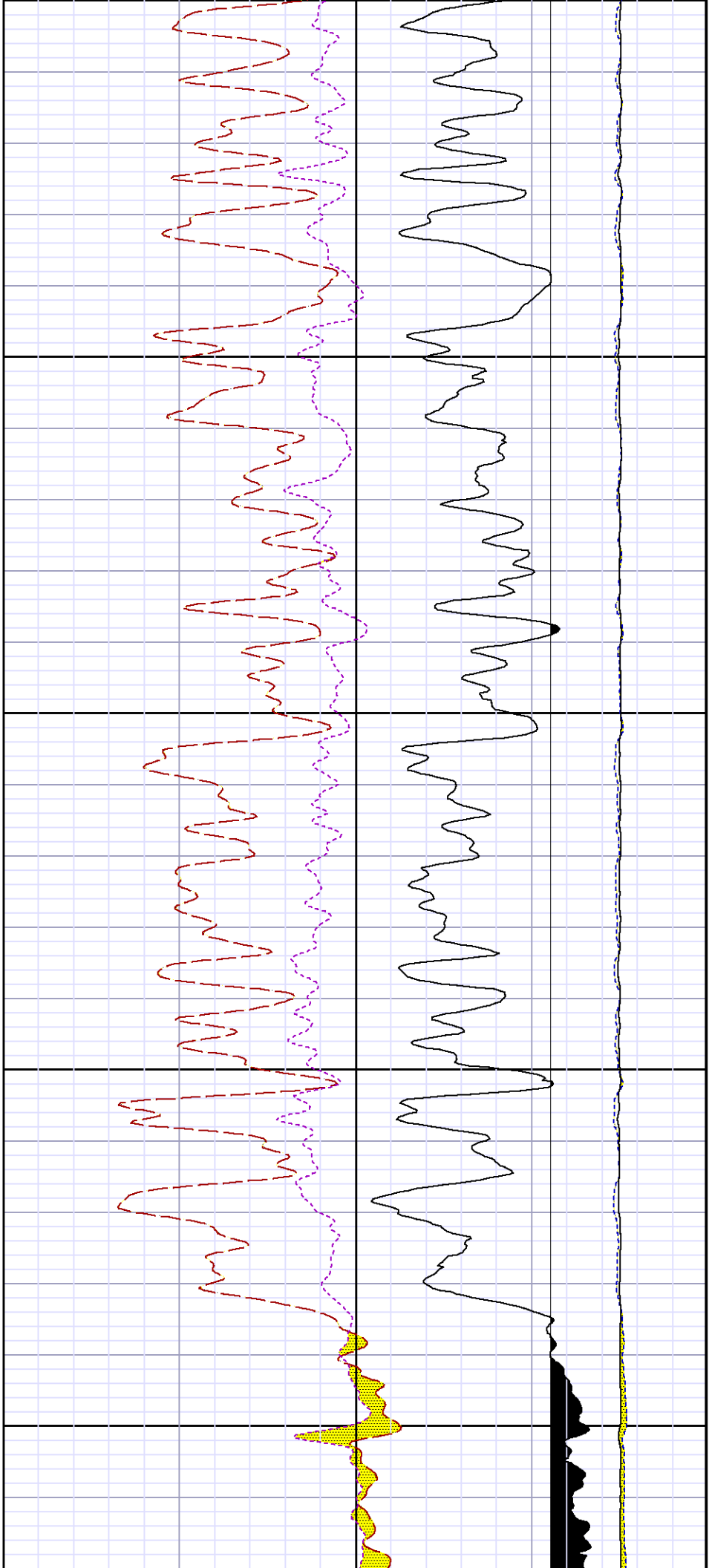


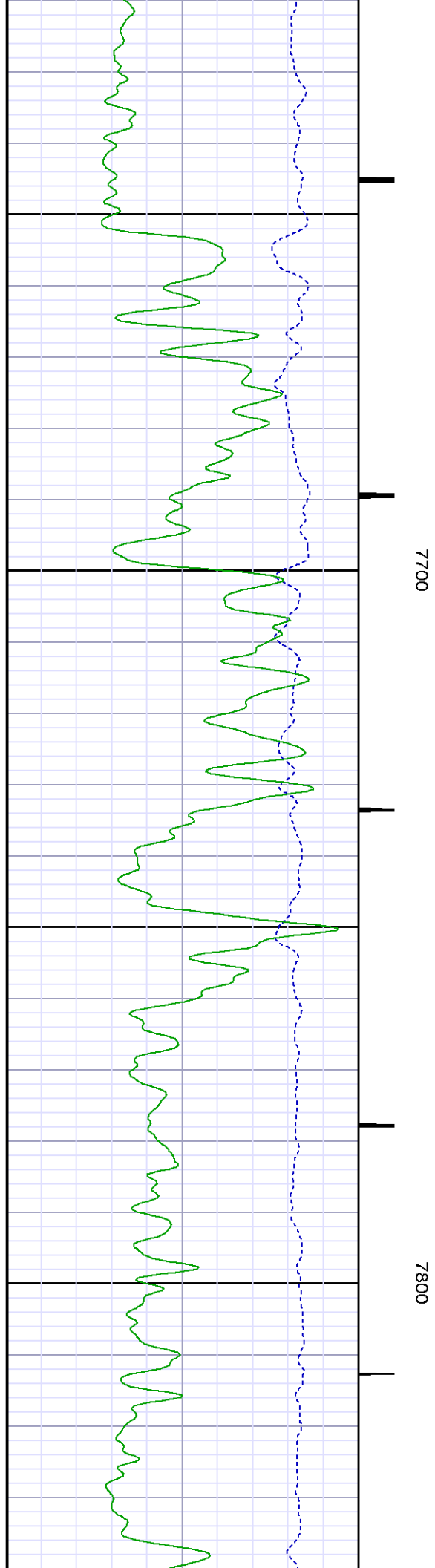
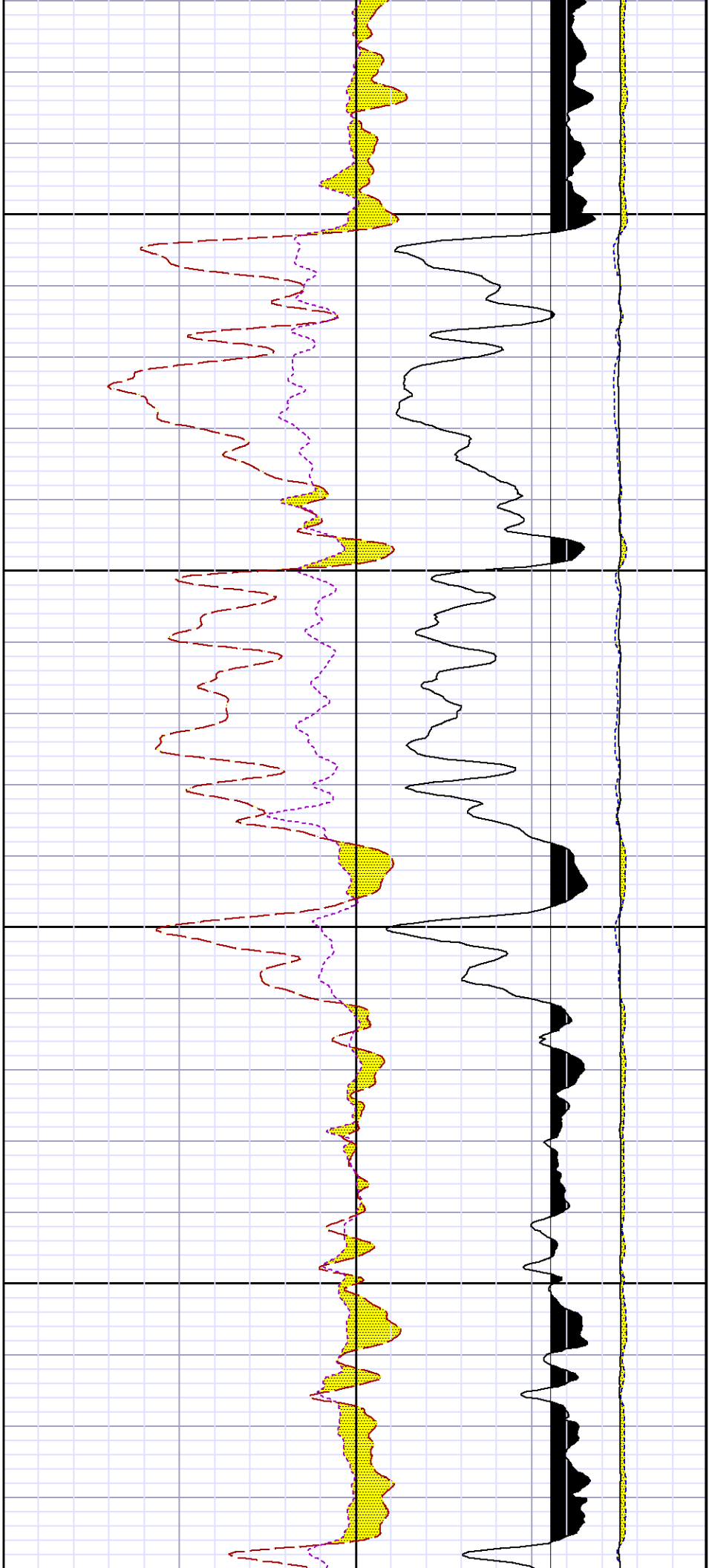
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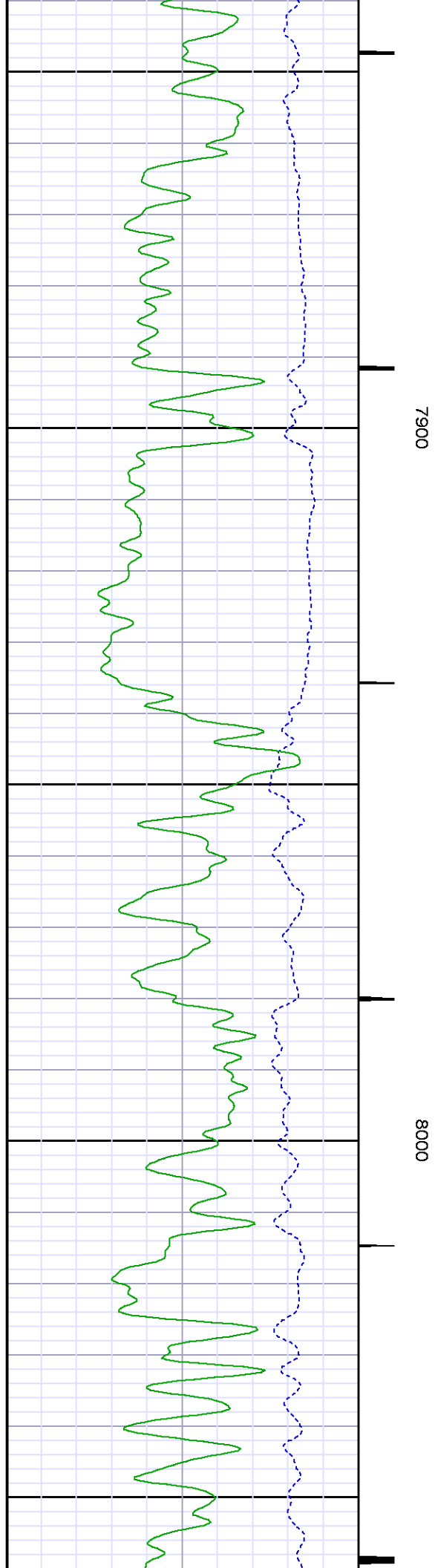
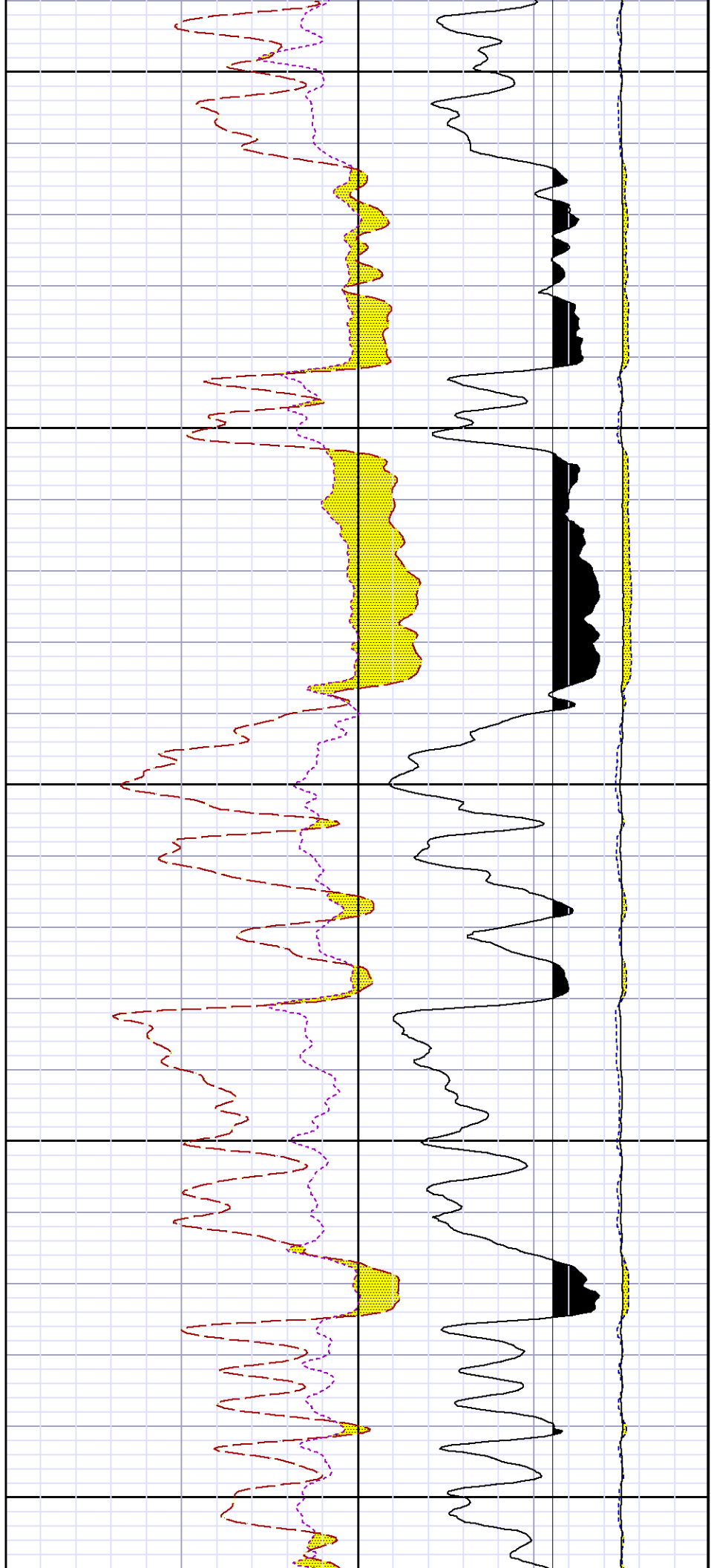
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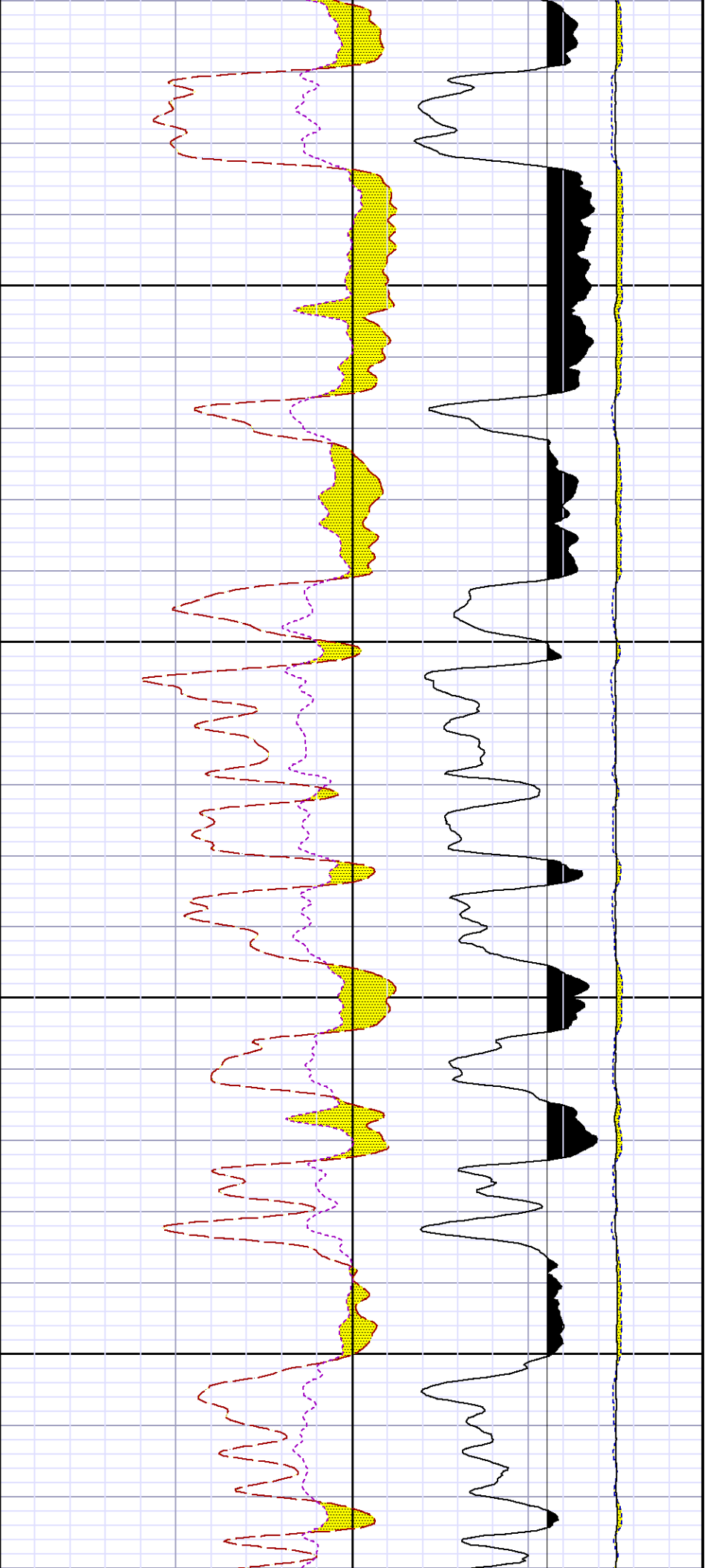
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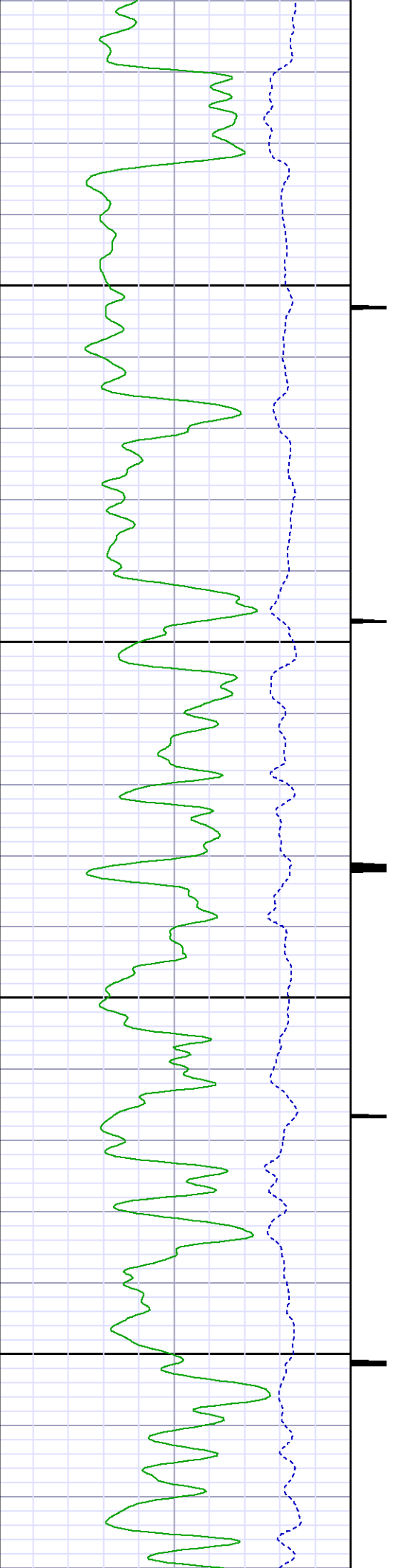


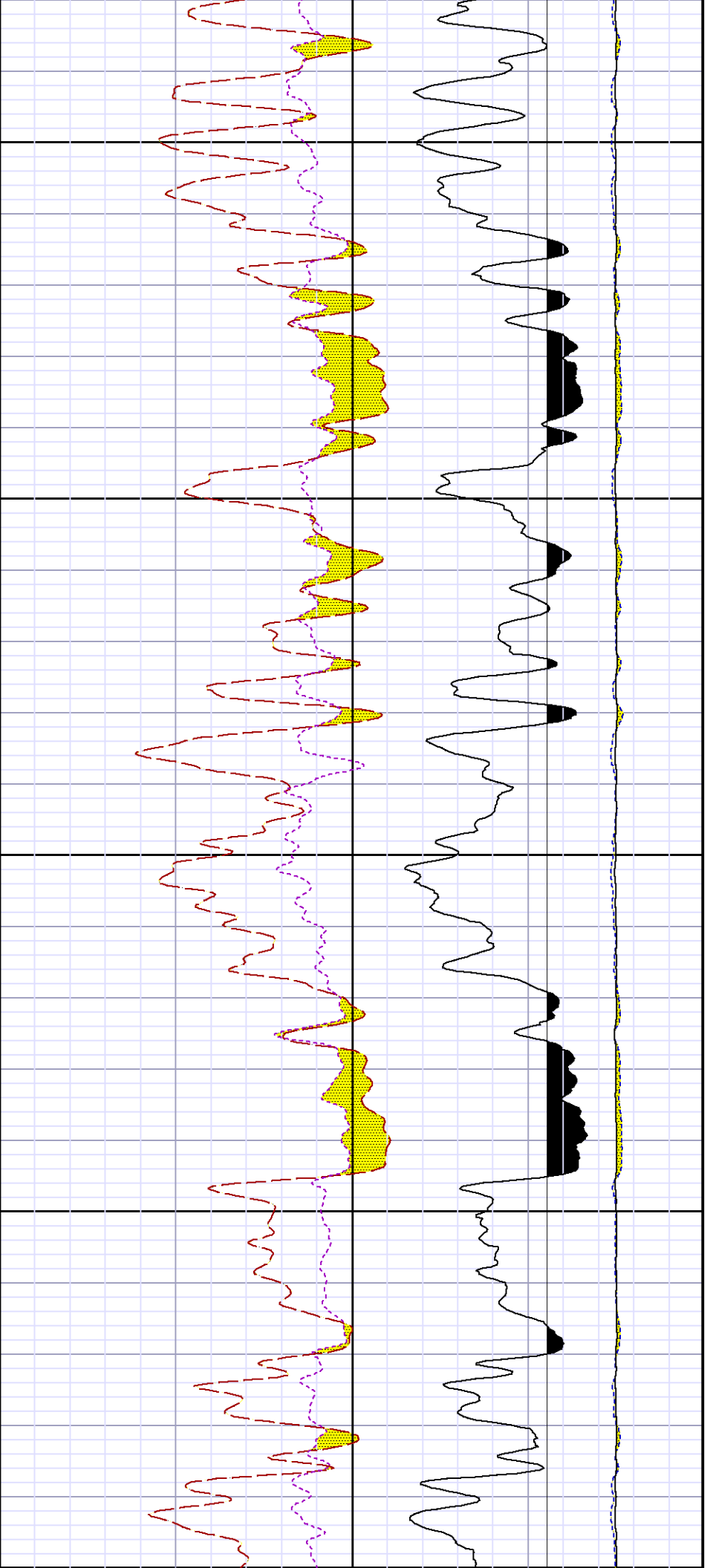




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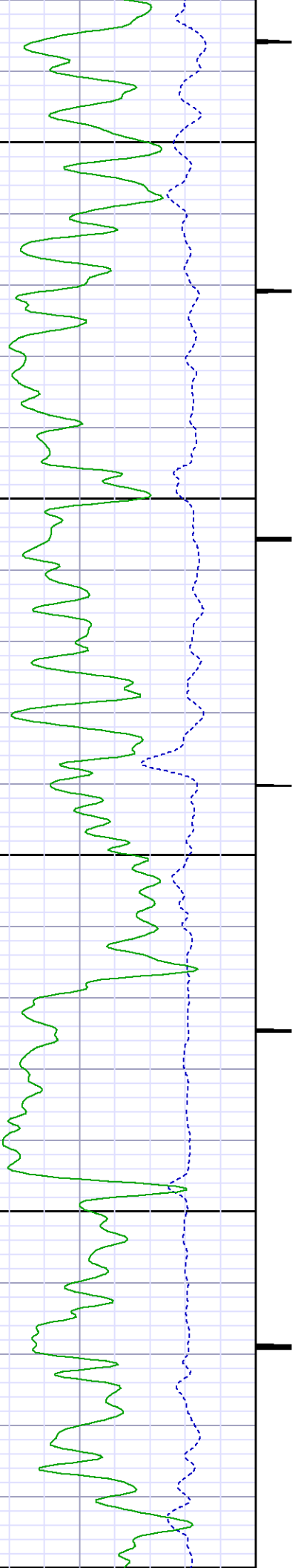


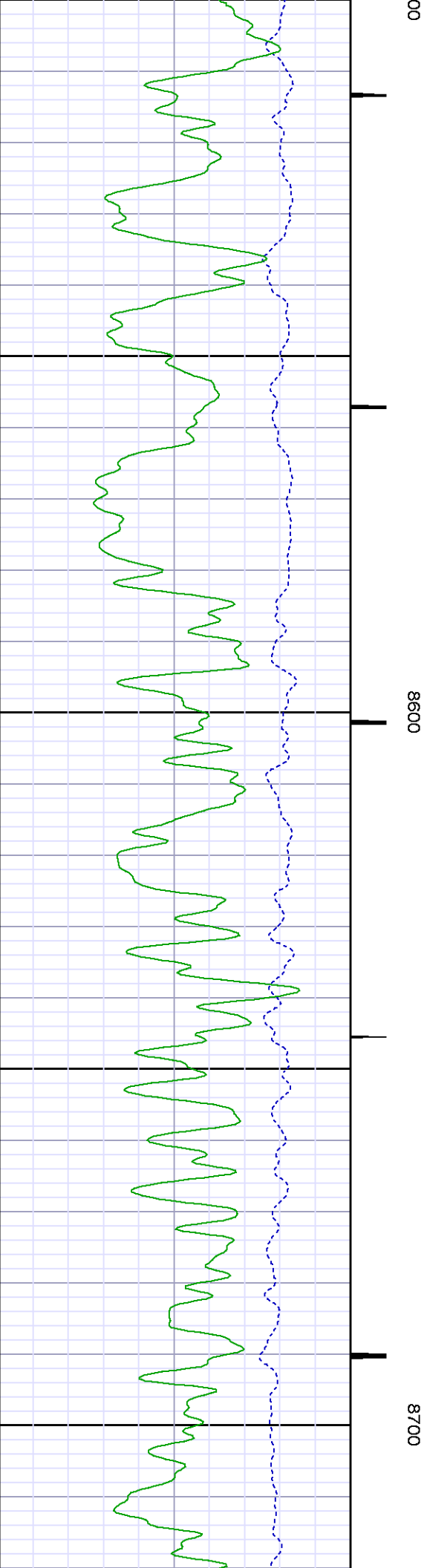
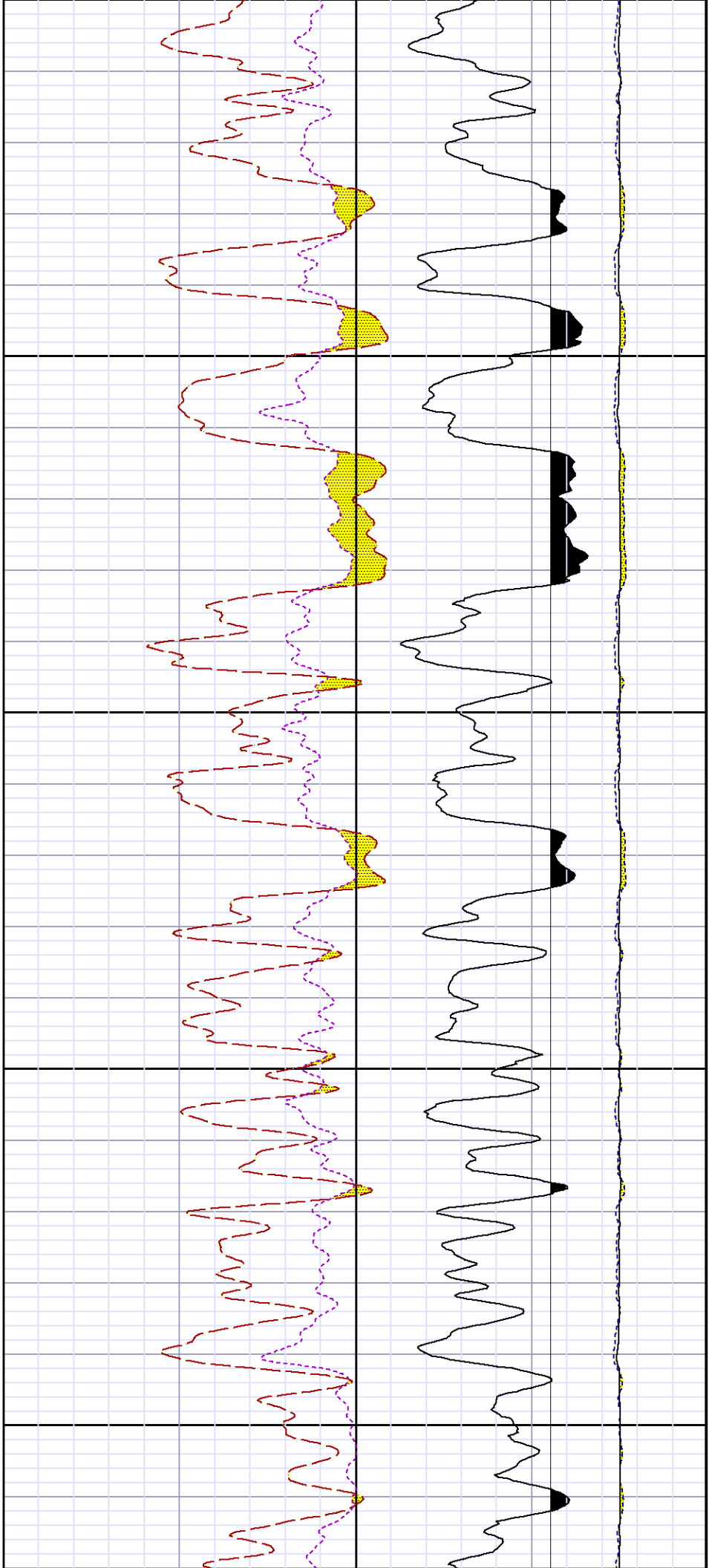


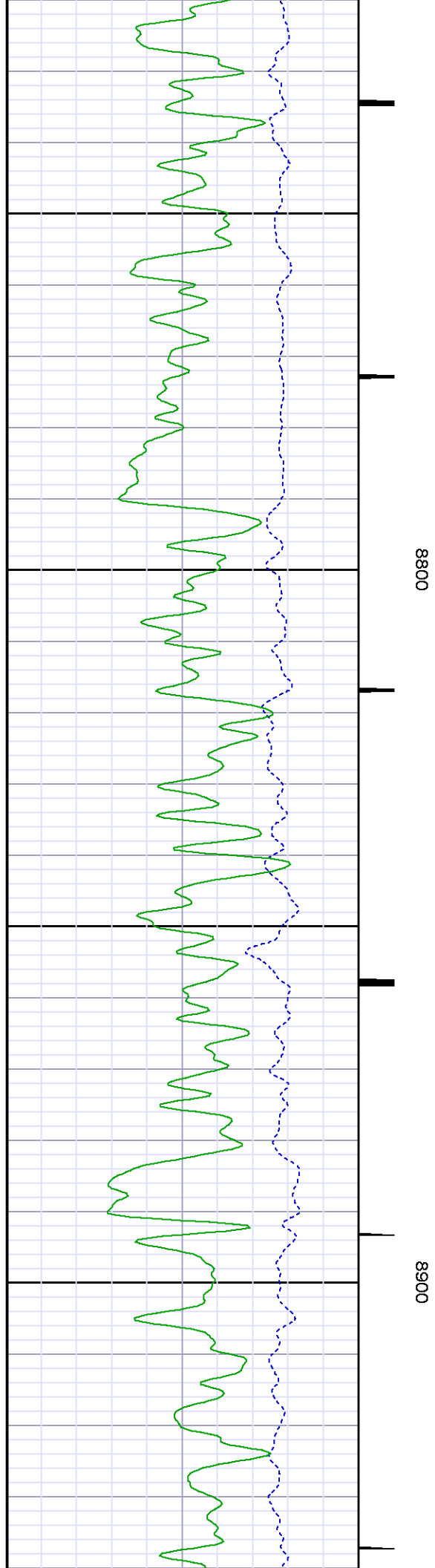
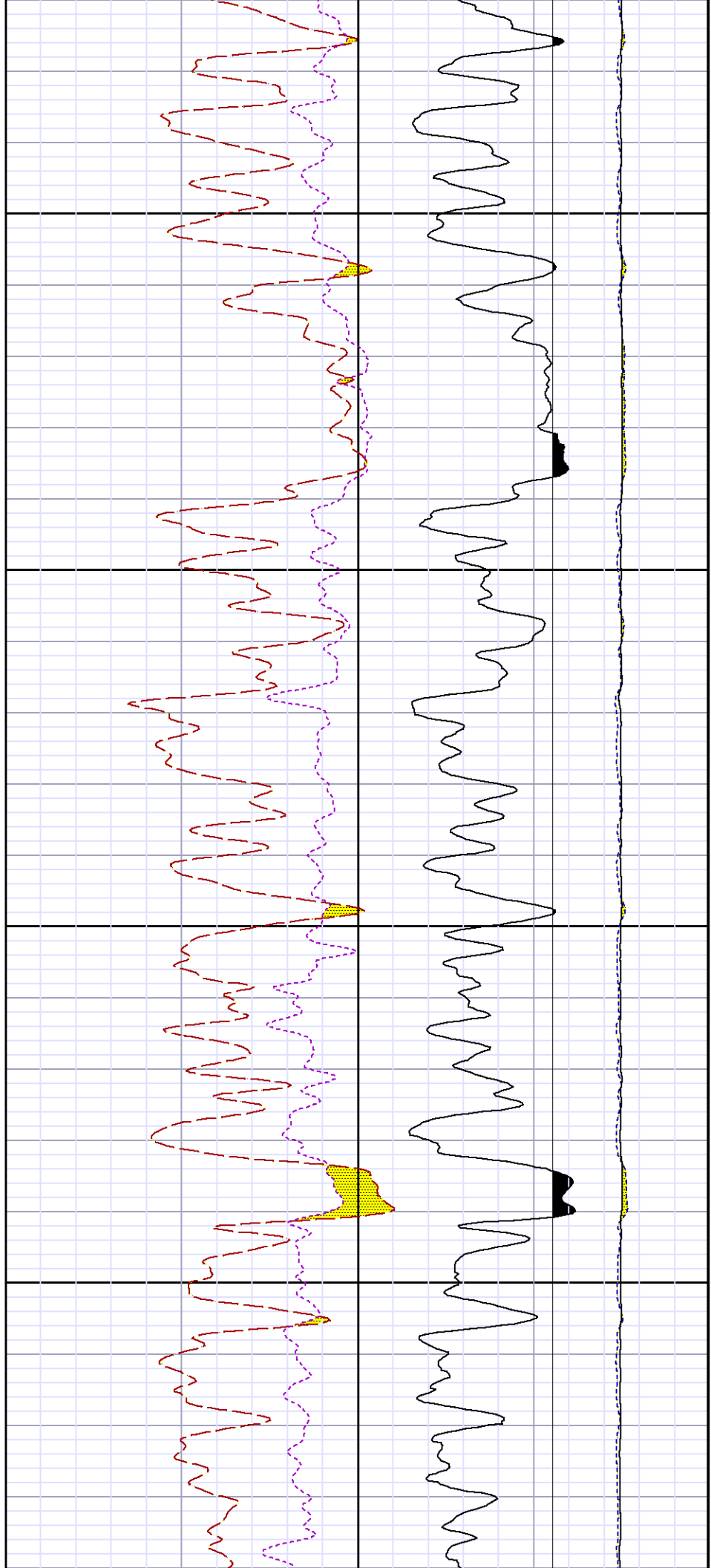
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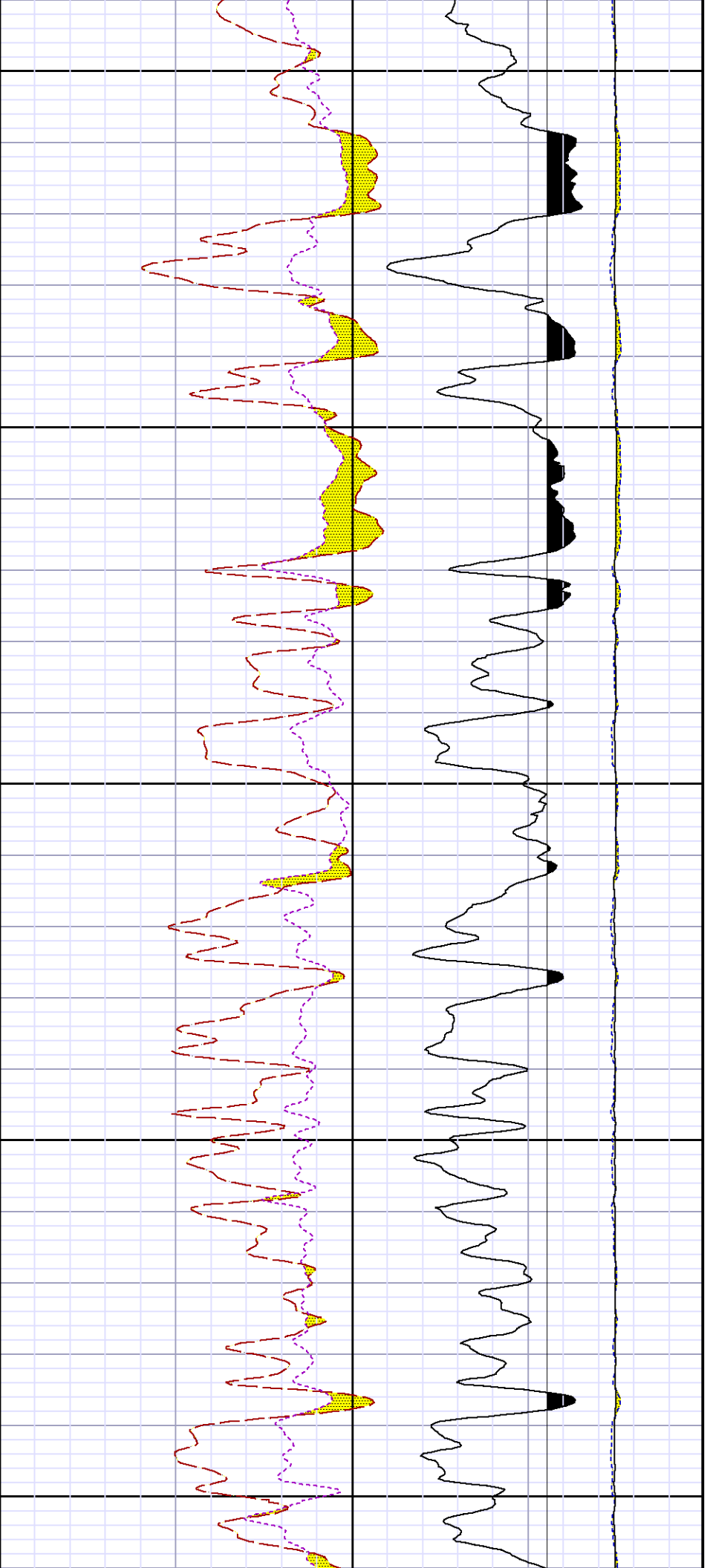
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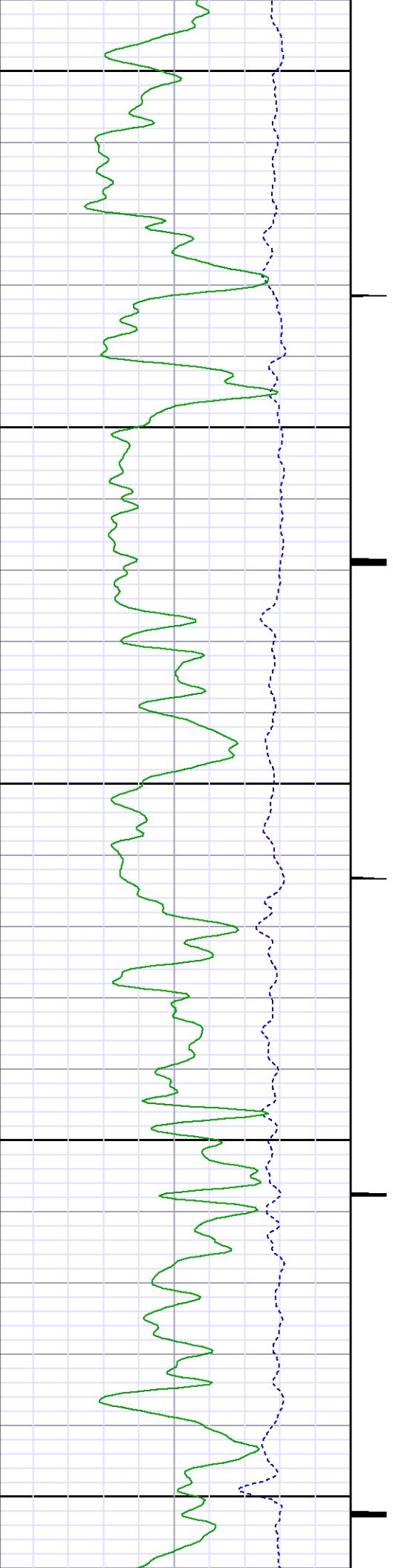


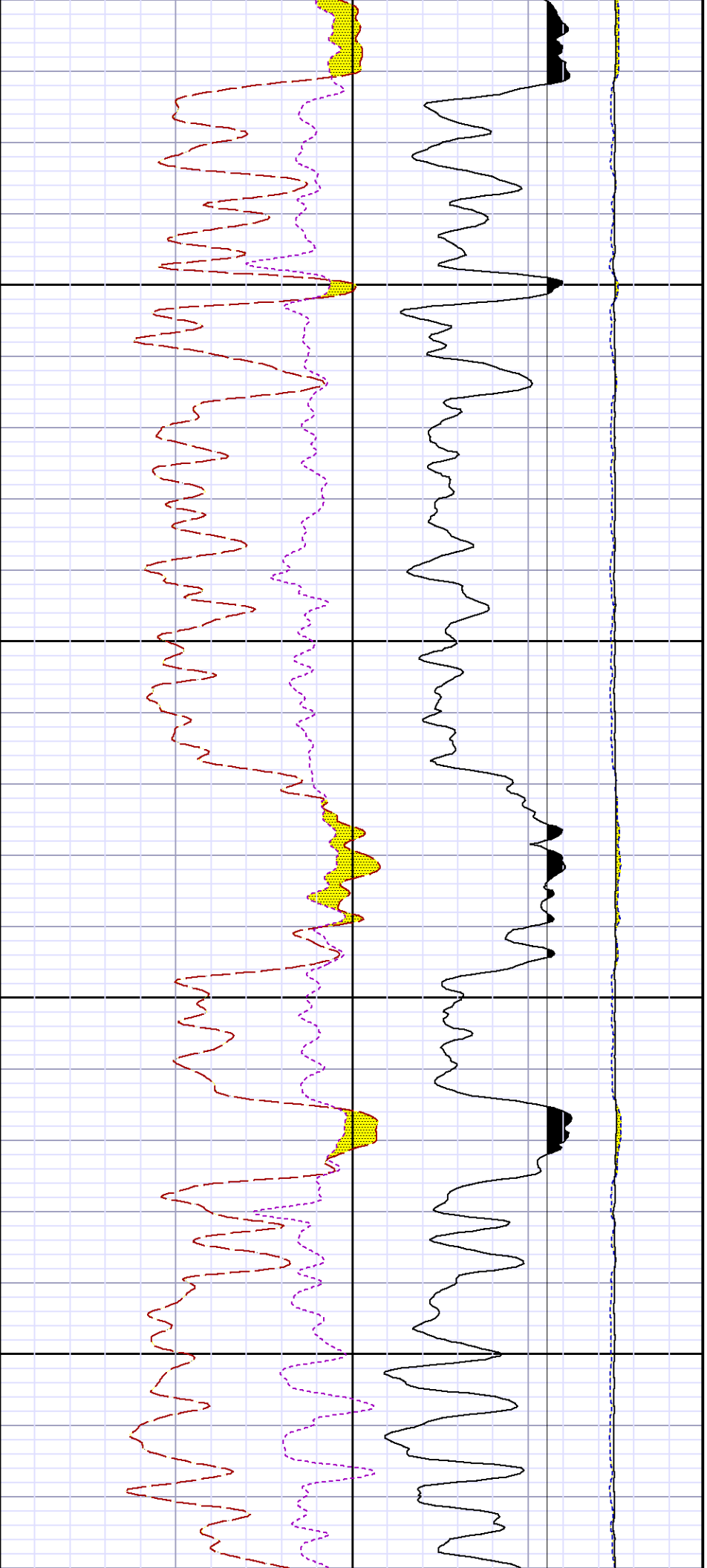




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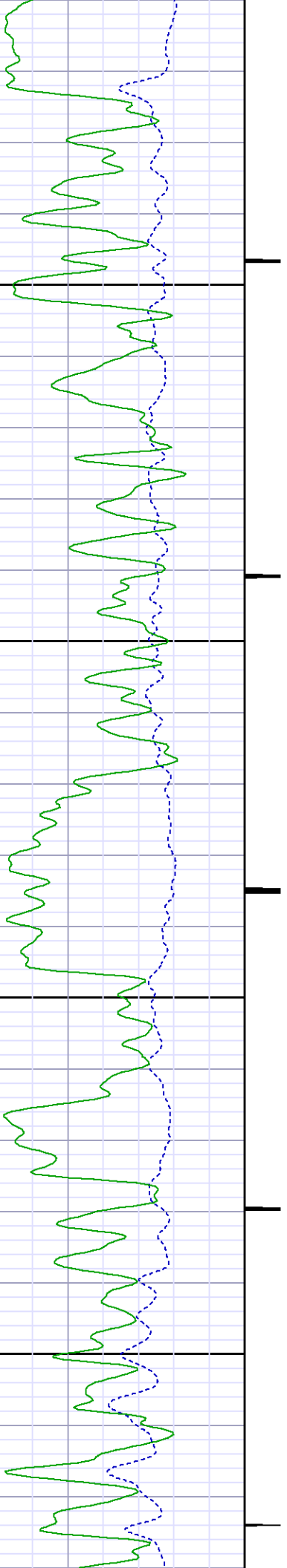
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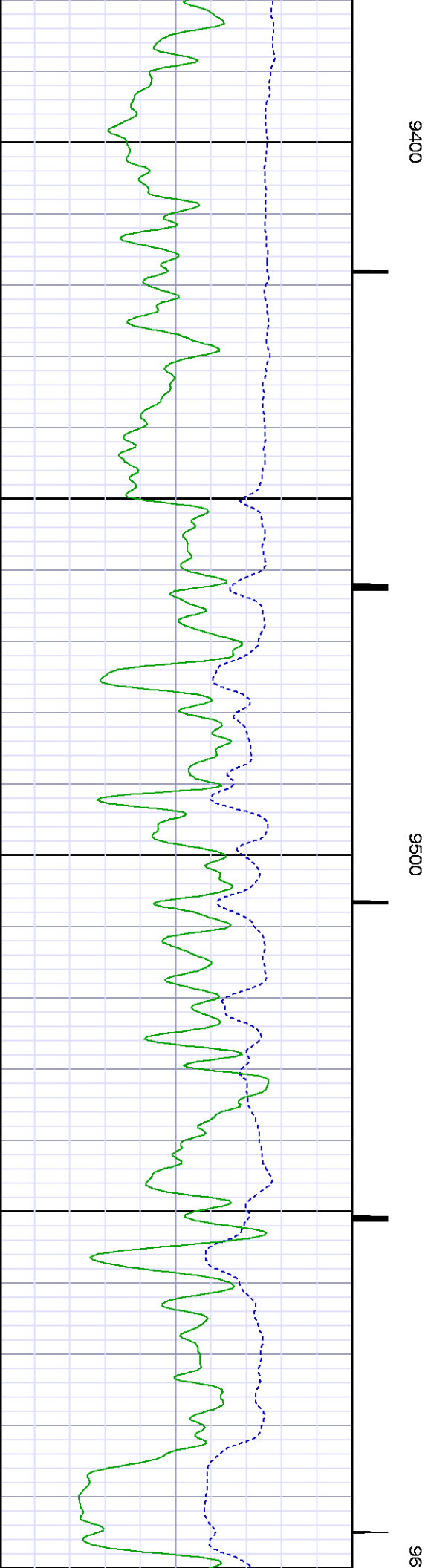
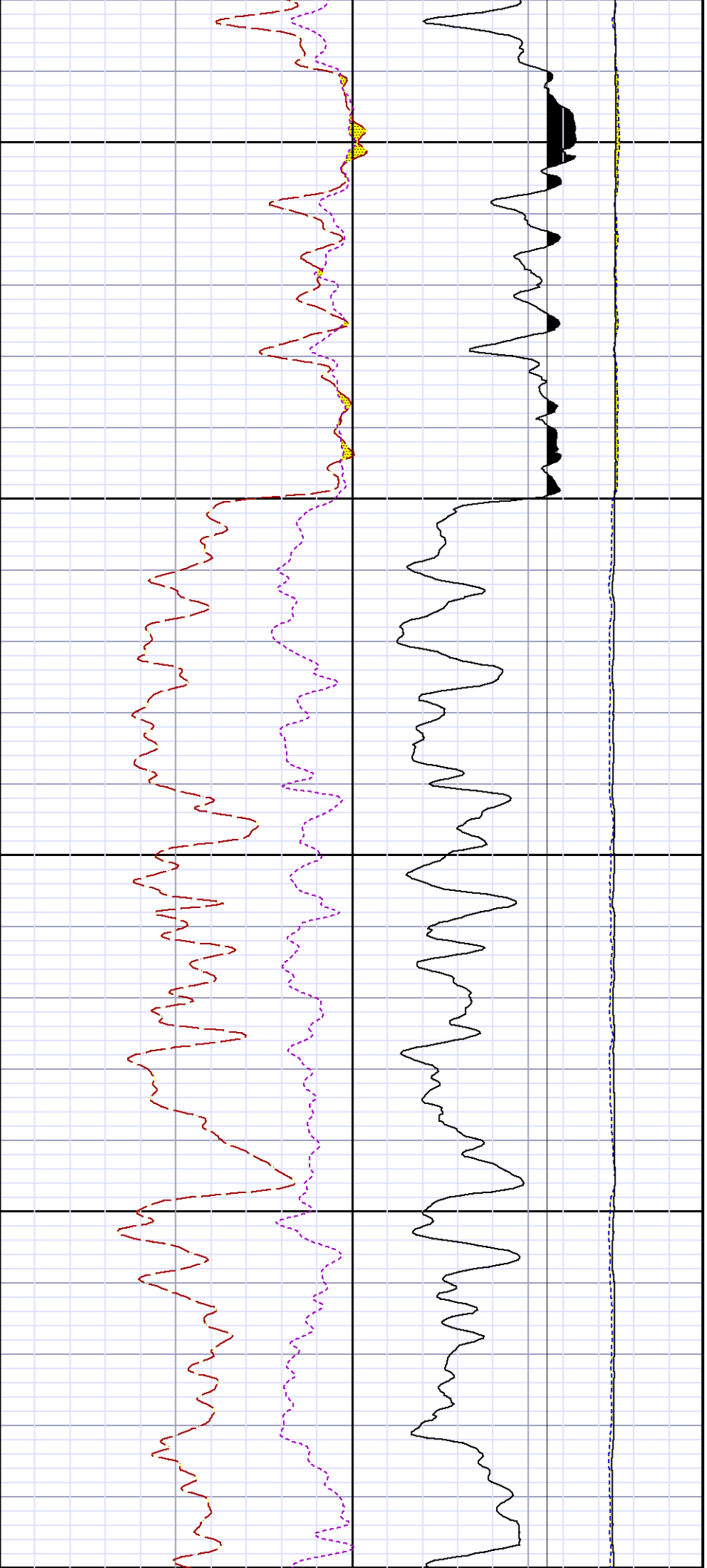


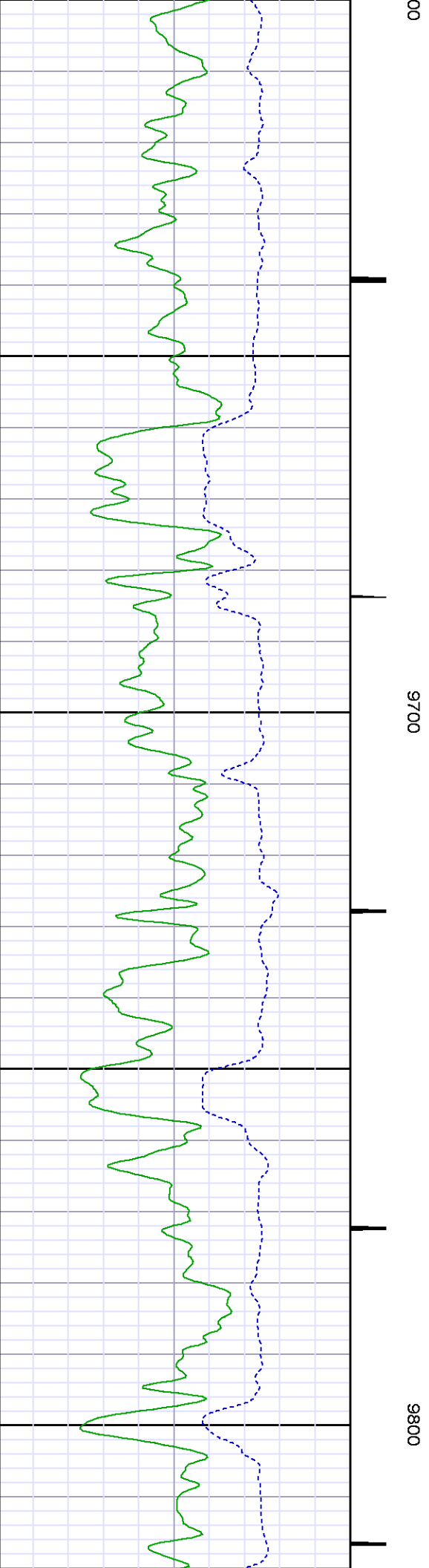
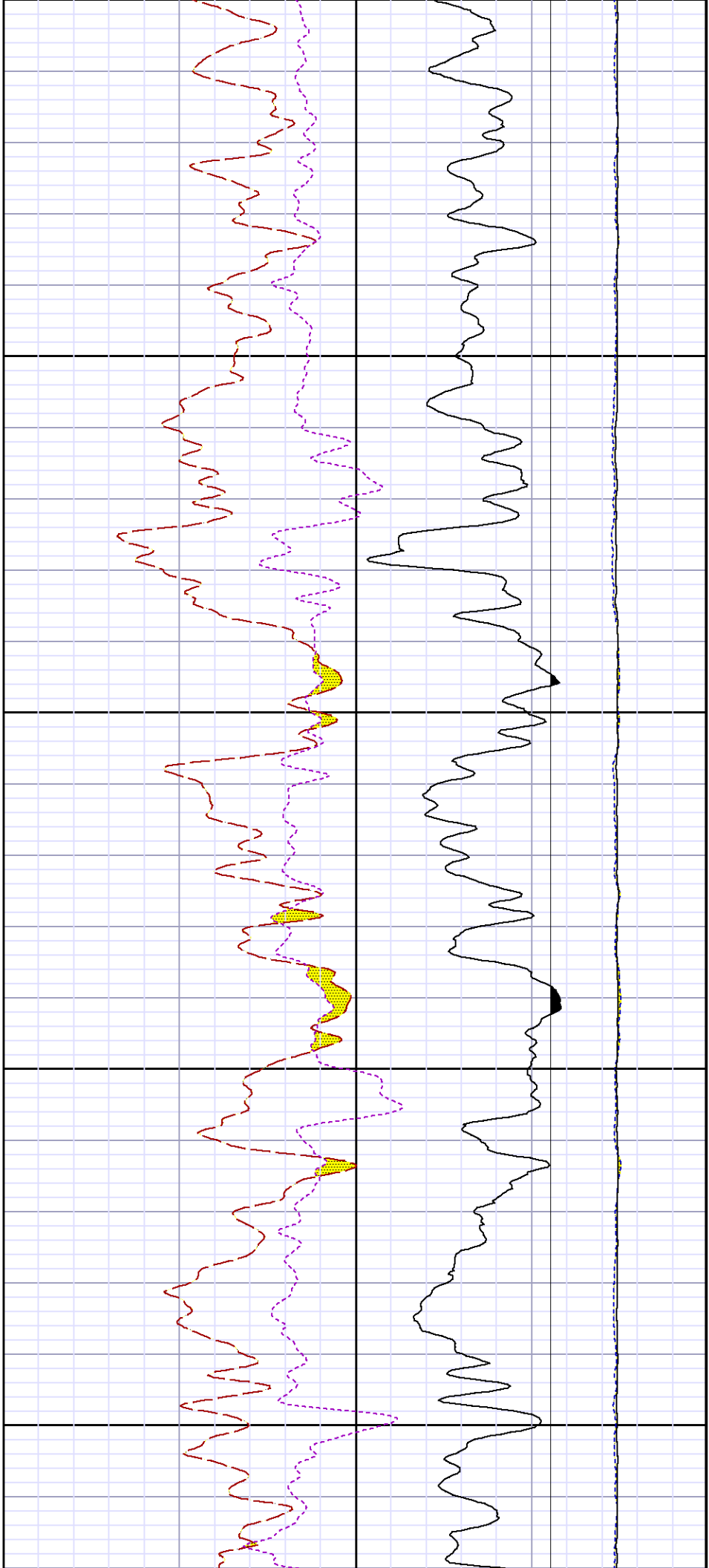


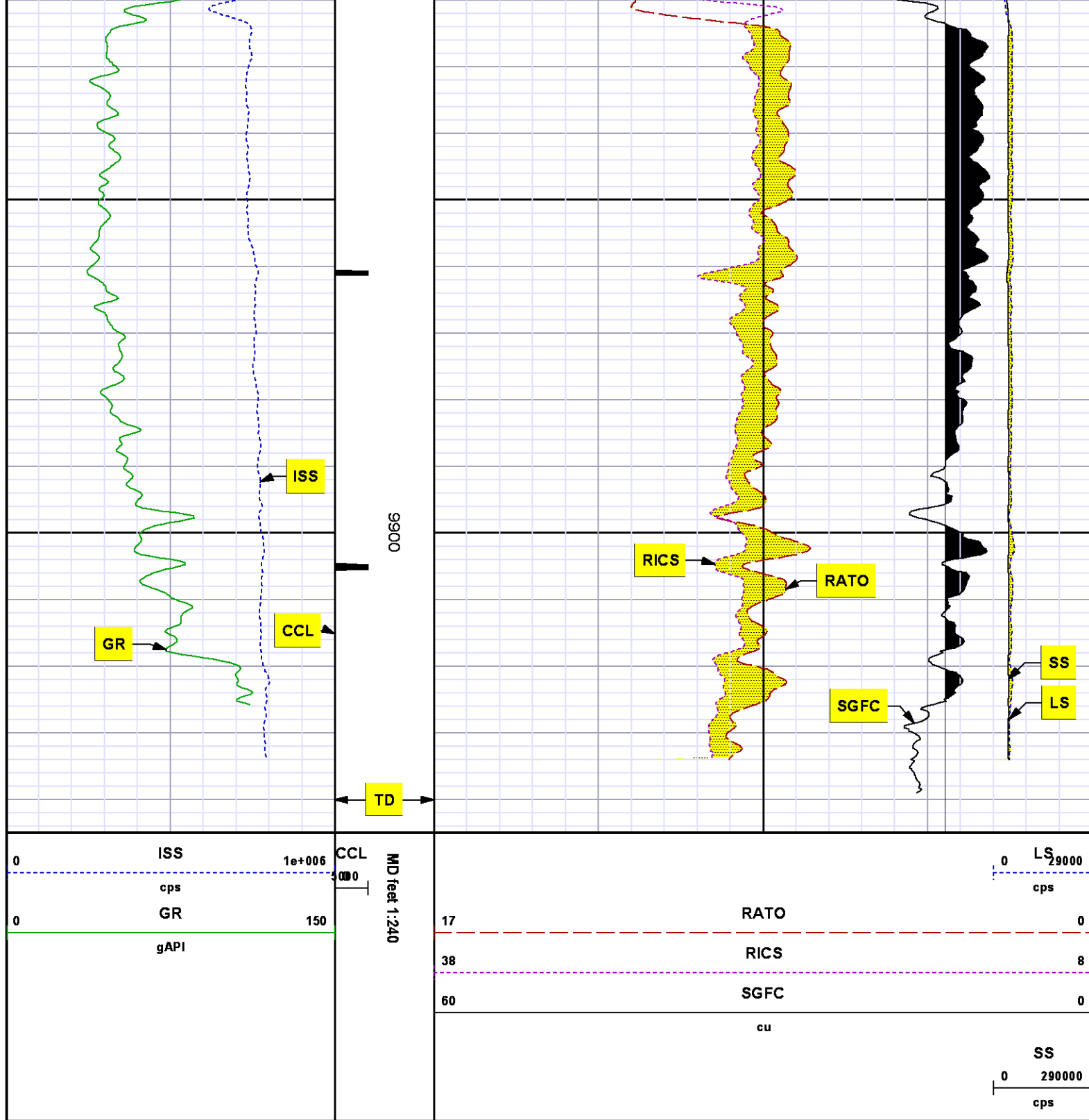
9200

9300









REPEAT SECTION
PNC 3-D MODE

SPL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | TOP | BOTTOM |
|------------------|--------------------------|----------------|-------|----------|----------|
| PNC Porosity | Borehole | Cased | | 9117.040 | 9438.383 |
| PNC Porosity | Borehole Size | 8.750 | inch | 9117.040 | 9438.383 |
| PNC Porosity | Casing Size | 4.500 | inch | 9117.040 | 9438.383 |
| PNC Porosity | Gas Filled | Non Gas Filled | | 9117.040 | 9438.383 |
| PNC Porosity | Matrix | Sandstone | | 9117.040 | 9438.383 |
| TPS Pressure | Temperature Corr. Source | Fixed (72.00) | degF | 9117.040 | 9438.383 |

DEPTH OFFSETS

(for Acquired Curves)

| SERIES | DEPTH OFFSET | ACQUIRED CURVES |
|--------|--------------|---|
| 8248ED | -26.519 | FLTM |
| 8248ED | -24.519 | CCL CHV |
| 2812LA | -21.969 | GR |
| 8281XA | -12.702 | 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 RATO23 RICXC RIN13C RIN23 RIN23C SD3D SG3D SGB3 SGF3 WDT3 CXSR IXSR XSR RICXR |
| 8281XA | -12.291 | HVC2Q0 SEQ2 AMA2 AMB2 AMF2 AML2 BKL CHF2 CLS CPT2Q0 CPT2Q2 CPT2Q3 CPT2Q4 ET2 ILS LS MCS2 MCS2Q0 QCAL2 RGN2 RICL RONE23 RTWO23 SDA2 SDL2 SGA2 SGB2 SGF2 SGK2 SGL2 STA2 ASPEC2 ILSC ILSN WDT2 RICLC CLSR ILSR LSR RICLR |
| 8281XA | -12.041 | 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 RATO RATO13 RBOR RGN1 RICS RIN RONE RPOR RTWO RIN13 RONE13 RTWO13 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 | H0C | FE2XC | ISSC | RINC |
| ISSN | RDEN | WDTH1 | RICSC | CSSR | G1R |
| G2R | ISSR | SSR | SS2R | RATOR | RATO13R |
| RBORR | RICSR | RINR | RIN13R | RONER | RPORR |
| RTWOR | | | | | |
| PTFS | PTMS | | | | |
| SPF1 | SPFQ | TSCP | TSDP | | |
| DTEM | TEMP | TNF | | | |
| TEN | TTEN | | | | |

| | |
|--------|--------|
| 8255XA | -0.792 |
| 8255XA | -0.775 |
| 8255XA | 0.000 |
| SYSTEM | 0.000 |

Created by : RPM9, v5.3.1.0

Plotted by : PlotMgr, v5.4.504

Company : WPX ENERGY

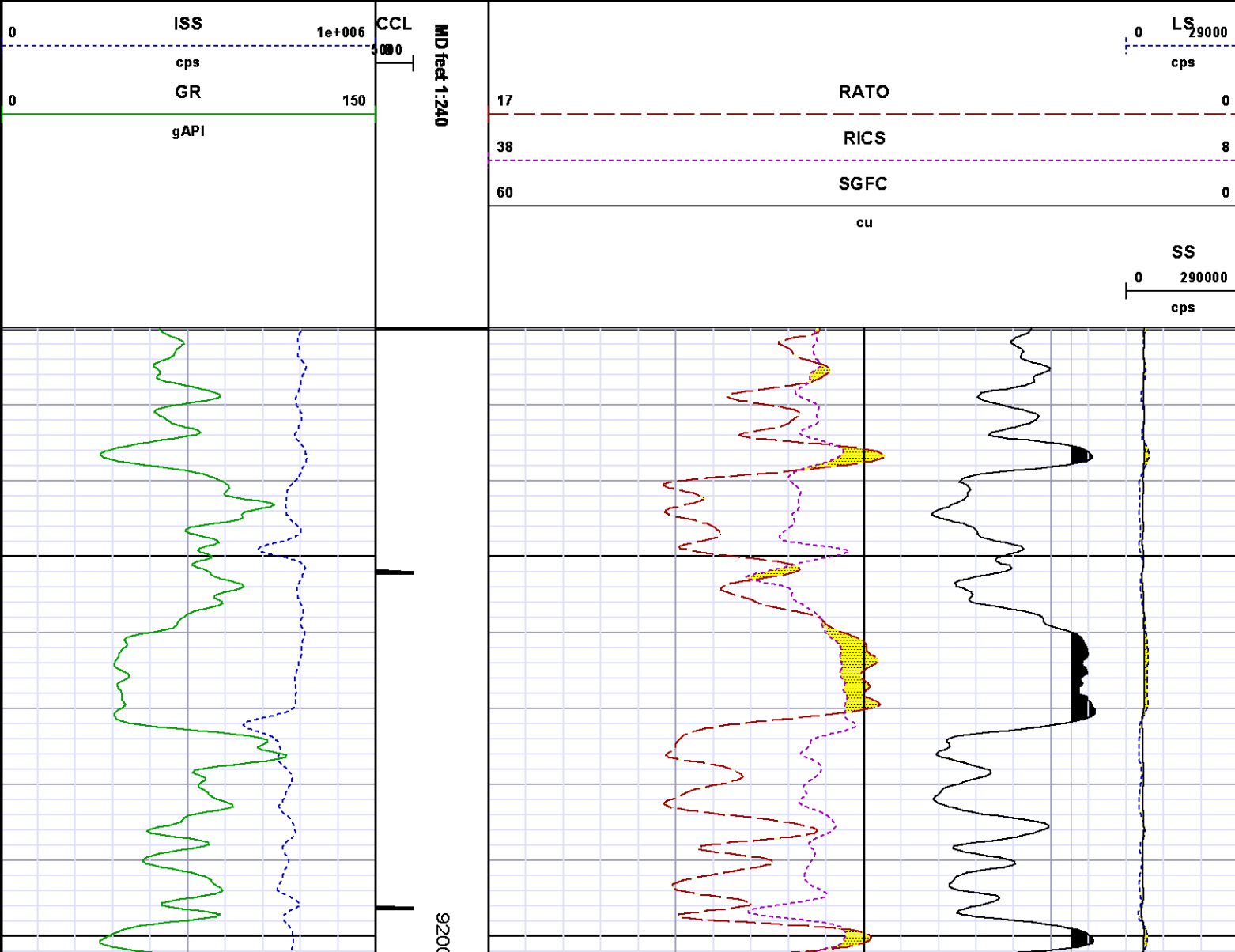
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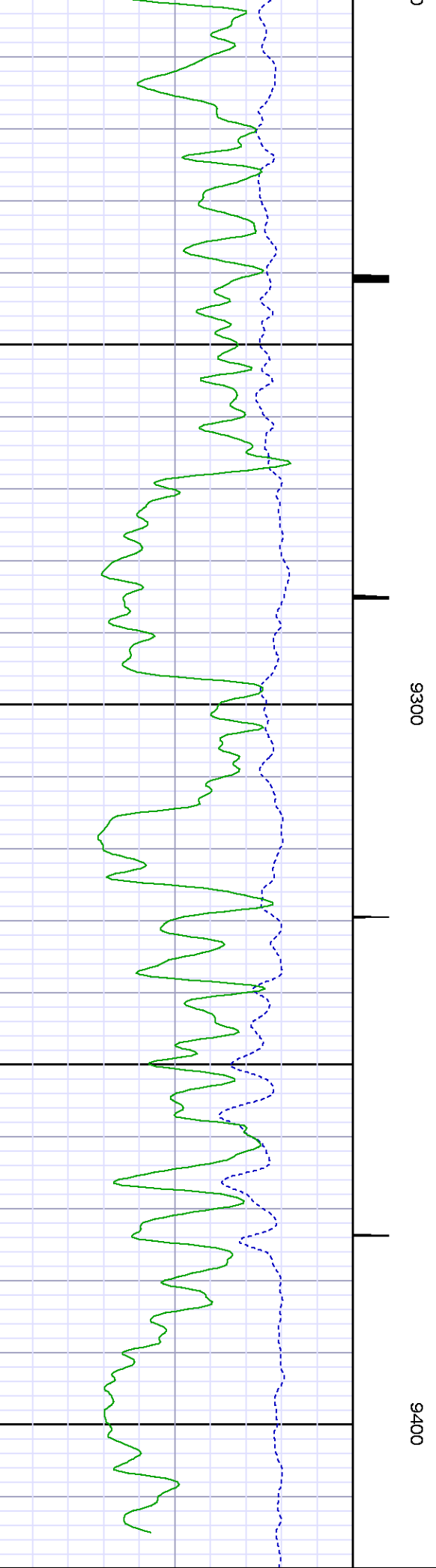
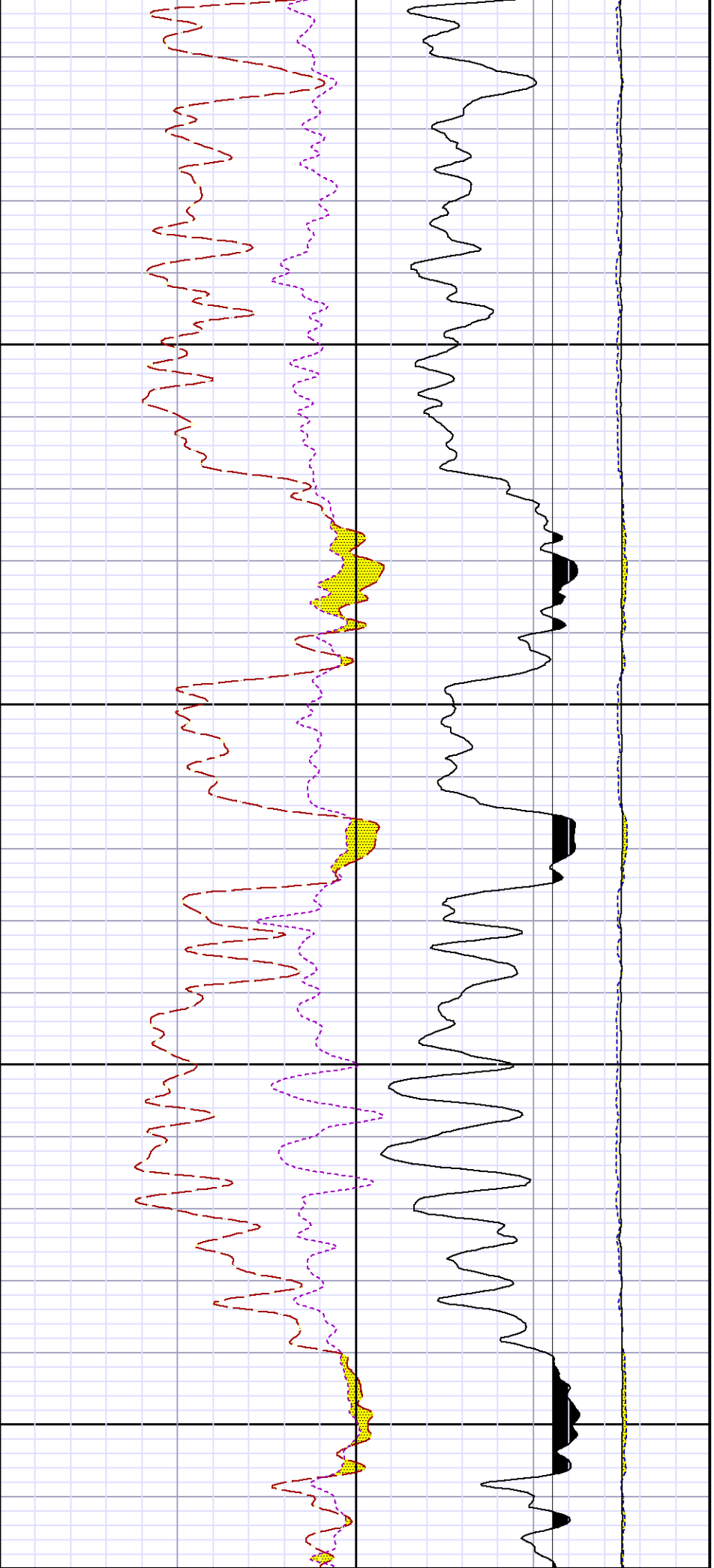
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Mode : PlotMgr 5.4.504

Interval : 9120.00 - 9420.00 feet UP

Created : 10/12/2014 6:36:42 PM





| | | | | | | | |
|---|------|--------|-----|---------------|----|------|----------|
| 0 | ISS | 1e+006 | CCL | MD feet 1:240 | 0 | LS | 29000 |
| | cps | | | | | cps | |
| 0 | GR | 150 | | | 17 | RATO | 0 |
| | gAPI | | | | 38 | RICS | 8 |
| | | | | | 60 | SGFC | 0 |
| | | | | | | cu | |
| | | | | | | | SS |
| | | | | | | | 0 290000 |
| | | | | | | | cps |

CALIBRATION SUMMARY

PNC

Calibration File: C:\case\calver\PNC\55531.cal

PNC 3D CALIBRATION SUMMARY

DATE/TIME PERFORMED: Thu Jul 31 15:05:30 2014 TOOL SERIES: 8281XA ASSET: 555 SEQ: 31

Calibrator #

2437XB 112674

Source #

8281AA 11765054

| | ISS | Mtr VIts (V) | SS Gain | LS Gain | XLS Gain | EA Temp (degF) | Sync Delay (usec) | RCAL |
|--------------|---------|-----------------|---------|---------|----------|-------------------|----------------------|--------|
| Raw Data | 826977 | 122.00 | 2348.00 | 2273.00 | 2228.00 | 105.38 | 7.00 | 0.9793 |
| Interpolated | 1300000 | 141.67 | 2328.24 | 2270.56 | 2220.93 | | | |

| | ISS | BKS | BKL | BKX | SGA1 | SDA1 | SGA2 | SDA2 |
|----------|--------|---------|---------|--------|-------------|-----------|-------------|-----------|
| Raw Data | 826977 | 6316.67 | 1010.56 | 142.23 | 25.72 | 0.14 | 24.17 | 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 | 826977 | 169446.56 | 26453.13 | 88354.97 | 31488.38 | 8225.45 | 53505.22 | 13132.66 |
| Fit Quality % | | 0.75 | 0.86 | 0.90 | 0.89 | 0.82 | 0.86 | 0.83 |

| | ISS | RBOR | RIN ISS/ILS | RIN13 ISS/IXS | RICS ISS/CSS | RATO SS/LS | RTWO SS2/LS | RONE CSS/CLS |
|----------|--------|------|----------------|------------------|-----------------|---------------|----------------|-----------------|
| Raw Data | 826977 | 1.44 | 4.88 | 31.26 | 15.46 | 10.74 | 3.83 | 4.07 |

| | | | | | | | | | | | | | | | |
|---------------|---------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| | | 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 % | | 0.09 | | 0.30 | | 0.21 | | 0.10 | | 0.14 | | 0.14 | | 0.15 | |
| Reduced | 1397129 | 1.44 | | 4.92 | | 31.48 | | 15.54 | | 10.75 | | 3.83 | | 4.08 | |
| | | 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\382O1.cal

| | | | | | | | | | | | | | | | | | | | |
|----------------------|--|------------|--|--------------------------|--|--|--|----------------|--|------------|--|---------------|--|--------------|--|------|--|----|--|
| CALIBRATION SUMMARY | | | | | | | | | | | | | | | | | | | |
| DATE/TIME PERFORMED: | | | | Fri Oct 10 20:18:37 2014 | | | | TOOL SERIES: | | 2812LA | | ASSET: | | 382 | | SEQ: | | O1 | |
| Calibrator # | | Background | | Calibrator On | | | | Multiplicative | | Background | | Calibrator On | | Differential | | | | | |
| | | [cps] | | [cps] | | | | | | [api] | | [api] | | [api] | | | | | |
| S2K WA612 | | 67.31 | | 273.64 | | | | 1.018 | | 68.51 | | 278.51 | | 210.00 | | | | | |

Verification File:
C:\case\calver\GR\382O1.VP

| | | | | | | | | | | | | | | | | | | | |
|----------------------|--|------------|--|--------------------------|--|--|--|----------------|--|------------|--|---------------|--|--------------|--|------|--|----|--|
| PRIMARY VERIFICATION | | | | | | | | | | | | | | | | | | | |
| DATE/TIME PERFORMED: | | | | Fri Oct 10 20:21:02 2014 | | | | TOOL SERIES: | | 2812LA | | ASSET: | | 382 | | SEQ: | | O1 | |
| Calibrator # | | Background | | Calibrator On | | | | Multiplicative | | Background | | Calibrator On | | Differential | | | | | |
| | | [cps] | | [cps] | | | | | | [api] | | [api] | | [api] | | | | | |
| S2K WA612 | | 64.02 | | 275.47 | | | | 1.018 | | 65.16 | | 280.36 | | 215.20 | | | | | |

TEMPERATURE

Calibration File:
C:\case\calver\TEMP\120516AU.cal

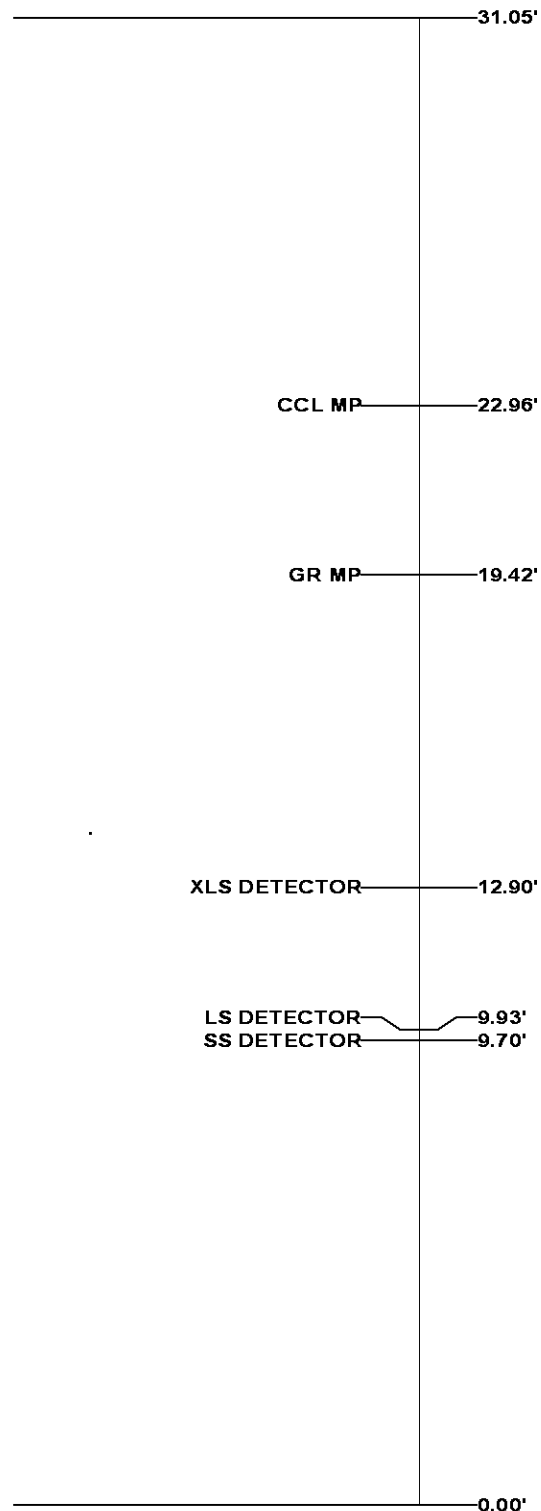
| | | | | | | | | | | | | | | | | | | | |
|----------------------|--|----------------|--|---------------|--|---------------|--|----------------|--|---------------|--|---------------|--|--------|--|------|--|----|--|
| CALIBRATION SUMMARY | | | | | | | | | | | | | | | | | | | |
| DATE/TIME PERFORMED: | | | | 09 AUG 2010 | | | | TOOL SERIES: | | 8255XA | | ASSET: | | 120516 | | SEQ: | | AU | |
| Coefficients | | T(0) | | T(1) | | T(2) | | T(3) | | T(4) | | T(5) | | | | | | | |
| | | -8.673169e+000 | | 9.576065e-002 | | 6.395448e-006 | | -9.461013e-010 | | 0.000000e+000 | | 0.000000e+000 | | | | | | | |

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 |



Total Length: 31.05'
Total Weight: Not Available
Max Diameter: 0' 1.70"



Baker Atlas

Company
Well
Field
County

WPX ENERGY
AP 323-17-695
PARACHUTE
GARFIELD

State

CO

Location

SHL: 15' FNL & 2495' FWL (20 6S 95W)

Elevations

KB 6935

File No:

CH091482

API No:

05045213840000

17 6S 95W

CASE

BHL: 2268' FSL & 2177' FWL (17 6S 95W)

DF

AP 21-20-695 PAD

SEC 17 TWP 6S RGE 95W

GL 6909

NABORS 573