

RESERVOIR MONITOR TOOL - ELITE

| |
|---|
| <<< Fold Here >>> |
| 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. |
| Comments |
| HALLIBURTON CBL LOG DATED: 20 JUNE 2015 IS THE PRIMARY DEPTH REFERENCE FOR THIS WELL. |
| GR-CBL-RMT RAN IN COMBINATION. |
| LOG INTERVALS PER CUSTOMER REQUEST. |
| SHORT JOINTS @: 2986' - 2996', 5514' - 5524' AND 6412' - 6422'. |
| ***THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.*** |

| | | | | | |
|--|------------|------------------|-------------------|------------------------|----------------------|
| Service Ticket No. | 902509208 | API No. | 05-045-22836-0000 | PGM Ver | 14.11.12001 |
| The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client | | | | | |
| EQUIPMENT DATA | | | | | |
| TELEMETRY | | CEMENT BOND TOOL | | RESERVOIR MONITOR TOOL | |
| Run No. | ONE | Run No. | ONE | Run No. | ONE |
| Serial No. | 11495480 | Serial No. | 11817843 | Serial No. | 12095949 |
| Model No. | TTTC-U-002 | Model No. | CBL-M | Model No. | RMTI-A |
| Diameter | 1.688" | Diameter | 2.75" | Diameter | 2.125" |
| LOGGING DATA | | | | | |
| General Data | | | | | |
| Pass | Depths | | Well Head | Speed | Logging Run Comments |
| No | From | To | Pressure | Ft/Min | |

| | | | | | | | | |
|-------------------------|-----------|-------|---------------------|-----|------------------|-----|-------|---|
| ONE | 6909' | 3584' | 0 | 25 | MAIN LOG SECTION | | | |
| | | | | | | | | |
| | GAMMA RAY | | NEAR BORE SI (SGBN) | | RATIO (RNF) | | SGIN | |
| Pass | Scale | | Scale | | Scale | | Scale | |
| No. | L | R | L | R | L | R | L | L |
| ONE | 0 | 200 | 200 | 0 | 2 | 0.5 | 60 | 0 |
| | | | | | | | | |
| DIRECTIONAL INFORMATION | | | | | | | | |
| Maximum Deviation | | N/A | deg. @ | N/A | KOP | N/A | | |
| | | | | | | | | |
| | | | | | | | | |

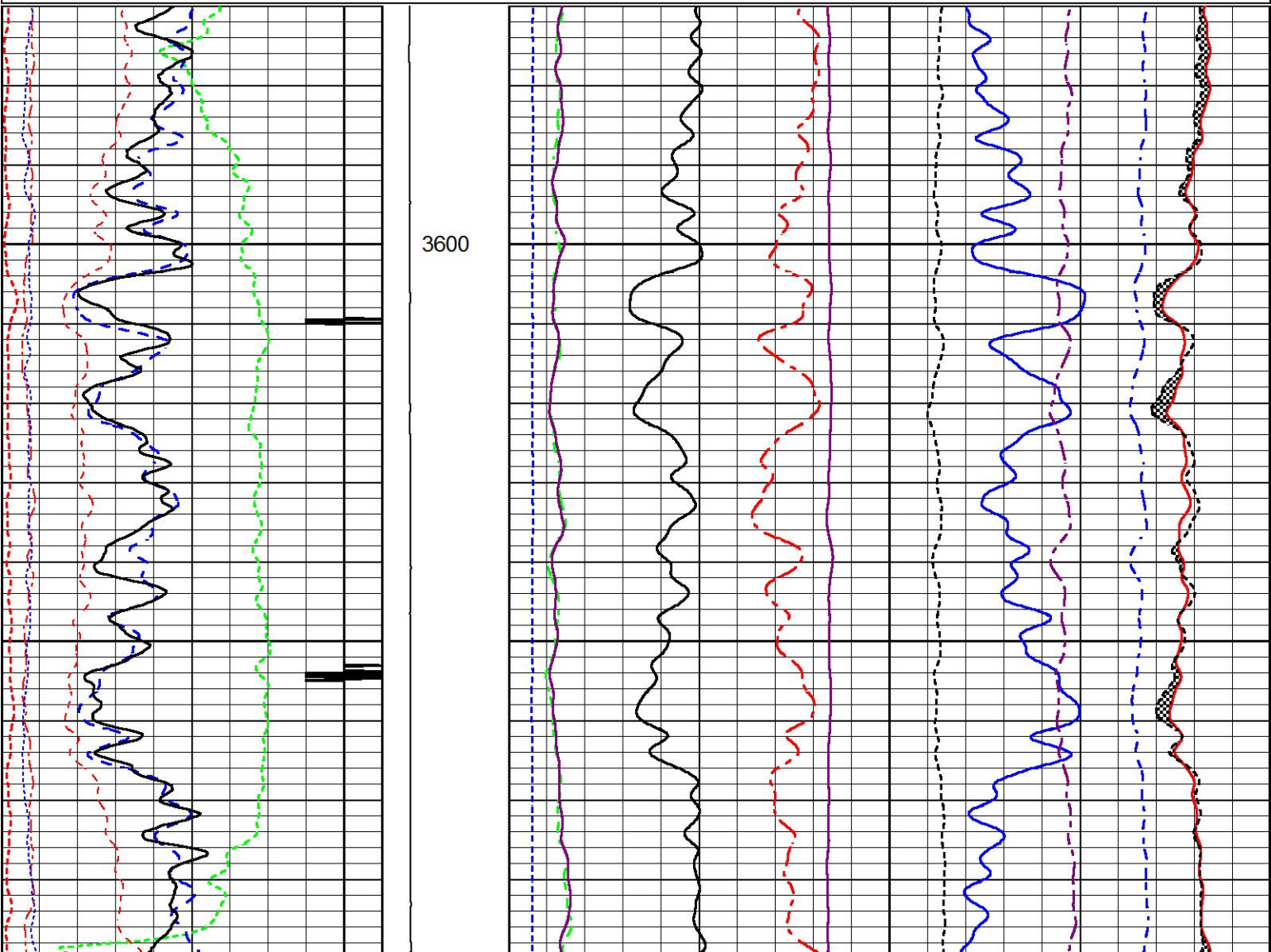
HALLIBURTON

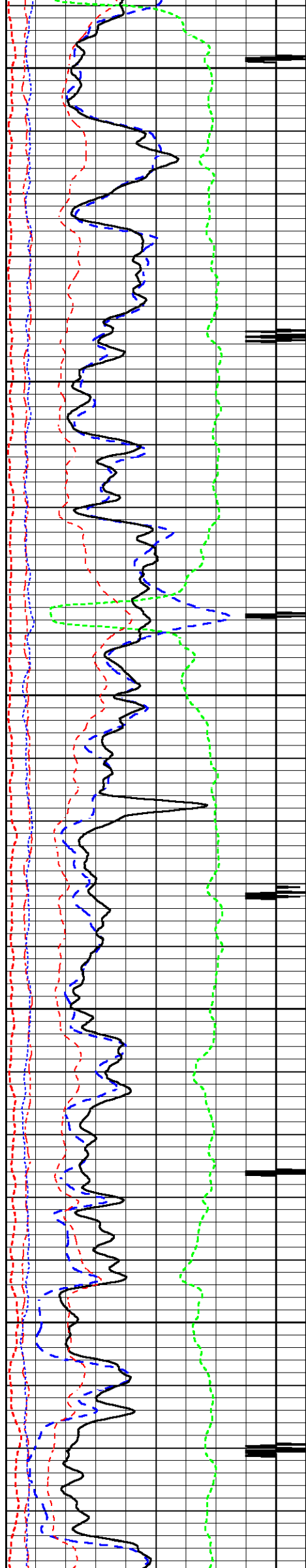
MAIN LOG SECTION

5" = 100'

| | |
|---------------------|----------------------------|
| Database File | bat_24b_cmb.db |
| Dataset Pathname | MAIN1 |
| Presentation Format | RMTE_M~1 |
| Dataset Creation | Sat Jun 20 08:08:28 2015 |
| Charted by | Depth in Feet scaled 1:240 |

| | | | | | | |
|------|-------------------------|-----|---------|----|---------------|-------|
| 200 | Near Bore Si (SGBN) | 0 | TENSION | 60 | SGIN | 0 |
| 0 | OAI | 100 | | 2 | RATIO (RNF) | 0.5 |
| 10 | FAR FIT ERR (SGFF) | 40 | | 0 | RIN | 15 |
| 0 | GAMMA RAY (GAPI) | 200 | | 0 | RICF | 6 |
| 0 | NEAR FIT ERR (SGFN) | 100 | | 0 | H YIELD (YH2) | 1 |
| -540 | CCL | 60 | | 0 | H YIELD (YH1) | 1 |
| 0 | IN FIT ERR (CFTR1) NEAR | 1 | | | INOX2 | 50000 |
| 0 | IN FIT ERR (CFTR2) FAR | 1 | | | -1500 | 1500 |
| | | | | | | -1000 |

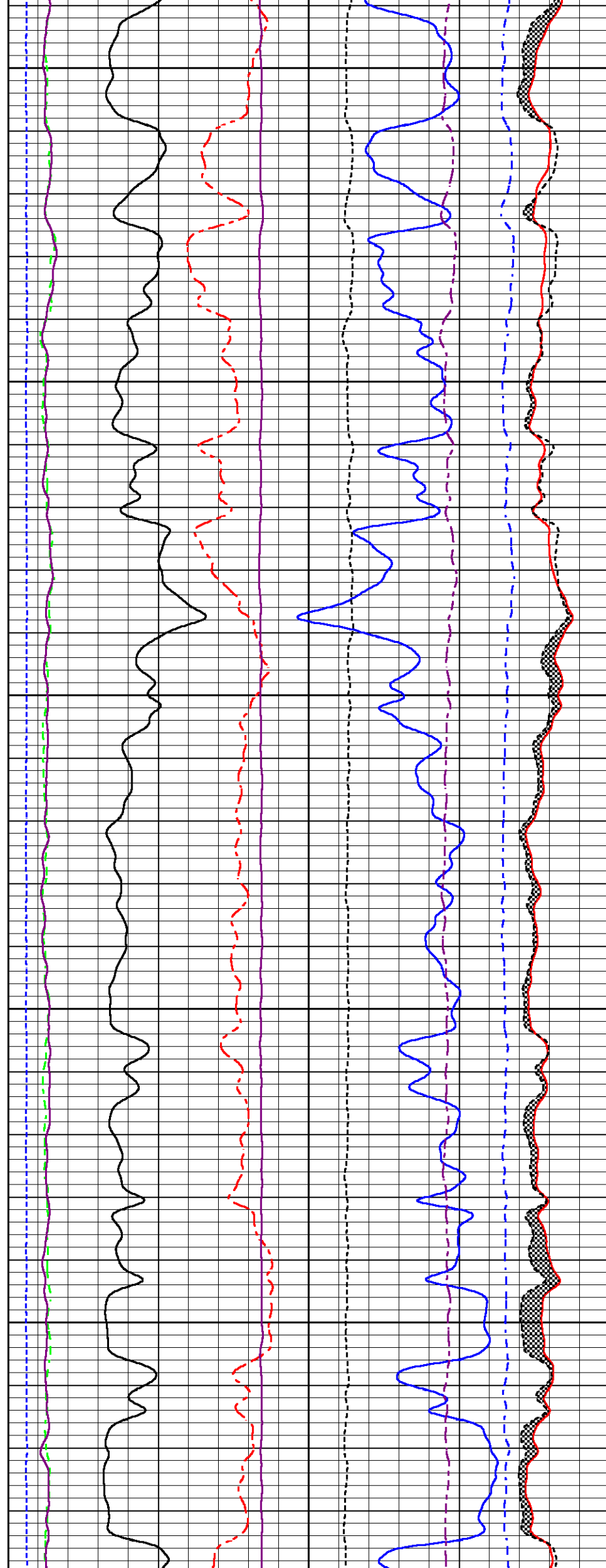


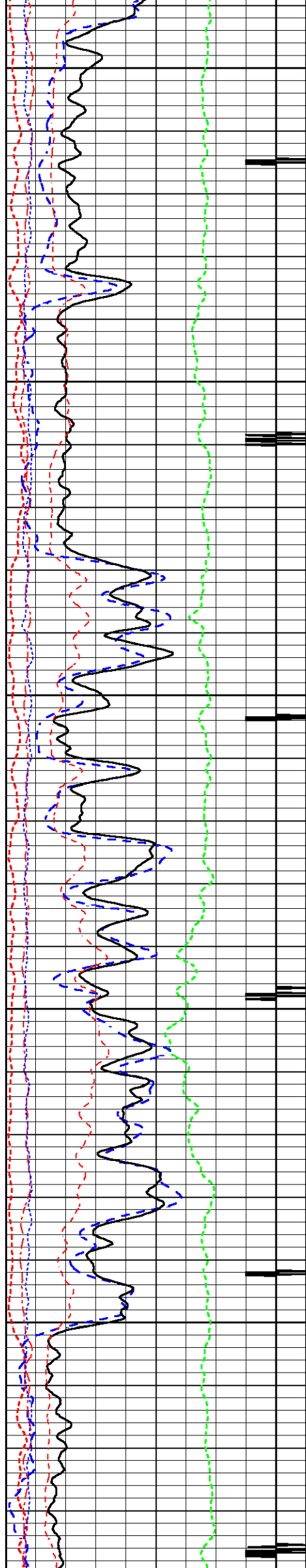


3700

3800

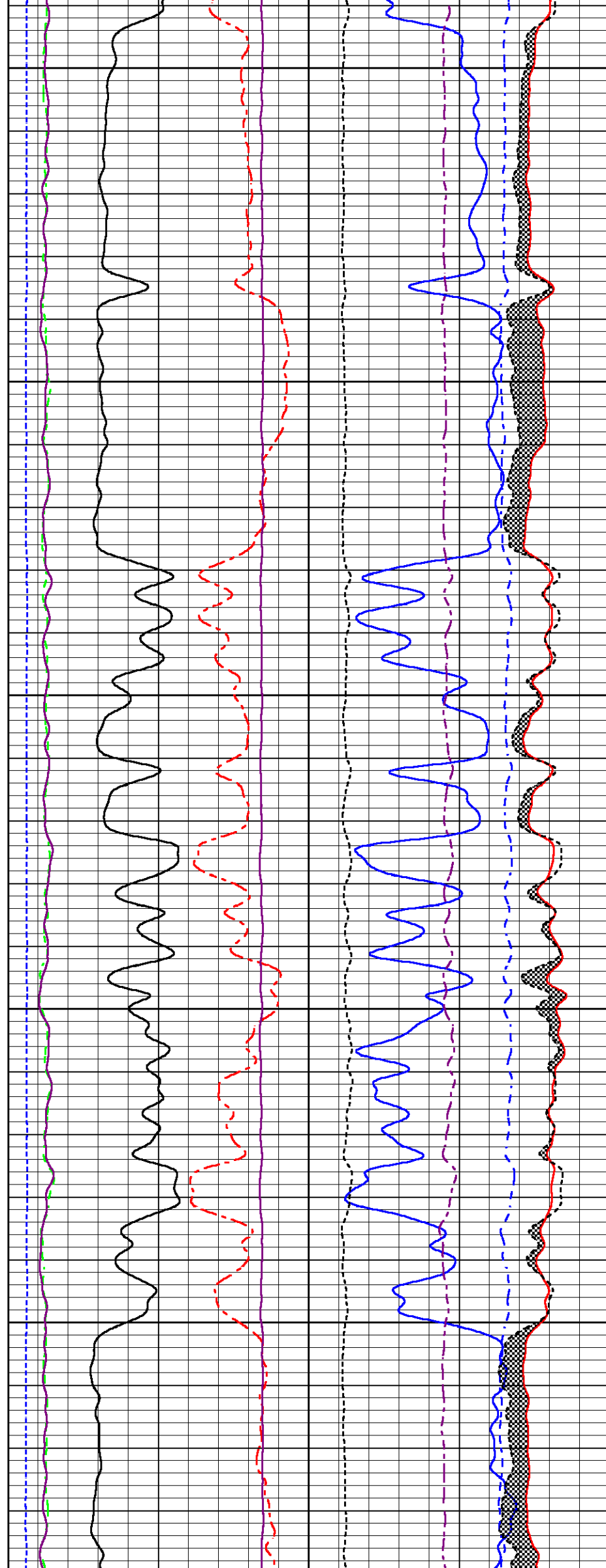
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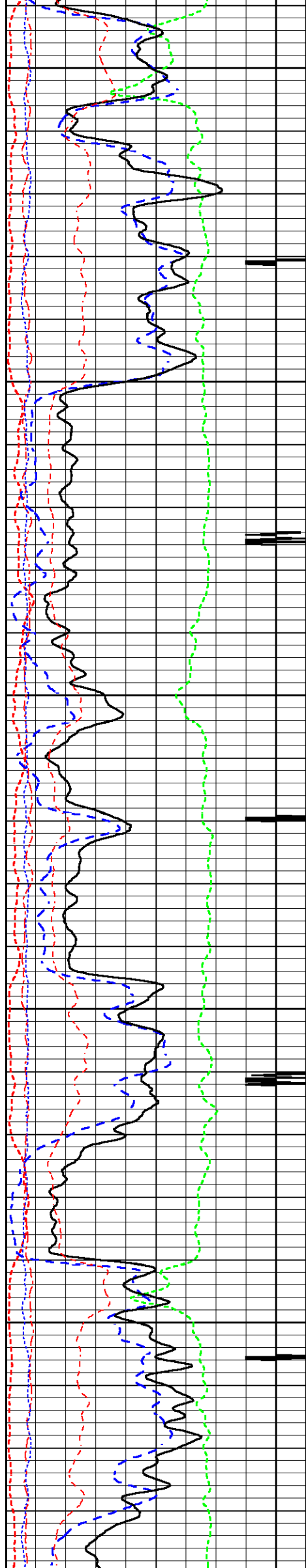




4000

4100

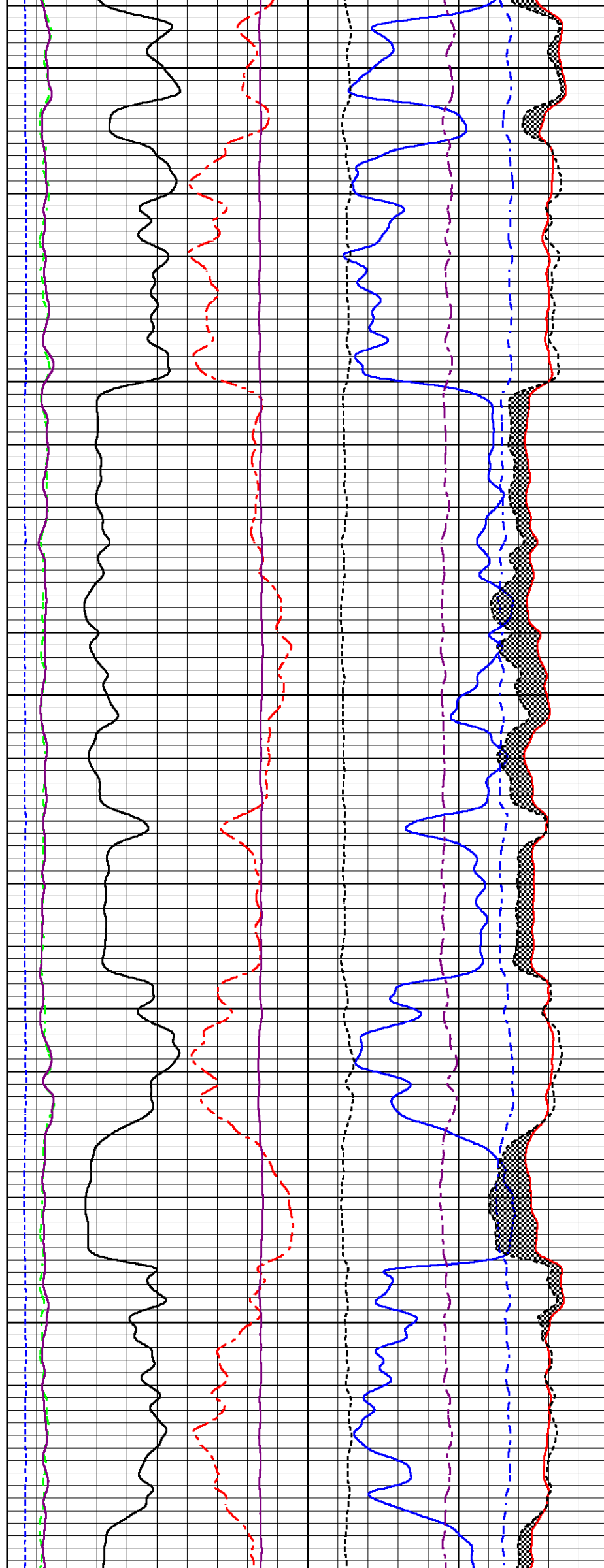


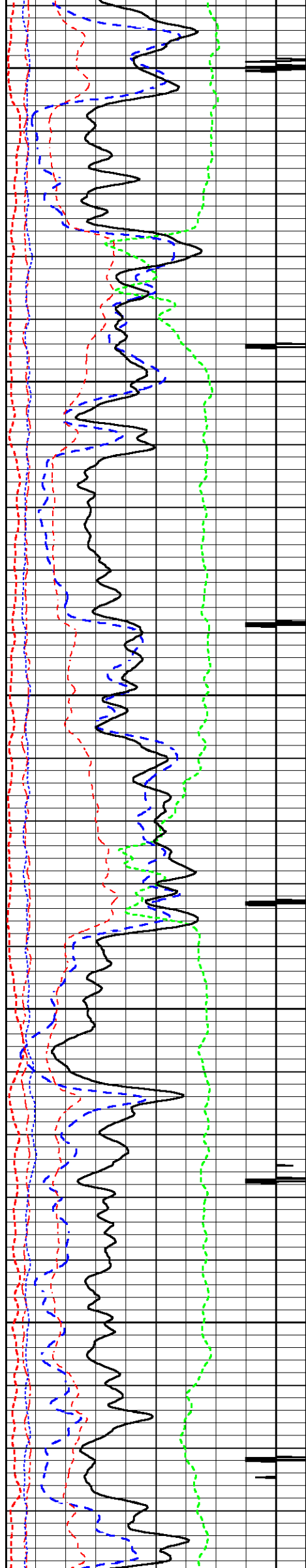


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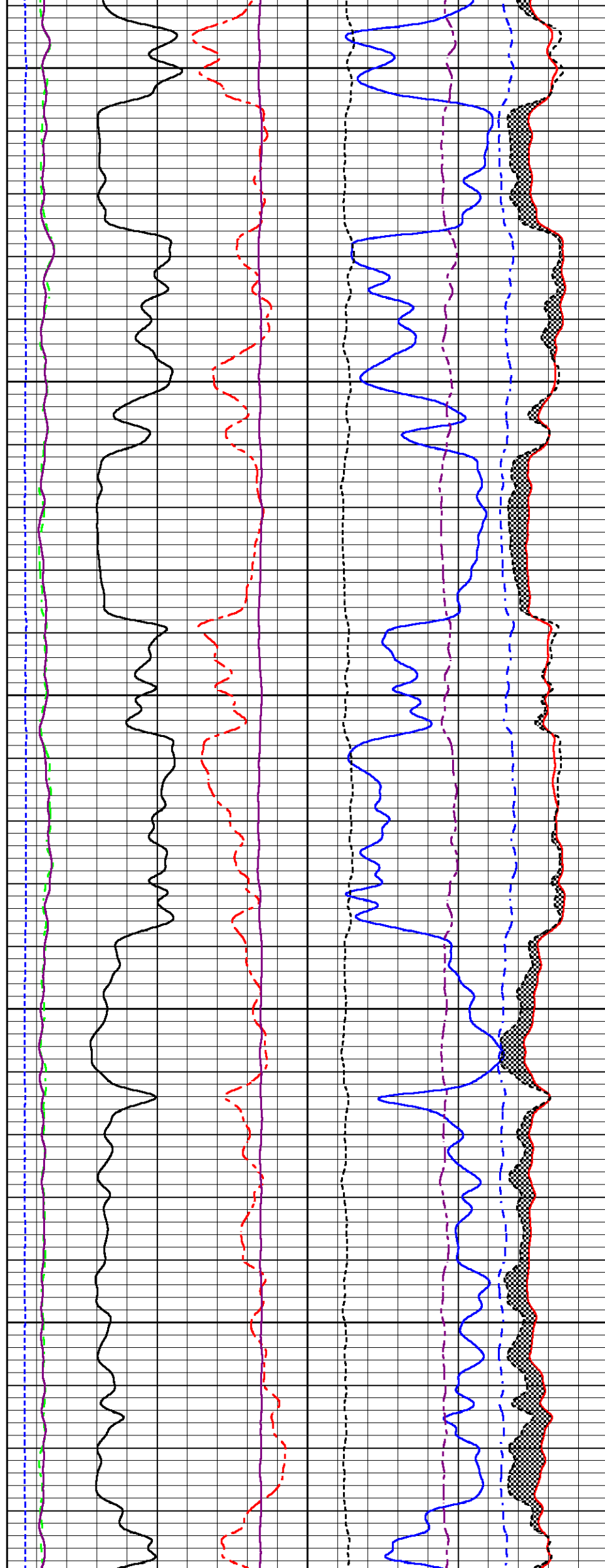
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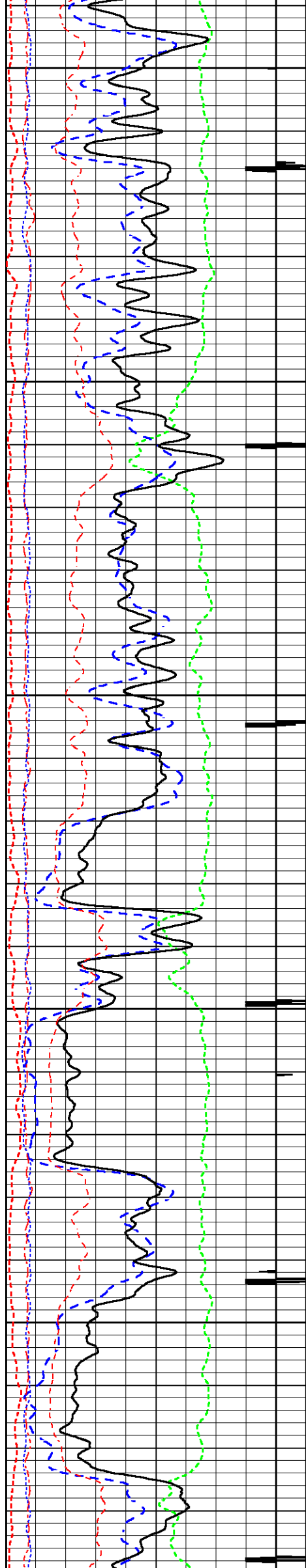




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4600

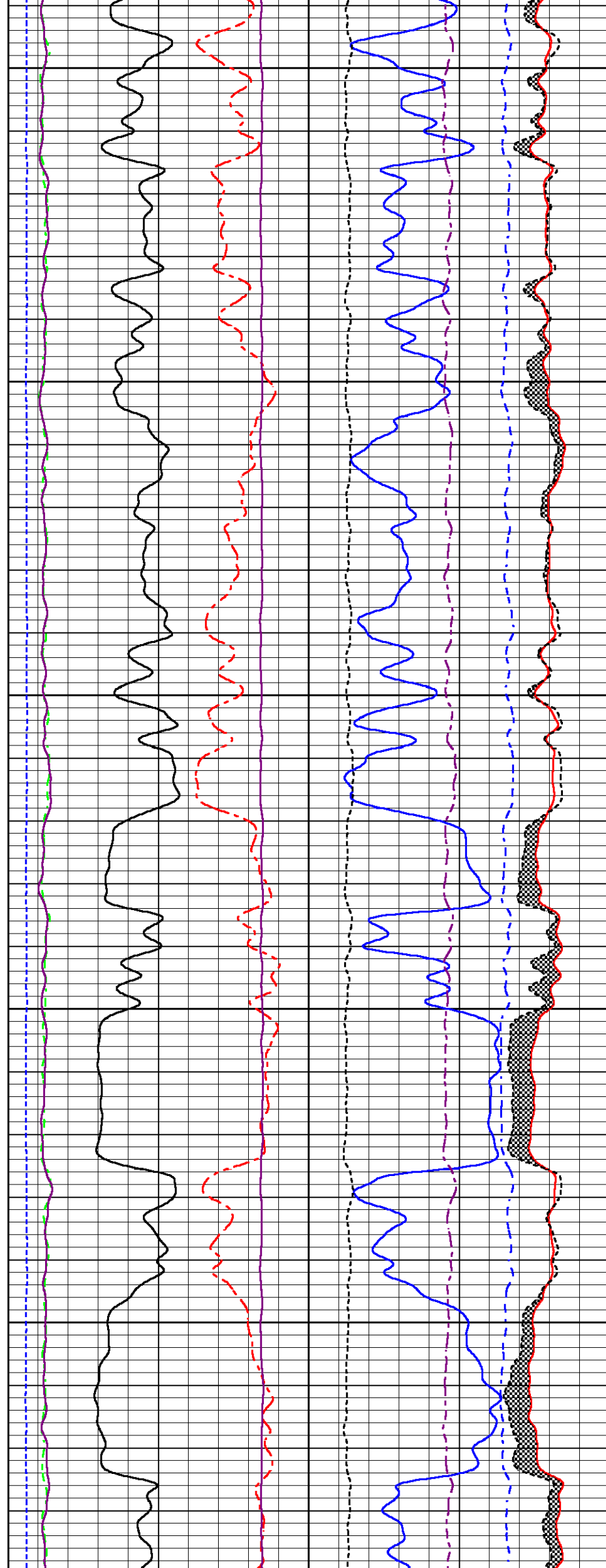


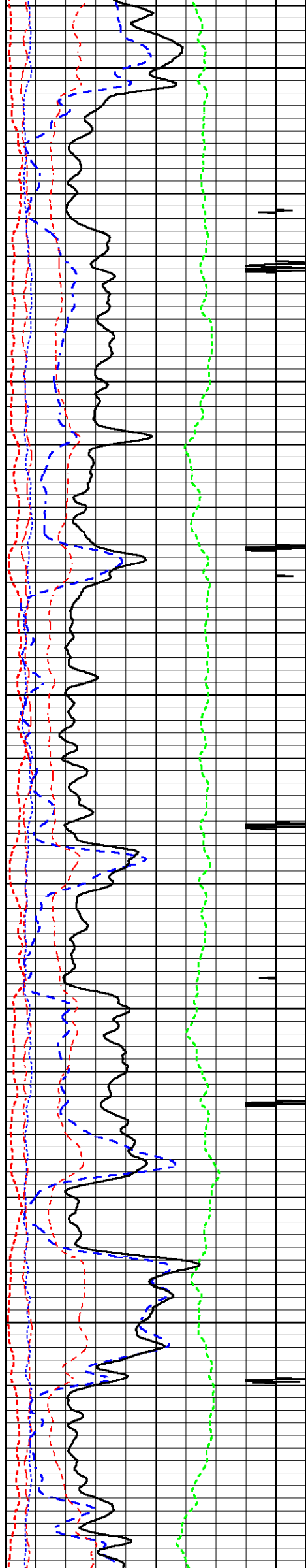


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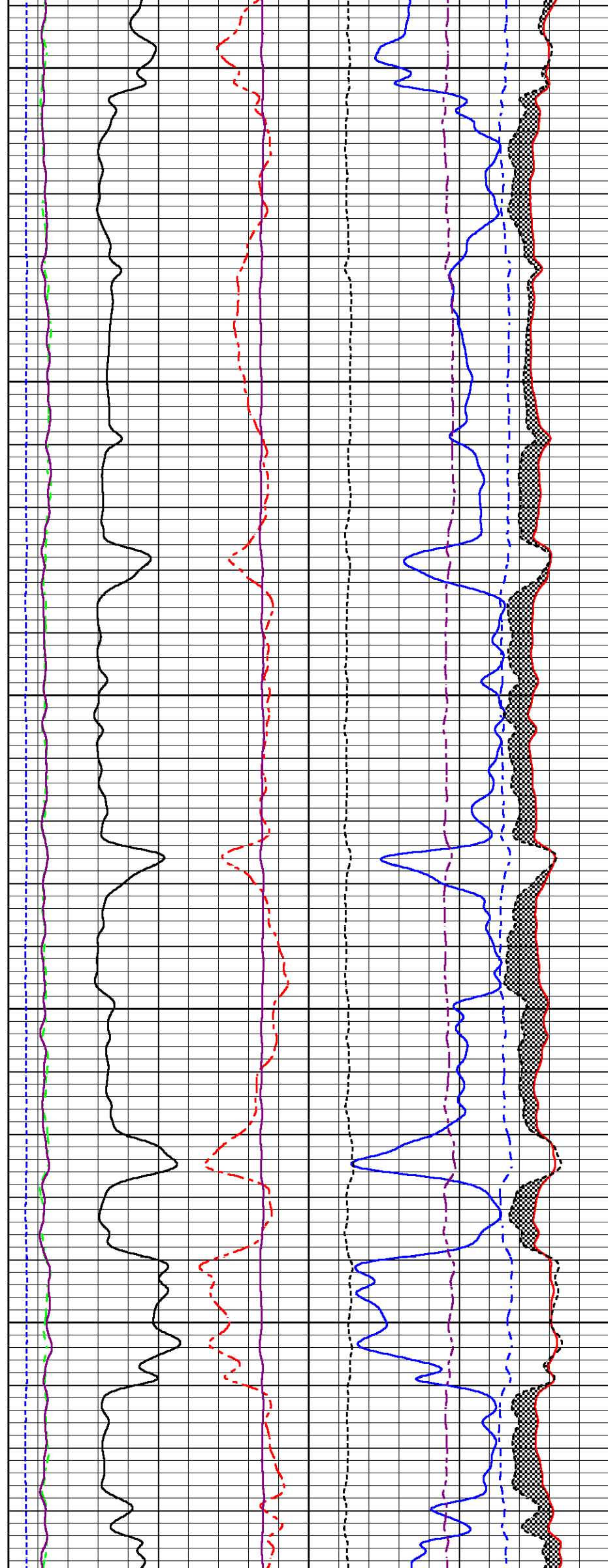
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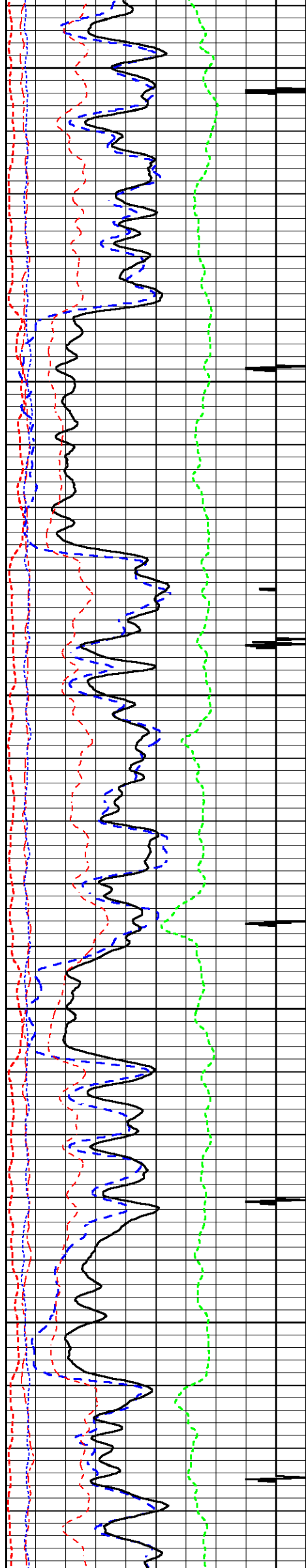




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5100

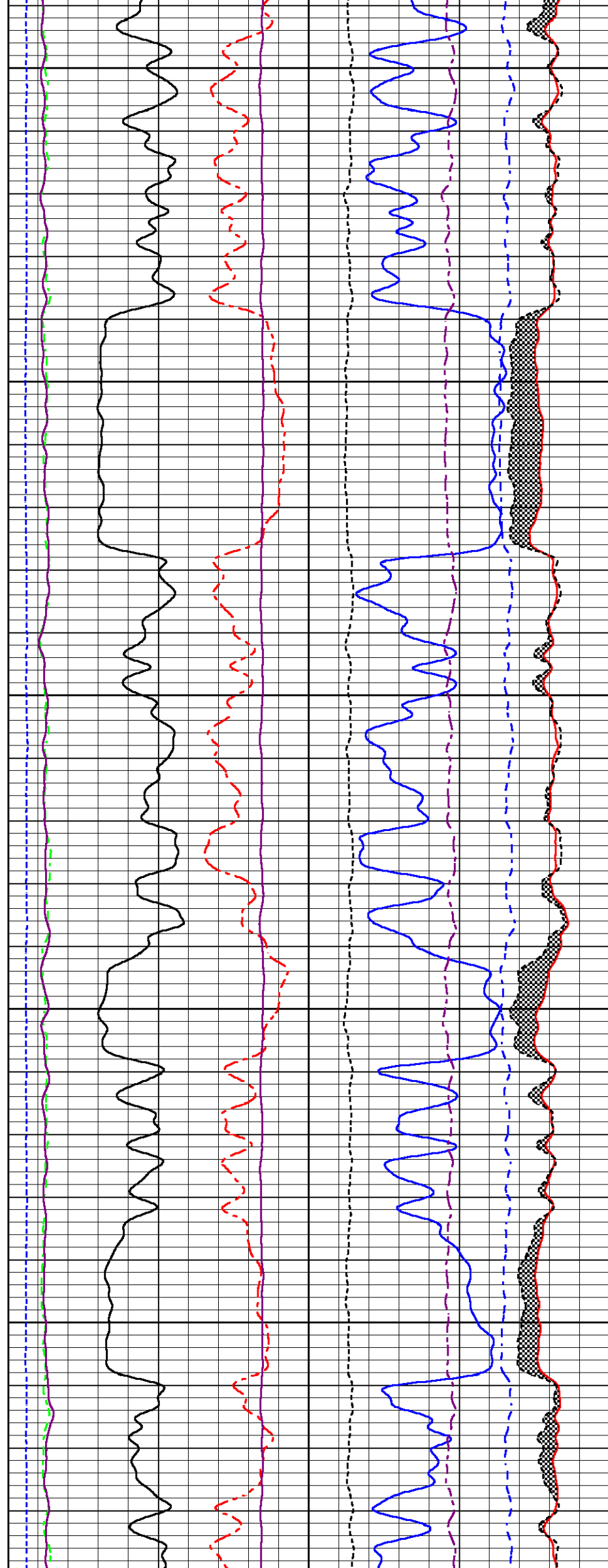


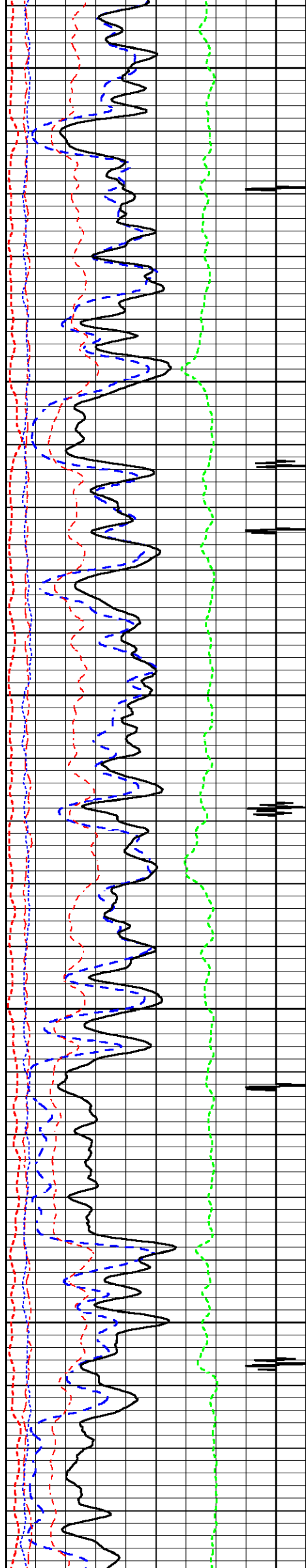


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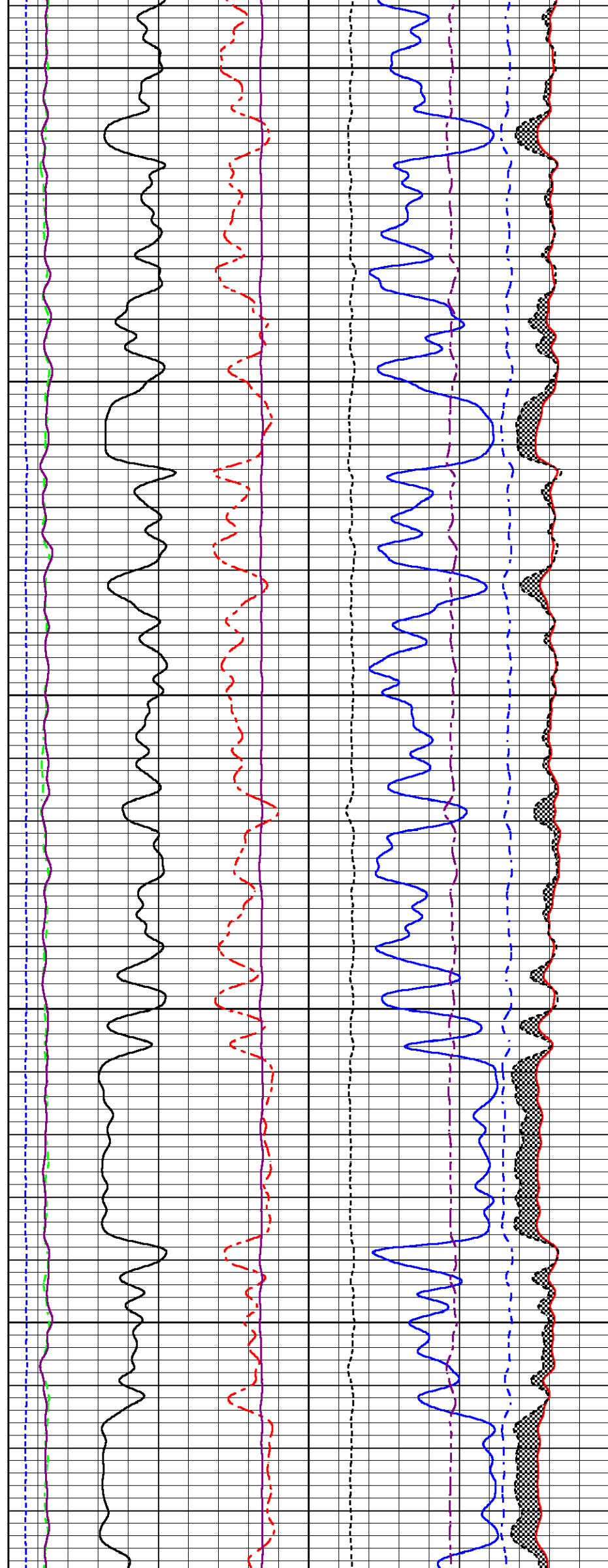
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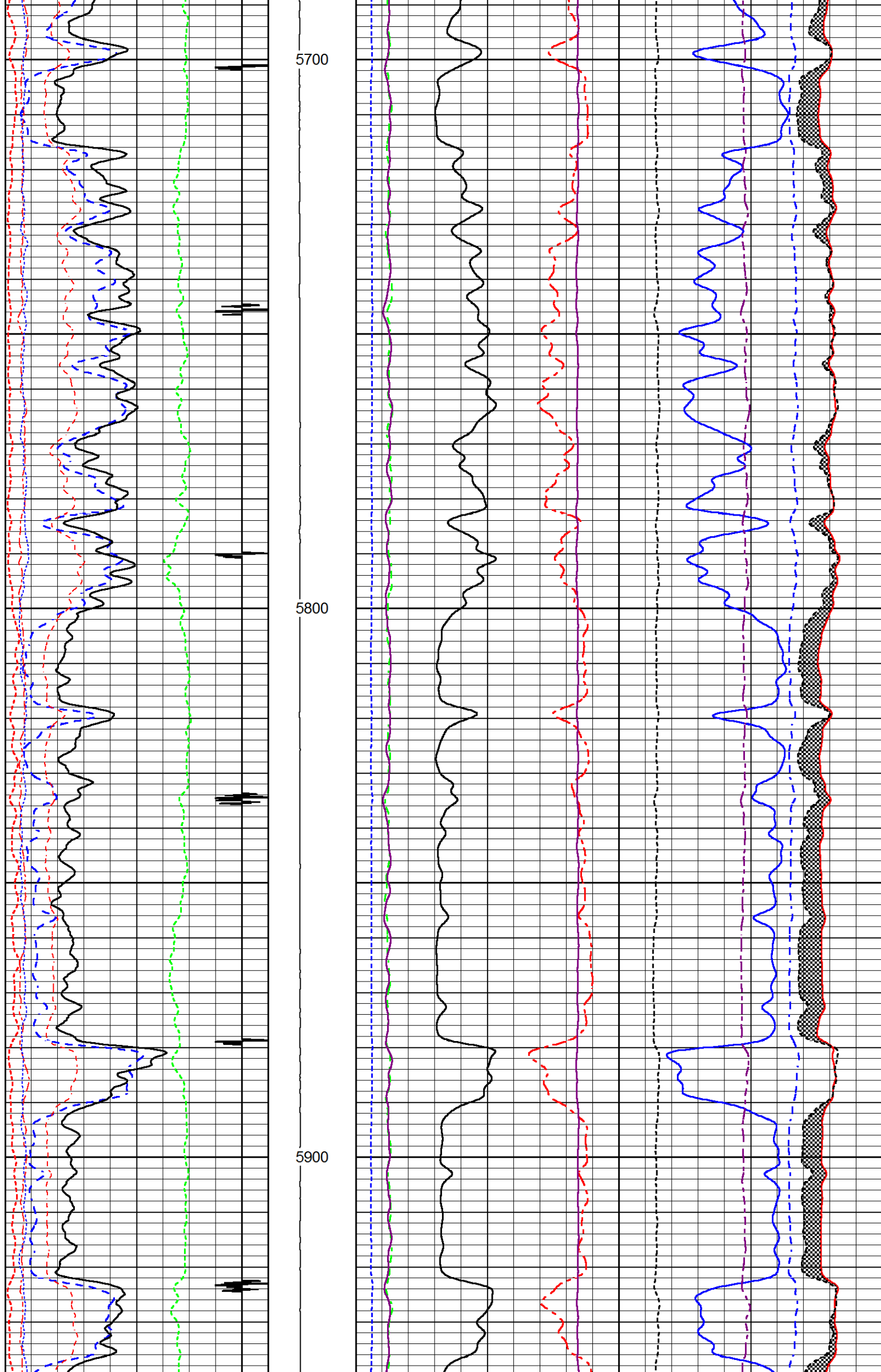


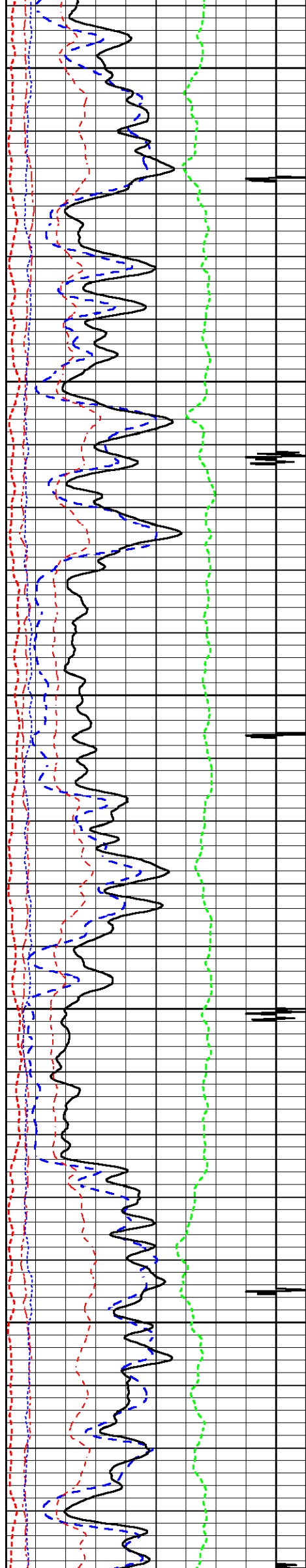


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5600

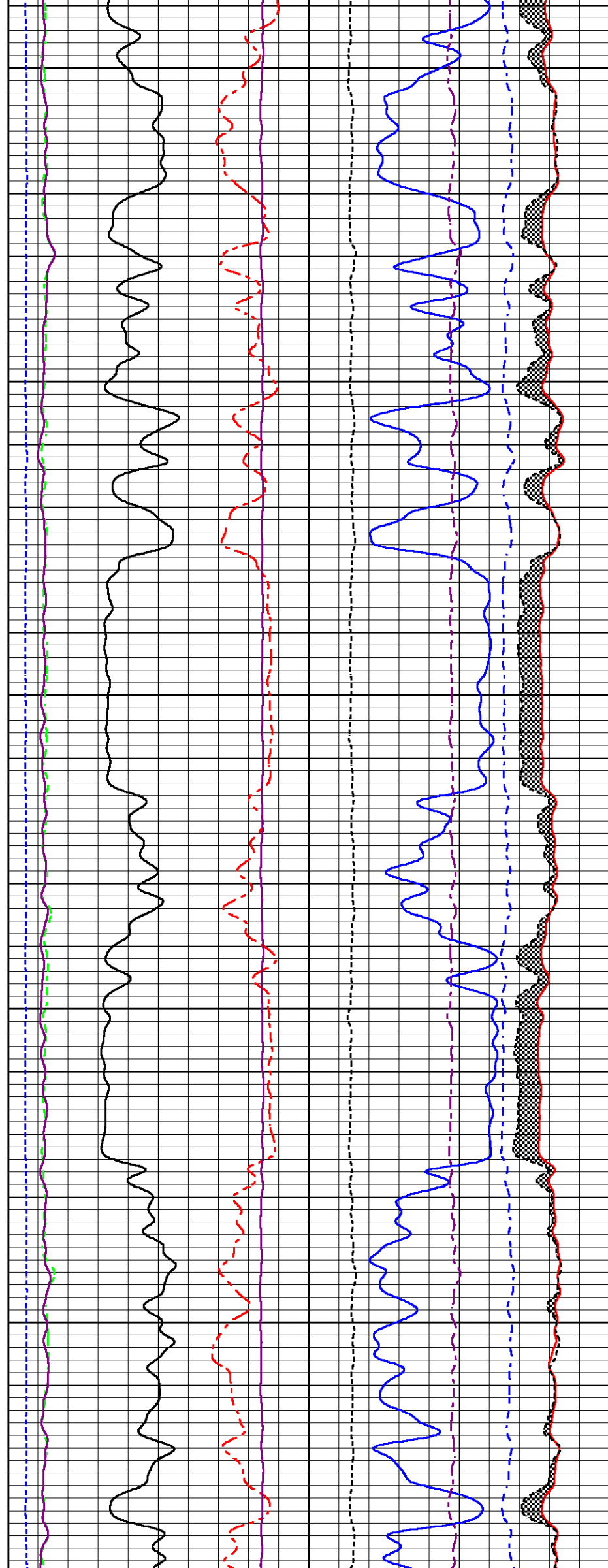


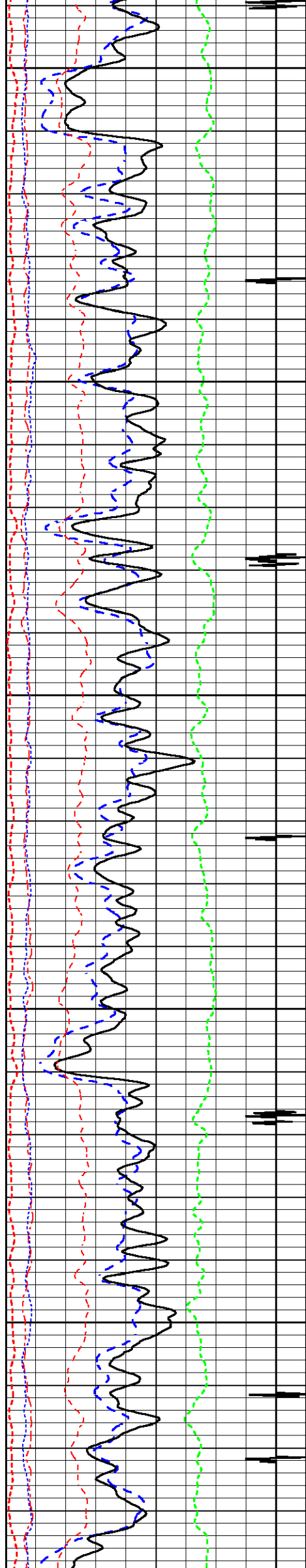




6000

6100

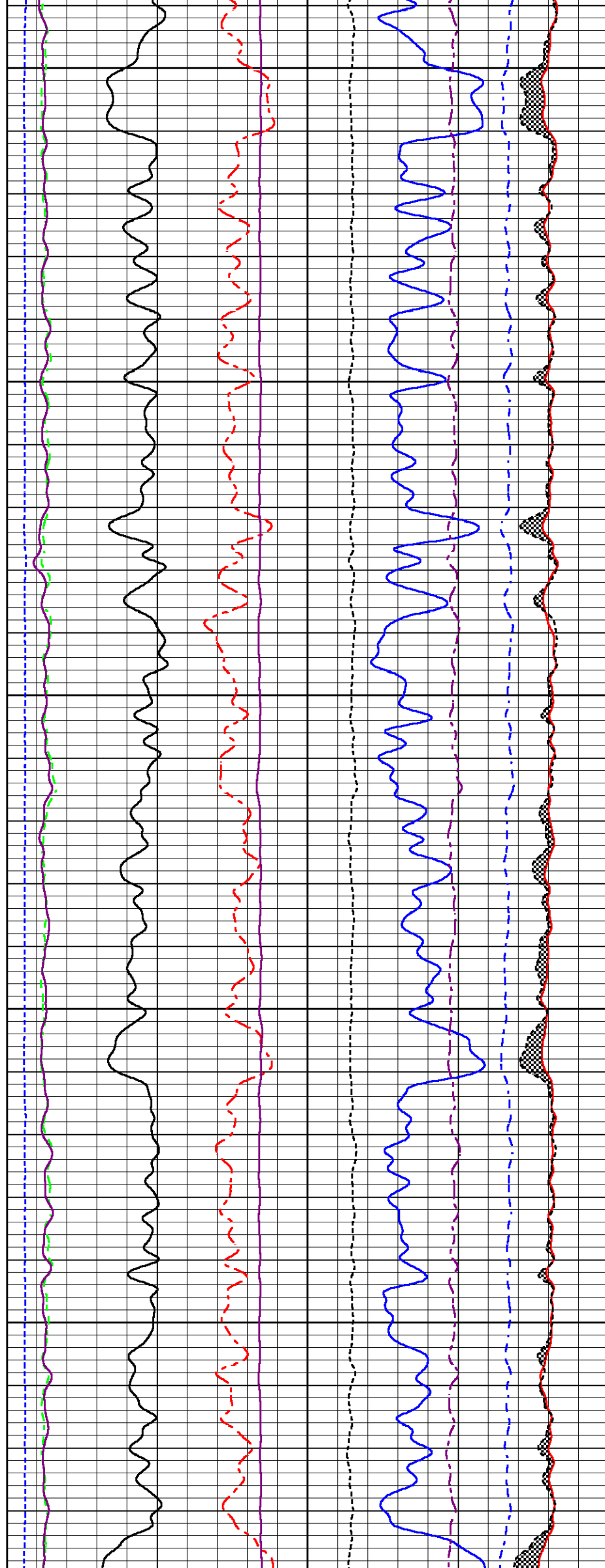


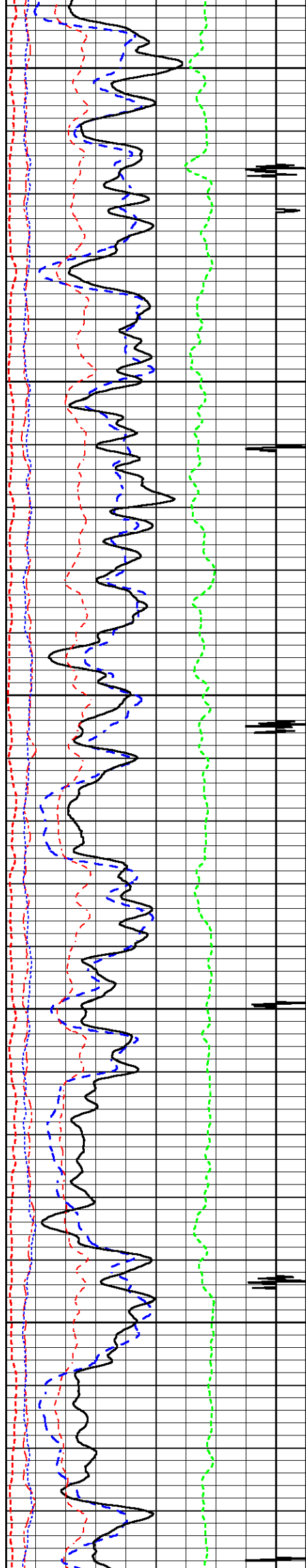


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6300

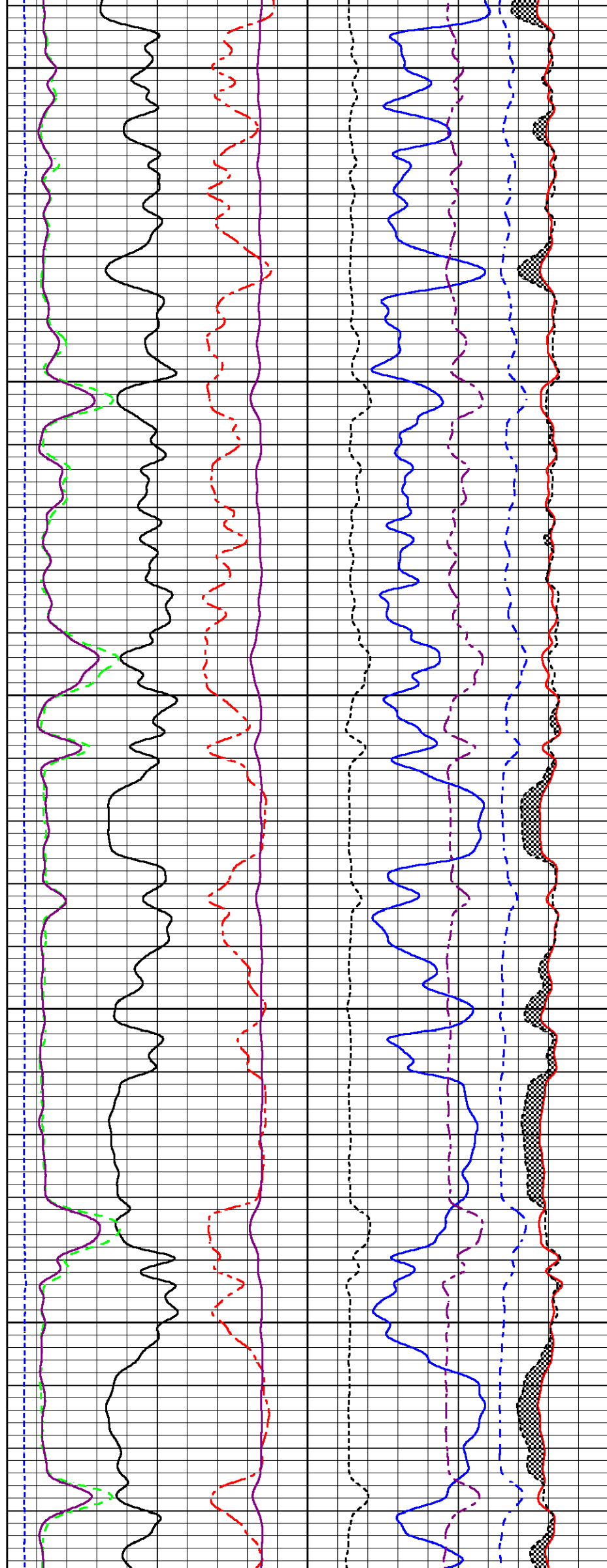
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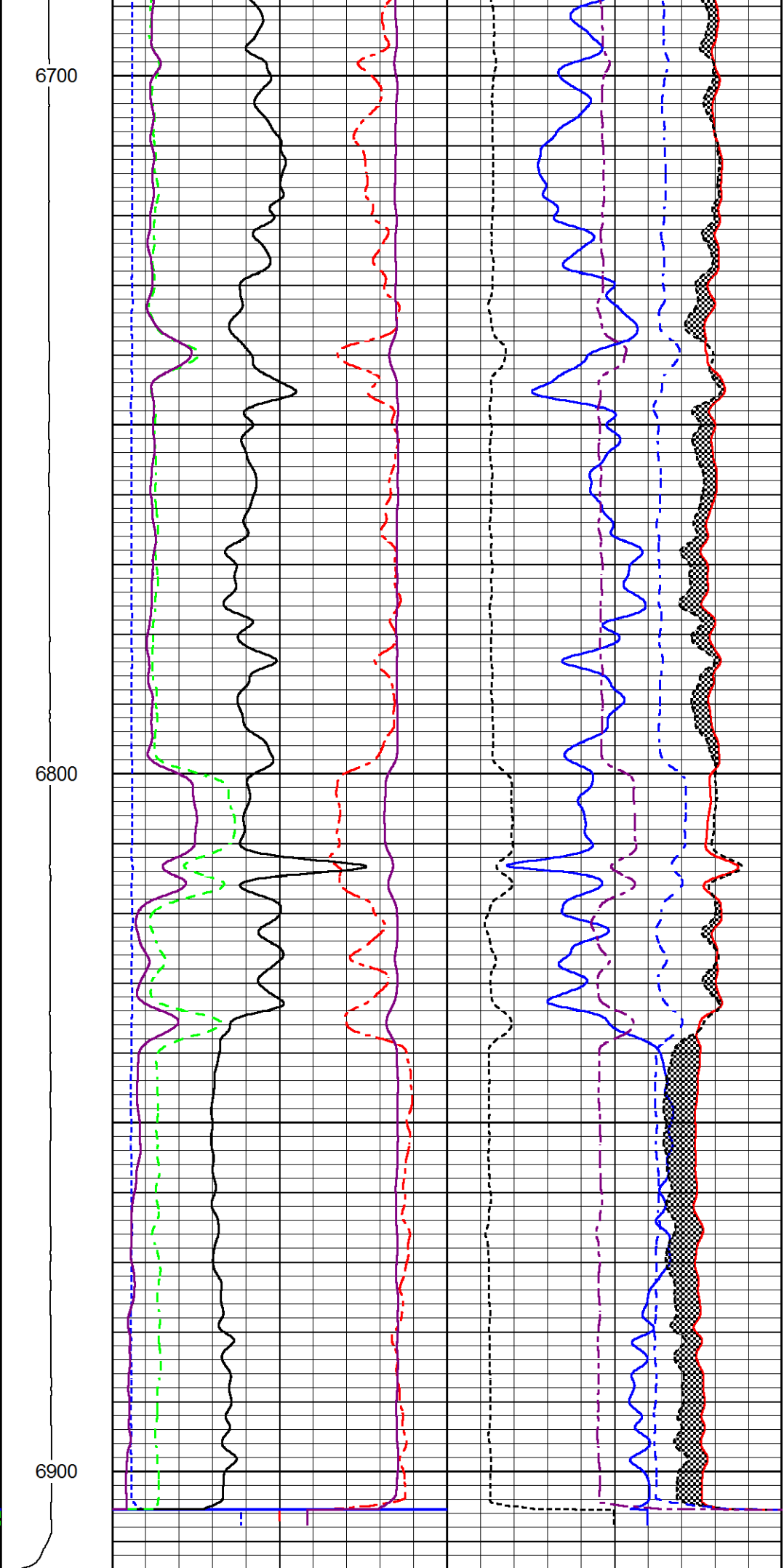
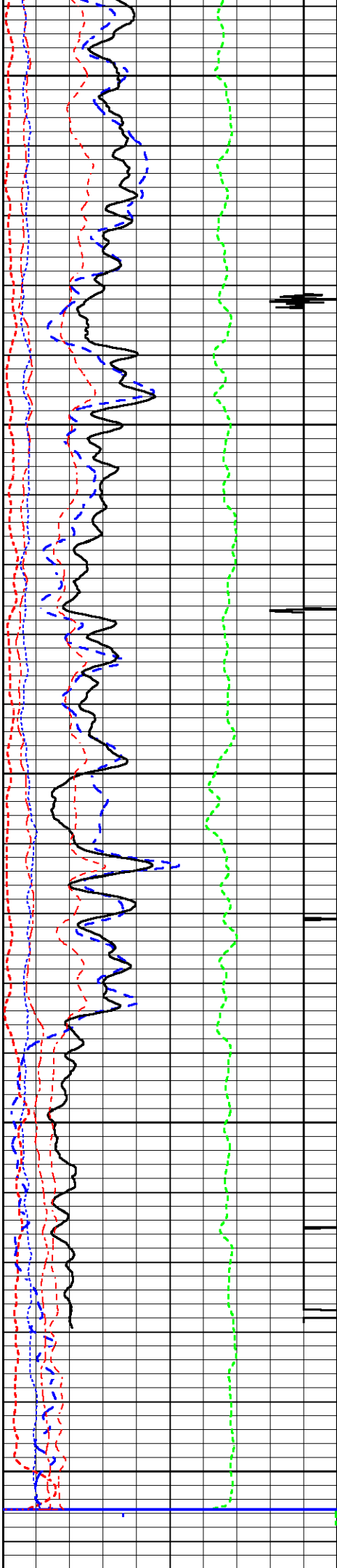




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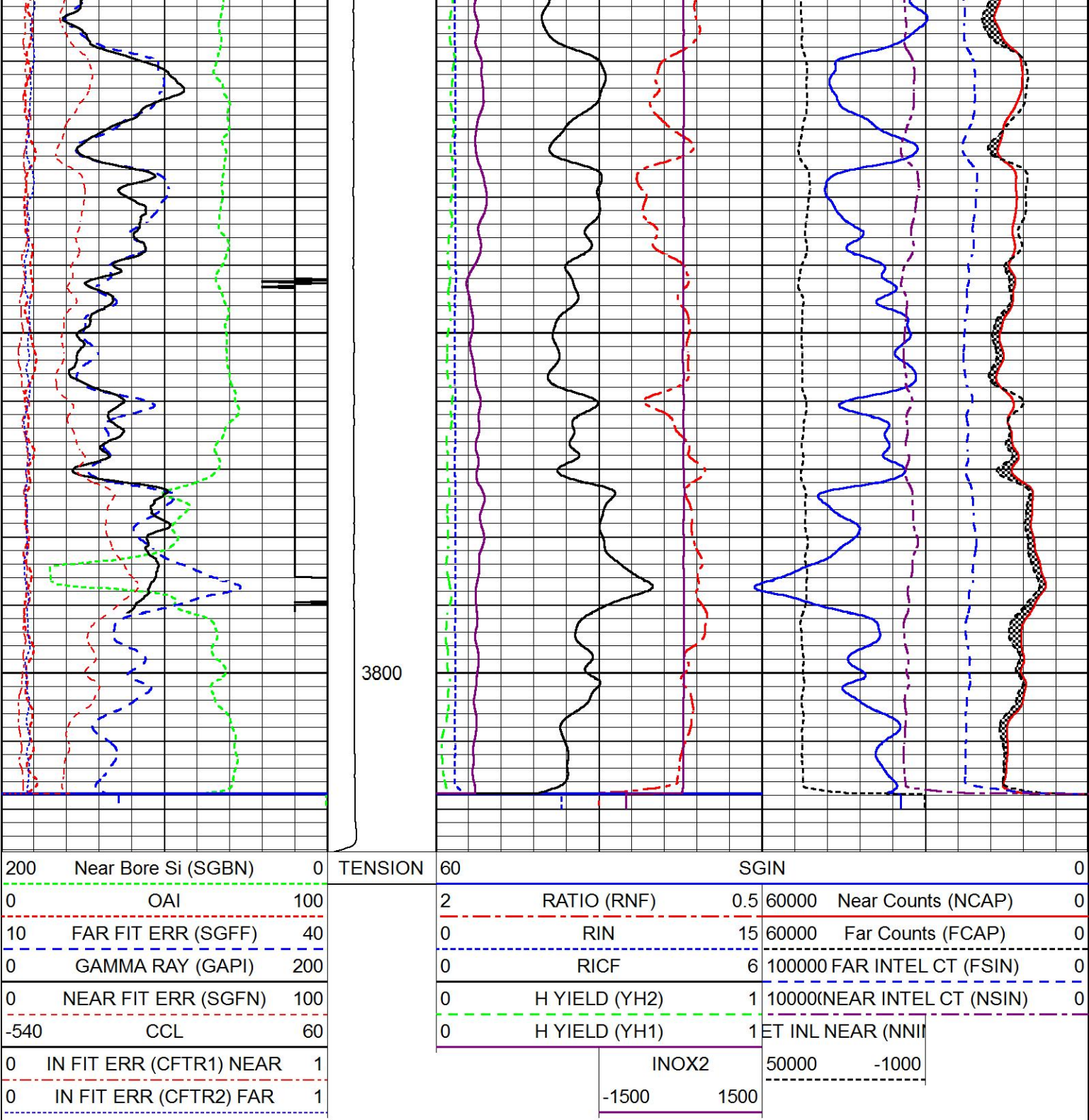
6600





| | | |
|-----|---------------------|-----|
| 200 | Near Bore Si (SGBN) | 0 |
| 0 | OAI | 100 |
| 10 | FAR FIT ERR (SGFF) | 40 |
| 0 | GAMMA RAY (GAPI) | 200 |
| 0 | NEAR FIT ERR (SGFN) | 100 |

| | | | | | | |
|---------|----|---------------|-----|--------|-----------------------|---|
| TENSION | 60 | SGIN | | | | 0 |
| | 2 | RATIO (RNF) | 0.5 | 60000 | Near Counts (NCAP) | 0 |
| | 0 | RIN | 15 | 60000 | Far Counts (FCAP) | 0 |
| | 0 | RICF | 6 | 100000 | FAR INTEL CT (FSIN) | 0 |
| | 0 | H YIELD (YH2) | 1 | 10000 | (NEAR INTEL CT (NSIN) | 0 |



REPEAT LOG SECTION

HALLIBURTON

5" = 100'

Log Variables

DatabaseD:\Warrior_data\bat_24b_cmb.db

Dataset field/well/run1/MAIN1/_vars_

Top - Bottom

| | | | | | | | |
|-------------------------|------------------------|---------------------|------------|-------------------------|------------------------|---------------------------|----------------------|
| BHTEMP_Src | BHSAL2 | BHSAL1 | POROS2 | POROS1 | LTH | UHSGC | RHOFCF |
| TEMP | 0 | 1 | 0 | 1 | Sandstone | NONE | 0.25 |
| SO in 0 | BORSAL kppm 150 | CASED? Yes | MSGGN 1 | USERFTT usec/ft 0 | ZREF MRayl 1.7 | CASEWGHT lb/ft 11.6 | SRFTEMP degF 0 |
| MudWgt lb/gal 804 | CASETHCK in 0.25 | CASEOD in 4.5 | PERFS 0 | TDEPTH ft 0 | BOTTEMP degF 100 | BITSIZE in 7.875 | |

Serial-Model:12095949-A

Shop Calibration Performed:Wed May 27 10:12:02 2015

| | | | | | |
|--------------------------|-----------|----------------|-----------|----------|-------|
| Carbon/Oxygen Mode | | | | | |
| Stabilization | | | | | |
| Result | Logged | Expected Value | Diff. | Tol. | Units |
| GENV | 82.00 | 80.00 | 2.00 | +/-15.00 | V |
| ITCR2 | 3281 | 3250 | 31 | +/-250 | cps |
| Near Detector | | | | | |
| | Channel | Expected Value | Amplitude | FWHM | Tol. |
| H | 60 | 60 +/-2 | 0.0270 | 5.32 | <6.00 |
| Fe | 207 | 206 +/-2 | 0.0961 | ----- | ----- |
| NGAIN = 0.993NZOFF = 0.7 | | | | | |
| Far Detector | | | | | |
| | Channel | Expected Value | Amplitude | FWHM | Tol. |
| H | 60 | 60 +/-2 | 0.0360 | 5.72 | <6.50 |
| Fe | 209 | 208 +/-2 | 0.0918 | ----- | ----- |
| FGAIN = 0.991FZOFF = 0.5 | | | | | |
| Flask Temperature | 63.5 degF | | | | |
| Result | Logged | Expected Value | Diff. | Tol. | Units |
| COIR2 | 0.45 | 0.45 | -0.00 | +/-0.02 | |
| LIRI2 | 1.65 | 1.64 | 0.01 | +/-0.05 | |
| TCCR2 | 5061 | 5000 | 61 | +/-1000 | cps |
| ITCR2 | 3240 | 3200 | 40 | +/-250 | cps |


| | | | | | |
|-----------------------|--------|----------------|-------|----------|-------|
| Sigma Mode | | | | | |
| Stabilization | | | | | |
| Result | Logged | Expected Value | Diff. | Tol. | Units |
| GENV | 82.00 | 80.00 | 2.00 | +/-15.00 | V |
| FCAP | 10080 | 10000 | 80 | +/-500 | cps |
| Horizontal Water Tank | | | | | |
| Result | Logged | Expected Value | Diff. | Tol. | Units |
| N/F Normalizer | 0.91 | 0.95 | -0.04 | | |
| N/F Inel Norm | 0.58 | 0.61 | -0.03 | | |
| RNF | 1.10 | 1.07 | 0.03 | +/-0.12 | |
| RINC | 1.71 | 1.64 | 0.07 | +/-0.18 | |
| SGFN | 24.09 | 24.00 | 0.09 | +/-0.50 | cu |
| SGFF | 22.90 | 22.85 | 0.05 | +/-0.50 | cu |
| FSIN | 24192 | 24000 | 192 | +/-2000 | cps |
| FCAP | 10177 | 10000 | 177 | +/-1000 | cps |
| NFTR | 0.84 | | | <5.00 | |
| FFTR | 0.88 | | | <5.00 | |
| NBKG | 179 | | | <500 | cps |
| FBKG | 93 | | | <500 | cps |
| RTN | 0.40 | 0.40 | 0.00 | +/-0.10 | usec |
| RTF | 0.43 | 0.40 | 0.03 | +/-0.10 | usec |

| | |
|---------------------------------------|--------------|
| Calibration Software Modules | |
| HRMTI Module | 2013.11.14.0 |
| RMTI Module | 2014.8.28.1 |
| Log Data Acquisition Software Modules | |
| HRMTI Module | 2013.11.14.0 |
| RMTI Module | 2014.8.28.1 |

| | |
|---|--------------------------|
| Cement Bond Log Shop Calibration Report | |
| Serial-Model: | 11817843-A |
| Calibration Performed: | Wed Jun 17 01:49:39 2015 |

| | | |
|---------------------------------|----------|-------|
| Free Pipe Calibration | | |
| | Measured | Units |
| TT | 246.9 | usec |
| Amplitude | 574.2 | mV |
| Log Base Line | -7.6 | mV |
| Calibration References and Gain | | |
| Name | Value | Units |
| Pipe O.D. | 4.500 | in |
| Pipe Weight | 11.6 | lb/ft |
| Pipe Ref. Amp. | 81.2 | mV |
| Amp. Gain | 0.140 | |

| Gamma Ray Calibration Report | | | | | | |
|------------------------------|-------------|--------------------------|--------|-------|----------|--|
| Type / Serial: | | 002 / 11495480 | | | | |
| SHOP CALIBRATION | | Sat Jun 20 07:02:20 2015 | | | | |
| | Counts/Sec. | Gain | Offset | Jig | Units | |
| Background | 43.9 | | | | cps | |
| Calibrator | 341.5 | | | | cps | |
| | | 1.3711 | | | GAPI/cps | |
| PRIMARY VERIFICATION | | Sat Jun 20 07:04:41 2015 | | | | |
| Background | 58.7 | | | | cps | |
| Calibrator | 472.4 | | | | cps | |
| Difference | | | | 413.8 | GAPI | |
| BEFORE SURVEY VERIFICATION | | | | | | |
| Background | 0.0 | | | | cps | |
| Calibrator | 0.0 | | | | cps | |
| Difference | | | | 0.0 | GAPI | |
| AFTER SURVEY VERIFICATION | | | | | | |
| Background | 0.0 | | | | cps | |
| Calibrator | 0.0 | | | | cps | |
| Difference | | | | 0.0 | GAPI | |

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|---|--|-------------|-----------|-------------|
| CCL | 35.09 |  | STNDCH-STND_CH 1.4375 IN CABLE HEAD | 1.50 | 1.44 | 1.00 |
| | | | TTTCU-002 (11495480) | 7.65 | 1.69 | 100.00 |

| | | | | | | | | | |
|--|-------|--|---|-------|------|--------|--|--|--|
| GR | 32.83 | | Through Tubing Telemetry Cartridge - Ultrawire | | | | | | |
| | | | XHU-003 (12461939) Crossover Halliburton 1553 to Ultrawire | 1.58 | 1.69 | 7.00 | | | |
| | | | CENT-CASTM-CENT CAST M INLINE CENTRALIZER | 2.16 | 3.13 | 25.00 | | | |
| Temp | 23.11 | | | | | | | | |
| TT3FT | 20.86 | | HCBLM-A (11817843) Halliburton HCBLM Tool | 9.38 | 2.75 | 116.00 | | | |
| AMP3FT | 20.86 | | | | | | | | |
| | | | CENT-CASTM-CENT CAST M INLINE CENTRALIZER | 2.16 | 3.13 | 25.00 | | | |
| RmtTFGT | 8.47 | | | | | | | | |
| RmtTNGT | 7.97 | | RMTI-A (12095949) Halliburton RMTI Tool | 14.00 | 2.13 | 77.00 | | | |
| | | | | | | | | | |
| RmtFP5V | 0.22 | | | | | | | | |
| RmtCommFWar | 0.22 | | | | | | | | |
| LOCTIM | 0.00 | | | | | | | | |
| UTCTIM | 0.00 | | | | | | | | |
| LLMTEN | 0.00 | | BUL-006 (000002) Bullnose Terminator | 0.22 | 1.69 | 1.20 | | | |
| Dataset: bat_24b_cmb.db: field/well/run1/MAIN1 | | | | | | | | | |
| Total length: 38.66 ft | | | | | | | | | |
| Total weight: 352.20 lb | | | | | | | | | |
| O.D.: 3.13 in | | | | | | | | | |

| | | | | |
|-------------|-----------------------------------|-------|----|--|
| Company | URSA OPERATING CO., LLC. | | | |
| Well | BAT 24B-18-07-95 | | | |
| Field | PARACHUTE | | | |
| County | GARFIELD | State | CO | |
| HALLIBURTON | RESERVOIR MONITOR TOOL - ELITE | | | |

