



FILE NO: **COMPANY**
US625568
WELL **STRAIT SG 341-22**
API NO: **FIELD**
05045217470000 **COUNTY** **GRAND VALLEY**
STATE **CO**

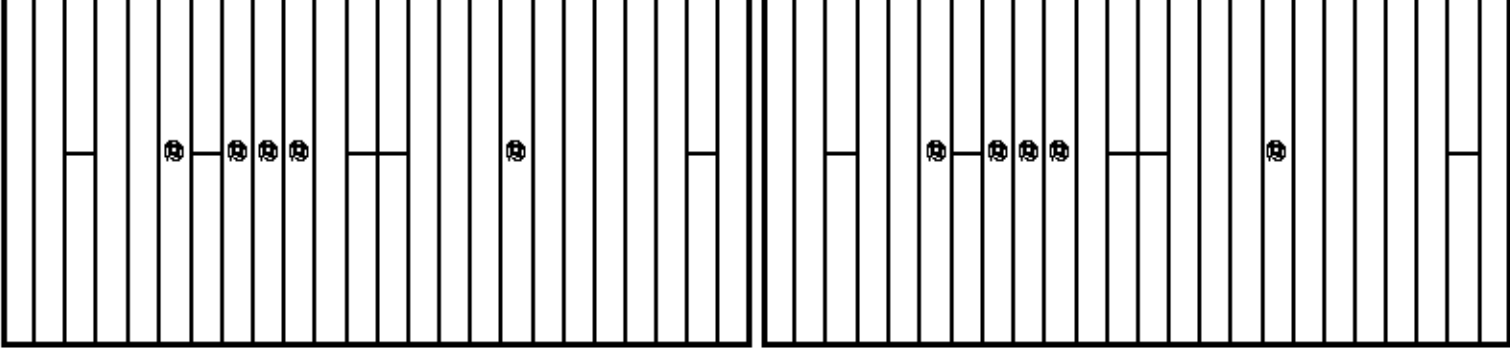
Ver. 3.87
S22 T7S R96W
PAD SG 42-22
RIG CYCLONE 17
LOCATION: SHL: 1458' FNL: 286' FEL
BHL: 616' FNL: 623' FEL
SEC 22 T4N 7S R9E 96W
OTHER SERVICES
ORIT
XMAC

PERMANENT DATUM GL ELEVATION 5222 FT
LOG MEASURED FROM KB 22 FT ABOVE P.D.
DRILL MEAS. FROM KB
ELEVATIONS:
KB 5244 FT
DF
GL 5222 FT

| DATE | TRIP | 12-Aug-2013 | 12-Aug-2013 |
|------------------------|------------|-------------|-------------|
| RUN | 1 | 1 | 1 |
| SERVICE ORDER | 625568 | 625568 | |
| DEPTH DRILLER | 870 FT | 870 FT | |
| DEPTH LOGGER | 864 FT | 864 FT | |
| BOTTOM LOGGED INTERVAL | 818 FT | 807 FT | |
| TOP LOGGED INTERVAL | 0 FT | 10 FT | |
| CASING DRILLER | 0 IN | 84 FT | 84 FT |
| CASING LOGGER | 82 FT | 82 FT | |
| BIT SIZE | 13.5 IN | 13.5 IN | |
| TYPE OF FLUID IN HOLE | WBM | WBM | |
| DENSITY | 9.8 LB/G | 9.8 LB/G | 82 CP |
| PH | 9.6 | 9.6 | 5.4 C3 |
| SOURCE OF SAMPLE | FLOWLINE | FLOWLINE | |
| RM AT MEAS. TEMP. | 0.37 OHMM | 0.37 OHMM | 80 DEGF |
| RMF AT MEAS. TEMP. | 0.277 OHMM | 0.277 OHMM | 80 DEGF |
| RMC AT MEAS. TEMP. | 0.462 OHMM | 0.462 OHMM | 80 DEGF |
| SOURCE OF RMF | RMC | CALCULATED | CALCULATED |
| RM AT BHT | 1.422 OHMM | 100.45 DEGF | |
| TIME SINCE CIRCULATION | 5 HRS | 7 HRS | |
| MAX. RECORDED TEMP. | 105 DEGF | 103 DEGF | |
| EQUIP. NO. | 6670 | 6670 | GRAND JUNC |
| RECORDED BY | PATTON | PATTON | |
| WITNESSED BY | MIKE BRUNK | MIKE BRUNK | |

| DATE | TRIP | 15-Aug-2013 | 1 |
|------------------------|-----------|-------------|------------|
| RUN | 3 | | |
| SERVICE ORDER | 625570 | | |
| DEPTH DRILLER | 5770 FT | | |
| DEPTH LOGGER | 5766 FT | | |
| BOTTOM LOGGED INTERVAL | 5760 FT | | |
| TOP LOGGED INTERVAL | 0 FT | | |
| CASING DRILLER | 9.625 IN | 857 FT | |
| CASING LOGGER | 854 FT | | |
| BIT SIZE | 8.75 IN | | |
| TYPE OF FLUID IN HOLE | WBM | | |
| DENSITY | 9.95 LB/G | 58 CP | |
| PH | 9.5 | 6.6 C3 | |
| SOURCE OF SAMPLE | FLOWLINE | | |
| RM AT MEAS. TEMP. | 1.97 OHMM | 80 DEGF | |
| RMF AT MEAS. TEMP. | 1.48 OHMM | 75 DEGF | |
| RMC AT MEAS. TEMP. | 2.46 OHMM | 75 DEGF | |
| SOURCE OF RMF | RMC | CALCULATED | CALCULATED |
| RM AT BHT | .768 OHMM | 163 DEGF | |
| TIME SINCE CIRCULATION | 4 HR | | |
| MAX. RECORDED TEMP. | 163 DEGF | | |
| EQUIP. NO. | 6670 | GRAND JCT | |
| RECORDED BY | D. SMITH | | |
| WITNESSED BY | M. BRUNK | | |

| DATE | TRIP | | |
|------------------------|------|--|--|
| RUN | | | |
| SERVICE ORDER | | | |
| DEPTH DRILLER | | | |
| DEPTH LOGGER | | | |
| BOTTOM LOGGED INTERVAL | | | |
| TOP LOGGED INTERVAL | | | |
| CASING DRILLER | | | |
| CASING LOGGER | | | |
| BIT SIZE | | | |
| TYPE OF FLUID IN HOLE | | | |
| DENSITY | | | |
| PH | | | |
| SOURCE OF SAMPLE | | | |
| RM AT MEAS. TEMP. | | | |
| RMF AT MEAS. TEMP. | | | |
| RMC AT MEAS. TEMP. | | | |
| SOURCE OF RMF | | | |
| RM AT BHT | | | |
| TIME SINCE CIRCULATION | | | |
| MAX. RECORDED TEMP. | | | |
| EQUIP. NO. | | | |
| RECORDED BY | | | |
| WITNESSED BY | | | |



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 | 870 FT |
| 8.75 IN | 875 FT | 5770 FT |

| CASING RECORD | | | | |
|---------------|------------|-------|------|--------|
| SIZE | WEIGHT | GRADE | FROM | TO |
| 18 IN | 47.44 LB/F | | 0 FT | 84 FT |
| 9.625 IN | 32 LB/F | | 0 FT | 857 FT |

| REMARKS | |
|---------------|--|
| RUN 1 TRIP 1: | HDIL ZDL CN GR RUN IN COMBINATION BVOL CVOL CALCULATED IN CUBIC FEET BVOL CALCULATED USING PROPOSED 9.625IN CASING CALIPER VERIFIED INSIDE CASING CN MATRIX: SANDSTONE RHO MATRIX: 2.68 G/CC RHO FLUID: 1.00 G/CC HDIL RAN WITH 1.5IN STANDOFFS ABC TO CALCULATE STANDOFF |
| RUN 2 TRIP 1: | GR-XMAC RUN IN COMBINATION DT MATRIX: 51.3 USEC/FT |
| RUN 3 TRIP 1: | HDIL-XMAC-ZDL-CN-GR-TTRM RUN IN COMBINATION BVOL/CVOL CALCULATED IN CUBIC FEET BVOL CALCULATED USING PROPOSED 4.5 IN PROD CASING CALIPER VERIFIED INSIDE CASING CN MATRIX: SANDSTONE RHO MATRIX: 2.68 G/CC RHO FLUID: 1.00 G/CC HDIL RUN WITH 1.5 IN STANDOFFS ABC TO CALCULATED: STANDOFF DT MATRIX: 51.3 USEC/FT RUN 1/RUN 3 MERGED AT 856 FEET MERGE CAUSED CALIPER GAP AT 850 FT WELL DRILLED AT 18 DEGREE DEVIATION LOGGING OUT PULLED CLOSE TO 50% WT CREW: D. SMITH/Z. OLSON/C. COATE THANK YOU FOR CHOOSING BAKER HUGHES WIRELINE |

| EQUIPMENT DATA | | | | |
|----------------|------|------|-----------|-----------|
| RUN | TRIP | TOOL | SERIES NO | SERIAL NO |
| | | | | |

| ROW | TTRF | TOOL | SERIES NO. | TOOL | SERIES NO. | POSITION |
|-----|------|-------------|------------|------|------------|---------------|
| 1 | 1 | SWIVEL | 3944XD | | 10195796 | FREE |
| 1 | 1 | TTRM | 3981XA | | 10203010 | FREE |
| 1 | 1 | TEL | 3514XA | | 10240730 | FREE |
| 1 | 1 | GR | 1329XA | | 10196895 | FREE |
| 1 | 1 | CN | 2446XA | | 10202034 | DECENTRALIZED |
| 1 | 1 | ZDL | 2234XA | | 10211833 | PAD DEVICE |
| 1 | 1 | KNUCKLE | 3939XA | | 10399278 | FREE |
| 1 | 1 | HDIL EA | 1515EA | | 10049592 | STOOD OFF |
| 1 | 1 | HDIL MA | 1515MA | | 10037719 | STOOD OFF |
| 2 | 1 | SWIVEL | 3944XD | | 10195796 | FREE |
| 2 | 1 | TTRM | 3981XA | | 10203010 | FREE |
| 2 | 1 | TEL | 3514XA | | 10240730 | FREE |
| 2 | 1 | GR | 1329XA | | 10196895 | FREE |
| 2 | 1 | ORIT | 4401XA | | 370714 | FREE |
| 2 | 1 | CENTRALIZER | 4341XA | | 12022542 | CENTRALIZED |
| 2 | 1 | XMAC EA | 1677EA | | 10366234 | FREE |
| 2 | 1 | RECIEVER | 1678MC | | 10202352 | FREE |
| 2 | 1 | ISOLATOR | 1678PB | | 10200307 | FREE |
| 2 | 1 | TRANSMITTER | 1678BA | | 10203015 | FREE |
| 2 | 1 | TX EA | 1678FA | | 10337917 | FREE |
| 2 | 1 | CENTRALIZER | 4341XA | | 10211527 | CENTRALIZED |
| 3 | 1 | SWIVEL | 3944XD | | 10195796 | FREE |
| 3 | 1 | TTRM | 3981XA | | 10203010 | FREE |
| 3 | 1 | TEL | 3514XA | | 10240730 | FREE |
| 3 | 1 | GR | 1329XA | | 10196895 | FREE |
| 3 | 1 | CN | 2446XA | | 10202034 | DECENTRALIZED |
| 3 | 1 | ZDL | 2234XA | | 10211833 | PAD DEVICE |
| 3 | 1 | ORIT | 4401XA | | 370714 | FREE |
| 3 | 1 | CENTRALIZER | 4341XA | | 12022542 | CENTRALIZED |
| 3 | 1 | XMAC EA | 1677EA | | 10366234 | FREE |
| 3 | 1 | RECIEVER | 1678MC | | 10202352 | FREE |
| 3 | 1 | ISOLATOR | 1678PB | | 10200307 | FREE |
| 3 | 1 | TRANSMITTER | 1678BA | | 10203015 | FREE |
| 3 | 1 | TX EA | 1678FA | | 10337917 | FREE |
| 3 | 1 | CENTRALIZER | 4341XA | | 10211527 | CENTRALIZED |
| 3 | 1 | KNUCKLE | 3939XA | | 10399278 | FREE |
| 3 | 1 | HDIL EA | 1515EA | | 10049592 | STOOD OFF |
| 3 | 1 | HDIL MA | 1515MA | | 10037719 | STOOD OFF |

MAIN LOG 2"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Patches: 1

Plotted: Thu Aug 15 18:04:03 2013

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625570/nu779x05.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 698.250 ft BOTTOM DEPTH: 5770.750 ft

SYMMETRIC FILTER

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|------------------|-------------|------------|-------|---------------|--------|
| TTRM | FILTER Q | medium (1) | | TOP | BOTTOM |
| | FILTER (.h) | medium (1) | | " | " |
| | FILTER (.i) | medium (1) | | " | " |
| Y AXIS CALIPER | FILTER Q | medium (1) | | " | " |
| TENSION | FILTER Q | medium (1) | | " | " |
| GR | FILTER Q | medium (1) | | " | " |
| CALIPER | FILTER Q | medium (1) | | " | " |
| | FILTER (.h) | medium (1) | | " | " |
| | FILTER (.i) | medium (1) | | " | " |
| SP-SPDH | FILTER Q | medium (1) | | " | " |

BOREHOLE & CEMENT

BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|-------------------------------|---------------------------|---------------|--------------|---------------|--------|
| BIT SIZE | BIT SIZE | 8.750 | in | TOP | BOTTOM |
| MUD SAMPLE RESISTIVITY | MUD SAMPLE TEMP | 80.0 | degF | " | " |
| | MUD SAMPLE RES | 1.970 | ohm.m | " | " |
| BOREHOLE TEMP from GRADIENT | Known BH REF TEMP | 77.0 | degF | " | " |
| | at BH REF DEPTH | 0.0 | ft | " | " |
| | with TEMP GRADIENT | 1.200 | 0.01 degF/ft | " | " |
| BOREHOLE CORR DIAMETER SOURCE | CALIPER/FIXED DIA. (mbh*) | USE CALIPER | | " | " |
| BOREHOLE CORR DIAMETER | FIXED DIAMETER (mbh*) | 8.750 | in | " | " |
| BH MUD RESISTIVITY SOURCE | RMUD SOURCE (HDIL) | TOOL MEASURED | | " | " |

HDIL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|------------------------------|------------------|------------|-------|---------------|--------|
| HDIL TEMPERATURE CORRECTION | TEMP CORR SOURCE | USE RXTEMP | | TOP | BOTTOM |
| ADAPTIVE BOREHOLE CORRECTION | ABC PROCESSING | ON | | " | " |
| | ABC to CALCULATE | STANDOFF | | " | " |
| | STANDOFF | 1.50 | in | " | " |
| | TOOL POSITION | ECCENTERED | | " | " |
| | Rmud MULTIPLIER | 1.000 | | " | " |

CURVE DESCRIPTION REPORT

| CURVE NAME | CREATION DATE | CURVE DESCRIPTION |
|------------|----------------------|--|
| F1:GR | Aug 15 12:25:22 2013 | GAMMA RAY |
| F1:MOC6 | Aug 15 12:25:22 2013 | FOCUSED CONDUCTIVITY, 60-INCH DOI |
| F1:MOR2 | Aug 15 12:25:22 2013 | TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI |
| F1:MOR6 | Aug 15 12:25:22 2013 | TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI |
| F1:SP | Aug 15 12:25:22 2013 | SPONTANEOUS POTENTIAL |
| F1:TEN | Aug 15 12:25:22 2013 | DIFFERENTIAL TENSION |

CURVE MEASURE POINT OFFSET

| CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) |
|-------|-------------|-------|-------------|-------|-------------|-------|-------------|
| GR | 107.25 | MOR2 | 8.00 | SP | 14.00 | | |
| MOC6 | 8.00 | MOR6 | 8.00 | TEN | 0.00 | | |

Presentation : HL6670:WPX_2IN.fvpdf [2"/100' Scale]

Plot Interval : 740 - 5801 Feet

Data File 1 : F1 : HL6670:/dat1a/625570/MAIN_PROD.xtf

Created On : Aug 15 12:25:22 2013

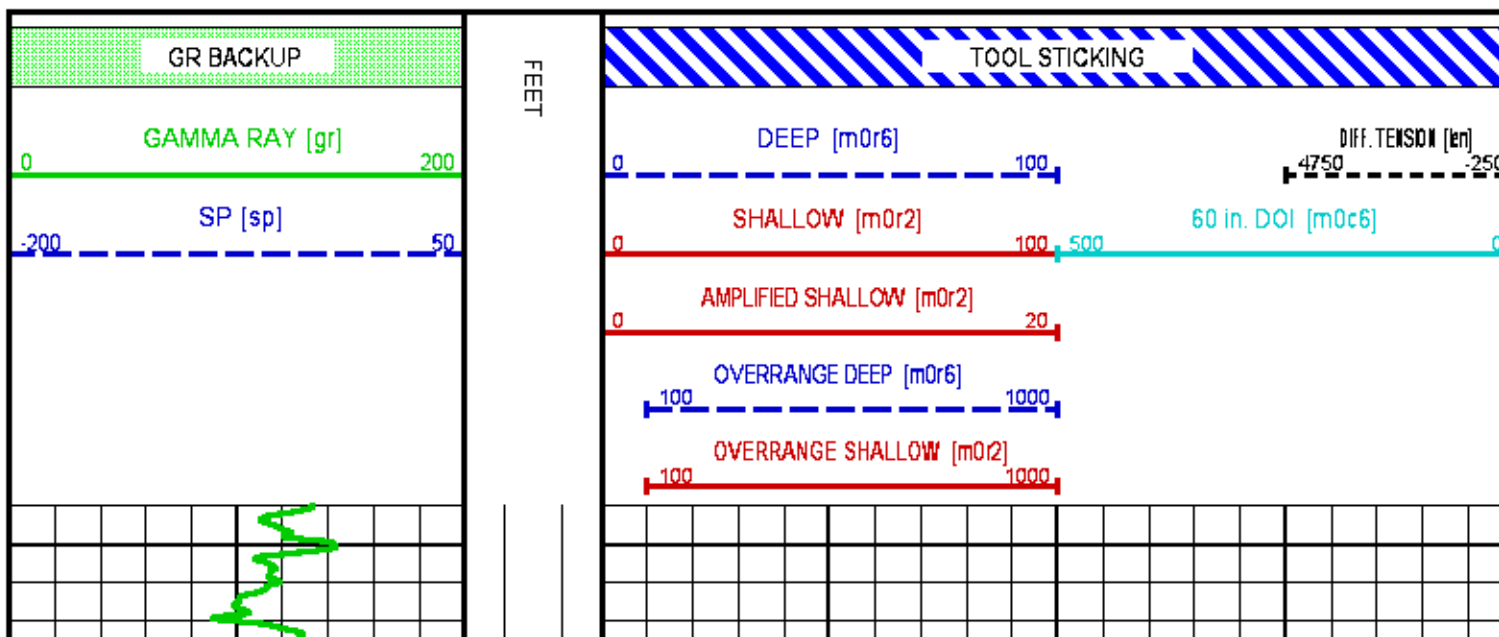
Company : WPX ENERGY INC

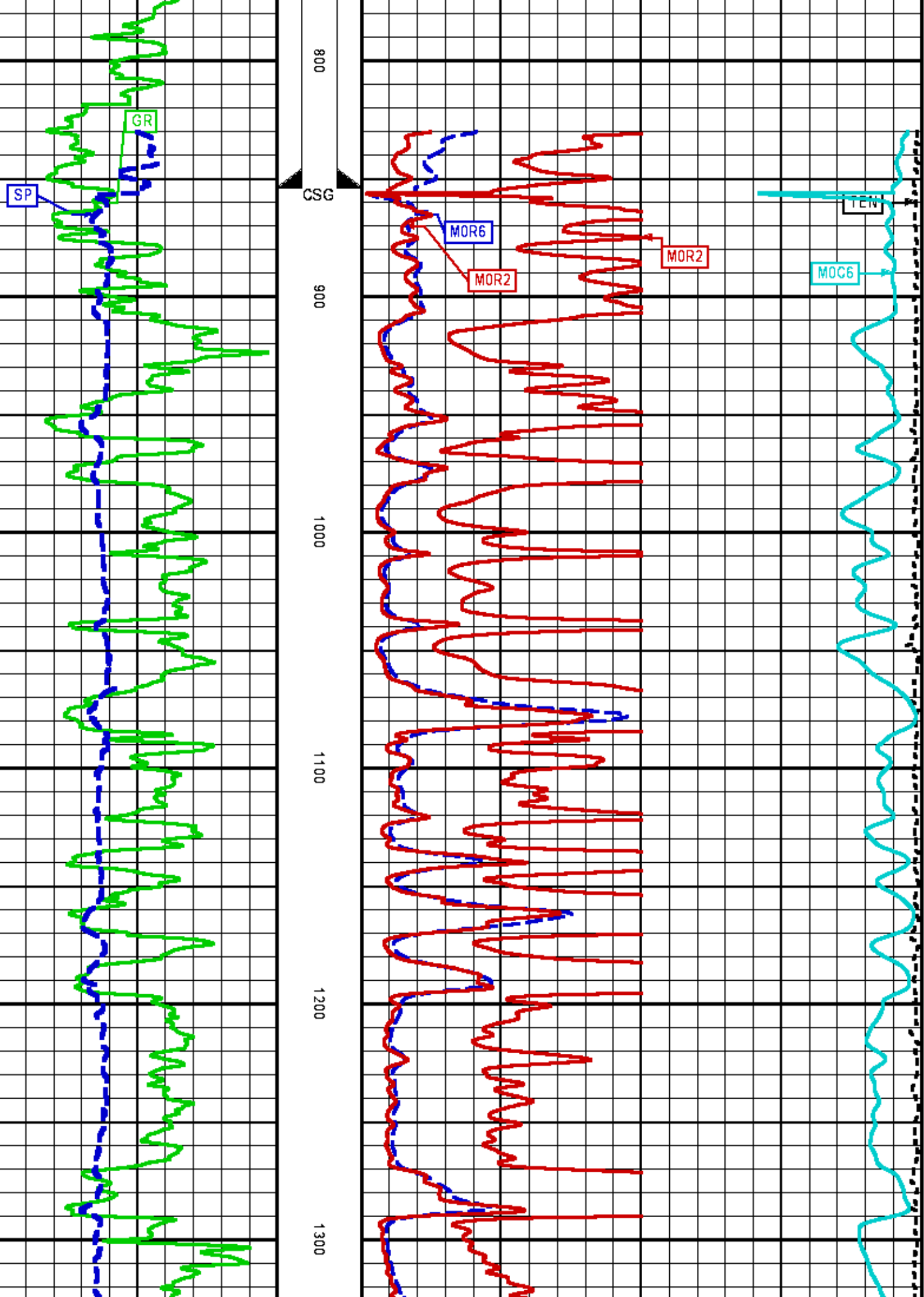
Well : STRAIT SG 341-22

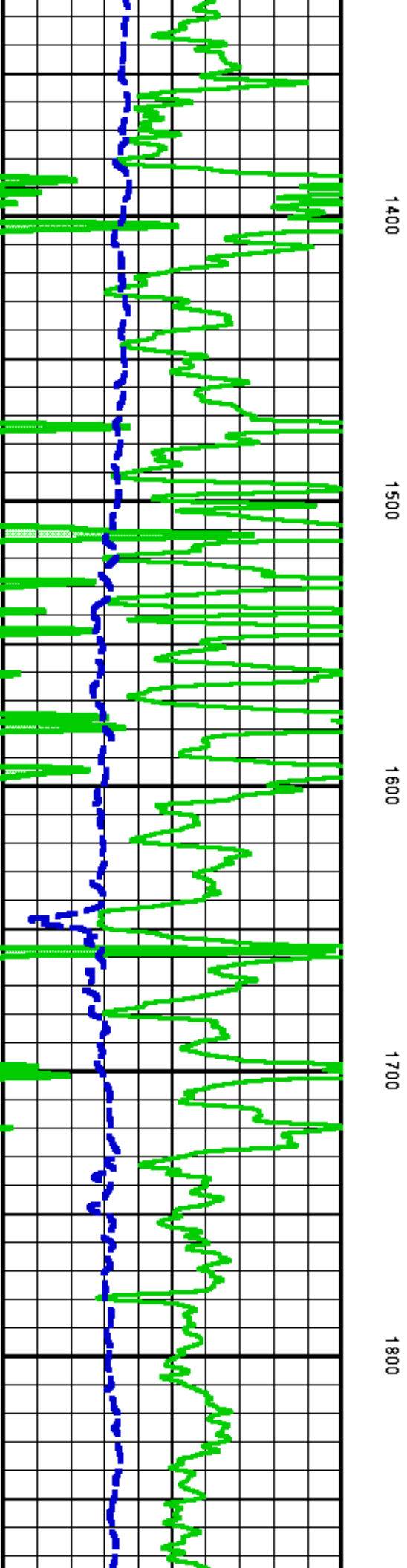
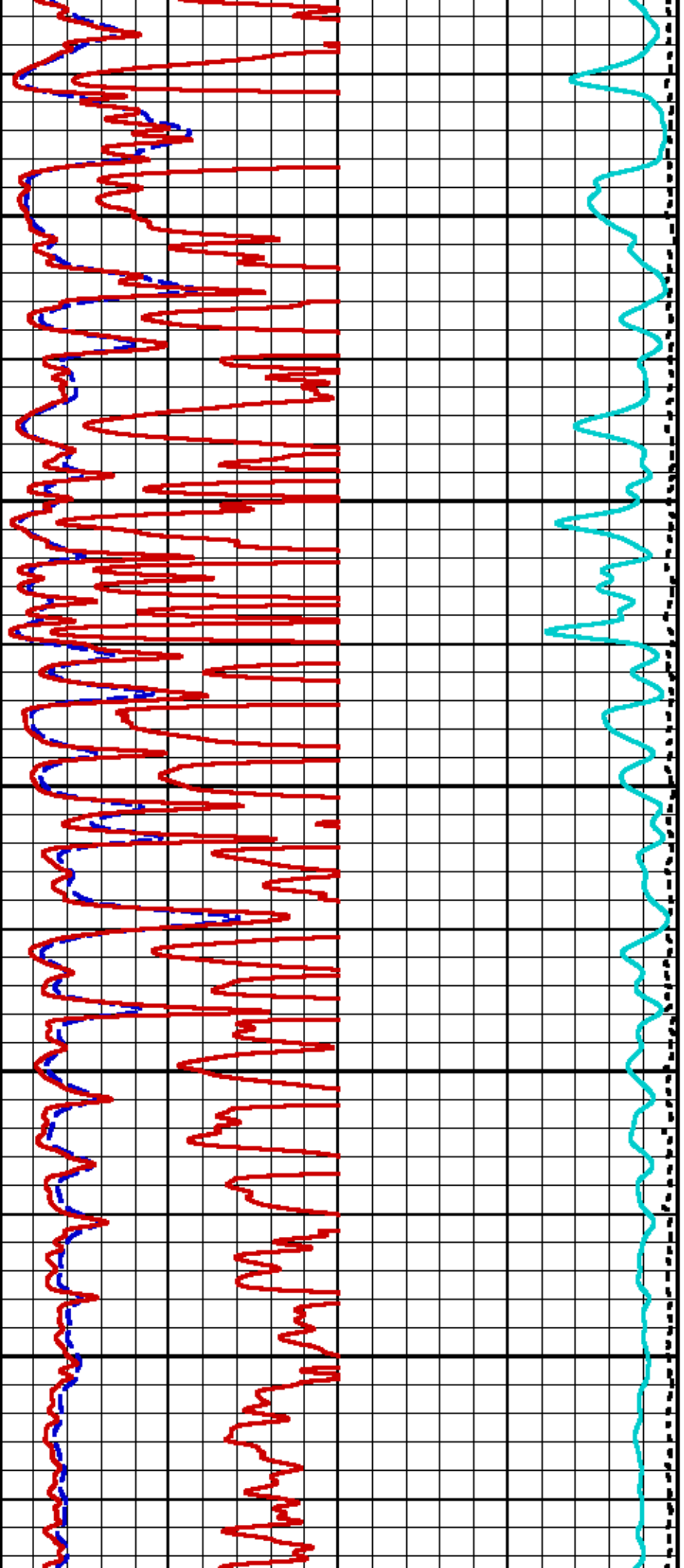
Field : GRAND VALLEY

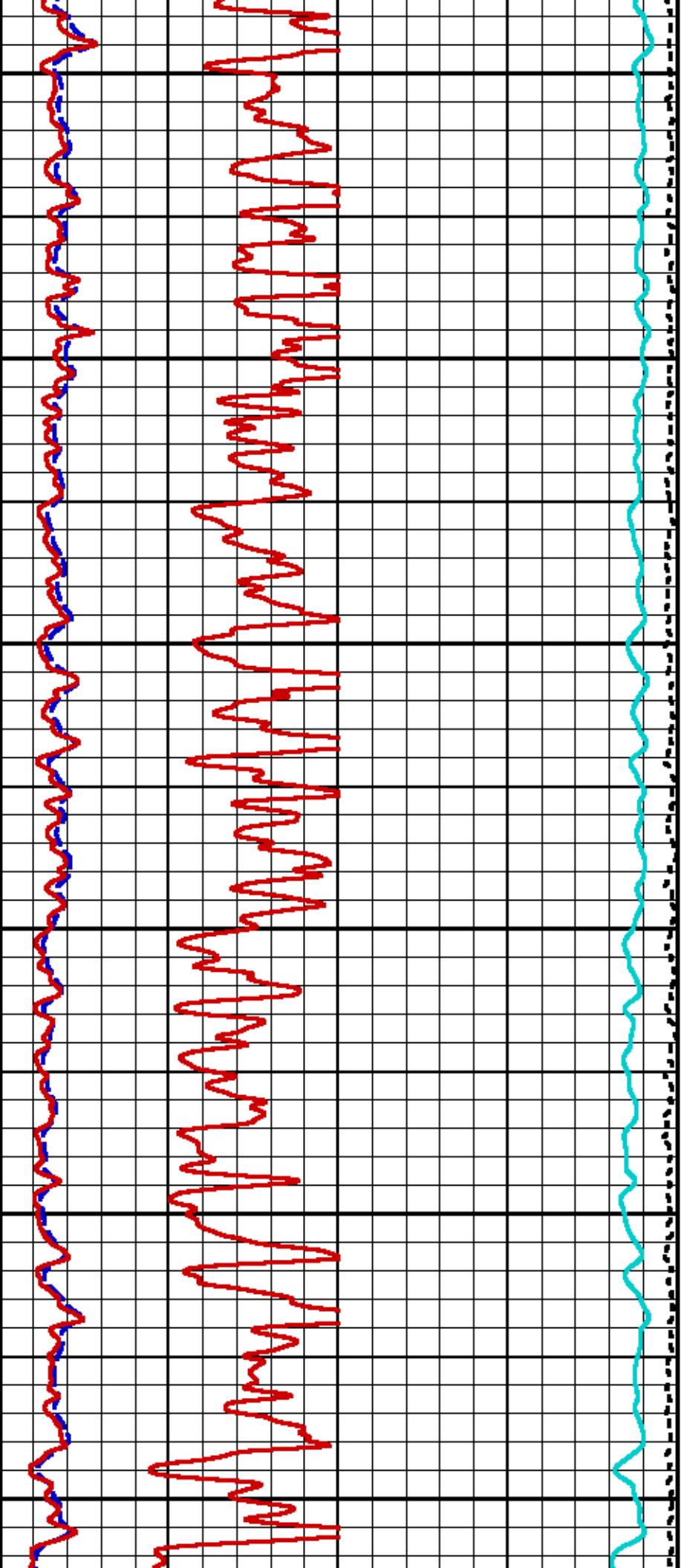
File Interval : 593.75 - 5801 Feet

OCT : nu779x









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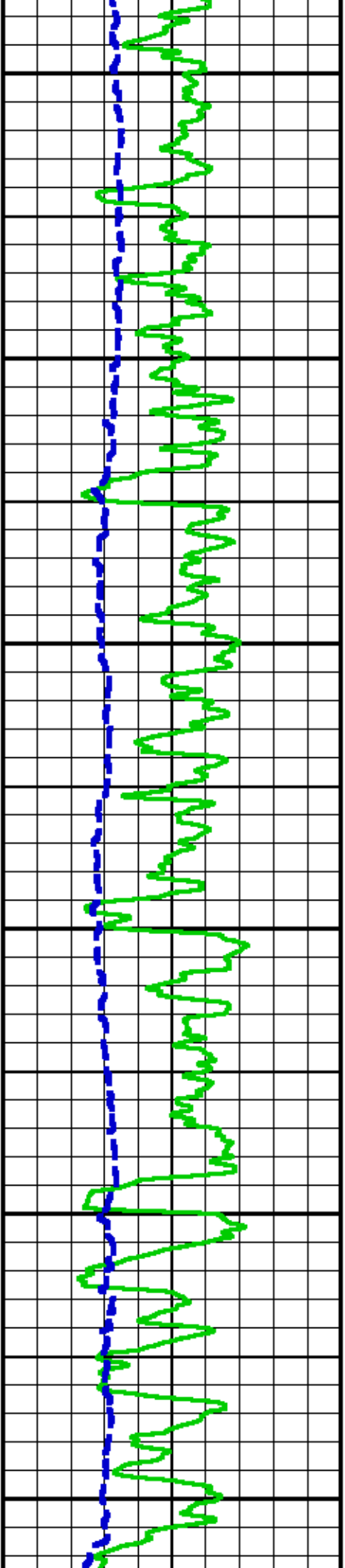
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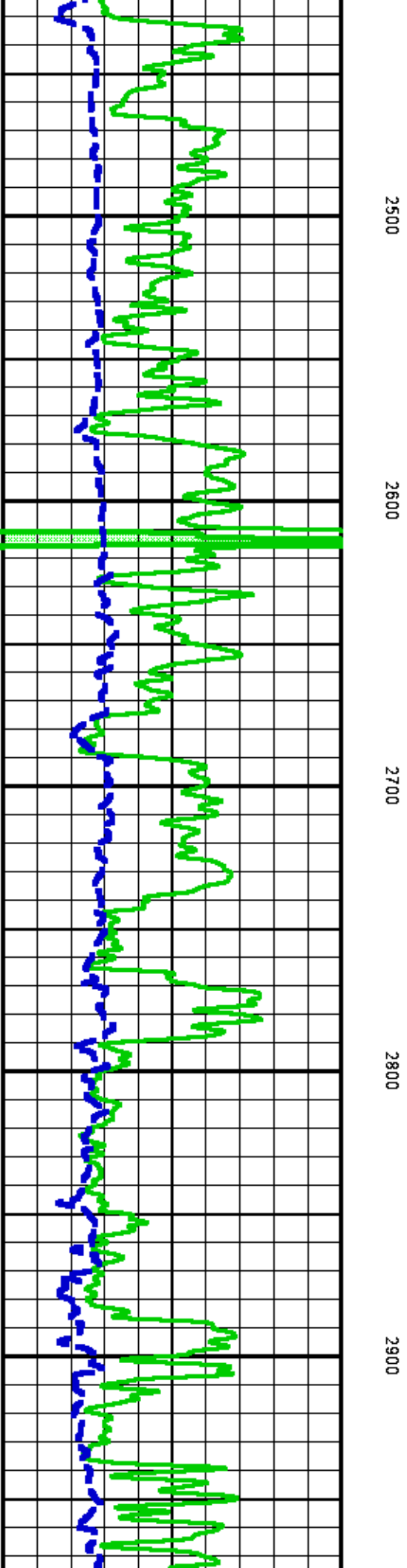
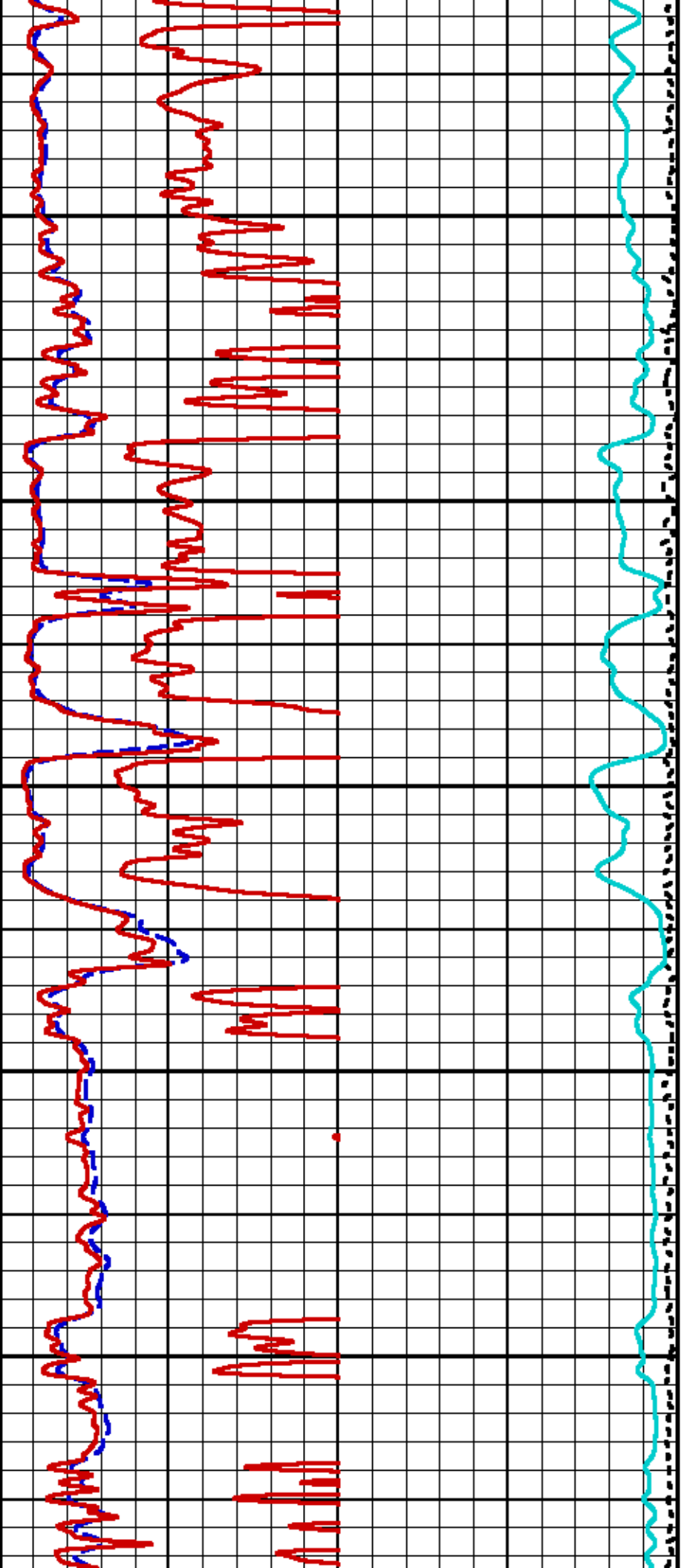
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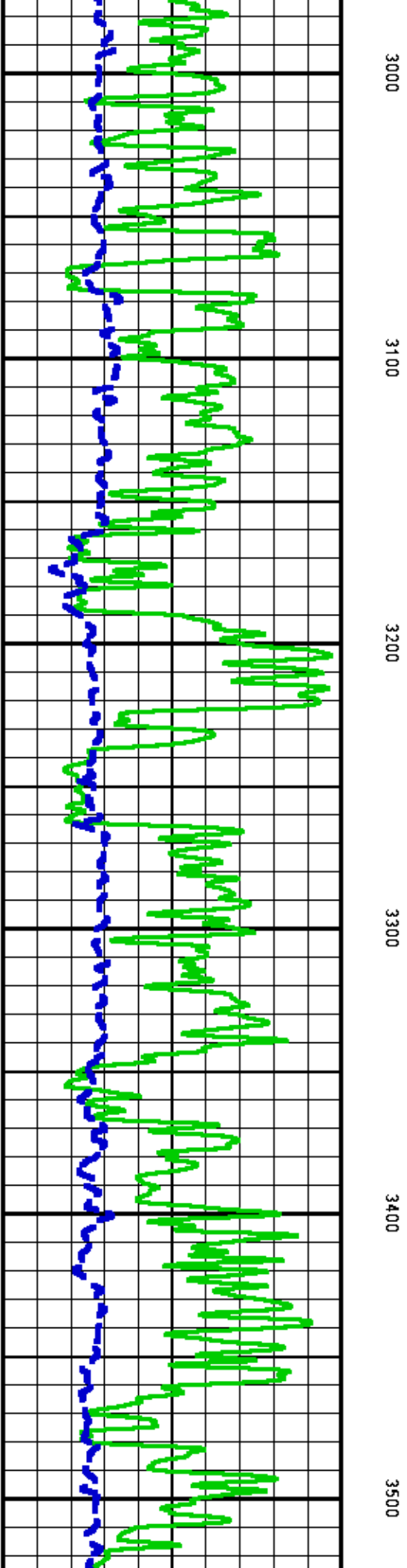
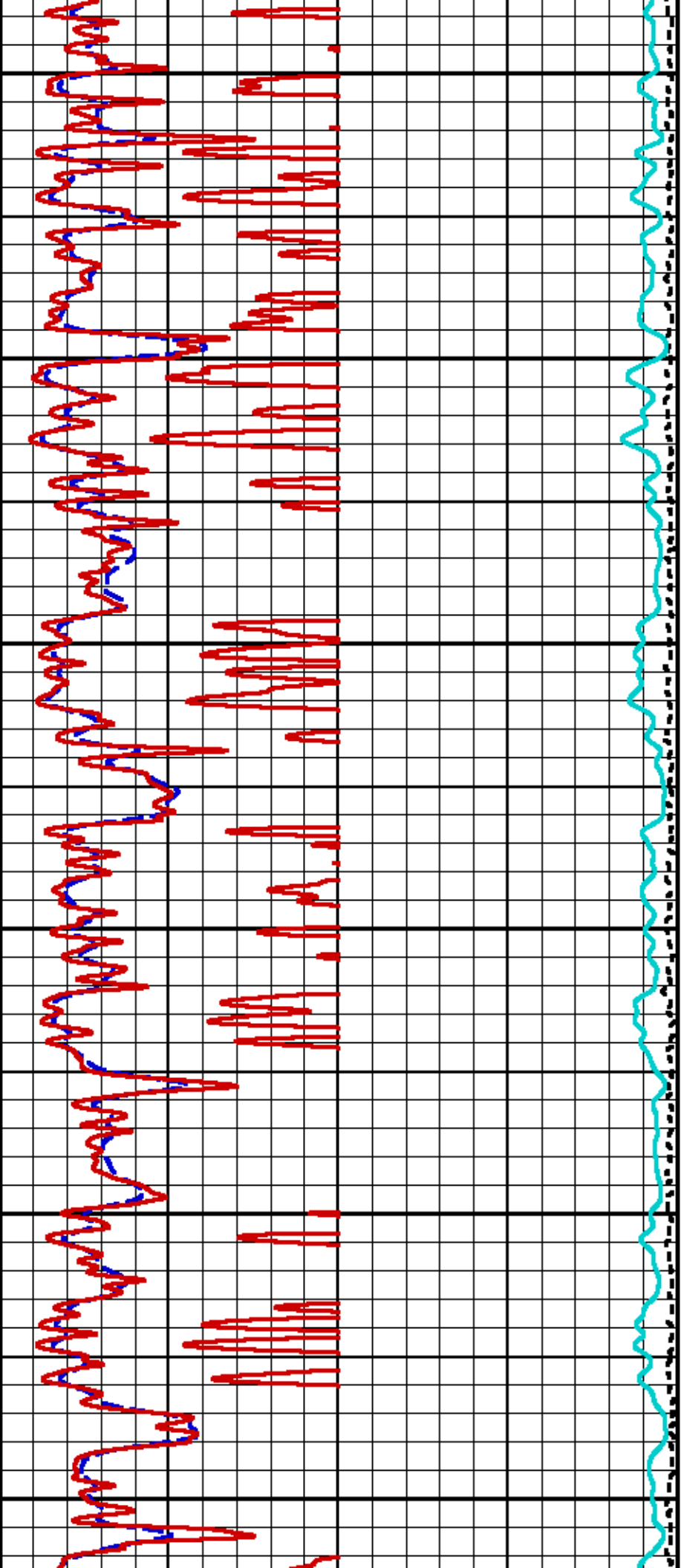
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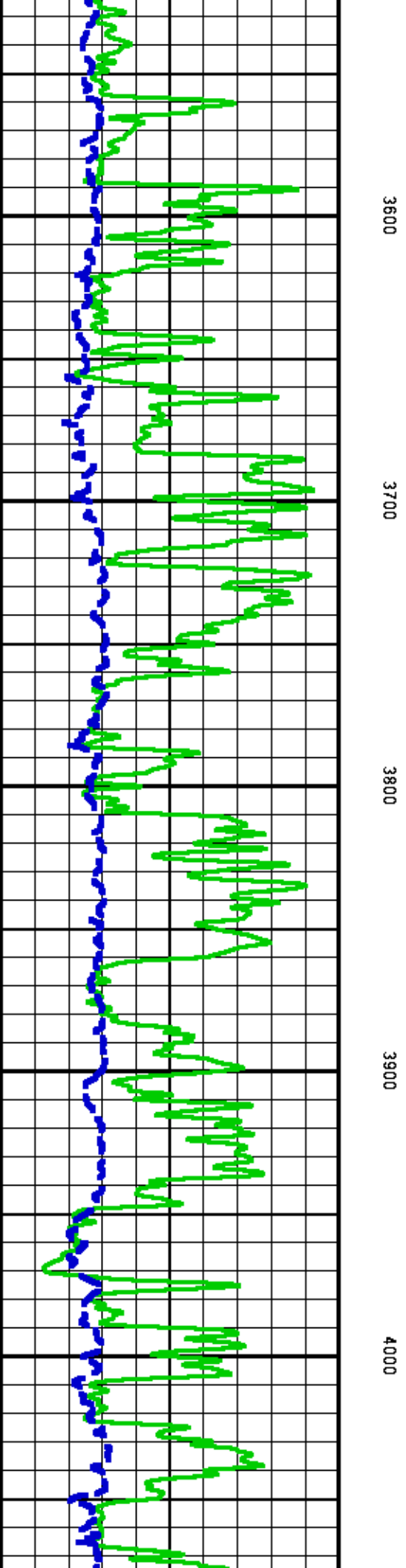
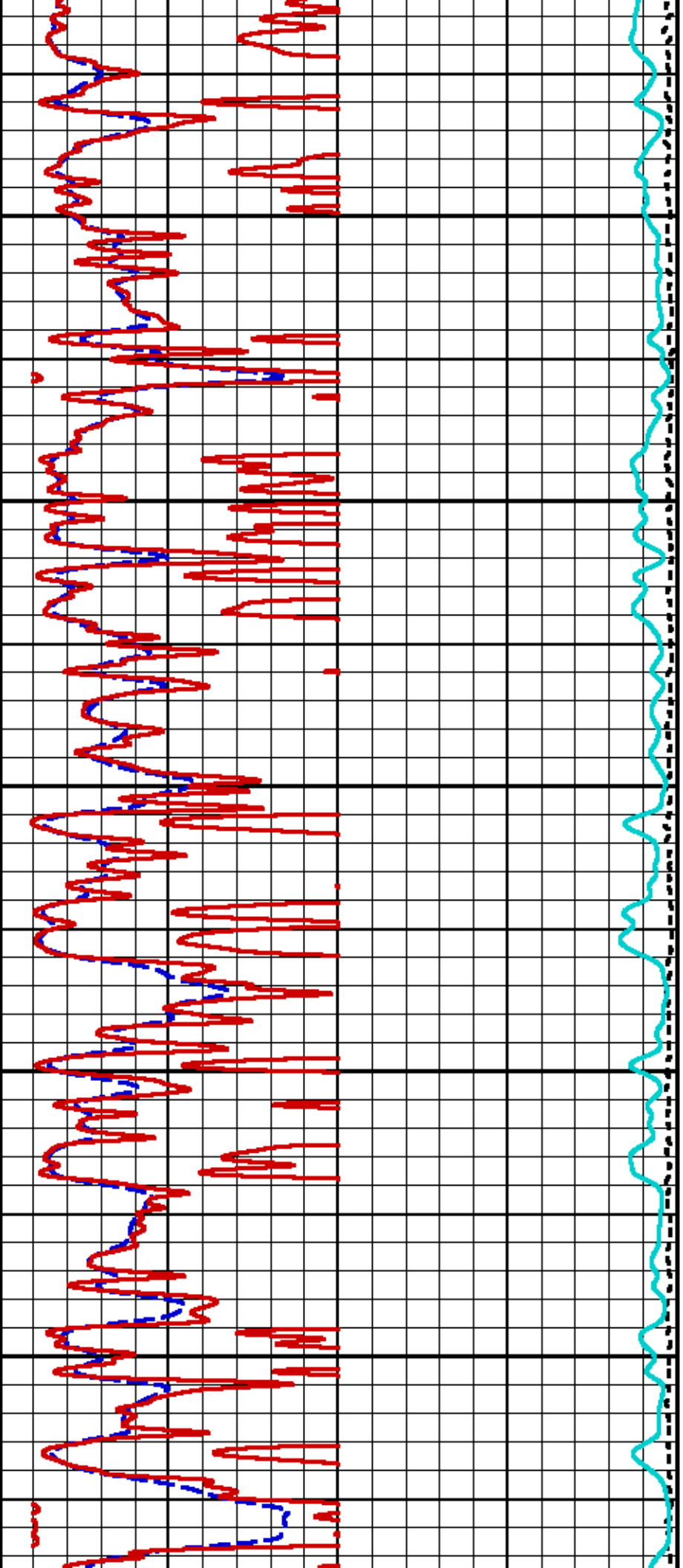
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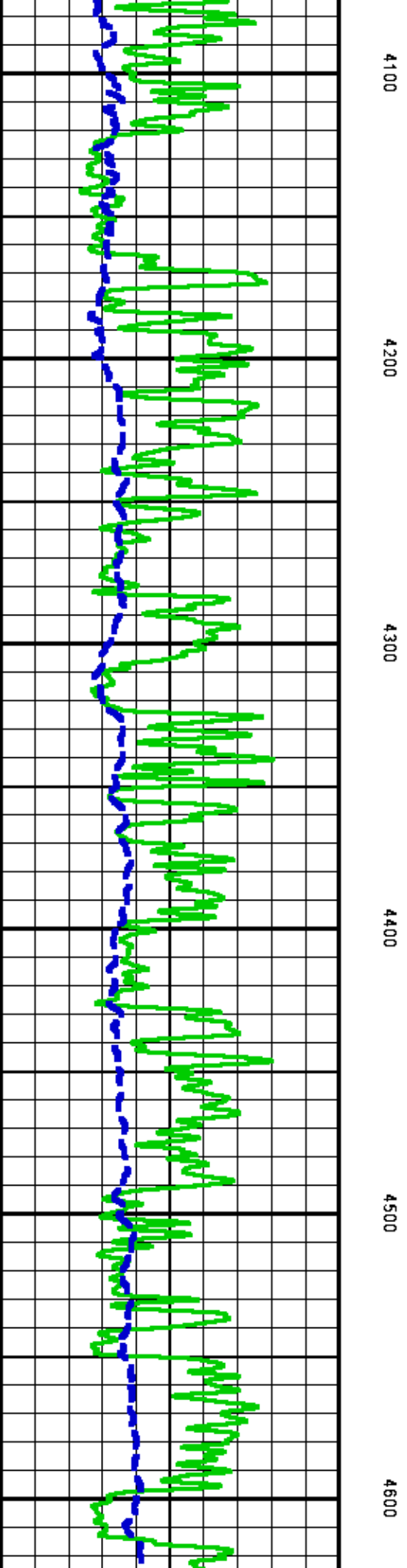
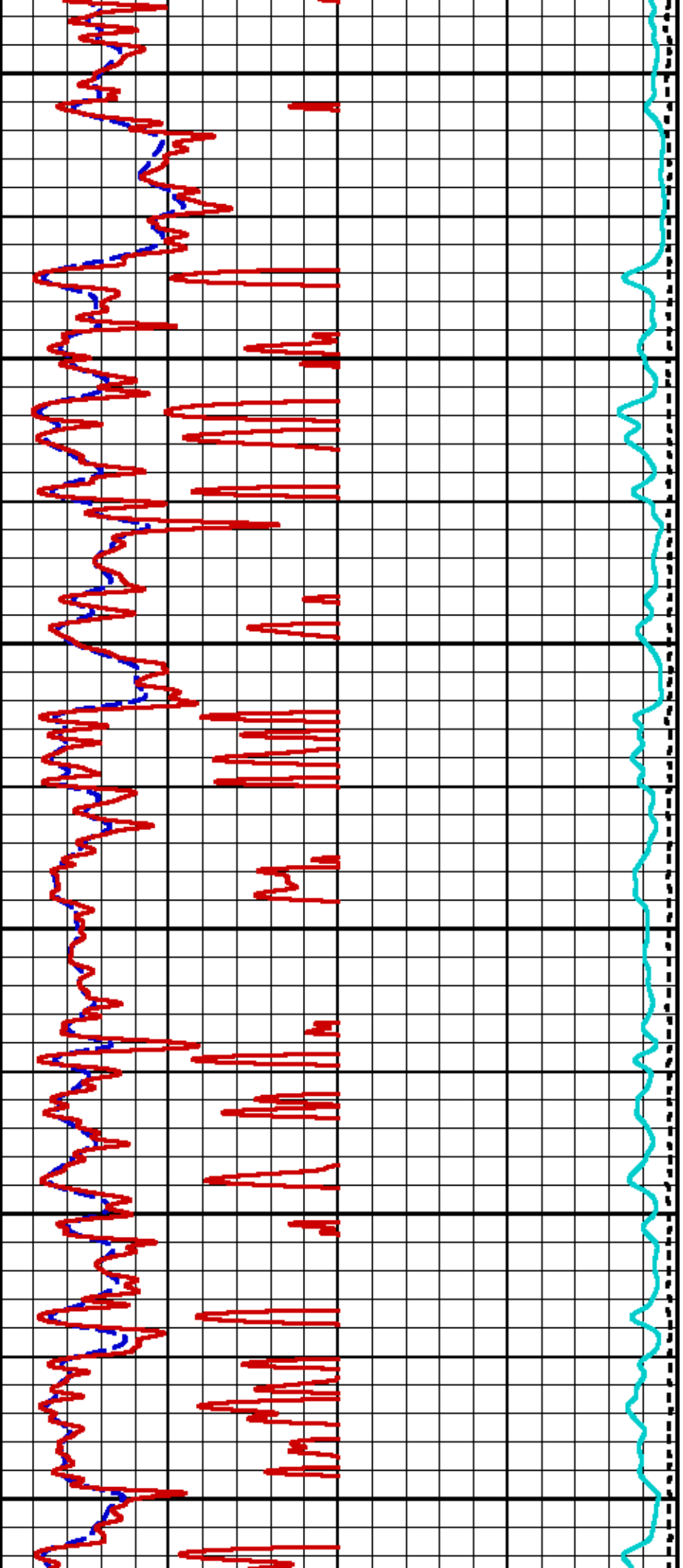
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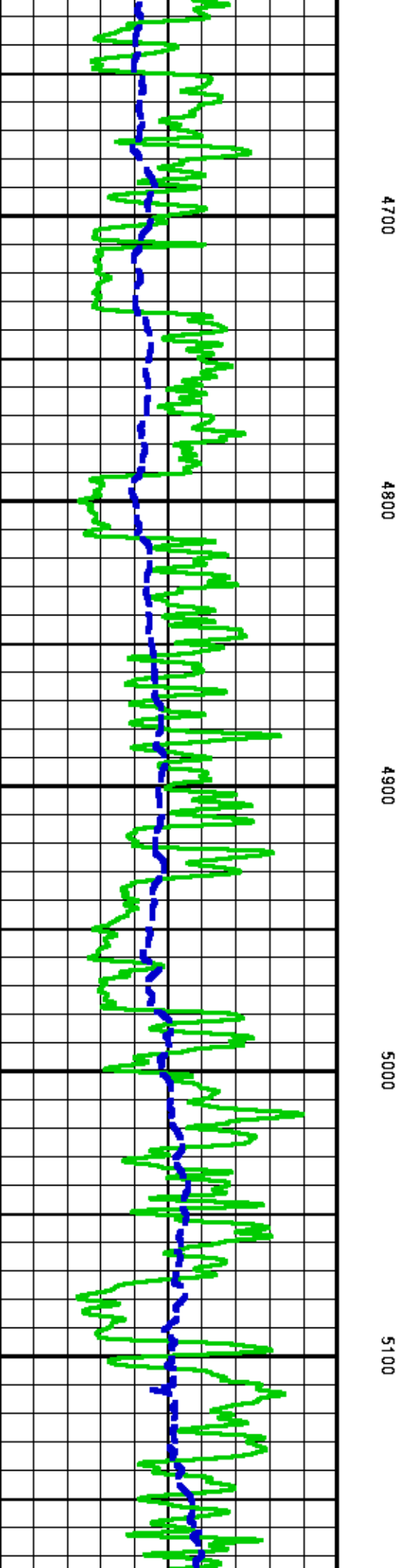
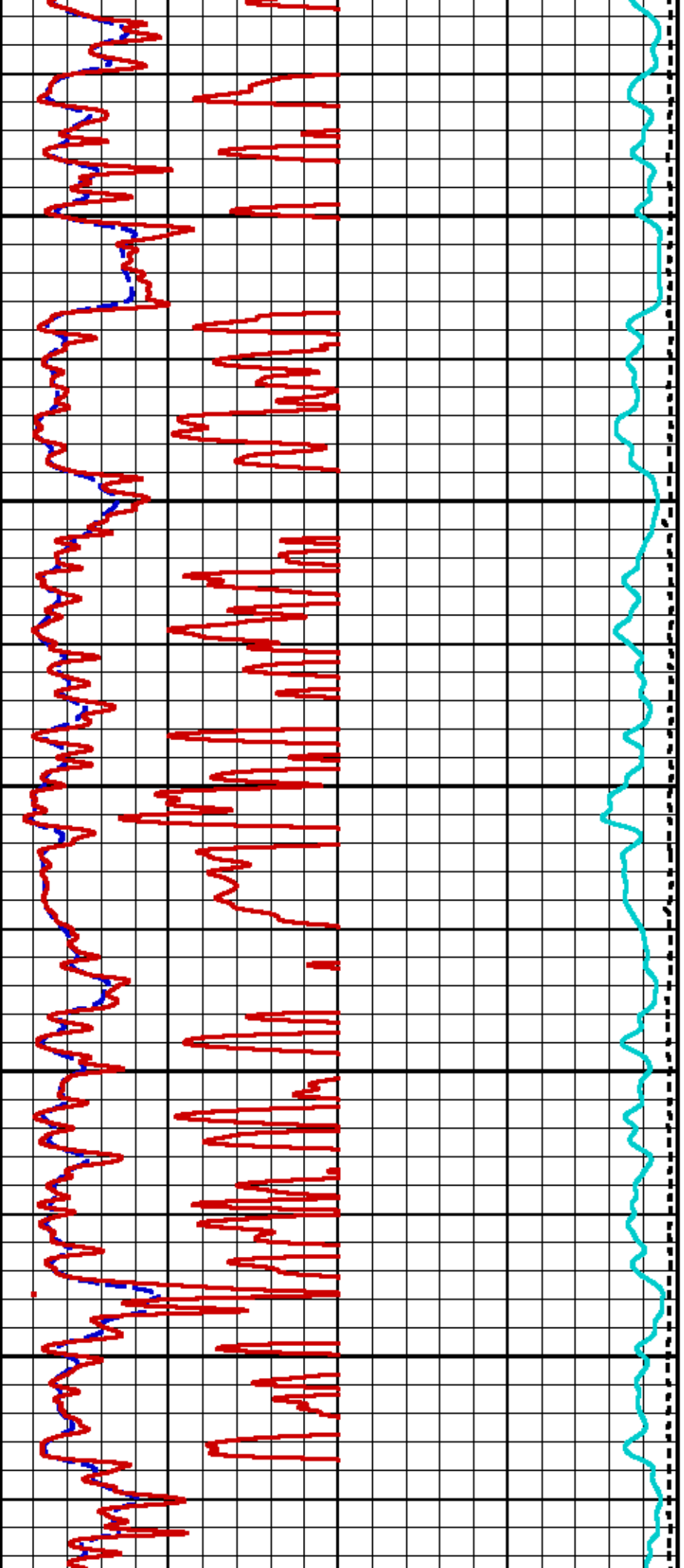


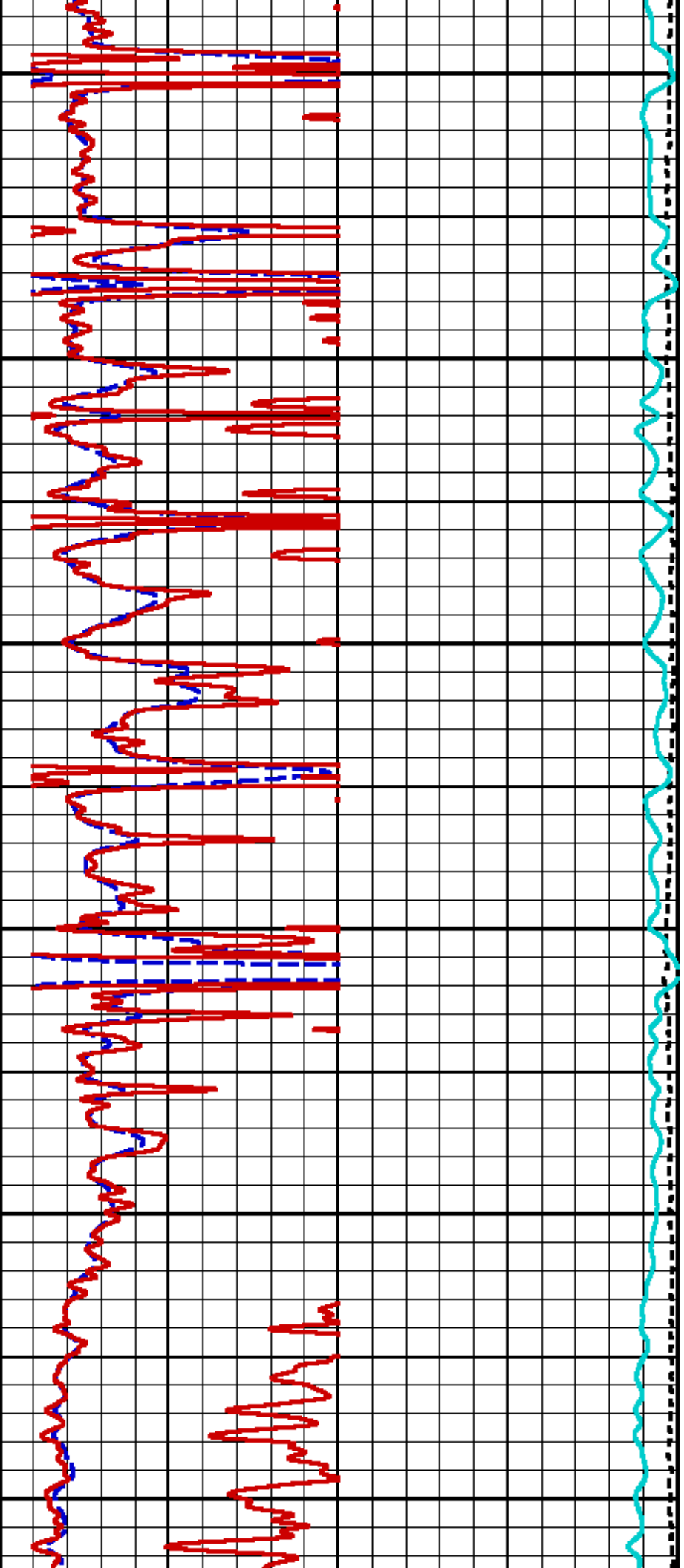












5200

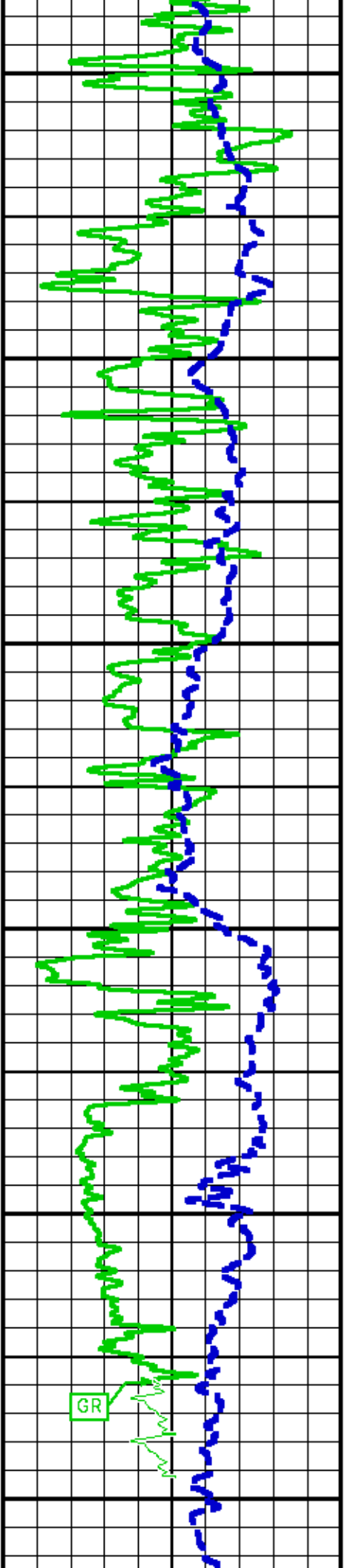
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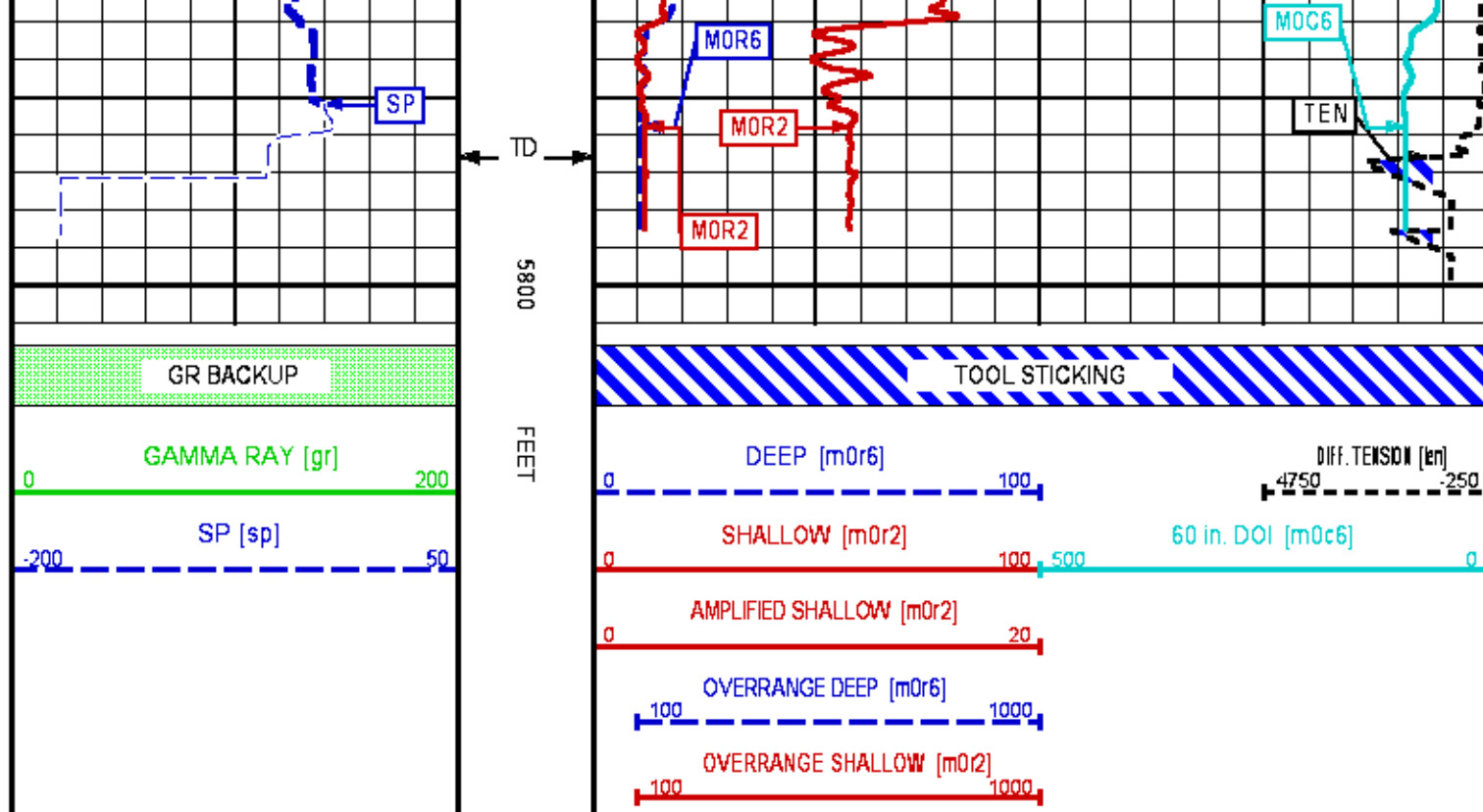
5500

5600

5700



GR



MAIN LOG 5"/100FT SCALE

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013

Patches: 1

Plotted: Fri Aug 16 15:21:46 2013

PARAMETER AND FILTER SUMMARY REPORT

File: /dat1a/625570/MAIN_R01.prm
 LOGGING MODE: DEPTH DIRECTION: UP
 TOP DEPTH: 698.250 ft BOTTOM DEPTH: 5771.000 ft

| SYMMETRIC FILTER | | | | |
|------------------|-----------------|------------|-------|---------------|
| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) |
| TTRM | FILTER (j) | medium (1) | | TOP BOTTOM |
| | FILTER (.h) | medium (1) | | " " |
| | FILTER (.i) | medium (1) | | " " |
| Y AXIS CALIPER | FILTER (j) | medium (1) | | " " |
| TENSION | FILTER (j) | medium (1) | | " " |
| GR | FILTER (j) | medium (1) | | " " |
| CN | FILTER (j) | medium (1) | | " " |
| CALIPER | FILTER (j) | medium (1) | | " " |
| | FILTER (.h) | medium (1) | | " " |
| | FILTER (.i) | medium (1) | | " " |
| ZDL MED RES | FILTER (hrd1*) | medium | | " " |
| | FILTER (hrd1s*) | medium | | " " |
| | FILTER (hrd2*) | medium | | " " |
| | FILTER (hrd2s*) | medium | | " " |
| | FILTER (sofft*) | medium | | " " |
| SP-SPDH | FILTER (j) | medium (1) | | " " |

BOREHOLE & CEMENT

BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|-----------------------------------|----------------------------|---------------|--------------|---------------|--------|
| CASING - BOREHOLE & CEMENT VOLUME | CASING O.D. | 4.500 | in | TOP | BOTTOM |
| | CASING THICKNESS | 0.000 | in | " | " |
| BIT SIZE | BIT SIZE | 8.750 | in | " | " |
| MUD SAMPLE RESISTIVITY | MUD SAMPLE TEMP | 80.0 | degF | " | " |
| | MUD SAMPLE RES | 1.090 | ohm.m | " | " |
| BOREHOLE TEMP from GRADIENT | Known BH REF TEMP | 77.0 | degF | " | " |
| | at BH REF DEPTH | 0.0 | ft | " | " |
| | with TEMP GRADIENT | 1.200 | 0.01 degF/ft | " | " |
| BOREHOLE CORR DIAMETER SOURCE | CALIPER/FIXED DIA. (cnbh*) | USE CALIPER | | " | " |
| | CALIPER/FIXED DIA. (mbh*) | USE CALIPER | | " | " |
| BOREHOLE CORR DIAMETER | FIXED DIAMETER (cnbh*) | 8.750 | in | " | " |
| | FIXED DIAMETER (mbh*) | 8.750 | in | " | " |
| BH MUD RESISTIVITY SOURCE | RMUD SOURCE (HDIL) | TOOL MEASURED | | " | " |

CN PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|-------------------------------|----------------------|-----------|-------|---------------|--------|
| 2446 CN MATRIX | 2446 MATRIX | SANDSTONE | | TOP | BOTTOM |
| CN SALINITY CORRECTION | SALINITY | 1550 | ppm | " | " |
| CN TOOL STANDOFF | ENABLE STANDOFF CORR | OFF | | " | " |
| | STANDOFF AMOUNT | 0.00 | in | " | " |
| CN CASING & CEMENT CORRECTION | CORRECTION | OFF | | " | " |
| | BIT SIZE BEHIND CSNG | 8.750 | in | " | " |

ZDL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|------------------|---------------|-------|-------|---------------|--------|
| DENSITY POROSITY | RHOmatrix | 2.680 | g/cm3 | TOP | BOTTOM |
| | RHOfluid | 1.000 | g/cm3 | " | " |
| ZDL | DENX TRACKING | ON | | " | " |

HDIL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|------------------------------|------------------|------------|-------|---------------|--------|
| HDIL TEMPERATURE CORRECTION | TEMP CORR SOURCE | USE RXTEMP | | TOP | BOTTOM |
| ADAPTIVE BOREHOLE CORRECTION | ABC PROCESSING | ON | | " | " |
| | ABC to CALCULATE | STANDOFF | | " | " |
| | STANDOFF | 1.50 | in | " | " |
| | TOOL POSITION | ECCENTERED | | " | " |
| | Rmud MULTIPLIER | 1.000 | | " | " |

CURVE DESCRIPTION REPORT

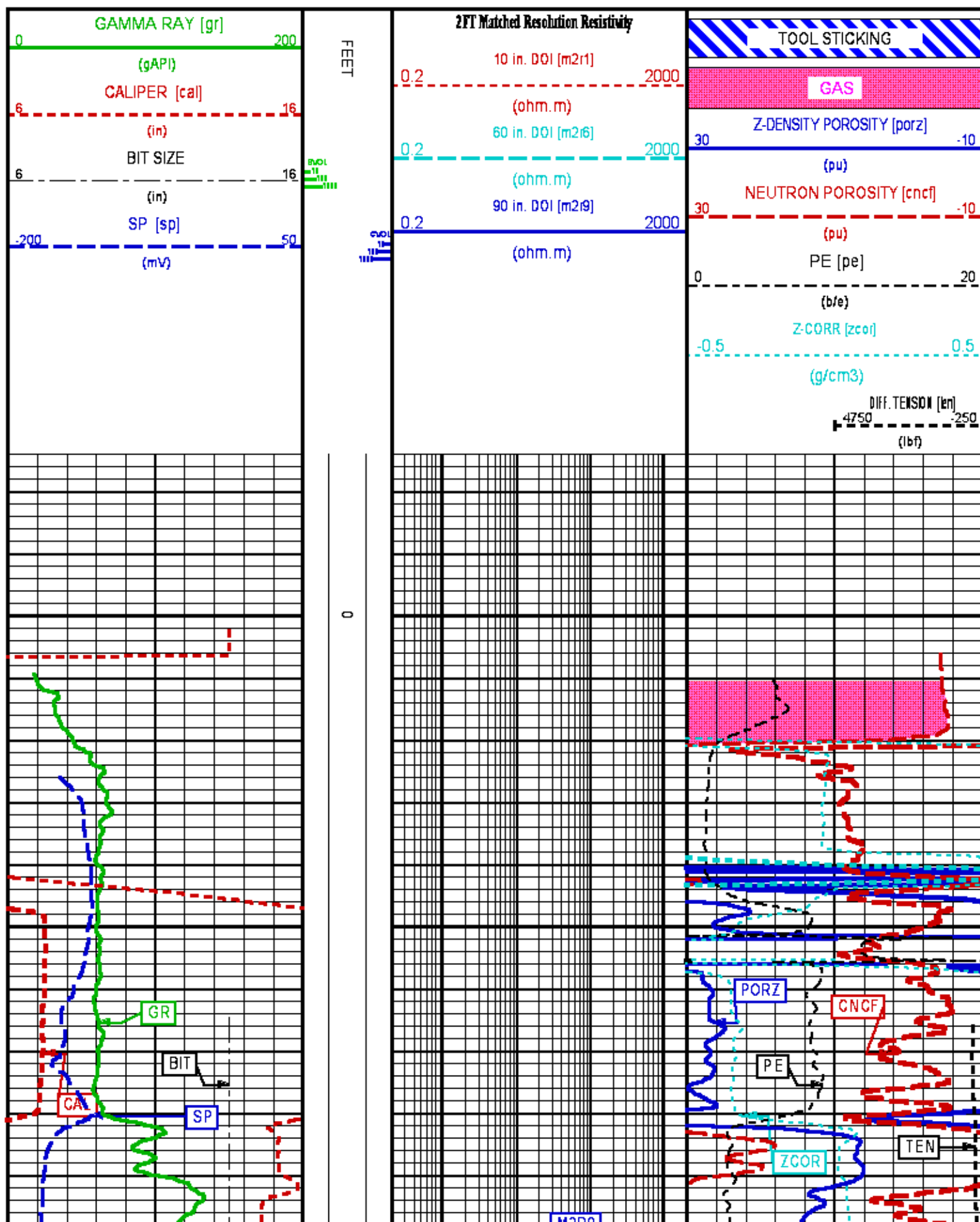
| CURVE NAME | CREATION DATE | CURVE DESCRIPTION |
|------------|----------------------|---|
| F1:BIT | Aug 16 09:59:19 2013 | BIT SIZE |
| F1:BVOL | Aug 16 09:59:19 2013 | BOREHOLE VOLUME |
| F1:CAL | Aug 16 09:59:19 2013 | CALIPER |
| F1:CNCF | Aug 16 09:59:19 2013 | FIELD NORMALIZED COMPENSATED NEUTRON POROSITY |
| F1:CVOL | Aug 16 09:59:19 2013 | CEMENT VOLUME |
| F1:GR | Aug 16 09:59:19 2013 | GAMMA RAY |
| F1:M2R1 | Aug 16 09:59:19 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI |
| F1:M2R6 | Aug 16 09:59:19 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI |
| F1:M2R9 | Aug 16 09:59:19 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI |
| F1:PE | Aug 16 09:59:19 2013 | PHOTO ELECTRIC CROSS-SECTION |
| F1:PORZ | Aug 16 09:59:19 2013 | POROSITY FOR SELECTABLE MATRIX |
| F1:SP | Aug 16 09:59:19 2013 | SPONTANEOUS POTENTIAL |
| F1:TEN | Aug 16 09:59:19 2013 | DIFFERENTIAL TENSION |
| F1:ZCOR | Aug 16 09:59:19 2013 | DENSITY CORRECTION |

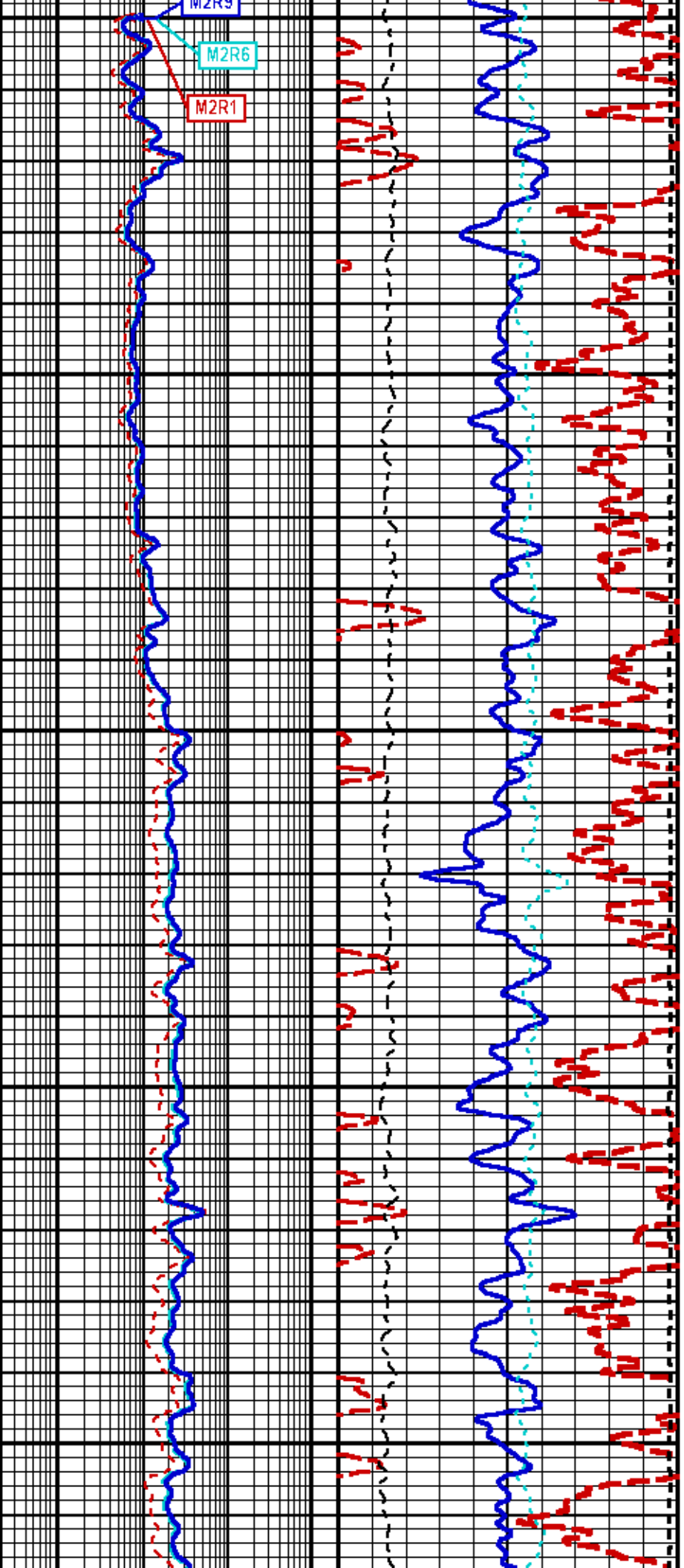
CURVE MEASURE POINT OFFSET

| CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) |
|-------|-------------|-------|-------------|-------|-------------|-------|-------------|
| BIT | 0.00 | GR | 107.25 | M2R9 | 8.00 | SP | 14.00 |
| CAL | 90.00 | M2R1 | 8.00 | PE | 89.25 | TEN | 0.00 |
| CNCF | 100.25 | M2R6 | 8.00 | PORZ | 89.25 | ZCOR | 89.25 |

Presentation : HL6670:WPX_MAIN_FINAL_RDR.fvpdf [5"/100' Scale]
Plot Interval : -24.5 - 5786.5 Feet

Data File 1 : F1 : HL6670:/dat1a/625570/MAIN_R01.xtf
 Created On : Aug 16 09:59:19 2013
 Company : WPX ENERGY INC
 Well : STRAIT SG 341-22
 Field : GRAND VALLEY
 File Interval : -24.5 - 5786.5 Feet
 OCT : nu779x

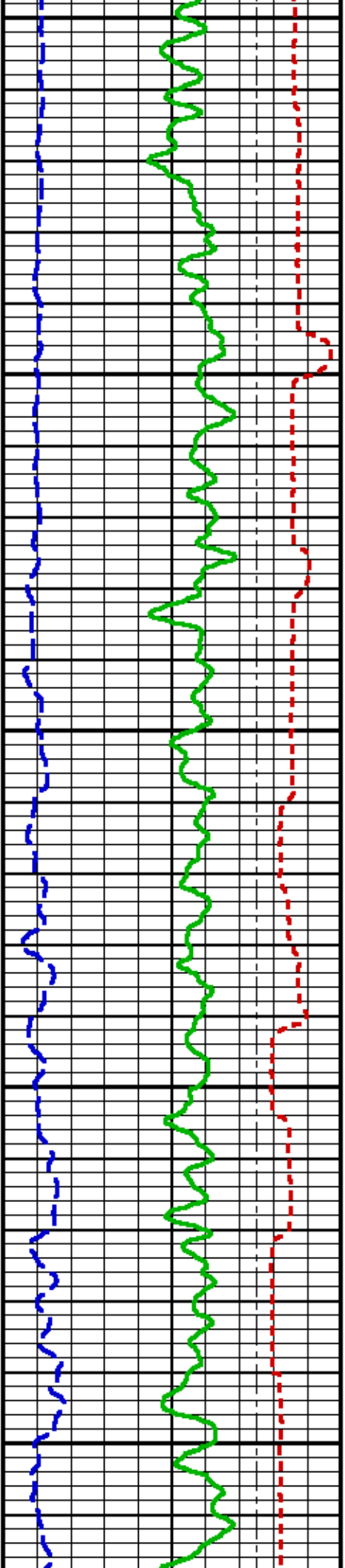


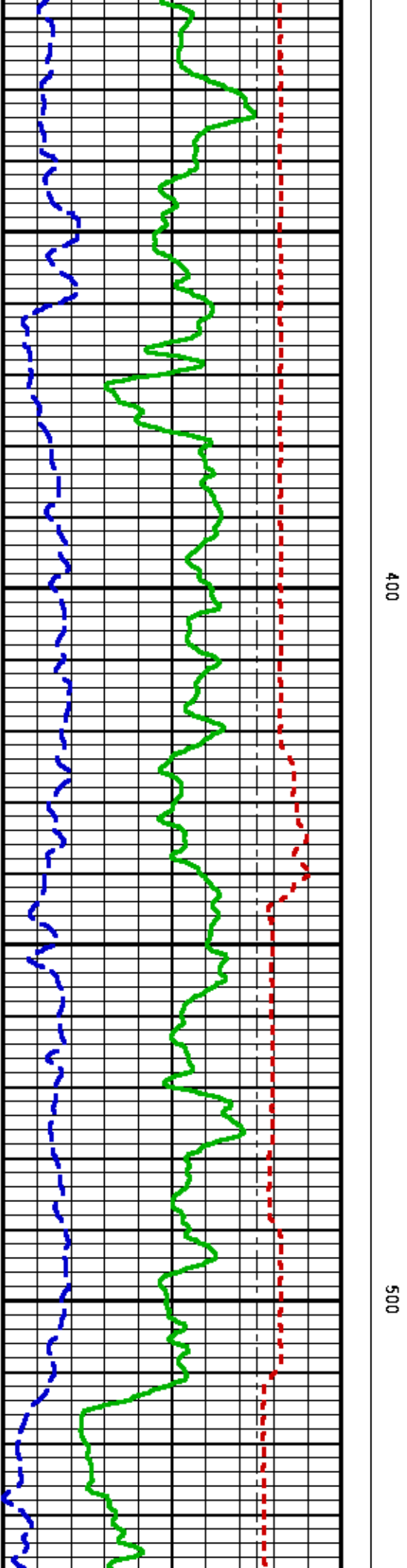
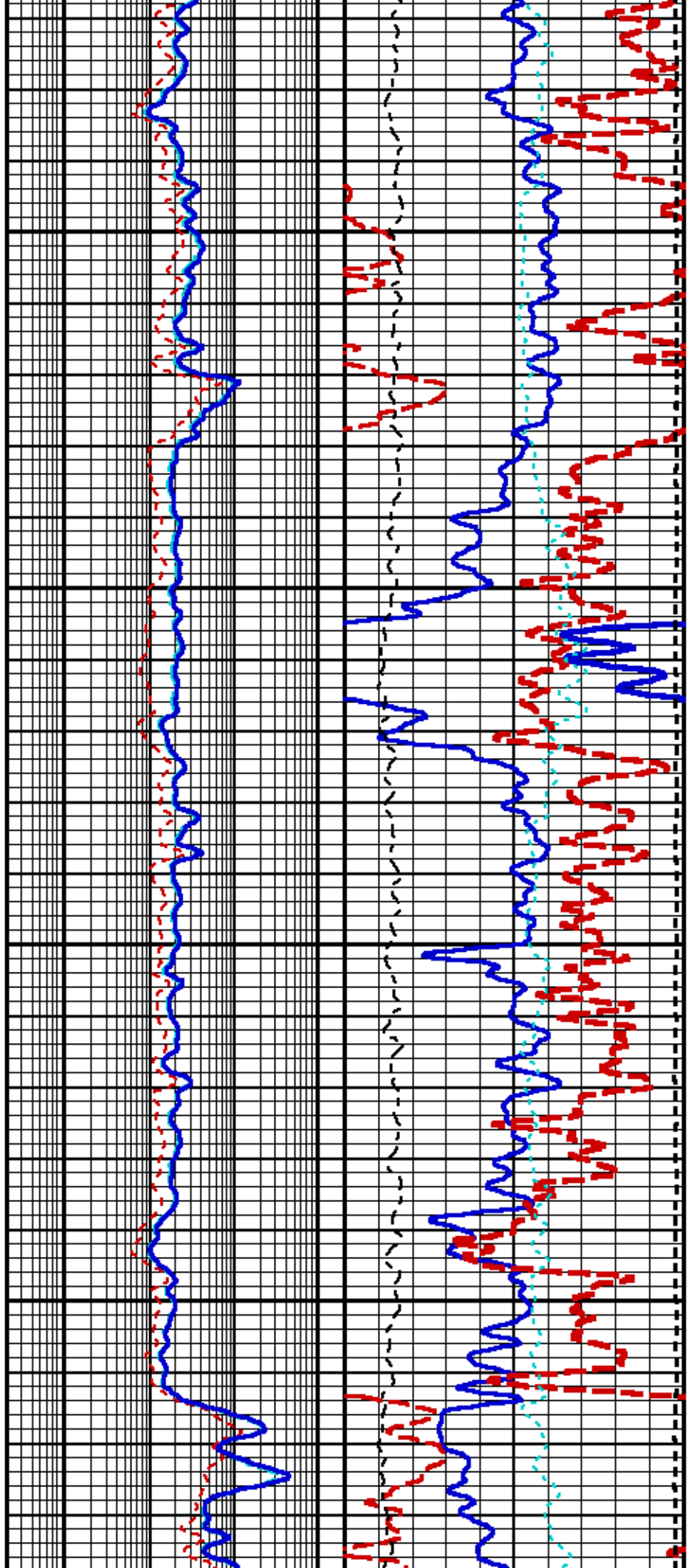


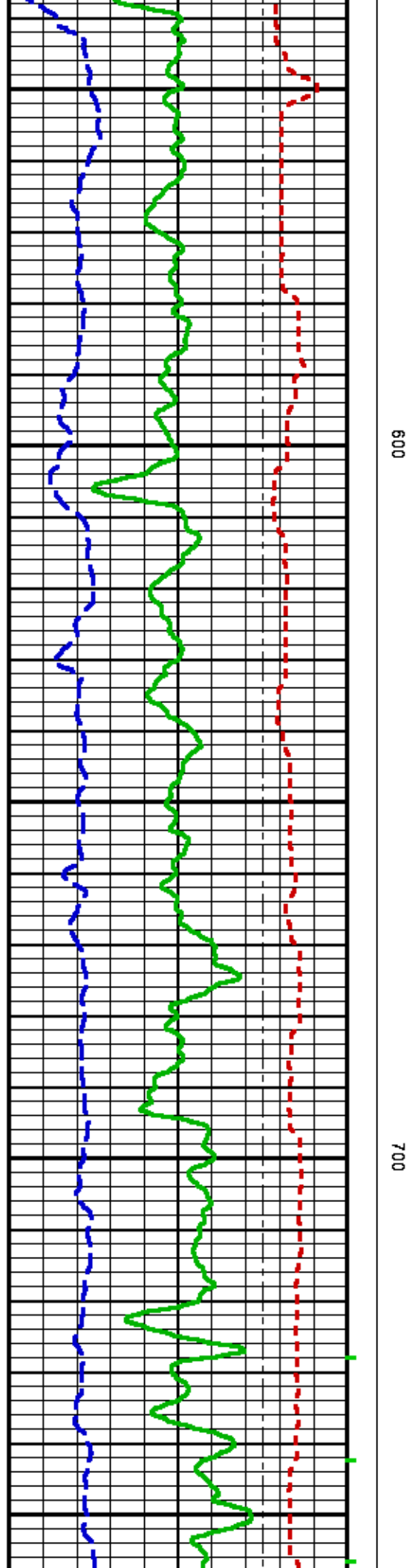
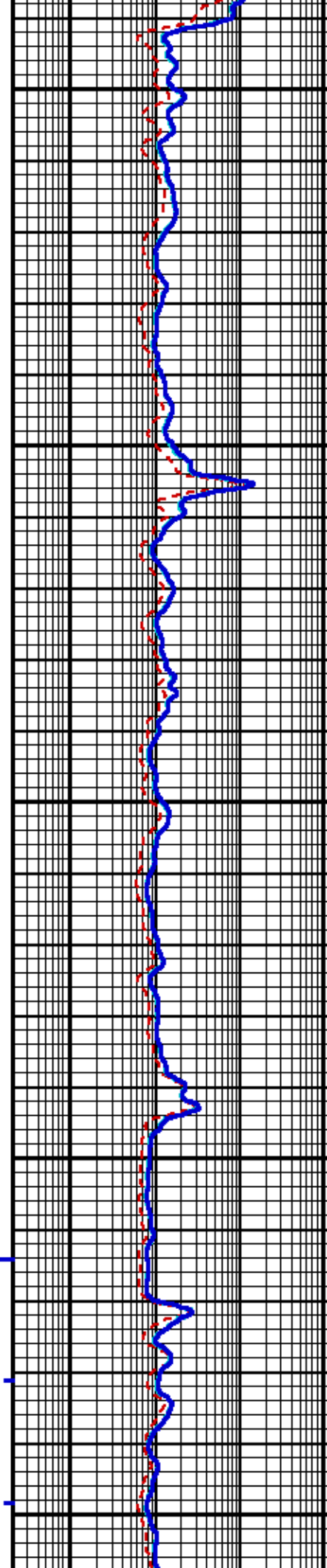
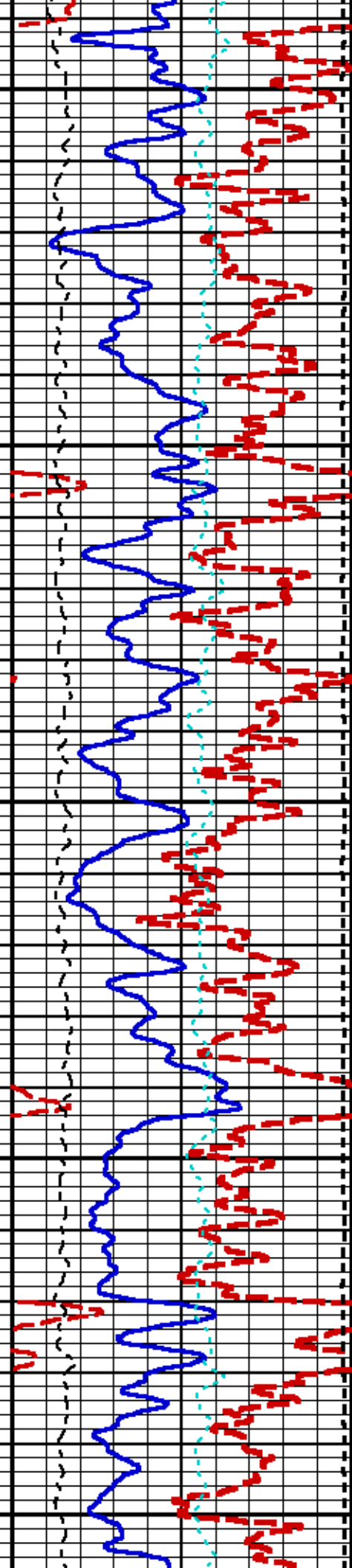
100

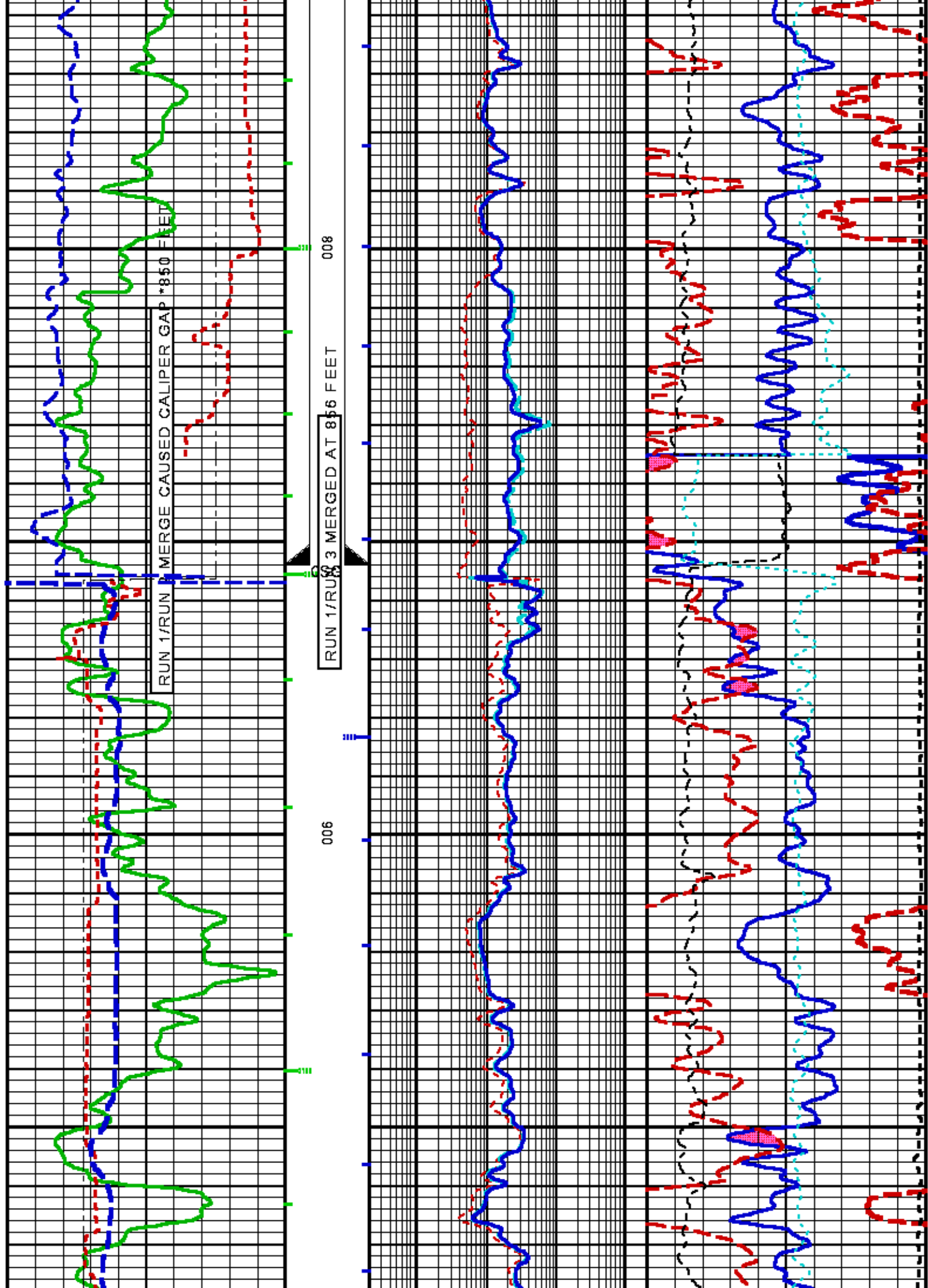
200

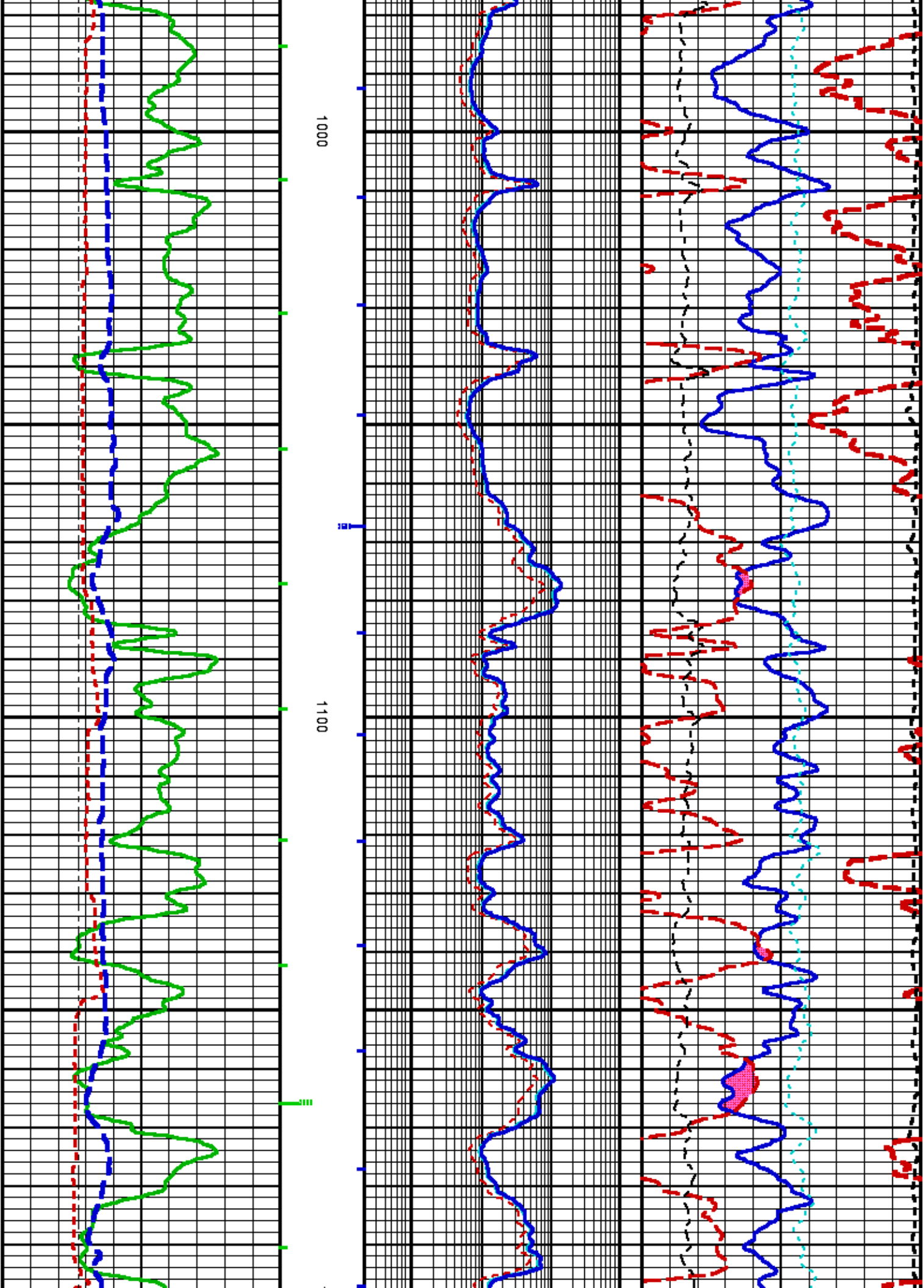
300

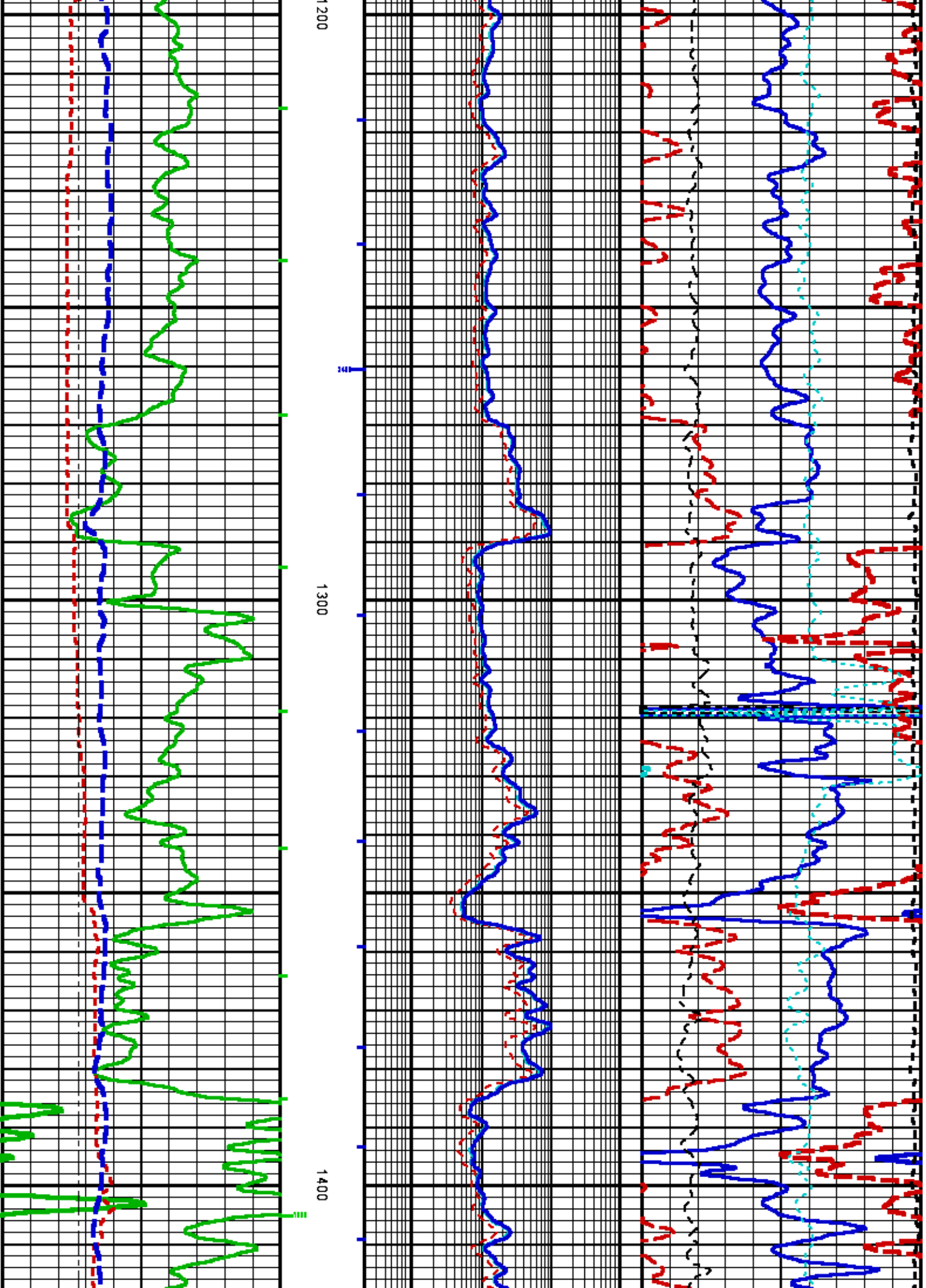


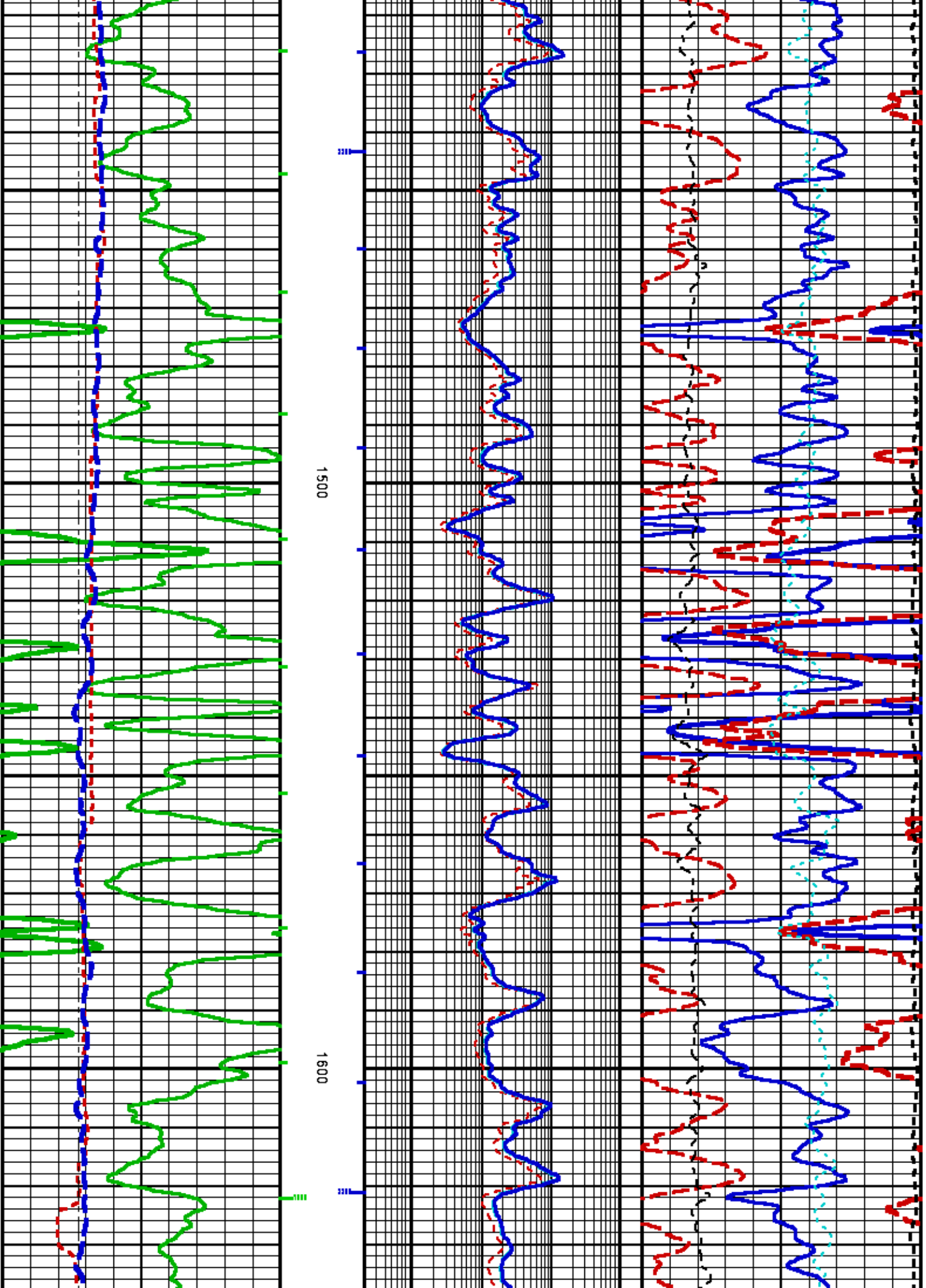


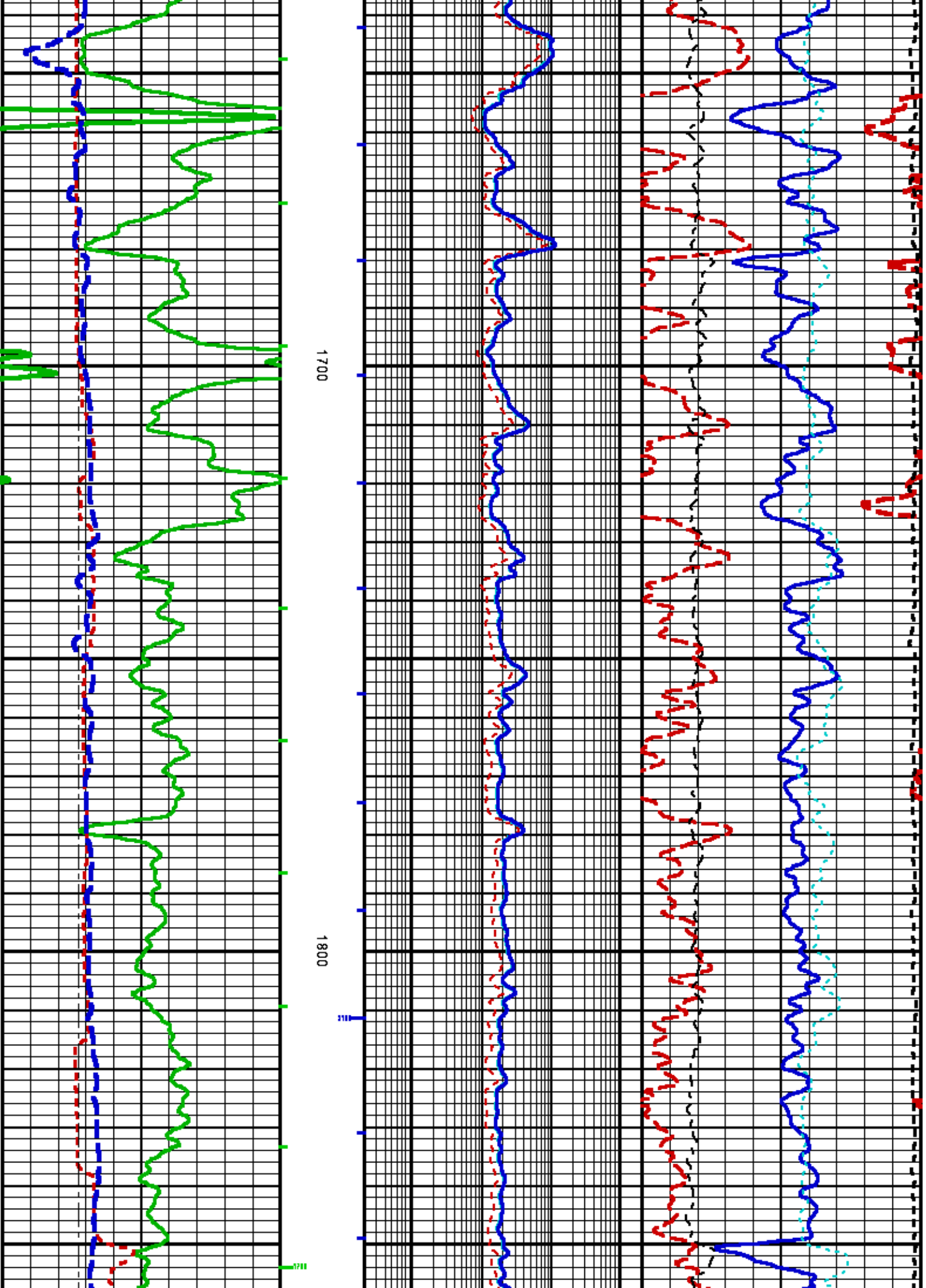


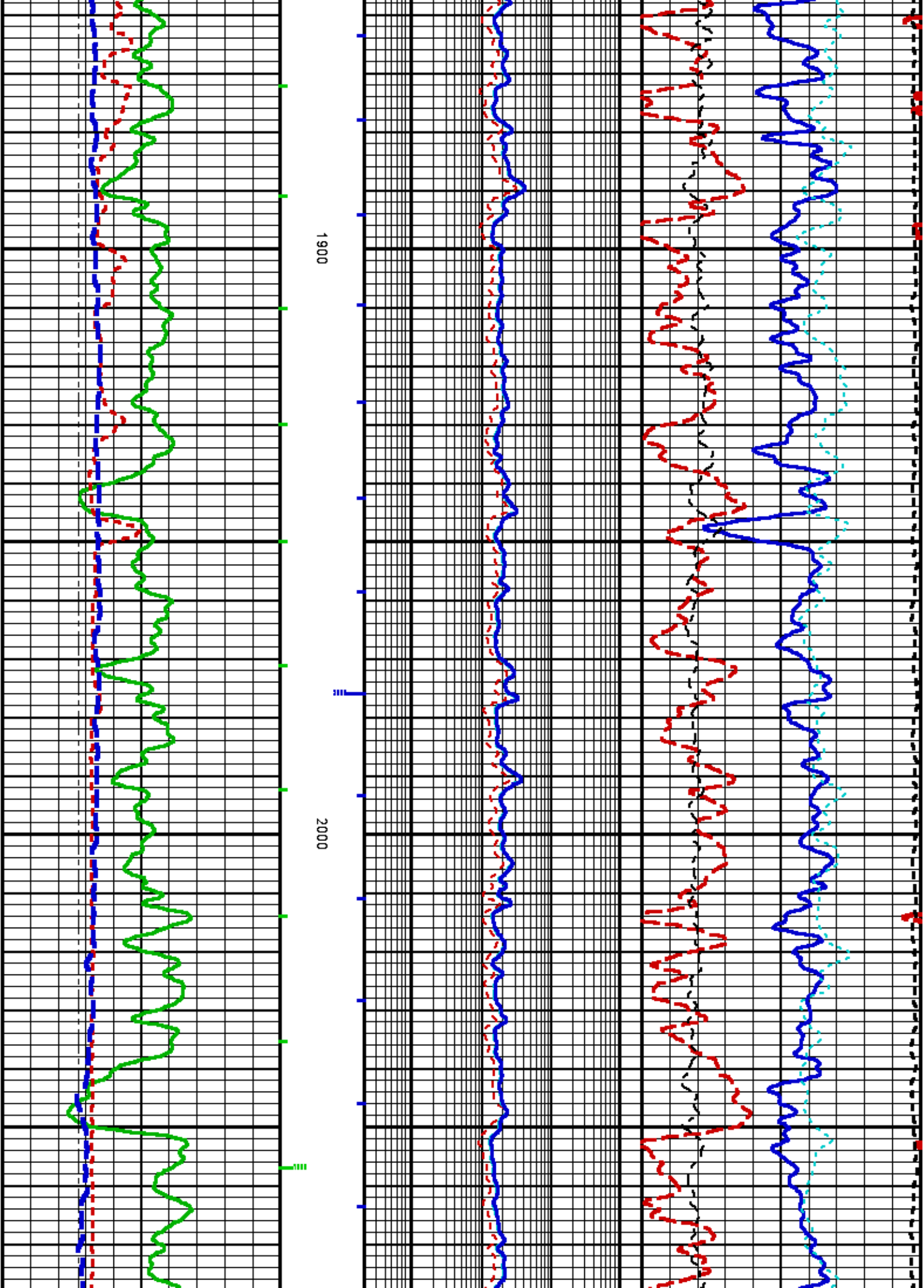


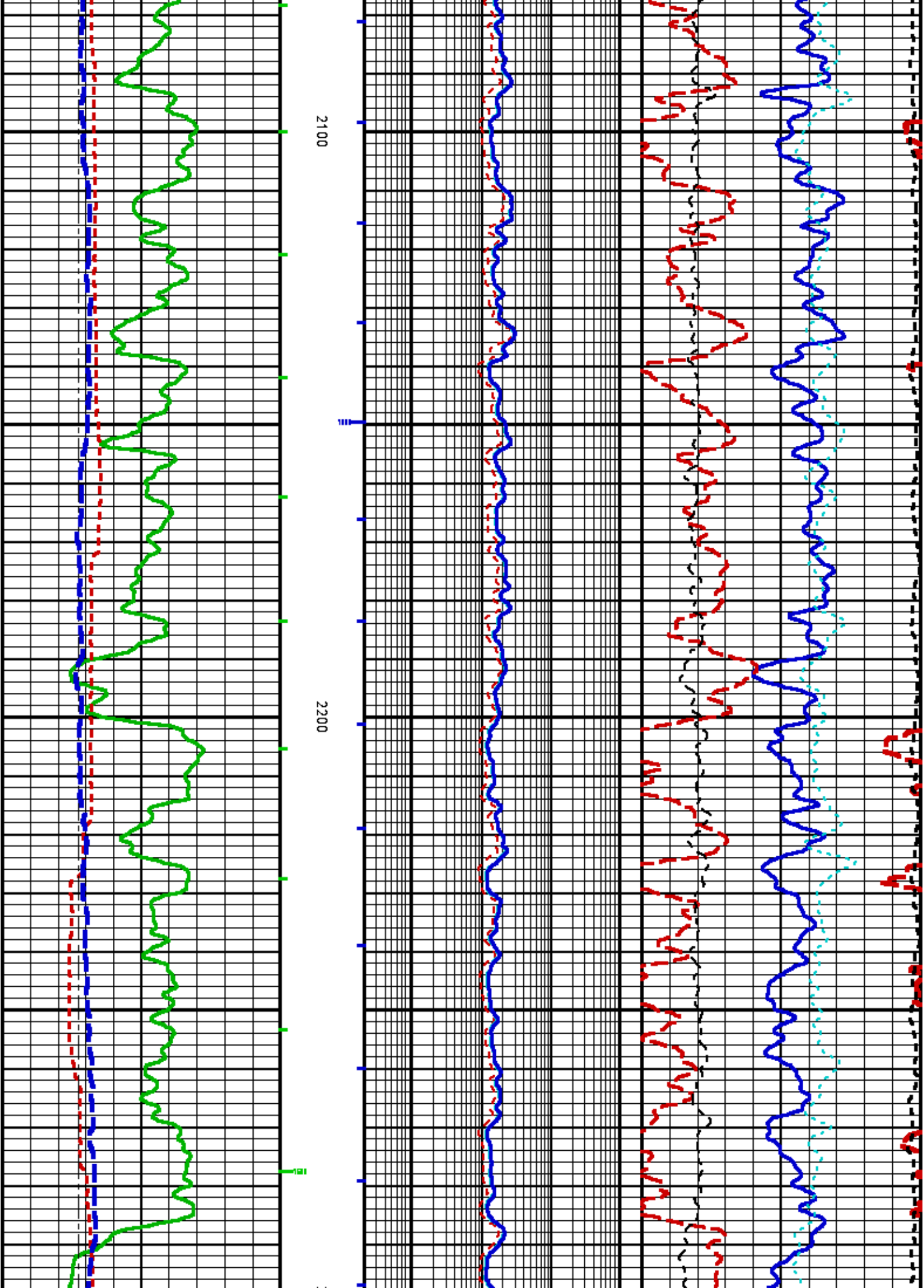


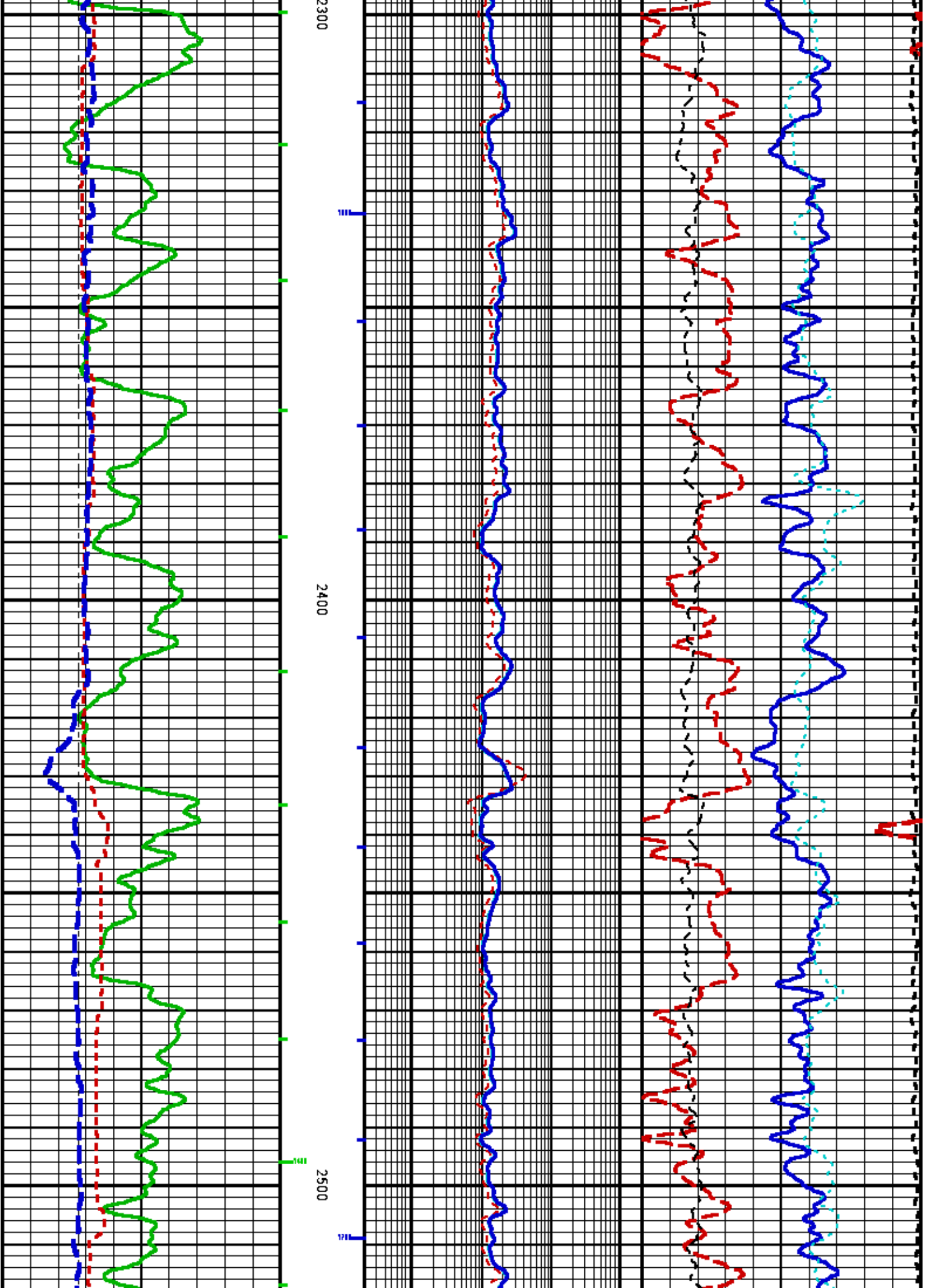


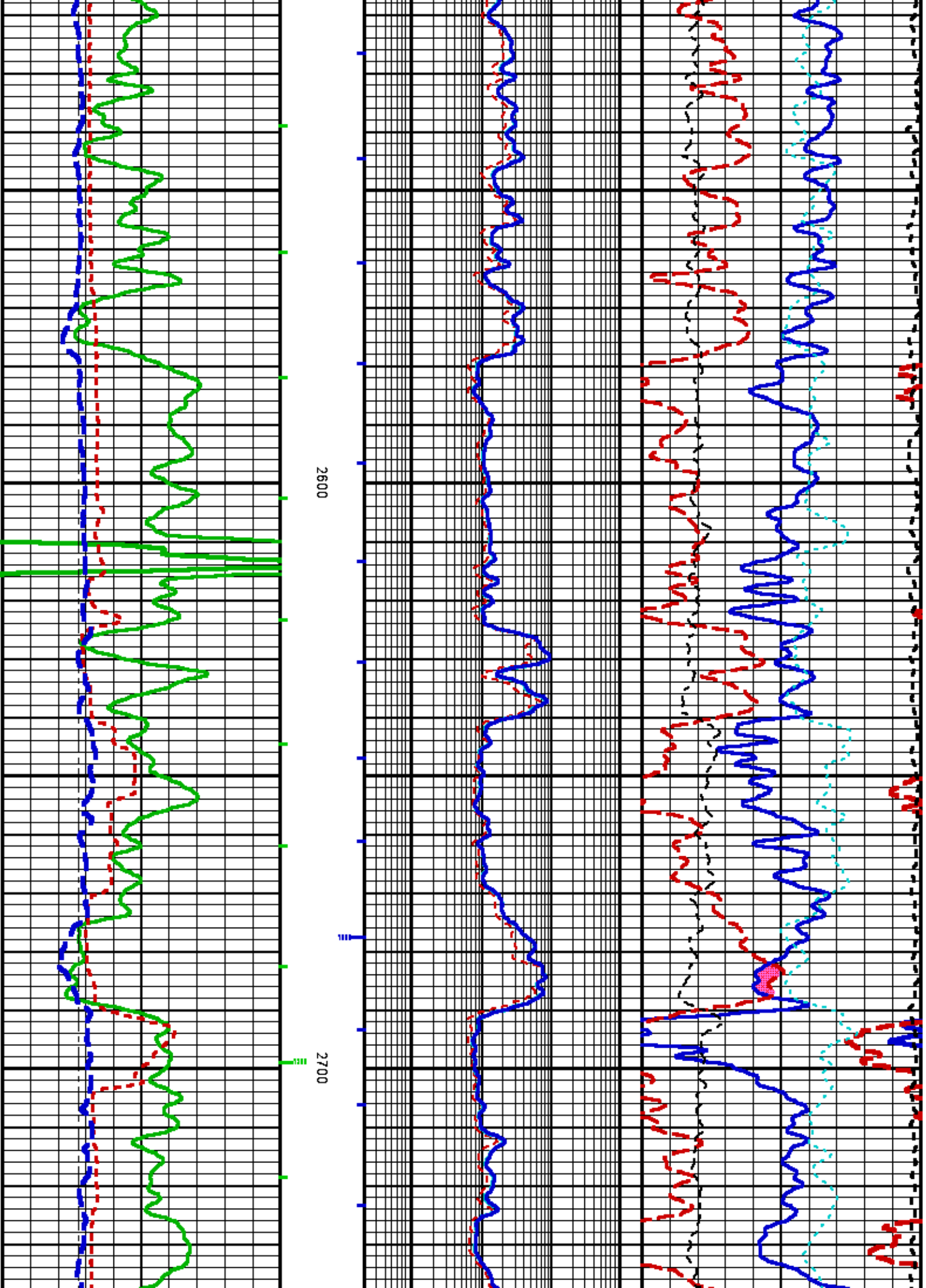


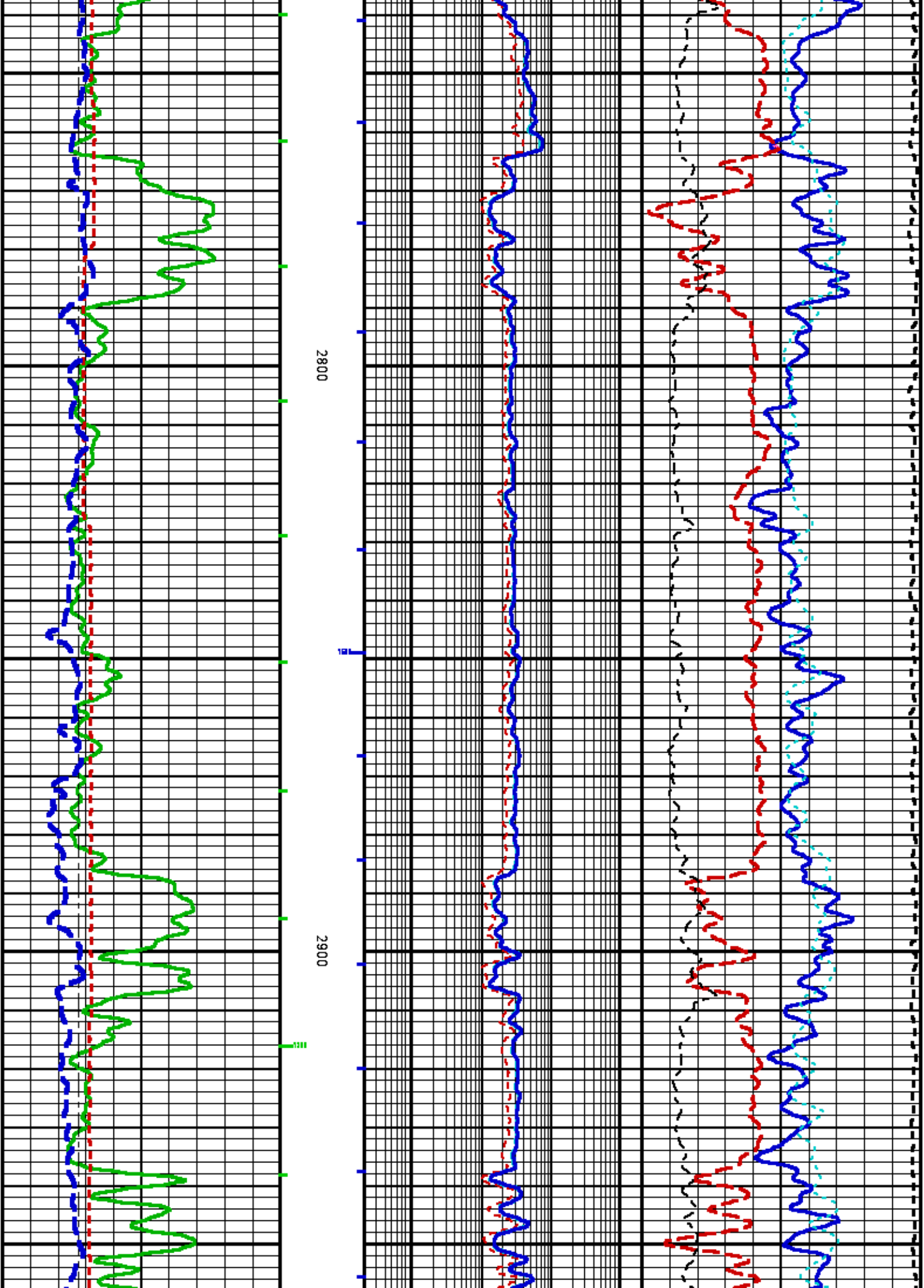


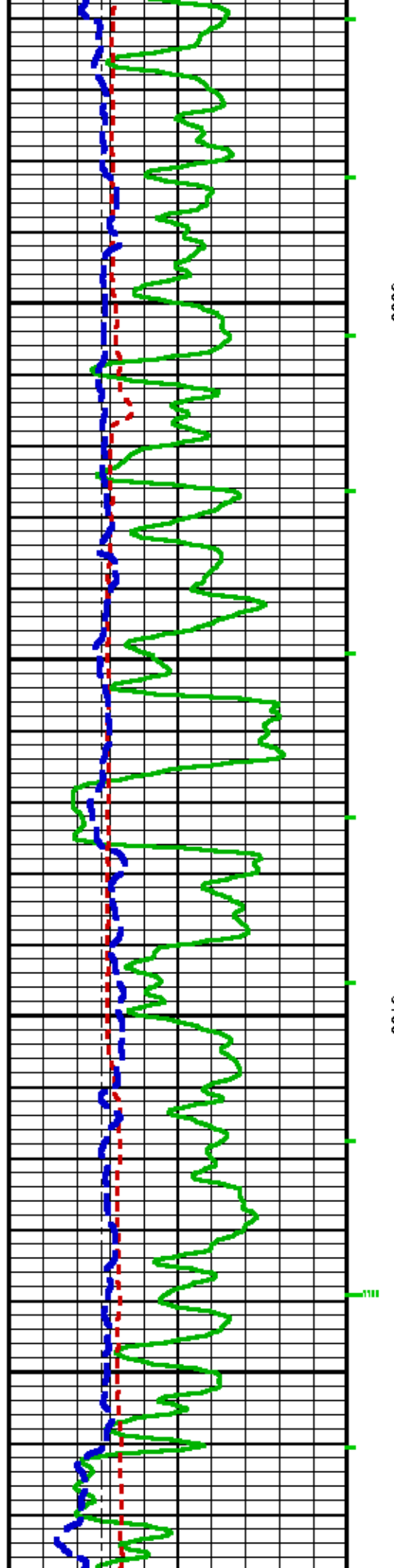
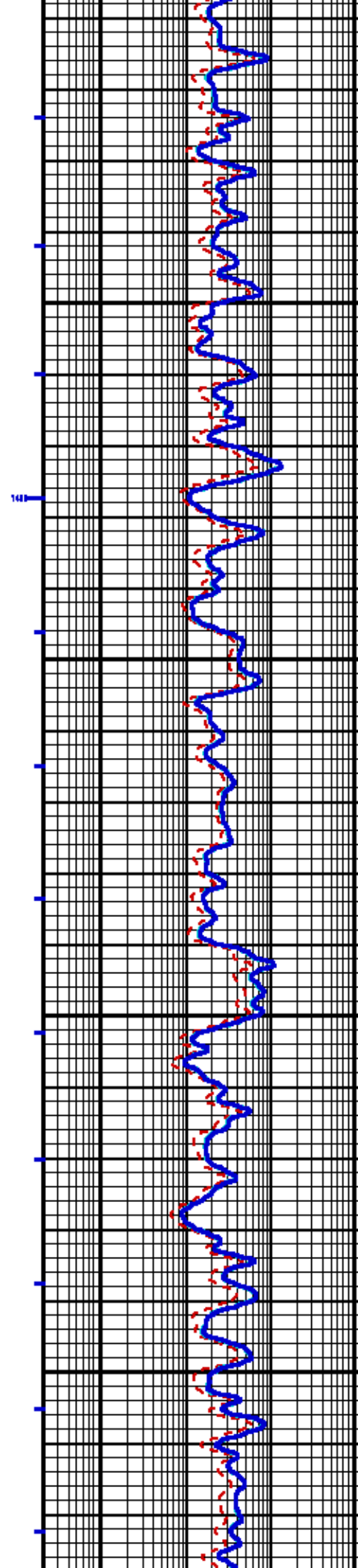
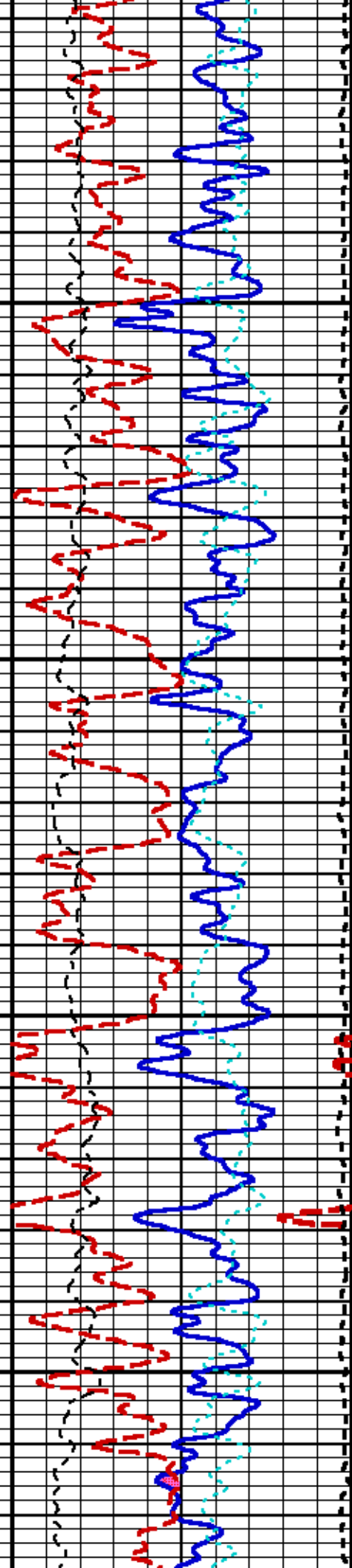


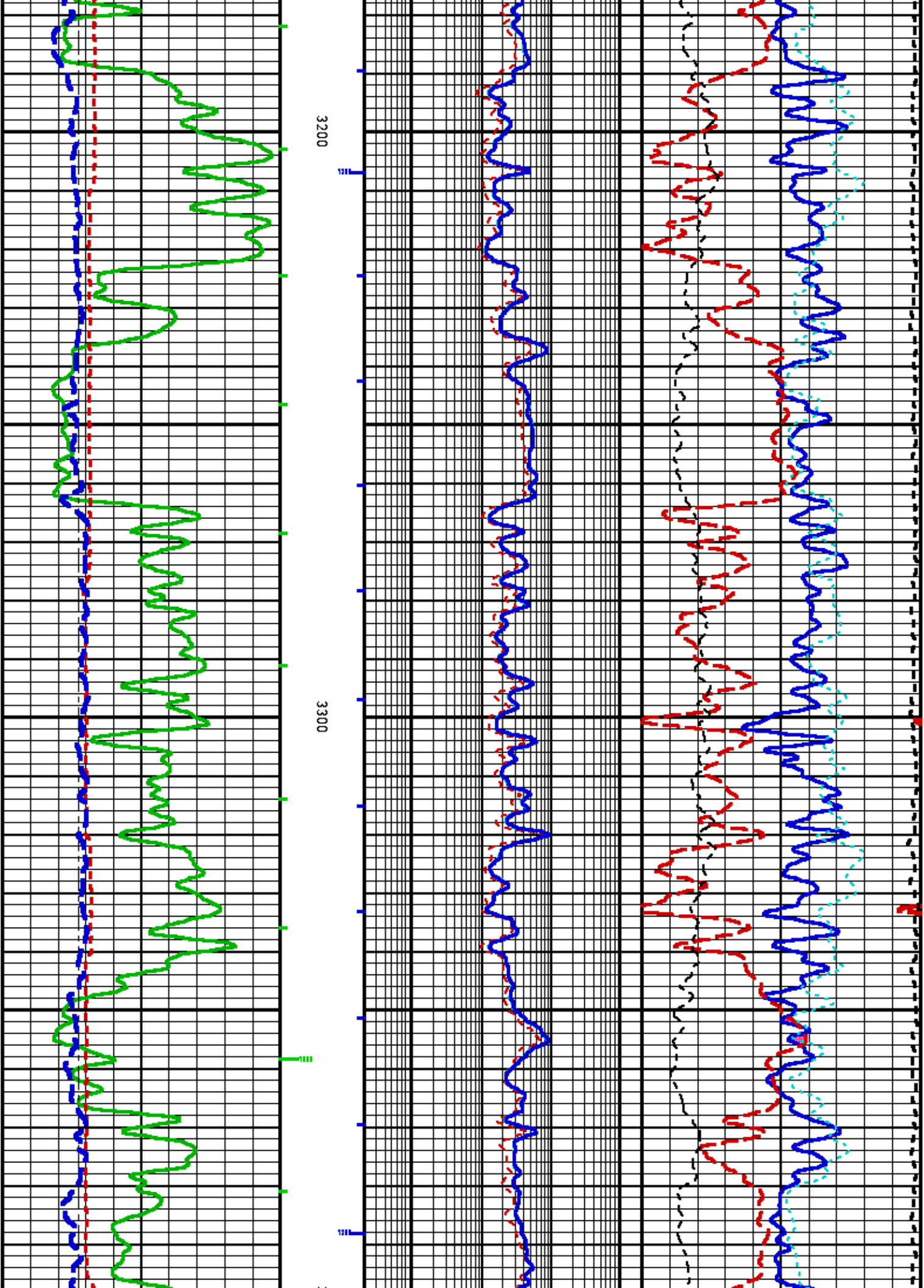


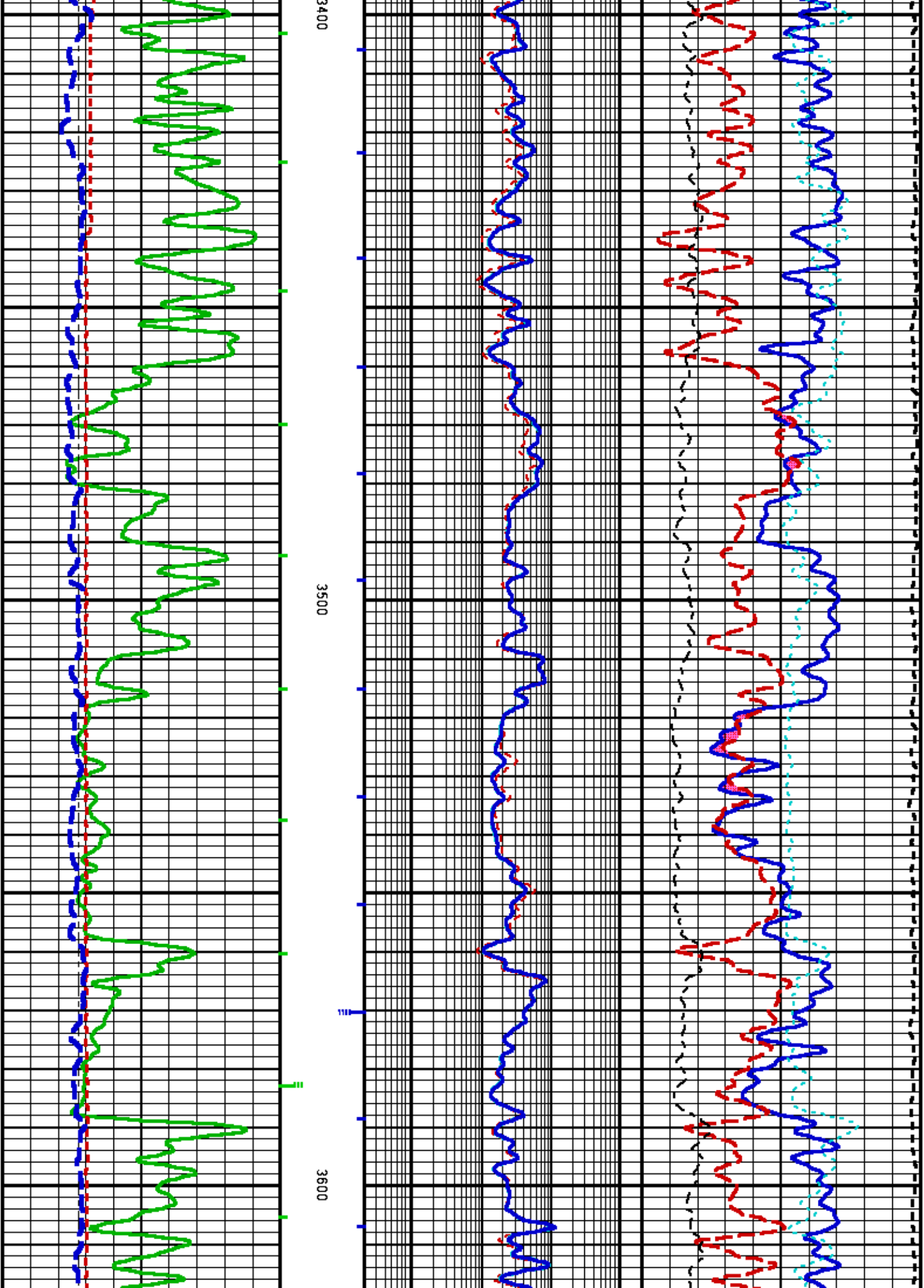


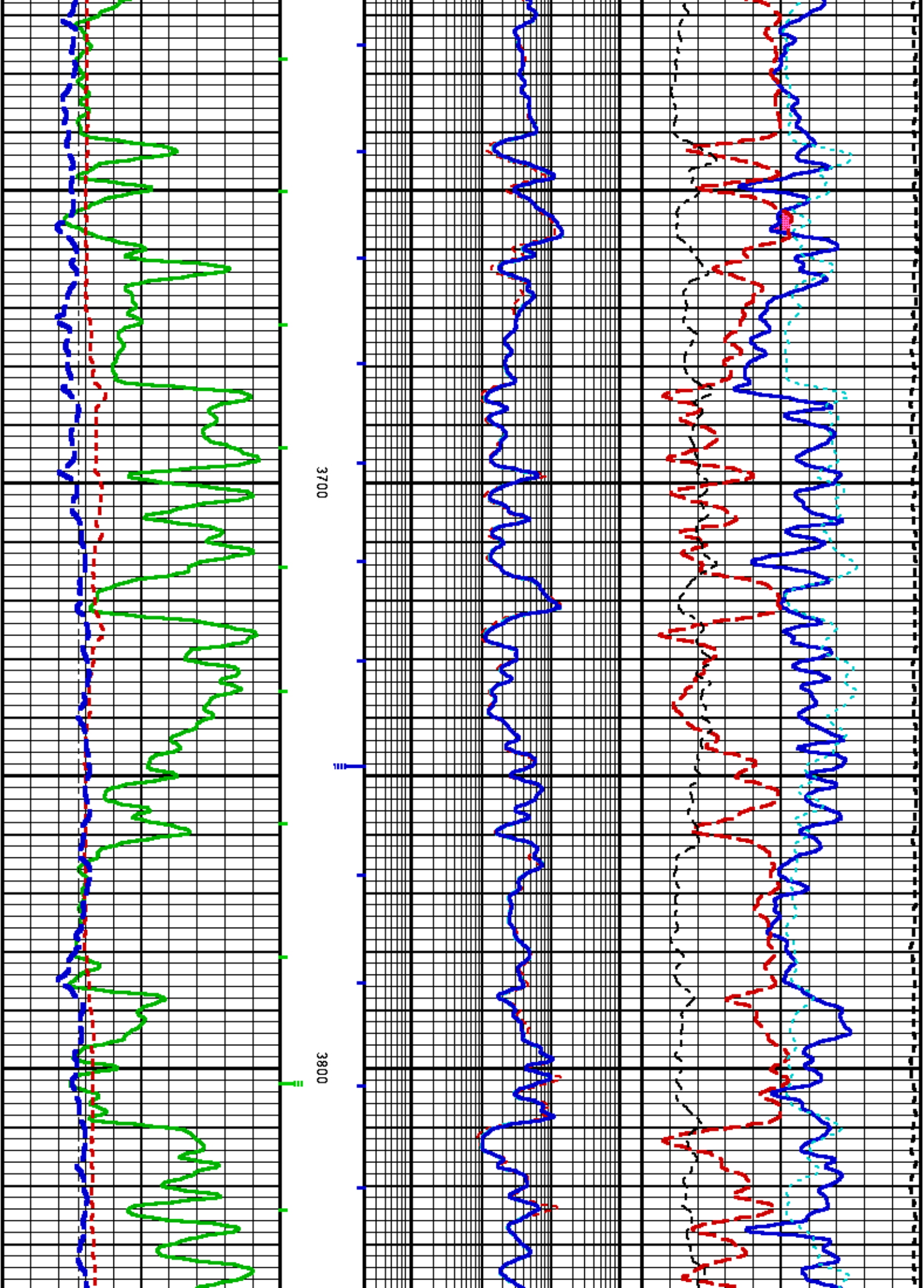


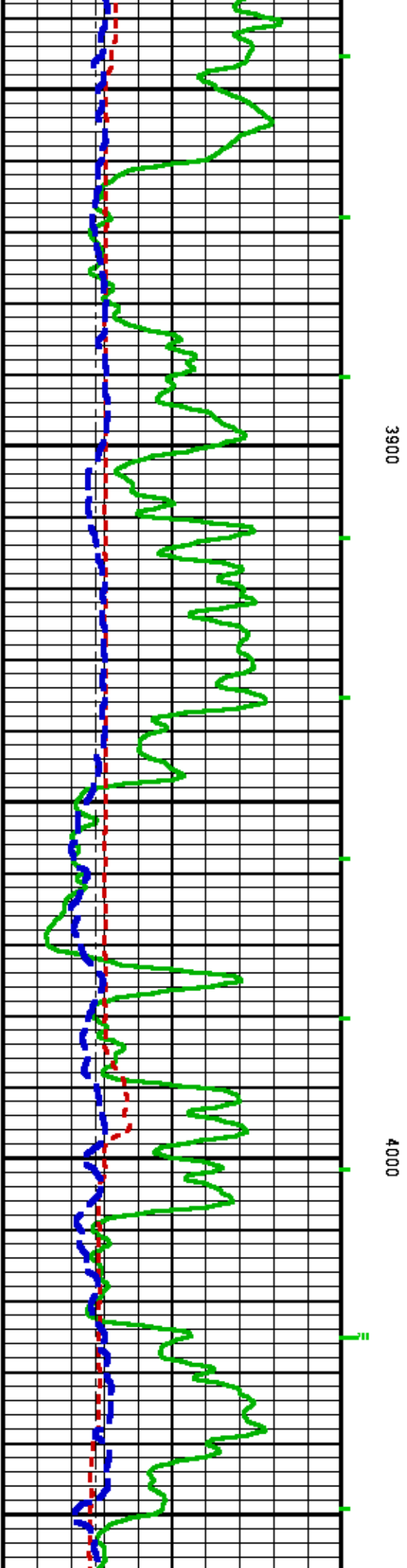
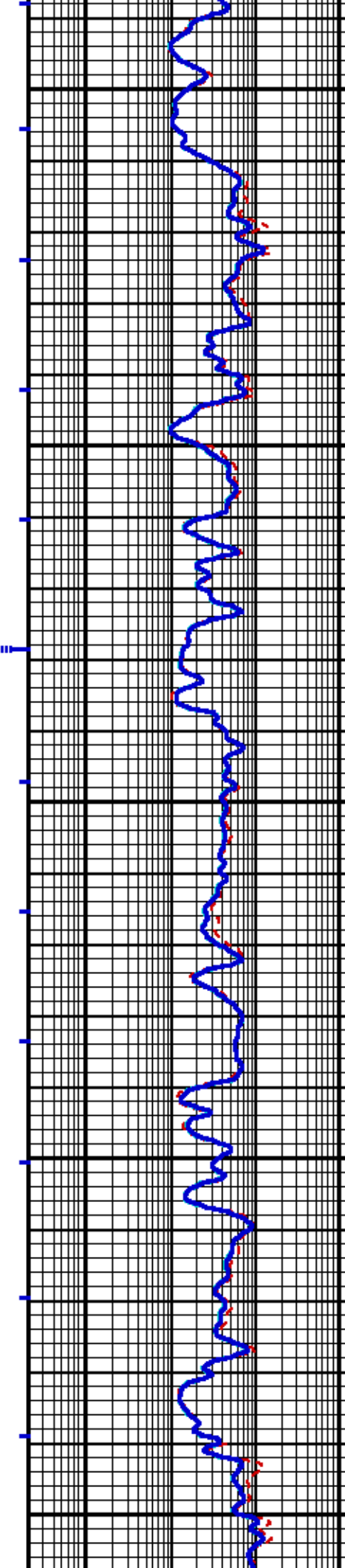
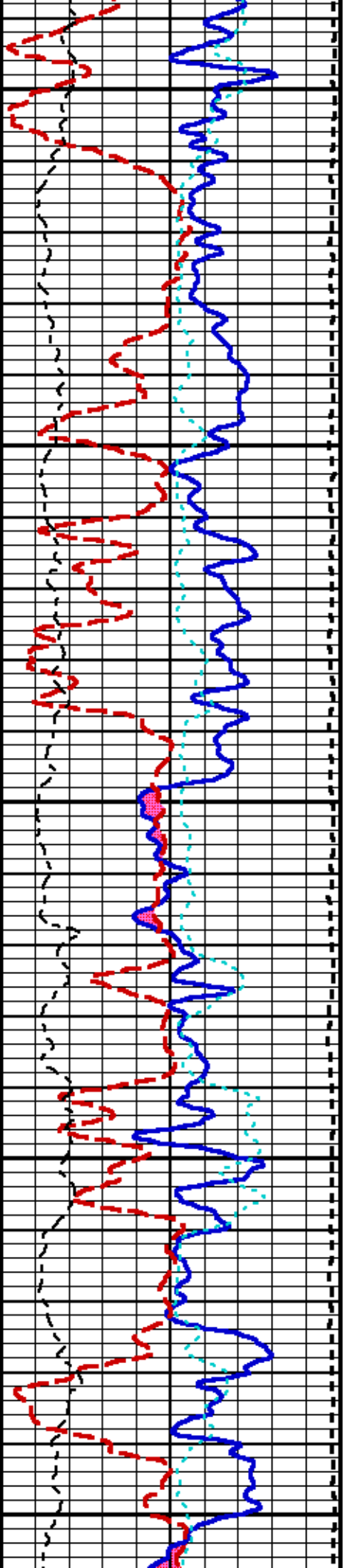


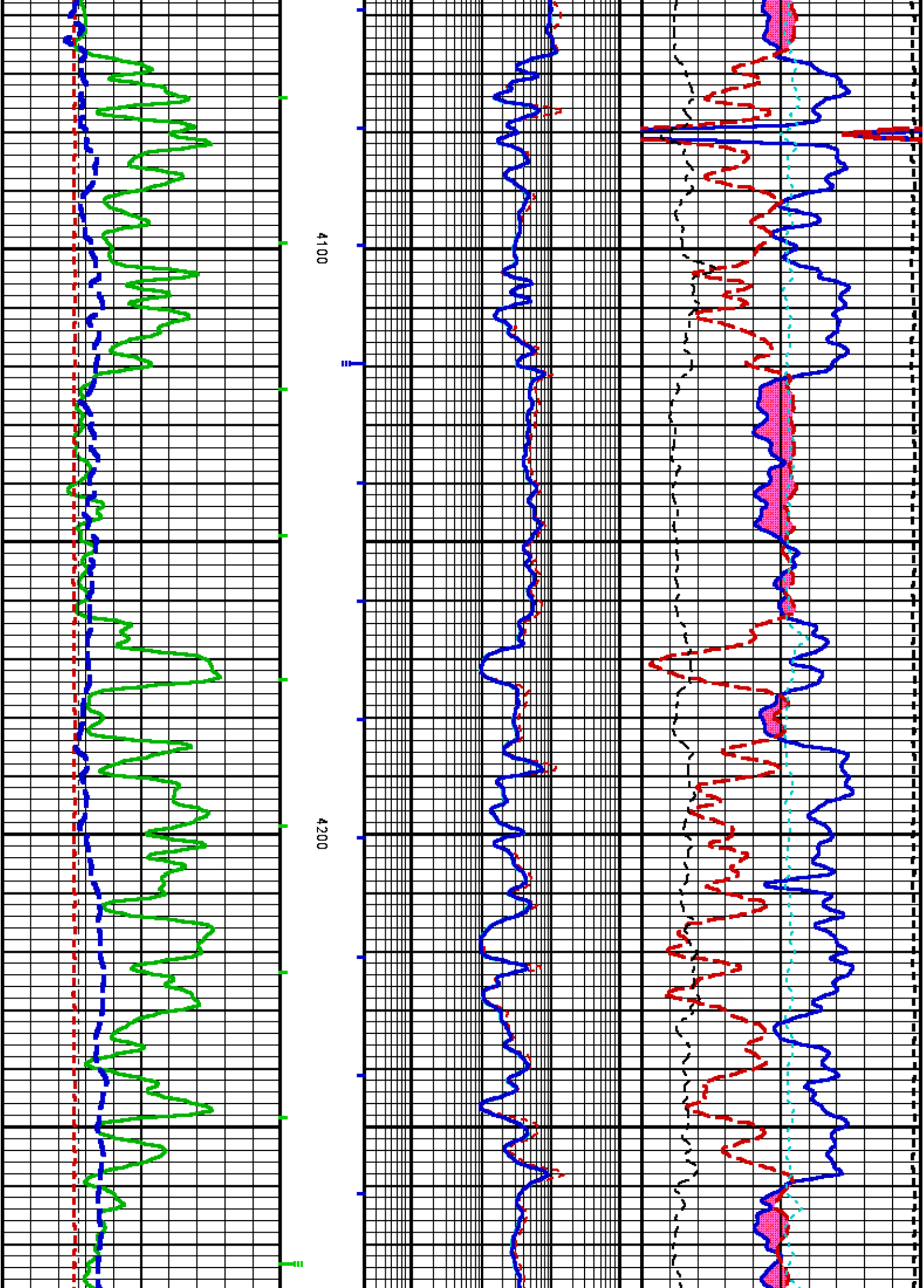


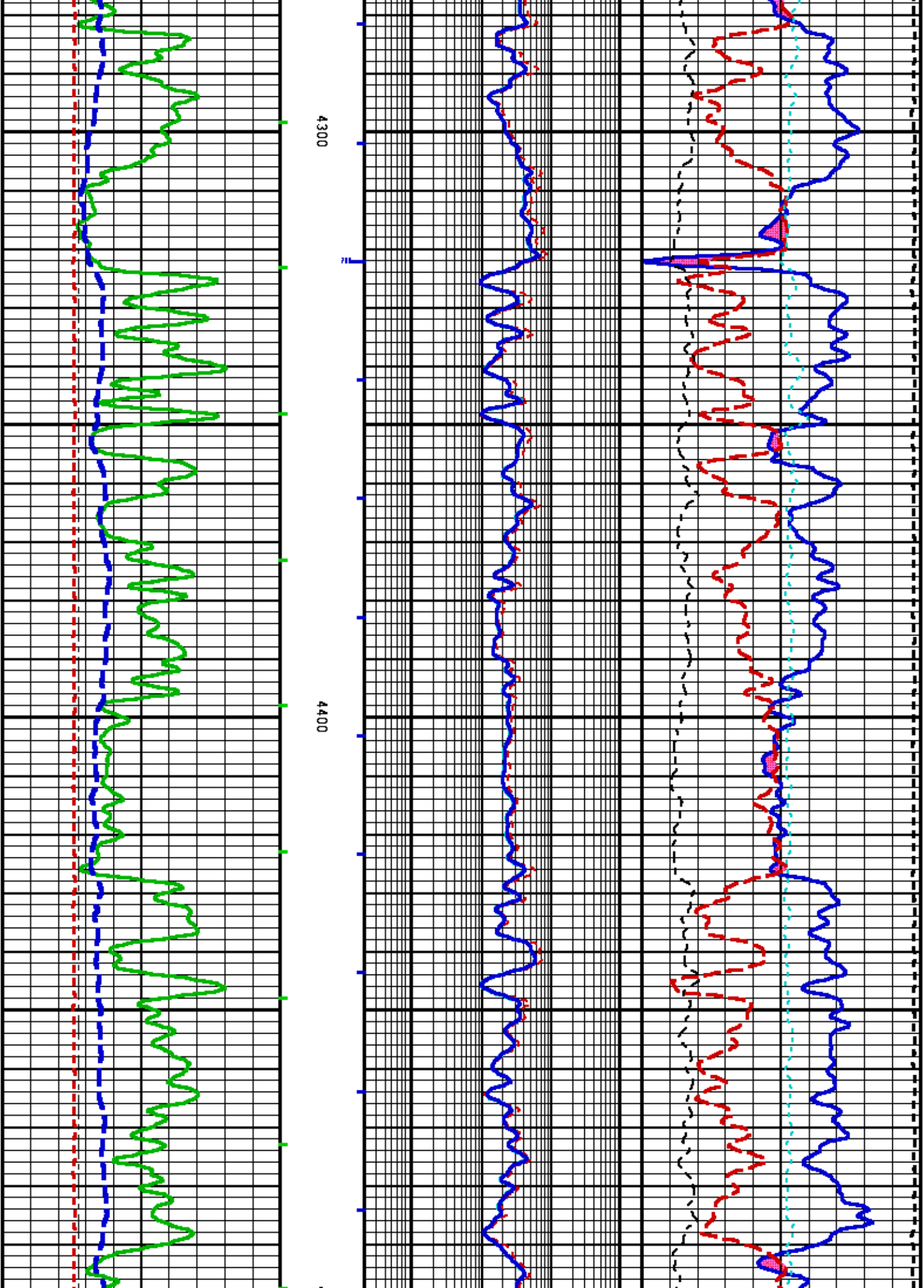


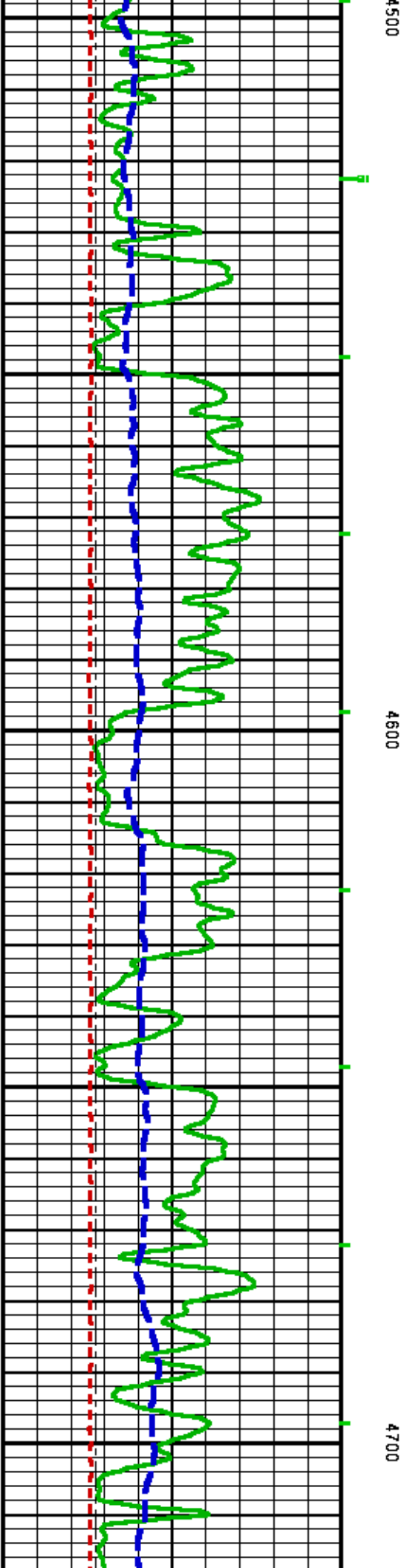
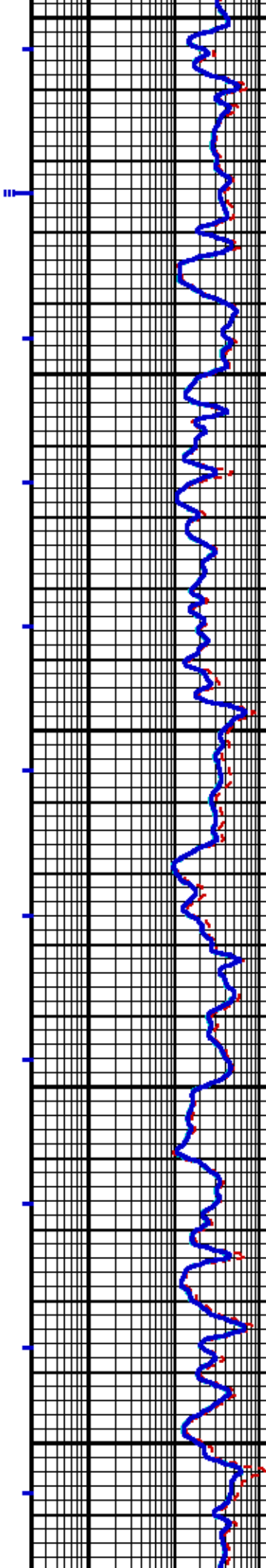
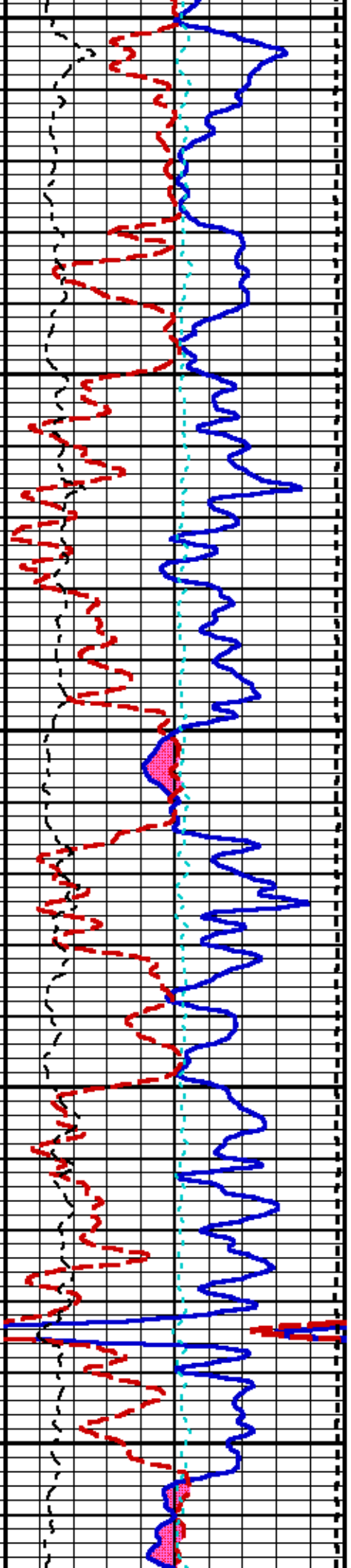


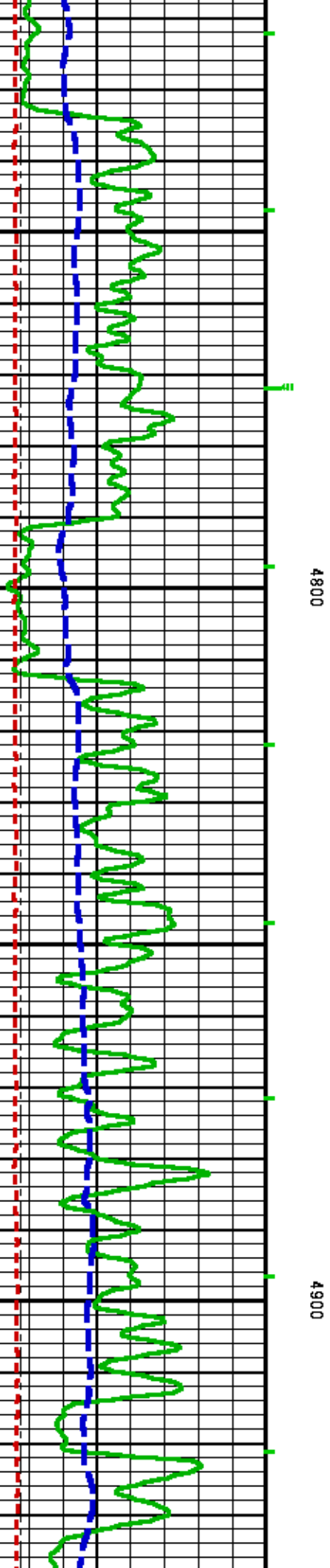
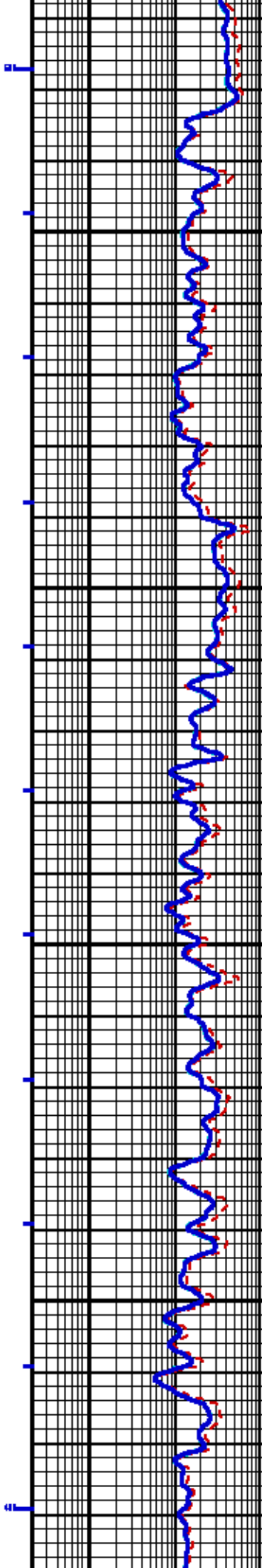
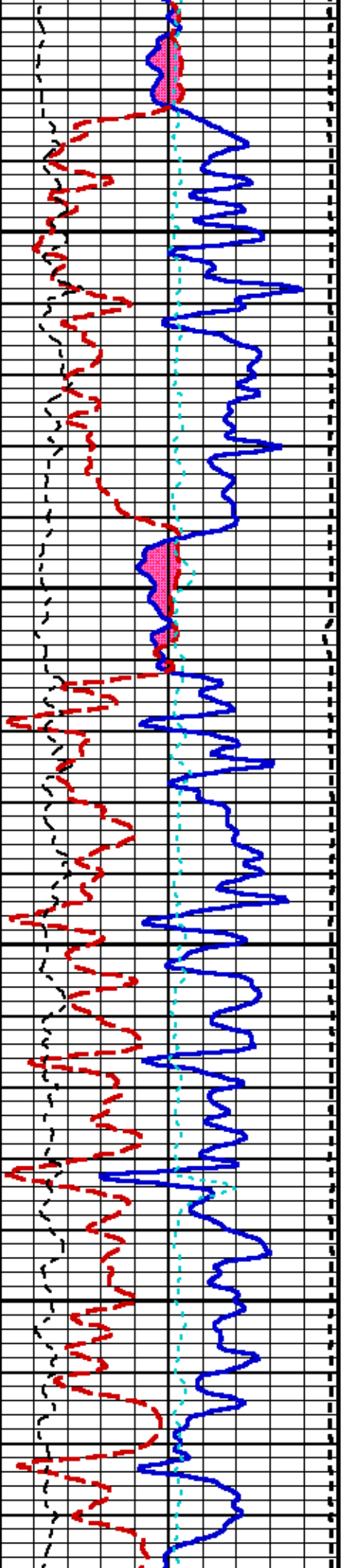


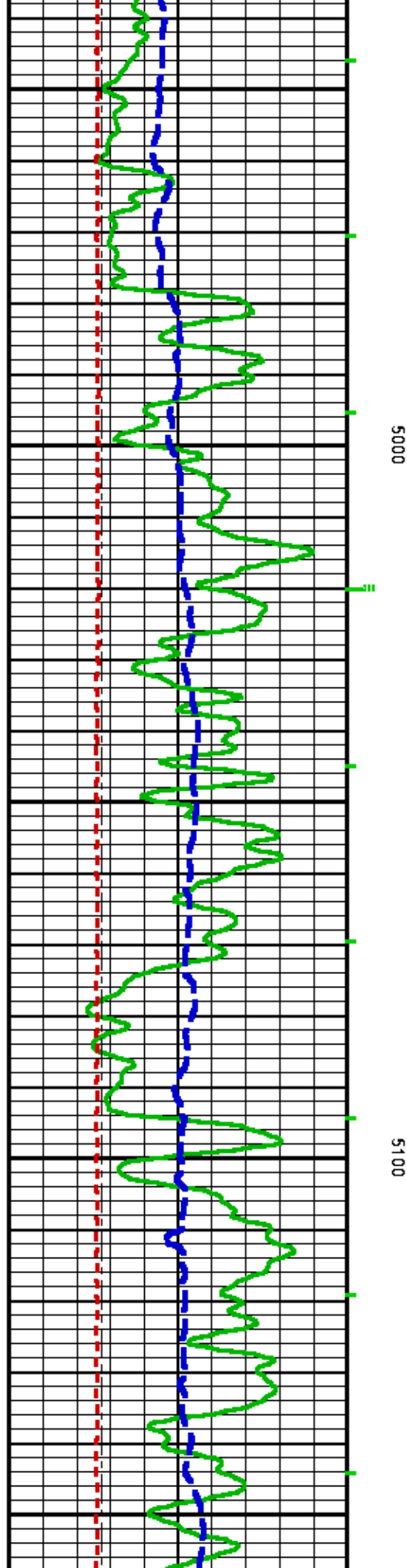
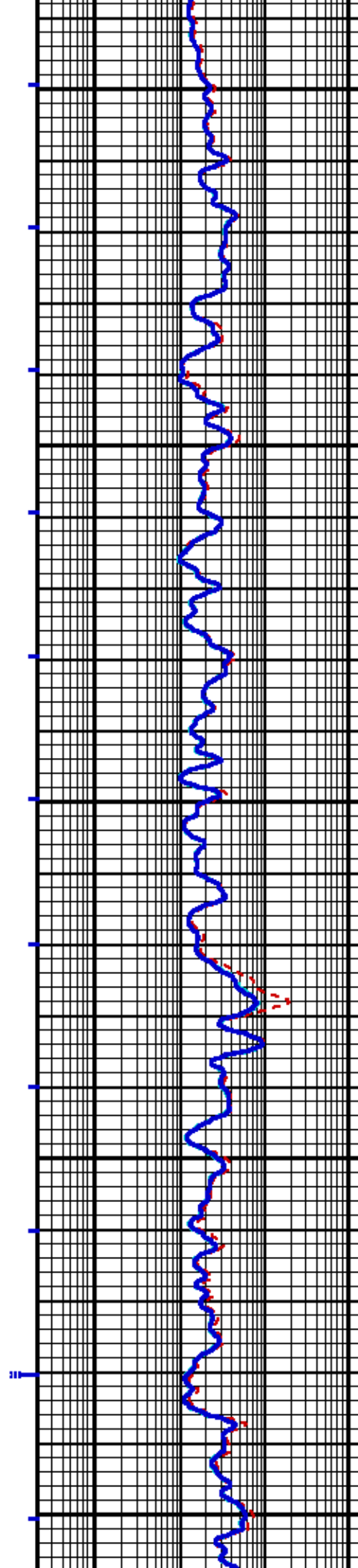
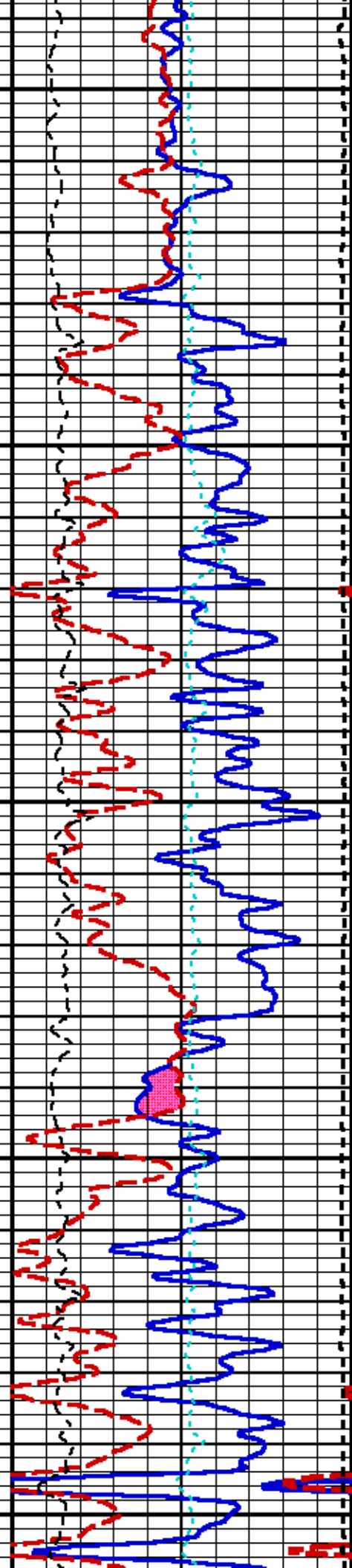


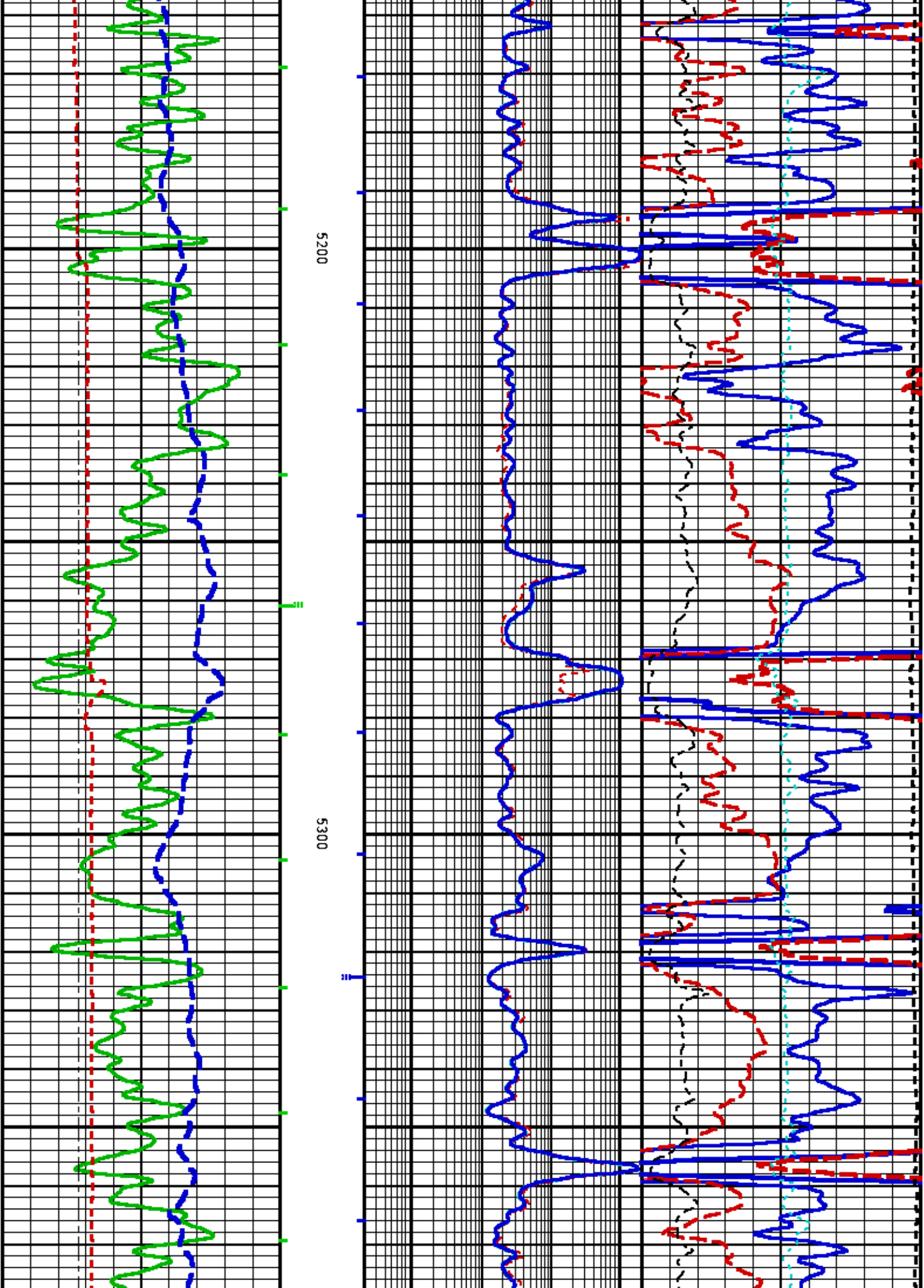


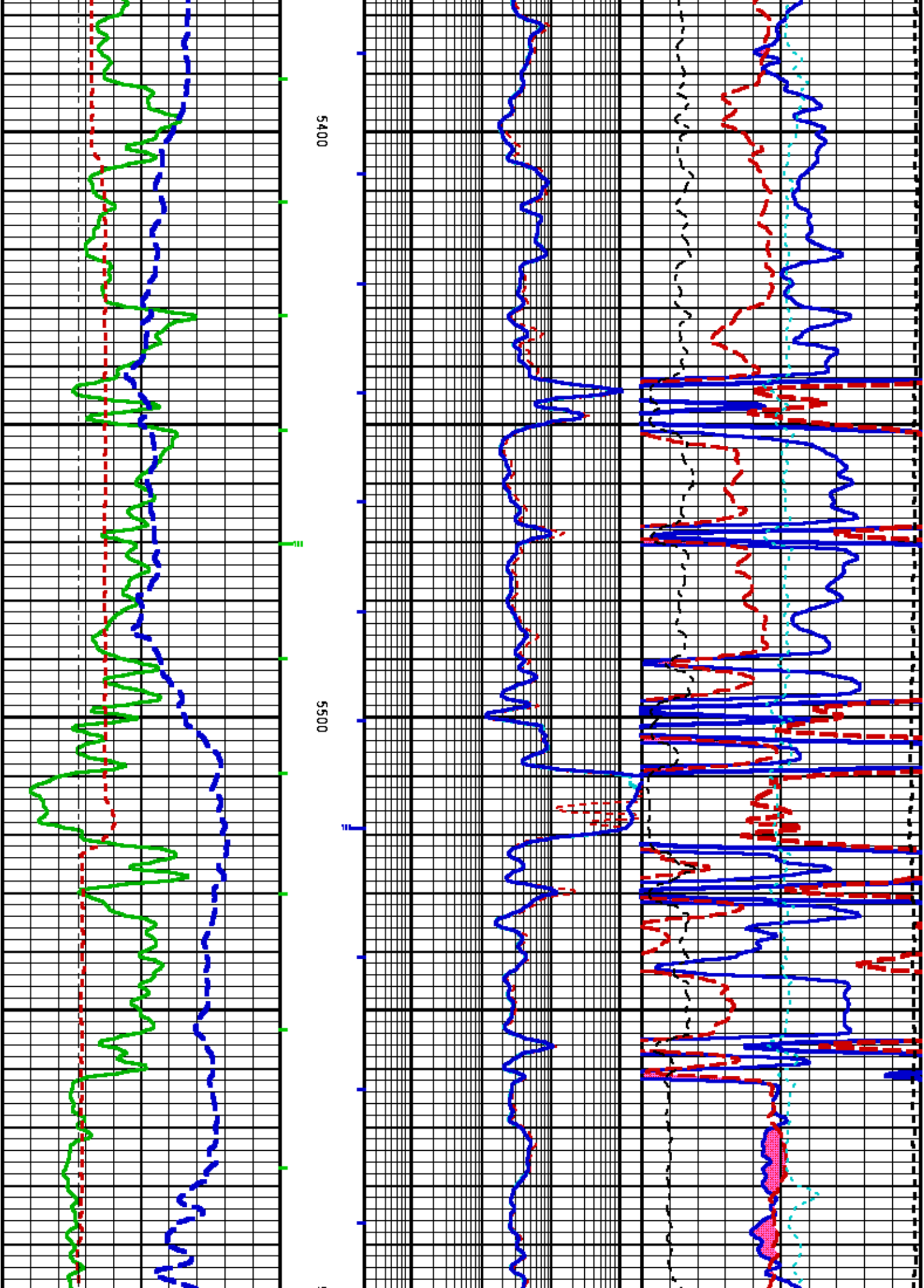


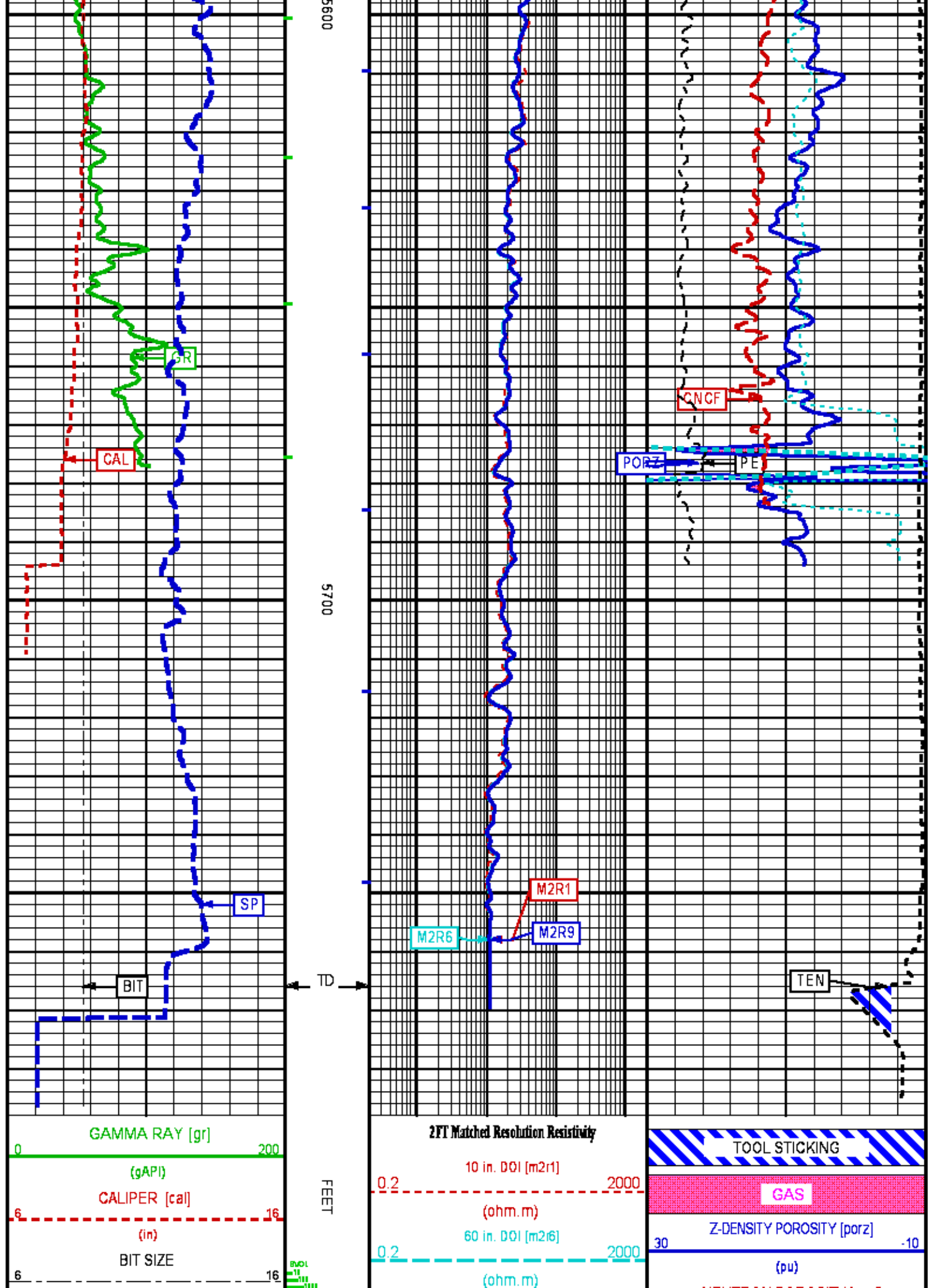


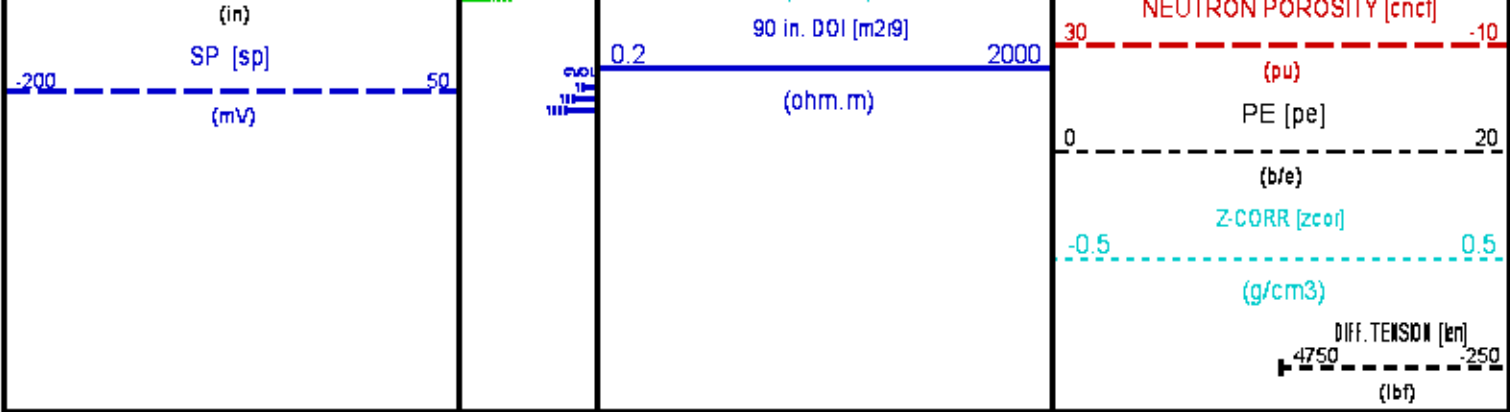












REPEAT LOG

ECLIPS 6.2i ECLIPS General Release Rel 6.2i Wed Jun 12 12:21:40 CDT 2013
Patches: 1

Plotted: Fri Aug 16 14:19:13 2013

PARAMETER AND FILTER SUMMARY REPORT

File: /data/625570/REPEAT_R01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 753.000 ft BOTTOM DEPTH: 1223.750 ft

| SYMMETRIC FILTER | | | | | |
|------------------|-----------------|------------|-------|---------------|--------|
| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
| TTRM | FILTER () | medium (1) | | TOP | BOTTOM |
| | FILTER (.h) | medium (1) | | " | " |
| | FILTER (.i) | medium (1) | | " | " |
| Y AXIS CALIPER | FILTER () | medium (1) | | " | " |
| TENSION | FILTER () | medium (1) | | " | " |
| GR | FILTER () | medium (1) | | " | " |
| CN | FILTER () | medium (1) | | " | " |
| CALIPER | FILTER () | medium (1) | | " | " |
| | FILTER (.h) | medium (1) | | " | " |
| | FILTER (.i) | medium (1) | | " | " |
| ZDL MED RES | FILTER (hrd1*) | medium | | " | " |
| | FILTER (hrd1s*) | medium | | " | " |
| | FILTER (hrd2*) | medium | | " | " |
| | FILTER (hrd2s*) | medium | | " | " |
| | FILTER (soft*) | medium | | " | " |
| SP-SPDH | FILTER () | medium (1) | | " | " |

| BOREHOLE & CEMENT | | | | | |
|-----------------------------------|----------------------------|-------------|--------------|---------------|--------|
| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
| CASING - BOREHOLE & CEMENT VOLUME | CASING O.D. | 4.500 | in | TOP | BOTTOM |
| | CASING THICKNESS | 0.000 | in | " | " |
| BIT SIZE | BIT SIZE | 8.750 | in | " | " |
| MUD SAMPLE RESISTIVITY | MUD SAMPLE TEMP | 80.0 | degF | " | " |
| | MUD SAMPLE RES | 1.090 | ohm.m | " | " |
| BOREHOLE TEMP from GRADIENT | Known BH REF TEMP | 77.0 | degF | " | " |
| | at BH REF DEPTH | 0.0 | ft | " | " |
| | with TEMP GRADIENT | 1.200 | 0.01 degF/ft | " | " |
| BOREHOLE CORR DIAMETER SOURCE | CALIPER/FIXED DIA. (cnbh*) | USE CALIPER | | " | " |
| | CALIPER/FIXED DIA. (mbh*) | USE CALIPER | | " | " |
| BOREHOLE CORR DIAMETER | FIXED DIAMETER (cnbh*) | 8.750 | in | " | " |
| | FIXED DIAMETER (mbh*) | 8.750 | in | " | " |

| | | | | | | | | | | | |
|-------------------------------|--|----------------------|--|---------------|--|-------|--|---------------|--|--------|--|
| BH MUD RESISTIVITY SOURCE | | RMUD SOURCE (HDIL) | | TOOL MEASURED | | " | | " | | | |
| CN PROCESSING | | | | | | | | | | | |
| MEASUREMENT TYPE | | PARAMETER | | VALUE | | UNITS | | INTERVAL (ft) | | | |
| 2446 CN MATRIX | | 2446 MATRIX | | SANDSTONE | | | | TOP | | BOTTOM | |
| CN SALINITY CORRECTION | | SALINITY | | 1550 | | ppm | | " | | " | |
| CN TOOL STANDOFF | | ENABLE STANDOFF CORR | | OFF | | | | " | | " | |
| | | STANDOFF AMOUNT | | 0.00 | | in | | " | | " | |
| CN CASING & CEMENT CORRECTION | | CORRECTION | | OFF | | | | " | | " | |
| | | BIT SIZE BEHIND CSNG | | 8.750 | | in | | " | | " | |

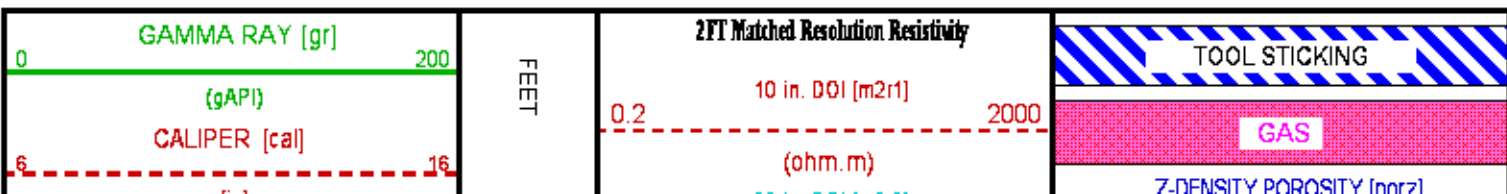
| | | | | | | | |
|------------------|---------------|-------|-------|---------------|--------|--|--|
| ZDL PROCESSING | | | | | | | |
| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | | | |
| DENSITY POROSITY | RHOmatrix | 2.680 | g/cm3 | TOP | BOTTOM | | |
| | RHOfluid | 1.000 | g/cm3 | " | " | | |
| ZDL | DENX TRACKING | ON | | " | " | | |

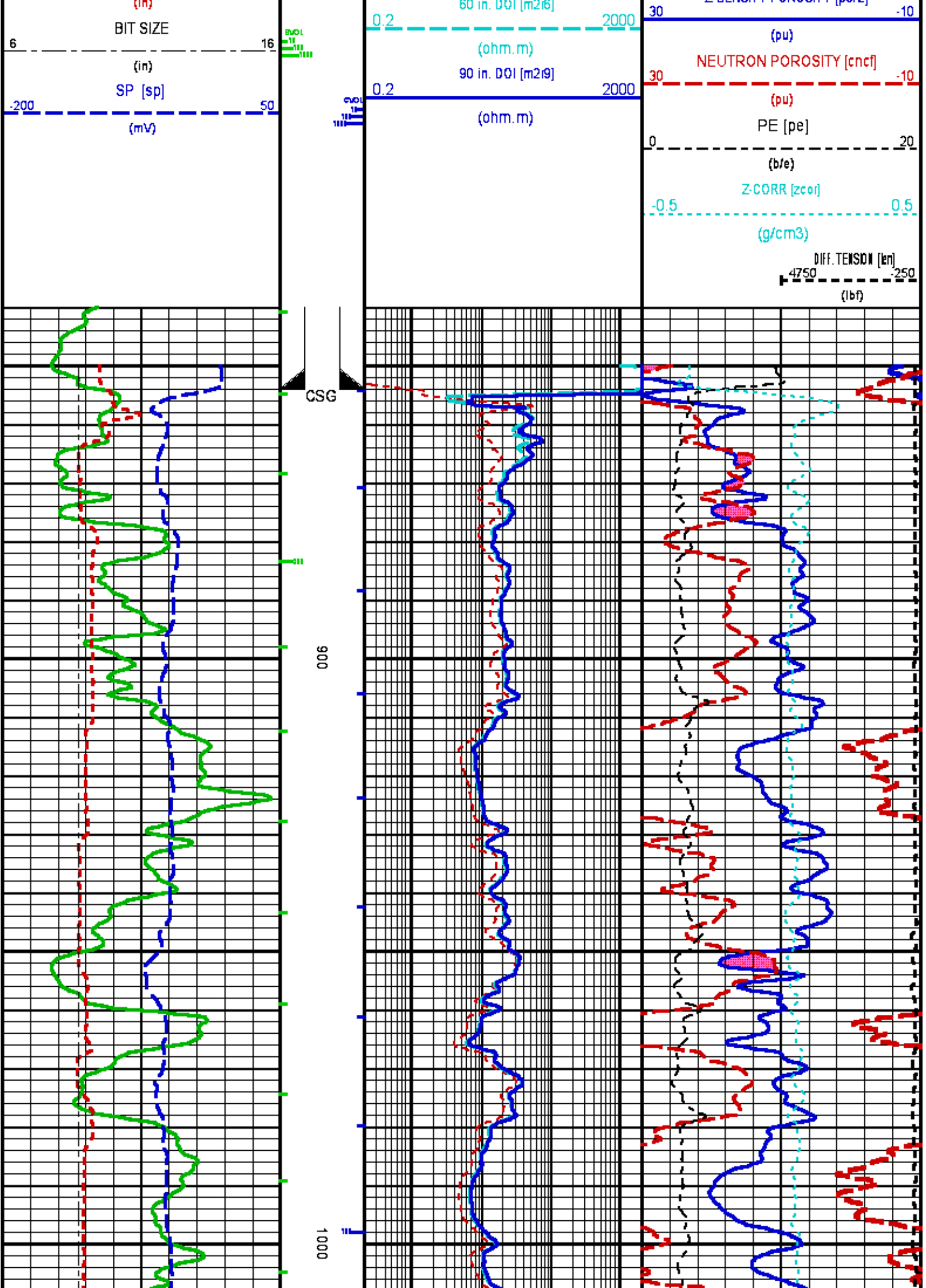
| | | | | | | | |
|------------------------------|------------------|------------|-------|---------------|--------|--|--|
| HDIL PROCESSING | | | | | | | |
| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | | | |
| HDIL TEMPERATURE CORRECTION | TEMP CORR SOURCE | USE RXTEMP | | TOP | BOTTOM | | |
| ADAPTIVE BOREHOLE CORRECTION | ABC PROCESSING | ON | | " | " | | |
| | ABC to CALCULATE | STANDOFF | | " | " | | |
| | STANDOFF | 1.50 | in | " | " | | |
| | TOOL POSITION | ECCENTERED | | " | " | | |
| | Rmud MULTIPLIER | 1.000 | | " | " | | |

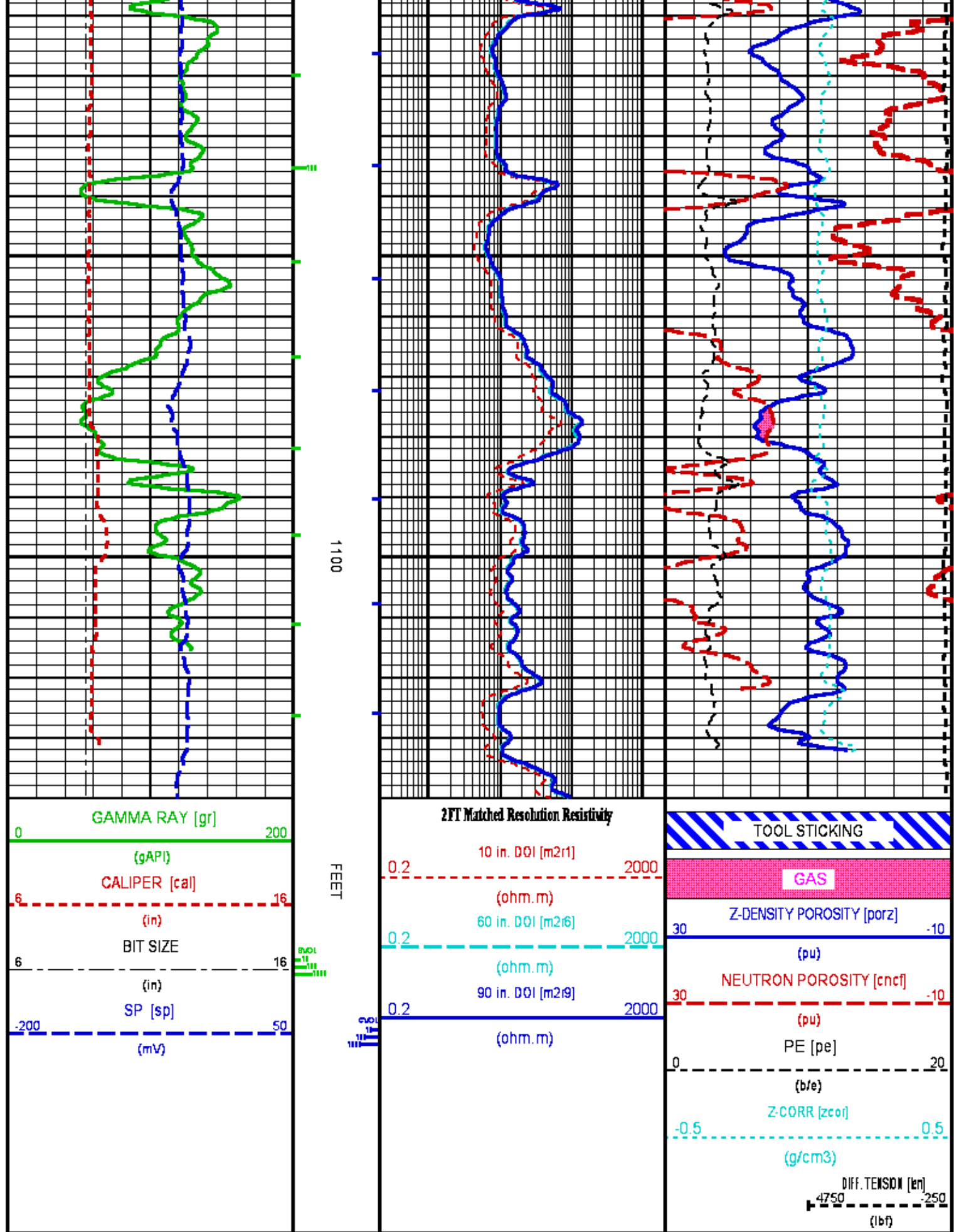
| | | |
|--------------------------|----------------------|---|
| CURVE DESCRIPTION REPORT | | |
| CURVE NAME | CREATION DATE | CURVE DESCRIPTION |
| F1:BIT | Aug 16 11:02:02 2013 | BIT SIZE |
| F1:BVOL | Aug 16 11:02:02 2013 | BOREHOLE VOLUME |
| F1:CAL | Aug 16 11:02:02 2013 | CALIPER |
| F1:CNCF | Aug 16 11:02:02 2013 | FIELD NORMALIZED COMPENSATED NEUTRON POROSITY |
| F1:CVOL | Aug 16 11:02:02 2013 | CEMENT VOLUME |
| F1:GR | Aug 16 11:02:02 2013 | GAMMA RAY |
| F1:M2R1 | Aug 16 11:02:02 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI |
| F1:M2R6 | Aug 16 11:02:02 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI |
| F1:M2R9 | Aug 16 11:02:02 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI |
| F1:PE | Aug 16 11:02:02 2013 | PHOTO ELECTRIC CROSS-SECTION |
| F1:PORZ | Aug 16 11:02:02 2013 | POROSITY FOR SELECTABLE MATRIX |
| F1:SP | Aug 16 11:02:02 2013 | SPONTANEOUS POTENTIAL |
| F1:TEN | Aug 16 11:02:02 2013 | DIFFERENTIAL TENSION |
| F1:ZCOR | Aug 16 11:02:02 2013 | DENSITY CORRECTION |

| | | | | | | | |
|----------------------------|-------------|-------|-------------|-------|-------------|-------|-------------|
| CURVE MEASURE POINT OFFSET | | | | | | | |
| CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) |
| BIT | 0.00 | GR | 107.25 | M2R9 | 8.00 | SP | 14.00 |
| CAL | 90.00 | M2R1 | 8.00 | PE | 89.25 | TEN | 0.00 |
| CNCF | 100.25 | M2R6 | 8.00 | PORZ | 89.25 | ZCOR | 89.25 |

| | |
|---------------|---|
| Presentation | : HL6670:WPX_REPEAT_FINAL_RDR.fvpdf [5"/100' Scale] |
| Plot Interval | : 840 - 1140 Feet |
| Data File 1 | : F1: HL6670:/dat1a/625570/REPEAT_R01.xdf |
| Created On | : Aug 16 11:02:02 2013 |
| Company | : WPX ENERGY INC |
| Well | : STRAIT SG 341-22 |
| Field | : GRAND VALLEY |
| File Interval | : 634.5 - 1224.75 Feet |
| OCT | : nu779x |







CALIBRATION / VERIFICATION SUMMARY

Source File: /mnt1a/625570/ed02.tbl

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10203010

DATE/TIME PERFORMED: Sun Aug 11 23:55:03 2013

UNIT #: 3880TA HL6670

| | Signal Low (raw) | Signal High (raw) | Scale Mult | Scale Add | Engr Low (lbf) | Engr High (lbf) |
|-----|---------------------|----------------------|------------|-----------|-------------------|--------------------|
| CHT | 79.47 | -363.02 | -3.22 | 164.30 | -92.00 | 1335.00 |

CHT BEFORE LOG VERIFICATION SUMMARY

TOOL #: 3981XA 10203010

DATE/TIME PERFORMED: Thu Aug 15 10:34:29 2013

DAYS SINCE CAL: 3

UNIT #: 3880TA HL6670

| | Signal Low (raw) | Signal High (raw) | Scale Mult | Scale Add | Engr Low (lbf) | Engr High (lbf) |
|-----|---------------------|----------------------|------------|-----------|-------------------|--------------------|
| CHT | -165.78 | -570.47 | -3.22 | 164.30 | 698.94 | 2003.99 |

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10196895

DATE/TIME PERFORMED: Mon Jul 22 10:05:21 2013

UNIT #: 3880TA HL6670

CALB JIG #: 4702NK VBA-905

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | GR DIFF (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | CALBRTR (gAPI) |
|----|-----------------------|-----------------------|--------------------|-------|----------------------|----------------------|-------------------|
| GR | 341.24 | 1249.42 | 908.2 | 0.165 | 56.36 | 206.36 | 150 |

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10196895

DATE/TIME PERFORMED: Mon Jul 22 10:10:34 2013

UNIT #: 3880TA HL6670

VERI JIG #: 4702NK VBA-905

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|----|-----------------------|-----------------------|-------|----------------------|----------------------|-----------------|
| GR | 341.24 | 1247.76 | 0.165 | 56.36 | 206.09 | 149.72 |

GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10196895

DATE/TIME PERFORMED: Thu Aug 15 10:36:28 2013

DAYS SINCE CAL: 24

UNIT #: 3880TA HL6670

VERI JIG #: 4702NK VBA-905

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|----|-----------------------|-----------------------|-------|----------------------|----------------------|-----------------|
| GR | 172.04 | 1055.02 | 0.165 | 28.42 | 174.25 | 145.84 |

GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10196895

DATE/TIME PERFORMED: Thu Aug 15 15:58:55 2013

DAYS SINCE CAL: 24

UNIT #: 3880TA HL6670

VERI JIG #: 4702NK VBA-905

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|----|-----------------------|-----------------------|-------|----------------------|----------------------|-----------------|
| GR | 162.53 | 1037.78 | 0.165 | 26.84 | 171.41 | 144.56 |

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 10202034

DATE/TIME PERFORMED: Wed Aug 7 09:35:49 2013

UNIT #: 3880TA HL6670

CALIBRATOR #: 2437XB 112674

SOURCE #: 4717XS N-0897

| MEASURED CPS | DEADTM CORR CPS | DTC SSN/LSN | NOMINAL SSN/LSN | CORRECTION FACTOR | POROSITY (pu) |
|-----------------|--------------------|----------------|--------------------|----------------------|------------------|
| | | | | | |

| | | | |
|-------|---------|---------|----------------------------|
| LSN | 568.45 | 576.31 | |
| SSN | 1536.09 | 1584.78 | |
| RATIO | 2.74988 | 2.75100 | 1.00041 0.97000 1.07000 |
| CN | 21.358 | | |

CN PRIMARY VERIFICATION SUMMARY

| | | | |
|---------|-----------------|----------------------|-------------------------|
| TOOL #: | 2446XA 10202034 | DATE/TIME PERFORMED: | Wed Aug 7 09:43:36 2013 |
| UNIT #: | 3880TA HL6670 | ICE BLOCK #: | 4717ND D-0147 |

| | MEASURED CPS | DEADTM CORR CPS | DTC SSN/LSN | CORRECTION FACTOR | DTC CORR SSN/LSN | POROSITY (pu) |
|-------|-----------------|--------------------|----------------|----------------------|---------------------|------------------|
| LSN | 1584.79 | 1647.49 | | | | |
| SSN | 3719.59 | 4018.63 | | | | |
| RATIO | 2.43925 | | | 1.00041 | 2.44173 | |
| CN | | | | | | 17.079 |

CN BEFORE LOG VERIFICATION SUMMARY

| | | | | | |
|---------|-----------------|----------------------|--------------------------|-----------------|---|
| TOOL #: | 2446XA 10202034 | DATE/TIME PERFORMED: | Thu Aug 15 07:58:38 2013 | DAYS SINCE CAL: | 7 |
| UNIT #: | 3880TA HL6670 | ICE BLOCK #: | 4717ND D-0147 | | |

| | MEASURED CPS | DEADTM CORR CPS | DTC SSN/LSN | CORRECTION FACTOR | DTC CORR SSN/LSN | POROSITY (pu) |
|-------|-----------------|--------------------|----------------|----------------------|---------------------|-------------------------|
| LSN | 1619.98 | 1685.55 | | | | |
| SSN | 3698.24 | 3993.71 | | | | |
| RATIO | 2.36938 | | | 1.00041 | 2.37178 | |
| CN | | | | | | 16.155 15.079 18.079 |

CAL PRIMARY CALIBRATION SUMMARY

| | | | |
|---------|-----------------|----------------------|--------------------------|
| TOOL #: | 2234XA 10211833 | DATE/TIME PERFORMED: | Mon Jul 22 09:21:21 2013 |
| UNIT #: | 3880TA HL6670 | | |

| | SMALL RING | LARGE RING | MULT | ADD | SMALL RING (in) | LARGE RING (in) |
|---------|------------|------------|---------|----------|--------------------|--------------------|
| CALIPER | 1840.0 | 2350.0 | 0.00784 | -7.43137 | 7.000 | 11.000 |

CAL BEFORE LOG VERIFICATION SUMMARY

| | | | | | |
|---------|-----------------|----------------------|--------------------------|-----------------|----|
| TOOL #: | 2234XA 10211833 | DATE/TIME PERFORMED: | Thu Aug 15 10:50:29 2013 | DAYS SINCE CAL: | 24 |
| UNIT #: | 3880TA HL6670 | | | | |

| | I.D. | MULT | ADD | I.D. (in) |
|---------|--------|---------|----------|--------------|
| CALIPER | 1956.8 | 0.00784 | -6.34645 | 9.001 |

ZDL PRIMARY CALIBRATION SUMMARY

| | | | |
|-------|-----------------|----------------------|--------------------------|
| TOOL: | 2234XA 10211833 | DATE/TIME PERFORMED: | Mon Jul 22 09:12:25 2013 |
| UNIT: | 3880TA HL6670 | CALB BLKS: | 2225XA 094292 |
| | | CS SRC: | 4703NT 34631B |

| | SS CS PK (Channel) | LS CS PK (Channel) | SS_BKGD (cps) | LS_BKGD (cps) | | | |
|------------|-----------------------|-----------------------|----------------------|------------------|-----------------|-------------|--|
| | 223.2 200.0 250.0 | 224.4 200.0 250.0 | 1351.6 | 1654.9 | | | |
| | SS (cps) | LS (cps) | SHR | DEN (g/cm3) | CORR (g/cm3) | PE (b/e) | |
| MG (LO PE) | 23908.1 | 13213.4 | 0.574 0.500 0.600 | 1.697 | 0.002 | 2.300 | |
| AL | 13950.4 | 1327.1 | | 2.717 | -0.004 | | |
| AL - LSHIM | 10302.4 | 1333.6 | | 2.630 | 0.163 | | |

MG + SHIM (HI PE)

11500.4

6134.2

0.224

8.730

RATIO AL + SHIM/AL

1.38

1.76

RATIO MG/AL

1.71

9.96

ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #:

2234XA 10211833

DATE/TIME PERFORMED:

Thu Aug 15 10:32:47 2013

DAYS SINCE CAL:

24

UNIT #:

3880TA HL6670

| | TOTAL (cps) | CSPK (Channel) | HV (V) |
|----|----------------|---------------------|---------------|
| LS | 1644.7 | 224.2 | 1183.9 |
| | 1581.8 1751.8 | 200.0 230.0 | 1100.0 1200.0 |
| SS | 1352.4 | 225.6 | 1238.0 |
| | 1281.8 1451.8 | 200.0 230.0 | 1100.0 1300.0 |
| | LV (V) | PAD CURRENT (mA) | |
| | 5.0 | 68.3 | |
| | 4.8 5.2 | 50.0 100.0 | |

ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #:

2234XA 10211833

DATE/TIME PERFORMED:

Thu Aug 15 15:55:56 2013

DAYS SINCE CAL:

24

UNIT #:

3880TA HL6670

| | TOTAL (cps) | CSPK (Channel) | HV (V) |
|----|----------------|---------------------|---------------|
| LS | 1647.8 | 225.1 | 1188.0 |
| | 1581.8 1751.8 | 200.0 230.0 | 1100.0 1200.0 |
| SS | 1343.2 | 223.6 | 1244.0 |
| | 1281.8 1451.8 | 200.0 230.0 | 1100.0 1300.0 |
| | LV (V) | PAD CURRENT (mA) | |
| | 5.0 | 67.6 | |
| | 4.8 5.2 | 50.0 100.0 | |

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #:

1515MA 10037719

DATE/TIME PERFORMED:

Fri Aug 2 09:06:03 2013

UNIT #:

3880TA HL6670

GRCOND ID & DATE:

126 083096

| ZERO DATA(mv) | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|---------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Cell 0 R | 0.001 -0.200 0.200 | 0.001 -0.100 0.100 | 0.002 -0.100 0.100 | 0.000 -0.100 0.100 | -0.001 -0.100 0.100 | 0.002 -0.100 0.100 | 0.001 -0.100 0.100 | -0.000 -0.100 0.100 |
| Cell 0 Q | 0.007 -1.000 1.000 | 0.008 -0.200 0.200 | 0.002 -0.100 0.100 | 0.001 -0.100 0.100 | 0.002 -0.100 0.100 | 0.001 -0.100 0.100 | 0.000 -0.100 0.100 | 0.001 -0.100 0.100 |
| Cell 1 R | -0.000 -0.200 0.200 | 0.003 -0.100 0.100 | 0.004 -0.100 0.100 | 0.007 -0.100 0.100 | 0.008 -0.100 0.100 | 0.005 -0.100 0.100 | 0.003 -0.100 0.100 | 0.002 -0.100 0.100 |
| Cell 1 Q | -0.006 -1.000 1.000 | -0.009 -0.200 0.200 | -0.007 -0.100 0.100 | -0.003 -0.100 0.100 | 0.001 -0.100 0.100 | 0.003 -0.100 0.100 | 0.003 -0.100 0.100 | 0.003 -0.100 0.100 |
| Cell 2 R | -0.003 -0.200 0.200 | 0.001 -0.100 0.100 | 0.001 -0.100 0.100 | 0.000 -0.100 0.100 | 0.001 -0.100 0.100 | 0.003 -0.100 0.100 | 0.006 -0.100 0.100 | 0.008 -0.100 0.100 |
| Cell 2 Q | -0.002 -1.000 1.000 | -0.001 -0.200 0.200 | -0.001 -0.100 0.100 | -0.001 -0.100 0.100 | -0.005 -0.100 0.100 | -0.004 -0.100 0.100 | -0.003 -0.100 0.100 | 0.000 -0.100 0.100 |
| Cell 3 R | 0.003 -0.100 0.100 | 0.002 -0.100 0.100 | 0.004 -0.100 0.100 | 0.003 -0.100 0.100 | 0.005 -0.100 0.100 | 0.003 -0.100 0.100 | 0.003 -0.100 0.100 | 0.002 -0.100 0.100 |
| Cell 3 Q | -0.009 -0.500 0.500 | -0.007 -0.200 0.200 | -0.004 -0.100 0.100 | -0.001 -0.100 0.100 | -0.001 -0.100 0.100 | 0.002 -0.100 0.100 | 0.002 -0.100 0.100 | -0.002 -0.100 0.100 |
| Cell 4 R | -0.011 -0.200 0.200 | -0.000 -0.200 0.200 | 0.005 -0.200 0.200 | -0.001 -0.200 0.200 | 0.004 -0.200 0.200 | 0.009 -0.200 0.200 | 0.008 -0.200 0.200 | 0.006 -0.200 0.200 |
| Cell 4 Q | -0.008 -1.000 1.000 | 0.000 -0.100 0.100 | -0.003 -0.200 0.200 | -0.007 -0.200 0.200 | -0.003 -0.200 0.200 | -0.006 -0.200 0.200 | -0.002 -0.200 0.200 | 0.001 -0.200 0.200 |
| Cell 5 R | -0.007 -0.100 0.100 | 0.001 -0.100 0.100 | 0.004 -0.100 0.100 | 0.005 -0.100 0.100 | 0.000 -0.100 0.100 | -0.004 -0.100 0.100 | -0.004 -0.100 0.100 | -0.000 -0.100 0.100 |
| Cell 5 Q | -0.011 -0.500 0.500 | 0.001 -0.200 0.200 | 0.003 -0.100 0.100 | 0.004 -0.100 0.100 | 0.011 -0.100 0.100 | 0.005 -0.100 0.100 | 0.002 -0.100 0.100 | 0.002 -0.100 0.100 |
| Cell 6 R | -0.027 -1.000 1.000 | -0.006 -1.000 1.000 | -0.024 -1.000 1.000 | -0.011 -1.000 1.000 | -0.020 -1.000 1.000 | -0.005 -1.000 1.000 | 0.019 -1.000 1.000 | 0.012 -1.000 1.000 |
| Cell 6 Q | 0.017 -0.500 0.500 | -0.018 -0.200 0.200 | 0.004 -1.000 1.000 | 0.000 -1.000 1.000 | -0.016 -1.000 1.000 | -0.020 -1.000 1.000 | -0.020 -1.000 1.000 | -0.015 -1.000 1.000 |

ELEC. GAINS

10 KHz

30 KHz

50 KHz

70 KHz

90 KHz

110 KHz

130 KHz

150 KHz

Cell 0 M

125.47

123.98

121.08

116.85

111.46

105.06

97.64

89.40

Cell 0 P

7.723

24.314

40.629

56.858

73.038

89.234

105.282

121.483

| | | | | | | | | |
|----------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|---------------------------|----------------------------|
| Coll 1 M | 217.71 180.00 250.00 | 215.13 180.00 250.00 | 210.07 170.00 260.00 | 202.80 170.00 250.00 | 193.42 180.00 250.00 | 182.36 180.00 250.00 | 169.44 150.00 260.00 | 155.17 140.00 260.00 |
| Coll 1 P | 7.697 8.000 9.000 | 24.262 19.000 29.000 | 40.537 32.000 48.000 | 56.762 45.000 67.000 | 72.889 57.000 88.000 | 89.039 70.000 110.000 | 105.103 85.000 130.000 | 121.241 98.000 140.000 |
| Coll 2 M | 435.72 380.00 540.00 | 430.68 380.00 540.00 | 420.83 350.00 530.00 | 406.68 340.00 510.00 | 388.29 330.00 500.00 | 366.08 310.00 490.00 | 340.60 300.00 440.00 | 312.19 270.00 410.00 |
| Coll 2 P | 7.884 8.000 9.000 | 24.817 19.000 29.000 | 41.477 32.000 48.000 | 58.068 45.000 67.000 | 74.614 58.000 87.000 | 91.243 71.000 110.000 | 107.689 84.000 130.000 | 124.305 98.000 140.000 |
| Coll 3 M | 707.22 580.00 880.00 | 698.28 580.00 870.00 | 681.01 570.00 880.00 | 655.93 550.00 830.00 | 624.17 530.00 800.00 | 586.95 500.00 780.00 | 544.45 470.00 710.00 | 498.82 440.00 680.00 |
| Coll 3 P | 7.850 8.000 10.000 | 24.761 20.000 29.000 | 41.340 33.000 49.000 | 57.809 46.000 68.000 | 74.121 58.000 89.000 | 90.411 72.000 110.000 | 106.468 88.000 130.000 | 122.552 98.000 150.000 |
| Coll 4 M | 1138.9 900.0 1400.0 | 1121.9 900.0 1300.0 | 1089.8 900.0 1300.0 | 1044.2 850.0 1300.0 | 987.5 800.0 1200.0 | 923.3 800.0 1200.0 | 852.5 750.0 1100.0 | 777.9 700.0 1000.0 |
| Coll 4 P | 8.083 8.000 10.000 | 25.391 20.000 30.000 | 42.299 33.000 50.000 | 59.020 48.000 70.000 | 75.465 60.000 90.000 | 91.725 73.000 110.000 | 107.701 88.000 130.000 | 123.562 98.000 150.000 |
| Coll 5 M | 2366.0 1800.0 2800.0 | 2335.6 1800.0 2800.0 | 2276.5 1800.0 2700.0 | 2191.2 1800.0 2600.0 | 2082.4 1700.0 2500.0 | 1955.0 1600.0 2400.0 | 1810.5 1500.0 2200.0 | 1654.9 1400.0 2100.0 |
| Coll 5 P | 8.215 8.000 10.000 | 25.800 20.000 31.000 | 43.074 34.000 51.000 | 60.239 48.000 72.000 | 77.244 62.000 93.000 | 94.178 76.000 110.000 | 110.910 90.000 130.000 | 127.587 100.000 150.000 |
| Coll 6 M | 6021.1 4700.0 7100.0 | 5943.0 4700.0 7000.0 | 5791.5 4600.0 6800.0 | 5572.4 4400.0 6600.0 | 5293.5 4300.0 6400.0 | 4964.9 4000.0 6000.0 | 4591.6 3700.0 5600.0 | 4188.5 3400.0 5100.0 |
| Coll 6 P | 8.161 7.000 10.000 | 25.900 22.000 32.000 | 43.277 35.000 54.000 | 60.545 51.000 75.000 | 77.676 63.000 95.000 | 94.728 80.000 120.000 | 111.586 94.000 140.000 | 128.428 110.000 160.000 |

| | | | | | | | | |
|-----------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|
| AM Factor | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
| Coll 0 R | 488 -300 600 | -83 -300 200 | -141 -300 100 | -154 -300 50 | -155 -300 20 | -154 -300 20 | -152 -300 20 | -150 -300 20 |
| Coll 0 Q | 1757 -3000 8000 | 636 -1000 2000 | 347 -1000 1200 | 207 -500 800 | 120 -400 700 | 59 -400 600 | 11 -400 500 | -29 -400 400 |
| Coll 1 R | 572 -150 850 | 87 20 130 | 24 -30 80 | 1 -50 40 | -10 -55 30 | -16 -60 20 | -20 -60 10 | -22 -60 10 |
| Coll 1 Q | 1204 0 2500 | 485 0 800 | 305 0 600 | 219 0 450 | 170 0 350 | 136 0 300 | 111 0 250 | 93 0 250 |
| Coll 2 R | 185.0 140.0 250.0 | 26.9 0.0 51.0 | 6.8 -10.0 25.0 | 0.1 -15.0 15.0 | -3.0 -18.0 10.0 | -4.9 -18.0 7.0 | -6.2 -18.0 5.0 | -6.2 -18.0 3.0 |
| Coll 2 Q | 401.6 -300.0 1000.0 | 162.9 0.0 350.0 | 104.7 0.0 250.0 | 79.1 0.0 180.0 | 65.1 0.0 130.0 | 56.6 0.0 110.0 | 50.5 0.0 100.0 | 46.4 0.0 80.0 |
| Coll 3 R | 48.9 37.0 62.0 | 7.2 0.0 12.0 | 2.1 -3.0 6.0 | 0.4 -4.0 4.0 | -0.3 -5.0 2.0 | -0.9 -5.0 1.0 | -1.5 -6.0 1.0 | -2.1 -6.0 1.0 |
| Coll 3 Q | 68.1 -140.0 260.0 | 32.1 -40.0 100.0 | 23.8 -20.0 70.0 | 20.8 -10.0 60.0 | 20.2 -10.0 50.0 | 20.6 -10.0 50.0 | 21.4 -10.0 50.0 | 22.1 -10.0 50.0 |
| Coll 4 R | 11.36 2.00 18.00 | 1.11 -3.00 5.00 | -0.28 -3.50 3.00 | -0.73 -3.80 2.00 | -1.02 -4.20 2.00 | -1.18 -4.50 2.00 | -1.27 -4.70 2.00 | -1.45 -5.00 2.00 |
| Coll 4 Q | 16.70 -100.00 100.00 | 10.55 -30.00 50.00 | 10.65 -20.00 40.00 | 11.83 -10.00 40.00 | 13.61 -10.00 40.00 | 15.55 -10.00 45.00 | 17.69 -10.00 50.00 | 19.89 -10.00 60.00 |
| Coll 5 R | 2.33 -2.00 5.50 | -0.12 -3.20 2.40 | -0.16 -4.50 3.10 | -0.41 -4.70 3.20 | -0.48 -4.80 3.20 | -0.59 -5.00 3.30 | -0.53 -5.20 3.40 | -0.61 -5.40 3.50 |
| Coll 5 Q | 14.56 -60.00 70.00 | 8.03 -20.00 30.00 | 8.47 -20.00 30.00 | 10.13 -20.00 35.00 | 12.02 -20.00 45.00 | 13.94 -20.00 50.00 | 16.02 -20.00 60.00 | 18.06 -30.00 70.00 |
| Coll 6 R | -2.90 -4.80 1.00 | -0.57 -5.70 3.60 | -0.32 -6.50 4.60 | -0.28 -6.80 5.10 | -0.35 -7.30 5.60 | -0.30 -7.50 6.00 | -0.36 -7.70 6.10 | -0.42 -7.80 6.30 |
| Coll 6 Q | 1.74 -30.00 30.00 | 2.83 -20.00 25.00 | 5.03 -20.00 35.00 | 7.46 -30.00 50.00 | 9.64 -35.00 60.00 | 11.90 -40.00 70.00 | 14.11 -50.00 80.00 | 16.44 -60.00 100.00 |

| | | | | | | | | |
|-----------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
| MM Factor | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
| Coll 0 M | 1.003 0.800 1.100 | 0.999 0.800 1.100 | 0.994 0.800 1.100 | 0.994 0.800 1.100 | 0.992 0.800 1.100 | 0.992 0.800 1.100 | 0.991 0.800 1.100 | 0.991 0.800 1.100 |
| Coll 0 P | 0.149 -2.000 2.000 | 0.318 -2.000 2.000 | 0.377 -2.000 2.000 | 0.326 -2.000 2.000 | 0.290 -2.000 2.000 | 0.224 -2.000 2.000 | 0.158 -2.000 2.000 | 0.152 -2.000 2.000 |
| Coll 1 M | 0.989 0.800 1.100 | 0.986 0.800 1.100 | 0.980 0.800 1.100 | 0.979 0.800 1.100 | 0.977 0.800 1.100 | 0.976 0.800 1.100 | 0.975 0.800 1.100 | 0.975 0.800 1.100 |
| Coll 1 P | 0.168 -2.000 2.000 | 0.377 -2.000 2.000 | 0.444 -2.000 2.000 | 0.464 -2.000 2.000 | 0.426 -2.000 2.000 | 0.346 -2.000 2.000 | 0.302 -2.000 2.000 | 0.226 -2.000 2.000 |
| Coll 2 M | 1.009 0.800 1.100 | 1.006 0.800 1.100 | 1.005 0.800 1.100 | 1.004 0.800 1.100 | 1.003 0.800 1.100 | 1.002 0.800 1.100 | 1.002 0.800 1.100 | 1.001 0.800 1.100 |
| Coll 2 P | 0.030 -2.000 2.000 | 0.080 -2.000 2.000 | 0.110 -2.000 2.000 | 0.128 -2.000 2.000 | 0.146 -2.000 2.000 | 0.153 -2.000 2.000 | 0.089 -2.000 2.000 | 0.126 -2.000 2.000 |
| Coll 3 M | 0.995 0.800 1.100 | 0.994 0.800 1.100 | 0.993 0.800 1.100 | 0.992 0.800 1.100 | 0.991 0.800 1.100 | 0.991 0.800 1.100 | 0.992 0.800 1.100 | 0.993 0.800 1.100 |
| Coll 3 P | 0.028 -2.000 2.000 | 0.089 -2.000 2.000 | 0.147 -2.000 2.000 | 0.181 -2.000 2.000 | 0.176 -2.000 2.000 | 0.138 -2.000 2.000 | 0.108 -2.000 2.000 | 0.161 -2.000 2.000 |
| Coll 4 M | 1.001 0.800 1.100 | 1.000 0.800 1.100 | 1.000 0.800 1.100 | 0.999 0.800 1.100 | 0.999 0.800 1.100 | 0.998 0.800 1.100 | 0.997 0.800 1.100 | 0.996 0.800 1.100 |
| Coll 4 P | 0.047 -2.000 2.000 | 0.110 -2.000 2.000 | 0.126 -2.000 2.000 | 0.200 -2.000 2.000 | 0.209 -2.000 2.000 | 0.203 -2.000 2.000 | 0.217 -2.000 2.000 | 0.188 -2.000 2.000 |
| Coll 5 M | 1.011 0.800 1.100 | 1.011 0.800 1.100 | 1.011 0.800 1.100 | 1.010 0.800 1.100 | 1.009 0.800 1.100 | 1.009 0.800 1.100 | 1.008 0.800 1.100 | 1.007 0.800 1.100 |
| Coll 5 P | 0.039 -2.000 2.000 | -0.012 -2.000 2.000 | 0.067 -2.000 2.000 | 0.082 -2.000 2.000 | 0.034 -2.000 2.000 | -0.028 -2.000 2.000 | 0.000 -2.000 2.000 | -0.059 -2.000 2.000 |
| Coll 6 M | 1.011 0.800 1.100 | 1.013 0.800 1.100 | 1.013 0.800 1.100 | 1.011 0.800 1.100 | 1.011 0.800 1.100 | 1.016 0.800 1.100 | 1.016 0.800 1.100 | 1.015 0.800 1.100 |
| Coll 6 P | -0.018 -2.000 2.000 | 0.074 -2.000 2.000 | 0.034 -2.000 2.000 | 0.126 -2.000 2.000 | 0.021 -2.000 2.000 | -0.084 -2.000 2.000 | -0.051 -2.000 2.000 | -0.166 -2.000 2.000 |

PARMS

TCID 0

TCID 1

Cal Temp

T Factor

(degF)

ID#

1.617

0.832

75.3

1.04

TOOL #: 1515MA 10037719 DATE/TIME PERFORMED: Thu Aug 15 11:59:09 2013 DAYS SINCE CAL: 13

UNIT #: 3880TA HL6670

| ZERO DATA(mv) | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|---------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Cell 0 R | -0.001 -0.200 0.200 | 0.000 -0.100 0.100 | 0.001 -0.100 0.100 | -0.001 -0.100 0.100 | -0.002 -0.100 0.100 | 0.001 -0.100 0.100 | -0.000 -0.100 0.100 | -0.001 -0.100 0.100 |
| Cell 0 Q | 0.007 -1.000 1.000 | 0.007 -0.200 0.200 | 0.002 -0.100 0.100 | 0.001 -0.100 0.100 | 0.003 -0.100 0.100 | 0.001 -0.100 0.100 | 0.001 -0.100 0.100 | 0.000 -0.100 0.100 |
| Cell 1 R | -0.001 -0.200 0.200 | -0.001 -0.100 0.100 | 0.001 -0.100 0.100 | 0.003 -0.100 0.100 | 0.003 -0.100 0.100 | -0.001 -0.100 0.100 | -0.003 -0.100 0.100 | -0.004 -0.100 0.100 |
| Cell 1 Q | -0.006 -1.000 1.000 | -0.006 -0.200 0.200 | -0.003 -0.100 0.100 | -0.000 -0.100 0.100 | 0.001 -0.100 0.100 | 0.003 -0.100 0.100 | 0.003 -0.100 0.100 | 0.000 -0.100 0.100 |
| Cell 2 R | -0.000 -0.200 0.200 | -0.000 -0.100 0.100 | -0.000 -0.100 0.100 | -0.001 -0.100 0.100 | 0.000 -0.100 0.100 | 0.002 -0.100 0.100 | 0.004 -0.100 0.100 | 0.006 -0.100 0.100 |
| Cell 2 Q | -0.003 -1.000 1.000 | -0.000 -0.200 0.200 | 0.000 -0.100 0.100 | -0.001 -0.100 0.100 | -0.005 -0.100 0.100 | -0.004 -0.100 0.100 | -0.004 -0.100 0.100 | -0.000 -0.100 0.100 |
| Cell 3 R | 0.001 -0.100 0.100 | -0.001 -0.100 0.100 | 0.001 -0.100 0.100 | 0.000 -0.100 0.100 | 0.002 -0.100 0.100 | 0.002 -0.100 0.100 | 0.001 -0.100 0.100 | 0.000 -0.100 0.100 |
| Cell 3 Q | -0.006 -0.500 0.500 | -0.005 -0.200 0.200 | 0.001 -0.100 0.100 | 0.000 -0.100 0.100 | -0.005 -0.100 0.100 | 0.000 -0.100 0.100 | 0.001 -0.100 0.100 | -0.002 -0.100 0.100 |
| Cell 4 R | -0.011 -0.200 0.200 | -0.004 -0.200 0.200 | -0.006 -0.200 0.200 | -0.003 -0.200 0.200 | -0.001 -0.200 0.200 | 0.000 -0.200 0.200 | 0.005 -0.200 0.200 | 0.003 -0.200 0.200 |
| Cell 4 Q | -0.014 -1.000 1.000 | 0.001 -0.100 0.100 | -0.001 -0.200 0.200 | 0.001 -0.200 0.200 | -0.005 -0.200 0.200 | -0.005 -0.200 0.200 | -0.003 -0.200 0.200 | -0.001 -0.200 0.200 |
| Cell 5 R | -0.016 -0.400 0.400 | 0.005 -0.400 0.400 | 0.004 -0.400 0.400 | 0.007 -0.400 0.400 | -0.007 -0.400 0.400 | -0.006 -0.400 0.400 | -0.003 -0.400 0.400 | -0.003 -0.400 0.400 |
| Cell 5 Q | -0.008 -2.000 2.000 | 0.007 -0.500 0.500 | -0.001 -0.400 0.400 | 0.003 -0.400 0.400 | 0.003 -0.400 0.400 | 0.007 -0.400 0.400 | -0.000 -0.400 0.400 | -0.002 -0.400 0.400 |
| Cell 6 R | 0.006 -1.000 1.000 | -0.014 -1.000 1.000 | 0.003 -1.000 1.000 | -0.002 -1.000 1.000 | -0.016 -1.000 1.000 | -0.007 -1.000 1.000 | 0.014 -1.000 1.000 | 0.017 -1.000 1.000 |
| Cell 6 Q | -0.028 -5.000 5.000 | 0.035 -2.000 2.000 | -0.024 -1.000 1.000 | -0.015 -1.000 1.000 | -0.011 -1.000 1.000 | 0.003 -1.000 1.000 | 0.001 -1.000 1.000 | -0.010 -1.000 1.000 |

| ELEC. GAINS | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|-------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|---------------------------|----------------------------|
| Cell 0 M | 125.57 100.00 150.00 | 124.08 100.00 150.00 | 121.21 85.00 150.00 | 116.94 85.00 140.00 | 111.59 82.00 140.00 | 105.24 87.00 130.00 | 97.78 82.00 120.00 | 89.59 75.00 110.00 |
| Cell 0 P | 7.722 5.000 9.000 | 24.325 19.000 29.000 | 40.655 32.000 47.000 | 56.914 44.000 69.000 | 73.118 57.000 89.000 | 89.339 70.000 100.000 | 105.450 82.000 120.000 | 121.726 85.000 140.000 |
| Cell 1 M | 217.53 180.00 250.00 | 214.96 180.00 250.00 | 209.94 170.00 260.00 | 202.61 170.00 250.00 | 193.41 180.00 260.00 | 182.33 180.00 250.00 | 169.51 150.00 200.00 | 155.27 140.00 200.00 |
| Cell 1 P | 7.705 5.000 9.000 | 24.296 19.000 29.000 | 40.590 32.000 48.000 | 56.843 45.000 67.000 | 73.004 57.000 89.000 | 89.202 70.000 110.000 | 105.380 85.000 120.000 | 121.640 85.000 140.000 |
| Cell 2 M | 436.63 380.00 510.00 | 431.61 380.00 510.00 | 421.89 380.00 500.00 | 407.56 340.00 510.00 | 389.31 350.00 500.00 | 367.26 310.00 470.00 | 341.61 300.00 440.00 | 313.11 270.00 410.00 |
| Cell 2 P | 7.889 5.000 9.000 | 24.836 19.000 29.000 | 41.520 32.000 48.000 | 58.152 45.000 67.000 | 74.738 58.000 87.000 | 91.417 71.000 110.000 | 107.927 84.000 130.000 | 124.616 85.000 140.000 |
| Cell 3 M | 708.67 580.00 880.00 | 699.70 580.00 870.00 | 682.57 570.00 890.00 | 657.36 550.00 830.00 | 625.81 530.00 800.00 | 588.67 500.00 780.00 | 546.24 470.00 710.00 | 500.12 440.00 600.00 |
| Cell 3 P | 7.863 5.000 10.000 | 24.793 20.000 29.000 | 41.392 33.000 49.000 | 57.894 48.000 69.000 | 74.243 58.000 89.000 | 90.606 72.000 110.000 | 106.714 88.000 130.000 | 122.895 85.000 150.000 |
| Cell 4 M | 1141.5 900.0 1400.0 | 1124.5 900.0 1300.0 | 1092.6 900.0 1300.0 | 1046.7 850.0 1300.0 | 990.5 800.0 1200.0 | 926.3 800.0 1200.0 | 855.3 750.0 1100.0 | 780.6 700.0 1000.0 |
| Cell 4 P | 8.090 5.000 10.000 | 25.417 20.000 30.000 | 42.347 33.000 50.000 | 59.104 48.000 70.000 | 75.579 60.000 90.000 | 91.908 73.000 110.000 | 107.899 88.000 130.000 | 123.887 85.000 150.000 |
| Cell 5 M | 2371.5 1900.0 2800.0 | 2341.1 1800.0 2900.0 | 2282.6 1800.0 2700.0 | 2196.7 1800.0 2600.0 | 2088.3 1700.0 2500.0 | 1961.4 1800.0 2400.0 | 1817.3 1500.0 2200.0 | 1661.7 1400.0 2100.0 |
| Cell 5 P | 8.221 5.000 10.000 | 25.823 20.000 31.000 | 43.114 34.000 51.000 | 60.306 48.000 72.000 | 77.350 62.000 93.000 | 94.337 75.000 110.000 | 111.121 88.000 130.000 | 127.928 100.000 150.000 |
| Cell 6 M | 6020.4 4700.0 7100.0 | 5941.9 4700.0 7000.0 | 5793.5 4800.0 6800.0 | 5572.9 4400.0 6600.0 | 5297.4 4200.0 6400.0 | 4972.4 4000.0 6000.0 | 4601.0 3700.0 5600.0 | 4198.1 3400.0 5100.0 |
| Cell 6 P | 8.163 7.000 10.000 | 25.913 22.000 32.000 | 43.295 36.000 54.000 | 60.595 51.000 75.000 | 77.744 65.000 95.000 | 94.860 80.000 120.000 | 111.760 94.000 140.000 | 128.728 110.000 180.000 |

HDIL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1515MA 10037719 DATE/TIME PERFORMED: Thu Aug 15 15:29:03 2013 DAYS SINCE CAL: 13

UNIT #: 3880TA HL6670

| ZERO DATA(mv) | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|---------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Cell 0 R | 0.001 -0.081 0.079 | 0.002 -0.080 0.080 | 0.003 -0.080 0.081 | 0.001 -0.081 0.080 | -0.001 -0.082 0.080 | 0.000 -0.080 0.081 | 0.001 -0.080 0.080 | -0.001 -0.081 0.080 |
| Cell 0 Q | 0.007 -0.080 0.047 | 0.009 -0.115 0.127 | 0.003 -0.080 0.082 | 0.002 -0.080 0.081 | 0.003 -0.080 0.080 | 0.000 -0.080 0.081 | -0.001 -0.080 0.081 | -0.000 -0.080 0.080 |
| Cell 1 R | 0.002 -0.081 0.079 | 0.001 -0.081 0.049 | 0.001 -0.080 0.081 | 0.004 -0.080 0.080 | 0.002 -0.080 0.080 | -0.002 -0.081 0.080 | -0.004 -0.080 0.080 | -0.005 -0.081 0.080 |
| Cell 1 Q | -0.006 -0.400 0.384 | -0.006 -0.100 0.084 | -0.003 -0.080 0.080 | 0.002 -0.080 0.080 | 0.003 -0.080 0.081 | 0.004 -0.080 0.080 | 0.003 -0.080 0.080 | -0.000 -0.080 0.080 |
| Cell 2 R | 0.001 -0.070 0.070 | 0.002 -0.080 0.080 | -0.001 -0.080 0.080 | -0.001 -0.081 0.080 | 0.001 -0.080 0.080 | 0.003 -0.080 0.082 | 0.006 -0.080 0.084 | 0.008 -0.081 0.080 |
| Cell 2 Q | -0.001 -0.380 0.349 | 0.000 -0.100 0.100 | -0.001 -0.080 0.080 | -0.001 -0.081 0.080 | -0.006 -0.080 0.080 | -0.006 -0.081 0.080 | -0.004 -0.081 0.080 | -0.004 -0.080 0.080 |
| Cell 3 R | 0.001 -0.080 0.041 | -0.000 -0.041 0.080 | 0.004 -0.080 0.041 | 0.005 -0.040 0.040 | 0.004 -0.080 0.042 | 0.004 -0.080 0.042 | 0.003 -0.080 0.041 | 0.003 -0.040 0.040 |
| Cell 3 Q | -0.009 -0.280 0.184 | -0.007 -0.080 0.075 | -0.001 -0.080 0.041 | -0.001 -0.040 0.040 | -0.002 -0.040 0.080 | -0.003 -0.040 0.040 | 0.001 -0.080 0.041 | -0.003 -0.042 0.080 |
| Cell 4 R | -0.004 -0.080 0.080 | -0.004 -0.080 0.080 | -0.001 -0.080 0.080 | -0.002 -0.080 0.080 | 0.000 -0.080 0.080 | -0.003 -0.080 0.080 | 0.004 -0.080 0.080 | 0.003 -0.080 0.080 |

| | | | | | | | | |
|----------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Coll 4 Q | -0.008 -0.314 | 0.003 0.299 | -0.004 -0.091 | -0.002 0.099 | -0.002 0.099 | -0.004 0.099 | -0.006 0.099 | -0.005 0.099 |
| Coll 5 R | -0.008 -0.136 | -0.007 0.104 | 0.017 0.128 | -0.004 0.124 | 0.011 0.129 | -0.001 0.113 | 0.002 0.114 | 0.000 0.119 |
| Coll 5 Q | -0.009 -0.269 | -0.004 0.262 | 0.004 -0.243 | 0.004 0.299 | 0.005 0.119 | 0.006 0.129 | 0.007 0.129 | -0.004 -0.118 |
| Coll 6 R | 0.024 -0.264 | -0.006 0.308 | -0.018 -0.314 | -0.002 0.299 | -0.003 0.299 | 0.011 0.299 | 0.012 0.314 | 0.023 -0.319 |
| Coll 6 Q | -0.002 -1.588 | 0.002 1.492 | 0.015 -0.588 | -0.004 0.299 | -0.008 0.299 | -0.016 0.303 | -0.016 0.303 | -0.009 -0.299 |

ELEC. GAINS 10 KHz 30 KHz 50 KHz 70 KHz 90 KHz 110 KHz 130 KHz 150 KHz

| | | | | | | | | |
|----------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------|--------------------|
| Coll 0 M | 125.69 125.08 | 124.16 125.58 | 121.27 118.95 | 116.79 119.28 | 111.39 113.83 | 104.63 103.13 | 97.15 98.93 | 88.61 89.80 |
| Coll 0 P | 7.746 4.922 | 24.407 21.325 | 40.806 39.888 | 57.138 53.814 | 73.347 70.118 | 89.634 86.358 | 105.651 102.450 | 121.953 118.928 |
| Coll 1 M | 217.67 213.18 | 215.02 210.88 | 210.01 205.94 | 202.28 198.58 | 192.95 189.51 | 181.20 178.28 | 168.34 165.67 | 153.51 150.38 |
| Coll 1 P | 7.729 4.905 | 24.381 21.288 | 40.753 39.580 | 57.094 53.813 | 73.263 70.004 | 89.516 86.282 | 105.596 102.380 | 121.845 118.610 |
| Coll 2 M | 436.93 429.80 | 431.75 428.88 | 421.97 413.45 | 406.88 398.11 | 388.32 381.52 | 365.12 358.81 | 339.32 334.98 | 309.54 305.88 |
| Coll 2 P | 7.913 4.888 | 24.920 21.838 | 41.678 38.580 | 58.380 55.152 | 74.984 71.738 | 91.707 88.419 | 108.143 104.887 | 124.859 121.618 |
| Coll 3 M | 709.20 684.48 | 700.00 685.90 | 682.82 668.82 | 656.23 644.21 | 624.25 613.88 | 585.09 575.80 | 542.46 533.31 | 494.76 485.12 |
| Coll 3 P | 7.889 4.888 | 24.879 21.928 | 41.556 38.582 | 58.133 54.884 | 74.495 71.243 | 90.892 87.608 | 106.909 103.914 | 123.097 119.828 |
| Coll 4 M | 1141.7 1118.9 | 1124.3 1102.0 | 1092.3 1070.8 | 1044.3 1025.8 | 987.5 970.8 | 920.1 907.9 | 848.9 836.2 | 771.4 758.2 |
| Coll 4 P | 8.117 5.080 | 25.507 22.419 | 42.515 39.349 | 59.346 56.104 | 75.843 72.599 | 92.213 88.988 | 108.135 104.888 | 124.133 120.887 |
| Coll 5 M | 2372.4 2324.0 | 2341.2 2294.3 | 2282.6 2238.8 | 2191.9 2152.9 | 2082.9 2048.8 | 1949.1 1922.2 | 1804.2 1780.8 | 1642.6 1625.4 |
| Coll 5 P | 8.247 5.221 | 25.906 22.828 | 43.278 40.114 | 60.550 57.388 | 77.599 74.380 | 94.635 91.387 | 111.328 108.121 | 128.139 124.888 |
| Coll 6 M | 6021.2 5880.0 | 5941.2 5800.1 | 5790.8 5650.4 | 5560.3 5481.4 | 5281.7 5181.4 | 4938.2 4893.0 | 4565.3 4508.0 | 4146.6 4114.1 |
| Coll 6 P | 8.190 5.188 | 25.993 22.813 | 43.468 40.288 | 60.832 57.588 | 77.997 74.744 | 95.154 91.888 | 111.981 108.780 | 128.912 125.728 |

INSTRUMENT CONFIGURATION

Source File: /mnt1/a625570/a625570.tbl

CABLEHEAD

Diameter : 3.38"
Length : 3.50'
Weight : 34 lbs
Series : CABL33B
Mnemonic : CBLH
Measure Point: 3.75': CABLEHEAD TOP

DOWNHOLE POWER ADAPTER

Diameter : 3.63"
Length : 5.27'
Weight : 86 lbs
Series : 4430XB
Mnemonic : DHPA

SWIVEL

Diameter : 3.38"
Length : 3.50'
Weight : 68 lbs
Series : 3944XD
Mnemonic : SWVL

TTRM SUB

Diameter : 3.63"
Length : 82.83'
Weight : 3981XA
Series : TTRM
Mnemonic : TTRM
Measure Point: 1.38': TEMP MP
Measure Point: 1.13': RM MP

137.65'

CABLEHEAD TOP 134.90'

TEMP MP 130.93'

RM MP 130.68'

WTS COMMON REMOTE

Diameter : 3.63"
Length : 6.36'
Weight : 136 lbs
Series : 3514XB
Mnemonic : WTS

DIGITAL SPECTRALOC

Diameter : 3.63"
Length : 7.31'
Weight : 130 lbs
Series : 1339XA
Mnemonic : DSL
Measure Point: 1.60': CR MP

CR MP 107.47'

COMPENSATED NEUTRON

Diameter : 3.63"
Length : 7.59'
Weight : 150 lbs
Series : 3446XA
Mnemonic : CN
Measure Point: 3.63': LSN MP
Measure Point: 3.34': SSN MP

LSN MP 100.93'
SSN MP 100.53'

Z-DENSILOC

Diameter : 4.88"
Length : 11.23'
Weight : 360 lbs
Series : 3334XA
Mnemonic : ZDL
Measure Point: 3.19': CAL MP
Measure Point: 3.47': LSD MP
Measure Point: 3.07': SSD MP

CAL MP 90.26'

LSD MP 89.54'
SSD MP 89.14'

KNUCKLE JOINT (DOUBLE)

Diameter : 3.38"
Length : 4.65'
Weight : 90 lbs
Series : 3939XA
Mnemonic : KNJT

DIGITAL ORIENTATION

Diameter : 3.38"
Length : 10.81'
Weight : 110 lbs
Series : 4401XB
Mnemonic : ORIT
Measure Point: 0.00': ORIENT MP

4 ARM BOW SPRING CENTRALIZER

Diameter : 3.38"
Length : 4.13'
Weight : 73 lbs
Series : 4341XA
Mnemonic : CENT

ORIENT MP — 71.60'

ARRAY ACOUSTILOG ELECTRONICS, B CHANNEL

Diameter : 3.38"
Length : 7.83'
Weight : 103 lbs
Series : 1677EA
Mnemonic : XMAC

CROSS MULTIPOLE ARRAY ACOUSTILOG

Diameter : 3.75"
Length : 10.61'
Weight : 334 lbs
Series : 167BMC
Mnemonic : XMF1
Measure Point : 5.50' : R8
Measure Point : 5.00' : R7
Measure Point : 4.50' : R6
Measure Point : 4.00' : R5
Measure Point : 3.50' : R4
Measure Point : 3.00' : R3
Measure Point : 2.50' : R2
Measure Point : 2.00' : R1

R8 — 54.26'
R7 — 53.76'
R6 — 53.26'
R5 — 52.76'
R4 — 52.26'
R3 — 51.76'
R2 — 51.26'
R1 — 50.76'

SHEAR WAVE ACOUSTILOG

Diameter : 3.83"
Length : 5.00'
Weight : 135 lbs
Series : 167BPA
Mnemonic : XMAC

MONOPOLE T3 — 43.26'
QUADRUPOLE T5 — 43.26'

MULTI-POLE ARRAY ACOUSTIC

Diameter : 3.88"
Length : 9.93'
Weight : 170 lbs
Series : 167BBA
Mnemonic : XMAC
Measure Point : 8.43' : QUADRUPOLE T5
Measure Point : 6.43' : MONOPOLE T3
Measure Point : 4.67' : Y-DIPOLE T4
Measure Point : 4.67' : X-DIPOLE T3
Measure Point : 3.92' : MONOPOLE T1

X-DIPOLE T3 — 40.51'
Y-DIPOLE T4 — 40.51'

MONOPOLE T1 — 38.76'

MULTI-POLE ARRAY ACOUSTIC

Diameter : 3.38"
Length : 4.33'
Weight : 58 lbs
Series : 167BFA
Mnemonic : MAC

4 ARM BOW SPRING CENTRALIZER

Diameter : 3.38"
Length : 4.13'
Weight : 73 lbs
Series : 4341XA
Mnemonic : CENT

HIGH DEFINITION INDUCTION TOOL

Diameter : 3.63"
Length : 37.13'
Weight : 415 lbs
Series : 1515XA
Mnemonic : HOT
Measure Point: 13.81' : SP MP
Measure Point: 7.44' : XMTR MP


SP MP 14.19'

XMTR MP 7.72'

BULL PLUG 3 3/8

0.00'

TOTAL LENGTH: 137.65'
TOTAL WEIGHT: 7475 lbs
MAX DIAMETER: 0.4.88"

| | | | |
|--|-------------------------------|--------------------------------|---|
|  | COMPANY <u>WPX ENERGY INC</u> | | FILE NO: <u>US625568</u> |
| | WELL <u>STRAIT SG 341-22</u> | | API NO: <u>05045217470000</u> |
| | FIELD <u>GRAND VALLEY</u> | | |
| | COUNTY <u>GARFIELD</u> | STATE <u>CO</u> | |
| LOCATION: | | ELEVATIONS: | <u>S22 T7S R96W</u> <u>PAD SG 42-22</u> <u>RIG CYCLONE 17</u> |
| SHL: 1458' FNL; 286' FEL BHL: 616' FNL; 623' FEL | | KB 5244 FT DF GL 5222 FT | |
| SEC 22 T4N 7S R96W | | DATE 12-Aug-2013 | |