

Company: Lamont Doherty

Well: Expedition 323 Site U1344A

Field: Bering Sea

Rig: JOIDES Resolution **Country:** USA

Phasor Induction (DIT) Natural Gamma Spectroscopy

| | | | | | |
|-----------------------------------------|--|--------------------------------------|--|----------------------------------|--|
| Rig: JOIDES Resolution | | Latitude: N 59° 03.00' | | Elev.: K.B. 11.00 m | |
| Field: Bering Sea | | Longitude: W 179° 12.20' | | G.L.: -3183.40 m | |
| Location: Latitude: N 59° 03.00' | | Longitude: W 179° 12.20' | | D.F.: 11.00 m | |
| Well: Expedition 323 Site U1344A | | Permanent Datum: _____ | | Elev.: 0.00 m _____ | |
| Company: Lamont Doherty | | Log Measured From: _____ | | 11.00 m above Perm. Datum | |
| | | Drilling Measured From: _____ | | | |
| | | Drill Floor _____ | | | |
| | | Drill Floor _____ | | | |
| | | Drill Floor _____ | | | |
| Ocean: Pacific | | Max. Well Deviation 0 deg | | Longitude N 59° 03.00' | |
| | | | | Latitude W 1795° 12.20' | |

| | | |
|--------------------------------------|-------------------|--|
| Logging Date | 18-Aug-2009 | |
| Run Number | 1 | |
| Depth Driller | 3929.9 m | |
| Schlumberger Depth | 3928.2 m | |
| Bottom Log Interval | 3924 m | |
| Top Log Interval | 3278 m | |
| Casing Driller Size @ Depth | 4.500 in @ 3280 m | |
| Casing Schlumberger | 3278 m | |
| Bit Size | 11.438 in | |
| Type Fluid In Hole | Seawater Gel | |
| Density | 1.258 g/cm3 | |
| Fluid Loss | | |
| PH | | |
| Source Of Sample | N/A | |
| RM @ Measured Temperature | @ | |
| RMF @ Measured Temperature | @ | |
| RMC @ Measured Temperature | @ | |
| Source RMF | RMC | |
| RM @ MRT | RMC | |
| RM @ MRT | RMC @ MRT | |
| Maximum Recorded Temperatures | 15 degC @ 15 @ 15 | |
| Circulation Stopped | 20-Jul-2009 11:00 | |
| Logger On Bottom | 18-Aug-2009 19:05 | |
| Unit Number | 625003 Houston | |
| Recorded By | C. Furman | |
| Witnessed By | T. Liu, G. Guerin | |

| | | |
|--------------------------------------|-------|-------|
| | Run 1 | Run 2 |
| Logging Date | | |
| Run Number | | |
| Depth Driller | | |
| Schlumberger Depth | | |
| Bottom Log Interval | | |
| Top Log Interval | | |
| Casing Driller Size @ Depth | | |
| Casing Schlumberger | | |
| Bit Size | | |
| Type Fluid In Hole | | |
| Density | | |
| Fluid Loss | | |
| PH | | |
| Source Of Sample | | |
| RM @ Measured Temperature | | |
| RMF @ Measured Temperature | | |
| RMC @ Measured Temperature | | |
| Source RMF | | |
| RM @ MRT | | |
| RM @ MRT | | |
| Maximum Recorded Temperatures | | |
| Circulation Stopped | | |
| Logger On Bottom | | |
| Unit Number | | |
| Recorded By | | |
| Witnessed By | | |

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OTHER SERVICES1
OS1: FMS
OS2: DSI
OS3: HNGS
OS4: APS/HLDS

REMARKS: RUN NUMBER 1

Logs run in first hole ("A" hole) of drilling site U1344 to aid in correlation of core data collected in surface labs.

Average heave during the run was only 0.2m; Active Heave Compensator not used.

TD was found to be 3928.2mBRF with the pipe (bit) at 3278mBRF. Sea Bed at 3183mBRF.

Hole Size input taken from HLDS Caliper.

Tools run slick in order to fit through drill pipe, as is standard practice on this project.

HLDS Caliper closed at approximately 3301.8m to facility entry into drill pipe.

APS minitron deactivated at approximately 3303.5m.

Tools run with "Go-Devil" LFV Actuator attached to the bottom of the string for safe passage through the LFV.

RUN 1
SERVICE ORDER #:
PROGRAM VERSION: 17C0-154
FLUID LEVEL:

RUN 2
SERVICE ORDER #:
PROGRAM VERSION:
FLUID LEVEL:




| LOGGED INTERVAL | START | STOP | LOGGED INTERVAL | START | STOP |
|-----------------|-------|------|-----------------|-------|------|
| | | | | | |
| | | | | | |
| | | | | | |

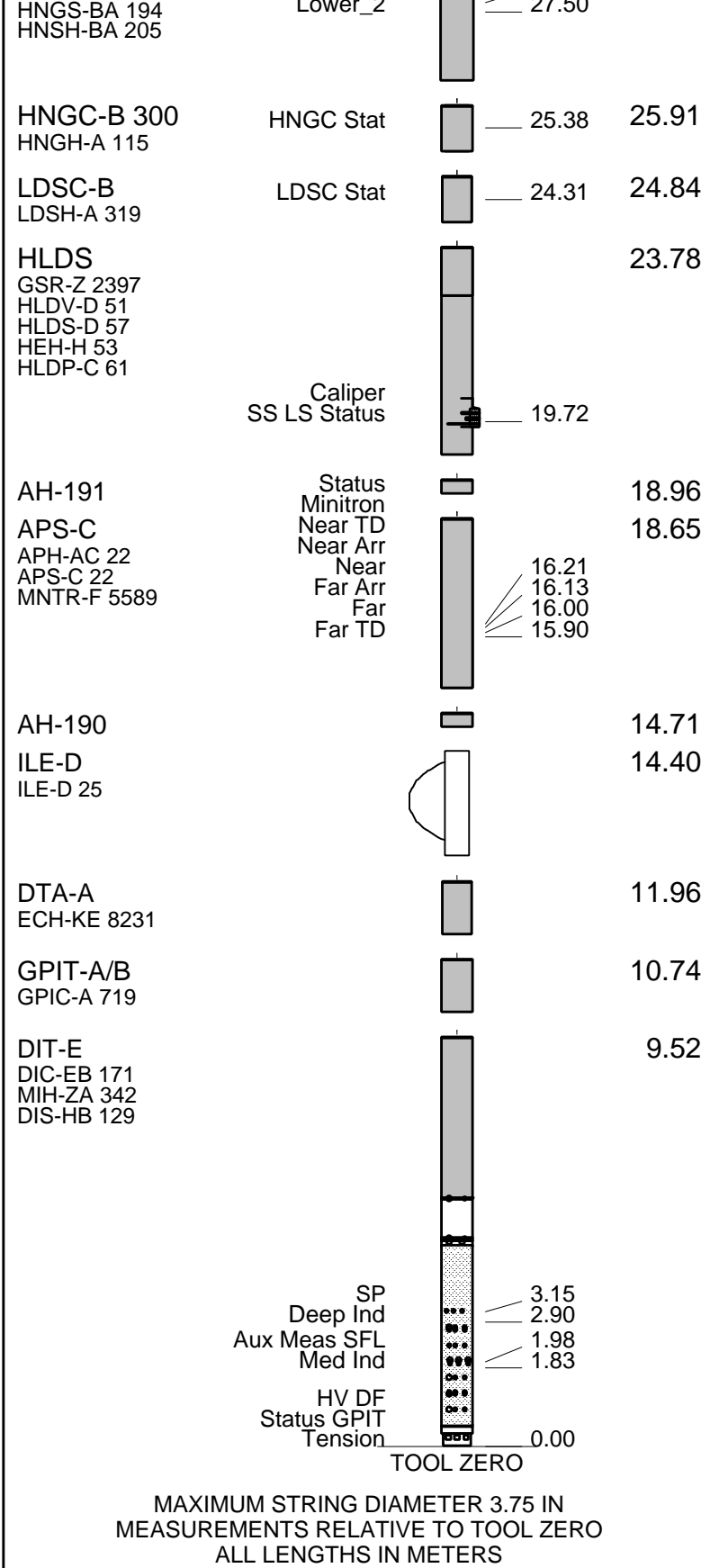
EQUIPMENT DESCRIPTION

RUN 1
SURFACE EQUIPMENT
SFT-281 2
SFT-178 2
GSR-U 616008
WITM (DTS)-A

RUN 2

DOWNHOLE EQUIPMENT

| | | | |
|-------------|-----------|-------------------------------------------------------------------------------------|-------|
| LEH-QT | |  | 30.21 |
| LEH-QT 301 | | | |
| DTC-H | CTEM |  | 29.04 |
| ECH-KC 2304 | TelStatus | | 29.32 |
| | ToolStatu | | 28.41 |
| HNGS-BA 194 | Upper_1 |  | 27.71 |
| | | | 27.70 |



| Production String | (in) | (m) | Well Schematic | (m) | (in) | Casing String |
|-------------------|------|-----|----------------|-----|------|---------------|
| | OD | ID | | MD | MD | |

Kelly Bushing Elevation

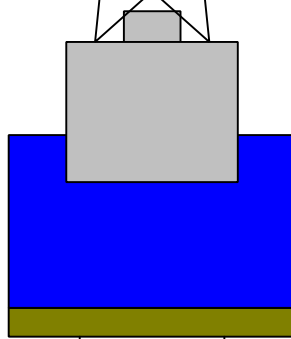
Derrick Floor Elevation

Mean Sea Level

11.0

11.0

0.0



0.0

5.750

3.800



3183.4

11.438

Sea Bed

3280.0

5.750

3.800

Bit Depth

3929.9

11.438

Total Depth - Driller

Schlumberger

**Main Pass
TD to Sea Bed**

MAXIS Field Log

Input DLIS Files

| | | | | | | |
|---------|-----------------------|-------|----------|-------------------|----------|----------|
| DEFAULT | PI_APS_LDL_NGS_104LUP | FN:13 | PRODUCER | 18-Aug-2009 19:06 | 3929.6 M | 3181.0 M |
|---------|-----------------------|-------|----------|-------------------|----------|----------|

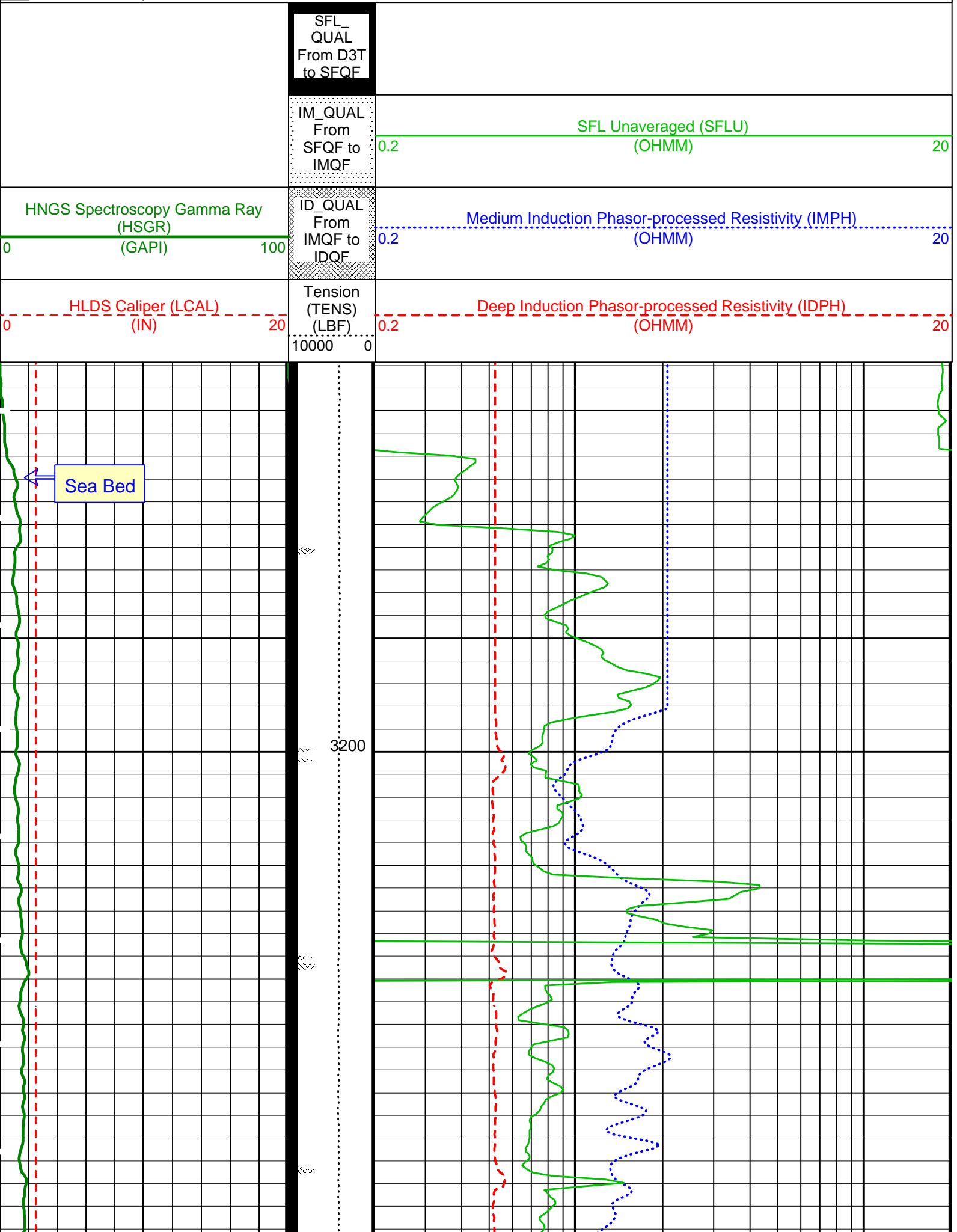
Output DLIS Files

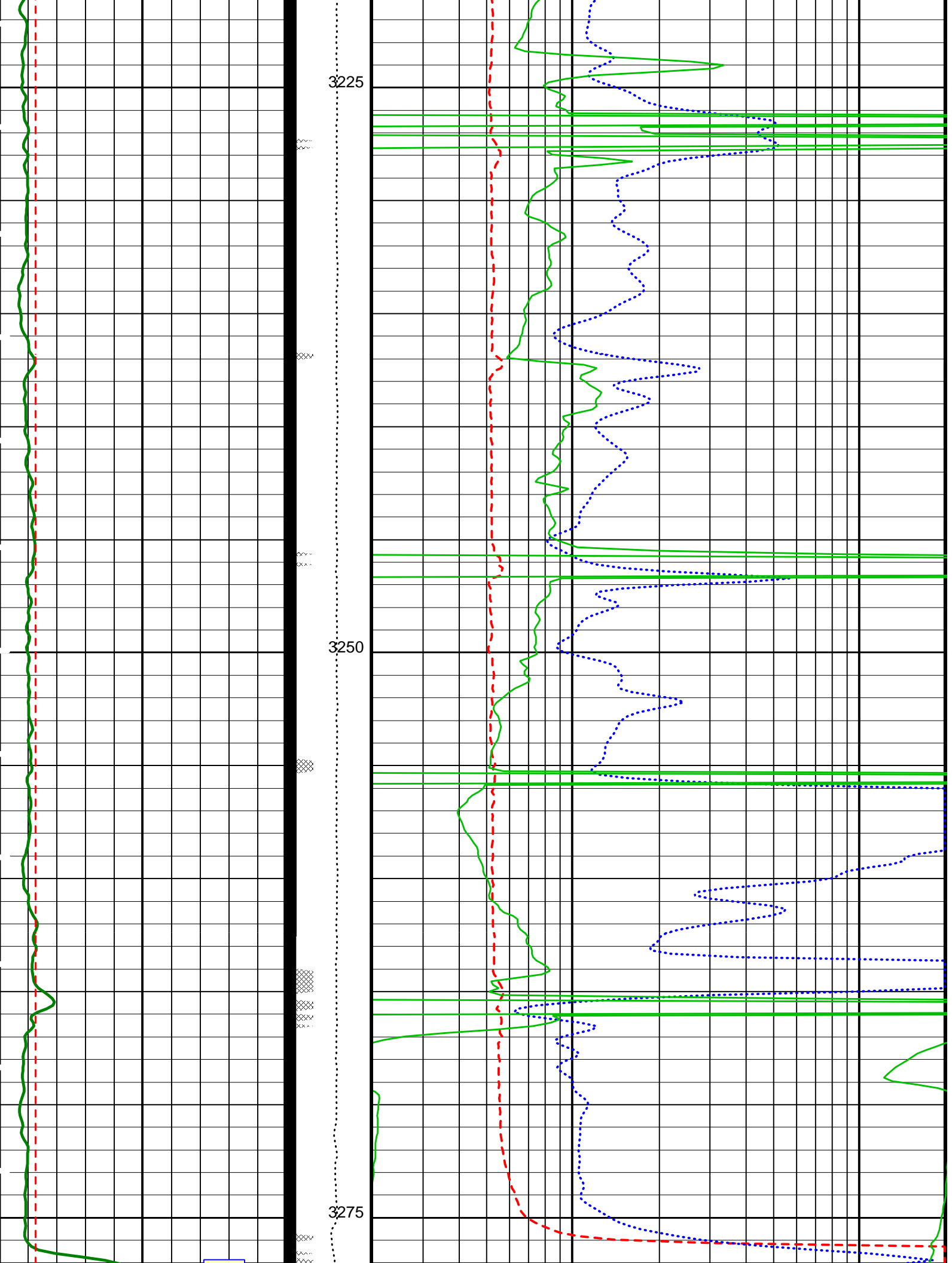
| | | | | | | |
|---------|-----------------------|-------|----------|-------------------|----------|----------|
| DEFAULT | PI_APS_LDL_NGS_118PUP | FN:33 | PRODUCER | 19-Aug-2009 19:31 | 3931.2 M | 3182.9 M |
|---------|-----------------------|-------|----------|-------------------|----------|----------|

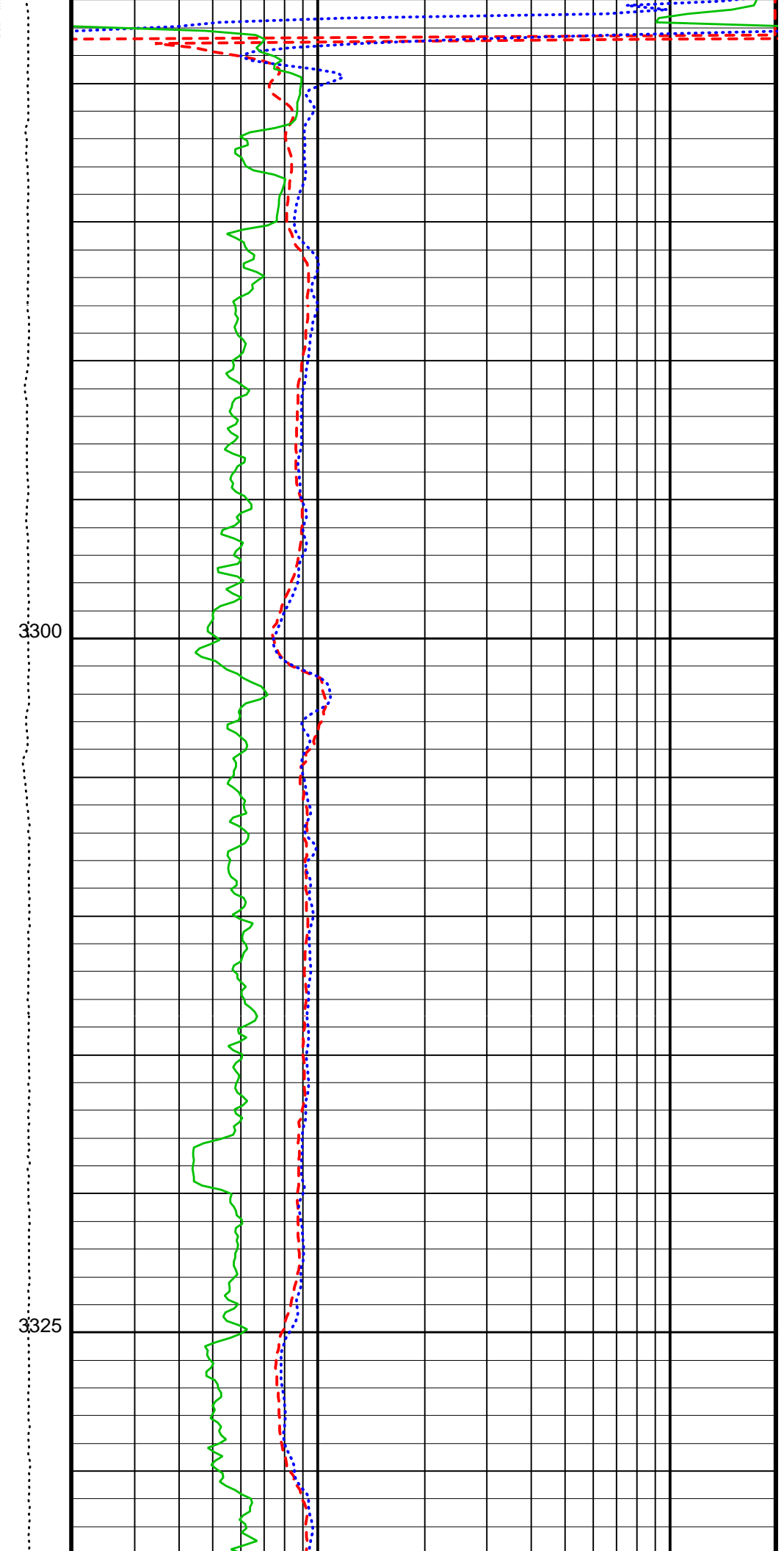
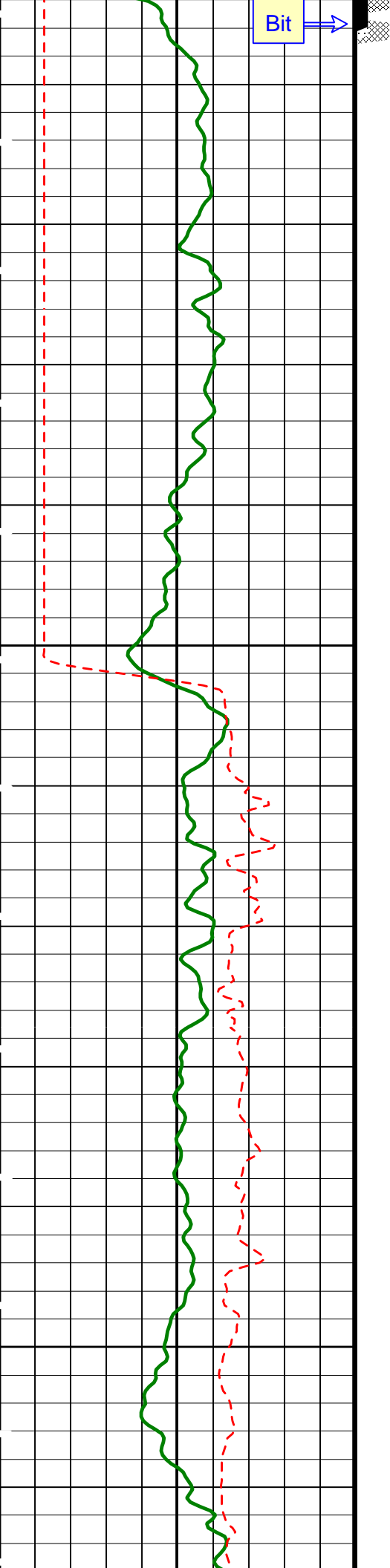
OP System Version: 17C0-154

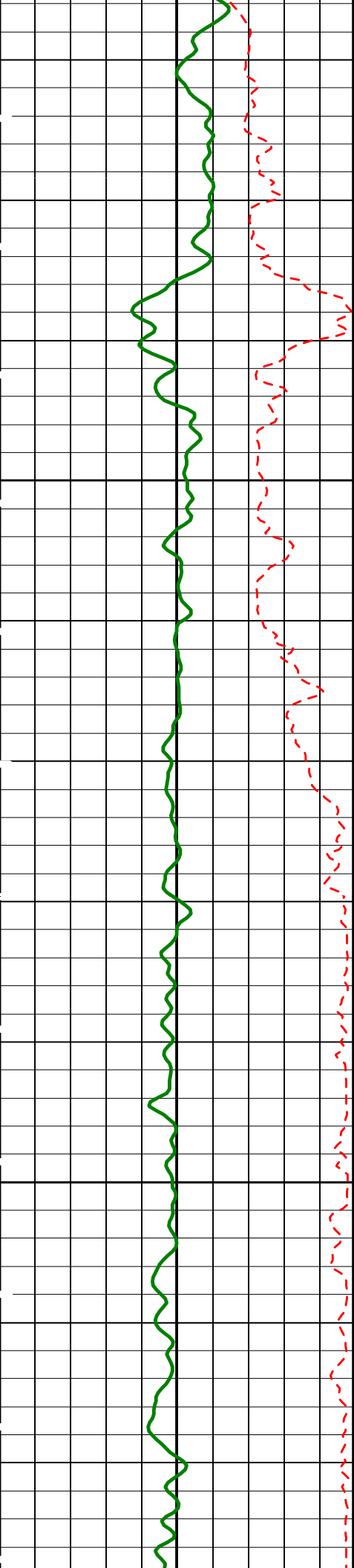
| | | | |
|--------|----------|----------|------------------------|
| DIT-E | 17C0-154 | GPIT-A/B | SRPC-3762-Q1_2009_OP17 |
| DTA-A | 17C0-154 | APS-C | 17C0-154 |
| HLDS | 17C0-154 | LDSC-B | 17C0-154 |
| HNGC-B | 17C0-154 | HNGS-BA | 17C0-154 |
| DTC-H | 17C0-154 | | |

Time Mark Every 60 S



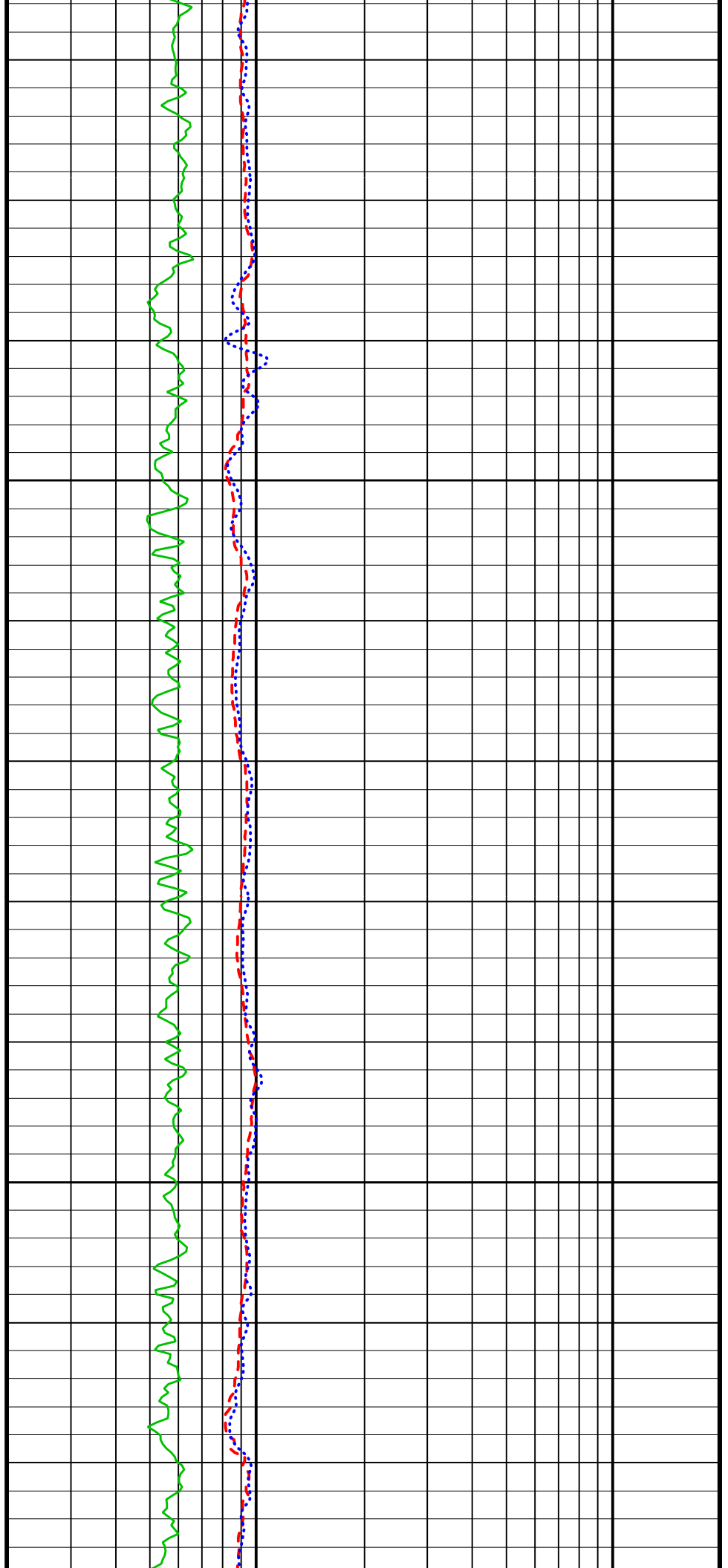


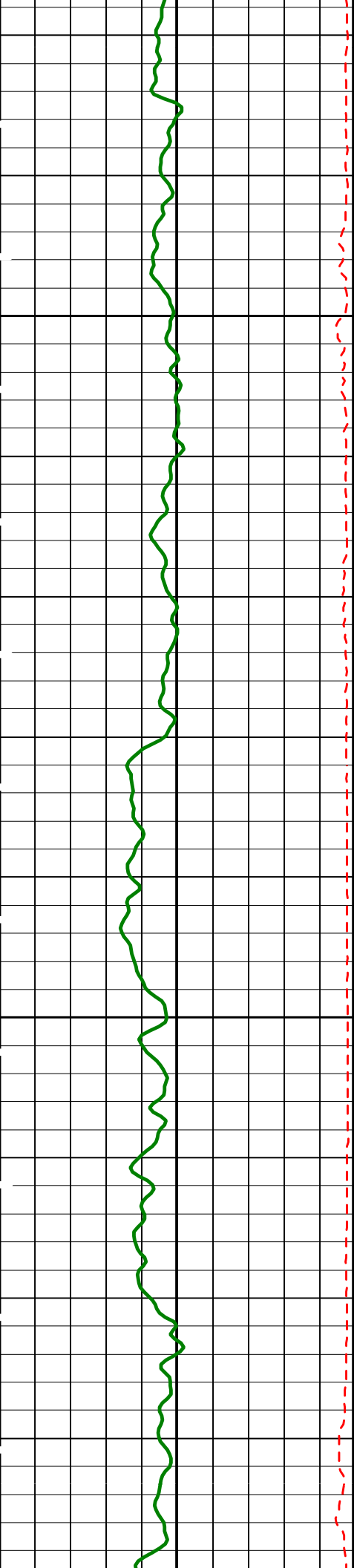




3350

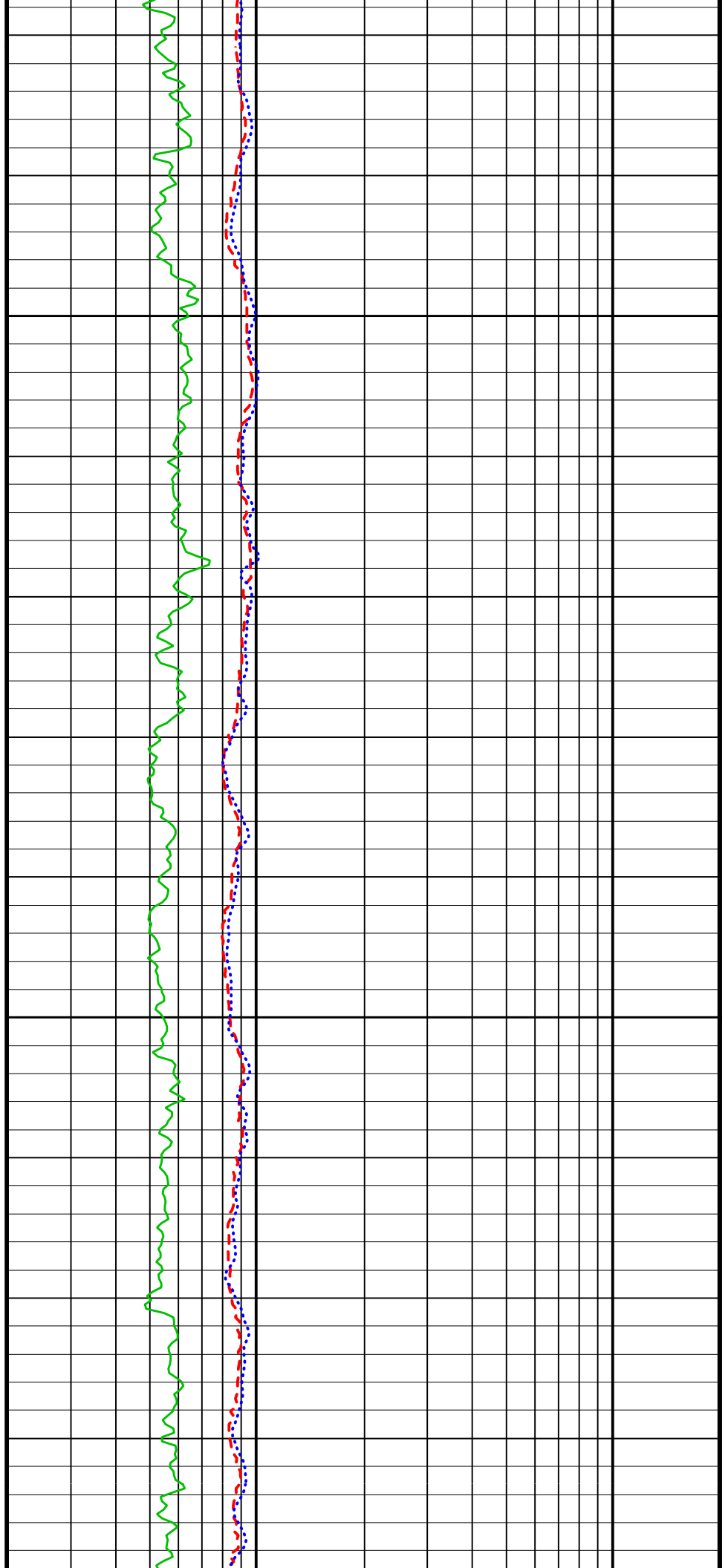
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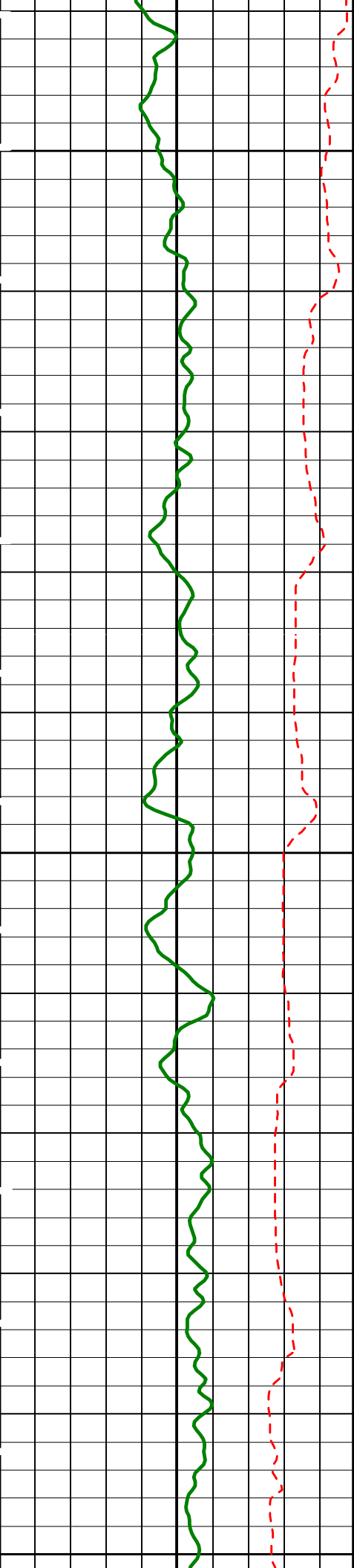




3400

3425

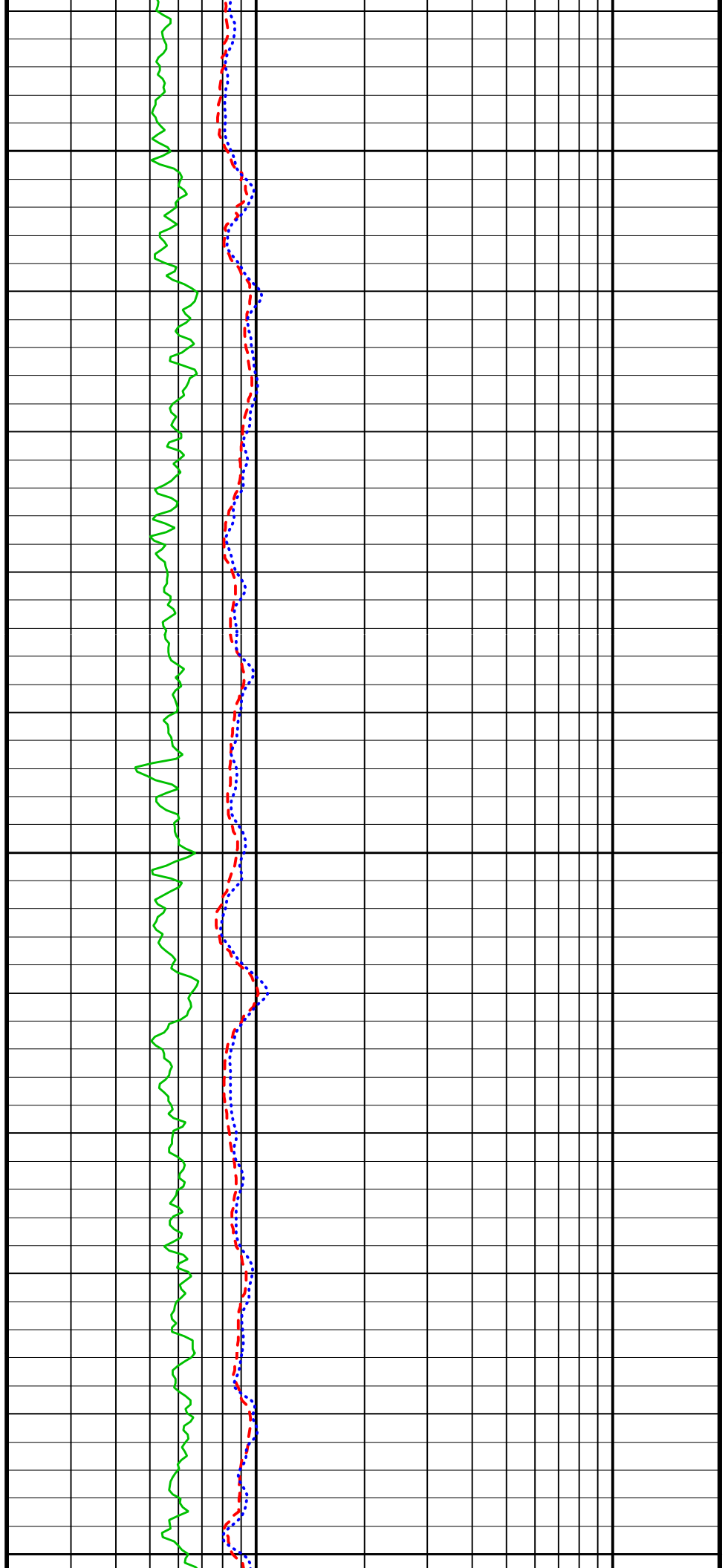


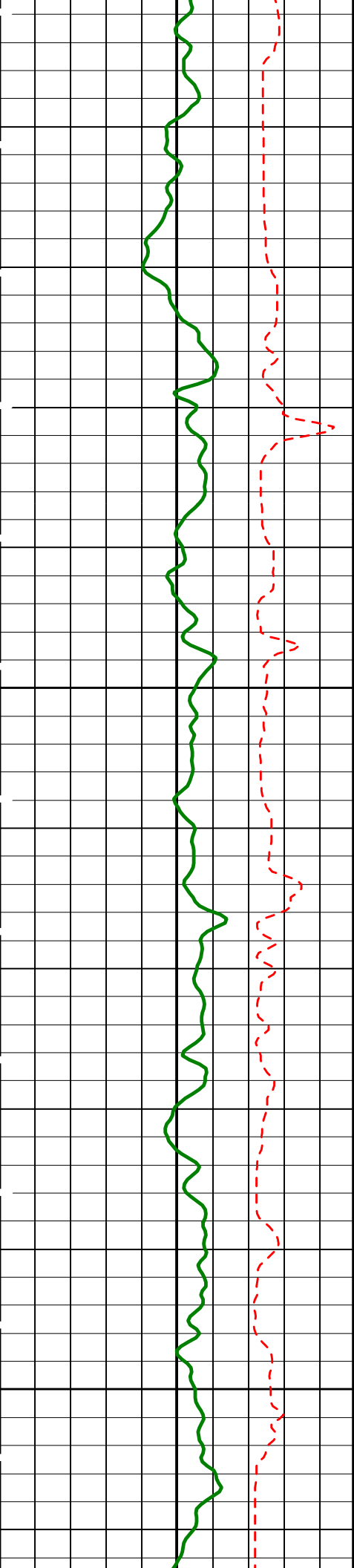


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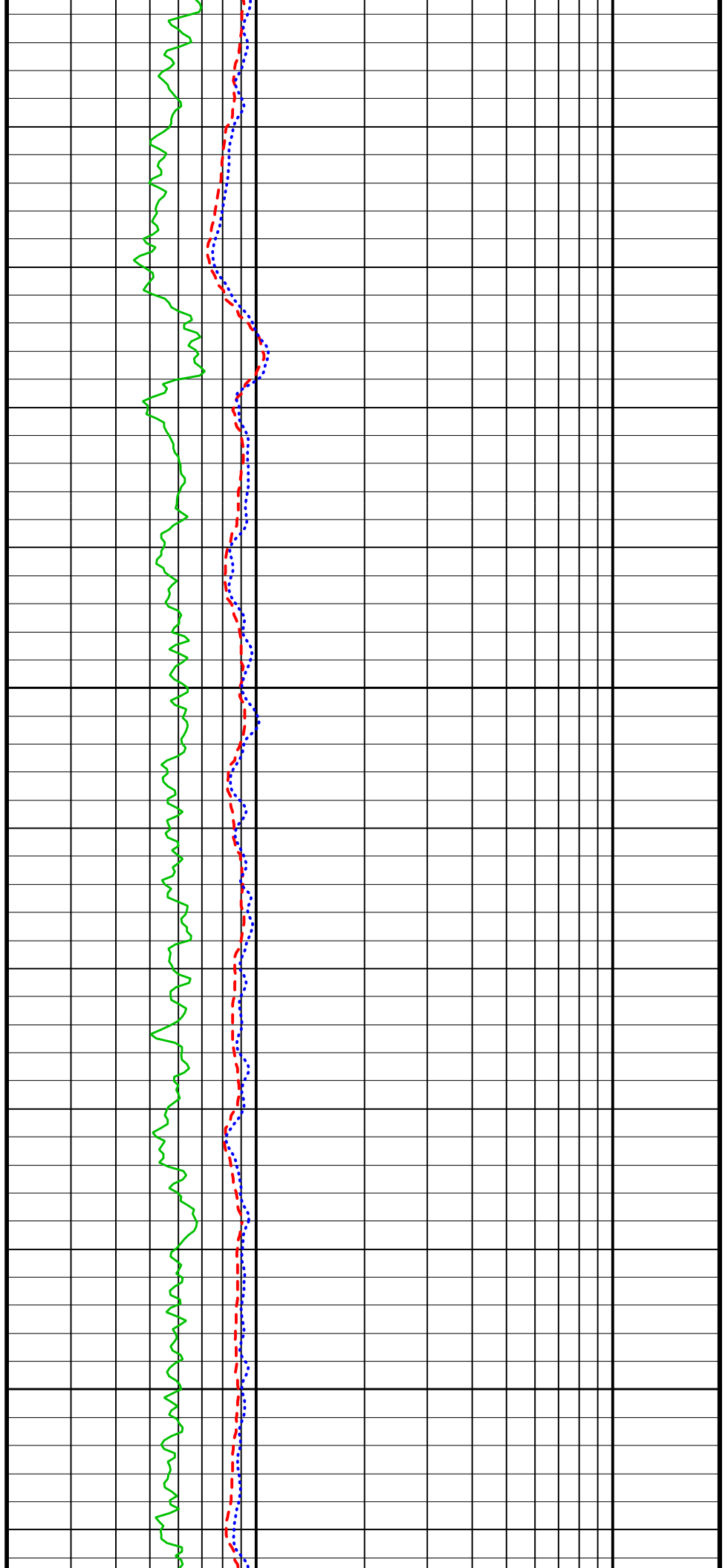
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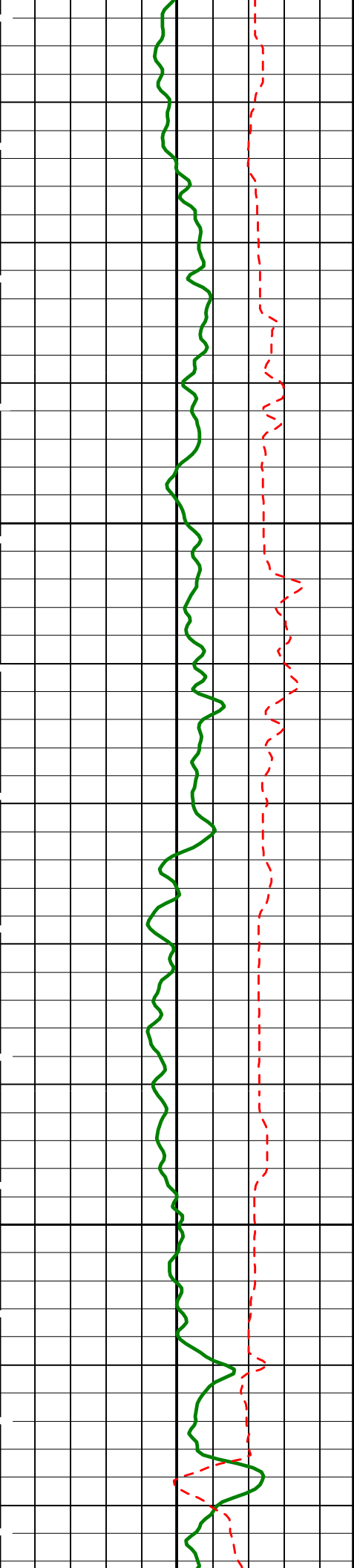




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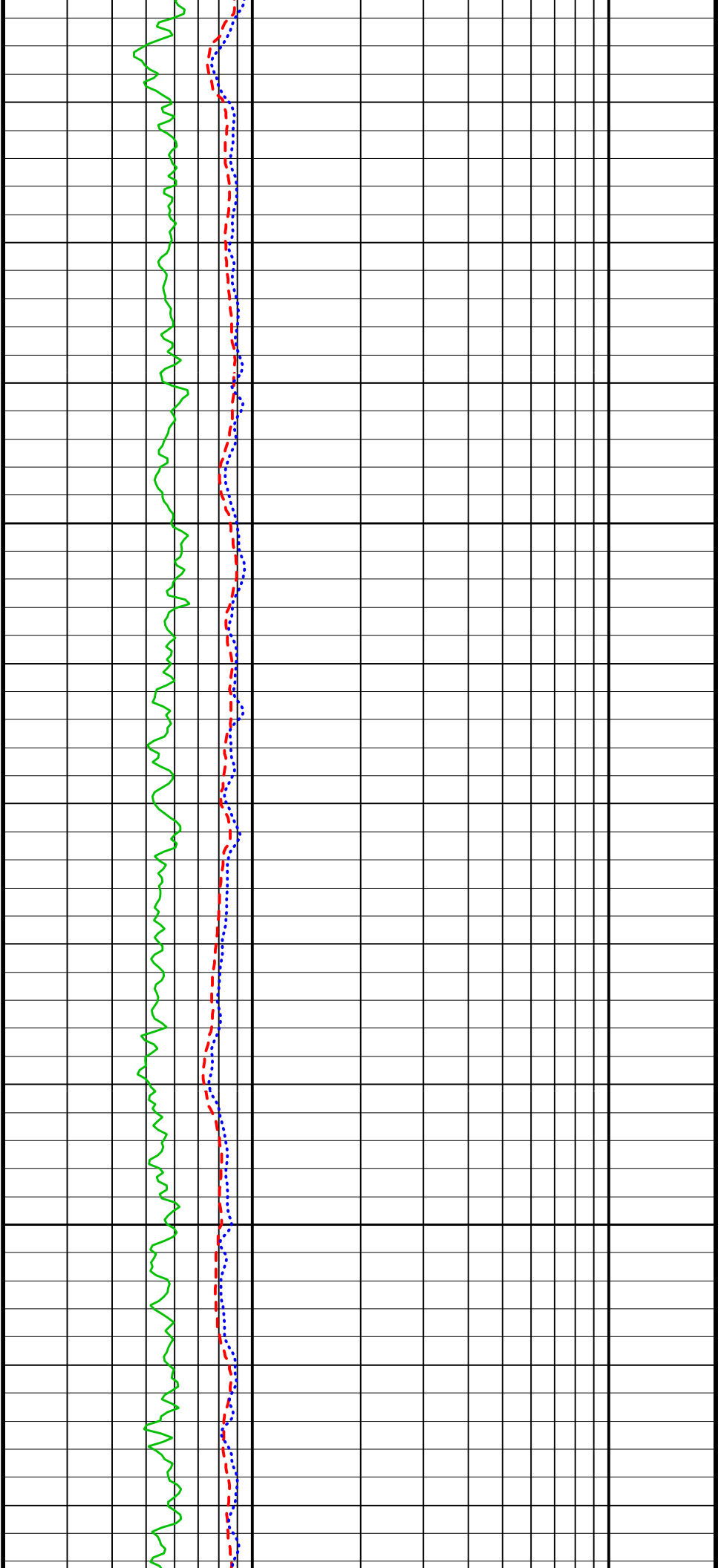
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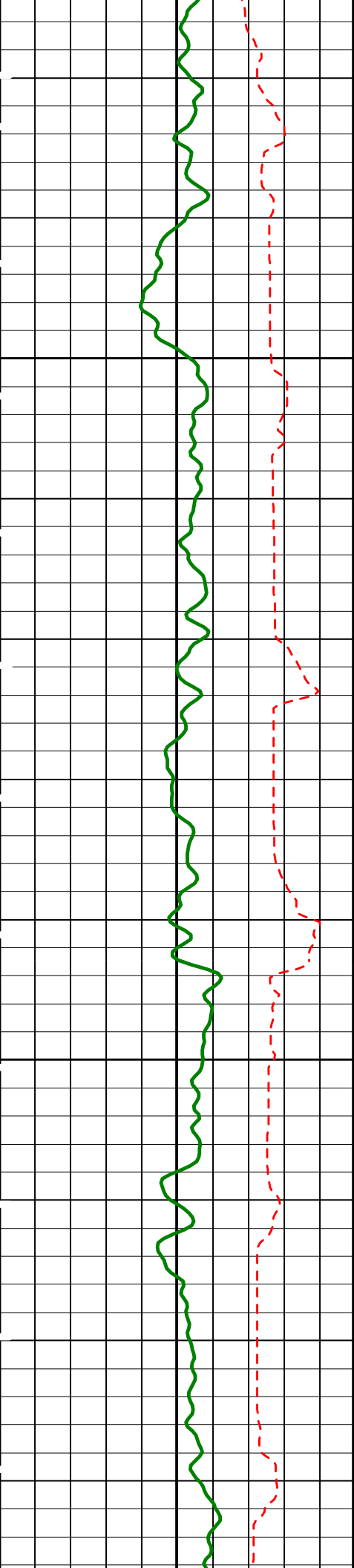




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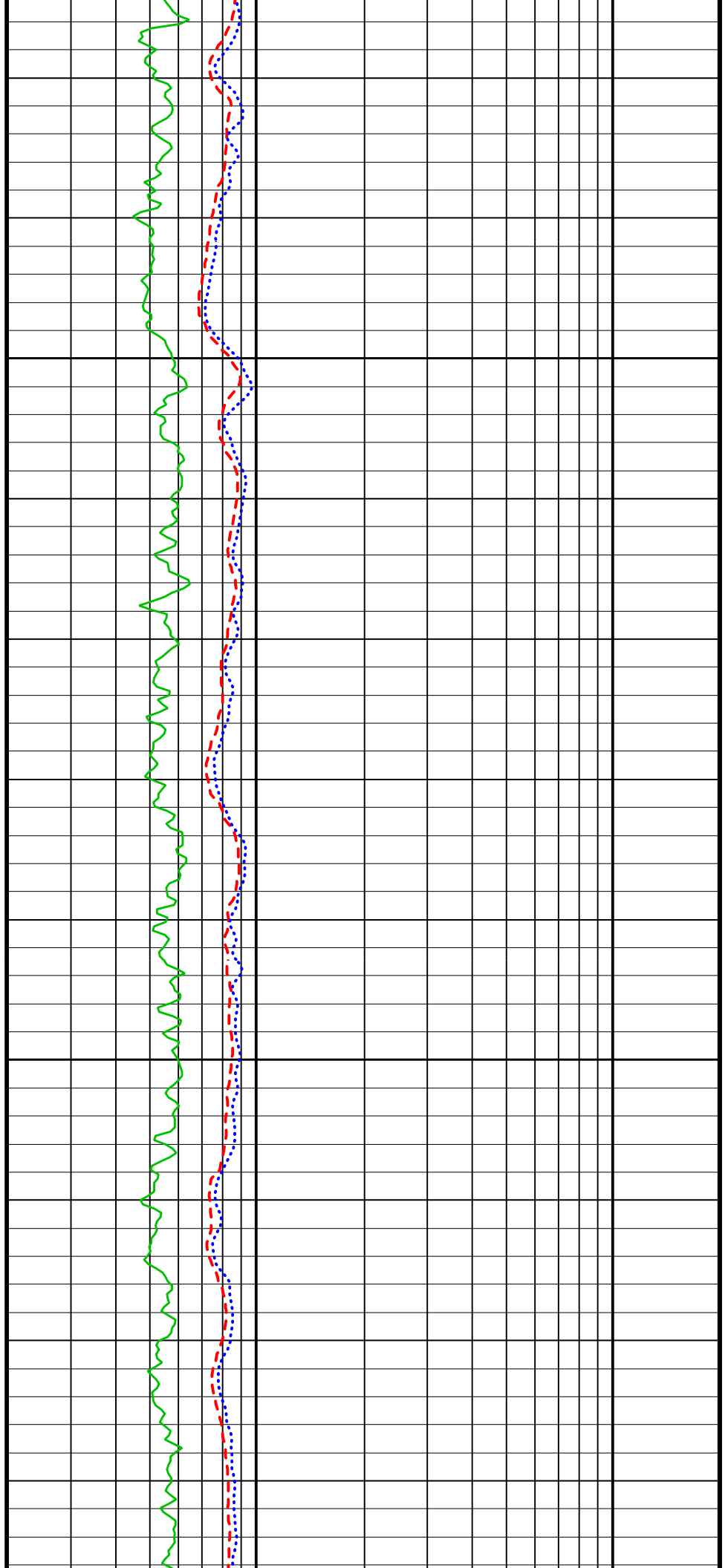
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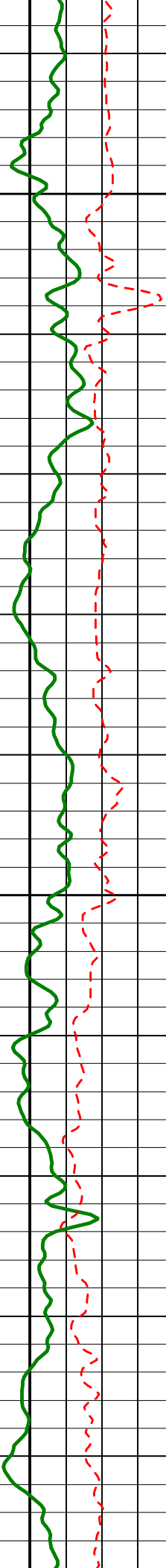




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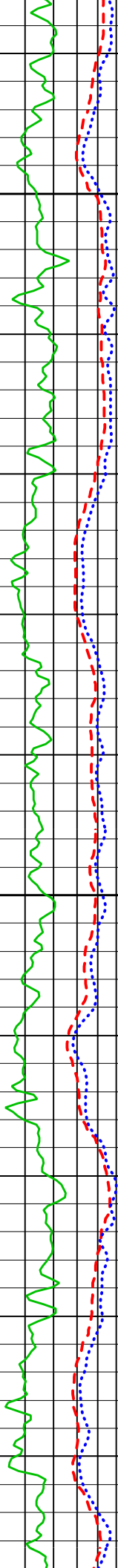
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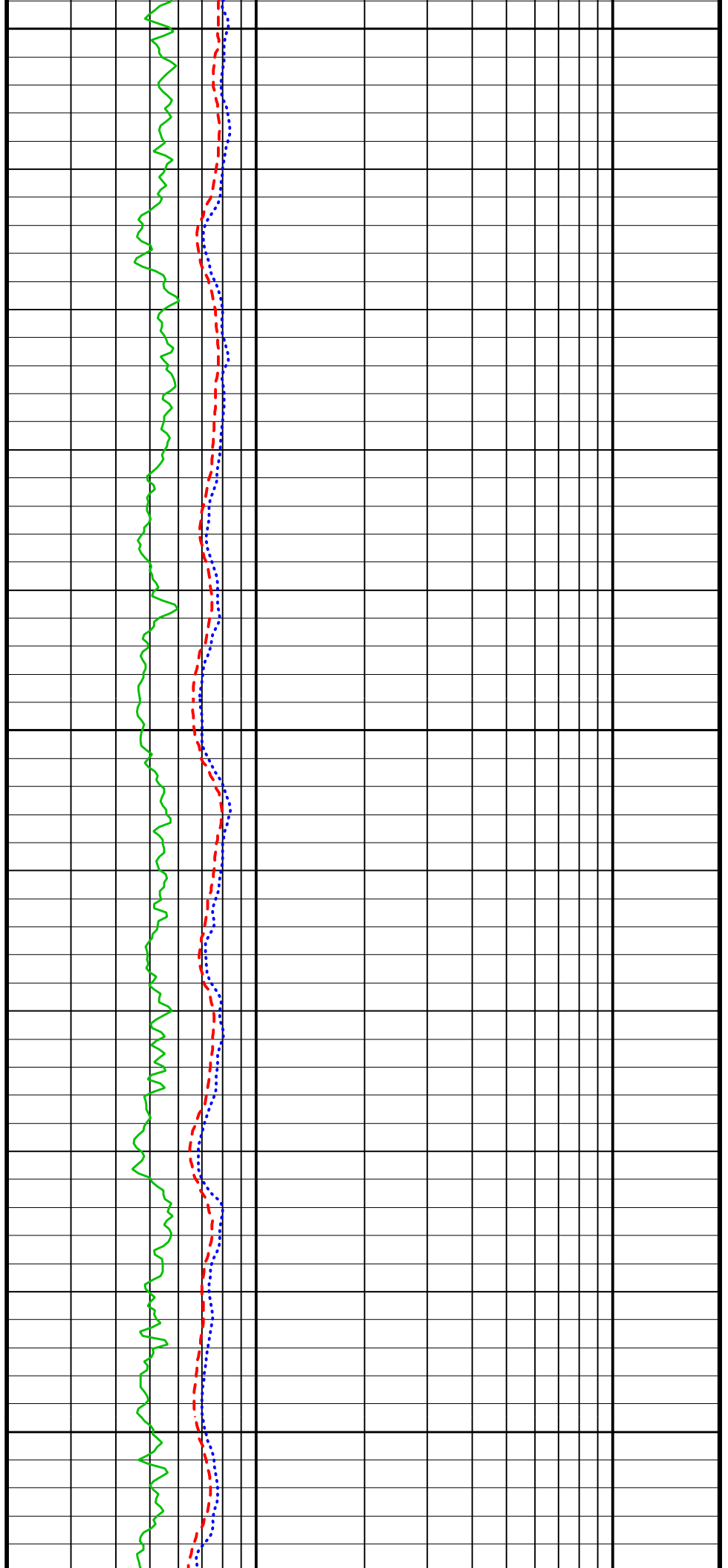
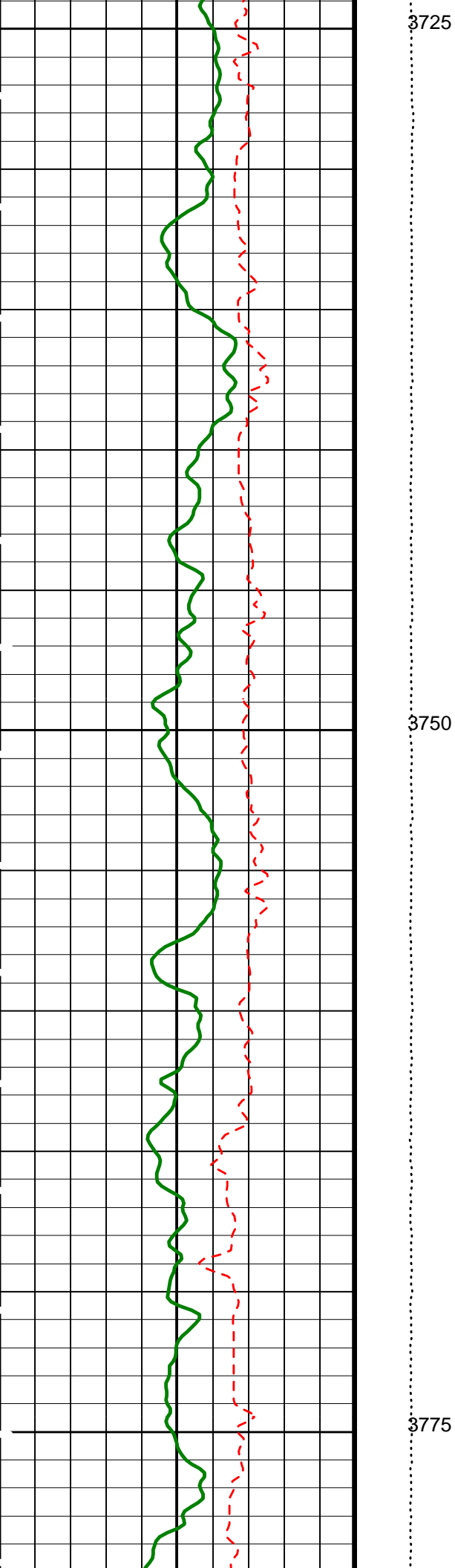


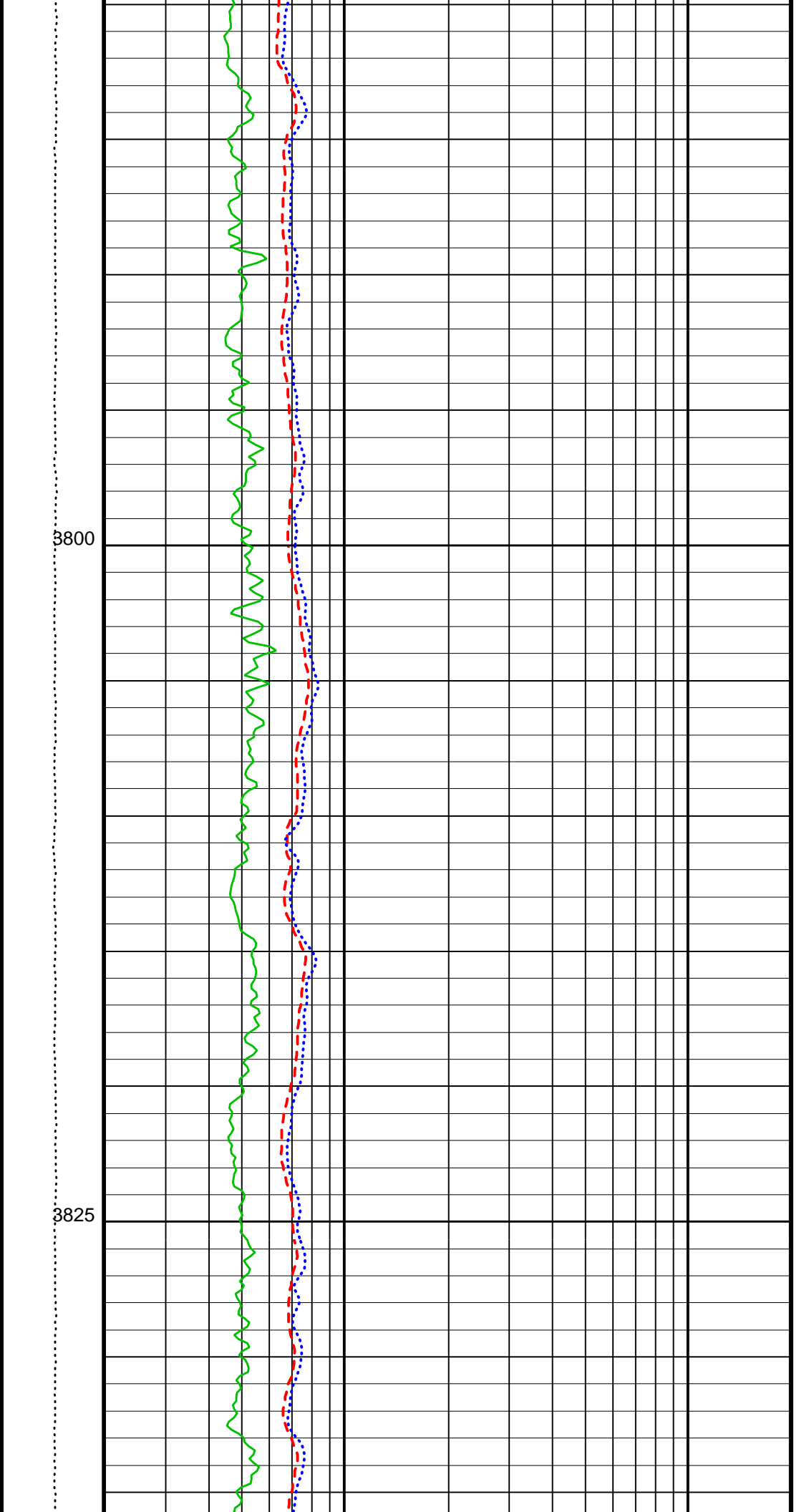
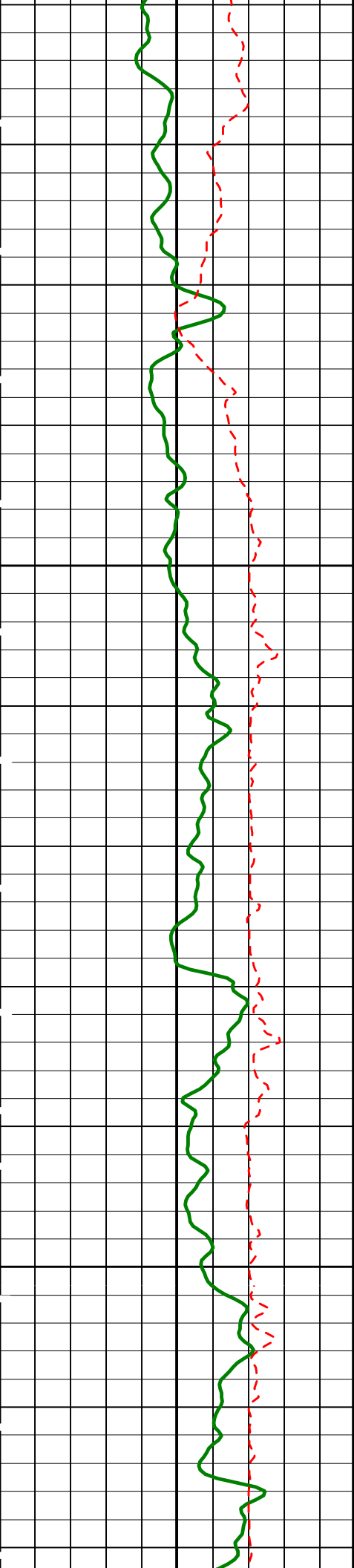


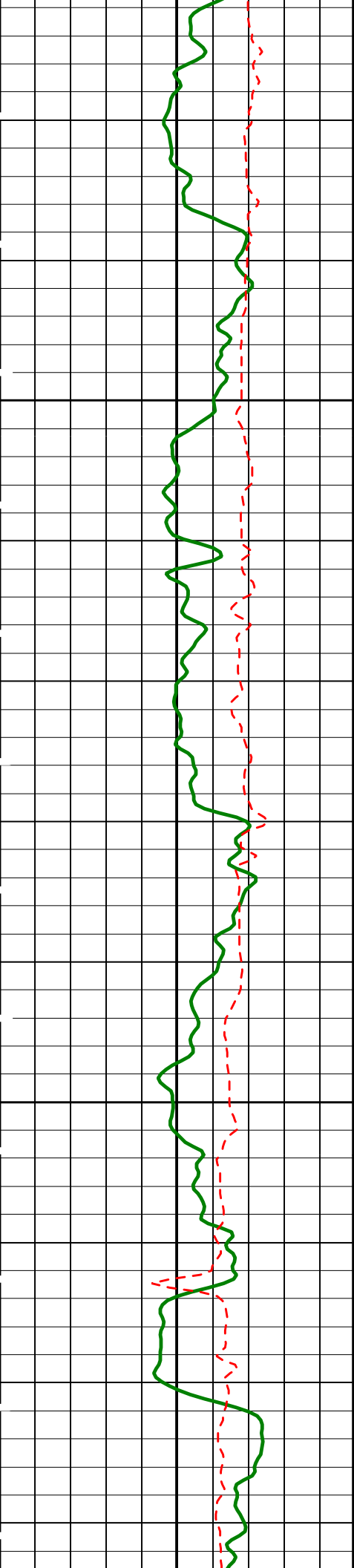
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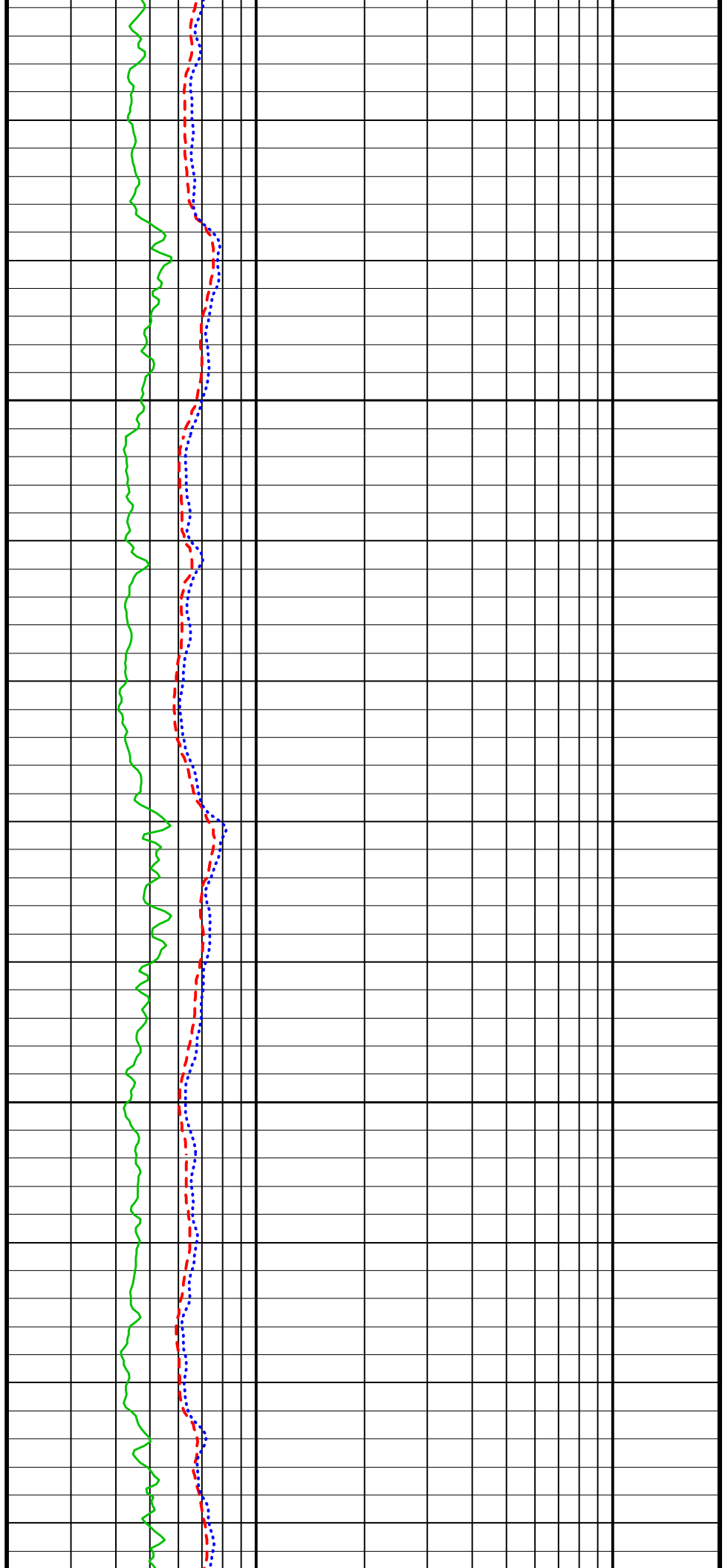


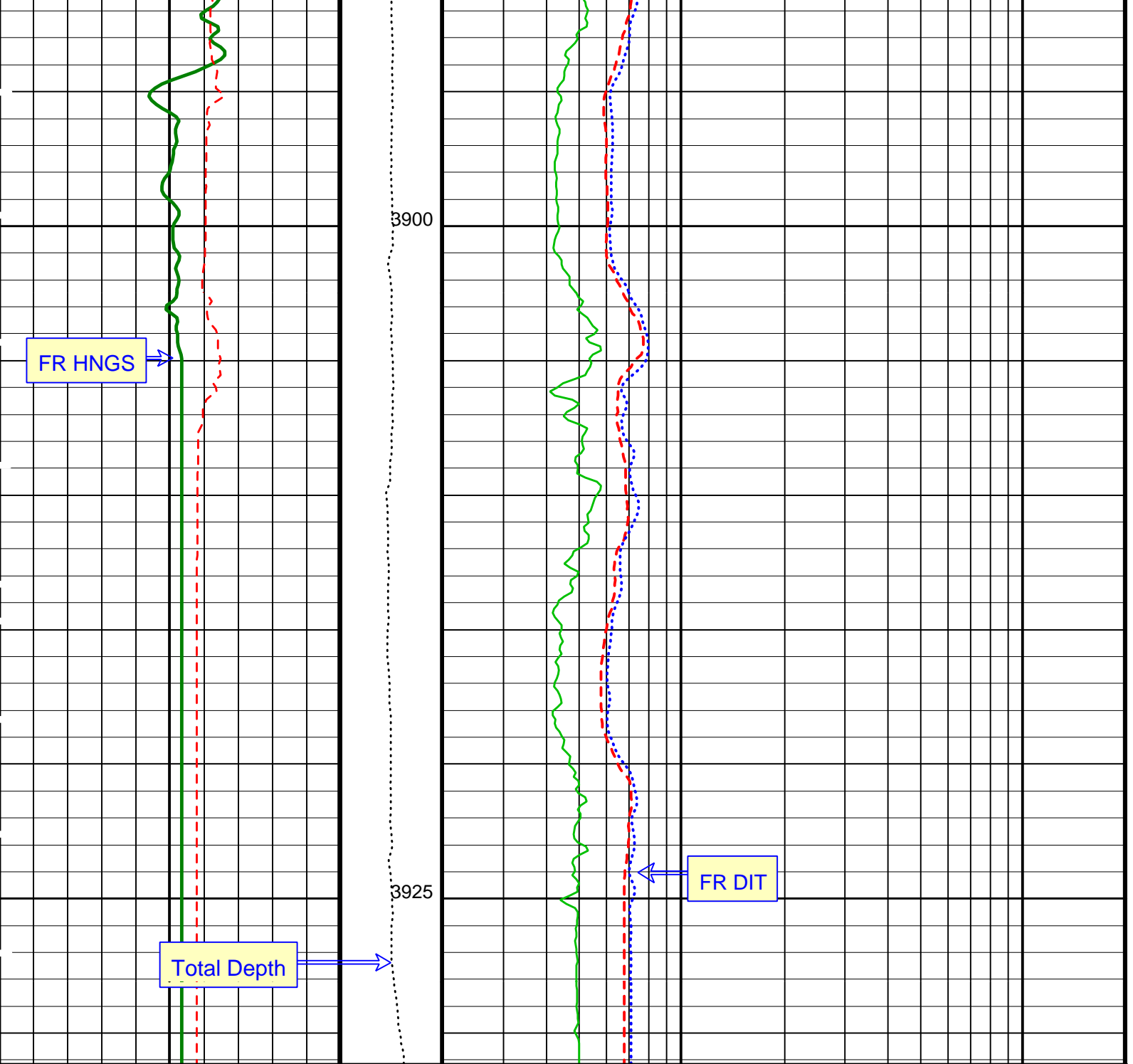




3850

3875





| | | |
|-----------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------|
| <p>HLDS Caliper (LCAL) (IN)</p> <p>0 20</p> | <p>Tension (TENS) (LBF)</p> <p>10000 0</p> | <p>Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)</p> <p>0.2 20</p> |
| <p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 100</p> | <p>ID_QUAL From IMQF to IDQF</p> | <p>Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)</p> <p>0.2 20</p> |
| | <p>IM_QUAL From SFQF to IMQF</p> | <p>SFL Unaveraged (SFLU) (OHMM)</p> <p>0.2 20</p> |
| | <p>SFL_QUAL From D3T to SFQF</p> | |

Parameters

| DLIS Name | Description | Value | |
|----------------------------------------|-----------------------------------------------------------------------|---------------------|------|
| DIT-E: Dual Induction - E | | | |
| BHS | Borehole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 212 | DEGF |
| DGF1 | Deep 10 kHz Gain Factor | 0.968645 | |
| DGF2 | Deep 20 kHz Gain Factor | 0.979119 | |
| DGF4 | Deep 40 kHz Gain Factor | 0.990252 | |
| DPH1 | Deep 10 kHz Phase Shift | 0.26358 | DEG |
| DPH2 | Deep 20 kHz Phase Shift | 0.0159963 | DEG |
| DPH4 | Deep 40 kHz Phase Shift | -1.11256 | DEG |
| DRE1 | Deep Real 10 kHz Sonde Error Correction | 39.5751 | MM/M |
| DRE2 | Deep Real 20 kHz Sonde Error Correction | 17.0457 | MM/M |
| DRE4 | Deep Real 40 kHz Sonde Error Correction | 5.15121 | MM/M |
| DRIM | DIT-E Radial Invasion Mode | Rxo>Rt | |
| DSR1 | Deep Sigma Reference (10 kHz) | 7637 | MM/M |
| DSR2 | Deep Sigma Reference (20 kHz) | 1843 | MM/M |
| DSR4 | Deep Sigma Reference (40 kHz) | 405 | MM/M |
| DSTA | DIT-E Transversal Standoff | 0 | IN |
| DXE1 | Deep Quad 10 kHz Sonde Error Correction | 245.841 | MM/M |
| DXE2 | Deep Quad 20 kHz Sonde Error Correction | 136.154 | MM/M |
| DXE4 | Deep Quad 40 kHz Sonde Error Correction | 78.4516 | MM/M |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.01 | DF/F |
| GRSE | Generalized Mud Resistivity Selection | CHART_GEN_9 | |
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| IFRS | DIT-E Induction Frequency Selector | 20 | |
| IPHA | DIT-E Phasor Processing Mode | ALL | |
| IPRO | DIT-E Induction Processing Selector | PHASOR | |
| ISSBAR | Barite Mud Switch | NOBARITE | |
| ITEN | DIT-E Temperature Enable | ENABLE | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIMESTONE | |
| MGF1 | Medium 10 kHz Gain Factor | 0.969585 | |
| MGF2 | Medium 20 kHz Gain Factor | 0.974788 | |
| MGF4 | Medium 40 kHz Gain Factor | 0.999842 | |
| MPH1 | Medium 10 kHz Phase Shift | 0.0787021 | DEG |
| MPH2 | Medium 20 kHz Phase Shift | -0.199528 | DEG |
| MPH4 | Medium 40 kHz Phase Shift | -0.885081 | DEG |
| MRE1 | Medium Real 10 kHz Sonde Error Correction | 31.1041 | MM/M |
| MRE2 | Medium Real 20 kHz Sonde Error Correction | 11.3259 | MM/M |
| MRE4 | Medium Real 40 kHz Sonde Error Correction | 3.5782 | MM/M |
| MSR1 | Medium Sigma Reference (10 kHz) | 13520 | MM/M |
| MSR2 | Medium Sigma Reference (20 kHz) | 3250 | MM/M |
| MSR4 | Medium Sigma Reference (40 kHz) | 685 | MM/M |
| MXE1 | Medium Quad 10 kHz Sonde Error Correction | 328.09 | MM/M |
| MXE2 | Medium Quad 20 kHz Sonde Error Correction | 172.606 | MM/M |
| MXE4 | Medium Quad 40 kHz Sonde Error Correction | 112.808 | MM/M |
| SBR | Shoulder Bed Resistivity Factor | 1 | OHMM |
| SFCR | SFL Channel Ratio | 1000 | |
| SFLE | SFL Enable | ENABLE | |
| SHT | Surface Hole Temperature | 68 | DEGF |
| SPAE | DIT-E SPARC Processing Enable | ENABLE | |
| SPNV | SP Next Value | 0 | MV |
| GPIT-A/B: General Purpose Inclinometer | | | |
| ACPP | Accelerometer PROM Presence | PRESENT | |
| AFMO | Accelerometer Filtering Mode | MOVING_AVERAGE | |
| ART | Accelerometer Reference Temperature | 20 | DEGC |
| GLM | GPIT Logging Mode | DIPM | |
| ICMO | Inclinometry Computation Mode | AUTOMATIC_SELECTION | |
| MAPP | Magnetometer PROM Presence | PRESENT | |
| MDEC | Magnetic Field Declination | 4.728 | DEG |
| MRTE | Magneto Reference Temperature | 23 | DEGC |
| TEMS | GPIT Temperature Sensor Used | BOTH | |
| U-GPOF | Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ? | NO | |
| APS-C: Accelerator-Porosity Tool | | | |
| AASD | APS Software Version | 0 | |
| ADSO | APS Thermal and Array Detectors High Voltage Setting | 1965.7 | V |
| AFSD | APS Array Detectors Data Source Switch | Both | |
| AHCS | APS Far Detector High Voltage Setting | 2077.27 | V |
| AHSS | APS Holesize Correction Source | BS | |
| AMTY | APS Holesize Correction Switch | ON | |
| ANSD | APS Environmental Corrections Mud Type | WaterBaseBarite | |
| ASOS | APS Near Detector High Voltage Setting | 1732.81 | V |
| ATSS | APS Standoff Correction Switch | ON | |
| BHFL_APS | APS Temperature-Pressure-Salinity Correction Switch | ON | |
| BHS | APS TNPH Borehole Fluid Type | WATER | |
| BHT | Borehole Status | OPEN | |

| | | | |
|----------|---------------------------------------------------|-----------------|------|
| BHT | Borehole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 212 | DEGF |
| BSCO_APS | APS TNPH Borehole Salinity Correction Option | YES | |
| DPPM | Density Porosity Processing Mode | HIRS | |
| DSCO_APS | APS TNPH Density Source | COMPUTED | |
| FSAL | Formation Salinity | -50000 | PPM |
| FSCO_APS | APS TNPH Formation Salinity Correction Option | NO | |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.01 | DF/F |
| GRSE | Generalized Mud Resistivity Selection | CHART_GEN_9 | |
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| HSCO_APS | APS TNPH Hole Size Correction Option | YES | |
| ISSBAR | Barite Mud Switch | NOBARITE | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIMESTONE | |
| MCCO_APS | APS TNPH Mud Cake Correction Option | YES | |
| MCOR_APS | APS TNPH Mud Correction | NATU | |
| MWCO_APS | APS TNPH Mud Weight Correction Option | YES | |
| NARC | APS Near/Array Calibration Ratio | 1.05904 | |
| NFRC | APS Near/Far Calibration Ratio | 0.885245 | |
| PTCO_APS | APS TNPH Pressure/Temperature Correction Option | YES | |
| SHT | Surface Hole Temperature | 68 | DEGF |
| TNCO_APS | APS TNPH Computation Option | NO | |

HLDS: Hostile Litho-Density Sonde

| | | | |
|------|-----------------------------------------|--------------|------|
| CLCL | HLDS LS Control Loop Controller Mode | AUTO_DEFAULT | |
| CLCS | HLDS SS Control Loop Controller Mode | AUTO_DEFAULT | |
| CLLS | HLDS Mode Loop Long Spacing | AUTO | |
| CLSS | HLDS Mode Loop Short Spacing | AUTO | |
| DHC | Density Hole Correction | BS | |
| DPPM | Density Porosity Processing Mode | HIRS | |
| FD | Fluid Density | 1 | G/C3 |
| LATC | HLDS Activation Correction | OFF | |
| LLDL | HLDS LS Low Level Discriminator DAC | 14000 | |
| LLDS | HLDS SS Low Level Discriminator DAC | 14000 | |
| LLML | HLDS LS Low Level Discriminator Mode | AUTO | |
| LLMS | HLDS SS Low Level Discriminator Mode | AUTO | |
| MDEN | Matrix Density | 2.71 | G/C3 |
| PHVL | HLDS Long Spacing High Voltage Setting | 1000 | V |
| PHVS | HLDS Short Spacing High Voltage Setting | 1000 | V |
| PSDL | HLDS LS Pulse Shape Compensation DAC | 30000 | |
| PSDS | HLDS SS Pulse Shape Compensation DAC | 30000 | |
| PSML | HLDS LS Pulse Shape Compensation Mode | AUTO | |
| PSMS | HLDS SS Pulse Shape Compensation Mode | AUTO | |

HNGS-BA: Hostile Natural Gamma Ray Sonde

| | | | |
|--------|--------------------------------------------------------|-----------------|------|
| BAR1 | HNGS Detector 1 Barite Constant | 1 | |
| BAR2 | HNGS Detector 2 Barite Constant | 1 | |
| BHK | HNGS Borehole Potassium Correction Concentration | 0 | |
| BHS | Borehole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 212 | DEGF |
| CSD1 | Inner Casing Outer Diameter | 0 | IN |
| CSD2 | Outer Casing Outer Diameter | 0 | IN |
| CSW1 | Inner Casing Weight | 0 | LB/F |
| CSW2 | Outer Casing Weight | 0 | LB/F |
| DBCC | HNGS Barite Constant Correction Flag | NONE | |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.01 | DF/F |
| GRSE | Generalized Mud Resistivity Selection | CHART_GEN_9 | |
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| H1P | HNGS Detector 1 Allow/Disallow In Processing | ALLOW | |
| H2P | HNGS Detector 2 Allow/Disallow In Processing | ALLOW | |
| HABK | HNGS Borehole Potassium Running Average | -0.00183121 | |
| HALF | HNGS Alpha Filter Length | 60 | IN |
| HCRB | HNGS Apply Borehole Potassium Correction | NONE | |
| HMWM | Mud Weighting Material | BARI | |
| HNPE | HNGS Processing Enable | YES | |
| ISSBAR | Barite Mud Switch | NOBARITE | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIMESTONE | |
| S1BI | HNGS Detector 1 Calibration Bismuth Count Rate | 1.3 | CPS |
| S2BI | HNGS Detector 2 Calibration Bismuth Count Rate | 1.3 | CPS |
| SGRC | HNGS Standard Gamma-Ray Correction Flag | YES | |
| SHT | Surface Hole Temperature | 68 | DEGF |
| TPOS | Tool Position | ECCE | |
| VBA1 | HNGS Detector 1 Variable Barite Factor Running Average | 0.994454 | |
| VBA2 | HNGS Detector 2 Variable Barite Factor Running Average | 0.988514 | |

System and Miscellaneous

| | | | |
|------------|---------------------------------|---------------------|------|
| ALTDPCCHAN | Name of alternate depth channel | SpeedCorrectedDepth | |
| BS | Bit Size | 11.438 | IN |
| BSAL | Borehole Salinity | -50000.00 | PPM |
| CSIZ | Current Casing Size | 4.500 | IN |
| CWEI | Casing Weight | 0.00 | LB/F |
| DFD | Drilling Fluid Density | 1.26 | G/C3 |
| DO | Depth Offset for Playback | 1.9 | M |
| FLEV | Fluid Level | -50000.00 | M |
| MST | Mud Sample Temperature | -50000.00 | DEGC |

| | | | |
|---------|------------------------------------------|-------------|------|
| PBVSADP | Use alternate depth channel for playback | NO | |
| PP | Playback Processing | NORMAL | |
| RMFS | Resistivity of Mud Filtrate Sample | -50000.0000 | OHMM |
| RW | Resistivity of Connate Water | 1.0000 | OHMM |
| TD | Total Depth | -50000 | FT |
| TDD | Total Depth - Driller | 3929.90 | M |
| TDL | Total Depth - Logger | 3929.90 | M |
| TWS | Temperature of Connate Water Sample | 37.78 | DEGC |

Format: DITE_LogPhasor Vertical Scale: 1:200 Graphics File Created: 19-Aug-2009 19:31

OP System Version: 17C0-154

| | | | |
|--------|----------|----------|------------------------|
| DIT-E | 17C0-154 | GPIT-A/B | SRPC-3762-Q1_2009_OP17 |
| DTA-A | 17C0-154 | APS-C | 17C0-154 |
| HLDS | 17C0-154 | LDSC-B | 17C0-154 |
| HNGC-B | 17C0-154 | HNGS-BA | 17C0-154 |
| DTC-H | 17C0-154 | | |

Input DLIS Files

| | | | | | | |
|---------|-----------------------|-------|----------|-------------------|----------|----------|
| DEFAULT | PI_APS_LDL_NGS_104LUP | FN:13 | PRODUCER | 18-Aug-2009 19:06 | 3929.6 M | 3181.0 M |
|---------|-----------------------|-------|----------|-------------------|----------|----------|

Output DLIS Files

| | | | | | | |
|---------|-----------------------|-------|----------|-------------------|--|--|
| DEFAULT | PI_APS_LDL_NGS_118PUP | FN:33 | PRODUCER | 19-Aug-2009 19:31 | | |
|---------|-----------------------|-------|----------|-------------------|--|--|



Repeat Pass
OH Only

MAXIS Field Log

Input DLIS Files

| | | | | | | |
|---------|-----------------------|-------|----------|-------------------|----------|----------|
| DEFAULT | PI_APS_LDL_NGS_103LUP | FN:11 | PRODUCER | 18-Aug-2009 18:36 | 3929.6 M | 3849.6 M |
|---------|-----------------------|-------|----------|-------------------|----------|----------|

Output DLIS Files

| | | | | | | |
|---------|-----------------------|-------|----------|-------------------|----------|----------|
| DEFAULT | PI_APS_LDL_NGS_117PUP | FN:32 | PRODUCER | 19-Aug-2009 19:29 | 3931.2 M | 3849.3 M |
|---------|-----------------------|-------|----------|-------------------|----------|----------|

OP System Version: 17C0-154

| | | | |
|--------|----------|----------|------------------------|
| DIT-E | 17C0-154 | GPIT-A/B | SRPC-3762-Q1_2009_OP17 |
| DTA-A | 17C0-154 | APS-C | 17C0-154 |
| HLDS | 17C0-154 | LDSC-B | 17C0-154 |
| HNGC-B | 17C0-154 | HNGS-BA | 17C0-154 |
| DTC-H | 17C0-154 | | |

PIP SUMMARY

Time Mark Every 60 S

SFL_QUAL
From D3T
to SFQF

IM_QUAL
From
SFQF to
IMQF

0.2

SFL Unaveraged (SFLU)
(OHMM)

20

HINGS Spectroscopy Gamma Ray
(HSGR)
(GAPI)

0 100

ID_QOAL
From
IMQF to
IDQF

Medium Induction Phasor-processed Resistivity (IMPH)
(OHMM)

0.2 20

HLDS Caliper (LCAL)
(IN)

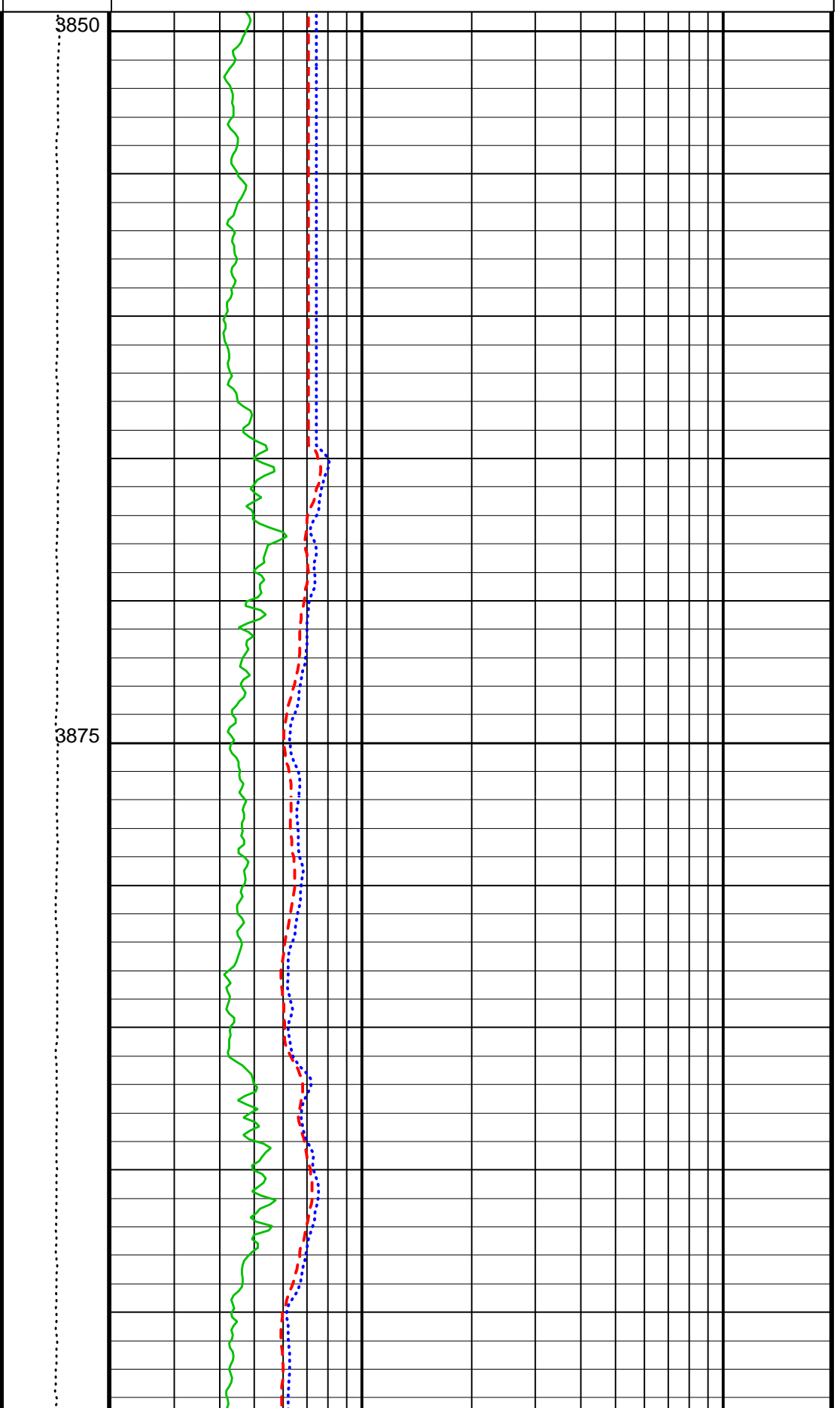
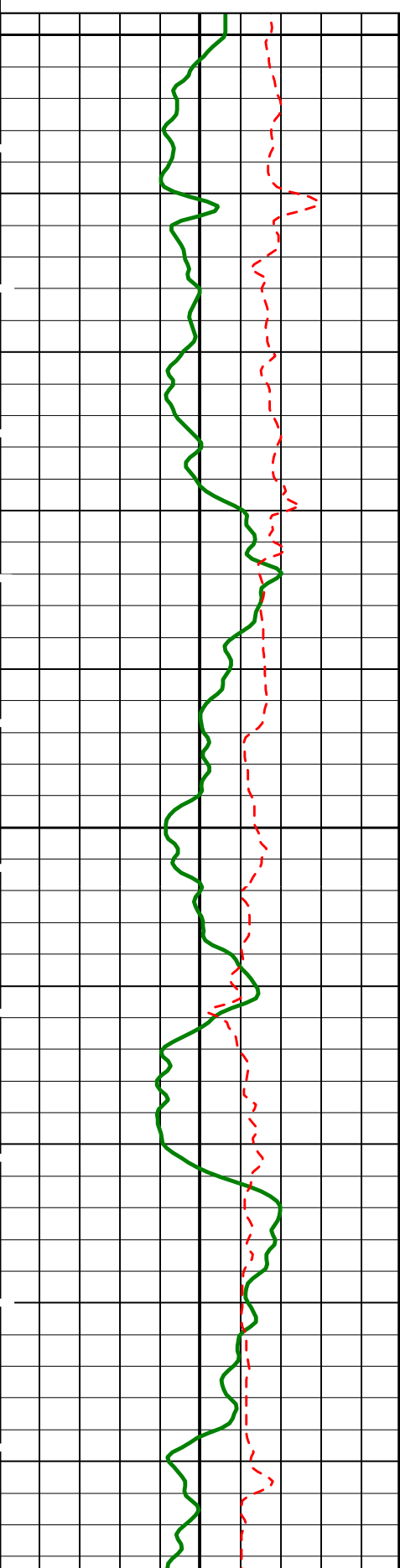
0 20

Tension
(TENS)
(LBF)

10000 0

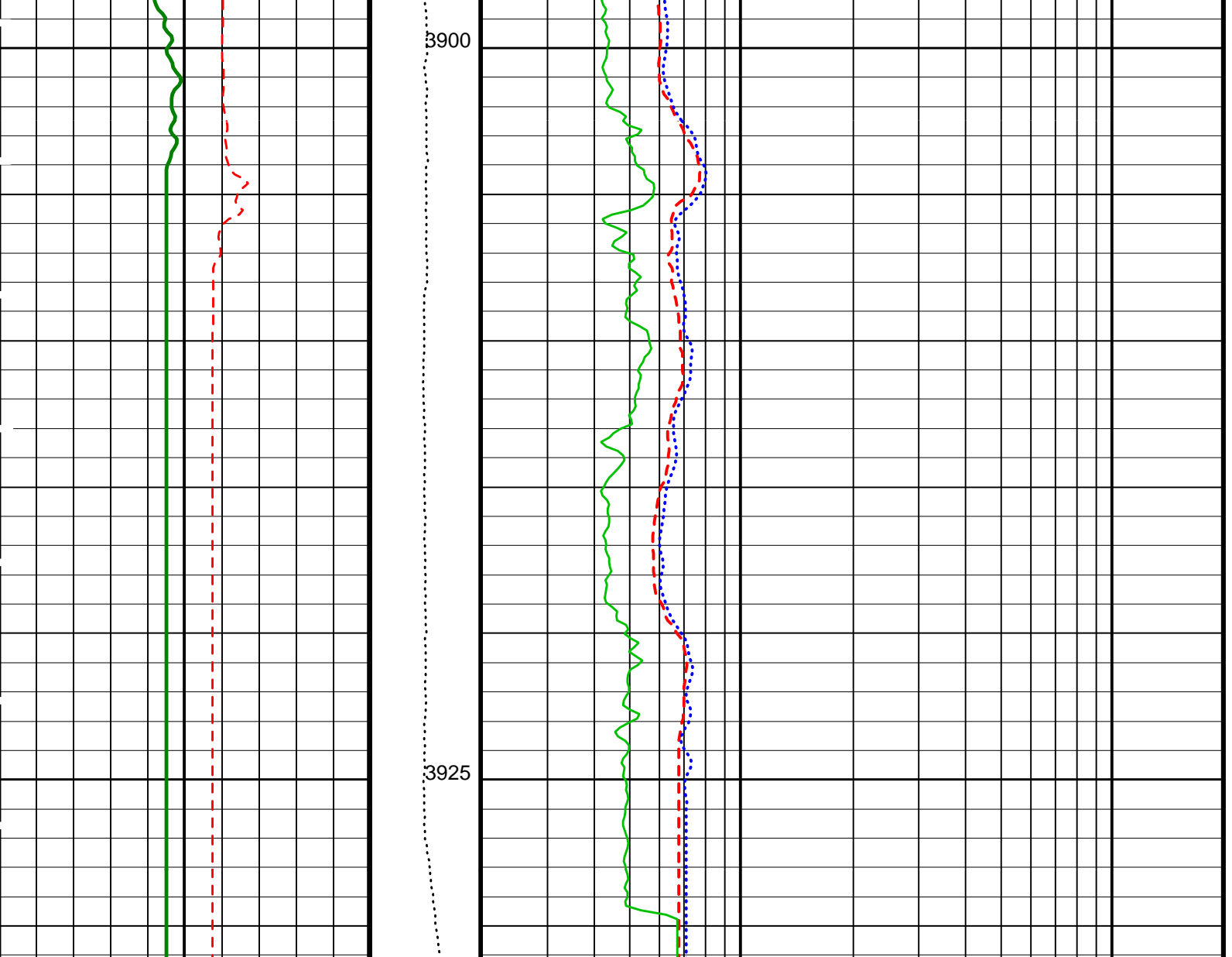
Deep Induction Phasor-processed Resistivity (IDPH)
(OHMM)

0.2 20



3850

3875



| | | |
|-----------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------|
| <p>HLDS Caliper (LCAL) (IN)</p> <p>0 20</p> | <p>Tension (TENS) (LBF)</p> <p>10000 0</p> | <p>Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)</p> <p>0.2 20</p> |
| <p>HNGS Spectroscopy Gamma Ray (HSGR) (GAPI)</p> <p>0 100</p> | <p>ID_QUAL From IMQF to IDQF</p> | <p>Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)</p> <p>0.2 20</p> |
| | <p>IM_QUAL From SFQF to IMQF</p> | <p>SFL Unaveraged (SFLU) (OHMM)</p> <p>0.2 20</p> |
| | <p>SFL_QUAL From D3T to SFQF</p> | |

PIP SUMMARY

Time Mark Every 60 S

Parameters

| DLIS Name | Description | Value |
|-----------|-------------|-------|
|-----------|-------------|-------|

| | | |
|-----|----------------------------------------------|------|
| BHS | DIT-E: Dual Induction - E Borehole Status | OPEN |
|-----|----------------------------------------------|------|

| | | | |
|----------------------------------------|-----------------------------------------------------------------------|---------------------|------|
| BHT | Bottom Hole Temperature (used in calculations) | 212 | DEGF |
| DGF1 | Deep 10 kHz Gain Factor | 0.968645 | |
| DGF2 | Deep 20 kHz Gain Factor | 0.979119 | |
| DGF4 | Deep 40 kHz Gain Factor | 0.990252 | |
| DPH1 | Deep 10 kHz Phase Shift | 0.26358 | DEG |
| DPH2 | Deep 20 kHz Phase Shift | 0.0159963 | DEG |
| DPH4 | Deep 40 kHz Phase Shift | -1.11256 | DEG |
| DRE1 | Deep Real 10 kHz Sonde Error Correction | 39.5751 | MM/M |
| DRE2 | Deep Real 20 kHz Sonde Error Correction | 17.0457 | MM/M |
| DRE4 | Deep Real 40 kHz Sonde Error Correction | 5.15121 | MM/M |
| DRIM | DIT-E Radial Invasion Mode | Rxo>Rt | |
| DSR1 | Deep Sigma Reference (10 kHz) | 7637 | MM/M |
| DSR2 | Deep Sigma Reference (20 kHz) | 1843 | MM/M |
| DSR4 | Deep Sigma Reference (40 kHz) | 405 | MM/M |
| DSTA | DIT-E Transversal Standoff | 0 | IN |
| DXE1 | Deep Quad 10 kHz Sonde Error Correction | 245.841 | MM/M |
| DXE2 | Deep Quad 20 kHz Sonde Error Correction | 136.154 | MM/M |
| DXE4 | Deep Quad 40 kHz Sonde Error Correction | 78.4516 | MM/M |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.01 | DF/F |
| GRSE | Generalized Mud Resistivity Selection | CHART_GEN_9 | |
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| IFRS | DIT-E Induction Frequency Selector | 20 | |
| IPHA | DIT-E Phasor Processing Mode | ALL | |
| IPRO | DIT-E Induction Processing Selector | PHASOR | |
| ISSBAR | Barite Mud Switch | NOBARITE | |
| ITEN | DIT-E Temperature Enable | ENABLE | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIMESTONE | |
| MGF1 | Medium 10 kHz Gain Factor | 0.969585 | |
| MGF2 | Medium 20 kHz Gain Factor | 0.974788 | |
| MGF4 | Medium 40 kHz Gain Factor | 0.999842 | |
| MPH1 | Medium 10 kHz Phase Shift | 0.0787021 | DEG |
| MPH2 | Medium 20 kHz Phase Shift | -0.199528 | DEG |
| MPH4 | Medium 40 kHz Phase Shift | -0.885081 | DEG |
| MRE1 | Medium Real 10 kHz Sonde Error Correction | 31.1041 | MM/M |
| MRE2 | Medium Real 20 kHz Sonde Error Correction | 11.3259 | MM/M |
| MRE4 | Medium Real 40 kHz Sonde Error Correction | 3.5782 | MM/M |
| MSR1 | Medium Sigma Reference (10 kHz) | 13520 | MM/M |
| MSR2 | Medium Sigma Reference (20 kHz) | 3250 | MM/M |
| MSR4 | Medium Sigma Reference (40 kHz) | 685 | MM/M |
| MXE1 | Medium Quad 10 kHz Sonde Error Correction | 328.09 | MM/M |
| MXE2 | Medium Quad 20 kHz Sonde Error Correction | 172.606 | MM/M |
| MXE4 | Medium Quad 40 kHz Sonde Error Correction | 112.808 | MM/M |
| SBR | Shoulder Bed Resistivity Factor | 1 | OHMM |
| SFCR | SFL Channel Ratio | 1000 | |
| SFLE | SFL Enable | ENABLE | |
| SHT | Surface Hole Temperature | 68 | DEGF |
| SPAE | DIT-E SPARC Processing Enable | ENABLE | |
| SPNV | SP Next Value | 0 | MV |
| GPIT-A/B: General Purpose Inclinometer | | | |
| ACPP | Accelerometer PROM Presence | PRESENT | |
| AFMO | Accelerometer Filtering Mode | MOVING_AVERAGE | |
| ART | Accelerometer Reference Temperature | 20 | DEGC |
| GLM | GPIT Logging Mode | DIPM | |
| ICMO | Inclinometry Computation Mode | AUTOMATIC_SELECTION | |
| MAPP | Magnetometer PROM Presence | PRESENT | |
| MDEC | Magnetic Field Declination | 4.728 | DEG |
| MRTE | Magneto Reference Temperature | 23 | DEGC |
| TEMS | GPIT Temperature Sensor Used | BOTH | |
| U-GPOF | Playback OLD VERSION GPIT FILE (BEFORE OP14 + SRPC-3098-FEB_2006_C) ? | NO | |

APS-C: Accelerator-Porosity Tool

| | | | |
|----------------------|------------------------------------------------------|-----------------|------|
| APS Software Version | | | |
| AASD | APS Thermal and Array Detectors High Voltage Setting | 1965.7 | V |
| AASO | APS Array Detectors Data Source Switch | Both | |
| AFSD | APS Far Detector High Voltage Setting | 2077.27 | V |
| AHCS | APS Holesize Correction Source | BS | |
| AHSS | APS Holesize Correction Switch | ON | |
| AMTY | APS Environmental Corrections Mud Type | WaterBaseBarite | |
| ANSD | APS Near Detector High Voltage Setting | 1732.81 | V |
| ASOS | APS Standoff Correction Switch | ON | |
| ATSS | APS Temperature-Pressure-Salinity Correction Switch | ON | |
| BHFL_APS | APS TNPH Borehole Fluid Type | WATER | |
| BHS | Borehole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 212 | DEGF |
| BSCO_APS | APS TNPH Borehole Salinity Correction Option | YES | |
| DPPM | Density Porosity Processing Mode | HIRS | |
| DSCO_APS | APS TNPH Density Source | COMPUTED | |
| FSAL | Formation Salinity | -50000 | PPM |
| FSCO_APS | APS TNPH Formation Salinity Correction Option | NO | |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.01 | DF/F |
| GRSE | Generalized Mud Resistivity Selection | CHART GEN 9 | |

| | | | |
|------------------------------------------|--------------------------------------------------------|---------------------|------|
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| HSCO_APS | APS TNPH Hole Size Correction Option | YES | |
| ISSBAR | Barite Mud Switch | NOBARITE | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIMESTONE | |
| MCCO_APS | APS TNPH Mud Cake Correction Option | YES | |
| MCOR_APS | APS TNPH Mud Correction | NATU | |
| MWCO_APS | APS TNPH Mud Weight Correction Option | YES | |
| NARC | APS Near/Array Calibration Ratio | 1.05904 | |
| NFRC | APS Near/Far Calibration Ratio | 0.885245 | |
| PTCO_APS | APS TNPH Pressure/Temperature Correction Option | YES | |
| SHT | Surface Hole Temperature | 68 | DEGF |
| TNCO_APS | APS TNPH Computation Option | NO | |
| HLDS: Hostile Litho-Density Sonde | | | |
| CLCL | HLDS LS Control Loop Controller Mode | AUTO_DEFAULT | |
| CLCS | HLDS SS Control Loop Controller Mode | AUTO_DEFAULT | |
| CLLS | HLDS Mode Loop Long Spacing | AUTO | |
| CLSS | HLDS Mode Loop Short Spacing | AUTO | |
| DHC | Density Hole Correction | BS | |
| DPPM | Density Porosity Processing Mode | HIRS | |
| FD | Fluid Density | 1 | G/C3 |
| LATC | HLDS Activation Correction | OFF | |
| LLDL | HLDS LS Low Level Discriminator DAC | 14000 | |
| LLDS | HLDS SS Low Level Discriminator DAC | 14000 | |
| LLML | HLDS LS Low Level Discriminator Mode | AUTO | |
| LLMS | HLDS SS Low Level Discriminator Mode | AUTO | |
| MDEN | Matrix Density | 2.71 | G/C3 |
| PHVL | HLDS Long Spacing High Voltage Setting | 1000 | V |
| PHVS | HLDS Short Spacing High Voltage Setting | 1000 | V |
| PSDL | HLDS LS Pulse Shape Compensation DAC | 30000 | |
| PSDS | HLDS SS Pulse Shape Compensation DAC | 30000 | |
| PSML | HLDS LS Pulse Shape Compensation Mode | AUTO | |
| PSMS | HLDS SS Pulse Shape Compensation Mode | AUTO | |
| HNGS-BA: Hostile Natural Gamma Ray Sonde | | | |
| BAR1 | HNGS Detector 1 Barite Constant | 1 | |
| BAR2 | HNGS Detector 2 Barite Constant | 1 | |
| BHK | HNGS Borehole Potassium Correction Concentration | 0 | |
| BHS | Borehole Status | OPEN | |
| BHT | Bottom Hole Temperature (used in calculations) | 212 | DEGF |
| CSD1 | Inner Casing Outer Diameter | 0 | IN |
| CSD2 | Outer Casing Outer Diameter | 0 | IN |
| CSW1 | Inner Casing Weight | 0 | LB/F |
| CSW2 | Outer Casing Weight | 0 | LB/F |
| DBCC | HNGS Barite Constant Correction Flag | NONE | |
| GCSE | Generalized Caliper Selection | BS | |
| GDEV | Average Angular Deviation of Borehole from Normal | 0 | DEG |
| GGRD | Geothermal Gradient | 0.01 | DF/F |
| GRSE | Generalized Mud Resistivity Selection | CHART_GEN_9 | |
| GTSE | Generalized Temperature Selection | LINEAR_ESTIMATE | |
| H1P | HNGS Detector 1 Allow/Disallow In Processing | ALLOW | |
| H2P | HNGS Detector 2 Allow/Disallow In Processing | ALLOW | |
| HABK | HNGS Borehole Potassium Running Average | -0.00183121 | |
| HALF | HNGS Alpha Filter Length | 60 | IN |
| HCRB | HNGS Apply Borehole Potassium Correction | NONE | |
| HMWM | Mud Weighting Material | BARI | |
| HNPE | HNGS Processing Enable | YES | |
| ISSBAR | Barite Mud Switch | NOBARITE | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIMESTONE | |
| S1BI | HNGS Detector 1 Calibration Bismuth Count Rate | 1.3 | CPS |
| S2BI | HNGS Detector 2 Calibration Bismuth Count Rate | 1.3 | CPS |
| SGRC | HNGS Standard Gamma-Ray Correction Flag | YES | |
| SHT | Surface Hole Temperature | 68 | DEGF |
| TPOS | Tool Position | ECCE | |
| VBA1 | HNGS Detector 1 Variable Barite Factor Running Average | 0.994454 | |
| VBA2 | HNGS Detector 2 Variable Barite Factor Running Average | 0.988514 | |
| System and Miscellaneous | | | |
| ALTDPCCHAN | Name of alternate depth channel | SpeedCorrectedDepth | |
| BS | Bit Size | 11.438 | IN |
| BSAL | Borehole Salinity | -50000.00 | PPM |
| CSIZ | Current Casing Size | 4.500 | IN |
| CWEI | Casing Weight | 0.00 | LB/F |
| DFD | Drilling Fluid Density | 1.26 | G/C3 |
| DO | Depth Offset for Playback | 1.6 | M |
| FLEV | Fluid Level | -50000.00 | M |
| MST | Mud Sample Temperature | -50000.00 | DEGC |
| PBVSADP | Use alternate depth channel for playback | NO | |
| PP | Playback Processing | NORMAL | |
| RMFS | Resistivity of Mud Filtrate Sample | -50000.0000 | OHMM |
| RW | Resistivity of Connate Water | 1.0000 | OHMM |
| TD | Total Depth | -50000 | FT |
| TDD | Total Depth - Driller | 3929.90 | M |
| TDL | Total Depth - Logger | 3929.90 | M |
| TWS | Temperature of Connate Water Sample | 37.78 | DEGC |

| | | | |
|--------|----------|----------|------------------------|
| DIT-E | 17C0-154 | GPIT-A/B | SRPC-3762-Q1_2009_OP17 |
| DTA-A | 17C0-154 | APS-C | 17C0-154 |
| HLDS | 17C0-154 | LDSC-B | 17C0-154 |
| HNGC-B | 17C0-154 | HNGS-BA | 17C0-154 |
| DTC-H | 17C0-154 | | |

Input DLIS Files

| | | | | | | |
|---------|-----------------------|-------|----------|-------------------|----------|----------|
| DEFAULT | PI_APS_LDL_NGS_103LUP | FN:11 | PRODUCER | 18-Aug-2009 18:36 | 3929.6 M | 3849.6 M |
|---------|-----------------------|-------|----------|-------------------|----------|----------|

Output DLIS Files

| | | | | |
|---------|-----------------------|-------|----------|-------------------|
| DEFAULT | PI_APS_LDL_NGS_117PUP | FN:32 | PRODUCER | 19-Aug-2009 19:29 |
|---------|-----------------------|-------|----------|-------------------|



Calibrations

MAXIS Field Log

Calibration and Check Summary

| Measurement | Nominal | Master | Before | After | Change | Limit | Units |
|------------------------------------------------------------------------------------|---------|--------|--------|-------|---------|-------|-------|
| General Purpose Inclinomometer Wellsite Calibration - CROUZET ACCELEROMETER | | | | | | | |
| Before: 18-Aug-2009 15:47 | | | | | | | |
| TEMPERATURE REFERENCE : | N/A | N/A | 20 | N/A | N/A | N/A | DEGC |
| YEAR OF CALIBRATION : | N/A | N/A | 99 | N/A | N/A | N/A | |
| MONTH OF CALIBRATION : | N/A | N/A | 3 | N/A | N/A | N/A | |
| SERIAL NUMBER : | N/A | N/A | 743 | N/A | N/A | N/A | |
| General Purpose Inclinomometer Wellsite Calibration - CROUZET MAGNETOMETER | | | | | | | |
| Before: 18-Aug-2009 15:47 | | | | | | | |
| TEMPERATURE REFERENCE : | N/A | N/A | 23 | N/A | N/A | N/A | DEGC |
| YEAR OF CALIBRATION : | N/A | N/A | 3 | N/A | N/A | N/A | |
| MONTH OF CALIBRATION : | N/A | N/A | 9 | N/A | N/A | N/A | |
| SERIAL NUMBER : | N/A | N/A | 507 | N/A | N/A | N/A | |
| Accelerator-Porosity Tool Wellsite Calibration - Detector Background | | | | | | | |
| Master: 18-Jun-2009 23:03 Before: 18-Aug-2009 15:52 After: 18-Aug-2009 23:56 | | | | | | | |
| Near Det Bkg Cntrate | 30.00 | 32.09 | 34.30 | 30.88 | -3.418 | N/A | CPS |
| Far Det Bkg Cntrate | 30.00 | 31.69 | 32.14 | 33.72 | 1.576 | N/A | CPS |
| Array-1 Det Bkg Cntrate | 30.00 | 28.61 | 30.63 | 29.67 | -0.9549 | N/A | CPS |
| Array-2 Det Bkg Cntrate | 30.00 | 30.40 | 29.70 | 30.21 | 0.5026 | N/A | CPS |
| Array Therm Det Bkg Cntrate | 30.00 | 32.33 | 30.32 | 30.50 | 0.1716 | N/A | CPS |
| Accelerator-Porosity Tool Wellsite Calibration - Calibration Ratios | | | | | | | |
| Master: 18-Jun-2009 23:03 | | | | | | | |
| Near/Far Calibration Ratio | 0.9250 | 0.8852 | N/A | N/A | N/A | N/A | |
| Near/Array Calibration Ratio | 1.030 | 1.059 | N/A | N/A | N/A | N/A | |
| Near/Array Cal Ratio Up/Down | 1.000 | 1.008 | N/A | N/A | N/A | N/A | |
| Accelerator-Porosity Tool Wellsite Calibration - Tank Check | | | | | | | |
| Master: 18-Jun-2009 23:03 | | | | | | | |
| Array-1 Standoff Porosity | 11.75 | 11.81 | N/A | N/A | N/A | N/A | PU |
| Array-2 Standoff Porosity | 11.75 | 11.56 | N/A | N/A | N/A | N/A | PU |
| Average Slowing Down Time | 6.000 | 5.860 | N/A | N/A | N/A | N/A | US |
| Array-1 SDT Ratio Up/Down | 1.000 | 0.9891 | N/A | N/A | N/A | N/A | |
| Array-2 SDT Ratio Up/Down | 1.000 | 1.006 | N/A | N/A | N/A | N/A | |
| Sigma Formation | 27.50 | 27.25 | N/A | N/A | N/A | N/A | CU |

Accelerator-Porosity Tool Wellsite Calibration - CCR7 signal boxes

| | | | | | | | |
|------------------------------------------------------------------------------------------|-------|--------|--------|--------|-----------|---------|------|
| Master: 18-Jun-2009 23:03 | | | | | | | |
| Near Detector Plateau Setting | 1650 | 1733 | N/A | N/A | N/A | N/A | V |
| Far Detector Plateau Setting | 2000 | 2077 | N/A | N/A | N/A | N/A | V |
| Array Detector Plateau Setting | 2000 | 1966 | N/A | N/A | N/A | N/A | V |
| Hostile Litho-Density Sonde Wellsite Calibration - Background Measurement | | | | | | | |
| Master: 30-Jun-2009 22:48 Before: 18-Aug-2009 15:52 After: 19-Aug-2009 0:46 | | | | | | | |
| SS Cs Resolution Bkg | 9.000 | 7.767 | 7.740 | 7.751 | 0.01079 | 1.800 | % |
| LS Cs Resolution Bkg | 9.000 | 7.963 | 8.160 | 8.120 | -0.03943 | 1.800 | % |
| LSW1 Background | 100.0 | 92.51 | 92.69 | 92.96 | 0.2753 | 3.000 | CPS |
| LSW2 Background | 100.0 | 83.43 | 84.00 | 83.55 | -0.4472 | 3.000 | CPS |
| LSW3 Background | 200.0 | 192.3 | 189.3 | 191.2 | 1.851 | 6.000 | CPS |
| LSW4 Background | 250.0 | 236.2 | 235.1 | 235.0 | -0.07654 | 7.500 | CPS |
| LSW5 Background | 600.0 | 548.3 | 548.4 | 544.7 | -3.680 | 18.00 | CPS |
| SSW1 Background | 100.0 | 90.55 | 90.67 | 89.44 | -1.226 | 3.000 | CPS |
| SSW2 Background | 200.0 | 155.0 | 156.2 | 155.0 | -1.237 | 6.000 | CPS |
| SSW3 Background | 500.0 | 433.9 | 429.5 | 431.9 | 2.377 | 15.00 | CPS |
| SSW4 Background | 270.0 | 232.2 | 231.8 | 231.2 | -0.5577 | 8.100 | CPS |
| SSW5 Background | 200.0 | 167.8 | 165.1 | 165.0 | -0.1062 | 6.000 | CPS |
| Hostile Litho-Density Sonde Wellsite Calibration - Aluminum Measurement | | | | | | | |
| Master: 30-Jun-2009 22:48 | | | | | | | |
| LSW1 Aluminum | 600.0 | 554.7 | N/A | N/A | N/A | N/A | CPS |
| LSW2 Aluminum | 900.0 | 804.9 | N/A | N/A | N/A | N/A | CPS |
| LSW3 Aluminum | 1100 | 966.0 | N/A | N/A | N/A | N/A | CPS |
| LSW4 Aluminum | 580.0 | 485.4 | N/A | N/A | N/A | N/A | CPS |
| LSW5 Aluminum | 570.0 | 446.3 | N/A | N/A | N/A | N/A | CPS |
| SSW1 Aluminum | 2800 | 2501 | N/A | N/A | N/A | N/A | CPS |
| SSW2 Aluminum | 8000 | 6891 | N/A | N/A | N/A | N/A | CPS |
| SSW3 Aluminum | 11600 | 9659 | N/A | N/A | N/A | N/A | CPS |
| SSW4 Aluminum | 5000 | 3955 | N/A | N/A | N/A | N/A | CPS |
| SSW5 Aluminum | 660.0 | 474.6 | N/A | N/A | N/A | N/A | CPS |
| Hostile Litho-Density Sonde Wellsite Calibration - Lithology Measurement | | | | | | | |
| Master: 30-Jun-2009 22:48 | | | | | | | |
| LSW1 Iron | 400.0 | 378.8 | N/A | N/A | N/A | N/A | CPS |
| LSW2 Iron | 730.0 | 651.5 | N/A | N/A | N/A | N/A | CPS |
| LSW3 Iron | 1000 | 856.2 | N/A | N/A | N/A | N/A | CPS |
| LSW4 Iron | 520.0 | 445.8 | N/A | N/A | N/A | N/A | CPS |
| LSW5 Iron | 470.0 | 411.6 | N/A | N/A | N/A | N/A | CPS |
| SSW1 Iron | 2100 | 1825 | N/A | N/A | N/A | N/A | CPS |
| SSW2 Iron | 6800 | 5726 | N/A | N/A | N/A | N/A | CPS |
| SSW3 Iron | 10800 | 8806 | N/A | N/A | N/A | N/A | CPS |
| SSW4 Iron | 4600 | 3618 | N/A | N/A | N/A | N/A | CPS |
| SSW5 Iron | 580.0 | 422.6 | N/A | N/A | N/A | N/A | CPS |
| Hostile Litho-Density Sonde Wellsite Calibration - Caliper Calibration | | | | | | | |
| Before: 16-Jul-2009 10:33 | | | | | | | |
| HLDS Caliper Small Ring | 12.00 | N/A | 13.30 | N/A | N/A | N/A | IN |
| HLDS Caliper Large Ring | 15.19 | N/A | 16.70 | N/A | N/A | N/A | IN |
| Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check | | | | | | | |
| Master: 19-Jun-2009 22:52 Before: 18-Aug-2009 15:53 After: 19-Aug-2009 0:47 | | | | | | | |
| Na 511 Peak Loc | 40.00 | 39.80 | 39.67 | 39.61 | -0.05349 | 1.000 | |
| Na 511 Peak Res | 15.50 | 15.76 | 14.85 | 14.86 | 0.008362 | 2.000 | % |
| High Voltage | 1150 | 1181 | 1142 | 1147 | 5.267 | N/A | V |
| Na 1785 Peak Loc | 142.6 | 142.6 | 143.1 | 142.5 | -0.5837 | 7.000 | |
| Na 1785 Peak Res | 8.500 | 8.553 | 8.147 | 7.976 | -0.1707 | 2.000 | % |
| Temperature | 15.50 | 32.22 | 13.66 | 14.42 | 0.7543 | N/A | DEGC |
| Na Count Rate | 45.00 | 37.08 | 36.31 | 36.45 | 0.1412 | 8.000 | CPS |
| Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check | | | | | | | |
| Master: 19-Jun-2009 22:52 Before: 18-Aug-2009 15:53 After: 19-Aug-2009 0:47 | | | | | | | |
| Na 511 Peak Loc | 40.00 | 39.62 | 39.54 | 39.64 | 0.09639 | 1.000 | |
| Na 511 Peak Res | 15.50 | 16.69 | 15.84 | 14.61 | -1.232 | 2.000 | % |
| High Voltage | 1150 | 1114 | 1079 | 1081 | 2.457 | N/A | V |
| Na 1785 Peak Loc | 142.6 | 142.4 | 142.4 | 142.0 | -0.3956 | 7.000 | |
| Na 1785 Peak Res | 8.500 | 8.478 | 8.222 | 8.881 | 0.6593 | 2.000 | % |
| Temperature | 15.50 | 32.71 | 13.80 | 16.14 | 2.338 | N/A | DEGC |
| Na Count Rate | 45.00 | 38.14 | 36.40 | 36.73 | 0.3349 | 8.000 | CPS |
| Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2 | | | | | | | |
| Master: 19-Jun-2009 22:52 Before: 18-Aug-2009 15:53 After: 19-Aug-2009 0:47 | | | | | | | |
| Coincidence Count Rate Ratio | 1.000 | 0.9751 | 0.9972 | 0.9917 | -0.005419 | 0.05000 | |

Accelerator-Porosity Tool - Detector Plateau Settings :

Near Detector Plateau Setting 1733 V
Far Detector Plateau Setting 2077 V
Array Detector Plateau Setting 1966 V

Dual Induction - E / Equipment Identification

Primary Equipment:
Dual Induction Sonde
Dual Induction Cartridge

DIS - HB 129
DIC - EB 171

Auxiliary Equipment:
Mass Isolated Housing

MIH - ZA 342

| Dual Induction - E Wellsite Calibration | | | | | | | | | | | | |
|-----------------------------------------|-----------------------------|----------------|--------------------|--------|---------------------------|--------------------|--------------------|---------------------------|---------------------|----------------|--------------------|--|
| Induction Electronics (10 kHz) | | | | | | | | | | | | |
| Phase | ID Elect Real Offset 10 kHz | MM/M | Value | Phase | ID Elect Real Gain 10 kHz | Value | Phase | ID Elect Phase 10 kHz DEG | Value | | | |
| Before | | | 30.01 | Before | | 0.9407 | Before | | 8.951 | | | |
| | -300.0 (Minimum) | 0 (Nominal) | 300.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | -10.00 (Minimum) | 0 (Nominal) | 10.00 (Maximum) | |
| Phase | ID Elect Quad Offset 10 kHz | MM/M | Value | Phase | ID Elect Quad Gain 10 kHz | Value | Phase | IM Elect Phase 10 kHz DEG | Value | | | |
| Before | | | 25.69 | Before | | 0.9559 | Before | | 8.760 | | | |
| | -300.0 (Minimum) | 0 (Nominal) | 300.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | -10.00 (Minimum) | 0 (Nominal) | 10.00 (Maximum) | |
| Phase | IM Elect Real Offset 10 kHz | MM/M | Value | Phase | IM Elect Real Gain 10 kHz | Value | | | | | | |
| Before | | | 83.37 | Before | | 0.9490 | | | | | | |
| | -550.0 (Minimum) | 0 (Nominal) | 550.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | | | | |
| Phase | IM Elect Quad Offset 10 kHz | MM/M | Value | Phase | IM Elect Quad Gain 10 kHz | Value | | | | | | |
| Before | | | 44.00 | Before | | 0.9300 | | | | | | |
| | -550.0 (Minimum) | 0 (Nominal) | 550.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | | | | |

Before: 18-Aug-2009 18:33

| Dual Induction - E Wellsite Calibration | | | | | | | | | | | | |
|-----------------------------------------|-----------------------------|----------------|--------------------|--------|---------------------------|--------------------|--------------------|---------------------------|---------------------|----------------|--------------------|--|
| Induction Electronics (20 kHz) | | | | | | | | | | | | |
| Phase | ID Elect Real Offset 20 kHz | MM/M | Value | Phase | ID Elect Real Gain 20 kHz | Value | Phase | ID Elect Phase 20 kHz DEG | Value | | | |
| Before | | | 11.87 | Before | | 0.9677 | Before | | 3.950 | | | |
| | -125.0 (Minimum) | 0 (Nominal) | 125.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | -15.00 (Minimum) | 0 (Nominal) | 15.00 (Maximum) | |
| Phase | ID Elect Quad Offset 20 kHz | MM/M | Value | Phase | ID Elect Quad Gain 20 kHz | Value | Phase | IM Elect Phase 20 kHz DEG | Value | | | |
| Before | | | 10.39 | Before | | 0.9858 | Before | | 4.346 | | | |
| | -125.0 (Minimum) | 0 (Nominal) | 125.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | -15.00 (Minimum) | 0 (Nominal) | 15.00 (Maximum) | |
| Phase | IM Elect Real Offset 20 kHz | MM/M | Value | Phase | IM Elect Real Gain 20 kHz | Value | | | | | | |
| Before | | | 34.21 | Before | | 0.9922 | | | | | | |
| | -225.0 (Minimum) | 0 (Nominal) | 225.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | | | | |
| Phase | IM Elect Quad Offset 20 kHz | MM/M | Value | Phase | IM Elect Quad Gain 20 kHz | Value | | | | | | |
| Before | | | 18.15 | Before | | 0.9723 | | | | | | |
| | -225.0 (Minimum) | 0 (Nominal) | 225.0 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | | | | |

Before: 18-Aug-2009 18:34

| Dual Induction - E Wellsite Calibration | | | | | | | | | | | |
|-----------------------------------------|-----------------------------|----------------|--------------------|--------|---------------------------|--------------------|--------------------|---------------------------|---------------------|----------------|--------------------|
| Induction Electronics (40 kHz) | | | | | | | | | | | |
| Phase | ID Elect Real Offset 40 kHz | MM/M | Value | Phase | ID Elect Real Gain 40 kHz | Value | Phase | ID Elect Phase 40 kHz DEG | Value | | |
| Before | | | 7.721 | Before | | 0.9480 | Before | | 14.31 | | |
| | -85.00 (Minimum) | 0 (Nominal) | 85.00 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | -20.00 (Minimum) | 0 (Nominal) | 20.00 (Maximum) |
| Phase | ID Elect Quad Offset 40 kHz | MM/M | Value | Phase | ID Elect Quad Gain 40 kHz | Value | Phase | IM Elect Phase 40 kHz DEG | Value | | |
| Before | | | 6.916 | Before | | 0.9747 | Before | | 14.11 | | |
| | -85.00 (Minimum) | 0 (Nominal) | 85.00 (Maximum) | | 0.8500 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | -20.00 (Minimum) | 0 (Nominal) | 20.00 (Maximum) |
| Phase | IM Elect Real Offset 40 kHz | MM/M | Value | Phase | IM Elect Real Gain 40 kHz | Value | | | | | |
| Before | | | 21.96 | Before | | 0.9898 | | | | | |

| Phase | IM Elect Quad Offset 40 kHz MM/M | Value | Phase | IM Elect Quad Gain 40 kHz | Value |
|--------|----------------------------------------------|-------|--------|--------------------------------------------------|--------|
| Before | | 11.70 | Before | | 0.9696 |
| | -130.0 (Minimum) 0 (Nominal) 130.0 (Maximum) | | | 0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum) | |

Before: 18-Aug-2009 18:35

| Dual Induction - E Wellsite Calibration | | | | | |
|-----------------------------------------|------------------------------------------------|---------|--------|--------------------------------------------------|--------|
| SFL Electronics | | | | | |
| Phase | SFL Voltage Offset MV | Value | Phase | SFL Voltage Gain | Value |
| Before | | 0.1356 | Before | | 0.9954 |
| | -15.00 (Minimum) 0 (Nominal) 15.00 (Maximum) | | | 0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum) | |
| Phase | SFL Current Offset MA | Value | Phase | SFL Current Gain | Value |
| Before | | 0.03358 | Before | | 1.006 |
| | -0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum) | | | 0.8500 (Minimum) 1.000 (Nominal) 1.200 (Maximum) | |

Before: 18-Aug-2009 18:35

| Dual Induction - E Wellsite Calibration | | | | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------|-------|-----------------------------------------|-----------|-------|-------------------------------------------|-----------|--|
| Electronics Calibration Changes Files/Depth Intervals: 100: 2923.8 - 2993.3 101: 3115.8 - 3899.2 103: 3929.6 - 3847.8 104: 3929.6 - 3181. | | | | | | | | | |
| Phase | ID (R > 27 OHM-M) MM/M | Value | Phase | ID (R < 27 OHM-M) % | Value | Phase | SFL (R < 1 OHM-M) OHMM | Value | |
| After | | 0.2095 | After | | 0.0002155 | After | | 0.0006504 | |
| | 0 (Minimum) 0 (Nominal) 0.7500 (Maximum) | | | 0 (Minimum) 0 (Nominal) 2.000 (Maximum) | | | 0 (Minimum) 0 (Nominal) 0.02000 (Maximum) | | |
| Phase | IM (R > 27 OHM-M) MM/M | Value | Phase | IM (R < 27 OHM-M) % | Value | | | | |
| After | | 0.2311 | After | | 0.0002152 | | | | |
| | 0 (Minimum) 0 (Nominal) 0.7500 (Maximum) | | | 0 (Minimum) 0 (Nominal) 2.000 (Maximum) | | | | | |
| Phase | SFL (R > 27 OHM-M) MM/M | Value | Phase | SFL (R < 27 OHM-M) % | Value | | | | |
| After | | 0 | After | | 0.01652 | | | | |
| | 0 (Minimum) 0 (Nominal) 0.7500 (Maximum) | | | 0 (Minimum) 0 (Nominal) 2.000 (Maximum) | | | | | |

After: 18-Aug-2009 21:53

General Purpose Inclinometer / Equipment Identification

| | | | |
|----------------------|----------|------|--|
| Primary Equipment: | | | |
| GPIT Cartridge - A | GPIC - A | 719 | |
| Auxiliary Equipment: | | | |
| GPIT Housing | GPIH - A | 2864 | |

Accelerator-Porosity Tool / Equipment Identification

| | | | |
|--------------------------------|-----------|------|--|
| Primary Equipment: | | | |
| Accelerator-Porosity Sonde | APS - C | 22 | |
| APS Minitron | MNTR - F | 5589 | |
| Auxiliary Equipment: | | | |
| Accelerator-Porosity Housing | APH - AC | 22 | |
| APS Calibration Water Tank | SFT - 178 | 2 | |
| APS Aluminum Calibrator Sleeve | SFT - 281 | 2 | |

| Accelerator-Porosity Tool Wellsite Calibration | | | | | | | | | |
|------------------------------------------------|-------------------------------------------------|-------|--------|-------------------------------------------------|-------|--------|-------------------------------------------------|-------|--|
| Detector Background | | | | | | | | | |
| Phase | Near Det Bkg Cntrate CPS | Value | Phase | Far Det Bkg Cntrate CPS | Value | Phase | Array-1 Det Bkg Cntrate CPS | Value | |
| Master | | 32.09 | Master | | 31.69 | Master | | 28.61 | |
| Before | | 34.30 | Before | | 32.14 | Before | | 30.63 | |
| After | | 30.88 | After | | 33.72 | After | | 29.67 | |
| | 1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum) | | | 1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum) | | | 1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum) | | |

| Phase | Array-2 Det Bkg Cntrate CPS | Value | Phase | Array Therm Det Bkg Cntrate CPS | Value |
|-------------------------------------------------|-----------------------------|-------|-------------------------------------------------|---------------------------------|-------|
| Master | | 30.40 | Master | | 32.33 |
| Before | | 29.70 | Before | | 30.32 |
| After | | 30.21 | After | | 30.50 |
| 1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum) | | | 1.000 (Minimum) 30.00 (Nominal) 50.00 (Maximum) | | |

Master: 18-Jun-2009 23:03 Before: 18-Aug-2009 15:52 After: 18-Aug-2009 23:56

| Accelerator-Porosity Tool Wellsite Calibration | | | | | | | | |
|---------------------------------------------------|----------------------------|--------|--------------------------------------------------|------------------------------|-------|--------------------------------------------------|------------------------------|-------|
| Calibration Ratios | | | | | | | | |
| Phase | Near/Far Calibration Ratio | Value | Phase | Near/Array Calibration Ratio | Value | Phase | Near/Array Cal Ratio Up/Down | Value |
| Master | | 0.8852 | Master | | 1.059 | Master | | 1.008 |
| 0.8000 (Minimum) 0.9250 (Nominal) 1.050 (Maximum) | | | 0.9000 (Minimum) 1.030 (Nominal) 1.170 (Maximum) | | | 0.9700 (Minimum) 1.000 (Nominal) 1.030 (Maximum) | | |

Master: 18-Jun-2009 23:03

| Accelerator-Porosity Tool Wellsite Calibration | | | | | | | | | |
|--------------------------------------------------|------------------------------|--------|--------------------------------------------------|------------------------------|-------|-------------------------------------------------|------------------------------|-------|--|
| Tank Check | | | | | | | | | |
| Phase | Array-1 Standoff Porosity PU | Value | Phase | Array-2 Standoff Porosity PU | Value | Phase | Average Slowing Down Time US | Value | |
| Master | | 11.81 | Master | | 11.56 | Master | | 5.860 | |
| 9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum) | | | 9.900 (Minimum) 11.75 (Nominal) 13.60 (Maximum) | | | 5.500 (Minimum) 6.000 (Nominal) 6.250 (Maximum) | | | |
| Phase | Array-1 SDT Ratio Up/Down | Value | Phase | Array-2 SDT Ratio Up/Down | Value | Phase | Sigma Formation CU | Value | |
| Master | | 0.9891 | Master | | 1.006 | Master | | 27.25 | |
| 0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum) | | | 0.9500 (Minimum) 1.000 (Nominal) 1.050 (Maximum) | | | 20.00 (Minimum) 27.50 (Nominal) 35.00 (Maximum) | | | |

Master: 18-Jun-2009 23:03

| Hostile Litho-Density Sonde / Equipment Identification | | | |
|--------------------------------------------------------|----------|------|--|
| Primary Equipment: | | | |
| Hostile Litho Density Sonde | HLDS - D | 57 | |
| Hostile Litho Density High Voltage | HLDV - D | 51 | |
| Gamma Source Radioactive | GSR - Z | 2397 | |
| Auxiliary Equipment: | | | |
| Hostile Litho Density Pad | HLDP - C | 61 | |
| Hostile Litho Density High Voltage Housi | HEH - H | 53 | |

| Hostile Litho-Density Sonde Wellsite Calibration | | | | | | | | | |
|--------------------------------------------------|------------------------|-------|--------------------------------------------------|------------------------|-------|-------------------------------------------------|---------------------|-------|--|
| Background Measurement | | | | | | | | | |
| Phase | SS Cs Resolution Bkg % | Value | Phase | LS Cs Resolution Bkg % | Value | Phase | LSW1 Background CPS | Value | |
| Master | | 7.767 | Master | | 7.963 | Master | | 92.51 | |
| Before | | 7.740 | Before | | 8.160 | Before | | 92.69 | |
| After | | 7.751 | After | | 8.120 | After | | 92.96 | |
| 7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum) | | | 7.000 (Minimum) 9.000 (Nominal) 11.000 (Maximum) | | | 55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum) | | | |
| Phase | LSW2 Background CPS | Value | Phase | LSW3 Background CPS | Value | Phase | LSW4 Background CPS | Value | |
| Master | | 83.43 | Master | | 192.3 | Master | | 236.2 | |
| Before | | 84.00 | Before | | 189.3 | Before | | 235.1 | |
| After | | 83.55 | After | | 191.2 | After | | 235.0 | |
| 50.00 (Minimum) 100.0 (Nominal) 140.0 (Maximum) | | | 110.0 (Minimum) 200.0 (Nominal) 290.0 (Maximum) | | | 140.0 (Minimum) 250.0 (Nominal) 360.0 (Maximum) | | | |
| Phase | LSW5 Background CPS | Value | Phase | SSW1 Background CPS | Value | Phase | SSW2 Background CPS | Value | |
| Master | | 548.3 | Master | | 90.55 | Master | | 155.0 | |
| Before | | 548.4 | Before | | 90.67 | Before | | 156.2 | |
| After | | 544.7 | After | | 89.44 | After | | 155.0 | |
| 330.0 (Minimum) 600.0 (Nominal) 830.0 (Maximum) | | | 55.00 (Minimum) 100.0 (Nominal) 150.0 (Maximum) | | | 100.0 (Minimum) 200.0 (Nominal) 260.0 (Maximum) | | | |
| Phase | SSW3 Background CPS | Value | Phase | SSW4 Background CPS | Value | Phase | SSW5 Background CPS | Value | |
| Master | | 433.9 | Master | | 232.2 | Master | | 167.8 | |

| | | | | | | | | |
|-------------------------------------------------|--|-------|-------------------------------------------------|--|-------|-------------------------------------------------|--|-------|
| Before | | 429.5 | Before | | 231.8 | Before | | 165.1 |
| After | | 431.9 | After | | 231.2 | After | | 165.0 |
| 280.0 (Minimum) 500.0 (Nominal) 700.0 (Maximum) | | | 150.0 (Minimum) 270.0 (Nominal) 380.0 (Maximum) | | | 110.0 (Minimum) 200.0 (Nominal) 270.0 (Maximum) | | |
| Master: 30-Jun-2009 22:48 | | | Before: 18-Aug-2009 15:52 | | | After: 19-Aug-2009 0:46 | | |

| Litho-Density Spectroscopy Cartridge - B / Equipment Identification | | |
|---------------------------------------------------------------------|----------------|--------------|
| Primary Equipment: | LDSC Cartridge | LDSC - B 326 |
| Auxiliary Equipment: | LDSC Housing | LDSH - A 319 |

| Hostile Natural Gamma Ray Cartridge - B / Equipment Identification | | |
|--------------------------------------------------------------------|----------------|--------------|
| Primary Equipment: | HNGC Cartridge | HNGC - B 300 |
| Auxiliary Equipment: | HNGC Housing | HNGH - A 115 |

| Hostile Natural Gamma Ray Sonde / Equipment Identification | | |
|------------------------------------------------------------|--------------------------|----------------|
| Primary Equipment: | HNGS Sonde | HNGS - BA 194 |
| Auxiliary Equipment: | HNGS Sonde Housing | HNSH - BA 205 |
| | Gamma Source Radioactive | GSR - U 616008 |

| Hostile Natural Gamma Ray Sonde Wellsite Calibration | | | | | | | | |
|------------------------------------------------------|-------------------|-------|-------------------------------------------------|--------------------|-------|--------------------------------------------------|------------------|-------|
| Detector 1 Check | | | | | | | | |
| Phase | Na 511 Peak Loc | Value | Phase | Na 511 Peak Res % | Value | Phase | High Voltage V | Value |
| Master | | 39.80 | Master | | 15.76 | Master | | 1181 |
| Before | | 39.67 | Before | | 14.85 | Before | | 1142 |
| After | | 39.61 | After | | 14.86 | After | | 1147 |
| 37.50 (Minimum) 40.00 (Nominal) 43.50 (Maximum) | | | 12.00 (Minimum) 15.50 (Nominal) 19.00 (Maximum) | | | 900.0 (Minimum) 1150 (Nominal) 1600 (Maximum) | | |
| Phase | Na 1785 Peak Loc | Value | Phase | Na 1785 Peak Res % | Value | Phase | Temperature DEGC | Value |
| Master | | 142.6 | Master | | 8.553 | Master | | 32.22 |
| Before | | 143.1 | Before | | 8.147 | Before | | 13.66 |
| After | | 142.5 | After | | 7.976 | After | | 14.42 |
| 135.0 (Minimum) 142.6 (Nominal) 150.3 (Maximum) | | | 7.000 (Minimum) 8.500 (Nominal) 11.00 (Maximum) | | | -28.89 (Minimum) 15.50 (Nominal) 60.00 (Maximum) | | |
| Phase | Na Count Rate CPS | Value | | | | | | |
| Master | | 37.08 | | | | | | |
| Before | | 36.31 | | | | | | |
| After | | 36.45 | | | | | | |
| 10.00 (Minimum) 45.00 (Nominal) 100.0 (Maximum) | | | | | | | | |
| Master: 19-Jun-2009 22:52 | | | Before: 18-Aug-2009 15:53 | | | After: 19-Aug-2009 0:47 | | |

| Hostile Natural Gamma Ray Sonde Wellsite Calibration | | | | | | | | |
|------------------------------------------------------|-----------------|-------|--------|-------------------|-------|--------|----------------|-------|
| Detector 2 Check | | | | | | | | |
| Phase | Na 511 Peak Loc | Value | Phase | Na 511 Peak Res % | Value | Phase | High Voltage V | Value |
| Master | | 39.62 | Master | | 16.69 | Master | | 1114 |
| Before | | 39.54 | Before | | 15.84 | Before | | 1079 |

| | | | | | | | | | | | |
|---------------------------|--------------------|--------------------|---------------------------|--------|--------------------|-------------------------|--------------------|--------|---------------------|--------------------|--------------------|
| After | | 39.64 | After | | 14.61 | After | | 1081 | | | |
| | 37.50 (Minimum) | 40.00 (Nominal) | 43.50 (Maximum) | | 12.00 (Minimum) | 15.50 (Nominal) | 19.00 (Maximum) | | | | |
| Phase | Na 1785 Peak Loc | | Value | Phase | Na 1785 Peak Res % | | Value | Phase | Temperature DEGC | | Value |
| Master | | | 142.4 | Master | | | 8.478 | Master | | | 32.71 |
| Before | | | 142.4 | Before | | | 8.222 | Before | | | 13.80 |
| After | | | 142.0 | After | | | 8.881 | After | | | 16.14 |
| | 135.0 (Minimum) | 142.6 (Nominal) | 150.3 (Maximum) | | 7.000 (Minimum) | 8.500 (Nominal) | 11.00 (Maximum) | | -28.89 (Minimum) | 15.50 (Nominal) | 60.00 (Maximum) |
| Phase | Na Count Rate CPS | | Value | | | | | | | | |
| Master | | | 38.14 | | | | | | | | |
| Before | | | 36.40 | | | | | | | | |
| After | | | 36.73 | | | | | | | | |
| | 10.00 (Minimum) | 45.00 (Nominal) | 100.0 (Maximum) | | | | | | | | |
| Master: 19-Jun-2009 22:52 | | | Before: 18-Aug-2009 15:53 | | | After: 19-Aug-2009 0:47 | | | | | |

| Hostile Natural Gamma Ray Sonde Wellsite Calibration | | |
|------------------------------------------------------|------------------------------|--------------------|
| Ratio Of Detector 1 To Detector 2 | | |
| Phase | Coincidence Count Rate Ratio | Value |
| Master | | 0.9751 |
| Before | | 0.9972 |
| After | | 0.9917 |
| | 0.9500 (Minimum) | 1.000 (Nominal) |
| | | 1.050 (Maximum) |
| Master: 19-Jun-2009 22:52 | | |
| Before: 18-Aug-2009 15:53 | | |
| After: 19-Aug-2009 0:47 | | |

DTS Telemetry Tool / Equipment Identification

| | | |
|----------------------------------|----------|------|
| Primary Equipment: | | |
| DTC-H Auxiliary Cartridge | DTCH - A | |
| DTC-H Telemetry Cartridge | DTCH - A | 8798 |
| Auxiliary Equipment: | | |
| DTCH Telemetry Cartridge Housing | ECH - KC | 2304 |

Company: Lamont Doherty
Well: Expedition 323 Site U1344A
Field: Bering Sea
Rig: JOIDES Resolution
Country: USA



Phasor Induction (DIT)
Natural Gamma Spectroscopy