

Company: Noble Energy Inc

Well: Rohn State LD10 63 1HN

Field: Wattenberg

County: Weld State: Colorado

|                                       |            |                           |            |
|---------------------------------------|------------|---------------------------|------------|
| Platform Express                      |            |                           |            |
| Array Induction                       |            |                           |            |
| with Linear Correlation               |            |                           |            |
| Location:                             |            | SHL: 848' FSL & 330' FEL  |            |
| Section 9, Township 9N, Range 58W     |            | Elev.: K.B. 4743.00 ft    |            |
| Lat: 40.760910, Long: -103.861070     |            | G.L. 4719.00 ft           |            |
| Permanent Datum:                      |            | Elev.: 4719.00 f          |            |
| Log Measured From: Kelly Bushing      |            | 24.00 ft above Perm.Datum |            |
| Drilling Measured From: Kelly Bushing |            |                           |            |
| API Serial No.                        | Section: 9 | Township: 9N              | Range: 58W |
| 05-123-37623-00                       |            |                           |            |

|                             |                          |
|-----------------------------|--------------------------|
| County:                     | Weld                     |
| Field:                      | Wattenberg               |
| Location:                   | SHL: 848' FSL & 330' FEL |
| Well:                       | Rohn State LD10 63 1HN   |
| Company:                    | Noble Energy Inc         |
| Logging Date                | 16-Oct-2014              |
| Run Number                  | Run 1                    |
| Depth Driller               | 4880.00 ft               |
| Schlumberger Depth          | 4884.50 ft               |
| Bottom Log Interval         | 4884.50 ft               |
| Top Log Interval            | 1207.50 ft               |
| Casing Driller Size @ Depth | 9.625 in @ 1210.00 ft    |
| Casing Schlumberger         | 1207.5 ft                |
| Bit Size                    | 8.75 in                  |
| Type Fluid In Hole          | Water                    |
| Density                     | 9.7 lbm/gal              |
| Fluid Loss                  | 6.4 cm3                  |
| PH                          | 8.9                      |
| MUD                         |                          |
| Source of Sample            | Active Tank              |
| RM @ Meas Temp              | 1.35 ohm.m @ 71 degF     |
| RMF @ Meas Temp             | 1.01 ohm.m @ 71 degF     |
| RMC @ Meas Temp             | 1.69 ohm.m @ 71 degF     |
| Source RMF                  | Calculated               |
| RM @ BHT                    | 0.94 @ 105               |
| RMF @ BHT                   | 0.7 @ 105                |
| Max Recorded Temperatures   | 105 degF                 |
| Circulation Stopped         | 16-Oct-2014 06:00:00     |
| Logger on Bottom            | 17-Oct-2014 11:30:51     |
| Unit Number                 | 3022                     |
| Recorded By                 | Max Pace                 |
| Witnessed By                | Toby Sanders             |

Disclaimer

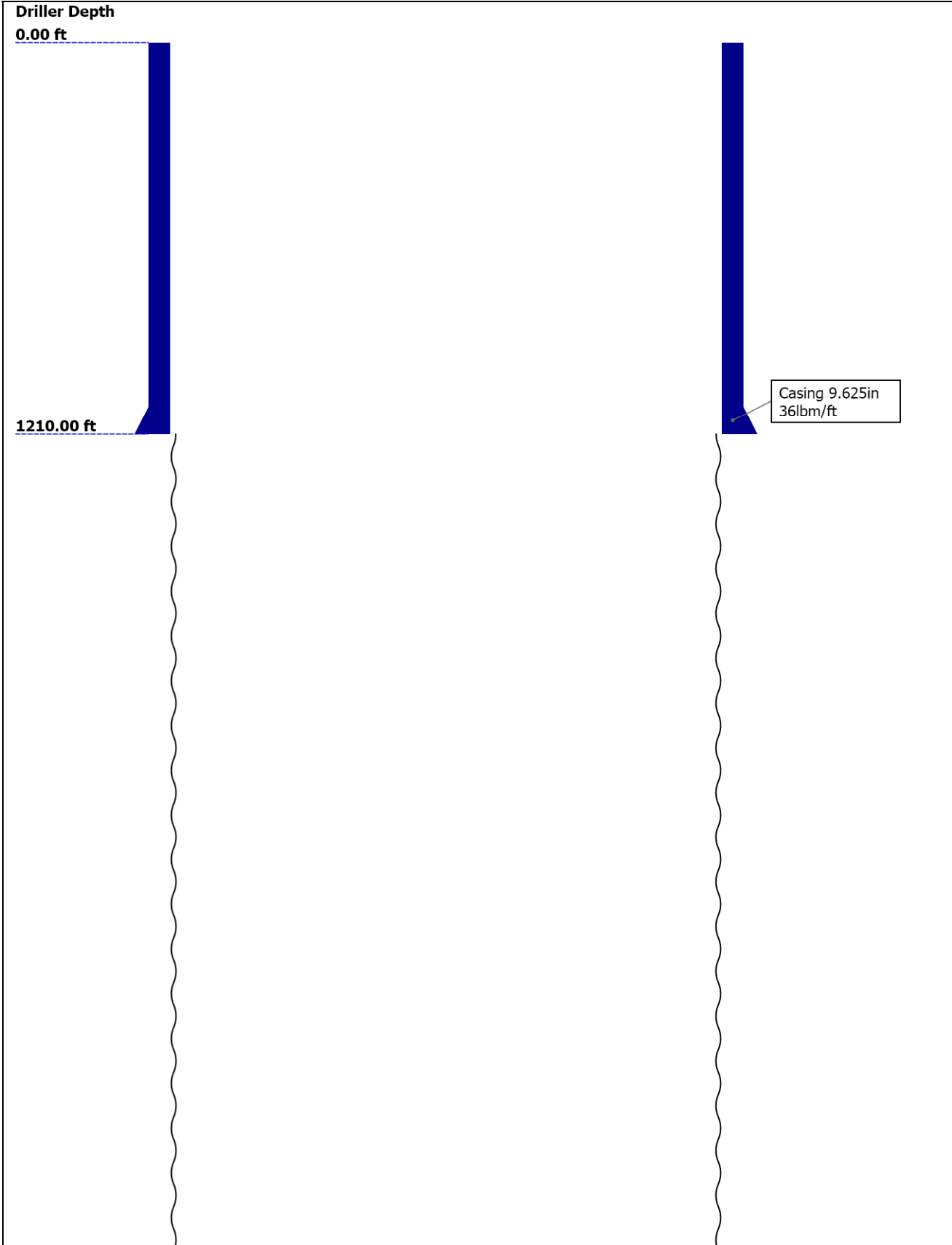
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

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Well Sketch



4880.00 ft

Open Hole 8.75in

## Borehole Size/Casing/Tubing Record

|                       |        |  |  |  |  |  |
|-----------------------|--------|--|--|--|--|--|
| Bit                   |        |  |  |  |  |  |
| Bit Size ( in )       | 8.75   |  |  |  |  |  |
| Top Driller ( ft )    | 1210   |  |  |  |  |  |
| Top Logger ( ft )     | 1210   |  |  |  |  |  |
| Bottom Driller ( ft ) | 4880   |  |  |  |  |  |
| Bottom Logger ( ft )  | 4884.5 |  |  |  |  |  |
| Casing                |        |  |  |  |  |  |
| Size ( in )           | 9.625  |  |  |  |  |  |
| Weight ( lbm/ft )     | 36     |  |  |  |  |  |
| Inner Diameter ( in ) | 8.921  |  |  |  |  |  |
| Grade                 | J55    |  |  |  |  |  |
| Top Driller ( ft )    | 0      |  |  |  |  |  |
| Top Logger ( ft )     | 0      |  |  |  |  |  |
| Bottom Driller ( ft ) | 1210   |  |  |  |  |  |
| Bottom Logger ( ft )  | 1207.5 |  |  |  |  |  |

## Borehole Fluids

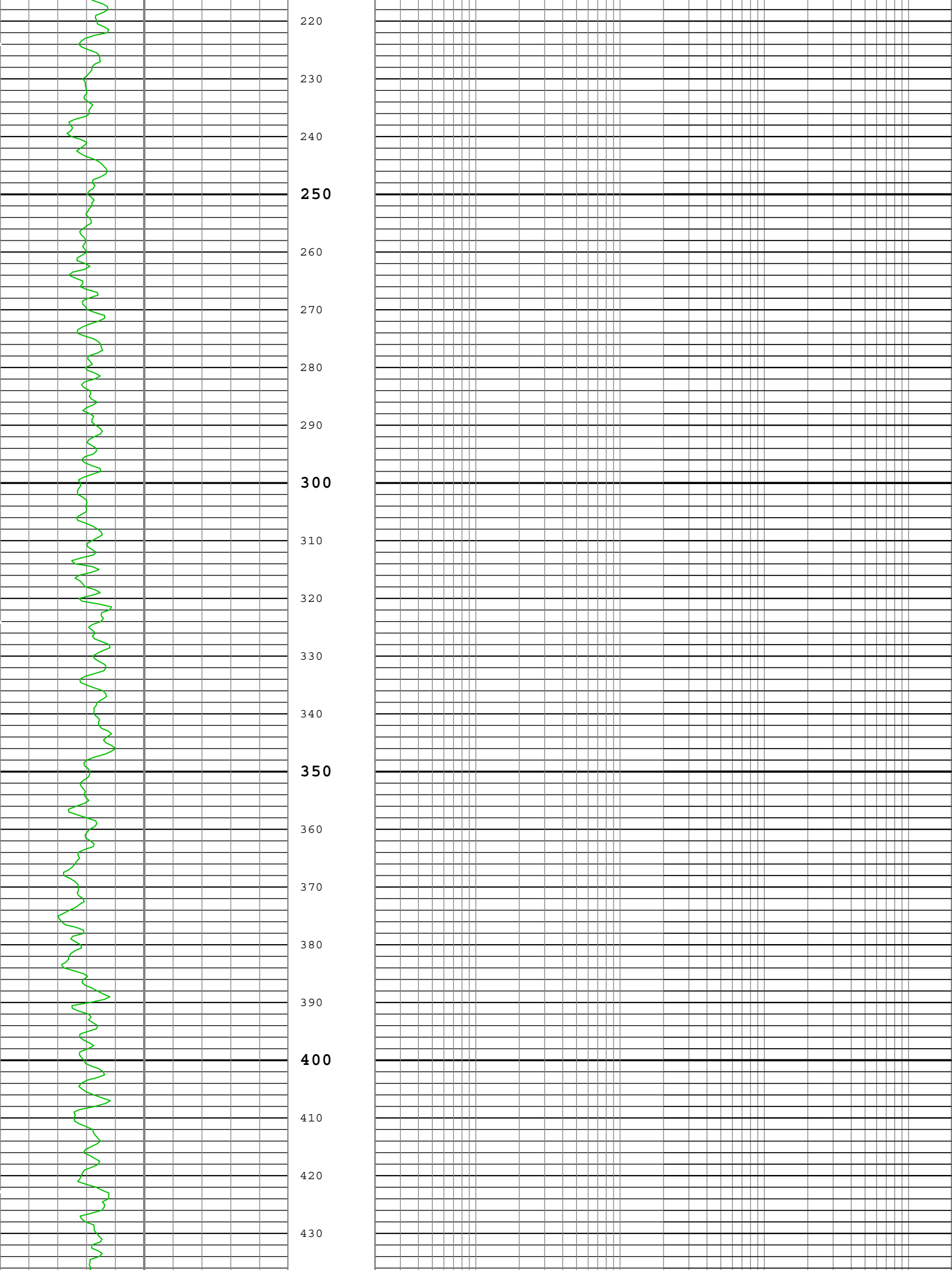
|                                    |                      |  |  |  |  |  |
|------------------------------------|----------------------|--|--|--|--|--|
| Parameter( unit )                  | Run 1                |  |  |  |  |  |
| Fluid Type                         | Water                |  |  |  |  |  |
| Max Recorded Temperatures ( degF ) | 105                  |  |  |  |  |  |
| Source of Sample                   | Active Tank          |  |  |  |  |  |
| Salinity ( ppm )                   | 200                  |  |  |  |  |  |
| Density ( lbm/gal )                | 9.7                  |  |  |  |  |  |
| Funnel Viscosity ( s )             | 45                   |  |  |  |  |  |
| Fluid Loss ( cm3 )                 | 6.4                  |  |  |  |  |  |
| PH                                 | 8.9                  |  |  |  |  |  |
| Date/Time Circulation Stopped      | 16-Oct-2014 06:00:00 |  |  |  |  |  |
| Date Logger on Bottom              | 17-Oct-2014          |  |  |  |  |  |
| Time Logger on Bottom              | 11:30:51             |  |  |  |  |  |
| Source RMF                         | Calculated           |  |  |  |  |  |
| RMC                                | Calculated           |  |  |  |  |  |
| RM @ Meas Temp ( ohm.m@degF )      | 1.35 @ 71            |  |  |  |  |  |
| RMF @ Meas Temp ( ohm.m@degF )     | 1.01 @ 71            |  |  |  |  |  |
| RMC @ Meas Temp ( ohm.m@degF )     | 1.69 @ 71            |  |  |  |  |  |

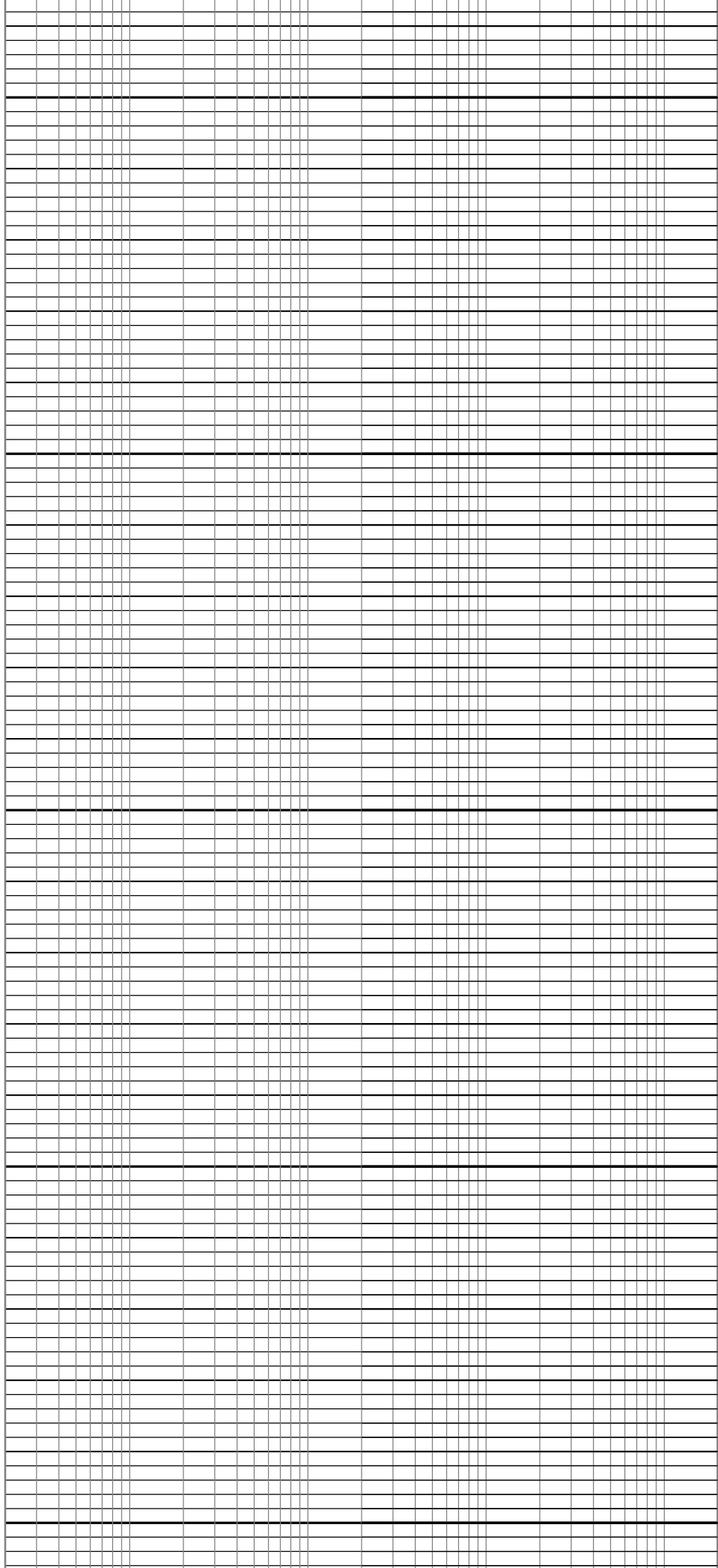
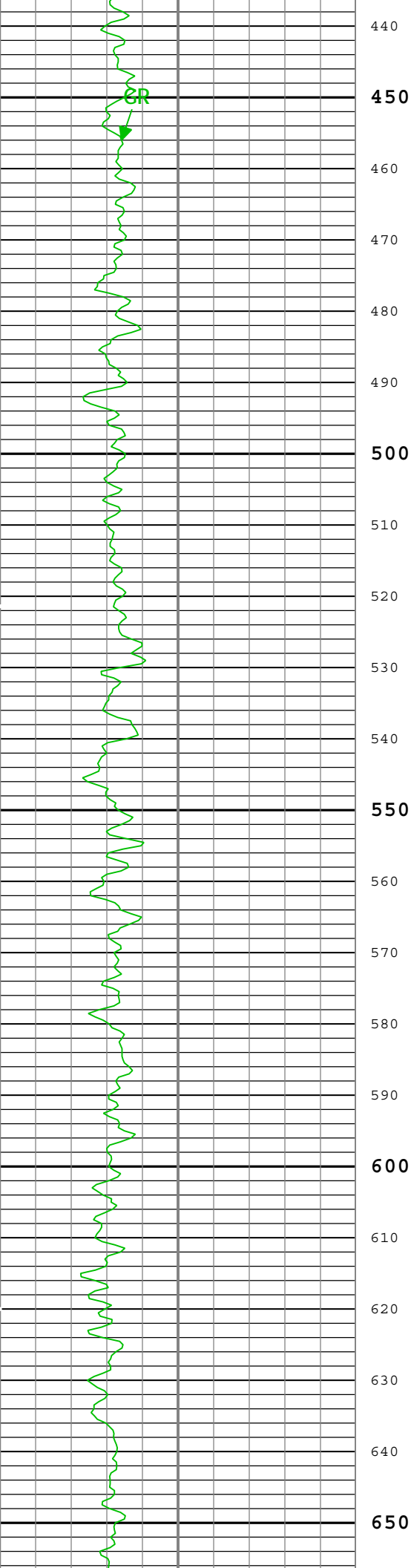
| Remarks and Equipment Summary |  |
|-------------------------------|--|
|                               |  |

| Run 1: Toolstring                           |               |                |               | Run 1: Remarks                                     |
|---|---------------|----------------|---------------|--|
| <b>Equip name</b>                           | <b>Length</b> | <b>MP name</b> | <b>Offset</b> | This is the first run in hole                      |
| LEH-QT<br>LEH-QT                            | 31.93         |                |               | All Schlumberger depth control procedures followed |
|   |               |                |               | IDW used as primary depth reference                |
| <b>EDTC-B</b><br>EDTH-B<br>EDTG-A<br>EDTC-B | 29.02         |                |               | Z Chart used as secondary depth reference          |
|   |               |                |               | Crew: Troy Ocanas, Steve Palisoc                   |
|   |               | CTEM           | 25.52         |  |
|   |               | ACCZ           | 0.00          |  |
|   |               | HV             | 0.00          |  |
|   |               | Gamma Ray      | 23.65         |  |
|   |               | TelStatus      | 22.52         |  |
| <b>PPC-B:8007</b><br>PPC-B:8007             | 22.52         |                |               |  |
|   |               | PPC-B Calipers | 21.37         |  |
|   |               |                |               |  |
| <b>AIT-M:50</b><br>AMIS:50<br>AMRM:50       | 16.00         |                |               |  |
|   |               |                |               |  |
|   |               | Power Supply   | 7.91          |  |
|   |               | Induction      | 7.91          |  |
|   |               | Temperature    | 7.91          |  |
|   |               |                |               |  |
|   |               | SP             | 0.08          |  |
|   |               | Mud Resistivit | 0.00          |  |
|   |               | y              |               |  |
|   |               |                |               |  |

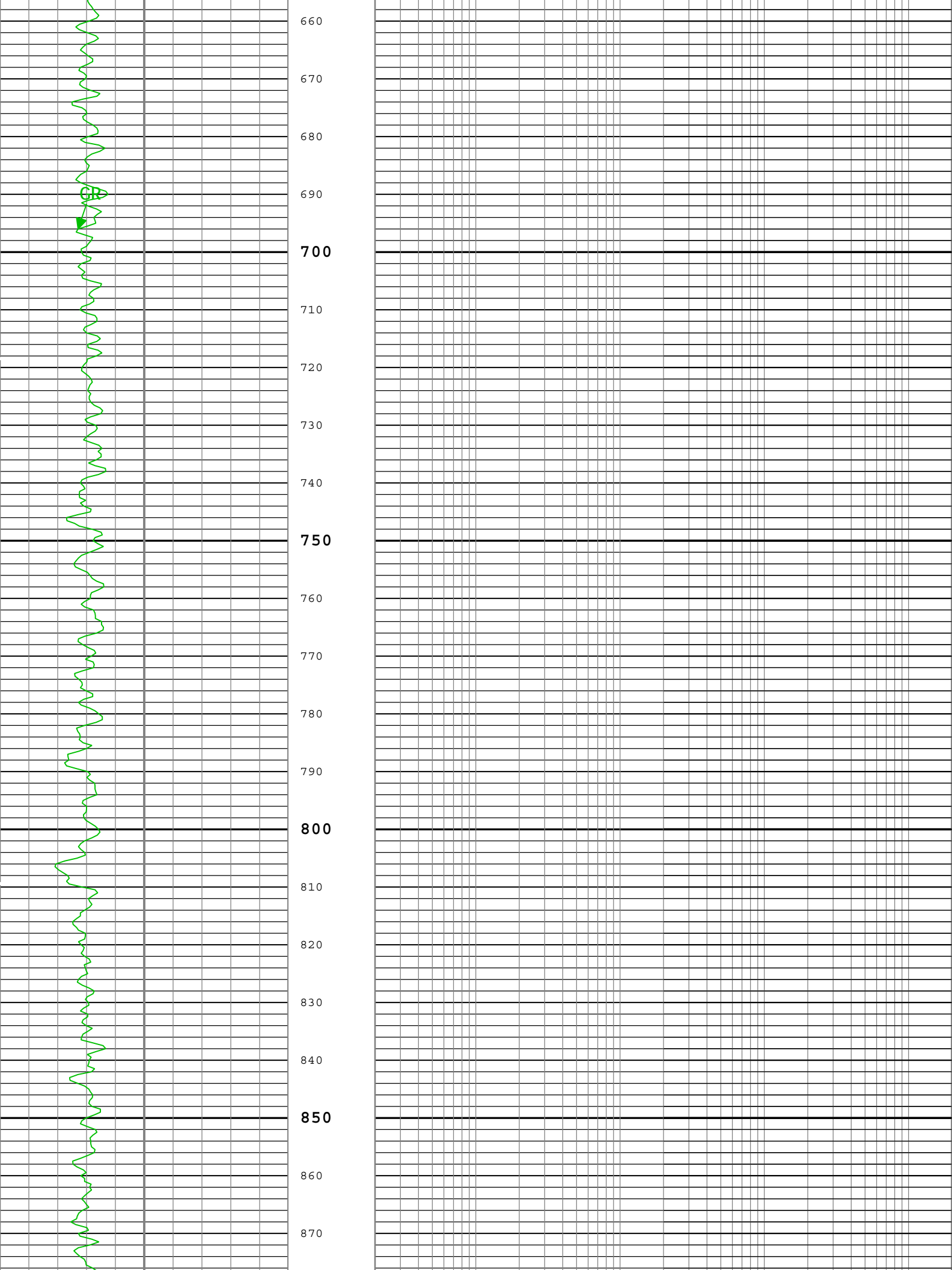
|  |                |  |                       |                   |                                    |              |                  |             |         |  |
|--|----------------|--|-----------------------|-------------------|------------------------------------|--------------|------------------|-------------|---------|--|
| <div><div><div></div><div>Head Tension</div></div><div>TOOL_ZERO</div></div> <div>Lengths are in ft<br/>Maximum Outer Diameter = 5.000 in<br/>Line: Sensor Location, Value: Gating Offset<br/>All measurements are relative to TOOL_ZERO</div> |                |  |                       |                   |                                    |              |                  |             |         |  |
| Depth Summary  |                |  |                       |                   |                                    |              |                  |             |         |  |
|  |                |  | Run 1                 |                   |                                    |              |                  |             |         |  |
| Depth Measuring Device   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Type   |                | IDW-B  |                       |                   |                                    |              |                  |             |         |  |
| Serial Number  |                |  |                       |                   |                                    |              |                  |             |         |  |
| Calibration Date   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Calibrator Serial Number   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Calibration Cable Type   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Wheel Correction 1   |                | 0  |                       |                   |                                    |              |                  |             |         |  |
| Wheel Correction 2   |                | 0  |                       |                   |                                    |              |                  |             |         |  |
| Tension Device   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Type   |                | CMTD-B/A   |                       |                   |                                    |              |                  |             |         |  |
| Serial Number  |                |  |                       |                   |                                    |              |                  |             |         |  |
| Calibration Date   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Calibrator Serial Number   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Number of Calibration Points   |                | 0  |                       |                   |                                    |              |                  |             |         |  |
| Logging Cable  |                |  |                       |                   |                                    |              |                  |             |         |  |
| Type   |                | 7-46NT-XS  |                       |                   |                                    |              |                  |             |         |  |
| Serial Number  |                |  |                       |                   |                                    |              |                  |             |         |  |
| Length   |                | 24000.00 ft  |                       |                   |                                    |              |                  |             |         |  |
| Conveyance Type  |                | Wireline   |                       |                   |                                    |              |                  |             |         |  |
| Rig Type   |                | Land   |                       |                   |                                    |              |                  |             |         |  |
| Run 1:Depth Control Parameters   |                |  |                       |                   | Depth Control Remarks              |              |                  |             |         |  |
| Log Sequence   |                |  | First Log In the Well |                   |                                    |              |                  |             |         |  |
| Rig Up Length At Surface   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Rig Up Length At Bottom  |                |  |                       |                   |                                    |              |                  |             |         |  |
| Rig Up Length Correction   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Stretch Correction   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Tool Zero Check At Surface   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Run 1  |                |  |                       |                   |                                    |              |                  |             |         |  |
|  |                |  |                       |                   |                                    |              |                  |             |         |  |
|  |                |  |                       |                   |                                    |              |                  |             |         |  |
| Integration Summary  |                |  |                       |                   |                                    |              |                  |             |         |  |
| Output Channel(s)  |                | Output Description   |                       | Input Parameter   |                                    | Output Value |                  | Unit        |         |  |
| ICV  |                | Integrated Cement Volume   |                       | GCSE_UP_PASS, FCD |                                    | 538.12       |                  | ft3         |         |  |
| IHV  |                | Integrated Hole Volume   |                       | GCSE_UP_PASS      |                                    | 1523.26      |                  | ft3         |         |  |
| Software Version   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Acquisition System   |                |  |                       |                   | Version                            |              |                  |             |         |  |
| MaxWell  |                |  |                       |                   | 4.0.9163.3000                      |              |                  |             |         |  |
| Application Patch  |                |  |                       |                   | Patch-SP-10767_13393-4.0.9163.3001 |              |                  |             |         |  |
| Computation  |                | Description  |                       |                   |                                    |              | Version          |             |         |  |
| Borehole   |                | Borehole Ensemble provides common Borehole Parameters and Channels |                       |                   |                                    |              | 4.0.9213.3000    |             |         |  |
| Tool Elements  |                | Description  |                       |                   | Software Version                   |              | Firmware Version |             |         |  |
| AMIS   |                | Array Induction Sonde - M  |                       |                   | 4.0.9247.3000                      |              | 1                |             |         |  |
| EDTC-B   |                | Enhanced Digital Telemetry Cartridge - B                           |                       |                   | 4.0.9119.3000                      |              |                  |             |         |  |
| Pass Summary   |                |  |                       |                   |                                    |              |                  |             |         |  |
| Run Name   | Pass Objective | Direction  | Top                   | Bottom            | Start                              | Stop         | DSC Mode         | Depth Shift | Include |  |

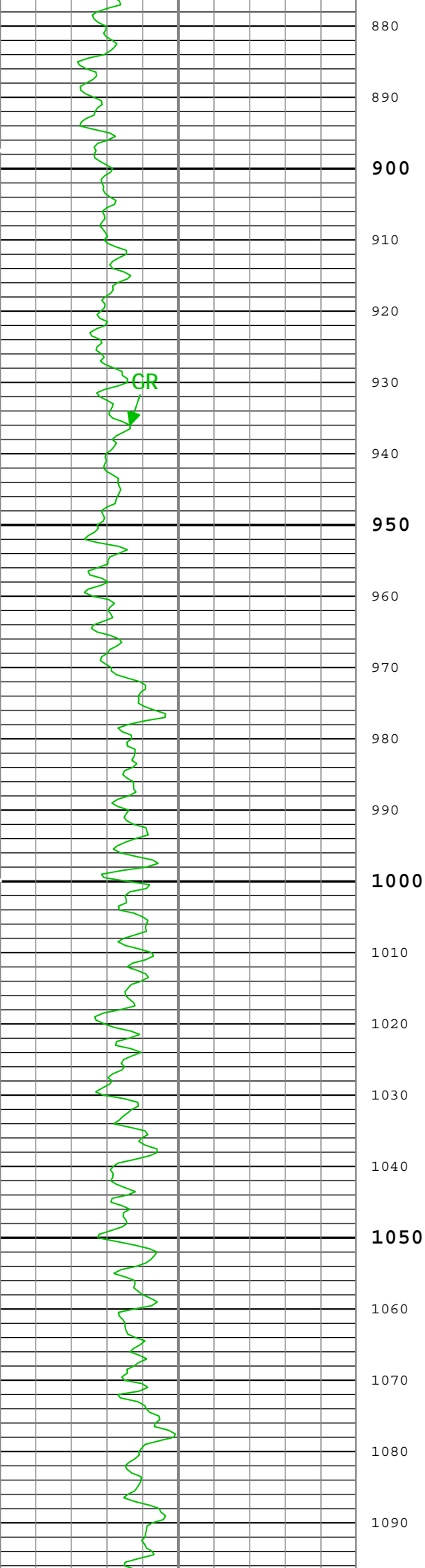
|   |                          |          |   |            |                         |                         |                             |         |     |
|---|--------------------------|----------|---|------------|-------------------------|-------------------------|-----------------------------|---------|-----|
| Run 1   | Main[7]:Up               | Up       | 199.95 ft   | 4897.44 ft | 17-Oct-2014 11:37:18 AM | 17-Oct-2014 12:26:15 PM | ON                          | 0.00 ft | Yes |
| All depths are referenced to toolstring zero  |                          |          |   |            |                         |                         |                             |         |     |
| Log   | Company:Noble Energy Inc |          |   |            |                         |                         | Well:Rohn State LD10 63 1HN |         |     |
|   | Run 1: Main[7]:Up:S008   |          |   |            |                         |                         |                             |         |     |
| Description: AIT Basic Log Two    Format: Log ( Import (2) of KM 5in Induction Upper )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured  |                          |          |   |            |                         |                         |                             |         |     |
| Depth    Creation Date: 17-Oct-2014 12:30:17  |                          |          |   |            |                         |                         |                             |         |     |
| Channel   | Source                   | Sampling |   |            |                         |                         |                             |         |     |
| AT10  | AIT-M:AMIS:AMIS          | 3in      |   |            |                         |                         |                             |         |     |
| AT20  | AIT-M:AMIS:AMIS          | 3in      |   |            |                         |                         |                             |         |     |
| AT30  | AIT-M:AMIS:AMIS          | 3in      |   |            |                         |                         |                             |         |     |
| AT60  | AIT-M:AMIS:AMIS          | 3in      |   |            |                         |                         |                             |         |     |
| AT90  | AIT-M:AMIS:AMIS          | 3in      |   |            |                         |                         |                             |         |     |
| GR  | EDTC-B:EDTC-B:EDTC-B     | 6in      |   |            |                         |                         |                             |         |     |
| ICV   | Borehole                 | 6in      |   |            |                         |                         |                             |         |     |
| IHV   | Borehole                 | 6in      |   |            |                         |                         |                             |         |     |
| INCL  | WLWorkflow               | 6in      |   |            |                         |                         |                             |         |     |
| SP  | AIT-M:AMIS:AMIS          | 6in      |   |            |                         |                         |                             |         |     |
| TENS  | WLWorkflow               | 6in      |   |            |                         |                         |                             |         |     |
| TIME_1900   | WLWorkflow               | 0.1in    |   |            |                         |                         |                             |         |     |
| <div><div><div><div><div></div><div>IHV - Integrated Hole Volume every 10.00 (ft3)</div></div><div><div></div><div>IHV - Integrated Hole Volume every 100.00 (ft3)</div></div><div><div></div><div>ICV - Integrated Cement Volume every 10.00 (ft3)</div></div><div><div></div><div>ICV - Integrated Cement Volume every 100.00 (ft3)</div></div></div><div>TIME_1900 - Time Marked every 60.00 (s)</div></div></div> |                          |          |   |            |                         |                         |                             |         |     |
|   |                          |          | <div><div><div><div><div></div><div>Cable Tension (TENS)</div></div><div><div>10000</div><div>lbf</div><div>0</div></div></div></div></div>   |            |                         |                         |                             |         |     |
|   |                          |          | <div><div><div><div><div>Array Induction Two Foot Resistivity A90 (AT90) AIT-M</div><div>0.2ohm.m2000</div></div><div><div>Array Induction Two Foot Resistivity A10 (AT10) AIT-M</div><div>0.2ohm.m2000</div></div><div><div>Array Induction Two Foot Resistivity A60 (AT60) AIT-M</div><div>0.2ohm.m2000</div></div><div><div>Array Induction Two Foot Resistivity A20 (AT20) AIT-M</div><div>0.2ohm.m2000</div></div><div><div>Array Induction Two Foot Resistivity A30 (AT30) AIT-M</div><div>0.2ohm.m2000</div></div></div></div></div> |            |                         |                         |                             |         |     |
| <div><div><div><div><div>Gamma Ray (GR) EDTC-B</div><div>0gAPI150</div></div><div><div>Spontaneous Potential (SP) AIT-M</div><div>-80mV20</div></div><div><div>Hole inclination (INCL)</div><div>0deg50</div></div></div></div></div>   |                          |          |   |            |                         |                         |                             |         |     |
|   |                          |          |   |            |                         |                         |                             |         |     |
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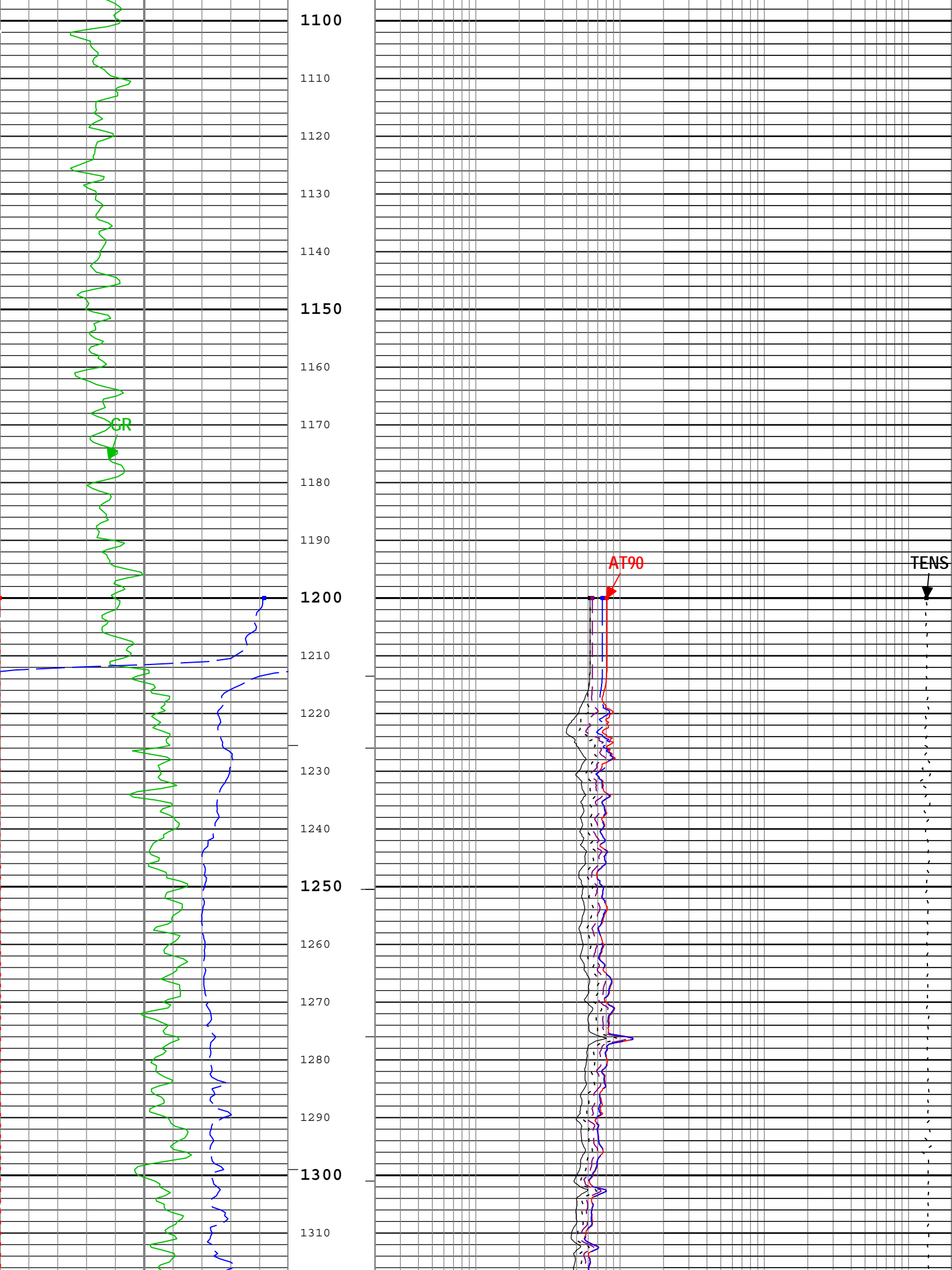


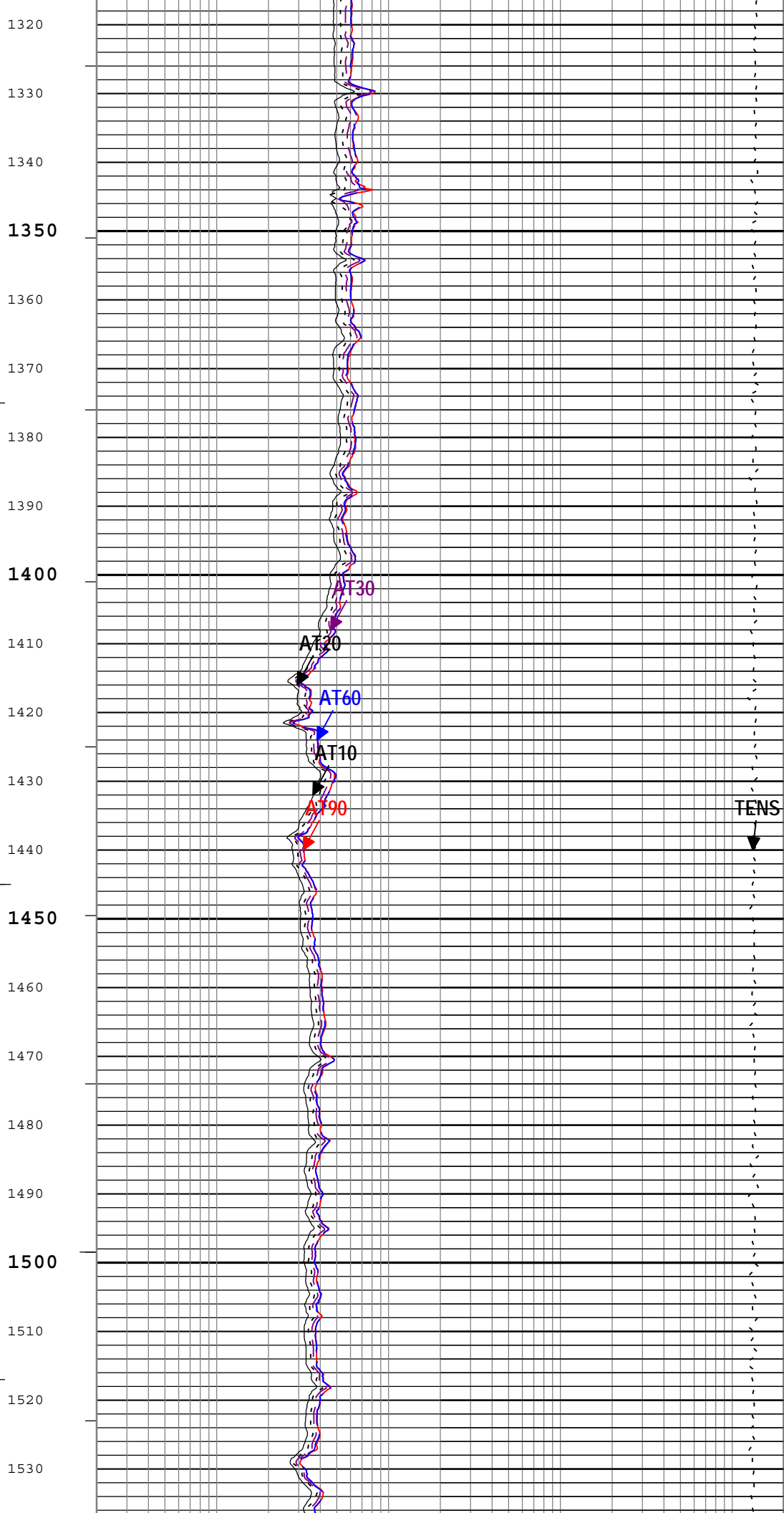
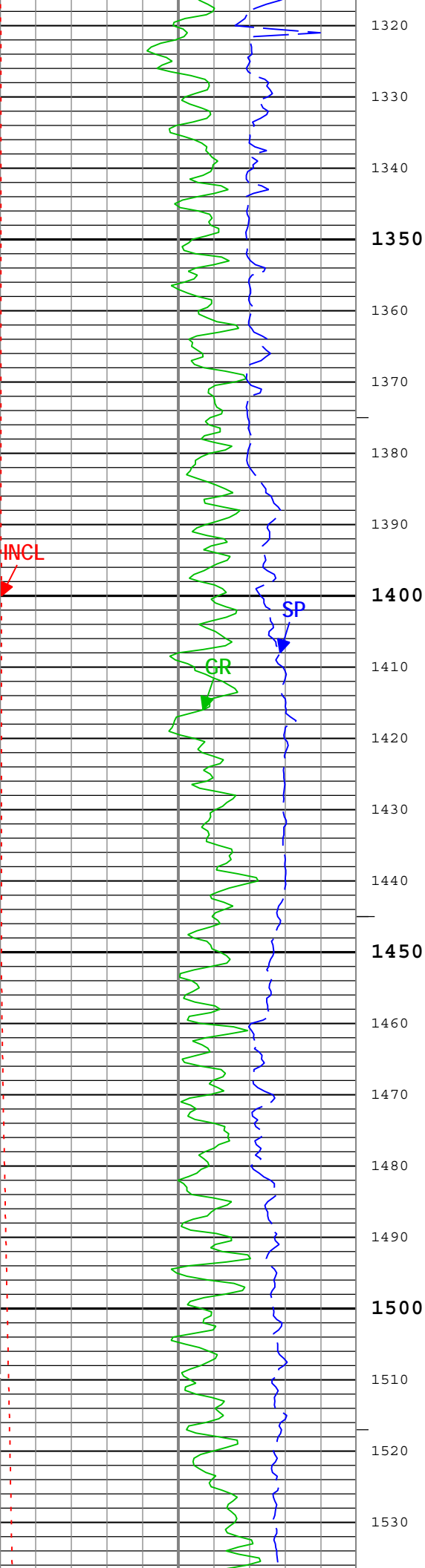


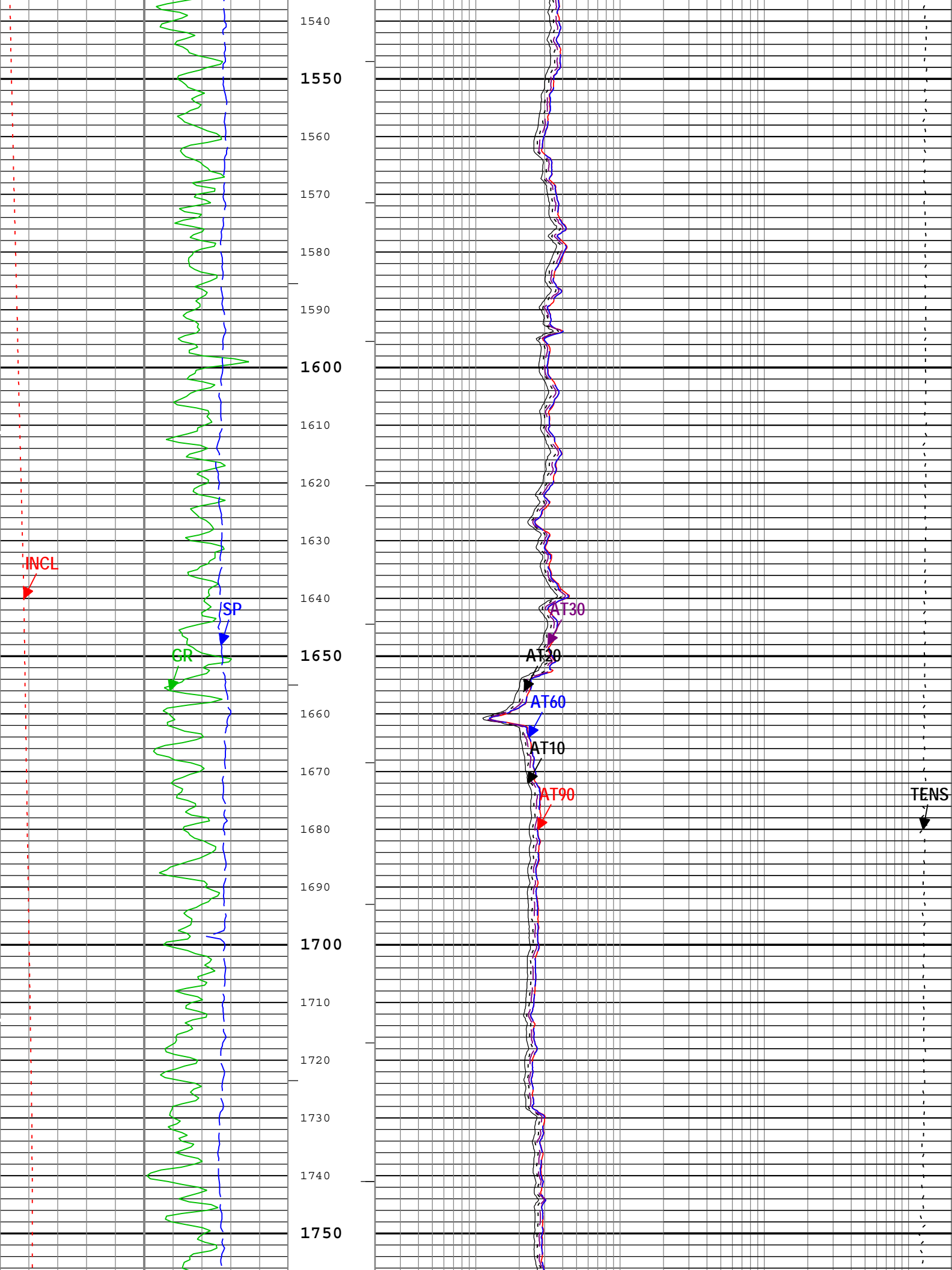


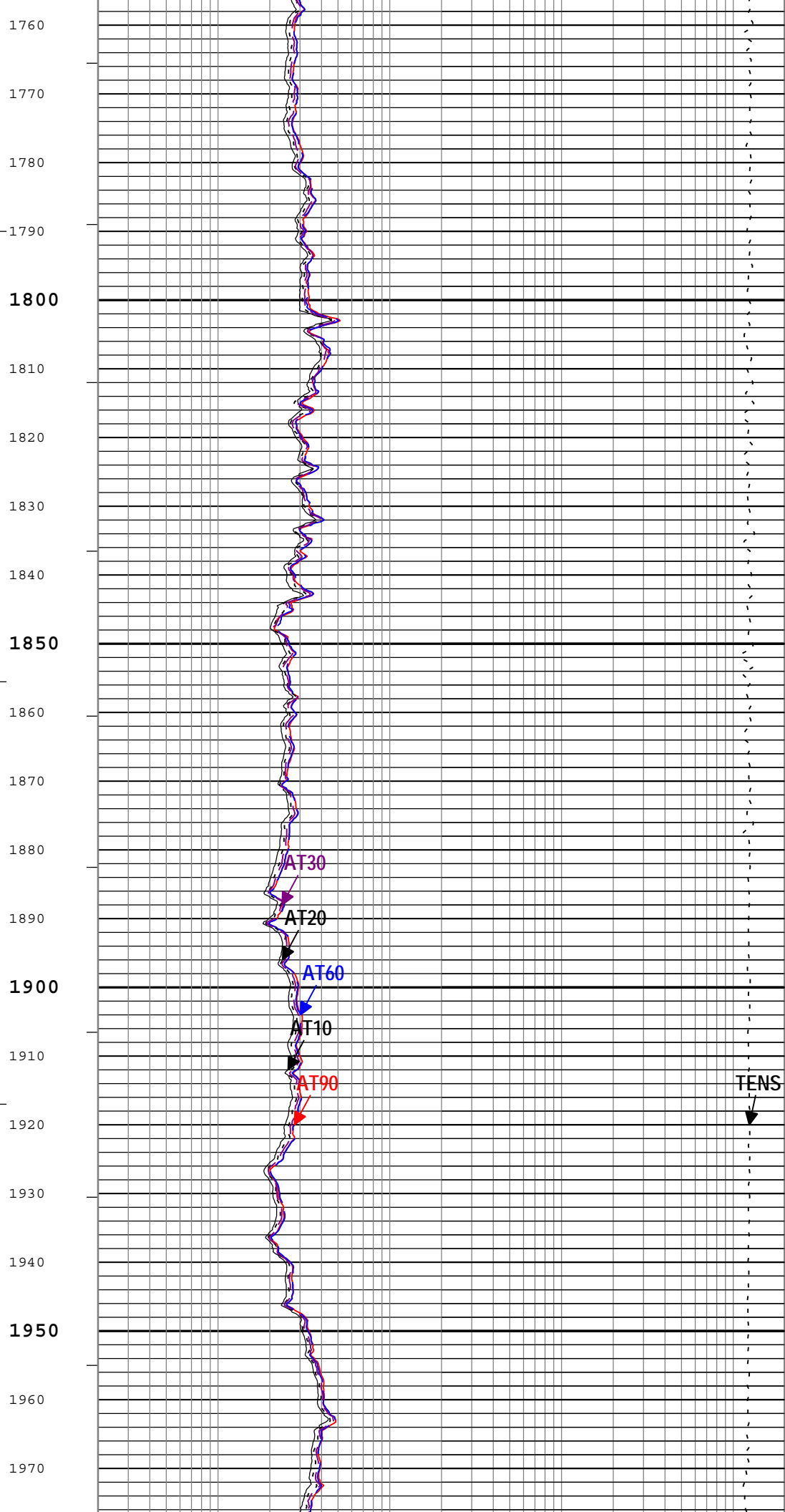
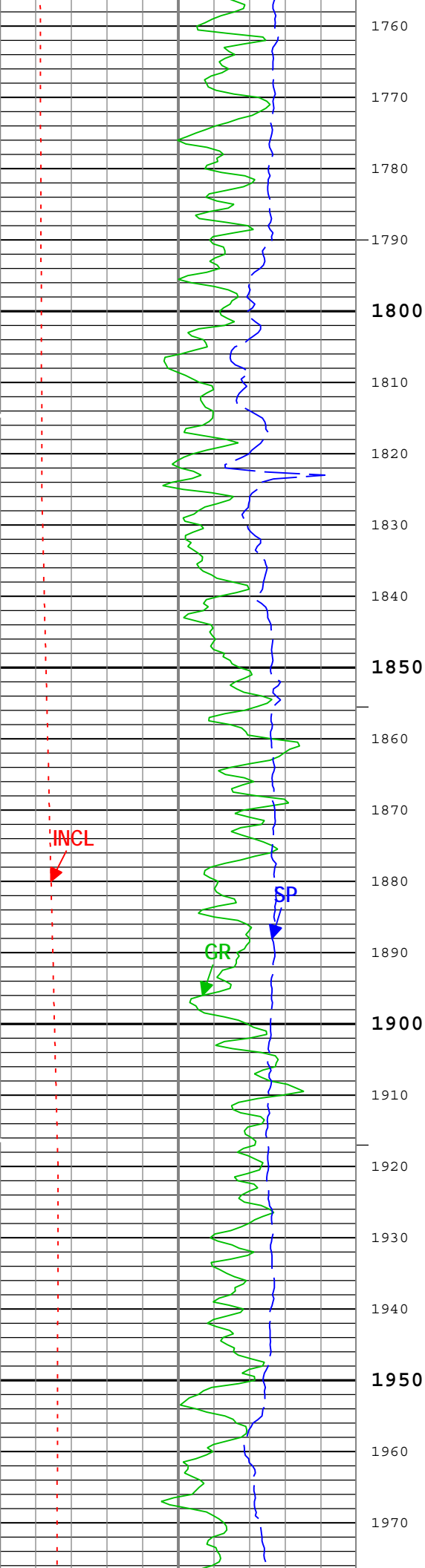


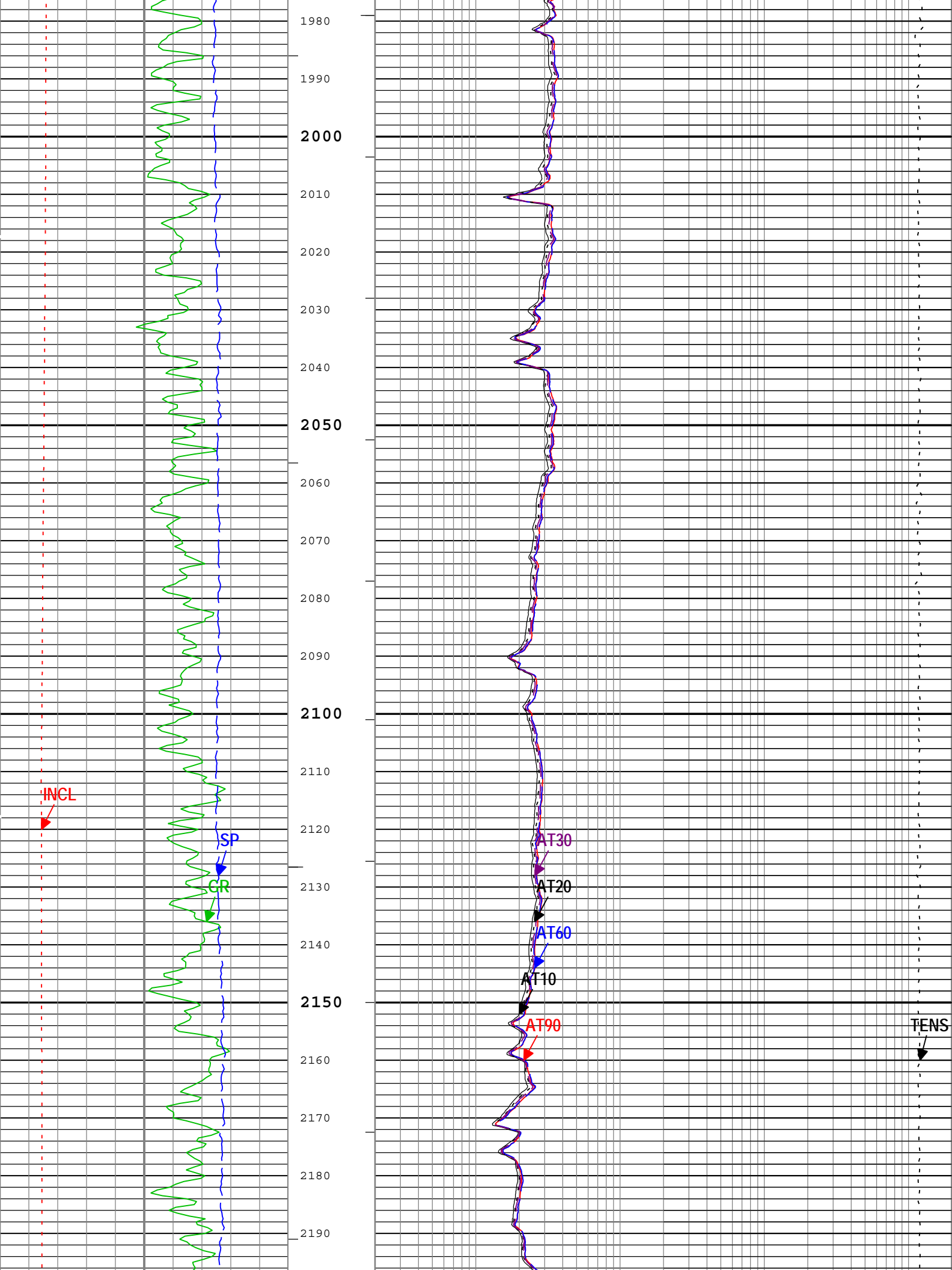


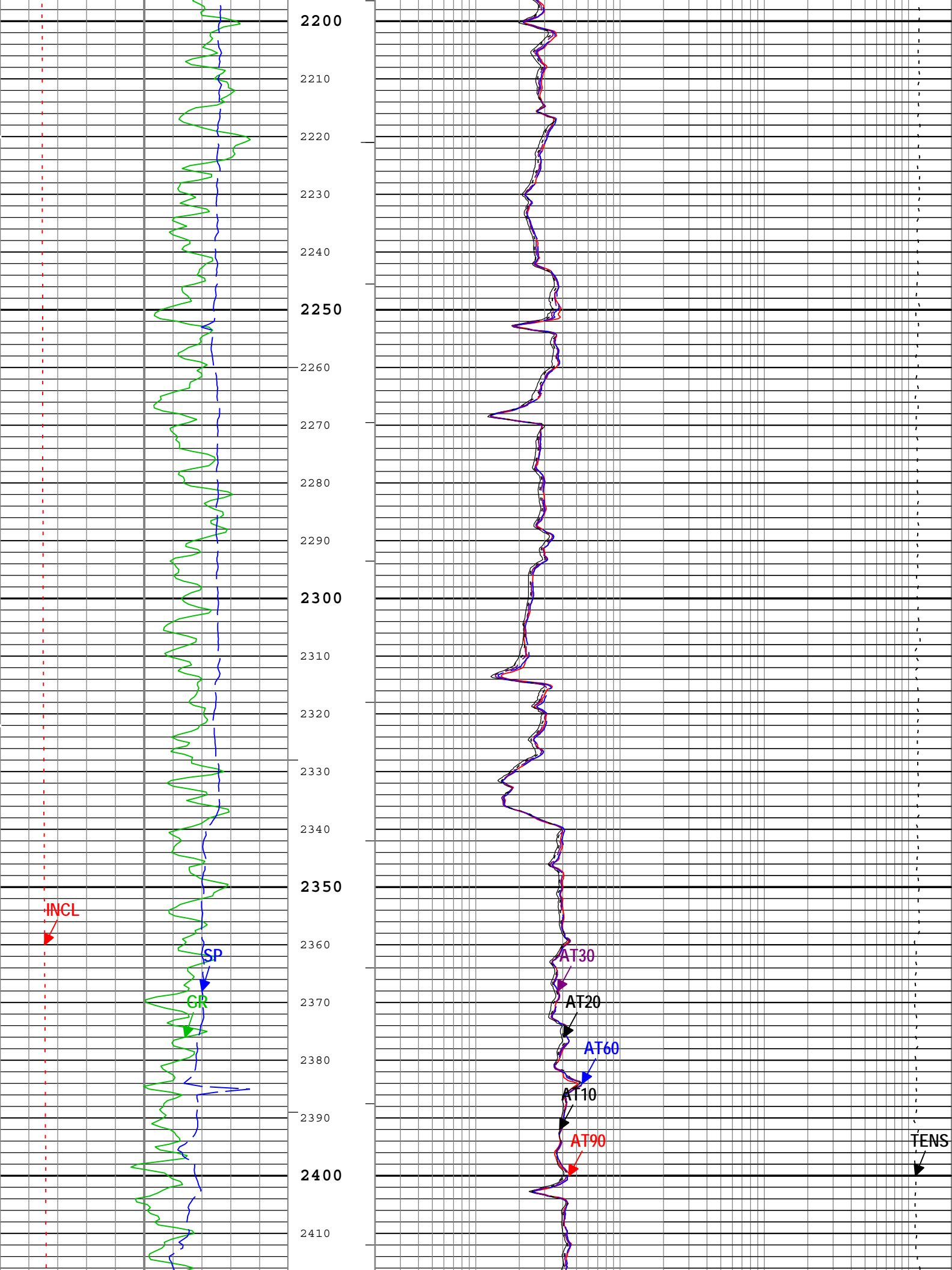




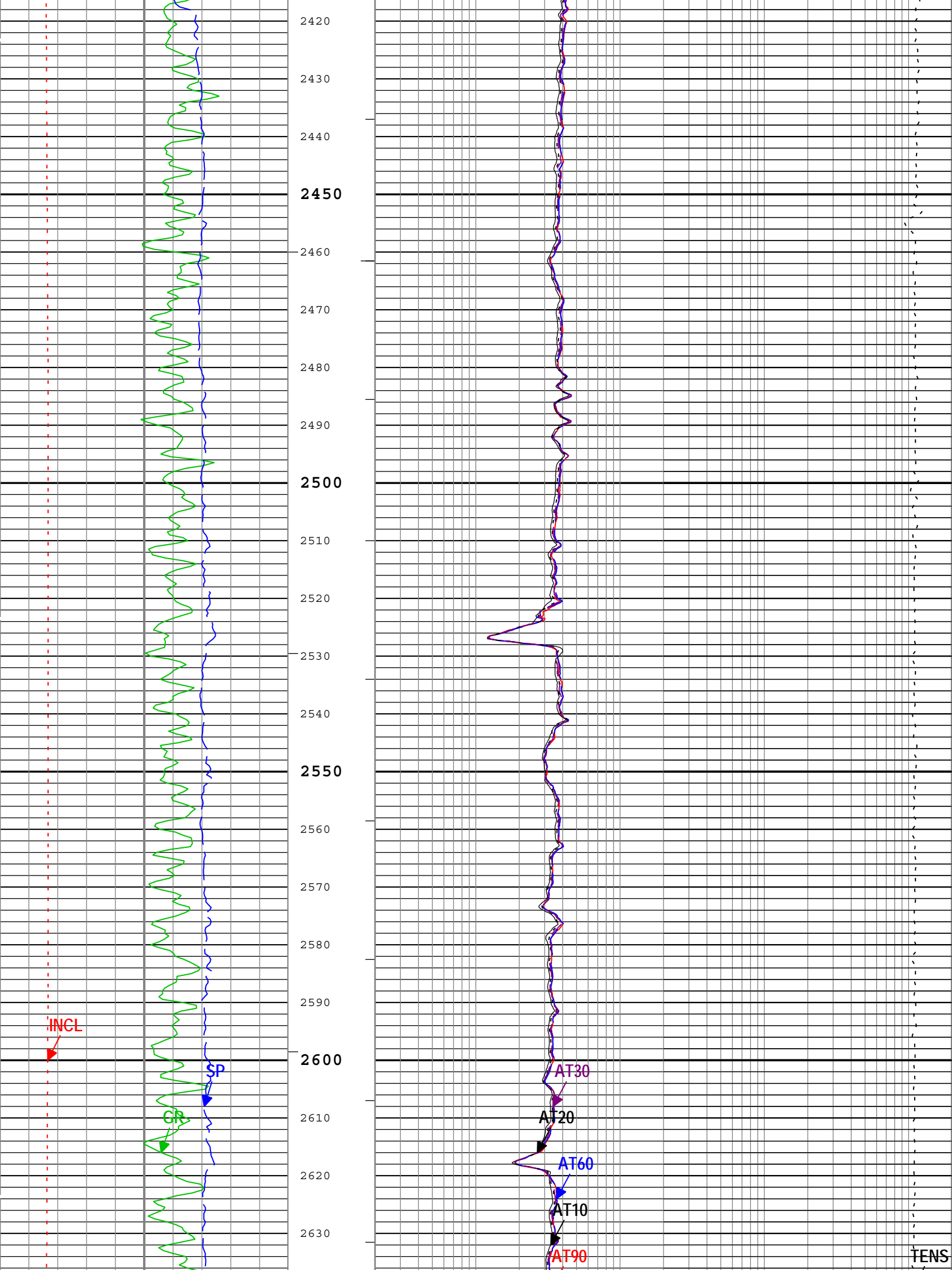


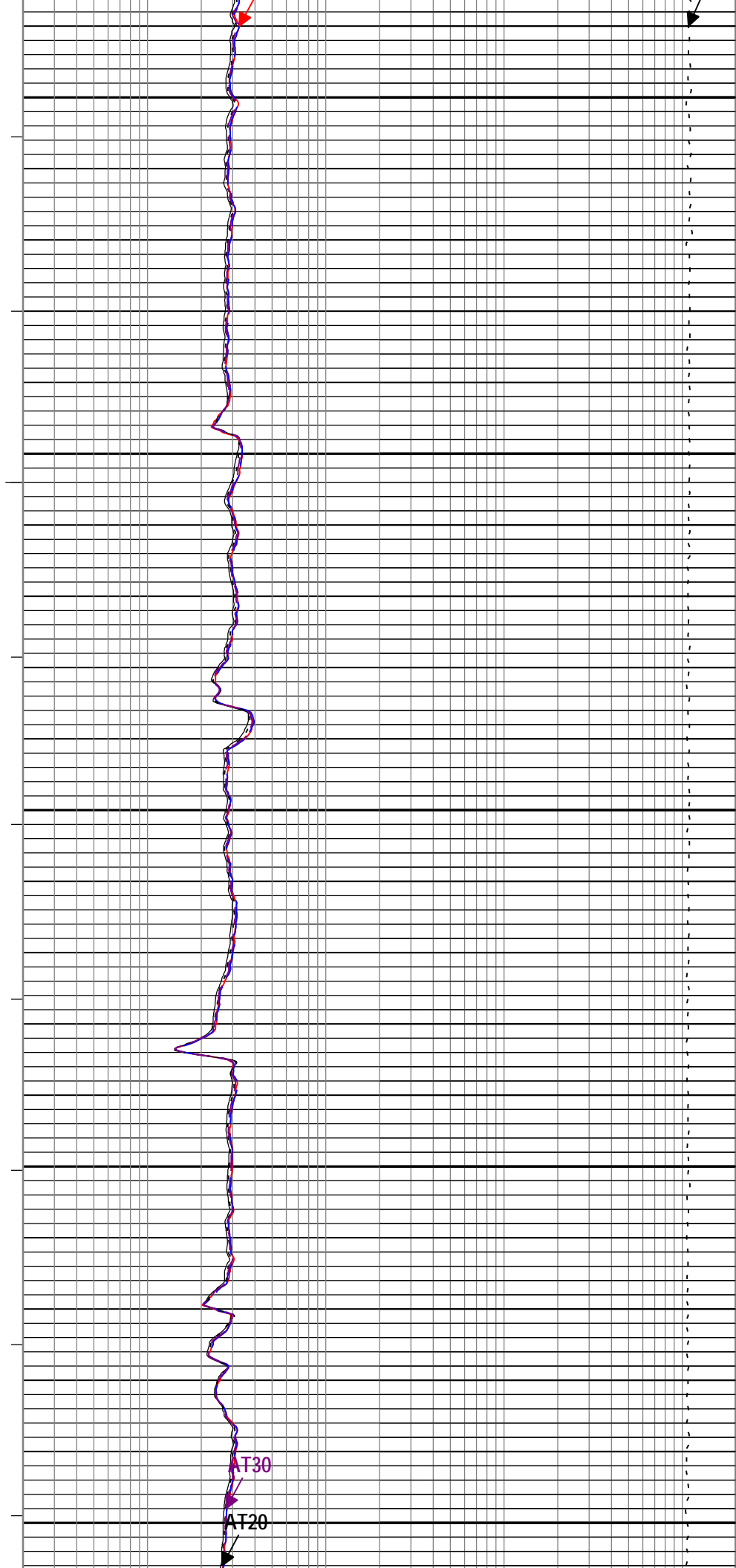
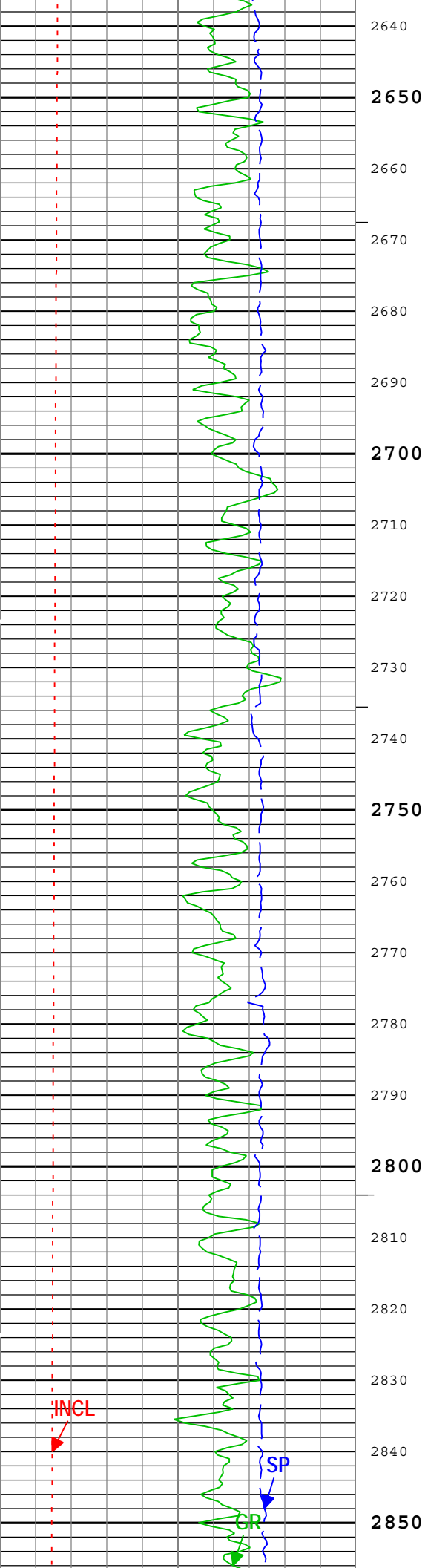


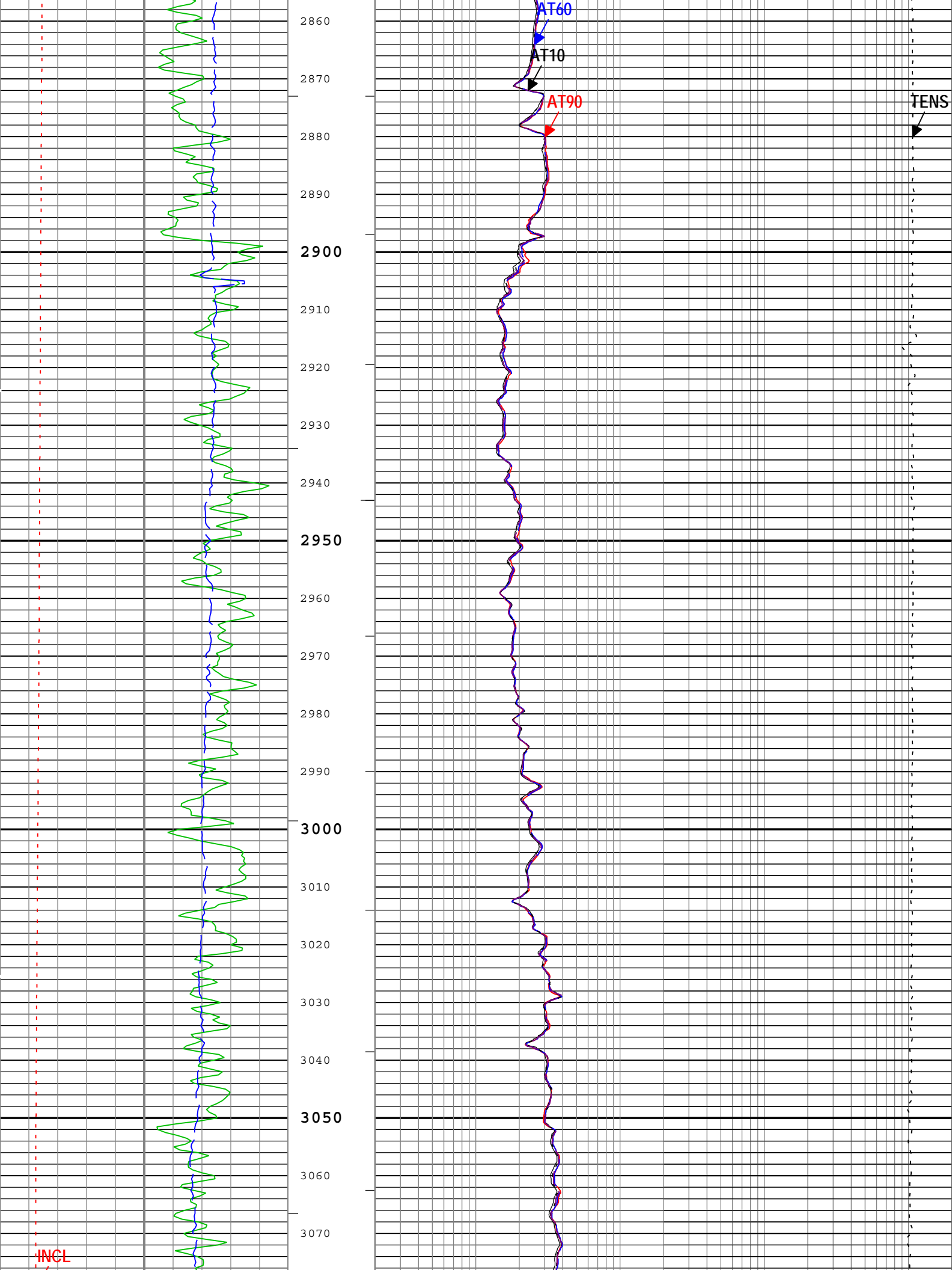


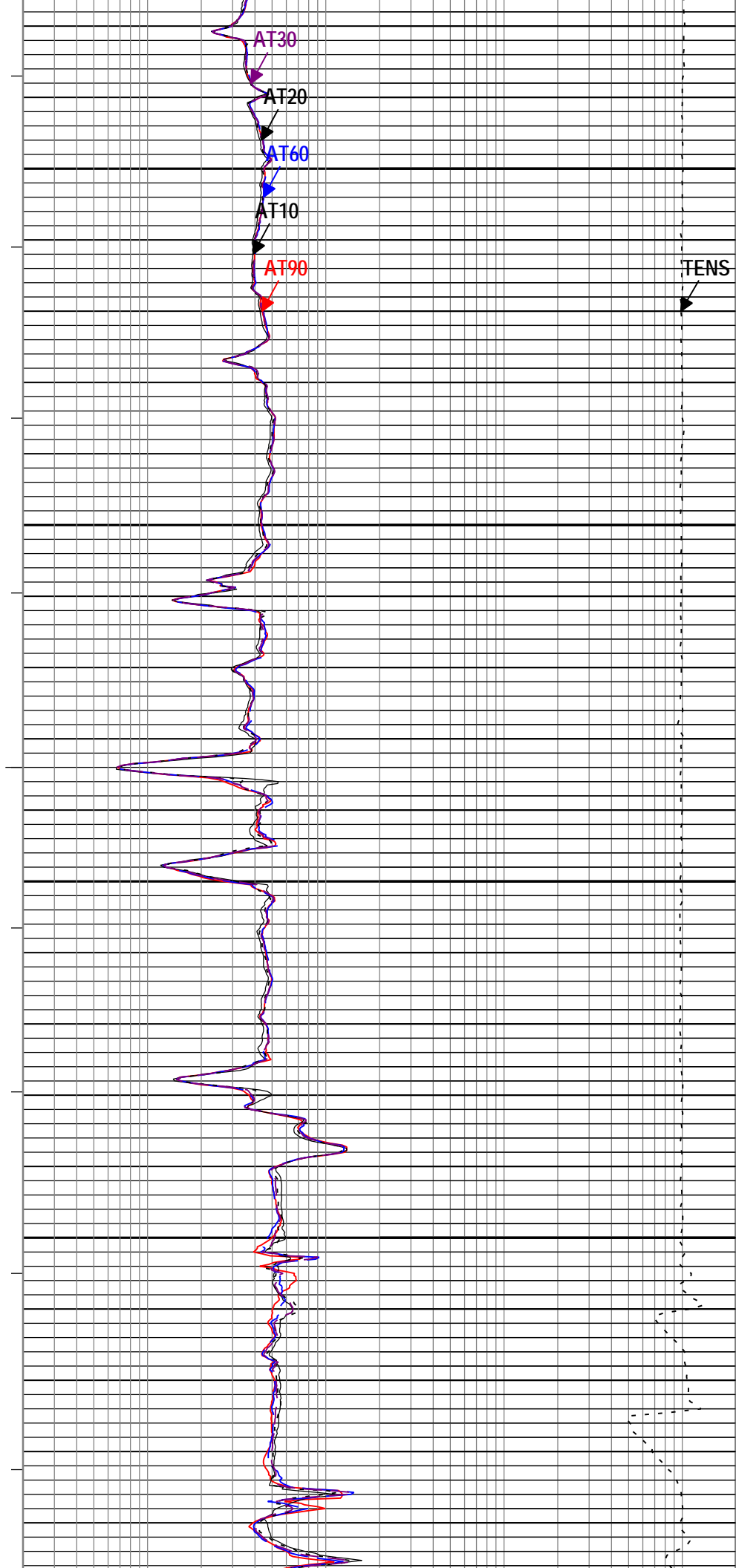
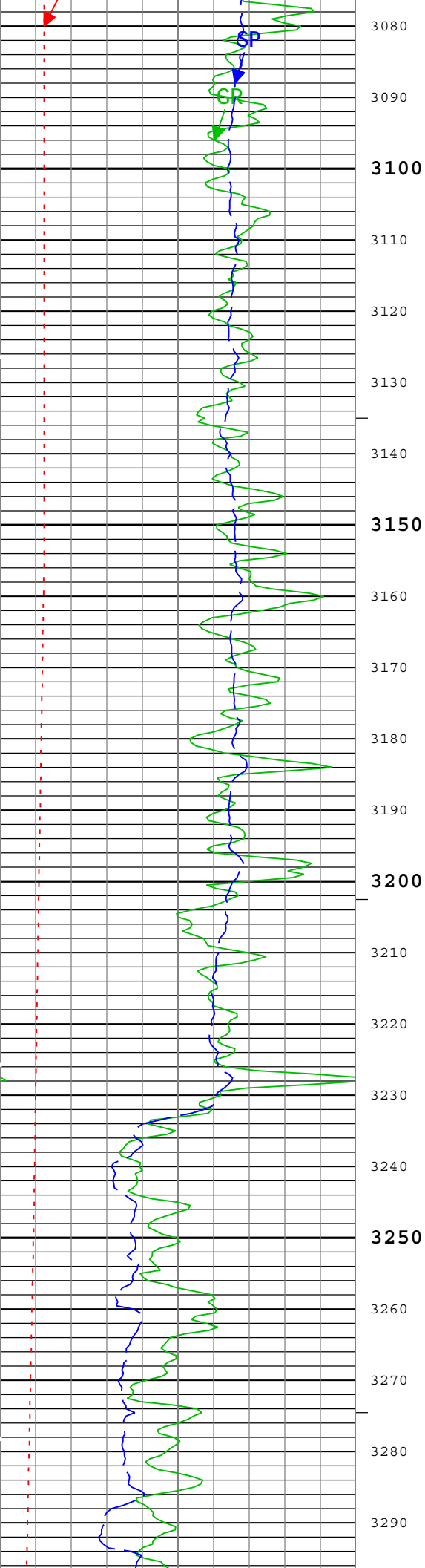


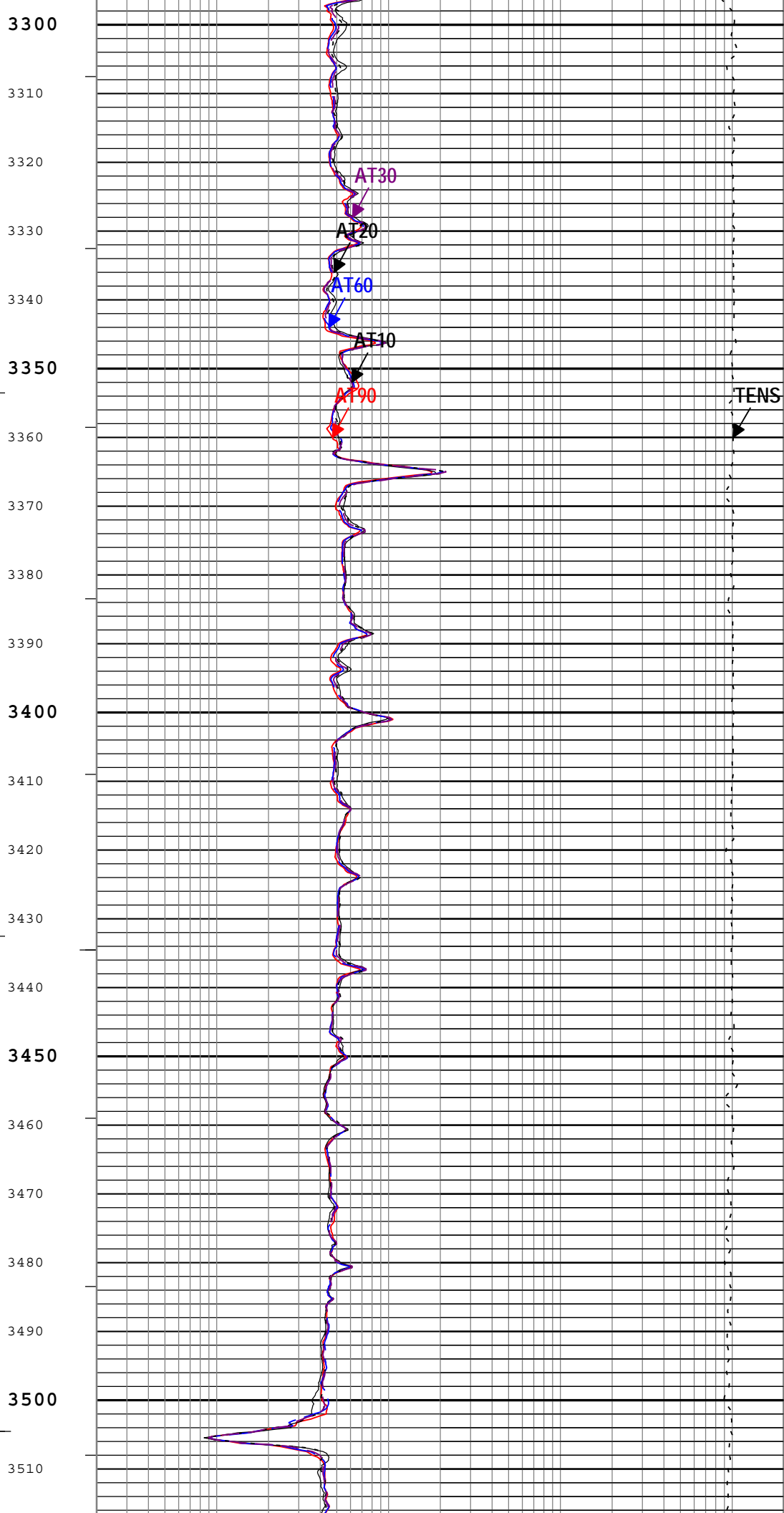
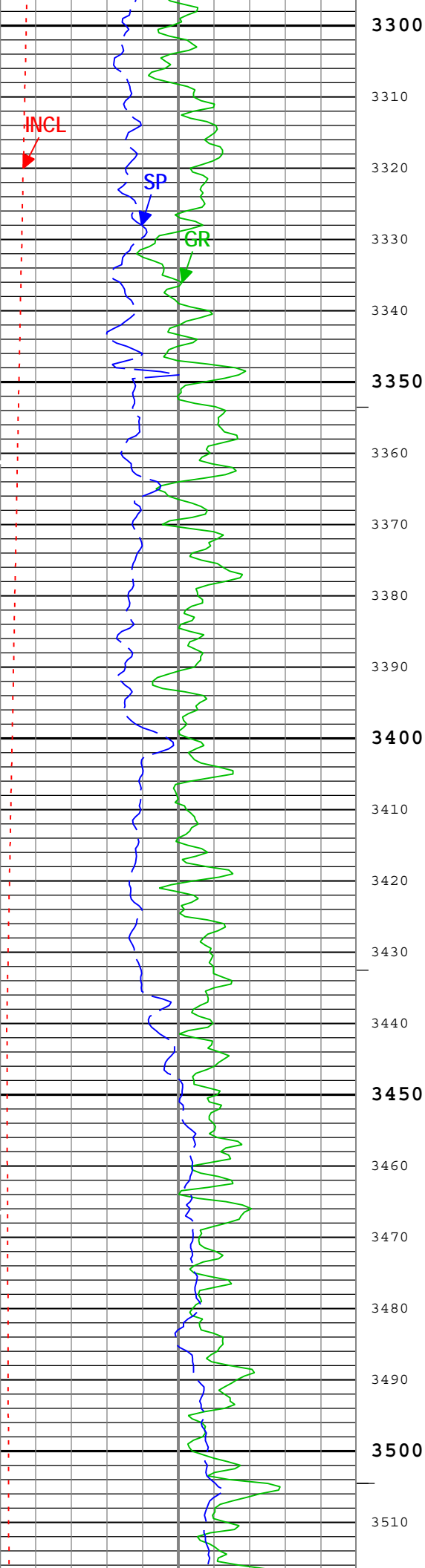


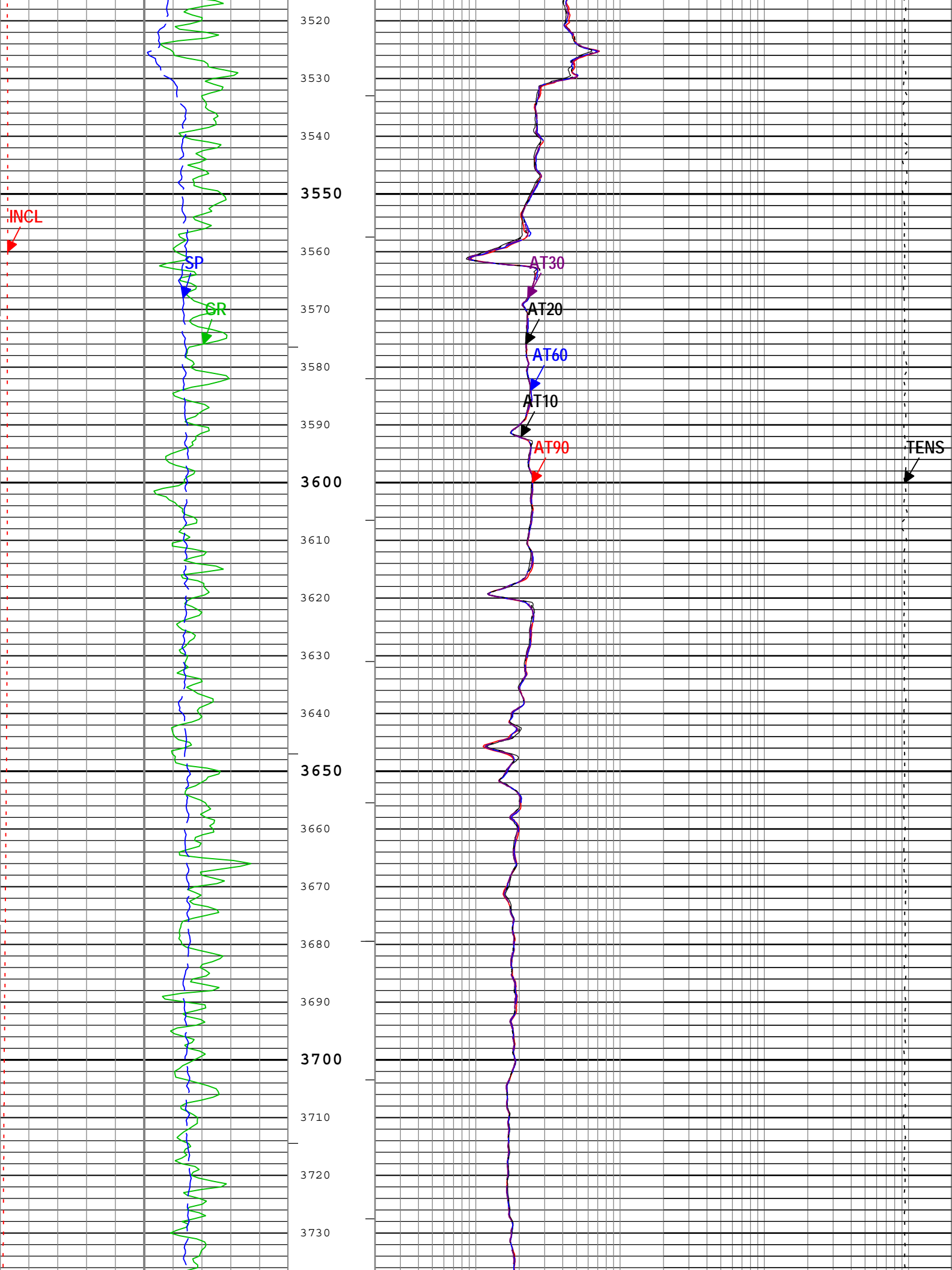


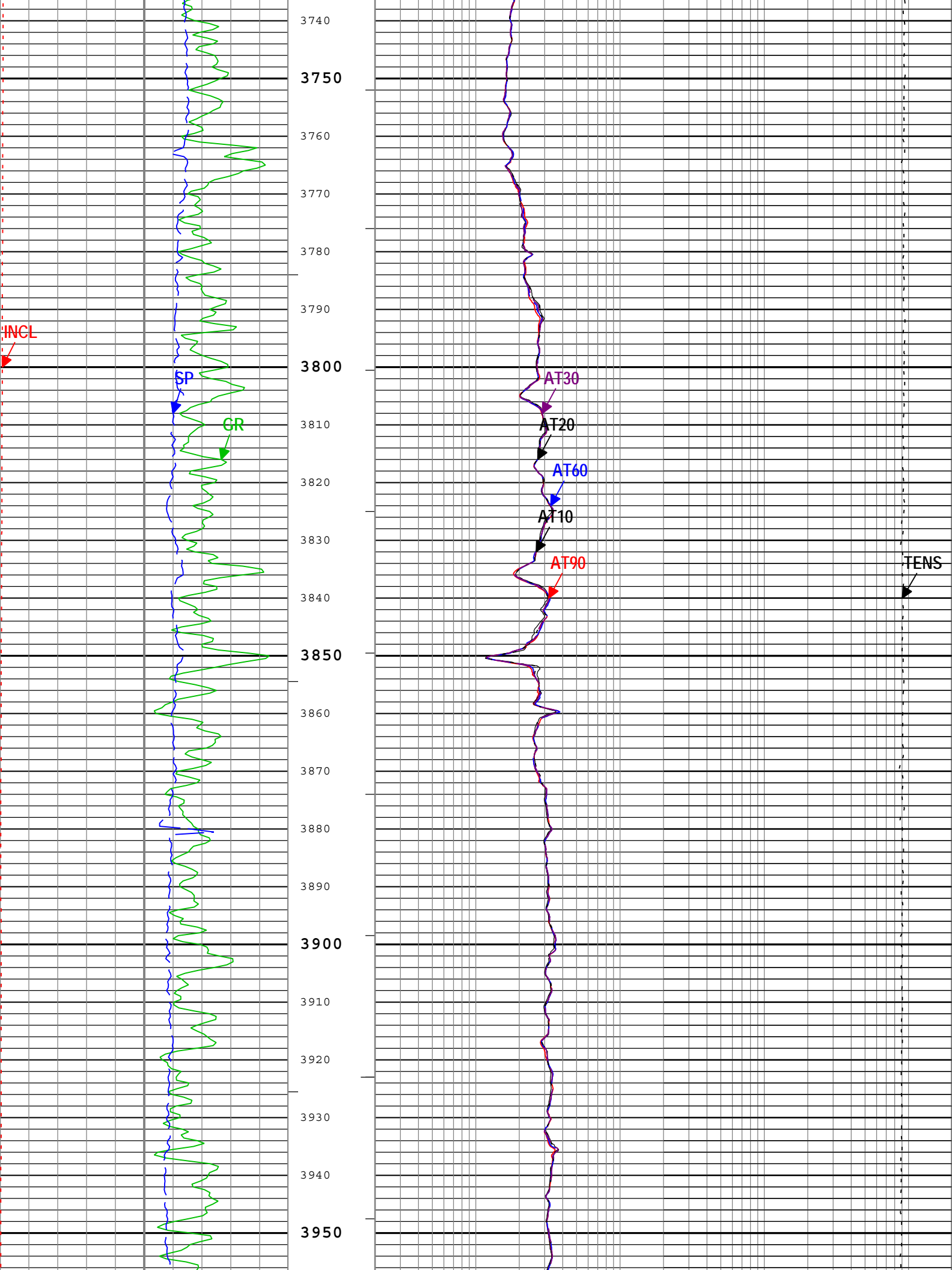


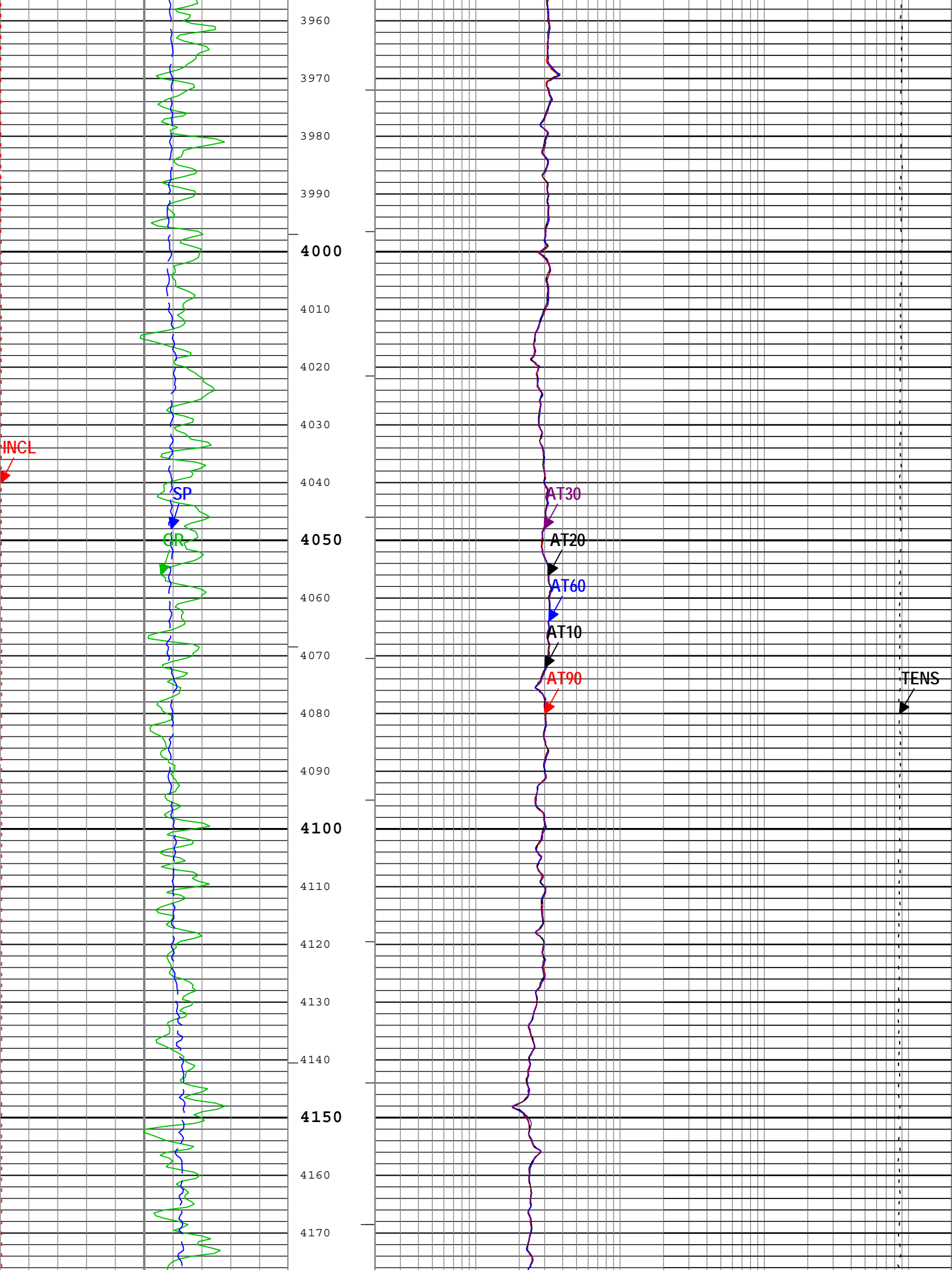




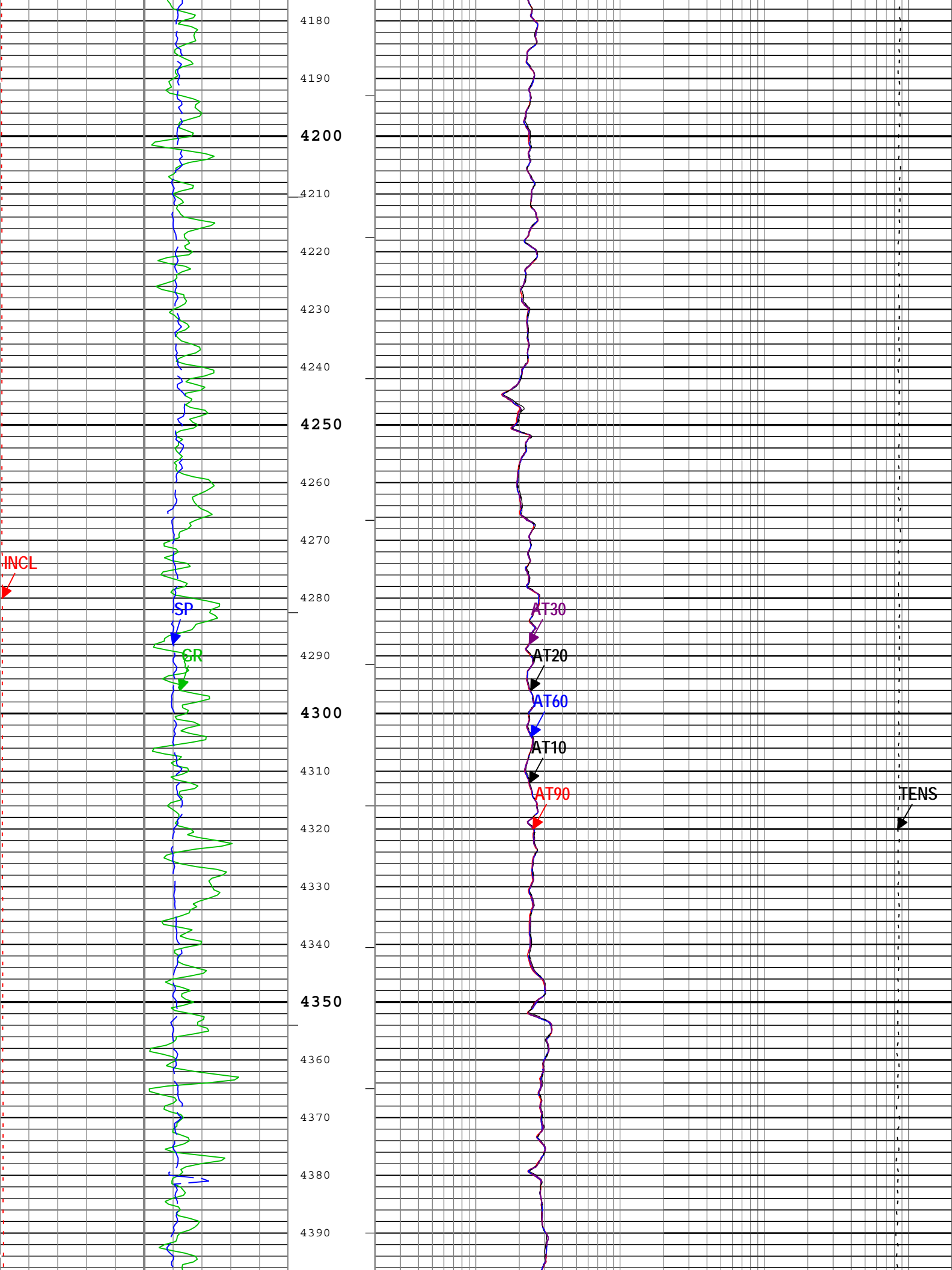


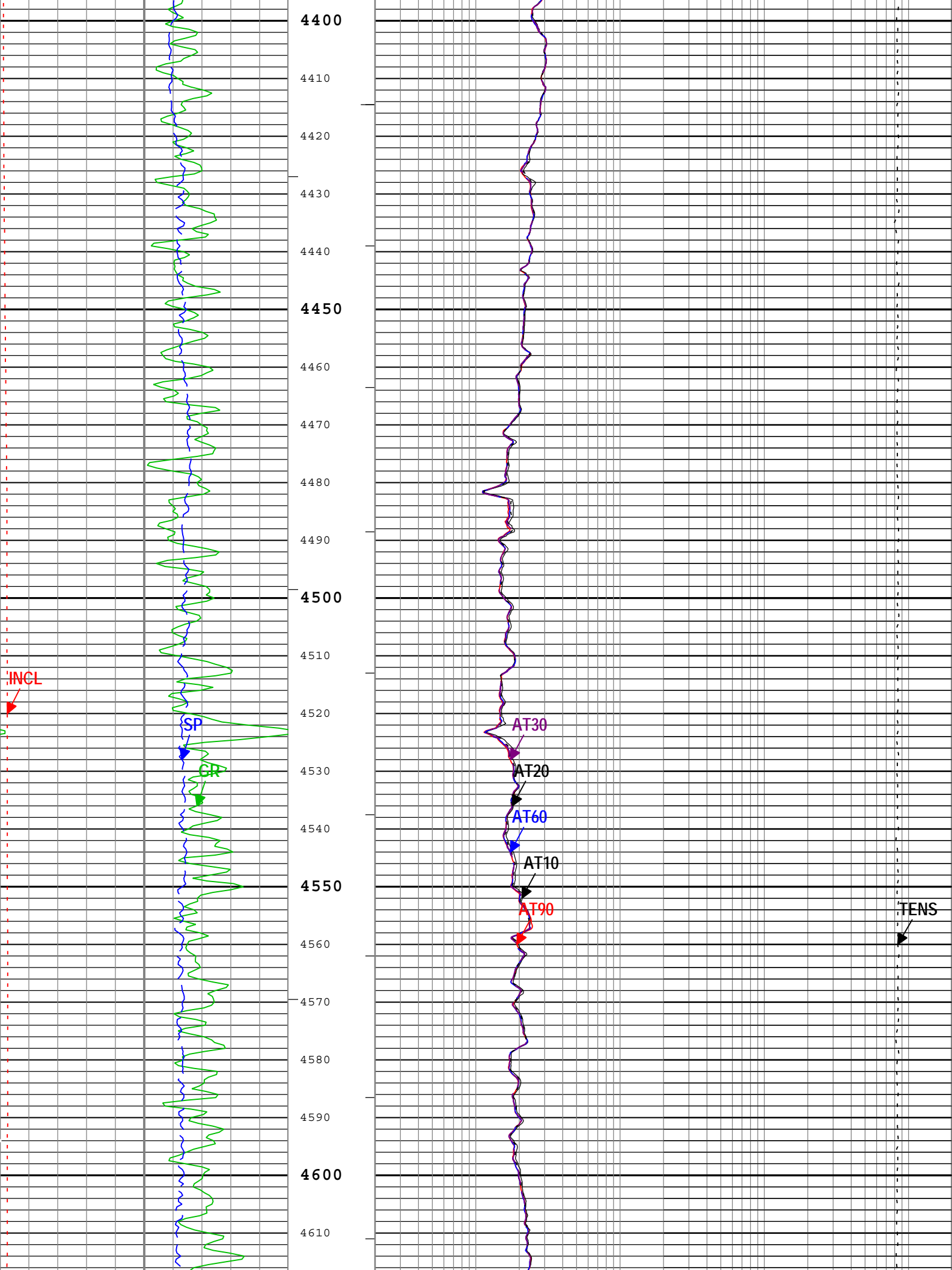


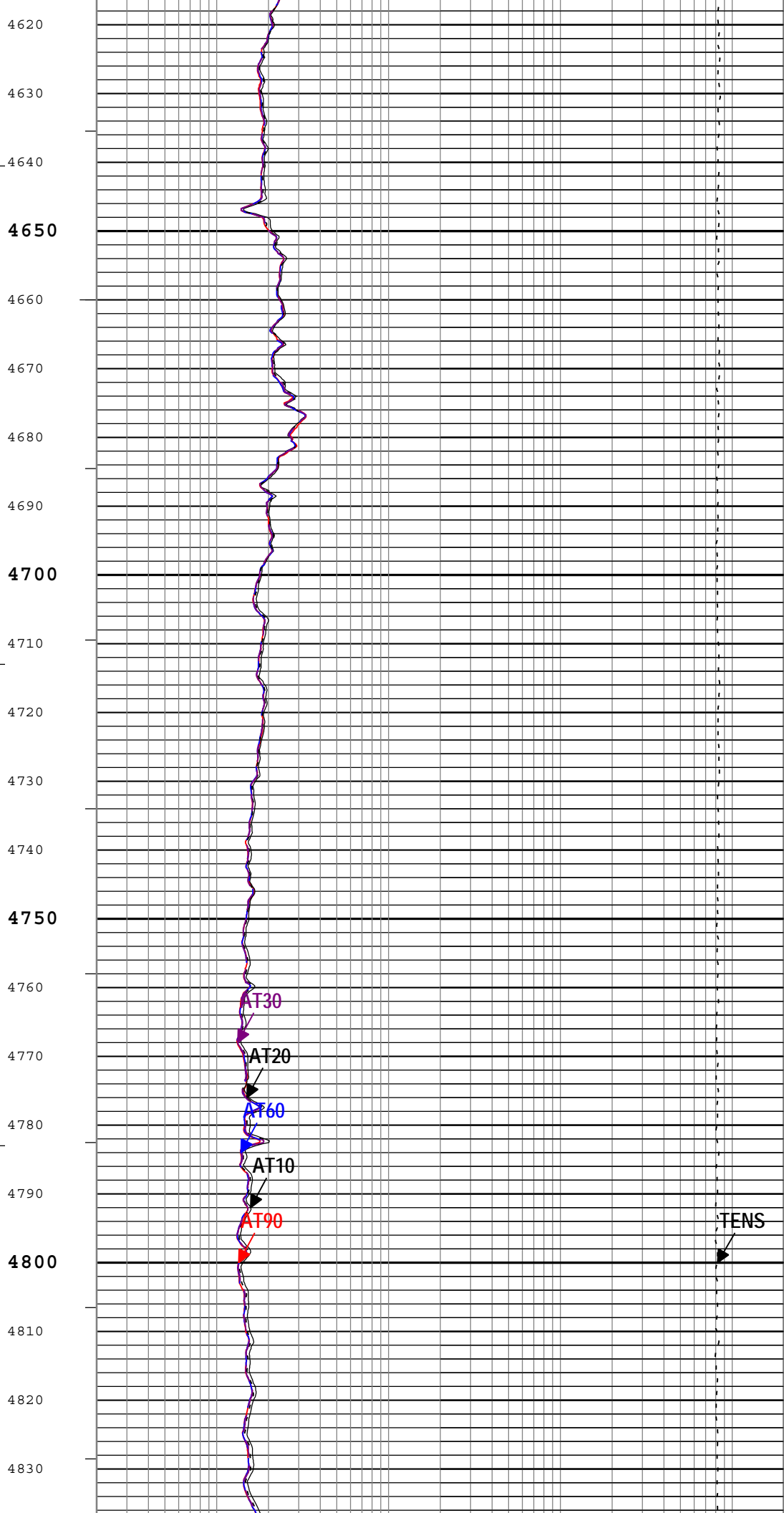
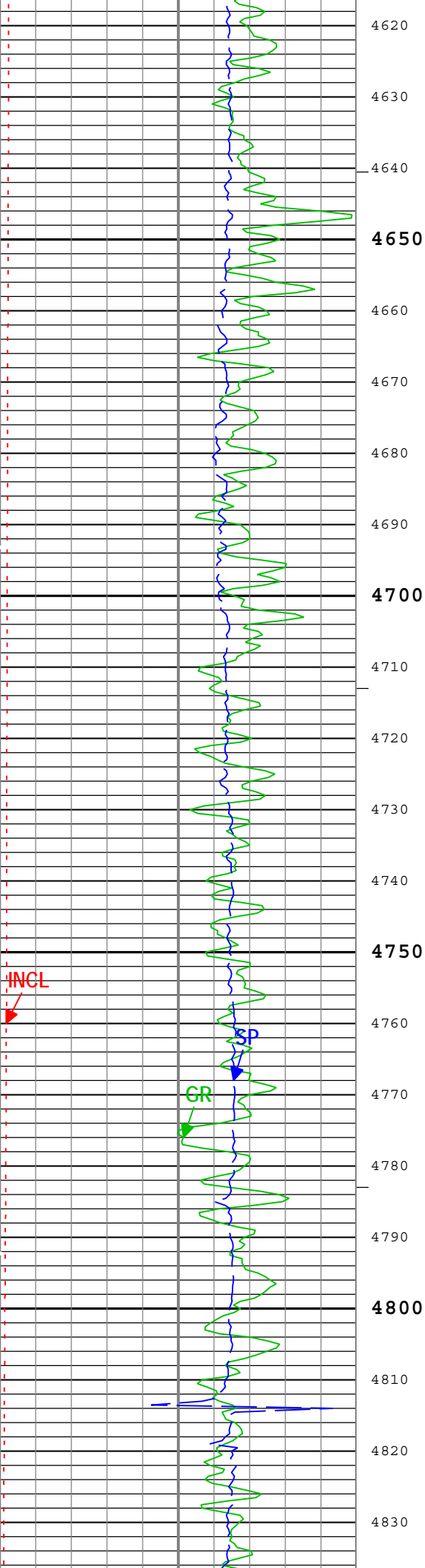


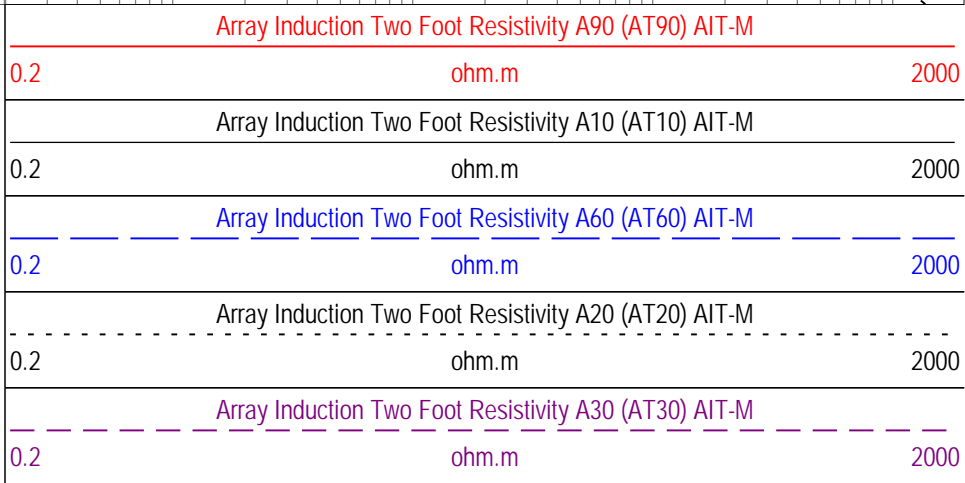
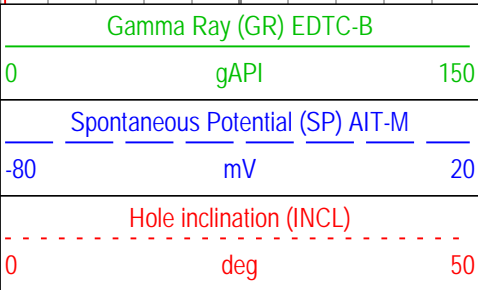
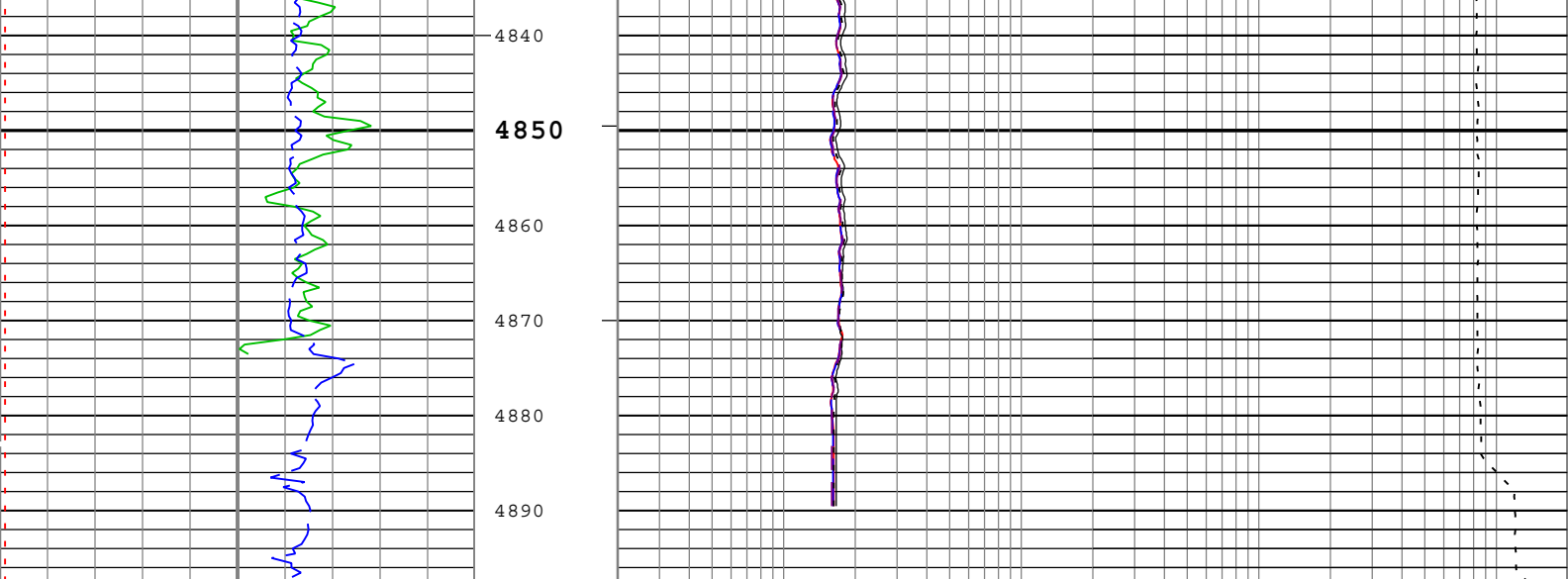












TIME\_1900 - Time Marked every 60.00 (s)

└─ ICV - Integrated Cement Volume every 100.00 (ft3)

└─ ICV - Integrated Cement Volume every 10.00 (ft3)

└─ IHV - Integrated Hole Volume every 100.00 (ft3)

└─ IHV - Integrated Hole Volume every 10.00 (ft3)

Description: AIT Basic Log Two    Format: Log ( Import (2) of KM 5in Induction Upper )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured  
Depth    Creation Date: 17-Oct-2014 12:30:17

| Channel Processing Parameters |  |                 |                  |         |
|-------------------------------|--|-----------------|------------------|---------|
| Parameter                     | Description  | Tool            | Value            | Unit    |
| ABHM                          | Array Induction Borehole Correction Mode             | AIT-M           | Compute Standoff |         |
| ACDE                          | Array Induction Casing Detection Enable              | AIT-M           | Yes              |         |
| BARI                          | Barite Mud Presence Flag                             | Borehole        | No               |         |
| BHS                           | Borehole Status (Open or Cased Hole)                 | Borehole        | Open             |         |
| BS                            | Bit Size   | WLSESSION       | 8.75             | in      |
| CBLO                          | Casing Bottom (Logger)                               | WLSESSION       | 1207.5           | ft      |
| CDEN                          | Cement Density                                       | EDTC-B          | 2                | g/cm3   |
| CSODDRL                       | Casing Outer Diameter - Zoned along driller depths   | WLSESSION       | 9.625            | in      |
| DC_MODE                       | Depth Correction Mode                                | DepthCorrection | Real-time        |         |
| DFD                           | Drilling Fluid Density                               | Borehole        | 9.7              | lbm/gal |
| ETIP                          | Elevation of the TIP above MSL                       | WLSESSION       | 4743             | ft      |
| FCD                           | Future Casing (Outer) Diameter                       | WLSESSION       | 7                | in      |
| GCSE_DOWN_PASS                | Generalized Caliper Selection for WL Log Down Passes | Borehole        | BS               |         |

|              |  |          |     |       |
|--------------|--|----------|-----|-------|
| GCSE_UP_PASS | Generalized Caliper Selection for WL Log Up Passes                               | Borehole | HD1 |       |
| GRSE         | Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity | Borehole | AMF |       |
| SPDR         | SP Drift Per Foot  | AIT-M    | 0   | mV/ft |

Tool Control Parameters

|               |                                  |           |       |      |
|---------------|----------------------------------|-----------|-------|------|
| Parameter     | Description                      | Tool      | Value | Unit |
| MAX_LOG_SPEED | Toolstring Maximum Logging Speed | WLSESSION | 3600  | ft/h |

Run 1

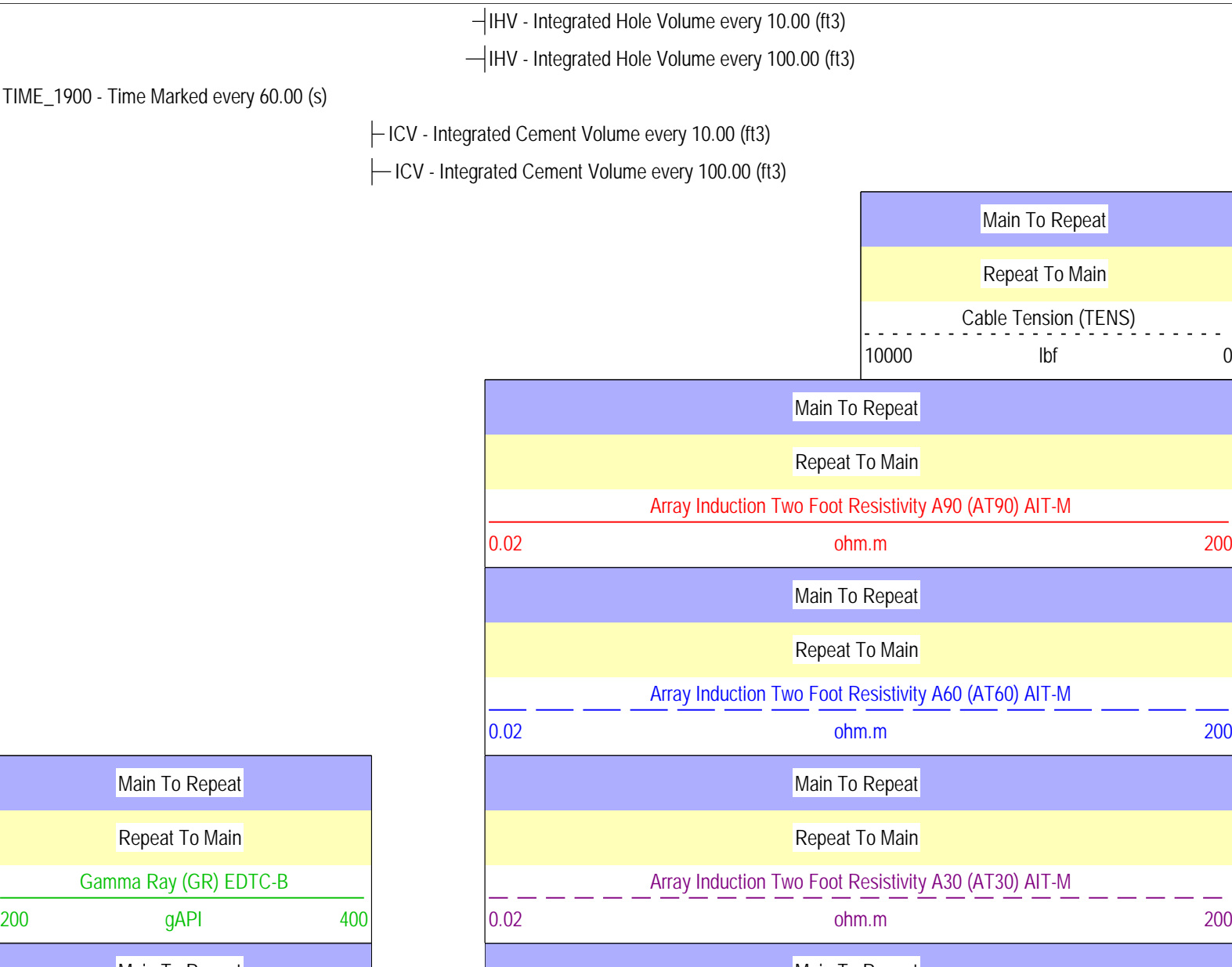
Pass Summary

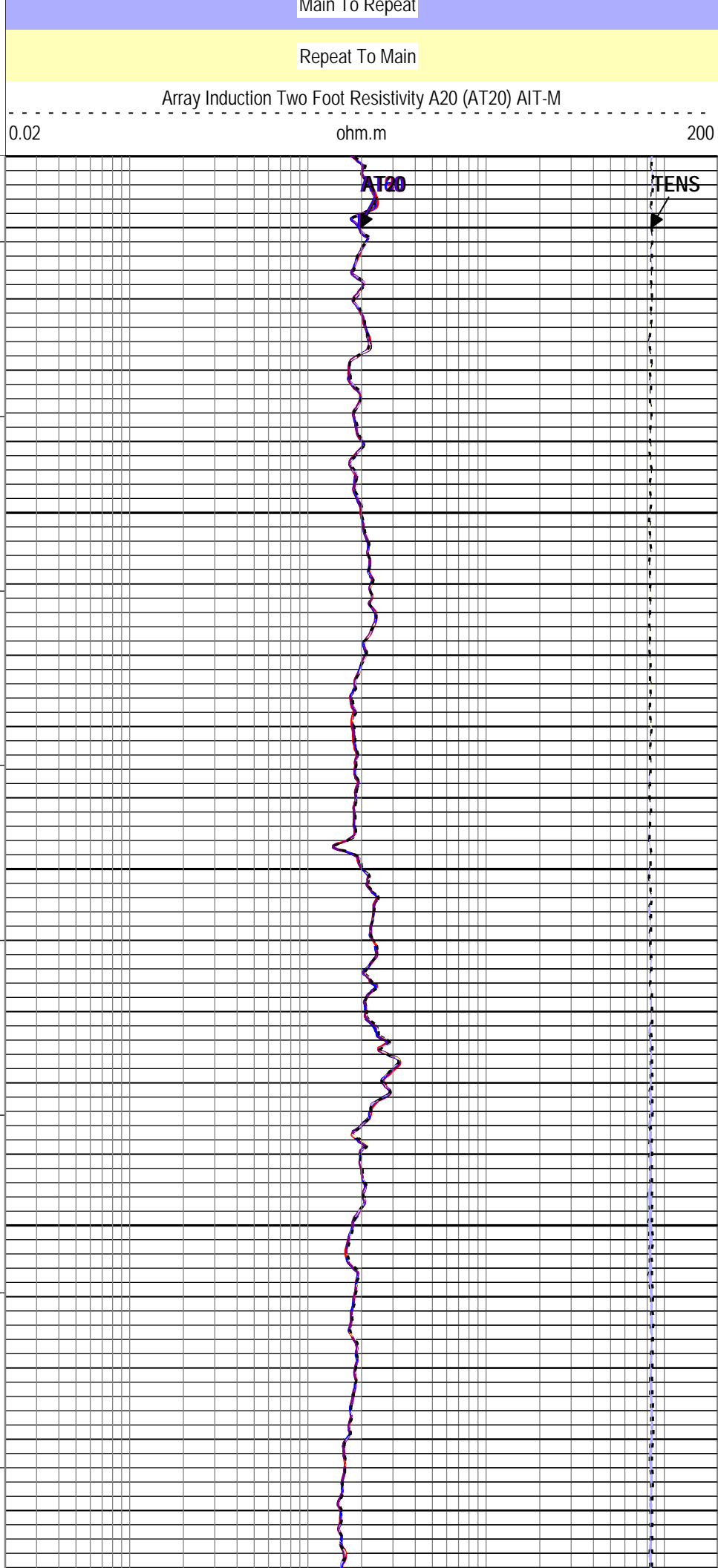
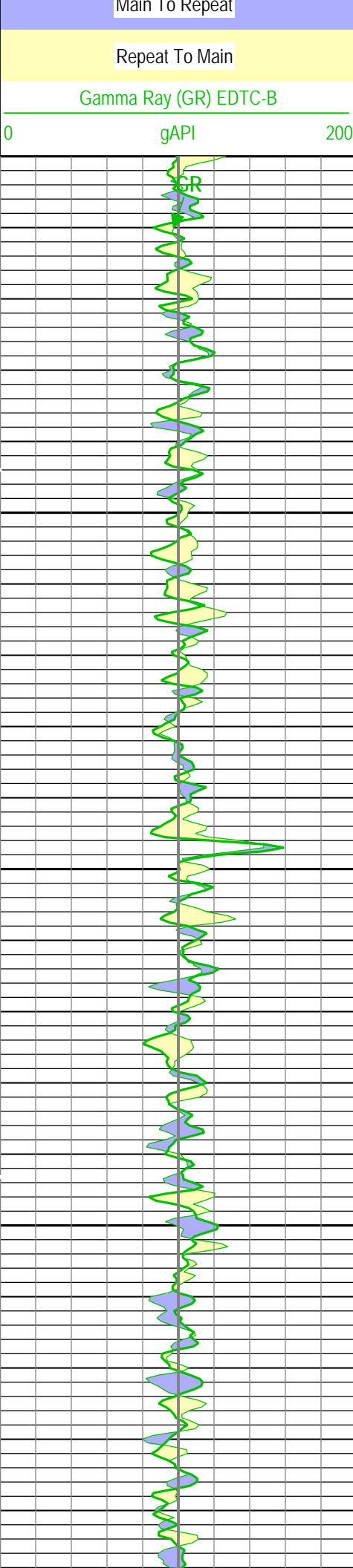
| Run Name | Pass Objective | Direction | Top        | Bottom     | Start                   | Stop                    | DSC Mode | Depth Shift | Include Parallel Data |
|----------|----------------|-----------|------------|------------|-------------------------|-------------------------|----------|-------------|-----------------------|
| Run 1    | Repeat[6]:Up   | Up        | 4430.92 ft | 4898.08 ft | 17-Oct-2014 11:29:35 AM | 17-Oct-2014 11:36:08 AM | ON       | 4.77 ft     | Yes                   |
| Run 1    | Main[7]:Up     | Up        | 199.95 ft  | 4897.44 ft | 17-Oct-2014 11:37:18 AM | 17-Oct-2014 12:26:15 PM | ON       | 0.00 ft     | Yes                   |

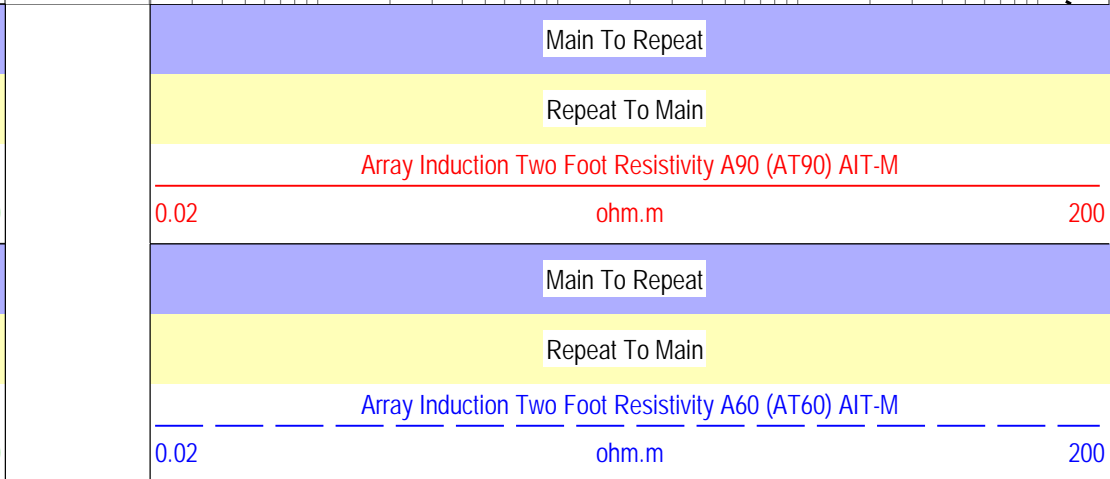
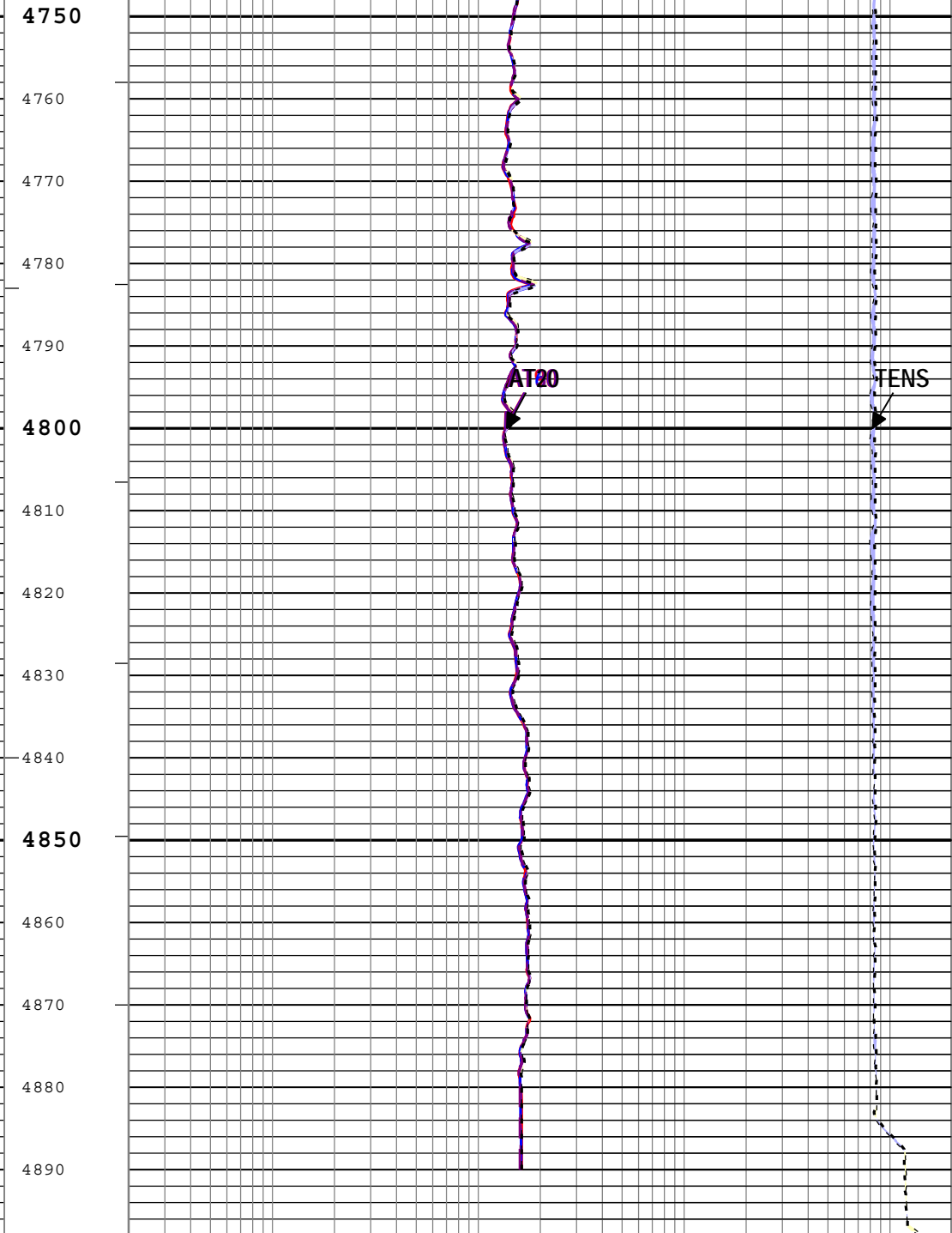
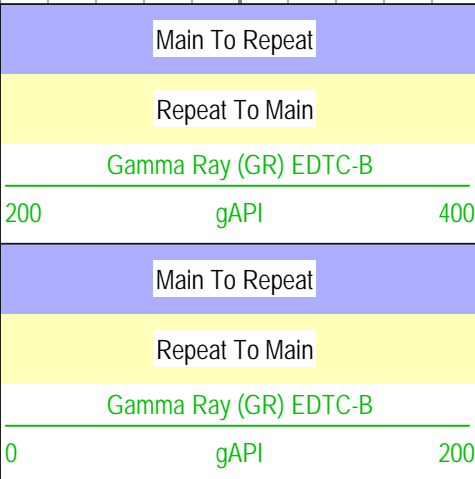
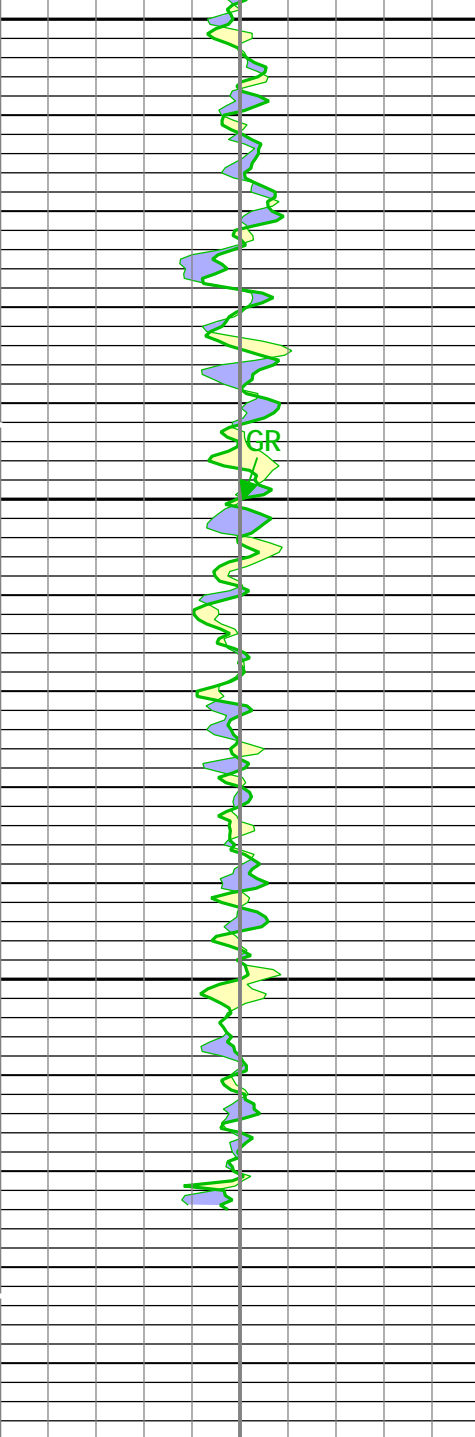
All depths are referenced to toolstring zero

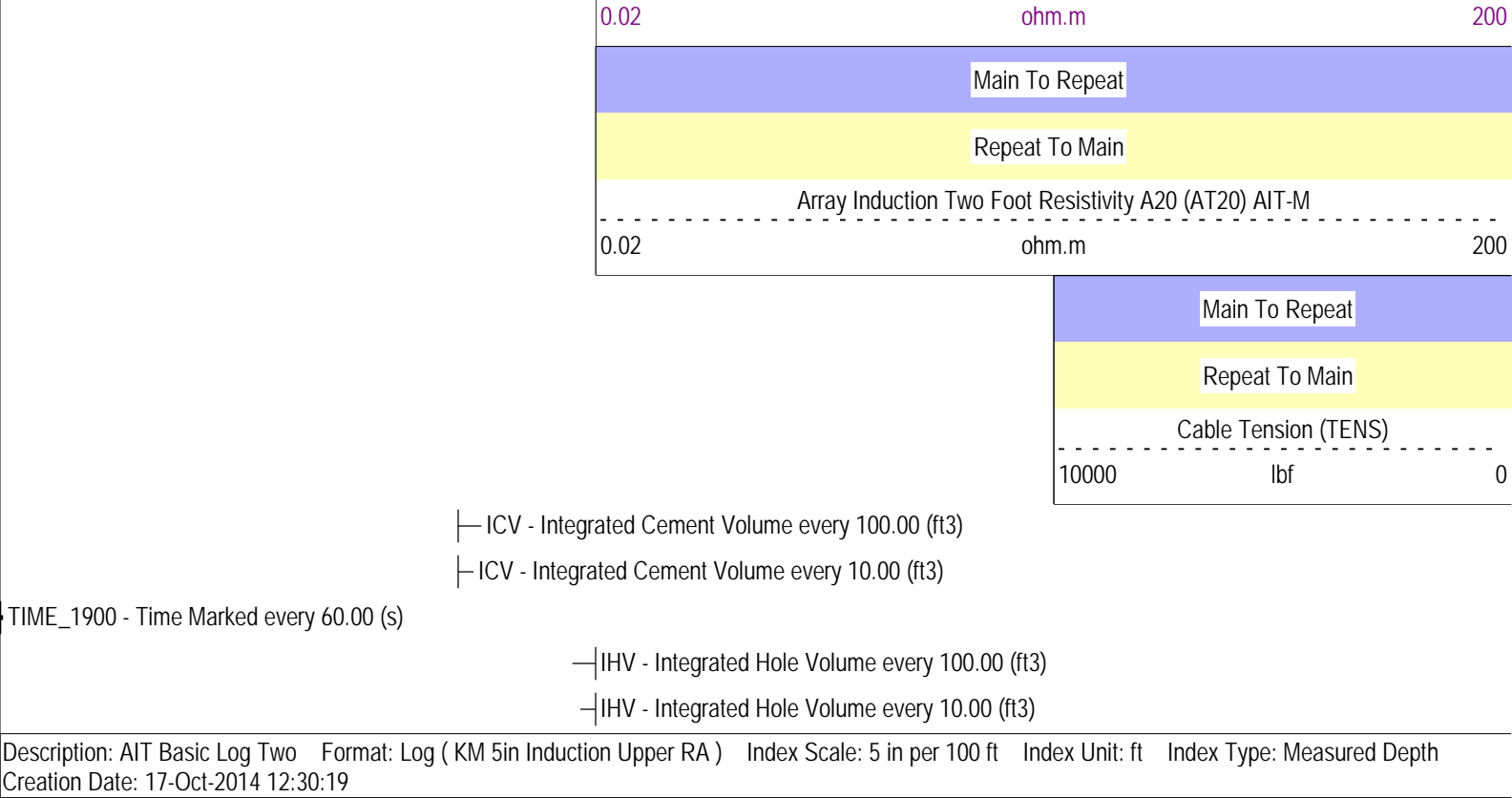
|     |   |
|-----|---|
| Log | Company:Noble Energy Inc      Well:Rohn State LD10 63 1HN<br>Run 1: Main[7]:Up:S008 |
|-----|---|

Description: AIT Basic Log Two    Format: Log ( KM 5in Induction Upper RA )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth  
Creation Date: 17-Oct-2014 12:30:19









| Calibration Report                                   |      |                      |         |           |          |            |  |
|--|------|----------------------|---------|-----------|----------|------------|--|
| AIT-M (Array Induction Tool - M) Calibration - Run 1 |      |                      |         |           |          |            |  |
| Primary Equipment :                                  |      |                      |         |           |          |            |  |
| File code for AIT-MA Sonde Tool Element              |      |                      | AMIS    |           | 50       |            |  |
| Auxiliary Equipment :                                |      |                      |         |           |          |            |  |
| AITM Rm/SP Bottom Nose                               |      |                      | AMRM    |           | 50       |            |  |
| AIT Sonde Calibration - Test Loop Gain               |      |                      |         |           |          |            |  |
| Master (EEPROM):                                     |      | 12:18:07 04-Sep-2014 |         |           |          |            |  |
| Measurement  | Unit | Phase                | Nominal | Low Limit | Actual   | High Limit | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 0                                   |      | Master               | 1.000   | 0.950     | 1.014    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 0                                  | deg  | Master               | 0       | -3.000    | 0.539    | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 1                                   |      | Master               | 1.000   | 0.950     | 1.014    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 1                                  | deg  | Master               | 0       | -3.000    | 0.663    | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 2                                   |      | Master               | 1.000   | 0.950     | 1.022    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 2                                  | deg  | Master               | 0       | -3.000    | 0.148    | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 3                                   |      | Master               | 1.000   | 0.950     | 1.014    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 3                                  | deg  | Master               | 0       | -3.000    | 0.172    | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 4                                   |      | Master               | 1.000   | 0.950     | 0.996    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 4                                  | deg  | Master               | 0       | -3.000    | 0.160    | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 5                                   |      | Master               | 1.000   | 0.950     | 0.987    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 5                                  | deg  | Master               | 0       | -3.000    | -0.133   | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 6                                   |      | Master               | 1.000   | 0.950     | 0.998    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 6                                  | deg  | Master               | 0       | -3.000    | 0.192    | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Gain - 7                                   |      | Master               | 1.000   | 0.950     | 1.007    | 1.050      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Test Loop Phase - 7                                  | deg  | Master               | 0       | -3.000    | -0.097   | 3.000      | <div><div></div><div></div><div></div><div></div><div></div></div> |
| AIT Sonde Calibration - Sonde Error Correction       |      |                      |         |           |          |            |  |
| Master (EEPROM):                                     |      | 12:18:07 04-Sep-2014 |         |           |          |            |  |
| Measurement  | Unit | Phase                | Nominal | Low Limit | Actual   | High Limit | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Real - 0                      | mS/m | Master               | -----   | -231.000  | -109.513 | 119.000    | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Quad - 0                      |      | Master               | -----   | -2250.000 | -462.503 | 2250.000   | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Real - 1                      | mS/m | Master               | -----   | 114.000   | 159.810  | 204.000    | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Quad - 1                      |      | Master               | -----   | -625.000  | -127.134 | 625.000    | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Real - 2                      | mS/m | Master               | -----   | 66.000    | 114.073  | 156.000    | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Quad - 2                      |      | Master               | -----   | -350.000  | 102.792  | 350.000    | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Real - 3                      | mS/m | Master               | -----   | 39.000    | 68.619   | 89.000     | <div><div></div><div></div><div></div><div></div><div></div></div> |
| Sonde Error Correction Quad - 3                      |      | Master               | -----   | -250.000  | -156.455 | 250.000    | <div><div></div><div></div><div></div><div></div><div></div></div> |



|                                 |      |        |      |         |         |        |  |
|---------------------------------|------|--------|------|---------|---------|--------|--|
| Sonde Error Correction Real - 4 | mS/m | Master | ---- | 15.000  | 24.694  | 35.000 |  |
| Sonde Error Correction Quad - 4 |      | Master | ---- | -63.000 | 3.677   | 63.000 |  |
| Sonde Error Correction Real - 5 | mS/m | Master | ---- | 4.000   | 15.085  | 24.000 |  |
| Sonde Error Correction Quad - 5 |      | Master | ---- | -50.000 | -26.597 | 50.000 |  |
| Sonde Error Correction Real - 6 | mS/m | Master | ---- | 5.000   | 10.310  | 15.000 |  |
| Sonde Error Correction Quad - 6 |      | Master | ---- | -30.000 | -5.646  | 30.000 |  |
| Sonde Error Correction Real - 7 | mS/m | Master | ---- | -5.000  | -1.623  | 5.000  |  |
| Sonde Error Correction Quad - 7 |      | Master | ---- | -30.000 | -4.661  | 30.000 |  |

## AIT Mud Calibration - Mud Calibration Gain

| Master (EEPROM): |      | 12:18:07 04-Sep-2014 |         |           |        |            |  |
|------------------|------|----------------------|---------|-----------|--------|------------|--|
| Measurement      | Unit | Phase                | Nominal | Low Limit | Actual | High Limit |  |
| Coarse Gain      |      | Master               | 1.000   | 0.800     | 0.831  | 1.200      |  |
| Fine Gain        |      | Master               | 1.000   | 0.800     | 0.833  | 1.200      |  |

## AIT Electronics Check - Thru Calibration Check

| Master (EEPROM):   |      | 12:18:07 04-Sep-2014 |         | Before (Measured): |          | 10:03:32 16-Oct-2014 |  |
|--------------------|------|----------------------|---------|--------------------|----------|----------------------|--|
| Measurement        | Unit | Phase                | Nominal | Low Limit          | Actual   | High Limit           |  |
| Thru Cal Mag - 0   | V    | Master               | ----    | 0.366              | 0.603    | 0.854                |  |
|                    |      | Before               | ----    | 0.366              | 0.603    | 0.854                |  |
|                    |      | Before-Master        | ----    | ----               | 0.000    | ----                 |  |
| Thru Cal Phase - 0 | deg  | Master               | ----    | 137.000            | -165.073 | -103.000             |  |
|                    |      | Before               | ----    | 137.000            | -164.268 | -103.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.805    | ----                 |  |
| Thru Cal Mag - 1   | V    | Master               | ----    | 0.762              | 1.237    | 1.778                |  |
|                    |      | Before               | ----    | 0.762              | 1.236    | 1.778                |  |
|                    |      | Before-Master        | ----    | ----               | -0.001   | ----                 |  |
| Thru Cal Phase - 1 | deg  | Master               | ----    | 136.000            | -166.020 | -104.000             |  |
|                    |      | Before               | ----    | 136.000            | -165.213 | -104.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.807    | ----                 |  |
| Thru Cal Mag - 2   | V    | Master               | ----    | 0.372              | 0.613    | 0.868                |  |
|                    |      | Before               | ----    | 0.372              | 0.613    | 0.868                |  |
|                    |      | Before-Master        | ----    | ----               | 0.000    | ----                 |  |
| Thru Cal Phase - 2 | deg  | Master               | ----    | 132.000            | -169.506 | -108.000             |  |
|                    |      | Before               | ----    | 132.000            | -168.701 | -108.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.805    | ----                 |  |
| Thru Cal Mag - 3   | V    | Master               | ----    | 0.420              | 0.691    | 0.980                |  |
|                    |      | Before               | ----    | 0.420              | 0.691    | 0.980                |  |
|                    |      | Before-Master        | ----    | ----               | 0.000    | ----                 |  |
| Thru Cal Phase - 3 | deg  | Master               | ----    | 131.000            | -170.241 | -109.000             |  |
|                    |      | Before               | ----    | 131.000            | -169.435 | -109.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.806    | ----                 |  |
| Thru Cal Mag - 4   | V    | Master               | ----    | 0.804              | 1.297    | 1.876                |  |
|                    |      | Before               | ----    | 0.804              | 1.296    | 1.876                |  |
|                    |      | Before-Master        | ----    | ----               | -0.001   | ----                 |  |
| Thru Cal Phase - 4 | deg  | Master               | ----    | 125.000            | -176.203 | -115.000             |  |
|                    |      | Before               | ----    | 125.000            | -175.393 | -115.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.810    | ----                 |  |
| Thru Cal Mag - 5   | V    | Master               | ----    | 1.176              | 1.887    | 2.744                |  |
|                    |      | Before               | ----    | 1.176              | 1.886    | 2.744                |  |
|                    |      | Before-Master        | ----    | ----               | -0.001   | ----                 |  |
| Thru Cal Phase - 5 | deg  | Master               | ----    | 122.000            | -177.732 | -118.000             |  |
|                    |      | Before               | ----    | 122.000            | -176.917 | -118.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.815    | ----                 |  |
| Thru Cal Mag - 6   | V    | Master               | ----    | 1.176              | 1.886    | 2.744                |  |
|                    |      | Before               | ----    | 1.176              | 1.885    | 2.744                |  |
|                    |      | Before-Master        | ----    | ----               | -0.001   | ----                 |  |
| Thru Cal Phase - 6 | deg  | Master               | ----    | 121.000            | -177.711 | -119.000             |  |
|                    |      | Before               | ----    | 121.000            | -176.895 | -119.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.816    | ----                 |  |
| Thru Cal Mag - 7   | V    | Master               | ----    | 0.846              | 1.357    | 1.974                |  |
|                    |      | Before               | ----    | 0.846              | 1.357    | 1.974                |  |
|                    |      | Before-Master        | ----    | ----               | 0.000    | ----                 |  |
| Thru Cal Phase - 7 | deg  | Master               | ----    | 115.000            | -178.471 | -125.000             |  |
|                    |      | Before               | ----    | 115.000            | -177.630 | -125.000             |  |
|                    |      | Before-Master        | ----    | ----               | 0.841    | ----                 |  |
| SPA Zero           | mV   | Master               |         | -50.000            | 0.156    | 50.000               |  |

|                  |    |                         |       |         |                            |                 |   |
|------------------|----|-------------------------|-------|---------|----------------------------|-----------------|---|
|                  |    | Before<br>Before-Master | ----- | -----   | -50.000<br>0.125<br>-0.031 | 50.000<br>----- | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| SPA Plus         | mV | Master                  |       | 941.000 | 987.998                    | 1040.000        | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
|                  |    | Before                  |       | 941.000 | 987.907                    | 1040.000        | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
|                  |    | Before-Master           | ----- | -----   | -0.091                     | -----           | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Temperature Zero | V  | Master                  |       | -0.050  | 0.000                      | 0.050           | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
|                  |    | Before                  |       | -0.050  | 0.000                      | 0.050           | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
|                  |    | Before-Master           | ----- | -----   | 0.000                      | -----           | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Temperature Plus | V  | Master                  |       | 0.870   | 0.915                      | 0.960           | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
|                  |    | Before                  |       | 0.870   | 0.915                      | 0.960           | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
|                  |    | Before-Master           | ----- | -----   | 0.000                      | -----           | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |

## EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run 1

|                         |  |   |        |
|-------------------------|--|---|--------|
| Primary Equipment :     |  | EDTC-B  | EDTC-B |
| Calibration Parameter : |  | Plus Reference (Jig minus background reference) | 165    |

## EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

| Before:                     |       |        |         |           |        |            |   |
|-----------------------------|-------|--------|---------|-----------|--------|------------|---|
| Measurement                 | Unit  | Phase  | Nominal | Low Limit | Actual | High Limit | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| AZ Vertical Measurement - 0 | ft/s2 | Before | -----   | -----     | -----  | -----      | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |

## EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

| Before (Measured): |      | 10:05:38 16-Oct-2014 |         |           |        |            |   |
|--------------------|------|----------------------|---------|-----------|--------|------------|---|
| Measurement        | Unit | Phase                | Nominal | Low Limit | Actual | High Limit | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| Gamma Ray Gain     |      | Before               | 1.000   | 0.900     | 1.021  | 1.100      | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |

## EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

| Before (Measured):   |      | 10:05:38 16-Oct-2014 |         |           |         |            |   |
|----------------------|------|----------------------|---------|-----------|---------|------------|---|
| Measurement          | Unit | Phase                | Nominal | Low Limit | Actual  | High Limit | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| RGR Zero Measurement | gAPI | Before               |         | 0         | 69.882  | 120.000    | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |
| RGR Plus Measurement | gAPI | Before               | 165.000 | 150.000   | 161.572 | 180.000    | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |

|          |                        |              |
|----------|------------------------|--------------|
| Company: | Noble Energy Inc       | Schlumberger |
| Well:    | Rohn State LD10 63 1HN |              |
| Field:   | Wattenberg             |              |
| County:  | Weld                   |              |
| State:   | Colorado               |              |

Platform Express

# Array Induction with Linear Correlation