

County:   Cheyenne  
Field:   Wildcat

|      |  |
|------|--|
| Log  |  |
| Rur  |  |
| Def  |  |
| Sch  |  |
| Bot  |  |
| Top  |  |
| Cas  |  |
| Cas  |  |
| Bit  |  |
| Type |  |
| MUD  |  |
| De   |  |
| Flu  |  |
| So   |  |
| RM   |  |
| RM   |  |
| RM   |  |
| RM   |  |
| Sou  |  |
| RM   |  |
| Max  |  |
| Circ |  |
| Log  |  |
| Unit |  |
| Rec  |  |
| Wit  |  |

Schlumberger

Company: Vecta Oil & Gas, Ltd.

Well: Huron 23-9

Field: Wildcat

County: Cheyenne

State: Colorado

Platform Express  
Array Induction  
with Linear Correlation

Location: Sec. 9, T14S, R47W

Well: Huron 23-9

Company: Vecta Oil & Gas, Ltd.

LOCATION

Sec. 9, T14S, R47W  
SHL: 1456' FSL X 2463' FWL NESW

Elev.: K.B. 4276.00 ft  
G.L. 4265.00 ft  
D.F. 4275.00 ft

Permanent Datum: \_\_\_\_\_  
Log Measured From: Kelly Bushing \_\_\_\_\_  
Drilling Measured From: Kelly Bushing \_\_\_\_\_

Elev.: 4265.00 ft  
11.00 ft above Perm. Datum

API Serial No. 05-017-07692-000C

Section 9

Township 14S

Range 47W

Logging Date 8-Feb-2010

Run Number 1

Depth Driller 5515 ft

Schlumberger Depth 5504 ft

Bottom Log Interval 5496 ft

Log Interval 408 ft

Logging Driller Size @ Depth 8.625 in @ 410 ft

Logging Schlumberger 408 ft

Logging Schlumberger 7.875 in

Logging Schlumberger 7.875 in

Logging Schlumberger 7.875 in

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Logging Schlumberger 7.875 in

Logging Schlumberger 7.875 in

Run 1

Run 2

Run 3

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

Source Of Sample

RM @ Measured Temperature @

RMF @ Measured Temperature @

RMF @ Measured Temperature @

Source RMF RMC

RM @ MRT RMC @

Maximum Recorded Temperatures @

Circulation Stopped Time

Logger On Bottom Time

Unit Number Location

Recorded By

Witnessed By



Rig: Black Gold Drilling, Rig 69

Crew: Tim Ludgate & Dave Marquez

| RUN 1                       |       |      |
|-----------------------------|-------|------|
| SERVICE ORDER #: B8GW-00028 |       |      |
| PROGRAM VERSION: 17C0-154   |       |      |
| FLUID LEVEL:                |       |      |
| LOGGED INTERVAL             | START | STOP |
|                             |       |      |
|                             |       |      |
|                             |       |      |
|                             |       |      |

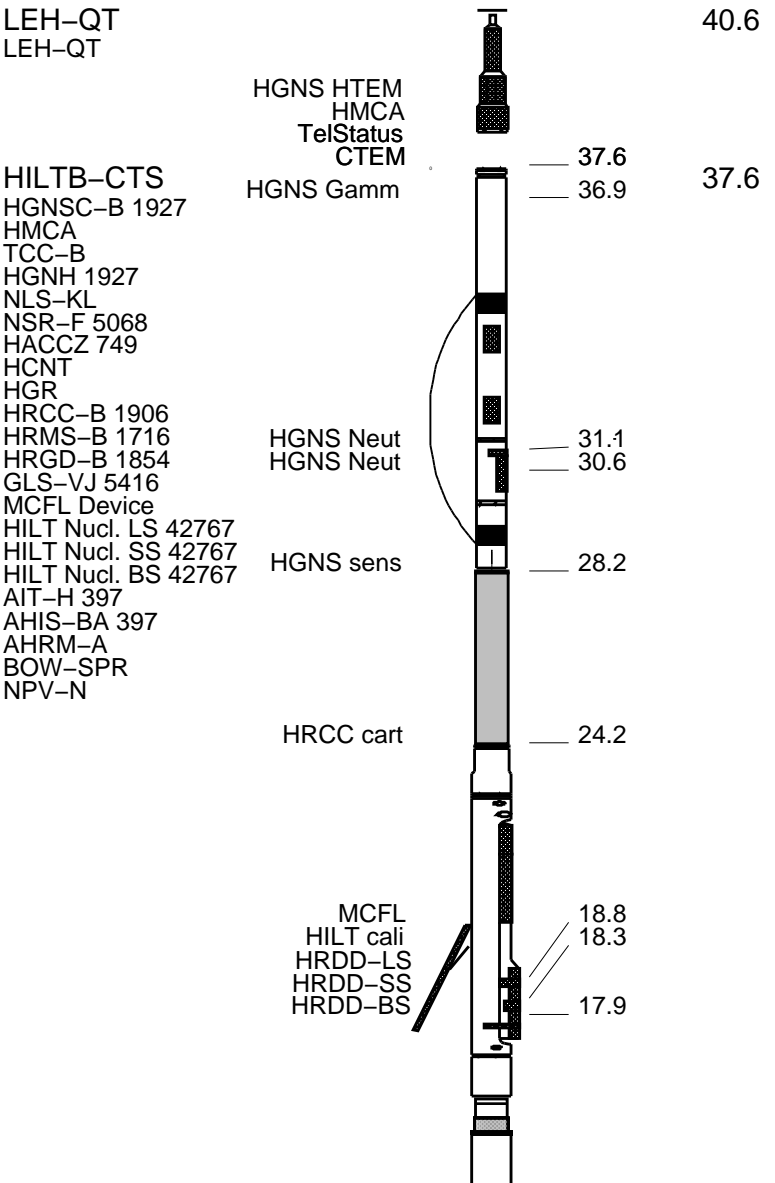
| RUN 2            |       |      |
|------------------|-------|------|
| SERVICE ORDER #: |       |      |
| PROGRAM VERSION: |       |      |
| FLUID LEVEL:     |       |      |
| LOGGED INTERVAL  | START | STOP |
|                  |       |      |
|                  |       |      |
|                  |       |      |
|                  |       |      |

EQUIPMENT DESCRIPTION

RUN 1

**SURFACE EQUIPMENT**  
WITM (CTS)-A NCS-VB  
GSR-U/Y  
NCT-B  
CNB-AB

**DOWNHOLE EQUIPMENT**



RUN 2

Induction  
Temperatu  
Power Sup

7.9

SP SENSOR  
HTEN HMAS  
Accelerom HV  
Mud Resis  
Tension

0.1

0.0

TOOL ZERO

MAXIMUM STRING DIAMETER 4.63 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN FEET

Production String

(in) (ft)  
OD ID MD

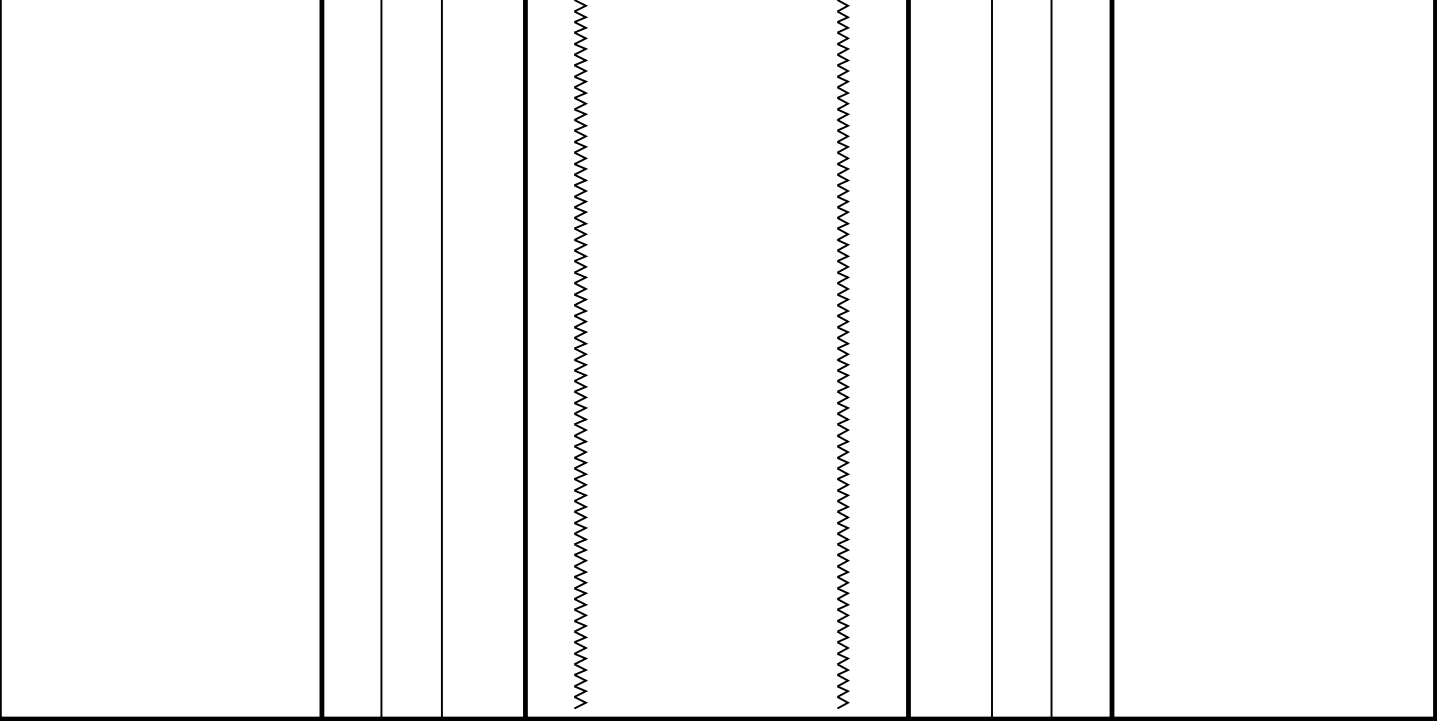
Well Schematic

(ft) (in)  
MD OD ID

Casing String

Casing String

Casing Shoe  
Borehole Segment



All depths are driller's depths



RESISTIVITY LINEAR 2" = 100'

MAXIS Field Log

Output DLIS Files

DEFAULT      AIT\_TLD\_MCFL\_CNL\_007LUP      FN:6      PRODUCER      08-Feb-2010 05:59      5520.0 FT      262.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 2159.01 F3  
Cement Volume = 1318.16 F3 (assuming 5.50 IN casing O.D.)  
Computed from 5504.0 FT to 408.0 FT using data channel(s) HCAL

OP System Version: 17C0-154

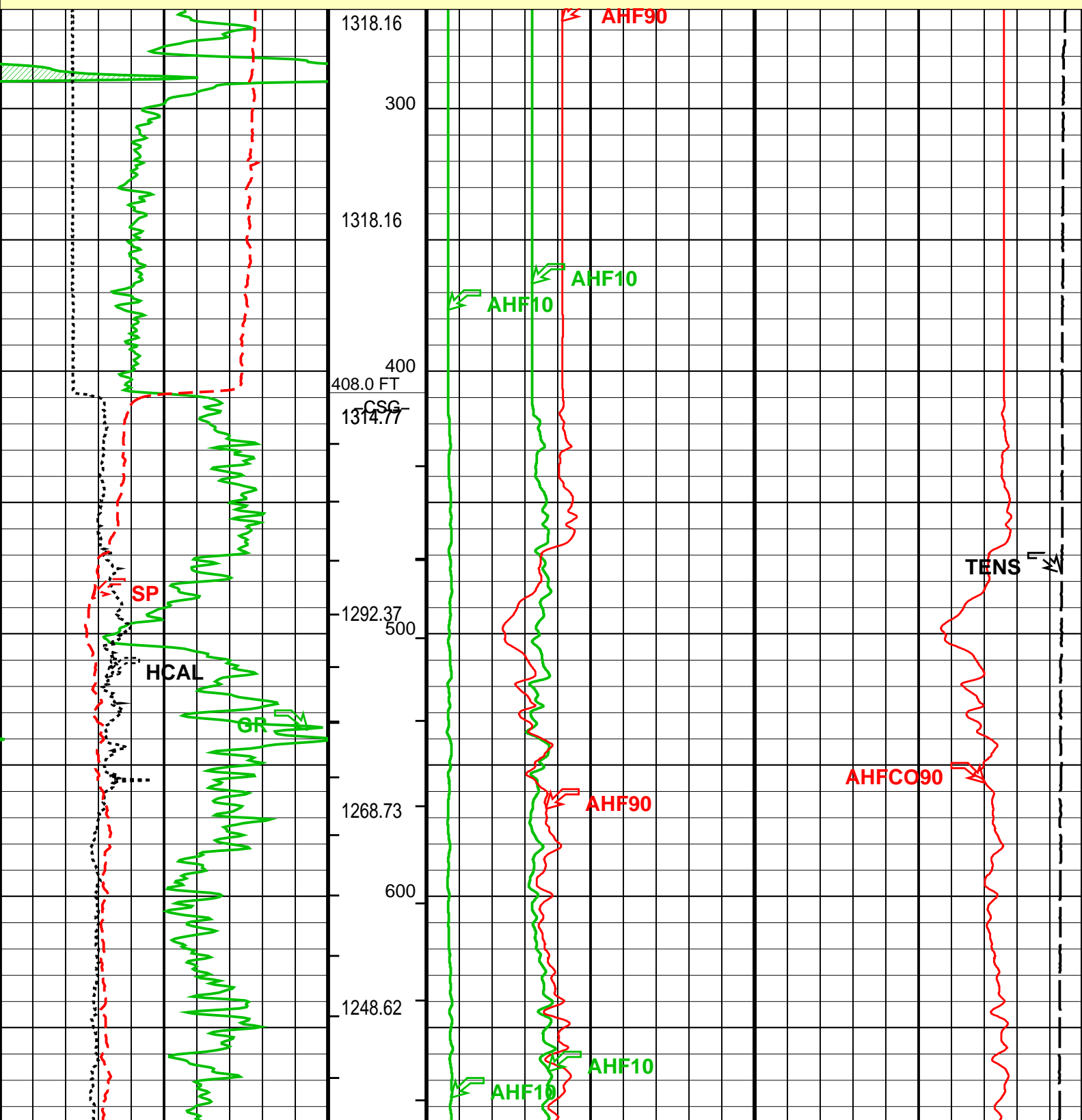
HILTB-CTS      17C0-154

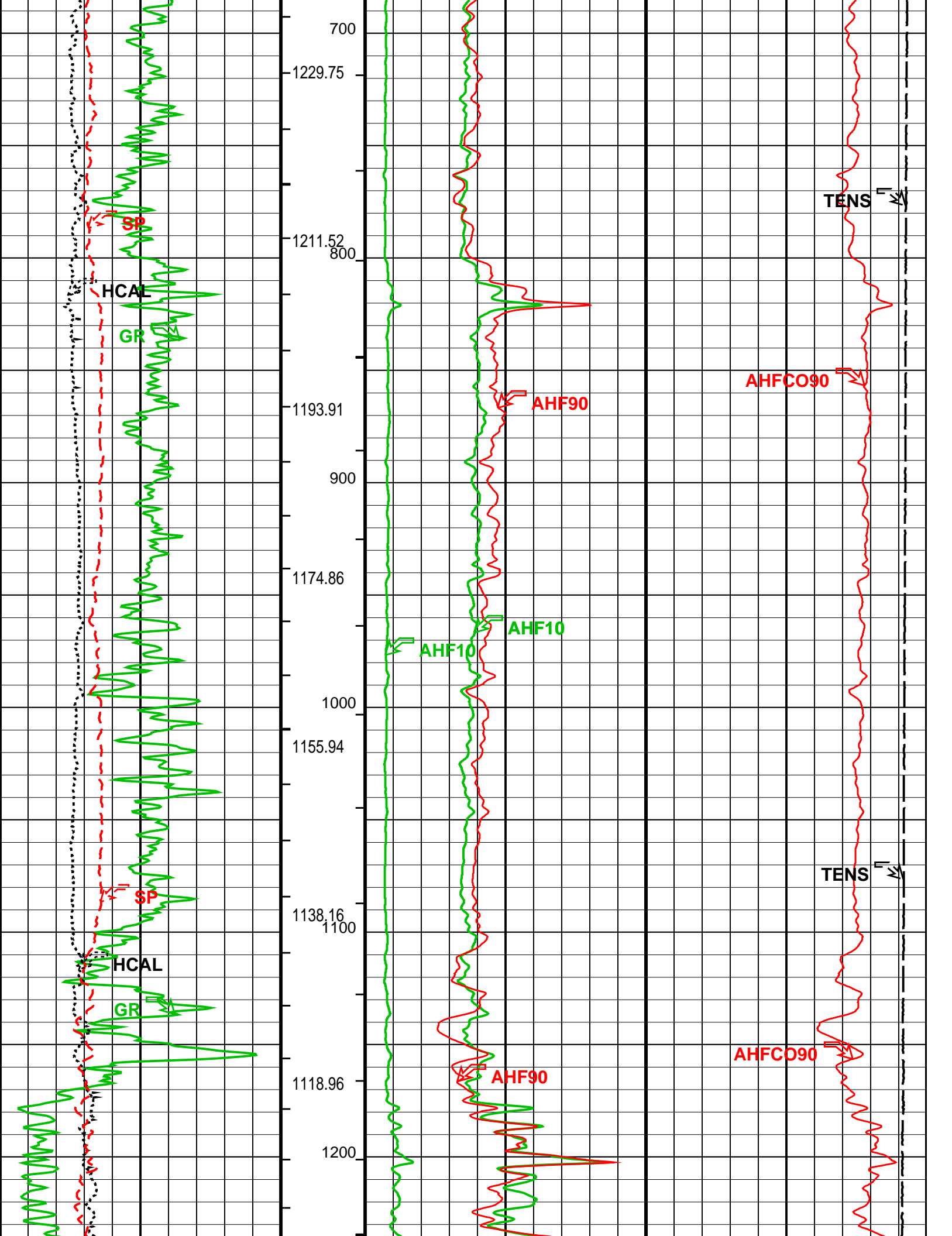
PIP SUMMARY

- ➔ Integrated Cement Volume Major Pip Every 100 F3
- ➔ Integrated Cement Volume Minor Pip Every 10 F3
- ➔ Integrated Hole Volume Major Pip Every 100 F3
- ➔ Integrated Hole Volume Minor Pip Every 10 F3

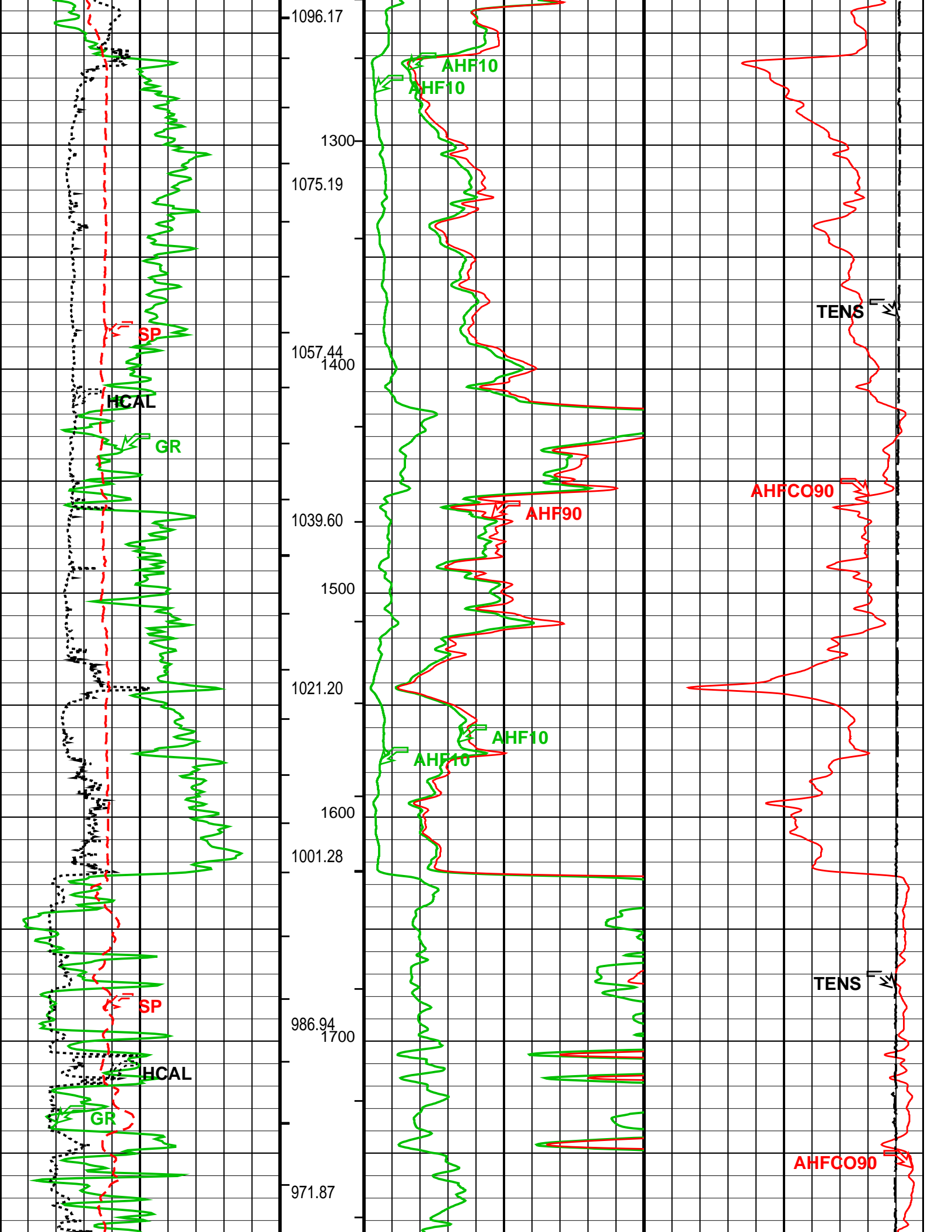
|                          |     |   |    |   |   |
|--------------------------|-----|---|----|---|---|
| SP (SP)<br>(MV)          |     | AIT-H 90 Inch Investigation (AHF90)<br>(OHMM) |    | Tension (TENS)<br>(LBF)   |   |
| -160                     | 40  | 0   | 10 | 10000   | 0 |
| Caliper (HCAL)<br>(IN)   |     | AIT-H 10 Inch Investigation (AHF10)<br>(OHMM) |    |   |   |
| 6                        | 16  | 0   | 10 |   |   |
| Gamma Ray (GR)<br>(GAPI) |     | AIT-H 10 Inch Investigation (AHF10)<br>(OHMM) |    | AIT-H 90 Inch Investigation Conductivity<br>(AHFCO90)<br>(MM/M) |   |
| 0                        | 200 | 0   | 50 | 1000  | 0 |
| Gamma Ray Backup         |     | Cement Volume (ICV)<br>(F3)                   |    |   |   |

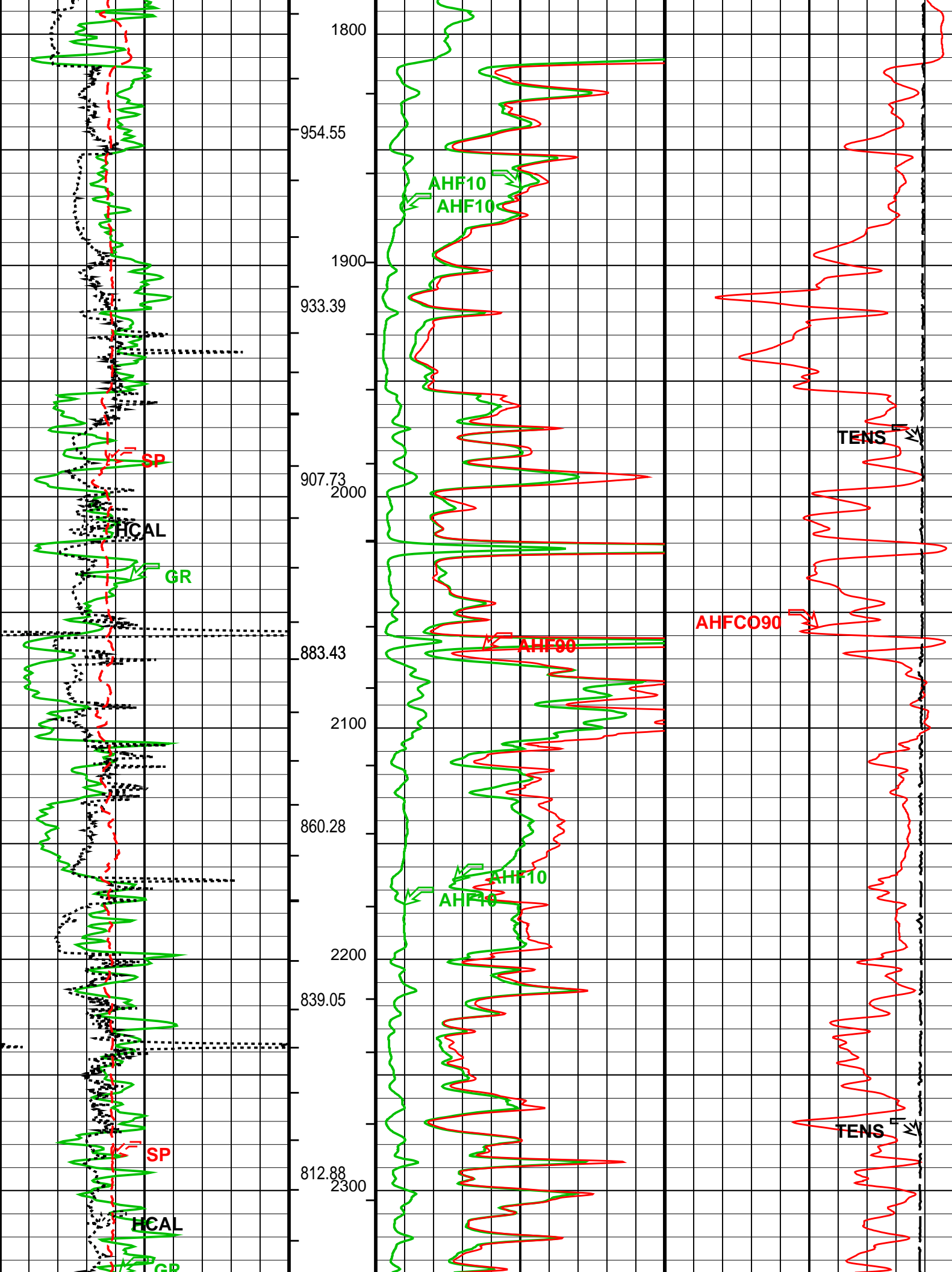
MAIN PASS: \*\*\* PLATFORM EXPRESS – ARRAY INDUCTION \*\*\*

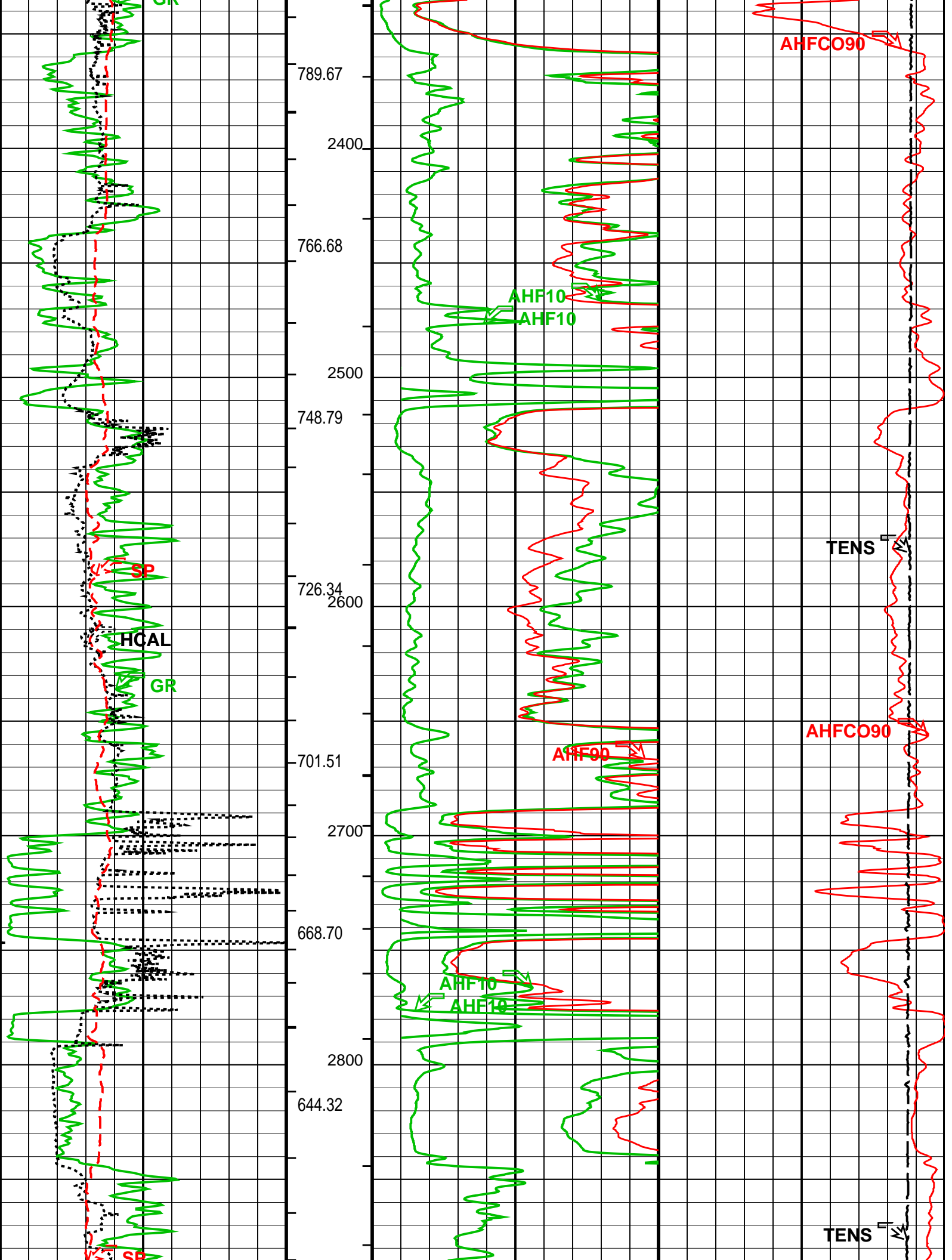


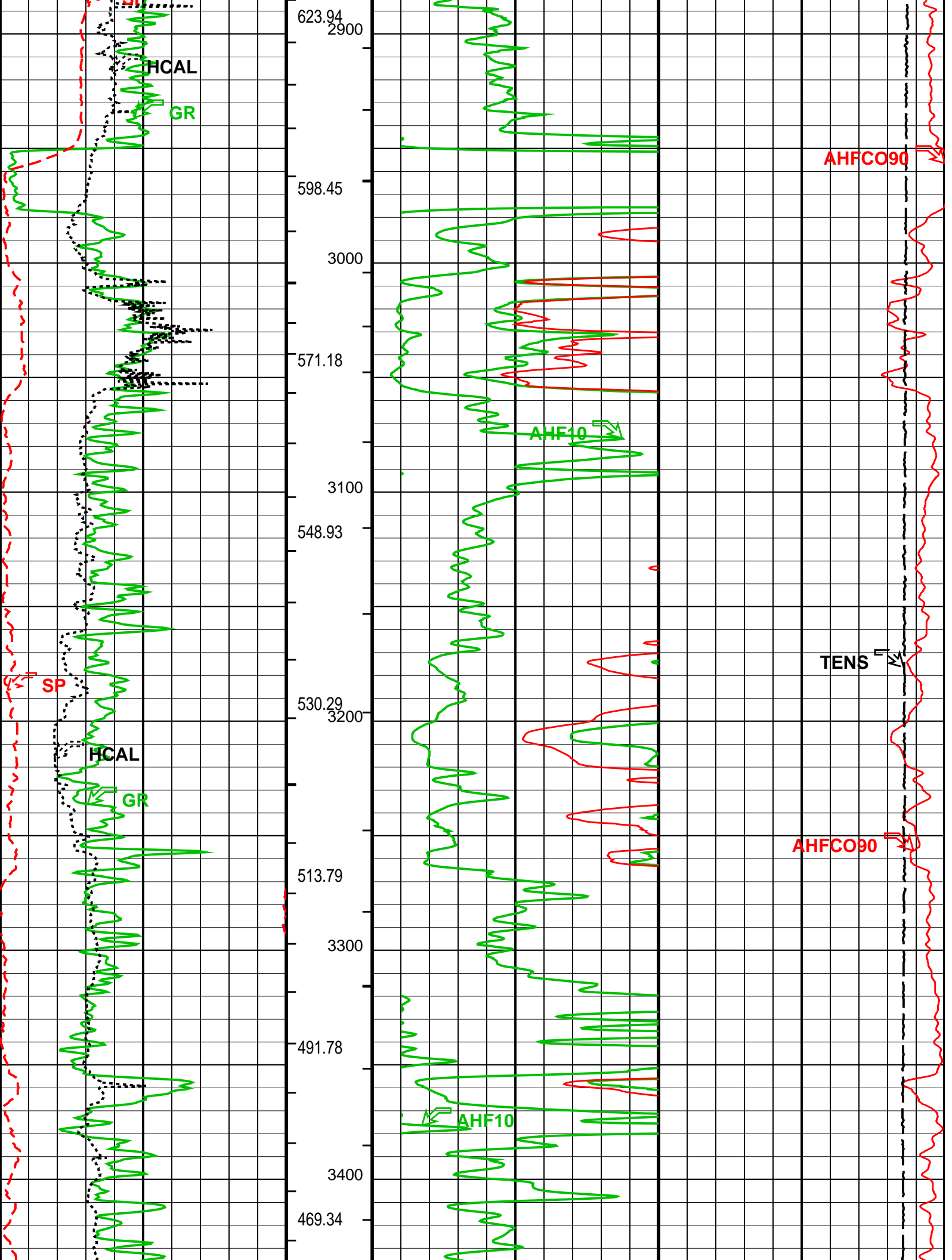


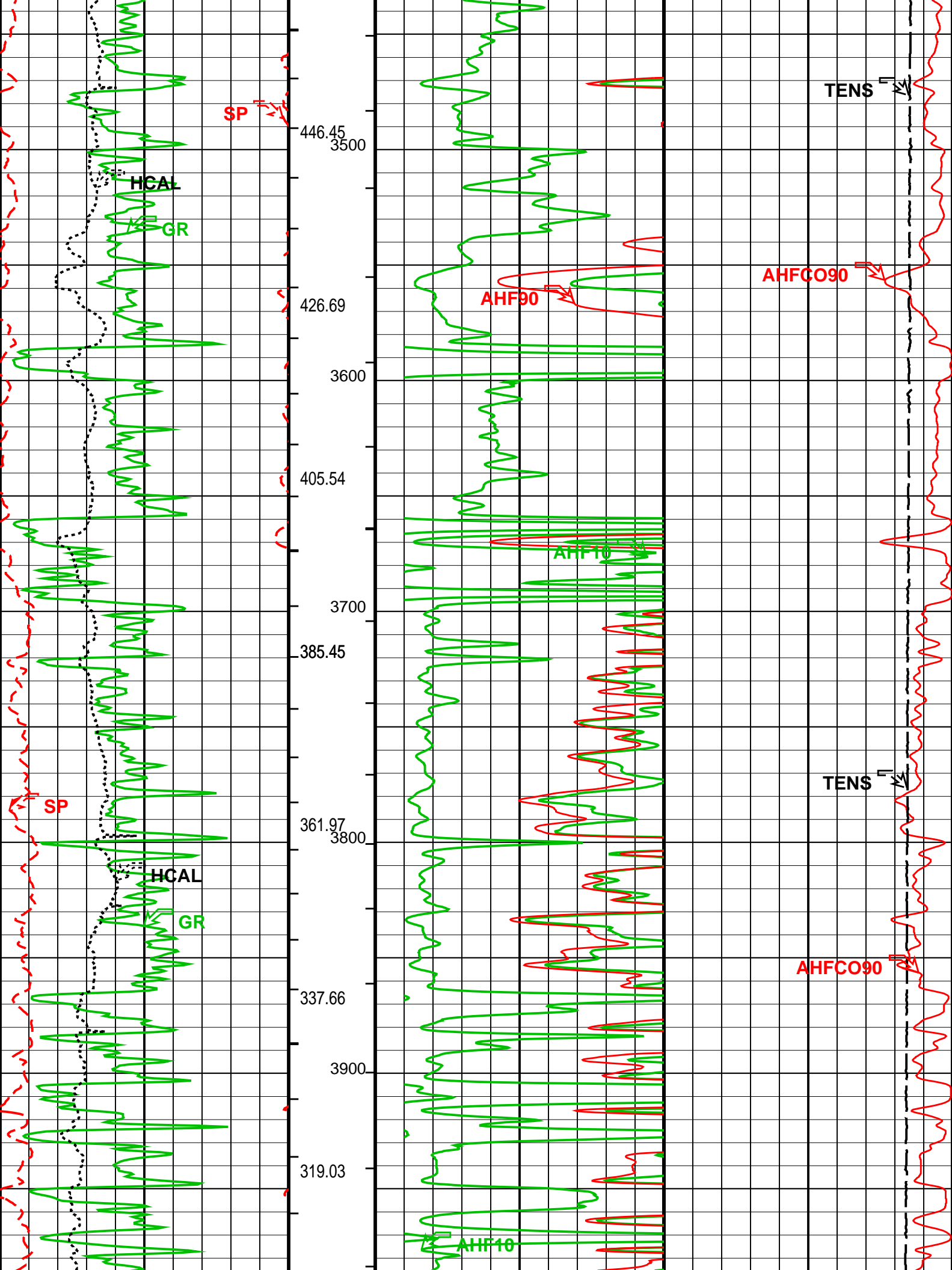


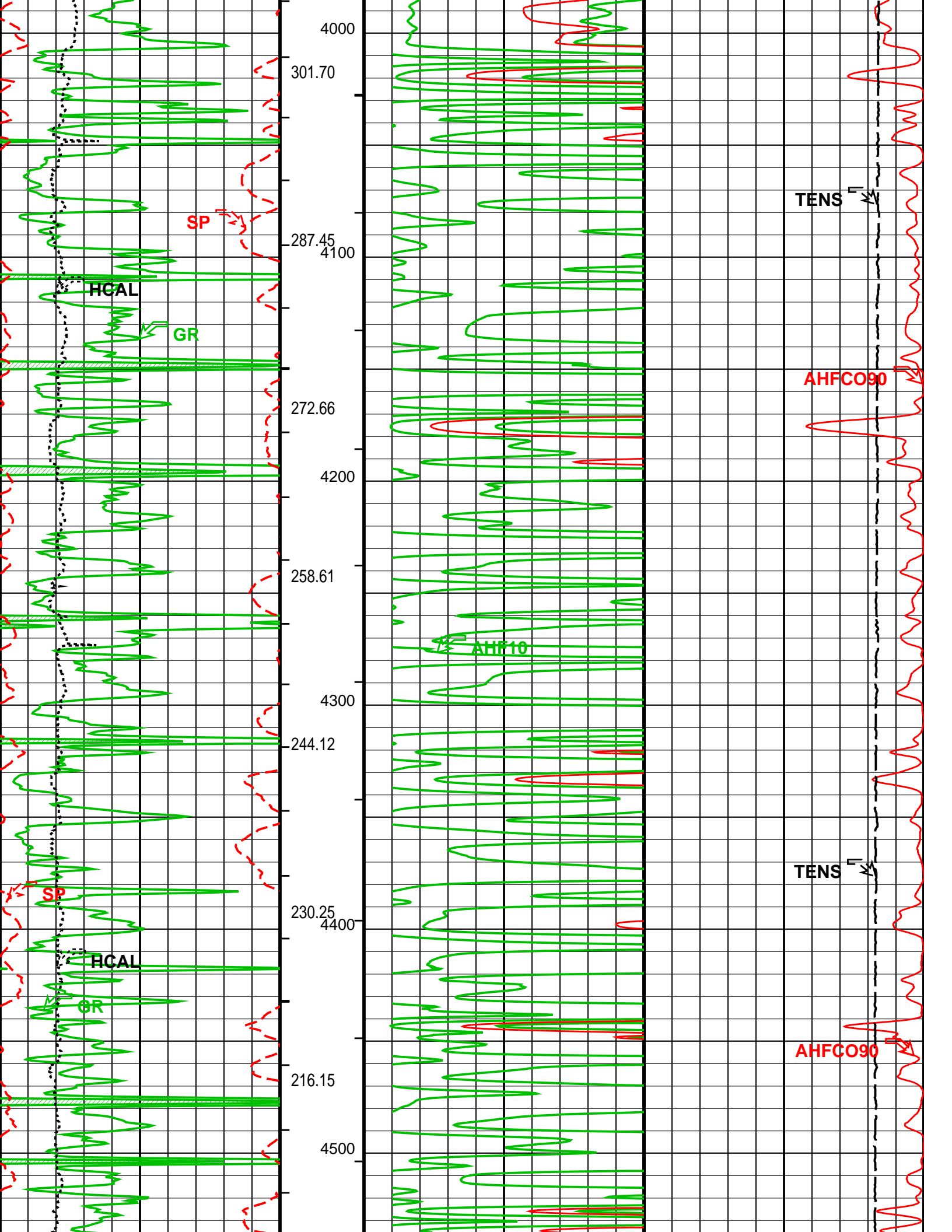


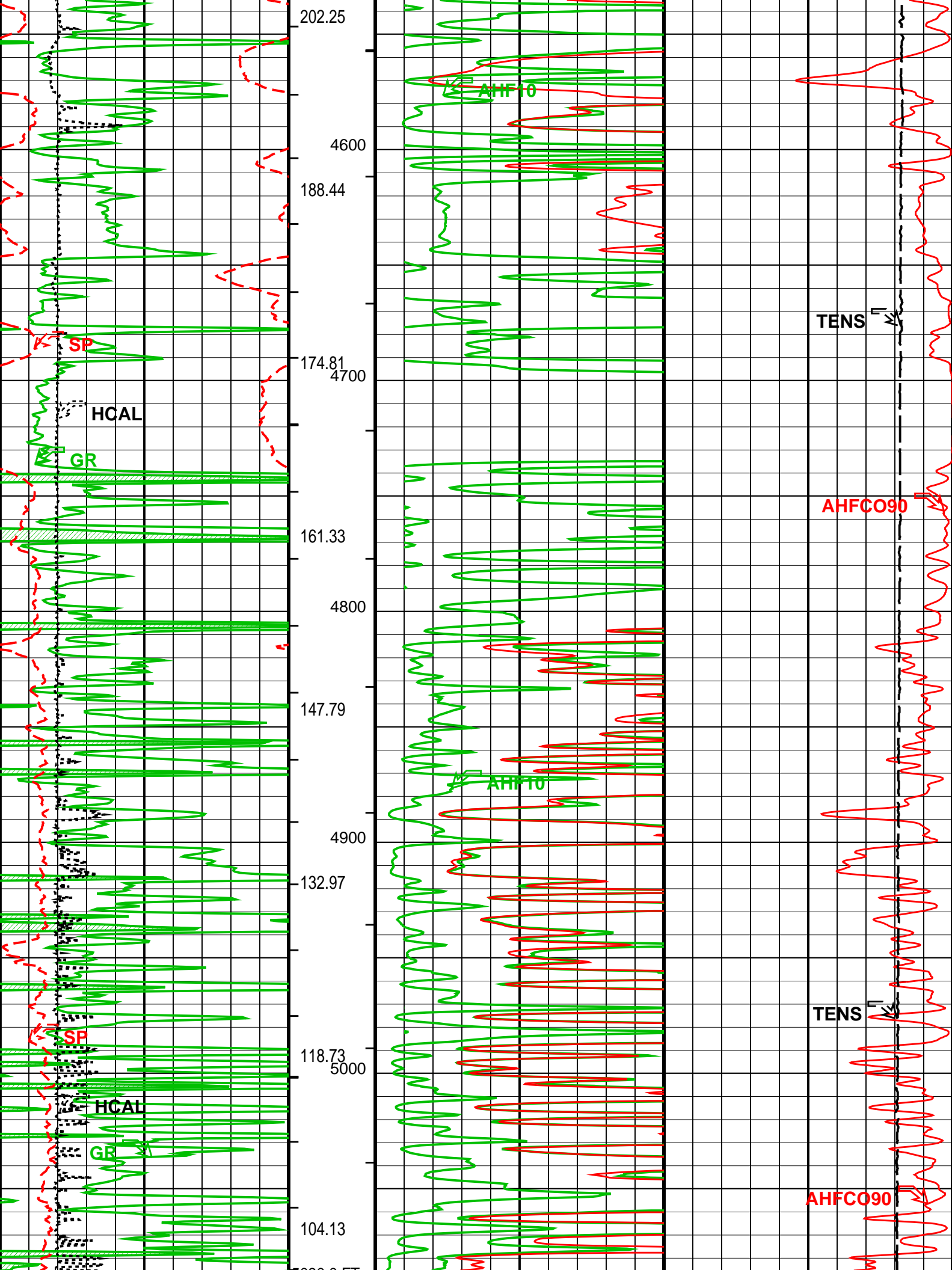


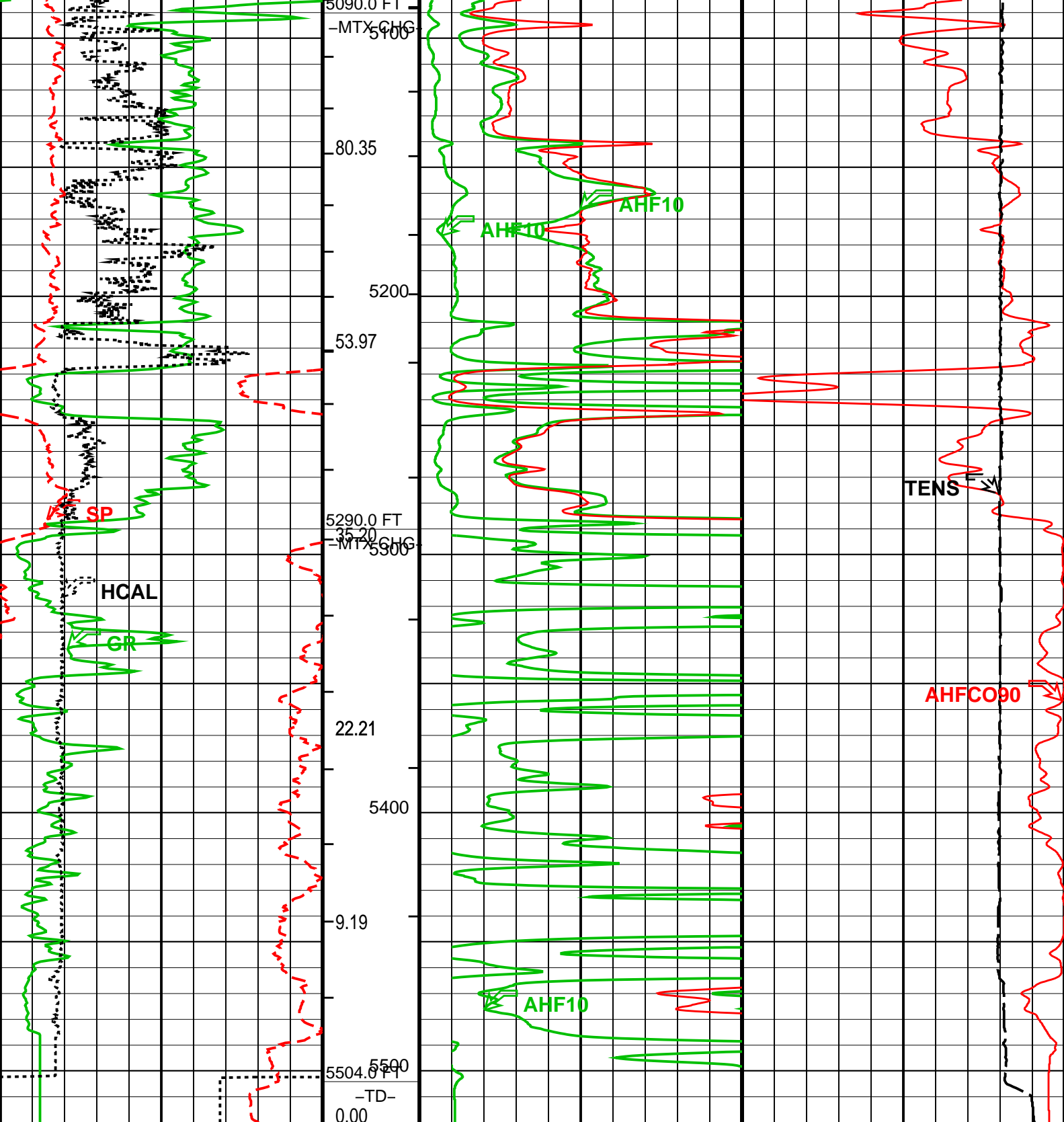












MAIN PASS: \*\*\* PLATFORM EXPRESS - ARRAY INDUCTION \*\*\*

|                  |                                     |                                     |       |  |   |
|------------------|-------------------------------------|-------------------------------------|-------|--|---|
| Gamma Ray Backup | Cement<br>Volume<br>(ICV)<br>(F3)   | AIT-H 10 Inch Investigation (AHF10) |       | AIT-H 90 Inch Investigation Conductivity (AHFCO90) |   |
|                  |                                     | 0                                   | 50    | 1000   | 0 |
|                  |                                     | (OHMM)                              |       | (MM/M)   |   |
| Gamma Ray (GR)   |                                     | AIT-H 10 Inch Investigation (AHF10) |       | Tension (TENS)                                     |   |
| 0                |                                     | 10                                  | 10000 | 0  |   |
| (GAPI)           |                                     | (LBF)                               |       |  |   |
| 200              |                                     |                                     |       |  |   |
| Caliper (HCAL)   | AIT-H 90 Inch Investigation (AHF90) |                                     |       |  |   |
| 6                | 0                                   |                                     |       |  |   |
| (IN)             | (OHMM)                              |                                     |       |  |   |
| 16               | 10                                  |                                     |       |  |   |
| SP (SP)          |                                     |                                     |       |  |   |
| -160             |                                     |                                     |       |  |   |
| (MV)             |                                     |                                     |       |  |   |
| 40               |                                     |                                     |       |  |   |



# PIP SUMMARY

- ➔ Integrated Cement Volume Major Pip Every 100 F3
- ➔ Integrated Cement Volume Minor Pip Every 10 F3
- ➔ Integrated Hole Volume Major Pip Every 100 F3
- ➔ Integrated Hole Volume Minor Pip Every 10 F3

## Parameters

| DLIS Name  | Description   | Value              |      |
|--|---|--------------------|------|
| HILTB-CTS: High resolution Integrated Logging Tool-CTS |   |                    |      |
| AHBHM  | Array Induction Borehole Correction Mode                    | 2_ComputeStandoff  |      |
| AHBHV  | Array Induction Borehole Correction Code Version Number     | 900                |      |
| AHBLM  | Array Induction Basic Logs Mode                             | 6_One_Two_and_Four |      |
| AHBLV  | Array Induction Basic Logs Code Version Number              | 223                |      |
| AHCDE  | Array Induction Casing Detection Enable                     | Yes                |      |
| AHCEN  | Array Induction Tool Centering Flag (in Borehole)           | Eccentered         |      |
| AHFRSV   | Array Induction Response Set Version for Four ft Resolution | 41.70.24.20        |      |
| AHMRF  | Array Induction Mud Resistivity Factor                      | 1                  |      |
| AHORSV   | Array Induction Response Set Version for One ft Resolution  | 41.70.24.20        |      |
| AHRFV  | Array Induction Radial Profiling Code Version Number        | 701                |      |
| AHRPV  | Array Induction Radial Parametrization Code Version Number  | 232                |      |
| AHSTA  | Array Induction Tool Standoff                               | 0.125              | IN   |
| AHTRSV   | Array Induction Response Set Version for Two ft Resolution  | 41.70.24.20        |      |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7              | DEGF |
| FEXP   | Form Factor Exponent  | 2                  |      |
| FNUM   | Form Factor Numerator                                       | 1                  |      |
| GCSE   | Generalized Caliper Selection                               | HCAL               |      |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0                  | DEG  |
| GGRD   | Geothermal Gradient   | 0.01               | DF/F |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |      |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |      |
| SHT  | Surface Hole Temperature                                    | 68                 | DEGF |
| SPNV   | SP Next Value   | 0                  | MV   |
| FEQL: Formation Evaluation Quick Look                  |   |                    |      |
| FEXP   | Form Factor Exponent  | 2                  |      |
| FNUM   | Form Factor Numerator                                       | 1                  |      |
| HOLEV: Integrated Hole/Cement Volume                   |   |                    |      |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7              | DEGF |
| FCD  | Future Casing (Outer) Diameter                              | 5.5                | IN   |
| GCSE   | Generalized Caliper Selection                               | HCAL               |      |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0                  | DEG  |
| GGRD   | Geothermal Gradient   | 0.01               | DF/F |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |      |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |      |
| HVCS   | Integrated Hole Volume Caliper Selection                    | AUTOMATIC          |      |
| SHT  | Surface Hole Temperature                                    | 68                 | DEGF |
| PERT: Preliminary Evaluation - Real Time               |   |                    |      |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7              | DEGF |
| FEXP   | Form Factor Exponent  | 2                  |      |
| FNUM   | Form Factor Numerator                                       | 1                  |      |
| GCSE   | Generalized Caliper Selection                               | HCAL               |      |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0                  | DEG  |
| GGRD   | Geothermal Gradient   | 0.01               | DF/F |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |      |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |      |
| SHT  | Surface Hole Temperature                                    | 68                 | DEGF |
| System and Miscellaneous                               |   |                    |      |
| BS   | Bit Size  | 7.875              | IN   |
| DFD  | Drilling Fluid Density                                      | 9.20               | LB/G |
| DORL   | Depth Offset for Repeat Analysis                            | 0.0                | FT   |
| FLEV   | Fluid Level   | -50000.00          | FT   |
| MST  | Mud Sample Temperature                                      | 74.60              | DEGF |
| TD   | Total Depth   | 5504               | FT   |

Format: ERES\_S2 Vertical Scale: 2" per 100' Graphics File Created: 08-Feb-2010 05:59

## OP System Version: 17C0-154

HILTB-CTS 17C0-154

## Output DLIS Files

DEFAULT AIT\_TLD\_MCFL\_CNL\_007LUP FN:6 PRODUCER 08-Feb-2010 05:59

## Output DLIS Files

|         |                         |      |          |                   |           |          |
|---------|-------------------------|------|----------|-------------------|-----------|----------|
| DEFAULT | AIT TLD MCFL CNL 007LUP | FN:6 | PRODUCER | 08-Feb-2010 05:59 | 5520.0 FT | 262.0 FT |
|---------|-------------------------|------|----------|-------------------|-----------|----------|

## Integrated Hole/Cement Volume Summary

**Hole Volume = 2159.01 F3**

**Cement Volume = 1318.16 F3 (assuming 5.50 IN casing O.D.)**

Computed from 5504.0 FT to 408.0 FT using data channel(s) HCAL

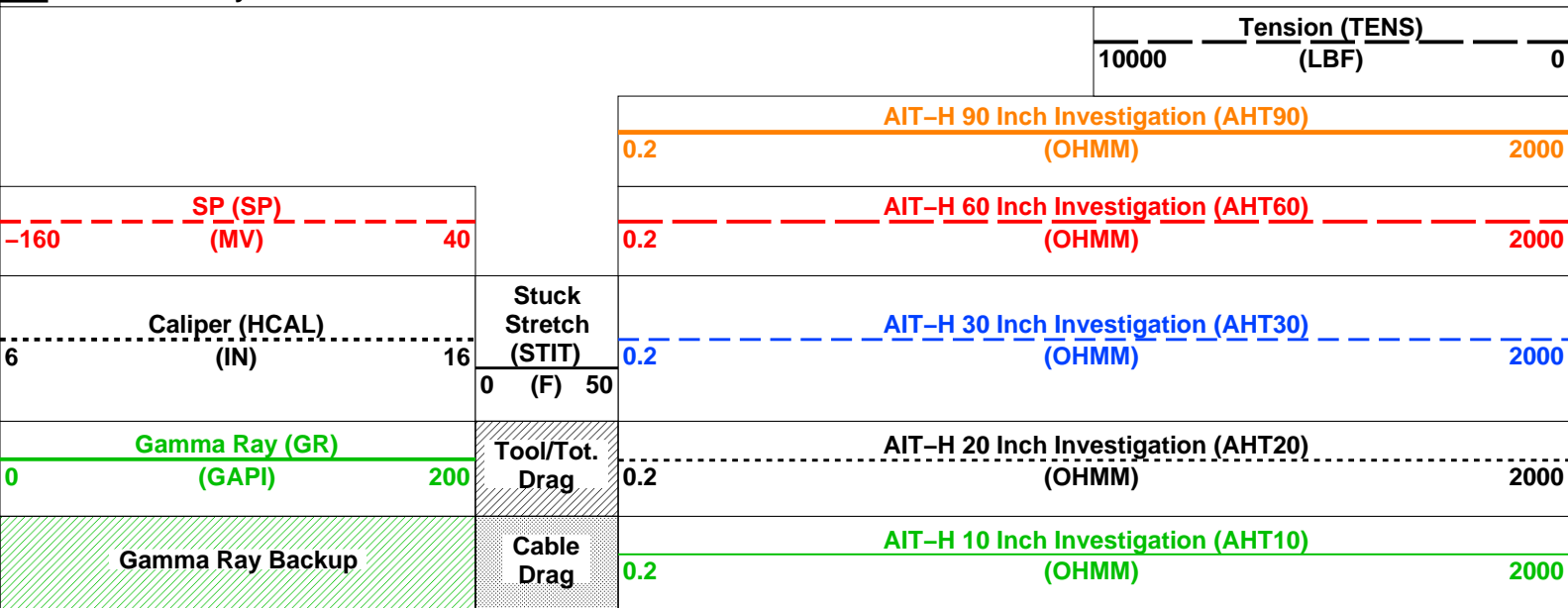
**OP System Version: 17C0-154**

HILTB-CTS 17C0-154

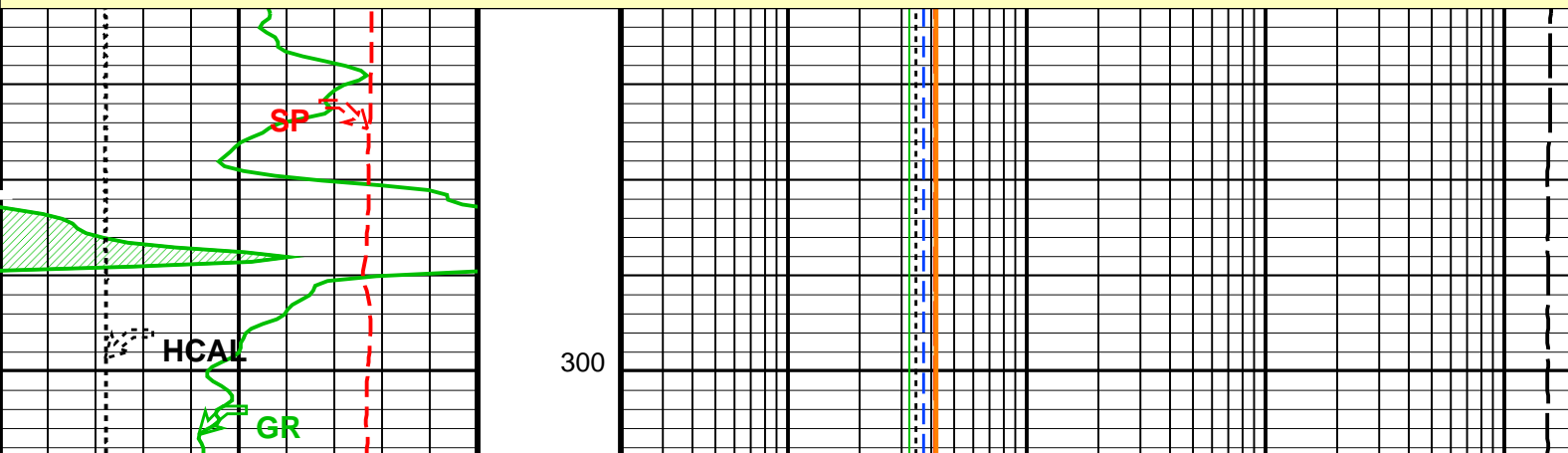
## PIP SUMMARY

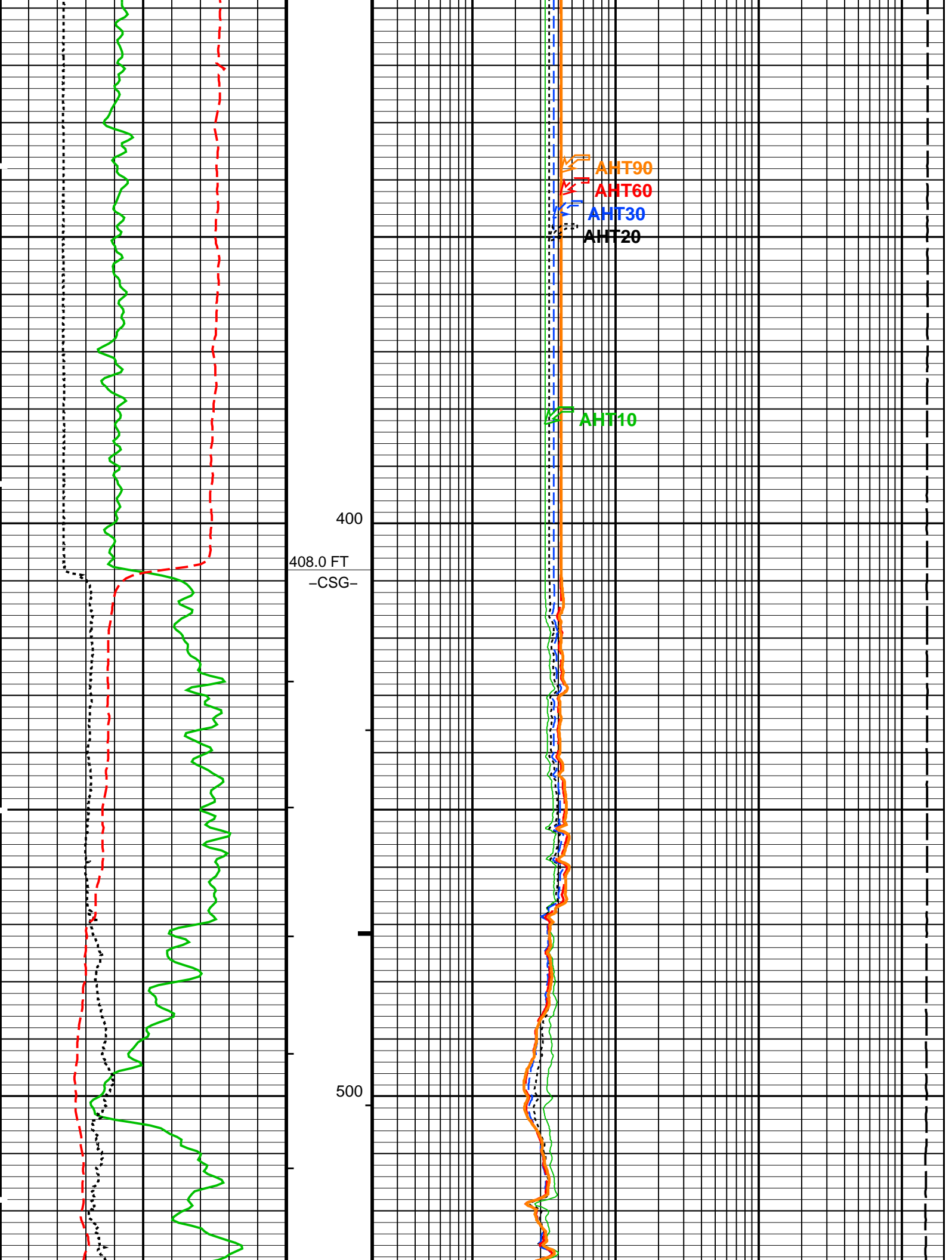
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

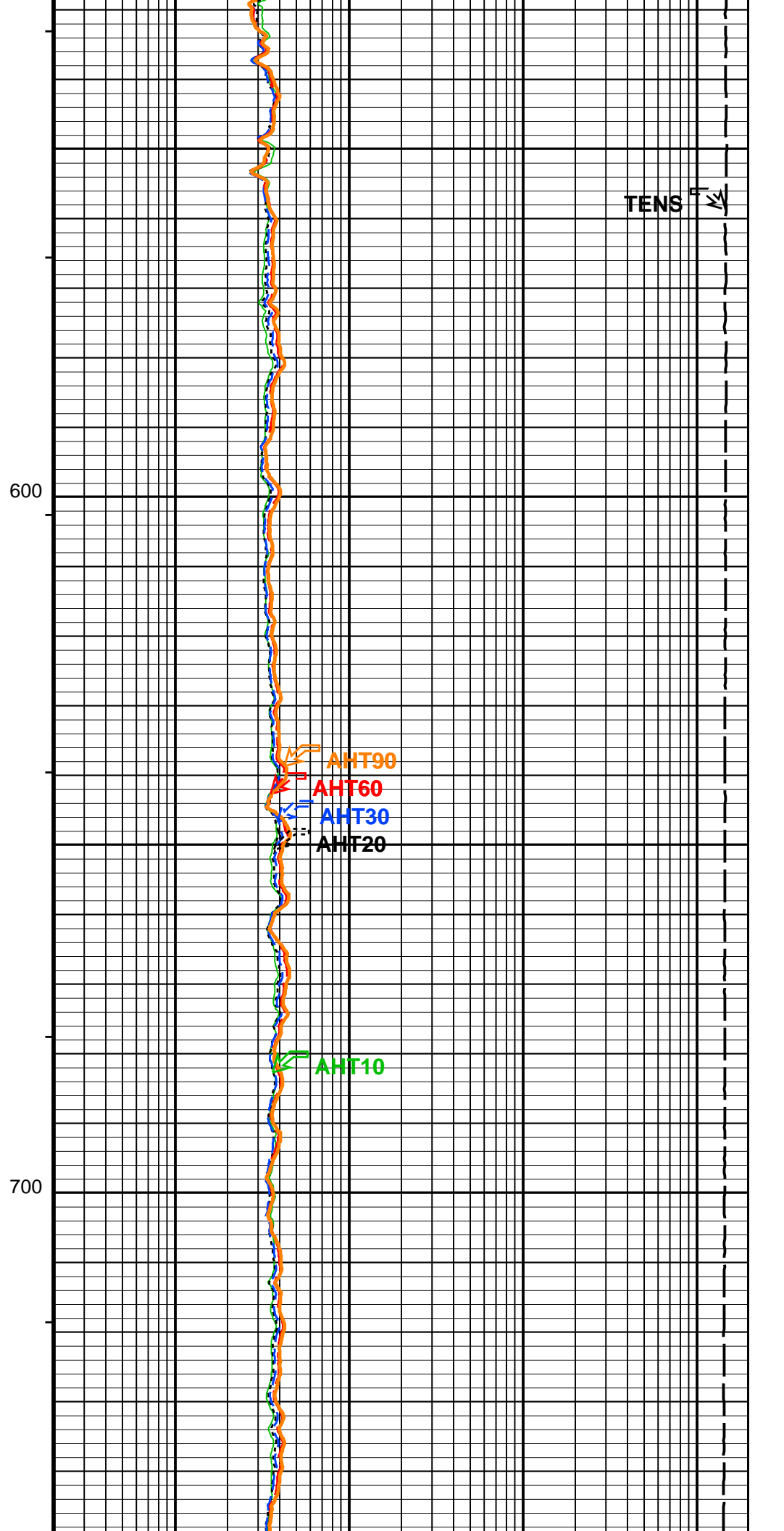
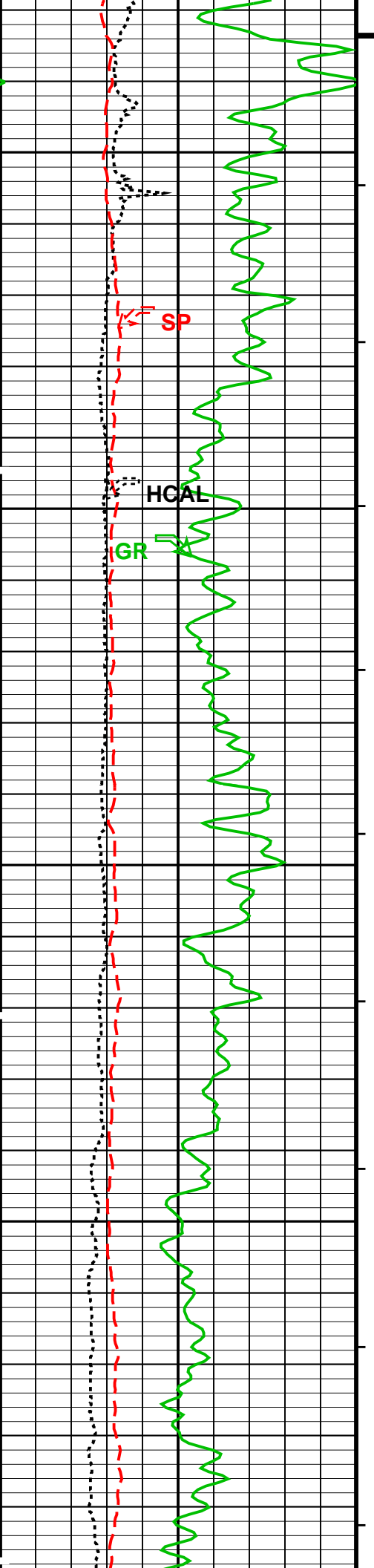
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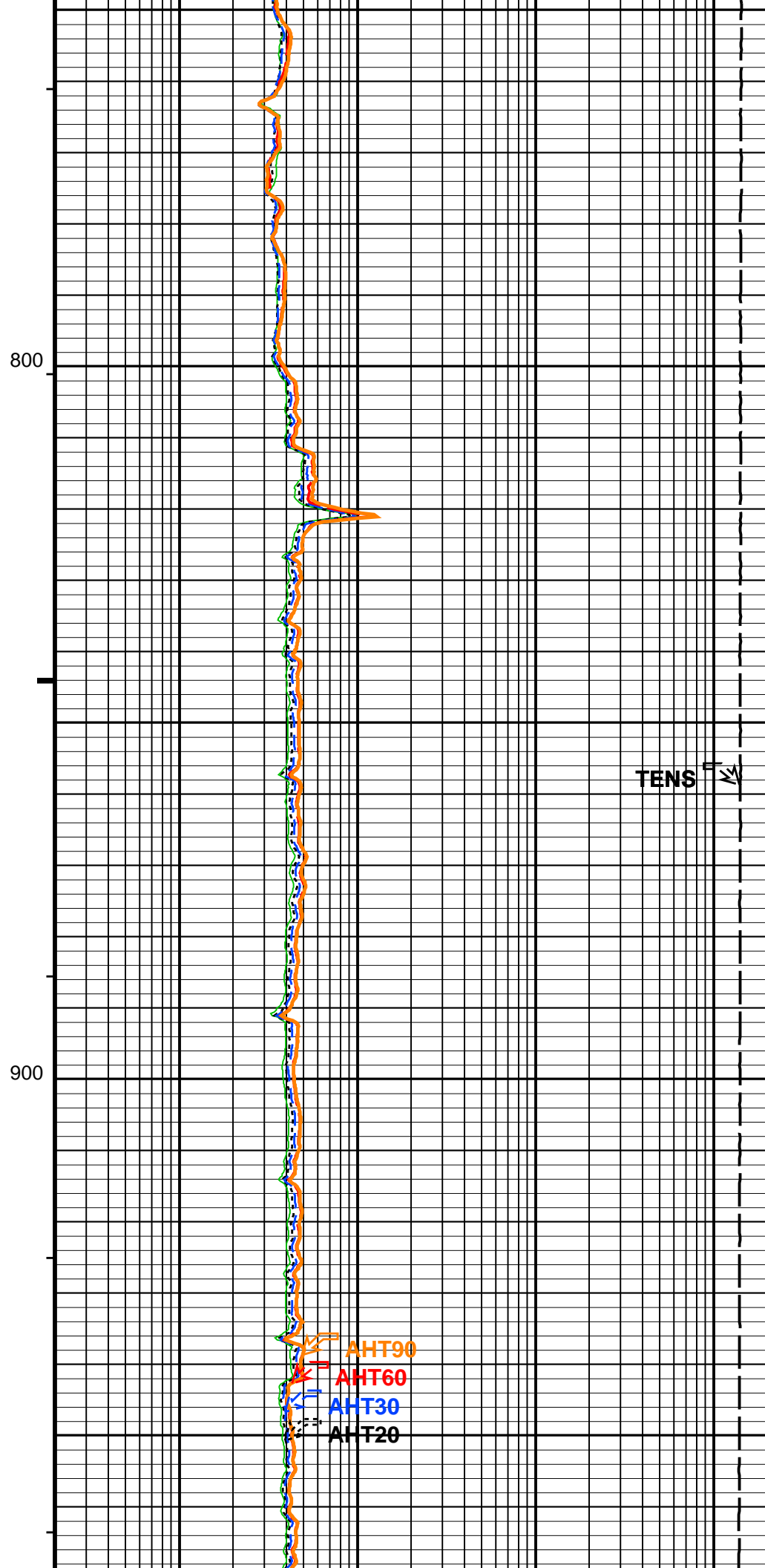
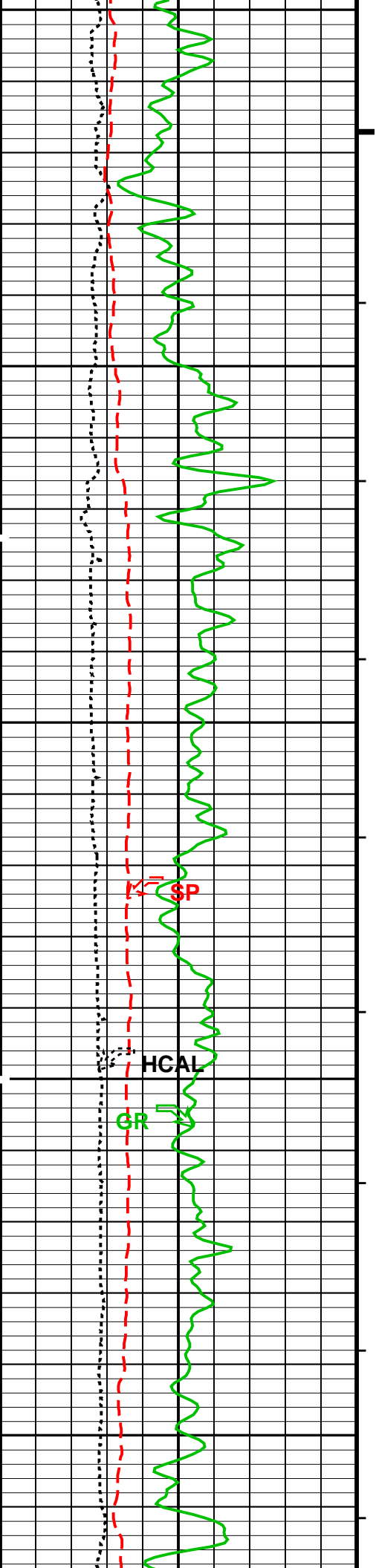


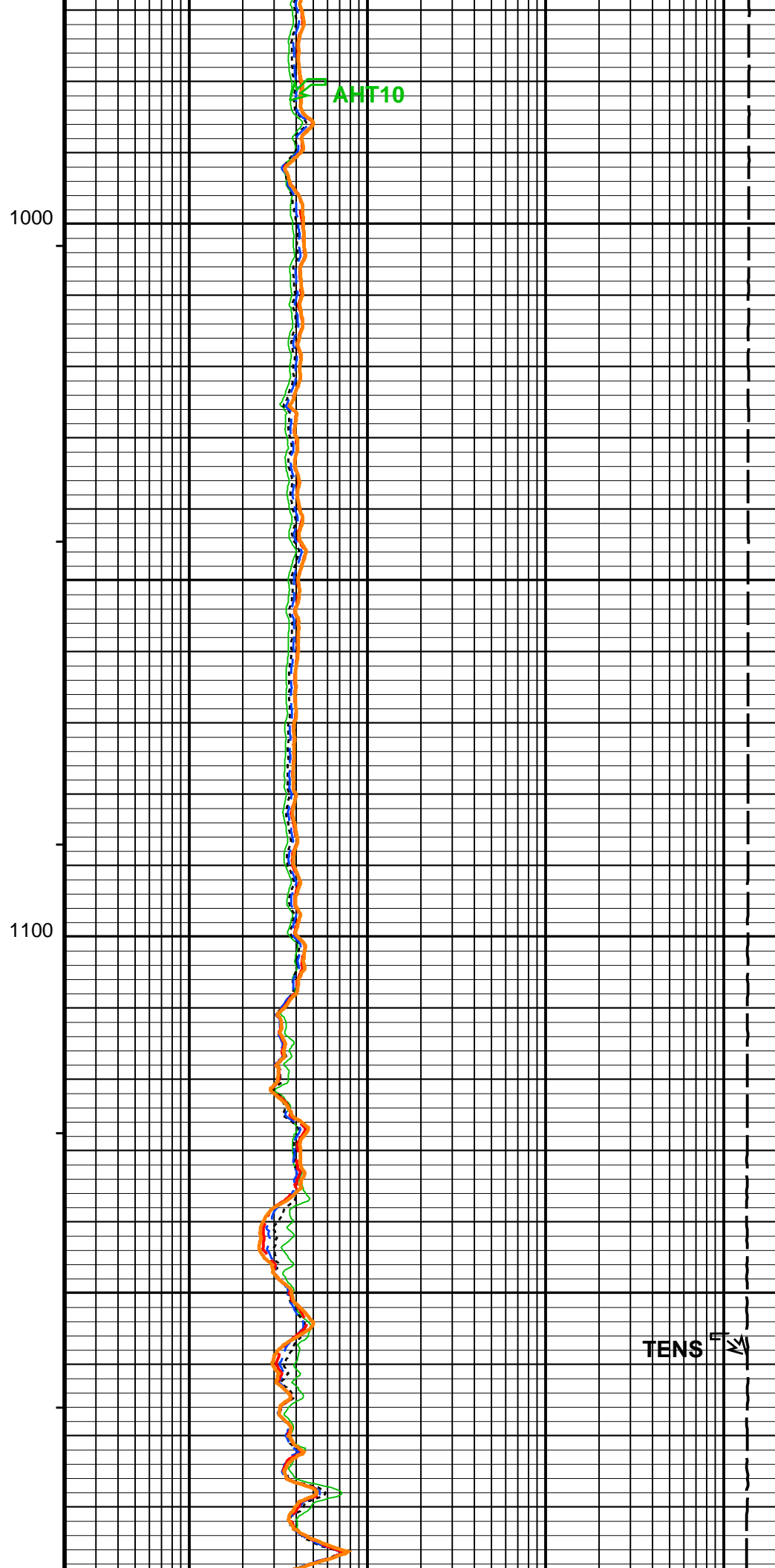
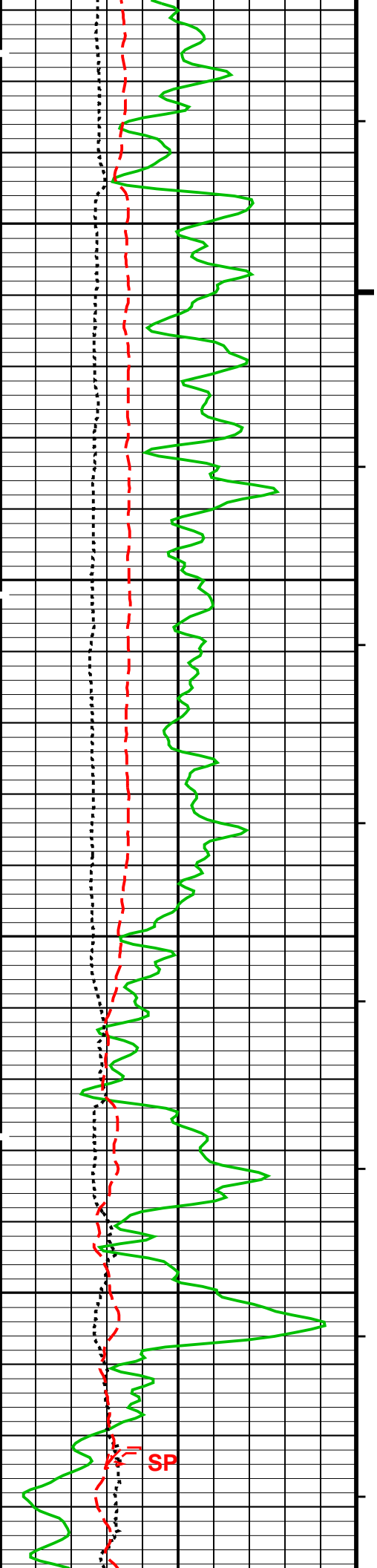
**MAIN PASS: \*\*\* PLATFORM EXPRESS – ARRAY INDUCTION \*\*\***

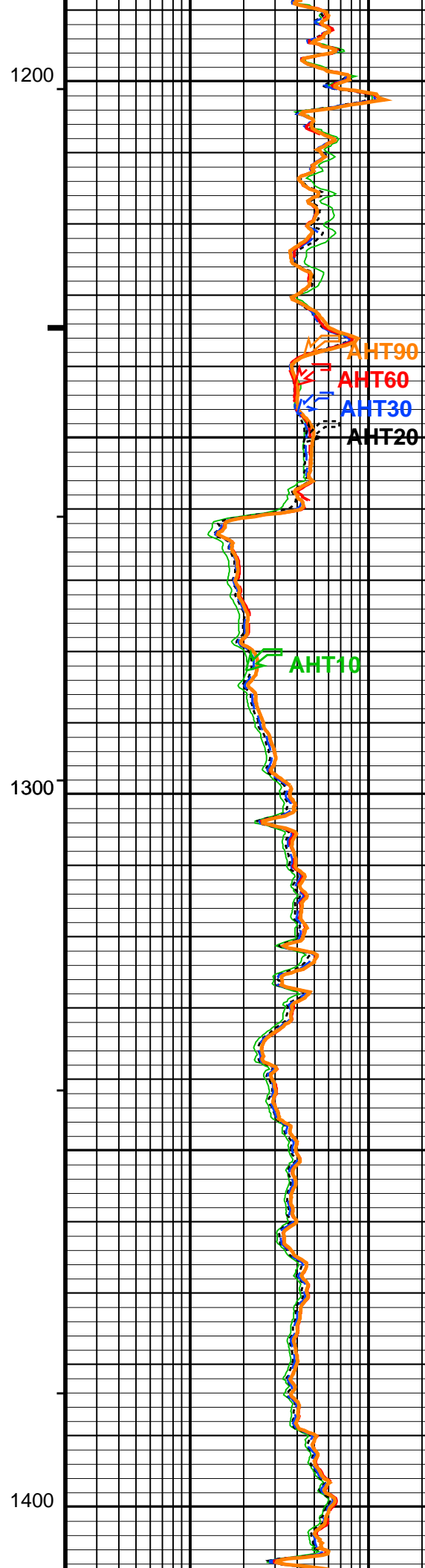
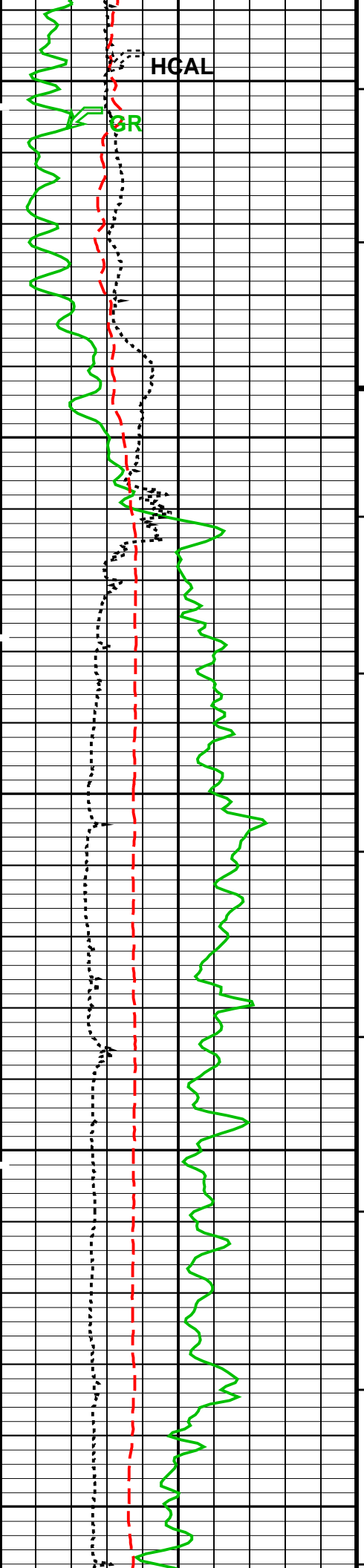


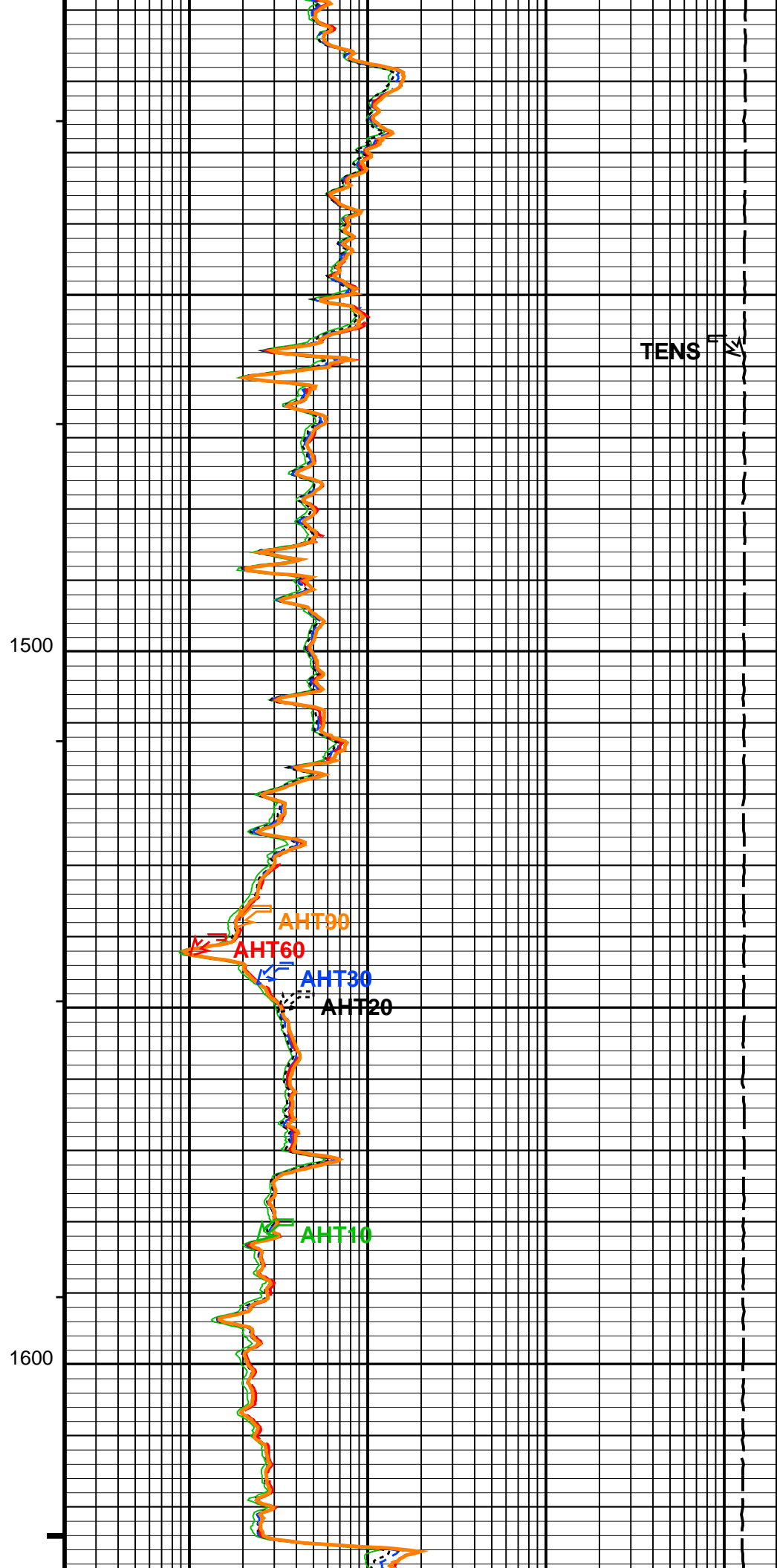
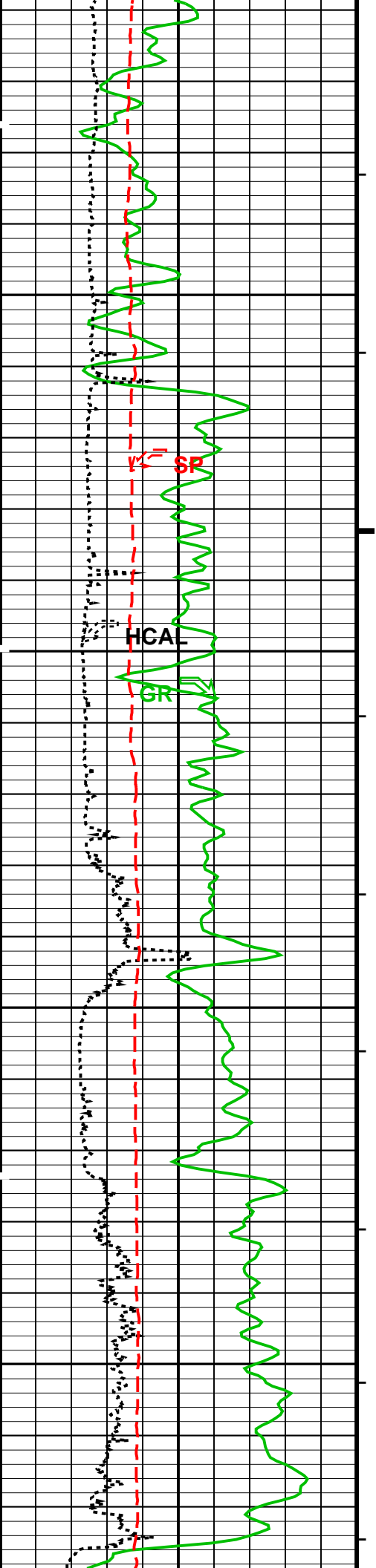




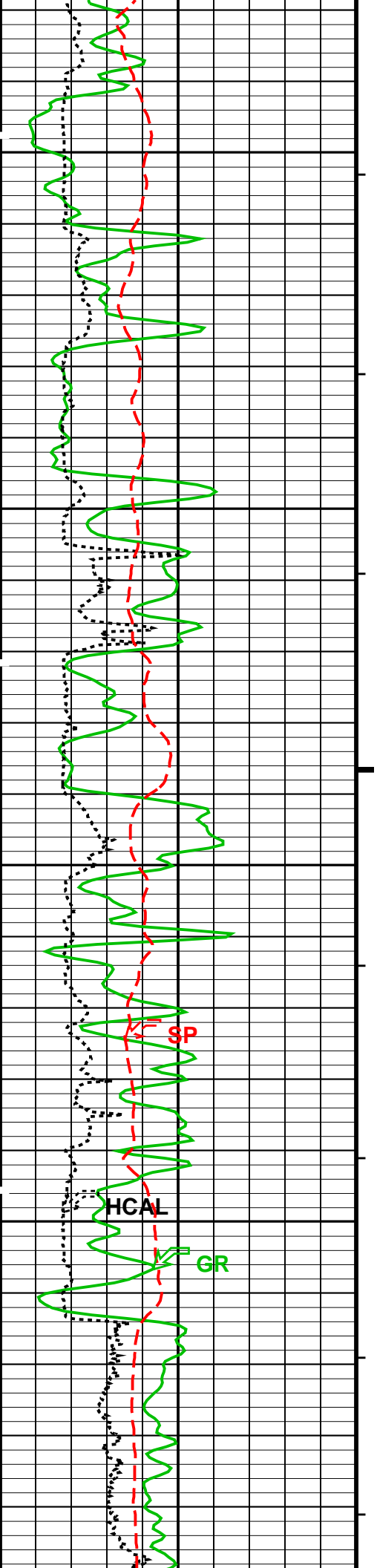






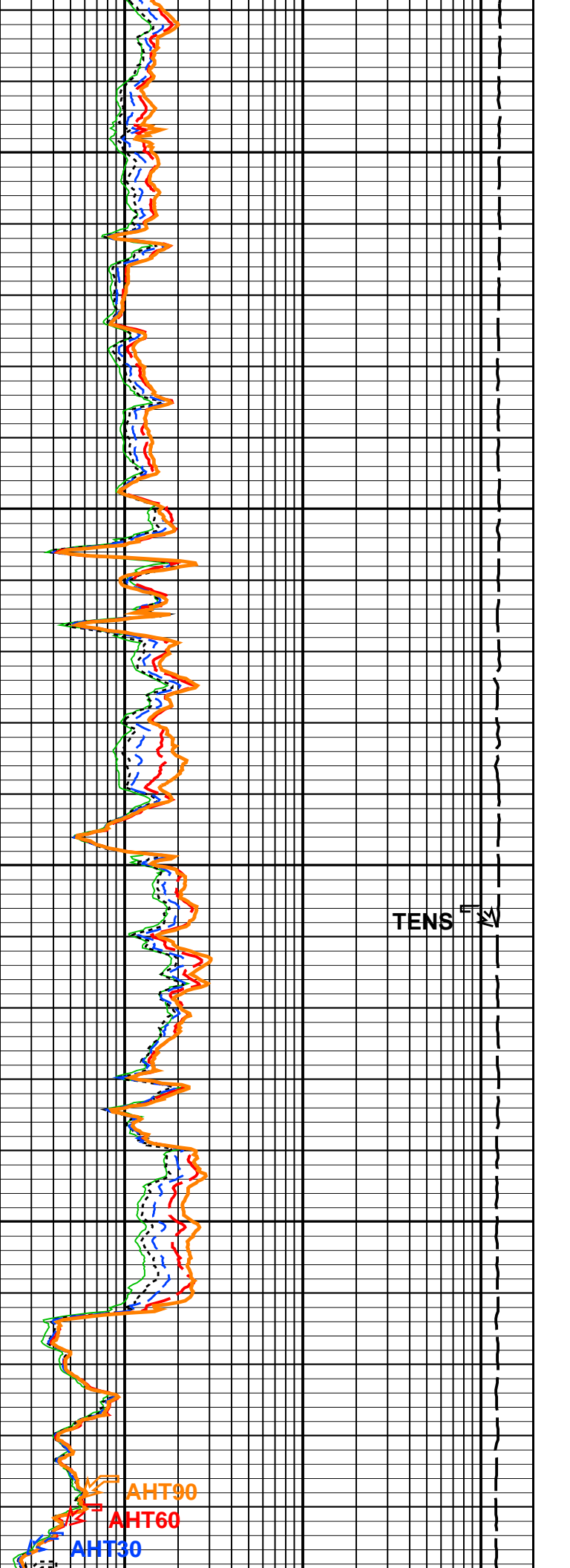






1700

1800

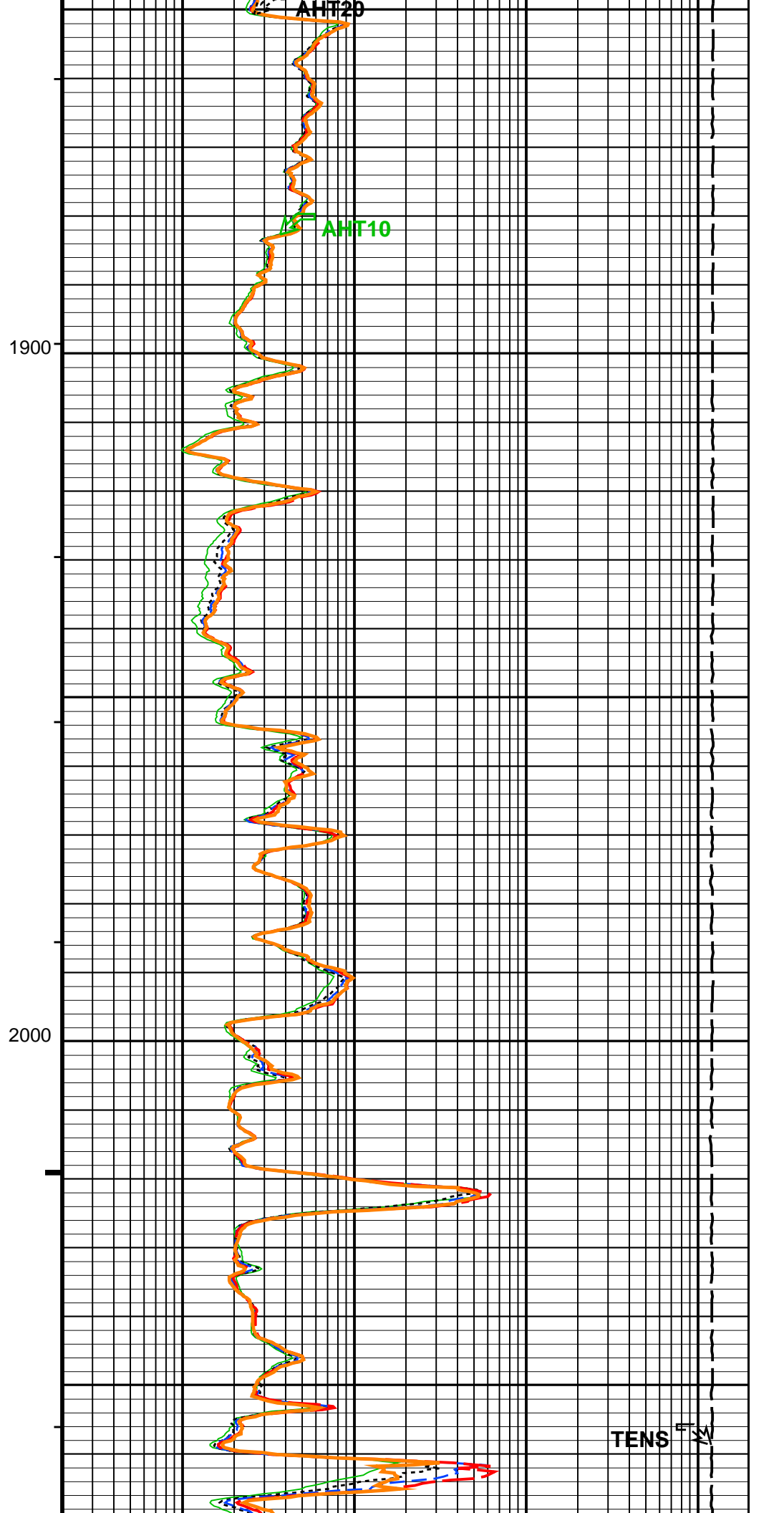
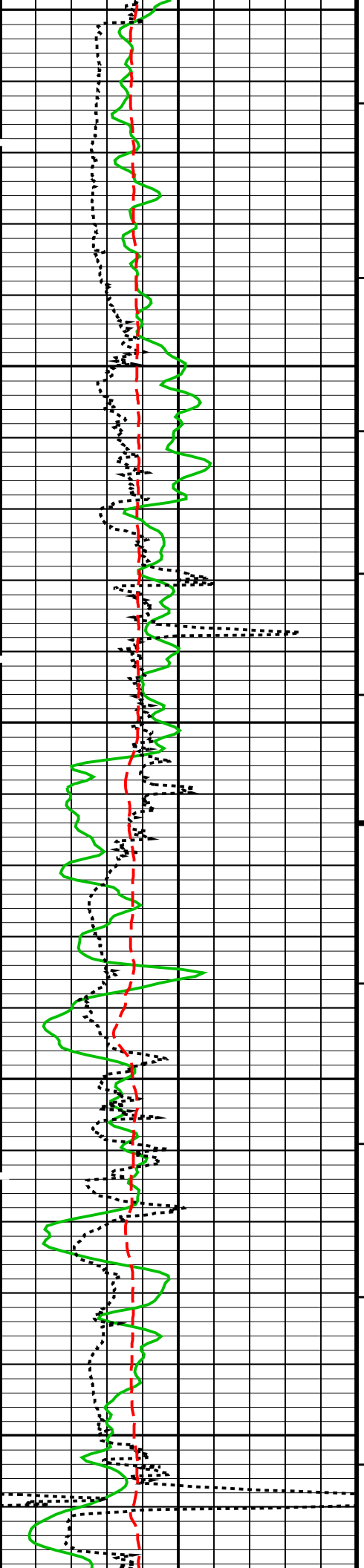


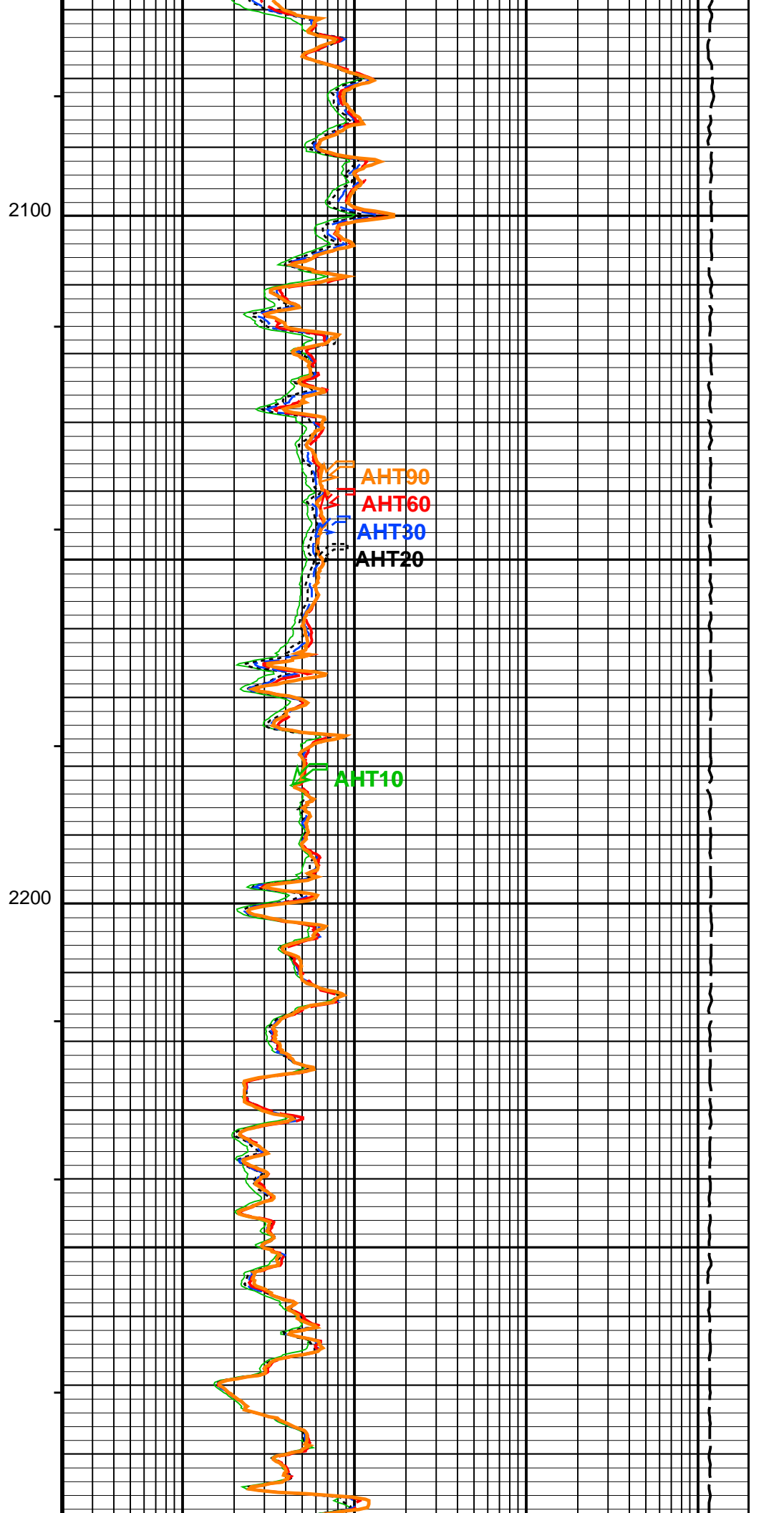
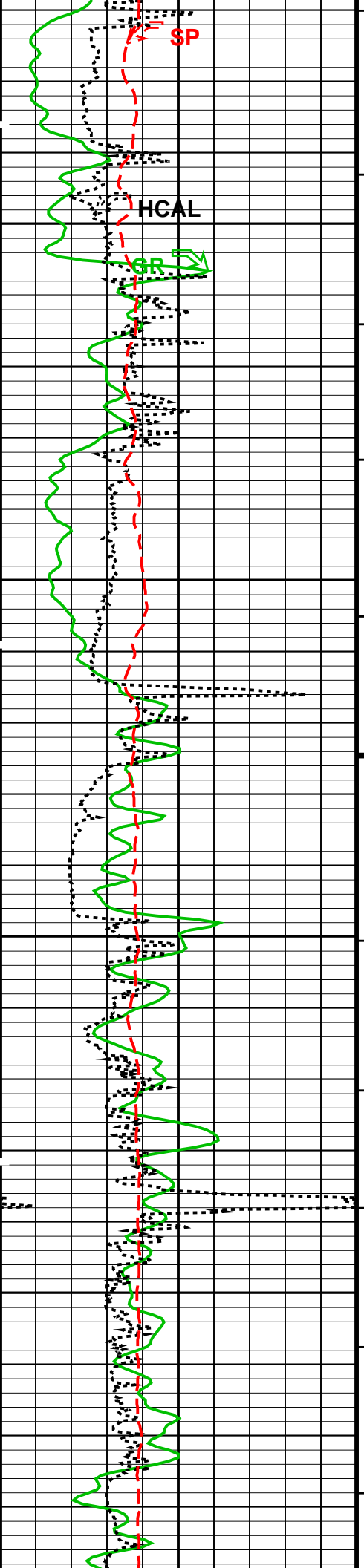
TENS  $\rightarrow$

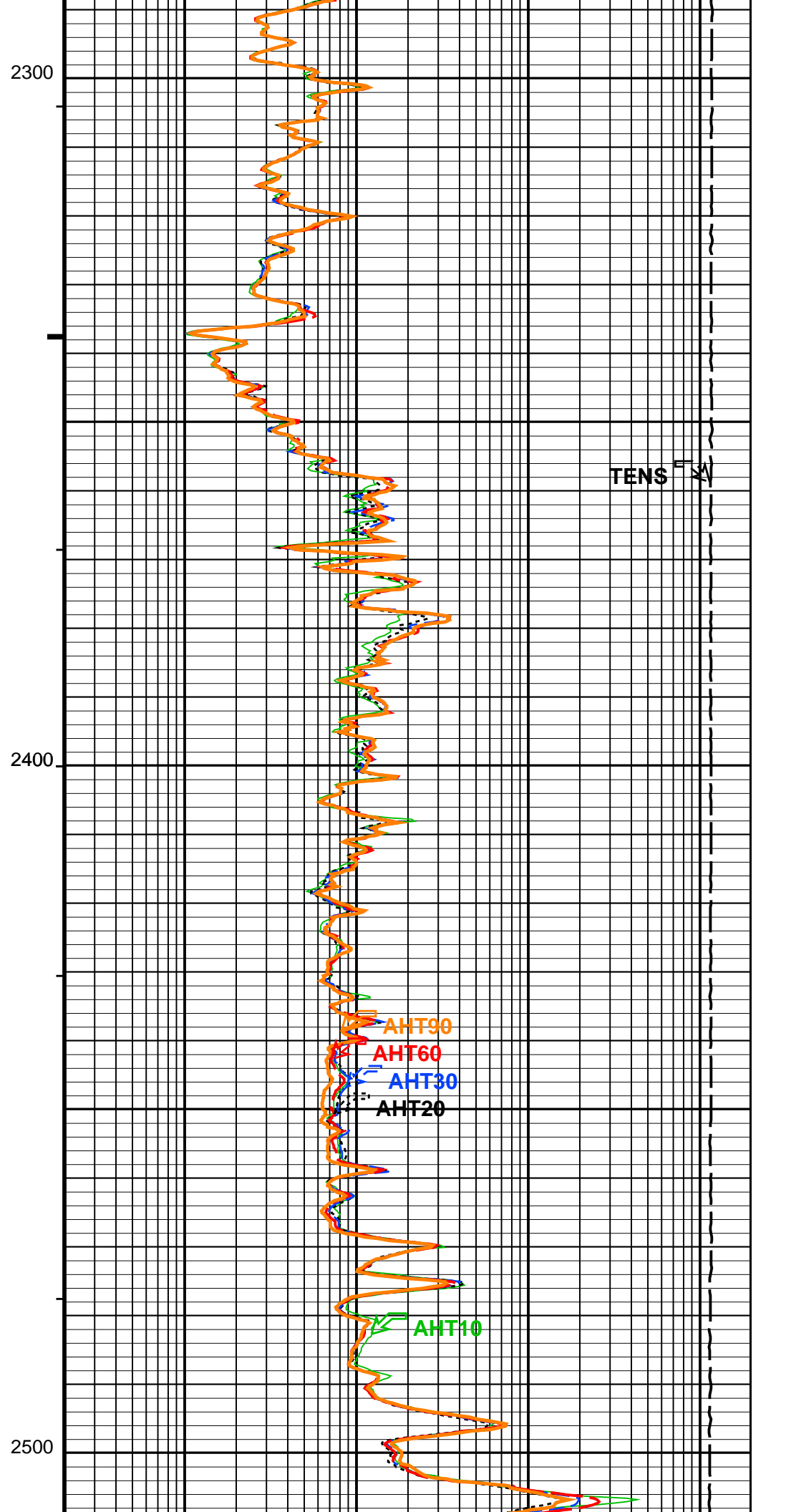
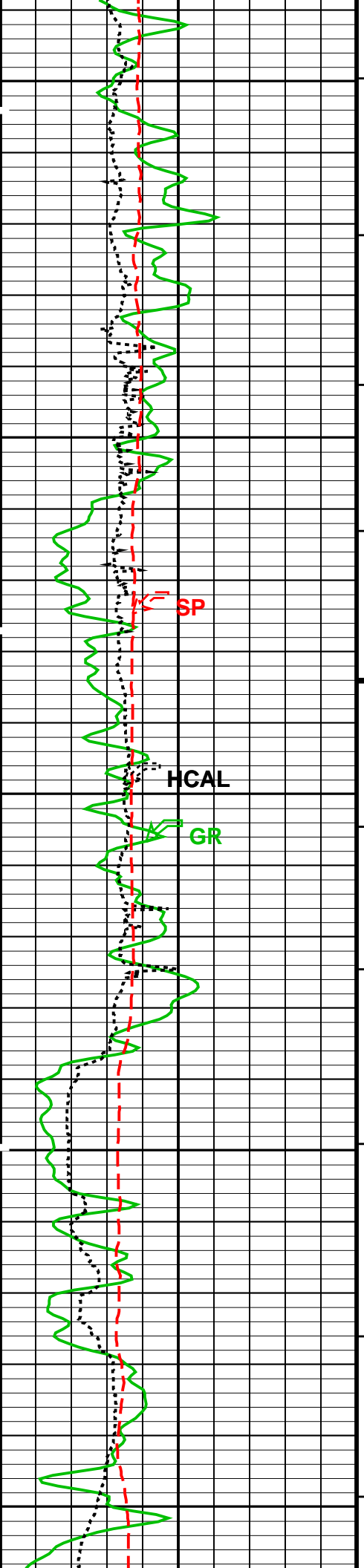
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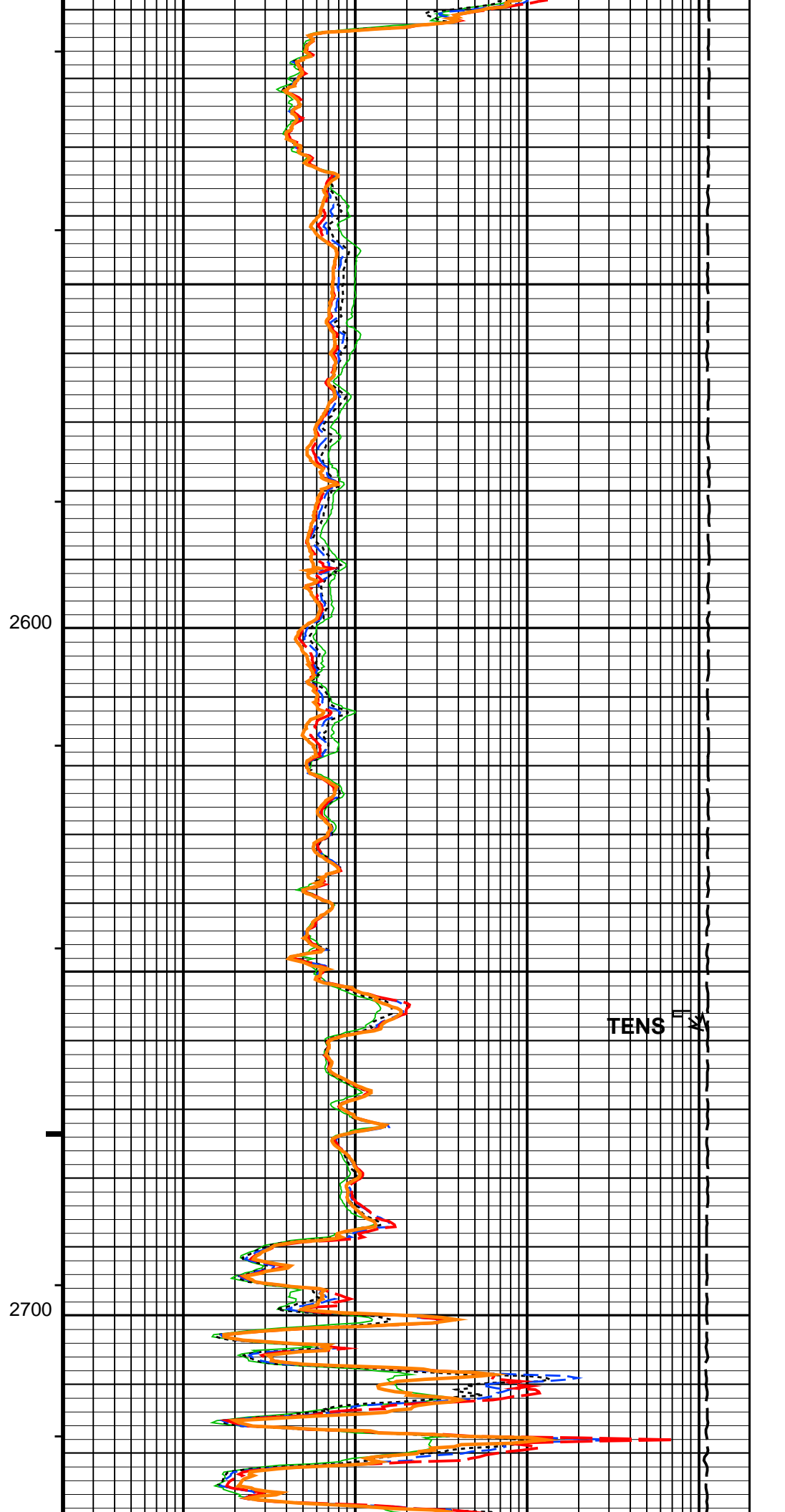
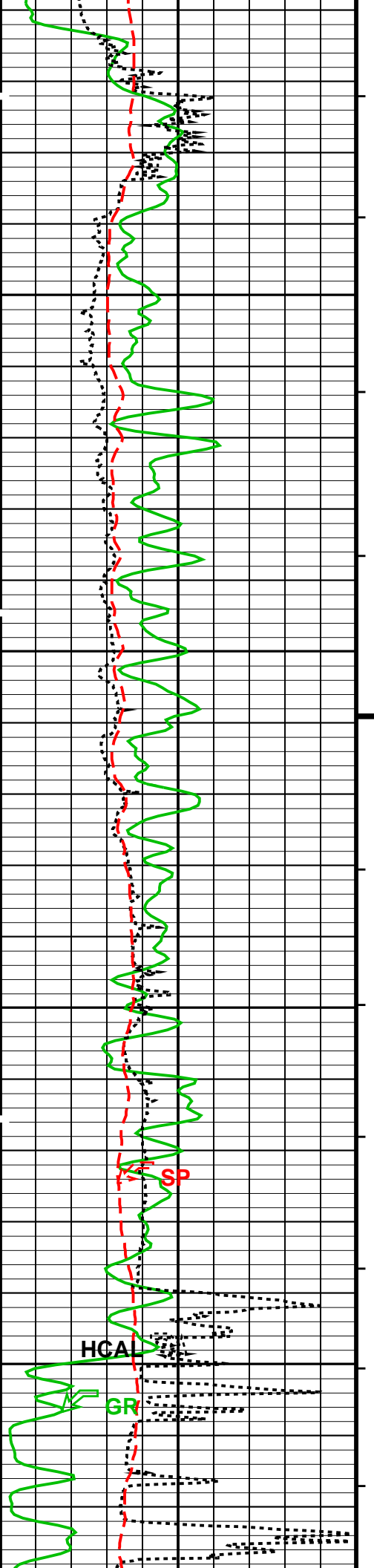
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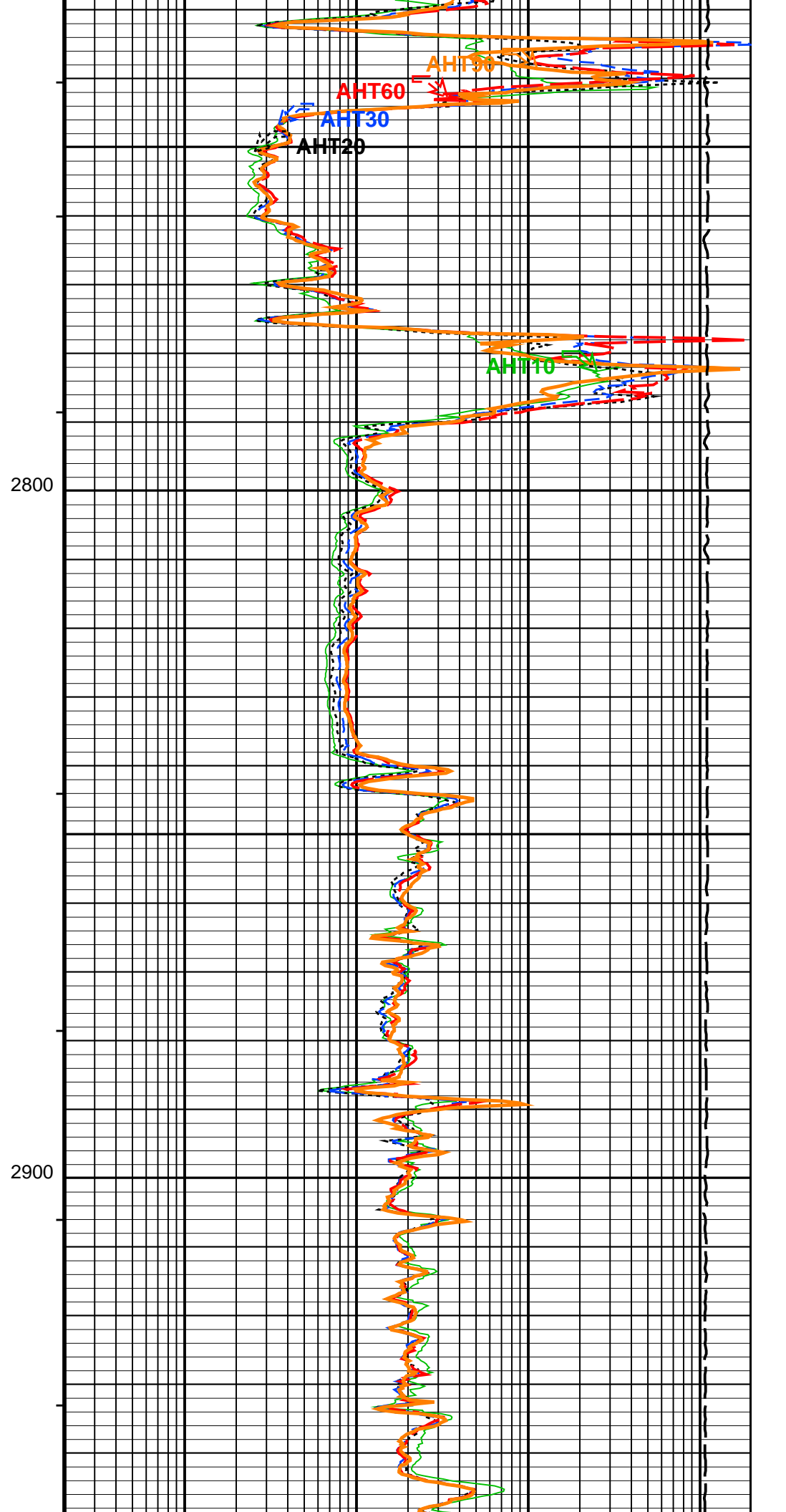
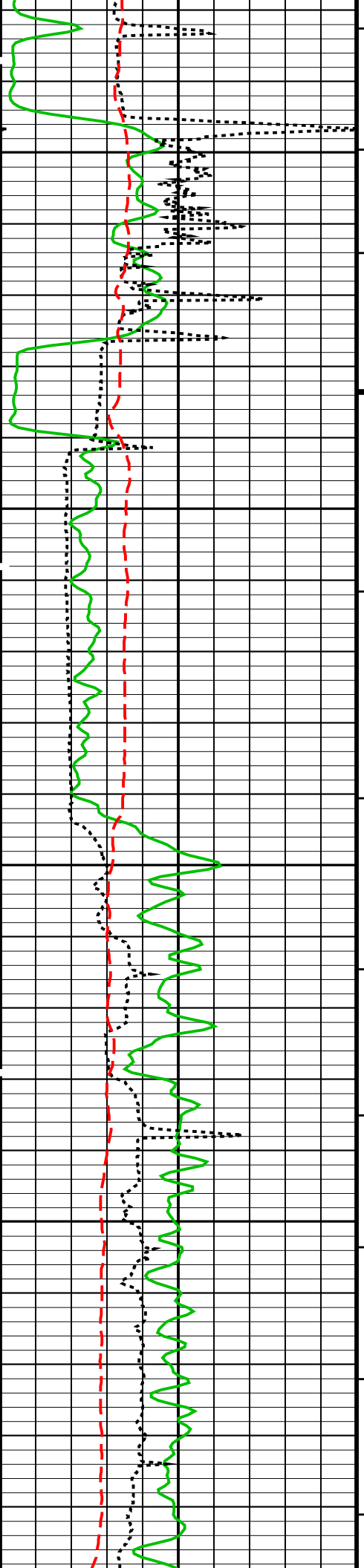
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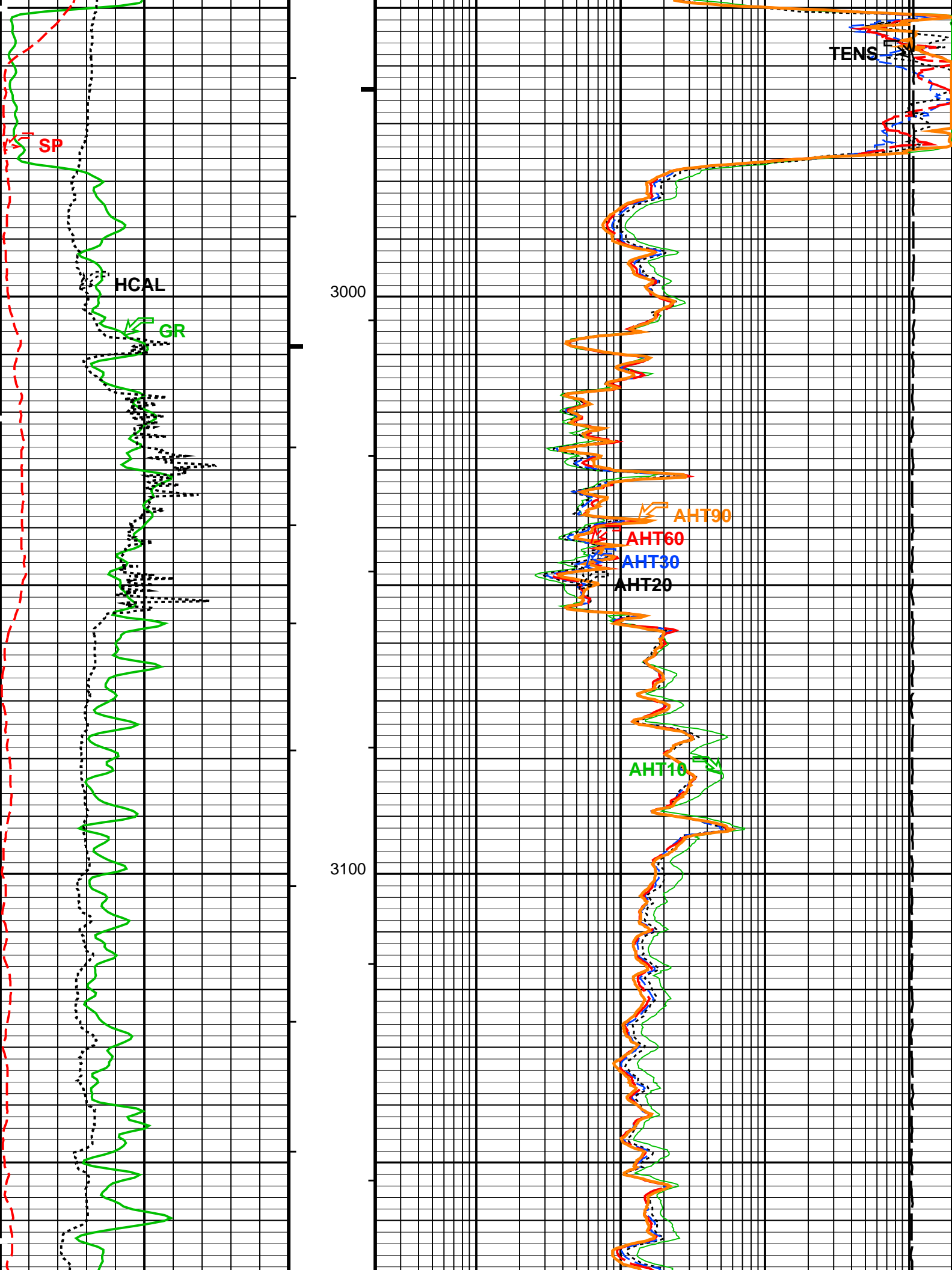


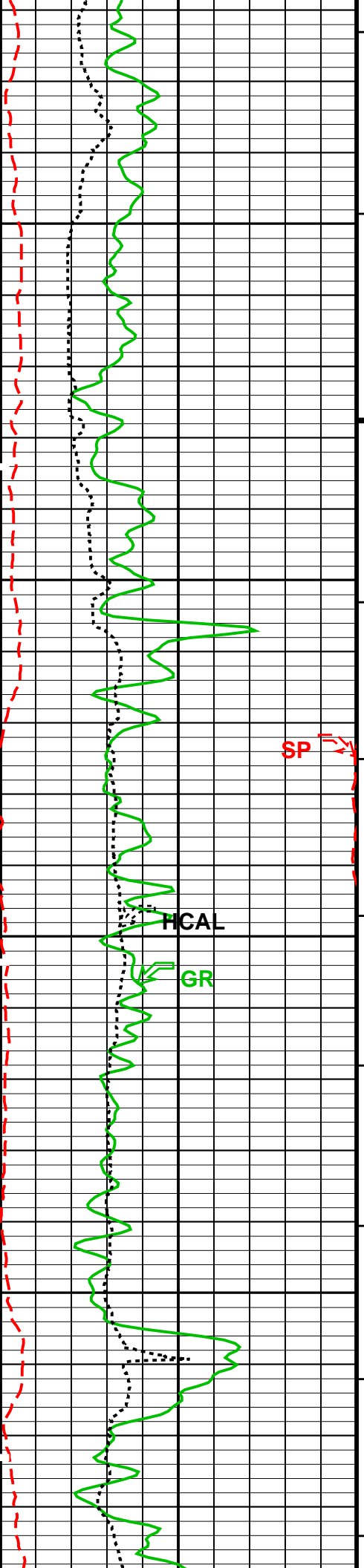












3200

3300

TENS

AHT90

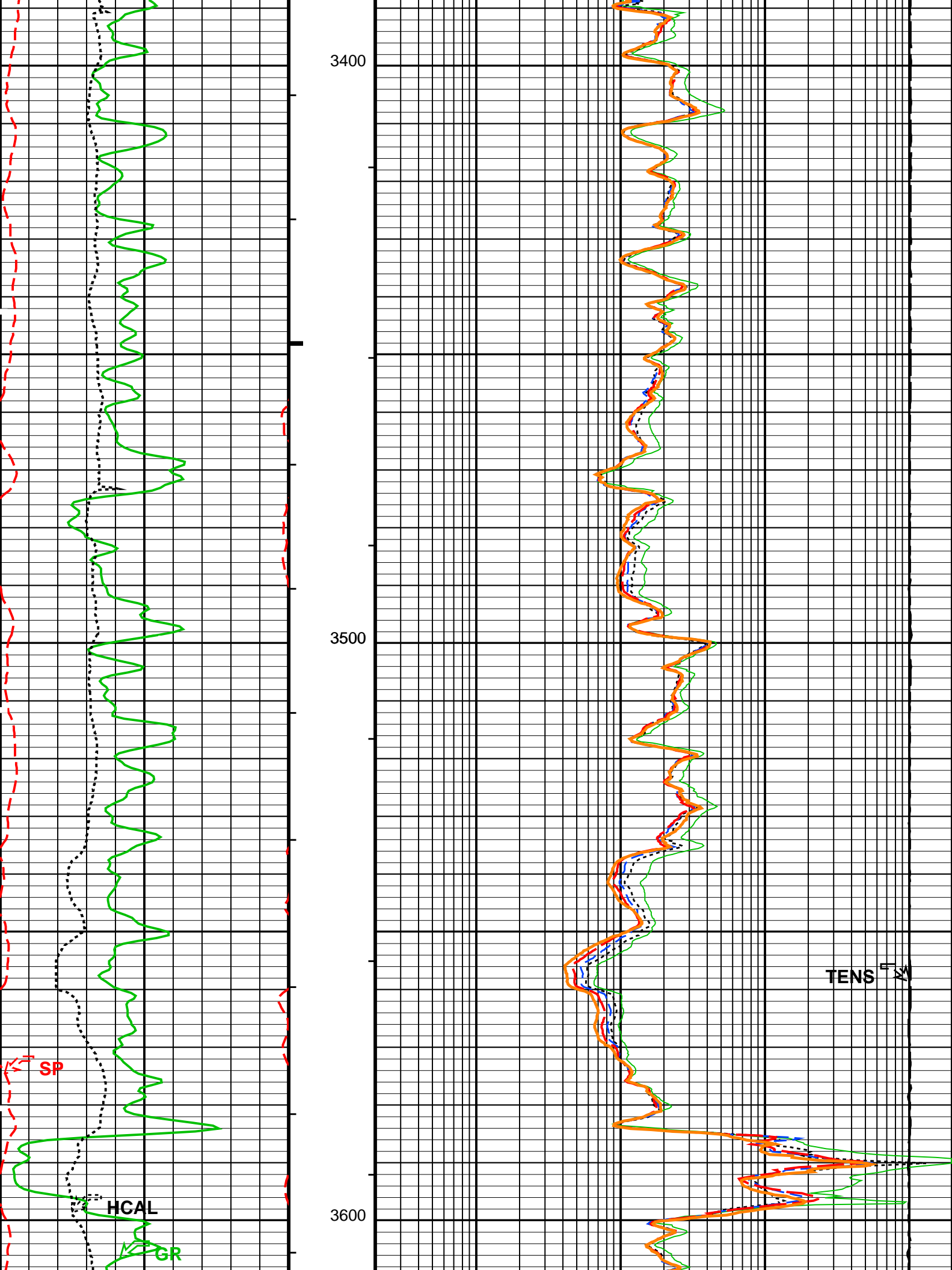
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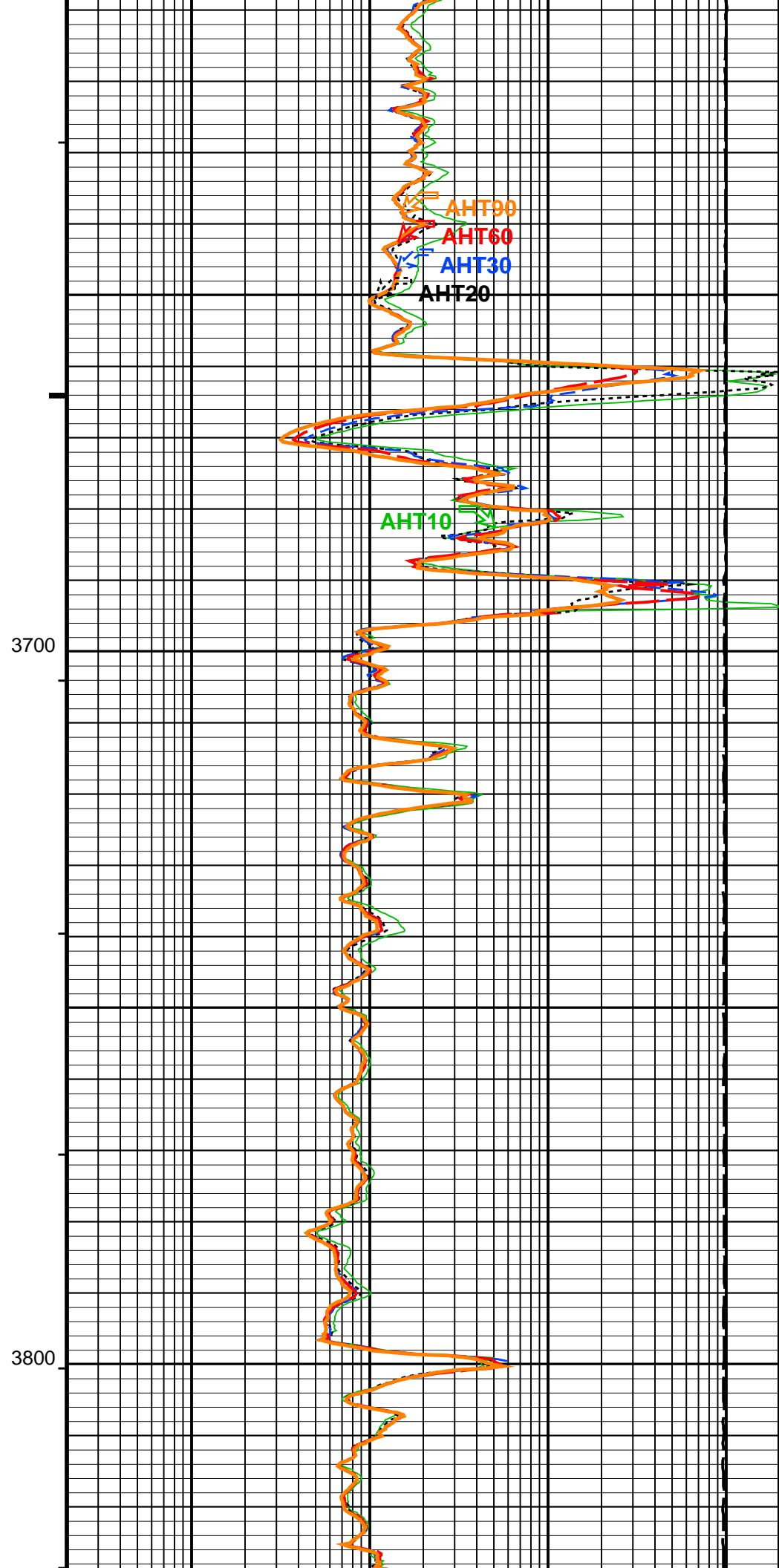
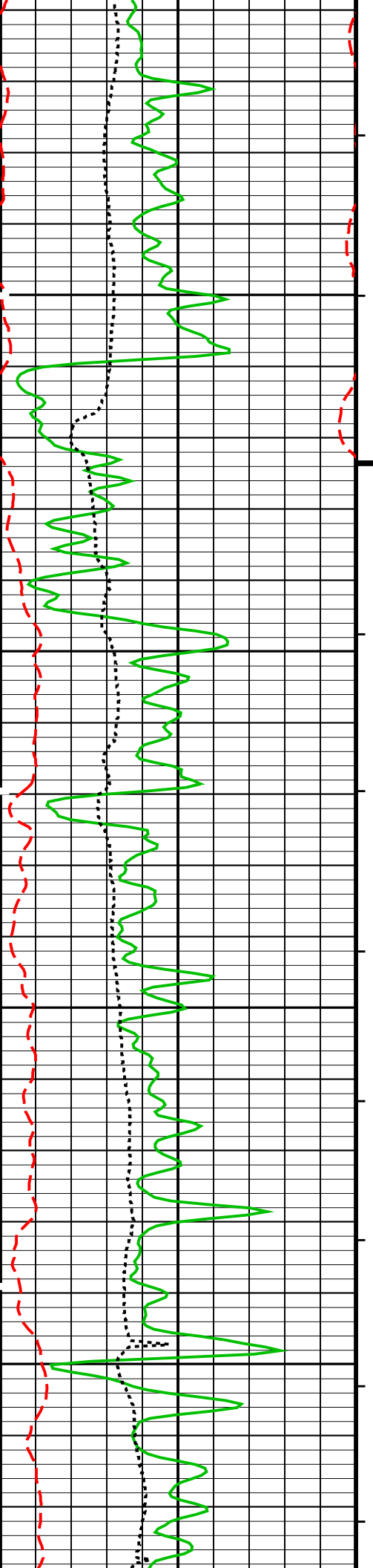
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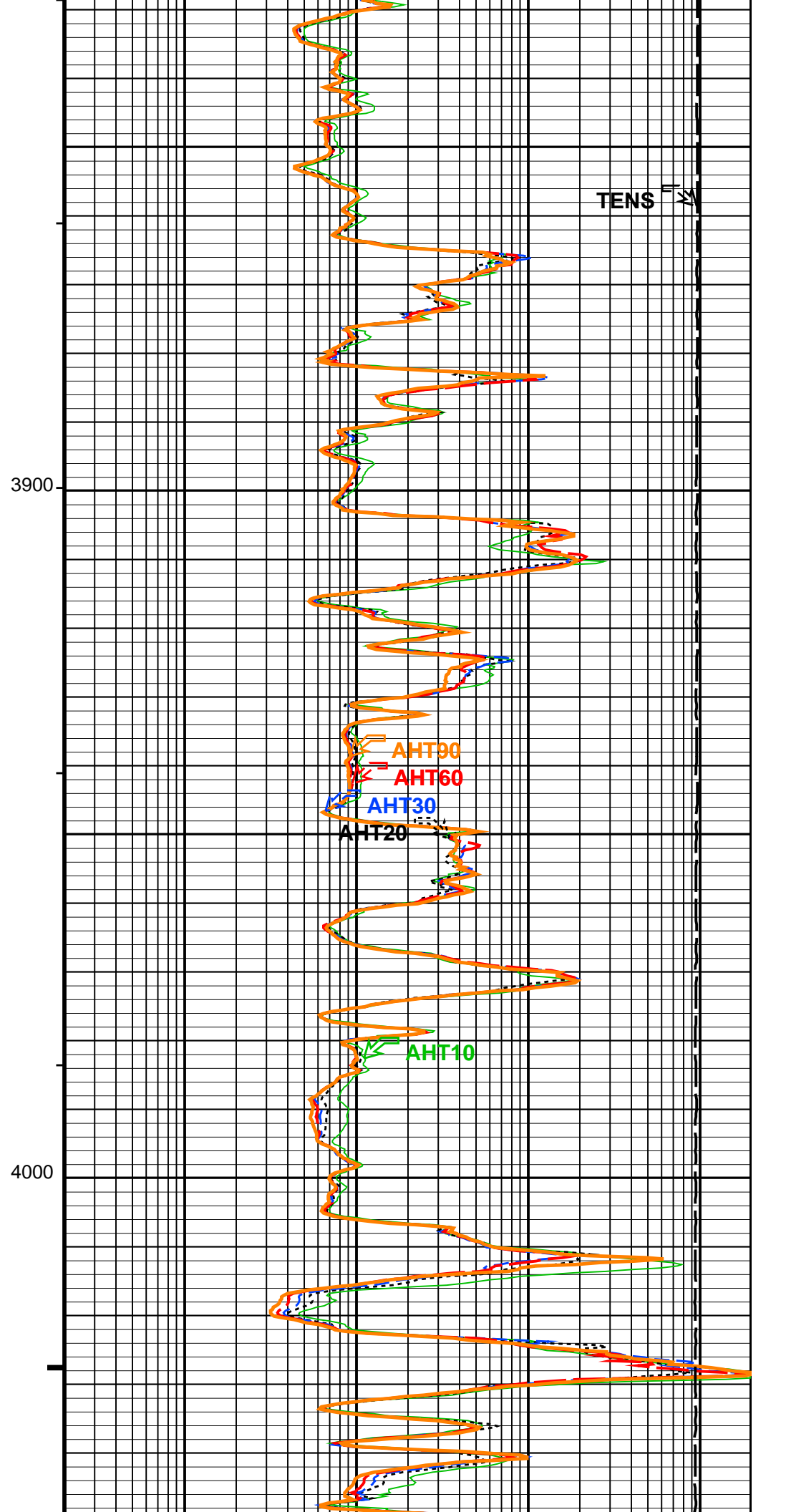
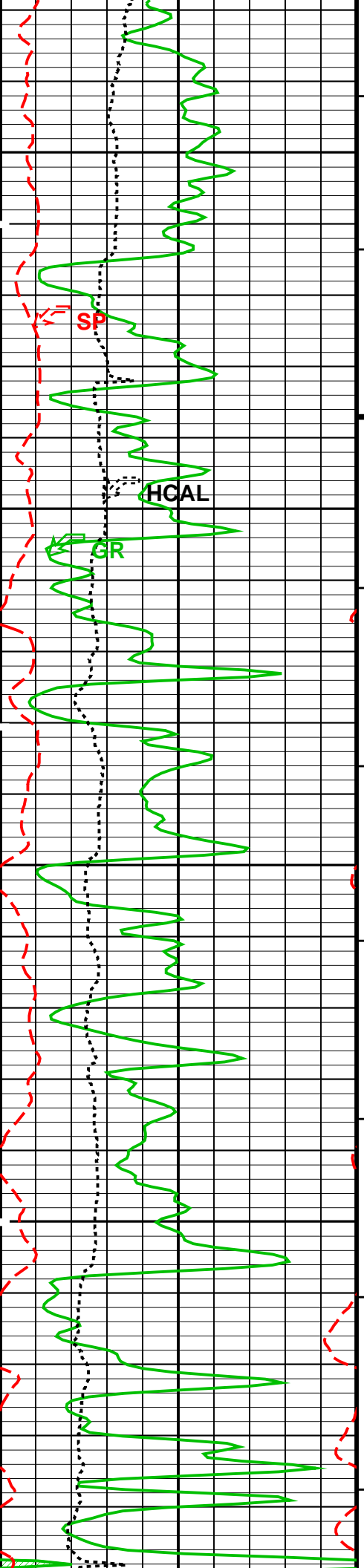
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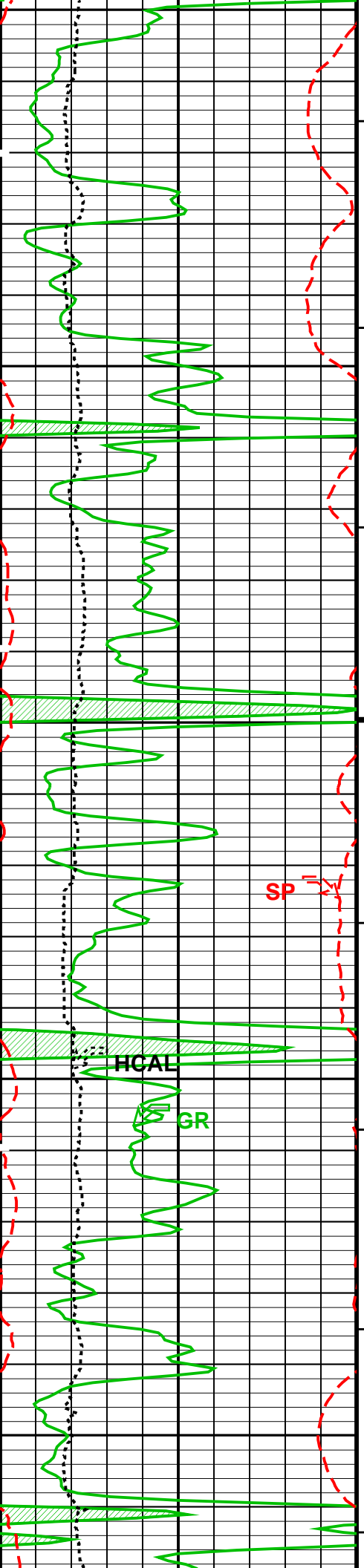
AHT10











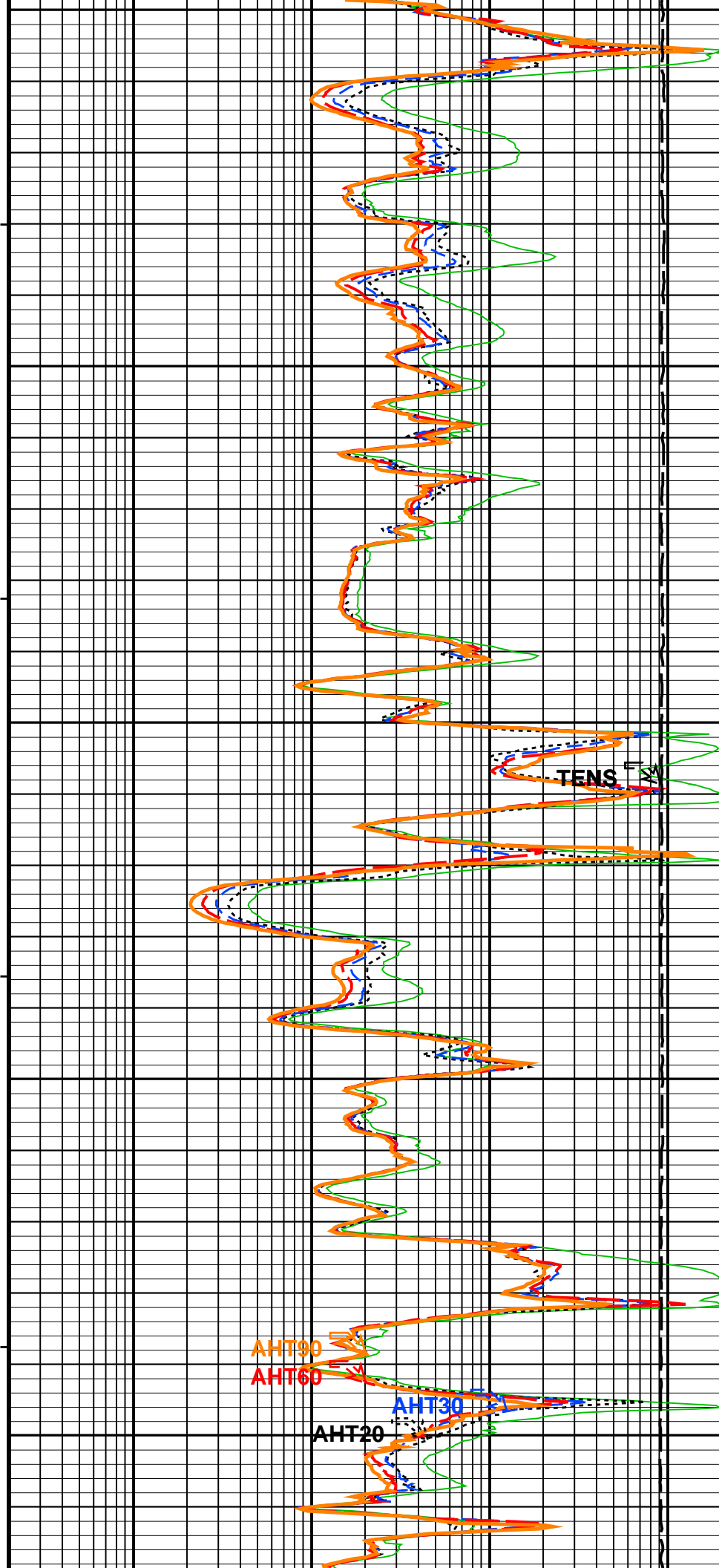
4100

4200

SP

HCAL

GR



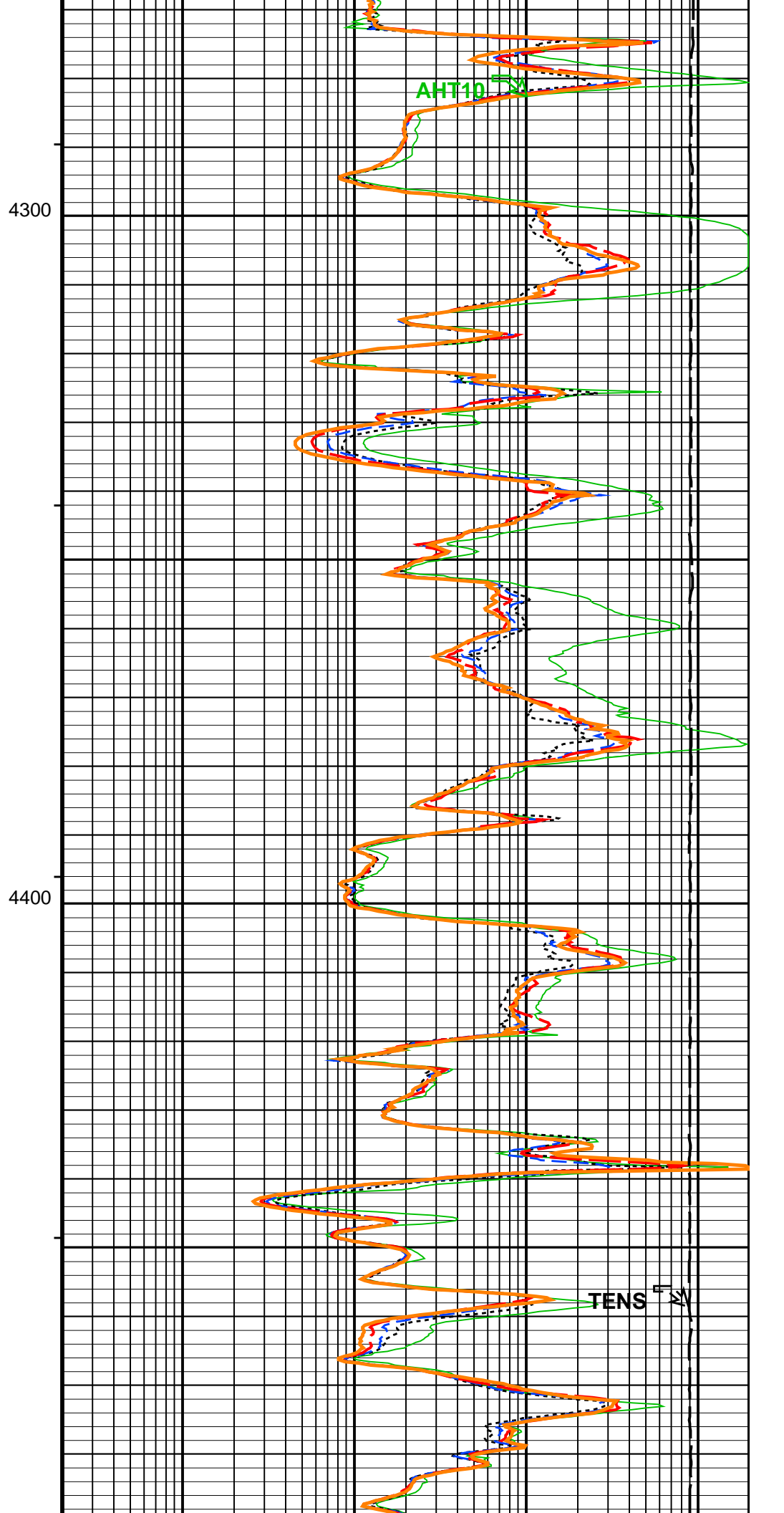
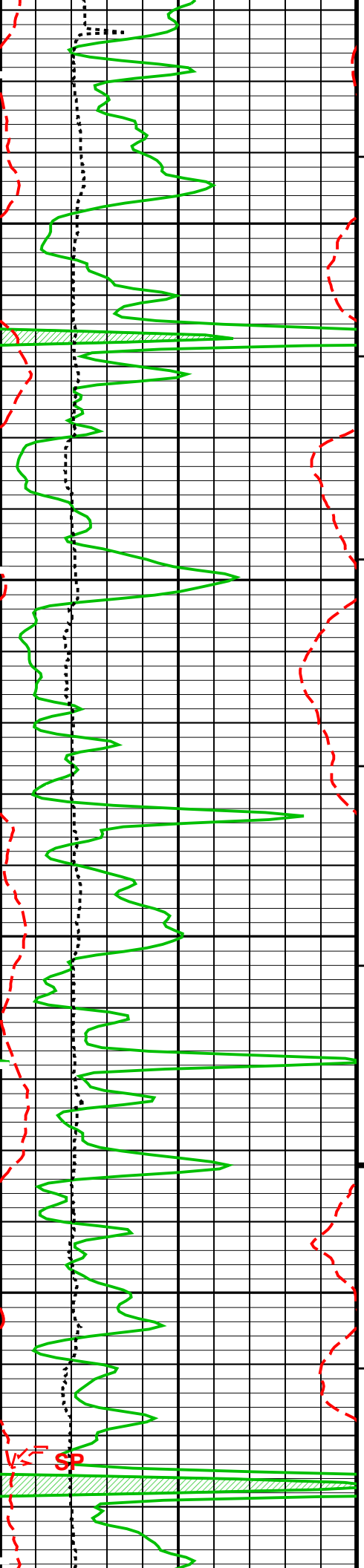
TENS

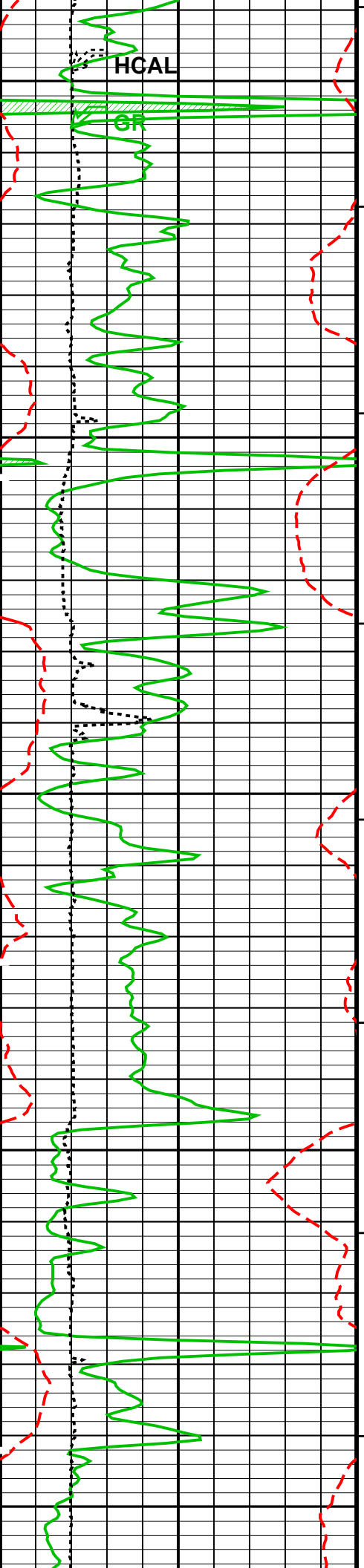
AHT90

AHT60

AHT30

AHT20

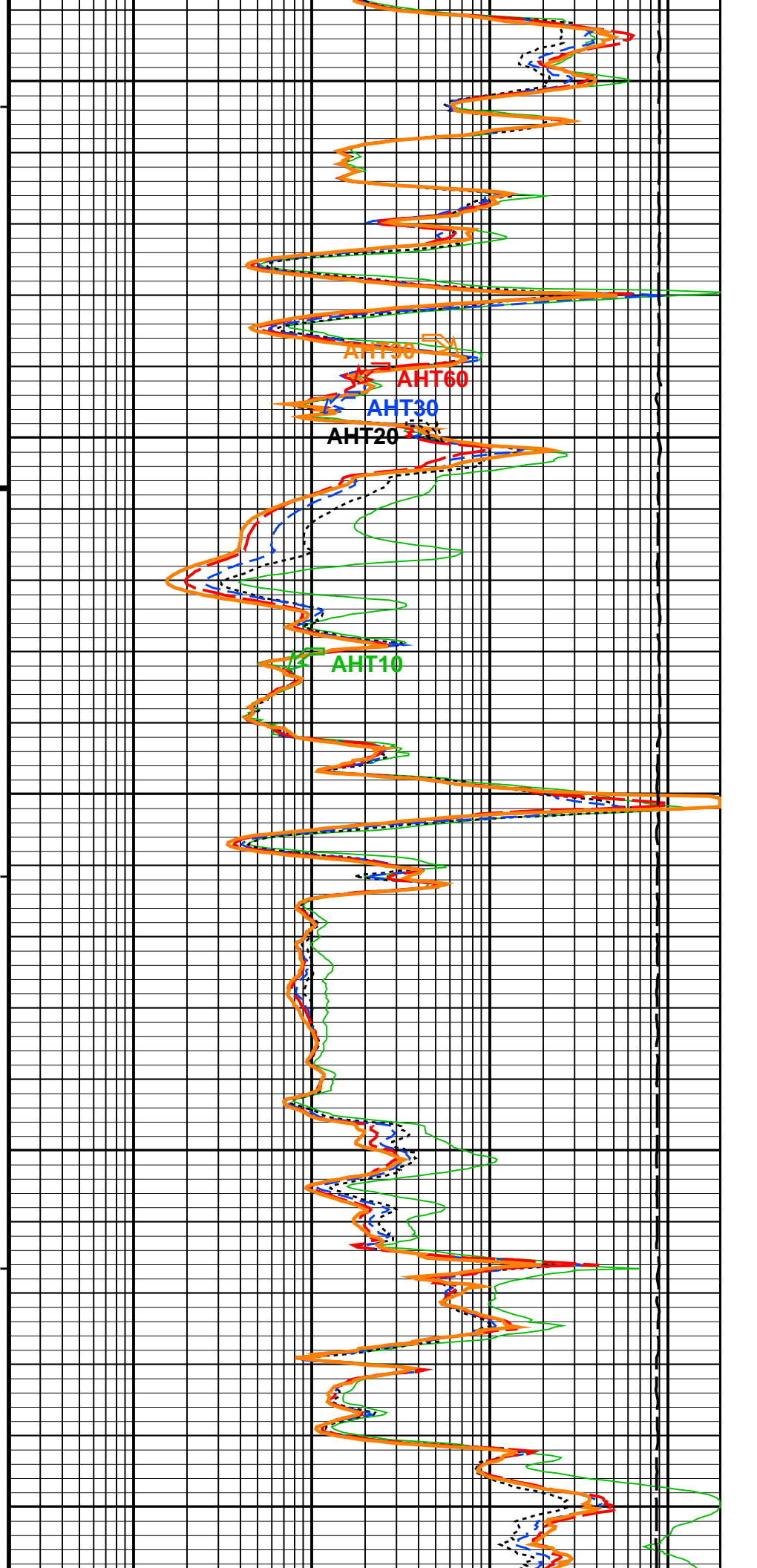


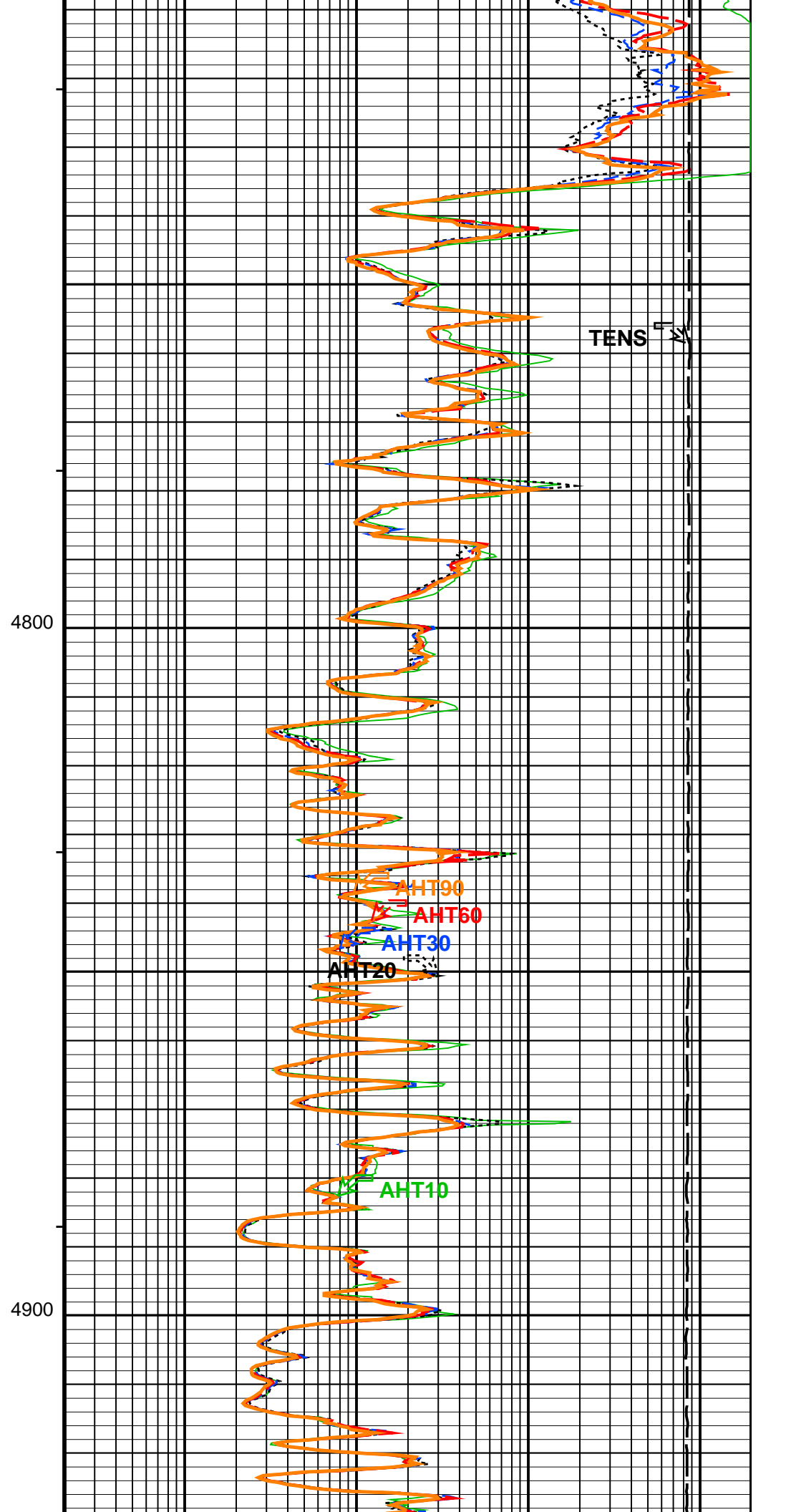
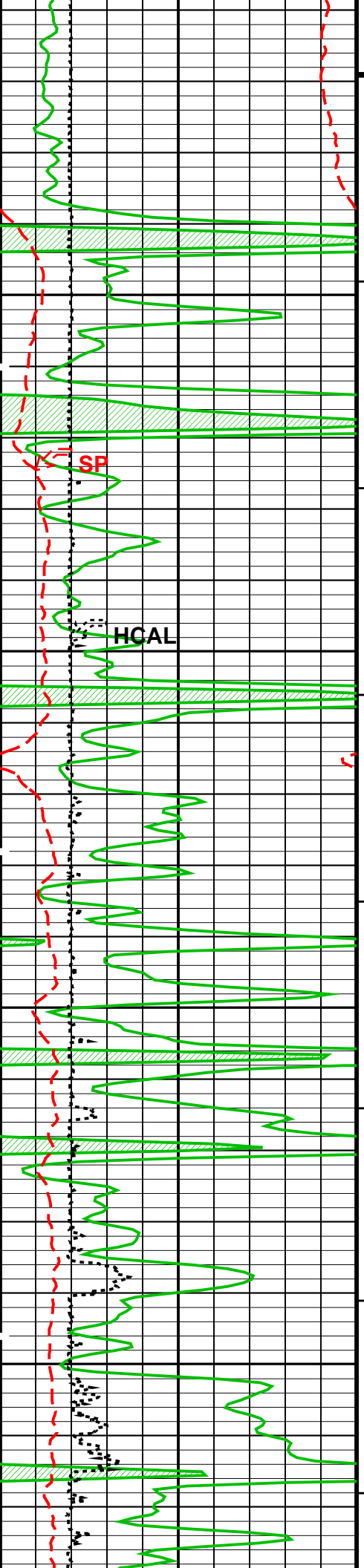


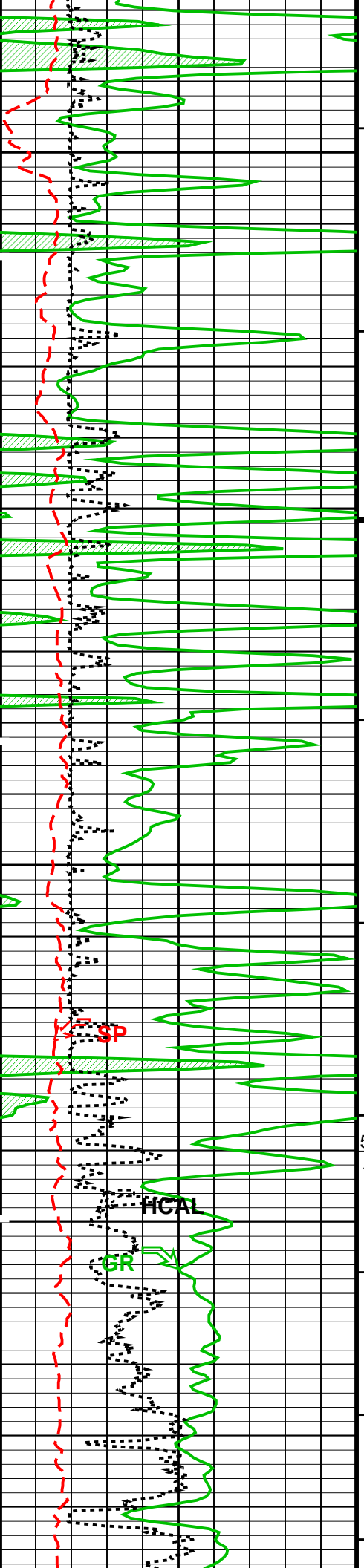
4500

4600

4700



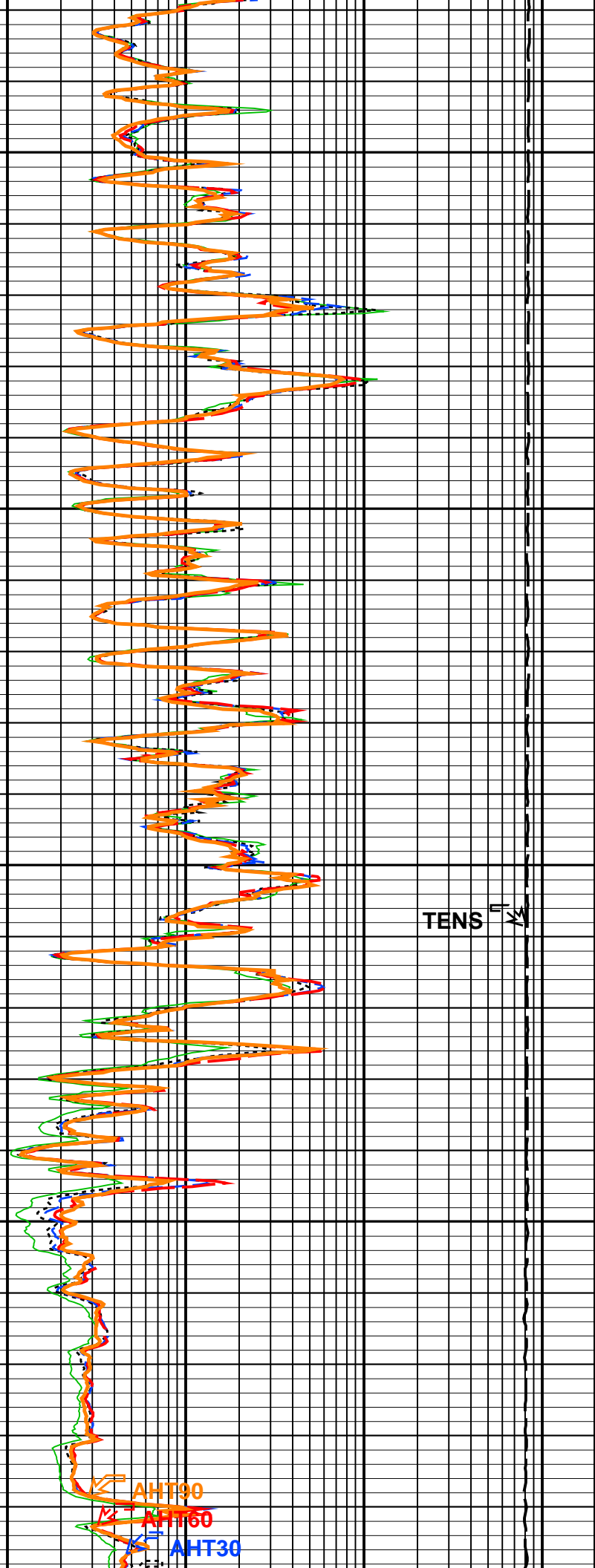




5000

5090.0 FT  
-MTX CHG

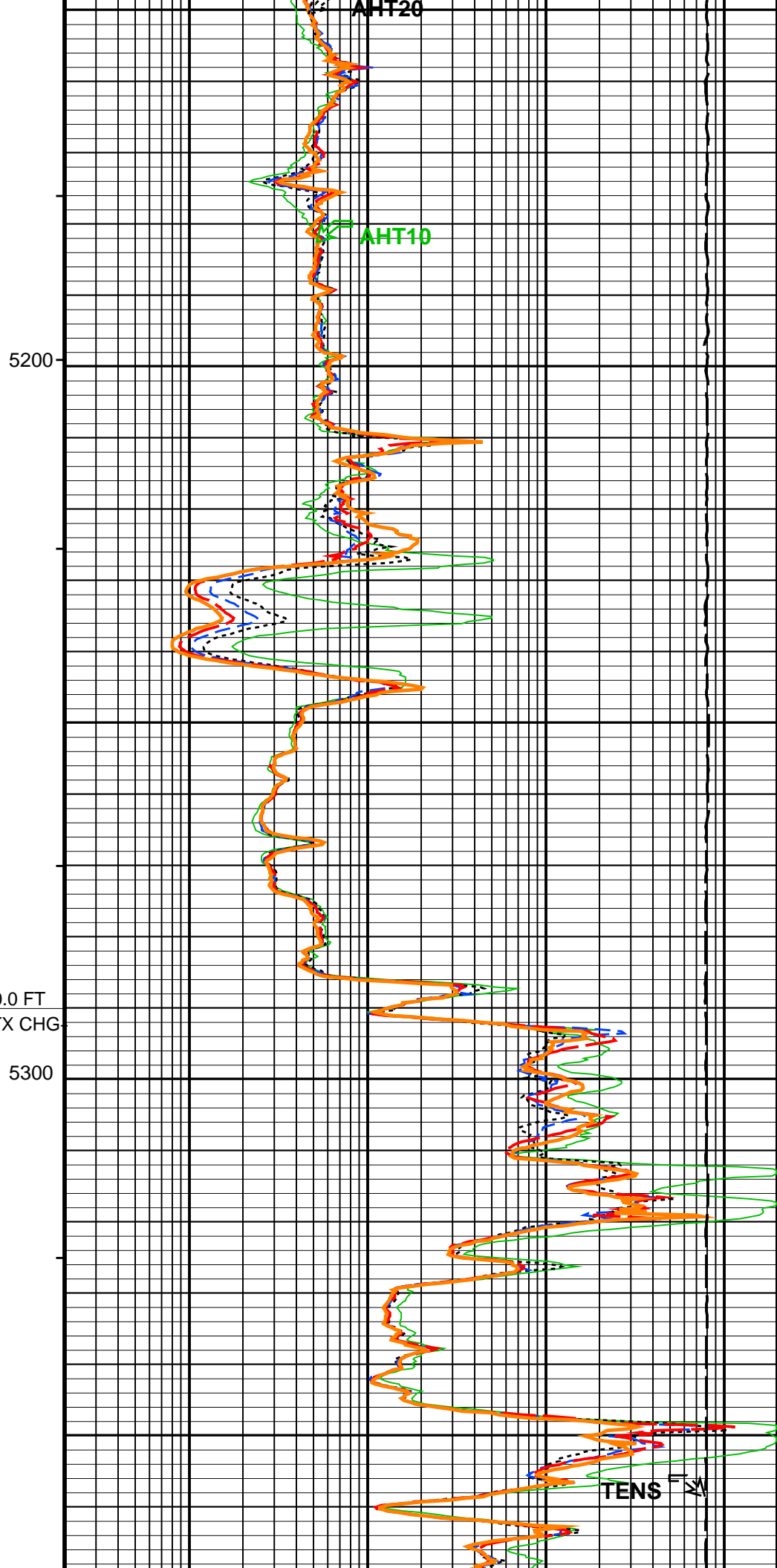
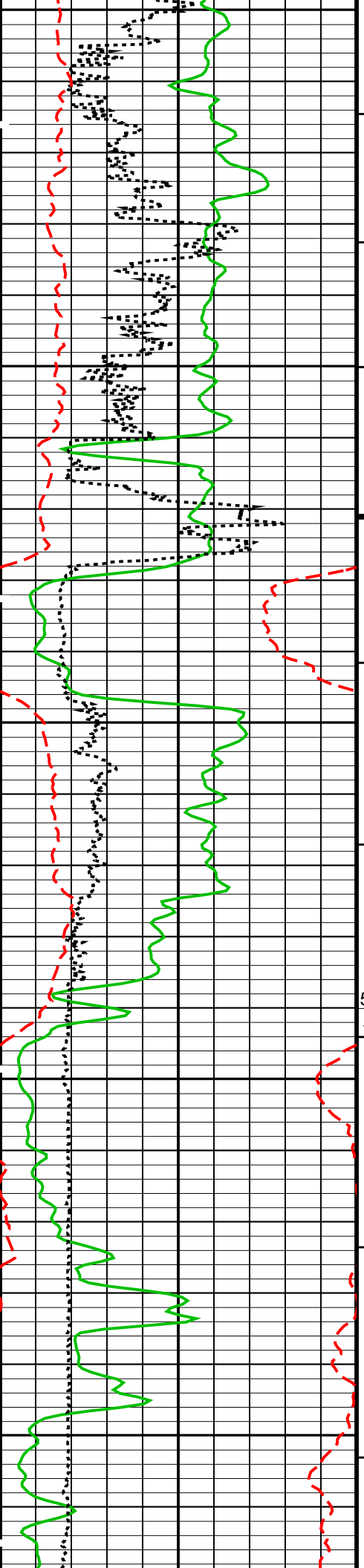
5100

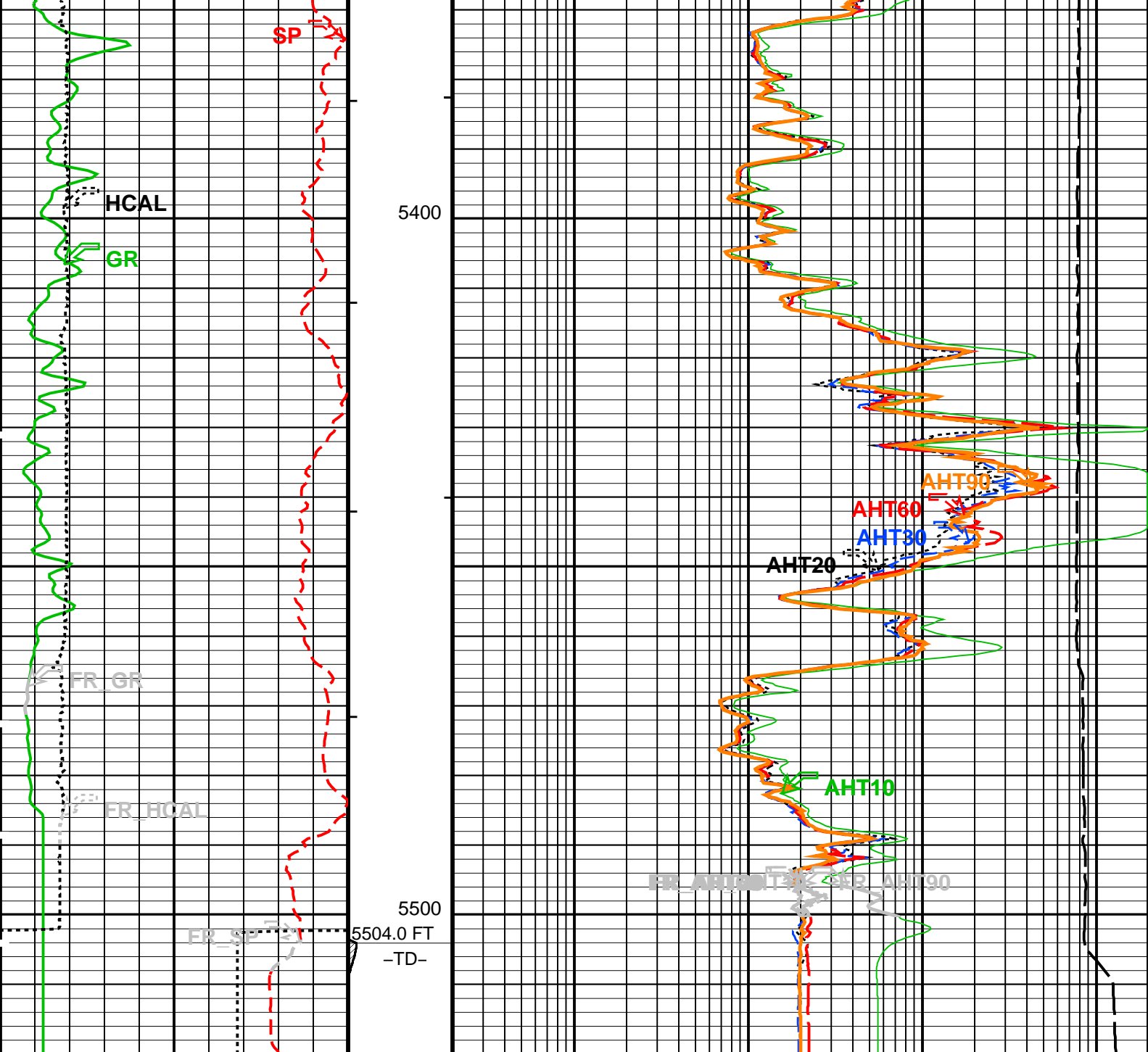


TENS

AHT90  
AHT60  
AHT30







MAIN PASS: \*\*\* PLATFORM EXPRESS – ARRAY INDUCTION \*\*\*

|                          |                                   |     |   |      |
|--------------------------|-----------------------------------|-----|---|------|
| Gamma Ray Backup         | Cable Drag                        | 0.2 | AIT-H 10 Inch Investigation (AHT10)<br>(OHMM) | 2000 |
| Gamma Ray (GR)<br>(GAPI) | Tool/Tot.<br>Drag                 | 0.2 | AIT-H 20 Inch Investigation (AHT20)<br>(OHMM) | 2000 |
| Caliper (HCAL)<br>(IN)   | Stuck<br>Stretch<br>(STIT)<br>(F) | 0.2 | AIT-H 30 Inch Investigation (AHT30)<br>(OHMM) | 2000 |
| SP (SP)<br>(MV)          |                                   | 0.2 | AIT-H 60 Inch Investigation (AHT60)<br>(OHMM) | 2000 |
|                          |                                   | 0.2 | AIT-H 90 Inch Investigation (AHT90)<br>(OHMM) | 2000 |

Tension (TENS)  
(LBF)

10000 0

# PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

AIT-H Answer Product Processing Summary. Data taken with Tool # 397 (AHTNO)

...Acquired data from HILT/HAIT

\*\*\*\*\* Borehole Correction \*\*\*\*\*

Effective Tool Standoff computed. Borehole diameter and mud res. taken as input (see GCSE and GRSE parameters)  
Tool is run in ECCENTERED mode with a tool stand-off of 0.13 IN. Bit Size is 7.88 IN.

\*\*\*\*\* Input Selections to AIT-H Answer Product Processing \*\*\*\*\*

Caliper (GCSE): HCAL Mud Resistivity (GRSE): AHMF Temperature (GTSE): HTEM Porosity (FPHI): DPHZ

\*\*\*\*\* Other Parameters used by AIT-H Answer Product Processing \*\*\*\*\*

Form Factor Exponent (FEXP) 2.000 Form Factor Numerator (FNUM) 1.000  
Mud Filtrate Sample Resistivity (RMFS) 0.650 OHMM Mud Filtrate Sample Temperature (MFST) 74.600 DEGF  
Resitivity Connate Water (RW) 1.000 OHMM

\*\*\*\*\* AIT-H Answer Product Processing Control Parameters \*\*\*\*\*

(AHAPL): 3\_BholeCorr\_BasicLogs\_Radial\_Processing

(AHBHM): 2\_ComputeStandoff (AHBLM): 6\_One\_Two\_and\_Four (AHRPM): 6\_One\_Two\_and\_Four

## Parameters


| DLIS Name  | Description   | Value              |
|--|---|--------------------|
| HILTB-CTS: High resolution Integrated Logging Tool-CTS |   |                    |
| AHBHM  | Array Induction Borehole Correction Mode                    | 2_ComputeStandoff  |
| AHBHV  | Array Induction Borehole Correction Code Version Number     | 900                |
| AHBLM  | Array Induction Basic Logs Mode                             | 6_One_Two_and_Four |
| AHBLV  | Array Induction Basic Logs Code Version Number              | 223                |
| AHCDE  | Array Induction Casing Detection Enable                     | Yes                |
| AHCEN  | Array Induction Tool Centering Flag (in Borehole)           | Eccentered         |
| AHFRSV   | Array Induction Response Set Version for Four ft Resolution | 41.70.24.20        |
| AHMRF  | Array Induction Mud Resistivity Factor                      | 1                  |
| AHORSV   | Array Induction Response Set Version for One ft Resolution  | 41.70.24.20        |
| AHRFV  | Array Induction Radial Profiling Code Version Number        | 701                |
| AHRPV  | Array Induction Radial Parametrization Code Version Number  | 232                |
| AHSTA  | Array Induction Tool Standoff                               | 0.125 IN           |
| AHTRSV   | Array Induction Response Set Version for Two ft Resolution  | 41.70.24.20        |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7 DEGF         |
| FEXP   | Form Factor Exponent  | 2                  |
| FNUM   | Form Factor Numerator                                       | 1                  |
| GCSE   | Generalized Caliper Selection                               | HCAL               |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0 DEG              |
| GGRD   | Geothermal Gradient   | 0.01 DF/F          |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |
| SHT  | Surface Hole Temperature                                    | 68 DEGF            |
| SPNV   | SP Next Value   | 0 MV               |
| FEQL: Formation Evaluation Quick Look                  |   |                    |
| FEXP   | Form Factor Exponent  | 2                  |
| FNUM   | Form Factor Numerator                                       | 1                  |
| HOLEV: Integrated Hole/Cement Volume                   |   |                    |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7 DEGF         |
| FCD  | Future Casing (Outer) Diameter                              | 5.5 IN             |
| GCSE   | Generalized Caliper Selection                               | HCAL               |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0 DEG              |
| GGRD   | Geothermal Gradient   | 0.01 DF/F          |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |
| HVCS   | Integrated Hole Volume Caliper Selection                    | AUTOMATIC          |
| SHT  | Surface Hole Temperature                                    | 68 DEGF            |
| PERT: Preliminary Evaluation - Real Time               |   |                    |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7 DEGF         |
| FEXP   | Form Factor Exponent  | 2                  |
| FNUM   | Form Factor Numerator                                       | 1                  |
| GCSE   | Generalized Caliper Selection                               | HCAL               |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0 DEG              |
| GGRD   | Geothermal Gradient   | 0.01 DF/F          |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |
| SHT  | Surface Hole Temperature                                    | 68 DEGF            |

|                          |                           |                                       |           |      |
|--------------------------|---------------------------|---------------------------------------|-----------|------|
| LBFR                     | STI: Stuck Tool Indicator | Trigger for MAXIS First Reading Label | TDL       |      |
| STKT                     |                           | STI Stuck Threshold                   | 2.5       | FT   |
| TDD                      |                           | Total Depth – Driller                 | 5515.00   | FT   |
| TDL                      |                           | Total Depth – Logger                  | 5504.00   | FT   |
| System and Miscellaneous |                           |                                       |           |      |
| BS                       |                           | Bit Size                              | 7.875     | IN   |
| DFD                      |                           | Drilling Fluid Density                | 9.20      | LB/G |
| DORL                     |                           | Depth Offset for Repeat Analysis      | 0.0       | FT   |
| FLEV                     |                           | Fluid Level                           | -50000.00 | FT   |
| MST                      |                           | Mud Sample Temperature                | 74.60     | DEGF |
| TD                       |                           | Total Depth                           | 5504      | FT   |

|              |                             |  |
|--------------|-----------------------------|--|
| Format: GRES | Vertical Scale: 5" per 100' | Graphics File Created: 08-Feb-2010 05:59 |
|--------------|-----------------------------|--|

|                             |          |
|-----------------------------|----------|
| OP System Version: 17C0-154 |          |
| HILTB-CTS                   | 17C0-154 |

|                   |                         |      |          |                   |
|-------------------|-------------------------|------|----------|-------------------|
| Output DLIS Files |                         |      |          |                   |
| DEFAULT           | AIT_TLD_MCFL_CNL_007LUP | FN:6 | PRODUCER | 08-Feb-2010 05:59 |



REPEAT ANALYSIS

MAXIS Field Log

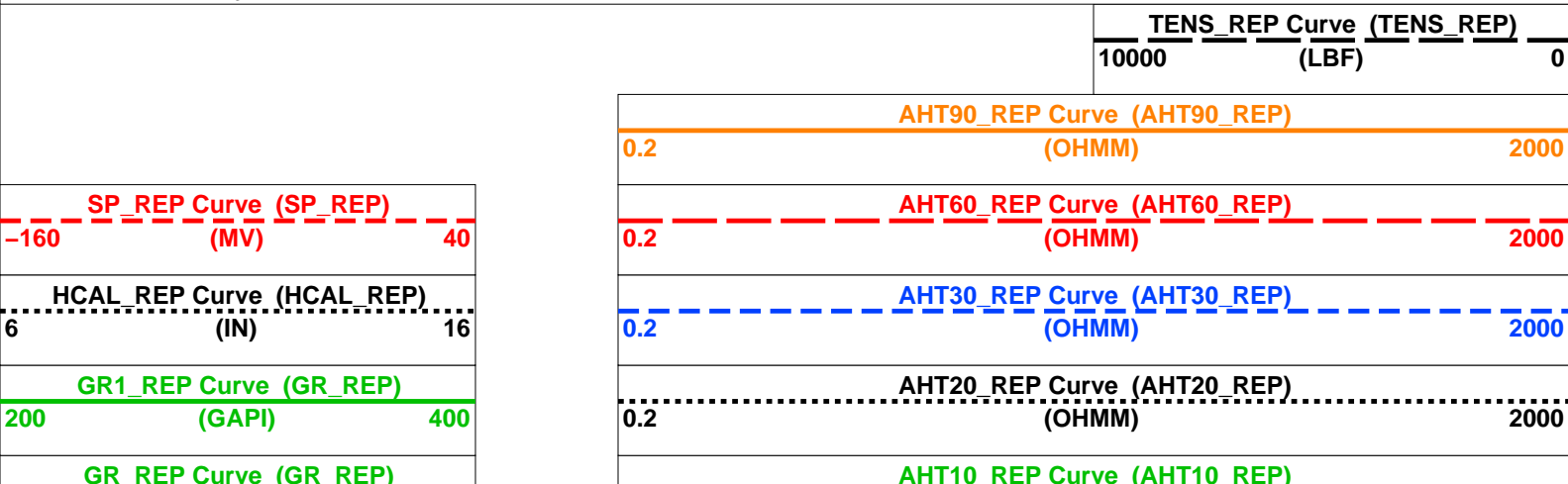
|                   |                         |      |          |                   |           |           |
|-------------------|-------------------------|------|----------|-------------------|-----------|-----------|
| Input DLIS Files  |                         |      |          |                   |           |           |
| DEFAULT           | AIT_TLD_MCFL_CNL_006PUP | FN:5 | PRODUCER | 08-Feb-2010 05:58 | 5524.5 FT | 4403.5 FT |
| Output DLIS Files |                         |      |          |                   |           |           |
| DEFAULT           | AIT_TLD_MCFL_CNL_007LUP | FN:6 | PRODUCER | 08-Feb-2010 05:59 |           |           |

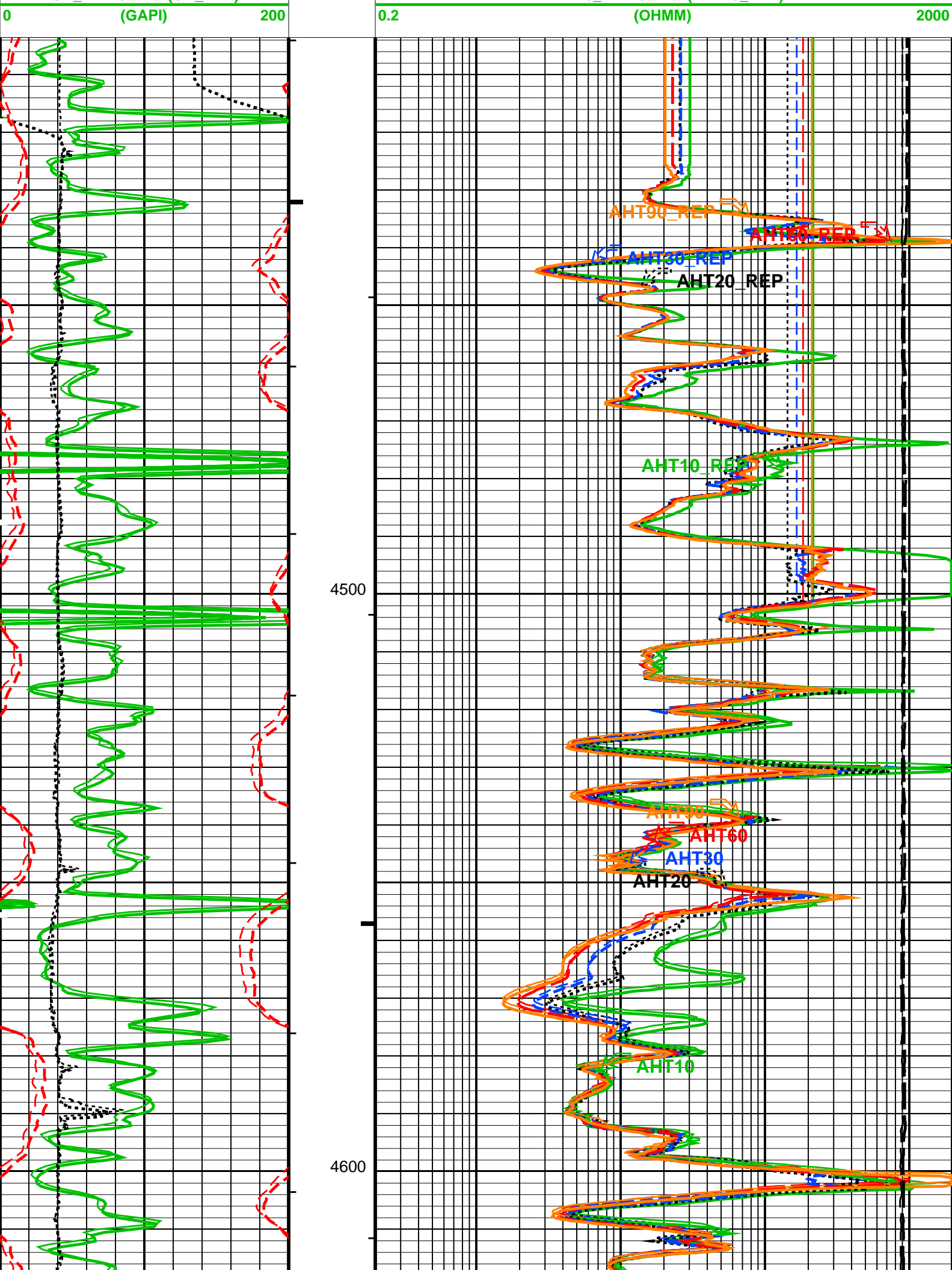
|                             |          |
|-----------------------------|----------|
| OP System Version: 17C0-154 |          |
| HILTB-CTS                   | 17C0-154 |

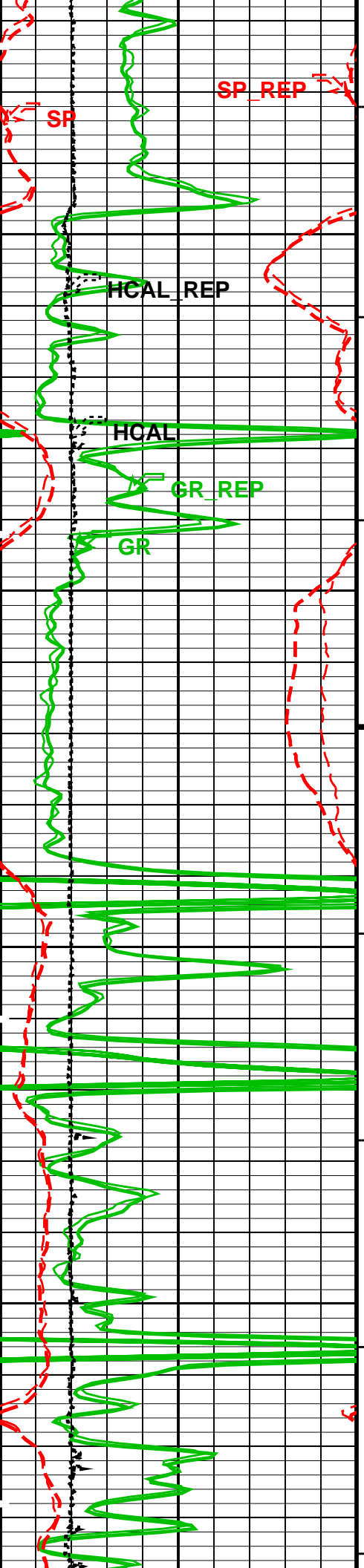
PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3
  - Integrated Cement Volume Minor Pip Every 10 F3
  - Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

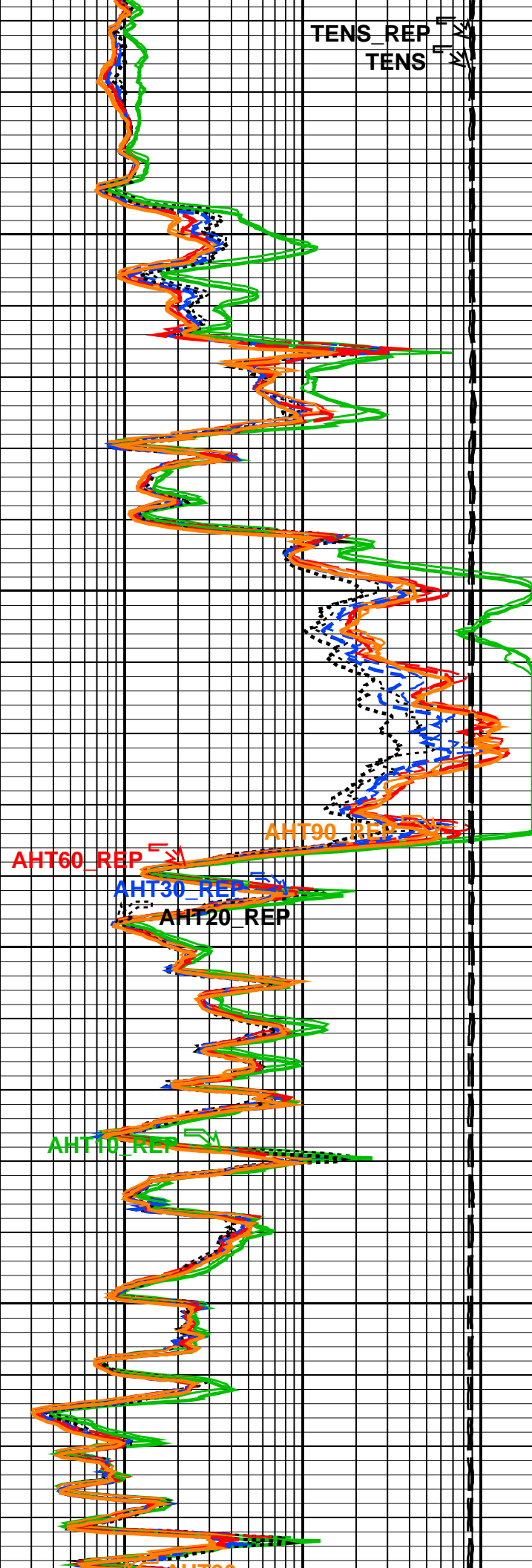




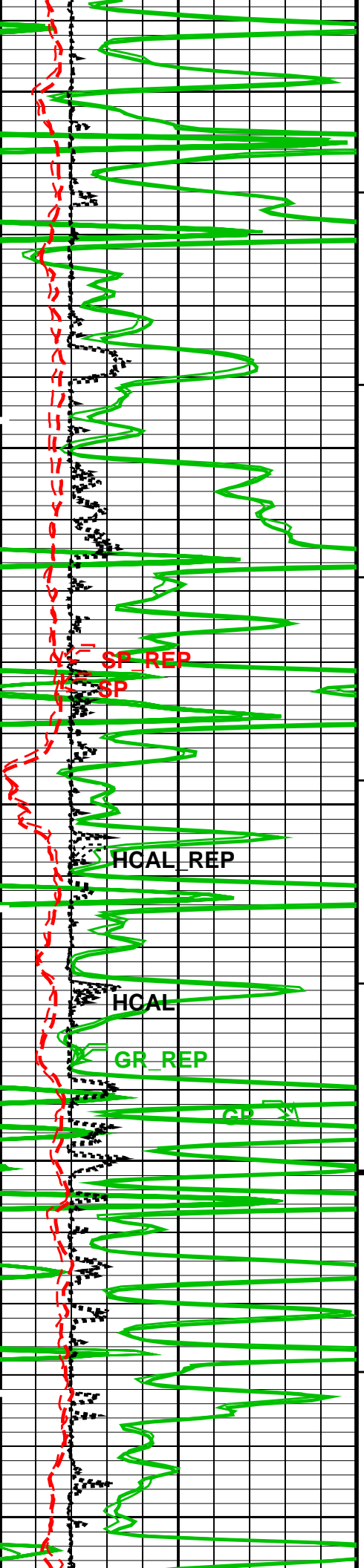


4700

4800

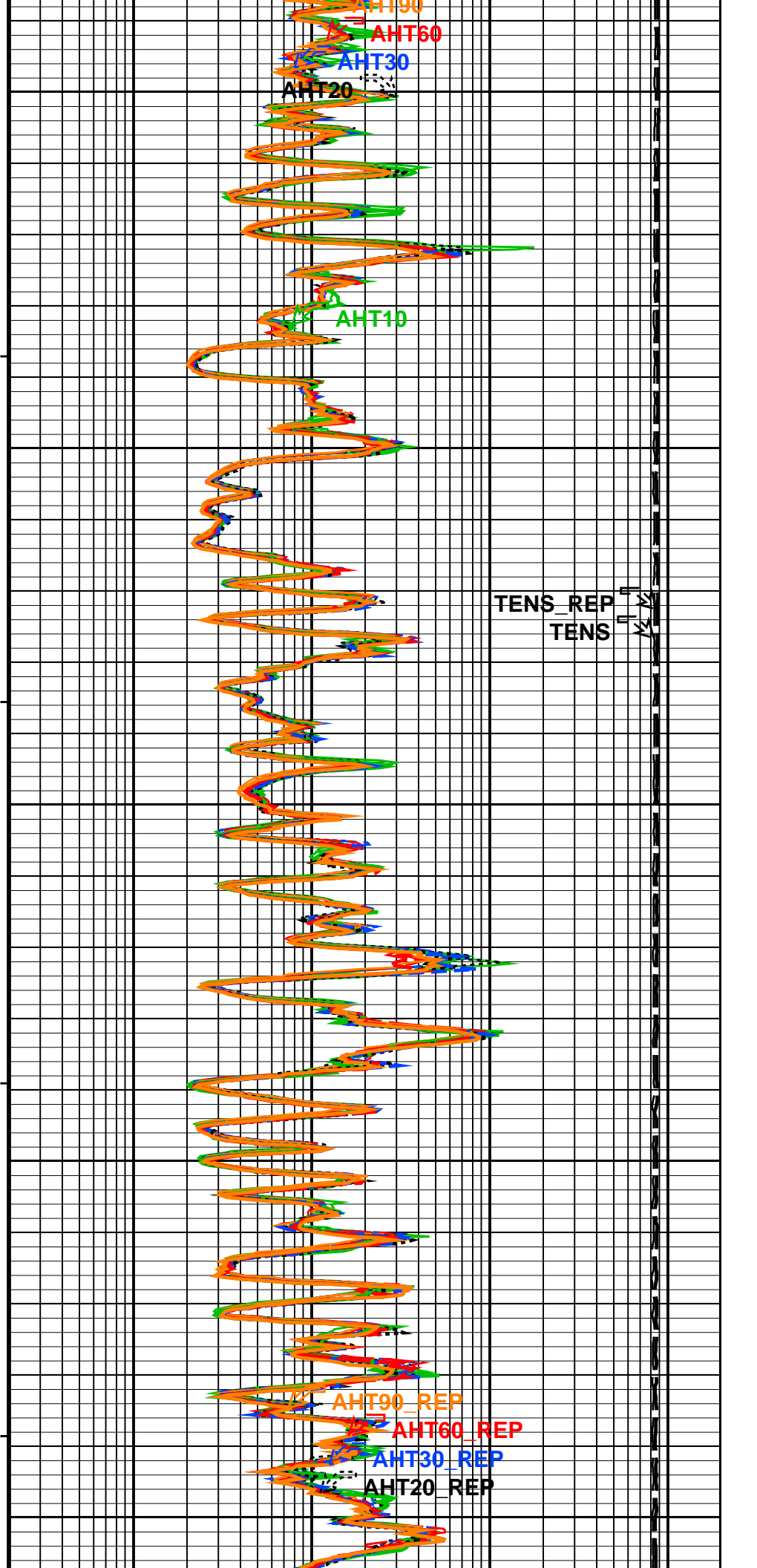


TENS\_REP  
TENS

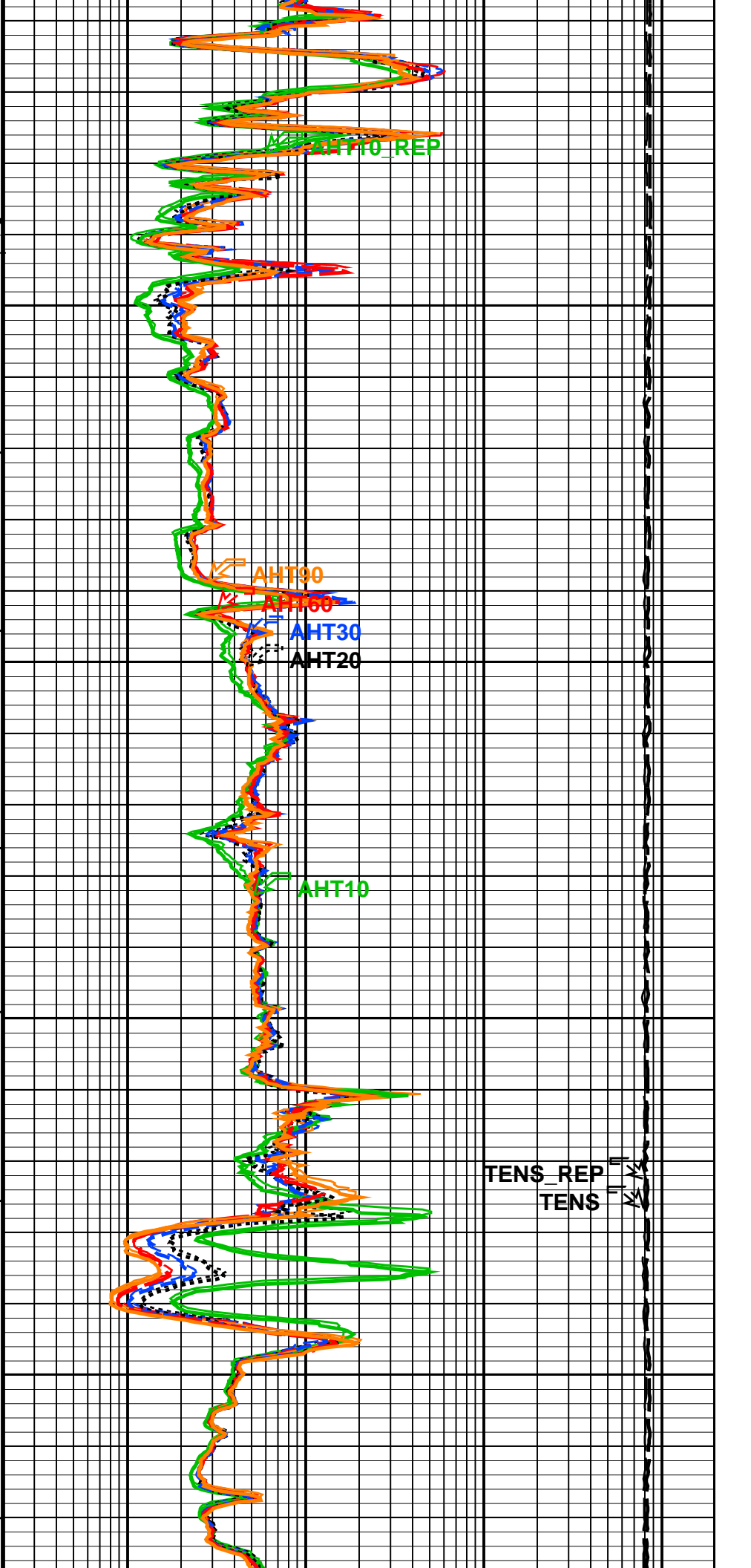
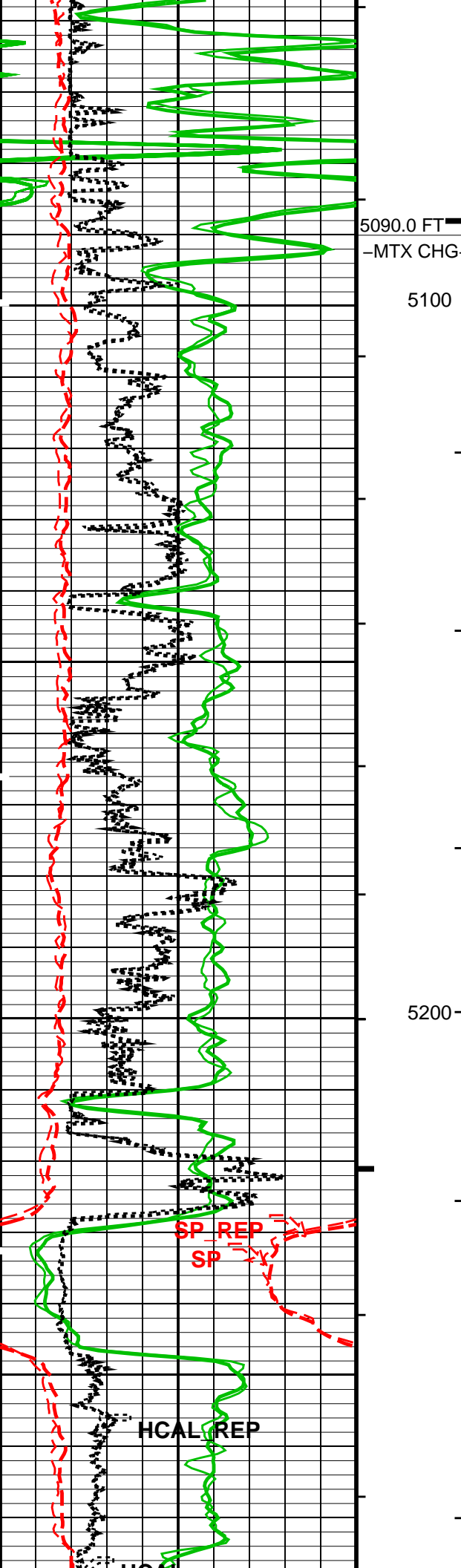


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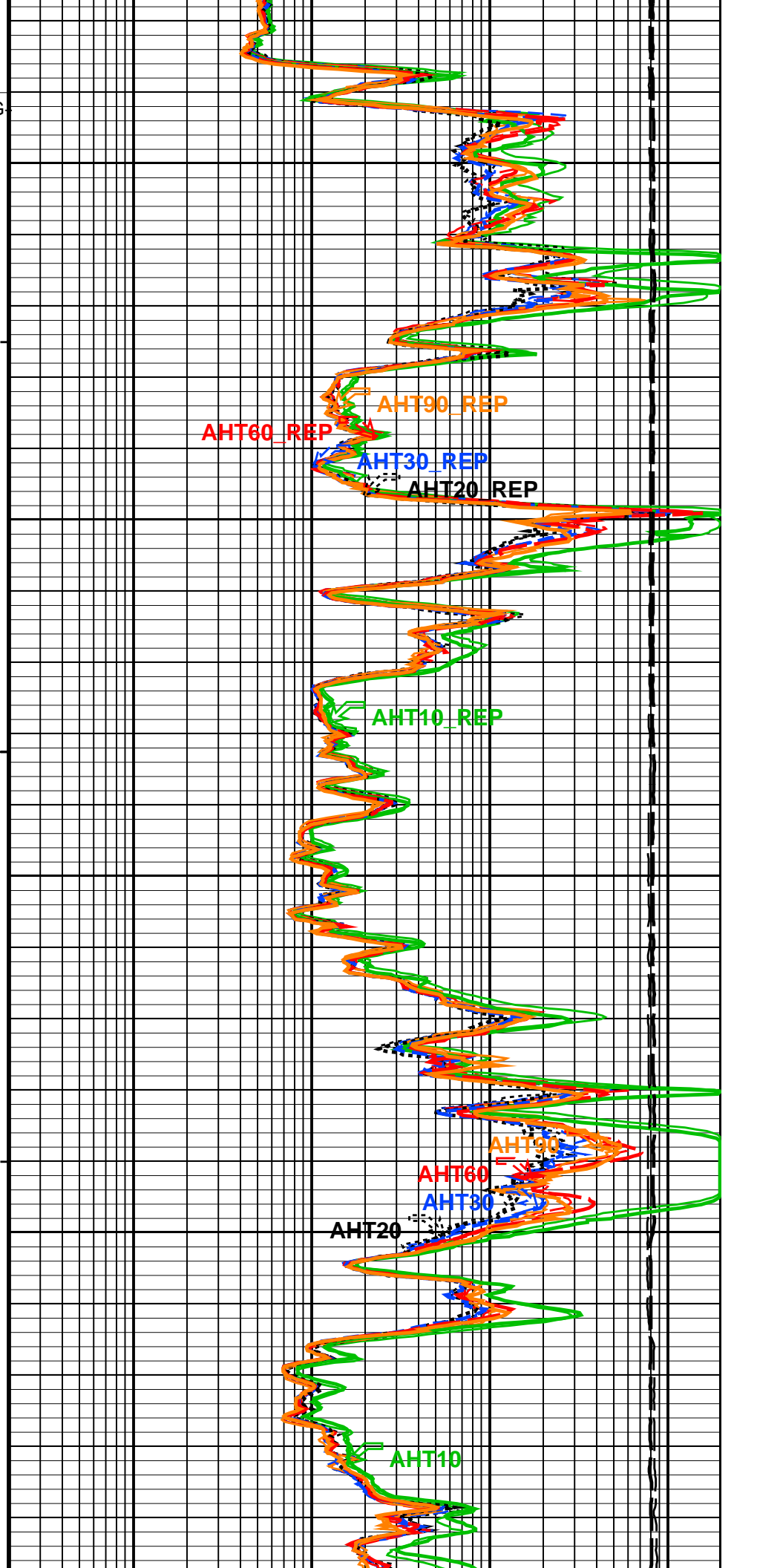
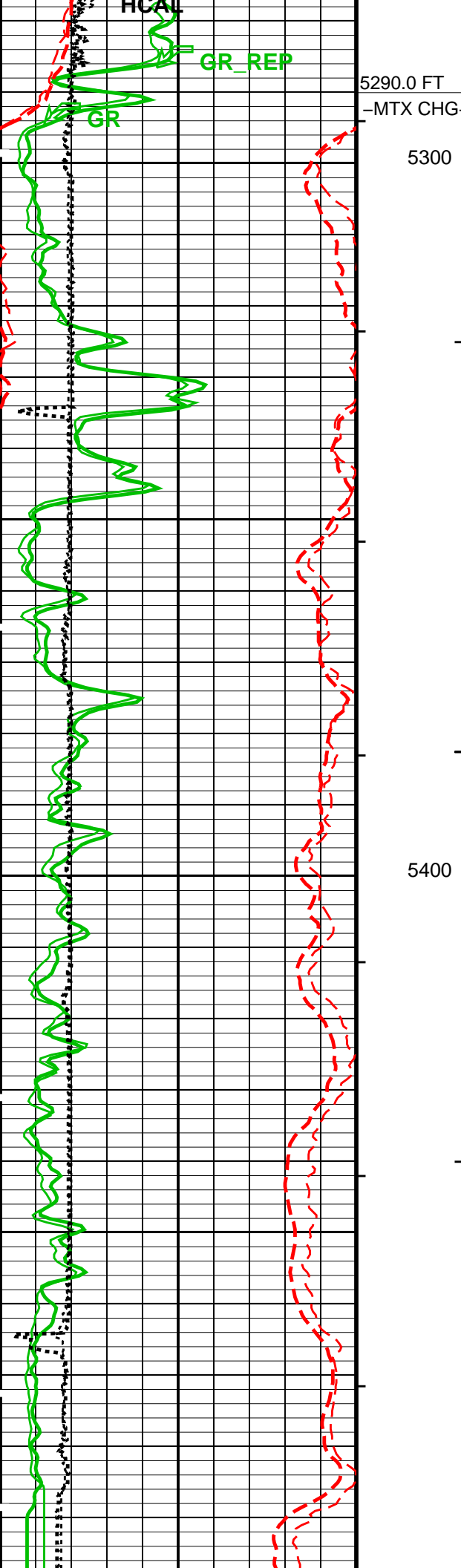
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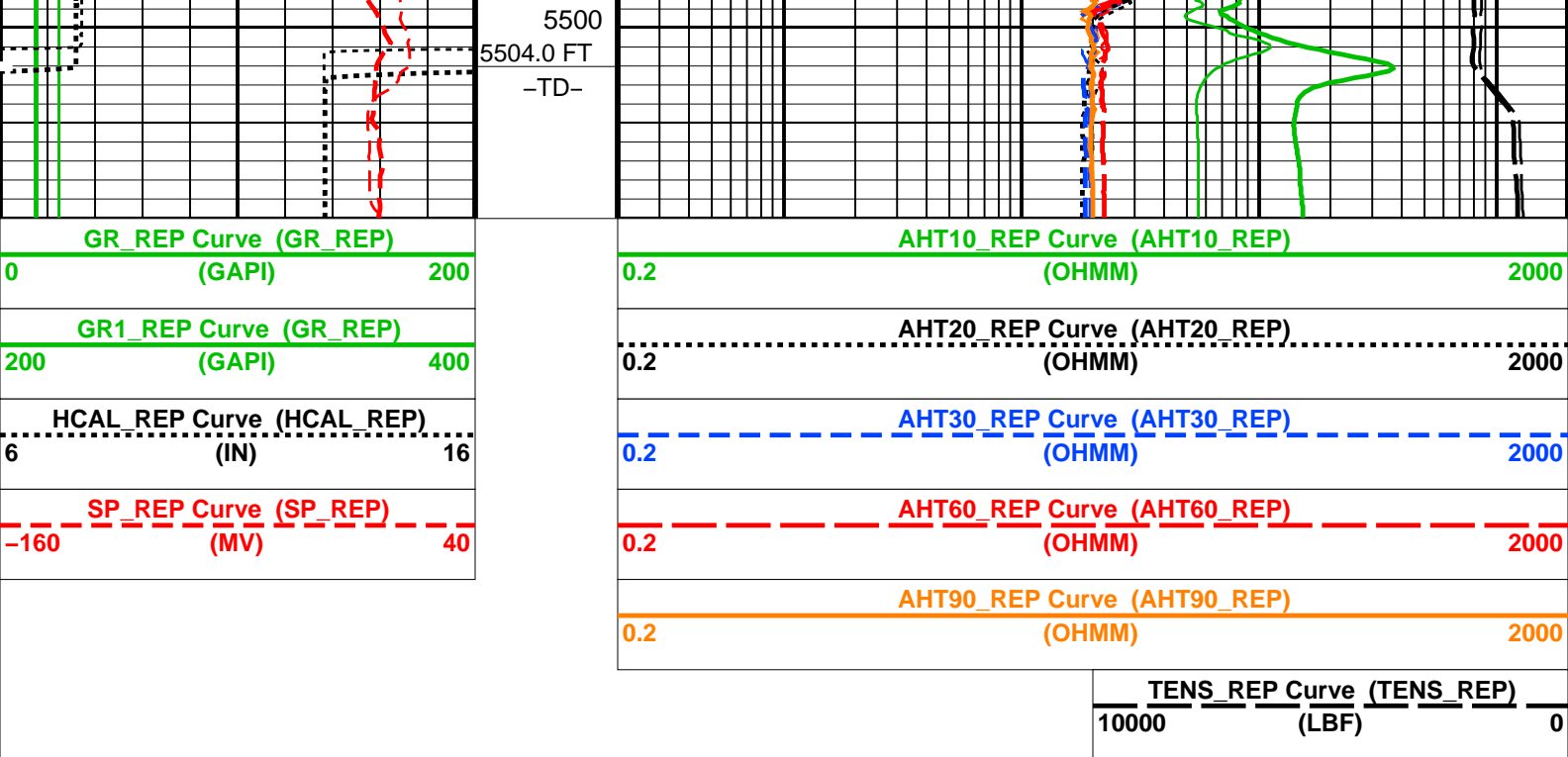


TENS  
TENS\_REP









### PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

AIT-H Answer Product Processing Summary. Data taken with Tool # 397 (AHTNO)

...Acquired data from HILT/HAIT

\*\*\*\*\* Borehole Correction \*\*\*\*\*

Effective Tool Standoff computed. Borehole diameter and mud res. taken as input (see GCSE and GRSE parameters)  
Tool is run in ECCENTERED mode with a tool stand-off of 0.13 IN. Bit Size is 7.88 IN.

\*\*\*\*\* Input Selections to AIT-H Answer Product Processing \*\*\*\*\*

Caliper (GCSE): HCAL Mud Resistivity (GRSE): AHMF Temperature (GTSE): HTEM Porosity (FPHI): DPHZ

\*\*\*\*\* Other Parameters used by AIT-H Answer Product Processing \*\*\*\*\*

Form Factor Exponent (FEXP) 2.000 Form Factor Numerator (FNUM) 1.000  
Mud Filtrate Sample Resistivity (RMFS) 0.650 OHMM Mud Filtrate Sample Temperature (MFST) 74.600 DEGF  
Resitivity Connate Water (RW) 1.000 OHMM

\*\*\*\*\* AIT-H Answer Product Processing Control Parameters \*\*\*\*\*

Playback Mode: NORMAL

### Parameters

| DLIS Name  | Description   | Value              |
|--|---|--------------------|
| HILTB-CTS: High resolution Integrated Logging Tool-CTS |   |                    |
| AHBHM  | Array Induction Borehole Correction Mode                    | 2_ComputeStandoff  |
| AHBHV  | Array Induction Borehole Correction Code Version Number     | 900                |
| AHBLM  | Array Induction Basic Logs Mode                             | 6_One_Two_and_Four |
| AHBLV  | Array Induction Basic Logs Code Version Number              | 223                |
| AHCDE  | Array Induction Casing Detection Enable                     | Yes                |
| AHCEN  | Array Induction Tool Centering Flag (in Borehole)           | Eccentered         |
| AHFRSV   | Array Induction Response Set Version for Four ft Resolution | 41.70.24.20        |
| AHMRF  | Array Induction Mud Resistivity Factor                      | 1                  |
| AHORSV   | Array Induction Response Set Version for One ft Resolution  | 41.70.24.20        |
| AHRFV  | Array Induction Radial Profiling Code Version Number        | 701                |
| AHRPV  | Array Induction Radial Parametrization Code Version Number  | 232                |
| AHSTA  | Array Induction Tool Standoff                               | 0.125 IN           |
| AHTRSV   | Array Induction Response Set Version for Two ft Resolution  | 41.70.24.20        |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7 DEGF         |
| FEXP   | Form Factor Exponent  | 2                  |
| FNUM   | Form Factor Numerator                                       | 1                  |
| GCSE   | Generalized Caliper Selection                               | HCAL               |

|  |   |             |           |      |
|--|---|-------------|-----------|------|
| GCSE                                     | Generalized Caliper Selection                     | HCAL        | 0         | DEG  |
| GDEV                                     | Average Angular Deviation of Borehole from Normal |             |           | DF/F |
| GGRD                                     | Geothermal Gradient                               |             | 0.01      |      |
| GRSE                                     | Generalized Mud Resistivity Selection             | AITH_RESIST |           |      |
| GTSE                                     | Generalized Temperature Selection                 | HSTS_HTEM   |           |      |
| SHT                                      | Surface Hole Temperature                          |             | 68        | DEGF |
| SPNV                                     | SP Next Value                                     |             | 0         | MV   |
| FEQL: Formation Evaluation Quick Look    |   |             |           |      |
| FEXP                                     | Form Factor Exponent                              |             | 2         |      |
| FNUM                                     | Form Factor Numerator                             |             | 1         |      |
| HOLEV: Integrated Hole/Cement Volume     |   |             |           |      |
| BHT                                      | Bottom Hole Temperature (used in calculations)    |             | 136.7     | DEGF |
| FCD                                      | Future Casing (Outer) Diameter                    |             | 5.5       | IN   |
| GCSE                                     | Generalized Caliper Selection                     | HCAL        |           |      |
| GDEV                                     | Average Angular Deviation of Borehole from Normal |             | 0         | DEG  |
| GGRD                                     | Geothermal Gradient                               |             | 0.01      | DF/F |
| GRSE                                     | Generalized Mud Resistivity Selection             | AITH_RESIST |           |      |
| GTSE                                     | Generalized Temperature Selection                 | HSTS_HTEM   |           |      |
| HVCS                                     | Integrated Hole Volume Caliper Selection          | AUTOMATIC   |           |      |
| SHT                                      | Surface Hole Temperature                          |             | 68        | DEGF |
| PERT: Preliminary Evaluation – Real Time |   |             |           |      |
| BHT                                      | Bottom Hole Temperature (used in calculations)    |             | 136.7     | DEGF |
| FEXP                                     | Form Factor Exponent                              |             | 2         |      |
| FNUM                                     | Form Factor Numerator                             |             | 1         |      |
| GCSE                                     | Generalized Caliper Selection                     | HCAL        |           |      |
| GDEV                                     | Average Angular Deviation of Borehole from Normal |             | 0         | DEG  |
| GGRD                                     | Geothermal Gradient                               |             | 0.01      | DF/F |
| GRSE                                     | Generalized Mud Resistivity Selection             | AITH_RESIST |           |      |
| GTSE                                     | Generalized Temperature Selection                 | HSTS_HTEM   |           |      |
| SHT                                      | Surface Hole Temperature                          |             | 68        | DEGF |
| System and Miscellaneous                 |   |             |           |      |
| BS                                       | Bit Size  |             | 7.875     | IN   |
| DFD                                      | Drilling Fluid Density                            |             | 9.20      | LB/G |
| DORL                                     | Depth Offset for Repeat Analysis                  |             | 0.0       | FT   |
| FLEV                                     | Fluid Level                                       |             | -50000.00 | FT   |
| MST                                      | Mud Sample Temperature                            |             | 74.60     | DEGF |
| TD                                       | Total Depth                                       |             | 5504      | FT   |

Format: GRES\_REP    Vertical Scale: 5" per 100'    Graphics File Created: 08-Feb-2010 05:59

## OP System Version: 17C0-154

HILTB-CTS    17C0-154

### Input DLIS Files

|         |                         |      |          |                   |           |           |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|
| DEFAULT | AIT_TLD_MCFL_CNL_006PUP | FN:5 | PRODUCER | 08-Feb-2010 05:58 | 5524.5 FT | 4403.5 FT |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|

### Output DLIS Files

|         |                         |      |          |                   |
|---------|-------------------------|------|----------|-------------------|
| DEFAULT | AIT_TLD_MCFL_CNL_007LUP | FN:6 | PRODUCER | 08-Feb-2010 05:59 |
|---------|-------------------------|------|----------|-------------------|

**Schlumberger**

**HIGH RESOLUTION**

MAXIS Field Log

### Input DLIS Files

|         |                         |      |          |                   |           |           |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|
| DEFAULT | AIT_TLD_MCFL_CNL_005LUP | FN:4 | PRODUCER | 08-Feb-2010 05:17 | 5520.0 FT | 4399.2 FT |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|

### Output DLIS Files

|         |                         |      |          |                   |           |           |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|
| DEFAULT | AIT_TLD_MCFL_CNL_006PUP | FN:5 | PRODUCER | 08-Feb-2010 05:58 | 5524.5 FT | 4403.5 FT |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|

## Integrated Hole/Cement Volume Summary

Hole Volume = 407.62 F3  
Cement Volume = 226.06 F3 (assuming 5.50 IN casing O.D.)  
Computed from 5504.0 FT to 4404.0 FT using data channel(s) HCAL

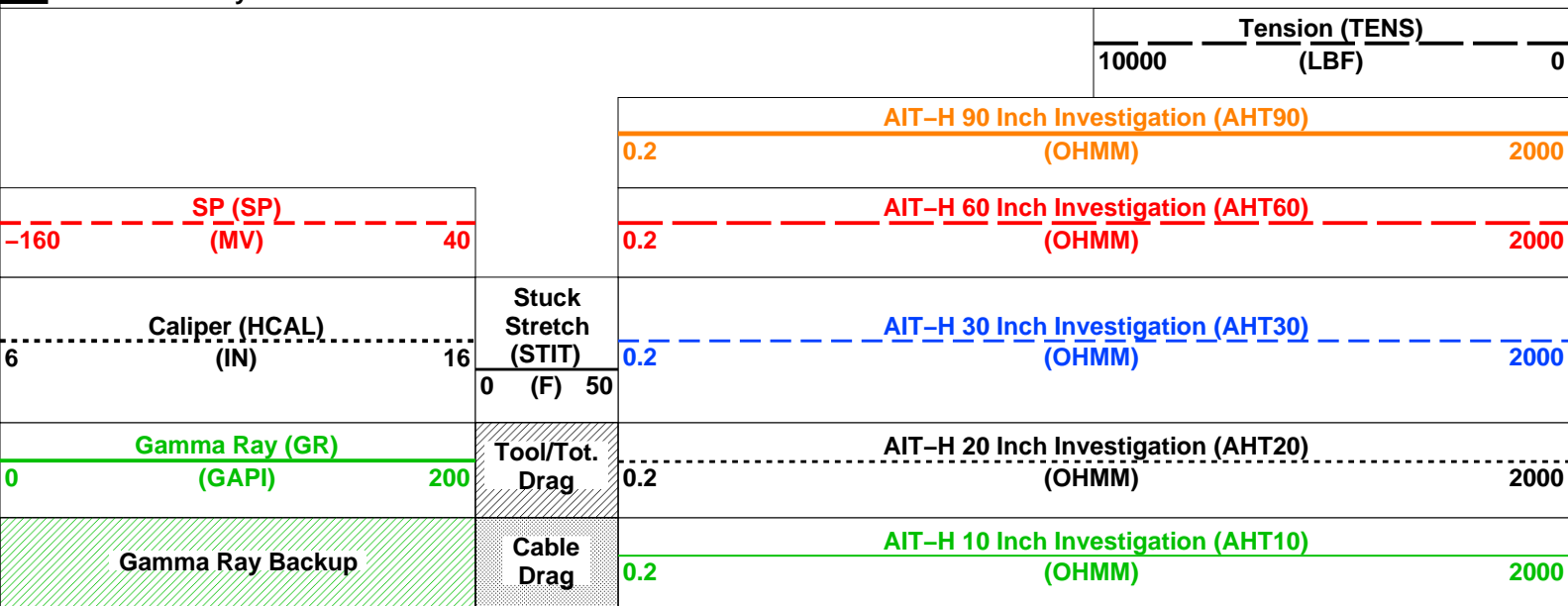
## OP System Version: 17C0-154

HILTB-CTS 17C0-154

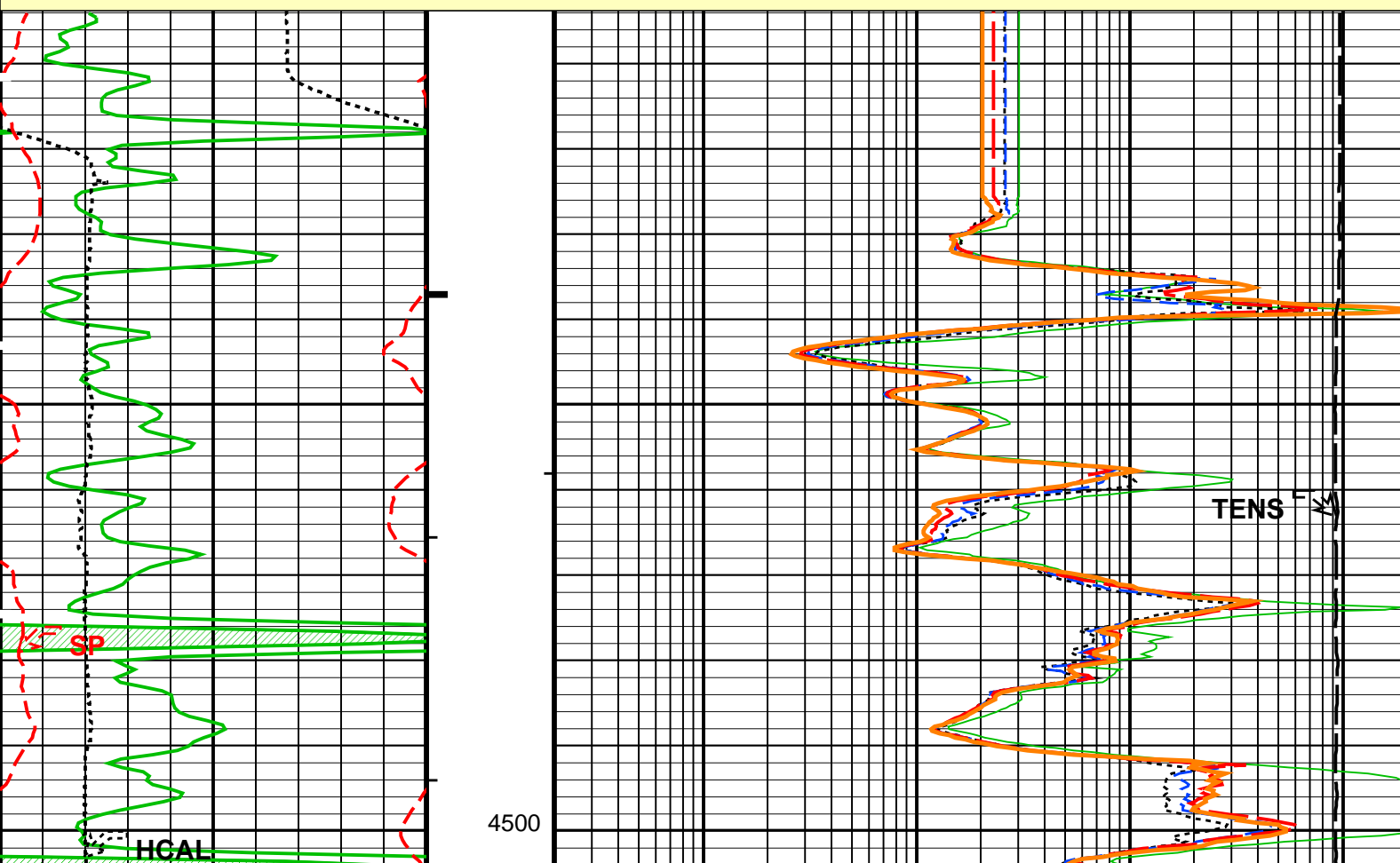
### PIP SUMMARY

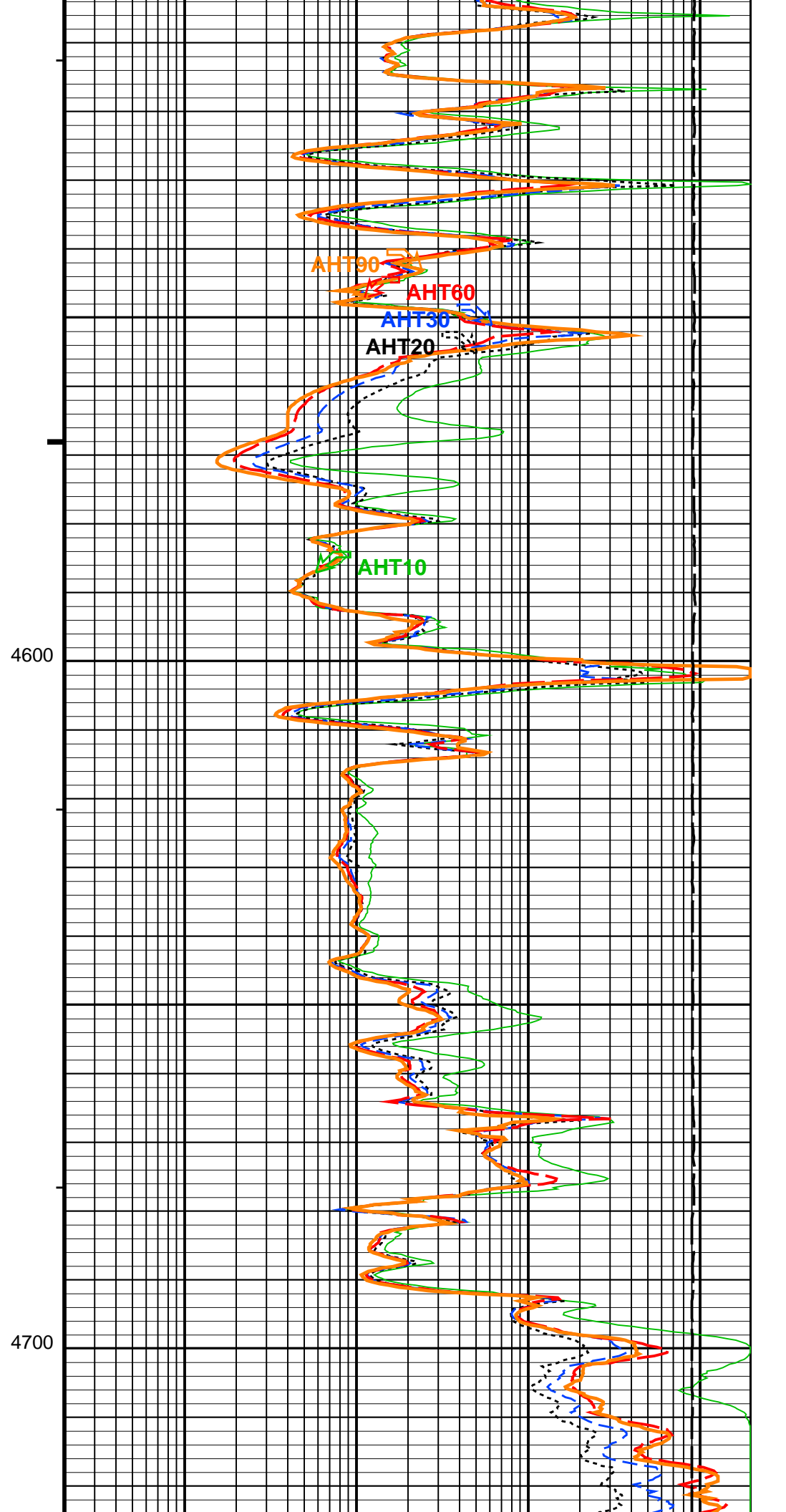
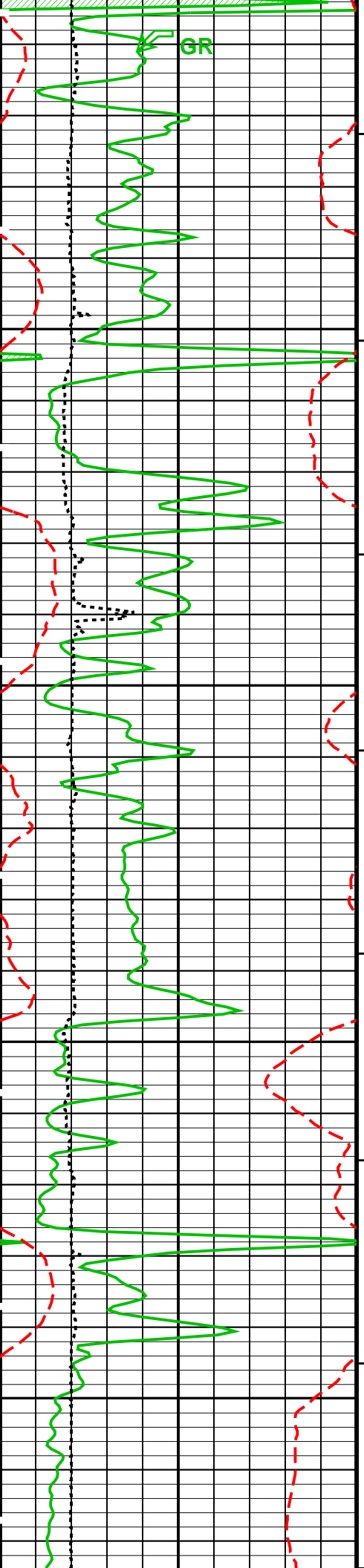
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

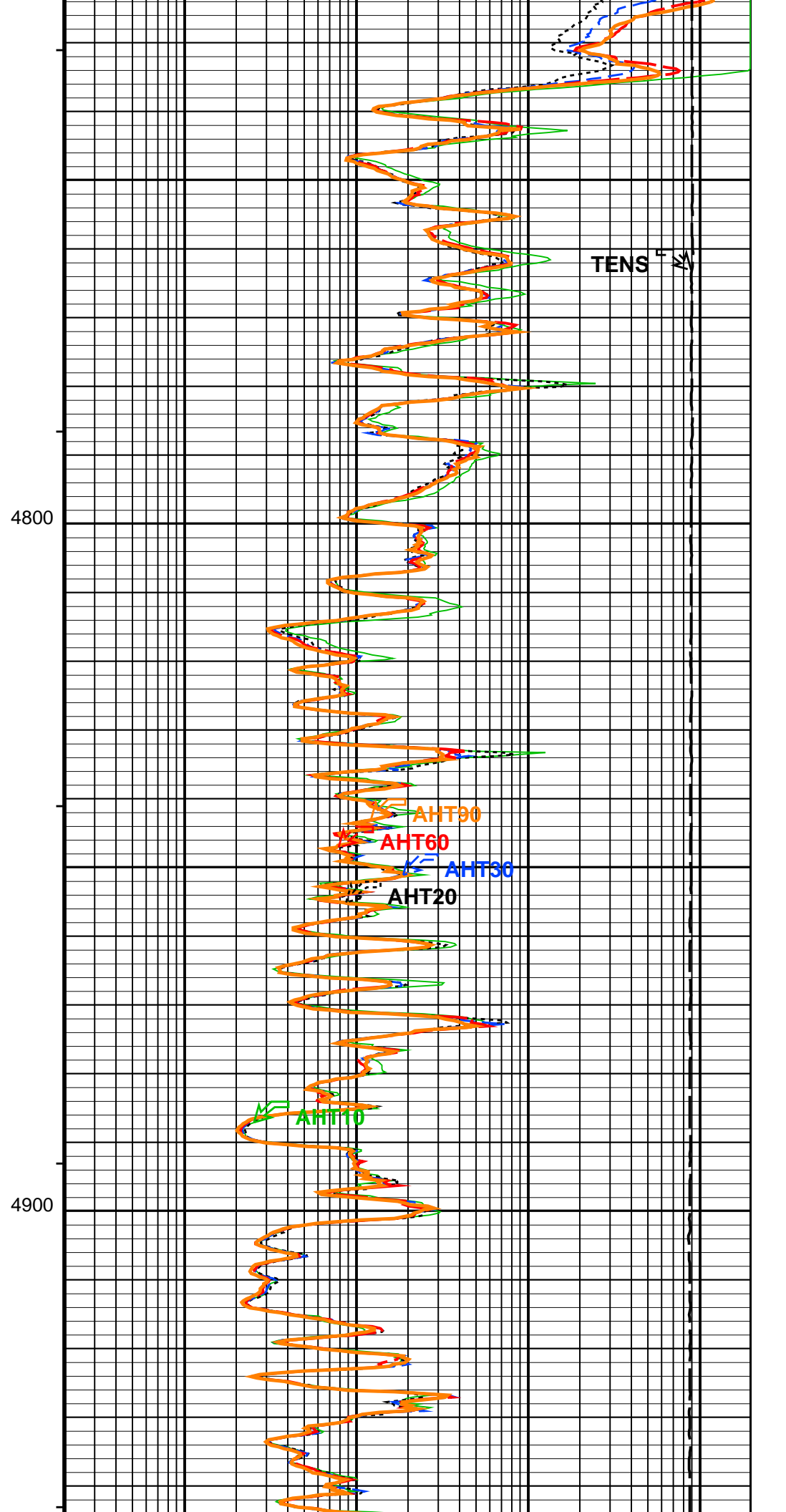
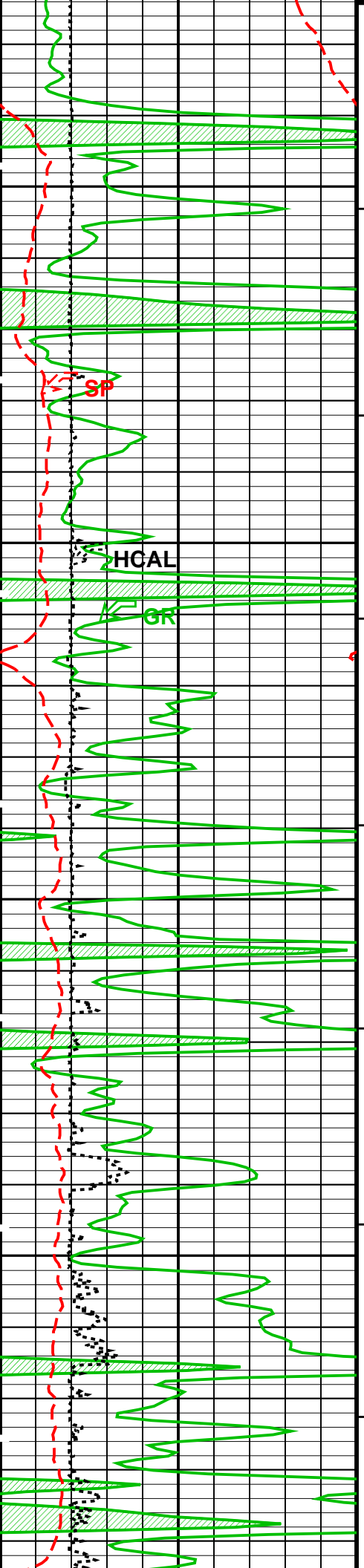
Time Mark Every 60 S

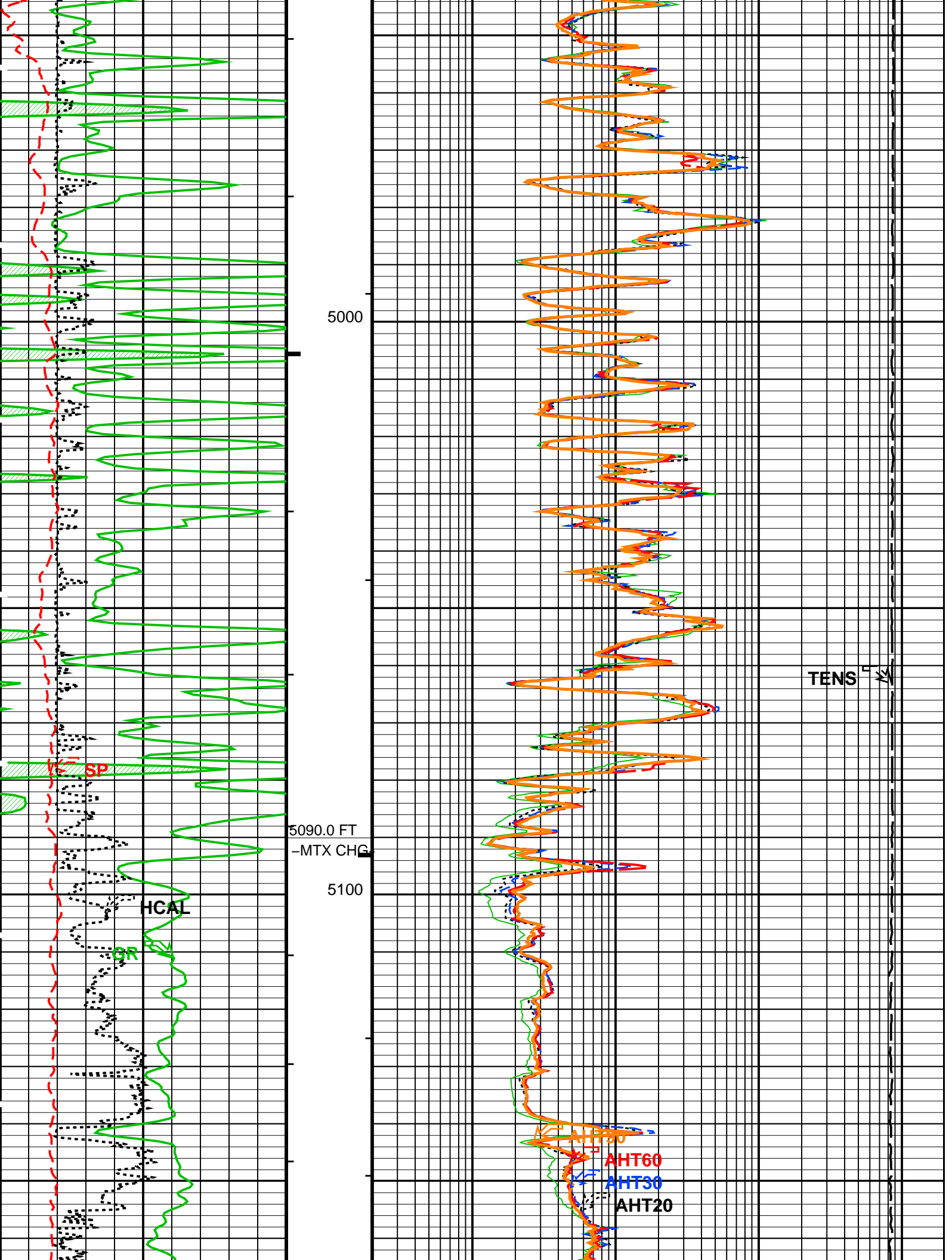


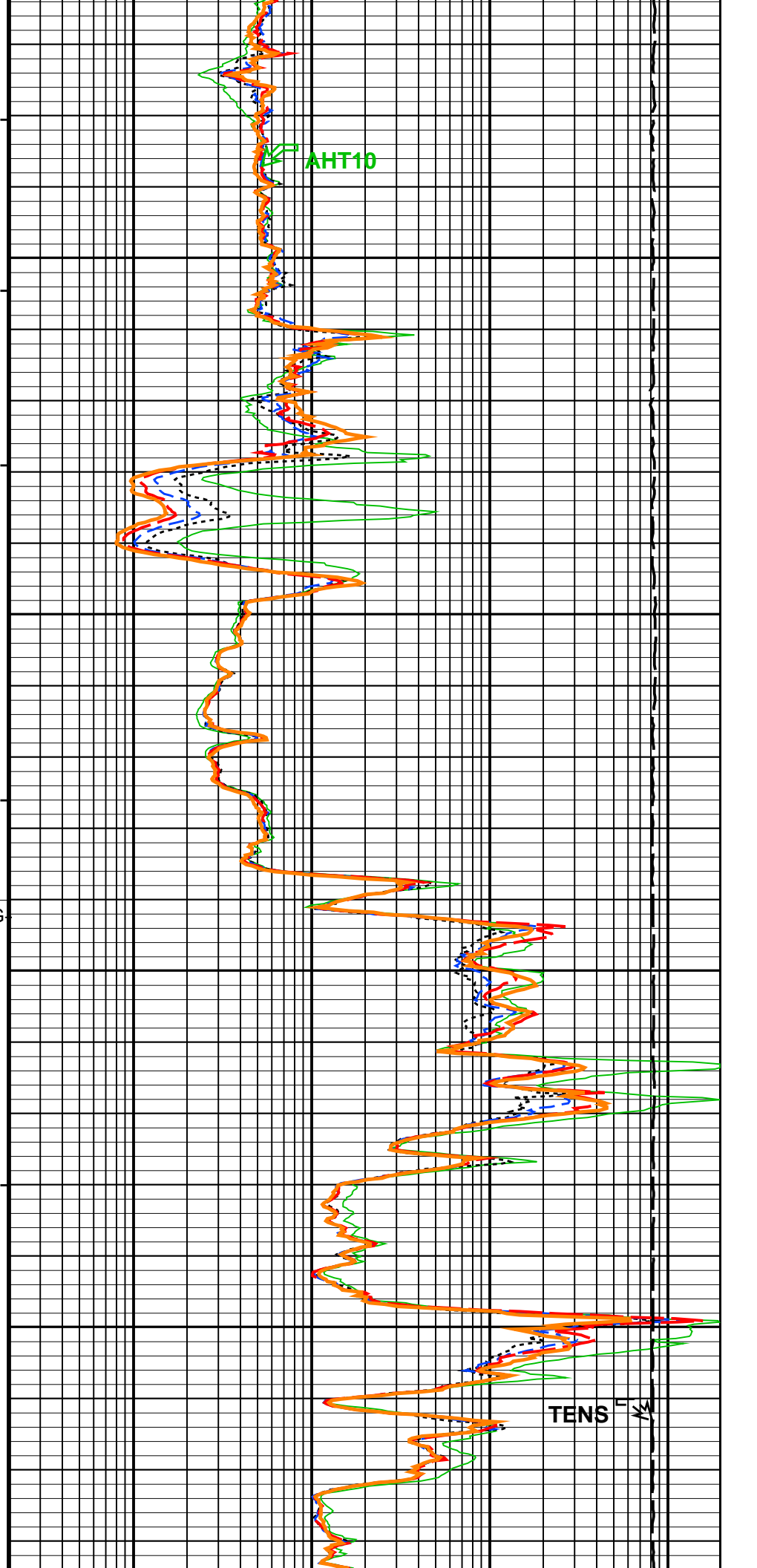
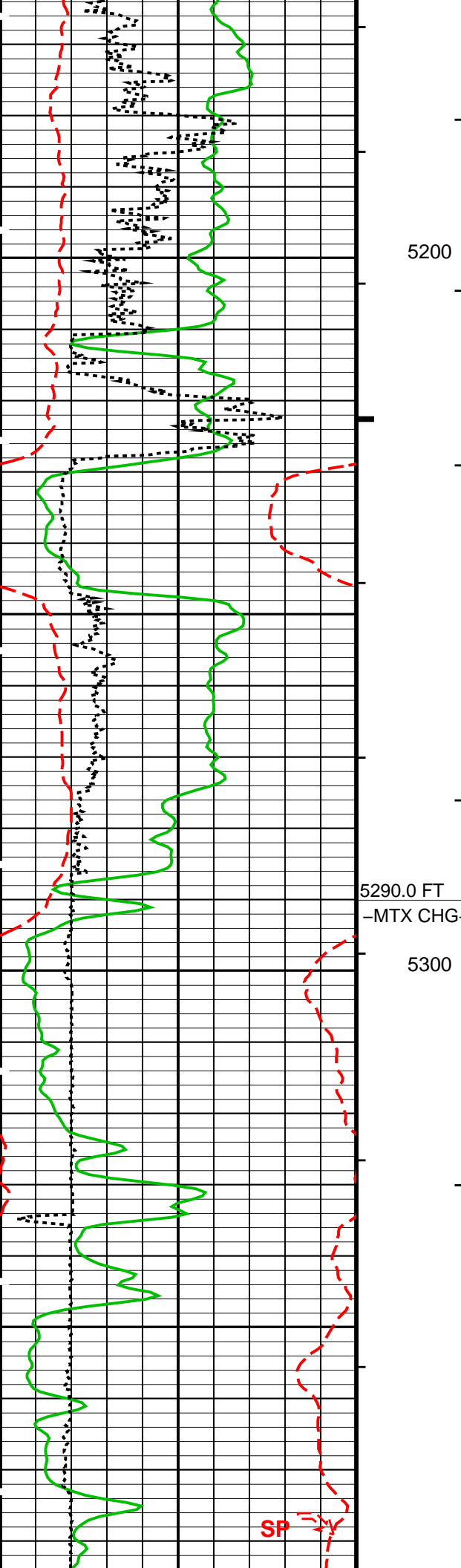
MAIN PASS: \*\*\* PLATFORM EXPRESS – ARRAY INDUCTION \*\*\*



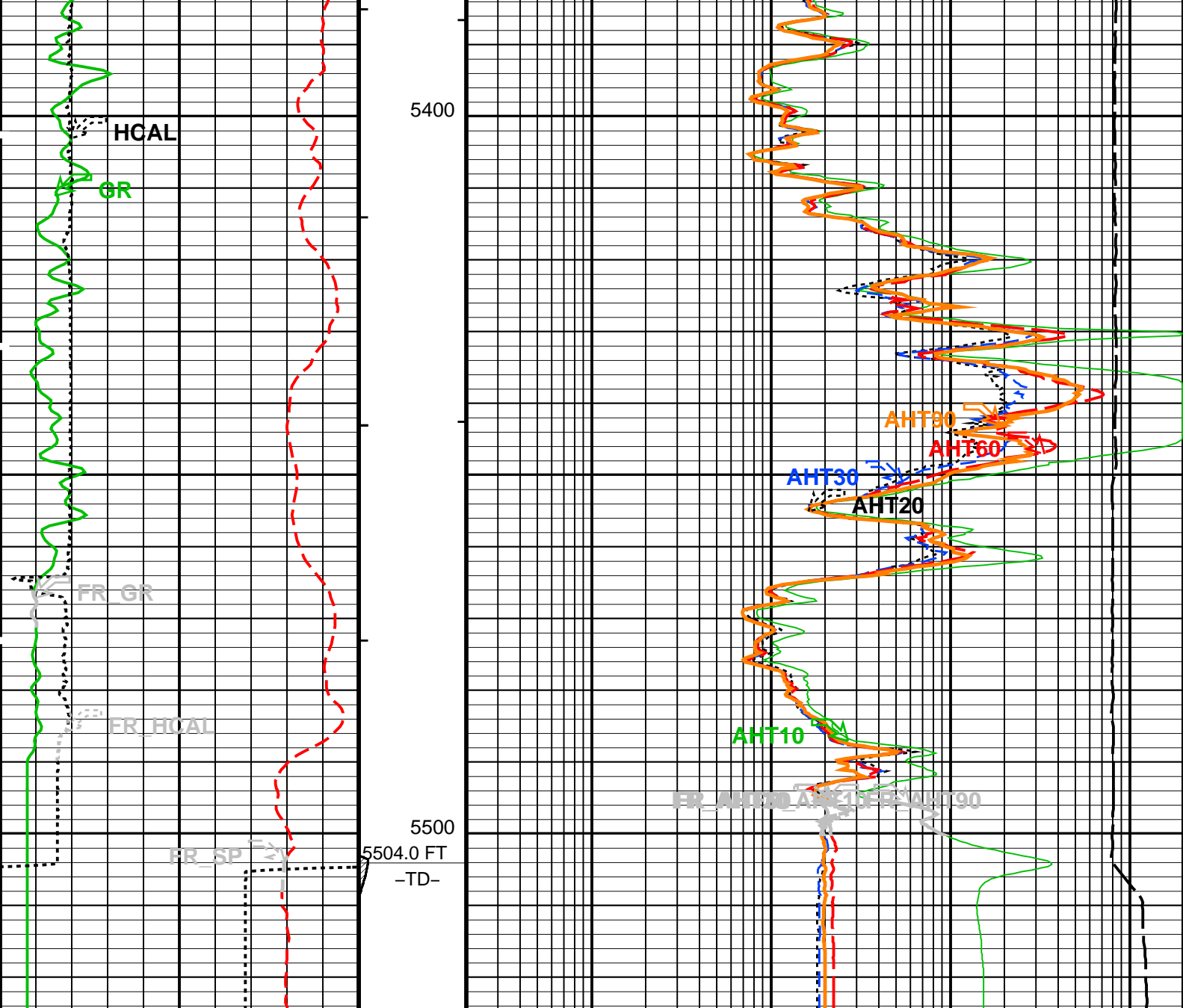












MAIN PASS: \*\*\* PLATFORM EXPRESS – ARRAY INDUCTION \*\*\*

|  |  |  |
|--|--|--|
| <div>Gamma Ray Backup</div>            | <div>Cable Drag</div>                    | <div>AIT-H 10 Inch Investigation (AHT10) (OHMM) 2000</div> |
| <div>Gamma Ray (GR) (GAPI) 0 200</div> | <div>Tool/Tot. Drag</div>                | <div>AIT-H 20 Inch Investigation (AHT20) (OHMM) 2000</div> |
| <div>Caliper (HCAL) (IN) 6 16</div>    | <div>Stuck Stretch (STIT) (F) 0 50</div> | <div>AIT-H 30 Inch Investigation (AHT30) (OHMM) 2000</div> |
| <div>SP (SP) (MV) -160 40</div>        |  | <div>AIT-H 60 Inch Investigation (AHT60) (OHMM) 2000</div> |
|  |  | <div>AIT-H 90 Inch Investigation (AHT90) (OHMM) 2000</div> |
|  | <div>Tension (TENS) (LBF) 10000 0</div>  |  |

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 10 F3
- Integrated Hole Volume Major Pip Every 100 F3

|   |   |
|---|---|
|   | Integrated Hole Volume Major Pip Every 100 F3   |
|   | Integrated Cement Volume Minor Pip Every 10 F3  |
|   | Integrated Cement Volume Major Pip Every 100 F3                                       |
| Time Mark Every 60 S  |   |
| AIT-H Answer Product Processing Summary. Data taken with Tool # 397 (AHTNO)           |   |
| ...Acquired data from HILT/HAIT   |   |
| ***** Borehole Correction *****   |   |
| Effective Tool Standoff computed.   | Borehole diameter and mud res. taken as input (see GCSE and GRSE parameters)          |
| Tool is run in ECCENTERED mode with a tool stand-off of 0.13 IN. Bit Size is 7.88 IN. |   |
| ***** Input Selections to AIT-H Answer Product Processing *****                       |   |
| Caliper (GCSE): HCAL  | Mud Resistivity (GRSE): AHMF      Temperature (GTSE): HTEM      Porosity (FPHI): DPHZ |
| ***** Other Parameters used by AIT-H Answer Product Processing *****                  |   |
| Form Factor Exponent (FEXP)   | 2.000      Form Factor Numerator (FNUM)      1.000                                    |
| Mud Filtrate Sample Resistivity (RMFS)  | 0.650 OHMM      Mud Filtrate Sample Temperature (MFST)      74.600 DEGF               |
| Resitivity Connate Water (RW)   | 1.000 OHMM  |
| ***** AIT-H Answer Product Processing Control Parameters *****                        |   |
| Playback Mode: NORMAL   |   |

| Parameters   |   |                    |      |
|--|---|--------------------|------|
| DLIS Name  | Description   | Value              |      |
| HILTB-CTS: High resolution Integrated Logging Tool-CTS |   |                    |      |
| AHBHM  | Array Induction Borehole Correction Mode                    | 2_ComputeStandoff  |      |
| AHBHV  | Array Induction Borehole Correction Code Version Number     | 900                |      |
| AHBLM  | Array Induction Basic Logs Mode                             | 6_One_Two_and_Four |      |
| AHBLV  | Array Induction Basic Logs Code Version Number              | 223                |      |
| AHCDE  | Array Induction Casing Detection Enable                     | Yes                |      |
| AHCEN  | Array Induction Tool Centering Flag (in Borehole)           | Eccentered         |      |
| AHFRSV   | Array Induction Response Set Version for Four ft Resolution | 41.70.24.20        |      |
| AHMRF  | Array Induction Mud Resistivity Factor                      | 1                  |      |
| AHORSV   | Array Induction Response Set Version for One ft Resolution  | 41.70.24.20        |      |
| AHRFV  | Array Induction Radial Profiling Code Version Number        | 701                |      |
| AHRPV  | Array Induction Radial Parametrization Code Version Number  | 232                |      |
| AHSTA  | Array Induction Tool Standoff                               | 0.125              | IN   |
| AHTRSV   | Array Induction Response Set Version for Two ft Resolution  | 41.70.24.20        |      |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7              | DEGF |
| FEXP   | Form Factor Exponent  | 2                  |      |
| FNUM   | Form Factor Numerator                                       | 1                  |      |
| GCSE   | Generalized Caliper Selection                               | HCAL               |      |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0                  | DEG  |
| GGRD   | Geothermal Gradient   | 0.01               | DF/F |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |      |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |      |
| SHT  | Surface Hole Temperature                                    | 68                 | DEGF |
| SPNV   | SP Next Value   | 0                  | MV   |
| FEQL: Formation Evaluation Quick Look                  |   |                    |      |
| FEXP   | Form Factor Exponent  | 2                  |      |
| FNUM   | Form Factor Numerator                                       | 1                  |      |
| HOLEV: Integrated Hole/Cement Volume                   |   |                    |      |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7              | DEGF |
| FCD  | Future Casing (Outer) Diameter                              | 5.5                | IN   |
| GCSE   | Generalized Caliper Selection                               | HCAL               |      |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0                  | DEG  |
| GGRD   | Geothermal Gradient   | 0.01               | DF/F |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |      |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |      |
| HVCS   | Integrated Hole Volume Caliper Selection                    | AUTOMATIC          |      |
| SHT  | Surface Hole Temperature                                    | 68                 | DEGF |
| PERT: Preliminary Evaluation - Real Time               |   |                    |      |
| BHT  | Bottom Hole Temperature (used in calculations)              | 136.7              | DEGF |
| FEXP   | Form Factor Exponent  | 2                  |      |
| FNUM   | Form Factor Numerator                                       | 1                  |      |
| GCSE   | Generalized Caliper Selection                               | HCAL               |      |
| GDEV   | Average Angular Deviation of Borehole from Normal           | 0                  | DEG  |
| GGRD   | Geothermal Gradient   | 0.01               | DF/F |
| GRSE   | Generalized Mud Resistivity Selection                       | AITH_RESIST        |      |
| GTSE   | Generalized Temperature Selection                           | HSTS_HTEM          |      |
| SHT  | Surface Hole Temperature                                    | 68                 | DEGF |
| STI: Stuck Tool Indicator                              |   |                    |      |
| LBFR   | Trigger for MAXIS First Reading Label                       | TDL                |      |
| STKT   | STI Stuck Threshold   | 2.5                | FT   |
| TDD  | Total Depth - Driller                                       | 5515.00            | FT   |
| TDL  | Total Depth - Logger  | 5504.00            | FT   |

|      |                           |           |      |
|------|---------------------------|-----------|------|
| IDL  | Total Depth - Logger      | 5504.00   | FT   |
| BS   | System and Miscellaneous  |           |      |
| DFD  | Bit Size                  | 7.875     | IN   |
| DO   | Drilling Fluid Density    | 9.20      | LB/G |
| FLEV | Depth Offset for Playback | 4.0       | FT   |
| MST  | Fluid Level               | -50000.00 | FT   |
| PP   | Mud Sample Temperature    | 74.60     | DEGF |
| TD   | Playback Processing       | NORMAL    |      |
|      | Total Depth               | 5504      | FT   |

Format: GRES    Vertical Scale: 5" per 100'    Graphics File Created: 08-Feb-2010 05:58

## OP System Version: 17C0-154

HILTB-CTS    17C0-154

### Input DLIS Files

|         |                         |      |          |                   |           |           |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|
| DEFAULT | AIT_TLD_MCFL_CNL_005LUP | FN:4 | PRODUCER | 08-Feb-2010 05:17 | 5520.0 FT | 4399.2 FT |
|---------|-------------------------|------|----------|-------------------|-----------|-----------|

### Output DLIS Files

|         |                         |      |          |                   |
|---------|-------------------------|------|----------|-------------------|
| DEFAULT | AIT_TLD_MCFL_CNL_006PUP | FN:5 | PRODUCER | 08-Feb-2010 05:58 |
|---------|-------------------------|------|----------|-------------------|



# BEFORE CALIBRATIONS

MAXIS Field Log

### Calibration and Check Summary

| Measurement  | Nominal | Master | Before | After | Change | Limit | Units |
|--|---------|--------|--------|-------|--------|-------|-------|
| High resolution Integrated Logging Tool-CTS Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase |         |        |        |       |        |       |       |
| Master: 30-Nov-2009 14:59    Before: 7-Feb-2010 21:47  |         |        |        |       |        |       |       |
| Thru Cal Magnitude - 0   | 0       | 0.6193 | 0.6206 | N/A   | N/A    | N/A   | V     |
| Thru Cal Magnitude - 1   | 0       | 1.271  | 1.274  | N/A   | N/A    | N/A   | V     |
| Thru Cal Magnitude - 2   | 0       | 0.6293 | 0.6303 | N/A   | N/A    | N/A   | V     |
| Thru Cal Magnitude - 3   | 0       | 0.7116 | 0.7133 | N/A   | N/A    | N/A   | V     |
| Thru Cal Magnitude - 4   | 0       | 1.330  | 1.333  | N/A   | N/A    | N/A   | V     |
| Thru Cal Magnitude - 5   | 0       | 1.924  | 1.929  | N/A   | N/A    | N/A   | V     |
| Thru Cal Magnitude - 6   | 0       | 1.927  | 1.932  | N/A   | N/A    | N/A   | V     |
| Thru Cal Magnitude - 7   | 0       | 1.353  | 1.359  | N/A   | N/A    | N/A   | V     |
| Phase - 0  | 0       | 68.36  | 69.82  | N/A   | N/A    | N/A   | DEG   |
| Phase - 1  | 0       | 67.36  | 68.84  | N/A   | N/A    | N/A   | DEG   |
| Phase - 2  | 0       | 63.29  | 64.81  | N/A   | N/A    | N/A   | DEG   |
| Phase - 3  | 0       | 62.43  | 63.94  | N/A   | N/A    | N/A   | DEG   |
| Phase - 4  | 0       | 55.68  | 57.25  | N/A   | N/A    | N/A   | DEG   |
| Phase - 5  | 0       | 53.53  | 55.15  | N/A   | N/A    | N/A   | DEG   |
| Phase - 6  | 0       | 53.50  | 55.12  | N/A   | N/A    | N/A   | DEG   |
| Phase - 7  | 0       | 48.00  | 50.00  | N/A   | N/A    | N/A   | DEG   |

### High resolution Integrated Logging Tool-CTS Wellsite Calibration - Electronics Calibration Check - Auxilliary

|   |        |            |            |     |     |     |    |
|---|--------|------------|------------|-----|-----|-----|----|
| Master: 30-Nov-2009 14:59    Before: 7-Feb-2010 21:47 |        |            |            |     |     |     |    |
| Array Induction SPA Plus                              | 990.5  | 992.6      | 991.8      | N/A | N/A | N/A | MV |
| Array Induction SPA Zero                              | 0      | -0.2184    | -0.2081    | N/A | N/A | N/A | MV |
| Array Induction Temperature PI                        | 0.9150 | 0.9194     | 0.9185     | N/A | N/A | N/A | V  |
| Array Induction Temperature Ze                        | 0      | -0.0002118 | -0.0002118 | N/A | N/A | N/A | V  |

### High resolution Integrated Logging Tool-CTS Wellsite Calibration - Test Loop Gain Correction

|                              |   |       |     |     |     |     |   |
|------------------------------|---|-------|-----|-----|-----|-----|---|
| Master: 30-Nov-2009 14:59    |   |       |     |     |     |     |   |
| Test Loop Gain Magnitude - 0 | 0 | 1.013 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 1 | 0 | 1.015 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 2 | 0 | 1.016 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 3 | 0 | 1.012 | N/A | N/A | N/A | N/A | V |

|                              |   |          |     |     |     |     |     |
|------------------------------|---|----------|-----|-----|-----|-----|-----|
| Test Loop Gain Magnitude – 4 | 0 | 0.9923   | N/A | N/A | N/A | N/A | V   |
| Test Loop Gain Magnitude – 5 | 0 | 0.9870   | N/A | N/A | N/A | N/A | V   |
| Test Loop Gain Magnitude – 6 | 0 | 0.9920   | N/A | N/A | N/A | N/A | V   |
| Test Loop Gain Magnitude – 7 | 0 | 1.003    | N/A | N/A | N/A | N/A | V   |
| Phase – 0                    | 0 | –2.469   | N/A | N/A | N/A | N/A | DEG |
| Phase – 1                    | 0 | –0.1516  | N/A | N/A | N/A | N/A | DEG |
| Phase – 2                    | 0 | 0.9347   | N/A | N/A | N/A | N/A | DEG |
| Phase – 3                    | 0 | 0.1802   | N/A | N/A | N/A | N/A | DEG |
| Phase – 4                    | 0 | 0.1003   | N/A | N/A | N/A | N/A | DEG |
| Phase – 5                    | 0 | –0.09392 | N/A | N/A | N/A | N/A | DEG |
| Phase – 6                    | 0 | 0.2377   | N/A | N/A | N/A | N/A | DEG |
| Phase – 7                    | 0 | –0.1620  | N/A | N/A | N/A | N/A | DEG |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Sonde Error Correction

|                              |   |         |     |     |     |     |      |
|------------------------------|---|---------|-----|-----|-----|-----|------|
| Master: 30–Nov–2009 14:59    |   |         |     |     |     |     |      |
| R Sonde Error Correction – 0 | 0 | –76.56  | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction – 1 | 0 | 170.5   | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction – 2 | 0 | 110.7   | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction – 3 | 0 | 61.12   | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction – 4 | 0 | 24.14   | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction – 5 | 0 | 14.16   | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction – 6 | 0 | 9.674   | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction – 7 | 0 | –1.714  | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 0 | 0 | –228.6  | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 1 | 0 | 141.0   | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 2 | 0 | –31.72  | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 3 | 0 | –44.12  | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 4 | 0 | 2.293   | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 5 | 0 | 17.99   | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 6 | 0 | –4.867  | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction – 7 | 0 | –0.3559 | N/A | N/A | N/A | N/A | MM/M |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Mud Gain Correction

|                              |   |       |     |     |     |     |  |
|------------------------------|---|-------|-----|-----|-----|-----|--|
| Master: 30–Nov–2009 14:59    |   |       |     |     |     |     |  |
| Coarse – Mag, Real, Imag – 0 | 0 | 1.073 | N/A | N/A | N/A | N/A |  |
| Coarse – Mag, Real, Imag – 1 | 0 | 1.073 | N/A | N/A | N/A | N/A |  |
| Coarse – Mag, Real, Imag – 2 | 0 | 1.073 | N/A | N/A | N/A | N/A |  |
| Fine – Mag, Real, Imag – 0   | 0 | 1.072 | N/A | N/A | N/A | N/A |  |
| Fine – Mag, Real, Imag – 1   | 0 | 1.072 | N/A | N/A | N/A | N/A |  |
| Fine – Mag, Real, Imag – 2   | 0 | 1.072 | N/A | N/A | N/A | N/A |  |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Stab Measurement Summary

|                          |        |     |        |     |     |     |     |
|--------------------------|--------|-----|--------|-----|-----|-----|-----|
| Before: 7–Feb–2010 21:50 |        |     |        |     |     |     |     |
| BS Window Ratio          | 0.7396 | N/A | 0.7401 | N/A | N/A | N/A |     |
| BS Window Sum            | 10750  | N/A | 10720  | N/A | N/A | N/A | CPS |
| SS Window Ratio          | 0.4734 | N/A | 0.4723 | N/A | N/A | N/A |     |
| SS Window Sum            | 10230  | N/A | 10190  | N/A | N/A | N/A | CPS |
| LS Window Ratio          | 0.2960 | N/A | 0.2985 | N/A | N/A | N/A |     |
| LS Window Sum            | 1161   | N/A | 1155   | N/A | N/A | N/A | CPS |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Photo–multiplier High Voltages Calibrations

|                              |      |     |      |     |     |     |   |
|------------------------------|------|-----|------|-----|-----|-----|---|
| Before: 7–Feb–2010 21:50     |      |     |      |     |     |     |   |
| BS PM High Voltage (Command) | 1456 | N/A | 1510 | N/A | N/A | N/A | V |
| SS PM High Voltage (Command) | 1782 | N/A | 1786 | N/A | N/A | N/A | V |
| LS PM High Voltage (Command) | 1906 | N/A | 1905 | N/A | N/A | N/A | V |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Crystal Quality Resolutions Calibration

|                          |       |     |       |     |     |     |   |
|--------------------------|-------|-----|-------|-----|-----|-----|---|
| Before: 7–Feb–2010 21:50 |       |     |       |     |     |     |   |
| BS Crystal Resolution    | 10.98 | N/A | 11.19 | N/A | N/A | N/A | % |
| SS Crystal Resolution    | 11.17 | N/A | 11.26 | N/A | N/A | N/A | % |
| LS Crystal Resolution    | 9.875 | N/A | 9.898 | N/A | N/A | N/A | % |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – MCFL Calibration

|                          |      |     |      |     |     |     |      |
|--------------------------|------|-----|------|-----|-----|-----|------|
| Before: 7–Feb–2010 21:50 |      |     |      |     |     |     |      |
| Raw B0 Resistivity       | 3875 | N/A | 3857 | N/A | N/A | N/A | OHMM |
| Raw B1 Resistivity       | 3830 | N/A | 3810 | N/A | N/A | N/A | OHMM |
| Raw B2 Resistivity       | 3830 | N/A | 3825 | N/A | N/A | N/A | OHMM |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – HILT Caliper Calibration

|                               |       |     |       |     |     |     |    |
|-------------------------------|-------|-----|-------|-----|-----|-----|----|
| Before: 7–Feb–2010 21:45      |       |     |       |     |     |     |    |
| HILT Caliper Zero Measurement | 8.000 | N/A | 8.596 | N/A | N/A | N/A | IN |
| HILT Caliper Plus Measurement | 12.00 | N/A | 12.76 | N/A | N/A | N/A | IN |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Detector Calibration





















|                          |       |     |       |     |     |       |      |
|--------------------------|-------|-----|-------|-----|-----|-------|------|
| Before: 7–Feb–2010 21:46 |       |     |       |     |     |       |      |
| Gamma Ray Background     | 30.00 | N/A | 106.0 | N/A | N/A | N/A   | GAPI |
| Gamma Ray (Jig – Bkgd)   | 165.0 | N/A | 180.3 | N/A | N/A | 15.00 | GAPI |

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Zero Measurement

|  |       |       |       |     |     |       |     |
|--|-------|-------|-------|-----|-----|-------|-----|
| Master: 10–Jan–2010 18:05 Before: 7–Feb–2010 21:46 |       |       |       |     |     |       |     |
| CNTC Background                                    | 26.74 | 26.74 | 26.75 | N/A | N/A | 4.011 | CPS |
| CTS Background                                     | 69.62 | 69.62 | 69.67 | N/A | N/A | 1.227 | CPS |


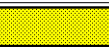














|  |       |       |        |       |     |     |       |      |
|--|-------|-------|--------|-------|-----|-----|-------|------|
| C/F/C Background   |       | 26.83 | 26.83  | 26.97 | N/A | N/A | 4.025 | CPS  |
| High resolution Integrated Logging Tool–CTS Wellsite Calibration – Ratio Measurement         |       |       |        |       |     |     |       |      |
| Master: 10–Jan–2010 18:05  |       |       |        |       |     |     |       |      |
| Thermal Near Corr. (Tank)  |       | 5800  | 5204   | N/A   | N/A | N/A | N/A   | CPS  |
| Thermal Far Corr. (Tank)   |       | 2400  | 2196   | N/A   | N/A | N/A | N/A   | CPS  |
| CNTC/CFTC (Tank)   |       | 2.159 | 2.370  | N/A   | N/A | N/A | N/A   |      |
| High resolution Integrated Logging Tool–CTS Wellsite Calibration – Accelerometer Calibration |       |       |        |       |     |     |       |      |
| Before: 8–Feb–2010 4:43  |       |       |        |       |     |     |       |      |
| Z–Axis Acceleration  |       | 32.19 | N/A    | 32.07 | N/A | N/A | N/A   | F/S2 |
| High resolution Integrated Logging Tool–CTS Master Calibration – Inversion results           |       |       |        |       |     |     |       |      |
| Master: 17–Jan–2010 13:20  |       |       |        |       |     |     |       |      |
| Rho Aluminum   |       | 2.596 | 2.602  | --    | --  | --  | --    | G/C3 |
| Rho Magnesium  |       | 1.686 | 1.687  | --    | --  | --  | --    | G/C3 |
| Pe Aluminum  |       | 2.570 | 2.556  | --    | --  | --  | --    |      |
| Pe Magnesium   |       | 2.650 | 2.631  | --    | --  | --  | --    |      |
| High resolution Integrated Logging Tool–CTS Master Calibration – Deviation Summary           |       |       |        |       |     |     |       |      |
| Master: 17–Jan–2010 13:20  |       |       |        |       |     |     |       |      |
| BS Average Deviation   |       | 0     | 0.1503 | --    | --  | --  | --    | %    |
| BS Max Deviation   |       | 0     | 0.2503 | --    | --  | --  | --    | %    |
| SS Average Deviation   |       | 0     | 0.3400 | --    | --  | --  | --    | %    |
| SS Max Deviation   |       | 0     | 1.741  | --    | --  | --  | --    | %    |
| LS Average Deviation   |       | 0     | 1.030  | --    | --  | --  | --    | %    |
| LS Max Deviation   |       | 0     | 2.342  | --    | --  | --  | --    | %    |
| The GLS–VJ source activity is weak.  |       |       |        |       |     |     |       |      |
| The HGNS Neutron Master Calibration was done with the following parameters :                 |       |       |        |       |     |     |       |      |
| NCT–B Water Temperature  | 57.6  | DEGF. |        |       |     |     |       |      |
| Thermal Housing Size   | 3.362 | IN.   |        |       |     |     |       |      |
| NSR–F serial number  | 5068  |       |        |       |     |     |       |      |







| High resolution Integrated Logging Tool–CTS / Equipment Identification |           |      |  |
|--|-----------|------|--|
| Primary Equipment:   |           |      |  |
| Array Induction Tool – H   | AIT – H   | 397  |  |
| Rm/SP Bottom Nose  | AHRM – A  |      |  |
| Array Induction Sonde  | AHIS – BA | 397  |  |
| HILT high–Resolution Mechanical Sonde                                  | HRMS – B  | 1716 |  |
| HILT Rxo Gamma–ray Device  | HRGD – B  | 1854 |  |
| HILT Micro Cylindrically Focused Log Dev                               | MCFL –    |      |  |
| GR Logging Source  | GLS – VJ  | 5416 |  |
| HILT High Res. Control Cartridge                                       | HRCC – B  | 1906 |  |
| Auxiliary Equipment:   |           |      |  |

| High resolution Integrated Logging Tool–CTS Wellsite Calibration |        |        |   |         |       |   |         |
|--|--------|--------|---|---------|-------|---|---------|
| Electronics Calibration Check – Thru Cal Mag. & Phase            |        |        |   |         |       |   |         |
| Idx  | Phase  | Value  | Thru Cal Magnitude V  | Nominal | Value | Phase DEG   | Nominal |
| 0  | Master | 0.6193 |  | 0.6050  | 68.36 |  | 71.00   |
|  | Before | 0.6206 |  |         | 69.82 |  |         |
| 1  | Master | 1.271  |  | 1.270   | 67.36 |  | 70.00   |
|  | Before | 1.274  |  |         | 68.84 |  |         |
| 2  | Master | 0.6293 |  | 0.6230  | 63.29 |  | 66.00   |
|  | Before | 0.6303 |  |         | 64.81 |  |         |
| 3  | Master | 0.7116 |  | 0.7040  | 62.43 |  | 65.00   |
|  | Before | 0.7133 |  |         | 63.94 |  |         |
| 4  | Master | 1.330  |  | 1.337   | 55.68 |  | 59.00   |
|  | Before | 1.333  |  |         | 57.25 |  |         |

|                           |        |                      |           |                          |                         |           |                          |
|---------------------------|--------|----------------------|-----------|--------------------------|-------------------------|-----------|--------------------------|
| 5                         | Master | 1.924                |           | 1.955                    | 53.53                   |           | 57.00                    |
|                           | Before | 1.929                |           |                          | 55.15                   |           |                          |
| 6                         | Master | 1.927                |           | 1.955                    | 53.50                   |           | 57.00                    |
|                           | Before | 1.932                |           |                          | 55.12                   |           |                          |
| 7                         | Master | 1.353                |           | 1.415                    | 48.00                   |           | 53.00                    |
|                           | Before | 1.359                |           |                          | 50.00                   |           |                          |
|                           |        | 60.00 %<br>(Minimum) | (Nominal) | 140.0 %<br>(Maximum)     | Nom -60.00<br>(Minimum) | (Nominal) | Nom + 60.00<br>(Maximum) |
| Master: 30-Nov-2009 14:59 |        |                      |           | Before: 7-Feb-2010 21:47 |                         |           |                          |







| High resolution Integrated Logging Tool-CTS Wellsite Calibration |                                    |                     |                     |                          |                                    |                |                      |
|--|------------------------------------|---------------------|---------------------|--------------------------|------------------------------------|----------------|----------------------|
| Electronics Calibration Check – Auxilliary                       |                                    |                     |                     |                          |                                    |                |                      |
| Phase  | Array Induction SPA Plus MV        |                     | Value               | Phase                    | Array Induction SPA Zero MV        |                | Value                |
| Master   |                                    |                     | 992.6               | Master                   |                                    |                | -0.2184              |
| Before   |                                    |                     | 991.8               | Before                   |                                    |                | -0.2081              |
|  | 941.0<br>(Minimum)                 | 990.5<br>(Nominal)  | 1040<br>(Maximum)   |                          | -50.00<br>(Minimum)                | 0<br>(Nominal) | 50.00<br>(Maximum)   |
| Phase  | Array Induction Temperature Plus V |                     | Value               | Phase                    | Array Induction Temperature Zero V |                | Value                |
| Master   |                                    |                     | 0.9194              | Master                   |                                    |                | -0.0002118           |
| Before   |                                    |                     | 0.9185              | Before                   |                                    |                | -0.0002118           |
|  | 0.8700<br>(Minimum)                | 0.9150<br>(Nominal) | 0.9600<br>(Maximum) |                          | -0.05000<br>(Minimum)              | 0<br>(Nominal) | 0.05000<br>(Maximum) |
| Master: 30-Nov-2009 14:59  |                                    |                     |                     | Before: 7-Feb-2010 21:47 |                                    |                |                      |




| High resolution Integrated Logging Tool-CTS Wellsite Calibration |        |   |                    |                    |                     |   |                    |
|--|--------|---|--------------------|--------------------|---------------------|---|--------------------|
| Test Loop Gain Correction  |        |   |                    |                    |                     |   |                    |
| Idx  | Value  | Test Loop Gain Magnitude V  |                    |                    | Value               | Phase DEG   |                    |
| 0  | 1.013  |   |                    |                    | -2.469              |   |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 1  | 1.015  |  |                    |                    | -0.1516             |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 2  | 1.016  |  |                    |                    | 0.9347              |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 3  | 1.012  |  |                    |                    | 0.1802              |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 4  | 0.9923 |  |                    |                    | 0.1003              |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 5  | 0.9870 |  |                    |                    | -0.09392            |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 6  | 0.9920 |  |                    |                    | 0.2377              |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 7  | 1.003  |  |                    |                    | -0.1620             |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| Master: 30-Nov-2009 14:59  |        |   |                    |                    |                     |   |                    |




| High resolution Integrated Logging Tool-CTS Wellsite Calibration |        |   |                     |                    |        |   |                                      |
|--|--------|---|---------------------|--------------------|--------|---|--------------------------------------|
| Sonde Error Correction   |        |   |                     |                    |        |   |                                      |
| Idx  | Value  | R Sonde Error Correction MM/M   |                     |                    | Value  | X Sonde Error Correction MM/M   |                                      |
| 0  | -76.56 |  |                     |                    | -228.6 |  |                                      |
|  |        | -231.0<br>(Minimum)   | -56.00<br>(Nominal) | 119.0<br>(Maximum) |        | -2250<br>(Minimum)  | 0<br>(Nominal)<br>2250<br>(Maximum)  |
| 1  | 170.5  |  |                     |                    | 141.0  |  |                                      |
|  |        | 114.0<br>(Minimum)  | 159.0<br>(Nominal)  | 204.0<br>(Maximum) |        | -625.0<br>(Minimum)   | 0<br>(Nominal)<br>625.0<br>(Maximum) |
| 2  | 110.5  |  |                     |                    | 101.5  |  |                                      |
|  |        | 100.0<br>(Minimum)  | 120.0<br>(Nominal)  | 140.0<br>(Maximum) |        | -100.0<br>(Minimum)   | 0<br>(Nominal)<br>100.0<br>(Maximum) |

|                           |        |                     |                    |                    |                     |                |                    |
|---------------------------|--------|---------------------|--------------------|--------------------|---------------------|----------------|--------------------|
| 2                         | 110.7  |                     |                    | -31.72             |                     |                |                    |
|                           |        | 66.00<br>(Minimum)  | 111.0<br>(Nominal) | 156.0<br>(Maximum) | -350.0<br>(Minimum) | 0<br>(Nominal) | 350.0<br>(Maximum) |
| 3                         | 61.12  |                     |                    | -44.12             |                     |                |                    |
|                           |        | 39.00<br>(Minimum)  | 64.00<br>(Nominal) | 89.00<br>(Maximum) | -250.0<br>(Minimum) | 0<br>(Nominal) | 250.0<br>(Maximum) |
| 4                         | 24.14  |                     |                    | 2.293              |                     |                |                    |
|                           |        | 15.00<br>(Minimum)  | 25.00<br>(Nominal) | 35.00<br>(Maximum) | -63.00<br>(Minimum) | 0<br>(Nominal) | 63.00<br>(Maximum) |
| 5                         | 14.16  |                     |                    | 17.99              |                     |                |                    |
|                           |        | 4.000<br>(Minimum)  | 14.00<br>(Nominal) | 24.00<br>(Maximum) | -50.00<br>(Minimum) | 0<br>(Nominal) | 50.00<br>(Maximum) |
| 6                         | 9.674  |                     |                    | -4.867             |                     |                |                    |
|                           |        | 5.000<br>(Minimum)  | 10.00<br>(Nominal) | 15.00<br>(Maximum) | -30.00<br>(Minimum) | 0<br>(Nominal) | 30.00<br>(Maximum) |
| 7                         | -1.714 |                     |                    | -0.3559            |                     |                |                    |
|                           |        | -5.000<br>(Minimum) | 0<br>(Nominal)     | 5.000<br>(Maximum) | -30.00<br>(Minimum) | 0<br>(Nominal) | 30.00<br>(Maximum) |
| Master: 30-Nov-2009 14:59 |        |                     |                    |                    |                     |                |                    |

| High resolution Integrated Logging Tool—CTS Wellsite Calibration |       |                          |                    |                    |       |                        |                    |                    |
|--|-------|--------------------------|--------------------|--------------------|-------|------------------------|--------------------|--------------------|
| Mud Gain Correction  |       |                          |                    |                    |       |                        |                    |                    |
| Idx  | Value | Coarse – Mag, Real, Imag |                    |                    | Value | Fine – Mag, Real, Imag |                    |                    |
| 0  | 1.073 |                          |                    |                    | 1.072 |                        |                    |                    |
|  |       | 0.8000<br>(Minimum)      | 1.000<br>(Nominal) | 1.200<br>(Maximum) |       | 0.8000<br>(Minimum)    | 1.000<br>(Nominal) | 1.200<br>(Maximum) |
| 1  | 1.073 |                          |                    |                    | 1.072 |                        |                    |                    |
|  |       | 0.8000<br>(Minimum)      | 1.000<br>(Nominal) | 1.200<br>(Maximum) |       | 0.8000<br>(Minimum)    | 1.000<br>(Nominal) | 1.200<br>(Maximum) |
| 2  | 1.073 |                          |                    |                    | 1.072 |                        |                    |                    |
|  |       | 0.8000<br>(Minimum)      | 1.000<br>(Nominal) | 1.200<br>(Maximum) |       | 0.8000<br>(Minimum)    | 1.000<br>(Nominal) | 1.200<br>(Maximum) |
| Master: 30–Nov–2009 14:59  |       |                          |                    |                    |       |                        |                    |                    |

| High resolution Integrated Logging Tool—CTS Wellsite Calibration |   |                     |                     |        |        |   |                     |                     |        |        |   |                     |                     |        |
|--|---|---------------------|---------------------|--------|--------|---|---------------------|---------------------|--------|--------|---|---------------------|---------------------|--------|
| Stab Measurement Summary   |   |                     |                     |        |        |   |                     |                     |        |        |   |                     |                     |        |
| Phase  | BS Window Ratio   |                     |                     | Value  | Phase  | SS Window Ratio   |                     |                     | Value  | Phase  | LS Window Ratio   |                     |                     | Value  |
| Before   |  |                     |                     | 0.7401 | Before |  |                     |                     | 0.4723 | Before |  |                     |                     | 0.2985 |
|  | 0.7026<br>(Minimum)   | 0.7396<br>(Nominal) | 0.7765<br>(Maximum) |        |        | 0.4497<br>(Minimum)   | 0.4734<br>(Nominal) | 0.4970<br>(Maximum) |        |        | 0.2812<br>(Minimum)   | 0.2960<br>(Nominal) | 0.3108<br>(Maximum) |        |
| Phase  | BS Window Sum CPS   |                     |                     | Value  | Phase  | SS Window Sum CPS   |                     |                     | Value  | Phase  | LS Window Sum CPS   |                     |                     | Value  |
| Before   |  |                     |                     | 10720  | Before |  |                     |                     | 10190  | Before |  |                     |                     | 1155   |
|  | 10220<br>(Minimum)  | 10750<br>(Nominal)  | 11290<br>(Maximum)  |        |        | 9714<br>(Minimum)   | 10230<br>(Nominal)  | 10740<br>(Maximum)  |        |        | 1103<br>(Minimum)   | 1161<br>(Nominal)   | 1219<br>(Maximum)   |        |
| Before: 7-Feb-2010 21:50   |   |                     |                     |        |        |   |                     |                     |        |        |   |                     |                     |        |



| High resolution Integrated Logging Tool—CTS Wellsite Calibration |   |                   |                   |       |        |   |                   |                   |       |        |   |                   |                   |       |
|--|---|-------------------|-------------------|-------|--------|---|-------------------|-------------------|-------|--------|---|-------------------|-------------------|-------|
| Photo-multiplier High Voltages Calibrations                      |   |                   |                   |       |        |   |                   |                   |       |        |   |                   |                   |       |
| Phase  | BS PM High Voltage (Command) V  |                   |                   | Value | Phase  | SS PM High Voltage (Command) V  |                   |                   | Value | Phase  | LS PM High Voltage (Command) V  |                   |                   | Value |
| Before   |  |                   |                   | 1510  | Before |  |                   |                   | 1786  | Before |  |                   |                   | 1905  |
|  | 1356<br>(Minimum)   | 1456<br>(Nominal) | 1556<br>(Maximum) |       |        | 1682<br>(Minimum)   | 1782<br>(Nominal) | 1882<br>(Maximum) |       |        | 1806<br>(Minimum)   | 1906<br>(Nominal) | 2006<br>(Maximum) |       |
| Before: 7-Feb-2010 21:50   |   |                   |                   |       |        |   |                   |                   |       |        |   |                   |                   |       |



| High resolution Integrated Logging Tool-CTS Wellsite Calibration |   |                    |                    |       |        |   |                    |                    |       |        |   |                    |                    |       |
|--|---|--------------------|--------------------|-------|--------|---|--------------------|--------------------|-------|--------|---|--------------------|--------------------|-------|
| Crystal Quality Resolutions Calibration                          |   |                    |                    |       |        |   |                    |                    |       |        |   |                    |                    |       |
| Phase  | BS Crystal Resolution %   |                    |                    | Value | Phase  | SS Crystal Resolution %   |                    |                    | Value | Phase  | LS Crystal Resolution %   |                    |                    | Value |
| Before   |  |                    |                    | 11.19 | Before |  |                    |                    | 11.26 | Before |  |                    |                    | 9.898 |
|  | 9.983<br>(Minimum)  | 10.98<br>(Nominal) | 11.98<br>(Maximum) |       |        | 10.17<br>(Minimum)  | 11.17<br>(Nominal) | 12.17<br>(Maximum) |       |        | 8.875<br>(Minimum)  | 9.875<br>(Nominal) | 10.87<br>(Maximum) |       |
| Before: 7-Feb-2010 21:50   |   |                    |                    |       |        |   |                    |                    |       |        |   |                    |                    |       |





| High resolution Integrated Logging Tool—CTS Wellsite Calibration |                         |       |        |                         |       |        |                         |       |  |
|--|-------------------------|-------|--------|-------------------------|-------|--------|-------------------------|-------|--|
| MCFL Calibration   |                         |       |        |                         |       |        |                         |       |  |
| Phase  | Raw B0 Resistivity OHMM | Value | Phase  | Raw B1 Resistivity OHMM | Value | Phase  | Raw B2 Resistivity OHMM | Value |  |
| Before   |                         | 3857  | Before |                         | 3810  | Before |                         | 3825  |  |




|                   |                   |                   |                   |                   |                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 3565<br>(Minimum) | 3875<br>(Nominal) | 4185<br>(Maximum) | 3524<br>(Minimum) | 3830<br>(Nominal) | 4136<br>(Maximum) | 3524<br>(Minimum) | 3830<br>(Nominal) | 4136<br>(Maximum) |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|

Before: 7-Feb-2010 21:50


| High resolution Integrated Logging Tool-CTS Wellsite Calibration |   |                    |                    |        |   |                    |                    |
|--|---|--------------------|--------------------|--------|---|--------------------|--------------------|
| HILT Caliper Calibration   |   |                    |                    |        |   |                    |                    |
| Phase  | HILT Caliper Zero Measurement IN  |                    | Value              | Phase  | HILT Caliper Plus Measurement IN  |                    | Value              |
| Before   |  |                    | 8.596              | Before |  |                    | 12.76              |
|  | 6.000<br>(Minimum)  | 8.000<br>(Nominal) | 10.00<br>(Maximum) |        | 9.000<br>(Minimum)  | 12.00<br>(Nominal) | 15.00<br>(Maximum) |
| Before: 7-Feb-2010 21:45   |   |                    |                    |        |   |                    |                    |

















| High resolution Integrated Logging Tool-CTS Wellsite Calibration |   |                    |                    |        |   |                    |                    |
|--|---|--------------------|--------------------|--------|---|--------------------|--------------------|
| Detector Calibration   |   |                    |                    |        |   |                    |                    |
| Phase  | Gamma Ray Background GAPI   |                    | Value              | Phase  | Gamma Ray (Jig – Bkgd) GAPI   |                    | Value              |
| Before   |  |                    | 106.0              | Before |  |                    | 180.3              |
|  | 0<br>(Minimum)  | 30.00<br>(Nominal) | 120.0<br>(Maximum) |        | 157.1<br>(Minimum)  | 165.0<br>(Nominal) | 206.3<br>(Maximum) |
| Before: 7-Feb-2010 21:46   |   |                    |                    |        |   |                    |                    |

| High resolution Integrated Logging Tool–CTS Wellsite Calibration |   |  |  |                    |                          |   |  |  |                    |                    |
|--|---|--|--|--------------------|--------------------------|---|--|--|--------------------|--------------------|
| Zero Measurement   |   |  |  |                    |                          |   |  |  |                    |                    |
| Phase  | CNTC Background CPS   |  |  | Value              | Phase                    | CFTC Background CPS   |  |  | Value              |                    |
| Master   |  |  |  | 26.74              | Master                   |  |  |  | 26.83              |                    |
| Before   |  |  |  | 26.75              | Before                   |  |  |  | 26.97              |                    |
| 5.000<br>(Minimum)   |   |  |  | 26.74<br>(Nominal) | 5.000<br>(Minimum)       |   |  |  | 26.83<br>(Nominal) | 40.00<br>(Maximum) |
| Master: 10–Jan–2010 18:05  |   |  |  |                    | Before: 7–Feb–2010 21:46 |   |  |  |                    |                    |

| High resolution Integrated Logging Tool-CTS Wellsite Calibration |   |                   |                   |   |                   |                   |   |                    |                    |
|--|---|-------------------|-------------------|---|-------------------|-------------------|---|--------------------|--------------------|
| Ratio Measurement  |   |                   |                   |   |                   |                   |   |                    |                    |
| Phase  | Thermal Near Corr. (Tank) CPS   | Value             | Phase             | Thermal Far Corr. (Tank) CPS  | Value             | Phase             | CNTC/CFTC (Tank)  | Value              |                    |
| Master   |  | 5204              | Master            |  | 2196              | Master            |  | 2.370              |                    |
|  | 4700<br>(Minimum)   | 5800<br>(Nominal) | 6900<br>(Maximum) | 1900<br>(Minimum)   | 2400<br>(Nominal) | 2900<br>(Maximum) | 2.120<br>(Minimum)  | 2.159<br>(Nominal) | 2.540<br>(Maximum) |

Master: 10-Jan-2010 18:05





| High resolution Integrated Logging Tool-CTS<br>Wellsite Calibration |   |                    |
|---|---|--------------------|
| Accelerometer Calibration   |   |                    |
| Phase   | Z-Axis Acceleration F/S2  | Value              |
| Before  |  | 32.07              |
|   | 31.53<br>(Minimum)  | 32.19<br>(Nominal) |
|   |   | 32.84<br>(Maximum) |
| Before: 8-Feb-2010 4:43   |   |                    |

















| High resolution Integrated Logging Tool-CTS Master Calibration |        |                      |   |         |                         |   |         |
|--|--------|----------------------|---|---------|-------------------------|---|---------|
| Electronics Calibration Check - Thru Cal Mag. & Phase          |        |                      |   |         |                         |   |         |
| Idx  | Phase  | Value                | Thru Cal Magnitude V  | Nominal | Value                   | Phase DEG   | Nominal |
| 0  | Master | 0.6193               |  | 0.6050  | 68.36                   |  | 71.00   |
| 1  | Master | 1.271                |  | 1.270   | 67.36                   |  | 70.00   |
| 2  | Master | 0.6293               |  | 0.6230  | 63.29                   |  | 66.00   |
| 3  | Master | 0.7116               |  | 0.7040  | 62.43                   |  | 65.00   |
| 4  | Master | 1.330                |  | 1.337   | 55.68                   |  | 59.00   |
| 5  | Master | 1.924                |  | 1.955   | 53.53                   |  | 57.00   |
| 6  | Master | 1.927                |  | 1.955   | 53.50                   |  | 57.00   |
| 7  | Master | 1.353                |  | 1.415   | 48.00                   |  | 53.00   |
|  |        | 60.00 %<br>(Minimum) | 140.0 %<br>(Nominal)  |         | Nom -60.00<br>(Minimum) | Nom + 60.00<br>(Maximum)  |         |



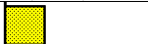

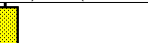

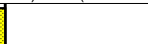

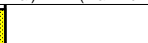

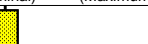

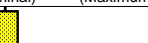

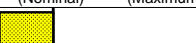

Master: 30-Nov-2009 14:59



## High resolution Integrated Logging Tool-CTS Master Calibration







| Electronics Calibration Check – Auxilliary                            |   |  |  |        |   |   |  |  |            |
|---|---|--|--|--------|---|---|--|--|------------|
| Phase   | Array Induction SPA Plus MV   |  |  | Value  | Phase   | Array Induction SPA Zero MV   |  |  | Value      |
| Master  |   |  |  | 992.6  | Master  |   |  |  | -0.2184    |
| 941.0<br>(Minimum)      990.5<br>(Nominal)      1040<br>(Maximum)     |   |  |  |        | -50.00<br>(Minimum)      0<br>(Nominal)      50.00<br>(Maximum)     |   |  |  |            |
| Phase   | Array Induction Temperature Plus V  |  |  | Value  | Phase   | Array Induction Temperature Zero V  |  |  | Value      |
| Master  |  |  |  | 0.9194 | Master  |  |  |  | -0.0002118 |
| 0.8700<br>(Minimum)      0.9150<br>(Nominal)      0.9600<br>(Maximum) |   |  |  |        | -0.05000<br>(Minimum)      0<br>(Nominal)      0.05000<br>(Maximum) |   |  |  |            |
| Master: 30-Nov-2009 14:59   |   |  |  |        |   |   |  |  |            |

| High resolution Integrated Logging Tool-CTS Master Calibration |        |   |                    |                    |                     |   |                    |
|--|--------|---|--------------------|--------------------|---------------------|---|--------------------|
| Test Loop Gain Correction                                      |        |   |                    |                    |                     |   |                    |
| Idx  | Value  | Test Loop Gain Magnitude V  |                    |                    | Value               | Phase DEG   |                    |
| 0  | 1.013  |    |                    |                    | -2.469              |    |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 1  | 1.015  |    |                    |                    | -0.1516             |    |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 2  | 1.016  |    |                    |                    | 0.9347              |    |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 3  | 1.012  |    |                    |                    | 0.1802              |    |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 4  | 0.9923 |    |                    |                    | 0.1003              |    |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 5  | 0.9870 |    |                    |                    | -0.09392            |    |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 6  | 0.9920 |  |                    |                    | 0.2377              |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| 7  | 1.003  |  |                    |                    | -0.1620             |  |                    |
|  |        | 0.9500<br>(Minimum)   | 1.000<br>(Nominal) | 1.050<br>(Maximum) | -3.000<br>(Minimum) | 0<br>(Nominal)  | 3.000<br>(Maximum) |
| Master: 30-Nov-2009 14:59                                      |        |   |                    |                    |                     |   |                    |





| High resolution Integrated Logging Tool-CTS Master Calibration |        |   |                     |                    |                     |   |                    |
|--|--------|---|---------------------|--------------------|---------------------|---|--------------------|
| Sonde Error Correction   |        |   |                     |                    |                     |   |                    |
| Idx  | Value  | R Sonde Error Correction MM/M   |                     |                    | Value               | X Sonde Error Correction MM/M   |                    |
| 0  | -76.56 |  |                     |                    | -228.6              |  |                    |
|  |        | -231.0<br>(Minimum)   | -56.00<br>(Nominal) | 119.0<br>(Maximum) | -2250<br>(Minimum)  | 0<br>(Nominal)  | 2250<br>(Maximum)  |
| 1  | 170.5  |  |                     |                    | 141.0               |  |                    |
|  |        | 114.0<br>(Minimum)  | 159.0<br>(Nominal)  | 204.0<br>(Maximum) | -625.0<br>(Minimum) | 0<br>(Nominal)  | 625.0<br>(Maximum) |
| 2  | 110.7  |  |                     |                    | -31.72              |  |                    |
|  |        | 66.00<br>(Minimum)  | 111.0<br>(Nominal)  | 156.0<br>(Maximum) | -350.0<br>(Minimum) | 0<br>(Nominal)  | 350.0<br>(Maximum) |
| 3  | 61.12  |  |                     |                    | -44.12              |  |                    |
|  |        | 39.00<br>(Minimum)  | 64.00<br>(Nominal)  | 89.00<br>(Maximum) | -250.0<br>(Minimum) | 0<br>(Nominal)  | 250.0<br>(Maximum) |
| 4  | 24.14  |  |                     |                    | 2.293               |  |                    |
|  |        | 15.00<br>(Minimum)  | 25.00<br>(Nominal)  | 35.00<br>(Maximum) | -63.00<br>(Minimum) | 0<br>(Nominal)  | 63.00<br>(Maximum) |
| 5  | 14.16  |  |                     |                    | 17.99               |  |                    |
|  |        | 4.000<br>(Minimum)  | 14.00<br>(Nominal)  | 24.00<br>(Maximum) | -50.00<br>(Minimum) | 0<br>(Nominal)  | 50.00<br>(Maximum) |
| 6  | 9.674  |  |                     |                    | -4.867              |  |                    |
|  |        | 5.000<br>(Minimum)  | 10.00<br>(Nominal)  | 15.00<br>(Maximum) | -30.00<br>(Minimum) | 0<br>(Nominal)  | 30.00<br>(Maximum) |
| 7  | -1.714 |  |                     |                    | -0.3559             |  |                    |

|  |                     |                |                    |  |                     |                |                    |
|--|---------------------|----------------|--------------------|--|---------------------|----------------|--------------------|
|  | -5.000<br>(Minimum) | 0<br>(Nominal) | 5.000<br>(Maximum) |  | -30.00<br>(Minimum) | 0<br>(Nominal) | 30.00<br>(Maximum) |
|--|---------------------|----------------|--------------------|--|---------------------|----------------|--------------------|







Master: 30-Nov-2009 14:59

| High resolution Integrated Logging Tool-CTS Master Calibration |       |   |                    |                    |       |   |  |
|--|-------|---|--------------------|--------------------|-------|---|--|
| Mud Gain Correction  |       |   |                    |                    |       |   |  |
| Idx  | Value | Coarse – Mag, Real, Imag  |                    |                    | Value | Fine – Mag, Real, Imag  |  |
| 0  | 1.073 |  |                    |                    | 1.072 |  |  |
|  |       | 0.8000<br>(Minimum)   | 1.000<br>(Nominal) | 1.200<br>(Maximum) |       | 0.8000<br>(Minimum)   | 1.000<br>(Nominal)<br>1.200<br>(Maximum) |
| 1  | 1.073 |  |                    |                    | 1.072 |  |  |
|  |       | 0.8000<br>(Minimum)   | 1.000<br>(Nominal) | 1.200<br>(Maximum) |       | 0.8000<br>(Minimum)   | 1.000<br>(Nominal)<br>1.200<br>(Maximum) |
| 2  | 1.073 |  |                    |                    | 1.072 |  |  |
|  |       | 0.8000<br>(Minimum)   | 1.000<br>(Nominal) | 1.200<br>(Maximum) |       | 0.8000<br>(Minimum)   | 1.000<br>(Nominal)<br>1.200<br>(Maximum) |
| Master: 30-Nov-2009 14:59                                      |       |   |                    |                    |       |   |  |



Master: 30-Nov-2009 14:59

| High resolution Integrated Logging Tool-CTS Master Calibration |   |                    |                    |       |        |   |                    |                    |       |
|--|---|--------------------|--------------------|-------|--------|---|--------------------|--------------------|-------|
| Inversion results  |   |                    |                    |       |        |   |                    |                    |       |
| Phase  | Rho Aluminum G/C3   |                    |                    | Value | Phase  | Rho Magnesium G/C3  |                    |                    | Value |
| Master   |  |                    |                    | 2.602 | Master |  |                    |                    | 1.687 |
|  | 2.586<br>(Minimum)  | 2.596<br>(Nominal) | 2.606<br>(Maximum) |       |        | 1.676<br>(Minimum)  | 1.686<br>(Nominal) | 1.696<br>(Maximum) |       |
| Phase  | Pe Aluminum   |                    |                    | Value | Phase  | Pe Magnesium  |                    |                    | Value |
| Master   |  |                    |                    | 2.556 | Master |  |                    |                    | 2.631 |
|  | 2.470<br>(Minimum)  | 2.570<br>(Nominal) | 2.670<br>(Maximum) |       |        | 2.550<br>(Minimum)  | 2.650<br>(Nominal) | 2.750<br>(Maximum) |       |
| Master: 17-Jan-2010 13:20                                      |   |                    |                    |       |        |   |                    |                    |       |





Master: 17-Jan-2010 13:20

| High resolution Integrated Logging Tool-CTS Master Calibration |   |                |                     |        |        |   |                |                    |        |
|--|---|----------------|---------------------|--------|--------|---|----------------|--------------------|--------|
| Deviation Summary  |   |                |                     |        |        |   |                |                    |        |
| Phase  | BS Average Deviation %  |                |                     | Value  | Phase  | SS Average Deviation %  |                |                    | Value  |
| Master   |    |                |                     | 0.1503 | Master |    |                |                    | 0.3400 |
|  | -0.6000<br>(Minimum)  | 0<br>(Nominal) | 0.6000<br>(Maximum) |        |        | -1.000<br>(Minimum)   | 0<br>(Nominal) | 1.000<br>(Maximum) |        |
| Phase  | BS Max Deviation %  |                |                     | Value  | Phase  | SS Max Deviation %  |                |                    | Value  |
| Master   |    |                |                     | 0.2503 | Master |    |                |                    | 1.741  |
|  | -1.600<br>(Minimum)   | 0<br>(Nominal) | 1.600<br>(Maximum)  |        |        | -2.500<br>(Minimum)   | 0<br>(Nominal) | 2.500<br>(Maximum) |        |
| Phase  | LS Average Deviation %  |                |                     | Value  | Phase  | LS Max Deviation %  |                |                    | Value  |
| Master   |  |                |                     | 1.030  | Master |  |                |                    | 2.342  |
|  | -1.500<br>(Minimum)   | 0<br>(Nominal) | 1.500<br>(Maximum)  |        |        | -3.500<br>(Minimum)   | 0<br>(Nominal) | 3.500<br>(Maximum) |        |

Master: 17-Jan-2010 13:20

| High resolution Integrated Logging Tool-CTS Master Calibration |   |                    |                    |       |        |   |                    |                    |       |
|--|---|--------------------|--------------------|-------|--------|---|--------------------|--------------------|-------|
| Zero Measurement   |   |                    |                    |       |        |   |                    |                    |       |
| Phase  | CNTC Background CPS   |                    |                    | Value | Phase  | CFTC Background CPS   |                    |                    | Value |
| Master   |  |                    |                    | 26.74 | Master |  |                    |                    | 26.83 |
|  | 5.000<br>(Minimum)  | 26.74<br>(Nominal) | 40.00<br>(Maximum) |       |        | 5.000<br>(Minimum)  | 26.83<br>(Nominal) | 40.00<br>(Maximum) |       |
| Master: 10-Jan-2010 18:05                                      |   |                    |                    |       |        |   |                    |                    |       |

Master: 10-Jan-2010 18:05

| High resolution Integrated Logging Tool-CTS Master Calibration |   |                    |                    |       |        |   |                    |                    |       |
|--|---|--------------------|--------------------|-------|--------|---|--------------------|--------------------|-------|
| Tank Measurement   |   |                    |                    |       |        |   |                    |                    |       |
| Phase  | Thermal Near Corr. (Tank) CPS   |                    |                    | Value | Phase  | Thermal Far Corr. (Tank) CPS  |                    |                    | Value |
| Master   |    |                    |                    | 5204  | Master |    |                    |                    | 2196  |
|  | 4700<br>(Minimum)   | 5800<br>(Nominal)  | 6900<br>(Maximum)  |       |        | 1900<br>(Minimum)   | 2400<br>(Nominal)  | 2900<br>(Maximum)  |       |
| Phase  | CNTC/CFTC (Tank)  |                    |                    | Value | Phase  | CNTC/CFTC (Tank)  |                    |                    | Value |
| Master   |  |                    |                    | 2.370 | Master |  |                    |                    | 2.370 |
|  | 2.120<br>(Minimum)  | 2.159<br>(Nominal) | 2.540<br>(Maximum) |       |        | 2.120<br>(Minimum)  | 2.159<br>(Nominal) | 2.540<br>(Maximum) |       |

Master: 10-Jan-2010 18:05

Company: Vecta Oil & Gas, Ltd.

Schlumberger

Well: Huron 23–9

Field: Wildcat

County: Cheyenne

State: Colorado

Platform Express

Array Induction

with Linear Correlation