

Schlumberger

Company: **Kerr McGee Oil & Gas Onshore LP**

Well: **Howard 2-32**

Field: **Wattenberg #90750**

County: **Weld**

State: **Colorado**

Schlumberger

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Well: **Howard 2-32**

Field: **Wattenberg #90750**

County: **Weld**

State: **Colorado**

[illegible]

| | | | | | |
|-------------------------------|--|-----------|---|--|---|
| 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 | | Viscosity | | | |
| Fluid Loss | | PH | | | |
| Source Of Sample | | | | | |
| RM @ Measured Temperature | | @ | | | |
| RMF @ Measured Temperature | | @ | | | |
| RMC @ Measured Temperature | | @ | | | |
| Source RMF | | RMF | | | |
| RM @ MRT | | RMF @ MRT | @ | | @ |
| Maximum Recorded Temperatures | | | | | |
| Circulation Stopped | | Time | | | |
| Logger On Bottom | | Time | | | |
| Unit Number | | Location | | | |
| Recorded By | | | | | |
| Witnessed By | | | | | |

I-FI EX logged through drillpipe set at 3000 feet

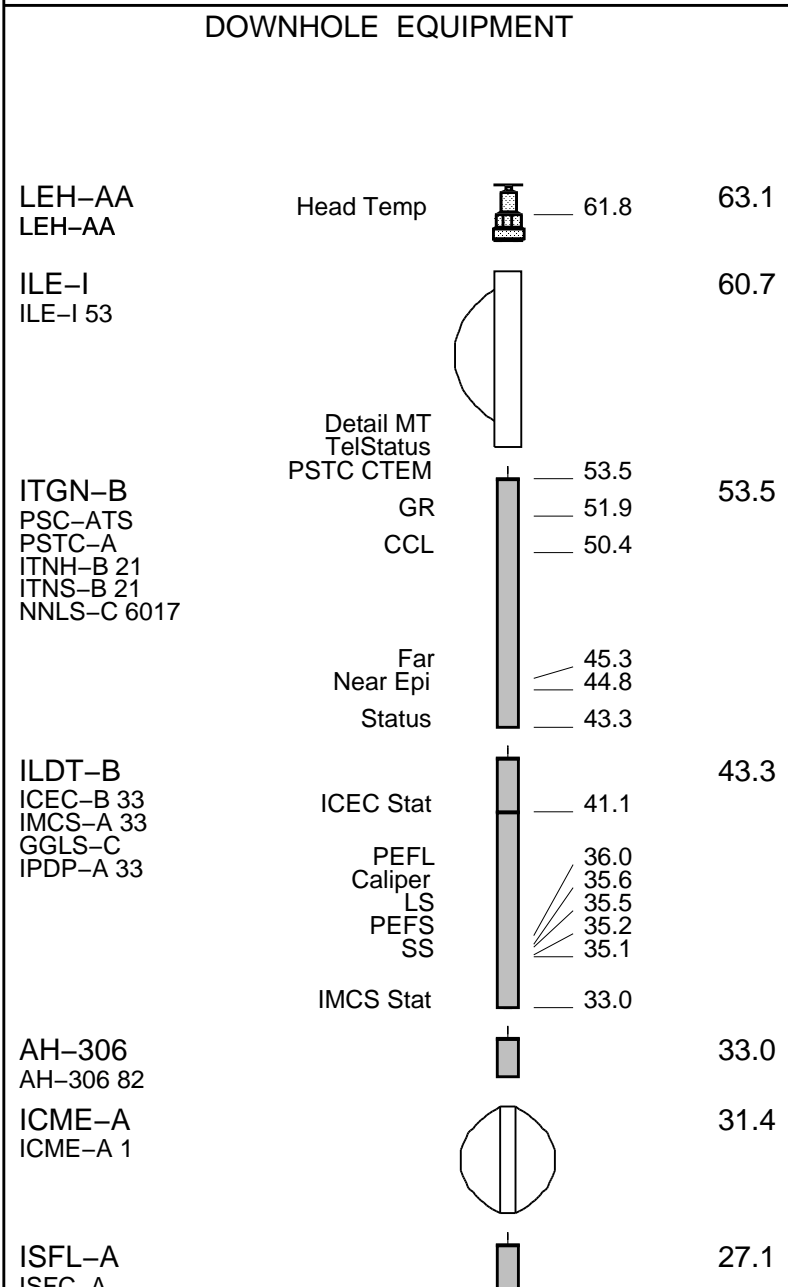
| | |
|--|--|
| 1. 12274 logged through dump pipe set at 5000 feet | |
| Repeat pass not done due to borehole temperature | |
| | |
| | |
| | |
| | |
| Rig: Xtreme 15 | |
| | |
| Schlumberger Crew: Ed Ponce & Jake Jump | |
| | |

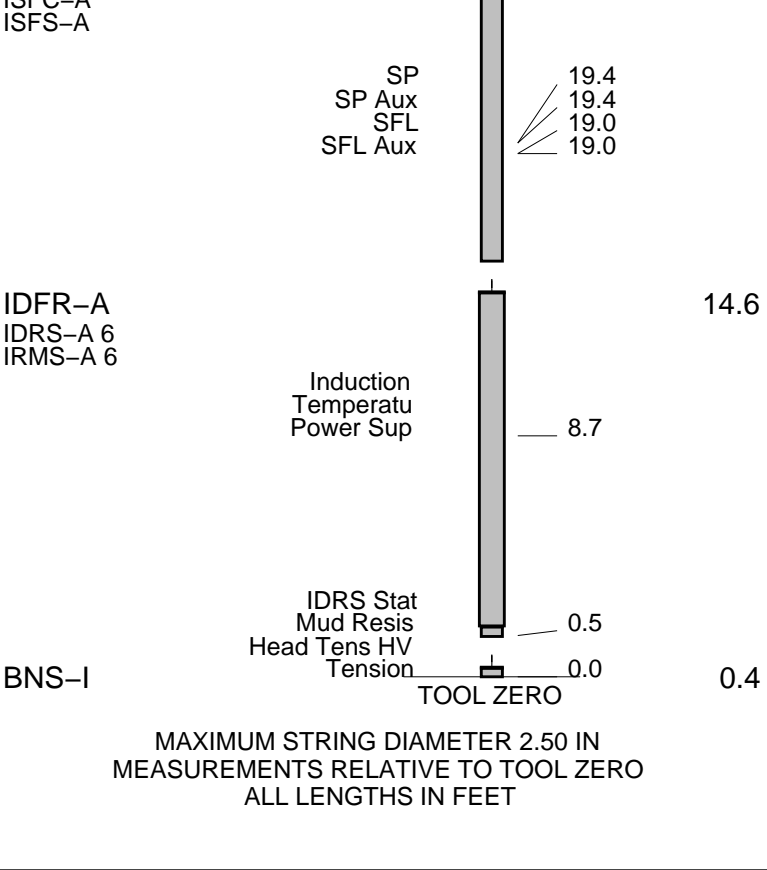
| RUN 1 | | | RUN 2 | | |
|------------------|-------|------------|------------------|-------|------|
| SERVICE ORDER #: | | BVZK-00008 | SERVICE ORDER #: | | |
| PROGRAM VERSION: | | 18C0-147 | PROGRAM VERSION: | | |
| FLUID LEVEL: | | 200 ft | FLUID LEVEL: | | |
| LOGGED INTERVAL | START | STOP | LOGGED INTERVAL | START | STOP |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| EQUIPMENT DESCRIPTION | | | | | |
|-----------------------|--|--|-------|--|--|
| RUN 1 | | | RUN 2 | | |

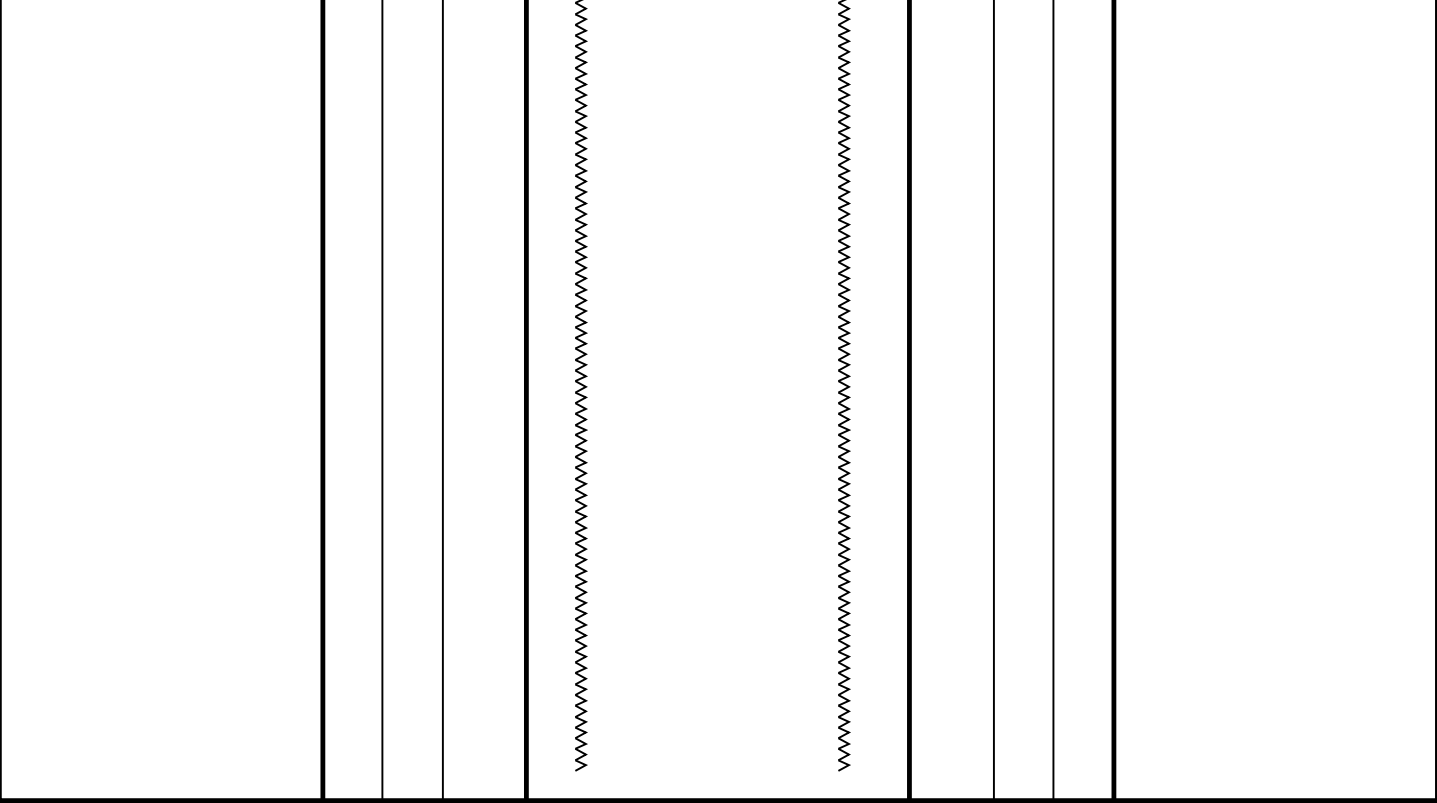
SURFACE EQUIPMENT

WITM-A
PSC_16MHZ





| Production String | (in) | | | (ft) | Well Schematic | (ft) | | | (in) | Casing String |
|-------------------|------|----|----|------|----------------|--------|-------|----|------|------------------|
| | OD | ID | MD | | | MD | OD | ID | | |
| | | | | | | 0.0 | 8.625 | | | Casing String |
| | | | | | | 1216.0 | 8.625 | | | Casing Shoe |
| | | | | | | 1216.0 | 7.875 | | | Borehole Segment |



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UPPER POROSITY LOG 5" = 100'

MAXIS Field Log

Company: Kerr Mcgee Oil & Gas Onshore LP Well: Howard 2-32

| Input DLIS Files | | | | | | |
|------------------|------------------------|-------|----------|-------------------|-----------|--------|
| DEFAULT | IDL_SFL_LDL_CNL_014LUP | FN:13 | PRODUCER | 28-Oct-2011 06:17 | 8660.0 FT | 0.0 FT |

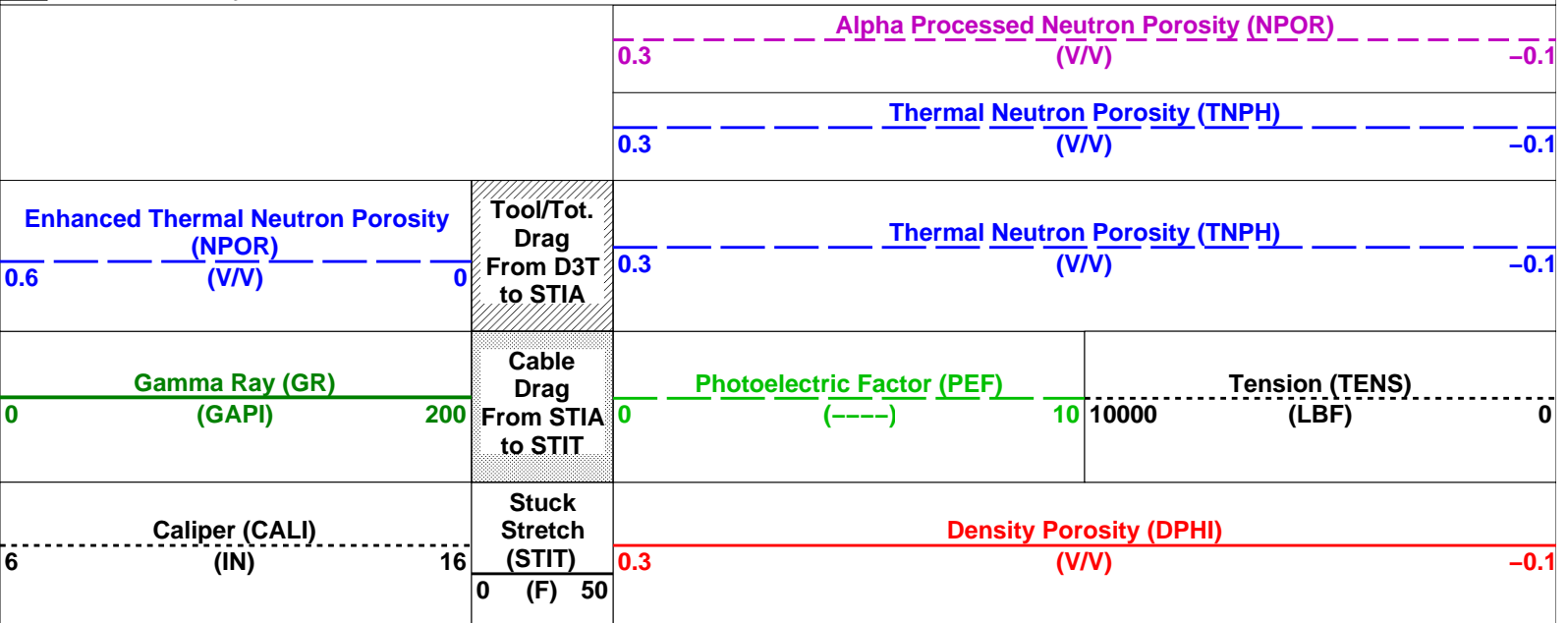
| Integrated Hole/Cement Volume Summary | |
|---|--|
| Hole Volume = 380.36 ft3 | |
| Cement Volume = 268.75 ft3 (assuming 4.50 in casing O.D.) | |
| Computed from 5499.5 ft to 4489.5 ft | |

| OP System Version: 18C0-147 | | | |
|-----------------------------|------------------|--------|------------------|
| IDFR-A | SPC-5020-IFLEX_b | ISFL-A | SPC-5020-IFLEX_b |
| ILD-T-B | SPC-5020-IFLEX_b | ITGN-B | SPC-5020-IFLEX_b |

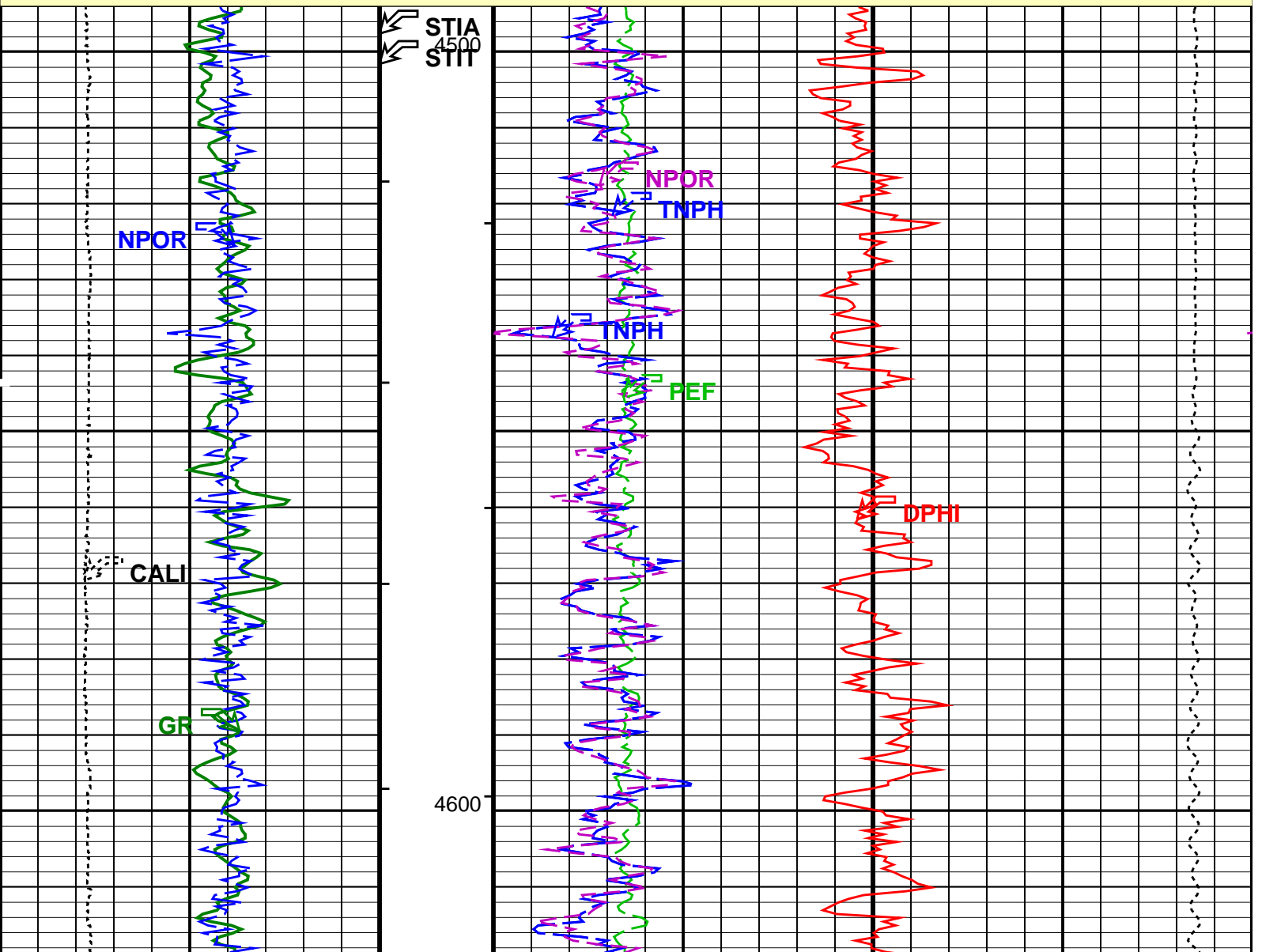
PIP SUMMARY

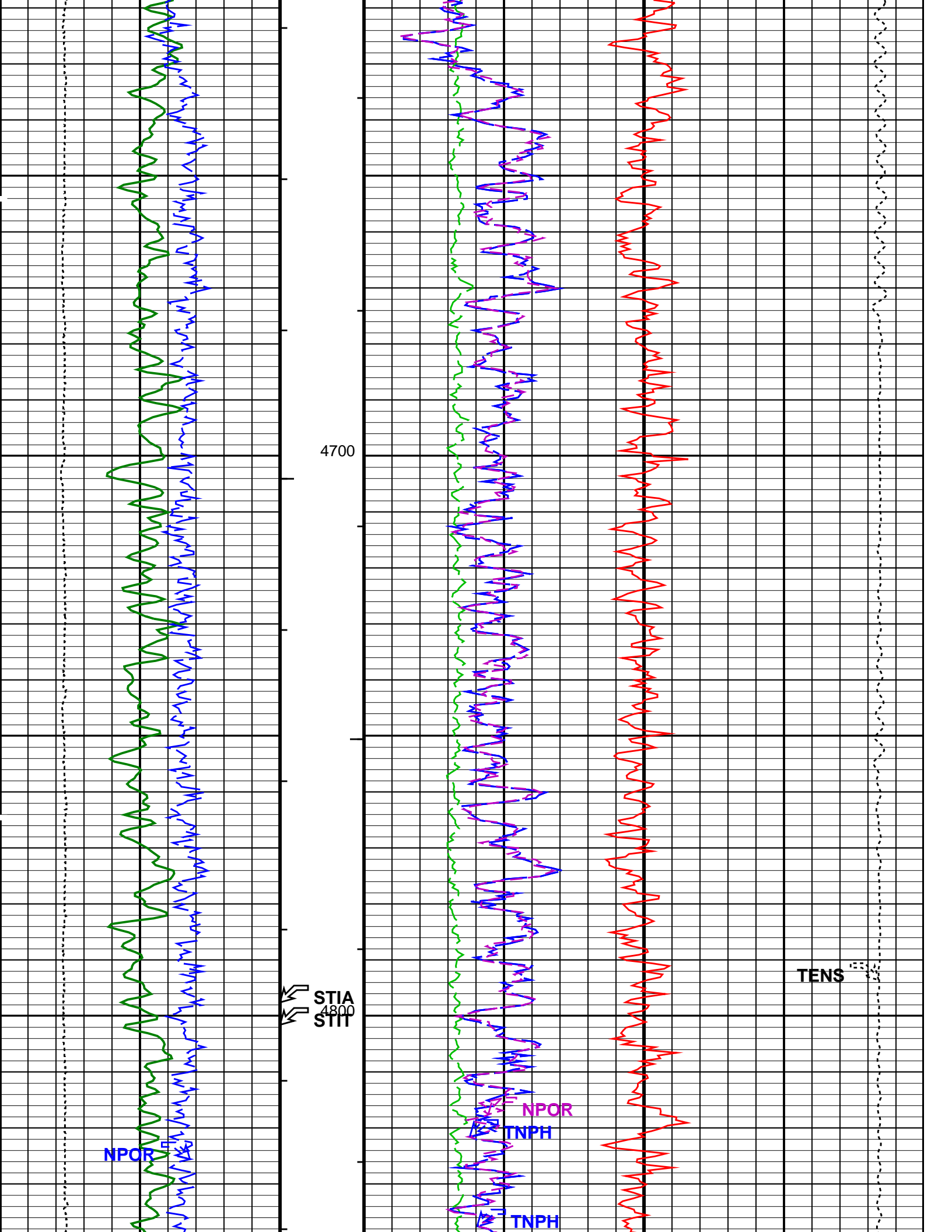
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

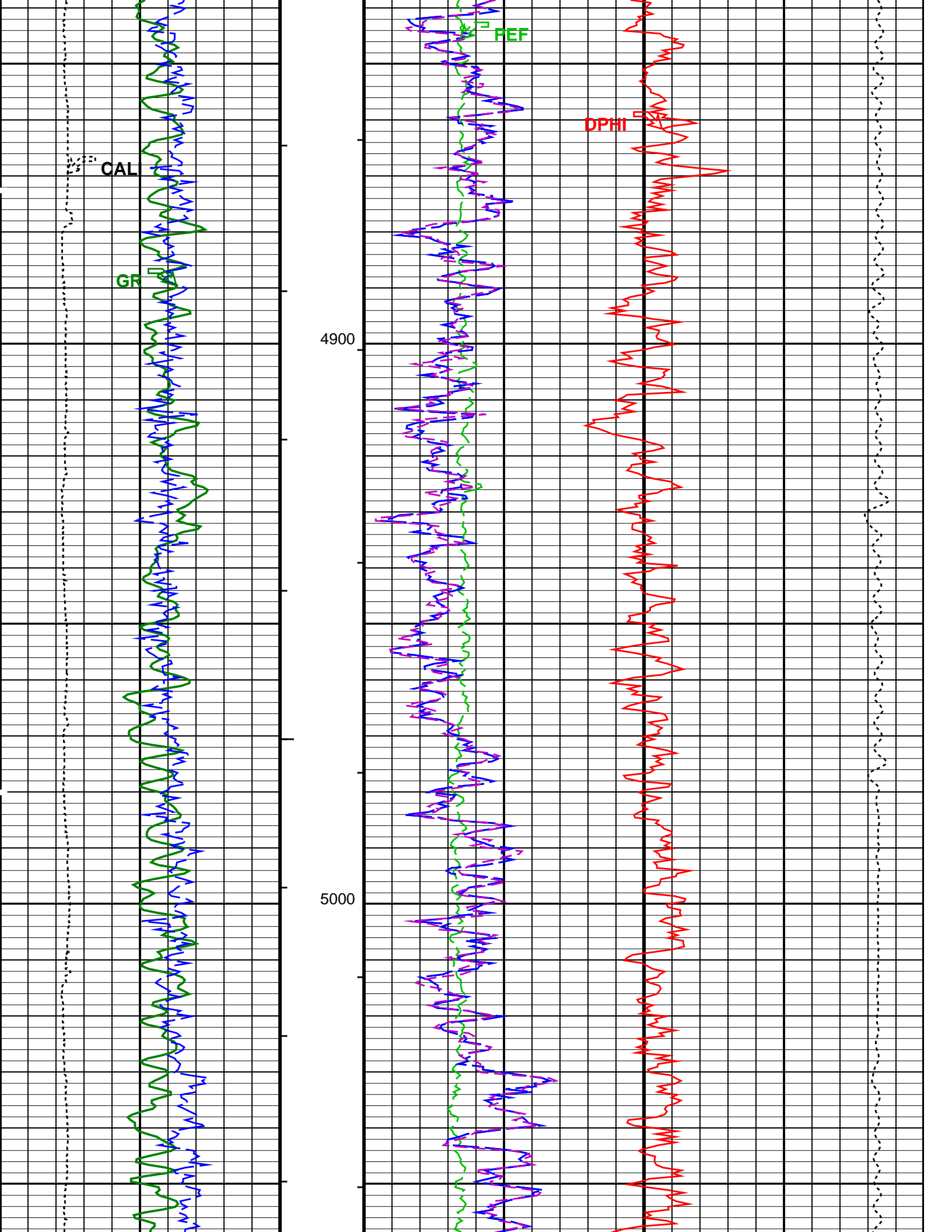
Time Mark Every 60 S

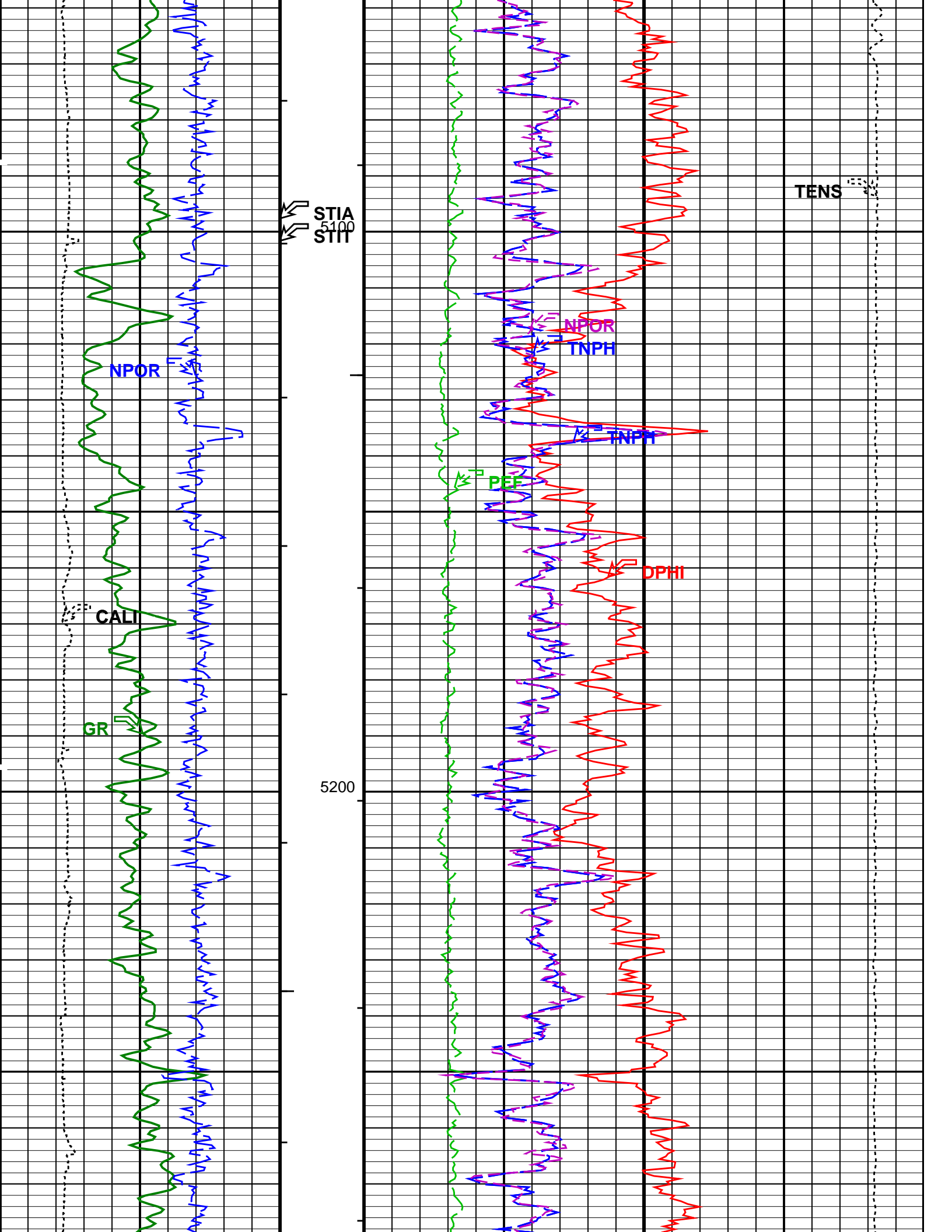


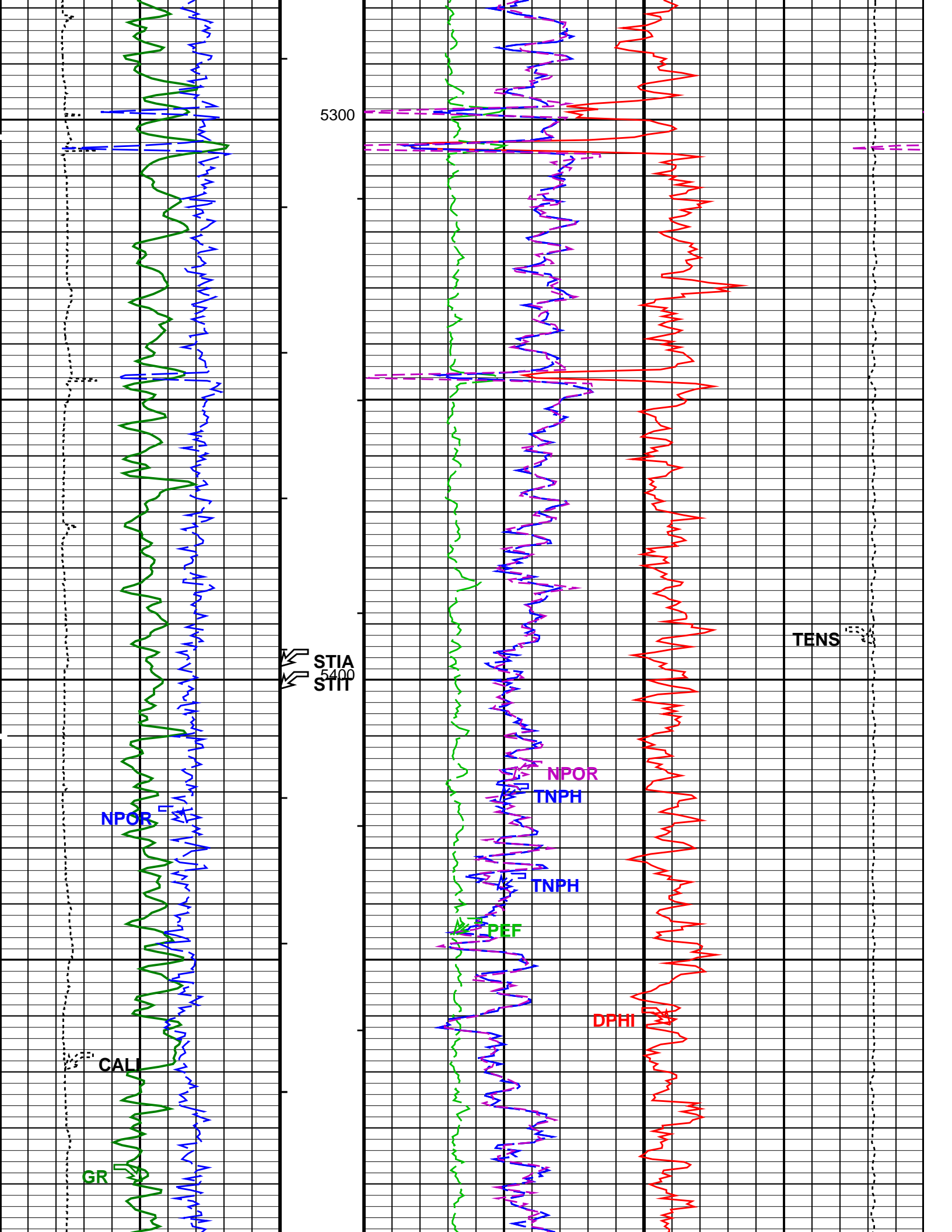
Main Pass: Porosity Stnd Res 5 inch Scale











| Main Pass: Porosity Stnd Res 5 inch Scale | | | | | |
|--|-----|--|--|-------|-------------------------|
| Caliper (CALI) (IN) | | Stuck Stretch (STIT) | Density Porosity (DPHI) | | |
| 6 | 16 | 0 (F) 50 | 0.3 | (V/V) | -0.1 |
| Gamma Ray (GR) (GAPI) | | Cable Drag From STIA to STIT | Photoelectric Factor (PEF) (---- | | Tension (TENS) (LBF) |
| 0 | 200 | | 0 | 10 | 10000 0 |
| Enhanced Thermal Neutron Porosity (NPOR) (V/V) | | Tool/Tot. Drag From D3T to STIA | Thermal Neutron Porosity (TNPH) (V/V) | | |
| 0.6 | 0 | | 0.3 | | -0.1 |
| | | | Thermal Neutron Porosity (TNPH) (V/V) | | |
| | | | 0.3 | | -0.1 |
| | | | Alpha Processed Neutron Porosity (NPOR) (V/V) | | |
| | | | 0.3 | | -0.1 |

| 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 | | | | | |

| Parameters | | |
|---|--|----------|
| DLIS Name | Description | Value |
| IDFR-A: iFlex Dual Formation Resistivity Tool | | |
| BHS | Borehole Status | OPEN |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME |
| ILD-T-B: iFlex Litho Density Tool | | |
| BHS | Borehole Status | OPEN |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME |
| ITGN-B: iFlex Telemetry Gamma Neutron Tool | | |
| BARI_ITGN | Barite Mud Presence Flag | NO |
| BHS | Borehole Status | OPEN |
| BSCO | Borehole Salinity Correction Option | NO |
| CCCO | Casing & Cement Thickness Correction Option | YES |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| FSCO | Formation Salinity Correction Option | NO |
| GCSE | Generalized Caliper Selection | CALI |
| HSCO | Hole Size Correction Option | YES |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME |
| MCCO | Mud Cake Correction Option | NO |
| MWCO | Mud Weight Correction Option | NO |
| NICO | Neutron Interference Correction Option | YES |
| PTCO | Pressure Temperature Correction Option | NO |
| PVN_ITGN | ITGN Computation Version | 1.005 |
| SDAT | Standoff Data Source | SOCN |
| SOCN | Standoff Distance | 0.000 in |
| SOCO | Standoff Correction Option | YES |
| TBHDS | Tool Borehole Diameter Source | CALI |
| TBHTS | Tool Borehole Temperature Source | GTSE |
| RWA: Apparent Water Resistivity | | |
| DO | Depth Offset | 14.0 ft |
| FEQL: Formation Evaluation Quick Look | | |
| DO | Depth Offset | 14.0 ft |
| HOLEV: Integrated Hole/Cement Volume | | |
| BHS | Borehole Status | OPEN |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME |
| PERT: Preliminary Evaluation – Real Time | | |


| | | | |
|---------------------------|--|--------|--------|
| BHS | Borehole Status | OPEN | |
| DO | Depth Offset | 14.0 | ft |
| GCSE | Generalized Caliper Selection | CALI | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME | |
| STI: Stuck Tool Indicator | | | |
| DO | Depth Offset | 14.0 | ft |
| STKT | STI Stuck Threshold | 2.500 | ft |
| TDD | Total Depth – Driller | 8702.0 | ft |
| TDL | Total Depth – Logger | 8690.0 | ft |
| System and Miscellaneous | | | |
| BS | Bit Size | 7.875 | in |
| BSAL | Borehole Salinity | | |
| CSIZ | Current Casing Size | 8.625 | in |
| CWEI | Casing Weight | 24.000 | lbm/ft |
| DO | Depth Offset | 14.0 | ft |
| FSAL | Formation Salinity | | |
| MST | Mud Sample Temperature | 167.0 | degF |
| RMFS | Resistivity of Mud Filtrate Sample | 0.465 | ohm.m |

Format: PORO_MAIN_5_StdRes

Vertical Scale: 5" per 100'

Graphics File Created: 28-Oct-2011 07:27

| | | | |
|-----------------------------|------------------------|--------|---|
| OP System Version: 18C0-147 | | | |
| IDFR-A | SPC-5020-IFLEX_b | ISFL-A | SPC-5020-IFLEX_b |
| ILDT-B | SPC-5020-IFLEX_b | ITGN-B | SPC-5020-IFLEX_b |
| Input DLIS Files | | | |
| DEFAULT | IDL_SFL_LDL_CNL_014LUP | FN:13 | PRODUCER 28-Oct-2011 06:17 8660.0 FT 0.0 FT |



MAIN POROSITY LOG 5" = 100'

MAXIS Field Log

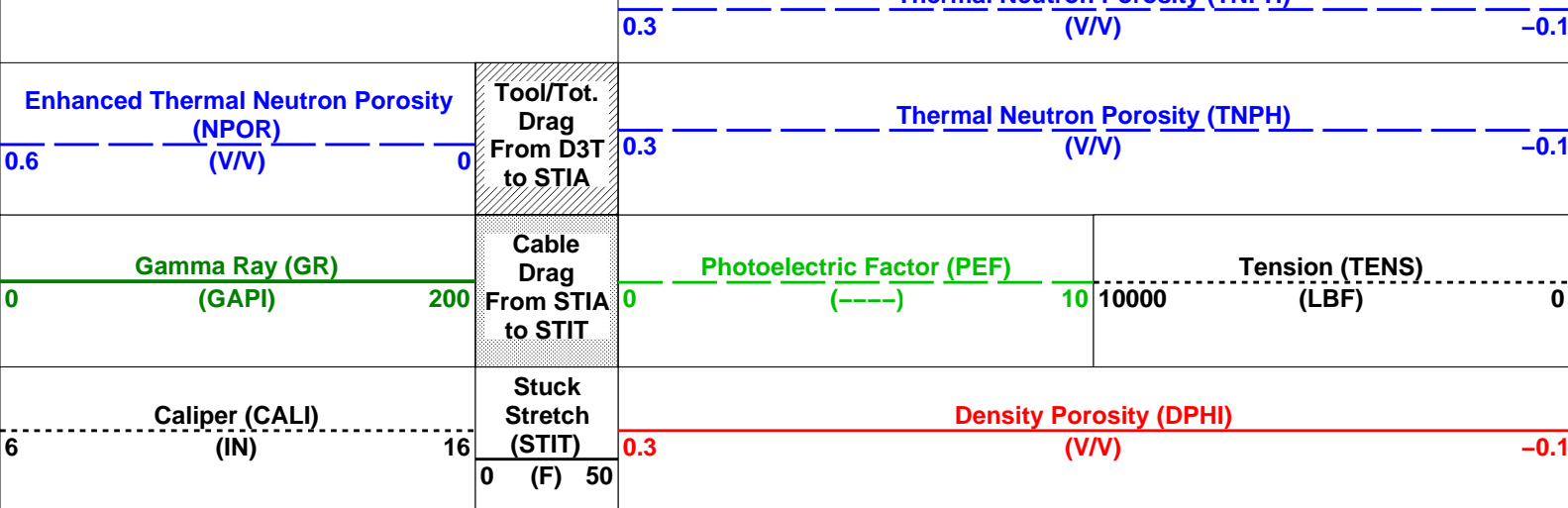
Company: Kerr Mcgee Oil & Gas Onshore LP

Well: Howard 2-32

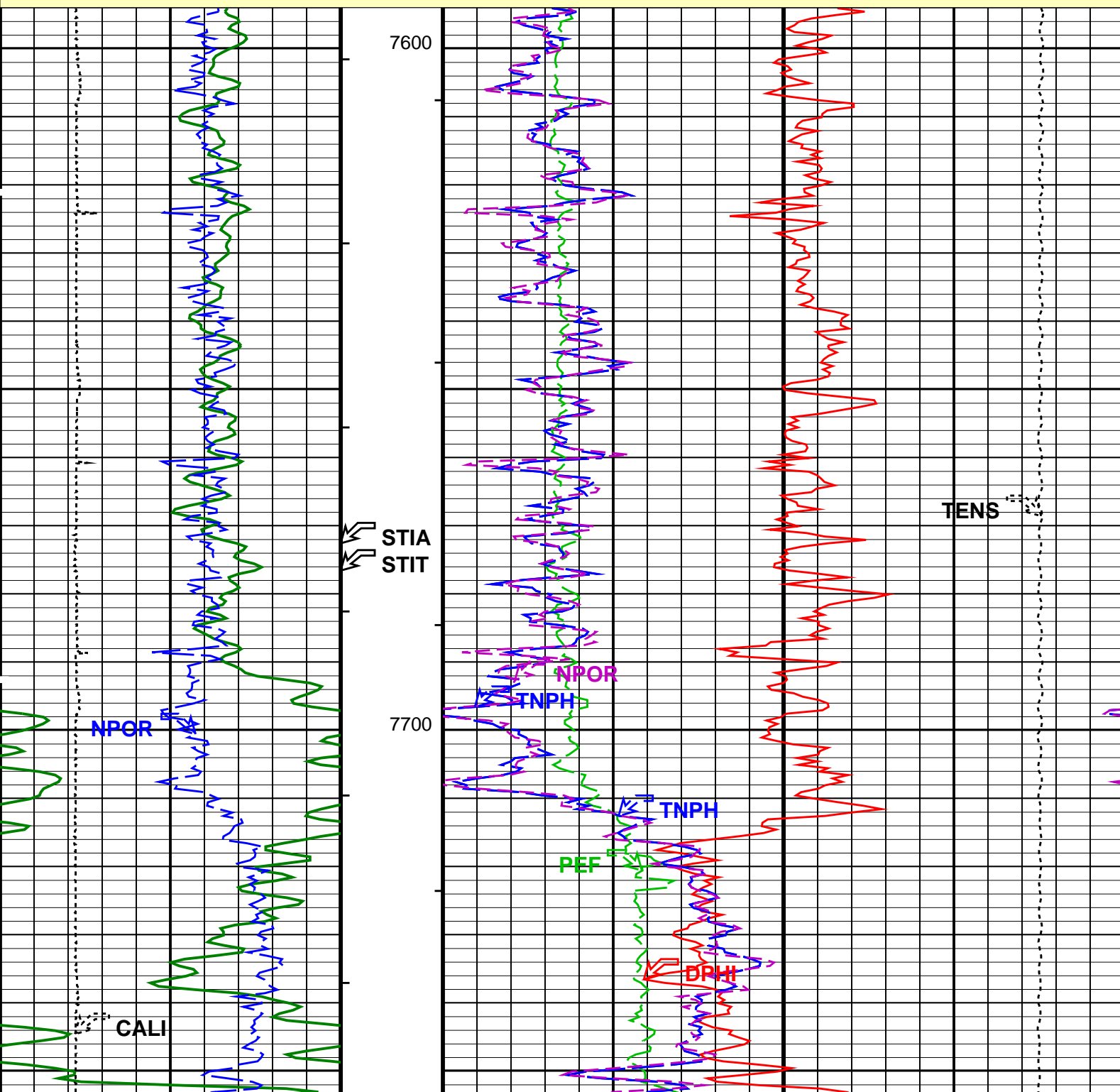
| | | | |
|---|------------------------|-------|---|
| Input DLIS Files | | | |
| DEFAULT | IDL_SFL_LDL_CNL_014LUP | FN:13 | PRODUCER 28-Oct-2011 06:17 8660.0 FT 0.0 FT |
| Integrated Hole/Cement Volume Summary | | | |
| Hole Volume = 384.48 ft3 | | | |
| Cement Volume = 264.71 ft3 (assuming 4.50 in casing O.D.) | | | |
| Computed from 8673.5 ft to 7589.5 ft | | | |

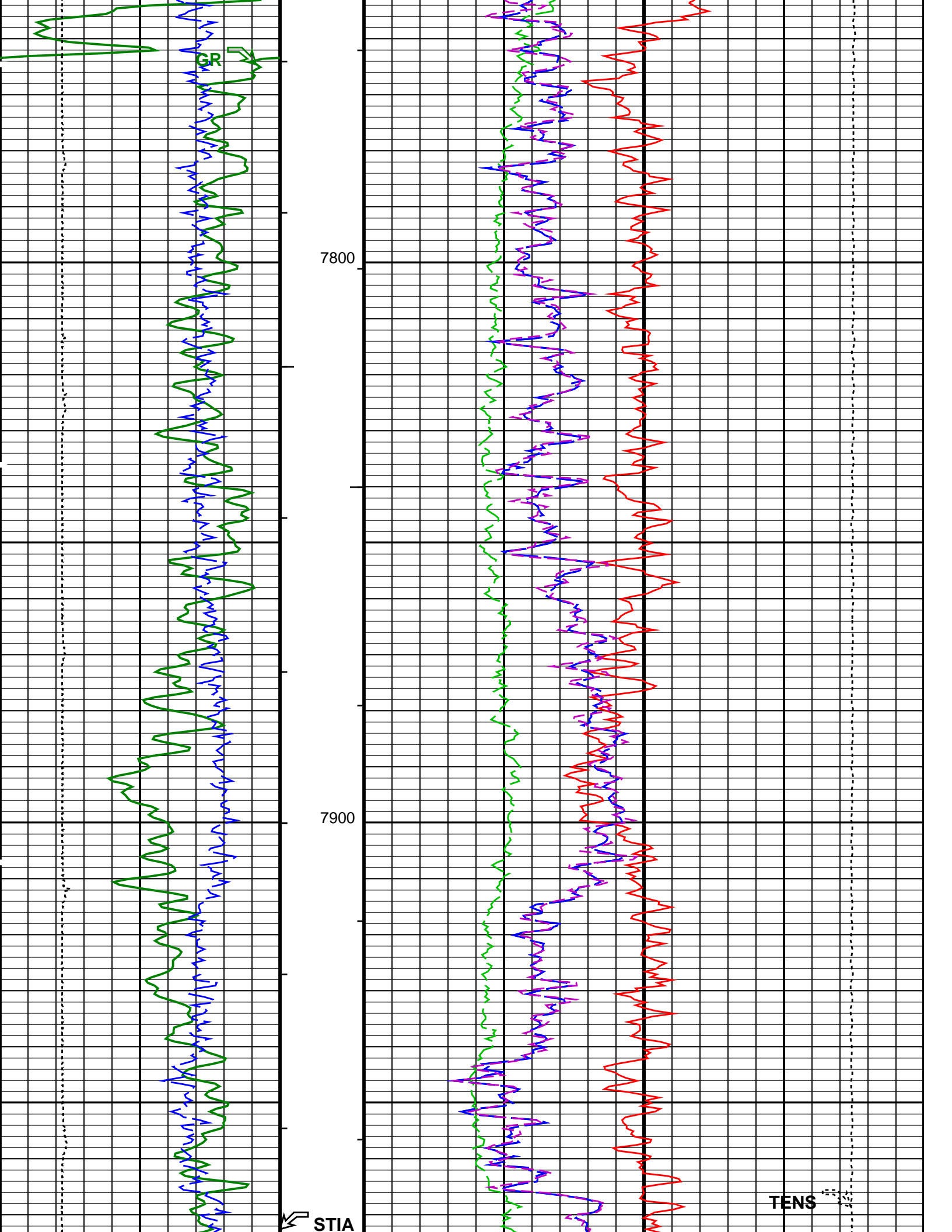
| | | | |
|---|------------------|--------|------------------|
| OP System Version: 18C0-147 | | | |
| IDFR-A | SPC-5020-IFLEX_b | ISFL-A | SPC-5020-IFLEX_b |
| ILDT-B | SPC-5020-IFLEX_b | ITGN-B | SPC-5020-IFLEX_b |
| PIP SUMMARY | | | |
| └ Integrated Hole Volume Minor Pip Every 10 F3 | | | |
| └ Integrated 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 | | | |

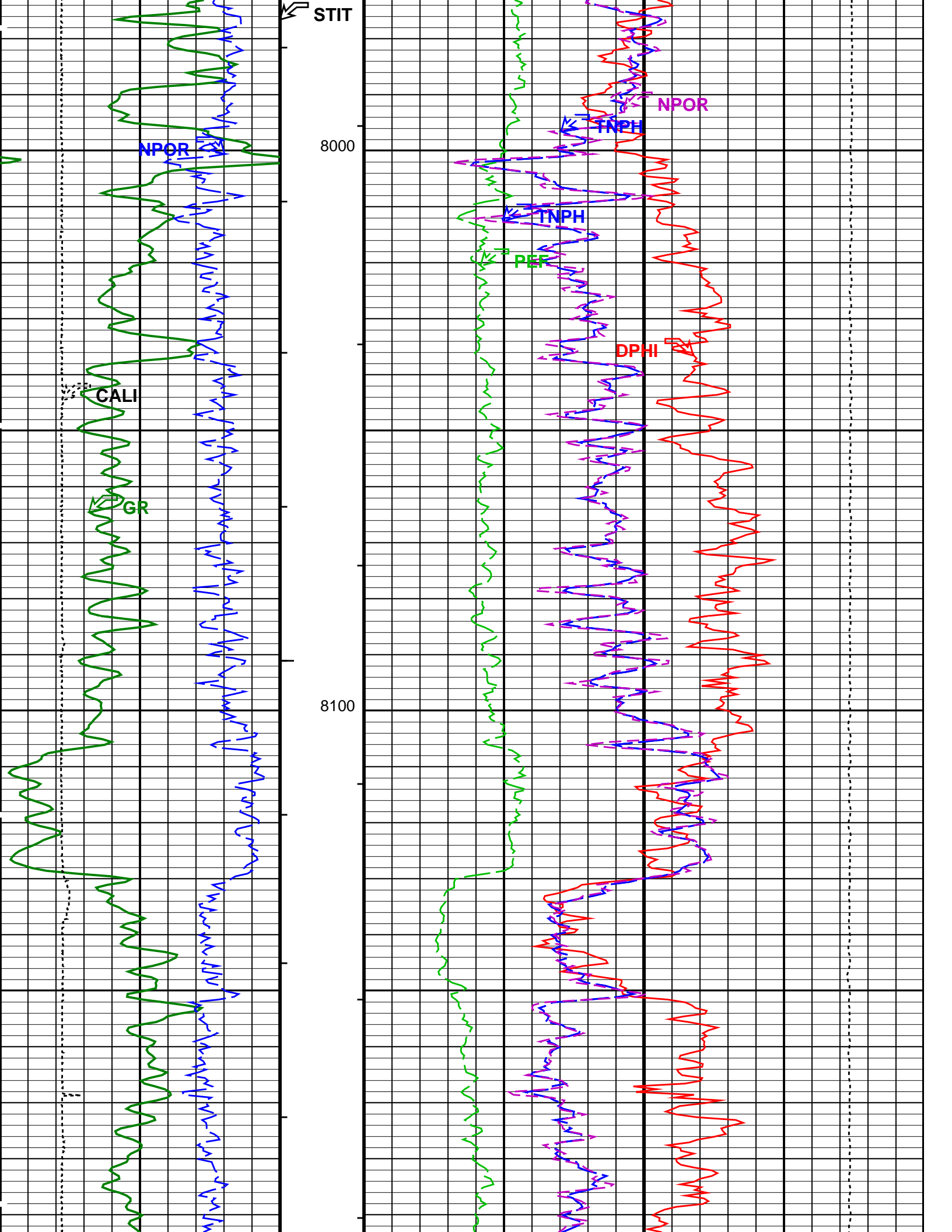


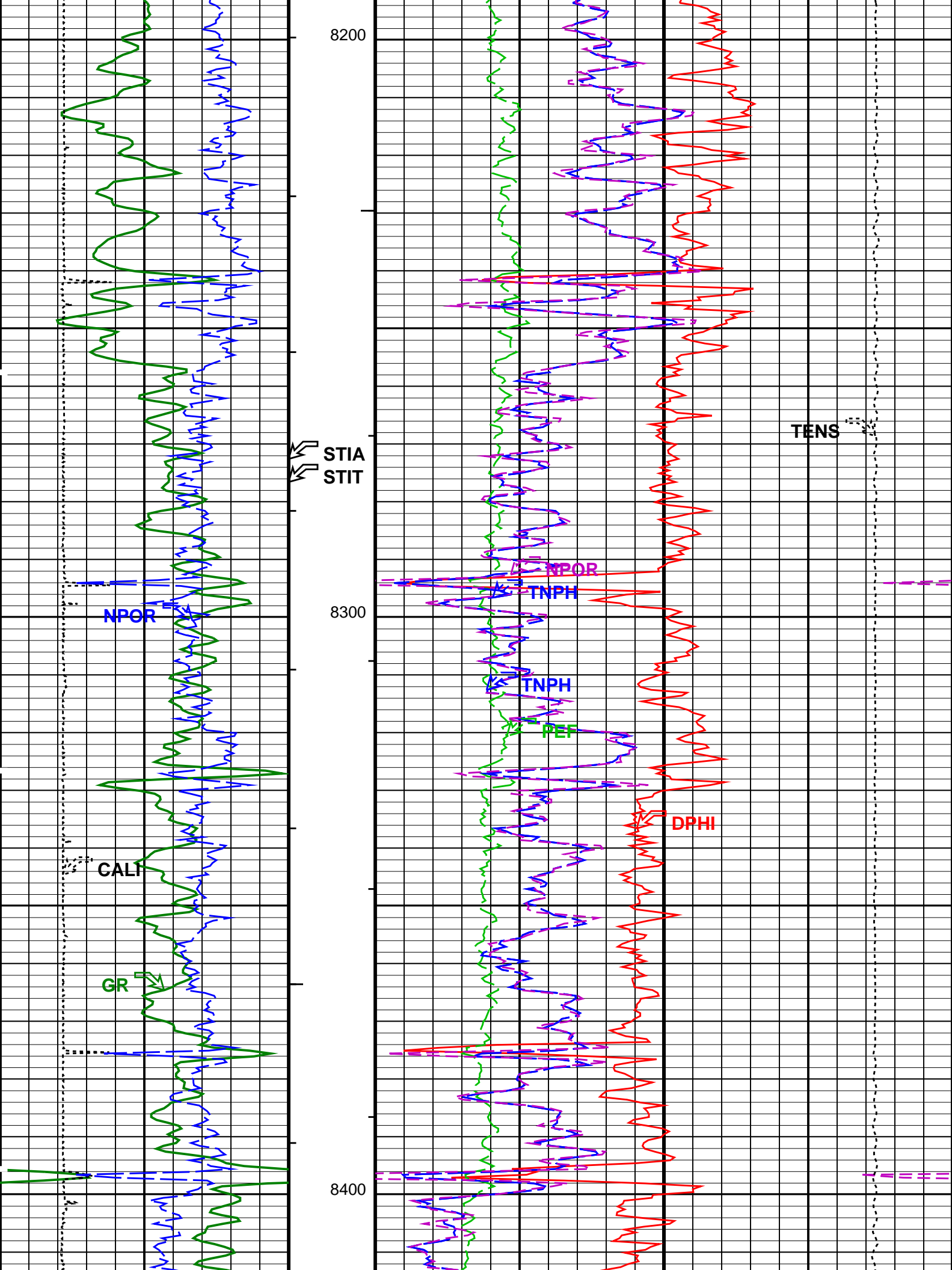


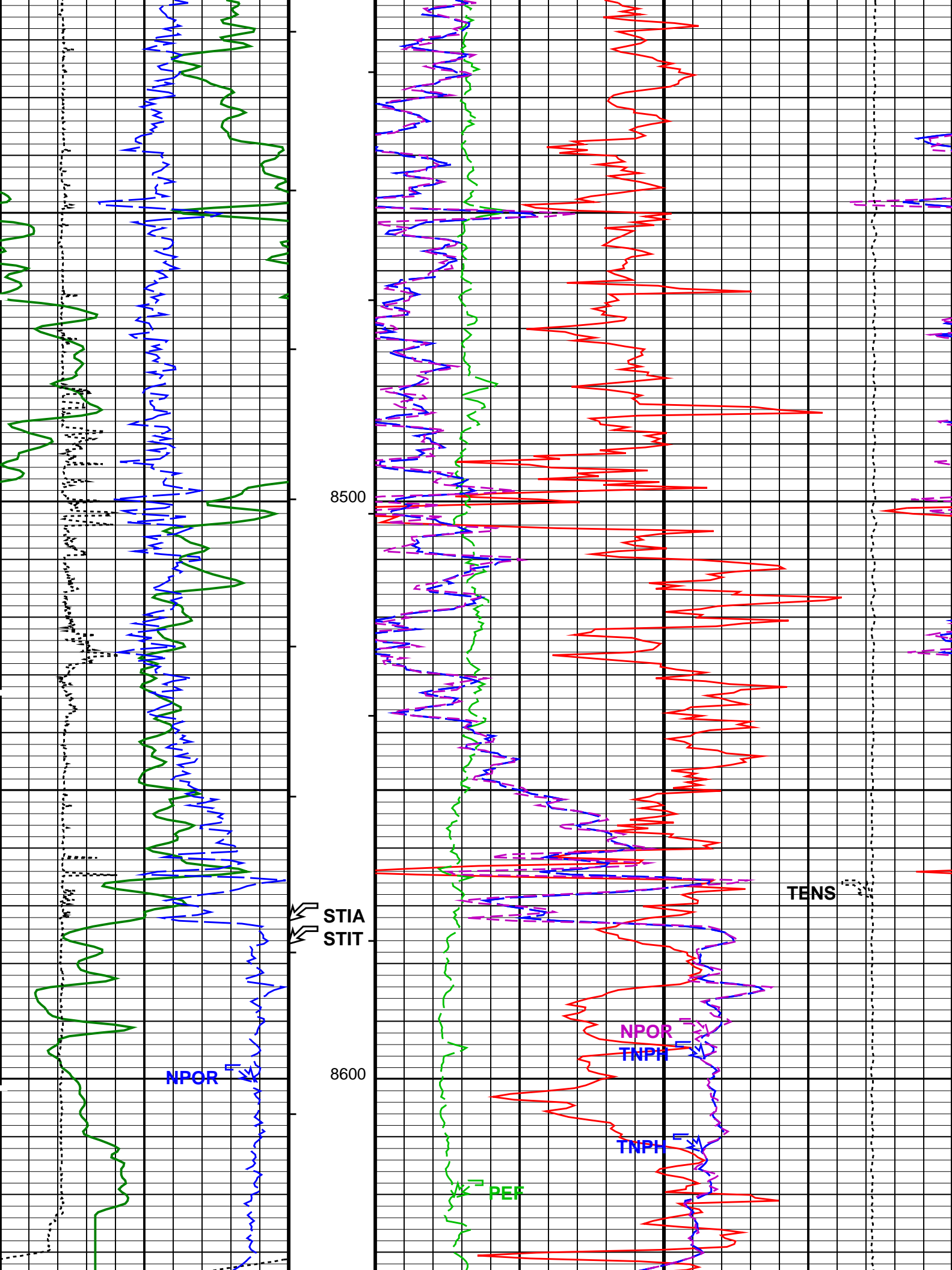
Main Pass: Porosity Stnd Res 5 inch Scale

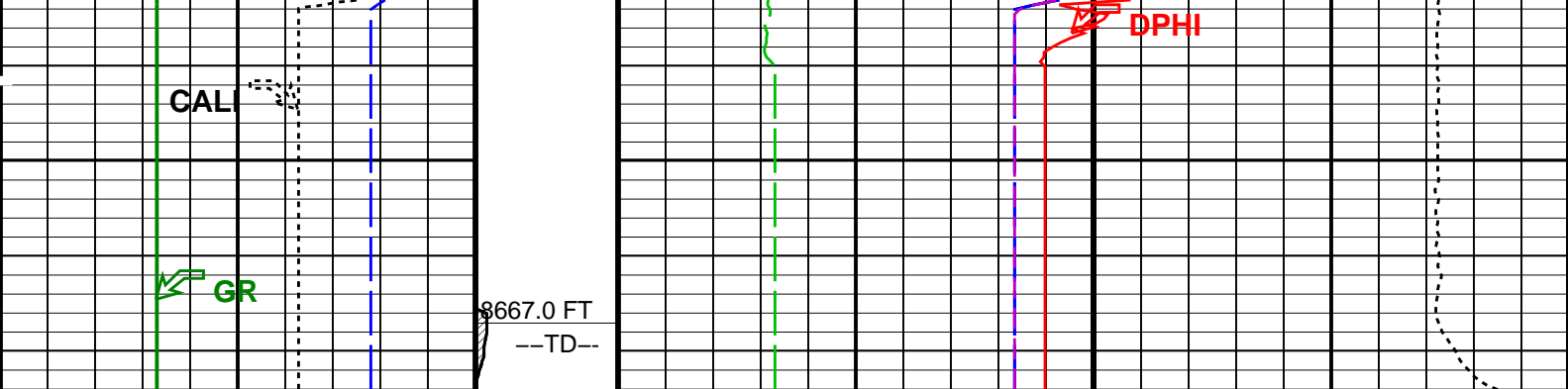












Main Pass: Porosity Stnd Res 5 inch Scale

| | | | | | | | | |
|--|-----|-----|---------------------------------------|-----|------|--|-----|-------|
| Caliper (CALI) (IN) | 6 | 16 | Stuck Stretch (STIT) (F) | 0 | 50 | Density Porosity (DPHI) (V/V) | 0.3 | -0.1 |
| Gamma Ray (GR) (GAPI) | 0 | 200 | Cable Drag From STIA to STIT | 0 | 10 | Photoelectric Factor (PEF) (-----) | 10 | 10000 |
| Enhanced Thermal Neutron Porosity (NPOR) (V/V) | 0.6 | 0 | Tool/Tot. Drag From D3T to STIA | 0.3 | -0.1 | Thermal Neutron Porosity (TNPH) (V/V) | 0.3 | -0.1 |
| | | | | 0.3 | -0.1 | Thermal Neutron Porosity (TNPH) (V/V) | 0.3 | -0.1 |
| | | | | 0.3 | -0.1 | Alpha Processed Neutron Porosity (NPOR) (V/V) | 0.3 | -0.1 |

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

Parameters

| DLIS Name | Description | Value |
|---|--|---------|
| IDFR-A: iFlex Dual Formation Resistivity Tool | | |
| BHS | Borehole Status | OPEN |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME |
| ILD-T-B: iFlex Litho Density Tool | | |
| BHS | Borehole Status | OPEN |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME |
| ITGN-B: iFlex Telemetry Gamma Neutron Tool | | |
| BARI_ITGN | Barite Mud Presence Flag | NO |
| BHS | Borehole Status | OPEN |
| BSCO | Borehole Salinity Correction Option | NO |
| CCCO | Casing & Cement Thickness Correction Option | YES |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| FSCO | Formation Salinity Correction Option | NO |
| GCSE | Generalized Caliper Selection | CALI |
| HSCO | Hole Size Correction Option | YES |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME |
| MCCO | Mud Cake Correction Option | NO |
| MWCO | Mud Weight Correction Option | NO |
| NICO | Neutron Interference Correction Option | YES |
| PTCO | Pressure Temperature Correction Option | NO |
| PVN_ITGN | ITGN Computation Version | 1.005 |

| | | | |
|----------|--|--------|--------|
| PVN ITGN | ITGN Computation Version | 1.003 | |
| SDAT | Standoff Data Source | SOCN | |
| SOCN | Standoff Distance | 0.000 | in |
| SOCO | Standoff Correction Option | YES | |
| TBHD | Tool Borehole Diameter Source | CALI | |
| TBHTS | Tool Borehole Temperature Source | GTSE | |
| | RWA: Apparent Water Resistivity | | |
| DO | Depth Offset | 14.0 | ft |
| | FEQL: Formation Evaluation Quick Look | | |
| DO | Depth Offset | 14.0 | ft |
| | HOLEV: Integrated Hole/Cement Volume | | |
| BHS | Borehole Status | OPEN | |
| DO | Depth Offset | 14.0 | ft |
| GCSE | Generalized Caliper Selection | CALI | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME | |
| | PERT: Preliminary Evaluation – Real Time | | |
| BHS | Borehole Status | OPEN | |
| DO | Depth Offset | 14.0 | ft |
| GCSE | Generalized Caliper Selection | CALI | |
| MATR | Rock Matrix for Neutron Porosity Corrections | LIME | |
| | STI: Stuck Tool Indicator | | |
| DO | Depth Offset | 14.0 | ft |
| STKT | STI Stuck Threshold | 2.500 | ft |
| TDD | Total Depth – Driller | 8702.0 | ft |
| TDL | Total Depth – Logger | 8690.0 | ft |
| | System and Miscellaneous | | |
| BS | Bit Size | 7.875 | in |
| BSAL | Borehole Salinity | | |
| CSIZ | Current Casing Size | 8.625 | in |
| CWEI | Casing Weight | 24.000 | lbm/ft |
| DO | Depth Offset | 14.0 | ft |
| FSAL | Formation Salinity | | |
| MST | Mud Sample Temperature | 167.0 | degF |
| RMFS | Resistivity of Mud Filtrate Sample | 0.465 | ohm.m |

Format: LOWER_PORO_MAIN_5 Vertical Scale: 5" per 100' Graphics File Created: 28-Oct-2011 07:00

OP System Version: 18C0-147

| | | | |
|--------|------------------|--------|------------------|
| IDFR-A | SPC-5020-IFLEX_b | ISFL-A | SPC-5020-IFLEX_b |
| ILDT-B | SPC-5020-IFLEX_b | ITGN-B | SPC-5020-IFLEX_b |

Input DLIS Files

| | | | | | | |
|---------|------------------------|-------|----------|-------------------|-----------|--------|
| DEFAULT | IDL_SFL_LDL_CNL_014LUP | FN:13 | PRODUCER | 28-Oct-2011 06:17 | 8660.0 FT | 0.0 FT |
|---------|------------------------|-------|----------|-------------------|-----------|--------|

Schlumberger

UPPER DENSITY LOG 5" = 100'

MAXIS Field Log

Company: Kerr Mcgee Oil & Gas Onshore LP

Well: Howard 2-32

Input DLIS Files

| | | | | | | |
|---------|------------------------|-------|----------|-------------------|-----------|--------|
| DEFAULT | IDL_SFL_LDL_CNL_014LUP | FN:13 | PRODUCER | 28-Oct-2011 06:17 | 8660.0 FT | 0.0 FT |
|---------|------------------------|-------|----------|-------------------|-----------|--------|

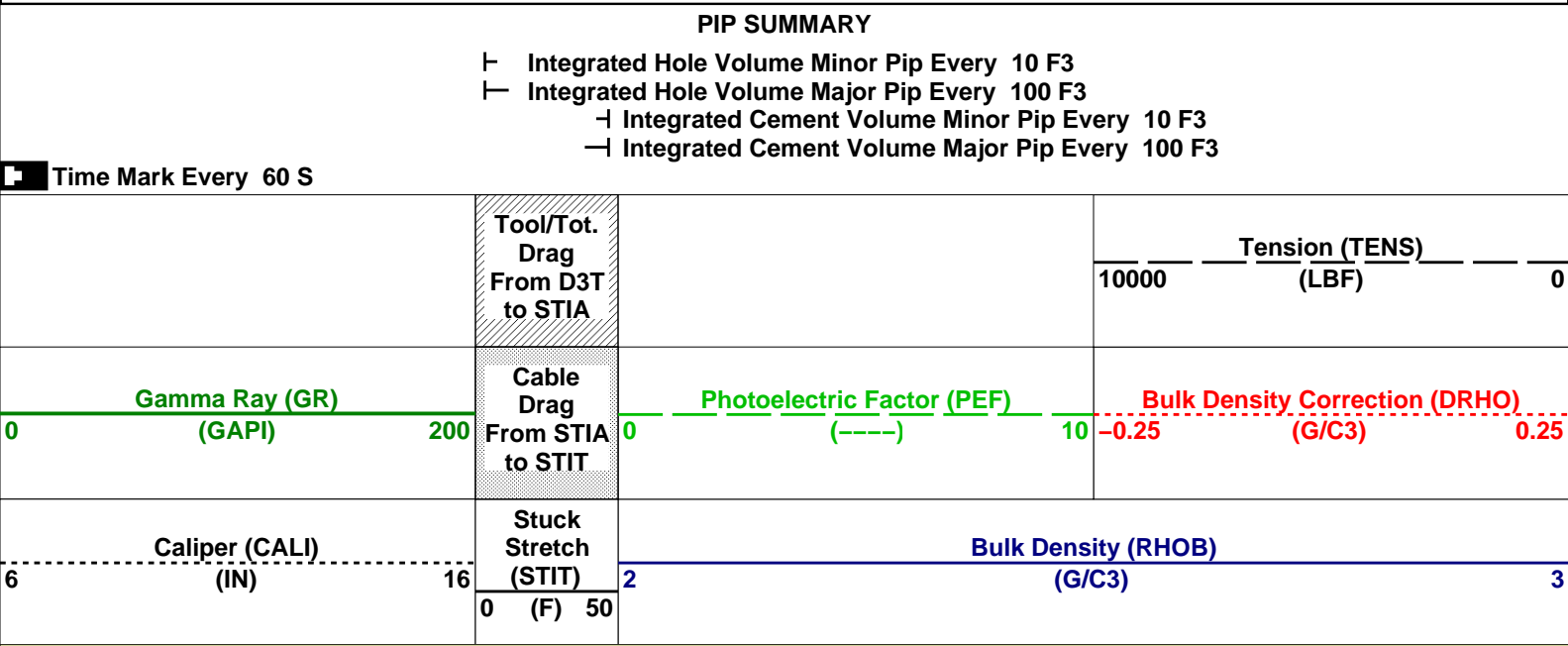
Integrated Hole/Cement Volume Summary

Hole Volume = 380.36 ft³

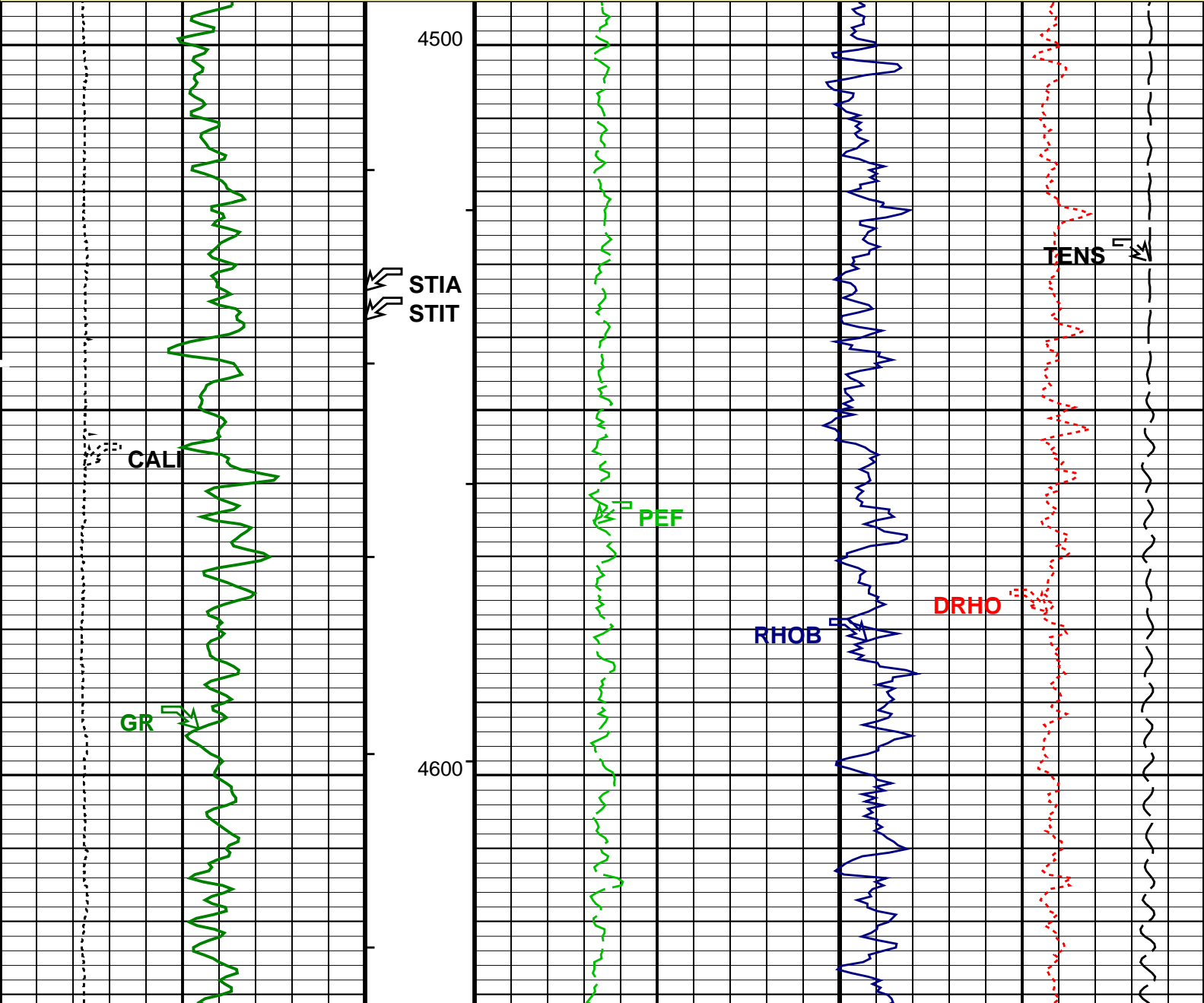
Cement Volume = 268.75 ft³ (assuming 4.50 in casing O.D.)

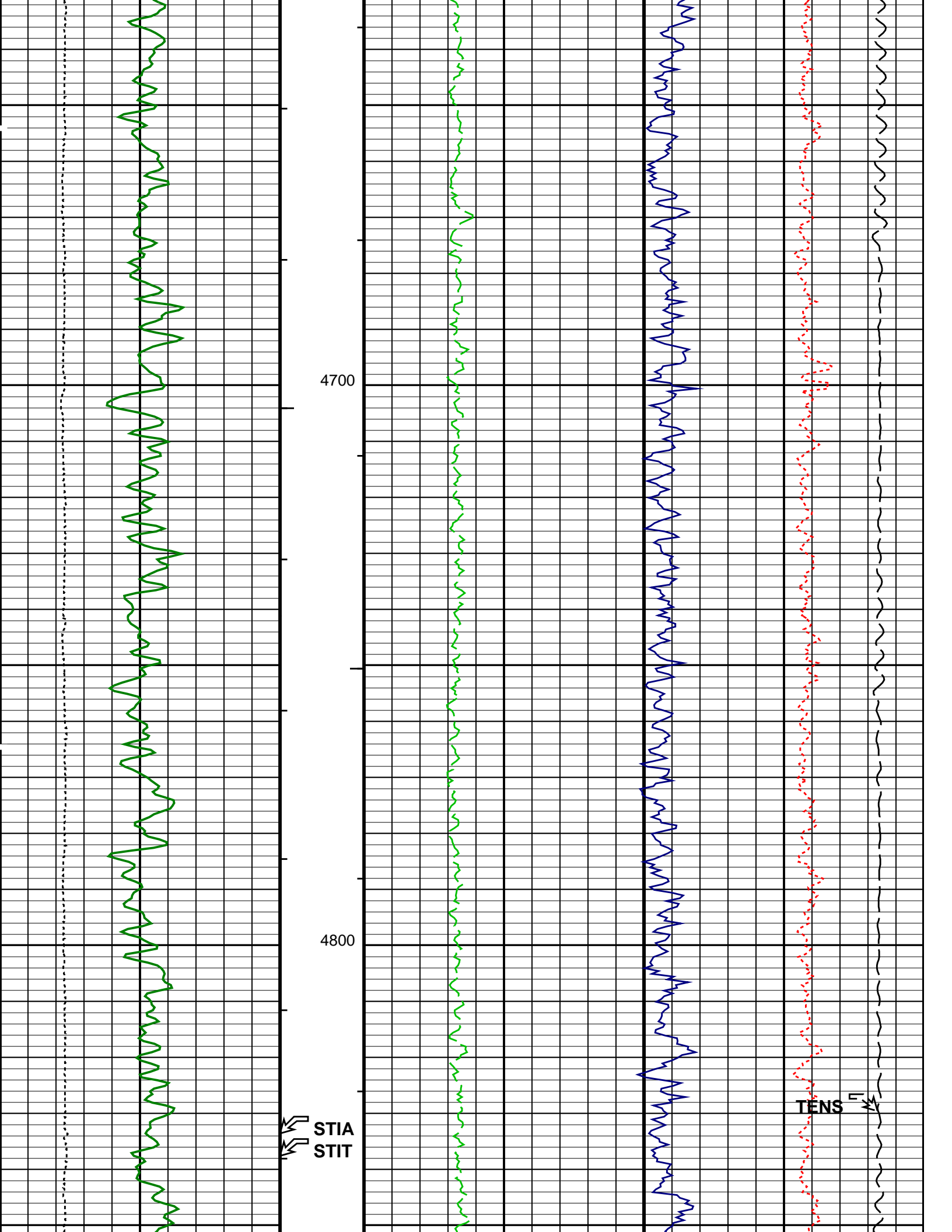
Computed from 5499.5 ft to 4489.5 ft

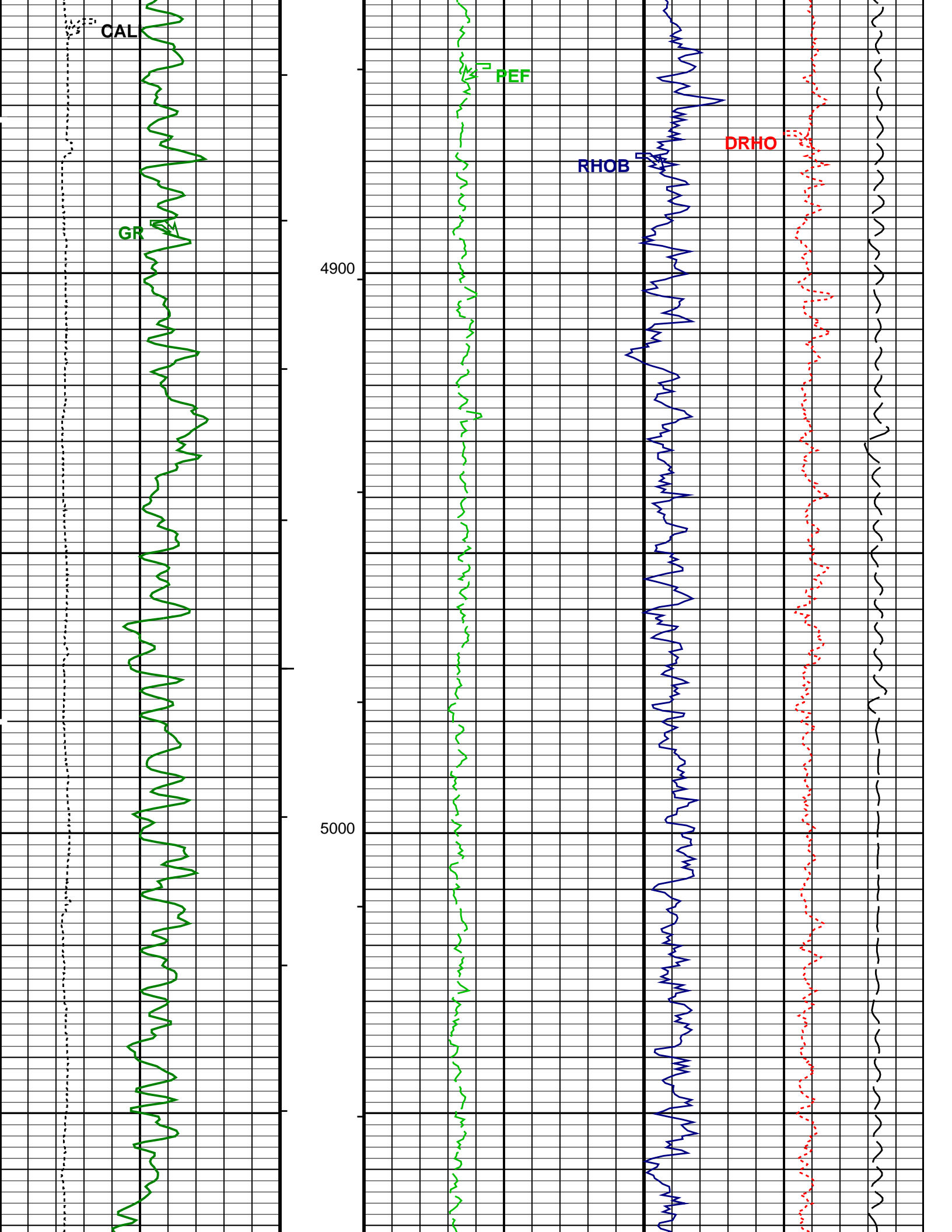
OP System Version: 18C0-147

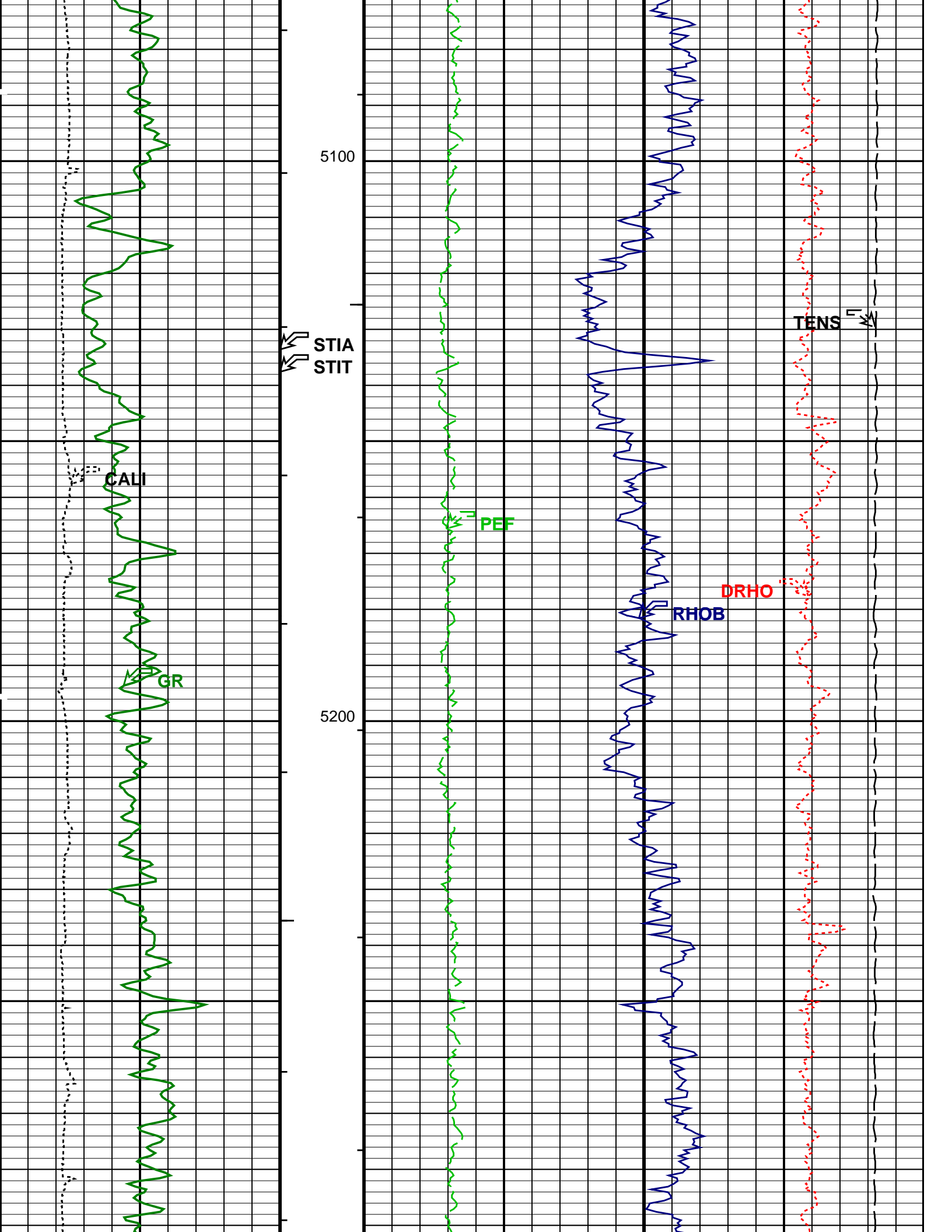


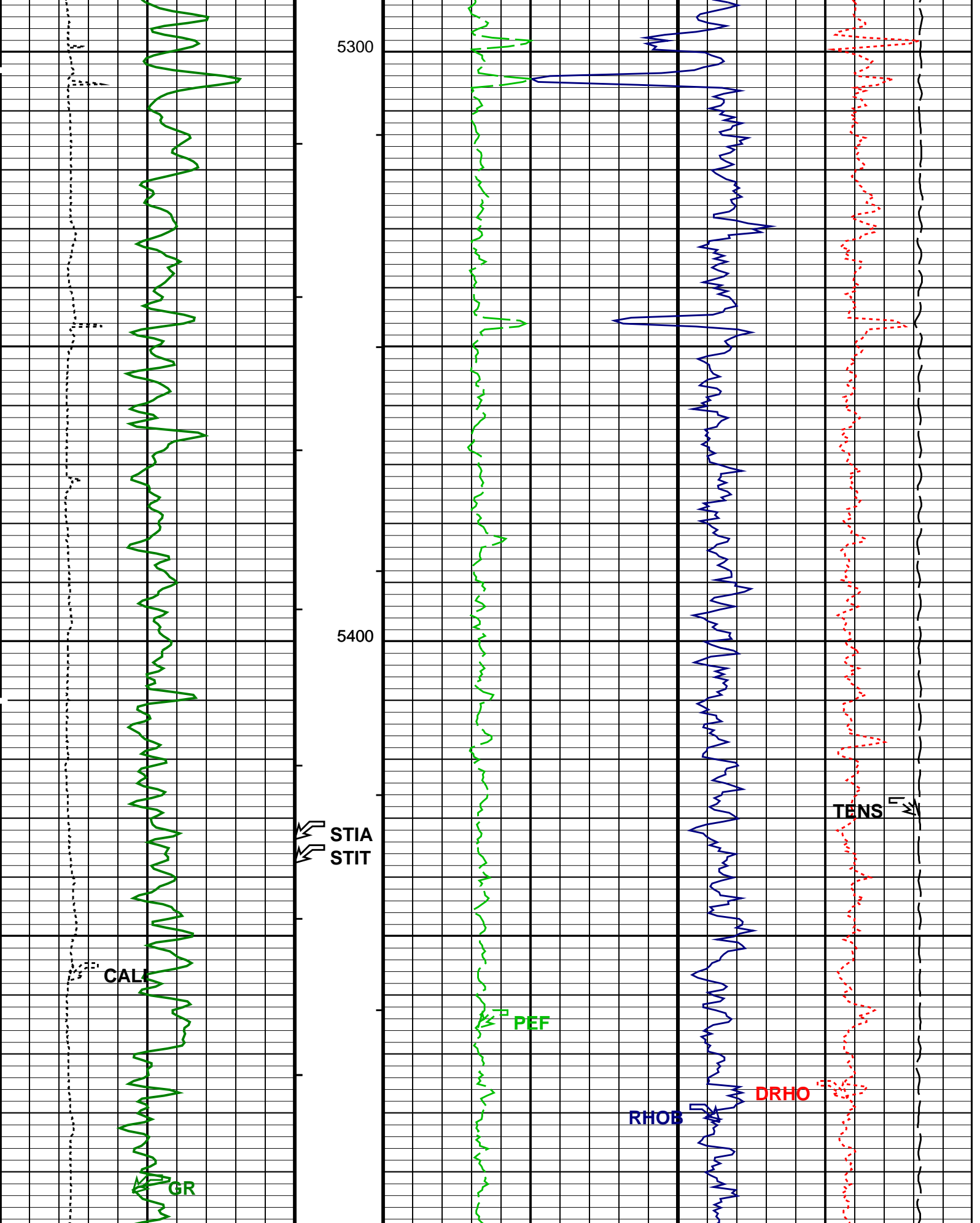
Main Pass: Density Stnd Res 5 inch Scale











Main Pass: Density Stnd Res 5 inch Scale

Caliper (CAL)

Stuck
String

Bulk Density (RHOB)

| | | | | | | |
|---|--------------------------|-----|--|---|--|------------|
| 6 | Caliper (CALI) (IN) | 16 | Stretch (STIT) (F) | 2 | Bulk Density (RHOB) (G/C3) | 3 |
| 0 | Gamma Ray (GR) (GAPI) | 200 | Cable Drag From STIA to STIT | 0 | Photoelectric Factor (PEF) (-----) | 10 |
| | | | Tool/Tot. Drag From D3T to STIA | | Bulk Density Correction (DRHO) (G/C3) | -0.25 0.25 |
| | | | | | 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

Parameters

| DLIS Name | Description | Value |
|---|--|-----------|
| IDFR-A: iFlex Dual Formation Resistivity Tool | | |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| ILDIT-B: iFlex Litho Density Tool | | |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| ITGN-B: iFlex Telemetry Gamma Neutron Tool | | |
| BARI_ITGN | Barite Mud Presence Flag | NO |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| NICO | Neutron Interference Correction Option | YES |
| PVN_ITGN | ITGN Computation Version | 1.005 |
| SDAT | Standoff Data Source | SOCN |
| SOCN | Standoff Distance | 0.000 in |
| TBHDS | Tool Borehole Diameter Source | CALI |
| TBHDS | Tool Borehole Temperature Source | GTSE |
| RWA: Apparent Water Resistivity | | |
| DO | Depth Offset | 14.0 ft |
| FEQL: Formation Evaluation Quick Look | | |
| DO | Depth Offset | 14.0 ft |
| HOLEV: Integrated Hole/Cement Volume | | |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| PERT: Preliminary Evaluation - Real Time | | |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| STI: Stuck Tool Indicator | | |
| DO | Depth Offset | 14.0 ft |
| STKT | STI Stuck Threshold | 2.500 ft |
| TDD | Total Depth - Driller | 8702.0 ft |
| TDL | Total Depth - Logger | 8690.0 ft |
| System and Miscellaneous | | |
| BS | Bit Size | 7.875 in |
| DO | Depth Offset | 14.0 ft |

Format: DENS_MAIN_5 Vertical Scale: 5" per 100'

Graphics File Created: 28-Oct-2011 07:27

OP System Version: 18C0-147

| | | | |
|---------|------------------|--------|------------------|
| IDFR-A | SPC-5020-IFLEX_b | ISFL-A | SPC-5020-IFLEX_b |
| ILDIT-B | SPC-5020-IFLEX_b | ITGN-B | SPC-5020-IFLEX_b |

Input DLIS Files

| | | | | | | |
|---------|------------------------|-------|----------|-------------------|-----------|--------|
| DEFAULT | IDL_SFL_LDL_CNL_014LUP | FN:13 | PRODUCER | 28-Oct-2011 06:17 | 8660.0 FT | 0.0 FT |
|---------|------------------------|-------|----------|-------------------|-----------|--------|

MAXIS Field Log

Company: Kerr Mcgee Oil & Gas Onshore LP

Well: Howard 2-32

Input DLIS Files

DEFAULT IDL_SFL_LDL_CNL_014LUP FN:13 PRODUCER 28-Oct-2011 06:17 8660.0 FT 0.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 384.48 ft³Cement Volume = 264.71 ft³ (assuming 4.50 in casing O.D.)

Computed from 8673.5 ft to 7589.5 ft

OP System Version: 18C0-147

IDFR-A
ILDT-BSPC-5020-IFLEX_b
SPC-5020-IFLEX_bISFL-A
ITGN-BSPC-5020-IFLEX_b
SPC-5020-IFLEX_b

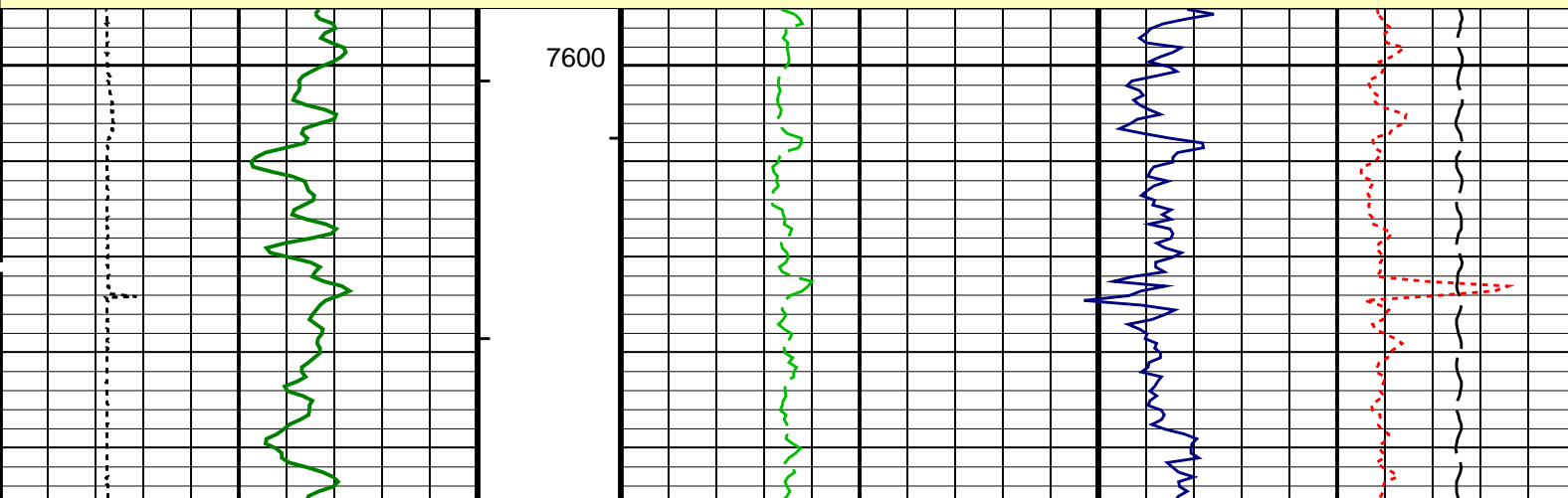
PIP SUMMARY

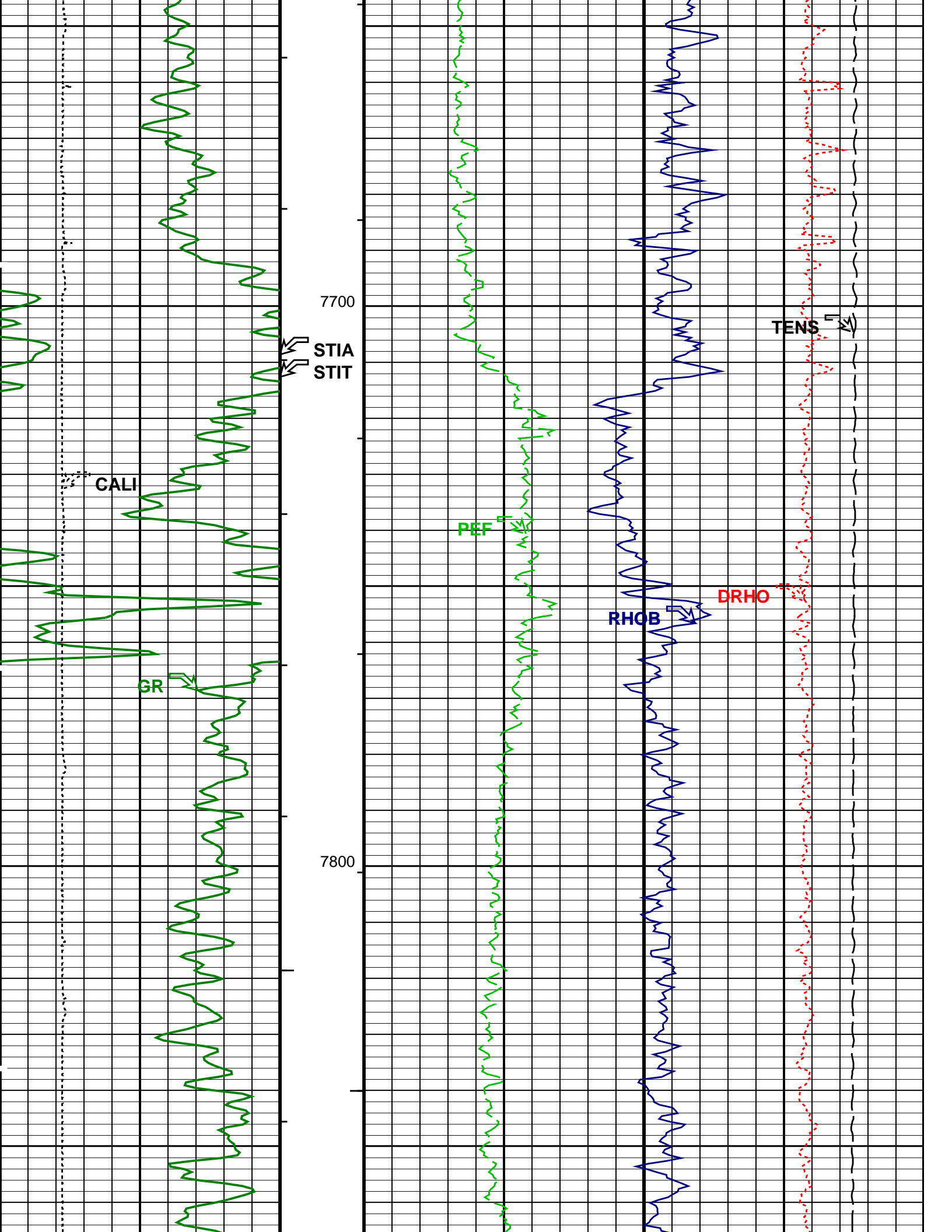
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

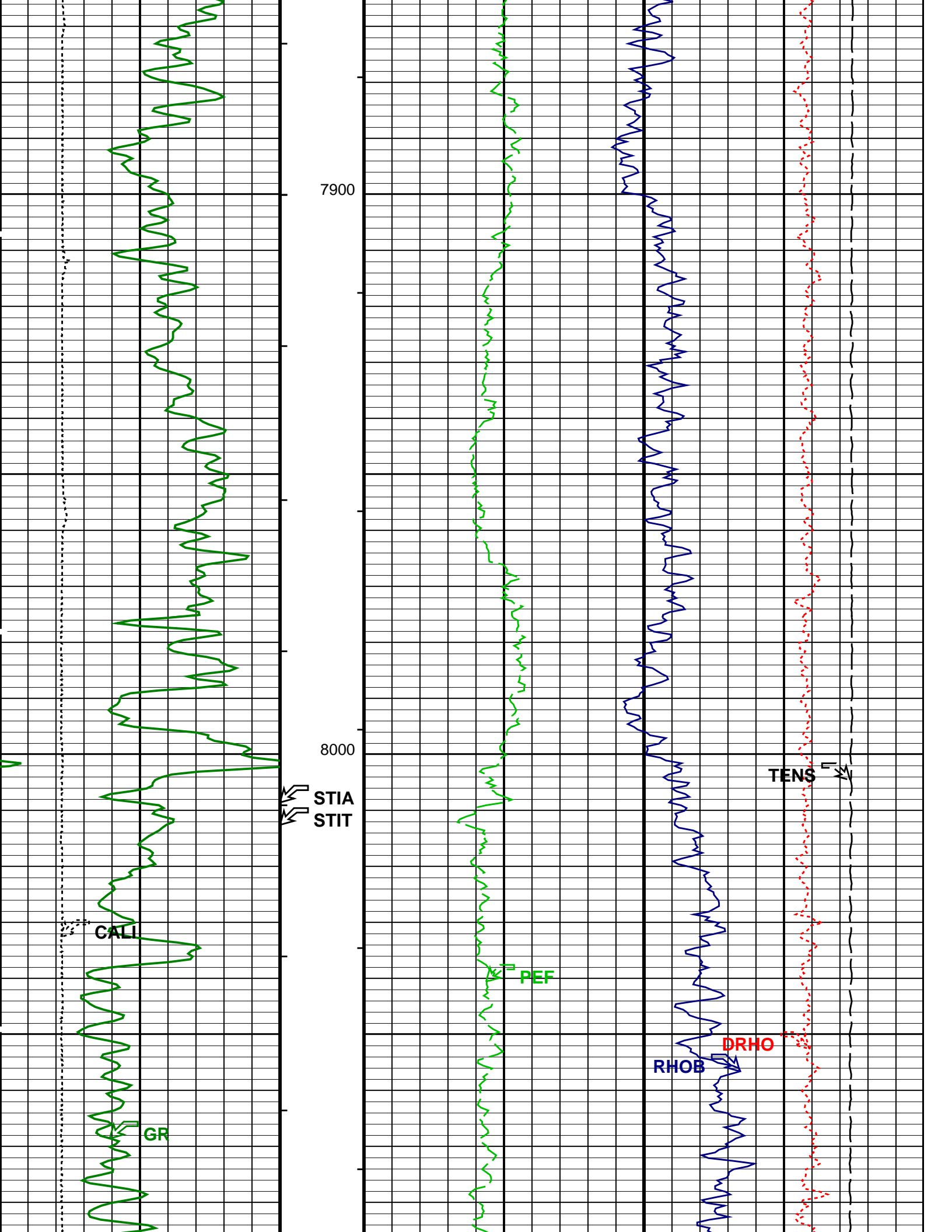
Time Mark Every 60 S

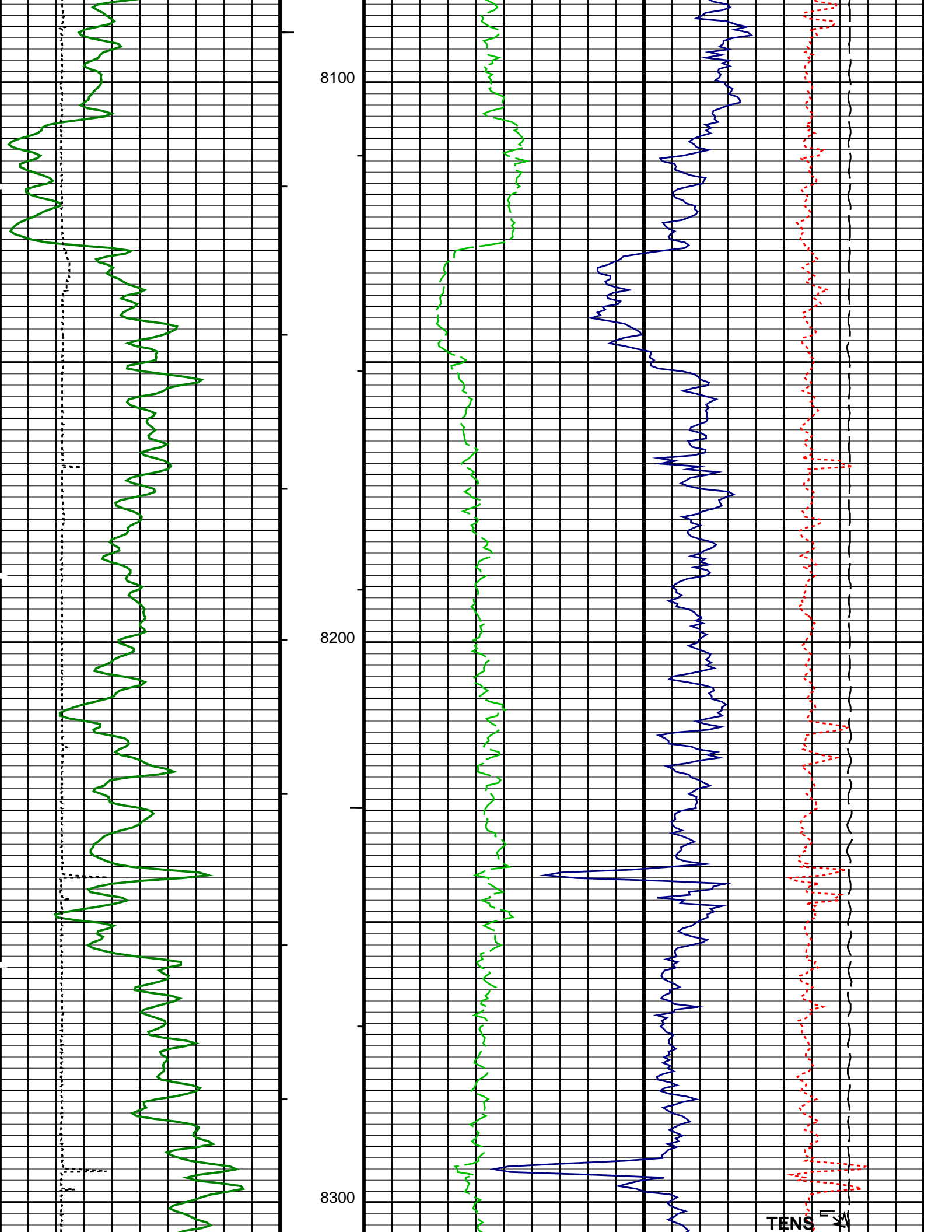
| | | | | | |
|--------------------------|--|---------------------------------------|--|-------|-----|
| | Tool/Tot. Drag From D3T to STIA | | Tension (TENS) (LBF) | 10000 | 0 |
| Gamma Ray (GR) (GAPI) | Cable Drag From STIA to STIT | Photoelectric Factor (PEF) (-----) | Bulk Density Correction (DRHO) (G/C3) | 0 | 200 |
| Caliper (CALI) (IN) | Stuck Stretch (STIT) (F) 50 | Bulk Density (RHOB) (G/C3) | | 2 | 3 |

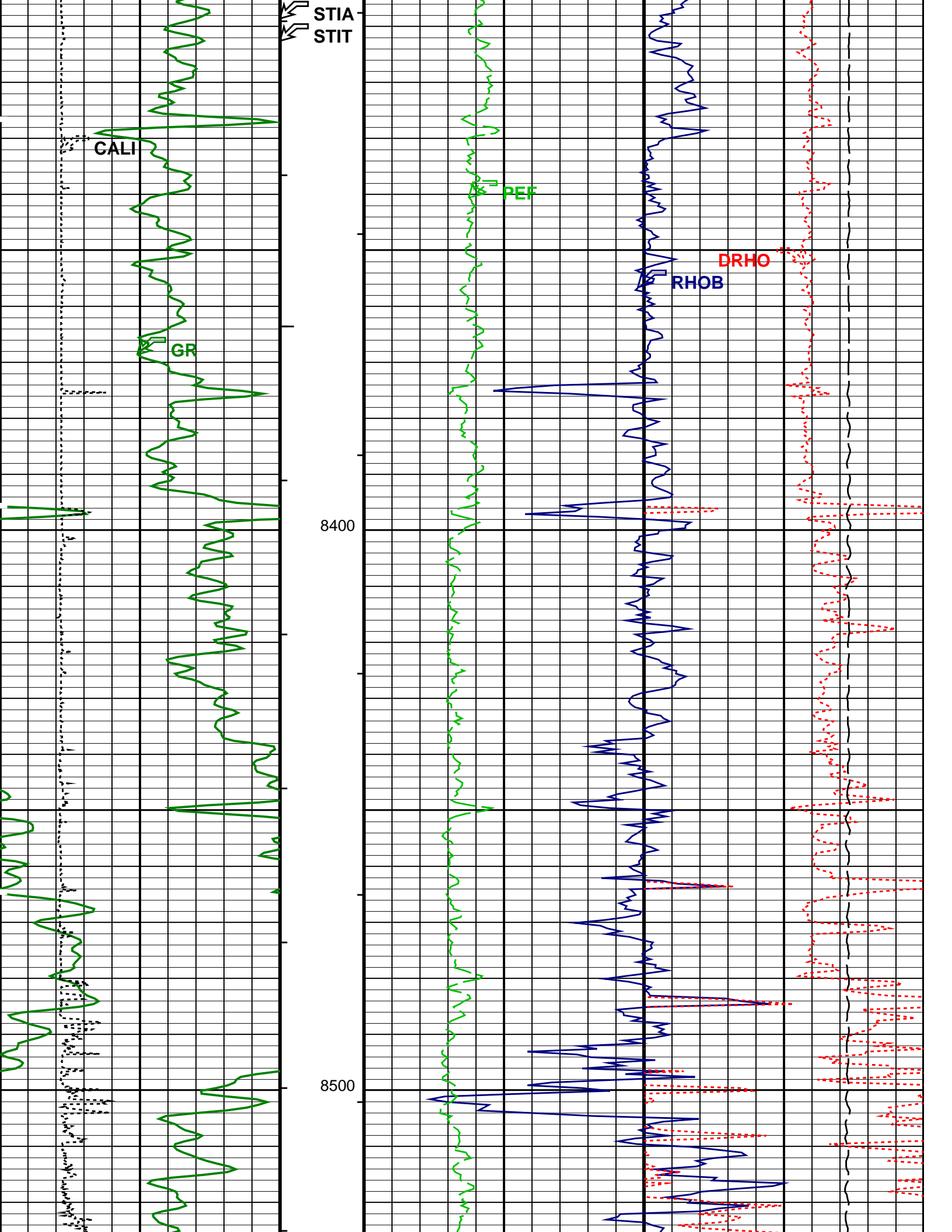
Main Pass: Density Stnd Res 5 inch Scale

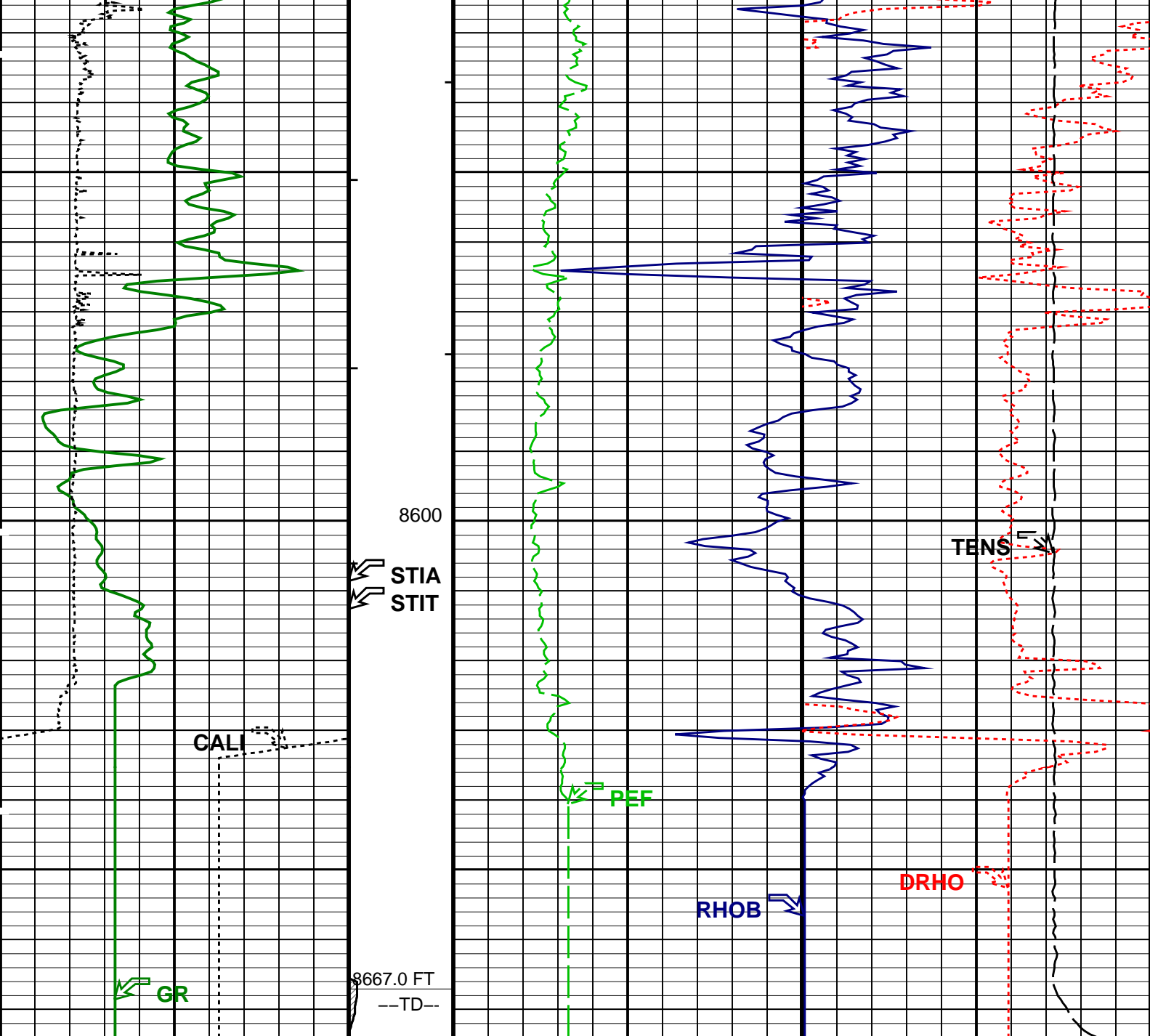












Main Pass: Density Stnd Res 5 inch Scale

| | | |
|---------------------------------------|--|--|
| Caliper (CALI) (IN) 6-----16 | Stuck Stretch (STIT) 0 (F) 50 | Bulk Density (RHOB) (G/C3) 2-----3 |
| Gamma Ray (GR) (GAPI) 0-----200 | Cable Drag From STIA to STIT | Photoelectric Factor (PEF) (----) 0-----10 Bulk Density Correction (DRHO) (G/C3) -0.25-----0.25 |
| | Tool/Tot. Drag From D3T to STIA | 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

Parameters

| DLIS Name | Description | Value |
|---|--|-----------|
| IDFR-A: iFlex Dual Formation Resistivity Tool | | |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| ILDT-B: iFlex Litho Density Tool | | |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| ITGN-B: iFlex Telemetry Gamma Neutron Tool | | |
| BARI_ITGN | Barite Mud Presence Flag | NO |
| DFT_IFLEX | Drilling Fluid Type | WATER |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| NICO | Neutron Interference Correction Option | YES |
| PVN_ITGN | ITGN Computation Version | 1.005 |
| SDAT | Standoff Data Source | SOCN |
| SOCN | Standoff Distance | 0.000 in |
| TBHDS | Tool Borehole Diameter Source | CALI |
| TBHTS | Tool Borehole Temperature Source | GTSE |
| RWA: Apparent Water Resistivity | | |
| DO | Depth Offset | 14.0 ft |
| FEQL: Formation Evaluation Quick Look | | |
| DO | Depth Offset | 14.0 ft |
| HOLEV: Integrated Hole/Cement Volume | | |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| PERT: Preliminary Evaluation – Real Time | | |
| DO | Depth Offset | 14.0 ft |
| GCSE | Generalized Caliper Selection | CALI |
| STI: Stuck Tool Indicator | | |
| DO | Depth Offset | 14.0 ft |
| STKT | STI Stuck Threshold | 2.500 ft |
| TDD | Total Depth – Driller | 8702.0 ft |
| TDL | Total Depth – Logger | 8690.0 ft |
| System and Miscellaneous | | |
| BS | Bit Size | 7.875 in |
| DO | Depth Offset | 14.0 ft |

Format: LOWER_DENS_MAIN_5 Vertical Scale: 5" per 100'

Graphics File Created: 28-Oct-2011 07:00

OP System Version: 18C0-147

| | | | |
|--------|------------------|--------|------------------|
| IDFR-A | SPC-5020-IFLEX_b | ISFL-A | SPC-5020-IFLEX_b |
| ILDT-B | SPC-5020-IFLEX_b | ITGN-B | SPC-5020-IFLEX_b |

Input DLIS Files

| | | | | | | |
|---------|------------------------|-------|----------|-------------------|-----------|--------|
| DEFAULT | IDL_SFL_LDL_CNL_014LUP | FN:13 | PRODUCER | 28-Oct-2011 06:17 | 8660.0 FT | 0.0 FT |
|---------|------------------------|-------|----------|-------------------|-----------|--------|



BEFORE CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

| Measurement | Nominal | Master | Before | After | Change | Limit | Units |
|-------------|---------|--------|--------|-------|--------|-------|-------|
|-------------|---------|--------|--------|-------|--------|-------|-------|

| | | | | | | | | |
|---|-------|---------|-------|-----|-----|-----|------|--|
| Master: 13-Sep-2011 3:28 | | | | | | | | |
| Test Loop Gain Correctio – 0 | 0 | 0.9956 | N/A | N/A | N/A | N/A | V | |
| Test Loop Gain Correctio – 1 | 0 | 0.9948 | N/A | N/A | N/A | N/A | V | |
| Test Loop Gain Correctio – 2 | 0 | 0.9533 | N/A | N/A | N/A | N/A | V | |
| Test Loop Gain Correctio – 0 | 0 | 1.351 | N/A | N/A | N/A | N/A | V | |
| Test Loop Gain Correctio – 1 | 0 | 0.8422 | N/A | N/A | N/A | N/A | V | |
| Test Loop Gain Correctio – 2 | 0 | 0.08421 | N/A | N/A | N/A | N/A | V | |
| iFlex Dual Formation Resistivity Tool Wellsite Calibration – Sonde Error Correction | | | | | | | | |
| Master: 13-Sep-2011 3:28 | | | | | | | | |
| R Sonde Error Correction – 0 | 0 | 286.0 | N/A | N/A | N/A | N/A | MM/M | |
| R Sonde Error Correction – 1 | 0 | 48.82 | N/A | N/A | N/A | N/A | MM/M | |
| R Sonde Error Correction – 2 | 0 | 32.67 | N/A | N/A | N/A | N/A | MM/M | |
| X Sonde Error Correction – 0 | 0 | –23.11 | N/A | N/A | N/A | N/A | MM/M | |
| X Sonde Error Correction – 1 | 0 | –52.16 | N/A | N/A | N/A | N/A | MM/M | |
| X Sonde Error Correction – 2 | 0 | 36.05 | N/A | N/A | N/A | N/A | MM/M | |
| iFlex Dual Formation Resistivity Tool Wellsite Calibration – Mud Gain Correction | | | | | | | | |
| Master: 13-Sep-2011 3:28 | | | | | | | | |
| Mud Gain – Coarse Mud Gain – C | 1.000 | 0.9188 | N/A | N/A | N/A | N/A | | |
| Mud Gain – Fine Mud Gain – Fin | 1.000 | 0.9142 | N/A | N/A | N/A | N/A | | |
| iFlex Dual Formation Resistivity Tool Wellsite Calibration – Mud Gain Correction | | | | | | | | |
| Master: 13-Sep-2011 3:28 | | | | | | | | |
| Mud Gain – Coarse Mud Gain – C | 1.000 | 0.9188 | N/A | N/A | N/A | N/A | | |
| Mud Gain – Fine Mud Gain – Fin | 1.000 | 0.9142 | N/A | N/A | N/A | N/A | | |
| iFlex Litho Density Tool Wellsite Calibration – Detector Calibration | | | | | | | | |
| Master: 2-Sep-2011 22:45 Before: 15-Sep-2011 11:46 | | | | | | | | |
| SS Window 1 Count Rate Master | 1140 | 1215 | 1198 | N/A | N/A | N/A | CPS | |
| SS Window 2 Count Rate Master | 1470 | 1542 | 1517 | N/A | N/A | N/A | CPS | |
| SS Window 3 Count Rate Master | 760.0 | 790.8 | 770.6 | N/A | N/A | N/A | CPS | |
| SS Window 4 Count Rate Master | 770.0 | 803.8 | 784.5 | N/A | N/A | N/A | CPS | |
| LS Window 1 Count Rate Master | 79.00 | 82.73 | 79.80 | N/A | N/A | N/A | CPS | |
| LS Window 2 Count Rate Master | 94.00 | 95.09 | 91.88 | N/A | N/A | N/A | CPS | |
| LS Window 3 Count Rate Master | 280.0 | 276.1 | 269.4 | N/A | N/A | N/A | CPS | |
| LS Window 4 Count Rate Master | 146.0 | 147.5 | 145.4 | N/A | N/A | N/A | CPS | |
| iFlex Litho Density Tool Wellsite Calibration – Detector Calibration | | | | | | | | |
| Master: 2-Sep-2011 22:45 | | | | | | | | |
| SS Window 1 Count Rate Water L | 27000 | 25780 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 2 Count Rate Water L | 23000 | 21280 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 3 Count Rate Water L | 13400 | 12360 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 4 Count Rate Water L | 11800 | 10980 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 1 Count Rate Water L | 1210 | 1133 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 2 Count Rate Water L | 1600 | 1414 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 3 Count Rate Water L | 2100 | 1910 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 4 Count Rate Water L | 530.0 | 496.1 | N/A | N/A | N/A | N/A | CPS | |
| iFlex Litho Density Tool Wellsite Calibration – Detector Calibration | | | | | | | | |
| Master: 2-Sep-2011 22:45 | | | | | | | | |
| SS Window 1 Count Rate Water H | 23000 | 17890 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 2 Count Rate Water H | 22000 | 18570 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 3 Count Rate Water H | 12800 | 10900 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 4 Count Rate Water H | 11300 | 9767 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 1 Count Rate Water H | 950.0 | 742.7 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 2 Count Rate Water H | 1380 | 1134 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 3 Count Rate Water H | 2000 | 1692 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 4 Count Rate Water H | 500.0 | 452.8 | N/A | N/A | N/A | N/A | CPS | |
| iFlex Litho Density Tool Wellsite Calibration – Detector Calibration | | | | | | | | |
| Master: 2-Sep-2011 22:45 | | | | | | | | |
| SS Window 1 Count Rate Magnesi | 28000 | 19650 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 2 Count Rate Magnesi | 24000 | 20640 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 3 Count Rate Magnesi | 13500 | 11430 | N/A | N/A | N/A | N/A | CPS | |
| SS Window 4 Count Rate Magnesi | 11000 | 9486 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 1 Count Rate Magnesi | 5400 | 3637 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 2 Count Rate Magnesi | 6900 | 5526 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 3 Count Rate Magnesi | 8500 | 7253 | N/A | N/A | N/A | N/A | CPS | |
| LS Window 4 Count Rate Magnesi | 1500 | 1303 | N/A | N/A | N/A | N/A | CPS | |
| iFlex Telemetry Gamma Neutron Tool Wellsite Calibration – Background | | | | | | | | |
| Master: 3-Sep-2011 1:14 Before: 15-Sep-2011 11:48 | | | | | | | | |
| Near Thermal Count Rate Master | 27.00 | 28.55 | 27.30 | N/A | N/A | N/A | CPS | |
| Far Thermal Count Rate Master | 10.00 | 10.82 | 10.51 | N/A | N/A | N/A | CPS | |
| Epithermal Count Rate Master B | 27.00 | 27.79 | 28.07 | N/A | N/A | N/A | CPS | |
| iFlex Telemetry Gamma Neutron Tool Wellsite Calibration – Tank Measurement | | | | | | | | |
| Master: 3-Sep-2011 1:14 | | | | | | | | |
| Near Thermal Count Rate Tank M | 7978 | 8017 | N/A | N/A | N/A | N/A | CPS | |
| Far Thermal Count Rate Tank Me | 2847 | 2856 | N/A | N/A | N/A | N/A | CPS | |
| Epithermal Count Rate Tank Me | 212.0 | 215.0 | N/A | N/A | N/A | N/A | CPS | |







iFlex Dual Formation Resistivity Tool / Equipment Identification

Primary Equipment:

iFlex Resistivity Mud Sensor
iFlex Dual Formation Resistivity Sonde

IRMS – A 6
IDRS – A 6

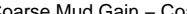

Auxiliary Equipment:

| iFlex Dual Formation Resistivity Tool Wellsite Calibration | | | | | | | |
|--|--------|---|--------------------|--------------------|---------|---|--------------------------------------|
| Test Loop Gain Correction | | | | | | | |
| Idx | Value | Test Loop Gain Correction Magnitude V | | | Value | Test Loop Gain Correction Phase V | |
| 0 | 0.9956 |  | | | 1.351 |  | |
| | | 0.9000 (Minimum) | 1.000 (Nominal) | 1.100 (Maximum) | | -3.000 (Minimum) | 0 (Nominal) 3.000 (Maximum) |
| 1 | 0.9948 |  | | | 0.8422 |  | |
| | | 0.9000 (Minimum) | 1.000 (Nominal) | 1.100 (Maximum) | | -3.000 (Minimum) | 0 (Nominal) 3.000 (Maximum) |
| 2 | 0.9533 |  | | | 0.08421 |  | |
| | | 0.9000 (Minimum) | 1.000 (Nominal) | 1.100 (Maximum) | | -3.000 (Minimum) | 0 (Nominal) 3.000 (Maximum) |
| Master: 13-Sep-2011 3:28 | | | | | | | |

Master: 13-Sep-2011 3:28

| iFlex Dual Formation Resistivity Tool Wellsite Calibration | | | | | | | |
|--|-------|-------------------------------|--------------------|--------------------|--------|-------------------------------|--------------------------------------|
| Sonde Error Correction | | | | | | | |
| Idx | Value | R Sonde Error Correction MM/M | | | Value | X Sonde Error Correction MM/M | |
| 0 | 286.0 | | | | -23.11 | | |
| | | 0 (Minimum) | 150.0 (Nominal) | 300.0 (Maximum) | | -900.0 (Minimum) | 0 (Nominal) 900.0 (Maximum) |
| 1 | 48.82 | | | | -52.16 | | |
| | | 0 (Minimum) | 45.00 (Nominal) | 90.00 (Maximum) | | -300.0 (Minimum) | 0 (Nominal) 300.0 (Maximum) |
| 2 | 32.67 | <div>EXCEEDS LIMIT</div> | | | 36.05 | | |
| | | 0 (Minimum) | 15.00 (Nominal) | 30.00 (Maximum) | | -150.0 (Minimum) | 0 (Nominal) 150.0 (Maximum) |
| Master: 13-Sep-2011 3:28 | | | | | | | |

Master: 13-Sep-2011 3:28

| iFlex Dual Formation Resistivity Tool Wellsite Calibration | | | | | | | |
|--|---|--------------------|--------------------|--------|---|--------------------|--------------------|
| Mud Gain Correction | | | | | | | |
| Phase | Mud Gain – Coarse | | Value | Phase | Mud Gain – Fine | | Value |
| Master |  | | 0.9188 | Master |  | | 0.9142 |
| | 0.8000 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | 0.8000 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) |
| Master: 13-Sep-2011 3:28 | | | | | | | |

Master: 13-Sep-2011 3:28

| iFlex Dual Formation Resistivity Tool Wellsite Calibration | | | | | | | |
|--|---------------------|--------------------|--------------------|--------|---------------------|--------------------|--------------------|
| Mud Gain Correction | | | | | | | |
| Phase | Mud Gain – Coarse | | Value | Phase | Mud Gain – Fine | | Value |
| Master | | | 0.9188 | Master | | | 0.9142 |
| | 0.8000 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) | | 0.8000 (Minimum) | 1.000 (Nominal) | 1.200 (Maximum) |
| Master: 13-Sep-2011 3:28 | | | | | | | |

Master: 13-Sep-2011 3:28

iFlex Litho Density Tool / Equipment Identification

Primary Equipment:

Mechanical Control Sonde
Gamma Gamma Logging Source
Powered Density Pad
Caliper Electronics Cartridge

IMCS – A 33
GGLS – C
IPDP – A 33
ICEC – B 33

Auxiliary Equipment:

| iFlex Litho Density Tool Wellsite Calibration | | | | | | | | | | | |
|---|--------------------|--------------------|-----------|---------------------------|--------------------|--------------------|-----------|--------------------|--------------------|--------------------|-----------|
| Detector Calibration | | | | | | | | | | | |
| Phase 1 | | | | Phase 2 | | | | Phase 3 | | | |
| SS Window | Count Rate | Master Bkgd | CPS Value | SS Window | Count Rate | Master Bkgd | CPS Value | SS Window | Count Rate | Master Bkgd | CPS Value |
| Master | | | 1215 | Master | | | 1542 | Master | | | 790.8 |
| Before | | | 1198 | Before | | | 1517 | Before | | | 770.6 |
| 730.0 (Minimum) | 1140 (Nominal) | 1370 (Maximum) | | 990.0 (Minimum) | 1470 (Nominal) | 1720 (Maximum) | | 490.0 (Minimum) | 760.0 (Nominal) | 900.0 (Maximum) | |
| Phase 4 | | | | Phase 5 | | | | Phase 6 | | | |
| SS Window | Count Rate | Master Bkgd | CPS Value | SS Window | Count Rate | Master Bkgd | CPS Value | SS Window | Count Rate | Master Bkgd | CPS Value |
| Master | | | 803.8 | Master | | | 82.73 | Master | | | 95.09 |
| Before | | | 784.5 | Before | | | 79.80 | Before | | | 91.88 |
| 480.0 (Minimum) | 770.0 (Nominal) | 940.0 (Maximum) | | 47.00 (Minimum) | 79.00 (Nominal) | 99.00 (Maximum) | | 54.00 (Minimum) | 94.00 (Nominal) | 121.0 (Maximum) | |
| Phase 7 | | | | Phase 8 | | | | | | | |
| SS Window | Count Rate | Master Bkgd | CPS Value | SS Window | Count Rate | Master Bkgd | CPS Value | | | | |
| Master | | | 276.1 | Master | | | 147.5 | | | | |
| Before | | | 269.4 | Before | | | 145.4 | | | | |
| 150.0 (Minimum) | 280.0 (Nominal) | 360.0 (Maximum) | | 83.00 (Minimum) | 146.0 (Nominal) | 190.0 (Maximum) | | | | | |
| Master: 2-Sep-2011 22:45 | | | | Before: 15-Sep-2011 11:46 | | | | | | | |

| iFlex Litho Density Tool Wellsite Calibration | | | | | | | | | | | | | | | | | |
|--|--|--------------------|--|--|--------|--------------------|--|--|-------|--------------------|--|--------------------|--|--------------------|--|--------------------|--|
| Detector Calibration | | | | | | | | | | | | | | | | | |
| SS Window 1 Count Rate Water Low PE Insert CPS Value | | | | SS Window 2 Count Rate Water Low PE Insert CPS Value | | | | SS Window 3 Count Rate Water Low PE Insert CPS Value | | | | | | | | | |
| Master | | | | 25780 | Master | | | | 21280 | Master | | | | 12360 | | | |
| 18000 (Minimum) | | 27000 (Nominal) | | 30000 (Maximum) | | 16000 (Minimum) | | 23000 (Nominal) | | 25000 (Maximum) | | 9800 (Minimum) | | 13400 (Nominal) | | 14500 (Maximum) | |
| SS Window 4 Count Rate Water Low PE Insert CPS Value | | | | SS Window 1 Count Rate Water Low PE Insert CPS Value | | | | SS Window 2 Count Rate Water Low PE Insert CPS Value | | | | | | | | | |
| Master | | | | 10980 | Master | | | | 1133 | Master | | | | 1414 | | | |
| 8600 (Minimum) | | 11800 (Nominal) | | 12900 (Maximum) | | 820.0 (Minimum) | | 1210 (Nominal) | | 1400 (Maximum) | | 1050 (Minimum) | | 1600 (Nominal) | | 1800 (Maximum) | |
| SS Window 3 Count Rate Water Low PE Insert CPS Value | | | | SS Window 4 Count Rate Water Low PE Insert CPS Value | | | | | | | | | | | | | |
| Master | | | | 1910 | Master | | | | | | | 496.1 | | | | | |
| 1450 (Minimum) | | 2100 (Nominal) | | 2400 (Maximum) | | 380.0 (Minimum) | | | | | | 530.0 (Nominal) | | 580.0 (Maximum) | | | |
| Master: 2-Sep-2011 22:45 | | | | | | | | | | | | | | | | | |

| iFlex Litho Density Tool Wellsite Calibration | | | | | | | | | | | | | | |
|---|--|--------------------|--|---|--------------------|--|--------------------|---|--------------------|--------------------|--|--------------------|--|--------------------|
| Detector Calibration | | | | | | | | | | | | | | |
| SS Window 1 Count Rate Water High PE Insert CPS | | | | SS Window 2 Count Rate Water High PE Insert CPS | | | | SS Window 3 Count Rate Water High PE Insert CPS | | | | | | |
| Master | | | | 17890 | Master | | | | 18570 | Master | | | | 10900 |
| 16000 (Minimum) | | 23000 (Nominal) | | 26000 (Maximum) | 15000 (Minimum) | | 22000 (Nominal) | | 24000 (Maximum) | 9300 (Minimum) | | 12800 (Nominal) | | 13900 (Maximum) |
| SS Window 4 Count Rate Water High PE Insert CPS | | | | SS Window 1 Count Rate Water High PE Insert CPS | | | | SS Window 2 Count Rate Water High PE Insert CPS | | | | | | |
| Master | | | | 9767 | Master | | | | 742.7 | Master | | | | 1134 |
| 8200 (Minimum) | | 11300 (Nominal) | | 12400 (Maximum) | 640.0 (Minimum) | | 950.0 (Nominal) | | 1100 (Maximum) | 930.0 (Minimum) | | 1380 (Nominal) | | 1600 (Maximum) |
| SS Window 3 Count Rate Water High PE Insert CPS | | | | SS Window 4 Count Rate Water High PE Insert CPS | | | | | | | | | | |
| Master | | | | 1692 | Master | | | | | | | 452.8 | | |
| 1350 (Minimum) | | 2000 (Nominal) | | 2300 (Maximum) | 360.0 (Minimum) | | 500.0 (Nominal) | | | | | 550.0 (Maximum) | | |
| Master: 2-Sep-2011 22:45 | | | | | | | | | | | | | | |

| iFlex Litho Density Tool Wellsite Calibration | | | | | | | | | | | |
|---|--------------------------------------|--------------------|--------------------|--------------------------------------|--------------------|--------------------|--------------------------------------|--------------------|--------------------|--------------------------------------|-----|
| Detector Calibration | | | | | | | | | | | |
| Phase | 1 Count Rate Magnesium Low PE Insert | CPS | SS Window | 2 Count Rate Magnesium Low PE Insert | CPS | SS Window | 3 Count Rate Magnesium Low PE Insert | CPS | SS Window | 4 Count Rate Magnesium Low PE Insert | CPS |
| Master | | 19650 | | | 20640 | | | 11430 | | | |
| | 19000 (Minimum) | 28000 (Nominal) | 31000 (Maximum) | 17000 (Minimum) | 24000 (Nominal) | 27000 (Maximum) | 9900 (Minimum) | 13500 (Nominal) | 14700 (Maximum) | | |
| Phase | 4 Count Rate Magnesium Low PE Insert | CPS | SS Window | 1 Count Rate Magnesium Low PE Insert | CPS | SS Window | 2 Count Rate Magnesium Low PE Insert | CPS | SS Window | 3 Count Rate Magnesium Low PE Insert | CPS |
| Master | | 9486 | | | 3637 | | | 5526 | | | |
| | 8000 (Minimum) | 11000 (Nominal) | 12000 (Maximum) | 3600 (Minimum) | 5400 (Nominal) | 6200 (Maximum) | 4600 (Minimum) | 6900 (Nominal) | 8000 (Maximum) | | |
| Phase | 3 Count Rate Magnesium Low PE Insert | CPS | SS Window | 4 Count Rate Magnesium Low PE Insert | CPS | SS Window | | | | | |
| Master | | 7555 | | | 4622 | | | | | | |
| | 6000 (Minimum) | 9000 (Nominal) | 10000 (Maximum) | 3600 (Minimum) | 5400 (Nominal) | 6200 (Maximum) | | | | | |

| | | | | | | | |
|--------------------------|-------------------|-------------------|------|-------------------|-------------------|-------------------|------|
| Master | | | 7253 | Master | | | 1303 |
| 5700 (Minimum) | 8500 (Nominal) | 9900 (Maximum) | | 1030 (Minimum) | 1500 (Nominal) | 1800 (Maximum) | |
| Master: 2-Sep-2011 22:45 | | | | | | | |

iFlex Telemetry Gamma Neutron Tool / Equipment Identification

| | | | |
|--|-----------|------|--|
| Primary Equipment: | | | |
| Telemetry Gamma Neutron Sonde | ITNS – B | 21 | |
| Neutron Neutron Logging Source – contain | NNLS – C | 6017 | |
| Telemetry Gamma Neutron Housing | ITNH – B | 21 | |
| PSP Supply and Telemetry Cartridge | PSTC – A | | |
| PSP Telemetry Cartridge | PSC – ATS | | |
| PSC 16.384MHz oscillator | PSC_ – | | |

Auxiliary Equipment:

| iFlex Telemetry Gamma Neutron Tool Wellsite Calibration | | | | | | | | | | | |
|---|--------------------|--------------------|--------------------|-----|-------|---------------------------|--------------------|--------------------|--------------------|-----|-------|
| Background | | | | | | | | | | | |
| Phase | Thermal | Count Rate | Master Bkgd | CPS | Value | Phase | Thermal | Count Rate | Master Bkgd | CPS | Value |
| Master | | | | | 28.55 | Master | | | | | 10.82 |
| Before | | | | | 27.30 | Before | | | | | 10.51 |
| | 20.00 (Minimum) | 27.00 (Nominal) | 40.00 (Maximum) | | | | 7.000 (Minimum) | 10.00 (Nominal) | 17.00 (Maximum) | | |
| Master: 3-Sep-2011 1:14 | | | | | | Before: 15-Sep-2011 11:48 | | | | | |

| iFlex Telemetry Gamma Neutron Tool Wellsite Calibration | | | | | | | | | | | |
|---|-------------------|-------------------|-------------------|-----|-------|--------|-------------------|-------------------|-------------------|-----|-------|
| Tank Measurement | | | | | | | | | | | |
| Phase | Thermal | Count Rate | Tank Meas | CPS | Value | Phase | Thermal | Count Rate | Tank Meas | CPS | Value |
| Master | | | | | 8017 | Master | | | | | 2856 |
| | 7322 (Minimum) | 7978 (Nominal) | 8580 (Maximum) | | | | 2578 (Minimum) | 2847 (Nominal) | 3106 (Maximum) | | |
| Master: 3-Sep-2011 1:14 | | | | | | | | | | | |

Company: Kerr Mcgee Oil & Gas Onshore LP



Well: Howard 2-32

Field: Wattenberg #90750

County: Weld

State: Colorado

Platform Express – IFLEX

Density Lithology

Compensated Neutron