

Company: University of Utah

Well: Forge 56-32 Monitor Well

Field: Wildcat

County: Beaver State: Utah

SlimXtreme Sonic Logging Tool
CBL-VDL

County: Beaver
Field: Wildcat
Location: 1564' FSL & 796' FWL
Well: Forge 56-32 Monitor Well
Company: University of Utah

| | | | | |
|-------------------------|----------------------|---------------|-----------|------------------|
| Location: | 1564' FSL & 796' FWL | Elev.: | K.B. | 5482.00 ft |
| | | | G.L. | 5452.00 ft |
| | | | D.F. | 5481.00 ft |
| Permanent Datum: | | Ground Level | | 5452.00 f |
| Log Measured From: | | Kelly Bushing | 30.00 ft | above Perm.Datum |
| Drilling Measured From: | | Kelly Bushing | | |
| API Serial No. | Section: | 32 | Township: | 26S |
| | | | | Range: 9W |

Logging Date 17-Aug-2021

Run Number One

Depth Driller 9145.00 ft

Schlumberger Depth 9145.00 ft

Bottom Log Interval 9070.00 ft

Top Log Interval 200.00 ft

Casing Fluid Type Water

Salinity

Density 8.4 lbm/gal

Fluid Level 8.00 ft

BIT/CASING/TUBING STRING

Bit Size 8.75 in

From 3100.00 ft

To 9145.00 ft

Casing/Tubing Size 5.5 in

Weight 17 lbm/ft

Grade N/A

From 0.00 ft

To 9145.00 ft

Max Recorded Temperatures 435 degF

Logger on Bottom 17-Aug-2021 11:15:00

Unit Number Location: 2801 FtMorgan, CO

Recorded By Avery Becker

Witnessed By Garth Larsen

Disclaimer

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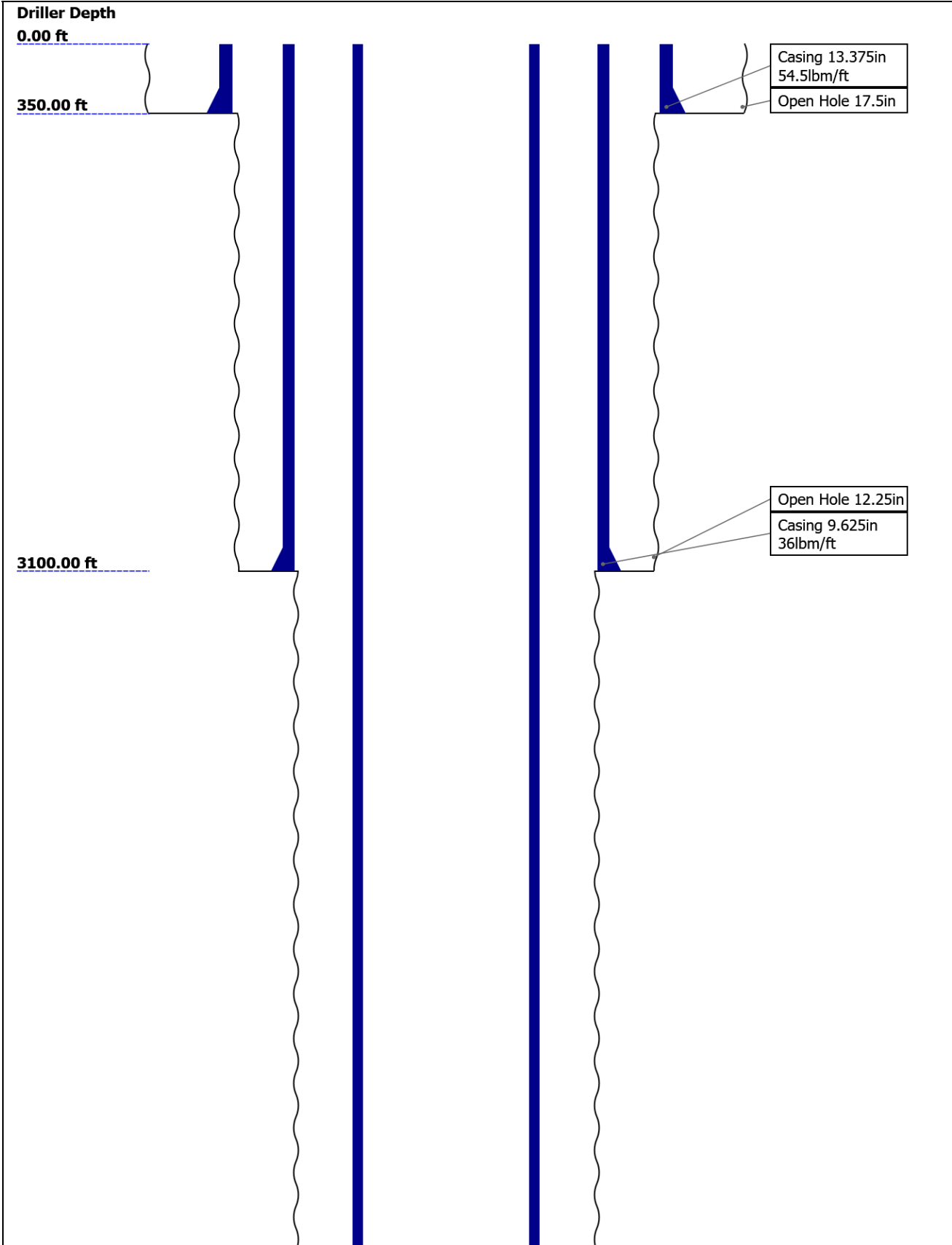
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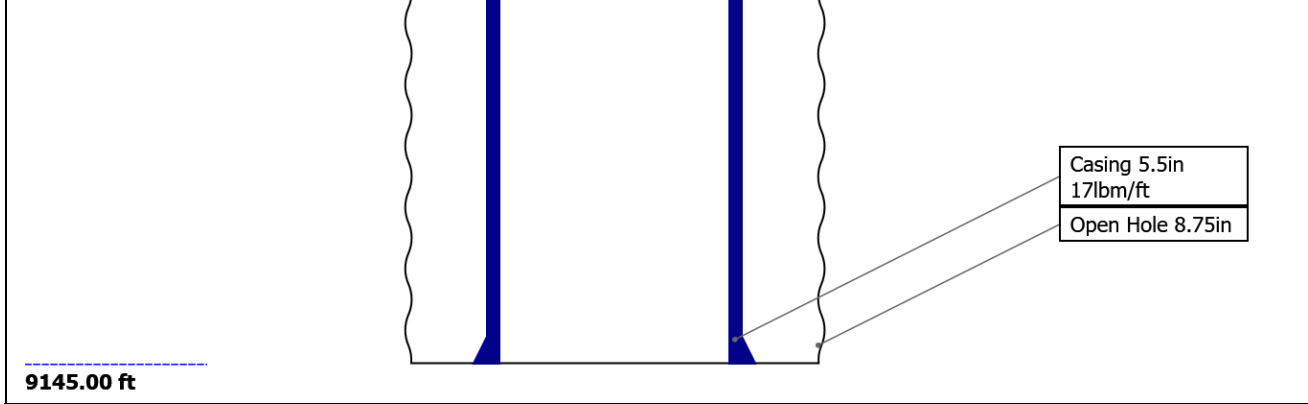
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Well Sketch





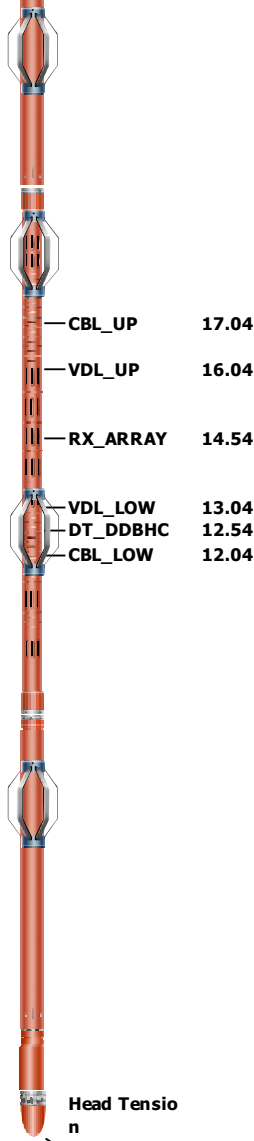
Borehole Size/Casing/Tubing Record

| | | | | | | |
|-----------------------|--------|-------|-------|--|--|--|
| Bit | | | | | | |
| Bit Size (in) | 17.5 | 12.25 | 8.75 | | | |
| Top Driller (ft) | 0 | 350 | 3100 | | | |
| Top Logger (ft) | 0 | 350 | 3100 | | | |
| Bottom Driller (ft) | 350 | 3100 | 9145 | | | |
| Bottom Logger (ft) | 350 | 3100 | 9145 | | | |
| Casing | | | | | | |
| Size (in) | 13.375 | 9.625 | 5.5 | | | |
| Weight (lbm/ft) | 54.5 | 36 | 17 | | | |
| Inner Diameter (in) | 12.615 | 8.921 | 4.892 | | | |
| Grade | N/A | N/A | N/A | | | |
| Top Driller (ft) | 0 | 0 | 0 | | | |
| Top Logger (ft) | 0 | 0 | 0 | | | |
| Bottom Driller (ft) | 350 | 3100 | 9145 | | | |
| Bottom Logger (ft) | 350 | 3100 | 9145 | | | |

Remarks and Equipment Summary

| One: Toolstring | | | | One: Remarks | |
|-----------------|--------|--------------------|--------|---|--|
| Equip name | Length | MP name | Offset | Tool was run as per tool sketch | |
| LEH-MT | 39.71 | | | All logging intervals as per client request | |
| LEH-MT | | Mud Temperature | 37.77 | Log recorded without surface induced pressure | |
| AH-234 | 36.56 | | | | |
| QTGC-B:1250 | 35.37 | | | | |
| UDFH-PL:1250 | | | | | |
| STGC-GR | | GR | 32.02 | | |
| STGC-ACCZ:7 | | STGC Accelerometer | 0.00 | | |
| STGC-B:8121 | | | | | |
| QSLT-B:8022 | 24.7 | | | | |

UDFH-PA
QSTC-BB:8022
QSAS-BB:8022
UDFH-PP
QSLC-BA:8022



Lengths are in ft
Maximum Outer Diameter = 5.000 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

One

Depth Measuring Device

| | |
|--------------------------|-------------|
| Type | IDW-B |
| Serial Number | 5744 |
| Calibration Date | 22-Sep-2020 |
| Calibrator Serial Number | 57 |
| Calibration Cable Type | 7-46A-XS |
| Wheel Correction 1 | -9 |
| Wheel Correction 2 | -7 |

Tension Device

| | |
|------------------------------------|-------------|
| Type | CMTD-B/A |
| Serial Number | 5036 |
| Calibration Date | 03-Jun-2021 |
| Calibrator Serial Number | 78135A |
| Number of Calibration Points | 10 |
| Calibration Root Mean Square Error | 22 |

| | | | |
|------------------------|-------------|--|--|
| Calibration Peak Error | 39 | | |
| Logging Cable | | | |
| Type | 7-46A-XS | | |
| Serial Number | 307080 | | |
| Length | 18000.00 ft | | |
| Conveyance Type | Wireline | | |
| Rig Type | | | |

| One:Depth Control Parameters | | Depth Control Remarks |
|-------------------------------------|-----------------------------|---|
| Log Sequence | Subsequent Trip To the Well | Schlumberger depth control procedures followed |
| Reference Log Name | | IDW used as primary depth control system |
| Reference Log Run Number | | Z-Chart used as secondary depth control system |
| Reference Log Date | | Log correlated to Thru-Bit log dated 27-Feb-2021 at 8628 ft |
| Subsequent Trip Down Log Correction | | |

One

Main Pass

Software Version

| Acquisition System | Version |
|--------------------|--|
| Maxwell 2021.1 | 11.1.211946.3100 |
| Application Patch | Wireline_Hotfix-Mandatory-2021.1_11.1.213678 |
| | Wireline_NPD-ThruBit-2021.1_11.1.213816 |

Pass Summary

| Run Name | Pass Objective | Direction | Top | Bottom | Start | Stop | DSC Mode | Depth Shift | Include Parallel Data |
|----------|----------------|-----------|----------|------------|-------------------------|------------------------|----------|-------------|-----------------------|
| One | Log[4]:Up | Up | 99.11 ft | 9111.02 ft | 17-Aug-2021 11:13:47 AM | 17-Aug-2021 1:30:18 PM | ON | 0.00 ft | No |

All depths are referenced to toolstring zero

Log

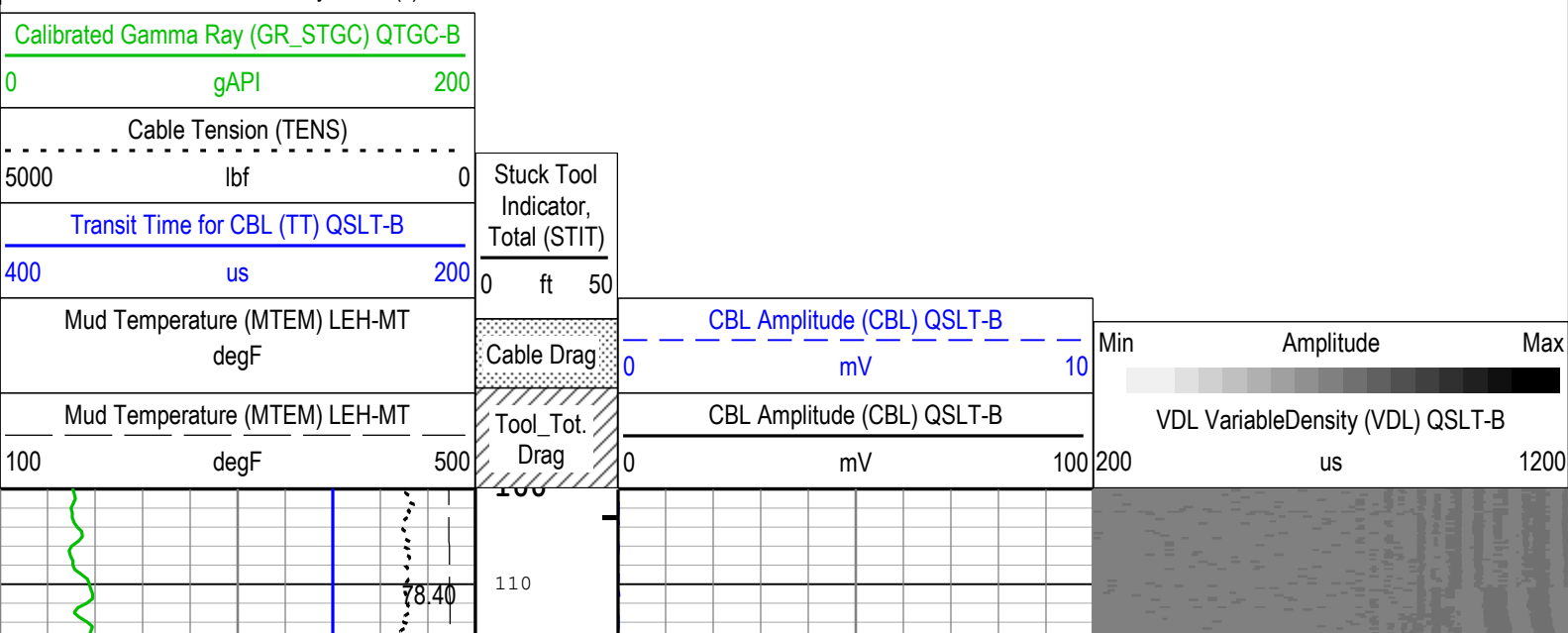
Company:University of Utah Well:Forge 56-32 Monitor Well

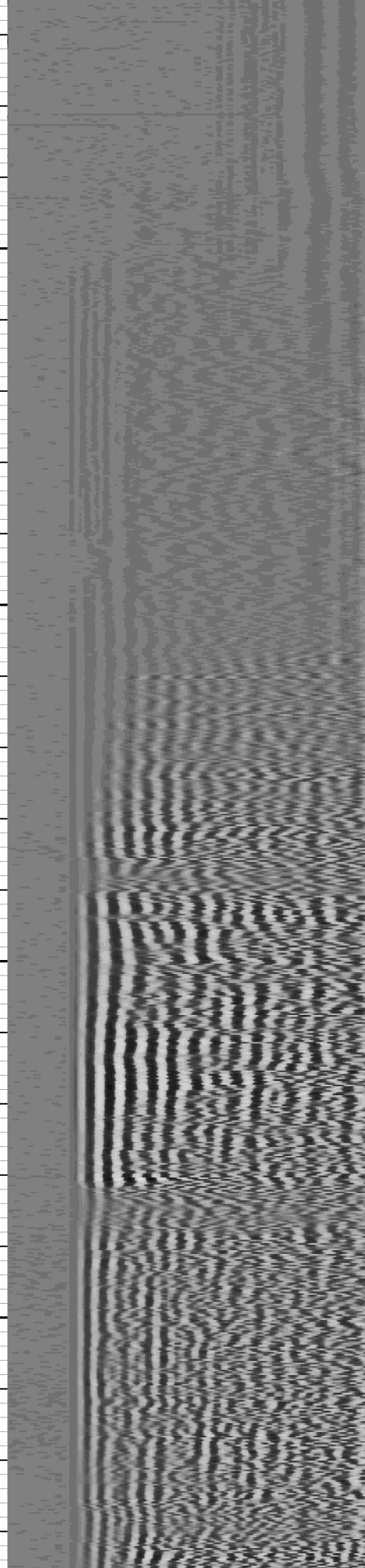
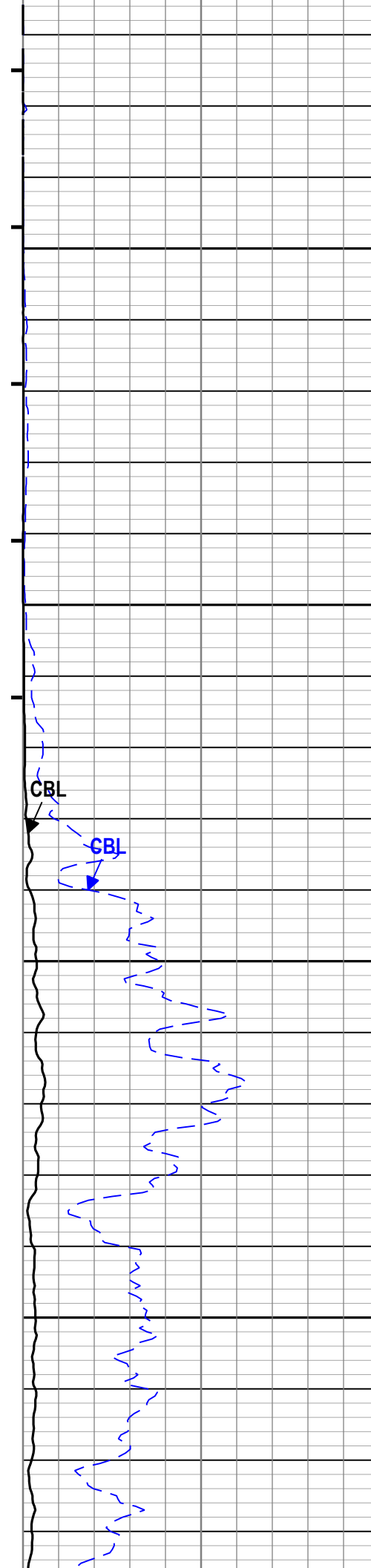
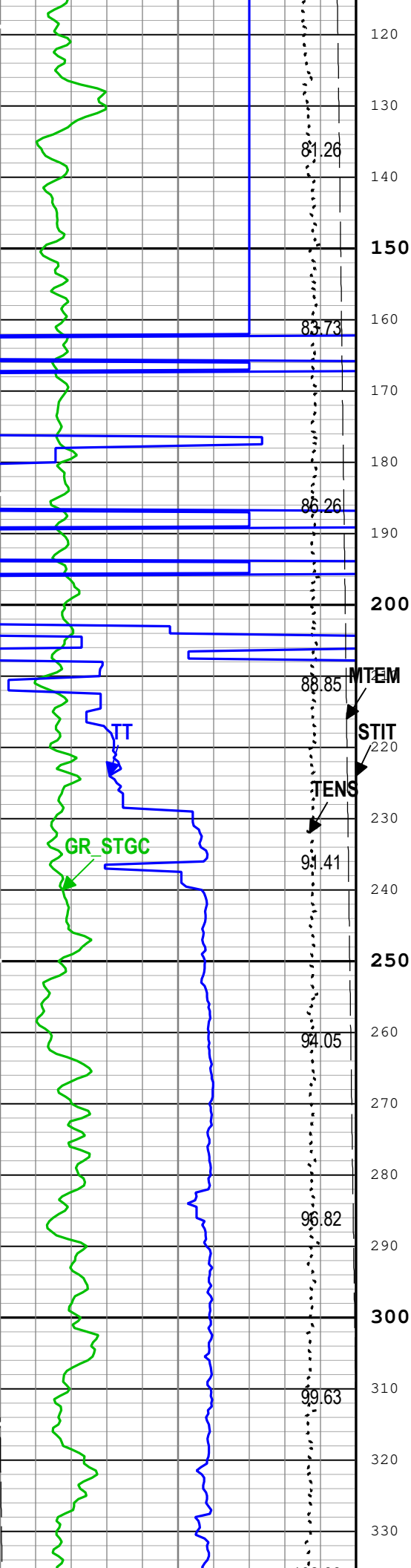
One: Log[4]:Up:S003

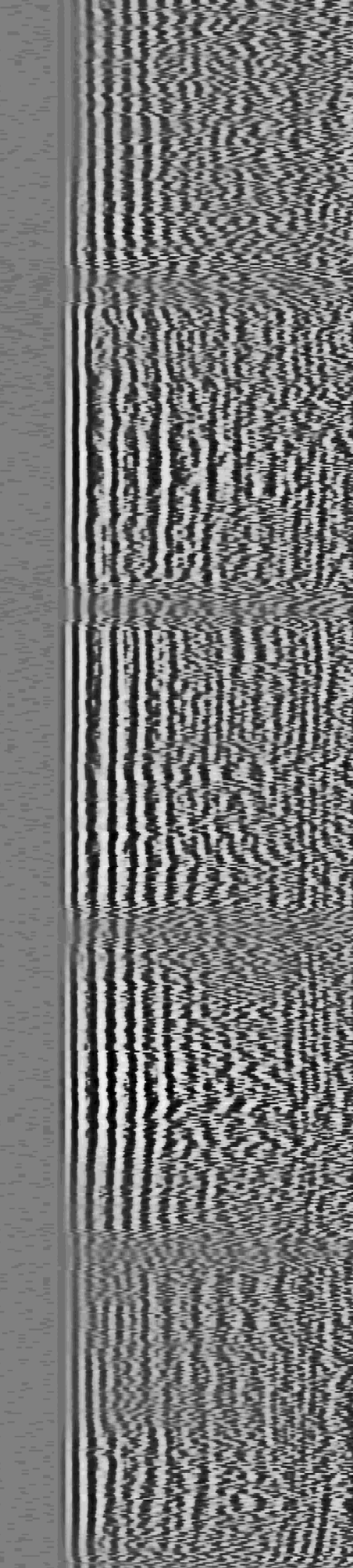
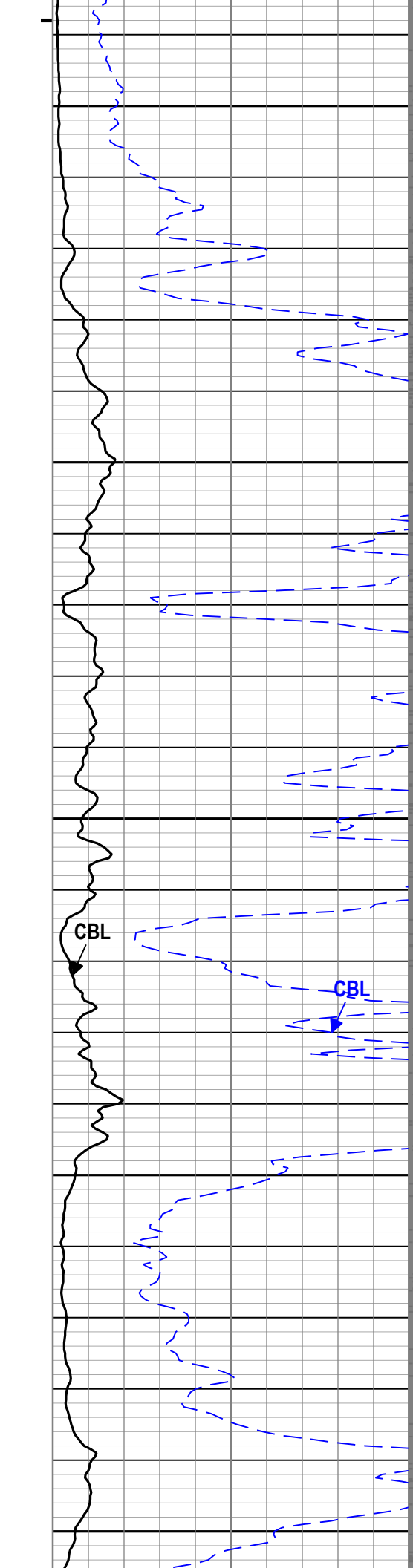
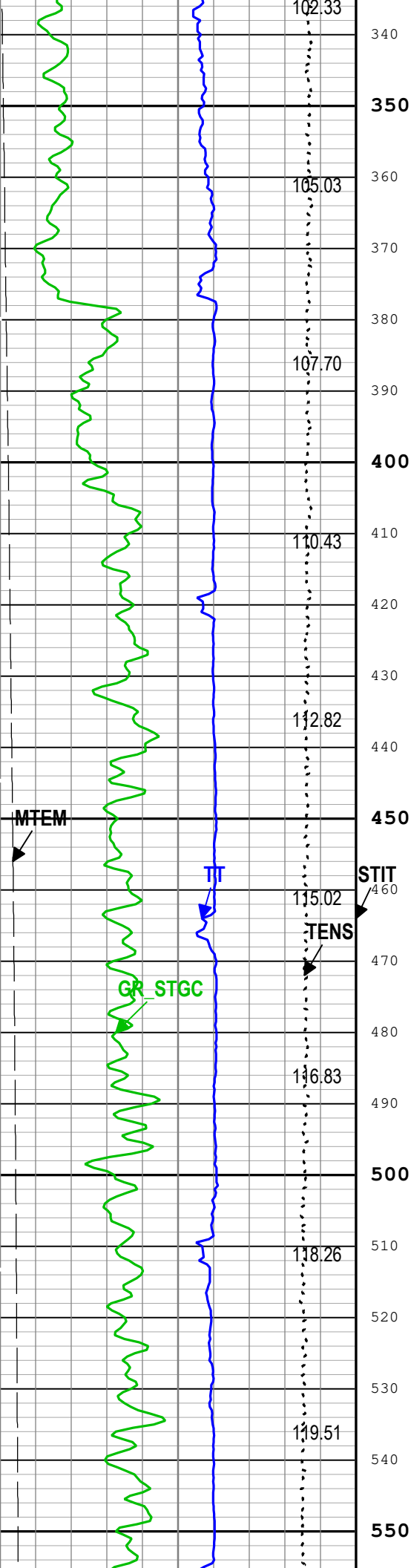
Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 17-Aug-2021 13:42:16

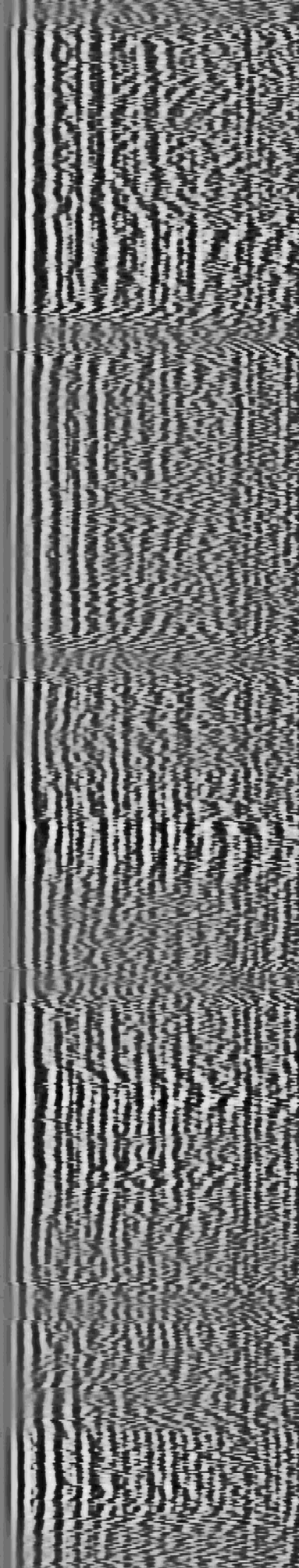
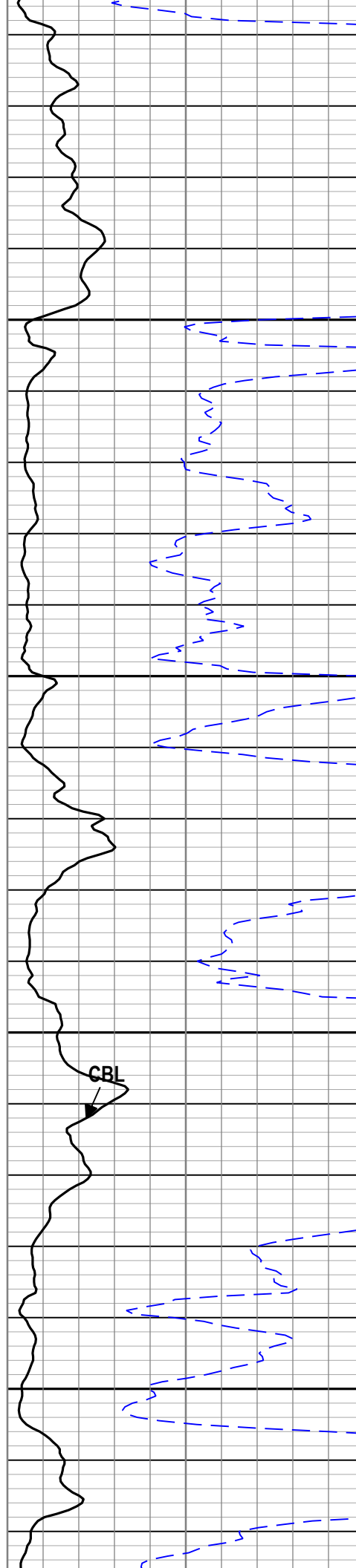
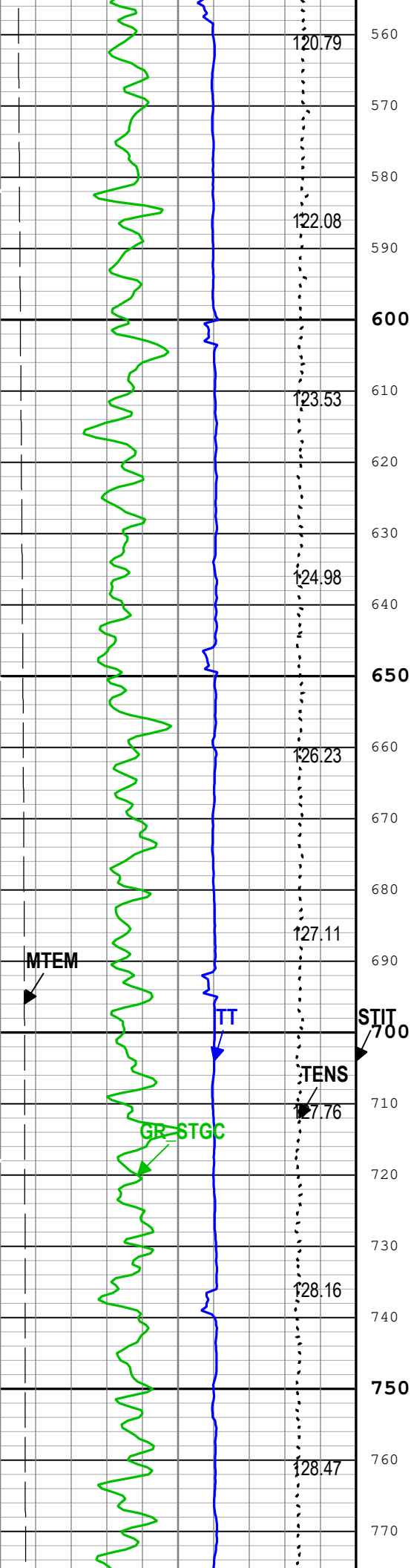
- BIEP - Bond Index Event Pips QSLT-B

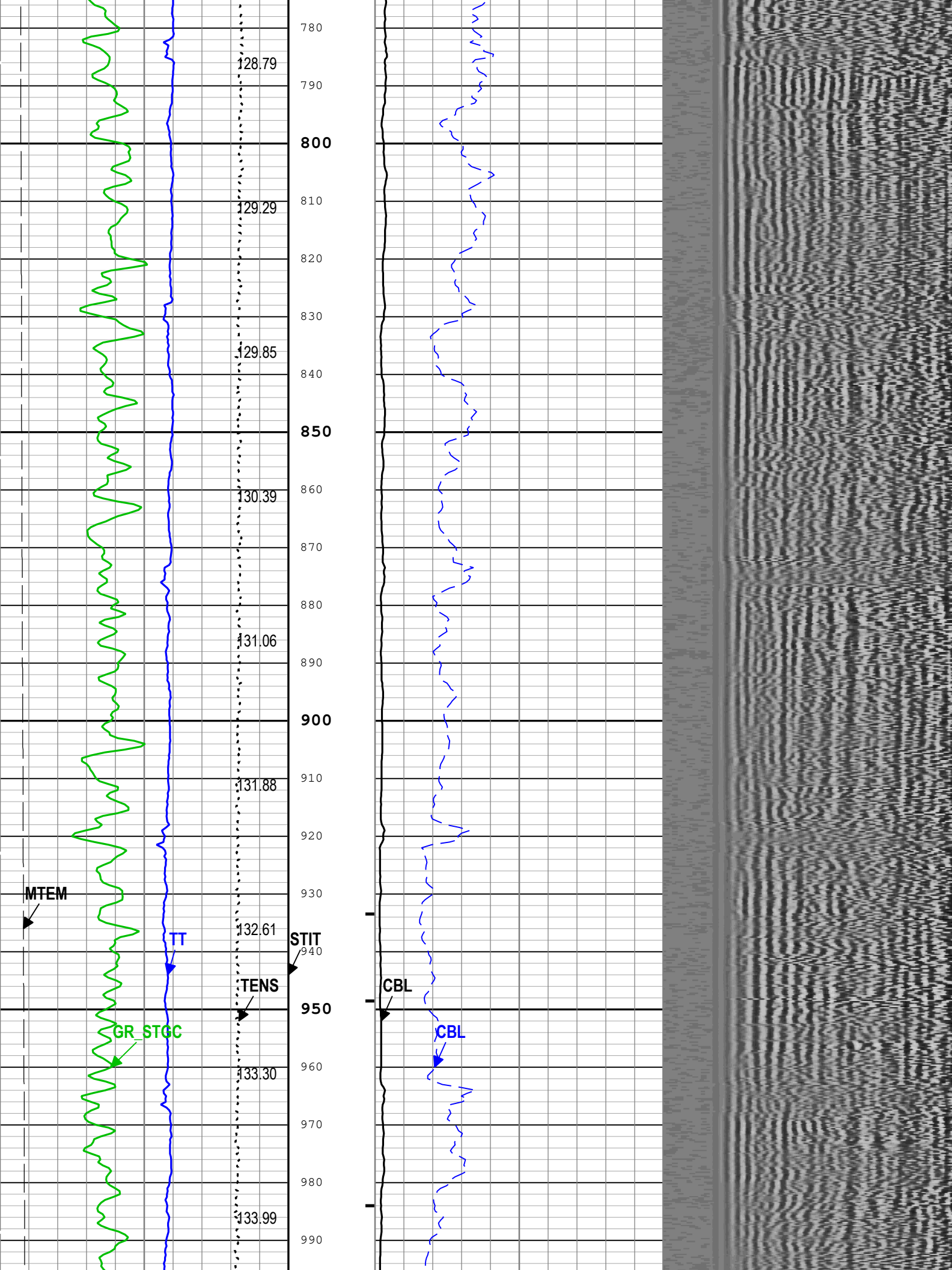
TIME_1900 - Time Marked every 60.00 (s)

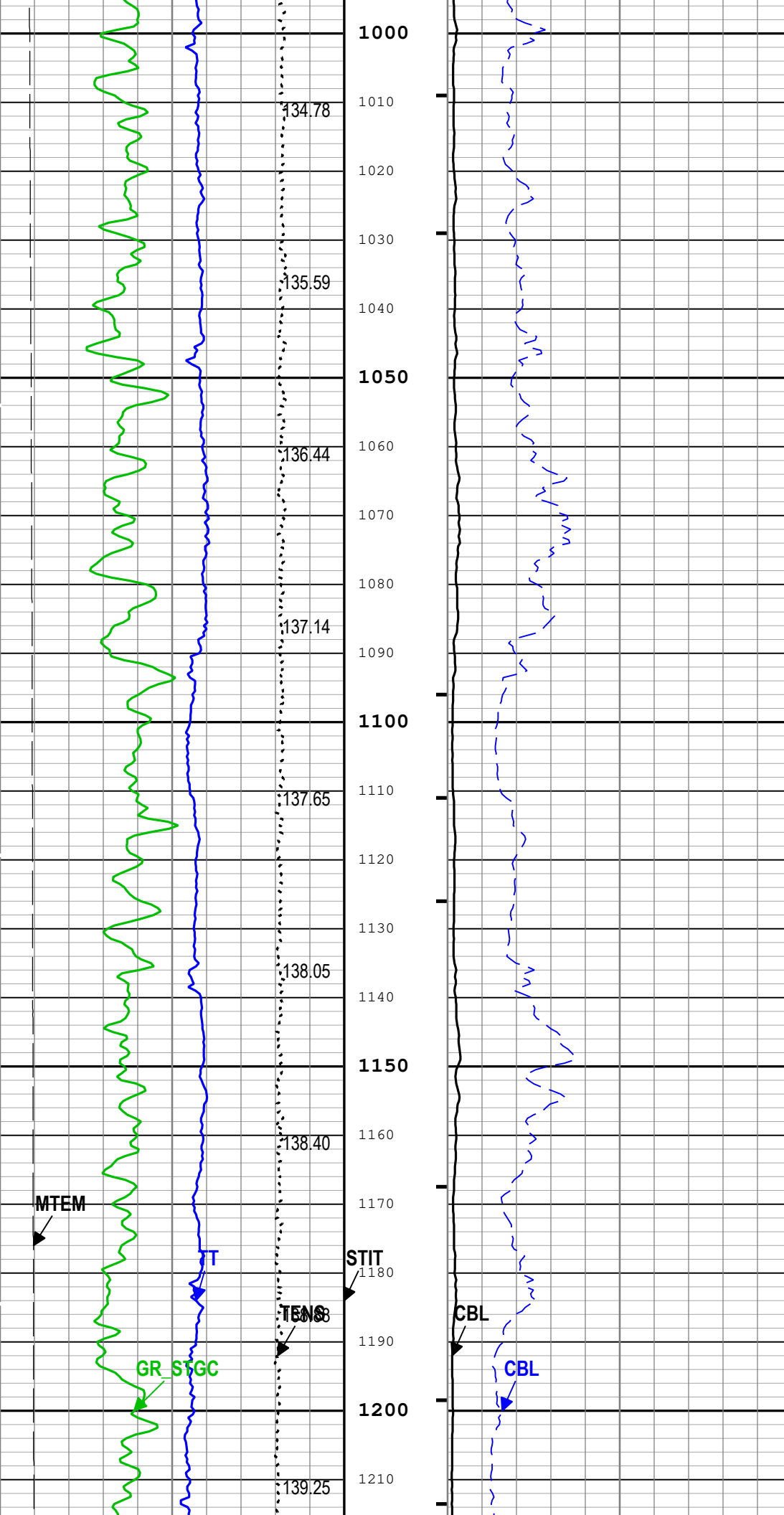


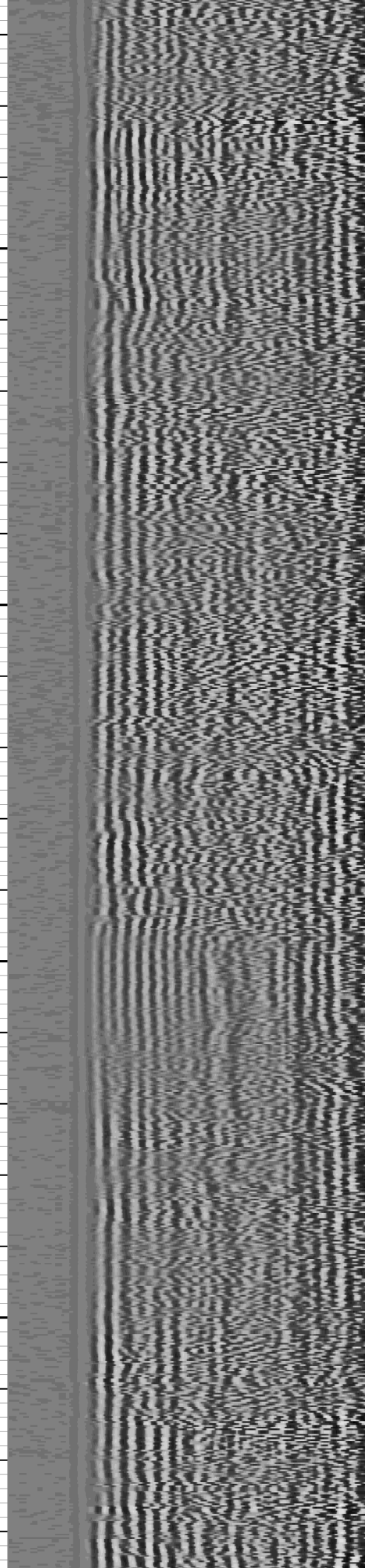
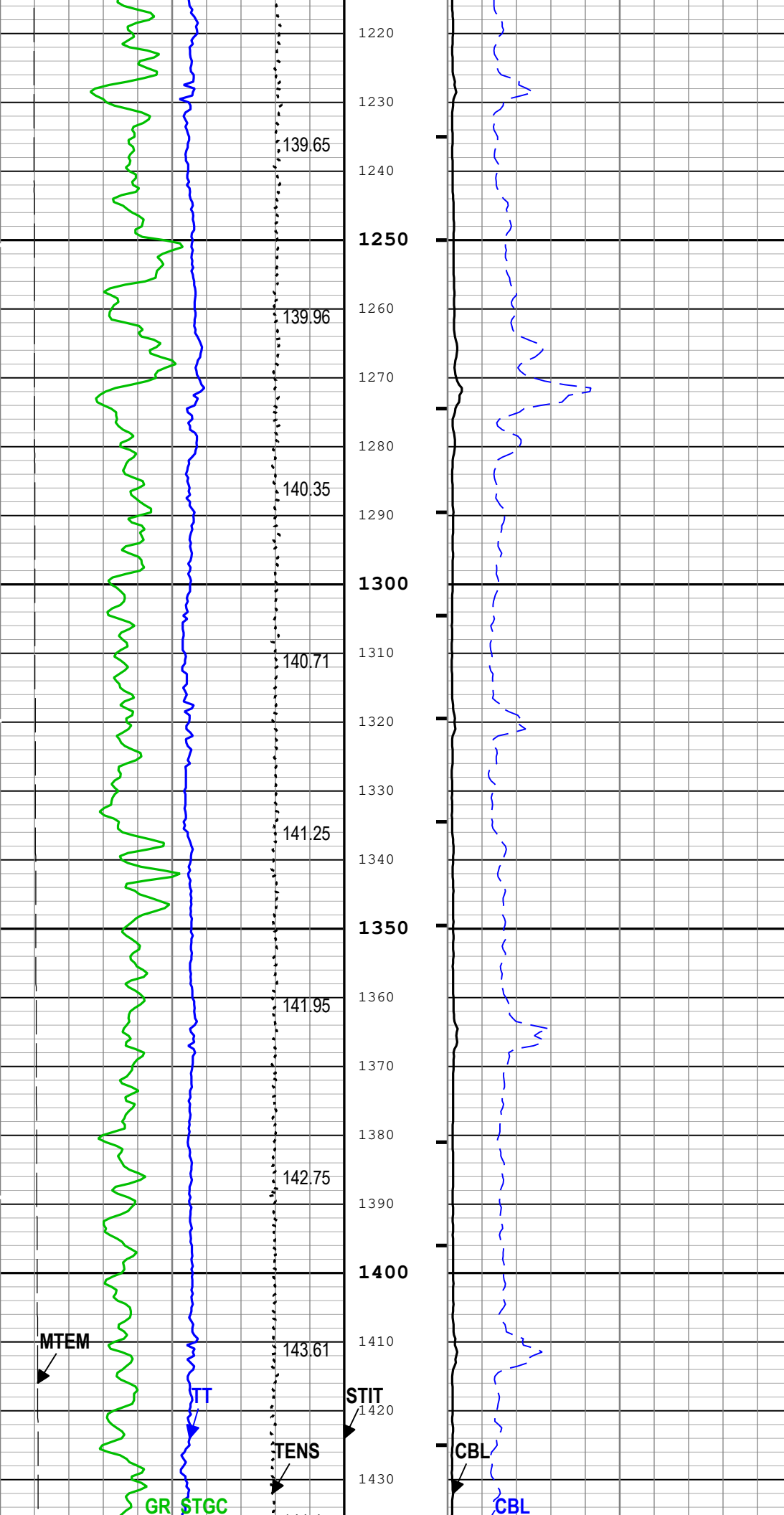


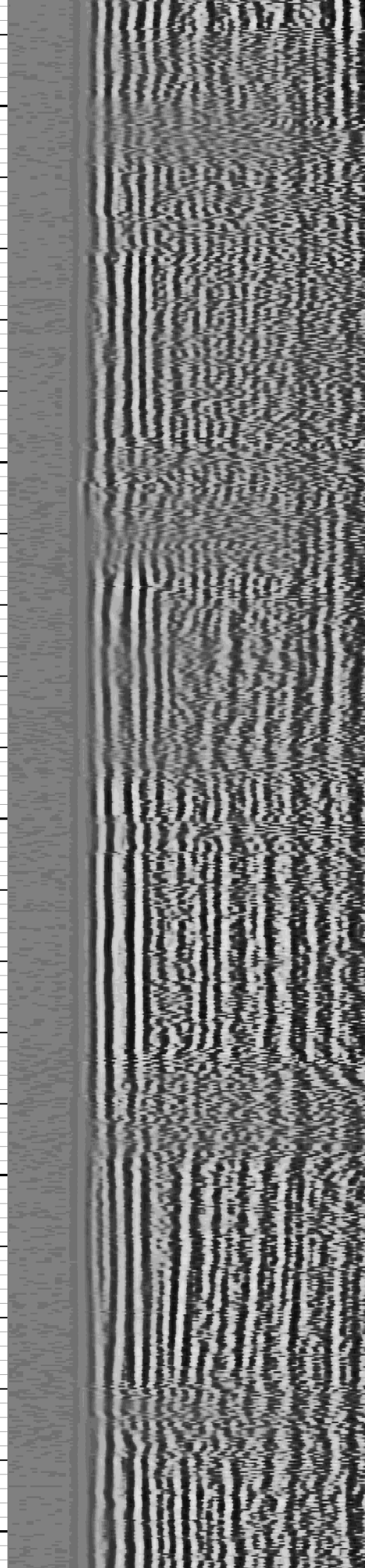
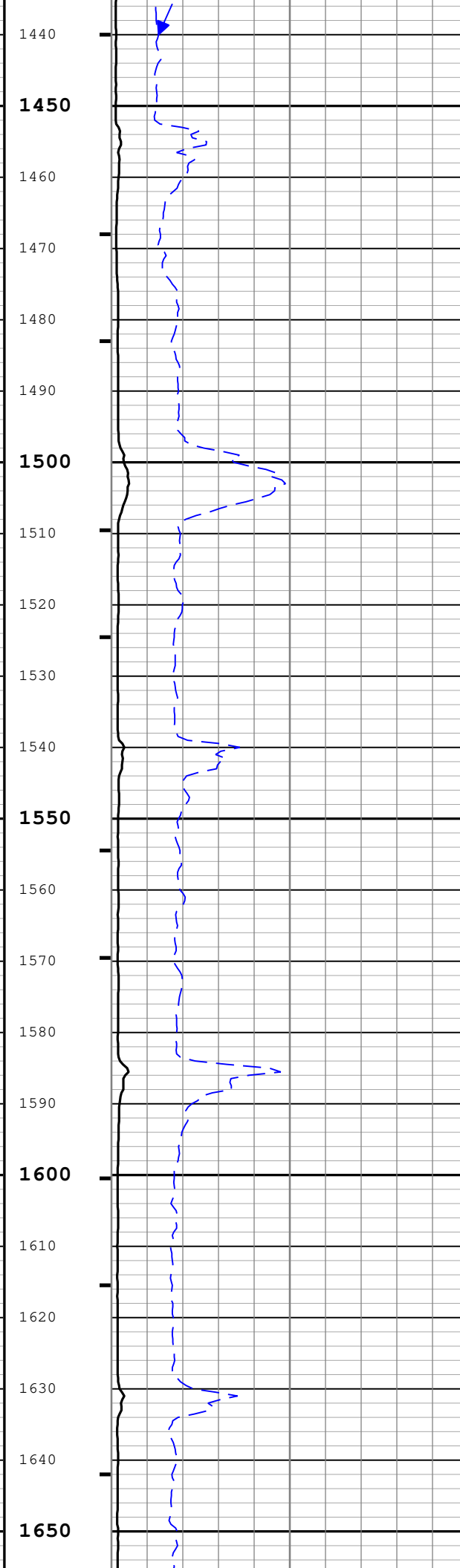
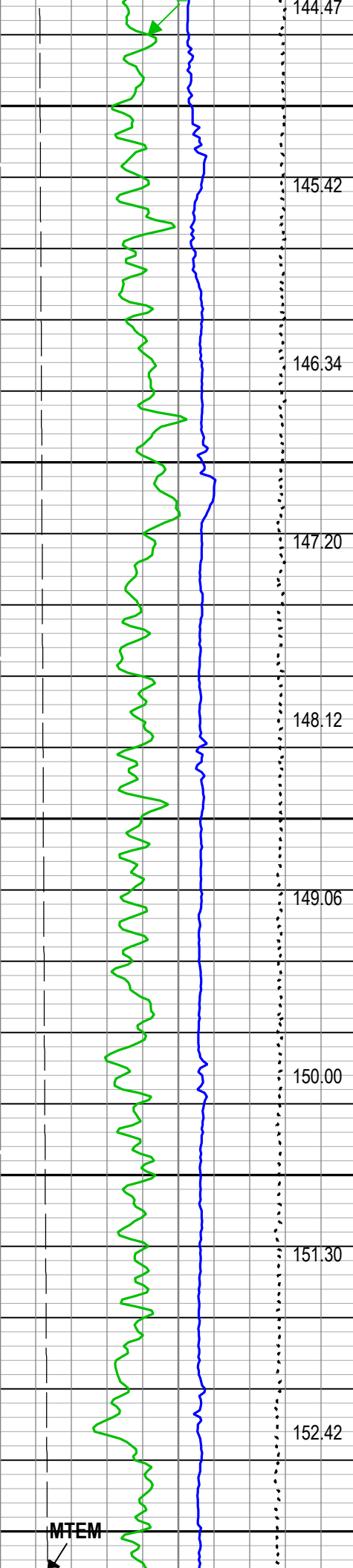


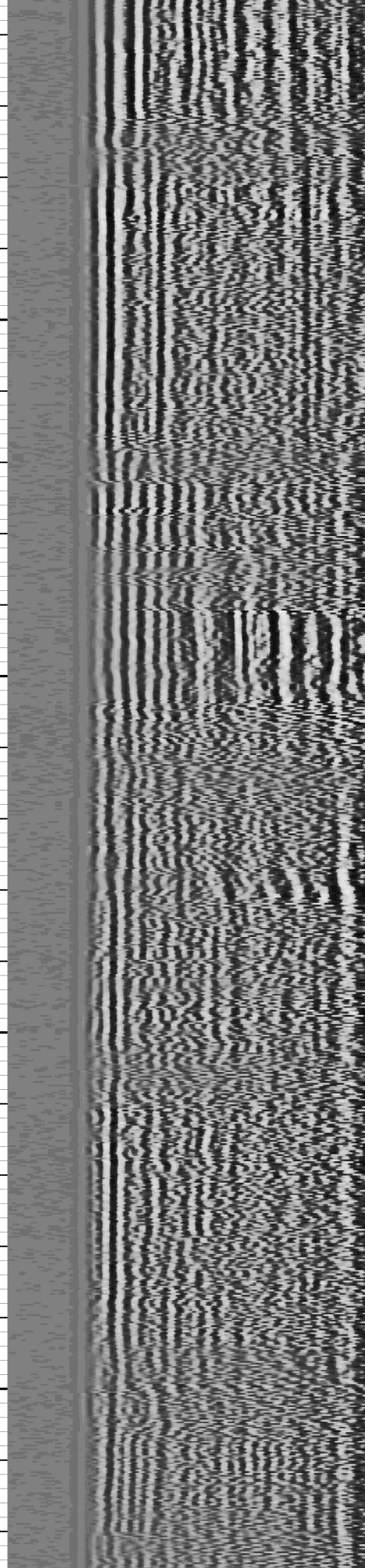
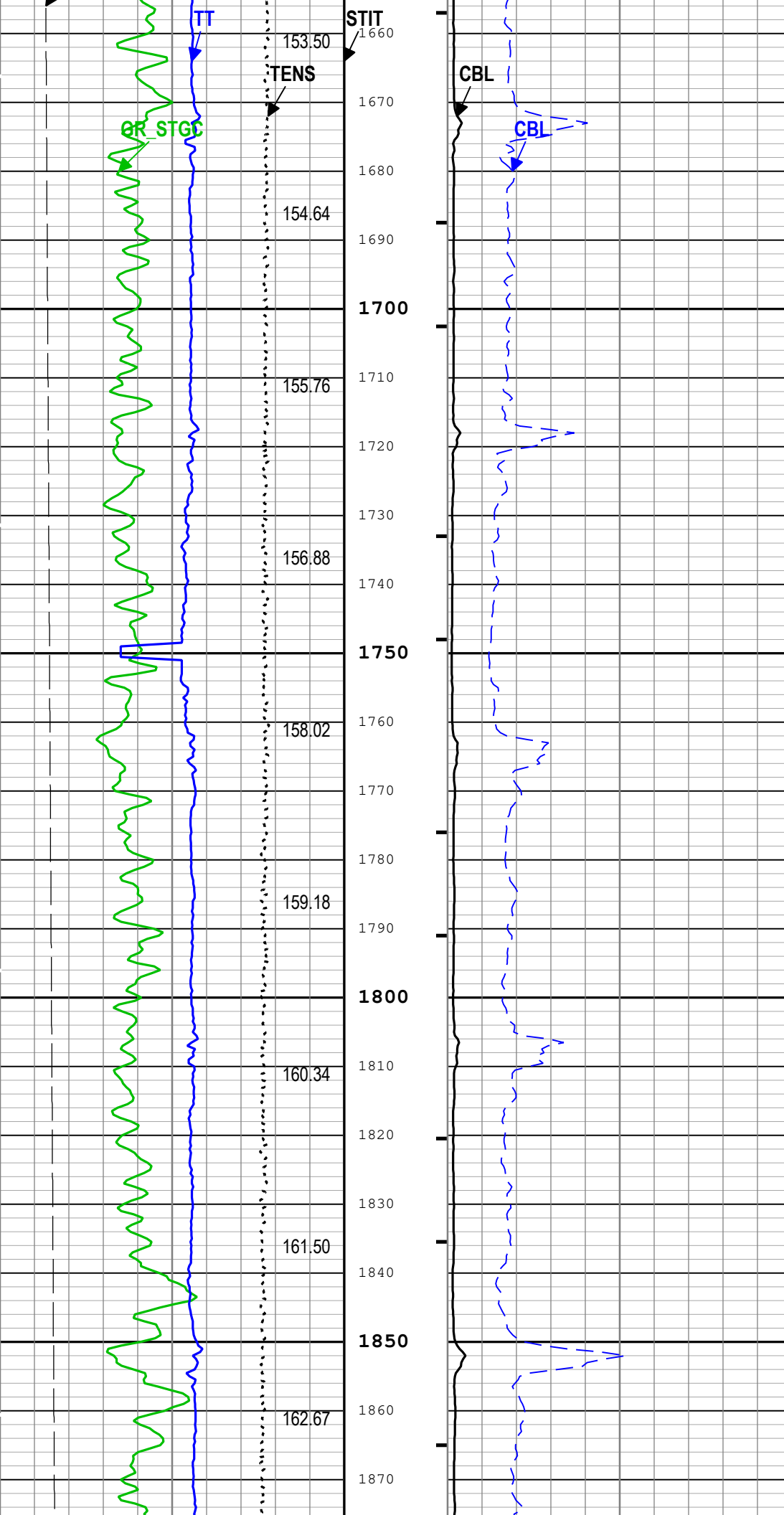


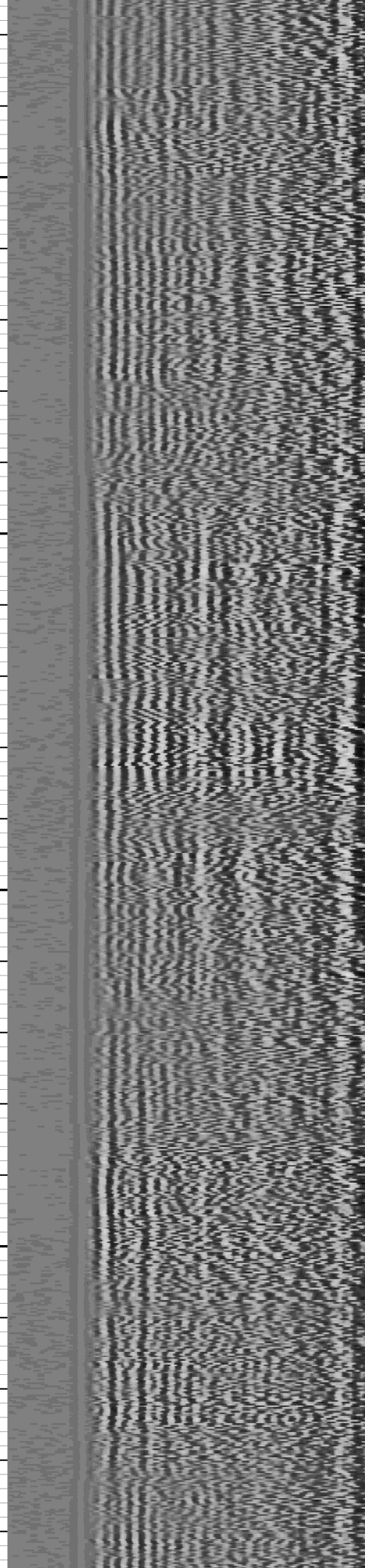
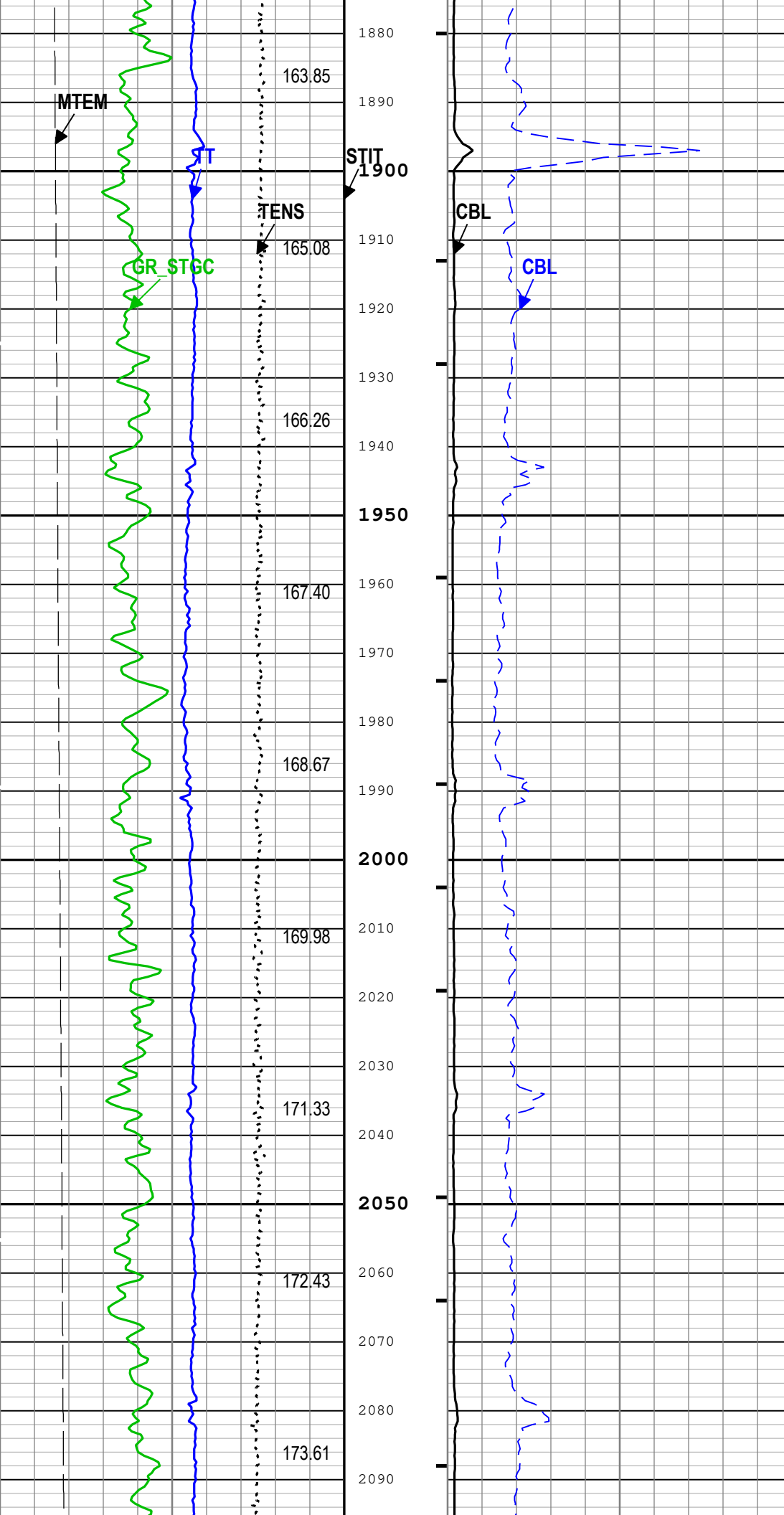


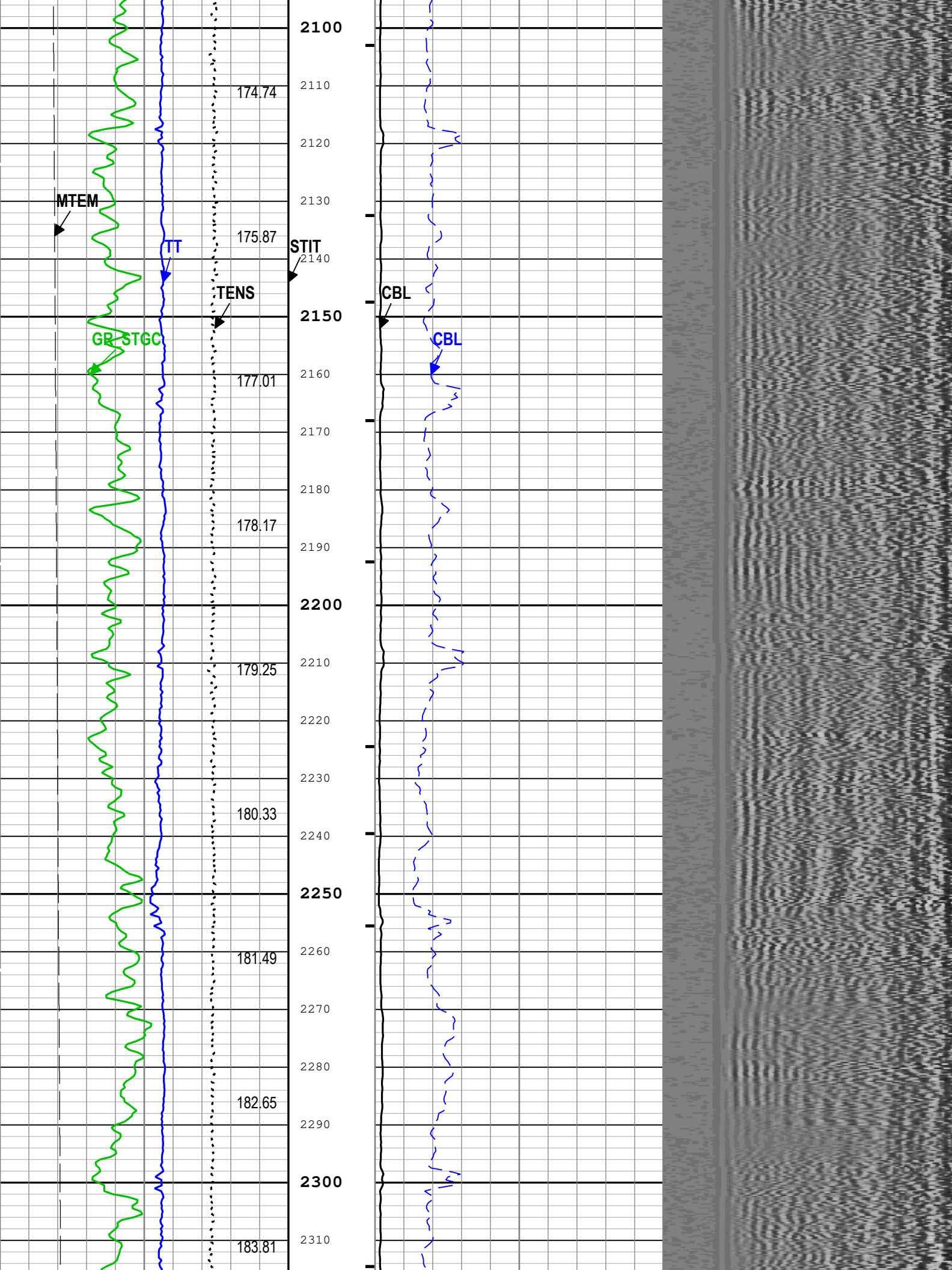


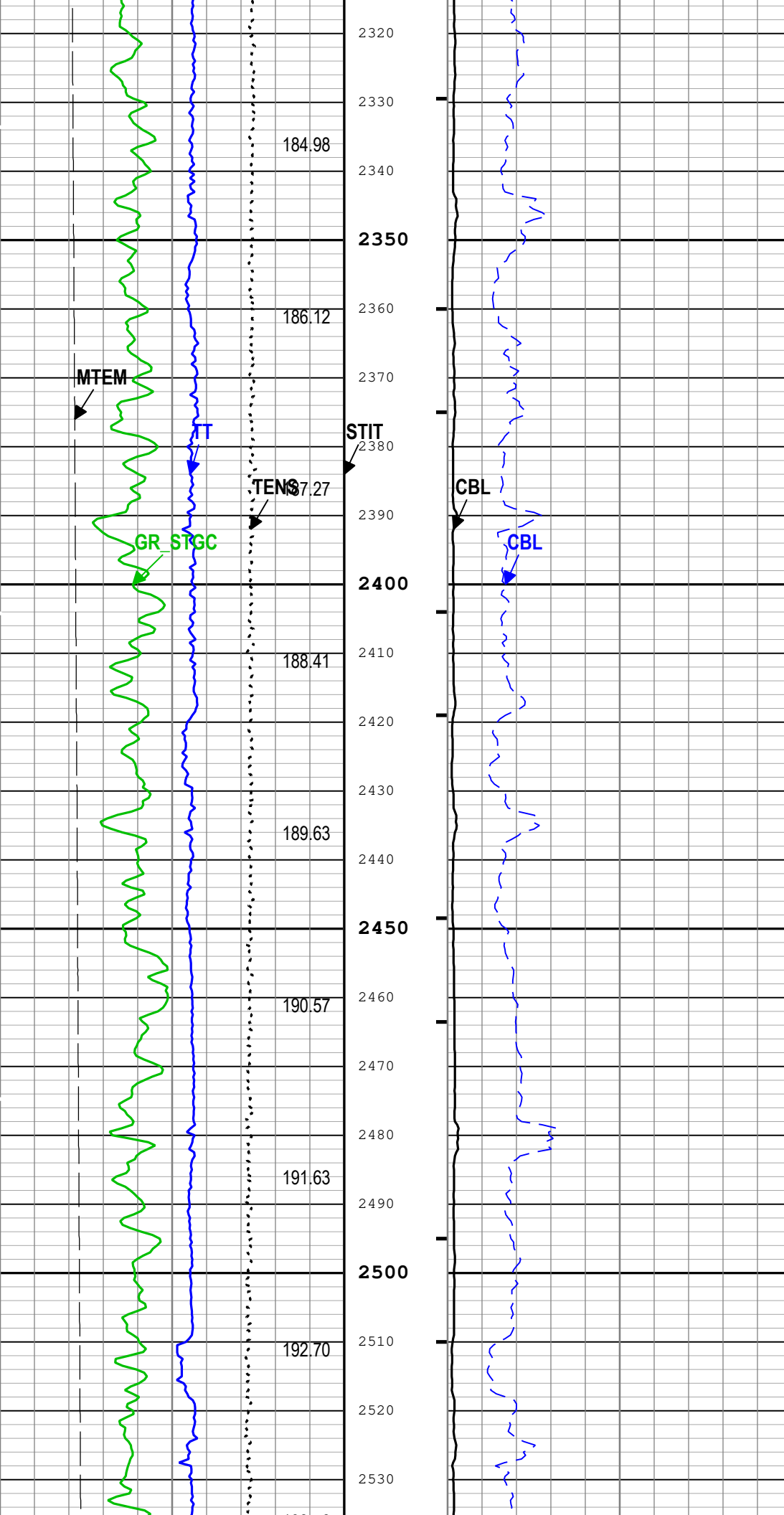


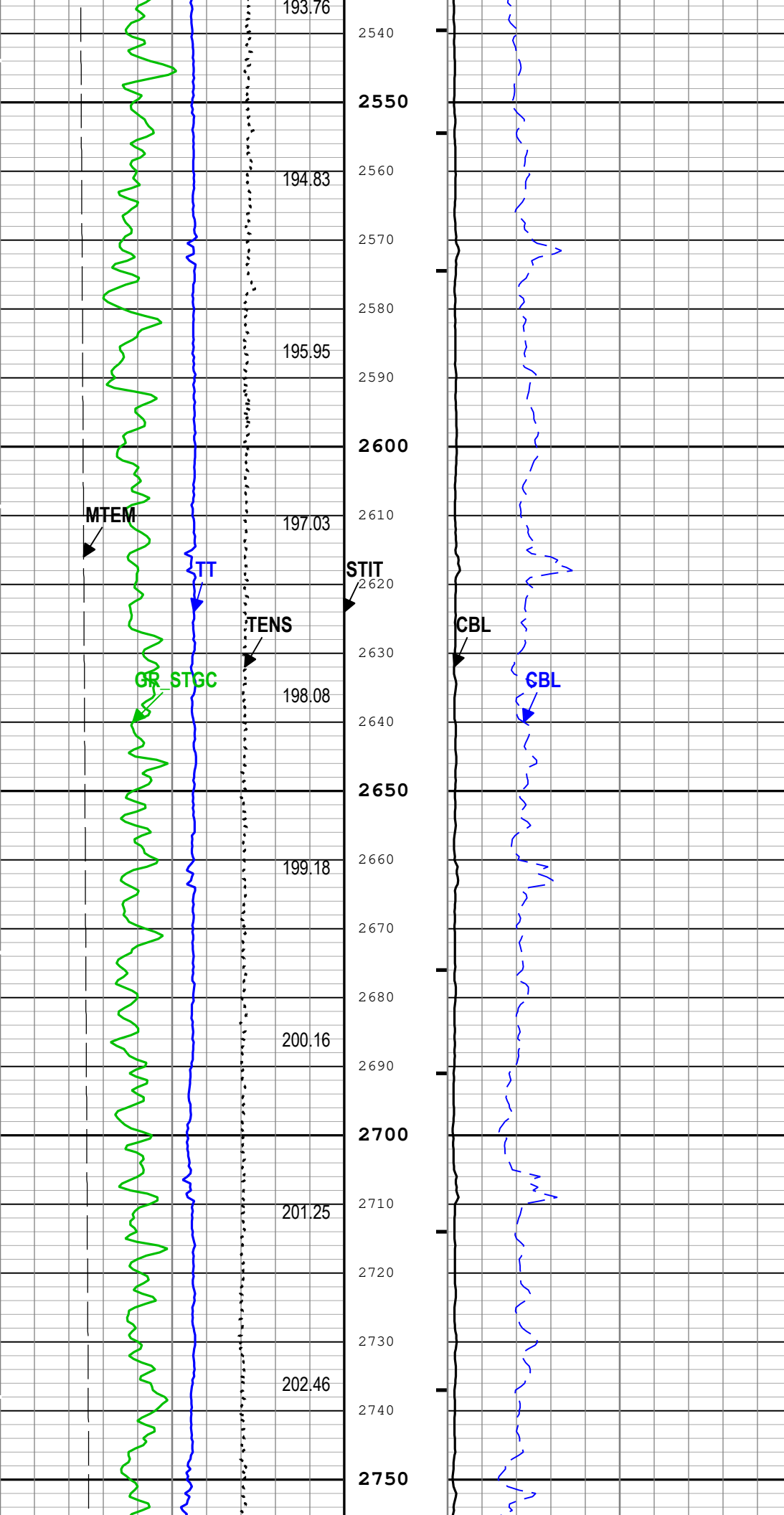


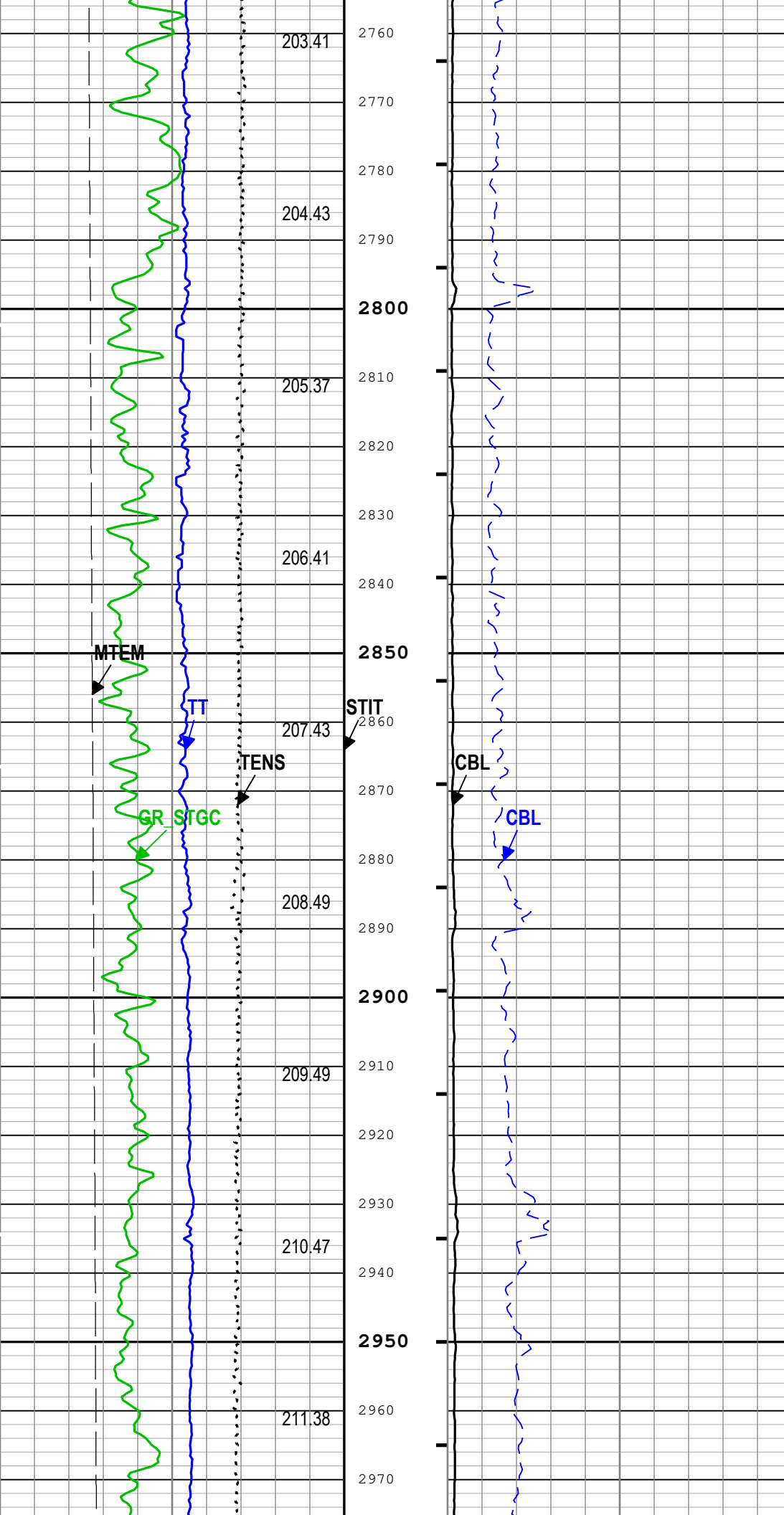


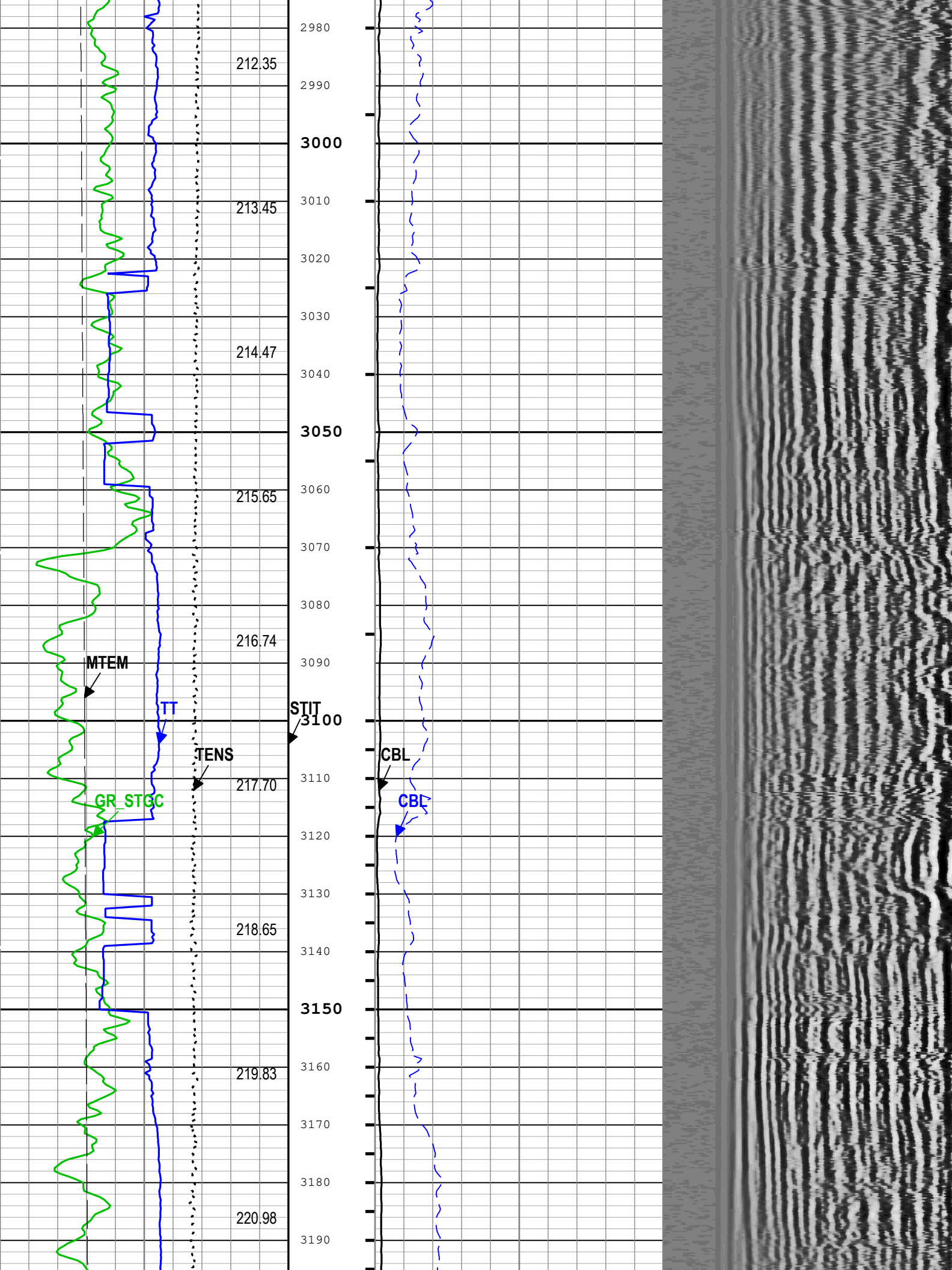


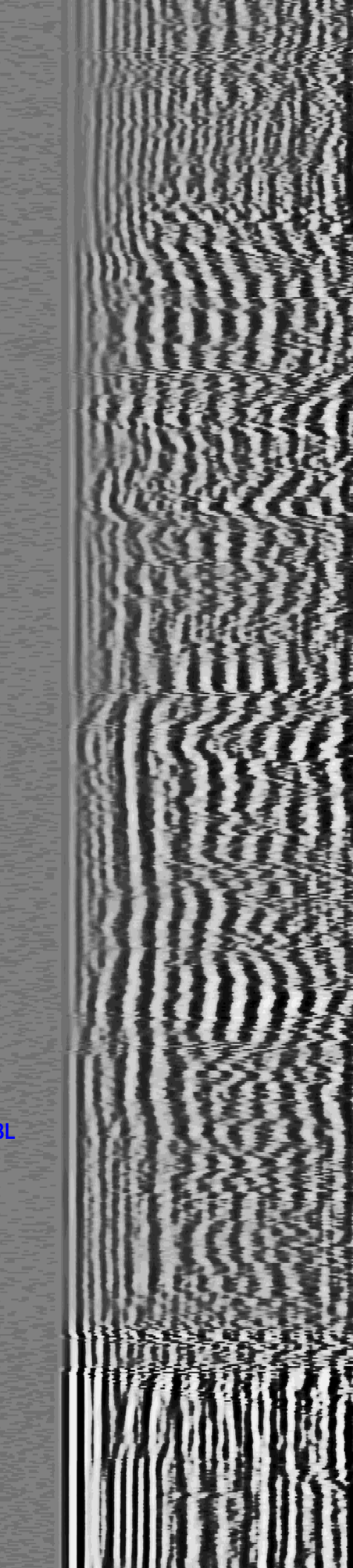
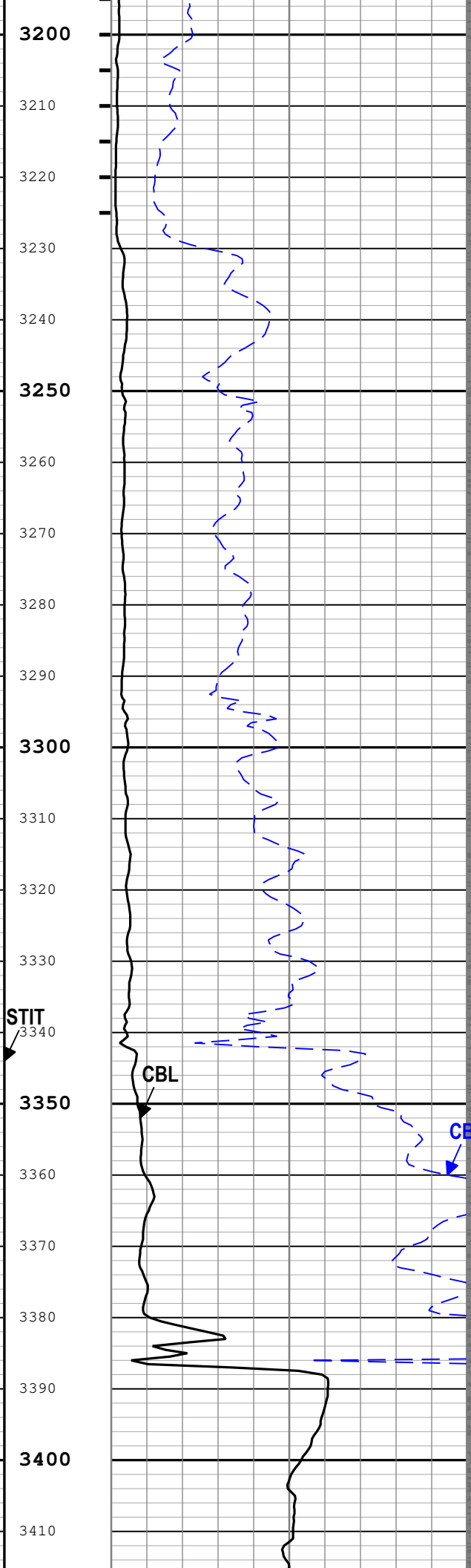
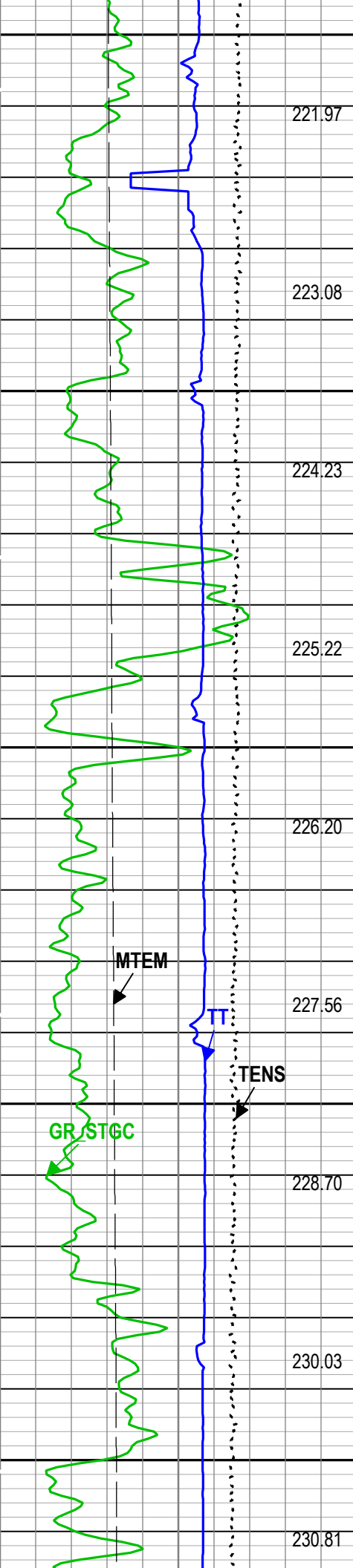


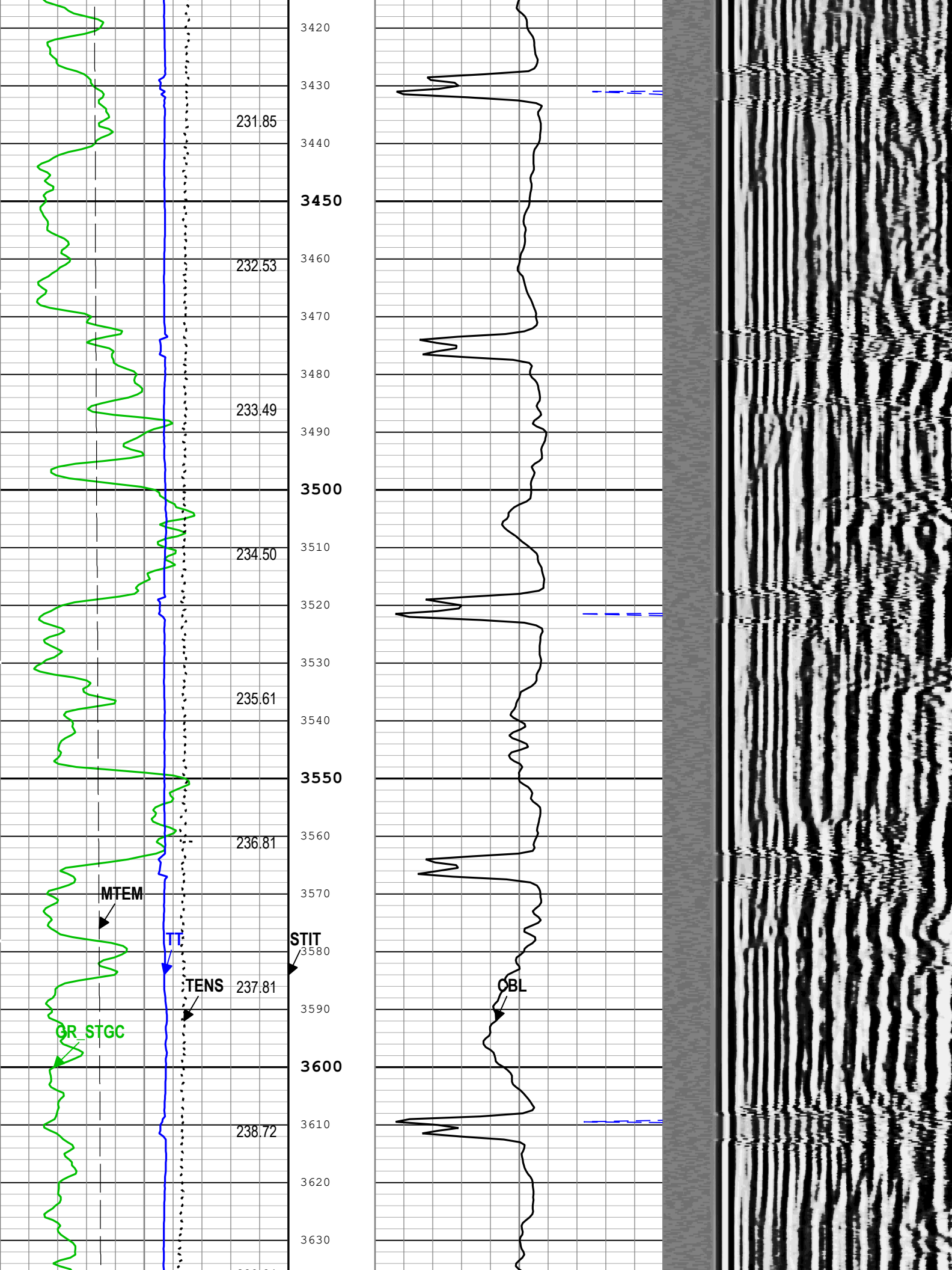


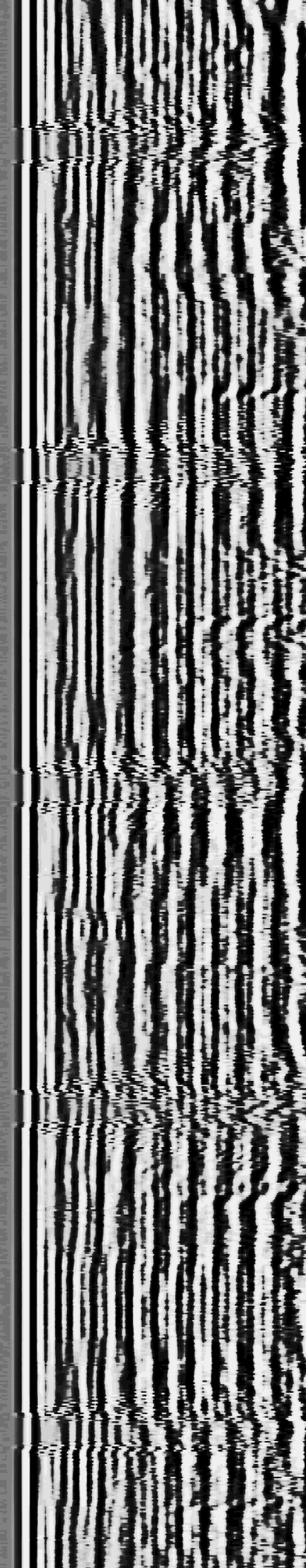
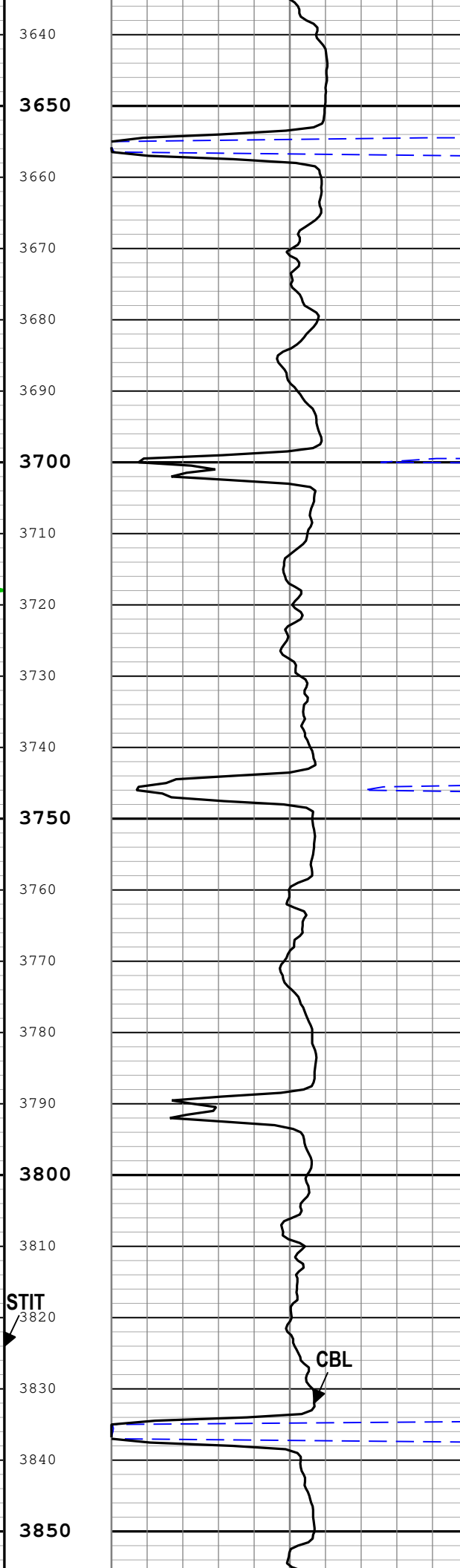
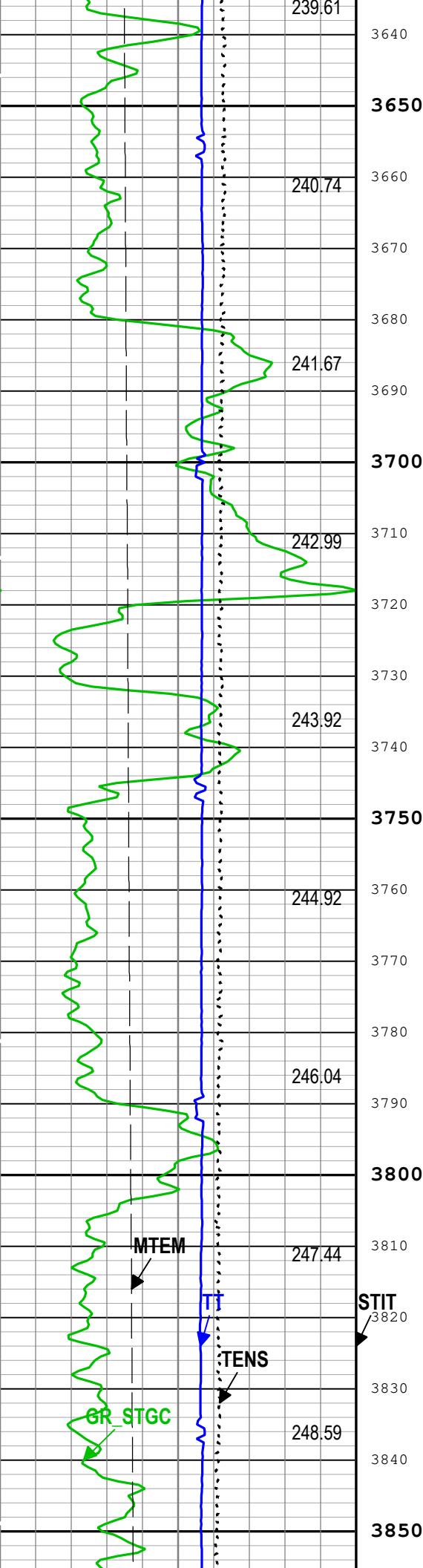


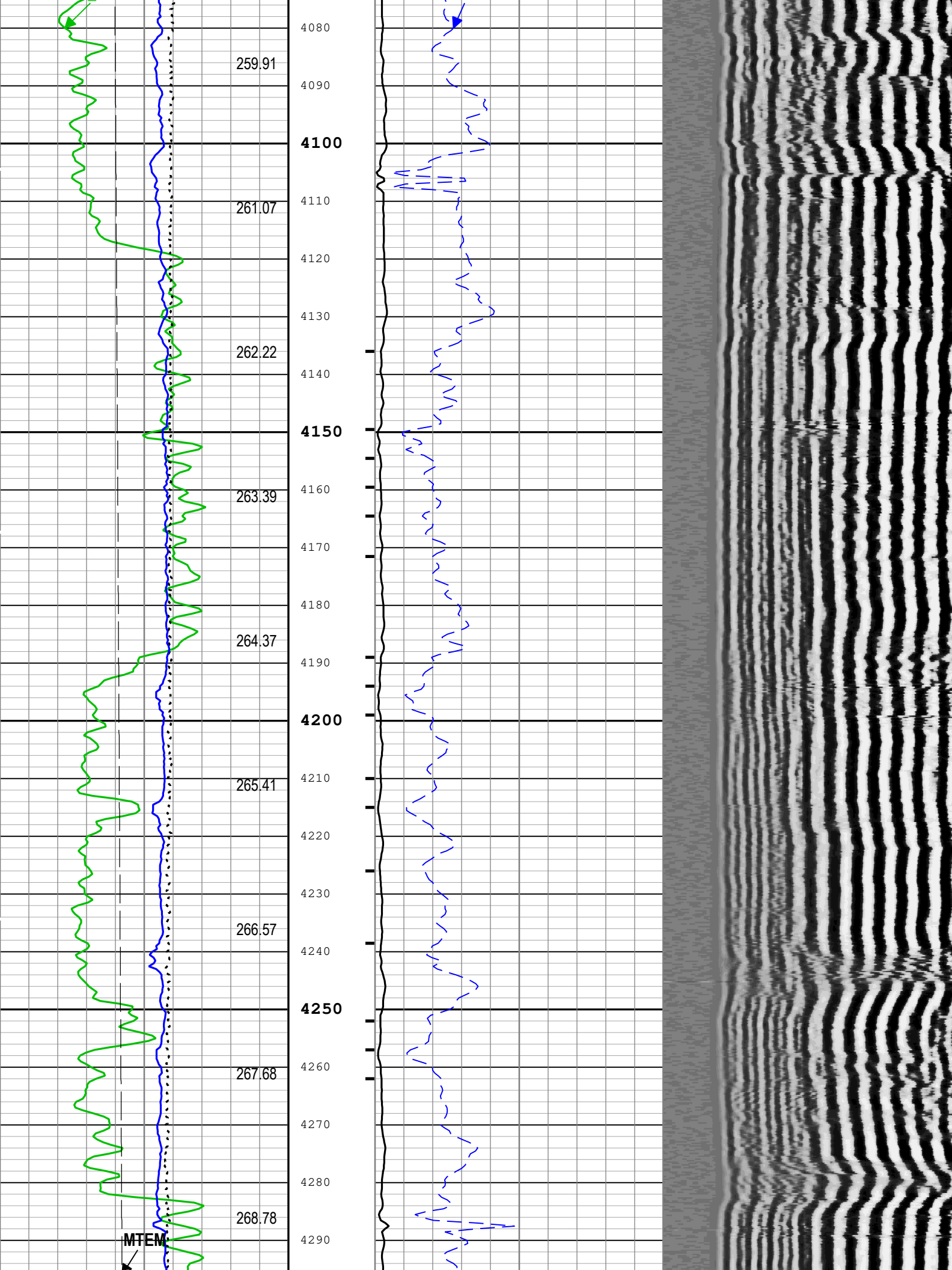


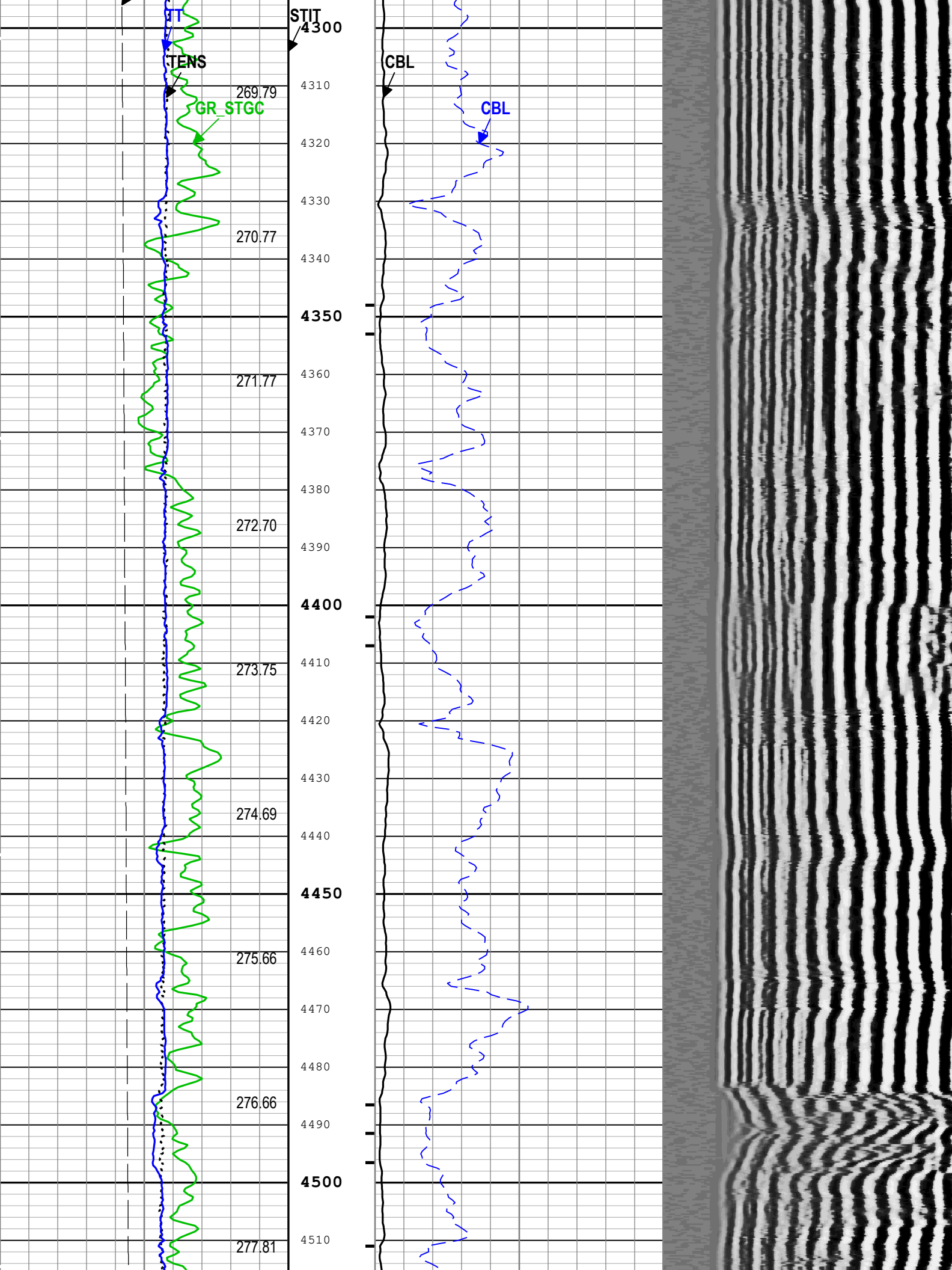


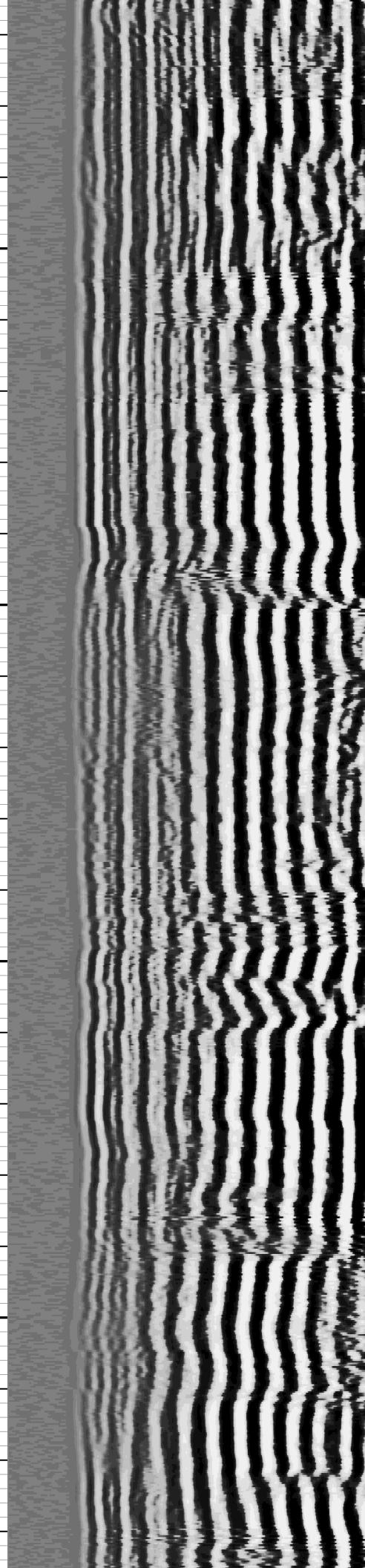
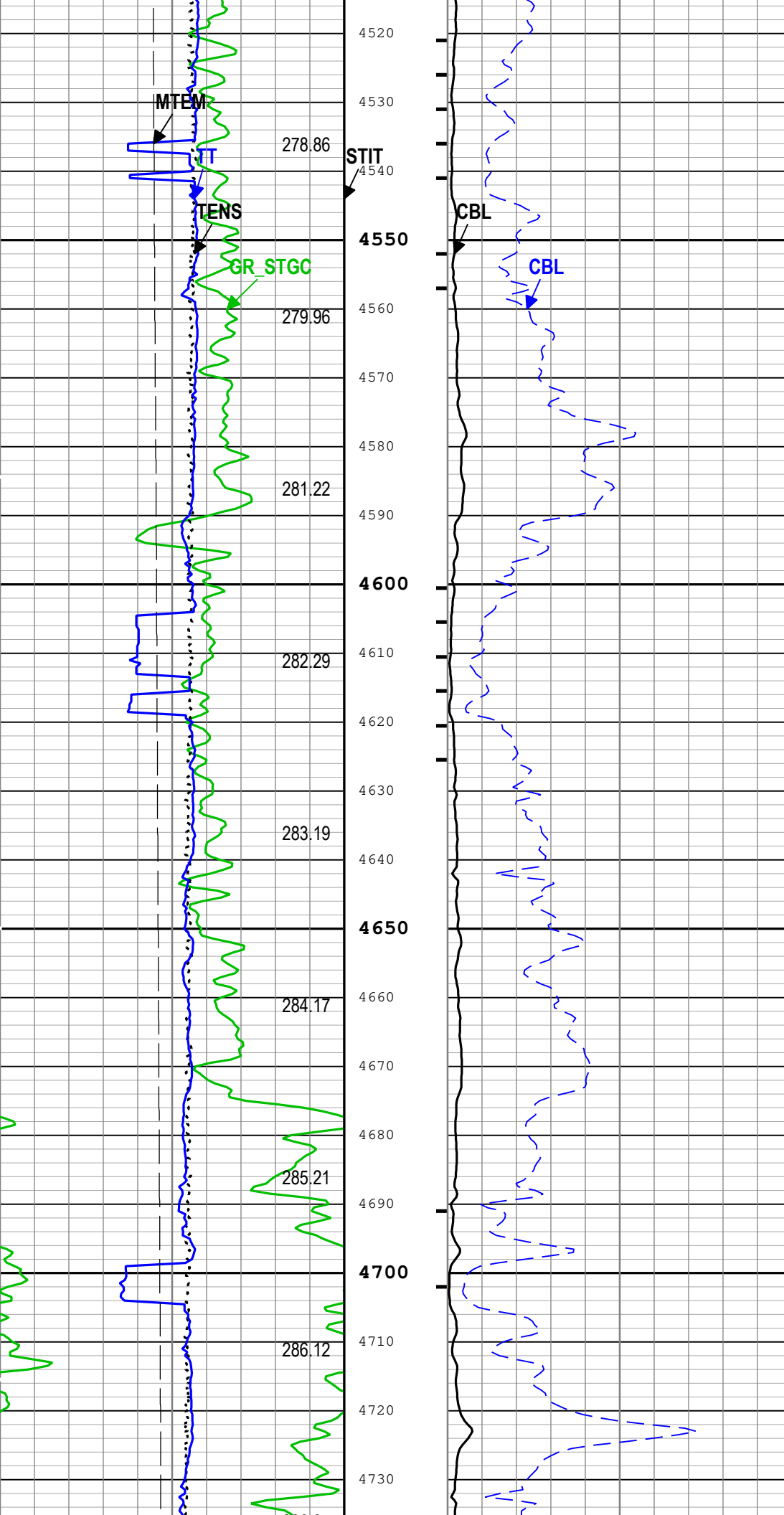


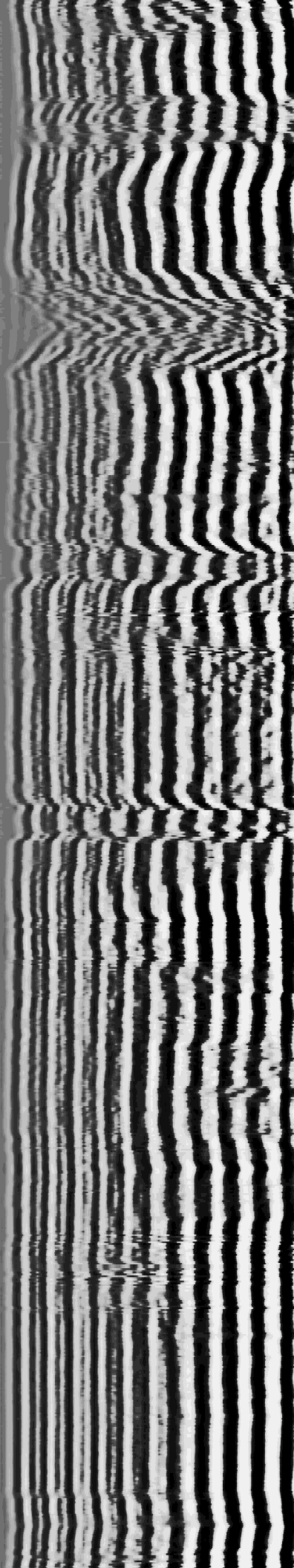
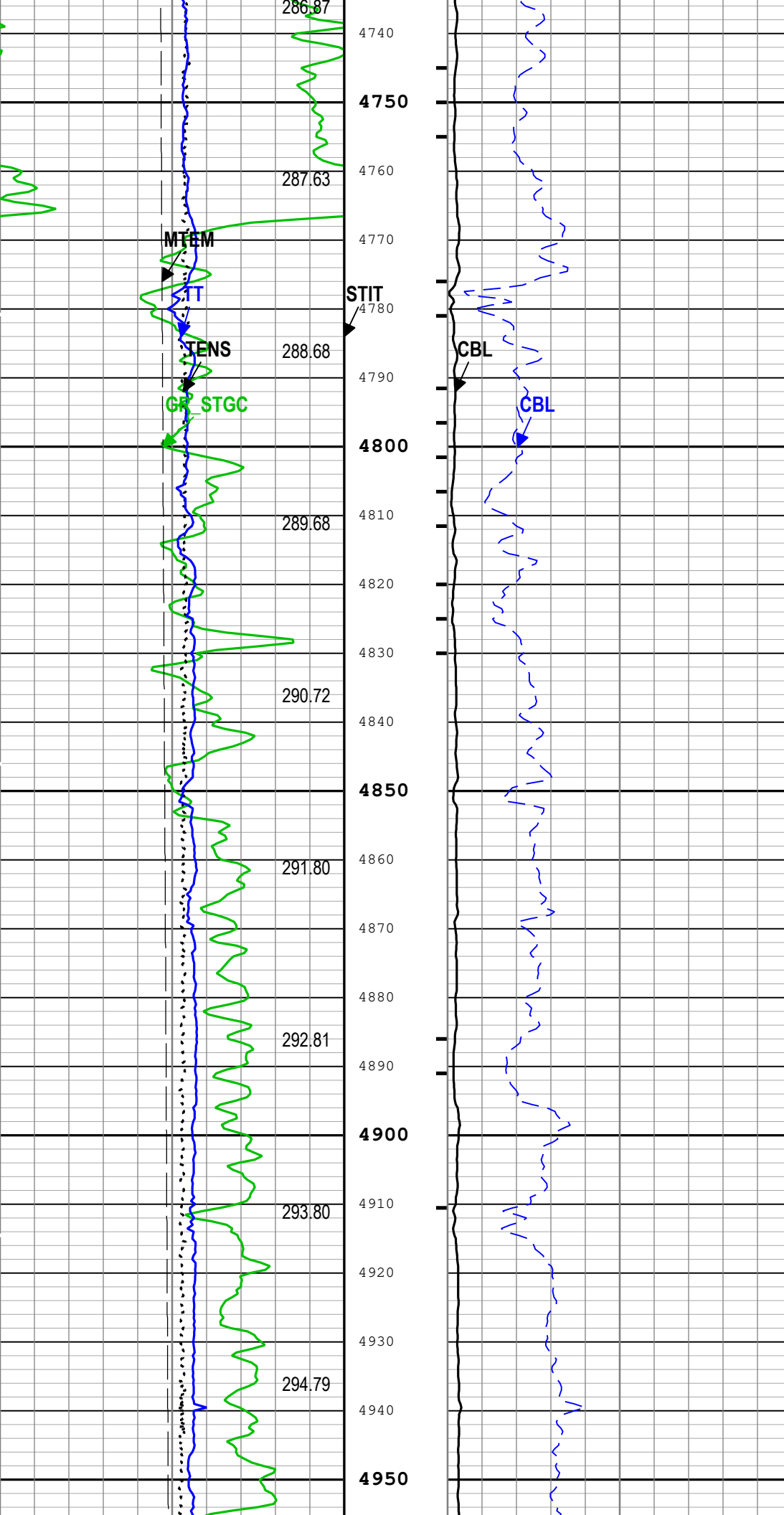


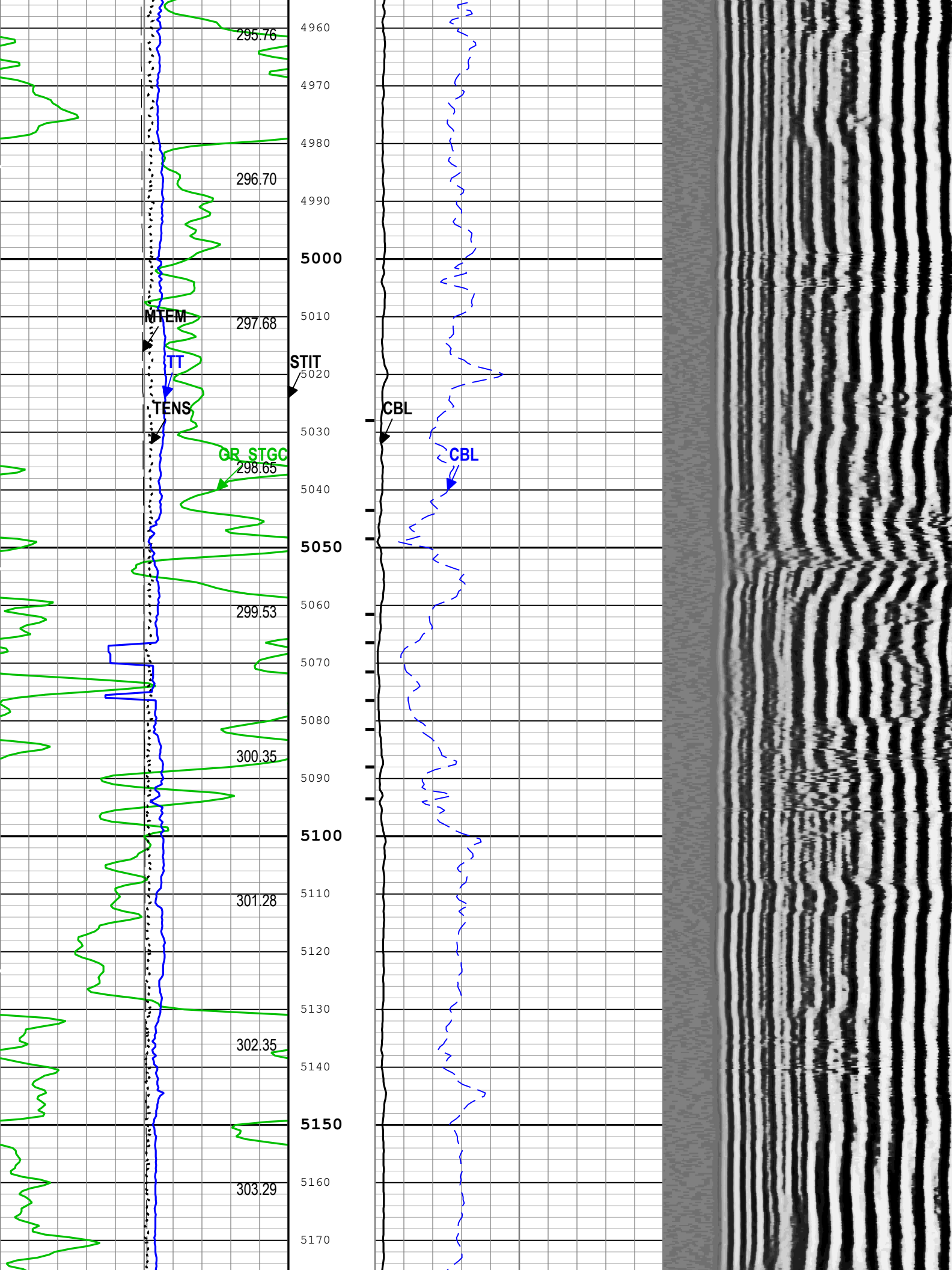


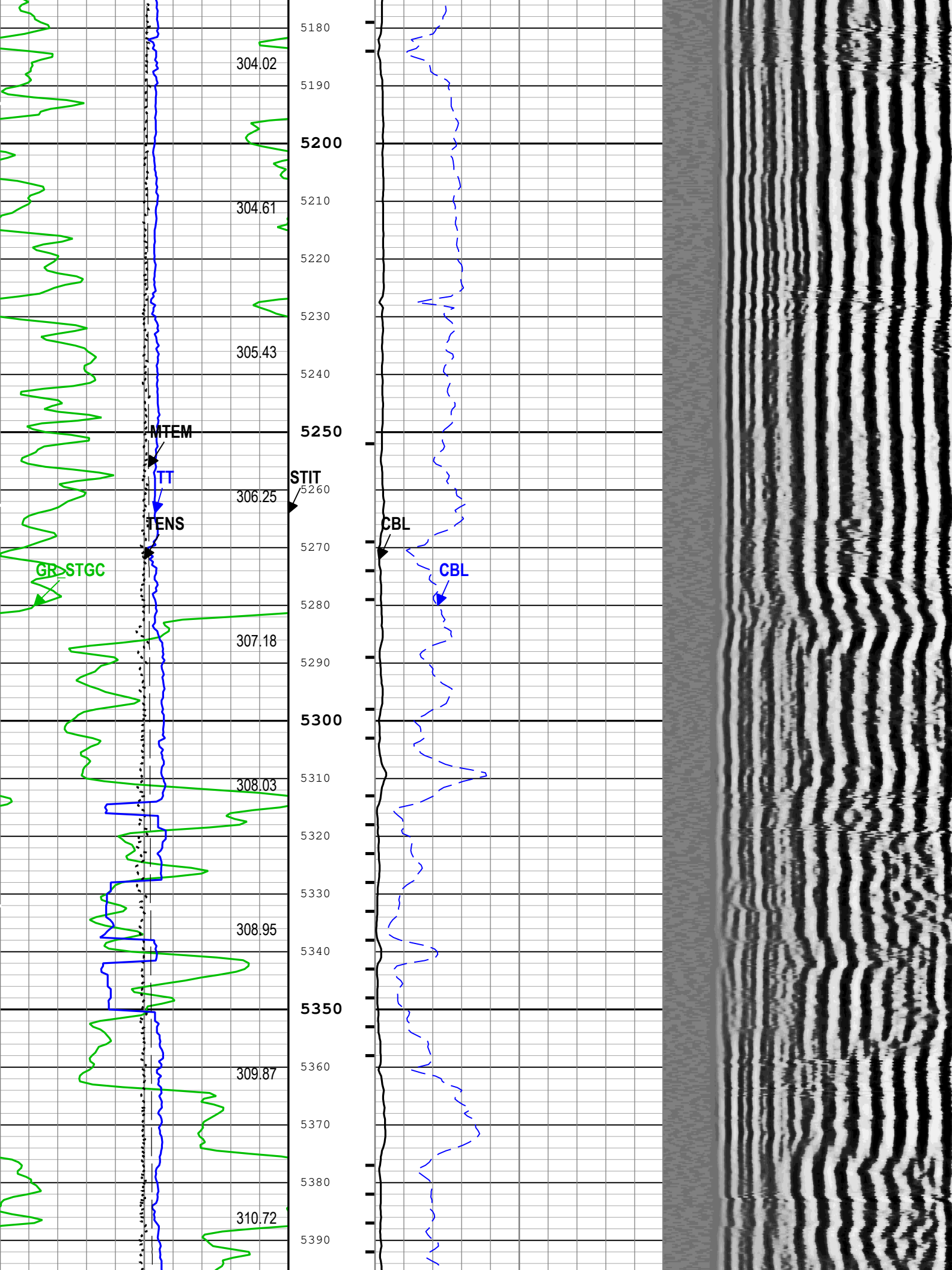


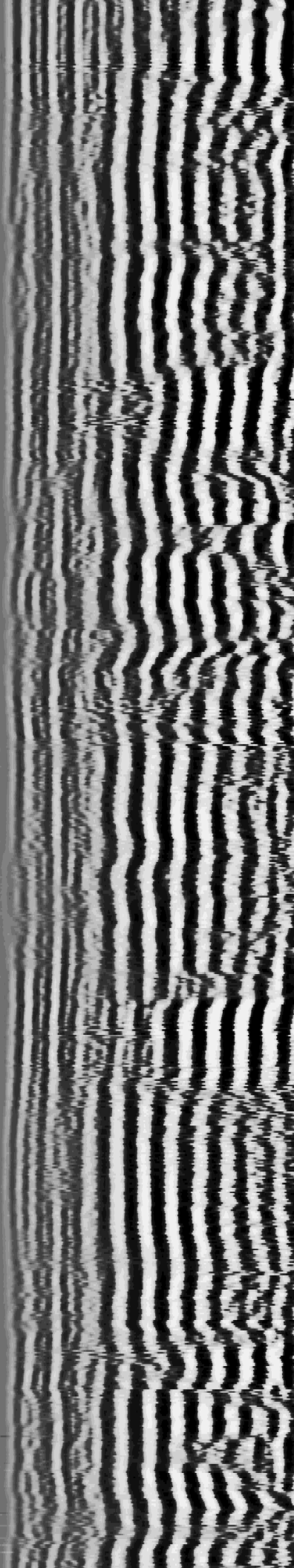
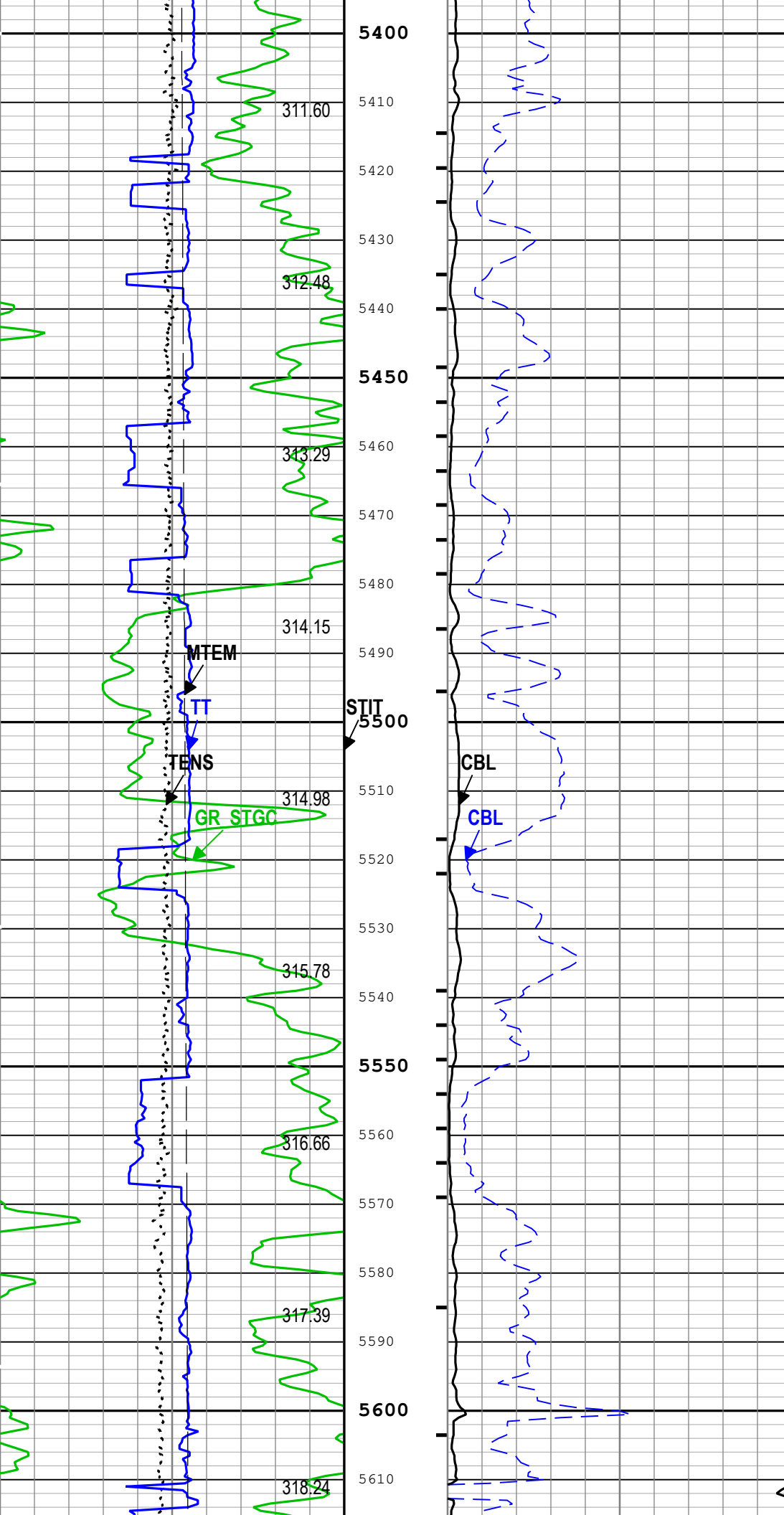


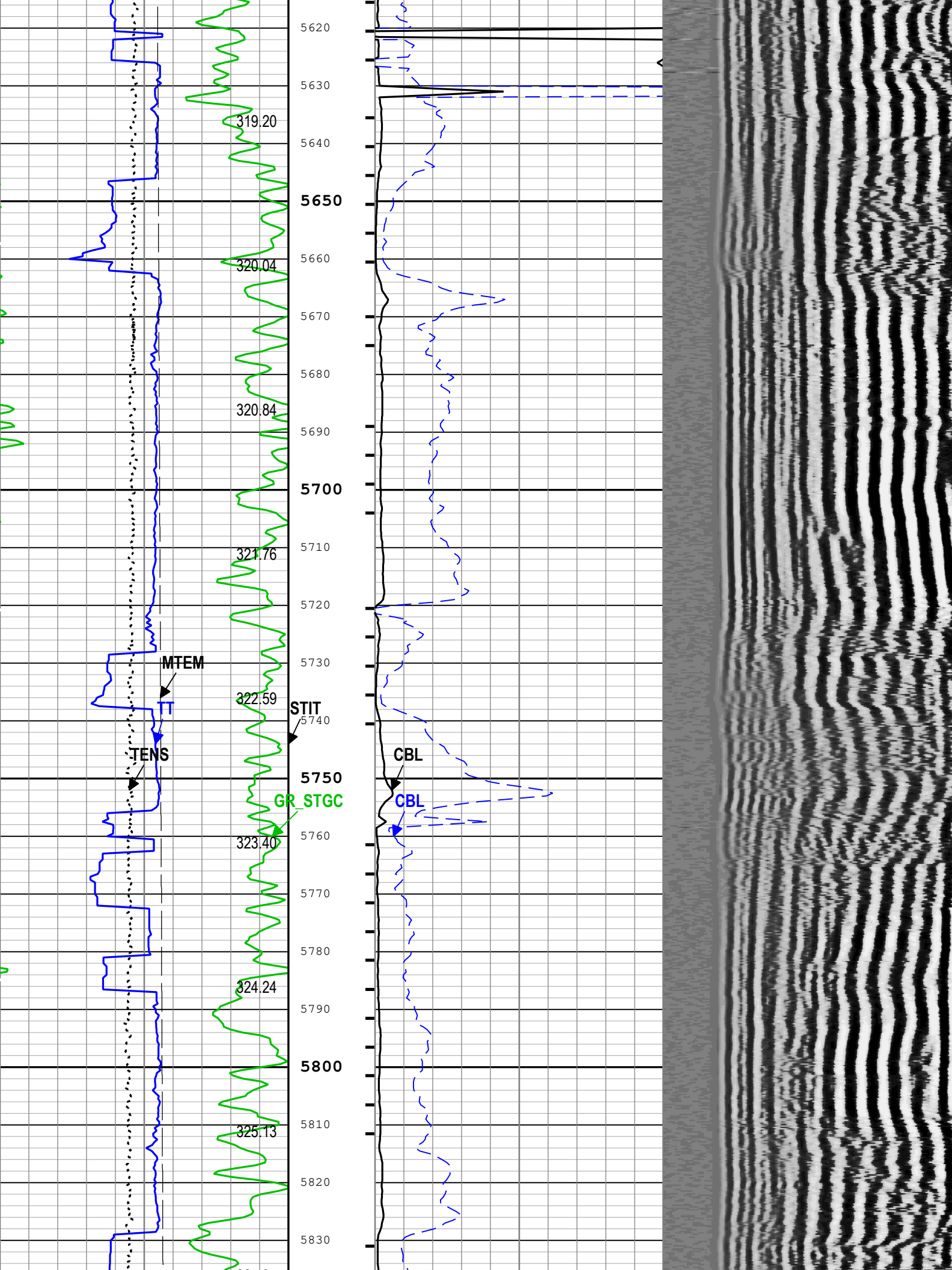


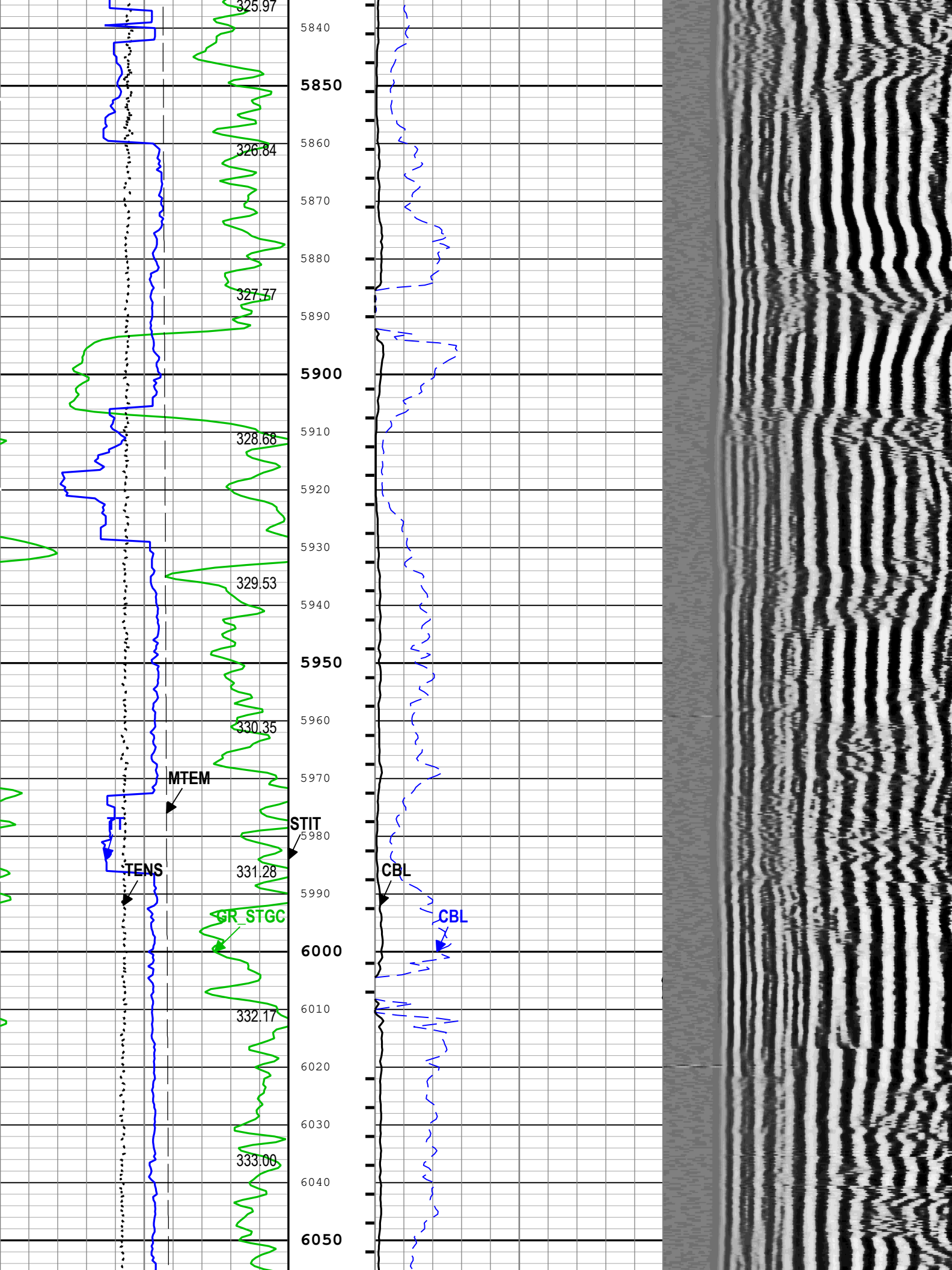


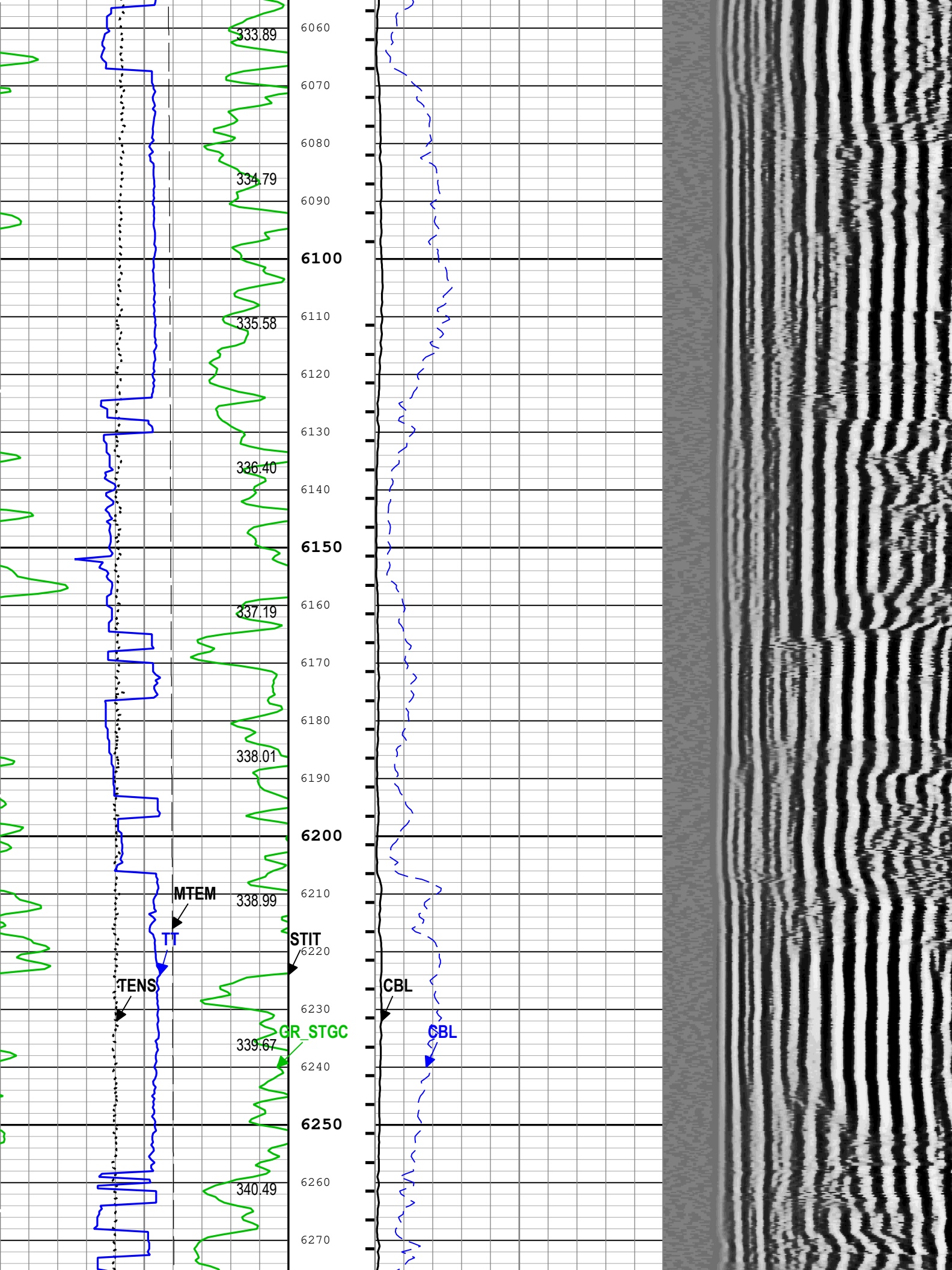


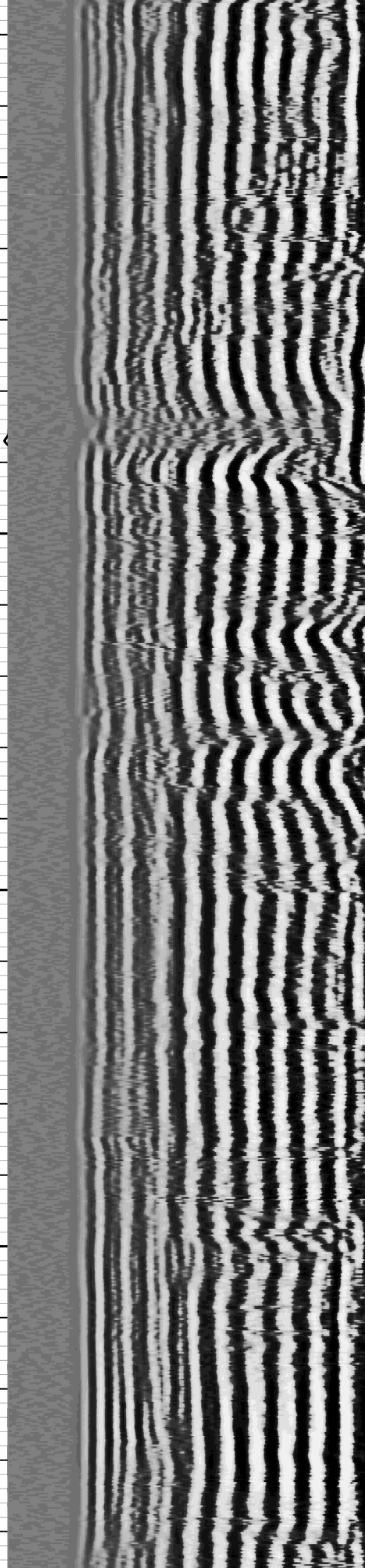
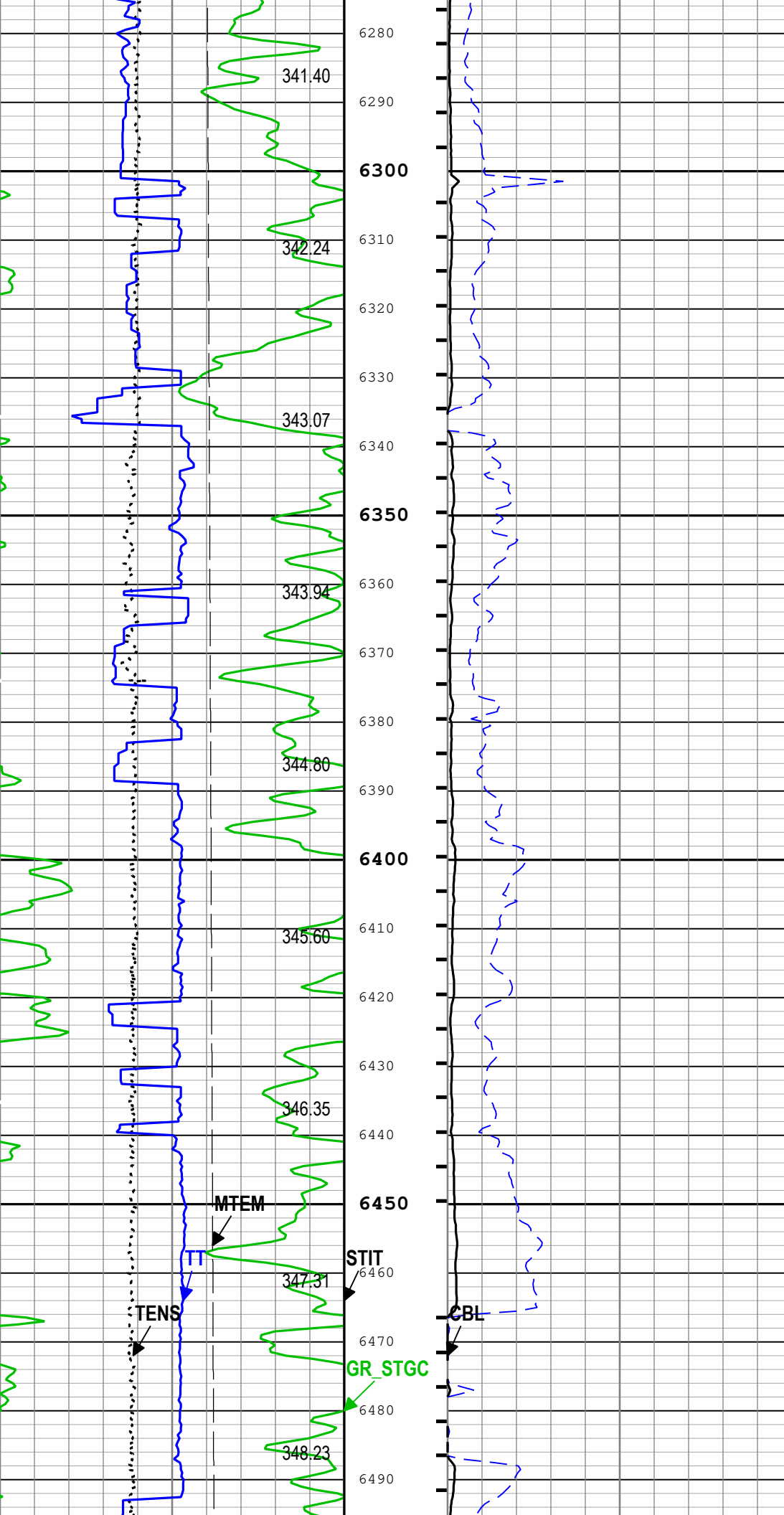


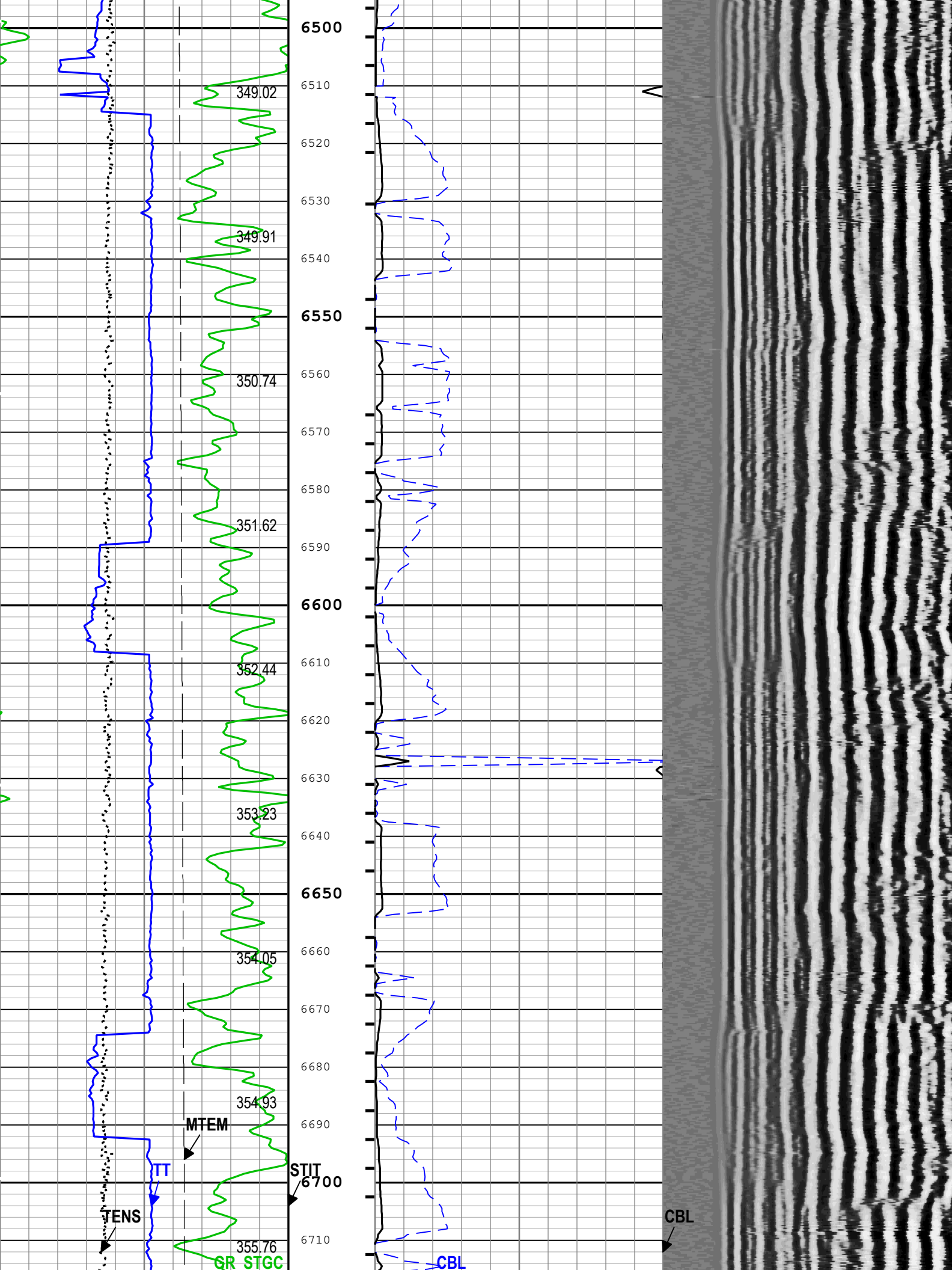


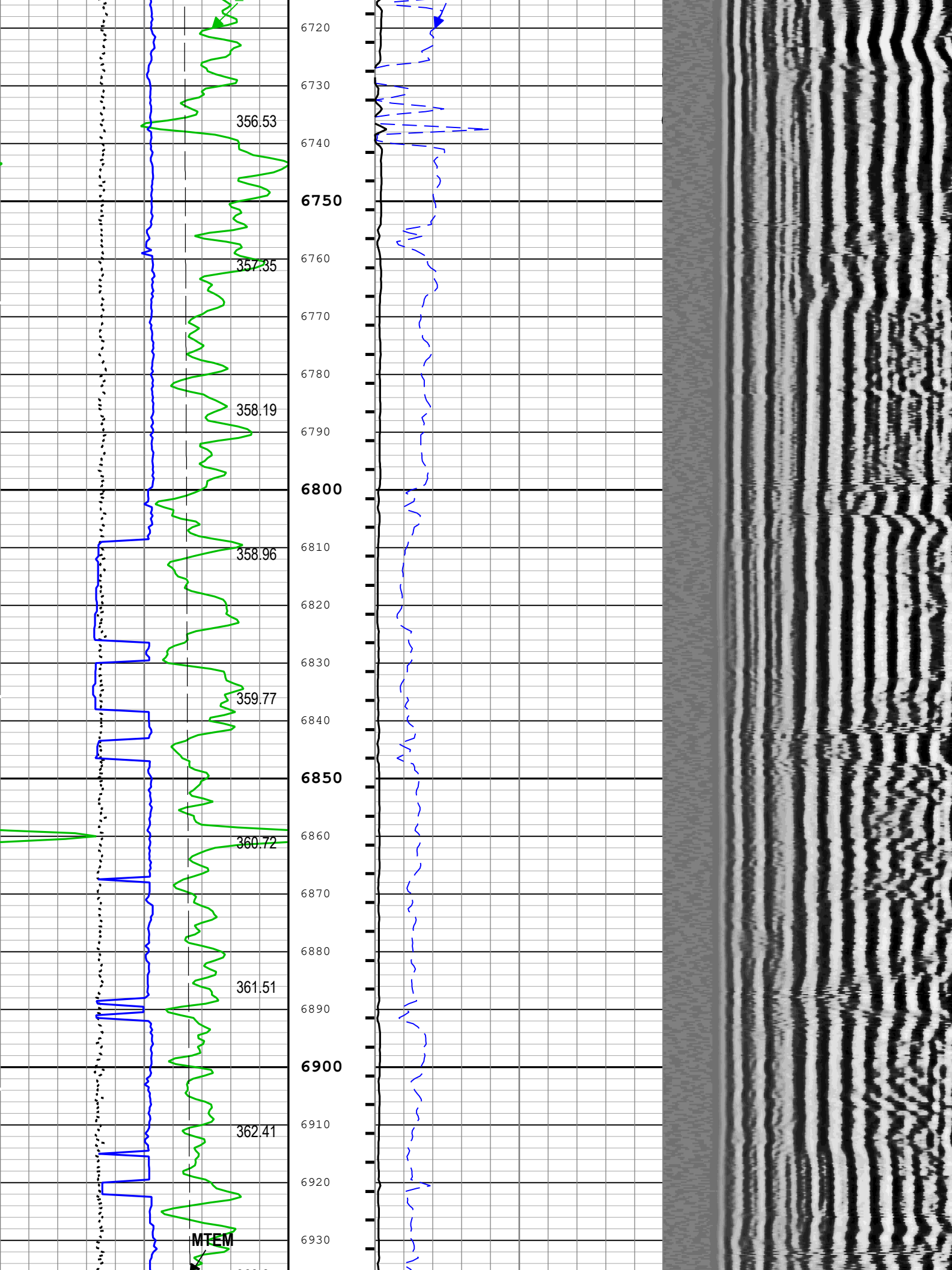


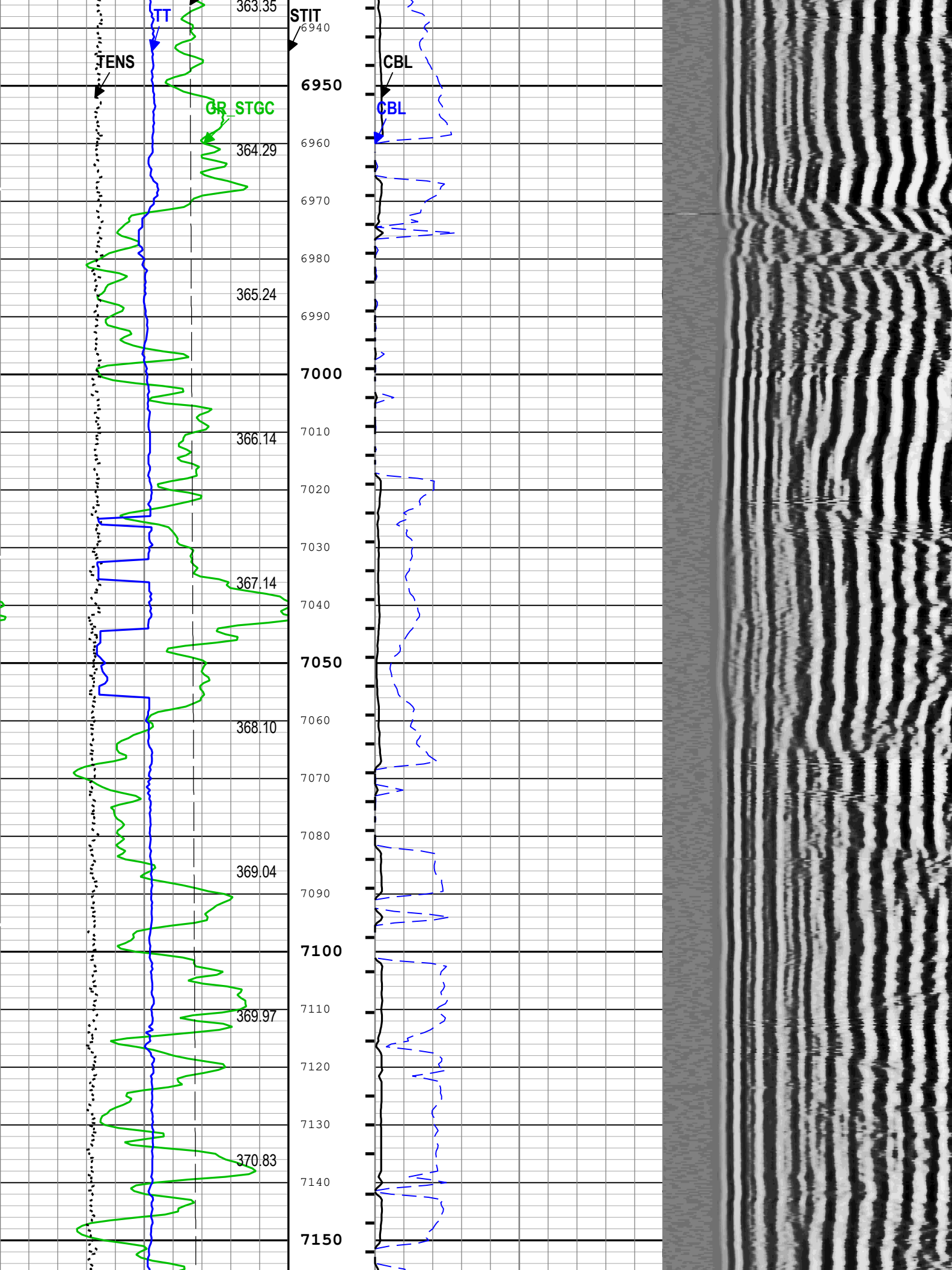


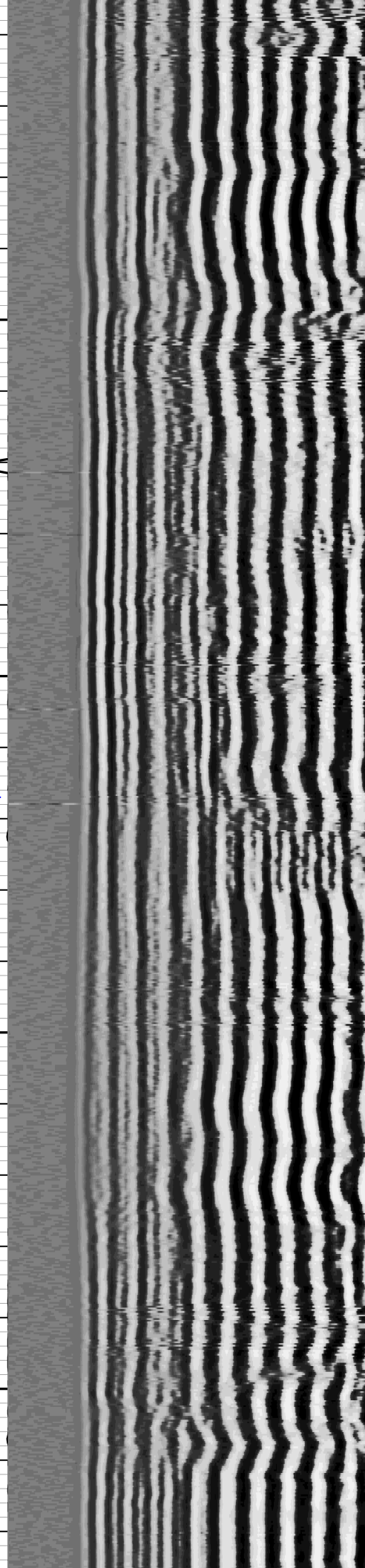
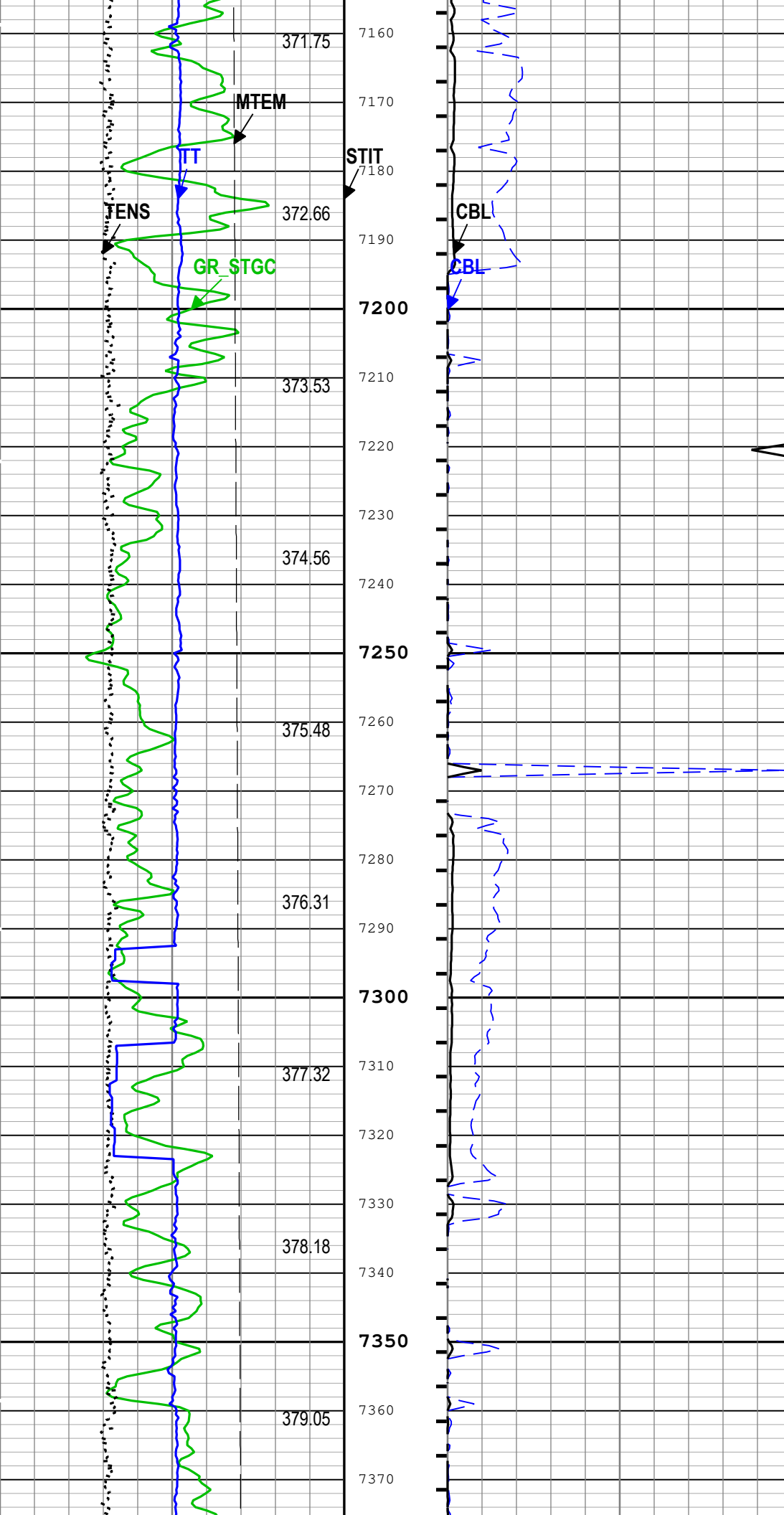


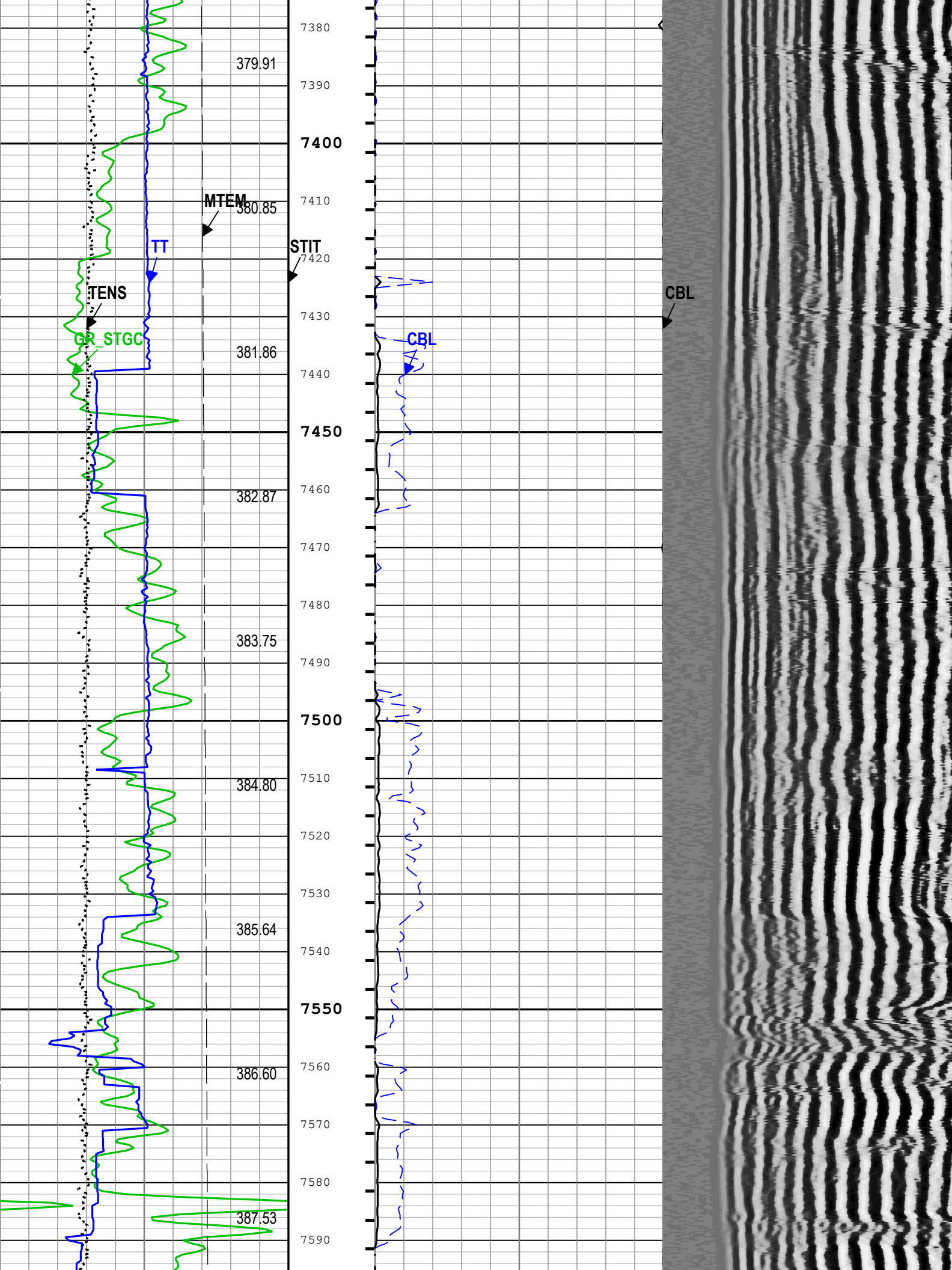


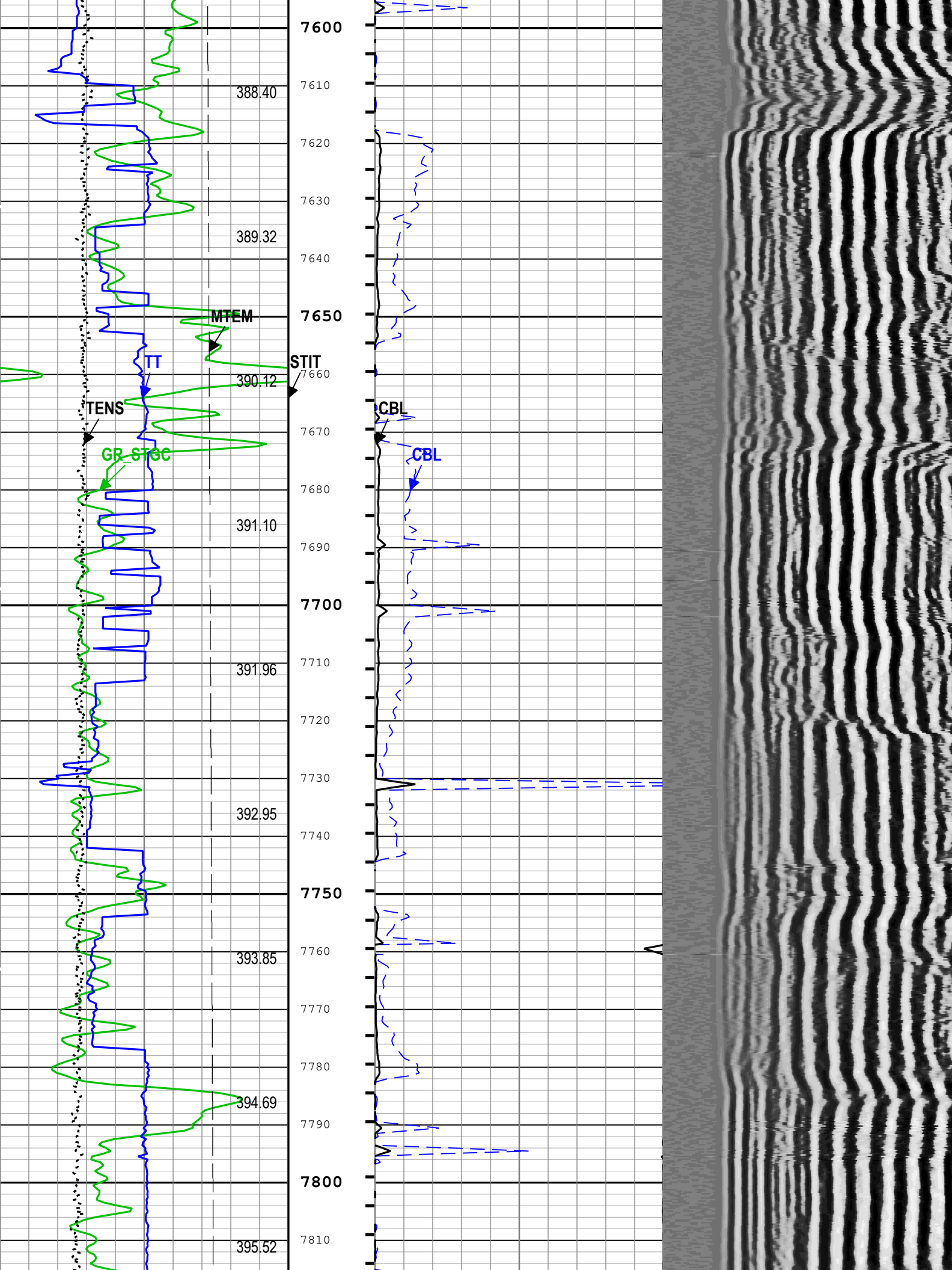


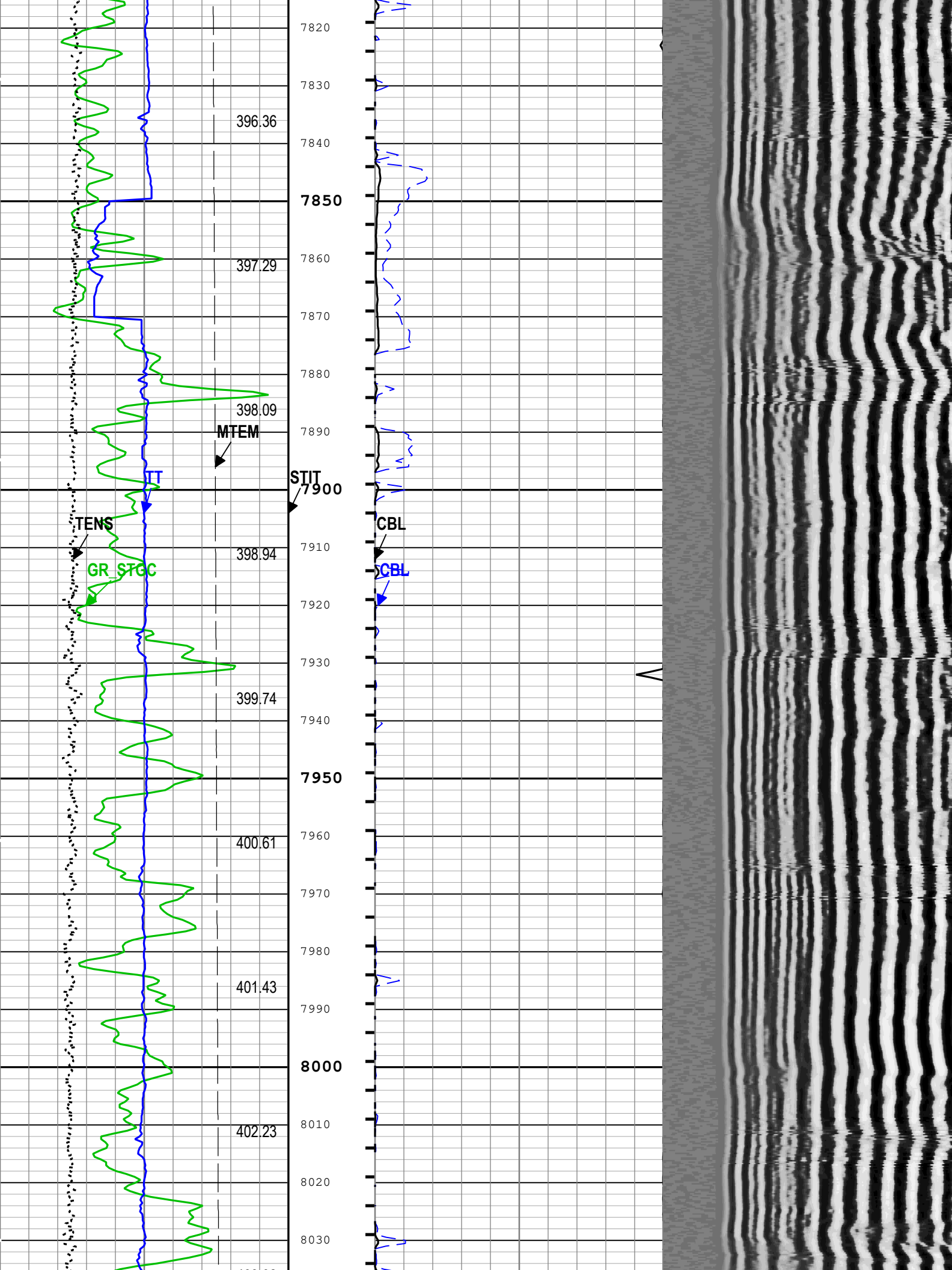


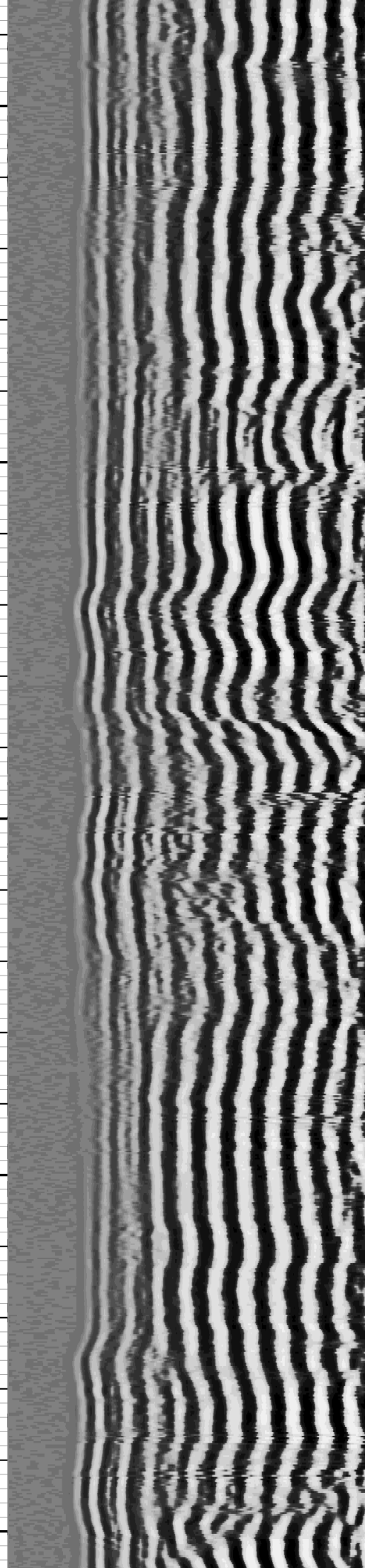
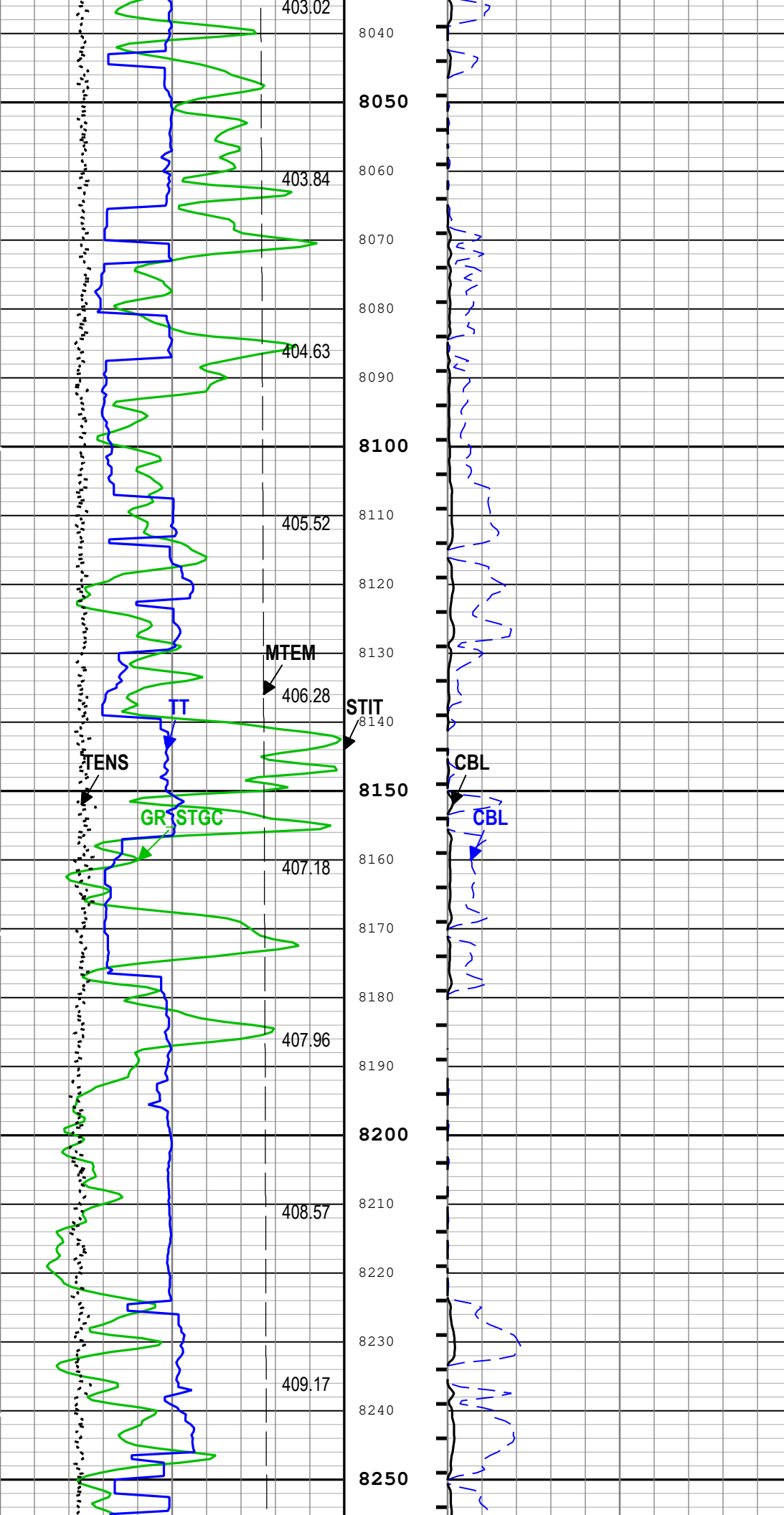


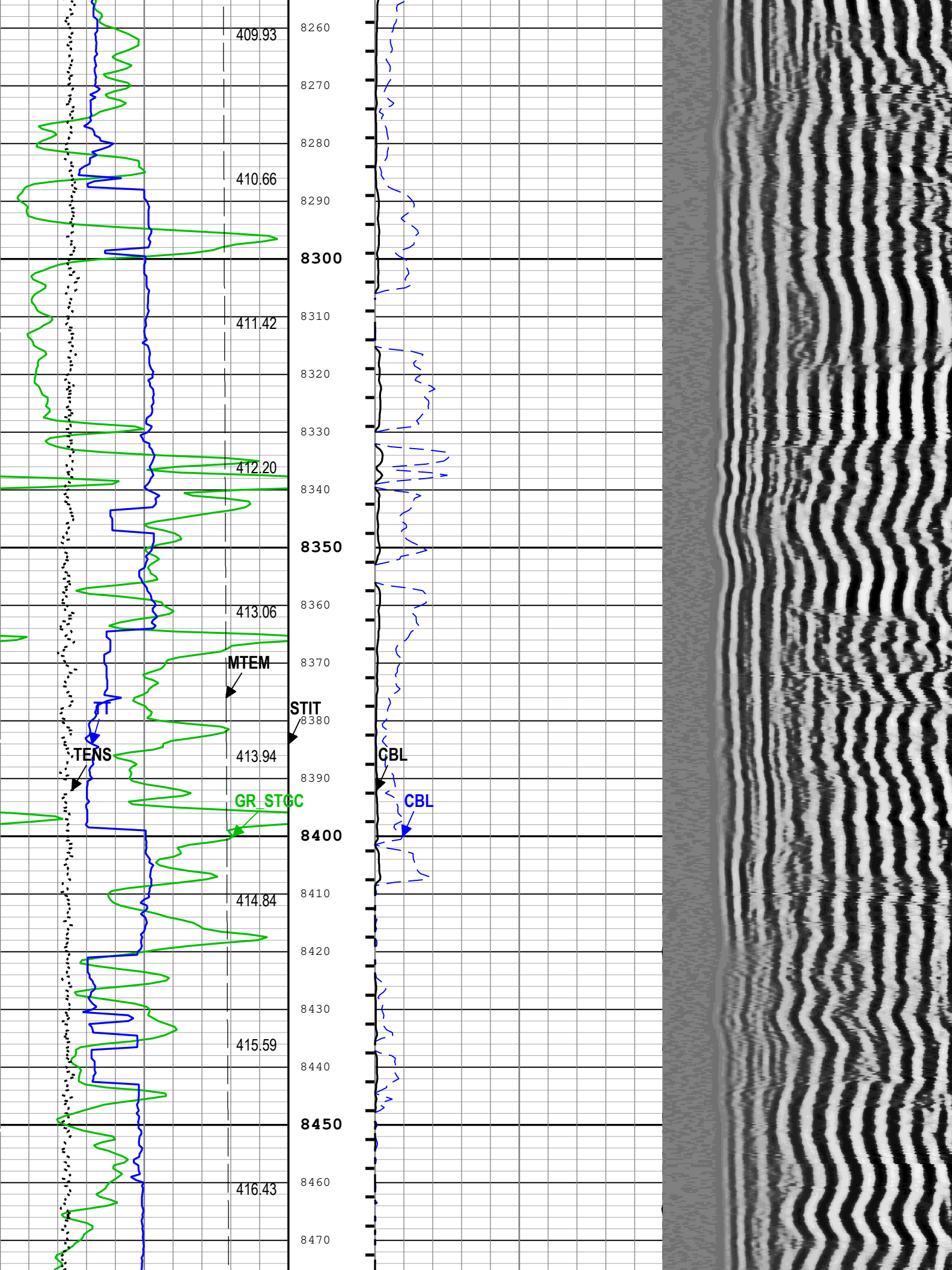


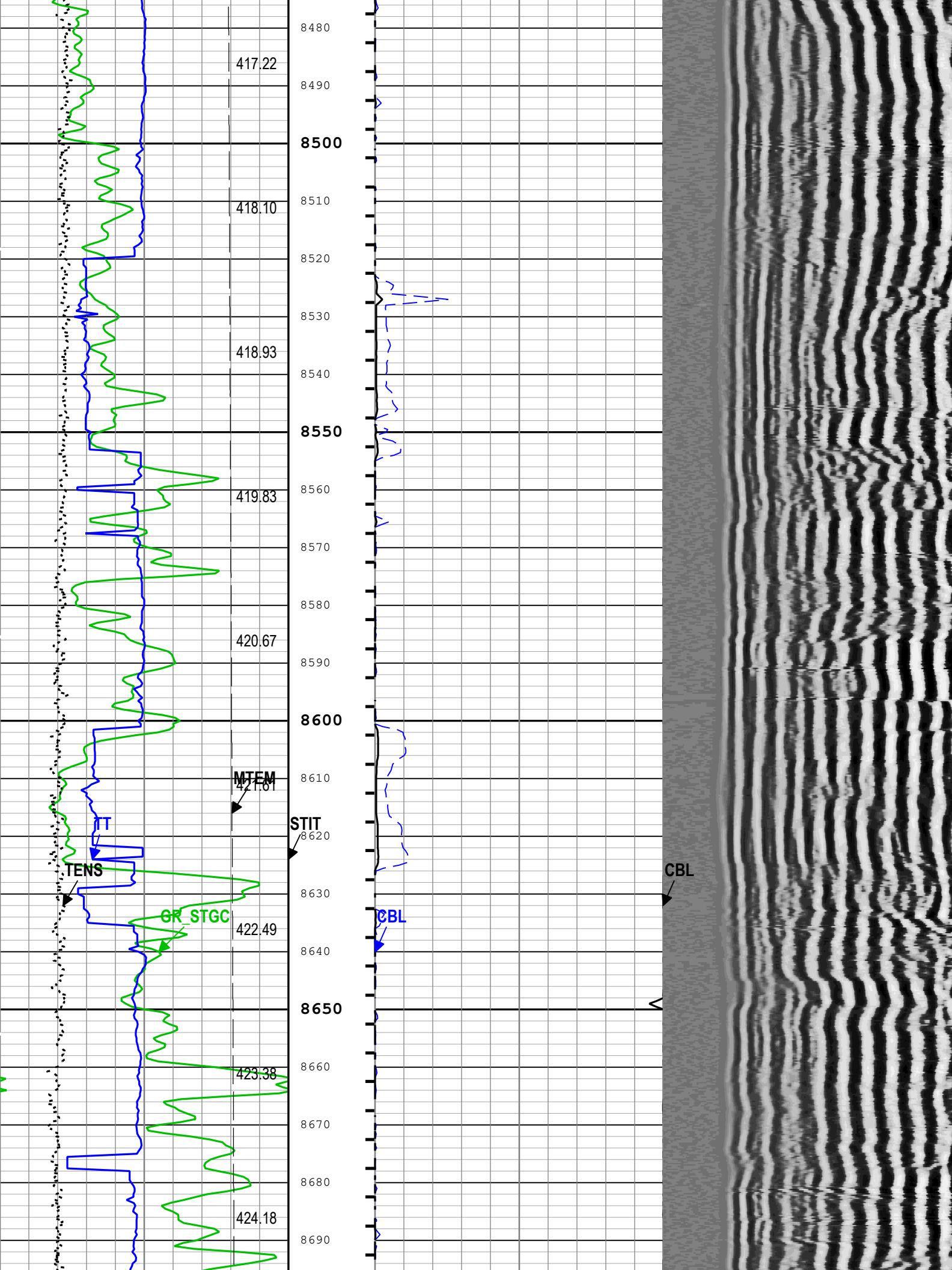


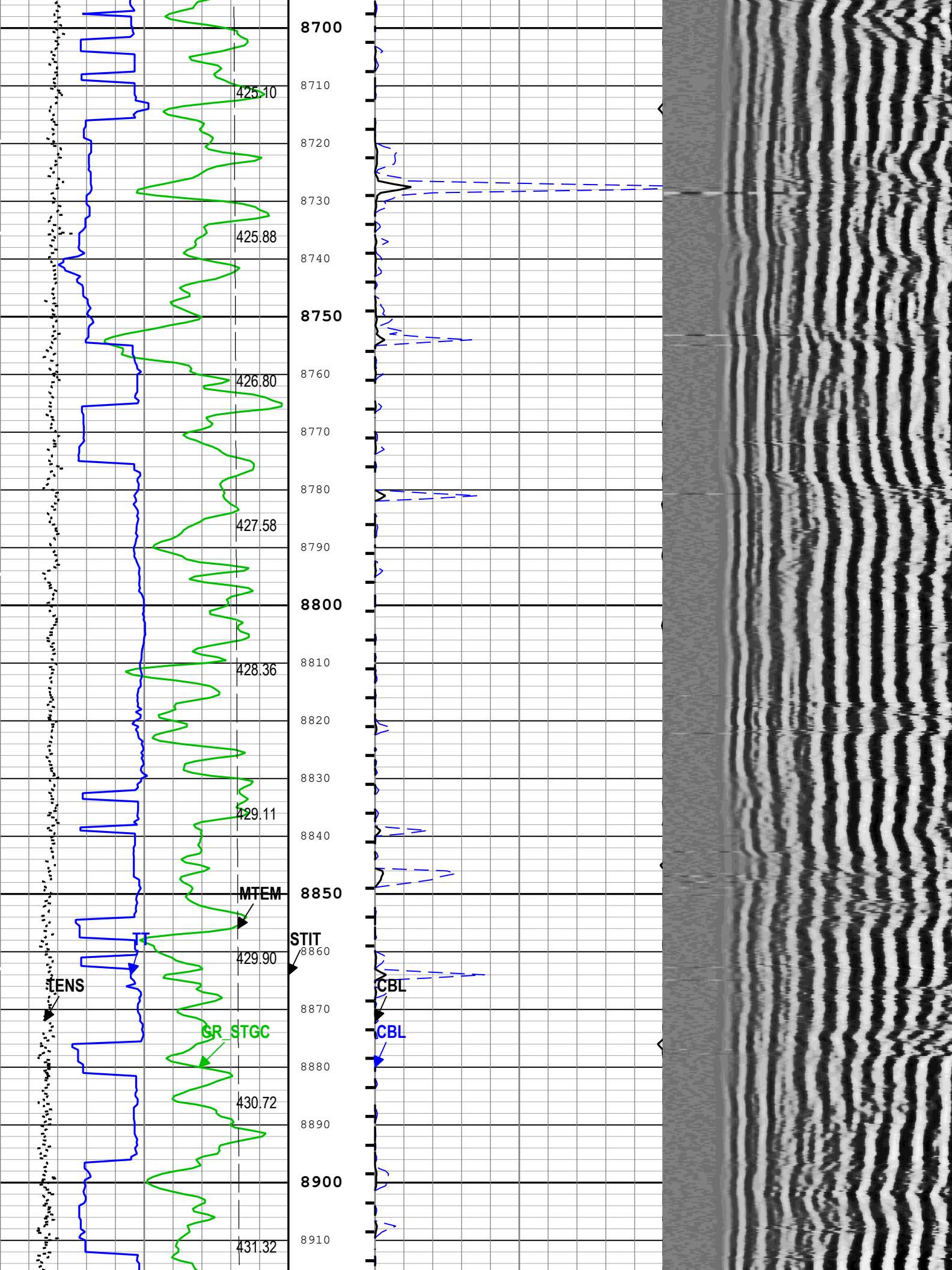


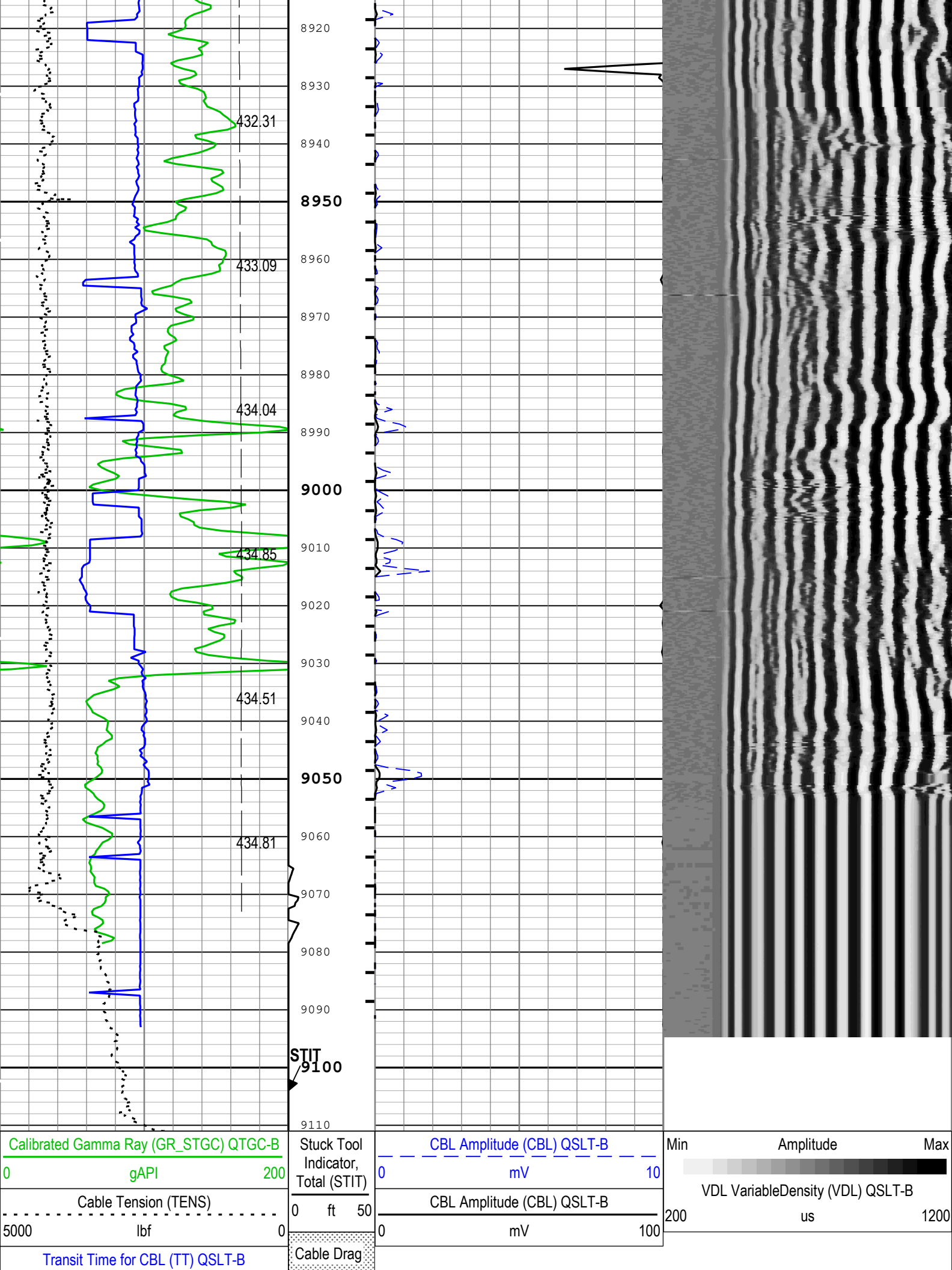












400

us

200

Mud Temperature (MTEM) LEH-MT

degF

Mud Temperature (MTEM) LEH-MT

degF

500

TIME_1900 - Time Marked every 60.00 (s)

■

BIEP - Bond Index Event Pips QSLT-B

Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 17-Aug-2021 13:42:16

Channel Processing Parameters

One: Parameters

| Parameter | Description | Tool | Value | Unit |
|---------------|---|-----------------|-------------|-------|
| BILI | Bond Index Level for Zone Isolation | QSLT-B | 0.8 | |
| CBRA | CBL LQC Reference Amplitude in Free Pipe | QSLT-B | 71 | mV |
| CMCF | CBL Cement Type Compensation Factor | QSLT-B | 1 | |
| DC_MODE | Depth Correction Mode | DepthCorrection | Real-time | |
| DFAD | Slim Sonic DFAD Computation Control | QSLT-B | Surface | |
| FCF | CBL Fluid Compensation Factor | QSLT-B | 1.01 | |
| GOBO | Good Bond | QSLT-B | 2.48 | mV |
| GOBO_CURR | Good Bond in Arbitrary Cement | QSLT-B | 2.48 | mV |
| GR_MULTIPLIER | Gamma Ray Multiplier | QTGC-B | 1 | |
| MATT_CURR | Maximum Attenuation in Arbitrary Cement | QSLT-B | 13.94 | dB/ft |
| MCI | Minimum Cemented Interval for Isolation | QSLT-B | Depth Zoned | ft |
| MSA | Minimum Sonic Amplitude | QSLT-B | 1.07 | mV |
| MSA_CURR | Minimum Sonic Amplitude in Arbitrary Cement | QSLT-B | 1.07 | mV |
| RUN_SNUM | Run Sequence Number | WSDRUN | 1 | |
| VDLG | VDL Manual Gain | QSLT-B | 5 | |
| ZCMT | Acoustic Impedance of Cement | QSLT-B | 6.8 | Mrayl |
| ZCMT_NEAT | Acoustic Impedance of Cement in Neat Cement | QSLT-B | 6.8 | Mrayl |

Depth Zone Parameters

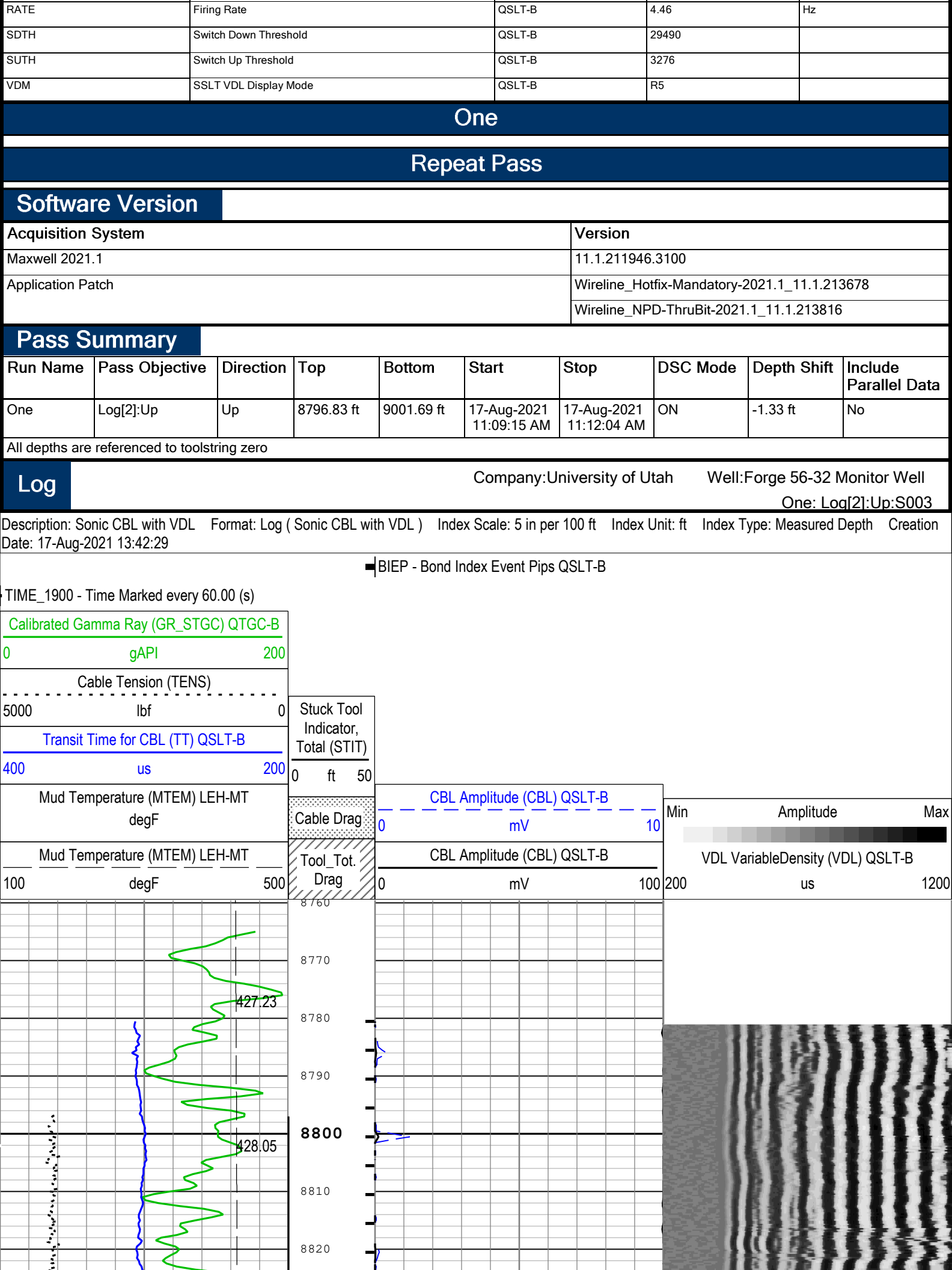
| Parameter | Value | Start (ft) | Stop (ft) |
|-----------|-------|--------------|-------------|
| MCI | 21.68 | 100 | 350 |
| MCI | 14.81 | 350 | 3100 |
| MCI | 4.75 | 3100 | 9111 |

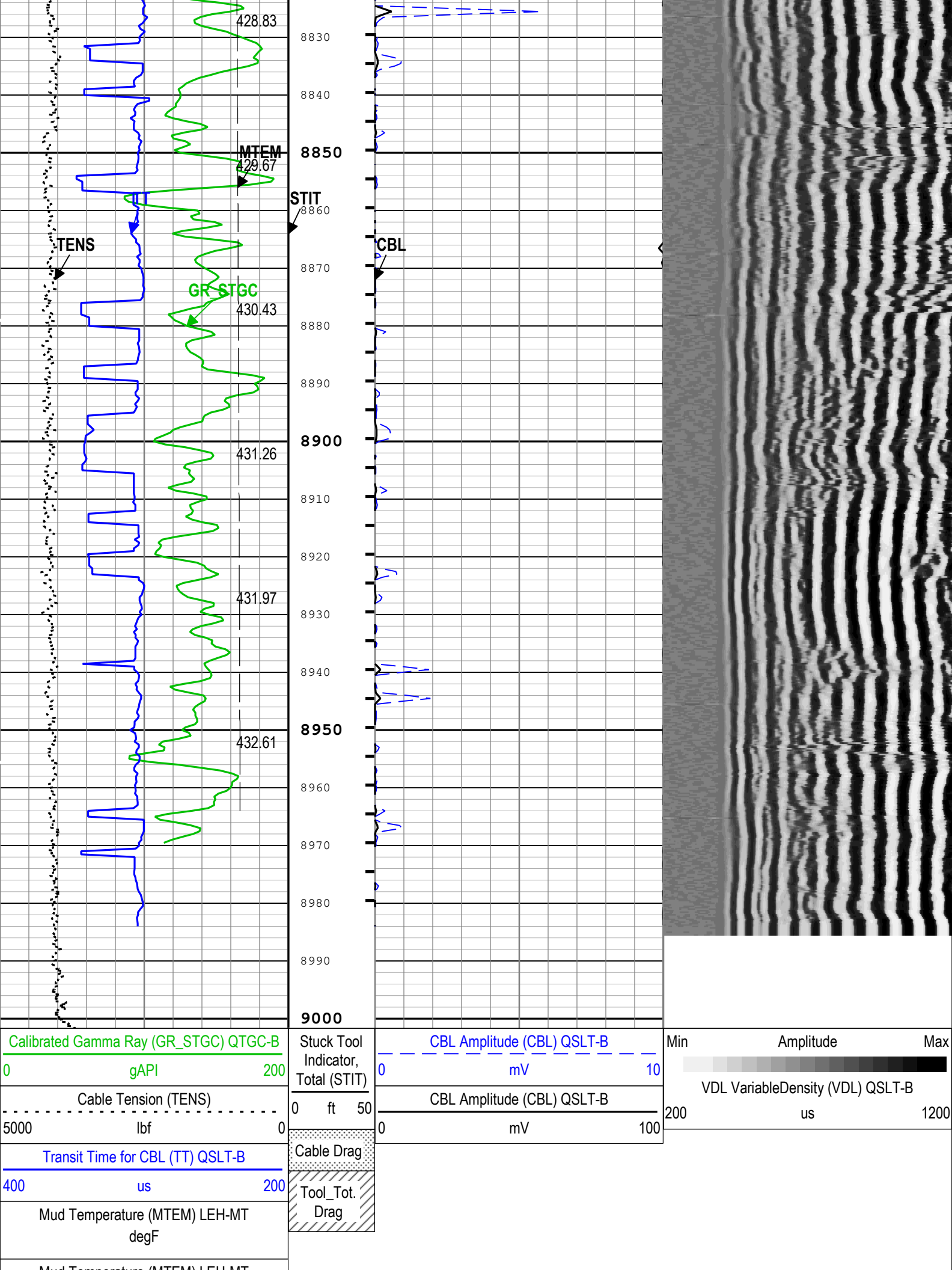
All depth are actual.

Tool Control Parameters

One: Parameters

| Parameter | Description | Tool | Value | Unit |
|---------------|------------------------------------|-----------|-------|------|
| ACSS | Attenuation Mode CBL Source Switch | QSLT-B | CBL | |
| DDE1 | Digitizing Delay 1 | QSLT-B | 40 | us |
| DDE2 | Digitizing Delay 2 | QSLT-B | 40 | us |
| DSIN | Digitizer Sample Interval | QSLT-B | 10 | us |
| DWCO | Digitizer Word Count | QSLT-B | 256 | |
| GAI1 | SSLT Manual Gain 1 | QSLT-B | High | |
| GAI2 | SSLT Manual Gain 2 | QSLT-B | High | |
| MAX_LOG_SPEED | Toolstring Maximum Logging Speed | WLSESSION | 4010 | ft/h |
| MODE | SSLT Firing Mode | QSLT-B | CBL | |





| | |
|-------------------------------|------|
| Mud Temperature (MTEM) LEH-MI | |
| 100 | degF |
| | 500 |

TIME_1900 - Time Marked every 60.00 (s)

■BIEP - Bond Index Event Pips QSLT-B

Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 17-Aug-2021 13:42:29

Channel Processing Parameters

One: Parameters

| Parameter | Description | Tool | Value | Unit |
|---------------|---|-----------------|-----------|-------|
| BILI | Bond Index Level for Zone Isolation | QSLT-B | 0.8 | |
| CBRA | CBL LQC Reference Amplitude in Free Pipe | QSLT-B | 71 | mV |
| CMCF | CBL Cement Type Compensation Factor | QSLT-B | 1 | |
| DC_MODE | Depth Correction Mode | DepthCorrection | Real-time | |
| DFAD | Slim Sonic DFAD Computation Control | QSLT-B | Surface | |
| FCF | CBL Fluid Compensation Factor | QSLT-B | 1.01 | |
| GOBO | Good Bond | QSLT-B | 2.48 | mV |
| GOBO_CURR | Good Bond in Arbitrary Cement | QSLT-B | 2.48 | mV |
| GR_MULTIPLIER | Gamma Ray Multiplier | QTGC-B | 1 | |
| MATT_CURR | Maximum Attenuation in Arbitrary Cement | QSLT-B | 13.94 | dB/ft |
| MCI | Minimum Cemented Interval for Isolation | QSLT-B | 4.75 | ft |
| MSA | Minimum Sonic Amplitude | QSLT-B | 1.07 | mV |
| MSA_CURR | Minimum Sonic Amplitude in Arbitrary Cement | QSLT-B | 1.07 | mV |
| RUN_SNUM | Run Sequence Number | WSDRUN | 1 | |
| VDLG | VDL Manual Gain | QSLT-B | 5 | |
| ZCMT | Acoustic Impedance of Cement | QSLT-B | 6.8 | Mrayl |
| ZCMT_NEAT | Acoustic Impedance of Cement in Neat Cement | QSLT-B | 6.8 | Mrayl |

Tool Control Parameters

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| DWCO | Digitizer Word Count | QSLT-B | 256 | |
| GAI1 | SSLT Manual Gain 1 | QSLT-B | High | |
| GAI2 | SSLT Manual Gain 2 | QSLT-B | High | |
| MAX_LOG_SPEED | Toolstring Maximum Logging Speed | WLSESSION | 4010 | ft/h |
| MODE | SSLT Firing Mode | QSLT-B | CBL | |
| RATE | Firing Rate | QSLT-B | 4.46 | Hz |
| SDTH | Switch Down Threshold | QSLT-B | 29490 | |
| SUTH | Switch Up Threshold | QSLT-B | 3276 | |
| VDM | SSLT VDL Display Mode | QSLT-B | R5 | |

| | | |
|-----------|--------------------------|---------------------|
| Company: | University of Utah | Schlumberger |
| Well: | Forge 56-32 Monitor Well | |
| Field: | Wildcat | |
| County: | Beaver | |
| Operator: | University of Utah | |

State: Utah

SlimXtreme Sonic Logging Tool

CBL-VDL