

Company: Kerr McGee Oil & Gas Onshore LP

Well: Banded 37C-27HZ

Field: Wattenberg

County: Weld State: Colorado

Platform Express

Caliper

Cement Volume

County:	Weld
Field:	Wattenberg
Location:	SHL: 300' FSL & 916' FEL
Well:	Banded 37C-27HZ
Company:	Kerr McGee Oil & Gas Onshore LP
Location:	
SHL: 300' FSL & 916' FEL	Elev.: K.B. 5002.00 ft G.L. 4977.00 ft D.F. 5001.00 ft
Permanent Datum:	Ground Level
Log Measured From:	Kelly Bushing
Drilling Measured From:	Kelly Bushing
API Serial No. 05-123-39303-00	Section: 27
	Township: 2N
	Range: 67W

Logging Date	08-Aug-2014
Run Number	Two
Depth Driller	7045.00 ft
Schlumberger Depth	7042.00 ft
Bottom Log Interval	7055.00 ft
Top Log Interval	1762.00 ft
Casing Driller Size @ Depth	9.625 in @ 1771.00 ft
Casing Schlumberger	1762 ft
Bit Size	8.75 in
Type Fluid In Hole	WBM
Density	10.2 lbm/gal
Fluid Loss	PH
Source of Sample	Active Tank
RM @ Meas Temp	1.13 ohm.m @ 75 degF
RMF @ Meas Temp	1.15 ohm.m @ 75 degF
RMC @ Meas Temp	1.37 ohm.m @ 75 degF
Source RMF	Calculated
RM @ BHT	0.55 @ 160
RMF @ BHT	0.56 @ 160
Max Recorded Temperatures	160 degF
Circulation Stopped	07-Aug-2014 23:00:00
Logger on Bottom	08-Aug-2014 04:00:00
Unit Number	2135
Recorded By	Nolan Welsh
Witnessed By	Steve Wilson

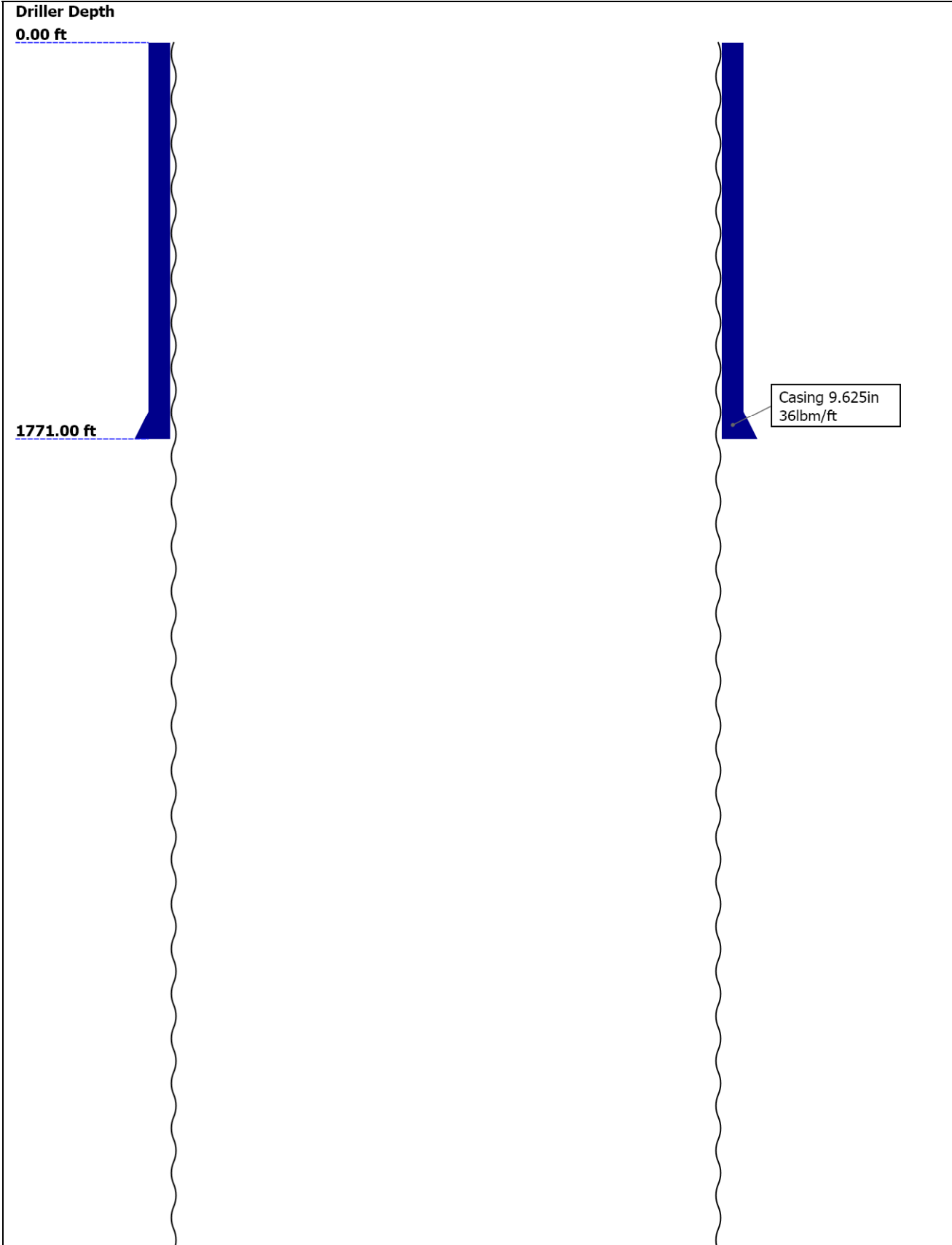
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Well Sketch





Borehole Size/Casing/Tubing Record						
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Bit						
Bit Size (in)	8.75					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	7045					
Bottom Logger (ft)	7042					
Casing						
Size (in)	9.625					
Weight (lbm/ft)	36					
Inner Diameter (in)	8.921					
Grade	N/A					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	1771					
Bottom Logger (ft)	1762					

Operational Run Summary						
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Parameter (unit)	Two					
Date Log Started	08-Aug-2014					
Time Log Started	03:12:32					
Date Log Finished	08-Aug-2014					
Time Log Finished	06:14:00					
Top Log Interval (ft)	1762.00					
Bottom Log Interval (ft)	7055.00					
Total Depth (ft)	7055.00					
Max Hole Deviation (deg)	19.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	8.750					
Logging Unit Number	2135					
Logging Unit Location	Fort Morgan					
Recorded By	Nolan Welsh					
Witnessed By	Steve Wilson					
Service Order Number	CXPX-00021					

Service Order Number		CATX-00021					
Borehole Fluids							
Parameter(unit)	Two						
Fluid Type	Water						
Fluid Name	WBM						
Max Recorded Temperatures (degF)	160						
Source of Sample	Active Tank						
Salinity (ppm)	0						
Density (lbm/gal)	10.2						
Funnel Viscosity (s)	41						
Fluid Loss (cm3)							
PH	9.5						
Date/Time Circulation Stopped	07-Aug-2014 23:00:00						
Date Logger on Bottom	08-Aug-2014						
Time Logger on Bottom	04:00:00						
Source RMF	Calculated						
RMC	Calculated						
RM @ Meas Temp (ohm.m@degF)	1.13 @ 75						
RMF @ Meas Temp (ohm.m@degF)	1.15 @ 75						
RMC @ Meas Temp (ohm.m@degF)	1.37 @ 75						
RM @ BHT (ohm.m@degF)	0.55 @ 160						
RMF @ BHT (ohm.m@degF)	0.56 @ 160						
RMC @ BHT (ohm.m@degF)	0.67 @ 160						
Total Solid (%)							
High Gravity Solids (%)							
Remarks and Equipment Summary							
Two: Toolstring				Two: Remarks			
Equip name	Length	MP name	Offset	Thank you for choosing schlumberger			
LEH-QT	53.58			Rig: H&P 311			
LEH-QT				AIT ran in compute standoff mode`			
EDTC-B:8315	50.67			HGNS ran without bowspring			
EDTH-B:8336				HGNS eccentered using PPC caliper with one arm powered.			
EDTG-B:77213				Logging interval from TD to Casing Shoe.			
EDTC-B:8315				Repeat analysis done 200 ft. below casing shoe due to bottom hole conditions.			
		CTEM	47.17	Crew: Kevin Crow, Troy Ocanas, Alonzo Carrera			
		ACCZ	0.00				
		HV	0.00				
		Gamma Ray	45.3				
		TelStatus	44.17				
PPC-B:8193	44.17						
PPC-B:8193		PPC-B Caliper	43.02				
		s					

HGNS-H:4865 37.65
HGNH:4817
NSR-F:2554
NPV-N
HMCA-H
HGNS-H:4865
HACCZ-H:6991

Temperature 37.62
GR 36.91

CNL Porosity 30.57
HGNS 28.24
HMCA 28.24
Acceleromete 0.00
r

HDRS-H:3863 28.24
ECH-MEB:2898
HRCC-H:3828
HRMS-H:3863
GPV-Q
Short Spacing
Long Spacing
GSR-J:5471
Backscatter
HRGD-H:3760

HRCC 24.24

MCFL 18.81
Caliper 18.33
TLD Density 17.94

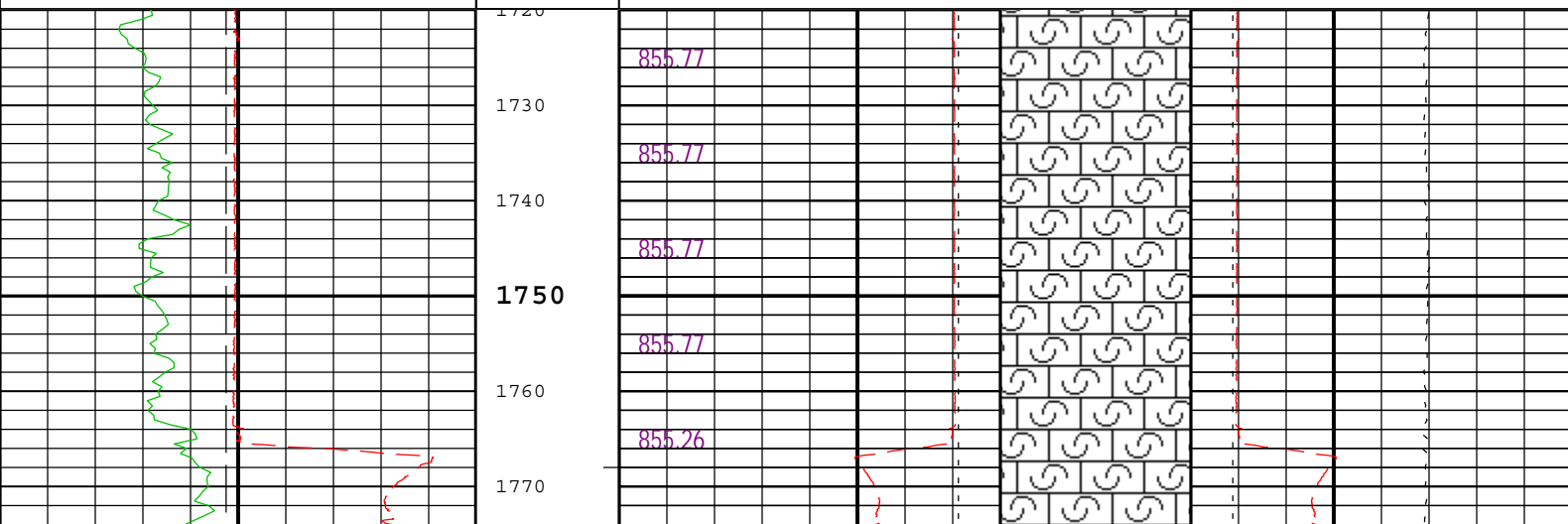
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AMIS:181
AMRM:181

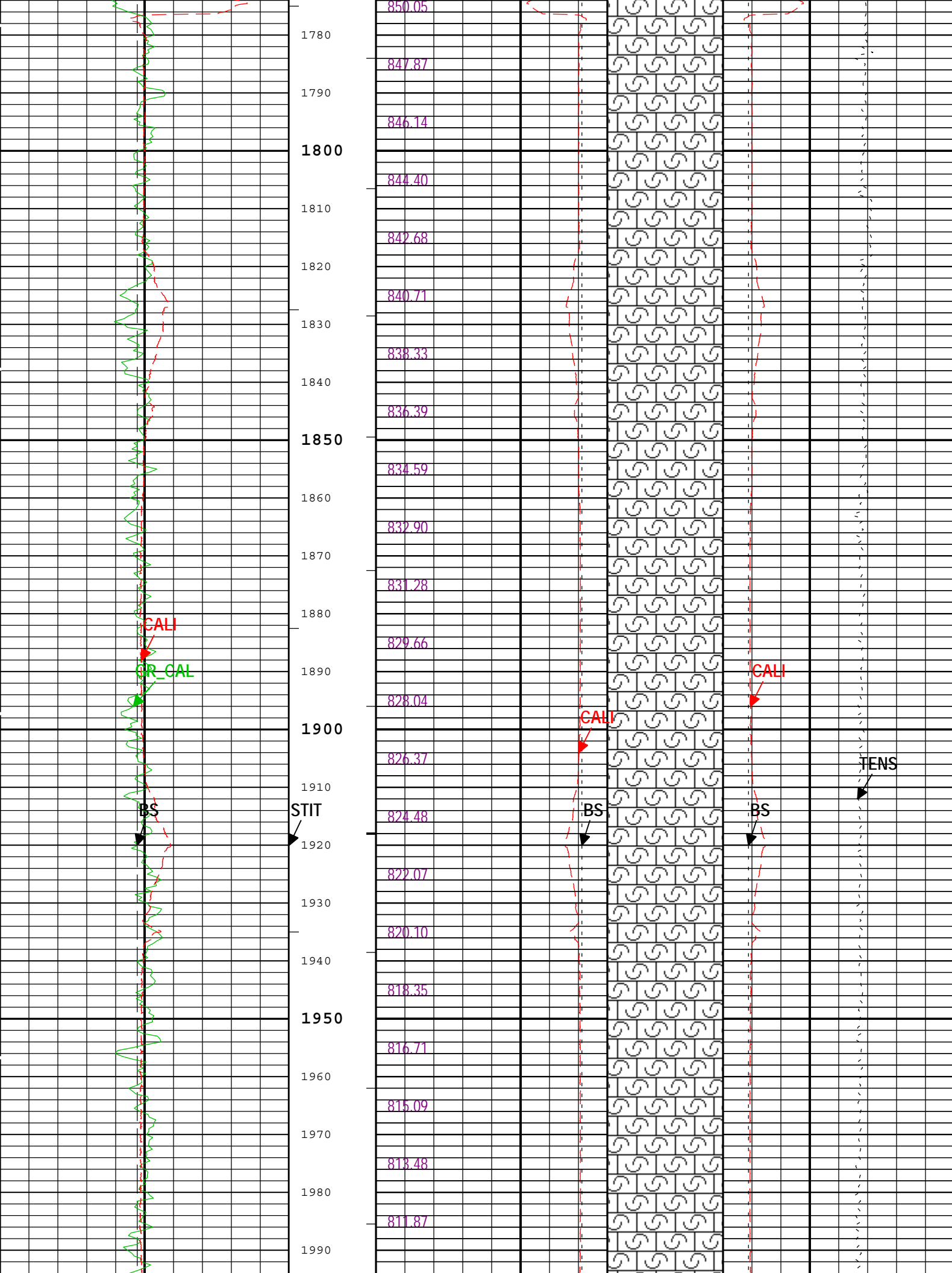
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Temperature 7.91
Induction 7.91

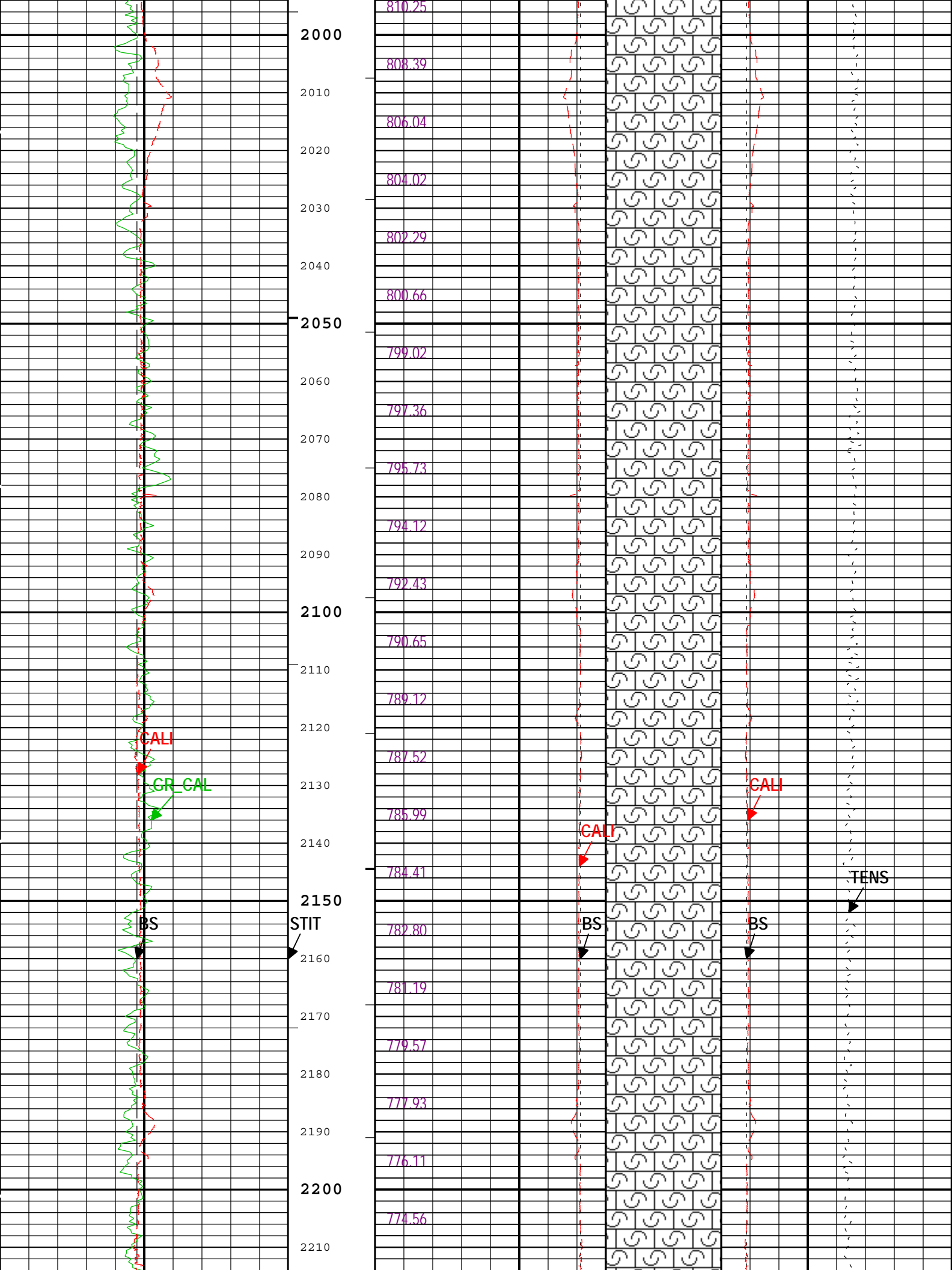
SP 0.08
Mud Resistivity 0.00
Head Tension
TOOL_ZERO

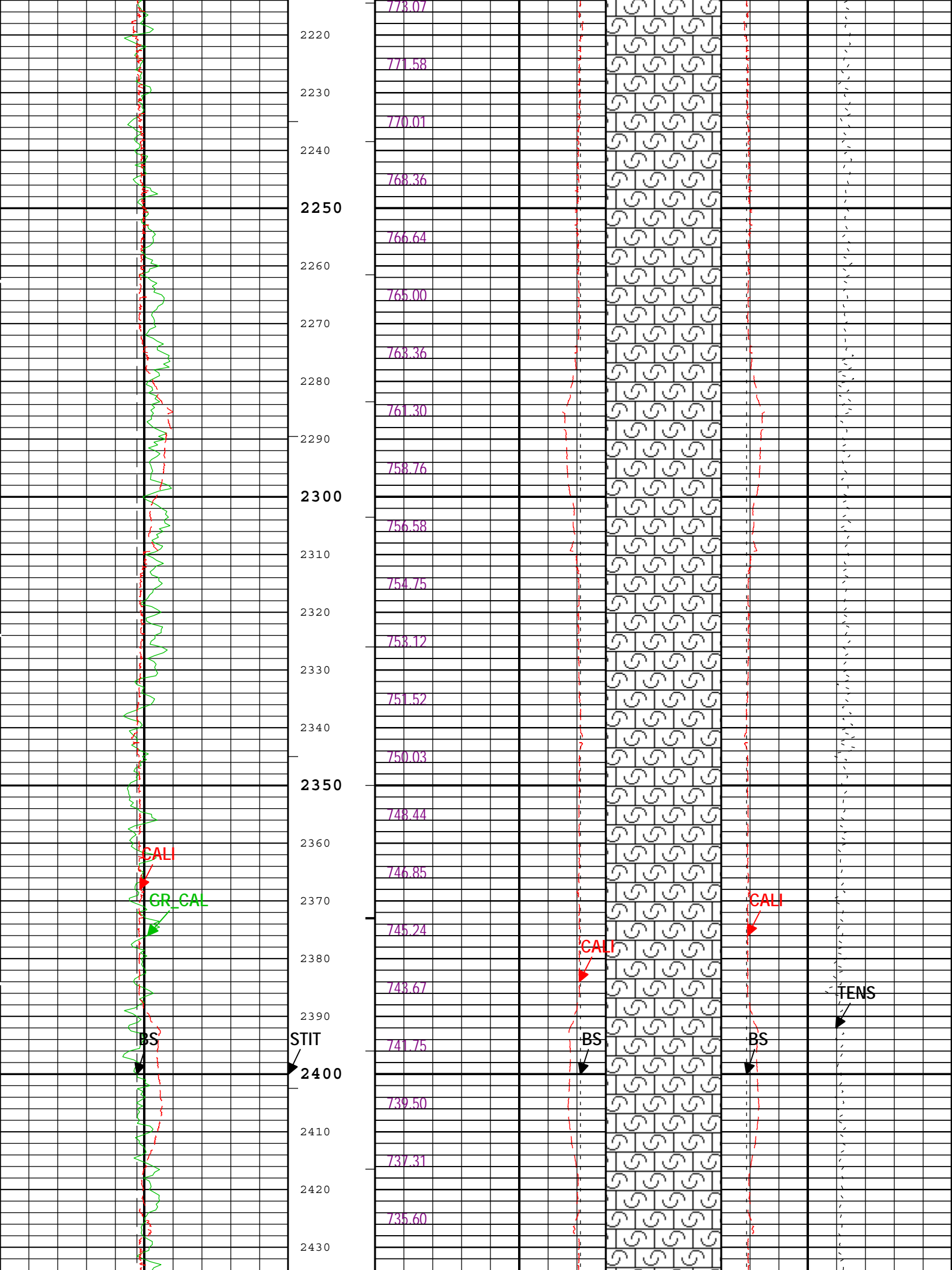
Lengths are in ft
Maximum Outer Diameter = 9.000 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

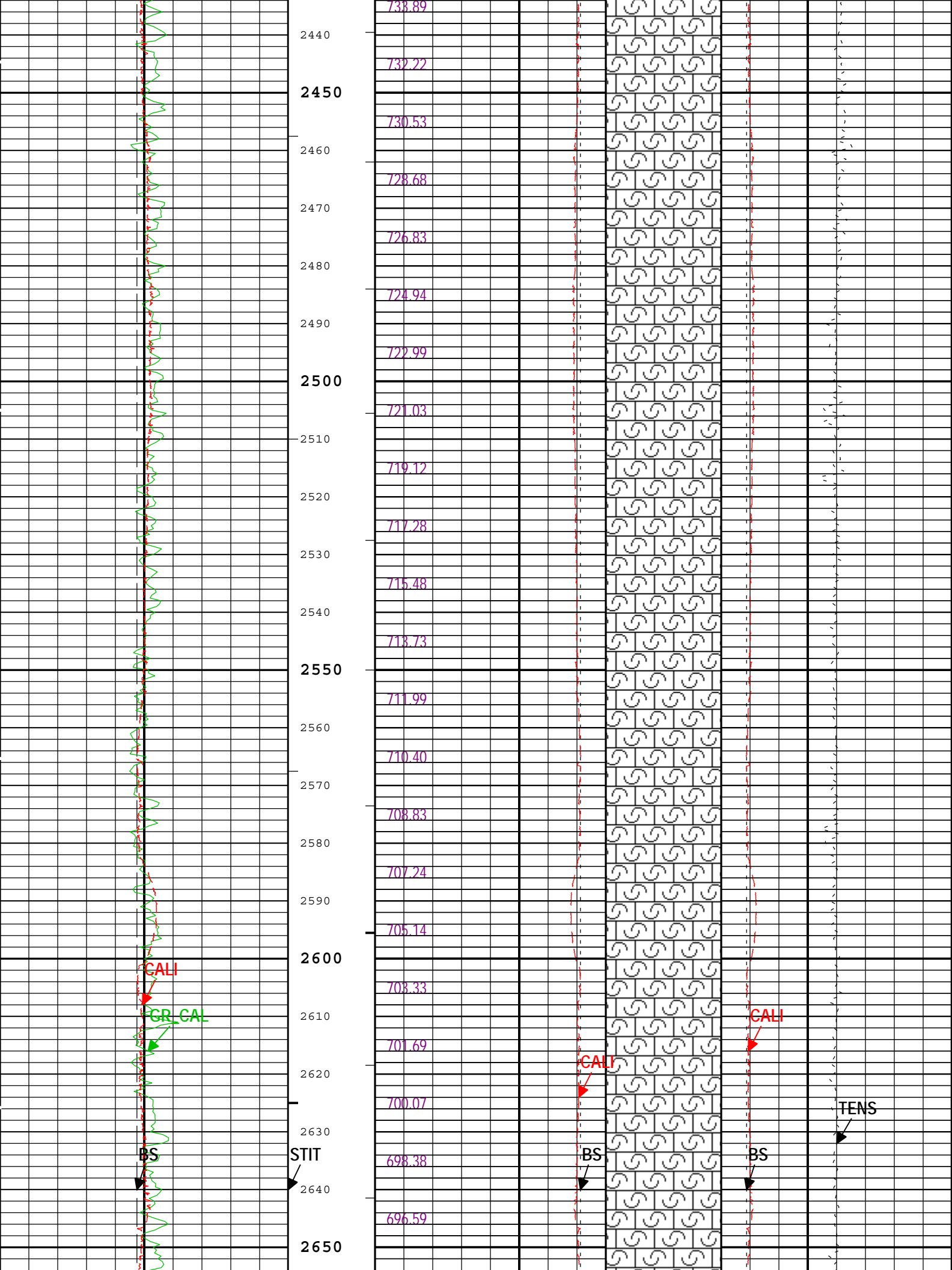
Depth Summary				
	Two			
Depth Measuring Device				
Type	IDW-JA			
Serial Number	5916			
Calibration Date	24-Mar-2014			
Calibrator Serial Number				
Calibration Cable Type	7-46 PXS			
Wheel Correction 1	-6			
Wheel Correction 2	-3			
Tension Device				
Type	CMTD-B/A			
Serial Number	1919			
Calibration Date	28-Jul-2014			
Calibrator Serial Number	78135A			
Number of Calibration Points	10			
Calibration Root Mean Square Error	17			
Calibration Peak Error	26			
Logging Cable				
Type	7-46P-XS			
Serial Number	U711136			
Length	18500.00 ft			
Conveyance Type	Wireline			
Rig Type	Land			
Two:Depth Control Parameters		Depth Control Remarks		
Log Sequence	First Log In the Well	All Schlumberger depth procedures followed.		
Rig Up Length At Surface		IDW used as primary depth control.		
Rig Up Length At Bottom		Z-Chart used as secondary depth control.		
Rig Up Length Correction				
Stretch Correction	11.35 ft			
Tool Zero Check At Surface				
Two				
5" Caliper				
Integration Summary				
Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	855.69	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	2273.51	ft3
Software Version				
Acquisition System		Version		
MaxWell		4.0.9163.3000		
Application Patch		Patch-SP-10767_18214-4.0.9163.3001		
		Patch-Hotfix_Task_Tree_GDI_SP2-20806-4.0.9434.3002		
Computation	Description			Version
Borehole	Borehole Ensemble provides common Borehole Parameters and Channels			4.0.9433.3000
DepthCorrection	DepthCorrection			4.0.9433.3000
Tool Elements	Description	Software Version	Firmware Version	
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	4.0.9385.3000	2.0	
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	4.0.9385.3000	2.0	
Pass Summary				

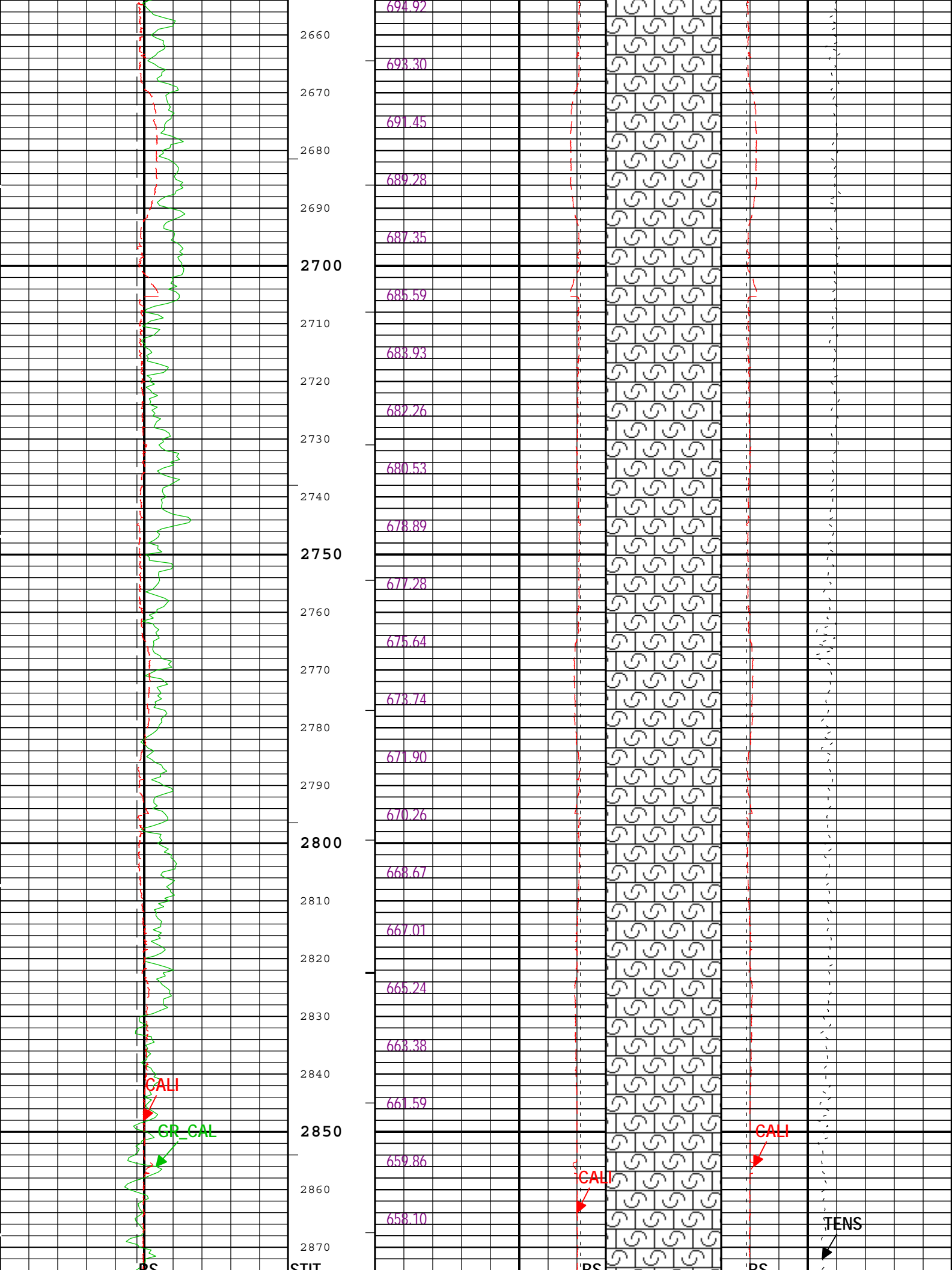


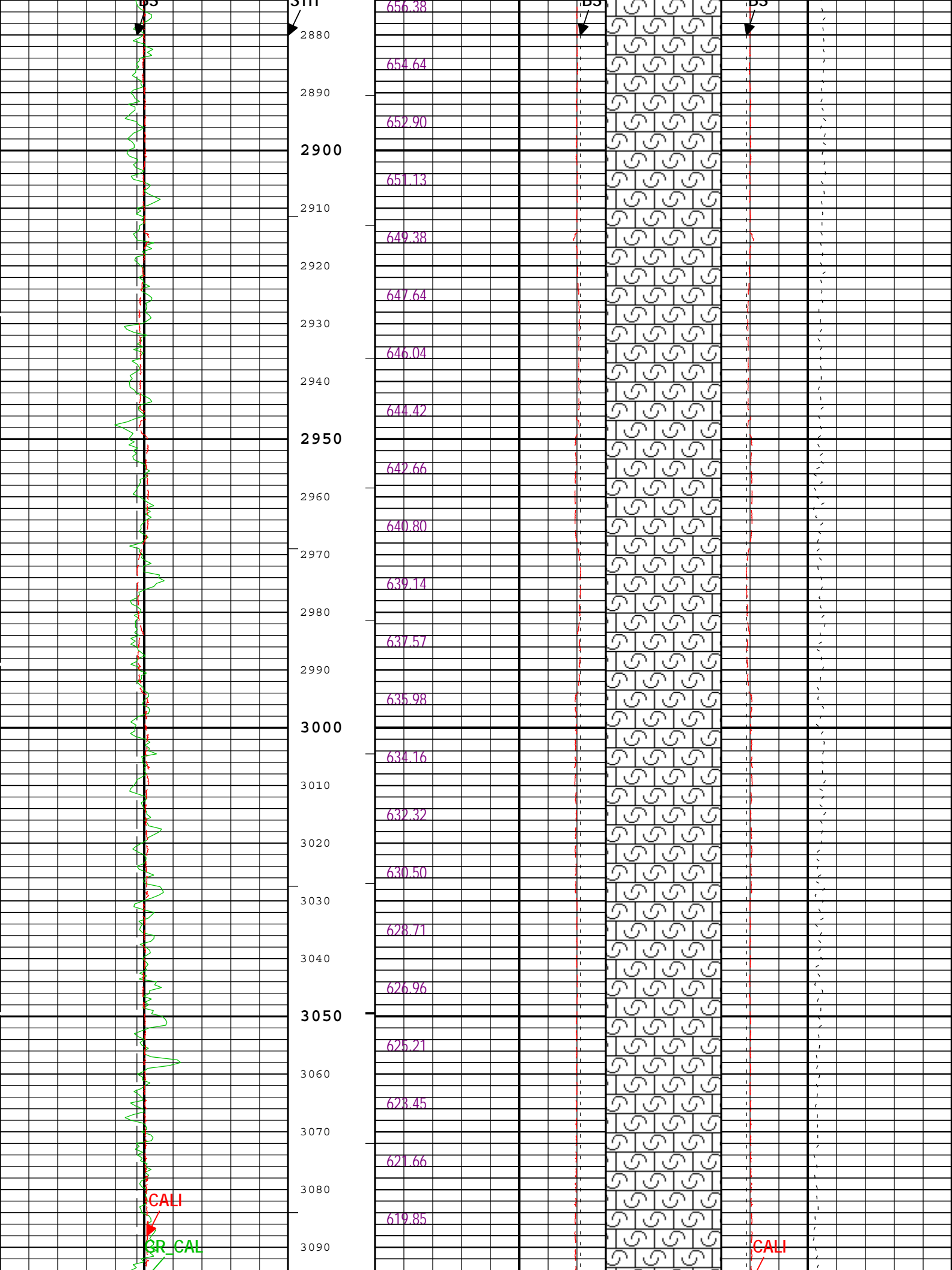


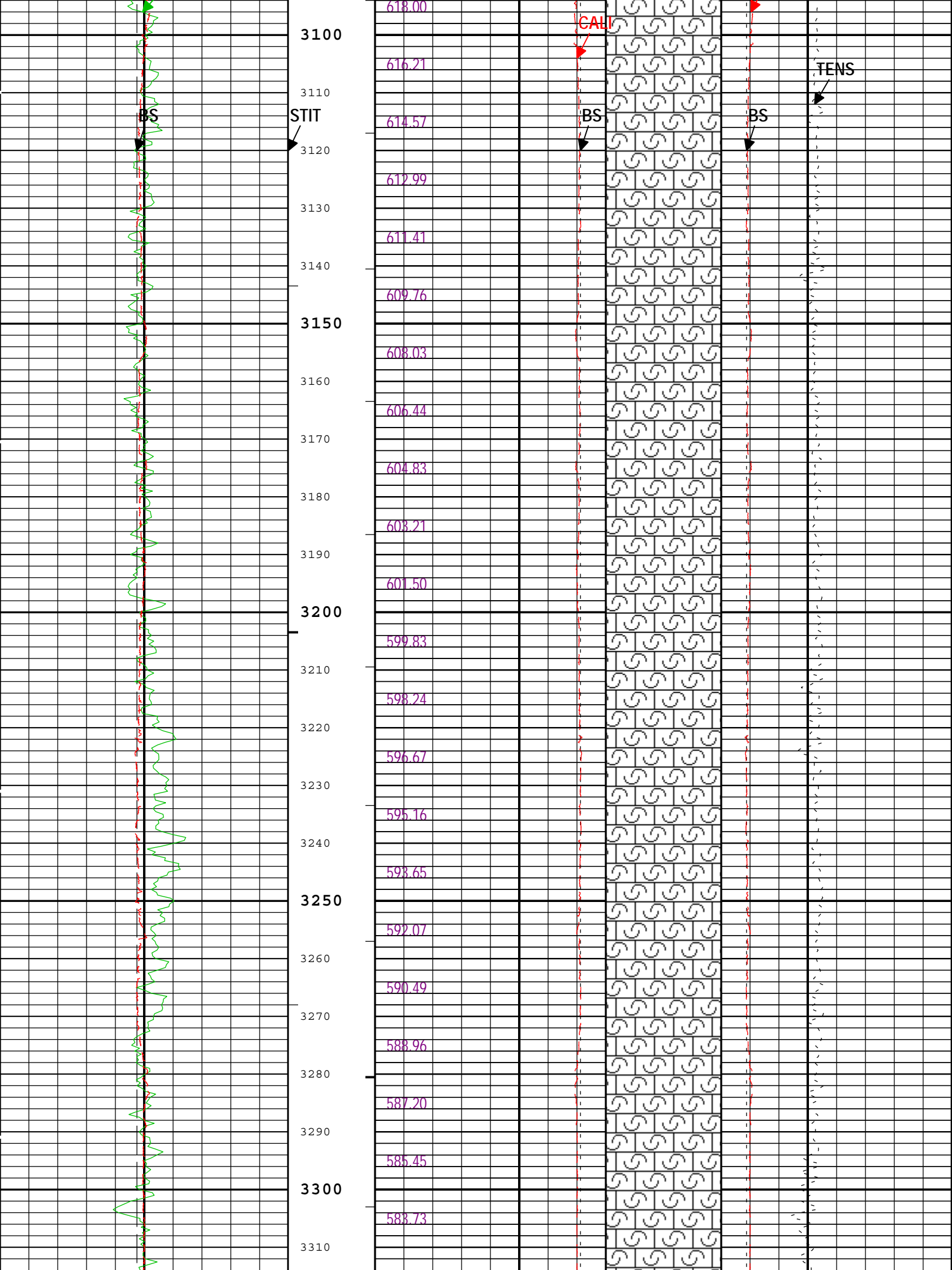


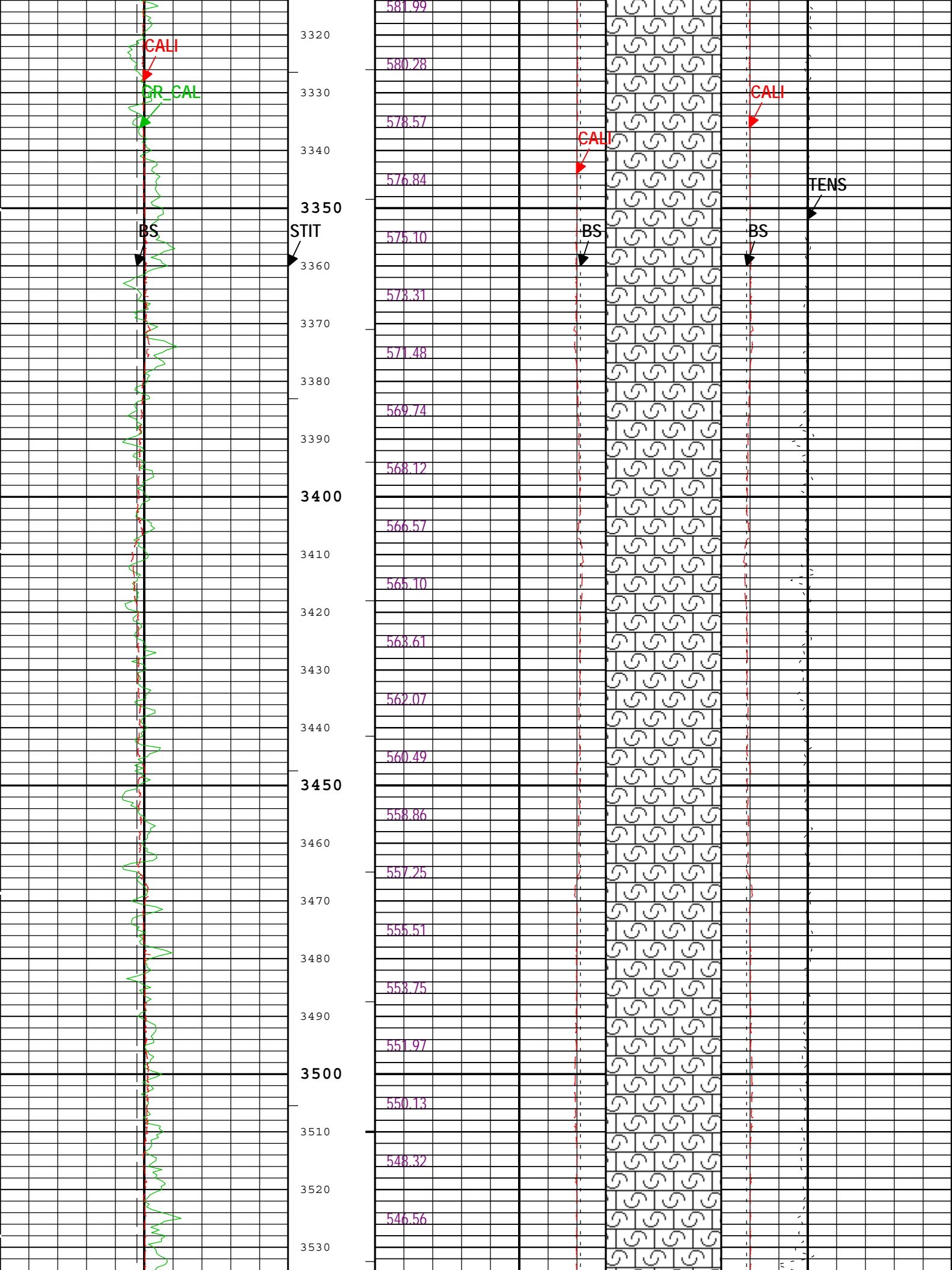


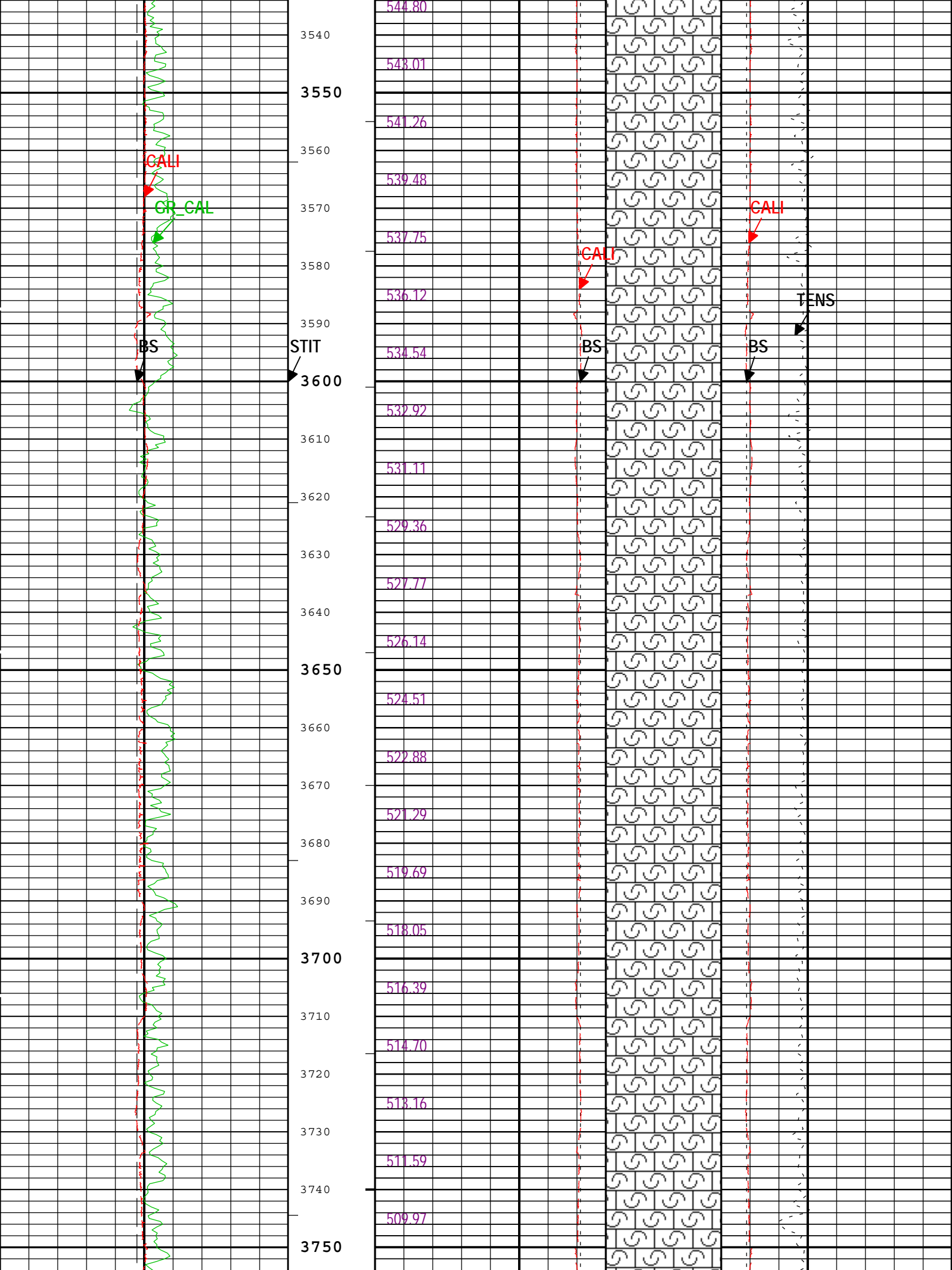


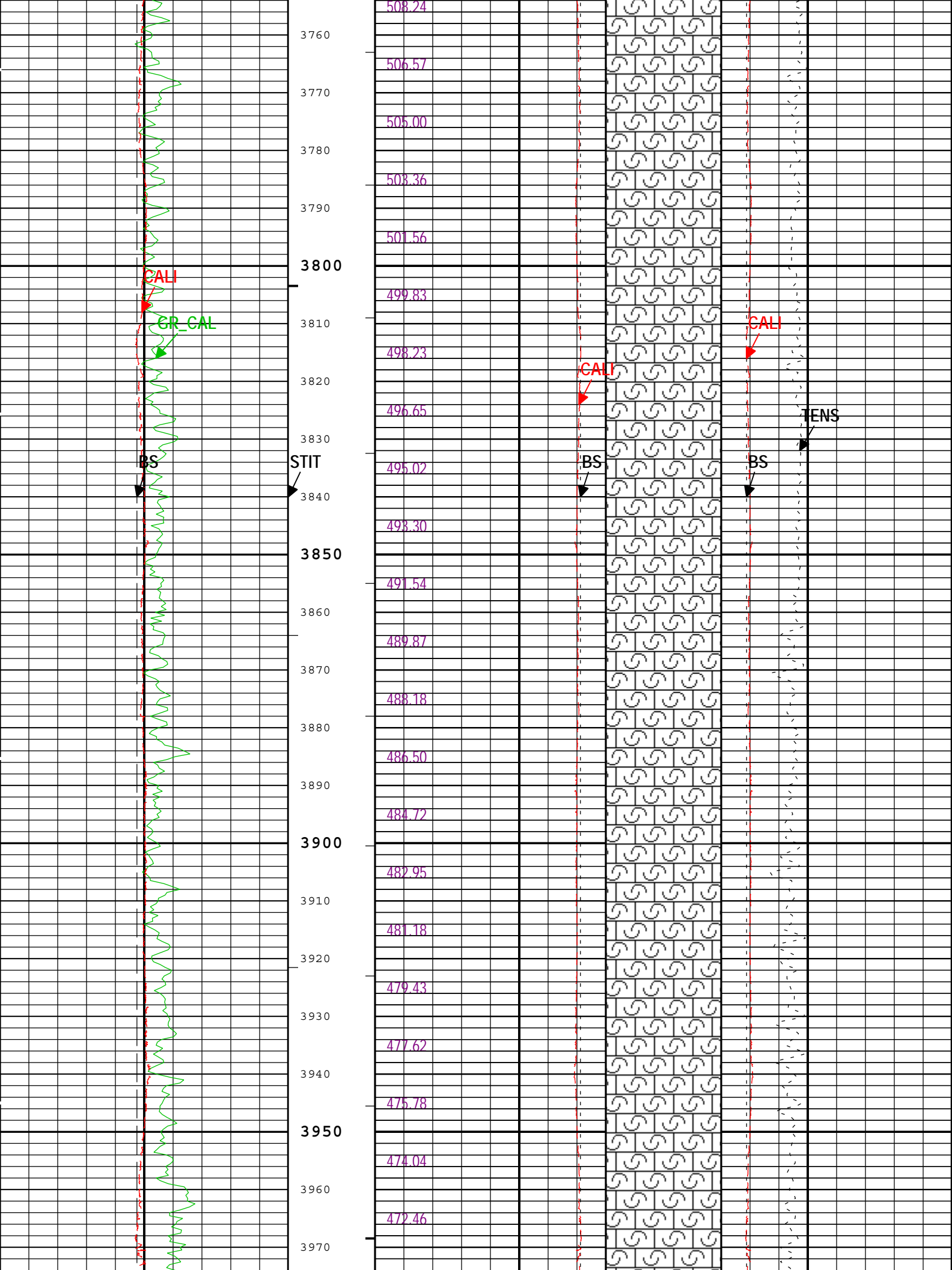


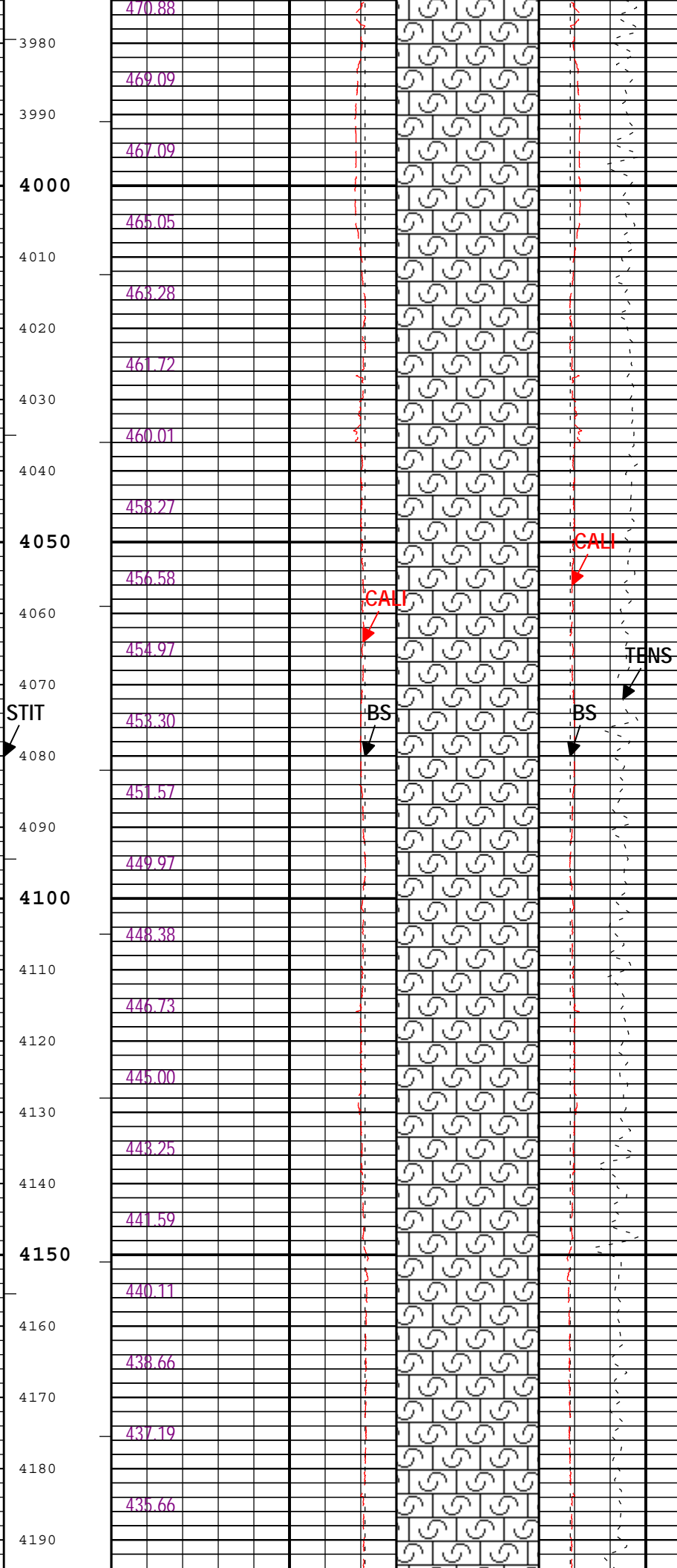
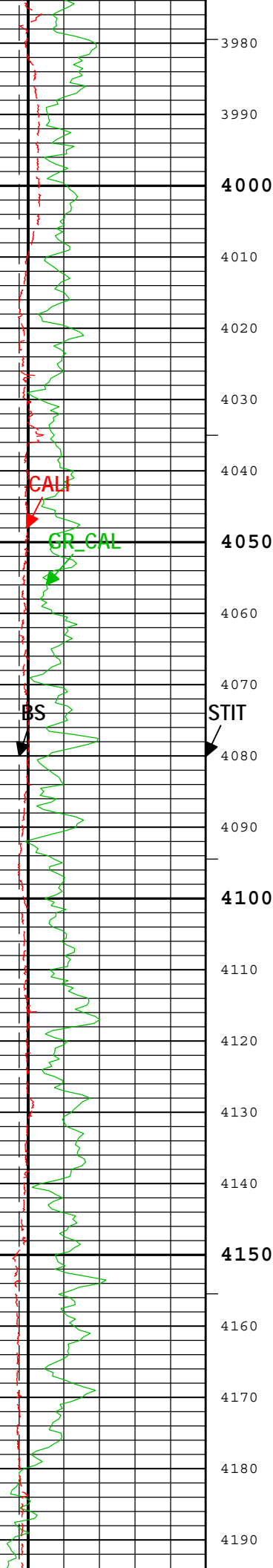


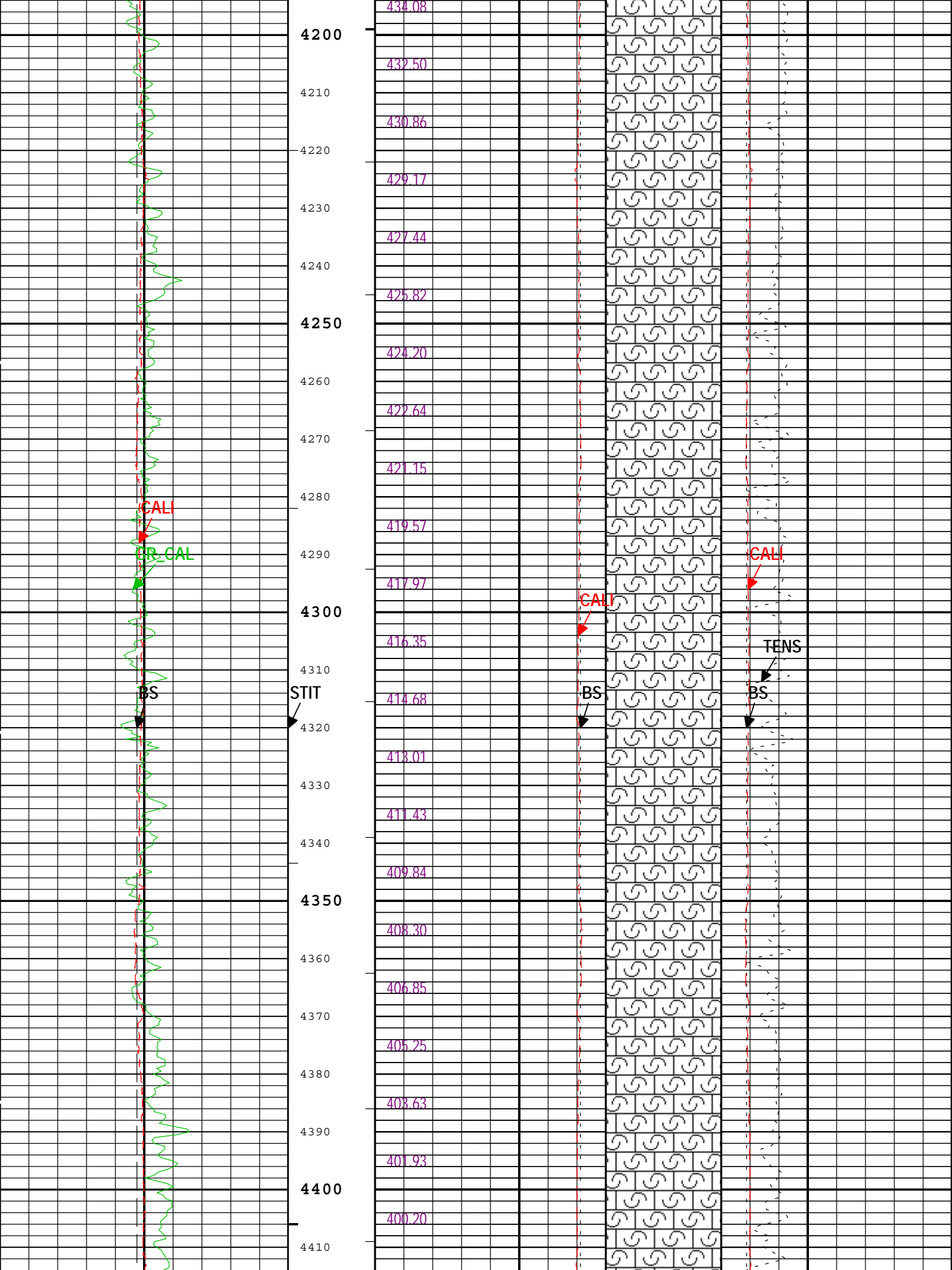


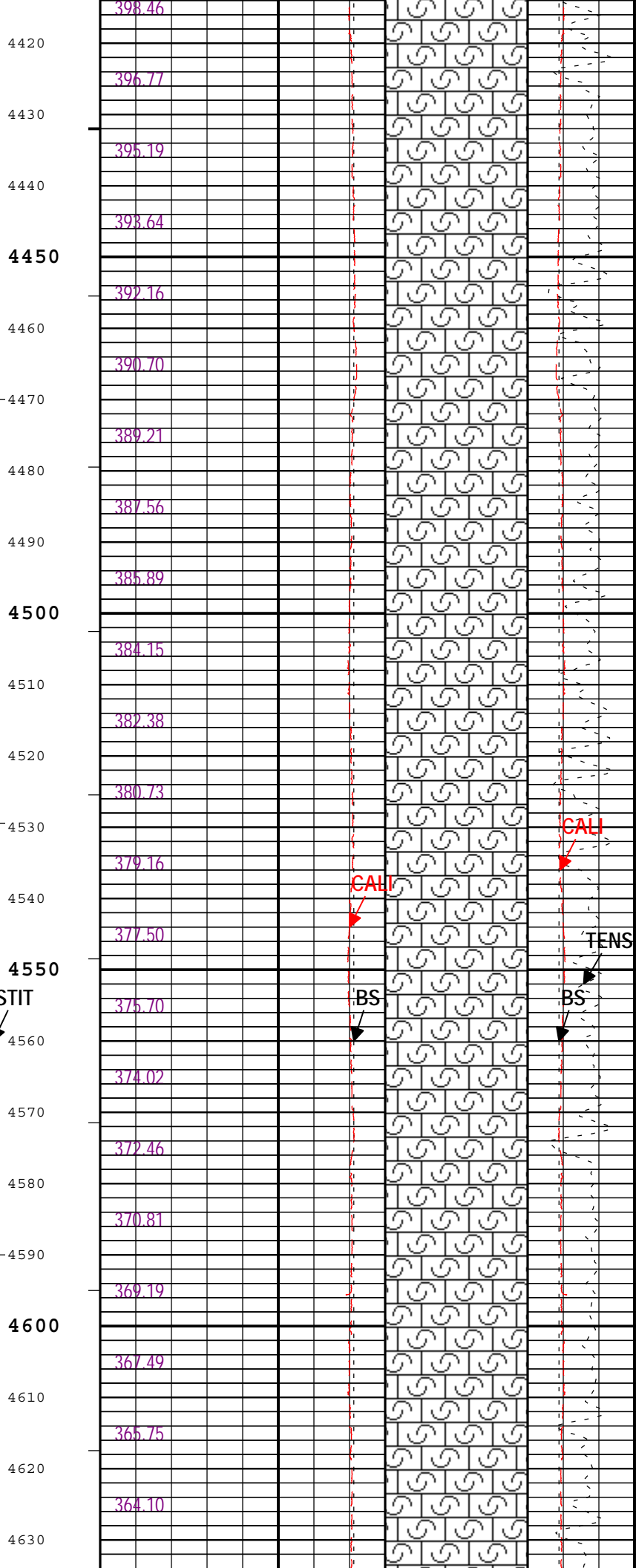
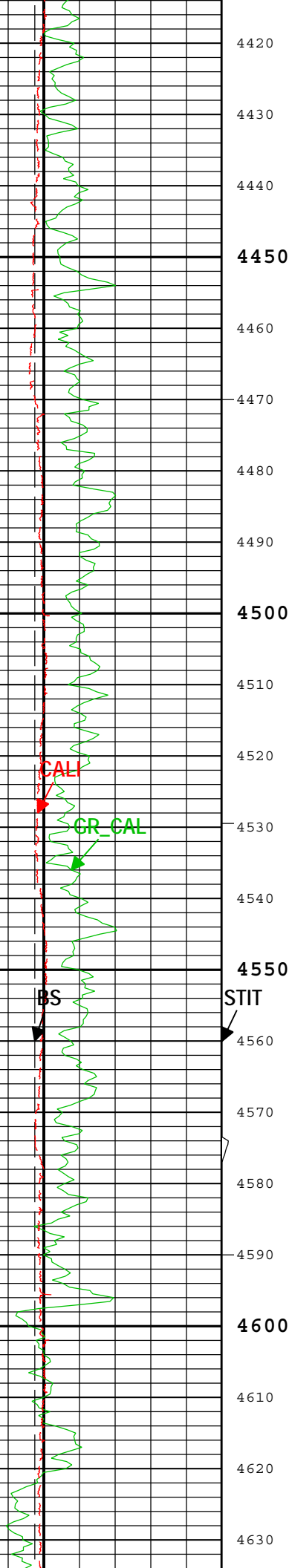


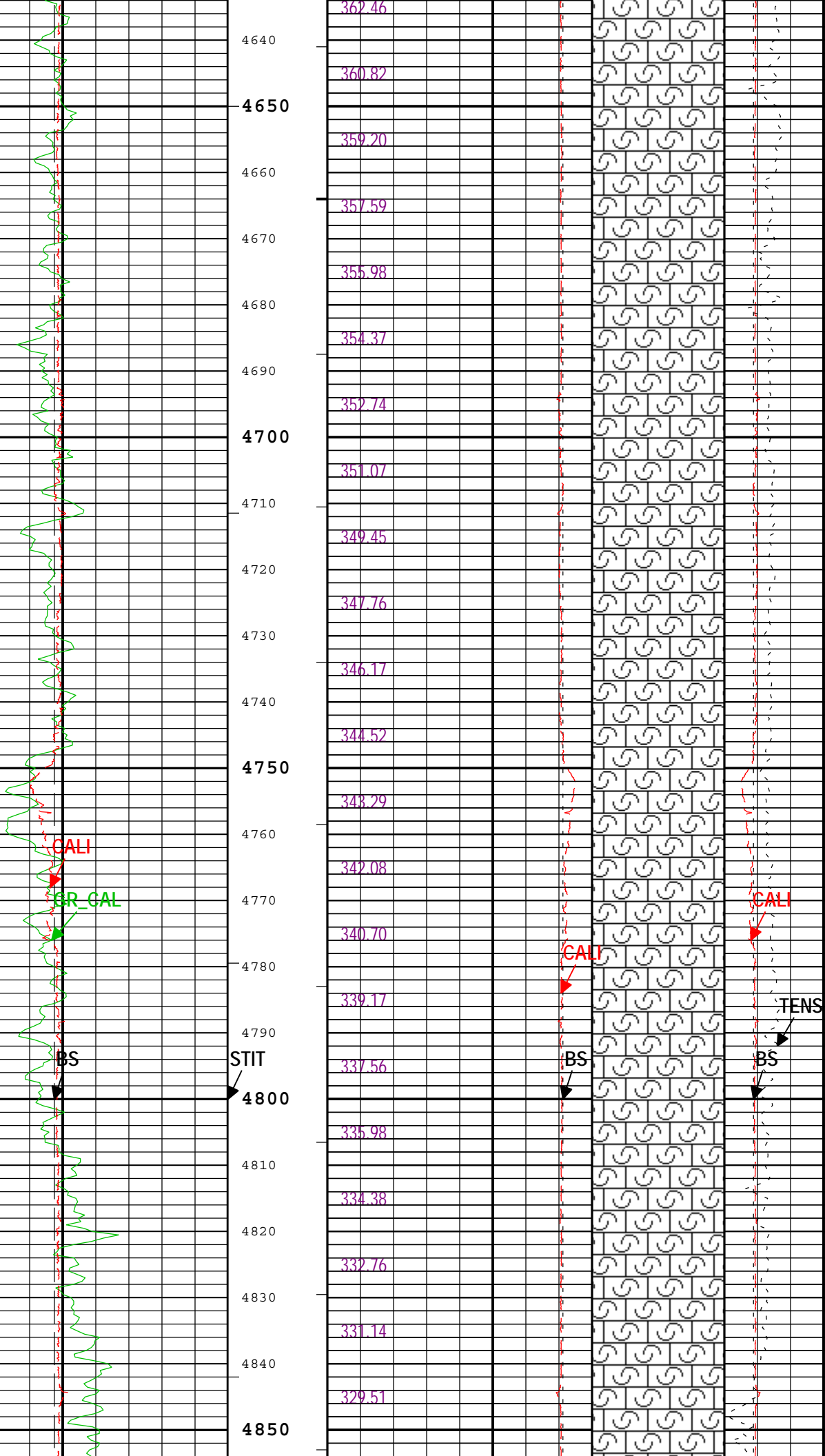


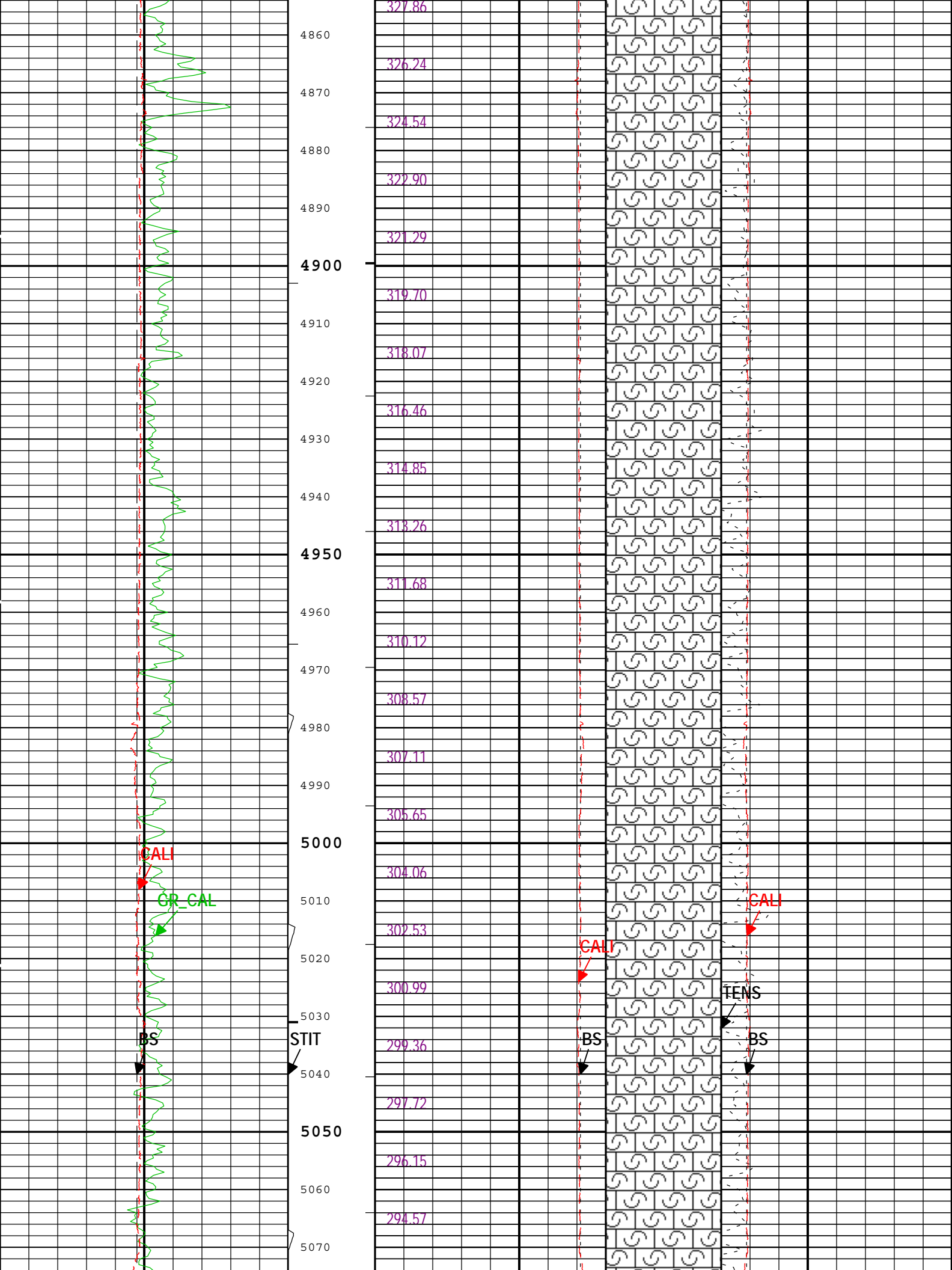


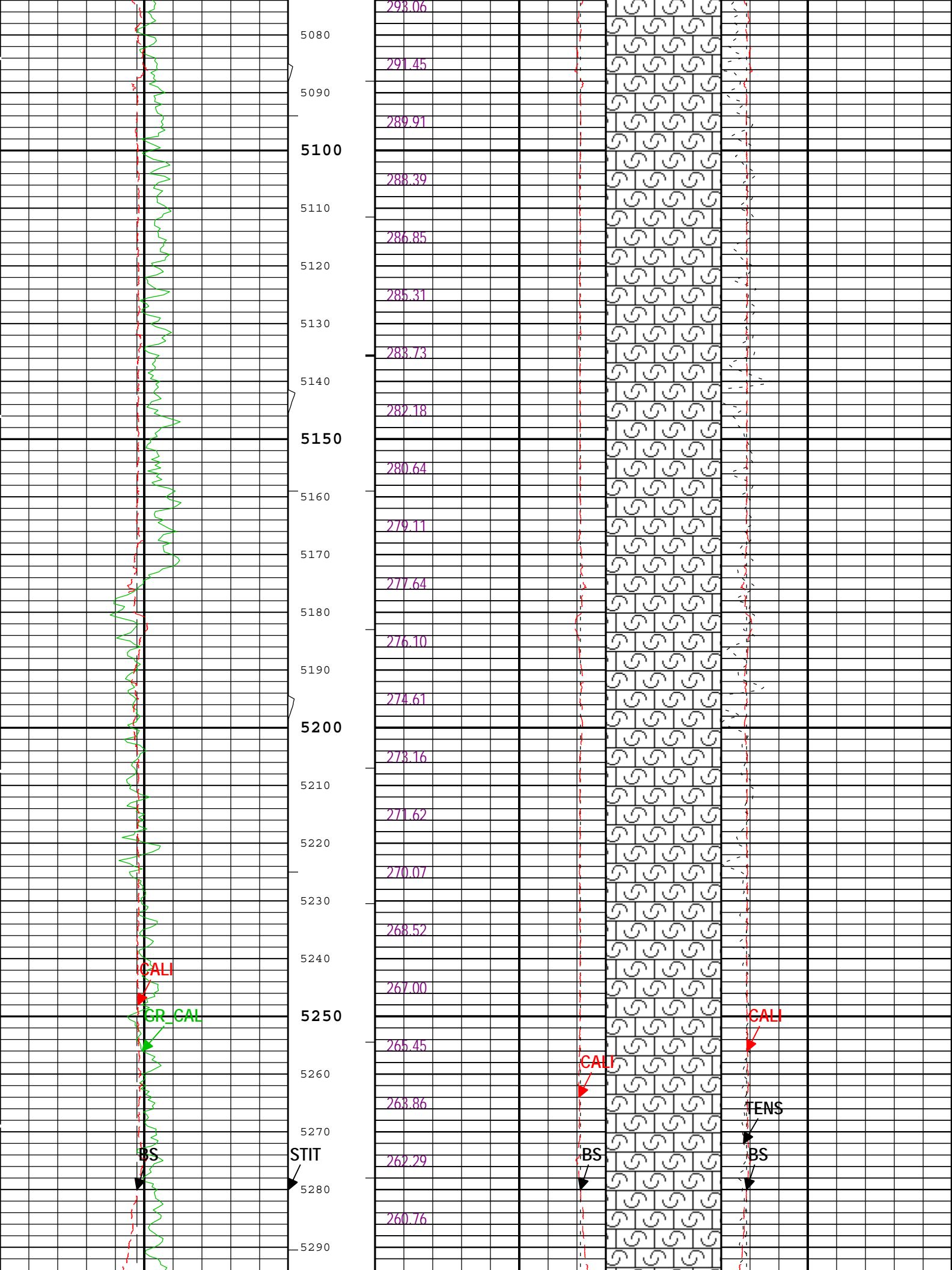


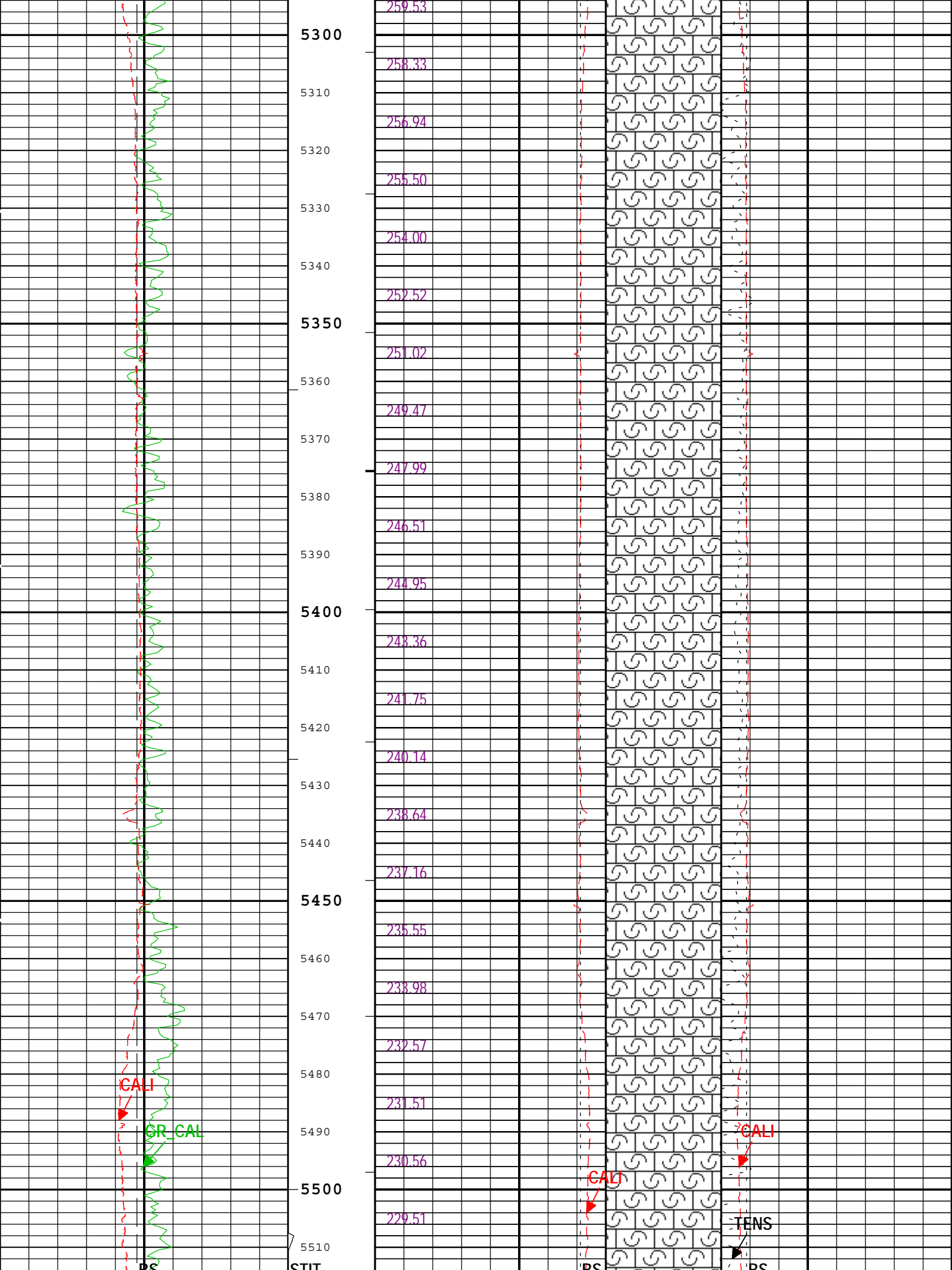


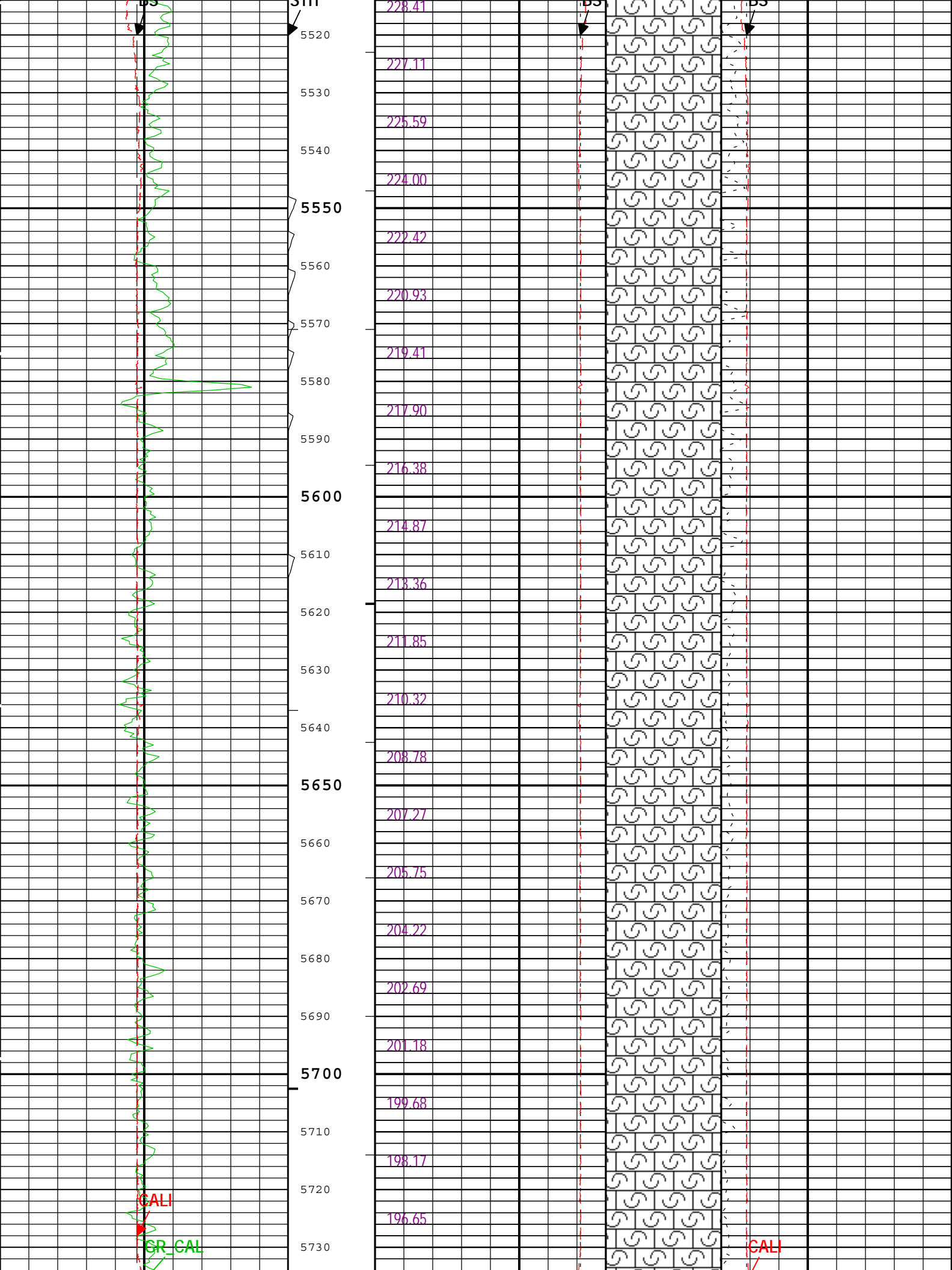


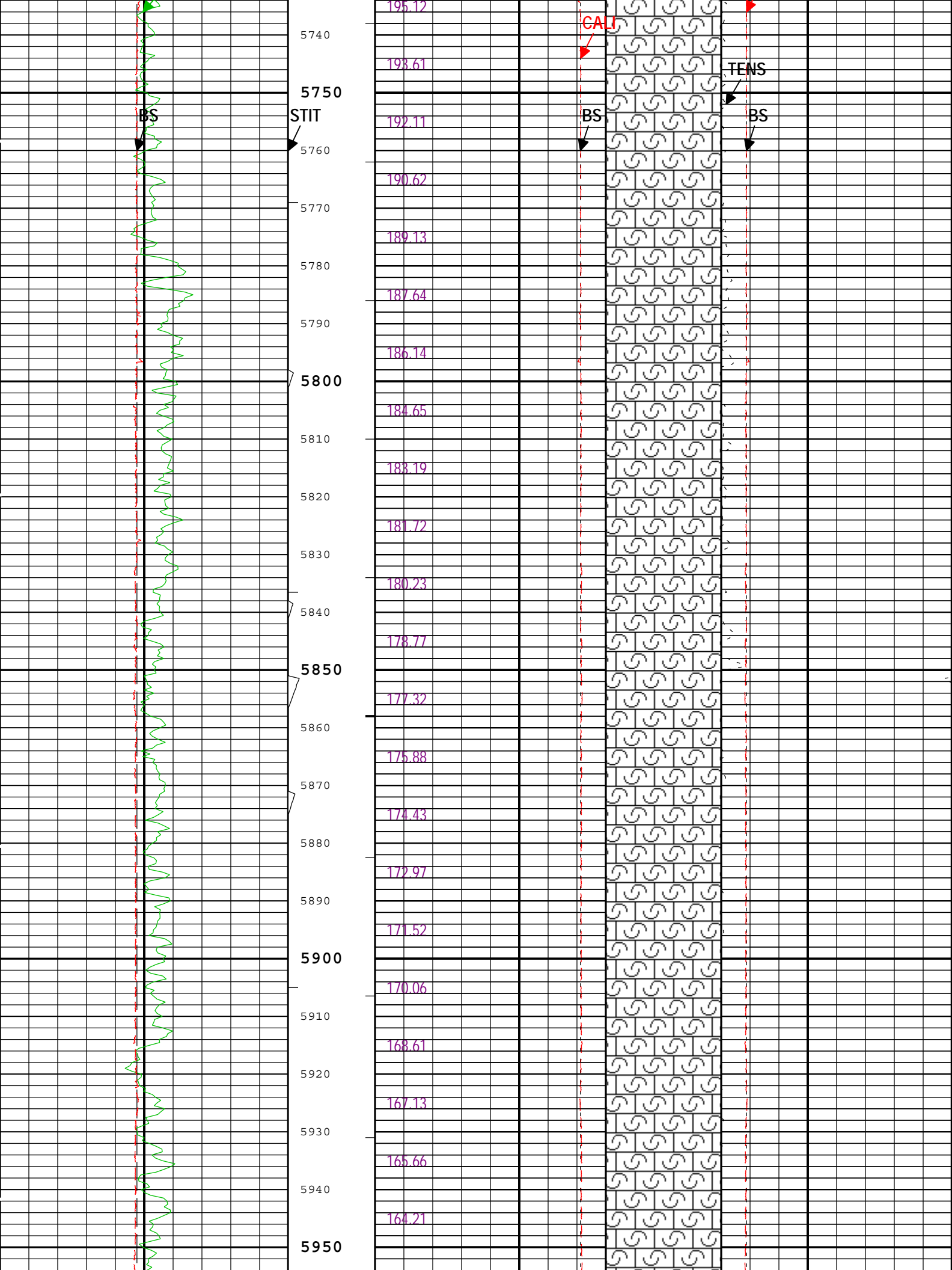


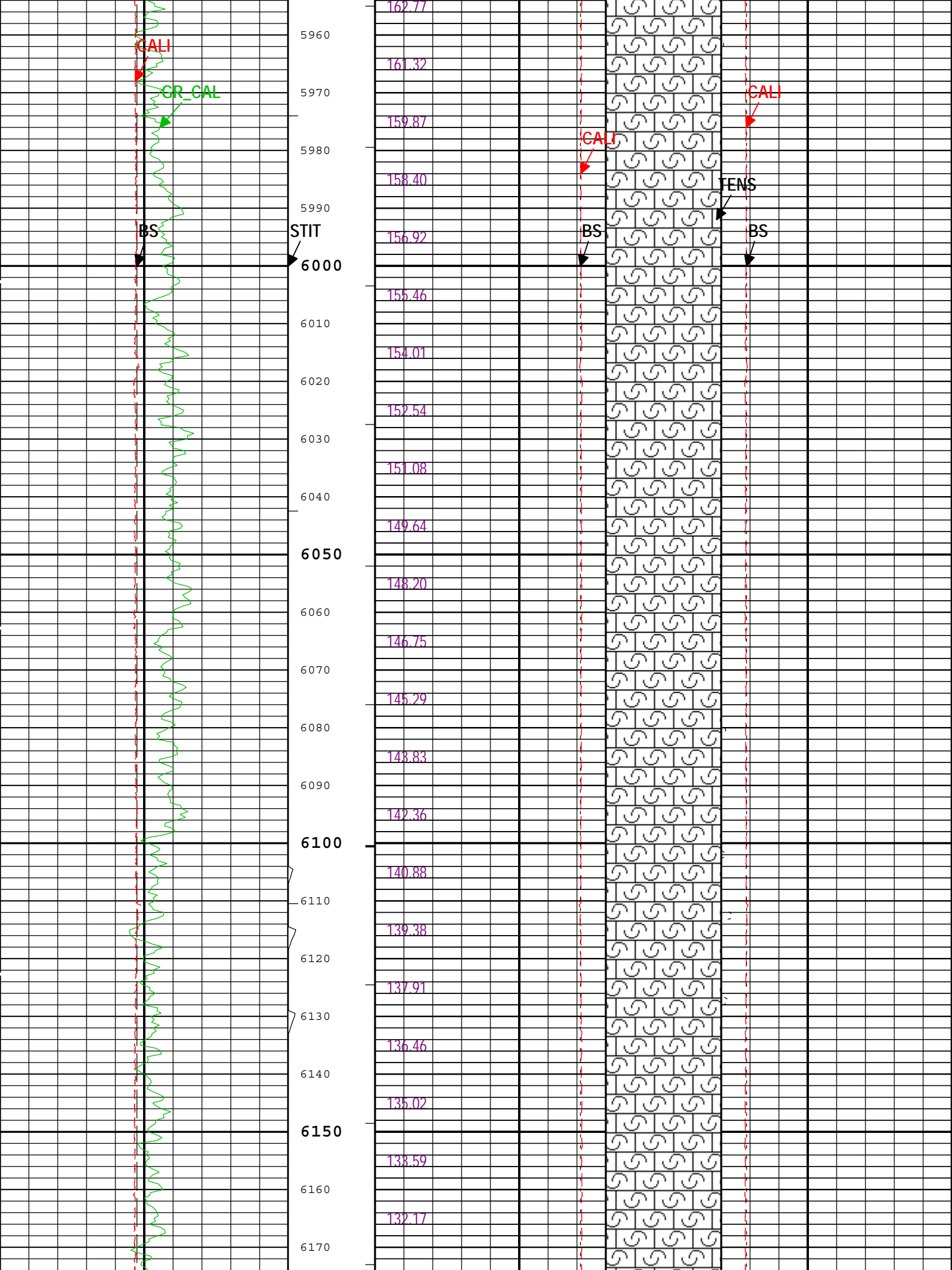


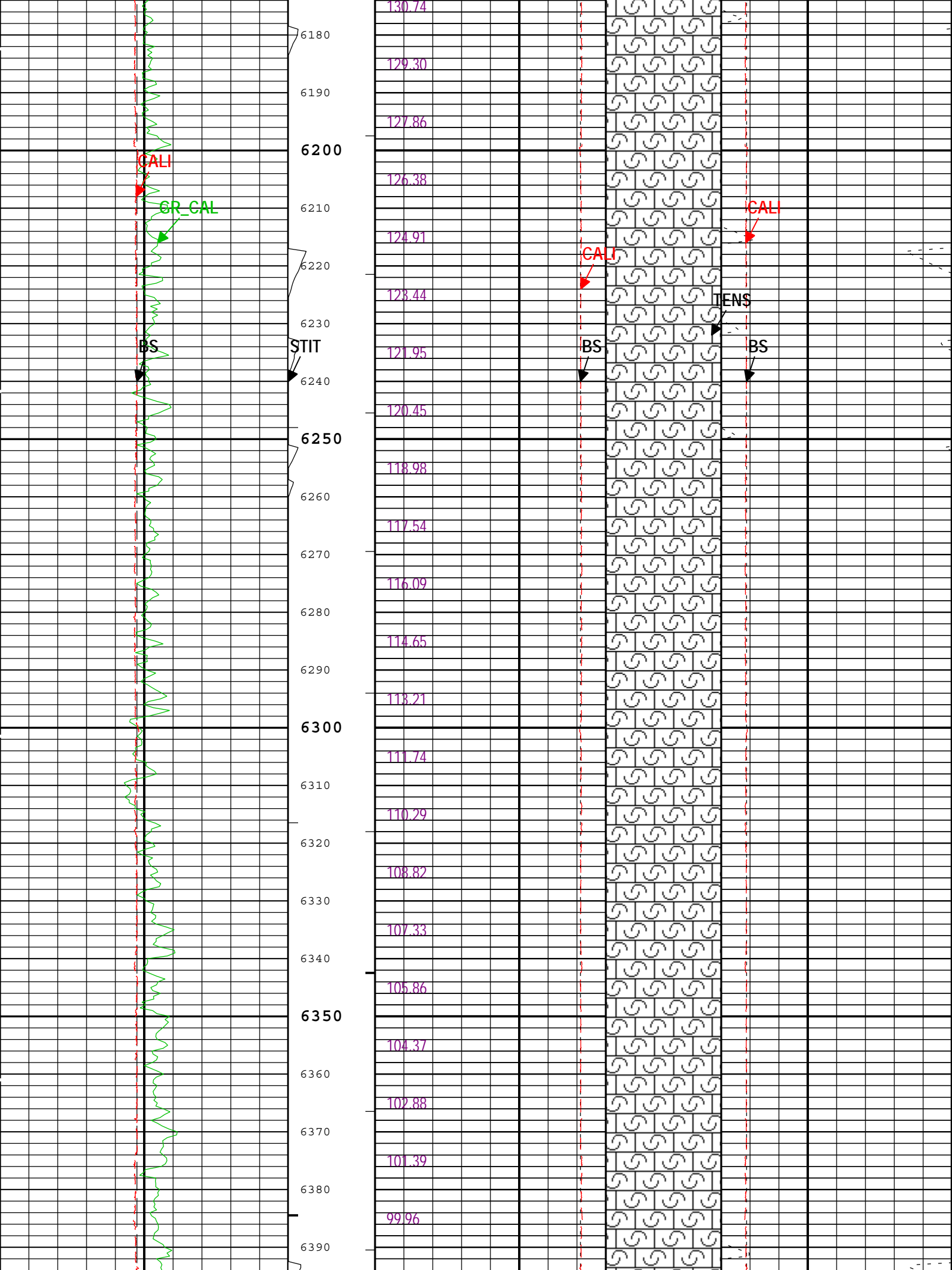


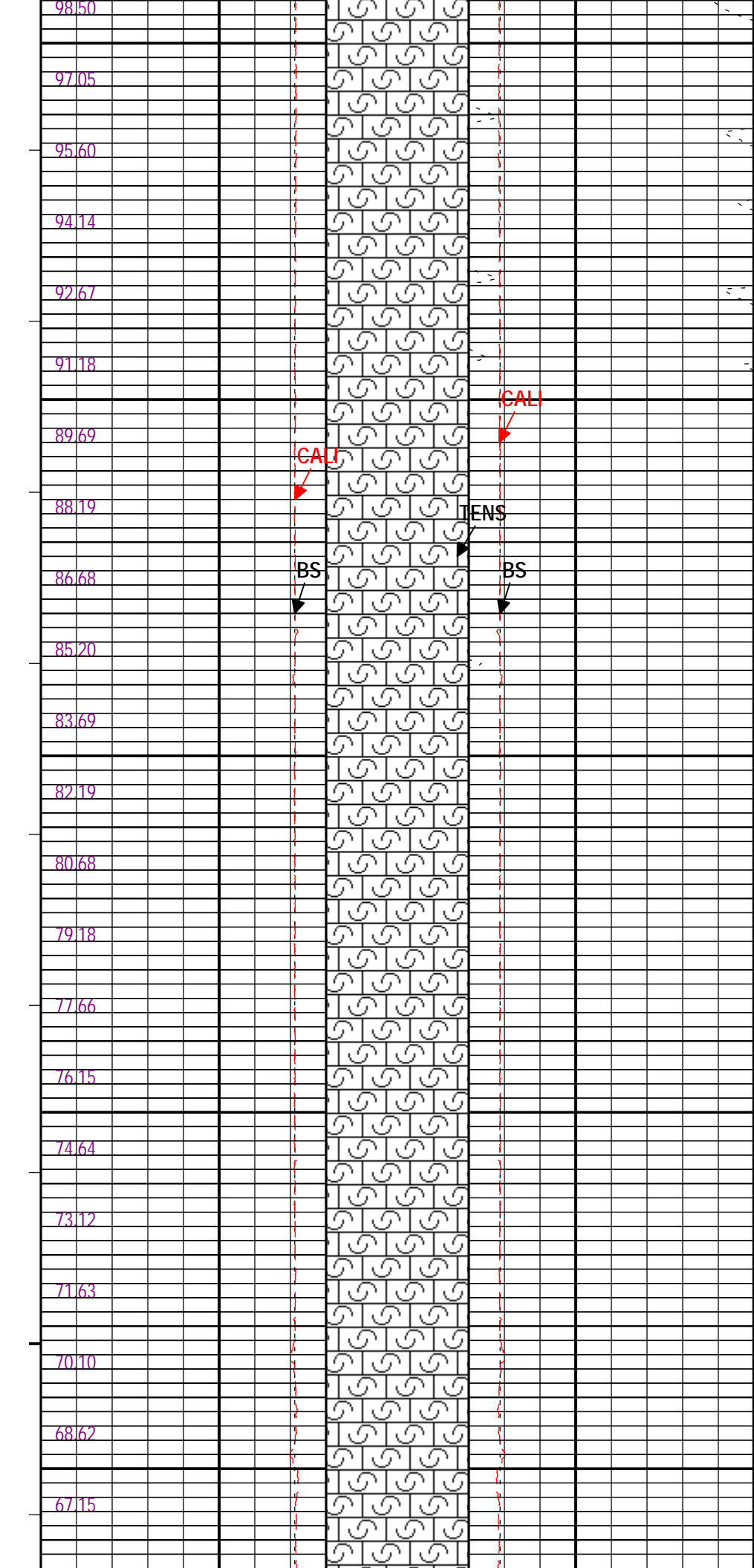
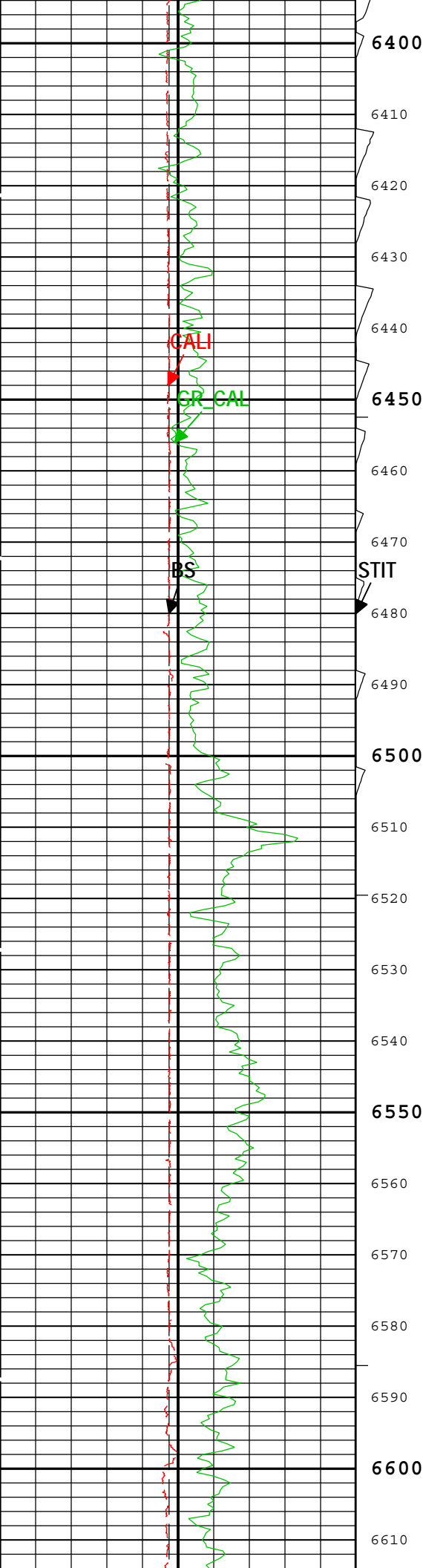


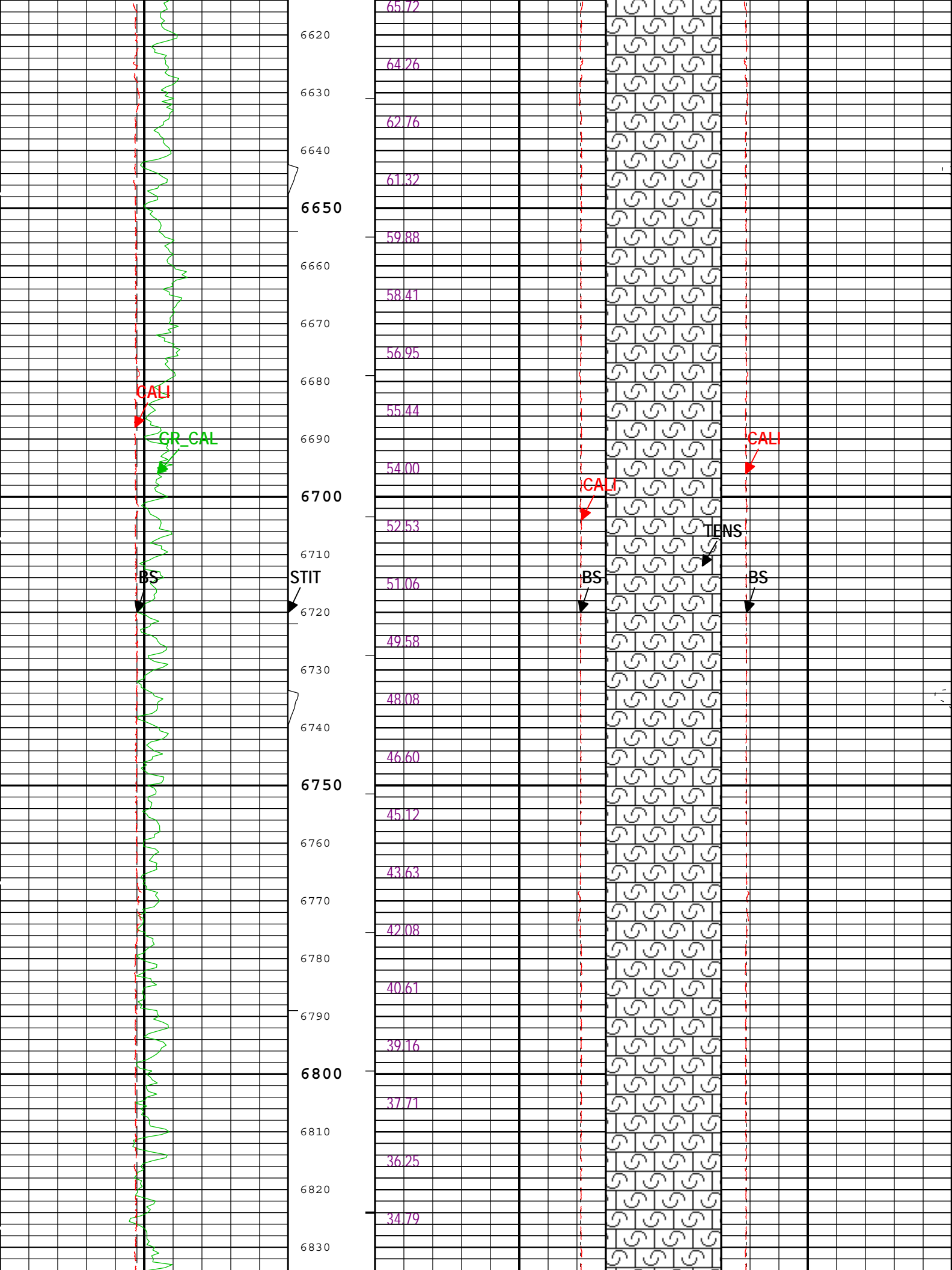


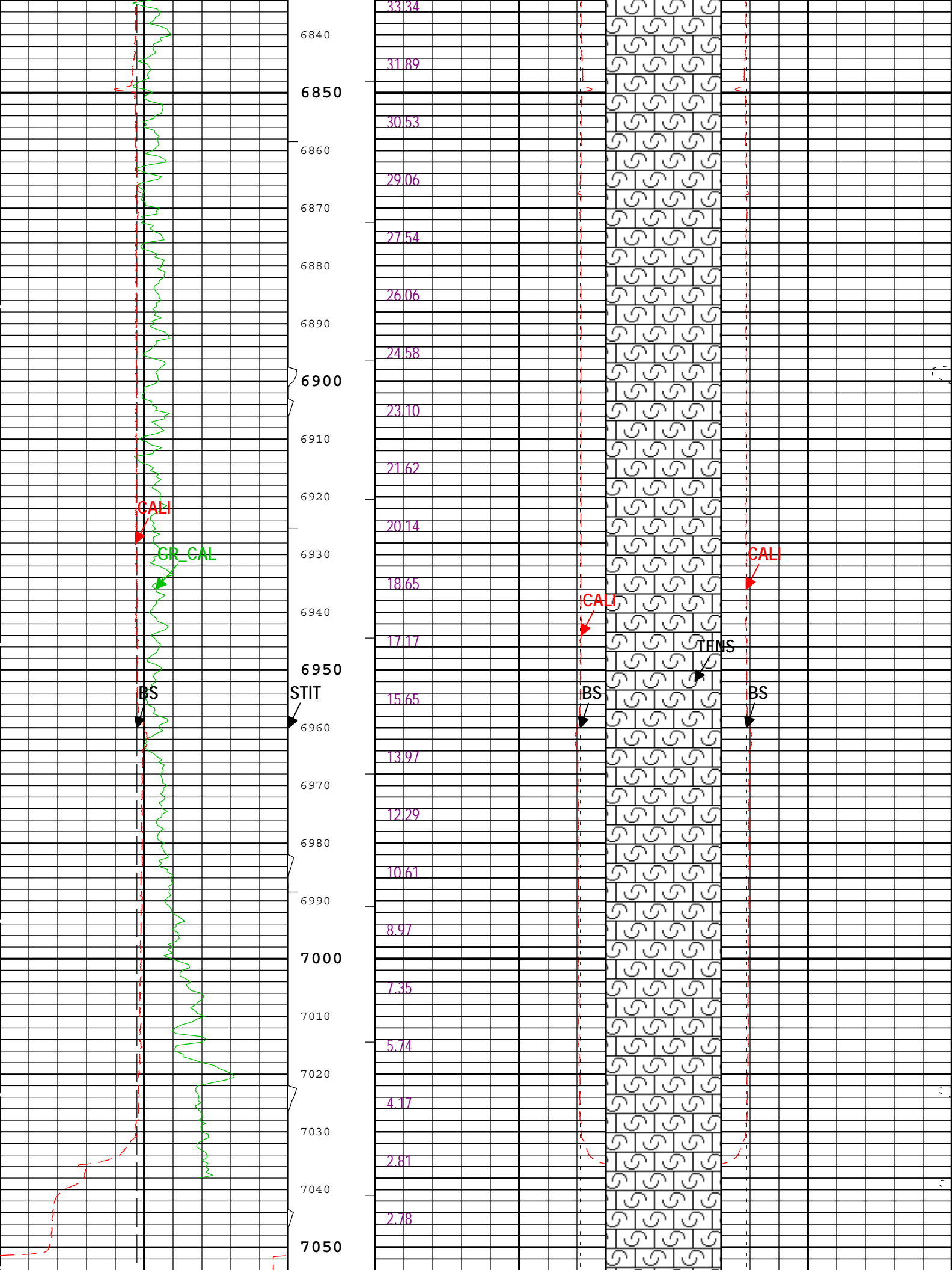












7060

7070

Bit Size (BS)

4 in 14

Calibrated Gamma Ray (GR_CAL) HGNS-H

0 gAPI 200

Caliper (CALI) HDRS-H

4 in 14

Stuck Tool Indicator, Total (STIT)

0 ft 50

2.78

1.58

0.06

FCD2-FCD3

Future Casing (Outer) Diameter (FCD)

-17 in 23

Future Casing (Outer) Diameter (FCD)

23 in -17

Bit Size (BS)

23 in 3

Caliper (CALI) HDRS-H

23 in 3

Integrated Cement Volume (ICV)

ft3

Bit Size (BS)

3 in 23

Cable Tension (TENS)

5000 lbf 0

Caliper (CALI) HDRS-H

3 in 23

ICV - Integrated Cement Volume every 10.00 (ft3)

IHV - Integrated Hole Volume every 10.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 100.00 (ft3)

IHV - Integrated Hole Volume every 100.00 (ft3)

Description: Format: Log (Noble East Caliper) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 08-Aug-2014 06:51:15

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit

BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	8.75	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0.068	in
CBLO	Casing Bottom (Logger)	WLSESSION	1762	ft
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	9.625	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
FCD	Future Casing (Outer) Diameter	WLSESSION	7	in
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
TD	Total Measured Depth	Borehole	7055	ft

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h

Calibration Report

AIT-M (Array Induction Tool - M) Calibration - Run Two

Primary Equipment :				
	File code for AIT-MA Sonde Tool Element	AMIS	181	
Auxiliary Equipment :				
	File code for AIT Bottom Nose Tool Element	AMRM	181	

AIT Sonde Calibration - Test Loop Gain

Master (EEPROM):	15:52:07 18-Jun-2014
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Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Test Loop Gain - 0		Master	1.000	0.950	1.016	1.050	
Test Loop Phase - 0	deg	Master	0	-3.000	-0.873	3.000	
Test Loop Gain - 1		Master	1.000	0.950	1.016	1.050	
Test Loop Phase - 1	deg	Master	0	-3.000	-0.523	3.000	
Test Loop Gain - 2		Master	1.000	0.950	1.020	1.050	
Test Loop Phase - 2	deg	Master	0	-3.000	-0.285	3.000	
Test Loop Gain - 3		Master	1.000	0.950	1.017	1.050	
Test Loop Phase - 3	deg	Master	0	-3.000	-0.364	3.000	
Test Loop Gain - 4		Master	1.000	0.950	0.996	1.050	
Test Loop Phase - 4	deg	Master	0	-3.000	0.047	3.000	
Test Loop Gain - 5		Master	1.000	0.950	0.992	1.050	
Test Loop Phase - 5	deg	Master	0	-3.000	-0.306	3.000	
Test Loop Gain - 6		Master	1.000	0.950	0.998	1.050	
Test Loop Phase - 6	deg	Master	0	-3.000	-0.014	3.000	
Test Loop Gain - 7		Master	1.000	0.950	1.012	1.050	
Test Loop Phase - 7	deg	Master	0	-3.000	-0.171	3.000	

AIT Sonde Calibration - Sonde Error Correction

Master (EEPROM):		15:52:07 18-Jun-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Sonde Error Correction Real - 0	mS/m	Master	-----	-231.000	-105.375	119.000	
Sonde Error Correction Quad - 0		Master	-----	-2250.000	128.249	2250.000	
Sonde Error Correction Real - 1	mS/m	Master	-----	114.000	154.526	204.000	
Sonde Error Correction Quad - 1		Master	-----	-625.000	-120.438	625.000	
Sonde Error Correction Real - 2	mS/m	Master	-----	66.000	113.010	156.000	
Sonde Error Correction Quad - 2		Master	-----	-350.000	-106.668	350.000	
Sonde Error Correction Real - 3	mS/m	Master	-----	39.000	49.722	89.000	
Sonde Error Correction Quad - 3		Master	-----	-250.000	-9.512	250.000	
Sonde Error Correction Real - 4	mS/m	Master	-----	15.000	25.368	35.000	
Sonde Error Correction Quad - 4		Master	-----	-63.000	-11.301	63.000	
Sonde Error Correction Real - 5	mS/m	Master	-----	4.000	10.767	24.000	
Sonde Error Correction Quad - 5		Master	-----	-50.000	19.041	50.000	
Sonde Error Correction Real - 6	mS/m	Master	-----	5.000	9.775	15.000	
Sonde Error Correction Quad - 6		Master	-----	-30.000	0.982	30.000	
Sonde Error Correction Real - 7	mS/m	Master	-----	-5.000	-1.211	5.000	
Sonde Error Correction Quad - 7		Master	-----	-30.000	1.407	30.000	

AIT Mud Calibration - Mud Calibration Gain

Master (EEPROM):		15:52:07 18-Jun-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Coarse Gain		Master	1.000	0.800	0.903	1.200	
Fine Gain		Master	1.000	0.800	0.900	1.200	

AIT Electronics Check - Thru Calibration Check

Master (EEPROM):		15:52:07 18-Jun-2014		Before (Measured):		20:28:46 07-Aug-2014	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Thru Cal Mag - 0	V	Master	-----	0.366	0.576	0.854	
		Before	-----	0.366	0.575	0.854	
		Before-Master	-----	-----	-0.001	-----	
Thru Cal Phase - 0	deg	Master	-----	137.000	-169.574	-103.000	
		Before	-----	137.000	-169.066	-103.000	
		Before-Master	-----	-----	0.508	-----	
Thru Cal Mag - 1	V	Master	-----	0.762	1.179	1.778	
		Before	-----	0.762	1.178	1.778	
		Before-Master	-----	-----	-0.001	-----	
Thru Cal Phase - 1	deg	Master	-----	136.000	-170.676	-104.000	
		Before	-----	136.000	-170.166	-104.000	
		Before-Master	-----	-----	0.510	-----	
Thru Cal Mag - 2	V	Master	-----	0.372	0.585	0.868	
		Before	-----	0.372	0.585	0.868	
		Before-Master	-----	-----	0.000	-----	
Thru Cal Phase - 2	deg	Master	-----	132.000	-174.320	-108.000	
		Before	-----	132.000	-173.810	-108.000	
		Before-Master	-----	-----	0.510	-----	
Thru Cal Mag - 3	V	Master	-----	0.420	0.661	0.980	
		Before	-----	0.420	0.660	0.980	

		Before-Master	----	----	-0.001	----	
Thru Cal Phase - 3	deg	Master	----	131.000	-175.098	-109.000	
		Before	----	131.000	-174.588	-109.000	
		Before-Master	----	----	0.510	----	
Thru Cal Mag - 4	V	Master	----	0.804	1.234	1.876	
		Before	----	0.804	1.233	1.876	
		Before-Master	----	----	-0.001	----	
Thru Cal Phase - 4	deg	Master	----	125.000	178.625	-115.000	
		Before	----	125.000	179.142	-115.000	
		Before-Master	----	----	0.517	----	
Thru Cal Mag - 5	V	Master	----	1.176	1.797	2.744	
		Before	----	1.176	1.795	2.744	
		Before-Master	----	----	-0.002	----	
Thru Cal Phase - 5	deg	Master	----	122.000	176.963	-118.000	
		Before	----	122.000	177.486	-118.000	
		Before-Master	----	----	0.523	----	
Thru Cal Mag - 6	V	Master	----	1.176	1.796	2.744	
		Before	----	1.176	1.795	2.744	
		Before-Master	----	----	-0.001	----	
Thru Cal Phase - 6	deg	Master	----	121.000	176.970	-119.000	
		Before	----	121.000	177.492	-119.000	
		Before-Master	----	----	0.522	----	
Thru Cal Mag - 7	V	Master	----	0.846	1.295	1.974	
		Before	----	0.846	1.295	1.974	
		Before-Master	----	----	0.000	----	
Thru Cal Phase - 7	deg	Master	----	115.000	176.186	-125.000	
		Before	----	115.000	176.764	-125.000	
		Before-Master	----	----	0.578	----	
SPA Zero	mV	Master		-50.000	0.159	50.000	
		Before		-50.000	0.143	50.000	
		Before-Master	----	----	-0.016	----	
SPA Plus	mV	Master		941.000	992.540	1040.000	
		Before		941.000	992.398	1040.000	
		Before-Master	----	----	-0.142	----	
Temperature Zero	V	Master		-0.050	0.000	0.050	
		Before		-0.050	0.000	0.050	
		Before-Master	----	----	0.000	----	
Temperature Plus	V	Master		0.870	0.919	0.960	
		Before		0.870	0.919	0.960	
		Before-Master	----	----	0.000	----	

HDRS-H (HILT Density and Rxo Sonde, 150 degC) Calibration - Run Two			
Primary Equipment :			
	HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	3828
	HILT Resistivity Gamma-Ray Density Device, 150 degC	HRGD-H	3760
Auxiliary Equipment :			
	HRDD Backscatter Detector	Backscatter	
	HRDD Long Spacing Detector	Long Spacing	
	HRDD Short Spacing Detector	Short Spacing	
	Cesium 137 Gamma-Ray Logging Source	GSR-J	5471
	HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	3828
	HILT High-Resolution Mechanical Sonde, 150 degC	HRMS-H	3863
Calibration Parameter :			
	Small Ring Size (Caliper Calibration Small Ring)	8.00	
	Large Ring Size (Caliper Calibration Large Ring)	12.00	

HDRS Caliper Calibration - Caliper Accumulations						
Before (Measured): 20:30:24 07-Aug-2014						
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Small Ring	in	Before	8.00	6.00	7.93	10.00
Large Ring	in	Before	12.00	9.00	12.27	15.00

HDRS Density Calibration - Inversion Results

Density Calibration - Background Summary							
Master (EEPROM):		19:57:24 07-Aug-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
Rho Aluminum	g/cm3	Master	2.596	2.586	2.597	2.606	<div><div></div></div>
Rho Magnesium	g/cm3	Master	1.686	1.676	1.686	1.696	<div><div></div></div>
Pe Aluminum		Master	2.570	2.470	2.573	2.670	<div><div></div></div>
Pe Magnesium		Master	2.650	2.550	2.612	2.750	<div><div></div></div>
HDRS Density Calibration - Deviation Summary							
Master (EEPROM):		19:57:24 07-Aug-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
BS Average Deviation	%	Master	0	-0.6000	0.3581	0.6000	<div><div></div></div>
BS Max Deviation	%	Master	0	-1.6000	0.7597	1.6000	<div><div></div></div>
SS Average Deviation	%	Master	0	-1.0000	0.2058	1.0000	<div><div></div></div>
SS Max Deviation	%	Master	0	-2.5000	0.5896	2.5000	<div><div></div></div>
LS Average Deviation	%	Master	0	-1.5000	0.8070	1.5000	<div><div></div></div>
LS Max Deviation	%	Master	0	-3.5000	1.9199	3.5000	<div><div></div></div>
HDRS Density Calibration - Background Summary							
Master (EEPROM):		19:57:24 07-Aug-2014		Before (Measured):		20:43:07 07-Aug-2014	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
BS Window Ratio		Master	1.0000		0.7352		<div><div></div></div>
		Before	0.7352	0.6985	0.7345	0.7720	<div><div></div></div>
		Before-Master	-----	-----	-0.0007	-----	<div><div></div></div>
BS Window Sum	1/s	Master	1		23918		<div><div></div></div>
		Before	23918	22723	23916	25114	<div><div></div></div>
		Before-Master	-----	-----	-2	-----	<div><div></div></div>
SS Window Ratio		Master	1.0000		0.4821		<div><div></div></div>
		Before	0.4821	0.4580	0.4863	0.5062	<div><div></div></div>
		Before-Master	-----	-----	0.0042	-----	<div><div></div></div>
SS Window Sum	1/s	Master	1		9772		<div><div></div></div>
		Before	9772	9284	9770	10261	<div><div></div></div>
		Before-Master	-----	-----	-2	-----	<div><div></div></div>
LS Window Ratio		Master	1.0000		0.2994		<div><div></div></div>
		Before	0.2994	0.2845	0.3012	0.3144	<div><div></div></div>
		Before-Master	-----	-----	0.0018	-----	<div><div></div></div>
LS Window Sum	1/s	Master	1		1176		<div><div></div></div>
		Before	1176	1117	1178	1235	<div><div></div></div>
		Before-Master	-----	-----	2	-----	<div><div></div></div>
HDRS Density Calibration - Photo-multiplier High Voltages							
Master (EEPROM):		19:57:24 07-Aug-2014		Before (Measured):		20:43:07 07-Aug-2014	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
BS PM High Voltage	V	Master		1000	1375	2400	<div><div></div></div>
		Before		1000	1379	2400	<div><div></div></div>
		Before-Master	-----	-100	4	100	<div><div></div></div>
SS PM High Voltage	V	Master		1000	1632	2400	<div><div></div></div>
		Before		1000	1647	2400	<div><div></div></div>
		Before-Master	-----	-100	15	100	<div><div></div></div>
LS PM High Voltage	V	Master		1000	1188	2400	<div><div></div></div>
		Before		1000	1194	2400	<div><div></div></div>
		Before-Master	-----	-100	6	100	<div><div></div></div>
HDRS Density Calibration - Crystal Quality Resolutions							
Master (EEPROM):		19:57:24 07-Aug-2014		Before (Measured):		20:43:07 07-Aug-2014	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
BS Crystal Resolution	%	Master		5.00	10.72	25.00	<div><div></div></div>
		Before		5.00	10.64	25.00	<div><div></div></div>
		Before-Master	-----	-1.00	-0.08	1.00	<div><div></div></div>
SS Crystal Resolution	%	Master		5.00	9.28	20.00	<div><div></div></div>
		Before		5.00	9.43	20.00	<div><div></div></div>
		Before-Master	-----	-1.00	0.15	1.00	<div><div></div></div>
LS Crystal Resolution	%	Master		5.00	8.42	20.00	<div><div></div></div>
		Before		5.00	8.45	20.00	<div><div></div></div>
		Before-Master	-----	-1.00	0.03	1.00	<div><div></div></div>
HDRS MCFL Calibration - MCFL Accumulations							
Before (Measured):		20:39:36 07-Aug-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>

Main Resistivity	ohm.m	Before	3875	3565	3860	4185	
Deep Resistivity	ohm.m	Before	3830	3524	3800	4136	
Shallow Resistivity	ohm.m	Before	3830	3524	3815	4136	

HGNS-H (HILT Gamma-Ray and Neutron Sonde, 150 degC) Calibration - Run Two

Primary Equipment :

HILT Gamma-Ray and Neutron Sonde, 150 degC HGNS-H 4865

Auxiliary Equipment :

HGNS Accelerometer, 150 degC HACCZ-H 6991

AmBe Neutron Logging Source NSR-F 2554

Calibration Parameter :

Water Temperature

Housing Size

JIG-BKG (Jig minus background reference) 165

HGNS Accelerometer Calibration - Accelerometer Accumulations

Before (Measured): 03:13:55 08-Aug-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	ft/s2	Before	32.2	31.5	32.1	32.8	

HGNS Accelerometer EEPROM - Accelerometer EEPROM Read

Master (EEPROM): 00:00:00 15-May-2007

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Accelerometer Manufacturer		Master			QAT_160		
Accelerometer Reference Temperature	degF	Master		30.2	77.0	122.0	
Accelerometer Coefficients - 0		Master	-----	-----	-4298.000	-----	
Accelerometer Coefficients - 1		Master	-----	-----	50.180	-----	
Accelerometer Coefficients - 2		Master	-----	-----	-0.002	-----	
Accelerometer Coefficients - 3		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 4		Master	-----	-----	2.754	-----	
Accelerometer Coefficients - 5		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 6		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 7		Master	-----	-----	0.000	-----	
Accelerometer Coefficients - 8		Master	-----	-----	300.500	-----	
Accelerometer Coefficients - 9		Master	-----	-----	0.994	-----	

HGNS Neutron Calibration - HGNS Neutron Accumulations

Master (EEPROM): 14:29:32 23-Jul-2014

Before (Measured):

20:28:17 07-Aug-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Zero Measurement	1/s	Master	0	5.0	27.5	40.0	
		Before	0	5.0	26.6	40.0	
		Before-Master	-----	-4.1	-0.9	4.1	
Far Zero Measurement	1/s	Master	0	5.0	28.9	40.0	
		Before	0	5.0	27.6	40.0	
		Before-Master	-----	-4.3	-1.3	4.3	
Near Plus Measurement	1/s	Master	6031.0	4700.0	5764.0	6900.0	
		Before	-----	-----	-----	-----	
		Before-Master	-----	-----	-----	-----	
Far Plus Measurement	1/s	Master	2793.0	1900.0	2396.0	2900.0	
		Before	-----	-----	-----	-----	
		Before-Master	-----	-----	-----	-----	
Near Corrected Plus Measurement	1/s	Master		4700.0	5720.0	6900.0	
		Before	-----	-----	-----	-----	
		Before-Master	-----	-----	-----	-----	
Far Corrected Plus Measurement	1/s	Master		1900.0	2356.0	2900.0	
		Before	-----	-----	-----	-----	
		Before-Master	-----	-----	-----	-----	

HGNS Gamma-Ray Calibration - Gamma-Ray Accumulations

Before (Measured): 20:30:52 07-Aug-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before	30.0	0	73.3	120.0	
RGR Plus Measurement	gAPI	Before	185.4	157.1	174.0	206.2	

RGR Plus Measurement	yAPI	Before	185.4	157.1	174.9	200.3	
GR Calibration Gain		Before	0.89	0.80	0.94	1.05	

Company:	Kerr McGee Oil & Gas Onshore LP	Schlumberger
Well:	Banded 37C-27HZ	
Field:	Wattenberg	
County:	Weld	
State:	Colorado	
Platform Express		
Caliper		
Cement Volume		