

Company: Kerr McGee Oil & Gas Onshore LP

Well: Sickler 26C-34HZ

Field: Wattenberg

County: Weld State: CO

County: Weld
Field: Wattenberg
Location: SWSE: Sec.34, T2N, R76W
Well: Sickler 26C-34HZ
Company: Kerr McGee Oil & Gas Onshore LP

Platform Express
Caliper
Cement Volume

Location:		SWSE: Sec.34, T2N, R76W SHL: 417' FSL & 1425' FEL Lat: 40.088654/Long:-104.872765	Elev.: K.B. 4965.00 ft G.L. 4949.00 ft D.F. 4964.00 ft
Permanent Datum:	Ground Level	Elev.: 4949.00 f	
Log Measured From:	Kelly Bushing	16.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		
API Serial No.	Section: 34	Township: 2N	Range: 67W
05-123-39379-0000			

Logging Date	30-Jul-2014		
Run Number	RUN 1		
Depth Driller	7260.00 ft		
Schlumberger Depth	7260.00 ft		
Bottom Log Interval	4385.00 ft		
Top Log Interval	0.00 ft		
Casing Driller Size @ Depth	9.625 in @ 1280.00 ft		
Casing Schlumberger	1281.5 ft		
Bit Size	8.75 in		
Type Fluid In Hole	Water Based Mud		
Density	10.2 lbm/gal	46 s	
Fluid Loss	PH 4.6 cm3	9.2	
Source of Sample	Active Tank		
RM @ Meas Temp	1.33 ohm.m @ 75 degF		
RMF @ Meas Temp	1.15 ohm.m @ 75 degF		
RMC @ Meas Temp	1.17 ohm.m @ 75 degF		
Source RMF	RMC Calculated	Calculated	
RM @ BHT	0.68 @ 152	0.59 @ 152	
Max Recorded Temperatures	152 degF		
Circulation Stopped	29-Jul-2014	19:30:00	
Logger on Bottom	Time 30-Jul-2014	04:00:00	
Unit Number	Location: 2135	Fort Morgan, CO	
Recorded By	Nolan Welsh		
Witnessed By	Joe Wallen		

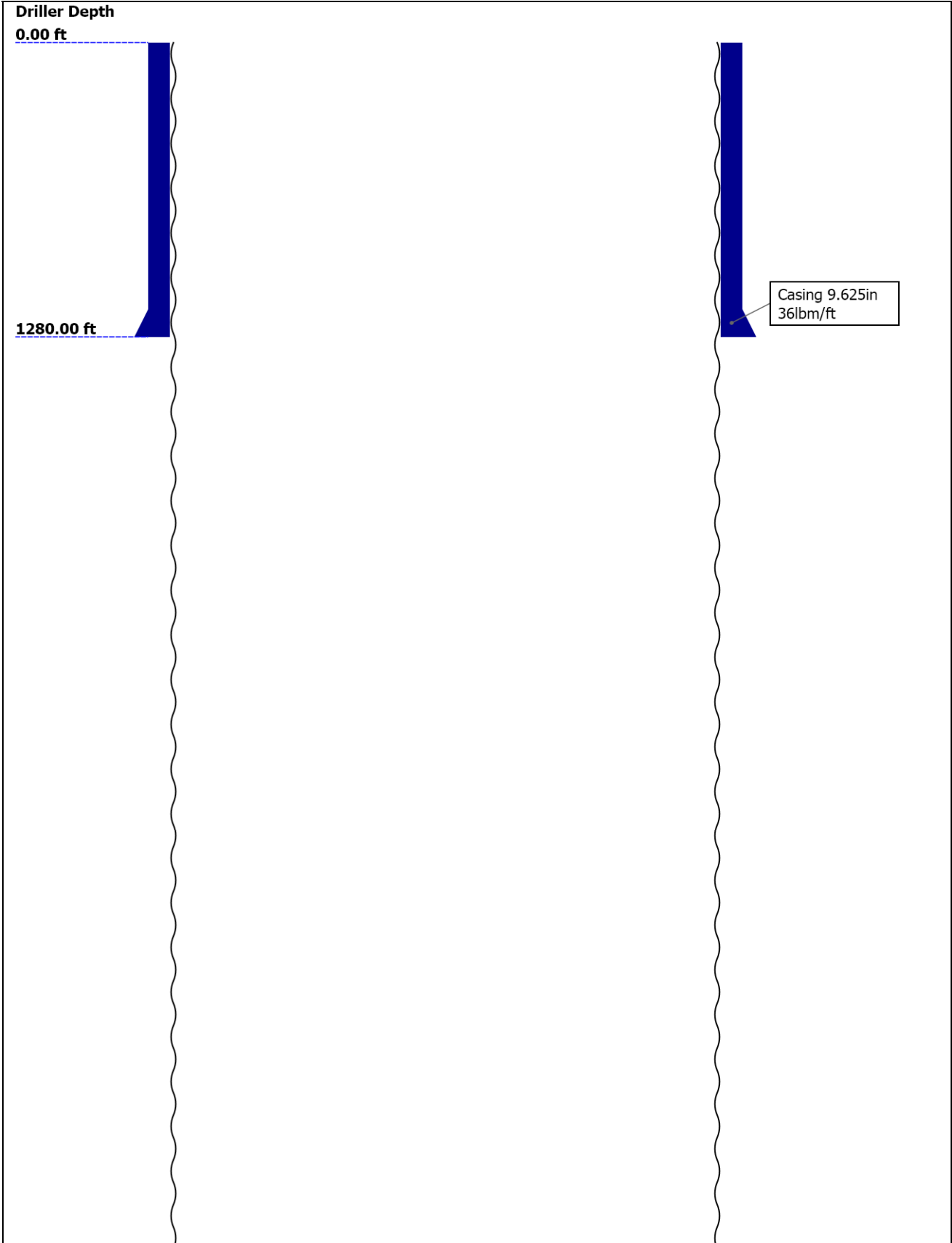
Disclaimer

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Well Sketch





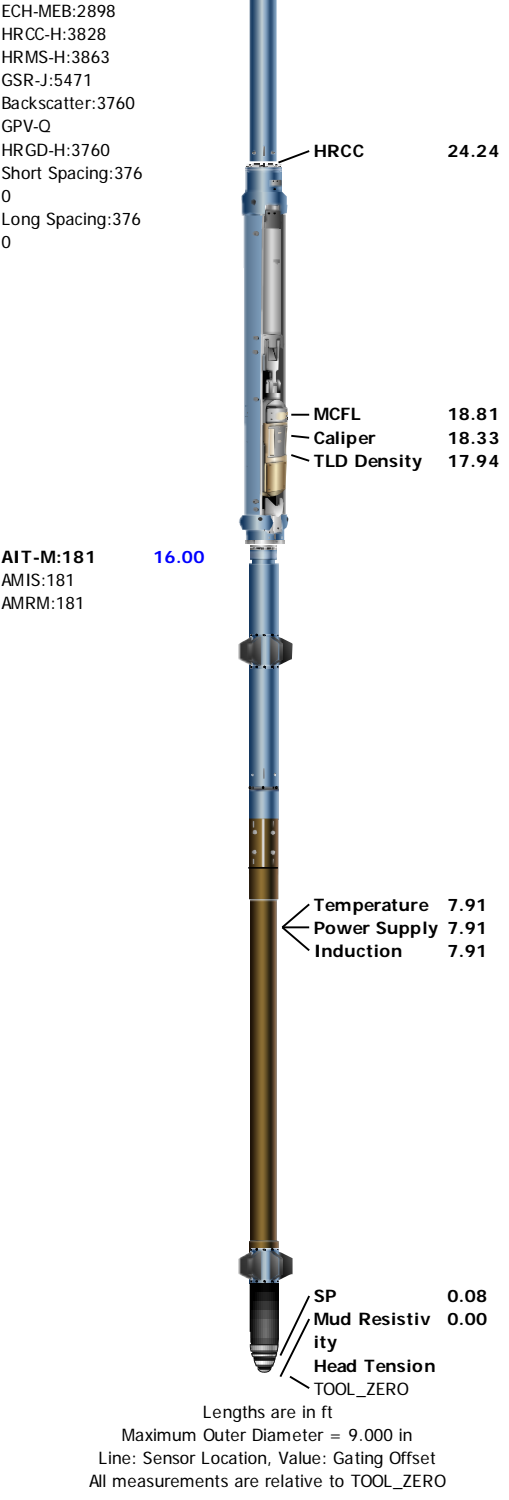
Borehole Size/Casing/Tubing Record						
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Bit						
Bit Size (in)	8.75					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	7260					
Bottom Logger (ft)	7260					
Casing						
Size (in)	9.625					
Weight (lbm/ft)	36					
Inner Diameter (in)	8.921					
Grade	J55					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	1280					
Bottom Logger (ft)	1281.5					

Operational Run Summary						
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Parameter (unit)	RUN 1					
Date Log Started	30-Jul-2014					
Time Log Started	01:58:04					
Date Log Finished	30-Jul-2014					
Time Log Finished	05:50:36					
Top Log Interval (ft)	0.00					
Bottom Log Interval (ft)	4385.00					
Total Depth (ft)	7260.00					
Max Hole Deviation (deg)	22.56					
Azimuth of Max Deviation (deg)	129.50					
Bit Size (in)	8.750					
Logging Unit Number	2135					
Logging Unit Location	Fort Morgan, CO					
Recorded By	Nolan Welsh					
Witnessed By	Joe Wallen					
Service Order Number	CXPX-00020					

Service Order Number	CATX-00020					
Borehole Fluids						
Parameter(unit)	RUN 1					
Fluid Type	Water					
Fluid Name	Water Based Mud					
Max Recorded Temperatures (degF)	152					
Source of Sample	Active Tank					
Salinity (ppm)	3600					
Density (lbm/gal)	10.2					
Funnel Viscosity (s)	46					
Fluid Loss (cm3)	4.6					
PH	9.2					
Date/Time Circulation Stopped	29-Jul-2014 19:30:00					
Date Logger on Bottom	30-Jul-2014					
Time Logger on Bottom	04:00:00					
Source RMF	Calculated					
RMC	Calculated					
RM @ Meas Temp (ohm.m@degF)	1.33 @ 75					
RMF @ Meas Temp (ohm.m@degF)	1.15 @ 75					
RMC @ Meas Temp (ohm.m@degF)	1.17 @ 75					
RM @ BHT (ohm.m@degF)	0.68 @ 152					
RMF @ BHT (ohm.m@degF)	0.59 @ 152					
RMC @ BHT (ohm.m@degF)	0.6 @ 152					
Total Solid (%)						
High Gravity Solids (%)						
Remarks and Equipment Summary						
RUN 1: Toolstring				RUN 1: Remarks		
Equip name	Length	MP name	Offset	Toolstring run as per tool sketch.		
LEH-QT:2109	43.57			Tool could not reach TD due to wellbore deviation.		
LEH-QT:2109				Logging interval from 4835 to casing shoe as per client request		
DTC-H:8906	40.65			GR logged to surface.		
ECH-KC:9984		CTEM	39.75	Rig: Extreme #6		
DTC-H:8906		HV	0.00	Crew: Nolan Welsh, Alonzo Carrera, Jeff Schossow		
		ToolStatus	37.65			
		TelStatus	37.65			
		Temperature	37.62			
HGNS-H:4865	37.65					
HGNH:4817						
NPV-N		GR	36.91			
NSR-F:2554						
HGNS-H:4865						
HMCA-H						
HACCZ-H:6991						
		CNL Porosity	30.57			
		HMCA	28.24			
		HGNS	28.24			
		Acceleromete	0.00			
		r				
HDRS-H:3863	28.24					



Depth Summary

	RUN 1		
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Depth Measuring Device

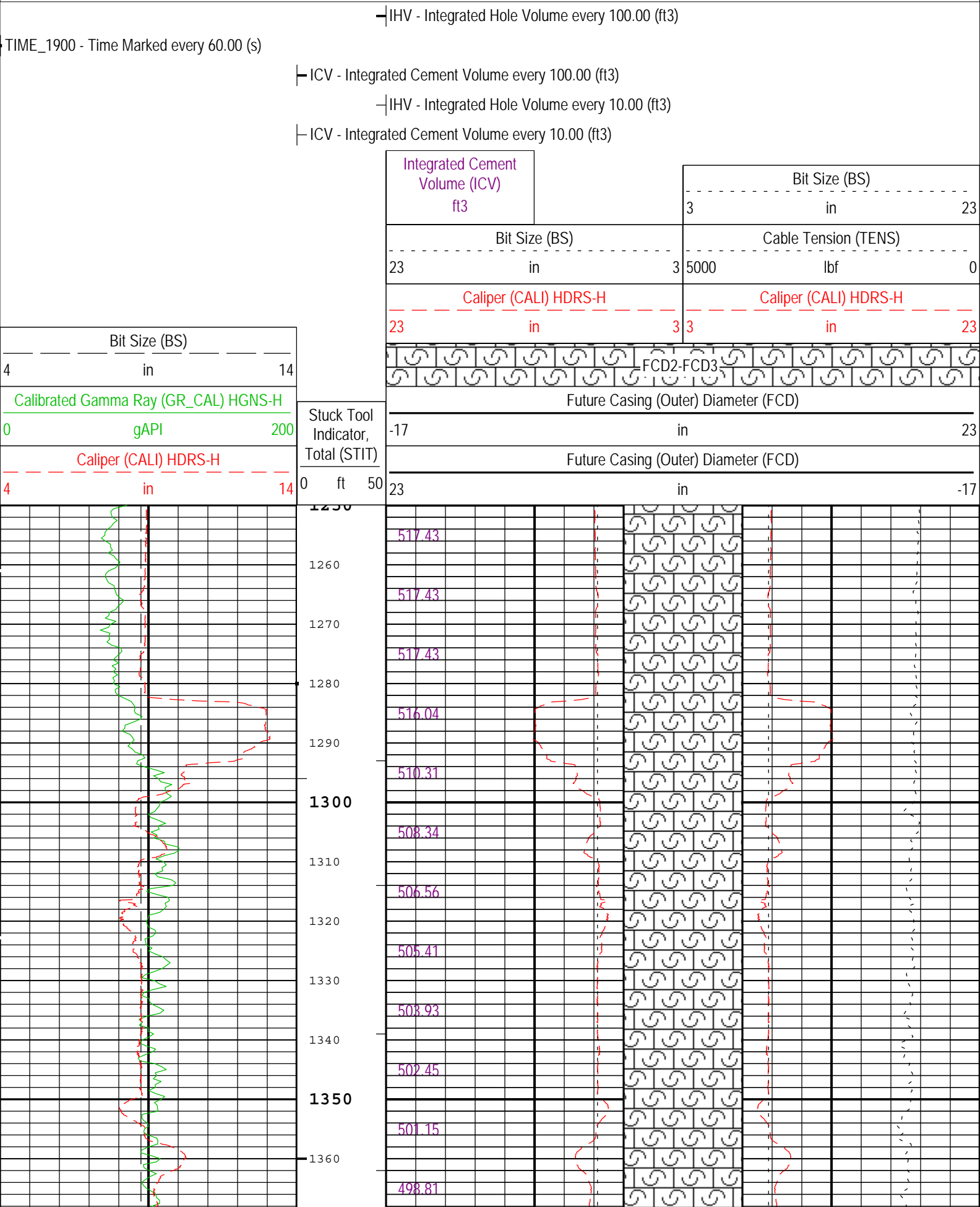
Type	IDW-B		
Serial Number	5916		
Calibration Date	24-MAR-2014		
Calibrator Serial Number			
Calibration Cable Type	7-46P XS		
Wheel Correction 1	-6		
Wheel Correction 2	-3		

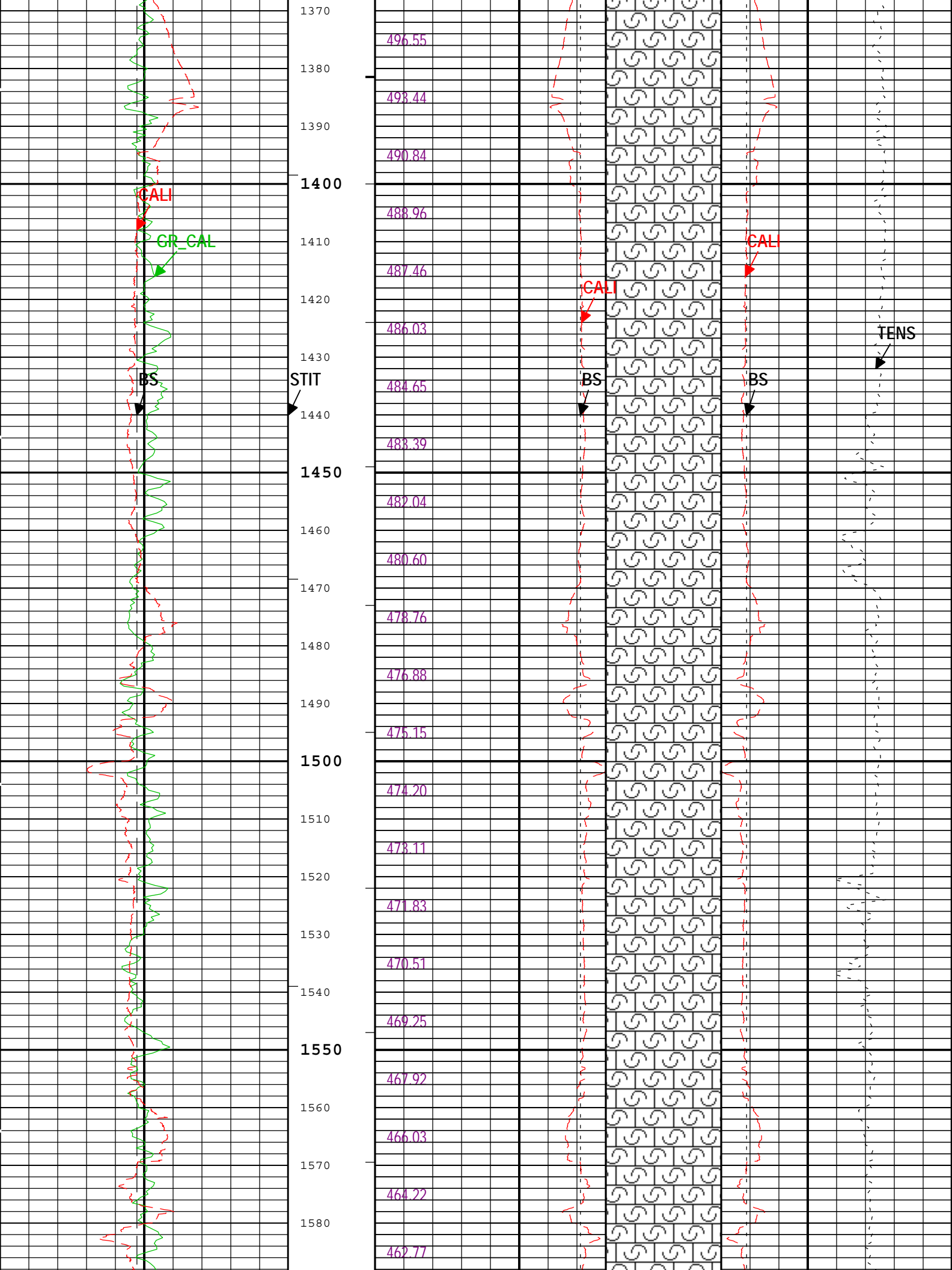
Tension Device

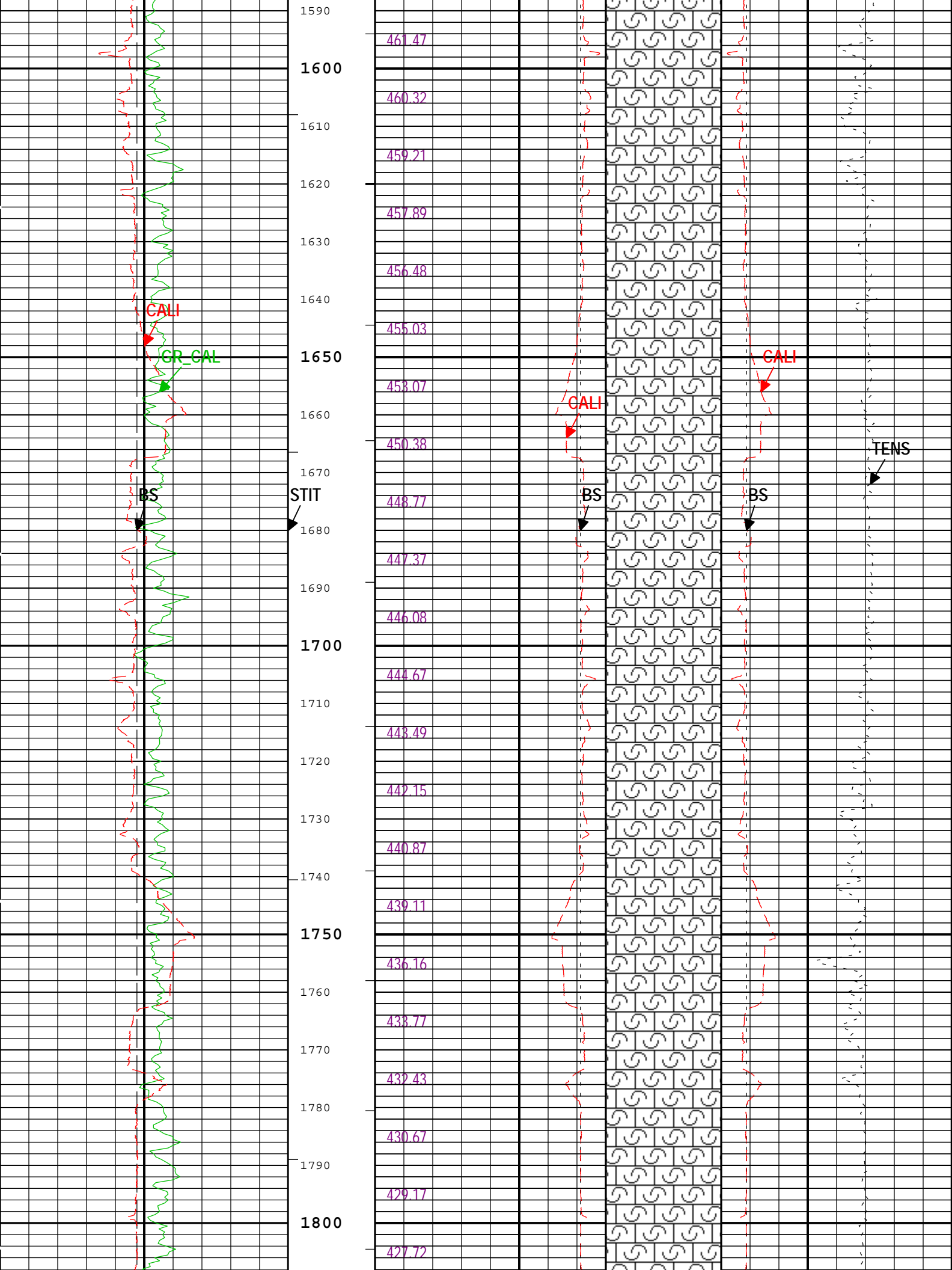
Type	CMTD-B/A		
Serial Number	1919		
Calibration Date	28-Jul-2014		
Calibrator Serial Number	78135A		

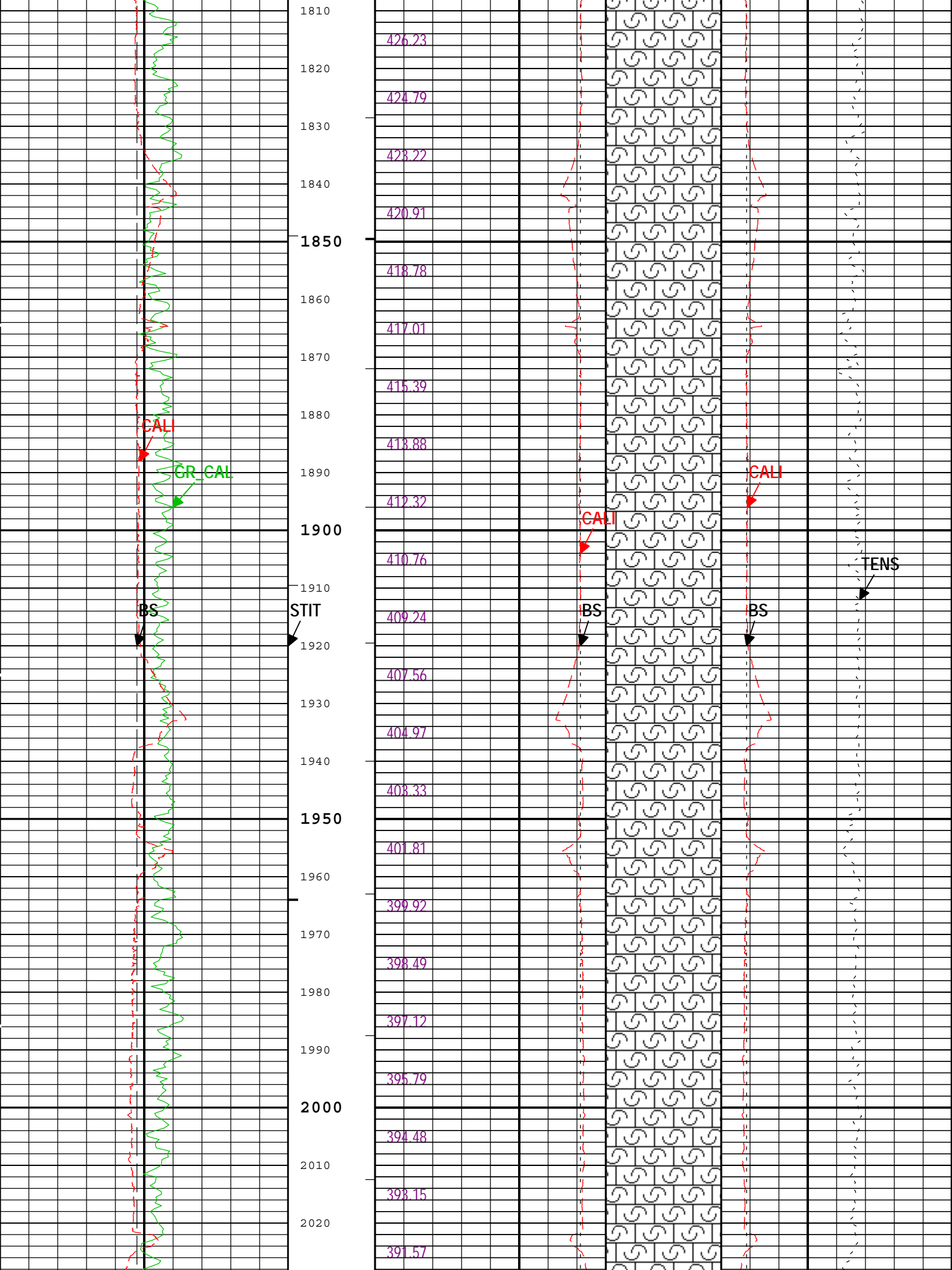
Channel	Source	Sampling
CALI	HDRS-H:HRCC-H:HRCC-H	1in
BS	Borehole	6in
CALI	HDRS-H:HRCC-H:HRCC-H	1in
GR_CAL	HGNS-H:HGNS-H:HGNS-H	6in
ICV	Borehole	6in
ICV	Borehole	6in

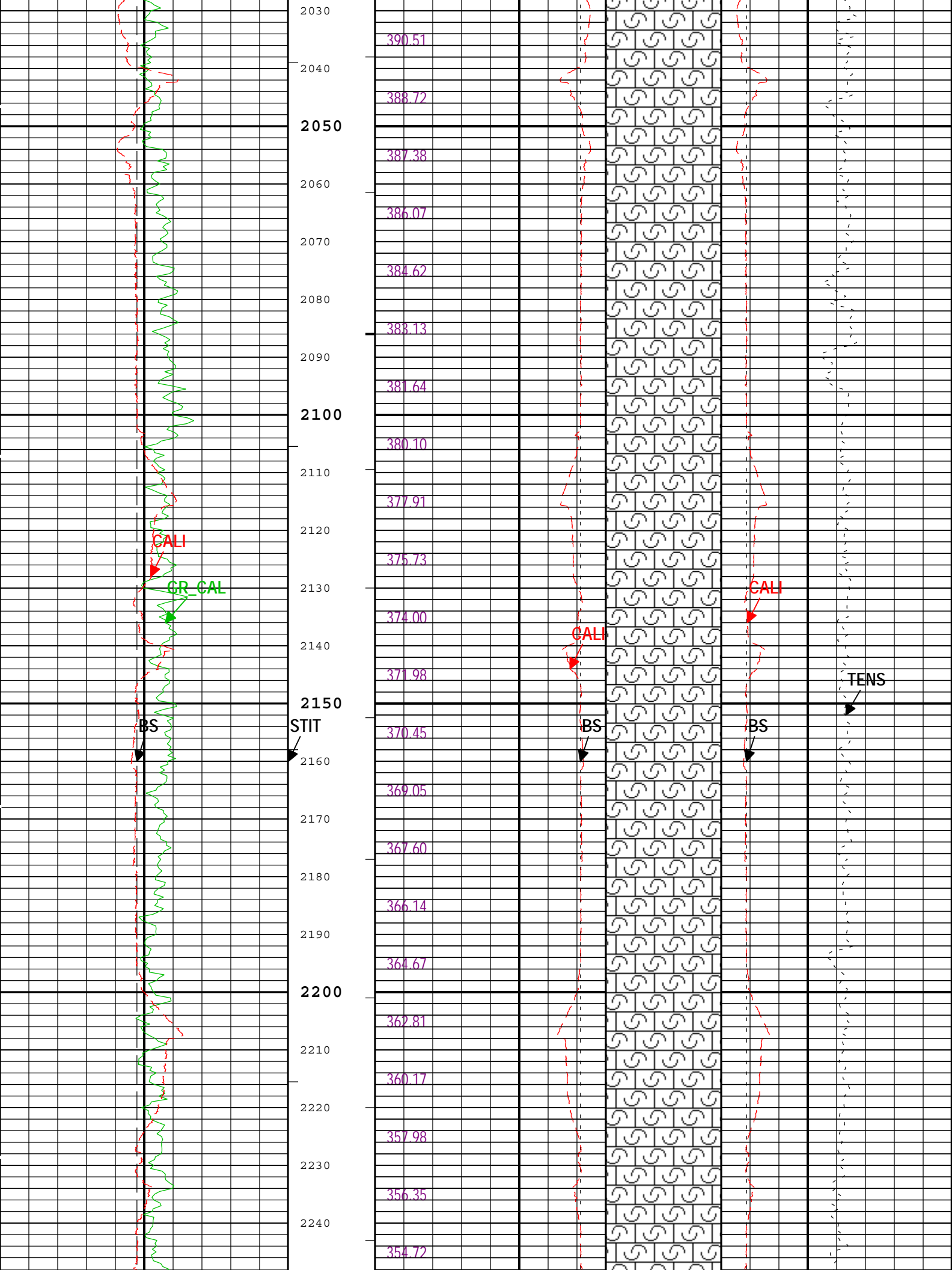
IHV	Borehole	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

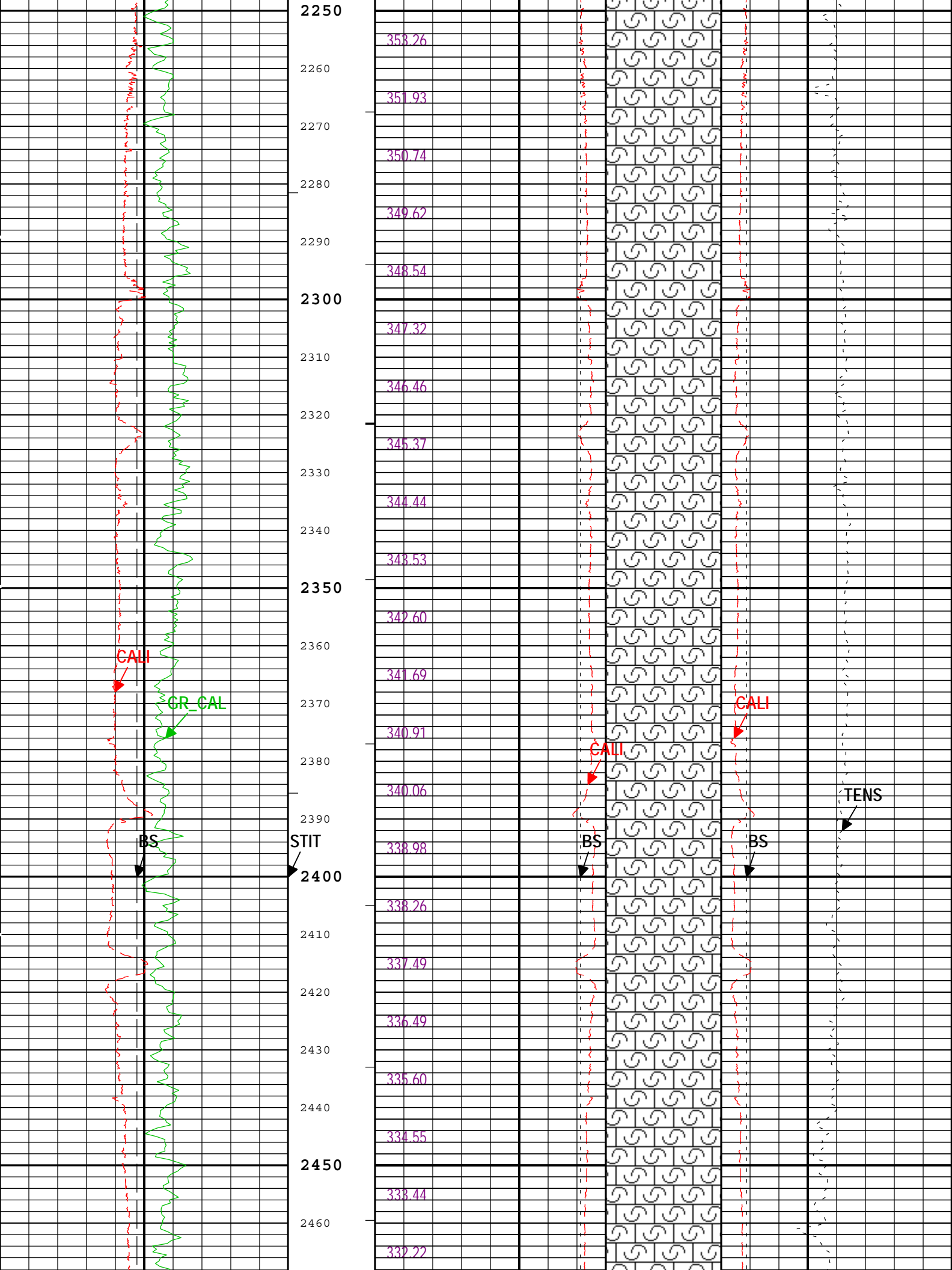


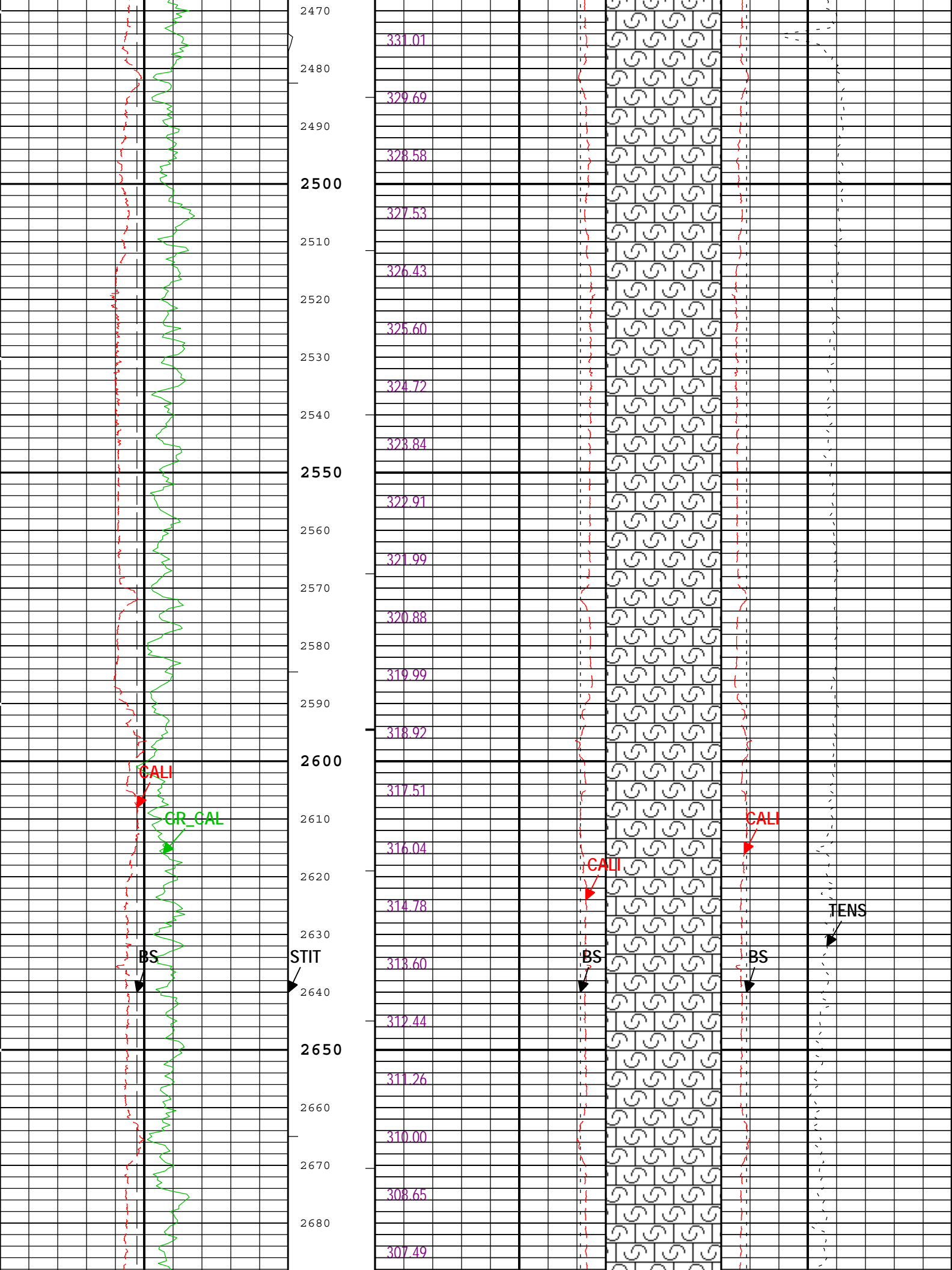


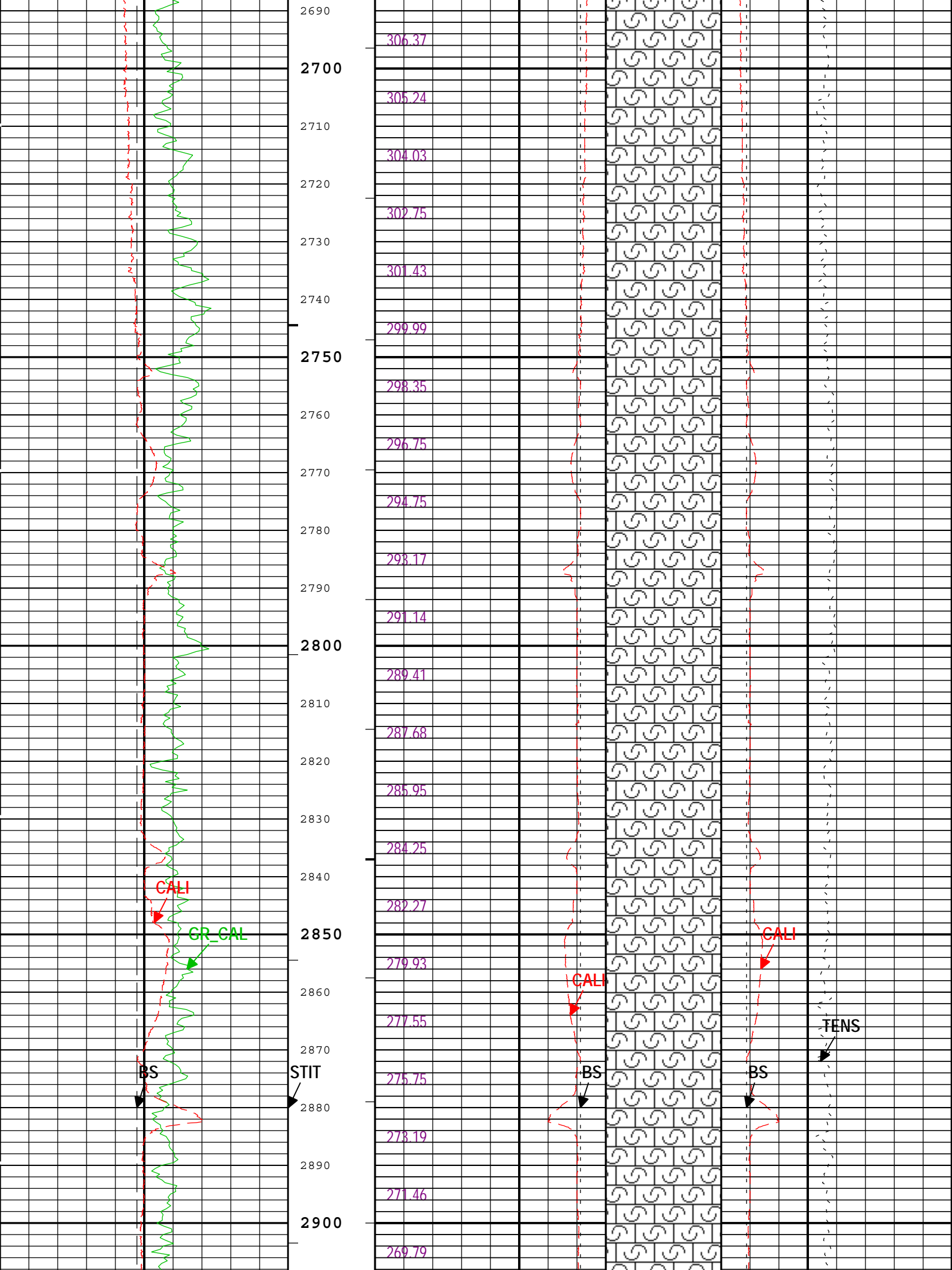


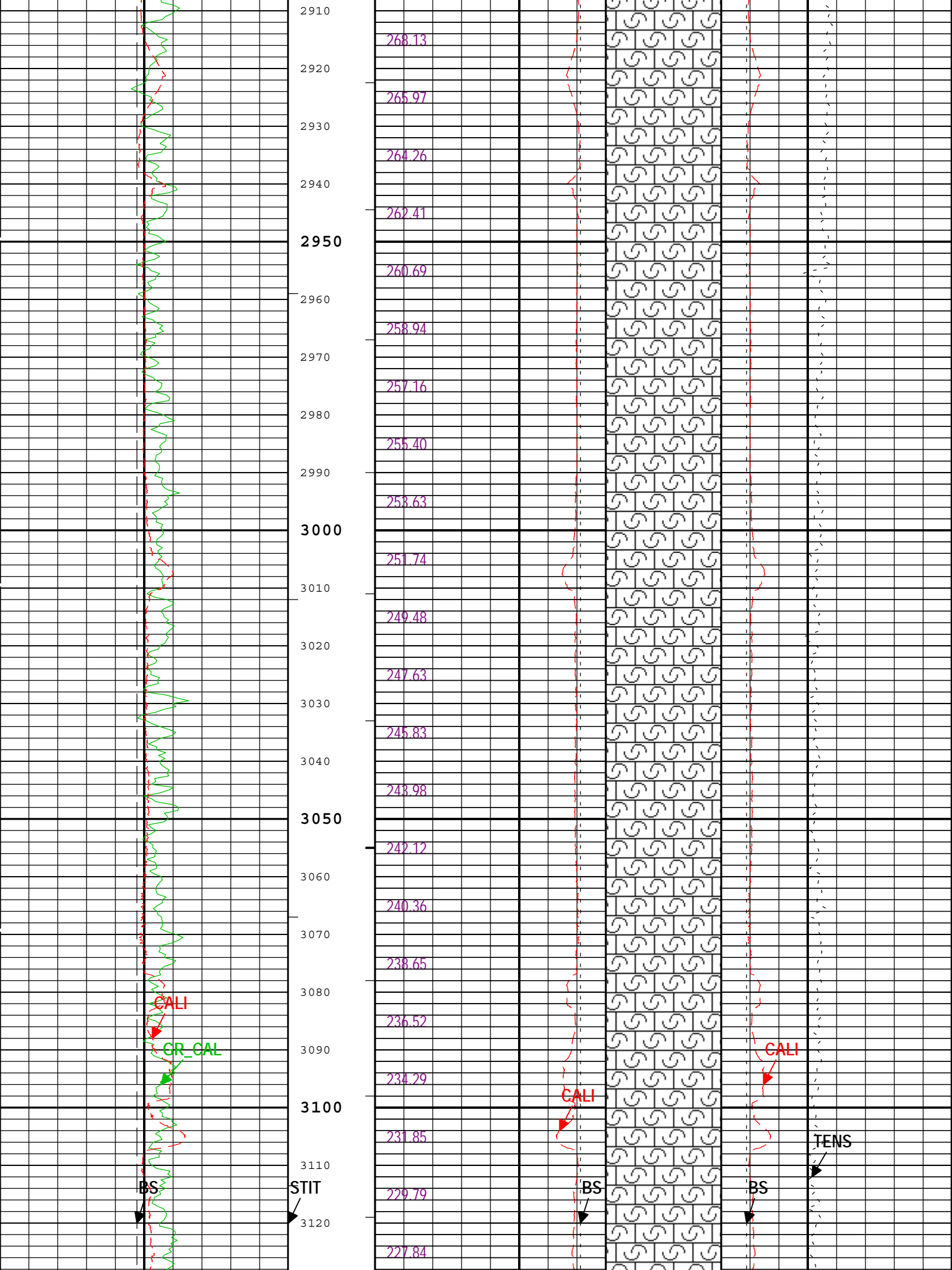


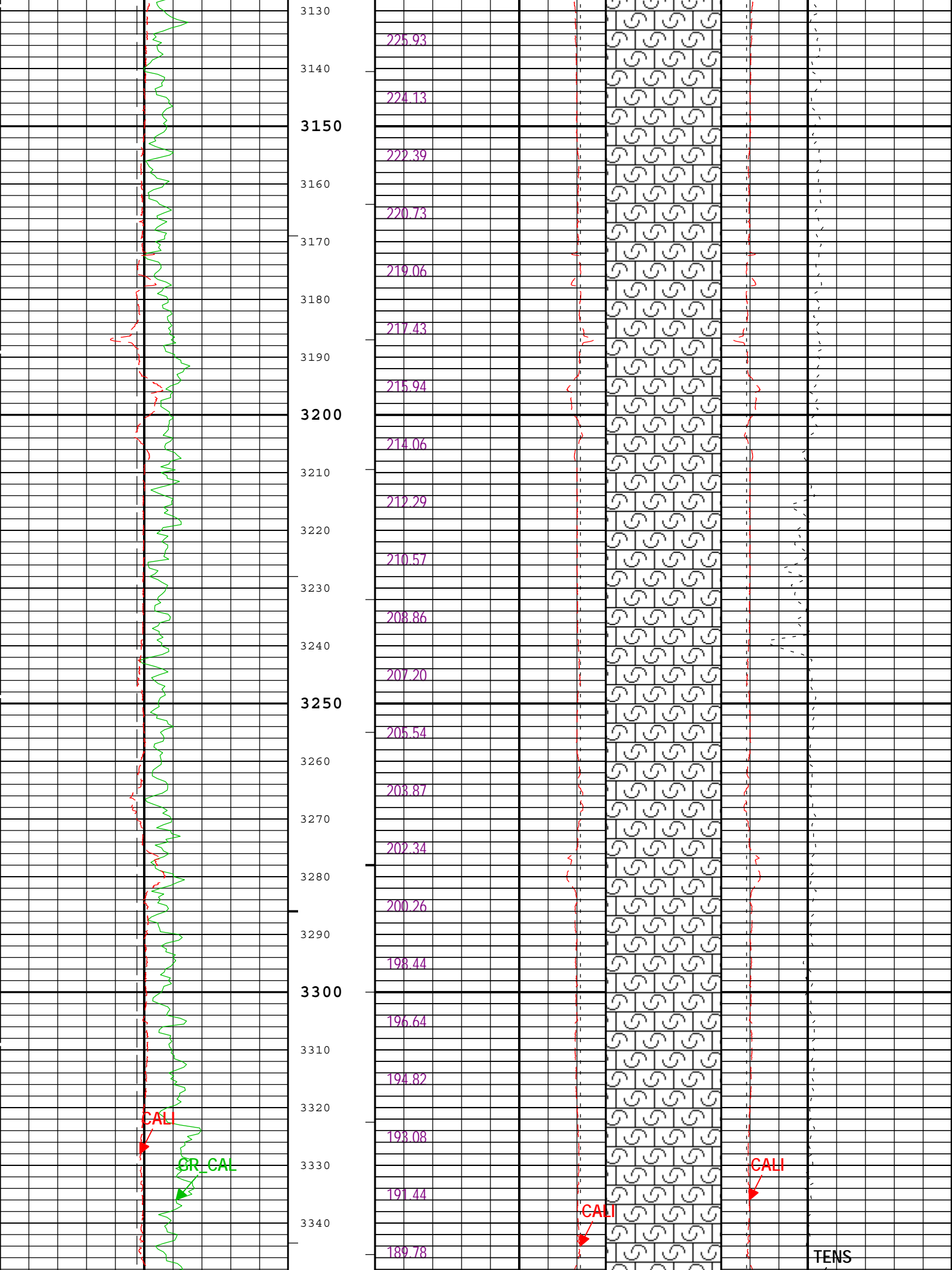


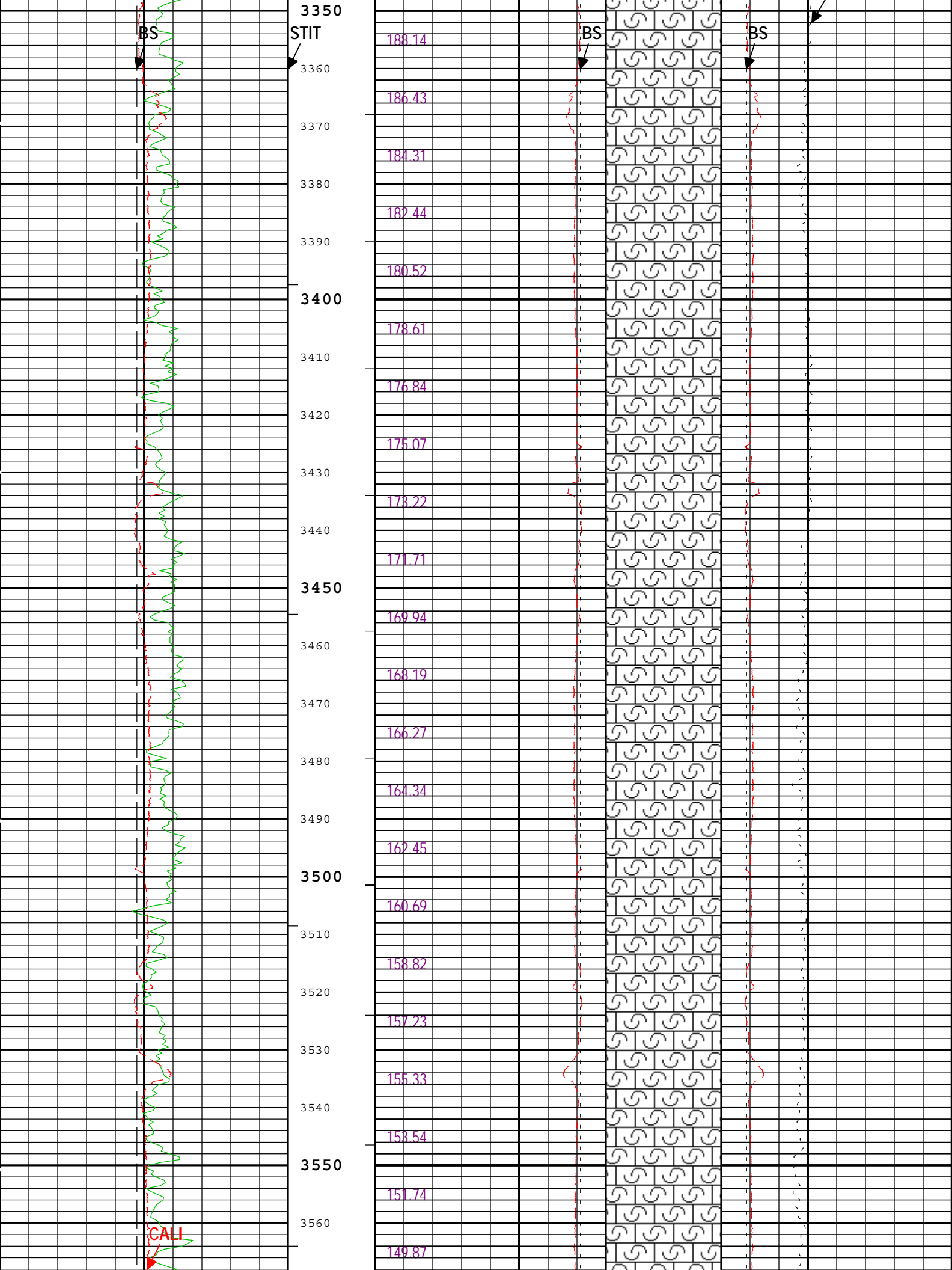


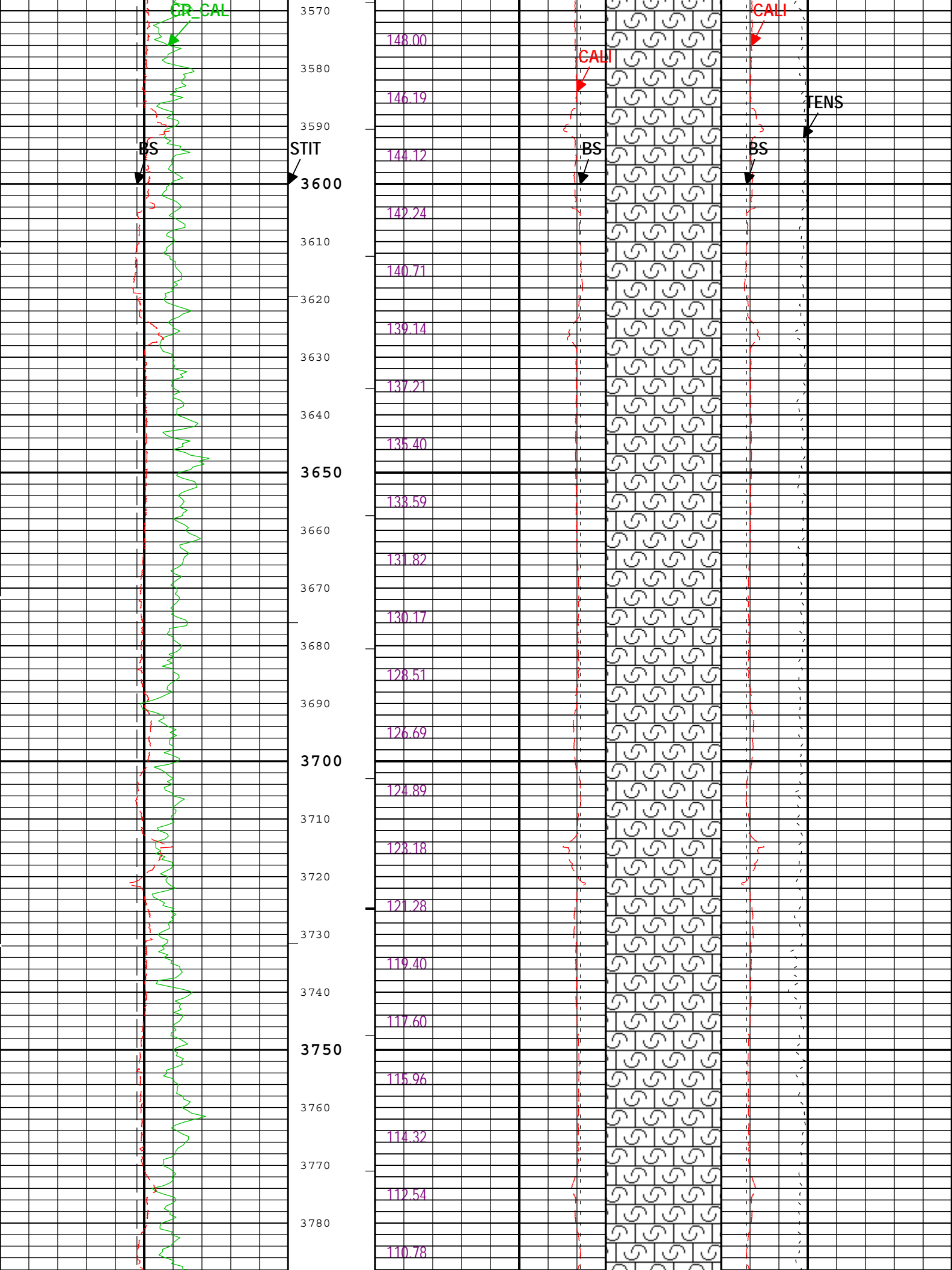


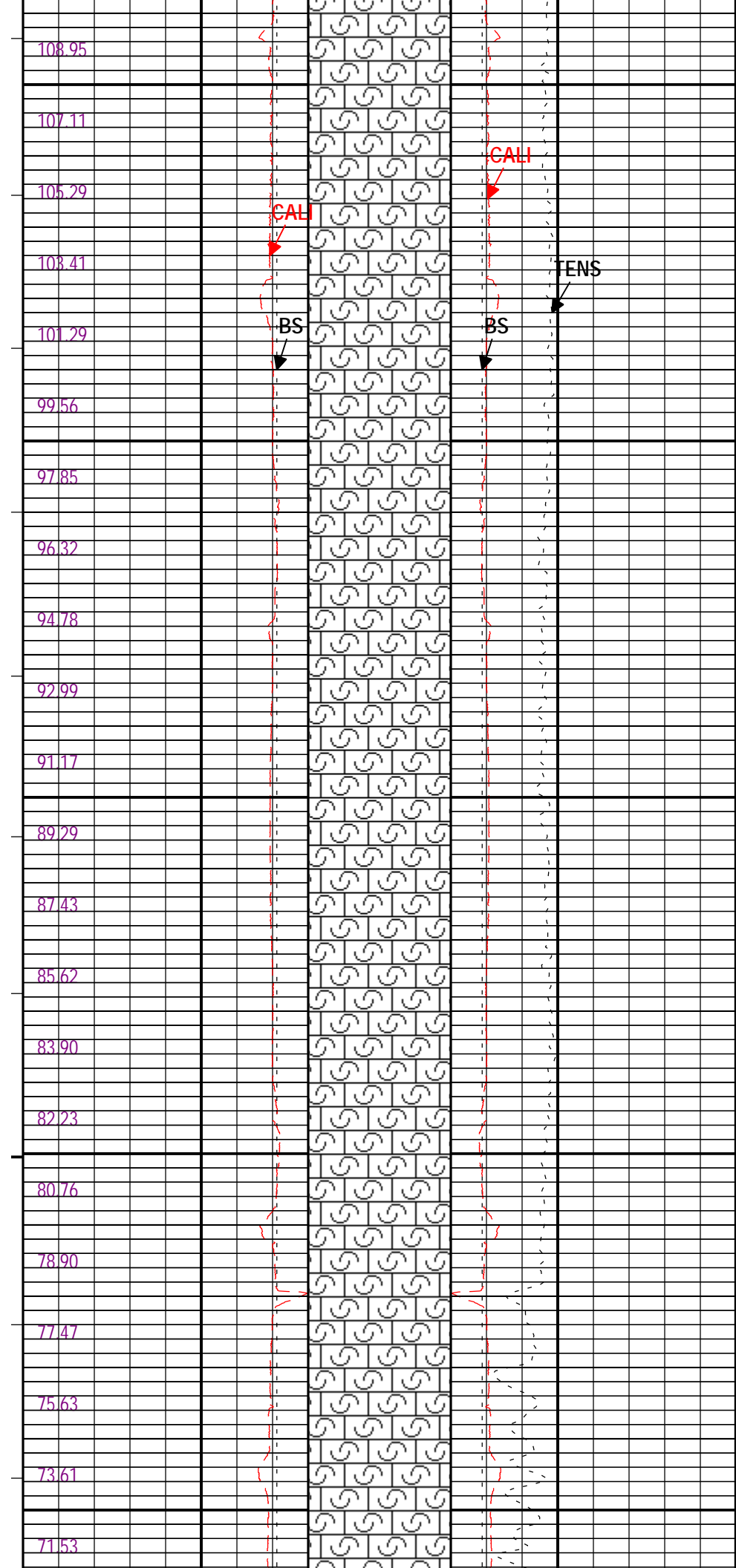
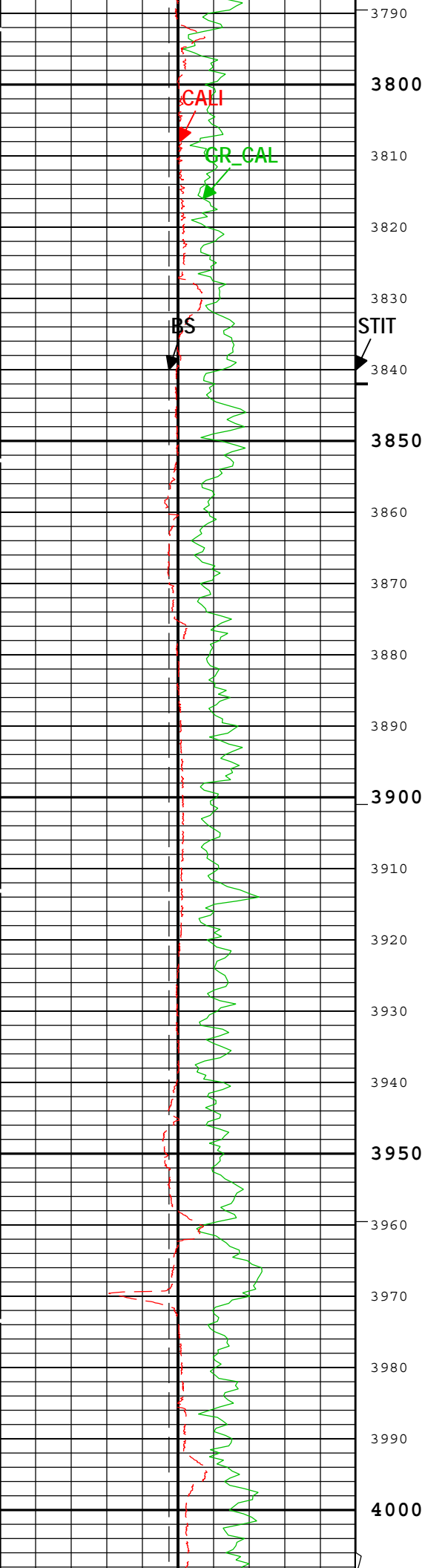


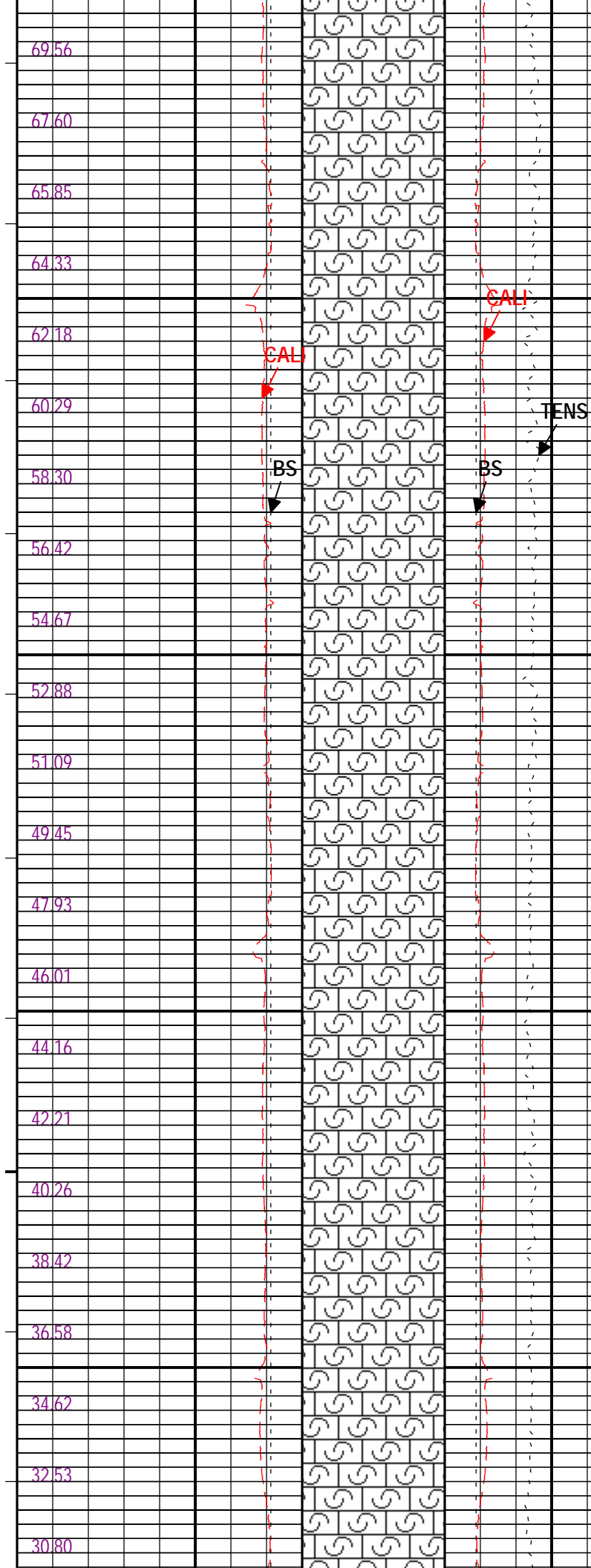
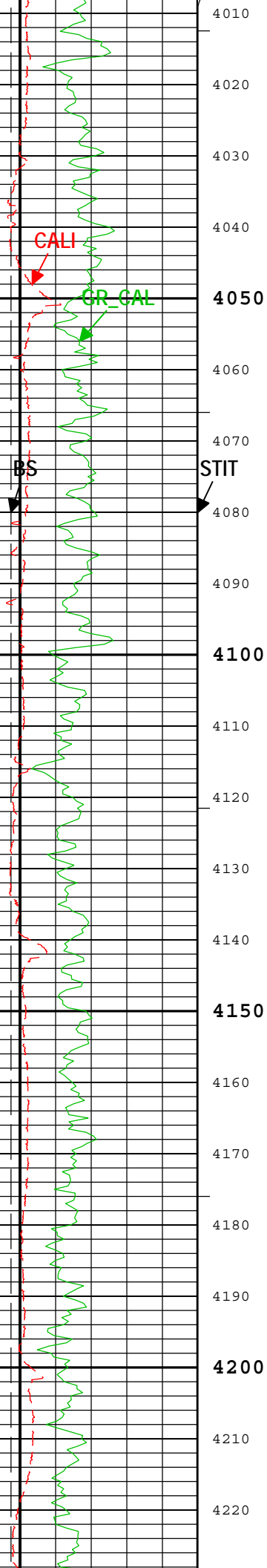


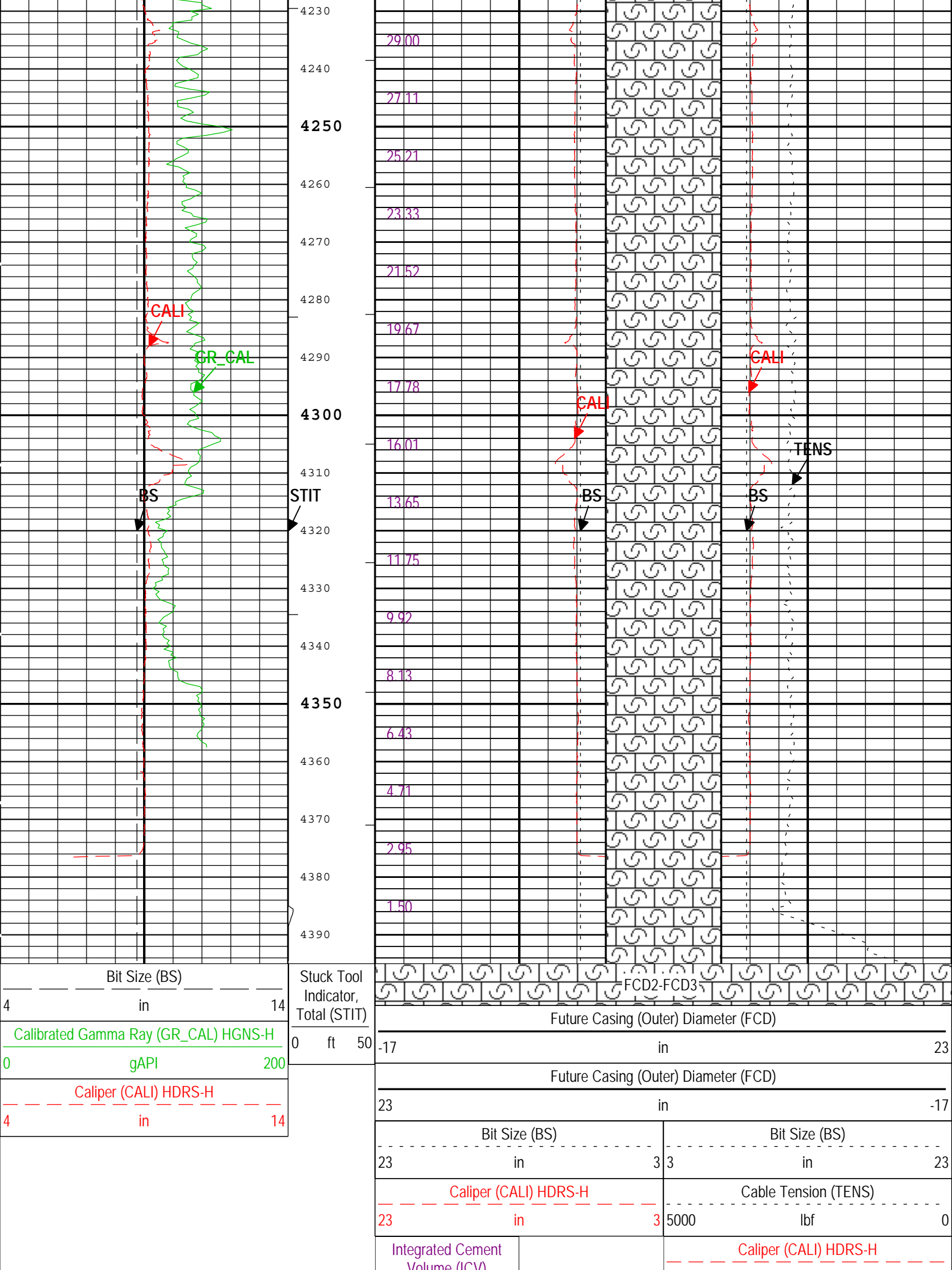












	Volume (ICV) ft3	3	in	23
└─ ICV - Integrated Cement Volume every 10.00 (ft3)				
└─ IHV - Integrated Hole Volume every 10.00 (ft3)				
└─ ICV - Integrated Cement Volume every 100.00 (ft3)				
TIME_1900 - Time Marked every 60.00 (s)				
└─ IHV - Integrated Hole Volume every 100.00 (ft3)				
Description: Format: Log (Noble East Caliper) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Jul-2014 06:20:53				

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	0.405	in
CBLO	Casing Bottom (Logger)	WLSESSION	1281.5	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	7260	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 RUN 1

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					
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		2350.000	128.240	2350.000	

		Before Before-Master	----- -----	0.846 -----	1.295 0.000	1.974 -----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 7	deg	Master Before Before-Master	----- ----- -----	115.000 115.000 -----	176.186 176.602 0.416	-125.000 -125.000 -----	<div><div></div><div></div><div></div></div>
SPA Zero	mV	Master Before Before-Master	 -----	-50.000 -50.000 -----	0.159 0.147 -0.012	50.000 50.000 -----	<div><div></div><div></div><div></div></div>
SPA Plus	mV	Master Before Before-Master	 -----	941.000 941.000 -----	992.540 992.435 -0.105	1040.000 1040.000 -----	<div><div></div><div></div><div></div></div>
Temperature Zero	V	Master Before Before-Master	 -----	-0.050 -0.050 -----	0.000 0.000 0.000	0.050 0.050 -----	<div><div></div><div></div><div></div></div>
Temperature Plus	V	Master Before Before-Master	 -----	0.870 0.870 -----	0.919 0.919 0.000	0.960 0.960 -----	<div><div></div><div></div><div></div></div>

HDRS-H (HILT Density and Rxo Sonde, 150 degC) Calibration - Run RUN 1

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	3760
HRDD Long Spacing Detector	Long Spacing	3760
HRDD Short Spacing Detector	Short Spacing	3760
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): 17:39:40 29-Jul-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div></div>
Small Ring	in	Before	8.00	6.00	8.03	10.00	<div><div></div><div></div><div></div></div>
Large Ring	in	Before	12.00	9.00	12.37	15.00	<div><div></div><div></div><div></div></div>

HDRS Density Calibration - Inversion Results

Master (EEPROM): 12:40:32 09-Jul-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div></div>
Rho Aluminum	g/cm3	Master	2.596	2.586	2.596	2.606	<div><div></div><div></div><div></div></div>
Rho Magnesium	g/cm3	Master	1.686	1.676	1.686	1.696	<div><div></div><div></div><div></div></div>
Pe Aluminum		Master	2.570	2.470	2.563	2.670	<div><div></div><div></div><div></div></div>
Pe Magnesium		Master	2.650	2.550	2.620	2.750	<div><div></div><div></div><div></div></div>

HDRS Density Calibration - Deviation Summary

Master (EEPROM): 12:40:32 09-Jul-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div></div>
BS Average Deviation	%	Master	0	-0.6000	0.3499	0.6000	<div><div></div><div></div><div></div></div>
BS Max Deviation	%	Master	0	-1.6000	0.7390	1.6000	<div><div></div><div></div><div></div></div>
SS Average Deviation	%	Master	0	-1.0000	0.2543	1.0000	<div><div></div><div></div><div></div></div>
SS Max Deviation	%	Master	0	-2.5000	0.6997	2.5000	<div><div></div><div></div><div></div></div>
LS Average Deviation	%	Master	0	-1.5000	0.8496	1.5000	<div><div></div><div></div><div></div></div>
LS Max Deviation	%	Master	0	-3.5000	2.0841	3.5000	<div><div></div><div></div><div></div></div>

HDRS Density Calibration - Background Summary

Master (EEPROM): 12:40:32 09-Jul-2014

Before (Measured):

02:07:29 30-Jul-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div><div></div><div></div></div>
BS Window Ratio		Master Before	1.0000 0.7360		0.7360 0.7345	0.7728	<div><div></div><div></div><div></div></div>

BS Window Sum	1/s	Before-Master	-----	-----	-0.0015	-----	
		Master	1		23964		
		Before	23964	22766	23945	25162	
SS Window Ratio		Before-Master	-----	-----	-19	-----	
		Master	1.0000		0.4853		
		Before	0.4853	0.4611	0.4878	0.5096	
SS Window Sum	1/s	Before-Master	-----	-----	0.0025	-----	
		Master	1		9801		
		Before	9801	9311	9769	10292	
LS Window Ratio		Before-Master	-----	-----	-32	-----	
		Master	1.0000		0.3000		
		Before	0.3000	0.2850	0.3030	0.3150	
LS Window Sum	1/s	Before-Master	-----	-----	0.0030	-----	
		Master	1		1184		
		Before	1184	1125	1179	1243	
		Before-Master	-----	-----	-5	-----	

HDRS Density Calibration - Photo-multiplier High Voltages

Master (EEPROM):		12:40:32 09-Jul-2014		Before (Measured):		02:07:29 30-Jul-2014	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS PM High Voltage	V	Master		1000	1350	2400	
		Before		1000	1344	2400	
		Before-Master	-----	-100	-6	100	
SS PM High Voltage	V	Master		1000	1620	2400	
		Before		1000	1624	2400	
		Before-Master	-----	-100	4	100	
LS PM High Voltage	V	Master		1000	1200	2400	
		Before		1000	1194	2400	
		Before-Master	-----	-100	-6	100	

HDRS Density Calibration - Crystal Quality Resolutions

Master (EEPROM):		12:40:32 09-Jul-2014		Before (Measured):		02:07:29 30-Jul-2014	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Crystal Resolution	%	Master		5.00	10.62	25.00	
		Before		5.00	10.61	25.00	
		Before-Master	-----	-1.00	-0.01	1.00	
SS Crystal Resolution	%	Master		5.00	9.38	20.00	
		Before		5.00	9.52	20.00	
		Before-Master	-----	-1.00	0.14	1.00	
LS Crystal Resolution	%	Master		5.00	8.58	20.00	
		Before		5.00	8.45	20.00	
		Before-Master	-----	-1.00	-0.13	1.00	

HDRS MCFL Calibration - MCFL Accumulations

Before (Measured):		02:10:32 30-Jul-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Main Resistivity	ohm.m	Before	3875	3565	3860	4185	
Deep Resistivity	ohm.m	Before	3830	3524	3802	4136	
Shallow Resistivity	ohm.m	Before	3830	3524	3816	4136	

HGNS-H (HILT Gamma-Ray and Neutron Sonde, 150 degC) Calibration - Run RUN 1

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):		02:01:42 30-Jul-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	

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): 17:40:45 29-Jul-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	27.8	40.0	
		Before-Master	----	-4.1	0.3	4.1	
Far Zero Measurement	1/s	Master	0	5.0	28.9	40.0	
		Before	0	5.0	27.9	40.0	
		Before-Master	----	-4.3	-1.0	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): 17:37:11 29-Jul-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before	30.0	0	86.6	120.0	
RGR Plus Measurement	gAPI	Before	185.4	157.1	169.1	206.3	
GR Calibration Gain		Before	0.89	0.80	0.98	1.05	

Company: Kerr McGee Oil & Gas Onshore LP

Schlumberger

Well: Sickler 26C-34HZ

Field: Wattenberg

County: Weld

State: CO

Platform Express

Caliper

Cement Volume