

Company: Omimex Petroleum Inc

Well: Moss 7-19-7-44

Field: Holyoke South

County: Phillips State: Colorado

Platform Express
Array Induction
with Linear Correlation

County: Phillips
Field: Holyoke South
Location: SWNE Sec19 T7N R44W
Well: Moss 7-19-7-44
Company: Omimex Petroleum Inc

Location:		Elev.:	K.B.	3748.00 ft
SWNE Sec19 T7N R44W			G.L.	3742.00 ft
SHL: 2033' FNL, 1933' FEL			D.F.	3747.00 ft
Permanent Datum:	Ground Level	Elev.:	3742.00 f	
Log Measured From:	Kelly Bushing	6.00 ft	above Perm.Datum	
Drilling Measured From:	Kelly Bushing			
API Serial No.	Section:	Township:	Range:	
05-095-06464	19	7N	44W	

Logging Date	30-Nov-2014				
Run Number	ONE				
Depth Driller	2726.00 ft				
Schlumberger Depth	2726.00 ft				
Bottom Log Interval	2725.00 ft				
Top Log Interval	500.00 ft				
Casing Driller Size @ Depth	7 in @ 497.00 ft				
Casing Schlumberger	497 ft				
Bit Size	6.25 in				
Type Fluid In Hole	Water				
MUD	Density	8.6 lbm/gal	29 s		
	Fluid Loss	PH	8		
	Source of Sample			AIT Measured	
RM @ Meas Temp	0.24 ohm.m @ 97 degF				
RMF @ Meas Temp	0.18 ohm.m @ 97 degF				
RMC @ Meas Temp	0.35 ohm.m @ 97 degF				
Source RMF	RMC	Calculated	Calculated		
RM @ BHT	RMF @ BHT	0.23 @ 103	0.17 @ 103		
Max Recorded Temperatures			103 degF		
Circulation Stopped	Time	30-Nov-2014 07:15:00			
Logger on Bottom	Time	30-Nov-2014 11:37:00			
Unit Number	Location:	3022	Fort Morgan		
Recorded By	B Makinson				
Witnessed By	Paul Dekaye				

Disclaimer

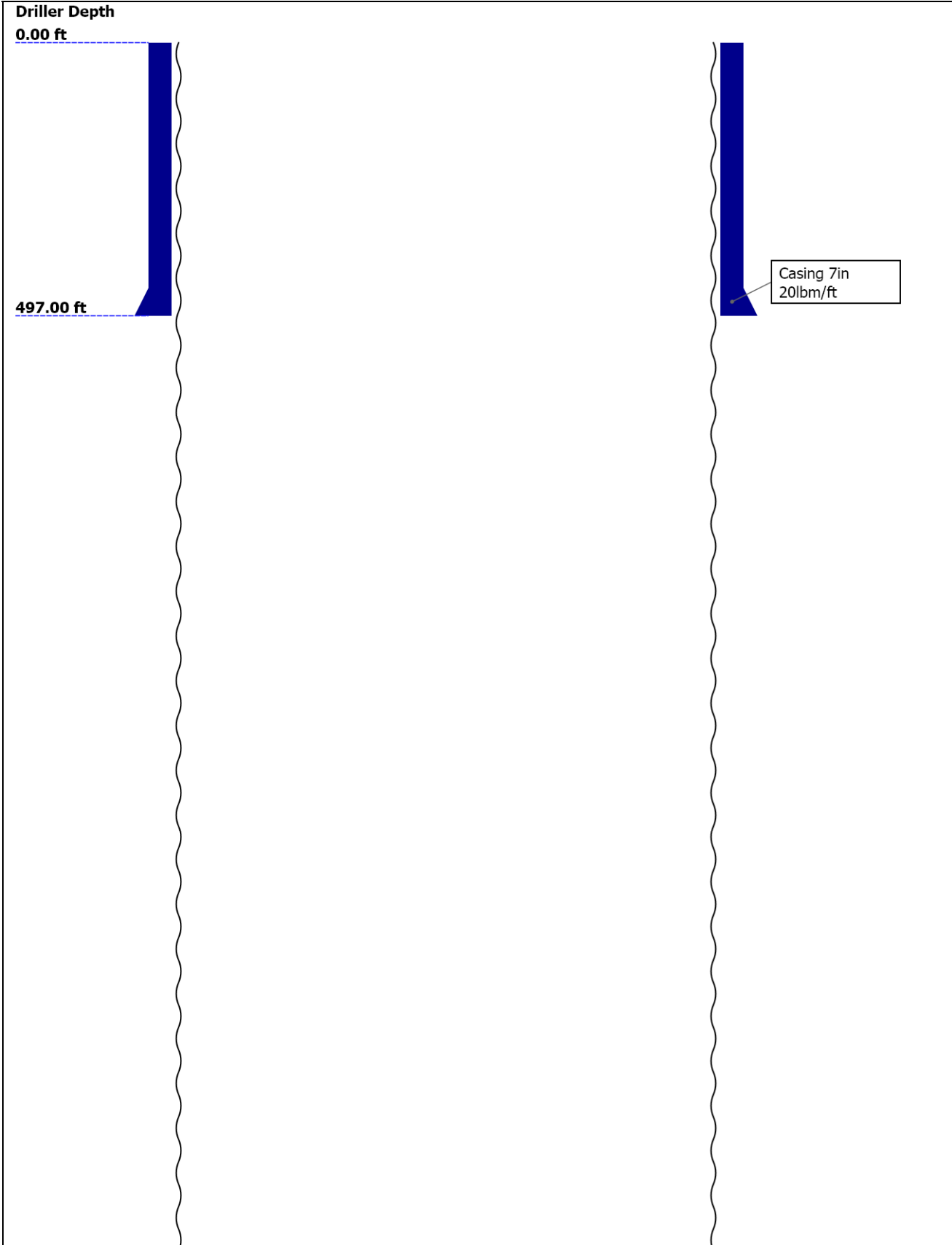
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Well Sketch





Borehole Size/Casing/Tubing Record

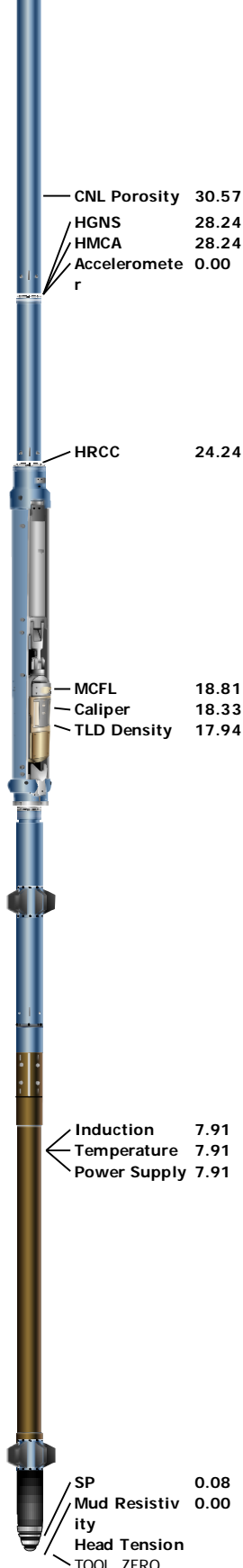
Bit						
Bit Size (in)	6.25					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	2726					
Bottom Logger (ft)	2726					
Casing						
Size (in)	7					
Weight (lbm/ft)	20					
Inner Diameter (in)	6.456					
Grade	J55					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	497					
Bottom Logger (ft)	497					

Remarks and Equipment Summary

ONE: Toolstring				ONE: Remarks
Equip name LEH-QT LEH-QT	Length 51.57	MP name	Offset	First run in the well.
				Toolstring run as per tool sketch.
				No bowspring used to eccentric HGNS as per client request.
DTC-H ECH-KC DTC-H	48.65	CTEM HV	47.75 0.00	Limestone matrix, MDEN: 2.71
		TelStatus ToolStatus	45.65 45.65	Neutron corrections applied: Hole size, standoff.
Adaptor_Head	45.65			Cement volume calculated assuming 4.5" future casing.
				Mud resistivity measured from AIT AMF.
GPIT-F:1881 GPIH-B DHRU-F:2705 GPIC-F:1881	41.65	GPIT-F Incl ometer	40.23	
HGNS-H HGNH NPV-N NSR-F:2554 HMCA-H	37.65	GPIT Temperature GR	0.00 37.62 36.91	

HDRS-H
ECH-MEB
HRCC-H
HRMS-H
Short Spacing
Long Spacing
GSR-J:5416
Backscatter:2696
1
HRGD-H:5788
GPV-Q

AIT-M:181
AMIS:181
AMRM



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

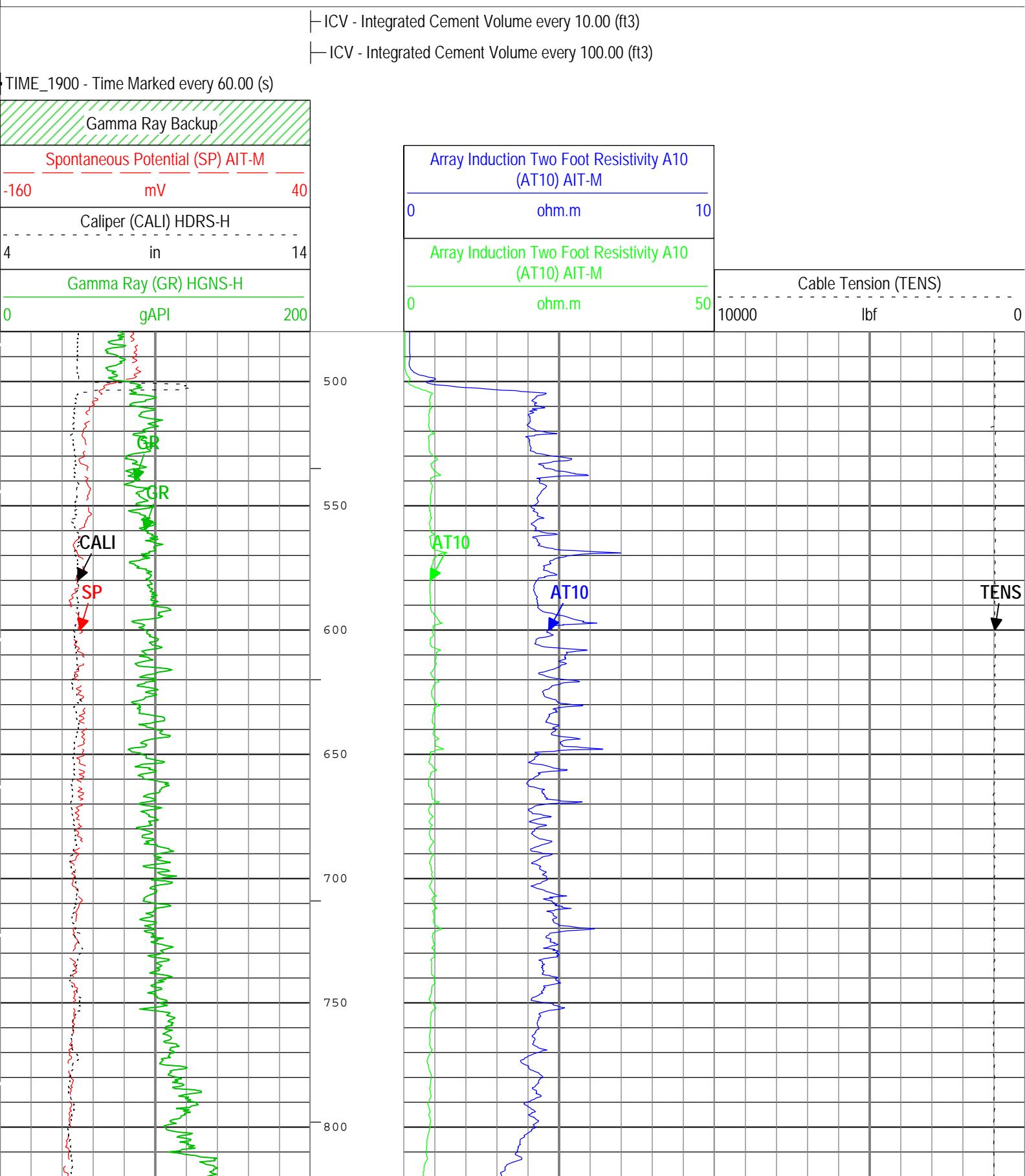
	ONE		
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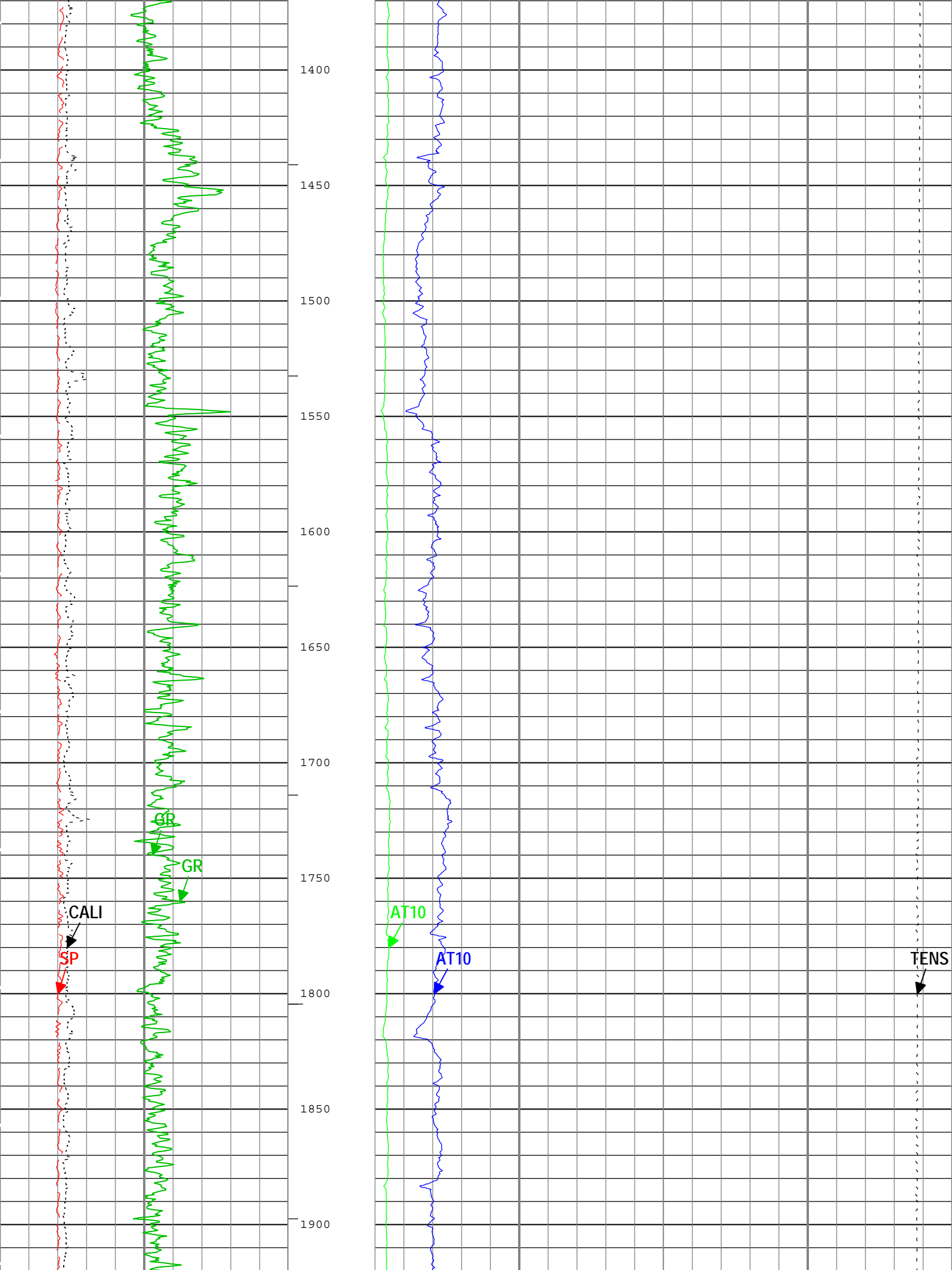
Depth Measuring Device

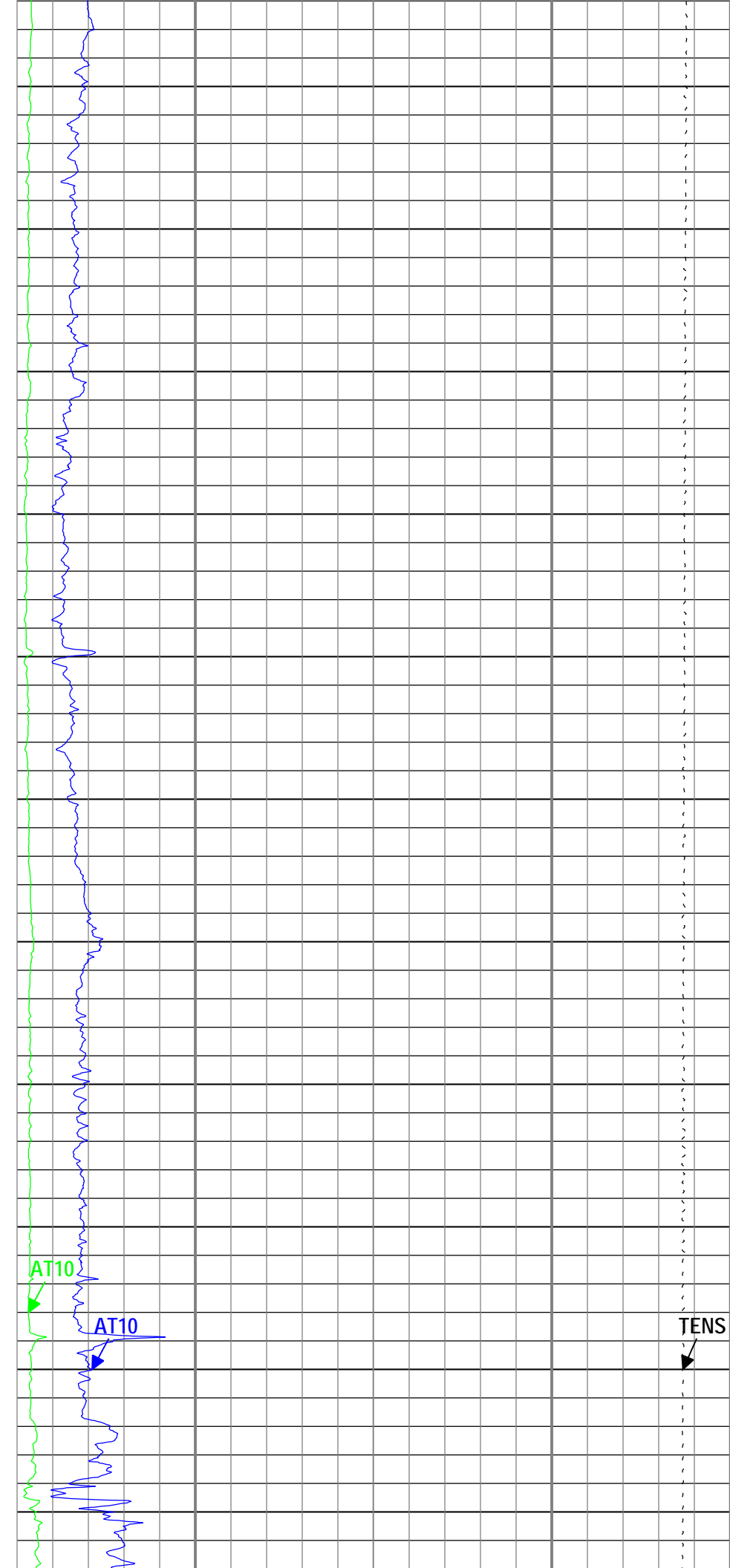
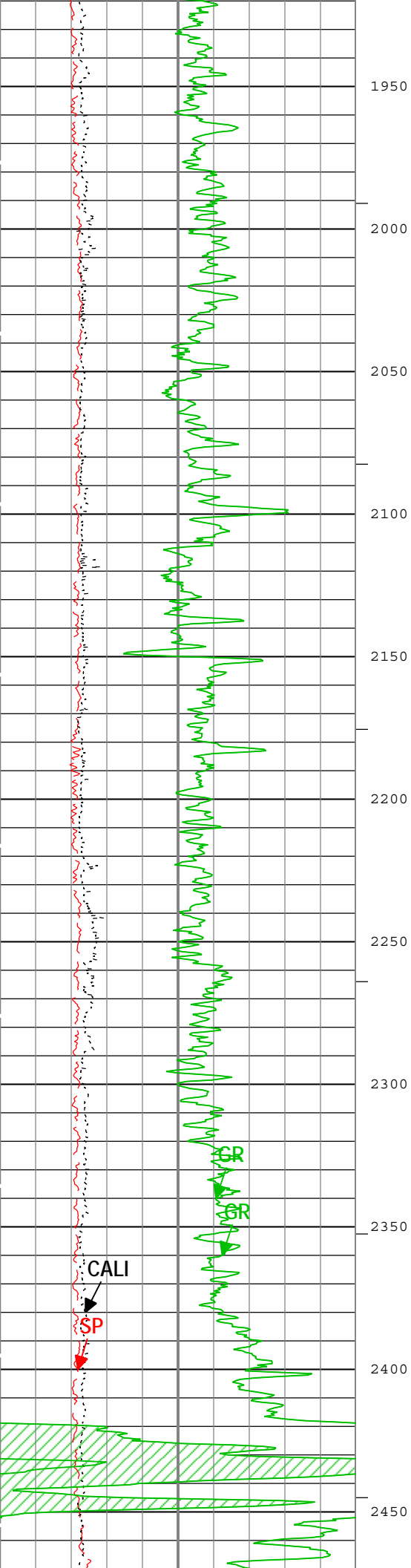
Type	IDW-JA		
Serial Number	5896		
Calibration Date	13-Aug-2014		

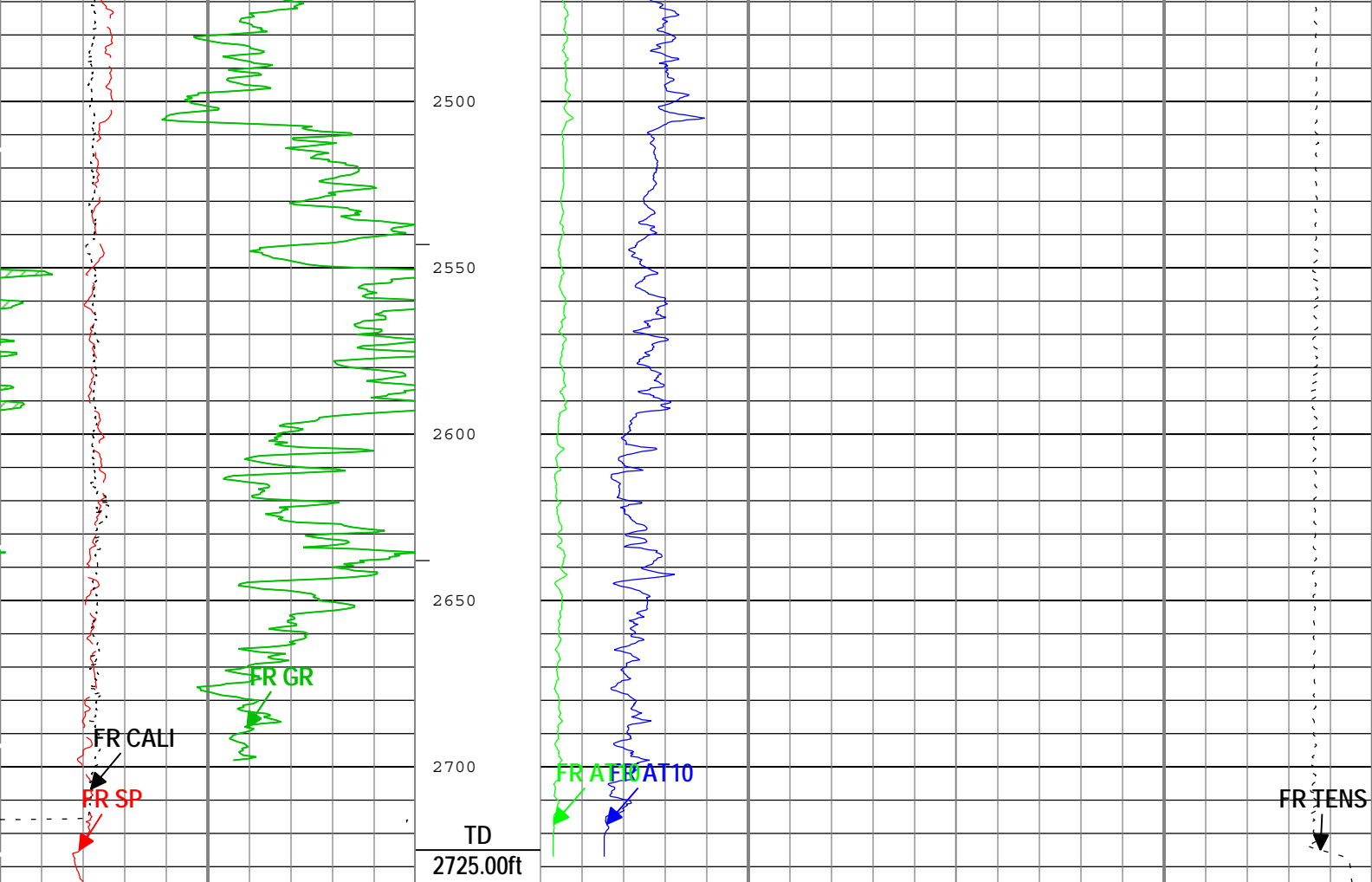
Channel	Source	Sampling
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AT10	AIT-M:AMIS:AMIS	3in
CALI	HDRS-H:HRCC-H:HRCC-H	1in
GR	HGNS-H:HGNS-H:HGNS-H	6in
ICV	Borehole	6in
SP	AIT-M:AMIS:AMIS	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in









Gamma Ray Backup		
Spontaneous Potential (SP) AIT-M		
-160	mV	40
Caliper (CALI) HDRS-H		
4	in	14
Gamma Ray (GR) HGNS-H		
0	gAPI	200

Array Induction Two Foot Resistivity A10 (AT10) AIT-M		
0	ohm.m	10
Array Induction Two Foot Resistivity A10 (AT10) AIT-M		
0	ohm.m	50

Cable Tension (TENS)		
10000	lbf	0

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 100.00 (ft3)

ICV - Integrated Cement Volume every 10.00 (ft3)

Description: AIT Basic Log Two Format: Log (Import of Kerr McGee 2in Induction) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured
Depth Creation Date: 30-Nov-2014 12:57:13

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ACDE	Array Induction Casing Detection Enable	AIT-M	No	
ASTA	Array Induction Tool Standoff	AIT-M	1	in
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	6.25	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	497	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	7	in

DFD	Drilling Fluid Density	Borehole	8.6	lbm/gal
FCD	Future Casing (Outer) Diameter	WLSESSION	4.5	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	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	AMF	
SOCO	Standoff Correction Option	HGNS-H	Yes	
SPDR	SP Drift Per Foot	AIT-M	0	mV/ft

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

ONE				
Induction Repeat Analysis				

Integration Summary				
Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	245.1	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	492.14	ft3

Software Version	
Acquisition System	Version
MaxWell	4.0.9163.3000
Application Patch	Patch-SP-10767_26570-4.0.9163.3001

Computation	Description		Version
Borehole	Borehole Ensemble provides common Borehole Parameters and Channels		4.0.9469.3000
Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	4.0.9575.3000	2.0
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	4.0.9575.3000	2.0
AMIS	Array Induction Sonde - M	4.0.9535.3000	1

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[3]:Up	Up	45.73 ft	2734.94 ft	30-Nov-2014 11:49:59 AM	30-Nov-2014 12:40:56 PM	ON	0.00 ft	No

All depths are referenced to toolstring zero		
Log	Company:Omimex Petroleum Inc	Well:Moss 7-19-7-44
		ONE: Log[3]:Up:S007

Description: AIT Basic Log Two
Format: Log (EMD 5in Induction)
Index Scale: 5 in per 100 ft
Index Unit: ft
Index Type: Measured Depth
Creation Date: 30-Nov-2014 12:57:15

Channel	Source	Sampling
AT10	AIT-M:AMIS:AMIS	3in
AT20	AIT-M:AMIS:AMIS	3in
AT30	AIT-M:AMIS:AMIS	3in
AT60	AIT-M:AMIS:AMIS	3in
AT90	AIT-M:AMIS:AMIS	3in
CALI	HDRS-H:HRCC-H:HRCC-H	1in
GR	HGNS-H:HGNS-H:HGNS-H	6in
ICV	Borehole	6in
IHV	Borehole	6in
SP	AIT-M:AMIS:AMIS	6in
TENS	WLWorkflow	6in

—IHV - Integrated Hole Volume every 10.00 (ft3)

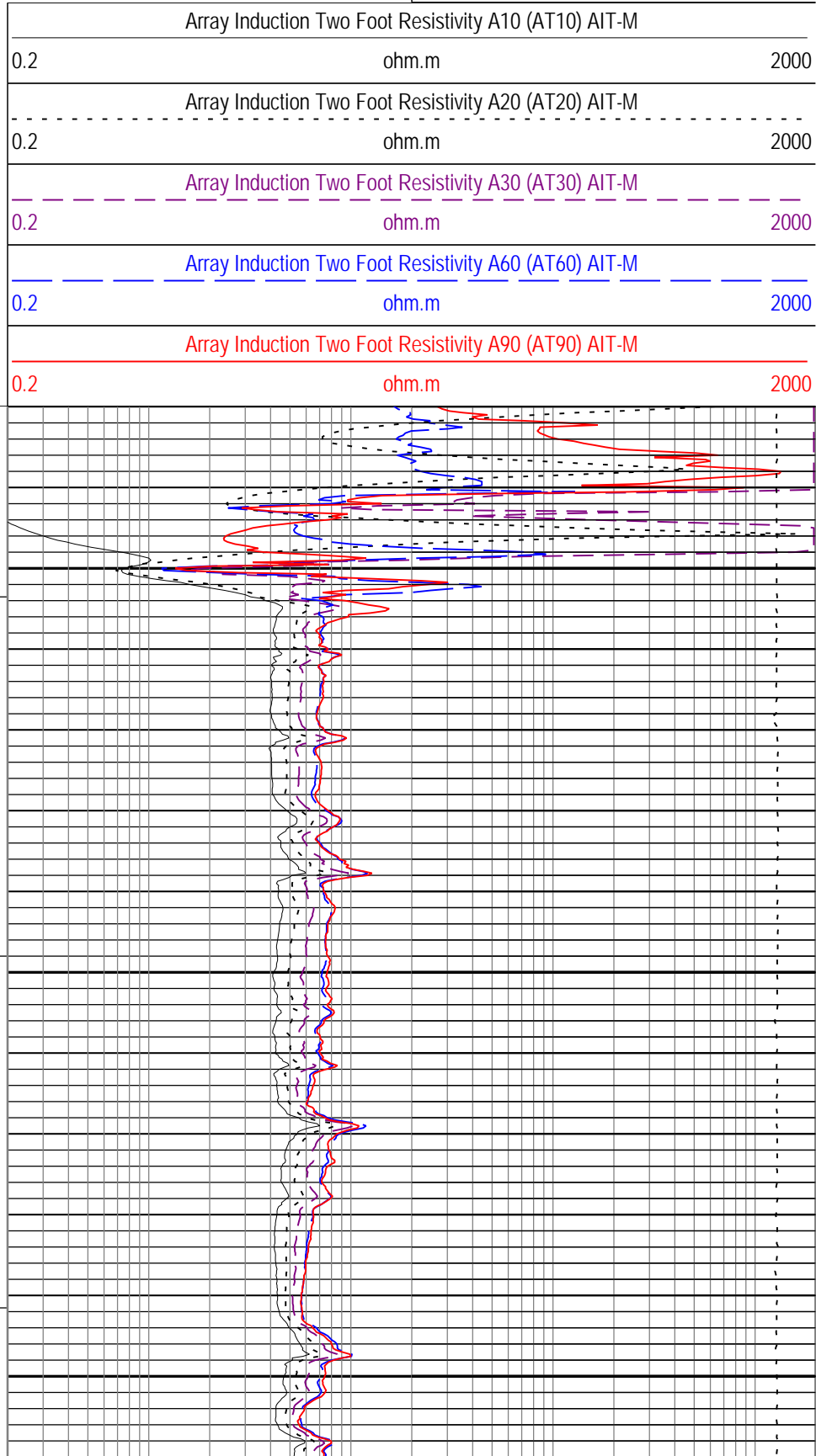
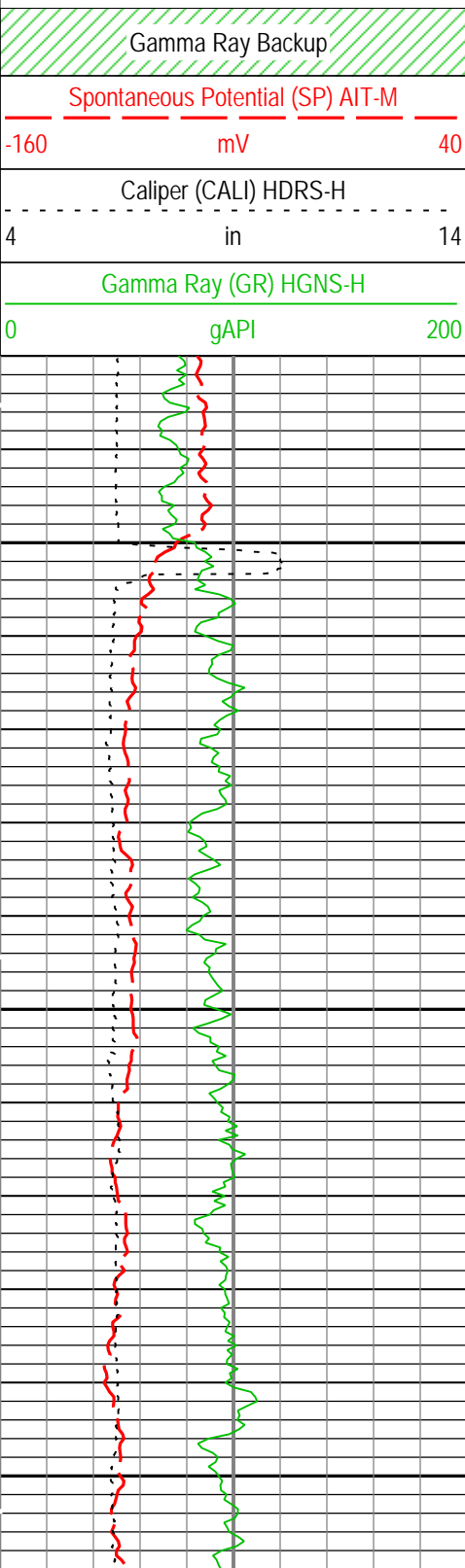
—IHV - Integrated Hole Volume every 100.00 (ft3)

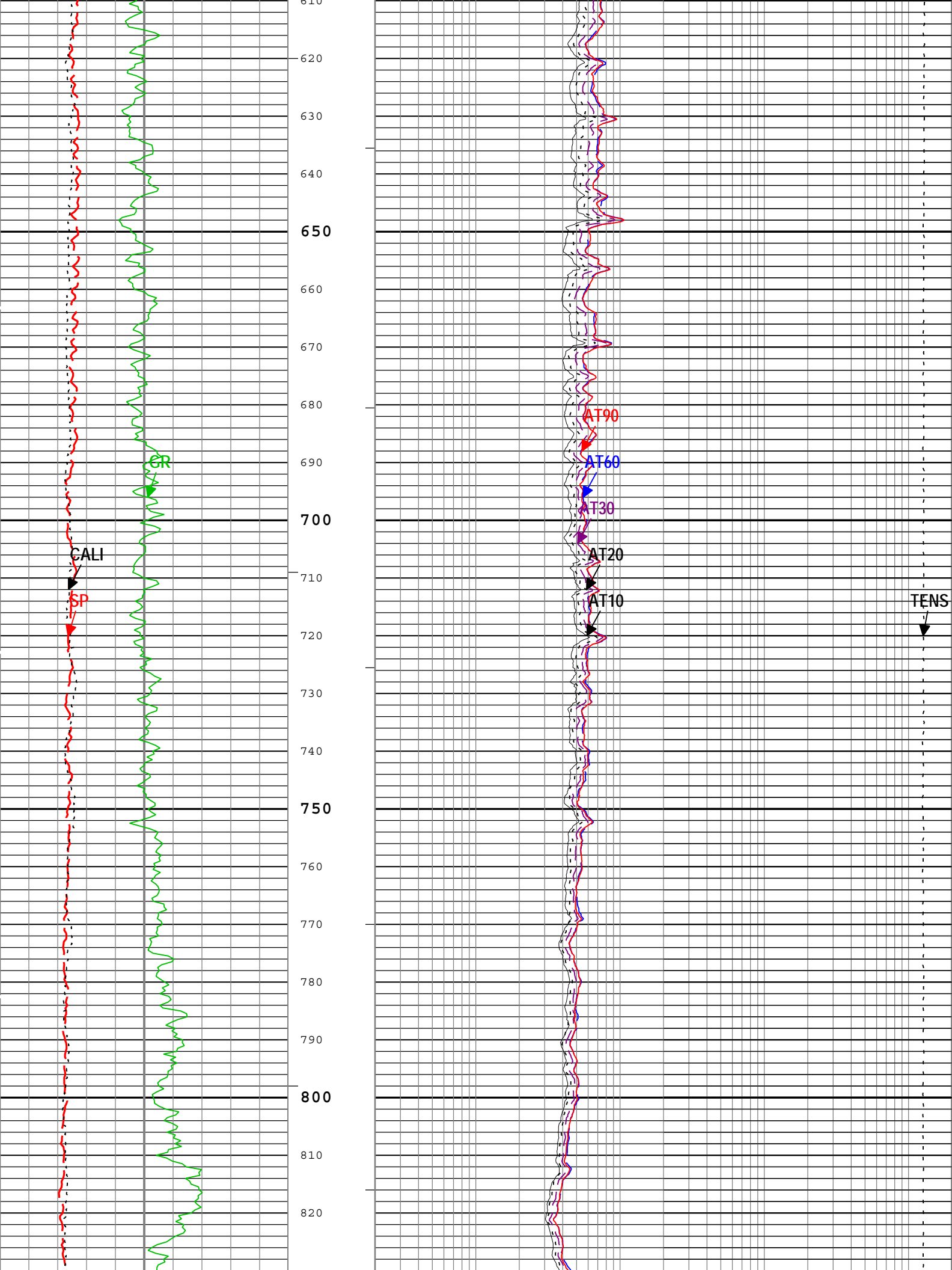
—ICV - Integrated Cement Volume every 10.00 (ft3)

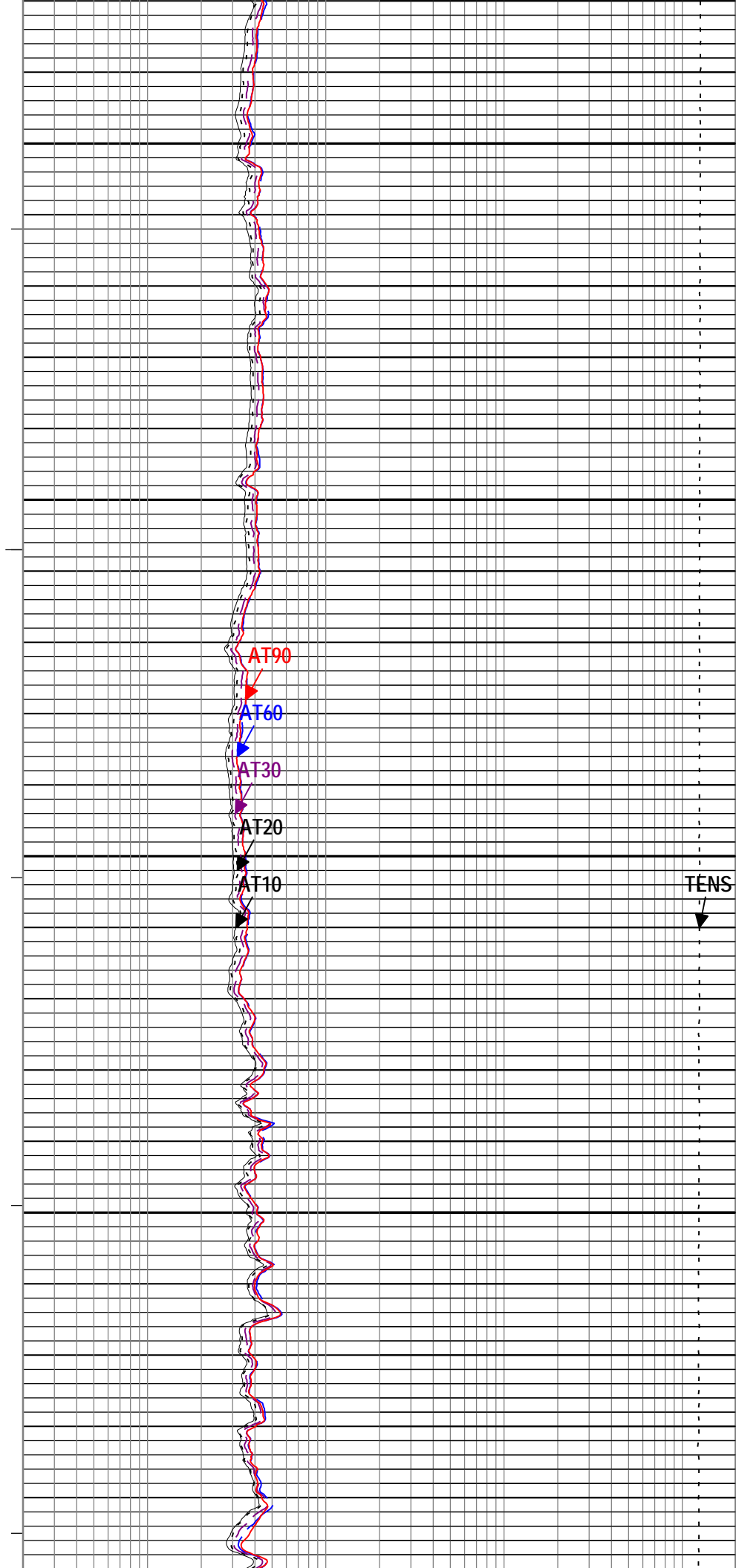
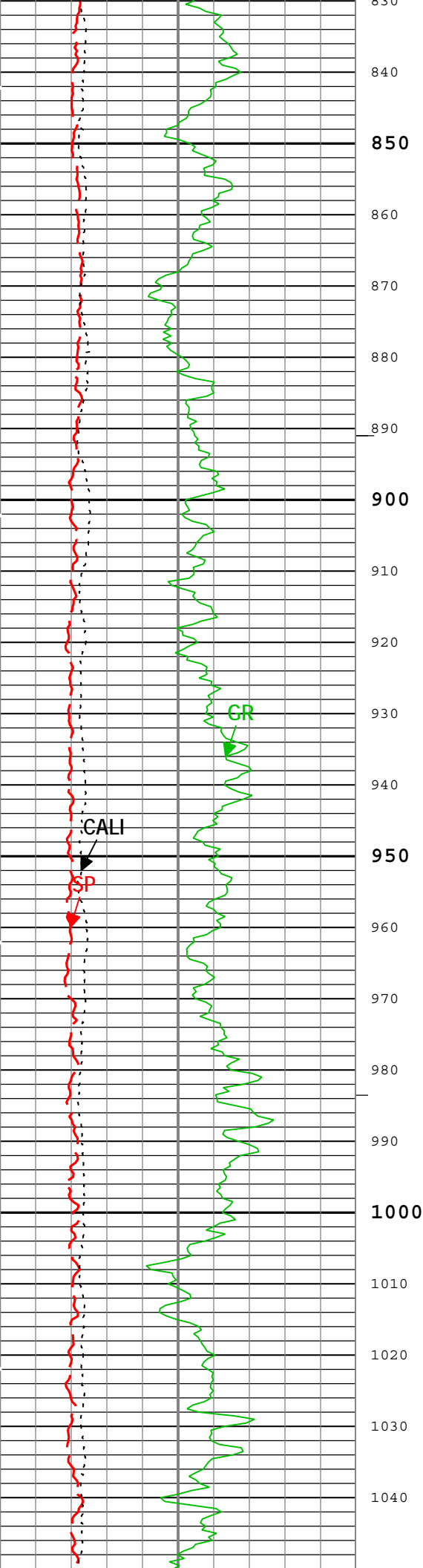
TIME_1900 - Time Marked every 60.00 (s)

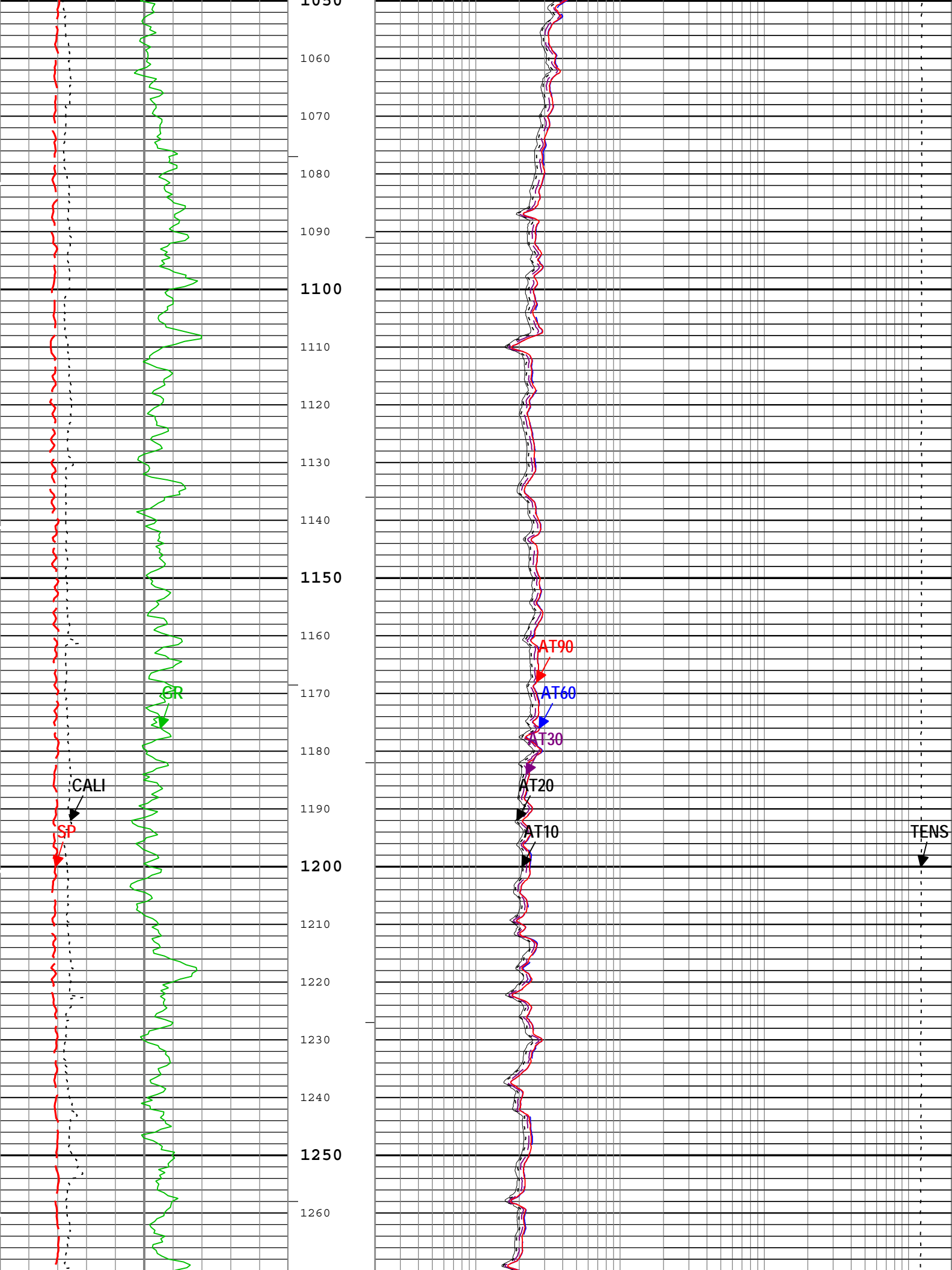
—ICV - Integrated Cement Volume every 100.00 (ft3)

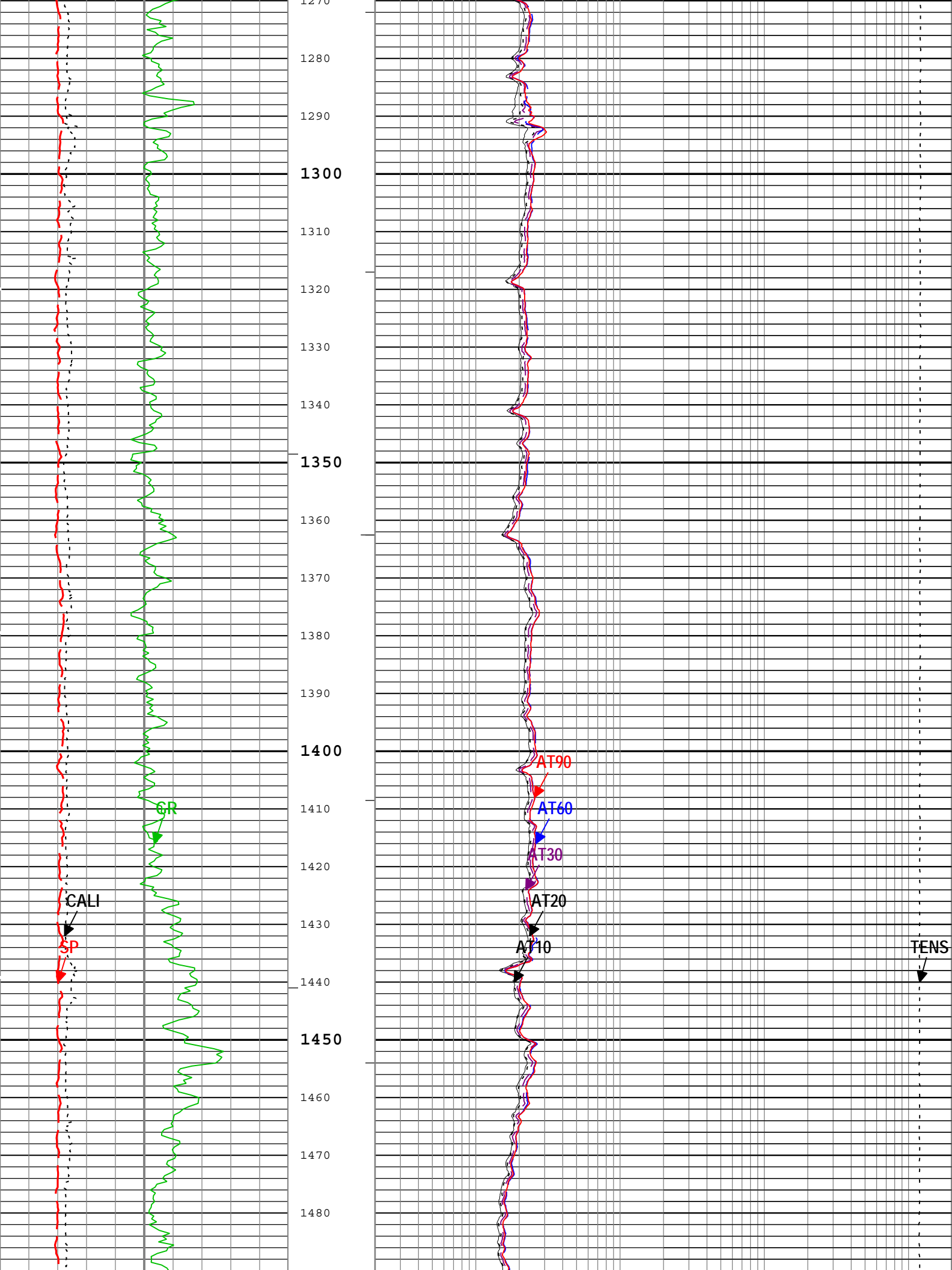
Cable Tension (TENS)		
10000	lbf	0

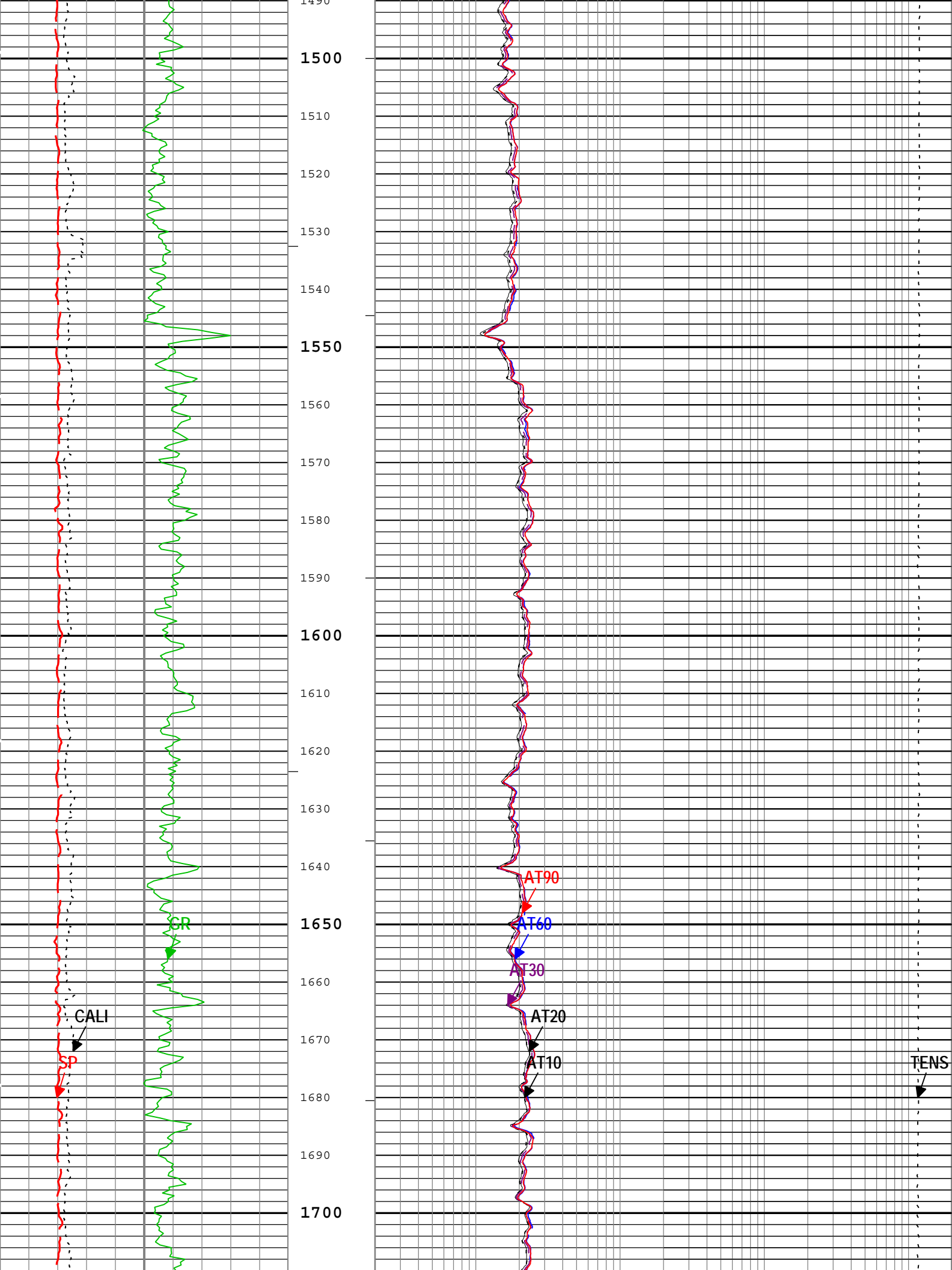


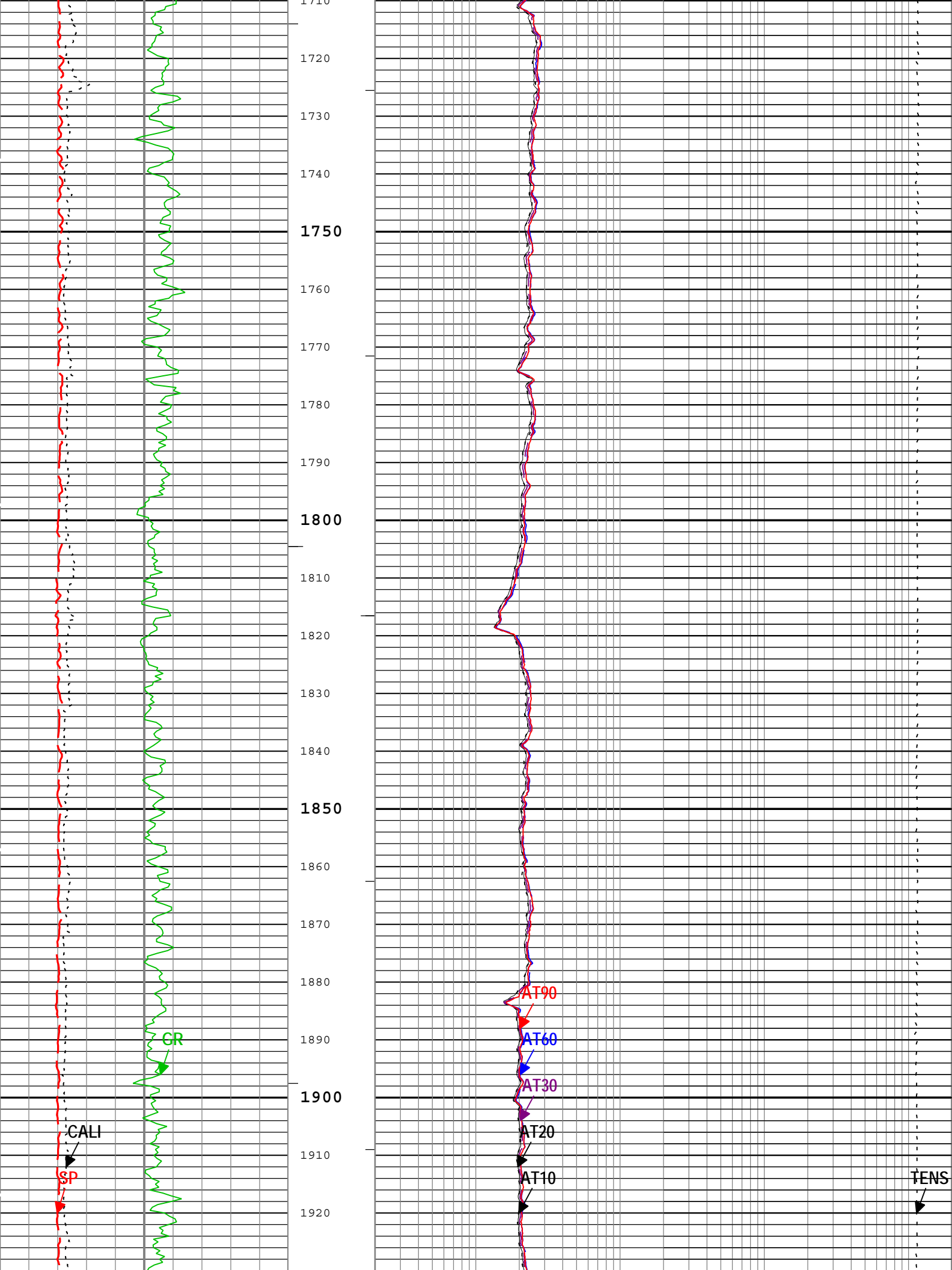


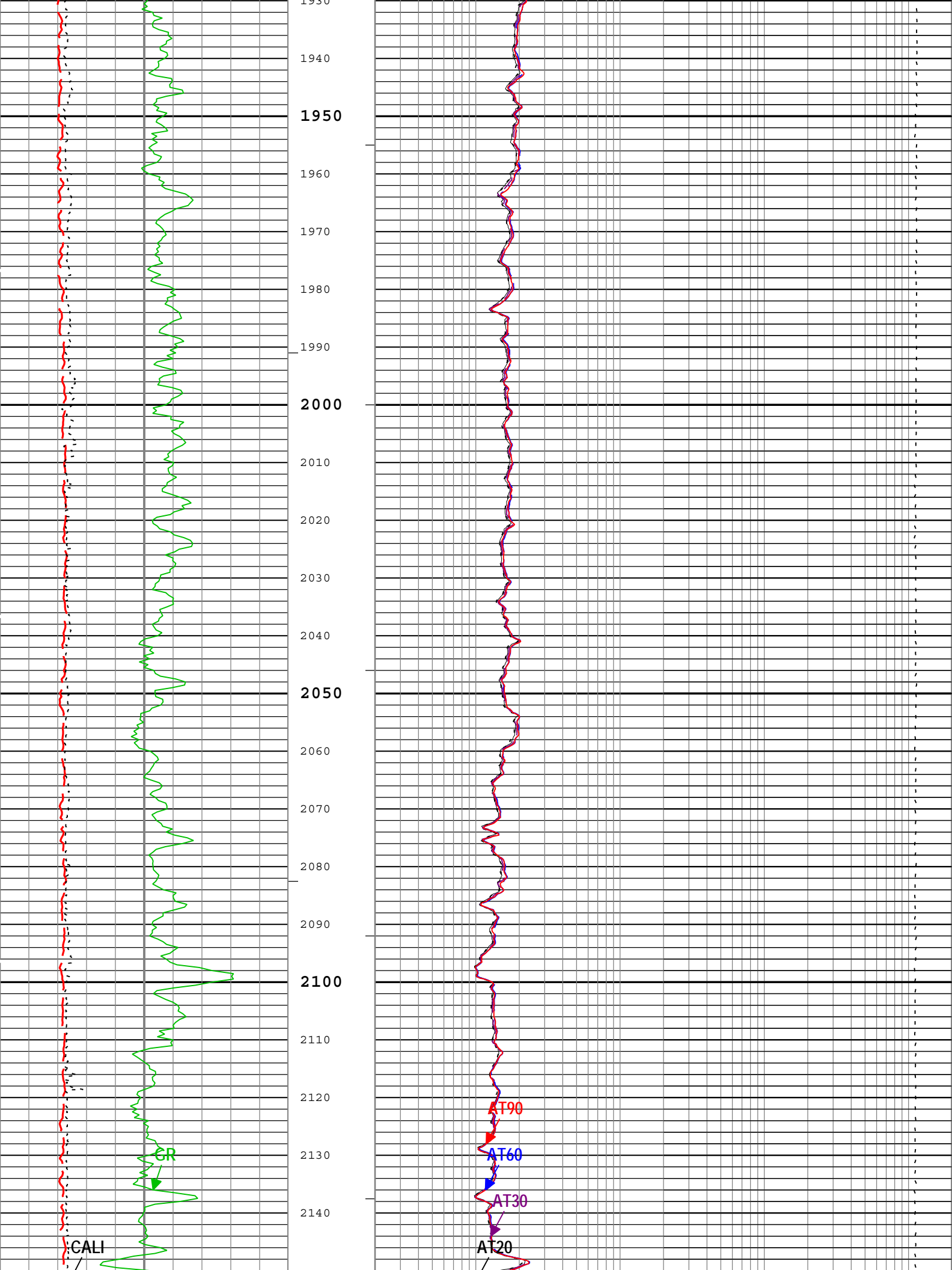


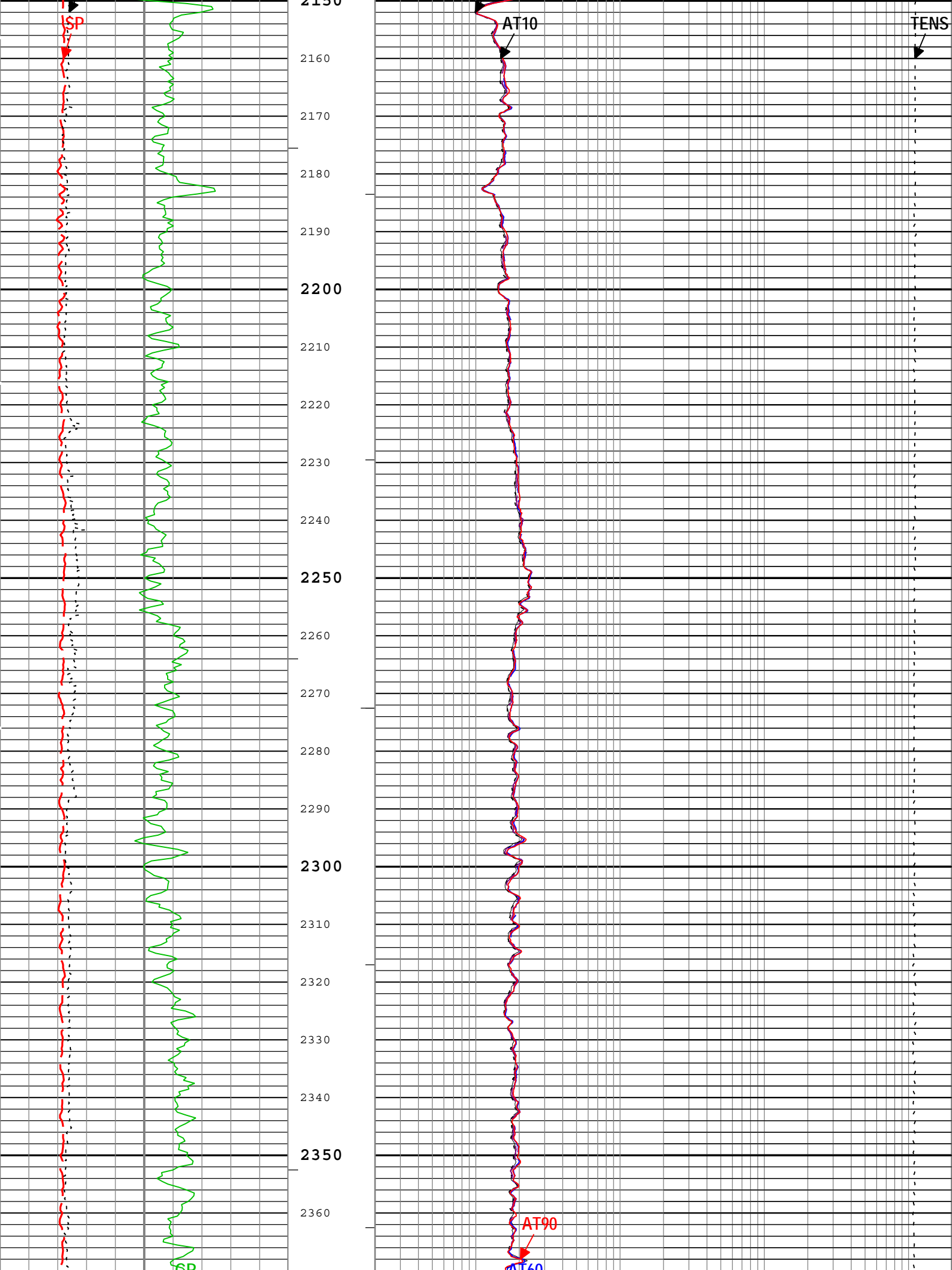


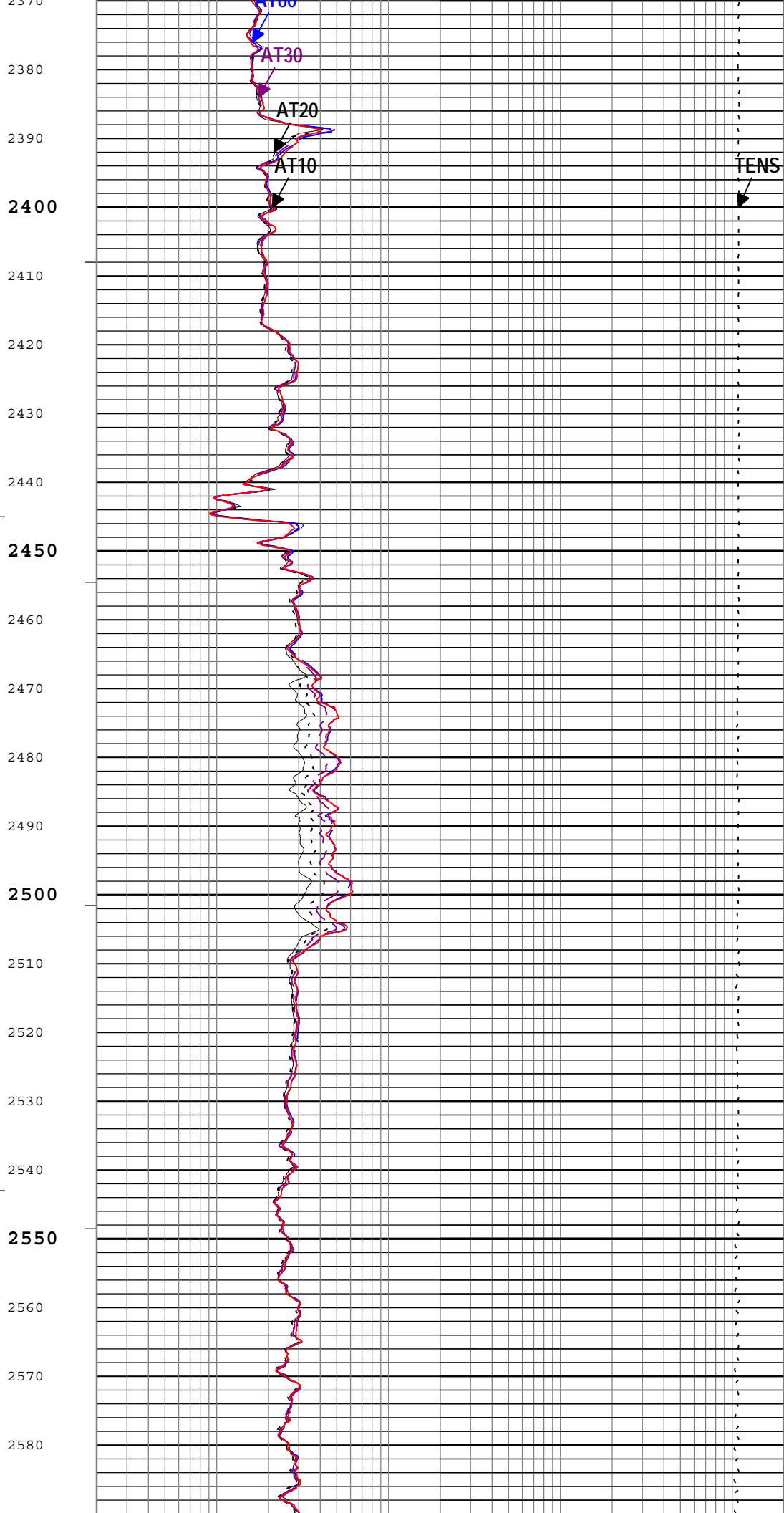
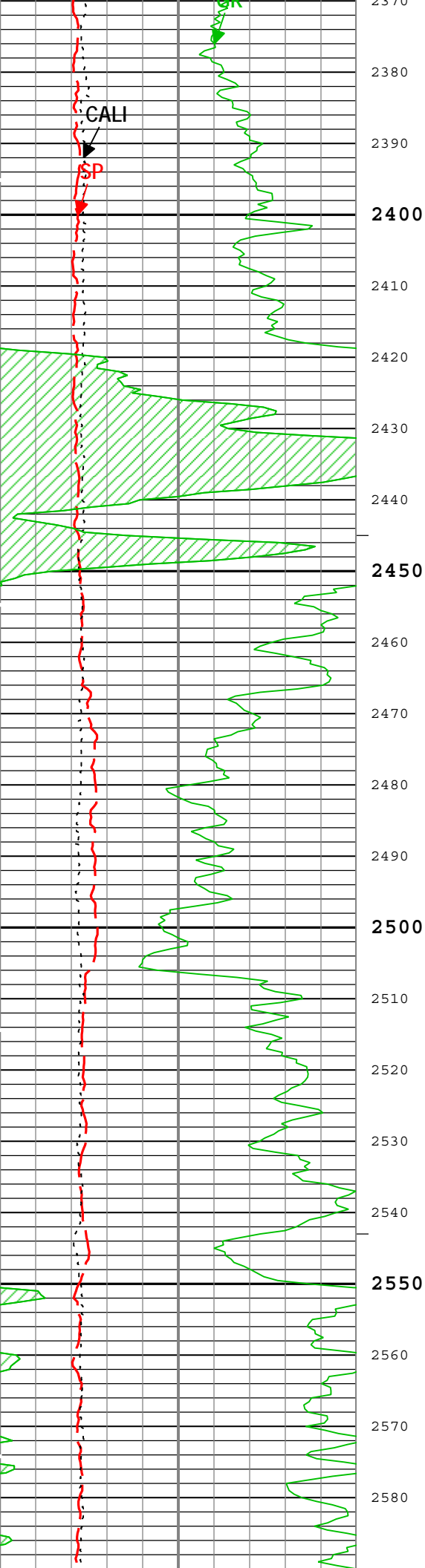


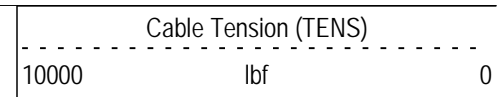
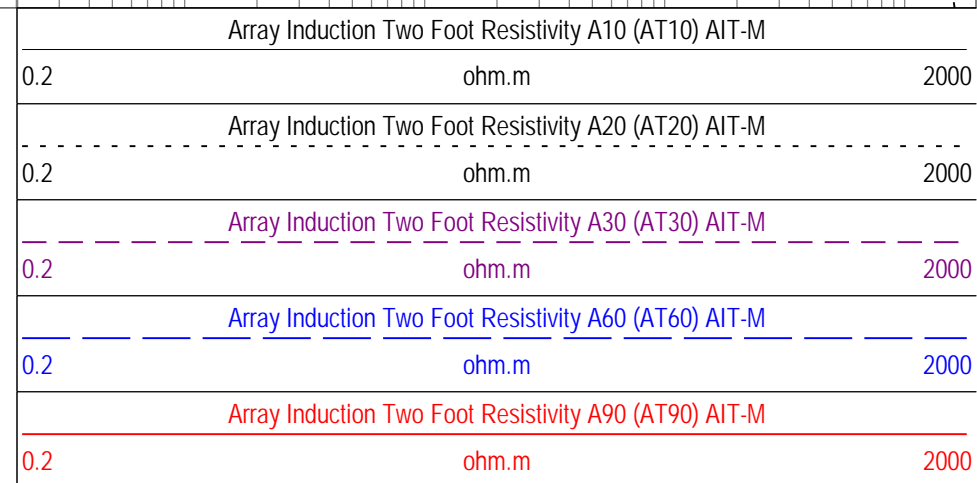
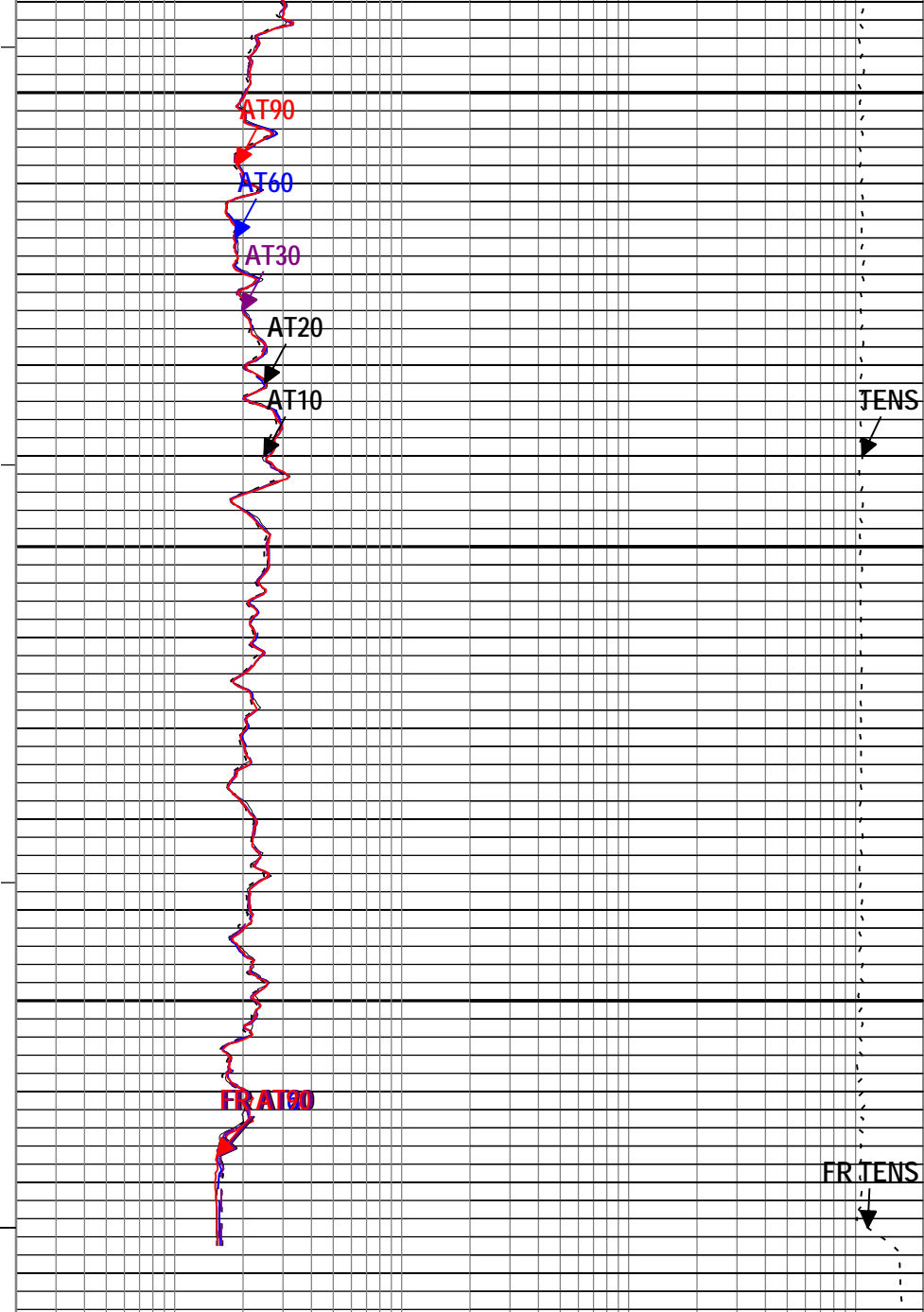
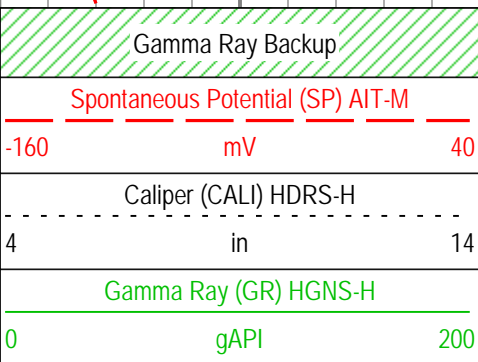
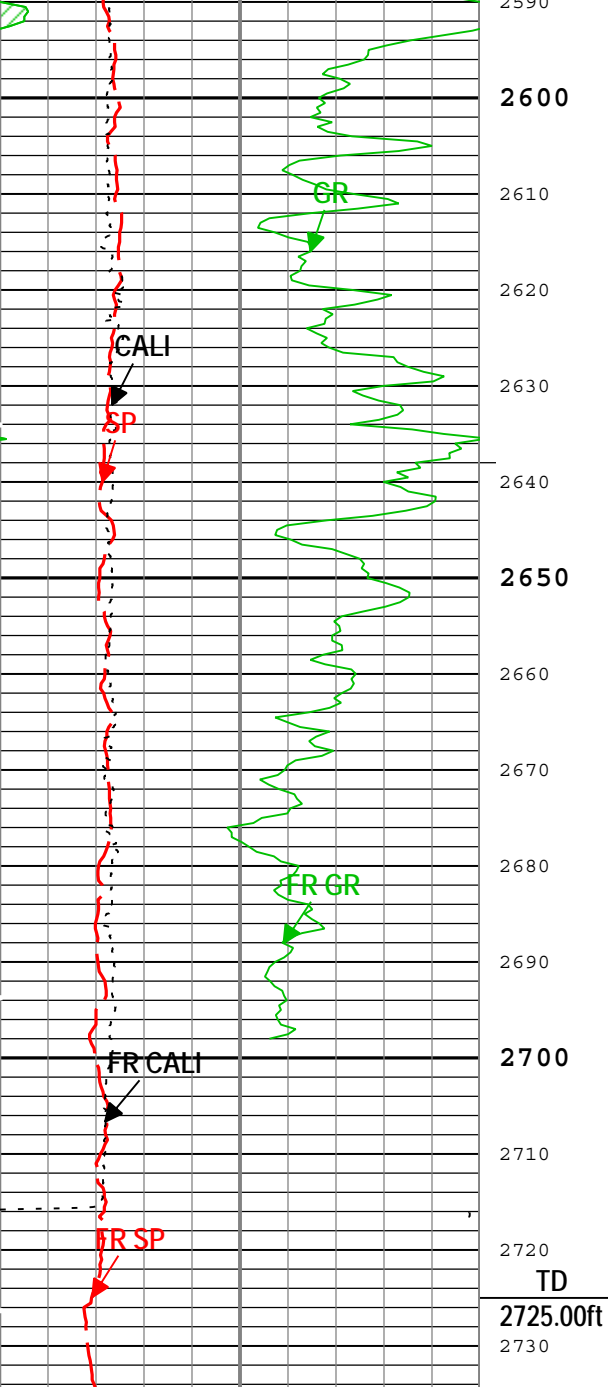










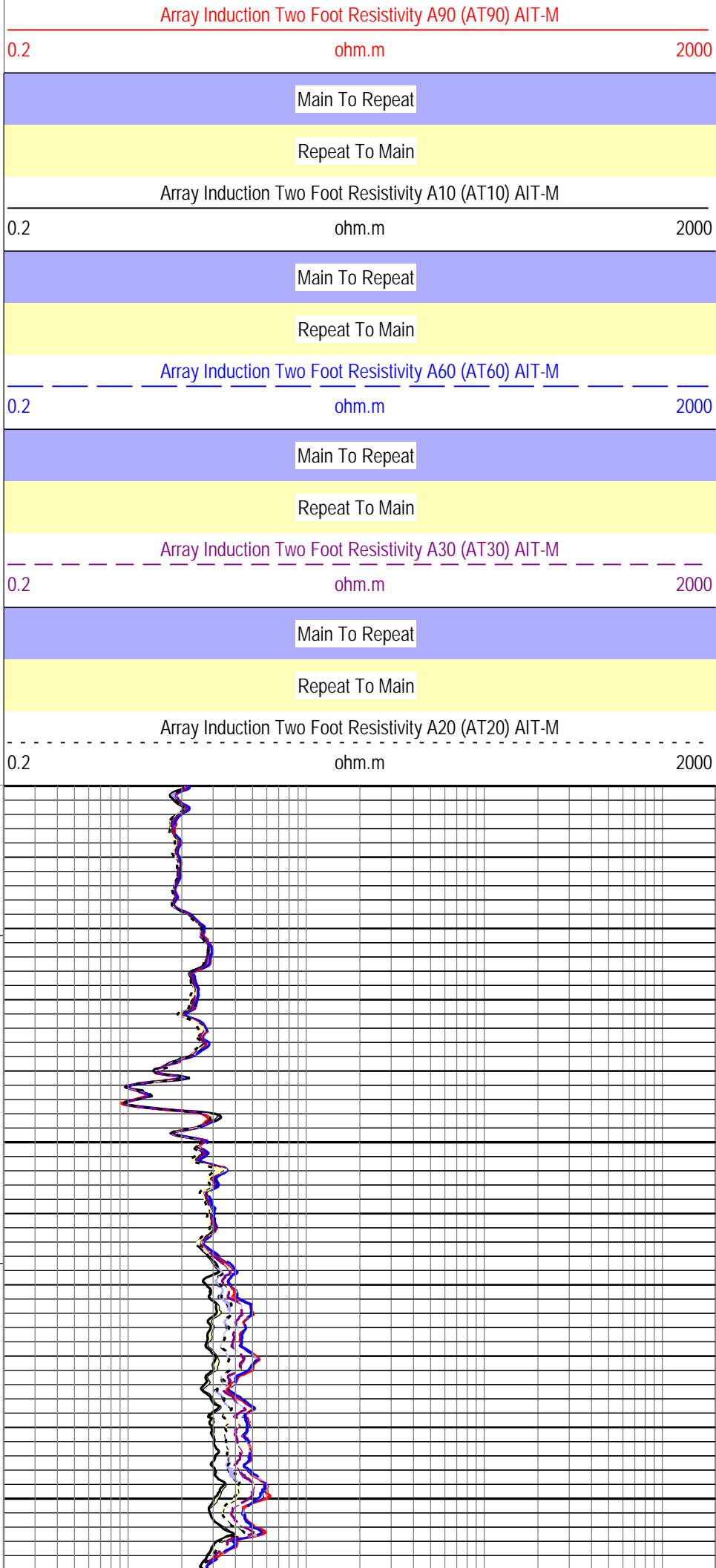
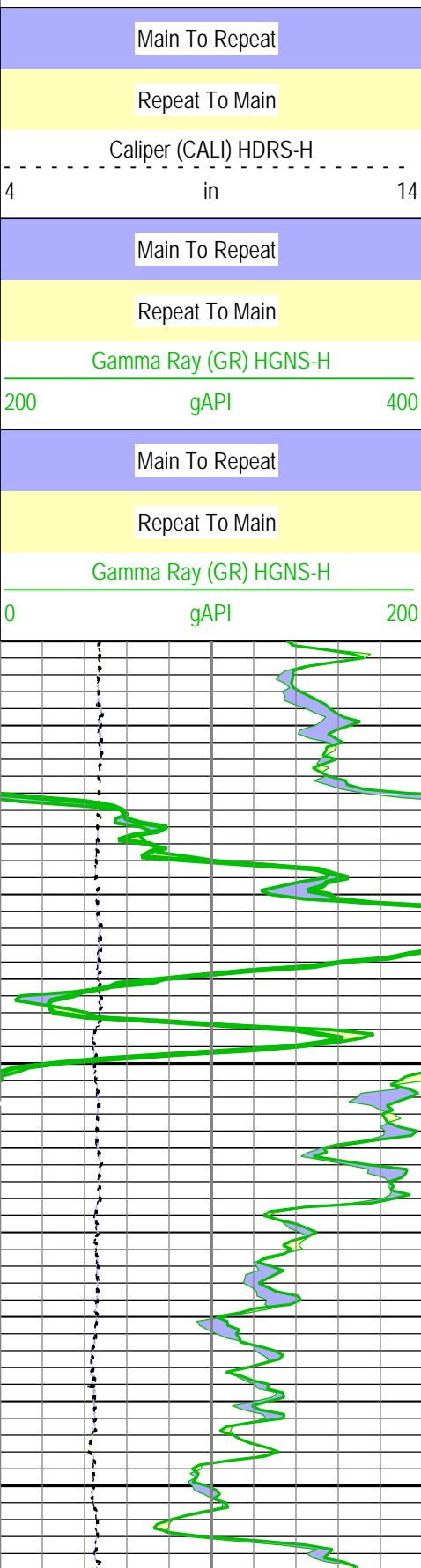


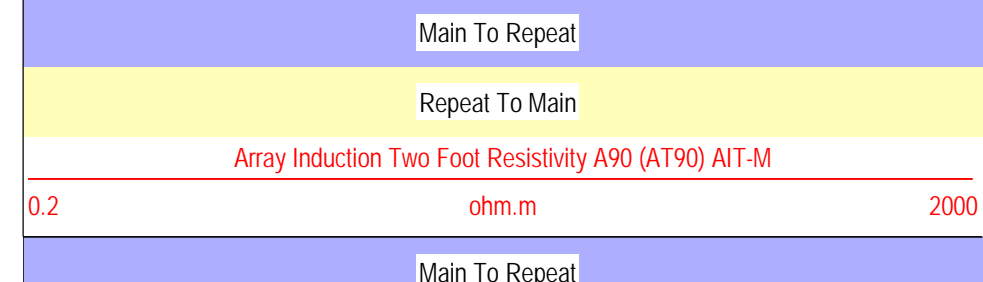
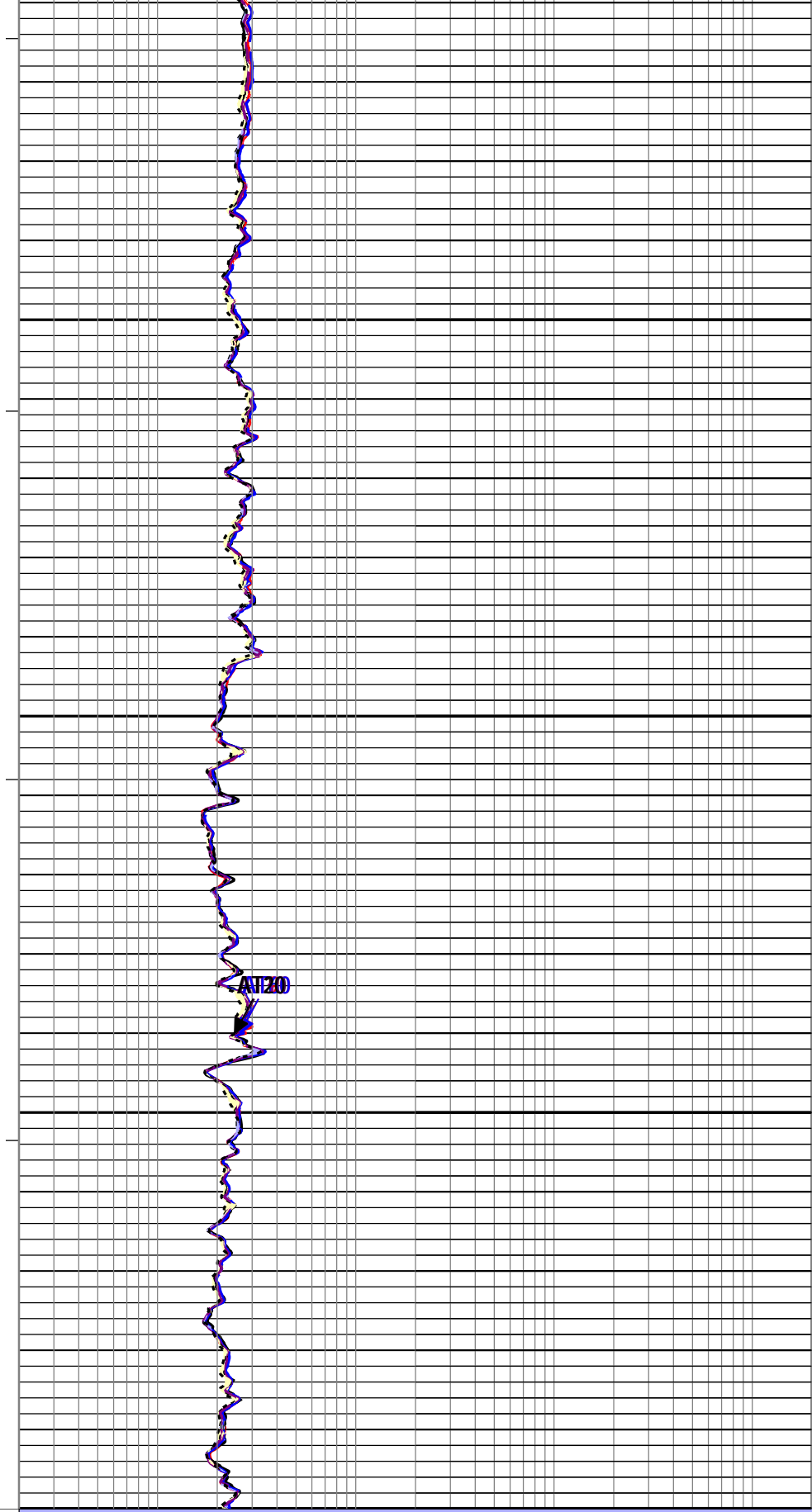
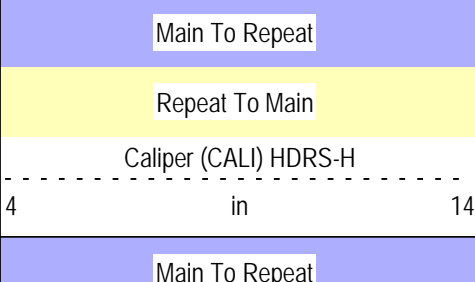
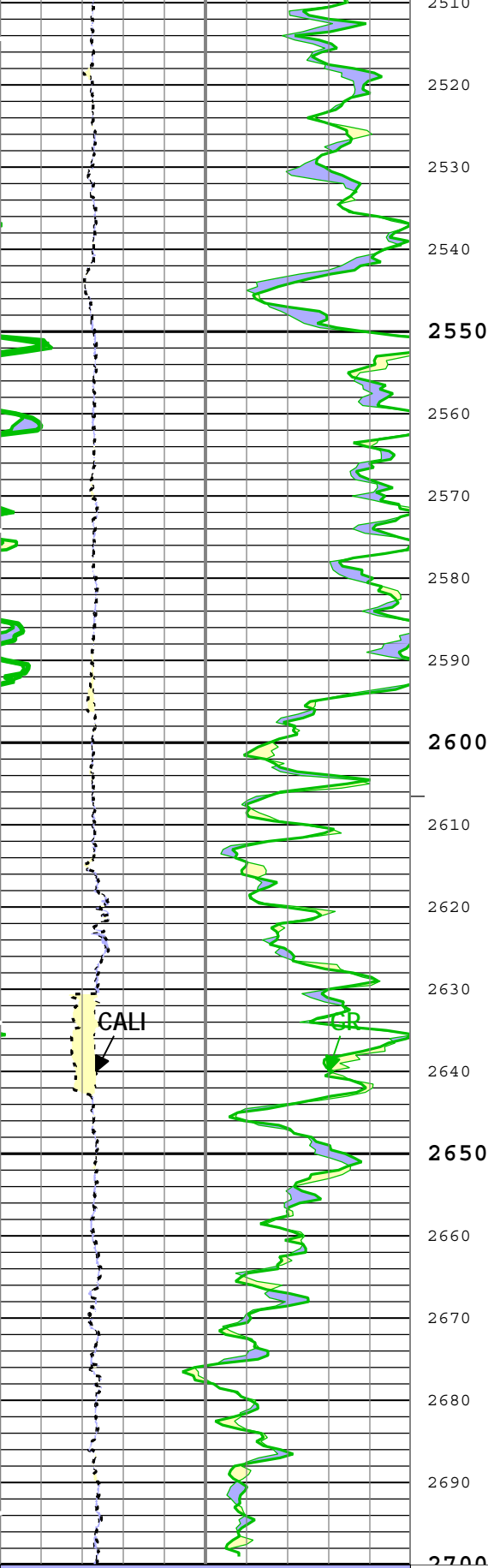
ICV - Integrated Cement Volume every 100.00 (ft3)

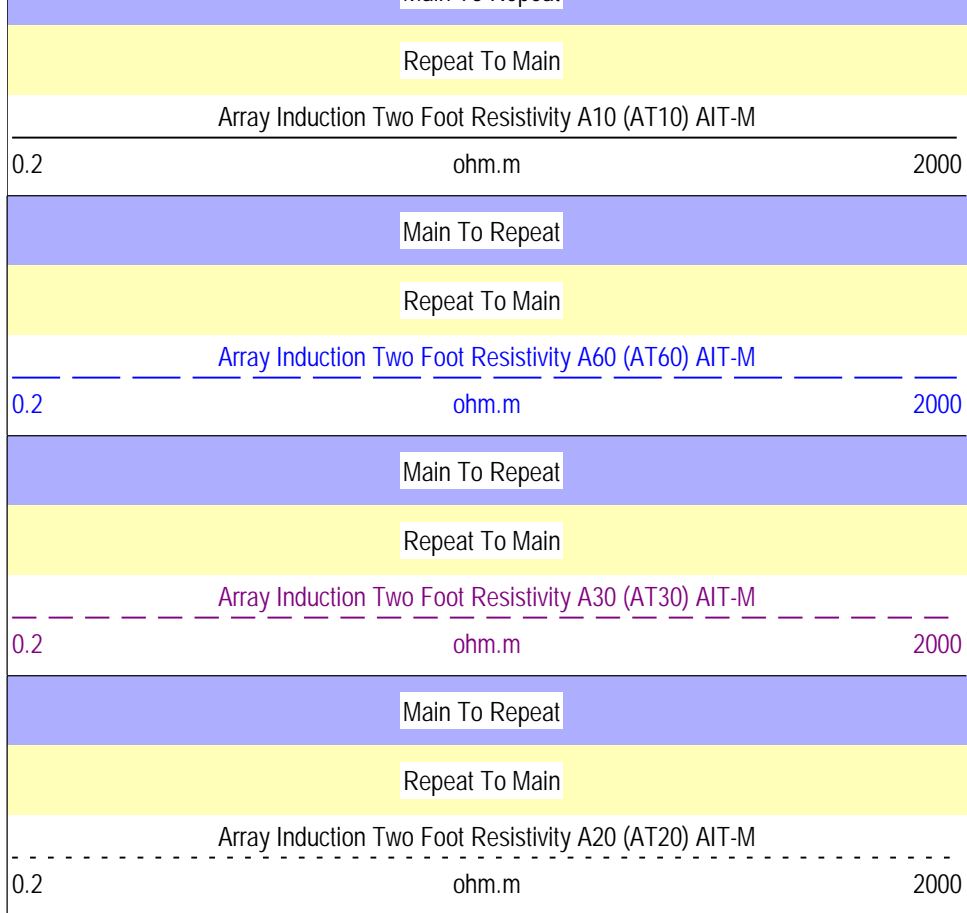
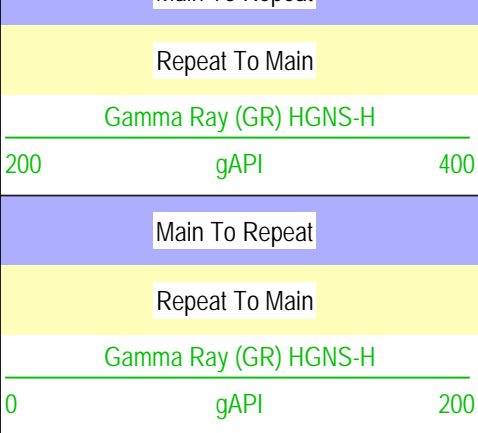
TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 10.00 (ft3)

— IHV - Integrated Hole Volume every 100.00 (ft3)									
— IHV - Integrated Hole Volume every 10.00 (ft3)									
Description: AIT Basic Log Two Format: Log (EMD 5in Induction) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Nov-2014 12:57:15									
Channel Processing Parameters									
Parameter	Description				Tool		Value		Unit
ABHM	Array Induction Borehole Correction Mode				AIT-M		Compute Standoff		
ACDE	Array Induction Casing Detection Enable				AIT-M		No		
ASTA	Array Induction Tool Standoff				AIT-M		1		in
BARI	Barite Mud Presence Flag				Borehole		No		
BHS	Borehole Status (Open or Cased Hole)				Borehole		Open		
BS	Bit Size				WLSESSION		6.25		in
CALI_SHIFT	CALI Supplementary Offset				HDRS-H		0		in
CBLO	Casing Bottom (Logger)				WLSESSION		497		ft
CDEN	Cement Density				HGNS-H		2		g/cm3
CSODDRL	Casing Outer Diameter - Zoned along driller depths				WLSESSION		7		in
DFD	Drilling Fluid Density				Borehole		8.6		lbm/gal
FCD	Future Casing (Outer) Diameter				WLSESSION		4.5		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		
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity				Borehole		AMF		
SOCO	Standoff Correction Option				HGNS-H		Yes		
SPDR	SP Drift Per Foot				AIT-M		0		mV/ft
Tool Control Parameters									
Parameter	Description				Tool		Value		Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed				WLSESSION		3600		ft/h
ONE									
5" Induction									
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[2]:Up	Up	2374.30 ft	2735.94 ft	30-Nov-2014 11:37:04 AM	30-Nov-2014 11:44:29 AM	ON	0.00 ft	No
ONE	Log[3]:Up	Up	45.73 ft	2734.94 ft	30-Nov-2014 11:49:59 AM	30-Nov-2014 12:40:56 PM	ON	0.00 ft	No
All depths are referenced to toolstring zero									
Log	Company:Omimex Petroleum Inc						Well:Moss 7-19-7-44		
ONE: Log[3]:Up:S007									
Description: AIT Basic Log Two Format: EMD 5in Induction RA Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Nov-2014 12:57:16									
— IHV - Integrated Hole Volume every 10.00 (ft3)									
— IHV - Integrated Hole Volume every 100.00 (ft3)									
— ICV - Integrated Cement Volume every 10.00 (ft3)									
— ICV - Integrated Cement Volume every 100.00 (ft3)									
TIME_1900 - Time Marked every 60.00 (s)									
Main To Repeat									
Repeat To Main									







TIME_1900 - Time Marked every 60.00 (s)

└─ ICV - Integrated Cement Volume every 100.00 (ft3)

└─ ICV - Integrated Cement Volume every 10.00 (ft3)

└─ IHV - Integrated Hole Volume every 100.00 (ft3)

└─ IHV - Integrated Hole Volume every 10.00 (ft3)

Description: AIT Basic Log Two Format: EMD 5in Induction RA Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Nov-2014 12:57:16

Calibration Report							
AIT-M (Array Induction Tool - M) Calibration - Run ONE							
Primary Equipment :							
File code for AIT-MA Sonde Tool Element			AMIS		181		
Auxiliary Equipment :							
File code for AIT Bottom Nose Tool Element			AMRM				
AIT Sonde Calibration - Test Loop Gain							
Master (EEPROM):		23:01:59 22-Sep-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Test Loop Gain - 0		Master	1.000	0.950	1.041	1.050	
Test Loop Phase - 0	deg	Master	0	-3.000	1.805	3.000	
Test Loop Gain - 1		Master	1.000	0.950	1.017	1.050	
Test Loop Phase - 1	deg	Master	0	-3.000	0.902	3.000	
Test Loop Gain - 2		Master	1.000	0.950	1.017	1.050	
Test Loop Phase - 2	deg	Master	0	-3.000	0.392	3.000	
Test Loop Gain - 3		Master	1.000	0.950	1.016	1.050	
Test Loop Phase - 3	deg	Master	0	-3.000	0.089	3.000	
Test Loop Gain - 4		Master	1.000	0.950	1.009	1.050	
Test Loop Phase - 4	deg	Master	0	-3.000	0.141	3.000	
Test Loop Gain - 5		Master	1.000	0.950	0.991	1.050	
Test Loop Phase - 5	deg	Master	0	-3.000	-0.110	3.000	
Test Loop Gain - 6		Master	1.000	0.950	0.998	1.050	
Test Loop Phase - 6	deg	Master	0	-3.000	0.235	3.000	
Test Loop Gain - 7		Master	1.000	0.950	1.010	1.050	
Test Loop Phase - 7	deg	Master	0	-3.000	0.080	3.000	

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Thru Cal Mag - 0	V	Master	----	0.366	0.575	0.854	
		Before	----	0.366	0.575	0.854	
		Before-Master	----	----	0.000	----	
Thru Cal Phase - 0	deg	Master	----	137.000	-168.869	-103.000	
		Before	----	137.000	-168.947	-103.000	
		Before-Master	----	----	-0.078	----	
Thru Cal Mag - 1	V	Master	----	0.762	1.178	1.778	
		Before	----	0.762	1.178	1.778	
		Before-Master	----	----	0.000	----	
Thru Cal Phase - 1	deg	Master	----	136.000	-169.968	-104.000	
		Before	----	136.000	-170.048	-104.000	
		Before-Master	----	----	-0.080	----	
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	-173.610	-108.000	
		Before	----	132.000	-173.689	-108.000	
		Before-Master	----	----	-0.079	----	
Thru Cal Mag - 3	V	Master	----	0.420	0.660	0.980	
		Before	----	0.420	0.660	0.980	
		Before-Master	----	----	0.000	----	
Thru Cal Phase - 3	deg	Master	----	131.000	-174.388	-109.000	
		Before	----	131.000	-174.466	-109.000	
		Before-Master	----	----	-0.078	----	
Thru Cal Mag - 4	V	Master	----	0.804	1.233	1.876	
		Before	----	0.804	1.233	1.876	
		Before-Master	----	----	0.000	----	
Thru Cal Phase - 4	deg	Master	----	125.000	179.345	-115.000	
		Before	----	125.000	179.265	-115.000	
		Before-Master	----	----	-0.080	----	
Thru Cal Mag - 5	V	Master	----	1.176	1.795	2.744	
		Before	----	1.176	1.795	2.744	
		Before-Master	----	----	0.000	----	
Thru Cal Phase - 5	deg	Master	----	122.000	177.695	-118.000	
		Before	----	122.000	177.612	-118.000	
		Before-Master	----	----	-0.083	----	
Thru Cal Mag - 6	V	Master	----	1.176	1.794	2.744	

		Before Before-Master	----- -----	1.176 -----	1.795 0.001	2.744 -----	<div><div></div></div>
Thru Cal Phase - 6	deg	Master	-----	121.000	177.703	-119.000	<div><div></div></div>
		Before	-----	121.000	177.620	-119.000	<div><div></div></div>
		Before-Master	-----	-----	-0.083	-----	<div><div></div></div>
Thru Cal Mag - 7	V	Master	-----	0.846	1.294	1.974	<div><div></div></div>
		Before	-----	0.846	1.294	1.974	<div><div></div></div>
		Before-Master	-----	-----	0.000	-----	<div><div></div></div>
Thru Cal Phase - 7	deg	Master	-----	115.000	176.991	-125.000	<div><div></div></div>
		Before	-----	115.000	176.895	-125.000	<div><div></div></div>
		Before-Master	-----	-----	-0.096	-----	<div><div></div></div>
SPA Zero	mV	Master		-50.000	0.139	50.000	<div><div></div></div>
		Before		-50.000	0.142	50.000	<div><div></div></div>
		Before-Master	-----	-----	0.003	-----	<div><div></div></div>
SPA Plus	mV	Master		941.000	992.344	1040.000	<div><div></div></div>
		Before		941.000	992.369	1040.000	<div><div></div></div>
		Before-Master	-----	-----	0.025	-----	<div><div></div></div>
Temperature Zero	V	Master		-0.050	0.000	0.050	<div><div></div></div>
		Before		-0.050	0.000	0.050	<div><div></div></div>
		Before-Master	-----	-----	0.000	-----	<div><div></div></div>
Temperature Plus	V	Master		0.870	0.919	0.960	<div><div></div></div>
		Before		0.870	0.919	0.960	<div><div></div></div>
		Before-Master	-----	-----	0.000	-----	<div><div></div></div>

Company:	Omimex Petroleum Inc	Schlumberger
Well:	Moss 7-19-7-44	
Field:	Holyoke South	
County:	Phillips	
State:	Colorado	
Platform Express		
Array Induction		
with Linear Correlation		