

Company: Conoco Phillips Company

Well: Tebo 33 1P

Field: Wildcat

County: Arapahoe State: Colorado

Sonic Scanner

P&S

County:	Arapahoe			
Field:	Wildcat			
Location:	SHL: SWSW 900' FSL & 310' FWL			
Well:	Tebo 33 1P			
Company:	Conoco Phillips Company			
Location:		SHL: SWSW 900' FSL & 310' FWL	Elev.:	K.B. 5863.50 ft
		Sec: 33, T: 4S, R: 64W		G.L. 5839.50 ft
		Lat: 39.654664, Long: -104.564814		D.F. 5862.50 ft
		Permanent Datum:	Ground Level	Elev.: 5839.50 f
		Log Measured From:	Kelly Bushing	24.00 ft above Perm.Datum
		Drilling Measured From:	Kelly Bushing	
		API Serial No.	Section: 33	Township: 4S Range: 64W
Logging Date	05-005-07205-00			

Run Number	Run 1		
Depth Driller	8130.00 ft		
Schlumberger Depth	8140.00 ft		
Bottom Log Interval	8140.00 ft		
Top Log Interval	2188.00 ft		
Casing Driller Size @ Depth	9.625 in @ 2188.00 ft		
Casing Schlumberger	2188 ft		
Bit Size	8.75 in		
Type Fluid In Hole	Diesel		
Density	9.4 lbm/gal	48 s	
Fluid Loss	6 cm3	9	
Source of Sample	N/A		
RM @ Meas Temp	N/A		
RMF @ Meas Temp	N/A		
RMC @ Meas Temp	N/A		
Source RMF	RMC	N/A	
RM @ BHT	RMF @ BHT	N/A	
Max Recorded Temperatures	220 degF		
Circulation Stopped	15-Jun-2013	22:30:00	
Logger on Bottom	16-Jun-2013	08:00:11	
Unit Number	2135	Fort Morgan, CO	
Recorded By	Max Pace		
Witnessed By	Clint Goinz		

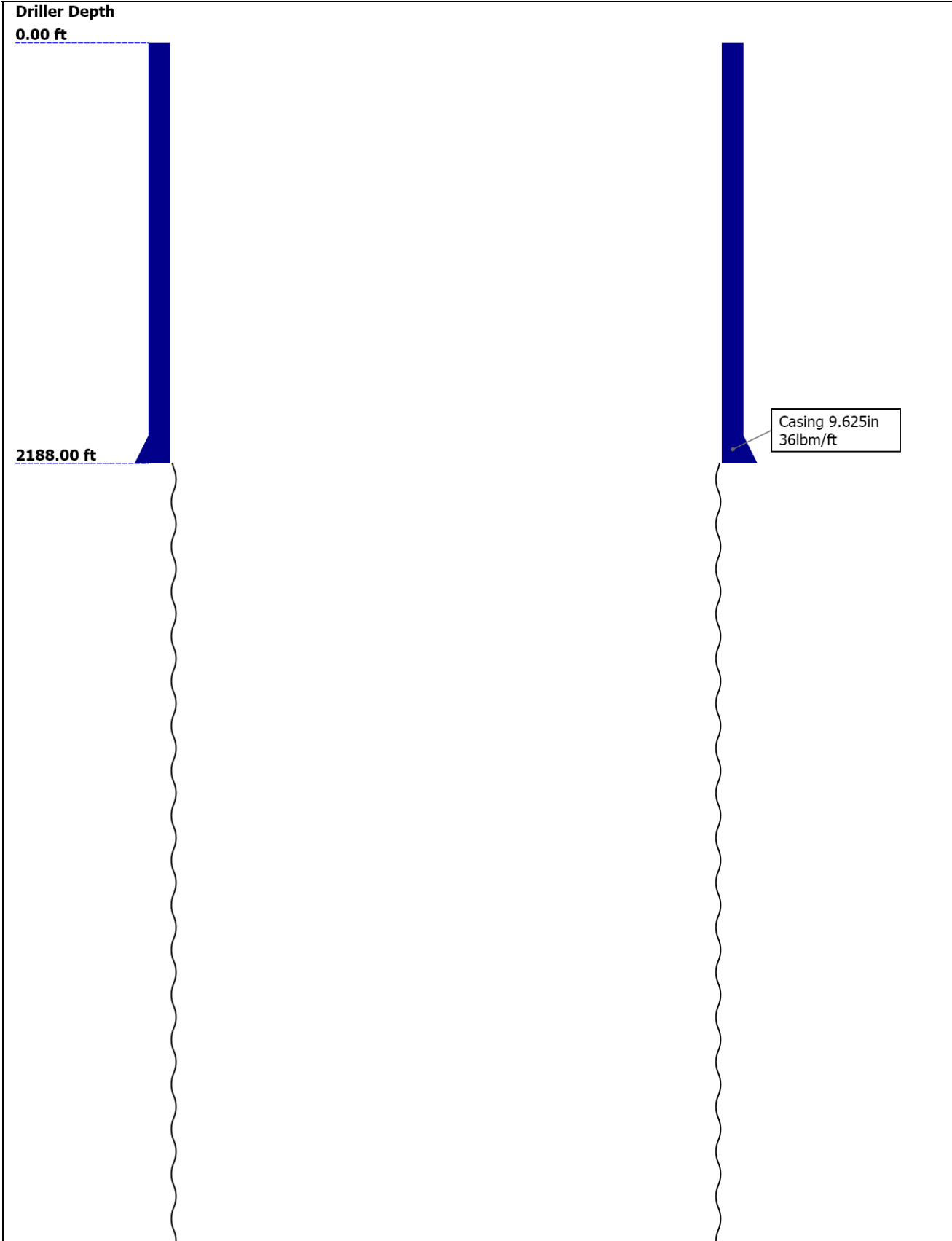
Disclaimer

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Well Sketch



8130.00 ft

Open Hole 8.75in

Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	8.75					
Top Driller (ft)	2188					
Top Logger (ft)	2188					
Bottom Driller (ft)	8130					
Bottom Logger (ft)	8140					
Casing						
Size (in)	9.625					
Weight (lbm/ft)	36					
Inner Diameter (in)	8.914					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	2188					
Bottom Logger (ft)	2188					

Borehole Fluids

Parameter(unit)	Run 1					
Fluid Type	Oil					
Fluid Name	Diesel					
Max Recorded Temperatures (degF)	220					
Source of Sample	Active Tank					
Salinity (ppm)	0					
Density (lbm/gal)	9.4					
Funnel Viscosity (s)	48					
Fluid Loss (cm3)	6					
PH	9					
Date/Time Circulation Stopped	15-Jun-2013 22:30:00					
Date Logger on Bottom	16-Jun-2013					
Time Logger on Bottom	08:00:11					
Source RMF	Calculated					
RMC	Calculated					
RM @ Meas Temp (ohm.m@degF)	N/A					
RMF @ Meas Temp (ohm.m@degF)	N/A					
RMC @ Meas Temp (ohm.m@degF)	N/A					

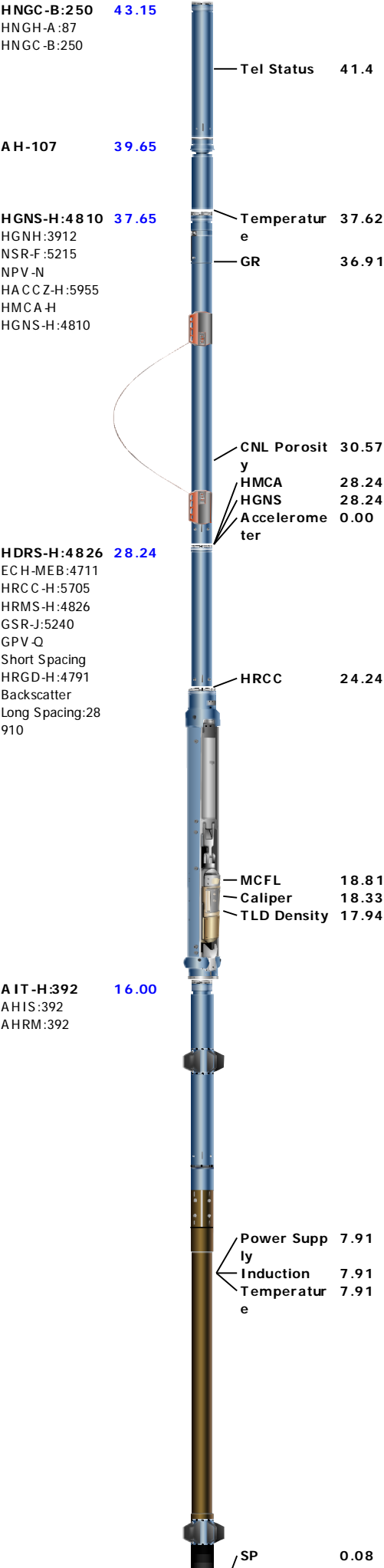
ohm.m@degF)						
RM @ BHT (ohm.m@degF)	N/A					
RMF @ BHT (ohm.m@degF)	N/A					
RMC @ BHT (ohm.m@degF)	N/A					
Electricity Stability (V)						
Oil/Water						
Total Solid (%)						
High Gravity Solids (%)						

Remarks and Equipment Summary

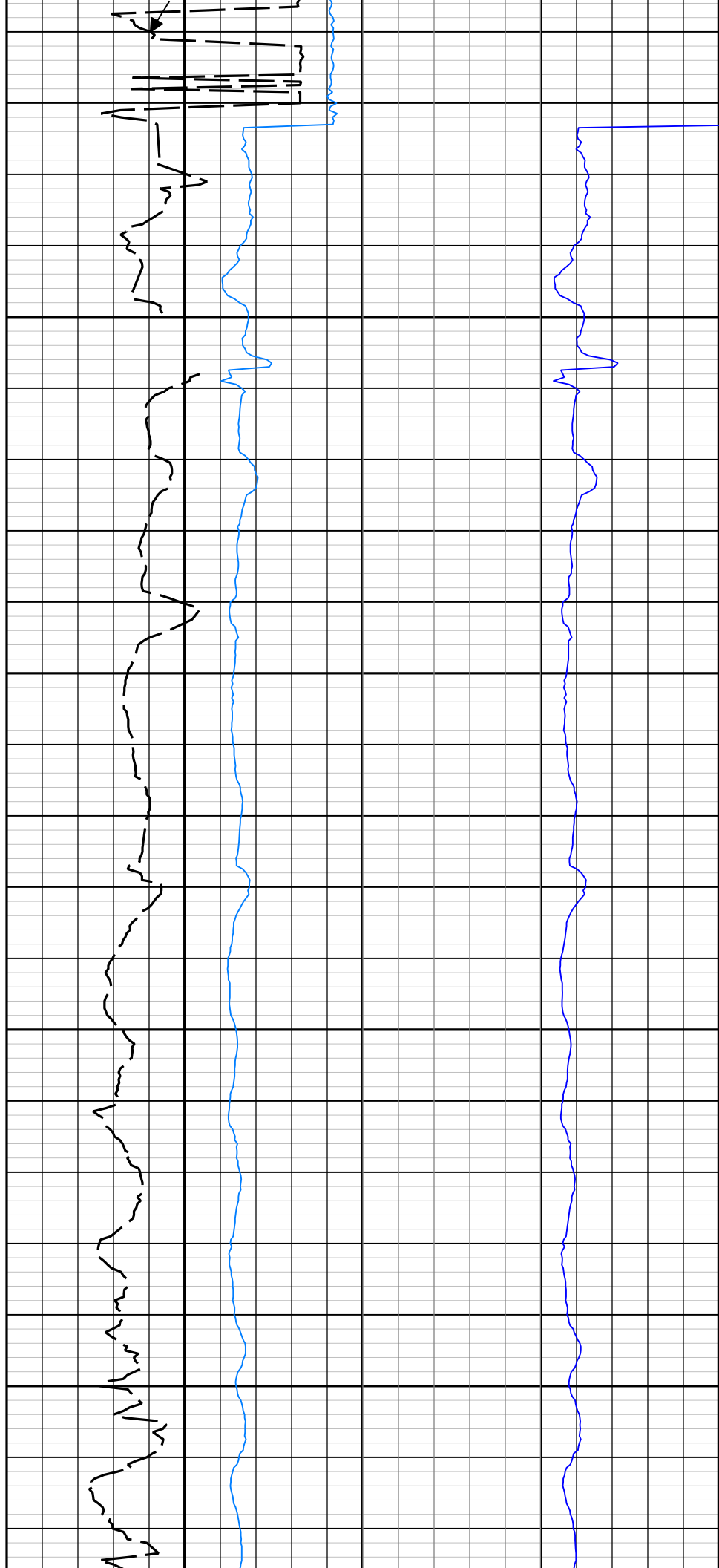
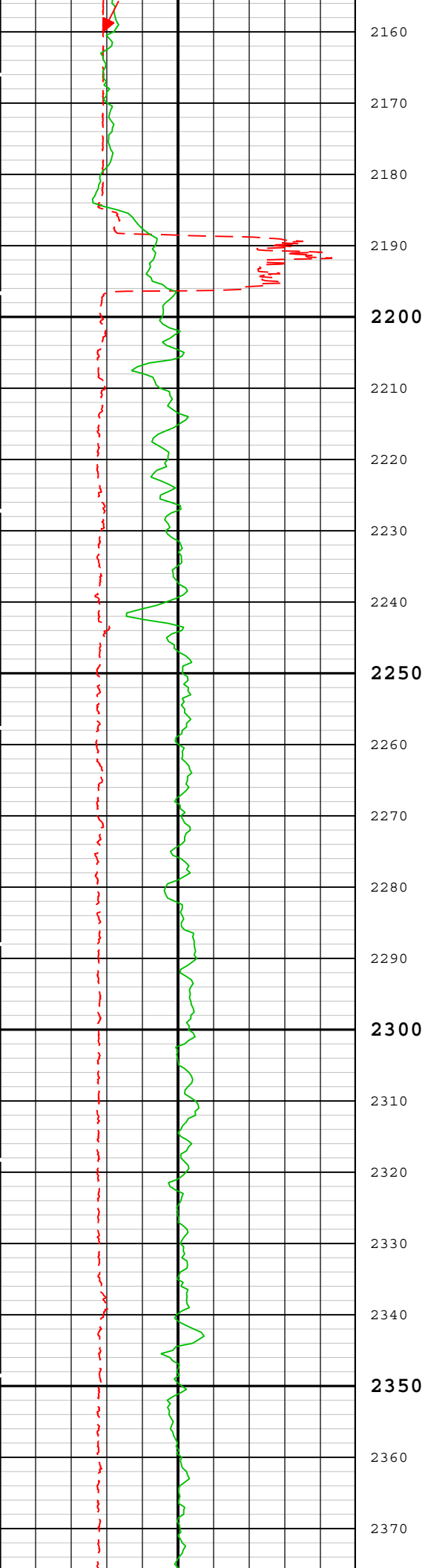
Run 1: Toolstring				Run 1: Remarks	
Equip name	Length	MP name	Offset	All Schlumberger depth control procedures followed.	
LEH-QT	121.06			IDW used as primary depth device	
LEH-QT				Z Chart used as secondary depth device.	
EDTC-B:8593	118.14			Crew: Max Pace, Troy Ocana, Ian Derry	
EDTH-B:8625					
EDTG-A:77756					
EDTC-B:8593					
		CTEM	114.64		
		ACCZ	0.00		
		HV	0.00		
		Gamma Ray	112.77		
		TelStatus	111.64		
MAST-B:8181	111.64				
ECH-SF:8023					
MAPC-BA:8023					
MAMS-BA:8181					
MASS-BA:8073					
MAXS-BA:8078					
		MAMS	96.2		

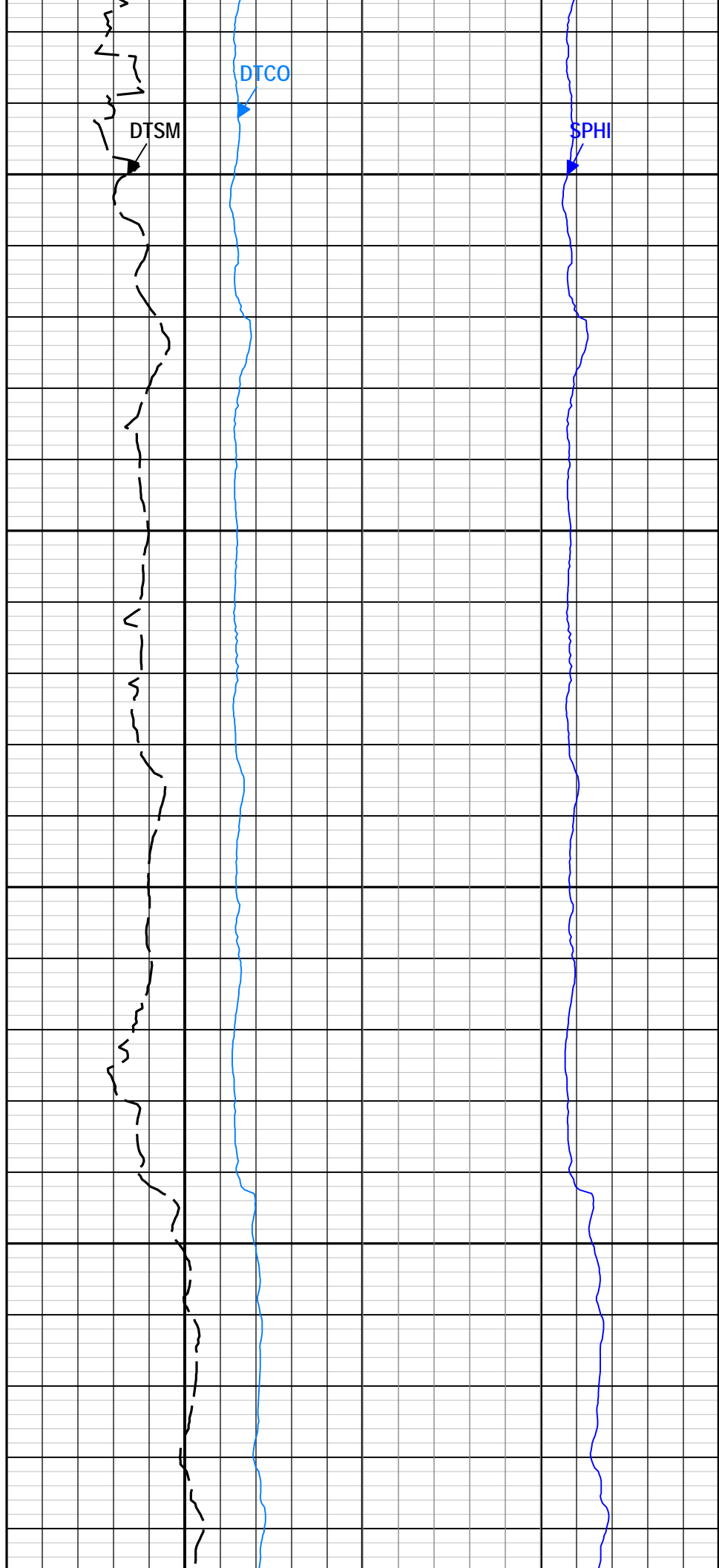
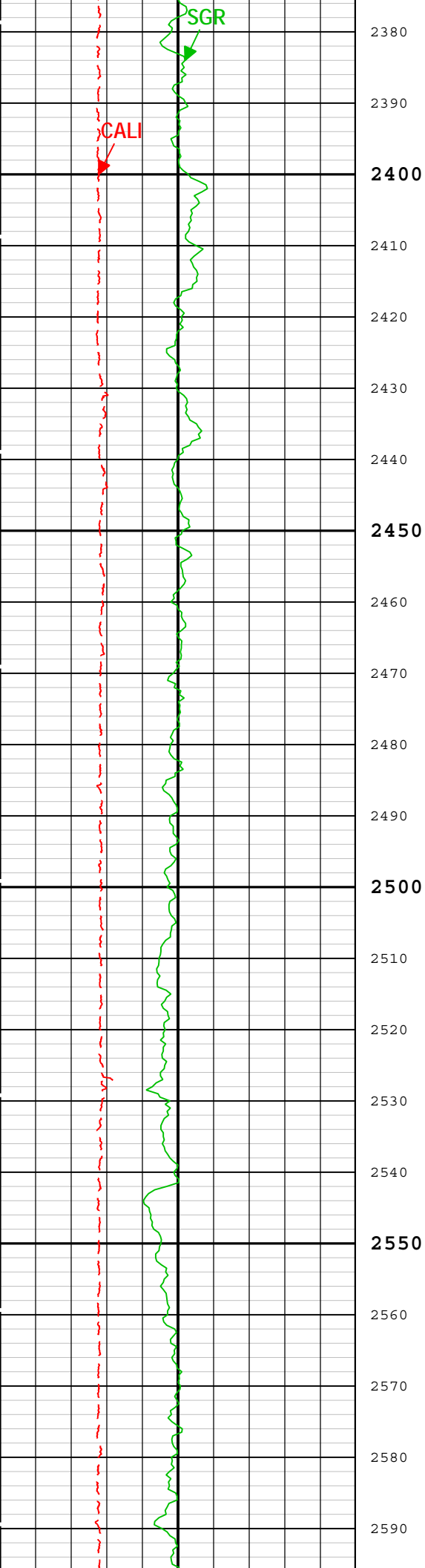


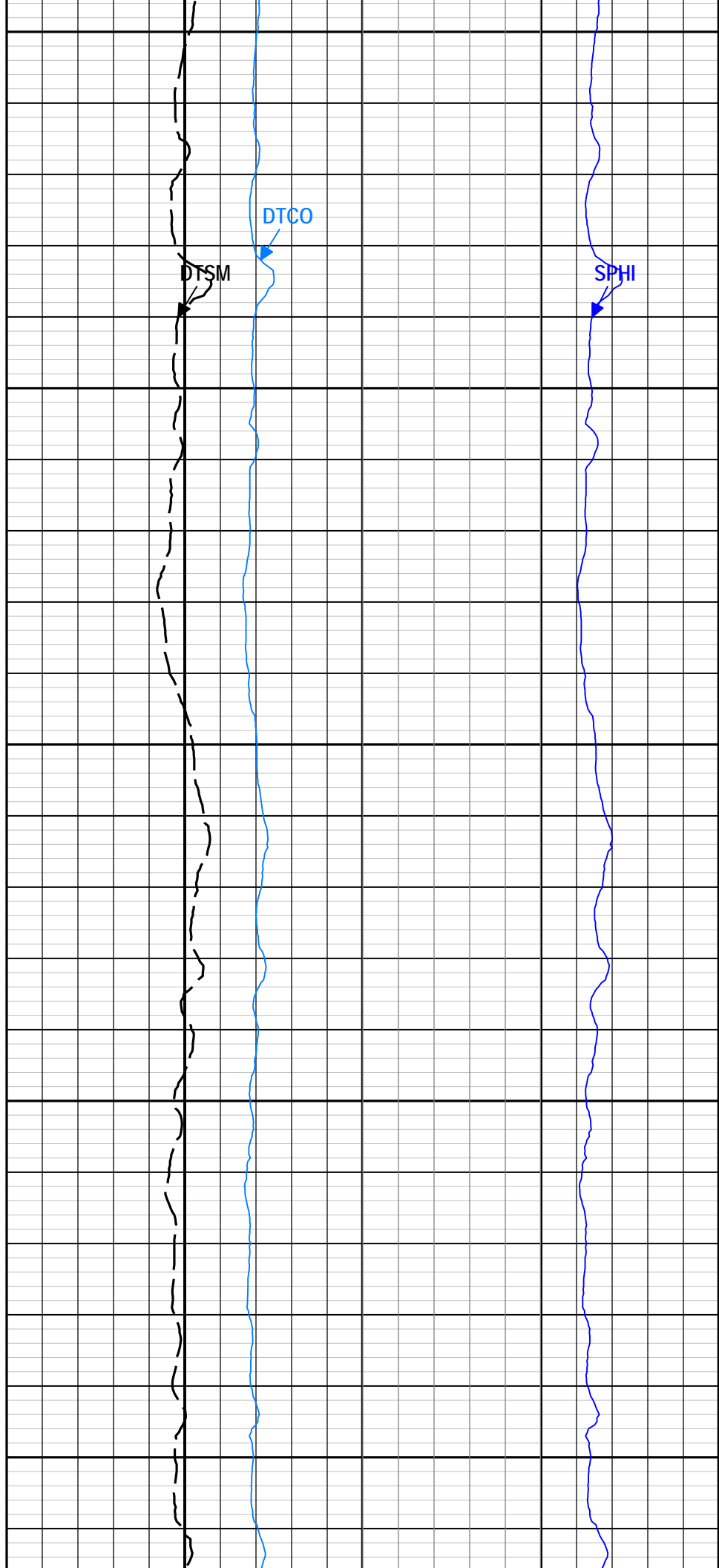
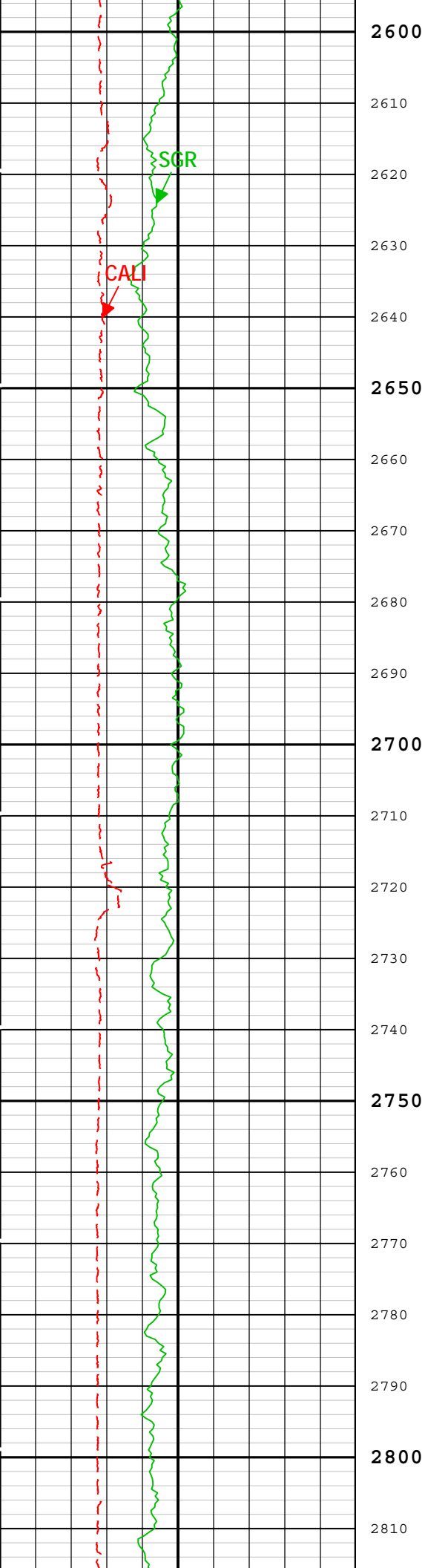
PPC-B:8195 PPC-B:8195	70.36	MAXS	70.36
		PPC-B Calipers	69.21
AH-184[2]	63.84		
GPIT-F:770 GPIH-B DHRU-F:799 GPIC-F:770	61.84	GPIT-F Incl inometer	60.42
Weight	57.84	GPIT	0.00
AH-184[1]	53.34		
HNGS-BA:152 HEH-K:149 HNGS-BA:152	51.34		
		GR	48.35

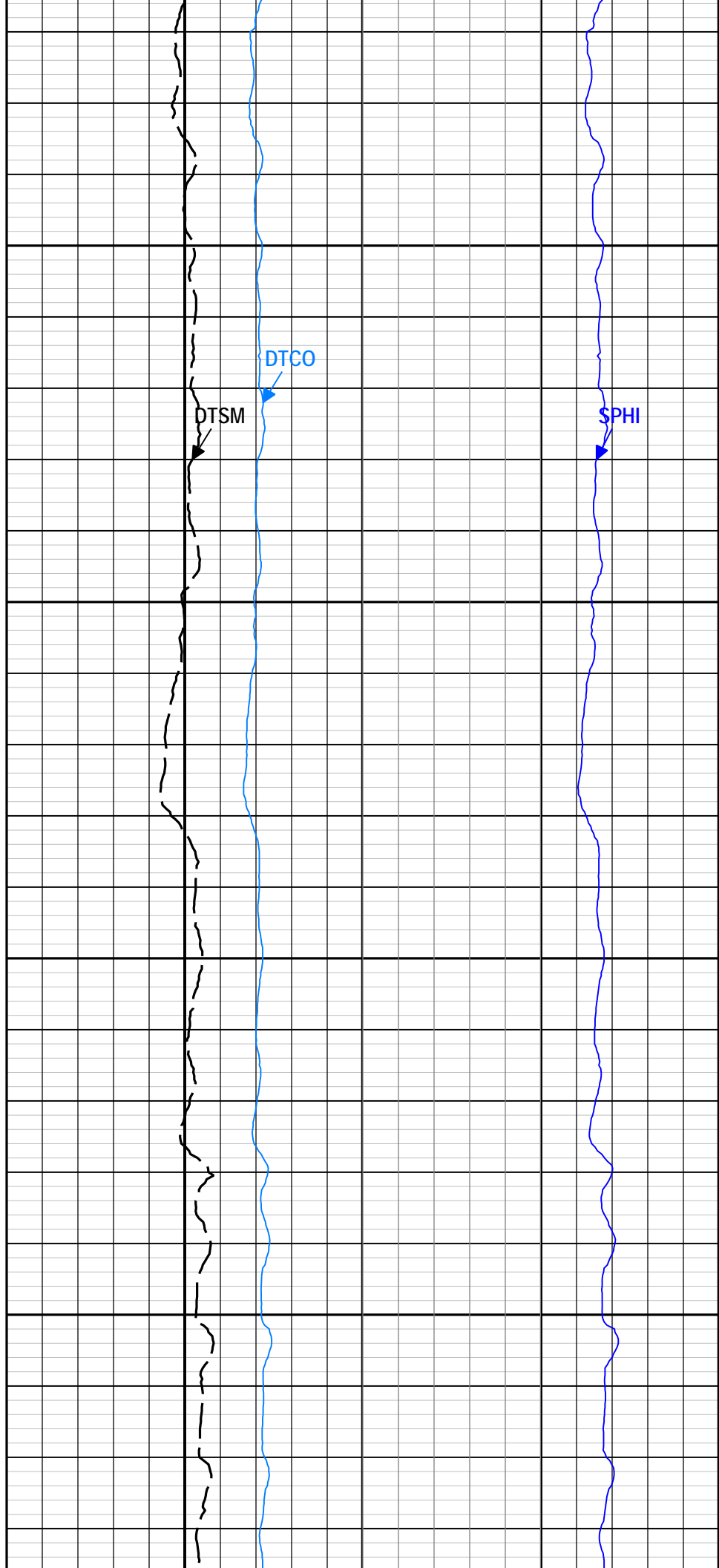
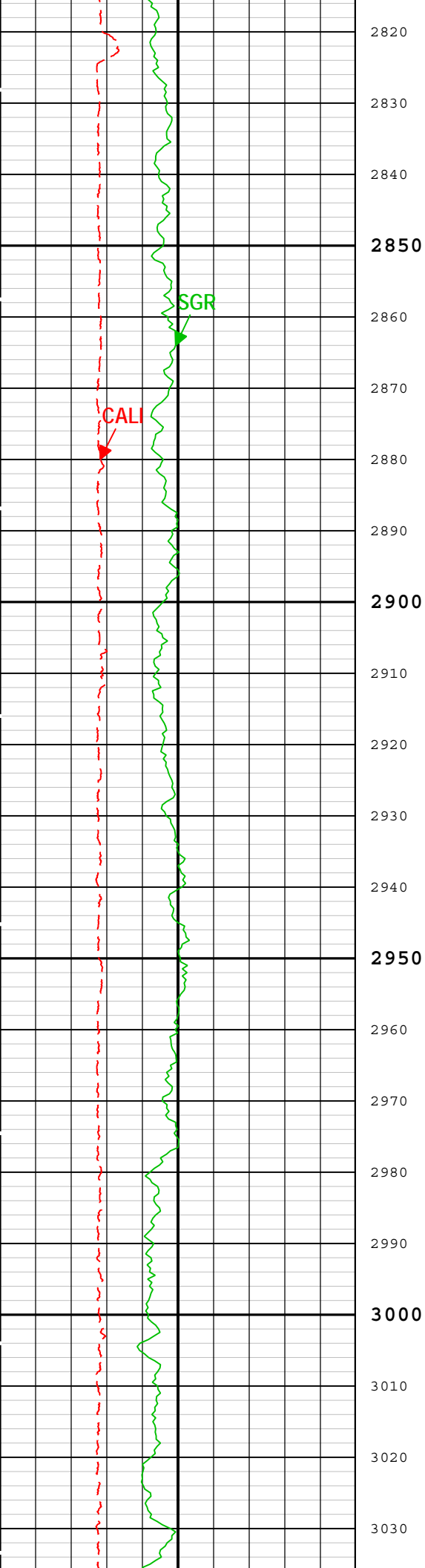


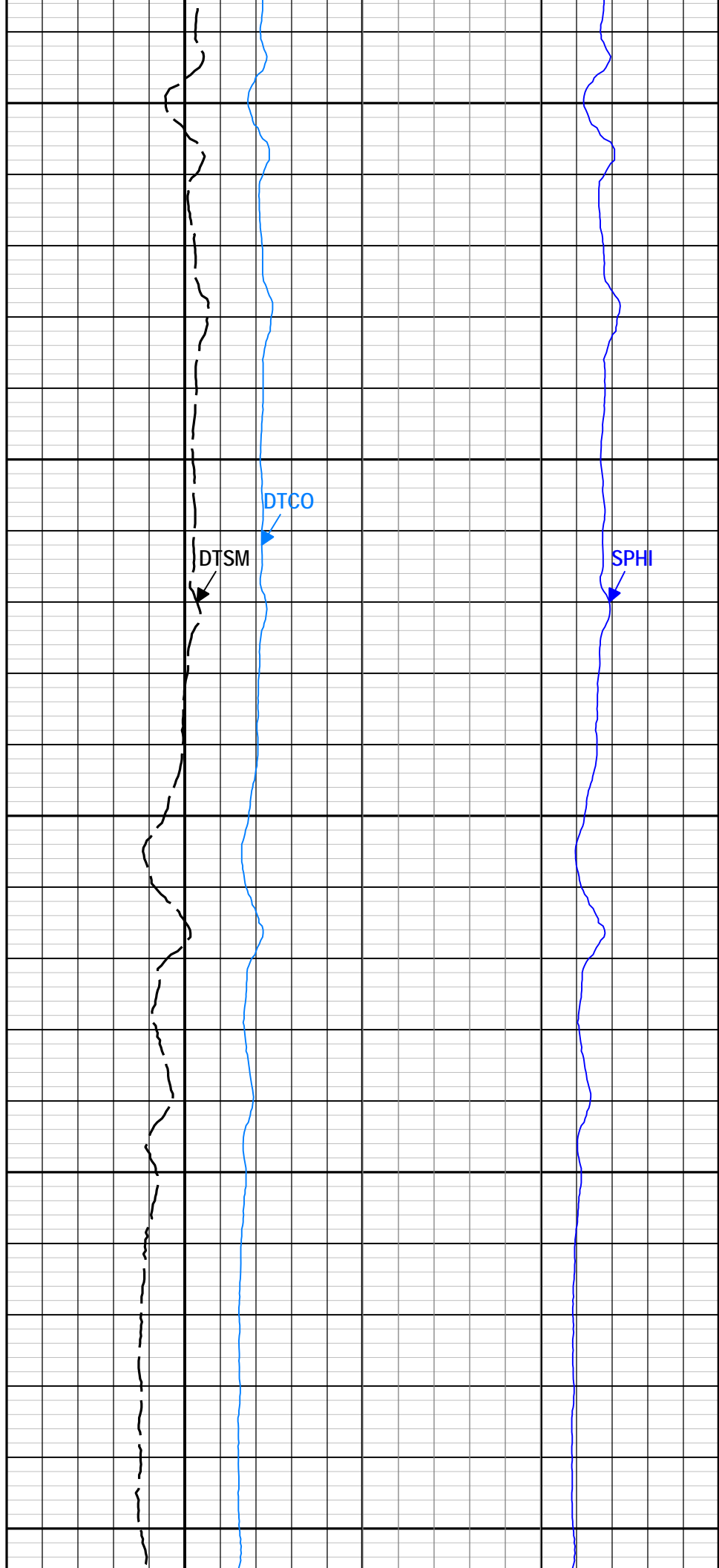
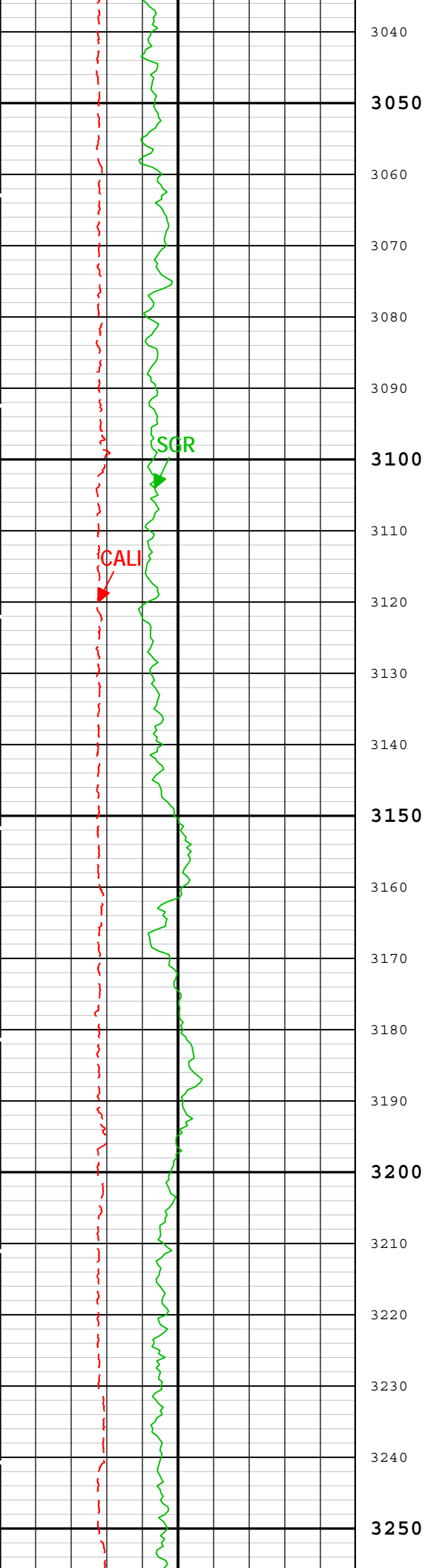
<div><div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div><div><div>Mud Resistiv 0.00</div><div>ity</div><div>Head Tensio</div><div>n</div><div>TOOL_ZERO</div></div><div>Lengths are in ft</div><div>Maximum Outer Diameter = 9.000 in</div><div>Line: Sensor Location, V alue: Gating Offset</div><div>All measurements are relative to TOOL_ZERO</div></div> <div></div> <div></div>									
Depth Summary									
Depth Control Parameters		Run 1							
Conveyance Type		Wireline							
Rig Type		Land							
Depth Measuring Device		Run 1							
Type		IDW-B							
Serial Number		6515A							
Calibration Date		23-SEP-2013							
Calibration Cable Type		7-46 PXS							
Wheel Correction 1		-7							
Wheel Correction 2		-5							
Tension Device		Run 1							
Type		CMTD-B/A							
Serial Number		1919							
Calibration Date		17-May-2013							
Calibrator Serial Number		78135A							
Calibration Points		10							
Calibration RMS		13							
Calibration Peak Error		24							
Logging Cable		Run 1							
Type		7-46NT-XS							
Serial Number		U711057							
Logging Cable Length (ft)		14000.00							
Run 1									
Integration Summary									
Output Channel(s)		Output Description		Input Parameter		Output Value		Unit	
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data	
Run 1	Main[5]:Up	Up	927.84 ft	8154.18 ft	16-Jun-2013 8:55:12 AM	16-Jun-2013 12:57:43 PM	1.00 ft		
All depths are referenced to toolstring zero									
LogRun 1: Main[5]:Up									
Description: Format: Log (Blank 3 Track Depth) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 16-Jun-2013 18:02:12									
TIME_1900 - Time Marked every 60.00 (s)									
<div><div>Caliper (CALI) HDRS-H</div><div>6in16</div></div>				<div><div>Delta-T Shear (DTSM) MAST-B</div><div>350us/ft50</div></div>					
<div><div>Spectroscopy Gamma Ray (SGR) HNGS-BA</div><div>0gAPI200</div></div>				<div><div>Delta-T Compressional (DTCO) MAST-B</div><div>240us/ft40</div></div>			<div><div>Sonic Porosity (SPHI) MAST-B</div><div>0.6ft3/ft30.1</div></div>		
<div><div>CALI</div><div>2150</div></div>				<div><div>DTSM</div><div>2150</div></div>			<div><div>SPHI</div><div>2150</div></div>		

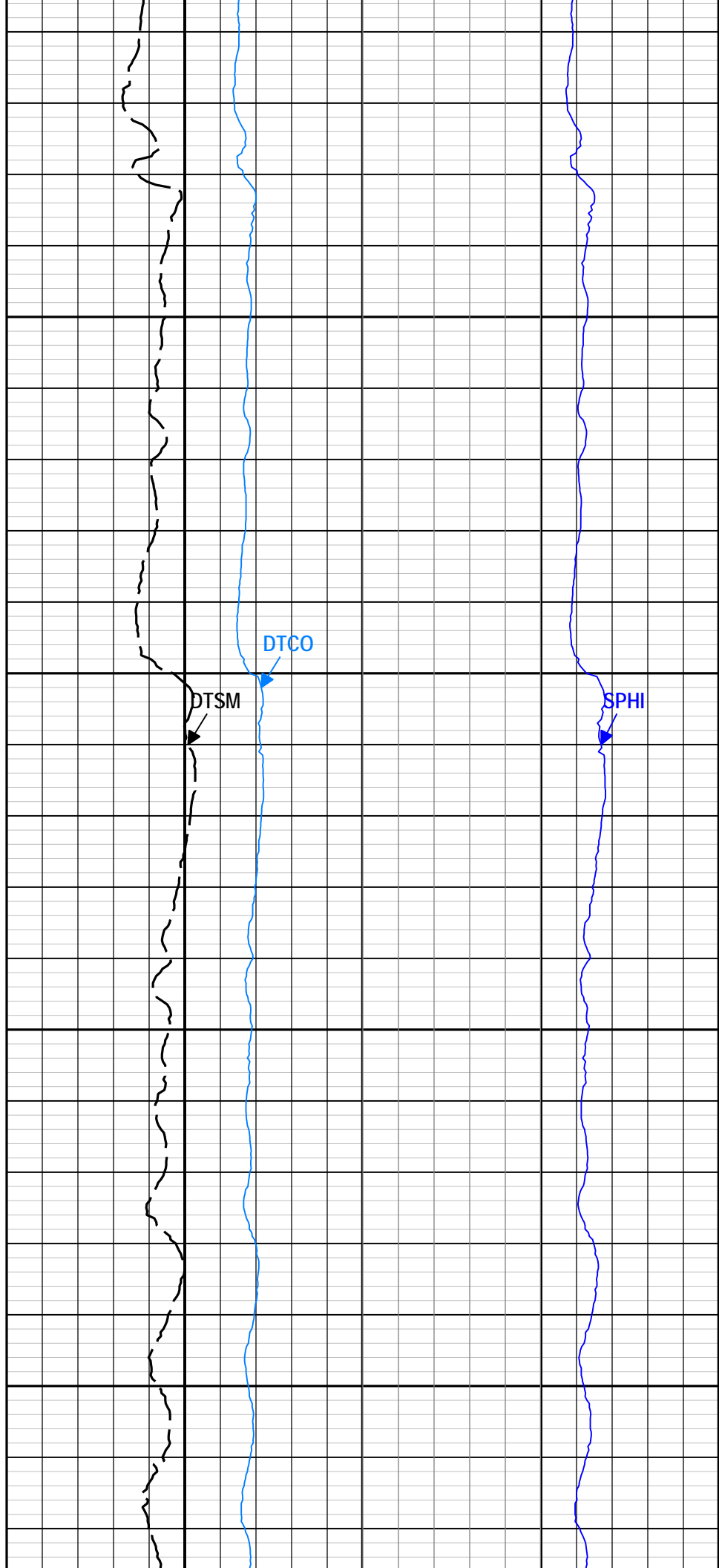
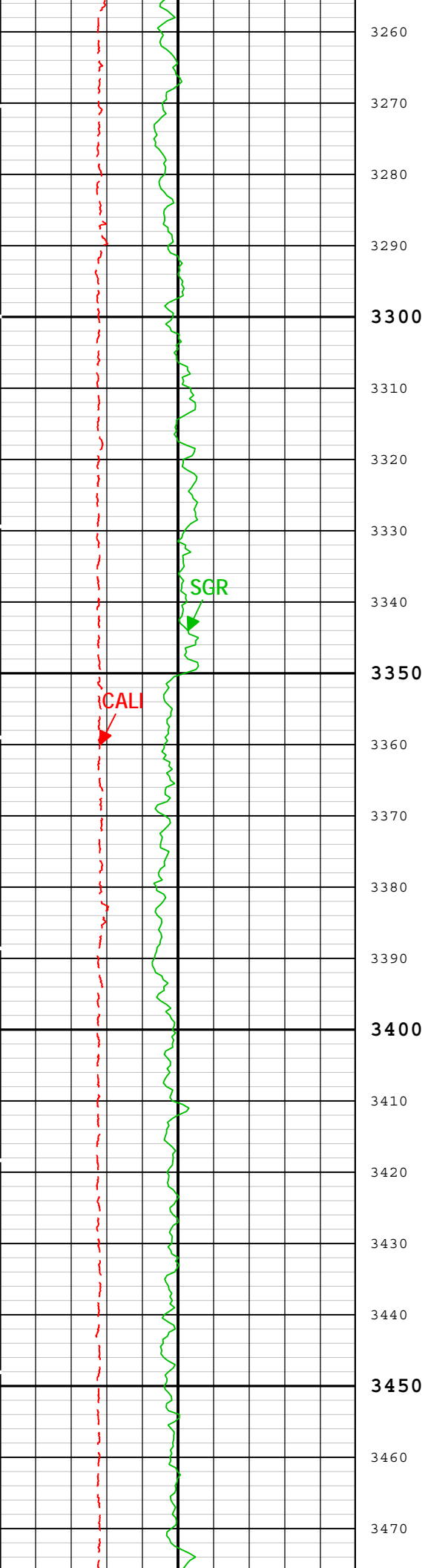


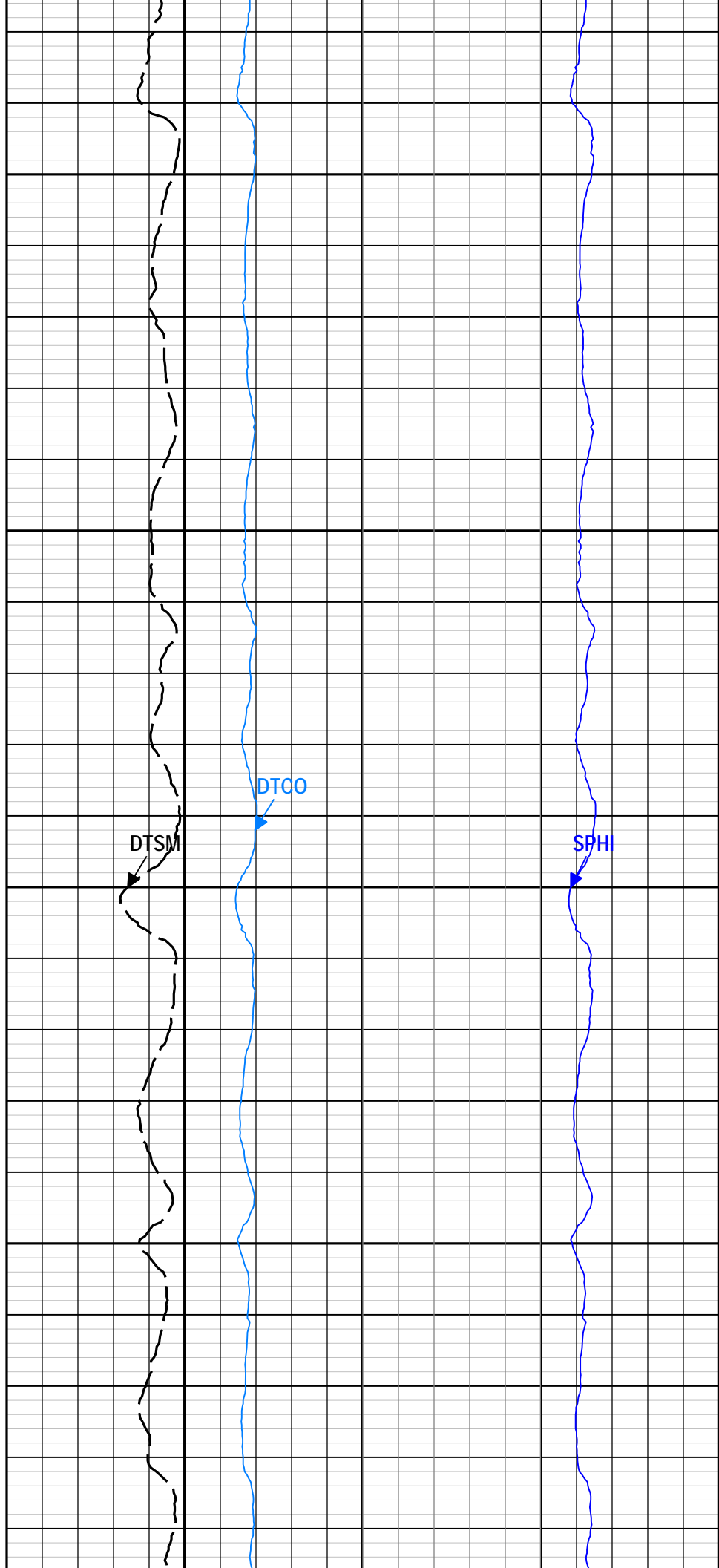
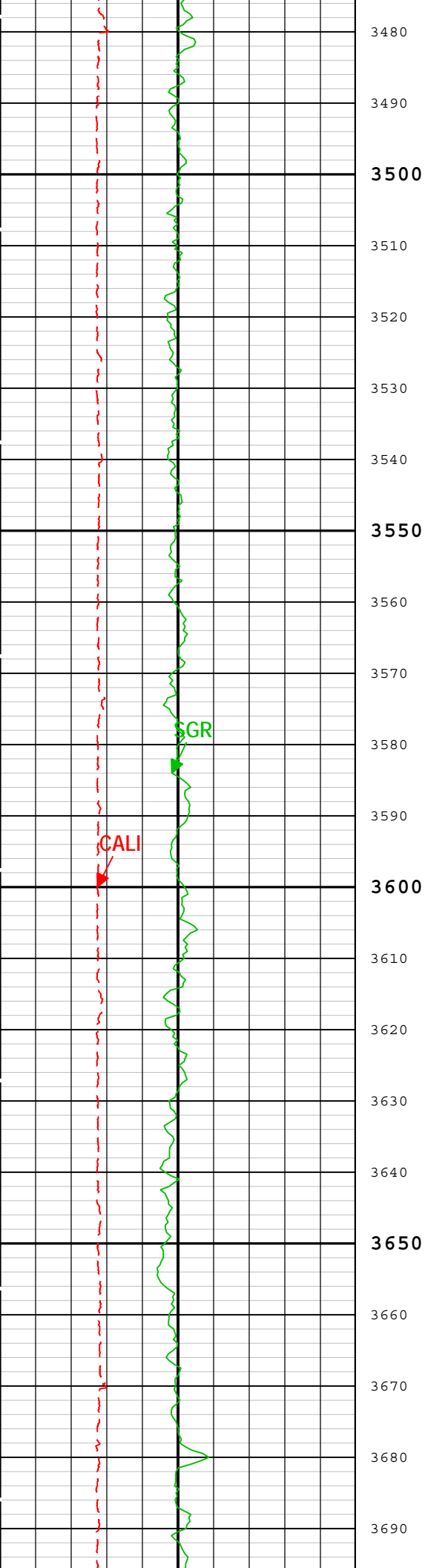


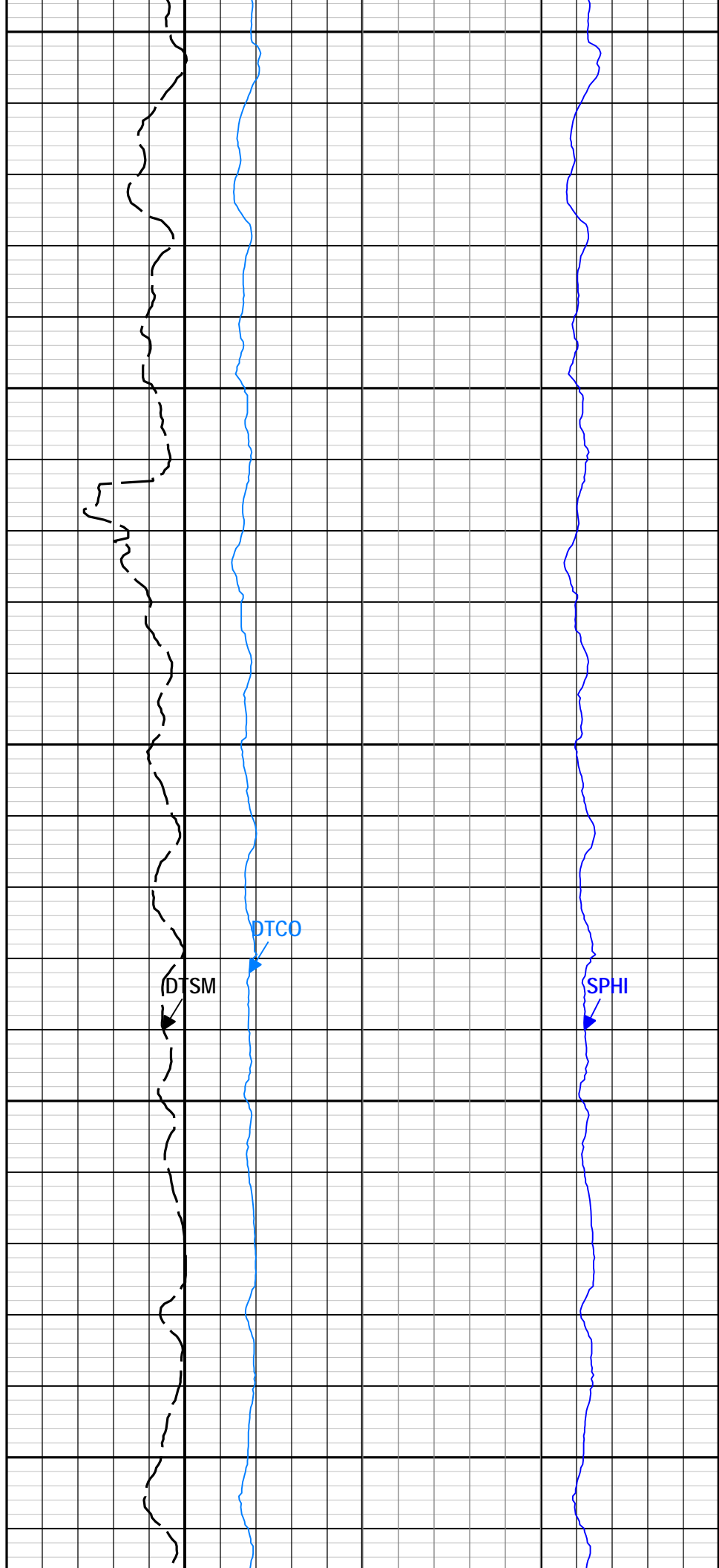
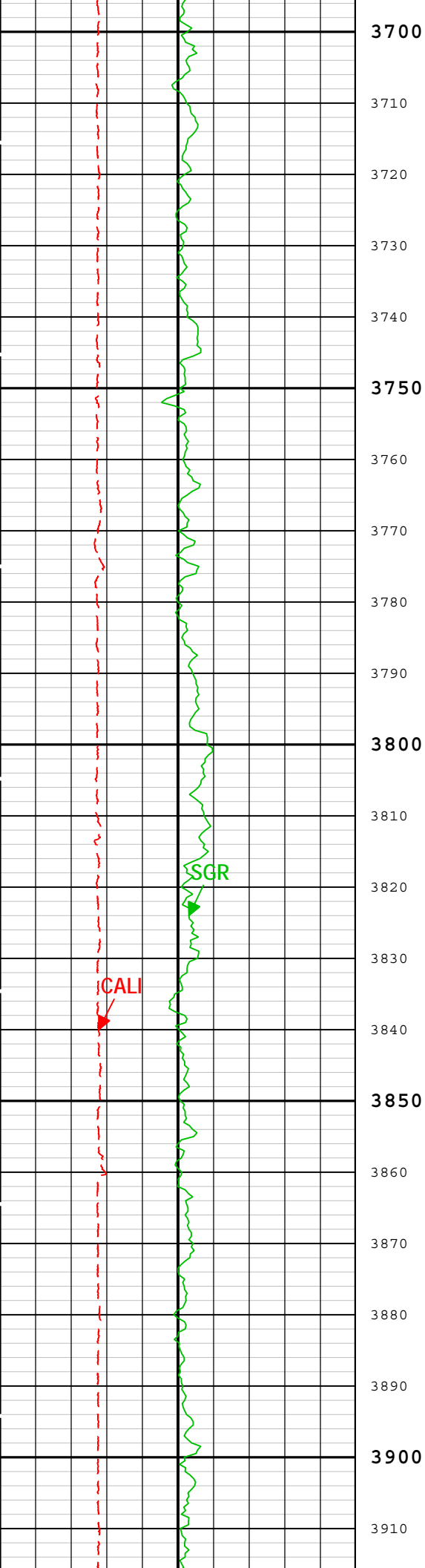


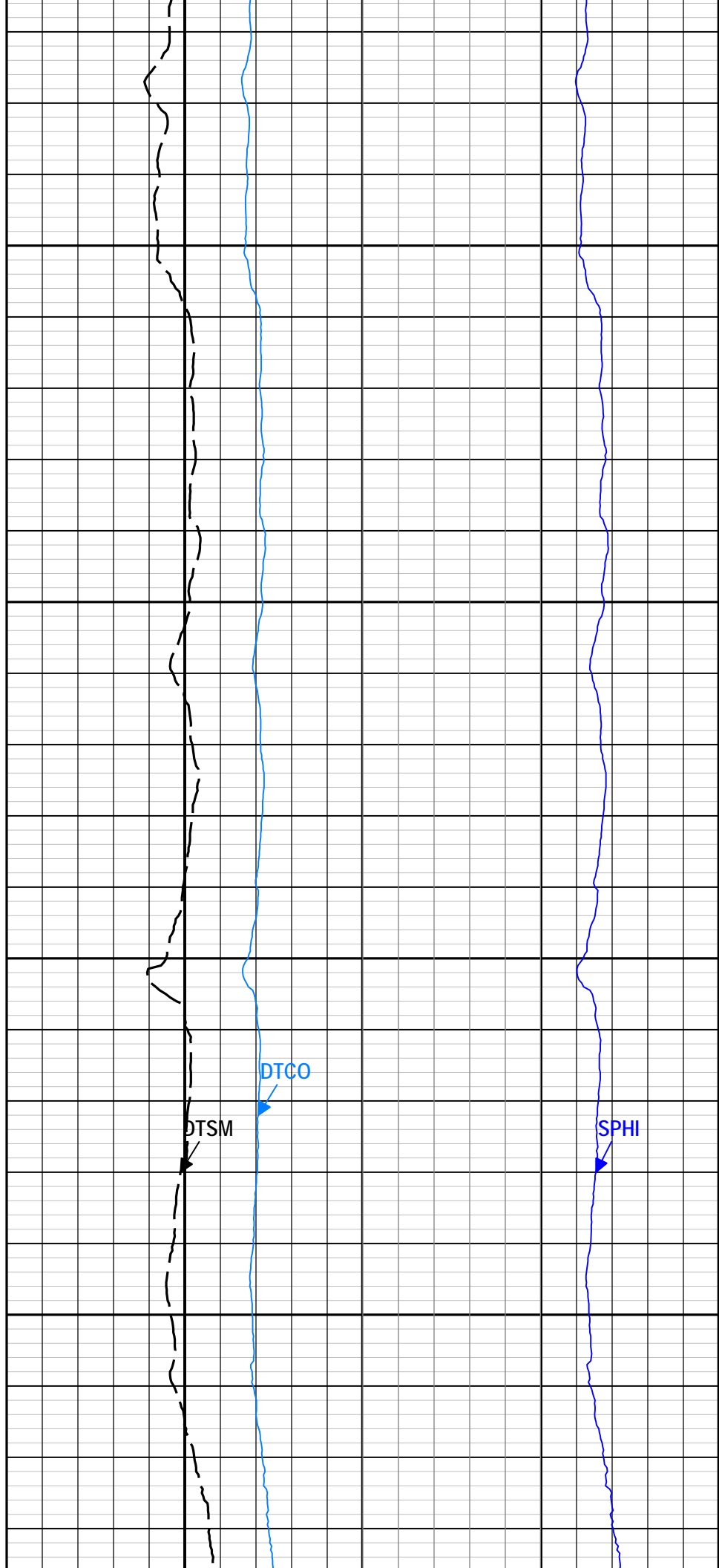
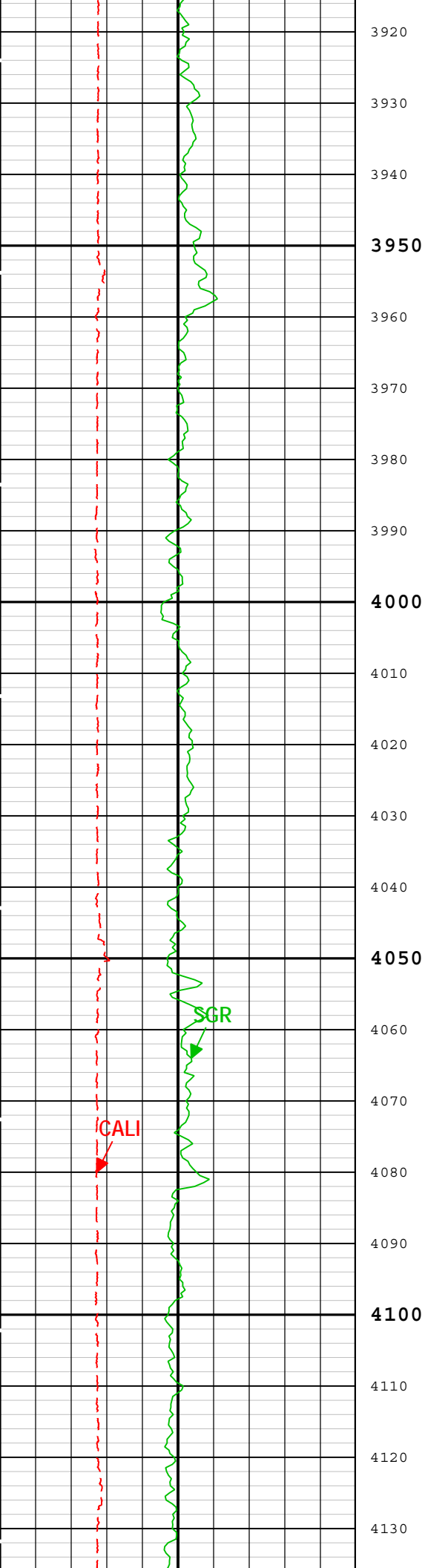


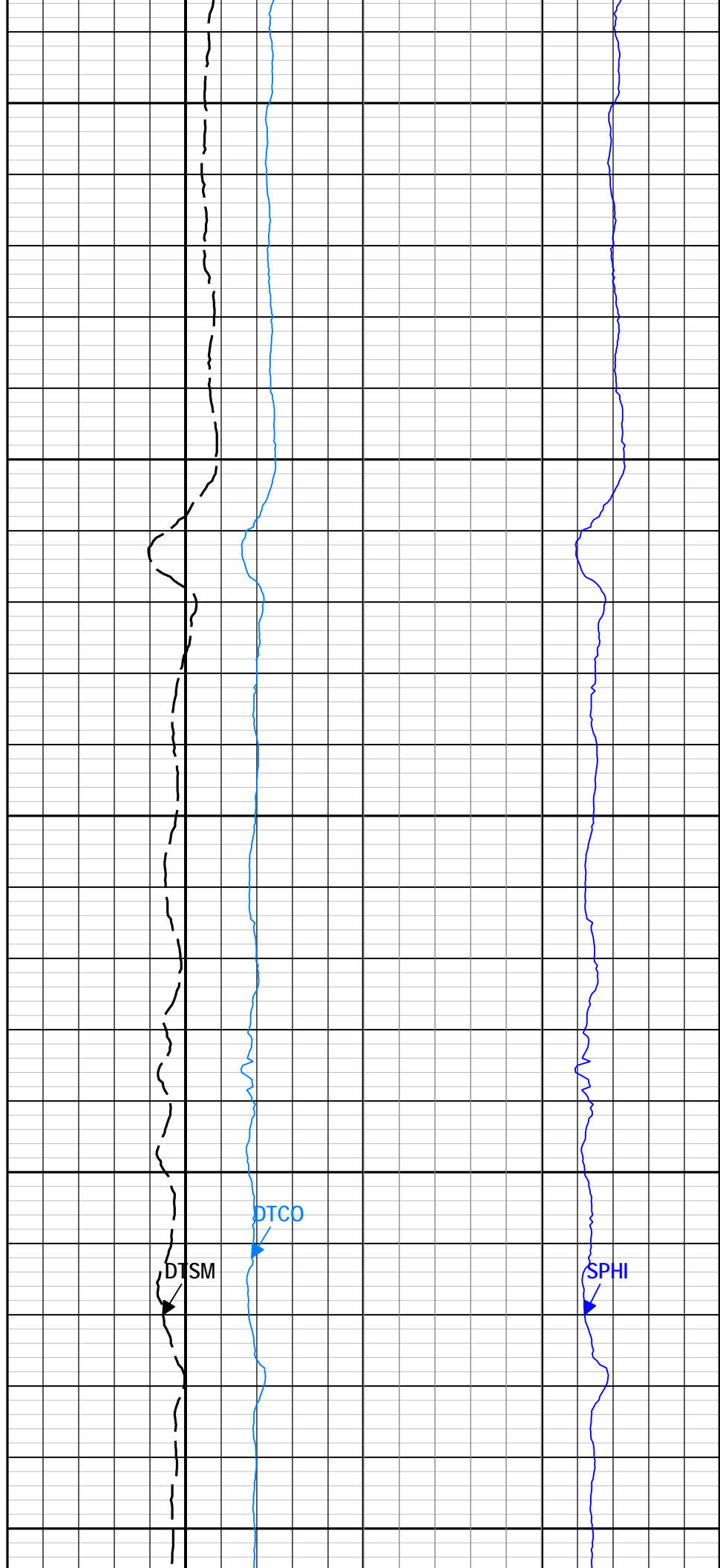
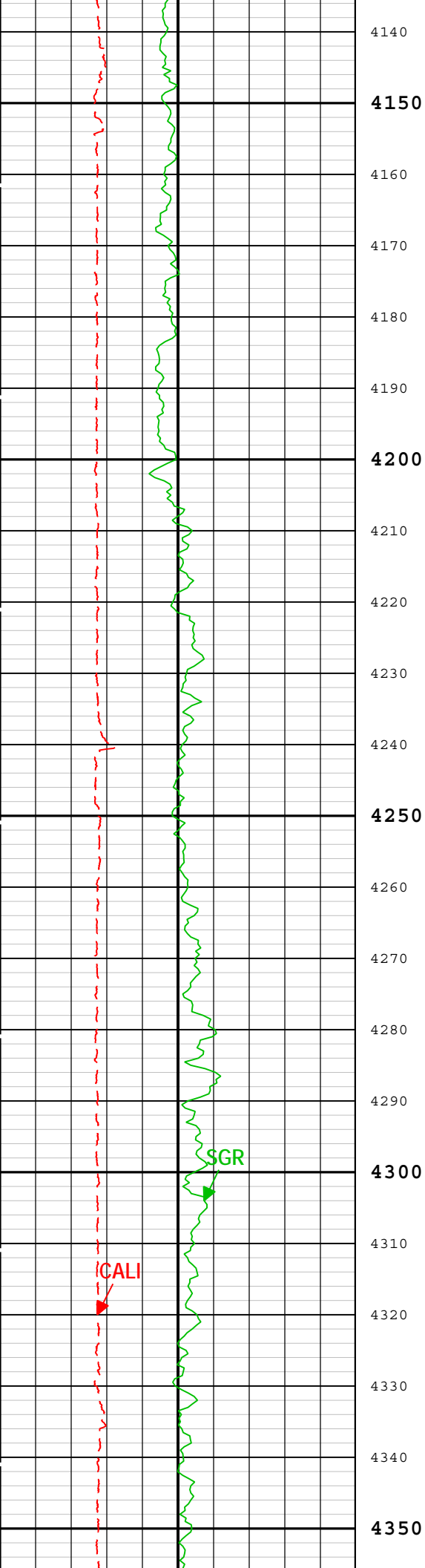


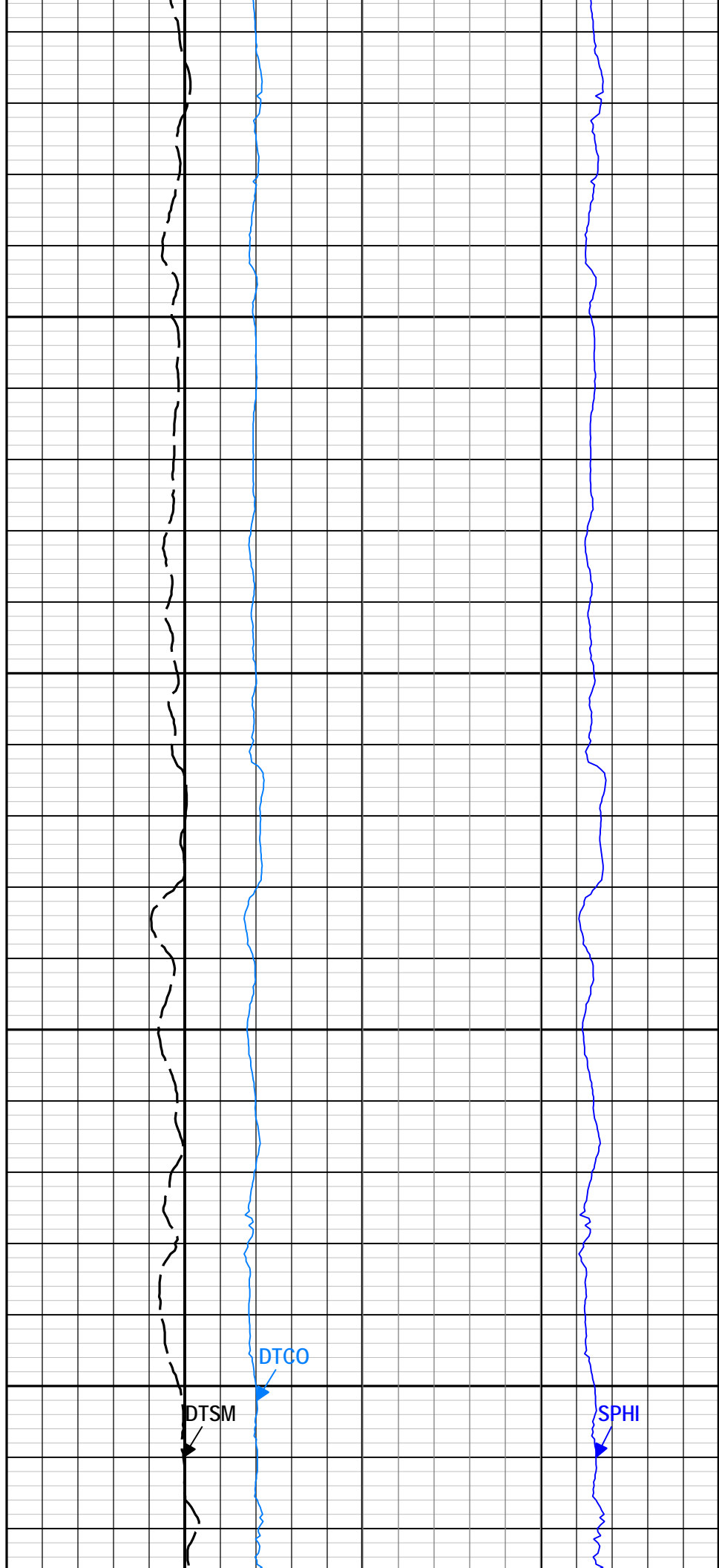
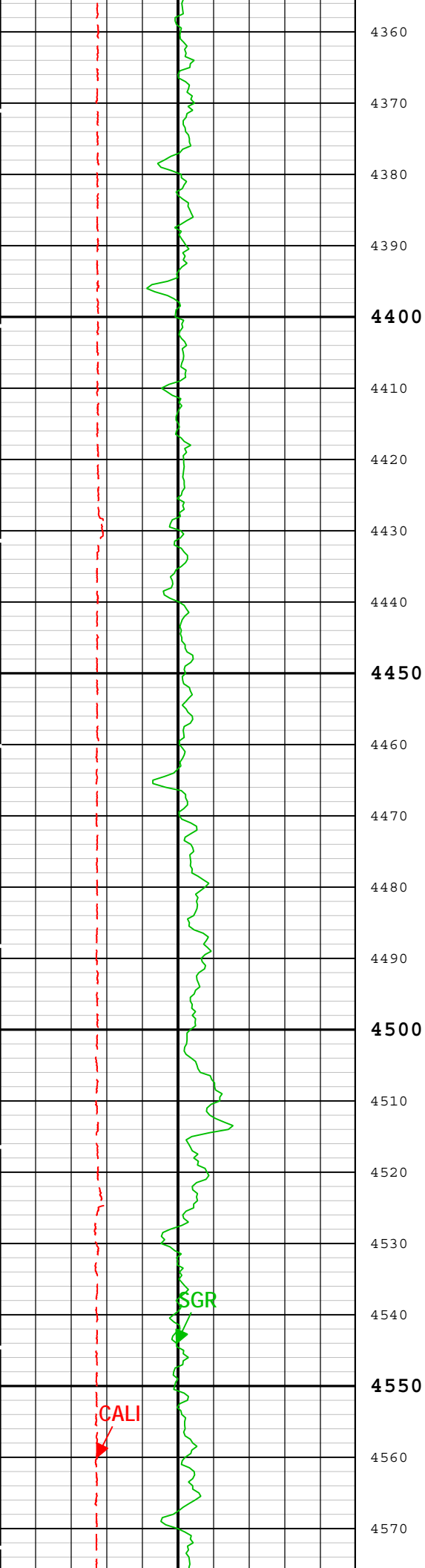


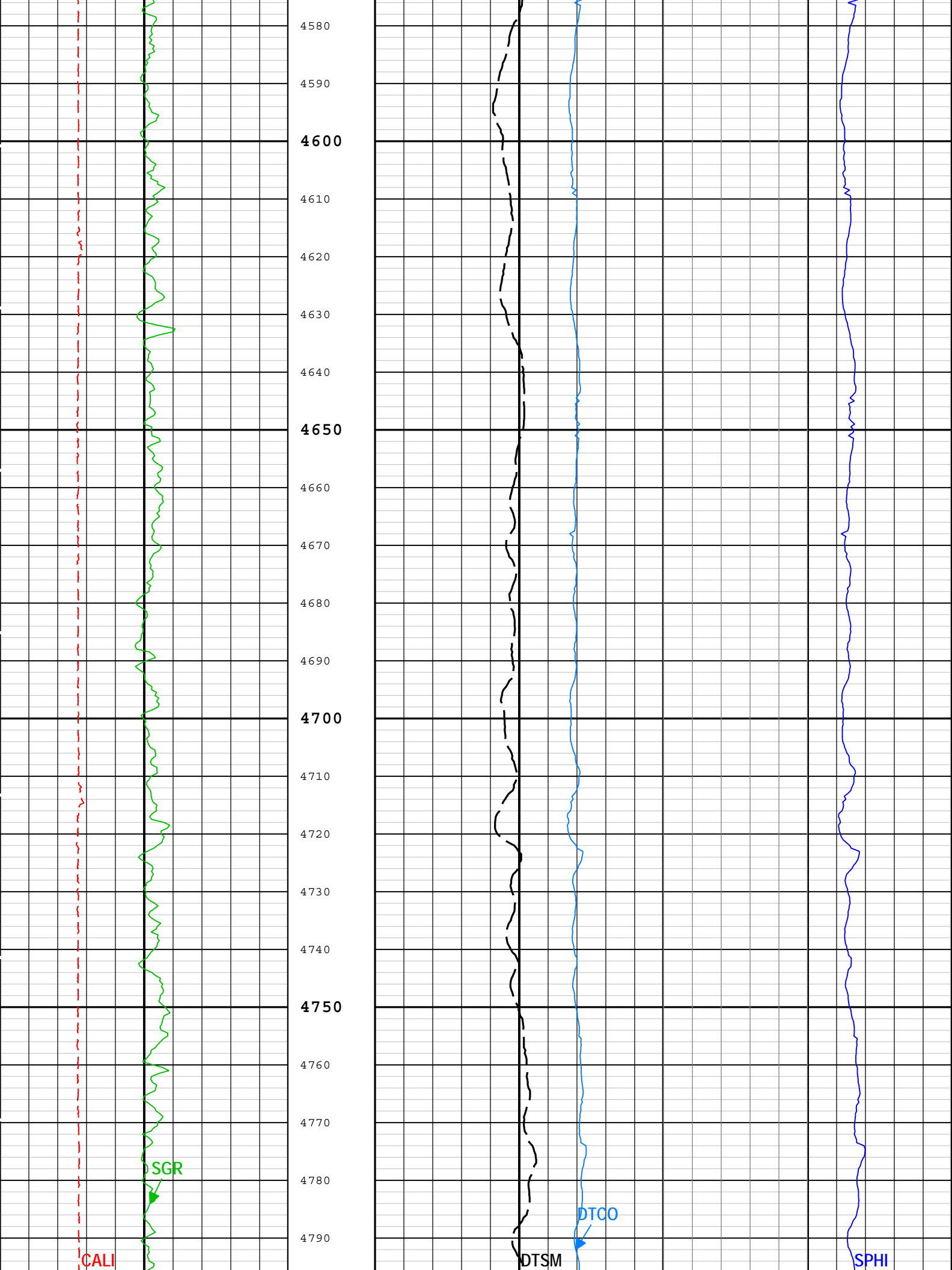


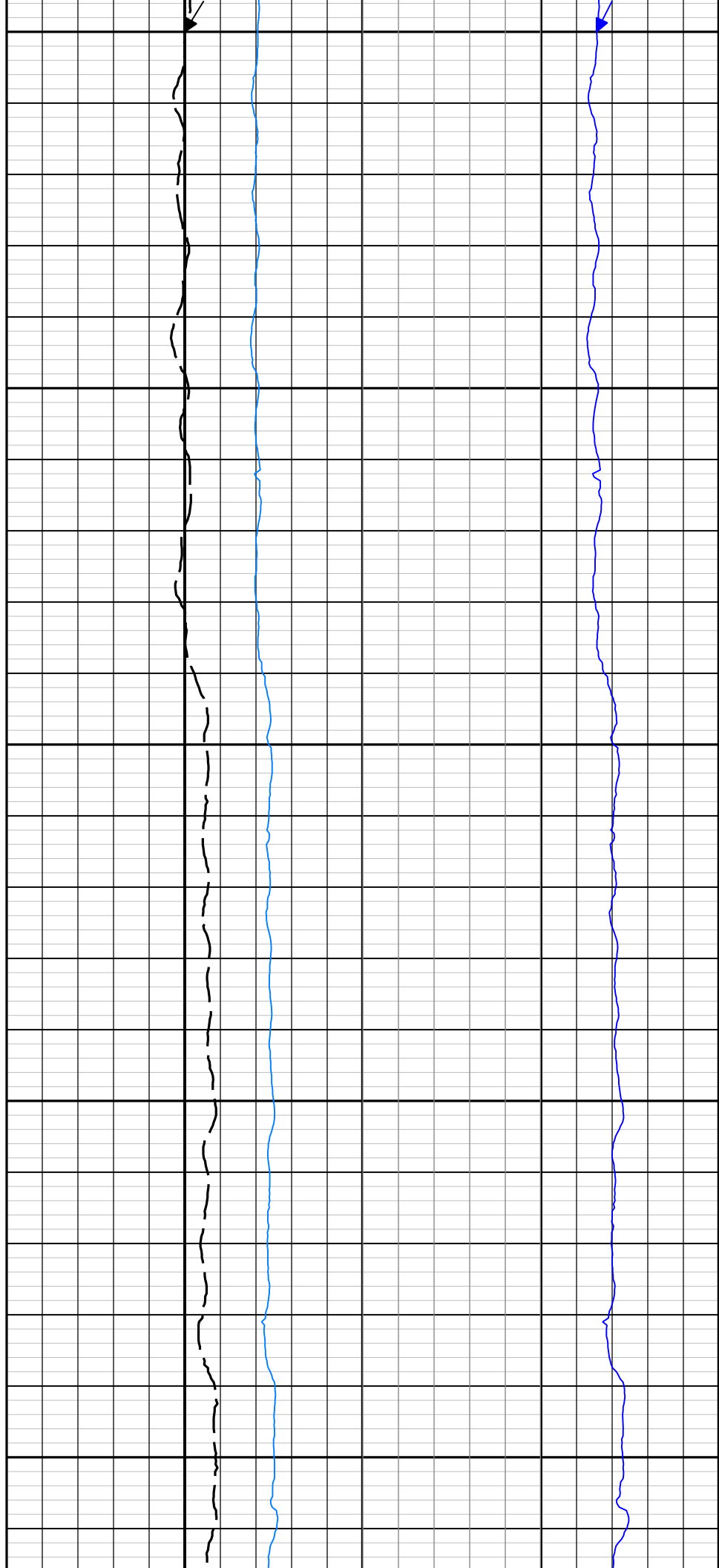
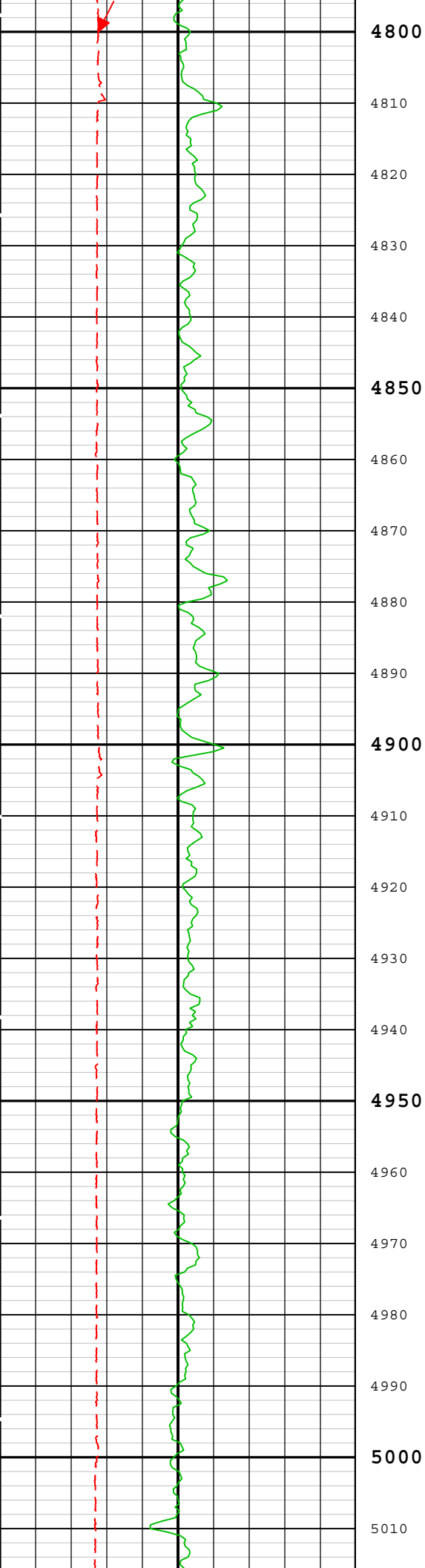


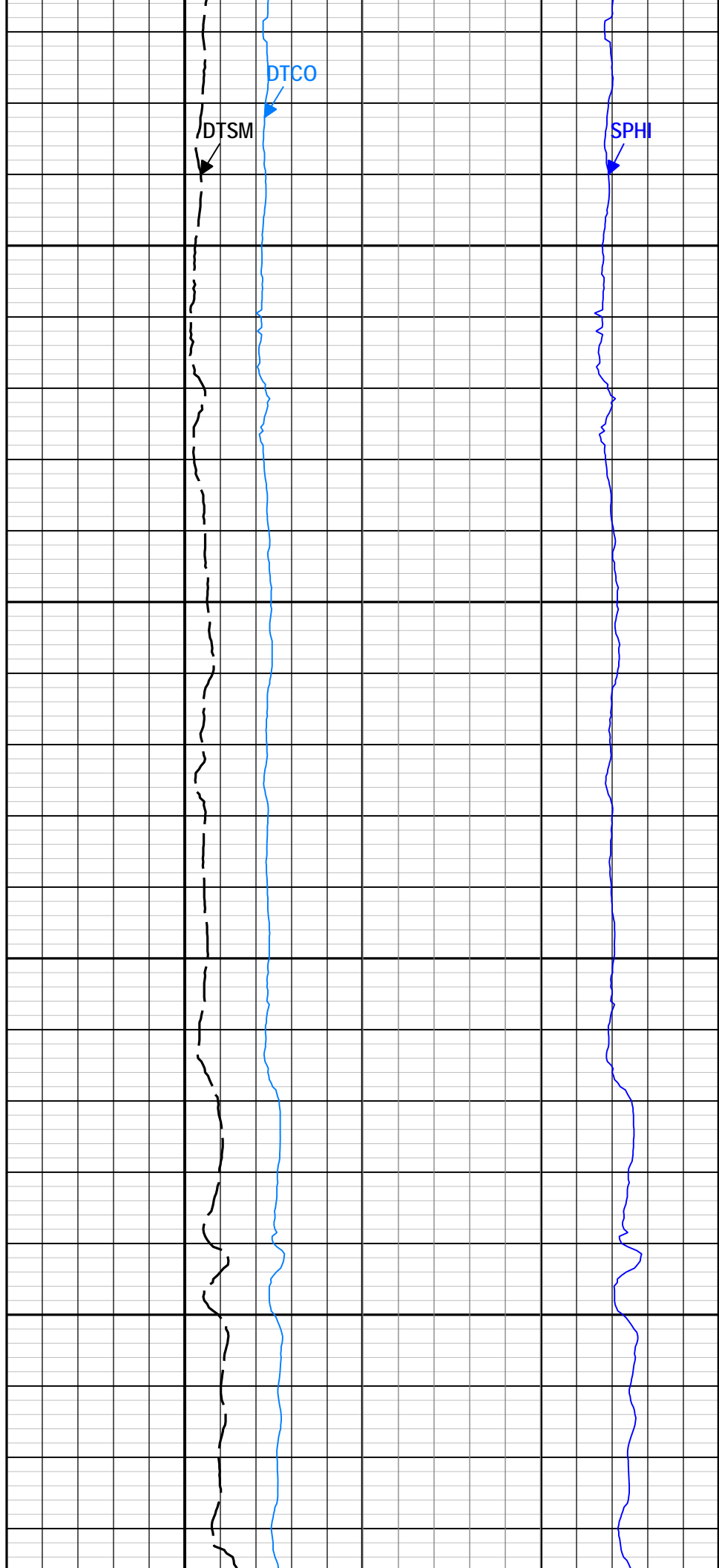
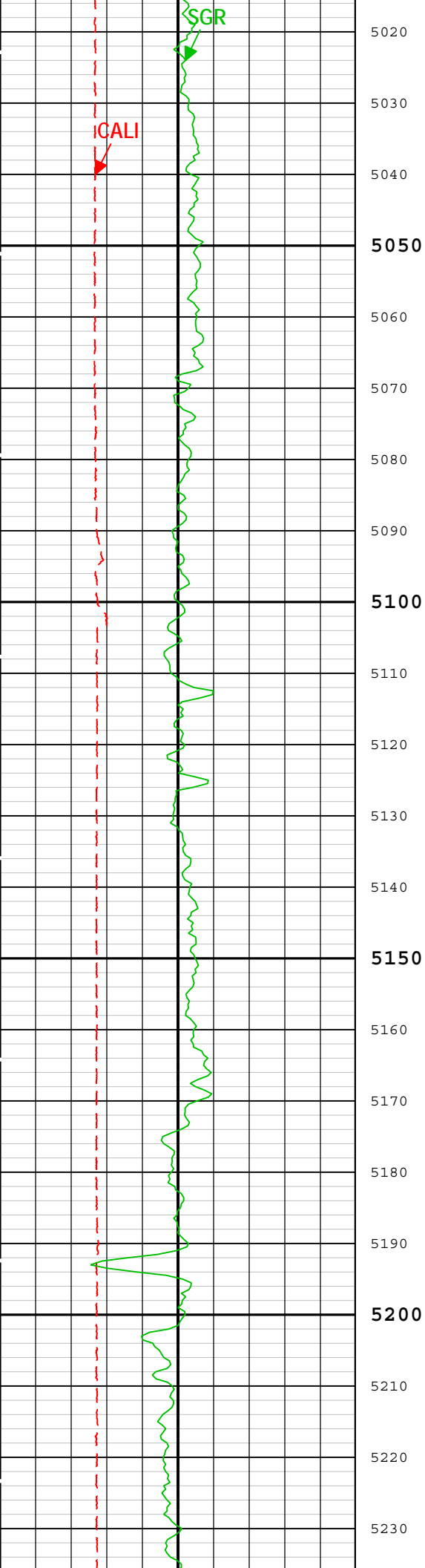


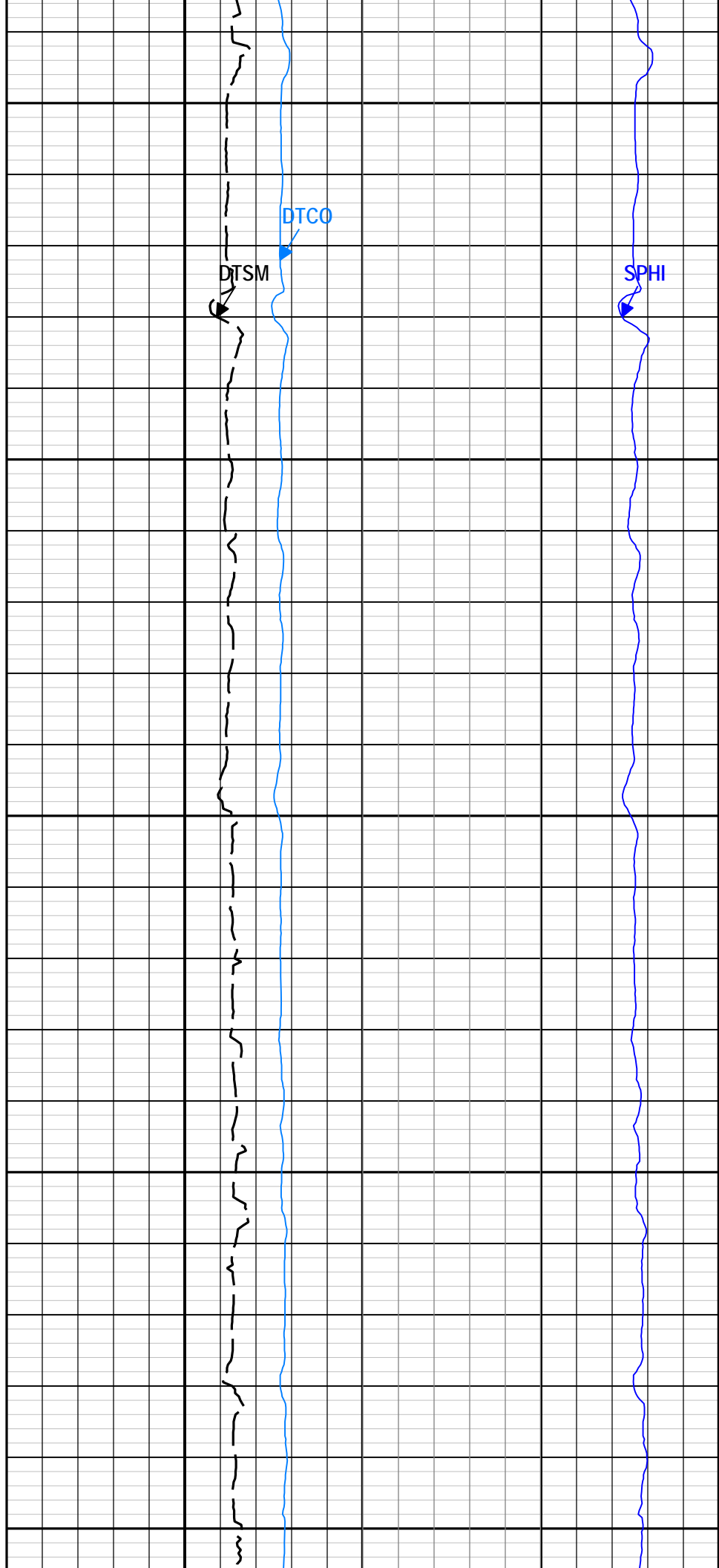
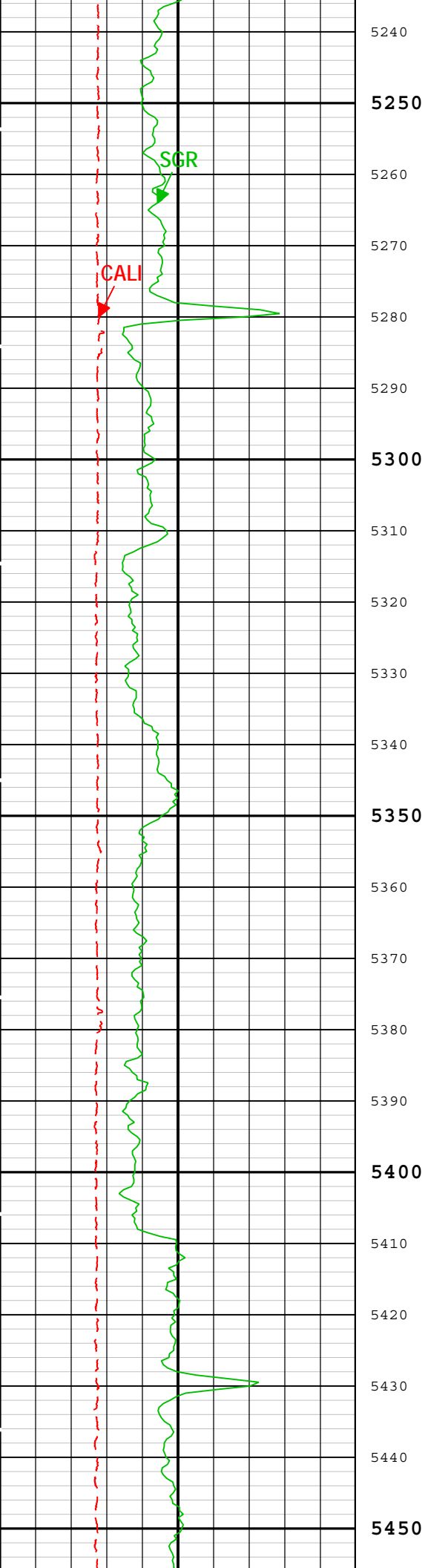


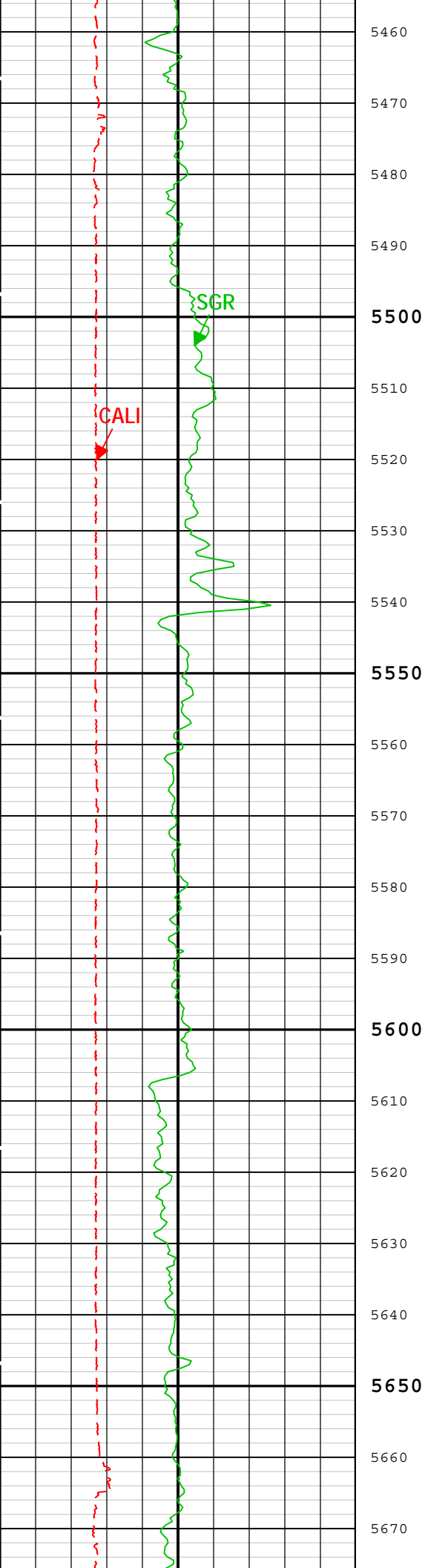


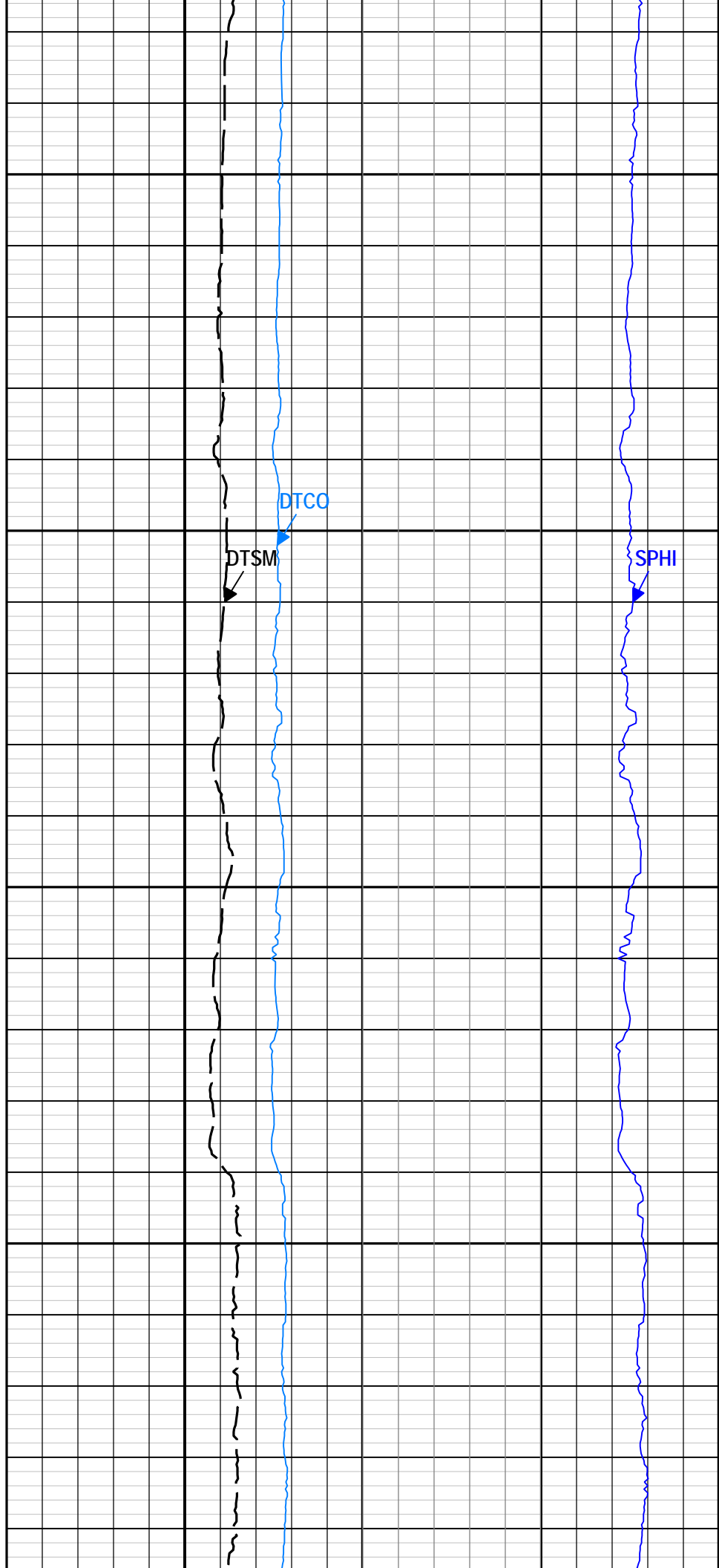
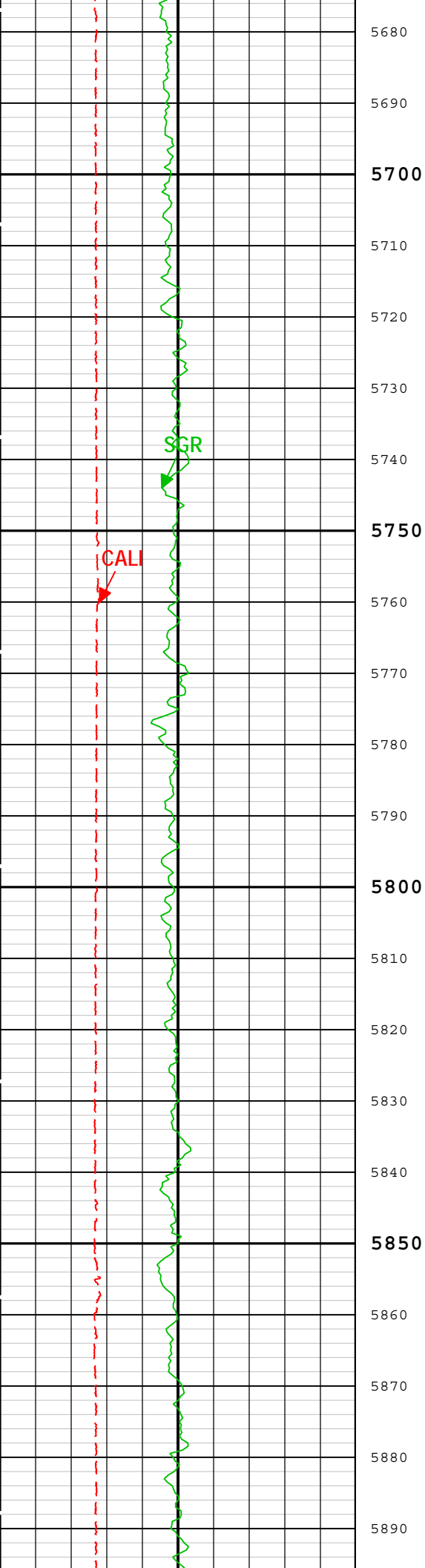


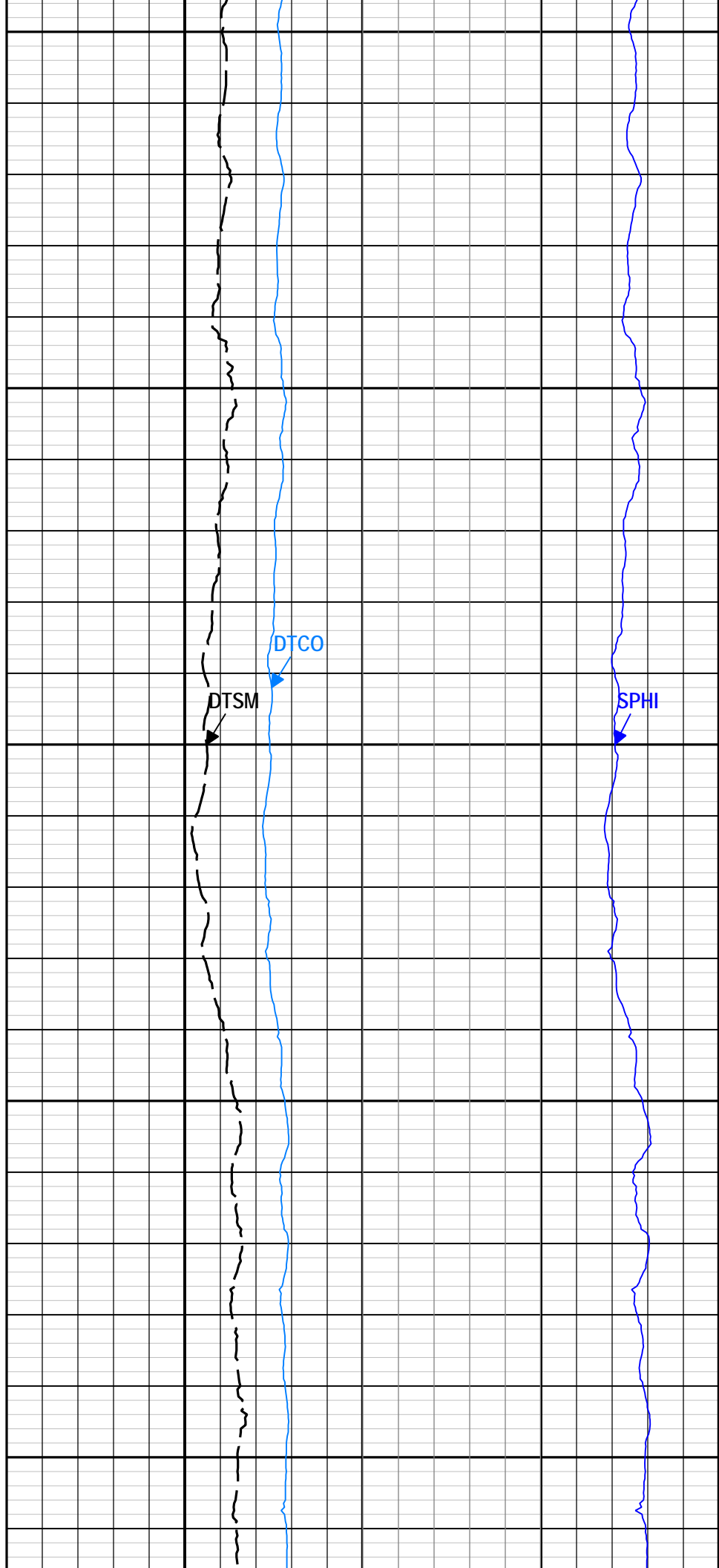
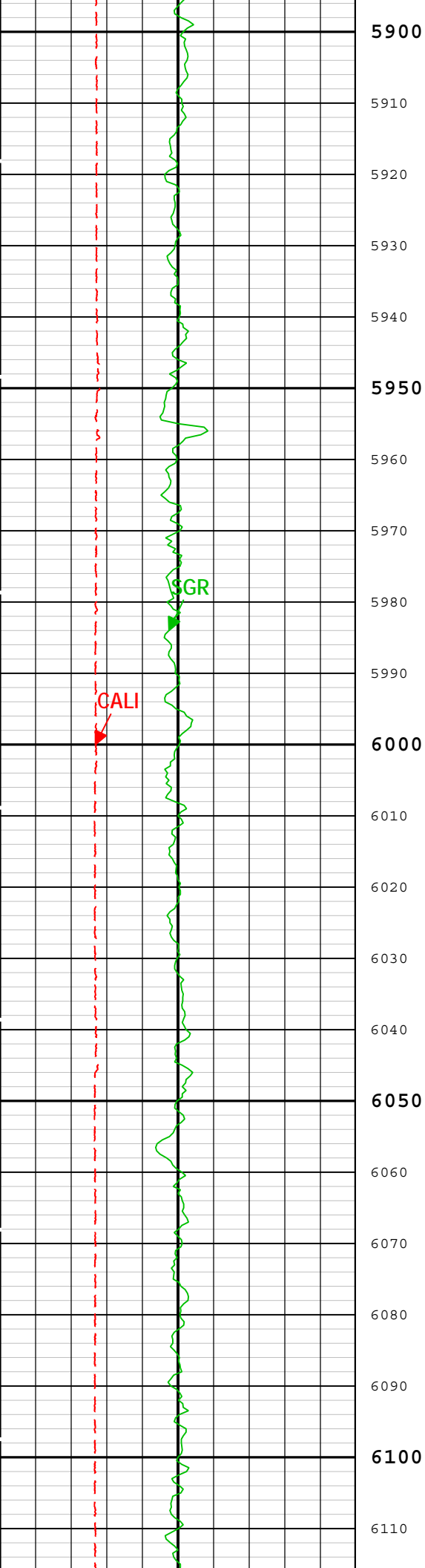


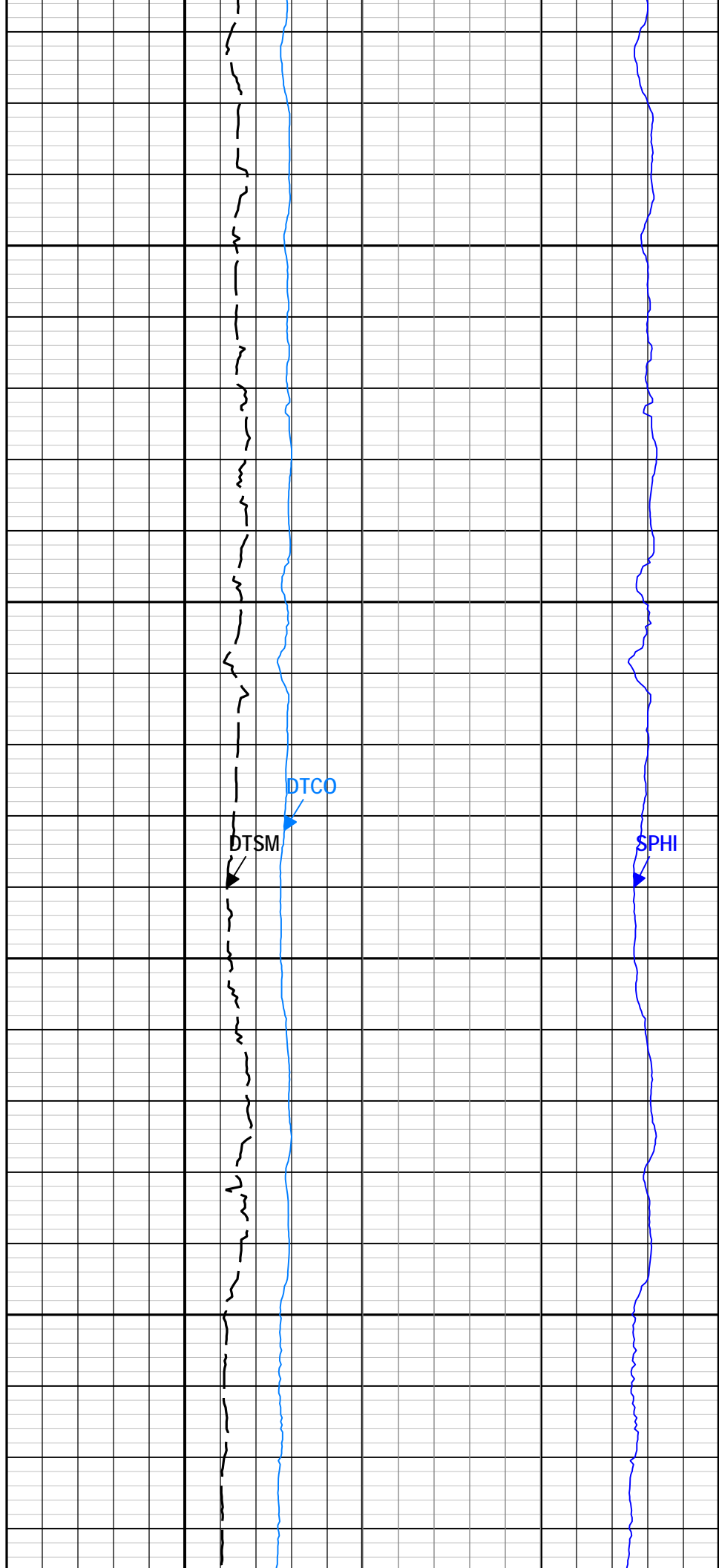
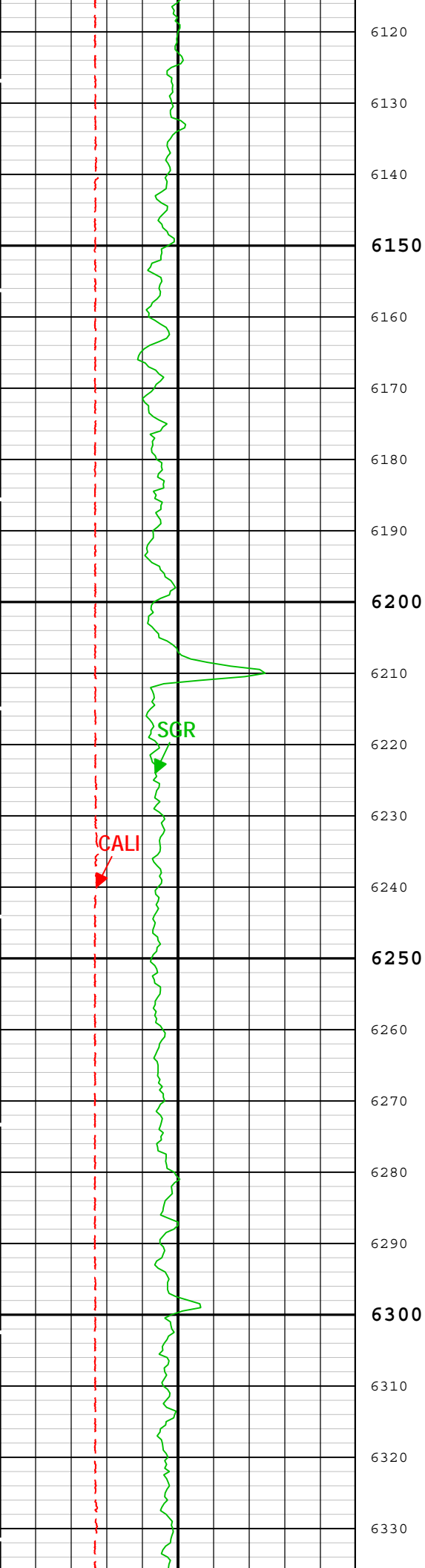


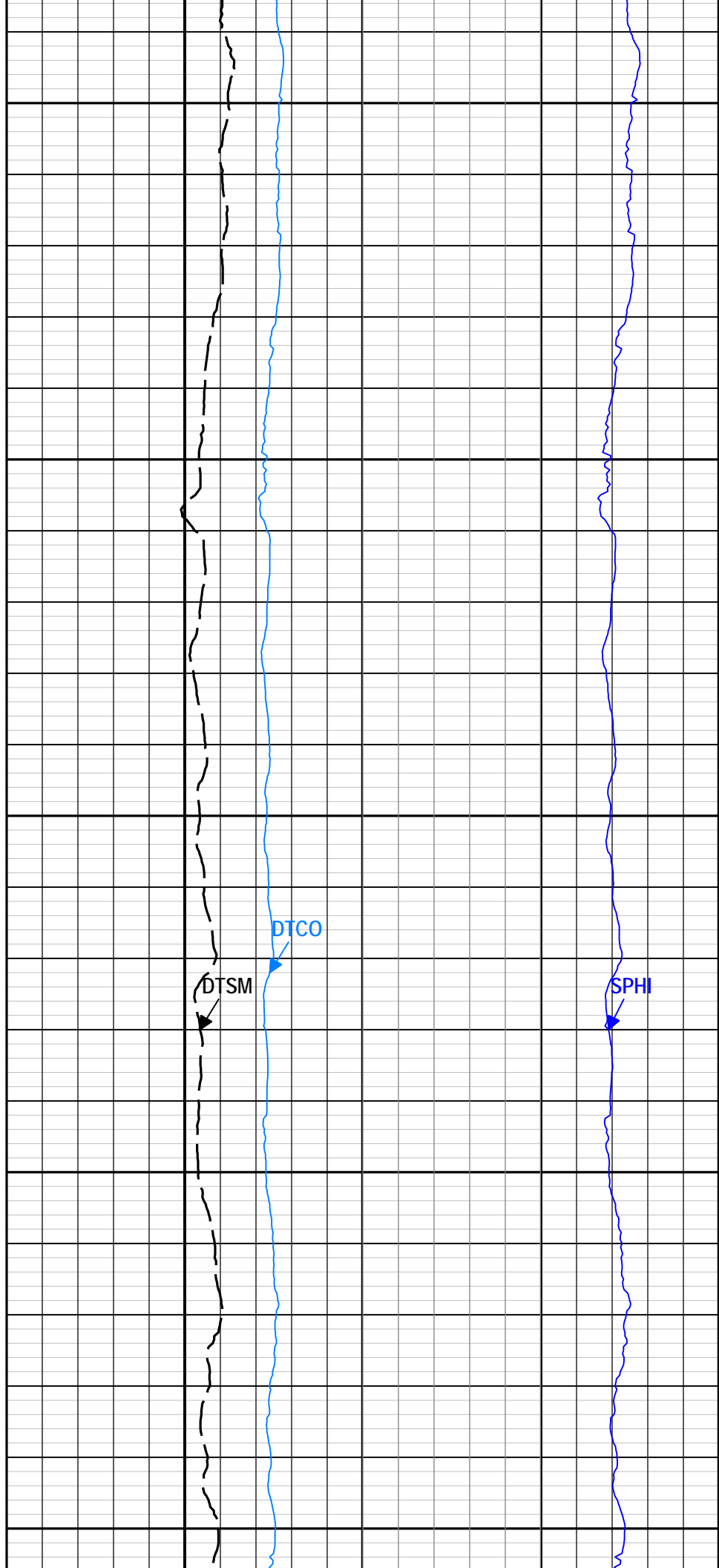
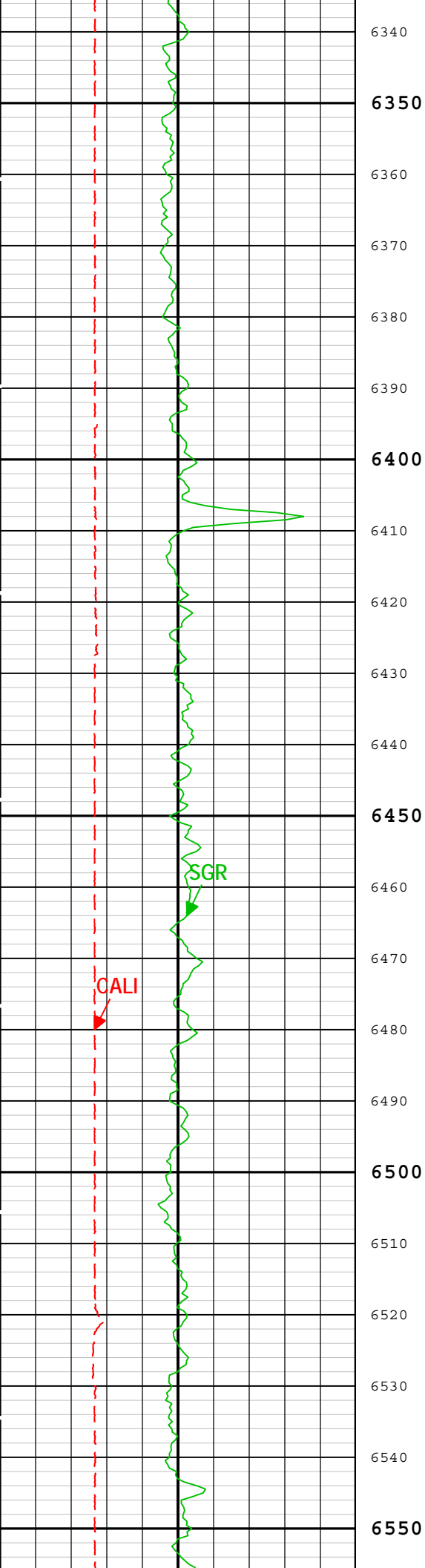


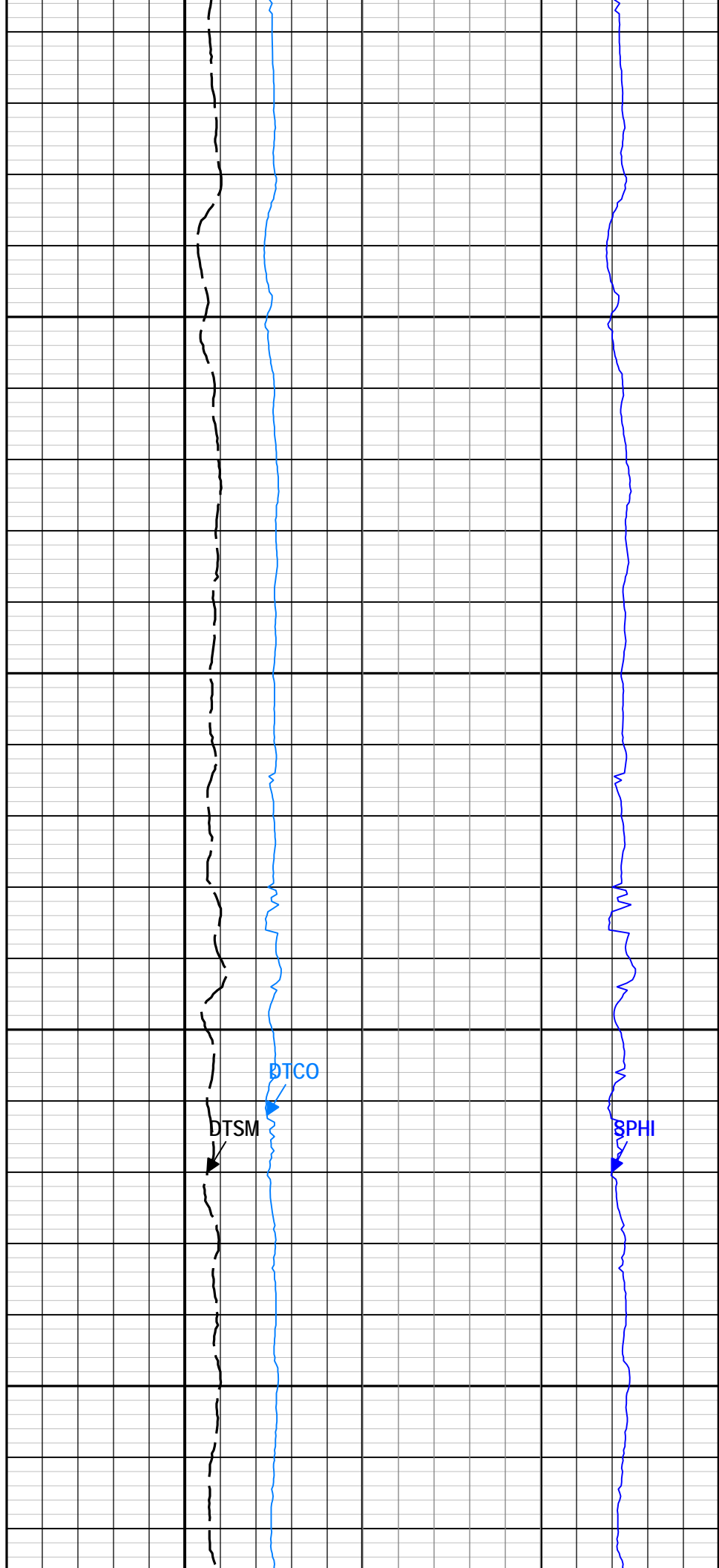
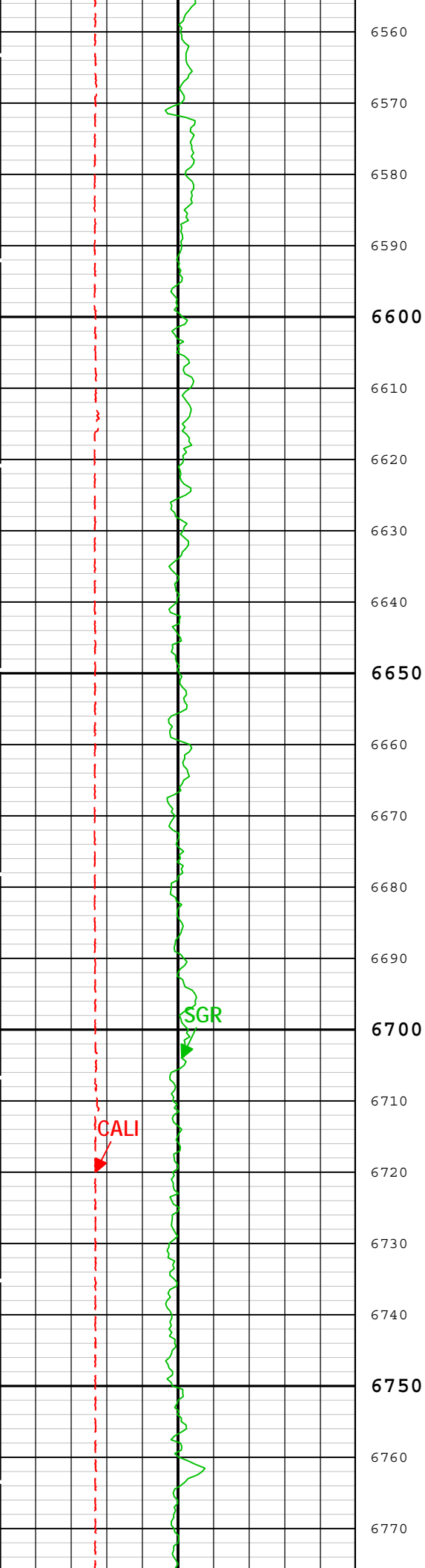


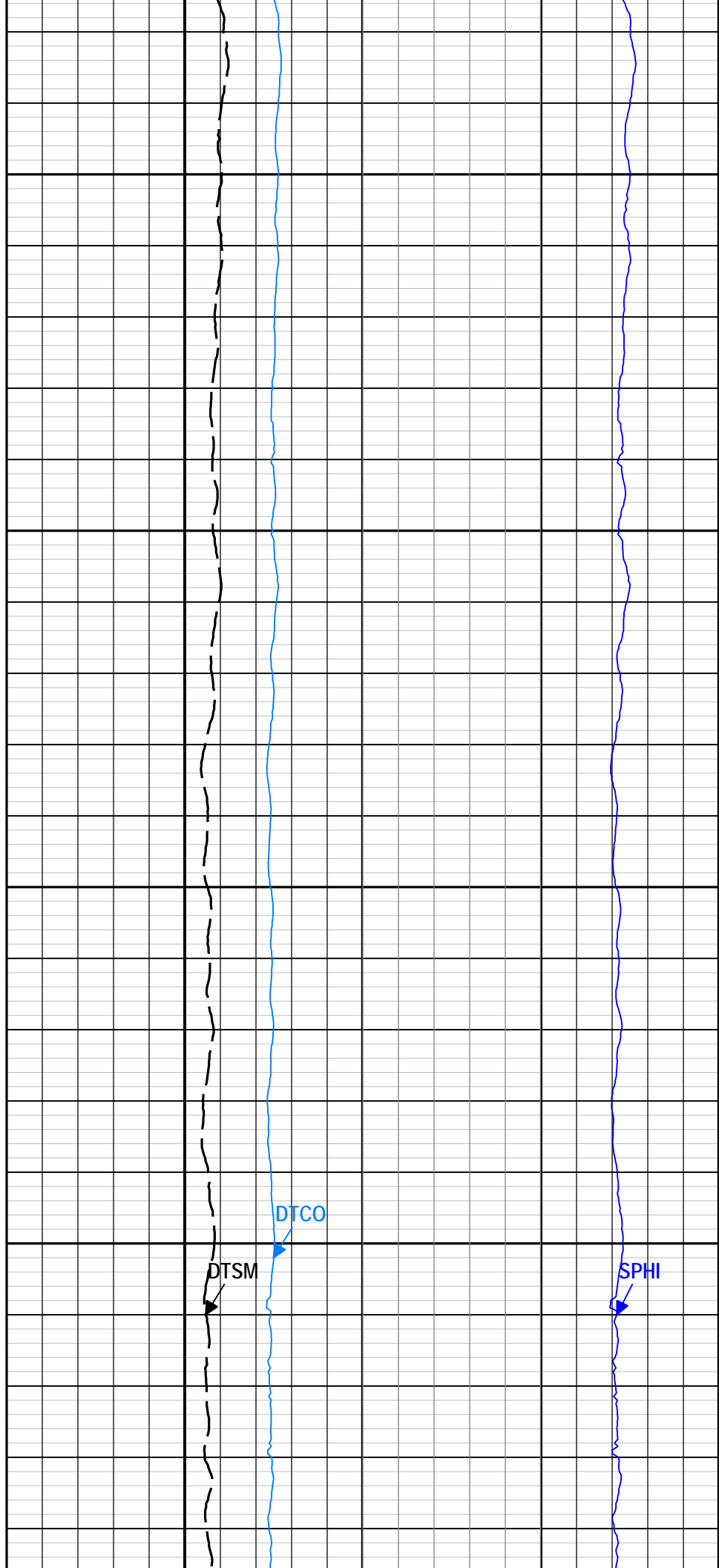
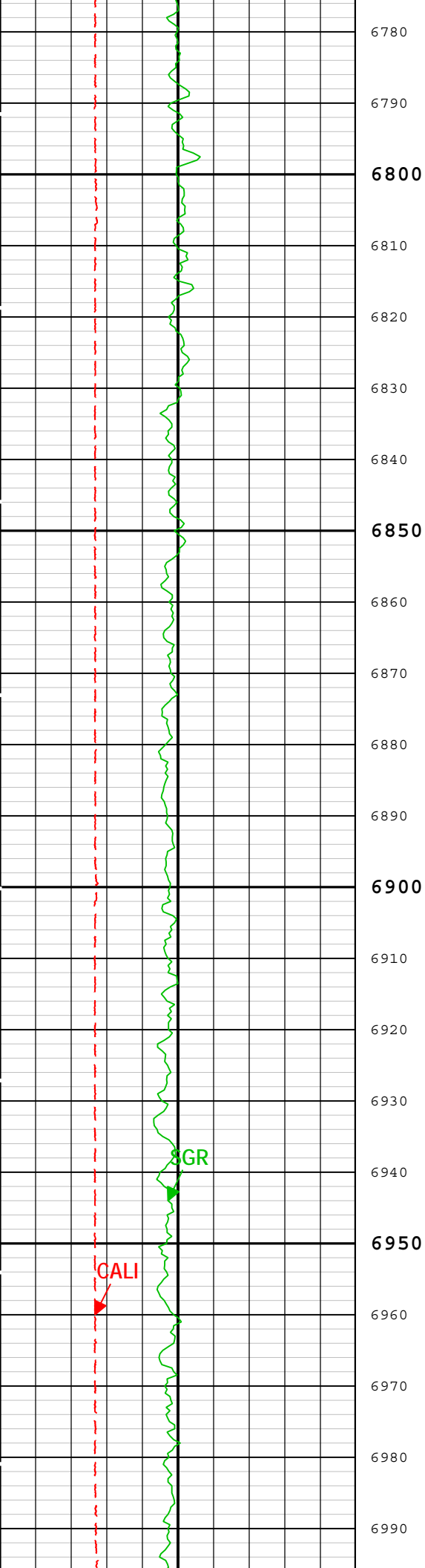


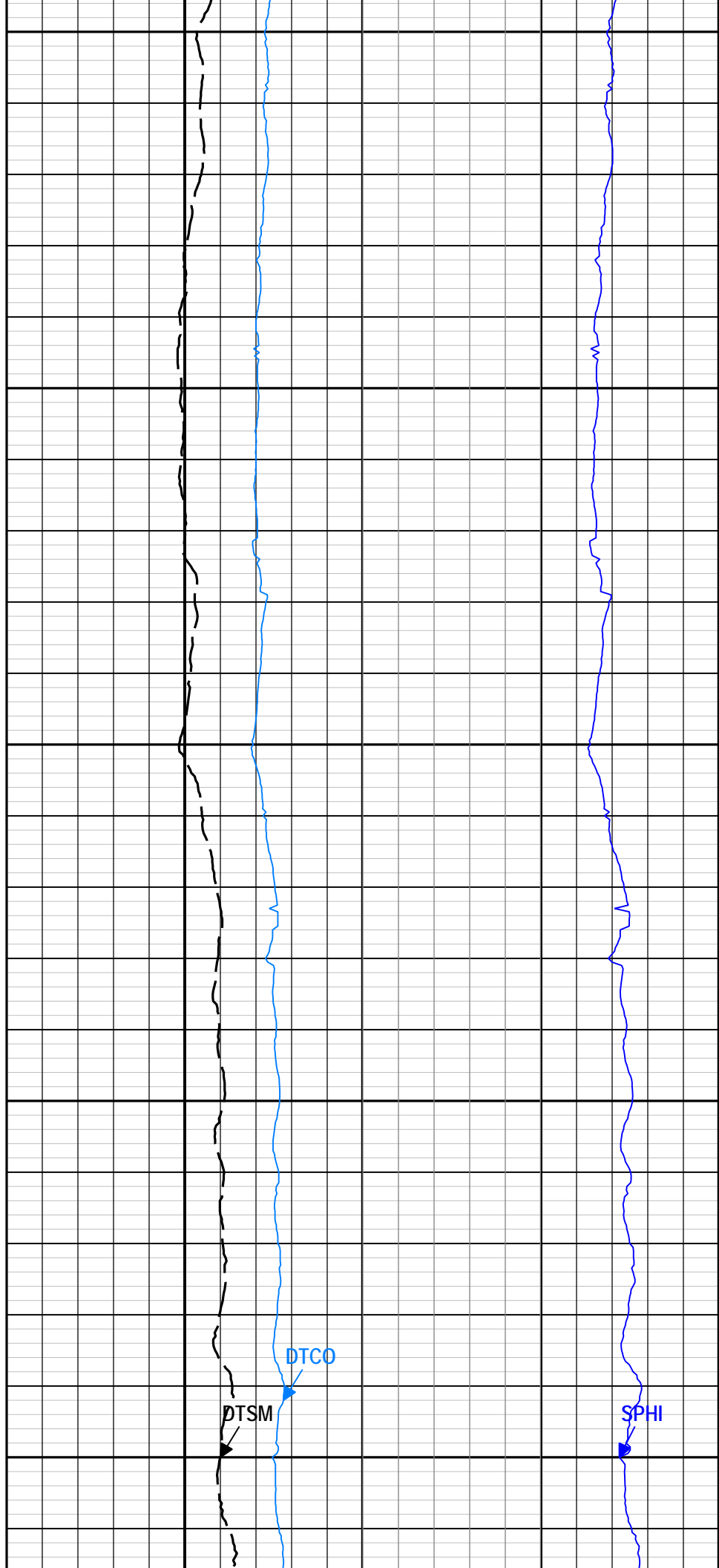
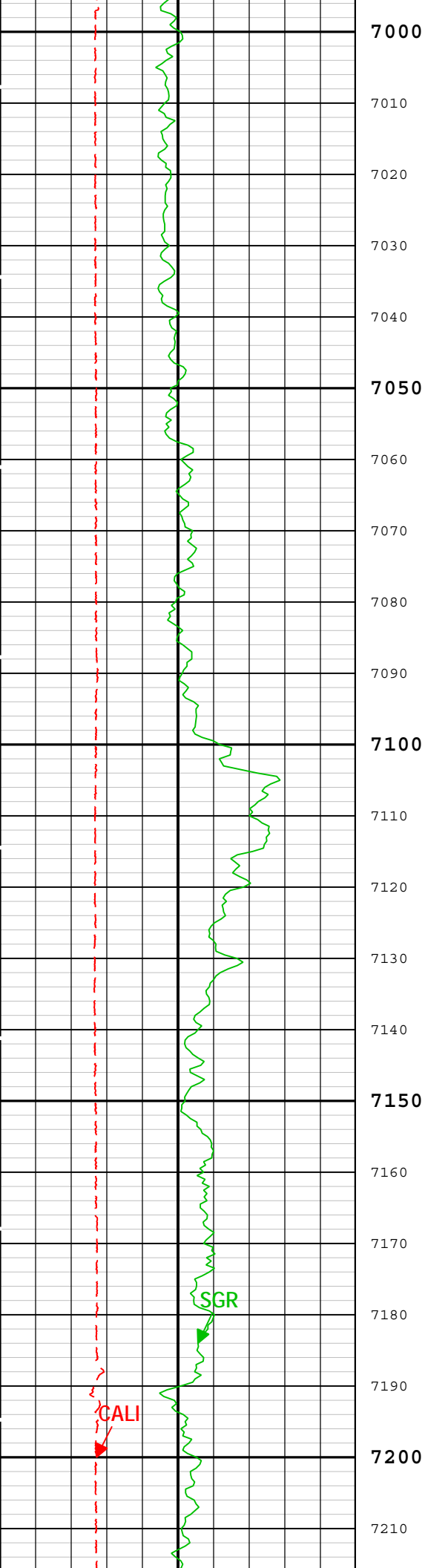


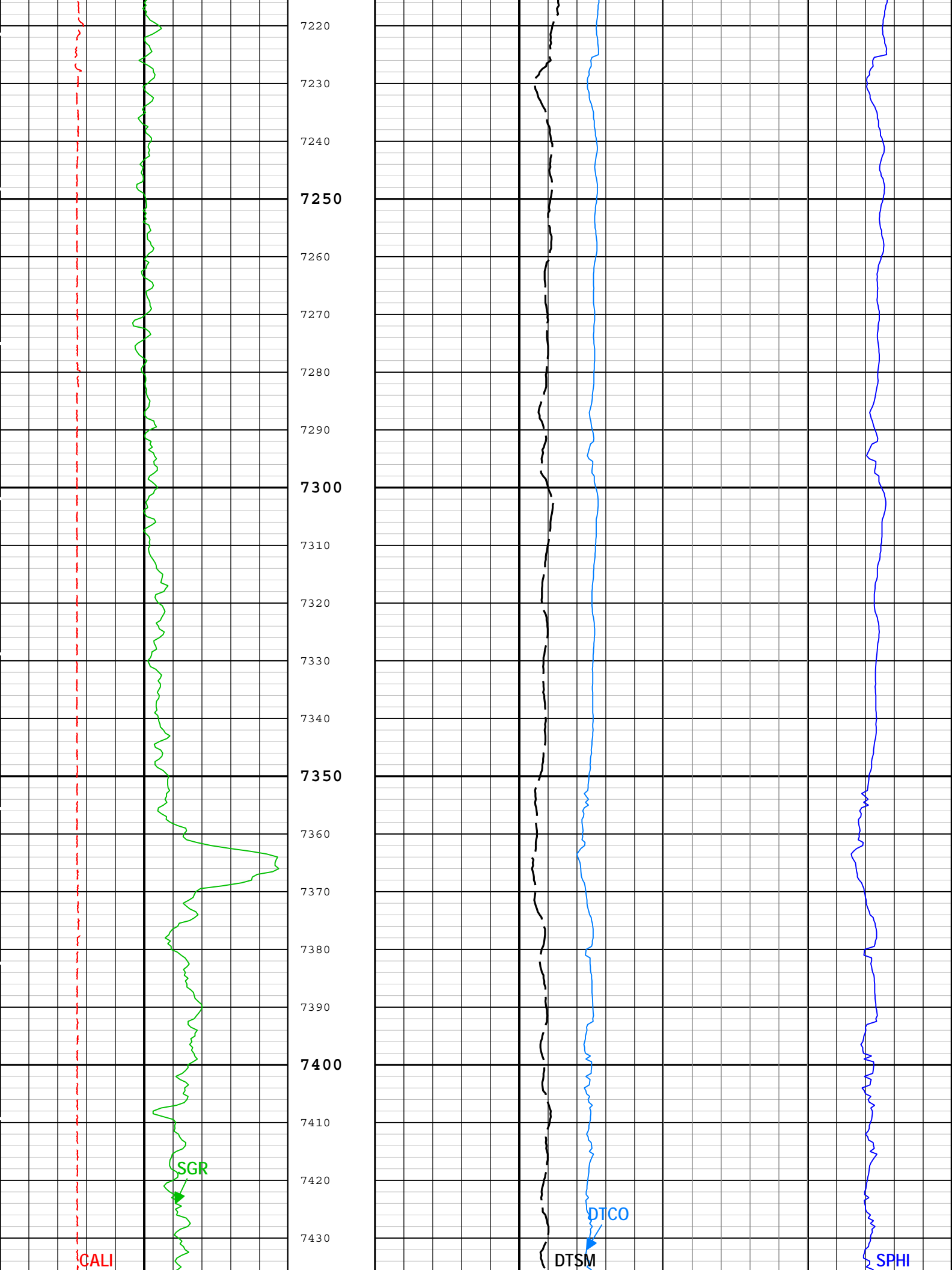


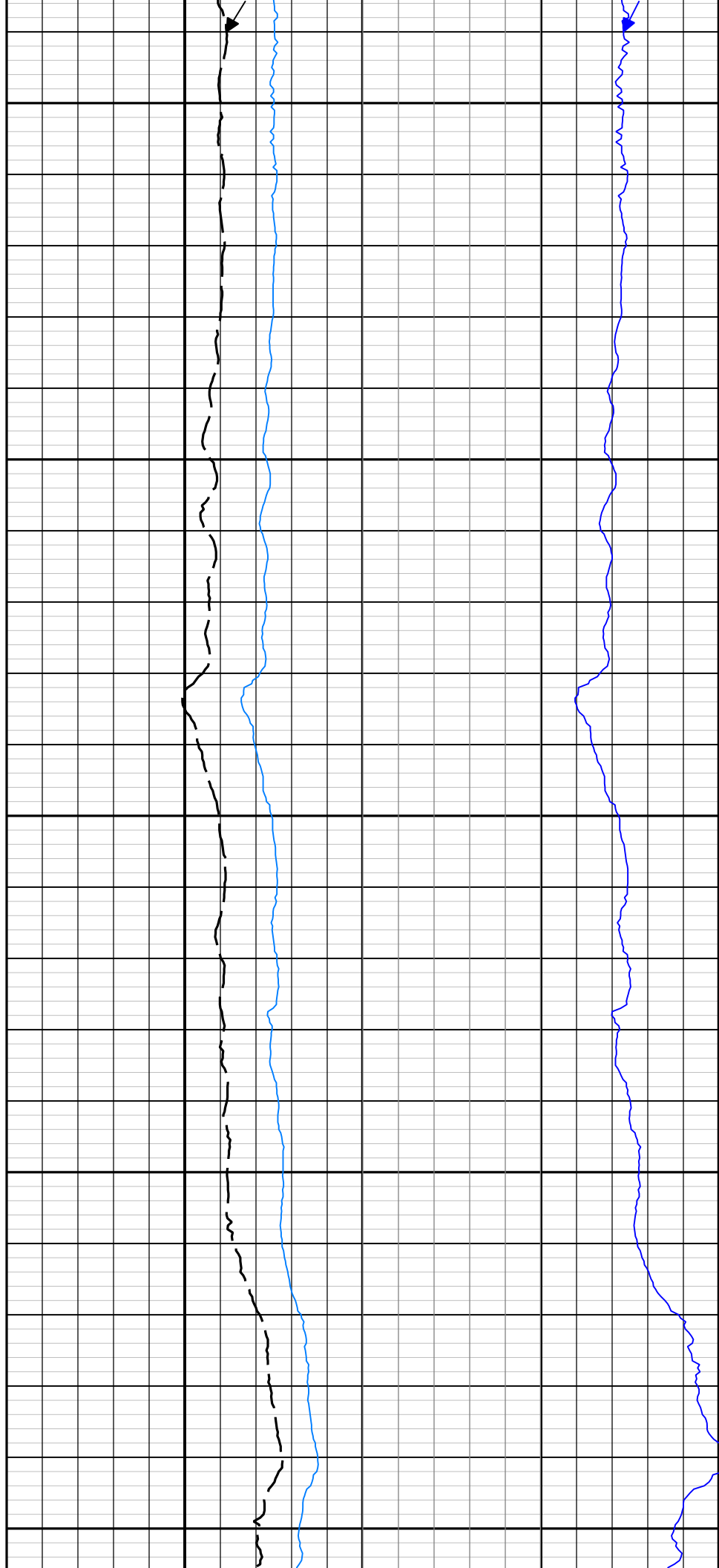
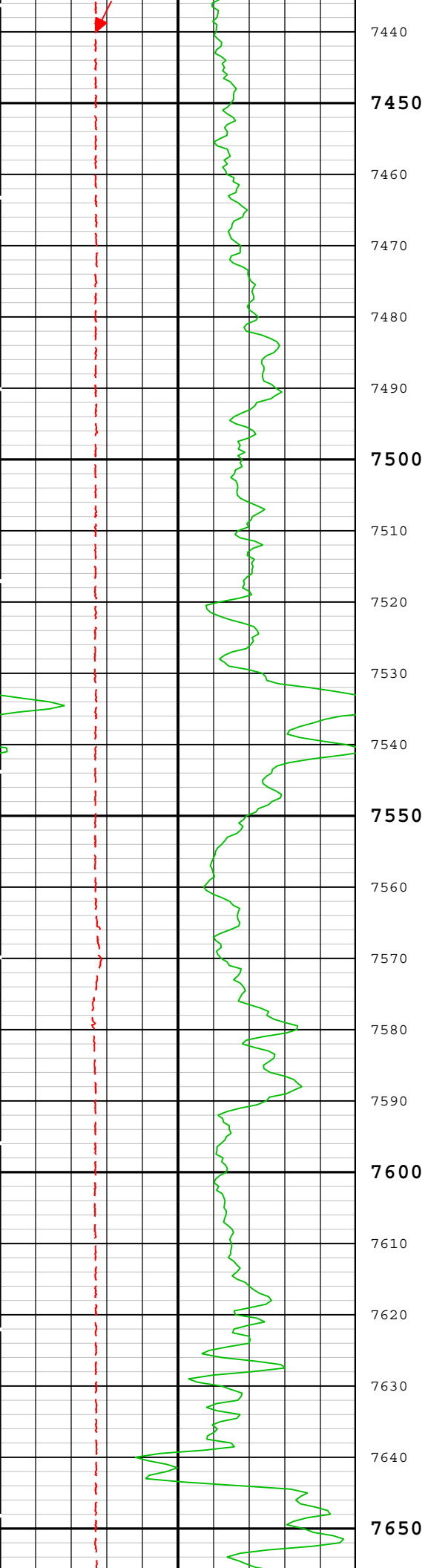


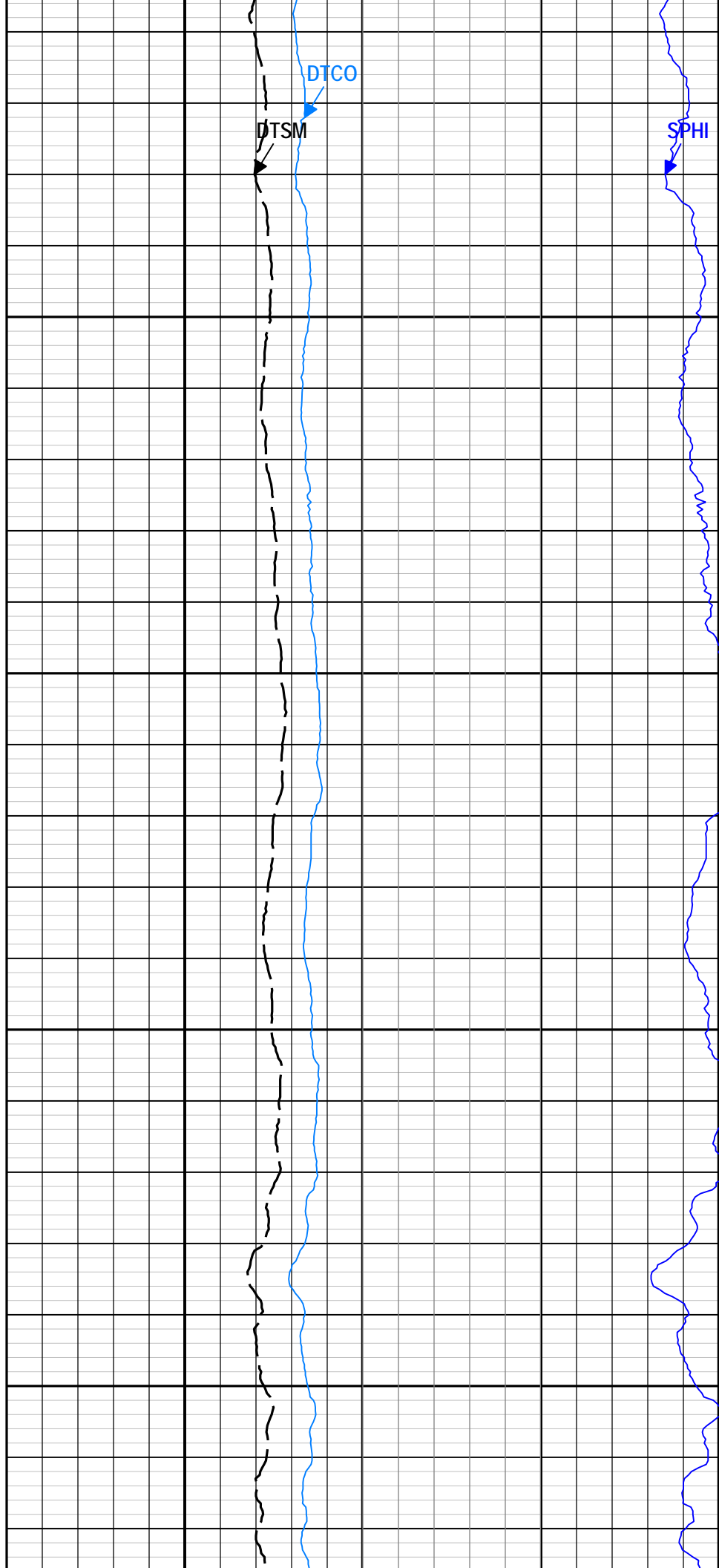
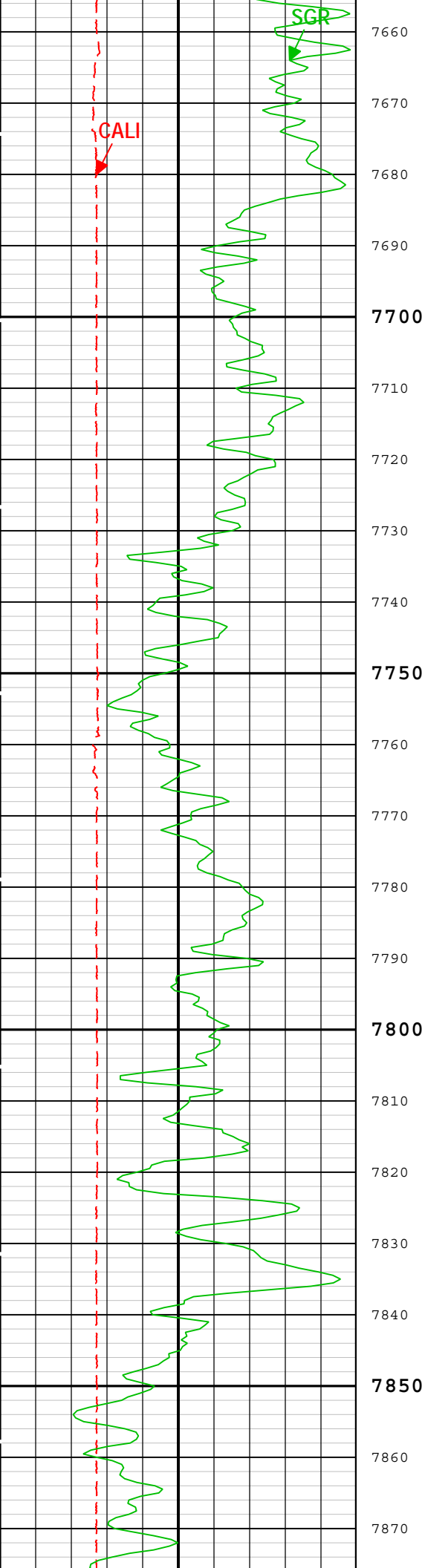


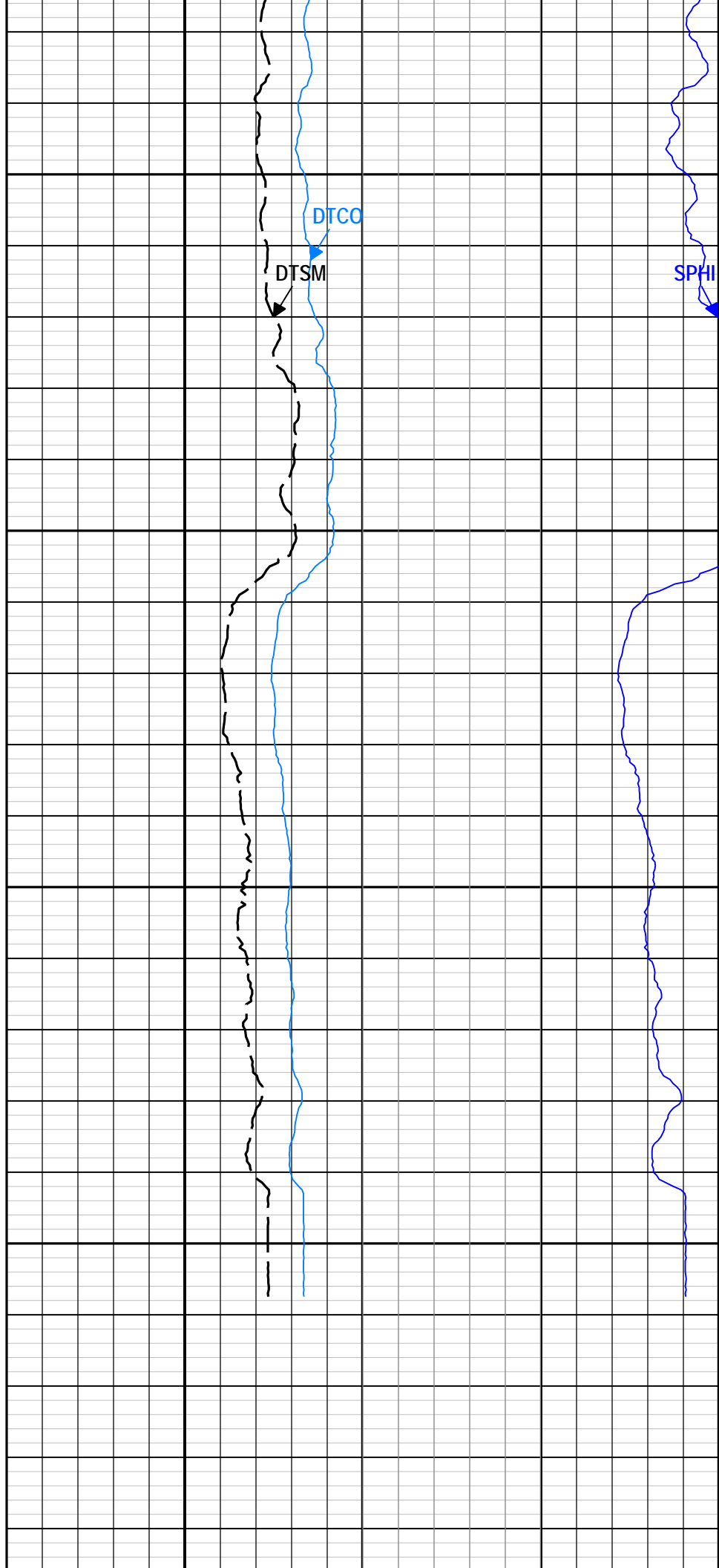
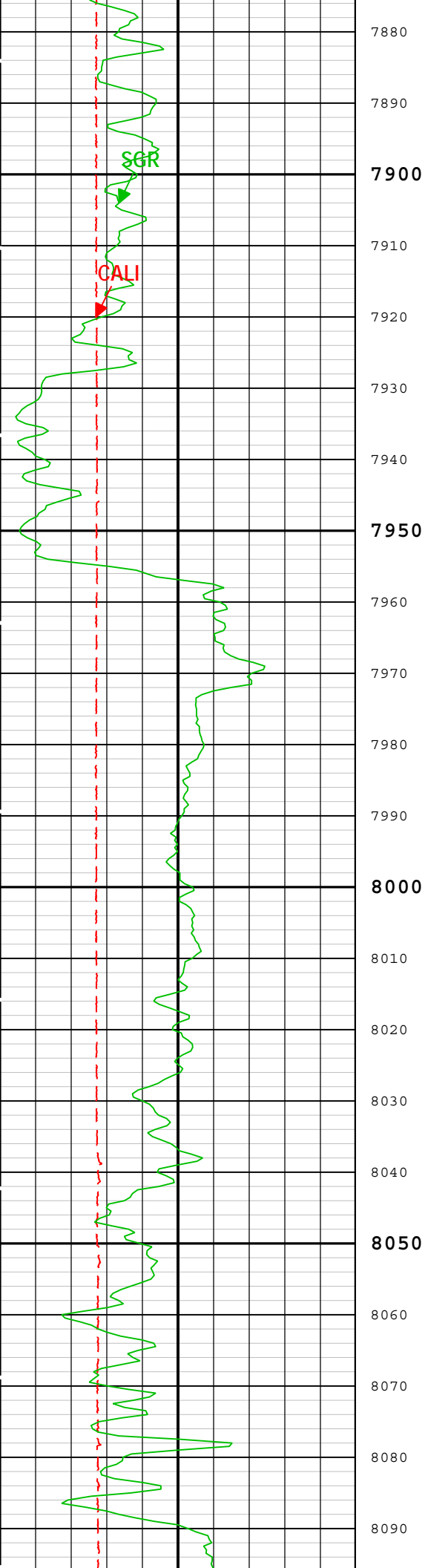












TIME_1900 - Time Marked every 60.00 (s)					
Description:	Format: Log (Blank 3 Track Depth)	Index Scale: 5 in per 100 ft	Index Unit: ft	Index Type: Measured Depth	Creation Date: 16-Jun-2013 18:02:12

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	0	2150	2188
BS	8.75	2188	8135.83

[illegible]

MAX_TOOL_SPEED	Maximum service speed allowed for, or attained by, a logging tool.	MAST-B	Time Zoned	ft/h
MSMT_LIST	Measurement List	MAST-B	[MUM, MLM, MFM, MFL, 90C, 00C]	
PROD_CLASS	MAST Product Class Selection	MAST-B	STD	
R10FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #10	MAST-B	1057	
R11FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #11	MAST-B	1057	
R12FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #12	MAST-B	1057	
R13FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #13	MAST-B	1057	
R1FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #1	MAST-B	1057	
R2FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #2	MAST-B	1057	
R3FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #3	MAST-B	1057	
R4FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #4	MAST-B	1057	
R5FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #5	MAST-B	1057	
R6FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #6	MAST-B	1057	
R7FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #7	MAST-B	1057	
R8FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #8	MAST-B	1057	
R9FWREV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #9	MAST-B	1057	
RBOOTSTA_MAPC	MAMS Receiver Boot Status	MAST-B	1	
SERVICE_LIST	Service Selection List	MAST-B	[STSTC, NMSTC, XDSTC, YDSTC, FMSTC, ANISO, CRV, BHC, PBHC, NMATD, FMATD]	

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
MAX_LOG_SPEED	1754	16-Jun-2013 08:55:12	16-Jun-2013 09:00:17	8154.18	8061.02
MAX_LOG_SPEED	1800	16-Jun-2013 09:00:17	16-Jun-2013 09:02:20	8061.02	8006.69
MAX_LOG_SPEED	1704	16-Jun-2013 09:02:20	16-Jun-2013 09:04:23	8006.69	7952.66
MAX_LOG_SPEED	1800	16-Jun-2013 09:04:23	16-Jun-2013 09:09:30	7952.66	7817.98
MAX_LOG_SPEED	1714	16-Jun-2013 09:09:30	16-Jun-2013 09:14:37	7817.98	7684.07
MAX_LOG_SPEED	1800	16-Jun-2013 09:14:37	16-Jun-2013 12:27:36	7684.07	2086.09
MAX_LOG_SPEED	1797	16-Jun-2013 12:27:36	16-Jun-2013 12:30:40	2086.09	1992.08
MAX_LOG_SPEED	1800	16-Jun-2013 12:30:40	16-Jun-2013 12:32:43	1992.08	1931.72
MAX_LOG_SPEED	1720	16-Jun-2013 12:32:43	16-Jun-2013 12:34:45	1931.72	1869.48
MAX_LOG_SPEED	1800	16-Jun-2013 12:34:45	16-Jun-2013 12:57:43	1869.48	927.84
MAX_TOOL_SPEED	1754	16-Jun-2013 08:55:12	16-Jun-2013 09:00:17	8154.18	8061.02
MAX_TOOL_SPEED	1883	16-Jun-2013 09:00:17	16-Jun-2013 09:02:20	8061.02	8006.69
MAX_TOOL_SPEED	1704	16-Jun-2013 09:02:20	16-Jun-2013 09:04:23	8006.69	7952.66
MAX_TOOL_SPEED	1812	16-Jun-2013 09:04:23	16-Jun-2013 09:09:30	7952.66	7817.98
MAX_TOOL_SPEED	1714	16-Jun-2013 09:09:30	16-Jun-2013 09:14:37	7817.98	7684.07
MAX_TOOL_SPEED	1843	16-Jun-2013 09:14:37	16-Jun-2013 09:17:41	7684.07	7604.22
MAX_TOOL_SPEED	1937	16-Jun-2013 09:17:41	16-Jun-2013 11:45:44	7604.22	3336.88
MAX_TOOL_SPEED	2049	16-Jun-2013 11:45:44	16-Jun-2013 11:50:51	3336.88	3185.68
MAX_TOOL_SPEED	1922	16-Jun-2013 11:50:51	16-Jun-2013 12:10:15	3185.68	2611.53
MAX_TOOL_SPEED	2023	16-Jun-2013 12:10:15	16-Jun-2013 12:22:29	2611.53	2242.69
MAX_TOOL_SPEED	1919	16-Jun-2013 12:22:29	16-Jun-2013 12:27:36	2242.69	2086.09
MAX_TOOL_SPEED	1797	16-Jun-2013 12:27:36	16-Jun-2013 12:30:40	2086.09	1992.08
MAX_TOOL_SPEED	1908	16-Jun-2013 12:30:40	16-Jun-2013 12:32:43	1992.08	1931.72
MAX_TOOL_SPEED	1720	16-Jun-2013 12:32:43	16-Jun-2013 12:34:45	1931.72	1869.48
MAX_TOOL_SPEED	1855	16-Jun-2013 12:34:45	16-Jun-2013 12:38:51	1869.48	1724.06

MAX_TOOL_SPEED	1952	16-Jun-2013 12:38:51	16-Jun-2013 12:48:03	1724.06	1337.27
MAX_TOOL_SPEED	1853	16-Jun-2013 12:48:03	16-Jun-2013 12:57:43	1337.27	927.84

All depth are at tool zero.

Calibration Report

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

Primary Equipment :			
HILT Gamma-Ray and Neutron Sonde, 150 degC	HGNS-H		4810
Auxiliary Equipment :			
HGNS Accelerometer, 150 degC	HACCZ-H		5955
AmBe Neutron Logging Source	NSR-F		5215
Calibration Parameter :			
Water Temperature			
Housing Size			
JIG-BKG (Jig minus background reference)	165		

HGNS Accelerometer Calibration - Accelerometer Accumulations

Before (Measured):		06:54:31 16-Jun-2013									
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div></div>				
AZ Vertical Measurement	ft/s2	Before	32.2	31.5	32.0	32.8	<div></div>				

HGNS Accelerometer EEPROM - Accelerometer EEPROM Read

Master (EEPROM):		00:00:00 15-Jan-2007									
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div></div>				
Accelerometer Manufacturer		Master			QAT_160		<div></div>				
Accelerometer Reference Temperature	degF	Master		30.2	77.0	122.0	<div></div>				
Accelerometer Coefficients - 0		Master	----	----	1155.700	----	<div></div>				
Accelerometer Coefficients - 1		Master	----	----	26.890	----	<div></div>				
Accelerometer Coefficients - 2		Master	----	----	-0.008	----	<div></div>				
Accelerometer Coefficients - 3		Master	----	----	0.000	----	<div></div>				
Accelerometer Coefficients - 4		Master	----	----	2.748	----	<div></div>				
Accelerometer Coefficients - 5		Master	----	----	0.000	----	<div></div>				
Accelerometer Coefficients - 6		Master	----	----	0.000	----	<div></div>				
Accelerometer Coefficients - 7		Master	----	----	0.000	----	<div></div>				
Accelerometer Coefficients - 8		Master	----	----	298.600	----	<div></div>				
Accelerometer Coefficients - 9		Master	----	----	0.983	----	<div></div>				

HGNS Neutron Calibration - HGNS Neutron Accumulations

Master (EEPROM):		11:01:24 28-Mar-2013		Before (Measured):		23:14:29 15-Jun-2013		After:	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div></div>		
Near Zero Measurement	1/s	Master	0	5.0	24.4	40.0	<div></div>		
		Before	0	5.0	25.8	40.0	<div></div>		
		After	----	----	----	----	<div></div>		
		Before-Master	----	-3.7	1.4	3.7	<div></div>		
		After-Before	----	----	----	----	<div></div>		
Far Zero Measurement	1/s	Master	0	5.0	27.4	40.0	<div></div>		
		Before	0	5.0	27.6	40.0	<div></div>		
		After	----	----	----	----	<div></div>		
		Before-Master	----	-4.1	0.2	4.1	<div></div>		
		After-Before	----	----	----	----	<div></div>		
Near Plus Measurement - 0	1/s	Master	6031.0	4700.0	5254.0	6900.0	<div></div>		
		Before	----	----	----	----	<div></div>		
		After	----	----	----	----	<div></div>		
		Before-Master	----	----	----	----	<div></div>		
		After-Before	----	----	----	----	<div></div>		
Far Plus Measurement - 0	1/s	Master	2793.0	1900.0	2183.0	2900.0	<div></div>		
		Before	----	----	----	----	<div></div>		
		After	----	----	----	----	<div></div>		
		Before-Master	----	----	----	----	<div></div>		
		After-Before	----	----	----	----	<div></div>		
Near Corrected Plus Measurement - 0	1/s	Master		4700.0	5342.0	6900.0	<div></div>		
		Before					<div></div>		

		Before After Before-Master After-Before	----- ----- ----- -----	----- ----- ----- -----	----- ----- ----- -----	----- ----- ----- -----	<div></div> <div></div> <div></div> <div></div>
Far Corrected Plus Measurement - 0	1/s	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	1900.0 ----- ----- ----- -----	2227.0 ----- ----- ----- -----	2900.0 ----- ----- ----- -----	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div>

HGNS Gamma-Ray Calibration - Gamma-Ray Accumulations

Before (Measured):		23:21:49 15-Jun-2013		After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div></div> <div></div>
RGR Zero Measurement	gAPI	Before	30.0	0	74.4	120.0	<div></div> <div></div> <div></div>
		After	-----	-----	-----	-----	<div></div> <div></div> <div></div>
		After-Before	-----	-----	-----	-----	<div></div> <div></div> <div></div>
RGR Plus Measurement	gAPI	Before	185.4	157.1	165.9	206.3	<div></div> <div></div> <div></div>
		After	-----	-----	NOT DONE	-----	<div></div> <div></div> <div></div>
		After-Before	-----	-----	-----	-----	<div></div> <div></div> <div></div>
GR Calibration Gain		Before	0.89	0.80	0.99	1.05	<div></div> <div></div> <div></div>
		After	-----	-----	-----	-----	<div></div> <div></div> <div></div>
		After-Before	-----	-----	-----	-----	<div></div> <div></div> <div></div>

Company:

Conoco Phillips Company

Schlumberger

Well:

Tebo 33 1P

Field:

Wildcat

County:

Arapahoe

State:

Colorado

Sonic Scanner

P&S