

Company: University Of Utah

Well: FORGE 78B-32

Field: None

County: Beaver State: Utah

Multimode Array Sonic Tool

Field Print

Lat: 38.500171, Long: -112.88221	Elev.:	K.B. 5565.50 ft
		G.L. 5536.00 ft
		D.F.
Permanent Datum:	Ground Level	Elev.: 5536.00 f
Log Measured From:	Kelly Bushing	29.50 ft above Perm.Datum
Drilling Measured From:	Kelly Bushing	
API Serial No. NRC 42-00090-03	Max.Hole Deviation 0 deg	Longitude: -112.88221 degrees
		Latitude: 38.500171 degrees

County: Beaver

Field: None

Location: Lat: 38.500171, Long: -112.88221

Well: FORGE 78B-32

Company: University Of Utah

Logging Date 19-Jul-2021

Run Number 1A

Depth Driller 8540.00 ft

Schlumberger Depth 8540.00 ft

Bottom Log Interval 8540.00 ft

Top Log Interval 2988.00 ft

Casing Driller Size @ Depth 11.75 in @ 2989.00 ft

Casing Schlumberger 2988 ft

Bit Size 8.75 in

Type Fluid In Hole Water

Density 8.3 lbr/gal

Fluid Loss PH

Source of Sample Active Tank

RM @ Meas Temp 0.2 ohm.m @ 68 degF

RMF @ Meas Temp 0.15 ohm.m @ 68 degF

RMC @ Meas Temp

Source RMF RMC Pressed

RM @ BHT 0.05 @ 320.87 0.03 @ 320.87

Max Recorded Temperatures 321.43 degF

Circulation Stopped 19-Jul-2021 03:00:00

Logger on Bottom 19-Jul-2021 07:53:00

Unit Number 9108 F.Morgan

Recorded By T.Mozena/C.Stiles/I.Nasir

Witnessed By Virgil Welch

Disclaimer

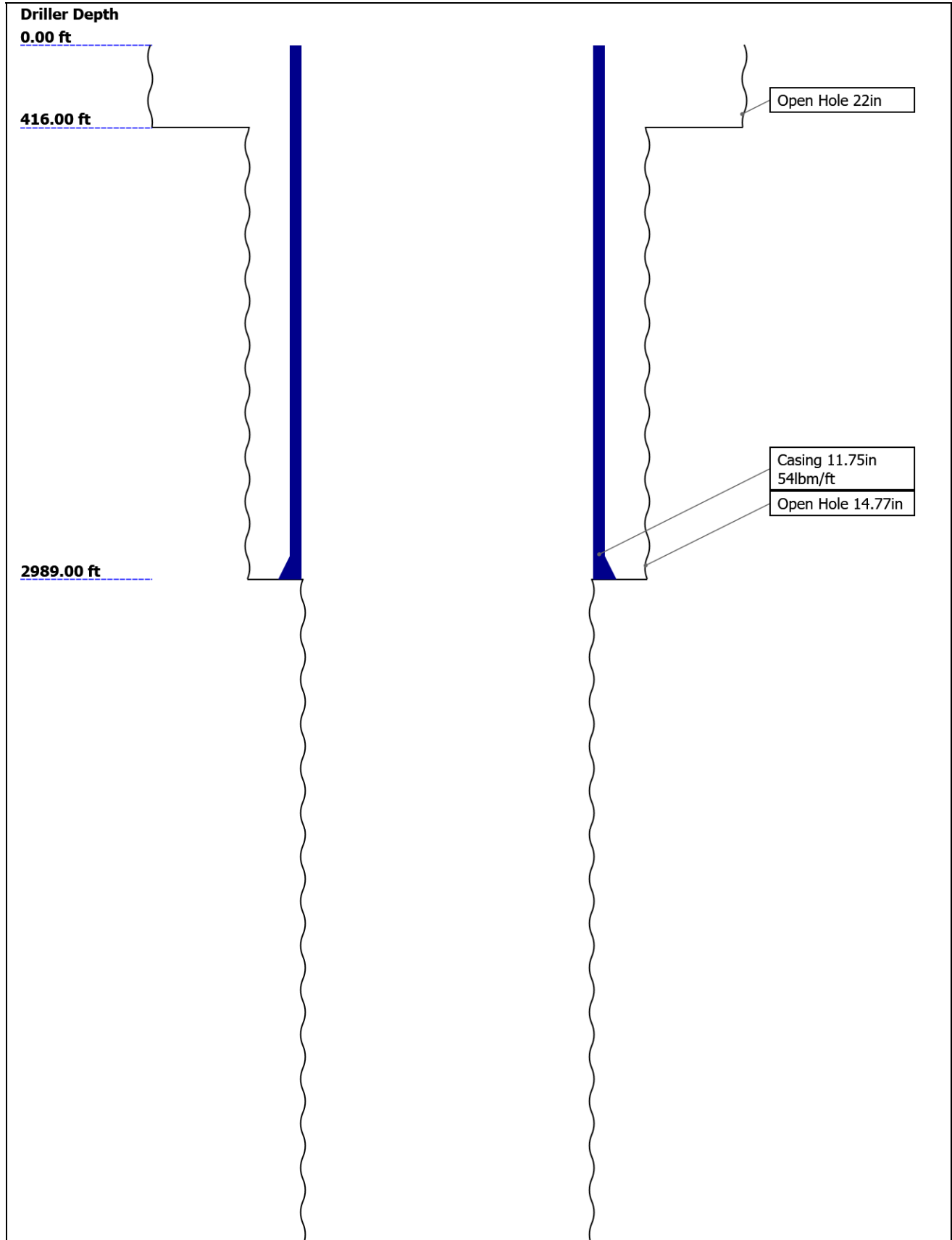
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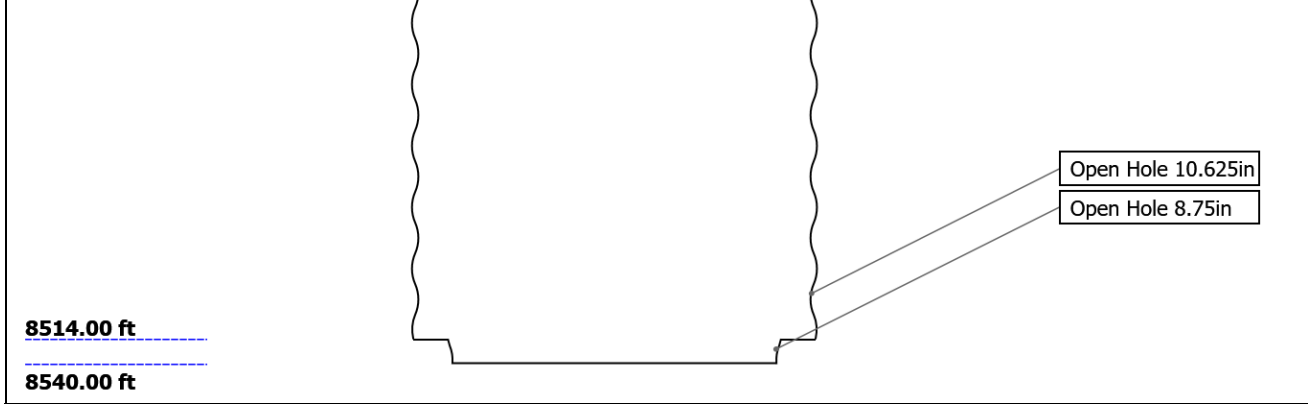
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Well Sketch



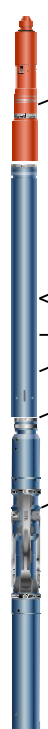


Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	22	14.77	10.625	8.75		
Top Driller (ft)	0	416	2989	8514		
Top Logger (ft)	0	416	2989	8514		
Bottom Driller (ft)	416	2989	8514	8540		
Bottom Logger (ft)	416	2989	8514	8540		
Casing						
Size (in)	11.75					
Weight (lbm/ft)	54					
Inner Diameter (in)	10.88					
Grade	N/A					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	2989					
Bottom Logger (ft)	2988					

Remarks and Equipment Summary

1A: Toolstring				1A: Remarks	
Equip name	Length	MP name	Offset	Tool was run as per tool sketch	
LEH-MT LEH-MT	80.89			All logging intervals as per client request	
		Mud Temperature	78.95		
EDTC-B:9316	77.74				
6 EDTH-B:8170-19k EDTG-A:79527 EDTC-B:9316		CTEM	74.24		
		ACCZ	0.00		
		HV	0.00		
		Gamma Ray	72.37		
		TelStatus	71.24		
PPC-B:8048	71.24				
PPC-B:8048		PPC-B Calipers	70.09		

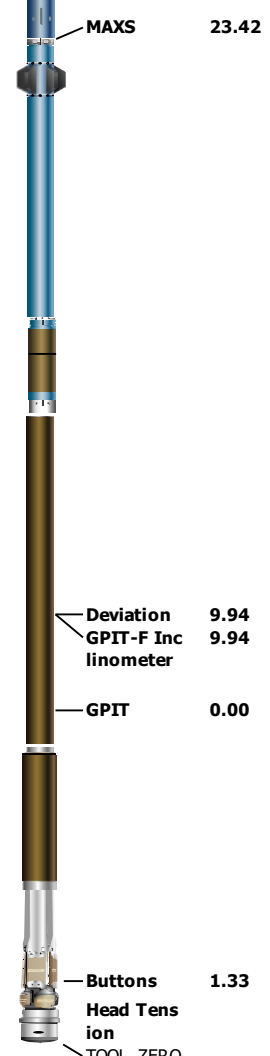




MAST-B:843 64.72
2
ECH-SF:8453
MAPC-BA:847
3
MAMS-CA:843
2
MASS-BA:804
7
MAXS-BA:818
0

— MAMS 49.27

FBST-E:1949 **23.42**
 ECH-MJA:389
 4
 FBPC-A:818
 AH-287:723
 FBSD-D:882
 FBAC-B:838
 DHRU-F:2822
 FBSS-B:1949



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

Depth Summary

	1A		
--	----	--	--

Depth Measuring Device

Type	IDW-JA		
Serial Number	6160		
Calibration Date	30-Sep-2020		
Calibrator Serial Number	57		
Calibration Cable Type	7-46 AXS		
Wheel Correction 1	-9		
Wheel Correction 2	-7		

Tension Device

Type	CMTD-B/A		
Serial Number	946		
Calibration Date	02-Jun-2020		
Calibrator Serial Number	78135A		
Number of Calibration Points	10		
Calibration Root Mean Square Error	8		
Calibration Peak Error	12		

Logging Cable

Type	7-46A-XS		
Serial Number	1219083		
Length	18000.00 ft		
Conveyance Type	Wireline		
Rig Type	Land		

1A:Depth Control Parameters	Depth Control Remarks
Log Sequence First Log In the Well	Schlumberger depth control procedures followed
Rig Up Length At Surface	IDW used as primary depth control system
Rig Up Length At Bottom	Z-Chart used as secondary depth control system
Rig Up Length Correction	
Stretch Correction	
Tool Zero Check At Surface	

1A

Main Pass 2" = 100'

Software Version

Acquisition System	Version
Maxwell 2021.0	11.0.209095.3100
Application Patch	Wireline_Hotfix-Mandatory-2021.0_11.0.211452
	Wireline_NPD-ThruBit-2021.0_11.0.210501

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1A	Log[2]:Up	Up	2952.88 ft	8529.53 ft	19-Jul-2021 7:53:53 AM	19-Jul-2021 1:26:07 PM	ON	9.38 ft	Yes

All depths are referenced to toolstring zero

Log Company:University Of Utah Well:FORGE 78B-32
1A: Log[2]:Up:S015

Description: HRLT BASIC LOG Format: Log (DSI 2 inch General) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 19-Jul-2021 23:38:43

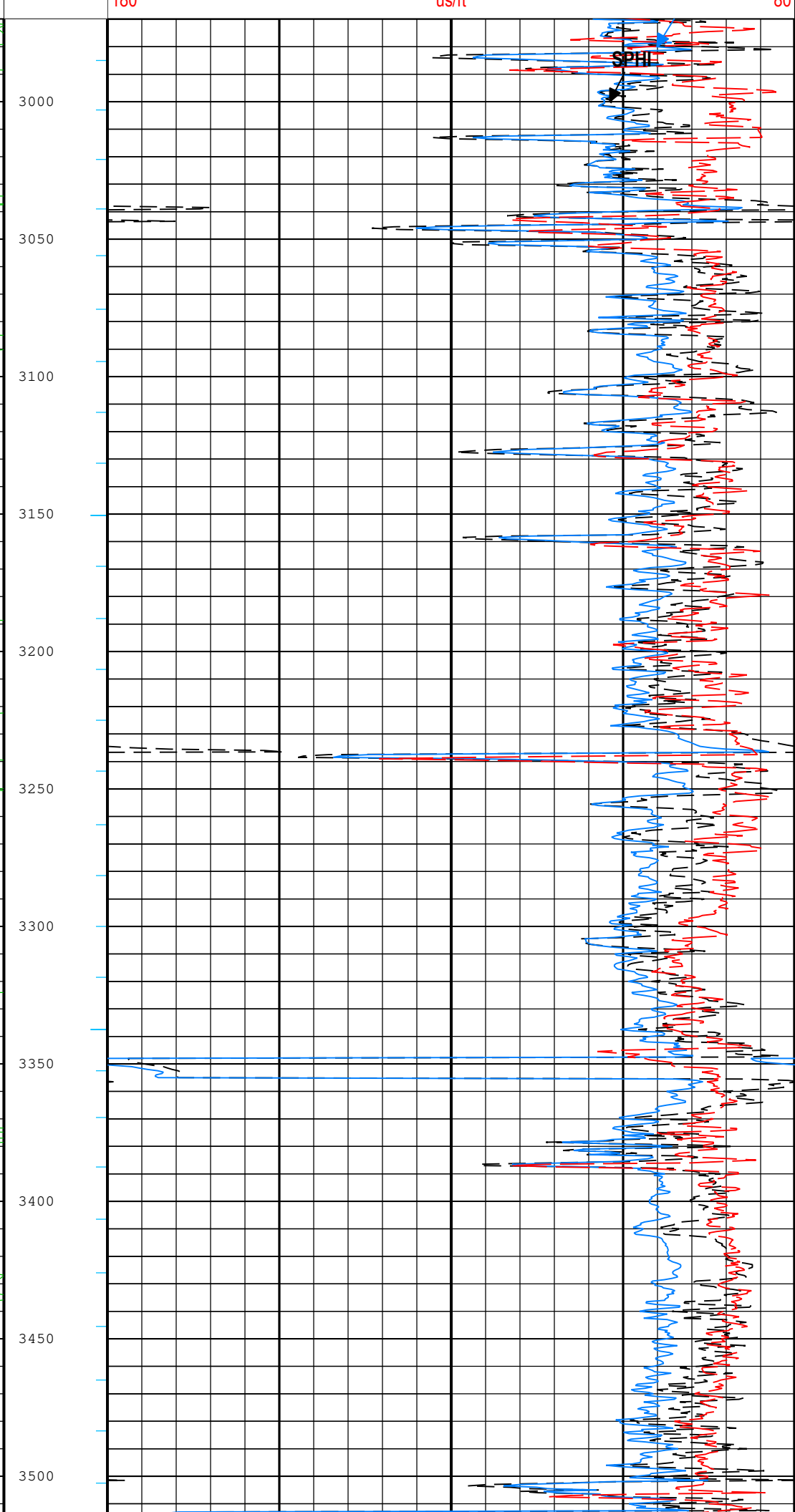
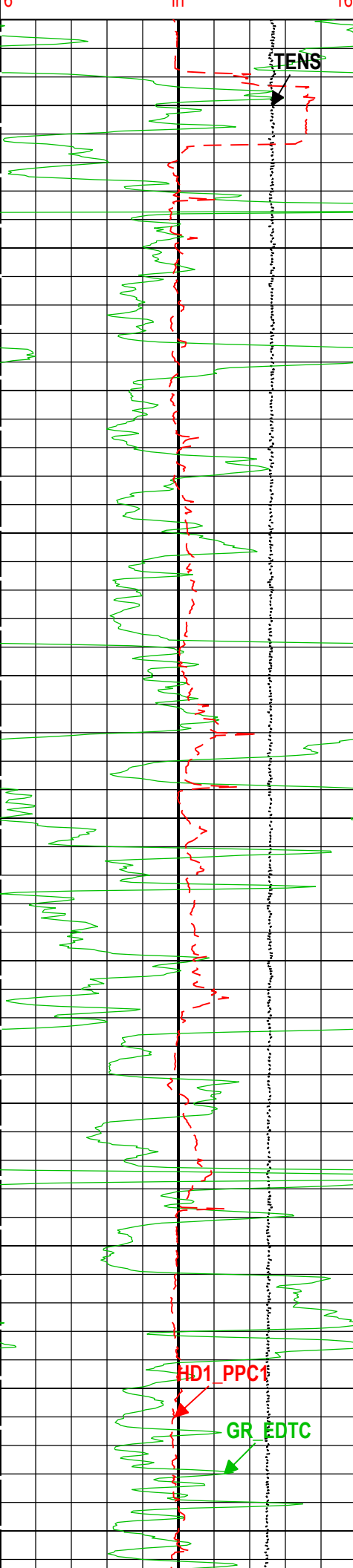
Channel	Source	Sampling
DTCO	MAST-B:MAMS-B:MAMS-CA	6in
DTSM	MAST-B:MAMS-B:MAMS-CA	6in
GR_CAL	EDTC-B:EDTC-B:EDTC-B	6in
HD1	PPC-B:PPC-B:PPC-B	6in
ITT	MAST-B:MAMS-B:MAMS-CA	6in
SPHI	MAST-B:MAMS-B:MAMS-CA	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

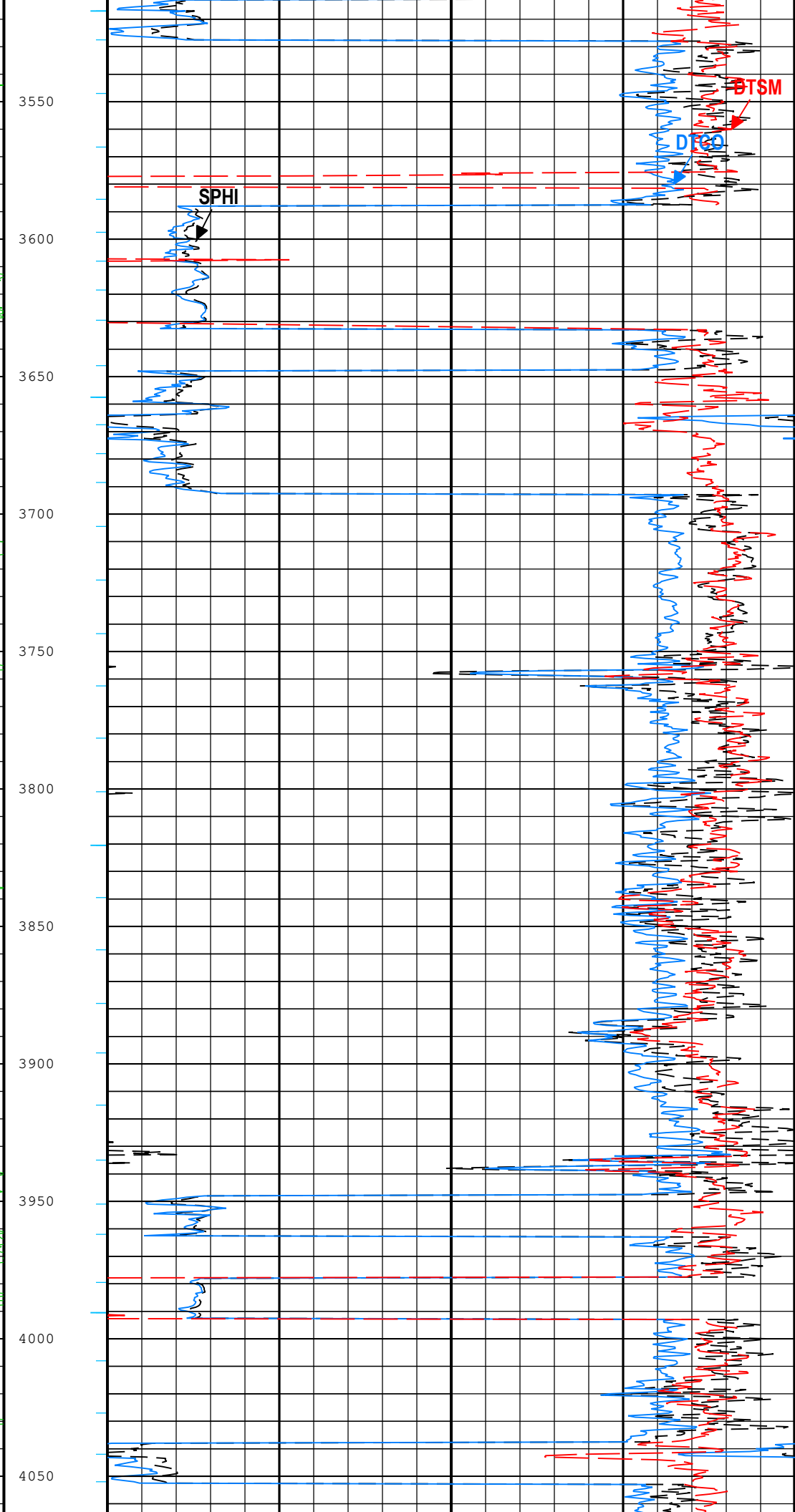
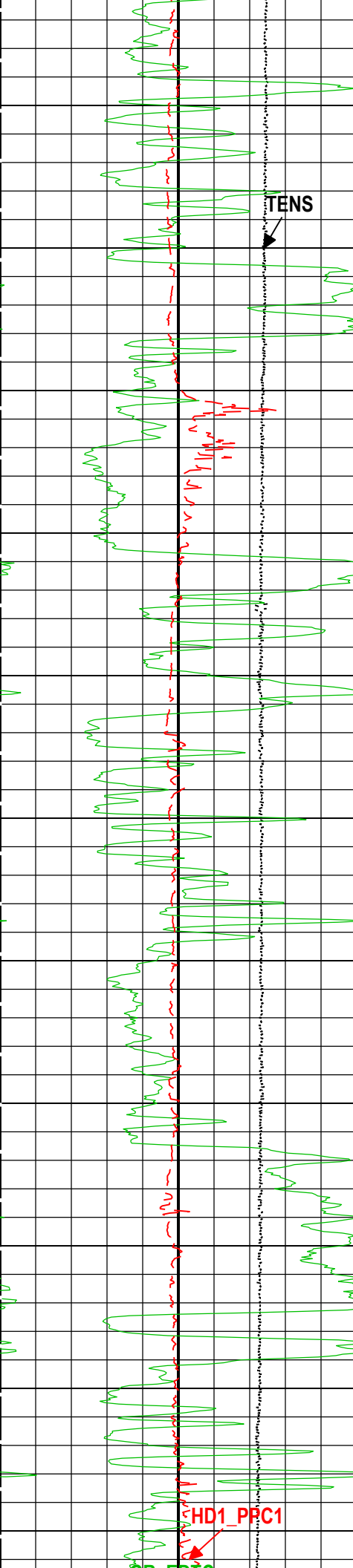
—ITT - Integrated Transit Time every 1.00 (ms)
—ITT - Integrated Transit Time every 10.00 (ms)

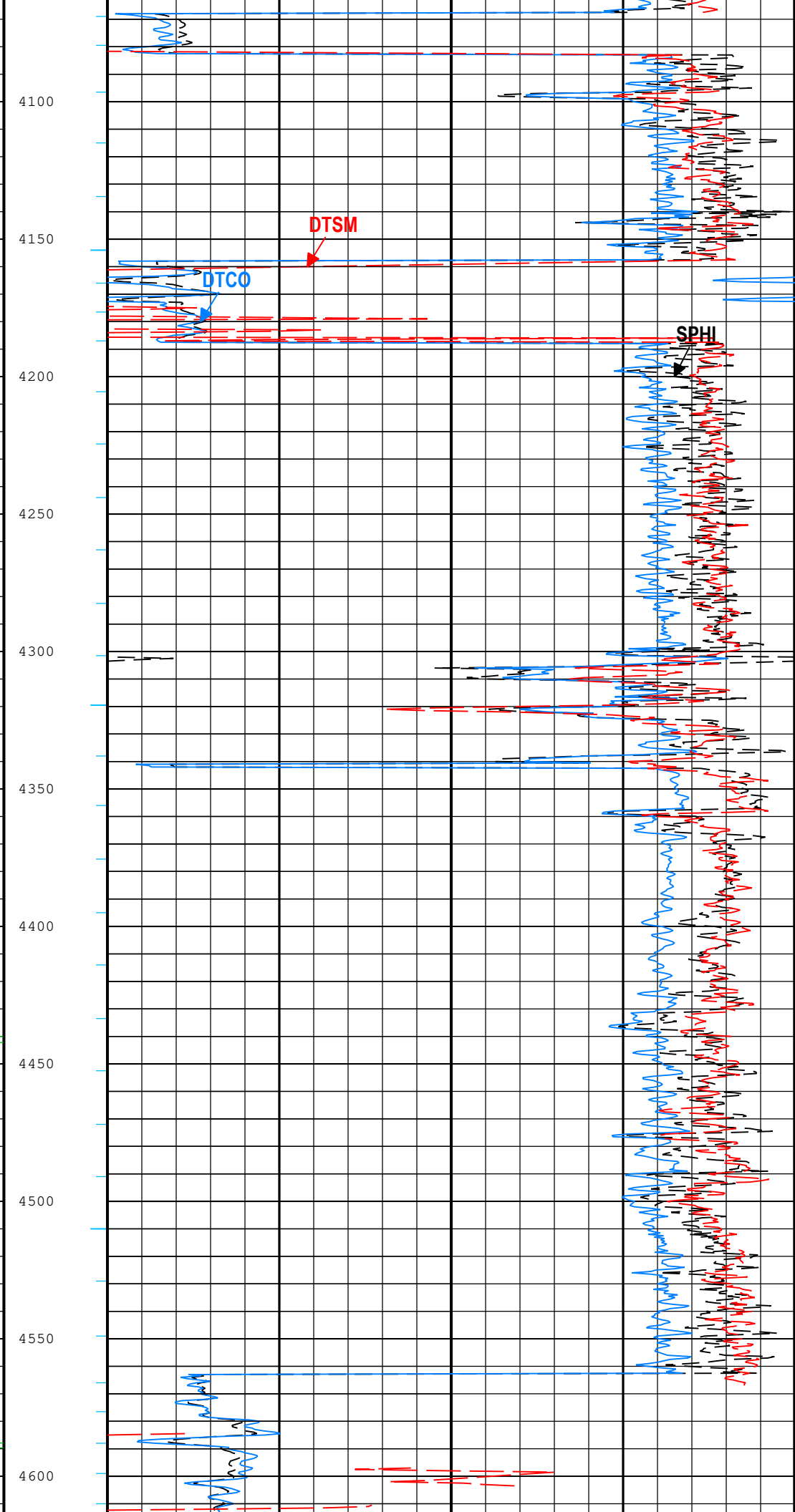
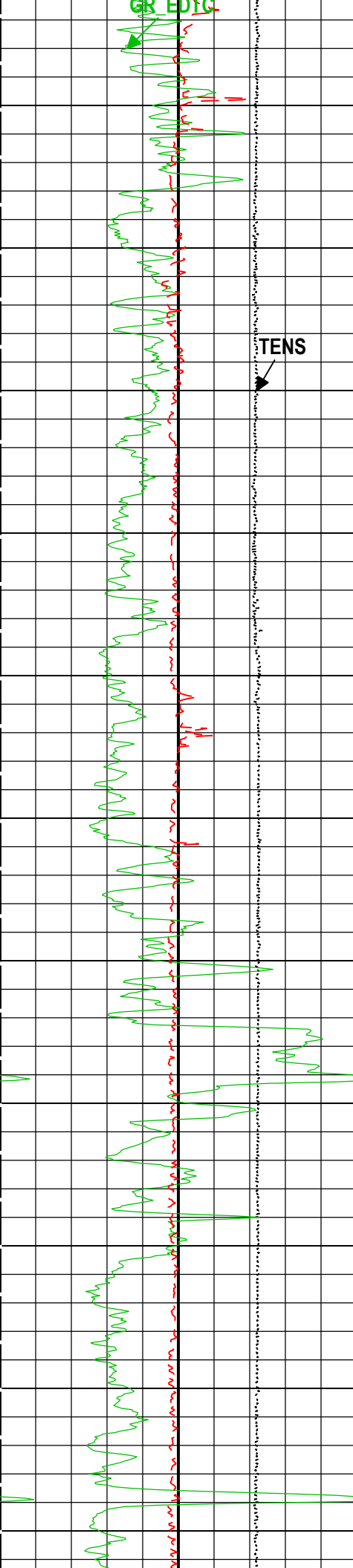
TIME_1900 - Time Marked every 60.00 (s)

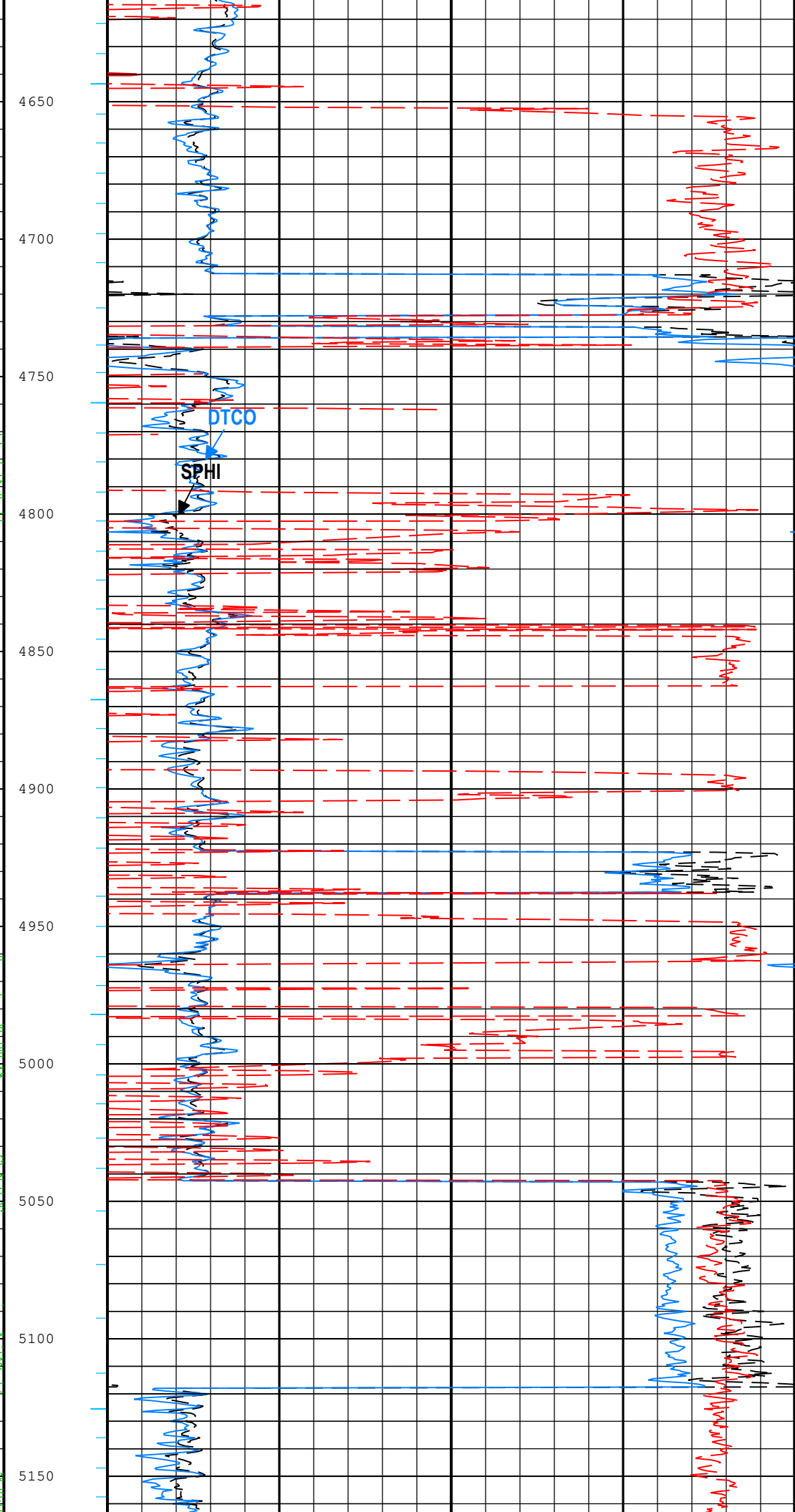
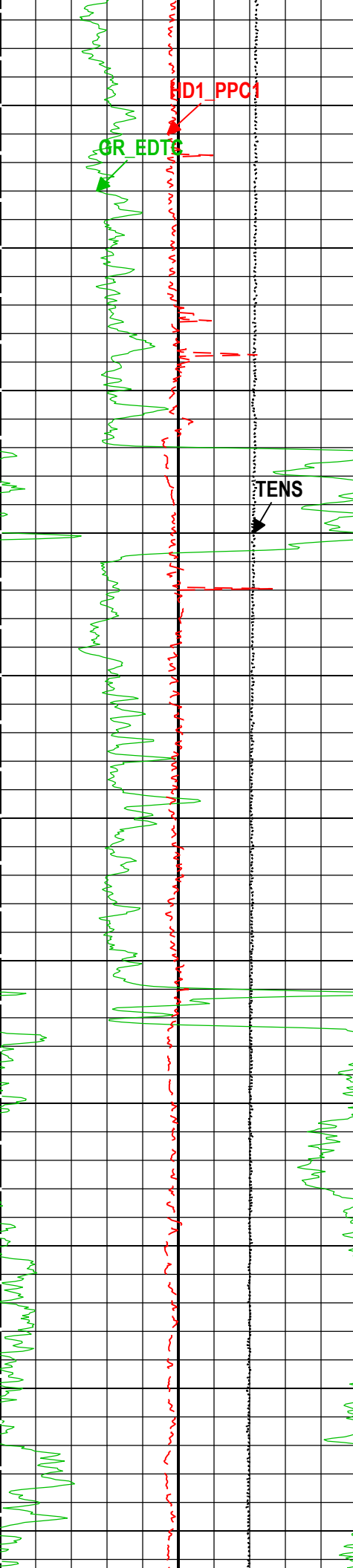
Cable Tension (TENS)		
10000	lbf	0
Calibrated Gamma Ray (GR_EDTC) EDTC-B		
0	gAPI	150
Hole Diameter 1 (HD1_PPC1) PPC-B		
6	in	16

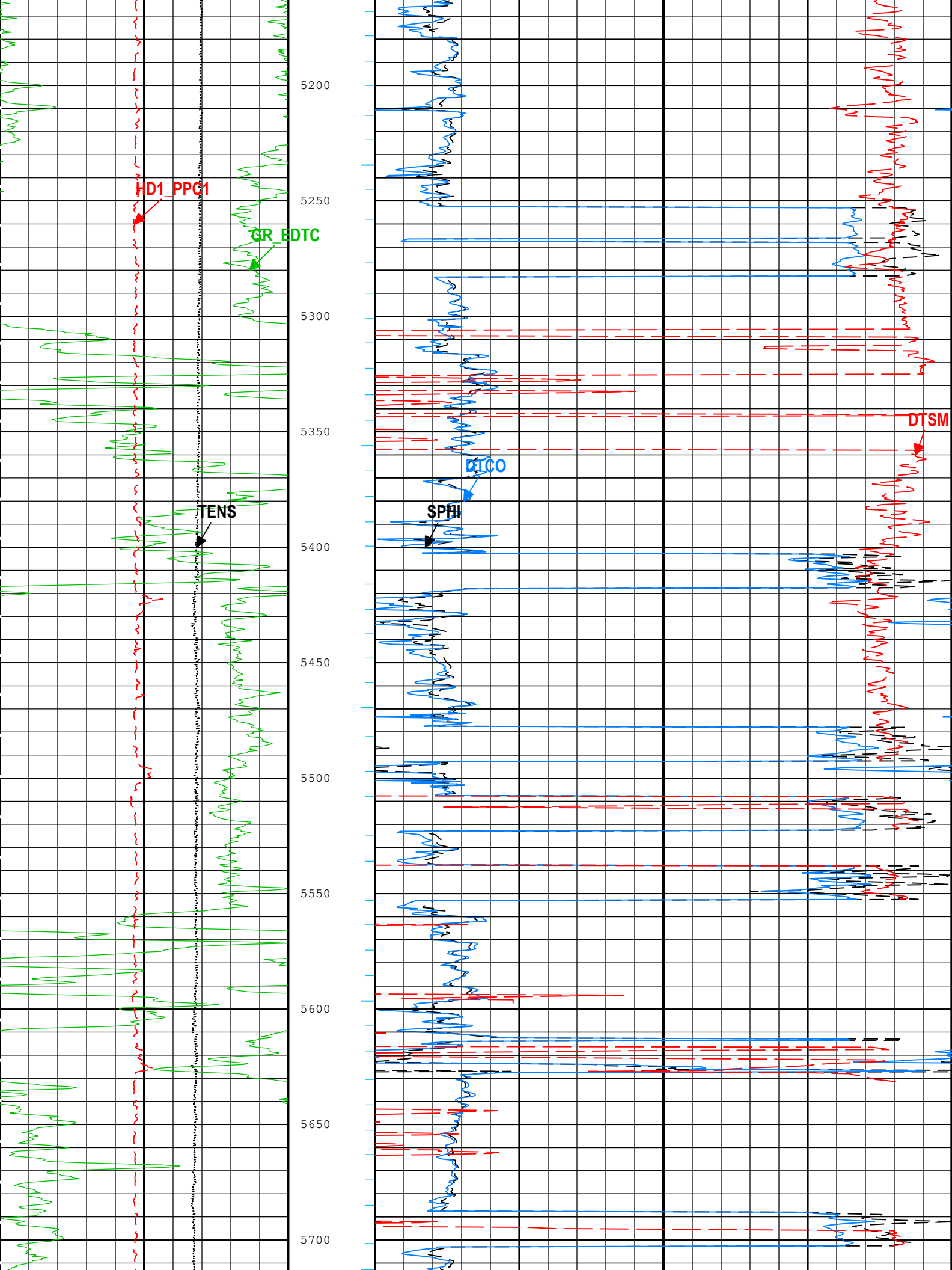
Sonic Porosity (SPHI) MAST-B		
0.3	ft3/ft3	-0.1
Delta-T Compressional (DTCO) MAST-B		
100	us/ft	40
Delta-T Shear (DTSM) MAST-B		
180	us/ft	

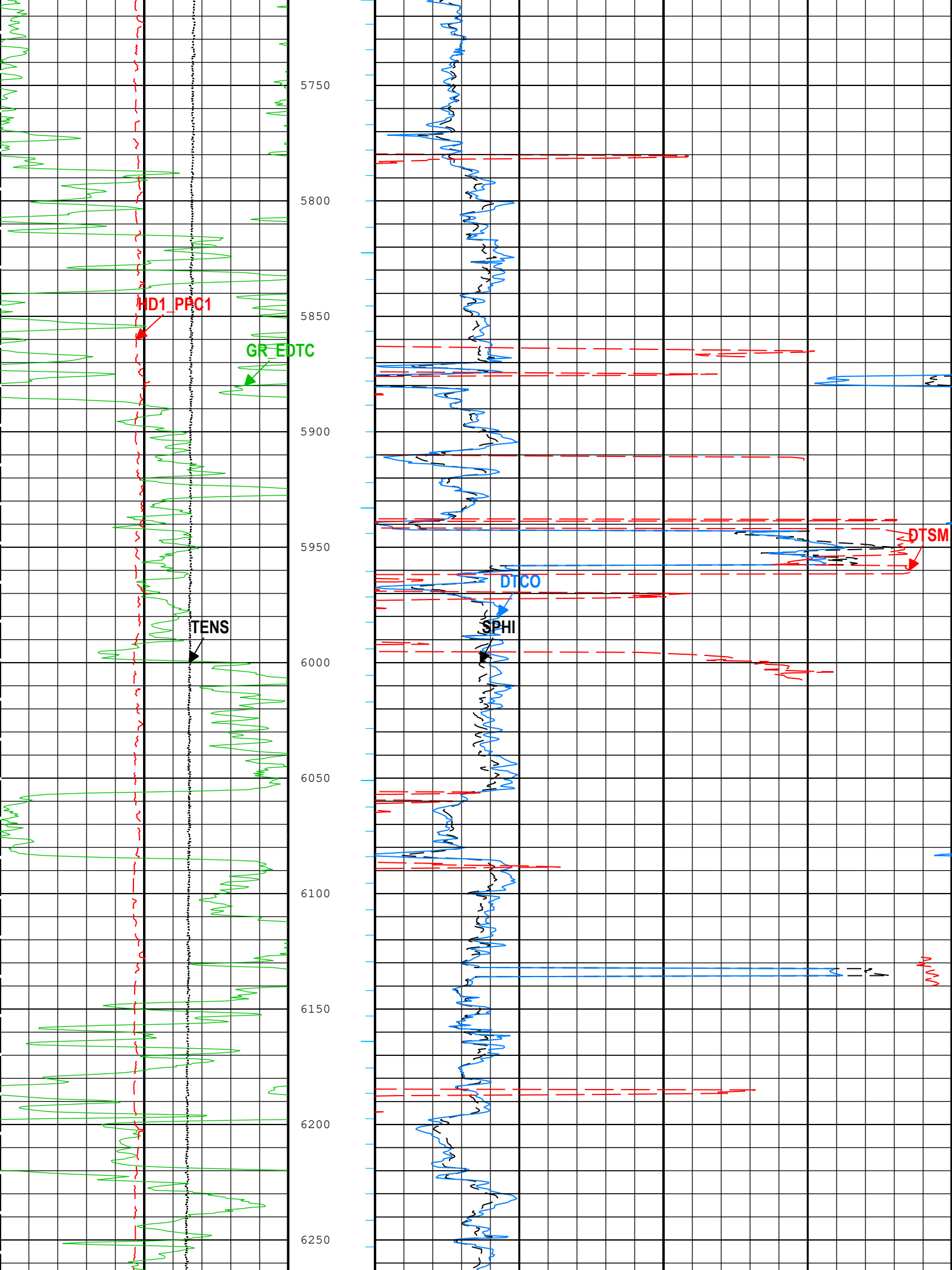


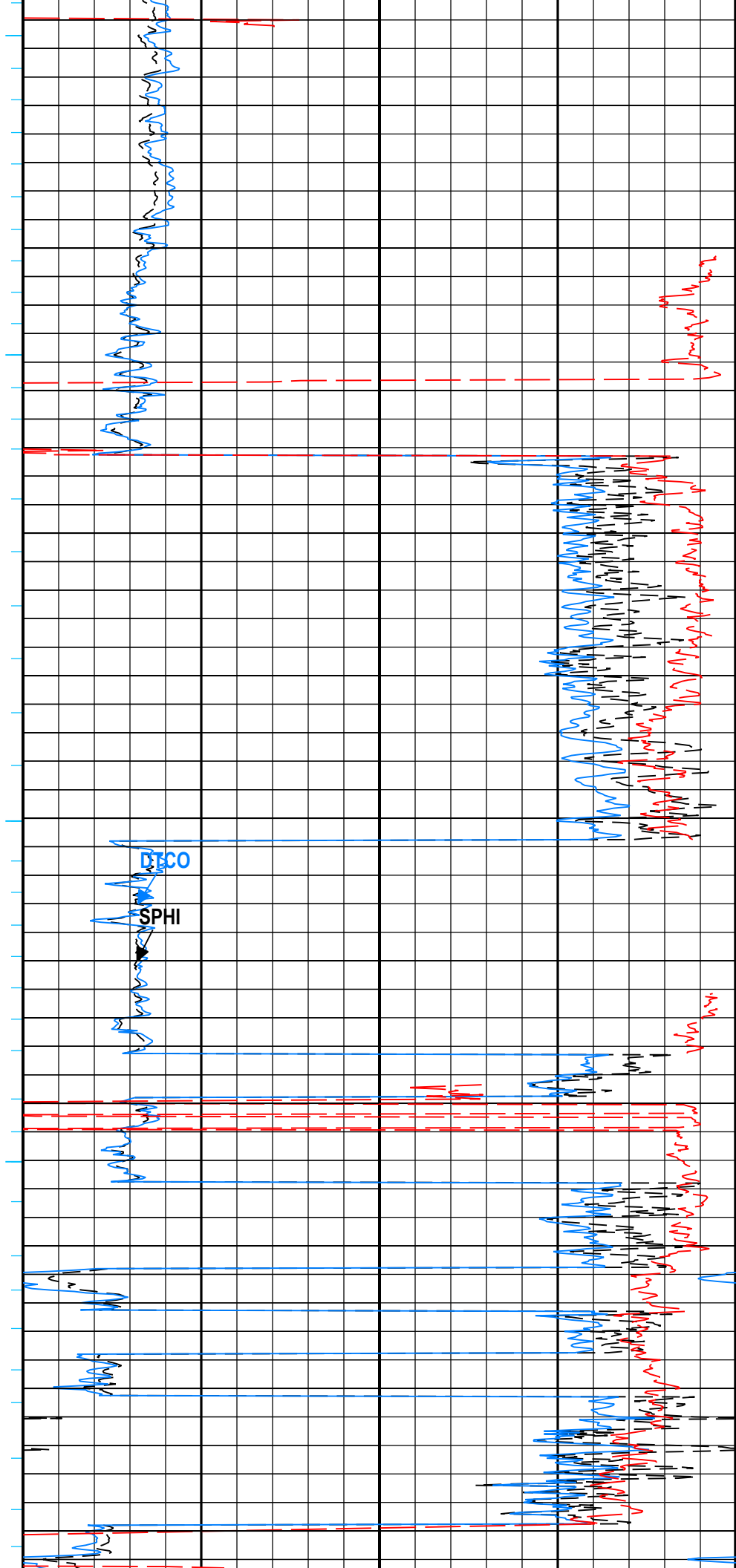
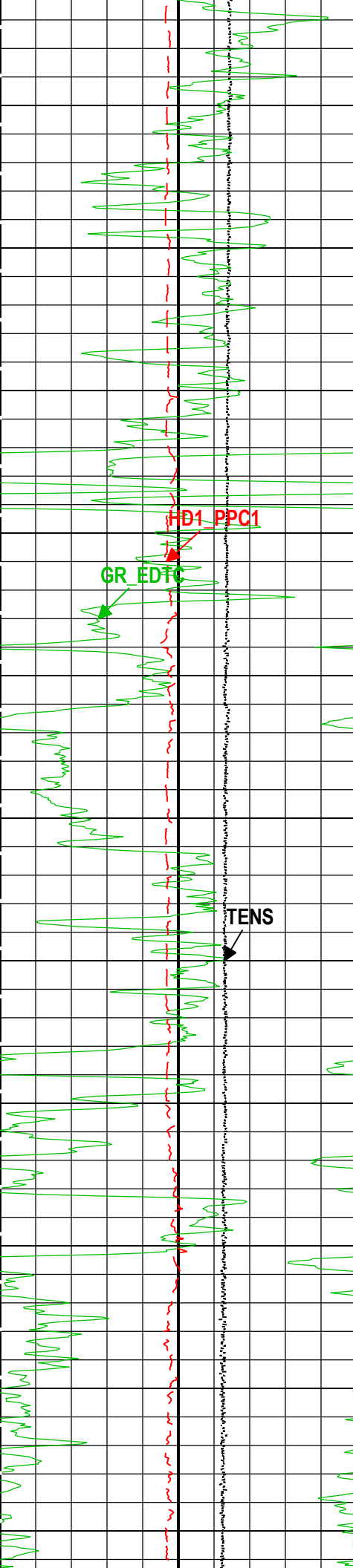


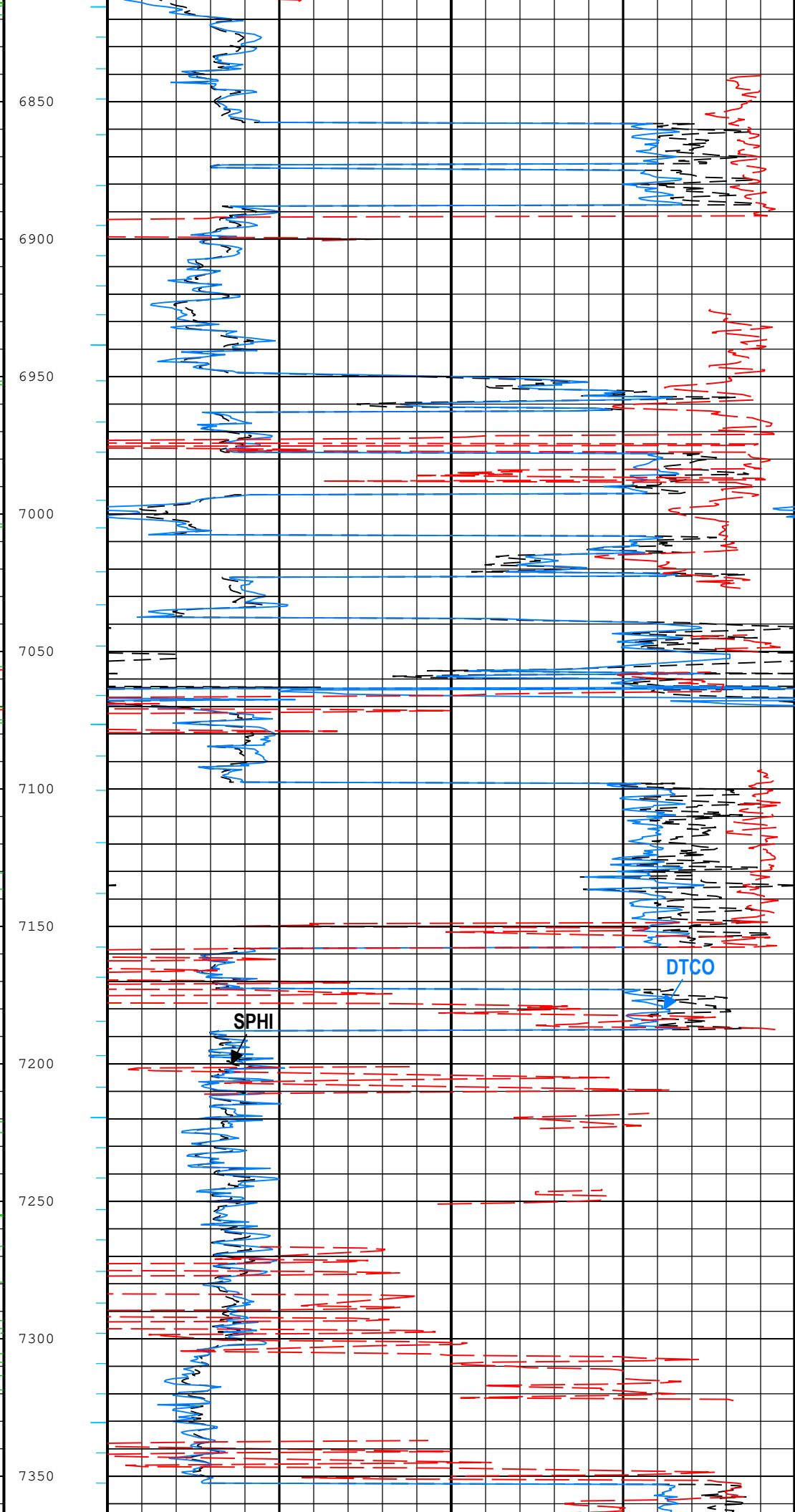
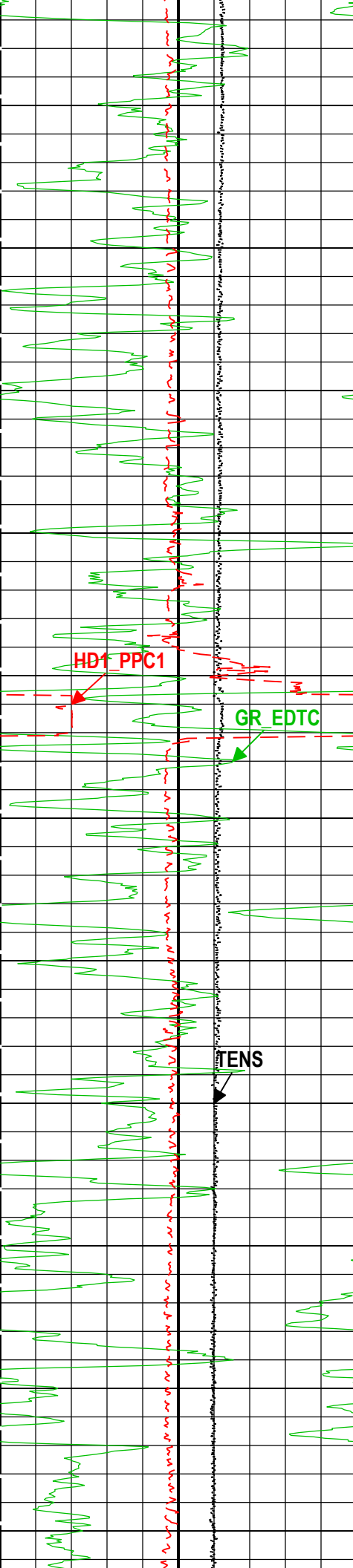


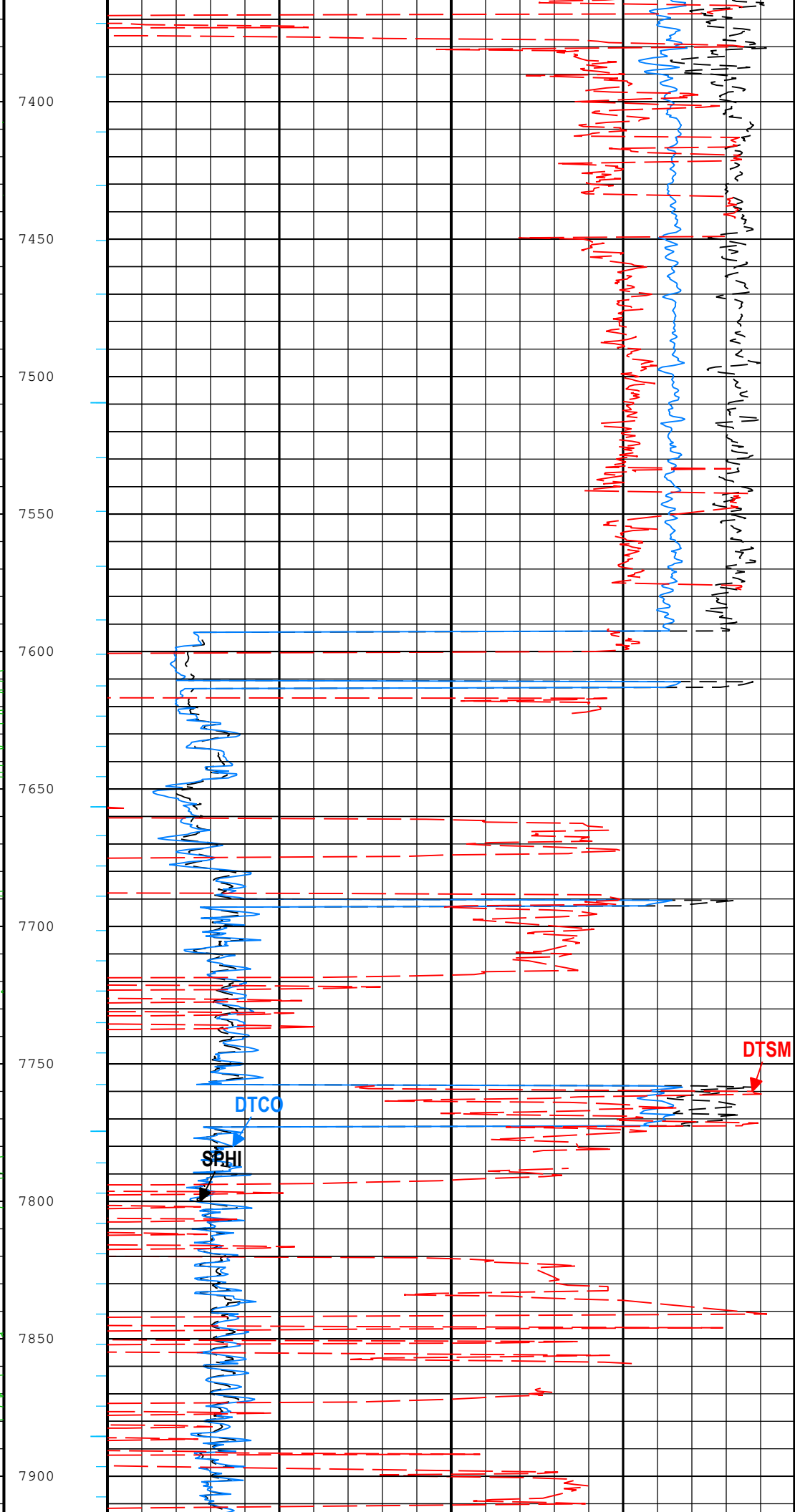
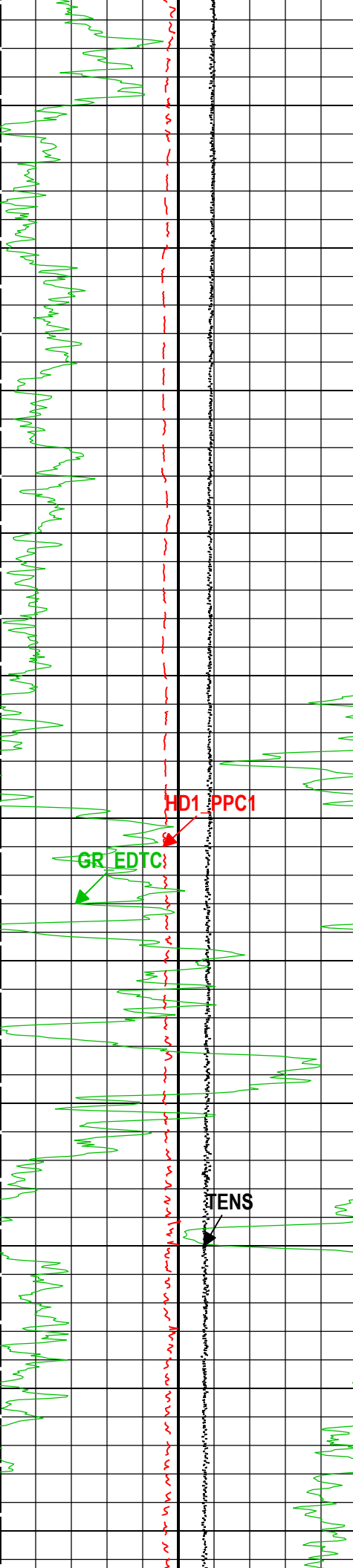


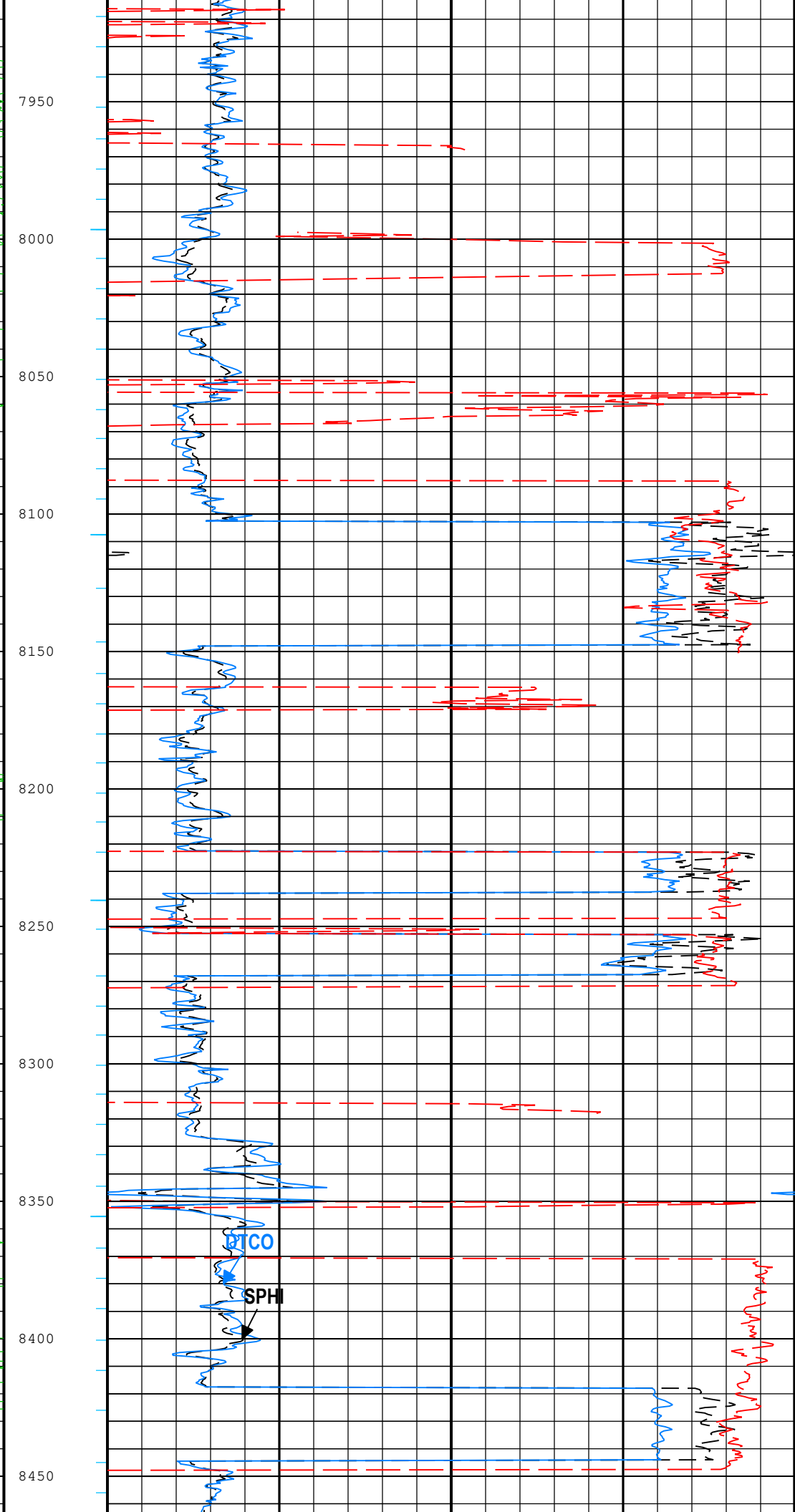
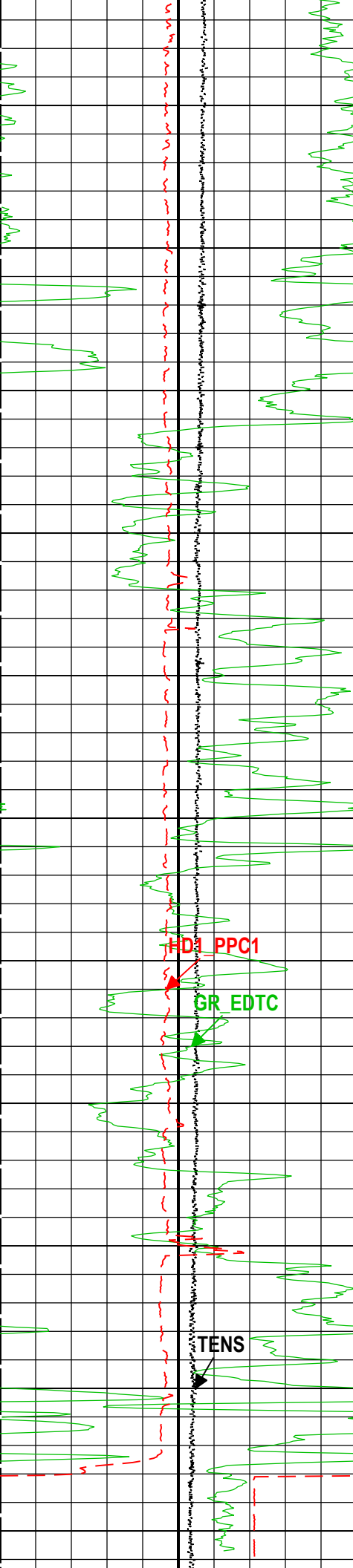


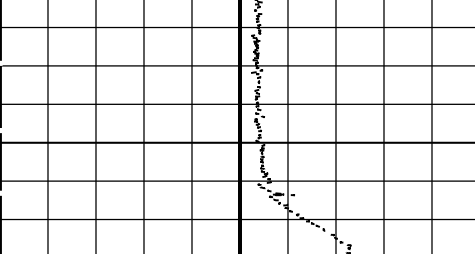




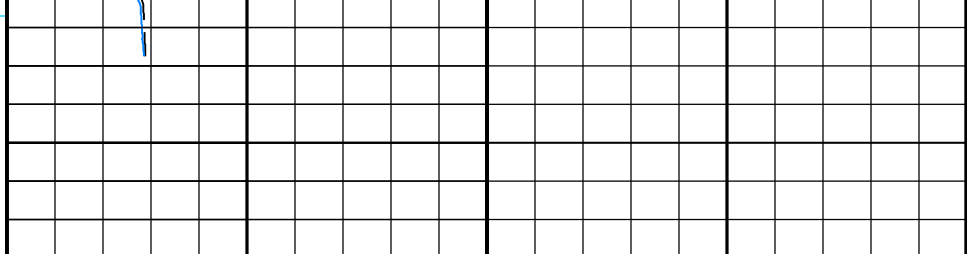








8500



Cable Tension (TENS)		
10000	lbf	0
Calibrated Gamma Ray (GR_EDTC) EDTC-B		
0	gAPI	150
Hole Diameter 1 (HD1_PPC1) PPC-B		
6	in	16

Sonic Porosity (SPHI) MAST-B		
0.3	ft3/ft3	-0.1
Delta-T Compressional (DTCO) MAST-B		
100	us/ft	40
Delta-T Shear (DTSM) MAST-B		
180	us/ft	80

TIME_1900 - Time Marked every 60.00 (s)

ITT - Integrated Transit Time every 10.00 (ms)
 ITT - Integrated Transit Time every 1.00 (ms)

Description: HRLT BASIC LOG Format: Log (DSI 2 inch General) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 19-Jul-2021 23:38:43

1A

Main Pass 5" = 100'

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1A	Log[2]:Up	Up	2952.88 ft	8529.53 ft	19-Jul-2021 7:53:53 AM	19-Jul-2021 1:26:07 PM	ON	9.38 ft	Yes

All depths are referenced to toolstring zero

Log

Company: University Of Utah Well: FORGE 78B-32
1A: Log[2]:Up:S015

Description: HRLT BASIC LOG Format: Log (DSI 5 inch General) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 19-Jul-2021 23:38:50

Channel	Source	Sampling
DTCO	MAST-B:MAMS-B:MAMS-CA	6in
DTSM	MAST-B:MAMS-B:MAMS-CA	6in
GR_CAL	EDTC-B:EDTC-B:EDTC-B	6in
HD1	PPC-B:PPC-B:PPC-B	6in
ITT	MAST-B:MAMS-B:MAMS-CA	6in
SPHI	MAST-B:MAMS-B:MAMS-CA	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

ITT - Integrated Transit Time every 1.00 (ms)
 ITT - Integrated Transit Time every 10.00 (ms)

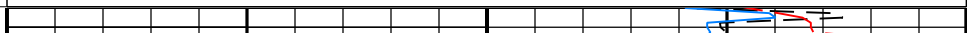
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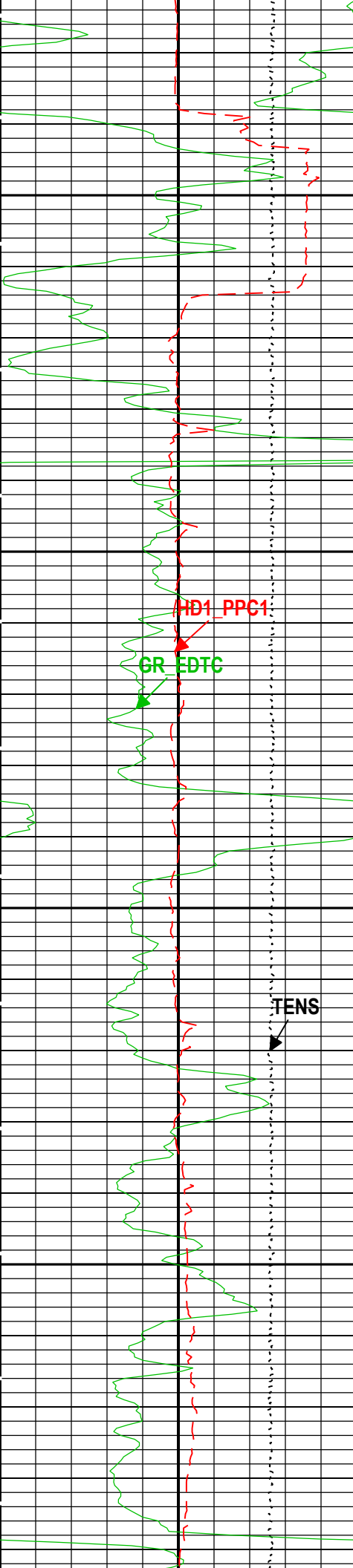
Cable Tension (TENS)		
10000	lbf	0
Calibrated Gamma Ray (GR_EDTC) EDTC-B		
0	gAPI	150
Hole Diameter 1 (HD1_PPC1) PPC-B		
6	in	16

Sonic Porosity (SPHI) MAST-B		
0.3	ft3/ft3	-0.1
Delta-T Compressional (DTCO) MAST-B		
100	us/ft	40
Delta-T Shear (DTSM) MAST-B		
180	us/ft	80

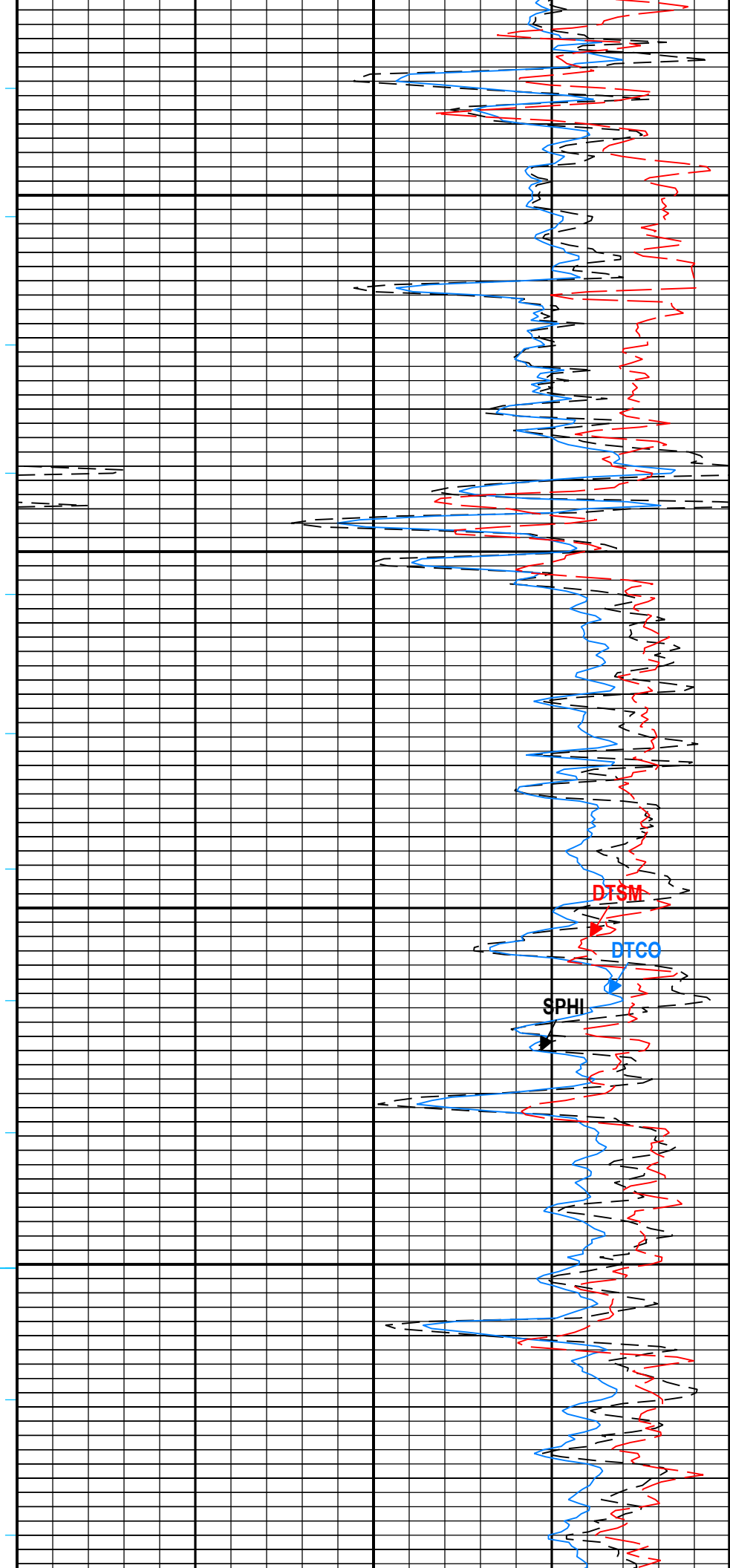


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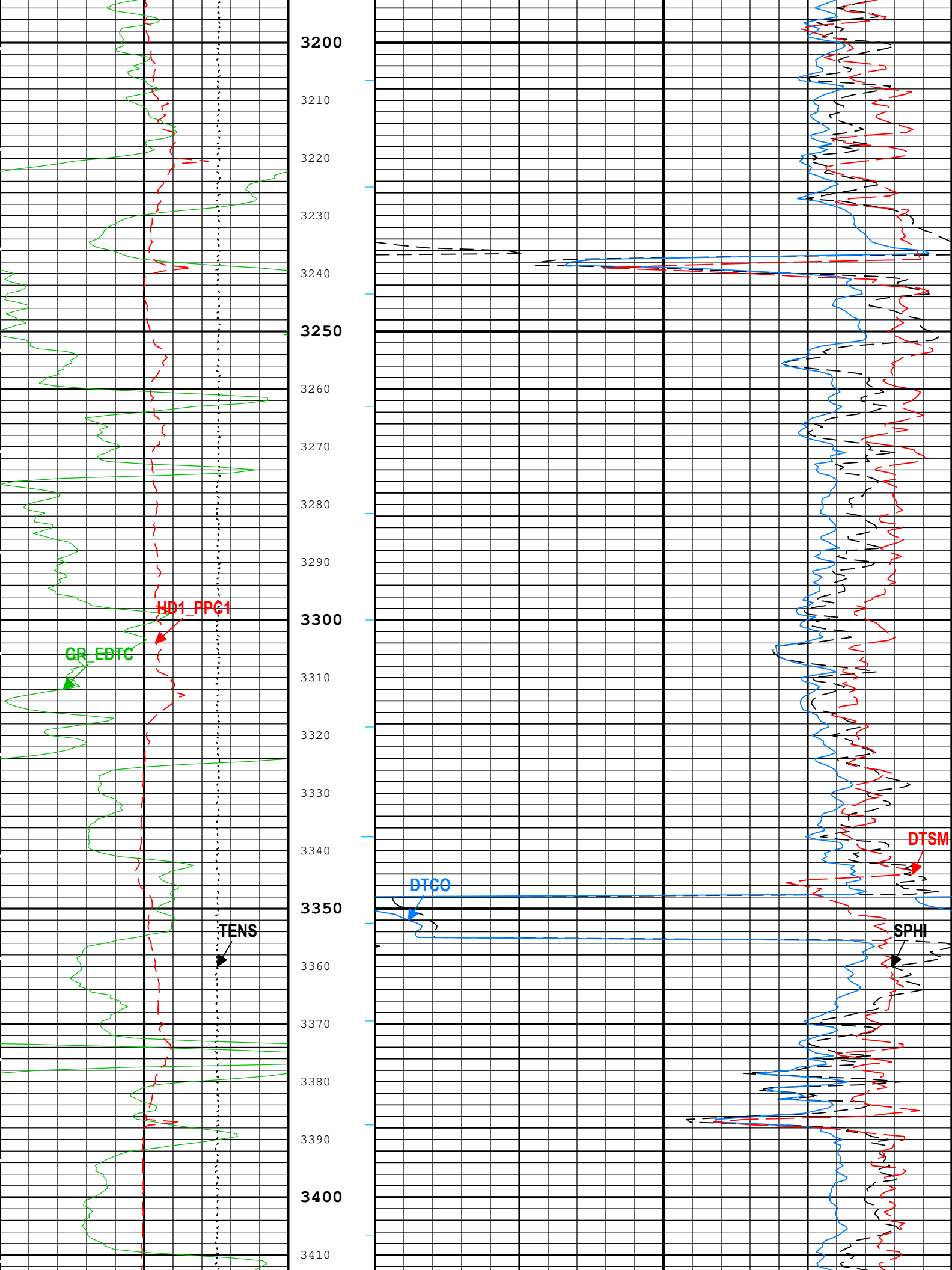
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3010
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3030
3040
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3140
3150
3160
3170
3180
3190

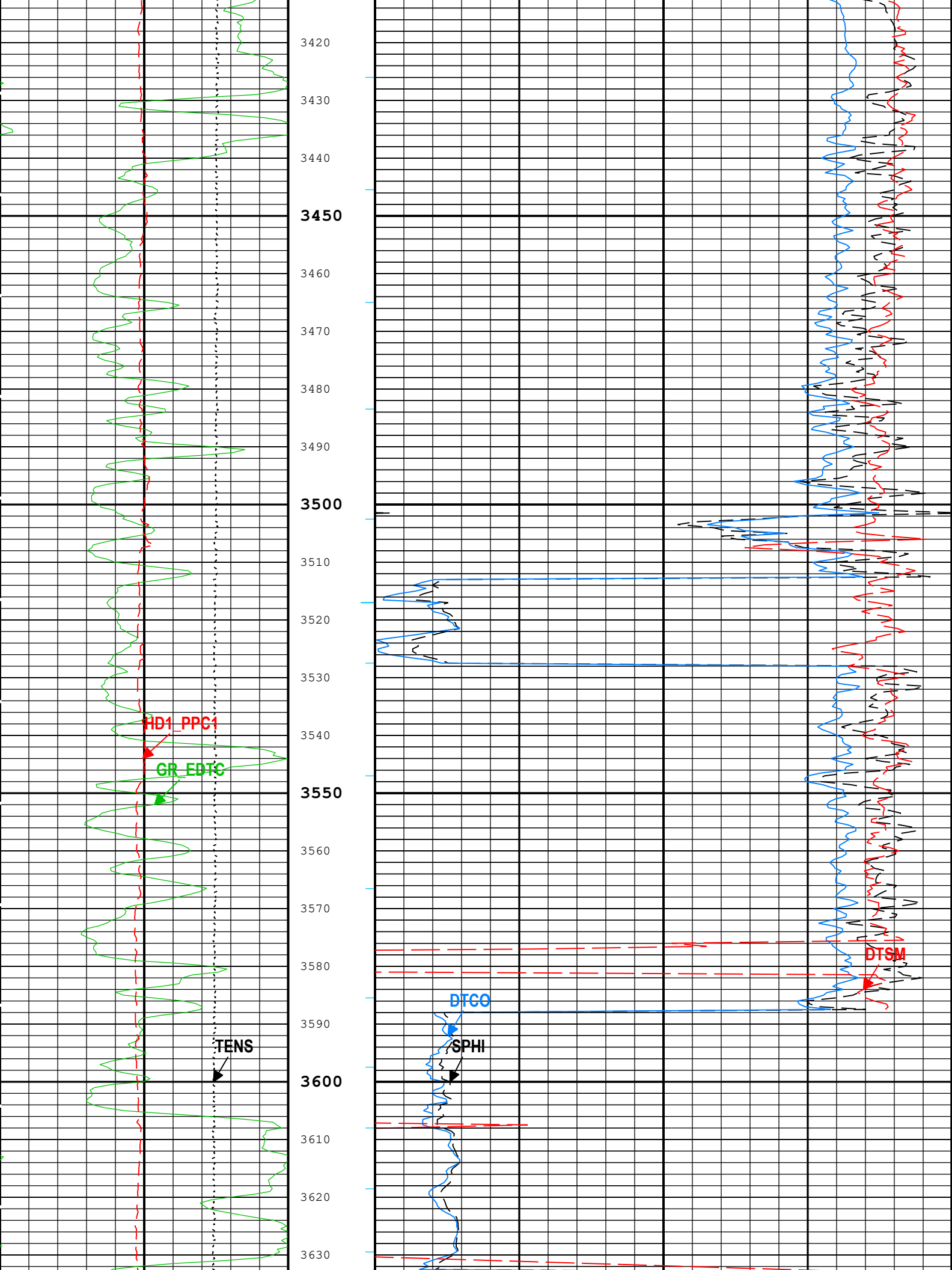


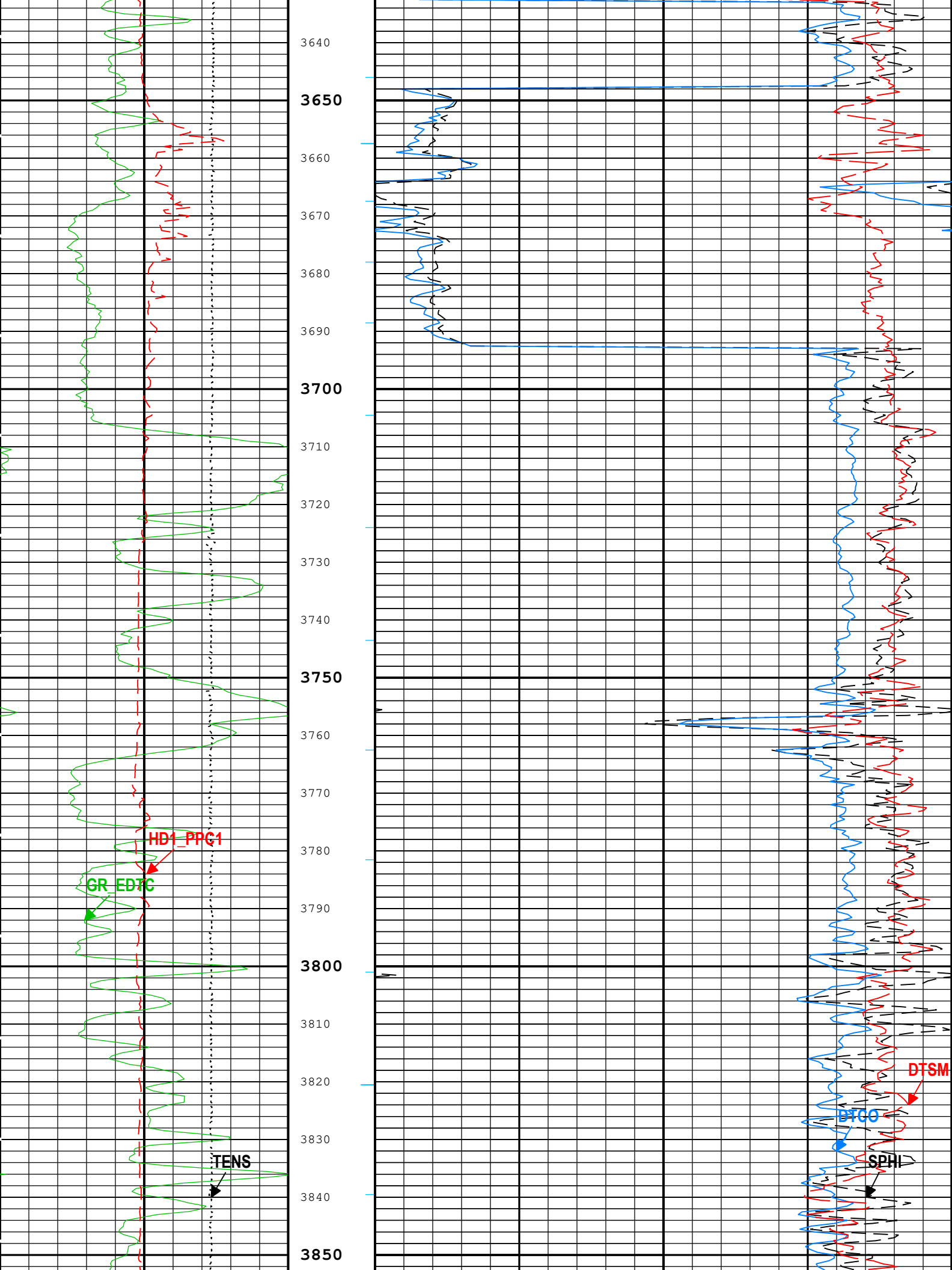
HD1_PPC1
GR_EDTC

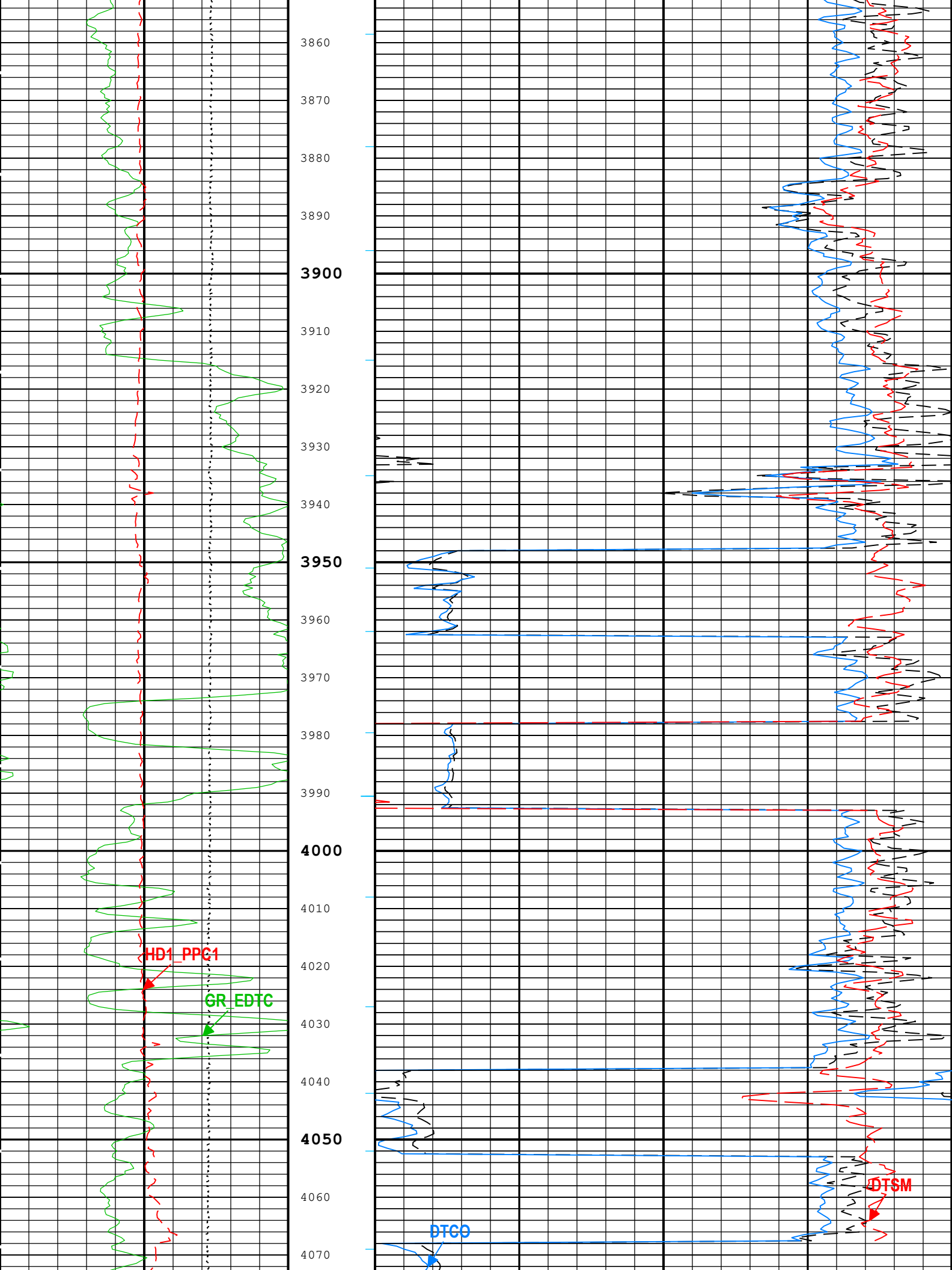
TENS

DTSM
DTCO
SPHI







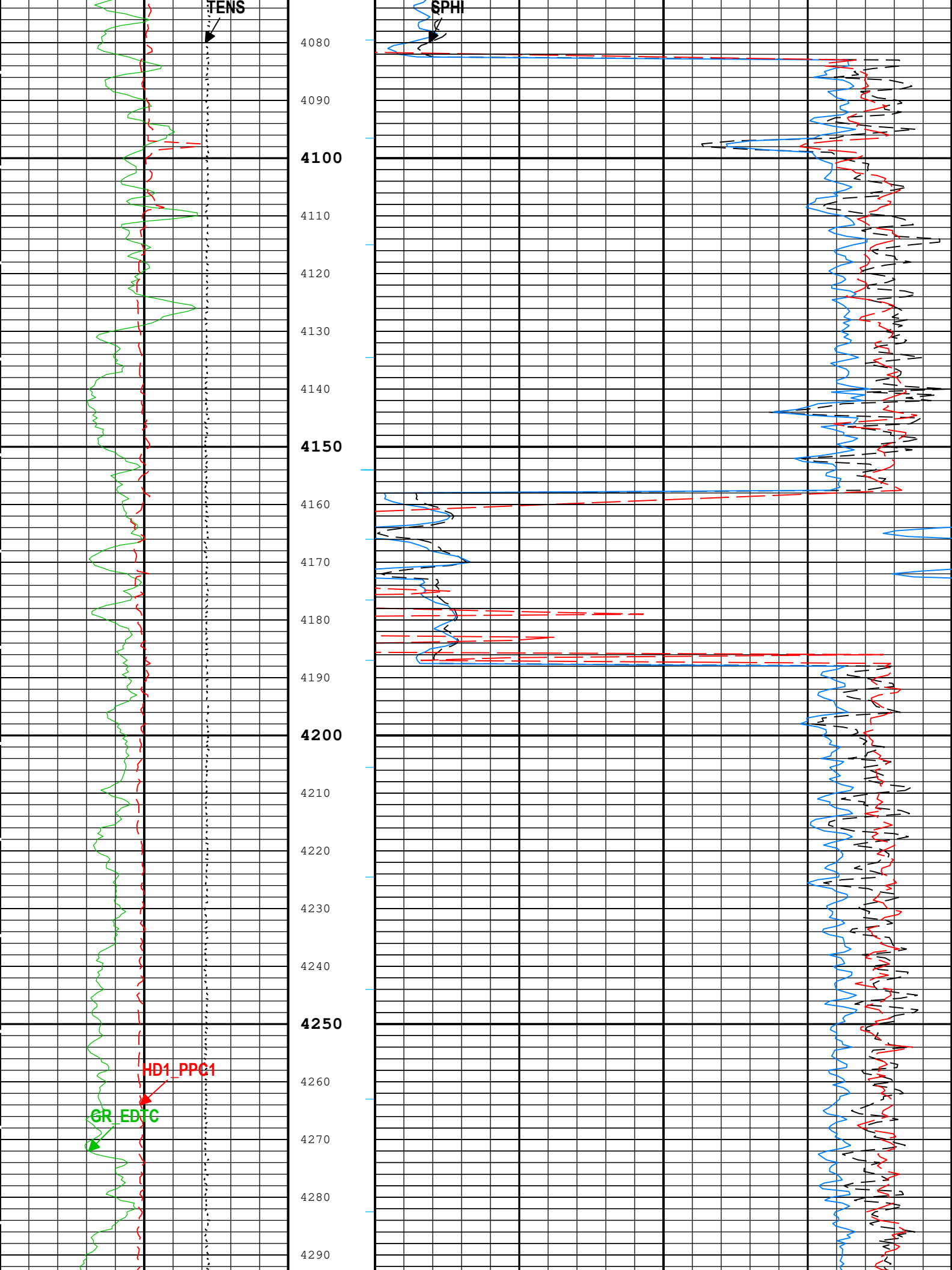


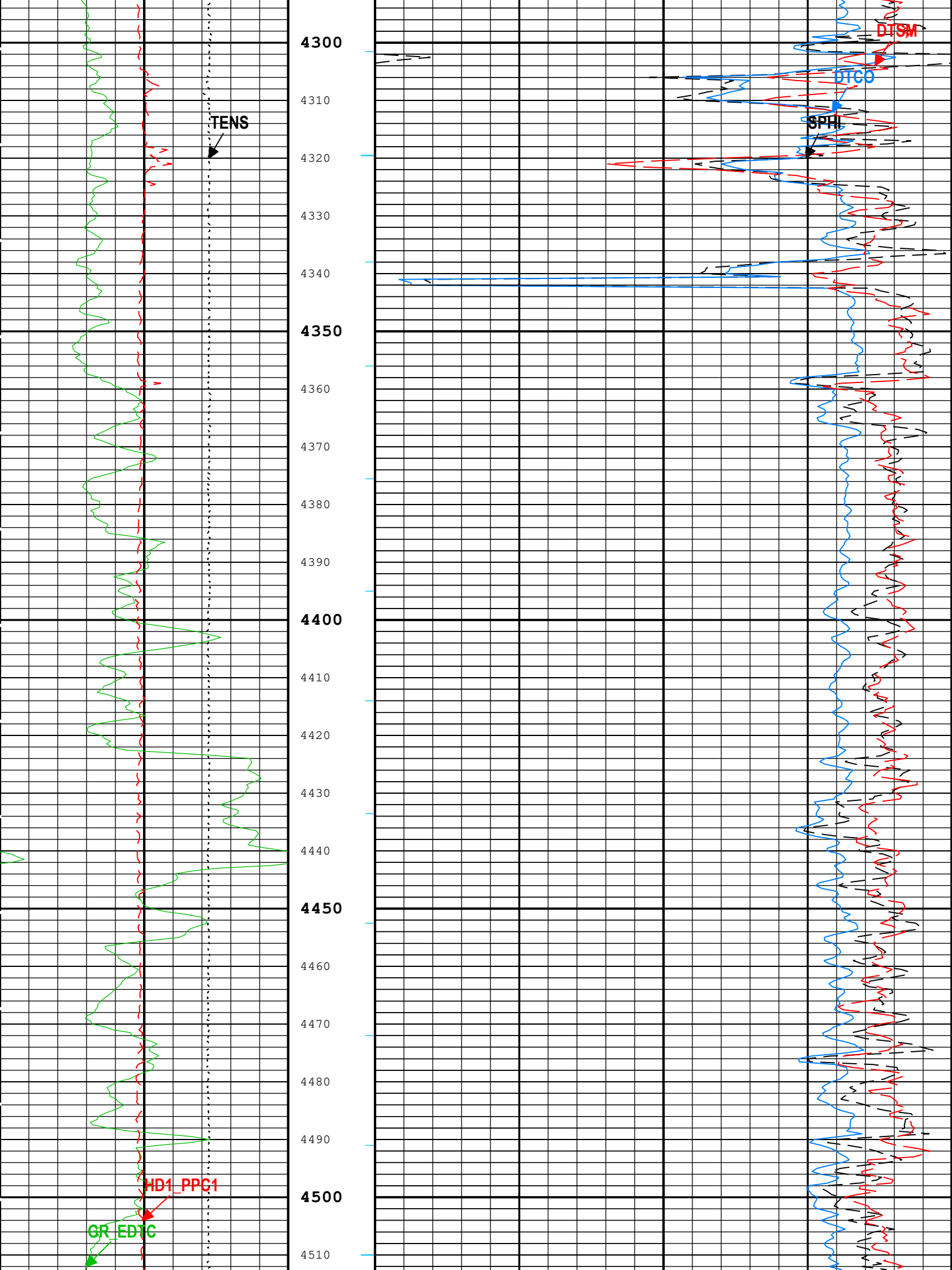
HD1_PPC1

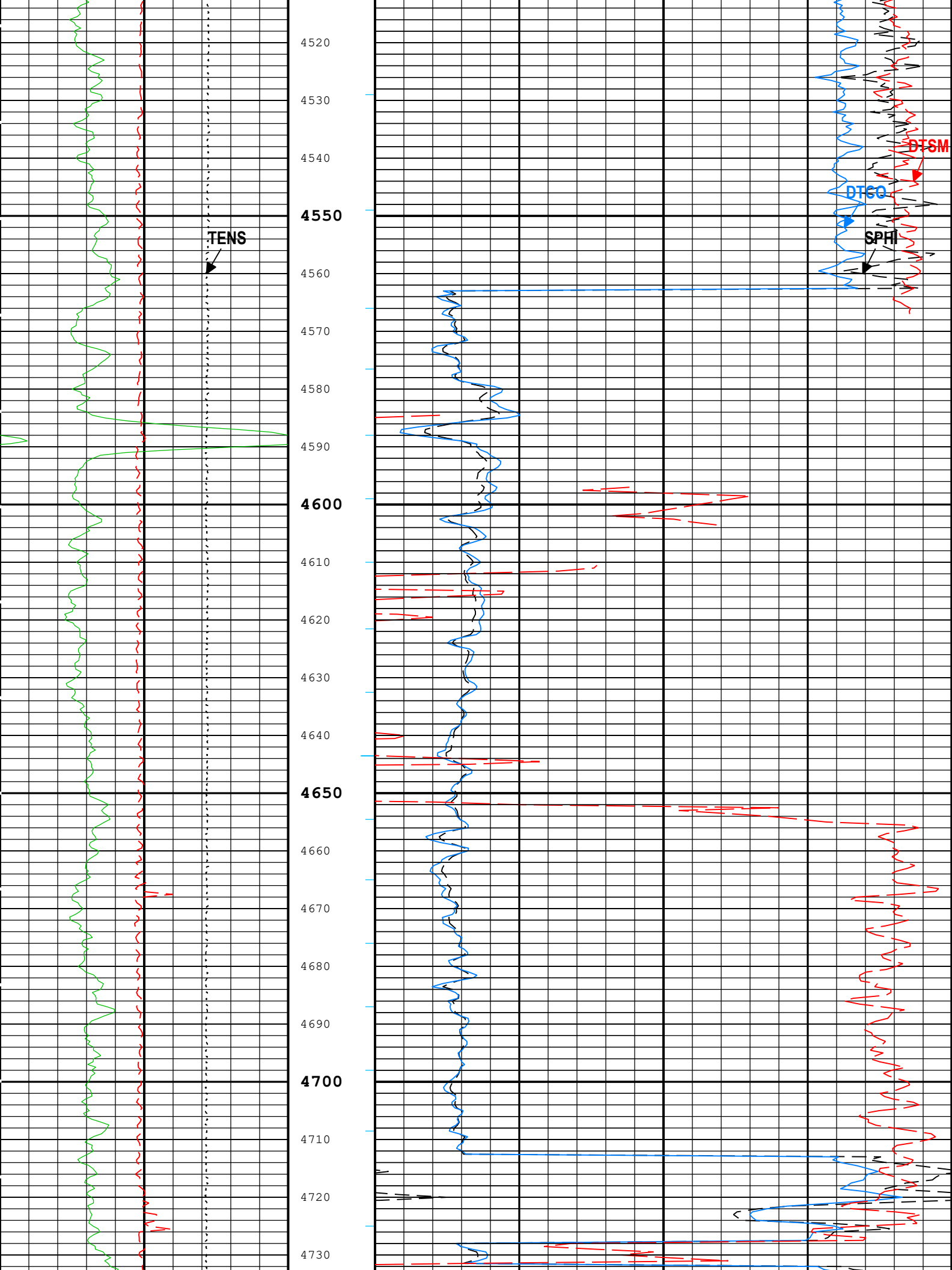
GR_EDTC

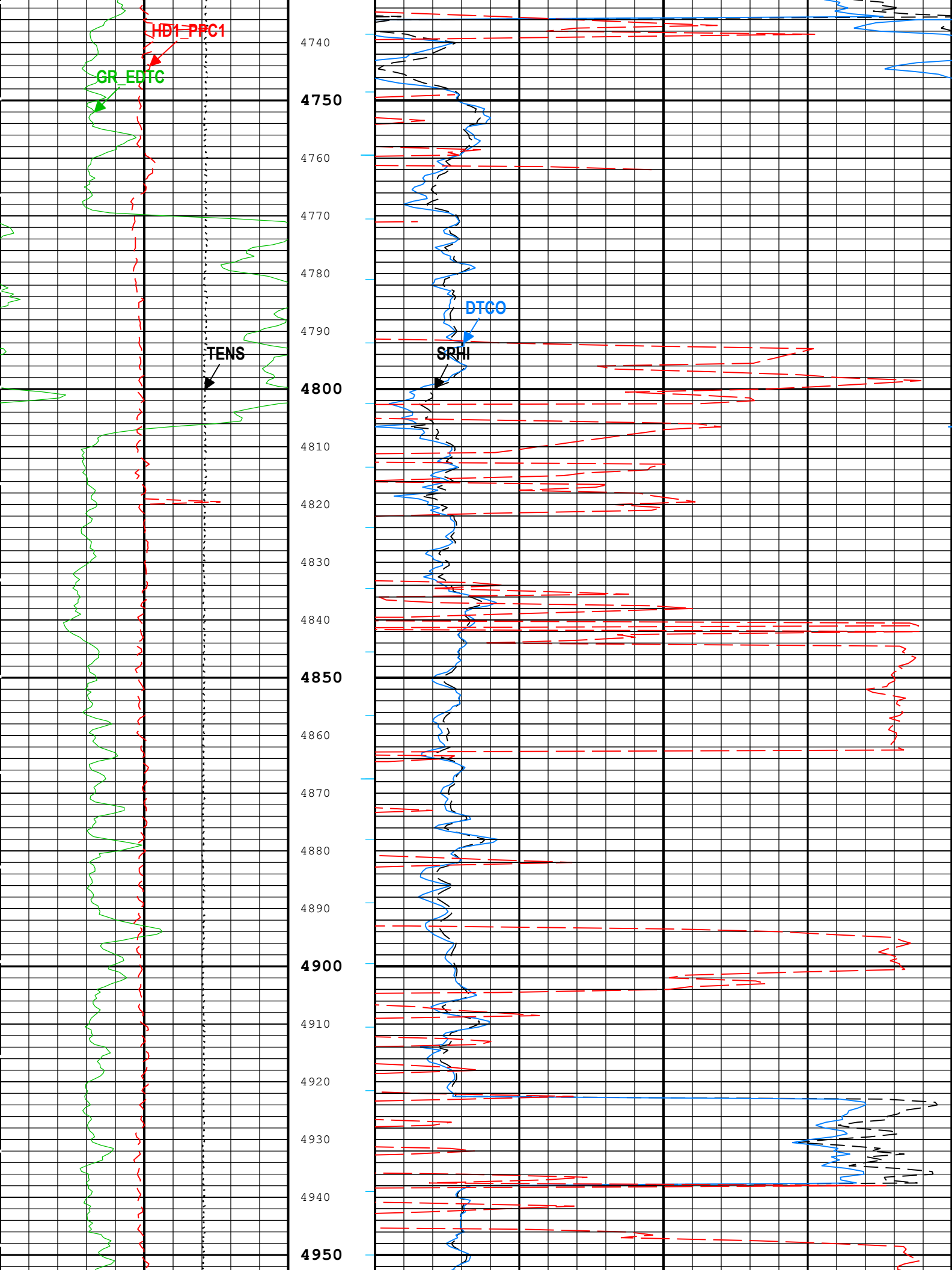
DTGO

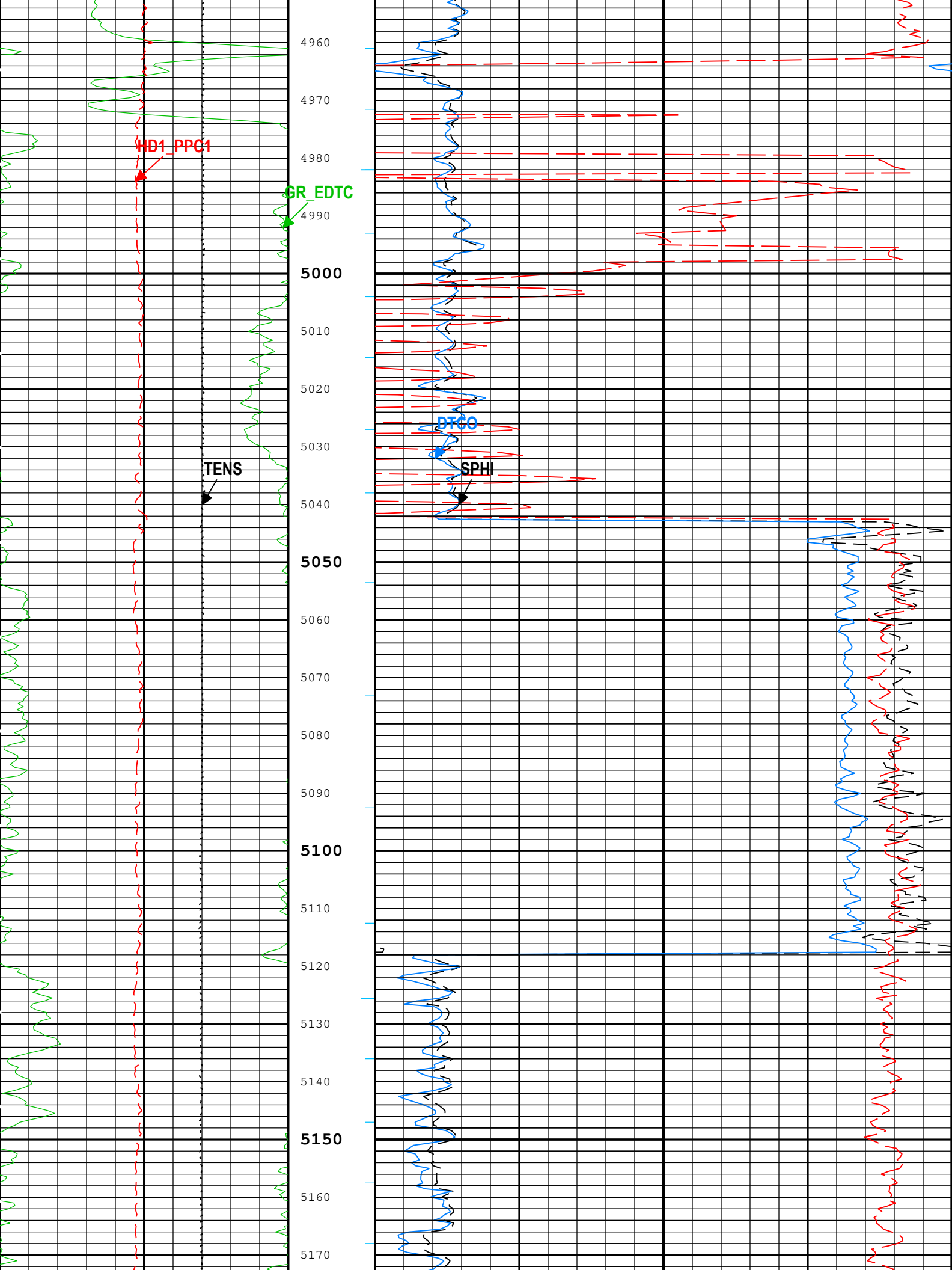
DTSM

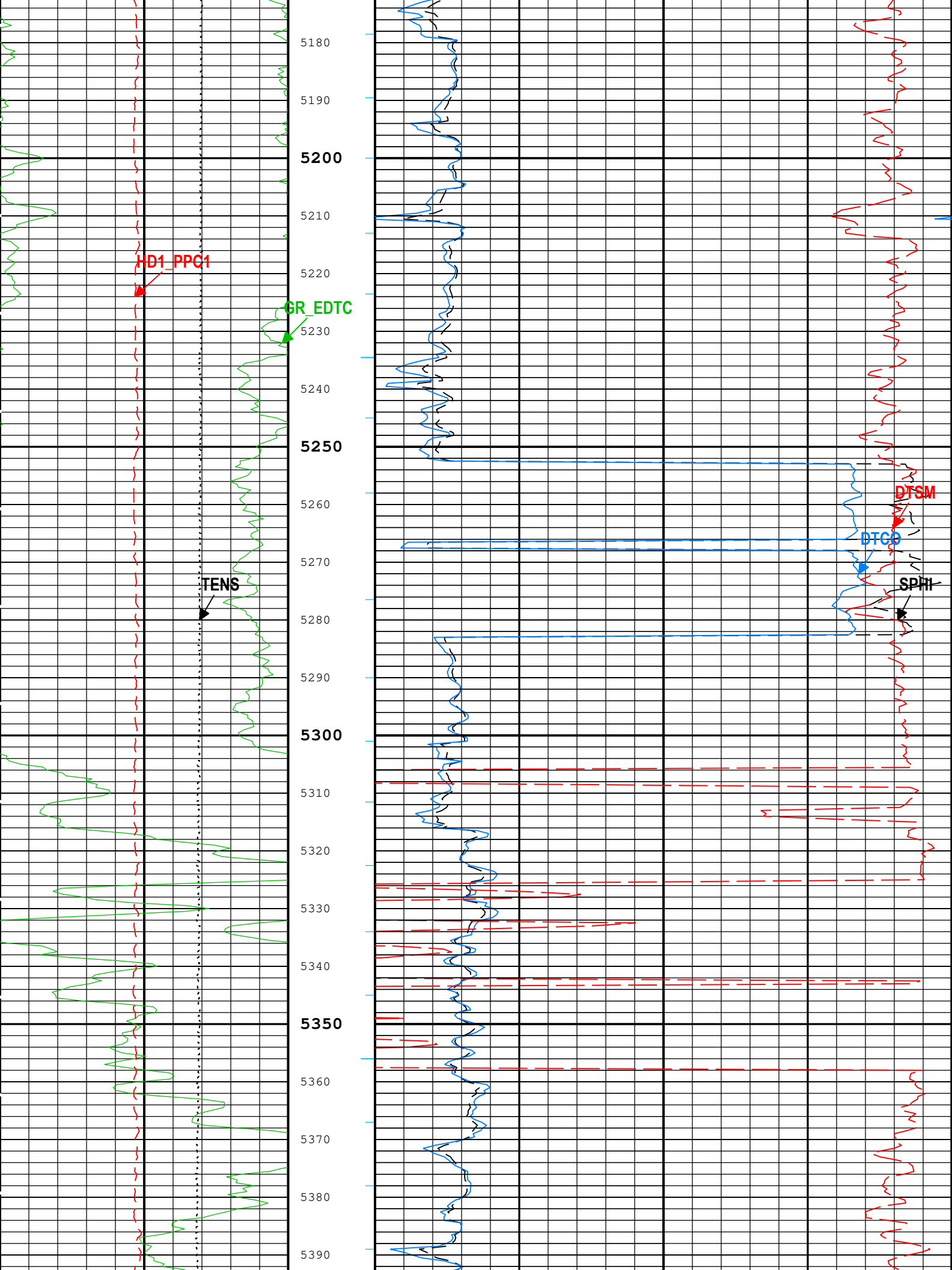


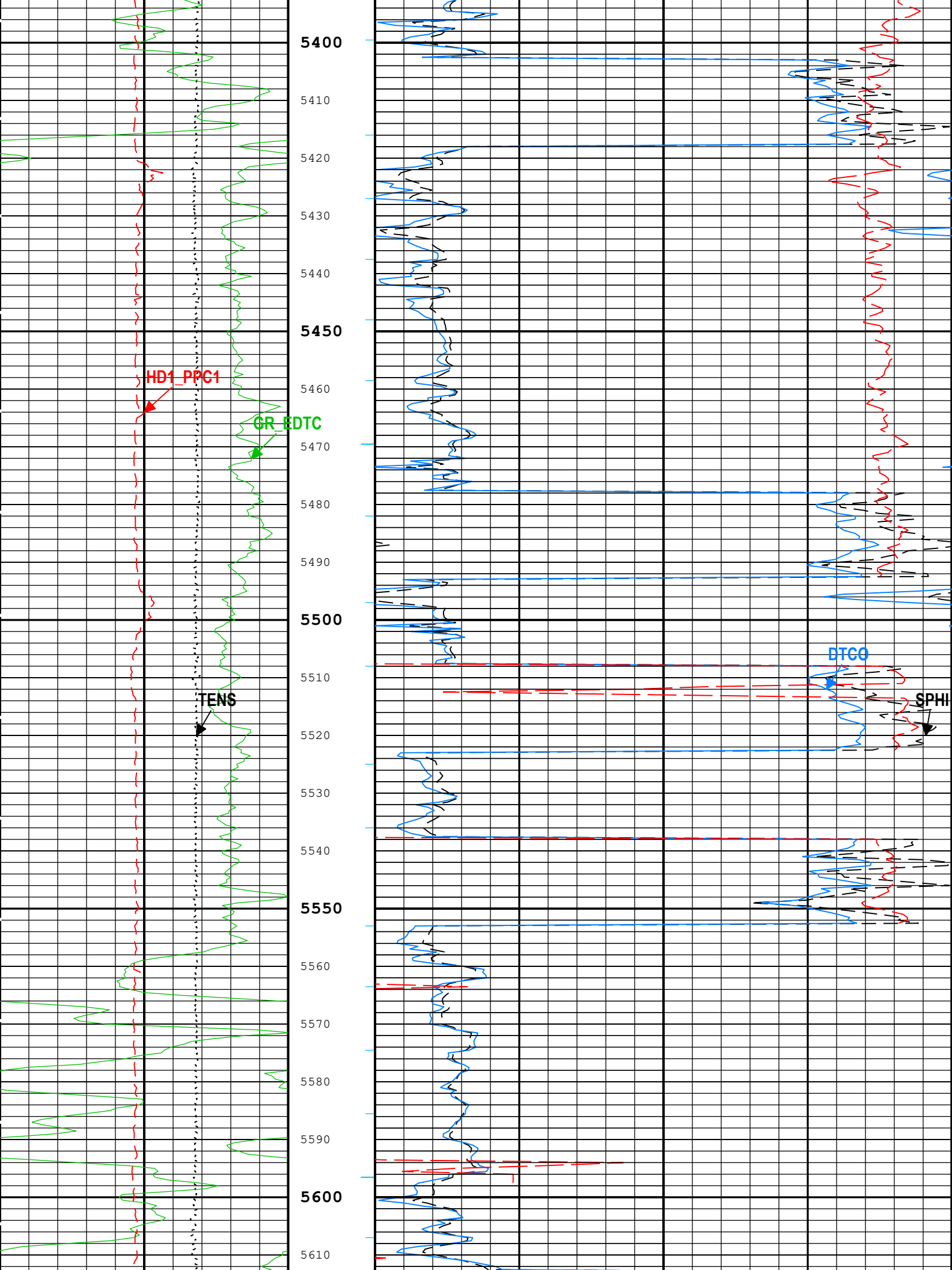


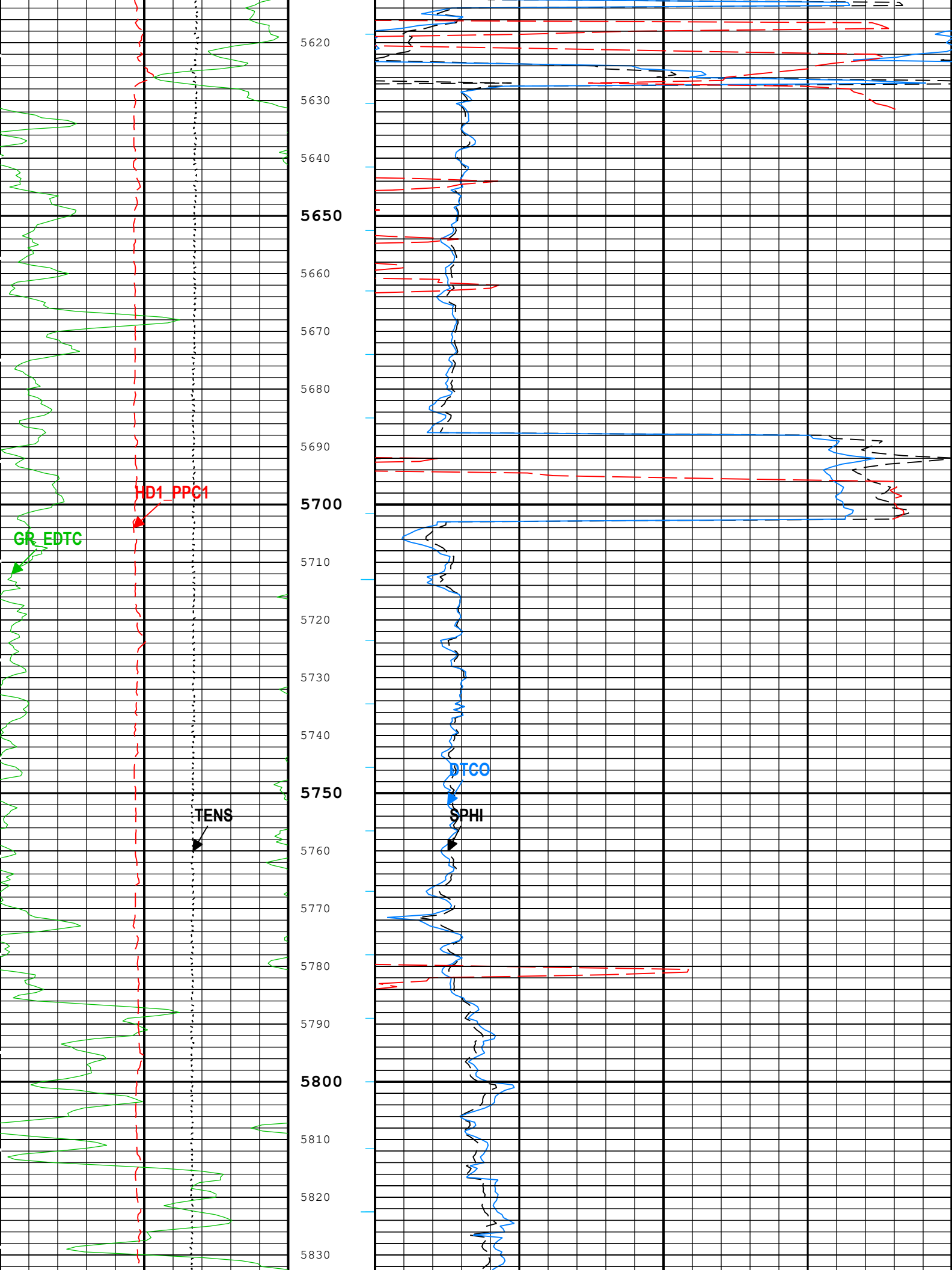


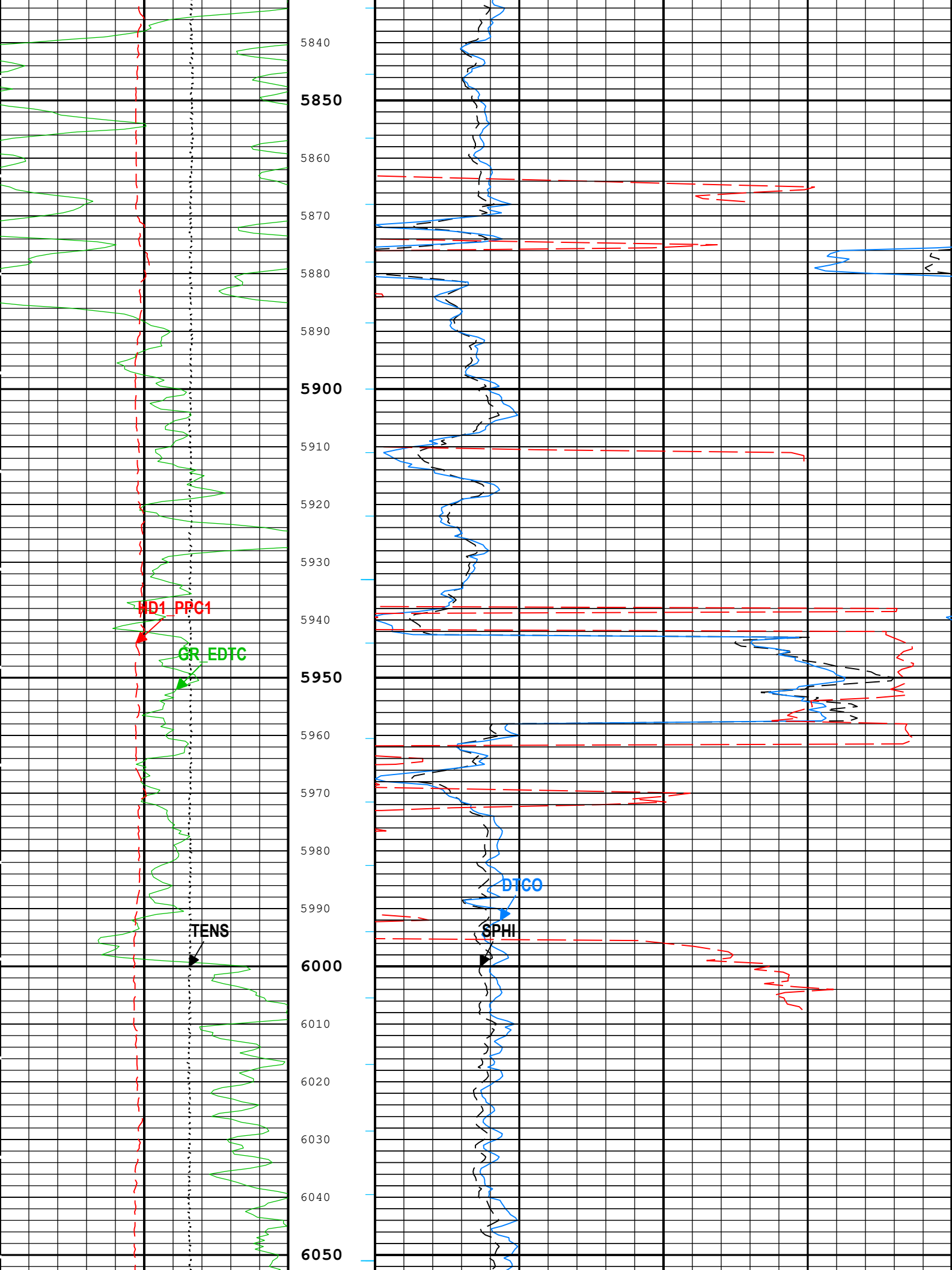


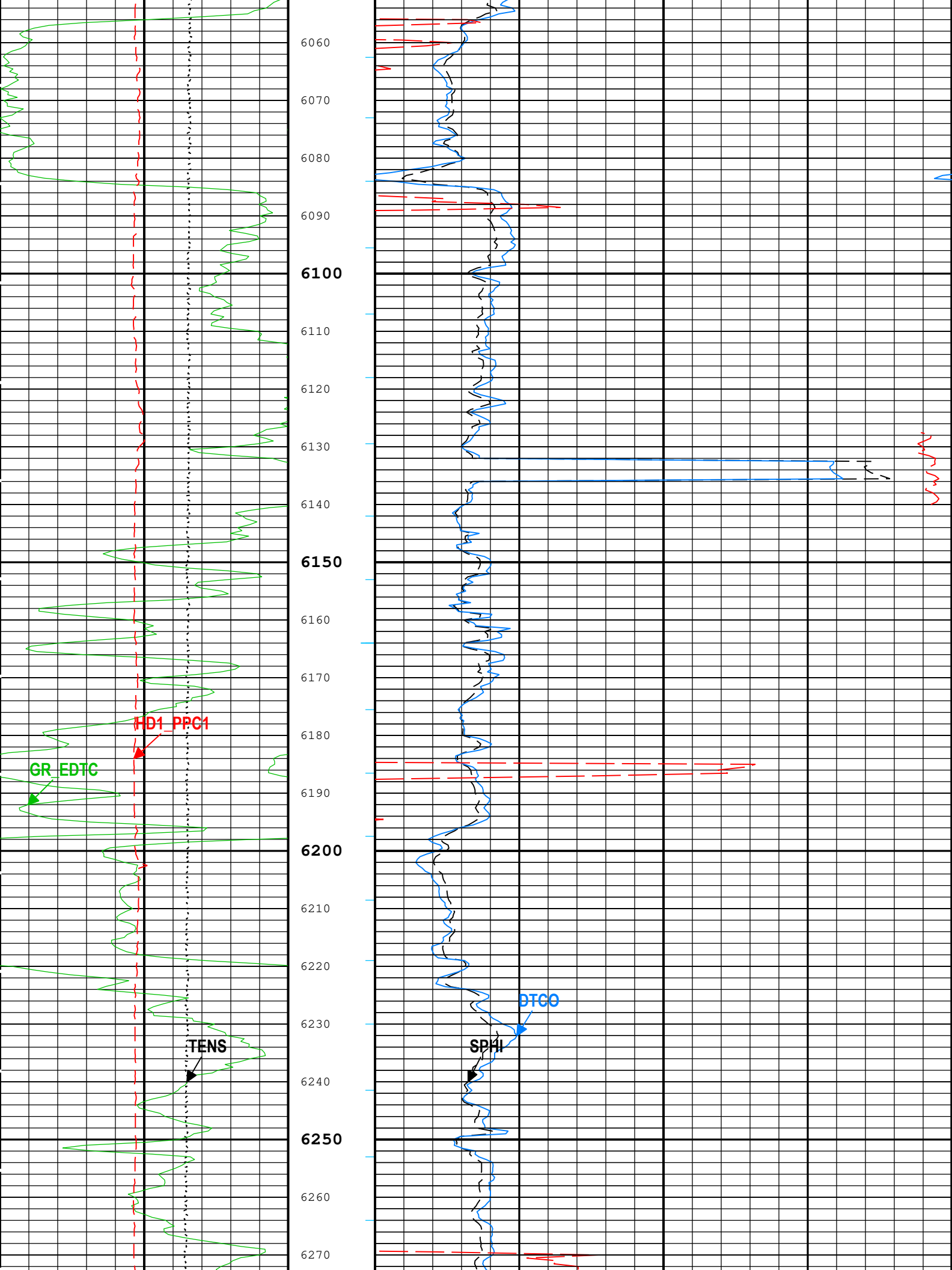


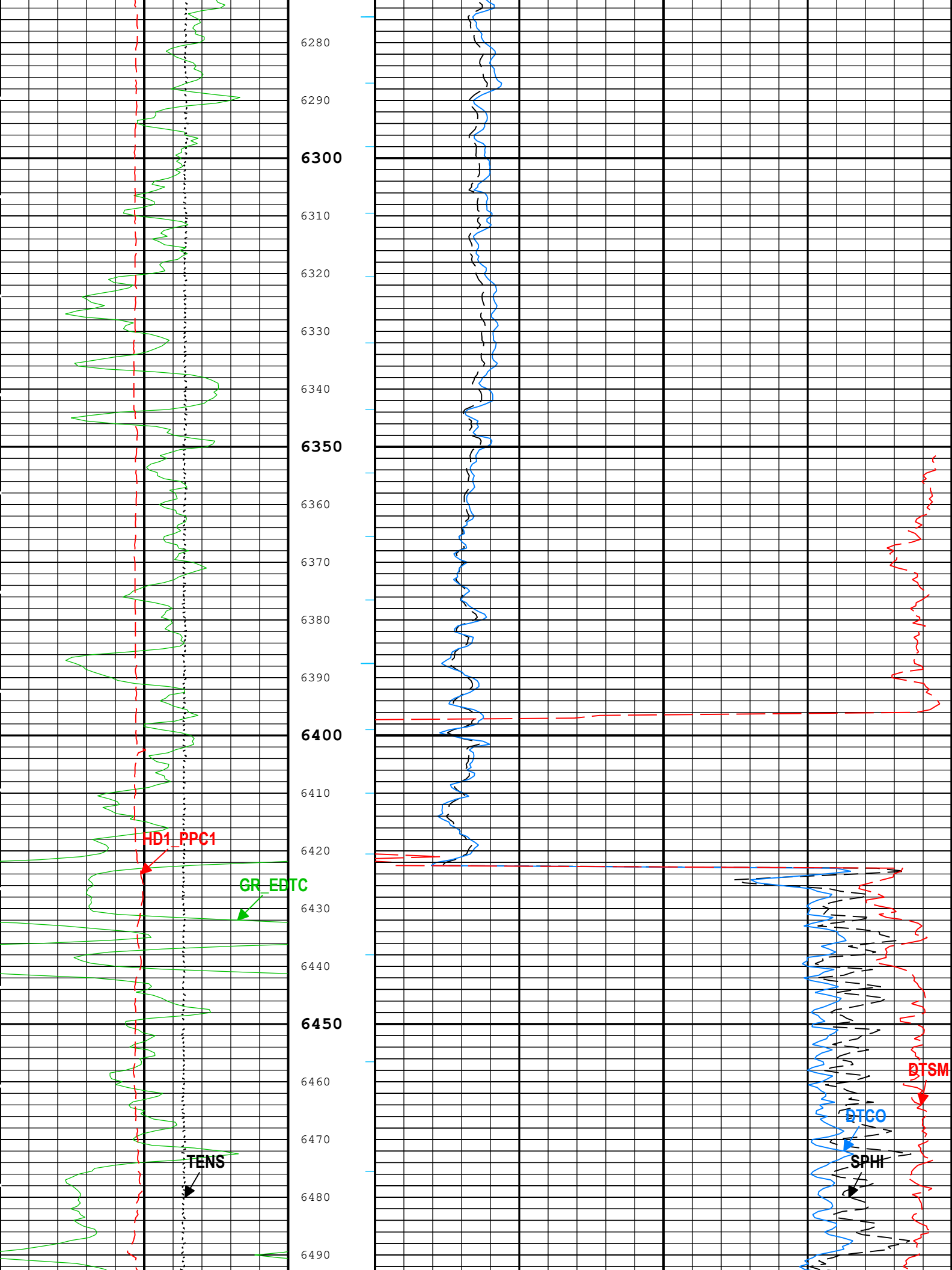


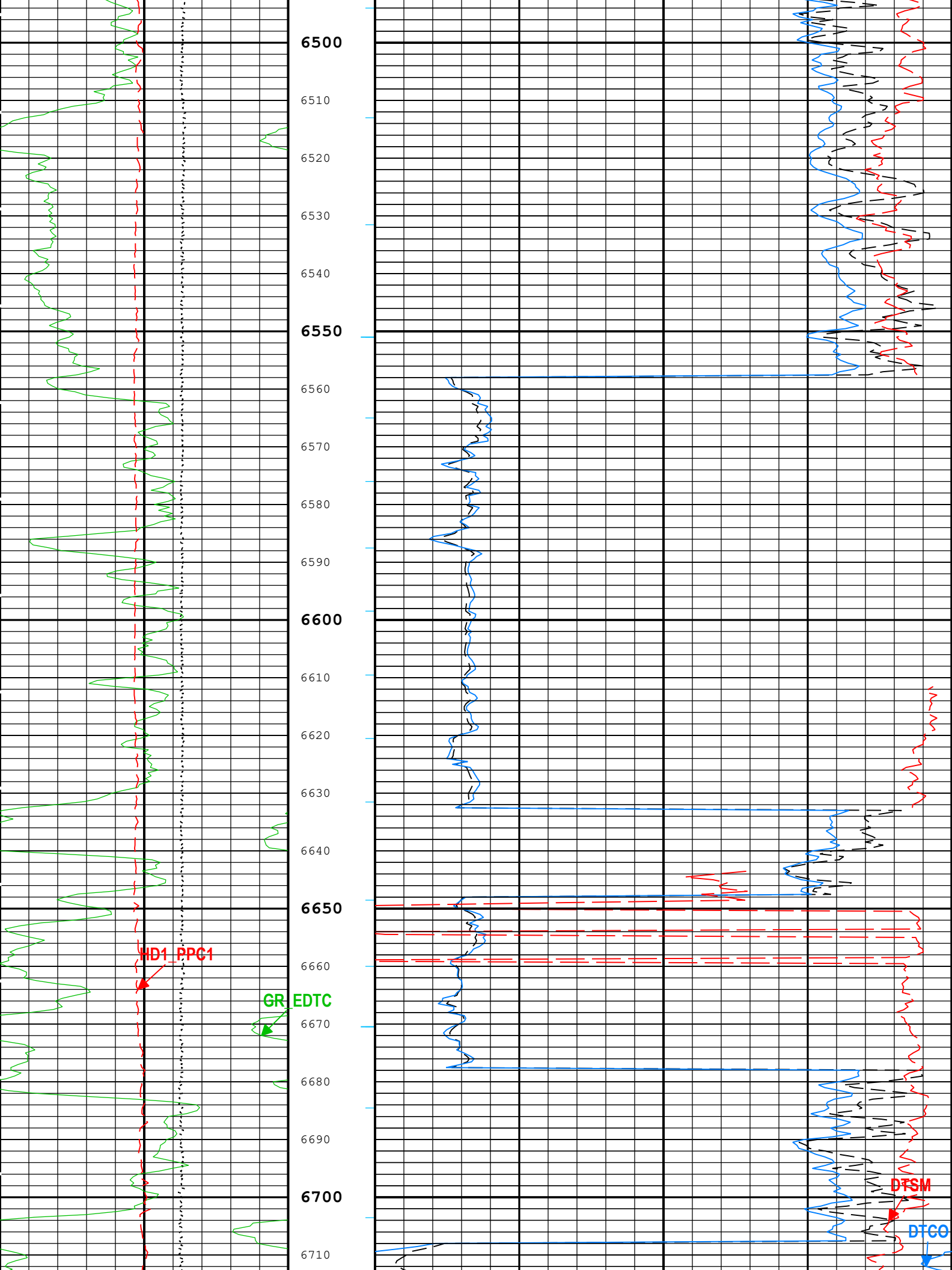


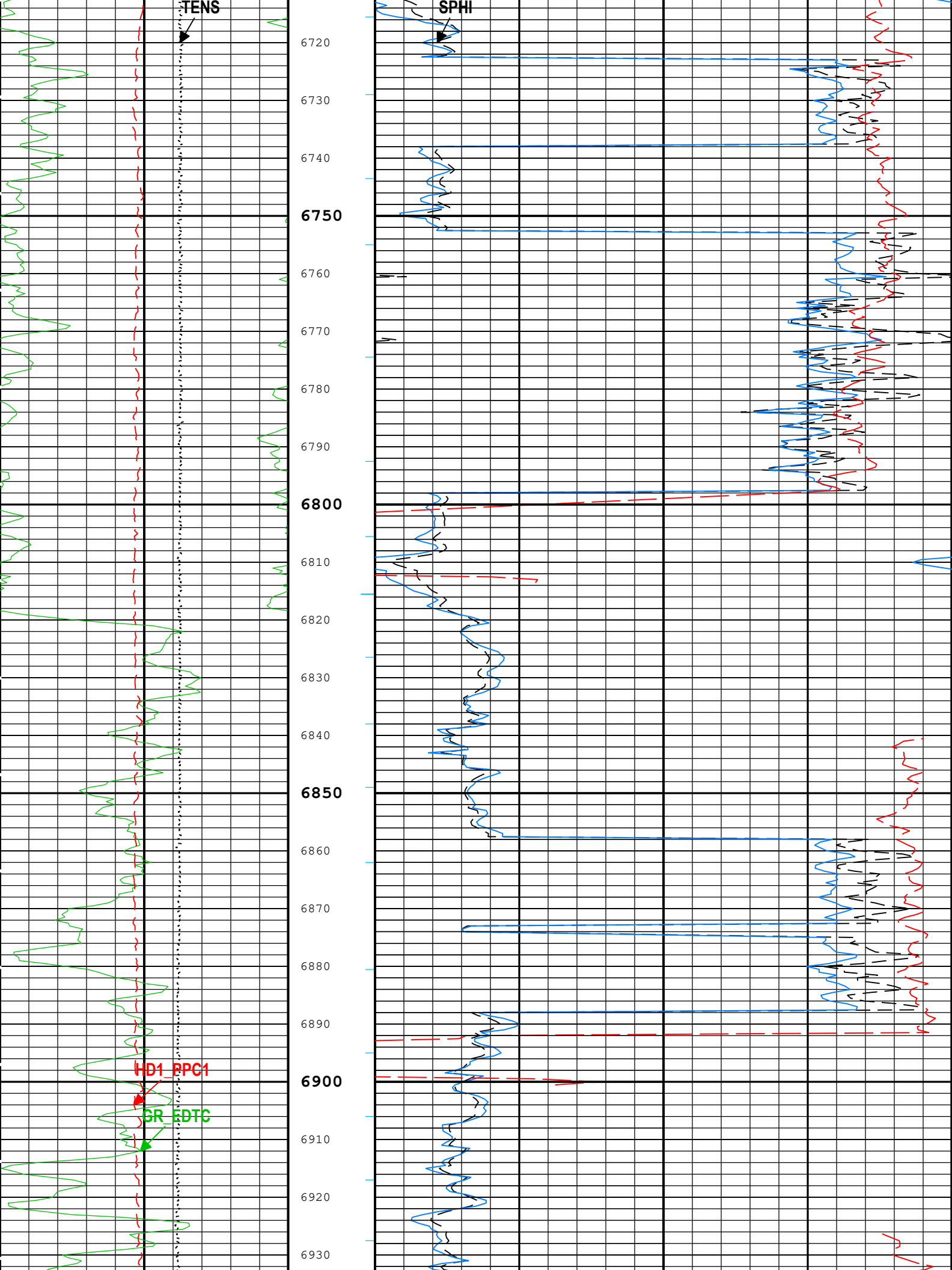


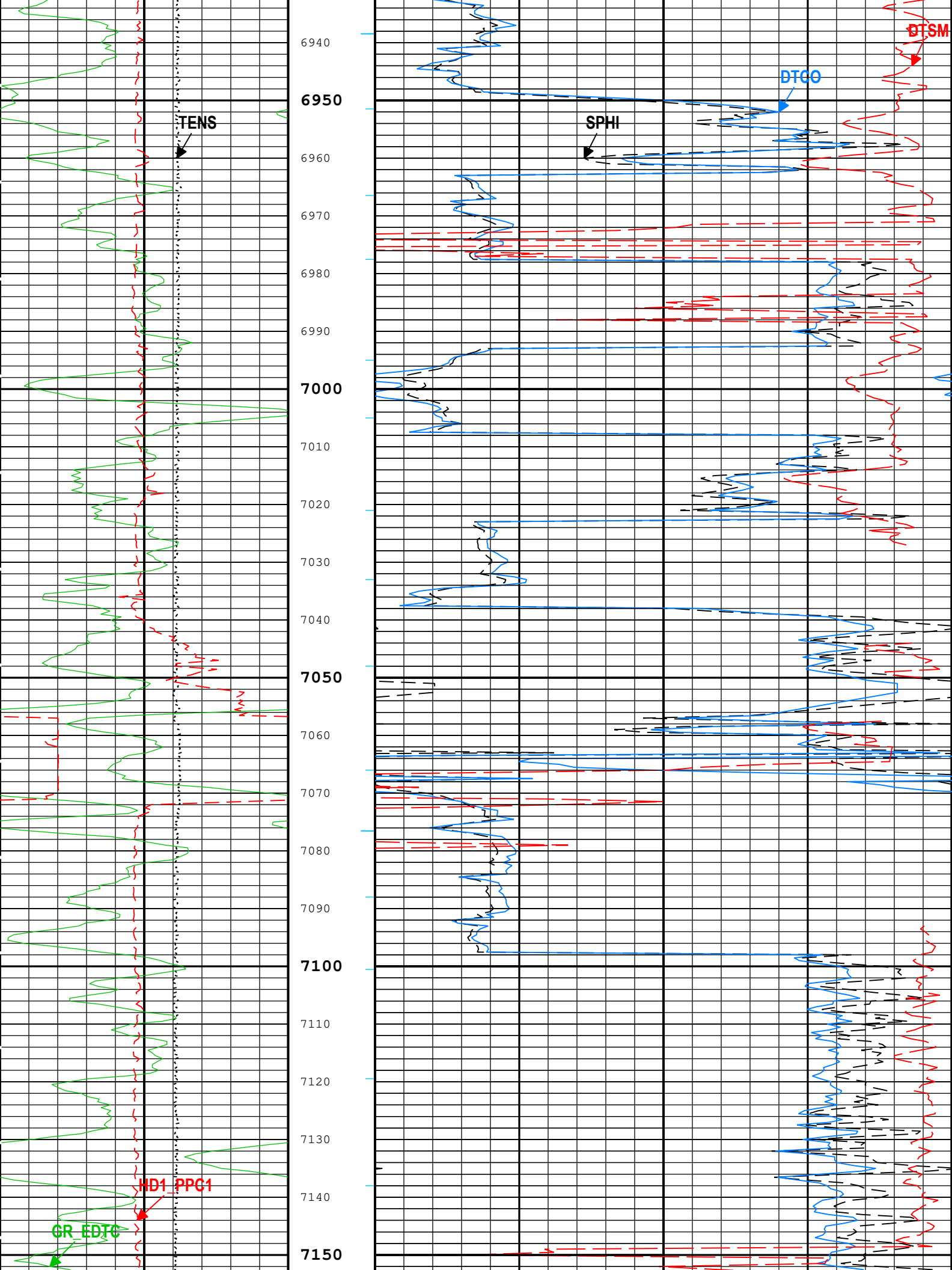


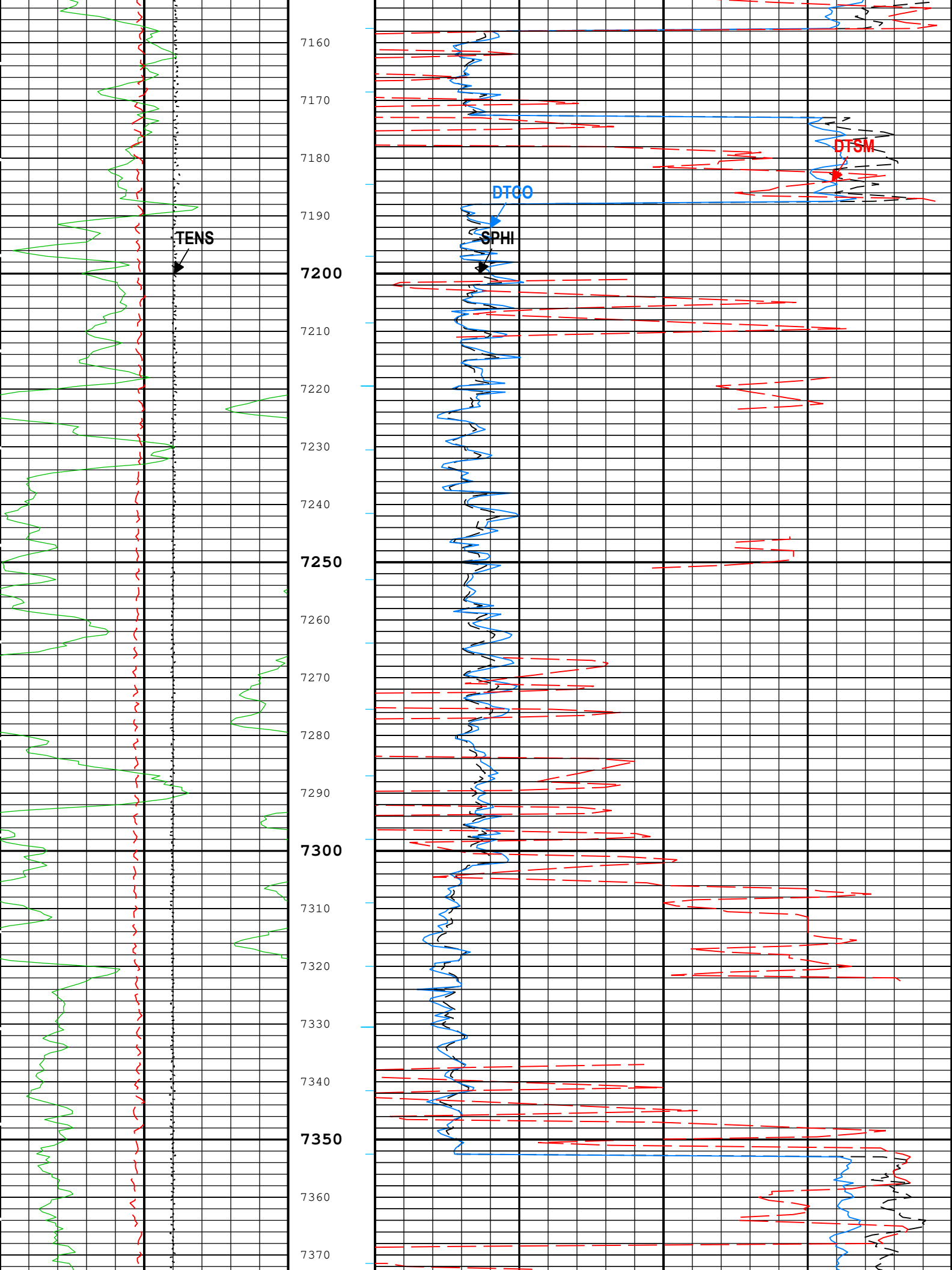


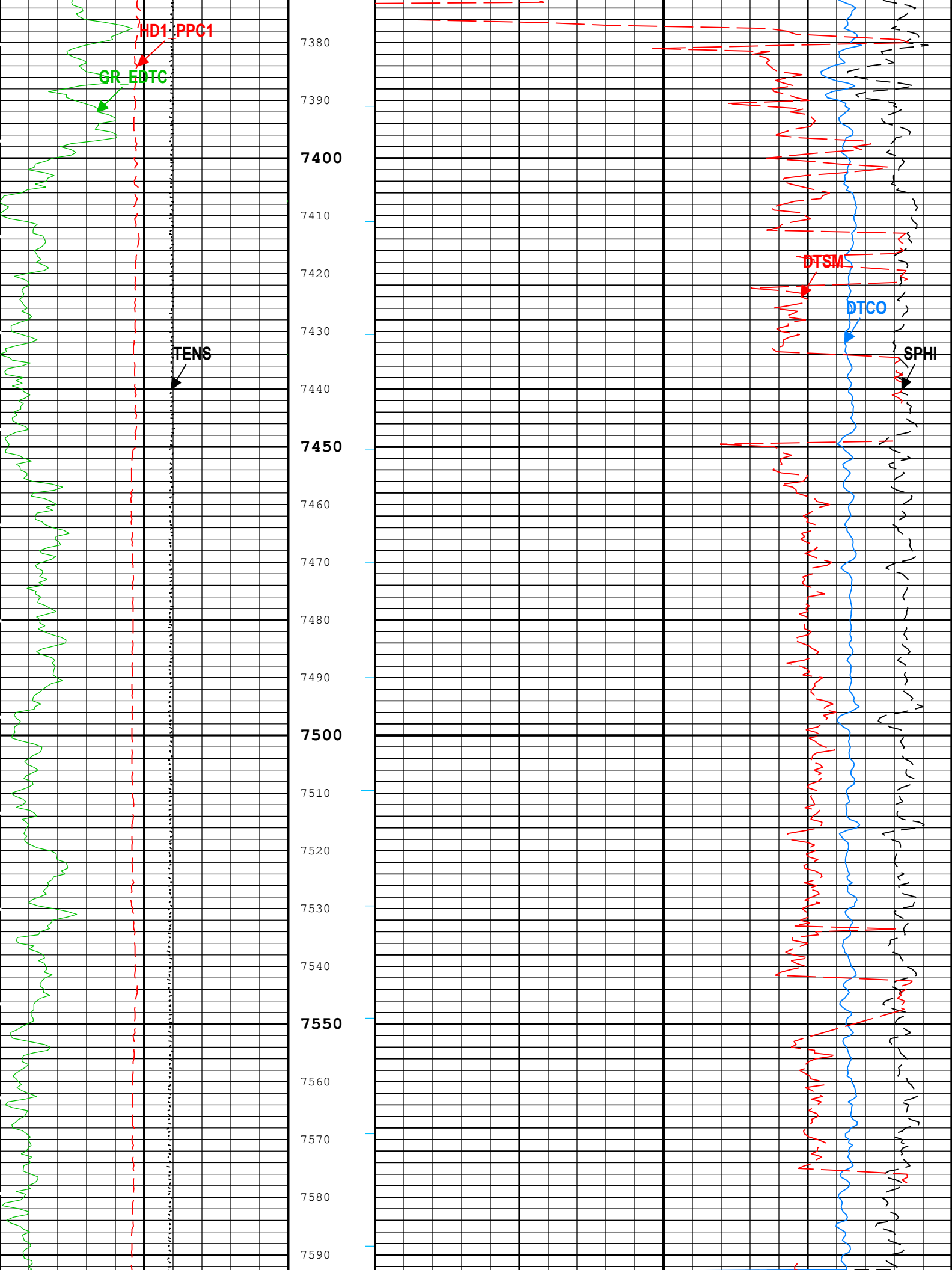


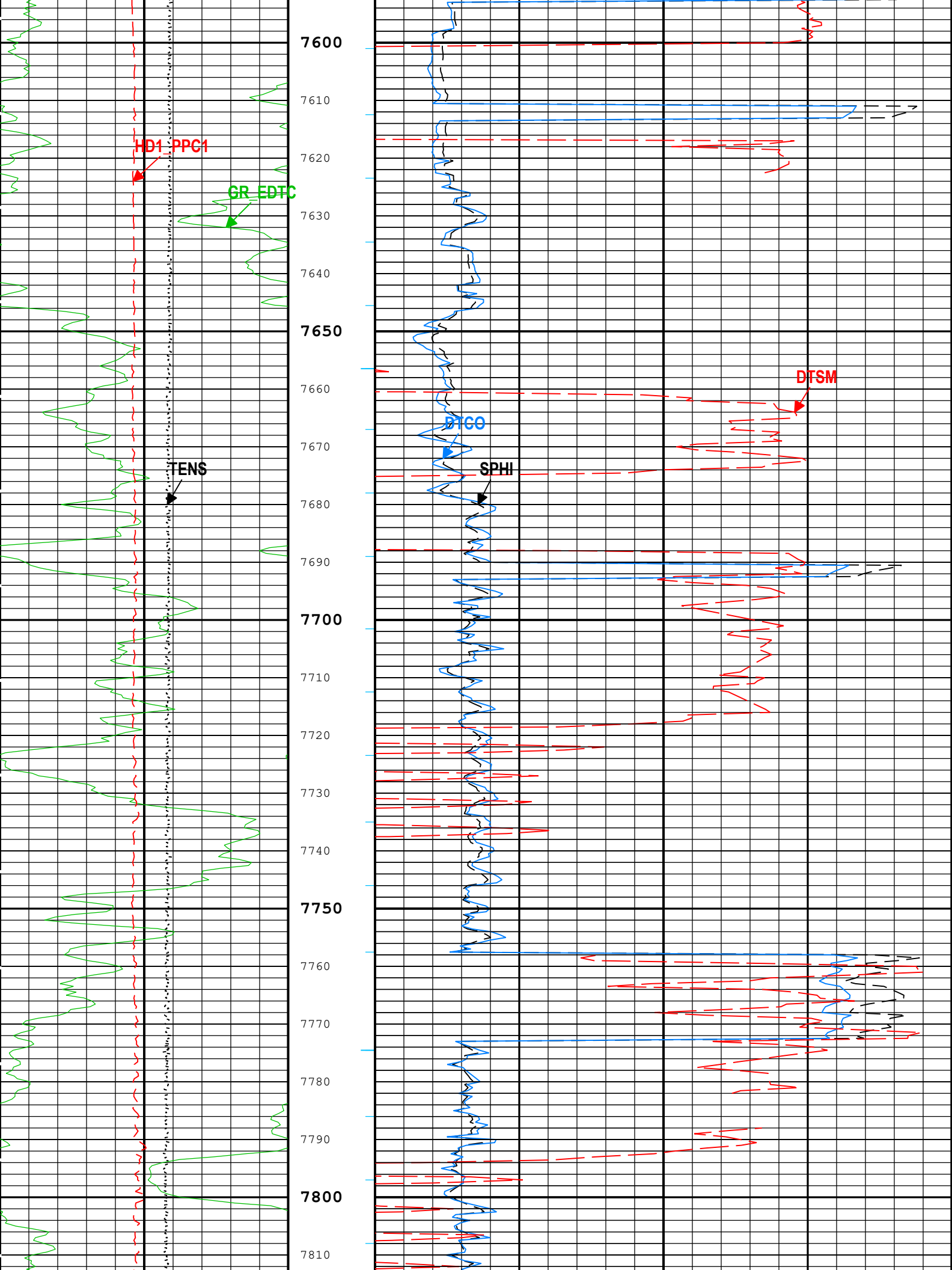


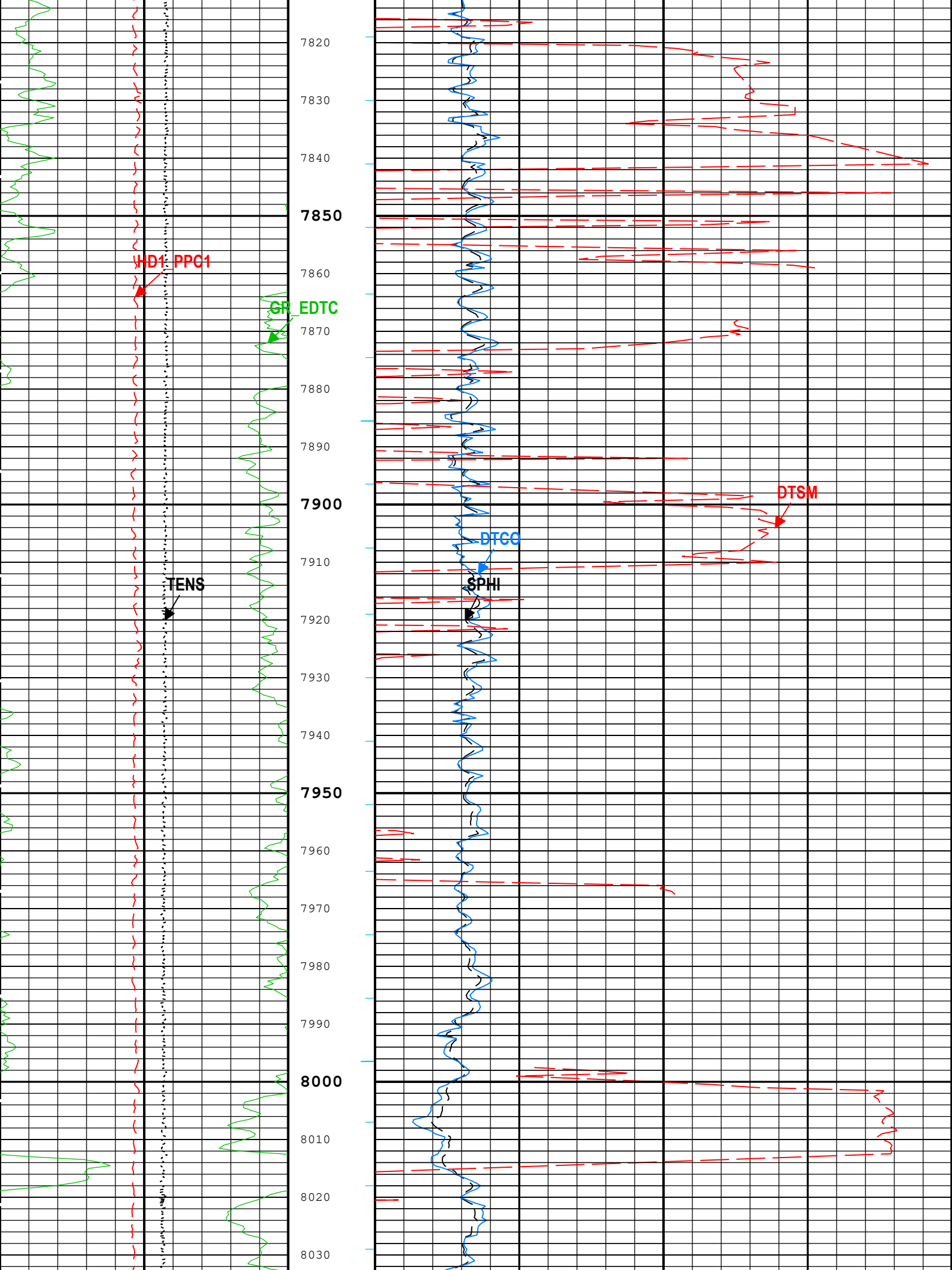


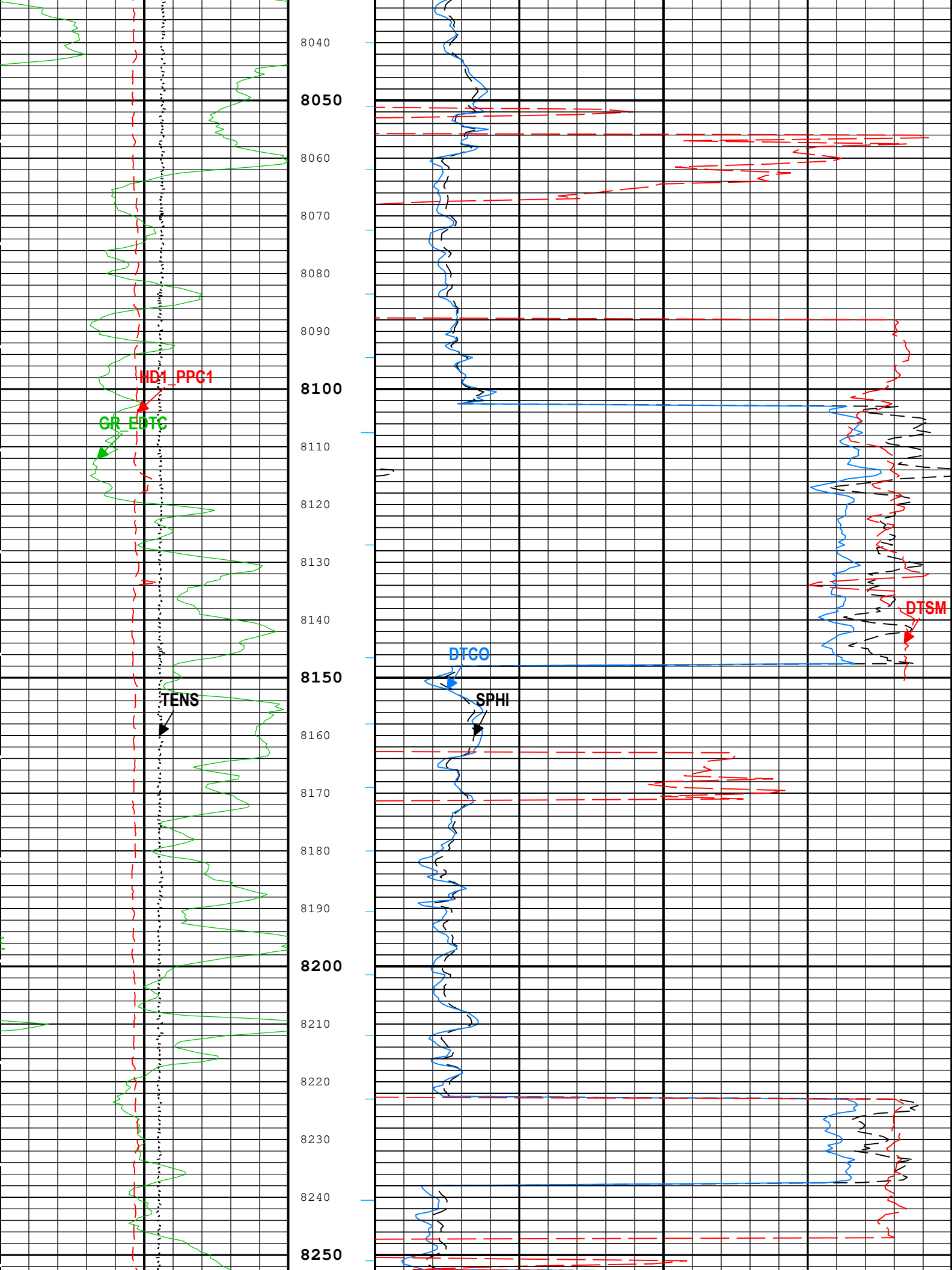


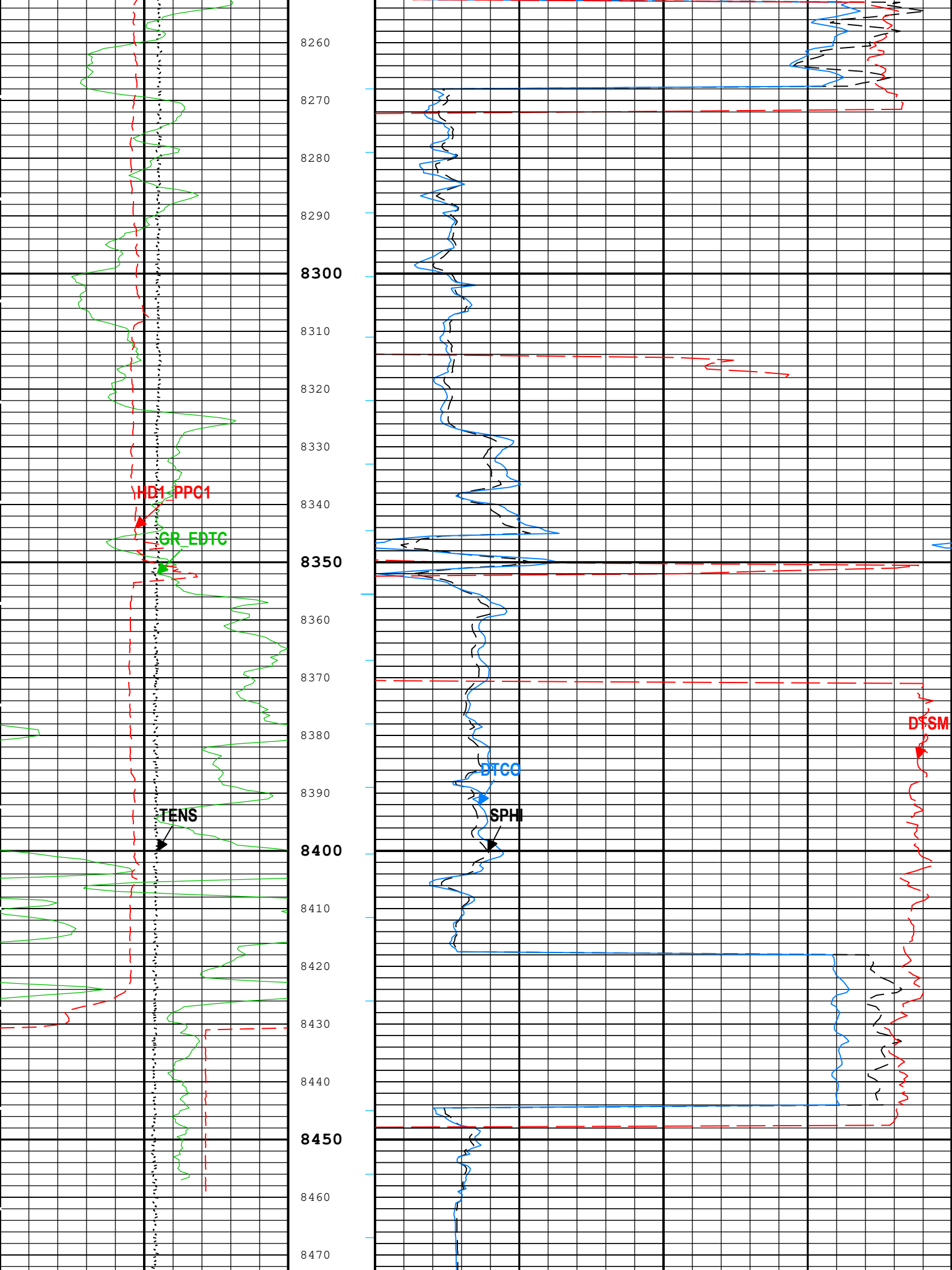


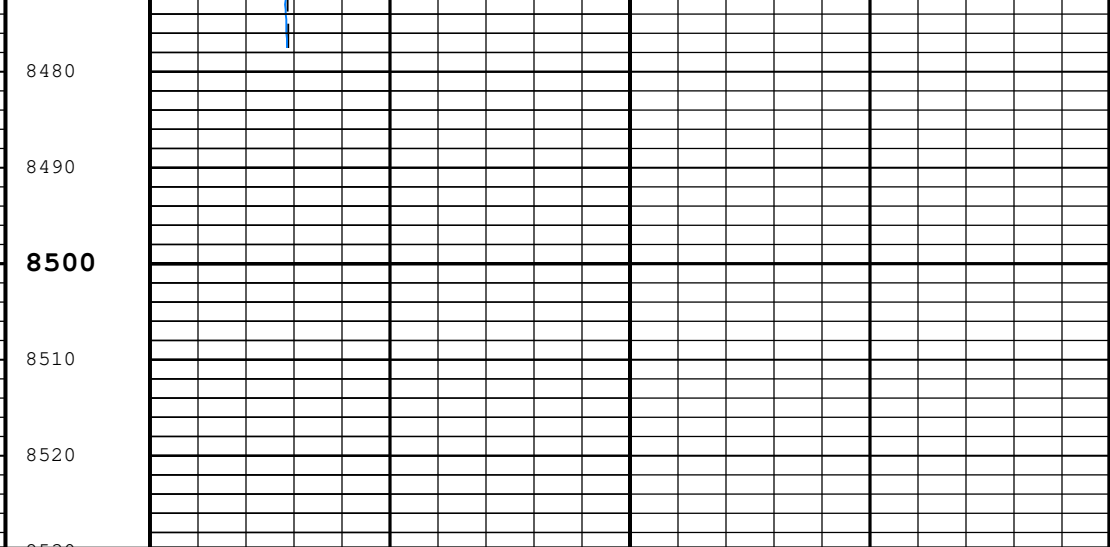
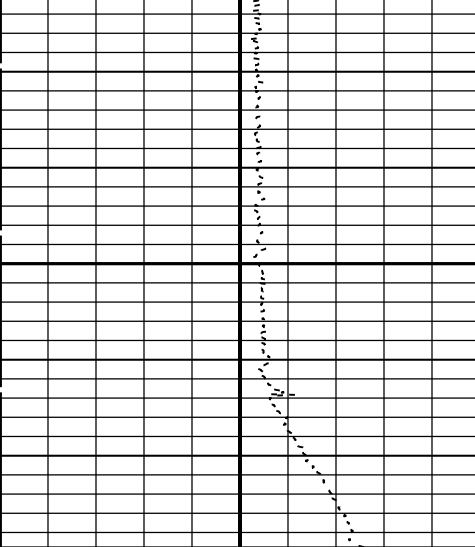












Cable Tension (TENS)		
10000	lbf	0
Calibrated Gamma Ray (GR_EDTC) EDTC-B		
0	gAPI	150
Hole Diameter 1 (HD1_PPC1) PPC-B		
6	in	16

Sonic Porosity (SPHI) MAST-B		
0.3	ft3/ft3	-0.1
Delta-T Compressional (DTCO) MAST-B		
100	us/ft	40
Delta-T Shear (DTS) MAST-B		
180	us/ft	80

TIME_1900 - Time Marked every 60.00 (s)

—|ITT - Integrated Transit Time every 10.00 (ms)

—|ITT - Integrated Transit Time every 1.00 (ms)

Description: HRLT BASIC LOG Format: Log (DSI 5 inch General) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 19-Jul-2021 23:38:50

Channel Processing Parameters

1A: Parameters

Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
C1_SHIFT	C1 Caliper Supplementary Offset	FBST-E	0.173	in
C2_SHIFT	C2 Caliper Supplementary Offset	FBST-E	-0.201	in
CBLO	Casing Bottom (Logger)	WLSESSION	2988	ft
CDTS	Correction for Delta-T Shale, Empirical	Borehole	100	us/ft
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.3	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DPINV_LAGCUT	Lag Cut for Dipole Inversion	MAST-B	No	
DTF	Delta-T Fluid	Borehole	189	us/ft
DTM	Delta-T Matrix	Borehole	56	us/ft
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
DTST_SLO_MFL	Slowness Series of Mouse Clicks for Relabeling DTST_MFL	MAST-B	[0]	us/ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	C1	
SFTY	Slowness Formation Type (Fast, Intermediate, Slow, etc.)	Borehole	Intermediate	
SPFS	Sonic Porosity Formula	Borehole	Raymer-Hunt	

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	14.77	2970	2989

BS	10.625	2989	8514
BS	8.75	8514	8529.5

All depth are actual.

Tool Control Parameters

1A: Parameters

Parameter	Description	Tool	Value	Unit
AMIP	Adaptive Mode Initial Phase	FBST-E	0	deg
APM	Acquisition Phase Mode	FBST-E	WBM - Adaptive Phase Control	
CBOOTSTA_MAPC	MAMS Controller Boot Status	MAST-B	1	
CONTROLLER_FIRM_REV_MAPC	MAPC Firmware Revision of Controller Electronics	MAST-B	2098	
DHMODALCTL	Downhole/Surface Modal Computation Control	MAST-B	[HALF, HALF, OFF, HALF, HALF, HALF]	
DIGTIME	Digitizing Time	MAST-B	[2550, 2550, 19980, 20440, 30480, 30480]	us
EMXGMOD	EMEX and Gain Modes	FBST-E	EMEX= Auto and Gain= Auto	
FLM	Logging Mode	FBST-E	Full Image Mode	
GAIN_FBST	Electronic Gain Value in Manual Mode	FBST-E	0 dB	
GARM_A	Electronic Gain Value for Arm A	FBST-E	0 dB	
GARM_B	Electronic Gain Value for Arm B	FBST-E	0 dB	
GARM_C	Electronic Gain Value for Arm C	FBST-E	0 dB	
GARM_D	Electronic Gain Value for Arm D	FBST-E	0 dB	
GNINT	Automatic Gain Selection Time Interval	MAST-B	[2550, 2550, 19980, 20440, 30480, 30480]	us
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	Time Zoned	ft/h
MAX_TOOL_SPEED	Maximum service speed allowed for, or attained by, a logging tool.	MAST-B	Time Zoned	ft/h
MONO_WF_CHN	Monopole Component Waveform Data Channel Name	MAST-B	[SWMUM_M, SWMLM_M, SWMFM_M, SWMFL_M, SW90C_M, SW00C_M]	
MONO_WFN_CHN	Monopole Component Waveform Normalization Data Channel Name	MAST-B	[SWMUMN_M, SWMLMN_M, SWMFMN_M, SWMFLN_M, SW90CN_M, SW00CN_M]	
MPSC	Manual Phase Shift Compensation	FBST-E	0	deg
MSMT_LIST	Measurement List	MAST-B	[MUM, MLM, MFM, MFL, 90C, 00C]	
PROD_MASTUI	MAST Product Class Selection	MAST-B	FFSS_EDTCB	
SENSOR10_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #10	MAST-B	1059	
SENSOR11_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #11	MAST-B	1059	
SENSOR12_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #12	MAST-B	1059	
SENSOR13_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #13	MAST-B	1059	
SENSOR1_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #1	MAST-B	1059	
SENSOR2_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #2	MAST-B	1059	
SENSOR3_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #3	MAST-B	1059	
SENSOR4_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #4	MAST-B	1059	
SENSOR5_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #5	MAST-B	1059	
SENSOR6_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #6	MAST-B	1059	
SENSOR7_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #7	MAST-B	1059	
SENSOR8_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #8	MAST-B	1059	
SENSOR9_FIRM_REV_MAPC	MAPC Firmware Revision of Sensor Electronics Station #9	MAST-B	1059	
RBOOTSTA_MAPC	MAMS Receiver Boot Status	MAST-B	1	
SAMINT	Sonic Waveform Sampling Interval	MAST-B	[10, 10, 20, 40, 40, 40]	
SERVICE_LIST	Service Selection List	MAST-B	[STSTC, NMSTC, XDSTC, YDSTC, FMSTC, ANISO, NMATD, FMATD, CRV, BHC, PBHC]	
SNSR_WF_CHN	Sensor Waveforms Data Channel Name	MAST-B	[RSWUM, RSWMLM, RSWFM, RSWFL, RSW90C, RSW00C]	
SNSR_WFN_CHN	Sensor Waveforms Normalization Factor Channel Name	MAST-B	[RSWUMN, RSWMLN]	

SENSOR_WFLN_CN	Sensor Waveforms Normalization Factor Channel Name	MAST-B	[SWM00CN, SWM01CN, SWM02CN, SWM03CN, SWM04CN, SWM05CN, SWM06CN, SWM07CN, SWM08CN, SWM09CN, SWM10CN, SWM11CN, SWM12CN, SWM13CN, SWM14CN, SWM15CN, SWM16CN, SWM17CN, SWM18CN, SWM19CN, SWM20CN, SWM21CN, SWM22CN, SWM23CN, SWM24CN, SWM25CN, SWM26CN, SWM27CN, SWM28CN, SWM29CN, SWM30CN, SWM31CN, SWM32CN, SWM33CN, SWM34CN, SWM35CN, SWM36CN, SWM37CN, SWM38CN, SWM39CN, SWM40CN, SWM41CN, SWM42CN, SWM43CN, SWM44CN, SWM45CN, SWM46CN, SWM47CN, SWM48CN, SWM49CN, SWM50CN, SWM51CN, SWM52CN, SWM53CN, SWM54CN, SWM55CN, SWM56CN, SWM57CN, SWM58CN, SWM59CN, SWM60CN, SWM61CN, SWM62CN, SWM63CN, SWM64CN, SWM65CN, SWM66CN, SWM67CN, SWM68CN, SWM69CN, SWM70CN, SWM71CN, SWM72CN, SWM73CN, SWM74CN, SWM75CN, SWM76CN, SWM77CN, SWM78CN, SWM79CN, SWM80CN, SWM81CN, SWM82CN, SWM83CN, SWM84CN, SWM85CN, SWM86CN, SWM87CN, SWM88CN, SWM89CN, SWM90CN, SWM91CN, SWM92CN, SWM93CN, SWM94CN, SWM95CN, SWM96CN, SWM97CN, SWM98CN, SWM99CN, SWM100CN]	
SNSRSEL	Sensor Element Select	MAST-B	[[On, On, On, On, On, On, On], [Off, Off, On, Off, On, On], [On, On, On, On, On, On], [Off, Off, On, Off, On, On], [On, On, On, On, On, On], [Off, Off, On, Off, On, On], [On, On, On, On, On, On], [Off, Off, On, Off, On, On]]	
XVOL	EMEX Voltage	FBST-E	0	V

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
MAX_LOG_SPEED	981	19-Jul-2021 07:53:53	19-Jul-2021 09:18:29	8529.53	7089.48
MAX_LOG_SPEED	1093	19-Jul-2021 09:18:29	19-Jul-2021 09:22:39	7089.48	7020.06
MAX_LOG_SPEED	1020	19-Jul-2021 09:22:39	19-Jul-2021 11:06:44	7020.06	5248.35
MAX_LOG_SPEED	960	19-Jul-2021 11:06:44	19-Jul-2021 11:20:17	5248.35	5025.34
MAX_LOG_SPEED	1010	19-Jul-2021 11:20:17	19-Jul-2021 11:55:38	5025.34	4439.93
MAX_LOG_SPEED	958	19-Jul-2021 11:55:38	19-Jul-2021 12:00:52	4439.93	4353.01
MAX_LOG_SPEED	1026	19-Jul-2021 12:00:52	19-Jul-2021 12:36:12	4353.01	3756.38
MAX_LOG_SPEED	968	19-Jul-2021 12:36:12	19-Jul-2021 12:41:22	3756.38	3666.9
MAX_LOG_SPEED	1022	19-Jul-2021 12:41:22	19-Jul-2021 12:43:26	3666.9	3631.22
MAX_LOG_SPEED	960	19-Jul-2021 12:43:26	19-Jul-2021 12:48:40	3631.22	3539.98
MAX_LOG_SPEED	1009	19-Jul-2021 12:48:40	19-Jul-2021 12:52:51	3539.98	3466.23
MAX_LOG_SPEED	948	19-Jul-2021 12:52:51	19-Jul-2021 12:57:01	3466.23	3393.32
MAX_LOG_SPEED	998	19-Jul-2021 12:57:01	19-Jul-2021 13:19:54	3393.32	2990.73
MAX_LOG_SPEED	1071	19-Jul-2021 13:19:54	19-Jul-2021 13:26:07	2990.73	2952.88
MAX_TOOL_SPEED	981	19-Jul-2021 07:53:53	19-Jul-2021 09:18:29	8529.53	7089.48
MAX_TOOL_SPEED	1093	19-Jul-2021 09:18:29	19-Jul-2021 09:22:39	7089.48	7020.06
MAX_TOOL_SPEED	1020	19-Jul-2021 09:22:39	19-Jul-2021 11:06:44	7020.06	5248.35
MAX_TOOL_SPEED	960	19-Jul-2021 11:06:44	19-Jul-2021 11:20:17	5248.35	5025.34
MAX_TOOL_SPEED	1010	19-Jul-2021 11:20:17	19-Jul-2021 11:55:38	5025.34	4439.93
MAX_TOOL_SPEED	958	19-Jul-2021 11:55:38	19-Jul-2021 12:00:52	4439.93	4353.01
MAX_TOOL_SPEED	1026	19-Jul-2021 12:00:52	19-Jul-2021 12:36:12	4353.01	3756.38
MAX_TOOL_SPEED	968	19-Jul-2021 12:36:12	19-Jul-2021 12:41:22	3756.38	3666.9
MAX_TOOL_SPEED	1022	19-Jul-2021 12:41:22	19-Jul-2021 12:43:26	3666.9	3631.22
MAX_TOOL_SPEED	960	19-Jul-2021 12:43:26	19-Jul-2021 12:48:40	3631.22	3539.98
MAX_TOOL_SPEED	1009	19-Jul-2021 12:48:40	19-Jul-2021 12:52:51	3539.98	3466.23
MAX_TOOL_SPEED	948	19-Jul-2021 12:52:51	19-Jul-2021 12:57:01	3466.23	3393.32
MAX_TOOL_SPEED	998	19-Jul-2021 12:57:01	19-Jul-2021 13:19:54	3393.32	2990.73
MAX_TOOL_SPEED	1071	19-Jul-2021 13:19:54	19-Jul-2021 13:26:07	2990.73	2952.88

All depth are at tool zero.

1A

Repeat Pass 5" = 100'

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1A	Log[2]:Up	Up	2952.88 ft	8529.53 ft	19-Jul-2021 7:53:53 AM	19-Jul-2021 1:26:07 PM	ON	9.38 ft	Yes
1A	Log[3]:Up	Up	74.43 ft	3516.38 ft	19-Jul-2021	19-Jul-2021	ON	9.90 ft	Yes

All depths are referenced to toolstring zero

Log

Company:University Of Utah

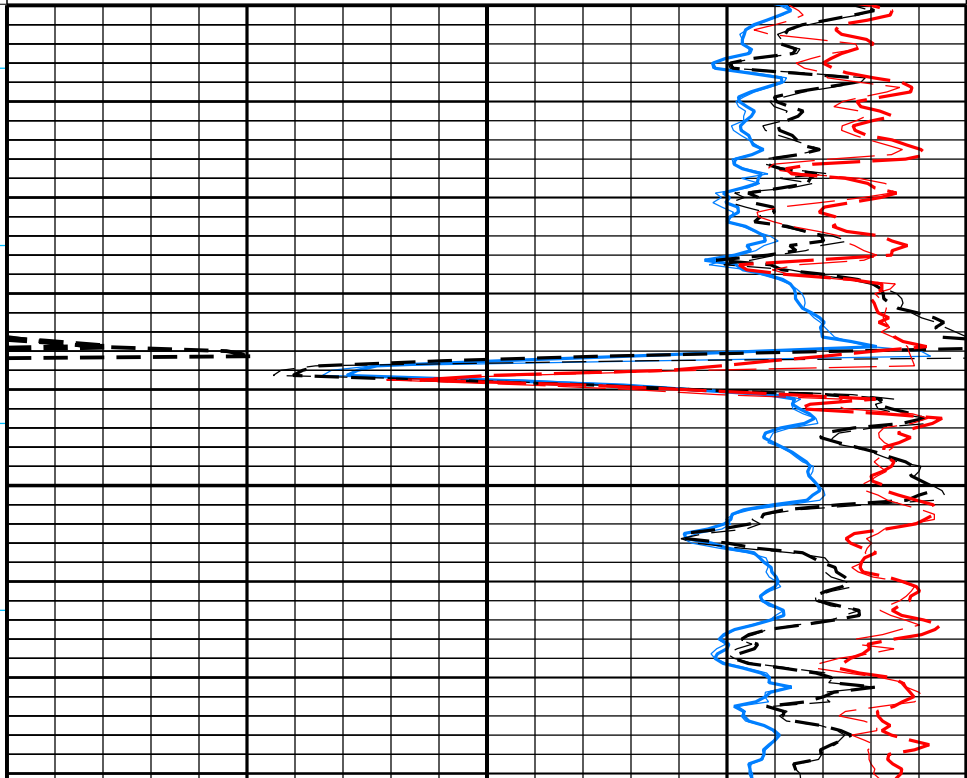
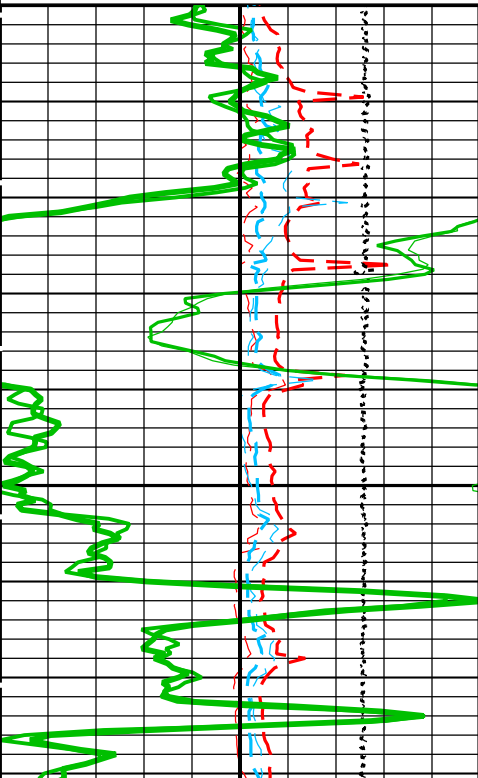
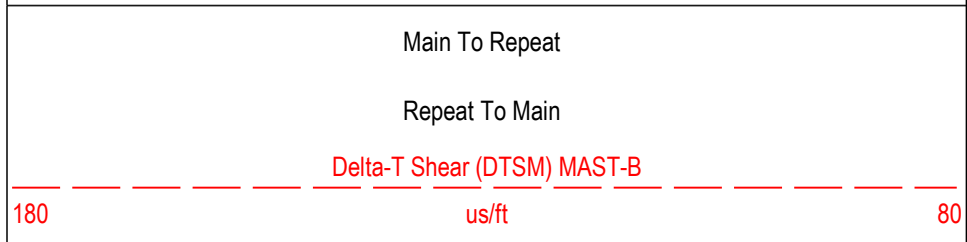
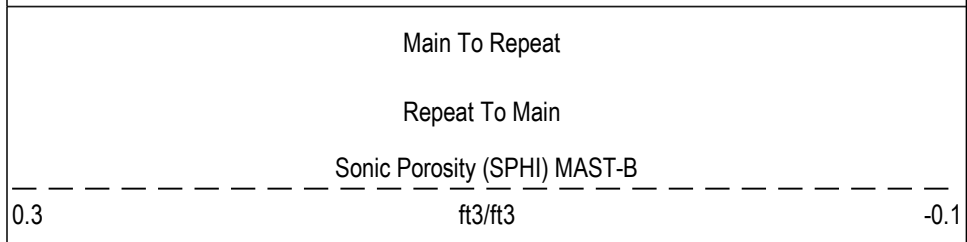
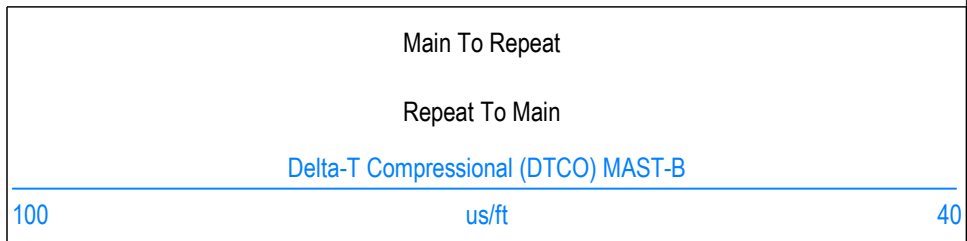
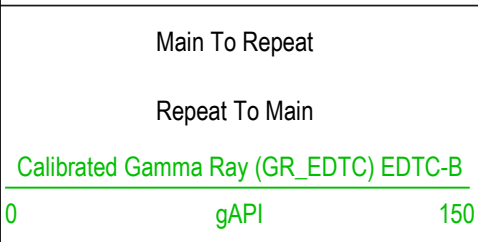
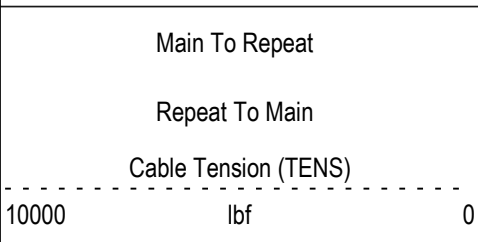
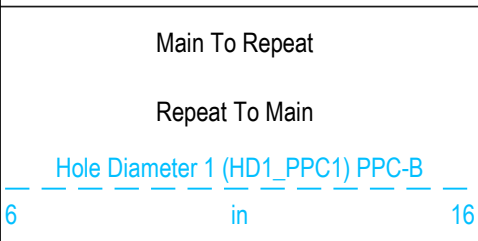
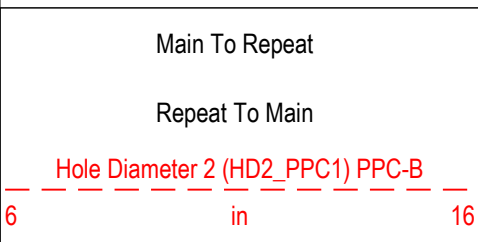
Well:FORGE 78B-32

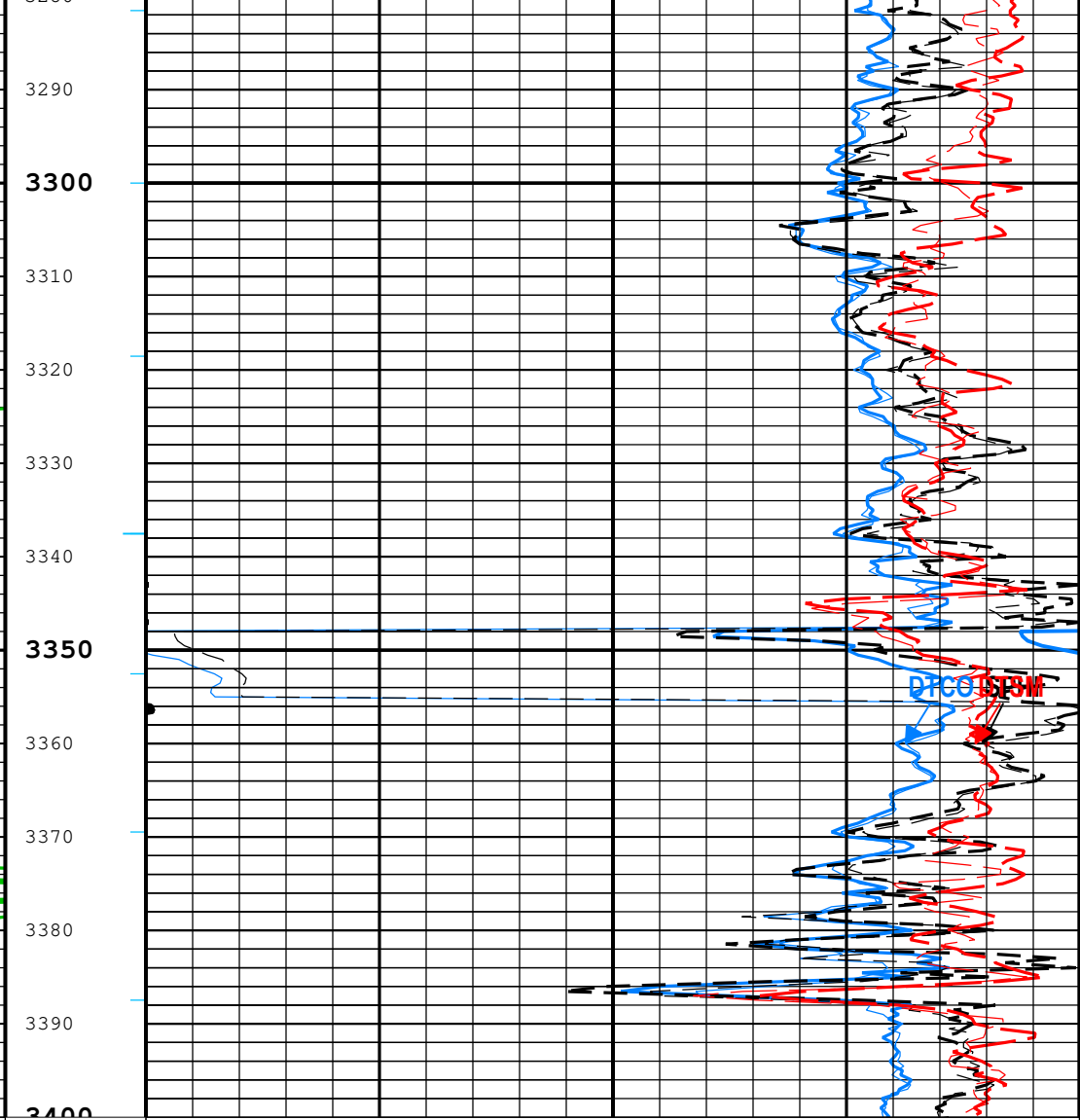
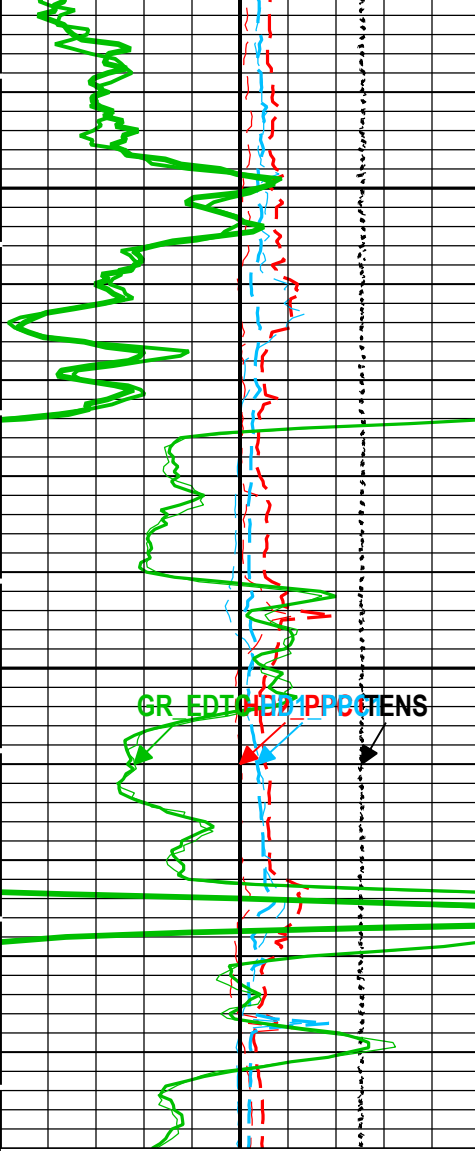
1A: Log[2]:Up:S015

Description: HRLT BASIC LOG Format: Log (DSI 5 inch General RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 19-Jul-2021 23:38:56

—|ITT - Integrated Transit Time every 1.00 (ms)
 —|ITT - Integrated Transit Time every 10.00 (ms)

TIME_1900 - Time Marked every 60.00 (s)





Main To Repeat
Repeat To Main
Hole Diameter 2 (HD2_PPC1) PPC-B
6 in 16

Main To Repeat
Repeat To Main
Delta-T Compressional (DTCO) MAST-B
100 us/ft 40

Main To Repeat
Repeat To Main
Hole Diameter 1 (HD1_PPC1) PPC-B
6 in 16

Main To Repeat
Repeat To Main
Sonic Porosity (SPHI) MAST-B
0.3 ft3/ft3 -0.1

Main To Repeat
Repeat To Main
Cable Tension (TENS)
10000 lbf 0

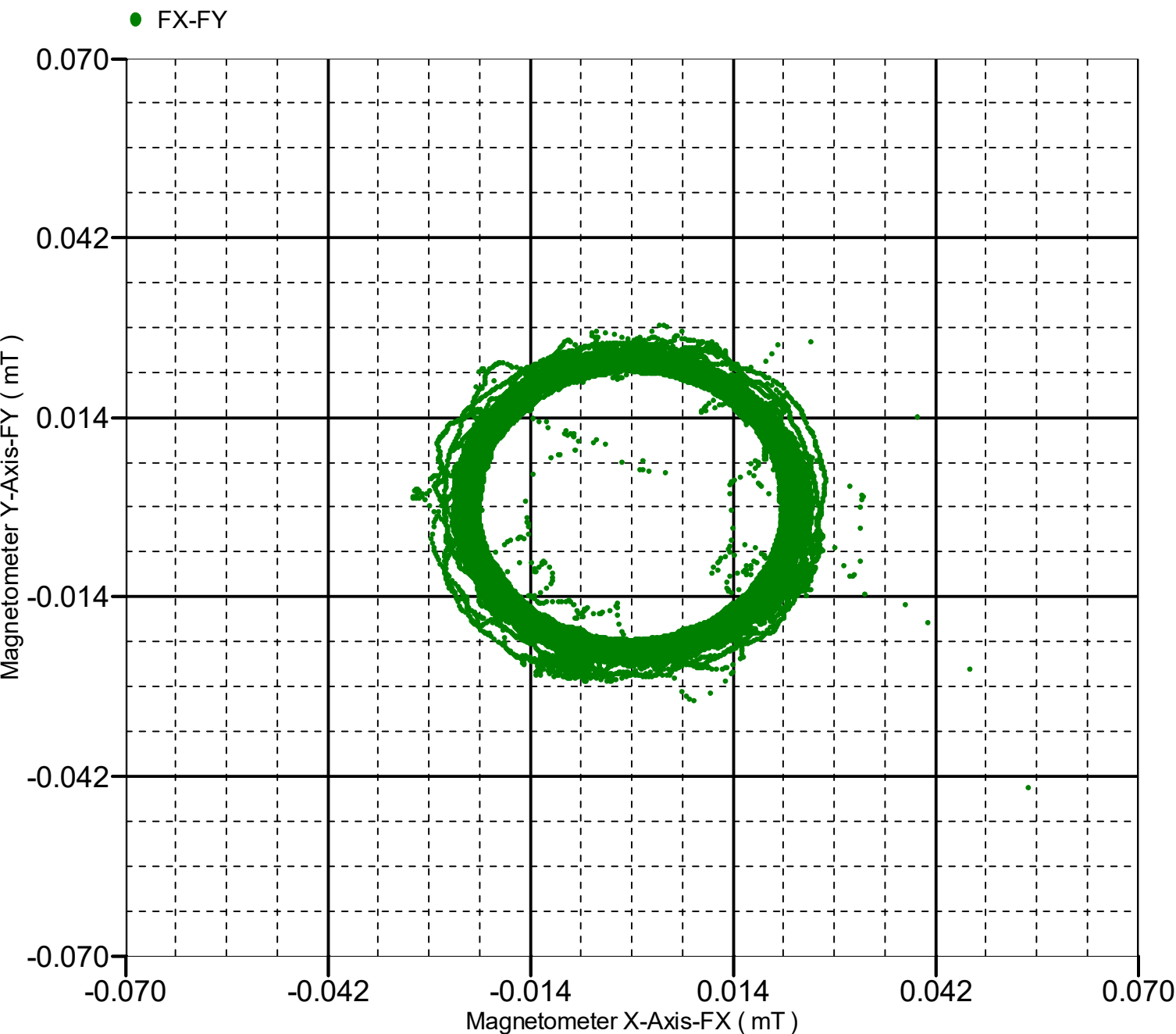
Main To Repeat
Repeat To Main
Delta-T Shear (DTSM) MAST-B
180 us/ft 80

Main To Repeat
Repeat To Main
Calibrated Gamma Ray (GR_EDTC) EDTC-B
0 gAPI 150

XYZ

FX vs. FY 2D Cross Plot

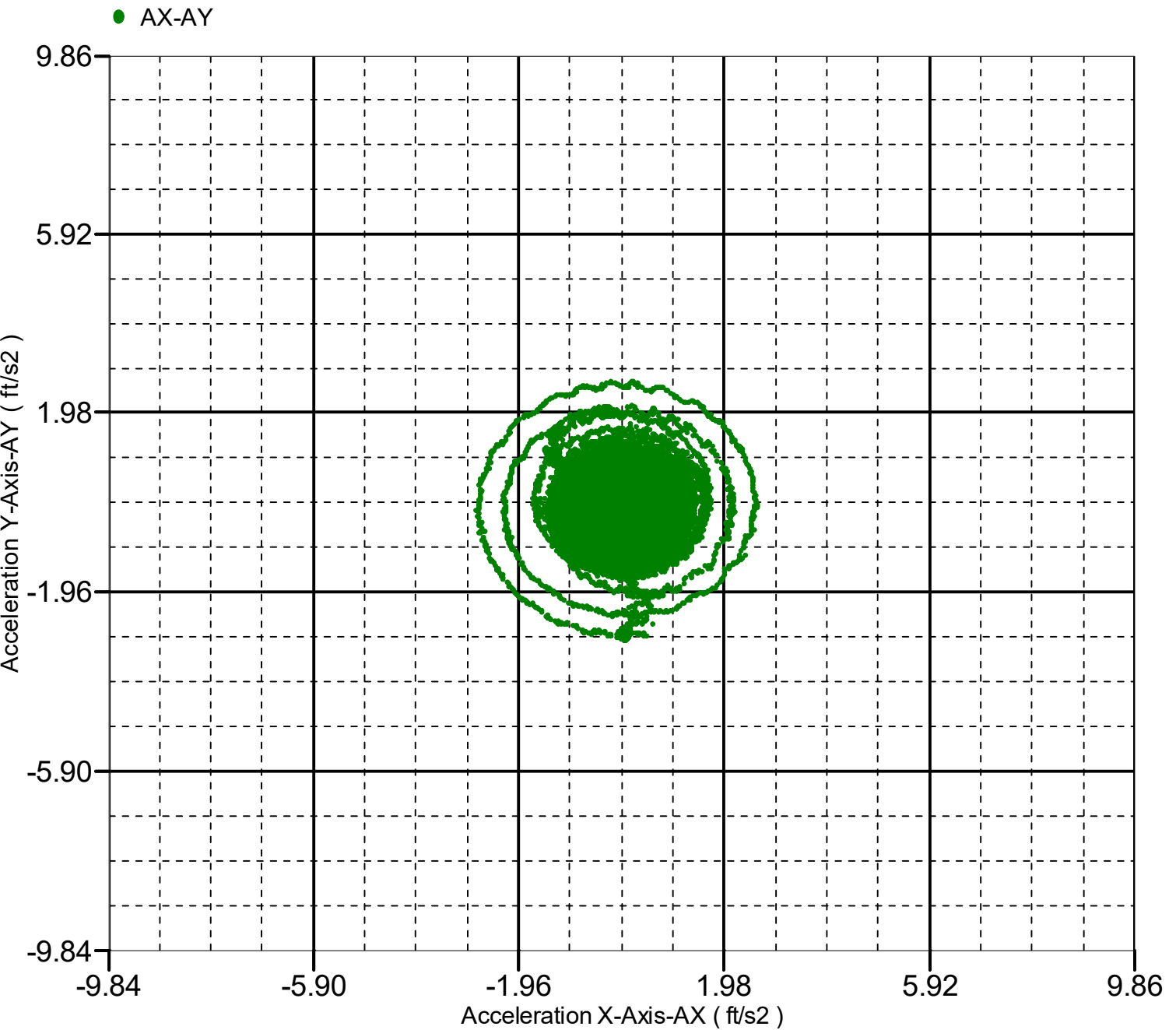
Index Range: From 8529.50 to 2953.00 ft



XYZ

AX vs. AY 2D Cross Plot

Index Range: From 8529.50 to 2953.00 ft



Calibration Report

MAST-B (Multimode Array Sonic Service Tool) Calibration - Run 1A

Primary Equipment :

MAMS-CA

MAMS-CA

8432

MAST Master Characterization Coefficients - Characterization Coefficients Summary

Master (EEPROM): 12:36:00 14-Dec-2020 Expired by 36 days

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Sensor Sensitivity Correction Factor Minimum		Master	1.000	0.500	0.914	1.700	
Sensor Sensitivity Correction Factor Maximum		Master	1.000	0.500	1.103	1.700	
Sensor Time Delay Factor Minimum	us	Master	0	-2.000	-0.471	2.000	
Sensor Time Delay Factor Maximum	us	Master	0	-2.000	0.461	2.000	
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Minimum		Master	1.000	0.900	0.922	1.700	
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Maximum		Master	1.000	0.900	1.121	1.700	

Characterization Coefficients

CALI_SSCF (Master) Sensor Sensitivity Correction Factor

Minimum/Nominal/Maximum 0.500/1.000/1.700

Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	1.009	1.013	1.031	1.028	1.007	1.000	0.959	0.972
SO2	1.023	1.007	0.983	1.062	0.996	0.989	0.955	1.061
SO3	1.039	0.962	1.103	0.978	0.951	0.991	0.958	1.046
SO4	1.003	1.041	0.975	0.986	0.991	0.968	0.933	0.966
SO5	0.978	1.024	1.054	0.983	1.063	0.952	0.969	1.020
SO6	1.036	0.981	1.029	1.027	1.018	0.958	0.931	1.010
SO7	1.071	1.030	1.042	0.996	0.995	0.983	0.970	1.005
SO8	1.029	1.001	1.006	1.043	0.982	1.031	0.943	1.008
SO9	1.003	1.013	1.032	1.029	0.985	0.968	0.990	0.941
SO10	1.021	1.003	0.996	1.061	1.009	0.975	0.968	0.983
SO11	0.950	1.029	0.961	1.060	1.039	1.072	0.988	0.966
SO12	0.979	0.980	0.956	0.989	0.999	1.008	0.932	0.962
SO13	0.997	1.013	0.989	0.976	1.024	0.914	0.925	0.948

CALI_STDF (Master) Sensor Time Delay Factor

Minimum/Nominal/Maximum -2.000/0/2.000

Unit us

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0.072	-0.032	0.000	-0.073	-0.077	0.083	0.154	0.000
SO2	0.009	0.005	-0.110	-0.079	-0.105	0.187	-0.005	0.167
SO3	0.254	-0.086	-0.015	0.124	-0.012	-0.428	0.160	0.012
SO4	0.430	-0.006	0.061	-0.386	-0.057	-0.081	-0.007	0.212
SO5	0.191	0.245	0.024	-0.288	-0.471	-0.129	-0.024	0.155
SO6	0.081	0.133	0.037	-0.089	-0.212	-0.357	-0.165	0.097
SO7	-0.223	0.216	-0.055	0.033	0.148	-0.274	-0.052	0.138
SO8	-0.071	0.051	0.117	0.092	-0.229	0.134	-0.144	0.008
SO9	-0.111	0.125	0.079	0.159	-0.245	0.055	-0.092	-0.190
SO10	-0.105	-0.031	0.084	0.200	0.059	0.031	-0.023	-0.428
SO11	-0.148	0.031	0.005	0.461	0.411	-0.005	-0.187	-0.365
SO12	-0.170	-0.006	0.177	0.399	0.006	0.200	-0.188	-0.358
SO13	-0.274	-0.040	0.040	0.068	0.441	0.163	-0.194	-0.238

CALI_SSCR (Master) Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio

Minimum/Nominal/Maximum 0.900/1.000/1.700

Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	1.047	1.025	1.001	0.971	0.950	0.954	1.008	1.033
SO2	1.045	1.017	1.001	0.974	0.972	0.968	1.004	1.047
SO3	1.054	1.048	1.020	0.992	0.970	1.008	1.032	1.059
SO4	1.030	1.075	0.974	1.025	0.937	0.932	0.949	1.001
SO5	1.046	1.030	1.007	1.037	1.001	0.938	0.974	1.008
SO6	1.017	0.983	0.970	0.939	0.922	0.964	0.944	1.000
SO7	1.028	0.991	1.076	1.042	1.002	1.075	0.959	0.928
SO8	0.973	0.983	1.020	1.059	1.121	0.974	0.946	0.970
SO9	0.973	1.000	1.030	1.034	1.102	0.985	0.962	0.957
SO10	0.967	1.000	1.020	1.024	1.008	0.981	0.970	1.002

SO10	0.974	1.000	1.039	1.050	1.036	0.983	0.965	0.960
SO12	0.980	0.998	1.021	1.029	1.078	0.987	0.954	0.953
SO13	0.986	0.994	1.002	1.030	1.021	0.982	0.956	0.969

CALI_SSCTF (Master) Sensor Sensitivity Correction Transmitter Failure Flag									
Minimum/Nominal/Maximum							0/0/0		Unit
Monopole Upper Transmitter					0				
Monopole Lower Transmitter					0				

CALI_SSCHF (Master) Sensor Sensitivity Correction High Frequency Diagnostic Failure Flag									
Minimum/Nominal/Maximum							0/0/0		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	0	0	0	0	0	0	0	0	
SO2	0	0	0	0	0	0	0	0	
SO3	0	0	0	0	0	0	0	0	
SO4	0	0	0	0	0	0	0	0	
SO5	0	0	0	0	0	0	0	0	
SO6	0	0	0	0	0	0	0	0	
SO7	0	0	0	0	0	0	0	0	
SO8	0	0	0	0	0	0	0	0	
SO9	0	0	0	0	0	0	0	0	
SO10	0	0	0	0	0	0	0	0	
SO11	0	0	0	0	0	0	0	0	
SO12	0	0	0	0	0	0	0	0	
SO13	0	0	0	0	0	0	0	0	

CALI_SSCLF (Master) Sensor Sensitivity Correction Low Frequency Diagnostic Failure Flag									
Minimum/Nominal/Maximum							0/0/0		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	0	0	0	0	0	0	0	0	
SO2	0	0	0	0	0	0	0	0	
SO3	0	0	0	0	0	0	0	0	
SO4	0	0	0	0	0	0	0	0	
SO5	0	0	0	0	0	0	0	0	
SO6	0	0	0	0	0	0	0	0	
SO7	0	0	0	0	0	0	0	0	
SO8	0	0	0	0	0	0	0	0	
SO9	0	0	0	0	0	0	0	0	
SO10	0	0	0	0	0	0	0	0	
SO11	0	0	0	0	0	0	0	0	
SO12	0	0	0	0	0	0	0	0	
SO13	0	0	0	0	0	0	0	0	

CALI_SSCHA (Master) Sensor Sensitivity Correction High Frequency Normalized Amplitudes									
Minimum/Nominal/Maximum							----/1.000/----		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	0.999	0.996	0.978	0.981	1.001	1.008	1.052	1.038	
SO2	0.980	0.995	1.020	0.944	1.005	1.013	1.049	0.944	
SO3	0.948	1.024	0.893	1.007	1.035	0.993	1.028	0.942	
SO4	0.976	0.940	1.004	0.993	0.987	1.011	1.049	1.013	

SO4	0.976	0.940	1.004	0.993	0.987	1.011	1.049	1.013
SO5	1.026	0.980	0.952	1.021	0.944	1.054	1.035	0.984
SO6	0.979	1.034	0.986	0.987	0.996	1.059	1.089	1.004
SO7	0.936	0.973	0.962	1.006	1.007	1.019	1.033	0.997
SO8	0.979	1.006	1.001	0.966	1.027	0.977	1.068	0.999
SO9	0.996	0.986	0.967	0.971	1.014	1.032	1.009	1.062
SO10	0.979	0.996	1.004	0.942	0.990	1.025	1.033	1.017
SO11	1.061	0.980	1.048	0.951	0.970	0.941	1.020	1.044
SO12	1.001	0.999	1.024	0.991	0.981	0.972	1.051	1.019
SO13	0.985	0.970	0.993	1.007	0.959	1.075	1.062	1.036

CALI_SSCLA (Master) Sensor Sensitivity Correction Low Frequency Normalized Amplitudes

Minimum/Nominal/Maximum							----/1.000/----		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	1.045	1.020	0.980	0.952	0.951	0.962	1.060	1.072	
SO2	1.024	1.011	1.021	0.919	0.977	0.981	1.053	0.989	
SO3	0.999	1.073	0.911	0.998	1.004	1.001	1.061	0.997	
SO4	1.005	1.011	0.978	1.017	0.925	0.943	0.995	1.014	
SO5	1.073	1.010	0.959	1.058	0.944	0.989	1.009	0.991	
SO6	0.996	1.016	0.957	0.927	0.919	1.021	1.028	1.004	
SO7	0.962	0.964	1.035	1.048	1.009	1.096	0.991	0.925	
SO8	0.952	0.989	1.021	1.023	1.151	0.952	1.011	0.968	
SO9	0.969	0.985	0.996	1.004	1.117	1.016	0.971	1.016	
SO10	0.947	0.996	1.023	0.964	0.998	1.005	1.002	1.019	
SO11	1.033	0.980	1.089	0.998	1.006	0.925	0.984	1.002	
SO12	0.980	0.998	1.046	1.020	1.057	0.960	1.002	0.971	
SO13	0.971	0.964	0.996	1.037	0.980	1.056	1.015	1.004	

CALI_SSTRS (Master) Sensor Sensitivity Correction Transmitter-Receiver Spacing

Minimum/Nominal/Maximum							----/4.000/----		Unit	ft
Monopole Upper Transmitter					4.000					
Monopole Lower Transmitter					4.000					

CALI_TTMUH (Master) Sensor Sensitivity Transit Time from Monopole Upper Transmitter High Frequency Firing

Minimum/Nominal/Maximum							0/0/5000.000		Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8		
SO1	500.787	500.892	500.859	500.933	500.936	500.776	500.705	500.860		
SO2	471.970	471.975	472.090	472.059	472.085	471.793	471.985	471.813		
SO3	442.665	443.006	442.935	442.796	442.931	443.347	442.759	442.908		
SO4	413.756	414.205	414.100	414.607	414.216	414.195	414.099	413.940		
SO5	384.930	384.886	385.118	385.383	385.565	385.240	385.085	384.921		
SO6	355.944	355.792	355.883	356.164	356.138	356.267	355.999	355.806		
SO7	327.512	327.112	327.401	327.306	327.185	327.648	327.359	327.130		
SO8	298.442	298.255	298.210	298.373	298.703	298.195	298.462	298.369		
SO9	269.415	269.254	269.314	269.270	269.705	269.360	269.488	269.481		
SO10	240.454	240.337	240.269	240.277	240.412	240.354	240.319	240.776		
SO11	211.589	211.443	211.418	211.148	211.266	211.442	211.582	211.479		
SO12	182.635	182.552	182.458	182.317	182.826	182.432	182.722	182.913		
SO13	153.353	153.164	153.180	152.970	152.533	152.855	153.235	153.394		

CALI_TTMLH (Master)

Sensor Sensitivity Transit Time from Monopole Lower Transmitter High Frequency Firing

Minimum/Nominal/Maximum							0/0/5000.000		Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8		
SO1	153.142	153.095	153.148	153.287	153.260	152.993	153.087	153.352		
SO2	182.244	182.242	182.388	182.253	182.417	182.274	182.374	182.113		
SO3	210.820	210.993	211.221	211.215	211.451	211.527	211.188	211.170		
SO4	239.786	240.209	240.179	240.566	240.300	240.369	240.317	240.038		
SO5	268.836	268.771	268.982	269.341	269.524	269.166	269.110	268.916		
SO6	297.711	297.759	297.861	297.831	298.105	298.265	298.148	297.818		
SO7	327.246	326.769	327.020	326.940	326.831	327.212	327.059	326.906		
SO8	355.718	355.661	355.576	355.462	355.774	355.555	355.844	355.635		
SO9	384.926	384.616	384.649	384.533	384.905	384.649	384.815	385.018		
SO10	413.742	413.712	413.550	413.309	413.457	413.570	413.714	414.067		
SO11	442.623	442.444	442.470	442.014	442.064	442.480	442.662	442.840		
SO12	471.770	471.606	471.423	471.200	471.593	471.400	471.788	471.958		
SO13	500.720	500.486	500.406	500.377	500.005	500.283	500.640	500.684		

CALI_AMPMUH (Master)

Sensor Sensitivity First Break Amplitude from Monopole Upper Transmitter High Frequency Firing

Minimum/Nominal/Maximum							-50000.000/0/50000.000		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	4747.890	4732.992	4650.271	4662.596	4759.805	4792.729	4999.269	4933.080	
SO2	4916.351	4991.580	5116.810	4736.079	5046.288	5085.240	5266.271	4738.188	
SO3	5076.794	5484.087	4782.976	5392.833	5545.283	5318.785	5507.234	5042.742	
SO4	5520.625	5359.648	5693.368	5707.986	5613.327	5733.510	5915.885	5723.101	
SO5	5932.454	5668.097	5519.803	5984.931	5525.552	6110.164	5973.304	5667.197	
SO6	5868.460	6205.274	5925.841	5956.176	5987.764	6385.237	6479.521	5981.289	
SO7	6026.187	6210.507	6199.192	6478.298	6437.692	6558.520	6552.470	6329.704	
SO8	6530.255	6722.292	6697.031	6493.717	6970.951	6534.280	7130.851	6656.076	
SO9	7003.045	6959.443	6827.197	6871.535	7245.415	7272.706	7112.255	7470.076	
SO10	7232.813	7365.135	7420.564	6950.558	7312.558	7601.245	7627.479	7582.777	
SO11	8195.566	7557.170	8013.902	7202.678	7371.808	7170.028	7811.163	7984.974	
SO12	8303.442	8269.144	8297.350	7878.183	8031.762	7852.117	8588.316	8460.855	
SO13	8015.985	7665.162	7581.299	7448.683	7125.658	8098.353	8232.554	8384.638	

CALI_AMPMLH (Master)

Sensor Sensitivity First Break Amplitude from Monopole Lower Transmitter High Frequency Firing

Minimum/Nominal/Maximum							-50000.000/0/50000.000		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	7805.864	7869.873	7791.440	7747.871	7881.255	7860.696	8177.804	8075.208	
SO2	7802.691	7793.522	8054.357	7379.293	7878.910	7886.506	8132.753	7440.706	
SO3	7305.963	7903.839	6945.812	7718.994	7937.202	7554.333	7957.531	7222.775	
SO4	7215.875	6899.315	7409.239	7222.114	7266.766	7464.123	7779.850	7504.519	
SO5	7039.649	6722.104	6515.095	6910.505	6394.833	7217.690	7120.878	6773.781	
SO6	6319.878	6663.715	6345.346	6334.535	6409.526	6795.492	7083.464	6522.554	
SO7	5736.605	6019.159	5895.537	6170.736	6223.951	6258.971	6431.492	6203.658	
SO8	5719.569	5864.696	5829.702	5596.781	5887.125	5685.596	6235.052	5838.162	
SO9	5588.026	5510.632	5412.711	5416.332	5599.352	5779.605	5648.660	5956.234	
SO10	5209.868	5297.446	5335.104	5012.692	5271.222	5432.747	5496.003	5358.465	
SO11	5324.312	4917.864	5262.517	4773.950	4871.636	4721.562	5122.025	5239.423	

SO12	4908.313	4903.298	5025.708	4860.517	4812.690	4770.503	5155.530	4996.672	
SO13	4580.192	4509.898	4617.188	4680.602	4458.146	4998.221	4937.214	4816.546	
CALI_AMPUL (Master) Sensor Sensitivity First Break Amplitude from Monopole Upper Transmitter Low Frequency Firing									
Minimum/Nominal/Maximum							-50000.000/0/50000.000		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	-6486.974	-6378.288	-6310.782	-6065.020	-6324.840	-6371.911	-6837.464	-6605.298	
SO2	-6982.053	-7020.641	-7139.458	-6531.197	-7040.329	-7147.207	-7406.845	-6644.212	
SO3	-8404.681	-9064.436	-7879.639	-9043.475	-9124.882	-8717.421	-9007.206	-8342.820	
SO4	-9636.260	-10014.590	-10074.640	-10845.760	-9984.646	-9837.188	-10119.660	-9834.081	
SO5	-10376.340	-9811.078	-9816.411	-11574.410	-10281.980	-10350.580	-10277.250	-9798.597	
SO6	-10560.840	-11411.180	-11311.860	-11336.320	-11213.330	-12006.100	-11712.990	-10757.200	
SO7	-13040.250	-13074.760	-14028.040	-14211.380	-13678.590	-14856.090	-13434.030	-12541.850	
SO8	-18885.800	-19612.420	-20251.710	-20287.660	-22823.160	-18870.880	-20044.700	-19203.850	
SO9	-17468.900	-17768.740	-17965.050	-18101.940	-20147.240	-18328.410	-17504.810	-18313.550	
SO10	-17975.630	-18923.090	-19434.130	-18302.660	-18958.370	-19087.590	-19023.660	-19353.110	
SO11	-19981.780	-18942.660	-21063.060	-19307.030	-19450.240	-17879.640	-19035.240	-19367.340	
SO12	-21640.640	-22019.880	-23097.940	-22510.250	-23333.480	-21182.510	-22127.400	-21437.030	
SO13	-23925.990	-23741.470	-24522.400	-25554.370	-24128.660	-26017.470	-25003.320	-24740.760	

CALI_AMPMLL (Master) Sensor Sensitivity First Break Amplitude from Monopole Lower Transmitter Low Frequency Firing									
Minimum/Nominal/Maximum							-50000.000/0/50000.000		Unit
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8	
SO1	-24107.650	-23533.640	-22595.390	-21967.520	-21940.310	-22184.640	-24443.210	-24720.310	
SO2	-20944.790	-20687.480	-20878.020	-18804.850	-19995.400	-20064.040	-21542.140	-20226.210	
SO3	-18465.670	-19823.520	-16839.230	-18451.750	-18558.110	-18497.720	-19609.090	-18424.210	
SO4	-17713.600	-17813.760	-17233.620	-17932.810	-16304.050	-16614.860	-17540.010	-17870.680	
SO5	-16147.000	-15191.800	-14426.450	-15925.680	-14209.710	-14874.470	-15179.070	-14912.330	
SO6	-13133.940	-13401.280	-12619.830	-12234.400	-12120.110	-13466.200	-13566.630	-13251.980	
SO7	-15079.420	-14445.620	-15251.010	-15367.100	-14182.800	-15389.990	-14641.680	-14696.350	
SO8	-9594.785	-10315.790	-10335.440	-9416.351	-11055.000	-9683.821	-10067.740	-9472.511	
SO9	-9071.579	-9175.696	-9146.802	-8982.588	-10009.430	-9289.430	-8998.772	-9360.995	
SO10	-8536.531	-8826.783	-9300.482	-8915.692	-9089.698	-8905.768	-8772.988	-9202.375	
SO11	-8715.216	-8065.255	-9311.564	-8895.745	-8831.532	-7991.447	-8242.143	-8374.602	
SO12	-7308.657	-7431.245	-8490.258	-8441.180	-8744.604	-7665.579	-7523.744	-7120.988	
SO13	-6612.955	-6933.347	-7563.896	-7897.471	-7566.801	-8017.534	-7192.193	-6714.651	

PPC-B (Powered Positioning device and Caliper.) Calibration - Run 1A

Primary Equipment :

PPC-B Element is used for usual logging at wellsite and check/diagnostics.

PPC-B

8048

Auxiliary Equipment :

PPC-B Element is used for usual logging at wellsite and check/diagnostics.

PPC-B

8048

Calibration Parameter :

ZERO_REF

PLUS_REF

Equipment Properties :

Caliper Arm Equipment Type for PPC

PPC_CAL_STD

PPC Check - Downhole Electronics Test

Before (Measured): 18:55:59 17-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage	V	Before	----	7	8.67451	9	
Minus Analog Voltage	V	Before	----	-9	-8.69063	-7	
Digital Voltage	V	Before	----	3.15	3.38352	3.45	
Digital Voltage for Analog Digital Converter	V	Before	----	4.5	5.02822	5.5	
Status Word of Analog Digital Converter Offset		Before	----	-8	0	8	

PPC Check - Cartridge Temperature Test

Before (Measured): 18:55:59 17-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature	degF	Before	----	-58	86.1308	482	

PPC Check - Power Control LVDT Test

Before (Measured): 18:55:59 17-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position	in	Before	----	----	-1.25427	----	
LVDT5 Full Power Position	in	Before	----	----	1.37488	----	

PPC Diagnostics - Arm Close Position Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper-arm 1, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 2, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 3, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 4, radius raw - 0	in	Master	----	----	----	----	
Power Control LVDT - 0	in	Master	----	----	----	----	
LVDT excitation - 0	V	Master	----	----	----	----	

PPC Diagnostics - Downhole Electronics Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage - 0	V	Master	----	----	----	----	
Minus Analog Voltage - 0	V	Master	----	----	----	----	
Digital Voltage - 0	V	Master	----	----	----	----	
Digital Voltage for Analog Digital Converter - 0	V	Master	----	----	----	----	
Status Word of Analog Digital Converter Offset - 0		Master	----	----	----	----	

PPC Diagnostics - RBS Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Relative Bearing - 0	deg	Master	----	----	----	----	
Potentiometer Excitation - 0	V	Master	----	----	----	----	

PPC Diagnostics - Cartridge Temperature Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature - 0	degF	Master	----	----	----	----	

PPC Diagnostics - Power Control LVDT Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position - 0	in	Master	----	----	----	----	
LVDT5 Full Power Position - 0	in	Master	----	----	----	----	

PPC LVDT5 Master Calibration - PPC CaliCoefficients

Master (EEPROM): 19:33:00 17-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CCS	in	Master	-1.51	-1.71	-1.43127	-1.31	
COP	in	Master	-1.31	-1.55	-1.25427	-1.07	
CPW	in	Master	1.41	1.2	1.37488	1.61	

PPC Caliper Calibration - PPC CaliCoefficients

Before (Measured): 19:59:00 17-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RD1_GAIN		Before	1	0.85	1.02095	1.15	
RD2_GAIN		Before	1	0.85	1.02497	1.15	
RD3_GAIN		Before	1	0.85	1.05785	1.15	
RD4_GAIN		Before	1	0.85	1.05809	1.15	
RD1_OFFSET	in	Before	0	-2.2	-0.78812	2.6	
RD2_OFFSET	in	Before	0	-2.2	0.026194	2.6	
RD3_OFFSET	in	Before	0	-2.2	-1.02032	2.6	
RD4_OFFSET	in	Before	0	-2.2	-0.6299	2.6	

PPC Caliper Calibration - PPC Accumulations

Before (Manual Entry): 19:53:08 19-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper 1 Zero Radius - 0	in	Before	----	----	----	----	
Caliper 2 Zero Radius - 0	in	Before	----	----	----	----	
Caliper 3 Zero Radius - 0	in	Before	----	----	----	----	
Caliper 4 Zero Radius - 0	in	Before	----	----	----	----	
Caliper 1 Plus Radius - 0	in	Before	----	----	----	----	
Caliper 2 Plus Radius - 0	in	Before	----	----	----	----	
Caliper 3 Plus Radius - 0	in	Before	----	----	----	----	
Caliper 4 Plus Radius - 0	in	Before	----	----	----	----	

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run 1A

Primary Equipment :	EDTC-B	EDTC-B	9316
Calibration Parameter :	Plus Reference (Jig minus background reference)	165	

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement - 0	ft/s2	Before	----	----	----	----	

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 07:33:58 19-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Initial PMT HV	V	Master	----	----	1368.000	----	
Accelerometer Serial Number		Master	----	----	1578	----	
Accelerometer Coefficients - 0		Master	----	----	2.946E+000	----	
Accelerometer Coefficients - 1		Master	----	----	2.708E-004	----	
Accelerometer Coefficients - 2		Master	----	----	3.975E-007	----	
Accelerometer Coefficients - 3		Master	----	----	-5.664E-008	----	
Accelerometer Coefficients - 4		Master	----	----	1.326E-009	----	
Accelerometer Coefficients - 5		Master	----	----	-9.924E-012	----	
Accelerometer Coefficients - 6		Master	----	----	2.514E-014	----	
Accelerometer Coefficients - 7		Master	----	----	-5.486E-003	----	
Accelerometer Coefficients - 8		Master	----	----	4.410E-005	----	
Accelerometer Coefficients - 9		Master	----	----	-2.638E-008	----	
Accelerometer Coefficients - 10		Master	----	----	1.522E-010	----	
Accelerometer Coefficients - 11		Master	----	----	-1.560E-012	----	
Gamma-Ray Detector Serial Number		Master	----	----	79527	----	

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 19:36:57 17-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Gain		Before	1.000	0.900	1.044	1.100	

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 19:36:57 17-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before	----	0	77.309	120.000	

Company:	University Of Utah	Schlumberger
Well:	FORGE 78B-32	
Field:	None	
County:	Beaver	
State:	Utah	

Multimode Array Sonic Tool
 Field Print

1A

Main Pass 1" = 100'

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1A	Log[2]:Up	Up	2952.88 ft	8529.53 ft	19-Jul-2021 7:53:53 AM	19-Jul-2021 1:26:07 PM	ON	9.38 ft	Yes

All depths are referenced to toolstring zero

Description: HRLT BASIC LOG Format: Log (DSI 1 inch General) Index Scale: 1 in per 100 ft Index

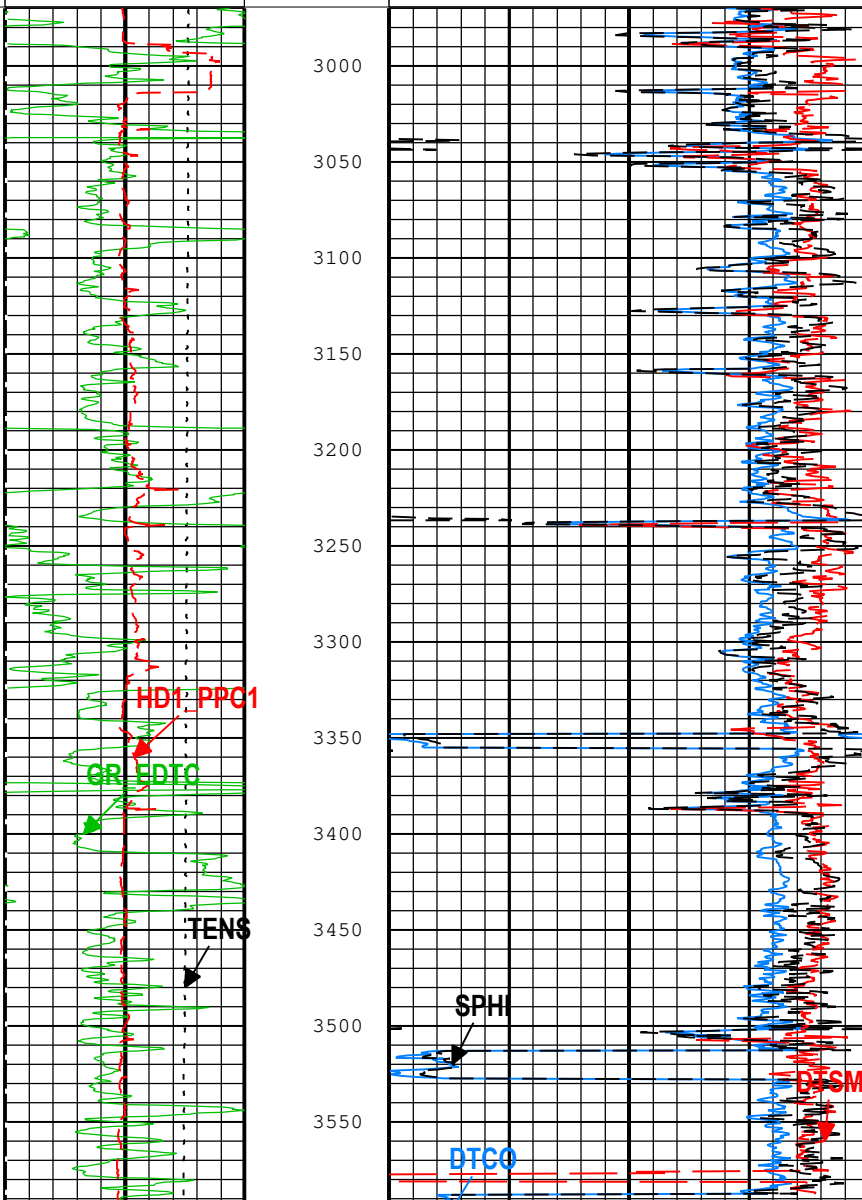
Unit: ft Index Type: Measured Depth Creation Date: 19-Jul-2021 23:39:08

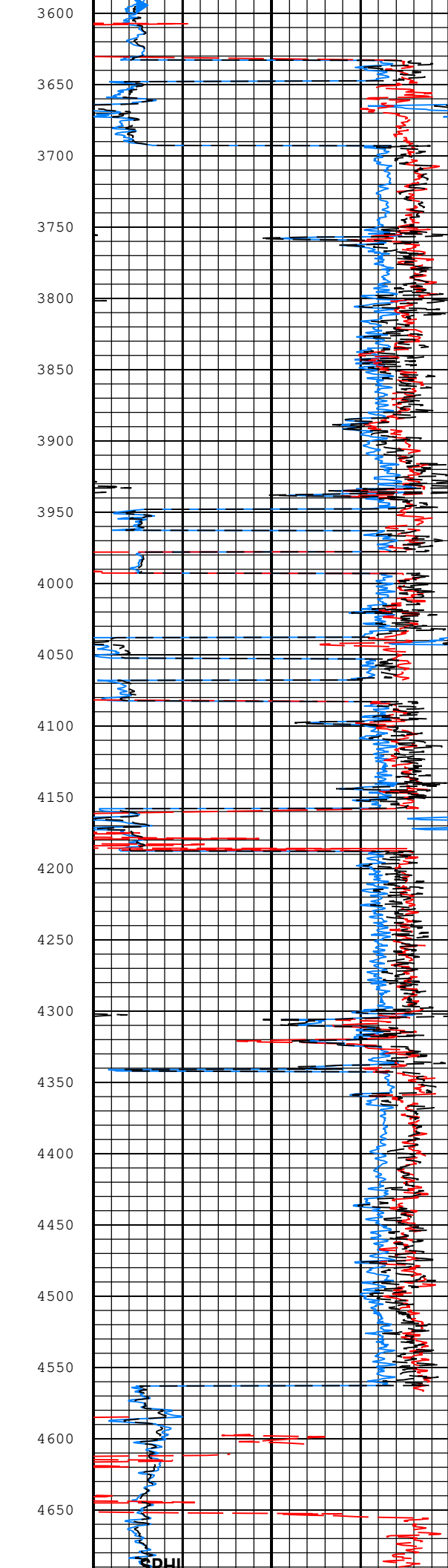
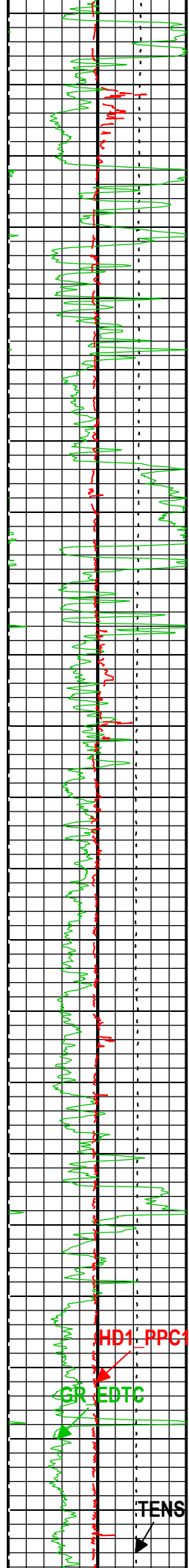
Channel	Source	Sampling
DTCO	MAST-B:MAMS-B:MAMS-CA	6in
DTSM	MAST-B:MAMS-B:MAMS-CA	6in
GR_CAL	EDTC-B:EDTC-B:EDTC-B	6in
HD1	PPC-B:PPC-B:PPC-B	6in
SPHI	MAST-B:MAMS-B:MAMS-CA	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

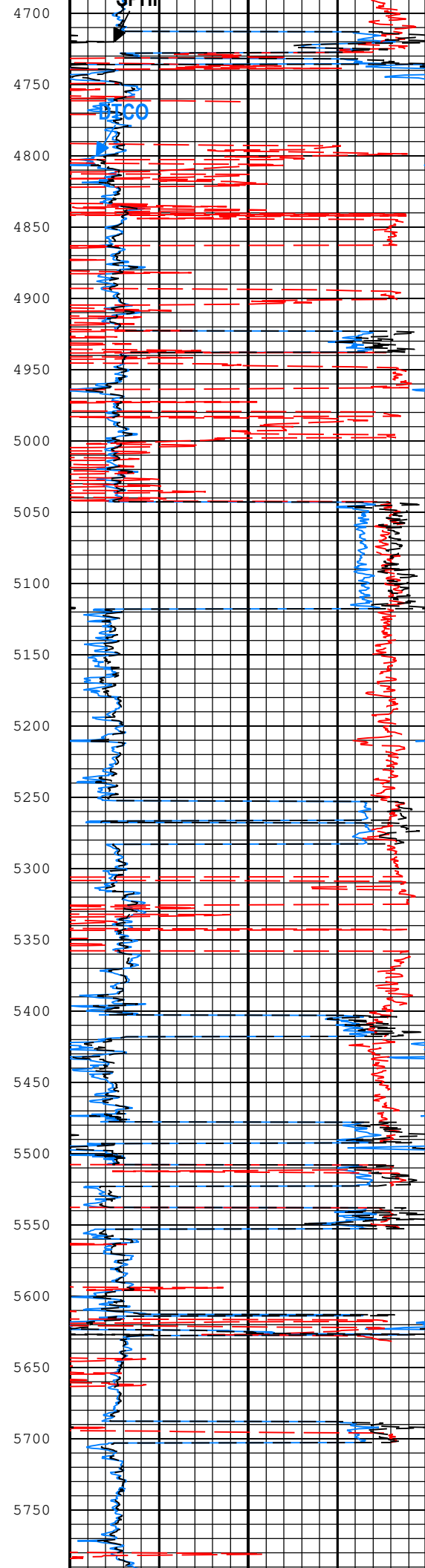
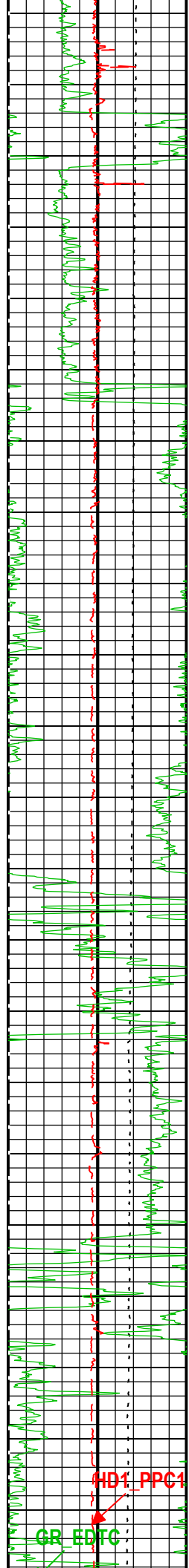
TIME_1900 - Time Marked every 60.00 (s)

Cable Tension (TENS)		
10000	lbf	0
Calibrated Gamma Ray (GR_EDTC) EDTC-B		
0	gAPI	150
Hole Diameter 1 (HD1_PPC1) PPC-B		
6	in	16

Delta-T Compressional (DTCO) MAST-B		
100	us/ft	40
Delta-T Shear (DTSM) MAST-B		
180	us/ft	80
Sonic Porosity (SPHI) MAST-B		
0.3	ft3/ft3	-0.1



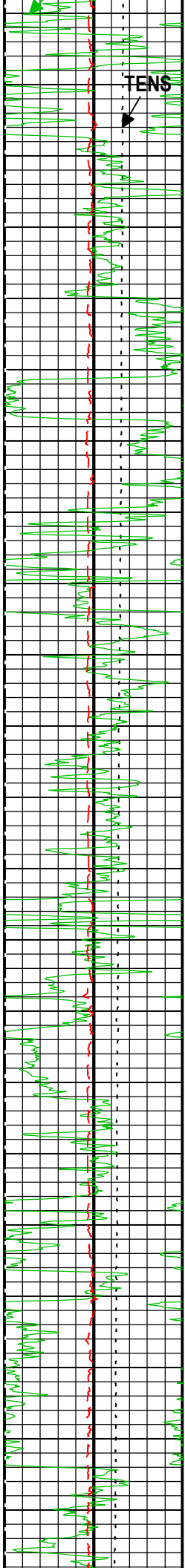




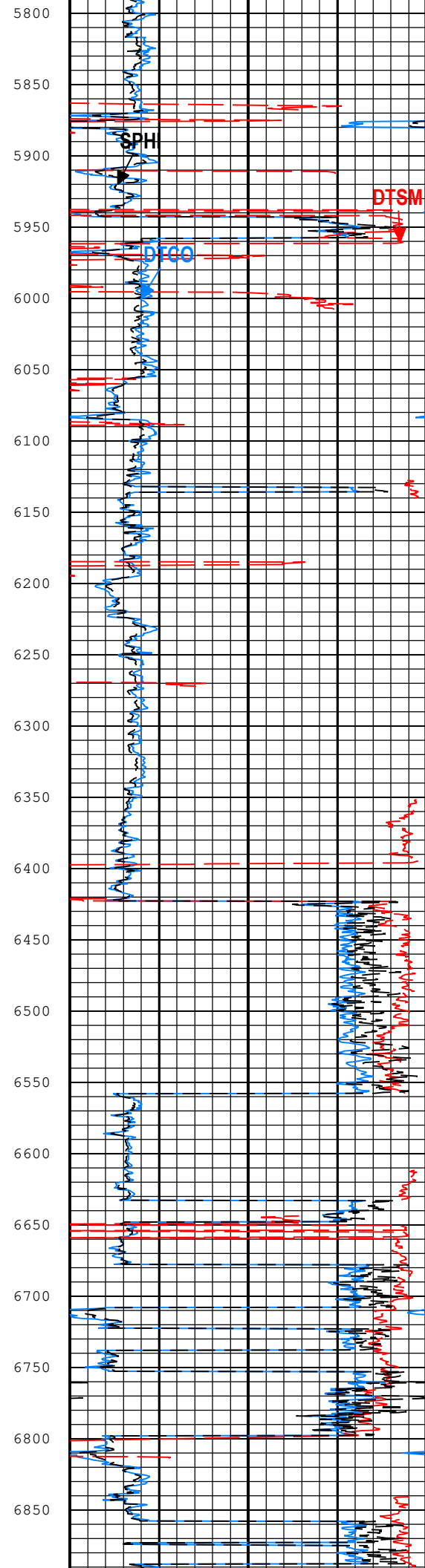
HD1 PPC1
GR EDTC

B1 CO

B1 M



TENS



SPH

DTSM

DTG

5800

5850

5900

5950

6000

6050

6100

6150

6200

6250

6300

6350

6400

6450

6500

6550

6600

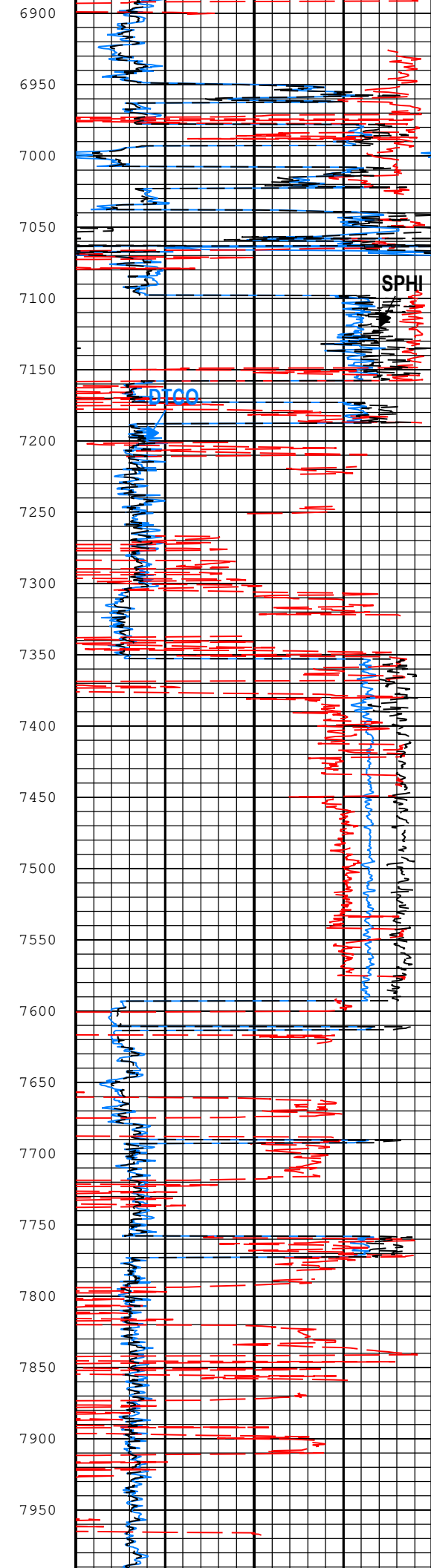
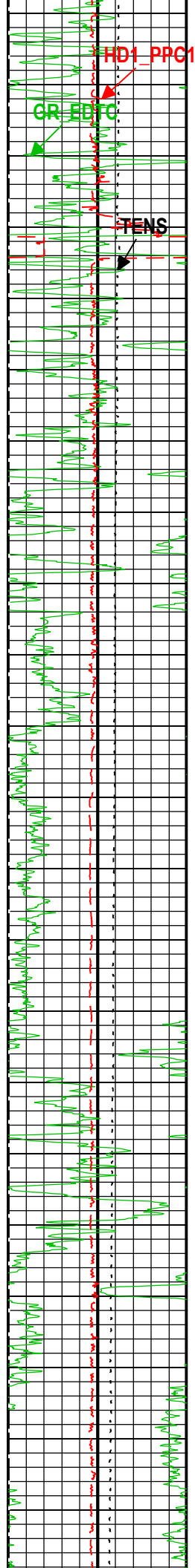
6650

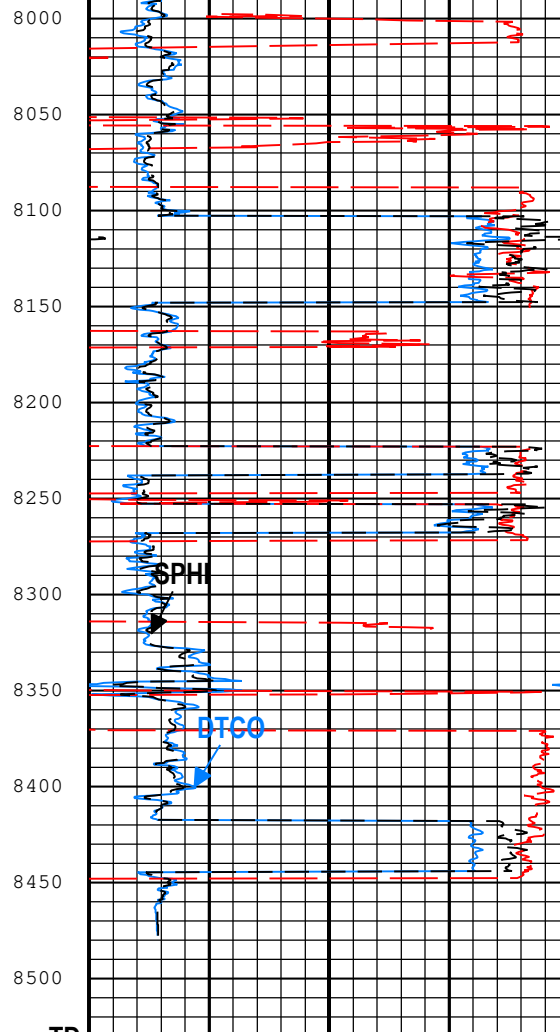
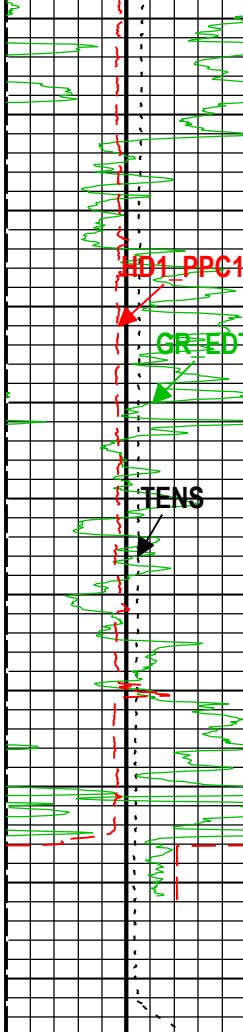
6700

6750

6800

6850





Cable Tension (TENS)		
10000	lbf	0
Calibrated Gamma Ray (GR_EDTC) EDTC-B		
0	gAPI	150
Hole Diameter 1 (HD1_PPC1) PPC-B		
6	in	16

Delta-T Compressional (DTCO) MAST-B		
100	us/ft	40
Delta-T Shear (DTSM) MAST-B		
180	us/ft	80
Sonic Porosity (SPHI) MAST-B		
0.3	ft ³ /ft ³	-0.1

TIME_1900 - Time Marked every 60.00 (s)

Description: HRLT BASIC LOG Format: Log (DSI 1 inch General) Index Scale: 1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 19-Jul-2021 23:39:08