

Company: Anadarko E&P Onshore LLC

Well: Murphy 1-31 M

Field: Greenwood

County: Morton State: Kansas

SONIC SCANNER

GAMMA RAY

DTM = 47.6 us/ft

Location:		497.46' FEL & 1335.13' FSL	Elev. K.B.
		SW,SE,NE,SW	G.L. 3538.19 ft
		SE/4 SEC.31, T32S-R42W	D.F. 3545.19 ft
Permanent Datum:	Mean Sea Level	Elev.:	0.00 ft
Log Measured From:	Ground Level	3538.19 ft	above Perm.Datum
Drilling Measured From:	Ground Level		
API Serial No.	Section:	Township:	Range:
15-129-21957	31	32S	42W

Logging Date 12-Dec-2013

Logging Date	12-Dec-2013		
Run Number	Two		
Depth Driller	5250.00 ft		
Schlumberger Depth	5255.00 ft		
Bottom Log Interval	5255.00 ft		
Top Log Interval	1494.00 ft		
Casing Driller Size @ Depth	8.625 in @ 1480.00 ft		
Casing Schlumberger	1494 ft		
Bit Size	7.875 in		
Type Fluid In Hole	Fresh Water		
MUD	Density	8.8 lbm/gal	60 s
	Fluid Loss	6.2 cm3	10.5
	Source of Sample	Active Tank	
RM @ Meas Temp	0.72 ohm.m @ 55 degF		
RMF @ Meas Temp	0.62 ohm.m @ 55 degF		
RMC @ Meas Temp	1.01 ohm.m @ 55 degF		
Source RMF	RMC	Calculated	Calculated
RM @ BHT	RMF @ BHT	0.32 @ 132.95	0.27 @ 132.95
Max Recorded Temperatures		132.95 degF	132.95
Circulation Stopped		Time	07:15:00
Logger on Bottom		Time	12-Dec-2013
Unit Number	Location:	2367	18:20:29
Recorded By	Matt Cramer		Elk City, OK
Witnessed By	Tom Bingel		

Disclaimer

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10. Two Monopole MF

10.1 Integration Summary

10.2 Composite Summary

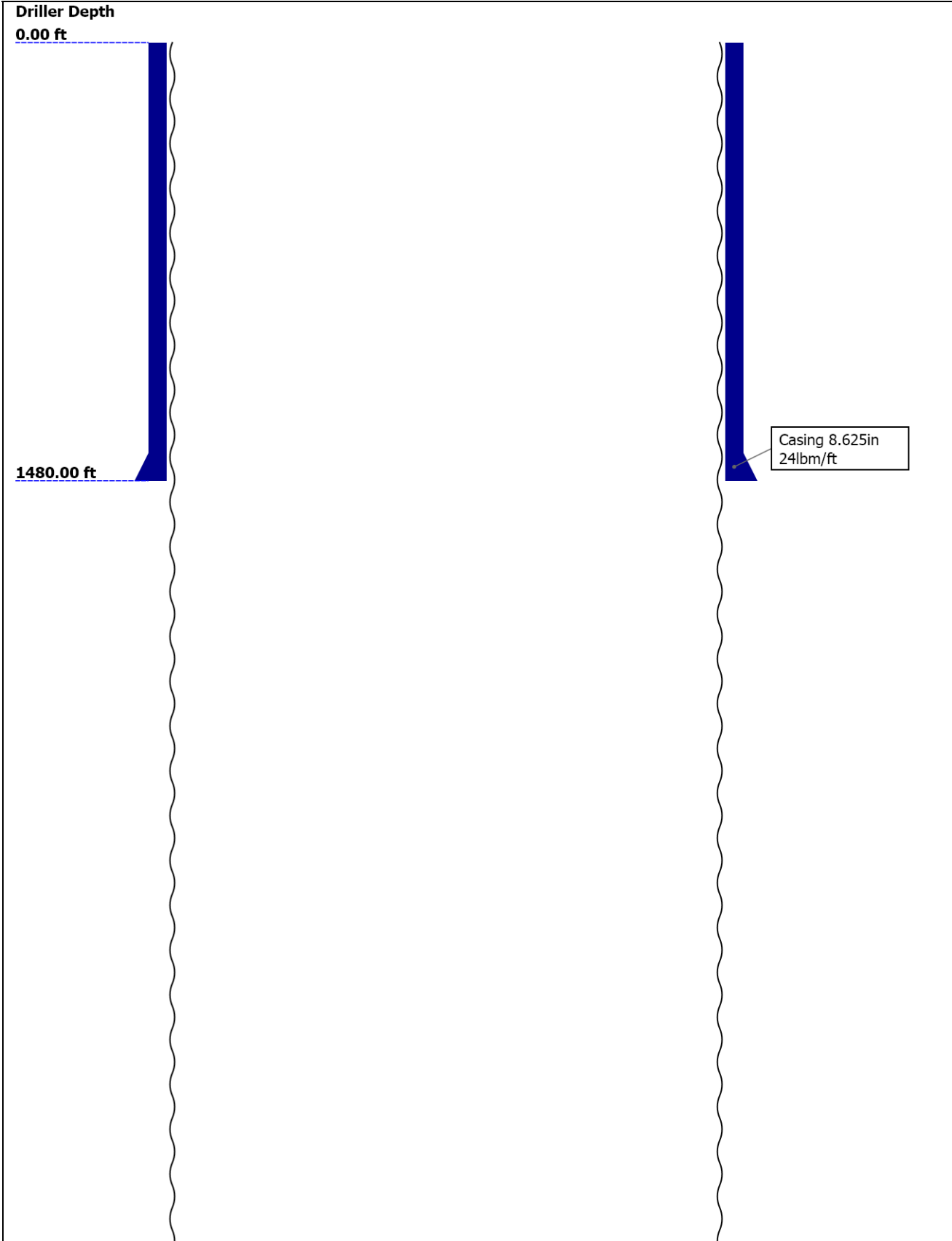
10.3 Log (MAST_STC_MF)

10.4 Parameter Listing

11. Two Repeat Analysis

11.1 Composite Summary

Well Sketch





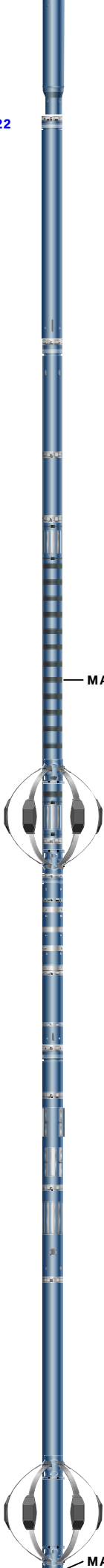
Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	7.875					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	5250					
Bottom Logger (ft)	5255					
Casing						
Size (in)	8.625					
Weight (lbm/ft)	24					
Inner Diameter (in)	8.099					
Grade	J55					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	1480					
Bottom Logger (ft)	1494					

Remarks and Equipment Summary

Two: Toolstring				Two: Remarks		
Equip name	Length	MP name	Offset	Thank you for choosing Schlumberger of Elk City, OK- 580-339-6535		
LEH-QT	89.16			Tools ran as per toolsketch.		
EDTC-B	86.24			All logs and presentations as per client's request.		
EDTH-B				Logging measured from ground level as per client's request. Drilling measured from drill floor at 7' above ground level.		
EDTG-A						
EDTC-B						
PPC-B[2]:8227	79.74					
PPC-B:8227						

MAST-B:8546 73.22
ECH-SF:8149
MAPC-BA
MAMS-BA :8546
MASS-BA :8111
MAXS-BA :8020



MAMS

57.78

MAXS

31.94

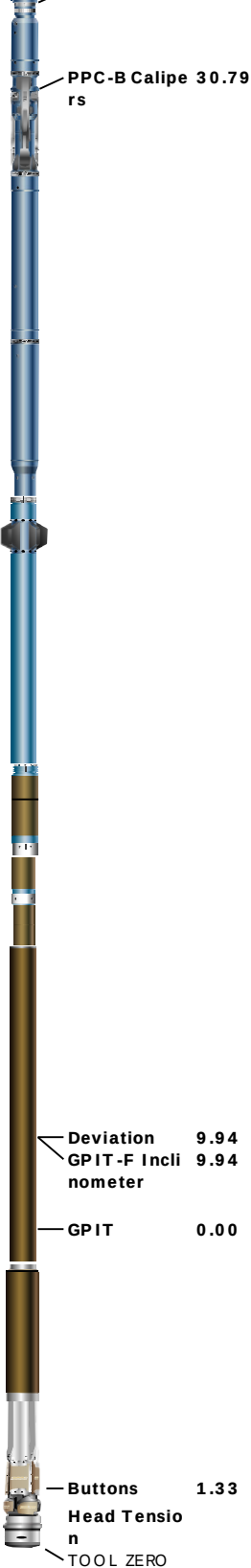
PPC-B[1]:833 31.94

3

PPC-B:8333

FBST-E:1755 25.42

ECH-MJA
FBPC-A
AH-287
AH-320
FBSH-D
FBAC-B
DHRU-F:825
FBSS-B:1755



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

Depth Control Parameters	Two		
Conveyance Type	Wireline		
Log Sequence	Subsequent Run		
Reference Log Name	One		
Reference Log Run Number	1		
Depth Remark Parameters	Two		
Depth Remark 1	All Schlumberger Depth control procedures were followed.		

Depth Remark 2	IDW used as primary depth control & Z-Chart used as secondary.		
Depth Remark 3	Logging measured from ground level as per client's request. Drilling measured from drill floor at 7' above ground level.		
Depth Measuring Device	Two		
Type	IDW-JA		
Serial Number	6650		
Calibration Date	25-Apr-2013		
Calibrator Serial Number	33		
Calibration Cable Type	7-39P-LXS		
Wheel Correction 1	-6		
Wheel Correction 2	-3		
Tension Device	Two		
Type	CMTD-B/A		
Serial Number	2549		
Calibration Date	25-Sep-2013		
Calibrator Serial Number	1018		
Calibration Points	10		
Calibration RMS	12		
Calibration Peak Error	19		
Logging Cable	Two		
Type	7-39P-LXS		
Serial Number	U712016		
Logging Cable Length (ft)	16100.00		

Two

Main Pass Dipole 90

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
Two	Log[6]:Up	Up	1379.03 ft	5270.49 ft	12-Dec-2013 6:23:41 PM	12-Dec-2013 9:20:12 PM	5.08 ft	

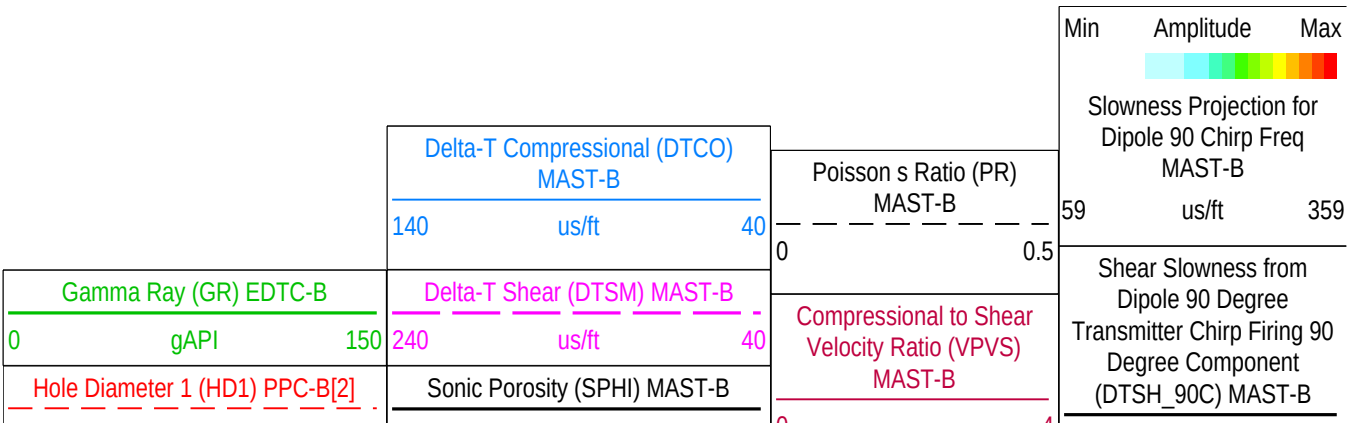
All depths are referenced to toolstring zero

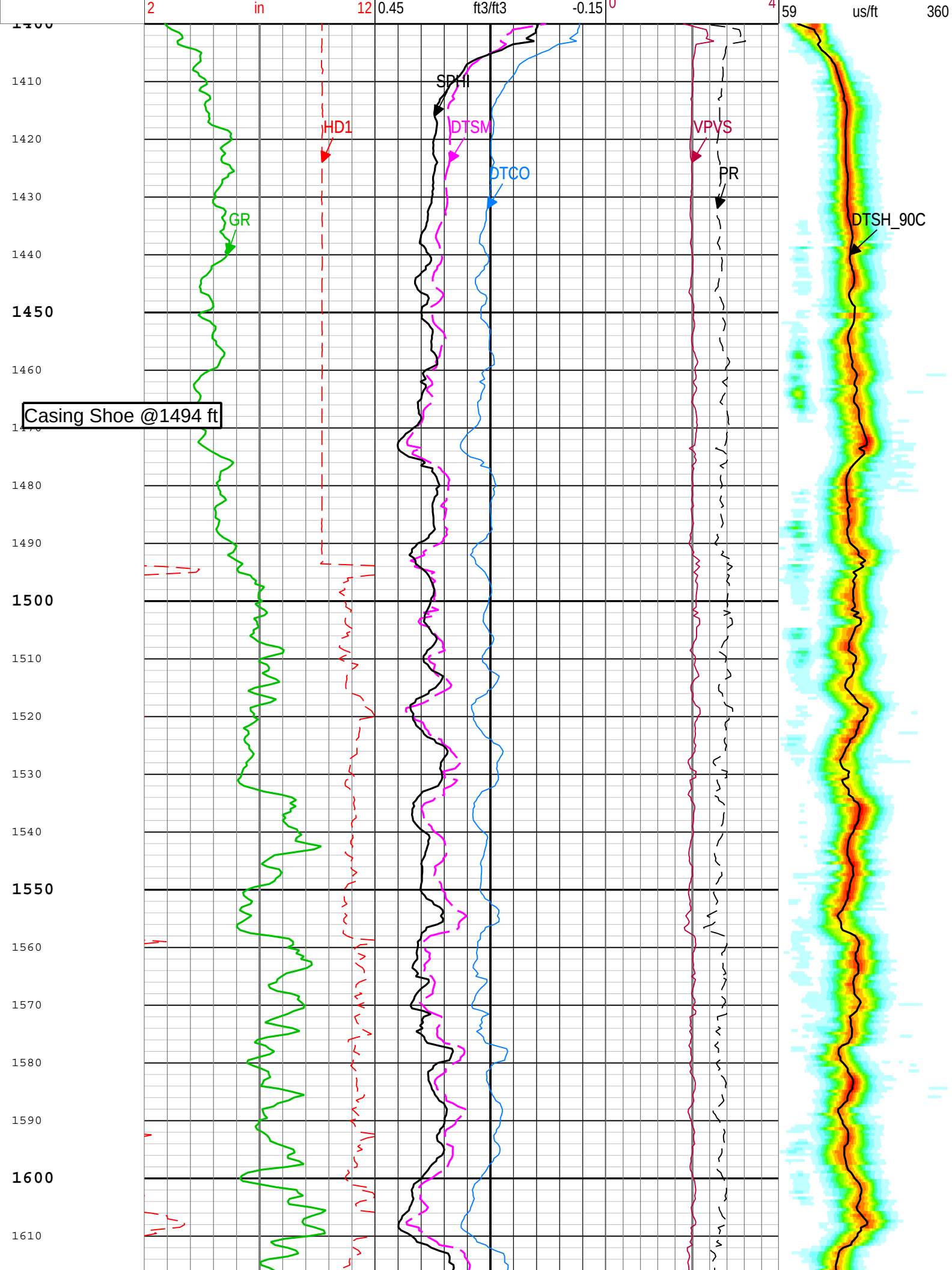
Log

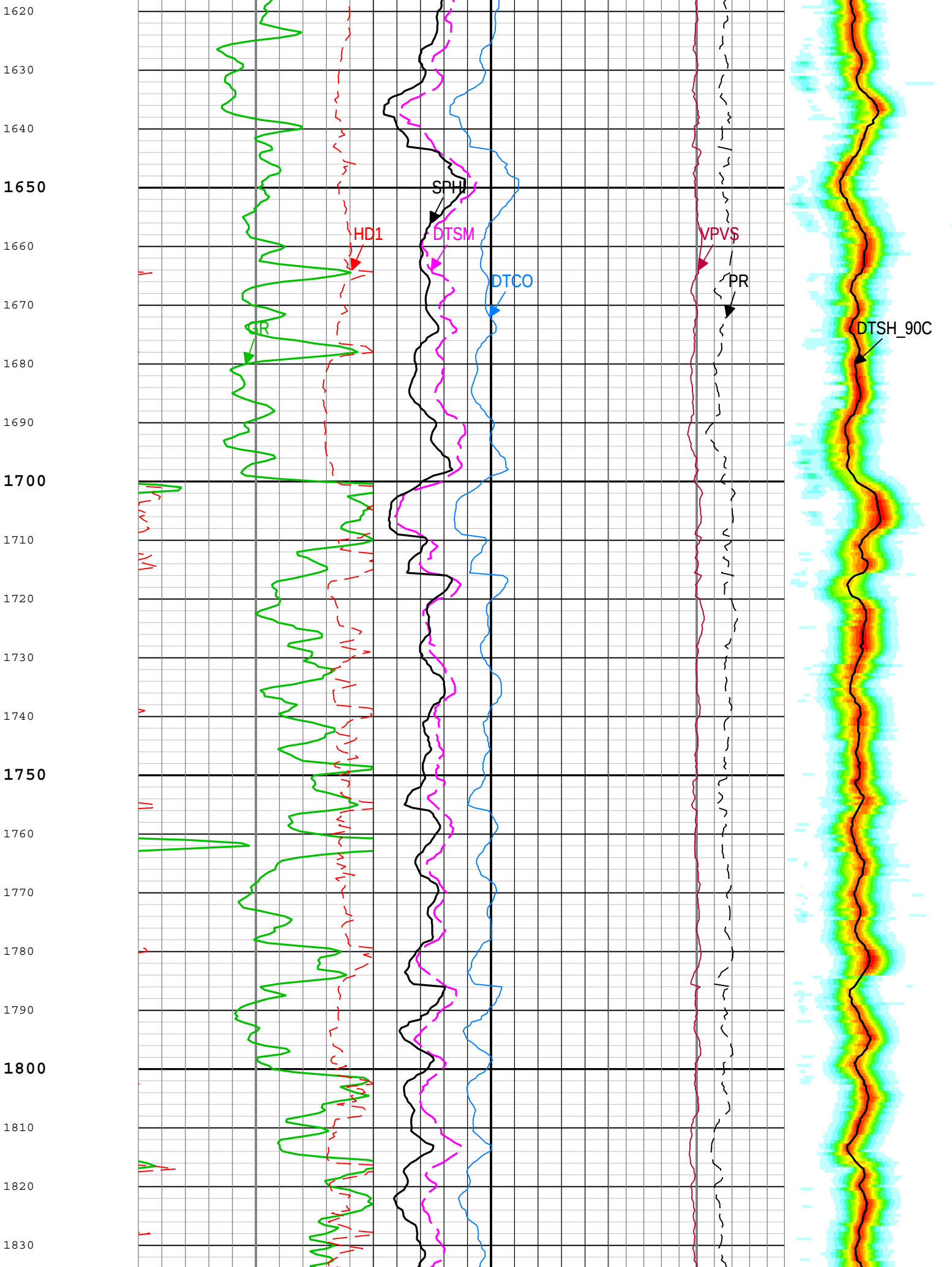
Two: Log[6]:Up

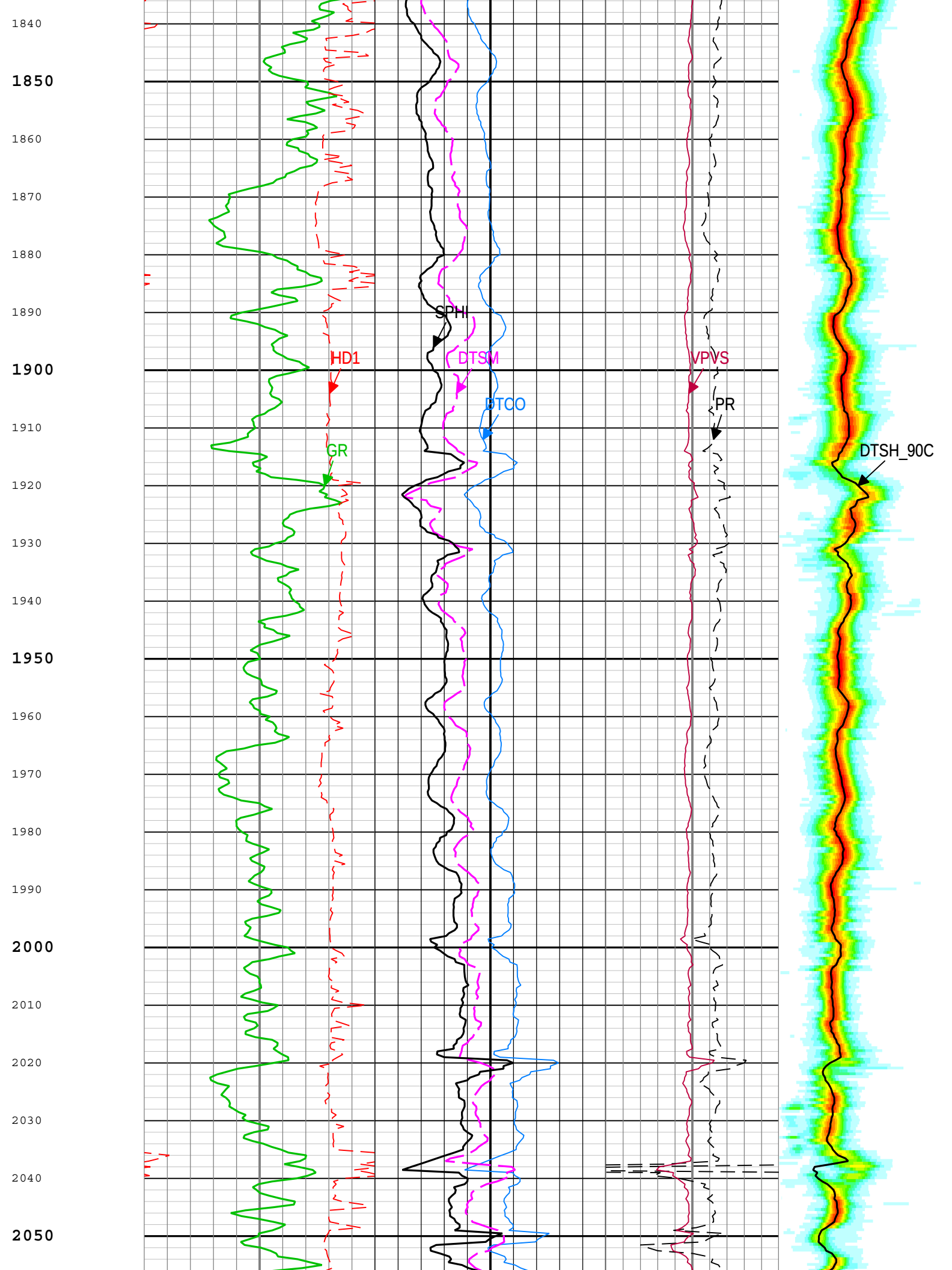
Description: MAST_DSTC_XD Format: Log (MAST_DSTC_XD_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Dec-2013 09:00:14

TIME_1900 - Time Marked every 60.00 (s)

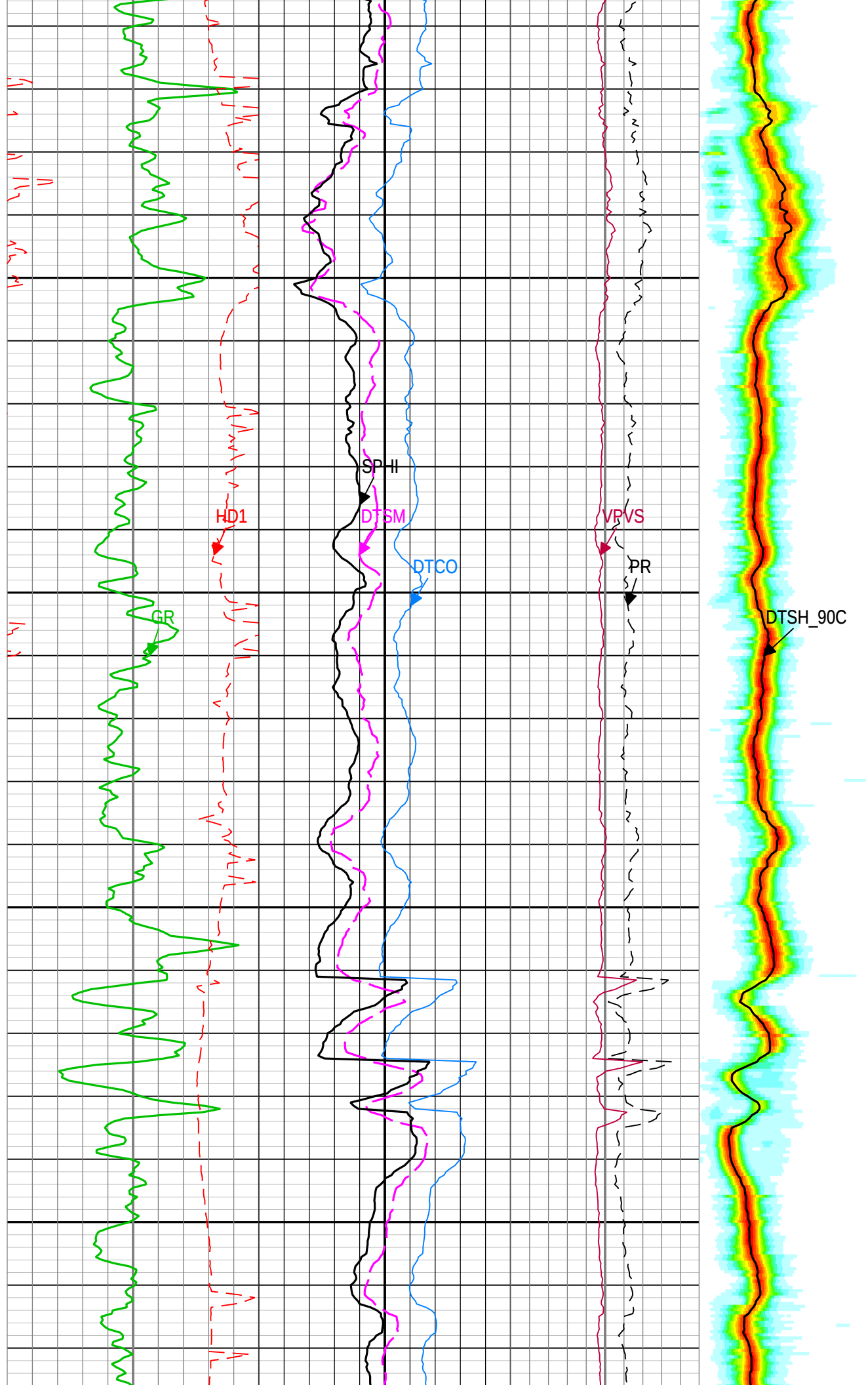




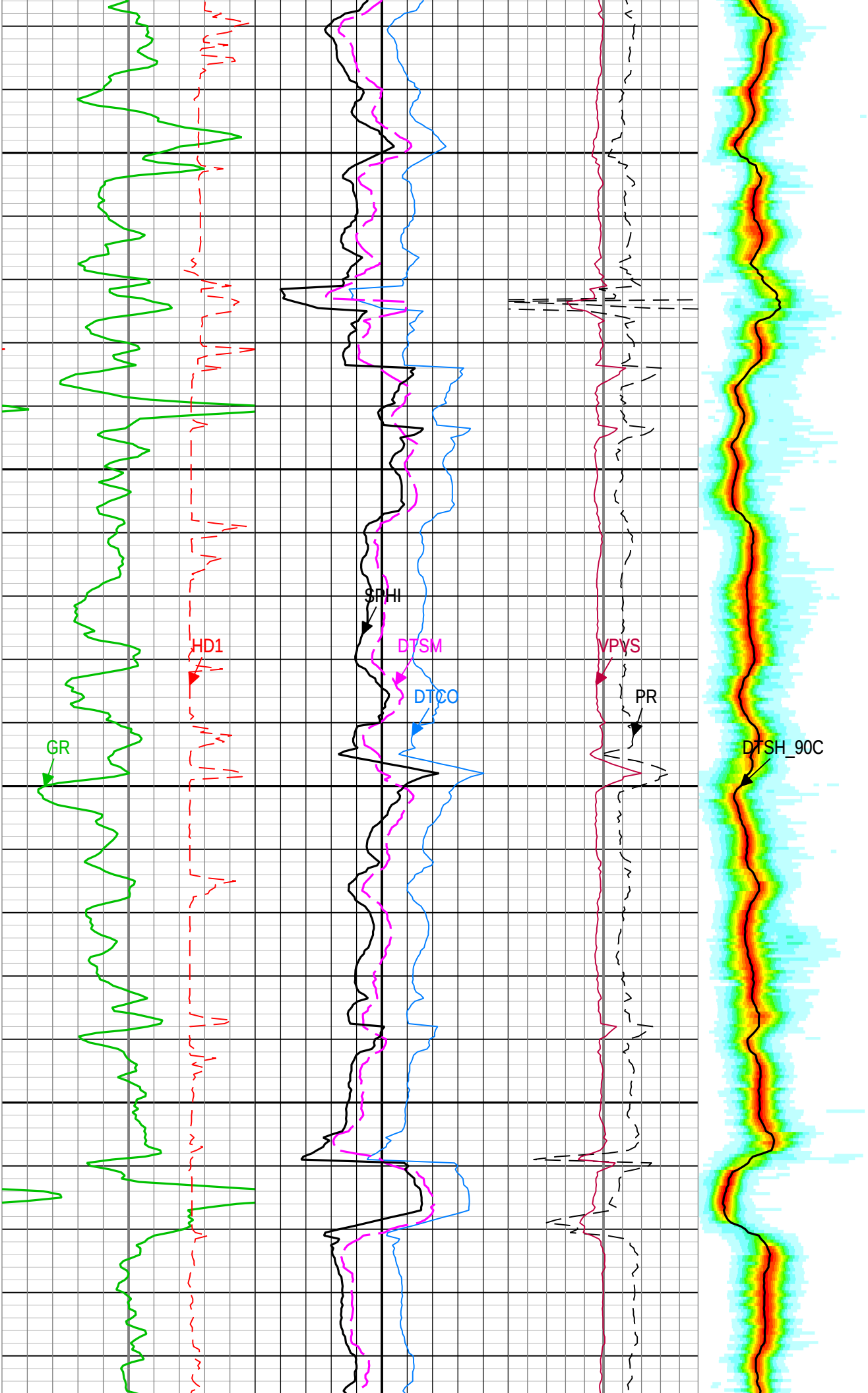




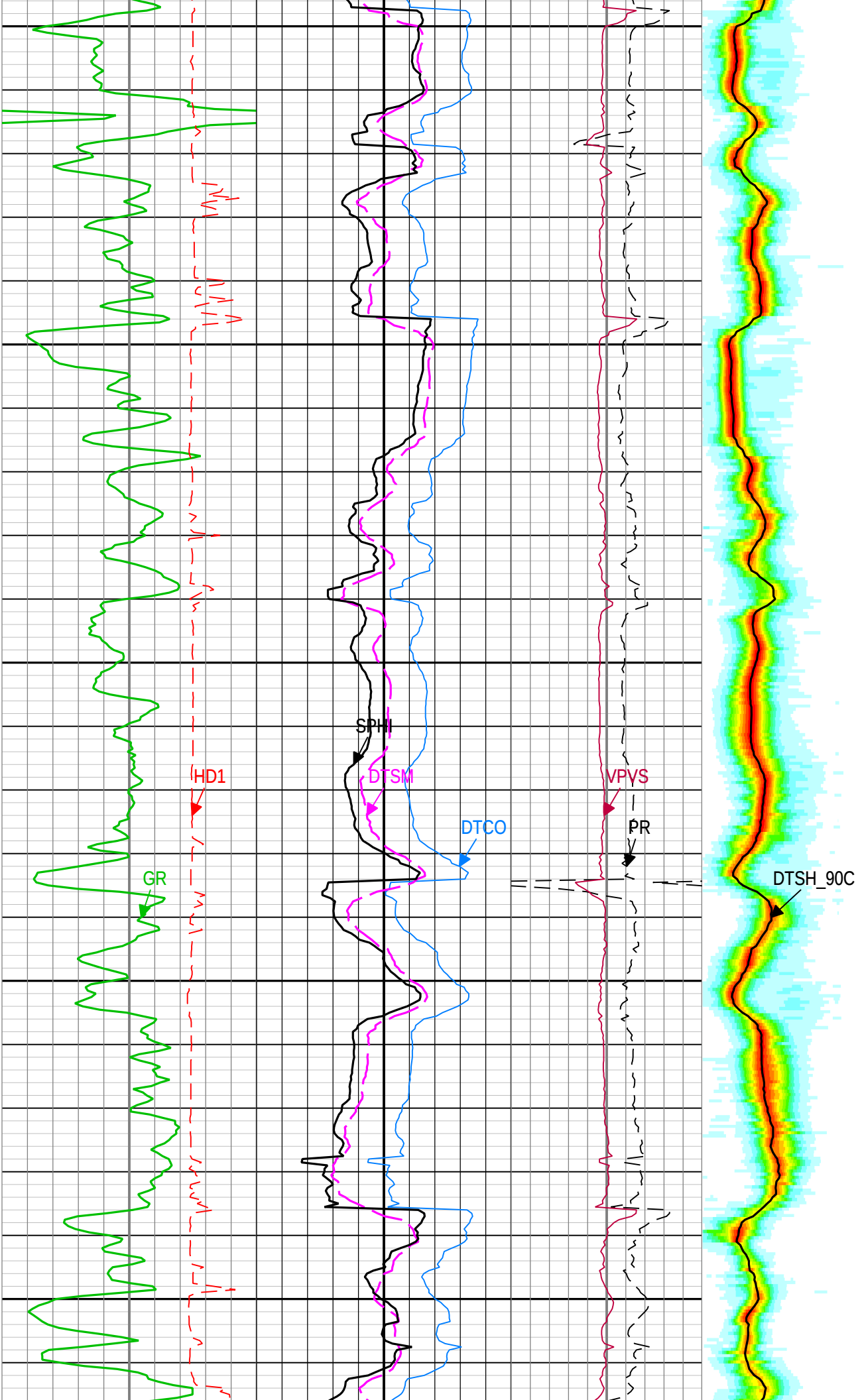
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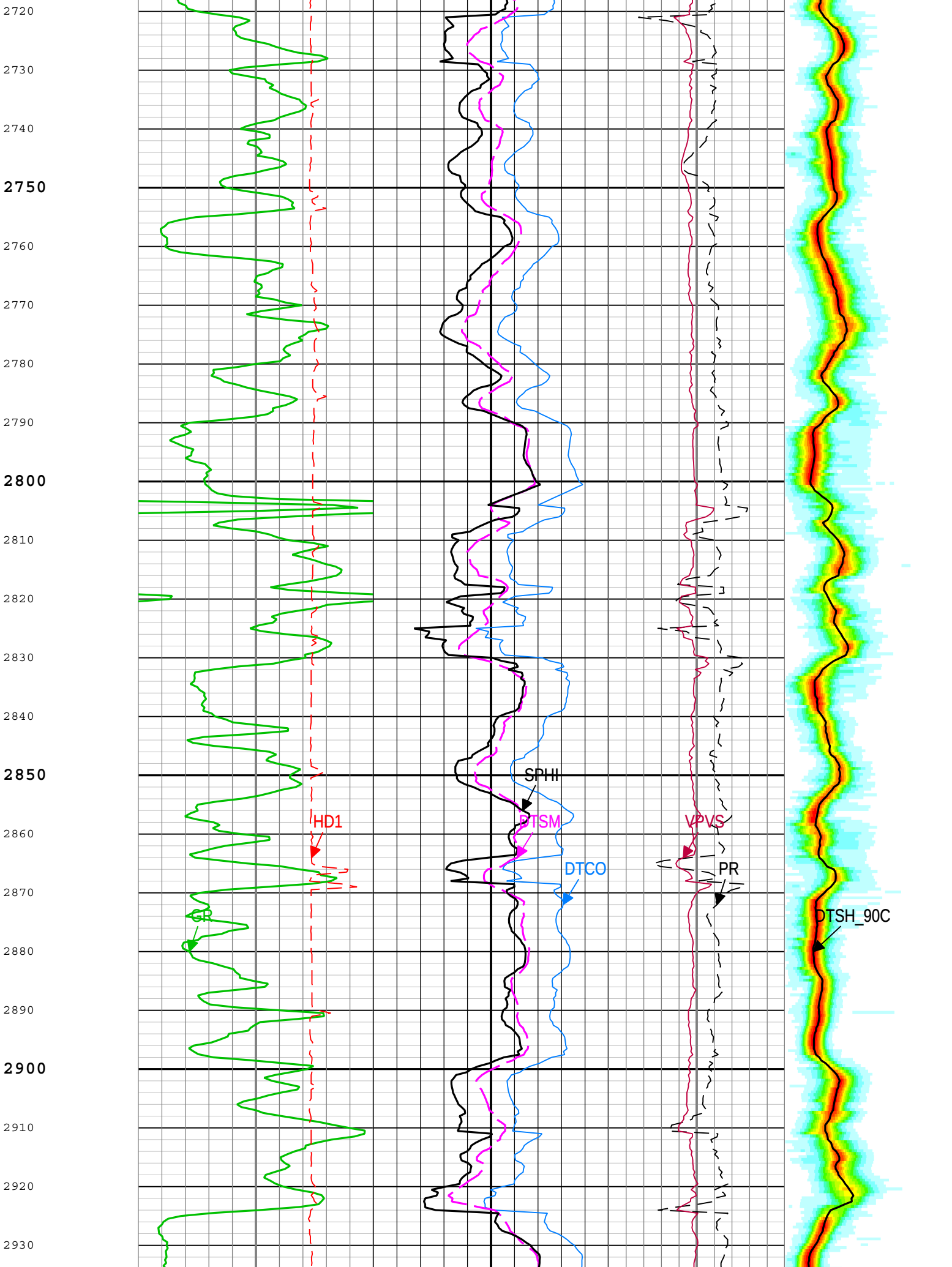


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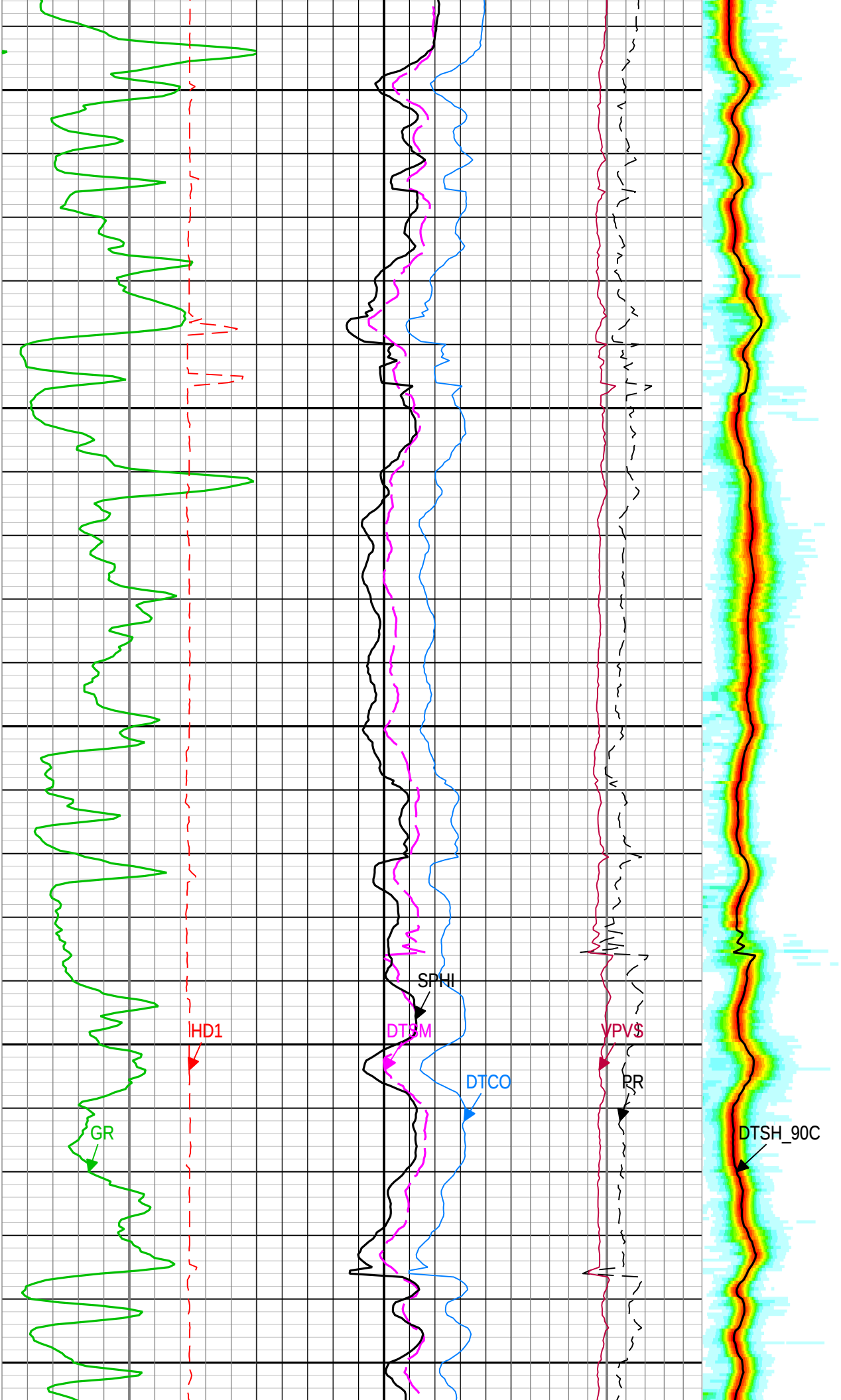


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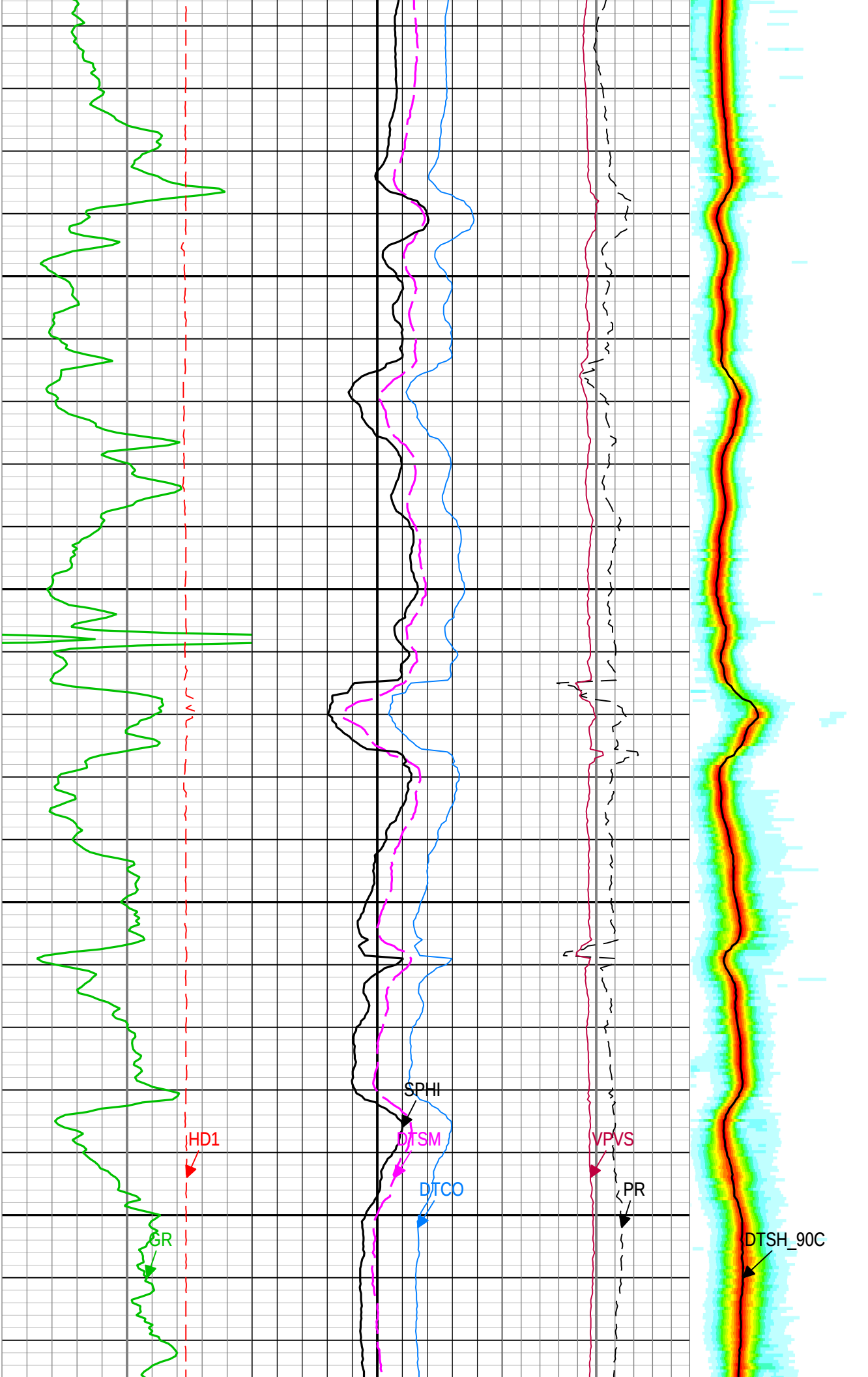




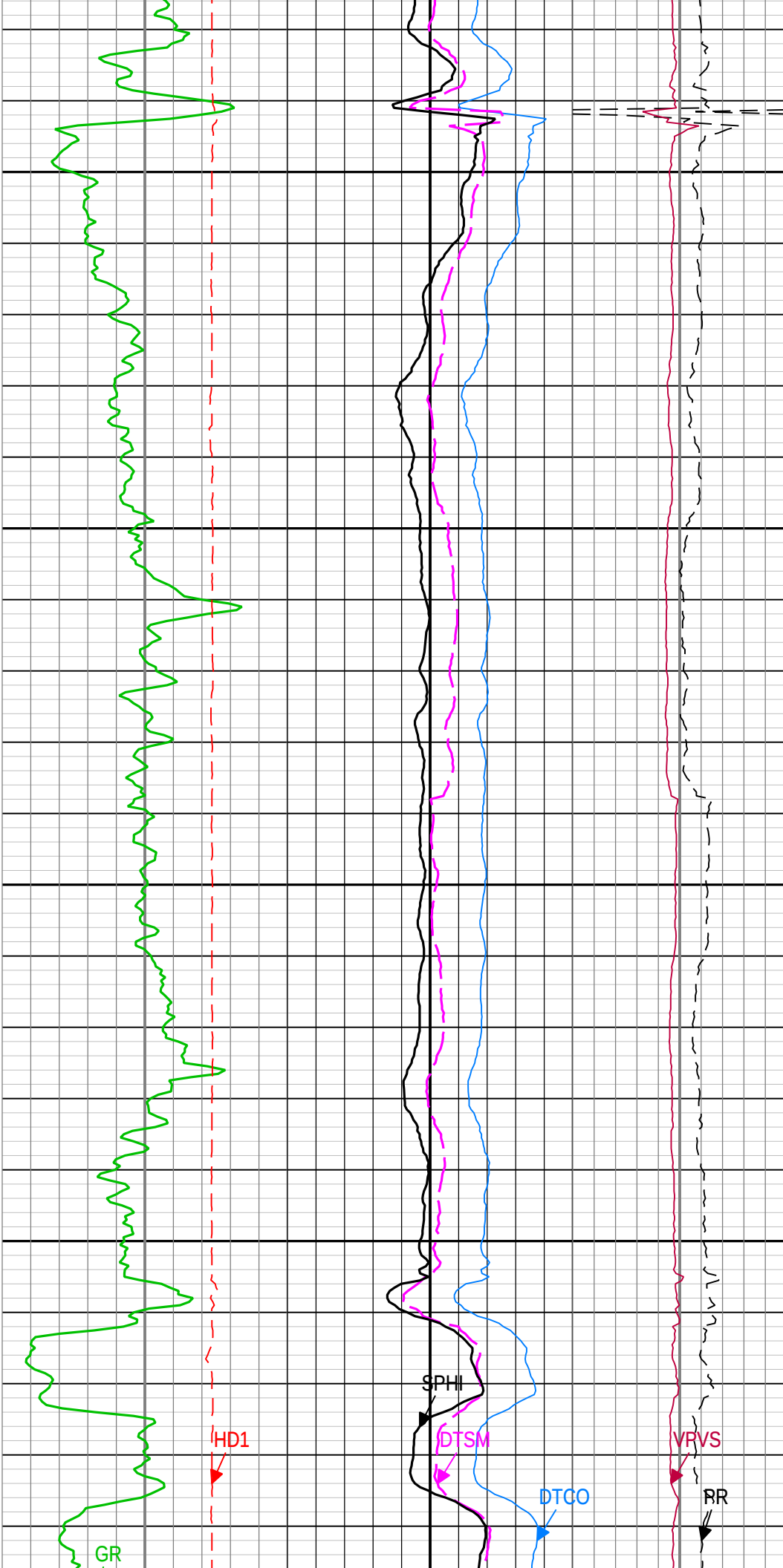
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GR

HD1

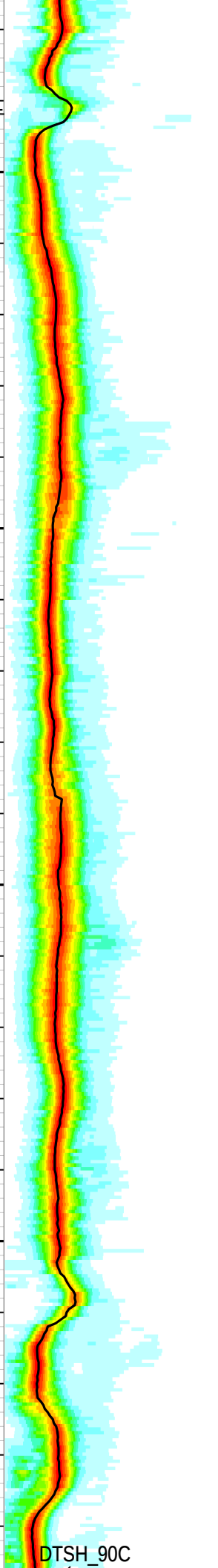
SPL

DTSM

DTCO

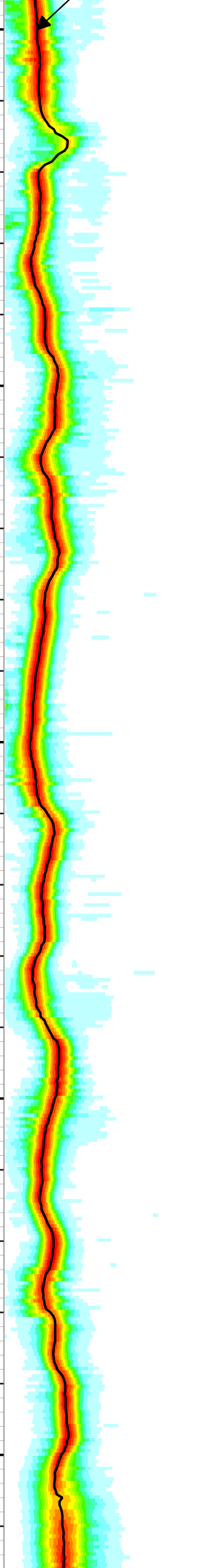
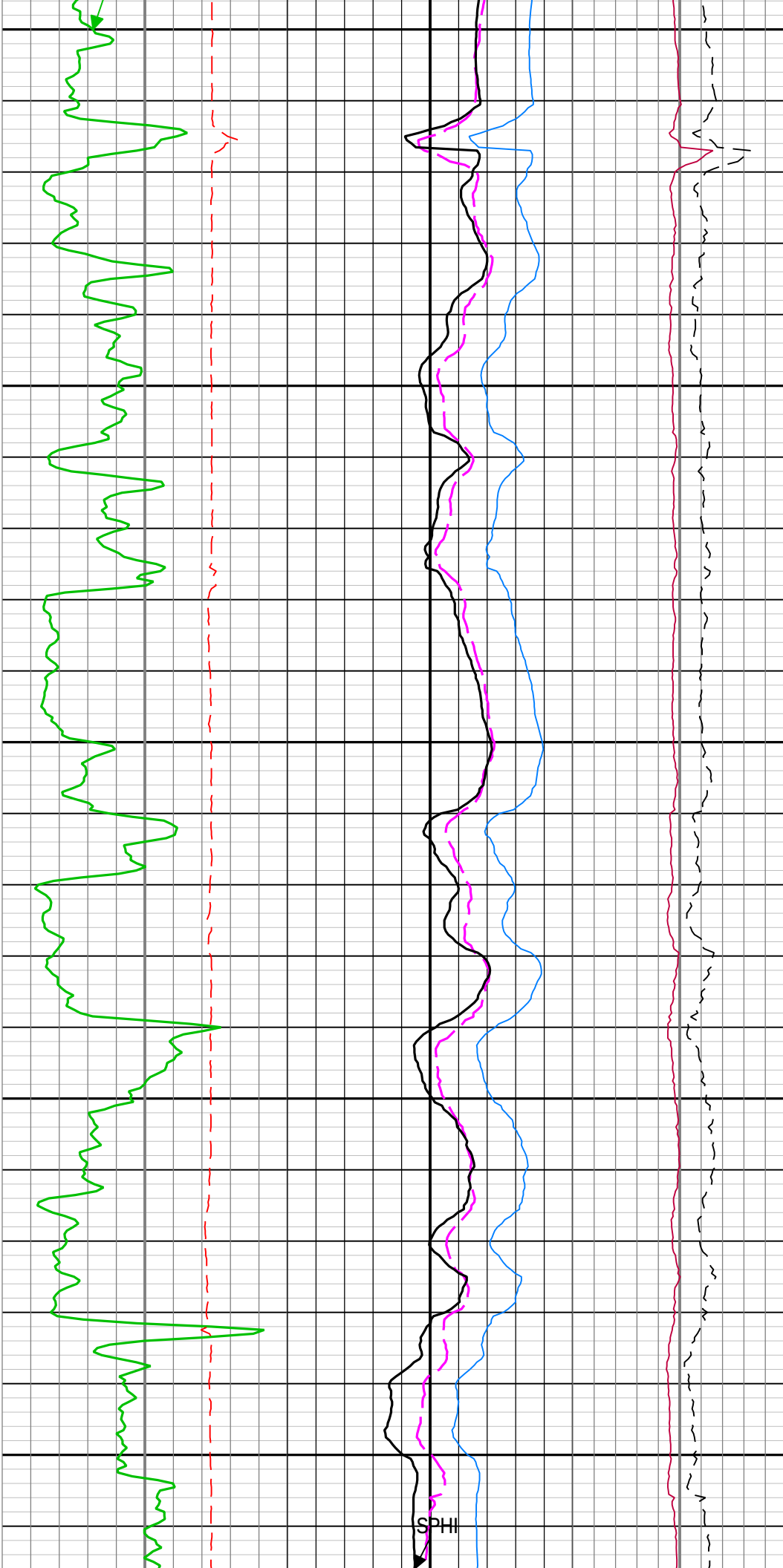
VRVS

RR



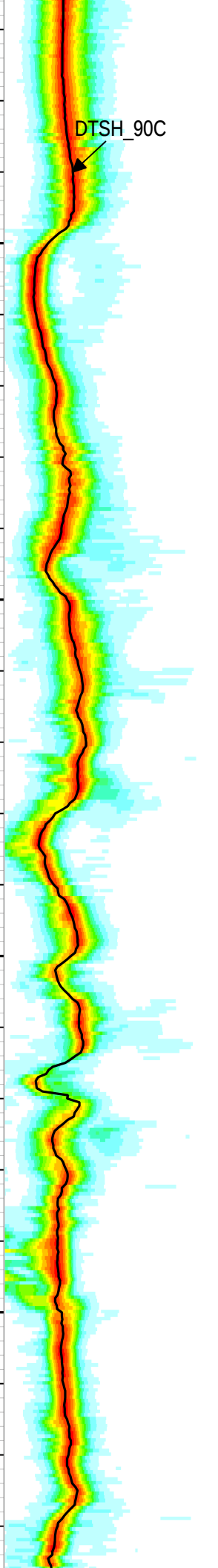
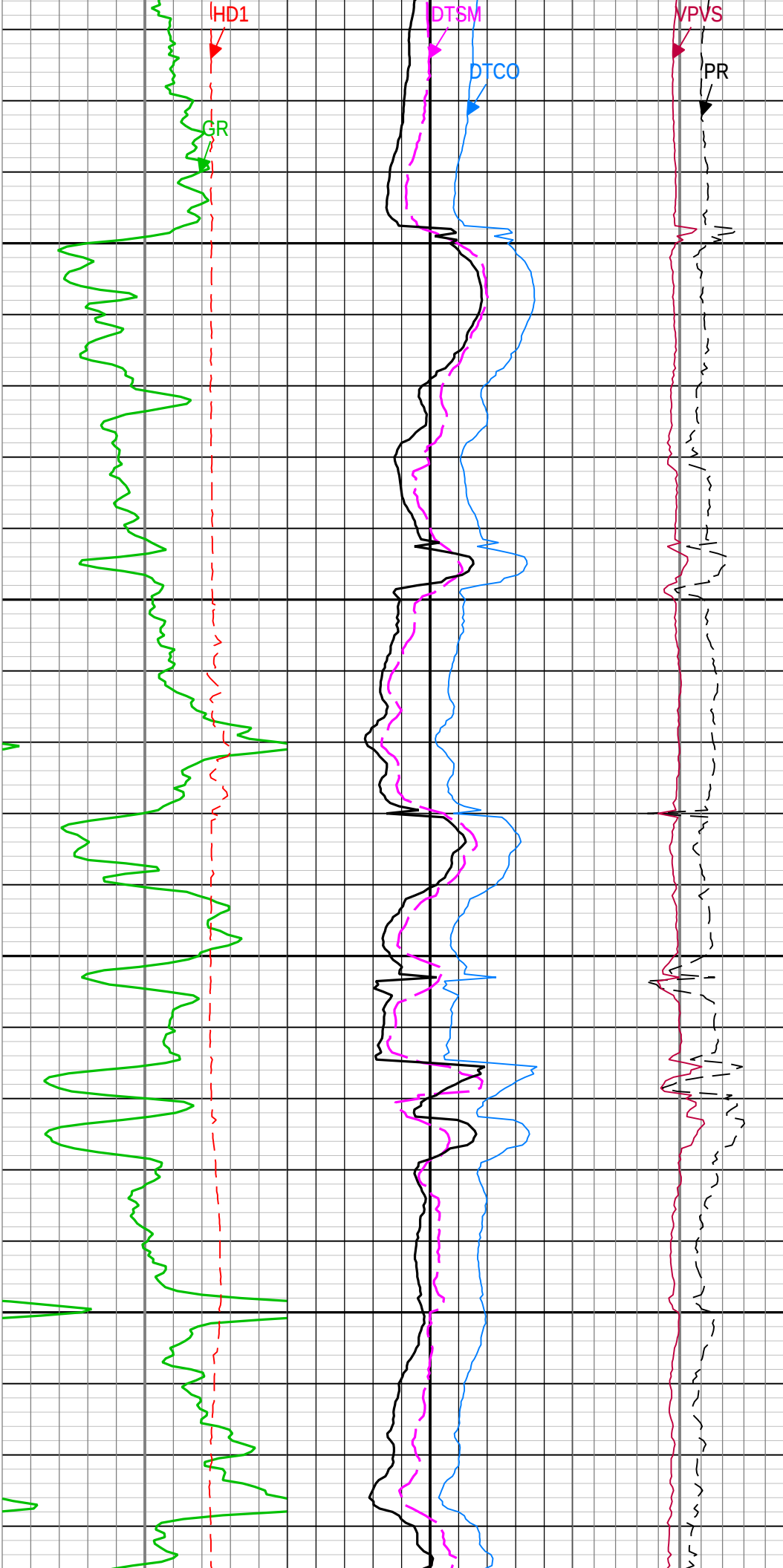
DTSH_90C

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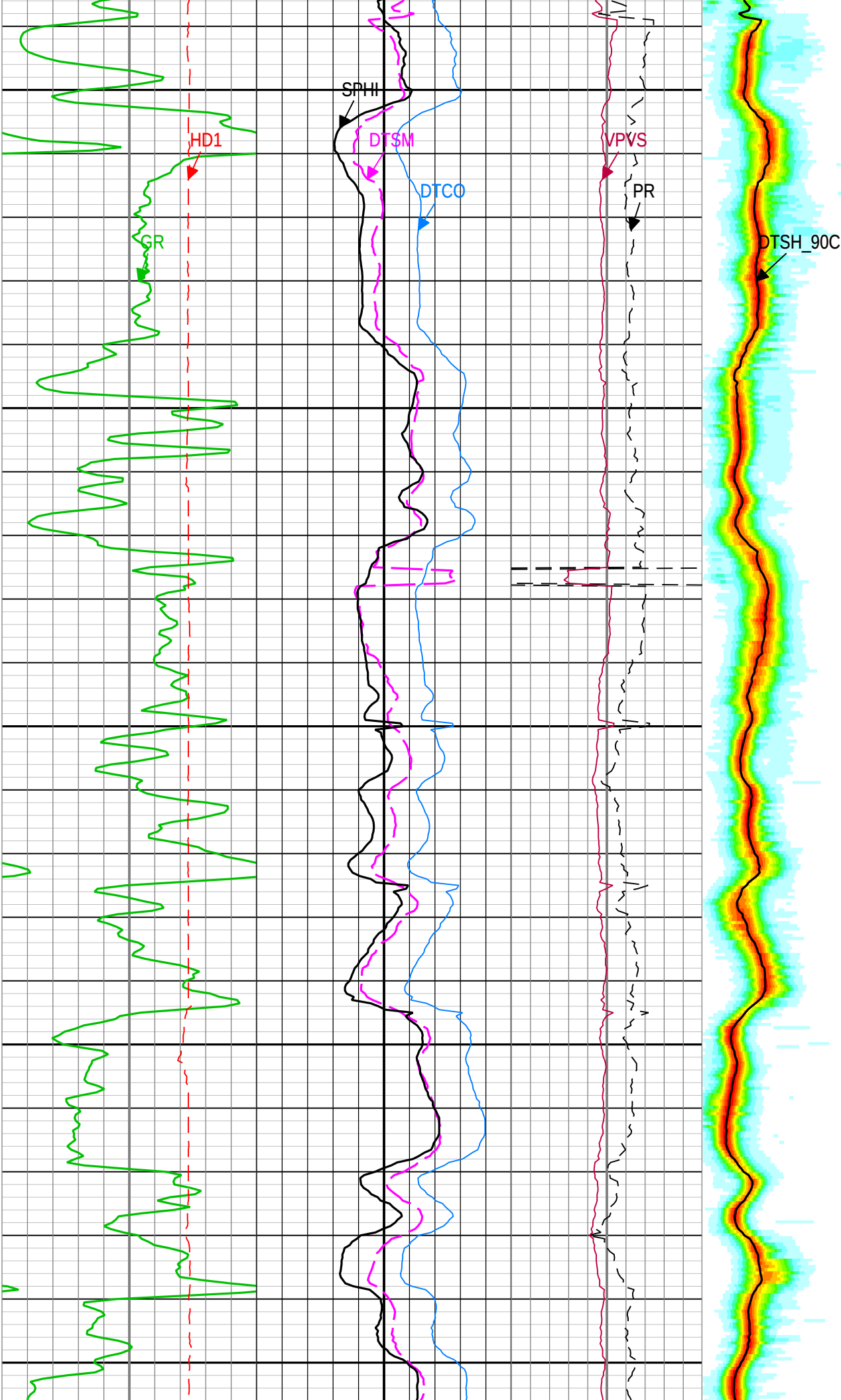


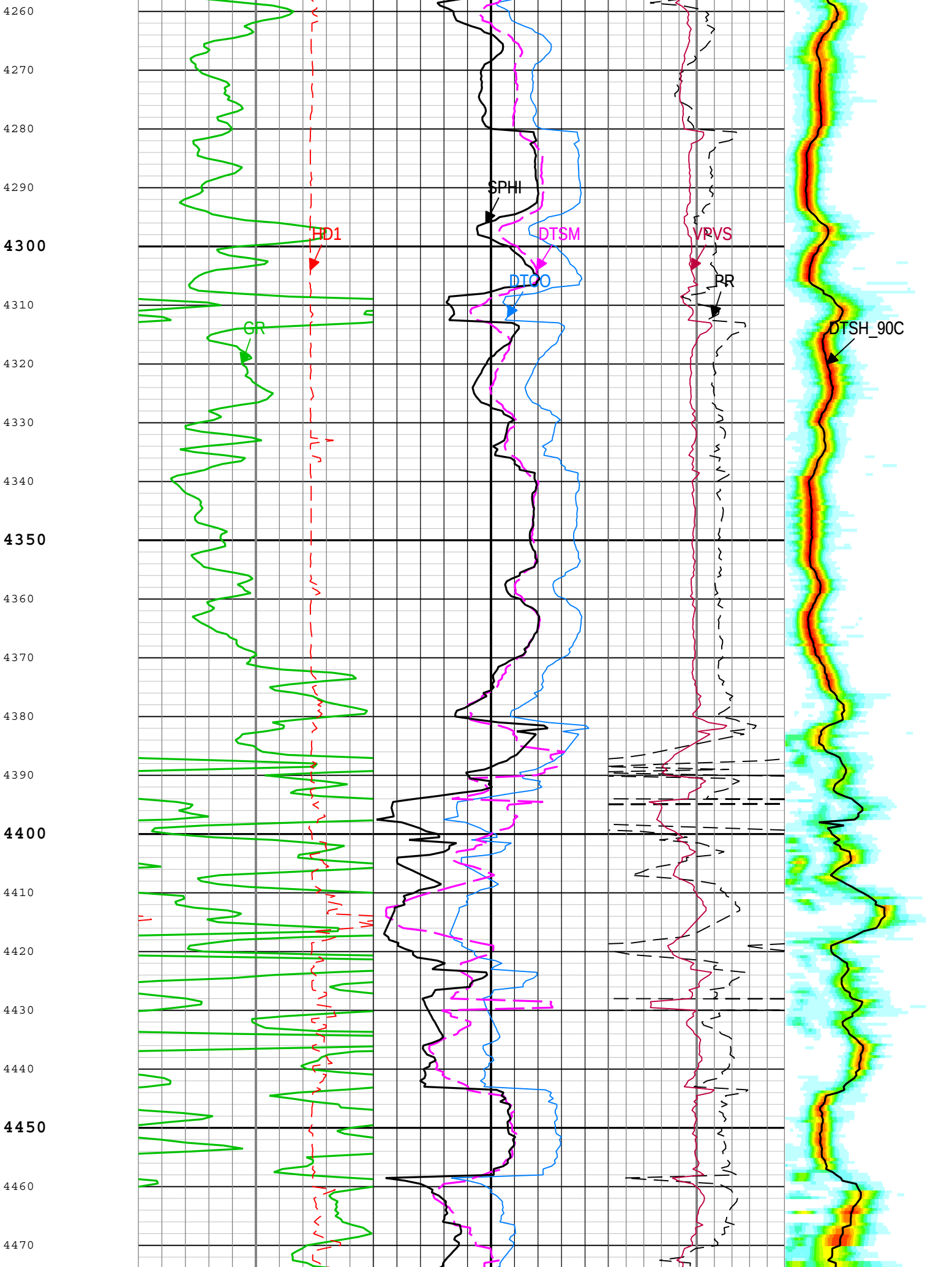
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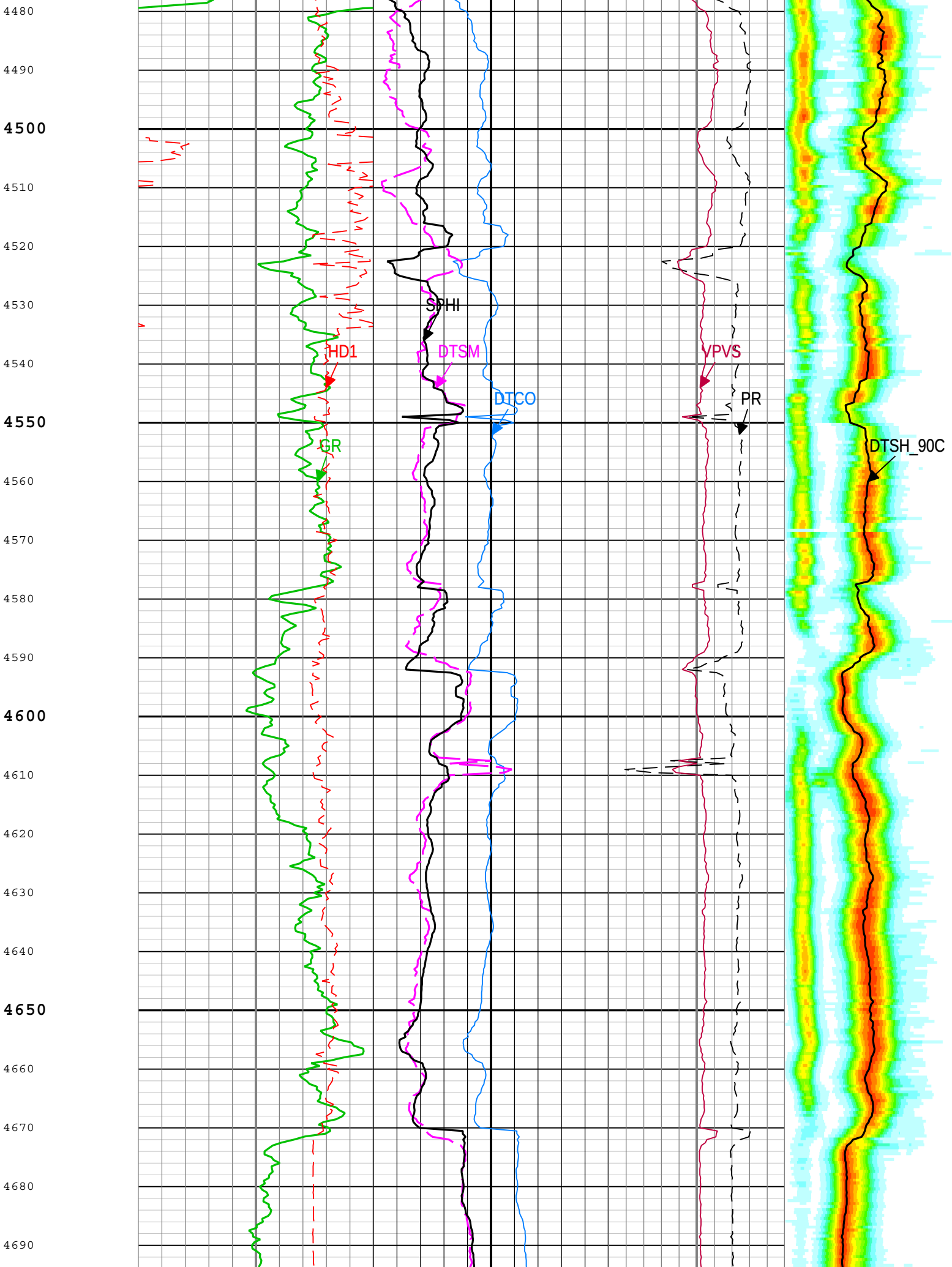
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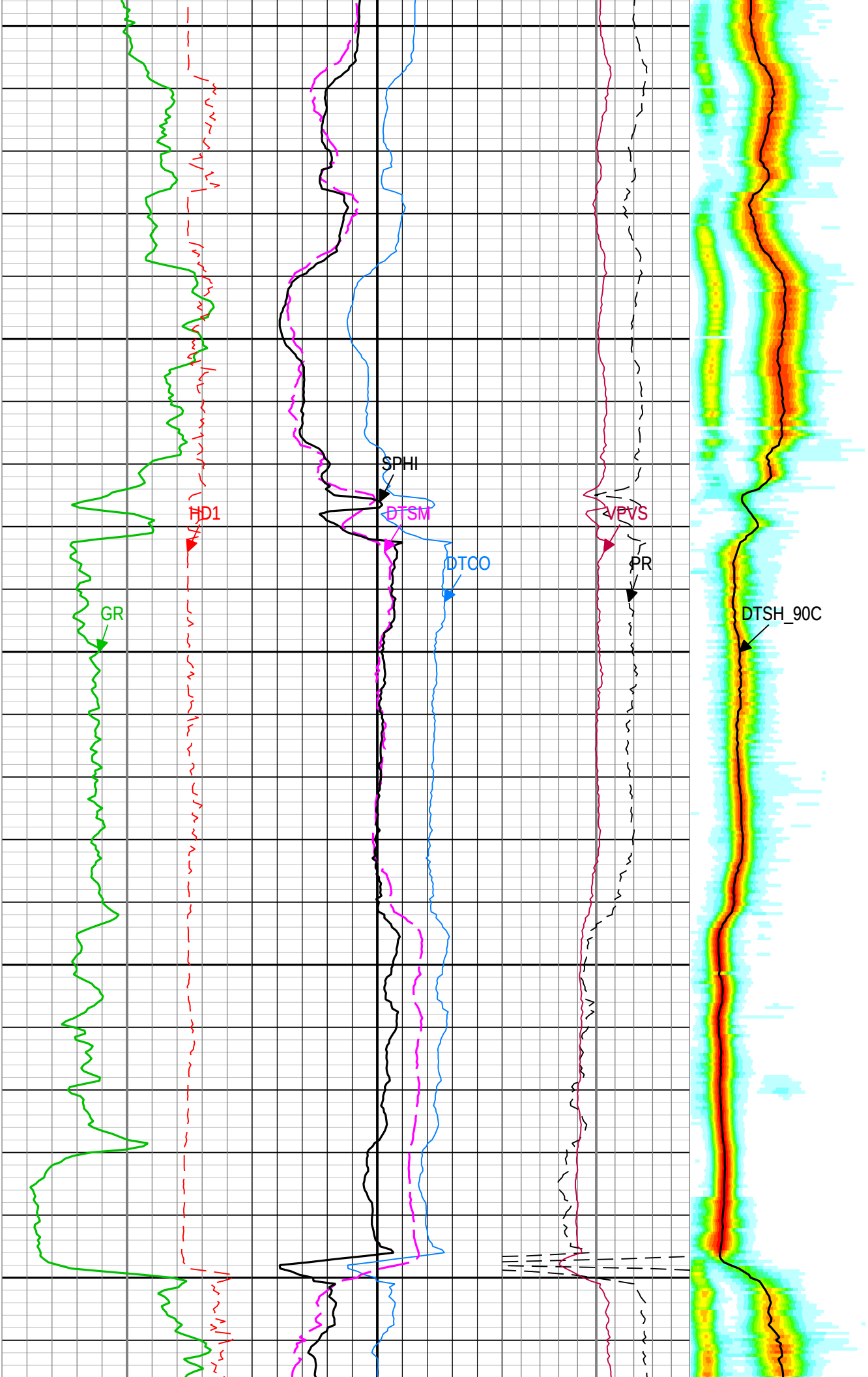
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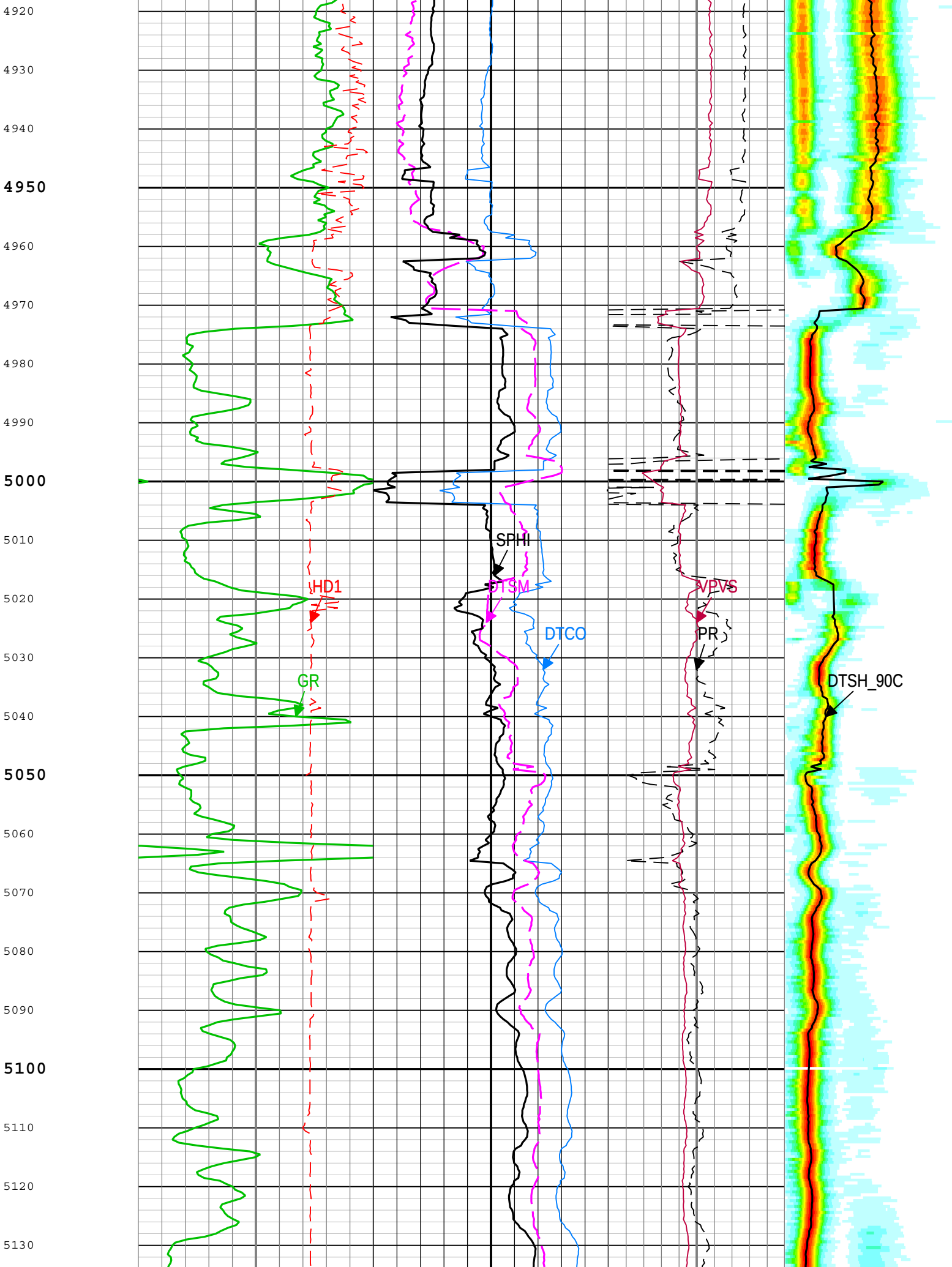






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4910







Gamma Ray (GR) EDTC-B		
0	gAPI	150
Hole Diameter 1 (HD1) PPC-B[2]		
2	in	12

Delta-T Compressional (DTCO) MAST-B		
140	us/ft	40
Delta-T Shear (DTS) MAST-B		
240	us/ft	40
Sonic Porosity (SPHI) MAST-B		
0.45	ft3/ft3	-0.15

Poisson's Ratio (PR) MAST-B	
0	0.5
Compressional to Shear Velocity Ratio (VPVS) MAST-B	
0	4

Min	Amplitude	Max
59	us/ft	359
Slowness Projection for Dipole 90 Chirp Freq MAST-B		
59	us/ft	360
Shear Slowness from Dipole 90 Degree Transmitter Chirp Firing 90 Degree Component (DTS_90C) MAST-B		
59	us/ft	360

TIME_1900 - Time Marked every 60.00 (s)

Description: MAST_DSTC_XD Format: Log (MAST_DSTC_XD_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Dec-2013 09:00:14

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHCCTL	Borehole Compensated Processing Control Flag	MAST-B	Off	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	7.875	in
CBLO	Casing Bottom (Logger)	WLSESSION	1494	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
CDTS	Correction for Delta-T Shale, Empirical	Borehole	100	us/ft
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DET_STOP_MLM_M	Detection Stop Time for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	583.33	us
DET_STOP_MUM_M	Detection Stop Time for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	583.33	us
DET_STRT_MLM_M	Detection Start Time for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	106.67	us
DET_STRT_MUM_M	Detection Start Time for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	106.67	us
DFD	Drilling Fluid Density	Borehole	8.8	lbm/gal
DT_MAX_MLM_M	Detection Maximum slowness for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	90	us/ft
DT_MAX_MUM_M	Detection Maximum slowness for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	90	us/ft
DTE	Delta-T Fluid	Borehole	189	us/ft

DTM	Delta-T Matrix	Borehole	47.6	us/ft
FMDCTL_MLM_M	First Motion Detection Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	Off	
FMDCTL_MUM_M	First Motion Detection Processing Control Flag for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	Off	
FMDRS_MLM_M	First Motion Detection Receiver Selection for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]	
FMDRS_MUM_M	First Motion Detection Receiver Selection for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]	
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	C1	
MODALCTL_MLM	Modal Decomposition Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing	MAST-B	On	
MODALCTL_MUM	Modal Decomposition Processing Control Flag for Monopole Upper Transmitter Mid Frequency Firing	MAST-B	Off	
PBHCCTL	Pseudo Borehole Compensated Processing Control Flag	MAST-B	Off	
SFTY	Slowness Formation Type (Fast, Intermediate, Slow, etc.)	Borehole	Fast	
SPFS	Sonic Porosity Formula	Borehole	Wyllie	
SSCCTL_MLM	Sensor Sensitivity Correction Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing	MAST-B	On	

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
ACQ_DOMAIN	Custom Acquisition Domain Name	MAST-B	[UMMF, LMMF, FMMF, FMLF, XDCF, YDCF]	
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	
CFWREV_MAPC	MAPC Firmware Revision of Controller Electronics	MAST-B	1840	
COMPCTL	Data Compression Control	MAST-B	[MZIPA, MZIPA, MZIPA, MZIPD, MZIPD, MZIPD]	
DHMODALCTL	Downhole/Surface Modal Computation Control	MAST-B	[HALF, OFF, OFF, HALF, HALF, HALF]	
DIGDEL	Waveform Digitizing Delay	MAST-B	[0, 0, 0, 0, 0, 0]	us
DIGDT	Sonic Waveform Digitizing Slowness	MAST-B	[0, 0, 0, 0, 0, 0]	us/ft
DIGTIME	Digitizing Time	MAST-B	[2550, 2550, 5110, 20440, 30480, 30480]	us
DIIN_WF_CHN	Dipole Inline Component Waveform Data Channel Name	MAST-B	[, , , , RSW90C_090, RSW00C_000]	
DIIN_WFN_CHN	Dipole Inline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , RSW90CN_090, RSW00CN_000]	
DIOF_WF_CHN	Dipole Offline Component Waveform Data Channel Name	MAST-B	[, , , , RSW90C_000, RSW00C_090]	
DIOF_WFN_CHN	Dipole Offline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , RSW90CN_000, RSW00CN_090]	
EMXGMOD	EMEX and Gain Modes	FBST-E	Time Zoned	
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, 5110, 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	[RSWMUM_M, RSWMLM_M, RSWFMF_M, RSWMFL_M, RSW90C_M, RSW00C_M]	
MONO_WFN_CHN	Monopole Component Waveform Normalization Data Channel Name	MAST-B	[RSWMUMN_M, RSWMLMN_M, RSWFMFN_M, RSWMFLN_M, RSW90CN_M, RSW00CN_M]	

MPSC	Manual Phase Shift Compensation	FBST-E	0	deg
MSMT_LIST	Measurement List	MAST-B	[MUM, MLM, MFM, MFL, 90C, 00C]	
NUMMSMT	Number of active measurements	MAST-B	6	
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	
RXSEL	Receiver Station Select	MAST-B	[[On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On], [On, On, On, On, On, On, On]]	
SAMINT	Sonic Waveform Sampling Interval	MAST-B	[10, 10, 10, 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	[RSWMUM, RSWMLM, RSWMFM, RSWMFL, RSW90C, RSW00C]	
SNSR_WFN_CHN	Sensor Waveforms Normalization Factor Channel Name	MAST-B	[SWMUMN, SWMLMN, SWMFMN, SWMFLN, SW90CN, SW00CN]	
SNSRSEL	Sensor Element Select	MAST-B	[[On, On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On, On], [Off, Off, Off, Off, On, On]]	
TX_AMP	Transmitter Amplitude Factor	MAST-B	[THREEQUARTER, THREEQUARTER, FULL, FULL, FULL, FULL]	
TXSEL	Transmitter Drive Selection	MAST-B	[UM, LM, FM, FM, D90, D00]	
WF_CR_CHN	Waveform Compression Rate Channel Name	MAST-B	[WCRMUM, WCRMLM, WCRMFM, WCRMFL, WCR90C, WCR00C]	
WF_DEPTH_CHN	Waveform Depth Channel Name	MAST-B	[WDMUM, WDMLM, WDMFM, WDMFL, WD90C, WD00C]	
WF_QI_CHN	Waveform Quality Indicator Channel Name	MAST-B	[WQMUM, WQMLM, WQMFM, WQMFL, WQ90C, WQ00C]	
WFSEL	Transmitter Drive Waveform Selection	MAST-B	[mp_mf_d, mp_mf_d, mp_mf_d, mp_lf_d, dp_cd_d, dp_cd_d]	
XVOL	EMEX Voltage	FBST-E	0	V

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXGMOD	EMEX= Auto and Gain= Auto	12-Dec-2013 18:23:41	12-Dec-2013 21:03:18	5270.49	1557.9
EMXGMOD	EMEX= Manual and Gain= Manual	12-Dec-2013 21:03:18	12-Dec-2013 21:20:12	1557.9	1379.03

MAX_LOG_SPEED	1571	12-Dec-2013 18:23:41	12-Dec-2013 18:33:08	5270.49	5127.96
MAX_LOG_SPEED	1659	12-Dec-2013 18:33:08	12-Dec-2013 18:37:14	5127.96	5047.24
MAX_LOG_SPEED	1755	12-Dec-2013 18:37:14	12-Dec-2013 18:40:18	5047.24	4982.68
MAX_LOG_SPEED	1800	12-Dec-2013 18:40:18	12-Dec-2013 18:43:23	4982.68	4924.64
MAX_LOG_SPEED	1689	12-Dec-2013 18:43:23	12-Dec-2013 18:46:26	4924.64	4869.94
MAX_LOG_SPEED	1778	12-Dec-2013 18:46:26	12-Dec-2013 18:50:31	4869.94	4788.35
MAX_LOG_SPEED	1800	12-Dec-2013 18:50:31	12-Dec-2013 19:08:54	4788.35	4397.47
MAX_LOG_SPEED	1679	12-Dec-2013 19:08:54	12-Dec-2013 19:14:01	4397.47	4274.52
MAX_LOG_SPEED	1799	12-Dec-2013 19:14:01	12-Dec-2013 19:15:02	4274.52	4249.16
MAX_LOG_SPEED	1659	12-Dec-2013 19:15:02	12-Dec-2013 19:16:04	4249.16	4221.96
MAX_LOG_SPEED	1753	12-Dec-2013 19:16:04	12-Dec-2013 19:20:10	4221.96	4115.63
MAX_LOG_SPEED	1800	12-Dec-2013 19:20:10	12-Dec-2013 19:32:25	4115.63	3797.42
MAX_LOG_SPEED	1651	12-Dec-2013 19:32:25	12-Dec-2013 19:36:31	3797.42	3684.98
MAX_LOG_SPEED	1734	12-Dec-2013 19:36:31	12-Dec-2013 19:37:32	3684.98	3655.81
MAX_LOG_SPEED	1640	12-Dec-2013 19:37:32	12-Dec-2013 19:40:37	3655.81	3574.13
MAX_LOG_SPEED	1800	12-Dec-2013 19:40:37	12-Dec-2013 19:46:46	3574.13	3432.57
MAX_LOG_SPEED	1708	12-Dec-2013 19:46:46	12-Dec-2013 19:47:48	3432.57	3410.07
MAX_LOG_SPEED	1800	12-Dec-2013 19:47:48	12-Dec-2013 19:51:53	3410.07	3319.61
MAX_LOG_SPEED	1712	12-Dec-2013 19:51:53	12-Dec-2013 19:53:56	3319.61	3274.88
MAX_LOG_SPEED	1582	12-Dec-2013 19:53:56	12-Dec-2013 19:57:01	3274.88	3200.06
MAX_LOG_SPEED	1677	12-Dec-2013 19:57:01	12-Dec-2013 20:02:08	3200.06	3069.59
MAX_LOG_SPEED	1800	12-Dec-2013 20:02:08	12-Dec-2013 20:04:11	3069.59	3020.24
MAX_LOG_SPEED	1681	12-Dec-2013 20:04:11	12-Dec-2013 20:07:15	3020.24	2943.62
MAX_LOG_SPEED	1787	12-Dec-2013 20:07:15	12-Dec-2013 20:38:57	2943.62	2137.06
MAX_LOG_SPEED	1800	12-Dec-2013 20:38:57	12-Dec-2013 21:12:37	2137.06	1449.82
MAX_LOG_SPEED	1653	12-Dec-2013 21:12:37	12-Dec-2013 21:14:39	1449.82	1436.52
MAX_LOG_SPEED	1738	12-Dec-2013 21:14:39	12-Dec-2013 21:15:41	1436.52	1430.99
MAX_LOG_SPEED	1800	12-Dec-2013 21:15:41	12-Dec-2013 21:20:12	1430.99	1379.03
MAX_TOOL_SPEED	1571	12-Dec-2013 18:23:41	12-Dec-2013 18:33:08	5270.49	5127.96
MAX_TOOL_SPEED	1659	12-Dec-2013 18:33:08	12-Dec-2013 18:37:14	5127.96	5047.24
MAX_TOOL_SPEED	1755	12-Dec-2013 18:37:14	12-Dec-2013 18:40:18	5047.24	4982.68
MAX_TOOL_SPEED	1878	12-Dec-2013 18:40:18	12-Dec-2013 18:43:23	4982.68	4924.64
MAX_TOOL_SPEED	1689	12-Dec-2013 18:43:23	12-Dec-2013 18:46:26	4924.64	4869.94
MAX_TOOL_SPEED	1778	12-Dec-2013 18:46:26	12-Dec-2013 18:50:31	4869.94	4788.35
MAX_TOOL_SPEED	1955	12-Dec-2013 18:50:31	12-Dec-2013 19:04:48	4788.35	4492.14
MAX_TOOL_SPEED	1812	12-Dec-2013 19:04:48	12-Dec-2013 19:08:54	4492.14	4397.47
MAX_TOOL_SPEED	1679	12-Dec-2013 19:08:54	12-Dec-2013 19:14:01	4397.47	4274.52
MAX_TOOL_SPEED	1799	12-Dec-2013 19:14:01	12-Dec-2013 19:15:02	4274.52	4249.16
MAX_TOOL_SPEED	1659	12-Dec-2013 19:15:02	12-Dec-2013 19:16:04	4249.16	4221.96
MAX_TOOL_SPEED	1753	12-Dec-2013 19:16:04	12-Dec-2013 19:20:10	4221.96	4115.63
MAX_TOOL_SPEED	1852	12-Dec-2013 19:20:10	12-Dec-2013 19:32:25	4115.63	3797.42
MAX_TOOL_SPEED	1651	12-Dec-2013 19:32:25	12-Dec-2013 19:36:31	3797.42	3684.98
MAX_TOOL_SPEED	1734	12-Dec-2013 19:36:31	12-Dec-2013 19:37:32	3684.98	3655.81
MAX_TOOL_SPEED	1640	12-Dec-2013 19:37:32	12-Dec-2013 19:40:37	3655.81	3574.13

MAX_TOOL_SPEED	1803	12-Dec-2013 19:40:37	12-Dec-2013 19:46:46	3574.13	3432.57
MAX_TOOL_SPEED	1708	12-Dec-2013 19:46:46	12-Dec-2013 19:47:48	3432.57	3410.07
MAX_TOOL_SPEED	1838	12-Dec-2013 19:47:48	12-Dec-2013 19:51:53	3410.07	3319.61
MAX_TOOL_SPEED	1712	12-Dec-2013 19:51:53	12-Dec-2013 19:53:56	3319.61	3274.88
MAX_TOOL_SPEED	1582	12-Dec-2013 19:53:56	12-Dec-2013 19:57:01	3274.88	3200.06
MAX_TOOL_SPEED	1677	12-Dec-2013 19:57:01	12-Dec-2013 20:02:08	3200.06	3069.59
MAX_TOOL_SPEED	1828	12-Dec-2013 20:02:08	12-Dec-2013 20:04:11	3069.59	3020.24
MAX_TOOL_SPEED	1681	12-Dec-2013 20:04:11	12-Dec-2013 20:07:15	3020.24	2943.62
MAX_TOOL_SPEED	1787	12-Dec-2013 20:07:15	12-Dec-2013 20:38:57	2943.62	2137.06
MAX_TOOL_SPEED	1949	12-Dec-2013 20:38:57	12-Dec-2013 21:05:29	2137.06	1525.39
MAX_TOOL_SPEED	1811	12-Dec-2013 21:05:29	12-Dec-2013 21:09:34	1525.39	1477.39
MAX_TOOL_SPEED	1918	12-Dec-2013 21:09:34	12-Dec-2013 21:12:37	1477.39	1449.82
MAX_TOOL_SPEED	1653	12-Dec-2013 21:12:37	12-Dec-2013 21:14:39	1449.82	1436.52
MAX_TOOL_SPEED	1738	12-Dec-2013 21:14:39	12-Dec-2013 21:15:41	1436.52	1430.99
MAX_TOOL_SPEED	1854	12-Dec-2013 21:15:41	12-Dec-2013 21:20:12	1430.99	1379.03

All depth are at tool zero.

Two

Main Pass Dipole 00

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
Two	Log[6]:Up	Up	1379.03 ft	5270.49 ft	12-Dec-2013 6:23:41 PM	12-Dec-2013 9:20:12 PM	5.08 ft	

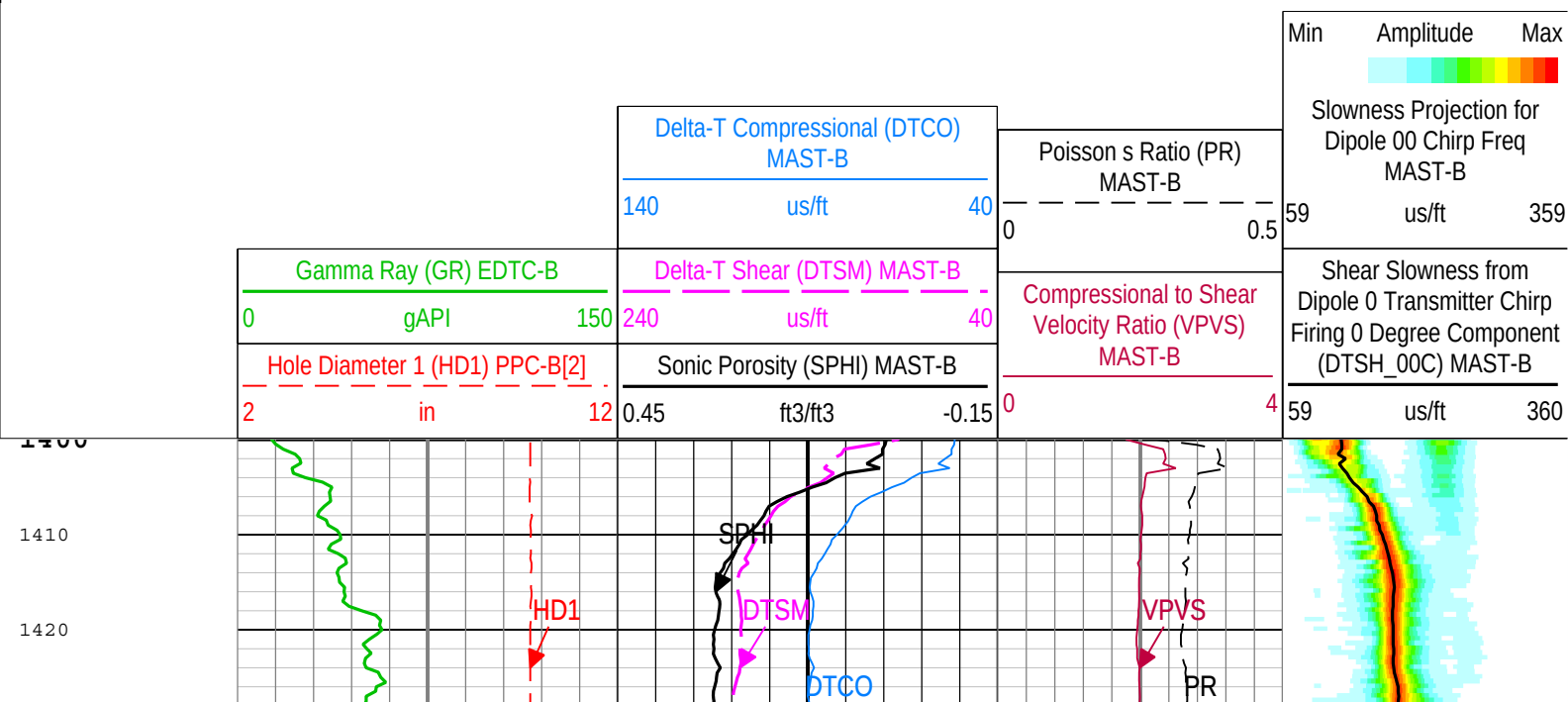
All depths are referenced to toolstring zero

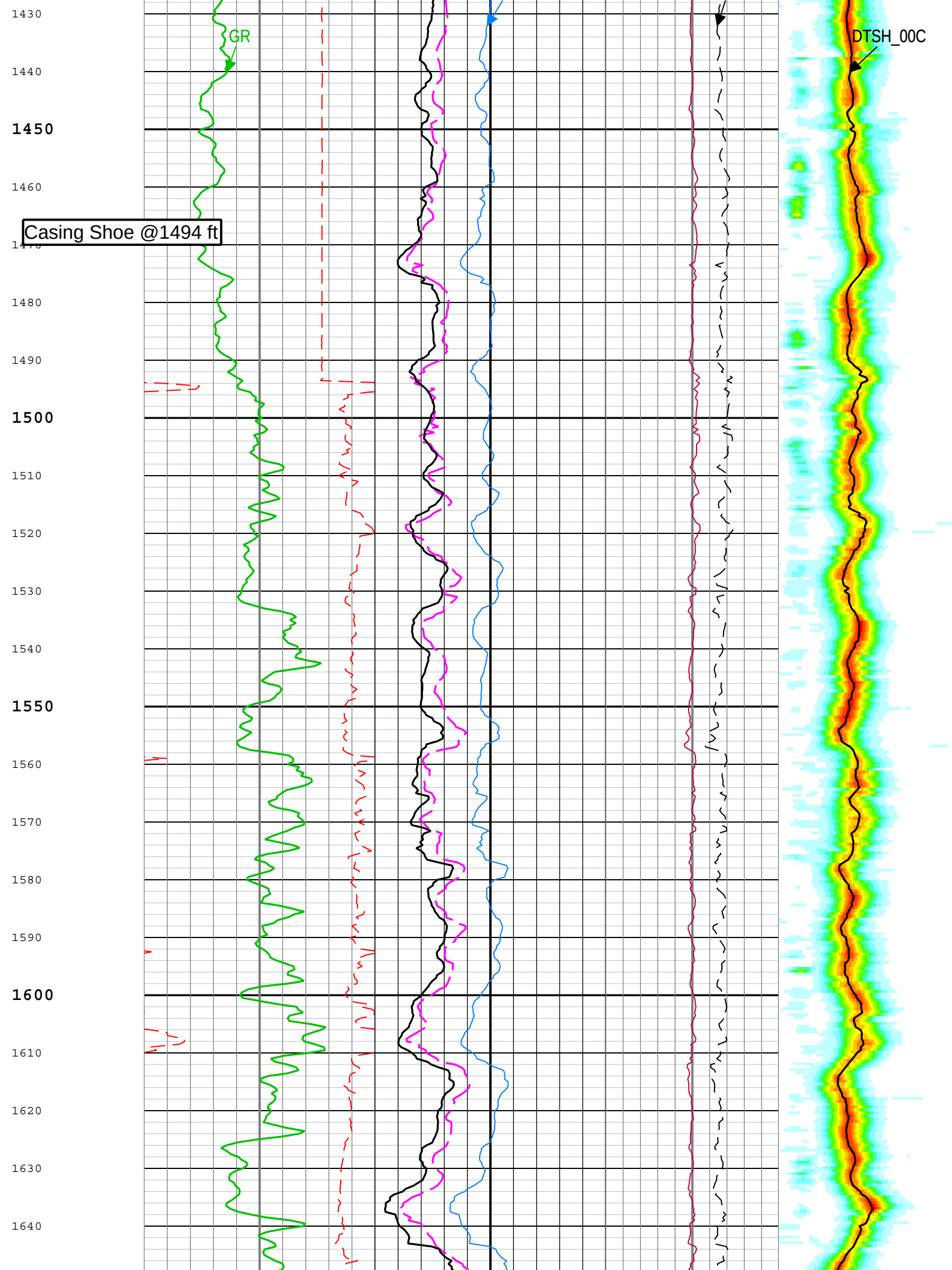
Log

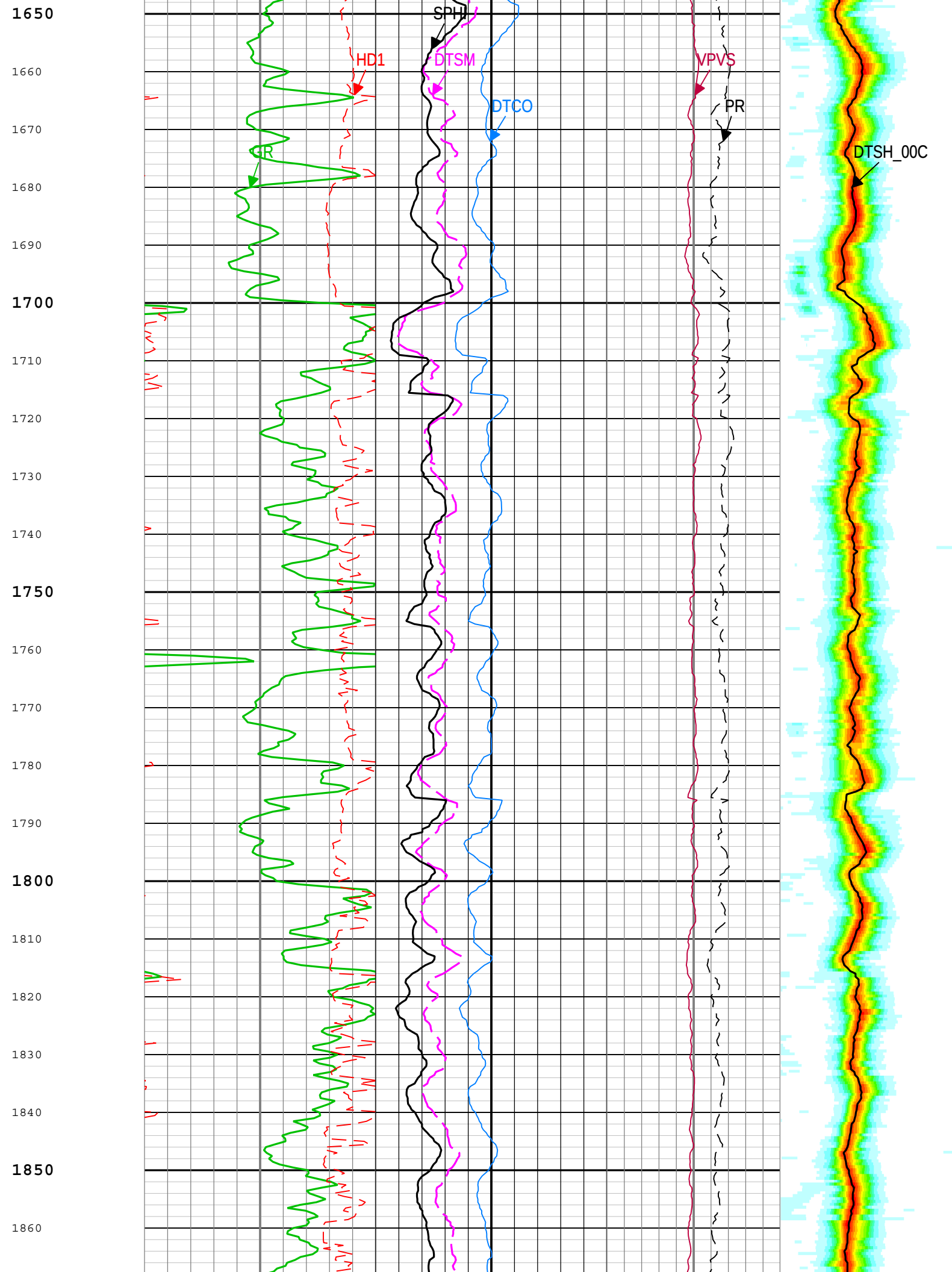
Two: Log[6]:Up

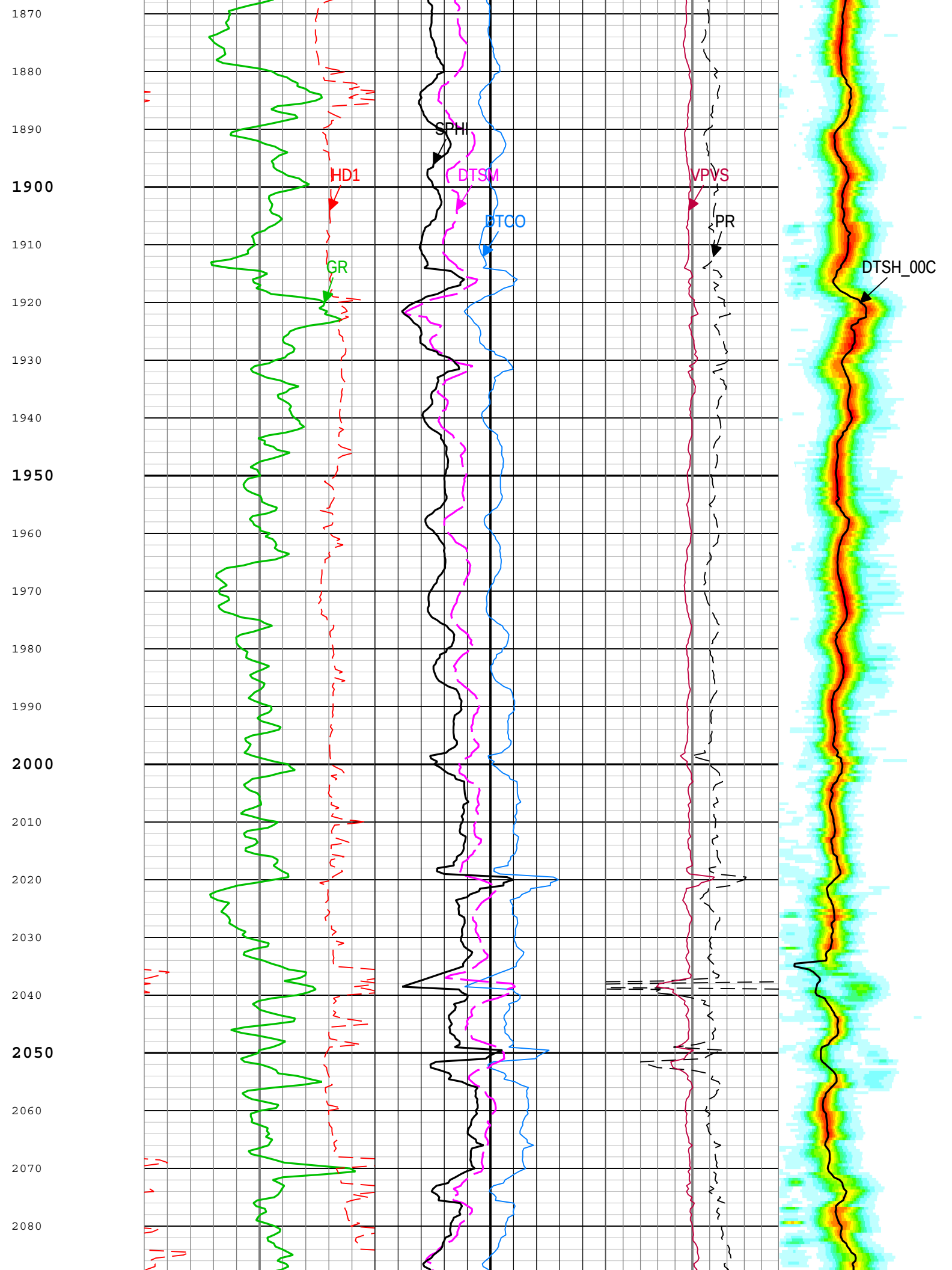
Description: MAST_DSTC_YD Format: Log (MAST_DSTC_YD) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Dec-2013 09:00:25

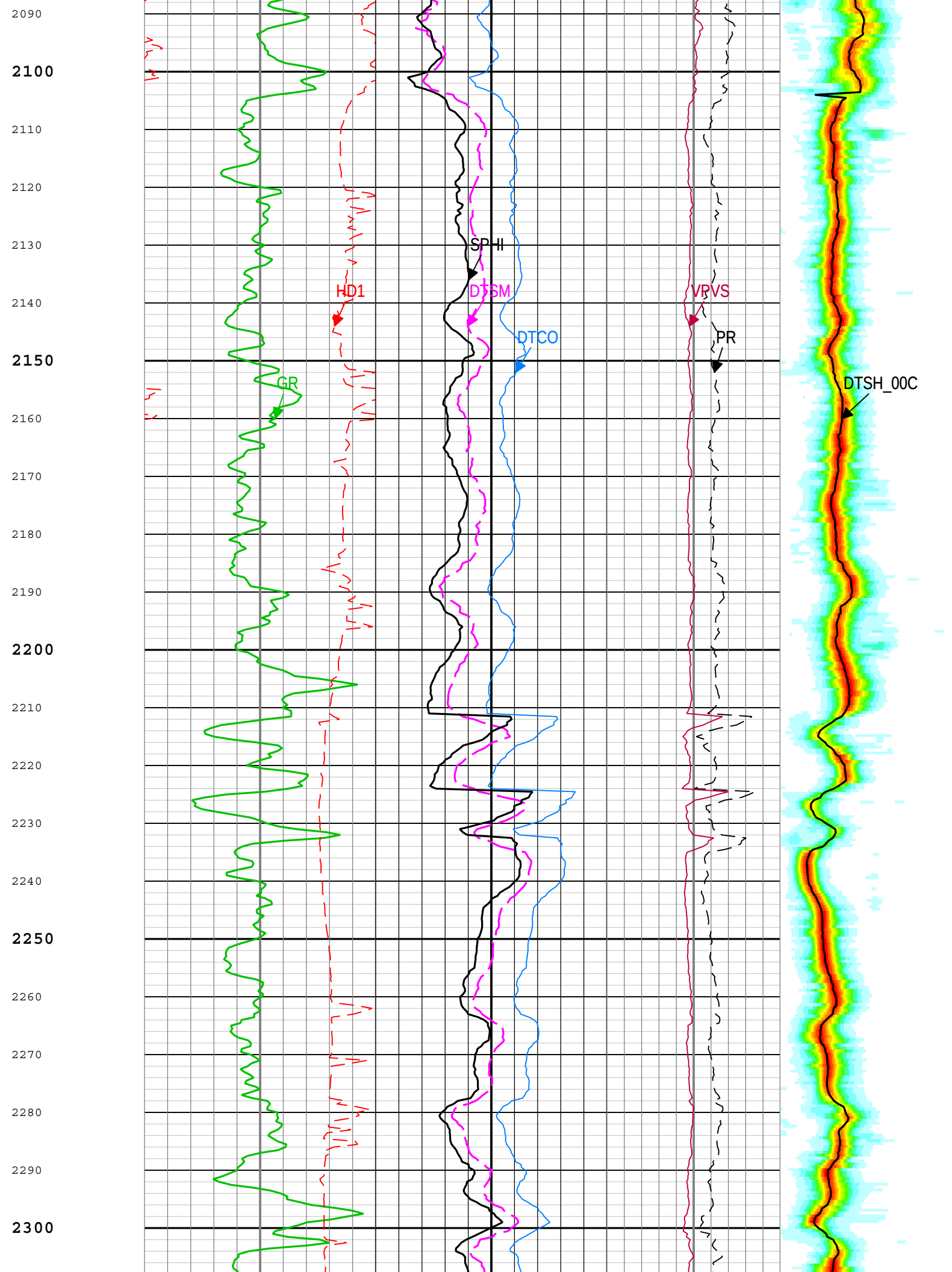
TIME_1900 - Time Marked every 60.00 (s)

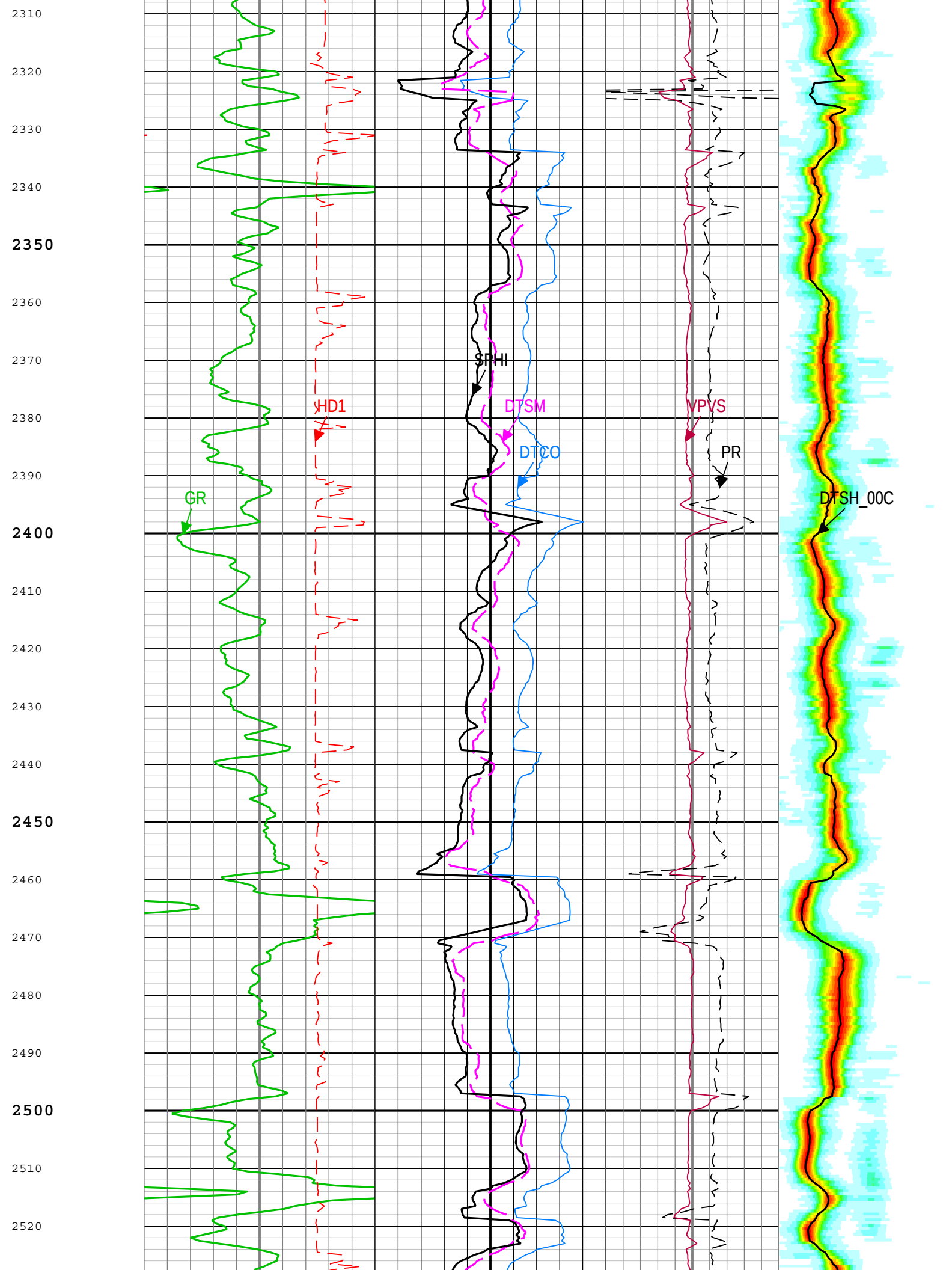


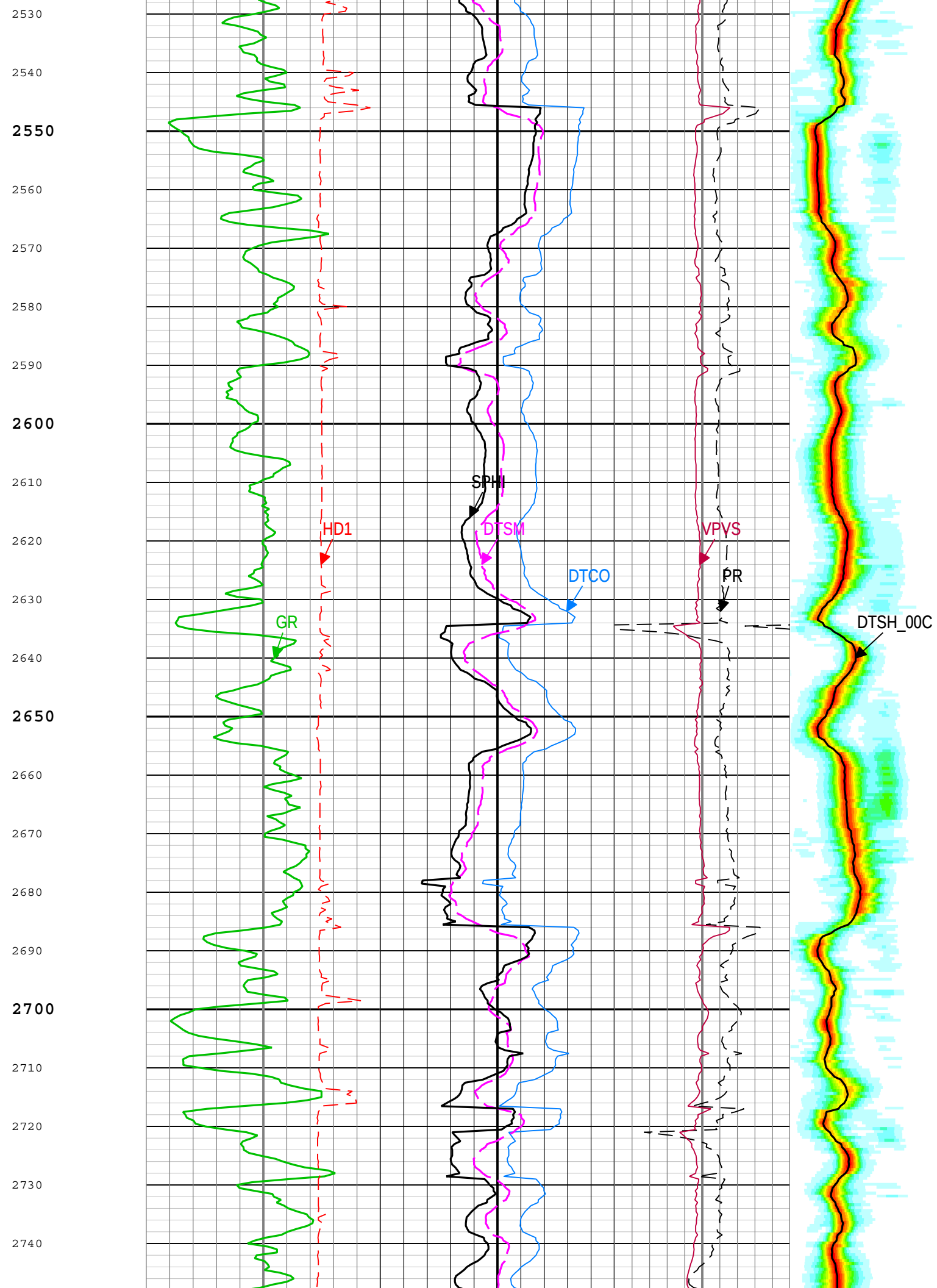


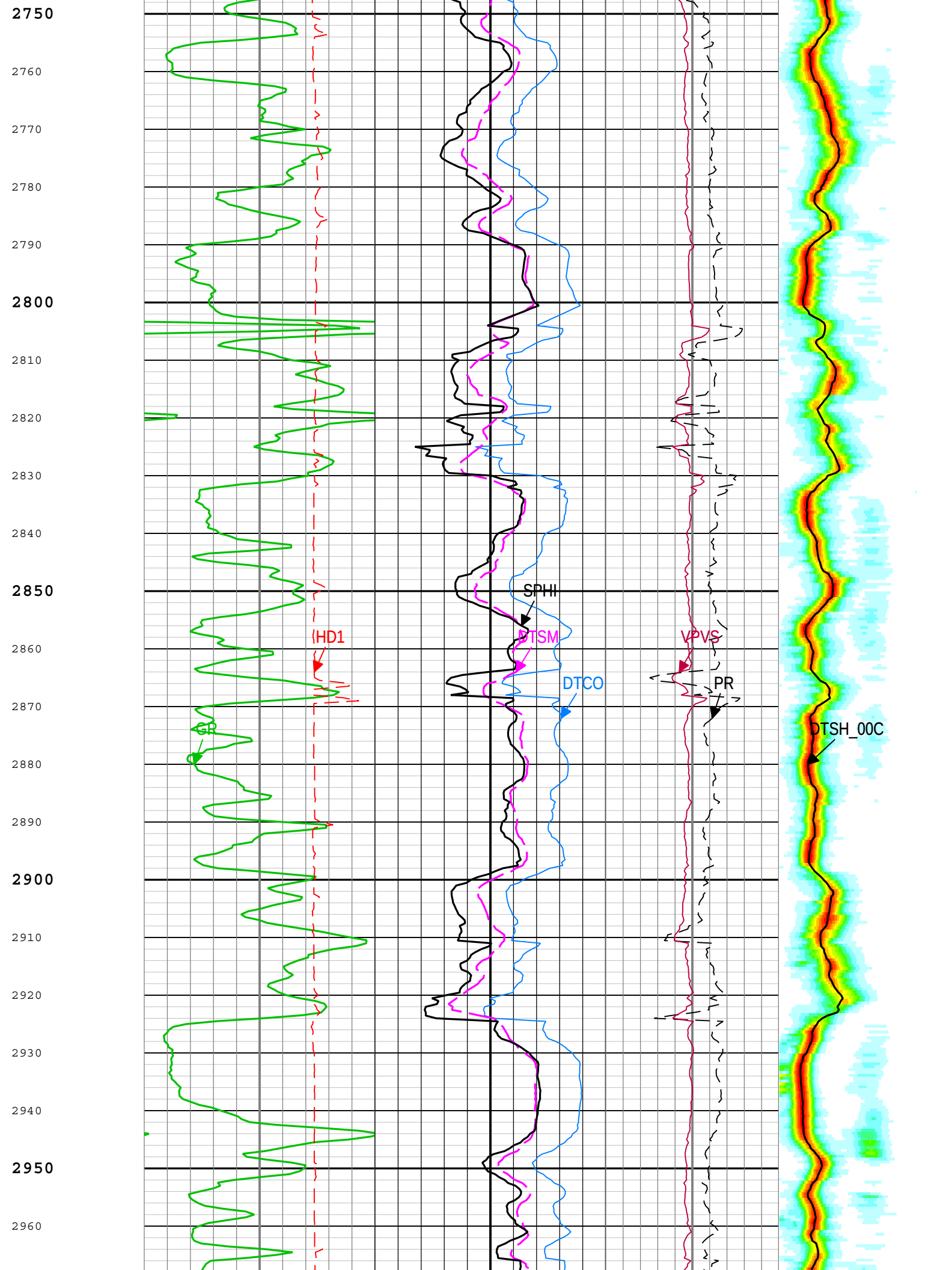


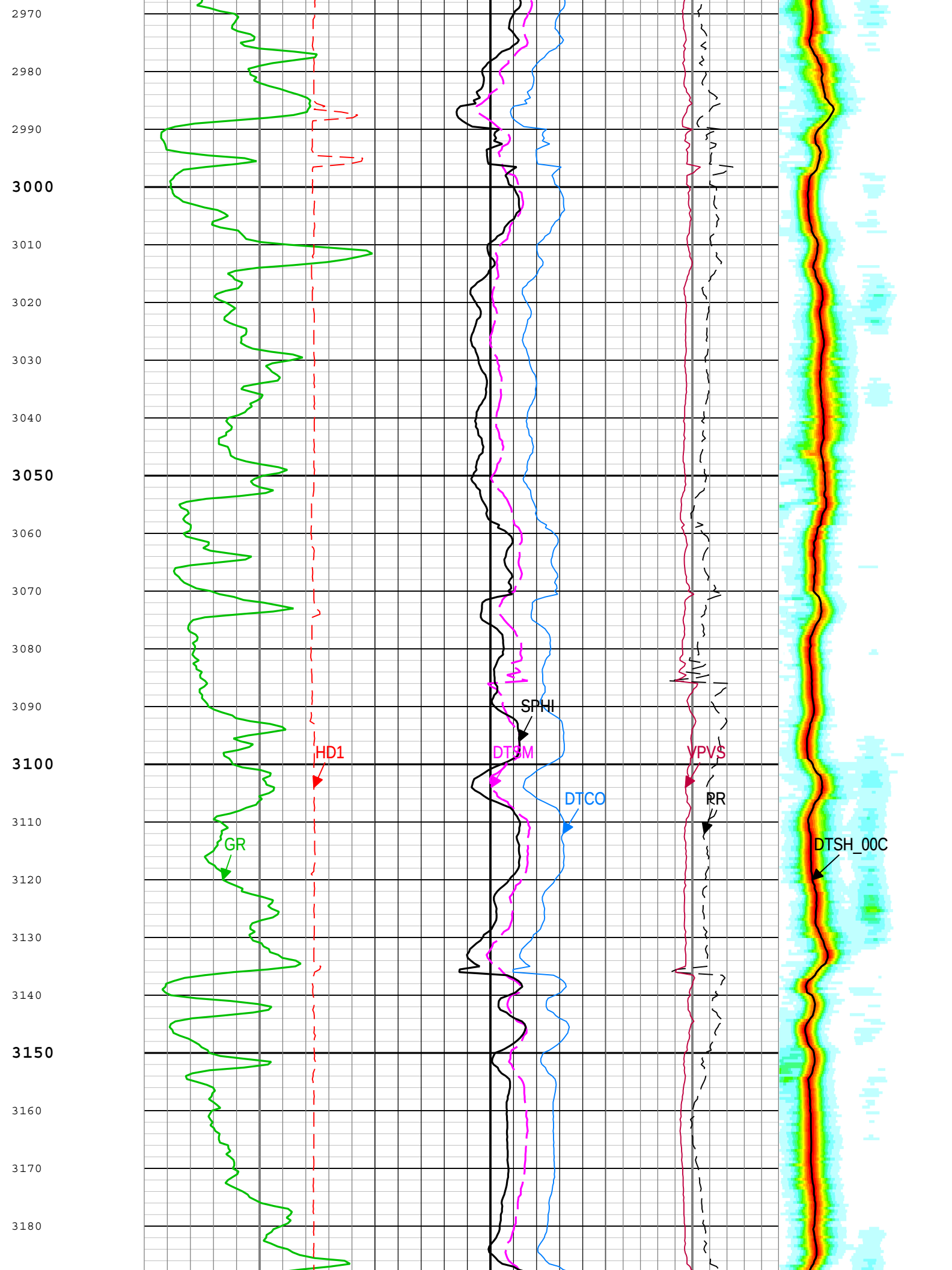


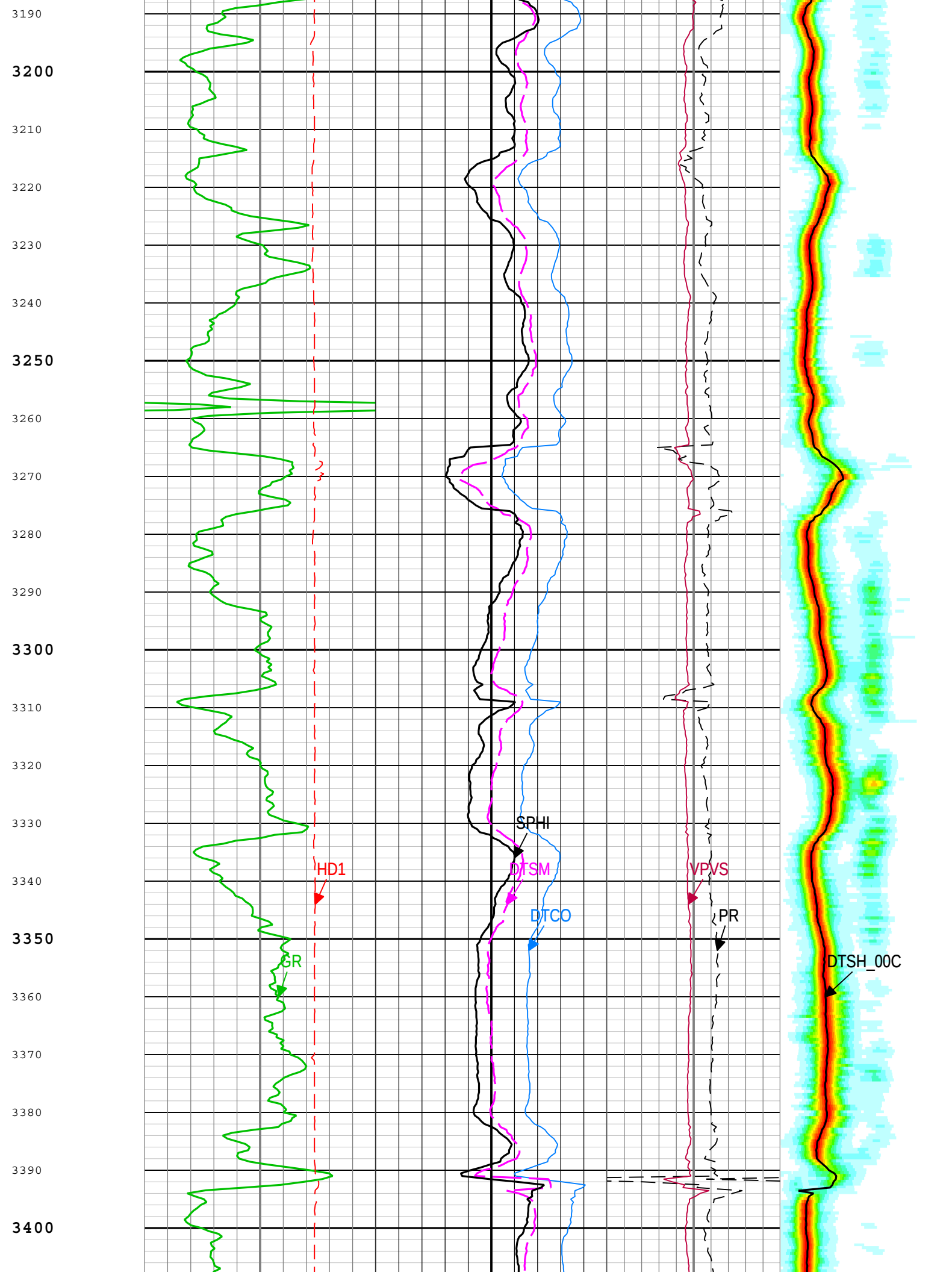


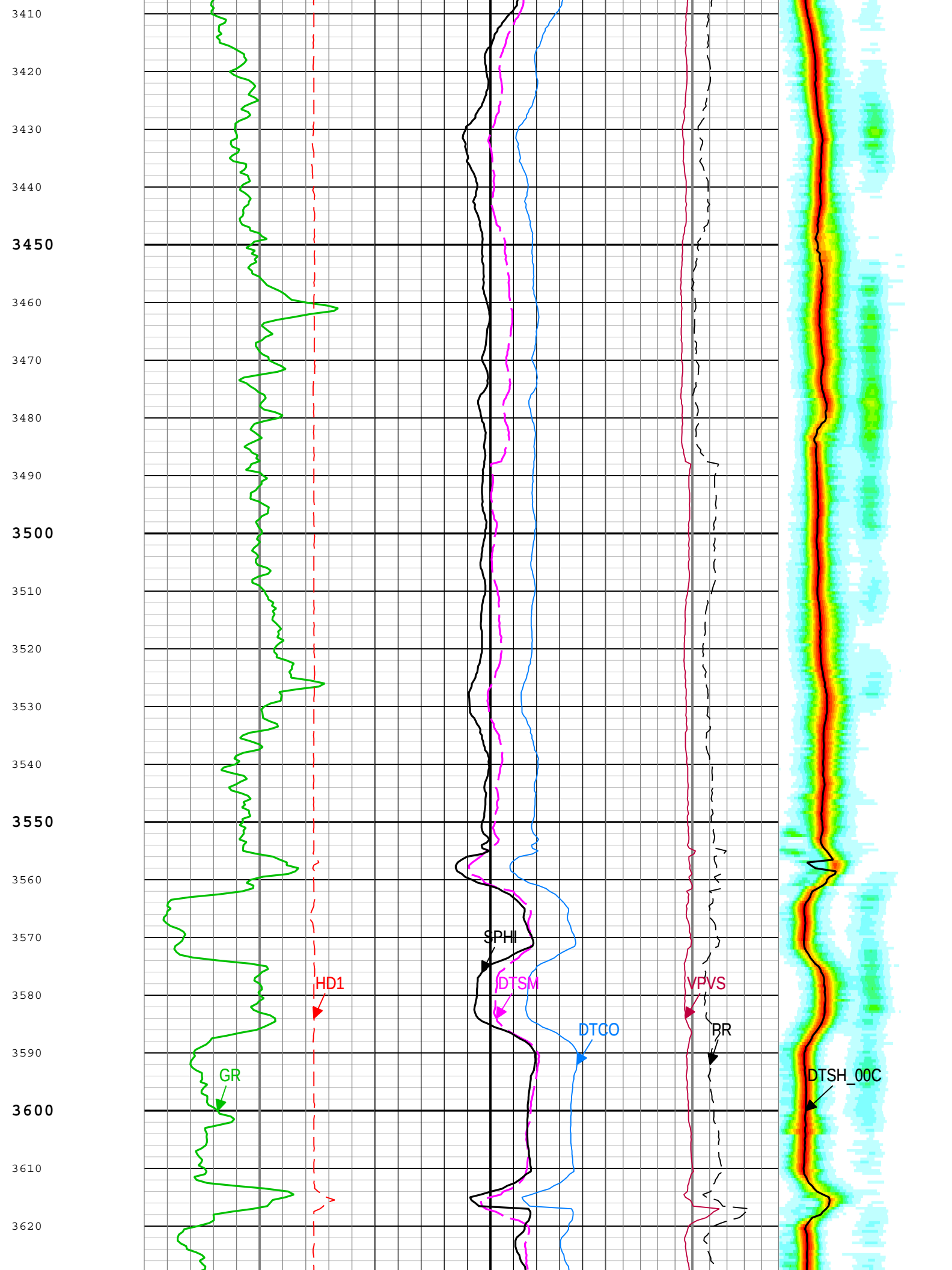


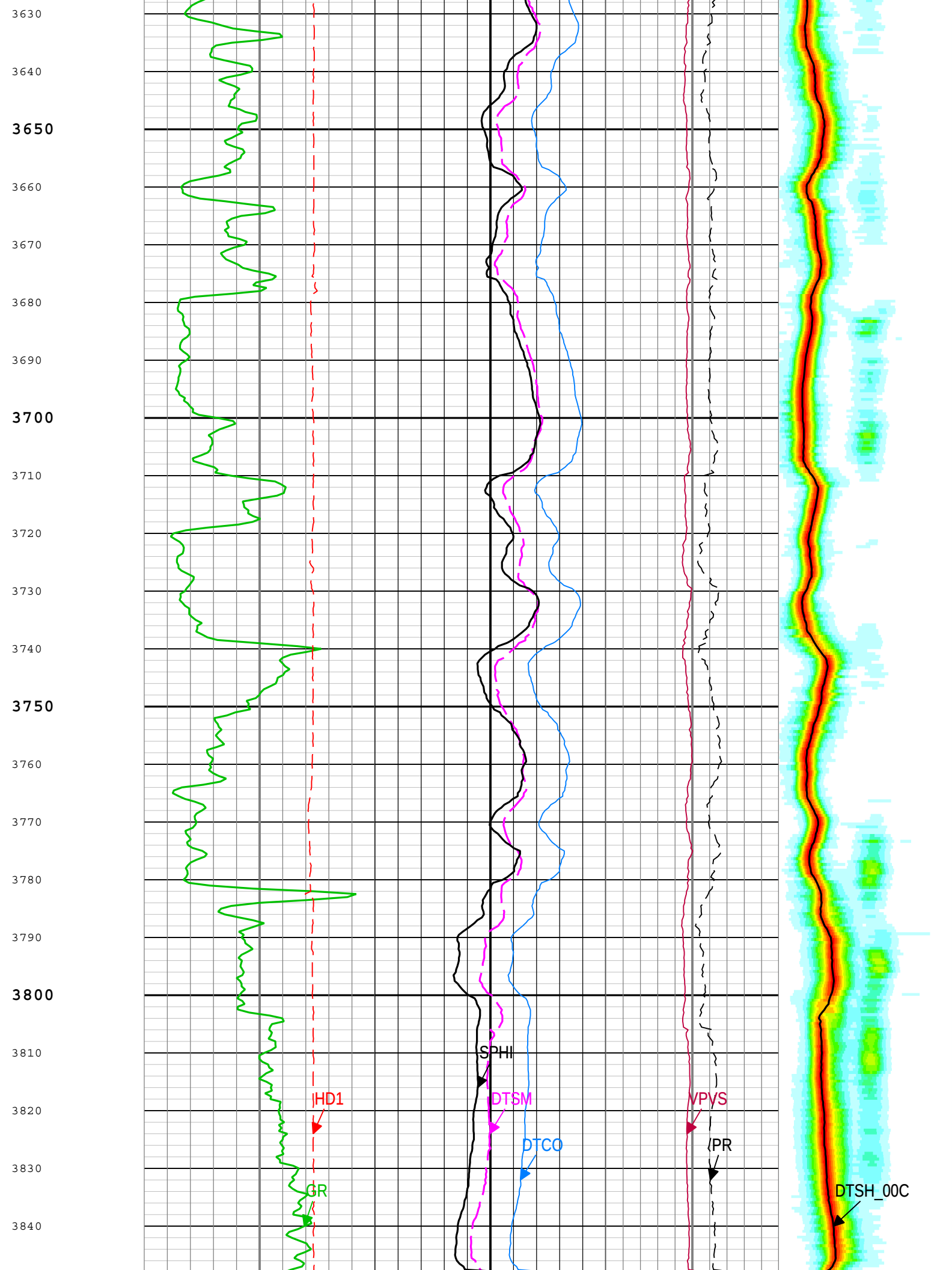


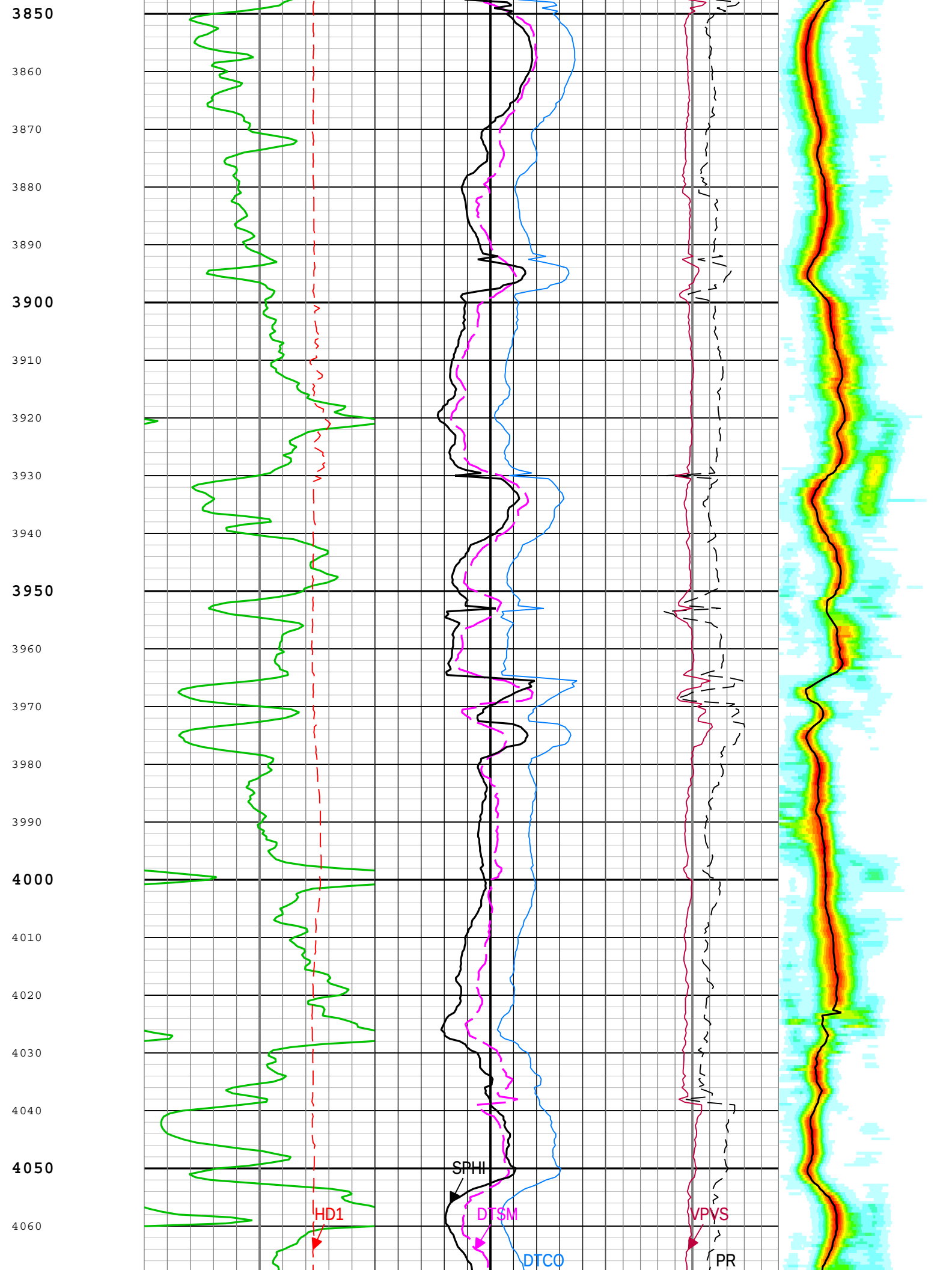


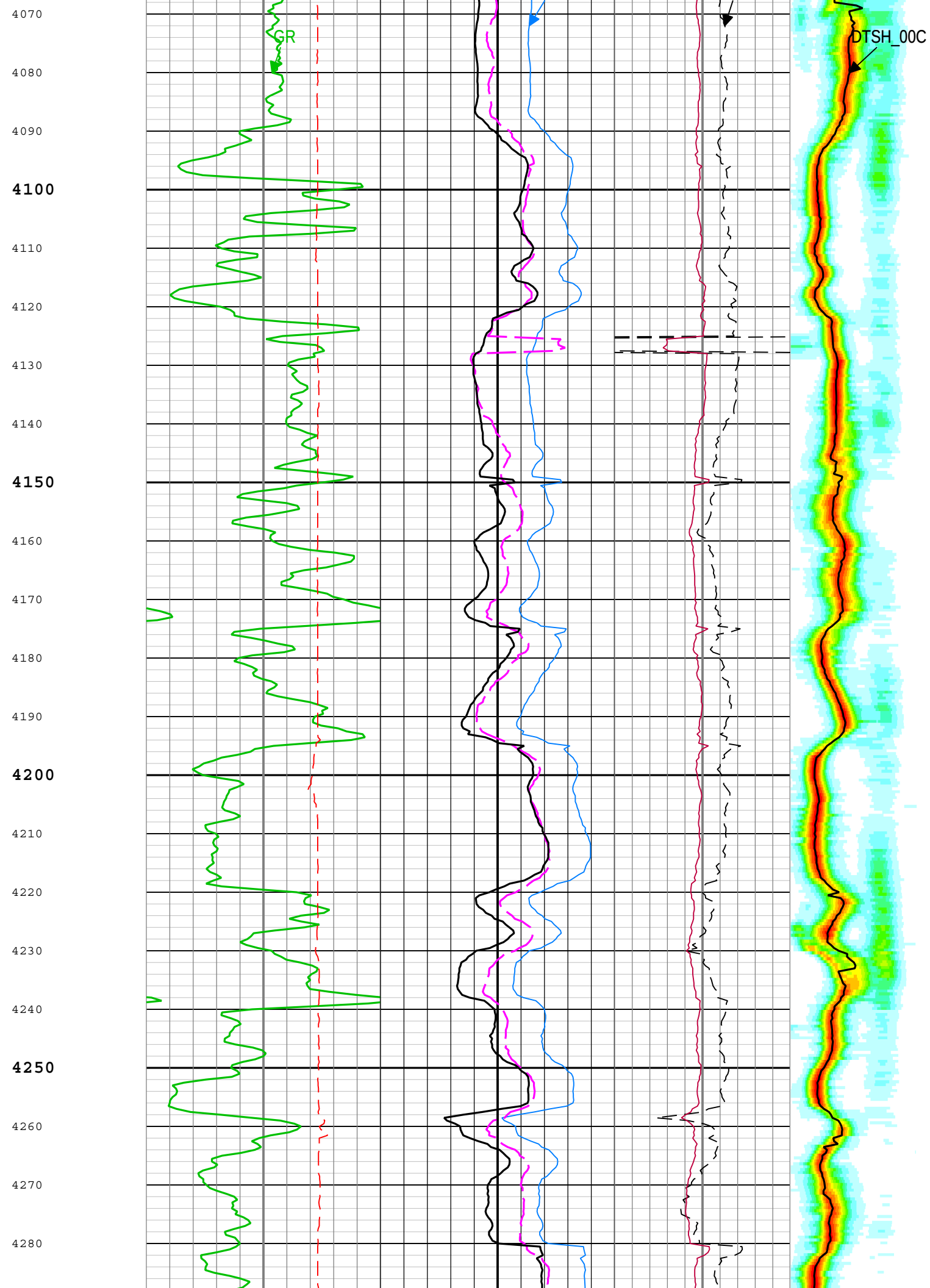


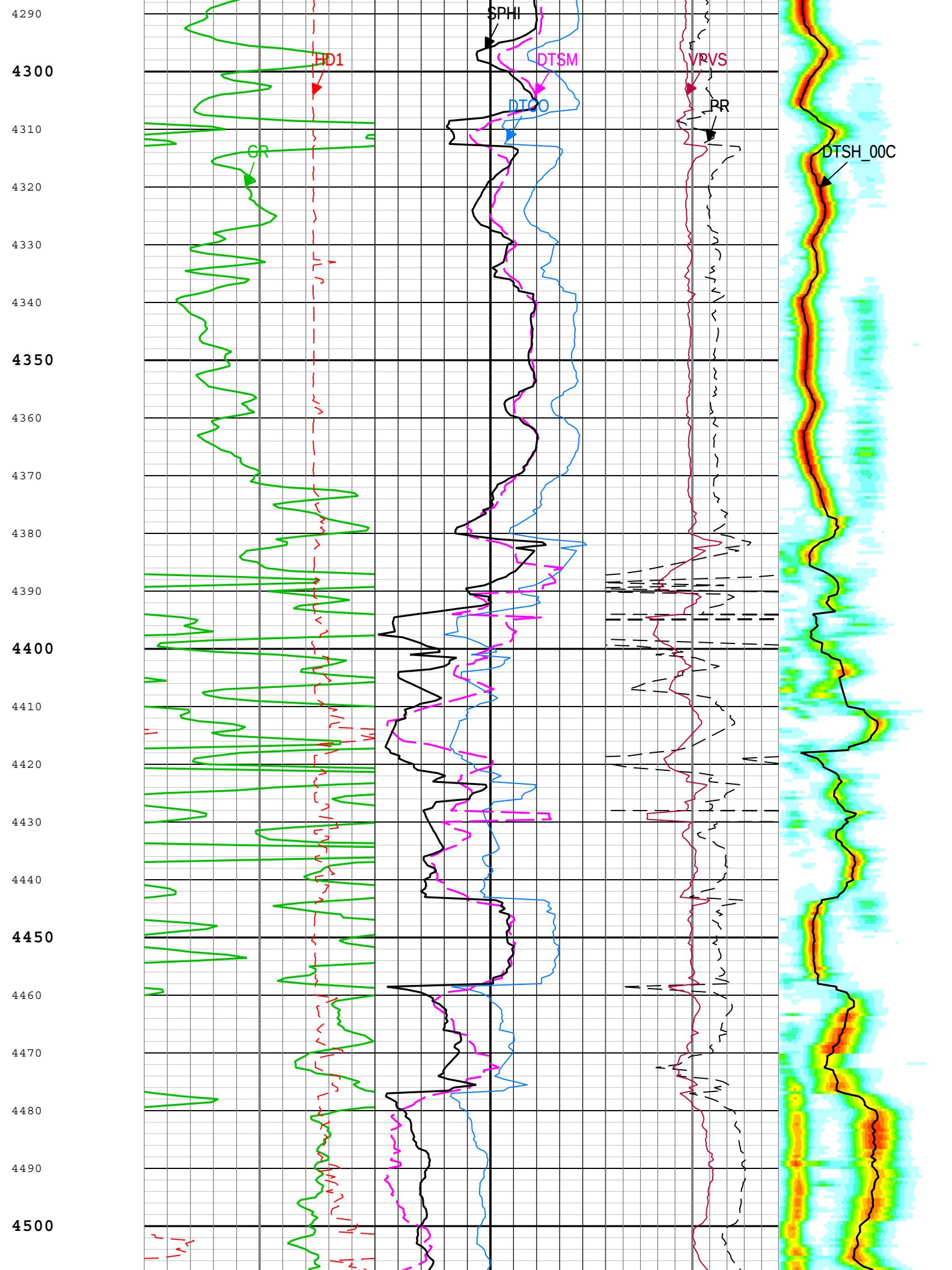


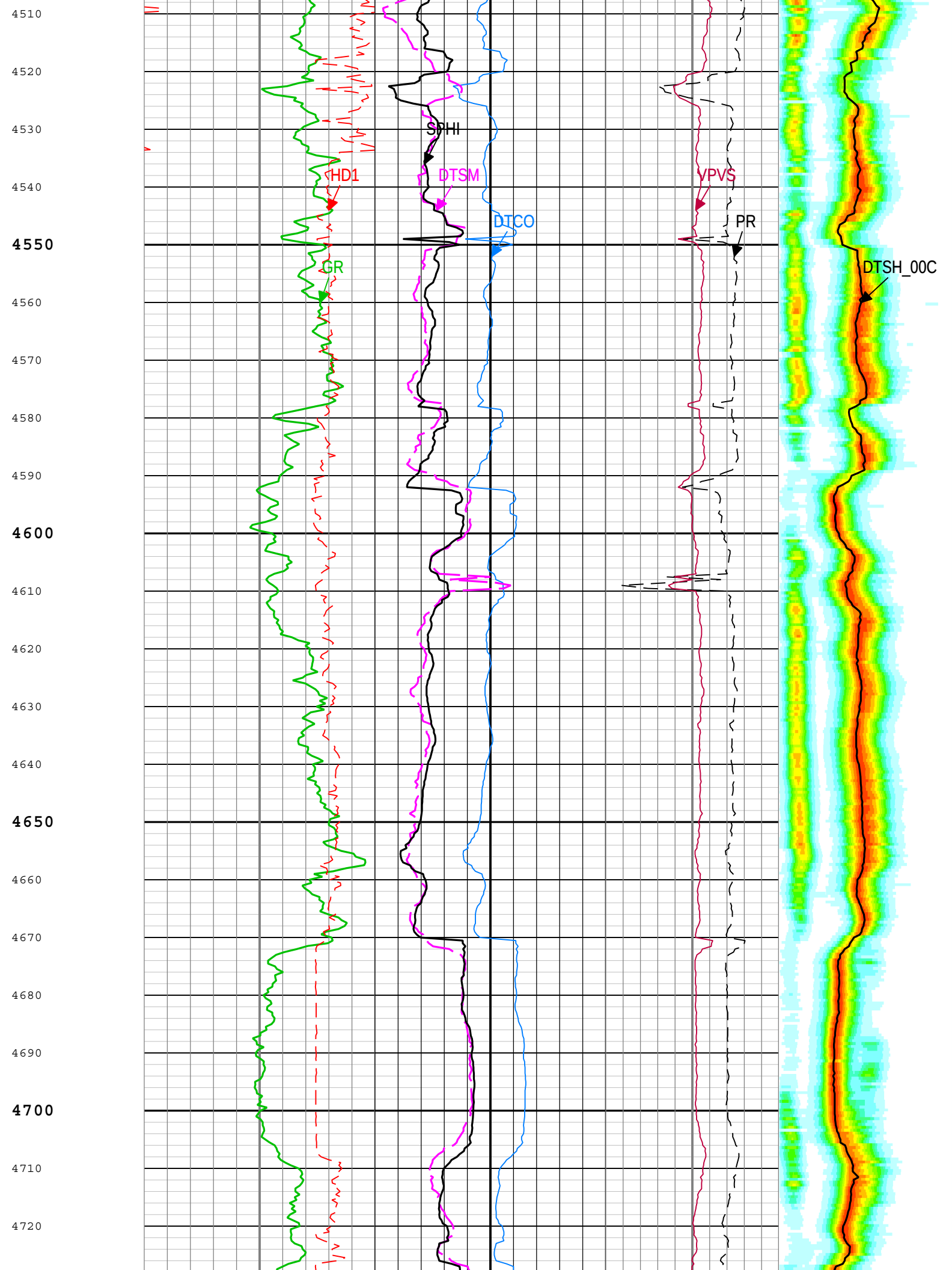


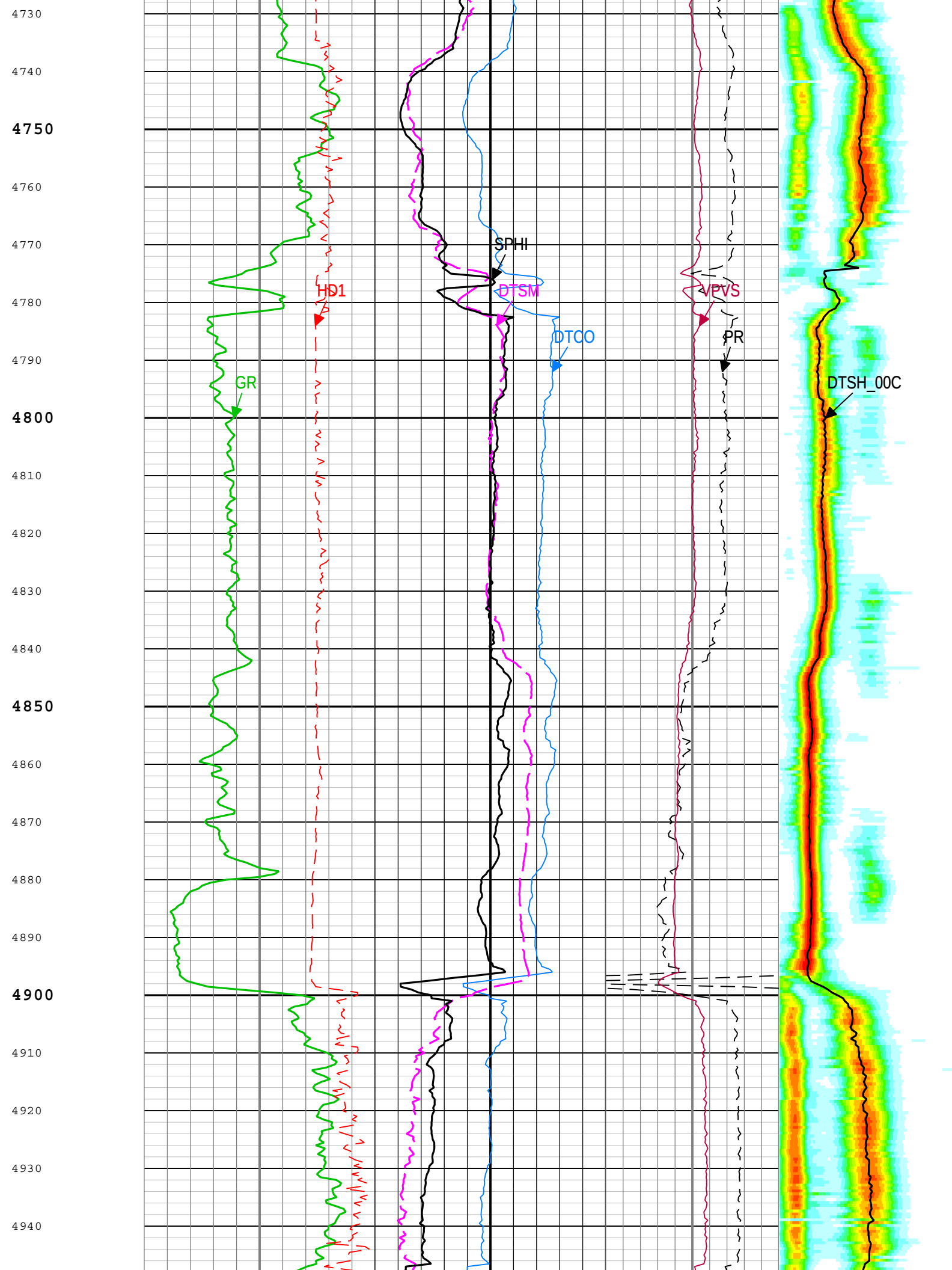


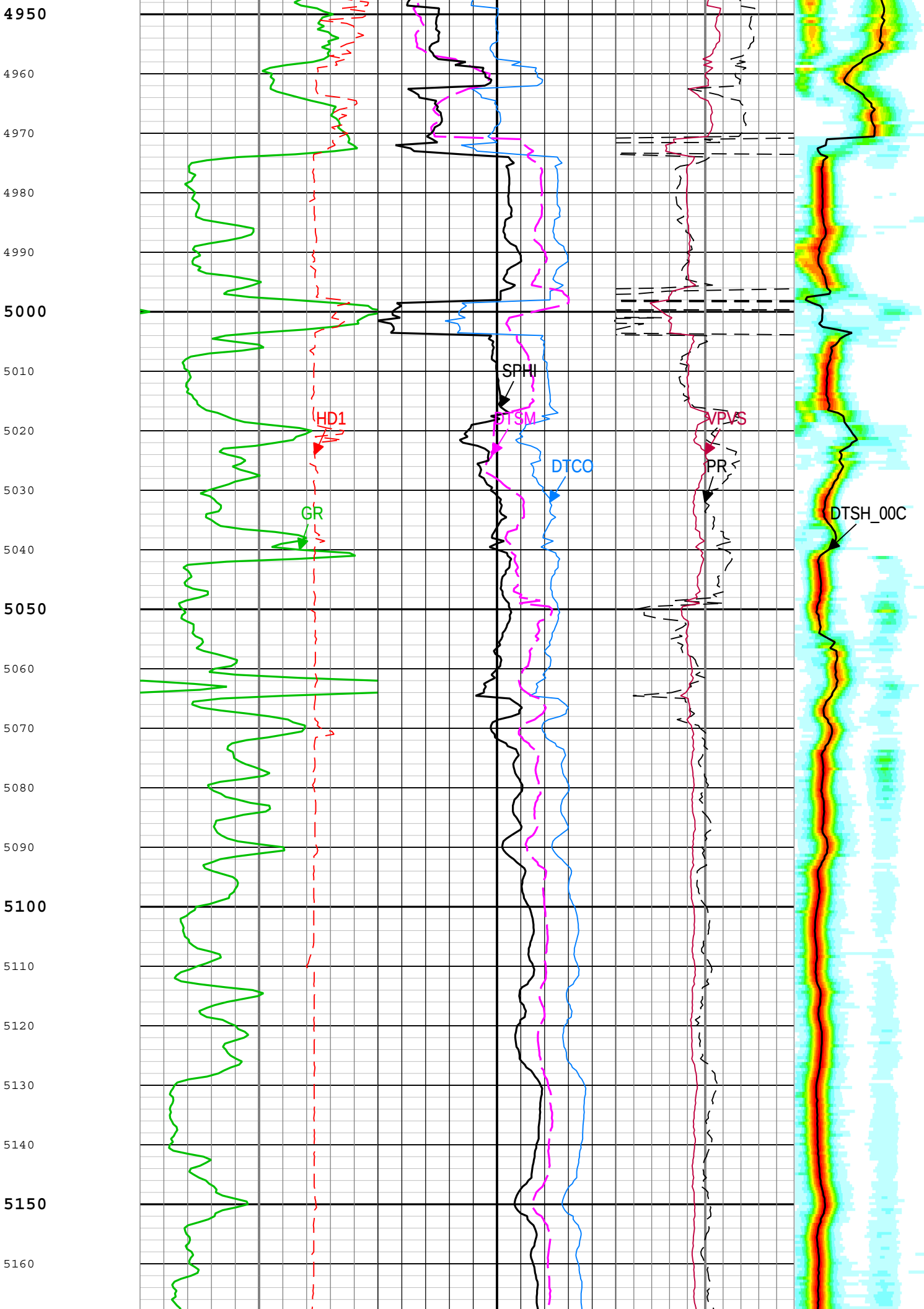


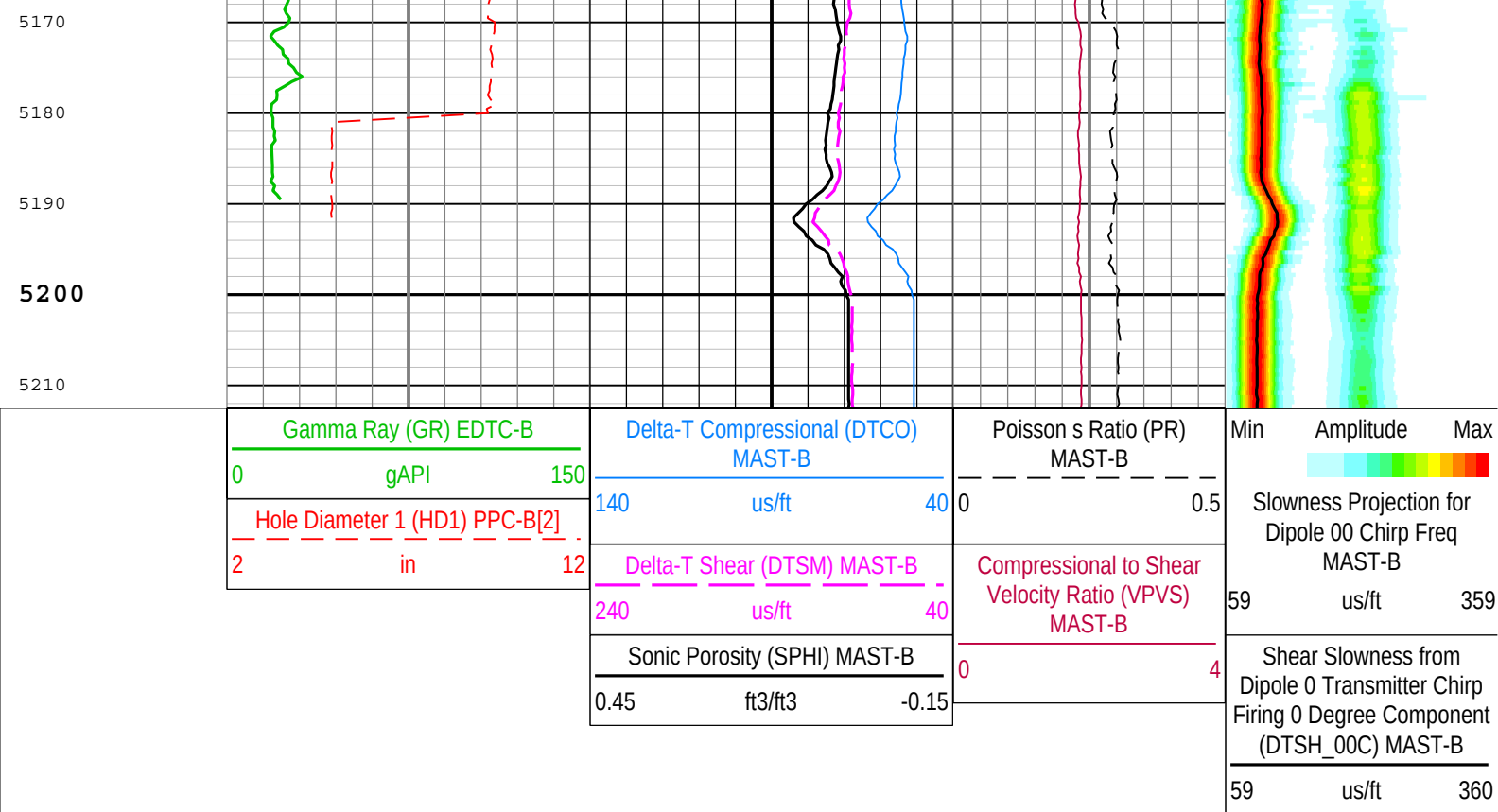












TIME_1900 - Time Marked every 60.00 (s)

Description: MAST_DSTC_YD Format: Log (MAST_DSTC_YD) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Dec-2013 09:00:25

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHCCTL	Borehole Compensated Processing Control Flag	MAST-B	Off	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	7.875	in
CBLO	Casing Bottom (Logger)	WLSESSION	1494	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
CDTS	Correction for Delta-T Shale, Empirical	Borehole	100	us/ft
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DET_STOP_MLM_M	Detection Stop Time for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	583.33	us
DET_STOP_MUM_M	Detection Stop Time for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	583.33	us
DET_STRT_MLM_M	Detection Start Time for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	106.67	us
DET_STRT_MUM_M	Detection Start Time for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	106.67	us
DFD	Drilling Fluid Density	Borehole	8.8	lbm/gal
DT_MAX_MLM_M	Detection Maximum slowness for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	90	us/ft
DT_MAX_MUM_M	Detection Maximum slowness for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	90	us/ft
DTF	Delta-T Fluid	Borehole	189	us/ft
DTM	Delta-T Matrix	Borehole	47.6	us/ft
FMDCTL_MLM_M	First Motion Detection Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	Off	
FMDCTL_MUM_M	First Motion Detection Processing Control Flag for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	Off	
FMDRS_MLM_M	First Motion Detection Receiver Selection for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]	
FMDRS_MUM_M	First Motion Detection Receiver Selection for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]	

	Component			
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	C1	
MODALCTL_MLM	Modal Decomposition Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing	MAST-B	On	
MODALCTL_MUM	Modal Decomposition Processing Control Flag for Monopole Upper Transmitter Mid Frequency Firing	MAST-B	Off	
PBHCCTL	Pseudo Borehole Compensated Processing Control Flag	MAST-B	Off	
SFTY	Slowness Formation Type (Fast, Intermediate, Slow, etc.)	Borehole	Fast	
SPFS	Sonic Porosity Formula	Borehole	Wyllie	
SSCCTL_MLM	Sensor Sensitivity Correction Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing	MAST-B	On	

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
ACQ_DOMAIN	Custom Acquisition Domain Name	MAST-B	[UMMF, LMMF, FMMF, FMLF, XDCF, YDCF]	
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	
CFWREV_MAPC	MAPC Firmware Revision of Controller Electronics	MAST-B	1840	
COMPCTL	Data Compression Control	MAST-B	[MZIPA, MZIPA, MZIPA, MZIPD, MZIPD, MZIPD]	
DHMODALCTL	Downhole/Surface Modal Computation Control	MAST-B	[HALF, OFF, OFF, HALF, HALF, HALF]	
DIGDEL	Waveform Digitizing Delay	MAST-B	[0, 0, 0, 0, 0, 0]	us
DIGDT	Sonic Waveform Digitizing Slowness	MAST-B	[0, 0, 0, 0, 0, 0]	us/ft
DIGTIME	Digitizing Time	MAST-B	[2550, 2550, 5110, 20440, 30480, 30480]	us
DIIN_WF_CHN	Dipole Inline Component Waveform Data Channel Name	MAST-B	[, , , , RSW90C_090, RSW00C_000]	
DIIN_WFN_CHN	Dipole Inline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , RSW90CN_090, RSW00CN_000]	
DIOF_WF_CHN	Dipole Offline Component Waveform Data Channel Name	MAST-B	[, , , , RSW90C_000, RSW00C_090]	
DIOF_WFN_CHN	Dipole Offline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , RSW90CN_000, RSW00CN_090]	
EMXGMOD	EMEX and Gain Modes	FBST-E	Time Zoned	
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, 5110, 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	[RSWMUM_M, RSWMLM_M, RSWFM_M, RSWMFL_M, RSW90C_M, RSW00C_M]	
MONO_WFN_CHN	Monopole Component Waveform Normalization Data Channel Name	MAST-B	[RSWMUMN_M, RSWMLMN_M, RSWFMN_M, RSWMFLN_M, RSW90CN_M, RSW00CN_M]	
MPSC	Manual Phase Shift Compensation	FBST-E	0	deg
MSMT_LIST	Measurement List	MAST-B	[MUM, MLM, MFM, MFL, 90C, 00C]	
NUMMSMT	Number of active measurements	MAST-B	6	
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	
RXSEL	Receiver Station Select	MAST-B	[[On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On]]	
SAMINT	Sonic Waveform Sampling Interval	MAST-B	[10, 10, 10, 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	[RSWMUM, RSWMLM, RSWMFM, RSWMFL, RSW90C, RSW00C]	
SNSR_WFN_CHN	Sensor Waveforms Normalization Factor Channel Name	MAST-B	[SWMUMN, SWMLMN, SWMFMN, SWMFLN, SW90CN, SW00CN]	
SNSRSEL	Sensor Element Select	MAST-B	[[On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On], [Off, Off, Off, Off, On, On]]	
TX_AMP	Transmitter Amplitude Factor	MAST-B	[THREEQUARTER, THREEQUARTER, FULL, FULL, FULL, FULL]	
TXSEL	Transmitter Drive Selection	MAST-B	[UM, LM, FM, FM, D90, D00]	
WF_CR_CHN	Waveform Compression Rate Channel Name	MAST-B	[WCRMUM, WCRMMLM, WCRMFM, WCRMFL, WCR90C, WCR00C]	
WF_DEPTH_CHN	Waveform Depth Channel Name	MAST-B	[WDMUM, WDMLM, WDMFM, WDMFL, WD90C, WD00C]	
WF_QI_CHN	Waveform Quality Indicator Channel Name	MAST-B	[WQMUM, WQMLM, WQMFM, WQMFL, WQ90C, WQ00C]	
WFSEL	Transmitter Drive Waveform Selection	MAST-B	[mp_mf_d, mp_mf_d, mp_mf_d, mp_lf_d, dp_cd_d, dp_cd_d]	
XVOL	EMEX Voltage	FBST-E	0	V

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXGMOD	EMEX= Auto and Gain= Auto	12-Dec-2013 18:23:41	12-Dec-2013 21:03:18	5270.49	1557.9
EMXGMOD	EMEX= Manual and Gain= Manual	12-Dec-2013 21:03:18	12-Dec-2013 21:20:12	1557.9	1379.03
MAX_LOG_SPEED	1571	12-Dec-2013 18:23:41	12-Dec-2013 18:33:08	5270.49	5127.96
MAX_LOG_SPEED	1659	12-Dec-2013 18:33:08	12-Dec-2013 18:37:14	5127.96	5047.24
MAX_LOG_SPEED	1755	12-Dec-2013 18:37:14	12-Dec-2013 18:40:18	5047.24	4982.68
MAX_LOG_SPEED	1800	12-Dec-2013 18:40:18	12-Dec-2013 18:43:23	4982.68	4924.64
MAX_LOG_SPEED	1689	12-Dec-2013 18:43:23	12-Dec-2013 18:46:26	4924.64	4869.94
MAX_LOG_SPEED	1778	12-Dec-2013 18:46:26	12-Dec-2013 18:50:31	4869.94	4788.35
MAX_LOG_SPEED	1800	12-Dec-2013 18:50:31	12-Dec-2013 19:08:54	4788.35	4397.47

MAX_LOG_SPEED	1679	12-Dec-2013 19:08:54	12-Dec-2013 19:14:01	4397.47	4274.52
MAX_LOG_SPEED	1799	12-Dec-2013 19:14:01	12-Dec-2013 19:15:02	4274.52	4249.16
MAX_LOG_SPEED	1659	12-Dec-2013 19:15:02	12-Dec-2013 19:16:04	4249.16	4221.96
MAX_LOG_SPEED	1753	12-Dec-2013 19:16:04	12-Dec-2013 19:20:10	4221.96	4115.63
MAX_LOG_SPEED	1800	12-Dec-2013 19:20:10	12-Dec-2013 19:32:25	4115.63	3797.42
MAX_LOG_SPEED	1651	12-Dec-2013 19:32:25	12-Dec-2013 19:36:31	3797.42	3684.98
MAX_LOG_SPEED	1734	12-Dec-2013 19:36:31	12-Dec-2013 19:37:32	3684.98	3655.81
MAX_LOG_SPEED	1640	12-Dec-2013 19:37:32	12-Dec-2013 19:40:37	3655.81	3574.13
MAX_LOG_SPEED	1800	12-Dec-2013 19:40:37	12-Dec-2013 19:46:46	3574.13	3432.57
MAX_LOG_SPEED	1708	12-Dec-2013 19:46:46	12-Dec-2013 19:47:48	3432.57	3410.07
MAX_LOG_SPEED	1800	12-Dec-2013 19:47:48	12-Dec-2013 19:51:53	3410.07	3319.61
MAX_LOG_SPEED	1712	12-Dec-2013 19:51:53	12-Dec-2013 19:53:56	3319.61	3274.88
MAX_LOG_SPEED	1582	12-Dec-2013 19:53:56	12-Dec-2013 19:57:01	3274.88	3200.06
MAX_LOG_SPEED	1677	12-Dec-2013 19:57:01	12-Dec-2013 20:02:08	3200.06	3069.59
MAX_LOG_SPEED	1800	12-Dec-2013 20:02:08	12-Dec-2013 20:04:11	3069.59	3020.24
MAX_LOG_SPEED	1681	12-Dec-2013 20:04:11	12-Dec-2013 20:07:15	3020.24	2943.62
MAX_LOG_SPEED	1787	12-Dec-2013 20:07:15	12-Dec-2013 20:38:57	2943.62	2137.06
MAX_LOG_SPEED	1800	12-Dec-2013 20:38:57	12-Dec-2013 21:12:37	2137.06	1449.82
MAX_LOG_SPEED	1653	12-Dec-2013 21:12:37	12-Dec-2013 21:14:39	1449.82	1436.52
MAX_LOG_SPEED	1738	12-Dec-2013 21:14:39	12-Dec-2013 21:15:41	1436.52	1430.99
MAX_LOG_SPEED	1800	12-Dec-2013 21:15:41	12-Dec-2013 21:20:12	1430.99	1379.03
MAX_TOOL_SPEED	1571	12-Dec-2013 18:23:41	12-Dec-2013 18:33:08	5270.49	5127.96
MAX_TOOL_SPEED	1659	12-Dec-2013 18:33:08	12-Dec-2013 18:37:14	5127.96	5047.24
MAX_TOOL_SPEED	1755	12-Dec-2013 18:37:14	12-Dec-2013 18:40:18	5047.24	4982.68
MAX_TOOL_SPEED	1878	12-Dec-2013 18:40:18	12-Dec-2013 18:43:23	4982.68	4924.64
MAX_TOOL_SPEED	1689	12-Dec-2013 18:43:23	12-Dec-2013 18:46:26	4924.64	4869.94
MAX_TOOL_SPEED	1778	12-Dec-2013 18:46:26	12-Dec-2013 18:50:31	4869.94	4788.35
MAX_TOOL_SPEED	1955	12-Dec-2013 18:50:31	12-Dec-2013 19:04:48	4788.35	4492.14
MAX_TOOL_SPEED	1812	12-Dec-2013 19:04:48	12-Dec-2013 19:08:54	4492.14	4397.47
MAX_TOOL_SPEED	1679	12-Dec-2013 19:08:54	12-Dec-2013 19:14:01	4397.47	4274.52
MAX_TOOL_SPEED	1799	12-Dec-2013 19:14:01	12-Dec-2013 19:15:02	4274.52	4249.16
MAX_TOOL_SPEED	1659	12-Dec-2013 19:15:02	12-Dec-2013 19:16:04	4249.16	4221.96
MAX_TOOL_SPEED	1753	12-Dec-2013 19:16:04	12-Dec-2013 19:20:10	4221.96	4115.63
MAX_TOOL_SPEED	1852	12-Dec-2013 19:20:10	12-Dec-2013 19:32:25	4115.63	3797.42
MAX_TOOL_SPEED	1651	12-Dec-2013 19:32:25	12-Dec-2013 19:36:31	3797.42	3684.98
MAX_TOOL_SPEED	1734	12-Dec-2013 19:36:31	12-Dec-2013 19:37:32	3684.98	3655.81
MAX_TOOL_SPEED	1640	12-Dec-2013 19:37:32	12-Dec-2013 19:40:37	3655.81	3574.13
MAX_TOOL_SPEED	1803	12-Dec-2013 19:40:37	12-Dec-2013 19:46:46	3574.13	3432.57
MAX_TOOL_SPEED	1708	12-Dec-2013 19:46:46	12-Dec-2013 19:47:48	3432.57	3410.07
MAX_TOOL_SPEED	1838	12-Dec-2013 19:47:48	12-Dec-2013 19:51:53	3410.07	3319.61
MAX_TOOL_SPEED	1712	12-Dec-2013 19:51:53	12-Dec-2013 19:53:56	3319.61	3274.88
MAX_TOOL_SPEED	1582	12-Dec-2013 19:53:56	12-Dec-2013 19:57:01	3274.88	3200.06
MAX_TOOL_SPEED	1677	12-Dec-2013 19:57:01	12-Dec-2013 20:02:08	3200.06	3069.59
MAX_TOOL_SPEED	1828	12-Dec-2013 20:02:08	12-Dec-2013 20:04:11	3069.59	3020.24

MAX_TOOL_SPEED	1681	12-Dec-2013 20:04:11	12-Dec-2013 20:07:15	3020.24	2943.62
MAX_TOOL_SPEED	1787	12-Dec-2013 20:07:15	12-Dec-2013 20:38:57	2943.62	2137.06
MAX_TOOL_SPEED	1949	12-Dec-2013 20:38:57	12-Dec-2013 21:05:29	2137.06	1525.39
MAX_TOOL_SPEED	1811	12-Dec-2013 21:05:29	12-Dec-2013 21:09:34	1525.39	1477.39
MAX_TOOL_SPEED	1918	12-Dec-2013 21:09:34	12-Dec-2013 21:12:37	1477.39	1449.82
MAX_TOOL_SPEED	1653	12-Dec-2013 21:12:37	12-Dec-2013 21:14:39	1449.82	1436.52
MAX_TOOL_SPEED	1738	12-Dec-2013 21:14:39	12-Dec-2013 21:15:41	1436.52	1430.99
MAX_TOOL_SPEED	1854	12-Dec-2013 21:15:41	12-Dec-2013 21:20:12	1430.99	1379.03

Two

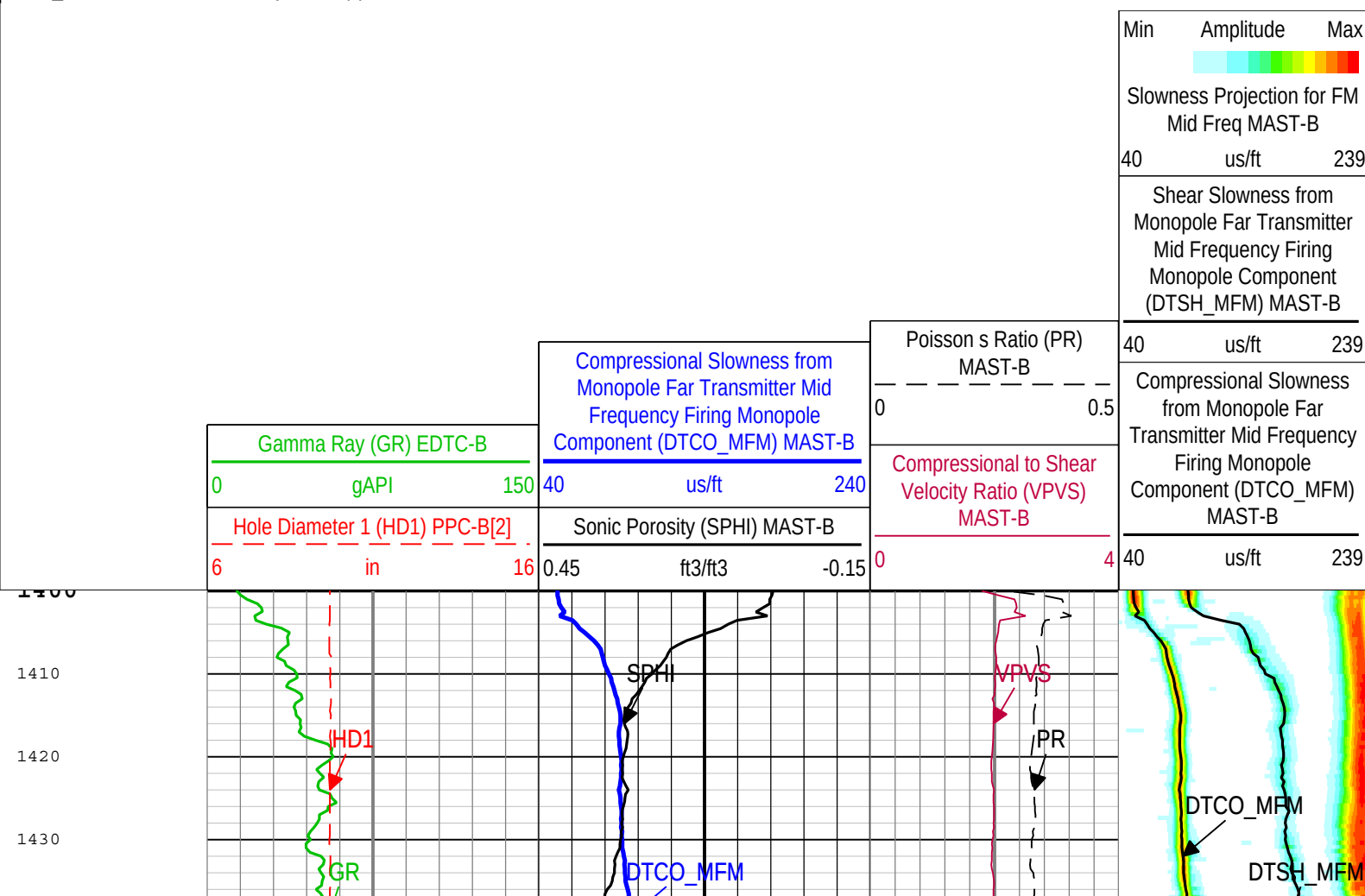
Integration Summary

Pass Summary

Two	Log[6]:Up	Up	1379.03 ft	5270.49 ft	12-Dec-2013 6:23:41 PM	12-Dec-2013 9:20:12 PM	5.08 ft	
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Log

Description: MAST_STC_MF Format: Log (MAST_STC_MF) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Dec-2013 09:00:37

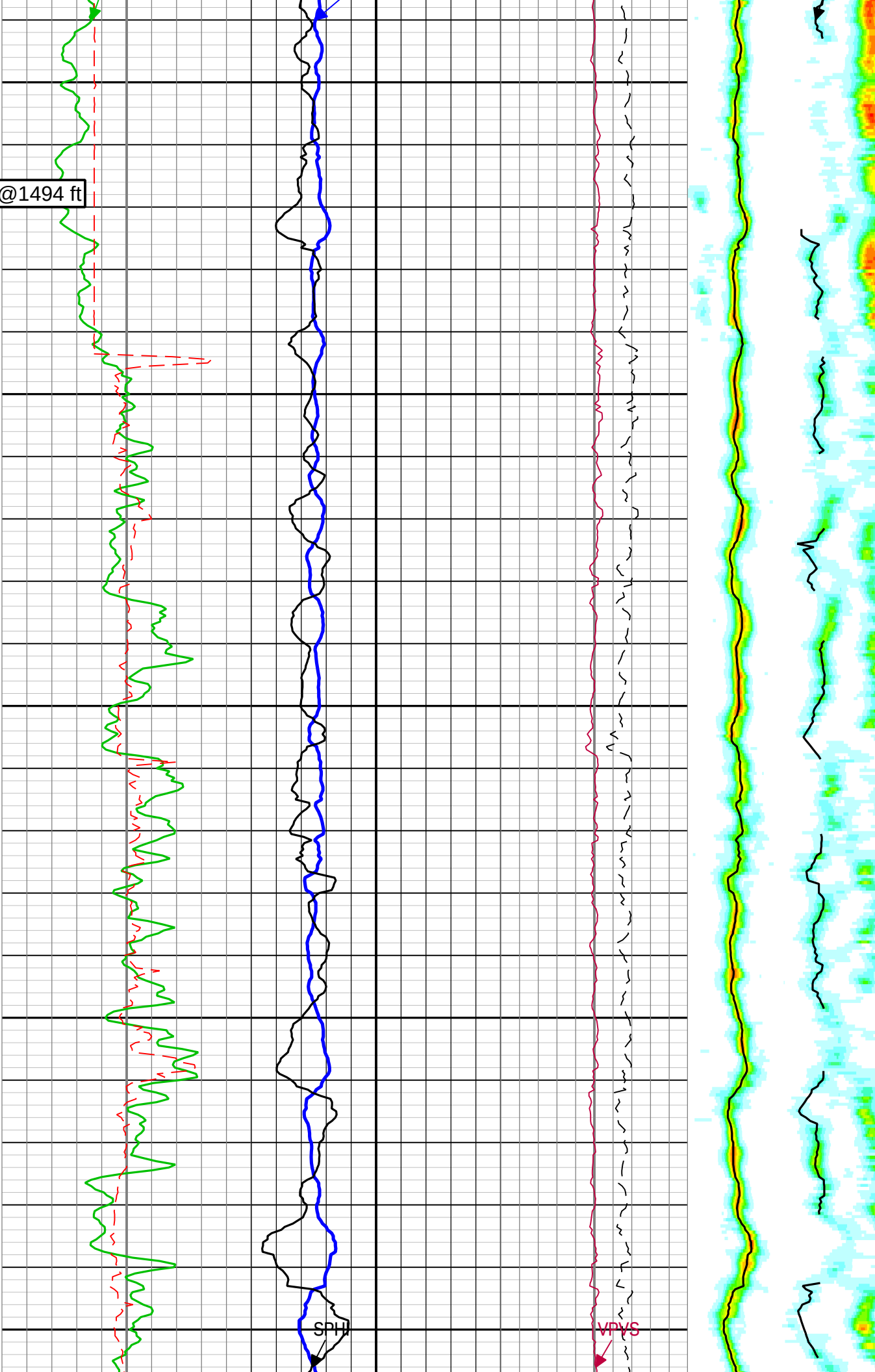


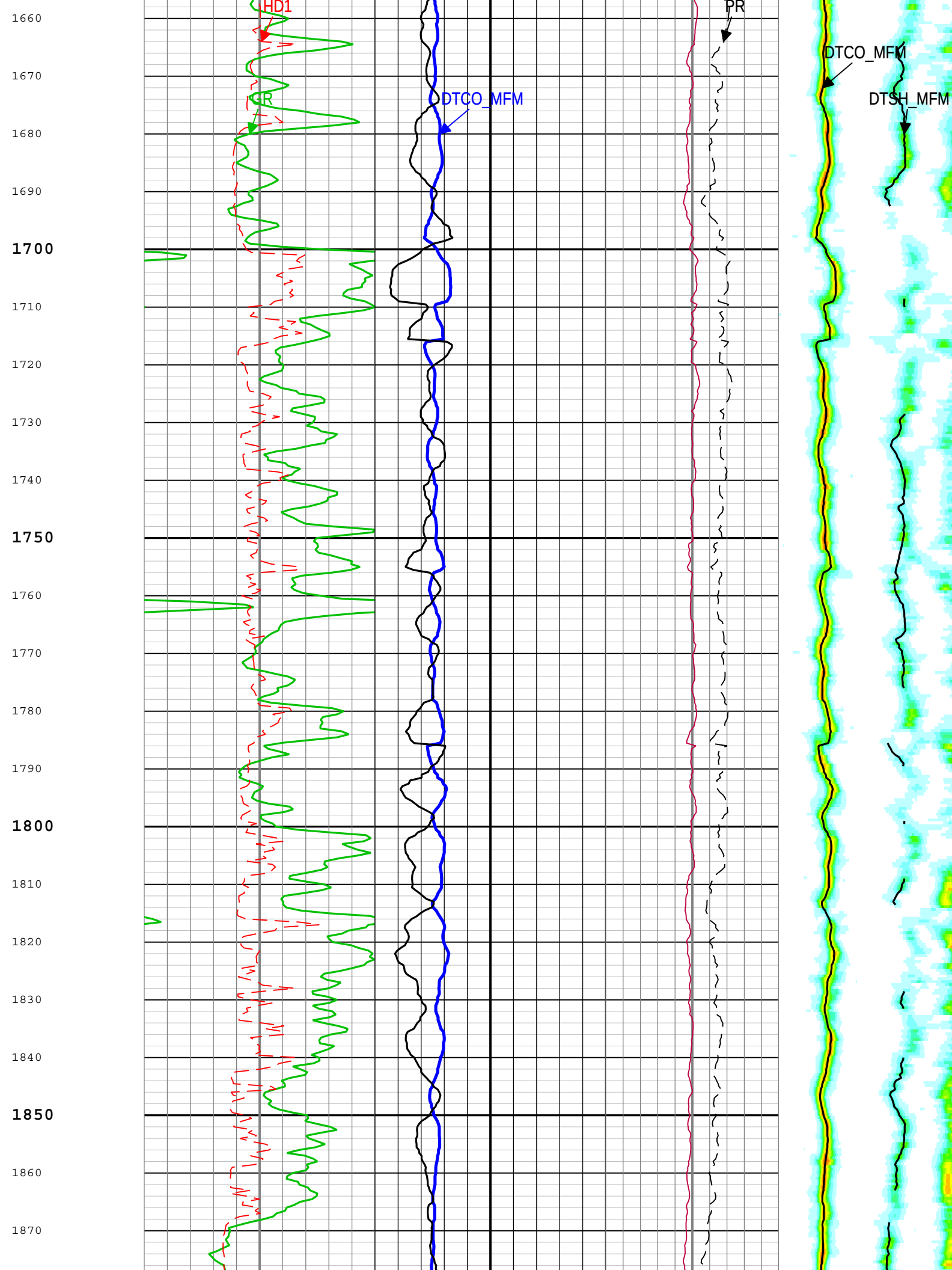
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Casing Shoe @1494 ft

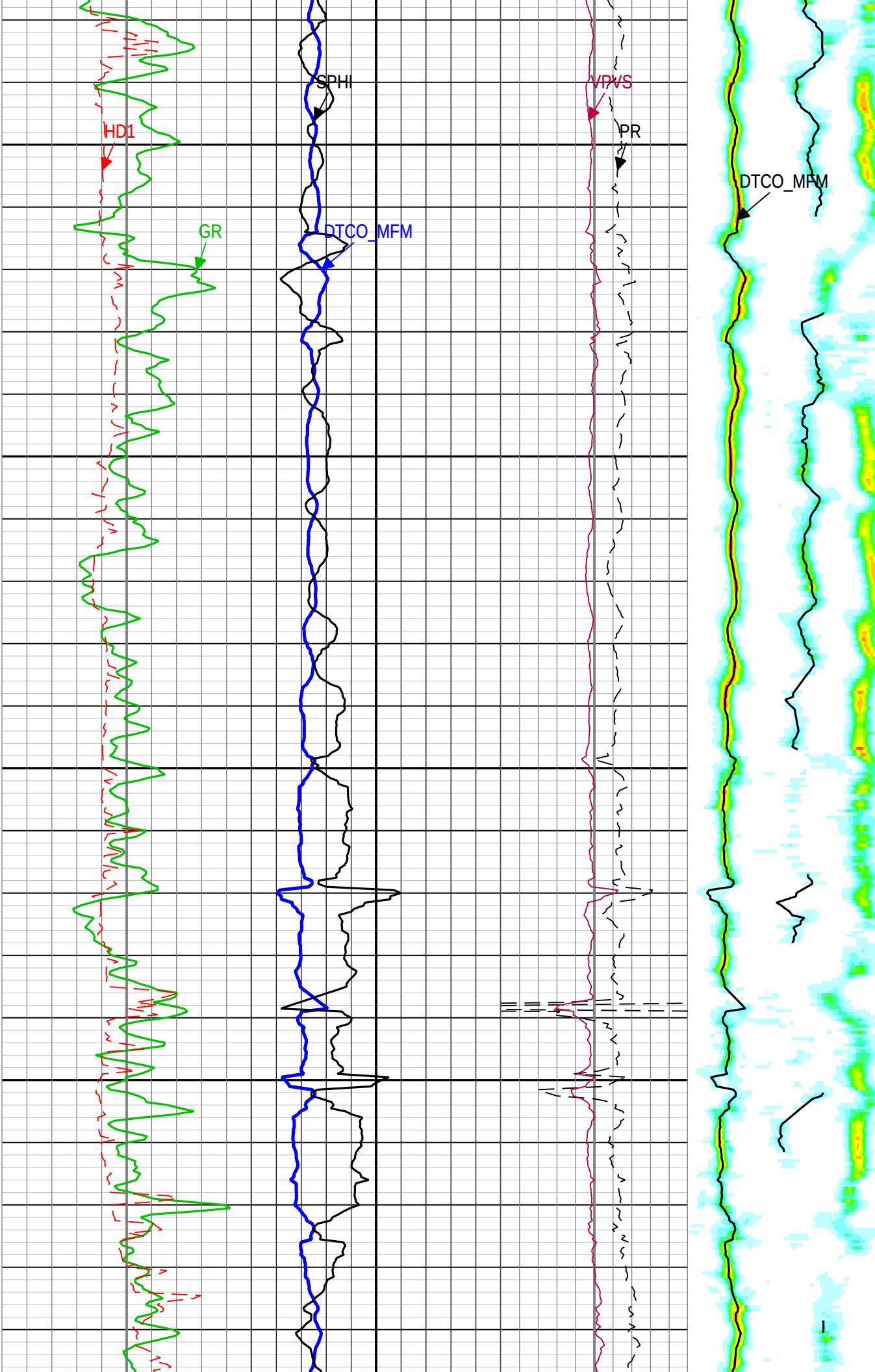
SPH

VPYS

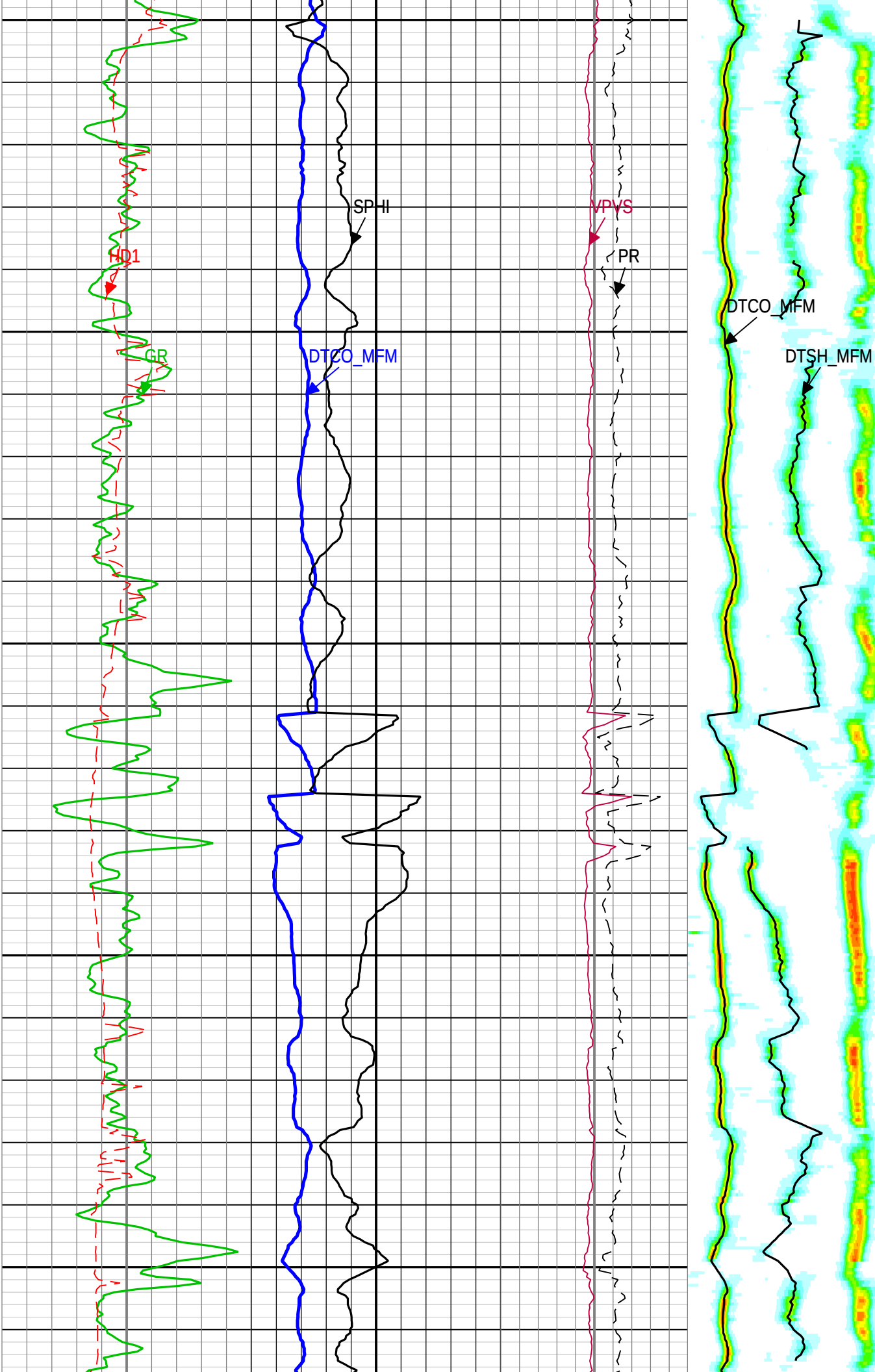




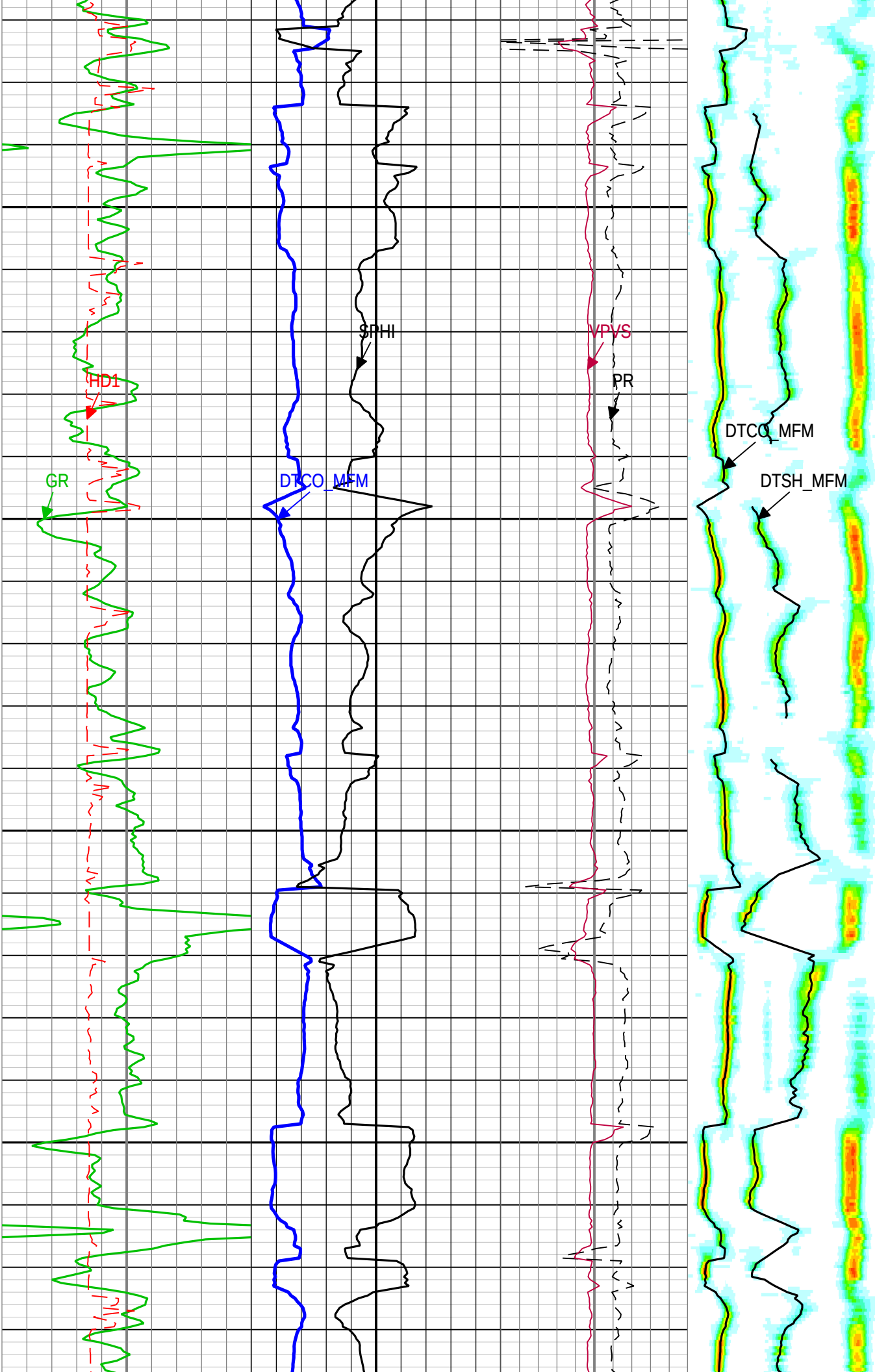
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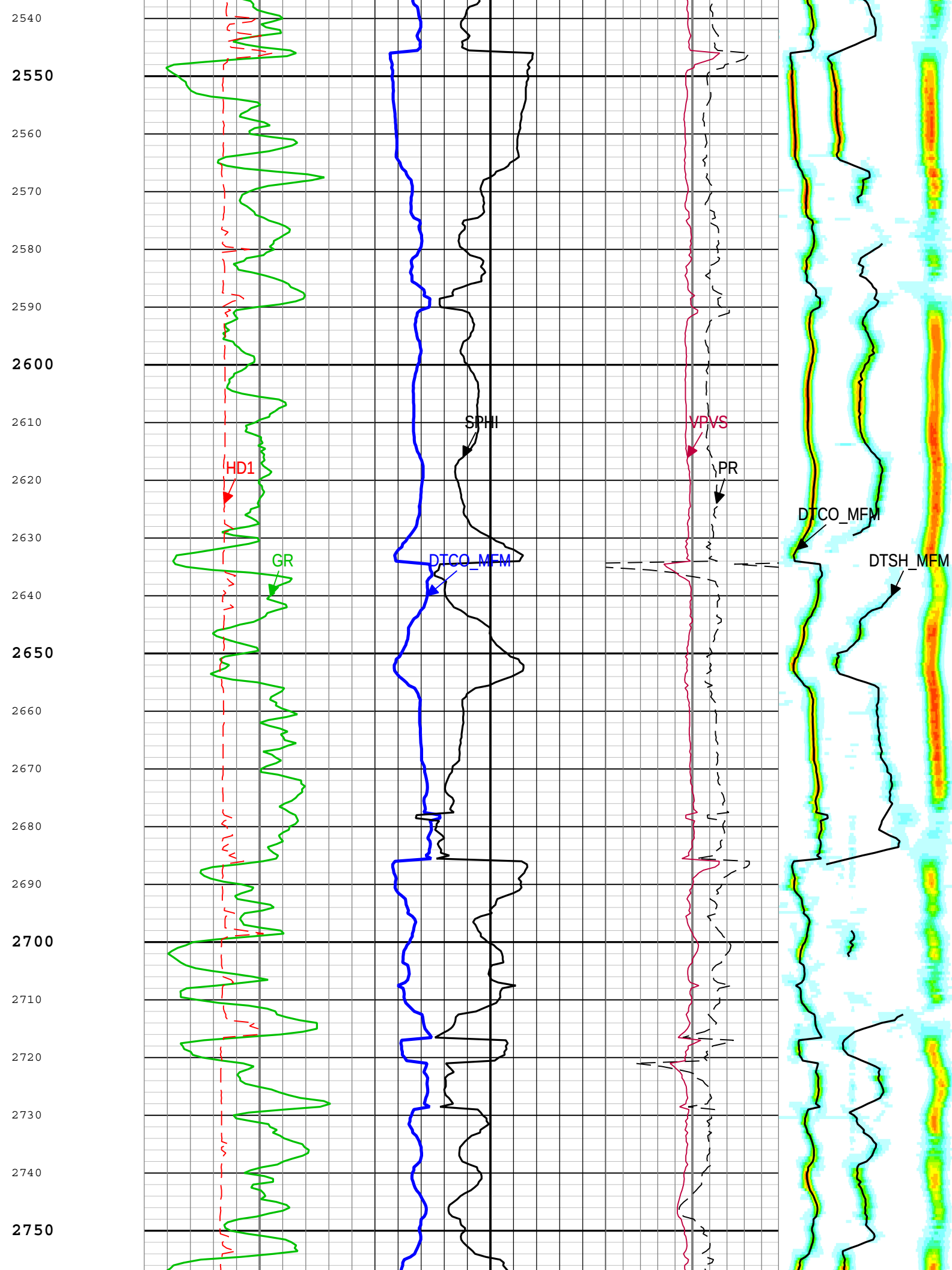


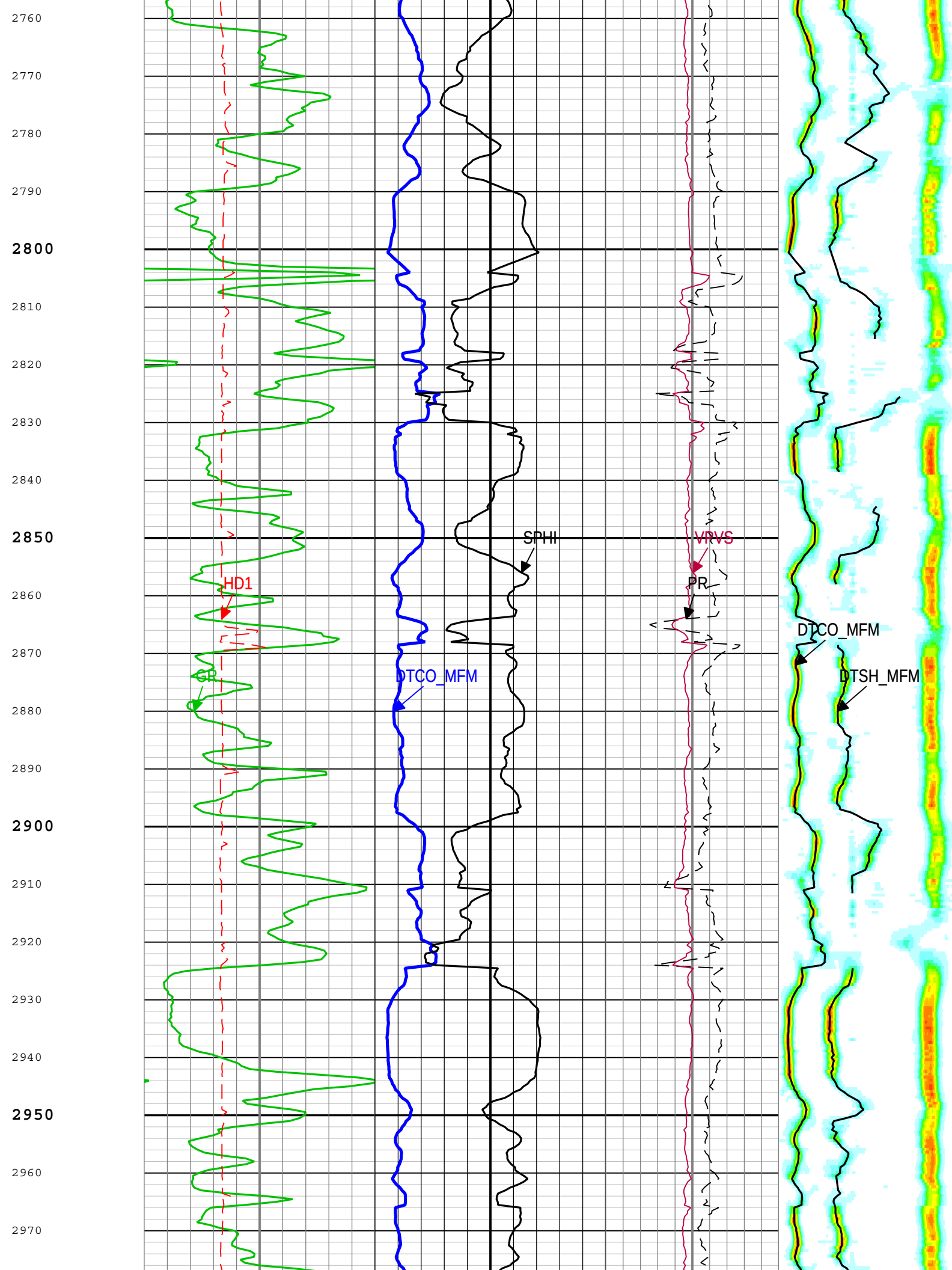
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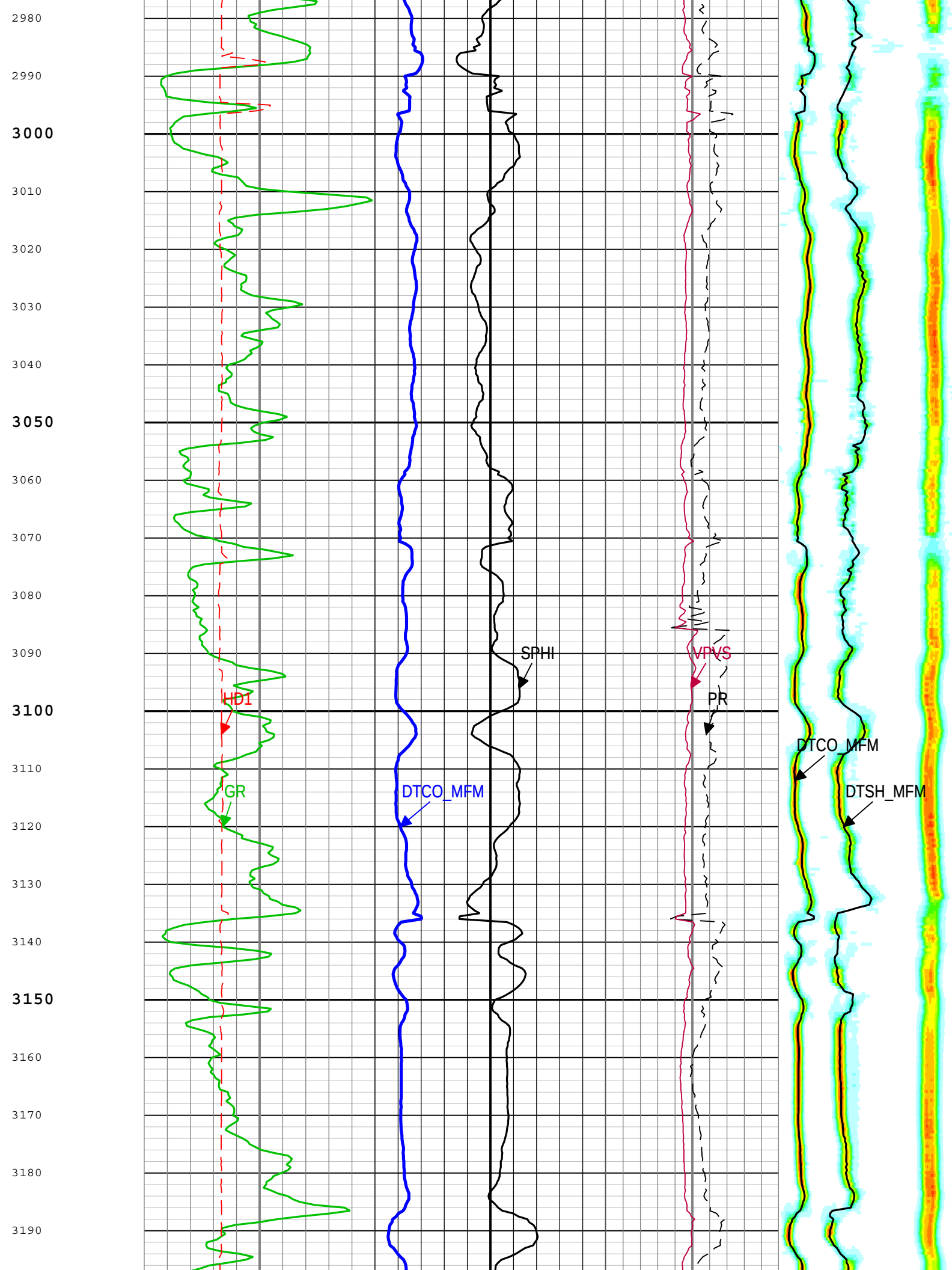


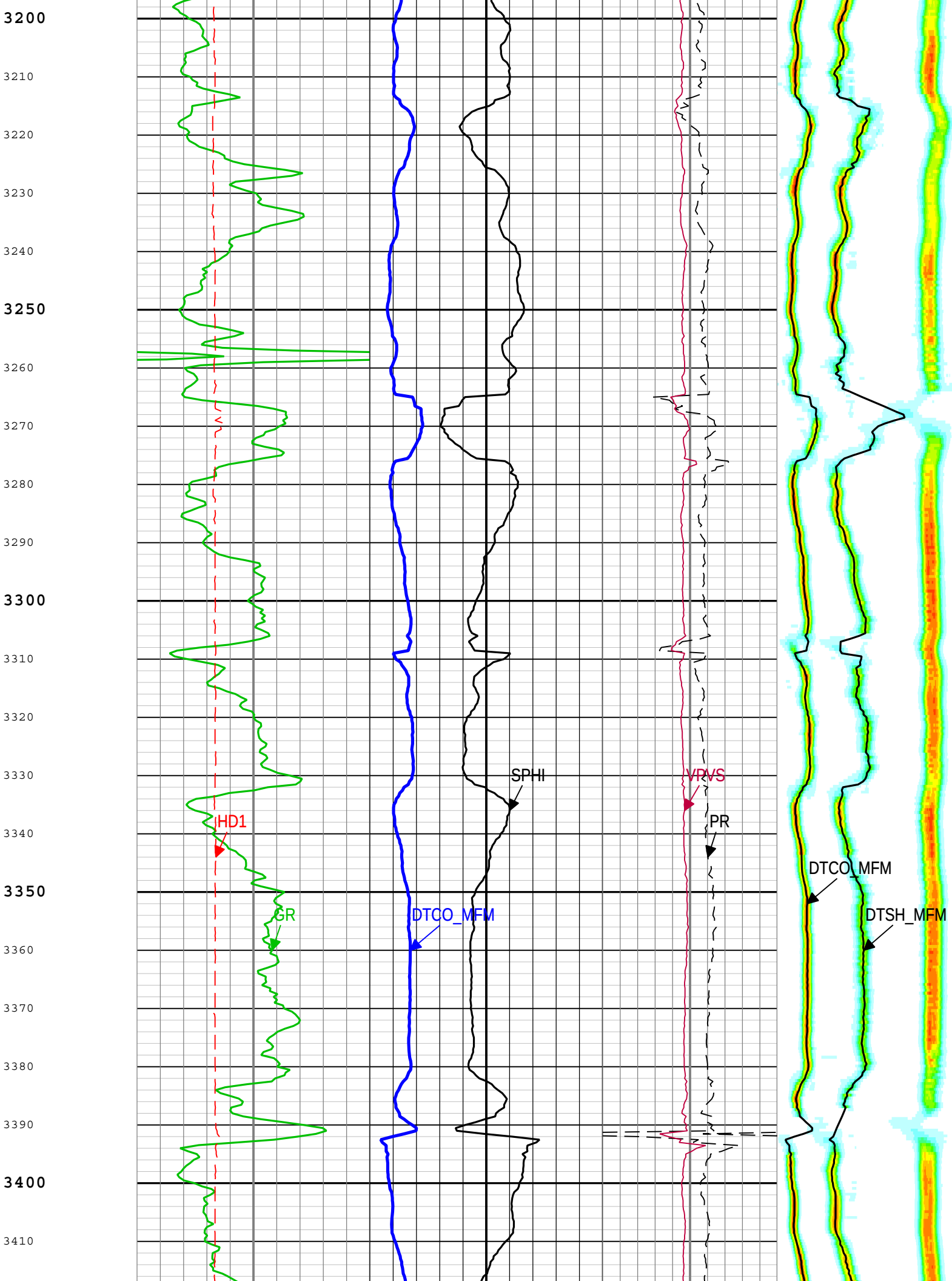
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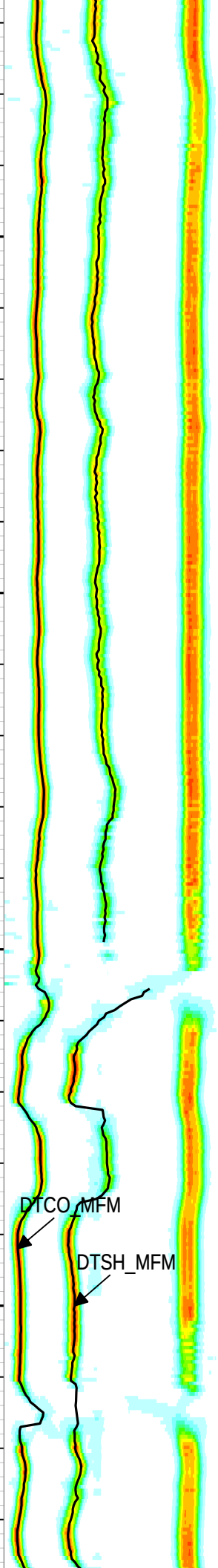
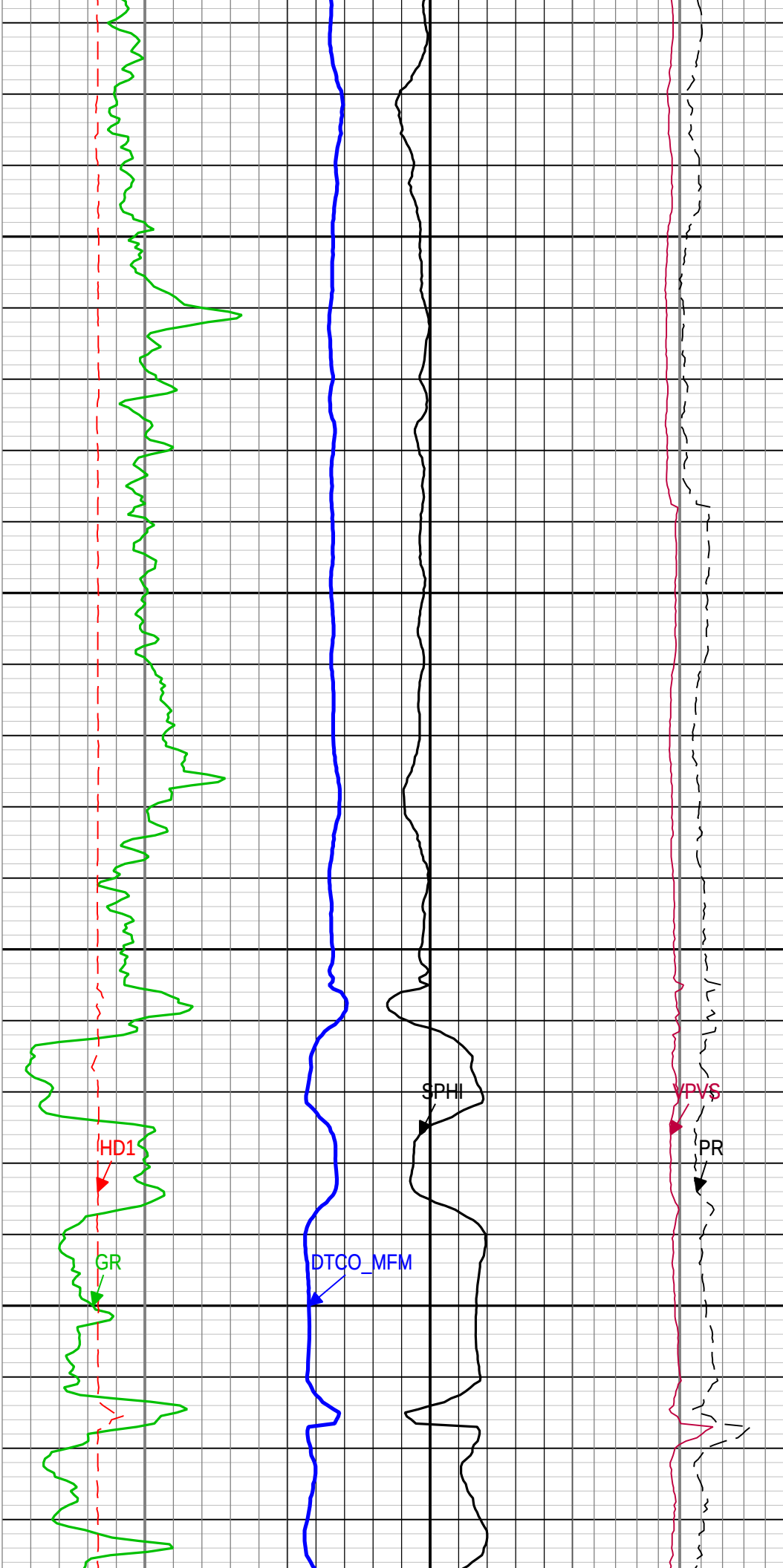




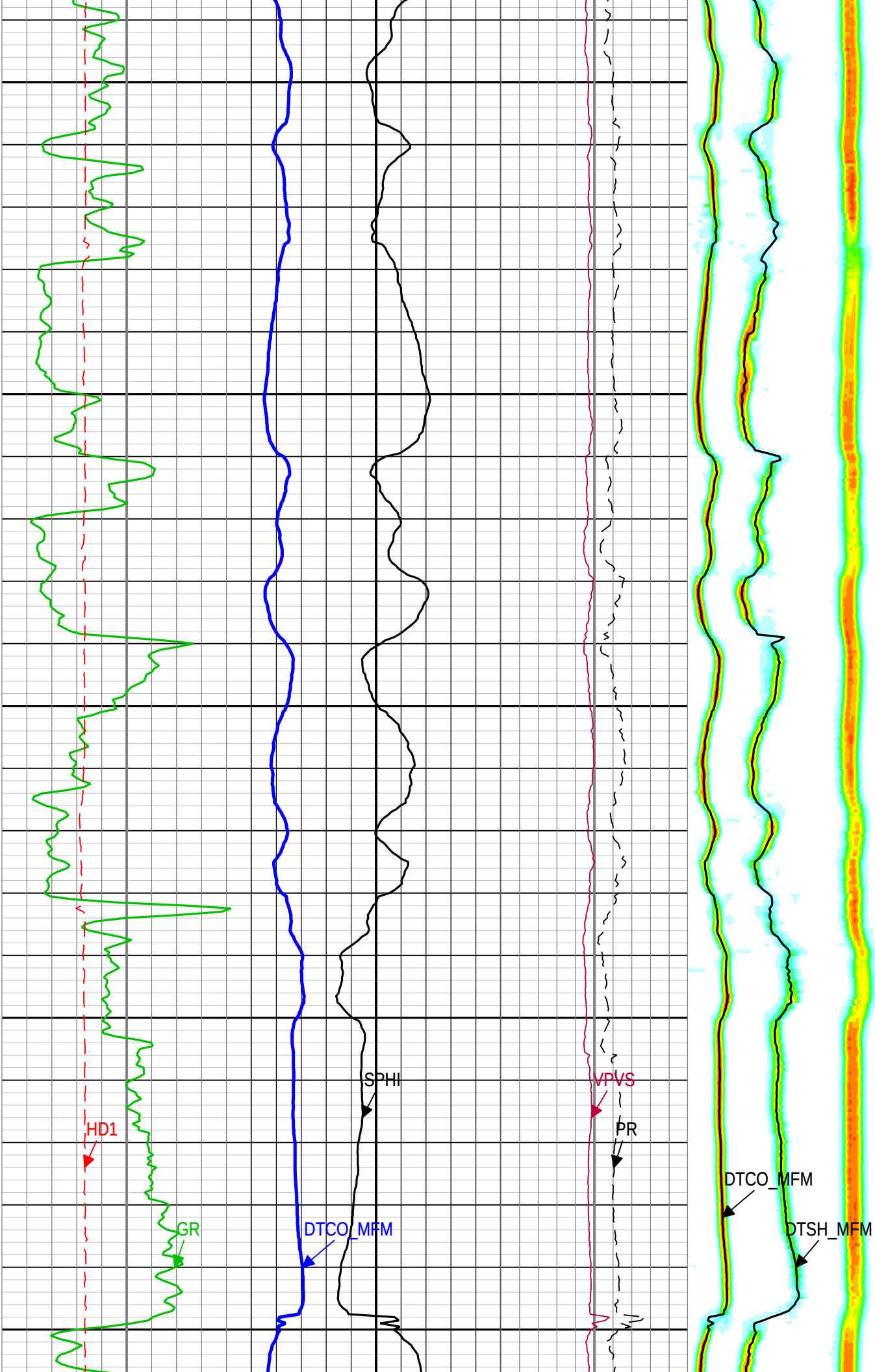


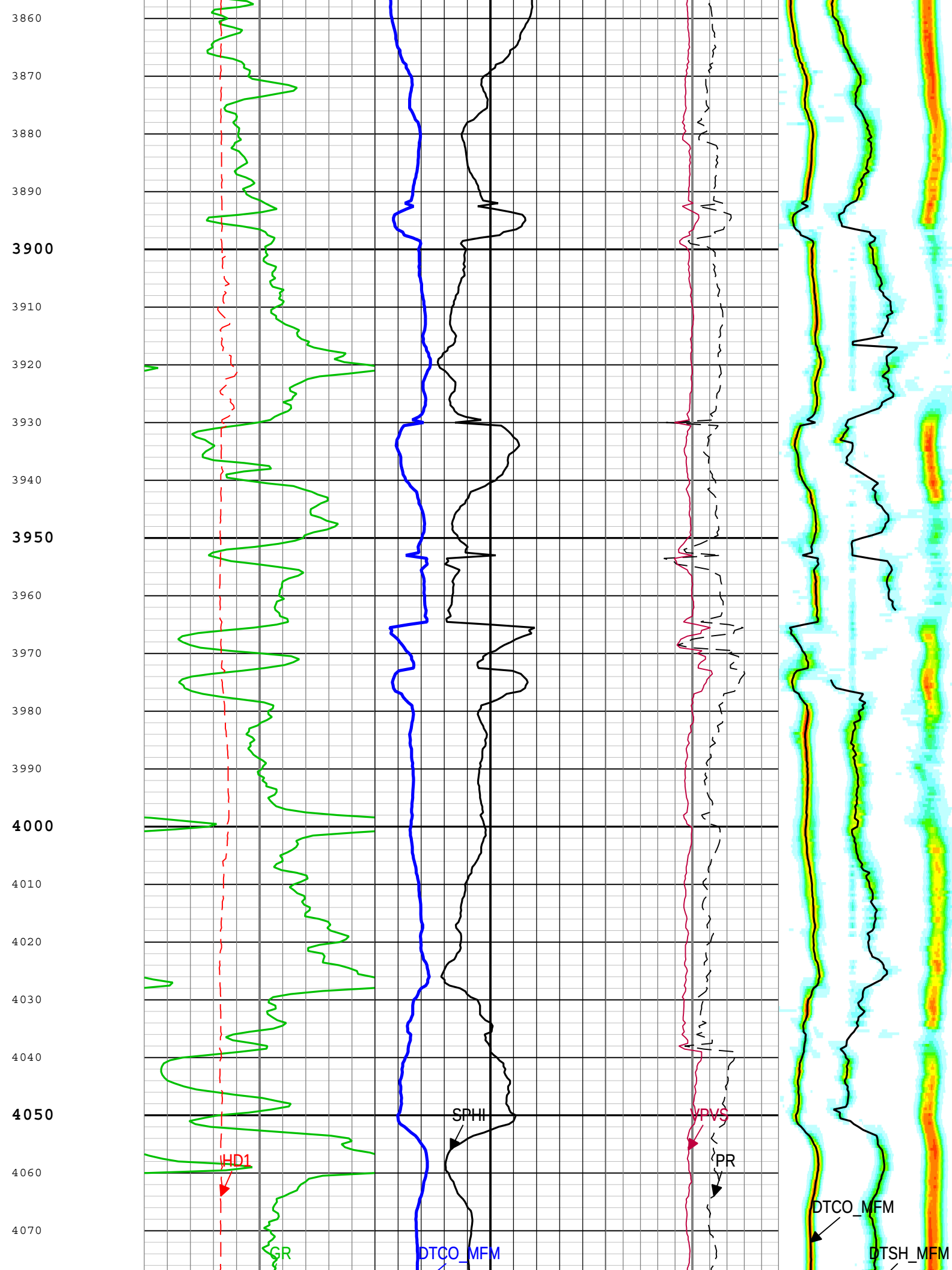


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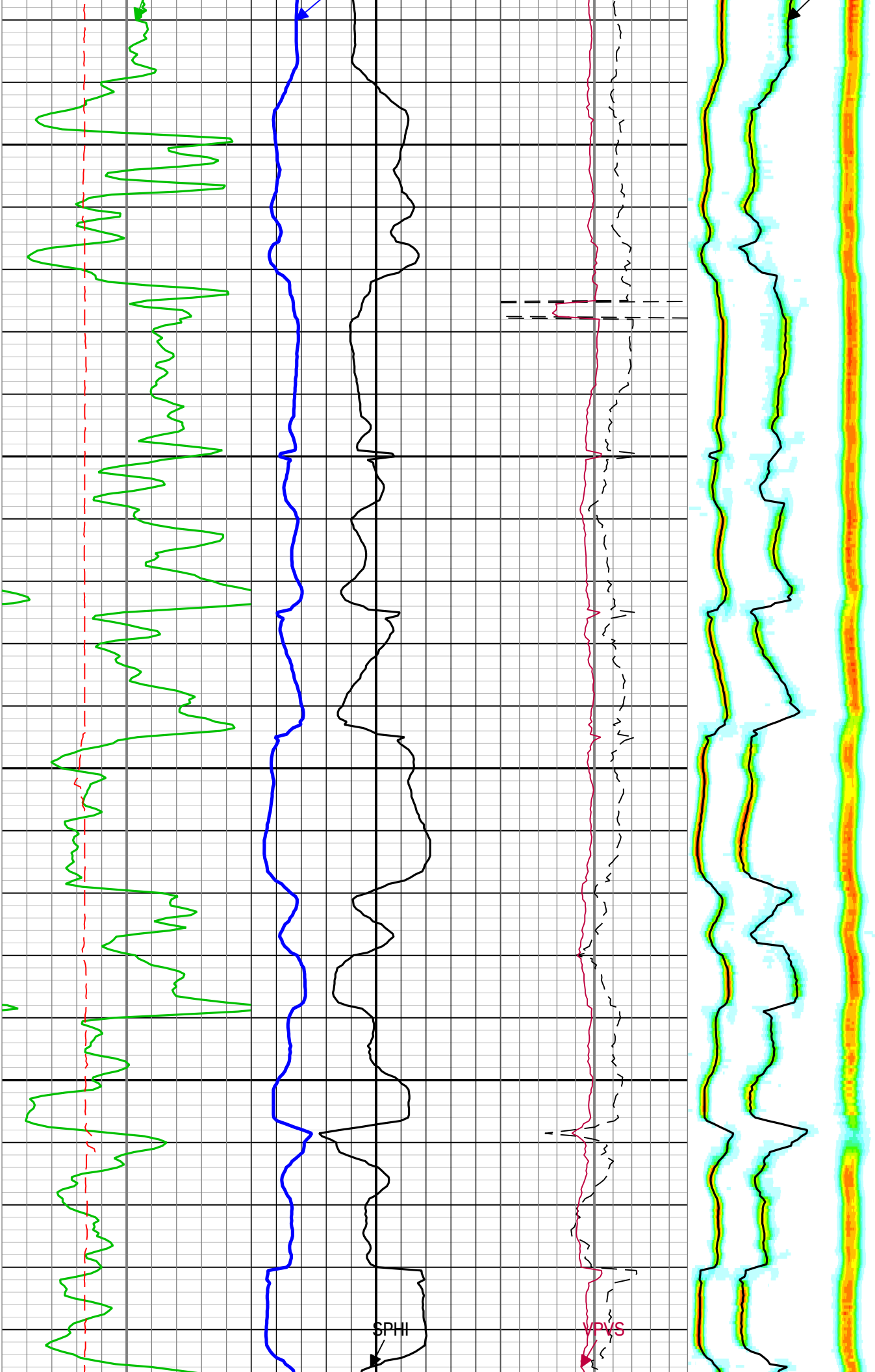


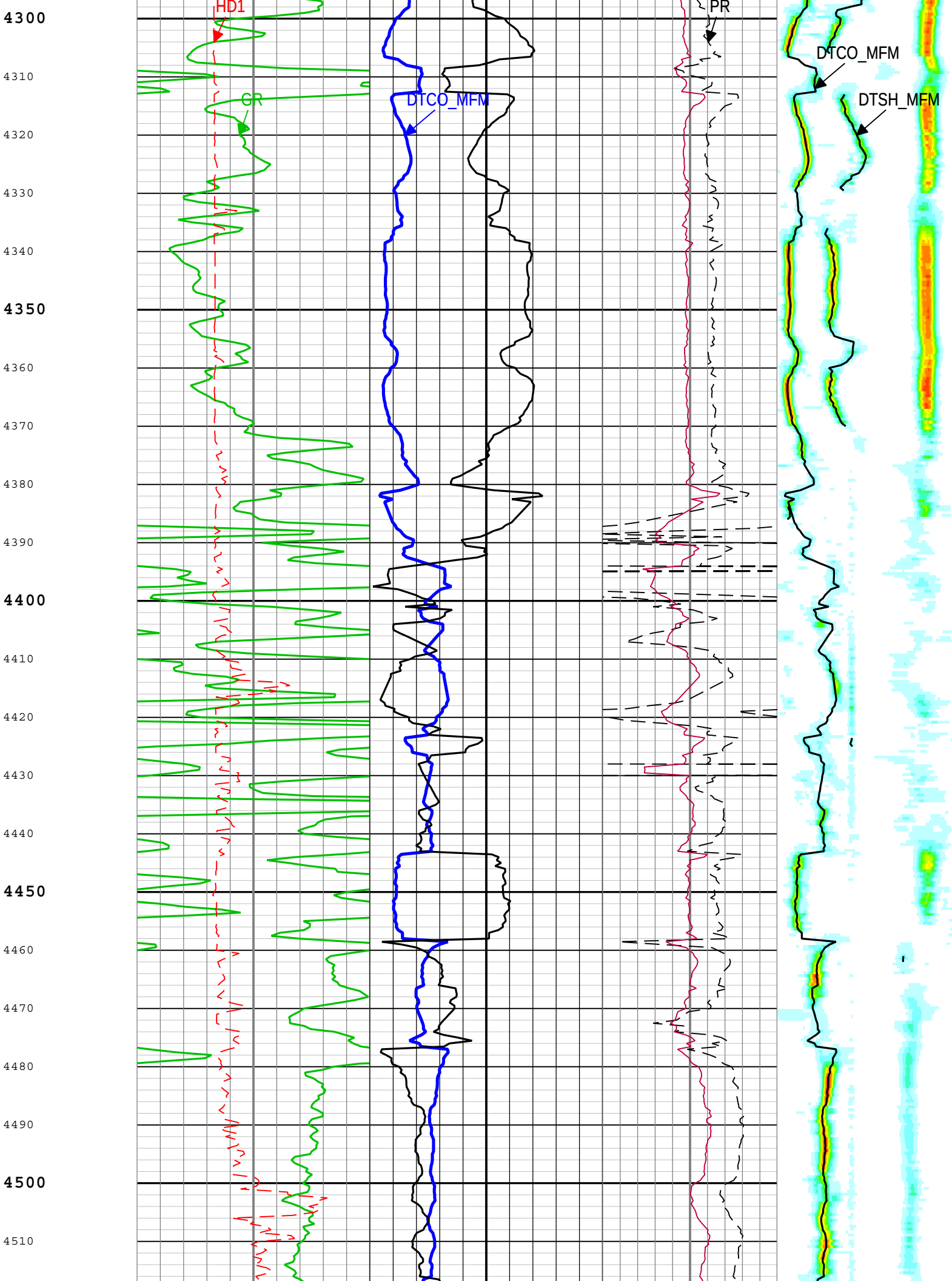
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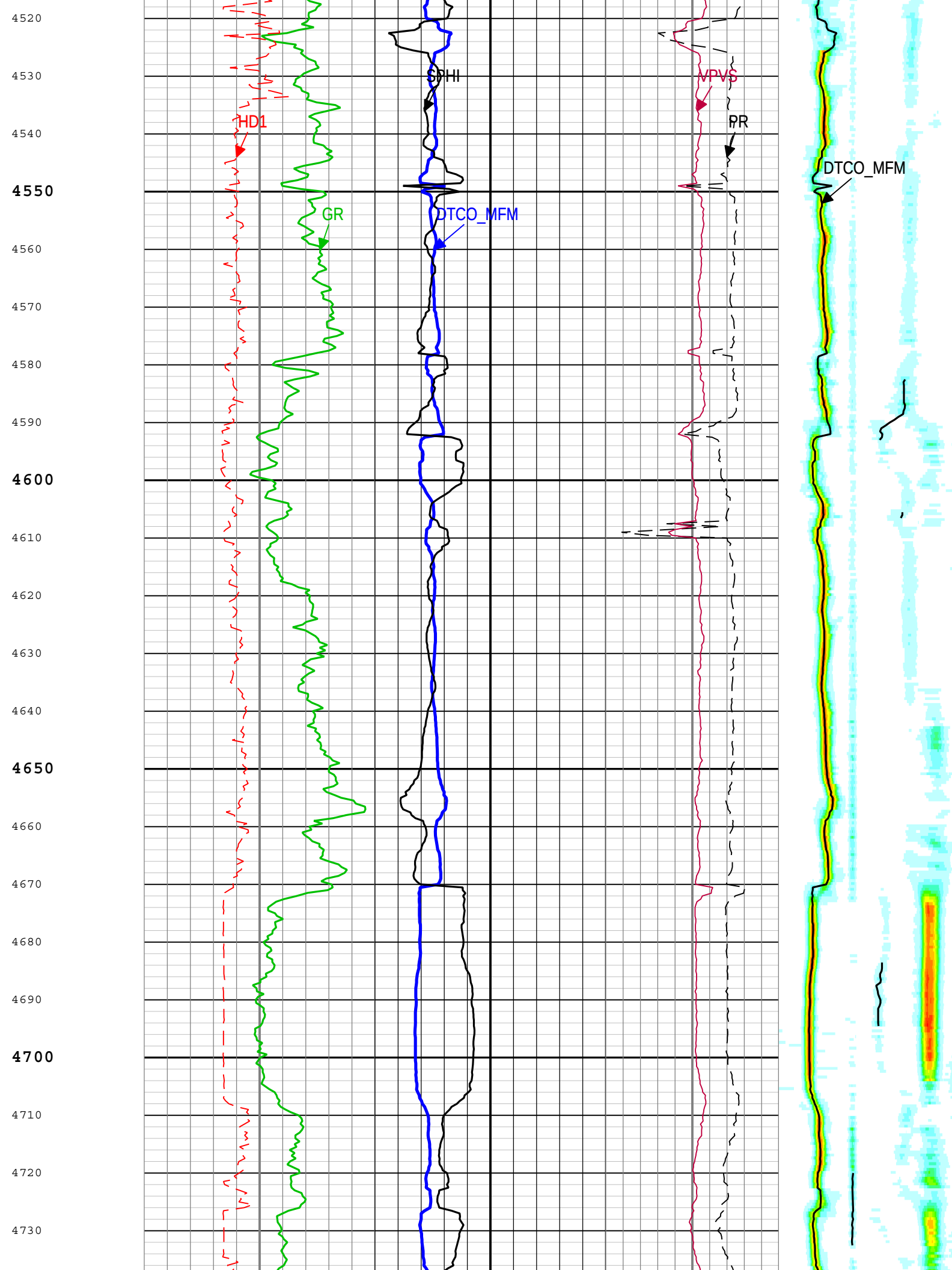




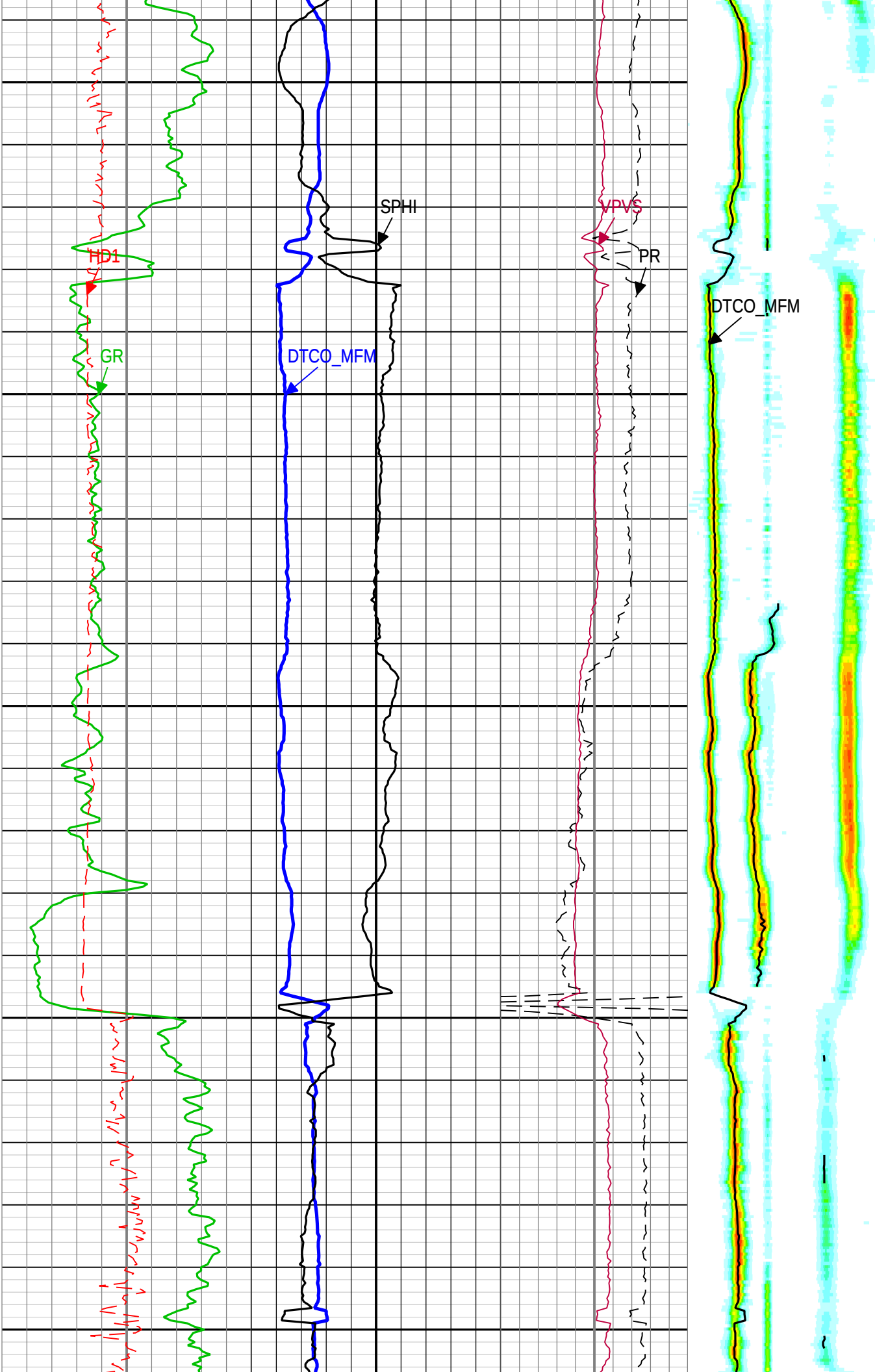
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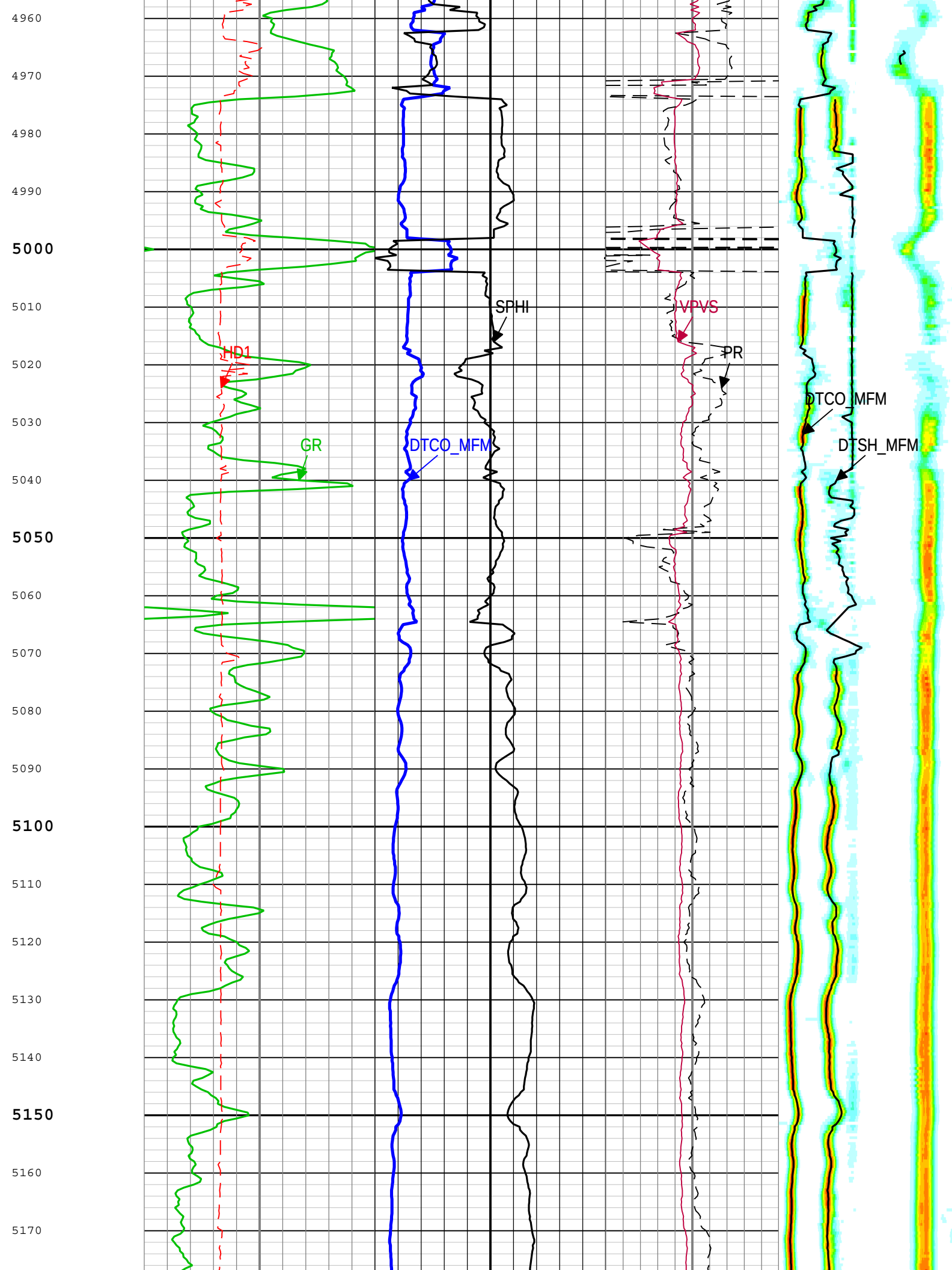


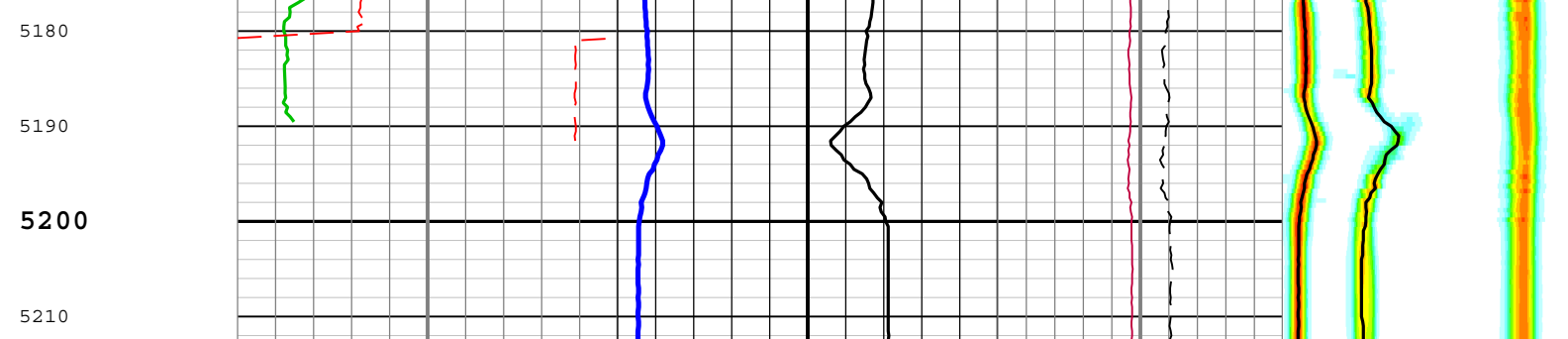




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Gamma Ray (GR) EDTC-B			Compressional Slowness from Monopole Far Transmitter Mid Frequency Firing Monopole Component (DTCO_MFM) MAST-B			Poisson s Ratio (PR) MAST-B			Min	Amplitude	Max
0	gAPI	150	40	us/ft	240	0		0.5	40	us/ft	239
Hole Diameter 1 (HD1) PPC-B[2]			Sonic Porosity (SPHI) MAST-B			Compressional to Shear Velocity Ratio (VPVS) MAST-B			Shear Slowness from Monopole Far Transmitter Mid Frequency Firing Monopole Component (DTSH_MFM) MAST-B		
6	in	16	0.45	ft3/ft3	-0.15	0		4	40	us/ft	239
									Compressional Slowness from Monopole Far Transmitter Mid Frequency Firing Monopole Component (DTCO_MFM) MAST-B		
									40	us/ft	239

TIME_1900 - Time Marked every 60.00 (s)

Description: MAST_STC_MF Format: Log (MAST_STC_MF) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Dec-2013 09:00:37

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHCCTL	Borehole Compensated Processing Control Flag	MAST-B	Off	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	7.875	in
CBLO	Casing Bottom (Logger)	WLSESSION	1494	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
CDTS	Correction for Delta-T Shale, Empirical	Borehole	100	us/ft
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DET_STOP_MLM_M	Detection Stop Time for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	583.33	us
DET_STOP_MUM_M	Detection Stop Time for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	583.33	us
DET_STRT_MLM_M	Detection Start Time for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	106.67	us
DET_STRT_MUM_M	Detection Start Time for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	106.67	us
DFD	Drilling Fluid Density	Borehole	8.8	lbm/gal
DT_MAX_MLM_M	Detection Maximum slowness for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	90	us/ft
DT_MAX_MUM_M	Detection Maximum slowness for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	90	us/ft
DTF	Delta-T Fluid	Borehole	189	us/ft
DTM	Delta-T Matrix	Borehole	47.6	us/ft
FMDCTL_MLM_M	First Motion Detection Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	Off	
FMDCTL_MUM_M	First Motion Detection Processing Control Flag for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	Off	

	Component			
FMDRS_MLM_M	First Motion Detection Receiver Selection for Monopole Lower Transmitter Mid Frequency Firing Monopole Component	MAST-B	[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]	
FMDRS_MUM_M	First Motion Detection Receiver Selection for Monopole Upper Transmitter Mid Frequency Firing Monopole Component	MAST-B	[1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1]	
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	C1	
MODALCTL_MLM	Modal Decomposition Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing	MAST-B	On	
MODALCTL_MUM	Modal Decomposition Processing Control Flag for Monopole Upper Transmitter Mid Frequency Firing	MAST-B	Off	
PBHCCTL	Pseudo Borehole Compensated Processing Control Flag	MAST-B	Off	
SFTY	Slowness Formation Type (Fast, Intermediate, Slow, etc.)	Borehole	Fast	
SPFS	Sonic Porosity Formula	Borehole	Wyllie	
SSCCTL_MLM	Sensor Sensitivity Correction Processing Control Flag for Monopole Lower Transmitter Mid Frequency Firing	MAST-B	On	

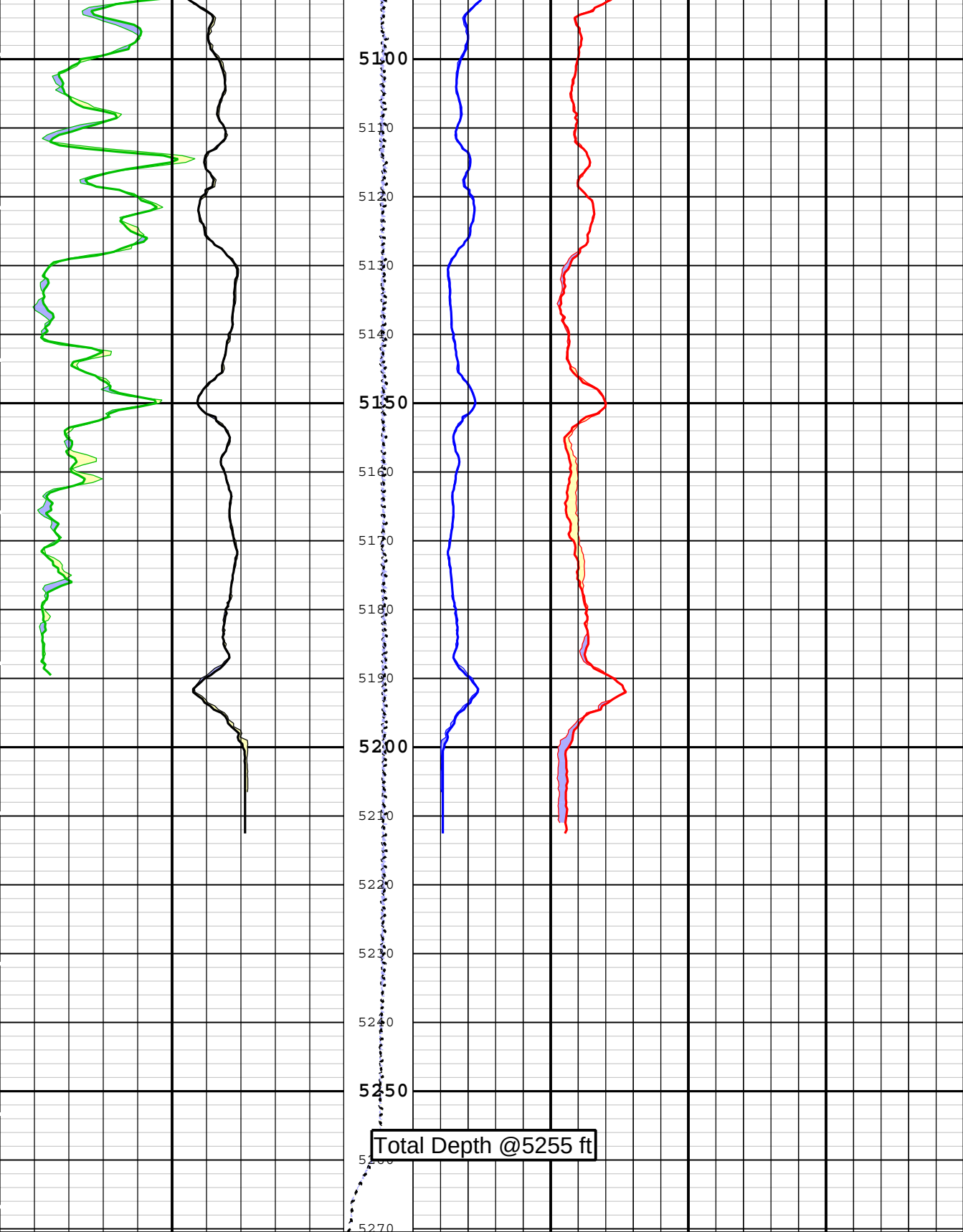
Tool Control Parameters

Parameter	Description	Tool	Value	Unit
ACQ_DOMAIN	Custom Acquisition Domain Name	MAST-B	[UMMF, LMMF, FMMF, FMLF, XDCF, YDCF]	
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	
CFWREV_MAPC	MAPC Firmware Revision of Controller Electronics	MAST-B	1840	
COMPCTL	Data Compression Control	MAST-B	[MZIPA, MZIPA, MZIPA, MZIPD, MZIPD, MZIPD]	
DHMODALCTL	Downhole/Surface Modal Computation Control	MAST-B	[HALF, OFF, OFF, HALF, HALF, HALF]	
DIGDEL	Waveform Digitizing Delay	MAST-B	[0, 0, 0, 0, 0, 0]	us
DIGDT	Sonic Waveform Digitizing Slowness	MAST-B	[0, 0, 0, 0, 0, 0]	us/ft
DIGTIME	Digitizing Time	MAST-B	[2550, 2550, 5110, 20440, 30480, 30480]	us
DIIN_WF_CHN	Dipole Inline Component Waveform Data Channel Name	MAST-B	[, , , , RSW90C_090, RSW00C_000]	
DIIN_WFN_CHN	Dipole Inline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , RSW90CN_090, RSW00CN_000]	
DIOF_WF_CHN	Dipole Offline Component Waveform Data Channel Name	MAST-B	[, , , , RSW90C_000, RSW00C_090]	
DIOF_WFN_CHN	Dipole Offline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , RSW90CN_000, RSW00CN_090]	
EMXGMOD	EMEX and Gain Modes	FBST-E	Time Zoned	
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, 5110, 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	[RSWMUM_M, RSWMLM_M, RSWFMF_M, RSWMFL_M, RSW90C_M, RSW00C_M]	
MONO_WFN_CHN	Monopole Component Waveform Normalization Data Channel Name	MAST-B	[RSWMUMN_M, RSWMLMN_M, RSWFMFN_M, RSWMFLN_M, RSW90CN_M, RSW00CN_M]	
MPSC	Manual Phase Shift Compensation	FBST-E	0	deg
MSMT_LIST	Measurement List	MAST-B	[MUM, MLM, MFM, MFL, 90C, 00C]	
NUMMSMT	Number of active measurements	MAST-B	6	
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	
RXSEL	Receiver Station Select	MAST-B	[[On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On], [On, On, On, On, On, On]]	
SAMINT	Sonic Waveform Sampling Interval	MAST-B	[10, 10, 10, 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	[RSWMUM, RSWMLM, RSWMFM, RSWMFL, RSW90C, RSW00C]	
SNSR_WFN_CHN	Sensor Waveforms Normalization Factor Channel Name	MAST-B	[SWMUMN, SWMLMN, SWMFMN, SWMFLN, SW90CN, SW00CN]	
SNSRSEL	Sensor Element Select	MAST-B	[[On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On], [Off, Off, Off, Off, On, On], [On, On, On, On, On, On], [Off, Off, Off, Off, On, On]]	
TX_AMP	Transmitter Amplitude Factor	MAST-B	[THREEQUARTER, THREEQUARTER, FULL, FULL, FULL, FULL]	
TXSEL	Transmitter Drive Selection	MAST-B	[UM, LM, FM, FM, D90, D00]	
WF_CR_CHN	Waveform Compression Rate Channel Name	MAST-B	[WCRMUM, WCRMUM, WCRMFM, WCRMFL, WCR90C, WCR00C]	
WF_DEPTH_CHN	Waveform Depth Channel Name	MAST-B	[WDMUM, WDMMLM, WDMFM, WDMFL, WD90C, WD00C]	
WF_QI_CHN	Waveform Quality Indicator Channel Name	MAST-B	[WQMUM, WQMLM, WQMFM, WQMFL, WQ90C, WQ00C]	
WFSEL	Transmitter Drive Waveform Selection	MAST-B	[mp_mf_d, mp_mf_d, mp_mf_d, mp_if_d, dp_cd_d, dp_cd_d]	
XVOL	EMEX Voltage	FBST-E	0	V

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXGMOD	EMEX= Auto and Gain= Auto	12-Dec-2013 18:23:41	12-Dec-2013 21:03:18	5270.49	1557.9
EMXGMOD	EMEX= Manual and Gain= Manual	12-Dec-2013 21:03:18	12-Dec-2013 21:20:12	1557.9	1379.03
MAX_LOG_SPEED	1571	12-Dec-2013 18:23:41	12-Dec-2013 18:33:08	5270.49	5127.96
MAX_LOG_SPEED	1659	12-Dec-2013 18:33:08	12-Dec-2013 18:37:14	5127.96	5047.24
MAX_LOG_SPEED	1755	12-Dec-2013 18:37:14	12-Dec-2013 18:40:18	5047.24	4982.68
MAX_LOG_SPEED	1800	12-Dec-2013 18:40:18	12-Dec-2013 18:43:23	4982.68	4924.64

MAX_LOG_SPEED	1689	12-Dec-2013 18:43:23	12-Dec-2013 18:46:26	4924.64	4869.94
MAX_LOG_SPEED	1778	12-Dec-2013 18:46:26	12-Dec-2013 18:50:31	4869.94	4788.35
MAX_LOG_SPEED	1800	12-Dec-2013 18:50:31	12-Dec-2013 19:08:54	4788.35	4397.47
MAX_LOG_SPEED	1679	12-Dec-2013 19:08:54	12-Dec-2013 19:14:01	4397.47	4274.52
MAX_LOG_SPEED	1799	12-Dec-2013 19:14:01	12-Dec-2013 19:15:02	4274.52	4249.16
MAX_LOG_SPEED	1659	12-Dec-2013 19:15:02	12-Dec-2013 19:16:04	4249.16	4221.96
MAX_LOG_SPEED	1753	12-Dec-2013 19:16:04	12-Dec-2013 19:20:10	4221.96	4115.63
MAX_LOG_SPEED	1800	12-Dec-2013 19:20:10	12-Dec-2013 19:32:25	4115.63	3797.42
MAX_LOG_SPEED	1651	12-Dec-2013 19:32:25	12-Dec-2013 19:36:31	3797.42	3684.98
MAX_LOG_SPEED	1734	12-Dec-2013 19:36:31	12-Dec-2013 19:37:32	3684.98	3655.81
MAX_LOG_SPEED	1640	12-Dec-2013 19:37:32	12-Dec-2013 19:40:37	3655.81	3574.13
MAX_LOG_SPEED	1800	12-Dec-2013 19:40:37	12-Dec-2013 19:46:46	3574.13	3432.57
MAX_LOG_SPEED	1708	12-Dec-2013 19:46:46	12-Dec-2013 19:47:48	3432.57	3410.07
MAX_LOG_SPEED	1800	12-Dec-2013 19:47:48	12-Dec-2013 19:51:53	3410.07	3319.61
MAX_LOG_SPEED	1712	12-Dec-2013 19:51:53	12-Dec-2013 19:53:56	3319.61	3274.88
MAX_LOG_SPEED	1582	12-Dec-2013 19:53:56	12-Dec-2013 19:57:01	3274.88	3200.06
MAX_LOG_SPEED	1677	12-Dec-2013 19:57:01	12-Dec-2013 20:02:08	3200.06	3069.59
MAX_LOG_SPEED	1800	12-Dec-2013 20:02:08	12-Dec-2013 20:04:11	3069.59	3020.24
MAX_LOG_SPEED	1681	12-Dec-2013 20:04:11	12-Dec-2013 20:07:15	3020.24	2943.62
MAX_LOG_SPEED	1787	12-Dec-2013 20:07:15	12-Dec-2013 20:38:57	2943.62	2137.06
MAX_LOG_SPEED	1800	12-Dec-2013 20:38:57	12-Dec-2013 21:12:37	2137.06	1449.82
MAX_LOG_SPEED	1653	12-Dec-2013 21:12:37	12-Dec-2013 21:14:39	1449.82	1436.52
MAX_LOG_SPEED	1738	12-Dec-2013 21:14:39	12-Dec-2013 21:15:41	1436.52	1430.99
MAX_LOG_SPEED	1800	12-Dec-2013 21:15:41	12-Dec-2013 21:20:12	1430.99	1379.03
MAX_TOOL_SPEED	1571	12-Dec-2013 18:23:41	12-Dec-2013 18:33:08	5270.49	5127.96
MAX_TOOL_SPEED	1659	12-Dec-2013 18:33:08	12-Dec-2013 18:37:14	5127.96	5047.24
MAX_TOOL_SPEED	1755	12-Dec-2013 18:37:14	12-Dec-2013 18:40:18	5047.24	4982.68
MAX_TOOL_SPEED	1878	12-Dec-2013 18:40:18	12-Dec-2013 18:43:23	4982.68	4924.64
MAX_TOOL_SPEED	1689	12-Dec-2013 18:43:23	12-Dec-2013 18:46:26	4924.64	4869.94
MAX_TOOL_SPEED	1778	12-Dec-2013 18:46:26	12-Dec-2013 18:50:31	4869.94	4788.35
MAX_TOOL_SPEED	1955	12-Dec-2013 18:50:31	12-Dec-2013 19:04:48	4788.35	4492.14
MAX_TOOL_SPEED	1812	12-Dec-2013 19:04:48	12-Dec-2013 19:08:54	4492.14	4397.47
MAX_TOOL_SPEED	1679	12-Dec-2013 19:08:54	12-Dec-2013 19:14:01	4397.47	4274.52
MAX_TOOL_SPEED	1799	12-Dec-2013 19:14:01	12-Dec-2013 19:15:02	4274.52	4249.16
MAX_TOOL_SPEED	1659	12-Dec-2013 19:15:02	12-Dec-2013 19:16:04	4249.16	4221.96
MAX_TOOL_SPEED	1753	12-Dec-2013 19:16:04	12-Dec-2013 19:20:10	4221.96	4115.63
MAX_TOOL_SPEED	1852	12-Dec-2013 19:20:10	12-Dec-2013 19:32:25	4115.63	3797.42
MAX_TOOL_SPEED	1651	12-Dec-2013 19:32:25	12-Dec-2013 19:36:31	3797.42	3684.98
MAX_TOOL_SPEED	1734	12-Dec-2013 19:36:31	12-Dec-2013 19:37:32	3684.98	3655.81
MAX_TOOL_SPEED	1640	12-Dec-2013 19:37:32	12-Dec-2013 19:40:37	3655.81	3574.13
MAX_TOOL_SPEED	1803	12-Dec-2013 19:40:37	12-Dec-2013 19:46:46	3574.13	3432.57
MAX_TOOL_SPEED	1708	12-Dec-2013 19:46:46	12-Dec-2013 19:47:48	3432.57	3410.07
MAX_TOOL_SPEED	1838	12-Dec-2013 19:47:48	12-Dec-2013 19:51:53	3410.07	3319.61
MAX_TOOL_SPEED	1712	12-Dec-2013 19:51:53	12-Dec-2013 19:53:56	3319.61	3274.88



Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main	
Sonic Porosity (SPH) MAST-B		Delta-T Compressional (DTCO) MAST-B	
0.45	ft3/ft3	40	us/ft
Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main	
Cable Tension (TENS)		Cable Tension (TENS)	
Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main	

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:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CCS	in	Master	-1.51		NOT DONE		
COP	in	Master	-1.31		NOT DONE		
CPW	in	Master	1.41		NOT DONE		
PPC Caliper Calibration - PPC CaliCoefficients							
Before:				After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RD1_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD2_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD1_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD2_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
PPC Caliper Calibration - PPC Accumulations							
Before:				After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper 1 Zero Radius - 0	in	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 2 Zero Radius - 0	in	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 3 Zero Radius - 0	in	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 4 Zero Radius - 0	in	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 1 Plus Radius - 0	in	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 2 Plus Radius - 0	in	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	
Caliper 3 Plus Radius - 0	in	Before	----	----	----	----	
		After	----	----	----	----	
		After-Before	----	----	----	----	

Caliper 4 Plus Radius - 0	in	Before After After-Before	-----	-----	-----	-----	
			-----	-----	-----	-----	
			-----	-----	-----	-----	

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

Primary Equipment :

MAMS-BA Multimode Array Sonic Minimum Service Sonde

MAMS-BA

8546

MAST Master Characterization Coefficients - Characterization Coefficients Summary

Master (EEPROM): 17:59:00 02-Nov-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Sensor Sensitivity Correction Factor Minimum		Master	1.000	0.500	0.927	1.700	
Sensor Sensitivity Correction Factor Maximum		Master	1.000	0.500	1.190	1.700	
Sensor Time Delay Factor Minimum	us	Master	0	-2.000	-0.878	2.000	
Sensor Time Delay Factor Maximum	us	Master	0	-2.000	1.244	2.000	
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Minimum		Master	1.000	0.900	0.917	1.700	
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Maximum		Master	1.000	0.900	1.063	1.700	

Characterization Coefficients

Master (EEPROM): 17:59:00 02-Nov-2013

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	1.069	1.005	0.990	0.959	1.034	0.995	1.010	1.078
SO2	0.981	0.976	0.928	1.081	0.941	0.954	0.968	0.974
SO3	1.010	0.967	0.931	0.927	0.960	0.949	0.953	1.009
SO4	0.941	0.967	0.952	1.118	1.003	1.004	1.015	0.967
SO5	1.065	0.988	1.150	1.015	1.190	1.026	1.015	1.085
SO6	1.134	1.108	0.969	0.983	0.998	1.001	1.030	1.127
SO7	1.045	0.959	0.957	0.952	1.009	1.086	1.078	1.034
SO8	0.940	1.034	0.955	0.954	1.034	1.059	0.991	1.023
SO9	0.957	0.989	0.934	0.985	1.019	1.076	1.002	0.945
SO10	1.114	0.991	0.963	1.036	1.000	0.980	0.959	1.139
SO11	0.959	1.012	0.995	0.954	0.974	1.000	1.004	0.983
SO12	0.979	1.061	1.002	0.988	1.027	1.016	0.973	1.004
SO13	1.015	0.996	0.994	1.075	1.138	1.003	0.975	0.978

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	-0.140	-0.292	-0.091	0.091	0.250	0.316	0.176	-0.098
SO2	-0.505	-0.220	-0.059	0.148	0.059	0.243	0.155	-0.214
SO3	-0.326	-0.272	-0.116	0.041	0.370	0.349	0.172	-0.041
SO4	-0.189	-0.423	-0.154	-0.073	0.059	0.273	0.277	0.158
SO5	-0.463	-0.414	-0.868	0.976	-0.499	1.244	0.396	0.294
SO6	-0.878	-0.211	0.330	-0.046	0.009	0.491	0.239	-0.737
SO7	-0.517	-0.109	0.005	0.075	0.210	0.030	-0.172	-0.232
SO8	-0.519	-0.223	0.377	0.274	-0.024	0.121	0.024	-0.158
SO9	-0.274	-0.189	0.137	0.281	0.279	0.000	0.029	-0.386
SO10	-0.154	-0.087	0.361	0.208	0.059	-0.207	-0.034	0.404
SO11	-0.730	-0.206	0.196	0.285	0.199	0.141	-0.141	-0.505

SO12	-0.720	-0.437	0.028	0.435	0.012	0.054	-0.012	-0.702
SO13	-0.563	-0.209	0.138	0.474	0.463	0.155	-0.138	-0.399

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	1.043	1.001	0.980	0.964	0.977	1.000	1.016	1.052
SO2	1.038	1.000	0.960	0.917	0.937	0.965	1.003	1.034
SO3	1.057	1.009	0.969	0.937	0.961	1.000	1.044	1.063
SO4	1.058	0.996	0.957	0.945	0.972	0.999	1.037	1.060
SO5	1.025	0.976	0.944	0.963	0.942	0.988	0.984	1.025
SO6	1.051	1.023	0.992	0.973	0.979	0.989	1.022	1.051
SO7	1.005	0.976	0.972	0.966	0.984	0.988	1.004	1.016
SO8	1.002	0.973	0.968	0.984	1.002	1.002	0.997	1.003
SO9	0.997	0.979	0.982	1.008	1.023	1.026	0.991	0.988
SO10	0.991	0.984	0.990	1.001	1.016	1.003	0.977	0.985
SO11	0.997	0.989	0.995	1.004	1.023	1.011	0.996	0.993
SO12	0.983	0.980	0.982	0.996	1.018	1.019	0.989	0.973
SO13	1.007	1.006	1.018	1.040	1.056	1.025	0.984	0.971

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	0.942	1.002	1.018	1.051	0.975	1.012	0.998	0.935
SO2	0.990	0.995	1.047	0.899	1.032	1.018	1.003	0.997
SO3	0.947	0.990	1.028	1.033	0.996	1.008	1.004	0.948
SO4	1.048	1.020	1.037	0.882	0.984	0.982	0.972	1.020
SO5	0.982	1.059	0.910	1.032	0.879	1.021	1.031	0.964
SO6	0.895	0.916	1.049	1.033	1.018	1.014	0.986	0.901
SO7	0.977	1.065	1.067	1.073	1.012	0.941	0.948	0.988
SO8	1.071	0.974	1.054	1.056	0.974	0.951	1.015	0.985
SO9	1.031	0.998	1.056	1.002	0.968	0.917	0.985	1.044
SO10	0.894	1.005	1.034	0.961	0.995	1.015	1.038	0.874
SO11	1.032	0.977	0.994	1.037	1.016	0.989	0.985	1.006
SO12	1.024	0.945	1.001	1.016	0.976	0.988	1.031	0.999
SO13	0.984	1.003	1.005	0.930	0.878	0.997	1.025	1.021

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	0.983	1.003	0.997	1.013	0.952	1.012	1.014	0.983
SO2	1.027	0.995	1.005	0.824	0.967	0.983	1.007	1.030
SO3	1.002	0.998	0.996	0.968	0.958	1.008	1.047	1.008
SO4	1.110	1.016	0.992	0.834	0.956	0.982	1.008	1.081
SO5	1.006	1.033	0.859	0.994	0.828	1.008	1.014	0.988
SO6	0.941	0.937	1.040	1.005	0.997	1.003	1.008	0.948
SO7	0.982	1.039	1.037	1.036	0.996	0.930	0.952	1.004
SO8	1.073	0.948	1.020	1.039	0.975	0.952	1.013	0.987
SO9	1.027	0.977	1.038	1.009	0.991	0.941	0.976	1.031
SO10	0.886	0.989	1.025	0.962	1.011	1.019	1.014	0.862
SO11	1.029	0.967	0.989	1.041	1.039	1.001	0.981	0.999
SO12	1.007	0.926	0.983	1.012	0.994	1.006	1.020	0.972
SO13	0.992	1.010	1.024	0.967	0.927	1.022	1.008	0.992

CALI_SSTRS (Master) Sensor Sensitivity Correction Transmitter-Receiver Spacing								
Minimum/Nominal/Maximum -----/4.000/-----							Unit	ft
Monopole Upper Transmitter					2.000			
Monopole Lower Transmitter					2.000			

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	499.341	499.492	499.291	499.110	498.950	498.885	499.025	499.298
SO2	470.849	470.564	470.404	470.196	470.285	470.101	470.190	470.559
SO3	442.031	441.977	441.821	441.664	441.335	441.356	441.533	441.746

SO4	413.071	413.275	412.939	412.792	412.660	412.444	412.256	412.443
SO5	381.671	381.607	382.746	379.013	382.142	378.728	380.368	380.341
SO6	354.645	353.861	352.688	353.350	353.438	352.787	353.039	354.474
SO7	326.350	325.809	325.822	325.740	325.664	325.825	326.160	326.058
SO8	297.519	297.221	296.666	296.715	297.161	296.976	297.037	297.359
SO9	268.560	268.600	268.272	268.051	268.089	268.635	268.650	268.630
SO10	239.030	239.266	238.628	239.095	239.171	239.448	238.979	238.053
SO11	211.306	210.119	210.460	210.510	210.306	210.855	211.272	210.964
SO12	182.542	182.266	182.041	181.986	182.226	182.534	182.532	182.670
SO13	153.666	153.352	152.895	152.526	152.538	152.913	153.279	153.395

CALI_TTMLH (Master)		Sensor Sensitivity Transit Time from Monopole Lower Transmitter High Frequency Firing						
Minimum/Nominal/Maximum							Unit	us
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	152.910	152.882	152.603	152.714	152.592	152.420	152.454	152.928
SO2	181.811	181.654	181.600	181.436	181.570	181.287	181.421	181.733
SO3	210.717	210.550	210.452	210.324	210.095	210.070	210.181	210.327
SO4	239.107	239.371	239.170	239.155	239.024	238.811	238.990	239.042
SO5	268.202	268.167	267.935	267.982	267.802	267.730	267.786	268.017
SO6	297.100	296.549	296.640	296.731	296.533	296.220	296.473	296.988
SO7	325.794	325.518	325.278	325.219	325.026	325.224	325.294	325.515
SO8	354.788	354.494	353.849	354.006	354.155	354.050	354.185	354.225
SO9	383.074	382.866	382.541	382.473	382.440	382.453	382.379	383.229
SO10	412.341	411.971	411.713	411.552	411.775	412.029	412.152	412.202
SO11	441.399	440.876	440.473	440.385	440.471	440.528	440.811	441.174
SO12	470.080	469.796	469.331	468.925	469.348	469.306	469.372	470.062
SO13	498.792	498.439	498.091	497.755	497.766	498.074	498.367	498.628

CALI_AMPMUH (Master)		Sensor Sensitivity First Break Amplitude from Monopole Upper Transmitter High Frequency Firing						
Minimum/Nominal/Maximum							Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	4523.406	4811.016	4886.541	5044.472	4679.215	4858.891	4790.664	4488.475
SO2	5171.361	5198.018	5469.351	4695.854	5394.645	5319.549	5243.064	5208.926
SO3	5269.300	5505.407	5718.667	5746.167	5542.850	5608.348	5583.952	5274.772
SO4	5891.632	5778.104	5922.767	5054.787	5585.567	5537.168	5440.163	5706.794
SO5	5410.595	5851.953	5060.937	5505.350	4833.361	5436.472	5575.225	5237.355
SO6	5400.964	5485.458	6189.374	6147.746	6090.655	6064.757	5926.178	5487.099
SO7	6151.674	6695.181	6745.041	6783.515	6484.066	6030.121	6075.442	6233.484
SO8	7207.878	6523.641	7124.214	7136.070	6608.338	6433.450	6852.196	6662.285
SO9	7518.892	7286.827	7682.512	7227.028	6940.673	6655.618	7196.052	7582.642
SO10	6760.348	7556.033	7670.942	7183.325	7448.183	7581.453	7795.092	6569.414
SO11	8321.562	7636.679	7808.142	8157.149	7999.611	7994.773	8064.287	8223.675
SO12	8615.321	7908.310	8162.261	8309.810	7889.466	8114.094	8513.802	8321.715
SO13	8567.804	8646.227	8242.375	7379.328	6763.551	7616.968	8139.323	8517.527

CALI_AMPMLH (Master)		Sensor Sensitivity First Break Amplitude from Monopole Lower Transmitter High Frequency Firing						
Minimum/Nominal/Maximum							Unit	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	7068.112	7345.091	7281.765	7478.667	6971.397	7381.943	7268.280	7015.417
SO2	7691.213	7711.037	7924.086	6664.859	7704.880	7607.480	7630.223	7650.480
SO3	7322.401	7484.433	7695.251	7558.397	7279.409	7466.834	7636.553	7302.041

SO3								
SO4	7349.563	7091.202	7151.560	6065.787	6828.328	6865.354	6842.330	7180.478
SO5	6280.729	6748.811	5754.503	6809.133	5633.535	6747.450	6711.191	6252.386
SO6	5570.853	5747.520	6670.602	6512.468	6383.583	6369.437	6156.489	5558.650
SO7	5784.708	6311.574	6292.164	6324.769	5889.619	5471.566	5509.187	5834.280
SO8	6132.942	5608.471	6013.500	6023.389	5532.155	5417.322	5803.751	5610.972
SO9	5700.176	5514.513	5857.081	5599.504	5444.522	5099.458	5435.989	5794.545
SO10	4703.484	5318.680	5551.868	5118.639	5292.699	5413.750	5499.621	4630.889
SO11	5291.970	5011.772	5096.555	5316.667	5209.142	5073.131	5052.549	5159.275
SO12	4960.084	4577.387	4847.002	4918.487	4728.502	4783.511	4991.281	4838.584
SO13	4582.892	4671.626	4681.519	4329.716	4087.010	4640.547	4772.026	4755.516

CALI_AMPMUL (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	-6401.083	-6339.832	-5928.092	-5825.750	-5477.214	-5880.961	-6268.452	-6219.753
SO2	-8028.767	-7440.271	-7193.413	-5925.842	-6839.303	-6967.500	-7431.885	-7846.736
SO3	-9063.143	-8972.300	-8847.537	-8373.938	-8219.740	-8766.376	-9378.229	-9231.179
SO4	-10607.290	-9767.420	-9489.366	-7925.306	-8963.813	-9251.471	-9728.796	-10457.700
SO5	-9788.242	-10063.500	-8304.575	-9530.585	-7999.816	-9800.571	-9988.722	-9538.942
SO6	-10525.960	-10498.400	-11416.220	-11080.150	-11133.570	-10997.120	-10988.390	-10328.920
SO7	-15837.530	-16762.220	-16730.610	-16723.650	-16075.200	-15000.010	-15354.390	-16195.330
SO8	-16751.130	-14797.540	-15928.120	-16225.410	-15226.360	-14866.240	-15806.480	-15415.880
SO9	-17036.590	-16209.400	-17208.100	-16736.860	-16428.400	-15602.140	-16184.610	-17093.750
SO10	-15239.700	-17004.210	-17620.290	-16544.000	-17392.720	-17524.670	-17433.640	-14817.320
SO11	-18631.310	-17512.670	-17906.630	-18849.870	-18817.800	-18124.470	-17771.300	-18103.480
SO12	-20380.370	-18744.230	-19889.350	-20475.130	-20108.710	-20367.020	-20638.720	-19669.420
SO13	-22757.750	-23171.640	-23499.830	-22194.900	-21267.320	-23456.270	-23144.950	-22759.870

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	-20165.960	-20577.350	-20469.250	-20779.940	-19537.160	-20775.360	-20804.970	-20176.680
SO2	-19949.530	-19320.750	-19521.400	-16002.090	-18776.050	-19084.970	-19549.130	-20008.060
SO3	-17249.780	-17195.380	-17157.670	-16675.040	-16492.210	-17356.930	-18038.740	-17364.750
SO4	-17416.570	-15947.760	-15578.470	-13086.060	-15007.180	-15407.100	-15814.250	-16968.820
SO5	-13879.000	-14251.310	-11841.990	-13704.000	-11423.710	-13902.210	-13981.260	-13624.000
SO6	-13831.780	-13773.490	-15284.830	-14766.560	-14645.720	-14745.750	-14808.710	-13924.570
SO7	-10792.130	-11123.810	-10884.630	-10632.120	-10448.570	-9616.921	-9517.622	-10410.100
SO8	-10100.880	-8935.708	-9525.934	-9496.719	-8925.572	-8715.288	-9320.238	-9249.602
SO9	-8806.775	-8381.445	-9217.531	-8534.026	-8284.949	-8028.594	-8303.646	-8833.658
SO10	-6929.966	-7742.536	-8397.662	-7661.758	-8074.568	-8134.410	-8030.322	-6699.239
SO11	-7531.345	-7158.120	-7460.479	-7924.935	-7938.370	-7478.154	-7105.918	-7264.806
SO12	-6994.991	-6471.291	-7125.347	-7520.302	-7480.684	-7258.934	-6951.457	-6477.771
SO13	-5995.924	-6155.012	-6528.621	-6436.986	-6277.112	-6577.550	-6010.849	-5885.262

Vertical Casing Check Coefficients		
Before (Measured):	16:46:00 12-Dec-2013	After:
CALI_SVCNA (Before)	Sensor Vertical Casing Check Normalized Amplitudes (Before/After/BACheck)	
Minimum/Nominal/Maximum	0.900/1.000/1.100	Unit

	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	1.002	0.994	0.995	0.998	1.025	1.011	1.004	0.997
SO2	1.023	0.992	0.992	1.010	1.020	0.998	0.986	1.002
SO3	0.999	0.969	0.977	0.983	1.010	1.005	1.001	1.010
SO4	1.001	0.965	0.968	0.997	1.025	1.008	1.003	0.999
SO5	1.003	0.990	0.986	1.027	1.008	1.030	0.989	0.997
SO6	1.013	1.007	0.998	0.997	1.014	0.991	0.995	1.002
SO7	1.019	0.985	0.997	0.981	1.010	0.997	1.004	1.003
SO8	1.007	0.998	0.989	1.001	1.022	1.003	0.996	0.999
SO9	1.021	0.991	0.997	1.003	1.024	1.019	0.992	0.990
SO10	1.024	0.998	1.004	0.995	1.018	1.002	0.985	0.984
SO11	1.016	1.001	0.980	0.990	1.011	0.995	0.999	1.007
SO12	1.021	1.002	0.998	0.998	1.027	1.020	0.993	0.982
SO13	1.001	0.996	1.002	1.026	1.039	0.999	0.969	0.972

CALI_SVCNA (After)

Sensor Vertical Casing Check Normalized Amplitudes (Before/After/BACchange)

Minimum/Nominal/Maximum							Unit	
0.900/1.000/1.100								
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO2	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO3	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO4	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO5	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO6	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO7	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO8	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO9	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO10	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO11	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO12	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE
SO13	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE	NOT DONE

CALI_SVCTDF (Before)

Sensor Vertical Casing Check Time (Before/After/BACchange)

Minimum/Nominal/Maximum							Unit	
-15/0/15							us	
	RB1	RB2	RB3	RB4	RB5	RB6	RB7	RB8
SO1	0	0	-1	0	0	0	0	1
SO2	1	-1	-2	-1	0	0	1	1
SO3	1	-1	-1	-1	0	0	1	2
SO4	0	-2	-2	-1	0	1	1	2
SO5	0	-1	-1	-1	0	0	0	1
SO6	0	-1	-1	-1	0	0	1	1
SO7	0	-2	-2	-3	0	1	0	1
SO8	0	0	-1	-1	0	0	1	1
SO9	0	-1	-1	-1	0	0	1	1
SO10	0	-1	-3	-2	0	0	0	1
SO11	1	0	-2	-1	0	0	0	1
SO12	2	-1	-2	-2	0	0	1	2
SO13	1	0	-1	-1	0	0	1	1

CALI_SVCTDF (After)

Sensor Vertical Casing Check Time (Before/After/BACchange)

Minimum/Nominal/Maximum							Unit	
-15/0/15							us	

[illegible][illegible][illegible]

PPC-B[2] (Powered Positioning device and Caliper.) Calibration - Run Two

Primary Equipment :			
PPC-B Element is used for usual logging at wellsite and check/diagnostics.		PPC-B	8227
Calibration Parameter :			
ZERO_REF			
PLUS_REF			
Equipment Properties :			
Caliper Arm Equipment Type for PPC		PPC_CAL_STD	

PPC Check - Downhole Electronics Test

Before (Measured):		16:45:50 12-Dec-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage	V	Before		7	8.69356	9	
Minus Analog Voltage	V	Before		-9	-8.71582	-7	
Digital Voltage	V	Before		3.15	3.37836	3.45	
Digital Voltage for Analog Digital Converter	V	Before		4.5	5.03086	5.5	
Status Word of Analog Digital Converter Offset		Before		-8	0.611111	8	

PPC Check - Cartridge Temperature Test

Before (Measured):		16:45:50 12-Dec-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature	degF	Before		-58	71.995	482	

PPC Check - Power Control LVDT Test

Before (Measured):		16:45:50 12-Dec-2013					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position	in	Before			-1.24426		
LVDT5 Full Power Position	in	Before			1.38928		

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 Cali Coefficients

PPC EVD15 Master Calibration - PPC CaliCoefficients

Master:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
CCS	in	Master	-1.51		NOT DONE		
COP	in	Master	-1.31		NOT DONE		
CPW	in	Master	1.41		NOT DONE		

PPC Caliper Calibration - PPC CaliCoefficients

Before:		After:					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RD1_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD2_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_GAIN		Before	1	0.85	NOT DONE	1.15	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD1_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD2_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD3_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RD4_OFFSET	in	Before	0	-2.2	NOT DONE	2.6	
		After	----	----	----	----	
		After-Before	----	----	----	----	

PPC Caliper Calibration - PPC Accumulations

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

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

Primary Equipment :		Enhanced Digital Telemetry Cartridge - B	EDTC-B
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EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before (Measured): 16:45:35 12-Dec-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	ft/s2	Before	32.19	31.53	32.06	32.84	

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 16:41:39 12-Dec-2013

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Initial PMT HV	V	Master			1399.000		
Accelerometer Serial Number		Master			368		
Accelerometer Coefficients - 0		Master	----	----	2.941	----	
Accelerometer Coefficients - 1		Master	----	----	0.000	----	
Accelerometer Coefficients - 2		Master	----	----	0.000	----	
Accelerometer Coefficients - 3		Master	----	----	0.000	----	
Accelerometer Coefficients - 4		Master	----	----	0.000	----	
Accelerometer Coefficients - 5		Master	----	----	0.000	----	
Accelerometer Coefficients - 6		Master	----	----	0.000	----	
Accelerometer Coefficients - 7		Master	----	----	-0.010	----	
Accelerometer Coefficients - 8		Master	----	----	0.000	----	
Accelerometer Coefficients - 9		Master	----	----	0.000	----	
Accelerometer Coefficients - 10		Master	----	----	0.000	----	
Accelerometer Coefficients - 11		Master	----	----	0.000	----	
Gamma-Ray Detector Serial Number		Master			7201		

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 14:22:25 05-Dec-2013

After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Gain		Before	1.000	0.900	1.032	1.100	
		After	----	----	----	----	
		After-Before	----	----	----	----	

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 14:22:25 05-Dec-2013

After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before		0	22.160	120.000	
		After	----	----	----	----	
		After-Before	----	----	----	----	
RGR Plus Measurement	gAPI	Before	160.000	145.000	155.092	175.000	
		After			NOT DONE		
		After-Before	----	----	----	----	

Company: Anadarko E&P Onshore LLC

Schlumberger

Well: Murphy 1-31 M

Field: Greenwood

County: Morton

State: Kansas

SONIC SCANNER

GAMMA RAY

DTM = 47.6 us/ft