Borehole Compensated Sonic / Spectral Gamma Ray Final Composite 5”

Schlumberger

Company: PB ENERGY STORAGE SERVICES, INC

Well: DCP Linam Ranch AGI #2

Field: AGI; Bone Spring-Wolfcamp

County: Lea Country: USA

Borehole Compensated Sonic
Spectral Gamma Ray
Final Composite [5"=100']

Location:	1600' FSL & 1750' FWL	Elev.: K.B. 3763.00 ft G.L. 3738.00 ft D.F. 3762.00 ft
Permanent Datum:	Ground Level	Elev.: 3738.00 f
Log Measured From:	Kelly Bushing	25.00 ft above Perm.Datum
Drilling Measured From:	Kelly Bushing	

API Serial No.	Section:	Township:	Range:
30-025-42139	30	18S	37E

County:	Lea
Field:	AGI; Bone Spring-Wolfcamp
Location:	1600' FSL & 1750' FWL
Well:	DCP Linam Ranch AGI #2
Company:	PB ENERGY STORAGE SERVICES, INC

Logging Date	30-Nov-2014		10-Dec-2014	
Run Number	Two		Run 3c	
Depth Driller	8630.00 ft		9234.00 ft	
Schlumberger Depth	8630.00 ft		9234.00 ft	
Bottom Log Interval	8608.00 ft		9247.00 ft	
Top Log Interval	3219.50 ft		8594.00 ft	
Casing Driller Size @ Depth	13.375 in @ 3220.00 ft		9.625 in @ 8604.00 ft	
Casing Schlumberger	3219.5 ft		8594 ft	
Bit Size	12.25 in		8.5 in	
Type Fluid In Hole	Salt Brine		Fresh Water	
MUD Density / Viscosity	8.8 lbm/gal	33 s	10.1 lbm/gal	42 s
MUD Fluid Loss / PH	0 cm3	10	0 cm3	10.5
Source of Sample	Active Tank		Active Tank	
RM @ Meas Temp	9 ohm.m @ 80 degF		1.09 ohm.m @ 62.2 degF	
RMF @ Meas Temp	7.5 ohm.m @ 80 degF		0.75 ohm.m @ 75 degF	
RMC @ Meas Temp	0.06 ohm.m @ 75 degF		0.89 ohm.m @ 75 degF	
Source RMF / RMC	Pressed		Calculated	Calculated
RM @ BHT / RMF @ BHT	6.85 @ 107.3	5.71 @ 107.3	0.52 @ 138	0.42 @ 138
Max Recorded Temperatures	125 degF		138 degF	
Circulation Stopped / Time	30-Nov-2014	02:00:00	09-Dec-2014	08:00:00
Logger on Bottom / Time	30-Nov-2014	13:10:30	10-Dec-2014	11:36:00
Unit Number / Location:	2133	Roswell	2381	Midland, TX
Recorded By	Tyler Bolton		Matt Clardy/Phil Lacasse	
Witnessed By	Russell Bentley		Russell Bentley	

RUN 2

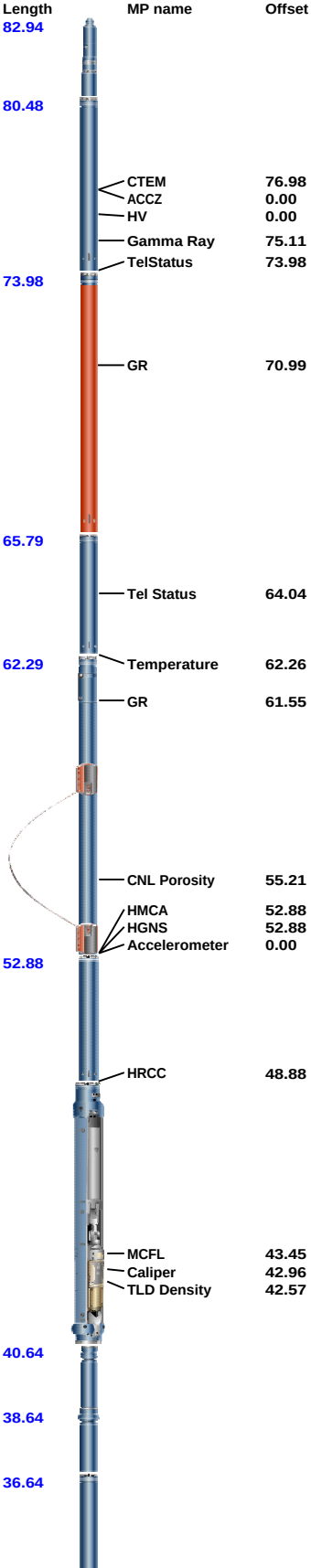
Disclaimer

Contents

Remarks and Equipment Summary

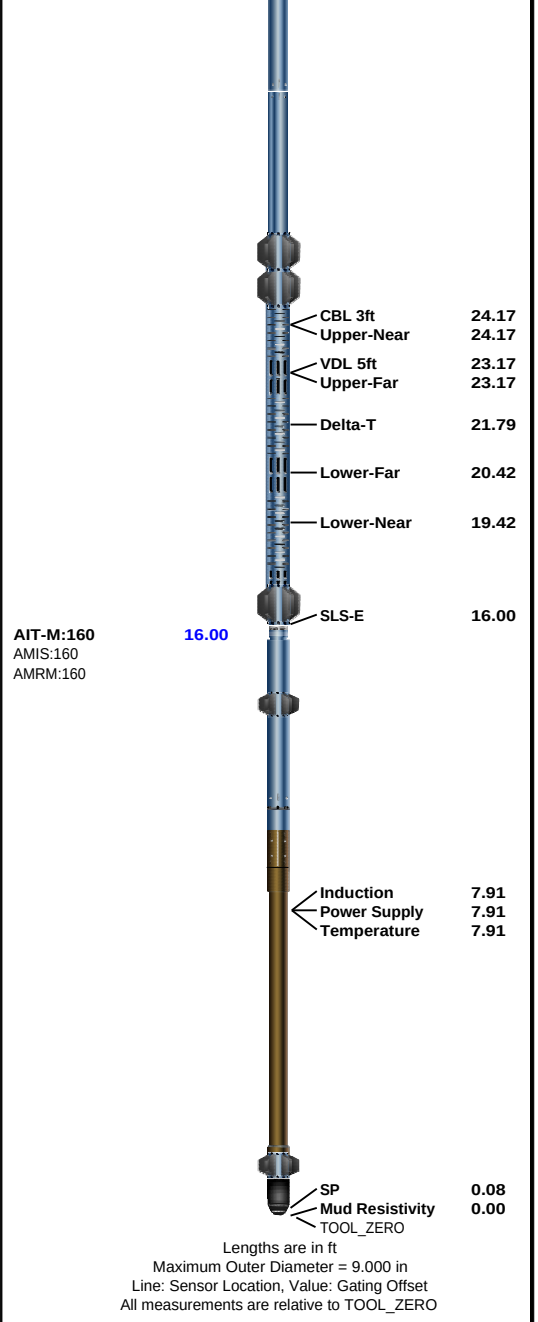
Two: Toolstring

Equip name	Length	MP name	Offset
LEH-QC:1317	82.94		
EDTC-B:9071	80.48		
EDTH-B:8196			
EDTG-A:79243			
EDTC-B:9071			
		CTEM	**76.98**
		ACCZ	**0.00**
		HV	**0.00**
		Gamma Ray	**75.11**
		TelStatus	**73.98**
HNGS-BA:84	73.98		
HEH-K:1035			
HNGS-BA:84			
		GR	**70.99**
HNGC-B:610	65.79		
HNGH-A:4094			
HNGC-B:610			
		Tel Status	**64.04**
HGNS-B:951	62.29	**Temperature**	**62.26**
HGNH:3894		**GR**	**61.55**
NPV-N			
NSR-F:2683			
HACCZ-B:448			
HMCA-B			
HGNS-B:951			
		CNL Porosity	**55.21**
		HMCA	**52.88**
		HGNS	**52.88**
		Accelerometer	**0.00**
HDRS-B:1829	52.88		
ECH-MEB:952			
HRCC-B:839			
HRMS-B:1829			
Short Spacing:27483			
Backscatter			
Long Spacing:28774			
GSR-J:5339			
HRGD-B:3968			
GPV-Q			
		HRCC	**48.88**
		MCFL	**43.45**
		Caliper	**42.96**
		TLD Density	**42.57**
AH-184:4882	40.64		
AH-107	38.64		
DSLT-H:8091	36.64		
ECH-KH:8585			
DSLC-H:8091			
SLS-E:1561			



Two: Remarks

Toolstring run as per toolsketch.
Bowspring used to eccentralize HGNS.
0.125" standoff created by wear-ring on HGNS.
1.5" standoffs used on AIT, and DSLT.
Porosity computed on a Limestone scale with density of 2.71 g/cc and slowness of 47.6 us/ft.
Rig: Precision 107
Your Schlumberger Crew: Tyler Bolton, Adam Jaramillo, Jose Gomez.



Lengths are in ft
Maximum Outer Diameter = 9.000 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

	Two		
Depth Measuring Device			
Type	IDW-JA		
Serial Number	5910		
Calibration Date	02-Jun-2014		
Calibrator Serial Number			
Calibration Cable Type	7-46P XS		
Wheel Correction 1	-2		
Wheel Correction 2	-1		
Tension Device			
Type	CMTD-B/A		
Serial Number	5044		
Calibration Date	18-Oct-2014		
Calibrator Serial Number	80725A		
Number of Calibration Points	10		
Calibration Root Mean Square Error	19		
Calibration Peak Error	36		
Logging Cable			
Type	7-46P-XS		

Serial Number	U711059
Length	15500.00 ft
Conveyance Type	Wireline
Rig Type	Land

Two:Depth Control Parameters	
Log Sequence	Subsequent Trip To the Well
Reference Log Name	Platform Express-CNL
Reference Log Run Number	One
Reference Log Date	01-Nov-2014
Subsequent Trip Down Log Correction	7.29 ft

Depth Control Remarks

All primary and secondary depth control procedures followed.

IDW used as primary depth control device.

Z-chart used as secondary depth control device.

Disclaimer

RUN 3

Contents

Operational Run Summary

Parameter (unit)	Run 3c
Date Log Started	10-Dec-2014
Time Log Started	10:36:42
Date Log Finished	10-Dec-2014
Time Log Finished	12:34:32
Top Log Interval (ft)	8594.00
Bottom Log Interval (ft)	9247.00
Total Depth (ft)	9247.00

Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	8.500					
Logging Unit Number	2381					
Logging Unit Location	Midland, TX					
Recorded By	Matt Clardy/Phil Lacasse					
Witnessed By	Russell Bentley					
Service Order Number	D0M2-00023					

Borehole Fluids

Parameter(unit)	Run 3c					
Fluid Type	Water					
Fluid Name	Fresh Water					
Max Recorded Temperatures (degF)	138					
Source of Sample	Active Tank					
Salinity (ppm)	500					
Density (lbm/gal)	10.1					
Funnel Viscosity (s)	42					
Fluid Loss (cm3)	0					
PH	10.5					
Date/Time Circulation Stopped	09-Dec-2014 08:00:00					
Date Logger on Bottom	10-Dec-2014					
Time Logger on Bottom	11:36:00					
Source RMF	Calculated					
RMC	Calculated					
RM @ Meas Temp (ohm.m@degF)	1.09 @ 62.2					
RMF @ Meas Temp (ohm.m@degF)	0.75 @ 75					
RMC @ Meas Temp (ohm.m@degF)	0.89 @ 75					
RM @ BHT (ohm.m@degF)	0.52 @ 138					
RMF @ BHT (ohm.m@degF)	0.42 @ 138					
RMC @ BHT (ohm.m@degF)	0.5 @ 138					
Total Solid (%)	10					
High Gravity Solids (%)						

Remarks and Equipment Summary

Run 3c: Toolstring

Equip name	Length	MP name	Offset
LEH-QC	**93.87**	BLUE	
EDTC-B:8101	**91.42**		
EDTH-B:8101			
EDTG-A:77002			
EDTC-B:8101			
		CTEM	**87.92**
		ACCZ	**0.00**
		HV	**0.00**
		Gamma Ray	**86.05**

Run 3c: Remarks

- Max recorded temperature from downhole thermometer = 138 degF.
- Tool String run as per tool sketch (3x 1.5 in Standoffs, Bowspring).
- Cement volume calculated using 7.0 inch future casing diameter.
- Hole size and standoff correction applied to neutron porosity.
- Logs Run from 9247 ft to Casing as per client request. Repeat performed for 300ft from 9247 ft as per client request.
- Thank you for choosing Schlumberger! Schlumberger Wireline - Midland, TX - 432-

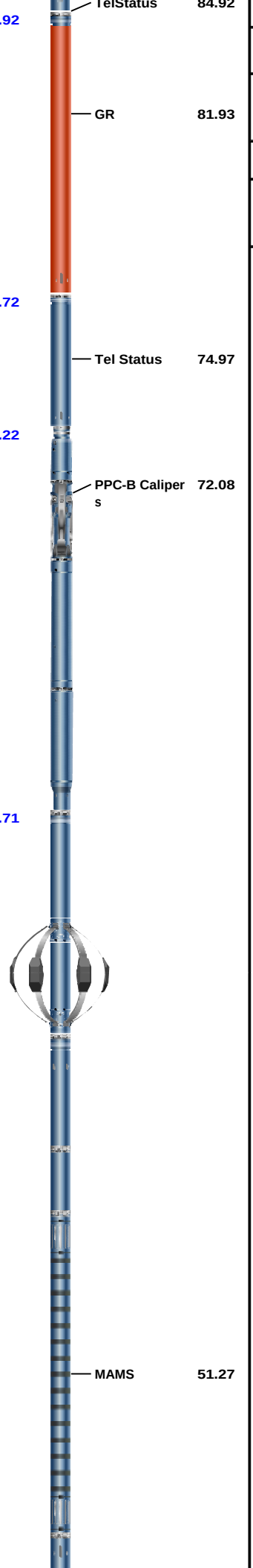
694-0000

Rig: Precision #107. Schlumberger Crew: Mohammed, Ozzy, Matt & Phil.

As per discussion with client, repeat pass skipped due to concerns over reopening calipers.

Logs run from TD to CSG as per client request.

PPC and FMI used for powered centralization, CME-Z's and Standoffs for Passive Centraliztion.



FBST-E:773 **25.42**
ECH-MJA:3852
FBPC-A:766
AH-287
FBSH-D:810
FBAC-B:825
DHRU-F:1956
FBSS-B:773

MAXS **25.42**

Deviation **11.94**
GPIT-F Inclin ometer **11.94**

GPIT **0.00**

Buttons **3.33**

BNS-NG **2.00**

TOOL_ZERO

Lengths are in ft
Maximum Outer Diameter = 5.000 in

Line: Sensor Location, Value: Gating Offset
All m easurements are relative to TOOL_ZERO

Depth Summary

	Run 3c		
Depth Measuring Device			
Type	IDW-B		
Serial Number	6568		
Calibration Date	28-Jul-2014		
Calibrator Serial Number			
Calibration Cable Type	7-46P/AXS		
Wheel Correction 1	-4		
Wheel Correction 2	-3		
Tension Device			
Type	CMTD-B/A		
Serial Number	8100		
Calibration Date	18-Nov-2014		
Calibrator Serial Number	U713032		
Number of Calibration Points	10		
Calibration Root Mean Square Error	16		
Calibration Peak Error	20		
Logging Cable			
Type	7-46P-XS		
Serial Number	U713032		
Length	23800.00 ft		
Conveyance Type	Wireline		
Rig Type			

Run 3c:Depth Control Parameters		Depth Control Remarks
Log Sequence	Subsequent Log In the Well	All Schlumberger depth control procedures to date followed. All passes correlated to Run 1A downlog.
Reference Log Name	SCHLUMBERGER - PLATFORM EXPRESS	CMTD used as primary tension control. Tension head used as secondary tension control. CMTD last calibrated on 11-Nov-2014.
Reference Log Run Number	3A	IDW used as primary means of depth control. Z-chart used as secondary means of depth control. IDW calibrated on 28-Jul-2014.
Reference Log Date	10-Dec-2014	

Main Pass 5" = 100'

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ITT	Integrated Transit Time	ITTS	0.2939	s

Log

Company:PB ENERGY STORAGE SERVICES, INC Well:DCP Linam Ranch AGI #2
Two: Main[3]:Up:S021

Description: HRLT BASIC LOG Format: Log (BHC 5 inch General) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Nov-2014 17:16:56

Channel	Source	Sampling
CALI	HDRS-B:HRCC-B:HRCC-B	1in
CGR	HNGS-BA:HNGS-BA:HNGS-BA	6in
DT	DSLT-H:SLS-E:SLS-E	6in
ITT	DSLT-H:SLS-E:SLS-E	6in
SGR	HNGS-BA:HNGS-BA:HNGS-BA	6in
SPHI	DSLT-H:SLS-E:SLS-E	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

ITT - Integrated Transit Time every 1.00 (ms)

TIME_1900 - Time Marked every 60.00 (s)

RUN 2

ITT - Integrated Transit Time every 10.00 (ms)

ITT - Integrated Transit Time every 10.00 (ms)

Uranium Indicator

Cable Tension (TENS)

10000 lbf 0

Caliper (CALI) HDRS-B

6 in 16

Gamma Ray Contribution from Thorium and Potassium (CGR) HNGS-BA

0 gAPI 100

Spectroscopy Gamma Ray (SGR) HNGS-BA

0 gAPI 100

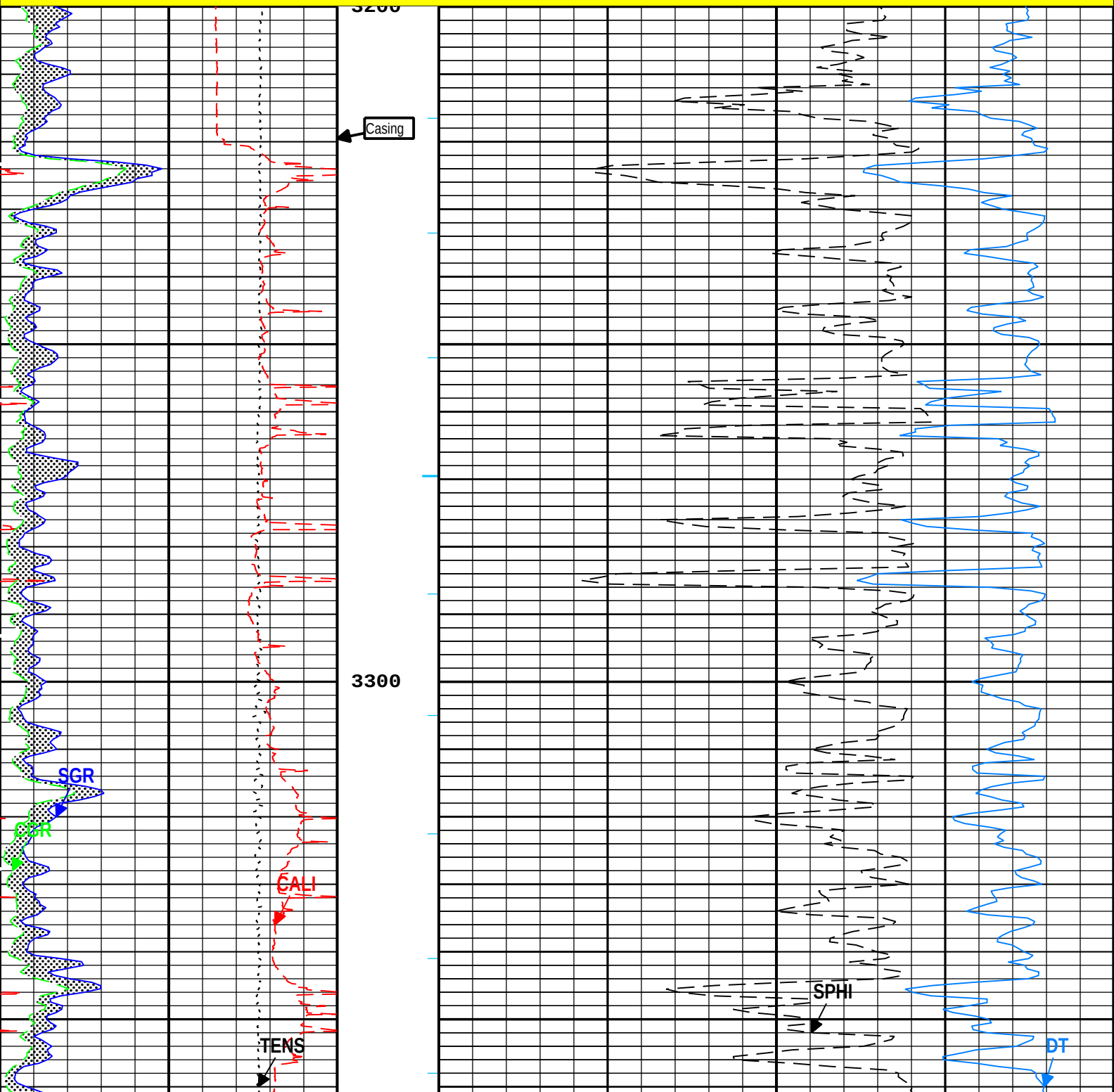
Delta-T (also called Slowness or Interval Transit Time) (DT) DSLT-H

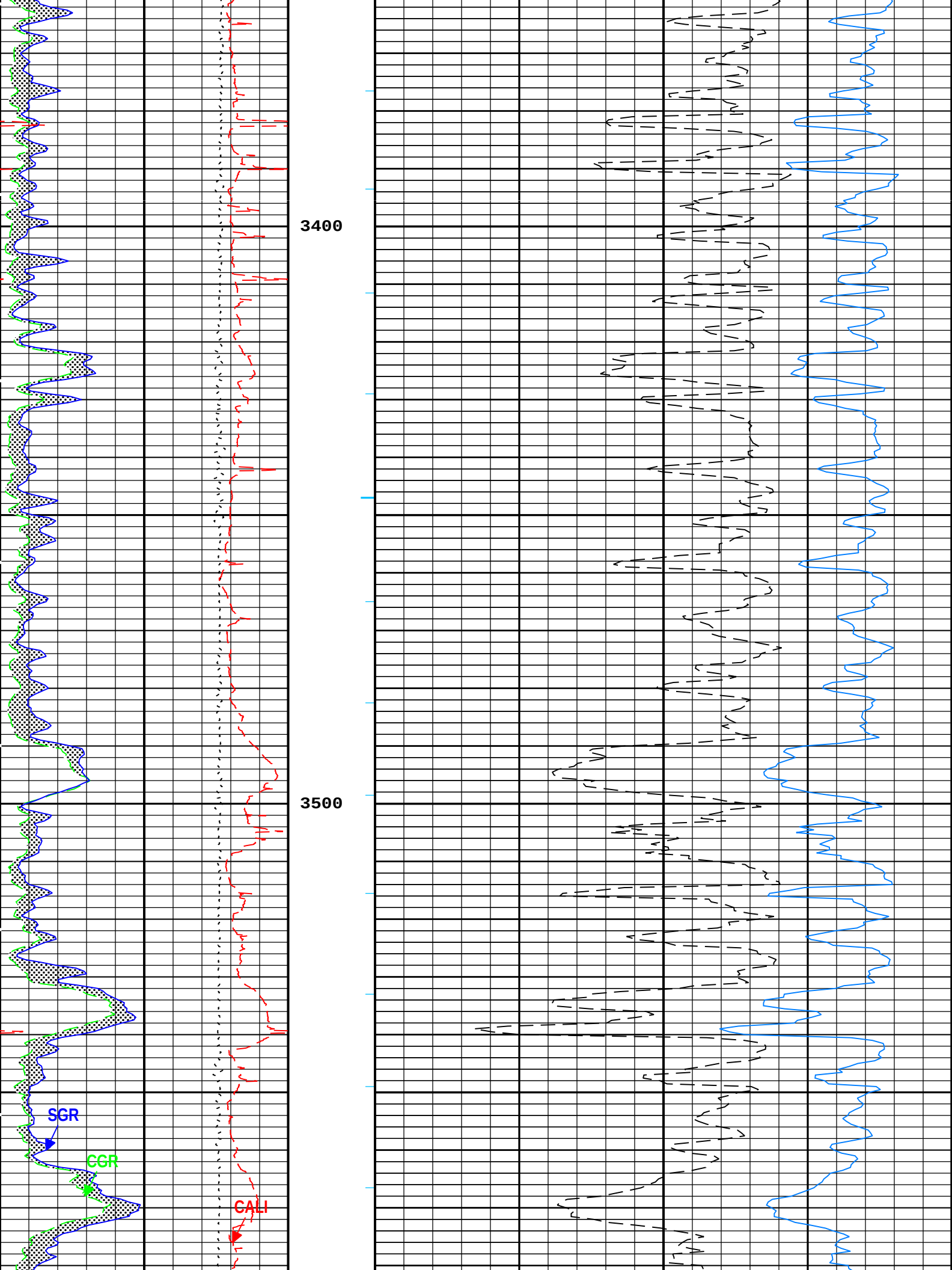
140 us/ft 40

Sonic Porosity (SPHI) DSLT-H

0.3 ft3/ft3 -0.1

5" Sonic

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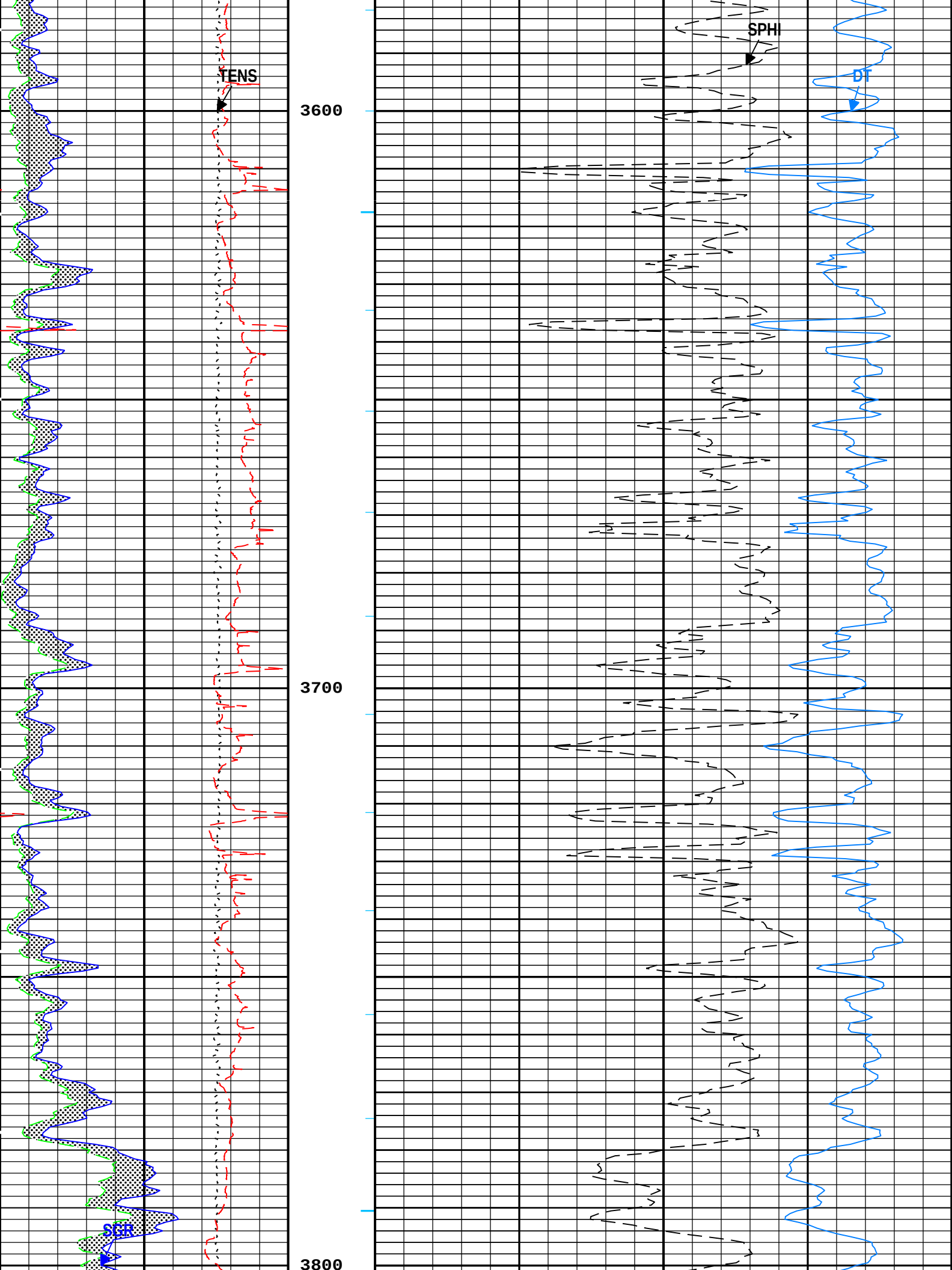
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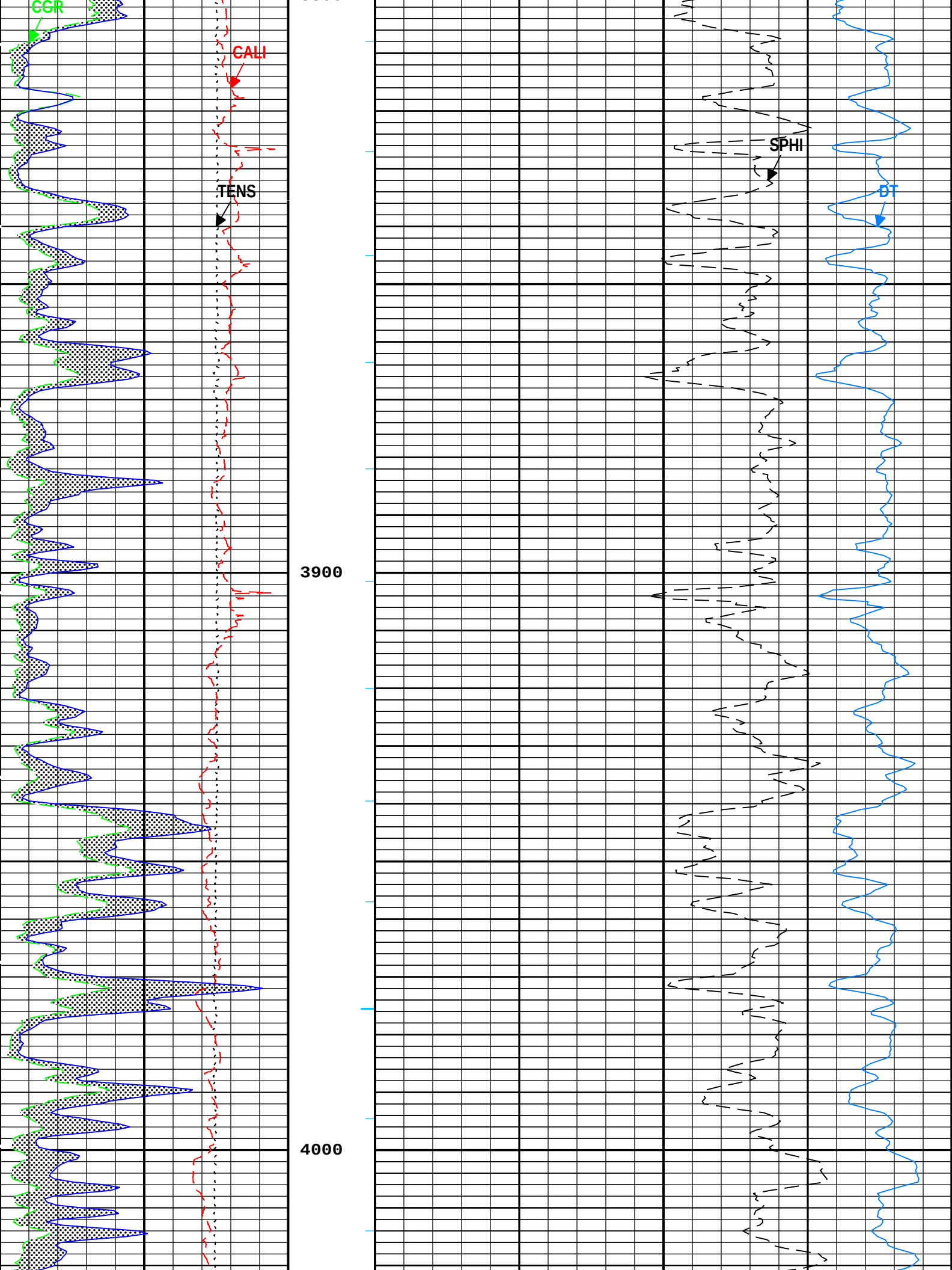
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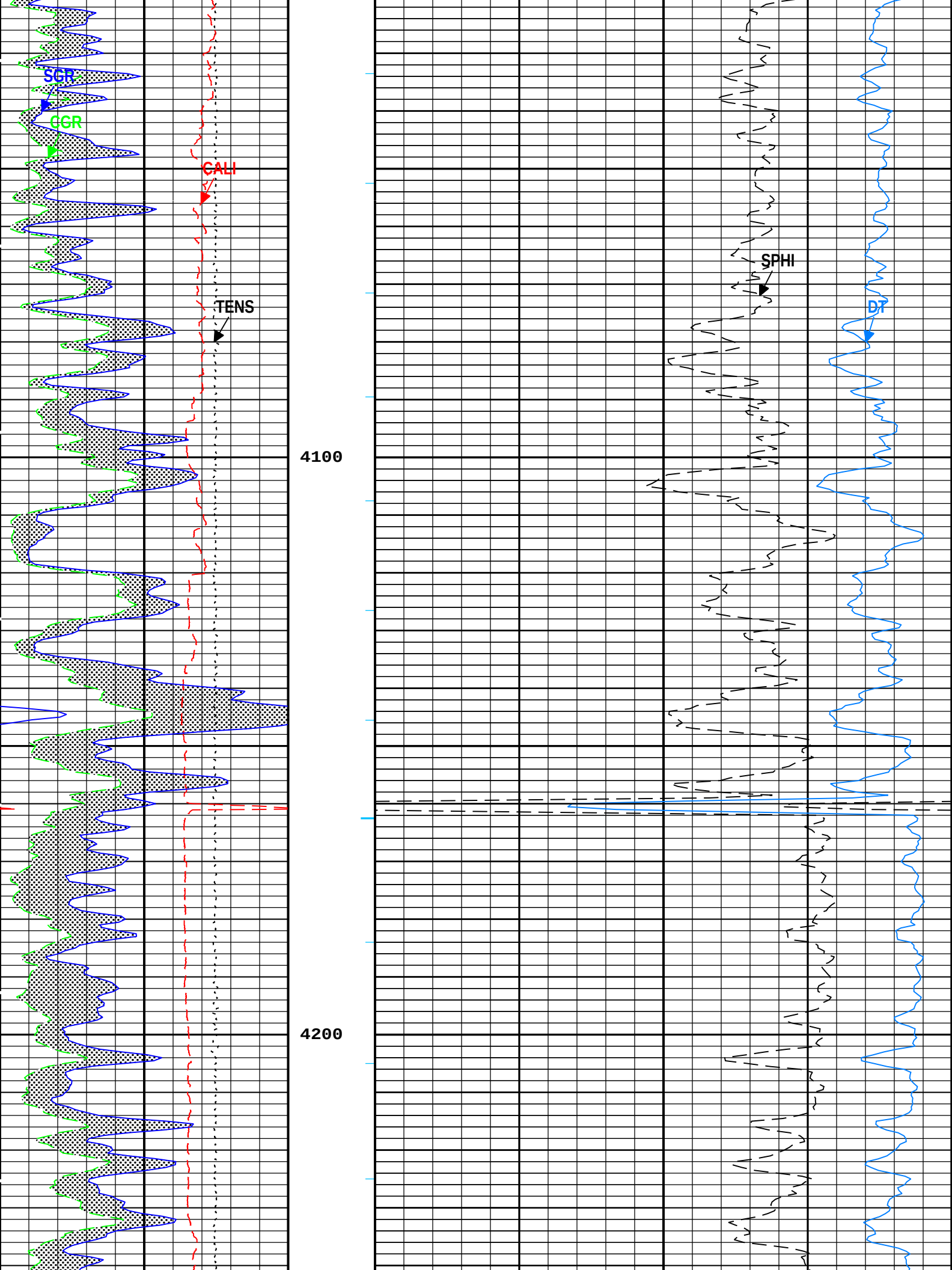
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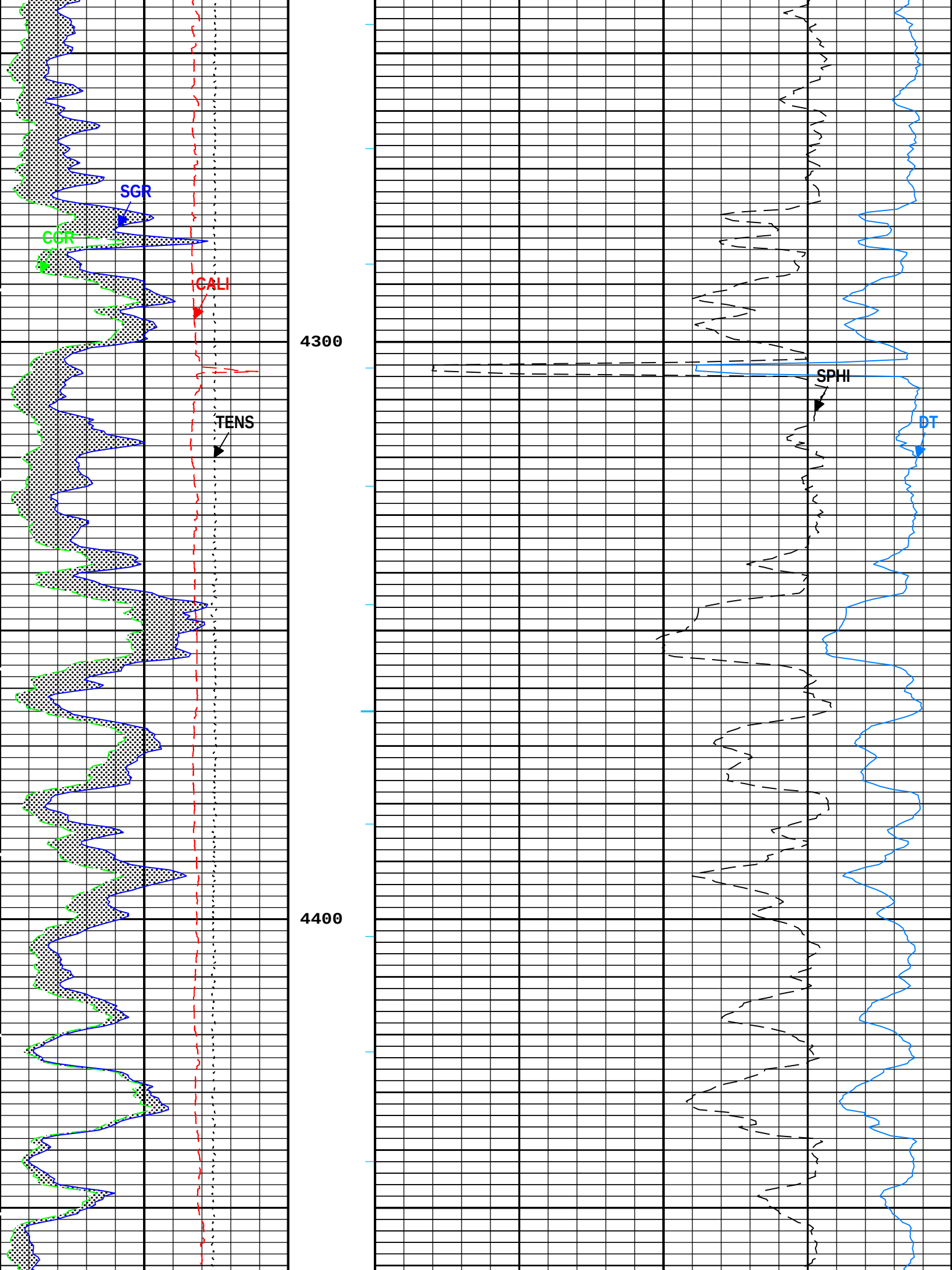
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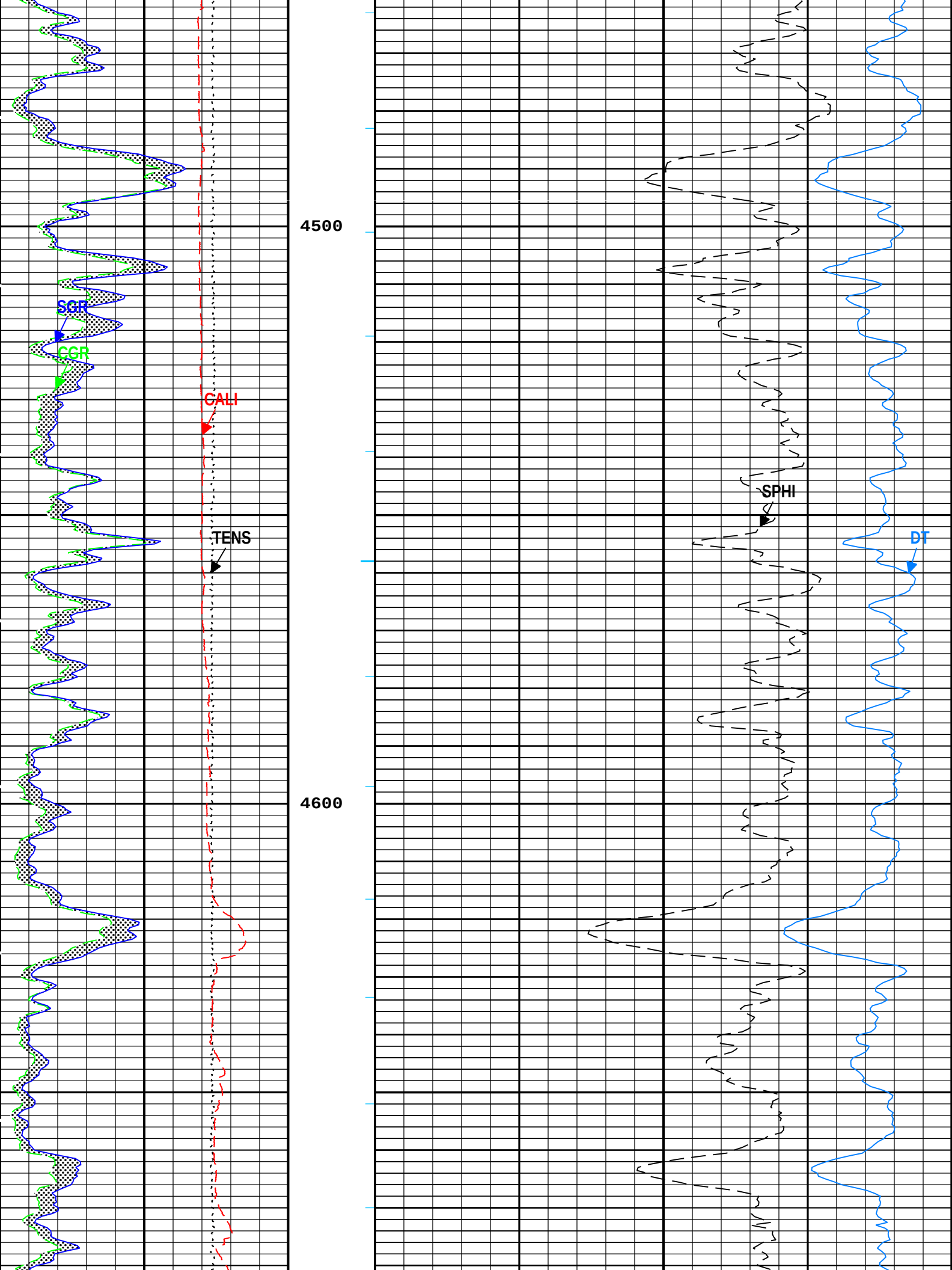
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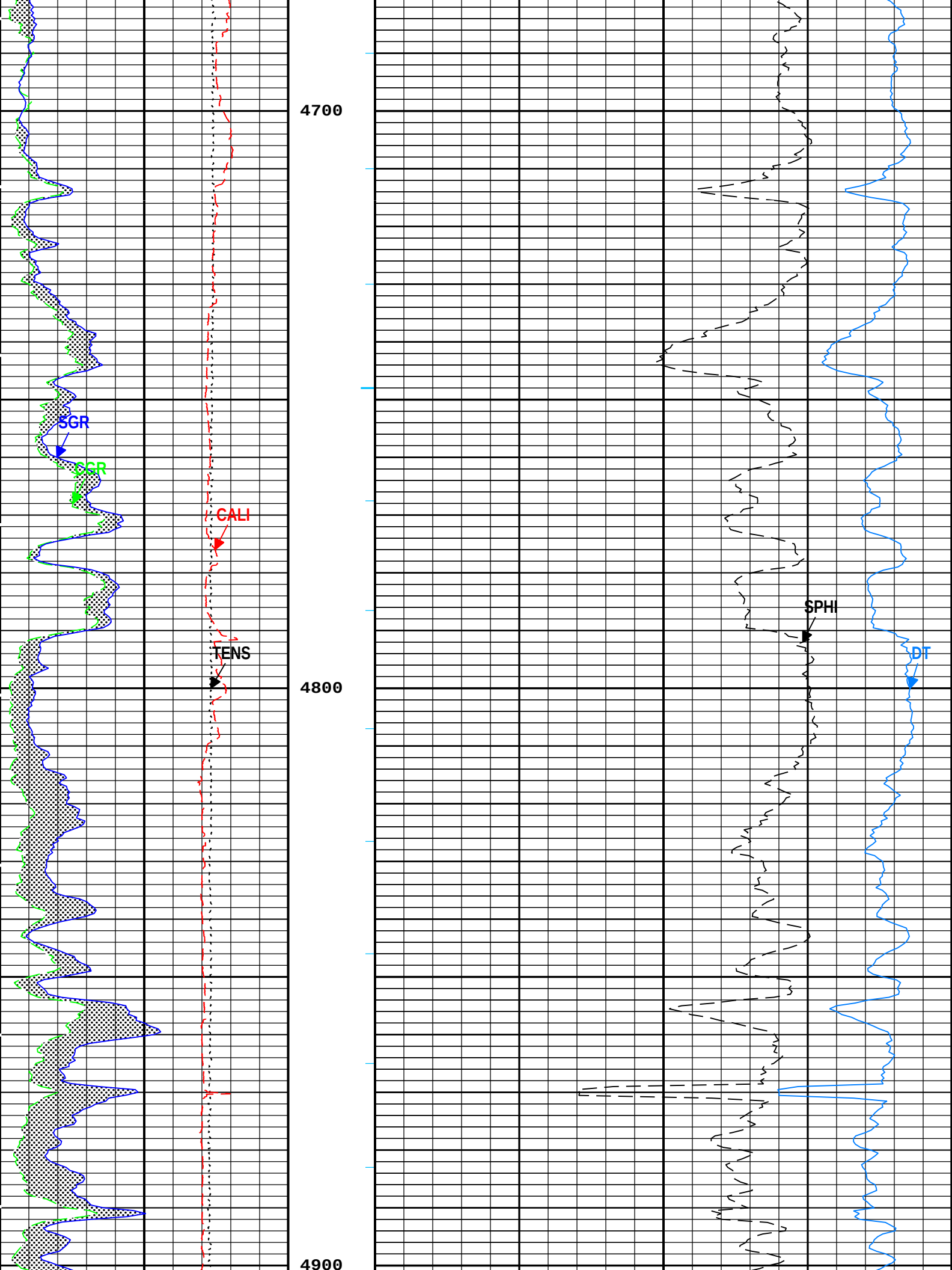
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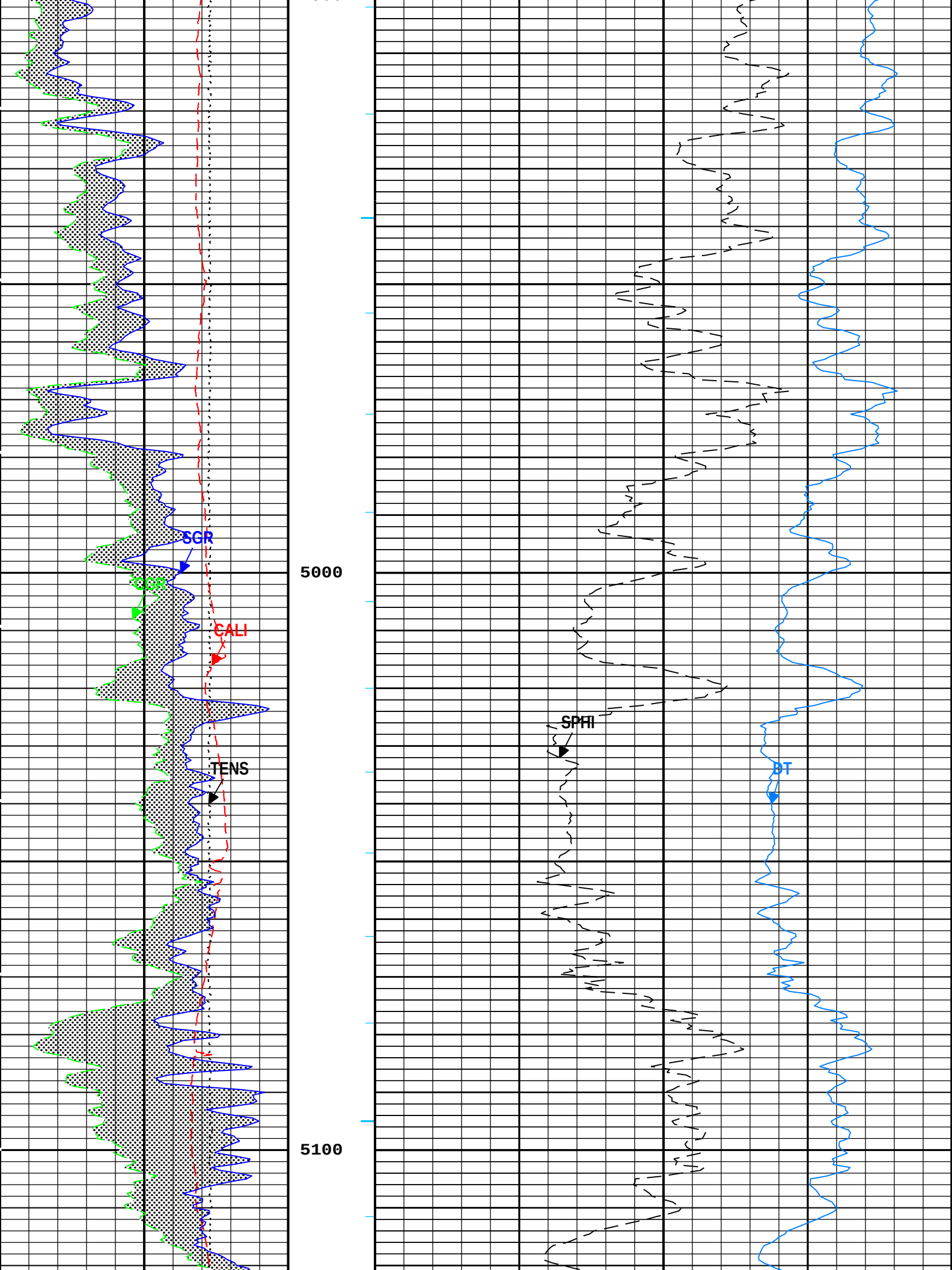
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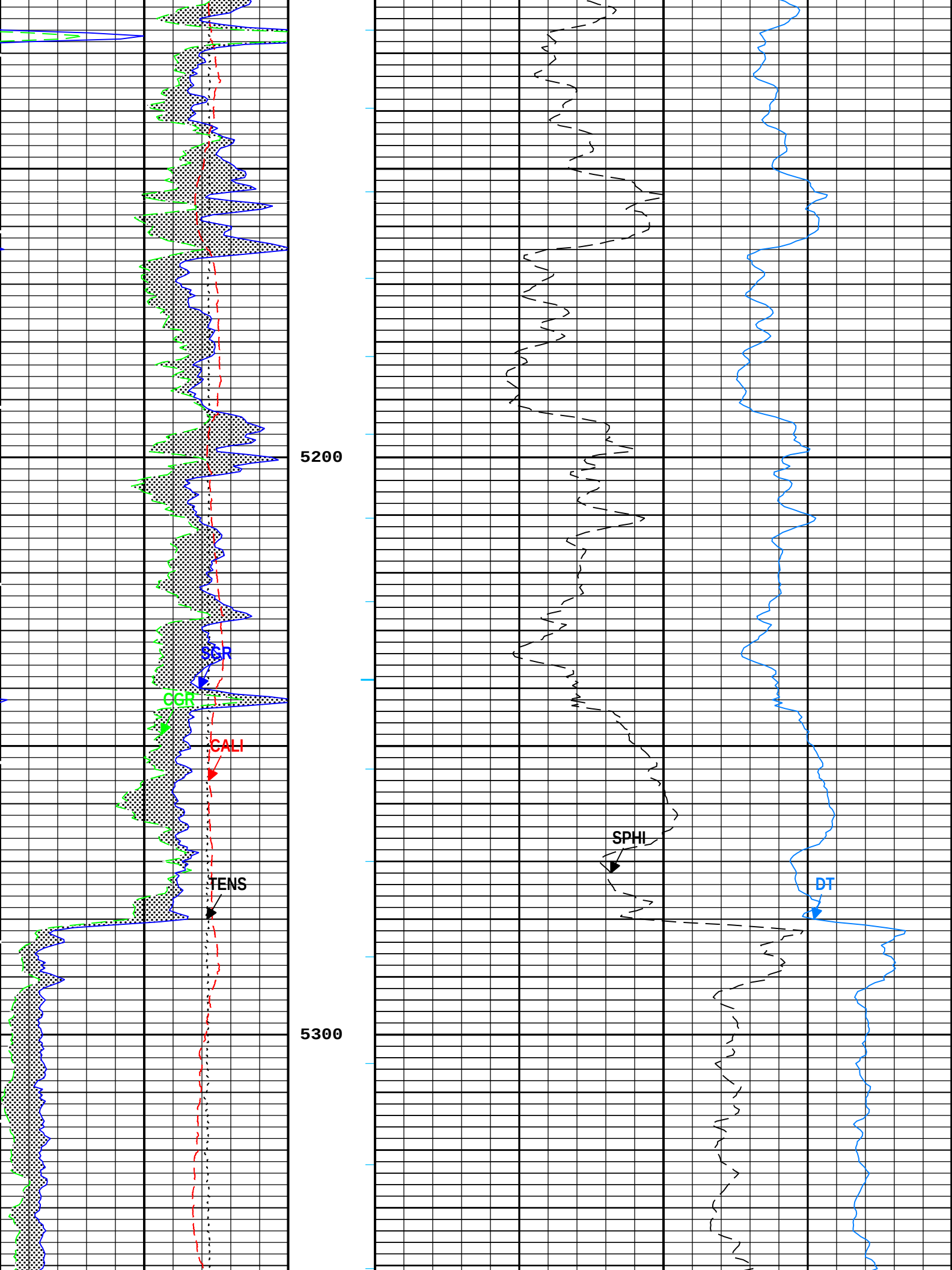
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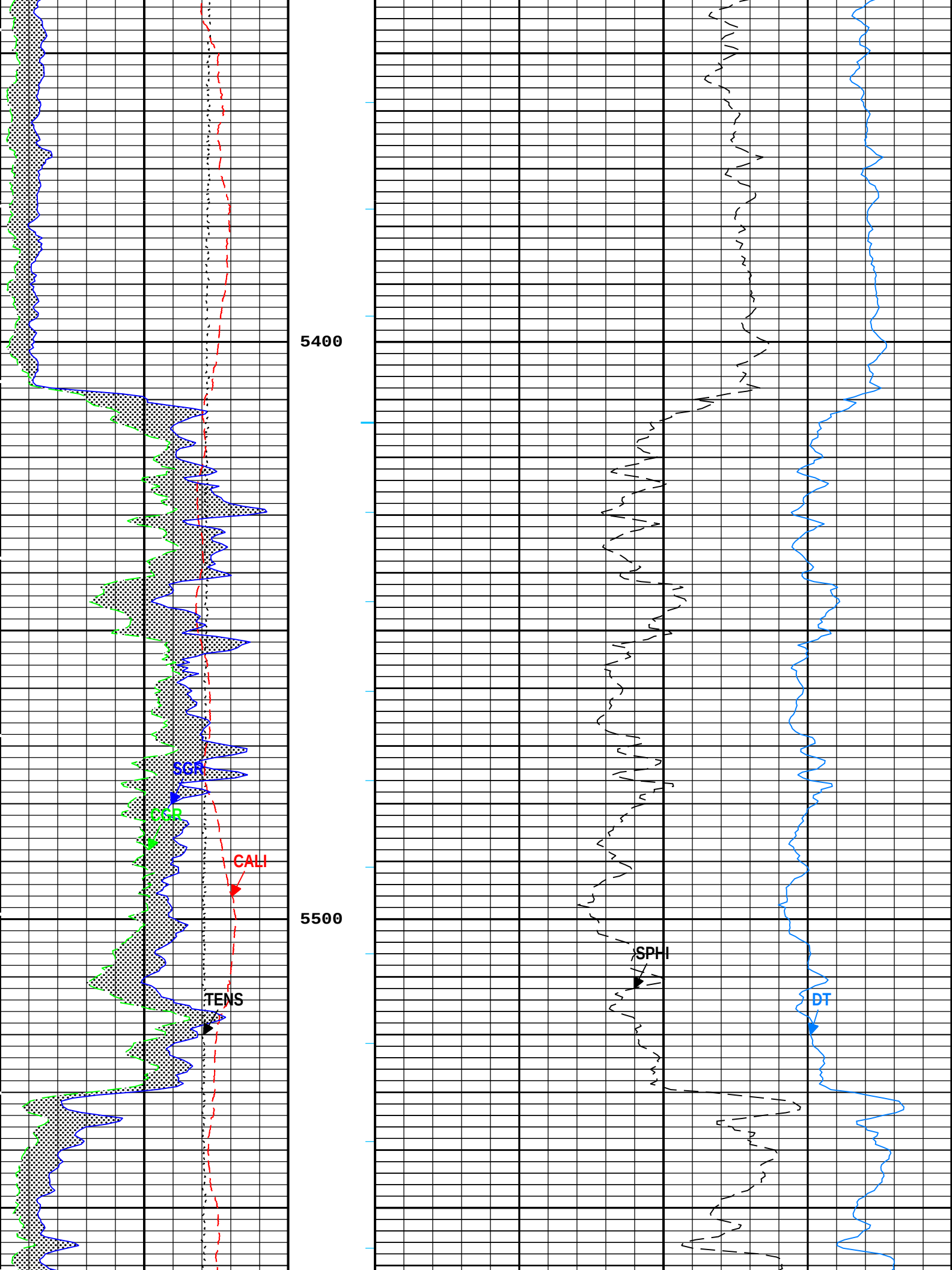
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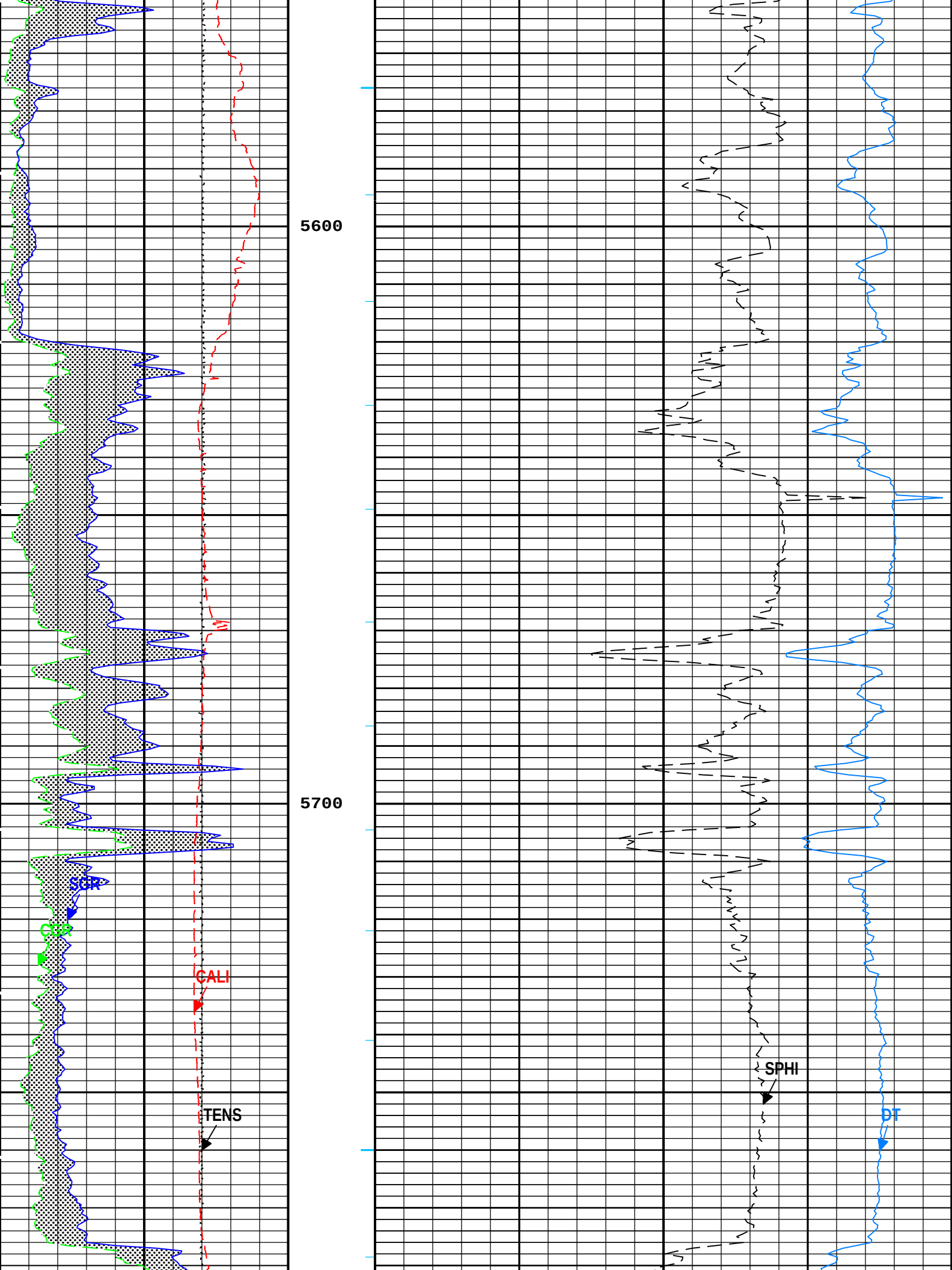
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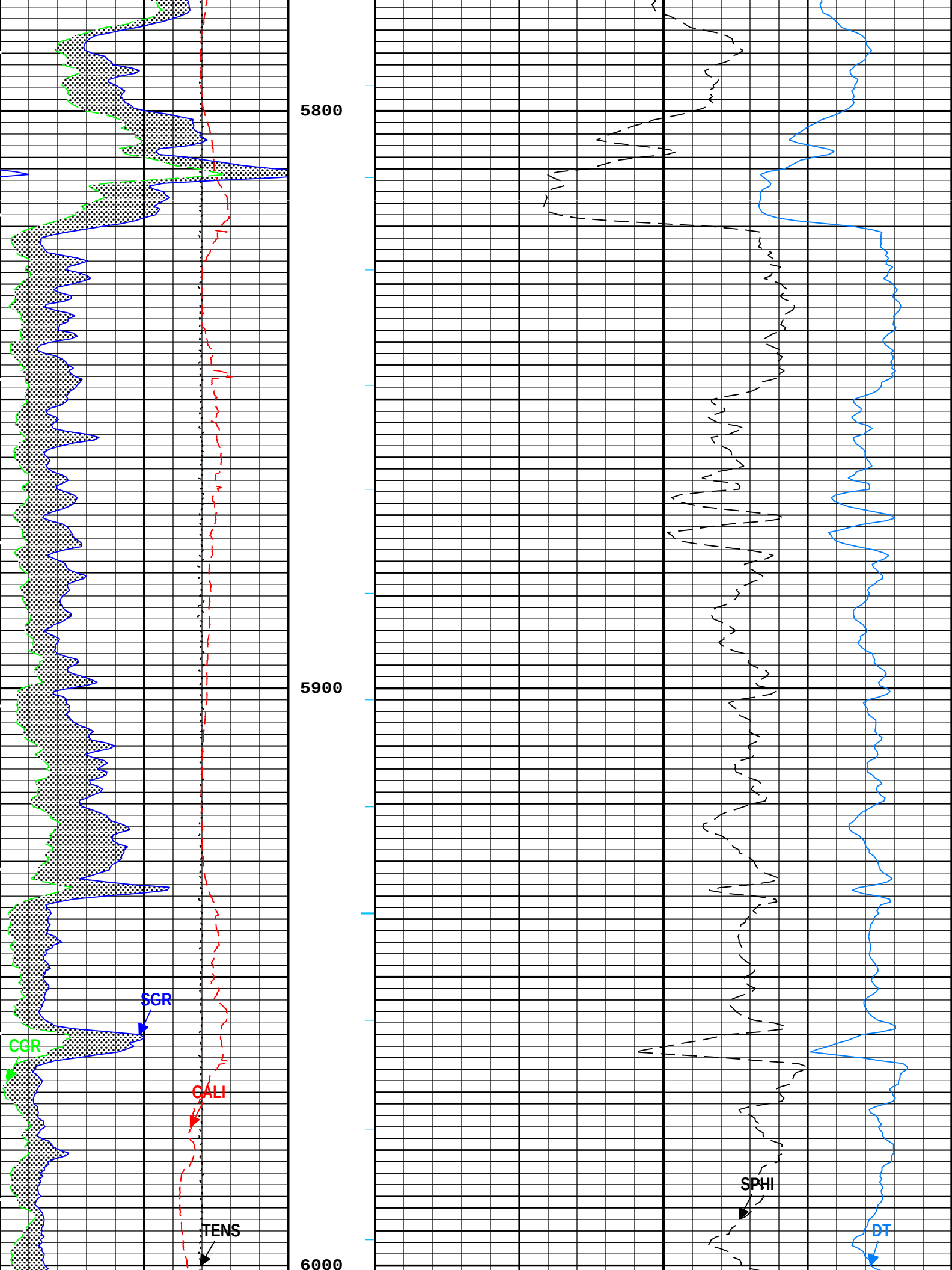
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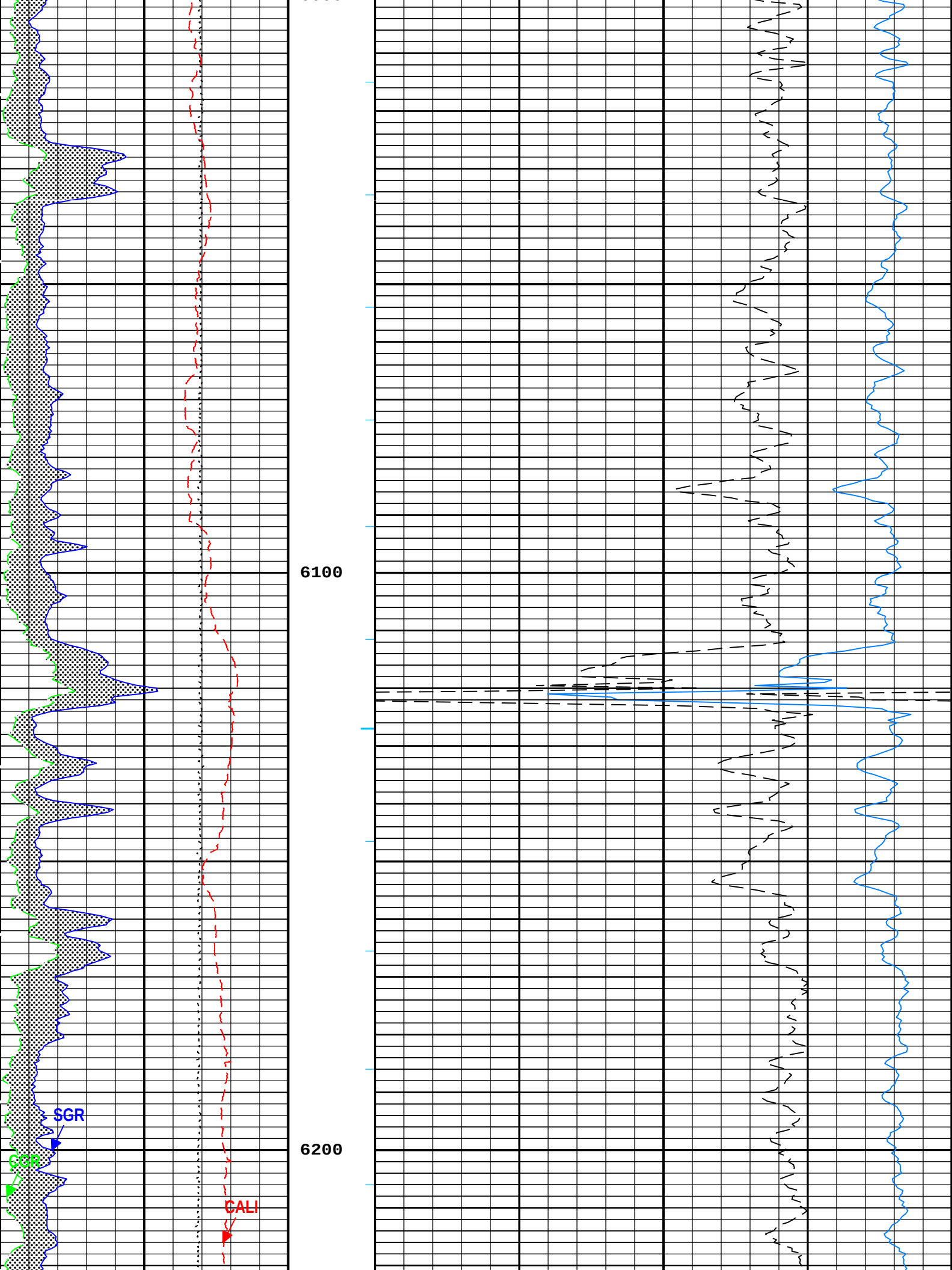
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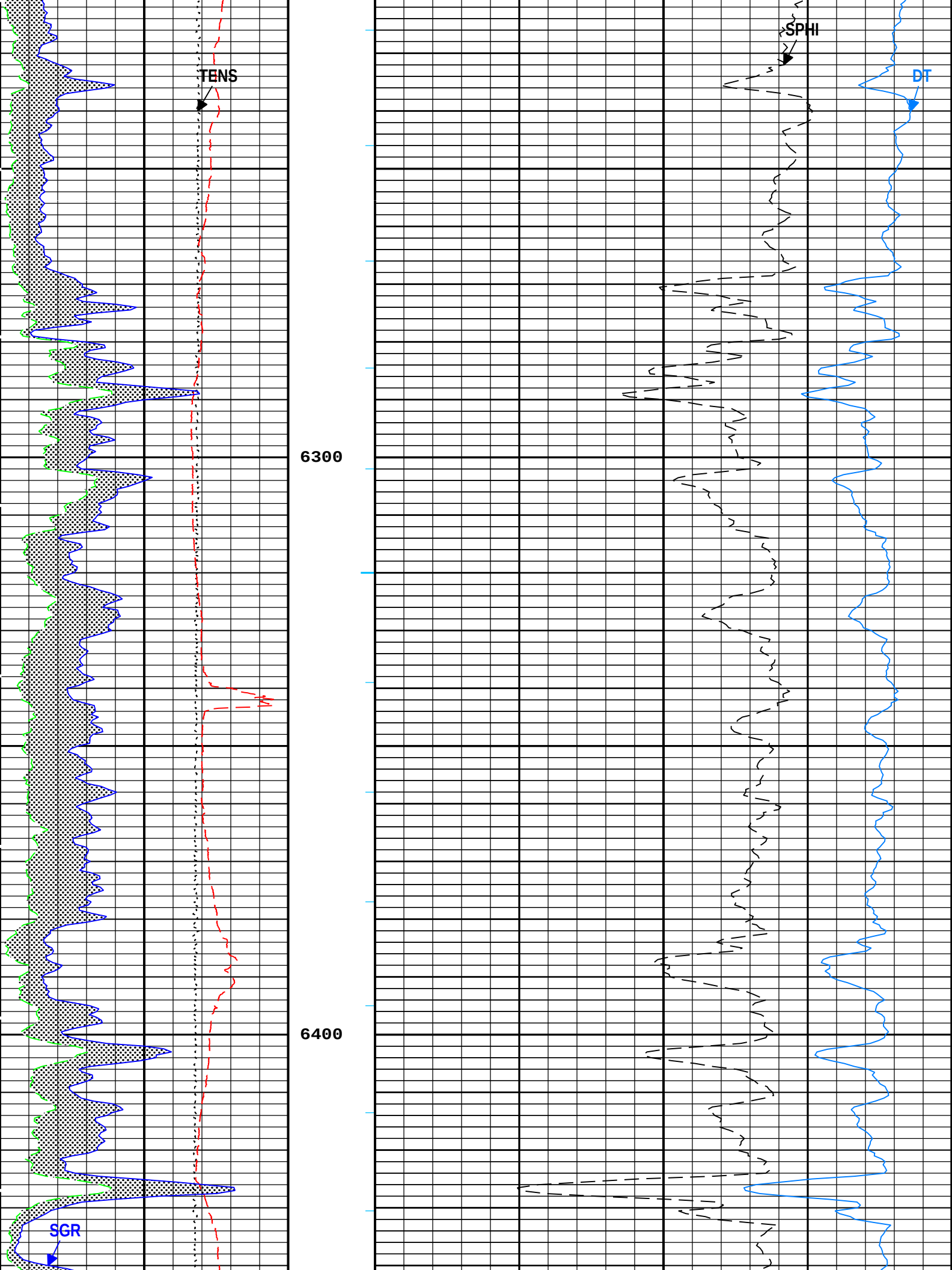
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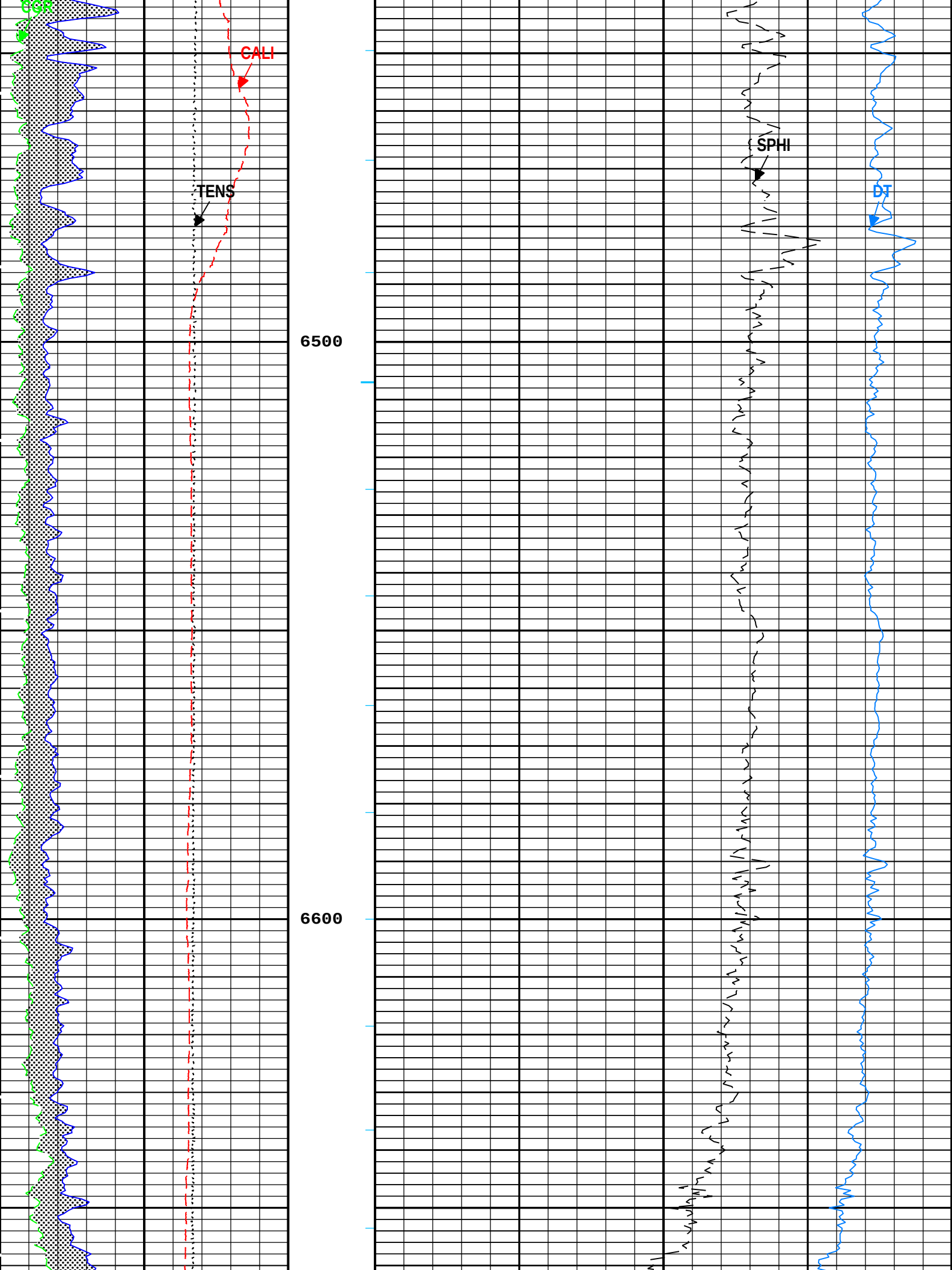
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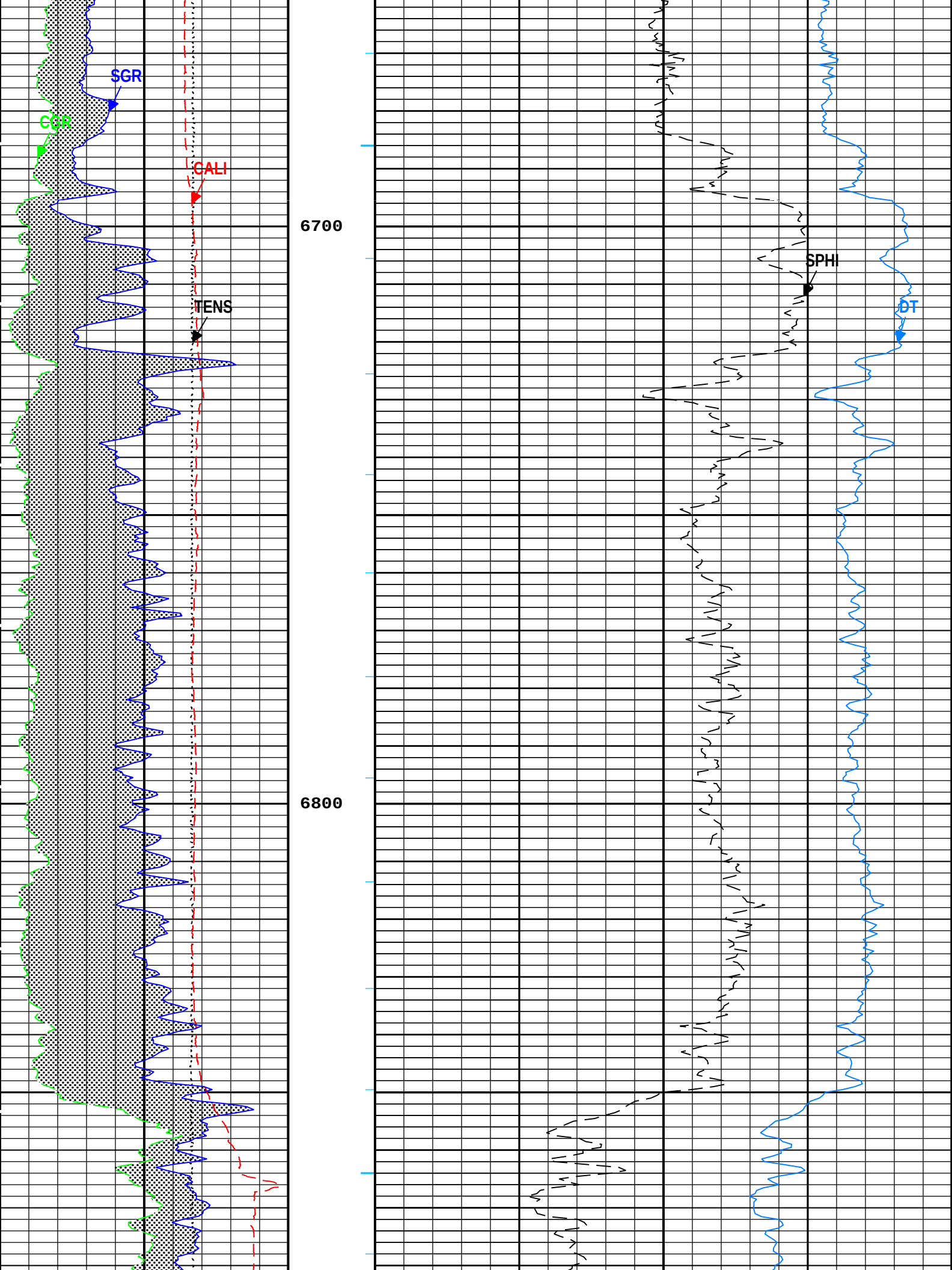
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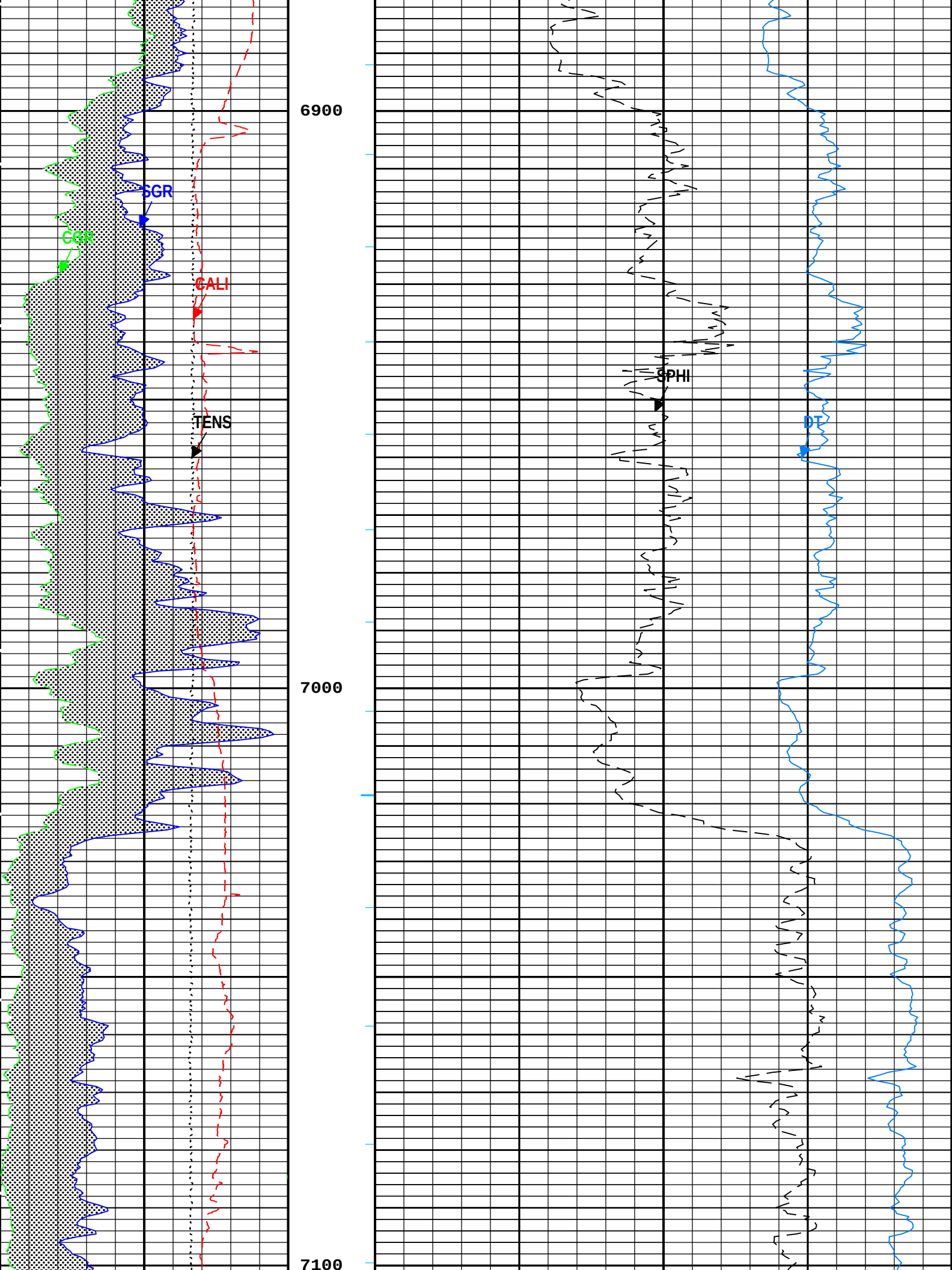
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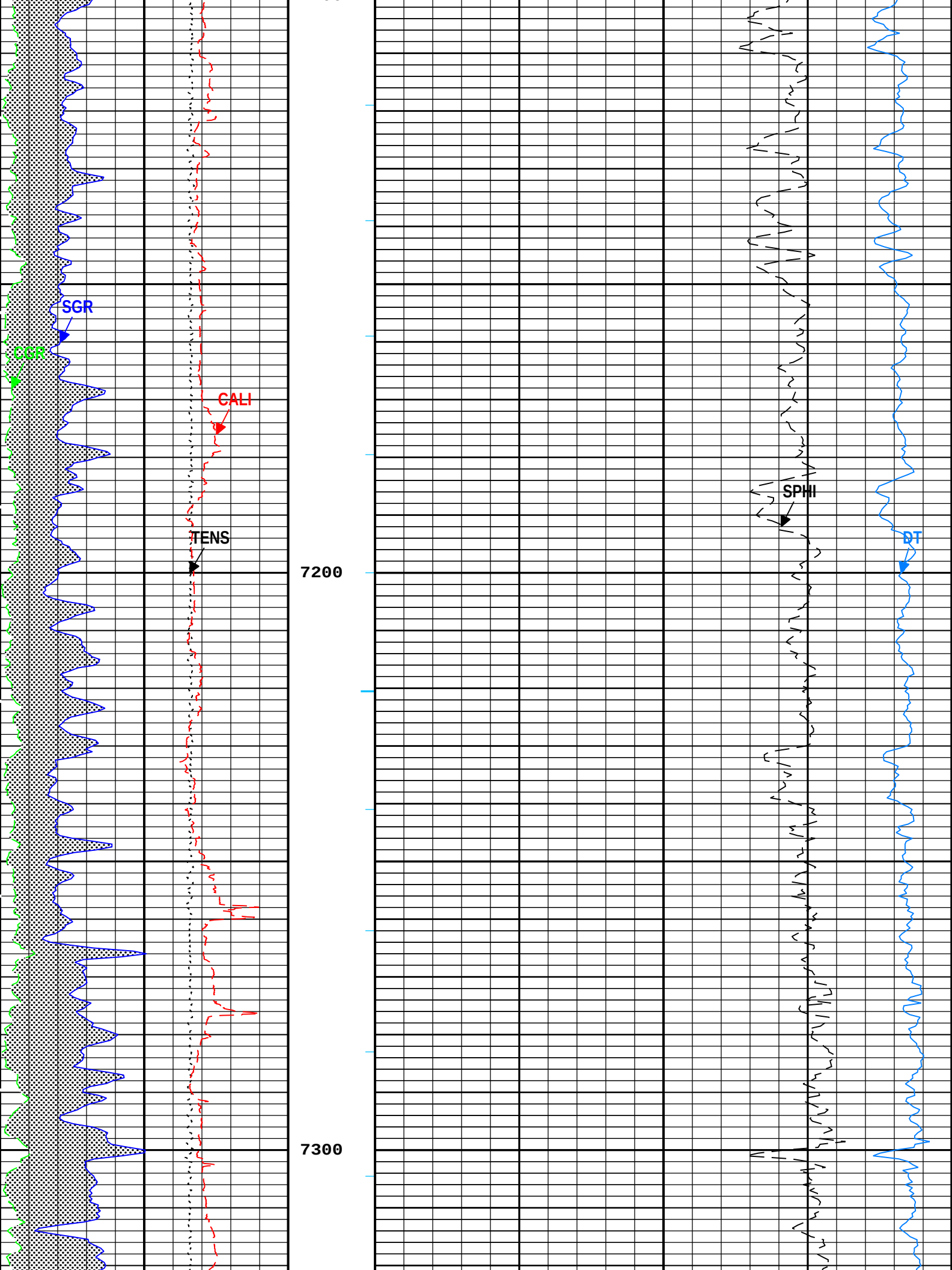
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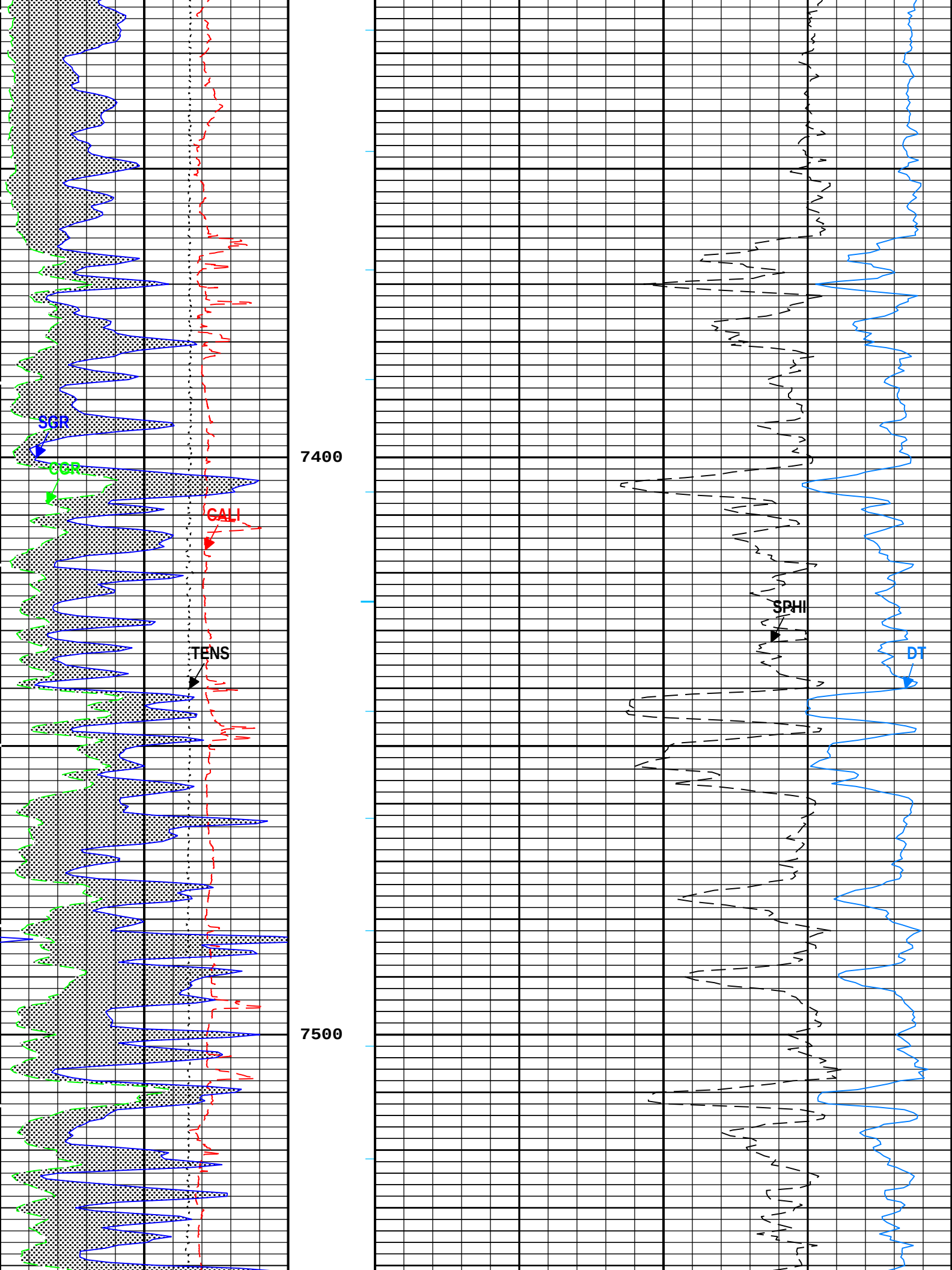
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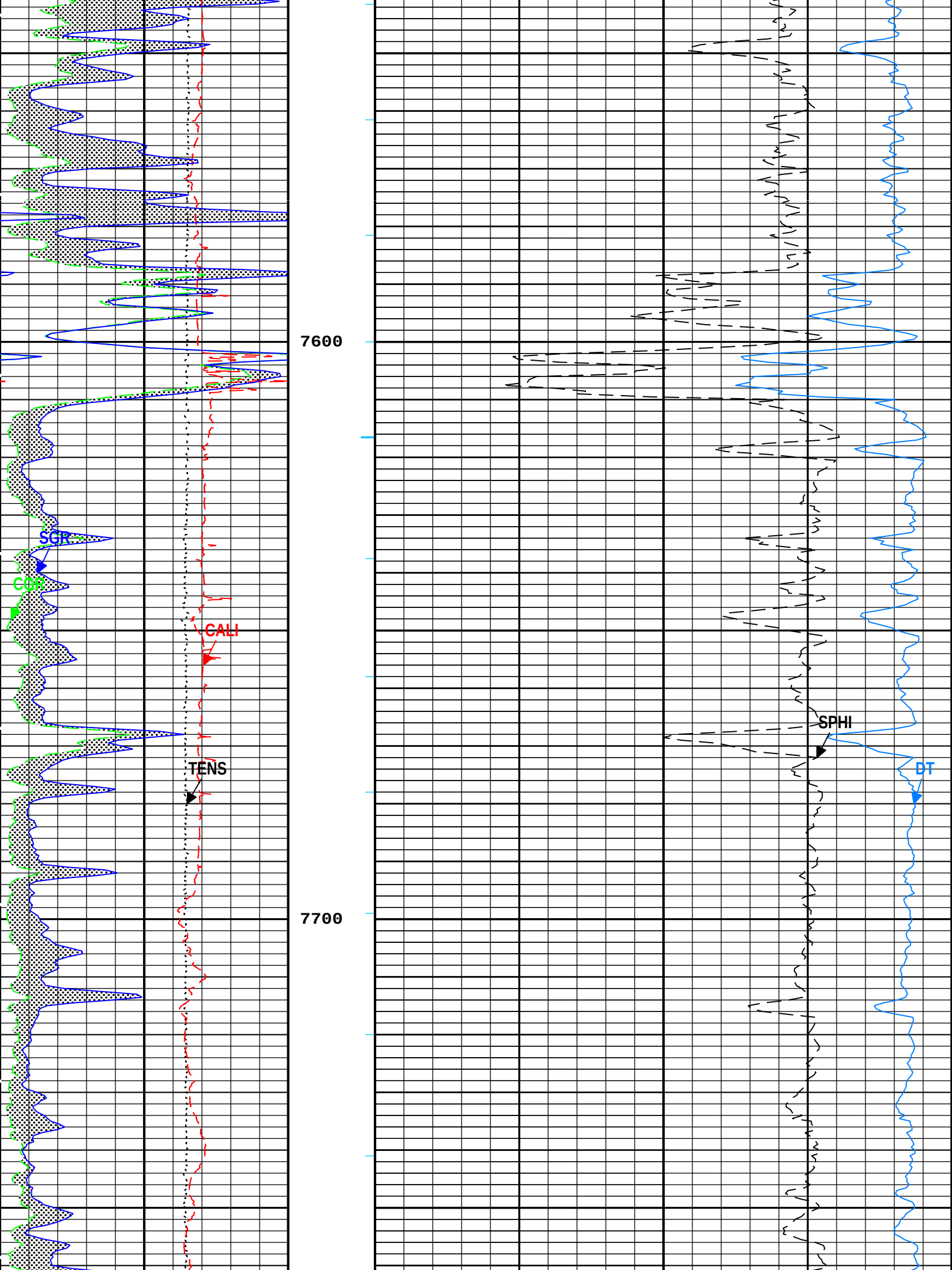
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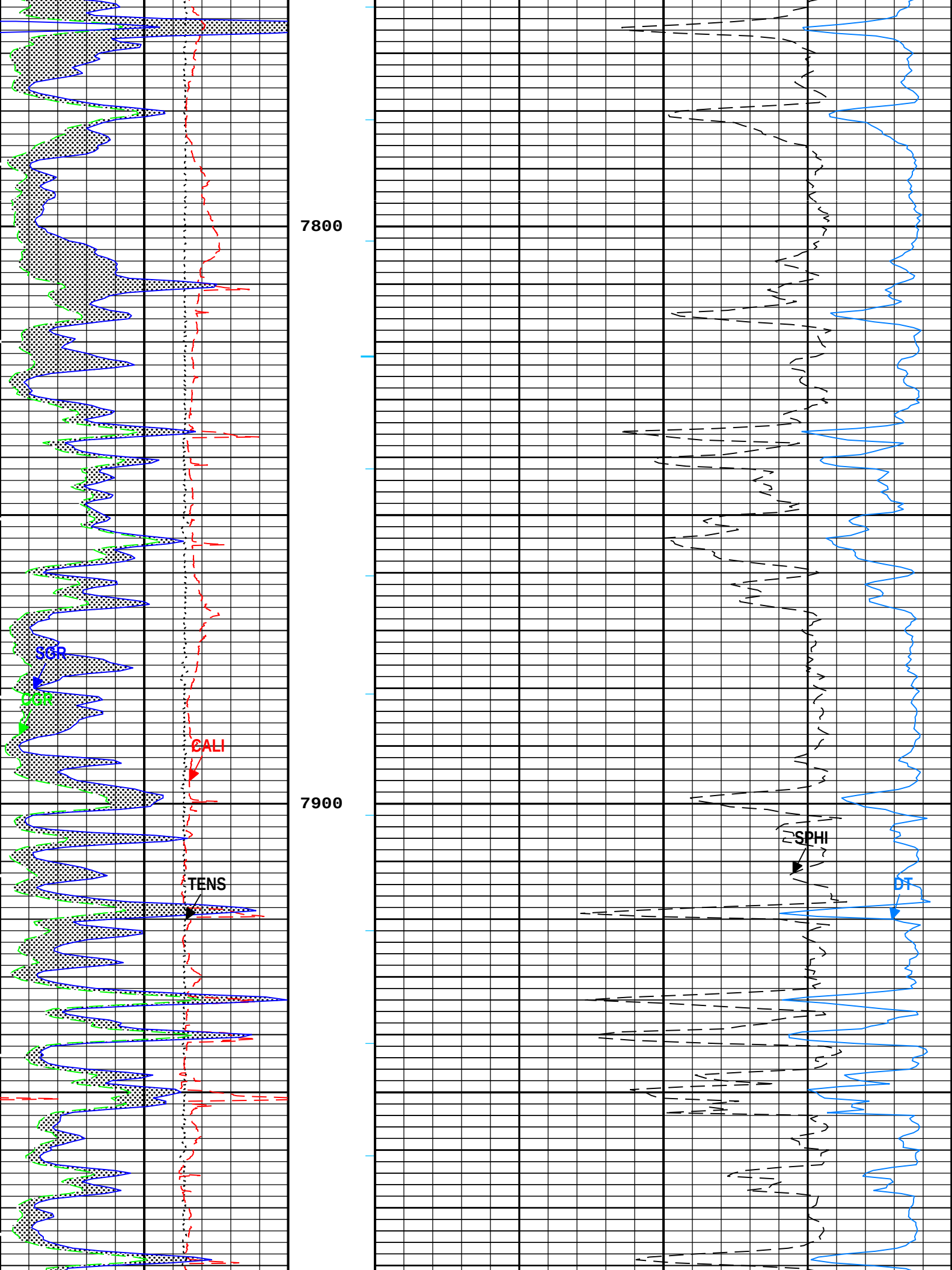
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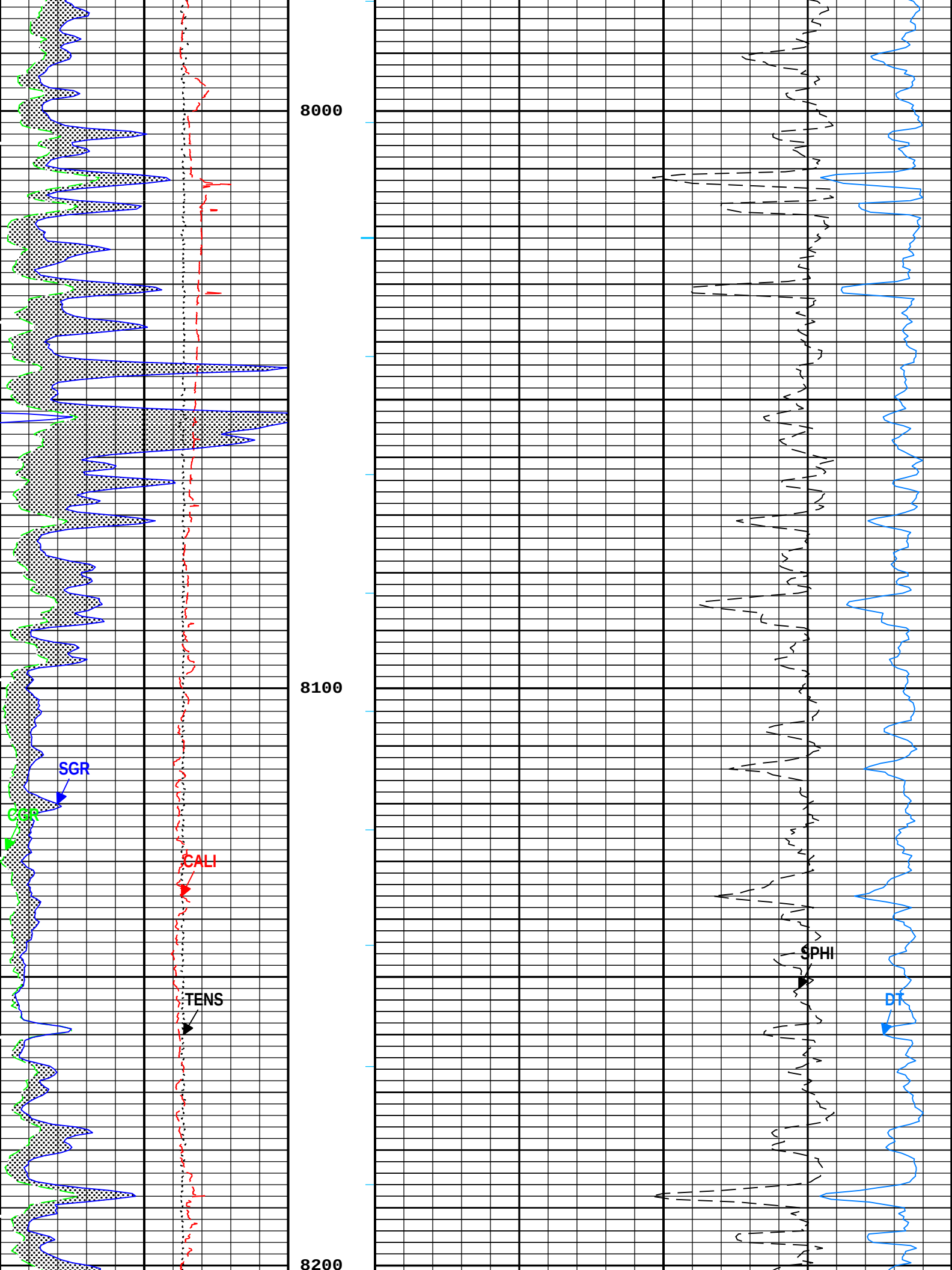
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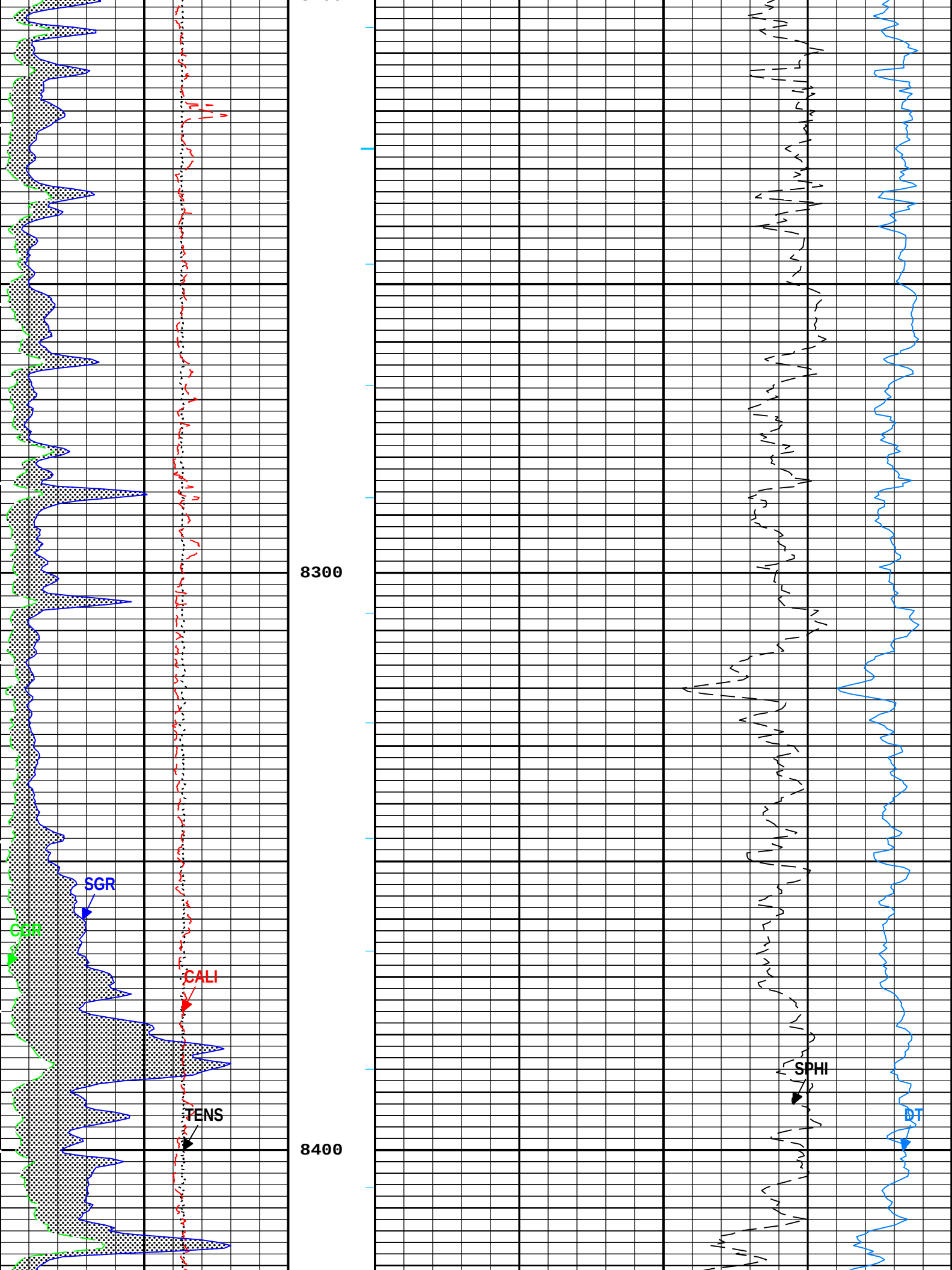
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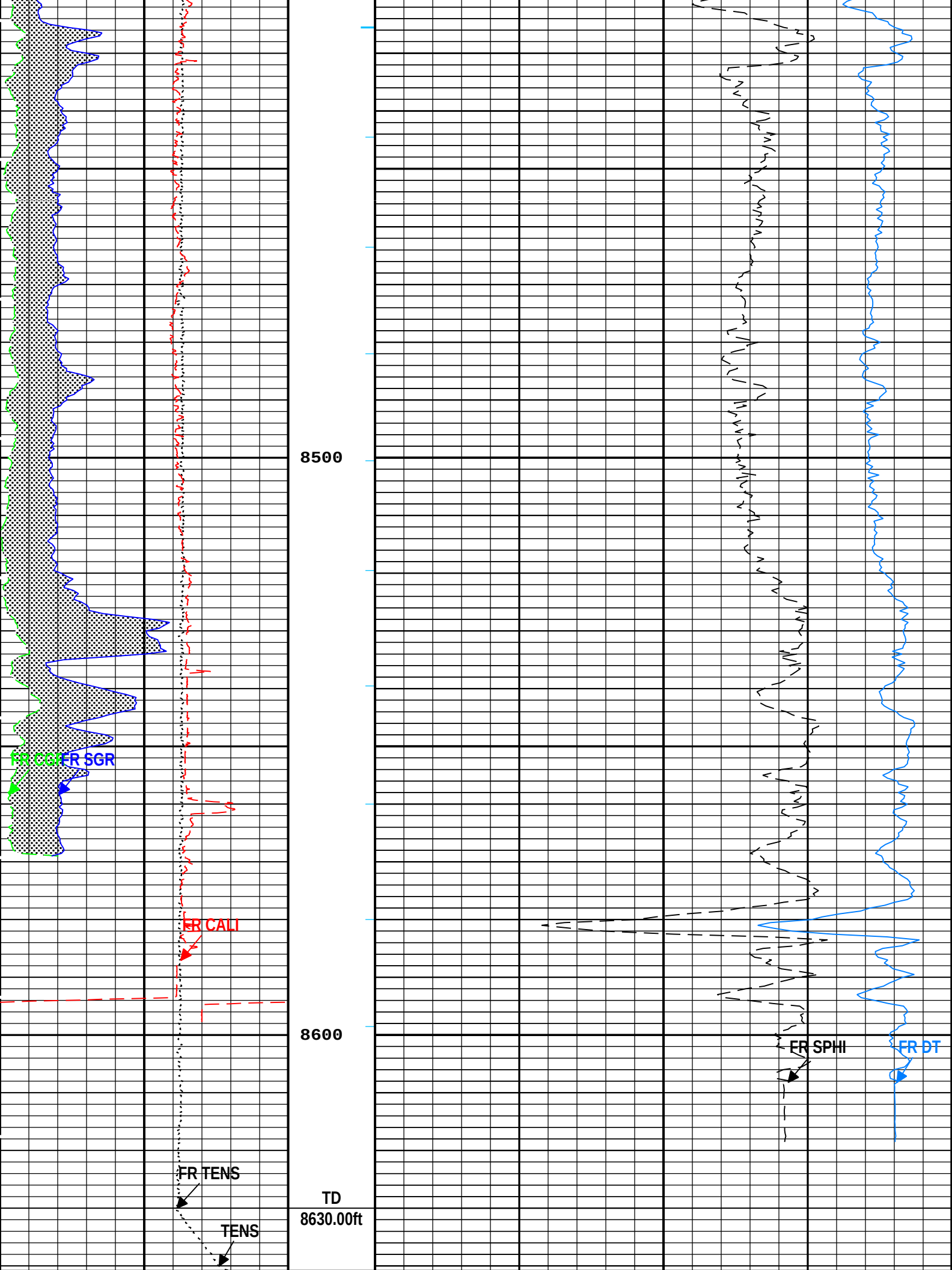
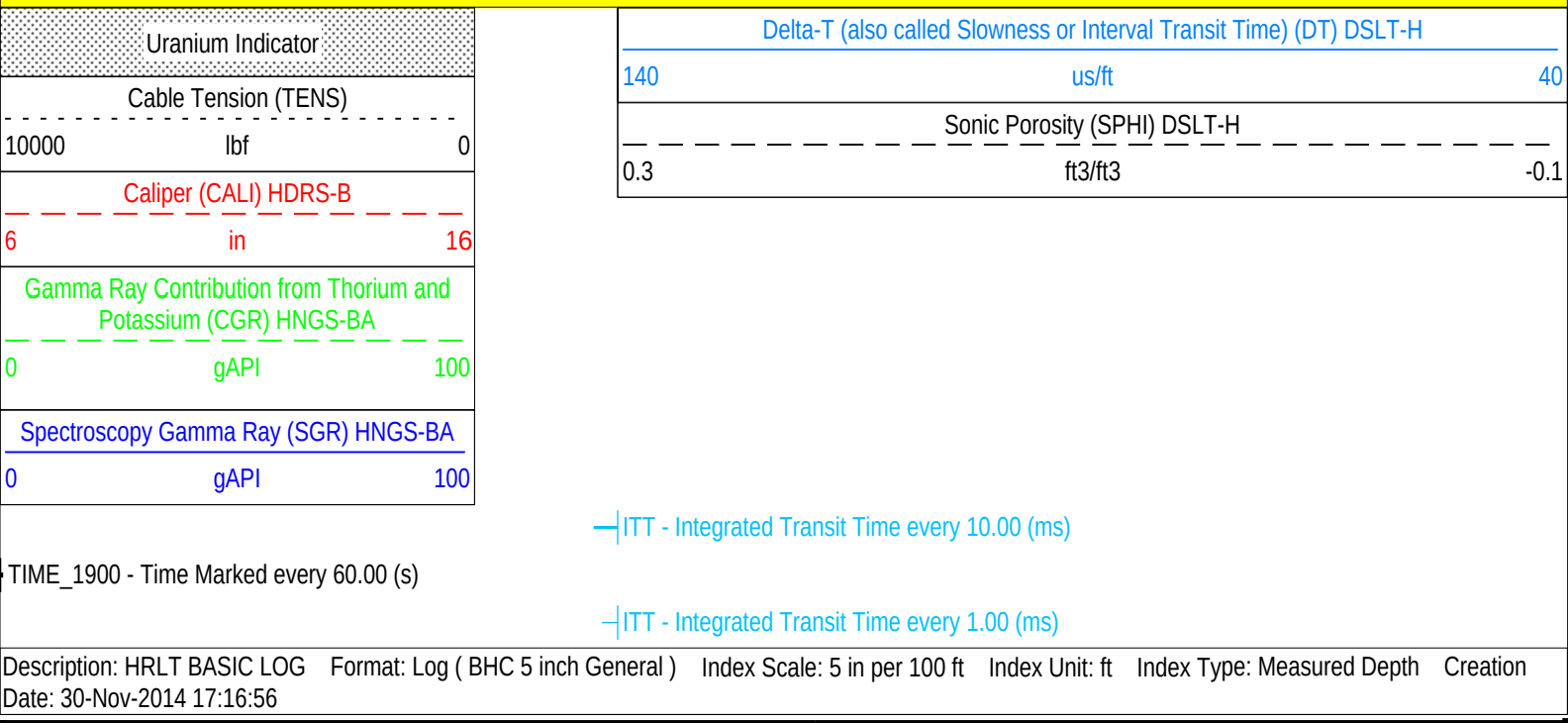
SPHI
DT


8500
8600
TD
8630.00ft
FR CGR
FR SGR
FR CALI
FR TENS
TENS
FR SPHI
FR DT

5" Sonic



Description: HRLT BASIC LOG Format: Log (BHC 5 inch General) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Nov-2014 17:16:56

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHK	Drilling Fluid Potassium Concentration	Borehole	0	%
BHS	Borehole Status (Open or Cased Hole)	Borehole	Depth Zoned	
BS	Bit Size	WLSESSION	Depth Zoned	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-B	0.168	in
CBLO	Casing Bottom (Logger)	WLSESSION	3219.5	ft
CDTS	Correction for Delta-T Shale, Empirical	Borehole	100	us/ft
DBCC	Barite Constant Correction Flag	HNGS-BA	None	
DETE	Delta-T Detection	DSLT-H	E2	
DFD	Drilling Fluid Density	Borehole	8.8	lbm/gal
DTCM	Delta-T Computation Mode	DSLT-H	Full	
DTF	Delta-T Fluid	Borehole	189	us/ft
DTM	Delta-T Matrix	Borehole	47.6	us/ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
HCRB	Apply Borehole Potassium Correction	HNGS-BA	None	
HEMA	Hematite Presence Flag	Borehole	No	
ITTS	Integrated Transit Time Source	DSLT-H	DT	
MAHTR	Manual High Threshold Reference for first arrival detection	DSLT-H	120	
MNHTR	Minimum High Threshold Reference for first arrival detection	DSLT-H	100	
NMSG	Near Minimum Sliding Gate	DSLT-H	140	us
SGAD	Sliding Gate Status	DSLT-H	On	
SGRC	Standard Gamma Ray Correction Flag	HNGS-BA	Yes	
SPFS	Sonic Porosity Formula	Borehole	Wyllie	
SPSO	Sonic Porosity Source	DSLT-H	DT	

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BHS	Cased	0	3520
BHS	Open	3520	8640.75

BS	26	0	1570
BS	17.5	1570	3226.75
BS	12.25	3226.75	8630

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
DSLT_MODE	DSLT Acquisition Mode	DSLT-H	BHC	
DSLT_RATE	DSLT Firing Rate	DSLT-H	15 Hz	
DTFS	DSLT Telemetry Frame Size	DSLT-H	536	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h

Main Pass 5" = 100'

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 3c	Repeat[2]:Up	Up	8501.97 ft	9265.19 ft	10-Dec-2014 11:36:38 AM	10-Dec-2014 12:12:34 PM	ON	7.18 ft	Yes

All depths are referenced to toolstring zero

Log

Company:PB ENERGY STORAGE SERVICES, INC Well:DCP Linam Ranch AGI #2

Run 3c: Repeat[2]:Up:S017

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: 10-Dec-2014 13:23:18

Channel	Source	Sampling
C1	FBST-E:FBPC-A:FBPC-A	1.5in
C2	FBST-E:FBPC-A:FBPC-A	1.5in
CGR	HNGS-BA:HNGS-BA:HNGS-BA	6in
DTCO	MAST-B:MAMS-B:MAMS-BA	6in
DTSM	MAST-B:MAMS-B:MAMS-BA	6in
GR	EDTC-B:EDTC-B:EDTC-B	6in
ITT	MAST-B:MAMS-B:MAMS-BA	6in
SGR	HNGS-BA:HNGS-BA:HNGS-BA	6in
SPHI	MAST-B:MAMS-B:MAMS-BA	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

TIME_1900 - Time Marked every 60.00 (s)

RUN 3

ITT - Integrated Transit Time every 1.00 (ms)

ITT - Integrated Transit Time every 10.00 (ms)

Uranium Indicator

Cable Tension (TENS)

10000 lbf 0

Gamma Ray Contribution from Thorium and Potassium (CGR) HNGS-BA

0 gAPI 150

Spectroscopy Gamma Ray (SGR) HNGS-BA

0 gAPI 150

Gamma Ray (GR) EDTC-B

0 gAPI 150

Caliper 1 (C1) FBST-E

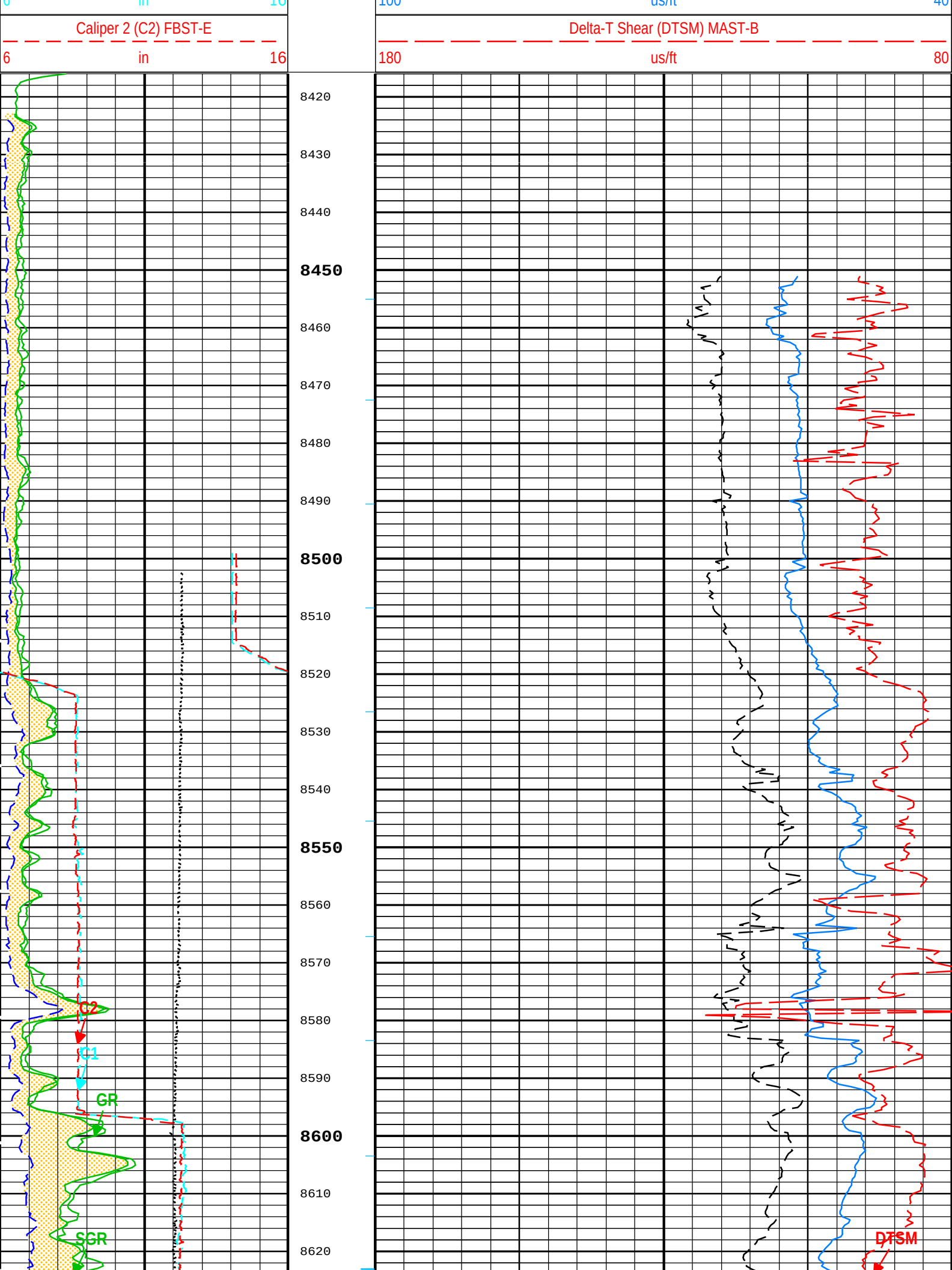
6 in 16

Sonic Porosity (SPHI) MAST-B

0.3 ft3/ft3 -0.1

Delta-T Compressional (DTCO) MAST-B

100 us/ft 40


6
in
16
Caliper 2 (C2) FBST-E
6
in
16
100
us/ft
40
Delta-T Shear (DTSM) MAST-B
180
us/ft
80
8420
8430
8440
8450
8460
8470
8480
8490
8500
8510
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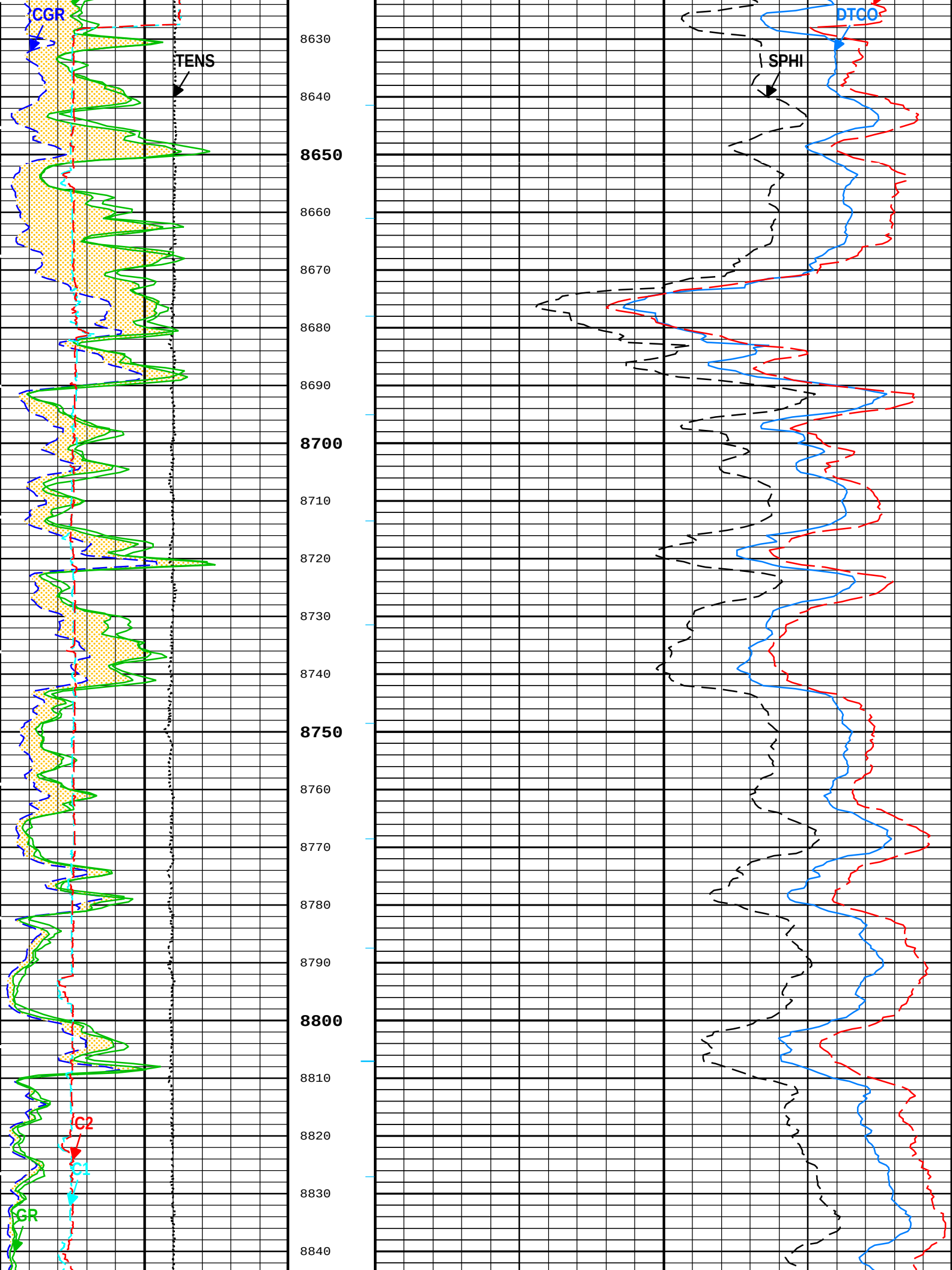
8620
C2
C1
GR
SGR
DTSM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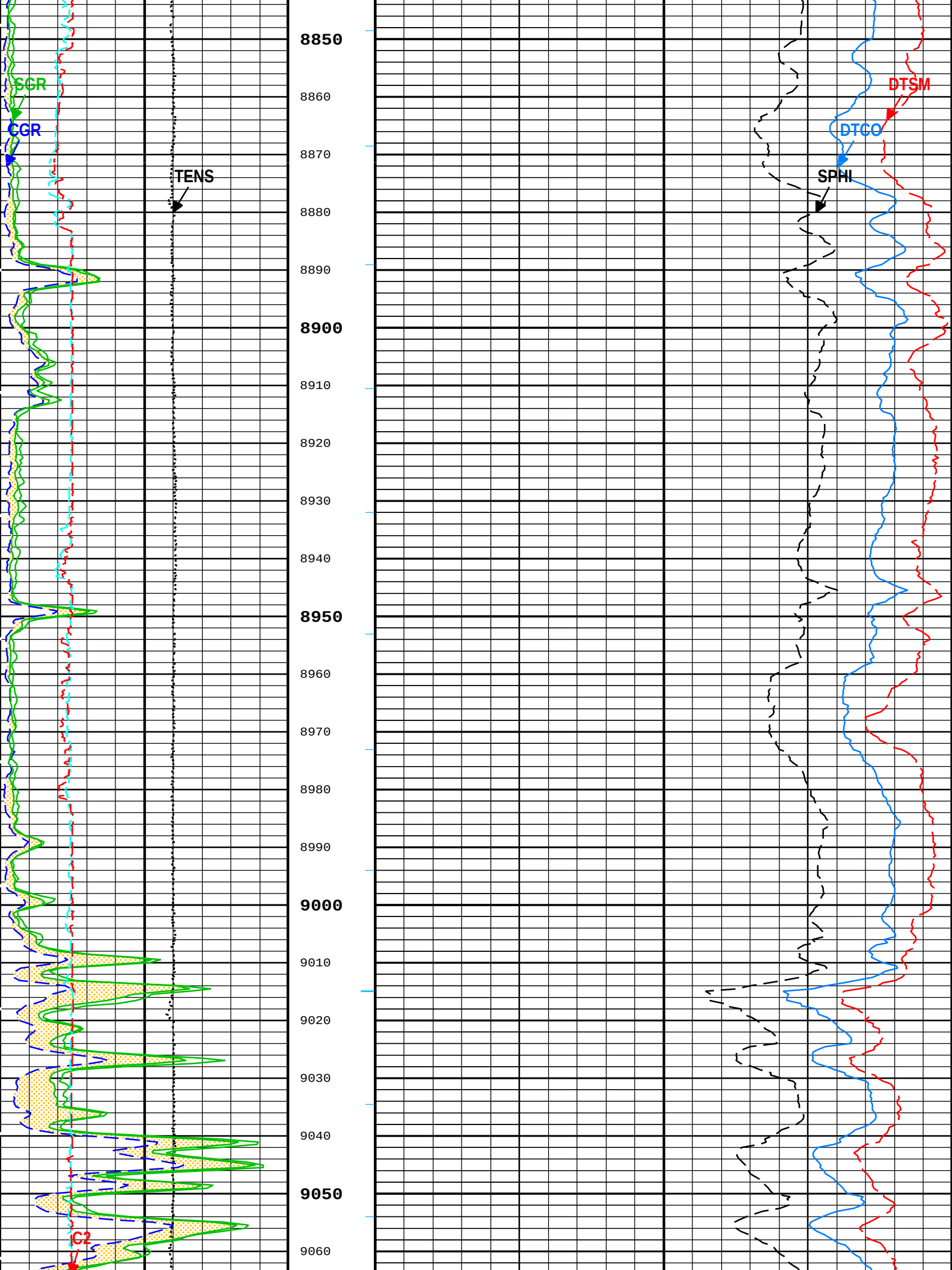
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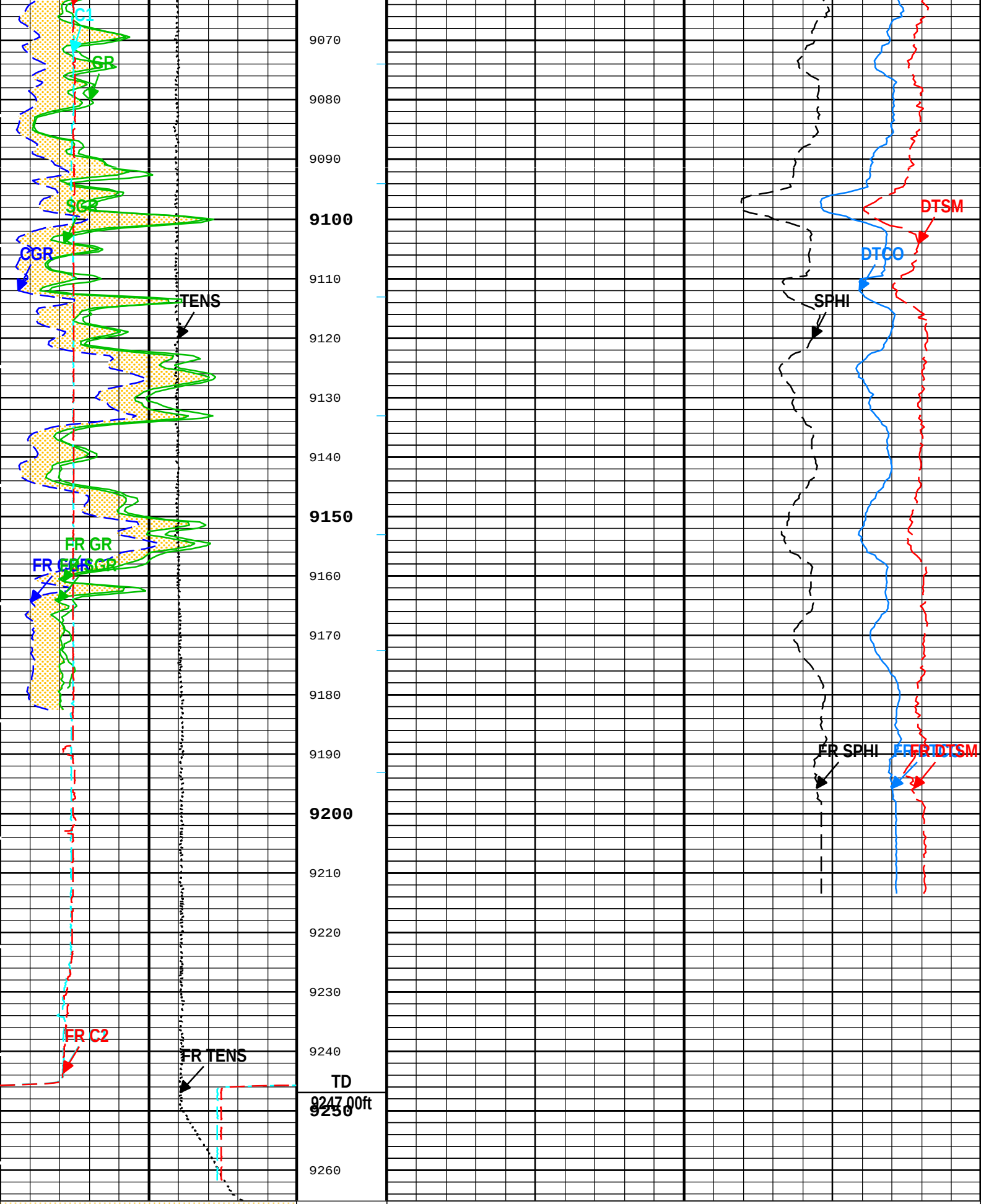


Uranium Indicator

Cable Tension (TENS)

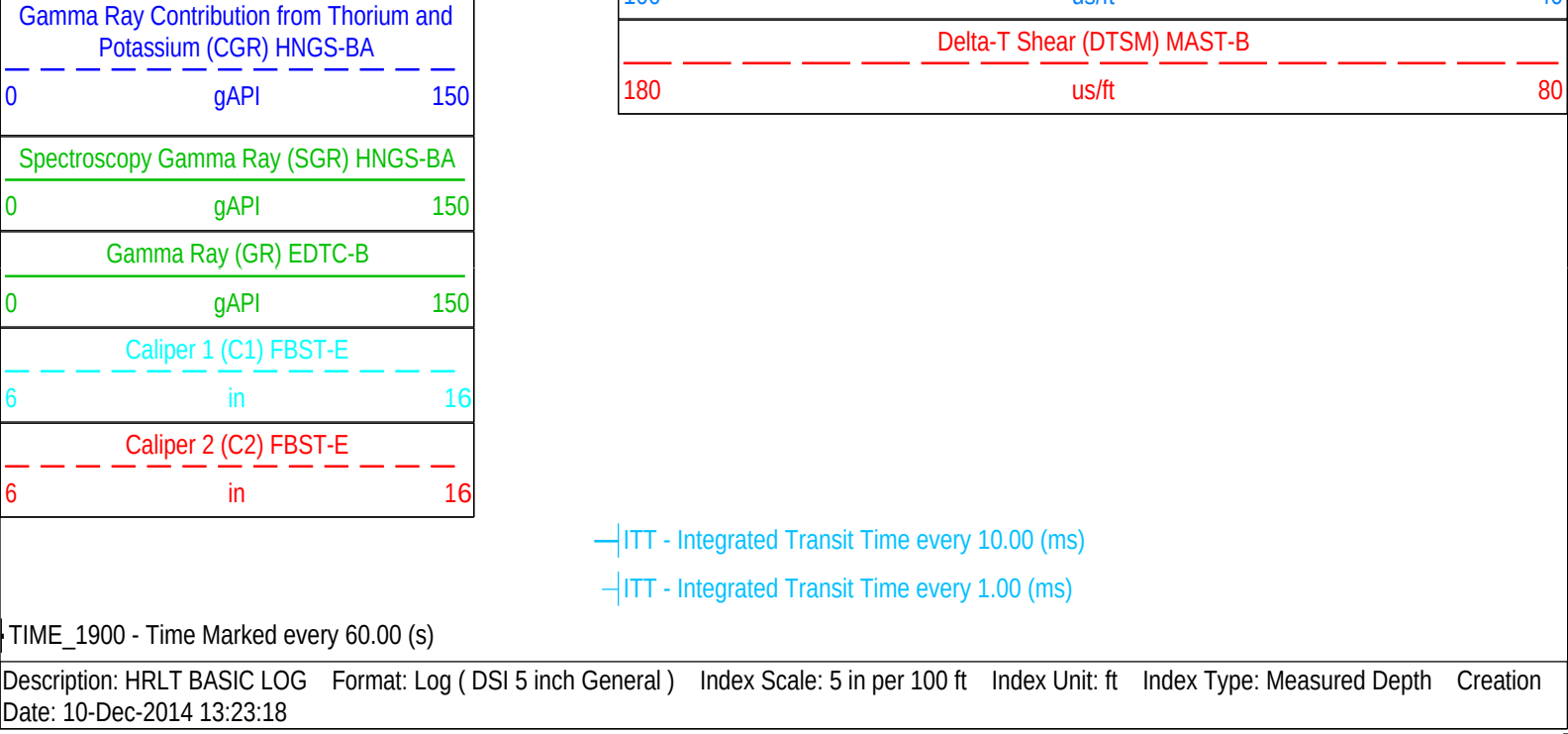
10000 lbf 0

Sonic Porosity (SPHI) MAST-B

0.3 ft3/ft3 -0.1

Delta-T Compressional (DTCO) MAST-B

100 us/ft 40



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: 10-Dec-2014 13:23:18

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	Yes	
BHK	Drilling Fluid Potassium Concentration	Borehole	0	%
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	8.5	in
C1_SHIFT	C1 Caliper Supplementary Offset	FBST-E	-0.13	in
C2_SHIFT	C2 Caliper Supplementary Offset	FBST-E	-0.13	in
CBLO	Casing Bottom (Logger)	WLSESSION	8594	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
CDTS	Correction for Delta-T Shale, Empirical	Borehole	100	us/ft
DBCC	Barite Constant Correction Flag	HNGS-BA	None	
DFD	Drilling Fluid Density	Borehole	10.1	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTF	Delta-T Fluid	Borehole	189	us/ft
DTM	Delta-T Matrix	Borehole	47.5	us/ft
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
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	
HCRB	Apply Borehole Potassium Correction	HNGS-BA	None	
HEMA	Hematite Presence Flag	Borehole	No	
MODALCTL_MFM	Modal Decomposition Processing Control Flag for Monopole Far Transmitter Mid Frequency Firing	MAST-B	On	
SFTY	Slowness Formation Type (Fast, Intermediate, Slow, etc.)	Borehole	Fast	
SGRC	Standard Gamma Ray Correction Flag	HNGS-BA	Yes	
SPFS	Sonic Porosity Formula	Borehole	Wyllie	
SSCCTL_MFM	Sensor Sensitivity Correction Processing Control Flag for Monopole Far Transmitter Mid Frequency Firing	MAST-B	On	
VPVS_DSTC	Estimated P-Wave Velocity to S-Wave Velocity Ratio for Slowness-Time Coherence	MAST-B	1.8	

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	[, , , , SW90C_090, SW00C_000]	
DIIN_WFN_CHN	Dipole Inline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , SW90CN_090, SW00CN_000]	
DIOF_WF_CHN	Dipole Offline Component Waveform Data Channel Name	MAST-B	[, , , , SW90C_000, SW00C_090]	
DIOF_WFN_CHN	Dipole Offline Component Waveform Normalization Data Channel Name	MAST-B	[, , , , SW90CN_000, SW00CN_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	18 dB	
GARM_A	Electronic Gain Value for Arm A	FBST-E	18 dB	
GARM_B	Electronic Gain Value for Arm B	FBST-E	18 dB	
GARM_C	Electronic Gain Value for Arm C	FBST-E	18 dB	
GARM_D	Electronic Gain Value for Arm D	FBST-E	18 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	[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]	
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]]	
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]	
TX_WF_SIGNAL	Sonic Drive Signal	MAST-B	[PREDEFINED, PREDEFINED, PREDEFINED, PREDEFINED, PREDEFINED, PREDEFINED]	
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	Time Zoned	V

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXGMOD	EMEX= Manual and Gain= Manual	10-Dec-2014 11:36:38	10-Dec-2014 11:38:48	9265.19	9225.97
EMXGMOD	EMEX= Auto and Gain= Auto	10-Dec-2014 11:38:48	10-Dec-2014 12:08:33	9225.97	8589.24
EMXGMOD	EMEX= Manual and Gain= Manual	10-Dec-2014 12:08:33	10-Dec-2014 12:12:34	8589.24	8501.97
MAX_LOG_SPEED	1360	10-Dec-2014 11:36:38	10-Dec-2014 11:55:01	9265.19	8889.59
MAX_LOG_SPEED	1457	10-Dec-2014 11:55:01	10-Dec-2014 12:05:18	8889.59	8660.64
MAX_LOG_SPEED	1380	10-Dec-2014 12:05:18	10-Dec-2014 12:12:34	8660.64	8501.97
MAX_TOOL_SPEED	1360	10-Dec-2014 11:36:38	10-Dec-2014 11:55:01	9265.19	8889.59
MAX_TOOL_SPEED	1457	10-Dec-2014 11:55:01	10-Dec-2014 12:05:18	8889.59	8660.64
MAX_TOOL_SPEED	1380	10-Dec-2014 12:05:18	10-Dec-2014 12:12:34	8660.64	8501.97
XVOL	20	10-Dec-2014 11:36:38	10-Dec-2014 11:38:48	9265.19	9225.97
XVOL	0	10-Dec-2014 11:38:48	10-Dec-2014 12:12:34	9225.97	8501.97

All depth are at tool zero.

Repeat Analysis 5" = 100'

Log

Company:PB ENERGY STORAGE SERVICES, INC Well:DCP Linam Ranch AGI #2

Two: Main[3]:Up:S021

Description: HRLT BASIC LOG Format: Log (BHC 5 inch General RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Nov-2014 17:16:58

ITT - Integrated Transit Time every 1.00 (ms)

ITT - Integrated Transit Time every 10.00 (ms)

RUN 2

TIME_1900 - Time Marked every 60.00 (s)

Main To Repeat

Repeat To Main

Cable Tension (TENS)

10000 lbf 0

Main To Repeat

Repeat To Main

Spectroscopy Gamma Ray (SGR) HNGS-BA

0 gAPI 100

Main To Repeat

Repeat To Main

Gamma Ray Contribution from Thorium and Potassium (CGR) HNGS-BA

0 gAPI 100

Main To Repeat

Repeat To Main

Delta-T (also called Slowness or Interval Transit Time) (DT) DSLT-H

140 us/ft 40

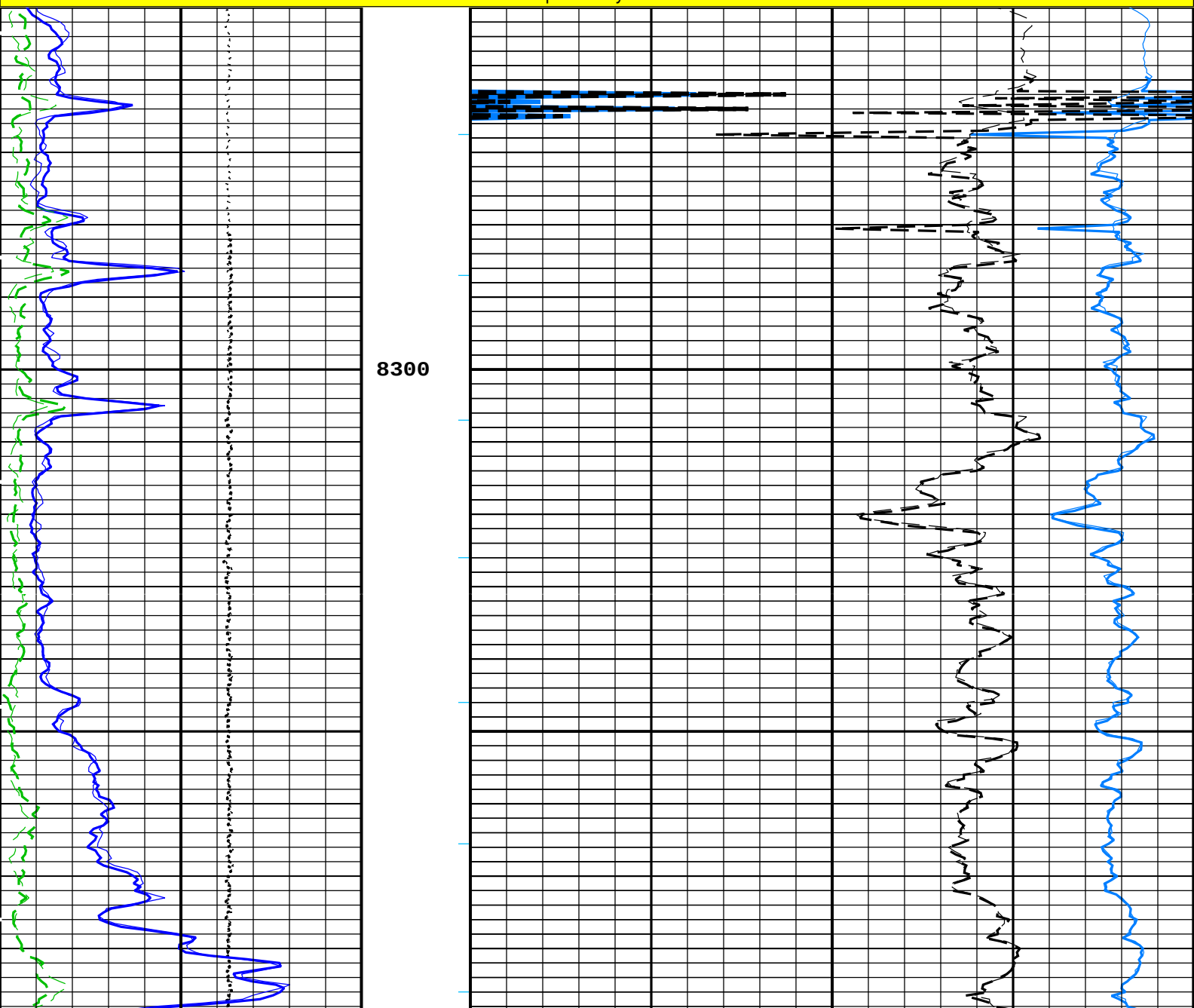
Main To Repeat

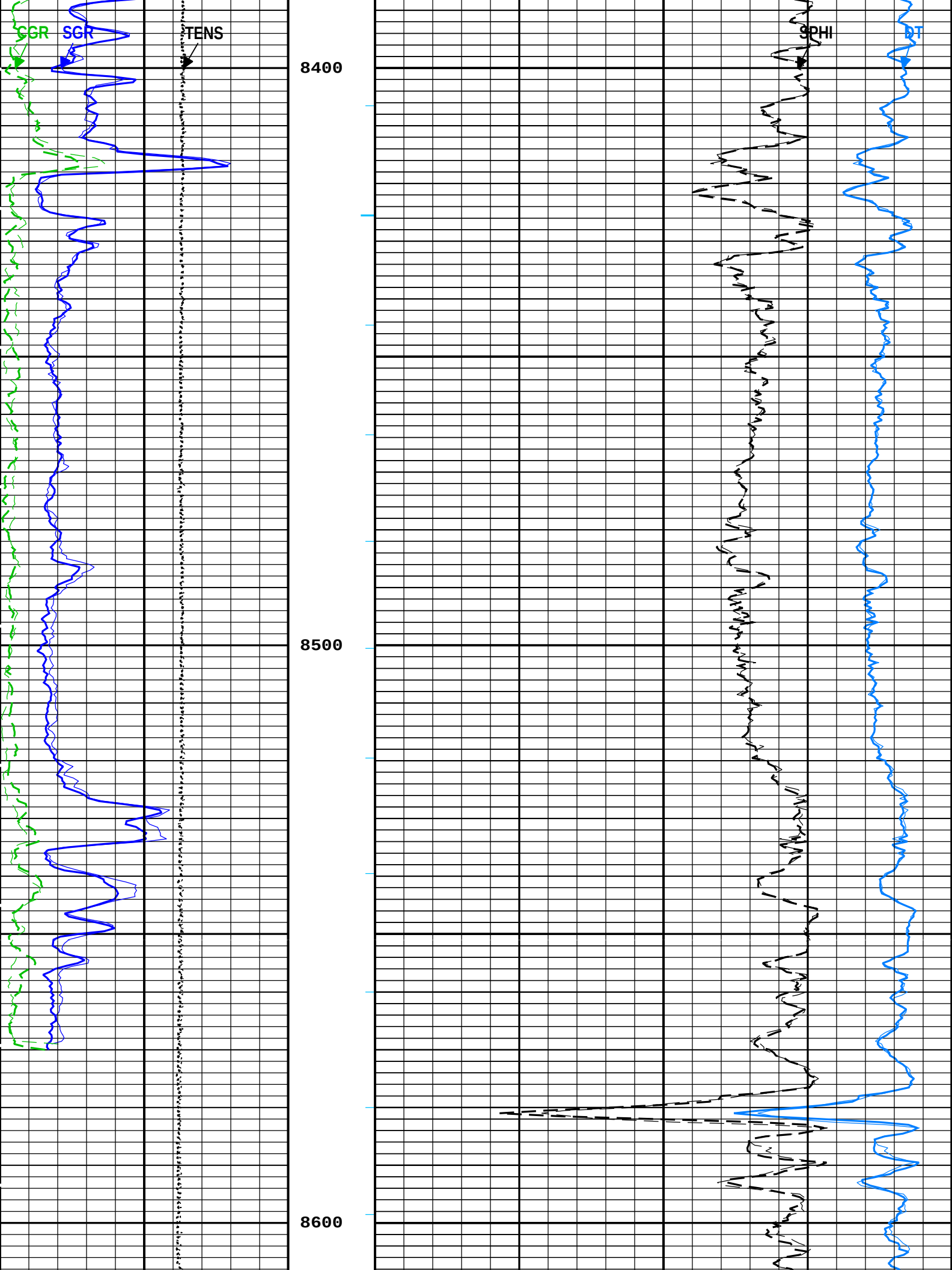
Repeat To Main

Sonic Porosity (SPHI) DSLT-H

0.3 ft3/ft3 -0.1

Repeat Analysis: 5"

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SGR
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SPHI
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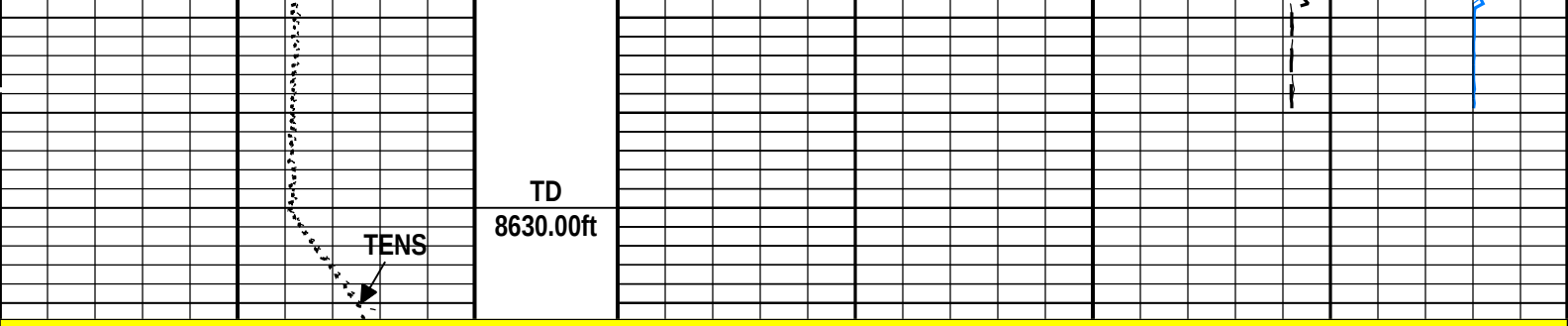

Repeat Analysis: 5"

Main To Repeat

Repeat To Main

Cable Tension (TENS)

10000 lbf 0

Main To Repeat

Repeat To Main

Delta-T (also called Slowness or Interval Transit Time) (DT) DSLT-H

140 us/ft 40

Main To Repeat

Repeat To Main

Spectroscopy Gamma Ray (SGR) HNGS-BA

0 gAPI 100

Main To Repeat

Repeat To Main

Sonic Porosity (SPHI) DSLT-H

0.3 ft3/ft3 -0.1

Main To Repeat

Repeat To Main

Gamma Ray Contribution from Thorium and Potassium (CGR) HNGS-BA

0 gAPI 100

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 (BHC 5 inch General RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Nov-2014 17:16:58

Calibration Report

RUN 2

HNGS-BA (Hostile-environment Natural Gamma-ray Sonde) Calibration - Run Two

Primary Equipment :

HNGS Sonde Element	HNGS-BA	84

Auxiliary Equipment :

Hostile Natural Gamma Ray Cartridge	HNGC-B	610
HNGS Housing Element	HEH-K	1035
		0
Housing for the HNGC	HNGH-A	4094

HNGS Background and Na22 Set Point Determination - Detector 1 Check

Master (EEPROM): 08:19:35 16-Oct-2014 Before (Measured): 10:25:53 26-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Location		Master	40.000	37.500	40.630	42.500
		Before	40.000	37.500	40.756	42.500
		Before-Master	-----	-----	0.126	-----
Na 511 Peak Resolution	%	Master	15.500	12.000	16.191	19.000
		Before	15.500	12.000	15.163	19.000
		Before-Master	-----	-----	-1.028	-----
High Voltage DAC Value	V	Master			1177.372	
		Before	1150.000	850.000	1156.771	1600.000
		Before-Master	-----	-----	-20.601	-----

Na 1785 Peak Location		Master	142.650	135.000	144.204	150.300
		Before	142.650	135.000	144.844	150.300
		Before-Master	-----	-----	0.640	-----
Na 1785 Peak Resolution	%	Master	8.500	7.000	10.443	11.000
		Before	8.500	7.000	9.146	11.000
		Before-Master	-----	-----	-1.297	-----
Temperature - 0	degF	Master	-----	-----	-----	-----
		Before	59.900	-20.002	59.654	140.000
		Before-Master	-----	-----	-----	-----
Na Count Rate	CPS	Master	45.000	10.000	39.856	100.000
		Before	45.000	10.000	40.517	100.000
		Before-Master	-----	-----	0.661	-----

HNGS Background and Na22 Set Point Determination - Detector 2 Check

Master (EEPROM): 08:19:35 16-Oct-2014 Before (Measured): 10:25:53 26-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Location		Master	40.000	37.500	40.601	42.500
		Before	40.000	37.500	40.570	42.500
		Before-Master	-----	-----	-0.031	-----
Na 511 Peak Resolution	%	Master	15.500	12.000	14.250	19.000
		Before	15.500	12.000	14.448	19.000
		Before-Master	-----	-----	0.198	-----
High Voltage DAC Value	V	Master			1112.869	
		Before	1150.000	850.000	1090.086	1600.000
		Before-Master	-----	-----	-22.783	-----
Na 1785 Peak Location		Master	142.650	135.000	144.597	150.300
		Before	142.650	135.000	144.621	150.300
		Before-Master	-----	-----	0.024	-----
Na 1785 Peak Resolution	%	Master	8.500	7.000	8.462	11.000
		Before	8.500	7.000	8.094	11.000
		Before-Master	-----	-----	-0.368	-----
Temperature - 0	degF	Master	-----	-----	-----	-----
		Before	59.900	-20.002	57.493	140.000
		Before-Master	-----	-----	-----	-----
Na Count Rate	CPS	Master	45.000	10.000	40.262	100.000
		Before	45.000	10.000	40.542	100.000
		Before-Master	-----	-----	0.280	-----

HNGS Background and Na22 Set Point Determination - Ratio of Detector 1 to Detector 2

Master (EEPROM): 08:19:35 16-Oct-2014 Before (Measured): 10:25:53 26-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Coincidence Count Rate Ratio		Master			0.987	
		Before	1.000	0.950	0.994	1.050
		Before-Master	-----	-----	0.007	-----

HNGS Background and Na22 Set Point Determination - Detector 1 Calibration

Master (EEPROM): 08:19:35 16-Oct-2014 Before (Measured): 10:25:53 26-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Th Peak Location		Master	209.630	201.000	208.805	218.250
		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
Th Peak Resolution	%	Master	7.000	5.000	7.753	9.000
		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
Background Count Rate	CPS	Master			109.633	
		Before	142.500	10.000	190.061	265.000
		Before-Master	-----	-----	80.428	-----
Gain Ratio		Master	1.000	0.940	0.978	1.060
		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 2 Calibration

Master (EEPROM): 08:19:35 16-Oct-2014 Before (Measured): 10:25:53 26-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Th Peak Location		Master	209.630	201.000	210.075	218.250
		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
Th Peak Resolution	%	Master	7.000	5.000	7.198	9.000

		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
Background Count Rate	CPS	Master			106.568	
		Before	142.500	10.000	171.011	265.000
		Before-Master	-----	-----	64.443	-----
Gain Ratio		Master	1.000	0.940	0.985	1.060
		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 1 Calibration

Master (EEPROM): 08:19:35 16-Oct-2014 Before (Measured): 10:25:53 26-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Set Point		Master	40.000	38.000	42.000	43.500
		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 2 Calibration

Master (EEPROM): 08:19:35 16-Oct-2014 Before (Measured): 10:25:53 26-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Set Point		Master	40.000	38.000	42.000	43.500
		Before	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----

Calibration Report RUN 3

FBST-E (Full-Bore Scanner Tool E) Calibration - Run Run 3c

Primary Equipment :

DHRU-FA	DHRU-F	1956
FBSS-B	FBSS-B	773

Calibration Parameter :

Small Ring Size (Caliper Calibration Small Ring)	8.00
Large Ring Size (Caliper Calibration Large Ring)	12.00

FBST-E Caliper Calibration - Caliper Accumulations

Before (Measured): 12:16:48 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Small Ring RC1	in	Before	8.00	6.80	8.39	9.20
		After			NOT DONE	
		After-Before	-----	-----	-----	-----
Small Ring RC2	in	Before	8.00	6.80	8.18	9.20
		After			NOT DONE	
		After-Before	-----	-----	-----	-----
Large Ring RC1	in	Before	12.00	10.20	12.26	13.80
		After			NOT DONE	
		After-Before	-----	-----	-----	-----
Large Ring RC2	in	Before	12.00	10.20	12.12	13.80
		After			NOT DONE	
		After-Before	-----	-----	-----	-----

Signals and Temperature Correction for Accelerometers

Master (EEPROM): 00:00:00 23-Jan-2012

GPITF_ACCX_MODEL (Master) GPIT-F Accelero X Model

	Racx**0	Racx**1
Temp**0	-0.0282	0.0006682
Temp**1	0.0002492	-1.022E-07
Temp**2	2.764E-06	7.076E-10
Temp**3	-2E-08	-4.129E-12

GPITF_ACCY_MODEL (Master) GPIT-F Accelero Y Model

	Racy**0	Racy**1
Temp**0	0.04095	-0.0006599

Temp1**	-0.0002796	1.012E-07
Temp2**	-3.058E-06	-8.079E-10
Temp3**	2.268E-08	4.483E-12

GPITF_ACCZ_MODEL (Master)	GPIT-F Accelero Z Model	
	Racz0**	**Racz**1**
Temp0**	-0.01778	0.0006615
Temp1**	0.0002041	-9.172E-08
Temp2**	3.261E-06	6.476E-10
Temp3**	-1.766E-08	-3.887E-12

Perpendicular Correction for Accelerometers

Master (EEPROM): 00:00:00 23-Jan-2012

GPITF_ACC_AXIS_MODEL (Master)	GPIT-F Accelero Axis Model						
	Data0**	**Data**1**	**Data**2**	**Data**3**	**Data**4**	**Data**5**	**Data**6**
Temp0**	-2.471E-06	0.0001962	-7.994E-05	0.0005509	0.0003412	-0.0003976	0
Temp1**	3.268E-07	-2.431E-06	7.285E-07	-2.17E-06	1.227E-06	9.623E-07	0

Signals and Temperature Correction for Magnetometer

Master (EEPROM): 00:00:00 23-Jan-2012

GPITF_MAGX_MODEL (Master)	GPIT-F Magneto X Model	
	Rmagx0**	**Rmagx**1**
Temp0**	-42.97	4.887
Temp1**	1.877	-0.0006281
Temp2**	-0.03634	8.639E-06
Temp3**	0.00018	-3.369E-08

GPITF_MAGY_MODEL (Master)	GPIT-F Magneto Y Model	
	Rmagy0**	**Rmagy**1**
Temp0**	9.994	-4.951
Temp1**	-1.036	0.0007384
Temp2**	0.03748	-7.942E-06
Temp3**	-0.0001857	3.094E-08

GPITF_MAGZ_MODEL (Master)	GPIT-F Magneto Z Model	
	Rmagz0**	**Rmagz**1**
Temp0**	8.22	4.881
Temp1**	-0.9947	-0.0006034
Temp2**	-0.01521	7.448E-06
Temp3**	8.634E-05	-2.97E-08

Perpendicular Correction for Magnetometer

Master (EEPROM): 00:00:00 23-Jan-2012

GPITF_MAG_AXIS_MODEL (Master)	GPIT-F Magneto Axis Model						
	Data0**	**Data**1**	**Data**2**	**Data**3**	**Data**4**	**Data**5**	**Data**6**
Temp0**	-0.0007885	0.00129	0.004576	0.0005439	0.0009971	-0.005232	0
Temp1**	1.531E-06	-4.017E-05	5.438E-06	5.409E-06	-3.255E-06	1.067E-05	0

Master (EEPROM): 00:00:00 21-Jan-2012

GPITF_ELEC_COEFF1 (Master) GPIT-F Electronic Coeff 1

	Data**0	Data**1
Temp**0	-0.7894	249.9
Temp**1	-0.009258	0.008356
Temp**2	0.0002521	-0.000186
Temp**3	-2.724E-06	1.984E-06
Temp**4	9.443E-09	-7.064E-09

GPITF_ELEC_COEFF2 (Master) GPIT-F Electronic Coeff 2

	Data**0	Data**1
Temp**0	0.08546	249.8
Temp**1	-0.003069	0.01205
Temp**2	0.0003058	-0.0002645
Temp**3	-3.368E-06	2.669E-06
Temp**4	1.253E-08	-9.093E-09

GPITF_ELEC_COEFF3 (Master) GPIT-F Electronic Coeff 3

	Data**0	Data**1
Temp**0	-1.345	249.9
Temp**1	-0.01178	0.01272
Temp**2	0.0003577	-0.000253
Temp**3	-3.596E-06	2.429E-06
Temp**4	1.13E-08	-8.145E-09

Master (EEPROM): 00:00:00 21-Jan-2012

GPITF_ELEC_COEFF4 (Master) GPIT-F Electronic Coeff 4

	Data**0	Data**1
Temp**0	-0.8136	0.1279
Temp**1	0.03613	4.686E-06
Temp**2	-0.0006053	-1.053E-07
Temp**3	5.573E-06	1.124E-09
Temp**4	-1.898E-08	-4.003E-12

GPITF_ELEC_COEFF5 (Master) GPIT-F Electronic Coeff 5

	Data**0	Data**1
Temp**0	-0.8136	0.1279
Temp**1	0.03613	4.686E-06
Temp**2	-0.0006053	-1.053E-07
Temp**3	5.573E-06	1.124E-09
Temp**4	-1.898E-08	-4.003E-12

GPITF_ELEC_COEFF6 (Master) GPIT-F Electronic Coeff 6

	Data**0	Data**1
Temp**0	-0.8136	0.1279
Temp**1	0.03613	4.686E-06
Temp**2	-0.0006053	-1.053E-07
Temp**3	5.573E-06	1.124E-09

Temp3**	5.373E-06	1.124E-09
Temp4**	-1.898E-08	-4.003E-12

MAST-B (Multimode Array Sonic Service Tool) Calibration - Run Run 3c

Primary Equipment :

MAMS-BA MAMS-BA 8256

MAST Master Characterization Coefficients - Characterization Coefficients Summary

Master (EEPROM): 11:59:00 03-Jul-2014 Expired by 69 days

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Sensor Sensitivity Correction Factor Minimum		Master	1.000	0.500	0.890	1.700
Sensor Sensitivity Correction Factor Maximum		Master	1.000	0.500	1.140	1.700
Sensor Time Delay Factor Minimum	us	Master	0	-2.000	-1.244	2.000
Sensor Time Delay Factor Maximum	us	Master	0	-2.000	1.422	2.000
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Minimum		Master	1.000	0.900	0.919	1.700
Sensor Sensitivity Correction Factor Low Frequency to High Frequency Ratio Maximum		Master	1.000	0.900	1.103	1.700

Characterization Coefficients

Master (EEPROM): 11:59:00 03-Jul-2014 Expired by 69 days

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	1.007	1.000	1.117	1.014	0.977	0.959	1.014	0.939
SO2	0.960	0.998	1.022	0.977	1.005	1.067	1.042	1.024
SO3	1.047	0.974	1.014	0.970	0.940	1.035	0.997	0.955
SO4	0.996	1.016	0.942	0.953	0.959	1.071	1.060	0.978
SO5	1.016	0.949	0.978	0.951	1.048	1.023	1.002	1.087
SO6	0.907	0.916	1.055	1.038	1.034	1.023	1.045	1.110
SO7	0.966	0.950	1.058	0.979	1.117	0.948	0.946	0.978
SO8	1.030	0.968	0.984	1.027	0.970	1.032	0.956	1.005
SO9	1.009	0.969	1.000	1.003	1.064	0.976	0.990	1.007
SO10	0.997	1.003	1.058	0.984	1.011	0.958	0.991	1.042
SO11	0.890	0.996	1.069	1.040	1.016	0.966	0.997	1.049
SO12	0.955	1.013	0.926	0.954	1.068	1.108	0.962	0.939
SO13	0.964	0.985	1.140	0.997	1.027	1.000	1.096	1.116

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	-0.039	-0.589	-0.233	0.100	0.266	0.319	0.039	-0.126
SO2	-0.288	-0.671	-0.100	-0.126	0.939	0.774	0.877	0.100
SO3	-0.418	-0.685	-0.296	0.114	0.619	0.571	0.350	-0.114
SO4	-0.371	-0.161	-0.390	0.160	0.471	0.692	0.340	-0.185
SO5	-0.101	-0.150	-0.157	0.353	0.662	0.637	0.079	-0.219
SO6	-1.095	-0.867	0.152	0.326	0.838	0.335	-0.152	-0.629
SO7	-0.712	-0.612	0.108	1.009	1.069	0.430	-0.108	-0.537
SO8	-0.222	-0.533	0.193	1.128	0.815	0.635	-0.217	-0.509
SO9	-0.520	-0.722	0.275	1.087	1.161	0.329	-0.236	-0.843
SO10	-0.883	-0.304	0.080	0.618	1.270	0.500	-0.080	-0.287
SO11	-1.244	-0.958	-0.079	0.281	0.758	0.687	0.079	-0.581

SO12	-0.572	-0.530	-0.183	0.451	1.422	0.927	0.183	-0.482
SO13	-1.014	-0.931	-0.487	0.027	0.997	0.701	0.059	-0.027

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	0.998	1.014	0.996	0.979	0.969	0.986	1.015	1.039
SO2	1.071	1.035	0.964	0.979	0.937	1.035	1.013	1.103
SO3	1.054	1.011	1.024	0.975	0.958	1.010	1.040	1.030
SO4	1.027	0.931	0.971	0.963	0.974	0.981	1.004	1.028
SO5	0.981	0.975	1.020	0.996	0.985	0.980	1.014	1.052
SO6	1.037	1.014	0.943	1.010	0.919	0.984	1.017	1.042
SO7	1.000	1.012	1.034	0.948	0.980	0.983	0.986	0.998
SO8	0.924	1.011	1.033	0.972	1.015	1.001	0.977	0.990
SO9	0.943	1.042	0.995	0.995	0.973	1.034	1.013	1.013
SO10	0.996	0.934	1.050	1.075	0.987	1.042	0.994	0.930
SO11	0.936	0.994	0.942	1.053	1.004	1.022	0.985	0.957
SO12	0.954	0.958	1.082	1.088	1.022	1.072	1.066	1.021
SO13	1.037	0.937	1.086	1.093	1.028	1.062	1.066	0.944

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	0.997	1.003	0.899	0.990	1.027	1.046	0.990	1.069
SO2	1.056	1.015	0.992	1.037	1.008	0.949	0.972	0.990
SO3	0.941	1.012	0.972	1.016	1.049	0.953	0.988	1.032
SO4	0.991	0.972	1.048	1.035	1.030	0.922	0.931	1.009
SO5	0.994	1.064	1.034	1.062	0.965	0.988	1.008	0.930
SO6	1.139	1.128	0.980	0.996	0.999	1.010	0.989	0.931
SO7	1.007	1.024	0.920	0.994	0.871	1.027	1.029	0.994
SO8	0.968	1.030	1.013	0.971	1.027	0.966	1.043	0.992
SO9	0.990	1.031	0.999	0.996	0.939	1.024	1.009	0.992
SO10	1.007	1.001	0.949	1.020	0.993	1.049	1.013	0.964
SO11	1.132	1.011	0.942	0.968	0.991	1.042	1.009	0.960
SO12	1.004	0.946	1.035	1.004	0.898	0.865	0.996	1.021
SO13	1.052	1.029	0.889	1.016	0.987	1.013	0.925	0.908

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	0.995	1.017	0.895	0.969	0.996	1.031	1.004	1.110
SO2	1.130	1.051	0.956	1.015	0.944	0.982	0.985	1.091
SO3	0.992	1.023	0.995	0.991	1.005	0.962	1.027	1.064
SO4	1.017	0.905	1.018	0.997	1.003	0.904	0.935	1.037
SO5	0.975	1.038	1.055	1.058	0.951	0.968	1.022	0.978
SO6	1.182	1.144	0.924	1.006	0.918	0.994	1.006	0.971
SO7	1.008	1.036	0.951	0.943	0.854	1.009	1.014	0.992
SO8	0.895	1.041	1.047	0.944	1.043	0.967	1.018	0.982
SO9	0.933	1.075	0.995	0.991	0.914	1.059	1.022	1.005
SO10	1.004	0.935	0.996	1.096	0.980	1.092	1.007	0.896
SO11	1.059	1.005	0.887	1.019	0.995	1.065	0.995	0.919
SO12	0.958	0.907	1.120	1.092	0.917	0.927	1.062	1.042
SO13	1.091	0.965	0.965	1.110	1.014	1.076	0.986	0.857

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	503.370	503.920	503.565	503.232	503.065	503.012	503.293	503.457
SO2	474.626	475.009	474.438	474.464	473.398	473.564	473.460	474.238
SO3	445.620	445.886	445.498	445.087	444.583	444.631	444.852	445.316

SO3	445.020	445.880	445.498	445.087	444.383	444.651	444.852	445.316
SO4	416.553	416.285	416.477	415.927	415.531	415.314	415.685	416.284
SO5	387.153	387.293	387.294	386.765	386.454	386.466	387.052	387.315
SO6	358.909	358.686	357.620	357.480	356.957	357.575	358.091	358.482
SO7	329.706	329.621	328.983	328.148	328.145	328.727	329.217	329.551
SO8	300.133	300.347	299.731	298.777	299.192	299.281	300.183	300.453
SO9	271.058	271.268	270.333	269.593	269.560	270.412	270.958	271.515
SO10	242.567	241.938	241.609	241.196	240.579	241.368	241.898	242.013
SO11	213.321	213.118	212.477	212.282	212.021	212.257	212.671	213.090
SO12	183.942	183.773	183.511	183.117	182.525	182.903	183.790	183.949
SO13	154.874	154.391	154.264	153.604	152.528	152.576	153.696	153.493

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	153.964	154.796	154.438	154.436	153.398	153.274	153.622	153.901
SO2	183.398	183.838	183.436	183.437	182.571	182.746	182.596	183.532
SO3	212.811	212.805	212.693	212.440	211.992	212.125	212.293	212.517
SO4	241.718	241.567	241.833	241.283	241.058	240.833	241.166	241.616
SO5	270.753	270.709	270.723	270.232	269.925	269.962	270.492	270.826
SO6	300.458	300.224	299.252	299.043	298.544	298.932	299.389	299.951
SO7	329.386	329.271	328.469	327.502	327.384	328.081	328.668	329.192
SO8	357.973	358.381	357.545	356.628	356.840	357.110	357.913	358.227
SO9	387.237	387.431	386.372	385.489	385.374	386.185	386.770	387.426
SO10	416.706	416.176	415.736	415.073	414.387	415.137	415.768	416.066
SO11	445.860	445.574	444.695	444.335	443.858	443.929	444.537	445.197
SO12	474.570	474.528	474.181	473.547	472.575	473.071	473.815	474.480
SO13	503.732	503.649	503.205	502.691	501.720	502.017	502.659	502.744

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	4839.605	4872.972	4364.382	4807.336	4989.378	5079.583	4808.057	5189.445
SO2	5295.420	5091.636	4973.998	5201.319	5057.091	4761.521	4877.493	4962.924
SO3	5063.425	5442.144	5227.402	5464.063	5641.045	5123.813	5315.376	5553.157
SO4	5555.004	5380.182	5777.697	5822.750	5658.072	5161.411	5240.318	5551.921
SO5	5636.062	5996.478	5793.821	6085.425	5562.860	5586.836	5834.303	5257.170
SO6	6659.231	6618.093	5697.085	5719.449	5788.851	5952.641	5844.579	5389.179
SO7	6417.355	6641.153	5995.387	6424.845	5715.968	6740.339	6761.778	6471.390
SO8	6355.471	6691.179	6757.792	6319.204	6823.364	6329.730	6949.110	6543.938
SO9	6734.877	7114.166	6782.992	6740.131	6383.200	6921.957	6843.625	6804.867
SO10	7279.311	7148.607	6814.009	7283.571	6996.110	7343.707	7084.314	6802.923
SO11	8263.102	7808.059	7086.907	7329.808	7100.657	7826.455	7500.613	7283.813
SO12	8205.832	7768.641	8066.545	7426.662	6766.579	6260.524	7927.556	7750.903
SO13	8472.755	7925.472	7069.402	7510.882	6503.926	6812.074	6727.117	6237.121

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	7430.541	8581.311	7620.495	8175.853	6344.660	6356.809	6143.038	6802.683
SO2	7347.055	7075.567	7091.377	6868.596	6866.482	6315.534	6727.610	7446.607

SO3	6932.359	7082.097	7028.783	6965.888	7106.141	6867.540	7074.622	7061.862
SO4	6530.548	6486.301	7021.063	6802.867	6921.974	6080.172	6110.574	6777.434
SO5	6141.396	6612.519	6452.902	6487.787	5855.882	6111.793	6100.522	5755.819
SO6	6477.582	6385.472	5599.166	5764.420	5729.121	5694.841	5561.968	5345.557
SO7	5885.161	5875.216	5252.387	5725.900	4942.738	5820.733	5821.645	5686.357
SO8	5190.245	5573.826	5344.060	5246.117	5442.958	5186.667	5504.012	5289.944
SO9	5059.712	5195.687	5122.475	5118.216	4807.813	5269.478	5174.669	5035.149
SO10	4763.904	4789.400	4516.571	4883.450	4818.772	5117.539	4954.506	4666.763
SO11	5178.753	4628.832	4309.087	4429.606	4533.485	4770.718	4619.845	4392.319
SO12	4592.522	4329.696	4735.815	4595.653	4107.554	3957.721	4558.112	4670.845
SO13	4332.445	4239.556	3662.131	4185.831	4063.745	4174.862	3809.219	3741.704

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	-8190.093	-8430.392	-7003.982	-7194.334	-7746.352	-8182.322	-8174.303	-9098.419
SO2	-10167.620	-9303.451	-8058.677	-8198.979	-7763.242	-8173.960	-8600.425	-9716.758
SO3	-10947.160	-11141.890	-10672.290	-10486.780	-10544.490	-9918.854	-10912.010	-11552.580
SO4	-12303.320	-10919.790	-12208.380	-11803.620	-11772.230	-10555.320	-10809.690	-12488.300
SO5	-11477.480	-12478.250	-12806.580	-12401.420	-11004.510	-11521.330	-11779.690	-11756.250
SO6	-15243.630	-15133.510	-12106.740	-13233.690	-12041.930	-12937.720	-12895.720	-12678.760
SO7	-19286.360	-19835.330	-18208.460	-18040.240	-16338.690	-19317.040	-19403.990	-18990.040
SO8	-16030.150	-18640.650	-18748.360	-16908.360	-18680.150	-17312.510	-18236.360	-17585.630
SO9	-16927.230	-19496.300	-18043.100	-17972.050	-16577.120	-19208.270	-18542.580	-18240.570
SO10	-19588.780	-18251.070	-19446.290	-21397.790	-19121.150	-21316.180	-19653.690	-17483.550
SO11	-22675.200	-21518.070	-18976.860	-21819.850	-21291.600	-22795.870	-21291.180	-19662.720
SO12	-21843.020	-20669.090	-25540.200	-24905.620	-20908.500	-21145.500	-24206.620	-23755.290
SO13	-26716.940	-23617.670	-23630.780	-27190.330	-24827.630	-26345.500	-24145.060	-20995.930

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	-24618.790	-25185.130	-22151.660	-23979.890	-24643.000	-25521.210	-24863.080	-27481.440
SO2	-24274.500	-22562.650	-20526.790	-21792.670	-20278.330	-21092.980	-21154.130	-23428.480
SO3	-20513.120	-21154.260	-20578.960	-20487.740	-20777.970	-19898.290	-21244.310	-21992.400
SO4	-19256.540	-17122.770	-19264.220	-18875.590	-18982.130	-17115.140	-17694.420	-19627.590
SO5	-15409.160	-16404.750	-16670.070	-16719.960	-15023.430	-15292.070	-16156.590	-15454.600
SO6	-19001.070	-18389.280	-14858.660	-16178.470	-14765.130	-15975.800	-16176.710	-15604.690
SO7	-13217.980	-13556.660	-12029.090	-11881.780	-11222.930	-13036.610	-13017.920	-12958.210
SO8	-10579.190	-12063.300	-11906.220	-10567.690	-12026.110	-11174.530	-12079.980	-11640.440
SO9	-9231.248	-10560.300	-10008.900	-9700.676	-8964.640	-10454.030	-10365.030	-9880.862
SO10	-9460.171	-8817.697	-9851.916	-10507.610	-9364.068	-10587.890	-9772.681	-8512.783
SO11	-9577.224	-9098.130	-8308.307	-9826.896	-9606.731	-9768.219	-8886.121	-8289.443
SO12	-7616.666	-7210.387	-9327.939	-9323.104	-7976.705	-7690.320	-8377.064	-8044.721
SO13	-8072.503	-7177.546	-7341.566	-8623.232	-8023.497	-8223.327	-7134.537	-6085.704

Vertical Casing Check Coefficients

Before:		After:	
CALI_SVCNA (Before)	Sensor Vertical Casing Check Normalized Amplitudes (Before/After/BAChange)		
Minimum/Nominal/Maximum	0.900/1.000/1.100		**Unit**

	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_SVCNA (After)	Sensor Vertical Casing Check Normalized Amplitudes (Before/After/BAChange)		
Minimum/Nominal/Maximum	0.900/1.000/1.100	**Unit**	

	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/BAChange)		
Minimum/Nominal/Maximum	-15/0/15	**Unit**	us

	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 (After)	Sensor Vertical Casing Check Time (Before/After/BAChange)		
Minimum/Nominal/Maximum	-15/0/15	**Unit**	us

	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_SVCLF (Before)	Sensor Vertical Casing Check Low Frequency Diagnostics Failure Flag (Before/After/BAChange)	
Minimum/Nominal/Maximum	0/0/0	**Unit**

	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_SVCLF (After)	Sensor Vertical Casing Check Low Frequency Diagnostics Failure Flag (Before/After/BAChange)	
Minimum/Nominal/Maximum	0/0/0	**Unit**

	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

PPC-B (Powered Positioning device and Caliper.) Calibration - Run Run 3c

Primary Equipment :

PPC-B Element is used for usual logging at wellsite and check/diagnostics.	PPC-B	8163

Auxiliary Equipment :

PPC-B Element is used for usual logging at wellsite and check/diagnostics.	PPC-B	8163

Calibration Parameter :

ZERO_REF (Small Size Ring)	3.500
PLUS_REF (Large Size Ring)	8.000

Equipment Properties :

Caliper Arm Equipment Type for PPC	PPC_CAL_STD

PPC Check - Downhole Electronics Test

Before (Measured): 12:01:47 09-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Positive Analog Voltage	V	Before		7	8.6748	9
Minus Analog Voltage	V	Before		-9	-8.69971	-7
Digital Voltage	V	Before		3.15	3.37375	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	0.944444	8

PPC Check - Cartridge Temperature Test

Before (Measured): 12:01:47 09-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Cartridge Temperature	degF	Before		-58	115.184	482

PPC Check - Power Control LVDT Test

Before (Measured): 12:01:47 09-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
LVDT5 Caliper Open Position	in	Before			-1.23071	
LVDT5 Full Power Position	in	Before			1.48584	

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

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): 21:42:00 02-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
CCS	in	Master	-1.51		-1.45349	
COP	in	Master	-1.31		-1.23071	
CPW	in	Master	1.41		1.48584	

PPC Caliper Calibration - PPC CaliCoefficients

Before (EEPROM): 21:42:00 02-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
RD1_GAIN		Before	1	0.85	1.04279	1.15
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RD2_GAIN		Before	1	0.85	1.0121	1.15
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RD3_GAIN		Before	1	0.85	1.03919	1.15
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RD4_GAIN		Before	1	0.85	1.00092	1.15
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RD1_OFFSET	in	Before	0	-2.2	-0.923082	2.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RD2_OFFSET	in	Before	0	-2.2	0.0570495	2.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RD3_OFFSET	in	Before	0	-2.2	-1.00993	2.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RD4_OFFSET	in	Before	0	-2.2	0.0777706	2.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

PPC Caliper Calibration - PPC Accumulations

Before (EEPROM): 21:42:00 02-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Caliper 1 Zero Radius	in	Before	3.5	1.2	4.2416	5.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Caliper 2 Zero Radius	in	Before	3.5	1.2	3.40179	5.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Caliper 3 Zero Radius	in	Before	3.5	1.2	4.33984	5.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Caliper 4 Zero Radius	in	Before	3.5	1.2	3.4191	5.6
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Caliper 1 Plus Radius	in	Before	8	6.1	8.55696	9.7
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Caliper 2 Plus Radius	in	Before	8	6.1	7.848	9.7
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Caliper 3 Plus Radius	in	Before	8	6.1	8.67012	9.7
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Caliper 4 Plus Radius	in	Before	8	6.1	7.91499	9.7
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

HNGS-BA (Hostile-environment Natural Gamma-ray Sonde) Calibration - Run Run 3c

Primary Equipment :

HNGS Sonde Element	HNGS-BA	165

Auxiliary Equipment :

Hostile Natural Gamma Ray Cartridge	HNGC-B	383
HNGS Housing Element	HEH-K	162
		0
Housing for the HNGC	HNGH-A	326

HNGS Background and Na22 Set Point Determination - Detector 1 Check

Master (EEPROM): 15:49:10 25-Sep-2014 Before (Measured): 12:05:06 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Location		Master	40.000	37.500	38.586	42.500
		Before	40.000	37.500	38.687	42.500
		After	40.000	37.500	NOT DONE	42.500
		Before-Master	-----	-----	0.101	-----
		After-Before	-----	-----	-----	-----
Na 511 Peak Resolution	%	Master	15.500	12.000	16.635	19.000
		Before	15.500	12.000	15.433	19.000
		After	15.500	12.000	NOT DONE	19.000
		Before-Master	-----	-----	-1.202	-----
		After-Before	-----	-----	-----	-----
High Voltage DAC Value	V	Master			1390.111	
		Before	1150.000	850.000	1355.188	1600.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-34.923	-----
		After-Before	-----	-----	-----	-----
Na 1785 Peak Location		Master	142.650	135.000	139.415	150.300
		Before	142.650	135.000	139.422	150.300
		After	142.650	135.000	NOT DONE	150.300
		Before-Master	-----	-----	0.007	-----
		After-Before	-----	-----	-----	-----
Na 1785 Peak Resolution	%	Master	8.500	7.000	8.156	11.000
		Before	8.500	7.000	8.184	11.000
		After	8.500	7.000	NOT DONE	11.000
		Before-Master	-----	-----	0.028	-----
		After-Before	-----	-----	-----	-----
Temperature - 0	degF	Master	-----	-----	-----	-----
		Before	59.900	-20.002	59.520	140.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Na Count Rate	CPS	Master	45.000	10.000	59.417	100.000
		Before	45.000	10.000	55.460	100.000
		After	45.000	10.000	NOT DONE	100.000
		Before-Master	-----	-----	-3.957	-----
		After-Before	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 2 Check

Master (EEPROM): 15:49:10 25-Sep-2014 Before (Measured): 12:05:06 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Location		Master	40.000	37.500	39.563	42.500
		Before	40.000	37.500	39.605	42.500
		After	40.000	37.500	NOT DONE	42.500
		Before-Master	-----	-----	0.042	-----
		After-Before	-----	-----	-----	-----
Na 511 Peak Resolution	%	Master	15.500	12.000	16.881	19.000
		Before	15.500	12.000	16.814	19.000
		After	15.500	12.000	NOT DONE	19.000
		Before-Master	-----	-----	-0.067	-----
		After-Before	-----	-----	-----	-----
High Voltage DAC Value	V	Master			1352.469	
		Before	1150.000	850.000	1319.228	1600.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-33.241	-----
		After-Before	-----	-----	-----	-----
Na 1785 Peak Location		Master	142.650	135.000	142.052	150.300

Na 1785 Peak Location		Master	142.650	135.000	142.652	150.300
		Before	142.650	135.000	142.314	150.300
		After	142.650	135.000	NOT DONE	150.300
		Before-Master	-----	-----	0.262	-----
		After-Before	-----	-----	-----	-----
Na 1785 Peak Resolution	%	Master	8.500	7.000	9.213	11.000
		Before	8.500	7.000	8.564	11.000
		After	8.500	7.000	NOT DONE	11.000
		Before-Master	-----	-----	-0.649	-----
		After-Before	-----	-----	-----	-----
Temperature - 0	degF	Master	-----	-----	-----	-----
		Before	59.900	-20.002	59.287	140.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Na Count Rate	CPS	Master	45.000	10.000	59.051	100.000
		Before	45.000	10.000	55.135	100.000
		After	45.000	10.000	NOT DONE	100.000
		Before-Master	-----	-----	-3.916	-----
		After-Before	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Ratio of Detector 1 to Detector 2

Master (EEPROM): 15:49:10 25-Sep-2014 Before (Measured): 12:05:06 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Coincidence Count Rate Ratio		Master			1.003	
		Before	1.000	0.950	1.003	1.050
		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.000	-----
		After-Before	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 1 Calibration

Master (EEPROM): 15:49:10 25-Sep-2014 Before (Measured): 12:05:06 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Th Peak Location		Master	209.630	201.000	208.150	218.250
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Th Peak Resolution	%	Master	7.000	5.000	7.417	9.000
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Background Count Rate	CPS	Master			113.435	
		Before	142.500	10.000	113.791	265.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.356	-----
		After-Before	-----	-----	-----	-----
Gain Ratio		Master	1.000	0.940	1.026	1.060
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 2 Calibration

Master (EEPROM): 15:49:10 25-Sep-2014 Before (Measured): 12:05:06 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Th Peak Location		Master	209.630	201.000	207.869	218.250
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Th Peak Resolution	%	Master	7.000	5.000	7.291	9.000
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Background Count Rate	CPS	Master			112.271	
		Before	142.500	10.000	112.886	265.000

		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.615	-----
		After-Before	-----	-----	-----	-----
Gain Ratio		Master	1.000	0.940	0.999	1.060
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 1 Calibration

Master (EEPROM): 15:49:10 25-Sep-2014 Before (Measured): 12:05:06 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Set Point		Master	40.000	38.000	40.000	43.500
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

HNGS Background and Na22 Set Point Determination - Detector 2 Calibration

Master (EEPROM): 15:49:10 25-Sep-2014 Before (Measured): 12:05:06 09-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Na 511 Peak Set Point		Master	40.000	38.000	41.000	43.500
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run Run 3c

Primary Equipment :

EDTC-B EDTC-B 8101

Calibration Parameter :

Plus Reference (Jig minus background reference) 165

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration

Before (Measured): 15:34:18 05-Dec-2014 Expired by 3 days

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
AZ Vertical Measurement	ft/s2	Before	32.19	31.53	32.03	32.84

EDTC-B Memory Data - EDTC-B Memory Data

Master (EEPROM): 10:43:02 10-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Initial PMT HV	V	Master			1801.000	
Accelerometer Serial Number		Master			142	
Accelerometer Coefficients - 0		Master	-----	-----	2.900	-----
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	-----	-----	-0.003	-----
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			7002	

EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients

Before (Measured): 07:53:58 05-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Gamma Ray Gain		Before	1.000	0.900	1.043	1.100
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations

Before (Measured): 07:53:58 05-Dec-2014 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit

RGR Zero Measurement	gAPI	Before		0	36.808	120.000	
		After	-----	-----	-----	-----	
		After-Before	-----	-----	-----	-----	
RGR Plus Measurement	gAPI	Before	165.000	150.000	158.171	180.000	
		After			NOT DONE		
		After-Before	-----	-----	-----	-----	

Company: PB ENERGY STORAGE SERVICES, INC

Schlumberger

Well: DCP Linam Ranch AGI #2

Field: AGI; Bone Spring-Wolfcamp

County: Lea

Country: USA

Borehole Compensated Sonic

Spectral Gamma Ray

Final Composite [5"=100']