

Company: Cascade Petroleum LLC

Well: Gaede A9S-55W-05-85

Field: Wildcat

County: Lincoln State: Colorado

CMR

Combinable Magnetic Resonance

Field Print

County: Lincoln
Field: Wildcat
Location: SHL: 197' FSL & 1773' FWL
Well: Gaede A9S-55W-05-85
Company: Cascade Petroleum LLC

Location:		Elev.:	
SHL: 197' FSL & 1773' FWL		K.B.	5606.00 ft
Permanent Datum:		G.L.	5591.00 ft
Log Measured From:		D.F.	5605.00 ft
Drilling Measured From:		5591.00 f above Perm.Datum	
API Serial No.	Section:	Township:	Range:
05-073-06669	5	9S	55W

Logging Date 24-Nov-2014

Run Number One

Depth Driller 7990.00 ft

Schlumberger Depth 7999.00 ft

Bottom Log Interval 7990.00 ft

Top Log Interval 545.00 ft

Casing Driller Size @ Depth 8.625 in @ 544.00 ft

Casing Schlumberger 545 ft

Bit Size 7.875 in

Type Fluid In Hole LSND

Density 8.9 lbm/gal

Viscosity 77 s

Fluid Loss PH 5.2 cm3

Source of Sample Active Tank

RM @ Meas Temp 0.91 ohm.m @ 75 degF

RMF @ Meas Temp 0.69 ohm.m @ 75 degF

RMC @ Meas Temp 1.14 ohm.m @ 75 degF

Source RMF Calculated

RM @ BHT 0.38 @ 190 0.29 @ 190

Max Recorded Temperatures 190 degF

Circulation Stopped 24-Nov-2014 02:00:00

Logger on Bottom 24-Nov-2014 16:00:00

Unit Number 2135

Location: Fort Morgan

Recorded By Kevin Crow

Witnessed By Jim Weir

Disclaimer

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Operational Run Summary

Parameter (unit)	One					
Date Log Started	24-Nov-2014					
Time Log Started	14:53:18					
Date Log Finished	24-Nov-2014					
Time Log Finished	19:32:45					
Top Log Interval (ft)	545.00					
Bottom Log Interval (ft)	7990.00					
Total Depth (ft)	7999.00					
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	7.875					
Logging Unit Number	2135					
Logging Unit Location	Fort Morgan					
Recorded By	Kevin Crow					
Witnessed By	Jim Weir					
Service Order Number	CAU6-00135					

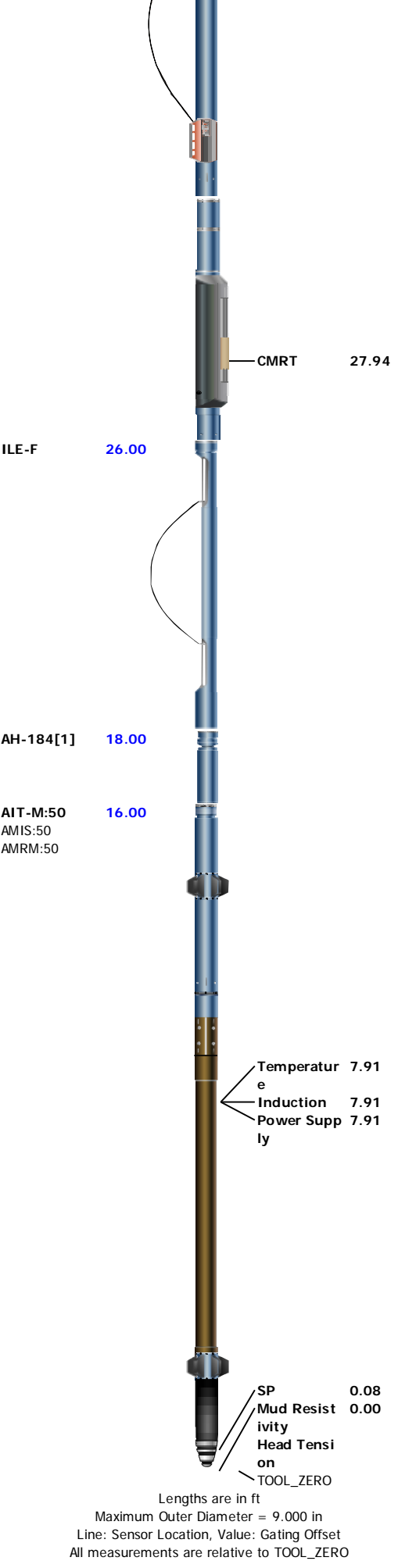
Borehole Fluids

Parameter(unit)	One					
Fluid Type	Water					
Fluid Name	LSND					
Max Recorded Temperatures (degF)	190					
Source of Sample	Active Tank					
Salinity (ppm)	0					
Density (lbm/gal)	8.9					
Funnel Viscosity (s)	77					
Fluid Loss (cm3)	5.2					
PH	8.7					
Date/Time Circulation Stopped	24-Nov-2014 02:00:00					
Date Logger on Bottom	24-Nov-2014					
Time Logger on Bottom	16:00:00					
Source RMF	Calculated					
RMC	Calculated					
RM @ Meas Temp (ohm.m@degF)	0.91 @ 75					
RMF @ Meas Temp (ohm.m@degF)	0.69 @ 75					

RMC @ Meas Temp (ohm.m@degF)	1.14 @ 75					
RM @ BHT (ohm.m@degF)	0.38 @ 190					
RMF @ BHT (ohm.m@degF)	0.29 @ 190					
RMC @ BHT (ohm.m@degF)	0.47 @ 190					
Total Solid (%)						
High Gravity Solids (%)						

Remarks and Equipment Summary

One: Toolstring				One: Remarks	
Equip name	Length	MP name	Offset	Toolstring ran as per tool sketch	
LEH-QT	74.65			Rig: Extreme 11	
LEH-QT				AIT ran in compute standoff mode with 2 1" standoffs	
EDTC-B	71.74			HGNS ran eccentered using 3 bowsprings	
EDTH-B				Matrix=Limestone, MDen=2.71 g/cc	
EDTG-B				CMR ran to 7100 ft as per client request	
EDTC-B				Max recorded temperature taken from HGNS tool= 190 F	
		CTEM	68.24		
		ACCZ	0.00		
		HV	0.00		
		Gamma Ray	66.37		
		TelStatus	65.24		
		Temperatur	65.21		
		e			
		GR	64.49		
HGNS-H:4810	65.24				
HGNH:3912					
NPV-N					
NSR-F:5215					
HACCZ-H:5955					
HGNS-H:4810					
HMCA-H					
		CNL Porosity	58.16		
		HGNS	55.83		
		HMCA	55.83		
		Accelerometer	0.00		
HDRS-H:3911	55.83				
ECH-MEB:3949					
HRCC-H:4923					
HRMS-H:3911					
HRGD-H:3933					
GSR-J:5094					
Long Spacing:2					
8736					
GPV-Q					
Backscatter					
Short Spacing					
		HRCC	51.83		
		MCFL	46.4		
		Caliper	45.91		
		TLD Density	45.52		
AH-184[2]	43.59				
CMRT-B:2	41.59				
CMRC:156					
CMRH:156					
CMRS:2					



Depth Summary			
	One		

Type	IDW-JA		
Serial Number	6433		
Calibration Date	23-Sep-2014		
Calibrator Serial Number			
Calibration Cable Type	7-46 AXS		
Wheel Correction 1	-3		
Wheel Correction 2	-2		

Type	CMTD-B/A		
Serial Number	1919		
Calibration Date	07-Nov-2014		
Calibrator Serial Number	441345A		
Number of Calibration Points	10		
Calibration Root Mean Square Error	13		
Calibration Peak Error	24		

Type	7-46A-XS		
Serial Number			
Length	21000.00 ft		
Conveyance Type	Wireline		
Rig Type			

Log Sequence	First Log In the Well	All Schlumberger Depth Control Procedures Followed
Rig Up Length At Surface		IDW used as primary depth control device
Rig Up Length At Bottom		Z-Chart used as secondary depth control
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

One

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[4]:Up	Up	212.90 ft	8025.49 ft	24-Nov-2014 4:33:19 PM	24-Nov-2014 7:29:38 PM	ON	12.63 ft	No

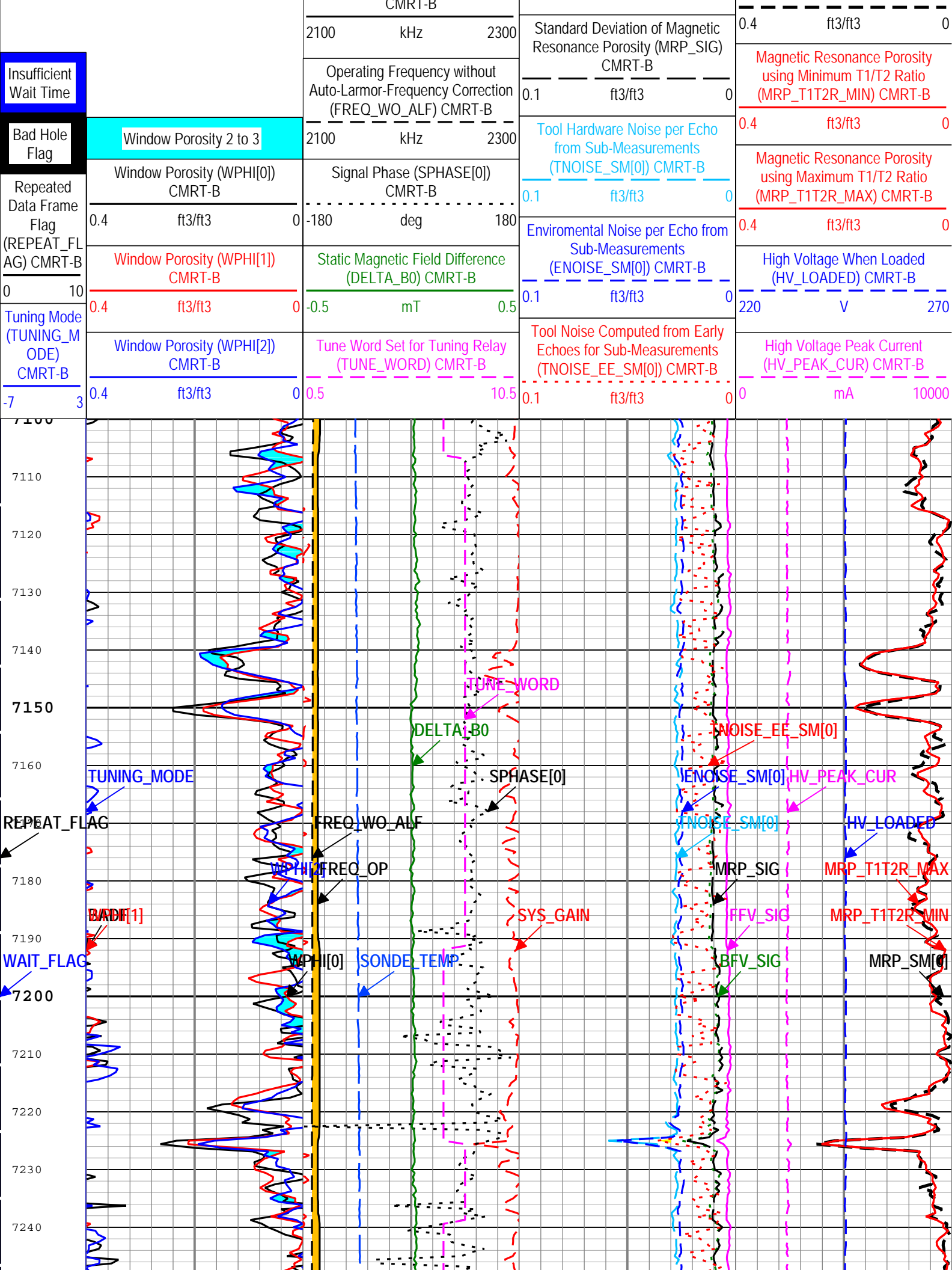
Log Company: Cascade Petroleum LLC Well: Gaede A9S-55W-05-85
One: Log[41]:Up:S005

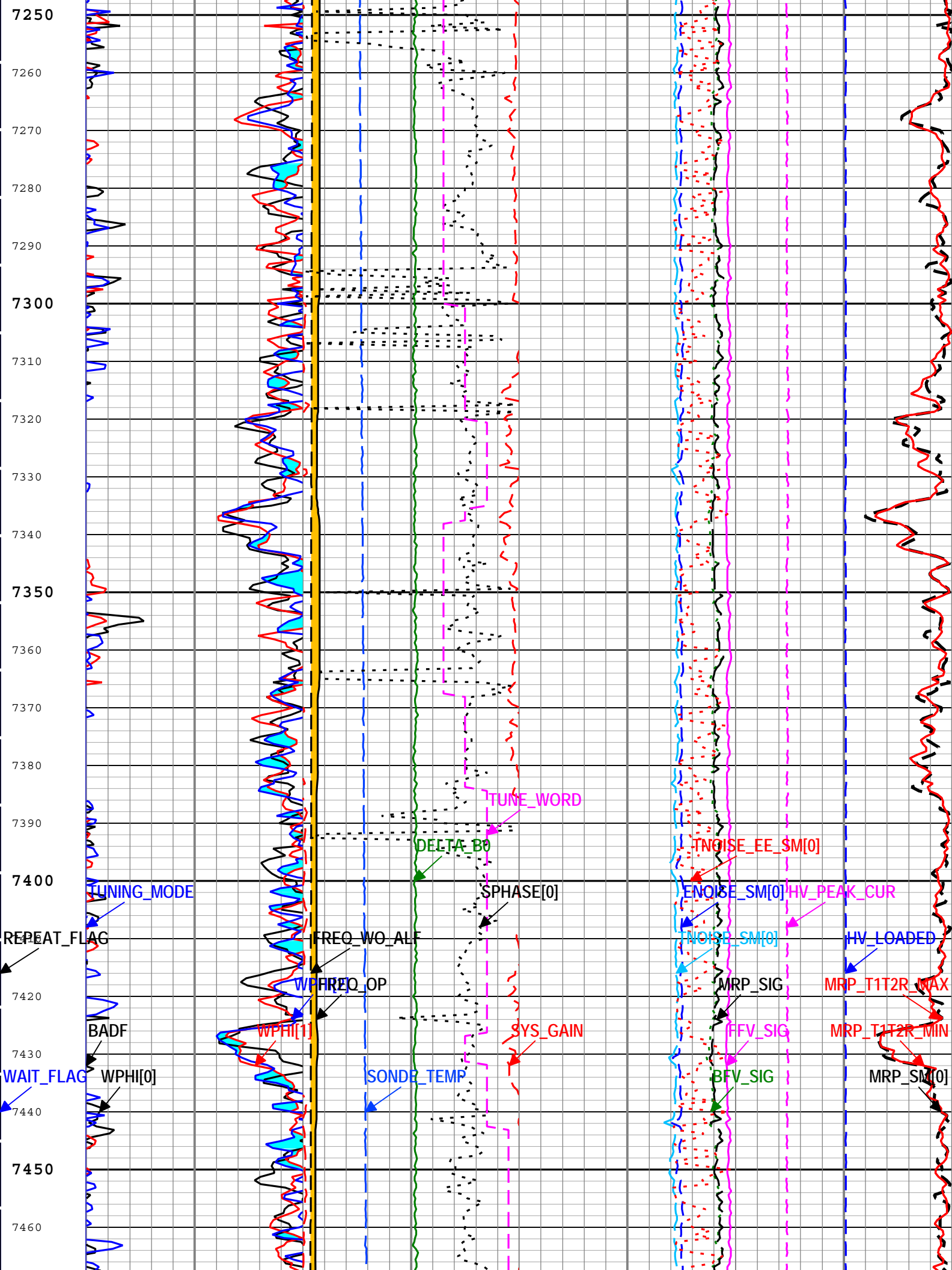
One: Log[4]:Up:S005

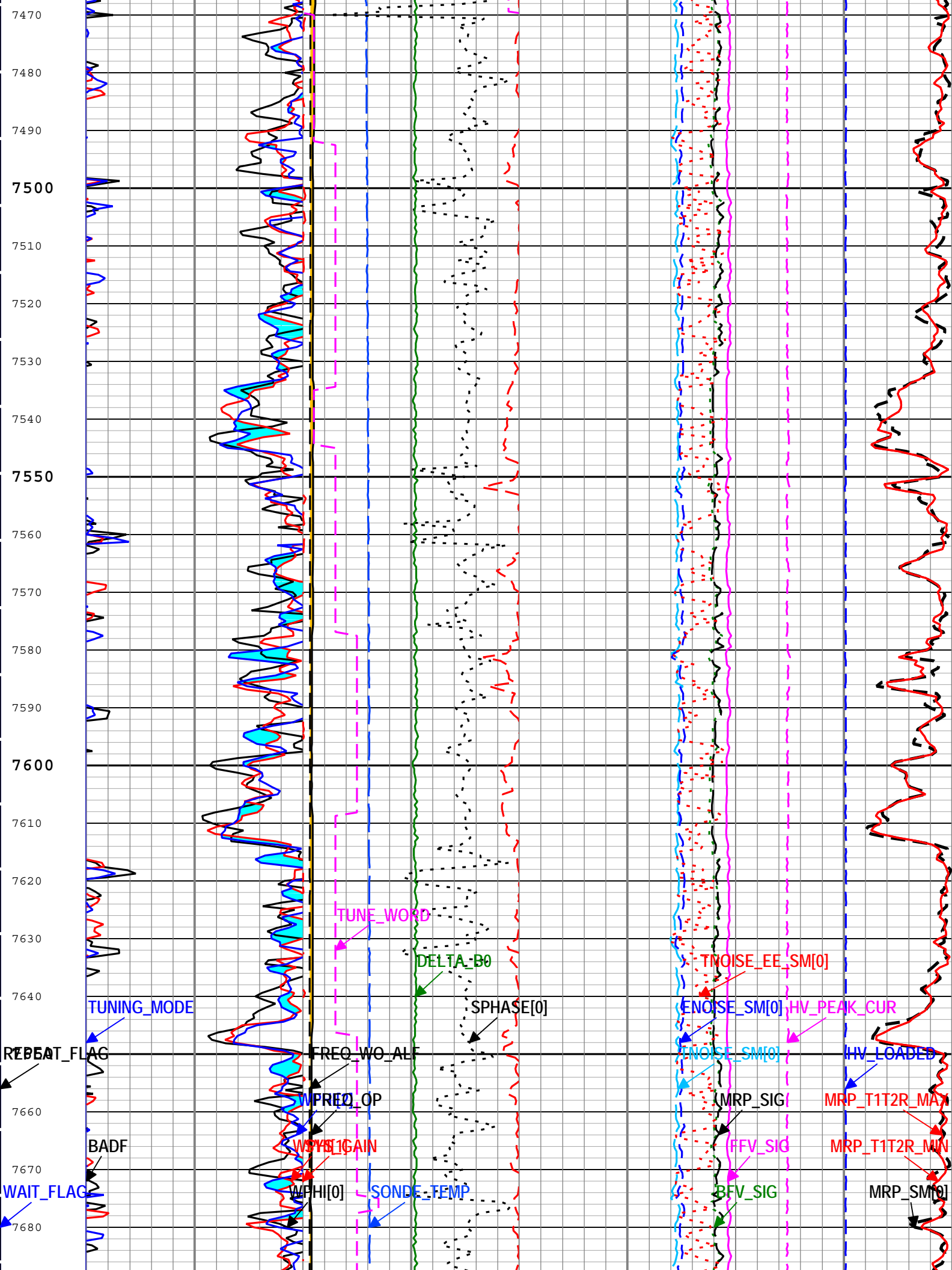
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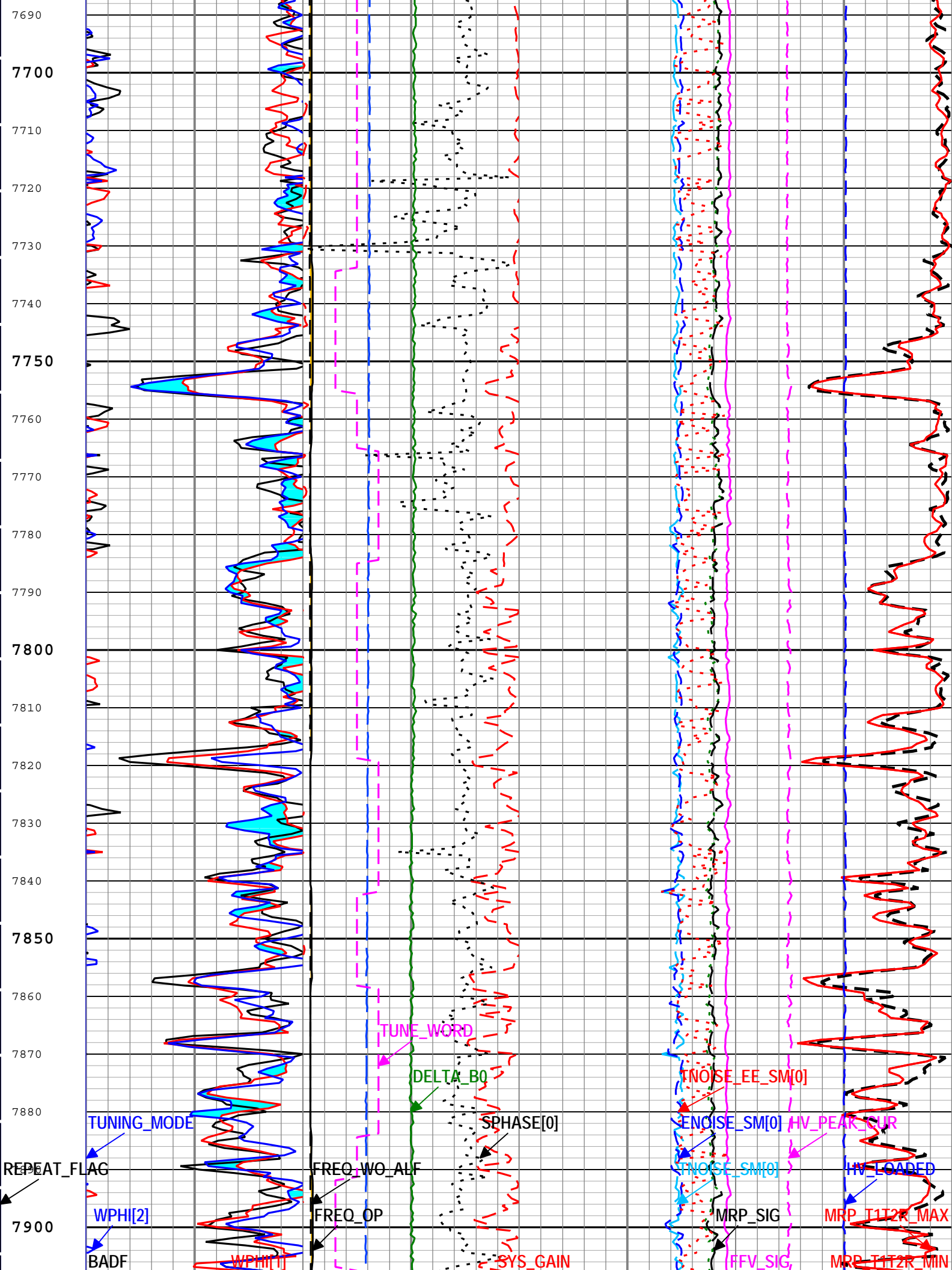
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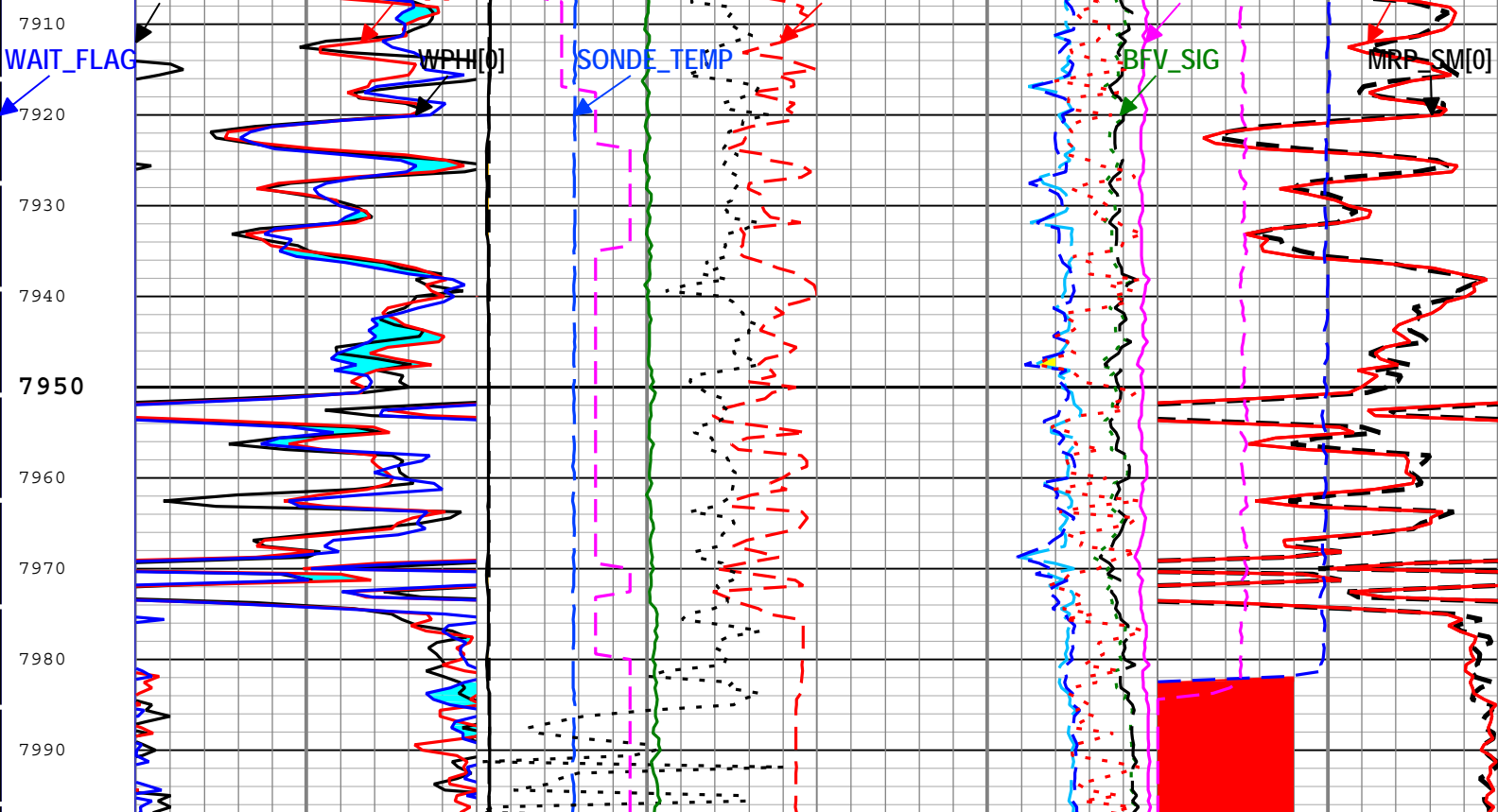
Delta B0 Caution	Caution Moderate Noise	<div>MRP Max to Min</div> <div>HV Loaded Below Limit</div> <div>Magnetic Resonance Porosity from Sub-Measurements (MRP_SM[0]) CMRT-B</div>
Frequency Deviation	Noise Out of Tolerance	
<div>Sonde Temperature (SONDE_TEMP) CMRT-B</div> <div>60 degF 160</div>	<div>Standard Deviation of Bound Fluid Volume (BFV_SIG) CMRT-B</div> <div>0.1 ft3/ft3 0</div>	
<div>System Gain (SYS_GAIN) CMRT-B</div> <div>0 1</div>	<div>Standard Deviation of Free Fluid Volume (FFV_SIG) CMRT-B</div> <div>0.1 ft3/ft3 0</div>	
<div>Operating Frequency (FREQ_OP) CMRT-B</div> <div>0.1 0</div>		











Insufficient Wait Time	Window Porosity 2 to 3	Delta B0 Caution	Caution Moderate Noise	MRP Max to Min.
Bad Hole Flag	Window Porosity (WPHI[0]) CMRT-B	Frequency Deviation	Noise Out of Tolerance	HV Loaded Below Limit
Repeated Data Frame Flag (REPEAT_FLAG) CMRT-B	0.4 ft3/ft3 0	Sonde Temperature (SONDE_TEMP) CMRT-B	Standard Deviation of Bound Fluid Volume (BFV_SIG) CMRT-B	Magnetic Resonance Porosity from Sub-Measurements (MRP_SM[0]) CMRT-B
0 10	Window Porosity (WPHI[1]) CMRT-B	60 degF 160	0.1 ft3/ft3 0	0.4 ft3/ft3 0
Tuning Mode (TUNING_MODE) CMRT-B	0.4 ft3/ft3 0	System Gain (SYS_GAIN) CMRT-B	Standard Deviation of Free Fluid Volume (FFV_SIG) CMRT-B	Magnetic Resonance Porosity using Minimum T1/T2 Ratio (MRP_T1T2R_MIN) CMRT-B
-7 3	Window Porosity (WPHI[2]) CMRT-B	0 1	0.1 ft3/ft3 0	0.4 ft3/ft3 0
		Operating Frequency (FREQ_OP) CMRT-B	Standard Deviation of Magnetic Resonance Porosity (MRP_SIG) CMRT-B	Magnetic Resonance Porosity using Maximum T1/T2 Ratio (MRP_T1T2R_MAX) CMRT-B
		2100 kHz 2300	0.1 ft3/ft3 0	0.4 ft3/ft3 0
		Operating Frequency without Auto-Larmor-Frequency Correction (FREQ_WO_ALF) CMRT-B	Tool Hardware Noise per Echo from Sub-Measurements (TNOISE_SM[0]) CMRT-B	High Voltage When Loaded (HV_LOADED) CMRT-B
		2100 kHz 2300	0.1 ft3/ft3 0	220 V 270
		Signal Phase (SPHASE[0]) CMRT-B	Environmental Noise per Echo from Sub-Measurements (ENOISE_SM[0]) CMRT-B	High Voltage Peak Current (HV_PEAK_CUR) CMRT-B
		-180 deg 180	0.1 ft3/ft3 0	0 mA 10000
		Static Magnetic Field Difference (DELTA_B0) CMRT-B	Tool Noise Computed from Early Echoes for Sub-Measurements (TNOISE_EE_SM[0]) CMRT-B	
		-0.5 mT 0.5	0.1 ft3/ft3 0	
		Tune Word Set for Tuning Relay (TUNE_WORD) CMRT-B		
		0.5 10.5		

TIME_1900 - Time Marked every 60.00 (s)

Description: CMRTB Depth Log LQC Format Format: Log (CMRTB Depth Log LQC) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured
 Depth Creation Date: 24-Nov-2014 19:50:29

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
GAMMA_REG	Regularization Factors	CMRT-B	[1.5, 1.5, 0, 0, 0, 0]	
JOBID	Job Identification	WLSESSION	CAU6-00135	
NSTACK	Number of Stacking Levels	CMRT-B	3	
POLC_SW	Polarization Correction Switch	CMRT-B	No	
T1CUT	T1 Cutoff between BFV and FFV	CMRT-B	50	ms
T1T2R_IN	T1/T2 Ratio Input	CMRT-B	2	
T1T2R_MAX	T1/T2 Ratio Maximum	CMRT-B	3	
T1T2R_MIN	T1/T2 Ratio Minimum	CMRT-B	1	
T2CUT	T2 Cutoff between BFV and FFV	CMRT-B	100	ms
T2CUT_TAPER	Start of Tapered T2 Cutoff	CMRT-B	25	ms

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
ACQ_METHOD_OPT	Acquisition Method Option	CMRT-B	SEQ	
ALF_PHDIF_AVE	Average of Auto-Larmor-Frequency Phase Difference during LFST	CMRT-B	-1.41	deg
ALF_PHDIF_STD	Standard Deviation of Auto-Larmor-Frequency Phase Difference during LFST	CMRT-B	0.31	deg
DLSR	Depth Log Sample Rate	CMRT-B	7.5	in
DSP_VERS	DH Signal Processing Code Version	CMRT-B	13	
EPM_OPT	Enhanced Precision Mode Option	CMRT-B	On	
FREQ_OP_PREV	Operating Frequency, prior to new LFST, at LFST Temperature	CMRT-B	2119	kHz
LFST_CFREQ	LFST Central Frequency	CMRT-B	2122	kHz
LFST_FREQ	LFST Frequency	CMRT-B	2119	kHz
LFST_TEMP	LFST Temperature	CMRT-B	162.66	degF
LFST_TEMP_DEL	LFST Temperature Variation	CMRT-B	34.39	degF
LFST_TT_OFFSET	LFST Tune Table Offset	CMRT-B	-2.3	kHz
LOG_DIRECTION	Logging Direction	CMRT-B	Up	
LOG_MODE_CMR	Logging Mode for CMR	CMRT-B	DEPTH_B_MODE_EXPERT	
LOG_SPEED	Optimal Logging Speed	CMRT-B	700	ft/h
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	840	ft/h
MAX_TOOL_SPEED	Maximum service speed allowed for, or attained by, a logging tool.	CMRT-B	840	ft/h
NECH_V	Number of Echo Amplitudes Vector	CMRT-B	[5000, 30, 0, 0, 0, 0]	
NWT	Number of Wait Times	CMRT-B	2	
PT_V	Polarization Times Vector	CMRT-B	[6.49, 0.02, 0, 0, 0, 0]	s
RPTN_V	Number of Repetitions Vector	CMRT-B	[1, 10, 0, 0, 0, 0]	
SLSR	Station Log Sample Rate	CMRT-B	0	s
TE_V	Echo Spacings Vector	CMRT-B	[200, 200, 0, 0, 0, 0]	us
WT_V	Wait Times Vector	CMRT-B	[1.95, 0.02, 0, 0, 0, 0]	s

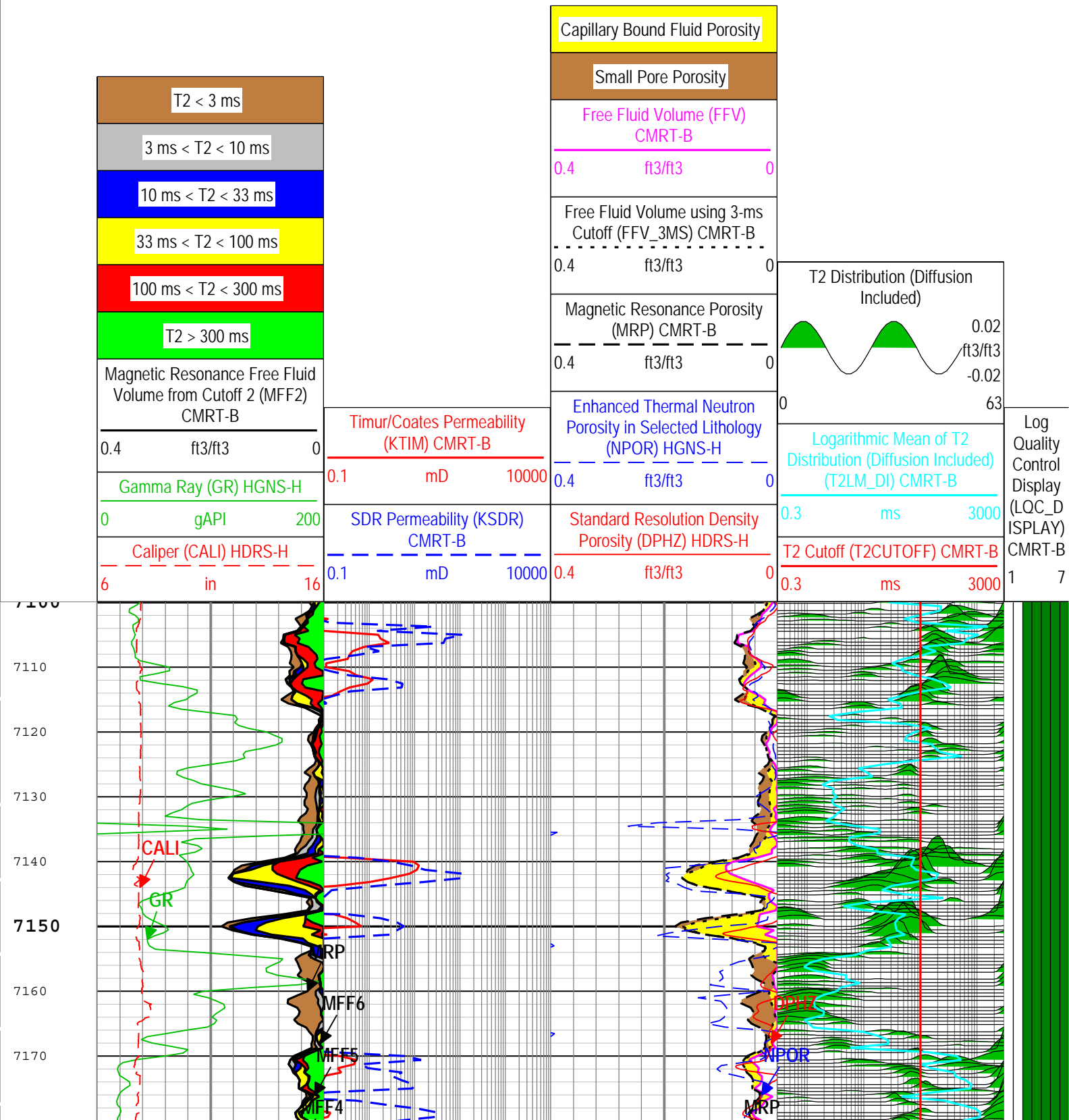
One									

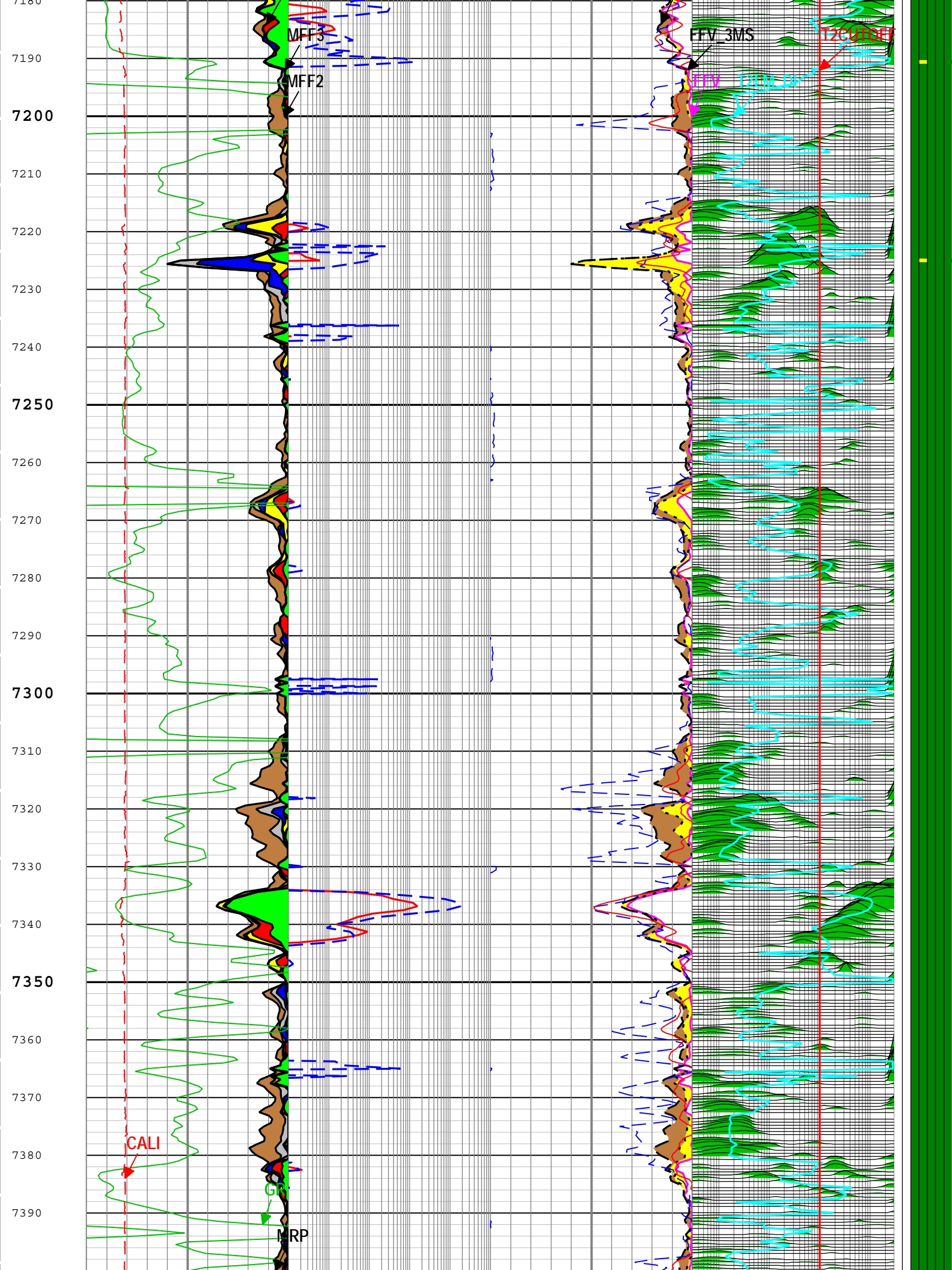
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[4]:Up	Up	212.90 ft	8025.49 ft	24-Nov-2014 4:33:19 PM	24-Nov-2014 7:29:38 PM	ON	12.63 ft	No
All depths are referenced to toolstring zero									

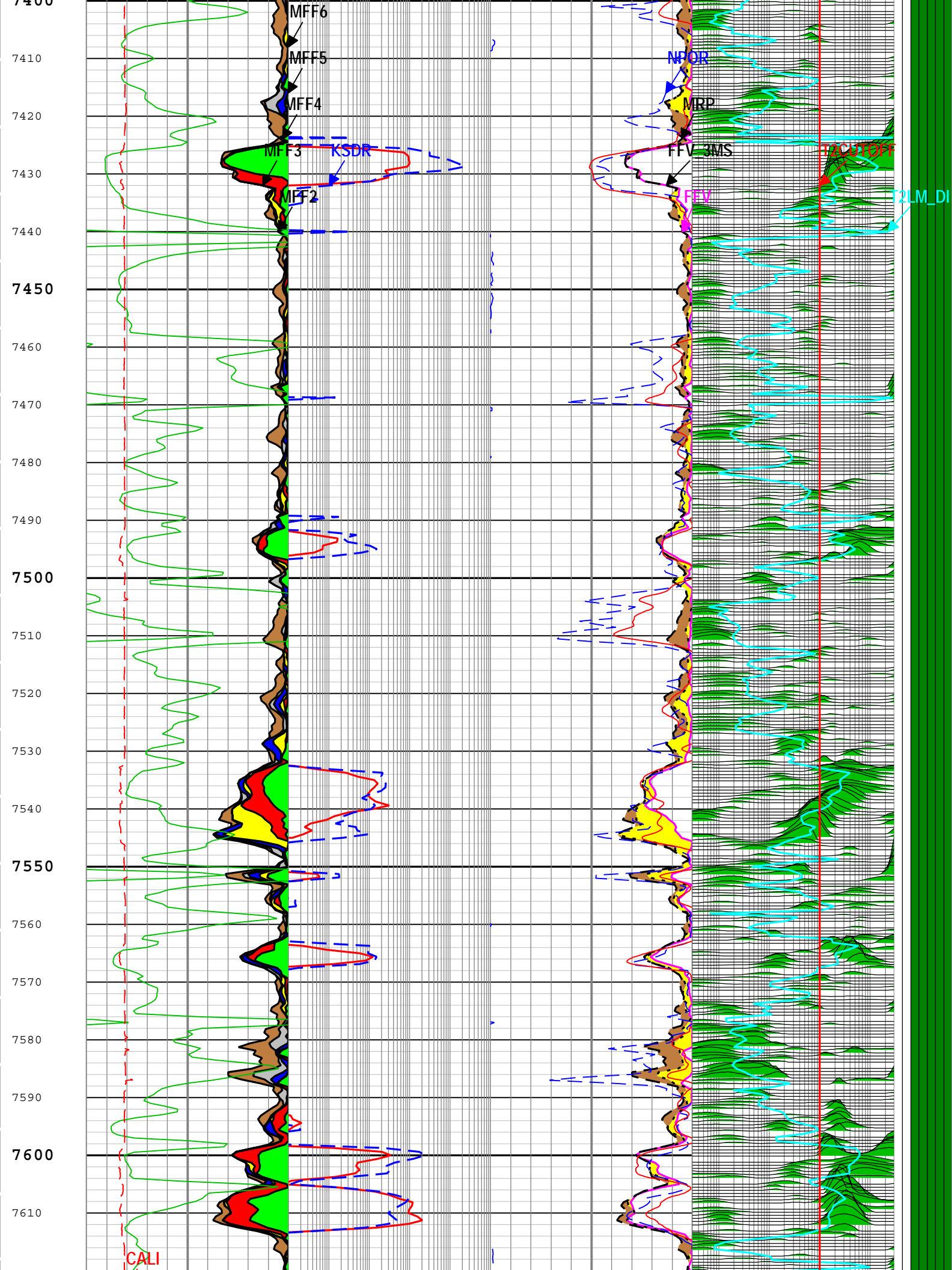
Log Quality Control Display (LQC_DISPLAY) CMRT-B

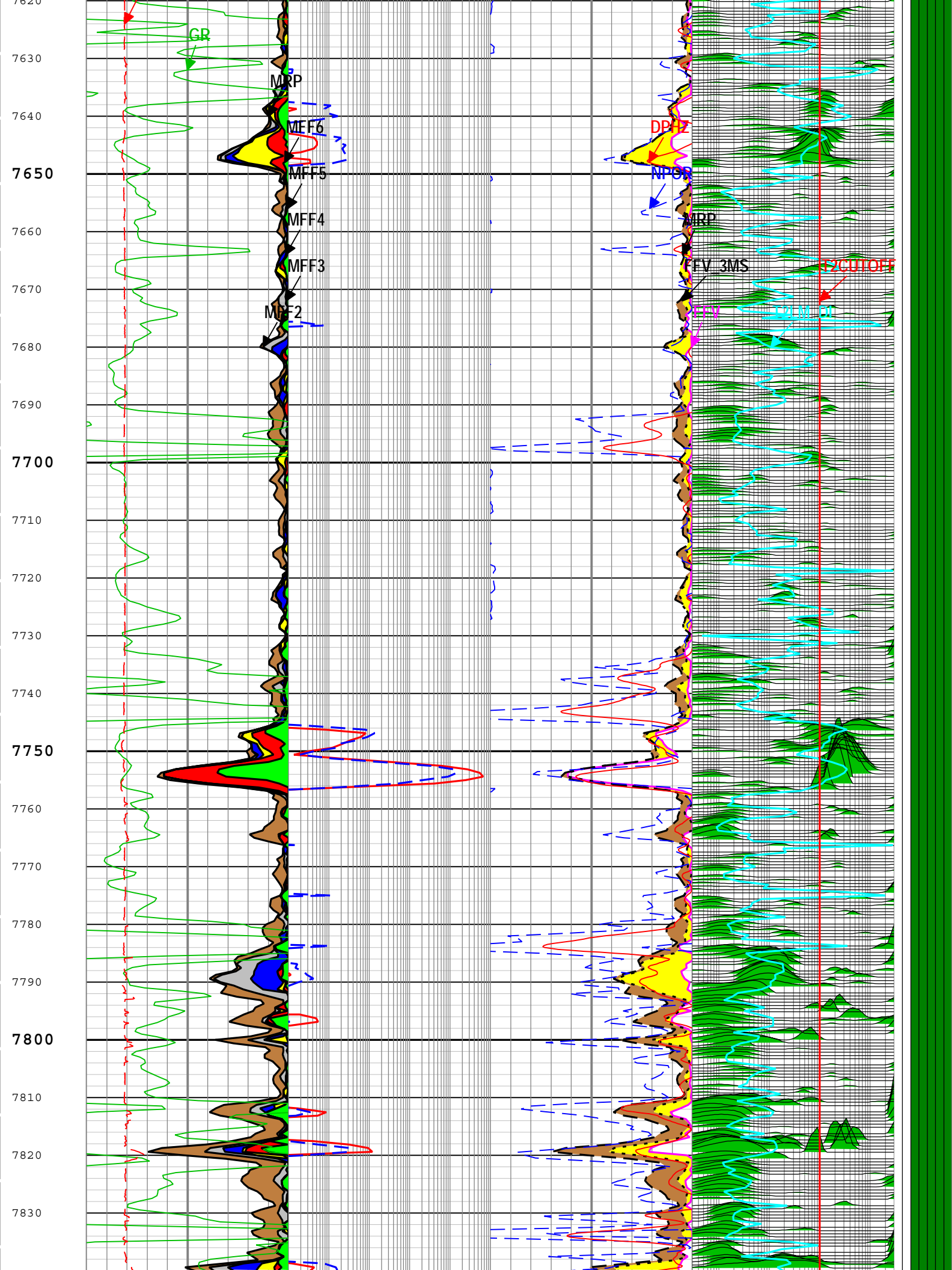
- 1 - BHS - Bad Hole Flag : ☐ Good ☒ Bad
- 2 - IWT - Wait Time : ☐ OK ☒ Insufficient
- 3 - DB0 - Delta B0 : ☒ OK ☐ Warning ☐ Error
- 4 - EEN - Early Echo Noise : ☒ OK ☐ Warning ☐ Error
- 5 - HVL - High Voltage : ☒ Normal ☐ Too Low
- 6 - ATS - Auto Tuning : ☒ ALF ☐ Ant ☐ Temp ☐ Off
- 7 - ATTS - AT Tracking : ☒ OK ☐ Warning

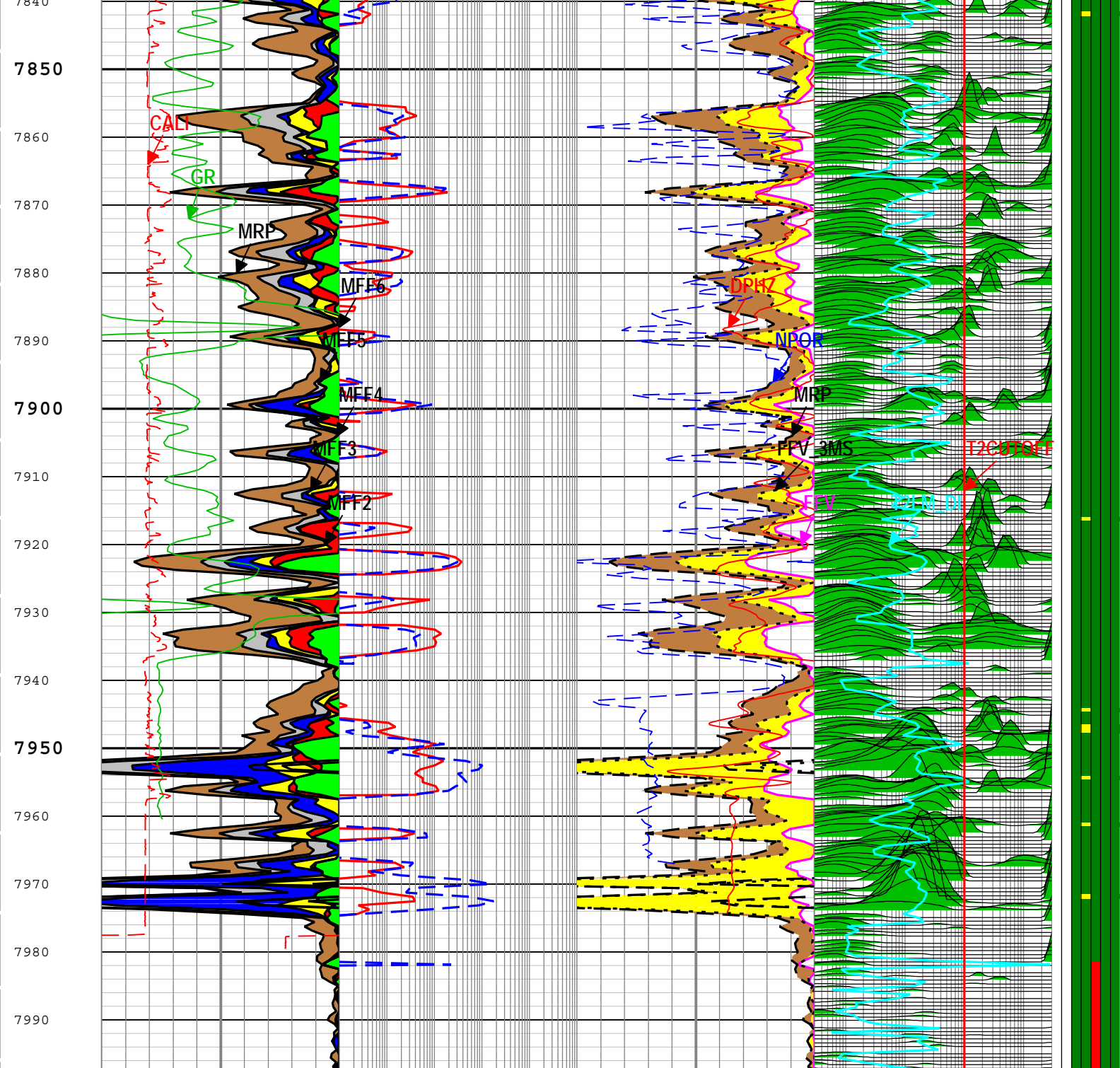
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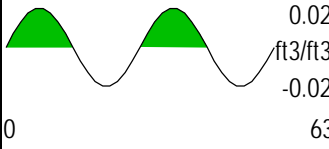


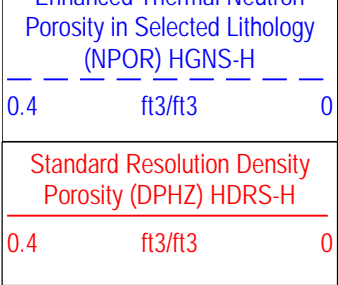
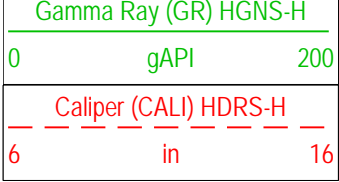








T2 < 3 ms	Timur/Coates Permeability (KTIM) CMRT-B	Capillary Bound Fluid Porosity	T2 Distribution (Diffusion Included)	Log Quality Control Display (LOC_DISPLAY) CMRT-B
3 ms < T2 < 10 ms	0.1 mD 10000	Small Pore Porosity		0.02 ft3/ft3
10 ms < T2 < 33 ms	SDR Permeability (KSDR) CMRT-B	Free Fluid Volume (FFV) CMRT-B		-0.02
33 ms < T2 < 100 ms	0.1 mD 10000	0.4 ft3/ft3 0		63
100 ms < T2 < 300 ms		Free Fluid Volume using 3-ms Cutoff (FFV_3MS) CMRT-B	Logarithmic Mean of T2 Distribution (Diffusion Included) (T2LM_DI) CMRT-B	1 7
T2 > 300 ms		0.4 ft3/ft3 0	0.3 ms 3000	
Magnetic Resonance Free Fluid Volume from Cutoff 2 (MFF2) CMRT-B		Magnetic Resonance Porosity (MRP) CMRT-B	T2 Cutoff (T2CUTOFF) CMRT-B	
0.4 ft3/ft3 0		0.4 ft3/ft3 0	0.3 ms 3000	
		Enhanced Thermal Neutron		



TIME_1900 - Time Marked every 60.00 (s)

Log Quality Control Display (LQC_DISPLAY) CMRT-B

- 1 - BHS - Bad Hole Flag :

Good

Bad
- 2 - IWT - Wait Time :

OK

Insufficient
- 3 - DB0 - Delta B0 :

OK

Warning

Error
- 4 - EEN - Early Echo Noise :

OK

Warning

Error
- 5 - HVL - High Voltage :

Normal

Too Low
- 6 - ATS - Auto Tuning :

ALF

Ant

Temp

Off
- 7 - ATTS - AT Tracking :

OK

Warning

Description: CMRTB Depth Log Main Format Format: Log (CMRTB Depth Log Main) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 24-Nov-2014 19:50:33

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BHT	Bottom Hole Temperature	Borehole	190	degF
BS	Bit Size	WLSESSION	7.875	in
BSAL	Borehole Salinity	Borehole	0	ppm
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0.32	in
CBLO	Casing Bottom (Logger)	WLSESSION	545	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
DFD	Drilling Fluid Density	Borehole	8.9	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DFT_WATER	Drilling Fluid Water Type	Borehole	LSND	
DHC	Density Hole Correction	HDRS-H	Bit Size	
FD	Fluid Density	Borehole	1	g/cm3
FSAL	Formation Salinity	Borehole	0	ppm
GAMMA_REG	Regularization Factors	CMRT-B	[1.5, 1.5, 0, 0, 0, 0]	
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	AMF	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
HSCO	Hole Size Correction Option	HGNS-H	Yes	
JOBID	Job Identification	WLSESSION	CAU6-00135	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
MFST	Mud Filtrate Sample Temperature	Borehole	75	degF
NSTACK	Number of Stacking Levels	CMRT-B	3	
POLC_SW	Polarization Correction Switch	CMRT-B	No	
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.69	ohm.m
SOCO	Standoff Correction Option	HGNS-H	Yes	
T1CUT	T1 Cutoff between BFV and FFV	CMRT-B	50	ms
T1T2R_IN	T1/T2 Ratio Input	CMRT-B	2	

T1T2R_MAX	T1/T2 Ratio Maximum	CMRT-B	3	
T1T2R_MIN	T1/T2 Ratio Minimum	CMRT-B	1	
T2CUT	T2 Cutoff between BFV and FFV	CMRT-B	100	ms
T2CUT_TAPER	Start of Tapered T2 Cutoff	CMRT-B	25	ms

Tool Control Parameters

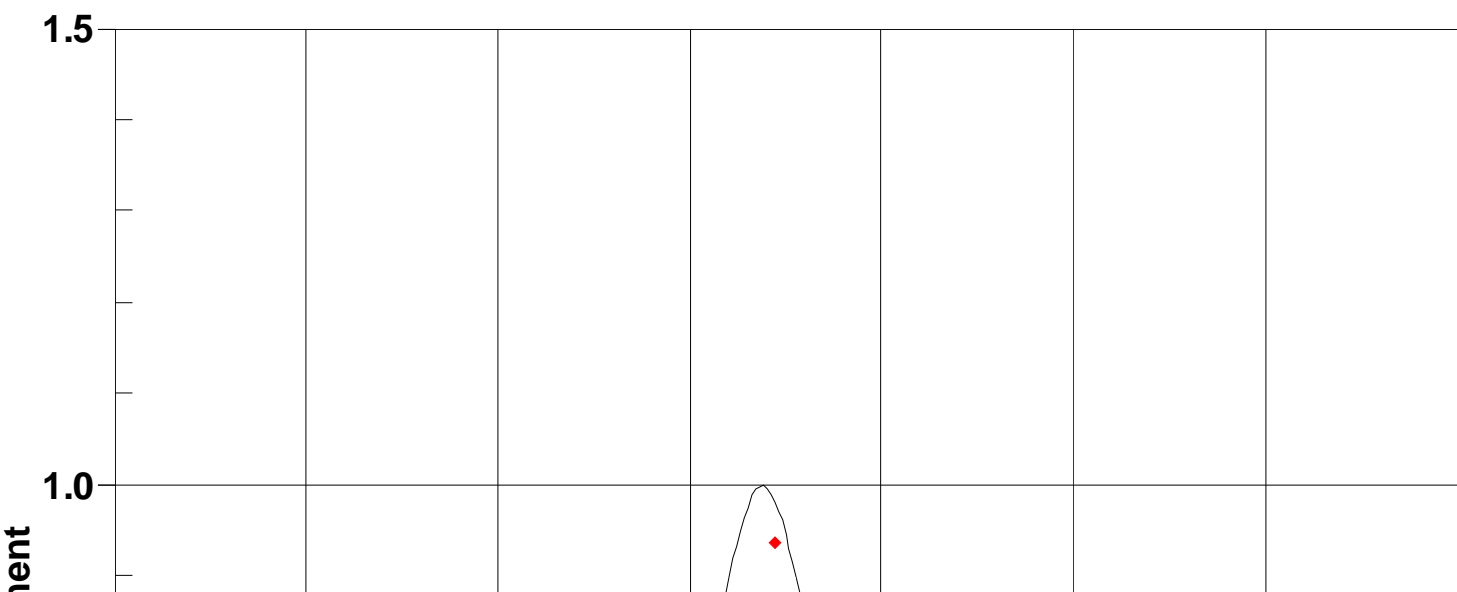
Parameter	Description	Tool	Value	Unit
ACQ_METHOD_OPT	Acquisition Method Option	CMRT-B	SEQ	
ALF_PHDIF_AVE	Average of Auto-Larmor-Frequency Phase Difference during LFST	CMRT-B	-1.41	deg
ALF_PHDIF_STD	Standard Deviation of Auto-Larmor-Frequency Phase Difference during LFST	CMRT-B	0.31	deg
DLSR	Depth Log Sample Rate	CMRT-B	7.5	in
DSP_VERS	DH Signal Processing Code Version	CMRT-B	13	
EPM_OPT	Enhanced Precision Mode Option	CMRT-B	On	
FREQ_OP_PREV	Operating Frequency, prior to new LFST, at LFST Temperature	CMRT-B	2119	kHz
HMCA_BRD_TYPE	HMCA Board Type	HGNS-H	1	
HRGD_BRD_TYPE	HRGD Board Type	HDRS-H	WITH_HET	
LFST_CFREQ	LFST Central Frequency	CMRT-B	2122	kHz
LFST_FREQ	LFST Frequency	CMRT-B	2119	kHz
LFST_TEMP	LFST Temperature	CMRT-B	162.66	degF
LFST_TEMP_DEL	LFST Temperature Variation	CMRT-B	34.39	degF
LFST_TT_OFFSET	LFST Tune Table Offset	CMRT-B	-2.3	kHz
LOG_DIRECTION	Logging Direction	CMRT-B	Up	
LOG_MODE_CMR	Logging Mode for CMR	CMRT-B	DEPTH_B_MODE_EXPERT	
LOG_SPEED	Optimal Logging Speed	CMRT-B	700	ft/h
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	840	ft/h
MAX_TOOL_SPEED	Maximum service speed allowed for, or attained by, a logging tool.	CMRT-B	840	ft/h
NECH_V	Number of Echo Amplitudes Vector	CMRT-B	[5000, 30, 0, 0, 0, 0]	
NWT	Number of Wait Times	CMRT-B	2	
PT_V	Polarization Times Vector	CMRT-B	[6.49, 0.02, 0, 0, 0, 0]	s
RPTN_V	Number of Repetitions Vector	CMRT-B	[1, 10, 0, 0, 0, 0]	
SLSR	Station Log Sample Rate	CMRT-B	0	s
TE_V	Echo Spacings Vector	CMRT-B	[200, 200, 0, 0, 0, 0]	us
WT_V	Wait Times Vector	CMRT-B	[1.95, 0.02, 0, 0, 0, 0]	s

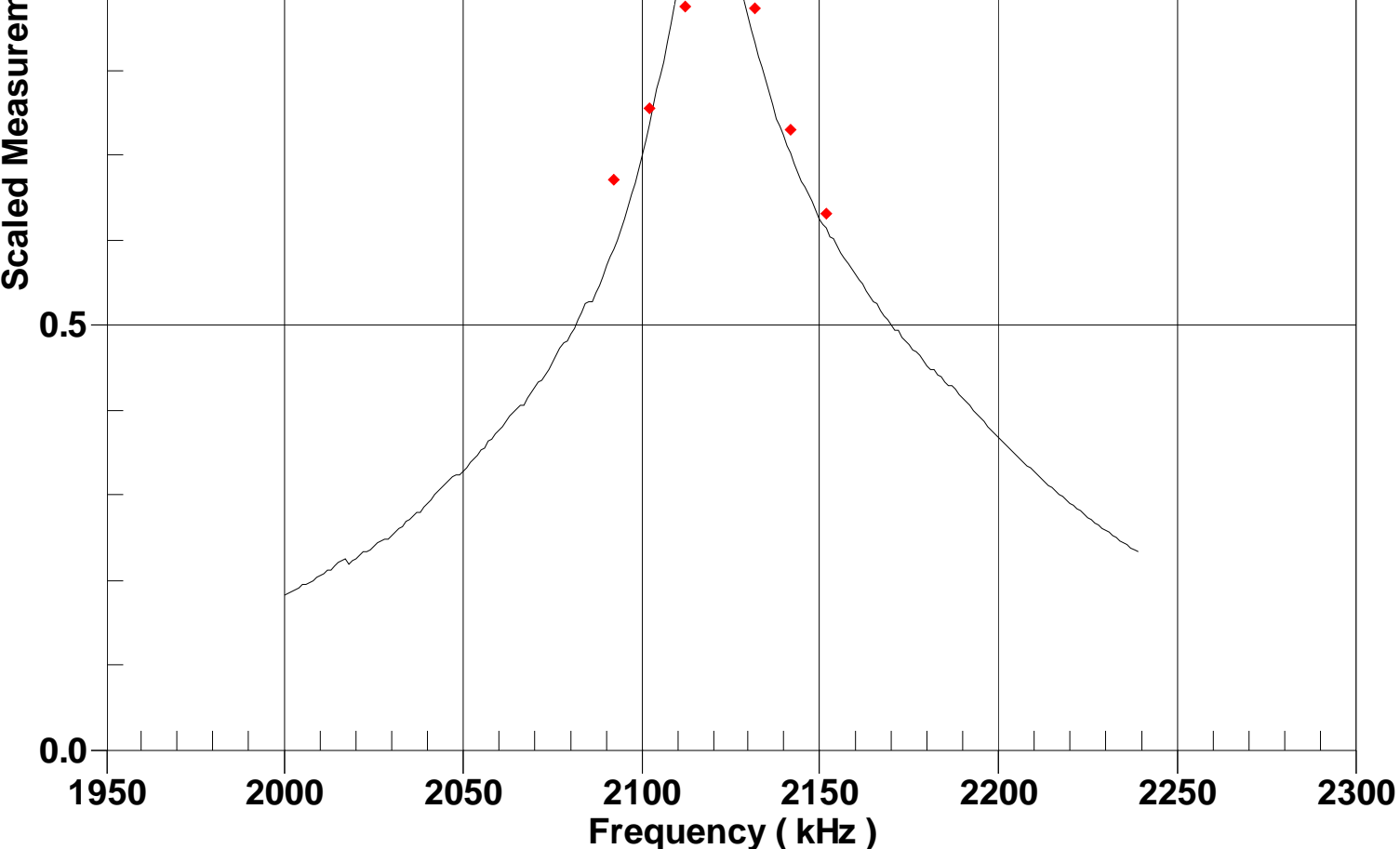
XYZ

Company:Cascade Petroleum LLC

Well:Gaede A9S-55W-05-85

One: Log[3]:Up:S005





Calibration Report

CMRT-B (Combinable Magnetic Resonance Tool - BA/BB/VA/BAH) Calibration - Run One

Primary Equipment :

CMRT Normal Pressure Sonde

CMRS

2

Auxiliary Equipment :

CMRT Cartridge Element 30kpsi

CMRC

156

CMRT Water Bottle Calibration - Water Bottle Calibration

Master (EEPROM): 12:30:00 22-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Reciprocal of the MC Amplitude Corrected to 25 degC		Master	0.030	0.020	0.030	0.040	
Test Loop Amplitude During MC		Master	2350.000	1500.000	2638.698	3200.000	
Oper Freq During MC	kHz	Master	2240.000	2130.000	2158.000	2350.000	
Sonde Temp During MC	degF	Master	80.600	50.000	63.678	111.200	
Noise Per Echo - 0	ft3/ft3	Master	----	----	----	----	
Signal-to-Noise Ratio for MC - 0		Master	----	----	----	----	
Log Mean of the T2 Dist - 0	ms	Master	----	----	----	----	

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

Primary Equipment :

HILT Gamma-Ray and Neutron Sonde, 150 degC

HGNS-H

4810

Auxiliary Equipment :

Calibration Parameter :

Water Temperature

Housing Size

JIG-BKG (Jig minus background reference)

165

HGNS Accelerometer Calibration - Accelerometer Accumulations

Before (Measured): 12:41:31 24-Nov-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	ft/s2	Before	32.2	31.5	32.1	32.8	
HGNS Neutron Calibration - HGNS Neutron Accumulations							
Before (Measured): 14:44:57 23-Nov-2014							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Zero Measurement	1/s	Before	0	5.0	25.5	40.0	
Far Zero Measurement	1/s	Before	0	5.0	28.6	40.0	
Near Plus Measurement - 0	1/s	Before	-----	-----	-----	-----	
Far Plus Measurement - 0	1/s	Before	-----	-----	-----	-----	
Near Corrected Plus Measurement - 0	1/s	Before	-----	-----	-----	-----	
Far Corrected Plus Measurement - 0	1/s	Before	-----	-----	-----	-----	
HGNS Gamma-Ray Calibration - Gamma-Ray Accumulations							
Before (Measured): 14:52:10 23-Nov-2014							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before	30.0	0	72.6	120.0	
RGR Plus Measurement	gAPI	Before	185.4	157.1	169.7	206.3	
GR Calibration Gain		Before	0.89	0.80	0.97	1.05	

Company:	Cascade Petroleum LLC	Schlumberger
Well:	Gaede A9S-55W-05-85	
Field:	Wildcat	
County:	Lincoln	
State:	Colorado	

CMR
Combinable Magnetic Resonance
Field Print