

Rig: ENSCO 102

Lo	
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So	
Bo	
Ta	
Cc	
Cc	
Bi	
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Company: Origin Energy Resources Ltd.

Well: Trefoil-1

Field: Trefoil

Rig: ENSCO 102

Country: Australia

SP-HRLA-PEX-CMR-C

Combinable Magnetic Resonance Tool

1:200 Scale

LOCATION		GDA94 Zone 55		Elev.: K.B. 39.9 m	
Northings 5,586,346 m		Eastings 361,028 m		G.L. -68.9 m	
Permanent Datum:		Mean Sea Level		Elev.: 0 m	
Log Measured From:		Drill Floor (RT)		39.9 m above Perm. Datum	
Drilling Measured From:		Drill Floor (RT)			
State: Tasmania	Max. Well Deviation	Longitude 145 22' 30.87"E		Latitude 39 51' 41.58"S	

Logging Date	Run 1	Run 2	Run 3
Run Number			
Depth Driller			
Schlumberger Depth			
Bottom Log Interval			
Top Log Interval			
Casing Driller Size @ Depth			
Casing Schlumberger			
Bit Size			
Type Fluid In Hole			
Density			
Fluid Loss			
Source Of Sample			
RM @ Measured Temperature			
RMF @ Measured Temperature			
RMF @ Measured Temperature			
Source RMF			
RM @ MRT			
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number			
Recorded By			
Witnessed By			

Logging Date

Run Number

Depth Driller

Schlumberger Depth

Bottom Log Interval

Top Log Interval

Casing Driller Size @ Depth

Casing Schlumberger

Bit Size

Type Fluid In Hole

Density

Fluid Loss

Source Of Sample

RM @ Measured Temperature

RMF @ Measured Temperature

RMF @ Measured Temperature

Source RMF

RM @ MRT

Maximum Recorded Temperatures

Circulation Stopped

Logger On Bottom

Unit Number

Recorded By

Witnessed By

24-Nov-2004

Suite-1, Run 1

3545.1 m

3418.3 m

3406.8 m

2420.1 m

9.625 in

2420.1 m

8.500 in

Seawater/Drispac/Soltex

9.4 lbm/gal

3.8 cm3

Flowline

0.206 ohm.m

0.174 ohm.m

0.280 ohm.m

Pressed

0.069 @ 117

117 degC

24-Nov-2004

24-Nov-2004

571

J. Robertson/C. Bassignana/M. Webb

Dave Cohen/Mark Tindale

@ 25 degC

@ 25 degC

@ 25 degC

Pressed

0.058 @ 117

0:45

14:20

AUSL

145 22' 30.87"E

39 51' 41.58"S

Additional mud data: PV/YP = 49degC/51lbs/100ft2. Gels = 3/4/7 lbs/100ft2. LGS/HGS = 5.0/0.9%.

EQUIPMENT DESCRIPTION

SURFACE EQUIPMENT

WITM (DTS)-A 964 NCS-YC 5025
GSR-U 2003
NCT-B 2033
CNB-AB

DOWNHOLE EQUIPMENT

LEH-QT		27.42
LEH-QT 1519		

AH-169		26.53
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DTC-H
ECH-KC 10247


CTEM
TelStatus
ToolStatu



25.85
26.13
0.5 IN
Standoff

CMRT-B		25.21
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CMRC-BA 87
CMRS-BA 92
EME-F


CMR-B Raw		
CMR-B Sen		21.05
CMR-B Dia		20.46

Material	HTM	HMCA	HTM	HMCA
AH-107	19.85	20.46		

HILTH-FTB	Gamma-Ray	—	19.63	19.85
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HGNSD-H 3747

HMCA-H	Neutron F		17.85
HGNH-B 2743			

MONI-B 2743	Neutron I		≤ 17.65
NLS-KL	Neutron N		≤ 17.70

NSR-F 2478	HGNS sens		16.98
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HAUGZ-H	HCNT-H	HCNT-H	HCNT-H

HGR	HRCC cart		
HRCC H 3724	MSE	15.77	11.11

HRCC-H 3724	MCFL	14.11
HRMS-H 3736	HIT cali	13.96

HRGD-H 3737	HRDD-LS	15.55
CLS V12053		

GLS-VJ 2957
MCFL Device-H

HILT Nucl. LS-H

AH-107		13.25
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HRLT-B		12.64
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HRUH-B 705 2.0 IN
Stand-off

HRUC-B 705		Standard
HBI S-B 782		2.0 IN

HIRLH-B 705

HRLC-B 705

High Res.

9.06

2.0 IN
Standoff
2.0 IN
Standoff

5.27

2.09

0.16
0.00

TOOL ZERO

MAXIMUM STRING DIAMETER 7.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

AH-ECHKT
AH-ECHKT 84

SPE-A
SPE-AA 73

SP SPARC
DF
HTEN HMAS HV
Accelerom
Tension

Client: Origin Energy Resources Ltd.

Drawing Date: 12/2/2004

Well: Trefoil-1

Field: Trefoil

State: Tasmania

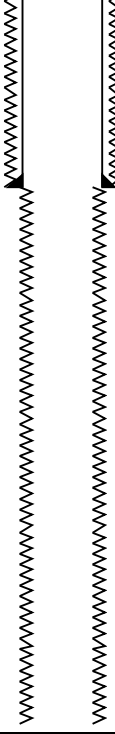
Country: Australia

Rig Name: ENSCO 102

Reference Datum: Mean Sea Level

Elevation: 39.6 m

Production String	(in)		(m)	Well Schematic	(m)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	36.000		Borehole Segment
					0.0	30.000		Casing String, 310 lb/ft
					142.6	30.000		Casing Shoe
					142.6	26.000		Borehole Segment
					0.0	20.000		Casing String, 133 lb/ft
					214.6	20.000		Casing Shoe
					214.6	16.000		Borehole Segment
					0.0	13.375		Casing String, 54.5 lb/ft
					659.6	13.375		Casing Shoe
					659.6	12.250		Borehole Segment
					0.0	9.625		Casing String, 43.5 lb/ft

						2421.0 2421.0 2421.0	9.625 12.250 8.500		Casing Shoe Borehole Segment Bottom Borehole Segment
						3545.1	8.500		Borehole Segment Bottom



Main Log
(1:200)

MAXIS Field Log

Company: Origin Energy Resources Ltd. Well: Trefoil-1

Input DLIS Files

02-Dec-2004 12:10

Output DLIS Files

DEFAULT HRLA_TLD_MCFL_CNL_020PUP FN:19 PRODUCER 02-Dec-2004 15:14 3416.4 M 2414.3 M

CMR DEPTH LOG REPORT

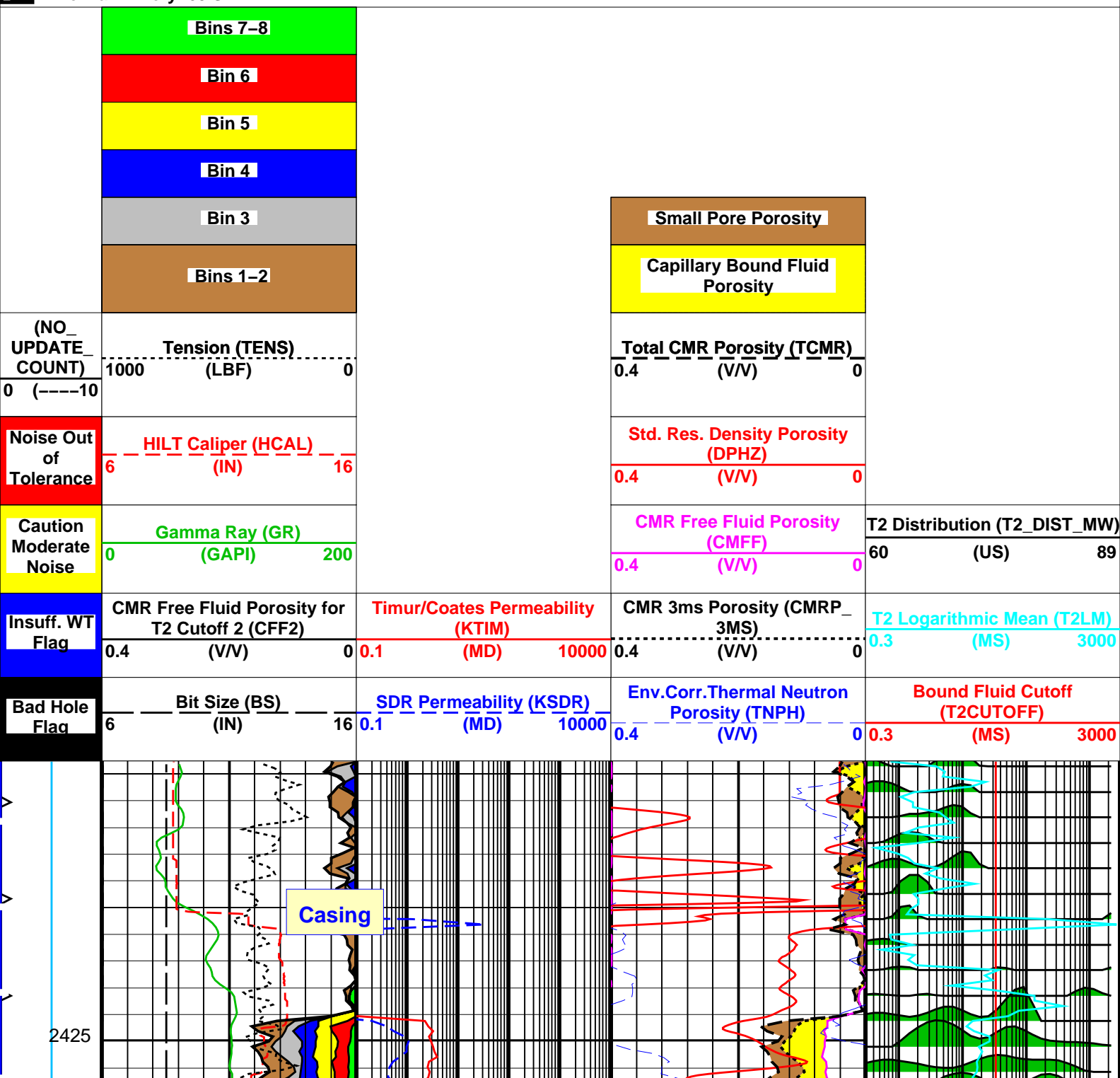
PARAMETER SUMMARY

Tool Type: CMR-Plus	Cart. Number: 87	Sonde Number: 92	
Kit Number: 26	DHC Version : 15	DSP Version : 12	SP Version : 2062001
Mode: Expert Depth Log - B Mode		LEST Freq(khz) : 2182	LEST Temp(degC) : 97.23

Log Direction: Up	Polarization Correction: On	EPM: Yes	EPM T1/T2: Auto
Despiking: Off	High Res: Off	KBFV: Off	DMRP: Off
Echo Spacing(us):	(200 200)		
Polarization Times(sec) for:	T1=1s: (infinity 0.02)	T1=3s: (infinity 0.02)	T1=5s: (13.83 0.02)
Number of Echoes:	(3000 30)		
Repetition:	(1 10)		
Regularization:	Auto		
T2 Min(msec): 0.3	T2 Max(msec): 3000	T2 Cutoff(msec): 33	T1/T2: 2
Number of Components: 30	Downhole Stacking: 3	Uphole Stacking: 1	First Echo Used: No
Multiple T2 Cutoffs(msec):	(0.3 1 3 10 33 100 300 1000 3000)		
Sample Int.(in): 7.5	Req Log Speed (f/h): 600		

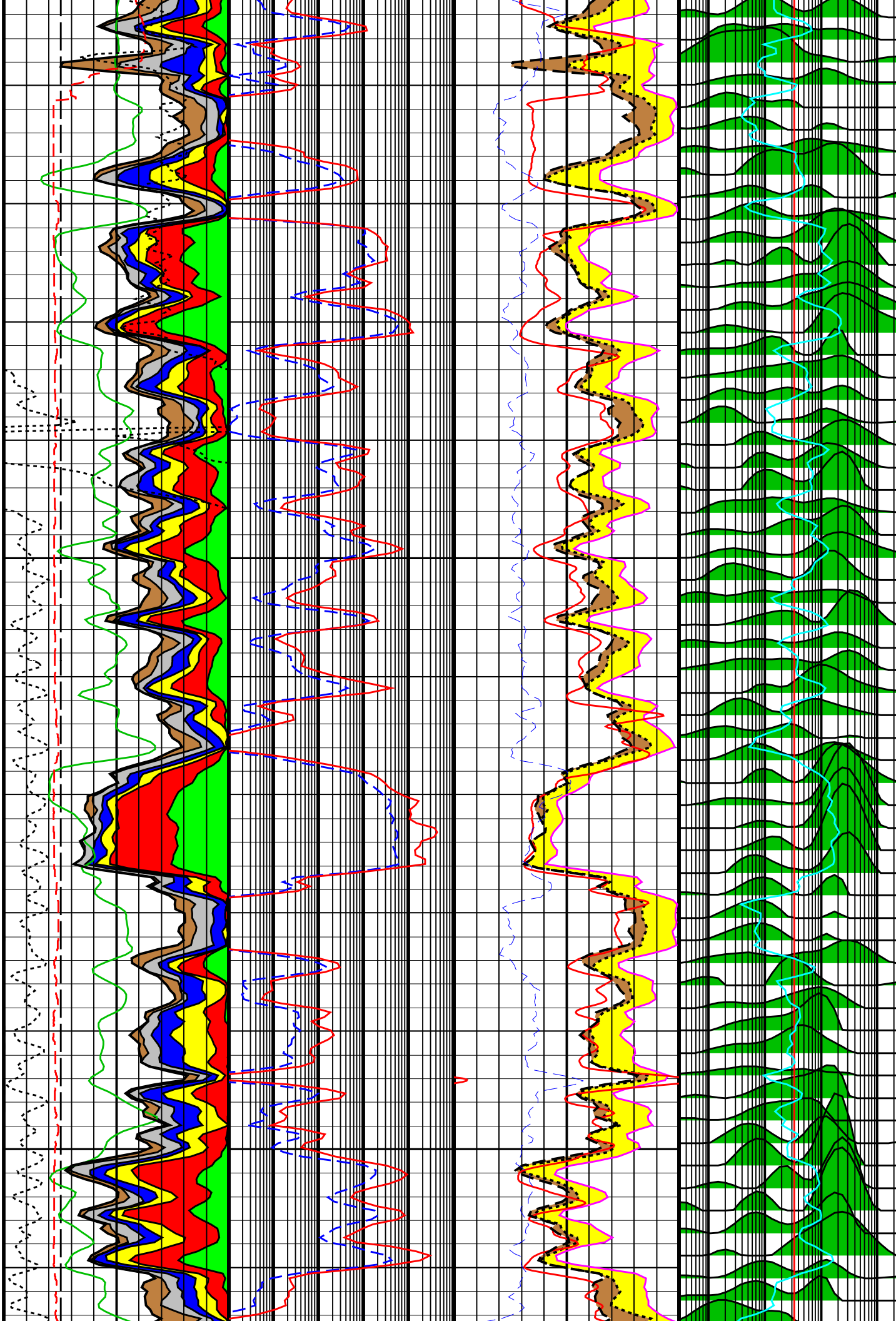
PIP SUMMARY

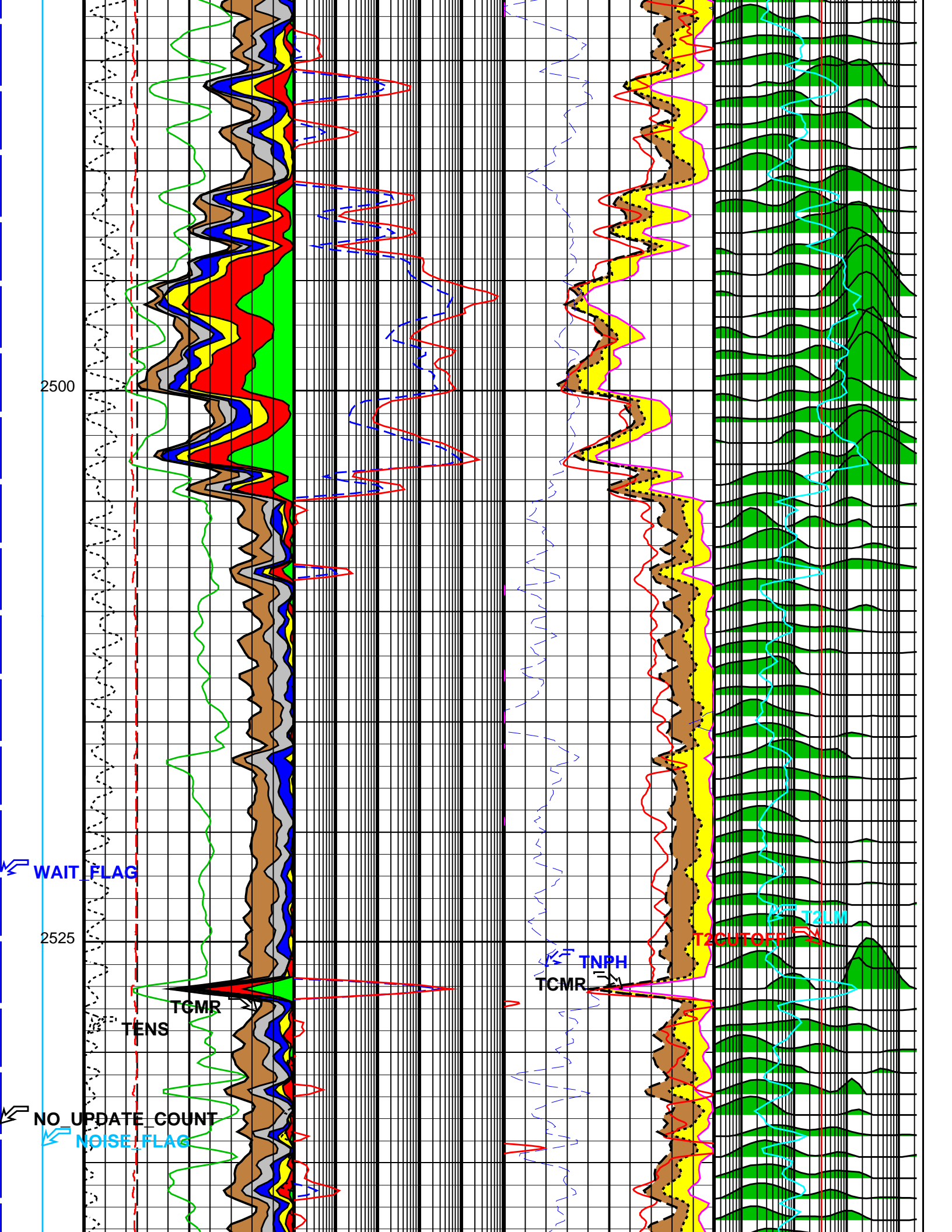
Time Mark Every 60 S

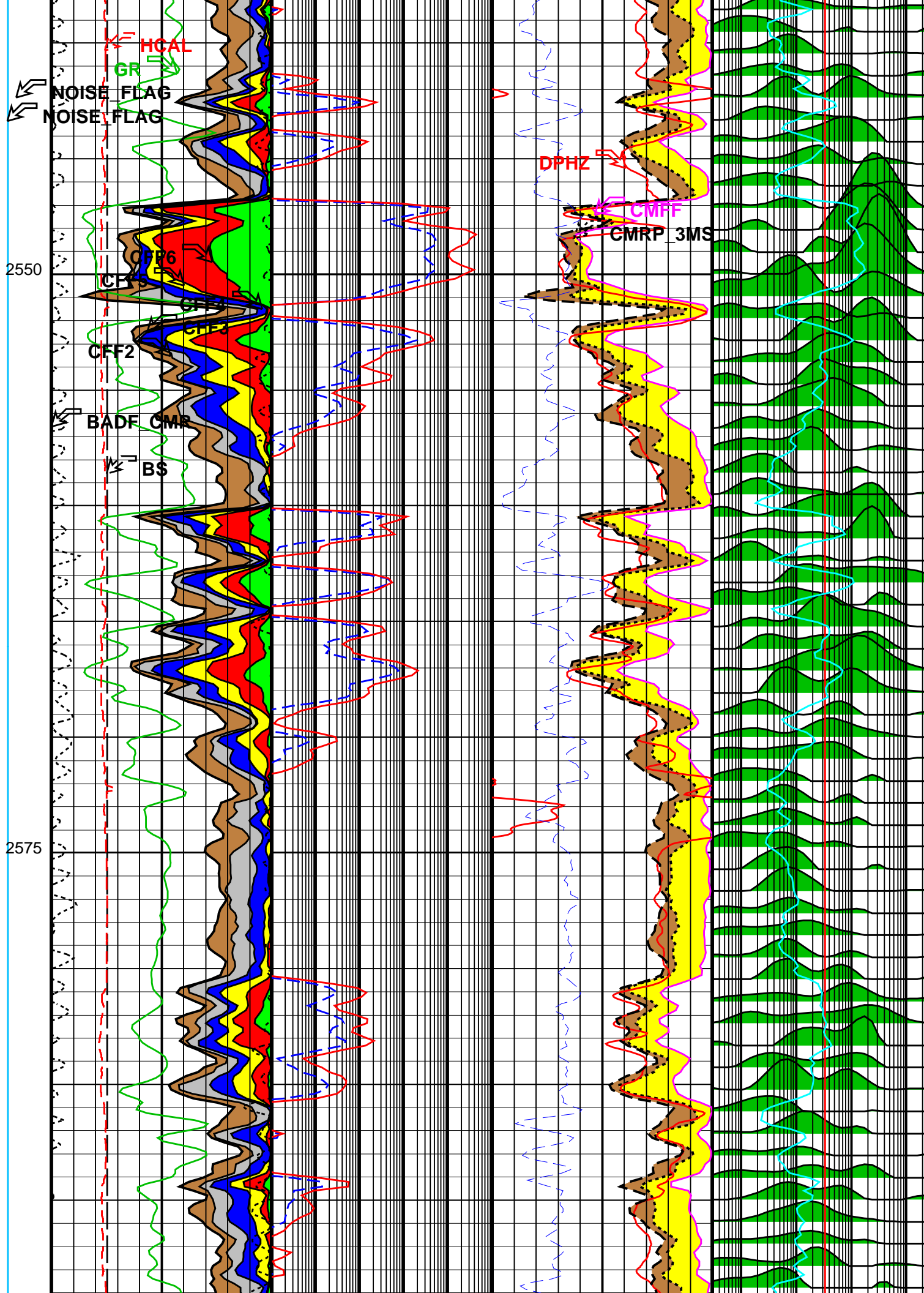


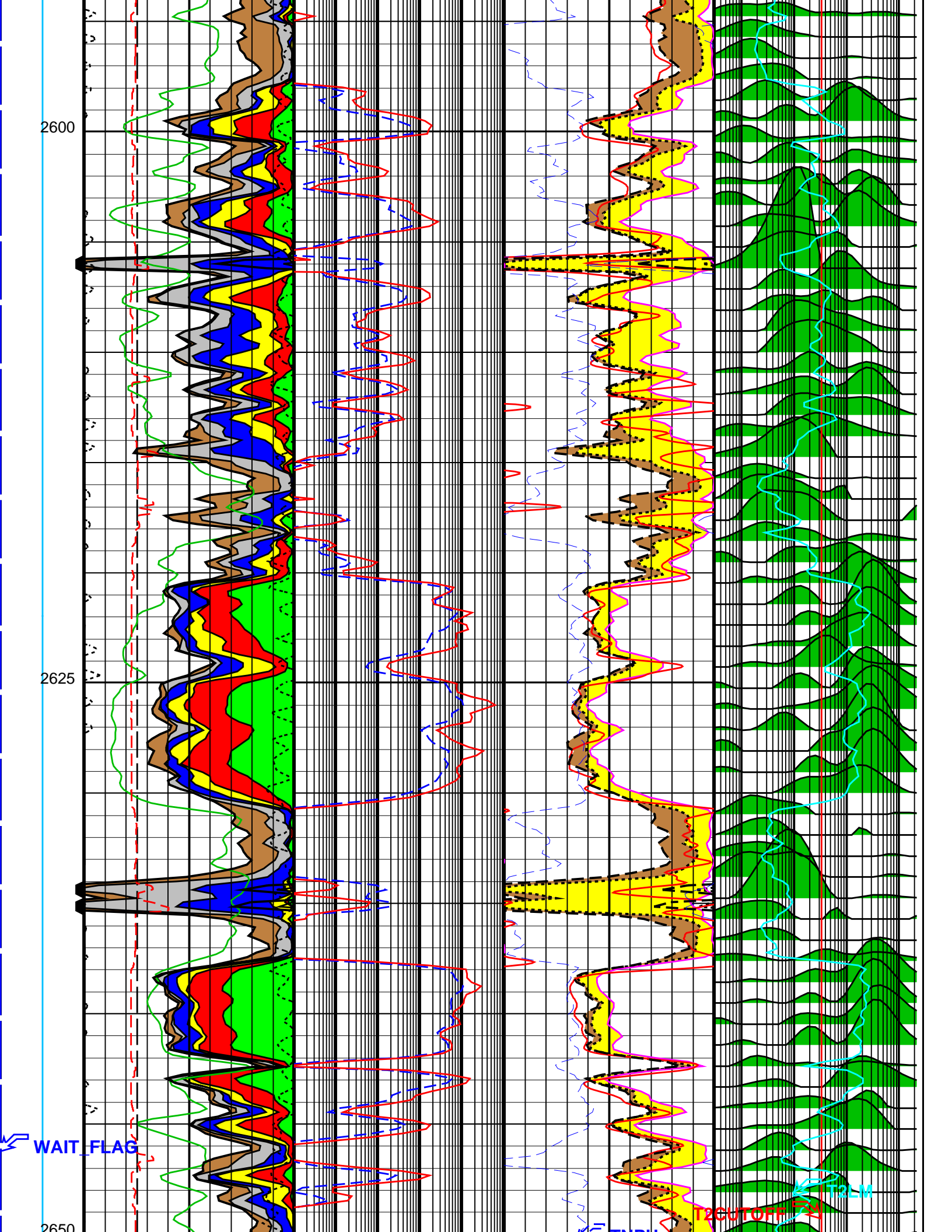
2450

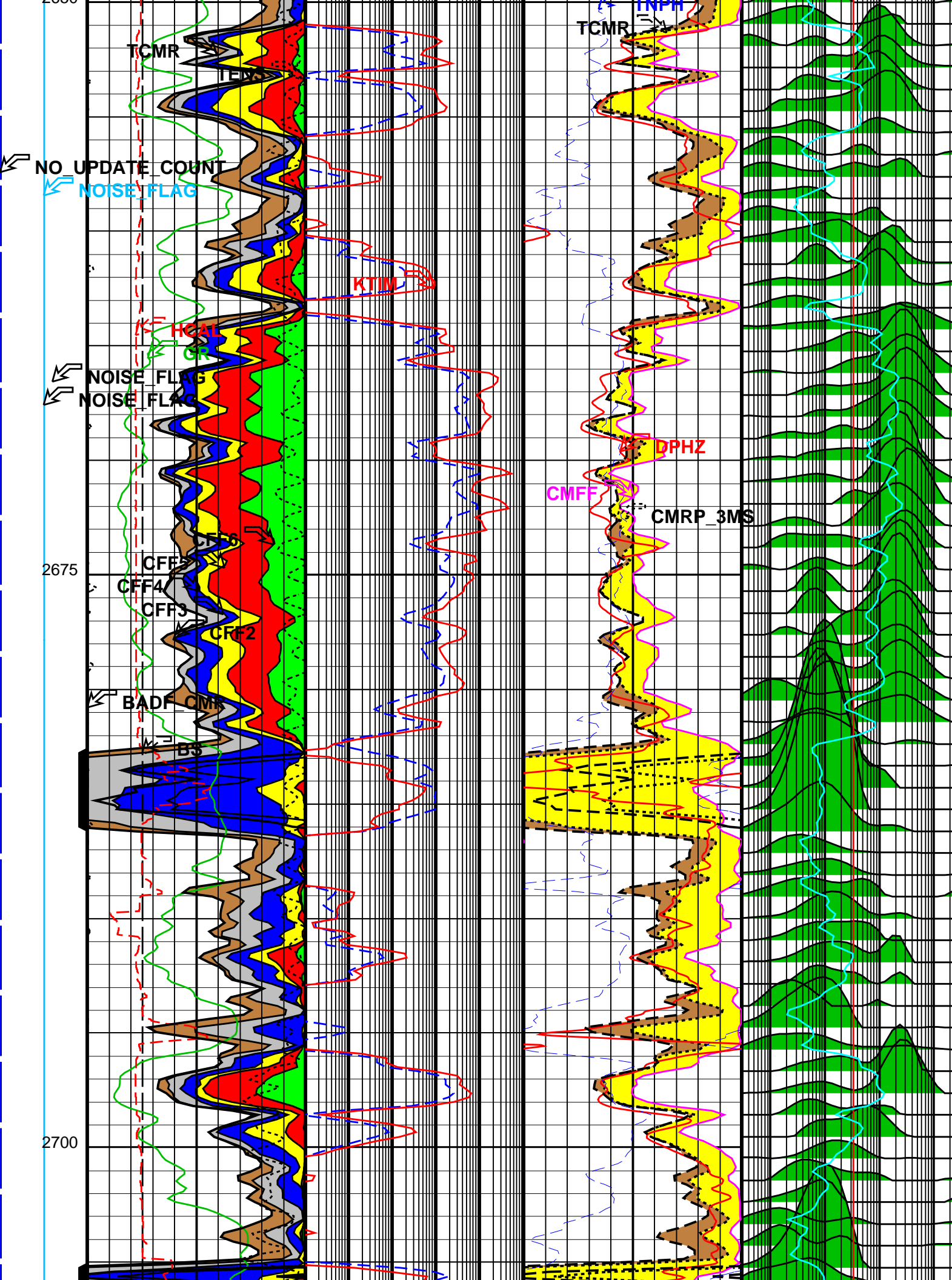
2475







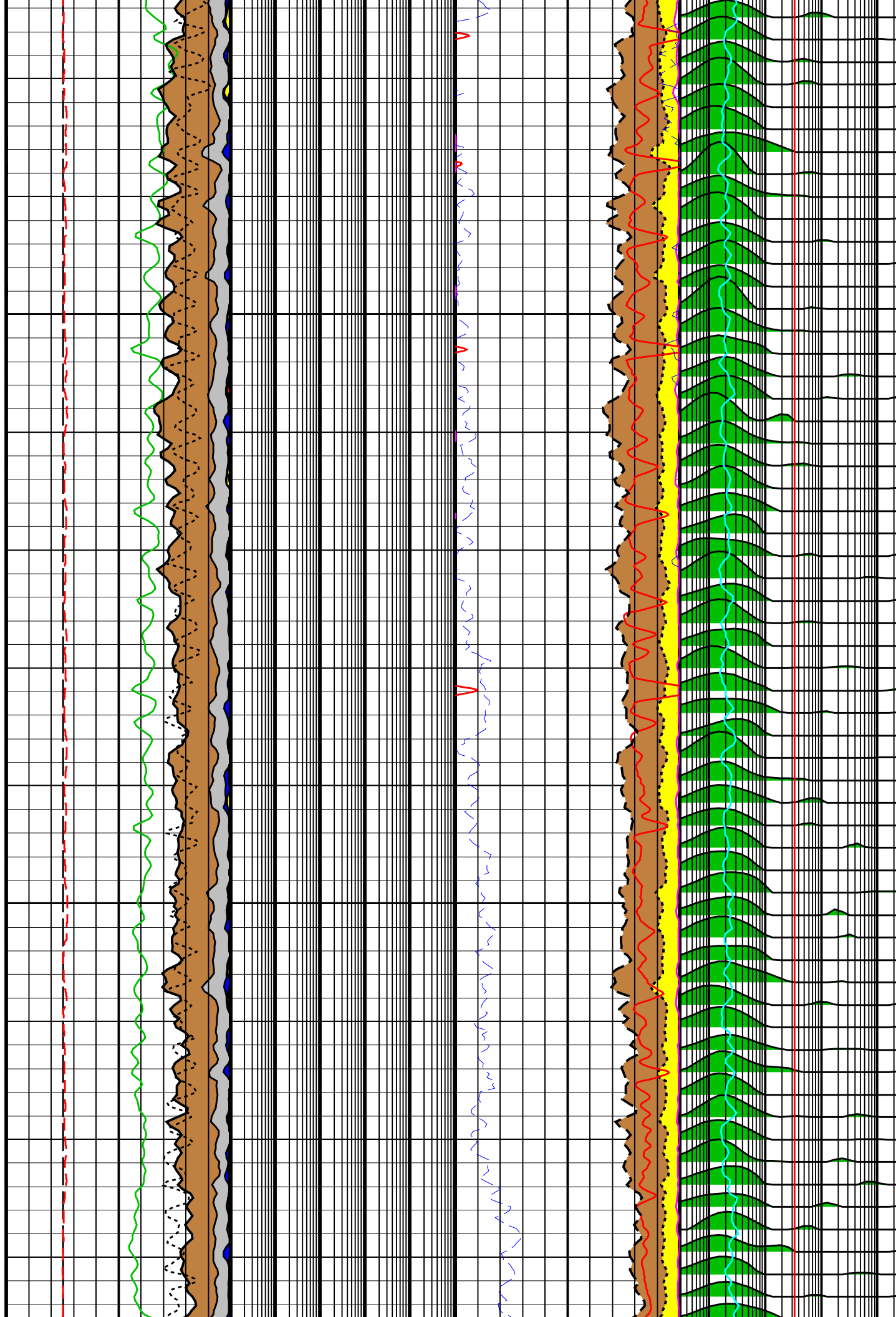


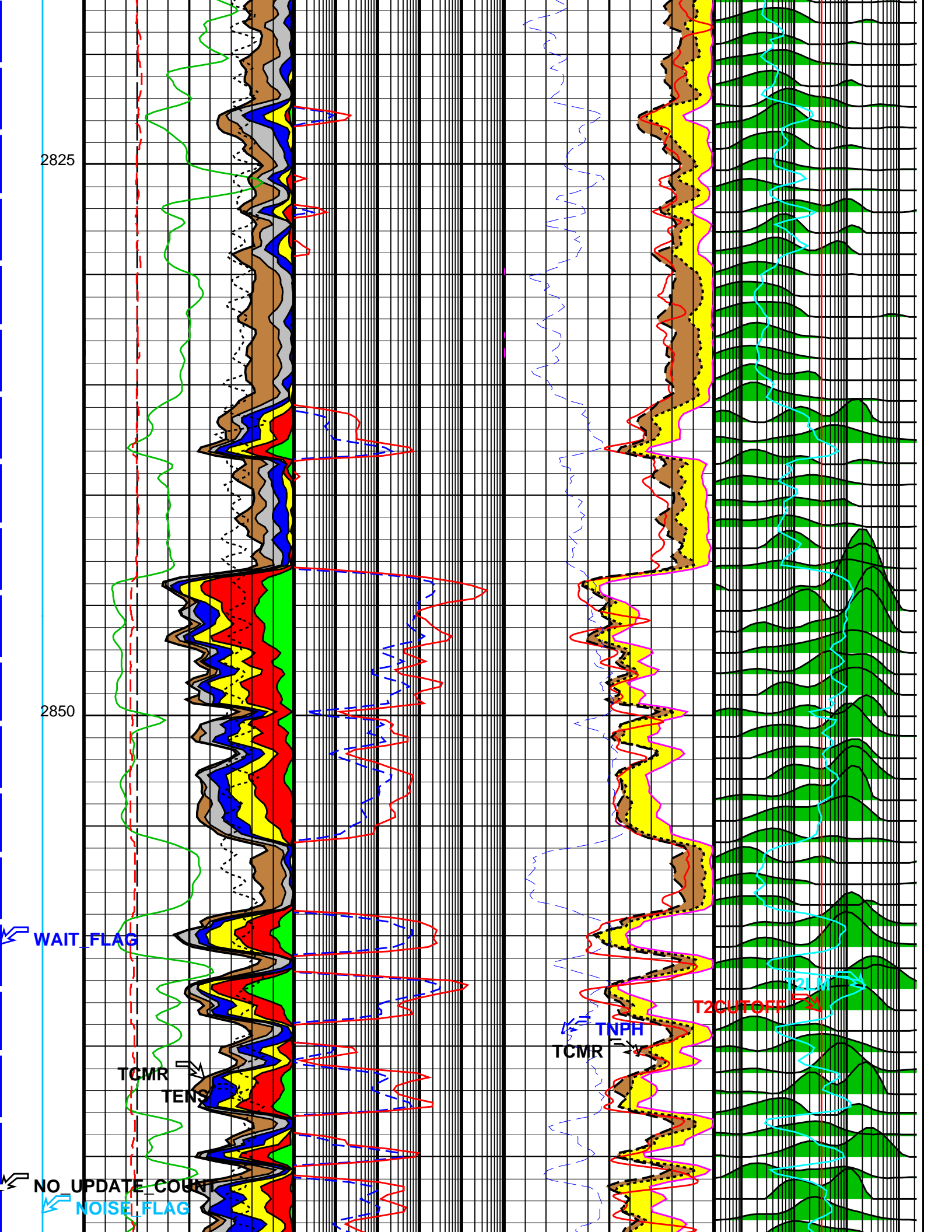




2775

2800





2875

NOISE FLAG
NOISE FLAG

HCAL

GR

CFF6

CFF5

CFF4

CFF3

CFF2

BADEF CRR

BS

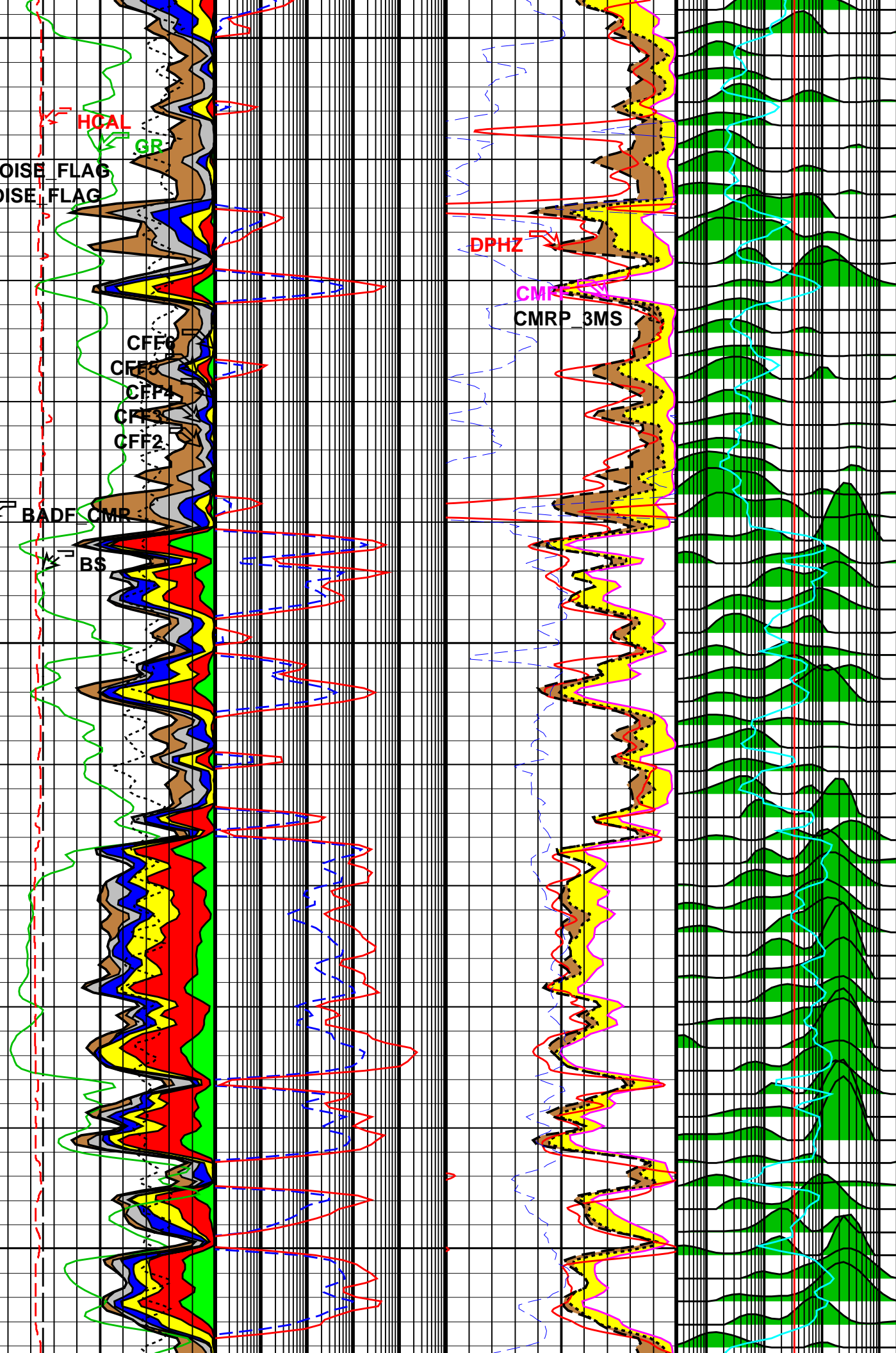
2900

2925

DPHZ

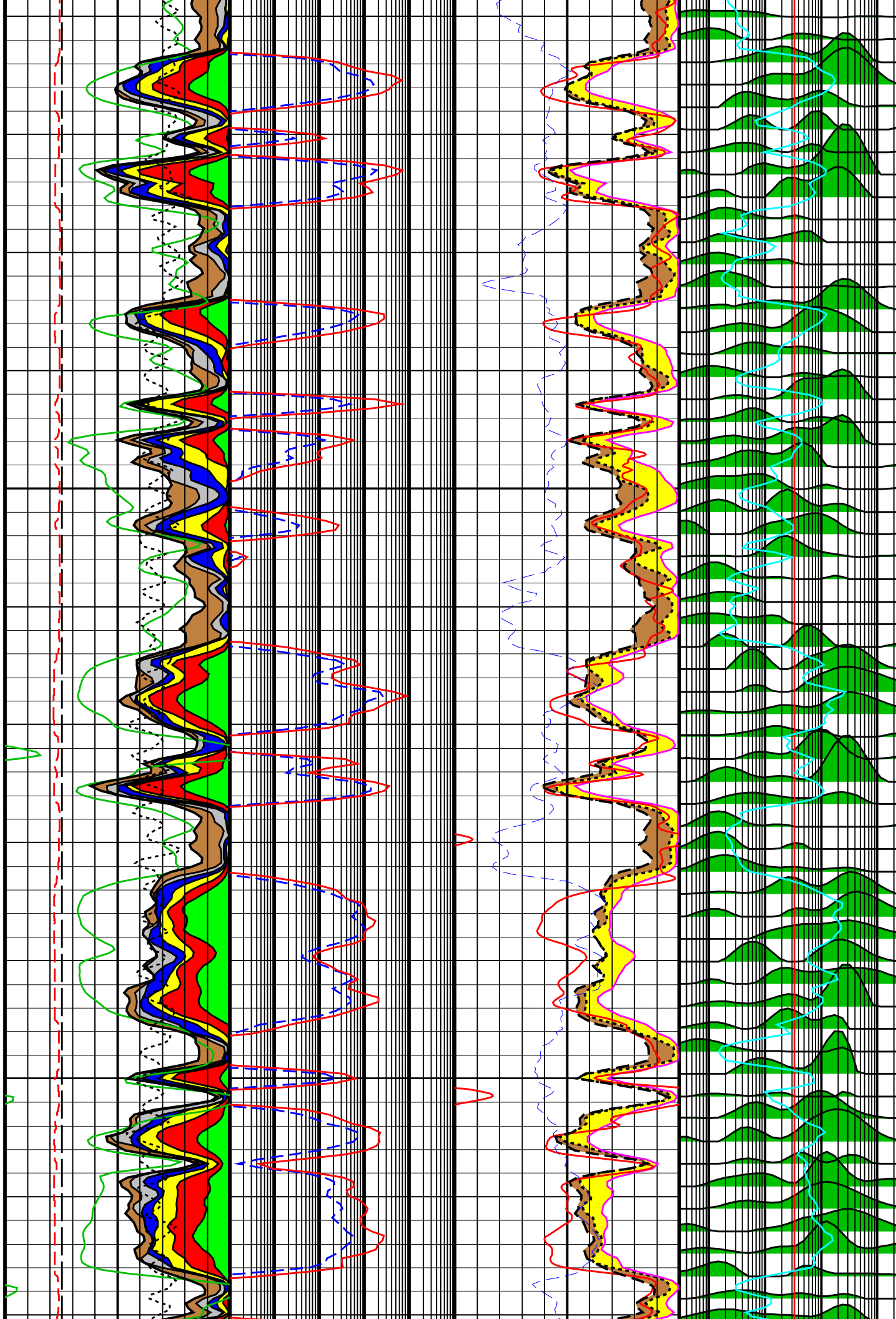
CMR 3MS

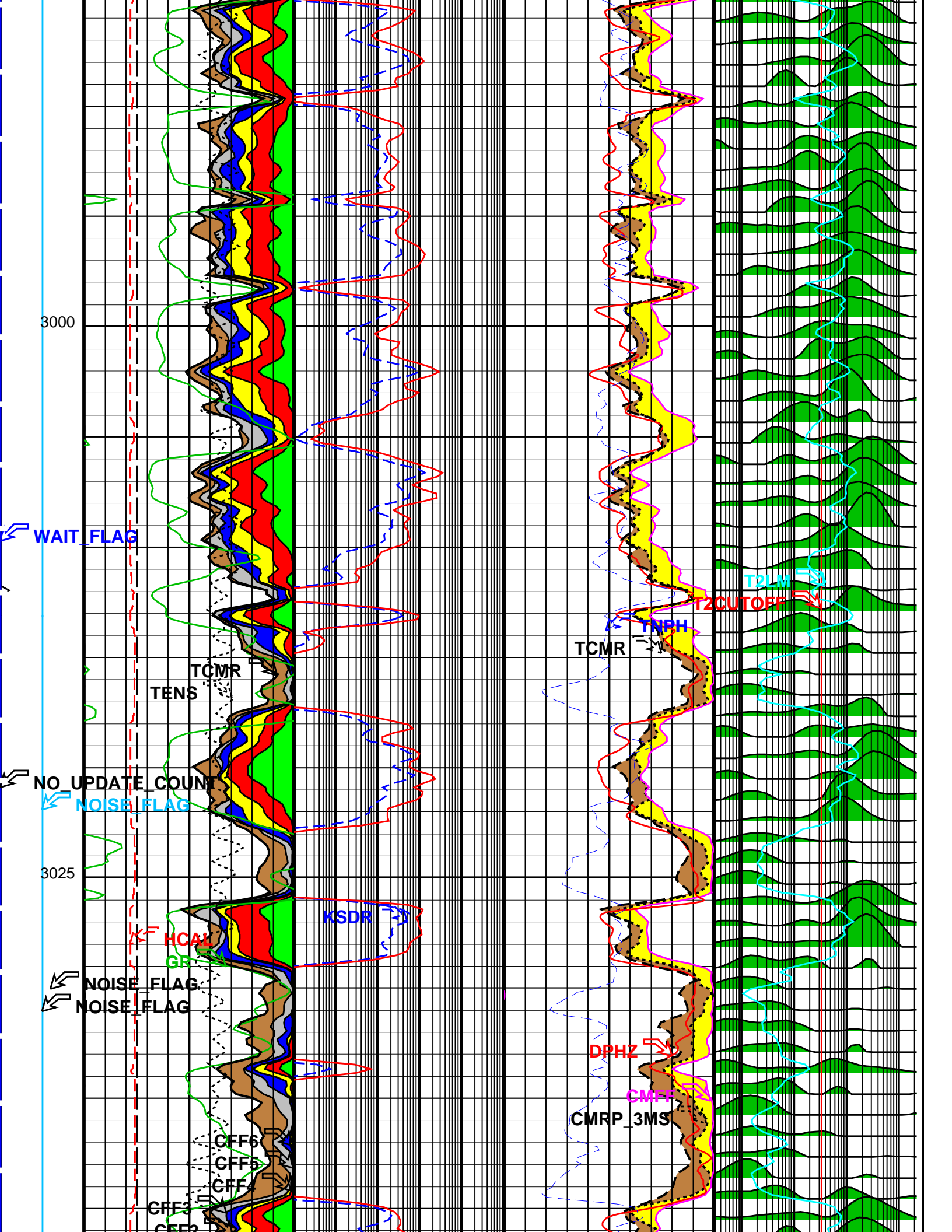
CMRP 3MS

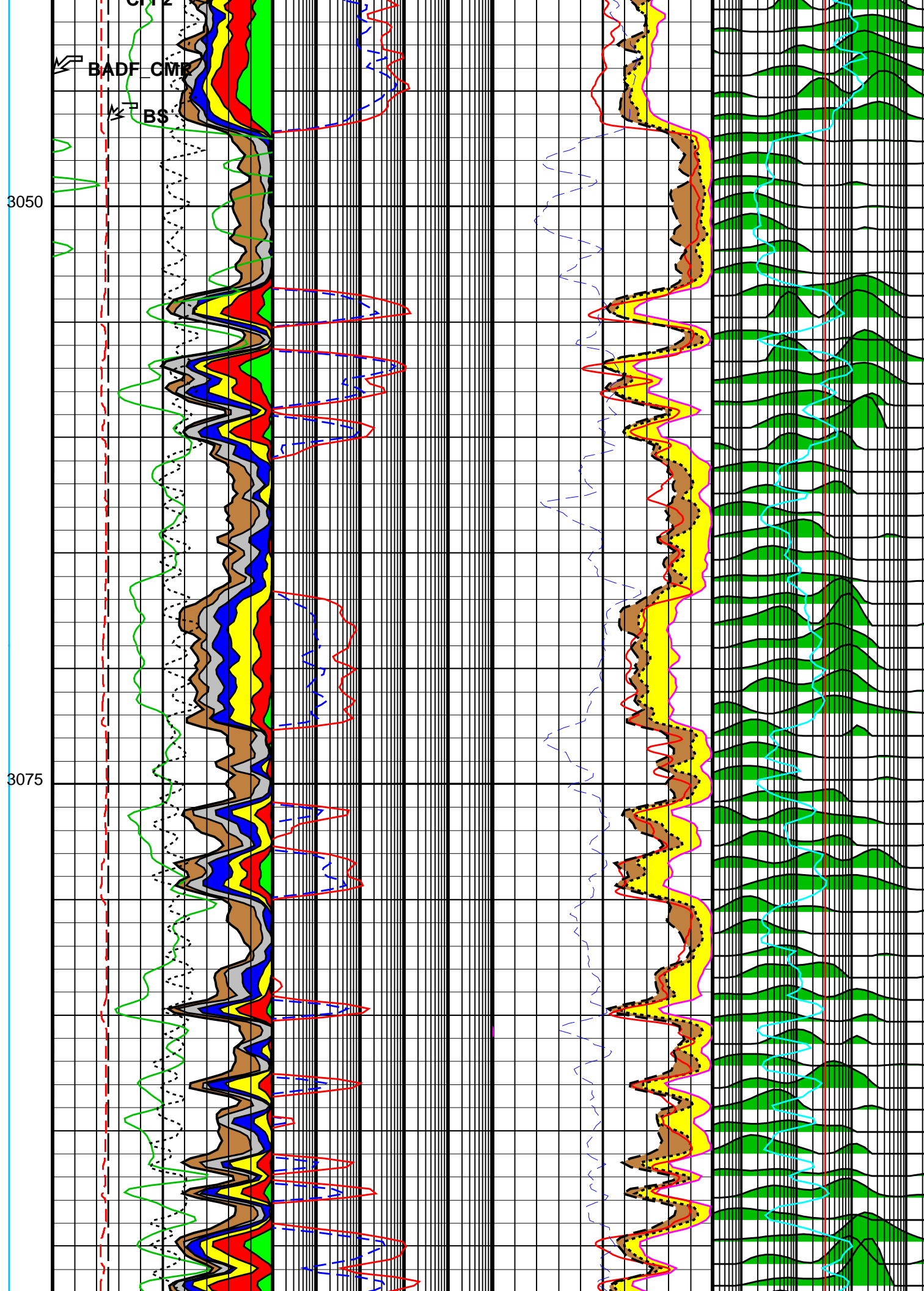


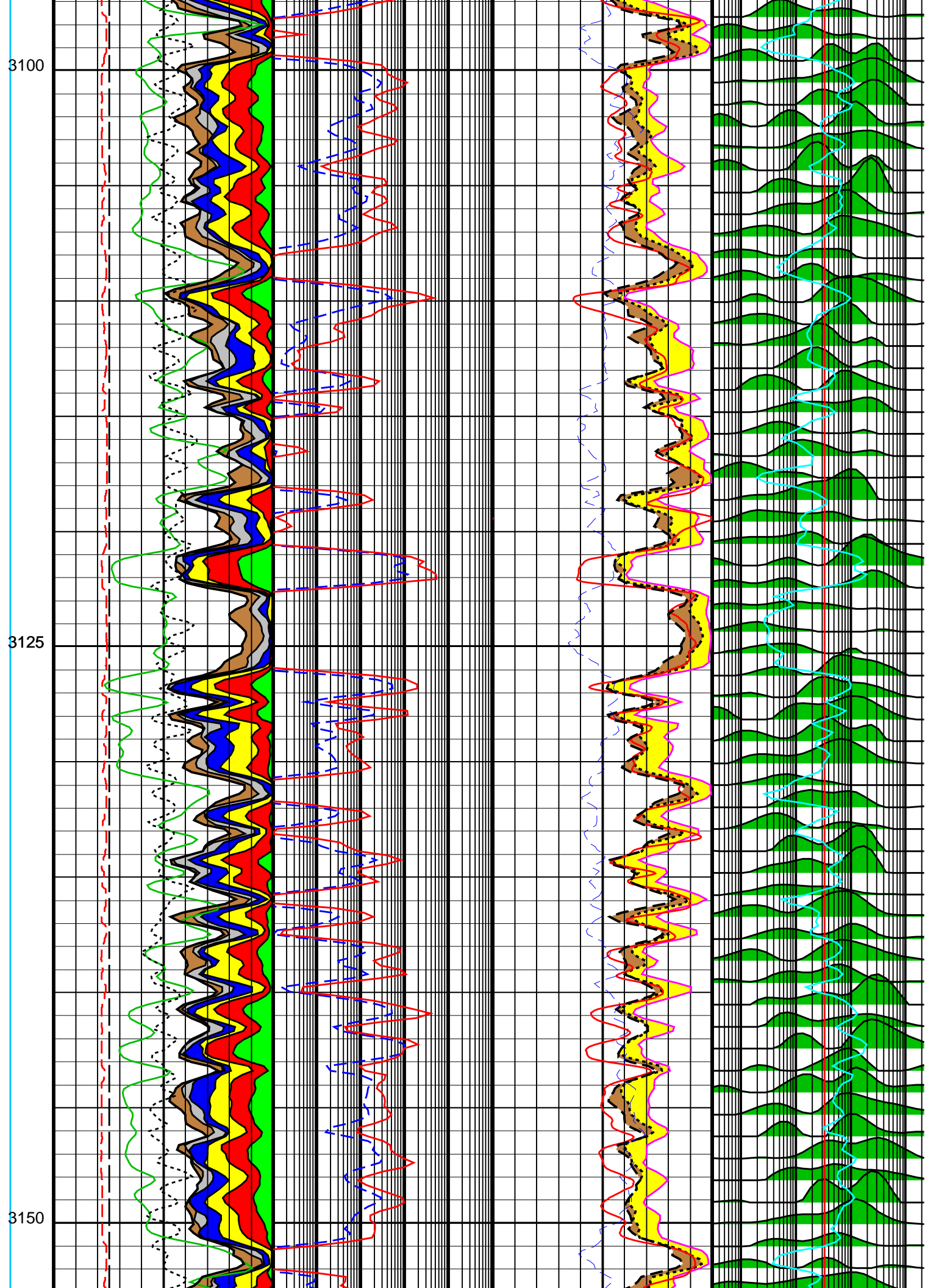
2950

2975



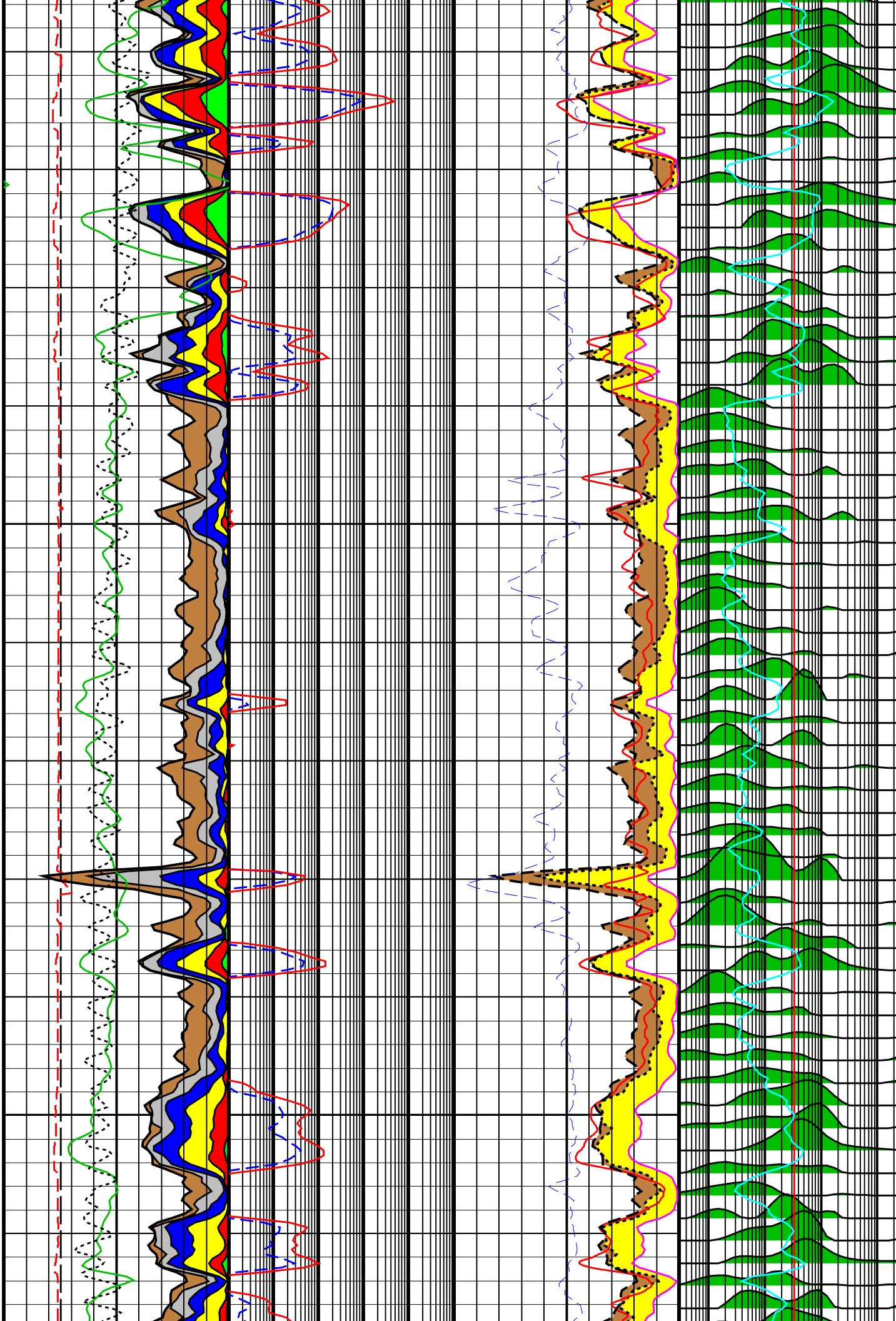


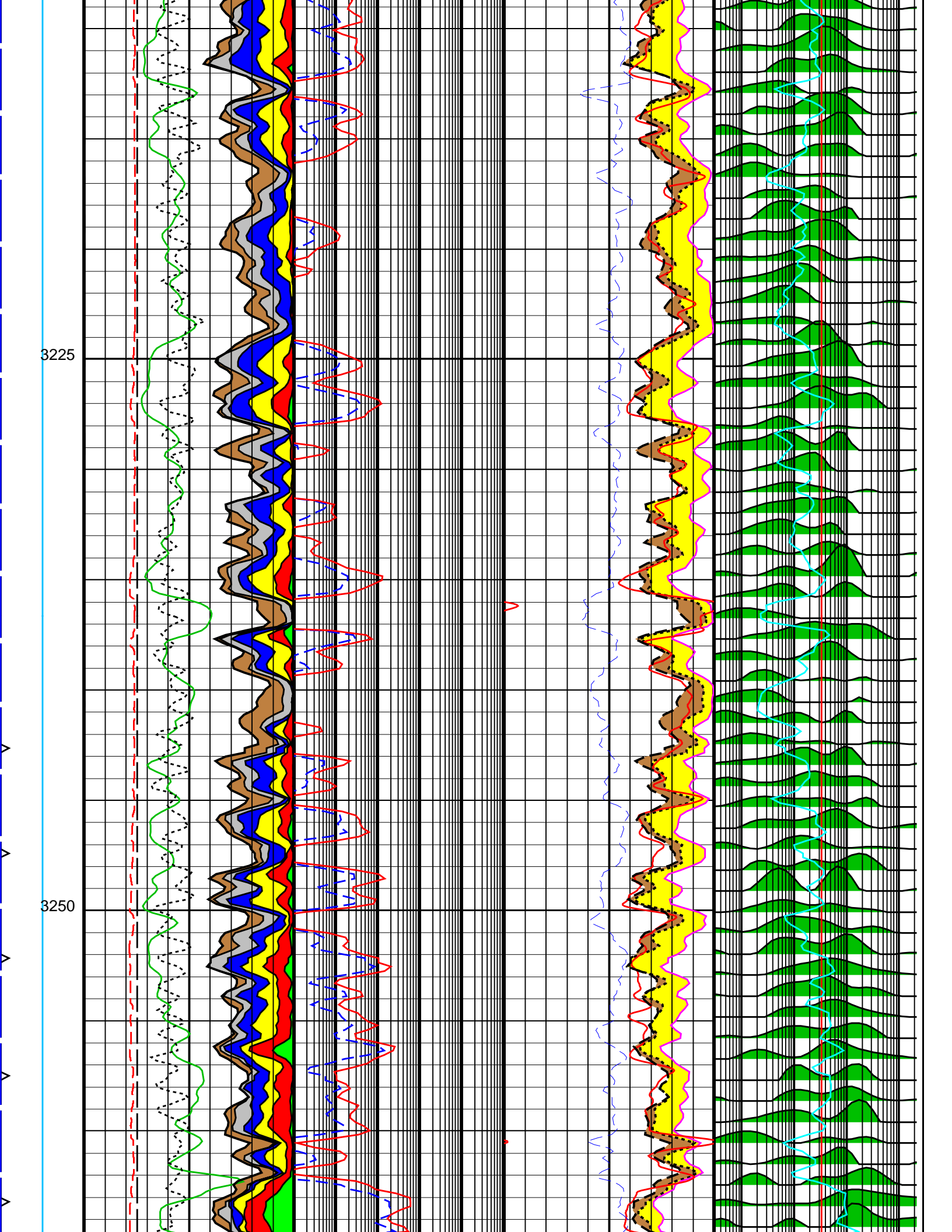


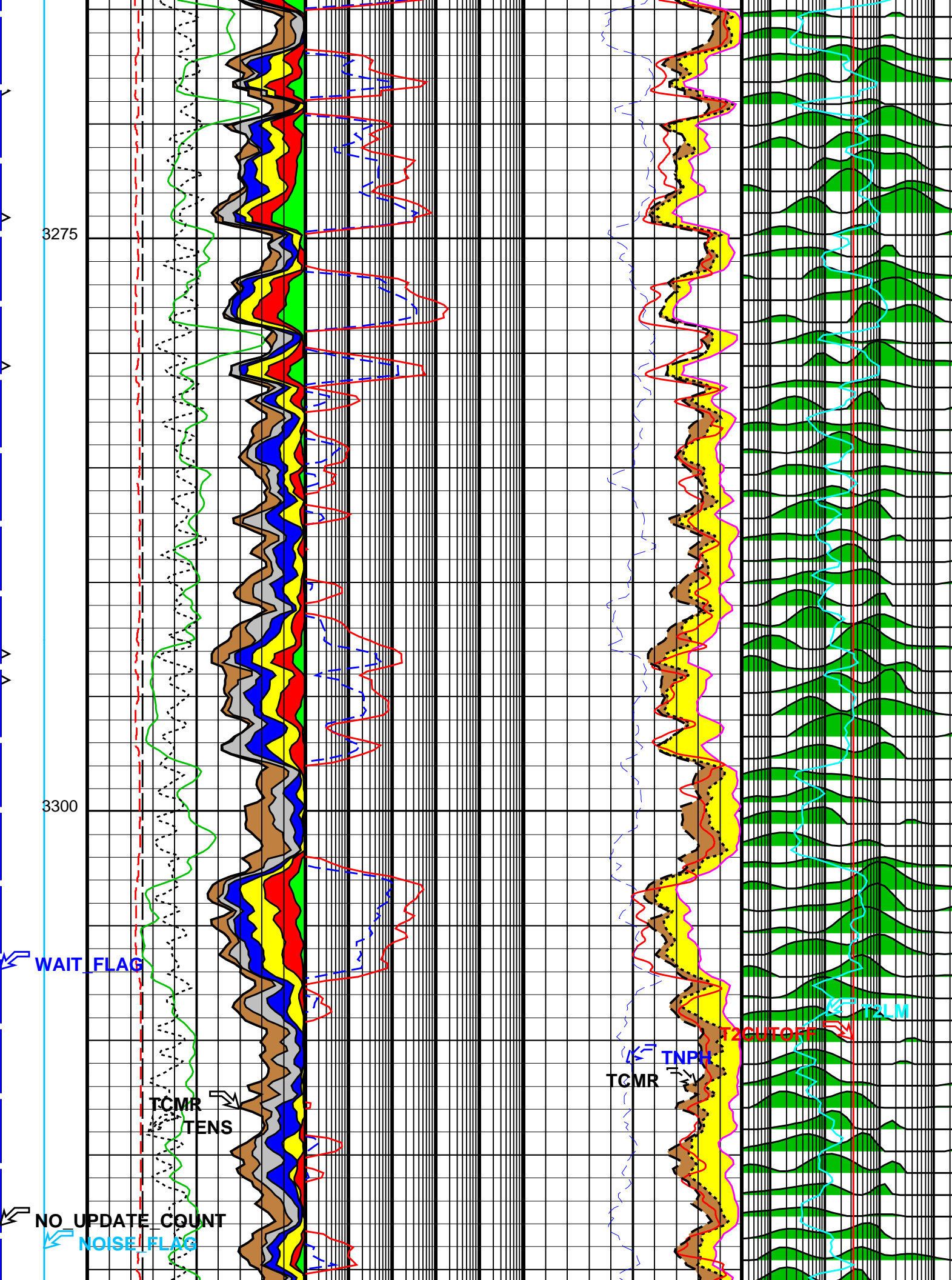


3175

3200







3325

NOISE FLAG
NOISE FLAG

HCAL

GR

CFF6

CFF5

CFF4

GFF3

CFF2

BADE CMR

BS

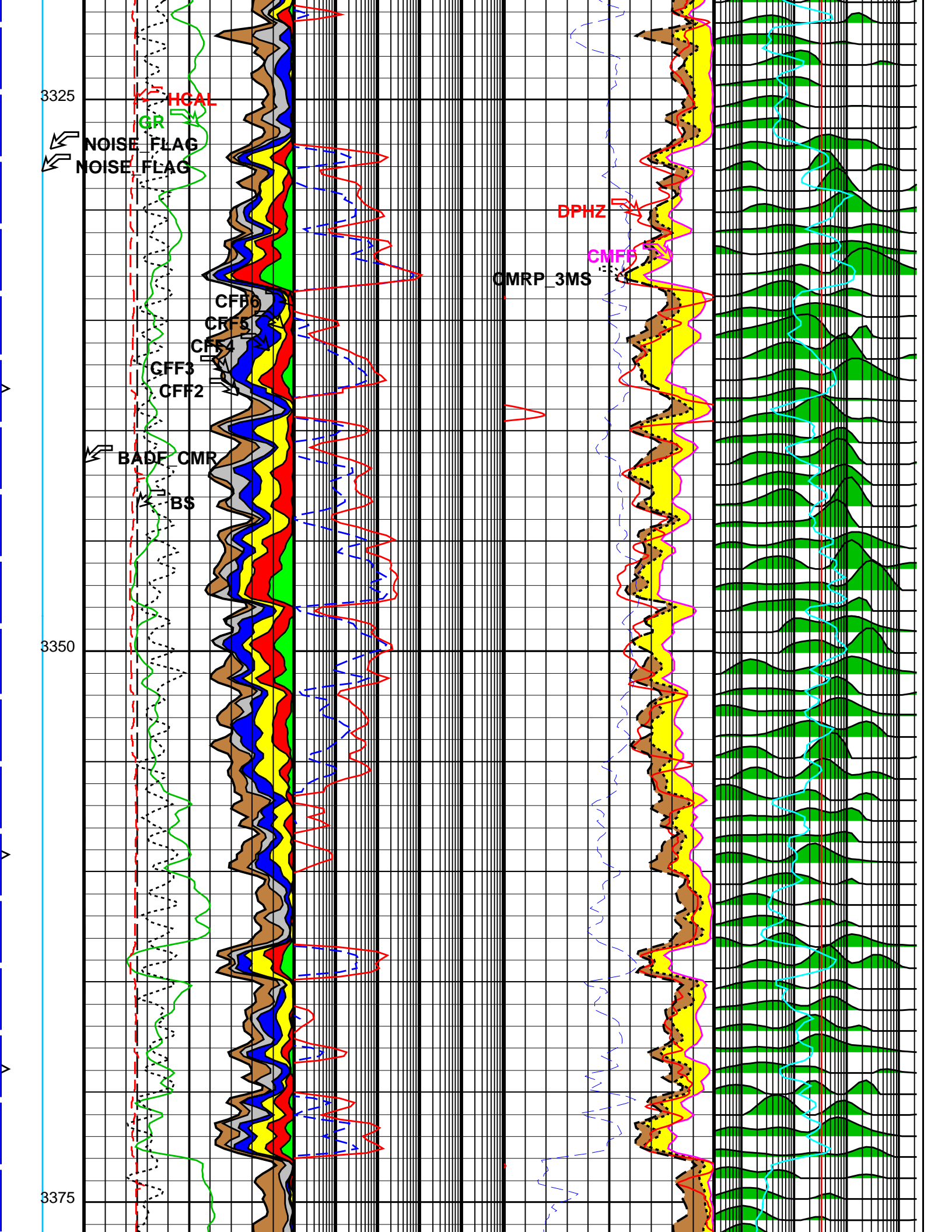
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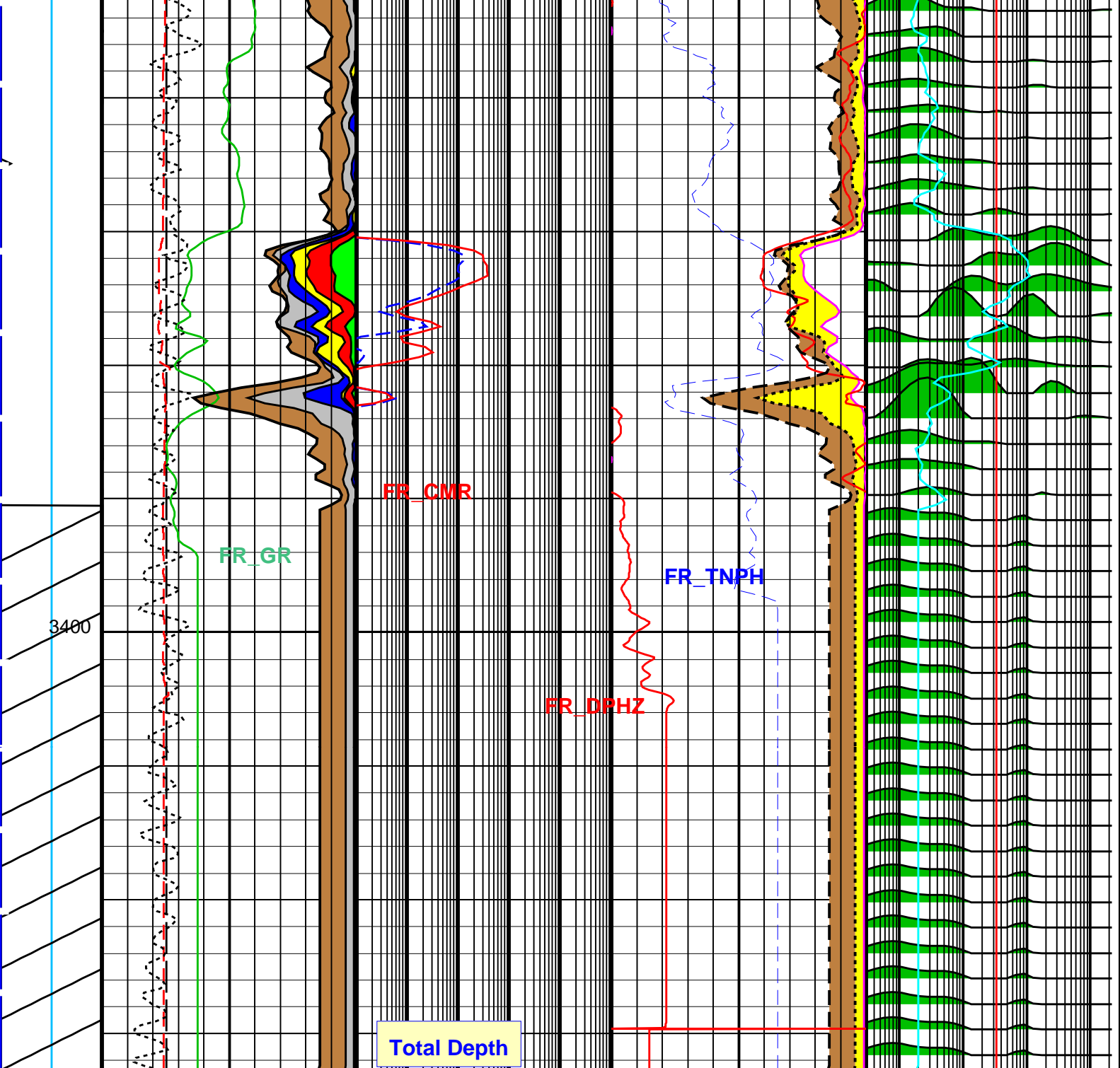
3375

DPHZ

CMFB

CMRP_3MS





Bad Hole Flag	Bit Size (BS) (IN)	SDR Permeability (KSDR) (MD)	Env. Corr. Thermal Neutron Porosity (TNPH) (V/V)	Bound Fluid Cutoff (T2CUTOFF) (MS)
	6 16	0.1 10000	0.4 0	0.3 3000
Insuff. WT Flag	CMR Free Fluid Porosity for T2 Cutoff 2 (CFF2) (V/V)	Timur/Coates Permeability (KTIM) (MD)	CMR 3ms Porosity (CMRP_3MS) (V/V)	T2 Logarithmic Mean (T2LM) (MS)
	0.4 0	0.1 10000	0.4 0	0.3 3000
Caution Moderate Noise	Gamma Ray (GR) (GAPI)		CMR Free Fluid Porosity (CMFF) (V/V)	T2 Distribution (T2_DIST_MW) (US)
	0 200		0.4 0	60 89
Noise Out of Tolerance	HILT Caliper (HCAL) (IN)		Std. Res. Density Porosity (DPHZ) (V/V)	
	6 16		0.4 0	
(NO_UPDATE_COUNT)	Tension (TENS) (LBF)		Total CMR Porosity (TCMR) (V/V)	
0 10	1000 0		0.4 0	

	Bins 1–2	Capillary Bound Fluid Porosity
	Bin 3	Small Pore Porosity
	Bin 4	
	Bin 5	
	Bin 6	
	Bins 7–8	

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
SPE–A: Extended Spontaneous Potential – A		
SPNV	SP Next Value	0 MV
HRLT–B: High Resolution Laterolog Array – E		
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	117 DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE
CALTEMP	HRLTB Calibration Temperature	95.1643 DEGC
FREQ0	HRLT Frequency Index for Mode 0	32
FREQ1	HRLT Frequency Index for Mode 1	128
FREQ2	HRLT Frequency Index for Mode 2	104
FREQ3	HRLT Frequency Index for Mode 3	86
FREQ4	HRLT Frequency Index for Mode 4	56
FREQ5	HRLT Frequency Index for Mode 5	44
FREQ6	HRLT Frequency Index for Mode 6	116
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9
GTSE	Generalized Temperature Selection	HSTS_HTEM
KFAC_HRLT	HRLT K Factor Option	SONDE
LOOPCOEF_S	HRLT Loop Coefficient for Shallow Modes	LOW
LOOPMOD0	HRLT Mode 0 Loop Mode	AUTO
LOOPMOD1	HRLT Mode 1 Loop Mode	AUTO
LOOPMOD2	HRLT Mode 2 Loop Mode	AUTO
LOOPMOD3	HRLT Mode 3 Loop Mode	AUTO
LOOPMOD4	HRLT Mode 4 Loop Mode	AUTO
LOOPMOD5	HRLT Mode 5 Loop Mode	AUTO
LOOPMOD6	HRLT Mode 6 Loop Mode	AUTO
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
PROCINV	Inversion Selection	ON
PROCMFL	Inversion Micro–Resistivity Selection	RXO8
PROCMSO	Mechanical Standoff Fin Size	2 IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute
PROCSP0	Sonde Position	Eccentered
SHT	Surface Hole Temperature	20 DEGC
HILTH–FTB: High resolution Integrated Logging Tool–DTS		
BHFL	Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	117 DEGC
BSCO	Borehole Salinity Correction Option	YES
CCCO	Casing & Cement Thickness Correction Option	NO
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
EXSICL	External Shale Indicator Clean Value	20
EXSISH	External Shale Indicator Shale Value	150
FD	Fluid Density	1 G/C3
FEXP	Form Factor Exponent	2
FNUM	Form Factor Numerator	1
FPHI	Form Factor Porosity Source	DPHZ
FSAL	Formation Salinity	–50000 PPM
FSCO	Formation Salinity Correction Option	YES
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9
GTSE	Generalized Temperature Selection	HSTS_HTEM
HACPP	Accelerometer PROM Presence	PRESENT_FILE

HART	Accelerometer Reference Temperature	25	DEGC
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.71	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e-005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e-005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PHIMAX	HILT max porosity	35	PU
PTCO	Pressure/Temperature Correction Option	YES	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	NO	
CMRT-B: Combinable Magnetic Resonance Tool - B			
ACQ_METHOD_OPT	Acquisition Method Option	SEQ	
AECs	Auto Electronic Calibration Switch	On	
AFS	Auto Frequency Switch	On	
B0_TEMP_COEF	Exponential Coef. for Static B from Temp.	-0.000399888	
BFV_MIN	Minimum BFV	0.02	M3M3
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	117	DEGC
CMRP_POLC_MAX	Polar. Correct. Maximum to Trigger Insufficient Wait Time Flag	0.015	M3M3
CMR_FORM_H2O_SAL	Formation Water Salinity	-50000	PPM
CMR_HI_COR_SW	CMR Hydrogen Index Correction Switch	Off	
CMR_HR_OPT	CMR High Resolution Option	Off	
CMR_LOG_DIRECTION	Logging Direction	Up	
CMR_LOG_SPEED	Optimal CMR logging speed	182.88	M/HR
CMR_SIGNAL_PROC_SW	CMR Signal Processing Switch	On	
CMR_TEMP_MC	CMR Temperature during Master Calibration	25.2319	DEGC
CPMG_OPT	Option for CPMG Data	No	
DC_GAS	Diffusion Coefficient of Gas	8	E-4CM2/S
DDFL	Uphole Stacking	1	
DEPTH_CMR_SL	Depth for CMR Station Log	0	M
DESPIKE_OPT	Despiking Option	Off	
DE_ALPHA	Diffusion Editing Alpha Coefficient	0.84	
DE_BETA	Diffusion Editing Beta Coefficient	0	
DE_OPT	Diffusion Editing Option	Off	
DMRP_CAL_OPT	DMRP Calculation Option	60/40	
DMRP_OPT	DMRP Option	Off	
DP_OPT	Density Porosity Option	AUTO	
EPM_OPT	Enhanced Precision Mode Option	On	
FLUID_DENSITY	Density of Liquid Phase	1	G/C3
GAMMA_REG	Gamma Regularization - Depth Log	** V **	
GAMMA_REG_SL	Gamma Regularization - Station Log	** V **	
GAS_DENSITY	Density of Gas	0.3	G/C3
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GOR	Gas Oil Ratio	0	
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HIFF	Hydrogen Index of Formation Fluid	1	
HI_GAS	Hydrogen Index of Gas	0.4	
HI_H2O	Hydrogen Index of Water	1	
HI_OBMF	Hydrogen Index of OBMF	1	
HI_OIL	Hydrogen Index of Oil	1	
HP_H0	0th Coefficient for Hall Probe	239.534	
HP_H1	1st Coefficient for Hall Probe	6.35651	
HP_H2	2nd Coefficient for Hall Probe	0	
HP_H3	3rd Coefficient for Hall Probe	0	
INV_MC_AMP	Inverse of Master Calibration Amplitude	0.0346734	
KBFV_OPT	KBFV Option	Off	
KECHO_HR_A	Scale Factor for High Resolution Permeability	1	
KECHO_HR_B	Sensitivity Factor for High Resolution Permeability	1	
KSDR_A	Multiplier for SDR Permeability	4	MD
KSDR_B	T2 Exponent for SDR Permeability	2	
KSDR_C	Porosity Exponent for SDR Permeability	4	

KTIM_A	Porosity Exponent for Timur/Coates Permeability	1	MD
KTIM_B	Porosity Exponent for Timur/Coates Permeability	4	
KTIM_C	PHI Ratio Exponent for Timur/Coates Permeability	2	
LFST_SEARCH_FREQ	LFST Search Operating Frequency	2.182e+006	HZ
LOOP_MC	Calibration Loop during Master Calibration	1685.29	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MATRIX_DENSITY	Density of Formation Matrix	2.65	G/C3
MPHI_SW	Porosity Channel Selection for KBFV Computation	DPHZ	
MRF_B	Oil Diffusion/T2 Scaling Factor for Magnetic Resonance Fluid Technique	1	
NCOMP	Number of Components – Depth Log	30	
NCOMP_OIL	Number of Oil Components	14	
NCOMP_SL	Number of Components – Station Log	30	
NECH_V	Number of Echo Amplitudes per CPMG	** V **	
NMR_FLUID_MODEL	Fluid Model for Magnetic Resonance Fluid Typing	WATER	
NSTACK	Number of Stacks Down-Hole	3	
NWT	Number of Wait Times	2	
OBM	Oil Based Mud	Water	
PHI_FOR_BADF	Porosity Threshold to Trigger Bad Hole Flag	0.4	M3M3
POLC_SW	Polarization Correction Switch	On	
PT_V	Polarization Times	** V ** S	
Q_SWITCH_ON_TIME	Duration of Q-Switch ON State	10	US
RINGING_COUNT	Number of Ringing Data Samples	100	
RPTN_V	Repetition Number for each Wait Time	** V **	
RSV_WSUM_MUD	R (Residual) Square Value of Window Sum Fit for Mud	** V **	
SEND_ECHO_SW	Send Echo Switch	On	
SHT	Surface Hole Temperature	20	DEGC
SLUINT	Station Logging Update Interval	1	S
SPOILER_COUNT	Number of Spoiler Pulses	8	
SPOILER_WIDTH	Spoiler pulse width	26	
T180	Time Width for 180 degree Pulse	27.2	US
T1T2R_IN	T1/T2 Ratio	2	
T1T2R_MAX	T1/T2 Ratio – Maximum	3	
T1T2R_MIN	T1/T2 Ratio – Minimum	1	
T1T2R_OIL_IN	T1/T2 Ratio for oil – Input	1	
T1_GAS	T1 of Gas	4	S
T1_OBMF	T1 of OBMF	1.8	S
T2C1	T2 Cutoff 1	1	MS
T2C2	T2 Cutoff 2	3	MS
T2C3	T2 Cutoff 3	10	MS
T2C4	T2 Cutoff 4	33	MS
T2C5	T2 Cutoff 5	100	MS
T2C6	T2 Cutoff 6	300	MS
T2C7	T2 Cutoff 7	1000	MS
T2CUT	T2 Cutoff	33	MS
T2MF	T2 Mud Filtrate	50000	MS
T2_DISTRIBUTION_V	T2 Distribution Vector	** V **	
T2_FOR_BADF	T2 Threshold to Trigger Bad Hole Flag	10	MS
T2_MAX	T2 Maximum	3000	MS
T2_MAX_OIL	Maximum T2 for Oil	1590	MS
T2_MIN	T2 Minimum	0.3	MS
T2_MIN_OIL	Minimum T2 for Oil	14	MS
T90	Time Width for 90 degree Pulse	16.4	US
TCP	Time between 90X, 180Y Pulses	100	US
TCP_DIFF	TCP Difference (TCP1 – TCP2)	-8.8	US
TCP_V	Array of TCP's	** V ** US	
TDEL	Difference between Start of Echo and TCP	18	US
TEMP_SL	Station Logging Temperature	25	DEGC
VIS_OBMF	Viscosity of OBMF	0.857535	CP
WT_V	Acquisition Wait Times	** V ** S	
X_DC_WATER	Scale Factor for Diffusion Coefficient of Water	1	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	117	DEGC
FCD	Future Casing (Outer) Diameter	6.625	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	20	DEGC
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth – Driller	3545.10	M
TDL	Total Depth – Logger	3418.30	M
System and Miscellaneous			
ALTDPCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	26300.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	43.50	LB/F
DFD	Drilling Fluid Density	8.48	LB/G

DFD	Drilling Fluid Density	9.40	LB/G
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	24.60	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	0.1738	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3418.3	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: CMRT_BIN_POR_DEPTH_LOG Vertical Scale: 1:200 Graphics File Created: 02-Dec-2004 15:15

OP System Version: 12C0-301

MCM

SPE-A	12C0-301	HRLT-B	12C0-301
HILTH-FTB	12C0-301	CMRT-B	12C0-301
DTC-H	12C0-301		

Input DLIS Files

02-Dec-2004 12:10

Output DLIS Files

DEFAULT HRLA_TLD_MCFL_CNL_020PUP FN:19 PRODUCER 02-Dec-2004 15:14

Schlumberger

**Repeat Section
(1:200)**

MAXIS Field Log

Company: Origin Energy Resources Ltd. Well: Trefoil-1

Input DLIS Files

02-Dec-2004 12:09

Output DLIS Files

DEFAULT HRLA_TLD_MCFL_CNL_027PUP FN:26 PRODUCER 02-Dec-2004 16:33 3010.1 M 2909.0 M

CMR DEPTH LOG REPORT

PARAMETER SUMMARY

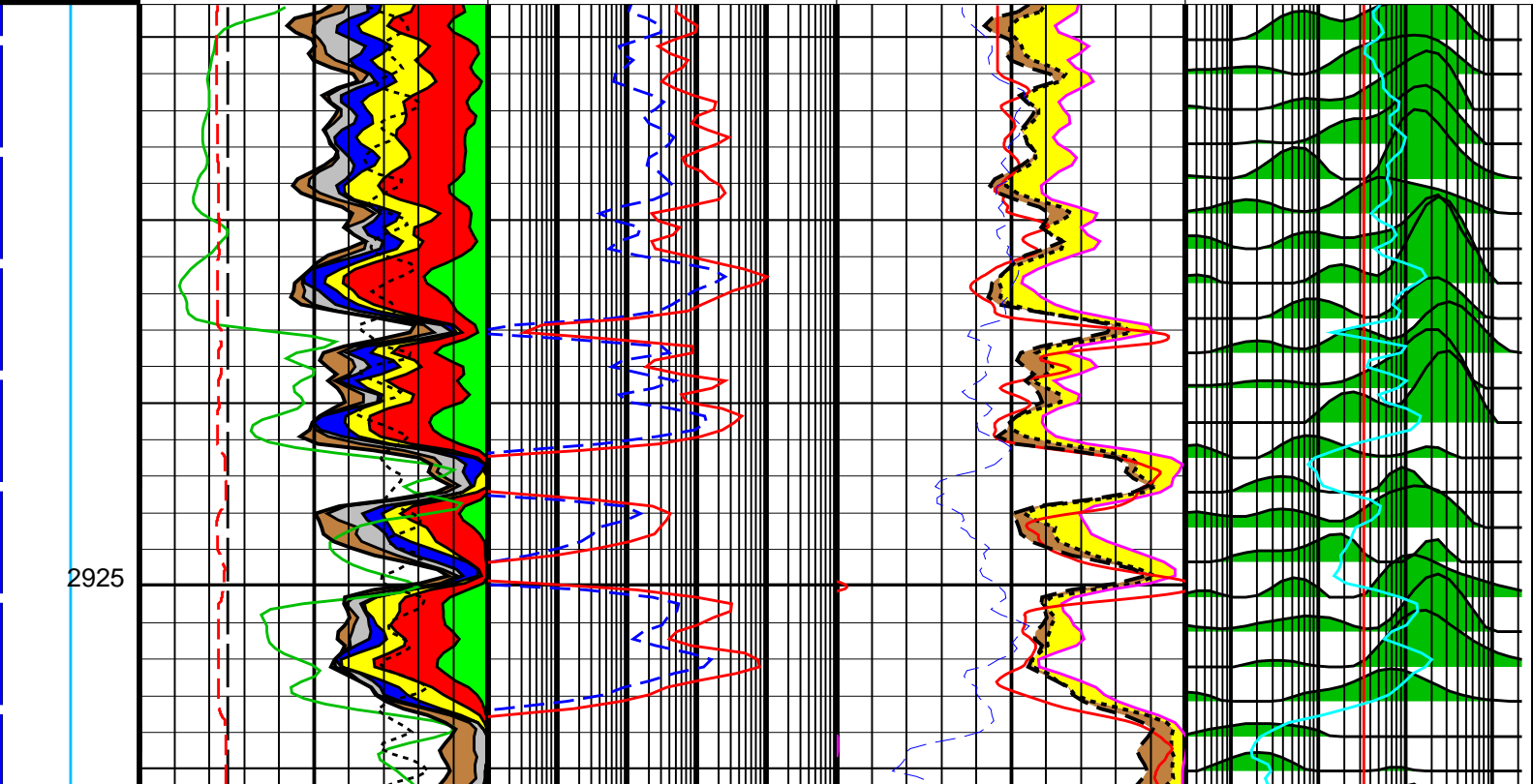
Tool Type: CMR-Plus	Cart. Number: 87	Sonde Number: 92	
Kit Number: 26	DHC Version : 15	DSP Version : 12	SP Version : 2062001
Mode: Expert Depth Log - B Mode		LFST Freq(khz) : 2180	LFST Temp(deg) : 99.27
Log Direction: Up	Polarization Correction: On	EPM: Yes	EPM T1/T2: Auto
Despiking: Off	High Res: Off	KBFV: Off	DMRP: Off
Echo Spacing(us):	(200 200)		
Polarization Times(sec) for:	T1=1s: (infinity 0.02)	T1=3s: (infinity 0.02)	T1=5s: (13.83 0.02)
Number of Echoes:	(3000 30)		
Repetition:	(1 10)		
Regularization:	Auto		

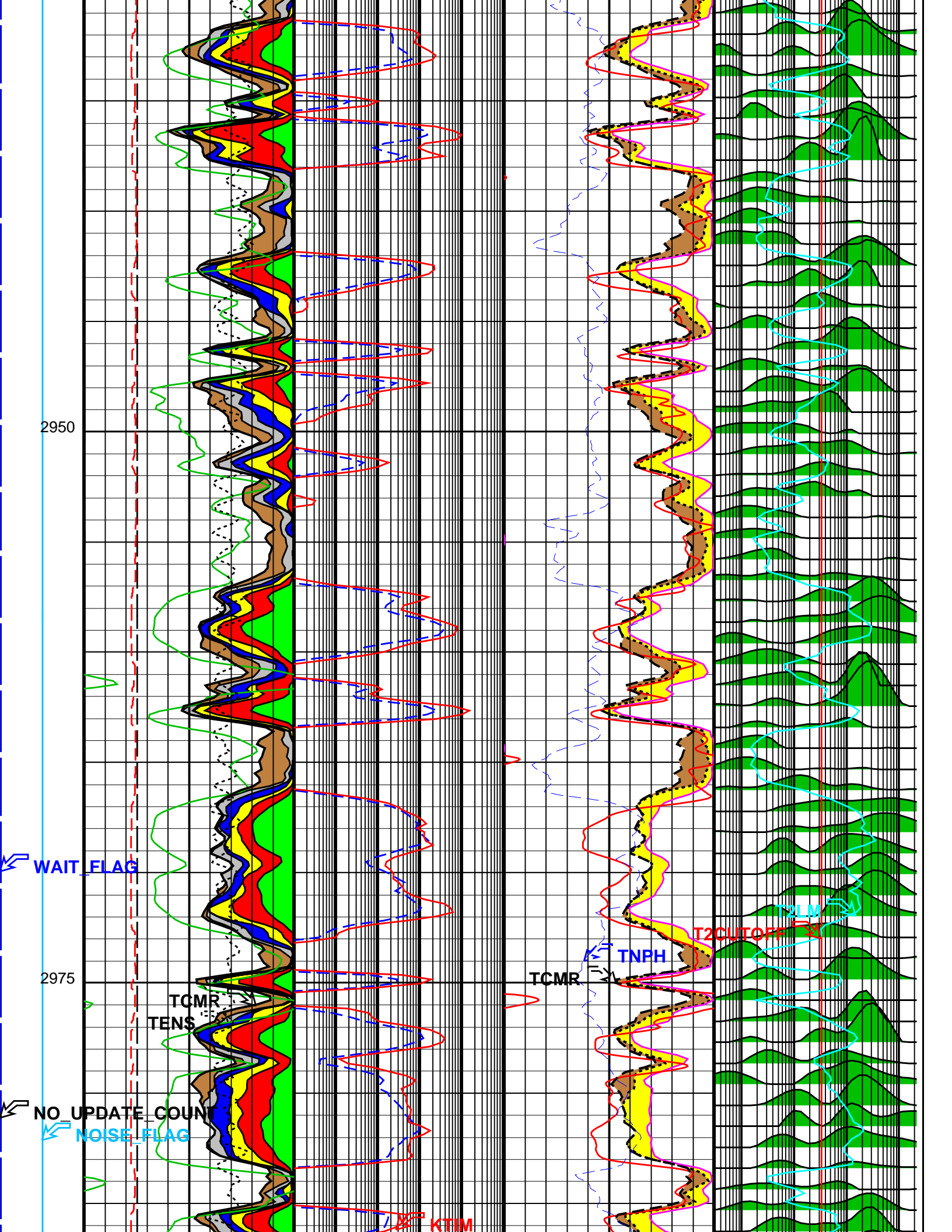
T2 Min(msec): 0.2 T2 Max(msec): 2000 T2 Cutoff(msec): 22 T1/T2: 2

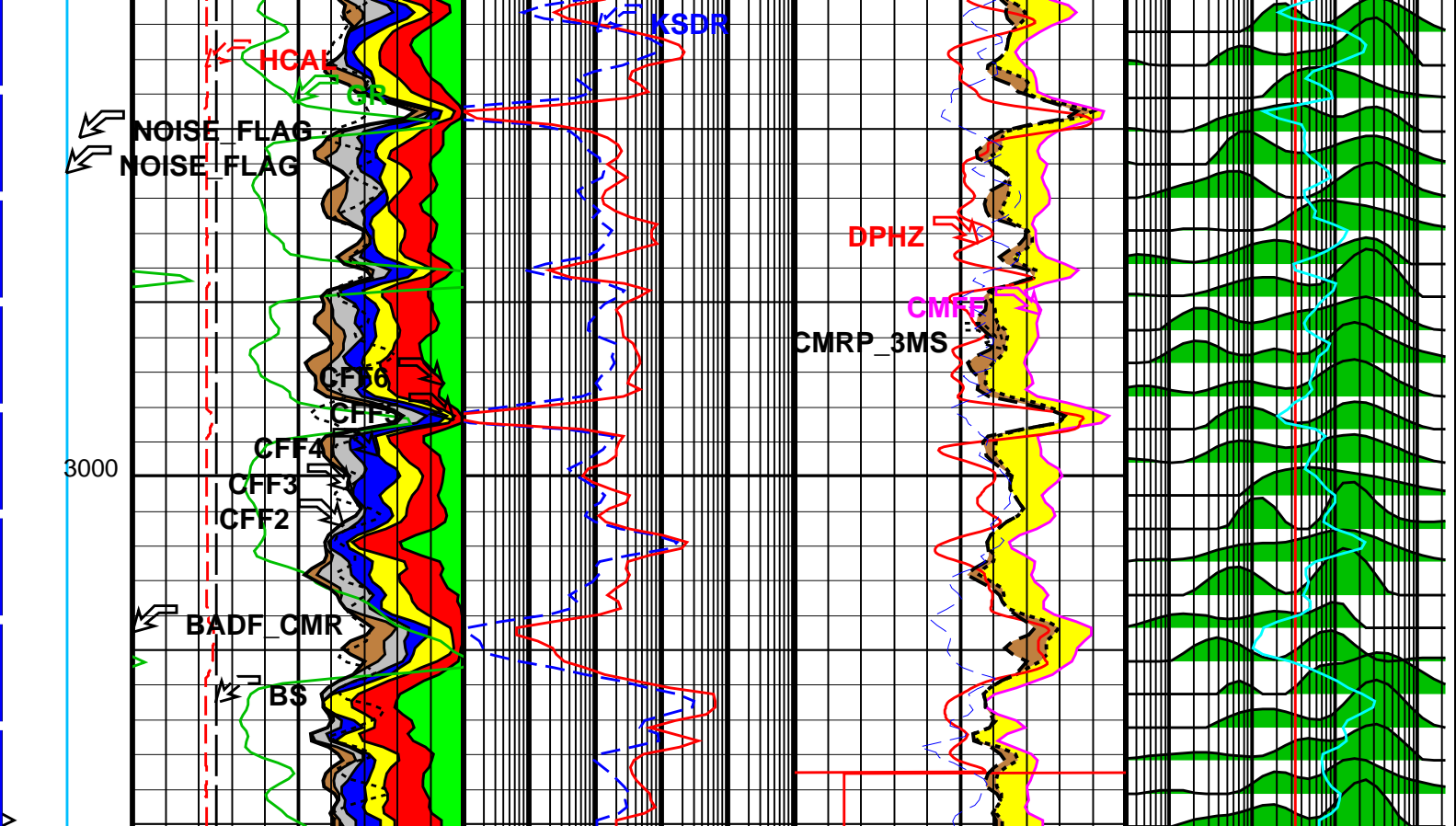
T2 Min(msec): 0.3	T2 Max(msec): 3000	T2 Cutoff(msec): 33	T1/T2: 2
Number of Components: 30	Downhole Stacking: 3	Uphole Stacking: 1	First Echo Used: No
Multiple T2 Cutoffs(msec):	(0.3 1 3 10 33 100 300 1000 3000)		
Sample Int.(in): 7.5	Req Log Speed (f/h): 600		

PIP SUMMARY			
Time Mark Every 60 S			

	Bins 7-8			
	Bin 6			
	Bin 5			
	Bin 4			
	Bin 3			
	Bins 1-2		Small Pore Porosity	
			Capillary Bound Fluid Porosity	
(NO_UPDATE_COUNT) 0 (----10	Tension (TENS) (LBF)		Total CMR Porosity (TCMR) (V/V)	
	1000 0		0.4 0	
Noise Out of Tolerance	HILT Caliper (HCAL) (IN)		Std. Res. Density Porosity (DPHZ) (V/V)	
	6 16		0.4 0	
Caution Moderate Noise	Gamma Ray (GR) (GAPI)		CMR Free Fluid Porosity (CMFF) (V/V)	T2 Distribution (T2_DIST_MW)
	0 200		0.4 0	60 (US) 89
Insuff. WT Flag	CMR Free Fluid Porosity for T2 Cutoff 2 (CFF2) (V/V)	Timur/Coates Permeability (KTIM) (MD)	CMR 3ms Porosity (CMRP_3MS) (V/V)	T2 Logarithmic Mean (T2LM) (MS)
	0.4 0	0.1 10000	0.4 0	0.3 3000
Bad Hole Flag	Bit Size (BS) (IN)	SDR Permeability (KSDR) (MD)	Env.Corr.Thermal Neutron Porosity (TNPH) (V/V)	Bound Fluid Cutoff (T2CUTOFF) (MS)
	6 16	0.1 10000	0.4 0	0.3 3000







Bad Hole Flag	Bit Size (BS) (IN)	SDR Permeability (KSDR) (MD)	Env.Corr.Thermal Neutron Porosity (TNPH) (V/V)	Bound Fluid Cutoff (T2CUTOFF) (MS)
Insuff. WT Flag	CMR Free Fluid Porosity for T2 Cutoff 2 (CFF2) (V/V)	Timur/Coates Permeability (KTIM) (MD)	CMR 3ms Porosity (CMRP_3MS) (V/V)	T2 Logarithmic Mean (T2LM) (MS)
Caution Moderate Noise	Gamma Ray (GR) (GAPI)		CMR Free Fluid Porosity (CMFF) (V/V)	T2 Distribution (T2_DIST_MW) (US)
Noise Out of Tolerance	HILT Caliper (HCAL) (IN)		Std. Res. Density Porosity (DPHZ) (V/V)	
(NO_UPDATE_COUNT)	Tension (TENS) (LBF)		Total CMR Porosity (TCMR) (V/V)	
			Capillary Bound Fluid Porosity	
			Small Pore Porosity	
	Bins 1-2			
	Bin 3			
	Bin 4			
	Bin 5			
	Bin 6			
	Bins 7-8			

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
SPE-A: Extended Spontaneous Potential – A			
SPNV	SP Next Value	0	MV
HRLT-B: High Resolution Laterolog Array – E			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
CALSTAT	HRLTB Calibration Status	SHALLOW_DONE	
CALTEMP	HRLTB Calibration Temperature	95.1643	DEGC
FREQ0	HRLT Frequency Index for Mode 0	32	
FREQ1	HRLT Frequency Index for Mode 1	128	
FREQ2	HRLT Frequency Index for Mode 2	104	
FREQ3	HRLT Frequency Index for Mode 3	86	
FREQ4	HRLT Frequency Index for Mode 4	56	
FREQ5	HRLT Frequency Index for Mode 5	44	
FREQ6	HRLT Frequency Index for Mode 6	116	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
KFAC_HRLT	HRLT K Factor Option	SONDE	
LOOPCOEF_S	HRLT Loop Coefficient for Shallow Modes	LOW	
LOOPMOD0	HRLT Mode 0 Loop Mode	AUTO	
LOOPMOD1	HRLT Mode 1 Loop Mode	AUTO	
LOOPMOD2	HRLT Mode 2 Loop Mode	AUTO	
LOOPMOD3	HRLT Mode 3 Loop Mode	AUTO	
LOOPMOD4	HRLT Mode 4 Loop Mode	AUTO	
LOOPMOD5	HRLT Mode 5 Loop Mode	AUTO	
LOOPMOD6	HRLT Mode 6 Loop Mode	AUTO	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
PROCINV	Inversion Selection	ON	
PROCMFL	Inversion Micro-Resistivity Selection	RXO8	
PROCMSO	Mechanical Standoff Fin Size	2	IN
PROCRM	Processing Mud Resistivity Select	HRLT_Compute	
PROCSP0	Sonde Position	Eccentered	
SHT	Surface Hole Temperature	20	DEGC
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
BSCO	Borehole Salinity Correction Option	YES	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
EXSICL	External Shale Indicator Clean Value	20	
EXSISH	External Shale Indicator Shale Value	150	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FPHI	Form Factor Porosity Source	DPHZ	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	YES	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HACPP	Accelerometer PROM Presence	PRESENT_FILE	
HART	Accelerometer Reference Temperature	25	DEGC
HDCOD	HILT Density Coal detection	2	G/C3
HDSAD	HILT Density Salt detection	2.1	G/C3
HILT_GAS_DENSITY	HILT Gas Downhole Density	0	G/C3
HILT_GAS_OPTION	HILT Gas Computation Option	OFF	
HNCOD	HILT Neutron Coal detection	45	PU
HNSAD	HILT Neutron Salt detection	5	PU
HPHIECUT	HILT effective Porosity Cutoff	5	PU
HSCO	Hole Size Correction Option	YES	
HSIS	HILT Shale Indicator Selection	GR	
HSWCUT	HILT Water Saturation from AITH cutoff	50	%
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.71	G/C3
MHC0	MCFL B0 Contrast Correction Coefficient	2.2e-005	OHMS
MHC1	MCFL B1 Contrast Correction Coefficient	3.2e-005	OHMS
MHCC	MCFL High Contrast Correction Switch	NO	
MPOF	MCFL Processing Operation Mode	ON	
MWCO	Mud Weight Correction Option	YES	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PHIMAX	HILT max porosity	35	PU

PTCO	Pressure/Temperature Correction Option	YES	
SDAT	Standoff Data Source	SOCN	
SEXP_HILT	HILT Saturation Exponent	2	
SHT	Surface Hole Temperature	20	DEGC
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	NO	
CMRT-B: Combinable Magnetic Resonance Tool - B			
ACQ_METHOD_OPT	Acquisition Method Option	SEQ	
AECS	Auto Electronic Calibration Switch	On	
AFS	Auto Frequency Switch	On	
B0_TEMP_COEF	Exponential Coef. for Static B from Temp.	-0.000399888	
BFV_MIN	Minimum BFV	0.02	M3M3
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
CMRP_POLC_MAX	Polar. Correct. Maximum to Trigger Insufficient Wait Time Flag	0.015	M3M3
CMR_FORM_H2O_SAL	Formation Water Salinity	-50000	PPM
CMR_HI_COR_SW	CMR Hydrogen Index Correction Switch	Off	
CMR_HR_OPT	CMR High Resolution Option	Off	
CMR_LOG_DIRECTION	Logging Direction	Up	
CMR_LOG_SPEED	Optimal CMR logging speed	182.88	M/HR
CMR_SIGNAL_PROC_SW	CMR Signal Processing Switch	On	
CMR_TEMP_MC	CMR Temperature during Master Calibration	25.2319	DEGC
CPMG_OPT	Option for CPMG Data	No	
DC_GAS	Diffusion Coefficient of Gas	8	E-4CM2/S
DDFL	Uphole Stacking	1	
DEPTH_CMR_SL	Depth for CMR Station Log	0	M
DESPIKE_OPT	Despiking Option	Off	
DE_ALPHA	Diffusion Editing Alpha Coefficient	0.84	
DE_BETA	Diffusion Editing Beta Coefficient	0	
DE_OPT	Diffusion Editing Option	Off	
DMRP_CAL_OPT	DMRP Calculation Option	60/40	
DMRP_OPT	DMRP Option	Off	
DP_OPT	Density Porosity Option	AUTO	
EPM_OPT	Enhanced Precision Mode Option	On	
FLUID_DENSITY	Density of Liquid Phase	1	G/C3
GAMMA_REG	Gamma Regularization - Depth Log	** V **	
GAMMA_REG_SL	Gamma Regularization - Station Log	** V **	
GAS_DENSITY	Density of Gas	0.3	G/C3
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GOR	Gas Oil Ratio	0	
GRSE	Generalized Mud Resistivity Selection	CHART_GEN 9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HIFF	Hydrogen Index of Formation Fluid	1	
HI_GAS	Hydrogen Index of Gas	0.4	
HI_H2O	Hydrogen Index of Water	1	
HI_OBMF	Hydrogen Index of OBMF	1	
HI_OIL	Hydrogen Index of Oil	1	
HP_H0	0th Coefficient for Hall Probe	239.534	
HP_H1	1st Coefficient for Hall Probe	6.35651	
HP_H2	2nd Coefficient for Hall Probe	0	
HP_H3	3rd Coefficient for Hall Probe	0	
INV_MC_AMP	Inverse of Master Calibration Amplitude	0.0346734	
KBFV_OPT	KBFV Option	Off	
KECHO_HR_A	Scale Factor for High Resolution Permeability	1	
KECHO_HR_B	Sensitivity Factor for High Resolution Permeability	1	
KSDR_A	Multiplier for SDR Permeability	4	MD
KSDR_B	T2 Exponent for SDR Permeability	2	
KSDR_C	Porosity Exponent for SDR Permeability	4	
KTIM_A	Multiplier for Timur/Coates Permeability	1	MD
KTIM_B	Porosity Exponent for Timur/Coates Permeability	4	
KTIM_C	PHI Ratio Exponent for Timur/Coates Permeability	2	
LFST_SEARCH_FREQ	LFST Search Operating Frequency	2.18e+006	HZ
LOOP_MC	Calibration Loop during Master Calibration	1685.29	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MATRIX_DENSITY	Density of Formation Matrix	2.65	G/C3
MPHI_SW	Porosity Channel Selection for KBFV Computation	DPHZ	
MRF_B	Oil Diffusion/T2 Scaling Factor for Magnetic Resonance Fluid Technique	1	
NCOMP	Number of Components - Depth Log	30	
NCOMP_OIL	Number of Oil Components	14	
NCOMP_SL	Number of Components - Station Log	30	
NECH_V	Number of Echo Amplitudes per CPMG	** V **	
NMR_FLUID_MODEL	Fluid Model for Magnetic Resonance Fluid Typing	WATER	
NSTACK	Number of Stacks Down-Hole	3	
NWT	Number of Wait Times	2	
OBM	Oil Based Mud	Water	
PHI_FOR_BADF	Porosity Threshold to Trigger Bad Hole Flag	0.4	M3M3
POLC_SW	Polarization Correction Switch	On	
PT_V	Polarization Times	** V ** S	
Q_SWITCH_ON_TIME	Duration of Q-Switch ON State	10	US
RINGING_COUNT	Number of Ringing Data Samples	100	
RPTN_V	Repetition Number for each Wait Time	** V **	
RCV_HICUM_MUD	R/(Residual) Square Value of Window Sum Fit for Mud	** V **	

RSV_WSUM_MOD	R (Residual) Square Value of Window Sum Fit for Mud	On	
SEND_ECHO_SW	Send Echo Switch	20	DEGC
SHT	Surface Hole Temperature	1	S
SLUINT	Station Logging Update Interval	8	
SPOILER_COUNT	Number of Spoiler Pulses	26	
SPOILER_WIDTH	Spoiler pulse width	27.2	US
T180	Time Width for 180 degree Pulse	2	
T1T2R_IN	T1/T2 Ratio	3	
T1T2R_MAX	T1/T2 Ratio - Maximum	1	
T1T2R_MIN	T1/T2 Ratio - Minimum	1	
T1T2R_OIL_IN	T1/T2 Ratio for oil - Input	4	S
T1_GAS	T1 of Gas	1.8	S
T1_OBMF	T1 of OBMF	1	MS
T2C1	T2 Cutoff 1	3	MS
T2C2	T2 Cutoff 2	10	MS
T2C3	T2 Cutoff 3	33	MS
T2C4	T2 Cutoff 4	100	MS
T2C5	T2 Cutoff 5	300	MS
T2C6	T2 Cutoff 6	1000	MS
T2C7	T2 Cutoff 7	33	MS
T2CUT	T2 Cutoff	50000	MS
T2MF	T2 Mud Filtrate	** V **	
T2_DISTRIBUTION_V	T2 Distribution Vector	10	MS
T2_FOR_BADF	T2 Threshold to Trigger Bad Hole Flag	3000	MS
T2_MAX	T2 Maximum	1590	MS
T2_MAX_OIL	Maximum T2 for Oil	0.3	MS
T2_MIN	T2 Minimum	14	MS
T2_MIN_OIL	Minimum T2 for Oil	16.4	US
T90	Time Width for 90 degree Pulse	100	US
TCP	Time between 90X, 180Y Pulses	-8.8	US
TCP_DIFF	TCP Difference (TCP1 - TCP2)	** V **	US
TCP_V	Array of TCP's	18	US
TDEL	Difference between Start of Echo and TCP	25	DEGC
TEMP_SL	Station Logging Temperature	0.844307	CP
VIS_OBMF	Viscosity of OBMF	** V **	S
WT_V	Acquisition Wait Times	1	
X_DC_WATER	Scale Factor for Diffusion Coefficient of Water		
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	100	DEGC
FCD	Future Casing (Outer) Diameter	6.625	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GRSE	Generalized Mud Resistivity Selection	CHART_GEN_9	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HVCS	Integrated Hole Volume Caliper Selection	HCAL	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	20	DEGC
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	0.762	M
TDD	Total Depth - Driller	3545.10	M
TDL	Total Depth - Logger	3418.30	M
System and Miscellaneous			
ALTDPCCHAN	Name of alternate depth channel	SpeedCorrectedDepth	
BS	Bit Size	8.500	IN
BSAL	Borehole Salinity	26300.00	PPM
CSIZ	Current Casing Size	9.625	IN
CWEI	Casing Weight	43.50	LB/F
DFD	Drilling Fluid Density	9.40	LB/G
DO	Depth Offset for Playback	2.0	M
DORL	Depth Offset for Repeat Analysis	0.0	M
MST	Mud Sample Temperature	24.60	DEGC
PBVSADP	Use alternate depth channel for playback	NO	
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	0.1738	OHMM
RW	Resistivity of Connate Water	1.0000	OHMM
TD	Total Depth	3418.3	M
TWS	Temperature of Connate Water Sample	37.78	DEGC

Format: CMRT_BIN_POR_DEPTH_LOG Vertical Scale: 1:200 Graphics File Created: 02-Dec-2004 16:33

OP System Version: 12C0-301

MCM

SPE-A	12C0-301	HRLT-B	12C0-301
HILTH-FTB	12C0-301	CMRT-B	12C0-301
DTC-H	12C0-301		

Input DLIS Files

02-Dec-2004 12:09

Output DLIS Files

DEFAULT HRLA_TLD_MCFL_CNL_027PUP FN:26 PRODUCER 02-Dec-2004 16:33

Schlumberger

Larmor Frequency Search Records

MAXIS Field Log

CMRT LARMOR FREQUENCY SEARCH REPORT – Wed Nov 24 13:23:22 2004

Search Results:

Larmor Frequency (kHz): **2182**
Temperature (degc): **97.2**

Search Parameters:

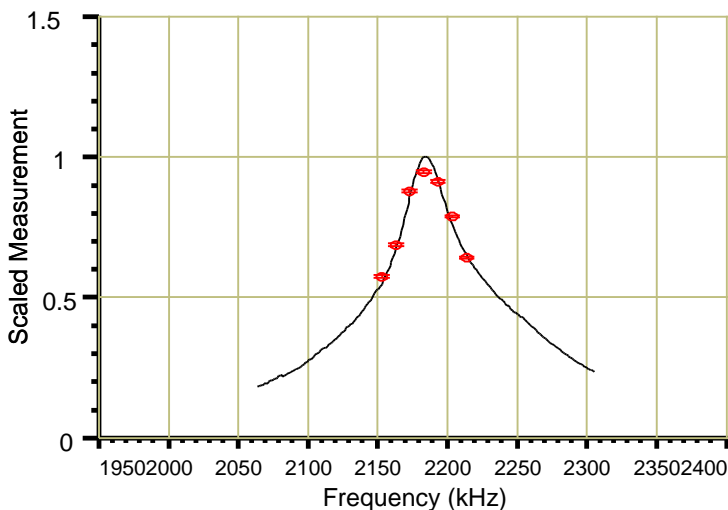
Central Frequency (kHz): 2181
Central Frequency Selection: Manual

Measured Data:

Frequency	Amplitude	RMS Noise	Std Deviation
2151	51.00	1.02	0.9846
2161	61.00	0.97	0.9843
2171	78.00	0.94	0.9851
2181	84.00	1.03	0.9771
2191	81.00	0.96	0.9823
2201	70.00	1.02	0.9853
2211	57.00	0.92	0.9818

Related Data:

Depth(m): 2673.9
Average Cable Speed (ft/h): 0.0
Delta Temperature (degc): 0.2
Measurement Time (sec): 93.4
HV Peak Current (mA): 4183.2
Previous LFST Freq (at Temp): 2180
Frequency Std Deviation (kHz): 0.28
Number of Echoes: 300
Polarization Time (sec): 0.400



Freq estimate from Temp: 2179
Tune Word Offset: -1
Sonde Number: 92
Cartridge Number: 87

CMRT LARMOR FREQUENCY SEARCH REPORT – Wed Nov 24 13:21:17 2004

Search Results:

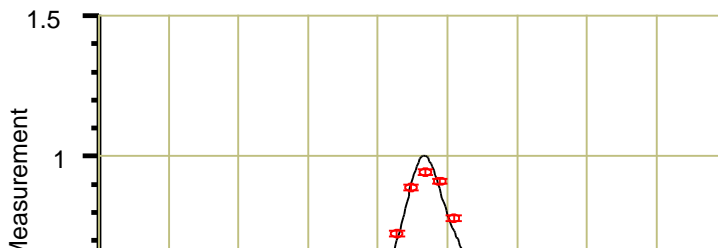
Larmor Frequency (kHz): **2181**
Temperature (degc): **96.9**

Search Parameters:

Central Frequency (kHz): 2182
Central Frequency Selection: Manual

Measured Data:

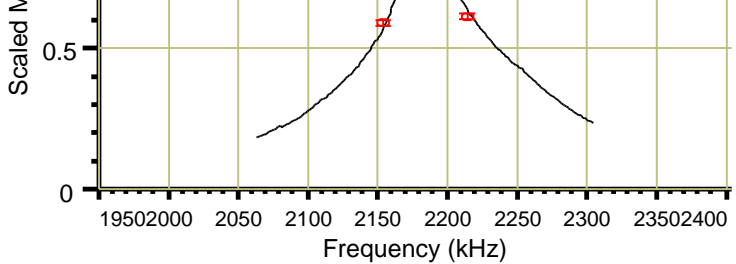
Frequency	Amplitude	RMS Noise	Std Deviation
2152	54.00	1.84	1.7852
2162	66.00	1.79	1.7858
2172	81.00	1.72	1.7804
2182	86.00	1.84	1.7713
2192	83.00	1.75	1.7875



2202	71.00	1.79	1.7894
2212	56.00	1.75	1.7796

Related Data:

Depth(m):	2673.9
Average Cable Speed (ft/h):	0.0
Delta Temperature (degc):	0.1
Measurement Time (sec):	44.7
HV Peak Current (mA):	4205.6
Previous LFST Freq (at Temp):	2181
Frequency Std Deviation (kHz):	0.53
Number of Echoes:	300
Polarization Time (sec):	0.400



Freq estimate from Temp:	2179
Tune Word Offset:	-1
Sonde Number:	92
Cartridge Number:	87

CMRT LARMOR FREQUENCY SEARCH REPORT – Wed Nov 24 13:20:01 2004

Search Results:

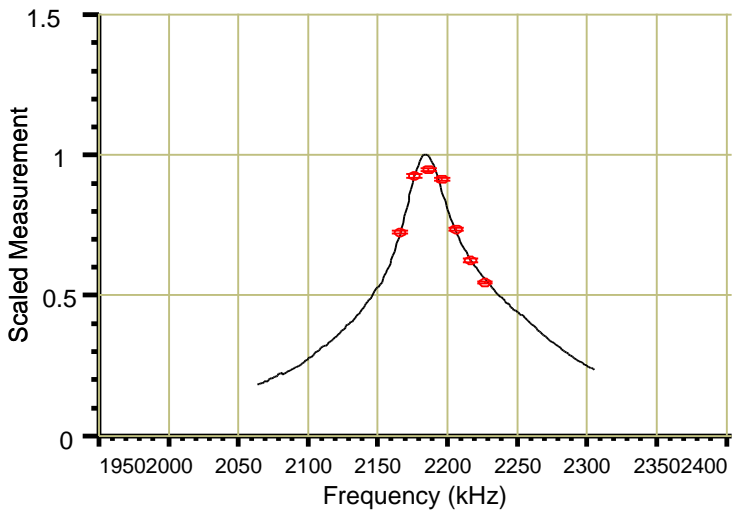
Larmor Frequency (kHz):	2182
Temperature (degc):	96.7

Search Parameters:

Central Frequency (kHz):	2194
Central Frequency Selection:	Manual

Measured Data:

Frequency	Amplitude	RMS Noise	Std Deviation
2164	65.00	0.93	0.9668
2174	83.00	1.01	0.9667
2184	85.00	1.02	0.9609
2194	82.00	0.99	0.9711
2204	66.00	0.90	0.9671
2214	56.00	0.95	0.9661
2224	49.00	0.97	0.9654

**Related Data:**

Depth(m):	2673.9
Average Cable Speed (ft/h):	0.0
Delta Temperature (degc):	0.2
Measurement Time (sec):	87.3
HV Peak Current (mA):	4222.7
Previous LFST Freq (at Temp):	2193
Frequency Std Deviation (kHz):	0.32
Number of Echoes:	300
Polarization Time (sec):	0.400

Freq estimate from Temp:	2179
Tune Word Offset:	-1
Sonde Number:	92
Cartridge Number:	87

CMRT TUNE WORD SEARCH REPORT – Wed Nov 24 13:17:26 2004

Search Results:

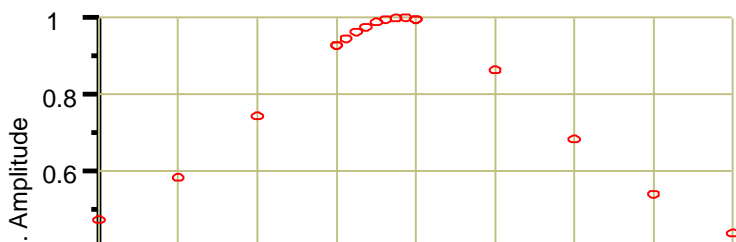
Tune Word:	91
Tune Word Offset:	-1
Maximum Amplitude:	1113.8
Temperature(deg):	96.2
Depth (m):	2673.9

Search Parameters:

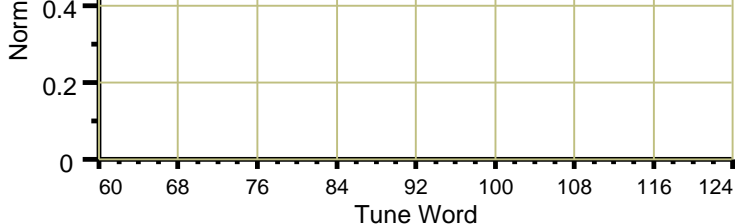
Search Frequency (kHz):	2194
Search Mode:	Manual

Related Data:

Master Cal Test Loop Amp:	1685.3
Current LF Estimate (kHz):	2194



Sonde Number: 92
Cartridge Number: 87



CMRT TUNE WORD SEARCH REPORT – Wed Nov 24 13:15:49 2004

Search Results:

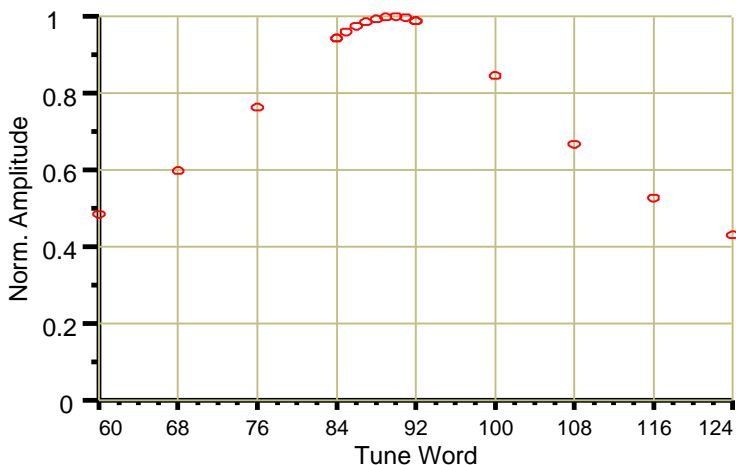
Tune Word: **90**
Tune Word Offset: **-2**
Maximum Amplitude: 1108.5
Temperature(degC): 95.8
Depth (m): 2673.9

Search Parameters:

Search Frequency (kHz): 2195
Search Mode: Manual

Related Data:

Master Cal Test Loop Amp: 1685.3
Current LF Estimate (kHz): 2194
Sonde Number: 92
Cartridge Number: 87



CMRT LARMOR FREQUENCY SEARCH REPORT – Wed Nov 24 20:23:37 2004

Search Results:

Larmor Frequency (kHz): **2180**
Temperature (degC): **99.3**

Search Parameters:

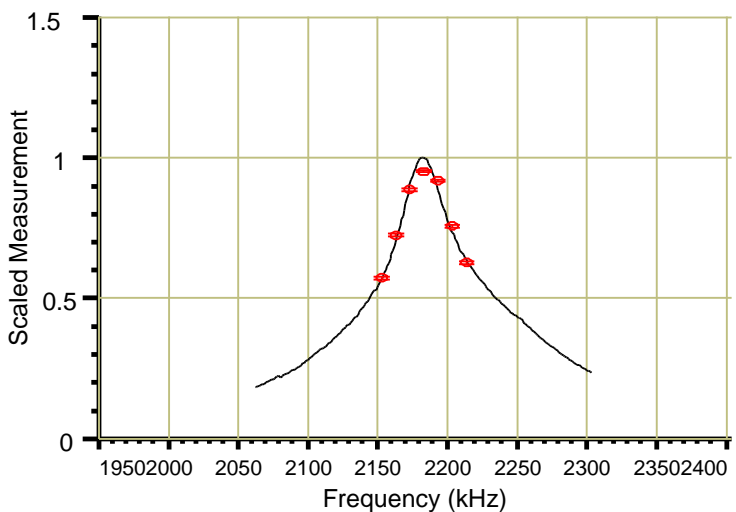
Central Frequency (kHz): 2181
Central Frequency Selection: Manual

Measured Data:

Frequency	Amplitude	RMS Noise	Std Deviation
2151	53.00	0.78	0.8009
2161	67.00	0.76	0.8023
2171	82.00	0.81	0.7997
2181	88.00	0.75	0.7965
2191	85.00	0.87	0.8038
2201	70.00	0.82	0.8023
2211	58.00	0.81	0.8002

Related Data:

Depth(m): 2674.0
Average Cable Speed (ft/h): 0.0
Delta Temperature (degC): 0.2
Measurement Time (sec): 135.5
HV Peak Current (mA): 4043.4
Previous LFST Freq (at Temp): 2180
Frequency Std Deviation (kHz): 0.24
Number of Echoes: 300
Polarization Time (sec): 0.400



Freq estimate from Temp: 2177
Tune Word Offset: -2
Sonde Number: 92
Cartridge Number: 87

CMRT LARMOR FREQUENCY SEARCH REPORT – Wed Nov 24 20:20:01 2004

Search Results:

Larmor Frequency (kHz): **2181**
Temperature (degc): **99.1**

Search Parameters:

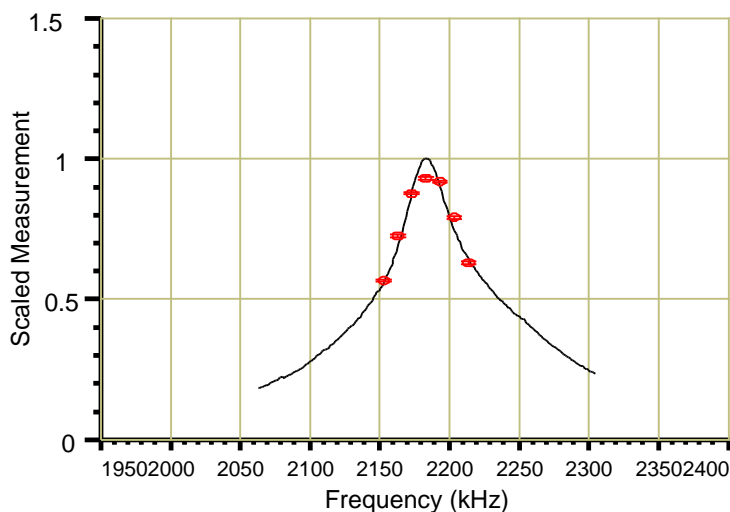
Central Frequency (kHz): 2181
Central Frequency Selection: Manual

Measured Data:

Frequency	Amplitude	RMS Noise	Std Deviation
2151	53.00	0.80	0.8292
2161	68.00	0.83	0.8317
2171	82.00	0.82	0.8287
2181	87.00	0.82	0.8224
2191	86.00	0.82	0.8305
2201	74.00	0.84	0.8323
2211	59.00	0.86	0.8279

Related Data:

Depth(m): 2674.0
Average Cable Speed (ft/h): 0.0
Delta Temperature (degc): 0.4
Measurement Time (sec): 118.3
HV Peak Current (mA): 4065.8
Previous LFST Freq (at Temp): 2180
Frequency Std Deviation (kHz): 0.25
Number of Echoes: 300
Polarization Time (sec): 0.400



Freq estimate from Temp: 2177
Tune Word Offset: -2
Sonde Number: 92
Cartridge Number: 87

CMRT TUNE WORD SEARCH REPORT – Wed Nov 24 20:16:00 2004**Search Results:**

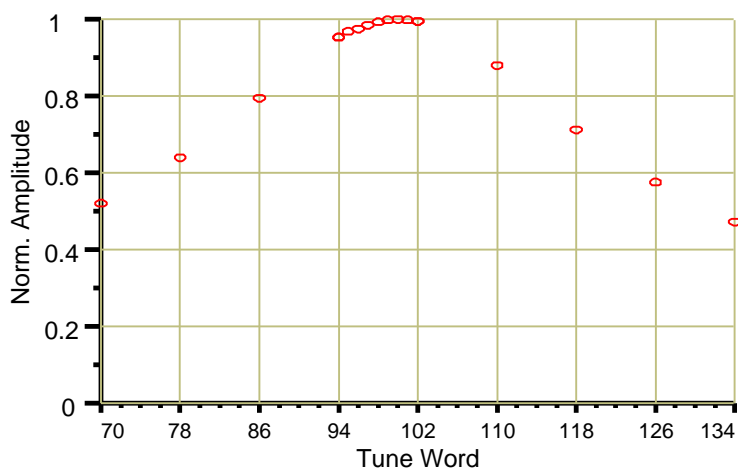
Tune Word: **100**
Tune Word Offset: **-2**
Maximum Amplitude: 1014.5
Temperature(deg): 98.4
Depth (m): 2674.0

Related Data:

Master Cal Test Loop Amp: 1685.3
Current LF Estimate (kHz): 2181
Sonde Number: 92
Cartridge Number: 87

Search Parameters:

Search Frequency (kHz): 2182
Search Mode: Manual



Output DLIS Files

DEFAULT

CMR_071LTP

FN:70

PRODUCER

21-Nov-2004 16:07

-54.3 M

1.5 M

CMR STATION LOG REPORT

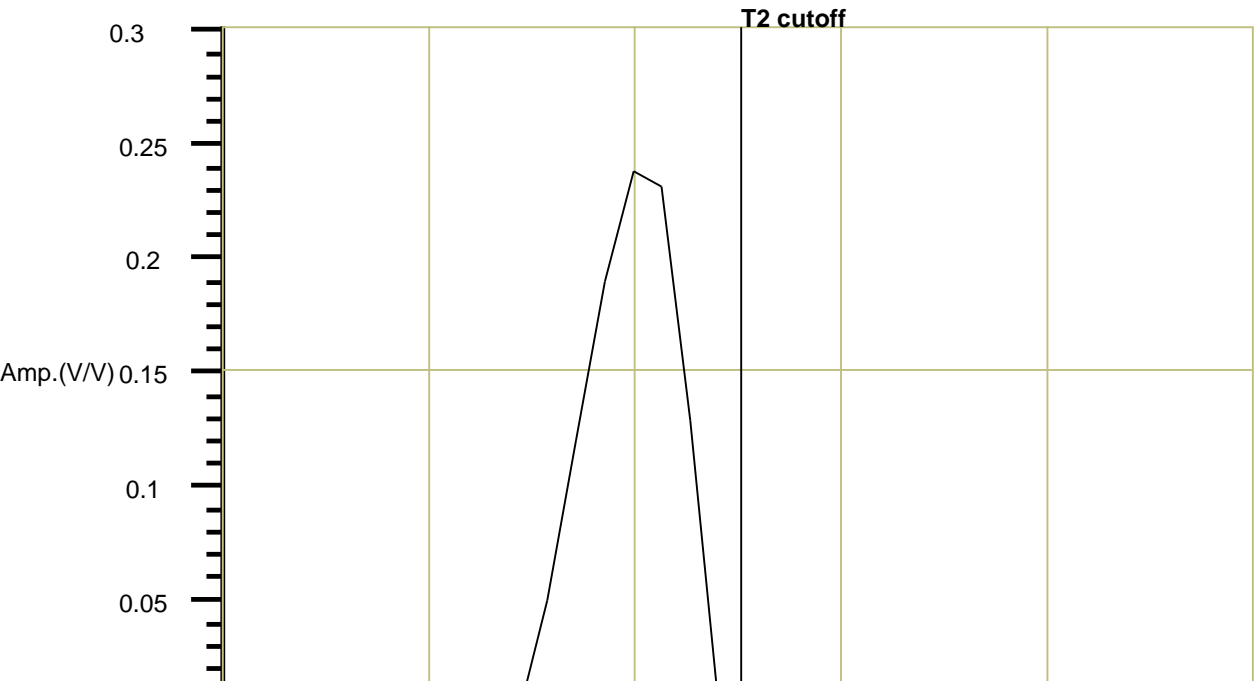
DEPTH(M): 0.000

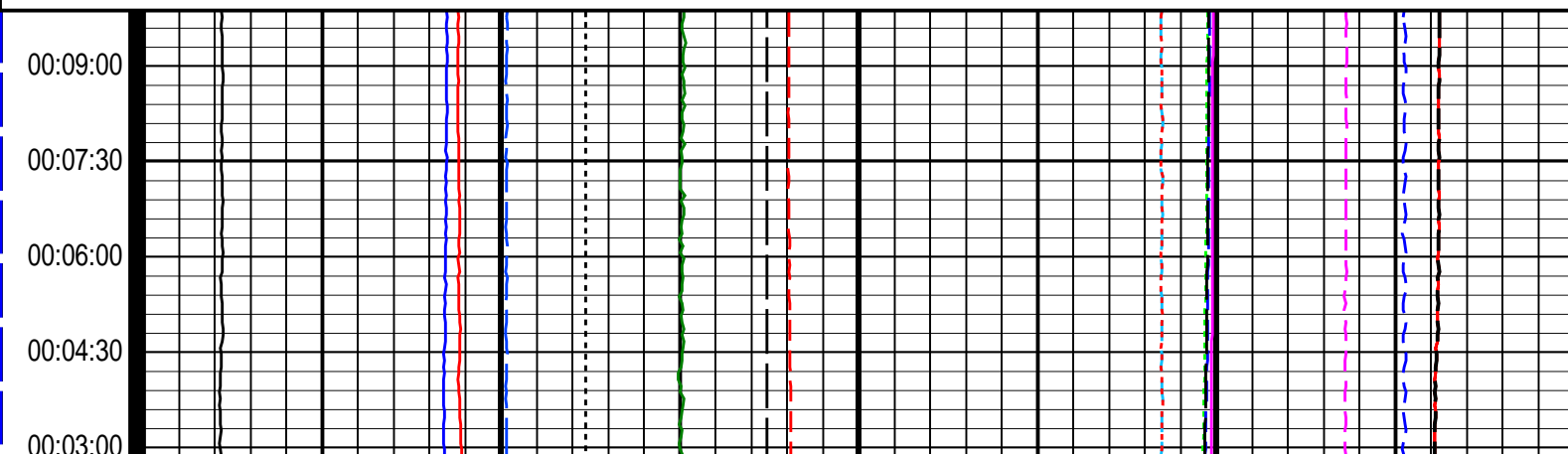
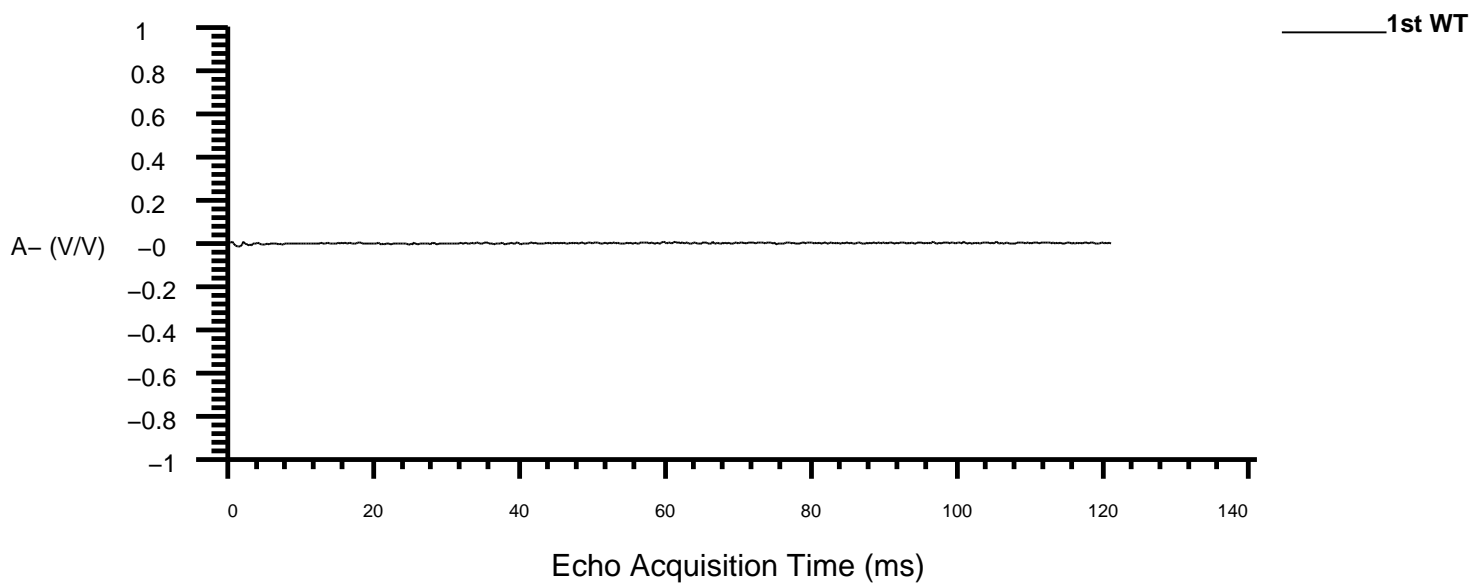
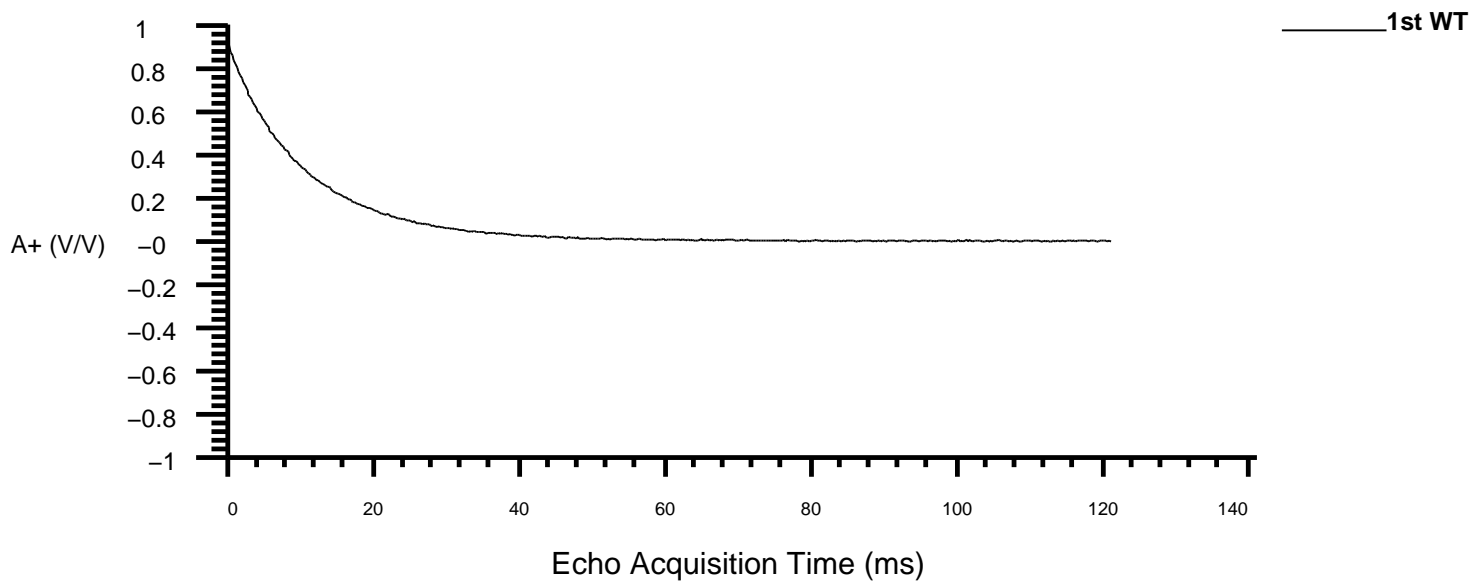
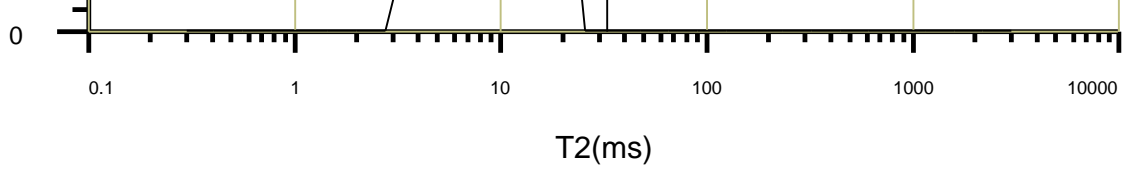
PARAMETER SUMMARY

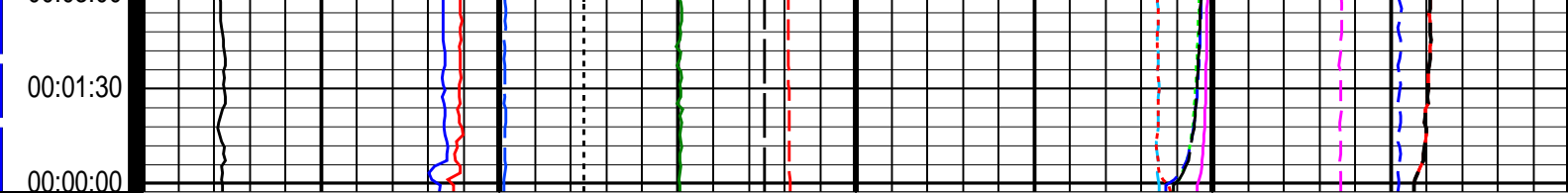
Tool Type: CMR-Plus	Cart. Number: 87	Sonde Number: 92	
Kit Number: 26	DHC Version : 15	DSP Version : 12	SP Version : 2062001
Mode: Mud Station Log		LFST Freq(khz) : 2249	LFST Temp(degc) : 20.39
Log Direction: Station	Polarization Correction: On	EPM: No	
Echo Spacing(us):	(200)		
Polarization Time(sec):	(2.4)		
Number of Echoes:	(1800)		
Repetition:	(1)		
Regularization:	Auto		
T2 Min(msec): 0.3	T2 Max(msec): 3000	T2 Cutoff(msec): 33	T1/T2: 1
Number of Components: 30	Downhole Stacking: 0	Uphole Stacking: 1	First Echo Used: No
Multiple T2 Cutoffs(msec):	(0.3 1 3 10 33 100 300 1000 3000)		
Update Int.(sec): 6			

MEASURED DATA

TCMR Porosity(V/V): 0.952			
Free Fluid (V/V): 0.000	Log Mean T2(msec): 9.594		
Computed T1/T2: N/A	SDR Perm.(md): 302.082	Tmr/Cts Perm.(md): 0.001	Temperature(degc): 21.501
Signal to Noise Ratio:	(444.362)		
Min. Freq.(kHz): 2248	Max. Freq.(kHz): 2248		







Bad Hole Flag	Window Porosity 1-SL (CMR_RAW_PHI_SL[0]) 0.4 (V/V) 0	CMR System Gain-SL (CMR_GAIN_SL) 0 (----) 1	Standard Deviation of Total Bound Fluid Porosity-SL (BFV_SIG_SL) 0.1 (V/V) 0	CMRP - T1T2max-SL (CMRP_T1T2R_MAX_SL) 0.4 (V/V) 0
Insuff. WT Flag	Window Porosity 2-SL (CMR_RAW_PHI_SL[1]) 0.4 (V/V) 0	CMR Temperature-SL (CMR_TEMP_SL) 20 (DEGC) 120	Standard Deviation of Free Fluid Porosity-SL (CMFF_SIG_SL) 0.1 (V/V) 0	CMRP - T1T2min-SL (CMRP_T1T2R_MIN_SL) 0.4 (V/V) 0
Elapsed Time (ETIM) (S)	Window Porosity 3-SL (CMR_RAW_PHI_SL[2]) 0.4 (V/V) 0	Delta B0-SL (DELTA_B0_SL) -0.5 (MTES) 0.5	Noise per Echo-SL (NOISE_ENV_SL[0]) 0.1 (V/V) 0	High Voltage When Loaded-SL (HV_LOADED_SL) 220 (V) 270
	Window Porosity 2 to 3	Operating Frequency-SL (FREQ_OP_SL) 2100 (KHZ) 2300	Tool Hardware Noise-SL (NOISE_TOOL_SL[0]) 0.1 (V/V) 0	High Voltage Peak Current-SL (HV_PEAK_CUR_SL) 0 (MA) 10000
		Delta B0 Out of Tolerance	Tool WSUM Noise-SL (NOISE_TOOL_WSUM_SL[0]) 0.1 (V/V) 0	Total CMR Porosity-SL (TCMR_SL) 0.4 (V/V) 0
		Signal Phase-SL (SPHASE_SL[0]) -180 (DEG) 180	Standard Deviation of Total CMR Porosity-SL (TCMR_SIG_SL) 0.1 (V/V) 0	HV Loaded Below Limit
			Caution Moderate Noise	CMRP max to min
			Noise Out of Tolerance	

PIP SUMMARY

Time Mark Every 60 S

Format: CMRT_LQC_STATION_LOG Vertical Scale: 1" per 180S Graphics File Created: 21-Nov-2004 16:07

OP System Version: 12C0-301

MCM

CMRT-B 12C0-301 DTC-H 12C0-301

Output DLIS Files

DEFAULT CMR_071LTP FN:70 PRODUCER 21-Nov-2004 16:07

Schlumberger

Mud Filtrate Measurement

MAXIS Field Log

Company: Well:

Output DLIS Files

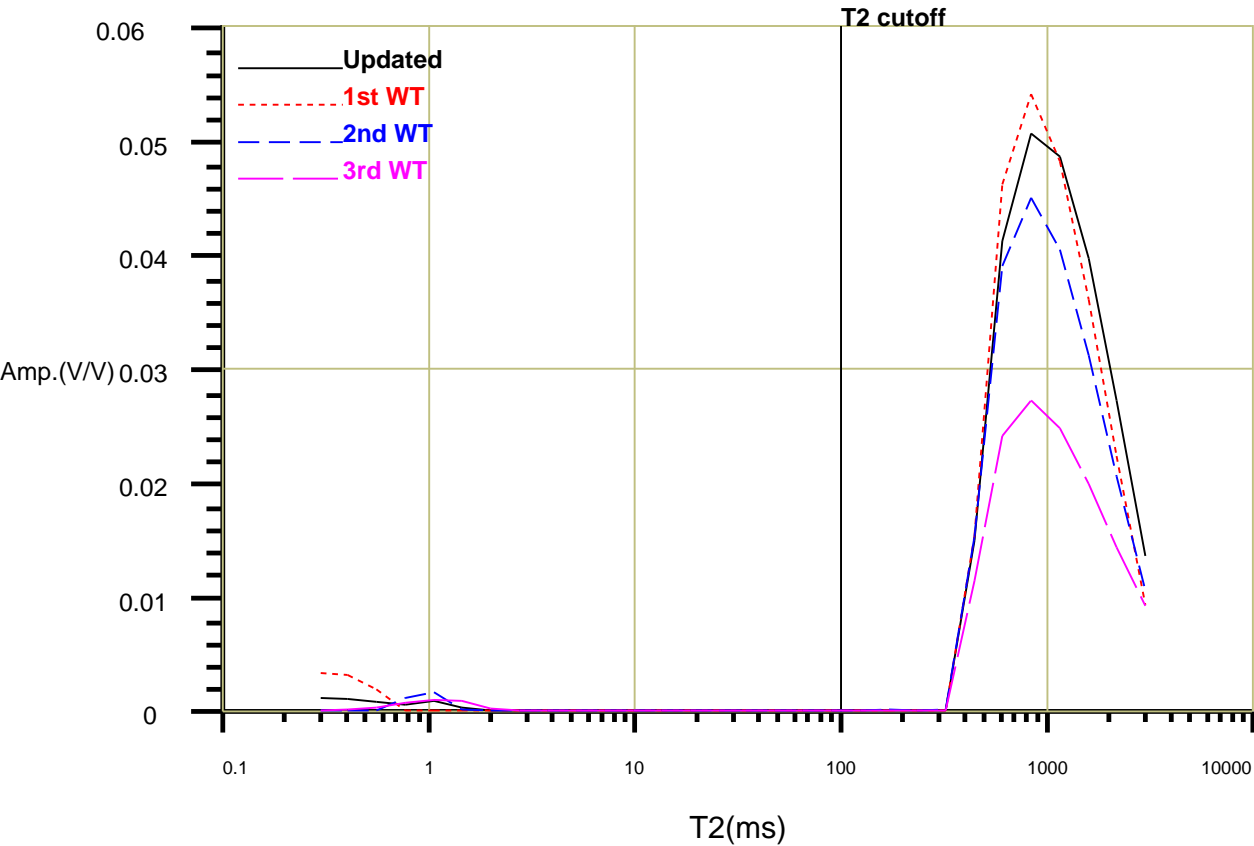
DEFAULT CMR_070LTP FN:69 PRODUCER 21-Nov-2004 15:48 -54.3 M 2.1 M

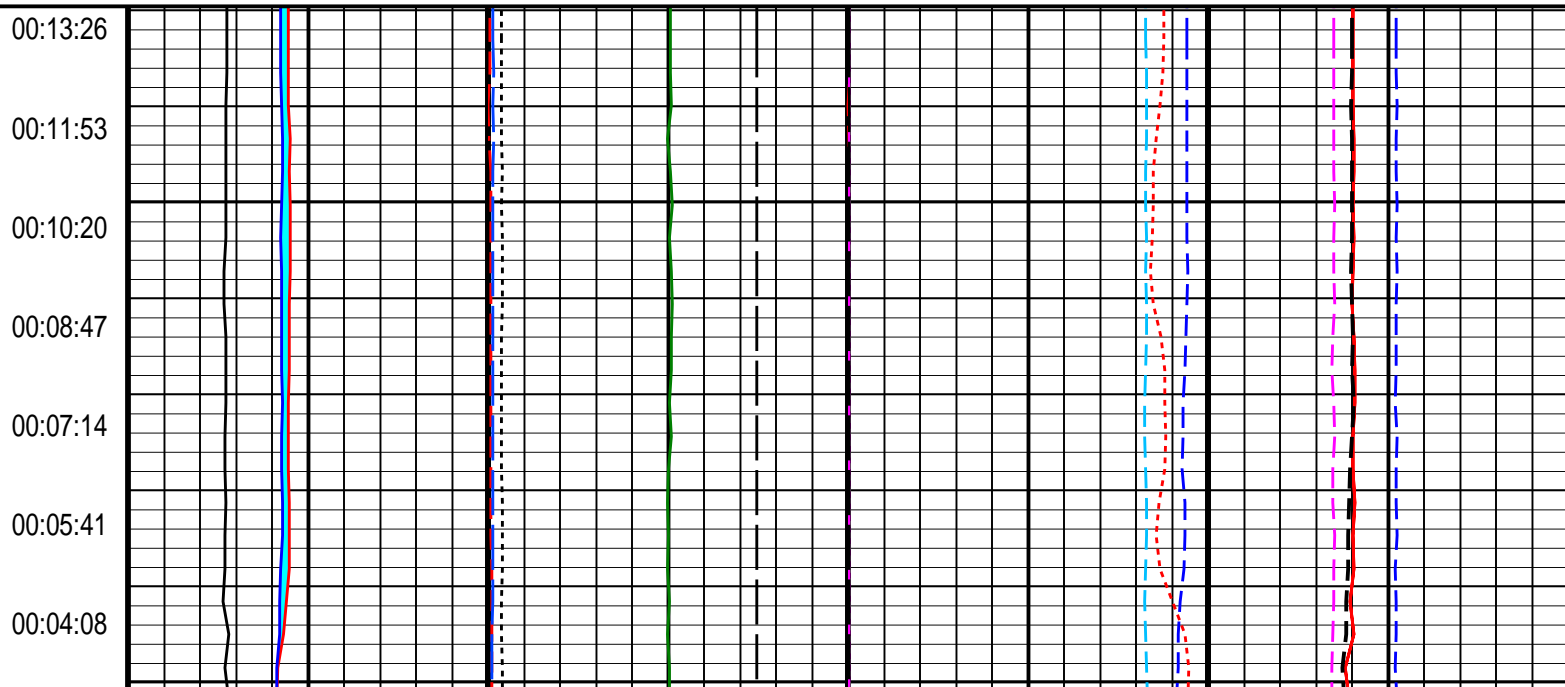
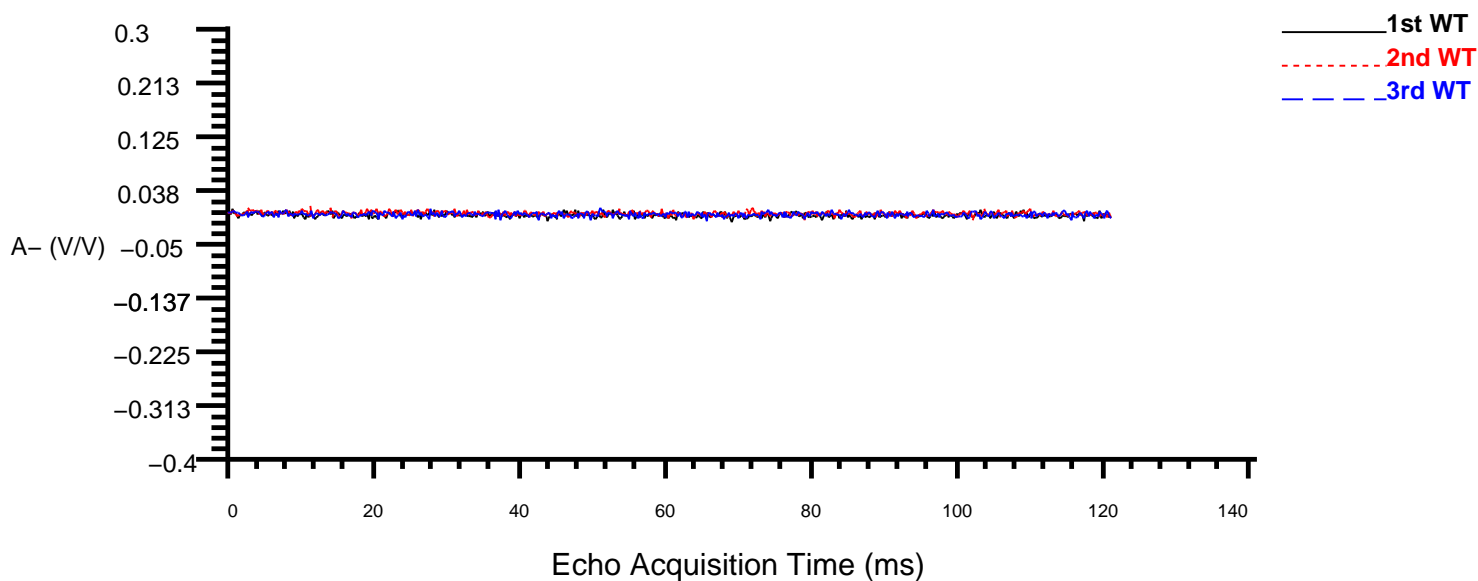
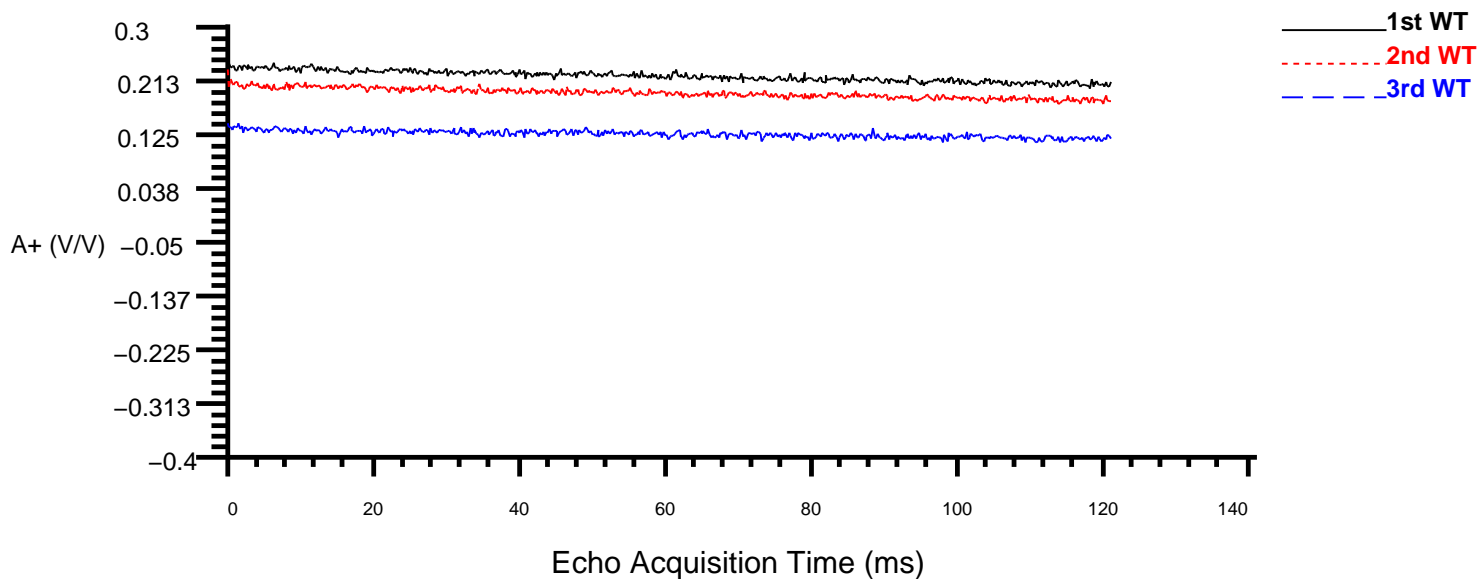
PARAMETER SUMMARY

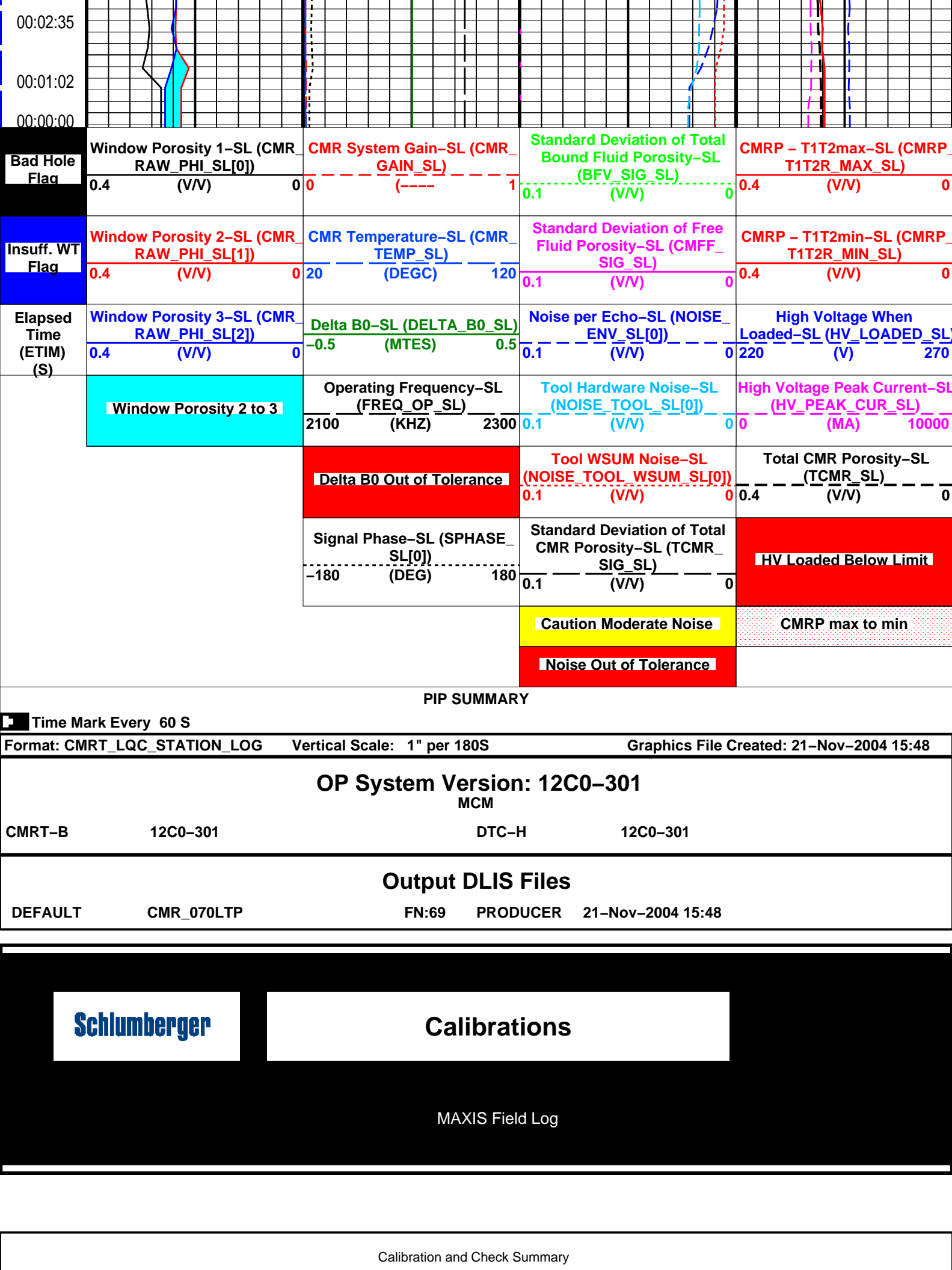
Tool Type: CMR-Plus	Cart. Number: 87	Sonde Number: 92	
Kit Number: 26	DHC Version : 15	DSP Version : 12	SP Version : 2062001
Mode: Free Fluid T1 Estimation Station Log		LFST Freq(khz) : 2249	LFST Temp(degc) : 20.39
Log Direction: Station	Polarization Correction: Off	EPM: No	
Echo Spacing(us):	(200 200 200)		
Polarization Time(sec):	(10 2.5 1)		
Number of Echoes:	(3000 3000 3000)		
Repetition:	(1 1 1)		
Regularization:	Auto		
T2 Min(msec): 0.3	T2 Max(msec): 3000	T2 Cutoff(msec): 100	T1/T2: 2
Number of Components: 30	Downhole Stacking: 0	Uphole Stacking: 1	First Echo Used: No
Multiple T2 Cutoffs(msec):	(0.3 1 3 10 33 100 300 1000 3000)		
Update Int.(sec): 31			

MEASURED DATA

TCMR_MW Porosity(V/V):	(0.240 0.205 0.134 0.241)		
Free Fluid (V/V):	(0.231 0.202 0.131 0.236)	Log Mean T2(msec): 936.259	T1 of CMFF (sec): 1.204
Computed T1/T2: 1.270	SDR Perm.(md): 11775.760	Tmr/Cts Perm.(md): 4668.969	Temperature(degc): 21.254
Signal to Noise Ratio:	(38.584 41.372 26.110)		
Min. Freq.(kHz): 2249	Max. Freq.(kHz): 2249		







Measurement	Nominal	Master	Before	After	Change	Limit	Units
High Resolution Laterolog Array – B Wellsite Calibration – HRLT M01							
Before: 24–Nov–2004 13:13							
HRLT M0–M1 Voltage Plus – 0	0	N/A	–318.7	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 1	0	N/A	–328.4	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 2	0	N/A	–329.7	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 3	0	N/A	–327.3	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 4	0	N/A	–319.2	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 5	0	N/A	–322.8	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 6	0	N/A	331.1	N/A	N/A	9.681	UV
HRLT M0–M1 Voltage Plus – 7	0	N/A	–322.7	N/A	N/A	9.681	UV
High Resolution Laterolog Array – B Wellsite Calibration – HRLT M12							
Before: 24–Nov–2004 13:13							
HRLT M1–M2 Voltage Plus – 0	0	N/A	1751	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 1	0	N/A	1809	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 2	0	N/A	1809	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 3	0	N/A	1795	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 4	0	N/A	1750	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 5	0	N/A	1771	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 6	0	N/A	–1833	N/A	N/A	53.42	UV
HRLT M1–M2 Voltage Plus – 7	0	N/A	1781	N/A	N/A	53.42	UV
High Resolution Laterolog Array – B Wellsite Calibration – HRLT M23							
Before: 24–Nov–2004 13:13							
HRLT M2–M3 Voltage Plus – 0	0	N/A	1738	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 1	0	N/A	1804	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 2	0	N/A	1807	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 3	0	N/A	1797	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 4	0	N/A	1747	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 5	0	N/A	1769	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 6	0	N/A	–1816	N/A	N/A	53.42	UV
HRLT M2–M3 Voltage Plus – 7	0	N/A	1781	N/A	N/A	53.42	UV
High Resolution Laterolog Array – B Wellsite Calibration – HRLT V34							
Before: 24–Nov–2004 13:13							
HRLT A3–A4 Voltage Plus – 0	0	N/A	68600	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 1	0	N/A	70910	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 2	0	N/A	71350	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 3	0	N/A	71220	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 4	0	N/A	69230	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 5	0	N/A	70130	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 6	0	N/A	–70340	N/A	N/A	2100	UV
HRLT A3–A4 Voltage Plus – 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array – B Wellsite Calibration – HRLT V45							
Before: 24–Nov–2004 13:13							
HRLT A4–A5 Voltage Plus – 0	0	N/A	68710	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 1	0	N/A	71110	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 2	0	N/A	71500	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 3	0	N/A	71390	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 4	0	N/A	69350	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 5	0	N/A	70240	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 6	0	N/A	–70530	N/A	N/A	2100	UV
HRLT A4–A5 Voltage Plus – 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array – B Wellsite Calibration – HRLT V56							
Before: 24–Nov–2004 13:13							
HRLT A5–A6 Voltage Plus – 0	0	N/A	68840	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 1	0	N/A	71190	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 2	0	N/A	71600	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 3	0	N/A	71500	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 4	0	N/A	69480	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 5	0	N/A	70380	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 6	0	N/A	–70600	N/A	N/A	2100	UV
HRLT A5–A6 Voltage Plus – 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array – B Wellsite Calibration – HRLT VTP							
Before: 24–Nov–2004 13:13							
HRLT Torpedo–M0 Voltage – 0	0	N/A	–68200	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 1	0	N/A	–71260	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 2	0	N/A	–71620	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 3	0	N/A	–71470	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 4	0	N/A	–69350	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 5	0	N/A	–70200	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 6	0	N/A	70650	N/A	N/A	2100	UV
HRLT Torpedo–M0 Voltage – 7	0	N/A	–70000	N/A	N/A	2100	UV

HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68200	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-71210	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-71570	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-71440	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-69330	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-70190	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	70600	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV

High Resolution Laterolog Array - B Wellsite Calibration - HRLT ISO

Before: 24-Nov-2004 13:13

HRLT Source Current Plus - 0	0	N/A	284.4	N/A	N/A	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 4	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	N/A	N/A	8.520	UA

High Resolution Laterolog Array - B Wellsite Calibration - HRLT MV

Before: 24-Nov-2004 13:13

HRLT Vertical Voltage PI - 0	0	N/A	-320.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-324.5	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-324.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-319.7	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-308.6	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-327.0	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	340.7	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	N/A	N/A	9.681	UV

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary

Before: 22-Nov-2004 17:28

BS Window Ratio	0.7324	N/A	0.7368	N/A	N/A	N/A	
BS Window Sum	27590	N/A	27610	N/A	N/A	N/A	CPS
SS Window Ratio	0.4840	N/A	0.4865	N/A	N/A	N/A	
SS Window Sum	12010	N/A	11930	N/A	N/A	N/A	CPS
LS Window Ratio	0.2932	N/A	0.2995	N/A	N/A	N/A	
LS Window Sum	1398	N/A	1385	N/A	N/A	N/A	CPS

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations

Before: 22-Nov-2004 17:28

BS PM High Voltage (Command)	1347	N/A	1296	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1422	N/A	1424	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1328	N/A	1320	N/A	N/A	N/A	V

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration

Before: 22-Nov-2004 17:28

BS Crystal Resolution	11.70	N/A	11.22	N/A	N/A	N/A	%
SS Crystal Resolution	9.918	N/A	10.37	N/A	N/A	N/A	%
LS Crystal Resolution	8.926	N/A	8.872	N/A	N/A	N/A	%

High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration

Before: 22-Nov-2004 17:45

Raw B0 Resistivity	3875	N/A	3882	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3828	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3827	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration

Before: 22-Nov-2004 17:45

HILT Caliper Zero Measurement	8.000	N/A	7.870	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	11.87	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration

Before: 22-Nov-2004 17:22

Gamma Ray Background	30.00	N/A	4.018	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	178.4	N/A	178.4	N/A	N/A	16.22	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement

Master: 15-Nov-2004 23:24 Before: 22-Nov-2004 17:24

CNTC Background	25.96	25.96	26.73	N/A	N/A	3.894	CPS
CFTC Background	27.87	27.87	25.37	N/A	N/A	4.181	CPS

High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration

Before: 24-Nov-2004 11:42

Z-Axis Acceleration	9.810	N/A	9.775	N/A	N/A	N/A	M/S2
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High resolution Integrated Logging Tool-DTS Master Calibration - Inversion results

Master: 15-Nov-2004 21:30

Rho Aluminum	2.596	2.603	--	--	--	--	G/C3
--------------	-------	-------	----	----	----	----	------

Rho Magnesium	1.686	1.684	--	--	--	--	G/C3
Pe Aluminum	2.570	2.558	--	--	--	--	
Pe Magnesium	2.650	2.630	--	--	--	--	

High resolution Integrated Logging Tool–DTS Master Calibration – Deviation Summary

Master: 15–Nov–2004 21:30							
BS Average Deviation	0	0.5370	--	--	--	--	%
BS Max Deviation	0	1.364	--	--	--	--	%
SS Average Deviation	0	0.4926	--	--	--	--	%
SS Max Deviation	0	1.007	--	--	--	--	%
LS Average Deviation	0	0.8351	--	--	--	--	%
LS Max Deviation	0	1.655	--	--	--	--	%

Combinable Magnetic Resonance Tool – B Master Calibration – Calibration Fixture Measurement

Master: 24–Nov–2004 12:52							
Tool Temperature MCAL	27.00	25.23	--	--	--	--	DEGC
LOOP Measurement MCAL	2300	1685	--	--	--	--	
Hall Probe B0 MCAL	52.00	52.67	--	--	--	--	MTES
Cal. Fixture Amplitude MCAL	37.50	28.84	--	--	--	--	

The GLS–VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :









NCT–B Water Temperature 15.6 DEGC.
Thermal Housing Size 3.378 IN.

High Resolution Laterolog Array – B / Equipment Identification

Primary Equipment:				
HRLT Sonde		HRLS – B	782	
Auxiliary Equipment:				
HRLT lower Housing		HRLH – B	705	
HRLT Lower Cartridge		HRLC – B	705	
HRLT upper Housing		HRUH – B	705	
HRLT Upper Cartridge		HRUC – B	705	

High Resolution Laterolog Array – B Wellsite Calibration







HRLT M01


Idx	Phase	HRLT M0–M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		–318.7	–322.7	–274.3	–371.1
1	Before		–328.4	–322.7	–274.3	–371.1
2	Before		–329.7	–322.7	–274.3	–371.1
3	Before		–327.3	–322.7	–274.3	–371.1
4	Before		–319.2	–322.7	–274.3	–371.1
5	Before		–322.8	–322.7	–274.3	–371.1
6	Before		331.1	322.7	371.1	274.3
7	Before		–322.7	–322.7	–274.3	–371.1
(Minimum) (Nominal) (Maximum)						









Before: 24–Nov–2004 13:13









High Resolution Laterolog Array – B Wellsite Calibration









HRLT M12


Idx	Phase	HRLT M1–M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1751	1781	2048	1514
1	Before		1809	1781	2048	1514
2	Before		1809	1781	2048	1514
3	Before		1795	1781	2048	1514
4	Before		1750	1781	2048	1514
5	Before		1771	1781	2048	1514
6	Before		–1833	–1781	–1514	–2048








7	Before		1781	1781	2048	1514
(Minimum) (Nominal) (Maximum)						
Before: 24-Nov-2004 13:13						









High Resolution Laterolog Array – B Wellsite Calibration						
HRLT M23						
Idx	Phase	HRLT M2-M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1738	1781	2048	1514
1	Before		1804	1781	2048	1514
2	Before		1807	1781	2048	1514
3	Before		1797	1781	2048	1514
4	Before		1747	1781	2048	1514
5	Before		1769	1781	2048	1514
6	Before		-1816	-1781	-1514	-2048
7	Before		1781	1781	2048	1514
(Minimum) (Nominal) (Maximum)						
Before: 24-Nov-2004 13:13						









High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V34						
Idx	Phase	HRLT A3-A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68600	70000	80500	59500
1	Before		70910	70000	80500	59500
2	Before		71350	70000	80500	59500
3	Before		71220	70000	80500	59500
4	Before		69230	70000	80500	59500
5	Before		70130	70000	80500	59500
6	Before		-70340	-70000	-59500	-80500
7	Before		70000	70000	80500	59500
(Minimum) (Nominal) (Maximum)						
Before: 24-Nov-2004 13:13						









High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V45						
Idx	Phase	HRLT A4-A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68710	70000	80500	59500
1	Before		71110	70000	80500	59500
2	Before		71500	70000	80500	59500
3	Before		71390	70000	80500	59500
4	Before		69350	70000	80500	59500
5	Before		70240	70000	80500	59500
6	Before		-70530	-70000	-59500	-80500
7	Before		70000	70000	80500	59500
(Minimum) (Nominal) (Maximum)						
Before: 24-Nov-2004 13:13						









High Resolution Laterolog Array – B Wellsite Calibration						
HRLT V56						
Idx	Phase	HRLT A5-A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68840	70000	80500	59500

1	Before		71190	70000	80500	59500
2	Before		71600	70000	80500	59500
3	Before		71500	70000	80500	59500
4	Before		69480	70000	80500	59500
5	Before		70380	70000	80500	59500
6	Before		-70600	-70000	-59500	-80500
7	Before		70000	70000	80500	59500
(Minimum) (Nominal) (Maximum)						
Before: 24-Nov-2004 13:13						







High Resolution Laterolog Array – B Wellsite Calibration						
HRLT VTP						
Idx	Phase	HRLT Torpedo-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-68200	-70000	-59500	-80500
1	Before		-71260	-70000	-59500	-80500
2	Before		-71620	-70000	-59500	-80500
3	Before		-71470	-70000	-59500	-80500
4	Before		-69350	-70000	-59500	-80500
5	Before		-70200	-70000	-59500	-80500
6	Before		70650	70000	80500	59500
7	Before		-70000	-70000	-59500	-80500
(Minimum) (Nominal) (Maximum)						
Before: 24-Nov-2004 13:13						




High Resolution Laterolog Array – B Wellsite Calibration						
HRLT VBD						
Idx	Phase	HRLT Bridle#9-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-68200	-70000	-59500	-80500
1	Before		-71210	-70000	-59500	-80500
2	Before		-71570	-70000	-59500	-80500
3	Before		-71440	-70000	-59500	-80500
4	Before		-69330	-70000	-59500	-80500
5	Before		-70190	-70000	-59500	-80500
6	Before		70600	70000	80500	59500
7	Before		-70000	-70000	-59500	-80500
(Minimum) (Nominal) (Maximum)						
Before: 24-Nov-2004 13:13						

High Resolution Laterolog Array – B Wellsite Calibration						
HRLT ISO						
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		284.4	284.0	326.6	241.4
1	Before		281.1	281.1	323.3	238.9
2	Before		281.1	281.1	323.3	238.9
3	Before		281.1	281.1	323.3	238.9
4	Before		281.1	281.1	323.3	238.9
5	Before		281.1	281.1	323.3	238.9
6	Before		281.1	281.1	323.3	238.9
7	Before		281.1	281.1	323.3	238.9




High Resolution Laterolog Array – B Wellsite Calibration						
HRLT MV						
Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-320.8	-322.7	-274.3	-371.1
1	Before		-324.5	-322.7	-274.3	-371.1
2	Before		-324.3	-322.7	-274.3	-371.1
3	Before		-319.7	-322.7	-274.3	-371.1
4	Before		-308.6	-322.7	-274.3	-371.1
5	Before		-327.0	-322.7	-274.3	-371.1
6	Before		340.7	322.7	371.1	274.3
7	Before		-322.7	-322.7	-274.3	-371.1
		(Minimum) (Nominal) (Maximum)				

Before: 24–Nov–2004 13:13



High resolution Integrated Logging Tool—DTS Wellsite Calibration											
Stab Measurement Summary											
Phase	BS Window Ratio		Value	Phase	SS Window Ratio		Value	Phase	LS Window Ratio		Value
Before			0.7368	Before			0.4865	Before			0.2995
	0.6958 (Minimum)	0.7324 (Nominal)	0.7690 (Maximum)		0.4598 (Minimum)	0.4840 (Nominal)	0.5082 (Maximum)		0.2785 (Minimum)	0.2932 (Nominal)	0.3079 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value	Phase	LS Window Sum CPS		Value
Before			27610	Before			11930	Before			1385
	26210 (Minimum)	27590 (Nominal)	28970 (Maximum)		11410 (Minimum)	12010 (Nominal)	12610 (Maximum)		1328 (Minimum)	1398 (Nominal)	1468 (Maximum)
Before: 22–Nov–2004 17:28											

High resolution Integrated Logging Tool–DTS Wellsite Calibration											
Crystal Quality Resolutions Calibration											
Phase	BS Crystal Resolution %		Value	Phase	SS Crystal Resolution %		Value	Phase	LS Crystal Resolution %		Value
Before			11.22	Before			10.37	Before			8.872
	10.70 (Minimum)	11.70 (Nominal)	12.70 (Maximum)		8.918 (Minimum)	9.918 (Nominal)	10.92 (Maximum)		7.926 (Minimum)	8.926 (Nominal)	9.926 (Maximum)
Before: 22–Nov–2004 17:28											




MCFL Calibration

Phase	Raw B0 Resistivity OHMM		Value	Phase	Raw B1 Resistivity OHMM		Value	Phase	Raw B2 Resistivity OHMM		Value
Before			3882	Before			3828	Before			3827
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)





Before: 22–Nov–2004 17:45

High resolution Integrated Logging Tool–DTS Wellsite Calibration							
HILT Caliper Calibration							
Phase	HILT Caliper Zero Measurement IN		Value	Phase	HILT Caliper Plus Measurement IN		Value
Before			7.870	Before			11.87
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)
Before: 22–Nov–2004 17:45							

Before: 22–Nov–2004 17:45


High resolution Integrated Logging Tool–DTS Wellsite Calibration														
Detector Calibration														
Phase	Gamma Ray Background GAPI			Value	Phase	Gamma Ray (Jig – Bkg) GAPI			Value	Phase	Gamma Ray (Calibrated) GAPI			Value
Before				4.018	Before				178.4	Before				165.0
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		162.2 (Minimum)	178.4 (Nominal)	194.7 (Maximum)			150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)		
Before: 22–Nov–2004 17:22														

Before: 22–Nov–2004 17:22





High resolution Integrated Logging Tool–DTS Wellsite Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				25.96	Master				27.87
Before				26.73	Before				25.37
5.000 (Minimum)25.96 (Nominal)40.00 (Maximum)					5.000 (Minimum)27.87 (Nominal)40.00 (Maximum)				
Master: 15–Nov–2004 23:24					Before: 22–Nov–2004 17:24				

Master: 15–Nov–2004 23:24




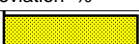


Before: 22–Nov–2004 17:24

High resolution Integrated Logging Tool–DTS			
Wellsite Calibration			
Accelerometer Calibration			
Phase	Z–Axis Acceleration M/S2	Value	
Before		9.775	
	9.610 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 24–Nov–2004 11:42			

Before: 24–Nov–2004 11:42

High resolution Integrated Logging Tool–DTS Master Calibration							
Inversion results							
Phase	Rho Aluminum G/C3		Value	Phase	Rho Magnesium G/C3		Value
Master			2.603	Master			1.684
	2.586 (Minimum)	2.596 (Nominal)	2.606 (Maximum)		1.676 (Minimum)	1.686 (Nominal)	1.696 (Maximum)
Phase	Pe Aluminum		Value	Phase	Pe Magnesium		Value
Master			2.558	Master			2.630
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)		2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)
Master: 15–Nov–2004 21:30							

Master: 15–Nov–2004 21:30

High resolution Integrated Logging Tool–DTS Master Calibration														
Deviation Summary														
Phase	BS Average Deviation %			Value	Phase	SS Average Deviation %			Value	Phase	LS Average Deviation %			Value
Master				0.5370	Master				0.4926	Master				0.8351
	-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)			-1.000 (Minimum)	0 (Nominal)	1.000 (Maximum)			-1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)	
Phase	BS Max Deviation %			Value	Phase	SS Max Deviation %			Value	Phase	LS Max Deviation %			Value
Master				1.364	Master				1.007	Master				1.655
	-1.600 (Minimum)	0 (Nominal)	1.600 (Maximum)			-2.500 (Minimum)	0 (Nominal)	2.500 (Maximum)			-3.500 (Minimum)	0 (Nominal)	3.500 (Maximum)	
Master: 15–Nov–2004 21:30														

Master: 15–Nov–2004 21:30

Combinable Magnetic Resonance Tool – B / Equipment Identification

Primary Equipment:			
CMR–B Sonde	CMRS – BA	92	
CMR Cartridge	CMRC – BA	87	
Auxiliary Equipment:			

Combinable Magnetic Resonance Tool – B Master Calibration

Calibration Fixture Measurement

Phase	Tool Temperature MCAL		DEGC	Value	Phase	LOOP Measurement MCAL			Value	Phase	Hall Probe B0 MCAL			MTES	Value
Master	<div><div></div></div>			25.23	Master	<div><div></div></div>			1685	Master	<div><div></div></div>				52.67
10.00 (Minimum) 27.00 (Nominal) 44.00 (Maximum)					1500 (Minimum) 2300 (Nominal) 2900 (Maximum)					50.00 (Minimum) 52.00 (Nominal) 55.00 (Maximum)					
Phase	Cal. Fixture Amplitude MCAL			Value											
Master	<div><div></div></div>			28.84											
25.00 (Minimum) 37.50 (Nominal) 50.00 (Maximum)															
Master: 24–Nov–2004 12:52															

Company: **Origin Energy Resources Ltd.**



Well: **Trefoil–1**
Field: **Trefoil**
Rig: **ENSCO 102**
Country: **Australia**

SP–HRLA–PEX–CMR–C
Combinable Magnetic Resonance Tool
1:200 Scale