Schlumberger

Company: **LAMONT – DOHERTY**

9.875in Section

Well: **GDGH12–A– Site11 Hole A**

Field: **Krishna Godavari Basin**

Rig: **JOIDES Resolution** Country: **India**

Rig: JOIDES Resolution
Field: Krishna Godavari Basin
Location: Offshore Tamil Nadu
Well: GDGH12–A– Site11 Hole A
Company: LAMONT – DOHERTY

EcoSCOPE
1:200 Measured Depth
Recorded Mode Log

Location			Elevation		
Total depth:	1218 m		K.B.	Top Drive	
Spud date:	04–Jun–06		G.L.	–1008.5 m	
Runs:	1	To 1	D.F.	10.5 m	
Permanent datum:	Mean Sea Level		Elev.:	0.0 m	
Log measured from:	Rotary Table		10.5 m	above Perm. datum	
Depth reference:	Driller's Depth				

Service Order no.	X = 606161.0m	Longitude	Latitude
06INM0043	Y = 1768193.3m	E 81° 59.5290'	N 15° 4601'

Depth logged:	1018 m To 1215 m	Mag decl:	–1.31 deg.	Other services:	
Date logged:	04–Jun–06 To 04–Jun–06	Mag dip:	19.14 deg.	SonicVISION*, ProVISION*	

Bore hole record			Casing record			
Hole size	from	to	Size	Density	from	to
9.875 in.	1018 m	1218 m				

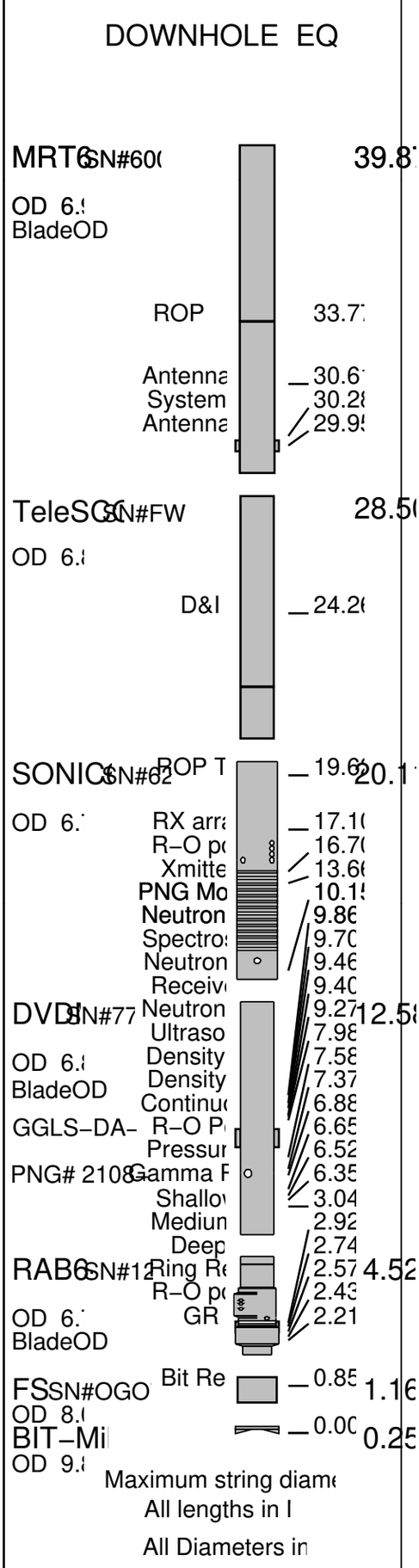
Mud record			Borehole deviation record			
Type	from	to	Min	Max	from	to
Sea Water	1018 m	1218 m				

Surface equipment		Software record			
Unit	OLU–J–N844–1/02	IDEAL Wis	ID10_2C_01		
Depth system	PDA	SPM	hspm10_1c_05		
		LWD	GVR V6.2B SON V6.4B DVD V11.0 NMR V80		
		MWD	PUP V90C00		

DISCLAIMER
THE USE OF AND RELIANCE UPON THIS RECORDED–DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED–DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED–DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED–DATA.

RUN1	RUN	RUN
OTHER SERVICES FOR RUN1 Real time APWD Monitoring. SonicVISION*, ProVISION*	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 1 Depth reference is Driller's depth All Data acquired from tool memory while drilling GR is corrected for bit size, tool size and mud weight. GVR resistivity is environmentally corrected for mud resistivity and bit size. EcoSCOPE resistivity is borehole compensated and environmentally corrected. Density is corrected for standoff by Spin and Ribs plot Neutron Porosity is corrected for bit size, tool size, mud hydrogen index, temperature, pressure and mud salinity Maximum Circulating Temperature = 9 degC Objective: Drill and log 9.875in section from sea floor to TD@1218m Results: Drilled and logged to section TD. All calibration parameters within tolerance.	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

EQUIPMENT DESCRIPTION



Bit Run Summary

Run number		1									
Bit size	in	9.875									
Bit start depth	m	1018									
Bit end depth	m	1218									
Top interval logged	m	1018									
Bottom interval logged	m	1215									
Begin log: time		3:50									
Begin log: date		04–Jun–06									
End log: time		11:39									
End log: date		04–Jun–06									
Mud data											
Depth	m	1018									
Type		Sea Water									
Mud weight	ppg	8.665									
Solids	%	0									
Chlorides	ppm	26000									
Rm	ohmm@degC	0.214@27.9									
Rmf	ohmm@degC	0.214@27.9									
Rmc	ohmm@degC	N/A									
Potassium	%	0									
Environmental data											
GR											
Mud weight	ppg	8.665									
Bit size	in	9.875									
Resistivity											
Neutron porosity											
Hole Size	in	9.875									
Mud weight	ppg	8.665									
Temperature	degC	9									
Mud salinity	ppk	26									
Formation salinity	ppk	N/A									
Recording rate 1	SEC	2									
Recording rate 2	SEC	5									
Filtering GR		3 pts									
Filtering density		3 pts									
Filtering Neutron		3 pts									
Company representative		Stefan M.	Alberto	Ann							
Schlumberger D&M Personnel		Inetimi I.	Abhijeet N.	Ritesh S.	Shivek R.						

Variable Name	Variable Description	Run Name & Value	English Units
Run Number		**1**	
General Information			
BHT_RM	Bottom Hole Temperature (RM)	48.200001	
BSAL_RM	Mud Salinity (RM)	26.000000	
BS_RM	Bit Size (RM)	9.875000	
COEF_M	User Defined FEXP in Clean Sand	1.650000	
C_WS	Overpressure correction to Sw and M	1.000000	
FEXP	Formation Factor Exponent(RM)	2.000000	
FNUM	Formation Factor Enumerator(RM)	1.000000	
FPHI_RM	Formation Factor Porosity Source (RM)	XPLOT	
MST_RM	Mud Sample temperature (RM)	82.399971	
MW_RM	Mud Weight (RM)	8.665000	
OBMF_RM	Oil Based Mud (RM)	NO	
RHOF_RM	Mud Filtrate Density (RM)	1.000000	
RHOM_RM	Matrix density (RM)	2.710000	
RMS_RM	Resistivity of Mud Sample (RM)	0.214000	
RWA_COMP_M	Rwa computation model	BASIC	
RWA_DEN_AD	Rwa Density Input ADN	RHOB	
RWA_DEN_CD	Rwa Density Input CDN	RHOB	
RWA_DEN_IN	Rwa Density Input	RHOB	
RWA_FORM_M	Rwa computation formation model	CARBONATE	
RWA_RES_IN	Rwa computation resistivity input	RT	
RWS_RM	Resistivity of Connate Water (RM)	1.000000	
SHT_RM	Surface Hole Temperature (RM)	15.800027	
TD_RM	Total Measured Depth (RM)	3996.062744	
TWS_RM	Temperature of Connate Water (RM)	75.000000	
VF_ILLI	Fraction of illite in shales	0.500000	
VF_KAOL	Fraction of kaolinite in shales	0.500000	
VF_MONT	Fraction of montmorillonite in shales	0.000000	
XPDM_RM	Cross plot density porosity multiplier	0.675000	
XPNM_RM	Cross plot neutron porosity multiplier	0.325000	

MRT

LWD_RM/STATION_FILE/PARAMETER	Station Time−frame file name	Station
ACQ_MODE_S	Switch to Determine the Acquisition Mode	DRILLING
ANGX_MR	MR Quadrant Calibration Angle From Directional Tool	0.000000
ANGX_MR_TO	MR Tolerance for Angle X	0.000000
ANT_SWITCH	MR Switch to Select Antennas Used in Signal Processing	BOTH
ASSERT_LOG	Assertion Log Base Filename	BOTH
ASSERT_LOG	Assertion Log Message Control	OFF
AVG_ANT1_D	Antenna 1 Depth Interval to Average (odd level increments)	7
AVG_ANT1_T	Antenna 1 Time Interval to Average (odd level increments)	7
AVG_ANT2_D	Antenna 2 Depth Interval to Average (odd level increments)	7
AVG_ANT2_T	Antenna 2 Time Interval to Average (odd level increments)	7
AZ_MOD_MR	MR Azimuthal Acquisition Mode	NONE
AZ_SMOOTHI	MR Antenna 2 Azimuthal Smooting Option	NONE
AZ_WT_INDE	Azimuthal Wait Time Index	−1
BFV_IMAGE_	Bound Fluid Volume Image Maximum Color Index	0.030000
BFV_IMAGE_	Bound Fluid Volume Image Minimum Color Index	0.000000
BFV_IMAGE_	MR Switch to Select BFV Image Signal Processing	OFF
BFV_MIN	Bound Fluid Volume − Minimum	0.020000
BURST_MODE	Burst Mode Switch 1	9.875000
BURST_MODE	Burst Mode Switch 2	9.875000
CAP_ANT1	Antenna 1 Total Line & Antenna Tuned Capacitance with TW=0	1225.000000
CAP_ANT2	Antenna 2 Total Line & Antenna Tuned Capacitance with TW=0	7000.000000
CASING_DB0	Delta B0 Threshold for Casing Detection, Hall Probe 1	1.000000
CASING_HPV	Hall Probe Output for Casing Detection, Hall Probe 1	0.040000
CLTB	Low Power Tool Bus Control	OFF
COMPRESSED	Compressed Acceleration Channels to be Recorded	1022
CPMG_ECHO_	CPMG Echo Reconstruction On/Off for Each Wait Time 1	1022
CPMG_ECHO_	CPMG Echo Reconstruction On/Off for Each Wait Time 2	1022
CSTEP_ANT1	Antenna 1 Smallest Capacitance Step on Tuning Board	2.000000
CSTEP_ANT2	Antenna 2 Smallest Capacitance Step on Tuning Board	26.000000
CTUNC_MR	MR Coarse Tuning Control	TUNING_FCT_TWMC
CT_DATA_1_	Antenna 1 Course Tuning Data VDL Maximum Color Index	600.000000
CT_DATA_1_	Antenna 1 Course Tuning Data VDL Minimum Color Index	0.000000
CT_DATA_2_	Antenna 2 Course Tuning Data VDL Maximum Color Index	600.000000
CT_DATA_2_	Antenna 2 Course Tuning Data VDL Minimum Color Index	0.000000
DB01	Delta B0 to Initiate Downhole Tuning − Hall Probe 1	1.000000
DB01C	Delta B0 to Initiate Downhole Tuning − Hall Probe 1C	1.000000
DB02	Delta B0 to Initiate Downhole Tuning − Hall Probe 2	1.000000
DFREQ_ANT1	Antenna 1 Delta Frequency	0.000000
DFREQ_ANT2	Antenna 2 Delta Frequency	0.000000
DMR_SWITCH	Density Magnetic Resonance Switch	YES
DOWNLINK_E	Down Link Enable Switch	OFF
DRILLING_C	Drilling Configuration File Number	28
ECHO_AMP_A	Antenna 1 Calibrated Echo Amplitude VDL Maximum Color Index	0.030000
ECHO_AMP_A	Antenna 1 Calibrated Echo Amplitude VDL Minimum Color Index	0.000000
ECHO_AMP_A	Antenna 1 Echo Amplitude VDL Maximum Color Index	1024.000000
ECHO_AMP_A	Antenna 1 Echo Amplitude VDL Minimum Color Index	−1024.000000
ECHO_AMP_A	Antenna 2 Calibrated Echo Amplitude VDL Maximum Color Index	0.030000
ECHO_AMP_A	Antenna 2 Calibrated Echo Amplitude VDL Minimum Color Index	0.000000
ECHO_AMP_A	Antenna 2 Echo Amplitude VDL Maximum Color Index	1024.000000
ECHO_AMP_A	Antenna 2 Echo Amplitude VDL Minimum Color Index	−1024.000000
ERROR_LOG_	Error Log Base Filename	−1024.000000
ERROR_LOG_	Error Log Message Control	OFF
FAST_CONFI	Fast Configuration File Number	0
FECHO_1	First Echo to be Used 1	2
FECHO_2	First Echo to be Used 2	2
FFT_KERNEL	Fourier Coefficient of Azimuthal Kernel 0 Order	0.300000
FFT_KERNEL	Fourier Coefficient of Azimuthal Kernel 1 Order	−0.100000
FFT_KERNEL	Fourier Coefficient of Azimuthal Kernel 2 Order	−0.050000
FFT_KERNEL	Fourier Coefficient of Azimuthal Kernel 3 Order	−0.020000
FFT_KERNEL	Fourier Coefficient of Azimuthal Kernel 4 Order	−0.010000
FIXED_PHAS	Antenna 1 Fixed Phase	0.000000
FIXED_PHAS	Antenna 2 Fixed Phase	72.000000
FORM_TEMP_	Formation Temperature Correction Switch	INTERPOLATED
FORM_TEMP_	Formation Temperature Offset	0.000000
GC_CHARGE1	Gradient Coil Charge for First Coil	150.000000
GC_CHARGE2	Gradient Coil Charge for Second Coil	150.000000
GC_CHARGE3	Gradient Coil Charge for Third Coil	150.000000
GENERIC_1	Generic Coefficient 1	30.000000
GENERIC_10	Generic Coefficient 10	0.000000
GENERIC_2	Generic Coefficient 2	2.000000
GENERIC_3	Generic Coefficient 3	0.000000
GENERIC_4	Generic Coefficient 4	0.000000
GENERIC_5	Generic Coefficient 5	0.000000
GENERIC_6	Generic Coefficient 6	0.000000
GENERIC_7	Generic Coefficient 7	0.000000
GENERIC_8	Generic Coefficient 8	0.000000
GENERIC_9	Generic Coefficient 9	0.000000
HP_AVG_TIM	Average Time to Update Hall Probe References	10
HV_RF_VDL_	High Voltage VDL Maximum Color Index	75.000000
HV_RF_VDL_	High Voltage VDL Minimum Color Index	55.000000
INFO_LOG_B	Information Log Base Filename	55.000000
INFO_LOG_S	Information Log Message Control	OFF
JSD_MR	MR Aquisition Start Date	OFF
KSDR_A	Multiplier for SDR Permeability	4.000000
KSDR_B	T2 Exponent for SDR Permeability	2.000000
KSDR_C	Porosity Exponent for SDR Permeability	4.000000
KTIM_A	Multiplier for Timur/Coates Permeability	1.000000
KTIM_B	Porosity Exponent for Timur/Coates Permeability	4.000000
KTIM_C	PHI Ratio Exponent for Timur/Coates Permeability	2.000000
LAGR_METH_	MR Method to Choose Lagrange Multiplier	FIXED
LAGR_NOISE	Porosity Noise Goal for Lagrange Multiplier	0.010000
LAGR_NOISE	Porosity to Echo Noise for Lagrange Multiplier	0.200000
LAGR_PAR_A	Antenna 2 Fixed Lagrange Multiplier, if LAGR_METH=FIXED	1.000000
LANT_ANT1	Antenna 1 Inductance	25.000000
LANT_ANT2	Antenna 2 Inductance	50.000000
LOOP_SWITC	Use Loop in Environmental Correction	YES
LOWER_FREQ	MR Lower Frequency Limit for Motion Processing	3.000000
LREF_ANT1	Antenna 1 Loop Injection Voltage Reference	1.000000
LREF_ANT2	Antenna 2 Loop Injection Voltage Reference	1.000000
LTB_TMAX	Maximum Time to Wait for LTBV	600
MASTER_LOG	Master Log Base Filename	600
MASTER_LOG	Master Log Message Control	OFF
MAX_SL_TIM	Maximum Station Time	0

MCB Measurment Control Block 0
MEDIUM_CON Medium Configuration File Number 0
NAZM Number of Azimuthal Measurements 1
NCOMP Number of Components (depth logging) 30
NCPMSE Num. of Terms in Predictive Mean−Square Signal Error Expression 3
NECH_ANT1 Antenna 1 Number of Echoes 3
NECH_ANT11 Antenna 1 Number of Echoes−1 100
NECH_ANT12 Antenna 1 Number of Echoes−2 80
NECH_ANT13 Antenna 1 Number of Echoes−3 0
NECH_ANT14 Antenna 1 Number of Echoes−4 0
NECH_ANT15 Antenna 1 Number of Echoes−5 0
NECH_ANT2 Antenna 2 Number of Echoes 0
NECH_ANT21 Antenna 2 Number of Echoes−1 600
NECH_ANT22 Antenna 2 Number of Echoes−2 60
NECH_ANT23 Antenna 2 Number of Echoes−3 0
NECH_ANT24 Antenna 2 Number of Echoes−4 0
NECH_ANT25 Antenna 2 Number of Echoes−5 0
NECH_USED_ Number of Echoes Used in Signal Processing 1 0
NECH_USED_ Number of Echoes Used in Signal Processing 1−1 100
NECH_USED_ Number of Echoes Used in Signal Processing 1−2 80
NECH_USED_ Number of Echoes Used in Signal Processing 1−3 0
NECH_USED_ Number of Echoes Used in Signal Processing 1−4 0
NECH_USED_ Number of Echoes Used in Signal Processing 1−5 0
NECH_USED_ Number of Echoes Used in Signal Processing 2 0
NECH_USED_ Number of Echoes Used in Signal Processing 2−1 600
NECH_USED_ Number of Echoes Used in Signal Processing 2−2 60
NECH_USED_ Number of Echoes Used in Signal Processing 2−3 0
NECH_USED_ Number of Echoes Used in Signal Processing 2−4 0
NECH_USED_ Number of Echoes Used in Signal Processing 2−5 0
NSVD_COMP Num. of Singular Value Decomposition Components for Compression 5
NUM_PEAKS_ MR Number of Peaks Used for Motion Processing 15
NUM_PHASE_ Number of Phase Cycles for Azimuthal Measurements 2
NUM_STACK_ Number of Time Samples Averaged 1 7
NUM_STACK_ Number of Time Samples Averaged 2 7
NWT_ANT1 Antenna 1 Number of Wait Times 2
NWT_ANT2 Antenna 2 Number of Wait Times 2
OFC Order of Fourier Coefficients 1
PHSMETH_MR MR Method to Compute Phase ANT1_COMPUTED_ANT2_FIXED
POLC_SW Polarization Correction Switch YES
POROSITY_I MR Switch to Select Porosity Image Signal Processing OFF
PWOC Pulse Width Optimization Control OFF
REG_METH_M MR Method to Select Regularization Parameter FIXED
REG_PARF_1 Fixed Regularization Constant 1, if REG_METH=FIXED 10.000000
REG_PARF_2 Fixed Regularization Constant 2, if REG_METH=FIXED 10.000000
SENSOR_COD MR Code of Sensor To Be Used for Motion Processing FIVE_G
SHKA_L0_MR MR Axial Level 0 Maximum Shock Count Rate 0.160000
SHKA_L1_MR MR Axial Level 1 Maximum Shock Count Rate 0.330000
SHKA_L2_MR MR Axial Level 2 Maximum Shock Count Rate 0.500000
SHKA_TH_MR MR Axial Amplitude Shock Threshold 20.000000
SHKT_L0_MR MR Transverse Level 0 Maximum Shock Count Rate 0.160000
SHKT_L1_MR MR Transverse Level 1 Maximum Shock Count Rate 0.330000
SHKT_L2_MR MR Transverse Level 2 Maximum Shock Count Rate 0.500000
SHKT_TH_MR MR Transverse Shock Amplitude Threshold 20.000000
SLIDING_CO Sliding Configuration File Number 28
SLOW_CONFI Slow Configuration File Number 0
SPIN_DYNAM Spin Dynamic Coefficient Filename 0
STATIONARY Stationary Configuration File Number 28
STDOUT_LOG Standard Output Log Message Control OFF
T1T2_ANT1 Antenna 1 T1/T2 Ratio for Polarization Correction 1.500000
T1T2_ANT2 Antenna 2 T1/T2 Ratio for Polarization Correction 1.500000
T2CUT T2 Cutoff (BFV/UFV cutoff) 33.000000
T2INVERSIO MR Switch to Select T2Inversion Signal Processing ON
T2_CUTOFF_ Calculation Method for Fluid Cutoff Switch FIXED_CUTOFF
T2_DIST_AN Antenna 1 T2 Distribution VDL Maximum Color Index 0.030000
T2_DIST_AN Antenna 1 T2 Distribution VDL Minimum Color Index 0.000000
T2_DIST_AN Antenna 2 T2 Distribution VDL Maximum Color Index 0.030000
T2_DIST_AN Antenna 2 T2 Distribution VDL Minimum Color Index 0.000000
T2_MAX T2 Maximum 3000.000000
T2_MIN T2 Minimum 1.000000
TE_ANT1 Antenna 1 Transmitter Echo Spacing 3996.062744
TE_ANT1−1 Antenna 1 Transmitter Echo Spacing−1 1.200000
TE_ANT1−2 Antenna 1 Transmitter Echo Spacing−2 1.500000
TE_ANT1−3 Antenna 1 Transmitter Echo Spacing−3 0.000000
TE_ANT1−4 Antenna 1 Transmitter Echo Spacing−4 0.000000
TE_ANT1−5 Antenna 1 Transmitter Echo Spacing−5 0.000000
TE_ANT2 Antenna 2 Transmitter Echo Spacing 0.000000
TE_ANT2−1 Antenna 2 Transmitter Echo Spacing−1 1.200000
TE_ANT2−2 Antenna 2 Transmitter Echo Spacing−2 0.800000
TE_ANT2−3 Antenna 2 Transmitter Echo Spacing−3 0.000000
TE_ANT2−4 Antenna 2 Transmitter Echo Spacing−4 0.000000
TE_ANT2−5 Antenna 2 Transmitter Echo Spacing−5 0.000000
TFF_OFFSET MR Time−Frame File Time Offset 86400.000000
TIMEFRAME_ MR Time Frame File Name 86400.000000
TUNMAX Maximum Time Between Tuning 60
TUNMIN Minimum Time Between Tuning 15
TW_ANT1 Antenna 1 Tune Word (CTC=TUNING_FCT_TWCT) 0
TW_ANT2 Antenna 2 Tune Word (CTC=TUNING_FCT_TWCT) 0
UPPER_FREQ MR Upper Frequency Limit for Motion Processing 15.000000
WARNING_LO Warning Log Base Filename 0.000000
WARNING_LO Warning Log Message Control OFF
WTR_ANT1 Antenna 1 Wait Time Repetition OFF
WTR_ANT1−1 Antenna 1 Wait Time Repetition−1 2
WTR_ANT1−2 Antenna 1 Wait Time Repetition−2 2
WTR_ANT1−3 Antenna 1 Wait Time Repetition−3 0
WTR_ANT1−4 Antenna 1 Wait Time Repetition−4 0
WTR_ANT1−5 Antenna 1 Wait Time Repetition−5 0
WTR_ANT2 Antenna 2 Wait Time Repetition 0
WTR_ANT2−1 Antenna 2 Wait Time Repetition−1 2
WTR_ANT2−2 Antenna 2 Wait Time Repetition−2 20
WTR_ANT2−3 Antenna 2 Wait Time Repetition−3 0
WTR_ANT2−4 Antenna 2 Wait Time Repetition−4 0
WTR_ANT2−5 Antenna 2 Wait Time Repetition−5 0
WT_ANT1 Antenna 1 Wait Time 0
WT_ANT1−1 Antenna 1 Wait Time−1 3.758750
WT_ANT1−2 Antenna 1 Wait Time−2 1.000000
WT_ANT1−3 Antenna 1 Wait Time−3 0.000000
WT_ANT1−4 Antenna 1 Wait Time−4 0.000000
WT_ANT1−5 Antenna 1 Wait Time−5 0.000000
WT_ANT2 Antenna 2 Wait Time 0.000000
WT_ANT2−1 Antenna 2 Wait Time−1 2.295710
WT_ANT2−2 Antenna 2 Wait Time−2 0.150000
WT_ANT2−3 Antenna 2 Wait Time−3 0.000000
WT_ANT2−4 Antenna 2 Wait Time−4 0.000000
WT_ANT2−5 Antenna 2 Wait Time−5 0.000000

RAB

RAB/BTN_SLV_SIZE/PARAMETERRAB	Button Sleeve Diameter	9.125 Inch
RAB/STAB_SIZE/PARAMETERRAB	Stabilizer Diameter	9.375 Inch
BDBHCA	RAB: Button Deep Borehole A Factor	−0.025010
BDBHCB	RAB: Button Deep Borehole B Factor	0.000000
BHA_COEF_V	RAB: BHA Coef Generator Version	62011.000000
BITBHCA	RAB: Bit A Borehole Factor	0.085619
BITBHCB	RAB: Bit B Borehole Factor	0.000000
BIT_K_FACT	RAB: Bit K Factor	3.651910
BMBHCA	RAB: Button Medium Borehole A Factor	0.041085
BMBHCB	RAB: Button Medium Borehole B Factor	0.000000
BSBHCA	RAB: Button Shallow Borehole A Factor	0.073936
BSBHCB	RAB: Button Shallow Borehole B Factor	0.000000
BUT_KIMP_A	RAB: Button Impedance Coeff A	0.000000
BUT_KIMP_B	RAB: Button Impedance Coeff B	0.000000
DBUTTON_K_	RAB: Button Deep K factor	0.004549
DHS_VERSIO	RAB: DownHole Software Version	6.200100
GR_BHC_TOO	RAB: Gamma−Ray Borehole Coeff 1	6.750000
HI_CSDEPTH	RAB: Allow Hi−Resolution CS_DEPTH Image Data Output	NO
HI_DLIS_OU	RAB: Allow Hi−Resolution DLIS Image Data Output	NO
HI_RIVER_O	RAB: Allow Hi−Resolution River for Image Data Output	NO
IMAGE_MAX_	RAB: GR Image Maximum Scale Value	120.000000
IMAGE_MAX_	RAB: Image Maximum Resistivity Value	100.000000
IMAGE_MIN_	RAB: GR Image Minimum Scale Value	20.000000
IMAGE_MIN_	RAB: Image Minimum Resistivity Value	1.000000
JSD_RAB	RAB Acquisition start date	1.000000
MAG_DECL_R	RAB: Magnetic Declination	−1.310011
MAG_INCL_R	RAB: Magnetic Dip	19.139997
MBUTTON_K_	RAB: Button Medium K Factor	0.004817
OBM	RAB: Oil base Mud	NO
ORIENTATIO	Rab Image Orientation	NORTH
RABBDA0	RAB: Button Deep A0 Coeff	−0.040578
RABBDA1	RAB: Button Deep A1 Coeff	0.023611
RABBDA2	RAB: Button Deep A2 Coeff	−0.006379
RABBDA3	RAB: Button Deep A3 Coeff	0.000733
RABBDA4	RAB: Button Deep A4 Coeff	−0.000029
RABBDA5	RAB: Button Deep A5 Coeff	0.000000
RABBDMIN	RAB: Button Deep Minimum Value	0.050526
RABBITA0	RAB: Bit A0 Coeff	0.500230
RABBITA1	RAB: Bit A1 Coeff	−0.368524
RABBITA2	RAB: Bit A2 Coeff	0.168660
RABBITA3	RAB: Bit A3 Coeff	−0.034414
RABBITA4	RAB: Bit A4 Coeff	0.002550
RABBITA5	RAB: Bit A5 Coeff	0.000000
RABBITMIN	RAB: Bit Minimum Value	19.196400
RABBMA0	RAB: Button Medium A0 Coeff	−0.054082
RABBMA1	RAB: Button Medium A1 Coeff	0.031168
RABBMA2	RAB: Button Medium A2 Coeff	−0.008354
RABBMA3	RAB: Button Medium A3 Coeff	0.000950
RABBMA4	RAB: Button Medium A4 Coeff	−0.000038
RABBMA5	RAB: Button Medium A5 Coeff	0.000000
RABBMMIN	RAB: Button Medium Minimum Value	0.056537
RABBSA0	RAB: Button Shallow A0 Coeff	−0.069850
RABBSA1	RAB: Button Shallow A1 Coeff	0.037221
RABBSA2	RAB: Button Shallow A2 Coeff	−0.009448
RABBSA3	RAB: Button Shallow A3 Coeff	0.001028
RABBSA4	RAB: Button Shallow A4 Coeff	−0.000039
RABBSA5	RAB: Button Shallow A5 Coeff	0.000000
RABBSMIN	RAB: Button Shallow Minimum Value	0.078603
RABDHS	RAB Down Hole Software	4.000000
RABEC	RAB: Resistivity Env−Cor	YES
RABRNGA0	RAB: RING A0 Coeff	−0.035222
RABRNGA1	RAB: RING A1 Coeff	0.021599
RABRNGA2	RAB: RING A2 Coeff	−0.005992
RABRNGA3	RAB: RING A3 Coeff	0.000701
RABRNGA4	RAB: RING A4 Coeff	−0.000029
RABRNGA5	RAB: RING A5 Coeff	0.000000
RABRNGMIN	RAB: Ring Minimum Value	1.598150
RAB_BIT_EC	Bit Resistivity for ECAL_RAB?	YES
RAB_BIT_IN	Input Bit Resistivity for Inversion? (Recommended at the bit)	YES
RAB_CALIPE	Compute ECAL_RAB?	NO
RAB_DEEPBT	Deep Button Resistivity for ECAL_RAB?	YES
RAB_DEEPBT	Input Deep Button Resistivity for Inversion?	YES
RAB_INVERS	Perform Rt Inversion?	NO
RAB_INVERS	RAB Bit Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	Ending Depth for GR Cutoff in Zone1 (default through the whole well)	100000.000000
RAB_INVERS	Continuity Multiplier[0,1]	0.500000
RAB_INVERS	RAB Deep Button Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	RAB inversion for Dh?	YES
RAB_INVERS	RAB inversion for Di?	YES
RAB_INVERS	GR Cutoff for Shale Formation	75.000000
RAB_INVERS	GR Cutoff for Shale Formation in Zone1(default through the whole well)	75.000000
RAB_INVERS	GR Cutoff in Zone10	75.000000
RAB_INVERS	GR Cutoff in Zone2	75.000000
RAB_INVERS	GR Cutoff in Zone3	75.000000
RAB_INVERS	GR Cutoff in Zone4	75.000000
RAB_INVERS	GR Cutoff in Zone5	75.000000
RAB_INVERS	GR Cutoff in Zone6	75.000000
RAB_INVERS	GR Cutoff in Zone7	75.000000
RAB_INVERS	GR Cutoff in Zone8	75.000000
RAB_INVERS	GR Cutoff in Zone9	75.000000
RAB_INVERS	RAB Medium Button Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	Resistivity Cutoff for Shale Formation	2.000000
RAB_INVERS	Resistive Invasion Allowed	NO
RAB_INVERS	RAB Ring Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	RAB inversion for Rmud?	NO
RAB_INVERS	RAB inversion for Rt?	YES
RAB_INVERS	Rt to R−deepest separation penalty multiplier[0,1]	0.500000
RAB_INVERS	RAB inversion for Rxo?	YES
RAB_INVERS	RAB Shallow Button Sensor Weight for Inversion[0,1]	1.000000
RAB_INVERS	Inversion Threshold[0, 0.3]	0.010000
RAB_INVERS	Formation Water Resistivity	0.100000
RAB_INVERS	Formation Water Temperature	150.000000
RAB_MEDIUM	Medium Button Resistivity for ECAL_RAB?	YES
RAB_MEDIUM	Input Medium Button Resistivity for Inversion?	YES
RAB_QUAD	RAB: Process Quadrant data ?	YES

RAB_RIGMOD Bit on Bottom? YES
RAB_RING_E Ring Resistivity for ECAL_RAB? YES
RAB_RING_I Imput RING Resistivity for Inversion? YES
RAB_SHALLO Shallow Button Resistivity for ECAL_RAB? YES
RAB_SHALLO Input Shallow Button Resistivity for Inversion? YES
RAB_TAB RAB: Compute TAB ? YES
RAB_TECHLO RAB: Generate Techlog ? YES
RAB_TEMP_S RAB Temperature Selection MEASURED
RAB_TICKS RAB: Generate Ticks ? YES
READOUT_PO RAB: ROP to Bit Face Distance 7.972441
RINGBHCA RAB: Ring Borehole A Factor 0.298889
RINGBHCB RAB: Ring Borehole B Factor 0.000000
RING_KIMP_ RAB: Ring Impedance Coeff A 0.000000
RING_KIMP_ RAB: Ring Impedance Coeff B 0.000000
RING_K_FAC RAB: Ring K Factor 0.151723
SBUTTON_K_ RAB: Button Shallow K Factor 0.006545
SCALE_IMAG RAB: Process Image Data YES
STAB RAB: Run with Stabilizer YES
TFF_OFFSET RAB Time−Frame File Time Offset 0.000000
TIMEFRAME_ RAB: Time Frame File Name 0.000000
TOOLTYPE RAB: Azimuthal Tool YES
TS_VERSION RAB: ToolScope Software Version 0.000000
VRAB6 Rab Tool type (ENP/PILOT) RAB6_C_SERIES
WIN_SIZE_D RAB: Window Size for Scaling Dynamic Image 3.000000

DVD

−−−−−−−−−− −−−−−−−−−−−−Density Parameter−−−−−−−−−−−−−−− −−−−−−−−−−−−Density
−−−−−−−−−− −−−−−−−−−−−−−Neutron Parameter−−−−−−−−−−−−−−− −−−−−−−−−−−−−Neutron
−−−−−−−−−− −−−−−−−−−−Interpretation Parameter−−−−−−−−−−− −−−−−−−−−−Interpretation
−−−−−−−−−− −−−−−−−−−−Sigma Parameter−−−−−−−−−−− −−−−−−−−−−Sigma
A12A ARC Air Cal Attenuation From T1 at 2 MHz 8.231560
A14A ARC Air Cal Attenuation From T1 at 400 KHz 8.289690
A22A ARC Air Cal Attenuation From T2 at 2 MHz 6.180950
A24A ARC Air Cal Attenuation From T2 at 400 KHz 6.148650
A32A ARC Air Cal Attenuation From T3 at 2 MHz 4.832750
A34A ARC Air Cal Attenuation From T3 at 400 KHz 4.884170
A42A ARC Air Cal Attenuation From T4 at 2 MHz 4.587220
A44A ARC Air Cal Attenuation From T4 at 400 KHz 4.539020
A52A ARC Air Cal Attenuation From T5 at 2 MHz 3.392490
A54A ARC Air Cal Attenuation From T5 at 400 KHz 3.445380
ABNT Abnormal Transmitter Indicator No_Tx_Failed
ALPHA_DEN_ Density Enhanced Vertical Resolution Processing Switch NO
ANISO_COMP Anisotropy Computation Option YES
ATMP_ARC ARC Select Temperature Channel Annulus_Temp
AZMF Formation DIP Azimuth 0.000000
BH_COMPUTE Borehole Inversion Computation Option YES
CALG DVDM Gamma Ray Cal Gain Factor −1.000000
CDPTH_ARC Process Start Depth 100.000000
DEVI Well Section Deviation 0.100000
DIELEC_COM Dielectric Computation Option YES
DIPF Formation DIP Angle 0.000000
DVDMDHS DVDM Down Hole Software Version 0.000000
DYN_IMAGE_ Generate Dynamic Normalized Image? YES
EDPTH Wizard Process Stop Depth 50000
EN_WIZARD Enable ARC Wizard Processing NO
ERRCT Percentage Error Cutoff 4.500000
EVRL EVR Process averaging number of samples (RM) 49
FWVN Firmware Version Number 1.100000
GCSE Generalized Caliper Selection BS
GRBC RM: DVDM Gamma Ray Blanket (CPS) 75.000000
GRSH GR Shale (Invasion Computation Cutoff) 1000.000000
GR_CF Gamma Ray Correction Factor 2.250000
HIGH_BLEND High Resistivity Threshold for Blending 2.000000
IDQT Image Derived Quality Threshold 1.000000
IMAGE_MAX_ Image Density Caliper Right Scale 8.000000
IMAGE_MAX_ Image Density Quality Right Scale 1.000000
IMAGE_MAX_ Image PEF(Segment) Right Scale 6.000000
IMAGE_MAX_ Image RHOB(Segment) Right Scale 2.650000
IMAGE_MIN_ Image Density Caliper Left Scale 2.000000
IMAGE_MIN_ Image Density Quality Left Scale 0.000000
IMAGE_MIN_ Image PEF(Segment) Left Scale 2.000000
IMAGE_MIN_ Image RHOB(Segment) Left Scale 2.050000
IMAGE_ORIE Image Orientation Options, e.g. Top of Hole or True North NORTH
INCLIN_B0 ARC Bias Constant (mg) 0.000000
INCLIN_B1 ARC Bias First−order Coefficient (mg/degC) 0.000000
INCLIN_B2 ARC Bias Secod−order Coeeficient (mg/degC) 0.000000
INCLIN_B3 ARC Bias Third−order Coeeficient (mg/degC) 0.000000
INCLIN_C0 ARC Current Scale Factor Constant (mA/g) 1.000000
INCLIN_C1 ARC Scale First−order Coeeficient (mA/g/degC) 0.000000
INCLIN_C2 ARC Scale Second−order Coeeficient (mA/g/degC) 0.000000
INCLIN_C3 ARC Scale Third−order Coeeficient (mA/g/degC) 0.000000
INVAS_COMP Invasion Computation Option YES
JSD Acquisition start date YES
JSD_ARC ARC Acquisition start date YES
LOW_BLEND Low Resistivity Threshold for Blending 1.000000
MATR Rock Matrix for Neutron Porosity Corrections LIMESTONE
MSWS ARC Wizard Model Switch Window 5.000000
MULTIEFFEC Multi Effect Option YES
NEU_DCOR_O Density Correction Source for Neutron Processing Bottom
NEU_FTUBE_ Far Thermal Tube Selection Both
NTIK_SEL Neutron Tick Channel Name FAZ1
OACF O2 Activation Correction Factor (RM) 0.000000
P12A ARC Air Cal Phase−Shift From T1 at 2 MHz 2.472670
P14A ARC Air Cal Phase−Shift From T1 at 400 KHz −0.535700
P22A ARC Air Cal Phase−Shift From T2 at 2 MHz −2.538020
P24A ARC Air Cal Phase−Shift From T2 at 400 KHz 0.538316
P32A ARC Air Cal Phase−Shift From T3 at 2 MHz 2.412610
P34A ARC Air Cal Phase−Shift From T3 at 400 KHz −0.538400
P42A ARC Air Cal Phase−Shift From T4 at 2 MHz −2.561370
P44A ARC Air Cal Phase−Shift From T4 at 400 KHz 0.492402
P52A ARC Air Cal Phase−Shift From T5 at 2 MHz 2.441200
P54A ARC Air Cal Phase−Shift From T5 at 400 KHz −0.509005
PMUD Potassium Concentration in Mud 0.000000
POFFSET Pressure Offset 0.000000
PRTD Preferred Resistivity Log for Rt Display while Multi−Effects P34B
PSOF_ADJ_T ARC: User Input Phase offset 0.000000
RESTIK ARC resistivity tick source Phase
SDPTH Wizard Process Start Depth 100
SIG_PCOR_O Porosity Correction Source for Sigma Processing Best
SPEC_CSG_D Casing Depth for Spectroscopy Processing 100.000000
SPL_CLAY_M SpectroLith Clay Model ARENITE
SPL_COAL_O SpectroLith Coal Processing Option NONE
SPL_SULFUR SpectroLith Sulfur Mineral Option ANHYDRITE
STAB_SIZE Stabilizer Size 9.125000
STOH Density Top of Hole Sector (Left Boundary) SECTOR_0
TRNO Tool Run Number 3996.062744

TSIZ_ARC	ARC Tool Size	6.900000
TSNO	Tool Serial Number	6.900000
UNIFORM_CO	Uniform Rock Option	YES
VERS_ARC	ARC Down hole software version Number	1.100000
WRK	Way to Report Potassium Concentration	K_by_Wgt_%
WSDI	Window Size of Dynamic Normalization Image	15.000000

Schlumberger Drilling & Measurements — Parameter Insert Header Software version 2.0c

Input DLIS Files

Type:DEFAULT **File ID:DVM_020PDP** **FN:19** **05–Jun–2006 11:41** **PRODUCER** **3315.0 FT** **3998.9 FT**

IDEAL Version: ID10_2C_01.1SV

IDF

ECO6 **id10_2c_01**

Format: Eco_Combined_200MD **Vertical Scale: 1:200** **Graphics File Created: 05–Jun–2006 12:02**

PIP SUMMARY

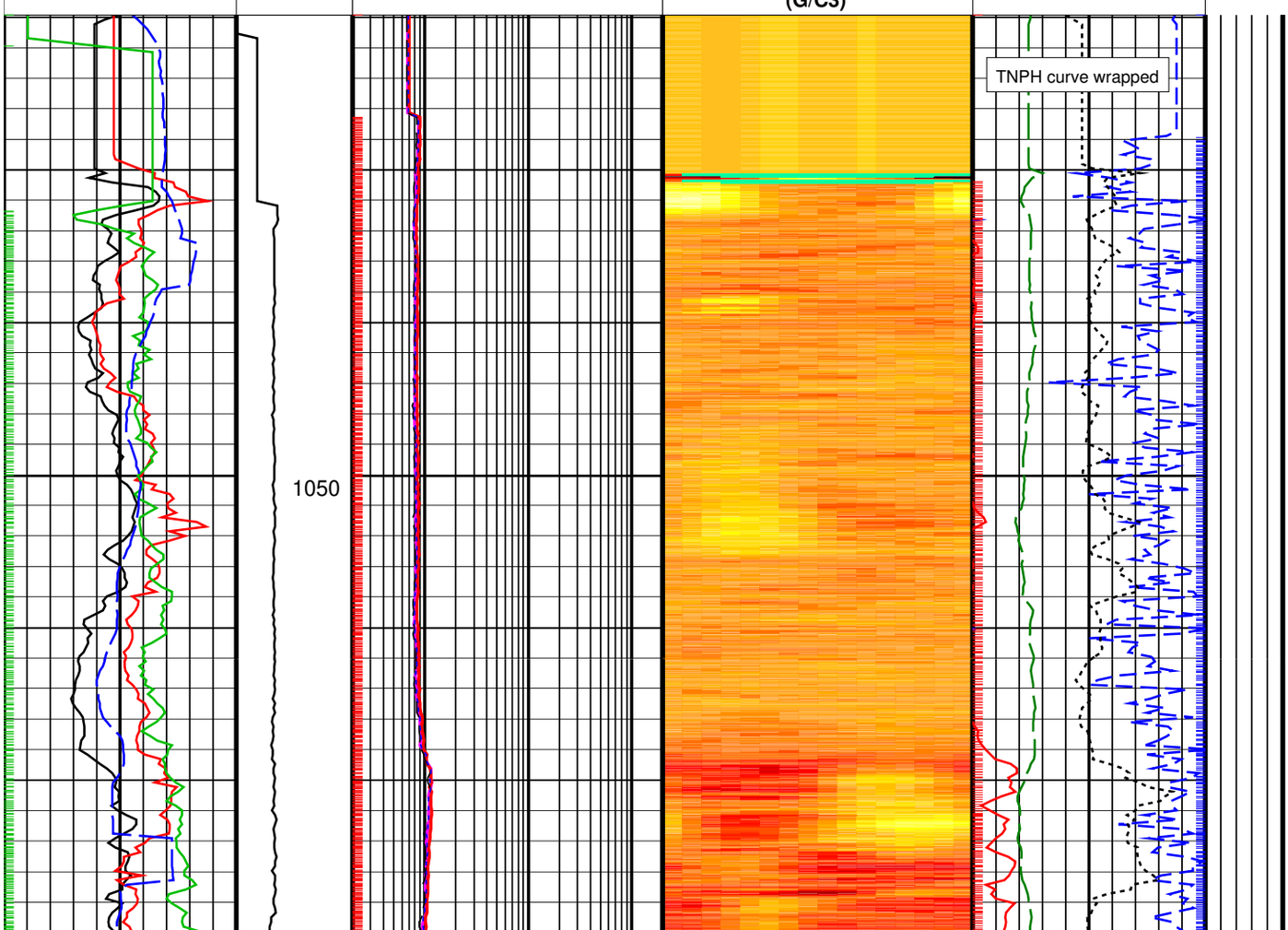
Resistivity Samples

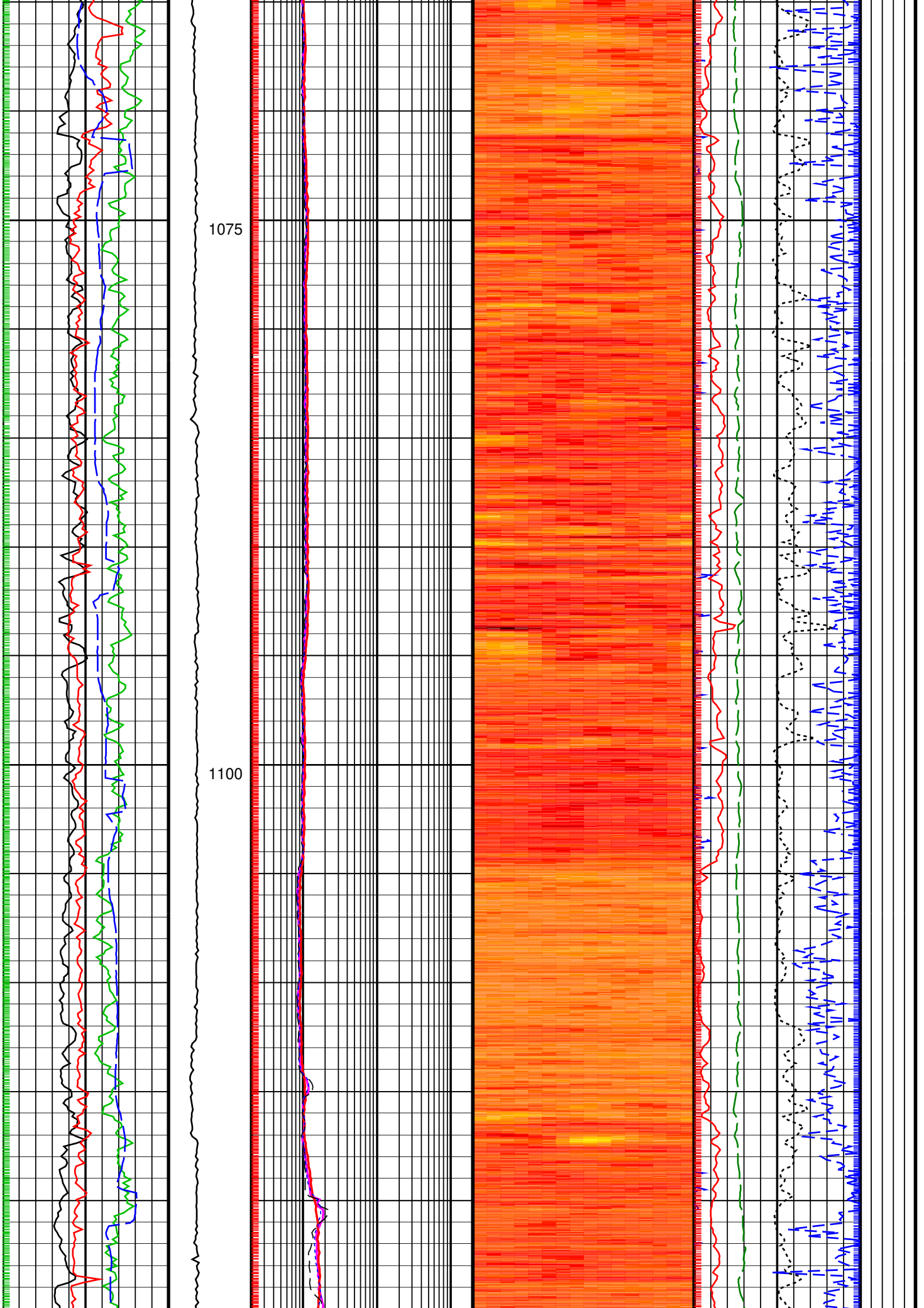
Gamma Ray Samples

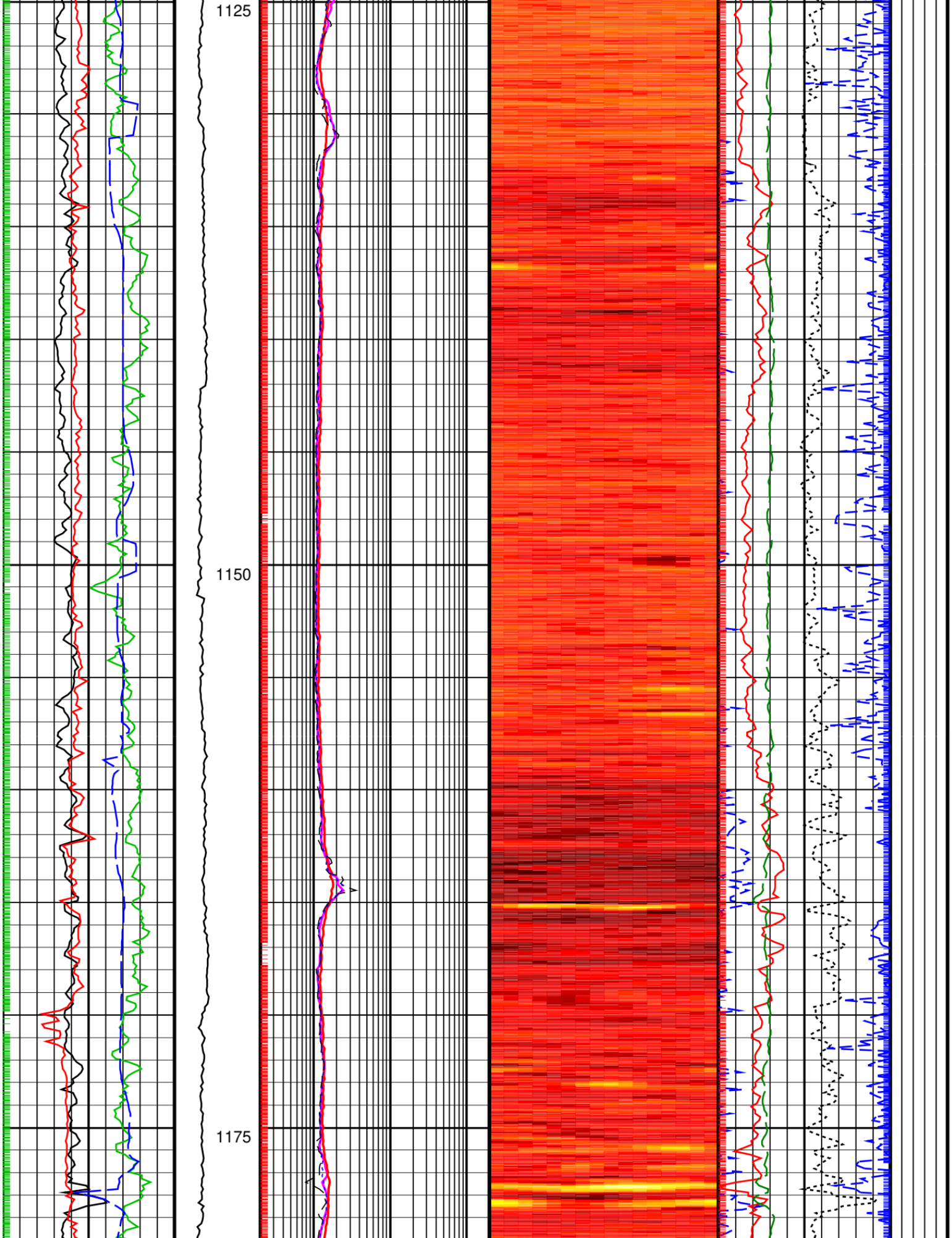
Neutron Ticks, 0.1 ft

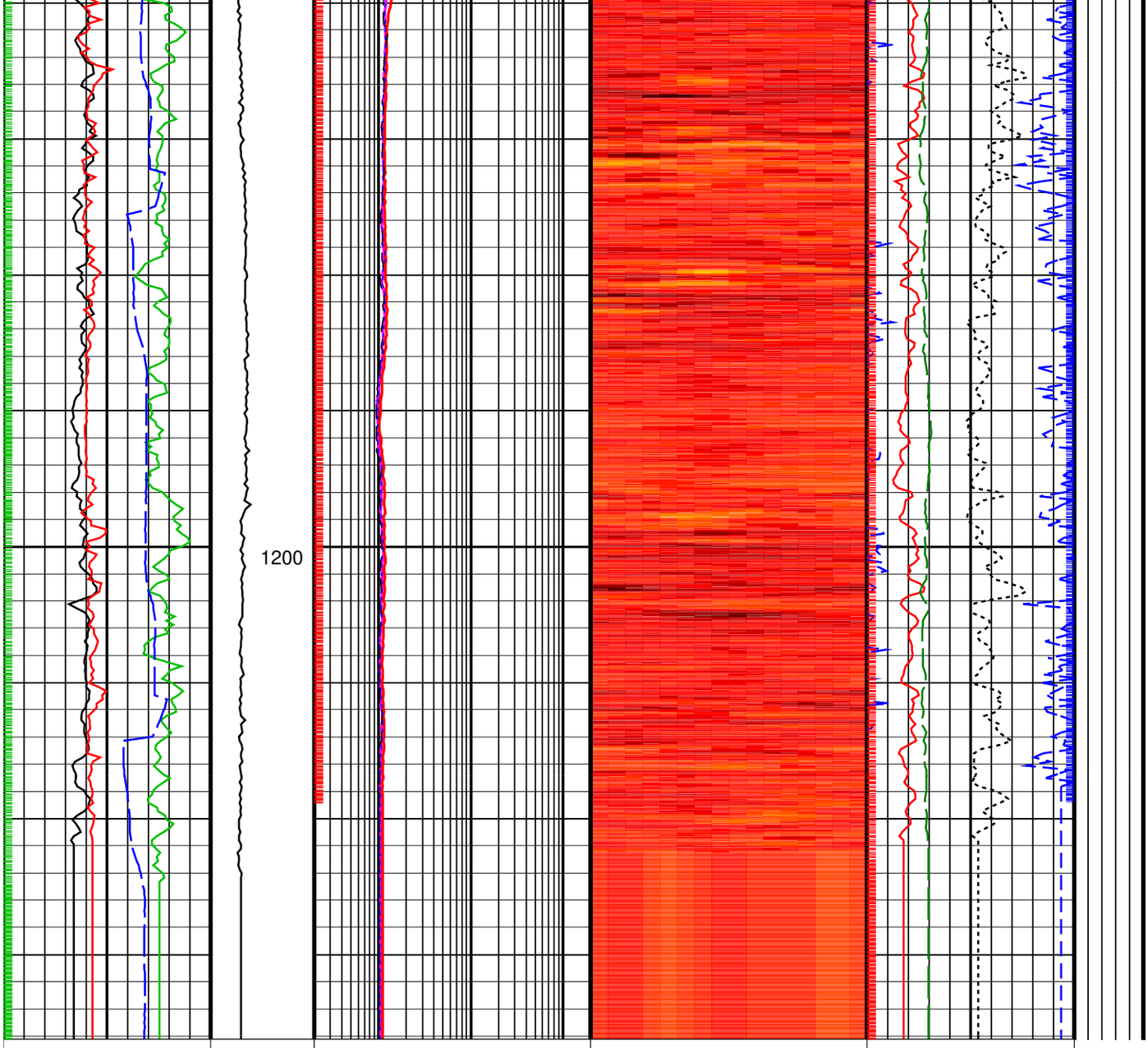
Density Ticks, 0.1 ft

Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 100 (M/HR) 0		ARC Attenuation Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected (A16H) 0.2 (OHMM) 200		Photoelectric Factor (PEF) 0 (----) 10
Gamma Ray, Average (GRMA) 0 (GAPI) 150		ARC Phase Shift Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected. (P16H) 0.2 (OHMM) 200		Image Derived Density Correction (IDDR) –0.25 (G/C3) 0.25
Ultrasonic Caliper Average (UCAV) 8 (IN) 13		ARC Attenuation Resistivity 40 inch Spacing at 400 KHz (A40L) 0.2 (OHMM) 200		Image Derived Density (IDRO) 1.65 (G/C3) 2.65
Density Caliper, Average (DCAV) 8 (IN) 13	Collar Rotational Speed (CRPM) (RPM) 0 200	ARC Phase Shift Resistivity 40 inch Spacing at 400 KHz (P40L) 0.2 (OHMM) 200	Absent 1.273 1.371 1.468 1.566 1.663 1.761 1.859 1.956 2.054 2.151 Bulk Density (16–Sector) Image Oriented Top of Hole (U,R,B,L,U) (ROSI) (G/C3)	Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) 60 (PU) 0




1075
1100


1125
1150
1175



Density Caliper, Average (DCAV) 8 (IN) 13	Collar Rotational Speed (CRPM) (RPM) 0 200	ARC Phase Shift Resistivity 40 inch Spacing at 400 KHz (P40L) 0.2 (OHMM) 200	Bulk Density (16–Sector) Image Oriented Top of Hole (U,R,B,L,U) (ROSI) (G/C3)	Thermal Neutron Porosity (Ratio Method) in Selected Lithology (TNPH) 60 (PU) 0
Ultrasonic Caliper Average (UCAV) 8 (IN) 13		ARC Attenuation Resistivity 40 inch Spacing at 400 KHz (A40L) 0.2 (OHMM) 200		Image Derived Density (IDRO) 1.65 (G/C3) 2.65
Gamma Ray, Average (GRMA) 0 (GAPI) 150		ARC Phase Shift Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected. (P16H) 0.2 (OHMM) 200		Image Derived Density Correction (IDDR) –0.25 (G/C3) 0.25
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 100 (M/HR) 0		ARC Attenuation Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected (A16H) 0.2 (OHMM) 200		Photoelectric Factor (PEF) 0 (----) 10

PIP SUMMARY

Resistivity Samples

Gamma Ray Samples

Neutron Ticks, 0.1 ft

Density Ticks, 0.1 ft

IDEAL Version: ID10_2C_01.1SV

IDF

ECO6 id10_2c_01

Input DLIS Files

Type:DEFAULT File ID:DVM_020PDP FN:19 05–Jun–2006 11:41 PRODUCER 3315.0 FT 3998.9 FT

6.75–in. EXPT Logging While Drilling–Nuclear Magnetic Resonance / Equipment Identification

Primary Equipment:

Master: 21–May–2006 12:30

6.75–in. EXPT Logging While Drilling–Nuclear Magnetic Resonance Calibration

MR Bound Fluid Volume & Porosity Calibration Antenna 1

Phase	Amp 1 (ECHO_AMP_ANT1_MC) ----	Value
Master		107.0
0 (Minimum)	250.0 (Nominal)	500.0 (Maximum)

Phase	Loop 1 (LOOP_ANT1_MC) ----	Value
Master		593.7
0 (Minimum)	500.0 (Nominal)	1000 (Maximum)

Phase	Temp 1 (TTEM_ANT1_MC) DEGC	Value
Master		25.28
0 (Minimum)	25.00 (Nominal)	50.00 (Maximum)

Phase	Freq 1 (FREQ_ANT1_MC) KHZ	Value
Master		841.0
800.0 (Minimum)	875.0 (Nominal)	950.0 (Maximum)

Phase	Q 1 (Q_ANT1_MC) ----	Value
Master		44.94
0 (Minimum)	100.0 (Nominal)	200.0 (Maximum)

Phase	T90 (T90_ANT10_MC) MS	Value
Master		0.1250
0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)

Phase	T90 (T90_ANT11_MC) MS	Value
Master		0.1250
0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)

Phase	T180 (T180_ANT10_MC) ----	Value
Master		1.500
1.000 (Minimum)	2.000 (Nominal)	3.000 (Maximum)

Phase	T928 (T928_ANT10_MC) MS	Value
Master		0
–0.1000 (Minimum)	0 (Nominal)	0.1000 (Maximum)

Phase	TAQD (TAQD_ANT10_MC) MS	Value
Master		0.04000
–0.1000 (Minimum)	0 (Nominal)	0.1000 (Maximum)

Master: 21–May–2006 12:30

6.75–in. EXPT Logging While Drilling–Nuclear Magnetic Resonance Calibration

MR Bound Fluid Volume & Porosity Calibration Antenna 2

Phase	Amp 2 (ECHO_AMP_ANT2_MC) ----	Value
Master		195.1
0 (Minimum)	250.0 (Nominal)	500.0 (Maximum)

Phase	Loop 2 (LOOP_ANT2_MC) ----	Value
Master		580.6
0 (Minimum)	500.0 (Nominal)	1000 (Maximum)

Phase	Temp 2 (TTEM_ANT2_MC) DEGC	Value
Master		26.44
0 (Minimum)	25.00 (Nominal)	50.00 (Maximum)

Phase	Freq 2 (FREQ_ANT2_MC) KHZ	Value
Master		243.3
210.0 (Minimum)	260.0 (Nominal)	310.0 (Maximum)

Phase	Q 2 (Q_ANT2_MC) ----	Value
Master		124.5
0 (Minimum)	100.0 (Nominal)	200.0 (Maximum)

Phase	T90 (T90_ANT20_MC) MS	Value
Master		0.06500
0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)

Phase	T90 (T90_ANT21_MC) MS	Value
Master		0.06500
0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)

Phase	T180 (T180_ANT20_MC) ----	Value
Master		1.600
1.000 (Minimum)	2.000 (Nominal)	3.000 (Maximum)

Phase	T928 (T928_ANT20_MC) MS	Value
Master		0
–0.1000 (Minimum)	0 (Nominal)	0.1000 (Maximum)

Phase	TAQD (TAQD_ANT20_MC) MS	Value
Master		0.06500
–0.1000 (Minimum)	0 (Nominal)	0.1000 (Maximum)

EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ECO – 675	778
Calibration Status	ADDC – AA	
Collar Type and Serial Number	ADCE – EA	
Chassis Type and Serial Number	ADCS – CA	
Stabilizer Type and Serial Number	NSR – M	
Neutron Logging Source	GSR – J/Z	
Density Logging Source	9.13 – in.	
Stabilizer Size		

Master: 12–May–2006 15:19

EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

SSn LSn : Water Tank

Phase	SSn Gain ----	Value
Master		1.151
0.6000 (Minimum)	1.000 (Nominal)	1.400 (Maximum)

Phase	SSn Offset ----	Value
Master		0
–3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Phase	LSn Gain ----	Value
Master		1.166
0.6000 (Minimum)	1.000 (Nominal)	1.400 (Maximum)

Phase	LSn Offset ----	Value
Master		0
–3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Neutron: Water Tank

Phase	Far 2 Gain ----	Value	Phase	Far 2 Offset ----	Value
Master		1.044	Master		1.004
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)	–3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Phase	Far 1 Gain ----	Value	Phase	Far 1 Offset ----	Value
Master		1.076	Master		0.6590
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)	–3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Phase	Thermal Near gain ----	Value	Phase	Thermal Near offset ----	Value
Master		1.140	Master		–15.25
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)	–500.0 (Minimum)	0 (Nominal)	500.0 (Maximum)

Phase	Epithermal Near gain ----	Value	Phase	Eptithermal Near offset ----	Value
Master		1.124	Master		17.94
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)	–300.0 (Minimum)	0 (Nominal)	300.0 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Gamma Density: Magnesium Block

Phase	LS window 3 – Mg CPS	Value	Phase	SS window 1 – Mg CPS	Value	Phase	SS window 3 – Mg CPS	Value
Master		2013	Master		4858	Master		11410
1000 (Minimum)	2000 (Nominal)	3000 (Maximum)	2500 (Minimum)	5250 (Nominal)	8000 (Maximum)	6000 (Minimum)	12000 (Nominal)	18000 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Gamma Density: Aluminum Block

Phase	LS window 3 – Al CPS	Value	Phase	SS window 1 – Al CPS	Value	Phase	SS window 3 – Al CPS	Value
Master		372.1	Master		2545	Master		8395
200.0 (Minimum)	400.0 (Nominal)	600.0 (Maximum)	1500 (Minimum)	3000 (Nominal)	4500 (Maximum)	4000 (Minimum)	8500 (Nominal)	13000 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Gamma Density: Background

Phase	LS window 3 – Background CPS	Value	Phase	SS window 1 – Background CPS	Value	Phase	SS window 3 – Background CPS	Value
Master		66.31	Master		74.12	Master		355.2
50.00 (Minimum)	70.00 (Nominal)	90.00 (Maximum)	50.00 (Minimum)	75.00 (Nominal)	100.0 (Maximum)	270.0 (Minimum)	370.0 (Nominal)	470.0 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Gamma Density: Water Block Check

Phase	Long spacing water density G/C3	Value	Phase	Short spacing water density G/C3	Value
Master		1.030	Master		1.263
0.9000 (Minimum)	1.150 (Nominal)	1.400 (Maximum)	0.9000 (Minimum)	1.150 (Nominal)	1.400 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Resistivity: Air

Phase	Phase–Shift T1	Value	Phase	Phase–Shift T2	Value	Phase	Phase–Shift T3	Value
Master		2.473	Master		–2.538	Master		2.413
–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)	–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)	–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase–Shift T4	Value	Phase	Phase–Shift T5	Value	Phase	Phase–Shift T1 at 400KHz	Value
Master		–2.561	Master		2.441	Master		–0.5357
–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)	–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)	–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase–Shift T2 at 400KHz	Value	Phase	Phase–Shift T3 at 400KHz	Value	Phase	Phase–Shift T4 at 400KHz	Value
Master		0.5383	Master		–0.5384	Master		0.4924
–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)	–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)	–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase–Shift T5 at 400KHz	Value
Master		–0.5090
–4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Resistivity: Air

Phase	Attenuation T1	Value	Phase	Attenuation T2	Value	Phase	Attenuation T3	Value
Master		8.232	Master		6.181	Master		4.833
7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)	4.000 (Minimum)	6.000 (Nominal)	8.000 (Maximum)	3.500 (Minimum)	5.500 (Nominal)	7.500 (Maximum)

Phase	Attenuation T4	Value	Phase	Attenuation T5	Value	Phase	Attenuation T1 at 400KHz	Value
Master		4.587	Master		3.392	Master		8.290
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)	2.000 (Minimum)	4.000 (Nominal)	6.000 (Maximum)	7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)

Phase	Attenuation T2 at 400KHz	Value	Phase	Attenuation T3 at 400KHz	Value	Phase	Attenuation T4 at 400KHz	Value
Master		6.149	Master		4.884	Master		4.539
4.000 (Minimum)	6.000 (Nominal)	8.000 (Maximum)	3.500 (Minimum)	5.500 (Nominal)	7.500 (Maximum)	2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T5 at 400KHz	Value
Master		3.445
2.000 (Minimum)	4.000 (Nominal)	6.000 (Maximum)

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EcoScope Integrated Logging–While–Drilling Tool – 6.75 inch Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor	Value
Master		2.250
2.000 (Minimum)	2.500 (Nominal)	3.000 (Maximum)

6.75–in. Resistivity At–the–Bit / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	RAB6 – CA	127
Calibration Status	–	

Master: 13–May–2006 8:37

6.75–in. Resistivity At–the–Bit Calibration

Resistivity: Fixture

Phase	Ring/T1 factor ----	Value	Phase	Ring/T2 factor ----	Value	Phase	M0/T1 factor ----	Value
Master		1.006	Master		1.010	Master		0.9952
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	M0/T2 factor ----	Value	Phase	M2/T1 factor ----	Value	Phase	M2/T2 factor ----	Value
Master		0.9989	Master		1.006	Master		1.010
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN shallow/T1 factor ----	Value	Phase	BTN shallow/T2 factor ----	Value	Phase	BTN medium/T1 factor ----	Value
Master		1.005	Master		1.008	Master		1.001
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN medium/T2 factor ----	Value	Phase	BTN deep/T1 factor ----	Value	Phase	BTN deep/T2 factor ----	Value
Master		1.004	Master		1.004	Master		1.008
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

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6.75–in. Resistivity At–the–Bit Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor ----	Value
Master		0.9227
0.7500 (Minimum)	1.000 (Nominal)	1.250 (Maximum)

Company:	**LAMONT – DOHERTY**	Schlumberger
Well:	**GDGH12–A– Site11 Hole A**	
Field:	**Krishna Godavari Basin**	
Rig:	**JOIDES Resolution**	**9.875in Section**
Country:	**India**	

EcoSCOPE
1:200 Measured Depth
Recorded Mode Log