Schlumberger

Company: **LAMONT – DOHERTY**

9.875in Section

Well: **GD–3–1– Site10 Hole A**

Field: **Krishna Godavari Basin**

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

Rig: JOIDES Resolution
Field: Krishna Godavari Basin
Location: Offshore Tamil Nadu
Well: GD–3–1– Site10 Hole A
Company: LAMONT – DOHERTY

EcoSCOPE
1:200 Measured Depth
Recorded Mode Log

Location			Elevation		
Total depth:	1254.5 m		K.B.	Top Drive	
Spud date:	02–Jun–06		G.L.	–1038.5 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 = 589353.6m	Longitude	Latitude
06INM0043	Y = 1754109.6m	E 81° 50.0737'	N 15° 51.8621'

Depth logged:	1049.0 m To 1251.5 m	Mag decl:	–1.33 deg.	Other services:	
Date logged:	02–Jun–06 To 03–Jun–06	Mag dip:	18.86 deg.	SonicVISION*, ProVISION*	

Bore hole record			Casing record			
Hole size	from	to	Size	Density	from	to
9.875 in.	1049.0 m	1254.5 m				

Mud record			Borehole deviation record			
Type	from	to	Min	Max	from	to
Sea Water	1049.0 m	1254.5 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.

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@1254.5m
Results: Drilled and logged to section TD.

REMARKS: RUN NUMBER

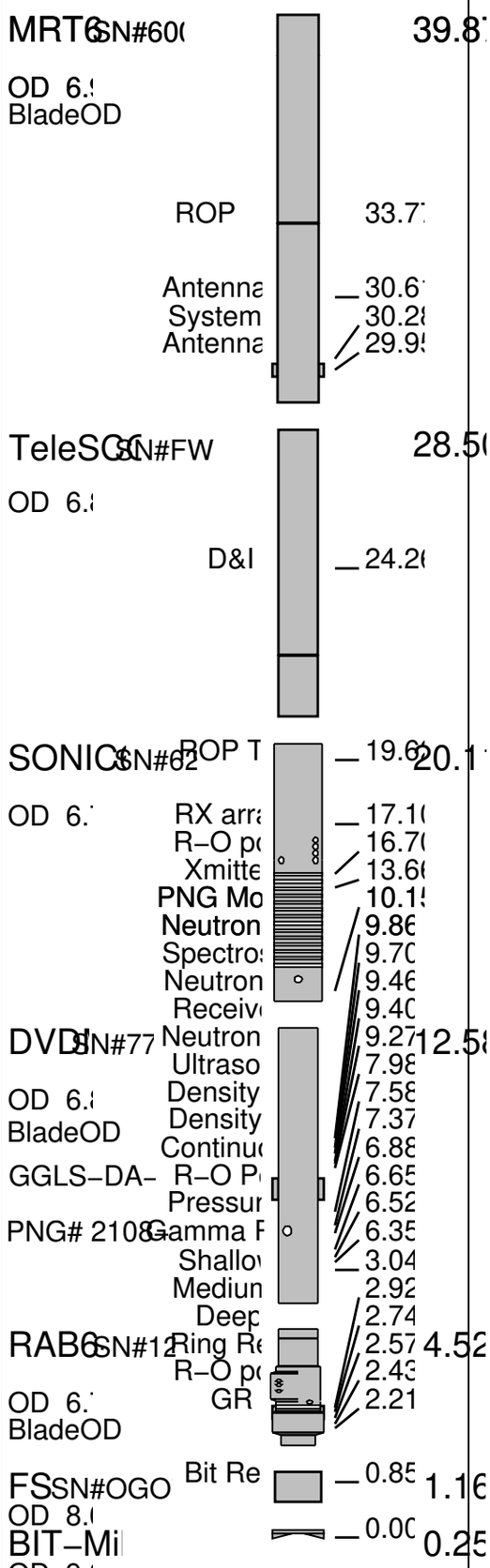
REMARKS: RUN NUMBER

All calibration parameters within tolerance.

EQUIPMENT DESCRIPTION

RUN1	RUN	RUN

DOWNHOLE EQ



All Diameters in

Bit Run Summary

Run number		1									
Bit size	in	9.875									
Bit start depth	m	1049									
Bit end depth	m	1254.5									
Top interval logged	m	1049									
Bottom interval logged	m	1251.5									
Begin log: time		04:30									
Begin log: date		03–Jun–06									
End log: time		16:07									
End log: date		03–Jun–06									
Mud data											
Depth	m	1100									
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 P34H
RWS_RM Resistivity of Connate Water (RM) 1.000000
SHT_RM Surface Hole Temperature (RM) 15.800027
TD_RM Total Measured Depth (RM) 4115.813477
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/PARAMETERStation 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 TEMP_ANT2
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 4115.813477
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 0.000000
TIMEFRAME_ MR Time Frame File Name 0.000000

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	−1.330007
MAG_INCL_R	RAB: Magnetic Dip	18.859995
MBUTTON_K_	RAB: Button Medium K Factor	0.004817
OBM	RAB: Oil base Mud	NO
ORIENTATIO	Rab Image Orientation	TOH
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	4115.813477
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

Output DLIS Files

IDEAL Version: ID10_2C_01.1SV

IDEAL

DVM−675 id10_2c_01

Format: Eco_Combined_200MD Vertical Scale: 1:200 Graphics File Created: 03−Jun−2006 20:51

***** Flag Tracks *****

White = Absent Green = Reliable Yellow = Warning Red = Outside of Specification

1. **flag1 : Caliper**
2. **flag2 : Gamma Ray**
3. **flag3 : Resistivity**
4. **flag4 : Density**
5. **flag5 : Porosity**

PIP SUMMARY

Gamma Ray Samples

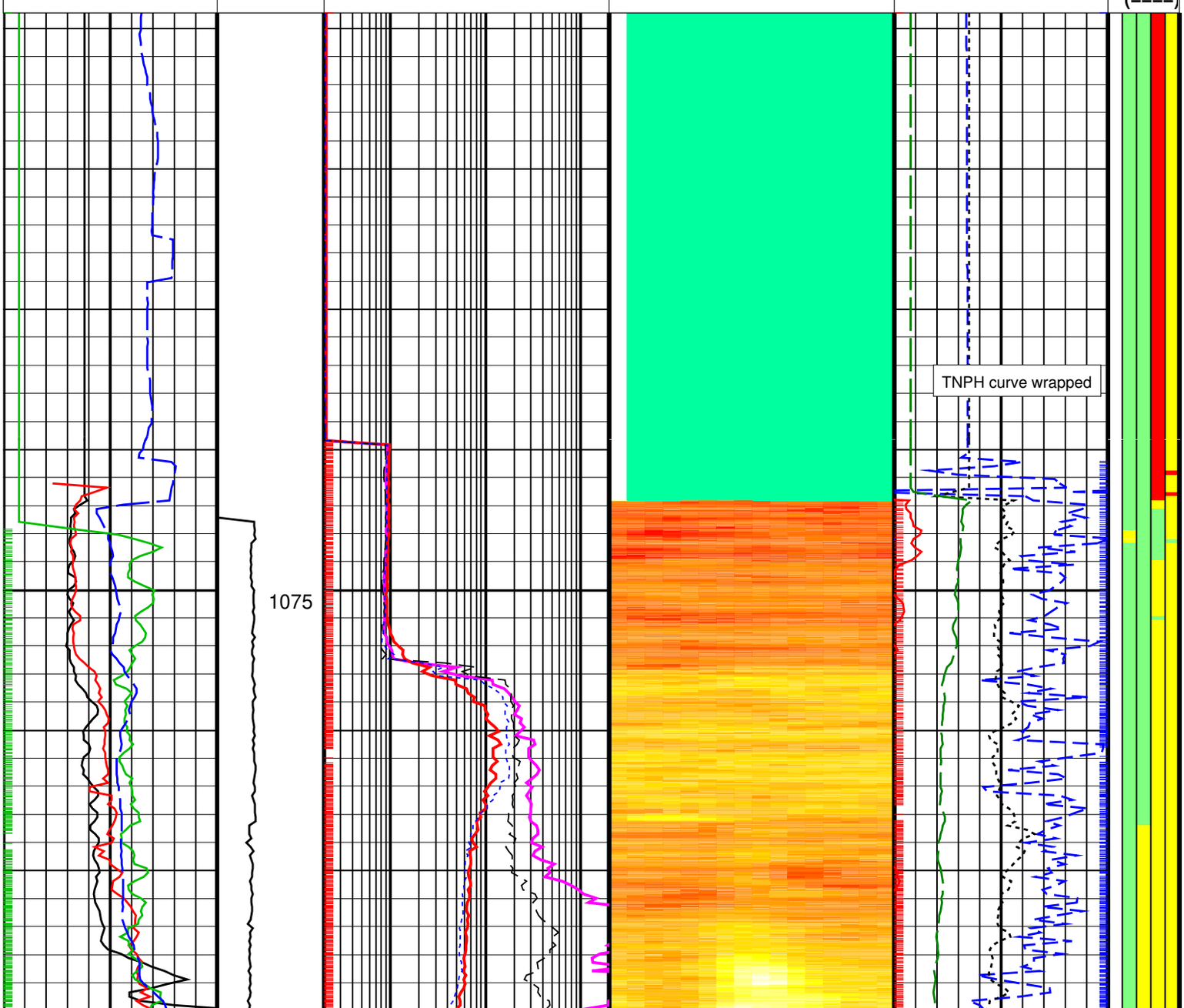
Resistivity Samples

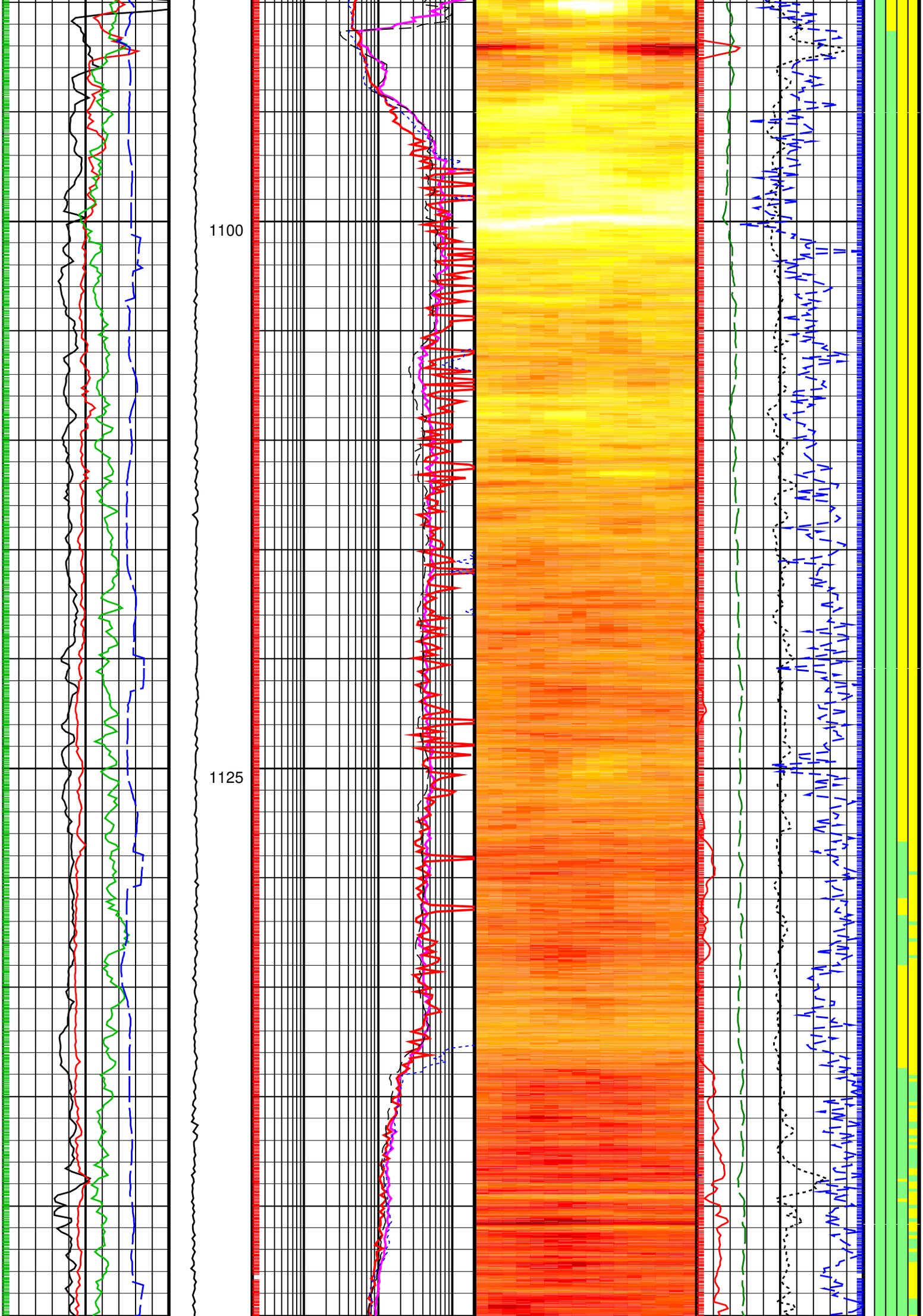
Neutron Ticks, 0.1 ft

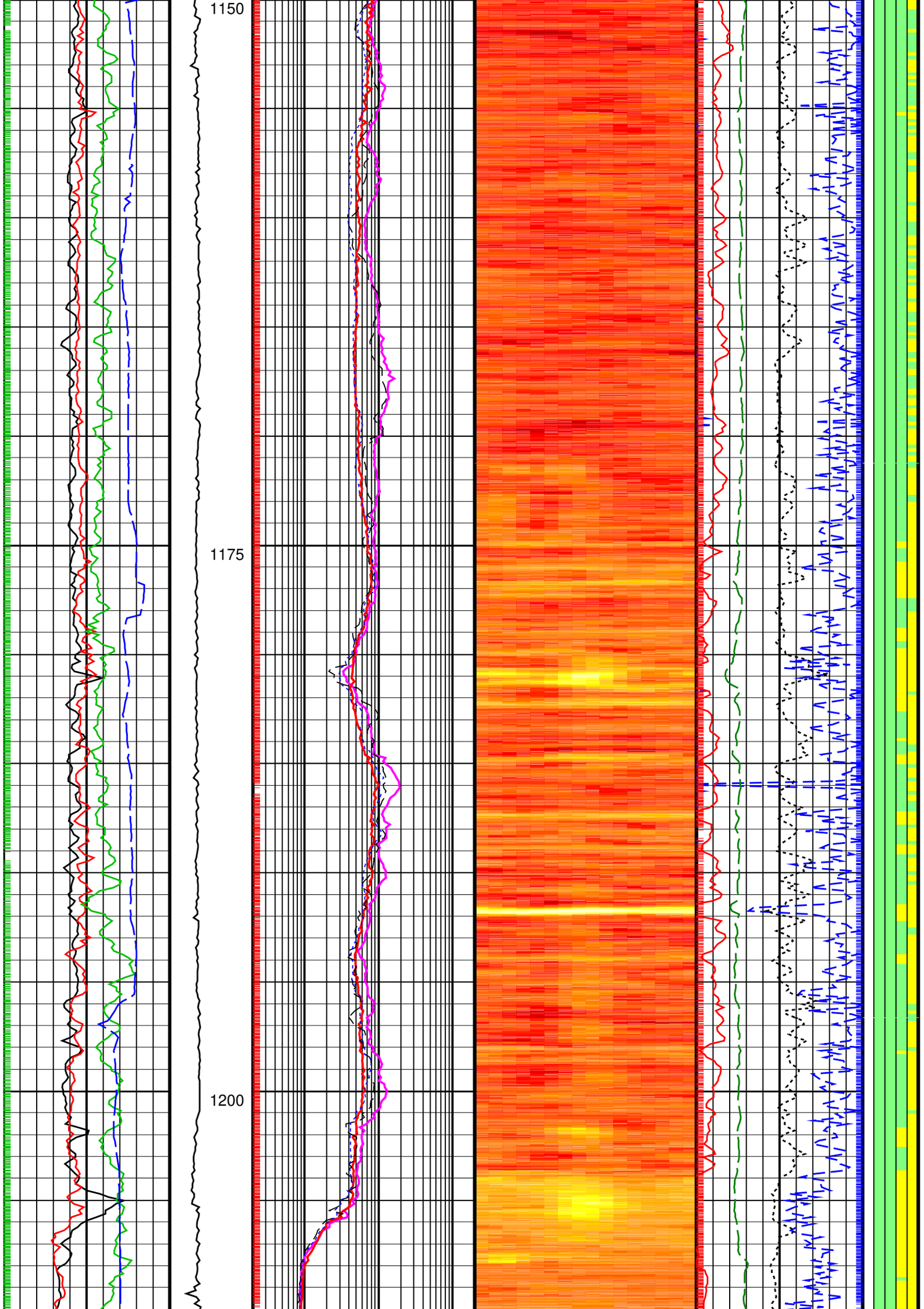
Density Ticks, 0.1 ft

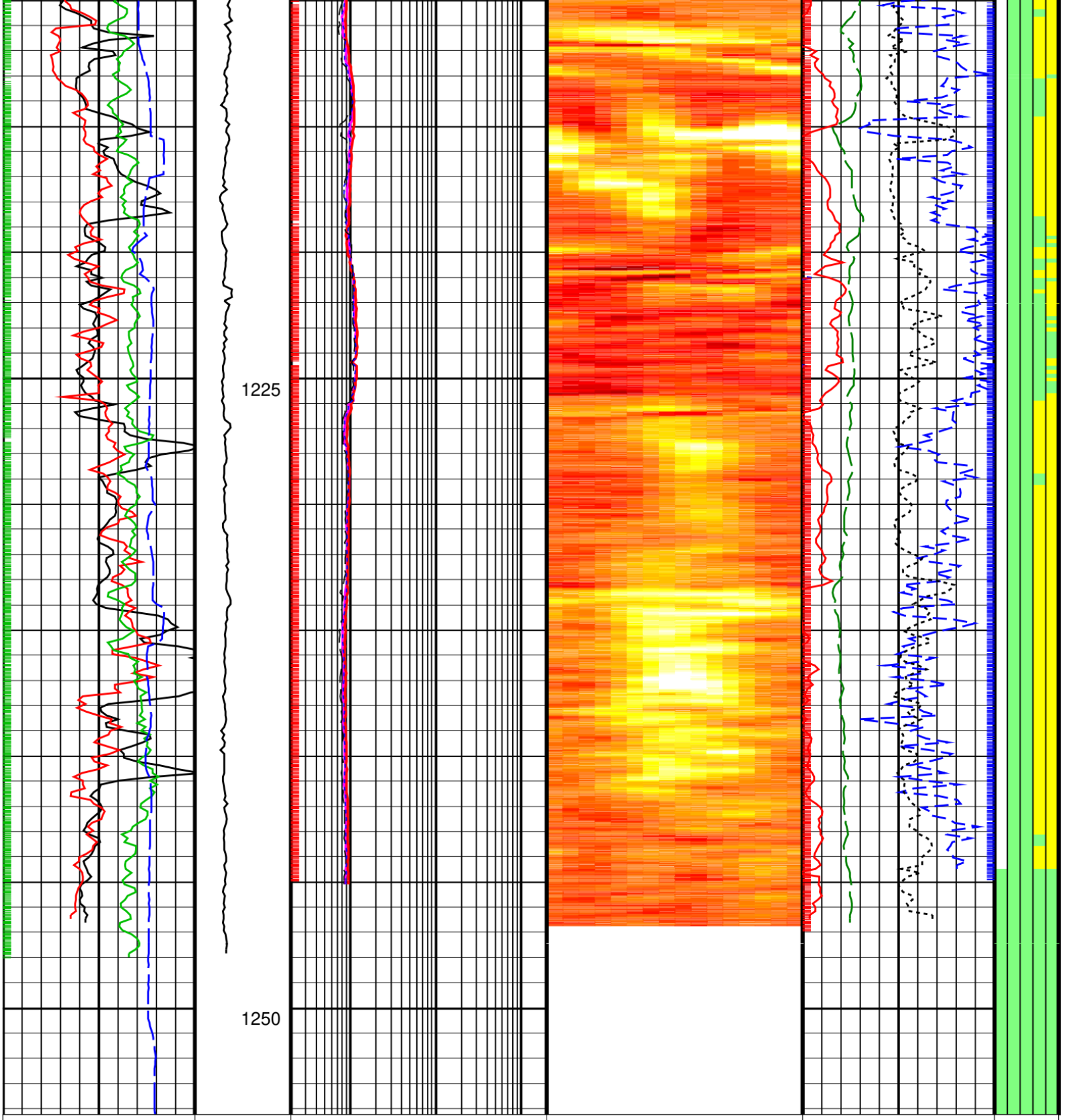
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 100 (M/HR) 0		ARC Attenuation Resistivity 16 inch Spacing at 2 MHz, Environmentally Corrected (A16H) 0.2 (OHMM) 200		Photoelectric Factor (PEF) 0 (----) 10
Gamma Ray, Average (GRMA) 0 (GAPI) 150		ARC Phase Shift Resistivity 16 inch Spacing at 2 MHz, 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

EcoScope Triple Combo Flags (QC_TCOMBO) (----)




1100
1125


1150
1175
1200



Density Caliper, Average (DCAV)	Collar Rotational Speed (CRPM) (RPM)	ARC Phase Shift Resistivity 40 inch Spacing at 400 KHz (P40L)	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)	EcoScope Triple Combo Flags (QC_TCOMBO) (----)
8 (IN) 13	0 200	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	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

***** Flag Tracks *****

White = Absent Green = Reliable Yellow = Warning Red = Outside of Specification

1. flag1 : Caliper
2. flag2 : Gamma Ray
3. flag3 : Resistivity
4. flag4 : Density
5. flag5 : Porosity

IDEAL Version: ID10_2C_01.1SV

IDEAL

DVM−675 **id10_2c_01**

Output DLIS Files

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	Phase	Loop 1 (LOOP_ANT1_MC) ----	Value	Phase	Temp 1 (TTEM_ANT1_MC) DEGC	Value
Master		107.0	Master		593.7	Master		25.28
0 (Minimum)	250.0 (Nominal)	500.0 (Maximum)	0 (Minimum)	500.0 (Nominal)	1000 (Maximum)	0 (Minimum)	25.00 (Nominal)	50.00 (Maximum)
Phase	Freq 1 (FREQ_ANT1_MC) KHZ	Value	Phase	Q 1 (Q_ANT1_MC) ----	Value	Phase	T90 (T90_ANT10_MC) MS	Value
Master		841.0	Master		44.94	Master		0.1250
800.0 (Minimum)	875.0 (Nominal)	950.0 (Maximum)	0 (Minimum)	100.0 (Nominal)	200.0 (Maximum)	0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)
Phase	T90 (T90_ANT11_MC) MS	Value	Phase	T180 (T180_ANT10_MC) ----	Value	Phase	T928 (T928_ANT10_MC) MS	Value
Master		0.1250	Master		1.500	Master		0
0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)	1.000 (Minimum)	2.000 (Nominal)	3.000 (Maximum)	−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)						

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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	Phase	Loop 2 (LOOP_ANT2_MC) ----	Value	Phase	Temp 2 (TTEM_ANT2_MC) DEGC	Value
Master		195.1	Master		580.6	Master		26.44
0 (Minimum)	250.0 (Nominal)	500.0 (Maximum)	0 (Minimum)	500.0 (Nominal)	1000 (Maximum)	0 (Minimum)	25.00 (Nominal)	50.00 (Maximum)

Phase	Freq 2 (FREQ_ANT2_MC) KHZ	Value	Phase	Q 2 (Q_ANT2_MC) ----	Value	Phase	T90 (T90_ANT20_MC) MS	Value
Master		243.3	Master		124.5	Master		0.06500
210.0 (Minimum)	260.0 (Nominal)	310.0 (Maximum)	0 (Minimum)	100.0 (Nominal)	200.0 (Maximum)	0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)

Phase	T90 (T90_ANT21_MC) MS	Value	Phase	T180 (T180_ANT20_MC) ----	Value	Phase	T928 (T928_ANT20_MC) MS	Value
Master		0.06500	Master		1.600	Master		0
0.05000 (Minimum)	0.1250 (Nominal)	0.2000 (Maximum)	1.000 (Minimum)	2.000 (Nominal)	3.000 (Maximum)	–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	[illegible]	
Collar Type and Serial Number	ADDC – AA	
Chassis Type and Serial Number	ADSE – EA	
Stabilizer Type and Serial Number	ADCS – CA	
Neutron Logging Source	NSR – M	
Density Logging Source	GSR – J/Z	
Stabilizer Size	9.13 – in.	

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

SSn LSn : Water Tank

Phase	SSn Gain ----	Value	Phase	SSn Offset ----	Value
Master		1.151	Master		0
0.6000 (Minimum)	1.000 (Nominal)	1.400 (Maximum)	–3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Phase	LSn Gain ----	Value	Phase	LSn Offset ----	Value
Master		1.166	Master		0
0.6000 (Minimum)	1.000 (Nominal)	1.400 (Maximum)	–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)						

Master: 12–May–2006 15:19

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	Factor	Value	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Master	Ring/T1 factor ----	1.006			
Master	Ring/T2 factor ----	1.010			
Master	M0/T1 factor ----	0.9952			
Master	M0/T2 factor ----	0.9989			
Master	M2/T1 factor ----	1.006			
Master	M2/T2 factor ----	1.010			
Master	BTN shallow/T1 factor ----	1.005			
Master	BTN shallow/T2 factor ----	1.008			
Master	BTN medium/T1 factor ----	1.001			
Master	BTN medium/T2 factor ----	1.004			
Master	BTN deep/T1 factor ----	1.004			
Master	BTN deep/T2 factor ----	1.008			

Master: 13–May–2006 8:37

6.75–in. Resistivity At–the–Bit Calibration

Gamma Ray: Blanket

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

Company: **LAMONT – DOHERTY**

Schlumberger

Well: **GD–3–1– Site10 Hole A**

Field: **Krishna Godavari Basin**

Rig: **JOIDES Resolution** **9.875in Section**

Country: **India**

EcoSCOPE

1:200 Measured Depth

Recorded Mode Log