

Potassium	%	n.a									
Environmental data											
GR											
Mud weight	ppg	10.6									
Bit size	in	8.50									
Resistivity											
Neutron porosity											
Hole Size	in.	8.50									
Mud weight	ppg	10.6									
Temperature	°C	20									
Mud salinity	ppk	70.878									
Formation salinity		n.a									
Recording rate 1	SEC	6 (arcVISION)									
Recording rate 2	SEC	2 (EcoScope)									
Filtering GR		3 pts.									
Filtering density		3 pts.									
Filtering Neutron		3 pts.									
Company representative		R. Spence	A. Zernov	D. Daniels							
Anadrill personnel		M. Amarasena	B. Low	D. Perkins	P. Sellathurai	C. Soper	D. B. Khanh	D. O'Brien			

<div>DISCLAIMER</div> <div>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.</div>		
OTHER SERVICES FOR RUN6 Directional Drilling Direction Surveys Annular Pressure & Temperature Shock & Vibrations	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 6 Depth is referenced to Driller’s depth Gamma ray is corrected for mud weight, tool size and bit size Resistivity is borehole compensated and environmentally corrected Neutron porosity is corrected for the effects of borehole size (i.e. bit size), temperature, mud salinity and mud hydrogen index (a factor of mud weight, mud temperature and pressure) Neutron porosity is calculated by using a limestone matrix density of 2.71 g/cm3 The SNA–A11A original hole was drilled to 4592m and as the BHA could not be fished out, the hole was plugged back and SNA–A11A–st was drilled. The EcoScope has a 7–7/8" Stabilizer The EcoScope sourceless density was pulsed in real–time The arcVISION Gamma ray reads higher as the arcVISION was above the EcoScope PNG which activated the formation prior to the arcVISION tool logging the same section. The section above 4474m was a reamed section In the reamed section above 4474m, there was a data loss of 2m. This was due to a calibration issue with the hookload sensor. The depths above and below this section is correct. Depth was not adjusted but reset to the drilling pipe tally.	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

EQUIPMENT DESCRIPTION		
RUN6	RUN	RUN

DOWNHOLE EQUIPMENT



Maximum string diameter 8.50 in.
All lengths in Meters

Variable Name	Variable Description	Run Name & Value	
	Run Number		6
	General Information		
BHT_RM	Bottom Hole Temperature (RM)	DEGC	98.000
BSAL_RM	Mud Salinity (RM)	PPK	70.878
BS_RM	Bit Size (RM)	IN	8.500
COEF_M	User Defined FEXP in Clean Sand	----	1.650
C_WS	Overpressure correction to Sw and M	----	1.000
FEXP	Formation Factor Exponent(RM)	----	2.000
FNUM	Formation Factor Enumerator(RM)	----	1.000
FPHI_RM	Formation Factor Porosity Source (RM)	----	XPLOT
MST_RM	Mud Sample temperature (RM)	DEGC	60.000
MW_RM	Mud Weight (RM)	LB/G	10.600
OBMF_RM	Oil Based Mud (RM)	----	YES
RHOF_RM	Mud Filtrate Density (RM)	G/C3	1.000
RHOM_RM	Matrix density (RM)	G/C3	2.710
RMS_RM	Resistivity of Mud Sample (RM)	OHMM	1000.000
RWA_COMP_M	Rwa computation model		
RWA_DEN_AD	Rwa Density Input ADN		
RWA_DEN_CD	Rwa Density Input CDN		
RWA_DEN_IN	Rwa Density Input		
RWA_FORM_M	Rwa computation formation model		
RWA_RES_IN	Rwa computation resistivity input		
RWS_RM	Resistivity of Connate Water (RM)	OHMM	1.000
SHT_RM	Ground Level Temperature (Mud-Line When Offshore) (RM)	DEGC	10.000
TD_RM	Total Measured Depth (RM)	M	5204.000
TWS_RM	Temperature of Connate Water (RM)	DEGF	23.889
VF_ILLI	Fraction of illite in shales	----	0.500
VF_KAOL	Fraction of kaolinite in shales	----	0.500
VF_MONT	Fraction of montmorillonite in shales	----	0.000
XPDM_RM	Cross plot density porosity multiplier	----	0.675
XPNM_RM	Cross plot neutron porosity multiplier	----	0.325
	DVD		
-----	Parameters-----	Parameters-----	-----Sigma
-----	Parameters-----	Parameters-----	-----Sigma
A12A	ARC Air Cal Attenuation From T1 at 2 MHz	DB	8.039
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	DB	8.069
A22A	ARC Air Cal Attenuation From T2 at 2 MHz	DB	6.410
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	DB	6.390
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	DB	4.637
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	DB	4.664
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	DB	4.805
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	DB	4.778
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	DB	3.194
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	DB	3.226
ABNT	Abnormal Transmitter Indicator	----	No_Tx_Failed
ALPHA_DEN_OPT	Density Enhanced Vertical Resolution Processing Switch	----	NO
AM2A	ARC Air Cal Amplitude Offset at 2 MHz	----	-50000.000
ANISO_COMPUTE	Anisotropy Computation Option	----	YES
ATMP_ARC	ARC Select Temperature Channel	----	Annulus_Temp
AZMF	Formation DIP Azimuth	DEG	0.000
BH_COMPUTE	Borehole Inversion Computation Option	----	YES
CDPTH_ARC	Process Start Depth	M	30.480
CHI_RM	Caliper High Limit from BS (RM)	IN	10.000
CLO_RM	Caliper Low Limit from BS (RM)	IN	-5.000
DIELEC_COMPUTE	Dielectric Computation Option	----	YES
DIPF	Formation DIP Angle	DEG	0.000
DTMUD	Delta-T for Mud (RM)	US/F	206.000
DTMUD_DH	Delta-T for Mud Downhole (RT)	US/F	227.000
DVDM DHS	DVDM Down Hole Software Version	US/F	227.000
DVDM_DATA_LTB	DVDM: Create An DVDM LTB Data File	----	NO
DVD_DATA_FIX	DVDM: Create A Corrected DVDM Time Data File	----	NO
DYN_IMAGE_OPT	Generate Dynamic Normalized Image?	----	YES
EDPTH	Wizard Process Stop Depth	----	50000
EN_WIZARD	Enable ARC Wizard Processing	----	NO
ERRCT	Percentage Error Cutoff	----	4.500
EVRL	EVR Process averaging number of samples (RM)	----	49
FWVN	Firmware Version Number	----	2.300
GCSE	Generalized Caliper Selection	----	BS
GRSH	GR Shale (Invasion Computation Cutoff)	GAPI	1000.000
GR_CF	Gamma Ray Correction Factor	----	1.800
GR_O2COR_OPT	Enable Gamma Ray Oxygen Activation Correction	----	NO
HIGH_BLEND	High Resistivity Threshold for Blending	OHMM	2.000
IDQT	Image Derived Quality Threshold	----	2.000
IMAGE_MAX_DCRA	Image Density Caliper Right Scale	IN	8.000
IMAGE_MAX_IDDQ	Image Density Quality Right Scale	----	1.000
IMAGE_MAX_SPEF	Image PEF(Segment) Right Scale	----	6.000
IMAGE_MAX_SRHOB	Image RHOB(Segment) Right Scale	G/C3	2.650
IMAGE_MIN_DCRA	Image Density Caliper Left Scale	IN	2.000
IMAGE_MIN_IDDQ	Image Density Quality Left Scale	----	0.000
IMAGE_MIN_SPEF	Image PEF(Segment) Left Scale	----	2.000
IMAGE_MIN_SRHOB	Image RHOB(Segment) Left Scale	G/C3	2.050
INCLIN_B0	ARC Bias Constant (mg)	----	0.000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	----	0.000
INCLIN_B2	ARC Bias Secod-order Coeeficient (mg/degC)	----	0.000
INCLIN_B3	ARC Bias Third-order Coeeficient (mg/degC)	----	0.000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	----	1.000
INCLIN_C1	ARC Scale First-order Coeeficient (mA/g/degC)	----	0.000
INCLIN_C2	ARC Scale Second-order Coeeficient (mA/g/degC)	----	0.000

INCLIN_C3	ARC Scale Third-order Coefficient (mA/g/degC)	----	0.000
INVAS_COMPUTE	Invasion Computation Option	----	YES
JSD	Acquisition start date	----	23-Oct-08
JSD_ARC	ARC Acquisition start date	----	23-Oct-08
LOW_BLEND	Low Resistivity Threshold for Blending	OHMM	1.000
MATR	Rock Matrix for Neutron Porosity Corrections	----	LIMESTONE
MSWS	ARC Wizard Model Switch Window	M	1.524
MULTIEFFECT_COM	Multi Effect Option	----	YES
NEU_DCOR_OPT	Density Correction Source for Neutron Processing	----	Neutron
NEU_FTUBE_OPT	Far Thermal Tube Selection	----	Both
NEU_PRESCOR_OPT	Pressure Correction Source for Neutron Processing	----	Annulus_Press
NEU_TEMPCOR_OPT	Temperature Correction Source for Neutron Processing	----	Tool_Temp
NTIK_SEL	Neutron Tick Channel Name	----	FAZ1
OACF	Oxygen Activation Correction Factor (RM)	----	8.000
P11AC_RM	ARC: Air Calibration For Phase T1 to R1	DEG	-999.250
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	DEG	0.624
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	DEG	2.530
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	DEG	-0.731
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	DEG	-2.565
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	DEG	0.593
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	DEG	2.542
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	DEG	-0.719
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	DEG	-2.559
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	DEG	0.626
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	DEG	2.564
PMUD	Potassium Concentration in Mud	----	0.000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	----	P34B
PSOF_ADJ_T1	ARC: User Input Phase offset	DEG	0.000
RESTIK	ARC resistivity tick source	----	Phase
RSD	LWD run start date dd-mmm-yy	OHMM	23-Oct-08
RUN_DURATION_OP	Run Duration Type ?	----	Normal
RWA_COMP_MOD	Rwa computation model	----	BASIC
RWA_DEN_ADN	Rwa Density Input	----	RHOB
RWA_DEN_CDN	Rwa Density Input	----	RHOB
RWA_DEN_INPUT	Rwa Density Input	----	RHOB
RWA_FORM_MOD	Rwa computation formation model	----	CLASTIC
RWA_RES_INPUT	Rwa computation resistivity input	----	RT
SDPTH	Wizard Process Start Depth	----	100
SIG_PCOR_OPT	Porosity Correction Source for Sigma Processing	----	Best
SPEC_CSG_DEPTH	Casing Depth for Spectroscopy Processing	M	30.480
SPEC_K_OPT	Potassium standard used during acquisition?	----	NO
SPL_CLAY_MODEL	SpectroLith Clay Model	----	SUBARKOSE
SPL_MG_OPT	Magnesium Flag Switch ?	----	OFF
SPL_NL_COEFF	Non Linearity Coefficient for Downhole Spectroscopy Processing	----	147.000
SPL_SULFUR_MIN	SpectroLith Sulfur Mineral Option	----	PYRITE
STAB_SIZE	Stabilizer Size	IN	7.875
STOH	Top of Hole Sector	----	SECTOR_0
TRNO	Tool Run Number	M	5204.000
TSIZ_ARC	ARC Tool Size	IN	6.900
TSNO	Tool Serial Number	IN	6.900
UNIFORM_COMPUTE	Uniform Rock Option	----	YES
VERS_ARC	ARC Down hole software version Number	----	2.300
WPPV	Water Phase as Percent of Total Volume in OBM	----	26.100
WPSL	Salinity of the Water Phase Emulsified within the OBM	PPK	271.562
WRK	to Report Potassium Concentration	----	K_by_Wgt_%
WSDI	Window Size of Dynamic Normalization Image	M	4.572

Schlumberger Drilling & Measurements

ID13 Parameter Insert Header Software version 3.0c

Variable Name	Variable Description	Run Name & Value	
	Run Number		6
	General Information		
BHT_RM	Bottom Hole Temperature (RM)	DEGC	98.000
BSAL_RM	Mud Salinity (RM)	PPK	n/a
BS_RM	Bit Size (RM)	IN	8.500
COEF_M	User Defined FEXP in Clean Sand	----	1.650
C_WS	Overpressure correction to Sw and M	----	1.000
FEXP	Formation Factor Exponent (RM)	----	2.000
FNUM	Formation Factor Enumerator (RM)	----	1.000
FPHI_RM	Formation Factor Porosity Source (RM)	----	XPLOT
MST_RM	Mud Sample temperature (RM)	DEGC	23.889
MW_RM	Mud Weight (RM)	LB/G	10.600
OBMF_RM	Oil Based Mud (RM)	----	YES
RHOF_RM	Mud Filtrate Density (RM)	G/C3	1.000
RHOM_RM	Matrix density (RM)	G/C3	2.710
RMS_RM	Resistivity of Mud Sample (RM)	OHMM	1000.000
RWA_COMP_M	Rwa computation model		
RWA_DEN_AD	Rwa Density Input ADN		
RWA_DEN_CD	Rwa Density Input CDN		
RWA_DEN_IN	Rwa Density Input		
RWA_FORM_M	Rwa computation formation model		
RWA_RES_IN	Rwa computation resistivity input		
RWS_RM	Resistivity of Connate Water (RM)	OHMM	1.000
SHT_RM	Ground Level Temperature (Mud-Line When Offshore) (RM)	DEGC	10.000
TD_RM	Total Measured Depth (RM)	M	5204.000
TWS_RM	Temperature of Connate Water (RM)	DEGC	23.889
VF_ILLI	Fraction of illite in shales	----	0.500

VF_KAOL	Fraction of kaolinite in shales	----	0.500
VF_MONT	Fraction of montmorillonite in shales	----	0.000
XPDM_RM	Cross plot density porosity multiplier	----	0.675
XPNM_RM	Cross plot neutron porosity multiplier	----	0.325
ARC			
A12A	ARC Air Cal Attenuation From T1 at 2 MHz	DB	8.277
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	DB	8.262
A22A	ARC Air Cal Attenuation From T2 at 2 MHz	DB	6.700
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	DB	6.726
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	DB	4.897
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	DB	4.872
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	DB	4.598
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	DB	4.611
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	DB	3.446
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	DB	3.429
ABNT	Abnormal Transmitter Indicator	----	No_Tx_Failed
ADHS	ARC Down Hole Software Version	----	9.3b13
AM2A	ARC Air Cal Amplitude Offset at 2 MHz	----	-50000.000
ANISO_COMPUTE	Anisotropy Computation Option	----	YES
APICG	ARC5 Gamma Ray Gain Factor	----	1.030
APIG	ARC Gamma Ray API Gain Factor	----	-1.000
ARC_DATA_FIX	ARC: Create A Corrected ARC Time Data File	----	NO
ARC_DATA_LTB	ARC: Create An ARC LTB Data File	----	NO
ATMP_ARC	ARC Select Temperature Channel	----	Annulus_Temp
ATRN	ARC Tool Run Number	----	6
ATSN	ARC Tool Serial Number	----	1191
AZMF	Formation DIP Azimuth	DEG	0.000
BH_COMPUTE	Borehole Inversion Computation Option	----	YES
CALG	ARC Gamma Ray Cal Gain Factor	----	1.030
CALI_SLCT_ARC	ARC Caliper Selection	----	BITSIZE
CDPTH_ARC	Process Start Depth	M	30.480
DIELEC_COMPUTE	Dielectric Computation Option	----	YES
DIPF	Formation DIP Angle	DEG	0.000
ERRCT	Percentage Error Cutoff	----	4.500
GRSH	GR Shale (Invasion Computation Cutoff)	GAPI	1000.000
HIGH_BLEND	High Resistivity Threshold for Blending	OHMM	2.000
INCLIN_B0	ARC Bias Constant (mg)	----	0.000
INCLIN_B1	ARC Bias First-order Coefficient (mg/degC)	----	0.000
INCLIN_B2	ARC Bias Second-order Coefficient (mg/degC)	----	0.000
INCLIN_B3	ARC Bias Third-order Coefficient (mg/degC)	----	0.000
INCLIN_C0	ARC Current Scale Factor Constant (mA/g)	----	1.000
INCLIN_C1	ARC Scale First-order Coefficient (mA/g/degC)	----	0.000
INCLIN_C2	ARC Scale Second-order Coefficient (mA/g/degC)	----	0.000
INCLIN_C3	ARC Scale Third-order Coefficient (mA/g/degC)	----	0.000
INVAS_COMPUTE	Invasion Computation Option	----	YES
JSD_ARC	ARC Acquisition start date	----	23-Oct-08
KPER	Potassium Concentration (RM)	----	0.000
LOW_BLEND	Low Resistivity Threshold for Blending	OHMM	1.000
MSWS	ARC Wizard Model Switch Window	M	1.524
MULTIEFFECT_COM	Multi Effect Option	----	YES
P11AC_RM	ARC: Air Calibration For Phase T1 to R1	DEG	-999.250
P12A	ARC Air Cal Phase-Shift From T1 at 2 MHz	DEG	-0.408
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	DEG	0.855
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	DEG	0.479
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	DEG	-0.950
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	DEG	-0.470
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	DEG	0.884
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	DEG	0.447
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	DEG	-0.940
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	DEG	-0.492
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	DEG	0.879
POFFSET_ARC	ARC: Pressure Offset	PSI	0.000
PRTD	Preferred Resistivity Log for Rt Display while Multi-Effects	----	P34B
PSOF_ADJ_T1	ARC: User Input Phase offset	DEG	0.000
RESTIK	ARC resistivity tick source	----	Phase
RSD	LWD run start date dd-mmm-yy	----	23-Oct-2008
RWA_COMP_MOD	Rwa computation model	----	BASIC
RWA_DEN_ADN	Rwa Density Input	----	RHOB
RWA_DEN_CDN	Rwa Density Input	----	RHOB
RWA_DEN_INPUT	Rwa Density Input	----	RHOB
RWA_FORM_MOD	Rwa computation formation model	----	CLASTIC
RWA_RES_INPUT	Rwa computation resistivity input	----	RT
SHIG	ARC High Shock Risk Level	CPS	0.500
SMED	ARC Medium Shock Risk Level	CPS	0.330
SMIN	ARC Minimum Shock Risk Level	CPS	0.160
SUPD	ARC Real Time Shock Update Rate	S	30.000
TCODE_ARC	ARC Tool File Code	S	30.000
TSIZ_ARC	ARC Tool Size	IN	6.750
UNIFORM_COMPUTE	Uniform Rock Option	----	YES
VERS_ARC	ARC Down hole software version Number	----	9.300
WRK	to Report Potassium Concentration (RM)	----	K_by_Wgt_%

PIP SUMMARY

Neutron Samples

Density Samples

Gamma Ray Samples

Rate of Penetration, Averaged over Last
5ft (ROP5_RM)
200 (M/HR) 0

Ultrasonic Caliper, Vertical Diameter
(UCVE)
6 (IN) 16

Ultrasonic Caliper, Horizontal Diameter
(UCHO)
6 (IN) 16

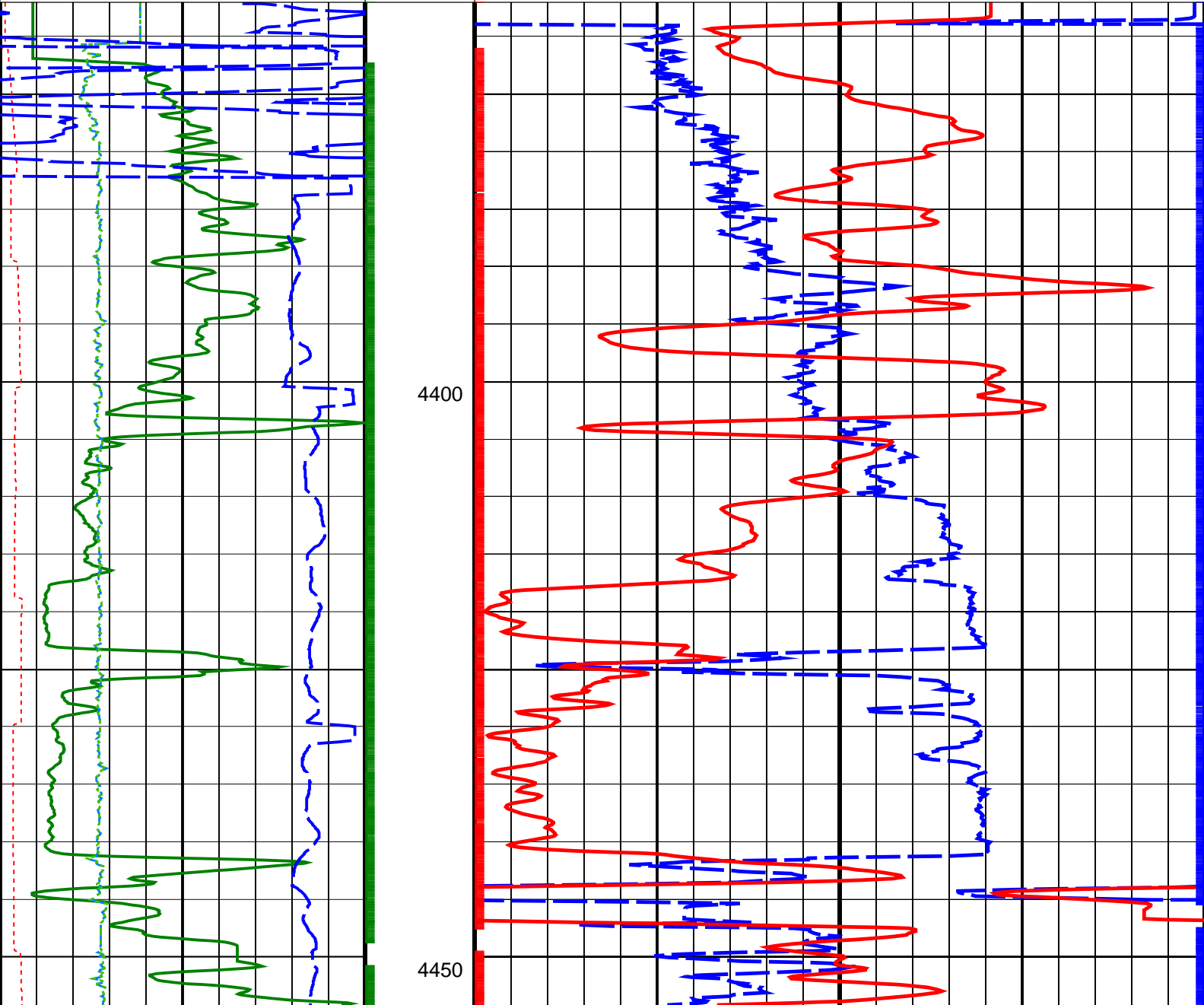
Time after BIT (between drilling and
measurement) (TAB_DEN)
0 (HR) 10

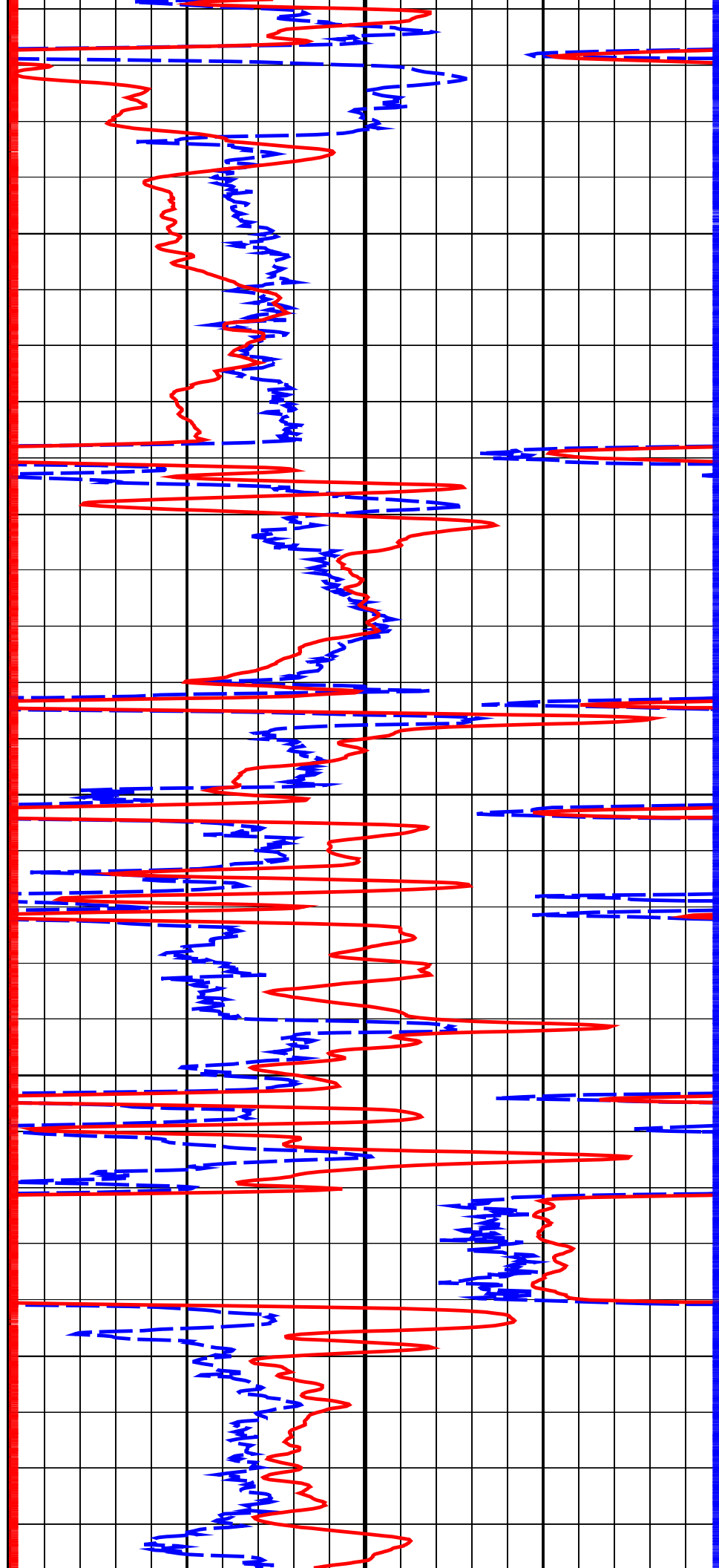
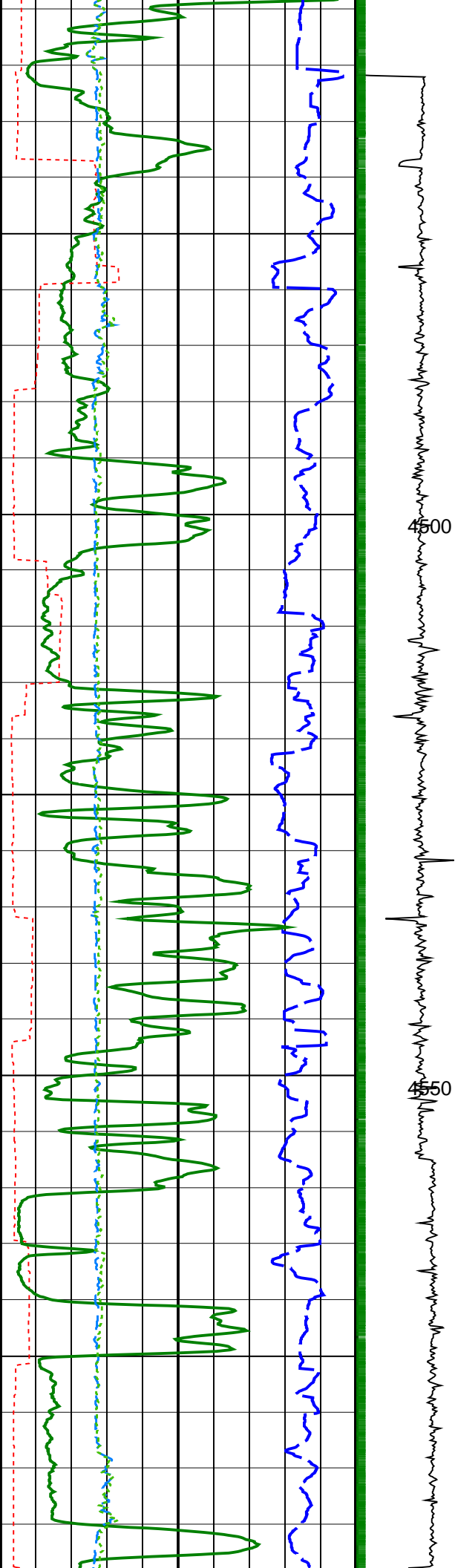
Gamma Ray, Average (GRMA)
0 (GAPI) 200

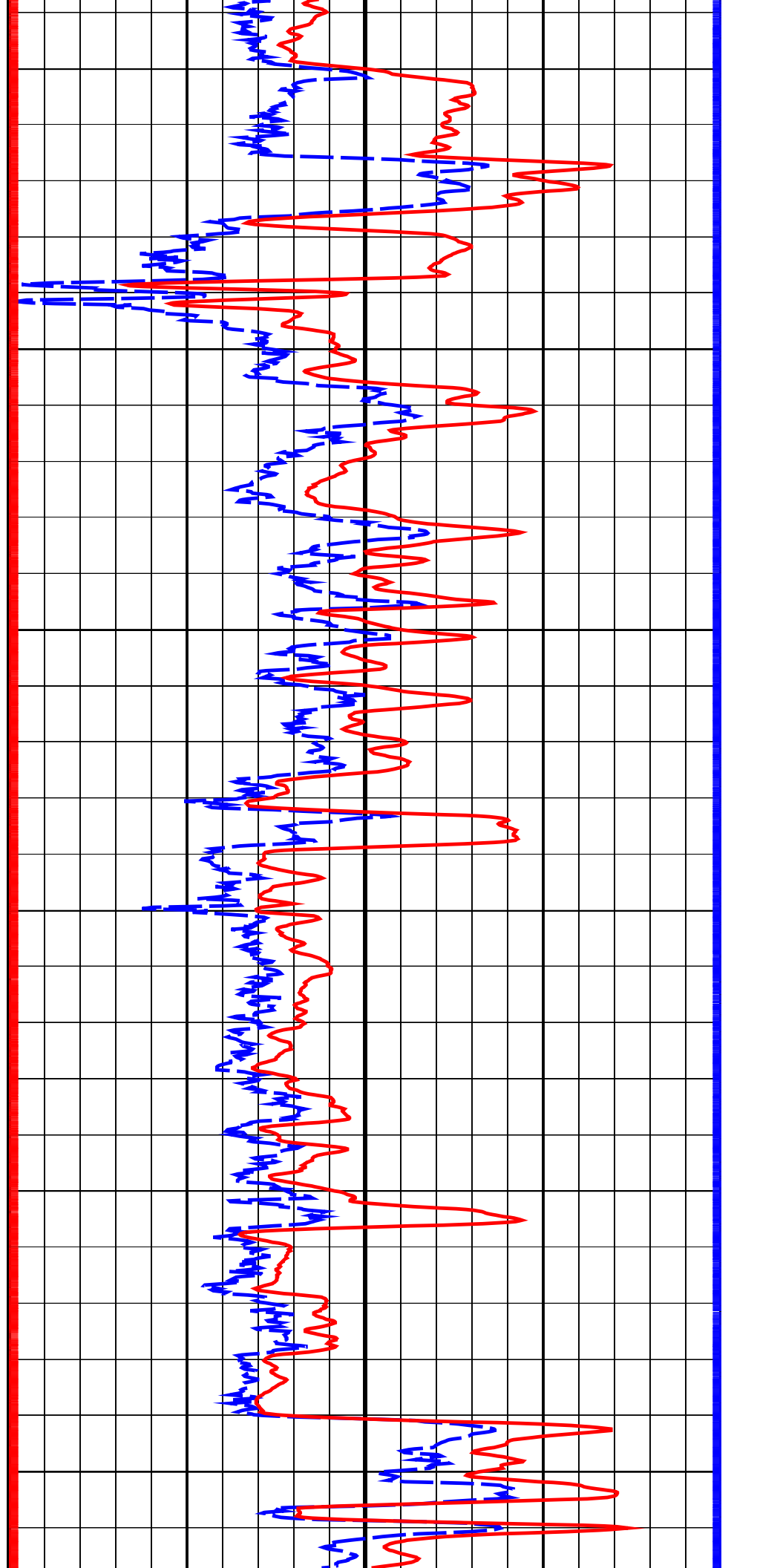
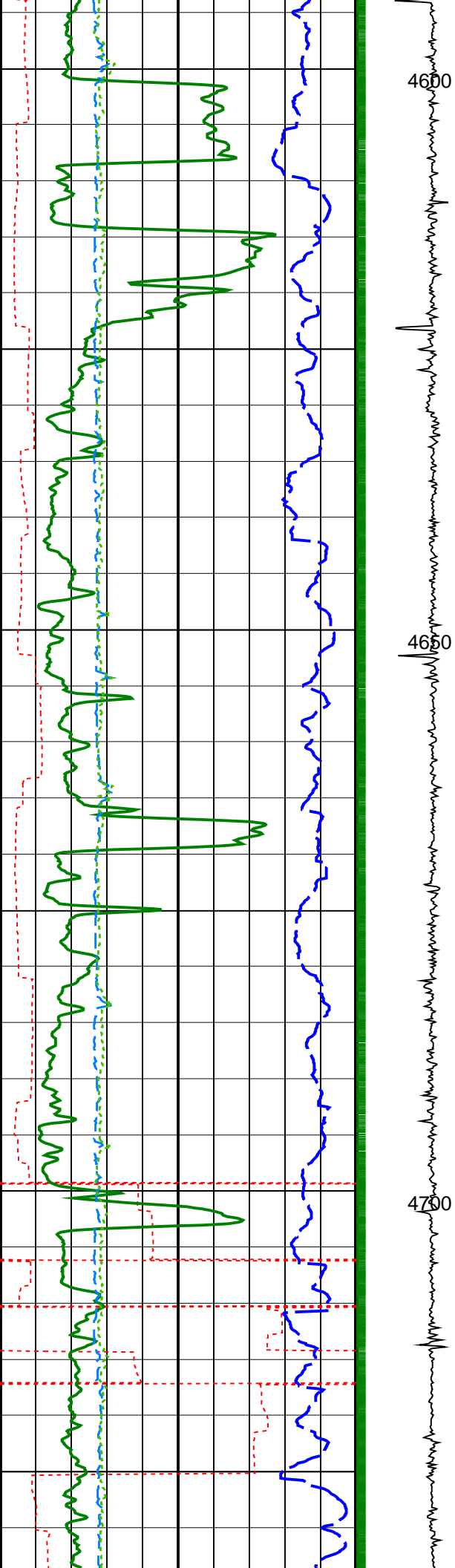
Collar
Rotational
Speed
(CRPM)
(RPM)
0 200

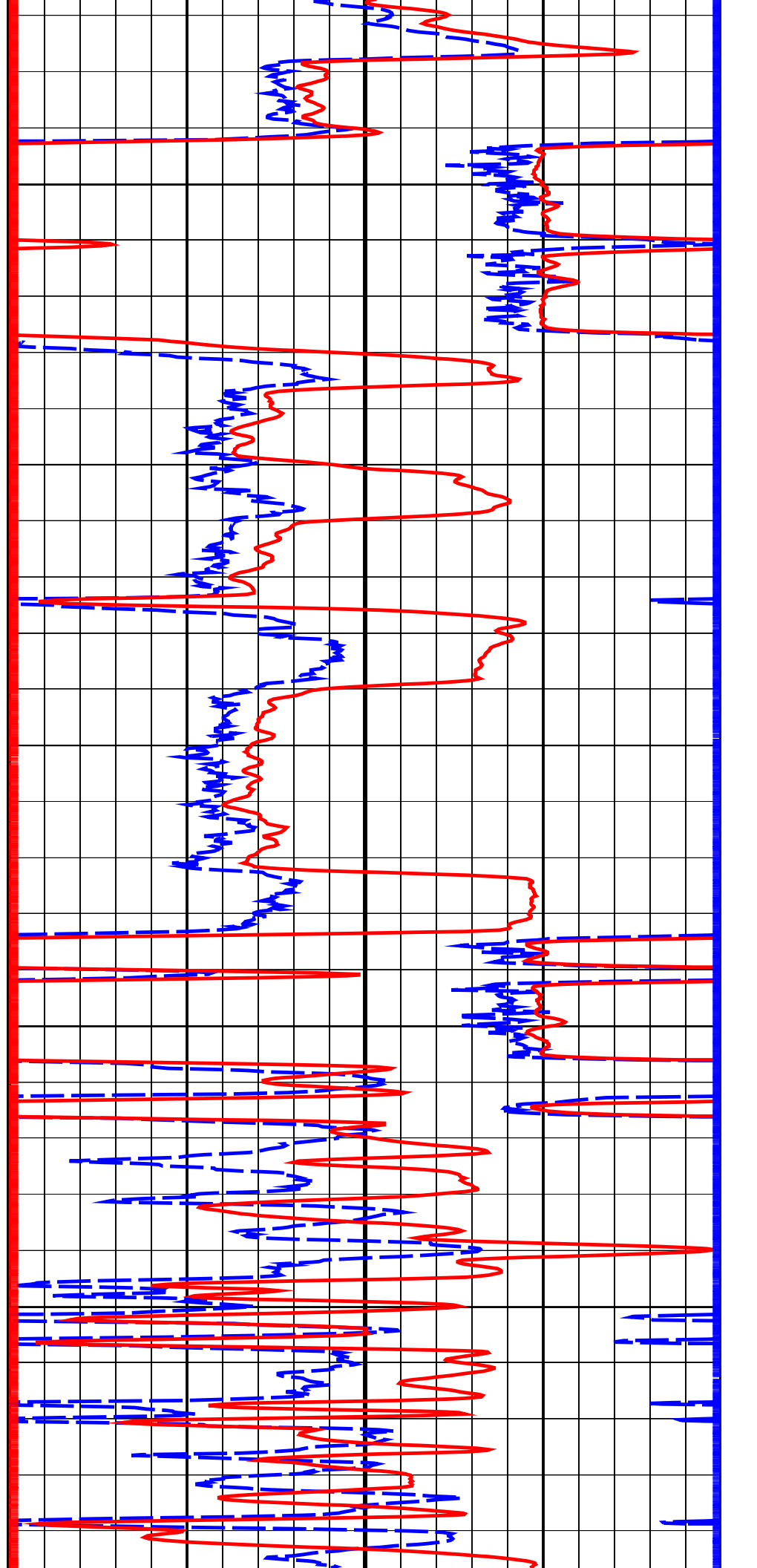
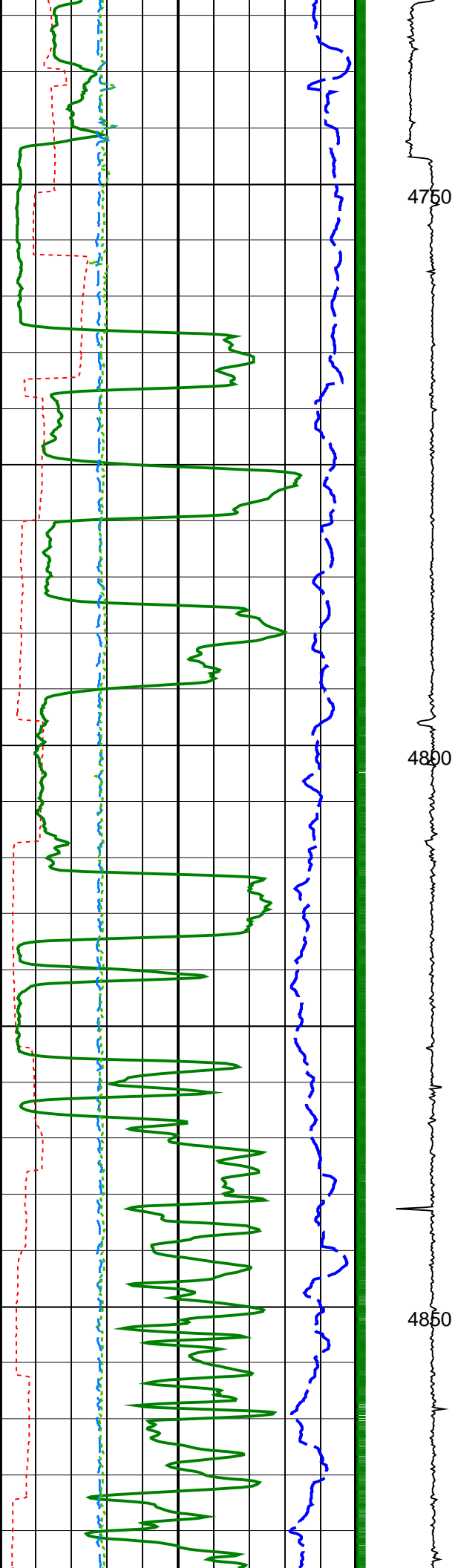
Bulk Density from Neutron, Average (RHON)
1.85 (G/C3) 2.85

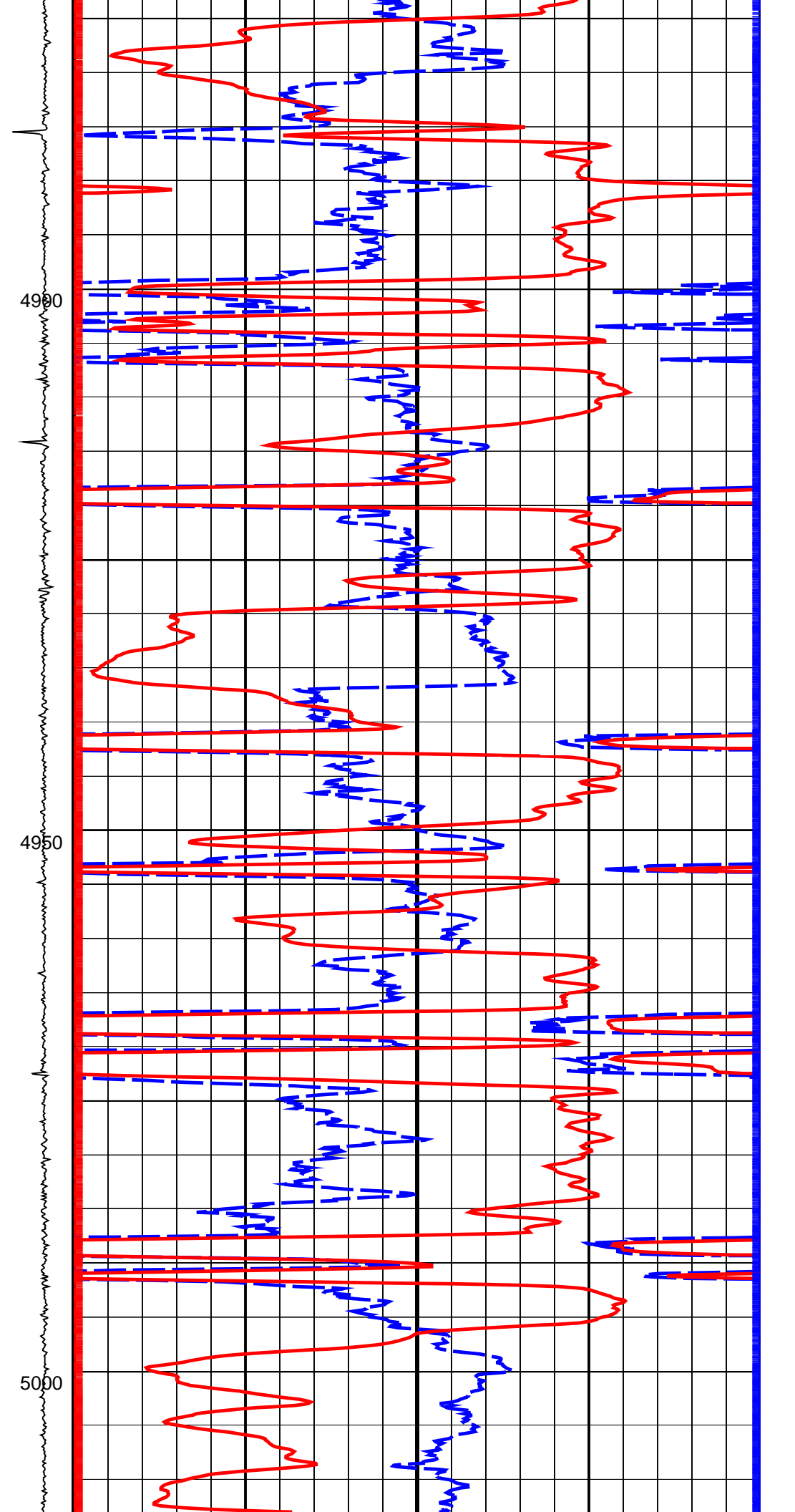
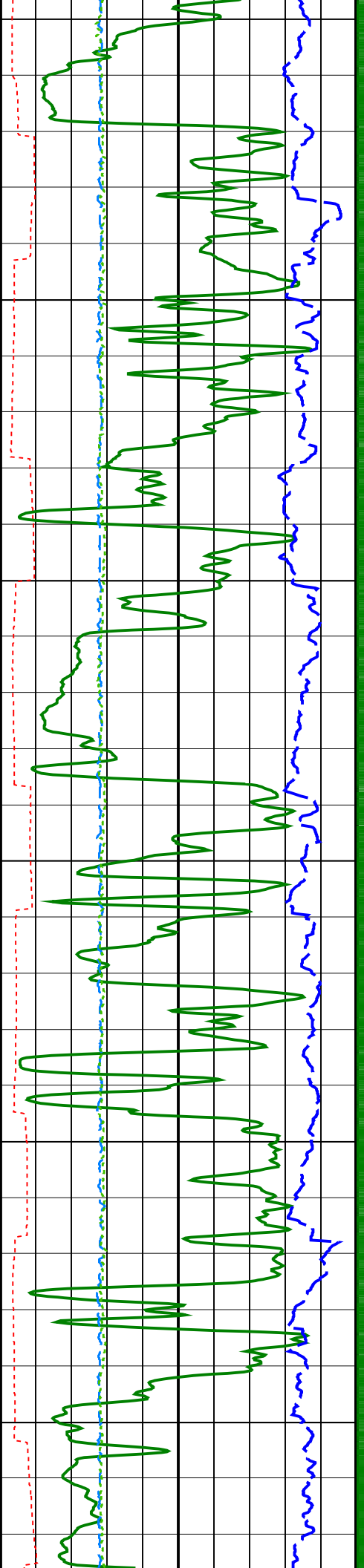
Best Thermal Neutron Porosity, Average (BPHI)
45 (PU) -15

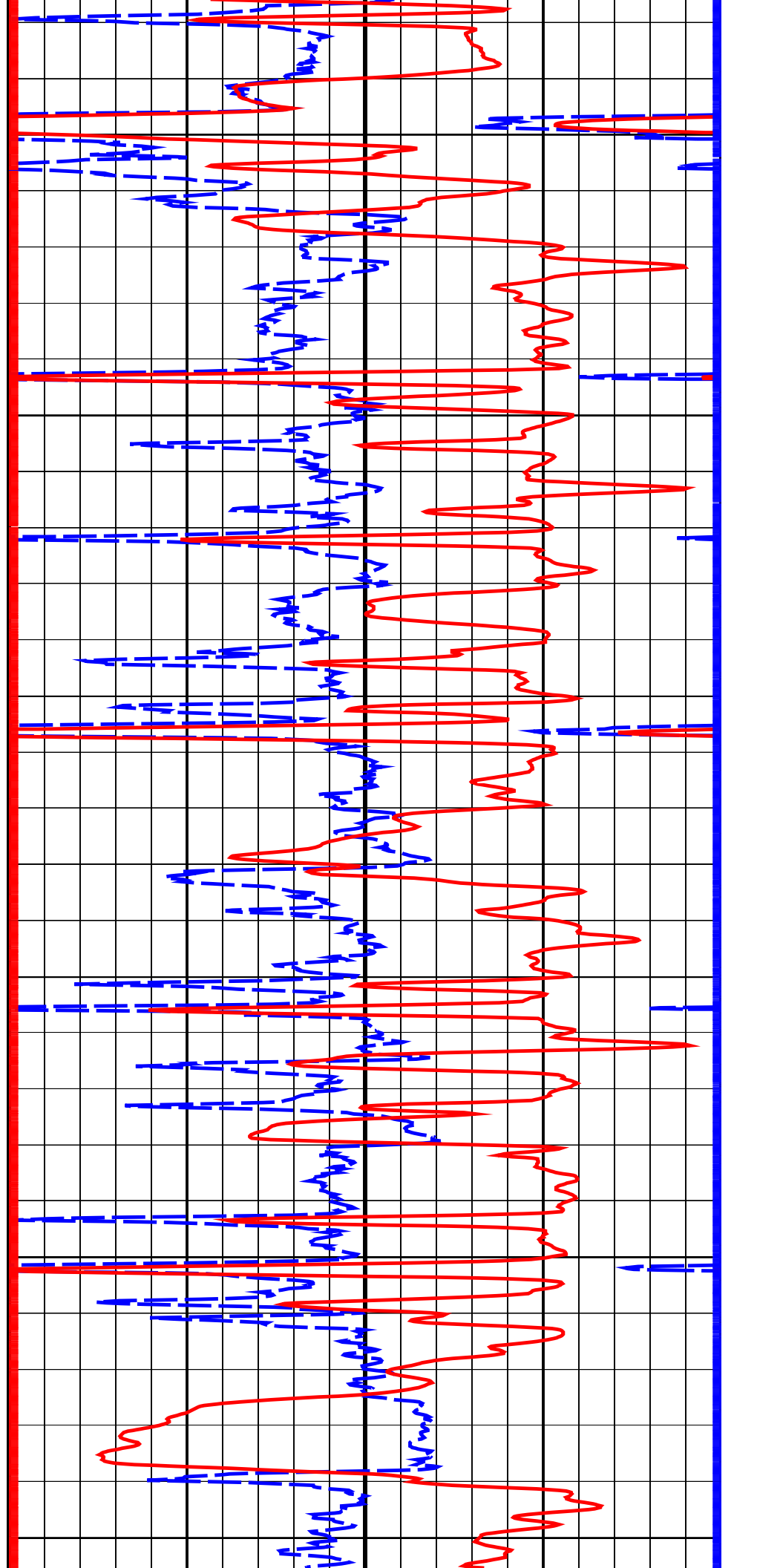
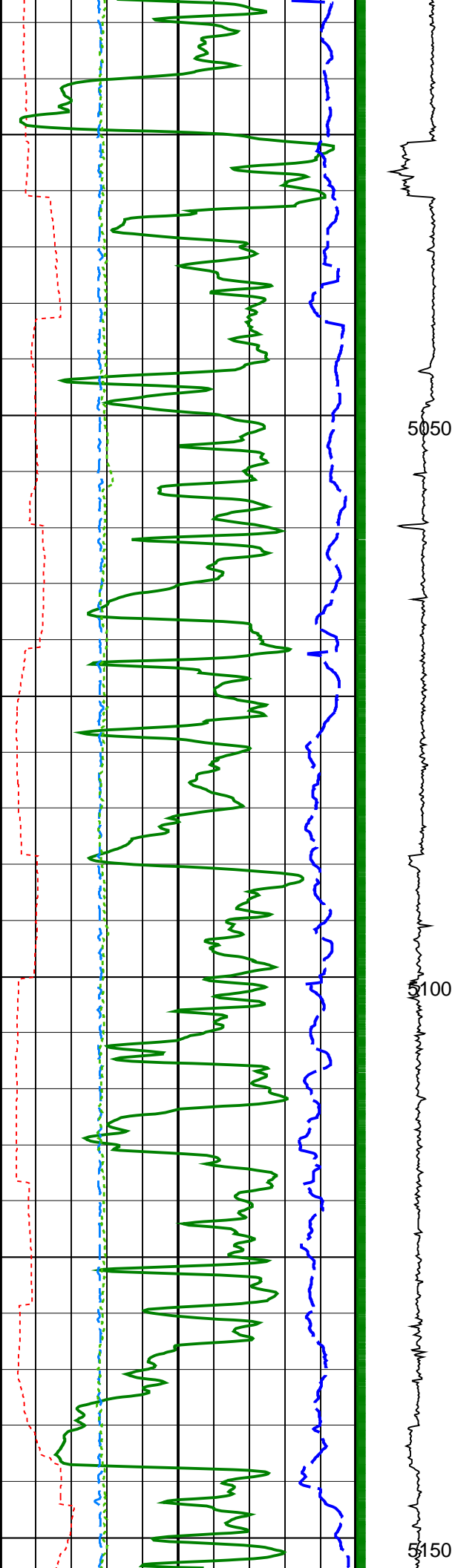


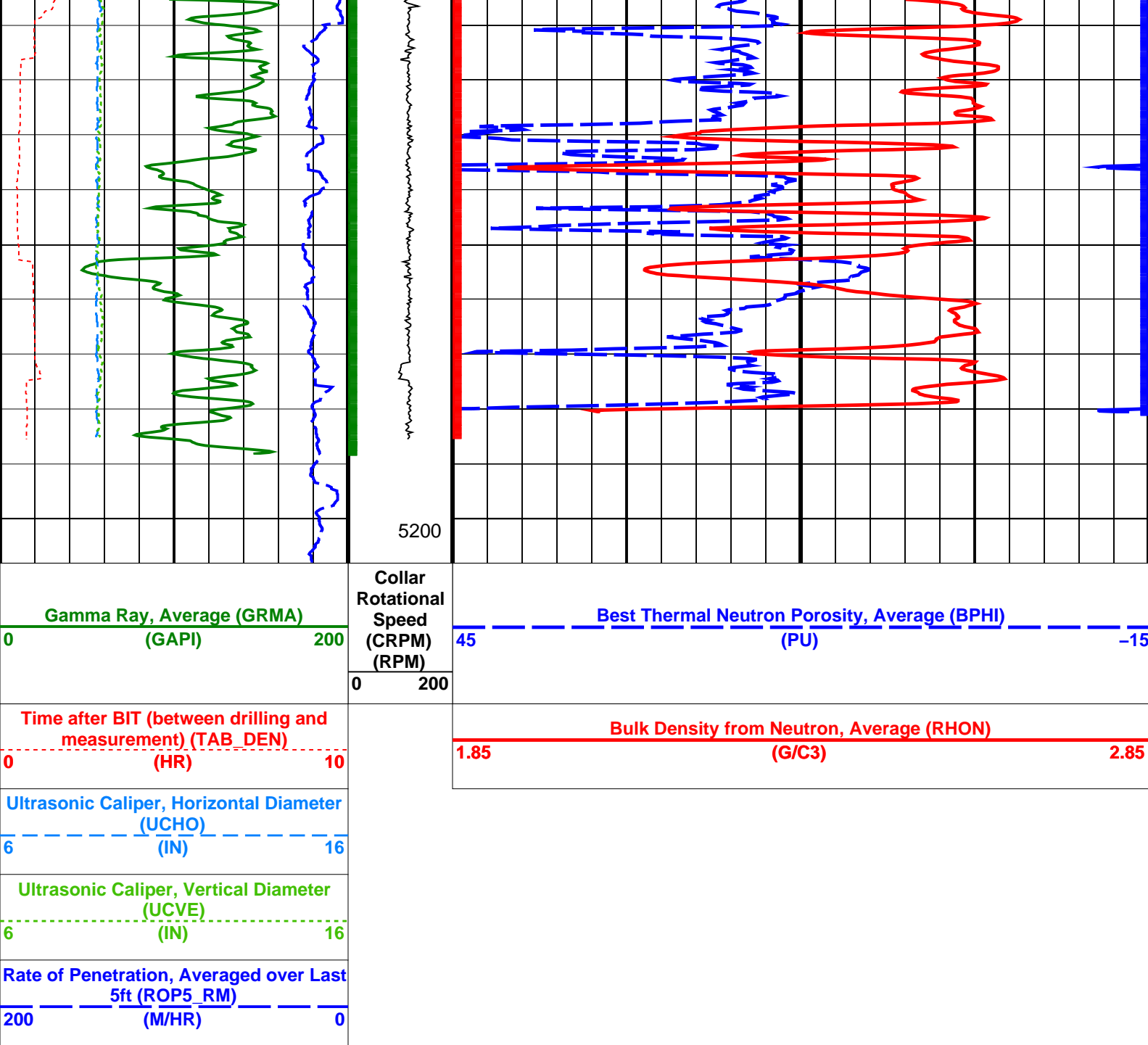












PIP SUMMARY

Neutron Samples +
+ Density Samples
+ Gamma Ray Samples

IDEAL Version: ID14_0C_02
IDF

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

Primary Equipment:	
Tool Name and Serial Number	ECO – 675 954
Calibration Status	-
Neutron Logging Source	PNG – C
Density Logging Source	GSR – J/Z
Stabilizer Size	7.88 – in.











Master: 29-Sep-2008 22:18










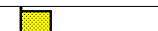
EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration











SSn LSn : Water Tank


Phase	Value	SSn Gain	Value	Phase	Value	SSn Offset	Value
-------	-------	----------	-------	-------	-------	------------	-------

Master: 26-Sep-2008 15:56											
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: 26-Sep-2008 15:56														
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				8.039	Master				6.410	Master				4.637
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				4.805	Master				3.194	Master				8.069
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				6.390	Master				4.664	Master				4.778
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				3.226										
2.000 (Minimum) 4.000 (Nominal) 6.000 (Maximum)														

Master: 27-Sep-2008 12:15														
6.75-in. Array Resistivity Compensated Calibration														
Resistivity: Air														
Phase	Phase-Shift T1			Value	Phase	Phase-Shift T2			Value	Phase	Phase-Shift T3			Value
Master				-0.4084	Master				0.4792	Master				-0.4701
	-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)			-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)			-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)	
Phase	Phase-Shift T4			Value	Phase	Phase-Shift T5			Value	Phase	Phase-Shift T1 at 400KHz			Value
Master				0.4472	Master				-0.4916	Master				0.8553
	-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)			-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)			-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)	
Phase	Phase-Shift T2 at 400KHz			Value	Phase	Phase-Shift T3 at 400KHz			Value	Phase	Phase-Shift T4 at 400KHz			Value
Master				-0.9504	Master				0.8843	Master				-0.9397
	-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)			-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)			-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)	
Phase	Phase-Shift T5 at 400KHz			Value										
Master				0.8794										
	-3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)											

Master: 27-Sep-2008 12:15														
6.75-in. Array Resistivity Compensated Calibration														
Resistivity: Air														
Phase	Attenuation T1			Value	Phase	Attenuation T2			Value	Phase	Attenuation T3			Value
Master				8.277	Master				6.700	Master				4.897
6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)					4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)					2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)				
Phase	Attenuation T4			Value	Phase	Attenuation T5			Value	Phase	Attenuation T1 at 400KHz			Value
Master				4.598	Master				3.446	Master				8.262
2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)					1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)					6.500 (Minimum) 8.500 (Nominal) 10.50 (Maximum)				
Phase	Attenuation T2 at 400KHz			Value	Phase	Attenuation T3 at 400KHz			Value	Phase	Attenuation T4 at 400KHz			Value
Master				6.726	Master				4.872	Master				4.611
4.500 (Minimum) 6.500 (Nominal) 8.500 (Maximum)					2.500 (Minimum) 4.500 (Nominal) 6.500 (Maximum)					2.600 (Minimum) 4.600 (Nominal) 6.600 (Maximum)				
Phase	Attenuation T5 at 400KHz			Value										
Master				3.429										
1.600 (Minimum) 3.600 (Nominal) 5.600 (Maximum)														

Master: 26-Sep-2008 18:10								
6.75-in. Array Resistivity Compensated Calibration								
Gamma Ray: Blanket								
Phase	Gamma ray factor (equals Calibration Gain multiplied by API Gain Factor) CPS							Value
Master								4.942
	2.780 (Minimum)	4.800 (Nominal)	6.000 (Maximum)					

SCHLUMBERGER

Survey report

5-Nov-2008

Client.....: ESSO AUSTRALIA PTY LTD.
Field.....: SNAPPER

Well.....: SNA A11A-st
API number.....: 08ASQ0028
Engineers.....: MA/BL/DOB/DP

RIG:.....: ISDL 175
STATE:.....: VICTORIA

Spud date.....: 09-Sep-08
Last survey date.....: 28-Oct-08
Total accepted surveys...: 320
MD of first survey.....: 0.00 m
MD of last survey.....: 5204.00 m

----- Survey calculation methods-----
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

----- Depth reference -----
Permanent datum.....: Mean Sea Level
Depth reference.....: Driller's Depth
GL above permanent.....: -55.00 m
KB above permanent.....: Top Drive
DF above permanent.....: 41.70 m

----- Vertical section origin-----
Latitude (+N/S-).....: -1.85 m
Departure (+E/W-).....: 2.38 m

Azimuth from Vsect Origin to target: 225.66 degrees

----- Geomagnetic data -----
Magnetic model.....: BGGM version 2008
Magnetic date.....: 21-Oct-2008
Magnetic field strength...: 1198.04 HCNT
Magnetic dec (+E/W-).....: 13.00 degrees
Magnetic dip.....: -68.69 degrees

----- MWD survey Reference Criteria -----
Reference G.....: 1000.02 mGal
Reference H.....: 1198.04 HCNT
Reference Dip.....: -68.69 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----
Magnetic dec (+E/W-).....: 13.00 degrees
Grid convergence (+E/W-)..: -0.63 degrees
Total az corr (+E/W-)....: 13.63 degrees
(Total az corr = magnetic dec - grid conv)
Survey Correction Type ...:
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=SORS1 Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DNS (deg/10m)	Sivity tool type	Tool Corr (deg)
==	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	0.00	0.00	0.00	0.00	0.00	0.00	-1.85	2.38	3.01	127.86	0.00	TIP	None
2	9.08	0.00	0.00	9.08	9.08	0.00	-1.85	2.38	3.01	127.86	0.00	MWD	None
3	64.08	0.64	256.16	55.00	64.08	0.26	-1.92	2.08	2.83	132.74	0.12	MWD	None
4	69.08	0.63	260.84	5.00	69.08	0.31	-1.93	2.03	2.80	133.66	0.11	MWD	None
5	74.08	0.65	250.94	5.00	74.08	0.36	-1.95	1.97	2.77	134.63	0.22	MWD	None
6	79.08	0.64	252.60	5.00	79.08	0.41	-1.97	1.92	2.75	135.67	0.04	MWD	None
7	84.08	0.66	258.82	5.00	84.08	0.46	-1.98	1.87	2.72	136.71	0.15	MWD	None
8	89.08	0.67	251.56	5.00	89.08	0.51	-1.99	1.81	2.69	137.79	0.17	MWD	None
9	94.08	0.60	249.24	5.00	94.08	0.56	-2.01	1.76	2.67	138.89	0.15	MWD	None
10	99.08	0.58	241.17	5.00	99.08	0.61	-2.03	1.71	2.66	139.95	0.17	MWD	None
11	104.08	0.62	228.30	5.00	104.08	0.66	-2.06	1.67	2.65	141.07	0.28	MWD	None
12	109.08	0.70	211.44	5.00	109.08	0.72	-2.11	1.63	2.67	142.27	0.42	MWD	None
13	114.08	0.89	192.04	5.00	114.08	0.78	-2.17	1.61	2.70	143.50	0.65	MWD	None
14	119.08	1.08	185.88	5.00	119.07	0.85	-2.26	1.59	2.76	144.76	0.43	MWD	None
15	124.08	1.46	178.13	5.00	124.07	0.93	-2.37	1.59	2.85	146.09	0.83	MWD	None
16	129.08	1.89	174.10	5.00	129.07	1.02	-2.51	1.60	2.98	147.48	0.89	MWD	None
17	134.08	2.10	170.15	5.00	134.07	1.12	-2.69	1.63	3.14	148.80	0.50	MWD	None
18	139.08	2.49	169.82	5.00	139.06	1.24	-2.88	1.66	3.33	150.04	0.78	MWD	None
19	144.08	2.77	169.43	5.00	144.06	1.36	-3.11	1.70	3.54	151.29	0.56	MWD	None
20	149.08	3.04	169.81	5.00	149.05	1.51	-3.36	1.75	3.79	152.49	0.54	MWD	None
21	154.08	3.26	170.56	5.00	154.05	1.66	-3.63	1.80	4.05	153.68	0.45	MWD	None
22	159.08	3.50	173.03	5.00	159.04	1.84	-3.92	1.84	4.33	154.89	0.56	MWD	None
23	164.08	3.80	175.77	5.00	164.03	2.03	-4.24	1.87	4.63	156.21	0.69	MWD	None
24	169.08	3.96	177.49	5.00	169.01	2.26	-4.58	1.89	4.95	157.58	0.40	MWD	None
25	174.08	4.35	183.02	5.00	174.00	2.51	-4.94	1.89	5.28	159.10	1.12	MWD	None
26	179.08	4.62	185.30	5.00	178.99	2.80	-5.33	1.86	5.64	160.78	0.65	MWD	None
27	184.08	4.97	188.80	5.00	183.97	3.13	-5.74	1.81	6.02	162.55	0.91	MWD	None
28	189.08	5.34	192.30	5.00	188.95	3.50	-6.18	1.72	6.42	164.43	0.97	MWD	None
29	194.08	5.61	194.26	5.00	193.93	3.90	-6.65	1.61	6.84	166.36	0.66	MWD	None
30	199.08	5.84	193.73	5.00	198.90	4.33	-7.13	1.49	7.29	168.18	0.47	MWD	None
31	204.08	6.01	195.66	5.00	203.87	4.77	-7.63	1.36	7.75	169.89	0.52	MWD	None
32	209.08	6.40	199.47	5.00	208.84	5.25	-8.14	1.20	8.23	171.64	1.13	MWD	None
33	214.08	6.67	202.29	5.00	213.81	5.76	-8.68	0.99	8.73	173.46	0.84	MWD	None
34	219.08	6.96	204.15	5.00	218.78	6.31	-9.22	0.76	9.25	175.29	0.73	MWD	None
35	224.08	7.40	207.94	5.00	223.74	6.90	-9.78	0.49	9.79	177.16	1.29	MWD	None
36	229.08	7.84	209.45	5.00	228.69	7.53	-10.36	0.17	10.37	179.08	0.97	MWD	None
37	234.08	8.37	211.17	5.00	233.64	8.21	-10.97	-0.19	10.97	180.99	1.17	MWD	None
38	239.08	8.88	212.23	5.00	238.59	8.94	-11.61	-0.58	11.62	182.88	1.07	MWD	None
39	244.08	9.43	212.07	5.00	243.52	9.71	-12.28	-1.01	12.32	184.68	1.10	MWD	None
40	249.08	10.25	212.50	5.00	248.45	10.55	-13.01	-1.46	13.09	186.42	1.65	MWD	None
41	254.08	10.81	212.64	5.00	253.37	11.44	-13.78	-1.95	13.91	188.08	1.12	MWD	None
42	259.08	11.55	212.86	5.00	258.27	12.38	-14.59	-2.48	14.80	189.64	1.48	MWD	None
43	264.08	12.12	212.88	5.00	263.16	13.38	-15.45	-3.04	15.75	191.12	1.14	MWD	None
44	269.08	12.69	212.49	5.00	268.05	14.43	-16.36	-3.62	16.75	192.47	1.15	MWD	None
45	274.08	13.36	212.57	5.00	272.92	15.52	-17.31	-4.22	17.81	193.71	1.34	MWD	None
46	279.08	14.13	212.66	5.00	277.78	16.68	-18.31	-4.86	18.94	194.87	1.54	MWD	None
47	284.08	14.63	212.45	5.00	282.62	17.89	-19.35	-5.53	20.13	195.95	1.01	MWD	None
48	289.08	15.27	212.31	5.00	287.45	19.15	-20.44	-6.22	21.37	196.93	1.28	MWD	None
49	294.08	16.00	211.97	5.00	292.26	20.46	-21.58	-6.94	22.67	197.82	1.47	MWD	None
50	299.08	16.98	211.90	5.00	297.06	21.84	-22.79	-7.69	24.05	198.64	1.96	MWD	None
51	304.08	17.56	211.94	5.00	301.83	23.28	-24.05	-8.47	25.50	199.41	1.16	MWD	None
52	309.08	18.41	211.96	5.00	306.59	24.78	-25.36	-9.29	27.01	200.12	1.70	MWD	None
53	314.08	19.09	211.99	5.00	311.32	26.34	-26.72	-10.14	28.58	200.78	1.36	MWD	None
54	319.08	19.84	211.85	5.00	316.04	27.96	-28.14	-11.02	30.22	201.39	1.50	MWD	None
55	324.08	20.38	211.77	5.00	320.73	29.63	-29.60	-11.93	31.91	201.95	1.08	MWD	None
56	329.08	21.36	211.76	5.00	325.41	31.36	-31.11	-12.87	33.67	202.47	1.96	MWD	None
57	334.08	22.08	211.69	5.00	330.05	33.15	-32.69	-13.84	35.49	202.95	1.44	MWD	None
58	339.08	22.85	211.55	5.00	334.67	35.00	-34.31	-14.84	37.38	203.39	1.54	MWD	None
59	344.08	23.62	211.57	5.00	339.27	36.92	-35.99	-15.87	39.34	203.80	1.54	MWD	None
60	349.08	24.89	211.82	5.00	343.82	38.91	-37.74	-16.95	41.37	204.19	2.55	MWD	None
61	354.08	25.22	211.39	5.00	348.35	40.97	-39.54	-18.06	43.47	204.55	0.75	MWD	None
62	359.08	26.19	211.56	5.00	352.86	43.07	-41.39	-19.19	45.63	204.88	1.95	MWD	None
63	364.08	26.52	211.53	5.00	357.34	45.22	-43.29	-20.36	47.83	205.19	0.66	MWD	None
64	369.08	26.97	211.34	5.00	361.80	47.40	-45.21	-21.53	50.07	205.47	0.92	MWD	None
65	374.08	27.48	211.43	5.00	366.25	49.62	-47.16	-22.72	52.35	205.72	1.02	MWD	None
66	379.08	28.09	211.41	5.00	370.67	51.88	-49.15	-23.94	54.67	205.97	1.22	MWD	None
67	384.08	28.40	211.27	5.00	375.08	54.17	-51.17	-25.17	57.02	206.19	0.63	MWD	None
68	389.08	28.95	211.53	5.00	379.46	56.50	-53.22	-26.42	59.41	206.40	1.13	MWD	None
69	394.08	29.37	211.43	5.00	383.83	58.86	-55.29	-27.69	61.84	206.60	0.85	MWD	None
70	399.08	29.94	211.44	5.00	388.18	61.26	-57.40	-28.98	64.30	206.79	1.14	MWD	None
71	404.08	30.23	211.47	5.00	392.50	63.69	-59.54	-30.29	66.80	206.96	0.58	MWD	None
72	409.08	30.54	211.55	5.00	396.82	66.14	-61.70	-31.61	69.32	207.13	0.63	MWD	None
73	414.08	30.93	211.56	5.00	401.11	68.62	-63.88	-32.95	71.87	207.28	0.78	MWD	None
74	419.08	31.27	211.61	5.00	405.39	71.12	-66.08	-34.30	74.45	207.43	0.68	MWD	None
75	424.08	31.61	211.56	5.00	409.66	73.65	-68.30	-35.66	77.05	207.57	0.68	MWD	None
76	429.08	31.97	211.57	5.00	413.91	76.21	-70.54	-37.04	79.68	207.71	0.72	MWD	None

	77	434.08	32.35	211.61	5.00	418.14	78.79	-72.81	-38.44	82.33	207.83	0.76	MWD	None
	78	439.08	32.76	211.64	5.00	422.36	81.40	-75.10	-39.85	85.02	207.95	0.82	MWD	None
	79	444.08	33.16	211.66	5.00	426.55	84.04	-77.42	-41.28	87.73	208.07	0.80	MWD	None
	80	449.08	33.49	211.84	5.00	430.73	86.70	-79.75	-42.72	90.47	208.18	0.69	MWD	None
	81	454.08	33.93	211.75	5.00	434.89	89.40	-82.11	-44.18	93.24	208.28	0.89	MWD	None
	82	459.08	34.32	211.71	5.00	439.03	92.12	-84.50	-45.66	96.04	208.39	0.78	MWD	None
	83	464.08	34.71	211.67	5.00	443.15	94.87	-86.91	-47.15	98.87	208.48	0.78	MWD	None
	84	469.08	35.15	211.63	5.00	447.25	97.65	-89.34	-48.65	101.73	208.57	0.88	MWD	None
	85	474.08	35.60	211.64	5.00	451.33	100.45	-91.81	-50.17	104.62	208.65	0.90	MWD	None
	86	479.08	36.06	211.71	5.00	455.38	103.29	-94.30	-51.70	107.54	208.74	0.92	MWD	None
	87	484.08	36.50	211.72	5.00	459.41	106.17	-96.82	-53.26	110.50	208.82	0.88	MWD	None
	88	489.08	36.99	211.72	5.00	463.42	109.07	-99.36	-54.83	113.49	208.89	0.98	MWD	None
	89	494.08	37.46	211.80	5.00	467.40	112.01	-101.93	-56.42	116.51	208.97	0.94	MWD	None
	90	499.08	37.90	211.80	5.00	471.35	114.97	-104.53	-58.03	119.56	209.04	0.88	MWD	None
	91	504.08	38.35	211.81	5.00	475.29	117.97	-107.15	-59.66	122.64	209.11	0.90	MWD	None
	92	509.08	38.99	211.91	5.00	479.19	121.00	-109.81	-61.31	125.76	209.18	1.29	MWD	None
	93	514.08	39.45	211.97	5.00	483.07	124.08	-112.49	-62.98	128.92	209.24	0.92	MWD	None
	94	519.08	39.98	211.97	5.00	486.91	127.18	-115.20	-64.67	132.11	209.31	1.06	MWD	None
	95	524.08	40.39	212.08	5.00	490.73	130.31	-117.93	-66.39	135.34	209.38	0.83	MWD	None
	96	529.08	40.95	212.15	5.00	494.52	133.48	-120.69	-68.12	138.59	209.44	1.12	MWD	None
	97	534.08	41.48	212.20	5.00	498.28	136.69	-123.48	-69.87	141.88	209.50	1.06	MWD	None
	98	539.08	41.93	212.23	5.00	502.02	139.92	-126.30	-71.65	145.20	209.57	0.90	MWD	None
	99	544.08	42.36	212.26	5.00	505.73	143.19	-129.14	-73.44	148.56	209.63	0.86	MWD	None
	100	549.08	42.84	212.31	5.00	509.41	146.48	-132.00	-75.24	151.94	209.68	0.96	MWD	None
	101	554.08	43.36	212.39	5.00	513.06	149.80	-134.88	-77.07	155.35	209.74	1.05	MWD	None
	102	559.08	43.91	212.47	5.00	516.67	153.16	-137.79	-78.92	158.80	209.80	1.11	MWD	None
	103	564.08	44.39	212.54	5.00	520.26	156.55	-140.73	-80.79	162.27	209.86	0.96	MWD	None
	104	569.08	44.88	212.59	5.00	523.82	159.97	-143.69	-82.68	165.78	209.92	0.98	MWD	None
	105	574.08	45.35	212.68	5.00	527.35	163.43	-146.68	-84.59	169.32	209.97	0.95	MWD	None
	106	579.08	45.99	212.81	5.00	530.84	166.91	-149.68	-86.53	172.89	210.03	1.29	MWD	None
	107	584.08	46.34	212.87	5.00	534.31	170.43	-152.71	-88.49	176.50	210.09	0.71	MWD	None
	108	589.08	46.91	212.92	5.00	537.74	173.97	-155.77	-90.46	180.13	210.15	1.14	MWD	None
	109	594.08	47.52	212.90	5.00	541.14	177.55	-158.85	-92.45	183.79	210.20	1.22	MWD	None
	110	599.08	48.11	212.89	5.00	544.49	181.17	-161.96	-94.46	187.49	210.25	1.18	MWD	None
	111	604.08	48.55	212.90	5.00	547.82	184.81	-165.09	-96.49	191.22	210.31	0.88	MWD	None
	112	609.08	48.99	212.94	5.00	551.11	188.48	-168.25	-98.54	194.98	210.36	0.88	MWD	None
	113	614.08	49.61	213.03	5.00	554.37	192.17	-171.43	-100.60	198.77	210.41	1.25	MWD	None
	114	619.08	49.96	213.14	5.00	557.60	195.90	-174.63	-102.68	202.58	210.46	0.72	MWD	None
	115	624.08	50.61	213.13	5.00	560.80	199.65	-177.85	-104.79	206.42	210.51	1.30	MWD	None
	116	629.08	51.13	213.28	5.00	563.95	203.44	-181.09	-106.91	210.30	210.56	1.07	MWD	None
	117	634.08	51.57	213.33	5.00	567.07	207.26	-184.36	-109.06	214.20	210.61	0.88	MWD	None
	118	639.08	52.25	213.45	5.00	570.16	211.10	-187.64	-111.22	218.13	210.66	1.37	MWD	None
	119	644.08	52.76	213.55	5.00	573.20	214.98	-190.95	-113.41	222.09	210.71	1.03	MWD	None
	120	649.08	53.34	213.68	5.00	576.21	218.89	-194.28	-115.62	226.08	210.76	1.18	MWD	None
	121	654.08	53.70	213.68	5.00	579.18	222.82	-197.62	-117.85	230.10	210.81	0.72	MWD	None
	122	659.08	54.45	213.76	5.00	582.11	226.78	-200.99	-120.10	234.14	210.86	1.51	MWD	None
	123	664.08	54.97	213.82	5.00	585.00	230.78	-204.38	-122.37	238.22	210.91	1.04	MWD	None
	124	669.08	55.76	213.80	5.00	587.84	234.80	-207.80	-124.66	242.33	210.96	1.58	MWD	None
	125	674.08	56.38	213.73	5.00	590.64	238.86	-211.25	-126.96	246.47	211.01	1.25	MWD	None
	126	679.08	56.97	213.77	5.00	593.38	242.95	-214.73	-129.29	250.64	211.05	1.18	MWD	None
	127	684.08	57.55	213.86	5.00	596.09	247.07	-218.22	-131.63	254.84	211.10	1.17	MWD	None
	128	689.08	58.12	213.83	5.00	598.75	251.21	-221.73	-133.98	259.07	211.14	1.14	MWD	None
	129	694.08	58.80	213.81	5.00	601.36	255.38	-225.27	-136.36	263.33	211.19	1.36	MWD	None
	130	699.08	59.51	213.82	5.00	603.93	259.58	-228.84	-138.74	267.62	211.23	1.42	MWD	None
	131	704.08	60.06	213.82	5.00	606.44	263.81	-232.43	-141.15	271.93	211.27	1.10	MWD	None
	132	709.08	60.74	213.81	5.00	608.91	268.06	-236.04	-143.57	276.28	211.31	1.36	MWD	None
	133	714.08	61.41	213.80	5.00	611.33	272.35	-239.68	-146.00	280.65	211.35	1.34	MWD	None
	134	719.08	62.00	213.77	5.00	613.70	276.66	-243.34	-148.45	285.05	211.39	1.18	MWD	None
	135	724.08	62.60	213.80	5.00	616.03	280.99	-247.02	-150.91	289.47	211.42	1.20	MWD	None
	136	729.08	63.20	213.78	5.00	618.30	285.34	-250.72	-153.39	293.92	211.46	1.20	MWD	None
	137	734.08	63.89	213.68	5.00	620.53	289.72	-254.44	-155.87	298.39	211.49	1.39	MWD	None
	138	739.08	64.17	213.74	5.00	622.72	294.12	-258.18	-158.37	302.88	211.53	0.57	MWD	None
	139	744.08	64.56	213.70	5.00	624.88	298.53	-261.93	-160.87	307.39	211.56	0.78	MWD	None
	140	749.08	64.79	213.71	5.00	627.02	302.95	-265.69	-163.38	311.90	211.59	0.46	MWD	None
	141	754.08	64.83	213.72	5.00	629.15	307.38	-269.45	-165.89	316.42	211.62	0.08	MWD	None
	142	759.08	64.85	213.69	5.00	631.28	311.81	-273.22	-168.40	320.95	211.65	0.07	MWD	None
	143	764.08	64.76	213.66	5.00	633.41	316.23	-276.98	-170.91	325.47	211.68	0.19	MWD	None
	144	769.08	64.66	213.65	5.00	635.54	320.65	-280.75	-173.42	329.99	211.70	0.20	MWD	None
	145	774.08	64.49	213.66	5.00	637.69	325.07	-284.50	-175.92	334.50	211.73	0.34	MWD	None
	146	779.08	64.35	213.70	5.00	639.85	329.48	-288.26	-178.42	339.01	211.76	0.29	MWD	None
	147	784.08	64.25	213.74	5.00	642.01	333.89	-292.00	-180.92	343.51	211.78	0.21	MWD	None
	148	789.08	64.16	213.77	5.00	644.19	338.30	-295.75	-183.42	348.01	211.81	0.19	MWD	None
	149	794.08	64.18	213.81	5.00	646.37	342.70	-299.49	-185.93	352.51	211.83	0.08	MWD	None
	150	799.08	64.02	213.83	5.00	648.55	347.10	-303.22	-188.43	357.00	211.86	0.32	MWD	None
	151	804.08	63.78	213.83	5.00	650.75	351.50	-306.95	-190.93	361.49	211.88	0.48	MWD	None
	152	809.08	63.63	213.83	5.00	652.97	355.88	-310.68	-193.42	365.97	211.91	0.30	MWD	None
	153	814.08	63.55	213.85	5.00	655.19	360.27	-314.40	-195.92	370.44	211.93	0.16	MWD	None
	154	819.08	63.63	213.90	5.00	657.42	364.65	-318.12	-198.41	374.92	211.95	0.18	MWD	None
	155	824.08	63.72	213.95	5.00	659.63	369.04	-321.83	-200.91	379.40	211.98	0.20	MWD	None
	156	829.08	63.97	213.97										

157	834.08	64.27	213.98	5.00	664.02	377.84	-329.29	-205.94	388.38	212.02	0.60	MWD	None
158	839.08	64.53	213.97	5.00	666.18	382.25	-333.03	-208.46	392.89	212.04	0.52	MWD	None
159	844.08	65.01	214.01	5.00	668.31	386.68	-336.78	-210.98	397.41	212.07	0.96	MWD	None
160	849.08	65.47	214.01	5.00	670.41	391.13	-340.54	-213.52	401.95	212.09	0.92	MWD	None
161	854.08	65.90	214.04	5.00	672.46	395.59	-344.32	-216.07	406.50	212.11	0.86	MWD	None
162	859.08	66.47	214.04	5.00	674.48	400.07	-348.11	-218.63	411.07	212.13	1.14	MWD	None
163	864.08	66.94	214.05	5.00	676.46	404.57	-351.91	-221.21	415.66	212.15	0.94	MWD	None
164	869.08	67.48	214.10	5.00	678.40	409.09	-355.73	-223.79	420.27	212.17	1.08	MWD	None
165	874.08	67.94	214.10	5.00	680.29	413.62	-359.56	-226.38	424.89	212.19	0.92	MWD	None
166	879.08	68.48	214.12	5.00	682.15	418.17	-363.41	-228.99	429.53	212.22	1.08	MWD	None
167	884.08	68.97	214.15	5.00	683.96	422.74	-367.26	-231.60	434.19	212.24	0.98	MWD	None
168	889.08	69.43	214.15	5.00	685.74	427.32	-371.13	-234.22	438.86	212.26	0.92	MWD	None
169	894.08	69.84	214.17	5.00	687.48	431.91	-375.01	-236.86	443.54	212.28	0.82	MWD	None
170	899.08	70.11	214.19	5.00	689.19	436.51	-378.90	-239.49	448.24	212.30	0.54	MWD	None
171	904.08	70.37	214.22	5.00	690.88	441.12	-382.79	-242.14	452.94	212.32	0.52	MWD	None
172	909.08	70.40	214.29	5.00	692.56	445.74	-386.68	-244.79	457.65	212.34	0.14	MWD	None
173	914.08	70.50	214.38	5.00	694.23	450.36	-390.57	-247.45	462.36	212.36	0.26	MWD	None
174	929.77	69.92	213.75	15.69	699.55	464.82	-402.80	-255.72	477.12	212.41	0.53	MWD	None
175	958.90	70.38	217.36	29.13	709.44	491.79	-425.09	-271.65	504.47	212.58	1.18	MWD	None
176	1031.43	71.86	227.29	72.53	732.96	560.20	-475.73	-317.81	572.12	213.74	1.31	MWD	None
177	1061.56	72.45	230.93	30.13	742.20	588.82	-494.50	-339.48	599.81	214.47	1.17	MWD	None
178	1090.97	72.64	236.97	29.41	751.03	616.57	-511.00	-362.15	626.32	215.33	1.96	MWD	None
179	1119.77	72.71	242.74	28.80	759.61	643.21	-524.80	-385.92	651.42	216.33	1.91	MWD	None
180	1149.27	72.81	246.25	29.50	768.36	669.87	-536.93	-411.34	676.38	217.46	1.14	MWD	None
181	1178.56	73.01	249.35	29.29	776.96	695.80	-547.50	-437.26	700.68	218.61	1.01	MWD	None
182	1207.68	73.11	252.09	29.12	785.45	721.03	-556.70	-463.55	724.43	219.78	0.90	MWD	None
183	1236.43	73.19	255.64	28.75	793.79	745.27	-564.35	-489.98	747.37	220.97	1.18	MWD	None
184	1265.97	73.19	259.34	29.54	802.33	769.29	-570.47	-517.58	770.28	222.22	1.20	MWD	None
185	1295.26	75.10	260.12	29.29	810.33	792.63	-575.49	-545.30	792.81	223.46	0.70	MWD	None
186	1324.52	77.31	260.06	29.26	817.31	816.07	-580.38	-573.29	815.79	224.65	0.76	MWD	None
187	1353.14	80.46	259.60	28.62	822.83	839.30	-585.34	-600.93	838.89	225.75	1.11	MWD	None
188	1382.46	83.82	258.62	29.32	826.84	863.53	-590.83	-629.45	863.30	226.81	1.19	MWD	None
189	1411.86	84.45	254.99	29.40	829.84	888.56	-597.50	-657.92	888.74	227.76	1.25	MWD	None
190	1438.99	84.34	253.00	27.13	832.49	912.32	-604.95	-683.87	913.04	228.50	0.73	MWD	None
191	1469.73	84.22	251.43	30.74	835.56	939.68	-614.29	-712.99	941.12	229.25	0.51	MWD	None
192	1495.08	83.10	249.56	25.35	838.36	962.55	-622.70	-736.74	964.65	229.80	0.86	MWD	None
193	1524.61	83.35	248.29	29.53	841.84	989.48	-633.25	-764.10	992.40	230.35	0.44	MWD	None
194	1557.55	81.71	246.72	32.94	846.12	1019.80	-645.74	-794.28	1023.65	230.89	0.69	MWD	None
195	1586.20	81.97	245.06	28.65	850.19	1046.41	-657.32	-820.16	1051.07	231.29	0.58	MWD	None
196	1615.69	82.06	242.94	29.49	854.29	1074.13	-670.13	-846.41	1079.57	231.63	0.71	MWD	None
197	1645.11	82.29	241.37	29.42	858.29	1102.07	-683.74	-872.18	1108.24	231.91	0.53	MWD	None
198	1674.05	82.03	240.31	28.94	862.24	1129.74	-697.71	-897.21	1136.57	232.13	0.37	MWD	None
199	1703.12	82.32	238.35	29.07	866.20	1157.72	-712.40	-921.98	1165.15	232.31	0.68	MWD	None
200	1732.30	82.20	236.84	29.18	870.13	1186.01	-727.89	-946.39	1193.94	232.44	0.51	MWD	None
201	1761.47	82.34	235.21	29.17	874.05	1214.44	-744.05	-970.36	1222.79	232.52	0.56	MWD	None
202	1790.91	82.17	232.75	29.44	878.02	1243.30	-761.20	-993.96	1251.95	232.55	0.83	MWD	None
203	1819.75	82.34	230.57	28.84	881.91	1271.72	-778.92	-1016.37	1280.52	232.53	0.75	MWD	None
204	1849.17	82.20	228.35	29.42	885.86	1300.81	-797.87	-1038.52	1309.63	232.47	0.75	MWD	None
205	1878.57	82.21	225.34	29.40	889.85	1329.93	-817.79	-1059.77	1338.62	232.34	1.01	MWD	None
206	1907.72	83.13	222.85	29.15	893.57	1358.83	-838.56	-1079.89	1367.23	232.17	0.90	MWD	None
207	1936.37	83.16	219.37	28.65	896.99	1387.18	-859.98	-1098.59	1395.16	231.95	1.21	MWD	None
208	1965.65	83.33	216.22	29.28	900.44	1415.98	-882.96	-1116.40	1423.36	231.66	1.07	MWD	None
209	1994.86	83.27	219.15	29.21	903.85	1444.70	-905.91	-1134.13	1451.53	231.38	1.00	MWD	None
210	2024.29	83.27	221.55	29.43	907.30	1473.80	-928.19	-1153.06	1480.23	231.17	0.81	MWD	None
211	2053.19	83.24	220.75	28.90	910.69	1502.41	-949.80	-1171.94	1508.50	230.98	0.28	MWD	None
212	2082.34	82.86	221.32	29.15	914.22	1531.26	-971.62	-1190.94	1537.01	230.79	0.23	MWD	None
213	2111.43	82.87	221.69	29.09	917.83	1560.04	-993.24	-1210.07	1565.50	230.62	0.13	MWD	None
214	2140.76	82.95	221.72	29.33	921.45	1589.08	-1014.97	-1229.43	1594.26	230.46	0.03	MWD	None
215	2169.42	83.04	221.71	28.66	924.95	1617.46	-1036.20	-1248.36	1622.38	230.31	0.03	MWD	None
216	2198.60	82.92	221.88	29.18	928.51	1646.36	-1057.80	-1267.66	1651.03	230.16	0.07	MWD	None
217	2227.83	82.95	222.43	29.23	932.11	1675.31	-1079.30	-1287.13	1679.76	230.02	0.19	MWD	None
218	2257.56	83.07	223.04	29.73	935.73	1704.78	-1100.97	-1307.15	1709.03	229.89	0.21	MWD	None
219	2286.54	82.81	223.64	28.98	939.29	1733.52	-1121.89	-1326.89	1737.61	229.79	0.22	MWD	None
220	2315.08	82.92	223.72	28.54	942.83	1761.82	-1142.37	-1346.45	1765.77	229.69	0.05	MWD	None
221	2344.40	82.93	223.65	29.32	946.44	1790.90	-1163.41	-1366.55	1794.71	229.59	0.02	MWD	None
222	2373.54	82.81	224.10	29.14	950.06	1819.80	-1184.26	-1386.59	1823.48	229.50	0.16	MWD	None
223	2402.26	82.90	224.09	28.72	953.63	1848.28	-1204.72	-1406.42	1851.85	229.42	0.03	MWD	None
224	2431.99	82.78	224.18	29.73	957.34	1877.77	-1225.89	-1426.96	1881.23	229.33	0.05	MWD	None
225	2461.30	83.07	224.67	29.31	960.95	1906.85	-1246.67	-1447.32	1910.21	229.26	0.19	MWD	None
226	2490.43	82.98	224.61	29.13	964.49	1935.76	-1267.24	-1467.64	1939.03	229.19	0.04	MWD	None
227	2519.16	82.90	225.31	28.73	968.02	1964.27	-1287.41	-1487.78	1967.47	229.13	0.24	MWD	None
228	2548.71</												

236	2781.57	83.01	221.24	28.74	1000.40	2224.12	-1477.49	-1685.38	2228.50	228.42	0.15	MWD	None
237	2810.86	83.04	221.21	29.49	1003.98	2253.31	-1499.51	-1684.65	2255.34	228.33	0.01	MWD	None
238	2840.20	83.07	221.43	29.34	1007.53	2282.35	-1521.38	-1703.88	2284.25	228.24	0.08	MWD	None
239	2868.83	83.12	221.37	28.63	1010.97	2310.69	-1542.70	-1722.67	2312.47	228.15	0.03	MWD	None
240	2898.20	82.98	221.17	29.37	1014.52	2339.76	-1564.62	-1741.90	2341.42	228.07	0.08	MWD	None
241	2926.78	82.87	221.21	28.58	1018.04	2368.04	-1585.96	-1760.58	2369.58	227.99	0.04	MWD	None
242	2956.18	83.01	221.48	29.40	1021.66	2397.13	-1607.86	-1779.86	2398.56	227.91	0.10	MWD	None
243	2984.65	82.72	221.70	28.47	1025.19	2425.31	-1628.99	-1798.61	2426.64	227.83	0.13	MWD	None
244	3014.30	83.21	223.15	29.65	1028.82	2454.69	-1650.71	-1818.46	2455.94	227.77	0.51	MWD	None
245	3043.56	82.55	223.31	29.26	1032.45	2483.70	-1671.87	-1838.34	2484.88	227.72	0.23	MWD	None
246	3073.02	83.12	223.13	29.46	1036.12	2512.90	-1693.17	-1858.36	2514.03	227.66	0.20	MWD	None
247	3112.02	82.84	222.53	39.00	1040.89	2551.56	-1721.55	-1884.68	2552.60	227.59	0.17	MWD	None
248	3131.41	82.98	222.60	19.39	1043.28	2570.77	-1735.73	-1897.69	2571.77	227.55	0.08	MWD	None
249	3160.44	83.13	223.05	29.03	1046.79	2599.55	-1756.86	-1917.28	2600.49	227.50	0.16	MWD	None
250	3198.90	82.95	223.10	38.46	1051.45	2637.69	-1784.75	-1943.35	2638.55	227.44	0.05	MWD	None
251	3228.02	82.72	222.88	29.12	1055.09	2666.55	-1805.88	-1963.05	2667.36	227.39	0.11	MWD	None
252	3248.06	83.01	223.06	20.04	1057.58	2686.42	-1820.43	-1976.61	2687.18	227.36	0.17	MWD	None
253	3277.44	82.87	223.02	29.38	1061.19	2715.54	-1841.74	-1996.51	2716.26	227.31	0.05	MWD	None
254	3306.48	82.84	222.85	29.04	1064.80	2744.32	-1862.84	-2016.14	2744.99	227.26	0.06	MWD	None
255	3335.61	82.98	222.85	29.13	1068.39	2773.20	-1884.03	-2035.79	2773.81	227.22	0.05	MWD	None
256	3365.04	82.93	222.99	29.43	1072.00	2802.37	-1905.42	-2055.68	2802.94	227.17	0.05	MWD	None
257	3393.88	83.02	223.15	28.84	1075.53	2830.97	-1926.33	-2075.23	2831.49	227.13	0.06	MWD	None
258	3423.18	82.93	223.14	29.30	1079.11	2860.02	-1947.55	-2095.12	2860.50	227.09	0.03	MWD	None
259	3452.58	82.87	223.46	29.40	1082.75	2889.17	-1968.78	-2115.13	2889.61	227.05	0.11	MWD	None
260	3481.86	83.04	222.77	29.28	1086.34	2918.20	-1989.99	-2134.99	2918.60	227.01	0.24	MWD	None
261	3510.74	83.04	222.63	28.88	1089.84	2946.83	-2011.06	-2154.43	2947.19	226.97	0.05	MWD	None
262	3539.69	83.04	222.63	28.95	1093.35	2975.52	-2032.20	-2173.89	2975.84	226.93	0.00	MWD	None
263	3568.44	83.04	222.48	28.75	1096.83	3004.02	-2053.23	-2193.19	3004.30	226.89	0.05	MWD	None
264	3598.02	82.98	222.36	29.58	1100.43	3033.33	-2074.90	-2212.99	3033.57	226.84	0.05	MWD	None
265	3627.49	82.92	222.68	29.47	1104.05	3062.54	-2096.46	-2232.76	3062.74	226.80	0.11	MWD	None
266	3656.73	83.01	222.80	29.24	1107.63	3091.52	-2117.77	-2252.46	3091.68	226.77	0.05	MWD	None
267	3685.30	82.90	222.67	28.57	1111.13	3119.83	-2138.60	-2271.70	3119.97	226.73	0.06	MWD	None
268	3714.76	82.81	222.80	29.46	1114.80	3149.03	-2160.07	-2291.53	3149.13	226.69	0.05	MWD	None
269	3743.85	82.92	222.70	29.09	1118.41	3177.86	-2181.26	-2311.13	3177.93	226.66	0.05	MWD	None
270	3772.89	82.90	222.71	29.04	1121.99	3206.63	-2202.44	-2330.67	3206.68	226.62	0.01	MWD	None
271	3802.03	82.78	222.85	29.14	1125.63	3235.51	-2223.66	-2350.31	3235.52	226.59	0.06	MWD	None
272	3831.57	82.95	222.73	29.54	1129.30	3264.79	-2245.17	-2370.22	3264.77	226.55	0.07	MWD	None
273	3860.84	82.93	222.76	29.27	1132.89	3293.80	-2266.50	-2389.94	3293.76	226.52	0.01	MWD	None
274	3890.43	83.01	222.65	29.59	1136.52	3323.12	-2288.08	-2409.86	3323.06	226.48	0.05	MWD	None
275	3918.61	83.10	222.98	28.18	1139.92	3351.06	-2308.60	-2428.87	3350.98	226.45	0.12	MWD	None
276	3948.60	82.95	222.88	29.99	1143.56	3380.80	-2330.40	-2449.14	3380.69	226.42	0.06	MWD	None
277	3977.32	83.01	222.99	28.72	1147.07	3409.27	-2351.27	-2468.56	3409.14	226.39	0.04	MWD	None
278	4006.70	82.69	222.84	29.38	1150.73	3438.39	-2372.62	-2488.41	3438.24	226.36	0.12	MWD	None
279	4036.26	81.37	222.53	29.56	1154.83	3467.62	-2394.14	-2508.25	3467.45	226.33	0.46	MWD	None
280	4066.07	77.51	221.67	29.81	1160.29	3496.87	-2415.87	-2527.90	3496.67	226.30	1.33	MWD	None
281	4095.39	73.91	220.89	29.32	1167.53	3525.19	-2437.22	-2546.64	3524.97	226.26	1.25	MWD	None
282	4123.52	70.84	220.51	28.13	1176.04	3551.90	-2457.54	-2564.12	3551.65	226.22	1.10	MWD	None
283	4153.05	68.11	220.64	29.53	1186.40	3579.44	-2478.55	-2582.11	3579.17	226.17	0.93	MWD	None
284	4182.48	65.88	220.41	29.43	1197.90	3606.42	-2499.14	-2599.71	3606.13	226.13	0.76	MWD	None
285	4211.99	62.57	221.14	29.51	1210.73	3632.89	-2519.26	-2617.06	3632.59	226.09	1.14	MWD	None
286	4241.13	58.93	221.72	29.14	1224.96	3658.24	-2538.32	-2633.88	3657.92	226.06	1.26	MWD	None
287	4270.18	55.34	222.42	29.05	1240.73	3682.59	-2556.43	-2650.22	3682.26	226.03	1.25	MWD	None
288	4299.75	51.76	223.11	29.57	1258.29	3706.34	-2573.89	-2666.37	3706.00	226.01	1.23	MWD	None
289	4328.84	50.02	223.66	29.09	1276.64	3728.90	-2590.30	-2681.87	3728.55	226.00	0.62	MWD	None
290	4343.75	49.03	223.86	14.91	1286.32	3740.23	-2598.49	-2689.72	3739.88	225.99	0.67	MWD	None
291	4375.03	46.72	224.47	31.28	1307.30	3763.42	-2615.13	-2705.88	3763.07	225.98	0.75	MWD	None
292	4409.02	44.64	229.95	33.99	1331.06	3787.71	-2631.65	-2723.69	3787.36	225.98	1.31	MWD	None
293	4439.57	42.43	234.55	30.55	1353.21	3808.60	-2644.54	-2740.31	3808.27	226.02	1.26	MWD	None
294	4467.26	40.39	234.69	27.69	1373.97	3826.69	-2655.15	-2755.24	3826.38	226.06	0.74	MWD	None
295	4496.80	38.49	228.76	29.54	1396.79	3845.33	-2666.74	-2769.97	3845.03	226.09	1.43	MWD	None
296	4525.38	35.88	222.81	28.58	1419.57	3862.59	-2678.76	-2782.36	3862.29	226.09	1.55	MWD	None
297	4554.24	31.86	216.90	28.86	1443.53	3878.57	-2691.06	-2792.69	3878.26	226.06	1.80	MWD	None
298	4583.39	30.81	215.42	29.15	1468.43	3893.53	-2703.30	-2801.63	3893.19	226.02	0.45	MWD	None
299	4612.48	28.25	214.95	29.09	1493.74	3907.62	-2715.01	-2809.90	3907.28	225.98	0.88	MWD	None
300	4641.67	27.28	217.64	29.19	1519.57	3921.04	-2725.97	-2817.94	3920.68	225.95	0.54	MWD	None
301	4670.31	28.09	221.37	28.64	1544.93	3934.26	-2736.23	-2826.40	3933.89	225.93	0.67	MWD	None
302	4699.87	29.95	224.25	29.56	1570.78	3948.58	-2746.74	-2836.15	3948.21	225.92	0.79	MWD	None
303	4728.68	28.23	221.81	28.81	1595.96	3962.57	-2756.97	-2845.72	3962.20	225.91	0.73	MWD	None
304	4758.13	28.58	221.72	29.45	1621.86	3976.54	-2767.42	-2855.05	3976.17	225.89	0.12	MWD	None

