Schlumberger

Company: **ESSO Australia Pty Ltd**

9.50 In. Section

Well: **SNA A26A**

Field: **Moonfish**

Rig: **ISDL 175** State: **Victoria**

Rig: ISDL 175 Field: Moonfish Location: Bass Strait Well: SNA A26A Company: ESSO Australia Pty Ltd

EcoScope* Density Neutron
1:500 True Vertical Depth
Recorded Mode Log

Location

Total depth:	6456.0 m
Spud date:	14−Nov−08
Run:	4

Elevation

K.B.	Top Drive
G.L.	−55.0 m
D.F.	41.7 m

Permanent datum: Mean Sea Level Elev.: 0.0 m

Log measured from: Drill Floor 41.7 m above Perm. datum

Depth reference: Driller's Depth

Service Order no.	X = E 589,802.393 m	Longitude	Latitude
08ASQ0030	Y = N 5,772,182.250 m	E 148° 1' 31.906"	S 38° 11' 37.774"

Depth logged: 5481.0 m To 6446.2 m
Date logged: 09−Dec−08 To 11−Dec−08

Mag decl: 13.001 deg.
Mag dip: −68.689 deg.

Other services: See Remarks

Bore hole record

Hole size	from	to
12.25 in.	871.0 m	5486.0 m
9.50 in.	5486.0 m	6456.0 m

Casing record

Size	Density	from	to
13.375 in.	54.5 lb/ft	27.1 m	913.0 m
10.75 in.	55.5 lb/ft	913.4 m	5482.9 m

Mud record

Type	from	to
Accolade SBM	5486.0 m	6456.0 m

Borehole deviation record

Min	Max	from	to
26.89 deg.	83.98 deg.	871.0 m	6456.0 m

Surface equipment

Unit	OLU−KC−0801
Depth system	PDA/CLT

Software record

IDEAL Wis	ID14_0c_02		
HSPM	13_1c_04		
LWD	See Remarks		
TeleScope	9.2C02		

Bit Run Summary

Run number		4
Bit size	in	9.50
Bit start depth	m	5388.0
Bit end depth	m	6456.0
Top interval logged	m	5481.0
Bottom interval logged	m	6446.2
Begin log: time		03:19
Begin log: date		09−Dec−08
End log: time		17:57
End log: date		11−Dec−08
Mud data		
Depth	m	6135.0
Type		Accolade SBM
Mud weight	ppg	10.8
Solids	%	18.3
Chlorides	mg/L	47,599
Rm	ohm.m@°C	n.a
Rmf	ohm.m@°C	n.a
Rmc	ohm.m@°C	n.a

Potassium	%	n.a									
Environmental data											
GR											
Mud weight	ppg	10.8									
Bit size	in	9.50									
Resistivity											
Neutron porosity											
Hole Size	in	9.50									
Mud weight	ppg	10.8									
Temperature	°C	106.0									
Mud salinity	ppk	59.967									
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	M. Calicutt								
Anadrill personnel		M. Amarasena	J. Oldridge	M. Sihite	C. Soper	D.B. Khanh					

OTHER SERVICES FOR RUN4

Directional Drilling
Directional Surveys
Annular Pressure & Temperature
Shock & Vibrations

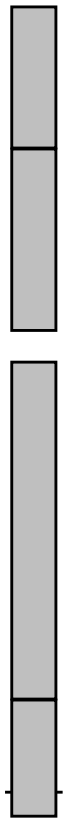
REMARKS: RUN NUMBER 4

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 (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
EcoScope stabilizer size 7−7/8''
EcoScope was run sourceless
EcosScope sourceless density run in realtime
Bit size 9.5''
POOH due to well TD

EQUIPMENT DESCRIPTION

RUN4

DOWNHOLE EQUIPMENT



6−3/4" arcVISION*
DHS: V9.3B13
S/N: 3994

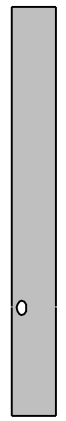
31.46

Gamma Ray — 27.60
Resistivity — 27.55
APWD — 26.83

6−3/4" TeleScope*
DHS: 9.2C02
S/N: FU22

25.07

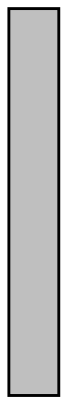
D&I — 20.71
MVC — 20.07



6−3/4" EcoScope*
DHS: Lagerfeld V23
Blade OD: 7−7/8"
S/N: 821
PNG S/N: 2073−41121

15.98

Neutron N — 13.36
Neutron D — 13.11
Neutron F — 13.06
Ultrasonic — 11.38
APWD — 9.92
Gamma Ray — 9.76



6−3/4" PowerDrive Xceed*
S/N: 111

7.93

9−1/2" Reed Hycalog PDC Bit — 0.00
S/N: 220517

0.27

Maximum string diameter 9.50 in.

All lengths in Meters

Variable Name	Variable Description	Run Name & Value
	Run Number	4
	General Information	
BHT_RM	Bottom Hole Temperature (RM)	DEGC 106.000
BSAL_RM	Mud Salinity (RM)	PPK 59.967
BS_RM	Bit Size (RM)	IN 9.500
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 10.800
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 6456.000
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 8.526
A14A	ARC Air Cal Attenuation From T1 at 400 KHz	DB 8.535
A22A	ARC Air Cal Attenuation From T2 at 2 MHz	DB 5.890
A24A	ARC Air Cal Attenuation From T2 at 400 KHz	DB 5.903
A32A	ARC Air Cal Attenuation From T3 at 2 MHz	DB 5.129
A34A	ARC Air Cal Attenuation From T3 at 400 KHz	DB 5.131
A42A	ARC Air Cal Attenuation From T4 at 2 MHz	DB 4.291
A44A	ARC Air Cal Attenuation From T4 at 400 KHz	DB 4.297
A52A	ARC Air Cal Attenuation From T5 at 2 MHz	DB 3.686
A54A	ARC Air Cal Attenuation From T5 at 400 KHz	DB 3.690
ABNT	Abnormal Transmitter Indicator	---- No_Tx_Failed
ADHS	ARC Down Hole Software Version	---- No_Tx_Failed
AM2A	ARC Air Cal Amplitude Offset at 2 MHz	---- -50000.000
ANISO_COMPUTE	Anisotropy Computation Option	---- YES
APICG	ARC5 Gamma Ray Gain Factor	---- 1.054
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	---- 4
ATSN	ARC Tool Serial Number	---- 3994
AZMF	Formation DIP Azimuth	DEG 0.000
BH_COMPUTE	Borehole Inversion Computation Option	---- YES
CALG	ARC Gamma Ray Cal Gain Factor	---- 1.054
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 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 Coeeficient (mA/g/degC)	---- 0.000
INVAS_COMPUTE	Invasion Computation Option	---- YES
JSD_ARC	ARC Acquisition start date	---- 09-Dec-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 3.747
P14A	ARC Air Cal Phase-Shift From T1 at 400 KHz	DEG -1.655
P22A	ARC Air Cal Phase-Shift From T2 at 2 MHz	DEG -3.865
P24A	ARC Air Cal Phase-Shift From T2 at 400 KHz	DEG 1.625
P32A	ARC Air Cal Phase-Shift From T3 at 2 MHz	DEG 3.723
P34A	ARC Air Cal Phase-Shift From T3 at 400 KHz	DEG -1.635
P42A	ARC Air Cal Phase-Shift From T4 at 2 MHz	DEG -3.858
P44A	ARC Air Cal Phase-Shift From T4 at 400 KHz	DEG 1.642
P52A	ARC Air Cal Phase-Shift From T5 at 2 MHz	DEG 3.743
P54A	ARC Air Cal Phase-Shift From T5 at 400 KHz	DEG -1.630

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	----	09−Dec−08
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	6.900
UNIFORM_COMPUTE	Uniform Rock Option	----	YES
VERS_ARC	ARC Down hole software version Number	----	2.300
WRK	to Report Potassium Concentration (RM)	----	K_by_Wgt_%

DVD

---------- Parameters----------		Parameters----------	---------Sigma	
---------- Parameters----------		Parameters----------	---------Sigma	
ALPHA_DEN_OPT	Density Enhanced Vertical Resolution Processing Switch	----	NO	
CHI_RM	Caliper High Limit from BS (RM)	IN	10.000	
CLO_RM	Caliper Low Limit from BS (RM)	IN	−5.000	
DTMUD	Delta−T for Mud (RM)	US/F	206.000	
DTMUD_DH	Delta−T for Mud Downhole (RT)	US/F	227.400	
DVDMDHS	DVDM Down Hole Software Version	US/F	227.400	
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	
EVRL	EVR Process averaging number of samples (RM)	----	49	
FWVN	Firmware Version Number	----	2.300	
GCSE	Generalized Caliper Selection	----	BS	
GR_CF	Gamma Ray Correction Factor	----	1.800	
GR_O2COR_OPT	Enable Gamma Ray Oxygen Activation Correction	----	YES	
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	
JSD	Acquisition start date	----	09−Dec−08	
MATR	Rock Matrix for Neutron Porosity Corrections	----	LIMESTONE	
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	
PMUD	Potassium Concentration in Mud	----	0.000	
RUN_DURATION_OP	Run Duration Type ?	----	Normal	
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	
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	----	4	
TSNO	Tool Serial Number	----	821	
WPPV	Water Phase as Percent of Total Volume in OBM	----	22.000	
WPSL	Salinity of the Water Phase Emulsified within the OBM	PPK	272.576	
WSDI	Window Size of Dynamic Normalization Image	M	4.572	

Schlumberger Drilling & Measurements ID13 Parameter Insert Header Software version 3.0c

IDEAL Version: ID14_0C_05

IDF

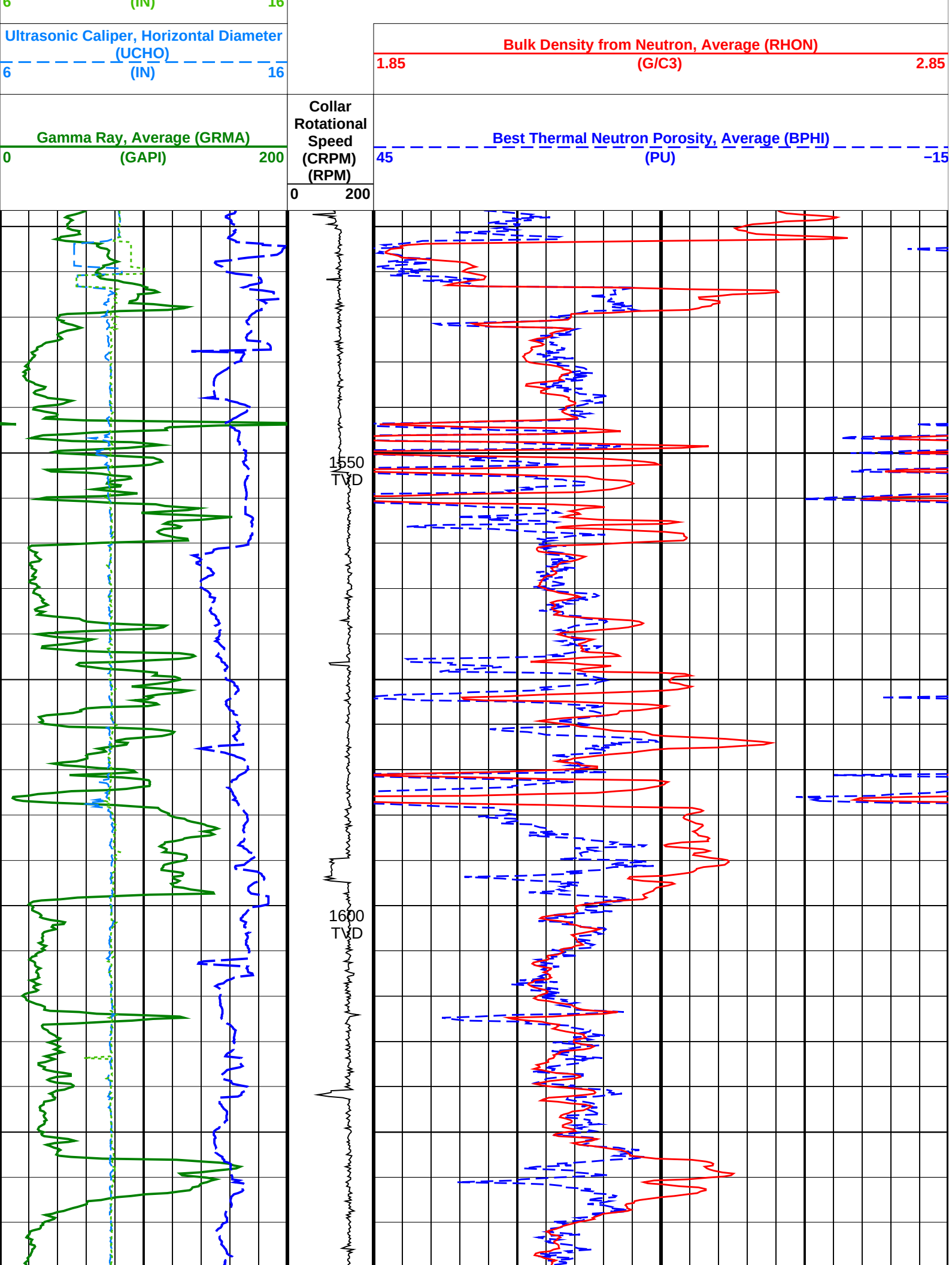
Format: EcoScope Density Neutron **Vertical Scale: 1:500** **Graphics File Created: 15−Dec−2008 16:49**

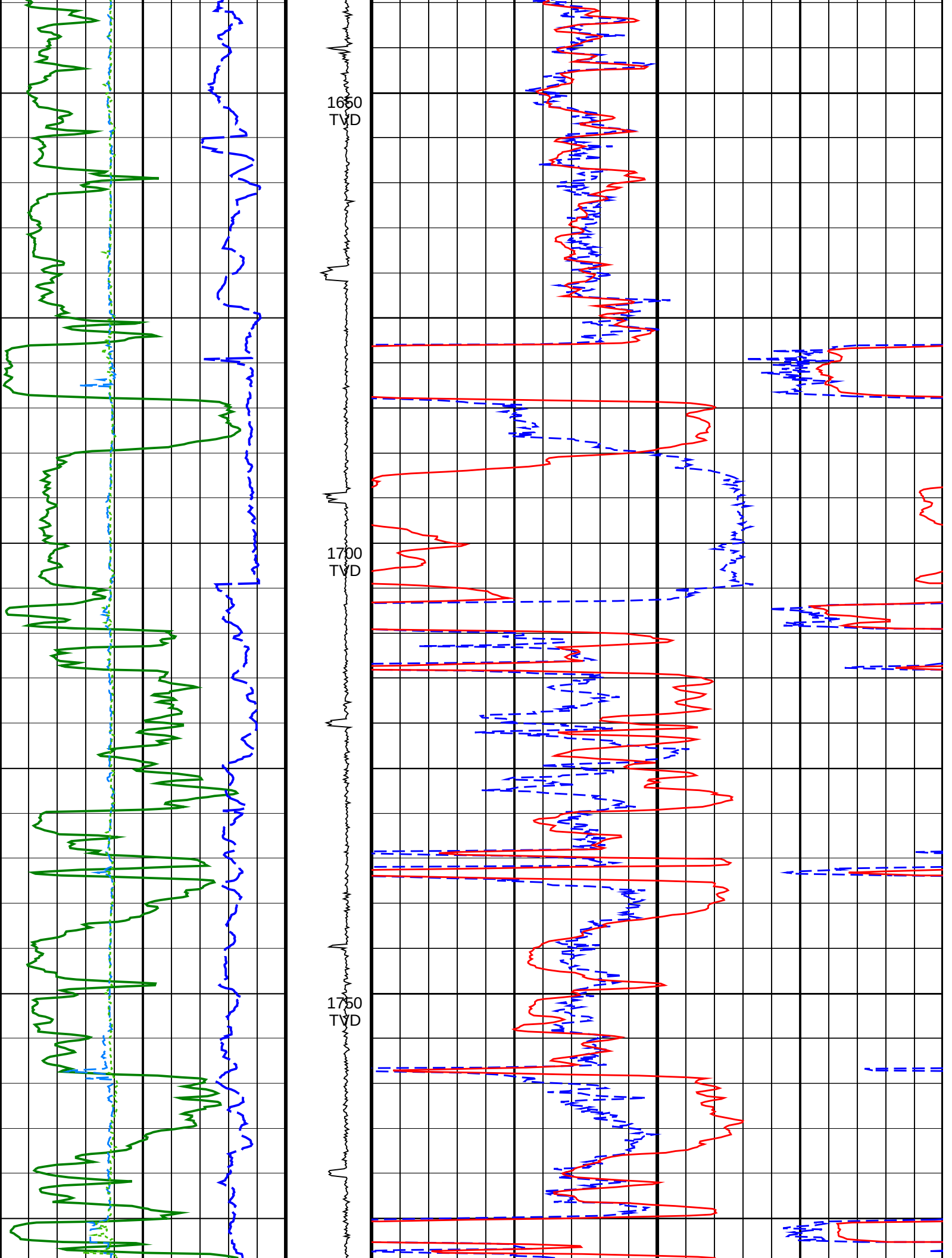
Rate of Penetration, Averaged over Last 5ft (ROP5_RM)

200 **(M/HR)** **0**

Ultrasonic Caliper, Vertical Diameter (UCVE)

6 **(IN)** **16**


6
(IN)
16
Ultrasonic Caliper, Horizontal Diameter (UCHO)
6
(IN)
16
Bulk Density from Neutron, Average (RHON)
1.85
(G/C3)
2.85
Gamma Ray, Average (GRMA)
0
(GAPI)
200
Collar Rotational Speed (CRPM) (RPM)
0
200
Best Thermal Neutron Porosity, Average (BPHI)
45
(PU)
-15
1550
TVD
1600
TVD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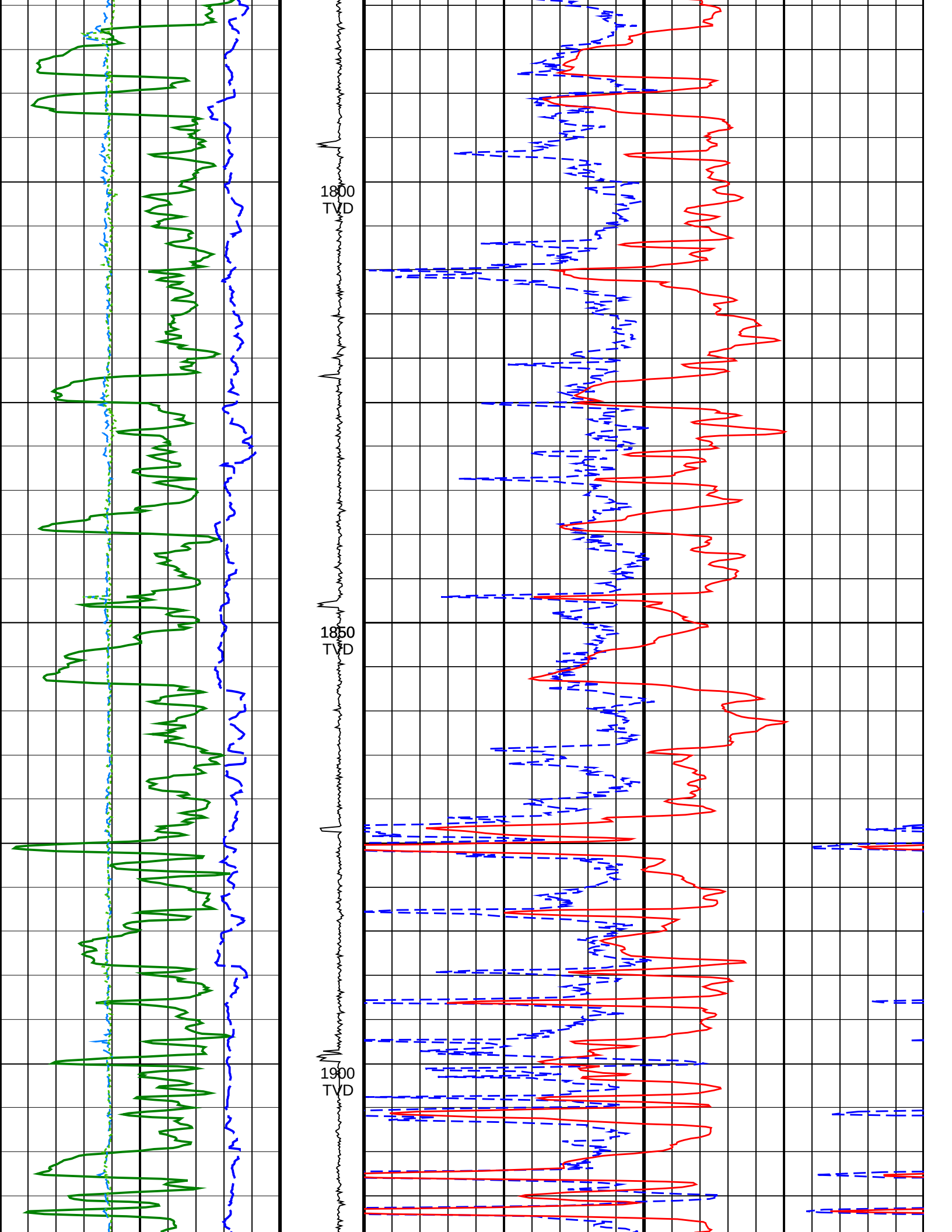
TVD
1700
TVD
1750
TVD


1800
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1850
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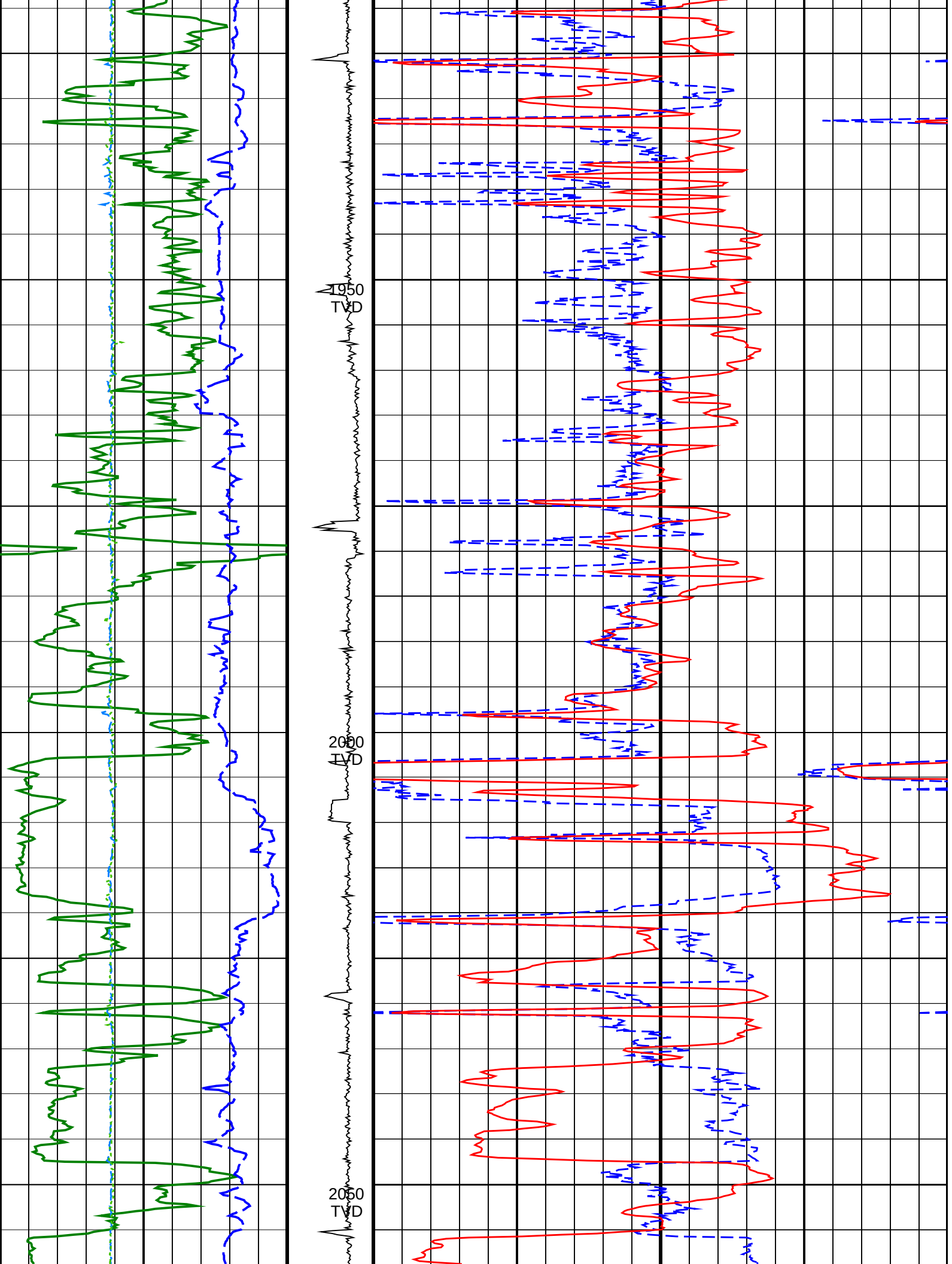
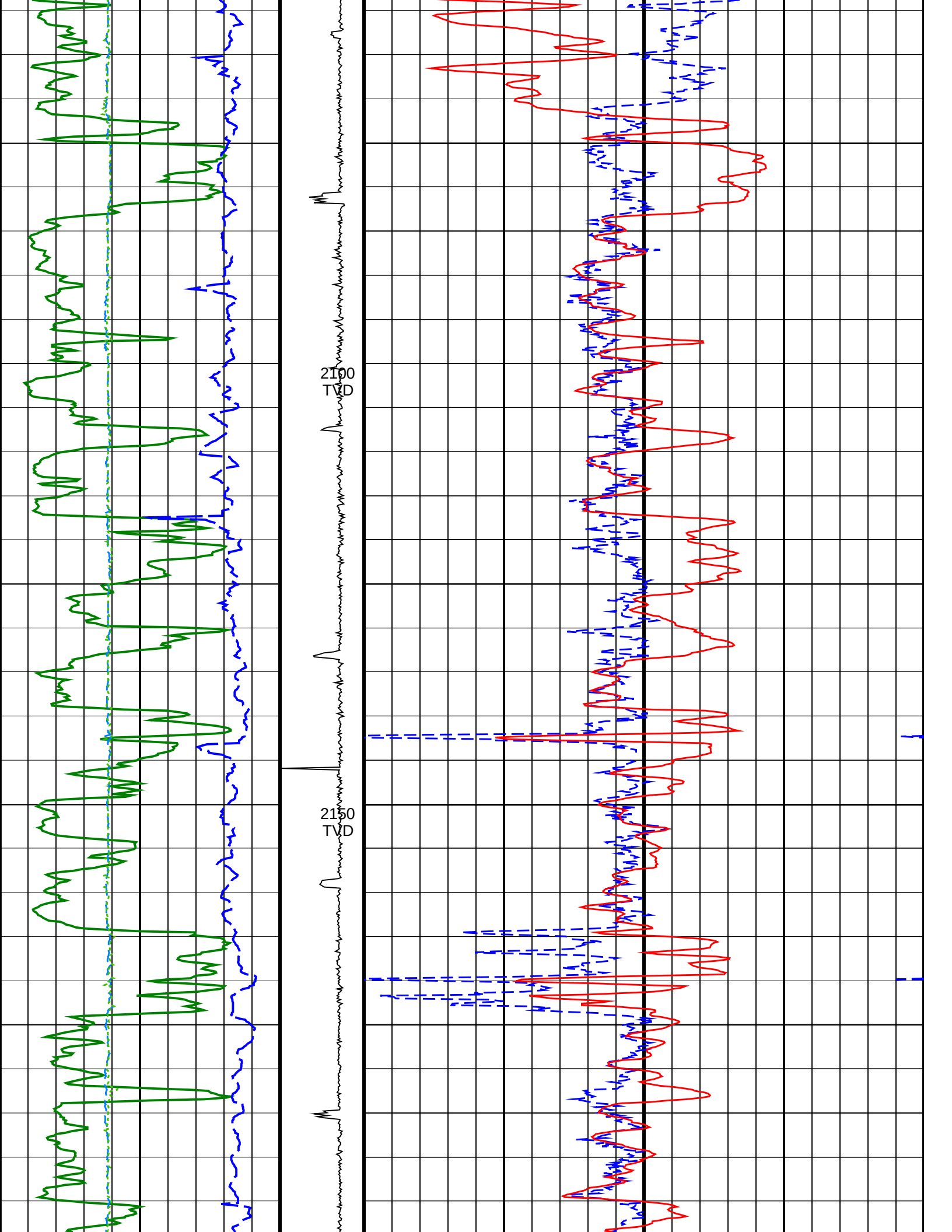
1900
TVD


1950
TVD
2000
TVD
2050
TVD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2150
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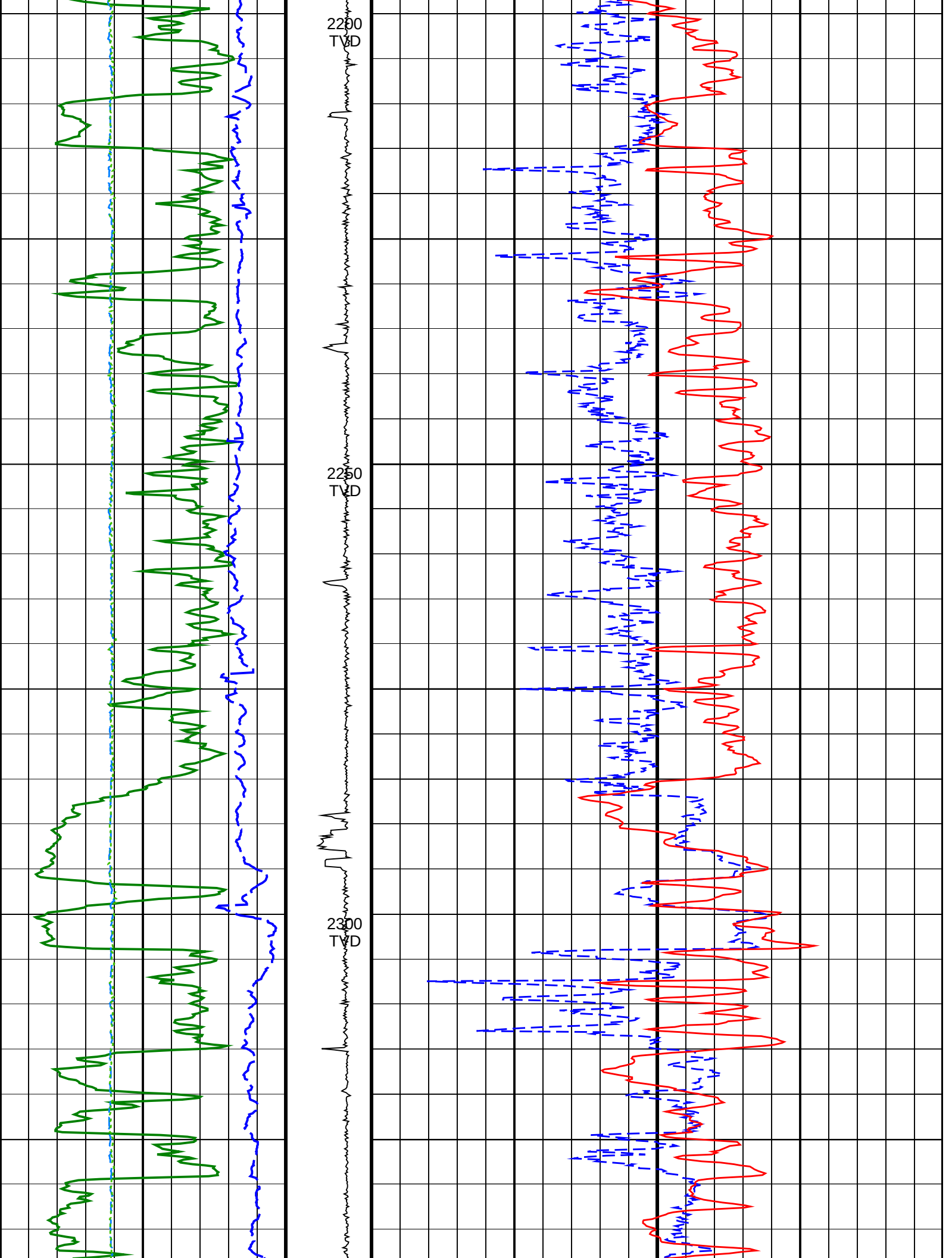
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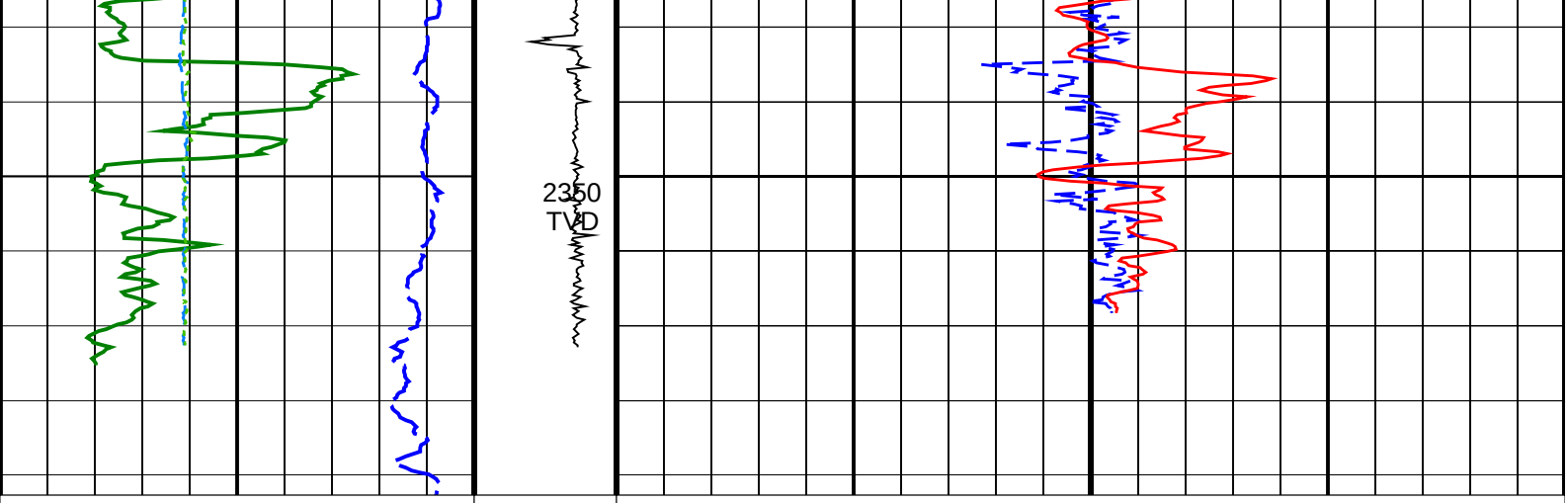
2300
TVD



Gamma Ray, Average (GRMA)	Collar Rotational Speed (CRPM) (RPM)	Best Thermal Neutron Porosity, Average (BPHI)
0 (GAPI) 200	0 200	45 (PU) −15
Ultrasonic Caliper, Horizontal Diameter (UCHO)		**Bulk Density from Neutron, Average (RHON)**
6 (IN) 16		1.85 (G/C3) 2.85
Ultrasonic Caliper, Vertical Diameter (UCVE)		
6 (IN) 16		
Rate of Penetration, Averaged over Last 5ft (ROP5_RM)		
200 (M/HR) 0		

IDEAL Version: ID14_0C_05

IDF

6.75−in. Array Resistivity Compensated / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ARC6 − BA	447
ARC675 Calibration Status	AUTO −	

Master: 19−Nov−2008 19:29

6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Phase−Shift T1	Value
Master		−0.4435
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2	Value
Master		0.4753
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3	Value
Master		−0.5025
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4	Value
Master		0.4377
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5	Value
Master		−0.5039
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T1 at 400KHz	Value
Master		0.8857
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T2 at 400KHz	Value
Master		−0.9448
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T3 at 400KHz	Value
Master		0.9314
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T4 at 400KHz	Value
Master		−0.9603
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Phase	Phase−Shift T5 at 400KHz	Value
Master		0.8903
−3.900 (Minimum)	0.1000 (Nominal)	4.100 (Maximum)

Master: 19−Nov−2008 19:29

6.75−in. Array Resistivity Compensated Calibration

Resistivity: Air

Phase	Attenuation T1	Value
Master		8.252
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2	Value
Master		6.680
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3	Value
Master		4.885
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4	Value
Master		4.589
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5	Value
Master		3.439
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Phase	Attenuation T1 at 400KHz	Value
Master		8.242
6.500 (Minimum)	8.500 (Nominal)	10.50 (Maximum)

Phase	Attenuation T2 at 400KHz	Value
Master		6.701
4.500 (Minimum)	6.500 (Nominal)	8.500 (Maximum)

Phase	Attenuation T3 at 400KHz	Value
Master		4.865
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T4 at 400KHz	Value
Master		4.602
2.600 (Minimum)	4.600 (Nominal)	6.600 (Maximum)

Phase	Attenuation T5 at 400KHz	Value
Master		3.426
1.600 (Minimum)	3.600 (Nominal)	5.600 (Maximum)

Master: 20−Nov−2008 11:20

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		5.059
2.780 (Minimum)	4.800 (Nominal)	6.000 (Maximum)

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

Primary Equipment:		
Tool Name and Serial Number	ECO − 675	817
Calibration Status	AUTO −	
Neutron Logging Source	PNG − C	2073−41121
Density Logging Source	n.a	
Stabilizer Size	7.81 − in.	

Master: 27−Nov−2008 1:27

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

SSn LSn : Water Tank

Phase	SSn Gain	Value
Master		1.087
0.9300 (Minimum)	1.060 (Nominal)	1.190 (Maximum)

Phase	SSn Offset	Value
Master		791.5
−137.0 (Minimum)	535.5 (Nominal)	1208 (Maximum)

Phase	LSn Gain	Value
Master		1.102
0.9100 (Minimum)	1.060 (Nominal)	1.210 (Maximum)

Phase	LSn Offset	Value
Master		0
−45.00 (Minimum)	31.50 (Nominal)	108.0 (Maximum)

Master: 27−Nov−2008 1:27

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

Neutron: Water Tank

Phase	Far 2 Gain	Value
Master		1.027
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)

Phase	Far 2 Offset	Value
Master		0.6601
−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Phase	Far 1 Gain	Value
Master		1.056
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)

Phase	Far 1 Offset	Value
Master		0.7263
−3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Phase	Thermal Near gain	Value
Master		1.135
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)

Phase	Thermal Near offset	Value
Master		45.20
−500.0 (Minimum)	0 (Nominal)	500.0 (Maximum)

Phase	Epithermal Near gain ----	Value
Master		1.172
0.7000 (Minimum)	1.000 (Nominal)	1.300 (Maximum)

Phase	Epithermal Near offset ----	Value
Master		80.38
−300.0 (Minimum)	0 (Nominal)	300.0 (Maximum)

Master: Calibration out of date 15−Sep−2007 17:26

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

Gamma Density: Magnesium Block

Phase	LS window 3 − Mg CPS	Value
Master		3661
2200 (Minimum)	3350 (Nominal)	4500 (Maximum)

Phase	SS window 1 − Mg CPS	Value
Master		7515
4560 (Minimum)	6830 (Nominal)	9100 (Maximum)

Phase	SS window 3 − Mg CPS	Value
Master		17510
11100 (Minimum)	16700 (Nominal)	22300 (Maximum)

Master: Calibration out of date 15−Sep−2007 17:26

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

Gamma Density: Aluminum Block

Phase	LS window 3 − Al CPS	Value
Master		600.9
350.0 (Minimum)	575.0 (Nominal)	800.0 (Maximum)

Phase	SS window 1 − Al CPS	Value
Master		3777
2300 (Minimum)	3550 (Nominal)	4800 (Maximum)

Phase	SS window 3 − Al CPS	Value
Master		12040
7600 (Minimum)	11550 (Nominal)	15500 (Maximum)

Master: Calibration out of date 15−Sep−2007 17:26

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

Gamma Density: Background

Phase	LS window 3 − Background CPS	Value
Master		60.74
50.00 (Minimum)	70.00 (Nominal)	90.00 (Maximum)

Phase	SS window 1 − Background CPS	Value
Master		84.85
50.00 (Minimum)	75.00 (Nominal)	100.0 (Maximum)

Phase	SS window 3 − Background CPS	Value
Master		401.4
270.0 (Minimum)	370.0 (Nominal)	470.0 (Maximum)

Master: Calibration out of date 15−Sep−2007 17:26

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

Gamma Density: Water Block Check

Phase	Long spacing water density G/C3	Value
Master		1.039
1.021 (Minimum)	1.038 (Nominal)	1.054 (Maximum)

Phase	Short spacing water density G/C3	Value
Master	EXCEEDS LIMIT	1.298
1.043 (Minimum)	1.078 (Nominal)	1.113 (Maximum)

Master: 17−Nov−2008 17:50

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

Resistivity: Air

Phase	Phase−Shift T1	Value
Master		3.747
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T2	Value
Master		−3.865
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T3	Value
Master		3.723
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T4	Value
Master		−3.858
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T5	Value
Master		3.743
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T1 at 400KHz	Value
Master		−1.655
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T2 at 400KHz	Value
Master		1.625
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T3 at 400KHz	Value
Master		−1.635
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T4 at 400KHz	Value
Master		1.642
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Phase	Phase−Shift T5 at 400KHz	Value
Master		−1.630
−4.000 (Minimum)	0 (Nominal)	4.000 (Maximum)

Master: 17−Nov−2008 17:50

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

Resistivity: Air

Phase	Attenuation T1	Value
Master		8.526
7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)

Phase	Attenuation T2	Value
Master		5.890
4.000 (Minimum)	6.000 (Nominal)	8.000 (Maximum)

Phase	Attenuation T3	Value
Master		5.129
3.500 (Minimum)	5.500 (Nominal)	7.500 (Maximum)

Phase	Attenuation T4	Value
Master		4.291
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T5	Value
Master		3.686
2.000 (Minimum)	4.000 (Nominal)	6.000 (Maximum)

Phase	Attenuation T1 at 400KHz	Value
Master		8.535
7.000 (Minimum)	9.000 (Nominal)	11.00 (Maximum)

Phase	Attenuation T2 at 400KHz	Value
Master		5.903
4.000 (Minimum)	6.000 (Nominal)	8.000 (Maximum)

Phase	Attenuation T3 at 400KHz	Value
Master		5.131
3.500 (Minimum)	5.500 (Nominal)	7.500 (Maximum)

Phase	Attenuation T4 at 400KHz	Value
Master		4.297
2.500 (Minimum)	4.500 (Nominal)	6.500 (Maximum)

Phase	Attenuation T5 at 400KHz	Value
Master		3.690
2.000 (Minimum)	4.000 (Nominal)	6.000 (Maximum)

SCHLUMBERGER

Survey report 14−Dec−2008 17:15:56

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

Well.....: SNA A−26A
API number.....: 08ASQ0030
Engineer.....: MA/MRG/JO
RIG:.....: ISDL 175
STATE:.....: VICTORIA

Spud date.....: 10−NOV−08
Last survey date.....: 11−Dec−08
Total accepted surveys...: 363
MD of first survey.....: 0.00 m
MD of last survey.....: 6456.00 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−).....: 15.35 m
Departure (+E/W−).....: −2.36 m

−−−−− Platform reference point−−−−−−−−−−−−−−−
Latitude (+N/S−).....:
Departure (+E/W−).....:

−−−−− Geomagnetic data −−−−−−−−−−−−−−−−−−−−
Magnetic model.....: BGGM version 2008
Magnetic date.....: 05−Dec−2008
Magnetic field strength..: 1197.99 HCNT
Magnetic dec (+E/W−).....: 13.00 degrees
Magnetic dip.....: −68.69 degrees

−−−−− MWD survey Reference Criteria −−−−−−−−−
Reference G.....: 1000.02 mGal
Reference H.....: 1197.99 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
Azimuth from Vsect Origin to target: 15.36 degrees (Total az corr = magnetic dec − grid conv)
Survey Correction Type ...:
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

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SCHLUMBERGER Survey Report

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)	DLS (deg/ 100f)	Srvy Tool type	Tool Corr (deg)
1	0.00	0.00	0.00	0.00	0.00	−14.80	0.00	−2.36	2.36	270.00	0.00	TIP	None
2	9.08	0.00	0.00	9.08	9.08	−14.80	0.00	−2.36	2.36	270.00	0.00	MWD_M	None
3	59.08	0.58	240.11	50.00	59.08	−14.98	−0.13	−2.58	2.58	267.20	0.35	MWD_M	None
4	64.08	0.57	237.77	5.00	64.08	−15.02	−0.15	−2.62	2.63	266.68	0.16	MWD_M	None
5	69.08	0.57	235.38	5.00	69.08	−15.06	−0.18	−2.66	2.67	266.15	0.14	MWD_M	None
6	74.08	0.56	232.95	5.00	74.08	−15.09	−0.21	−2.70	2.71	265.60	0.16	MWD_M	None
7	79.08	0.56	230.49	5.00	79.08	−15.13	−0.24	−2.74	2.75	265.03	0.15	MWD_M	None
8	84.08	0.56	228.01	5.00	84.08	−15.17	−0.27	−2.78	2.79	264.44	0.15	MWD_M	None
9	89.08	0.62	224.12	5.00	89.08	−15.22	−0.31	−2.82	2.83	263.80	0.44	MWD_M	None
10	94.08	0.63	213.04	5.00	94.08	−15.27	−0.35	−2.85	2.87	263.03	0.74	MWD_M	None
11	99.08	0.68	206.26	5.00	99.08	−15.32	−0.40	−2.88	2.91	262.12	0.56	MWD_M	None
12	104.08	0.74	198.91	5.00	104.08	−15.38	−0.46	−2.90	2.94	261.08	0.66	MWD_M	None
13	109.08	0.87	187.03	5.00	109.08	−15.45	−0.52	−2.92	2.96	259.82	1.29	MWD_M	None
14	114.08	0.92	187.58	5.00	114.08	−15.53	−0.60	−2.93	2.99	258.39	0.31	MWD_M	None
15	119.08	1.18	171.81	5.00	119.07	−15.62	−0.69	−2.92	3.01	256.69	2.36	MWD_M	None
16	124.08	1.15	177.50	5.00	124.07	−15.71	−0.79	−2.92	3.02	254.78	0.73	MWD_M	None
17	129.08	1.45	168.22	5.00	129.07	−15.82	−0.91	−2.90	3.04	252.67	2.22	MWD_M	None

17	129.08	1.45	168.32	5.00	129.07	−15.82	−0.91	−2.90	3.04	252.67	2.22	MWD_M	None
18	134.08	1.51	168.00	5.00	134.07	−15.93	−1.03	−2.87	3.05	250.26	0.37	MWD_M	None
19	139.08	1.63	169.37	5.00	139.07	−16.05	−1.17	−2.85	3.08	247.73	0.77	MWD_M	None
20	144.08	1.80	165.89	5.00	144.07	−16.19	−1.31	−2.81	3.11	245.01	1.21	MWD_M	None
21	149.08	1.87	165.61	5.00	149.06	−16.33	−1.47	−2.78	3.14	242.14	0.43	MWD_M	None
22	154.08	2.12	159.45	5.00	154.06	−16.47	−1.63	−2.72	3.17	239.05	2.01	MWD_M	None
23	159.08	2.26	157.59	5.00	159.06	−16.62	−1.81	−2.65	3.21	235.69	0.96	MWD_M	None
24	164.08	2.43	153.14	5.00	164.05	−16.78	−2.00	−2.57	3.25	232.13	1.52	MWD_M	None
25	169.08	2.69	147.79	5.00	169.05	−16.94	−2.19	−2.46	3.29	228.28	2.15	MWD_M	None
26	174.08	2.91	141.78	5.00	174.04	−17.09	−2.39	−2.32	3.33	224.11	2.23	MWD_M	None
27	179.08	3.23	135.78	5.00	179.04	−17.24	−2.59	−2.14	3.36	219.55	2.76	MWD_M	None
28	184.08	3.40	133.46	5.00	184.03	−17.38	−2.79	−1.93	3.40	214.69	1.32	MWD_M	None
29	189.08	3.47	132.44	5.00	189.02	−17.52	−3.00	−1.71	3.45	209.76	0.57	MWD_M	None
30	194.08	3.53	132.35	5.00	194.01	−17.66	−3.20	−1.49	3.53	204.92	0.37	MWD_M	None
31	199.08	3.54	132.38	5.00	199.00	−17.80	−3.41	−1.26	3.64	200.28	0.06	MWD_M	None
32	204.08	3.59	131.53	5.00	203.99	−17.94	−3.62	−1.03	3.76	195.88	0.44	MWD_M	None
33	209.08	3.58	132.77	5.00	208.98	−18.08	−3.83	−0.80	3.91	191.77	0.48	MWD_M	None
34	214.08	3.61	131.87	5.00	213.97	−18.22	−4.04	−0.57	4.08	187.97	0.39	MWD_M	None
35	219.08	3.67	131.81	5.00	218.96	−18.36	−4.25	−0.33	4.26	184.43	0.37	MWD_M	None
36	224.08	3.61	130.96	5.00	223.95	−18.50	−4.46	−0.09	4.46	181.17	0.49	MWD_M	None
37	229.08	3.59	130.21	5.00	228.94	−18.64	−4.66	0.15	4.67	178.19	0.31	MWD_M	None
38	234.08	3.40	128.42	5.00	233.93	−18.76	−4.86	0.38	4.87	175.49	1.34	MWD_M	None
39	239.08	3.38	127.46	5.00	238.92	−18.87	−5.04	0.62	5.08	173.03	0.37	MWD_M	None
40	244.08	3.12	126.03	5.00	243.91	−18.98	−5.21	0.84	5.28	170.80	1.66	MWD_M	None
41	249.08	2.95	125.30	5.00	248.91	−19.07	−5.36	1.06	5.47	168.84	1.06	MWD_M	None
42	254.08	2.63	124.32	5.00	253.90	−19.15	−5.50	1.26	5.64	167.12	1.97	MWD_M	None
43	259.08	2.49	123.71	5.00	258.90	−19.22	−5.63	1.44	5.81	165.62	0.87	MWD_M	None
44	264.08	2.14	123.21	5.00	263.89	−19.28	−5.74	1.61	5.96	164.31	2.14	MWD_M	None
45	269.08	2.04	122.13	5.00	268.89	−19.34	−5.84	1.77	6.10	163.18	0.66	MWD_M	None
46	274.08	2.20	119.82	5.00	273.88	−19.39	−5.93	1.92	6.24	162.03	1.11	MWD_M	None
47	279.08	1.79	120.65	5.00	278.88	−19.43	−6.02	2.07	6.37	160.99	2.51	MWD_M	None
48	284.08	1.55	121.14	5.00	283.88	−19.47	−6.09	2.20	6.48	160.16	1.47	MWD_M	None
49	289.08	1.45	117.86	5.00	288.88	−19.50	−6.16	2.31	6.58	159.42	0.80	MWD_M	None
50	294.08	1.25	116.65	5.00	293.88	−19.53	−6.21	2.42	6.67	158.74	1.23	MWD_M	None
51	299.08	1.15	115.17	5.00	298.88	−19.55	−6.26	2.51	6.74	158.13	0.64	MWD_M	None
52	304.08	1.03	110.72	5.00	303.87	−19.56	−6.30	2.60	6.81	157.57	0.89	MWD_M	None
53	309.08	1.05	109.80	5.00	308.87	−19.57	−6.33	2.68	6.87	157.01	0.16	MWD_M	None
54	314.08	1.02	110.36	5.00	313.87	−19.57	−6.36	2.77	6.94	156.47	0.19	MWD_M	None
55	319.08	1.01	107.44	5.00	318.87	−19.58	−6.39	2.85	7.00	155.93	0.32	MWD_M	None
56	324.08	0.97	106.83	5.00	323.87	−19.58	−6.41	2.94	7.05	155.40	0.25	MWD_M	None
57	329.08	0.96	102.31	5.00	328.87	−19.58	−6.43	3.02	7.11	154.88	0.47	MWD_M	None
58	334.08	0.91	101.40	5.00	333.87	−19.58	−6.45	3.10	7.16	154.36	0.32	MWD_M	None
59	339.08	0.94	89.80	5.00	338.87	−19.56	−6.46	3.18	7.20	153.81	1.15	MWD_M	None
60	344.08	0.95	85.21	5.00	343.87	−19.54	−6.46	3.26	7.23	153.21	0.47	MWD_M	None
61	349.08	1.09	63.96	5.00	348.87	−19.49	−6.43	3.34	7.25	152.53	2.44	MWD_M	None
62	354.08	1.23	59.45	5.00	353.87	−19.42	−6.38	3.43	7.25	151.73	1.02	MWD_M	None
63	359.08	1.53	47.32	5.00	358.87	−19.33	−6.31	3.53	7.23	150.79	2.54	MWD_M	None
64	364.08	1.66	44.19	5.00	363.86	−19.21	−6.21	3.63	7.19	149.72	0.95	MWD_M	None
65	369.08	1.95	37.33	5.00	368.86	−19.06	−6.09	3.73	7.14	148.53	2.20	MWD_M	None
66	374.08	2.14	33.74	5.00	373.86	−18.90	−5.95	3.83	7.08	147.20	1.40	MWD_M	None
67	379.08	2.50	32.64	5.00	378.85	−18.70	−5.78	3.94	7.00	145.69	2.21	MWD_M	None
68	384.08	2.71	29.00	5.00	383.85	−18.49	−5.58	4.06	6.90	143.98	1.63	MWD_M	None
69	389.08	3.13	26.71	5.00	388.84	−18.24	−5.36	4.18	6.79	142.05	2.66	MWD_M	None
70	394.08	3.37	24.24	5.00	393.83	−17.96	−5.10	4.30	6.67	139.88	1.69	MWD_M	None
71	399.08	3.70	22.28	5.00	398.82	−17.65	−4.82	4.42	6.54	137.46	2.14	MWD_M	None
72	404.08	3.93	20.75	5.00	403.81	−17.32	−4.51	4.54	6.40	134.79	1.53	MWD_M	None
73	409.08	4.40	20.41	5.00	408.80	−16.96	−4.17	4.67	6.26	131.75	2.87	MWD_M	None
74	414.08	4.59	20.18	5.00	413.78	−16.57	−3.80	4.81	6.13	128.34	1.16	MWD_M	None
75	419.08	5.03	19.34	5.00	418.77	−16.15	−3.41	4.95	6.01	124.55	2.72	MWD_M	None
76	424.08	5.27	19.31	5.00	423.75	−15.70	−2.98	5.10	5.91	120.35	1.46	MWD_M	None
77	429.08	5.60	19.04	5.00	428.72	−15.23	−2.54	5.25	5.83	115.78	2.02	MWD_M	None
78	434.08	5.96	18.28	5.00	433.70	−14.73	−2.06	5.41	5.79	110.83	2.24	MWD_M	None
79	439.08	6.39	17.47	5.00	438.67	−14.19	−1.55	5.58	5.79	105.50	2.67	MWD_M	None
80	444.08	6.82	15.96	5.00	443.64	−13.62	−1.00	5.74	5.83	99.84	2.83	MWD_M	None
81	449.08	7.25	15.10	5.00	448.60	−13.00	−0.41	5.91	5.92	93.94	2.70	MWD_M	None
82	454.08	7.60	14.33	5.00	453.56	−12.36	0.22	6.07	6.08	87.94	2.22	MWD_M	None
83	459.08	7.96	13.75	5.00	458.51	−11.68	0.88	6.24	6.30	82.01	2.25	MWD_M	None
84	464.08	8.44	13.43	5.00	463.46	−10.97	1.57	6.40	6.59	76.24	2.94	MWD_M	None
85	469.08	8.92	12.86	5.00	468.40	−10.21	2.30	6.57	6.97	70.69	2.97	MWD_M	None
86	474.08	9.40	12.31	5.00	473.34	−9.42	3.08	6.75	7.42	65.47	2.97	MWD_M	None
87	479.08	9.85	11.95	5.00	478.27	−8.58	3.90	6.92	7.94	60.62	2.77	MWD_M	None
88	484.08	10.24	11.95	5.00	483.19	−7.71	4.75	7.10	8.55	56.23	2.38	MWD_M	None
89	489.08	10.66	11.77	5.00	488.11	−6.81	5.64	7.29	9.22	52.28	2.57	MWD_M	None
90	494.08	11.08	11.79	5.00	493.02	−5.87	6.56	7.48	9.95	48.75	2.56	MWD_M	None
91	499.08	11.53	11.83	5.00	497.92	−4.89	7.52	7.68	10.75	45.61	2.74	MWD_M	None
92	504.08	12.20	11.77	5.00	502.82	−3.86	8.53	7.89	11.62	42.79	4.09	MWD_M	None
93	509.08	12.72	11.78	5.00	507.70	−2.79	9.58	8.11	12.56	40.25	3.17	MWD_M	None
94	514.08	13.18	11.95	5.00	512.57	−1.67	10.68	8.34	13.55	38.00	2.81	MWD_M	None
95	519.08	13.63	11.61	5.00	517.43	−0.51	11.81	8.58	14.60	35.99	2.78	MWD_M	None
96	524.08	14.09	11.55	5.00	522.29	0.68	12.99	8.82	15.70	34.18	2.81	MWD_M	None

97	529.08	14.50	11.48	5.00	527.13	1.92	14.20	9.07	16.85	32.57	2.50	MWD_M	None
98	534.08	14.92	11.90	5.00	531.97	3.18	15.44	9.32	18.04	31.13	2.64	MWD_M	None
99	539.08	15.36	11.71	5.00	536.80	4.49	16.72	9.59	19.27	29.84	2.70	MWD_M	None
100	544.08	15.76	12.02	5.00	541.61	5.82	18.03	9.87	20.55	28.69	2.49	MWD_M	None
101	549.08	16.15	12.28	5.00	546.42	7.20	19.37	10.16	21.88	27.67	2.42	MWD_M	None
102	554.08	16.63	12.98	5.00	551.22	8.61	20.75	10.47	23.24	26.76	3.16	MWD_M	None
103	559.08	17.06	12.96	5.00	556.00	10.05	22.16	10.79	24.65	25.96	2.62	MWD_M	None
104	564.08	17.49	13.07	5.00	560.78	11.54	23.61	11.13	26.10	25.23	2.63	MWD_M	None
105	569.08	17.97	13.22	5.00	565.54	13.06	25.09	11.47	27.59	24.57	2.94	MWD_M	None
106	574.08	18.39	13.17	5.00	570.29	14.62	26.61	11.83	29.12	23.96	2.56	MWD_M	None
107	579.08	18.79	13.22	5.00	575.03	16.21	28.16	12.19	30.69	23.41	2.44	MWD_M	None
108	584.08	19.22	13.20	5.00	579.76	17.84	29.75	12.56	32.29	22.90	2.62	MWD_M	None
109	589.08	19.56	13.54	5.00	584.47	19.50	31.36	12.95	33.93	22.43	2.18	MWD_M	None
110	594.08	19.95	13.19	5.00	589.18	21.19	33.01	13.34	35.60	22.00	2.48	MWD_M	None
111	599.08	20.33	13.16	5.00	593.87	22.91	34.68	13.73	37.30	21.60	2.32	MWD_M	None
112	604.08	20.74	13.17	5.00	598.56	24.66	36.39	14.13	39.04	21.22	2.50	MWD_M	None
113	609.08	21.04	13.19	5.00	603.23	26.44	38.13	14.54	40.81	20.87	1.83	MWD_M	None
114	614.08	21.50	13.22	5.00	607.89	28.25	39.89	14.95	42.60	20.54	2.80	MWD_M	None
115	619.08	21.94	13.33	5.00	612.53	30.10	41.69	15.38	44.44	20.24	2.69	MWD_M	None
116	624.08	22.39	13.17	5.00	617.16	31.99	43.53	15.81	46.31	19.96	2.77	MWD_M	None
117	629.08	22.74	13.37	5.00	621.78	33.90	45.40	16.25	48.22	19.69	2.18	MWD_M	None
118	634.08	23.24	13.26	5.00	626.38	35.86	47.30	16.70	50.16	19.44	3.06	MWD_M	None
119	639.08	23.59	13.38	5.00	630.97	37.84	49.23	17.16	52.14	19.21	2.15	MWD_M	None
120	644.08	24.12	13.25	5.00	635.54	39.86	51.20	17.62	54.15	18.99	3.25	MWD_M	None
121	649.08	24.46	13.58	5.00	640.10	41.92	53.20	18.10	56.19	18.79	2.23	MWD_M	None
122	654.08	24.89	13.55	5.00	644.64	44.00	55.23	18.59	58.27	18.60	2.62	MWD_M	None
123	659.08	25.18	13.79	5.00	649.17	46.12	57.29	19.09	60.38	18.43	1.87	MWD_M	None
124	664.08	25.74	13.77	5.00	653.69	48.27	59.37	19.60	62.52	18.27	3.41	MWD_M	None
125	669.08	26.12	14.13	5.00	658.18	50.45	61.49	20.13	64.71	18.12	2.51	MWD_M	None
126	674.08	26.66	14.31	5.00	662.66	52.68	63.65	20.67	66.92	17.99	3.33	MWD_M	None
127	679.08	26.97	14.34	5.00	667.13	54.93	65.83	21.23	69.17	17.87	1.89	MWD_M	None
128	684.08	27.45	14.63	5.00	671.57	57.22	68.05	21.80	71.46	17.77	3.04	MWD_M	None
129	689.08	27.68	15.50	5.00	676.01	59.53	70.28	22.40	73.77	17.68	2.83	MWD_M	None
130	694.08	28.28	14.99	5.00	680.42	61.88	72.55	23.02	76.11	17.61	3.94	MWD_M	None
131	699.08	28.76	15.19	5.00	684.81	64.26	74.85	23.64	78.50	17.53	2.98	MWD_M	None
132	704.08	29.36	15.37	5.00	689.18	66.69	77.19	24.28	80.92	17.46	3.70	MWD_M	None
133	709.08	29.91	15.44	5.00	693.53	69.16	79.58	24.94	83.39	17.40	3.36	MWD_M	None
134	714.08	30.46	15.51	5.00	697.85	71.68	82.00	25.61	85.91	17.35	3.36	MWD_M	None
135	719.08	30.98	15.88	5.00	702.15	74.23	84.46	26.30	88.46	17.30	3.37	MWD_M	None
136	724.08	31.50	15.91	5.00	706.43	76.83	86.95	27.01	91.05	17.26	3.17	MWD_M	None
137	729.08	32.15	16.13	5.00	710.67	79.46	89.49	27.74	93.69	17.22	4.02	MWD_M	None
138	734.08	32.53	16.22	5.00	714.90	82.14	92.06	28.48	96.36	17.19	2.34	MWD_M	None
139	739.08	33.12	16.56	5.00	719.10	84.85	94.66	29.25	99.07	17.17	3.77	MWD_M	None
140	744.08	33.58	16.63	5.00	723.28	87.59	97.29	30.03	101.82	17.16	2.81	MWD_M	None
141	749.08	34.23	16.64	5.00	727.43	90.38	99.96	30.83	104.61	17.14	3.96	MWD_M	None
142	754.08	34.68	16.71	5.00	731.55	93.21	102.67	31.64	107.44	17.13	2.75	MWD_M	None
143	759.08	35.33	16.71	5.00	735.64	96.08	105.42	32.47	110.31	17.12	3.96	MWD_M	None
144	764.08	35.74	16.90	5.00	739.71	98.98	108.20	33.31	113.21	17.11	2.59	MWD_M	None
145	769.08	36.44	16.94	5.00	743.75	101.93	111.02	34.17	116.16	17.11	4.27	MWD_M	None
146	774.08	36.88	17.00	5.00	747.77	104.91	113.87	35.04	119.14	17.10	2.69	MWD_M	None
147	779.08	37.65	17.10	5.00	751.74	107.94	116.77	35.93	122.17	17.10	4.71	MWD_M	None
148	784.08	37.96	17.09	5.00	755.69	111.00	119.70	36.83	125.24	17.10	1.89	MWD_M	None
149	789.08	38.71	17.08	5.00	759.62	114.10	122.66	37.74	128.34	17.10	4.57	MWD_M	None
150	794.08	39.01	17.21	5.00	763.51	117.24	125.66	38.66	131.47	17.10	1.90	MWD_M	None
151	799.08	39.73	17.32	5.00	767.38	120.41	128.69	39.60	134.65	17.11	4.41	MWD_M	None
152	804.08	40.04	17.35	5.00	771.21	123.61	131.75	40.56	137.85	17.11	1.89	MWD_M	None
153	809.08	40.79	17.37	5.00	775.02	126.85	134.84	41.53	141.09	17.12	4.57	MWD_M	None
154	814.08	41.26	16.88	5.00	778.79	130.13	137.98	42.49	144.38	17.12	3.47	MWD_M	None
155	819.08	41.82	17.36	5.00	782.53	133.44	141.15	43.47	147.69	17.12	3.93	MWD_M	None
156	824.08	42.27	17.45	5.00	786.25	136.79	144.34	44.47	151.04	17.12	2.77	MWD_M	None
157	829.08	42.86	17.48	5.00	789.93	140.17	147.57	45.49	154.42	17.13	3.60	MWD_M	None
158	834.08	43.41	17.44	5.00	793.58	143.59	150.83	46.51	157.84	17.14	3.36	MWD_M	None
159	839.08	43.87	17.47	5.00	797.20	147.04	154.12	47.55	161.29	17.14	2.81	MWD_M	None
160	844.08	44.42	17.45	5.00	800.78	150.52	157.44	48.59	164.77	17.15	3.35	MWD_M	None
161	849.08	44.93	17.49	5.00	804.34	154.03	160.80	49.65	168.29	17.16	3.11	MWD_M	None
162	854.08	45.62	17.46	5.00	807.86	157.58	164.19	50.71	171.84	17.16	4.21	MWD_M	None
163	859.08	46.11	17.41	5.00	811.34	161.16	167.61	51.79	175.43	17.17	3.00	MWD_M	None
164	864.08	46.86	17.42	5.00	814.78	164.79	171.07	52.87	179.05	17.18	4.57	MWD_M	None
165	869.08	47.24	17.38	5.00	818.19	168.45	174.56	53.97	182.71	17.18	2.32	MWD_M	None
166	874.08	48.14	17.36	5.00	821.56	172.14	178.09	55.07	186.41	17.18	5.49	MWD_M	None
167	879.08	48.59	17.53	5.00	824.88	175.88	181.66	56.19	190.15	17.19	2.85	MWD_M	None
168	884.08	49.52	17.60	5.00	828.15	179.65	185.26	57.33	193.93	17.20	5.68	MWD_M	None
169	889.08	49.88	17.60	5.00	831.39	183.46	188.89	58.49	197.74	17.20	2.19	MWD_M	None
170	894.08	50.70	17.56	5.00	834.58	187.30	192.56	59.65	201.59	17.21	5.00	MWD_M	None
171	899.08	50.97	17.67	5.00	837.74	191.18	196.25	60.82	205.46	17.22	1.73	MWD_M	None
172	904.08	51.84	17.65	5.00	840.86	195.08	199.98	62.01	209.37	17.23	5.30	MWD_M	None
173	909.08	51.98	17.68	5.00	843.94	199.01	203.73	63.20	213.30	17.23	0.87	MWD_M	None
174	925.83	52.78	16.71	16.75	854.17	212.27	216.40	67.12	226.57	17.23	2.02	MWD_M	None
175	942.60	56.44	15.08	16.77	863.88	225.94	229.55	70.86	240.24	17.16	7.08	MWD_M	None
176	985.12	61.91	10.72	42.52	885.67	262.39	265.12	78.97	276.63	16.59	4.75	MWD_M	None

177	1014.73	64.76	8.76	29.61	898.95	288.72	291.20	83.44	302.92	15.99	3.44	MWD_M	None
178	1043.64	66.87	7.23	28.91	910.80	314.87	317.31	87.10	329.05	15.35	2.67	MWD_M	None
179	1072.81	69.09	5.78	29.17	921.73	341.59	344.18	90.16	355.79	14.68	2.71	MWD_M	None
180	1101.53	71.57	3.80	28.72	931.40	368.17	371.12	92.42	382.46	13.98	3.29	MWD_M	None
181	1131.12	74.14	2.13	29.59	940.12	395.78	399.36	93.88	410.24	13.23	3.12	MWD_M	None
182	1160.48	76.77	0.56	29.36	947.50	423.35	427.77	94.54	438.09	12.46	3.15	MWD_M	None
183	1189.75	79.35	358.98	29.27	953.55	450.93	456.40	94.42	466.06	11.69	3.13	MWD_M	None
184	1218.32	81.27	359.33	28.57	958.36	477.97	484.56	94.01	493.59	10.98	2.08	MWD_M	None
185	1247.65	82.54	358.97	29.33	962.49	505.86	513.59	93.58	522.05	10.33	1.37	MWD_M	None
186	1276.98	83.95	358.89	29.33	965.94	533.79	542.71	93.04	550.63	9.73	1.47	MWD_M	None
187	1306.40	83.61	358.52	29.42	969.13	561.81	571.95	92.37	579.36	9.17	0.52	MWD_M	None
188	1335.18	83.58	358.72	28.78	972.34	589.20	600.54	91.69	607.50	8.68	0.21	MWD_M	None
189	1364.58	83.72	357.92	29.40	975.59	617.14	629.75	90.83	636.27	8.21	0.84	MWD_M	None
190	1393.68	83.61	357.93	29.10	978.80	644.73	658.65	89.78	664.74	7.76	0.12	MWD_M	None
191	1423.26	83.49	357.72	29.58	982.13	672.76	688.02	88.67	693.71	7.34	0.25	MWD_M	None
192	1451.95	83.52	357.71	28.69	985.37	699.92	716.51	87.53	721.83	6.96	0.03	MWD_M	None
193	1481.51	83.93	357.89	29.56	988.60	727.94	745.87	86.40	750.86	6.61	0.46	MWD_M	None
194	1510.51	83.64	358.18	29.00	991.74	755.46	774.68	85.41	779.38	6.29	0.43	MWD_M	None
195	1539.79	83.67	357.97	29.28	994.98	783.24	803.76	84.44	808.19	6.00	0.22	MWD_M	None
196	1568.63	83.72	358.01	28.84	998.14	810.60	832.41	83.43	836.58	5.72	0.07	MWD_M	None
197	1597.73	83.89	357.90	29.10	1001.28	838.21	861.32	82.40	865.26	5.46	0.21	MWD_M	None
198	1627.14	83.95	357.90	29.41	1004.40	866.10	890.55	81.33	894.26	5.22	0.06	MWD_M	None
199	1656.35	83.75	358.23	29.21	1007.53	893.83	919.57	80.35	923.08	4.99	0.40	MWD_M	None
200	1685.17	83.81	358.13	28.82	1010.65	921.21	948.21	79.44	951.53	4.79	0.12	MWD_M	None
201	1714.54	83.95	358.06	29.37	1013.78	949.09	977.40	78.46	980.54	4.59	0.16	MWD_M	None
202	1744.05	83.89	357.99	29.51	1016.91	977.10	1006.72	77.45	1009.70	4.40	0.09	MWD_M	None
203	1773.27	83.81	358.17	29.22	1020.04	1004.84	1035.76	76.48	1038.58	4.22	0.20	MWD_M	None
204	1801.85	83.81	358.45	28.58	1023.12	1032.01	1064.16	75.64	1066.84	4.07	0.30	MWD_M	None
205	1830.92	83.87	358.29	29.07	1026.24	1059.65	1093.05	74.82	1095.61	3.92	0.18	MWD_M	None
206	1860.59	83.83	358.31	29.67	1029.42	1087.85	1122.54	73.94	1124.97	3.77	0.05	MWD_M	None
207	1889.80	83.89	358.19	29.21	1032.54	1115.61	1151.57	73.06	1153.88	3.63	0.14	MWD_M	None
208	1918.20	83.98	358.28	28.40	1035.54	1142.60	1179.79	72.19	1182.00	3.50	0.14	MWD_M	None
209	1947.29	83.92	358.03	29.09	1038.61	1170.23	1208.71	71.26	1210.80	3.37	0.27	MWD_M	None
210	1976.94	83.75	358.20	29.65	1041.79	1198.38	1238.17	70.29	1240.16	3.25	0.25	MWD_M	None
211	2006.35	83.84	357.62	29.41	1044.97	1226.28	1267.39	69.22	1269.28	3.13	0.60	MWD_M	None
212	2035.33	83.75	357.60	28.98	1048.10	1253.71	1296.17	68.02	1297.96	3.00	0.10	MWD_M	None
213	2064.96	83.78	357.54	29.63	1051.32	1281.76	1325.60	66.77	1327.28	2.88	0.07	MWD_M	None
214	2093.93	83.95	357.77	28.97	1054.42	1309.20	1354.38	65.59	1355.97	2.77	0.30	MWD_M	None
215	2123.22	83.98	357.50	29.29	1057.50	1336.94	1383.48	64.39	1384.98	2.66	0.28	MWD_M	None
216	2152.02	83.95	357.57	28.80	1060.53	1364.21	1412.10	63.16	1413.51	2.56	0.08	MWD_M	None
217	2181.27	83.75	357.55	29.25	1063.66	1391.90	1441.15	61.92	1442.48	2.46	0.21	MWD_M	None
218	2210.82	83.98	357.42	29.55	1066.82	1419.86	1470.50	60.63	1471.75	2.36	0.27	MWD_M	None
219	2240.04	83.81	357.91	29.22	1069.93	1447.54	1499.53	59.45	1500.71	2.27	0.54	MWD_M	None
220	2268.82	83.72	358.04	28.78	1073.05	1474.84	1528.13	58.44	1529.24	2.19	0.17	MWD_M	None
221	2297.96	83.87	358.30	29.14	1076.20	1502.52	1557.08	57.51	1558.14	2.12	0.31	MWD_M	None
222	2327.20	83.72	358.23	29.24	1079.36	1530.30	1586.14	56.63	1587.15	2.04	0.17	MWD_M	None
223	2356.53	83.81	358.16	29.33	1082.55	1558.16	1615.28	55.71	1616.24	1.98	0.12	MWD_M	None
224	2385.14	83.87	358.00	28.61	1085.62	1585.32	1643.71	54.76	1644.62	1.91	0.18	MWD_M	None
225	2414.60	83.78	358.05	29.46	1088.79	1613.28	1672.98	53.75	1673.84	1.84	0.11	MWD_M	None
226	2443.99	83.84	358.07	29.39	1091.95	1641.18	1702.18	52.76	1703.00	1.78	0.07	MWD_M	None
227	2473.13	83.83	358.05	29.14	1095.08	1668.84	1731.14	51.78	1731.91	1.71	0.02	MWD_M	None
228	2501.94	83.89	357.98	28.81	1098.17	1696.18	1759.76	50.79	1760.50	1.65	0.10	MWD_M	None
229	2531.15	83.83	357.97	29.21	1101.29	1723.90	1788.79	49.76	1789.48	1.59	0.06	MWD_M	None
230	2560.36	83.69	357.86	29.21	1104.46	1751.60	1817.81	48.71	1818.46	1.53	0.19	MWD_M	None
231	2589.71	83.75	358.08	29.35	1107.67	1779.44	1846.96	47.67	1847.58	1.48	0.24	MWD_M	None
232	2618.49	83.72	358.05	28.78	1110.82	1806.75	1875.55	46.71	1876.13	1.43	0.04	MWD_M	None
233	2647.50	83.66	358.08	29.01	1114.00	1834.28	1904.37	45.73	1904.92	1.38	0.07	MWD_M	None
234	2676.96	83.66	358.05	29.46	1117.26	1862.24	1933.63	44.74	1934.15	1.33	0.03	MWD_M	None
235	2705.94	83.63	358.14	28.98	1120.47	1889.74	1962.42	43.79	1962.91	1.28	0.10	MWD_M	None
236	2735.06	83.75	358.31	29.12	1123.67	1917.40	1991.35	42.89	1991.81	1.23	0.22	MWD_M	None
237	2764.38	83.90	358.23	29.32	1126.82	1945.27	2020.48	42.01	2020.92	1.19	0.18	MWD_M	None
238	2793.63	83.81	358.33	29.25	1129.95	1973.06	2049.55	41.14	2049.97	1.15	0.14	MWD_M	None
239	2822.87	83.75	358.06	29.24	1133.12	2000.84	2078.61	40.22	2079.00	1.11	0.29	MWD_M	None
240	2851.62	83.78	358.11	28.75	1136.24	2028.13	2107.17	39.27	2107.54	1.07	0.06	MWD_M	None
241	2879.56	83.75	357.94	27.94	1139.28	2054.64	2134.93	38.31	2135.27	1.03	0.19	MWD_M	None
242	2910.12	83.83	357.88	30.56	1142.58	2083.62	2165.29	37.20	2165.61	0.98	0.10	MWD_M	None
243	2939.72	83.83	356.99	29.60	1145.76	2111.62	2194.69	35.88	2194.98	0.94	0.91	MWD_M	None
244	2967.89	83.81	357.60	28.17	1148.80	2138.25	2222.66	34.56	2222.93	0.89	0.66	MWD_M	None
245	2997.83	83.81	357.91	29.94	1152.02	2166.62	2252.41	33.40	2252.65	0.85	0.31	MWD_M	None
246	3026.45	83.78	357.90	28.62	1155.12	2193.76	2280.84	32.36	2281.07	0.81	0.03	MWD_M	None
247	3056.43	83.75	357.79	29.98	1158.37	2222.18	2310.62	31.24	2310.83	0.77	0.12	MWD_M	None
248	3084.75	83.72	357.72	28.32	1161.46	2249.02	2338.75	30.13	2338.94	0.74	0.08	MWD_M	None
249	3113.98	83.78	357.85	29.23	1164.65	2276.72	2367.78	29.01	2367.96	0.70	0.15	MWD_M	None
250	3143.28	83.69	357.64	29.30	1167.84	2304.48	2396.89	27.86	2397.05	0.67	0.24	MWD_M	None
251	3172.76	83.81	357.78	29.48	1171.05	2332.40	2426.17	26.69	2426.32	0.63	0.19	MWD_M	None
252	3201.21	83.66	357.50	28.45	1174.16	2359.34	2454.42	25.53	2454.56	0.60	0.34	MWD_M	None
253	3230.78	83.78	357.84	29.57	1177.39	2387.34	2483.79	24.33	2483.91	0.56	0.37	MWD_M	None
254	3260.24	83.75	357.88	29.46	1180.59	2415.27	2513.06	23.24	2513.17	0.53	0.05	MWD_M	None
255	3289.18	83.69	357.86	28.94	1183.76	2442.71	2541.80	22.17	2541.90	0.50	0.07	MWD_M	None

256	3318.13	83.69	358.42	28.95	1186.94	2470.19	2570.56	21.24	2570.65	0.47	0.59	MWD_M	None	
257	3347.57	83.81	358.66	29.44	1190.14	2498.21	2599.82	20.49	2599.90	0.45	0.28	MWD_M	None	
258	3377.12	83.69	358.85	29.55	1193.36	2526.36	2629.19	19.85	2629.26	0.43	0.23	MWD_M	None	
259	3406.44	83.78	358.79	29.32	1196.56	2554.29	2658.33	19.25	2658.40	0.41	0.11	MWD_M	None	
260	3435.20	83.78	359.05	28.76	1199.68	2581.72	2686.91	18.71	2686.98	0.40	0.27	MWD_M	None	
261	3464.13	83.81	359.07	28.93	1202.80	2609.32	2715.67	18.24	2715.73	0.38	0.04	MWD_M	None	
262	3493.42	83.86	359.20	29.29	1205.95	2637.28	2744.79	17.80	2744.84	0.37	0.14	MWD_M	None	
263	3522.89	83.90	359.25	29.47	1209.09	2665.43	2774.08	17.41	2774.14	0.36	0.07	MWD_M	None	
264	3551.59	83.84	359.18	28.70	1212.16	2692.84	2802.62	17.02	2802.67	0.35	0.10	MWD_M	None	
265	3580.88	83.84	359.05	29.29	1215.30	2720.80	2831.73	16.57	2831.78	0.34	0.13	MWD_M	None	
266	3610.21	83.84	359.07	29.33	1218.45	2748.79	2860.89	16.09	2860.94	0.32	0.02	MWD_M	None	
267	3639.20	83.75	358.93	28.99	1221.58	2776.44	2889.71	15.58	2889.75	0.31	0.17	MWD_M	None	
268	3667.94	83.83	359.08	28.74	1224.69	2803.86	2918.27	15.09	2918.31	0.30	0.18	MWD_M	None	
269	3697.38	83.72	358.90	29.44	1227.88	2831.94	2947.54	14.57	2947.57	0.28	0.22	MWD_M	None	
270	3726.30	83.84	358.61	28.92	1231.01	2859.49	2976.28	13.95	2976.31	0.27	0.33	MWD_M	None	
271	3755.91	83.78	358.49	29.61	1234.21	2887.67	3005.71	13.20	3005.74	0.25	0.14	MWD_M	None	
272	3784.42	83.52	358.58	28.51	1237.36	2914.79	3034.03	12.48	3034.06	0.24	0.29	MWD_M	None	
273	3813.73	83.52	358.49	29.31	1240.67	2942.66	3063.15	11.73	3063.17	0.22	0.09	MWD_M	None	
274	3843.18	83.61	358.25	29.45	1243.97	2970.65	3092.40	10.90	3092.42	0.20	0.26	MWD_M	None	
275	3872.58	83.58	358.27	29.40	1247.25	2998.58	3121.60	10.01	3121.62	0.18	0.04	MWD_M	None	
276	3901.17	83.63	358.36	28.59	1250.43	3025.74	3150.00	9.18	3150.01	0.17	0.11	MWD_M	None	
277	3930.54	83.55	358.00	29.37	1253.71	3053.62	3179.17	8.25	3179.18	0.15	0.38	MWD_M	None	
278	3959.96	83.43	358.01	29.42	1257.05	3081.52	3208.39	7.23	3208.39	0.13	0.12	MWD_M	None	
279	3989.15	83.55	358.11	29.19	1260.36	3109.21	3237.37	6.25	3237.38	0.11	0.16	MWD_M	None	
280	4017.43	83.69	358.25	28.28	1263.50	3136.06	3265.46	5.36	3265.47	0.09	0.21	MWD_M	None	
281	4047.15	83.66	358.27	29.72	1266.77	3164.30	3294.99	4.46	3294.99	0.08	0.04	MWD_M	None	
282	4076.39	83.69	357.94	29.24	1269.99	3192.05	3324.03	3.50	3324.04	0.06	0.34	MWD_M	None	
283	4105.12	83.66	357.67	28.73	1273.16	3219.28	3352.57	2.41	3352.57	0.04	0.29	MWD_M	None	
284	4134.59	83.52	357.69	29.47	1276.45	3247.18	3381.83	1.22	3381.83	0.02	0.15	MWD_M	None	
285	4163.51	83.61	357.96	28.92	1279.69	3274.58	3410.55	0.13	3410.55	0.00	0.30	MWD_M	None	
286	4192.60	83.55	357.78	29.09	1282.94	3302.15	3439.43	−0.94	3439.43	359.98	0.20	MWD_M	None	
287	4221.10	83.55	357.98	28.50	1286.15	3329.16	3467.73	−1.99	3467.73	359.97	0.21	MWD_M	None	
288	4250.55	83.55	357.75	29.45	1289.45	3357.07	3496.98	−3.08	3496.98	359.95	0.24	MWD_M	None	
289	4279.61	83.55	357.64	29.06	1292.72	3384.59	3525.83	−4.24	3525.83	359.93	0.11	MWD_M	None	
290	4308.95	83.55	358.01	29.34	1296.01	3412.39	3554.96	−5.35	3554.97	359.91	0.38	MWD_M	None	
291	4337.80	83.40	357.78	28.85	1299.29	3439.73	3583.61	−6.40	3583.61	359.90	0.29	MWD_M	None	
292	4367.03	83.63	357.70	29.23	1302.59	3467.41	3612.63	−7.55	3612.63	359.88	0.25	MWD_M	None	
293	4396.41	83.60	357.78	29.38	1305.86	3495.24	3641.80	−8.70	3641.81	359.86	0.09	MWD_M	None	
294	4425.87	83.66	358.03	29.46	1309.13	3523.17	3671.06	−9.77	3671.07	359.85	0.26	MWD_M	None	
295	4454.60	83.72	357.76	28.73	1312.29	3550.41	3699.60	−10.82	3699.61	359.83	0.29	MWD_M	None	
296	4483.91	83.78	357.58	29.31	1315.48	3578.17	3728.71	−12.00	3728.73	359.82	0.20	MWD_M	None	
297	4513.33	83.72	357.44	29.42	1318.68	3606.00	3757.93	−13.27	3757.95	359.80	0.16	MWD_M	None	
298	4542.48	83.75	357.29	29.15	1321.86	3633.56	3786.87	−14.60	3786.90	359.78	0.16	MWD_M	None	
299	4571.38	83.66	357.37	28.90	1325.03	3660.88	3815.57	−15.94	3815.60	359.76	0.13	MWD_M	None	
300	4600.33	83.69	357.39	28.95	1328.22	3688.25	3844.31	−17.26	3844.35	359.74	0.04	MWD_M	None	
301	4630.05	83.78	357.52	29.72	1331.46	3716.36	3873.82	−18.57	3873.87	359.73	0.16	MWD_M	None	
302	4659.08	83.69	357.71	29.03	1334.63	3743.84	3902.65	−19.77	3902.70	359.71	0.22	MWD_M	None	
303	4687.99	83.52	357.57	28.91	1337.85	3771.21	3931.36	−20.95	3931.42	359.69	0.23	MWD_M	None	
304	4717.29	83.90	357.98	29.30	1341.06	3798.97	3960.46	−22.08	3960.52	359.68	0.58	MWD_M	None	
305	4746.43	83.81	358.01	29.14	1344.18	3826.62	3989.42	−23.10	3989.48	359.67	0.10	MWD_M	None	
306	4775.73	83.72	357.84	29.30	1347.36	3854.41	4018.52	−24.15	4018.60	359.66	0.20	MWD_M	None	
307	4804.51	83.81	357.54	28.78	1350.49	3881.67	4047.11	−25.31	4047.19	359.64	0.33	MWD_M	None	
308	4833.86	83.84	358.67	29.35	1353.65	3909.54	4076.27	−26.27	4076.36	359.63	1.17	MWD_M	None	
309	4863.36	83.60	358.34	29.50	1356.87	3937.60	4105.59	−27.04	4105.68	359.62	0.42	MWD_M	None	
310	4892.48	83.83	358.33	29.12	1360.06	3965.28	4134.52	−27.88	4134.61	359.61	0.24	MWD_M	None	
311	4921.35	83.69	358.21	28.87	1363.20	3992.71	4163.21	−28.74	4163.30	359.60	0.19	MWD_M	None	
312	4950.53	83.84	358.42	29.18	1366.37	4020.44	4192.20	−29.60	4192.30	359.60	0.27	MWD_M	None	
313	4980.12	83.66	358.43	29.59	1369.59	4048.58	4221.60	−30.40	4221.71	359.59	0.19	MWD_M	None	
314	5009.46	83.78	358.89	29.34	1372.80	4076.51	4250.76	−31.09	4250.87	359.58	0.49	MWD_M	None	
315	5037.97	83.66	359.11	28.51	1375.92	4103.71	4279.09	−31.58	4279.21	359.58	0.27	MWD_M	None	
316	5067.57	83.66	359.33	29.60	1379.19	4131.96	4308.51	−31.98	4308.63	359.57	0.23	MWD_M	None	
317	5096.52	83.61	359.54	28.95	1382.40	4159.63	4337.28	−32.26	4337.40	359.57	0.23	MWD_M	None	
318	5126.20	83.63	359.95	29.68	1385.69	4188.04	4366.78	−32.40	4366.90	359.58	0.42	MWD_M	None	
319	5154.85	82.91	0.04	28.65	1389.05	4215.48	4395.23	−32.40	4395.35	359.58	0.77	MWD_M	None	
320	5184.26	79.96	359.88	29.41	1393.43	4243.51	4424.31	−32.42	4424.43	359.58	3.06	MWD_M	None	
321	5242.51	72.28	358.99	58.25	1407.39	4297.85	4480.81	−32.97	4480.93	359.58	4.04	MWD_M	None	
322	5271.33	69.03	358.04	28.82	1416.94	4323.87	4507.99	−33.67	4508.12	359.57	3.57	MWD_M	None	
323	5300.84	66.13	356.70	29.51	1428.19	4349.82	4535.24	−34.92	4535.37	359.56	3.26	MWD_M	None	
324	5329.62	63.37	355.77	28.78	1440.47	4374.41	4561.21	−36.63	4561.36	359.54	3.06	MWD_M	None	
325	5359.12	60.23	355.31	29.50	1454.41	4398.86	4587.13	−38.65	4587.29	359.52	3.27	MWD_M	None	
326	5388.65	57.25	355.08	29.53	1469.73	4422.56	4612.28	−40.76	4612.46	359.49	3.08	MWD_M	None	
327	5417.97	53.51	355.34	29.32	1486.39	4445.20	4636.32	−42.77	4636.51	359.47	3.89	MWD_M	None	
328	5447.17	49.80	357.07	29.20	1504.50	4466.83	4659.16	−44.30	4659.37	359.46	4.12	MWD_M	None	
329	5465.29	47.44	358.20	18.12	1516.48	4479.78	4672.75	−44.86	4672.96	359.45	4.22	MWD_M	None	
330	5504.48	44.01	358.64	39.19	1543.83	4506.61	4700.79	−45.64	4701.01	359.44	2.68	MWD_M	None	
331	5532.97	40.34	358.53	28.49	1564.94	4524.93	4719.91	−46.11	4720.13	359.44	3.93	MWD_M	None	
332	5562.30	36.75	358.53	29.33	1587.88	4542.42	4738.18	−46.58	4738.41	359.44	3.73	MWD_M	None	
333	5591.53	34.63	358.43	29.23	1611.62	4558.73	4755.22	−47.03	4755.45	359.43	2.21	MWD_M	None	
334	5620.80	32.71	358.02	29.27	1635.97	4574.24	4771.44	−47.53	4771.68	359.43	2.01	MWD_M	None	
335	5649.72	31.49	358.04	28.92	1660.47	4588.91	4786.80	−48.06	4787.04	359.42	1.29	MWD_M	None	

336	5679.01	31.44	357.12	29.29	1685.46	4603.47	4802.07	−48.71	4802.32	359.42	0.50	MWD_M	None
337	5708.73	31.64	356.93	29.72	1710.79	4618.23	4817.60	−49.51	4817.85	359.41	0.23	MWD_M	None
338	5737.78	31.67	356.55	29.05	1735.51	4632.67	4832.82	−50.38	4833.08	359.40	0.21	MWD_M	None
339	5766.77	29.44	355.60	28.99	1760.48	4646.58	4847.52	−51.39	4847.79	359.39	2.40	MWD_M	None
340	5795.91	27.64	356.38	29.14	1786.07	4659.72	4861.41	−52.36	4861.69	359.38	1.92	MWD_M	None
341	5825.35	26.89	355.68	29.44	1812.24	4672.44	4874.86	−53.29	4875.15	359.37	0.84	MWD_M	None
342	5854.53	27.34	355.94	29.18	1838.22	4684.98	4888.13	−54.27	4888.43	359.36	0.49	MWD_M	None
343	5883.50	27.60	357.84	28.97	1863.92	4697.65	4901.47	−54.99	4901.78	359.36	0.96	MWD_M	None
344	5912.24	27.77	359.77	28.74	1889.37	4710.45	4914.82	−55.27	4915.13	359.36	0.97	MWD_M	None
345	5941.77	27.64	359.21	29.53	1915.52	4723.65	4928.55	−55.39	4928.86	359.36	0.30	MWD_M	None
346	5971.02	27.38	359.28	29.25	1941.46	4736.63	4942.06	−55.57	4942.37	359.36	0.27	MWD_M	None
347	6000.53	27.41	359.59	29.51	1967.66	4749.69	4955.63	−55.70	4955.95	359.36	0.15	MWD_M	None
348	6029.73	27.69	1.31	29.20	1993.55	4762.74	4969.14	−55.59	4969.45	359.36	0.88	MWD_M	None
349	6059.06	27.62	0.02	29.33	2019.53	4775.91	4982.75	−55.44	4983.06	359.36	0.63	MWD_M	None
350	6088.26	27.80	359.49	29.20	2045.38	4788.98	4996.33	−55.49	4996.63	359.36	0.32	MWD_M	None
351	6117.69	27.61	357.48	29.43	2071.43	4802.08	5010.00	−55.86	5010.31	359.36	0.99	MWD_M	None
352	6146.78	27.48	355.74	29.09	2097.23	4814.81	5023.43	−56.65	5023.75	359.35	0.85	MWD_M	None
353	6176.12	27.44	356.35	29.34	2123.26	4827.58	5036.93	−57.58	5037.26	359.35	0.30	MWD_M	None
354	6205.61	27.56	354.21	29.49	2149.42	4840.37	5050.50	−58.70	5050.84	359.33	1.03	MWD_M	None
355	6234.75	27.37	353.94	29.14	2175.28	4852.89	5063.86	−60.09	5064.22	359.32	0.24	MWD_M	None
356	6263.96	27.52	354.19	29.21	2201.20	4865.43	5077.25	−61.48	5077.63	359.31	0.20	MWD_M	None
357	6293.53	27.37	355.16	29.57	2227.44	4878.18	5090.82	−62.75	5091.21	359.29	0.49	MWD_M	None
358	6322.54	27.53	357.02	29.01	2253.19	4890.81	5104.16	−63.66	5104.56	359.29	0.92	MWD_M	None
359	6351.94	27.49	357.66	29.40	2279.26	4903.72	5117.73	−64.29	5118.13	359.28	0.31	MWD_M	None
360	6381.24	27.31	357.62	29.30	2305.28	4916.56	5131.20	−64.85	5131.61	359.28	0.19	MWD_M	None
361	6410.48	27.54	358.05	29.24	2331.23	4929.41	5144.66	−65.35	5145.07	359.27	0.32	MWD_M	None
362	6434.27	27.52	356.65	23.79	2352.32	4939.86	5155.64	−65.86	5156.06	359.27	0.83	MWD_M	None
363	6456.00	27.50	358.00	21.73	2371.60	4949.41	5165.67	−66.33	5166.09	359.26	0.88	Proj. to TD	

Company: **ESSO Australia Pty Ltd**

Schlumberger

Well: **SNA A26A**

Field: **Moonfish**

Rig: **ISDL 175**

9.50 In. Section

State: **Victoria**

EcoScope* Density Neutron
1:500 True Vertical Depth
Recorded Mode Log