Schlumberger

Company: **ESSO Australia Pty. Ltd.**

8.5 in. Section

Well: **BTA−A4A−ST**

Field: **Barracouta**

Rig: **ENSCO 102** State: **Victoria**

Rig: ENSCO 102
Field: Barracouta
Location: Bass Strait
Well: BTA−A4A−ST
Company: ESSO Australia Pty. Ltd.

GeoVISION Service
1:500 True Vertical Depth
Recorded Mode Log

Location

Total depth:	2165.0 m
Spud date:	24−Feb−05
Runs:	2 To 4

Elevation

K.B.	Top Drive
G.L.	−45.7 m
D.F.	56.0 m

Permanent datum:	Mean Sea Level	Elev.:	0.0 m
Log measured from:	Drill Floor	56.0 m	above Perm. datum
Depth reference:	Driller's Depth		

Service Order no.	x = 559117.64 m (East)	Longitude	Latitude
ASQ−05−02	y = 5761070.28 m (North)	E 147º 40' 33.85"	S 38º 17' 47.41"

Depth logged:	848.0 m	To 2132.9 m	Mag decl:	12.974 deg.	Other services:
Date logged:	01−Mar−05	To 07−Mar−05	Mag dip:	−68.872 deg.	Directional Drilling, D&I Survey

Bore hole record

Hole size	from	to
12.25 in.	342.0 m	851.0 m
8.5 in.	851.0 m	2165.0 m

Casing record

Size	Density	from	to
13.375 in.	54.5 lb/ft	Surface	337.0 m
9.625 in.	47.0 lb/ft	Surface	848.0 m

Mud record

Type	from	to
S−W/Bentonite	342.0 m	851.0 m
KCL/PHPA/Glycol	851.0 m	2165.0 m

Borehole deviation record

Min	Max	from	to
0.25 deg.	60.05 deg.	342.0 m	851.0 m
57.71 deg.	63.32 deg.	851.0 m	2165.0 m

Surface equipment		Software record			
Unit	OLU−JA−9602	IDEAL Wis	ID9_1C_02		
Depth system	PDA − DES−DA	SPM	hspm9_2c_08		
		LWD	V8.3A02	V6.2B01	
		MWD	V7.0C00		

Bit Run Summary

Run number		2	3	4
Bit size	in.	8.5	8.5	8.5
Bit start depth	m	851.0	1570.0	1930.0
Bit end depth	m	2108.0	1625.0	2165.0
Top interval logged	m	848.0	1562.3	1912.6
Bottom interval logged	m	2090.7	1602.6	2132.9
Begin log: time		11:40	20:15	21:47
Begin log: date		01−Mar−05	04−Mar−05	05−Mar−05
End log: time		02:30	22:30	07:54
End log: date		04−Mar−05	04−Mar−05	07−Mar−05
Mud data				
Depth	m	2084	2084	2165

Type		KCL/PHPA/Glycol	KCL/PHPA/Glycol	KCL/PHPA/Glycol							
Mud weight	ppg	10.0	10.0	10.0							
Solids	%	7.1	7.1	8.1							
Chlorides	mg/L	31000	31000	31000							
Rm	ohm.m@ºC	0.14@24.1	0.14@24.1	0.12@24.0							
Rmf	ohm.m@ºC	0.12@23.5	0.12@23.5	0.13@24.9							
Rmc	ohm.m@ºC	0.23@24.5	0.23@24.5	0.14@24.6							
Potassium	%	6.0	6.0	6.0							
Environmental data											
GR											
Mud weight	ppg	10.0	10.0	10.0							
Bit size	in.	8.5	8.5	8.5							
Resistivity											
Neutron porosity											
Hole Size	in.	8.5	8.5	8.5							
Mud weight	ppg	10.0	10.0	10.0							
Temperature	ºC	70.6	70.6	69.0							
Mud salinity	ppm	45746	45746	47390							
Formation salinity											
Recording rate 1	SEC	10 sec.	10 sec.	10 sec.							
Recording rate 2	SEC	10 sec.	10 sec.	10 sec.							
Filtering GR		3 pt.	3 pt.	3 pt.							
Filtering density		3 pt.	3 pt.	3 pt.							
Filtering Neutron		3 pt.	3 pt.	3 pt.							
Company representative		B. Steel	M. Jackson	A. Bassett							
Anadrill personnel		K. Handley	M. Y. Tan	R. Burns	K. Wilson	D. Hay					

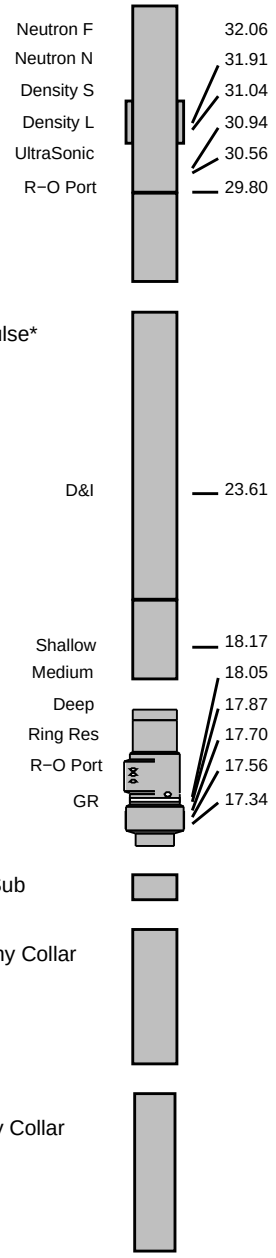
OTHER SERVICES FOR RUN2	OTHER SERVICES FOR RUN3	OTHER SERVICES FOR RUN4
Directional Drilling D&I Survey	Directional Drilling D&I Survey	Directional Drilling D&I Survey
REMARKS: RUN NUMBER 2	**REMARKS: RUN NUMBER 3**	**REMARKS: RUN NUMBER 4**
8−1/2 in. hole section was drilled from 851.0 m to 2108.0 m.	8−1/2 in. hole section was reamed from 1570.0 m to 1625.0 m.	8−1/2 in. hole section was drilled from 1930.0 m to 2165.0 m.
Depth is referenced to Driller's Depth.	Depth is referenced to Driller's Depth.	Depth is referenced to Driller's Depth.
All data presented is from tool memory.	All data presented is from tool memory.	All data presented is from tool memory.
GR corrected for mud weight, tool and bit size.	GR corrected for mud weight, tool and bit size.	GR corrected for mud weight, tool and bit size.
GVR*6 resistivity is corrected for bit size, mud resistivity and borehole temperature.	GVR*6 resistivity is corrected for bit size, mud resistivity and borehole temperature.	GVR*6 resistivity is corrected for bit size, mud resistivity and borehole temperature.
Neutron porosity is calculated with a limestone matrix and is corrected for bit size, borehole salinity, temperature and mud hydrogen index.	Neutron porosity is calculated with a limestone matrix and is corrected for bit size, borehole salinity, temperature and mud hydrogen index.	Neutron porosity is calculated with a limestone matrix and is corrected for bit size, borehole salinity, temperature and mud hydrogen index.
Ultrasonic Caliper not available during sliding intervals.	PEF readings were affected by the presence of Barite in the mud system.	Ultrasonic Caliper not available during sliding intervals.

sliding intervals. PEF readings were affected by the presence of Barite in the mud system. Data density compromised at high ROP. POOH due to drill plug.	Barite in the mud system. POOH to change BHA.	sliding intervals. PEF readings were affected by the presence of Barite in the mud system. Data density compromised at high ROP. POOH due to penetration rate.

EQUIPMENT DESCRIPTION

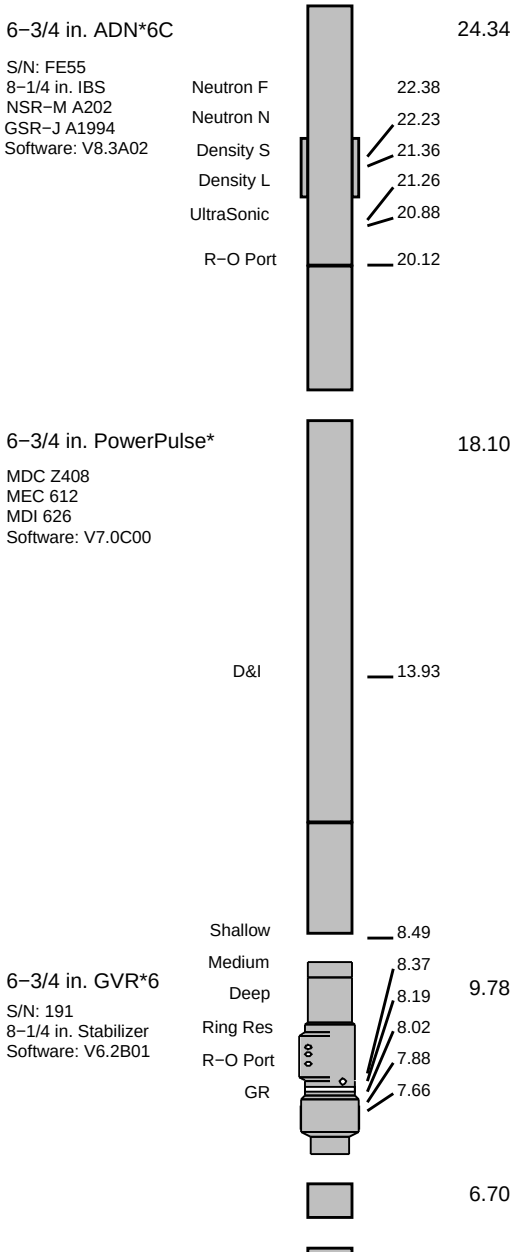
RUN2

DOWNHOLE EQUIPMENT



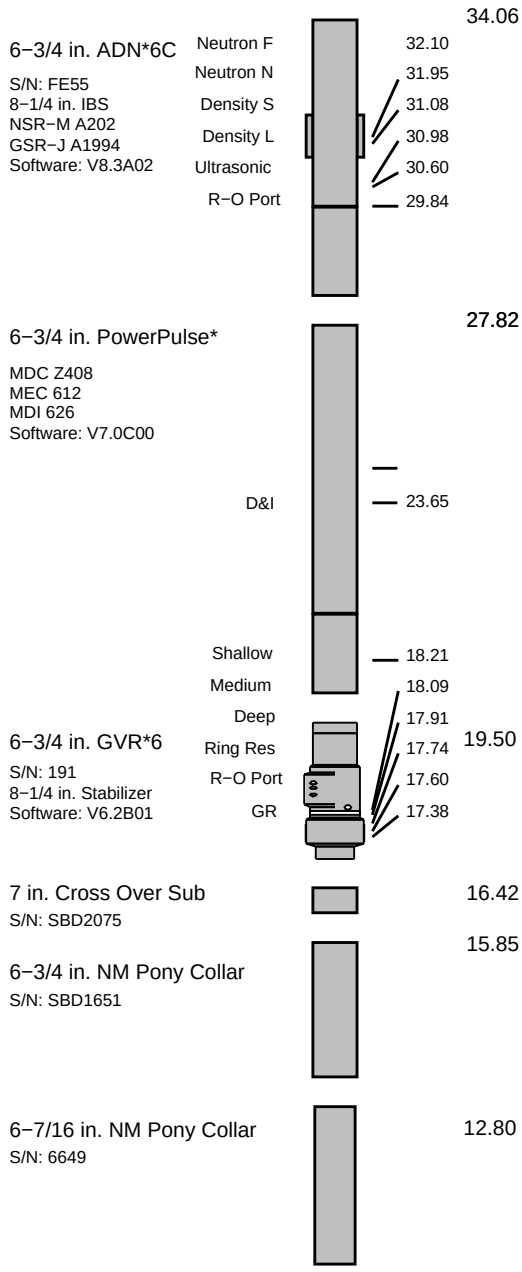
RUN3

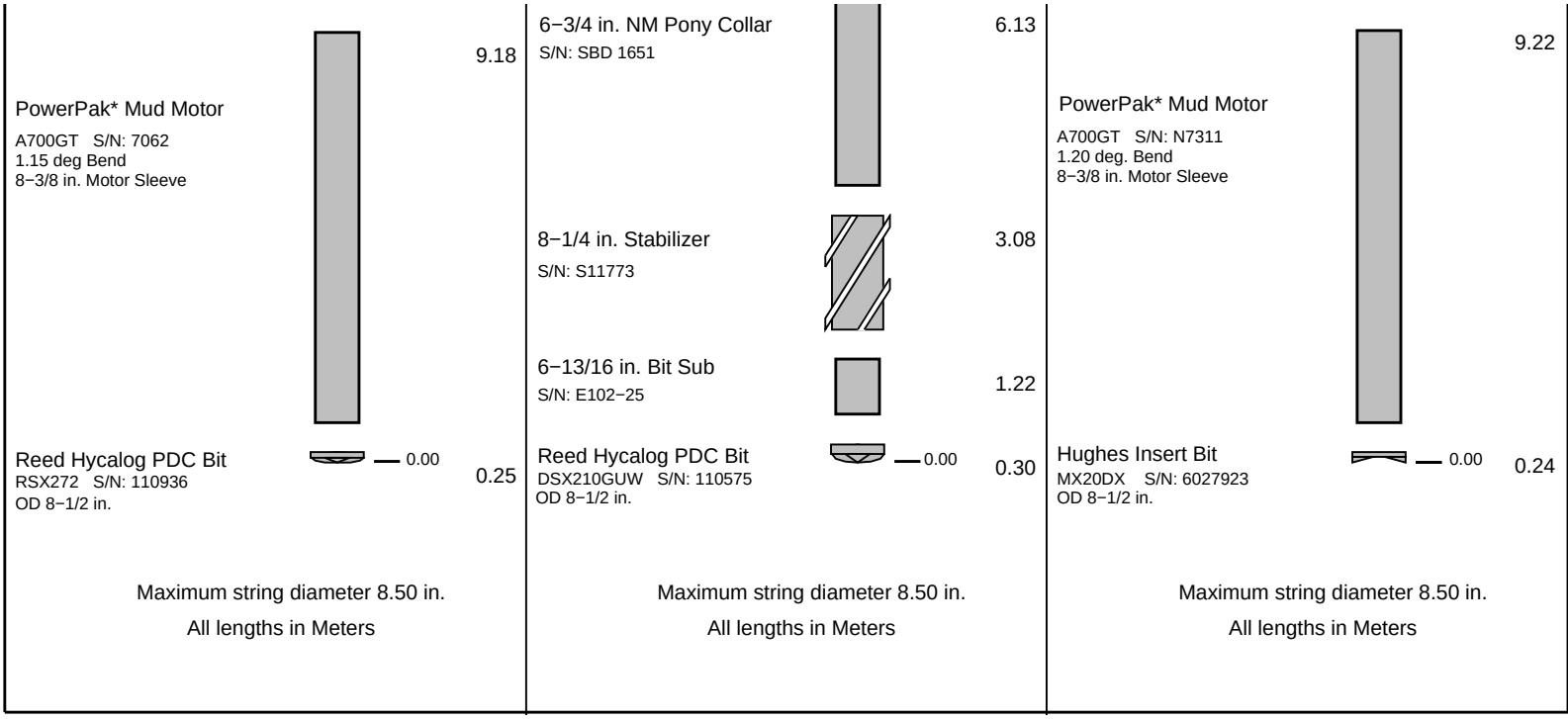
DOWNHOLE EQUIPMENT



RUN4

DOWNHOLE EQUIPMENT





True Vertical Depth Log

IDEAL Version: ID9_1C_02

IDF

Format: GeoVISION Service Log **Vertical Scale: 1:500** **Graphics File Created: 09−Mar−2005 22:01**

PIP SUMMARY

Density Samples

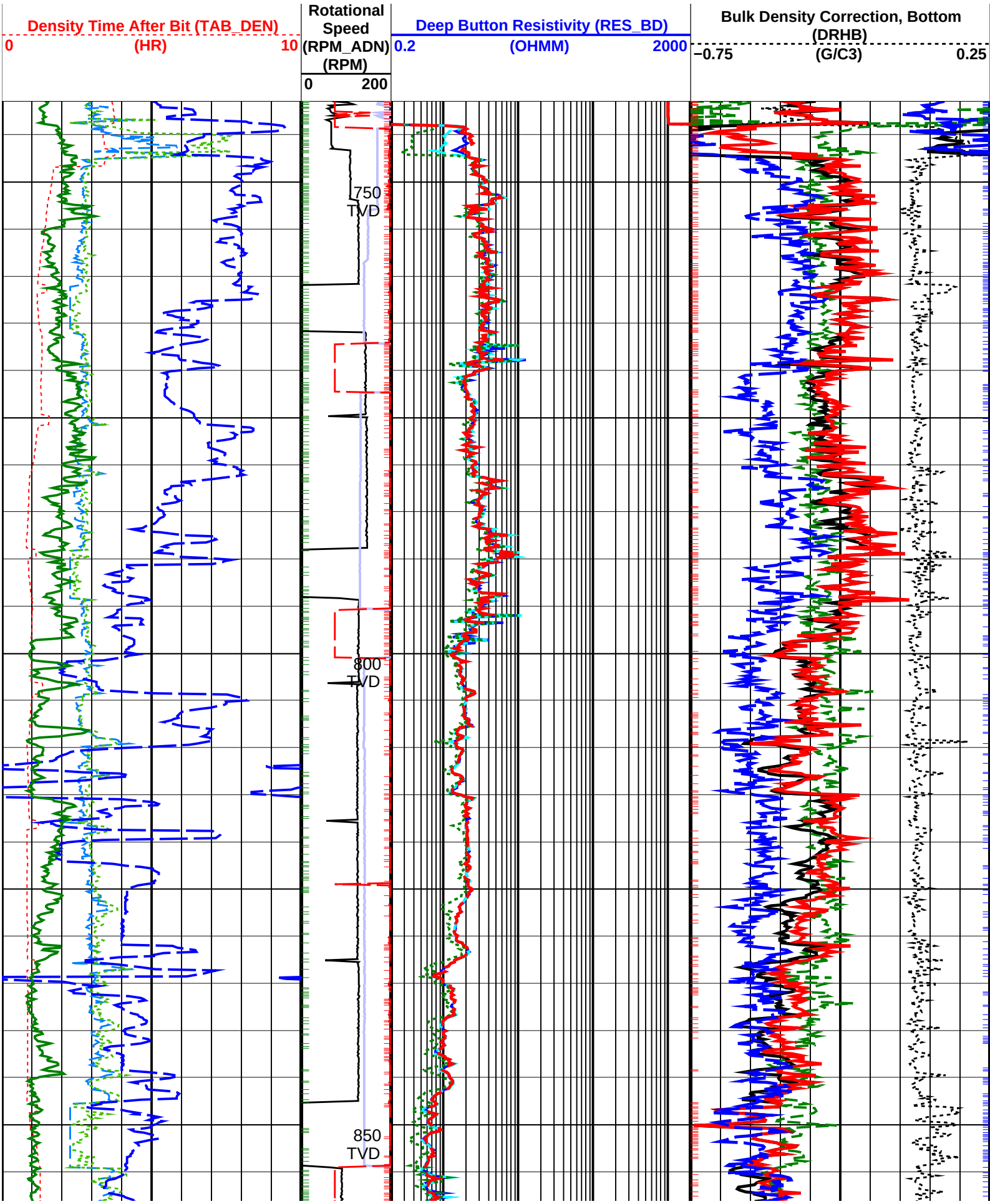
Neutron Samples

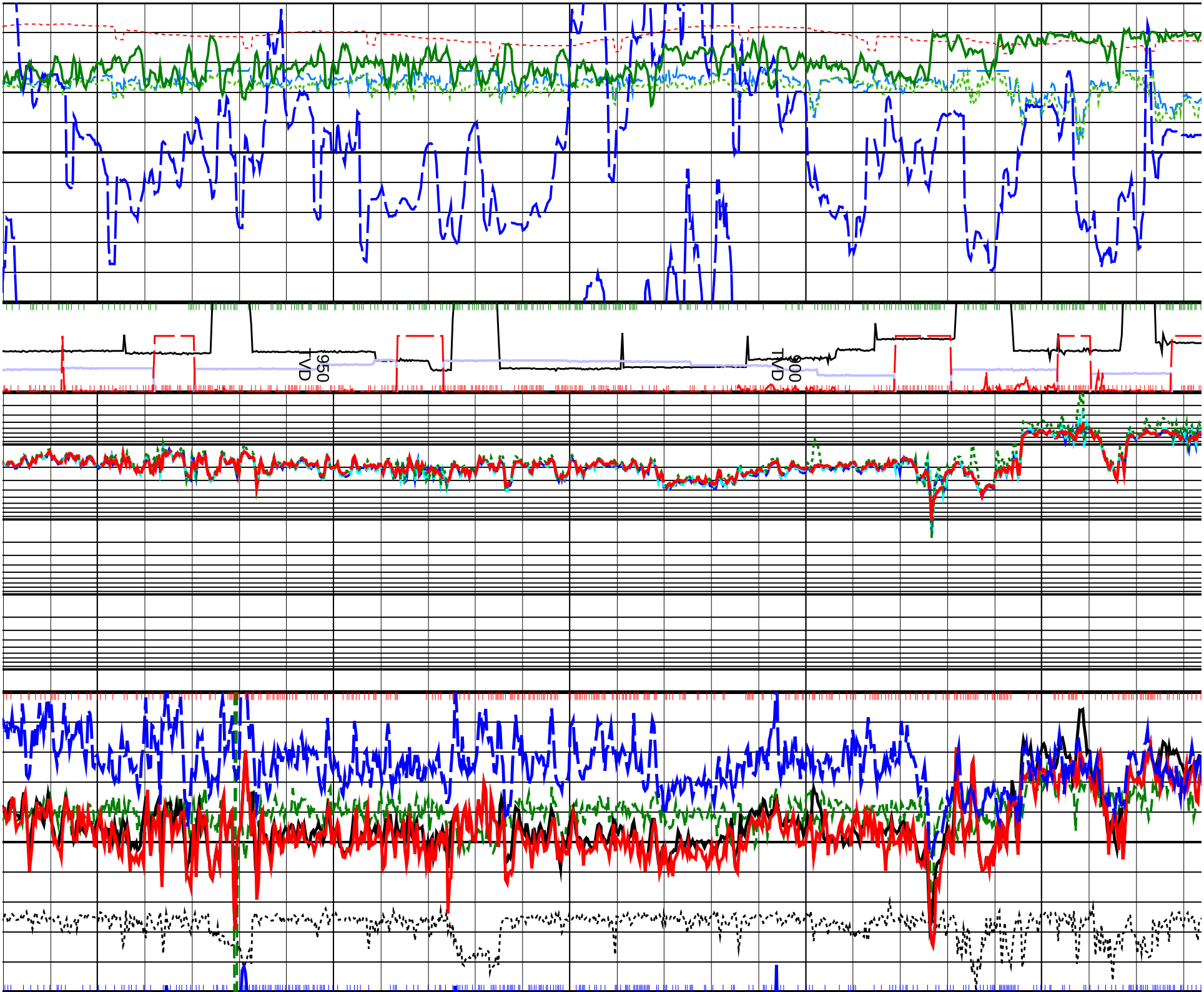
Gamma Ray Samples

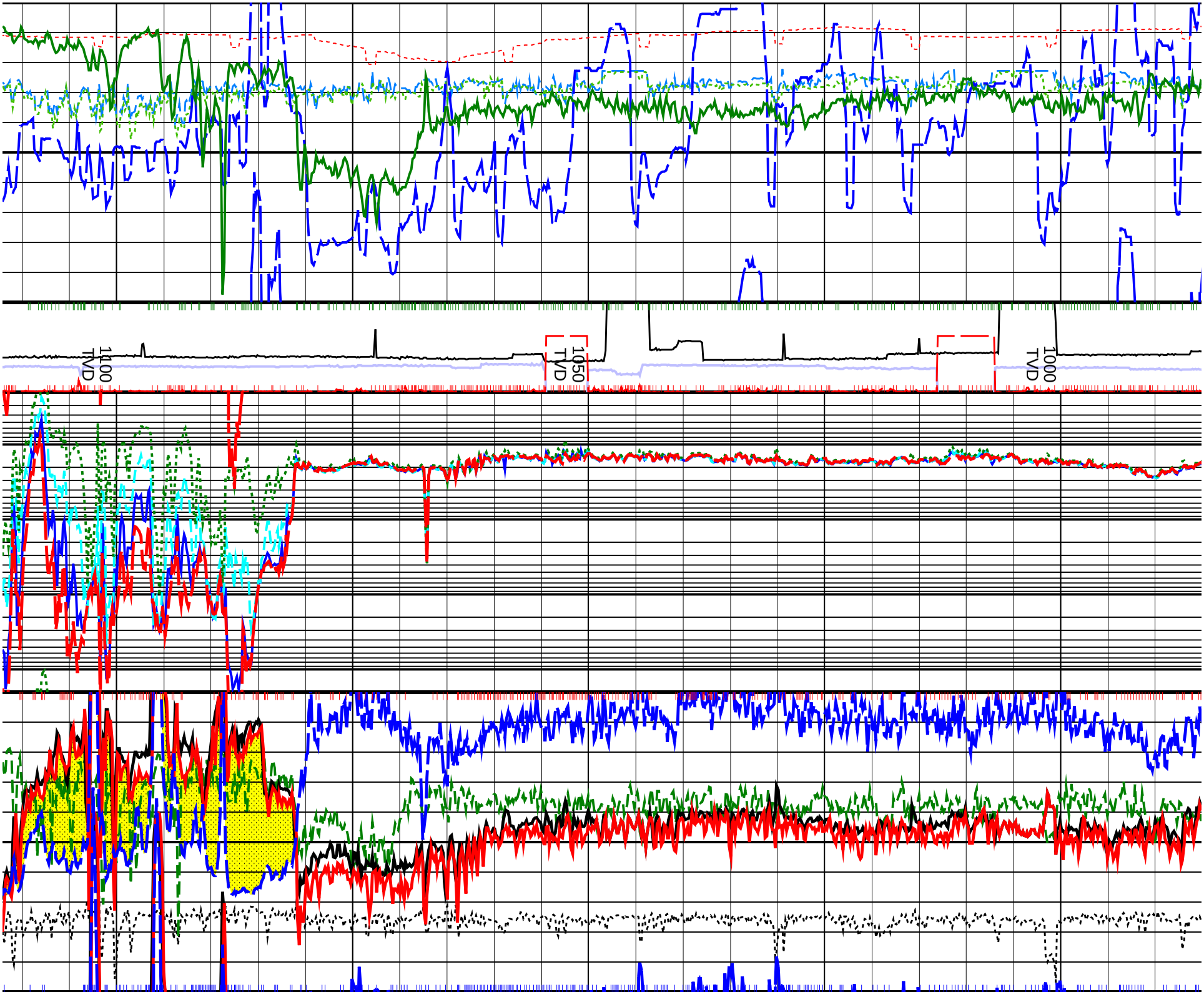
Ring Samples

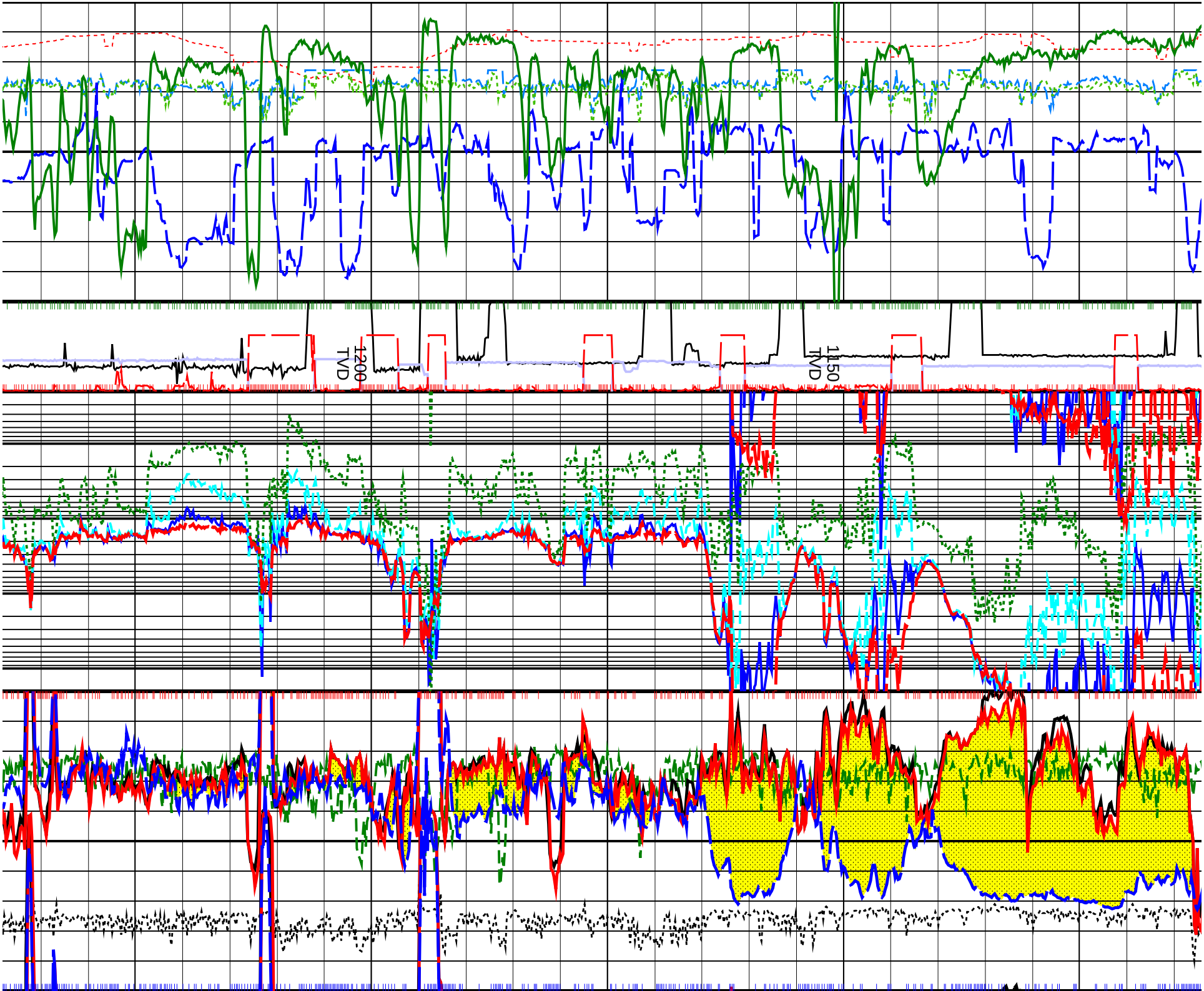
Gas Area From ADN/ROBB/DEPTH to ADN/TNPH/DEPTH

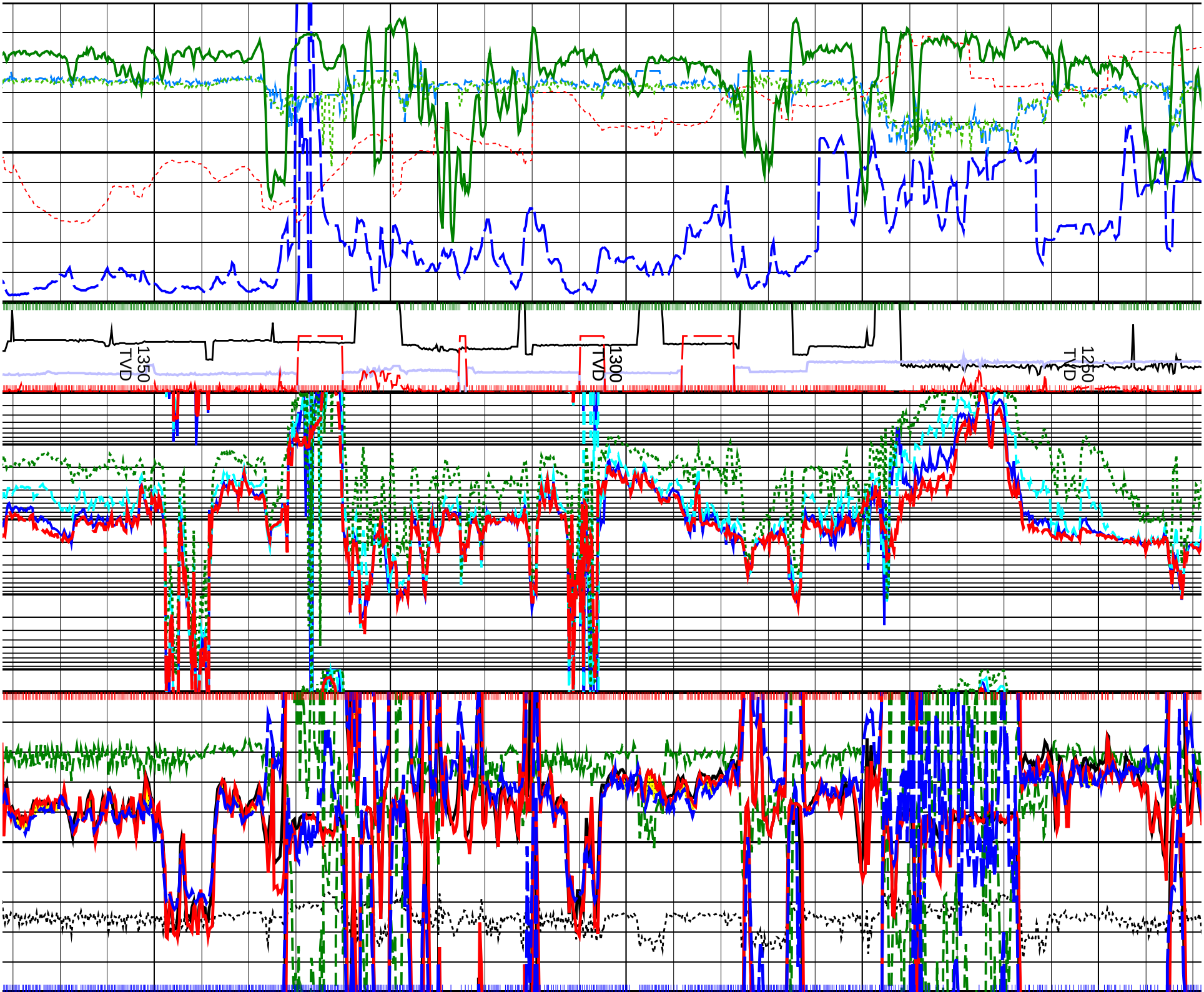
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 100 (M/HR) 0		**Thermal Neutron Porosity (TNPH)** 45 (PU) −15
RAB Gamma Ray (GR_RAB) 0 (GAPI) 200	**Ring Resistivity (RES_RING)** 0.2 (OHMM) 2000	**Bulk Density, Bottom (ROBB)** 1.85 (G/C3) 2.85
Vertical Hole Diameter (VERD) 6 (IN) 16	**RAB Rotational Speed (RPM_RAB) (RPM)** 400 0	**Shallow Button Resistivity (RES_BS)** 0.2 (OHMM) 2000	**Bulk Density (RHOB)** 1.85 (G/C3) 2.85
Horizontal Hole Diameter (HORD) 6 (IN) 16	**Angular Acceleration Indicator (AAI) (----** 400 0	**Medium Button Resistivity (RES_BM)** 0.2 (OHMM) 2000	**Photoelectric Factor, Bottom (PEB)** 0 (---- 10
	ADN		

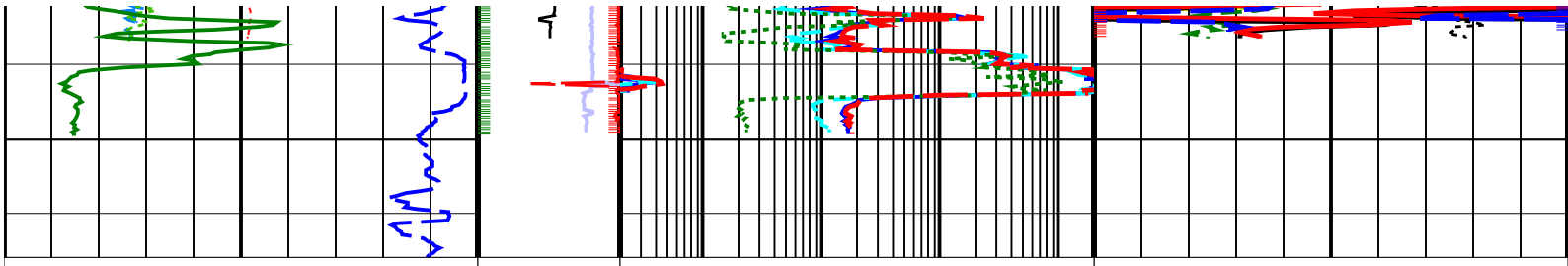

Density Time After Bit (TAB_DEN)
0
(HR)
10
Rotational Speed (RPM_ADN) (RPM)
0
200
Deep Button Resistivity (RES_BD)
0.2
(OHMM)
2000
Bulk Density Correction, Bottom (DRHB)
−0.75
(G/C3)
0.25
750 TVD
800 TVD
850 TVD


950
TVD
900
TVD


1100
TVD
1050
TVD
1000
TVD


1200
TVD
1150
TVD


1350
TVD
1300
TVD
1250
TVD



Density Time After Bit (TAB_DEN) 0 (HR) 10	ADN Rotational Speed (RPM_ADN) (RPM) 0 200	Deep Button Resistivity (RES_BD) 0.2 (OHMM) 2000	Bulk Density Correction, Bottom (DRHB) −0.75 (G/C3) 0.25
Horizontal Hole Diameter (HORD) 6 (IN) 16	Angular Acceleration Indicator (AAI) (---- 400 0	Medium Button Resistivity (RES_BM) 0.2 (OHMM) 2000	Photoelectric Factor, Bottom (PEB) 0 (---- 10
Vertical Hole Diameter (VERD) 6 (IN) 16	RAB Rotational Speed (RPM_RAB) (RPM) 400 0	Shallow Button Resistivity (RES_BS) 0.2 (OHMM) 2000	Bulk Density (RHOB) 1.85 (G/C3) 2.85
RAB Gamma Ray (GR_RAB) 0 (GAPI) 200		Ring Resistivity (RES_RING) 0.2 (OHMM) 2000	Bulk Density, Bottom (ROBB) 1.85 (G/C3) 2.85
Rate of Penetration, Averaged over Last 5ft (ROP5_RM) 100 (M/HR) 0			Thermal Neutron Porosity (TNPH) 45 (PU) −15
			Gas Area From ADN/ROBB/DEPTH to ADN/TNPH/DEPTH

PIP SUMMARY

Density Samples

Neutron Samples

Gamma Ray Samples

Ring Samples

IDEAL Version: ID9_1C_02

IDF

True Vertical Depth Log

6.75−in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:

Tool Name and Serial Number	ADN6 − CA	FE55
Collar Type and Serial Number	ADDC − AA	FE55
Chassis Type and Serial Number	ADSE − EA	380
Neutron Logging Source	NSR − M	202
Density Logging Source	GSR − J/Z	1994
Stabilizer Size	8.25 − in.	
Calibration Status	Valid	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Magnesium Block

Phase	LS window 3 − Mg CPS	Value	Phase	SS window 1 − Mg CPS	Value	Phase	SS window 3 − Mg CPS	Value
Master		1041	Master		2505	Master		6228
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Aluminum Block

Phase	LS window 3 − Al CPS	Value	Phase	SS window 1 − Al CPS	Value	Phase	SS window 3 − Al CPS	Value
Master		156.5	Master		1275	Master		3922
	50.00 (Minimum) 725.0 (Nominal) 1400 (Maximum)			500.0 (Minimum) 4250 (Nominal) 8000 (Maximum)			1500 (Minimum) 15750 (Nominal) 30000 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Background

Phase	LS window 3 − Background CPS	Value	Phase	SS window 1 − Background CPS	Value	Phase	SS window 3 − Background CPS	Value
Master		51.03	Master		129.8	Master		563.0
	15.00 (Minimum) 82.50 (Nominal) 150.0 (Maximum)			40.00 (Minimum) 220.0 (Nominal) 400.0 (Maximum)			150.0 (Minimum) 825.0 (Nominal) 1500 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Density: Water Block Check

Phase	Long spacing water density G/C3	Value	Phase	Short spacing water density G/C3	Value
Master		1.029	Master		1.116
	1.024 (Minimum) 1.039 (Nominal) 1.054 (Maximum)			1.096 (Minimum) 1.126 (Nominal) 1.156 (Maximum)	

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Neutron: Water Tank

Phase	Far 1 tube 1 gain	Value	Phase	Far 1 tube 1 offset CPS	Value
Master		1.068	Master		0.06511
	0.8000 (Minimum) 1.050 (Nominal) 1.300 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)	
Phase	Far 1 tube 2 gain	Value	Phase	Far 1 tube 2 offset CPS	Value
Master		1.013	Master		−0.03114
	0.8000 (Minimum) 1.050 (Nominal) 1.300 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)	
Phase	Far 1 tube 3 gain	Value	Phase	Far 1 tube 3 offset CPS	Value
Master		1.039	Master		0.01313
	0.8000 (Minimum) 1.050 (Nominal) 1.300 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)	
Phase	Far 2 tube 1 gain	Value	Phase	Far 2 tube 1 offset CPS	Value
Master		1.096	Master		0.07837
	0.8000 (Minimum) 1.050 (Nominal) 1.300 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)	
Phase	Far 2 tube 2 gain	Value	Phase	Far 2 tube 2 offset CPS	Value
Master		0.9974	Master		−0.1285
	0.8000 (Minimum) 1.050 (Nominal) 1.300 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)	
Phase	Far 2 tube 3 gain	Value	Phase	Far 2 tube 3 offset CPS	Value
Master		1.042	Master		0.1064
	0.8000 (Minimum) 1.050 (Nominal) 1.300 (Maximum)			−1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)	
Phase	Near 1 tube 1 gain	Value	Phase	Near 1 tube 1 offset CPS	Value
Master		0.9812	Master		−40.77

Master			
	0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)

Master			
	−100.0 (Minimum)	0 (Nominal)	100.0 (Maximum)

Phase	Near 2 tube 1 gain	Value
Master		0.9674
	0.8000 (Minimum)	1.050 (Nominal)	1.300 (Maximum)

Phase	Near 2 tube 1 offset CPS	Value
Master		−32.21
	−100.0 (Minimum)	0 (Nominal)	100.0 (Maximum)

Master: 4−Jan−2005 21:40

6.75−in. Azimuthal Density Neutron Calibration

Neutron: Water Block Check

Phase	Far Neutron water porosity PU	Value
Master		103.2
	90.00 (Minimum)	100.0 (Nominal)	125.0 (Maximum)

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

Primary Equipment:

Tool Name and Serial Number	RAB6 − CA 191
Calibration Status	Valid

Master: 28−Jan−2005 18:29

6.75−in. Resistivity At−the−Bit Calibration

Resistivity: Fixture

Phase	Ring/T1 factor	Value
Master		0.9967
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	Ring/T2 factor	Value
Master		0.9942
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	M0/T1 factor	Value
Master		1.007
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	M0/T2 factor	Value
Master		1.004
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	M2/T1 factor	Value
Master		1.007
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	M2/T2 factor	Value
Master		1.004
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN shallow/T1 factor	Value
Master		1.003
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN shallow/T2 factor	Value
Master		0.9999
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN medium/T1 factor	Value
Master		0.9950
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN medium/T2 factor	Value
Master		0.9919
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN deep/T1 factor	Value
Master		1.012
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Phase	BTN deep/T2 factor	Value
Master		1.009
	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Master: 28−Jan−2005 18:29

6.75−in. Resistivity At−the−Bit Calibration

Gamma Ray: Blanket

Phase	Gamma ray factor	Value
Master		0.9256
	0.7500 (Minimum)	1.000 (Nominal)	1.250 (Maximum)

Client.....: ESSO
Field.....: Barracouta

Well.....: BTA-A4A-ST
API number.....:
Engineer.....: K.Handley, M.Y.Tan, R.Burns

Rig:.....: ENSCO 102
STATE:.....: Victoria

Spud date.....: 24-Feb-05
Last survey date.....: 08-Mar-05
Total accepted surveys...: 65
MD of first survey.....: 344.00 m
MD of last survey.....: 2165.00 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.....: -45.70 m
KB above permanent.....: Top Drive
DF above permanent.....: 56.00 m

----- Vertical section origin----------------
Latitude (+N/S-).....: 0.85 m
Departure (+E/W-).....: 8.53 m

----- Platform reference point---------------
Latitude (+N/S-).....: -304.57 m
Departure (+E/W-).....: -304.57 m

Azimuth from Vsect Origin to target: 76.22 degrees

----- Geomagnetic data ----------------------
Magnetic model.....: BGGM version 2004
Magnetic date.....: 22-Feb-2005
Magnetic field strength..: 1201.43 HCNT
Magnetic dec (+E/W-).....: 12.97 degrees
Magnetic dip.....: -68.87 degrees

----- MWD survey Reference Criteria ---------
Reference G.....: 1000.03 mGal
Reference H.....: 1201.43 HCNT
Reference Dip.....: -68.87 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections ---------------------------
Magnetic dec (+E/W-).....: 12.97 degrees
Grid convergence (+E/W-).: -0.42 degrees
Total az corr (+E/W-).....: 13.39 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

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/ D/M	Srvy tool type	Tool Corr (deg)
1	344.00	0.25	235.37	0.00	343.99	0.73	0.55	9.36	9.38	86.64	0.00	TIP	None
2	351.60	3.14	130.65	7.60	351.59	0.84	0.40	9.50	9.51	87.56	0.42	GYR	None
3	371.56	6.26	115.73	19.96	371.48	2.00	-0.42	10.90	10.91	92.23	0.17	MWD	None
4	400.60	10.44	98.23	29.04	400.21	5.66	-1.49	14.93	15.01	95.69	0.17	GYR	None
5	430.00	13.39	92.42	29.40	428.97	11.40	-2.01	20.97	21.07	95.48	0.11	MWD	None
6	458.41	16.35	82.38	28.41	456.43	18.54	-1.62	28.22	28.27	93.29	0.14	MWD	None
7	487.44	19.21	75.25	29.03	484.08	27.38	0.14	36.90	36.90	89.79	0.12	MWD	None
8	516.58	22.78	75.14	29.14	511.28	37.82	2.80	46.99	47.07	86.58	0.12	MWD	None
9	545.52	27.31	73.86	28.94	537.49	50.06	6.09	58.79	59.10	84.09	0.16	MWD	None
10	574.63	31.33	72.34	29.11	562.87	64.29	10.24	72.42	73.14	81.95	0.14	MWD	None
11	603.86	34.81	75.42	29.23	587.36	80.22	14.65	87.74	88.95	80.52	0.13	MWD	None
12	632.38	38.27	75.46	28.52	610.27	97.19	18.92	104.17	105.88	79.71	0.12	MWD	None
13	661.80	41.30	75.07	29.42	632.87	116.01	23.71	122.38	124.65	79.04	0.10	MWD	None
14	691.10	45.16	74.90	29.30	654.22	136.07	28.91	141.76	144.67	78.47	0.13	MWD	None
15	719.99	48.91	74.32	28.89	673.90	157.20	34.52	162.13	165.77	77.98	0.13	MWD	None
16	749.12	52.83	74.48	29.13	692.28	179.78	40.59	183.89	188.32	77.55	0.13	MWD	None
17	778.33	56.53	75.07	29.21	709.17	203.61	46.85	206.89	212.13	77.24	0.13	MWD	None
18	806.73	58.42	75.06	28.40	724.44	227.54	53.02	230.02	236.05	77.02	0.07	MWD	None
19	826.51	60.05	75.43	19.78	734.56	244.54	57.35	246.46	253.04	76.90	0.08	MWD	None
20	857.08	60.11	75.02	30.57	749.80	271.03	64.11	272.08	279.53	76.74	0.01	MWD	None
21	885.76	61.34	74.96	28.68	763.83	296.04	70.58	296.24	304.53	76.60	0.04	MWD	None
22	914.88	60.95	74.82	29.12	777.88	321.54	77.23	320.86	330.03	76.47	0.01	MWD	None
23	943.53	60.68	75.21	28.65	791.85	346.55	83.70	345.03	355.03	76.36	0.02	MWD	None
24	972.56	59.77	76.43	29.03	806.27	371.74	89.87	369.45	380.23	76.33	0.05	MWD	None
25	1001.50	59.54	77.10	28.94	820.89	396.72	95.59	393.77	405.20	76.35	0.02	MWD	None
26	1030.64	59.11	76.93	29.14	835.76	421.78	101.22	418.19	430.26	76.39	0.02	MWD	None
27	1059.78	57.85	76.77	29.14	850.99	446.61	106.87	442.38	455.10	76.42	0.04	MWD	None
28	1089.10	58.34	76.70	29.32	866.49	471.50	112.59	466.60	479.99	76.43	0.02	MWD	None
29	1118.03	59.62	78.08	28.93	881.39	496.29	118.00	490.80	504.78	76.48	0.06	MWD	None
30	1147.18	61.65	77.56	29.15	895.69	521.68	123.36	515.63	530.18	76.55	0.07	MWD	None

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/ D/M	Srvy tool type	Tool Corr (deg)

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/ D/M	Srvy tool type	Tool Corr (deg)
31	1176.44	62.74	77.42	29.26	909.34	547.56	128.96	540.89	556.06	76.59	0.04	MWD	None
32	1205.78	63.29	77.18	29.34	922.65	573.70	134.71	566.40	582.20	76.62	0.02	MWD	None
33	1234.53	63.22	77.02	28.75	935.59	599.37	140.44	591.43	607.87	76.64	0.01	MWD	None
34	1263.41	63.32	74.80	28.88	948.58	625.16	146.72	616.44	633.66	76.61	0.07	MWD	None
35	1292.28	62.74	73.74	28.87	961.67	650.88	153.70	641.21	659.37	76.52	0.04	MWD	None
36	1321.68	61.29	72.83	29.40	975.47	676.80	161.16	666.07	685.29	76.40	0.06	MWD	None
37	1350.51	60.59	72.52	28.83	989.47	701.95	168.67	690.13	710.44	76.27	0.03	MWD	None
38	1379.66	60.36	72.02	29.15	1003.84	727.26	176.39	714.29	735.75	76.13	0.02	MWD	None
39	1408.57	60.11	72.24	28.91	1018.19	752.29	184.09	738.18	760.78	76.00	0.01	MWD	None
40	1437.70	60.53	73.72	29.13	1032.61	777.56	191.50	762.37	786.06	75.90	0.05	MWD	None
41	1466.67	60.32	73.21	28.97	1046.91	802.72	198.67	786.53	811.23	75.82	0.02	MWD	None
42	1494.99	59.98	74.68	28.32	1061.01	827.27	205.46	810.13	835.78	75.77	0.05	MWD	None
43	1524.16	60.08	76.01	29.17	1075.58	852.53	211.85	834.58	861.05	75.76	0.04	MWD	None
44	1553.56	60.34	75.95	29.40	1090.19	878.05	218.04	859.33	886.56	75.76	0.01	MWD	None
45	1582.31	59.93	76.35	28.75	1104.50	902.98	224.00	883.54	911.49	75.77	0.02	MWD	None
46	1611.11	60.27	75.83	28.80	1118.86	927.95	230.01	907.77	936.46	75.78	0.02	MWD	None
47	1640.37	60.83	76.43	29.26	1133.25	953.42	236.11	932.51	961.94	75.79	0.03	MWD	None
48	1669.37	61.92	76.44	29.00	1147.14	978.88	242.08	957.25	987.39	75.81	0.04	MWD	None
49	1697.95	61.74	77.55	28.58	1160.63	1004.07	247.75	981.80	1012.58	75.84	0.03	MWD	None
50	1727.34	61.10	76.95	29.39	1174.69	1029.88	253.45	1006.98	1038.38	75.87	0.03	MWD	None
51	1756.52	60.74	76.03	29.18	1188.87	1055.38	259.41	1031.77	1063.88	75.89	0.03	MWD	None
52	1785.84	61.68	75.81	29.32	1202.99	1081.07	265.66	1056.69	1089.58	75.89	0.03	MWD	None
53	1814.73	60.60	74.63	28.89	1216.94	1106.37	272.11	1081.16	1114.88	75.87	0.05	MWD	None
54	1843.93	59.17	75.44	29.20	1231.59	1131.62	278.63	1105.56	1140.13	75.85	0.05	MWD	None
55	1873.01	60.22	75.24	29.08	1246.26	1156.72	284.99	1129.85	1165.24	75.84	0.04	MWD	None
56	1901.51	60.30	75.12	28.50	1260.40	1181.47	291.32	1153.77	1189.98	75.83	0.00	MWD	None
57	1930.45	57.71	75.01	28.94	1275.30	1206.27	297.71	1177.74	1214.78	75.81	0.09	MWD	None
58	1959.57	61.45	74.05	29.12	1290.04	1231.36	304.41	1201.93	1239.88	75.79	0.13	MWD	None
59	1988.76	61.26	74.58	29.19	1304.04	1256.96	311.34	1226.60	1265.49	75.76	0.02	MWD	None
60	2016.21	59.94	74.18	27.45	1317.51	1280.87	317.78	1249.63	1289.40	75.73	0.05	MWD	None

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/ D/M	Srvy tool type	Tool Corr (deg)
61	2047.03	60.93	73.76	30.82	1332.72	1307.65	325.18	1275.39	1316.19	75.70	0.03	MWD	None
62	**2075.72**	**59.49**	**73.40**	**28.69**	**1346.97**	**1332.52**	**332.22**	**1299.28**	**1341.08**	**75.66**	**0.05**	**MWD**	**None**
63	**2104.69**	**60.28**	**74.27**	**28.97**	**1361.51**	**1357.56**	**339.19**	**1323.34**	**1366.12**	**75.62**	**0.04**	**MWD**	**None**
64	2133.61	61.55	74.59	28.92	1375.57	1382.82	345.98	1347.69	1391.39	75.60	0.04	MWD	None
65	2165.00	62.93	74.93	31.39	1390.19	1410.59	353.28	1374.49	1419.16	75.59	0.04	Projection to TD	

Company: **ESSO Australia Pty. Ltd.**

Schlumberger

Well: **BTA−A4A−ST**

Field: **Barracouta**

Rig: **ENSCO 102**

8.5 in. Section

State: **Victoria**

GeoVISION Service
1:500 True Vertical Depth
Recorded Mode Log