

Rig: **ISDL 453** State: **Victoria**

Rig: ISDL 453 Field: Tuna Location: Bass Strait Well: TNA A-10A ST Company: ESSO Australia Ltd Pty	GeoVISION* Density Neutron 1:500 Measured Depth Recorded Mode Data					
	Location	Total depth: 2243.0 m			Elevation	K.B. 31.32 m
		Spud date: 5-Oct-2002				G.L. -59.4 m
		Runs: 2 To 2				D.F. 31.32 m
		Permanent datum: Mean Sea Level			Elev.: 59.4 m	
	Log measured from: Drill Floor			31.32 m above Perm. datum		
	Depth reference: Driller's Depth					
	API serial no.		Y = 5,774,222.491 m N X = 624,224.990 m E		Longitude Latitude	
					E 148° 25' 5.413" S 38° 10' 16.394"	
	Depth logged: 1948.9 m To 2231.4 m		Mag decl: 13.166 deg.		Other services:	
Date logged: 15-Oct-02 To 16-Oct-02		Mag dip: -68.686 deg.		D & I, Directional Drilling		
Bore hole record			Casing record			
Hole size	from	to	Size	Density	from	to
8 1/2 in.	661.1 m	2243.0 m	20 in.	285 lbm/m	0.0 m	155.0 m
			13 3/8 in.	226 lbm/m	0.0 m	647.0 m
			9 5/8 in.	154 lbm/m	617.0 m	661.1 m
Mud record			Borehole deviation record			
Type	from	to	Min	Max	from	to
KCl/PHPA/Glycol	661.1 m	2243.0 m	37.4 deg.	42.5 deg.	646.4 m	1015.5 m
			42.5 deg.	60.9 deg.	1015.5 m	1218.5 m
			60.9 deg.	68.7 deg.	1218.5 m	1796.9 m
			54.1 deg.	68.7 deg.	1796.9 m	2243.0 m
Surface equipment		Software record				
Unit	OLU-FB-924	IDEAL Wis	ID7_0C_02r			
Depth system	PDA-AB	SPM	HSPM7_0C_10a			
		LWD	See Toolsketch			
		MWD	See Toolsketch			

Bit Run Summary

[illegible]

Type	KCl/Phpa/Glycol										
Mud weight	lb/gal	10.25									
Solids	%	9.4									
Chlorides	mg/L	40,500									
Rm	ohm-m@°C	0.125@21.5									
Rmf	ohm-m@°C	0.231@22.0									
Rmc	ohm-m@°C	0.104@20.8									
Potassium	%	4									
Environmental data											
GR											
Mud weight	lb/gal	10.25									
Bit size	in.	8.5									
Resistivity											
Neutron porosity											
Hole Size	in.	8.5									
Mud weight	lb/gal	10.25									
Temperature	°C	68.5									
Mud salinity	ppk	66.825									
Formation salinity											
Recording rate 1	SEC	10									
Recording rate 2	SEC	10									
Filtering GR		3 pt									
Filtering density		3 pt									
Filtering Neutron		3 pt									
Company representative	B. Steel	B. Woodward									
Anadrill personnel	L. Bon	J. Dolan	K. Handley								

<p style="text-align: center;">DISCLAIMER</p> <p>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.</p>		
OTHER SERVICES FOR RUN2 D & I Directional Drilling	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 2 All data presented is from tool memory. GR corrected for mud weight, tool and bit size. GVR6* resistivity is corrected for the bit size, mud resistivity and borehole temperature. Bottom quadrant density is presented. Neutron porosity is calculated with a limestone matrix and is corrected for the bit size, borehole salinity, temperature and mud hydrogen index. Mud type is water-based KCl/PHPA/Glycol. Barite was present in the mud system.	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

GVR6* downhole software: 6.1B14
ADN6* downhole software: 6.2B08

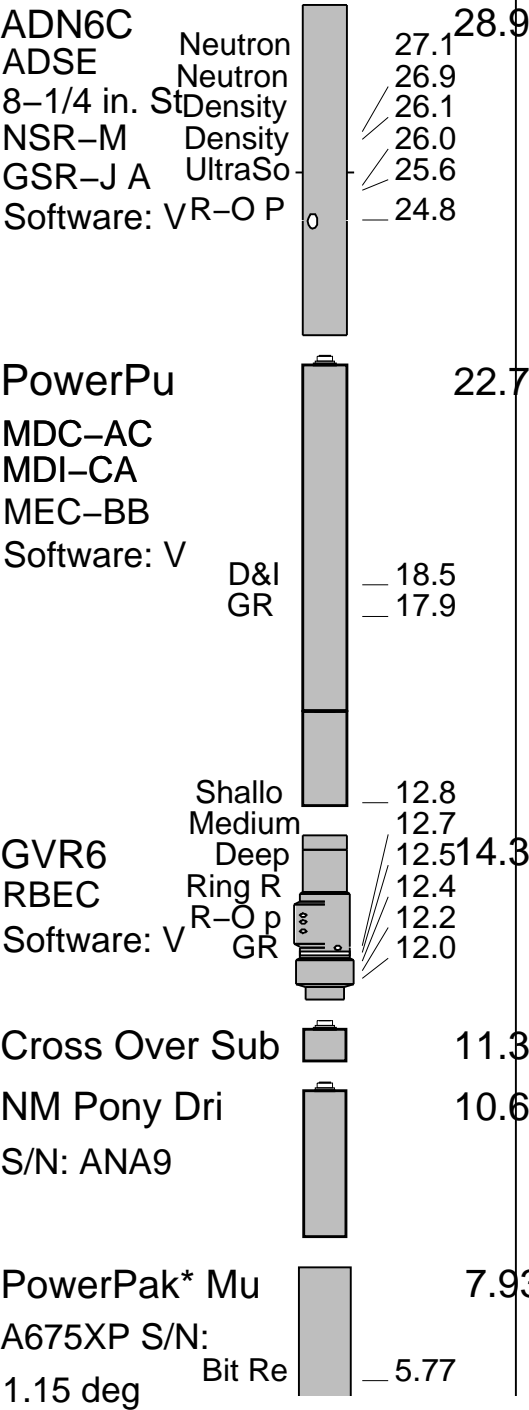
EQUIPMENT DESCRIPTION

RUN2

RUN

RUN

DOWNHOLE EQ



1.15 deg Bit Re 5.77

Security T
XS30D S/N:
MAXIMUM STRING DI
ALL LENGTHS I

0.00 0.24

IDEAL Version: ID7_0C_02

IDF

RAB IDEAL Version: ID7_0C_02 MWD_10 IDEAL Version: ID7_0C_02
ADN IDEAL Version: ID7_0C_02

Format: TNA A-10A GeoVISION Density Neutron Vertical Scale: 1:500 Graphics File Created: 18-Oct-2002 06:27

Parameters

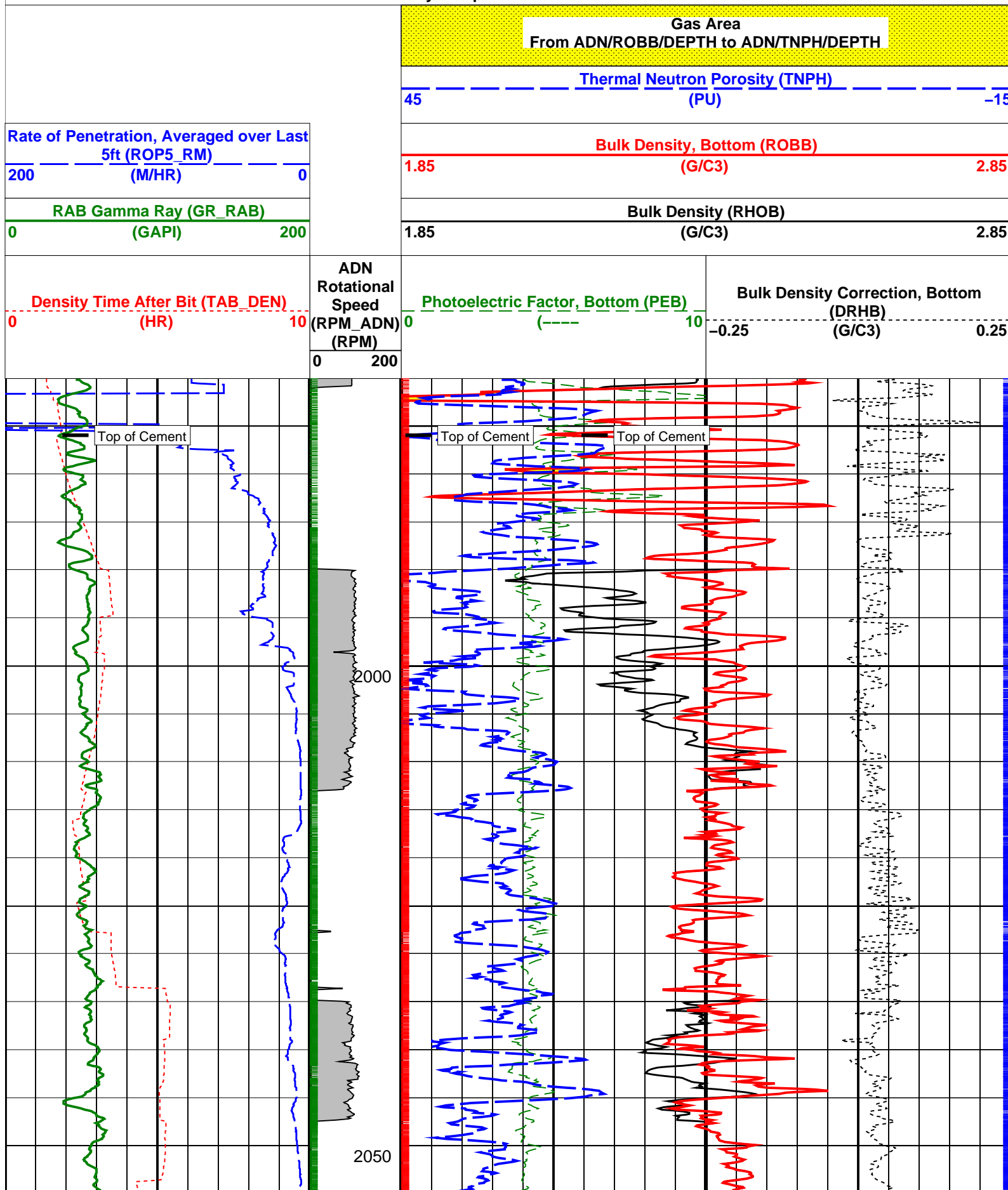
DLIS Name	Description	Value
ADN_COLLAR_STR	ADN Collar Type String	ADDC-AA: Slick
ADN_STAB_STR	ADN Stabilizer Type String	None
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	YES
A_DHS	ADN Down Hole Software Version String	V6.2B
BHA_COEF_VER	RAB: BHA Coef Generator Version	62012.0
BHT_RM	Bottom Hole Temperature (RM)	158.0 degF
BSAL_RM	Mud Salinity (RM)	66.825 ppk
BS_RM	Bit Size (RM)	8.500 in
DEVI	Well Section Deviation	49.540 deg
DHS_VERSION	RAB: DownHole Software Version	6.101
DO	Depth Offset	0.0 m
ENVCOR	Neutron Quadrant Processing: Environmental Correction?	YES
GRDC	Grid corr angle	-0.880 deg
LITHO_TYPE_ADN	Lithology (RM)	LIME
MST_RM	Mud Sample temperature (RM)	70.700 degF
MW_RM	Mud Weight (RM)	10.250 lbm/gal
OBM	RAB: Oil base Mud	NO
OBMF_RM	Oil Based Mud	NO
RAB_TEMP_SELECT	RAB Temperature Selection	MEAS
READOUT_PORT_MP	RAB: ROP to Bit Face Distance	12.280 m
RHOF_RM	Mud Filtrate Density (RM)	1.000 g/cm3
RHOM_RM	Matrix density (RM)	2.710 g/cm3
RMS_RM	Resistivity of Mud Sample (RM)	0.125 ohm.m
RWS_RM	Resistivity of Connate Water (RM)	1.000 ohm.m
SHT_RM	Surface Hole Temperature (RM)	62.600 degF
SSIZ_ADN	ADN Stabilizer Size	8.250 in
STAB	RAB: Run with Stabilizer	YES
TD_RM	Total Measured Depth (RM)	2243.0 m
TOOLTYPE	RAB: Azimuthal Tool	YES
TRPM_RM	Average Tool Rotational Speed	20.000 c/min
TSIZ_ADN	ADN Tool Size	6.750 in
TS_VERSION	RAB: ToolScope Software Version	6.101
TWS_RM	Temperature of Connate Water (RM)	75.000 degF
VERS_ADN	ADN Downhole Software Version	6.200
VRAB6	Rab Tool type (ENP/PILOT)	RAB6_C_SERIES

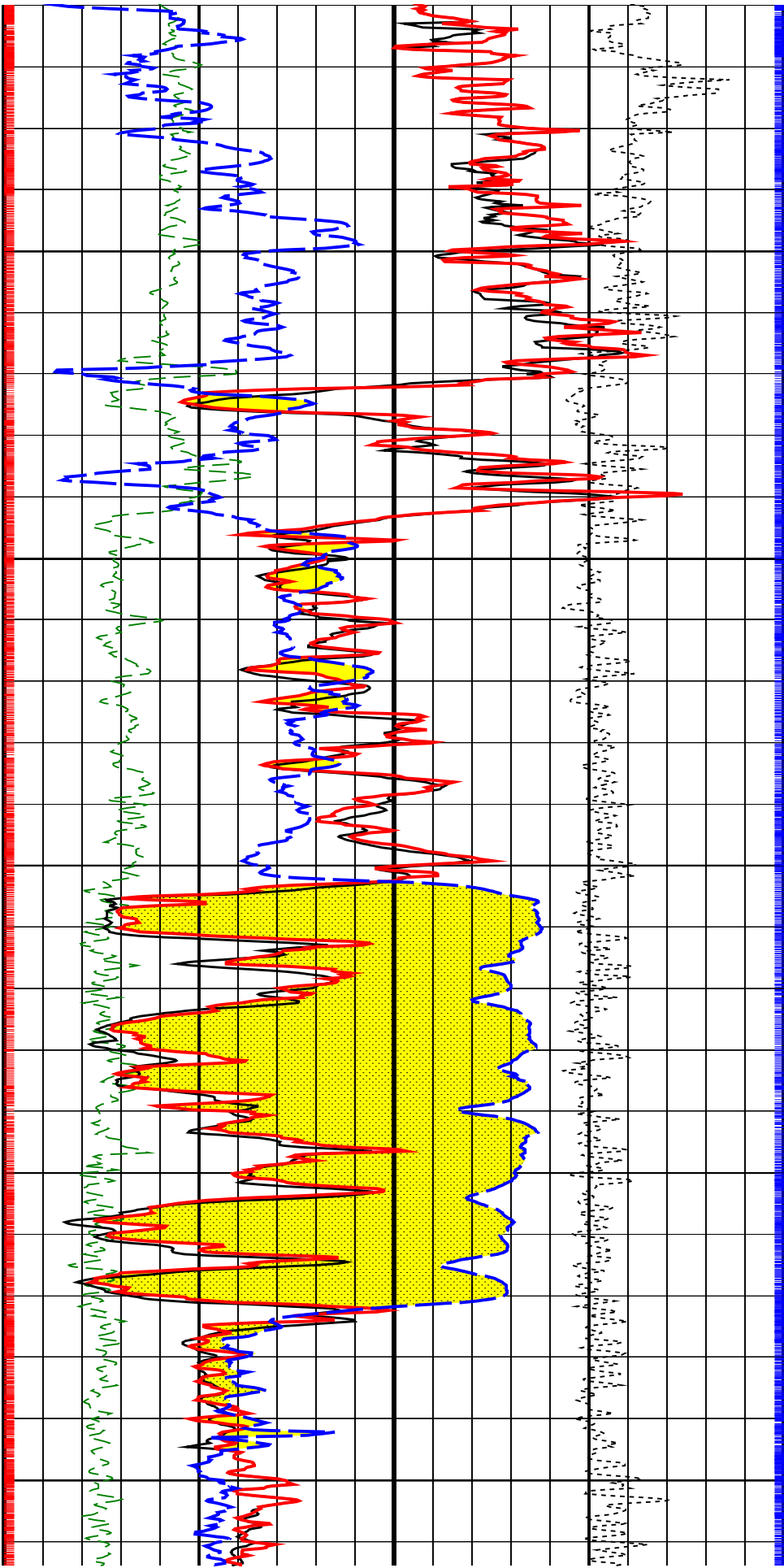
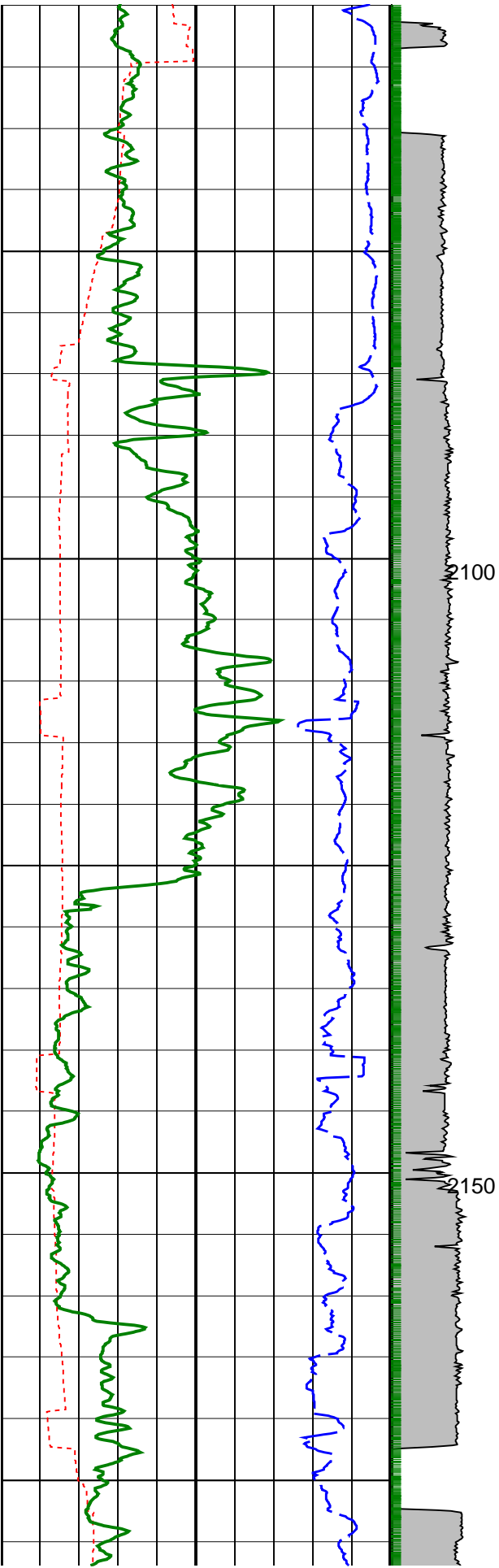
PIP SUMMARY

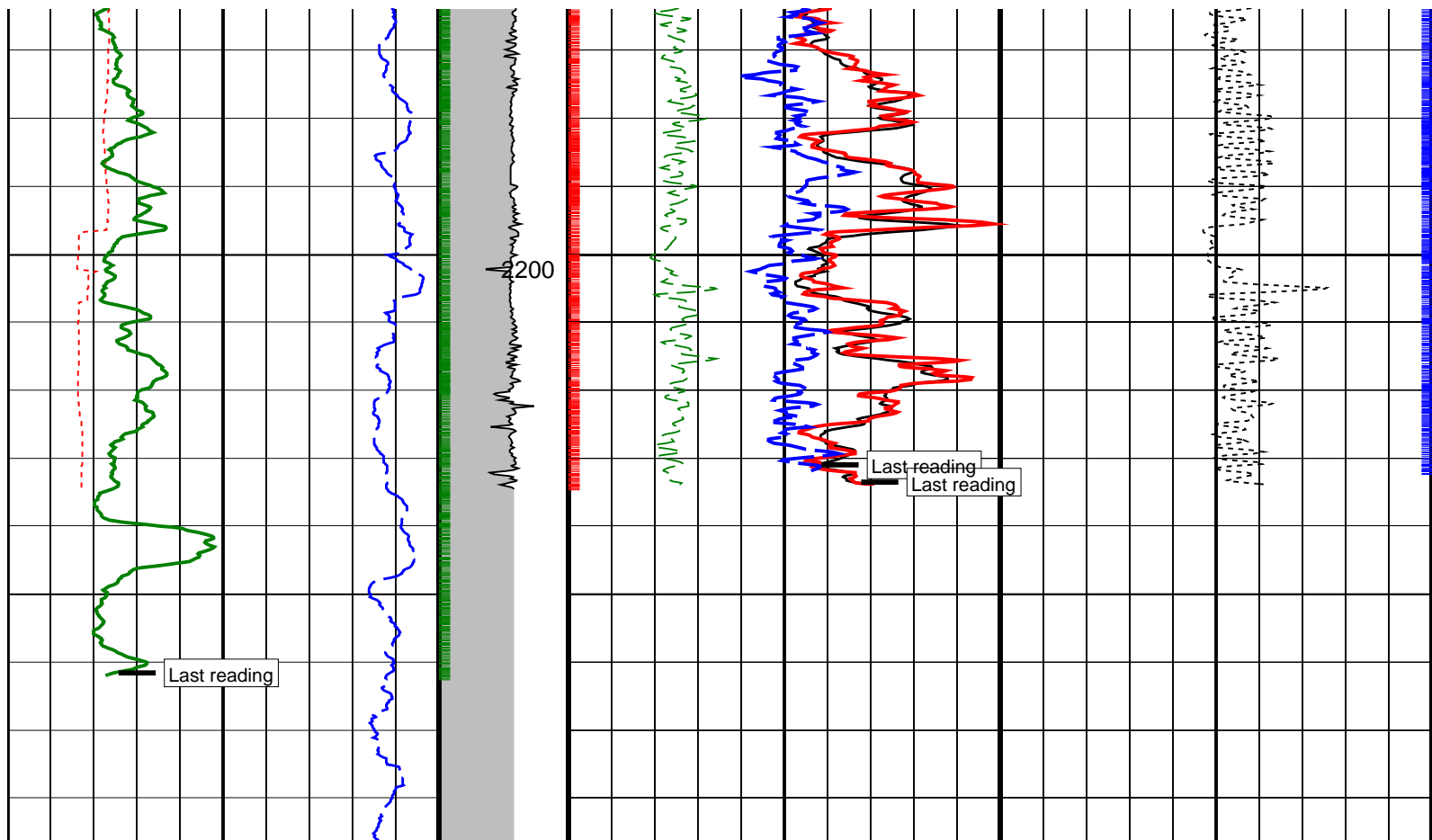
Density Ticks, 0.1 ft

Neutron Ticks, 0.1 ft

Gamma Ray Samples







<div>Density Time After Bit (TAB_DEN)</div> <div>0 (HR) 10</div>		<div>ADN Rotational Speed (RPM_ADN) (RPM)</div> <div>0 200</div>	<div>Photoelectric Factor, Bottom (PEB)</div> <div>0 (----) 10</div>		<div>Bulk Density Correction, Bottom (DRHB)</div> <div>-0.25 (G/C3) 0.25</div>	
<div>RAB Gamma Ray (GR_RAB)</div> <div>0 (GAPI) 200</div>						
<div>Rate of Penetration, Averaged over Last 5ft (ROP5_RM)</div> <div>200 (M/HR) 0</div>			<div>Bulk Density (RHOB)</div> <div>1.85 (G/C3) 2.85</div>			
			<div>Bulk Density, Bottom (ROBB)</div> <div>1.85 (G/C3) 2.85</div>			
			<div>Thermal Neutron Porosity (TNPH)</div> <div>45 (PU) -15</div>			
			<div>Gas Area</div> <div>From ADN/ROBB/DEPTH to ADN/TNPH/DEPTH</div>			

PIP SUMMARY		
┤	Density Ticks, 0.1 ft	
┤	Gamma Ray Samples	
		Neutron Ticks, 0.1 ft ┤

IDEAL Version: ID7_0C_02 IDF			
RAB	IDEAL Version: ID7_0C_02	MWD_10	IDEAL Version: ID7_0C_02
ADN	IDEAL Version: ID7_0C_02		

Primary Equipment:

6.75-in. Azimuthal Density Neutron / Equipment Identification

6.75-in. Azimuthal Density Neutron / Equipment Identification

Primary Equipment:
 Tool Name and Serial Number
 Collar Type and Serial Number
 Chassis Type and Serial Number
 Stabilizer Type and Serial Number
 Neutron Logging Source
 Density Logging Source
 Stabilizer Size
 Calibration Status

ADN6C* S/N: 289
 ADDC – AA
 ADSE – EA
 Clamp-On Stabilizer
 NSR-M S/N: A161
 GSR-J S/N: A2125
 8.25 – in.
 Valid

Master: 20-Aug-2002 12:00

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		1286	Master		2974	Master		7375
	250.0 (Minimum) 4125 (Nominal) 8000 (Maximum)			700.0 (Minimum) 9350 (Nominal) 18000 (Maximum)			2500 (Minimum) 23750 (Nominal) 45000 (Maximum)	

Master: 20-Aug-2002 12:00

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		199.3	Master		1579	Master		4746
	50.00 (Minimum) 725.0 (Nominal) 1400 (Maximum)			500.0 (Minimum) 4250 (Nominal) 8000 (Maximum)			1500 (Minimum) 15750 (Nominal) 30000 (Maximum)	

Master: 20-Aug-2002 12:00

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		51.89	Master		125.3	Master		546.5
	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: 20-Aug-2002 12:00

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		1.034	Master		1.130
	1.015 (Minimum) 1.030 (Nominal) 1.045 (Maximum)			1.095 (Minimum) 1.120 (Nominal) 1.145 (Maximum)	



Master: 20-Aug-2002 12:00

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		1.102	Master		-0.8340
	0.9000 (Minimum) 1.100 (Nominal) 1.300 (Maximum)			-1.200 (Minimum) -0.9000 (Nominal) -0.6000 (Maximum)	
Phase	Far 1 tube 2 gain	Value	Phase	Far 1 tube 2 offset CPS	Value
Master		1.048	Master		-0.9090
	0.9000 (Minimum) 1.100 (Nominal) 1.300 (Maximum)			-1.200 (Minimum) -0.9000 (Nominal) -0.6000 (Maximum)	
Phase	Far 1 tube 3 gain	Value	Phase	Far 1 tube 3 offset CPS	Value
Master		1.071	Master		-0.7690
	0.9000 (Minimum) 1.100 (Nominal) 1.300 (Maximum)			-1.200 (Minimum) -0.9000 (Nominal) -0.6000 (Maximum)	
Phase	Far 2 tube 1 gain	Value	Phase	Far 2 tube 1 offset CPS	Value
Master		1.107	Master		-0.7220
	0.9000 (Minimum) 1.100 (Nominal) 1.300 (Maximum)			-1.200 (Minimum) -0.9000 (Nominal) -0.6000 (Maximum)	
Phase	Far 2 tube 2 gain	Value	Phase	Far 2 tube 2 offset CPS	Value
Master		1.000	Master		-0.8370

Master		1.000	Master		-0.8370
0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)	-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)
Phase	Far 2 tube 3 gain	Value	Phase	Far 2 tube 3 offset CPS	Value
Master		1.108	Master		-0.7300
0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)	-1.200 (Minimum)	-0.9000 (Nominal)	-0.6000 (Maximum)
Phase	Near 1 tube 1 gain	Value	Phase	Near 1 tube 1 offset CPS	Value
Master		1.088	Master		0
0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
Phase	Near 2 tube 1 gain	Value	Phase	Near 2 tube 1 offset CPS	Value
Master		1.062	Master		0
0.9000 (Minimum)	1.100 (Nominal)	1.300 (Maximum)	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)

Master: Calibration date not found					
6.75-in. Azimuthal Density Neutron Calibration					
Neutron: Water Block Check					
Phase	Far Neutron water porosity V/V	Value	Phase	Near Neutron water porosity V/V	Value
Master		1.000	Master		1.000
0.9000 (Minimum)	1.000 (Nominal)	1.150 (Maximum)	0.9000 (Minimum)	1.000 (Nominal)	1.150 (Maximum)

6.75-in. Resistivity At-the-Bit / Equipment Identification	
Primary Equipment:	
Tool Name and Serial Number	GVR6* S/N: 160
Calibration Status	Valid

Master: 11-Sep-2002 12:00								
6.75-in. Resistivity At-the-Bit Calibration								
Resistivity: Fixture								
Phase	Ring/T1 factor	Value	Phase	Ring/T2 factor	Value	Phase	M0/T1 factor	Value
Master		0.9975	Master		0.9991	Master		1.001
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	M0/T2 factor	Value	Phase	M2/T1 factor	Value	Phase	M2/T2 factor	Value
Master		1.002	Master		0.9983	Master		0.9994
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	BTN shallow/T1 factor	Value	Phase	BTN shallow/T2 factor	Value	Phase	BTN medium/T1 factor	Value
Master		1.006	Master		1.007	Master		1.002
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)
Phase	BTN medium/T2 factor	Value	Phase	BTN deep/T1 factor	Value	Phase	BTN deep/T2 factor	Value
Master		1.003	Master		1.012	Master		1.012
0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)	0.9750 (Minimum)	1.000 (Nominal)	1.025 (Maximum)

Master: 11-Sep-2002 12:00	
6.75-in. Resistivity At-the-Bit Calibration	

6.75-in. Resistivity At-the-Bit Calibration		
Gamma Ray: Blanket		
Phase	Gamma ray factor	Value
Master		0.8590
0.7500 (Minimum)	1.000 (Nominal)	1.250 (Maximum)

ANADRILL

SCHLUMBERGER

Survey report 16-Oct-2002 12:09:07 Page 1 of 3

Client.....: Esso Australia Ltd.
Field.....: Tuna

Well.....: TNA A-10A Spud date.....: 4-Oct-2002
API number.....: Last survey date.....: 16-Oct-02
Engineer.....: L. Bon Total accepted surveys...: 57
MD of first survey.....: 646.50 m
RIG.....: ISDL 453 MD of last survey.....: 2243.00 m
STATE.....: Victoria

----- Survey calculation methods----- ----- Geomagnetic data -----
Method for positions.....: Minimum curvature Magnetic model.....: BGM version 2001
Method for DLS.....: Mason & Taylor Magnetic date.....: 20-Sep-2002
Magnetic field strength...: 1200.29 HCNT
----- Depth reference ----- Magnetic dec (+E/W-).....: 13.17 degrees
Permanent datum.....: Mean Sea Level Magnetic dip.....: -68.69 degrees
Depth reference.....: Driller's Depth
GL above permanent.....: -59.40 m ----- MWD survey Reference Criteria -----
KB above permanent.....: 31.32 m Reference G.....: 1000.02 mGal
DF above permanent.....: 31.32 m Reference H.....: 1200.29 HCNT
Reference Dip.....: -68.69 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Platform reference point----- ----- Corrections -----
Latitude (+N/S-).....: -3.05 m Magnetic dec (+E/W-).....: 13.17 degrees
Departure (+E/W-).....: 0.11 m Grid convergence (+E/W-).....: -0.88 degrees
Total az corr (+E/W-).....: 14.05 degrees
Azimuth from rotary table to target: 332.28 degrees (Total az corr = magnetic dec - grid conv)
Sag applied (Y/N).....: No degree: 0.00

[(c)2002 Anadrill IDEAL ID7_OC_02]

ANADRILL SCHLUMBERGER Survey Report

16-Oct-2002 12:09:07

Page 2 of 3

Seq	Measured	Incl	Azimuth	Course	TVD	Vertical	Displ	Displ	Total	At	DLS	Srvy	Tool
#	depth	angle	length	depth	section	+N/S-	+E/W-	displ	Azim	(deg/	100f	type	qual
-	(m)	(deg)	(deg)	(m)	(m)	(m)	(m)	(m)	(deg)	100f)	type	type	
1	646.5	37.39	204.16	0	614.23	-101.72	-136.8	-35.75	138.47	194.65	0	TIP	-
2	661.2	37.68	204.31	14.7	625.89	-107.24	-144.96	-39.43	147.32	195.21	0.63	GYR	-
3	700.49	38.02	219.27	39.29	656.98	-119.38	-165.32	-52.05	170.44	197.48	7.11	MWD	6-axis
4	729	38.66	224.98	28.51	679.35	-125.46	-178.42	-63.91	186.69	199.71	3.85	MWD	6-axis
5	757.82	37.29	233.89	28.82	702.08	-129.42	-189.94	-77.34	202.3	202.15	5.97	MWD	6-axis
6	785.91	37.06	243.45	28.09	724.48	-130.48	-198.74	-91.8	216.2	204.79	6.27	MWD	6-axis
7	814.55	37.96	252.29	28.64	747.22	-128.78	-205.29	-107.92	229.28	207.73	5.8	MWD	6-axis
8	843.56	39.69	259.68	29.01	769.83	-124.45	-209.66	-125.54	241.82	210.91	5.19	MWD	6-axis
9	871.13	40.19	267.56	27.57	790.98	-118.02	-211.62	-143.1	253	214.07	5.62	MWD	6-axis
10	901.08	40.82	274.91	29.95	813.77	-108.61	-211.19	-162.52	264.15	217.58	4.9	MWD	6-axis
11	927.94	40.93	282.75	26.86	834.09	-98.15	-208.5	-179.86	273.13	220.78	5.82	MWD	6-axis
12	956.4	41.73	290.78	28.46	855.48	-85	-203.08	-197.82	281.4	224.25	5.74	MWD	6-axis
13	986.18	42.47	297.76	29.78	877.59	-69.28	-194.87	-216	288.96	227.94	4.85	MWD	6-axis
14	1015.52	42.54	305.13	29.34	899.23	-52.29	-184.55	-232.88	295.34	231.61	5.17	MWD	6-axis
15	1044.86	42.2	312.78	29.34	920.92	-34.16	-172.14	-248.24	300.45	235.26	5.37	MWD	6-axis
16	1073.87	45.34	320.38	29.01	941.88	-14.86	-157.56	-261.98	304.25	238.98	6.43	MWD	6-axis
17	1102.84	49.02	325.14	28.97	961.58	6.08	-140.64	-274.81	307.43	242.9	5.34	MWD	6-axis
18	1131.52	51.38	330.94	28.68	979.94	28.04	-121.95	-286.45	310.25	246.94	5.36	MWD	6-axis
19	1160.5	54.35	336.25	28.98	997.44	51.12	-101.26	-296.7	312.63	251.15	5.44	MWD	6-axis
20	1189.57	58.35	338.23	29.07	1013.55	75.22	-78.95	-306.05	315.43	255.53	4.54	MWD	6-axis
21	1218.51	60.94	341.52	28.94	1028.18	99.97	-55.51	-314.63	319.08	259.99	4.05	MWD	6-axis
22	1247.44	64.09	344.91	28.93	1041.53	125.15	-30.94	-322.03	323.34	264.51	4.59	MWD	6-axis
23	1276.26	68.16	347.68	28.82	1053.19	150.71	-5.34	-328.26	328.38	269.07	5.07	MWD	6-axis
24	1304.91	68.17	350.31	28.65	1063.85	176.18	20.76	-333.34	334.29	273.56	2.6	MWD	6-axis

23	1276.26	68.16	347.68	28.82	1053.19	150.71	-5.34	-328.26	328.38	269.07	5.07	MWD	6-axis
24	1304.91	68.17	350.31	28.65	1063.85	176.18	20.76	-333.34	334.29	273.56	2.6	MWD	6-axis
25	1334.11	67.47	350.2	29.2	1074.88	201.9	47.41	-337.91	341.77	277.99	0.74	MWD	6-axis
26	1363.21	66.92	349.8	29.1	1086.15	227.45	73.83	-342.57	351.2	282.16	0.69	MWD	6-axis
27	1391.75	67.53	350.62	28.54	1097.2	252.49	99.76	-347.04	362.06	286.04	1.04	MWD	6-axis
28	1420.36	67.08	350.51	28.61	1108.24	277.55	125.8	-351.37	374.35	289.7	0.49	MWD	6-axis
29	1448.66	68.99	350.9	28.3	1118.83	302.45	151.7	-355.61	387.92	293.1	2.09	MWD	6-axis
30	1477.72	68.34	350.63	29.06	1129.4	328.12	178.41	-359.95	403.21	296.37	0.73	MWD	6-axis

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ANADRILL SCHLUMBERGER Survey Report

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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 (deg)	At Azim (deg)	DLS (deg/100f)	Srvy tool type	Tool qual
31	1506.45	67.61	350.84	28.73	1140.17	353.38	204.7	-364.24	419.42	299.33	0.8	MWD	6-axis
32	1535.61	68.97	350.83	29.16	1150.96	379.07	231.44	-368.56	436.92	302.13	1.42	MWD	6-axis
33	1565.41	68.26	350.58	29.8	1161.82	405.39	258.83	-373.04	455.87	304.75	0.76	MWD	6-axis
34	1594.42	67.8	350.83	29.01	1172.68	430.92	285.38	-377.38	475.07	307.1	0.54	MWD	6-axis
35	1623.51	67.52	350.94	29.09	1183.74	456.42	311.95	-381.65	494.93	309.26	0.31	MWD	6-axis
36	1652.59	68.41	350.68	29.08	1194.64	481.98	338.55	-385.95	515.5	311.26	0.97	MWD	6-axis
37	1681.35	68.05	350.92	28.76	1205.31	507.3	364.92	-390.22	536.43	313.08	0.45	MWD	6-axis
38	1710.58	67.88	350.84	29.23	1216.28	532.98	391.67	-394.52	558.15	314.79	0.19	MWD	6-axis
39	1739.39	67.67	350.96	28.81	1227.18	558.25	418.01	-398.73	579.97	316.35	0.25	MWD	6-axis
40	1767.87	67.3	351.21	28.48	1238.08	583.16	444	-402.81	601.83	317.78	0.47	MWD	6-axis
41	1796.96	68.71	351.25	29.09	1248.98	608.67	470.65	-406.92	624.56	319.15	1.48	MWD	6-axis
42	1825.58	67.9	351.27	28.62	1259.56	633.82	496.94	-410.96	647.28	320.41	0.86	MWD	6-axis
43	1854.31	67.69	350.38	28.73	1270.41	659.03	523.2	-415.21	670.39	321.56	0.9	MWD	6-axis
44	1883.82	67.24	350.44	29.51	1281.72	684.94	550.07	-419.75	694.42	322.65	0.47	MWD	6-axis
45	1912.74	68.05	348.78	28.92	1292.72	710.47	576.38	-424.57	718.39	323.62	1.83	MWD	6-axis
46	1941.53	67.75	348.8	28.79	1303.55	736.04	602.54	-429.76	742.65	324.5	0.32	MWD	6-axis
47	1970.81	67.57	348.94	29.28	1314.68	762	629.12	-434.98	767.43	325.34	0.23	MWD	6-axis
48	1999.66	67.07	349.15	28.85	1325.81	787.49	655.25	-440.04	791.89	326.12	0.57	MWD	6-axis
49	2034.43	62.98	349.79	34.77	1340.49	817.59	686.23	-445.8	820.94	326.99	3.62	MWD	6-axis
50	2063.19	57.85	350.62	28.76	1354.68	841.38	710.87	-450.06	844	327.66	5.49	MWD	6-axis
51	2092.26	54.07	349.1	29.07	1370.95	864.34	734.58	-454.3	866.36	328.27	4.18	MWD	6-axis
52	2121.17	54.36	349.19	28.91	1387.86	886.78	757.61	-458.71	888.32	328.81	0.32	MWD	6-axis
53	2150	55.5	349.25	28.83	1404.42	909.35	780.79	-463.13	910.49	329.33	1.21	MWD	6-axis
54	2179.27	56.64	349.55	29.27	1420.76	932.56	804.66	-467.59	933.35	329.84	1.22	MWD	6-axis
55	2208.3	56.7	349.39	29.03	1436.71	955.73	828.51	-472.02	956.24	330.33	0.15	MWD	6-axis
56	2224.38	57.39	349.38	16.08	1445.46	968.63	841.77	-474.51	969.01	330.59	1.31	MWD	6-axis
57	2243	57.75	349.37	18.62	1455.44	983.65	857.21	-477.41	983.91	330.89	0.59	MWD	-

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Company: **ESSO Australia Ltd Pty**

Schlumberger

Well: **TNA A-10A ST**

Field: **Tuna**

Rig: **ISDL 453**

State: **Victoria**

**GeoVISION* Density Neutron
1:500 Measured Depth
Recorded Mode Data**

