

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

Rig: ISDL 453 Field: Tuna Location: Bass Strait Well: TNA A-10A ST Company: ESSO Australia Ltd Pty	GeoVISION* Service 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
KCI/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_OC_02r			
Depth system	PDA-AB	SPM	HSPM7_OC_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									
<b>Environmental data</b>											
<b>GR</b>											
Mud weight	lb/gal	10.25									
Bit size	in.	8.5									
<b>Resistivity</b>											
<b>Neutron porosity</b>											
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;"><b>DISCLAIMER</b></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

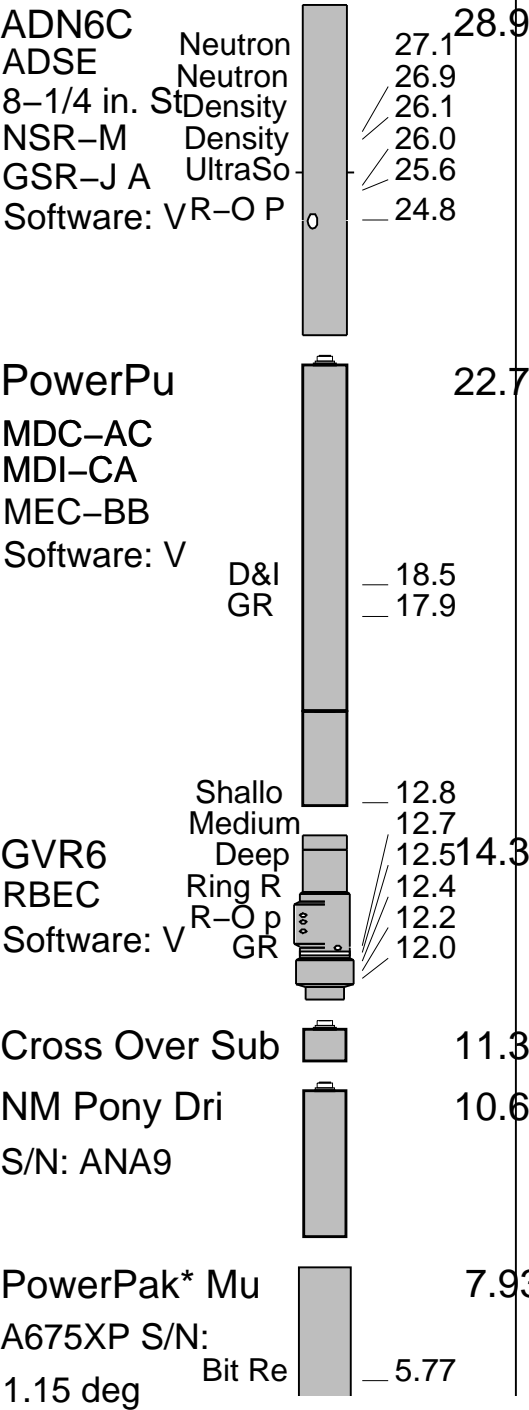
EQUIPMENT DESCRIPTION

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 Service Vertical Scale: 1:500 Graphics File Created: 18-Oct-2002 06:27

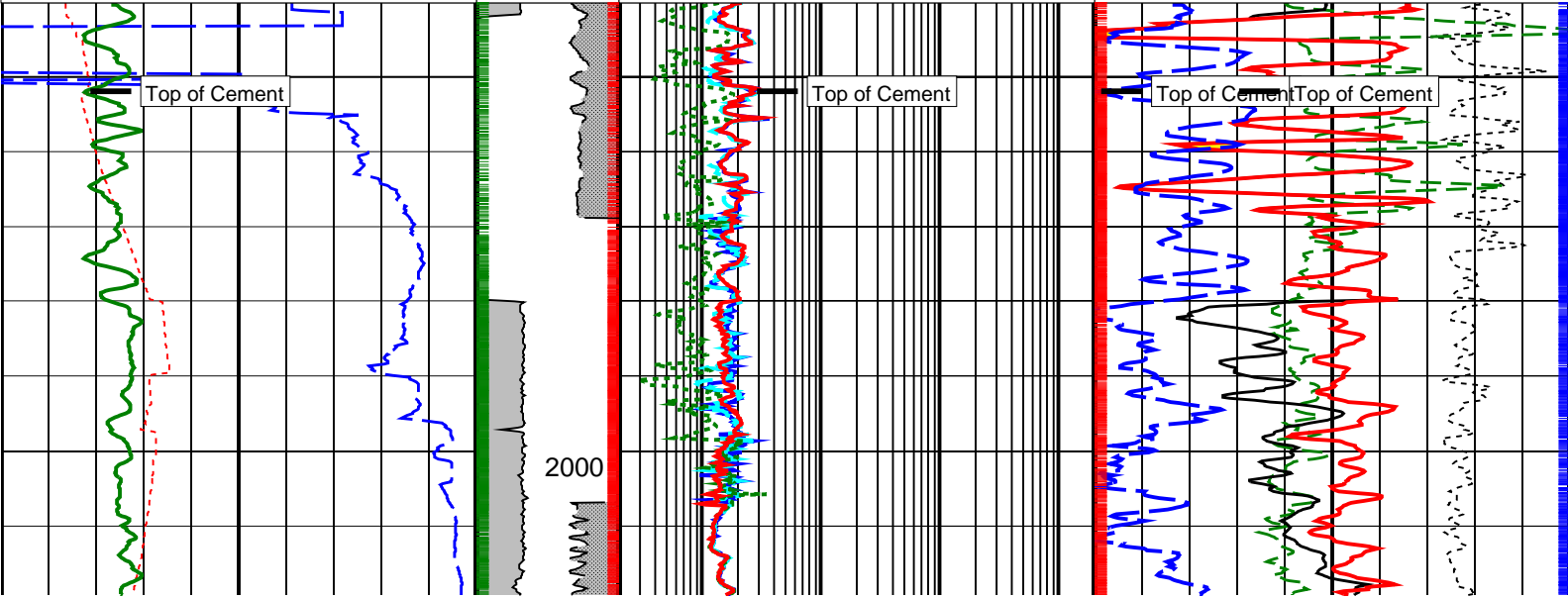
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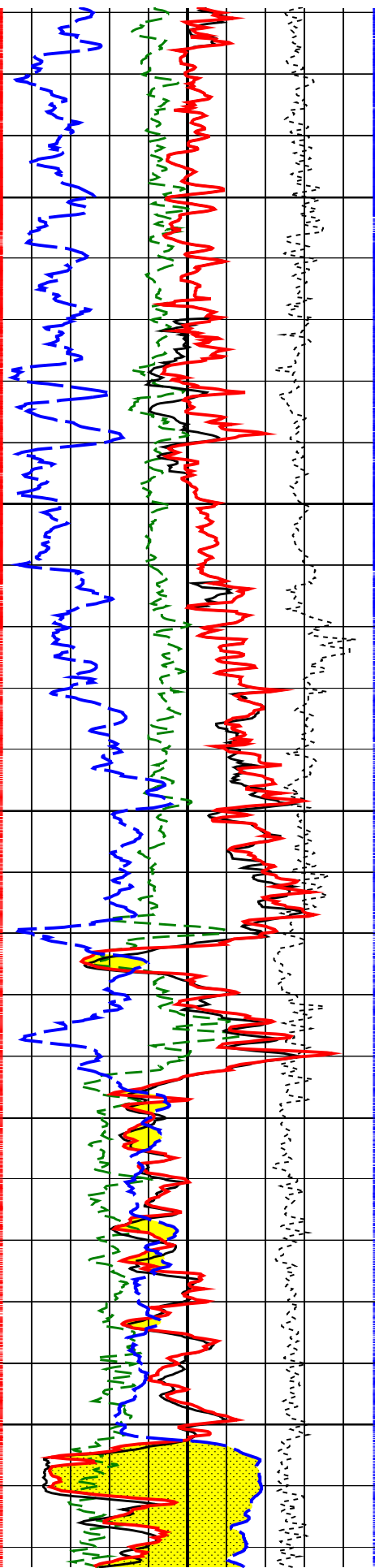
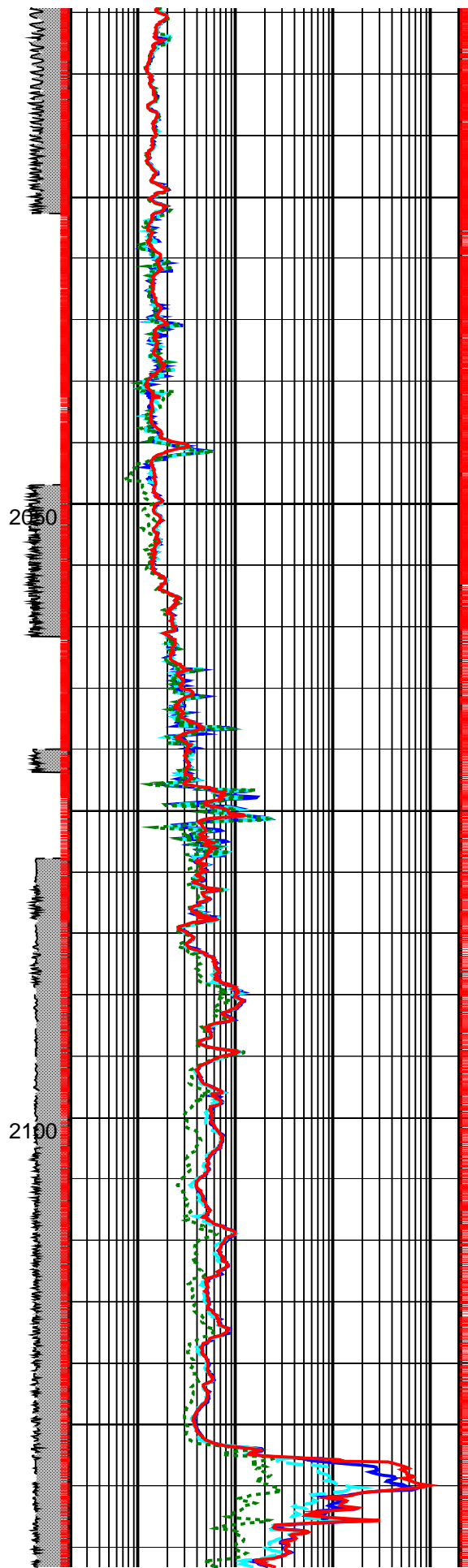
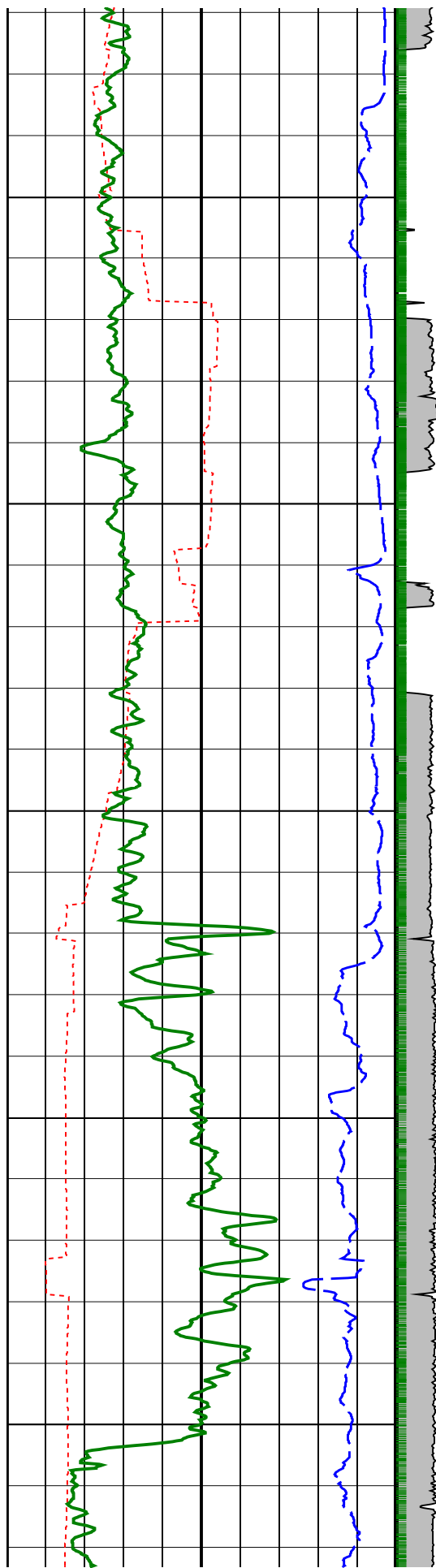
DLIS Name	Description	Value
ADN_COLLAR_STR	ADN Collar Type String	ADDC-AA: Slick
ADN_STAB_STR	ADN Stabilizer Type String	None
AVE_ADN	ADN/Array Channels: perform averaging(RM) :	YES
A_DHS	ADN Down Hole Software Version String	V6.2B
BDBHCA	RAB: Button Deep Borehole A Factor	0.004
BDBHCB	RAB: Button Deep Borehole B Factor	0.000
BHA_COEF_VER	RAB: BHA Coef Generator Version	62012.0
BHT_RM	Bottom Hole Temperature (RM)	158.0 degF
BMBHCA	RAB: Button Medium Borehole A Factor	0.023
BMBHCB	RAB: Button Medium Borehole B Factor	0.000
BSAL_RM	Mud Salinity (RM)	66.825 ppk
BSBHCA	RAB: Button Shallow Borehole A Factor	0.022
BSBHCB	RAB: Button Shallow Borehole B Factor	0.000
BS_RM	Bit Size (RM)	8.500 in
BUT_KIMP_A	RAB: Button Impedance Coeff A	0.000
BUT_KIMP_B	RAB: Button Impedance Coeff B	0.000
DBUTTON_K_FACTOR	RAB: Button Deep K factor	0.005
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
MBUTTON_K_FACTOR	RAB: Button Medium K Factor	0.005
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
RABEC	RAB: Resistivity Env-Cor	YES
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
RINGBHCA	RAB: Ring Borehole A Factor	0.159
RINGBHCB	RAB: Ring Borehole B Factor	0.000
RING_KIMP_A	RAB: Ring Impedance Coeff A	0.000
RING_KIMP_B	RAB: Ring Impedance Coeff B	0.000
RING_K_FACTOR	RAB: Ring K Factor	0.153
RMS_RM	Resistivity of Mud Sample (RM)	0.125 ohm.m
RWS_RM	Resistivity of Connate Water (RM)	1.000 ohm.m

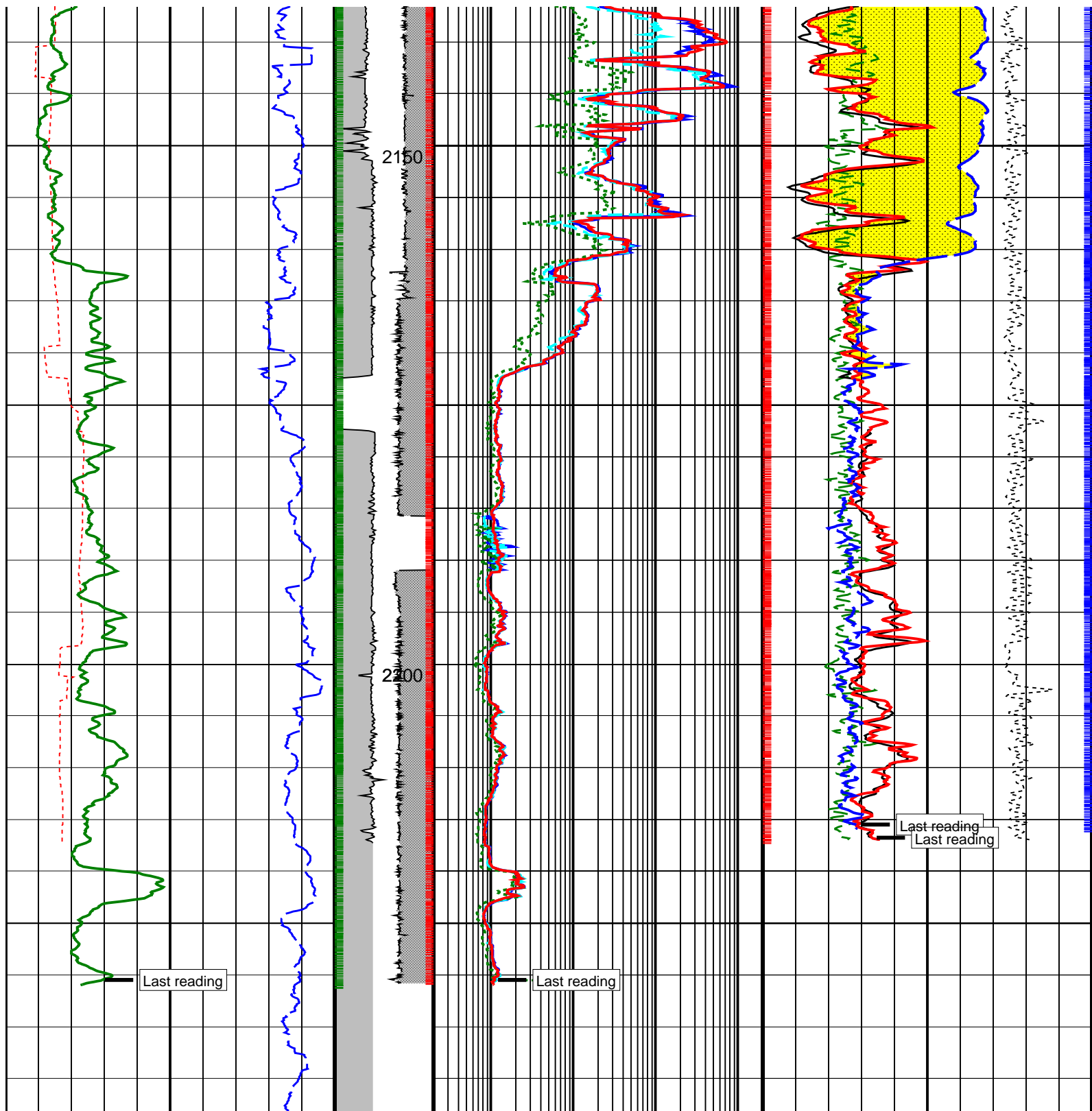
RMS_RM	Resistivity of Mud Sample (RM)	0.125	ohm.m
RWS_RM	Resistivity of Connate Water (RM)	1.000	ohm.m
SBUTTON_K_FACTOR	RAB: Button Shallow K Factor	0.007	
SHT_RM	Surface Hole Temperature (RM)	62.600	degF
SSIZ_ADN	ADN Stabilizer Size	8.250	in
STAB	RAB: Run with Stabilizer	YES	
TD_RM	Total Measured Depth (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
		+	Ring Samples

		Gas Area From ADN/ROBB/DEPTH to ADN/TNPH/DEPTH	
		Thermal Neutron Porosity (TNPH)	
		45	(PU)
		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)		Shallow Button Resistivity (RES_BS)	
200		0.2	
(M/HR)		(OHMM)	
0		2000	
		Bulk Density (RHOB)	
		1.85	
		(G/C3)	
		2.85	
RAB Gamma Ray (GR_RAB)		Medium Button Resistivity (RES_BM)	
0		0.2	
(GAPI)		(OHMM)	
200		2000	
RAB Rotational Speed (RPM_RAB) (RPM)		Photoelectric Factor, Bottom (PEB)	
300		0	
0		(-----)	
		10	
Density Time After Bit (TAB_DEN)		Deep Button Resistivity (RES_BD)	
0		0.2	
(HR)		(OHMM)	
10		2000	
ADN Rotational Speed (RPM_ADN) (RPM)		Bulk Density Correction, Bottom (DRHB)	
0		-0.75	
300		(G/C3)	
		0.25	







<div>Density Time After Bit (TAB_DEN)</div> <div>(HR)</div> <div>010</div>	<div>ADN Rotational Speed</div> <div>(RPM_ADN)</div> <div>(RPM)</div> <div>0300</div>	<div>Deep Button Resistivity (RES_BD)</div> <div>(OHMM)</div> <div>0.22000</div>	<div>Bulk Density Correction, Bottom</div> <div>(DRHB)</div> <div>(G/C3)</div> <div>-0.750.25</div>
<div>RAB Gamma Ray (GR_RAB)</div> <div>(GAPI)</div> <div>0200</div>	<div>RAB Rotational Speed</div> <div>(RPM_RAB)</div> <div>(RPM)</div> <div>02000</div>	<div>Medium Button Resistivity (RES_BM)</div> <div>(OHMM)</div> <div>0.22000</div>	<div>Photoelectric Factor, Bottom (PEB)</div> <div>(----</div> <div>10</div>

0	(GAPI)	200	(RPM_RAB)	0.2	(OHMM)	2000	0	(----	10	
			(RPM)							
		300	0							
Rate of Penetration, Averaged over Last 5ft (ROP5_RM)				Shallow Button Resistivity (RES_BS)		Bulk Density (RHOB)				
200			(M/HR)	0	0.2	(OHMM)	2000	1.85	(G/C3)	2.85
				Ring Resistivity (RES_RING)		Bulk Density, Bottom (ROBB)				
				0.2	(OHMM)	2000	1.85	(G/C3)	2.85	
						Thermal Neutron Porosity (TNPH)				
						45		(PU)	-15	
				Gas Area From ADN/ROBB/DEPTH to ADN/TNPH/DEPTH						

### PIP SUMMARY

Density Ticks, 0.1 ft ▬

Neutron Ticks, 0.1 ft ▬

▬ Gamma Ray Samples  
▬ Ring Samples

**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

### 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)









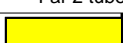







Master: 20-Aug-2002 12:00



### 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
	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)	

Primary Equipment:












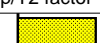
Tool Name and Serial Number

Calibration Status


GVR6\* S/N: 160

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											
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  
API number.....:  
Engineer.....: L. Bon

Spud date.....: 4-Oct-2002  
Last survey date.....: 16-Oct-02  
Total accepted surveys...: 57  
MD of first survey.....: 646.50 m  
MD of last survey.....: 2243.00 m

RIG.....: ISDL 453  
STATE.....: Victoria

----- 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.....: -59.40 m  
KB above permanent.....: 31.32 m  
DF above permanent.....: 31.32 m

----- Geomagnetic data -----

Magnetic model.....: BGGM version 2001  
Magnetic date.....: 20-Sep-2002  
Magnetic field strength...: 1200.29 HCNT

Magnetic dec (+E/W-).....: 13.17 degrees  
Magnetic dip.....: -68.69 degrees

----- MWD survey Reference Criteria -----

Reference G.....: 1000.02 mGal  
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 -----

----- 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

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Seq	Measured depth	Incl angle	Azimuth angle	Course length	TVD depth	Vertical section	Displ +N/S-	Displ +E/W-	Total displ	At Azim	DLS (deg/100f)	Srvy tool type	Tool qual
-	(m)	(deg)	(deg)	(m)	(m)	(m)	(m)	(m)	(deg)	100f			
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
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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Seq	Measured depth	Incl angle	Azimuth angle	Course length	TVD depth	Vertical section	Displ +N/S-	Displ +E/W-	Total displ	At Azim	DLS (deg/100f)	Srvy tool type	Tool qual
-	(m)	(deg)	(deg)	(m)	(m)	(m)	(m)	(m)	(deg)	100f			
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

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\* Service**  
**1:500 Measured Depth**  
**Recorded Mode Data**