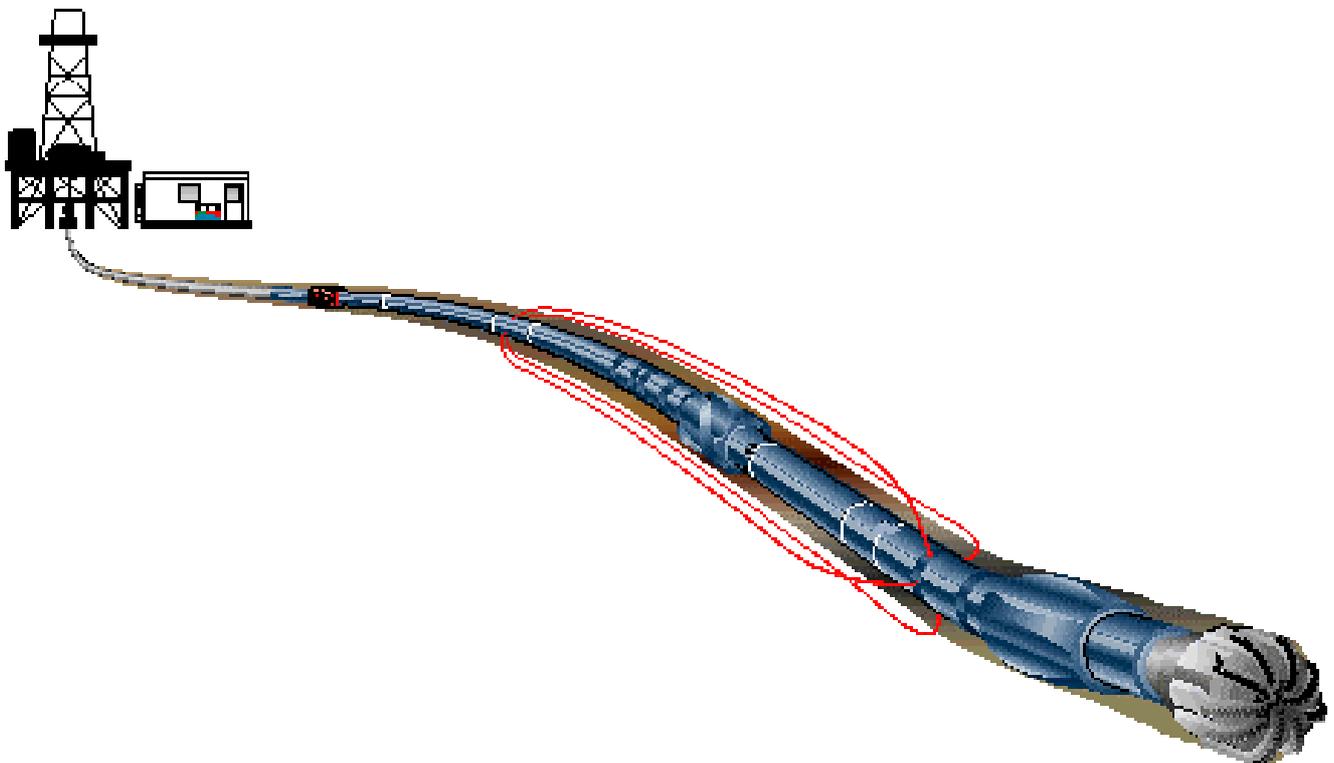




Thylacine-1

MWD – LWD End of Well Report

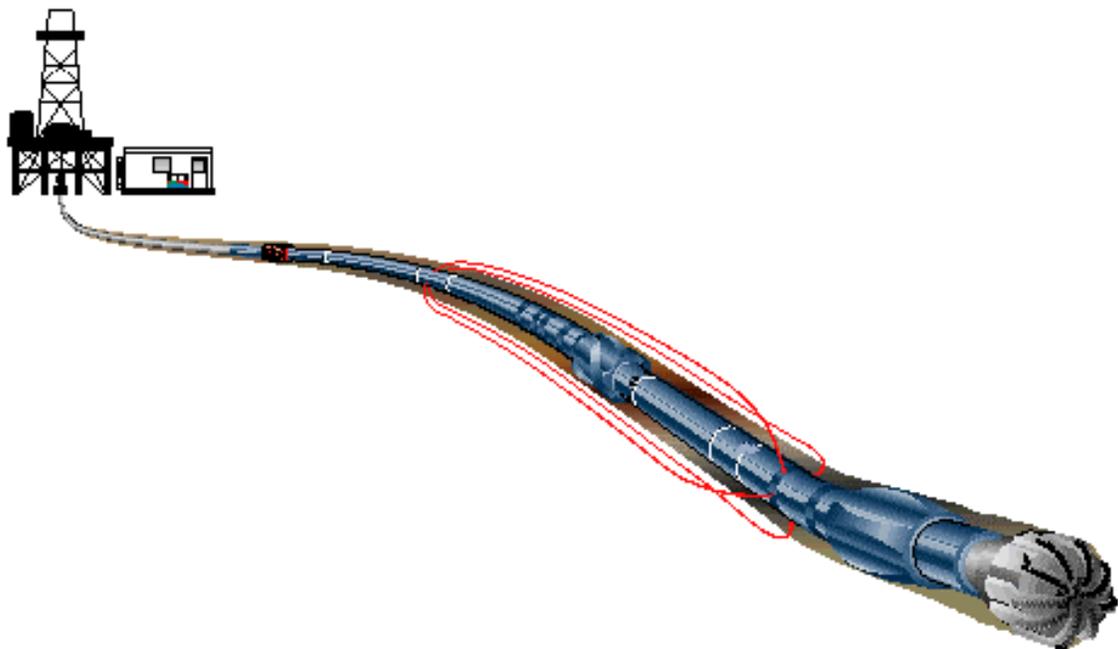


End of Well Report for Thylacine-1

Contents

- Logging Overview
- General Information
- Geomagnetic and Survey Reference Criteria
- Survey Report
- Motor Run Summary
- Bit Run Summary
- Failure Report

Logging Overview



Logging Overview

8 ½" Section (Run 1 to 2, 1850 m to 2719 m):

Schlumberger Drilling and Measurements provided MWD and LWD services using the PowerPulse and ARC6 tools in the 8 ½" section of Thylacine -1. Both of the PowerPulse tools were used during the section. The first was installed with a MVC 4-axis shock/vibration unit that allowed the real-time monitoring of the downhole drilling conditions, the purpose being to provide a better understanding of the mechanics of the shocks occurring during the drilling and reaming operations. The second PowerPulse was fitted with an IWOB sensor, this provided real-time downhole WOB and downhole torque measurements. The MVC data indicated that low level axial shocks were present throughout the section, but they were not deemed to be excessive, and therefore not to be of concern regarding damage to the PowerPulse or ARC6. The ARC6 was installed with an APWD (Annular Pressure While Drilling) sensor to monitor annular pressure and temperature during the drilling and reaming operations.

The 8 ½" section was drilled in three runs, and logged utilizing ARC6 and PowerPulse in two runs. the second run of the three being a cored section from 2165-2201m. The following formation evaluation data was provided in real-time:

- ARC6 2MHz Phase Shift Resistivity at 3 depths of investigation
- ARC6 Gamma Ray
- ARC6 Annular Pressure and Temperature

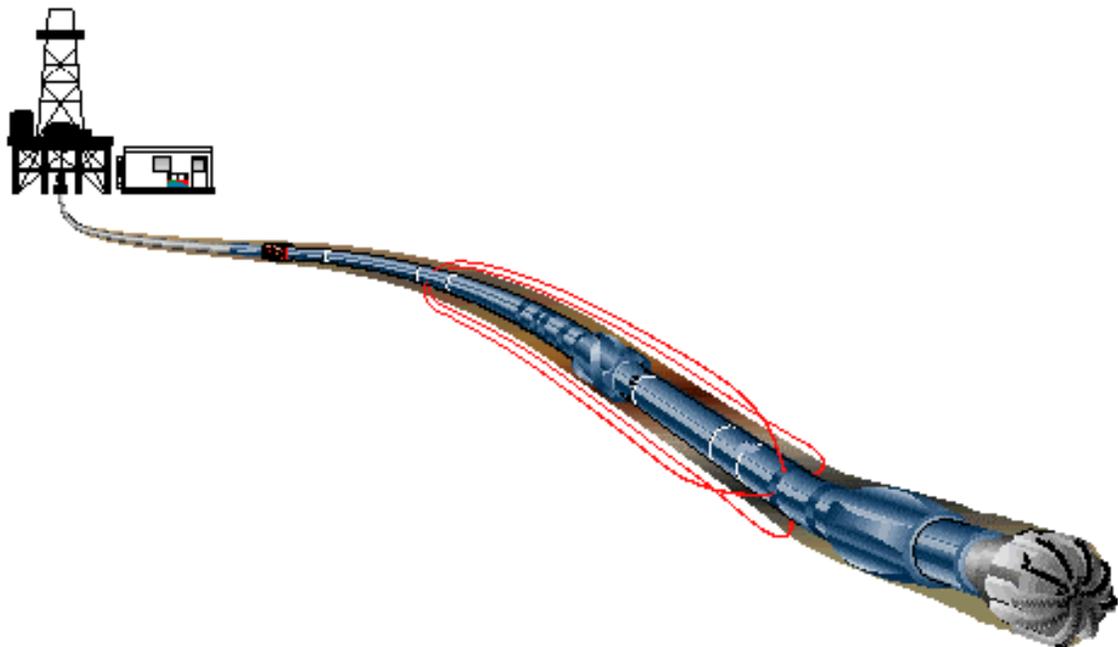
The following recorded mode formation evaluation measurements were provided once the LWD tools were on surface and the memory data retrieved:

- ARC6 2MHz Phase Shift Resistivity at 5 depths of investigation
- ARC6 2MHz Attenuation Resistivity at 3 depths of investigation
- ARC6 400kHz Phase Shift Resistivity at 5 depths of investigation
- ARC6 400kHz Attenuation Resistivity at 3 depths of investigation
- ARC6 Gamma Ray
- ARC6 Annular Pressure and Temperature

Run	Hole Size (in.)	Service	Start Depth (m)	Stop Depth (m)
1	8 ½	PowerPulse / MVC / ARC6	1850	2165
2	8 ½	PowerPulse / DWOB / ARC6	2165	2710

Depth tracking failure at start of the run 3, from 2165-2230m, resulted in poor quality real-time data. The problem with the Geograph was located and fixed and no further problems were encountered. The associated problem of an inaccurate depth/time file was resolved with the help of the BHI depth/time data. The data was successfully reconstructed, and the recorded-mode data over the interval was recovered. The MWD and LWD tools performed well throughout the run, and no problems were encountered. Shocks throughout the run were minimal, and of no consequence to the MWD and LWD tools.

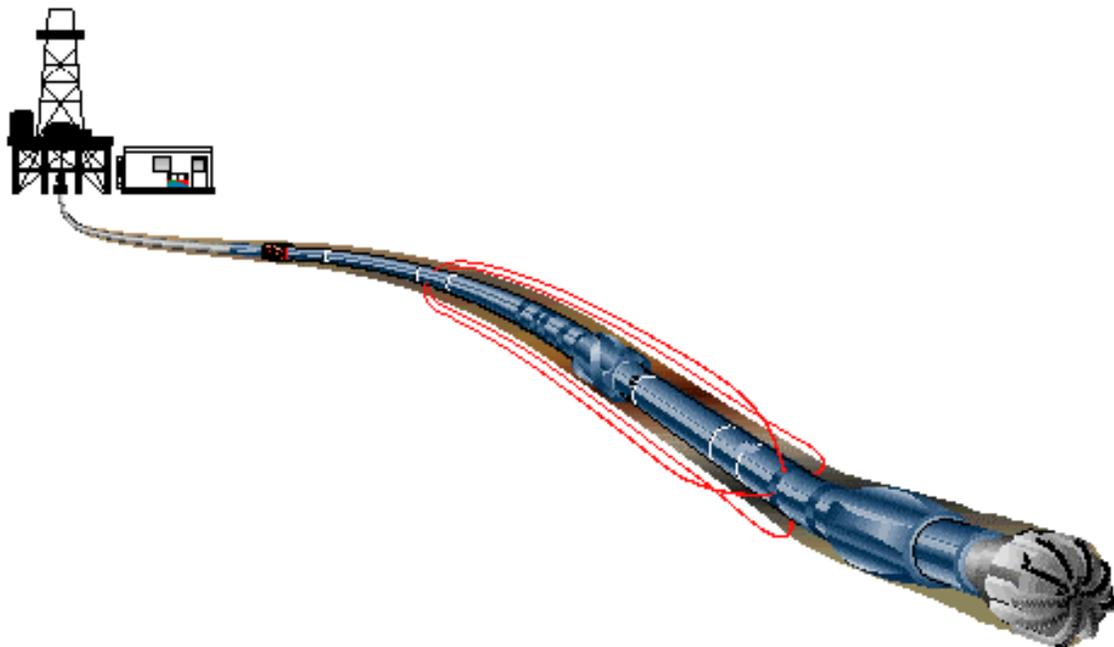
General Information



General Information

Well Name:	Thylacine-1	
Rig:	Diamond Offshore Ocean Bounty	
Field:	Exploration / Permit T/30P	
Location:	Otway Basin, Offshore Victoria	
Country:	Australia	
Cell Members:	Lee Muskett	LWD Engineer
	Anthony Strahan	LWD Engineer
Town Contacts:	Ike Nitis	Location Manager - Australia
	Patrick Dassens	Engineer In Charge - Victoria
Company Representatives:	Dennis Bell	

Geomagnetic and Survey Reference Criteria



Geomagnetic and Survey Reference Criteria

Geomagnetic Data

Magnetic Model:	BGGM version 2000
Magnetic Date:	10-May-2001
Magnetic Field Strength:	1224.35 HCNT
Magnetic Declination:	11.08 degrees
Magnetic Dip:	-70.40 degrees

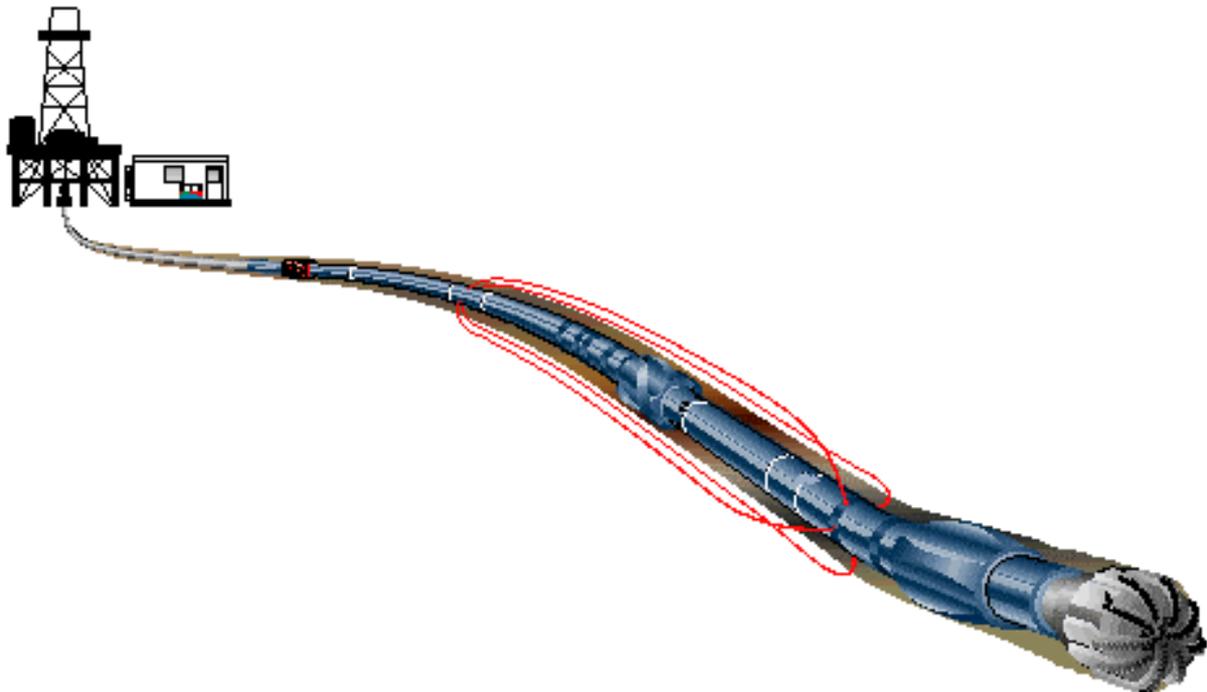
Survey Reference Criteria

Reference G:	1000.12 mgal
Reference H:	1224.35 HCNT
Reference Dip:	-70.40 degrees
G value Tolerance:	2.50 mgal
H value Tolerance:	6.00 HCNT
Dip Tolerance:	0.45 degrees

Survey Corrections Applied

Magnetic Declination:	11.08 degrees
Grid Convergence:	1.2 degrees
Total Azimuth Correction:	9.88 degrees

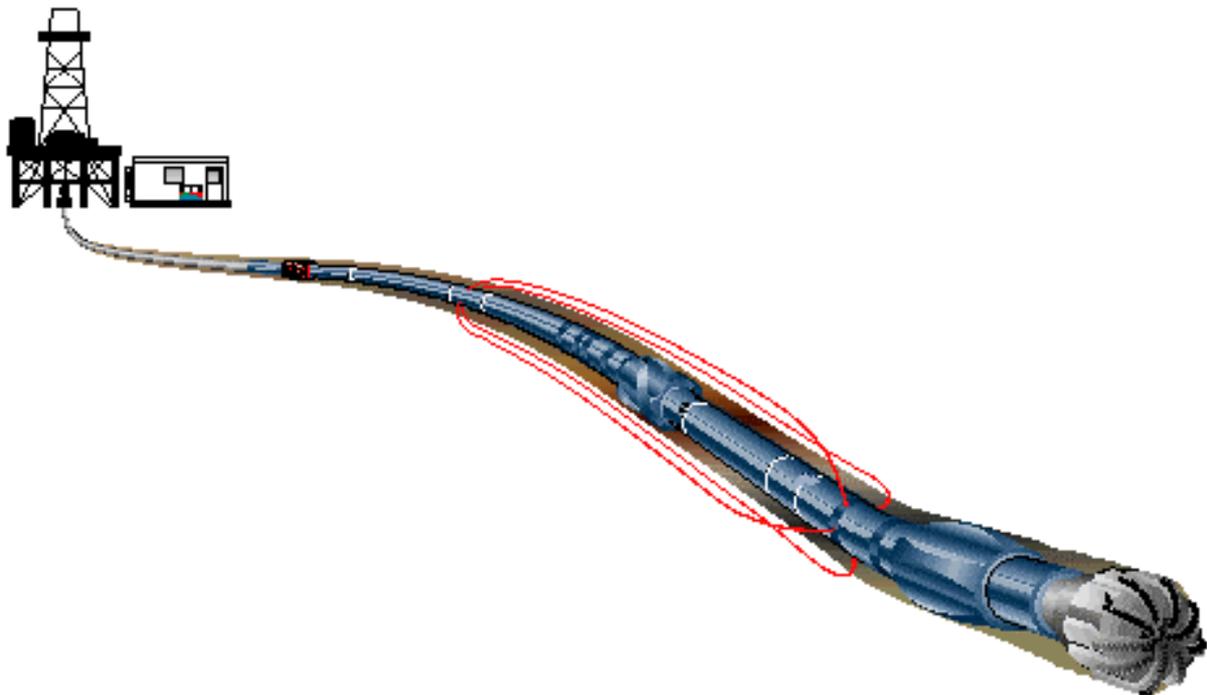
Survey Report



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/10m)	Srvy tool type	Tool qual type
1	0.00	0.00	0.00	0.00	0.00	-2.50	-2.50	6.30	6.78	111.64	0.00	TIP	-
2	44.00	0.50	184.05	44.00	44.00	-2.69	-2.69	6.29	6.84	113.18	0.11	EMS	-
3	76.00	0.94	188.10	32.00	76.00	-3.09	-3.09	6.24	6.96	116.35	0.14	EMS	-
4	104.00	0.46	145.02	28.00	103.99	-3.41	-3.41	6.27	7.14	118.53	0.24	EMS	-
5	132.00	0.87	102.96	28.00	131.99	-3.55	-3.55	6.54	7.44	118.48	0.22	EMS	-
6	162.00	0.69	81.11	30.00	161.99	-3.57	-3.57	6.94	7.81	117.23	0.11	EMS	-
7	190.00	0.89	169.39	28.00	189.99	-3.76	-3.76	7.15	8.08	117.74	0.40	EMS	-
8	217.00	0.71	280.86	27.00	216.99	-3.94	-3.94	7.02	8.05	119.26	0.49	EMS	-
9	244.00	0.79	174.59	27.00	243.99	-4.09	-4.09	6.88	8.00	120.73	0.44	EMS	-
10	271.00	0.75	177.81	27.00	270.98	-4.45	-4.45	6.90	8.21	122.82	0.02	EMS	-
11	298.00	0.92	175.72	27.00	297.98	-4.84	-4.84	6.93	8.45	124.97	0.06	EMS	-
12	327.00	0.99	178.06	29.00	326.98	-5.33	-5.33	6.95	8.76	127.46	0.03	EMS	-
13	356.00	1.05	177.33	29.00	355.97	-5.84	-5.84	6.97	9.10	129.96	0.02	EMS	-
14	385.00	1.09	179.22	29.00	384.97	-6.38	-6.38	6.99	9.46	132.41	0.02	EMS	-
15	415.00	0.98	167.44	30.00	414.96	-6.92	-6.92	7.05	9.88	134.47	0.08	EMS	-
16	444.00	0.87	182.37	29.00	443.96	-7.38	-7.38	7.09	10.24	136.14	0.09	EMS	-
17	473.00	0.99	184.78	29.00	472.95	-7.85	-7.85	7.06	10.56	138.03	0.04	EMS	-
18	502.00	0.99	134.86	29.00	501.95	-8.28	-8.28	7.22	10.98	138.91	0.29	EMS	-
19	531.00	0.84	250.56	29.00	530.95	-8.52	-8.52	7.20	11.16	139.83	0.53	EMS	-
20	560.00	0.67	325.84	29.00	559.95	-8.46	-8.46	6.90	10.91	140.78	0.32	EMS	-
21	589.00	0.80	318.39	29.00	588.94	-8.16	-8.16	6.67	10.54	140.74	0.06	EMS	-
22	617.00	0.91	323.74	28.00	616.94	-7.84	-7.84	6.41	10.13	140.72	0.05	EMS	-
23	646.00	1.00	319.58	29.00	645.94	-7.46	-7.46	6.11	9.64	140.68	0.04	EMS	-
24	675.00	1.07	323.51	29.00	674.93	-7.05	-7.05	5.78	9.12	140.63	0.03	EMS	-
25	704.00	0.98	313.42	29.00	703.93	-6.66	-6.66	5.44	8.60	140.75	0.07	EMS	-
26	733.00	0.93	313.01	29.00	732.92	-6.33	-6.33	5.09	8.12	141.19	0.02	EMS	-
27	752.00	0.89	310.74	19.00	751.92	-6.13	-6.13	4.87	7.83	141.55	0.03	EMS	-
28	781.00	0.82	277.05	29.00	780.92	-5.96	-5.96	4.49	7.46	142.99	0.17	EMS	-
29	812.00	0.62	256.03	31.00	811.92	-5.97	-5.97	4.11	7.25	145.47	0.11	EMS	-
30	843.00	0.82	261.69	31.00	842.91	-6.04	-6.04	3.72	7.10	148.35	0.07	EMS	-
31	874.00	0.63	227.91	31.00	873.91	-6.19	-6.19	3.38	7.05	151.37	0.15	EMS	-
32	905.00	0.49	276.90	31.00	904.91	-6.29	-6.29	3.12	7.02	153.60	0.16	EMS	-
33	936.00	0.55	254.16	31.00	935.91	-6.31	-6.31	2.85	6.92	155.73	0.07	EMS	-
34	967.00	0.59	253.41	31.00	966.91	-6.40	-6.40	2.55	6.89	158.27	0.01	EMS	-
35	998.00	0.53	260.69	31.00	997.91	-6.47	-6.47	2.26	6.85	160.77	0.03	EMS	-
36	1029.00	0.66	224.81	31.00	1028.90	-6.62	-6.62	1.99	6.91	163.28	0.12	EMS	-
37	1060.00	0.63	259.62	31.00	1059.90	-6.77	-6.77	1.69	6.98	165.95	0.12	EMS	-
38	1091.00	1.16	280.21	31.00	1090.90	-6.75	-6.75	1.22	6.86	169.77	0.20	EMS	-
39	1122.00	1.43	291.05	31.00	1121.89	-6.55	-6.55	0.55	6.58	175.22	0.12	EMS	-
40	1153.00	1.71	172.79	31.00	1152.88	-6.87	-6.87	0.25	6.88	177.96	0.87	EMS	-
41	1184.00	0.81	292.56	31.00	1183.88	-7.25	-7.25	0.10	7.25	179.20	0.72	EMS	-
42	1215.00	0.85	272.56	31.00	1214.88	-7.15	-7.15	-0.33	7.16	182.65	0.09	EMS	-
43	1246.00	0.88	281.83	31.00	1245.87	-7.10	-7.10	-0.79	7.14	186.38	0.05	EMS	-
44	1277.00	0.91	283.50	31.00	1276.87	-6.99	-6.99	-1.27	7.10	190.27	0.01	EMS	-
45	1308.00	0.78	289.48	31.00	1307.87	-6.86	-6.86	-1.70	7.07	193.95	0.05	EMS	-
46	1339.00	0.84	303.25	31.00	1338.86	-6.67	-6.67	-2.09	6.99	197.43	0.07	EMS	-
47	1370.00	0.89	301.40	31.00	1369.86	-6.42	-6.42	-2.49	6.88	201.20	0.02	EMS	-
48	1401.00	0.84	303.67	31.00	1400.86	-6.16	-6.16	-2.88	6.81	205.07	0.02	EMS	-
49	1432.00	0.93	306.14	31.00	1431.85	-5.89	-5.89	-3.28	6.74	209.08	0.03	EMS	-
50	1463.00	0.94	323.43	31.00	1462.85	-5.54	-5.54	-3.63	6.62	213.25	0.09	EMS	-
51	1494.00	1.13	303.89	31.00	1493.84	-5.16	-5.16	-4.04	6.55	218.01	0.13	EMS	-
52	1525.00	1.18	302.57	31.00	1524.84	-4.82	-4.82	-4.56	6.64	223.40	0.02	EMS	-
53	1556.00	0.72	334.98	31.00	1555.83	-4.47	-4.47	-4.91	6.64	227.67	0.22	EMS	-
54	1587.00	0.73	346.84	31.00	1586.83	-4.10	-4.10	-5.04	6.50	230.83	0.05	EMS	-
55	1618.00	1.07	326.99	31.00	1617.83	-3.67	-3.67	-5.24	6.40	235.00	0.15	EMS	-
56	1649.00	0.80	349.84	31.00	1648.82	-3.21	-3.21	-5.44	6.31	239.41	0.15	EMS	-
57	1680.00	0.91	349.60	31.00	1679.82	-2.76	-2.76	-5.52	6.17	243.44	0.04	EMS	-
58	1711.00	1.03	355.10	31.00	1710.81	-2.24	-2.24	-5.59	6.02	248.17	0.05	EMS	-
59	1742.00	0.90	3.57	31.00	1741.81	-1.72	-1.72	-5.60	5.85	252.93	0.06	EMS	-
60	1773.00	1.17	5.03	31.00	1772.80	-1.16	-1.16	-5.55	5.67	258.21	0.09	EMS	-
61	1804.00	1.63	12.01	31.00	1803.80	-0.41	-0.41	-5.43	5.45	265.65	0.16	EMS	-
62	1835.00	1.88	11.25	31.00	1834.78	0.52	0.52	-5.24	5.27	275.63	0.08	EMS	-
63	1888.38	2.09	27.56	53.38	1888.13	2.24	2.24	-4.62	5.13	295.85	0.11	MWD	6-axis
64	1973.18	2.40	17.34	84.80	1972.86	5.30	5.30	-3.38	6.29	327.52	0.06	MWD	6-axis
65	2059.60	2.97	20.52	86.42	2059.19	9.13	9.13	-2.05	9.36	347.33	0.07	MWD	6-axis
66	2145.69	2.46	21.36	86.09	2145.18	12.94	12.94	-0.60	12.95	357.36	0.06	MWD	6-axis
67	2233.45	2.18	23.26	87.76	2232.87	16.23	16.23	0.75	16.24	2.64	0.03	MWD	6-axis
68	2318.15	1.83	30.40	84.70	2317.52	18.87	18.87	2.07	18.99	6.25	0.05	MWD	6-axis
69	2390.75	1.50	32.45	72.60	2390.09	20.67	20.67	3.16	20.91	8.70	0.05	MWD	6-axis
70	2447.71	1.48	41.38	56.96	2447.03	21.85	21.85	4.05	22.23	10.50	0.04	MWD	6-axis
71	2710.00	1.48	41.38	262.29	2709.23	26.94	26.94	8.53	28.26	17.57	0.00	MWD	PROJ

Motor Run Summary





DOWN-HOLE MOTOR RUN REPORT

Ft, Mt

Motor Size : Serial No : Run No : BHA No:

<u>Company</u>	<input type="text" value="Woodside"/>	<u>Well</u>	<input type="text" value="Thylacine-1"/>	<u>Slot</u>	<input type="text" value="1"/>	<u>Field</u>	<input type="text" value="Otway Basin"/>
		<u>Location</u>	<input type="text" value="Bass Strait"/>	<u>Country</u>	<input type="text" value="Australia"/>		
<u>Operator</u>	<input type="text" value="Diamond Offshore"/>	<u>Rig</u>	<input type="text" value="Ocean Bounty"/>	<u>Engineer</u>	<input type="text" value="Joe Musial"/>	<u>Date</u>	<input type="text" value="8-May-01"/>

<u>Bit Size</u>	<u>Make</u>	<u>Type</u>	<u>IADC</u>	<u>Jets</u>	<u>Jets</u>	<u>Jets</u>	<u>Jets</u>	<u>TFA</u>
<input type="text" value="12 1/4"/>	<input type="text" value="Hughes"/>	<input type="text" value="BD535"/>	<input type="text"/>	<input type="text" value="7 x 12"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="#VALUE!"/>
IADC CUTTING STRUCTURE								
<u>Inner Row</u>	<u>Outer Row</u>	<u>Dull Char'</u>	<u>Location</u>	<u>Br/Seals</u>	<u>Gauge</u>	<u>Others</u>	<u>Reason for Trip</u>	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

<u>Motor Made By</u>	<u>Size</u>	<u>Model / Type</u>	<u>Rotor/Stator</u>	<u>Serial No</u>	<u>Hsq Stab OD</u>	<u>° Bent Hsq</u>	<u>° Bent Sub</u>
<input type="text" value="Anadrill"/>	<input type="text" value="9 5/8"/>	<input type="text" value="A962 GT"/>	<input type="text" value="7:8"/>	<input type="text" value="3400"/>	<input type="text" value="12 1/8"/>	<input type="text" value="n/a"/>	<input type="text" value="n/a"/>
<u>Type</u>	1 = Straight; 2 = Steerable; 3 = Double Bend		<u>Stator Ser N°</u>	<u>Rotor Ser N°</u>	<u>IADC Drlg Cmt. W & R</u>		<input type="text" value="2.3"/>
<input type="text" value="1"/>			<u>IADC Drlg Hrs</u>	<u>IADC Circ Hrs</u>	<input type="text" value="n/a"/>	<u>Total Motor Circ Hrs</u>	<input type="text" value="44.6"/>

<u>Purpose of Run</u>	<input casing="" depth"="" section="" to="" type="text" value="Performance drill 12.14"/>
-----------------------	---

BHA PDC Bit A962 Motor Float Sub / XO Roller Reamer Monel Roller Reamer 8 x 8" DC's 1 x 8" Drilling Jars 2 x 8" DC's XO 15 x HWDP	<u>Surveys</u>	<u>MD IN</u>	<input type="text" value="N/A"/>	<u>Inclin</u>	<input type="text" value="-"/>	<u>Azim</u>	<input type="text" value="-"/>	
		<u>MD OUT</u>	<input type="text" value="N/A"/>	<u>Inclin</u>	<input type="text" value="-"/>	<u>Azim</u>	<input type="text" value="-"/>	
	<u>Flow Rate</u>	<u>Off Bttm PSI</u>	<u>On Bttm PSI</u>	<u>RPM</u>	<u>WOB</u>			
	GPM	<input type="text" value="2900"/>	<input type="text" value="3150"/>	<input type="text" value="40-130"/>	Klbs	<input type="text" value="15-27"/>		
	<u>Mud Type</u>	<input type="text" value="Aquadrill Plus"/>	<u>Mud Wt</u>	<input type="text" value="11.2"/>	<u>Mud Grad'</u>	<input type="text" value="0.5824"/>	<u>Vis</u>	<input type="text" value="59"/>
	<u>PV</u>	<input type="text" value="31"/>	<u>Filtrate</u>	<input type="text" value="2.8"/>	<u>% Solids</u>	<input type="text" value="12.0"/>	<u>Aniline Pt</u>	<input type="text" value="-"/>
	<u>YP</u>	<input type="text" value="43"/>	<u>% Oil</u>	<input type="text" value="n/a"/>	<u>% Sand</u>	<input type="text" value="0.25"/>	<u>Circ Temp</u>	<input type="text" value="49 C"/>
	<u>Depth In</u>	<input type="text" value="752m"/>	<u>Depth Out</u>	<input type="text" value="1855m"/>	<u>Inter'l Drld</u>	<input type="text" value="1103m"/>		
	<u>Date In</u>	<input type="text" value="8-May-01"/>	<u>Date Out</u>	<input type="text" value="11-May-01"/>	<u>ROP</u>	<input type="text" value="35.4m/hr"/>		
	<u>Time In</u>	<input type="text" value="23:13"/>	<u>Time Out</u>	<input type="text" value="3:00"/>	<u>Time BRT</u>	<input type="text" value="-"/> Hrs		

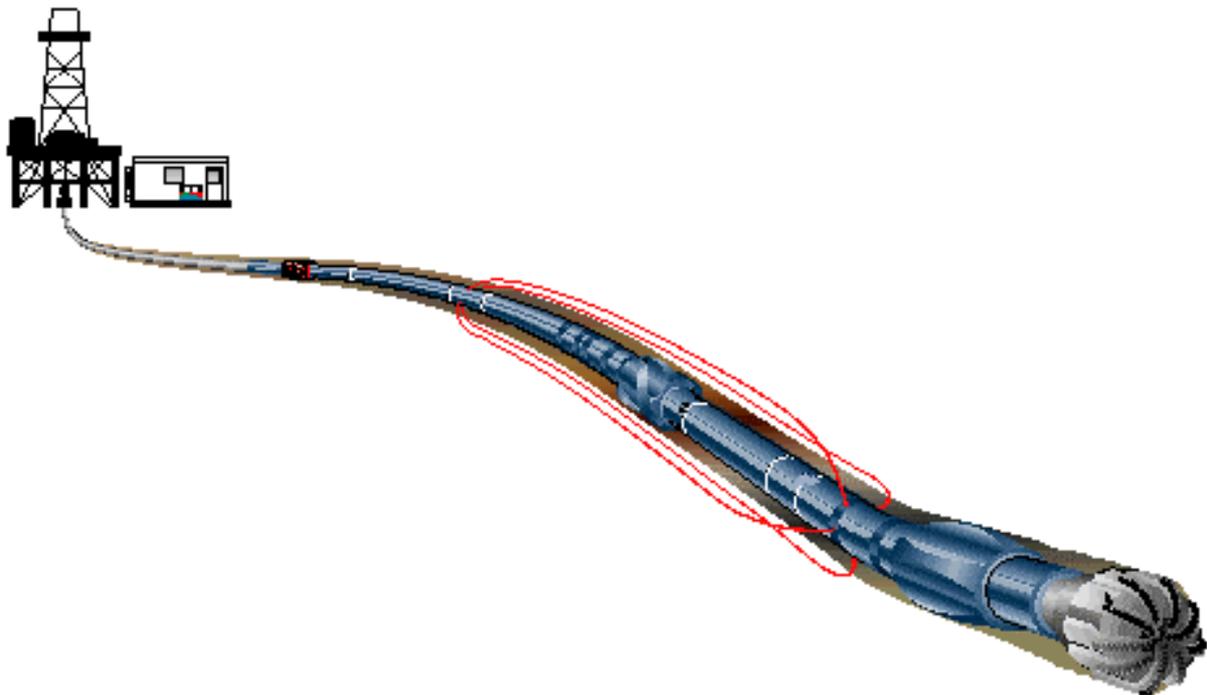
<u>FAILURE?</u>	<input type="text" value="No"/>	<u>Slide Mts</u>	<input type="text" value="-"/>	<u>Previous Hrs</u>	<input type="text" value="0.0"/>	<u>Cumulative Hrs</u>	<input type="text" value="0.0"/>
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<u>Remarks / Failure Report.</u> 1) Motor drained and checked at surface. NB : Top Drive Rig	<u>Did Motor Stall</u>	<input type="text" value="No"/>	<input type="text" value="Yes"/>
	<u>Slide Rty</u>	<input type="text" value="-"/>	<input type="text" value="2"/>
	<u>Bearing Play</u>	<u>In</u>	<input type="text" value="1mm"/>
	<u>Out</u>	<input type="text" value="2mm"/>	
<u>Condition</u>			
<input type="text" value="Good"/>			

Client Signature : _____

Engineers Signature : _____

Bit Run Summary



MWD/LWD BIT RUN SUMMARY

TA-1027-F

JOB NUMBER ASQ-01	COMPANY REP. D.Bell	DATE IN 13-May-01	DATE OUT 15-May-01	MWD RUN NO. 1	LWD RUN NO. 1	RIG BIT RUN NO. 3	CELL MGR. A.Strahan									
COMPANY Woodside Energy Limited		HOLE DEPTH - FROM TO 1855 2165		COLLAR SIZE M10 6 3/4" ARC 6 3/4" ADN -												
RIG NAME Diamond Offshore Ocean Bounty		DRIFT - FROM TO 2.09 2.46		LAST CASING SIZE 9 5/8" DEPTH 1849.5m												
WELL NAME Thylacine-1		AZIMUTH - FROM TO 27.6 21.4		BIT MFG/MODEL/IADC CODE Hughes / MCH08 / 1905297												
LOCATION Otway Basin Permit No. T/30P		HOLE SIZE 8.5"		WATER DEPTH/AIR GAP 101.4/25.0 m		DOWNHOLE MOTOR TYPE/SIZE/SN n/a										
FRAME FORMAT Rot.MVC/ARC/APWD	MAG DEC/GRID CONV: 11.08 / 1.2	T/F ARC n/a	T/F ANGLE n/a	BENT HOUSING ANGLE n/a		PUMPING HOURS 23.9	FT/M DRILLED 310									
BIT-TO-SURVEY 12.83	MODULATOR GAP 0.08	BENT SUB ANGLE n/a		TRANS FAIL <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		RT TRANS HOURS 23.9	RT TRANS FT/M 310									
BIT TO SLICK PIN 10.48	BIT TO MD RES/GR/APWD 3.75/3.83/3.14	TUR RPM/FLOW MIN 4726 630		TUR RPM/FLOW MAX 4765 645		LWD REAM HOURS 0.0	LWD REAM FT/M 0.0									
.83 CONE LOCK GAUGE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		PUMP OUTPUT/TYP 4.3gal. TRI		JETS/TFA 4x16 / 0.785 in²		LWD DRILL HOURS 17.6	LWD DRILL FT/M 310									
IADC CUTTING STRUCTURE I.R. 1 O.R. 1 D.C. WT		LOCATION A	B BRNG/SEALS X	G GAUGE 1/16" In		REMARKS 2xCT	REAS. PULLED CP									
SOFTWARE VERSION ADV - SPM id6.1c_03 IDEAL id6.1c_03 M-10 6.1B ARC 6.3B		ADN - ISON -		LWD BRT HRS. 42.5												
MWD		PUMP HOURS		LWD		PUMP HOURS		REALTIME			RECORDED					
CODE	PFX	SN	START	CUM	CODE	PFX	SN	START	CUM		HRS	FAIL	FT/M	HRS	FAIL	FT/M
MDC	AB	066	0	24	ARC6		087	0	24	ARC GR	24	N	310	45	N	310
MMA	BB	412	0	24						ARC RES	24	N	310	45	N	310
MEC	BB	612	0	24	APWD		198145	0	24	ARC APWD	24	N	310	45	N	310
MTA	BB	570	0	24						DWOB						
				24						DTOR						
MVC	AA	098	0	24						MWD D&I	24	N	310	45	N	310
				24						MVC	24	N	310	45	N	310
MEXD		206	0	24												
										CDR GR	0	N	0	0	N	0
										CDR RES	0	N	0	0	N	0
										NEUT						
										DENS						
										DSS		DLS		DRS		ARC
										ADN						
										DSW		DLW		DRW		DTS
										DTW						GST
										READ - OUT - PORT TO BIT						
										M-10	10.48	ARC	4.97	ADN		
										CHECK SHOT TYPE:						
										DEPTH:		INCL:		AZI:		

OPERATING CONDITIONS

LCM

AVG ROP 17.6 m	AVG RPM 120	AVG PP 3850	AVG GPM 640	END VIS 73 sec	END MUD WT. 1.26 sg	END MUD RES. 0.084	MUD ADDITIVES <input type="checkbox"/> LCM <input type="checkbox"/> HEMATITE <input type="checkbox"/> BEADS <input type="checkbox"/> GILSONITE <input checked="" type="checkbox"/> NONE <input type="checkbox"/> BARITE		LCM TYPE: SIZE: _____ CONC: lb/bbl		
BIT/SEC / FREQ 6.0/24 Hz	MAX CIRC TEMP 74	AVG WOB 10	AVG TORQ 4	MAX MWD SHK Level 1	MAX SHK DUR. -	TDH SHOCK 48					
MUD TYPE <input checked="" type="checkbox"/> F-H2O <input type="checkbox"/> L-LIG <input type="checkbox"/> O-OIL% <input type="checkbox"/> K-KCL <input type="checkbox"/> M-LIM <input type="checkbox"/> P-POLYMER	<input type="checkbox"/> S-SALT H2O <input type="checkbox"/> X-HYDENS	MUD CLEAN <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	SAND % 1.5	SOLID % 11.5	BHA TYPE <input type="checkbox"/> B-BUILD <input type="checkbox"/> H-PACKED HOLE MILL	M-MOTOR <input type="checkbox"/> P-PENDULUM	S-STEERABLE <input type="checkbox"/> X-LOGGING				
TURBINE CONFIGURATION 400 - 800		JAMMING <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TOOL JAMMING TIME: 0 MINS.	SYNC TIME -	BIT TYPE <input type="checkbox"/> D-DIAMOND <input type="checkbox"/> P-PDC <input type="checkbox"/> I-INSERT <input type="checkbox"/> M-MILL TOOTH	A-PDC-A <input type="checkbox"/> X-	MOD TYPE <input type="checkbox"/> IMPULSE <input type="checkbox"/> S-SINUSOIDAL	M3 <input type="checkbox"/>	M10 <input type="checkbox"/>		
COLLAR <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> SURFACE <input type="checkbox"/> OTHER	NOISE PROBLEMS <input type="checkbox"/> SURFACE <input type="checkbox"/> DOWNHOLE	PRES INC AT FAILURE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	FLOAT SUB <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	LOST RIG TIME DUE TO MWD - HRS.	SURFACE SYSTEM FAILURE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TRIP TERMINATION DUE DIRECTLY TO MWD <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CLIENT INCONVENIENCE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	SURFACE VIBRATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	BHA VIBRATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	SURFACE SCREEN <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

SUMMARY

Good signal from the MWD for real-time logging data, minimal shocks recorded and good quality recorded mode logging data. Plugged by intermittent and sudden signal losses while on bottom drilling due to surface noise (mud pumps). When this occurred the situation was easily resolved, pickup off bottom, cycle pumps and the signal returned. The problem disappeared during the last 3 hours of the run, however, the company man request that we pickup the backup MWD tool for run 2.

MWD/LWD BIT RUN SUMMARY

TA-1027-F

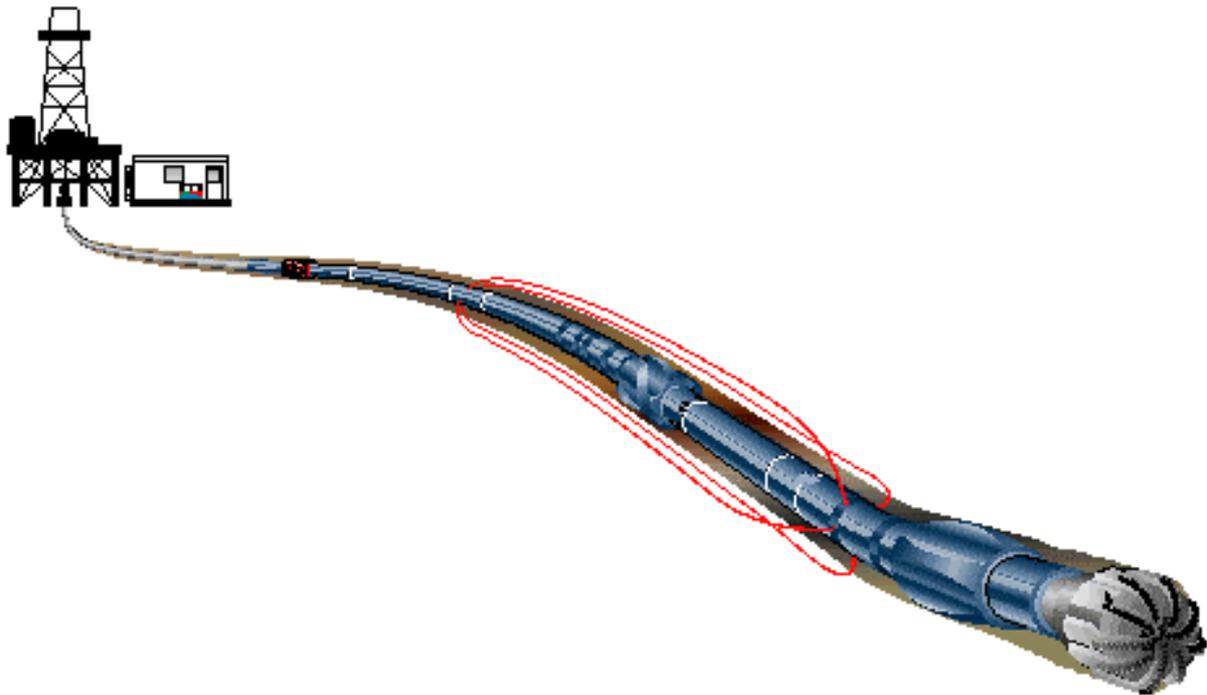
JOB NUMBER ASQ-01	COMPANY REP. D.Bell	DATE IN 16-May-01	DATE OUT 19-May-01	MWD RUN NO. 2	LWD RUN NO. 2	RIG BIT RUN NO. 5	CELL MGR. A.Strahan									
COMPANY Woodside Energy Limited		HOLE DEPTH - FROM TO 2201 2710		COLLAR SIZE M10 6 3/4" ARC 6 3/4" ADN -												
RIG NAME Diamond Offshore Ocean Bounty		DRIFT - FROM TO 2.46 1.48		LAST CASING SIZE 9 5/8" DEPTH 1849.5m												
WELL NAME Thylacine-1		AZIMUTH - FROM TO 21.4 41.4		BIT MFG/MODEL/IADC CODE Hughes / MCH08 / 1905297												
LOCATION Otway Basin Permit No. T/30P		HOLE SIZE 8.5"		WATER DEPTH/AIR GAP 101.4/25.0 m		DOWNHOLE MOTOR TYPE/SIZE/SN n/a										
FRAME FORMAT Rot.IWOB/ARC/APWD	MAG DEC/GRID CONV: 11.08 / 1.2	T/F ARC n/a	T/F ANGLE n/a	BENT HOUSING ANGLE n/a		PUMPING HOURS 45.5	FT/M DRILLED 509									
BIT-TO-SURVEY 12.82	MODULATOR GAP 0.08	BENT SUB ANGLE n/a		TRANS FAIL <input type="checkbox"/> yes <input checked="" type="checkbox"/> no		RT TRANS HOURS 45.5	RT TRANS FT/M 565									
BIT TO SLICK PIN 10.47	BIT TO MD RES/GR/APWD 3.74/3.82/3.13	TUR RPM/FLOW MIN 3101 580	TUR RPM/FLOW MAX 3242 600		LWD REAM HOURS 2.6	LWD REAM FT/M 56										
.83 CONE LOCK GAUGE TEETH <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		PUMP OUTPUT/TYP 4.3gal. TRI	JETS/TFA 4x12 / 0.442 in²		LWD DRILL HOURS 26.7	LWD DRILL FT/M 509										
IADC CUTTING STRUCTURE I.R. 2 O.R. 2 D.C. WT		LOCATION A	B BRNG/SEALS X	G GAUGE 1/16" 1/16	REMARKS O.C. No	REAS. PULLED TD	BOT HRS 25.0									
SOFTWARE VERSION ADV - SPM id6.1c_03 IDEAL id6.1c_03 M-10 6.1B ARC 6.3B				ADN - ISON -		LWD BRT HRS. 68.8										
MWD		PUMP HOURS		LWD		PUMP HOURS		REALTIME		RECORDED						
CODE	PFX	SN	START	CUM	CODE	PFX	SN	START	CUM	HRS	FAIL	FT/M	HRS	FAIL	FT/M	
MDC	AC	Y752	0	46	ARC6		087	24	70	ARC GR	46	N	565	71	N	565
										ARC RES	46	N	565	71	N	565
MEC		435	0	46	APWD		198145	24	70	ARC APWD	46	N	565	71	N	565
				46						DWOB	46	N	565	71	N	565
MGD			0	46						DTOR	46	N	565	71	N	565
				46						MWD D&I	46	N	565	71	N	565
MEXD				46						MVC	24	N	310	45	N	310
			0	46						MWD D&I	24	N	310	45	N	310
										CDR GR	0	N	0	0	N	0
										CDR RES	0	N	0	0	N	0
										NEUT						
										DENS						
										DSS	DLS	DRS	ARC	ADN		
										DSW	DLW	DRW	DTS	DTW	GST	
READ - OUT - PORT TO BIT																
										M-10	10.47	ARC	4.96	ADN	-	
CHECK SHOT TYPE:																
DEPTH: INCL: AZI:																
OPERATING CONDITIONS																
LCM																
AVG ROP 19.1 m	AVG RPM 120	AVG PP 4000	AVG GPM 600	END VIS 72 sec	END MUD WT. 1.33 sg	END MUD RES. 0.102	MUD ADDITIVES LCM BEADS <input checked="" type="checkbox"/> HEMATITE TYPE: <input type="checkbox"/> GILSONITE SIZE: <input type="checkbox"/> BARITE CONC: lb/bbl		LCM							
BIT/SEC / FREQ 6.0/24 Hz	MAX CIRC TEMP 81	AVG WOB 18	AVG TORQ 6	MAX MWD SHK Level 1	MAX SHK DUR. -	TDH SHOCK 75										
MUD TYPE F-H2O <input checked="" type="checkbox"/> K-KCL <input type="checkbox"/> L-LIG <input type="checkbox"/> M-LIM <input type="checkbox"/> O-OIL% <input type="checkbox"/> P-POLYMER <input type="checkbox"/> S-SALT H2O <input type="checkbox"/> X-HYDENS <input type="checkbox"/>	MUD CLEAN <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	SAND % 0.0	SOLID % 15.0	BHA TYPE 15.0	B-BUILD H-PACKED HOLE MILL <input type="checkbox"/>	M-MOTOR <input type="checkbox"/>	S-STEERABLE X-LOGGING <input type="checkbox"/>									
TURBINE CONFIGURATION 400 - 800		JAMMING <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TOOL JAMMING TIME: 0 MINS.	SYNC TIME -	BIT TYPE -	D-DIAMOND H-INSERT <input type="checkbox"/>	P-PDC M-MILL TOOTH <input type="checkbox"/>	A-PDC-A X- TYPE <input type="checkbox"/>	MOD	IMPULSE S-SINUSOIDAL <input type="checkbox"/>	M3 M10					
COLLAR <input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> SURFACE <input type="checkbox"/> NONE <input type="checkbox"/> OTHER <input type="checkbox"/> DOWNHOLE	NOISE PROBLEMS PRES INC AT FAILURE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> FLOAT SUB FAILURE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	LOST RIG TIME DUE TO MWD 0 HRS.	SURFACE SYSTEM FAILURE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	TRIP TERMINATION DUE DIRECTLY TO MWD <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	CLIENT INCONVENIENCE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	SURFACE VIBRATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	BHA VIBRATION <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	SURFACE SCREEN <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>								

SUMMARY

Good signal from MWD for real-time logging data, minimal shocks recorded and good quality recorded mode logging data.

Depth tracking failure at the start of run (during reaming section and the start of drilling).

Failure Reports



FAILURE REPORT

Schlumberger Anadrill

FR No. : 1

Company : Woodside Energy Ltd.	Rig : Ocean Bounty	Failure date : 14-5-2001
Well : Thycaline 1	District : ASQ	Job No. : ASQ-01
Cell Mgr. : A.Strahan	Service : MWD & ARC/APWD	Run No. : 1
EQUIPMENT & SERIAL No. : Powerpulse MEC 612-BB, Dhsftware 6.1B08, Ideal 6.1C-03		

FAILURE DESCRIPTION & SYMPTOMS (Include software version if applicable)

Telemetry Mode: 24Hz / 6bps / BPSK
 While drilling formation the demodulation screen displayed a series of “zero’s” for the d-points within the rotary frame, this was then followed by zero demodulation. However, DSPScope continued to show a signal being transmitted from the tool, and the SPT’s also indicated this to be true. The SPM was unable to gain “sync”, this resulted in pulling off bottom and cycling the pumps.
 Immediately prior to the failure the flow rate was approx. 690 gpm, mud weight 1.26 sg, and SPT1 was demodulating at approx. 12 psi. However, the flow rate had been increased considerably to accommodate the required drilling parameters, and this was reflected by an increase in both the TRPM and signal strength. At the time of failure the TRPM remained constant and therefore removed the possibility of a washout above the MWD tool, however, the signal strength deteriorated down to approx. 3 psi. The cross-correlation plots indicate pump noise, and the pump harmonics did encroach into the bandwidth at the time of failure and in general there was considerable noise across the entire range of frequencies. Additionally, on more than one occasion the subsequent failures coincided with a loss of pressure on the rig floor.

Failure Group : **Failure Category :** **Completed by :** Lee Muskett **Date :** 14-5-01

REMEDIAL ACTION ATTEMPTED ON LOCATION

Initially forced retraining of the Equalizer Control was applied, but this failed to regain the sync. Therefore, the driller was instructed to pull off bottom and circulate the pumps, this instantly rectified the problem and the signal strength returned to normal. Additionally, the bandwidth was reduced to filter any pump harmonics that may develop on the lower side of the bandwidth, and the pressure of the Pulsation Dampeners was re-checked. Flow rates were also limited to 640 gpm. Periodically for the next 18 hours the same scenario would occur several times, each time it was corrected by cycling the pumps.
 At the end of the well Pump3 was given a service. It was found the pulsation dampener couldn’t hold pre-charge (750psi) and had to be replaced.

Completed by : Lee Muskett **Date :** 14-5-01

FAILURE ANALYSIS (For completion during R&M repair)

Incoming System Test performed upon receiving this tool: total pumping time=38.5 hours, total shocks=390 above 25G. No jamming recorded (physical or electrical) inside tool’s Repair & Maintenance memory
 Tool tested and is fully functional with no problems found.

Failure Category : **Completed by :** Anthony Iemma **Date :** 25-5-01

ACTION FOLLOW UP (For completion by FSM / DTM)

MWD worked OK throughout the run. Engineers recorded the pressure trace from the tool during the run showing that outside factors were influencing signal quality. Tests performed by technicians in the shop confirmed that tool is functioning OK. Tool’s memory did not record any problems: only small number of shocks was present, no jamming recorded throughout the run, either physical obstruction e.g. cement chunks or electrical problem. This would have been recorded in the tool’s memory as an anti-jamming operation when the tool attempts to restart. None of it was present, indicating that tool was operating OK throughout the run. Total operating time (tool operates only when pumps are on) agrees with the total circulating time recorded by Schlumberger and checked with mudloggers. This confirms that the tool was operational throughout the whole run without being off for more than the normal time during connections.
 Engineers to ensure that all surface rig equipment, mainly pumps and pump bladders are checked and operational and problems associated with nonconformity with this requirement communicated to Client and drilling contractor.

Completed by : H. Spoljaric **Date :** 29-5-01

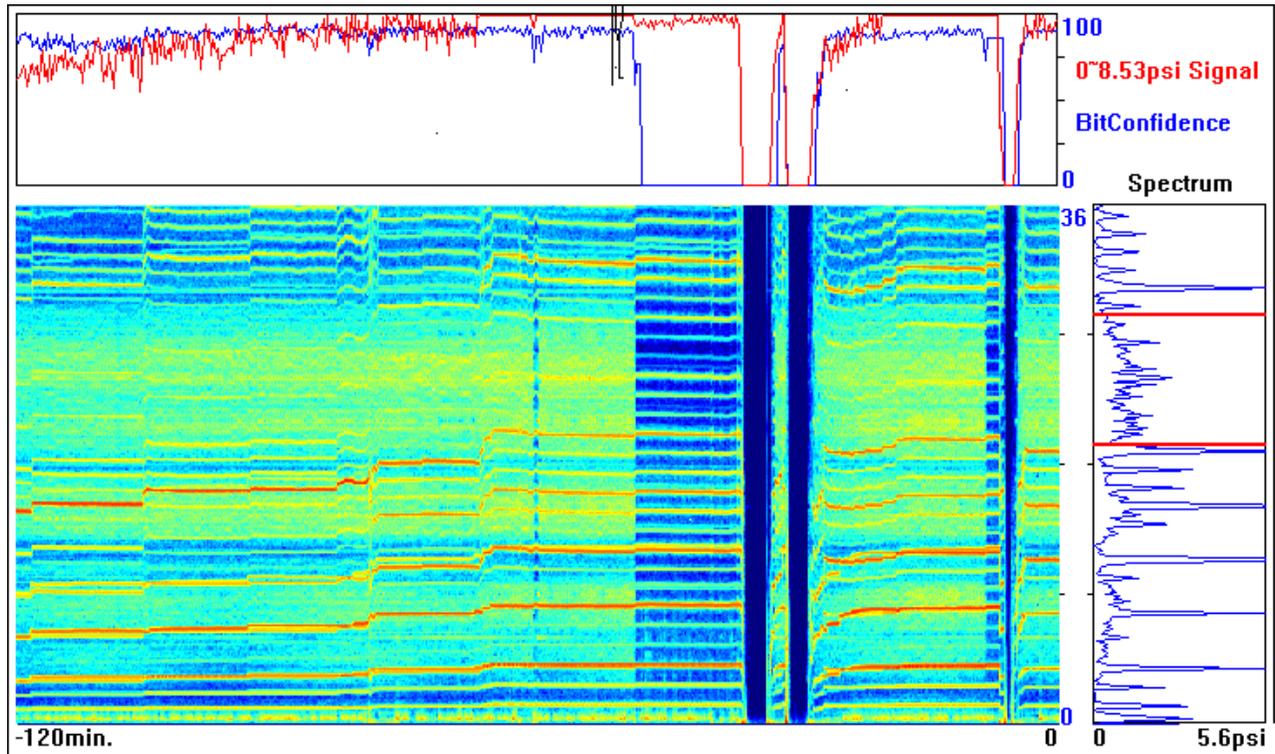
Always Distribute with BRS and/or BHA Summary :

- CELL File (Fax to town)
- R&M (R&M Diagnosis -> Maintenance file)
- R&M (R&M Diagnosis -> CELL)
- FSM (Action plan -> UNIT)

NOTE : Failure reports must also be sent in with failed equipment.

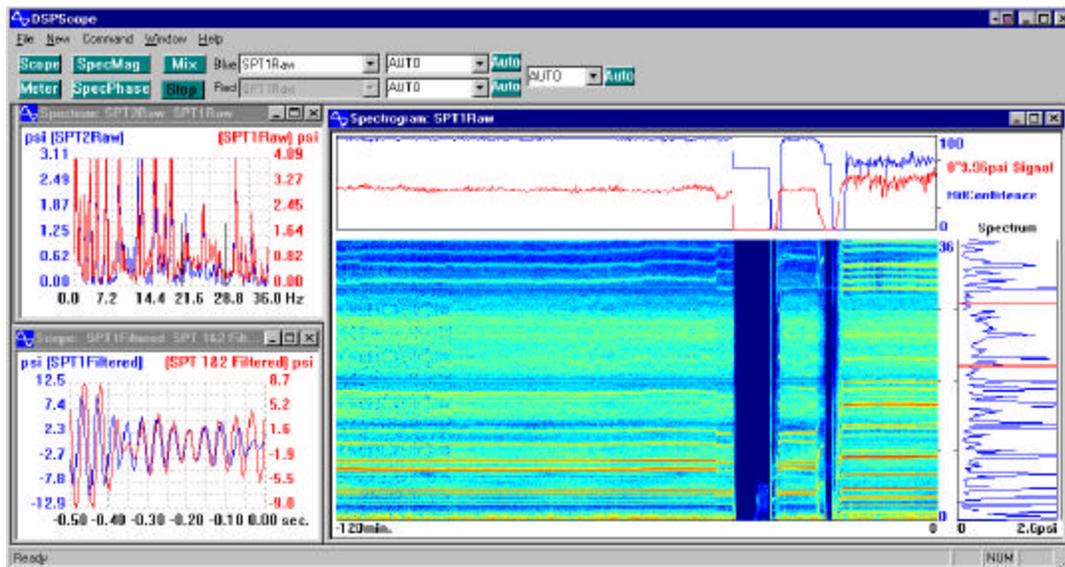
CHECK LIST:

- Anadrill Management notified ? Y
- Equipment marked RONG ?
- Full function test after repair ?
- History card filled in ?
- This FR returned to CELL ? Y
- Any calibration data to attach ?



MWD #1
 NOISE PROBLEMS AFFECTING SIGNAL QUALITY

MWD#2
 NOISE PROBLEMS AFTER PUMP#3 WAS BROUGHT ONLINE TOWARDS END OF RUN



Company : Woodside Energy Ltd.	Rig : Ocean Bounty	Failure date : 16/17-5-2001
Well : Thycaline 1	District : ASQ	Job No. : ASQ-01
Cell Mgr. : A.Strahan	Service : MWD & ARC/APWD	Run No. : 2

EQUIPMENT & SERIAL No. : Geolograph

FAILURE DESCRIPTION & SYMPTOMS (Include software version if applicable)

Coring of the Upper Waare Formation was undertaken between 2165m and 2201m MD. BHA for the next run was then picked up and RIH, with the LWD tool being utilized to ream down through the cored section, and then to continue drilling/logging to TD. The failure of the Geolograph resulted in the loss of accurate RT data, and possibly RM data, between 2162m and 2227m (65m).

The Geolograph was attached to the Top Drive, prior to the commencement of reaming. For the first 2 singles reamed the depth was checked and found to be tracking well, only 0.39m ahead of the drillers pipe tally. However, from this point onwards the depth, which was checked at each single, progressively became worse, tracking faster than the pipe tally (gaining depth). In addition to tracking fast, the problem was made seemingly more complex by the fact that the Geolograph would indicate stand lengths of 15-20m's instead of approx. 29m.

Failure Group : **Failure Category :** **Completed by :** Lee Muskett **Date :** 17-5-01

REMEDIAL ACTION ATTEMPTED ON LOCATION

The Geolograph wire was checked and its operation was found to be smooth and seemingly in good working order. The high winds were a concern, but similar conditions had previously been encountered and the unit had operated without any problems. Ideal was closed down and re-booted for the reason to check if the calibration file had become corrupted, but this had no effect, and the rest of the system continued to work fine. The depth continued to increase at an accelerated rate. The encoder emulator was attached to the UCS cable at the Geolograph; this worked without any problems and therefore eliminated both Ideal, PSAM and the UCS cabling from the problem. The Geolograph covers were removed and the encoder removed from revolving shaft that physically connects the pulley system to the encoder. The shaft that protrudes from the encoder was then rotated three times (3ft) and the distance noted on Ideal, this proved to be accurate and therefore eliminated the encoder from the problem. It was noted that the grub screw that connects the two shafts together was loose, and therefore that the two may well be moving independently of each other. The screw was re-fitted with loctite, and the Geolograph re-assembled. This proved to be the only problem, and depth was tracked accurately from that point onwards.

Completed by : Lee Muskett **Date :** 17-5-01

FAILURE ANALYSIS (For completion during R&M repair)

N/A

Failure Category : **Completed by :** **Date :**

ACTION FOLLOW UP (For completion by FSM / DTM)

This was a one-off incident. Engineers to ensure pre-job checks are performed including verifying proper operation of sensors. With this particular sensor, checks to include visual inspection to grab screw and applying fresh loctite to it as necessary, checking the wire line, air motor and its operation, motor's lubricant fluid levels, hoses and cables and most importantly, backup sensor and other critical parts (motor, line, air regulator) always to be available on site.

Completed by : H.Spoljaric **Date :** 25-5-01

Always Distribute with BRS and/or BHA Summary :	CHECK LIST:
CELL File (Fax to town)	Anadrill Management notified ? <input type="checkbox"/>
R&M (R&M Diagnosis ↗ Maintenance file)	Equipment marked RONG ? <input type="checkbox"/>
R&M (R&M Diagnosis ↗ CELL)	Full function test after repair ? <input type="checkbox"/>
FSM (Action plan ↗ UNIT)	History card filled in ? <input type="checkbox"/>
	This FR returned to CELL ? <input type="checkbox"/>
	Any calibration data to attach ? <input type="checkbox"/>

NOTE : Failure reports must also be sent in with failed equipment.